ENVIRONMENTAL ASSESSMENT WORKSHEET (EAW)

Inwood Creek - Lake Elmo

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July 2013 version

ENVIRONMENTAL ASSESSMENT WORKSHEET

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:
http://www.eqb.state.mn.us/EnvRevGuidanceDocuments.htm. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.
Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addresses collectively under EAW Item 19.
Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

1. **Project title:** Inwood Creek – Lake Elmo

2. **Proposer:** Hans Hagen Homes
   Contact person: John Rask
   Title: Vice President Land Development
   Address: 941 NE Hillwind Road #300
   City, State, ZIP: Fridley, MN 55432
   Phone: 763-586-7202
   Fax: 763-572-9417
   Email: jrask@hanshagenhomes.com

3. **RGU:** City of Lake Elmo
   Contact person: Kyle Klatt
   Title: Planning Director
   Address: 3800 Laverne Avenue N
   City, State, ZIP: Lake Elmo, MN 55042
   Phone: 651-747-3911
   Fax: 651-747-3901
   Email: kklatt@lakeelmo.org

4. **Reason for EAW Preparation:** (check one)

Required:	Discretionary:
EIS Scoping	Citizen petition
☑ Mandatory EAW	RGU discretion
	Proposer initiated

   If EAW or EIS is mandatory give EQB rule category subpart number(s) and name(s):

5. **Project Location:**
   County: Washington County, Minnesota
   City/Township: Lake Elmo
   PLS Location (NE1/4, Section 33, T29N, R21W):
   Watershed (81 major watershed scale): South Washington
   GPS Coordinates: 44°57'34.1"N 92°55'57.4"W
   Tax Parcel Number: 33-029-21-12-0001, 33-029-21-12-0003, 33-029-21-11-0002, 33-029-21-11-0001

At a minimum attach each of the following to the EAW:

- County map showing the general location of the project; **See Exhibit A**
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable); and **See Exhibit B**
- Site plans showing all significant project and natural features. Pre-construction site plan and post-construction site plan. **See Exhibit C and Exhibit D.**

6. Project Description:

a. Provide the brief project summary to be published in the *EQB Monitor*, (approximately 50 words).

Hans Hagen Homes and Inwood 10 LLC are proposing to develop a 157-acre property located in the southern portion of Lake Elmo. The project will be known as Inwood Creek. This mixed use neighborhood will contain detached single family homes, multi-family, and commercial land uses.

b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion include a description of the existing facility. Emphasize: 1) construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes, 2) modifications to existing equipment or industrial processes, 3) significant demolition, removal or remodeling of existing structures, and 4) timing and duration of construction activities.

Hans Hagen Homes and Inwood 10, LLC are proposing to construct a mixed use development consisting of commercial, multi-family, and single family homes on approximately 157 acres. The proposed land uses are consistent with the City's Comprehensive Plan. The detached single family neighborhood occupies approximately 90 acres and will include 278 single family lots. The multi-family will include an additional 458 units consisting of: 1) 176 rental townhomes, 2) 120 senior housing units, 3) 150 multifamily units, and 4) 12 townhomes. The commercial land uses will consist of approximately 73,000 square feet of office and retail uses.

Project development will convert approximately 157 acres of agricultural fields to a new mixed use neighborhood that includes streets, homes, retail goods and services, offices, lawns, landscaping, parkland, trails, and stormwater ponding. Public streets will serve the development including the construction of a minor collector roadway, which will be known as 5th Street.

The City's approved Comprehensive Land Use Plan provides for an additional 6,600 Residential Equivalent Connections (RECs) of regional sewer service by 2030. The subject property is guided for a mix of Urban High Density, Urban Low Density, and Commercial. Development of the subject property will be consistent with the total level of density guided by the Land Use Plan.

Development of the property will occur in multiple phases with the first phase expected to begin in 2014. Full build-out is anticipated in 2020; however, construction timing will ultimately depend upon market conditions.

Project magnitude:

Total Project Acreage	157 acres
Linear project length	2,640 feet
Number and type of residential units	278 single family units 458 attached units
Commercial building area (in square feet)	73,000
Industrial building area (in square feet)	n/a
Institutional building area (in square feet)	n/a
Other uses – specify (in square feet)	n/a
Structure height(s)	35 feet on single family 50 feet on multi-family

d. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of this mixed use neighborhood is to meet the demand for additional residential housing and commercial goods and services within the City of Lake Elmo. This development is consistent with the City's Comprehensive plan.

e. Are future stages of this development including development on any other property planned or likely to happen? Yes ☑ No
If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

There are currently no planned future stages of the Inwood Creek neighborhood.

f. Is this project a subsequent stage of an earlier project? Yes ☑ No
If yes, briefly describe the past development, timeline and any past environmental review.

Inwood Creek is not a subsequent stage of an earlier development project

7. Cover types: Estimate the acreage of the site with each of the following cover types before and after development:

	Before	**After**		**Before**	**After**
Wetlands	.28	.10	Lawn/landscaping	0	52
Deep water/streams	.20	.20	Impervious surface	0	60
Wooded/forest	14.7	5.0	Stormwater Pond	0	7.7
Brush/Grassland	0	0	Other (describe)	0	41.5
Cropland	142.8				
			TOTAL	**157**	**157**

Cover types identified as “Others” include road right-of-way, infiltration basins, park, berms, open space, and undeveloped property.

8. **Permits and approvals required:** List all known local, state and federal permits, approvals, certifications and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure. *All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules, Chapter 4410.3100.*

Unit of Government	**Type of Application**	**Status**
City of Lake Elmo	Concept Plan Approval	To be applied for
City of Lake Elmo	Preliminary Plat Approval	To be applied for
City of Lake Elmo	Final Plat Approval	To be applied for
City of Lake Elmo	EAW Negative Declaration	To be applied for
City of Lake Elmo	Grading Permit	To be applied for
City of Lake Elmo	Building Permit	To be applied for
City of Lake Elmo	Municipal Water Connection Permit	To be applied for
City of Lake Elmo	Sanitary Sewer Connection Permit	To be applied for
City of Lake Elmo	Rezoning	To be applied for
City of Lake Elmo	Wetland Delineation Confirmation	Applied for
City of Lake Elmo	Wetland Conservation Act No-Loss Determination	Applied for
Washington County	Right-of-Way Permit	To be applied for
Washington County	Access Permit	To be applied for
Washington County	Obstruction Permit	To be applied for (if needed)
Washington County	Transportation Permit	To be applied for (if needed)
Metropolitan Council	Sanitary Sewer Connection Permit	To be applied for
Minnesota Department of Health	Water Main Extension Approval	To be applied for
Minnesota DNR Division of Waters	Water Appropriation Permit	To be applied for (if needed)
Minnesota Pollution Control Agency	NPDES/SDS	To be applied for
Minnesota Pollution Control Agency	Sanitary Sewer Extension Approval	To be applied for
U. S. Army Corps of Engineers	Section 404I Letter of No Jurisdiction	Applied for
MN DNR Division of Waters	Water Appropriation Permit	To be applied for (if needed)

MN Pollution Control Agency	NPDES/SDS General Permit	Covered under general permit; submit NOI prior to construction
South Washington Watershed District	Watershed Review/Permit	To be applied for

Cumulative potential effects may be considered and addressed in response to individual EAW Item Nos. 9-18, or the RGU can address all cumulative potential effects in response to EAW Item No. 19. If addressing cumulative effect under individual items, make sure to include information requested in EAW Item No. 19

9. Land use:

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, prime or unique farmlands.

The subject property consists primarily of tilled agricultural land with a few small stands of trees. A small City park exists near the southeast corner of the site. Surrounding land use as depicted in **Exhibit E** consists of 1) tilled agricultural land to the north, 2) office uses to the south, 3) large lot residential to the east, and 4) a golf course to the west. As described in the City's Comprehensive Land Use Plan, this portion of the City is guided as an "urbanized zone" that will feature higher density residential development and commercial uses. A natural buffer strip, located adjacent to existing rural development, is proposed along the east property line.

Some of the soils in this area of Lake Elmo are classified as prime farmland. Because adjacent land uses are urban in nature, or planned for future development, no farmland preservation measures were considered.

ii. Plans, describe planned land use as identified in comprehensive plan (if available) and any other applicable plan for land use, water, or resources management by a local, regional, state, or federal agency.

The planned land uses of the property consist of low density residential, multi-family, and commercial. These uses are consistent with the City's Comprehensive Plan for the property, see attached **Exhibit F**. Surrounding land uses in the City's Comprehensive Land Use Plan consist of Rural Development Area to the north, Business Park to the south, Residential Estate to the east, and a public golf course and office uses to the west located in the City of Oakdale.

The City of Lake Elmo's Comprehensive Plan was reviewed by the Metropolitan Council, adjacent communities, and other governmental agencies with review authority. The City's Land Use Plan was found to be consistent with these other local and regional plans.

Because Inwood Creek is consistent with the City's Land Use Plan, no impacts to other local or regional plans are anticipated.

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The subject property is in a sewered holding district and will be rezoned concurrently with the submission of a preliminary plat. The Development will be zoned PUD with commercial and residential land uses. The property includes an unnamed creek that is within the shoreland overlay zoning district. A portion of the northwest corner of the property is also located in the shoreland district of Armstrong Lake. Armstrong Lake is located in the City of Oakdale. There is no floodplain established for the unnamed creek or Armstrong Lake.

The use and development of the Inwood Creek neighborhood would be consistent with the shoreland regulations of the City.

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The project will consist of a mix of residential, multi-family, and commercial uses as identified in the City's Comprehensive Plan. The subject property is bounded by 10th Street to the north, an office park to the south, a 100-foot wide buffer and large lot residential to the east, and Inwood Avenue to the west. The planned use of the property is consistent with the City's Comprehensive Plan and will not have any negative environmental effects on nearby land uses that cannot be mitigated.

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

The project is compatible with the City's Comprehensive Plan and is not incompatible with surrounding land uses, or future land uses identified in the City's Plan. The Inwood Creek neighborhood is designed to provide the appropriate land use transitions both within the project itself, as well as with surrounding land uses. Specifically, the site provides the following transitions to eliminate any potential incompatibilities that would have negative environmental effects:

- The Inwood Creek detached single family lots will be located adjacent to the large lot residential lots to the east. Residential use of this property is consistent with the adjacent residential uses, and will be separated by a vegetative buffer that at a minimum is 100 feet wide.
- The Inwood Creek neighborhood includes multi-family development along the southern edge of the property, which is adjacent to the existing office park. The multi-family development is compatible with nearby office uses and will not have any negative environmental impacts. Conversely, the office use will not adversely impact the multi-family uses of the property.
- The proposed commercial land uses are on the west side of the property adjacent to Inwood Avenue. Across the street from Inwood Creek is a public golf course. The

planned commercial is separated from the single family portion of Inwood Creek by a large stormwater pond.

- North of the property is tilled agricultural fields. The agricultural fields are separated from the project site by 10th Street (CSAH 10). Berms will be constructed on the south side of 10th Street to buffer the single family homes form the road.

10. Geology, soils and topography/land forms:

a. Geology - Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.

American Engineering and Testing conducted soil borings on the subject property. The borings identified a plowed section of topsoil overlying alluvial sands, silty sands, lean clays, and glacial till.

Coarse alluvial soils exist below the topsoil and are interbedded within the mixed alluvium, fine alluvium and till. They consist of silty sands, sands with silt and sands. The coarse alluvium contains variable amounts of gravel and could also contain cobbles or boulders.

The Geologic Atlas of Washington County, Minnesota (1990) C-5, Plate 1 indicates there are no known sinkholes, exposed bedrock, springs, or seeps on or near the site. If such features are encountered on the site, actions will be taken to mitigate potential effects such as stormwater routing, soil stabilization, and groundwater protection practices.

b. Soils and topography - Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability or other soils limitations, such as steep slopes, highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.

NOTE: For silica sand projects, the EAW must include a hydrogeologic investigation assessing the potential groundwater and surface water effects and geologic conditions that could create an increased risk of potentially significant effects on groundwater and surface water. Descriptions of water resources and potential effects from the project in EAW Item 11 must be consistent with the geology, soils and topography/land forms and potential effects described in EAW Item 10.

The Soil Survey Geographic (SSURGO) digital database for Washington County (USDA NRCS, Accessed 2013) indicates the soils that occur within the project area are predominantly non-hydric silty and sandy loams.

Soils Classification

Map Symbol	Soil Classification	Hydric
264	Freeon silt loam, 1 to 4 percent slopes	Not hydric
153B	Santiago silt loam, 2 to 6 percent slopes	Not hydric
153C	Santiago silt loam, 6 to 15 percent slopes	Not hydric
120	Brill silt loam, 0 to 2 percent	Not hydric
266	Freer silt loam, 0 to 2 percent	Not hydric
1847	Barronett silt loam, 0 to 2 percent	Hydric
342B	Kingsley sandy loam, 2 to 6 percent slopes	Not hydric
49B	Antigo silt loam, 2 to 6 percent slopes	Not hydric
49	Antigo sil loam, 0 to 2 percent slopes	Not hydric

1 Based on the NRCS List of Hydric Soils of Minnesota (1995).

Acres: Approximately 150 acres will be graded for streets, house and commercial pads, and stormwater features.

Cubic Yards: Approximately 1,500,000 cubic yards of soil will be moved. The soils are generally suitable for urban development and require very little correction. Furthermore, the proposed site plan works with natural grade and topography and will not significantly alter the current topography of this 157 acre site. Most of the earth work is the result of stripping top soil, digging ponds, and constructing berms for buffers.

The Highly Erodible Land (HEL) List for Washington County, Minnesota (USDA NRCS, 2006) indicates there are no highly erodible soil within the study area.

According to the USDA NRCS SSURGO database for Washington County (Accessed 2014), there are no substantial areas that contain steep slopes (12 percent or greater) associated with the soil mentioned above. Contour mapping indicates that the majority of the surface topography is gently undulating. Elevations range from 1,040 feet in the northern portion of the site to 996 feet in the southern portion of

the site **Exhibit G**. The majority of the site drains from north to south. With the majority of the project area being over 1,000 above mean sea level, the site contains some of the highest elevations in the City.

Because the project will involve disturbance of more than one acre of land, application for coverage under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) General Permit will be submitted to the MPCA prior to initiating earthwork on the site. This permit is required for discharge of stormwater during construction activity and requires that Best Management Practices (BMPs) be used to control erosion, and that all erosion controls be inspected after each rainfall exceeding 0.5 inches in 24 hours. Erosion control practices that will be implemented on the site include:

1. Construction of temporary sediment basins in the locations proposed for stormwater ponding, and development of these basins for permanent use following construction.
2. Silt fence and other erosion control features installed prior to earthwork and maintained until ground cover is established on exposed areas.
3. Periodic street cleaning and installation of a rock construction entrance to reduce tracking of dirt onto public streets.
4. Stabilization of exposed soils, phased with grading, within 7 days for slopes steeper than 3:1, 14 days for slopes less than 3:1 but greater that 10:1, and 21 days for slopes flatter than 10:1.
5. Energy dissipation, such as riprap, installed at storm sewer outfalls.
6. Use of cover crops, native seed mixes, sod, and landscaping to stabilize exposed surface soils after final grading.

Erosion control plans must be reviewed and accepted by the City of Lake Elmo and applicable South Washington County Watershed District prior to project construction. Because the above BMPs will be implemented during and after construction, potential adverse effects from construction-related sediment and erosion on water quality will be minimized.

11. Water Resources:

Describe surface water and groundwater features on or near the site in a.i. and a.ii. below.

i. Surface water - lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within 1 mile of the project. Include DNR Public Waters Inventory number(s), if any.

The subject property contains an unnamed creek (07010206-745) that is on the current MPCA 303d Impaired Waters List. Excessive levels of chloride (salt) is found in the creek which has an impact on fish and other aquatic organisms. The Inwood Creek neighborhood would comply with the application City shoreland regulations.

A small portion of the subject property also lies within the shoreland overlay district of Armstrong Lake. None of the subject property drains toward Armstrong Lake. The Inwood Creek property is on the opposite side of a divided 4-lane highway from Armstrong Lake, and is separated by a commercial/office development. As such, any development on the subject property will not impact Armstrong Lake.

Both Armstrong Lake and the unnamed creek are regulated under the City's Shoreland Ordinance. The shoreland district extends 300 feet from the ordinary high water elevation of the creek and 1,000 feet from the ordinary high water elevation of Armstrong Lake. The proposed development would comply with the City's Shoreland Ordinance. If flexibility to any standards is necessary, the Developer would identify these in the PUD application, and will take the appropriate actions to mitigate any potential negative impacts.

A farmed wetland basin will be impacted as part of the site development. In May of 2014, Kjolhaug Environmental Services evaluated the project area for wetlands and other jurisdictional waters. Three jurisdictional wetlands were identified within the project boundary as depicted in the Wetland Delineation Report attached as **Exhibit H.** Wetland 1 is listed on the National Wetland Inventory Map and is classified as a Type 1 (PEMAf) palustrine emergent temporary flooded farmed wetland. Wetland 2 is a Type 1 (PEMA) fresh meadow wetland dominated by green ash saplings and inundated with reed canary grass. Wetland 3 is a Type 1 (PEMAf) farmed, seasonally flooded wetland dominated by witch grass.

A review of the Flood Insurance Rate Maps, published by the Federal Emergency Management Agency, was performed. According to Panel Number 27163C0335E dated February 3, 2010, the Property is located in Flood Zone X. Flood Zone X consists of regions outside of the 100-year and 500-year flood zones.

ii. Groundwater – aquifers, springs, seeps. Include: 1) depth to groundwater; 2) if project is within a MDH wellhead protection area; 3) identification of any onsite and/or nearby wells, including unique numbers and well logs if available. If there are no wells known on site or nearby, explain the methodology used to determine this.

Groundwater elevations within the vicinity of the site are around 875 feet above sea level based on The Geologic Atlas of Washington County, Minnesota (1990) C-5, Plate 5. Topographic mapping indicates that elevations on the site range from approximately 1,070 above mean sea level in the northwest corner of the site to 980 above mean sea level towards the eastern border of the site. Consequently, the maximum depth to groundwater is estimated at about 195 feet. Because surficial groundwater is sometimes encountered in seasonally wet areas, the minimum depth to groundwater is estimated at 0 feet. The approximate average depth to groundwater was calculated by averaging the topographic elevations on the site (1,025) and subtracting the anticipated depth shown on the Washington County Atlas (875).

Depth to bedrock was estimated from the record of Unique Well No. 523649 (County Well Index, 2012) The well and boring record completed for this new well in April 1993 indicates that Platteville Formation was reached at 60 feet below grade. The Geologic Atlas of Washington County, Minnesota (1990) C-5, Plate 4 indicates that the distance to bedrock ranges between approximately 50 and 200 feet below grade.

The City of Lake Elmo has a Part 1 and Part II MDH Wellhead Protection Plan. The plan does not identify any well draw areas on the subject property.

Nova Consulting reviewed well log records provided by the Minnesota Department of Health (MDH) County Well Index for the Property. No wells were identified. Further, no evidence of wells or septic systems were observed by Nova at the time of the Phase I in May of 2014. If wells and septic systems are discovered during any future construction activities, they will be abandoned according to applicable regulations.

The Geologic Atlas of Washington County, Minnesota (1990) pollution sensitivity map indicates that the sensitivity of groundwater to pollution in the project areas is generally moderate. Sensitivity of groundwater systems to pollution is defined as the approximate time it takes from the moment contaminant infiltrates the land surface until it reaches an aquifer. Although shallow groundwater is highly susceptible to contamination, moderately permeable soils with finer textures will slow or restrict the movement of water, which extends the time needed for chemicals to break down before reaching the water table. As stated in Item 19, the average depth to groundwater on the site is estimated at approximately 150 feet below ground surface, providing a significant buffer between the soil surface and the groundwater aquifer.

Because development will be typical of residential and commercial uses, no unusual wastes or chemicals are anticipated to be spread or spilled that would cause significant groundwater contamination. The proposed project will provide continued groundwater protection by providing adequate stormwater treatment and vegetated infiltration areas such as rain gardens, and buffers to help capture runoff and filter pollutants.

Groundwater Protection and Mitigation Measures

The Inwood Creek residential development will offer a higher level of groundwater protection than exists under current conditions. Chemical applications can be high in agriculturally-dominated landscapes. The conversion of the site to urban uses will ensure greater protection of groundwater by: (1) covering exposed soils with turf and landscape plants to reduce infiltration of nutrients and pesticides; (2) reducing hazardous materials on the property to include only household quantities; (3) providing 27 acres of park, woodland, and open space; (4) providing stormwater treatment systems.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects in Item b.i. through Item b.iv. below.

i. Wastewater - For each of the following, describe the sources, quantities and composition of all sanitary, municipal/domestic and industrial wastewater produced or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

According to the City's approved Comprehensive Plan, the project area is situated within a designated sewer service area (see Future Land Use - Sewer Plan, 2012). Current plans call for the

proposed development site to be served by municipal sewer extended from the Eagle Point Business Park along Hudson Boulevard. All wastewater from the proposed project will be discharged to the Woodbury, Oakdale, Northdale, and East Oakdale (WONE) Interceptor. From the WONE Interceptor, wastewater from the development would flow to the Metropolitan Wastewater Treatment Plant in St. Paul. This facility currently treats approximately 215 million gallons of wastewater each day, and has the capacity to treat up to 250 million gallons per day. The Metropolitan Council projects ample capacity at this plant through 2030. Consequently, no wastewater facility or treatment capacity issues are anticipated (MCES 2007).

Both the MPCA and the Metropolitan Council Environmental Services (MCES) have compiled and documented extensive data that relates wastewater flow generation to population and land use. Sanitary wastewater production for the proposed development was estimated based on the methods outlined in the Service Availability Charge (SAC) Procedure Manual (MCES, 2012). The MCES has established 274 gallons per day (gpd) to be the average daily wastewater production from a typical residential connection. One SAC unit is defined as 274 gallons of wastewater flow volume, which is based on the assumption of 2.74 persons per unit and 100 gallons per capita day (gpcd) of wastewater production.

Each single family residence and townhome was assigned one SAC unit. The estimated maximum potential daily wastewater production for the entire development is 85,488 gpd. The following table provides information on wastewater production based on land use.

Wastewater Production Predicted

Proposed Use	**SAC Rate**	**Units**	**SAC Units**	**Wastewater (gallons/day)**
Single Family Homes	l/Unit	272	272	52,060
Townhomes	I/Unit	188	188	33,428
Apartments*	1/unit	150	120	32,880
Senior Housing	1/2.5unit	120	48	23,016
Commercial**	1/3,000	21	21	5,754
		Total	**649**	**147,138**

*****Includes a 20 percent reduction per SAC manual
**Includes 15 percent reduction in square footage for restroom, mechanical rooms, storage, etc.

2) If the wastewater discharge is to a subsurface sewage treatment systems (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.

   There will be no wastewater discharge to a subsurface treatment system.

3) If the wastewater discharge is to surface water, identify the wastewater treatment methods and identify discharge points and proposed effluent limitations to mitigate impacts. Discuss any effects to surface or groundwater from wastewater discharges.

Wastewater from the development would flow to the Metropolitan Wastewater Treatment Plant in St. Paul, Minnesota for treatment.

ii. Stormwater - Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control or stabilization measures to address soil limitations during and after project construction.

The project must meet the requirements of the City's Stormwater Ordinance. The project also must meet the requirements of the South Washington Watershed Districts (e.g. infiltration, erosion), where applicable.

The City's Stormwater Ordinance is available on the City's website. Lake Elmo is also a mandatory small MS4 (Municipal Separate Storm Sewer System) city, and is required by federal and state law to obtain and implement a NPDES Stormwater permit administered by the MPCA. MS4s are also required to develop and implement a stormwater pollution prevention plan program (SWPPP), and submit an annual report to the MPCA

Pre-Development Site Runoff

Existing site runoff likely contains pesticides, herbicides, and fertilizer residues due to the presence of agricultural fields. There is also likely a minor amount of runoff that flows to the site from north of 10th Street. However, because the property is higher than most of the surrounding properties, runoff primarily drains away from the site to the south. It is expected that a portion of the runoff infiltrates into the site's permeable, silty and sandy soils and some likely reaches existing onsite stormwater ponds located in the Eagle Point Business Park.

Post-Development Site Runoff

The change in land use will decrease the amount of agricultural chemicals and suspended solids, and increase other components typical of urban runoff. It is expected that the volume of runoff will increase during significant storm events as a result of the increase in impervious surface area. It is anticipated that only extreme conditions such as those occurring in connection with 50- or 100-year storm events will result in measurable increases in runoff volume and associated pollutant transport. The preservation and creation of open space in the form of buffers, parks, woodlands, infiltration/filtration, and ponds will help to mitigate potential adverse effects from the increase in impervious surface. The project proposer also plans to utilize a storm water reuse system to irrigate open space areas with storm water, which will help to reduce runoff volumes.

Runoff water quality will be typical of residential and commercial developments found throughout the state of Minnesota. Similar to current conditions, sediment, nutrient, and other pollutant removal will occur when much of the stormwater filters through upland vegetation, vegetated drainage swales, stormwater ponds, and other best management practices, including infiltration. Preserved and newly seeded vegetation will provide filter strips to help remove

sediment and nutrients before runoff discharges to area wetlands and surface waters, mitigating potential effects on water quality.

Potential adverse effects of runoff volume and quality will be further mitigated by the construction of approximately seven acres of stormwater ponds, which will be designed to reduce peak runoff rates and meet all requirements of the City of Lake Elmo and South Washington Watershed Districts. The design of ponding areas and the quality of stormwater discharging from the development will meet the requirements of the MPCA General Stormwater Permit for Construction Activity (Minnesota Stormwater Manual), and applicable local regulations. In a storm event, stormwater will be retained in the ponds and discharged at or below existing peak runoff rates.

BMPs will be employed during construction to reduce erosion and sediment loading of stormwater runoff. Inspection and maintenance of BMPs during construction will be consistent with NPDES/SDS General Permit requirements, including site inspection after rainfall events, perimeter sediment control maintenance, and sediment removal.

The project site is located within the South Washington Watershed District as depicted on **Exhibit I.** Surface waters generally flow north to south towards an unnamed creek which connects Armstrong Lake to Wilmes Lake. The site also receives some surface water runoff from the north via a culvert located underneath 10th Street

The goal of the project will be to maintain peak discharge rates at or below the existing condition. Post-construction drainage will follow similar pathways, with minor differences in drainage routes and increases in the volume of road ditches and swale flows. Post-development stormwater runoff will either travel overland, into stormwater ponds, or through storm sewers prior to discharging to ponds or infiltration basins.

For the following reasons, it is anticipated that site development will have minimal effects on receiving water quality:

- Impervious services will cover approximately 60 acres of the property, or 38% of the site. Open space areas consisting of buffers, parks, infiltration areas, and other landscaped areas will reduce runoff.
- Hydraulic storage within sediment basins will be designed, and BMPs implemented, in accordance with the General NPDES/SDS Permit for Construction Activities to protect water quality and control erosion.

iii. Water appropriation - Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.

Dewatering

Dewatering will become necessary if groundwater is encountered during utility installation; however, it is unlikely that dewatering will be necessary because the depth to groundwater exceeds the planned depth of sanitary sewer, municipal water, and storm sewer. The quantity and duration of potential construction dewatering is not known at this time, but it is expected that any necessary dewatering for construction will be temporary. If groundwater is encountered during utility installation, it will be discharged to temporary sediment basins located within the project site.

If construction dewatering and pumping from the proposed development exceeds the 10,000-gallon per day or 1,000,000 gallons per year thresholds, a DNR Water Appropriation Permit will be obtained. If it becomes apparent that construction dewatering will not exceed 50 million gallons in total and duration of one year from the start of pumping, the contractor or project proposer will apply to the DNR Division of Waters for coverage under the amended DNR General Permit 97-0005 for temporary water appropriations. It is not anticipated that construction dewatering or pumping from the proposed development will be extensive or continue long enough to impact domestic or municipal wells.

Connection to a public water supply system

The City of Lake Elmo currently operates two wells, which are permitted under DNR Water Appropriations Permit No. 611031. The two wells range in depth from 285 to 808 feet deep, and draw water from the Jordan-Mt. Simon and Prairie Du Chien-Jordan aquifers (2010 Drinking Water Report). The City's DNR water appropriations permit allows a total system pumping capacity of 260 million gallons per year (MGY).

According to DNR Water Appropriation records as of 2010, the city reported pumping 103 MGY (average 282,192 gallons per day). The estimated water demand for the proposed development is 34.3 MGY (94,037 gallons per day) based on the assumption that consumption is approximately 110 percent of wastewater generation (see Item 18). Consequently, there are no water supply issues anticipated as a result of adding the development to the city's water supply system. According to the City Engineer, water may be supplied to the development either through an existing services agreement with the City of Oakdale or via the Lake Elmo municipal water supply system.

The current Comprehensive Plan calls for municipal water facilities to be extended from the southeast corner of the Eagle Point Business Park along Hudson Boulevard to service this portion of the City.

iv. Surface Waters

a) Wetlands - Describe any anticipated physical effects or alterations to wetland features such as draining, filling, permanent inundation, dredging and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts will occur in the same minor or major watershed, and identify those probable locations.

Kjolhaug Environmental evaluated the subject property for wetlands and other jurisdictional water. Three wetland basins were found as depicted on **Exhibit .** Wetland 1 is a 8,161 square foot PEMAf farmed wetland that is seasonally saturated. Wetland 2 is a 8,895 PFO1C wetland that will be preserved within a future park/buffer area. Wetland 3 is approximately 4,000 square feet PEMAf farmed wetland that may be preserved as part of an open space area.

Wetland 2 will be impacted and mitigated off site. This wetland has been physically altered and impacted by annual production crops. The primary source of hydrology to this wetland basin is a culvert that drains water from 10th Street. Any development of the northern portion of the site will result in the rerouting of the surface water from the culvert away from the wetland; thereby causing an impact to this wetland basin. The project proposer will either create wetland mitigation in the same watershed or purchase wetland credits.

b) Other surface waters- Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.

The subject property contains an unnamed creek (07010206-745) that is on the current MPCA 303d Impaired Waters List. Excessive levels of chloride (salt) is found in the creek which has an impact on fish and other aquatic organisms.

The unnamed creek is also regulated under the City's Shoreland Ordinance, which extends 300 feet from the high water elevation of the creek.

The project will not involve the physical or hydrologic alteration of the unnamed creek or other natural surface waters. The project site does not include any surface waters used by watercraft.

12. Contamination/Hazardous Materials/Wastes:

a. Pre-project site conditions - Describe existing contamination or potential environmental hazards on or in close proximity to the project site such as soil or ground water contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project construction and operation. Identify measures to avoid, minimize or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

Nova Consulting conducted a Phase I ESA of the property. The assessment found no evidence of Recognized Environmental Conditions (REC), controlled Recognized Environmental Conditions (CREC), or Historical Recognized Environmental Conditions (HREC) in connection with the Property.

The City of Lake Elmo is the home to two land disposal sites that contain Perfluorochemical (PFC) waste. The two site are the 3M - Oakdale Disposal Site in Oakdale and the former Washington County Landfill in Lake Elmo. The Oakdale disposal site is located approximately 3 miles northwest of the project area, and the Washington County Landfill is located approximately 4 miles to the north.

PFCs were released from the two facilities resulting in contamination of groundwater and nearby drinking water wells as outlined in a Public Health Assessment prepared by the U.S. Department of Health and Human Services (August 29, 2008), and the Agency for Toxic Substance and Disease Registry (ATSDR). The Minnesota Department of Health (MDH) has detected PFCs in several surface waterbodies in the Lake Elmo, Oakdale, and Woodbury area through various sampling studies. Surface water bodies north of the project area that have been found to contain PFCs include: Raleigh Creek, Eagle Point Lake, and Lake Elmo. PFCs are suspected to infiltrate into the groundwater from these water body sources. Sunfish Lake was found to contain perfluorobutanoate (PFBA). Goose Lake, located 1.25-miles north of the project area, was sampled by the MDH in 2010 and was found to contain no PFCs.

According to this Public Health Assessment, PFCs have been detected in public and private wells across a wide area of Oakdale and Lake Elmo. In Lake Elmo, approximately 200 homes were connected to municipal water to mitigate exposure to PFCs in the groundwater. Additional homes, approximately 55, have had in home granular activated carbon filter systems installed to mitigate exposure to PFCs in the groundwater. These homes have also been offered bottled drinking water. Groundwater monitoring of PFCs is an ongoing program. The proposed project will mitigate risks to new residents by providing access to municipal drinking water.

b. Project related generation/storage of solid wastes - Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Construction activities will generate wastes typical of residential development operations. No solid or hazardous wastes, including solid animal manure, sludge, and ash, will be produced during

construction and/or operation. The contractor will dispose of wastes generated at the site in an approved method by using commercial dumpsters and disposing construction wastes at an MPCA-permitted landfill. The contractor will recycle construction waste that can be recycled, when feasible.

Following project construction, solid waste generation will be typical of occupied residential and commercial developments of this size. It is not anticipated that the proposed project will generate significant amounts of wastes that would be considered hazardous aside from typical household cleaners, paints, lubricants, and fuel storage for small power equipment. The majority of the solid waste generated will include materials such as paper, organics (food wastes, wood, and rubber products), yard waste, and inert solids. The remaining wastes will likely include plastics, metals, and glass.

Residents and businesses within the new development will contract individually with waste haulers for solid waste collection and recycling services under the city's open trash and recycling collection system. According to the City's web page, there are currently five licensed waste haulers. Curbside recycling, including paper, plastics, glass, and metals is available to Lake Elmo residents through their solid waste collector. Participation in the recycling program by future residents of the project area is expected to reduce costs for solid waste trucking and disposal.

Waste generated in Washington County is delivered to the Resource Recovery Facility in Newport, Minnesota. The majority of the waste is processed into Refuse Derived Fuel (RDF). This fuel is burned in place of coal at Xcel's power plants in either Red Wing or Mankato, Minnesota.

The commercial portion of the project could contain a gas/convenience store. If above or below ground tanks are proposed on the site, they will be installed according to MPCA regulations, and consideration will be given to spill and leak detection and prevention technologies, as well as double-walled tank construction.

c. Project related use/storage of hazardous materials - Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spill or release of hazardous materials. Identify measures to avoid, minimize or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.

Only normal construction and household hazardous wastes are anticipated from the residential and commercial portions of the site. Toxic or hazardous material such as fuel for construction equipment and materials used during the normal construction process of residential units (paint, adhesives, stains, acids, bases, herbicides, and pesticides) will not involve quantities typically found during site preparation and unit construction. Builders and contractors are responsible for proper management and disposal of wastes generated during construction, which is typically handled by using construction dumpsters and the appropriate certified landfills. No known hazardous materials are currently located onsite. Use of toxic or hazardous materials, outside of vehicle fuels, standard household cleaners, and lawn care chemicals, is not anticipated within the project area in conjunction with the proposed residential and commercial development

The commercial portion of the project will likely include a gas station as well as other retail businesses. Other than petroleum storage for the gas station, no other toxic or hazardous materials are anticipated with the future use of the commercial property. The gas station will need to comply with all applicable rules and regulations for the storage of petroleum products.

d. Project related generation/storage of hazardous wastes - Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize or mitigate adverse effects from the generation/storage of hazardous waste including source reduction and recycling.

Construction activities will generate wastes typical of residential and commercial development operations. No solid or hazardous wastes, including solid animal manure, sludge, and ash, will be produced during construction process, and/or operation/use of the residential properties. No commercial hazardous waste is anticipated at this time.

Residents and business owners within the new development will contract individually with waste haulers for solid waste collection and recycling services under the City's open trash and recycling collection system. According to the cities web page, there are currently five licensed waste haulers. Curbside recycling, including paper, plastics, glass, and metals, is available to Lake Elmo residents through their solid waste collector. Participation in the recycling program by future residents of the project area is expected to reduce costs for solid waste trucking and disposal.

13. Fish, wildlife, plant communities, and sensitive ecological resources (rare features):

a. Describe fish and wildlife resources as well as habitats and vegetation on or in near the site.

Fish and wildlife resources on and near the site consist of those typically found in developed suburban communities. The subject property consists primarily of tilled agricultural fields with some smaller strands of trees located around a former home site, as well as fence lines and drainage ways. These habitats are used by a variety of animals common to central Minnesota. Wildlife resources that exist throughout the site likely include those species that have adapted to open lands and cropland habitats such as pheasant, meadowlark, field sparrow, cottontail, red fox, and white-tailed deer. The open fields provide seasonal food and cover for these species.

b. Describe rare features such as state-listed (endangered, threatened or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA-____) and/or correspondence number (ERDB _____) from which the data were obtained and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe the results.

The applicant has requested that the Minnesota DNR Natural Heritage Program conduct a database search of the Minnesota Natural Heritage Information System (NHIS) to determine if there are listed plants and animals; native plant communities; wildlife aggregations; geological features; or state rare features that are known to occur within or near the project site. It is not anticipated that the database search will identify rare features within an approximate one-mile radius of the proposed project. The DNR Natural Heritage Review response letter will be provided once complete.

c. Discuss how the identified fish, wildlife, plant communities, rare features and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

Conversion of agricultural fields and small strands of trees to residential development is expected to result in some local decline in wildlife abundance. Populations of species that depend upon cropland, woodland and fields, such as ring-necked pheasants, wild turkey, and meadowlarks, will likely be displaced. Some songbirds that readily adapt to suburban habitats may become more numerous.

There are no known threatened or endangered species on the property or within close proximity.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

The project is not expected to result in a regionally significant decline in wildlife abundance or species diversity. Measures to reduce the effects on wildlife include preservation of buffers and adjacent woodland integrated with open space and parkland, and construction of stormwater ponding. These measures are expected to provide additional habitat for wildlife and help mitigate adverse effects on some wildlife.

14. Historic properties:

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include: 1) historic designations, 2) known artifact areas, and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

The Minnesota State Historic Preservation Office (SHPO) conducted a search of the Minnesota Archaeological Inventory and Historic Structure Inventory for the project area. Based on its review, no previously-recorded archaeological sites or historic structures were identified in the database for the project area. Consequently, no further review of archaeological, historical, or architectural resources is considered warranted at this time.

15. Visual:

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

The project will not create adverse visual impacts. The proposed residential and commercial uses are consistent with other established uses in the area, and therefore will not create a significant change in visual aesthetics. Measures to soften visual transitions include providing buffers between existing homes, landscaping, and berming between collector streets and other adjacent land uses

16. Air:

a. Stationary source emissions - Describe the type, sources, quantities and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health or applicable regulatory criteria. Include a discussion of any methods used assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.

Because development of heavy industrial facilities is not proposed on this site, no stationary source air emissions are anticipated as a result of this project.

b. Vehicle emissions - Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g. traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.

Increased traffic will generate a relatively small corresponding increase in carbon monoxide levels and other vehicle-related air emissions. The project is expected to have a negligible impact on air quality. Consequently, baseline air quality monitoring, or predictive air quality modeling, has not been scheduled at this time, and no measures to mitigate air quality impacts have been considered.

c. Dust and odors - Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.

Project development will not generate odors, noise or dust in excess of levels emitted during typical construction practices of suburban developments. Any odors, noise, or dust produced during construction will meet the requirements of the MPCA and applicable local regulations.

The project will not generate significant odors during construction or operation. The emission of odor by any use shall be in compliance with City Code Section 96.03, 4(a).

The construction process is expected to generate some dust. Consideration will be given to suppression of airborne dust by application of water, if significant dust generation occurs during site grading and equipment operation. In general, incidental dust emissions generated during site construction will be consistent with City Code Section 96.03, 4(a).

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area, 2) nearby sensitive receptors, 3) conformance to state noise standards, and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

The project will be constructed in accordance with the City's established noise ordinance as outlined in City Code Sections 130.45 to 130.47. It is anticipated that noise levels will temporarily increase locally during project construction, but are expected to return to normal levels following project completion. Noise levels on and adjacent to the site will vary considerably during construction depending on the pieces of construction equipment being operated simultaneously, the percent of time in operation, and the distance from the equipment to the receptors. The nearest receptors to the proposed project are several single-family residences located to the east, and commercial businesses to the south. In accordance with Section 130.47 of the City Code, construction equipment will not be operated between the hours of 6:00 p.m. and 7:00 a.m.

18. Transportation

a. Describe traffic-related aspects of project construction and operation. Include: 1) existing and proposed additional parking spaces, 2) estimated total average daily traffic generated, 3) estimated maximum peak hour traffic generated and time of occurrence, 4) indicate source of trip generation rates used in the estimates, and 5) availability of transit and/or other alternative transportation modes.

b. Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. *If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW.* Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 *(available at: http://www.dot.state.mn.us/accessmanagement/resources.html)* or a similar local guidance,

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

A traffic study was completed for the proposed project in July 2014. The traffic study examined the potential traffic-related impacts of the proposed project on the adjacent roadway system and key intersections near the site. A copy of the traffic study is included in **Exhibit J**, and summarized below.

Access and Trip Assignment

Access for the proposed project will be provided via a newly constructed collector roadway (5th Street North) which will then intersect with Inwood Avenue (CSAH 13). The newly constructed roadway was originally identified in the City of Lake Elmo's Comprehensive Transportation Plan. The Transportation Plan identified a new east-west roadway between 10th Street (CSAH 10) and the 1-94 frontage road. This new roadway alignment has been incorporated into the site plan of the proposed project Designated as a minor collector, this route would allow local traffic to access the north-south county roads. Rather than a straight shot between points, this roadway curves between new developments to provide access." According to the City's Transportation Plan, this new east-west roadway is expected to handle approximately 5,000 vpd by the year 2030 between Keats Avenue and Inwood Avenue to the west. This new east-west roadway will also likely reduce the traffic volumes along 10th Street to levels where capacity improvements will not likely be needed by the year 2030.

Future Conditions

As shown in Table 2 of **Exhibit J**, the intersections near the project site will operate acceptably in the 2019 study scenarios with the exceptions of the CSAH 13/Eagle Point Boulevard intersection in the p.m. peak hour and the CSAH 13/5th Street intersection in both peak hours. It can be noted that the movement at LOS F at the CSAH 13/9th Street intersection in the p.m. peak hour Build scenario is the eastbound left turns out of the existing residential area. This movement has less than 10 vehicles in the peak hour and a 95thpercentile queue length of less than one vehicle, and the future access of the road will likely be restricted by Washington County. Other than CSAH 13/Eagle Point Boulevard and CSAH 13/5th Street intersections, the LOS results between the No-Build and Build scenarios are similar. This means the development will not have a significant enough impact on the other study intersections to warrant improvements.

Table 2 shows that the side street stop sign controlled CSAH 13/Eagle Point Boulevard and CSAH 13/5th Street intersections are forecast to operate at LOS F in the 2019 p.m. peak hour build scenario with the CSAH 13/5th Street intersection also forecast to operate at LOS F in the 2019 a.m. peak hour Build scenario. One or both of these intersections will likely need to be signalized by the time the development is fully built and operational. Due to the close spacing of these two intersections it is not recommended that both of them be signalized. Since the CSAH 13/5th Street intersection is forecast to have higher turning volumes in the future build scenarios, that intersection was analyzed with a signal. These results can be seen in Table 3 of **Exhibit J**.

Conclusions

The traffic impacts of the proposed development on the study intersections were analyzed in the 2019 build-out conditions. The principal findings are:

i. All study intersections will operate acceptably through the 2019 build-out condition except the CSAH 13/Eagle Point Boulevard and CSAH 13/5th Street intersections.

ii. The CSAH 13/5th Street intersection will likely need a signal before the development is fully built and occupied and should be monitored as construction occurs to determine when a signal should be installed.

iii. The CSAH 13/5th Street intersection should be built with an exclusive southbound left turn lane, a northbound right turn lane, a westbound left turn lane and a westbound right turn lane.

iv. The traffic signal at the CSAH 13/5th Street intersection as well as alternate routes should allow the CSAH 13/Eagle Point Boulevard intersection to operate acceptably. The County should monitor the intersection, however, in case the traffic balancing does not occur and a traffic signal is needed at the intersection. The need for improvements to the CSAH 13/Eagle Point Boulevard intersection are not due to the proposed development. The site access at CSAH 13/9th Street and the CSAH 10/Western Site Access should be built as ¾ intersections with vehicles exiting the development only able to make right turns.

vi. The Eastern Site Access on CSAH 10 should be built as a full access intersection.

19. Cumulative potential effects: (Preparers can leave this item blank if cumulative potential effects are addressed under the applicable EAW Items)

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.

The changes in regional land use in the Lake Elmo area from open agricultural land to more urbanized uses is expected to have a cumulative impact on the area. Cumulative effects of this and future projects on natural resources and infrastructure are expected to be roughly proportional to the impacts discussed in this EAW. The City of Lake Elmo has planned for future growth and development in this particular area as part of its Comprehensive Plan, and administration of zoning ordinances. These efforts will ensure that the cumulative impacts of future growth and development to the environment, and to the City's service capacity, are anticipated and mitigated.

Development of surrounding parcels will also result in cumulative impacts to City infrastructure such as roads, sewer, and water. These cumulative impacts have been thoughtfully contemplated and addressed in the City's Comprehensive, Transportation, Wastewater, and Water Plans. As the surrounding properties develop, they will be evaluated under the Minnesota Environmental Policy Act (MEPA) rules, and will adhere to guidelines presented in the city's approved zoning and comprehensive plans for the area.

20. Other potential environmental effects: If the project may cause any additional environmental effects not addressed by items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

No other adverse environmental impacts are anticipated as a result of this project. Potential environmental impacts have been addressed in Items I through 19.

RGU CERTIFICATION. *(The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.)*

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

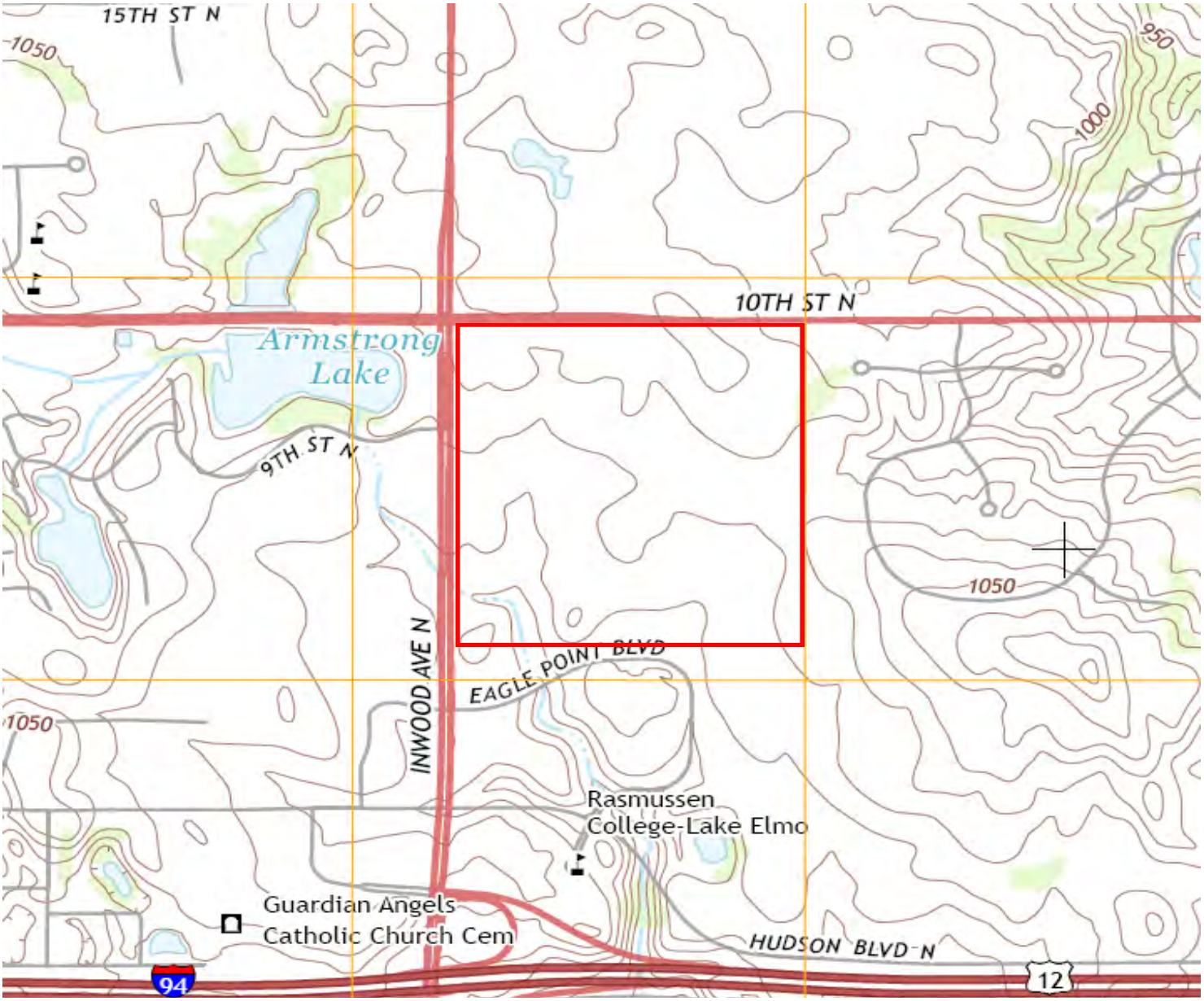
Signature _____ Date _____

Title _____

EXHIBIT A


Stillwater Blvd
6
694
Stillwater Blvd N
Lake Elmo Ave N
Lake Elmo
17
Lake Elmo Regional Park Reserve
Inwood Ave N
Oakdale
13
10th St N
10
Site
694
Inwood Ave N
Keats Ave N
Manning Ave N
94
12
12
94
Oakbury
Woodbury Lakes
Hudson Rd
Hudson Rd
Tamarack Rd

EXHIBIT B


15TH ST N
1050
950
1000
10TH ST N
Armstrong Lake
9TH ST N
1050
INWOOD AVE N
EAGLE POINT BLVD
1050
Rasmussen College-Lake Elmo
Guardian Angels Catholic Church Cem
HUDSON BLVD N
94
12

CERTIFICATE OF SURVEY

~for~ INWOOD 10, LLC
~of~ LAKE ELMO PARCEL

EXHIBIT C

PROPERTY DESCRIPTION:

The West Half of the Southeast Quarter of Section 33, Township 29 North, Range 21 West, lying north of the north right of way line as shown on State Highway Right-of-way Plat No. 4 of 12, State Project 8282 (94=392) 902, Washington County, Minnesota.
(Abstract)

AND

The Northeast Quarter of Section 33, Township 29, Range 21, less and except: Parcel No. 4 of Washington County Highway Right-of-way Plat No. 41; and Parcel No. 3 of Washington County Highway Right-of-way Plat No. 42, Washington County, Minnesota.
(Torrens)

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

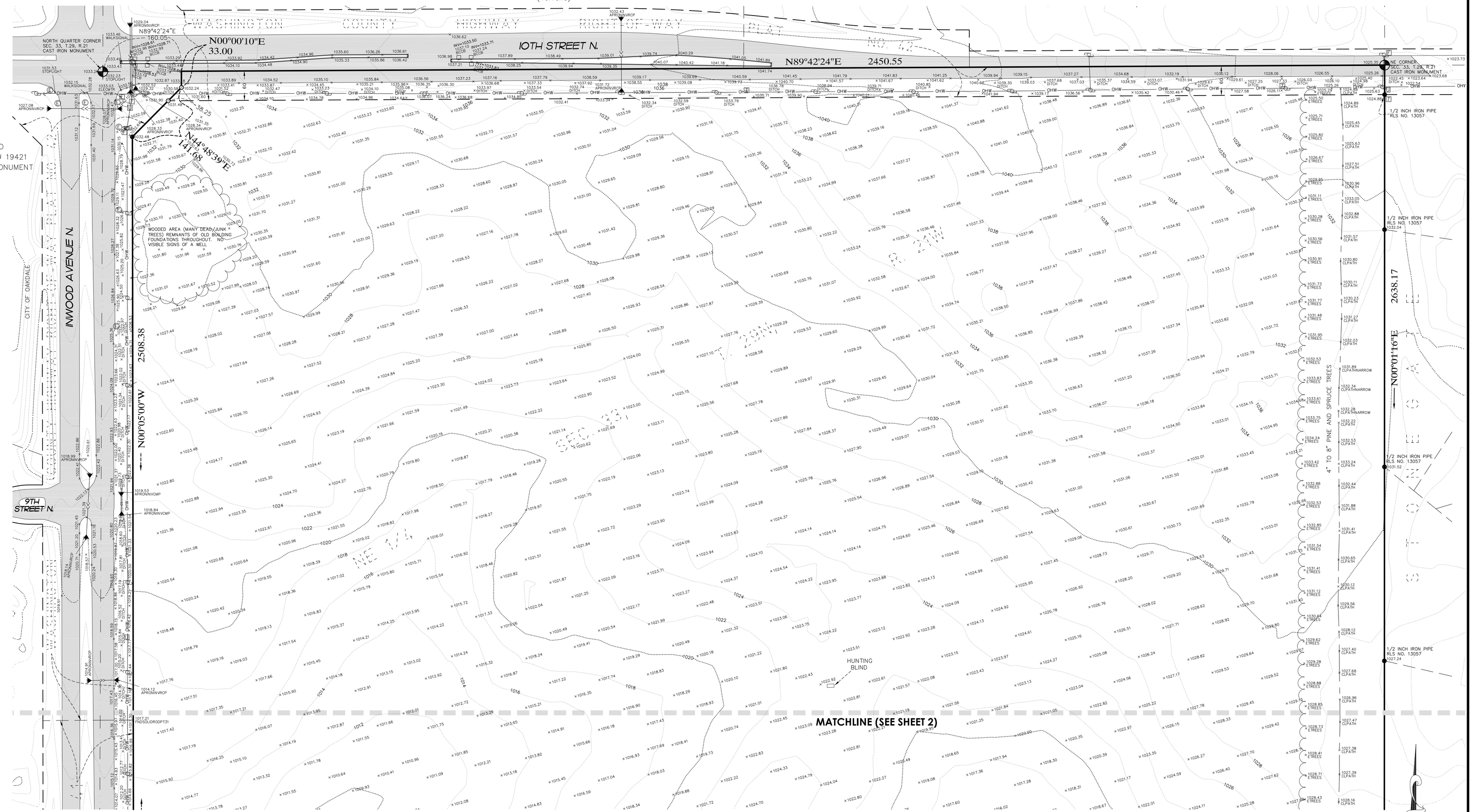
LEGEND

- DENOTES IRON MONUMENT FOUND AS LABELED
- DENOTES IRON MONUMENT SET, MARKED RLS# 19421
- DENOTES WASHINGTON COUNTY CAST IRON MONUMENT
- DENOTES ELECTRIC MANHOLE
- DENOTES CATCH BASIN
- DENOTES STORM SEWER MANHOLE
- DENOTES HYDRANT
- DENOTES GATE VALVE
- OHW — DENOTES POWER POLE AND OVERHEAD WIRES
- x 952.36 DENOTES EXISTING SPOT ELEVATION
- DENOTES LIGHT POLE
- DENOTES UTILITY BOX
- DENOTES FIBER OPTIC BOX
- DENOTES ELECTRICAL BOX
- DENOTES TELEPHONE PEDESTAL
- DENOTES GUY WIRE
- DENOTES STORM SEWER APRON
- DENOTES EXISTING CONTOURS
- DENOTES TREE LINE
- DENOTES EXISTING STORM SEWER
- DENOTES BITUMINOUS SURFACE

VICINITY MAP

PART OF SEC. 33, TWP. 29, RNG. 21

WASHINGTON COUNTY, MINNESOTA
(NO SCALE)



NOTES

- Field survey was completed by E.G. Rud and Sons, Inc. on 4/10/14.
- Bearings shown are on the Washington County Coordinate System.
- Curb shots are taken at the top and back of curb.
- This survey was prepared without the benefit of title work. Additional easements, restrictions and/or encumbrances may exist other than those shown hereon. Survey subject to revision upon receipt of a current title commitment or an attorney's title opinion.
- Parcel ID Nos. 33-029-21-11-0001, 33-029-21-11-0002, 33-029-21-12-0001, 33-029-21-12-0003, 33-029-21-42-0002.
- Total parcel area = 157.18 acres.
- BENCHMARK: MNDOT Station: NYGAARD MNDT. Elevation = 1010.83 (NGVD 29)

NORTH

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

BLAKE L. RIVARD

Date: 4-28-14 License No. 19421

E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

DRAWN BY: BAB	JOB NO: 14021PP	DATE: 4/22/14
CHECK BY: BLR	SCANNED ☐	

NO.	DATE	DESCRIPTION	BY
1			
2			
3			

CERTIFICATE OF SURVEY

~for~ INWOOD 10, LLC
~of~ LAKE ELMO PARCEL

EXHIBIT C

PROPERTY DESCRIPTION:

The West Half of the Southeast Quarter of Section 33, Township 29 North, Range 21 West, lying north of the north right of way line as shown on State Highway Right-of-way Plat No. 4 of 12, State Project 8282 (94=392) 902, Washington County, Minnesota.
(Abstract)

AND

The Northeast Quarter of Section 33, Township 29, Range 21, less and except: Parcel No. 4 of Washington County Highway Right-of-way Plat No. 41; and Parcel No. 3 of Washington County Highway Right-of-way Plat No. 42, Washington County, Minnesota.
(Torrens)

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

LEGEND

- DENOTES IRON MONUMENT FOUND AS LABELED
- DENOTES IRON MONUMENT SET, MARKED RLS# 19421
- DENOTES WASHINGTON COUNTY CAST IRON MONUMENT
- DENOTES ELECTRIC MANHOLE
- DENOTES CATCH BASIN
- DENOTES STORM SEWER MANHOLE
- DENOTES HYDRANT
- DENOTES GATE VALVE
- OHW — DENOTES POWER POLE AND OVERHEAD WIRES
- x 952.36 DENOTES EXISTING SPOT ELEVATION
- DENOTES LIGHT POLE
- DENOTES UTILITY BOX
- DENOTES FIBER OPTIC BOX
- DENOTES ELECTRICAL BOX
- DENOTES TELEPHONE PEDESTAL
- DENOTES GUY WIRE
- DENOTES STORM SEWER APRON
- DENOTES EXISTING CONTOURS
- DENOTES TREE LINE
- DENOTES EXISTING STORM SEWER
- DENOTES BITUMINOUS SURFACE

VICINITY MAP

PART OF SEC. 33, TWP. 29, RNG. 21

WASHINGTON COUNTY, MINNESOTA
(NO SCALE)

MATCHLINE (SEE SHEET 1)

INWOOD AVENUE N.

CITY OF OAKDALE

N00°05'00"W 2508.38

N89°38'02"E 36.54

S87°20'27"W 651.64

N02°22'23"W 128.73

S88°39'03"W 541.93

S00°06'44"W 93.25

N89°38'02"E 1310.26

N00°01'16"E 2638.17

1/2 INCH IRON PIPE RLS NO. 8612

NORTH LINE OF THE SE 1/4 OF SEC. 33, T.29N, R.21E

1/2 INCH IRON PIPE RLS NO. 17256

1/2 INCH IRON PIPE RLS NO. 15480

APPROXIMATE LOCATION OF ELECTRIC TRANSMISSION LINE EASEMENT PER DOC. NO. 53603

12" WATERMAIN

EAST LINE OF W 1/2 THE SE 1/4 OF SEC. 33, T.29N, R.21W

NORTH LINE "STATE HIGHWAY RIGHT OF WAY PLAT NO. 4 OF 12

3/4 INCH IRON PIPE RLS NO. 13057

1/2 INCH IRON PIPE RLS NO. 13057

E. QUARTER CORNER SEC. 33, T.29, R.21 CAST IRON MONUMENT

UNOPENED ROADWAY

EAGLE POINT BOULEVARD

EAGLE POINT BUSINESS PARK 3RD ADDITION

EAGLE POINT BUSINESS PARK 2ND ADDITION

POND

EXISTING BUILDING

PARKING LOT

WOODED AREA

4" TO 8" PINE AND SPRUCE TREES

CITY PARK

PROPOSED ROAD ALIGNMENT FOR BOULDER PONDS

NOTES

- Field survey was completed by E.G. Rud and Sons, Inc. on 4/10/14.
- Bearings shown are on the Washington County Coordinate System.
- Curb shots are taken at the top and back of curb.
- This survey was prepared without the benefit of title work. Additional easements, restrictions and/or encumbrances may exist other than those shown hereon. Survey subject to revision upon receipt of a current title commitment or an attorney's title opinion.
- Parcel ID Nos. 33-029-21-11-0001, 33-029-21-11-0002, 33-029-21-12-0001, 33-029-21-12-0003, 33-029-21-42-0002.
- Total parcel area = 157.18 acres.
- BENCHMARK: MNDOT Station: NYGAARD MNDT. Elevation = 1010.83 (NGVD 29)

NORTH

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Registered Land Surveyor under the laws of the State of Minnesota.

BLAKE L. RIVARD

Date: 4-28-14 License No. 19421

E. G. RUD & SONS, INC.
EST. 1977
Professional Land Surveyors
6776 Lake Drive NE, Suite 110
Lino Lakes, MN 55014
Tel. (651) 361-8200 Fax (651) 361-8701
www.egrud.com

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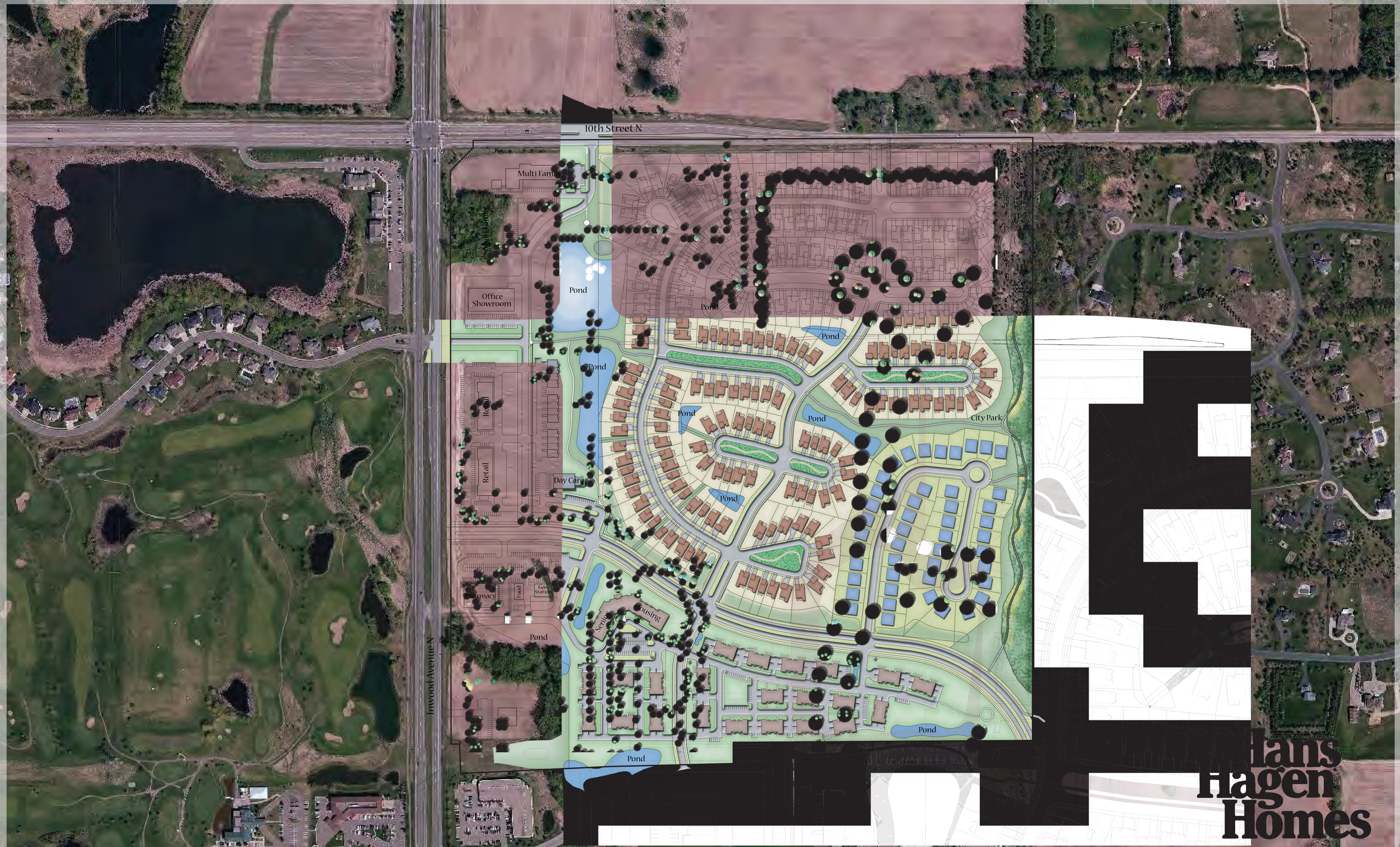
EXHIBIT D

INWOOD CREEK LAKE ELMO, MINNESOTA



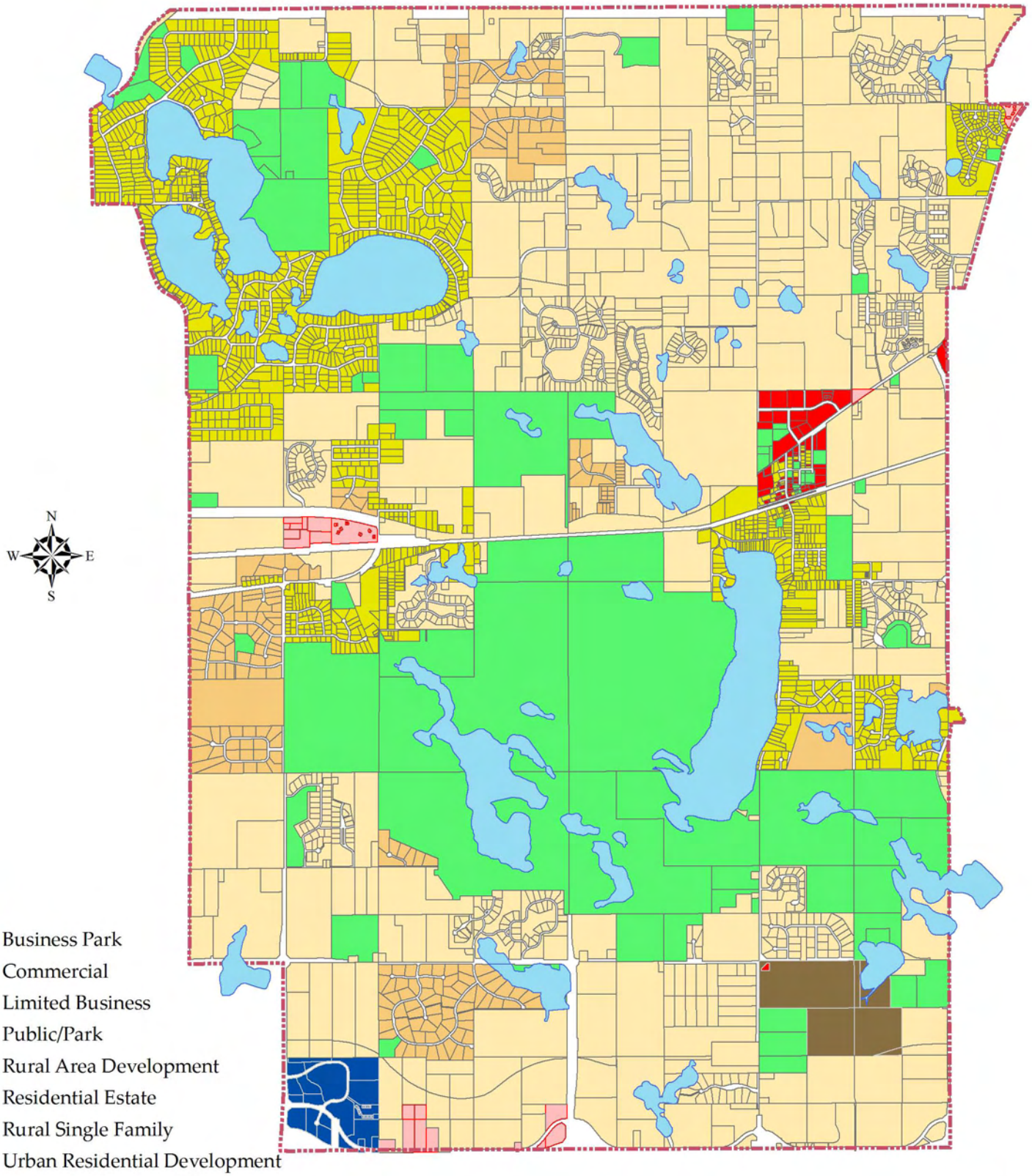
Hagen Homes

N

This is a graphic illustration only and subject to change without notice.
Please refer to record plans for lot sizes, easements,
landscaping, water levels, and topography.

EXHIBIT E

Map 3-2



Sources: MetroGIS
7-6-12

Existing Land Use

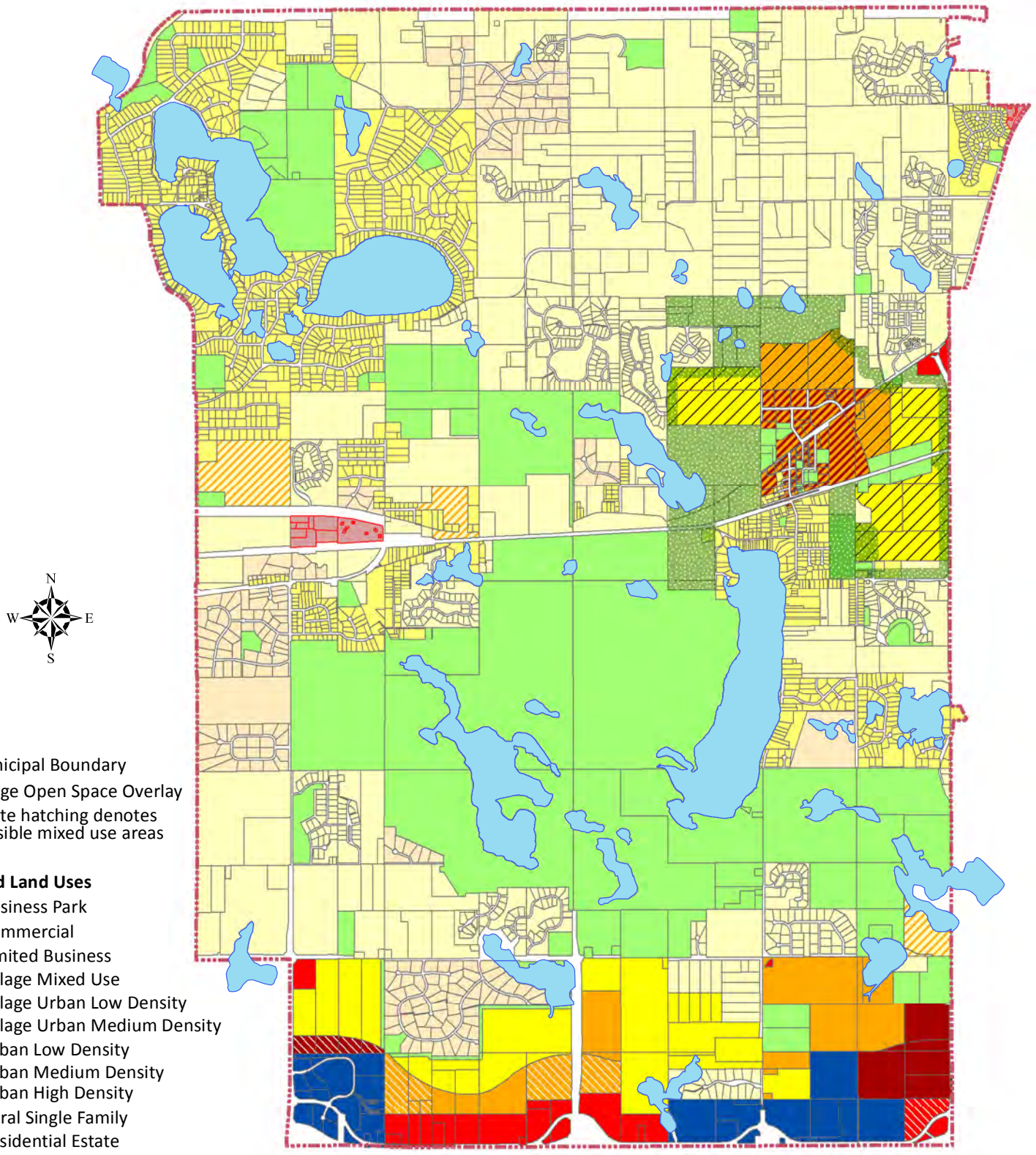
Lake Elmo Comprehensive Plan 2030

mfra
engineering surveying planning energy

This map was created using MFRA's Geographic Information Systems (GIS), it is a compilation of information and data from various sources. This map is not a surveyed or legally recorded map and is intended to be used as a reference. MFRA is not responsible for any inaccuracies contained herein.

EXHIBIT F

Map 3-3



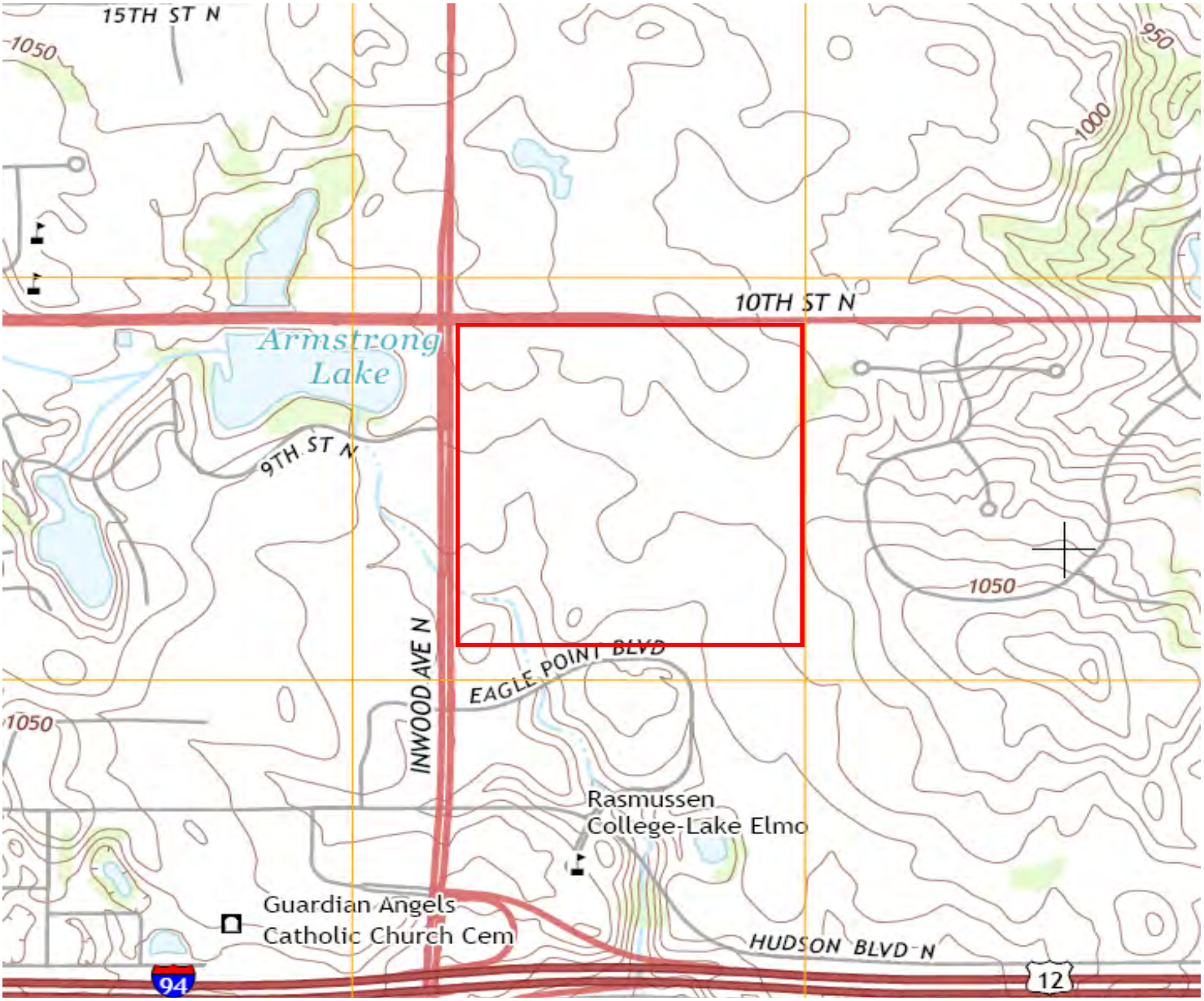
Sources: Washington County & Metro GIS
12-30-2013

Planned Land Use

Lake Elmo Comprehensive Plan 2030

THE CITY OF LAKE ELMO

EXHIBIT G


15TH ST N
1050
950
1000
10TH ST N
Armstrong Lake
9TH ST N
1050
INWOOD AVE N
EAGLE POINT BLVD
1050
Rasmussen College-Lake Elmo
Guardian Angels Catholic Church Cem
HUDSON BLVD N
94
12