I. Executive Summary

The Alternate Route Study Group, consisting of members of the City Council and Planning Commission, met ten times in 2007 to take testimony and receive input in regards to the alternate alignment for Highway 371.

The purpose of the Alternate Route Study Group was to study the issues and impacts of an easterly alternate route for Highway 371 so as to develop the best corridor alignment possible. The premise of the Study Group was based off of Council Resolution 06-23, which states that Trunk Highway 371 be re-routed to a corridor east of town.

The group considered thirty-one questions and took testimony from Mn/DOT, MPCA, School District 186, Jon Commers of Donjek (financial consultant) and City Staff including the City Engineer (Tim Houle of Widseth Smith Nolting) and City Planner (Charles Marohn of Community Growth Institute) to address them.

The committee found that there were no insurmountable issues that would inhibit construction of an alternate alignment. They found:

- There would be no adverse impact to school bus routes.
- The old highway will become property of Crow Wing County once the alternate alignment is built.
- The MN Power substation will not be physically impacted by the construction.
- Some work will need to be done to the City's water and wastewater systems, but the alternate route will not eliminate the viability, or future expansion, of the City's utility systems.
- That Mn/DOT is responsible to provide a separated crossing for the Paul Bunyan Trail (a crossing that goes over or under the new highway).
- That all of the new highway intersections will be at-grade using either a traffic signal or a round-about.
- That only minor change to the local street system will be required to accommodate the alternate route when it is built. Future development will, obviously need to account for and work around the alternate route corridor.
- That the business park will be accessed from the south end of the alignment and that the construction of an alternate alignment would not inhibit future expansion of the business park.
- That the construction of an alternate route is consistent with the City's Comprehensive Plan, the proposed Downtown Plan and the City's overall approach to land use controls.
- That the alternate route will infringe on the land proposed for a new cemetery.
- That there are no significant environmental issues or concerns with the construction of the alternate alignment.

On the major issues of overall cost and impact to business, the Study Group was very thorough in the information it reviewed.

The Study Group learned that, while there are costs the City must incur during the project, the direct cost to the City would be significantly less for an alternate route than a through-town alignment.

This is true whether or not the City does only the required improvements or chooses to do some of the other improvements recommended by the City Engineer.

Alignment	Alternate Route	Through Town
Required Cost	$84,500	$407,500
Recommended Cost	$378,000	$1,905,000
Optional Cost	$1,526,000	$2,588,000

The Study Group also heard testimony that, while there is certain to be impacts to individual businesses before, during and after the construction of an alternate route, compelling evidence exists that the overall impact to businesses and the City's tax base would be positive. There were no indications that an alternate route would be destructive to the economic health of the City of Pequot Lakes, and substantial evidence to the contrary.

Also presented were a number of initiatives that the City can undertake to strengthen the economic health of the City before construction, as part of the construction project and then in the years following. Testimony indicated that the communities that experienced the greatest success following similar projects were those that worked most closely and diligently to balance all of the competing interests a community faces.

In conclusion, the Alternate Route Study Group identified no issues or impacts that would cause the City to alter the decision to route Hwy. 371 east of the downtown and in fact found many factors that favor an alternate alignment.

II. Methodology

The Alternate Route Study Group was assembled to study the impacts of an alternate alignment to TH 371 that would pass east of the historic downtown. With the participation of members of the public, the Study Group developed a list of questions that were to be answered as part of the study process. In total, there were 31 questions that were split into six categories:

- Technical Issues (five questions)
- City Engineering Issues (three questions)
- Design Issues (seven questions)
- Financial Issues (eight questions)
- Planning Issues (five questions)
- Environmental Issues (three questions)

The Study Group heard testimony and solicited comments from technical experts to develop the answers to these questions. For some of the financial questions, the City retained the services of Jon Commers of Donjek, a firm specializing in financial analysis for local units of government.

The process received excellent media coverage with at least one, and often two, local newspapers in attendance at each meeting. Throughout the process, the City made current information available on-line at www.highway371.info and provided routine email updates and reminders to anyone who signed up for them at this site. The Study Group received written comments and, at nearly every meeting, set aside time to receive feedback from stakeholders.

This final report answers each question in detail and provides as much supporting documentation as is reasonable in the attached appendices.

III. Complete Answers to Study Group Questions

Technical Issues

1.) Which properties are physically impacted by an alternate route?
    a. Answer: See map in Appendix A titled *Properties affected by TH 371 proposed alternate route*.

2.) How will an alternate route impact school bus routes?
    a. The school district has indicated that the proposed alternate route will have no impact upon school bus routes. The school districts main concern is for the safety of its students.

3.) What happens to the old Highway 371 corridor once an alternate route is constructed?
    a. Answer: Old Highway 371 will become property of Crow Wing County, and will be under Crow Wing County's jurisdiction. The County does have the authority to turn the road over to the City of Pequot Lakes. A final decision has not been made.

4.) What is the impact of an alternate route on the MN Power Substation?
    a. Answer: Minnesota Power is currently permitting an 115KV transmission project near the proposed TH371 project. This proposed transmission project involves work at the Pequot Lakes substation immediately adjacent to the TH371 corridor as identified by CGE. In addition to the proposed 115kV project and existing substation, distribution lines and structures occupy areas proposed for road construction. MP has contacted MNDOT in an effort to understand their development options.

    From the preliminary plan provided by MNDOT (dated 3/19/2007), at least one 34/69 KV distribution structure will require relocation, as will several other single circuit structures. These are the distribution lines running north, then west from the substation. Please note that relocation of a single structure may involve installation of multiple new structures: to control span length and provide for line-grade changes. Please note too that other electric utilities own facilities that may be impacted by proposed TH371 work.

    The plan provided by MNDOT and the schematic provided by Community Growth Institute are inadequate to fully judge TH371 project impacts on our electrical works and plans. Please note some of these impacts arise from County Road 112 re-alignment, something not at all shown on the Community Growth Institute schematic.

    We believe it would be in the public interest to fully share detail about TH371 development plans. This will better enable coordination of TH371 construction and construction of our 115kV, substation, and distribution systems. MP will contact MNDOT as our 115kV line and substation plans evolve to facilitate coordination of TH371 and new electrical works. *Correspondence from Craig Kvale, Minnesota Power, Transmission Structural Engineering. 8/29/07*

5.) How are traffic patterns, both in the downtown core and outside, impacted by the construction of an alternate route?

a. Answer: The Pequot Lakes [alternate route] transfers roughly two-thirds of the traffic from the existing alignment [TH 371] to the [alternate] alignment. Because of the reduction of traffic along the original Highway 371 alignment in Pequot Lakes, the operations at those intersections are adequate, and all movements are well within capacity.

The total traffic volume entering the intersection of existing Highway 371 and County Road 11 in the year 2030 is forecast to be about 5 percent greater than 2002 levels. Therefore, by 2030, with a Pequot Lakes [alternate alignment], traffic volumes along the current Highway 371 alignment in Pequot Lakes will be roughly equal to the existing condition.

County Road 11 traffic between existing Highway 371 and the proposed bypass is reduced by about 17 percent compared to volumes under Alternative 2. This reduction is sufficient to achieve adequate operations with only the addition of a signal at County Road 112 and short turn lanes at key intersections.

Source: Highway 371 North Draft Environmental Impact Statement A-MNDOT0217.00, Minnesota Department of Transportation, Page 41-42, December 2003

City Engineering Issues

1.) What is the impact of an alternate route on the City's Utilities?

a. Answer: The proposed alternate route appears it will cross existing City gravity sanitary sewer and watermain at the very southern end of Morehouse Drive in the City's Industrial/Business Park. The proposed alternate route will also cross the existing City forcemain sanitary sewer pipe that goes out to the City's wastewater treatment plant's (WWTP's) stabilization ponds. This crossing will be north of the WWTP's ponds, east of the City's Industrial/Business Park, and south of Tree Farm Road. The rest of the proposed alternate route does not cross any existing City sanitary sewer or watermains. MnDOT policy requires any pressure lines under their roadways to be installed inside another pipe, called a casing pipe. Thus, the City's existing watermain pipe under Morehouse Drive and the City's existing forcemain out to the WWTP would need to have casing pipes installed around them.

While not a requirement since it is not pressurized, we would recommend that consideration be given to installing a casing pipe around the City's existing gravity sanitary sewer pipe presently under Morehouse Drive. The casing pipes theoretically make it possible to pull out the sanitary sewer, watermain, or forcemain to make any needed repairs without impacting the highway above it.

Our understanding of MnDOT policy is that since these City utilities are "here first", MnDOT will be paying for the casing pipe around the pressure lines. The City may need to pay for a casing pipe around the gravity sanitary sewer line, which we estimate at $150/ft x 300 ft = $45,000 (this number is for comparison purposes only; actual costs can only be determined after design and bidding).

Also, since these existing City lines cross the proposed alternate route at quite a skew or angle to the highway, MnDOT may- not guaranteed, but may- also pay to relocate

these utilities to a more perpendicular, and shorter, crossing of the proposed four-lane highway. The past City Council's decision to extend City gravity sanitary sewer and watermain south along Morehouse Drive is a benefit in relation to the proposed alternate route in that the City will now have at least one crossing of City utilities under the proposed four-lane highway to its eastern side.

We would anticipate, as future development dictates and demands, the City will have to extend sanitary sewer and watermain, and the costs for such future extensions, along with how/who would pay for them, would need to be determined at those times in the future. At a minimum, we would not be surprised to see such crossings in the future near the following corridors: CR 107 North/CR 168, the above mentioned Morehouse Drive, CSAH 11, and CR 112.

This answer was submitted by Tim Houle of Widseth Smith Nolting at the April 3, 2007 meeting.

2.) What is the impact of an alternate route on the spray irrigation fields?

a. Answer: The proposed alternate route will cut somewhat diagonally (south to northeast) across a portion of the northwest corner of the City's wastewater treatment plant's (WWTP's) spray irrigation fields. As background, the WWTP consists of aerated stabilization ponds that detain, hold, and allow "bugs" to treat the wastewater. This treated wastewater is then disposed of via the pivot spray irrigators onto the fields east of the Paul Bunyan Trail and south of Derksen Road.

   The amount of spray irrigation land impacted would depend on the final location of the alternate route, the configuration of whatever at-grade intersection (I understand a bridged interchange is not part of the proposed improvements anymore) may be placed in this area, service roads that may be constructed, and any stormwater infiltration basins needed for the highway.

   MnDOT estimated about 6 months ago, that there was about 17 acres of spray irrigation land impacted by an alternate route. This estimate would not include service roads or stormwater basins. For reference purposes, the City's present permit allows spraying on about 100 acres. The City actually has more acres than this, but would have to rearrange the pivot spray irrigators to reach that land. With an impact of about 17 acres, the Minnesota Pollution Control Agency said that the City may be able to increase their irrigation rate on the roughly 83 acres not impacted by the alternate route, or use other parts of the land it already owns to make up the roughly 17 acres impacted.

   While the indications at this time are that an alternate route does not present any insurmountable challenges in dealing with the initial impact on the City's spray irrigation field, we would anticipate that an intersection in this area would induce development pressure that will have to be addressed.

   This answer was submitted by Tim Houle of Widseth Smith Nolting at the April 3, 2007 meeting.

3.) To what extent does an alternate route limit future expansion of the wastewater treatment system?
    a. Answer: We do not see a proposed alternate route significantly limiting future expansion of the City's wastewater treatment plant's (WWTP's) stabilization ponds or spray irrigation fields. We would not anticipate a future expansion of the stabilization ponds or the spray irrigation fields towards the City's Industrial/Business Park, which is also the same direction as the proposed alternate route. Actually, whether there was no future Highway 371 improvement, whether a through town option is used, or whether the alternate route is used, in our opinion, the City is eventually going to have to look at whether the spray irrigation field, and somewhat to a lesser extent the stabilization ponds, are the best and highest use for this land. A significant change in the City's WWTP will require a study, what the Minnesota Pollution Control Agency calls a Facility Plan. Depending on the alternatives considered, this could be a $35,000 cost. Final design and construction would be over and above this cost.

    This answer was submitted by Tim Houle of Widseth Smith Nolting at the April 3, 2007 meeting.

Design Issues

1.) How will the bike path crossing on south end of project, by Baptist Church, be handled?
    a. Answer: Mn/DOT and the DNR have an agreement that construction of the proposed alternate route of Trunk Highway 371 will have no lasting effects upon the Paul Bunyan Trail Facility. Furthermore, Mn/DOT has ensured the DNR that the Trail and its function will be replaced in whole by Mn/DOT at no cost to the DNR. Mn/DOT has indicated that the trail will have a separated crossing, either above or below the highway. *See correspondence between MnDOT and DNR in Appendix B.*

2.) How many accesses to the alternate route will there be and where will they be located?
    a. Answer: There will be three major accesses to the alternate route. One on the south end, one on the north end, and one access at County Road 11. The proposed access points on the north and south ends of the proposed alignment will be near County Road 112 and the County Road 168/107 intersection, respectively.
        - North Connection: An at-grade 2-way stop for crossing traffic on minor road, no round-about discussed for this connection point.
        - County Road 11: An at-grade signal on opening day, round-about discussed, potential for an interchange in the future.
        - South Connection: An at-grade 2-way stop for crossing traffic on minor road, a round-about interchange was discussed.

    A limited access to the wastewater treatment ponds will also be provided. This access will be limited to right-turning movements.

3.) Where will the current road system intersect with the corridor and how will those intersections be resolved?
    a. Answer: The alternate route will have three at-grade intersections. One would be on the south in the area of County Road 168/107 and the existing TH 371. One would

be at CSAH 11. One would be on the north to serve both CR 112 and the existing TH 371.

Besides these three proposed intersections, the only other roads intersected by the alternate route are Derksen Road, Morehouse Drive, and Tree Farm Road; all south of CSAH 11.

The alternate route is shown to cut through Derksen Road. MnDOT will need to make provisions to "reconnect" the east side, or dead-end side, of Derksen Road back to the rest of the City street system. In the Draft EIS stage, they showed a service road going southwest into the spray irrigation field and connecting to the southern intersection with the present TH 371.

The alternate route will cut off the south end of the curb and guttered Morehouse Drive. There is a possibility that Morehouse Drive could be connected to Schmidt Way that connects to Old 371. However, please note that Schmidt Way is only a gravel road at present.

Heading north, the alternate route is shown to cut through Tree Farm Road. [A limited access to the wastewater treatment ponds will be provided. This access will be limited to right-turning movements.]

This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting.

4.) What kind of interchange is available?
   a. Answer: There will be no interchanges built as part of the project; rather there will be either a roundabout or signal located at each of the three accesses to the alternate route. Land will be acquired for a diamond interchange at CSAH 11, but the interchange will not be built at this time.

5.) What changes would need to be made to the local street system to accommodate an alternate route?
   a. Answer: Our answer to this question is based on the alternate route only having three at-grade intersections. One would be on the south in the area of Derksen Road and the existing TH 371. One would be at CSAH 11. One would be on the north to serve both CR 112 and the existing TH 371.

      Besides these three proposed intersections, the only other roads intersected by the alternate route are Derksen Road, Morehouse Drive, and Tree Farm Road; all south of CSAH 11.

      From roughly Derksen Road south to Nisswa, the changes to the local street system should be identical under either route. These would include the addition of City streets generally serving as service roads to the expanded TH 371.

The alternate route is shown to cut through Derksen Road. MnDOT will need to make provisions to "reconnect" the east side, or dead-end side, of Derksen Road back to the rest of the City street system.

In the Draft EIS stage, they showed a service road going southwest into the spray irrigation field and connecting to the southern intersection with the present TH 371. The alternate route will cut off the south end of the curb and guttered Morehouse Drive. There is a possibility that Morehouse Drive could be connected to Schmidt Way that connects to Old 371. However, please note that Schmidt Way is only a gravel road at present.

Heading north, the alternate route is shown to cut through Tree Farm Road. MnDOT will need to make provisions (service roads or such) to "reconnect" the east side, or dead-end side, of Tree Farm Road back to the rest of the City street system.

In the downtown area, we would expect to see the present TH 371 as a "turn back" from MnDOT to Crow Wing County. Related to this, the City should not be surprised if CSAH 11 west of the present TH 371 (Main and Front streets), as well as CR 112 from CSAH 11 north to the alternate route TH 371, become "turn backs" from the County to the City. Road segments that are "turned back" in this manner are generally improved to an agreed-upon condition, or funds provided for this purpose, at the time ownership changes.

As future development progresses east from the downtown core and around the alternate route, the alternate route's proposed three intersections will be focal points for the continuation of the City's street system. Not too unlike the present situation. One analogy is to maybe think of the alternate route as the Mississippi River in Brainerd, and the proposed three intersections being the bridges over the Mississippi River. Brainerd has four bridges; one on Mill Avenue north of the City, one on TH 210/Washington Street, one on Laurel Street, and one on College Road. If traffic wants to go from one side of the river to the other, no matter which City street it starts out on or which City street it ends up on, sooner or later, that traffic has to make its way to one of these four streets that cross the river.

This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting.

6.) How will access to the Business Park be provided?

a. Answer: Present access to the Business Park is one way or another, off of Old 371. Old 371 is accessed from the south at the Hwy 371/Derksen Road/Old 371 intersection, from the west via Hwy 371 and Morehouse Drive, and from the north via the CSAH 11/CR 112 intersection. Under the proposed alternate route layout, we believe that access to those Business Park lots that remain after construction will continue to be off of Old 371. Old 371 will continue to be accessed as before. The big difference will be a little more visibility of the Business Park with the alternate route than the present Hwy 371 alignment.

This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting.

7.) To what extent does an alternate route limit future expansion of the Business Park?
   a. Answer: During past discussions, even before improvements to TH 371 were brought up, we have pointed out that the City's existing spray irrigation field on the property south of the present Business Park is probably not the best long-term use for this property. Under either route scenario for an improved TH 371, we feel that this spray irrigation property will eventually be better suited for either commercial or industrial use due to its proximity to the highway. Setting aside planning and zoning type issues, from an infrastructure standpoint, there is no insurmountable reason that the Business Park could not expand south into this property after construction of the alternate route. Roadway/street improvements have been discussed above. Installation of sanitary sewer and watermain infrastructure in conjunction with the alternate route (casing pipes, at a minimum, under the alternate route) would be strongly recommended to facilitate expansion in this direction.

   This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting.

Financial Issues

1.) What costs will the City incur in the construction of an alternate route?
   a. Answer: The answer to this question depends largely on decisions that will be made by the City regarding what improvements it will install in anticipation of future expansion. We have prepared a list of possible cost items in conjunction of either route, which is included as an attachment to this report. In this list, we have divided the cost items into three categories:
      i. Required- These would be const items required of the City in conjunction with the expanded TH 371 construction;
      ii. Recommended- While not required, these are items that we believe will eventually be needed by the City, and will generally be much more expensive if not constructed in conjunction with the expanded TH 371 improvements;
      iii. Optional- These items can be generally described as those involving aesthetics, convenience, or may be items that could be constructed at a later time without adverse financial consequences.

   The lists are, by their nature, very subjective. In addition, the costs we have included in the lists are best described as rough estimates. We are hopeful, however, that they can be valuable tools for the City in making the difficult decisions that will be necessary for this project to be successful. The items in these lists and their associated costs will need to be updated periodically as the project progresses and more information becomes available.

   Summary Table

Alignment	Alternate Route	Through Town
Required Cost	$84,500	$407,500
Recommended Cost	$378,000	$1,905,000

Optional Cost	$1,526,000	$2,588,000

This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting. See appendix D for the entire cost estimate.

2.) What are the long-term costs to the City to construct and maintain future infrastructure to accommodate an alternate route?

a. Answer: With the alternate route (or with the through town route), there will be varied levels of increased lengths of City sanitary sewer, City watermain, City storm sewer, and City streets to maintain. Thus one would think that these lengths could be determined, and you would have this nice, black and white accounting comparison. However, this question is very difficult to answer because it contains another variable within it and a follow-up discussion as well. The variable within this question is, "What is the length of time for defining long-term?"

We would like to be very clear that whenever we, as your City Engineers, have looked at any infrastructure associated with the TH 371 project, we have looked at it from a long-term investment perspective for the City. In other words, even if MnDOT was proposing a service road because they had to replace some accesses that they cut-off, our reaction or comments to this proposed improvement would come from the perspective of, "is that service road that MnDOT is proposing going to also work out for the long-term benefit of the City."

This leads to the follow-up discussion to this question, which we have heard come up whether it has been in regards to the alternate route or the through town route. This discussion tends to continue onto the issue of when these improvements, or similar ones, would eventually be constructed anyway due to growth in the area.

An example might be continuing sanitary sewer and watermain to the south of the present Business Park. With the alternate route, we are talking about making sure that the sanitary sewer and watermain, or casing pipes for them, get installed under the alternate route for possible future expansion to the south. Wouldn't this have been done (albeit maybe without the casing pipes, which require no maintenance) sooner or later due to growth in the area? So, is this really a long-term cost to the City to accommodate the alternate route or a long-term cost to the City that eventually would have had to pay for whether or not the highway was improved?

The alternate route will involve various increased sanitary sewer and watermain improvements that may be, at least initially, a little less than the through-town route. But over the long-term, it would probably be a wash between the two routes.

Looking at the maps/layouts to date, one can see that the alternate route will not involve the same length of new service roads as the through town route. However, we mentioned earlier that there might be some turn backs from the County to the City with the alternate route. This would add new streets to be maintained by the City.

We have not calculated the exact footages for the alternate route (nor the through town route), but over the long-term, it appears to be almost a wash between the routes. To answer the question of what are the long-term costs to the City to construct and maintain future infrastructure to accommodate an alternate route, we believe constructing and maintaining future infrastructure is going to be a City cost (that will be paid for by growth and increased tax base) whether or not an alternate route needs to be accommodated.

This answer was submitted by Tim Houle and Mike Rude of Widseth Smith Nolting at the June 5, 2007 meeting.

3.) What is the economic impact of an alternative route on existing businesses?

a. Answer: The literature produced by state departments of transportation and academic institutions agree on a fundamentally important point: The impact of alternative routes outside of existing downtown areas depends largely on the underlying economic conditions in the community. In the case of Pequot Lakes, the community's existing and projected economic health are evident from a range of measures. Traffic volumes are anticipated to double between 2002 and 2030 – not only on summer days, but when viewed as an average over the course of the year. The pace of growth in property value since 2003 (expressed in net tax capacity) in the Pequot Lakes School District has significantly outpaced the state trend, and is toward the higher end of the grouping of like districts.[1] Enrollment trends, both for students living in the district and open-enrolling to the district, have pushed Pequot Lakes' enrollment up over 25% since 1999, while both the state figures and Greater Minnesota totals show declines. Land values remain robust for timberland, farmland, and commercial-industrial property in Pequot Lakes in relation to comparable communities.

   In the categories established in the Donjek analysis, tourist service and tourist retail businesses represent 22% of the estimated market value within the Highway 371 and the alternative alignment corridors. Local commercial uses – which presumably serve a mostly local clientele, represent 42% of the estimated market value in the corridors. Other case studies' findings that communities with economic and tax base fundamentals like those found in Pequot Lakes, and with this type of tax base composition, are not among the most vulnerable to negative impacts from highway realignments. In fact, reduced traffic in many cases represented a stimulus to commercial activity in the central business district.

   The employment and retail survey and study currently underway via Region 5 will expand the community's knowledge on this question.

   This answer was submitted by Jon Commers of Donjek.

4.) What is the economic impact of an alternative route on new business opportunities?

[1] The "property type cluster" in which Pequot Lakes School District is categorized by the Minnesota Department of Revenue includes McGregor, Cass Lake, Pillager, Remer, Pequot Lakes, LaPorte and Nevis school districts.

a. Answer: The economic impact of an alternative route will establish opportunities for new investment in Pequot Lakes. Broadly speaking, moving substantial traffic volumes onto an eastern alignment for Highway 371 will create an almond shape of which the City could take advantage. Light industrial interests will have a less-congested route to Brainerd, the Twin Cities and other markets south. The fairly seasonal retail area in the central business district, particularly along Government Drive and Highway 11, have the potential to become more desirable destination with less auto traffic along the existing Highway 371, and an increased focus on the open space and bicycle trail between Government Drive and existing Highway 371.

   Opportunities for business types that are less sensitive to traffic volumes, such as multifamily housing, specialty retail, local retail and commercial (including office), are not likely to diminish as a result of a realignment to the east of downtown. Instead, the delegation of significant traffic to the realigned corridor will present opportunities to the City and the business community to take advantage of a changed landscape.

   As with the previous question, the employment and retail survey underway will further inform this question with more quantitative and specific results.

   This answer was submitted by Jon Commers of Donjek.

5.) What impacts does an alternative route have on the tax base of the City?

a. Answer: As I described in the first public presentation, there have been a multitude of studies conducted to look at the impact of bypasses on property values, job creation and retail activity. Variations abound among the communities studied: No two towns are identical in the composition of their tax base, the development patterns and geographic features, or in their sense of place. Still, few communities face a planning choice like a bypass regularly, and the decision making process is enhanced by looking elsewhere to gauge impacts. Among the studies, some undertaken up to 40 years ago and many currently in process, there emerge some points of consensus.

   First, macroeconomic factors drive the nature of local impacts; in other words, the broader economic health and trends of a community influence the economic impact more than the specific route for moving highway traffic through the community. Second, the size of a town, its "pull factor" or relative status as a regional attraction, and the composition of its economic and tax base also influence outcomes. Third, certain segments of a local economy – businesses that are most sensitive to through-town traffic volumes, in particular – will likely experience less benefit or more harm than other segments such as office, housing, and local retail. Attached to this letter is an annotated bibliography of the studies most applicable to the City's decision on this issue.

   Macroeconomic Trends: The macroeconomic trends in Pequot Lakes are strong. The growth in traffic volumes that prompted discussions about Highway 371 indicates positive pressure on the region's economy. The net tax capacity of the area, when looking at the Pequot Lakes School District, the property type cluster as

defined by the State and Crow Wing County all outstripped State trends by at least 20% during the 2003-6 period. The strong growth in enrollment, including significant open enrollment from neighboring districts, is a positive statement about the City's future. Pequot Lakes' farmland and timberland values are ranked in the top twelve cities and townships in Crow Wing County over the period 2002-6. Clearly, there are positive trends underlying the City's current status as an increasingly busy destination.

Tax Base Analysis: The process of assembling a tax base analysis on top of the macroeconomic snapshot followed the sequence of steps below:

- Collect and assign property data by current business use and location.
- Establish projections for property price behavior based on research and sources specific to project.
- Evaluate changes in market value, tax capacity, and tax revenue based on current city tax rate.
- Apply the opportunity cost of the land takings, and the financing costs, to estimate a net present value benefit under each development scenario.

The tax base analysis used data for 224 property parcels in the City, representing an area of 1,156 acres. Parcels located along the current alignment, and which were 1-2 blocks from the current Highway 371 alignment and in non-single-family uses, were included in the analysis. Parcels along the alternative alignment, including those whose current use is light industrial, agricultural and forest management, were similarly included in the data set.

The analysis classified all parcels into a range of categories; different assumptions about future property value trends were used for each category of property. The categories were: Agriculture, agriculture converted to commercial-industrial property, food service, forest management, light industrial, local commercial, local retail, multifamily housing, specialty retail, tourist retail, and tourist service. As shown graphically in the attached presentation, the composition of tax base in 2021 (ten years from anticipated highway opening) is projected to be over $50 million for each of the three scenarios. Within these values, the composition of tax base varies, based on assumptions for how particular land uses and locations will be valued under one scenario or the other. The variation in total tax base in 2021 among the three scenarios – and the fact that the expansion of the existing alignment is estimated to lead to total tax base roughly $2.5 million higher than the bypass in 2021 – is one significant finding of the analysis.

Financial costs are also associated with the expansion of the current alignment and the construction of an alternative alignment. Projections from the City Engineer indicate that the costs of expanding the existing alignment would be higher than the costs of building an alternative alignment. If all the improvements cited by the City Engineer as "required," "recommended," and "optional," are included, the difference in cost to the City is nearly $3 million. Conversely, the costs estimated by Mn/DOT for land takings would be higher for an alternative alignment scenario.

The product of the tax base calculations, with and without consideration of public infrastructure improvements and land takings, is shown in an attached table titled "City Tax Revenue Impact: Comparison of Three Levels of Improvements." For each level of improvements, the net benefit to the City is greater using the assumptions for an alternative alignment than it is using assumptions for expanding the current alignment of Highway 371.

This answer was submitted by Jon Commers of Donjek. See Appendix E for the entire report.

6.) What is the cost to the City compared to the benefits the City will receive from an alternate route?

a. Answer: Based on the engineering estimate (cost) provided by Widseth Smith Nolting and the Net Present Value of city property taxes comparison (benefit) presented by Donjek, the following table was derived:

Alignment Option	Cost	Benefit	**Cost/Benefit Ratio**
Alternative Alignment Required Improvements Only	$84,500	$121,000	**0.7**
Alternative Alignment Required and Recommended Imps.	$378,000	$121,500	**3.1**
Through Town Alignment Required Improvements Only	$407,500	$55,500	**7.3**
Alternative Alignment All Improvement Options	$1,526,000	$121,000	**12.6**
Through Town Alignment Required and Recommended Imps.	$1,905,000	$55,500	**34.3**
Through Town Alignment All Improvement Options	$2,588,000	$55,500	**46.6**

7.) What can be done to help businesses impacted by an alternate route?

a. Answer: ***Measures for Mitigating Negative Impact for Business***

In the August 7 presentation, I offered five prongs for action on this front. First, the City has in recent years discussed a number of physical changes that could serve well to enhance the aesthetic and sense of place in downtown: Additional trees, benches, kiosks to guide visitors, decorative lighting, increasing parking capacity and conversion of Highway 371 to a parkway with a median marked by trees and landscaping. I offer as additions to this list the prospect of literal arches welcoming visitors to Pequot Lakes (from the east on County Road 11 and from the north and south along Highway 371) and a devotion of some space adjacent to the Paul Bunyan Trail to a children's play area. Adding to the City's existing public art (the Post Office mural and renowned bobber water tower) could further enhance the physical environment for residents and visitors.

Second, the potential for additional events in Pequot Lakes is significant. The demographics of visitors and seasonal landowners (many of whom will likely become full-time residents in the years to come) present a powerful opportunity to establish annual events to draw attention to the City's downtown commercial district.

Examples include performances under the Minnesota Orchestra's "Symphony for the Cities" series, a street-painting festival, or another event that is geared toward a particular market. Pequot Lakes can retain Bobber Days and Bean Hole Days, and reach out to an identified niche in a very successful way. Boosters in New York Mills, with 1,180 residents, have cultivated lots of attention from their arts focus and the "Great American Think-Off" held annually.

Business wide initiatives and connectivity represent the third part of an approach. Again, the City has in previous planning identified an interest in a circulator to facilitate biking visitors on the Bunyan Trail, the development of a commuter shed to inform a parking strategy, and a guide to Pequot Lakes retail to be used by business owners and visitors alike. The enhanced connectivity represented by current efforts to build a wireless network in Pequot Lakes and its surrounding region is a significant lever to insulate businesses from prospective negative changes in physical vehicle traffic.

Finally, two additional prongs are that the business community and the City can each pursue financial initiatives to attract and cultivate businesses in Pequot Lakes . The JOBZ program, small business development loans available from the Department of Employment and Economic Development, and most notably a special service district are measures the business community could pursue to solidify downtown vitality in Pequot Lakes . Also, Region Five Development Commission is currently offering online marketing and sales assistance to interested business owners, consistent with their advocacy of the wireless internet infrastructure.

The City has used tax increment financing ("TIF") districts for development in the past. As we discussed, however, TIF's emphasis on already-developed parcels reduces its potential value for the City if an alternative alignment is constructed. The City could choose to pursue the development of a revolving loan fund (funds are currently operated by the Brainerd Lakes Area Development Corporation for Baxter and Crosslake, among others) for business owners, sales tax authorization to "export" the tax to the extent possible, and development of an "economic gardening" office. The special service district described above is, I believe, one of the most promising tools for the City and the business community to employ, given the physical and financial realities involved in the bypass discussion. *Correspondence from Donjek (Jon Commers), 9/5/07.*

8.) What will MnDOT do to assist businesses impacted by an alternate route?
   a. Answer: MnDOT will compensate any property owner that has experienced a physical taking of their property. This would occur where property is either acquired for the highway or right-of-way or where an access has been taken. There is no other financial compensation or aid provided by MnDOT.

Planning Issues

1.) How does the City's zoning impact the alternate route?
   a. Answer: Although not by intention or design, the City's zoning actually facilitates the construction of an alternate route. Nearly the entire proposed corridor is zoned either Agriculture or Forest Management. Both of these zones are very low-density,

with Agriculture having a minimum lot size of 20 acres and Forest Management having a minimum size of 10 acres. The lack of development through the corridor reduces land acquisition costs and means that the impact to existing development can be minimized. There are a couple of instances where land zoned Transition Residential or Commercial encroaches on or near the alignment. While this does not create a difficulty, it is going to be important that: a) any development on those properties is done with an understanding of the impacts from the highway expansion, and b) the zoning in the vicinity of these properties is not changed without an understanding of the impact of the highway. The current zoning reflects the growth patterns described in the Future Land Use plan. So long as the City continues to follow the plan, there should not be any major concerns with how the zoning impacts the alternate route. *This answer was submitted by Charles Marohn of the Community Growth Institute at the February 15, 2007 meeting.*

2.) How does an alternate route impact the City's zoning?

a. Answer: The establishment of an alternate route will have no immediate impact on the City's zoning. The City will not be compelled to change the zoning and, since the existing zoning is compatible with an alternative alignment, there will be no immediate reason to do any zoning changes. We anticipate that over time, three distinct zoning pressures will be exerted that are not today. Those are: 1.) Pressure to grow the urban area to the alternate route corridor; 2.) Pressure zone the alternate route corridor Commercial Transition; 3.) Pressure to "leapfrog" the corridor with urban or commercial style development. The pressure to grow the urban area to the alternate route corridor is consistent with Comprehensive Plan, so long as the growth is tied to the expansion of municipal utilities. In this sense, the highway would actually serve as a geographic divide between the areas of urban development and the areas of rural and shoreline development. This hard break is what is called for in the original Sibley Township plan and is continued in practice in the Pequot Lakes Comprehensive Plan. Zoning the corridor Commercial Transition and/or allowing urban or commercial style development to "leapfrog" over to the east side of the highway would be counterproductive to the growth strategy of the City. In general, the areas to the east of the proposed corridor lack good transportation access and are not served by public utilities. Not only would development in these areas detract from the destination effect of the downtown, they would be marginally productive and more than likely require some public subsidy to be viable. With an alternate route, it is going to be critical that the growth and development that takes place in the City plays to the strengths of the community and reinforces those elements. Commercial development along a new corridor would detract from the investment already made in the downtown and discourage further investments there. Instead, some "gateway" commercial development and/or community branding (unique signage, for example) at a node intersecting CSAH 11 would serve as a welcoming point for visitors, enhancing the destination affect of Pequot Lakes. Lower-budget commercial development in a strip along the corridor may provide a short-term economic gain, but over the long-term would be less advantageous than other investments in the community. To the south of CSAH 11 lies some of the more sensitive environmental areas in the City, while to the north there is the conflict with agricultural operations and extractive uses.

This answer was submitted by Charles Marohn of the Community Growth Institute at the February 15, 2007 meeting.

3.) To what extent is an alternative route consistent or not consistent with the Comprehensive Plan?

a. Answer: The City's Comprehensive Plan was adopted in August of 2004. The recommended planning cycle would have the plan updated in 2009. Since this is prior to the expansion of TH 371, the policies and strategies in the plan will continue to be relevant for its expected life. The anticipated process in 2009 will provide an opportunity to update the community's 20-year vision, which will take into account expansion of Highway 371. An alternate route would not require amendments to the Comprehensive Plan. Additionally, the planning for and potential construction of an alternate route would not be incompatible with the Comprehensive Plan. The following addresses areas in the Plan that reference impacts of Highway 371.

Community Character

On page 15, the Plan states that, "Pequot *Lakes has remained on the periphery of growth and development in the Central Lakes Region, partially due to the fact that it does not sit on or near a four-lane highway. Regional growth trends combined with the widening and possible re-routing of Highway 371 will soon change this. In order to maintain the existing community character, residents would like to encourage the City to capitalize on the four components that define its community character.*" Those four components, as identified in the plan, are:

1. Small-town feel,
2. Natural features,
3. Public places, and
4. Recreational opportunities and social events.

These components would continue to be concerns with any highway alignment.

Housing

Page 24 states that it is the City's policy to, "*Expand high-density housing options close to the downtown and in suitable areas of the rural/urban transition zone."* This policy would be reinforced, to some extent, by an alternate alignment.

Economic Development

Page 34 addresses "*Transportation Improvements"* as one of the major factors influencing economic development in the City. The section reads:

"Proposed improvements to Trunk Highway 371 resulting in a high-speed, four-lane highway all the way to Minneapolis/St. Paul opens up many opportunities for Pequot Lakes. The increased accessibility will enhance industrial/manufacturing opportunities. It will present unique challenges and opportunities to retail and service areas, especially when the impacts of a bypass or the impacts of access management techniques are fully accounted for. The highway provides easy access to and through the City. Enhancing Pequot's position as a neighborhood center and a destination will be critical to sustaining commercial development."

Also on this page there is a discussion of the fact that an expansion to Highway 371 will increase the desirability of Pequot Lakes as an industrial and manufacturing location.

On page 36 there is a discussion on the professional and service sectors, which typically serve a more localized market. It is noted that expansion of the highway will increase competition from the increased accessibility of neighboring communities, but this will be true with any alignment.

There is a discussion on retail businesses on page 37. Here it states that, "Pequot Lakes *has seen a rebirth in its retail commercial areas with the establishment of high-quality establishments along Government Drive, which have been made more visible to passers-by with the care they have put into their exterior facades."* This section goes on to state that, "*The growth in retail establishments is helping Pequot Lakes to become a destination city by bridging its dependence on the highway and the visibility it provides.*" The section goes on to describe the forces of agglomeration and how, as additional businesses are added, the combined effect of more visitors is a benefit to everyone.

Transportation

Pages 70 through 72 contain an analysis of both the through town and alternate alignment approach to Highway 371. This analysis was a product of sessions where participants were asked to indicate issues with each approach. The following is excerpted from this section:

"Mn/DOT is proposing improvements to Trunk Highway 371, which currently runs through the center of downtown, in order to improve safety. The existing two-lane highway does not safely meet current demand, and traffic counts are expected to continue to increase as the area grows. The proposed improvements would begin in Nisswa where the current highway goes from two to four lanes and continue north extending the four-lane highway through Pequot Lakes. As part of a preliminary discussion, Mn/DOT has proposed two alignments for a four-lane highway: through town and alternate route.

Through Town: *One possible four-lane alignment would be along the existing two-lane alignment. It would require widening of the current roadway along the entire route. Although the proposal severely limits automobile access throughout the corridor, the through town alignment is generally thought to be less disturbing short-term to the existing business corridor that has grown up along Highway 371.*

If this alignment is chosen, the City will need to deal with a number of issues:

- *A high-capacity, four-lane highway will increase the barrier between the east and west sides of downtown. Many people work in one and live in the other, and other sections of this plan seek to encourage more of that arrangement. At least one, but more likely two, elevated pedestrian overpasses or underpasses will be necessary to connect these two sides of town. Signalized intersections, especially a freeway style intersection, will not be adequate.*
- *In order to maintain speed and safety through town, the highway will restrict the number of accesses and will allow full turning movements only at signalized intersections. This will force*

drivers to travel non-direct paths in order to get from one point to another. Side streets need to be designed and constructed to support the increased traffic flow.

- *Increased stacking room needs to be planned on side streets so that long red lights for crossing an intersection do not create excessive congestion in town. Additional planning must also occur to mitigate increased noise, exhaust, visual blight, and closer proximity to traffic.*
- *A north/south connection needs to be created parallel, but not right on, the highway for the length of the highway. Over time, this will provide for north/south movement of local traffic during peak periods when getting on to the highway becomes a problem.*
- *A new four-lane through town will be approximately 50 feet closer to the Paul Bunyan Trail and the trail building. Both of these assets, the trail and the building, help bring people to town. Expansion of the highway will negatively impact the trail and the experience of trail users. A buffer and/or barrier such as thick vegetation and/or an earthen berm, needs to be installed to limit the negative impacts.*
- *The park surrounding the trail is used by the City and the local businesses as a central park and gathering place. Expansion of the highway will make holding large public gatherings in this place difficult if not impossible. A new public gathering place will need to be created for future events.*
- *Traffic on highways generates noise and pollution. Future development through the downtown should not be residential or include commercial businesses that are averse to noise.*
- *The highway creates a barrier for future utility improvements or expansions. While the highway is being constructed, municipal and private infrastructure should be installed and/or upgraded crossing the highway so that construction of the highway does not limit future infrastructure development.*
- *A highway through town will be designed to move vehicles quickly and efficiently through town. For the success of business along the corridor, some of those vehicles need to decide to stop and get off the highway. In the years leading up to construction, Pequot Lakes needs to work to create a destination out of its downtown. It must work to create a critical mass of shops, restaurants and entertainment has been reached. This will be difficult since development will happen in areas most visible by the highway, and much of that is already developed. High quality shops with eye-catching facades need to be in place to attract people off of the freeway.*
- *Success of the downtown is still dependant on maintaining a pedestrian environment, even though a through-town design would emphasize the automobile and increase side-street traffic. Remaining pedestrian spaces should be "protected" from automobile traffic by raised barriers and by having spaces visually designated for pedestrians. Interaction between pedestrian space and automobile space should be limited.*
- *Industrial traffic cannot be routed through town in order to get to a signalized intersection. An industrial intersection needs to be installed south of downtown to keep this traffic separated and to provide efficient access to the industrial park.*
- *The routing of the highway through town will essentially marry the downtown businesses to the highway. As such, once downtown space is developed, there will be temptation to continue corridor-style development along the highway. This development style is typically low-budget, inefficient and often leads to blighted areas in the older areas of the corridor. In addition, this type of development is not distinguishable from other sprawling cities and has been repeatedly criticized by the public and given the derogatory local label "Baxter-ization." Pequot Lakes needs to maintain a core commercial area and discourage the highway corridor from becoming commercialized.*

Alternate Route: *The second alternative is to bypass Pequot Lakes to the east, an alternate route that would route the new four-lane easterly beginning south of the industrial park and reconnecting about a mile north of the downtown. This option would arguably have the most dramatic effect on the City.*

If this alignment is chosen, the City will need to deal with a number of issues:

- *Enticing motorists and creating trouble-free automobile access to downtown Pequot Lakes will be challenging. For Pequot Lakes to remain economically viable, a bypass alignment would need to provide for easy in and easy out of both the downtown and the industrial park. At least two ramps/ flyovers would be needed to accomplish this.*
- *With the loss of highway frontage, visibility of the downtown would become an issue. High quality, descriptive and captivating signage and/or imagery would alert people to exit. The entrance to the City off of the highway would need to be unique and inviting. A city-wide directional signage strategy would help to direct motorists to downtown businesses and attractions without cluttering the landscape with large signs. As much as possible, development visible from the highway would need to be attractive and representative of the City.*
- *High traffic volumes on the bypass could result in a competing commercial area on the outskirts of town. Commercial zoning along the highway should be limited so that the primary economic destination is still the downtown. The limited commercial development that is allowed should be unique from other highway destinations, should be designed to hide negative features such as parking/garbage disposal/lighting/excessive signage, and should be inviting to passers by.*
- *Creating a critical mass of retail businesses will be an important strategy with an alignment. In the years leading up to the establishment of a bypass, Pequot Lakes needs to establish itself as a larger shopping destination. A development philosophy that abandons the corridor mentality gives dimensional freedom to development patterns, and Pequot Lakes needs to build on this opportunity. Improvements to North Washington Avenue and County Road 112 as pedestrian shopping areas would help in this endeavor. A streetscape should be used that could ultimately be converted into a walking downtown. The design should pull pedestrians east and west as well as north and south. Parking areas need to be acquired and parking opportunities need to be enhanced along the edges of the downtown to provide for eventual demand. Zoning in the retail area should protect the retail environment and add to the critical mass by requiring some retail in all new establishments.*
- *There is no question that some existing businesses will be negatively affected by the bypass, particularly auto-oriented businesses dependent on visibility and large volumes of traffic. Preference and incentive should be provided to those businesses that will be adversely impacted by the realignment to entice them to relocate to a more advantageous location. The City should enact a transfer of development rights plan to compensate those property owners who will be dislocated.*
- *A bypass would fragment and degrade the forest ecosystem surrounding downtown Pequot Lakes. To mitigate negative impacts, the City should protect remaining forested tracts along the highway from development. Wildlife corridors under the highway would allow for the movement of wildlife to forest habitat on both sides of the highway and help to reduce the number of animal-related collisions. Stormwater from the added impervious surface should be managed on-site through the use of "green infrastructure" including filter strips, rain-gardens, and other new technology for managing run-off.*

- *A bypass would detract from the natural beauty of Pequot Lakes. Areas along the highway that are not used for commercial should be buffered from encroaching development to maintain a forested gateway that contributes to the north-woods feel along the corridor. Trees should be planted where needed to supplement bare spots in the corridor. The alternative alignment should also include a median that contains native vegetation as opposed to sod. Every effort needs to be made to ensure that the alignment adds to the unique character of Pequot Lakes.*
- *Just the through option has the potential to separate downtown Pequot Lakes, the same can happen with the bypass separating the downtown from the surrounding rural area. Multiple accesses for pedestrians, bikers, snowmobilers and others recreating in Pequot Lakes needs to be provided across the new alignment. The new alignment can become a physical wall that separates urban and rural development patterns, but the City can't let it become a wall separating urban and rural communities of people.*
- *The wastewater disposal system will need to be replaced. This is an opportunity for the City to examine alternative methods of wastewater disposal. Emphasis should be placed on those alternatives that treat to a high level of effluent and do not require large amounts of land, which is in decreasing supply.*
- *The City will be required to take over the old highway once the new alignment is completed. The old highway is much wider than what will be needed for a city street. It is not in great shape and, even if an overlay is done, it will need reconstruction in the future. To avoid excessive future road maintenance costs, the road could be narrowed and reconstructed to the City standards prior to it reverting to City control. Narrowing the road and the setbacks could potentially open up new land for commercial development within the core downtown area. This road could also be converted to a tree-lined boulevard serving as the downtown focal point and primary corridor linking the bypass to downtown Pequot Lakes.*

No Build: *A "no-build" scenario was also discussed, although given the existing and projected traffic counts and the safety concerns that accompany them, as well as the desire of Pequot Lakes and the points north to continue to grow rapidly thus perpetuating even more traffic, this alternative will not be seriously considered."*

There are no other statements or policies in the plan that would raise questions of incompatibility between the Comprehensive Plan and an alternative alignment for Highway 371.

This answer was submitted by Charles Marohn of the Community Growth Institute at the February 15, 2007 meeting.

4.) What changes to the Downtown Plan will be necessary due to an alternate route?

a. Answer: An alternative route would not require amendment to the current version of the Downtown Plan. The Plan defines an approach to the downtown which,

- recognizes the investments that have already been made in the downtown and seeks to leverage those investments to induce more growth,
- proposes incremental design enhancements that would be performed as part of necessary and planned infrastructure improvements,
- suggests an accelerated timeframe for the improvements so as to further establish Downtown Pequot Lakes as a destination.

The Downtown Plan identifies five "keys to success" for the downtown:

1. Maintain the quaint character of the downtown while also preserving the individuality and variety of the buildings located there. Continue quality while resisting uniformity.
2. Expand on the shopping opportunities available in the downtown to build on the "destination effect". Enhance this effect through the design of public spaces.
3. Compete regionally where the downtown can offer a specialized and unique experience. Compete locally where the downtown can offer a convenient and satisfying experience.
4. Look to reduce the seasonality of the downtown by promoting a mix of "convenience" business while also increasing the number of residents located with convenient access to downtown.
5. Tap into the revenue generated by growth in order to make the infrastructure improvements needed to sustain growth.

The defined approach and the keys to success along with the conceptual drawing form the core of the plan. None of these elements will need modification with an alternative alignment.

The current version of the Downtown Plan describes some cost reductions that would be associated with an alternate route, specifically the elimination of the need for a pedestrian underpass ($1.2 million), a rock barrier wall ($500,000) and some improvements to the existing highway corridor designed to alert motorists to the fact that they have arrived in Downtown Pequot Lakes.

While it has been suggested that some changes to the conceptual drawings may be warranted to demonstrate the additional park space made available by realignment of the highway, this is a minor design issue that has little impact on the essence of the plan.

(Note: It was pointed out at the February 15, 2007 meeting that the downtown area is in need of substantial stormwater system improvements, improvements that are necessary to the implementation of the Downtown Plan. Although not addressed in the Downtown Plan, the through-town highway alignment included Mn/DOT stormwater improvements that could potentially have facilitated a solution for the City's downtown. The alternate route alignment would likely not contain any Mn/DOT stormwater improvements, thus making a stormwater solution solely the City's burden. We concur with this analysis.)

This answer was submitted by Charles Marohn of the Community Growth Institute at the February 15, 2007 meeting.

5.) How will an alternate route impact plans for a new cemetery?
   a. Answer: The alternate alignment of TH-371 will impact the proposed public cemetery property in the City. Approximately one-third of the 5 acre parcel (cemetery) will be impacted by the ROW of the new alignment. *See Map in Appendix A.*

Environmental Issues

1.) What impacts will construction of an alternate route have to Pequot Lakes' environmental system?
    a. Answer: The Minnesota Pollution Control Agency contacted their St. Paul Office. There are no large impacts anticipated to waters if proper stormwater controls and infiltration basins are used during the construction of the proposed alignment. There are no lakes impacted by the proposed alternate route. The major concern of the MPCA is that there will be an increase in impervious surface, which can have detrimental effects upon the local watershed. If proper stormwater systems are installed in the design of the alternate alignment, then there should be no issues. *This answer was submitted by Greg Van Eeckhout of the Minnesota Pollution Control Agency at the May 17, 2007 meeting.*

2.) What green-space opportunities are created or lost by construction of an alternate route?
    a. Answer: There are no known environmental issues of concern in the proposed alternative route area. However, this question is hard to answer at this time because the exact design and plan for the proposed alternate route will indicate what areas are specifically affected by the proposed alignment and what areas will not be impacted by the proposed alignment. Some green space will be lost due to the construction of a highway in an area that was not previously occupied by a highway. Hence, the actual amount of green space lost or created will not be known until a final design or plan for the proposed alignment is completed. *This answer was submitted by Greg Van Eeckhout of the Minnesota Pollution Control Agency at the May 17, 2007 meeting.*

3.) What impacts will the construction of an alternate route have on the protection of the City's well head?
    a. Answer: The public water supply for the City of Pequot Lakes is drawn from an aquifer with a clay cover that ranges in thickness from a few feet to nearly 90 feet. The City has 2 wells located at a depth of 140 feet. This clay cover over the aquifer at the site of our wells is approximately 30 feet thick. The City must protect the groundwater from contamination, which is why a Wellhead Protection Area has been delineated. The source water used by the City of Pequot Lakes is moderately susceptible to contamination because of the local geological setting. Due to this moderately sensitive nature, the aquifer may be susceptible to the following:
        1. Contamination from improperly constructed or maintained wells;
        2. Contamination from nitrate-nitrogen from sources such as septage and fertilizer;
        3. Contamination from pathogens where the clay confining layer is absent; and
        4. Chemical contaminants such as fuels, solvents or pesticides.

    The land uses surrounding the City wells and within the Wellhead Protection Area may contribute contaminants that would present a health concern to the users of the public water supply.

The City of Pequot Lakes adopted a Wellhead Protection Plan in 2003. Prior to its adoption, a Wellhead Protection Team met regularly to draft a plan that would safeguard our drinking water resources.

The Team chose to be proactive and use a 20-year time of travel to characterize the groundwater movement in the aquifer that supplies their wells. This 20-year time of travel is the blue heart-shape on your map. The flow of the groundwater is generally in a southeasterly direction. A one-year time of travel emergency response zone is also delineated on your map, the small red circle. The green, dashed line indicates the Drinking Water Supply Management Area, or DWSMA. The Wellhead Protection Plan charges the City with monitoring activities within this DWSMA.

Part 2 of the Wellhead Protection Plan develops management strategies that will protect the public drinking water supply. I plan to submit a report to the City Council in June detailing the steps taken to implement the objectives laid out in Part 2.

I have indicated an approximate alternate route on your maps. As you can see, there will be concerns for the construction of either route within the DWSMA.

I met with our representative from Minnesota Rural Water last week who voiced the following concerns regarding highway construction:

1. Stormwater runoff;
2. Accidental leaks or spills.
3. Management of construction wastes.

The Department of Health also voiced a concern with the thickness of the clay cover over the aquifer that seems to diminish to the east side of the DWSMA. This assessment is based on a small amount of well data and the Department of Health is not sure this would warrant lobbying for one route over the other. With the groundwater flowing in a generally southeasterly direction, the relocation of the road to the east side of the well field could be a benefit despite the decreased level of geologic protection.

The Department of Health also suggested involving the environmental person from Mn/DOT in the early stages of planning so she is aware of our concerns regarding construction within our DWSMA.

Result: Construction of either route will impact the Wellhead Protection Area. The City should take steps to address construction concerns, as well as environmental issues.

This answer was submitted by Dawn Bittner, Wellhead Coordinator for the City of Pequot Lakes, at the May 1, 2007 meeting.