

DATE: April 11, 2005

TO: John Szerlag, City Manager

FROM: Brian Murphy, Assistant City Manager/Services  
Douglas J. Smith, Real Estate and Development Director  
Steve Vandette, City Engineer  
Mark F. Miller, Planning Director

SUBJECT: AGENDA ITEM – PRELIMINARY SITE CONDOMINIUM REVIEW –  
Oak Forest Site Condominium, south side of Square Lake Road,  
between Willow Grove and John R Road, section 11 – R-1C

### **RECOMMENDATION**

At the March 8, 2005 Regular Meeting, the Planning Commission recommended approval of the Oak Forest Site Condominium, with the following conditions:

1. Submission of the landscaping information required by the Landscape Analyst in the Planning Department report dated March 3, 2005.
2. The applicant must receive appropriate permits from the MDEQ prior to dredging, filling, or completing any other improvements within a State-regulated wetland.
3. The applicant must receive appropriate permits from the Oakland County Drain Commissioner and the City of Troy prior to completing any improvements to the Fetterly Drain.
4. Clarification of ownership of proposed open space that includes the proposed wetlands mitigation areas.
5. Changing what is marked as the walking easement to a dedicated walkway.

The petitioner can submit the additional landscaping information prior to Final Approval. The plans were revised to show a 12-foot wide public walkway. While the open space will most likely be General Common Area, this should be clarified by the petitioner. City Management concurs with the Planning Commission recommendation and recommends approval of the Oak Forest Site Condominium.

### **GENERAL INFORMATION**

Name of Owner / Applicant:

The owner and applicant is Dale Garrett of Ladd's Inc.

Location of subject property:

The property is located on the south side of Square Lake Road, between Willow Grove and John R Road, in section 11.

Size of subject parcel:

The parcel is approximately 38.4 acres in area. It has access to both Square Lake Road and John R Road.

Description of proposed development:

The applicant is proposing a 76-unit site condominium, with access to both Square Lake Road and John R Road. Two stub streets to the north on the east side of the Fetterly Drain and one stub street to the south on the west side of the Fetterly Drain are also proposed.

Current use of subject property:

Two single-family homes presently sit on the property.

Current use of adjacent parcels:

North: Single family residential and vacant.

South: Single family residential and vacant.

East: Single family residential and vacant.

West: Single family residential and vacant.

Current zoning classification:

The property is currently zoned R-1C One Family Residential.

Zoning classification of adjacent parcels:

North: R-1C One Family Residential.

South: R-1C One Family Residential.

East: R-1C One Family Residential.

West: R-1C One Family Residential.

Future Land Use Designation:

The property is designated on the Future Land Use Plan as Low Density Residential and Open Space.

## **ANALYSIS**

### **Compliance with area and bulk requirements of the R-1C One Family Residential District:**

Lot Area: Minimum lot area in the R-1C district is 10,500 square feet. However, the applicant is utilizing the Lot Averaging Option, which permits a 10 percent reduction in lot area to 9,450 square feet.

Lot Width: The minimum required lot width is 85 feet. The applicant has utilized the lot averaging option, which permits a 10 percent reduction in lot widths, to 76.5 feet.

Height: 2 stories or 25 feet.

Setbacks: Front: 30 feet.  
Side (least one): 10 feet.  
Side (total two): 20 feet.  
Rear: 40 feet.

Minimum Floor Area: 1,200 square feet.

Maximum Lot Coverage: 30%.

The applicant meets the area and bulk requirements of the R-1C One Family Residential District.

### **Off-street parking and loading requirements:**

The applicant will be required to provide 2 off-street parking spaces per unit.

### **Environmental provisions, including Tree Preservation Plan:**

A Tree Preservation Plan was submitted as part of the application.

### **Stormwater detention:**

The applicant is proposing two storm water detention basins. One will serve the 38 units on the east side of the drain, one will serve the 38 units on the west side of the drain.

### **Natural features and floodplains:**

The Natural Features Map indicates there are wetlands, woodlands and a drain on the property. The applicant has provided a Preliminary Environmental Impact Statement. The applicant has provided a Wetland Determination Report prepared by Holloway Environmental Planning, Inc., dated December 8, 2004. The applicant has provided a Wetlands Assessment Report prepared by the MDEQ on December 28, 2001. The report indicates that there are a number of wetlands regulated under Part 303 of PA 451 of 1994, however the findings are

not binding after October 17, 2004. Any construction activity such as dredging, filling, or draining within a regulated wetland will require a permit from the MDEQ prior to the activity commencing.

Subdivision Control Ordinance, Article IV Design Standards

Lots: All units meet the minimum area and bulk requirements of the Zoning Ordinance.

Streets: The proposed development has direct vehicular access to both John R and Square Lake Roads. The paved portion of all proposed streets will be 28 feet wide, located within a 60-foot wide public right-of-way.

The applicant has provided two future connections to the north and one to the south.

Sidewalks: The applicant is proposing sidewalks on both sides of the proposed streets. In addition, a 12-foot wide pedestrian connection is provided to the south, between units 30 and 31.

Utilities: The parcel is served by public water and sewer.

Attachments:

1. Maps.
2. Preliminary Environmental Impact Statement.
3. Public comment.

cc: Applicant  
File/Oak Forest Site Condominium

Prepared by RBS/MFM

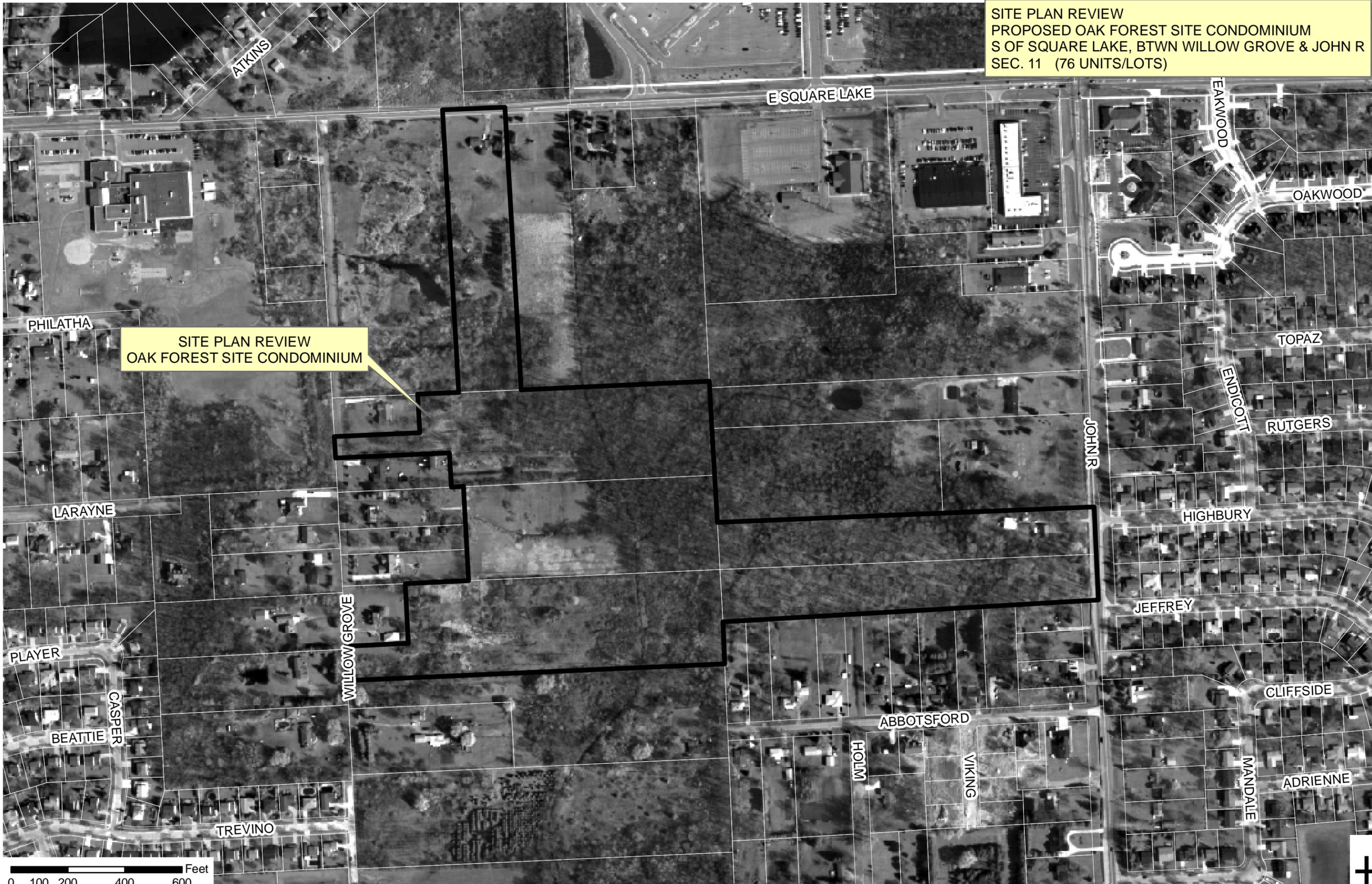
G:\SUBDIVISIONS & SITE CONDOS\Oak Forest Site Condo Sec 11\Prelim CC Approval Oak Forest Site Condo 04 18 05.doc

# CITY OF TROY



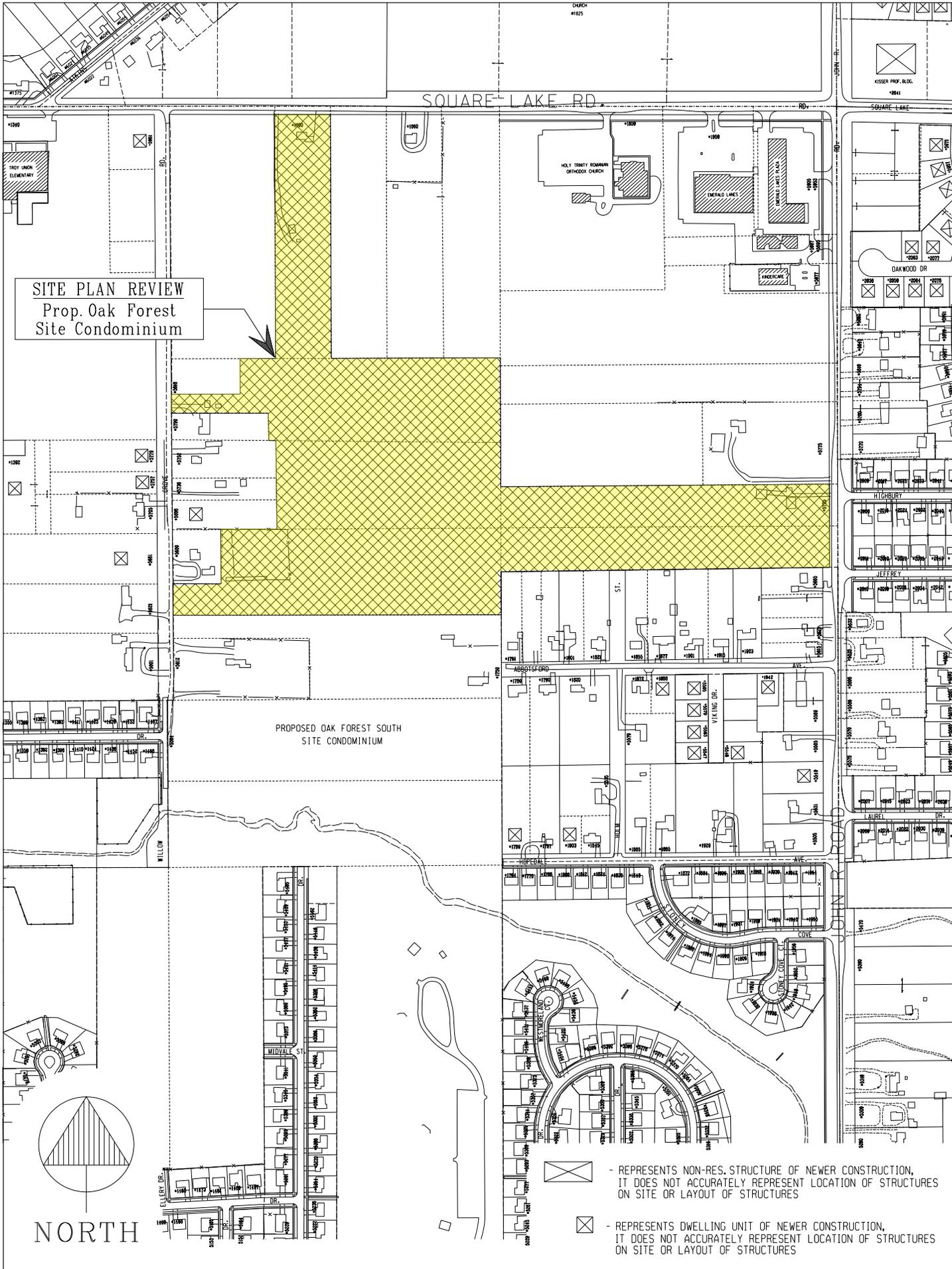
SITE PLAN REVIEW  
PROPOSED OAK FOREST SITE CONDOMINIUM  
S OF SQUARE LAKE, BTWN WILLOW GROVE & JOHN R  
SEC. 11 (76 UNITS/LOTS)

SITE PLAN REVIEW  
OAK FOREST SITE CONDOMINIUM



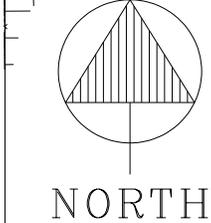
0 100 200 400 600 Feet





SITE PLAN REVIEW  
 Prop. Oak Forest  
 Site Condominium

PROPOSED OAK FOREST SOUTH  
 SITE CONDOMINIUM



- 
 - REPRESENTS NON-RES. STRUCTURE OF NEWER CONSTRUCTION, IT DOES NOT ACCURATELY REPRESENT LOCATION OF STRUCTURES ON SITE OR LAYOUT OF STRUCTURES
- 
 - REPRESENTS DWELLING UNIT OF NEWER CONSTRUCTION, IT DOES NOT ACCURATELY REPRESENT LOCATION OF STRUCTURES ON SITE OR LAYOUT OF STRUCTURES



R1D

R1D

R1C

R1C

CF

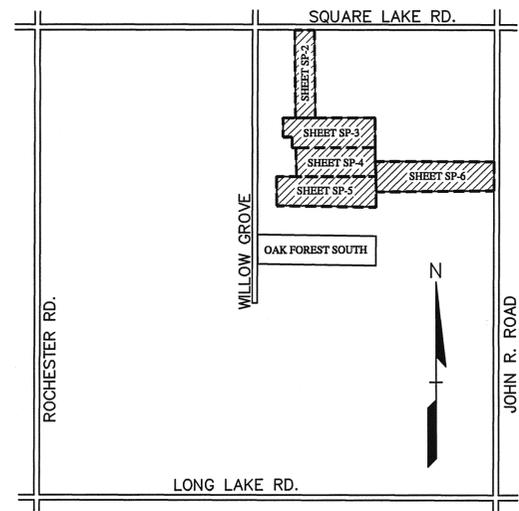
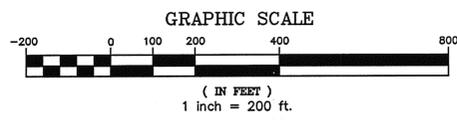
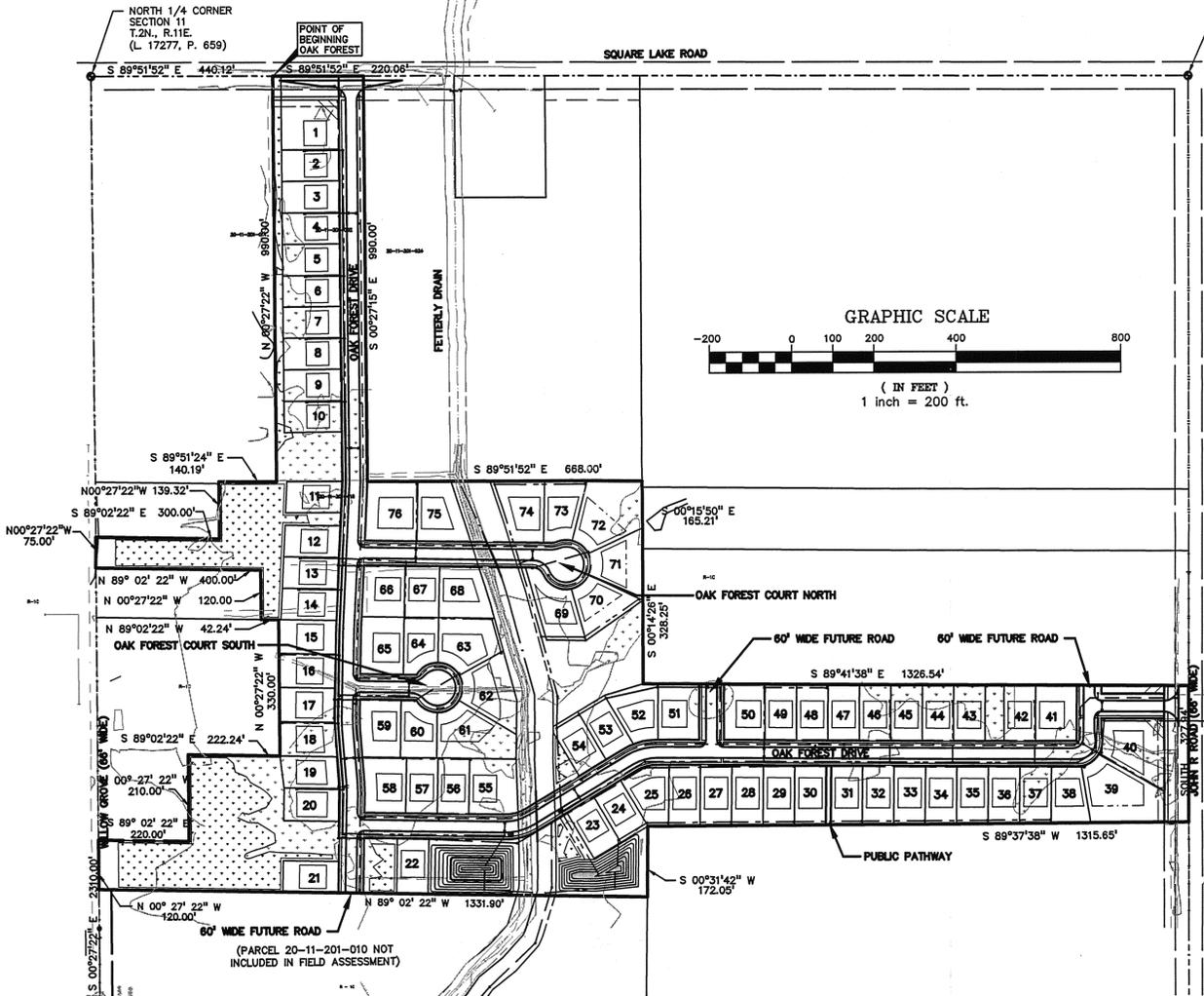
SITE PLAN REVIEW  
PROPOSED OAK FOREST  
SITE CONDOMINIUM

NORTH

# SITE PLAN DRAWINGS FOR OAK FOREST

## A SITE CONDOMINIUM DEVELOPMENT

SECTION 11, CITY OF TROY, OAKLAND COUNTY, MICHIGAN



**KEY PLAN**  
NOT TO SCALE



**LOCATION MAP**  
NOT TO SCALE

**ZONING REQUIREMENTS**

ZONED R-1C (USE LOT AVERAGING)	= 9,450 SQUARE FEET
MINIMUM LOT AREA	= 10,500 SQUARE FEET
MINIMUM AVERAGE LOT AREA	= 76.5 FEET (85 FT. + 15 FT. FOR CORNER LOTS)
MINIMUM LOT WIDTH AT BUILDING SETBACK	= 30 FEET
MINIMUM FRONT SETBACK	= 10 FEET WITH COMBINED MINIMUM OF 20 FEET
MINIMUM SIDE SETBACK	= 40 FEET
MINIMUM REAR SETBACK	= 9,937 SQUARE FEET
MINIMUM LOT AREA PROVIDED	= 12,327 SQUARE FEET

**LEGAL DESCRIPTIONS:**

OAK FOREST CONDOMINIUM

PART OF THE NORTHEAST 1/4 OF SECTION 11, T. 2 N., R. 11 E., CITY OF TROY, OAKLAND COUNTY, MICHIGAN, COMMENCING AT THE NORTH 1/4 CORNER OF SECTION 11; THENCE ALONG THE NORTH SECTION LINE S 89°51'52" E, 440.12 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING S 89°51'52" E, 220.06 FEET; THENCE S 00°27'15" E, 990.00 FEET; THENCE S 89°51'52" E, 668.00 FEET; THENCE S 00°15'50" E, 165.26 FEET; THENCE S 00°14'26" E, 328.26 FEET; THENCE S 89°41'38" E, 1326.54 FEET TO A POINT ON THE EAST LINE OF SECTION 11; THENCE ALONG SAID LINE SOUTH, 327.94 FEET TO THE NORTHEAST CORNER OF "EYSTER'S JOHN R FARMS" (L. 48, P. 121); THENCE ALONG THE NORTH LINE OF SAID SUBDIVISION S 89°37'38" W, 1315.65 FEET TO A CONCRETE MONUMENT AT THE NORTHWEST CORNER OF SAID SUBDIVISION; THENCE ALONG THE WEST SUBDIVISION LINE AS MONUMENTED; S 00°31'42" W, 172.05 FEET; THENCE N 89°02'22" W, 1331.90 FEET TO THE NORTH AND SOUTH 1/4 LINE OF SECTION 11; THENCE N 00°27'22" W, 120.00 FEET ALONG SAID LINE; THENCE S 89°02'22" E, 220.00 FEET; THENCE N 00°27'22" W, 210.00 FEET; THENCE S 89°02'22" E, 222.24 FEET; THENCE N 00°27'22" W, 330.00 FEET; THENCE N 89°02'22" W, 42.24 FEET; THENCE N 00°27'22" W, 120.00 FEET; THENCE N 89°02'22" W, 400.00 FEET TO SAID 1/4 LINE; THENCE N 00°27'22" W, 75.00 FEET ALONG SAID LINE; THENCE S 89°02'22" E, 300.00 FEET; THENCE N 00°27'22" W, 139.32 FEET; THENCE S 89°51'52" E, 140.19 FEET N 00°27'22" W, 990.00 FEET TO THE POINT OF BEGINNING, CONTAINING 39.23 ACRES

**DEVELOPER:**  
LADD'S, INC.  
5877 LIVERNOIS ROAD, SUITE 103  
TROY, MI 48098  
CONTACT: DALE GARRETT  
PHONE: (248) 828-1726  
FAX: (248) 828-3573

**INDEX OF DRAWINGS**

SP-1	GENERAL SITE PLAN	MAR 15 2005
SP-2	PRELIMINARY SITE PLAN	PLANNING DEPT.
SP-3	PRELIMINARY SITE PLAN	
SP-4	PRELIMINARY SITE PLAN	
SP-5	PRELIMINARY SITE PLAN	
SP-6	PRELIMINARY SITE PLAN	

PRINT DATE  
MAR 14 2005

NUMBER OF UNITS PROPOSED	
DEVELOPMENT	NUMBER OF UNITS
OAK FOREST SITE CONDOMINIUMS	76



**LADD'S, INC.**  
5877 LIVERNOIS ROAD STE. 103  
TROY, MICHIGAN 48098

**GENERAL PLAN  
OAK FOREST SITE CONDOMINIUM**  
PART OF THE NORTHEAST 1/4 OF SECTION 11  
CITY OF TROY, OAKLAND COUNTY, MICHIGAN

DES. DLB SUR. MAD SCALE 1" = 200' JOB NO. 2000250  
DN. JRL P.M. DLB DATE 10-29-04 DWG. NO. SP-1

**PEA**

PROFESSIONAL  
ENGINEERING  
ASSOCIATES

2430 Rochester Ct. Suite 100  
Troy, MI 48068-1872  
(248) 689-9090

X-REF: NETLAND BASE F-ROTATED 10-29-04 DWG  
N:\2000PROJ\2000250\DWG\SITE PLAN\SP01-COVER.DWG  
TOPD ROTATED TO MATCH BOUNDARY 00°27'22" BASE POINT N10000.E10000  
TWSST ANGLE 00°00'00"

**Preliminary Environmental Impact Statement  
Oak Forest Site Condominium**

November 18, 2004

MAR 15 2005

**Part of the Northeast Quarter of Section 11  
City of Troy, Oakland County, Michigan**

The proposed single-family residential development located south of Square Lake Road and west of John R Road comprises 38.11 acres and 76 units. The Fetterly Drain, an open ditch under the jurisdiction of the Oakland County Drain Commissioner, bisects the site from north to south. This proposed development is consistent with the current R-1C zoning of the area. The development of the site is scheduled for 2005. The development uses the "lot averaging" concept, which allows lots 76.5 feet wide with a minimum area of 9,450 square feet provided the average lot area is at least 10,500 square feet.

**A. PHYSICAL CONDITIONS**

1. Legal description and survey - See Site Plan or Boundary Survey
2. Location Map - See Site Plan or Figure 1
3. General Development Plan - See Figure 1
4. Site Conditions - See Site Plan
5. There is no limitation applicable to the development of the property as single family residential due to the proximity of airports.

**B. PROJECT DESCRIPTION**

1. The intended use is single family residential.
2. 76 residential units are proposed.
3. The total number of residents expected is  $76 \times 3.75 = 266$  persons.
4. The anticipated vehicular generation is as noted below under thoroughfares.

**C. IMPACT ANALYSIS: SYSTEMS**

**1. THOROUGHFARES**

Based upon similar studies in the City of Troy, peak hour vehicular movements at John R Road and Square Lake Road adjacent to the proposed development are anticipated to be as tabulated below. Intersection improvements and turning lanes will be in accordance with the requirements of the City of Troy traffic engineer.

<u>ROAD</u>	<u>A.M. PEAK HOUR</u>		<u>P.M. PEAK HOUR</u>	
	<u>IN</u>	<u>OUT</u>	<u>IN</u>	<u>OUT</u>
John R	9	21	25	14
Square Lake	8	20	23	14

## 2. WATER SERVICE FACILITIES

Oak Forest will be served by existing 12" water mains on the south side of Square Lake Road and the west side of John R Road. The water main will be looped through the proposed development to service the lots along the connecting streets. Lots on the cul-de-sacs will be served with dead end sections connected to the loop. The expected water usage for a maximum daily demand of 250 gallons per capita per day is:

Total demand: 76 lots x 3.75 persons/lot x 250 = 71,250 gallons per day

## 3. WASTE WATER SYSTEMS

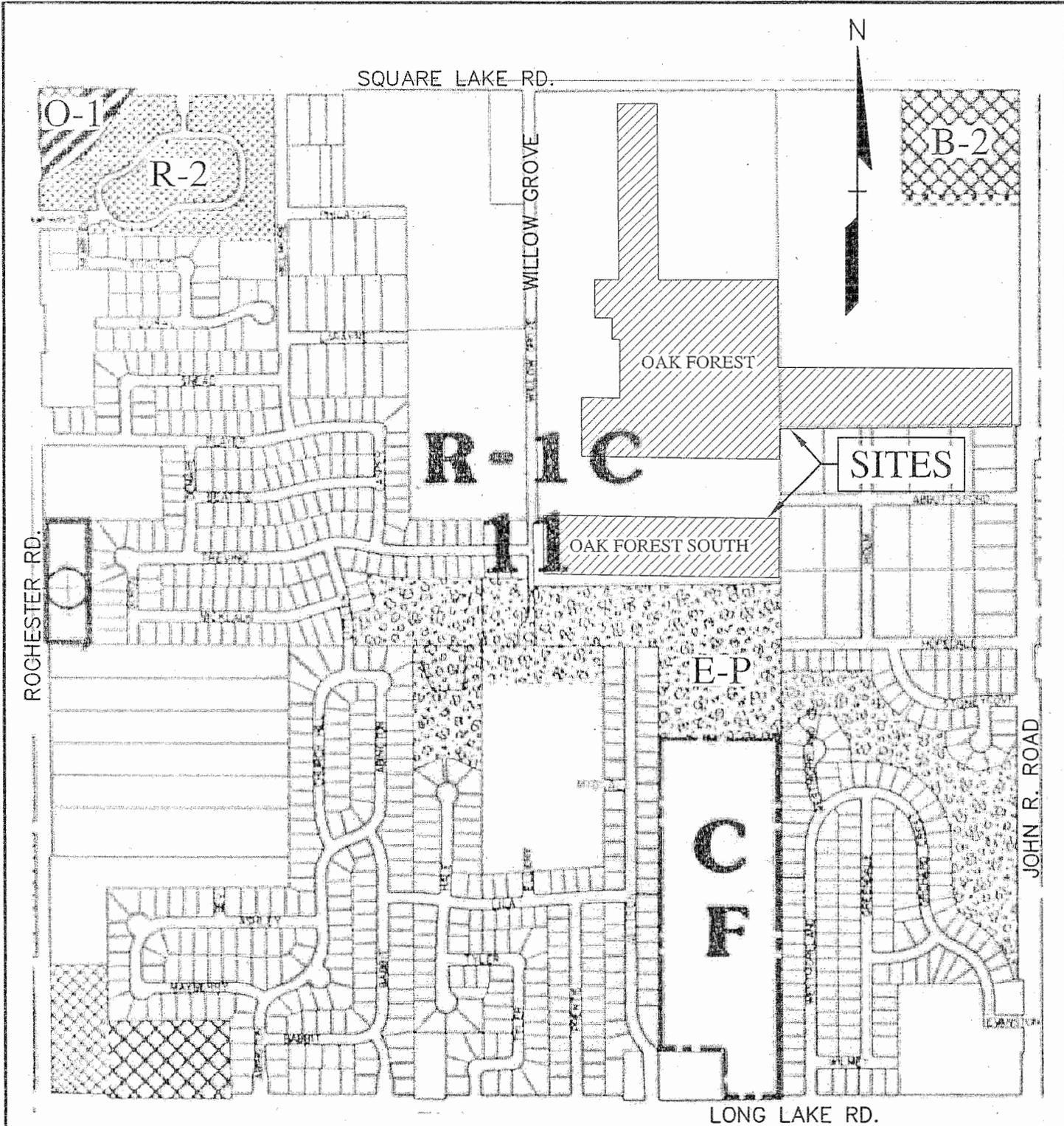
An existing 15" sewer on the east side of John R Road will serve the 76 units in Oak Forest. This sewer will be extended across John R. Road and west into the development. The expected sewer demand is:

Average flow: 100 gpcpd x 76 x 3.75 = 28,500gpd = 0.044 cfs.

Peak flow: 500 gpcpd x 76 x 3.75 = 142,500 gpd = 0.22 cfs.

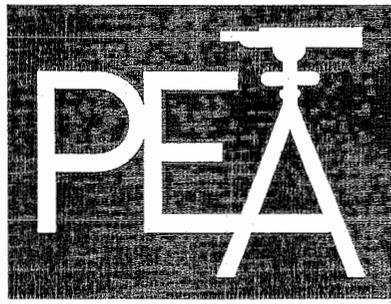
## 4. STORM DRAINAGE AND DETENTION

Enclosed storm sewer systems will drain the development to one of the two detention areas proposed adjacent to the Fetterly Drain. Construction of an improved open channel is proposed prior to this development that will allow gravity discharge to the Fetterly Drain. The discharge rate will be limited in accordance with the City of Troy detention requirements



SCALE: 1" = 800'	JOB No: 2000250
DATE: 10-28-04	DWG. No: 1 of 1

LAND USE AND GENERAL  
DEVELOPMENT PLAN  
FIGURE 1



PROFESSIONAL  
ENGINEERING  
ASSOCIATES

2430 Rochester Ct. Suite 100  
Troy, MI 48063-1872  
(248) 689-9090

**Mark F Miller**

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**From:** Cynthia A Stewart  
**Sent:** Wednesday, April 13, 2005 7:48 AM  
**To:** John Szerlag  
**Cc:** Brian P Murphy; Mark F Miller  
**Subject:** FW: Oak Forest South Subdivision

-----Original Message-----

**From:** a4dbfamily [mailto:a4dbfamily@comcast.net]  
**Sent:** Tuesday, April 12, 2005 8:23 PM  
**To:** Louise Schilling; dave@lambert.net; rbeltram@wideopenwest.com; talk2cristina@aol.com; david@eisenbacher.org; Mfhowryl@umich.edu; stinejm@wwnet.net  
**Cc:** Cynthia A Stewart; don@edmundsfamily.com  
**Subject:** Oak Forest South Subdivision

To the members of Troy City Council:

We understand that the approval for Oak Forest South and Oak Forest North Subdivisions is on your agenda for April 18th, 2005. I am a Golf Trail resident opposed to these proposed site condominium plans.

We are opposed for many reasons, primarily the impact on the dwindling amount of remaining wetlands in Troy. We are very concerned that this proposed development will not only impact the wildlife in the area, but will also reduce the natural presence of trees, grasses and the small amount of remaining undeveloped property in Troy.

We understand that a legislative solution is required to resolve the permit and planning issues involved in reviewing this project and similar ones. However, we would anticipate a great deal of flooding of basements from this development, as well as disruption to traffic flows.

We are also very concerned about the impact on traffic, as well as safety issues. We anticipate a great deal of additional traffic through Golf Trail streets, especially given the unwillingness of the developer to pave Willow Grove. Our children enjoy playing hockey and other sports on the streets of Golf Trail and will be in danger with the additional 184 daily trips anticipated.

As you know, Golf Trail residents plan to submit the petitions signed by over 200 Golf Trail residents to request that the City Council authorize the installation of a temporary diagonal (NW to SE) street barricade at the east end of Trevino at Willow Grove. The barricade would be removed when Willow Grove is paved and the two Oak Forest subs are connected.

We are hopeful that the Council will consider the comments and concerns of Golf Trail residents in evaluating these proposals.

Thank you for your time and consideration.

*Arnold R. D'Amore-Braver and Andrea D'Amore-Braver*

**Paula P Bratto**

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**From:** Cynthia A Stewart  
**Sent:** Tuesday, April 12, 2005 7:51 AM  
**To:** John Szerlag; Brian P Murphy; Mark F Miller  
**Subject:** FW: Oak Forest subdivision

-----Original Message-----

**From:** JohnC66455@aol.com [mailto:JohnC66455@aol.com]  
**Sent:** Monday, April 11, 2005 10:43 PM  
**To:** Louise Schilling; dave@lambert.net; rbeltram@wideopenwest.com; talk2cristina@aol.com; david@eisenbacher.org; Mfhowryl@umich.edu; stinejm@wwnet.net  
**Cc:** Cynthia A Stewart  
**Subject:** Oak Forest subdivision

Members of the City Council

As a resident of Troy and Golf Trails subdivision I am very distressed that some developer would be allowed to develop the Oak Forest subdivision located at John R and Square Lake road. This property has substantial wet lands with 5000 hardwood trees that would be removed. It would also threaten the existence of the Blue Heron rookery that is near by. Building on this property would cause flooding to near by properties. Changes need to be made to our ineffective Ordinance and other Ordinances that would protect the wet lands. Troy has recently been designated Tree City USA yet we would allow 5000 trees to be removed. And besides that we are having to remove thousands of trees through out our city. Finally if this development is allowed to be built and the only exit from that subdivision is through Golf Trails this would make our subdivision unsafe. It would cause an increase of traffic through our streets. Especially Player and Trevino that outlet to Rochester Road. There fore I am for the City Council to authorize the installation of a temporary street barricade at the east end of Trevino at Willow Grove if this plan is approved. Thank You.

JOHN CHALK  
1202 Nicklaus Dr.  
Troy, Mi. 48085

**Paula P Bratto**

**From:** Mark F Miller  
**Sent:** Monday, April 11, 2005 3:57 PM  
**To:** Paula P Bratto  
**Subject:** FW: Development concerns - Oak Forest & Oak Forest South

-----Original Message-----

**From:** Cynthia A Stewart  
**Sent:** Monday, April 11, 2005 2:32 PM  
**To:** Brian P Murphy; Mark F Miller  
**Cc:** John Szerlag  
**Subject:** FW: Development concerns - Oak Forest & Oak Forest South

-----Original Message-----

**From:** Murfey, Dan [mailto:murfeyd@bnpmedia.com]  
**Sent:** Monday, April 11, 2005 1:59 PM  
**To:** Louise Schilling; dave@lambert.net; rbeltram@wideopenwest.com; talk2cristina@aol.com; david@eisenbacher.org; Mfhowryl@umich.edu; stinejm@wwnet.net  
**Cc:** Cynthia A Stewart; lon\_ullmann@yahoo.com; Ann Bollinger; Craig Kumpula; JoAnn Bologna; Karen J. Gard; Kris Hulliberger; Margaret Kasica; Ron & Michelle Spisak; Susan Faubert; don@edmundsfamily.com; The Murfeys  
**Subject:** Development concerns - Oak Forest & Oak Forest South

Dear Members of the Troy City Council:

Thank you for your service to the residents of our fine city. The reason for my email is to bring to your attention concerns that my family and I have regarding two proposed developments - Oak Forest and Oak Forest South.

My family lives in the far east end of the Golf Trails subdivision at 1397 Trevino Drive. The Planning Commission recently voted to approve two developments in some nearby property on the south side of Square Lake, east of Willow Grove and west of John R. For details, please see meeting minutes from March 8, items no. 5 & 6 on pages 3 to 9 of the pdf, found here <http://www.ci.troy.mi.us/committees/minutes/Planning20050308.pdf>. Specifically, please read the comments from Planning Commission member, Mr. Wright. He lived in the Golf Trails sub for years and likely has more knowledge of this property than anyone else on the planning commission. Please note that Mr. Wright voted against approving the development.

Most reasons I am against the developments are highlighted in the meeting minutes (wetlands, flooding issues, potential liability to the city, etc). I expect you will hear from others with valid arguments concerning those points.

However, the issue that concerns me most is safety. Particularly, the safety of the children in our subdivision. This issue is paramount. My two children are ages 3 1/2 years and 21 months, with a third baby due to arrive this fall. There are many other young families in the neighborhood. Seeing those kids playing in the neighborhood is one of the reasons we moved into Golf Trails last summer. The nearly 200 estimated added vehicle trips per day that the development will send through our streets scares me. And here are many reasons why...

According to a study conducted by Connecticut SAFE KIDS, pedestrian injury is the second leading cause of unintentional injury-related death among children ages 5 to 14. Motor vehicle crashes account for approximately 80 percent of all childhood pedestrian deaths with children ages 5 - 9 at highest risk. Children are especially vulnerable to pedestrian death because they face traffic threats that exceed their cognitive, developmental, behavioral, physical and sensory abilities. Speed also plays a critical role in pedestrian injury.

According to a study conducted by RoSPA, The Royal Society for the Prevention of Accidents (UK):

- When hit by a car at 40mph, 9 out of 10 pedestrians will be killed
- When hit by a car at 30mph, about half of pedestrians will be killed
- When hit by a car at 20mph, 9 out of 10 pedestrians will **survive**.

This was conducted in the UK, where average car size is considerably smaller than here in metro Detroit. One can only assume

the fatality rates would be higher with SUVs and trucks that dominate our roads. We must take measures to keep cars in our neighborhoods rolling at SAFE speeds.

With the current proposed Oak Forest South development, Trevino Drive would be extended straight through Willow Grove. According to a 1999 study conducted by the National SAFE KIDS Campaign and Fed Ex:

- 47% of observed motorists do not obey stop signs in residential areas or school zones.
- More telling, is that with children pedestrians present, nearly 1 in 3 cars still do not stop.
- 24% do not stop even when pedestrians are crossing the street.
- 7.3% do not slow down.

Currently Trevino ends at Willow Grove so cars that do not stop at least have to slow down for the turn. Extend Trevino and cars no longer need to slow down. At 185 extra cars per day, that means 13 to 14 people per day entering Oak Forest South will not even slow down for the stop sign at Willow Grove.

Jon Osterberg, spokesman for PEMCO Insurance, concluded from a PEMCO-conducted study, "higher-income people tend to speed more." The Oak Forest developments are targeting higher-income people. I don't intend to single out anyone. However, if facts show that higher income people tend to speed more and they'll be speeding by my house and my children, then I think it is fair to mention in order that safeguards are put in place to protect the children.

Combine all the above with the fact that homes on Trevino are not set back very far from the road, children do wind up on the street occasionally chasing basketballs, riding bikes, etc; and the result is danger for kids.

The final goal listed on the city's mission statement page (<http://www.ci.troy.mi.us/managers/MissionVisVal.asp>) is to "protect life and property." Therefore, I ask that you, members of the Troy City Council, do not approve the proposed Oak Forest developments as they have been approved by the Planning Commission. Please consider alternate plans. Consider paving Willow Grove where homes are set further back from the road to provide an alternate exit for Oak Forest South residents. Consider blocking Trevino at its end to send Oak Forest South traffic out via Willow Grove.

**Consider larger measures that can positively effect the city for years to come:**

- Consider an ordinance that would require the replacement of trees when they're torn down during development (see city of Novi).
- Consider a long-term plan to protect some of the remaining green space in the city before it has all disappeared. While development is great, smart-development is critical for the long-term success of suburbs like Troy. And making green space an integral part of the long-term development plan will make Troy a desirable location to live and work for years to come. Many studies demonstrate that parks, greenways and trails increase nearby property values, thus increasing local tax revenues. Such increased revenues often offset acquisition costs. Please consider making the property east of Willow Grove, west of John R and south of Square Lake part of this long-term plan.

In closing, thank you for taking the time to read my concerns. Thank you for serving the city of Troy. And I ask respectfully that you vote **against** the Oak Forest and Oak Forest South proposed developments.

Kind regards,

Dan Murfey  
1397 Trevino Drive  
Troy MI 48085

**Paula P Bratto**

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**From:** Cynthia A Stewart  
**Sent:** Monday, April 11, 2005 8:38 AM  
**To:** Mark F Miller; John Szerlag; Brian P Murphy  
**Subject:** FW: halt development plans on wetlands and tree-covered lots

-----Original Message-----

**From:** Dan and Kathleen G. [mailto:danandkathleen@wideopenwest.com]  
**Sent:** Sunday, April 10, 2005 9:45 PM  
**To:** Louise Schilling; Dave Lambert; rbeltram@wideopenwest.com; talk2cristina@aol.com; david@eisenbacher.org; Mfhowryl@umich.edu; stinejm@wwnet.net  
**Cc:** Cynthia A Stewart; lon\_ullmann@yahoo.com; 'Ann Bollinger'; Craig Kumpula; 'Don Edmunds'; 'JoAnn Bologna'; 'Karen J. Gard'; Kris Hulliberger; Margaret Kasica; 'Ron & Michelle Spisak'; Dan and Kathleen G.  
**Subject:** halt development plans on wetlands and tree-covered lots

Dear Councilwoman Beltramini, Councilwoman Broomfield, Councilman Eisenbacher, Councilman Howrylak, Councilman Lambert, Mayor Schilling and Councilwoman Stine:

As our elected officials, we implore you to use all your "position power" to stop the trend of rapid and seemingly boundary-less consumption of undeveloped land. Use your role to halt any development plan that substantially clears trees, fills wetland and removes wildlife, such as Oak Forest sub-divisions.

We have been Troy residents and registered voters for fourteen years. Our commitment to the city is strong and we have just completed a significant investment in our house (of course, with the full disclosure of building permits). Our family appreciates the safety and services of this fine city, and our children benefit from outstanding schools. While we are without regret about our decision to settle in Troy, we are deeply concerned about the above mentioned trend. It is fast deteriorating this city and, if left unchecked, will eventually drive us away.

Please rigorously enforce current ordinances, or create new ones, to protect the little undeveloped land that is left. We want you, within legitimate boundaries of governance, to make it extremely difficult for developers to convert private unused land. If it is true that developers can clear-cut trees with no replanting reciprocation, then we ask you to create updated ordinances that prevent this. If it is true that wet-lands can be filled with only a token reciprocation elsewhere in the state, then we ask to create updated ordinances that prevent this. And if it is true that other cities are tougher on this land consuming behavior, then we ask you to create similar ordinances to make Troy the hardest place in Michigan to clear land.

There really is only one side to be on when it comes to the continued destruction of the earth. Author Daniel Quinn asserts in his philosophical novel titled "Ishmael" that mankind is at war with the earth and we pretend we are winning. The reality instead is that mankind is methodically destroying ourselves by killing off our habitat. We watch, with genuine horror, the clear-cutting of trees and the bulldozing of unspoiled earth to make room for ubiquitous condos, sub-divisions and strip-malls.

We will vote for any proposal, tax increase and politician that sensibly preserves green-space.

Sincerely,

4/11/2005

Daniel & Kathleen Goussy

1223 Trevino, Troy

(signed letters to follow)

April 10, 2005

RECEIVED

Mayor Louise E. Schilling  
Troy City Hall  
500 W Big Beaver  
Troy MI 48084

APR 12 2005

CITY OF TROY  
CITY MANAGER'S OFFICE

Dear Mayor Schilling,

As one of our elected officials, we implore you to use all your "position power" to stop the trend of rapid and seemingly boundary-less consumption of undeveloped land. Use your role to halt any development plan that substantially clears trees, fills wetland and removes wildlife, such as Oak Forest sub-division.

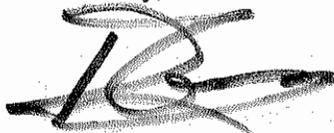
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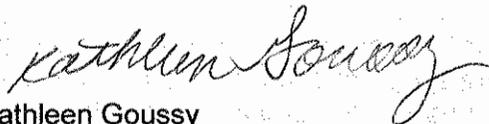
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We will vote for any proposal, tax increase and politician that sensibly preserves green-space.

Sincerely,



Daniel Goussy



Kathleen Goussy

1228 Trevino

March 8, 2005

To The Planning Commission:

Since the Planning Commission meeting of January 11, 2005, several new items have occurred or come to our attention. As you are aware our biggest concern is water and its displacement onto neighboring properties in violation of Troy Ordinances and Federal Law.

According to a Professional Engineers there will be over 39,000 cubic yards of fill generated by basement excavation alone – enough to raise the grade of every lot by one foot or more. This does not include fill generated by excavation of the Fetterly Drain and detention ponds. According to the developer this dirt will be graded onto the lots.

The latest grading plans have lost the elevations and contour lines the previous set had.

Why? How are we to know what the final grades will be?

Professional Engineering Associates (PEA) depicts 664.2 as the floodplain level. The West side of the Fetterly Drain by the detention had an elevation of 660 but the grading plan shows that area at 664. Can and/or should we in these circumstances allow filling and diversion of water?

The detention ponds are in the floodplain or floodway. DEQ personnel dug a pit where the west side detention pond is located and showed saturated soils at 6" and the plans show the water level of the detention pond at the bottom. Mr. Garret's borings show water levels of .5' - 1.7' in 5 of 6 borings. Why?

The level of the Fetterly Drain is shown as 1.5' lower than the outlet of the Drain. Why is the Fetterly Drain being restricted to a 36' culvert in three places, a drastic reduction of area and why isn't there a section plan of the Fetterly Drain changes?

*Lon Ullmann*  
LON ULLMANN

What is the connecting point for the sewers of Oak Forest South? The Willow Grove Sewers are too high, the Golf Trail sewers too small and the Abbotsford sewer too high for the front portion of this project.

The sewers for Oak Forest run almost one mile and will they work after crossing under the Fetterly Drain with their minimum 30' of fill?

While I understand that many of these questions are for the Engineers, I believe you need to know the answers to these questions now to make an informed decision. If you do approve this now, I respectfully request that you review all engineering decisions before a final plat approval is made.

Dak Forest S.C.

January 10, 2005

To: Members of the Planning Commission

I am writing to you because of a concern I have in regard to the proposed Oak forest development. I write this not as someone that doesn't want a development in my backyard, but rather as someone that is concerned about the effects of this development on my property, my neighbors properties, the properties of potential buyers in this development and all the taxpayers in Troy.

The land we live on is low lying, wet with little or no drainage. You don't need to be a wetland consultant or scientist to know we live in a swamp. Willow grove does not have ditches because ditches need an outlet and Willow Grove is high on both ends with water lying in the middle. The drainage to the West was eliminated over 30 years ago when Golf Trail subdivision builders raised the grade by filling at least 2' and filling in the drainage ditch and blocking my field tile. The reason I know it is 2' is because at the back of my property there is a vertical bank 2' high with a backyard drain - for subdivision. My drainage was illegally destroyed. When I questioned what went on here a young engineer at the City of Troy told me we were a developing community and they couldn't be concerned about drainage on adjoining properties. He cared not for my problems. The result of this was a property that formerly could be plowed in May and planted for a large garden. Today it is mid July before one can venture out on a tractor. The land has gone from a grassy field to a swamp. It is a restoration that the U.S. Fish and Wildlife Service do all the time - if asked by property owners. I didn't volunteer; I was drafted to "restore" my wetland.

In 1987 illegal filling occurred at the end of Willow Grove. The peat moss was sold off the property on the east side of Willow Grove and replaced by fill dirt. The owner on the west side filled the marsh and eliminated all drainage from my property and the other properties on west side of Willow Grove. Our land became even wetter.

Three years ago a house was constructed at Square Lake and Willow Grove. 30 pipes - read wells - were placed and pumping began to "dry out" the site. Everything around here including the street flooded. Every neighbor on the street noticed and commented that things were even wetter than before.

Enclosed you will find a list of "hydric" or saturated soils. According to the Oakland County Soil Book and the Department of Environmental Quality all soils in this drainage area are hydric. The enclosed exhibit A verifies this. These soils have water tables that from October or November to June have water tables that vary from 1-2 ft. below ground level to at or above the surface. As my neighbor on the east side of Willow Grove can testify the water table is at or near the surface in the wettest months of the year. Right now the water is lying in my yard. Soil borings done by Mr. Garret in the end of

September when it is dry show water levels as close as 6" below the surface.

The potential for water problems and flooding are acute. These wetlands are natural retention areas that have been functioning here since glaciers passed through. Now we are proposing removing 1,000,000 cubic feet of water storage area for basements and sewers. The remaining land will be compressed by heavy equipment and space between particles will be reduced or eliminated. All trees and vegetation will be removed eliminating water removal by evapotranspiration.

Detention or storage area is very limited by these high water tables. Detention pond levels shown on plans show 2' of storage area while in actuality there will be .5 to at best 1.7 feet according to borings. My pond is full and the detentions ponds will be full as well, at times. Careful and realistic calculations are necessary before this project proceeds. Exhibit B shows that water pits dug by the Department of Environmental Quality in July 2000 during the drought. Water levels varied from 2 areas with water at the surface (in July) to pit levels of saturation of 6 inches, 8 inches, 10 inches, 10 inches and 13 inches. Believing there will be 2' of storage area is unduly optimistic based on experience and observation here.

The Oakland County Drain Commission has insisted since 1998 that the Fetterly Drain must be improved to develop around it. See exhibit C. The widening and deepening of the Fetterly Drain, called in-line detention, is not allowed by the Department of Environmental Quality or the Oakland County Drain Commission because it doesn't work. Mr. Garret doesn't have access to all parts of the Fetterly Drain as the existing easements are for maintenance only. The construction easement expired in 1946.

Backyard drains cannot drain adjoining wetlands. The eastern section of Oak Forest is dead flat as is the land adjoining it. The grading plan shows raising the grade of the Garret property, which will stop north-south flow of water and divert water onto adjoining property - both are in violation of Troy ordinances.

As Mark Miller points out if Mr. Garret meets all requirements and ordinances he must be allowed to develop. The operative word is all ordinances especially those dealing with detention and potential diversion. There is an obligation for you to protect the property rights of adjoining property owners as well. We should not need to hire counsel after damage is done to correct problems caused by poor planning. If the City of Troy approves this project they become responsible if problems occur as well.

We need to move slowly and with great caution to ensure all parties are protected as this project moves forward. It is sad that my experience causes me to not trust or depend on our engineering department and that is why I am asking you to require Mr. Garret to demonstrate the water carrying capacity of this land and to address all the issues before any approvals are given.

*Lon M. Ullmann*

PART 303 - DATA REPORT FORM

This form is required by Part 303, Wetland Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended.

Applicant <u>Walter Square, Inc.</u>	DEQ File # <u>00-63-0006WA</u>
Address <u>4086 Rochester Rd., Suite 202, Troy, MI</u>	Wetland Area # <u>A</u>
T <u>2N</u> R <u>11E</u> Section: <u>11</u> <u>48098</u>	Sheet <u>1</u> of <u>      </u>
Tax Identification #: <u>20-11-201-018-015, 012, 1</u>	Date <u>7/18/00</u>
Reviewer: <u>20-11-226-006, 607</u>	<u>Level III</u>

IN-OFFICE:

- a. Y (Y/N) Is any portion of the area mapped as wetland on NWI or MIRIS maps?
- b. Y (Y/N) Is any portion of the area, mapped as a hydric soil or non-hydric soil with hydric soil inclusions on the county soil survey map? If yes, list hydric soil(s) and/or hydric soil inclusions: Brookston & Colwood loams all soils are hydric

FIELD REVIEW:

- c. Y (Y/N) Do normal circumstances exist on site? If no, describe: \_\_\_\_\_
- N (Y/N) Is the site significantly disturbed? If yes, describe: \_\_\_\_\_
- N (Y/N) Is there a potential Problem Area? If yes, describe: \_\_\_\_\_
- d. Y (Y/N) Is the area wetland?
  - 1. Y Visible signs of hydrology or \_\_\_\_\_ hydric soil characteristics
  - 2. Y Predominance of wetland vegetation
- e. Y (Y/N) Is the area regulated pursuant to Part 303
  - 1. \_\_\_\_\_ the area is contiguous to the Great Lakes or Lake St. Clair, an inland lake or pond, or a river or stream. (Waterbody is over 1 acre of permanent open-water. Watercourse has defined banks, bottom, and at least an occurrence of flow)
    - a. \_\_\_\_\_ wetland connected to an inland lake or pond, a river or stream, one of the Great Lakes, or Lake St. Clair.
    - b. Y wetland within 500 feet of an inland lake, pond, river or stream
    - c. \_\_\_\_\_ wetland within 1000 feet of the Great Lakes or Lake St. Clair
    - d. \_\_\_\_\_ Two or more areas of wetland separated only by barriers, such as dikes, roads, berms, or other similar features, but with any of the wetland areas contiguous. Explain: \_\_\_\_\_
  - 2. \_\_\_\_\_ the entire wetland complex is five acres or larger in size and is in a county with a population of 1000,000 or greater. Size based on: \_\_\_\_\_
  - 3. \_\_\_\_\_ the department has determined that protection of the area is essential to the preservation of the natural resources of the state from pollution, impairment, or destruction and the department has notified the owner

Comments:

within 500ft of tributary of Gibson Brook

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INSTRUCTIONS:

Fill out all pertinent information on the following worksheets to substantiate your review. Not all of the following sheets or items need to be completed to make an appropriate review of an area. Additional worksheets can be used where there is more than one wetland area within a review area and/or where variability of the site necessitates such use. Identify the number of worksheets used for each review area, regardless of whether individual wetland areas are recorded jointly or individually.

#4

To: James C. Bacon Jr., City Manager

From: John Szerlag, Assistant City Manger, Services  
Rick Augustine, Parks and Recreation Director *RA*  
Charles R. Barnes, Interpretive Programs Manager *CRB*  
Susan L. Raymer, Naturalist *SLR*

Subject: Report, heron rookery, section 11

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### Report: Section 11 - Great Blue Heron Rookery

**Summary Recommendations:** Following the U.S. Fish and Wildlife Service's recommendation of preserving a zone of approximately 810 feet around the heronry, the amount of recommended land would be around fifty acres. Since the 810 foot radius extends to the existing buildings and across Square Lake and John R Roads, staff would suggest the buffer zone be extended south to make up the difference, since there is potential heronry habitat in that direction.

#### Supporting Information

**General Site Description:**

Field Date: June 26, 1998

Location: The heronry (rookery) is located in the state of Michigan, Oakland County, City of Troy, Section 11, northeast quarter.

Land Description: The area around the heronry is bounded on the north and east by commercial development and Square Lake and John R Roads. There are residential homes on the southeast, along Abottsford and on the west along Willow Grove Road.

To the south and west are mixtures of young and older forest communities. The older forest stands are climax mixtures of oak/hickory and beech/sugar maple and other species. Diverse stands of ferns and wildflowers comprise the forest floor in many areas. Scattered through this area are impoundments of standing water and there is evidence of seasonal standing water throughout much of the area up to about 8 inches.

By the soil classifications, this area was originally wetlands; before the installation of the Fetterly Drain and are wetlands today.

Heronry Description: The heronry contains 24 nests and has fledged approximately 53 young (Campbell, personal communications). The area occupied by the heronry is approximately 300 feet E to W and 150 feet N to S for an estimated total area of 1.03 acres. The nests are located in dead American elms (*Ulmus americana*) where there is standing water, small impoundments and areas of emergent aquatic vegetation. Elms likely died of Dutch elm disease.

**Natural History Of The Great Blue Heron (*Ardea herodias*):**

Description: A large bird, 39 - 52 inches tall depending on the posture. They are grayish blue with a black and white crown, long legs and beak. Wing span reaches six feet.



soil is well suited to use as cropland, pasture, and woodland. It is fairly suited to most recreation uses.

This soil is poorly suited to building site development because of wetness and generally is not suited to use as septic tank absorption fields because of wetness and moderately slow permeability. If this soil is used as a site for buildings, surface or subsurface drainage is needed to lower the water table and well compacted fill is needed to raise the site. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If this soil is used as cropland, the main management concerns are removing excess water and maintaining good tilth. Surface and subsurface drains help to overcome wetness. Conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, helps to reduce compaction and maintain good tilth.

This soil is in capability subclass IIw and Michigan soil management group 2.5b.

**12—Brookston and Colwood loams.** This map unit consists of nearly level, very poorly drained soils in broad, flat areas and in drainageways. These soils are subject to frequent ponding. Areas are irregular in shape and are 2 to 200 acres or more in size. In many areas of this map unit, the Brookston soil is the only major soil. In other areas the Colwood soil is the only major soil. Both soils are present in some areas.

Typically, the surface layer of the Brookston soil is very dark gray loam about 11 inches thick. The subsurface layer is very dark gray, mottled, friable loam about 5 inches thick. The mottled subsoil is about 20 inches thick. In the upper part it is grayish brown, firm clay loam; in the middle part it is grayish brown, friable clay loam; and in the lower part it is grayish brown, firm silty clay loam. The substratum to a depth of about 60 inches is mottled gray, calcareous loam. In some places the surface layer is lighter in color and is less than 10 inches thick.

Typically, the surface layer of the Colwood soil is very dark brown loam about 11 inches thick. The mottled, friable subsoil is about 26 inches thick. In the upper part it is dark grayish brown loam, in the middle part it is light olive gray loam and silty clay loam, and in the lower part it is light brownish gray silt loam. The substratum to a depth of about 60 inches is gray, mottled, calcareous, stratified silt loam and very fine sand. In some places the surface layer is lighter in color and is less than 10 inches thick.

Included in mapping are small areas of Sebewa and Gilford soils that are more droughty than the Brookston soil and are on landscape positions similar to those of the Brookston soil. Also included are small areas of somewhat poorly drained Capac, Kibbie, Metamora, and Selfridge soils that are on low knolls and ridges. The included soils make up 5 to 15 percent of the map unit.

Permeability is moderate in the Brookston and Colwood soils, and available water capacity is high.

Runoff is very slow or ponded. Both soils have a high water table that is at or above the surface from October to May.

In most areas these soils are used as woodland or pasture or are idle land. In a few areas they are used for crops. They are well suited to use as cropland and pasture if excess water is removed. They are poorly suited to use as woodland or pasture and to recreation uses because of wetness.

These soils are poorly suited to building site development and generally are not suited to use as septic tank absorption fields because of wetness. They should not be used as sites for buildings with basements. If they are used as sites for buildings without basements, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If these soils are used as cropland, the main management concerns are removing excess water and maintaining good tilth. Surface and subsurface drains help to overcome wetness. Tilling only when the soils are not wet and using tillage practices that do not invert the soil and that leave all or part of the crop residue on the surface help to improve tilth.

If these soils are used as woodland, the major limitation is wetness. The main management concerns are equipment restrictions, seedling mortality, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations should be timed to seasons of the year when the soils are relatively dry or frozen. Seedling loss can be high because of wetness. In some areas special site preparation, such as bedding, helps to reduce seedling mortality. The use of harvesting methods that do not leave trees standing alone or widely spaced helps to control windthrow.

These soils are in capability subclass IIw and Michigan soil management groups 2.5c and 2.5c-s.

**13B—Oshtemo-Boyer loamy sands, 0 to 6 percent slopes.** This complex consists of nearly level and undulating, well drained soils that are on broad knolls and ridges. Slopes are smooth and convex and are less than 100 feet long. Areas of this complex are irregular in shape and are 2 to 320 acres in size. The Oshtemo soil makes up 40 to 55 percent of the complex, and the Boyer soil makes up about 30 to 40 percent. The areas of these soils are so intermingled or are so small that it was not practical to separate them at the scale of mapping used.

Typically, the Oshtemo soil has a surface layer of dark brown loamy sand about 7 inches thick. The subsurface layer is yellowish brown loamy sand about 9 inches thick. The subsoil is about 37 inches thick. The upper part is reddish brown, friable sandy loam; and the lower part is yellowish brown, very friable loamy sand. The

convex and are less than 75 feet long. Areas are irregular in shape and are 2 to 100 acres in size.

Typically, the surface layer is very dark grayish brown sandy loam about 9 inches thick. The subsurface layer consists of grayish brown and pale brown sandy loam and is about 19 inches thick. The subsoil is grayish brown, mottled, firm clay loam and is about 8 inches thick. The substratum to a depth of about 60 inches is grayish brown, mottled, calcareous loam. In the southern part of the county, this soil has a clayey substratum.

Included in mapping are small areas of Dixboro and Selfridge soils that are on landscape positions similar to those of the Metamora soil. The Dixboro and Selfridge soils are more droughty. Also included are small areas of the very poorly drained Brookston, Colwood, Thomas, Houghton, and Adrian soils that are in depressions and drainageways. The included soils make up 2 to 10 percent of this map unit.

Permeability is moderately rapid in the surface soil and moderately slow in the subsoil and substratum. The available water capacity is high. Runoff is slow. The seasonal high water table is at a depth of 1/2 foot to 2 feet from November through May. The shrink-swell potential is moderate.

In most areas this soil is used as pasture or woodland or is idle land. In a few areas it is used for crops. This soil is well suited to use as cropland, pasture, and woodland. It is fairly suited to most recreation uses.

This soil is poorly suited to building site development because of wetness and is poorly suited to use as septic tank absorption fields because of wetness and moderately slow permeability. If this soil is used as a site for buildings, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. For septic tank absorption fields, special construction, such as filling or mounding the absorption field site with suitable soil material, may be needed to raise the field above the water table.

If this soil is used as cropland, the main management concerns are removing excess water and maintaining soil tilth. Surface and subsurface drains help to overcome wetness. Conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, helps to reduce compaction and maintain good soil tilth. Also, keeping tillage operations to a minimum helps to maintain good tilth.

This soil is in capability subclass IIw and Michigan soil management group 3/2b.

**38—Napoleon muck.** This nearly level, very poorly drained soil is on lowlands. It is subject to ponding. Areas are irregular in shape and are 3 to 40 acres in size.

Typically, the surface layer of the Napoleon soil is black muck about 10 inches thick. The material below that, to a depth of 60 inches, is dark reddish brown mucky peat in the upper 38 inches and very dark gray

muck in the lower 12 inches. In some places the material below a depth of 40 inches is sandy or loamy.

Permeability is moderate or moderately rapid. The available water capacity is high. Runoff is very slow. The high water table is near or above the surface from September to June.

In most areas this soil is covered by brush. It is poorly suited to woodland use, to use as habitat for openland wildlife, and to recreation uses. Generally it is not suited to use as pasture and cropland. It is not suited to use as a site for buildings and to use as septic tank absorption fields. The hazard of ponding is the main limitation of this soil for most uses.

If outlets are available, this soil can be drained and used for specialty crops such as blueberries.

This soil is in capability subclass VIw and Michigan soil management group Mc-a.

**39—Granby loamy sand.** This nearly level, poorly drained soil is in broad, flat areas and drainageways and is subject to frequent ponding. Areas are irregular in shape and are 2 to 60 acres in size.

Typically, the surface layer is black loamy sand about 11 inches thick. The subsoil is mottled and is about 27 inches thick. In the upper part it is dark gray, very friable loamy sand; and in the lower part it is gray, loose sand. The substratum to a depth of about 60 inches is light gray, mottled sand. In some places loamy or clayey material is at a depth below 40 inches. In some places the surface layer is muck less than 16 inches thick.

Included in mapping are small areas of poorly drained Sebewa soils and very poorly drained Gilford soils that are on landscape positions similar to those of the Granby soil. The Sebewa and Gilford soils are less droughty than the Granby soil. Also included are small areas of the somewhat poorly drained Tedrow, Thetford, and Wasepi soils that are on low knolls. The included soils make up 1 to 10 percent of the map unit.

Permeability is rapid in this Granby soil, and the available water capacity is low. Runoff is very slow or ponded. The high water table is at or above the surface from November through June.

In most areas this soil is used as woodland or pasture or is idle land. This soil is fairly suited to use as pasture or cropland and poorly suited to woodland use and to recreation uses.

This soil is poorly suited to building site development because of wetness. It should not be used as a site for buildings with basements. If this soil is used as a site for buildings without basements, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. This soil is generally not suited to use as septic tank absorption fields because of its wetness and poor filtering capacity. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If this soil is used as cropland, the management concerns are removing excess water and maintaining

good soil tilth. If drained, this soil is droughty and subject to soil blowing. The use of cover crops, green manure, and crop residue and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, help to conserve moisture, maintain good soil tilth, and control soil blowing.

If this soil is used as woodland, the major management concerns are equipment limitations, seedling mortality, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations can be timed to seasons of the year when the soil is actively dry or frozen. Seedling loss will be high because of wetness. Special site preparation, such as mulching, can be used in some areas to help reduce seedling loss. The use of harvest methods that do not leave trees standing alone or widely spaced helps to prevent windthrow.

This soil is in capability subclass IVw and Michigan soil management group 5c.

**40B—Udorthents, loamy, undulating.** This map unit consists of moderately well drained or well drained soils that have been so altered that classification at the series level is not feasible. These soils range in texture from sandy loam to clay loam. They make up areas of 3 to 75 acres. In some areas, soil material has been excavated. In other areas, the soils have been covered by fill material.

Included in mapping are strongly sloping to very steep soils along the outer edges of the mapped areas. These soils are more erodible. In a few areas the soils are sandy or clayey or have organic material below 5 feet. The included soils make up 2 to 15 percent of this map unit.

Permeability, reaction, and available water capacity are variable. Surface runoff is slow to medium. The high water table is at a depth of 2 to more than 5 feet. The soil material generally is very low in content of organic matter.

In most areas the soils are idle land. In a few areas they are used for pasture or for recreation uses. These soils generally are poorly suited to cropland use. Onsite evaluation is needed to determine their suitability for woodland, pasture, and recreation uses and for building site development.

These soils are not assigned to interpretive groupings.

**40C—Udorthents, loamy, rolling.** This map unit consists of moderately well drained or well drained soils that have been so altered that classification at the series level is not feasible. These soils range in texture from sandy loam to clay loam. They make up areas of 3 to 75 acres. In most areas, soil material has been excavated. In a few areas, the soils have been covered by fill material.

Included in mapping are gently sloping or undulating soils. Included also are a few areas of sandy or clayey

soils. The included soils make up 4 to 10 percent of this map unit.

Permeability, reaction, and available water capacity are variable. Surface runoff is medium to rapid. The soil material generally is very low in organic matter content.

In most areas these soils are idle land. In a few areas they are used for pasture or for recreation uses. These soils are poorly suited to cropland use. Onsite evaluation is needed to determine their suitability for woodland, pasture, and recreation uses and for building site development.

These soils are not assigned to interpretive groupings.

**41B—Aquents, sandy and loamy, undulating.** This map unit consists of somewhat poorly drained and poorly drained soils that have been so altered that classification at the series level is not feasible. These soils range in texture from sand to clay loam. They make up areas of 3 to 50 acres. In most areas, these soils have been covered by fill material. In a few areas, soil material has been excavated.

Included in mapping are moderately sloping to very steep soils along the outer edges of the mapped areas. They are more erodible. Included also are a few areas of marl or clay and some areas where organic material is below 2 to 4 feet or the fill material is a mixture of organic and mineral materials. The included soils make up 5 to 20 percent of this map unit.

The high water table is at a depth of 2 feet to near the surface from October to May. Permeability, reaction, and available water capacity are variable. Surface runoff is slow to ponded. The soil material is generally very low in organic matter content.

In most areas these soils are idle land. In a few areas they are used for urban development, pasture, or recreation uses. These soils generally are poorly suited to cropland use. Onsite evaluation is needed to determine their suitability for woodland, pasture, and recreation uses and for building site development.

These soils are not assigned to interpretive groupings.

**42—Pits.** This map unit consists of areas that have been excavated for sand or for sand and gravel. Areas range from 3 to 120 acres.

Included in mapping are some strongly sloping to steep soils that are subject to erosion. Also included are a few areas of Aquents and Udipsamments that have not been excavated and some pond areas.

The high water table ranges from near the surface to more than 5 feet in depth. Surface runoff is medium to ponded.

Most areas are used as wildlife habitat or are still being mined.

This miscellaneous area is not assigned to interpretive groupings.

**43—Sloan-Marlette association.** This association consists of nearly level, very poorly drained Sloan soils

**45C—Arkport loamy fine sand, 6 to 12 percent slopes.** This moderately sloping or gently rolling, well drained soil is on knolls and ridgetops. Most areas of this soil are dissected by shallow drainageways. Slopes are smooth and convex and are generally less than 100 feet long. Areas are irregular in shape and are 2 to 150 acres in size.

Typically, the surface layer is dark grayish brown loamy fine sand about 8 inches thick. The subsurface layer is yellowish brown loamy fine sand about 11 inches thick. The next layer consists of light yellowish brown, very friable loamy fine sand and thin strata of dark brown very fine sandy loam, and it is about 20 inches thick. The next layer to a depth of about 60 inches consists of very pale brown and brownish yellow, very friable loamy very fine sand and thin strata of yellowish brown very fine sandy loam. In places the subsoil has a higher clay content, and in places there is gravelly sand below 50 inches.

Included in mapping are small areas of the somewhat poorly drained Dixboro soils and the well drained Spinks soils. The Spinks soils are more droughty than the Arkport soil and generally are on landscape positions similar to those of the Arkport soil. The Dixboro soils are in narrow drainageways and on foot slopes. Also included are small areas of the very poorly drained Gifford and Thomas soils that are in small depressions. The included soils make up 3 to 10 percent of the map unit.

Permeability is moderately rapid in this Arkport soil. The available water capacity is moderate. Runoff is medium.

In most areas this soil is used as pasture or woodland or is idle land. In a few areas it is used as cropland. This soil is well suited to use as pasture and woodland. It is fairly suited to cropland use and to recreation uses.

This soil is suited to building site development and to use as septic tank absorption fields, but slope is a limitation. For buildings, land shaping and installing retaining walls help to overcome the slope limitation. For septic tank absorption fields, installing the absorption field on the contour can overcome this limitation.

If this soil is used as cropland, the major management concerns are controlling soil blowing, overcoming droughtiness, and maintaining organic matter content. Cover crops, such as rye, protect fields from soil blowing. Contour tillage helps to slow runoff. The use of grasses and legumes in the crop rotation and the use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, can help to maintain the content of organic matter and overcome droughtiness.

If this soil is used as woodland, the major management concern is seedling mortality. Special site preparation, such as furrowing, helps to overcome this problem in some areas.

This soil is in capability subclass IIIe and Michigan soil management group 3a-s.

**45D—Arkport loamy fine sand, 12 to 25 percent slopes.** This moderately sloping to very hilly, well drained soil is on knolls, side slopes, and ridgetops. Some areas of this soil are dissected by shallow drainageways. Slopes are smooth and convex and are commonly less than 100 feet long. Areas are irregular in shape and are 2 to 150 acres in size.

Typically, the surface layer is brown loamy fine sand about 7 inches thick. The subsurface layer is yellowish brown loamy fine sand about 15 inches thick. The next layer consists of yellowish brown, very friable loamy fine sand and thin strata of brown, friable very fine sandy loam; and it is about 21 inches thick. The next layer to a depth of about 60 inches is very pale brown and yellowish brown, friable very fine sandy loam. In places the subsoil has a higher clay content. In some places gravelly sand is below 50 inches.

Included in mapping are small areas of the well drained Spinks soils. The Spinks soils are more droughty than the Arkport soil and generally are on landscape positions similar to those of the Arkport soil. These included soils make up 3 to 8 percent of the map unit.

Permeability is moderately rapid in this Arkport soil, and the available water capacity is moderate. Runoff is medium to rapid.

In most areas this soil is used as woodland or pasture or is idle land. This soil is fairly suited to woodland use. It is poorly suited to use as pasture and to recreation uses. This soil generally is not suitable for building site development and for use as septic tank absorption fields because of slope.

If this soil is used as woodland, the major management concerns are equipment limitations and seedling mortality. Some seedling loss can be expected during dry summer months. Special site preparation, such as furrowing, helps to overcome the seedling mortality problem. Normal planting and logging equipment can be used, but careful planning of roads, landings, and skid trails is necessary.

This soil is in capability subclass IVe and Michigan soil management group 3a-s.

**46A—Dixboro loamy fine sand, 0 to 3 percent slopes.** This somewhat poorly drained soil is on broad, nearly level areas or low knolls. Slopes are slightly convex and are generally less than 50 feet long. Areas are irregular in shape and are 2 to 100 acres in size.

Typically, the surface layer is very dark grayish brown loamy fine sand about 8 inches thick. The subsurface layer is pale brown loamy very fine sand about 8 inches thick. The subsoil is strong brown, mottled, friable very fine sandy loam about 19 inches thick. The substratum to a depth of about 60 inches is grayish brown, mottled, calcareous, stratified very fine sand, loamy very fine sand, and very fine sandy loam. In some places the surface layer is lighter colored. In some places the subsoil contains thin layers of gravelly sand or contains thin strata with more clay.

inches thick. The subsoil is dark brown, firm gravelly sandy clay loam and is about 13 inches thick. The substratum to a depth of about 60 inches is brown, calcareous gravelly sand.

Typically, the Riddles soil has a surface layer of dark grayish brown sandy loam about 9 inches thick. The subsurface layer is brown sandy loam about 7 inches thick. The subsoil is sandy clay loam about 35 inches thick. In the upper part it is yellowish brown and friable; in the middle part it is dark yellowish brown and firm; and in the lower part it is yellowish brown and friable. The substratum to a depth of about 60 inches is brown, calcareous sandy loam.

Included in mapping are small areas of well drained Boyer soils that are on landscape positions similar to those of the Fox or Riddles soils. These Boyer soils are more droughty than the Fox or Riddles soils. Also included are the somewhat poorly drained Capac, Matherton, and Metamora soils in drainageways and on low knolls and ridges at lower elevations and the poorly drained Sebewa soils and very poorly drained Thomas soils in small depressions or narrow drainageways. The included soils make up 8 to 20 percent of the complex.

Permeability is moderate in the subsoil and rapid in the substratum in the Fox soil. It is moderate in the Riddles soil. The available water capacity is moderate in the Fox soil and high in the Riddles soil. Runoff is slow. The shrink-swell potential is moderate.

In most areas these soils are used as woodland or pasture or are idle land. In a few areas they are used as cropland. These soils are fairly suited to cropland use and to recreation uses. They are well suited to use as pasture and woodland.

These soils are suited to building site development, but slope is a limitation. Land shaping and installing retaining walls help to overcome the slope limitation for buildings. These soils are suited to use as septic tank absorption fields, but slope is a limitation. Land shaping and installing the absorption field across the slope help to overcome this limitation. Poor filtering capacity is an additional limitation to the use of the Fox soil as septic tank absorption fields. The effluent drains satisfactorily, but there is a hazard of ground water pollution.

If these soils are used as cropland, the major management concerns are controlling runoff and erosion, maintaining organic matter content, and keeping the soil in good tilth. Contour tillage helps to reduce erosion and runoff. Crop residue and green manure help to maintain the organic matter content and improve the tilth of the soil.

These soils are in capability subclass IIIe and Michigan soil management groups 3/5a and 2.5a.

**48—Gilford sandy loam.** This nearly level, very poorly drained soil is in broad, flat areas and in drainageways. It is subject to frequent ponding. Areas are irregular in shape and range in size from 2 to 100 acres or more.

Typically, the surface layer is very dark brown sandy loam about 11 inches thick. The subsoil is friable sandy

loam and is about 27 inches thick. In the upper part it is dark gray, and in the lower part it is gray and mottled. The substratum to a depth of about 60 inches is gray, calcareous gravelly sand. In some areas, the surface layer is thinner, or the subsoil consists of alternate layers of sand, loamy sand, and sandy loam.

Included in mapping are small areas of the very poorly drained Houghton and Adrian soils that are in small depressions. The Houghton and Adrian soils are less stable than the Gilford soil. Also included are small areas of the somewhat poorly drained Wasepi soils that are on low knolls. The included soils make up 2 to 8 percent of this map unit.

Permeability is moderately rapid in the subsoil of this Gilford soil and very rapid in the substratum. The available water capacity is low. Runoff is very slow or ponded. The high water table is at or above the surface from December to May.

In most areas this soil is used as woodland or pasture or is idle land. This soil is well suited to use as cropland and pasture. It is poorly suited to woodland use and to recreation uses.

This soil is poorly suited to building site development because of wetness and generally is not suited to use as septic tank absorption fields because of wetness and poor filtering capacity. It should not be used as a site for buildings with basements. If the soil is used as a site for buildings without basements, the use of surface or subsurface drainage to lower the water table and the use of well compacted fill to raise the site help to overcome the wetness limitation. Sanitary facilities should be connected to public sewers and sewage treatment facilities.

If this soil is used as cropland, the main management concerns are removing excess water and maintaining good tilth. Surface and subsurface drains help to overcome the wetness limitation. Tilling when the soil is not wet and using conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, help to improve tilth.

If this soil is used as woodland, the major management concerns are equipment limitations, seedling mortality, and windthrow. The use of heavy equipment for planting, tending, and harvesting trees is restricted during wet periods. Woodland operations can be timed to seasons of the year when the soil is relatively dry or frozen. Seedling loss will be high because of wetness. Special site preparation, such as bedding, can be used in some areas to help reduce the loss of seedlings. The use of harvest methods that do not leave trees standing alone or widely spaced helps to prevent windthrow.

This soil is in capability subclass IIIw and Michigan soil management group 4c.

**49—Cohoctah fine sandy loam.** This nearly level, poorly drained or very poorly drained soil is on flood plains and is subject to frequent flooding. Areas are

This soil is in capability subclass IIIs and Michigan soil management group Ga.

**51C—Leoni gravelly sandy loam, 6 to 12 percent slopes.** This moderately sloping or gently rolling, well drained soil is on knolls and ridges. Slopes are smooth and convex and are less than 100 feet long. Areas are irregular in shape and are 5 to 70 acres in size.

Typically, the surface layer is brown gravelly sandy loam about 7 inches thick. The subsoil is friable and is about 37 inches thick. In the upper part it is yellowish brown gravelly sandy clay loam, and in the lower part it is dark yellowish brown gravelly sandy clay loam. The substratum to a depth of about 60 inches is light yellowish brown gravelly sand. In some places the soil is severely eroded.

Included in mapping are small areas of the very poorly drained Gilford, Thomas, and Houghton soils and the poorly drained Sebewa soils that are in depressions. These soils make up 2 to 8 percent of the map unit.

Permeability is moderate in the subsoil of this Leoni soil and moderately rapid or rapid in the substratum. The available water capacity is low. Runoff is medium to rapid. The shrink-swell potential is moderate.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used as cropland. This soil is well suited to woodland use. It is fairly suited to cropland use and poorly suited to recreation uses.

This soil is suited to building site development, but slope and cobbles are limitations to this use. Land forming and installing retaining walls can help to overcome the slope limitation. The cobbles may have to be removed. This soil is suited to septic tank absorption fields, but slope is a limitation. Land shaping and installing the absorption field across the slope help to overcome the slope limitation for septic tank absorption fields.

If this soil is used as cropland, the major management concerns are overcoming droughtiness, controlling runoff and erosion, maintaining the organic matter content, and keeping the soil in good tilth. The use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, helps to conserve moisture. Practices that help prevent erosion and runoff are the use of a crop rotation that includes hay, the use of cover crops and grassed waterways, and the use of conservation tillage. Crop residue and green manure help to maintain the organic matter content and improve the tilth of the soil.

This soil is in capability subclass IIIe and Michigan soil management group Ga.

**52A—Selfridge loamy sand, 0 to 3 percent slopes.** This nearly level, somewhat poorly drained soil is on broad, flat areas or low knolls. Slopes are slightly convex and are less than 50 feet long. Areas are irregular in shape and are 2 to 80 acres in size.

Typically, the surface layer is very dark grayish brown loamy sand about 9 inches thick. The subsurface layer is

brown loamy sand or light yellowish brown sand about 23 inches thick. The subsoil is brown, mottled, friable loam about 9 inches thick. The substratum to a depth of about 60 inches is grayish brown, mottled, calcareous loam. In the southern part of the county, this soil is clayey below a depth of 40 inches.

Included in mapping are small areas of Capac and Metamora soils on landscape positions similar to those of the Selfridge soil. These soils are not as droughty as the Selfridge soil. Also included are small areas of the very poorly drained Brookston, Houghton, and Thomas soils that are in depressions and drainageways and small areas of the well drained Metea soils that are on higher knolls and ridges. The included soils make up 5 to 10 percent of the map unit.

Permeability is rapid in the sandy surface soil and moderately slow in the loamy subsoil and substratum. The available water capacity is moderate. Runoff is slow. The seasonal high water table is at a depth of 1 to 2 feet from November through May.

In most areas this soil is used as woodland or pasture or is idle land. In a few areas it is used as cropland. This soil is well suited to use as pasture. It is fairly suited to use as cropland and woodland and to recreation uses.

This soil is poorly suited to building site development because of wetness and is poorly suited to use as septic tank absorption fields because of wetness and moderately slow permeability. If the soil is used as a site for buildings, the use of surface or subsurface drains to lower the water table and the use of well compacted fill to raise the site can help to overcome the wetness limitation. For septic tank absorption fields, special construction, such as filling or mounding the absorption field site with suitable soil material, may be needed to raise the field above the water table and into more permeable soil material.

If this soil is used as cropland, the major management concerns are wetness, water erosion and soil blowing, droughtiness, and organic matter content. Subsurface drainage helps to reduce the wetness limitation. Cover crops, such as rye, protect fields from water erosion and soil blowing. The use of conservation tillage, which does not invert the soil and leaves all or part of the crop residue on the surface, helps to conserve moisture. The use of crop rotations that include grasses and legumes and the use of crop residue management can help to maintain organic matter content.

If this soil is used as woodland, the major management concern is seedling mortality. Some seedling loss can be expected due to droughtiness during dry summer months. Exposing soil just prior to the production of the seed crop can help desirable tree seedlings become established quickly and get a head start on competing vegetation.

This soil is in capability subclass IIIw and Michigan soil management group 4/2b.

**53A—Tedrow loamy sand, 0 to 3 percent slopes.** This nearly level, somewhat poorly drained soil is on

## LOG OF HAND AUGER BORINGS

PEA JOB NO. 96075G & 94158G

HAB NO.	DEPTH	SAMPLE NO.	SOIL DESCRIPTION	REMARKS
HAB #1	0' to 4.0'	1-D at 2.0'	Very Stiff Mottled Brown/Gray SILTY CLAY with Trace of Gravel	Dry at completion *4,500 psf at 1.5' *7,000 psf at 3.0'
HAB #2	0' to 1.7' 1.7' to 2.5' 2.5' to 4.0'	1-D at 3.0'	TOPSOIL: Very Soft Dark Brown SILTY CLAY Stiff Brown/Gray SILTY CLAY with Trace of Gravel <del>Very Stiff Brown/Gray SILTY CLAY with Trace of Gravel</del>	Water at 1.7 feet 3,000 psf 6,000 psf
HAB #3	0' to .4' 0.4' to 2.0' 2.0' to 3.7'	1-D at 1.5' 2-D at 2.5'	TOPSOIL: Very Soft Dark Brown SILTY CLAY Very Soft Brown/Gray SILTY CLAY with Some Roots Very Stiff Mottled Brown/Gray SILTY CLAY	Water at 1.5 feet 5,000 psf Refusal on cobble at 3.7 feet
HAB #4	0' to 0.5' 0.5' to 4.7'	1-D at 3.0'	Soft Dark Brown SILTY CLAY (Topsoil) Very Stiff Mottled Brown/Gray SILTY CLAY	Water at 0.5 feet 6,000 psf
HAB #5	0' to 1.0' 1.0' to 6.0	1-D at 4.0'	TOPSOIL: Very Soft Dark Brown SILTY CLAY Very Stiff Gray SANDY CLAY	Water at 1.0 feet 4,000 to 6,000 psf
HAB #6	0' to 0.7' 0.7' to 1.5' 1.5' to 6.5'	1-D at 1.0' 2-D at 3.5'	TOPSOIL: Very Soft Dark Brown SILTY CLAY Medium Gray SANDY SILTY CLAY Stiff Gray SANDY CLAY	Water at 0.7 feet 3,500 psf

NOTES:

1. Hand auger borings drilled adjacent to stream flow with 2-1/2-inch diameter hand augers.
2. Visual soil classification only.
3. \*PP - Pocket Penetrometer Value in pounds per square foot (psf).

DRILLED BY: Doug Gucwa

DATE: 9/25/96

SHEET NO. 1



July 10, 1998

Attachment **A**

TO: The Honorable Mayor and City Council

FROM: James C. Bacon, Jr., City Manager **B**  
John Szerlag, Assistant City Manager/Services **SS**

SUBJECT: Fetterly Drain Issues

Questions about the Fetterly Drain have been raised primarily in two arenas: engineering and environmental. Both of these arenas are underpinned by financial considerations. At this point in time, there are things we know about this issue and things we don't know. Let's start with things we know.

From an engineering perspective, we know that:

1. The drainage district for the Fetterly Drain includes approximately 310 acres, of which approximately 175 acres are undeveloped. The Fetterly Drain does not currently have sufficient capacity to handle a ten-year storm event within the channel or the existing 40-foot wide easement.
2. The scope of work currently proposed will cover the entire 3,730 linear feet of the Fetterly Drain. The southern 1,280 linear feet will be enclosed with a 42-inch diameter pipe, with a swale over the pipe. The northern 2,450 linear feet will consist of a swale over a 21-inch diameter pipe enclosure. Improving the drain in this fashion means that there will be a ten-year storm capacity at full development within the district.
3. The benefits realized by performing only a drain clean-out are limited. Most importantly, a clean-out of the drain will not provide the ten-year storm capacity.
4. We cannot have an open drain improvement within the existing 40 foot easement because the cross-section's steep side slopes would be dangerous, would be difficult to maintain, and soils are not conducive to supporting steep side slopes (i.e. 1:1, 1:2).
5. An open drain improvement project would require adding up to 60 feet of easement width.

From an environmental perspective, we know that:

1. A heron rookery is located within the drainage district.
2. Rookeries should have an area of isolation.
3. The U.S. Fish and Wildlife Services recommends an isolation zone of approximately 810 feet around the rookery. Thus, the amount of recommended area to remain