Public Comment
Minnesota to Iowa 345 kV Transmission Line Project
Docket No. ET6675/TL-12-1337 and ET6675/CN-12-1053

Sarah Jagodzinske Rohman and Brooks Rohman
1126 150th St.
Welcome, MN 56181
Fox Lake Township – Martin County
sjago@hotmail.com
507 848 6092

August 2, 2013

Ray and members of commission,

My name is Sarah Jagodzinske Rohman, I am the fifth generation to farm our family farm. I spoke at the public meeting in Fairmont about the health issues involved with the high voltage transmission line project. I also stated my concerns with these lines going so close to our current home, as we have three small children who are 4 ½ and younger.

Here are a list of the things I would like you to research and consider:

Health Concerns
Electromagnetic radiation given off by such high voltage power lines is not healthy for anyone, much of the research shows its worse in rapidly growing cells like young children and even babies in the womb. It is also harmful to animals.

- My concern and question is why would we let anyone put something like this up so close to our homes with potential to do so much harm and damage to our health?
- I would like my children protected and not exposed to this radiation or used as an experiment.
- I also would like to have another child in the future and do not want to risk their health as I would be forced to farm under and near these poles/lines.

Comment: Both proposed lines go on our land in Fox Lake Township, Martin County. A goes very close to our home (address above) with in 100 yards I believe. B goes even closer to the farm site we are planning on building a home on this year: 1476 130th Ave. Welcome, MN 56181 Martin County – along Co Rd 27 (tar road north of Welcome, MN). Either way young families with young children will live near these lines.

Economic and Environmental concers
Visual pollution – you don't live in the country to see huge poles/lines

Compaction of soil

- It will take many years to gain back yield potential if at all possible!
    - we have taken good care of our land and take pride in the stewardship of our land – why do others get to mess that up?

- Less yield = less $ and less food (a growing concern if you read any of the projections of future need of food)

Food a growing concern

- Poles go through our farm land which will take away from the land we can produce food on – this is premium land not just land we've tried to turn into farmable land.

Maintenance- How will they fix the lines/poles if there is a problem if it is in the middle of a field or even along a fence line? Or winter with snow?

- Again concern of loss of production when they need to drive through our field creating more compaction and loss of crops if during growing season, with less food produced and less $.

Field Work Obstatcles

- More time consuming to farm around every time we are in the field- we can not just move around them with the modern day practices and equipment we use today.
  - digging
  - spraying- can't air spray – most companies will not attempt to spray a field with lines going through
    -it is not safe – too dangerous!
    -potential loss of yield without spraying for aphids and other pests
    -potential loss of yield due to unnecessary additional compaction on the ground instead of air application
  - planting
    - much more time and energy – will need to go out with 4-wheeler and single row planter to fill in gaps due to these large poles going through our land (especially in the middle of the field).
  - cultivating
  -harvesting
  -interference with GPS – a tool we will more and more become reliant on, as well as interference with computer system

So at least 6 x around each pole each year! – more fuel, more time, more headaches!

Suggestion

- follow I-90 corridor and head south at Blue Earth, MN
  - easier access year round
  - less jig saw puzzles of farmable land that bring food and money into our economy
- follow existing lines
- follow 140th St. moving around houses through Fox Lake township and east to Fairmont – there are only a few houses on this road…it is a wide road.

Ray you said we know future plans: my husband and I plan to have a chiropractic business at 1476 130th Ave. Welcome, MN 56181 Fox Lake Township – Martin County as well as live there. When my parents Mary and Maynard Jagodzinske, are ready to

retire we plan on living at the family farm, 1506 120th Ave. Welcome, MN 56181 Fox Lake Township- Martin County. Regardless of where we live there will be young children on these farms daily.

Thank you for taking the time to read my comments and concerns. I really believe by putting these poles up on either of the proposed routes is a poor economic and environmental decision. The health of my family is the priority for me – please help protect our young children and future generations, as I am the fifth generation to farm our land and hope that legacy will continue.

Sincerely
Sarah Jagodzinske Rohman

Fox Lake Township – Martin County
Current address: 1126 150th St Welcome, MN 56181
Family farm: Mary and Maynard Jagodzinske – 1506 120th Ave. Welcome, MN 56181
Future home and business: 1476 130th Ave. Welcome, MN 56181

To whom it may concern:

I am writing this letter in regard to ITC's proposed MN-IA 345KV transmission line project in Jackson, Martin, and Faribault counties, docket # ET6675/CN-12-1053. The aforementioned project directly impacts my family and that of many of my neighbors in that ITC has proposed running this high voltage transmission line directly through our farmland and past our homes.

We have contacted ITC directly to discuss our concerns and displeasure for the currently proposed routes. They have been less than cooperative in returning our phone calls. When reached they have been vague and elusive in discussing their intentions, and have claimed to have provided the proper information to us when they have not. Several unannounced changes to their plans have been disguised by placing information at random in the county library without notice. We are writing this letter in an effort to appeal to an independent third party whose decision making paradigm is not clouded by their own financial gain.

I urge you to consider diverting the path that ITC has suggested for its transmission line. One of the current proposed paths cuts across premium and useful farmable land of ours in sections 23 and 26 of Fox Lake Township. This directly affects our farming operation by cutting across, not one, but two of our most productive fields. Currently these fields are free of obstacles that would require maneuvering around. The poles that ITC would insert into them would significantly disrupt our ability to farm this land without interruption of planting, spraying, and cultivating crops. When planting a 24 row swath of land, any deviation from a straight line results in a large wave in the row that is magnified across the remaining rows in the field and a loss of maximum utilization of the land. Planting straight with obstacles in the way necessitates owning a completely separate piece of equipment small enough to go back and re-plant areas that couldn't be with your primary equipment. Even then you are still affected when it comes time to spray/cultivate the planted crops as driving around the poles would destroy the plants that you would have to drive over resulting in loss of equitable crops. The added time required to try to circumvent these obstructions also leads to losses in production. Furthermore, obstructions such as these decrease the value of farmable land considerably. Any farmer can attest to this as fact. The financial disruption this project would *permanently* cause can in no way be repaid by any amount of easement the company may consider reasonable. The value of our farm would take a considerable hit.

My second and more urgent concern is the disruption that high voltage power lines pose to the health of my family and that of my neighbors. The proposed transmission line travels through land

farmed and owned by families with small children. Between our family and that of our adjacent neighbors, that would be 6 children under the age of 5 years that would be exposed to the electromagnetic radiation that is emitted by these structures. It is well documented that high voltage electromagnetic radiation has negative effects on living tissue (see attached documentation). This damage is particularly more severe in the tissues of rapidly growing and dividing cells like those found in growing children. As I will be now required to spend a considerable amount of time working under these structures, at times with my children present, this will pose a significant threat to our health and wellbeing. Even my unborn children are affected, as reproductive cells of my body are the most susceptible to damage from this type of pollution. Both of the proposed routes also pass within 100 yards of our home. The visual and noise pollution that will be forced upon our family's home destroy the pristine scenery and peaceful quiet which we as rural families value.

ITC currently has transmission lines that follow major roadways, such as Interstate 90, through the aforementioned counties. The transmission lines also affect fewer families as there are far fewer homes built immediately adjacent to major roadways. The impact on economic and human health would be minimal if they were to follow paths that have already been established. The fact that the transmission lines follow this path until reaching Fox Lake Township illustrates this fact. Making the turn through residential/farming land beyond this point only serves to disturb established farming operations and individual residences.

In closing, I again urge you to take action to prevent ITC from routing these lines through our land. It is more than just empty space to be traversed. It is the land that we have spent years calling home and making our living on. It is land that we have painstakingly worked to purchase in order to grow our business, and the skyline that makes it a beautiful place to call home. As farmers we protect that land and are good stewards of that land because without it we cannot survive. Land is a premium commodity, and there is none to spare in our communities. We have farmed this land for over 100 years, and what has taken a century of invested time and money to obtain they wish to take from us at their will. In doing so, their business grows while ours decreases in value. What makes their business more valuable than ours? Why does their agenda deserve to trump our own? We cannot move our farms. We cannot even move our homes. But, you can move power lines before they are built. Please protect our small business and our small family from the actions of this big business. The implications for our family are larger than a few more miles of wire for ITC.

Thank you for your time,

3-10-13

Sarah Jagodzinske Rohman and Family

1126 150th St.

Welcome, MN 56181

507-848-6092

sjago@hotmail.com

And our farmstead at

1506 120th Ave

Welcome, MN 56181

1. Biochim Biophys Acta. 2005 Mar 22;1743(1-2):120-9.

50-Hz extremely low frequency electromagnetic fields enhance cell proliferation and DNA damage: possible involvement of a redox mechanism.

Wolf FI, Torsello A, Tedesco B, Fasanella S, Boninsegna A, D'Ascenzo M, Grassi C, Azzena GB, Cittadini A.

Institute of General Pathology and Giovanni XXIII Cancer Research Center, L.go F. Vito, 1-00168 Rome, Italy. fwolf@rm.unicatt.it

HL-60 leukemia cells, Rat-1 fibroblasts and WI-38 diploid fibroblasts were exposed for 24-72 h to 0.5-1.0-mT 50-Hz extremely low frequency electromagnetic field (ELF-EMF). This treatment induced a dose-dependent increase in the proliferation rate of all cell types, namely about 30% increase of cell proliferation after 72-h exposure to 1.0 mT. This was accompanied by increased percentage of cells in the S-phase after 12- and 48-h exposure. The ability of ELF-EMF to induce DNA damage was also investigated by measuring DNA strand breaks. A dose-dependent increase in DNA damage was observed in all cell lines, with two peaks occurring at 24 and 72 h. A similar pattern of DNA damage was observed by measuring formation of 8-OHdG adducts. The effects of ELF-EMF on cell proliferation and DNA damage were prevented by pretreatment of cells with an antioxidant like alpha-tocopherol, suggesting that redox reactions were involved. Accordingly, Rat-1 fibroblasts that had been exposed to ELF-EMF for 3 or 24 h exhibited a significant increase in dichlorofluorescein-detectable reactive oxygen species, which was blunted by alpha-tocopherol pretreatment. Cells exposed to ELF-EMF and examined as early as 6 h after treatment initiation also exhibited modifications of NF kappa B-related proteins (p65-p50 and I kappa B alpha), which were suggestive of increased formation of p65-p50 or p65-p65 active forms, a process usually attributed to redox reactions. These results suggest that ELF-EMF influence proliferation and DNA damage in both normal and tumor cells through the action of free radical species. This information may be of value for appraising the pathophysiologic consequences of an exposure to ELF-EMF.

PMID: 15777847 [PubMed - indexed for MEDLINE]

1. J Cell Biochem. 2004 Sep 1;93(1):83-92.

Extremely low frequency electromagnetic fields as effectors of cellular responses in vitro: possible immune cell activation.

Simkó M, Mattsson MO.

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There is presently an intense discussion if electromagnetic field (EMF) exposure has consequences for human health. This include exposure to structures and appliances that emit in the extremely low frequency (ELF) range of the electromagnetic spectrum, as well as emission coming from communication devices using the radiofrequency part of the spectrum. Biological effects of such exposures have been noted frequently, although the implication for specific health effects is not that clear. The basic interaction mechanism(s) between such fields and living matter is unknown. Numerous hypotheses have been suggested, although none is convincingly supported by experimental data. Various cellular components, processes, and systems can be affected by EMF exposure. Since it is unlikely that EMF can induce DNA damage directly, most studies have examined EMF effects on the cell membrane level, general and specific gene expression, and signal transduction pathways. In addition, a large number of studies have been performed regarding cell proliferation, cell cycle regulation, cell differentiation, metabolism, and various physiological characteristics of cells. Although 50/60 Hz EMF do not directly lead to genotoxic effects, it is possible that certain cellular processes altered by exposure to EMF indirectly affect the structure of DNA causing strand breaks and other chromosomal aberrations. The aim of this article is to present a hypothesis of a possible initial cellular event affected by exposure to ELF EMF, an event which is compatible with the multitude of effects observed after exposure. Based on an extensive literature review, we suggest that ELF EMF exposure is able to perform such activation by means of increasing levels of free radicals. Such a general activation is compatible with the diverse nature of observed effects. Free radicals are intermediates in natural processes like mitochondrial metabolism and are also a key feature of phagocytosis. Free radical release is inducible by ionizing radiation or phorbol ester treatment, both leading to genomic instability. EMF might be a stimulus to induce an "activated state" of the cell such as phagocytosis, which then enhances the release of free radicals, in turn leading to genotoxic events. We envisage that EMF exposure can cause both acute and chronic effects that are mediated by increased free radical levels: (1) Direct activation of, for example macrophages (or other cells) by short-term exposure to EMF leads to phagocytosis (or other cell specific responses) and consequently, free radical production. This pathway may be utilized to positively influence certain aspects of the immune response, and could be useful for specific therapeutic applications. (2) EMF-induced macrophage (cell) activation includes direct stimulation of free radical production. (3) An increase in the lifetime of free radicals by EMF leads to persistently elevated free radical concentrations. In general, reactions in which radicals are involved become more frequent, increasing the possibility of DNA damage. (4) Long-term EMF exposure leads to a chronically increased level of free radicals, subsequently causing an inhibition of the effects of the pineal gland hormone melatonin. Taken together, these EMF induced reactions could lead to a higher incidence of DNA damage and therefore, to an increased risk of tumour development. While the effects on melatonin and the extension of the lifetime of radicals can explain the link between EMF exposure and the incidence of for example leukaemia, the two additional mechanisms described here specifically for mouse macrophages, can explain the possible correlation between immune cell system stimulation and EMF exposure.

PMID: 15352165 [PubMed - indexed for MEDLINE]

pubmed_result 3

1. Curr Med Chem. 2007;14(10):1141-52.

Cell type specific redox status is responsible for diverse electromagnetic field effects.

Simkó M.

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myrtill.simko@uni-rostock.de

Epidemiologic and experimental research on the potential carcinogenic effects of extremely low frequency electromagnetic fields (ELF-EMF) has been performed for a long time. Epidemiologic studies regarding ELF-EMF-exposure have focused primarily on leukaemia development due to residential sources in children and adults, and from occupational exposure in adults, but also on other kinds of cancer. Genotoxic investigations of EMF have shown contradictory results, a biological mechanism is still lacking that can explain the link between cancer development and ELF-EMF-exposure. Recent laboratory research has attempted to show general biological effects, and such that could be related to cancer development and/or promotion. Metabolic processes which generate oxidants and antioxidants can be influenced by environmental factors, such as ELF-EMF. Increased ELF-EMF exposure can modify the activity of the organism by reactive oxygen species leading to oxidative stress. It is well established that free radicals can interact with DNA resulting in single strand breaks. DNA damage could become a site of mutation, a key step to carcinogenesis. Furthermore, different cell types react differently to the same stimulus, because of their cell type specific redox status. The modulation of cellular redox balance by the enhancement of oxidative intermediates, or the inhibition or reduction of antioxidants, is discussed in this review. An additional aspect of free radicals is their function to influence other illnesses such as Parkinson's and Alzheimer's diseases. On the other hand, modulation of antioxidants by ELF-EMF can lower the intracellular defence activity promoting the development of DNA damage. It has also been demonstrated that low levels of reactive oxygen species trigger intracellular signals that involve the transcription of genes and leading to responses including cell proliferation and apoptosis. In this review, a general overview is given about oxidative stress, as well as experimental studies are reviewed as they are related to changes in oxidant and antioxidant content after ELF-EMF exposure inducing different biological effects. Finally, we conclude from our review that modulations on the oxidant and antioxidant level through ELF-EMF exposure can play a causal role in cancer development.

PMID: 17456027 [PubMed - indexed for MEDLINE]

1. Int J Biochem Cell Biol. 2007;39(11):2093-106. Epub 2007 Jun 23.

Fifty hertz extremely low-frequency electromagnetic field causes changes in redox and differentiative status in neuroblastoma cells.

Falone S, Grossi MR, Cinque B, D'Angelo B, Tettamanti E, Cimini A, Di Ilio C, Amicarelli F.

Department of Biomedical Sciences, Excellent Center on Aging Studies, Faculty of Medicine G. d'Annunzio, Via dei Vestini, 66013 Chieti, Italy.

The current study was designed to establish whether extremely low-frequency electromagnetic fields might affect neuronal homeostasis through redox-sensitive mechanisms. To this end, intracellular reactive oxygen species production, antioxidant and glutathione-based detoxifying capability and genomic integrity after extremely low-frequency electromagnetic fields exposure were investigated. Moreover, we also studied potential extremely low-frequency electromagnetic fields-dependent changes in the proliferative and differentiative cellular status. Results seem to support redox-mediated extremely low-frequency electromagnetic fields effects on biological models as, although no major oxidative damage was detected, after exposure we observed a positive modulation of antioxidant enzymatic expression, as well as a significant increase in reduced glutathione level, indicating a shift of cellular environment towards a more reduced state. In addition, extremely low-frequency electromagnetic fields treatment induced a more differentiated phenotype as well as an increased expression in peroxisome proliferators-activated receptor isotype beta, a class of transcription factors related to neuronal differentiation and cellular stress response. As second point, to deepen how extremely low-frequency electromagnetic fields treatment could affect neuroblastoma cell antioxidant capacity, we examined the extremely low-frequency electromagnetic fields-dependent modifications of cell susceptibility to pro-oxidants. Results clearly showed that 50 Hz extremely low-frequency electromagnetic fields exposure reduces cell tolerance towards oxidative attacks.

PMID: 17662640 [PubMed - indexed for MEDLINE]

pubmed_result 5

1. Free Radic Biol Med. 2005 Dec 15;39(12):1620-8. Epub 2005 Aug 22.

Pro-oxidant effects of extremely low frequency electromagnetic fields in the land snail Helix aspersa.

Regoli F, Gorbi S, Machella N, Tedesco S, Benedetti M, Bocchetti R, Notti A, Fattorini D, Piva F, Principato G.

Istituto di Biologia e Genetica, Università Politecnica delle Marche, Via Ranieri, Monte D'Ago, 60121 Ancona, Italy. f.regoli@univpm.it

Pro-oxidant effects of extremely low frequency (ELF) 50-Hz magnetic fields were investigated in the land snail Helix aspersa exposed both in short-term laboratory treatments and under field conditions by maintaining the organisms in the proximity of a power line for up to 2 months. Oxidative perturbations were investigated as individual antioxidants (catalase, glutathione reductase, glutathione S-transferases, and total glutathione) and total scavenging capacity toward peroxyl radicals and hydroxyl radicals. Accumulation of lipid peroxidation products, destabilization of lysosomal membranes, and loss of DNA integrity were also evaluated as markers of cell damage. The overall results indicated an oxidative challenge caused by ELF magnetic fields with particularly prompt and sensitive responses for catalase, glutathione reductase, and the overall capability to neutralize peroxyl radicals. Cell injuries occurred to different extents according to duration and intensity of electromagnetic exposure and confirmed complex cause-effect relationships between pro-oxidant factors, efficiency of antioxidant defenses, and the onset of oxidative toxicity. This study highlights the importance of a multimarker approach for detecting a wide panel of biological responses, the necessity of investigating the long-term effects of early oxidative responses, and the role of ELF in enhancing susceptibility to other forms of pathologies or diseases.

PMID: 16298687 [PubMed - indexed for MEDLINE]

pubmed_result 6

1. Ecotoxicol Environ Saf. 2008 Nov;71(3):895-902. Epub 2007 Nov 9.

Assessment of biological changes of continuous whole body exposure to static magnetic field and extremely low frequency electromagnetic fields in mice.

Hashish AH, El-Missiry MA, Abdelkader HI, Abou-Saleh RH.

Department of Physics, Faculty of Science, University of Mansoura, Mansoura 35516, Egypt.

The question whether static magnetic fields (SMFs) and extremely low frequency electromagnetic fields (ELF-EMF) cause biological effects is of special interest. We investigated the effects of continuous whole body exposure to both fields for 30 days on some liver and blood parameters in mice. Two exposure systems were designed; the first produced a gradient SMF while the second generated uniform 50 Hz ELF-EMF. The results showed a gradual body weight loss when mice were exposed to either field. This is coupled with a significant decrease ($P<0.05$) in the levels of glucose, total protein and the activity of alkaline phosphatase in serum. A significant increase in lactate dehydrogenase activity was demonstrated in serum and liver paralleled with a significant elevation in hepatic γ-glutamyl transferase activity. The glutathione-S-transferase activity and lipid peroxidation level in the liver were significantly increased while a significant decrease in hepatic gluthathione content was recorded. A significant decrease in the counts of monocytes, platelets, peripheral lymphocytes as well as splenic total, T and B lymphocytes levels was observed for SMF and ELF-EMF exposed groups. The granulocytes percentage was significantly increased. The results indicate that there is a relation between the exposure to SMF or ELF-EMF and the oxidative stress through distressing redox balance leading to physiological disturbances.

PMID: 17996303 [PubMed - indexed for MEDLINE]

1. Mutat Res. 2005 Aug 1;585(1-2):43-9.

Chromosomal damage in human diploid fibroblasts by intermittent exposure to extremely low-frequency electromagnetic fields.

Winker R, Ivancsits S, Pilger A, Adlkofer F, Rüdiger HW.

Division of Occupational Medicine, Medical University of Vienna, Währinger Gürtel 18-20, Vienna A-1090, Austria. robert.winker@meduniwien.ac.at

Environmental exposure to extremely low-frequency electromagnetic fields (ELF-EMFs) has been implicated in the development of cancer in humans. An important basis for assessing a potential cancer risk due to ELF-EMF exposure is knowledge of biological effects on human cells at the chromosomal level. Therefore, we investigated in the present study the effect of intermittent ELF electromagnetic fields (50 Hz, sinusoidal, 5'field-on/10'field-off, 2-24 h, 1 mT) on the induction of micronuclei (MN) and chromosomal aberrations in cultured human fibroblasts. ELF-EMF radiation resulted in a time-dependent increase of micronuclei, which became significant after 10 h of intermittent exposure at a flux density of 1 mT. After approximately 15 h a constant level of micronuclei of about three times the basal level was reached. In addition, chromosomal aberrations were increased up to 10-fold above basal levels. Our data strongly indicate a clastogenic potential of intermittent low-frequency electromagnetic fields, which may lead to considerable chromosomal damage in dividing cells.

PMID: 16009595 [PubMed - indexed for MEDLINE]

1. Free Radic Res. 2005 Mar;39(3):317-23.

Oxidative DNA damage in rats exposed to extremely low frequency electro magnetic fields.

Yokus B, Cakir DU, Akdag MZ, Sert C, Mete N.

Department of Biochemistry, Faculty of Veterinary, Dicle University, 21280 Diyarbakir, Turkey. beyokus@dicle.edu.tr

Extremely low frequency (ELF) electromagnetic field (EMF) is thought to prolong the life of free radicals and can act as a promoter or co-promoter of cancer. 8-hydroxy-2'-deoxyguanosine (8OHdG) is one of the predominant forms of radical-induced lesions to DNA and is a potential tool to asses the cancer risk. We examined the effects of extremely low frequency electro magnetic field (ELF-EMF) (50 Hz, 0.97 mT) on 8OHdG levels in DNA and thiobarbituric acid reactive substances (TBARS) in plasma. To examine the possible time-dependent changes resulting from magnetic field, 8OHdG and TBARS were quantitated at 50 and 100 days. Our results showed that the exposure to ELF-EMF induced oxidative DNA damage and lipid peroxidation (LPO). The 8OHdG levels of exposed group (4.39+/-0.88 and 5.29+/-1.16 8OHdG/dG.10(5), respectively) were significantly higher than sham group at 50 and 100 days (3.02+/-0.63 and 3.46+/-0.38 8OHdG/dG.10(5)) ($p<0.001$, $p<0.001$). The higher TBARS levels were also detected in the exposure group both on 50 and 100 days ($p<0.001$, $p<0.001$). In addition, the extent of DNA damage and LPO would depend on the exposure time ($p<0.05$ and $p<0.05$). Our data may have important implications for the long-term exposure to ELF-EMF which may cause oxidative DNA damage.

PMID: 15788236 [PubMed - indexed for MEDLINE]

pubmed_result 9

1. Clin Exp Reprod Med. 2012 Mar;39(1):1-9. Epub 2012 Mar 31.

Effect of electromagnetic field exposure on the reproductive system.

Gye MC, Park CJ.

Department of Life Science and Institute for Natural Sciences, Hanyang University, Seoul, Korea.

The safety of human exposure to an ever-increasing number and diversity of electromagnetic field (EMF) sources both at work and at home has become a public health issue. To date, many in vivo and in vitro studies have revealed that EMF exposure can alter cellular homeostasis, endocrine function, reproductive function, and fetal development in animal systems. Reproductive parameters reported to be altered by EMF exposure include male germ cell death, the estrous cycle, reproductive endocrine hormones, reproductive organ weights, sperm motility, early embryonic development, and pregnancy success. At the cellular level, an increase in free radicals and [Ca(2+)]i may mediate the effect of EMFs and lead to cell growth inhibition, protein misfolding, and DNA breaks. The effect of EMF exposure on reproductive function differs according to frequency and wave, strength (energy), and duration of exposure. In the present review, the effects of EMFs on reproductive function are summarized according to the types of EMF, wave type, strength, and duration of exposure at cellular and organism levels.

PMCID: PMC3341445
PMID: 22563544 [PubMed]

pubmed_result 10

1. Electromagn Biol Med. 2012 Jun;31(2):101-11. Epub 2012 Feb 21.

Investigation of the spinal cord as a natural receptor antenna for incident electromagnetic waves and possible impact on the central nervous system.

Balaguru S, Uppal R, Vaid RP, Kumar BP.

Department of Electrical and Electronic Engineering, California State University, Sacramento, California 95819-6019, USA.

The effects of electromagnetic field (EMF) exposure on biological systems have been studied for many years, both as a source of medical therapy and also for potential health risks. In particular, the mechanisms of EMF absorption in the human or animal body is of medical/engineering interest, and modern modelling techniques, such as the Finite Difference Time Domain (FDTD), can be utilized to simulate the voltages and currents induced in different parts of the body. The simulation of one particular component, the spinal cord, is the focus of this article, and this study is motivated by the fact that the spinal cord can be modelled as a linear conducting structure, capable of generating a significant amount of voltage from incident EMF. In this article, we show, through a FDTD simulation analysis of an incoming electromagnetic field (EMF), that the spinal cord acts as a natural antenna, with frequency dependent induced electric voltage and current distribution. The multi-frequency (100-2400 MHz) simulation results show that peak voltage and current response is observed in the FM radio range around 100 MHz, with significant strength to potentially cause changes in the CNS. This work can contribute to the understanding of the mechanism behind EMF energy leakage into the CNS, and the possible contribution of the latter energy leakage towards the weakening of the blood brain barrier (BBB), whose degradation is associated with the progress of many diseases, including Acquired Immuno-Deficiency Syndrome (AIDS).

PMID: 22352333 [PubMed - in process]

July 28, 2013
SJR

Ray and members of commission

My name is Sarah Jagodzinske Rohman, I spoke at the public meeting in Fairmont about the health issues involved with the high voltage transmission line project. I also stated my concerns with these lines going so close to our current farm and house, as I stated we have three small children who are 4½ and younger.

Here are a list of the things I would like you to research and consider:

- Electromagnetic radiation given off by such high voltage power lines is not healthy for anyone - much of the research shows it's worse in rapidly growing cells like young children and even unborn children in the womb. It is also harmful to animals
  - My concern and question is why would we let anyone put something like this up so close to our homes with potential to do so much harm and damage to our health?
  - I would like my children protected and not exposed to or used as an experiment.
  - I also would like to have another child in the future and do not want to risk their health as I farm under and near these poles/lines.

Comment: Both proposed lines go on our land- A goes very close to our home - Fox Lake Township 1126 150th St. Welcome, MN 56181 - with in 100 yards I believe. B goes even closer to the farm that we

July 28, 2013
SJR

are planning on building a home this year or next - along Co Rd 27 (tar road north of Welcome). Either way young families with young children will live near these lines.

- Economic concerns and Environmental concerns
- Eye Sore - you don't live in the country to see huge poles. - visual pollution
- Compaction of soil
  - it will take many years to gain back yield potential.
    - we have taken good care of our land and take pride in the stewardship of our land - why do others get to mess that up?
      - less yield = less $ & less food

- Food a growing concern
  - poles go through our farm land = takes away from the land we can produce food on - this is premium land not just land we've tried to turn into farmable land.

- Maintance - How will they fix the lines/poles if there is a problem if it is in the middle of a field? or winter with huge drifts?
  - again concern of loss of production when they need to drive through our field creating more compaction and loss of crops if during growing season, with less food produced and less $.

- Field work obstacles
  - more time consuming to farm around

July 28, 2013
SJR

every time we are in the field - you can not just move around them with the equipment farmers use today
- digging
- spraying - can't air spray - most companies will not attempt to spray a field with lines going through.
  - too dangerous
  - potential loss of yield without spraying for aphids & other pests.
  - potential loss of yield due to unnecessary additional compaction on the ground instead of air application.
- planting
  - much more time & energy - will need to go out with 4-wheeler and single row planter to fill in gaps due to these large poles going through our land (especially in the middle of the field).
- cultivating
- harvesting
- digging
  - So at least six times around each pole each year! - more fuel, more time more headaches!

Suggestion
- follow I-90 corridor and head south at Blue Earth, MN
  - easier access year round
  - less jigsaw puzzles of land (farmable) that bring food, and money

July 28, 2013
SJR

into our economy.

Thank you for taking the time to read my comments and concerns. I really believe by putting these poles up on either route is a poor economic and environmental decision. The health of my family is the priority for me - please help protect our young children and future generations, as I am the fifth generation to farm our land and hope that legacy will continue.

Sincerely,

Sarah Jagodzinske Rohman

Our address: 11126 150th St. Welcome, MN 56181
Family farm: 1506 120th Ave Welcome, MN 56181
Future home: 1476 130th Ave. Welcome, MN 56181

Ray you said we know future plans: We plan to have a business at the address above (future home) and when my parents are ready to retire we plan on living at the family farm. Regardless of where we live there will be young children on these farms daily.

Final question can a private company (ITC) use eminent domain for a private gain (& guaranteed return on investment)?

MINNESOTA DEPARTMENT OF COMMERCE

Energy Facility Permitting
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198
ph 651.539.1885 | fax 651.539.1549
http://mn.gov/commerce/energyfacilities

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Maynard Jagodzinske Email:

Street Address: 1506 120th Ave. / Section 23, 26 & 24 of Fox Lake Twp.

City: Welcome State: MN ZIP: 56181

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?

Comments must be received by Friday, August 2, 2013.

Dear Ray Kirsch & Dept. of Commerce People; The 345 KV Transmission line as proposed will come right through our farm. #1 This is environmentally bad because extra chemicals, fertilizers, seed & fuel are used farming around these Transmission line support poles, in both ground & aerial applications. #2 There are Birth defects, cancer & other health risks involved with High voltage power lines. #3 The compaction from construction equipment will cause water runoff, erosion & severe economic problems for farmers! #4 The transmission line will be at the end of our neighbors Doug & Ross Hilgendorf's airplane runway.

The apparent reason for this proposed route is replacing an old 161 KV line with new poles to carry both lines. Please consider using the I-90 corridor like from Sherburn, MN to Sioux Falls, SD thus having year around access for maintainance, instead of Zig-Zagging across prime farmland & putting farm site occupants & livestock operations at a health risk! Potential Birth Defects, Cancer, etc are not worth going with the proposed route! Please - Please use the I-90 corridor!

Signature: Maynard Jagodzinske Date: July 29, 2013

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.

Sincerely Maynard Jagodzinske

NebGuide

PUBLISHED BY COOPERATIVE EXTENSION SERVICE
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - LINCOLN

G87-831

Identification of Soil Compaction and Its Limitations to Root Growth

A. J. Jones, Extension Soil Erosion Control/Conservation Tillage Specialist
E. C. Dickey, Extension Agricultural Engineer—Conservation
D. D. Eisenhauer, Extension Irrigation Specialist
R. A. Wiese, Extension Soils Specialist

This NebGuide will help you identify soil compaction and determine if compaction is limiting yield.

Soil compaction is primarily caused by working or driving on wet fields. Compaction can develop at or below the soil surface (Fig. 1) and can lead to inefficient fertilizer and water use and reduced yields. Observation of crop growth and soil surface conditions can give clues as to the extent of soil compaction.

On fields where you suspect compaction is extensive enough to limit yields, evaluate root growth before deciding on a deep tillage operation.

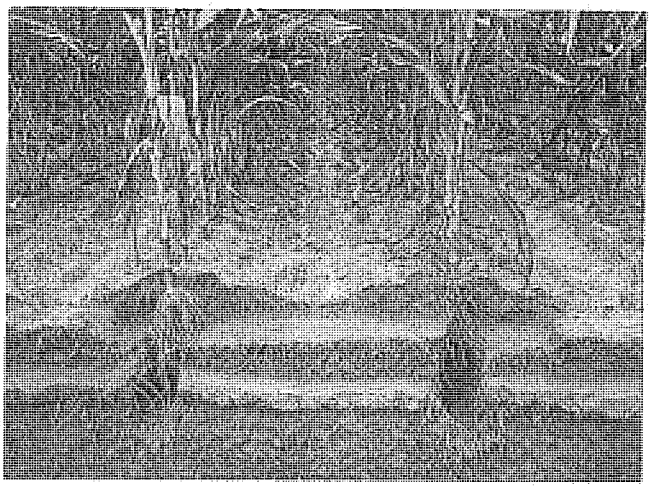

Figure 1. Tillage pans developed below the soil surface as a result of disking or plowing to a constant depth. (Photo courtesy of National Soil Dynamic Laboratory, USDA, Auburn, AL.)

Soil Observations

Dark soil streaks. You may see changes in soil moisture from soil compaction at the soil surface. Dark surface soil can appear early in the spring where wheel tracks were made by previous tractor or combine operations. The dark streaks are caused by moisture which remains for a longer time above the compacted zone compared to a noncompacted zone. Color differences are easiest to see in fields with little or no surface crop residue.

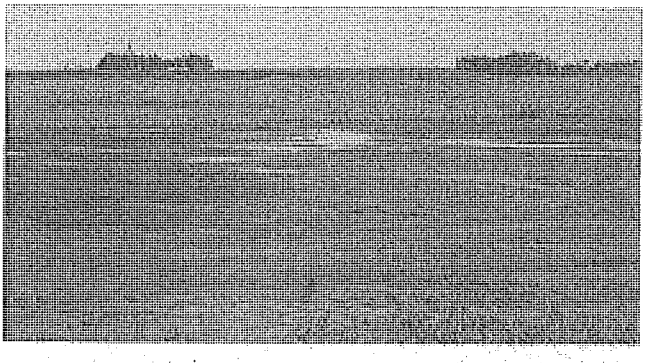

Figure 2. Ponded water on compacted nearly level ground due to poor drainage.

Water ponding and runoff. Water on the soil surface is another sign of compaction (Fig. 2), and will be most evident on nearly level ground and in low areas. On sloping land, water will not pond but will tend to run off. Runoff increases because less water can penetrate the compacted zone. As runoff increases, soil erosion usually increases. This will be especially true if crops are planted up and down the hill and water is channeled into furrows where wheel traffic has compacted the soil.

Increased power requirement. It may also be possible to detect compaction in the tillage zone. This is because a compacted soil has more strength than a noncompacted soil and will require more power for tillage. An increased load on the engine or the need to gear down in portions of the field to maintain speed can indicate compacted areas.

Excess soil moisture. Monitoring soil moisture can also help identify compaction. The expected rooting depth for various crop development stages on deep irrigated soils is shown in Table 1. If moisture monitoring, using the feel-and-appearance method (Nebguide G83-690), moisture blocks, or tensiometers, does not reveal moisture extraction at the expected rooting depths, then (1) you are applying too much water too frequently, or (2) compaction is obstructing root development.

Table 1. Rooting depth for grain crops and soybeans.

Stage of growth	Rooting depth	Stage of growth	Rooting depth
--------Corn--------	ft	-----Sorghum-----	ft
Vegetative	1.0 - 1.5	Vegetative	1.0 - 1.5
12 leaf	2.0	Flag leaf	2.5
Early tassel	2.5	Boot	3.0
Silking	3.0	Bloom	3.5
Blister	3.5	Dough	4.0
Beginning dent	4.0		
--Winter Wheat--		-----Soybean-----	
Fall growth	2.0	Vegetative	1.0 - 1.5
Spring growth	3.0	Early bloom	2.5
Joint	4.0	Full bloom	3.0
Boot	5.0	Pod elongation	3.5
Dough	6.0	Full seed fill	4.0

Figure 3. Uneven plant stands (foreground) and reduced plant height (background) due to compaction.

Plant Observations

Crop emergence and growth. Crop growth often reflects the root system and soil environment. Early signs of compaction and crusting in the upper one inch of soil can be seen as plants germinate and emerge. The plant must push up through the compacted surface soil or grow laterally until it finds a crack. If the seedling does not reach sunlight it will die. Also, if food reserves in the seed are used up before the plant establishes a good root system the seedling may not emerge or it may emerge and then die. This will result in an uneven stand (Fig. 3).

Compaction also influences plant height (Fig. 3). Corn is most sensitive because it is one of the taller crops. By the end of the growing season corn may be 6 inches to 4 feet shorter on compacted soil than on noncompacted soil. Other row crops and small grains will be affected to a lesser extent, but patterns of tall and short plants will be visible (Fig. 4).

Figure 4. Patterns of tall and short winter wheat plants reflect wheel tracks from harvest operations the previous fall.

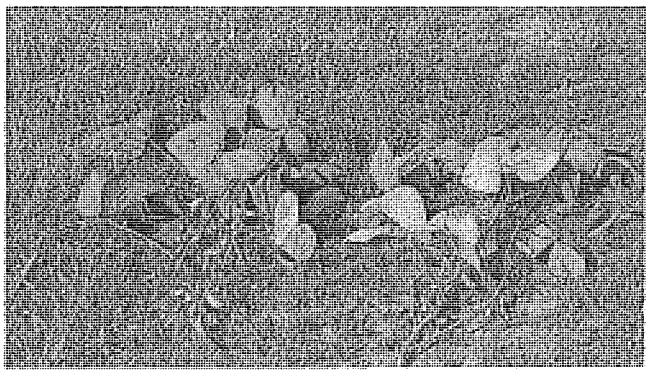

Figure 5. Yellowing of plants may be due to compaction-induced nitrogen and water deficiencies.

Crop color. Corn growing in compacted soils may look purple in early growth stages. All crops growing in compacted soils may show some yellowing during the growing season (Fig. 5). The yellowing may be due to

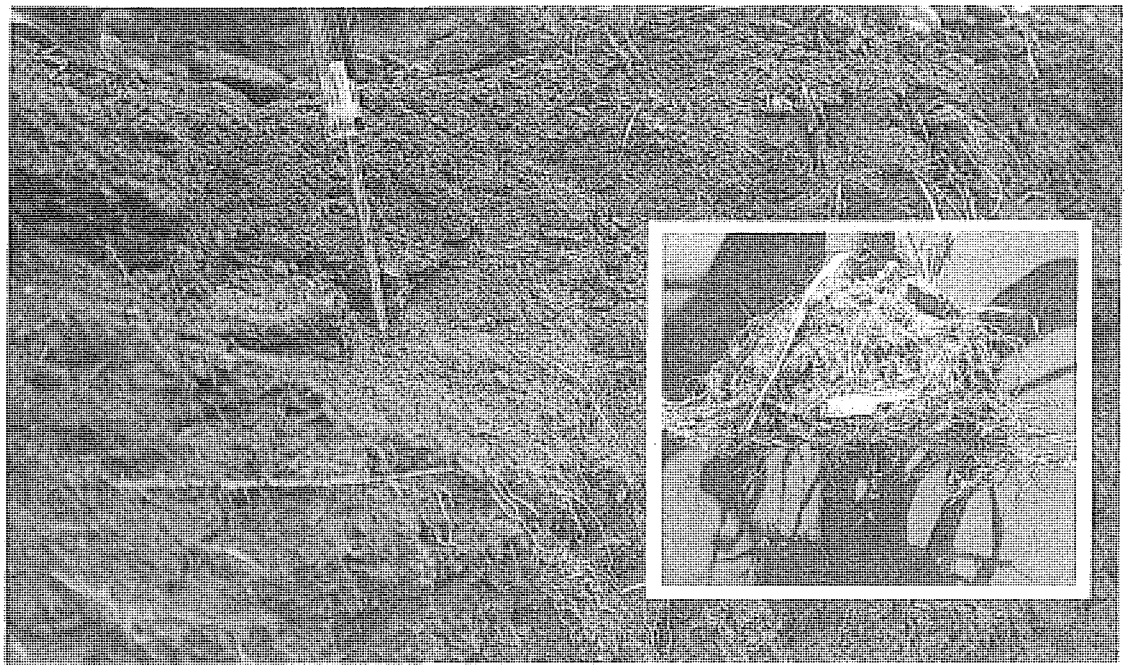

Figure 6. Root development is restricted to the surface soil zone if severe compaction exists.

compaction-induced nitrogen or water deficiencies. Soybeans may show signs of yellowing associated with waterlogged soils. These symptoms will develop immediately after a heavy rain or irrigation. When soils are wet, nitrogen fixation by soybeans can be reduced and will create yellowing in the leaves. As the soil dries, about 6 to 10 days after rain, soybeans will green up again as nitrogen fixation is resumed.

Root development. Compaction can prevent normal root development, especially if the compacted zone is within 6 to 8 inches of the soil surface (Fig 6). A sure sign of compaction problems is roots growing horizontally along the top of a compacted layer. Look for root growth patterns by digging up plants with the root system intact. Wash the roots and soil in a bucket of water. If most roots are growing horizontally compaction is a problem.

Wilting of plants. Another visible sign of compaction is unexpected or early wilting of plants due to lack of water. This can result from a shallow root system. Compaction can keep plant roots from deeper soil zones and thus prevent the plant from extracting moisture from these zones.

Reduced yields. The last major plant symptom of soil compaction is reduced yield. When fertility, pests, and other cultural practices have been eliminated as possible causes of yield reductions, consider compaction a likely cause. Compaction can cause yield reduction of 0 to 60%.

Soil Investigations

The observations mentioned indicate compaction. In some cases, symptoms may also be associated with disease, fertility, or other problems. To guarantee that these observations are associated with compaction, soil investigations are necessary.

Probe the soil in areas thought to be compacted and noncompacted. Push a soil probe, penetrometer, or small diameter soil sampling tube about two feet into the soil (Fig. 7). Note the degree of resistance to penetration. Also note how deep the probe is at those points of greatest resistance. Probe several locations in each area to get an idea of the "average" resistance to penetration at each depth. The relative difference in resistance at a depth between the two areas will help you decide how "compact" the compacted area is. Differences in probe resistance can usually be found between a field edge next to a fence and in the high traffic area such as near a field entrance or where heavy harvest equipment traveled.

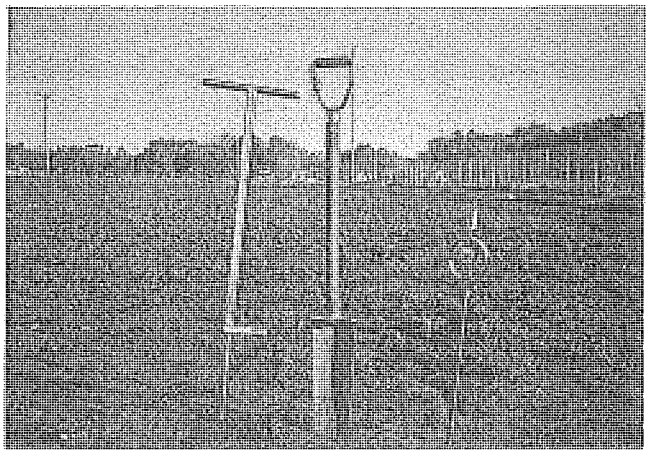

Figure 7. A soil probe, penetrometer, or small diameter sampling tube may be used to detect compacted soil zones.

You may choose to probe the soil with a penetrometer having a numerical readout. Keep in mind that penetrometer readings, as well as the degree of difficulty of pushing a probe into the soil, are subjective measures and have not been calibrated to yield performance. A dry soil is more difficult to probe than a wet soil. Soil probes and penetrometers only indicate that a compact layer may exist but give no indication of how extensively the plant roots penetrated the soil layer. Digging a hole to examine the roots is necessary.

Dig holes in both compacted and noncompacted areas about two feet in diameter and two feet deep. Make sure you leave no shovel marks along one side. Along this side, insert a knife, screwdriver, or other sharp tool horizontally into the soil. Note the resistance to penetration. Repeat this procedure every 1/2 to 1 inch up and down the side of the hole. If you find a zone of soil that has greater resistance to penetration than the zone above or below it, you probably identified a compacted layer. Compare the resistance to penetration of this layer with the resistance to penetration in the nonaffected area.

The next step is to look for restricted root growth. Determine if roots have penetrated below the compacted zone. If they are present, the compacted layer is probably not yield-limiting. When no actively growing roots are found below the compacted zone, production will certainly be reduced. In this situation most of the roots above the compacted layer may look stunted, enlarged in diameter, and may be growing horizontally. The roots may be growing through all portions of the soil or they may follow along cracks or old root channels. In excavated holes where roots are only growing through openings formed by tillage implements, compaction could be yield-limiting.

It is also a good idea to check root penetration and density in noncompacted areas to make a comparison judgment. As a final step in identifying soil compaction, have an extension specialist, trained soil scientist, or other resource personnel verify your observations.

File Under: SOIL RESOURCE MANAGEMENT
D-10, Fertility
Issued March 1987, 6,000

Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Leo E. Lucas, Director of Cooperative Extension Service, University of Nebraska, Institute of Agriculture and Natural Resources.

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: David & Louise Janssen Email: louisejanssen@hotmail.com

Street Address: 105 Swanson Drive

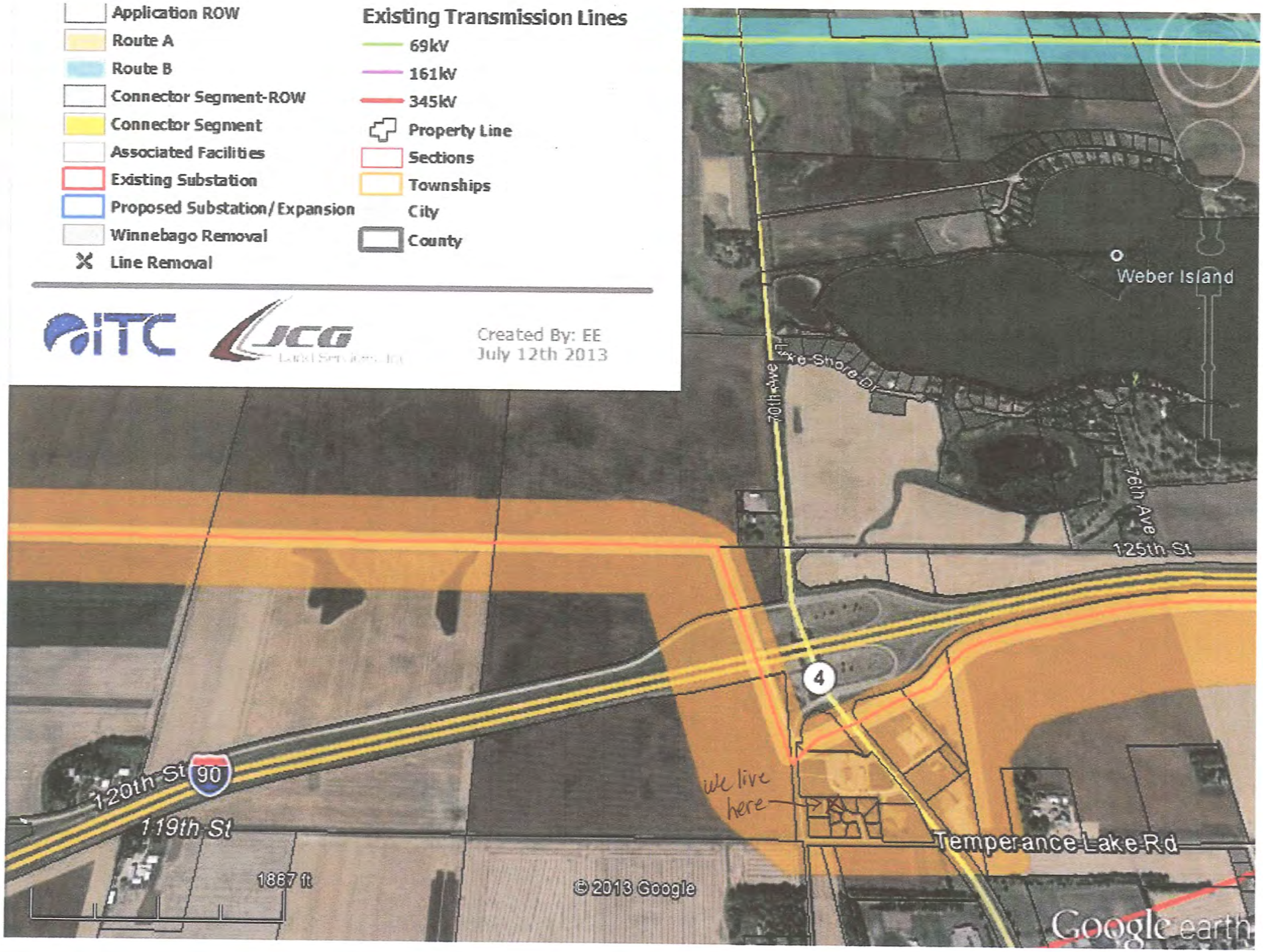
City: Sherburn State: MN ZIP: 56171

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?
Comments must be received by Friday, August 2, 2013.

We would appreciate if this line is necessary that you go with Plan B Plan A comes way to close to our residential area. It has been known to cause cancer and we don't feel it should come this close to us.

Signature: David Janssen, Louise Janssen Date: 7-22-13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.


Application ROW
Route A
Route B
Connector Segment-ROW
Connector Segment
Associated Facilities
Existing Substation
Proposed Substation/Expansion
Winnebago Removal
Line Removal
Existing Transmission Lines
69kV
161kV
345kV
Property Line
Sections
Townships
City
County
ITC
JCG
Created By: EE
July 12th 2013
Weber Island
Lake Shore Dr
76th Ave
125th St
4
120th St
90
119th St
1887 ft
we live here
Temperance Lake Rd
© 2013 Google
Google earth

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Dorothy L. Johnson Email: _____

Street Address: 410 Fox Lake Avenue

City: Sherburn State: Min ZIP: 56171

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?

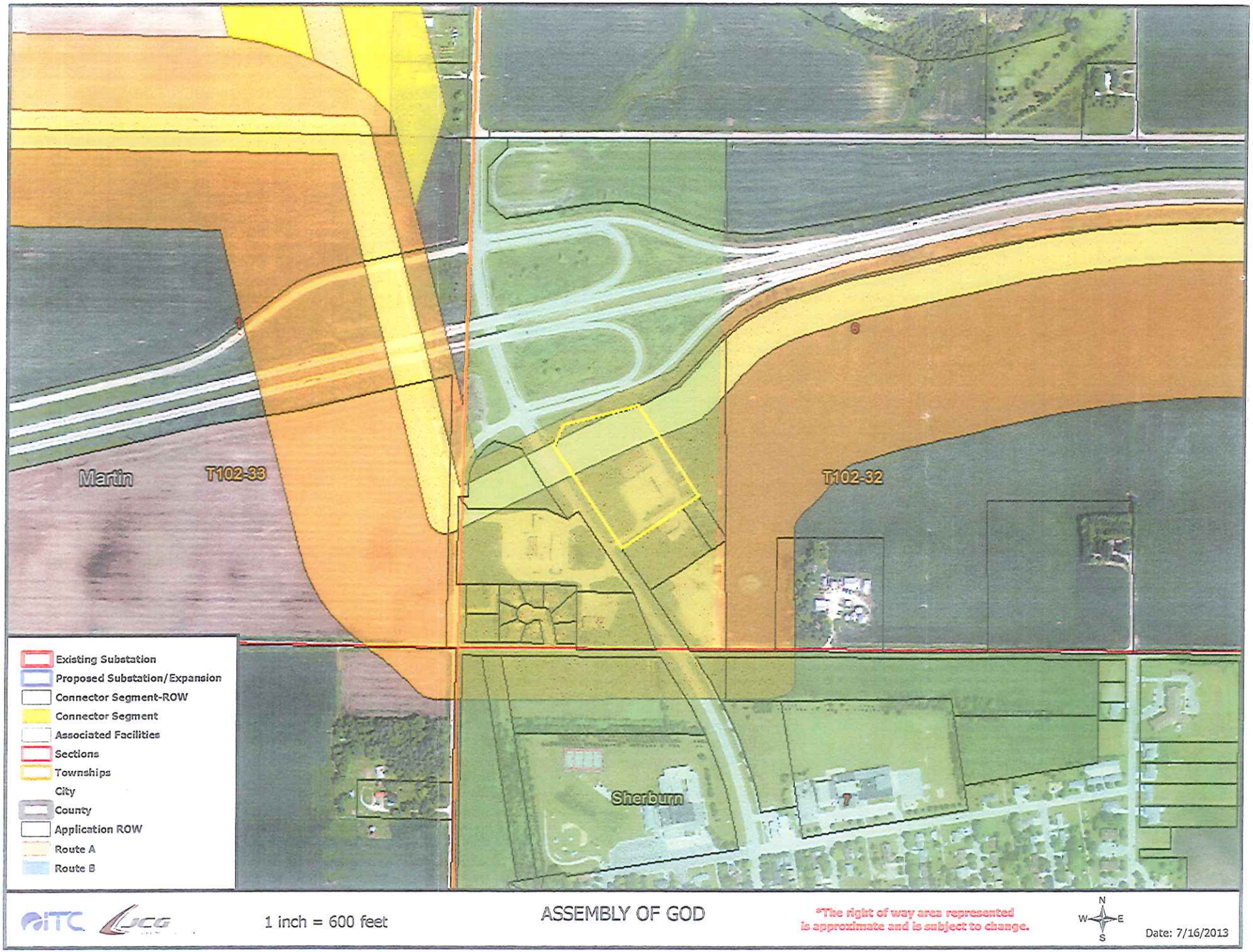
Comments must be received by Friday, August 2, 2013.

We do not want any electrical Transmission Power Line in the city of Sherburn, Minnesota. We are worried about cancer and Illnesses. (even to animals) Also Power lines would devalue our homes, property and a church where church goers are very active. There are families with small children Living in the area of Route A. Do not Vote for Route A. Follow original plan for Route B North of I 90. We love our town; we love our families. We love our Children You are putting their lives at risk. Plan B would be the route North of I 90.

Signature: Dorothy L. Johnson Date: 7-27-13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.

Copy to Lori Swanson A.G.


Martin
T102-33
T102-32
Sherburn
Existing Substation
Proposed Substation/Expansion
Connector Segment-ROW
Connector Segment
Associated Facilities
Sections
Townships
City
County
Application ROW
Route A
Route B
1 inch = 600 feet
ASSEMBLY OF GOD
*The right of way area represented is approximate and is subject to change.
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Date: 7/16/2013

MINNESOTA DEPARTMENT OF COMMERCE

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Earl Johnson Email: Newpro@Frontier.com

Street Address: 413 North Premier ST

City: Sherburn State: MN ZIP: 56171

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project?. What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?
Comments must be received by Friday, August 2, 2013.

This line could severly affect our church The Regional Worship Center by impacting future Building and current Wireless Communication.

RECEIVED

AUG 05 2013

MAILROOM

SEE ATTACHED DOCUMENT

Signature: Earl Johnson Date: 7/28/13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.

We, the undersigned worshippers and friends of Sherburn Assembly of God Regional Worship Center, #2 Crossroads Drive, Sherburn, MN 56171, beg your careful consideration of our request regarding :

P U C Docket ET-6675/CN-12-1053 and P U C Docket ET-6675/TL-12-1337

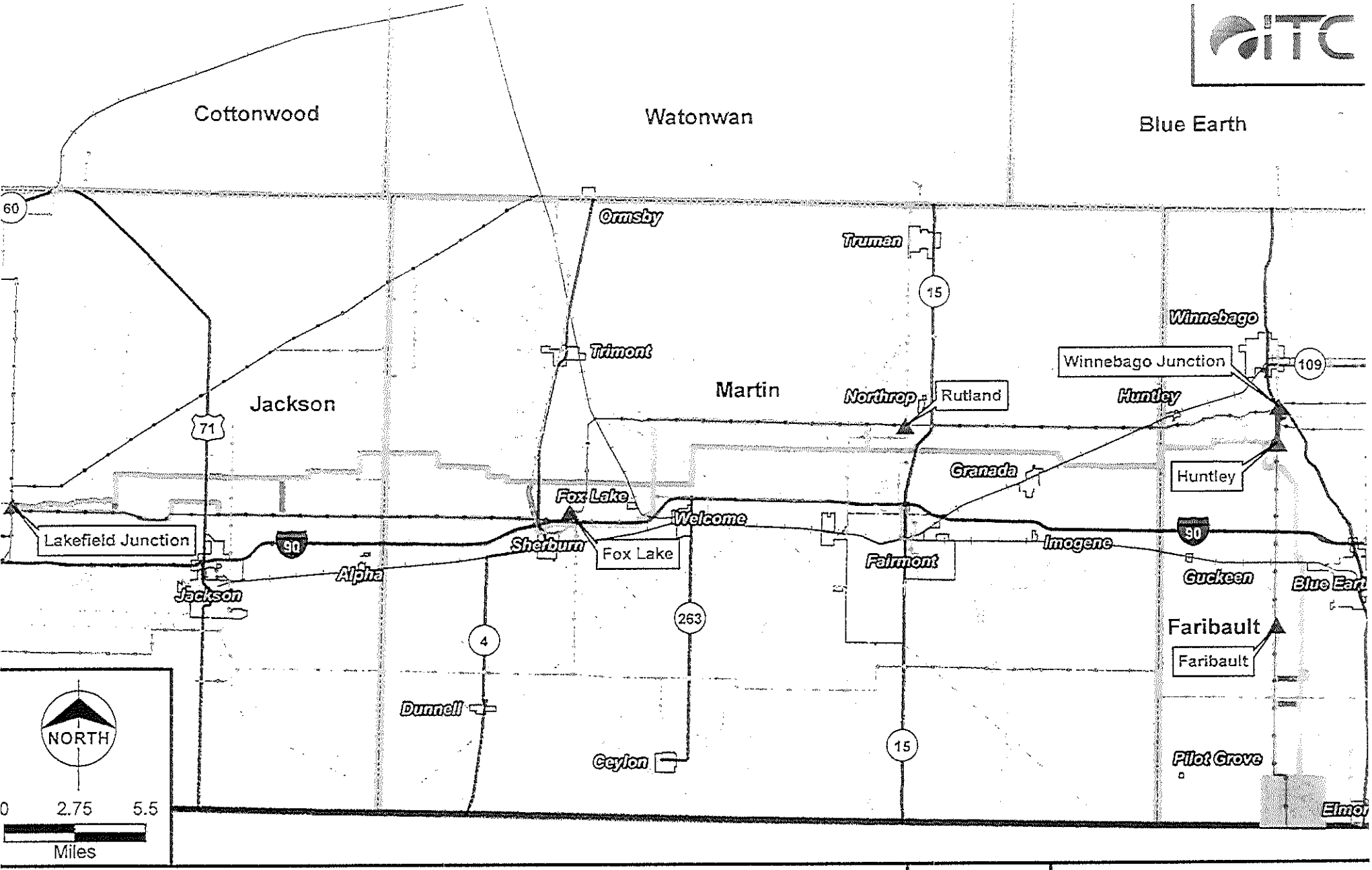
The original notices regarding the "proposed route" were at best unclear, and were possibly deceptive. The detailed maps used at the public hearings showed an abrupt "jog" south across Interstate 90 near the MN Hiway 4 intersection. The proposed easement, which then crosses our church lawn came as a complete surprise. For the following reasons, please require ITC Midwest LLC to use a different route.

1) Future planned church expansion to the north becomes impossible.
2) The route planners did not have our facility marked as a Church on their maps, possibly causing them to erroneously plan this route.
3) The 345KVA line would be located 100 feet from our building, 120 feet from our PA system, almost certainly causing significant interference and static.
4) We use the area designated as "easement" for our children's and youth programs outdoor activities.
5) This route would effectively take from us at least a third of our property.
6) There are many researchers who have clearly shown a strong connection between illnesses, including cancers, and a person's proximity to high voltage powerlines. Even the E P A cautions citizens that "There is reason for concern" and advises "prudent avoidance" of high voltage power lines. (from http://safespaceprotection.com/electrostress-from-powerlines.aspx)
7) Whether you believe these warnings (in #6) or not, they have a huge impact on much of the public with significant consequence:
   a) property located under a power line frequently loses up to ½ of its market value
   b) we are not a "traditional" Church depending on people coming out of religious habit, we are an "evangelistic", outreach church, depending on people to join us because they want to. A high voltage line near our building would be a deterrent to our ministry
8) We are a very active congregation. People who attend here are often at the facility 3 or more times each week for worship, music, Christian education, children's ministries, Bible studies, personal ministry, etc. This is not a "one hour a week" church. Such extended exposure to a High Voltage Power field would be dangerous
9) Our entire building is steel, even the stud walls. The entire structure is "bonded" as required by code. This means (1) the entire steel frame, (2) all of the studs in the interior walls with (2a) steel drywall screws just a fraction of an inch below the surface of the plaster, (3) the entire steel exterior of the building, and (4) the common wire and the ground wire in every switch, outlet, conduit and breaker box/fuse box are all connected. This is all grounded to a copper ground rod. This means our building is a very good target for electric current flow. The ground rod is probably not nearly large enough to actually handle the potential build-up, which would leave every steel door frame, every drywall screw head, every door knob which is latched to the steel frames, the entire exterior of the building, and probably every part of the plumbing system as "hot" electrified, just waiting for someone to touch it.

Please rule justly for us!

Earl Johnson

July 28, 2013



Legend

- Route A
- Route B
- Connector Segment
- Associated Facilities
- Existing Substation
- Proposed Substation
- Existing 69 kV Lines
- Existing 161 kV Lines
- City
- County Boundary
- State Boundary
- Existing Pipeline

Map Locator

ITC Midwest
Minnesota-Iowa
345 kV Transmission Project

Route Overview

1 inch = 600 feet

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*The right of way area represented is approximate and is subject to change.

N
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Date: 7/16/2013

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Sharon Johnson Email: SC2689@frontier.com

Street Address: 413 N. Prairie ST

City: Sherburn State: MN ZIP: 56171

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SEE ATTACHED DOCUMENT

Signature: Sharon Johnson Date: 7-28-13

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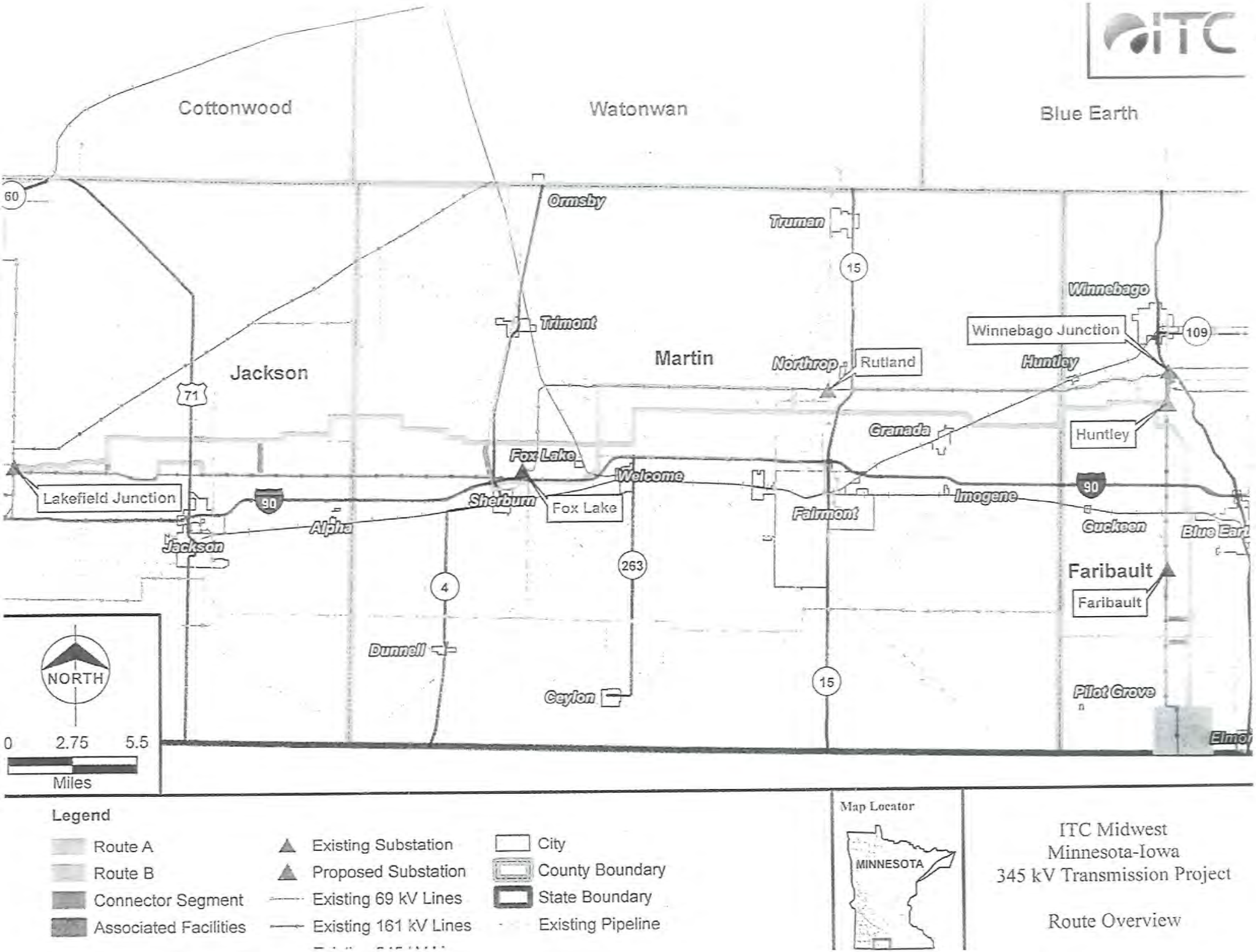
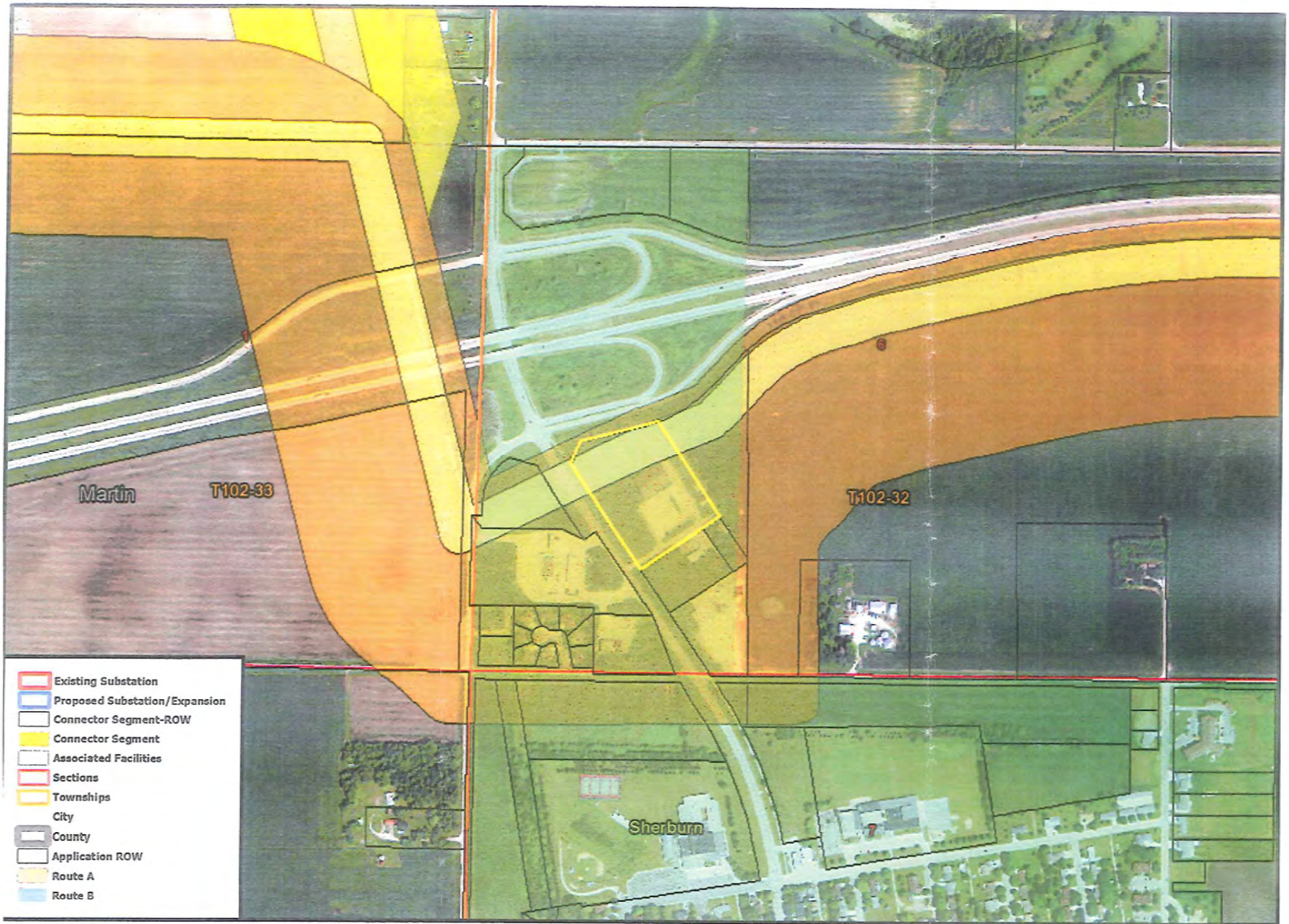
Sharon Johnson

July 28, 2013



ITC Midwest
Minnesota-Iowa
345 kV Transmission Project

Route Overview



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ASSEMBLY OF GOD

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Terry & Jody Johnson Email: tjjoo johnson@bevcomm.net.

Street Address: 35439 100th St.

City: Blue Earth State: MN ZIP: 56013

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?
Comments must be received by Friday, August 2, 2013.

Attached Letter & Map.

Signature: Terry D Johnson Jody L Johnson Date: 7-29-13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.

July 29, 2013

Dear Mr. Kirsch,

We are writing this letter to share our concerns with the proposed power line. The present line is on our property, and was installed previous to our owning the land.

We have looked at our Abstract for Title. The power line has an access of 100 feet, which is 50 feet on our land. On this land we have trees that help protect ourselves and horses from winter winds and helps save on our heating bills. It also protects our orchard and garden from the adjoining farm lands of over spray from chemicals. The orchard contains apple, cherry, plum & peach trees and grape vines, also we have a large garden that we count on for food. The line follows the edge of our pasture, and the further footage they are now requesting would bite extensively into this pasture and would remove our grove. We have invested money and time in the proper seed required for the proper nutrients of horses and upkeep of this ground and fencing.

We have checked online for other power projects. The right of way has been 150 feet and less on other projects of the same size. So why do they want 200 feet?

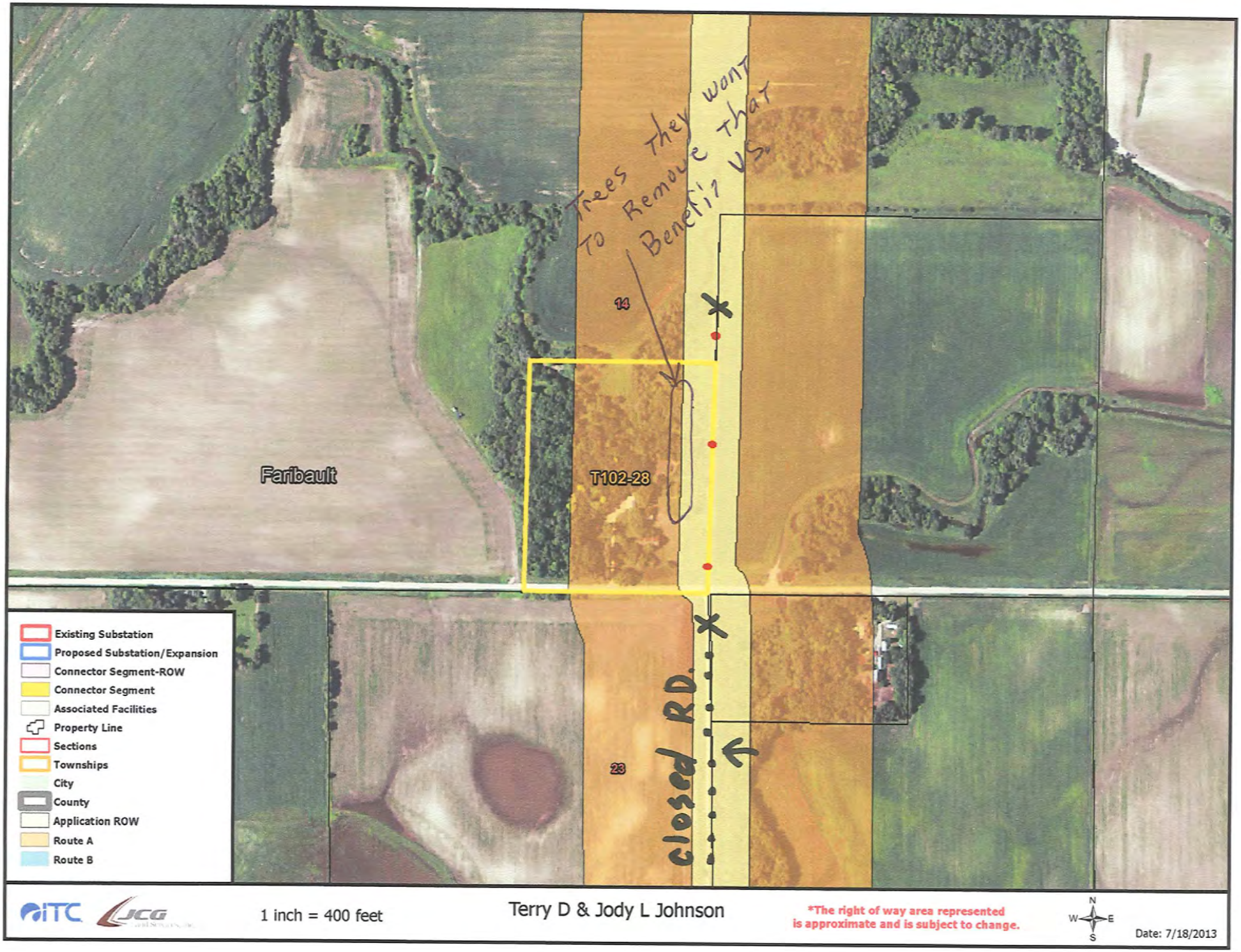
Further more, there is the health issue of electromagnetic currents in the line. Our area has quite a few people suffering from different health and cancer issues already. What is the cause? What is the proof that these lines don't transmit cancer causing health problems? Our house is already less than 400 feet from the existing power line.

When we attended the Blue Earth power line meeting, we talked with a gentleman that has to do with leasing and another from the power company. They were both were very adamant about not caring about private property. I (Terry) asked "Why do they need 100 cleared feet on both sides of the line?" They both basically said that they don't care about our thoughts. So, I reminded them that 'WE' own the land and pay taxes on it.

Lastly, we are not against supply and demand. We are not against working with others, but, they need to be able to work with us also. For us having the poles located elsewhere would be better. To the west of us there is a wind farm that was added in the last two years. We have had the tall power line poles to the east of us for years, and have not had a major issue with them. Now they want to improve those poles with even larger, uglier ones. *The poles could be positioned on the closed road to the south of us, and to the north of us. Projects I have looked at, the poles are 800 to 1,000 feet apart. (*Marked on the map.)

Terry and Jody Johnson
35439 100th St.
Blue Earth, MN 56013
Phone: 507-526-3517

Terry D Johnson
Jody L Johnson


Trees they want To Remove that Benefit us.
14
T102-28
Faribault
23
closed RD.
Existing Poles
New Poles could Be Placed.
Existing Substation
Proposed Substation/Expansion
Connector Segment-ROW
Connector Segment
Associated Facilities
Property Line
Sections
Townships
City
County
Application ROW
Route A
Route B
1 inch = 400 feet
Terry D & Jody L Johnson
*The right of way area represented is approximate and is subject to change.
N
W
E
S
Date: 7/18/2013

From: Terry & Jody Johnson
To: Kirsch, Raymond (COMM)
Subject: MN to Iowa 345kV Transmission Line Project - Public Comment Form
Date: Monday, July 29, 2013 1:12:53 PM

July 29, 2013

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We have looked at our Abstract for Title. The power line has an access of 100 feet, which is 50 feet on our land. On this land we have trees that help protect ourselves and horses from winter winds and helps save on our heating bills. It also protects our orchard and garden from the adjoining farm lands of over spray from chemicals. The orchard contains apple, cherry, plum & peach trees and grape vines, also we have a large garden that we count on for food. The line follows the edge of our pasture, and the further footage they are now requesting would bite extensively into this pasture and would remove our grove. We have invested money and time in the proper seed required for the proper nutrients of horses and upkeep of this ground and fencing.

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Terry and Jody Johnson

35439 100th St.

Blue Earth, MN 56013

Phone: 507-526-3517

MINNESOTA DEPARTMENT OF COMMERCE

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ph 651.539.1885 | fax 651.539.
http://mn.gov/commerce/energy/fac

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Carol Jones Email:

Street Address: 120 E Birch

City: Fairmont State: MN ZIP: 56031

Please share your comments on the environmental impact statement (EIS) that will be prepar for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?

Comments must be received by Friday, August 2, 2013.

No alternatives

Signature: Carol Jones Date: 8-2-13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energy/facilities.

We, the undersigned worshippers and friends of Sherburn Assembly of God Regional Worship Center, #2 Crossroads Drive, Sherburn, MN 56171, beg your careful consideration of our request regarding :

P U C Docket ET-6675/CN-12-1053 and P U C Docket ET-6675/TL-12-1337

The original notices regarding the "proposed route" were at best unclear, and were possibly deceptive. The detailed maps used at the public hearings showed an abrupt "jog" south across Interstate 90 near the MN Hiway 4 intersection. The proposed easement, which then crosses our church lawn came as a complete surprise. For the following reasons, please require ITC Midwest LLC to use a different route.

1) Future planned church expansion to the north becomes impossible.
2) The route planners did not have our facility marked as a Church on their maps, possibly causing them to erroneously plan this route.
3) The 345KVA line would be located 100 feet from our building, 120 feet from our PA system, almost certainly causing significant interference and static.
4) We use the area designated as "easement" for our children's and youth programs outdoor activities.
5) This route would effectively take from us at least a third of our property.
6) There are many researchers who have clearly shown a strong connection between illnesses, including cancers, and a person's proximity to high voltage powerlines. Even the E P A cautions citizens that "There is reason for concern" and advises "prudent avoidance" of high voltage power lines. (from http://safespaceprotection.com/electrostress-from-powerlines.aspx)
7) Whether you believe these warnings (in #6) or not, they have a huge impact on much of the public with significant consequence:
   a) property located under a power line frequently loses up to ¼ of its market value
   b) we are not a "traditional" Church depending on people coming out of religious habit, we are an "evangelistic", outreach church, depending on people to join us because they want to. A high voltage line near our building would be a deterrent to our ministry
8) We are a very active congregation. People who attend here are often at the facility 3 or more times each week for worship, music, Christian education, children's ministries, Bible studies, personal ministry, etc. This is not a "one hour a week" church. Such extended exposure to a High Voltage Power field would be dangerous
9) Our entire building is steel, even the stud walls. The entire structure is "bonded" as required by code. This means (1) the entire steel frame, (2) all of the studs in the interior walls with (2a) steel drywall screws just a fraction of an inch below the surface of the plaster, (3) the entire steel exterior of the building, and (4) the common wire and the ground wire in every switch, outlet, conduit and breaker box/fuse box are all connected. This is all grounded to a copper ground rod. This means our building is a very good target for electric current flow. The ground rod is probably not nearly large enough to actually handle the potential build-up, which would leave every steel door frame, every drywall screw head, every door knob which is latched to the steel frames, the entire exterior of the building, and probably every part of the plumbing system as "hot" electrified, just waiting for someone to touch it.

Please rule justly for us!

July 28, 2013

MINNESOTA DEPARTMENT OF COMMERCE

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http://mn.gov/commerce/energyfacil

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: David B Jones Email:

Street Address: 120 E Birch St PO Box 377

City: Trimont State: MN ZIP 56176

Please share your comments on the environmental impact statement (EIS) that will be prepar for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?

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Signature: David B Jones Date: 8-2-13

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July 28, 2013

MINNESOTA DEPARTMENT OF COMMERCE

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http://mn.gov/commerce/energyfacilities

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project
Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Vickie Keithahn Email: vkeithahn@yahoo.com

Street Address: 108 So Manyaska St

City: Sherburn State: MN ZIP: 56171

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SEE ATTACHED DOCUMENT

Signature: Vickie K Keithahn Date: 7/28/13

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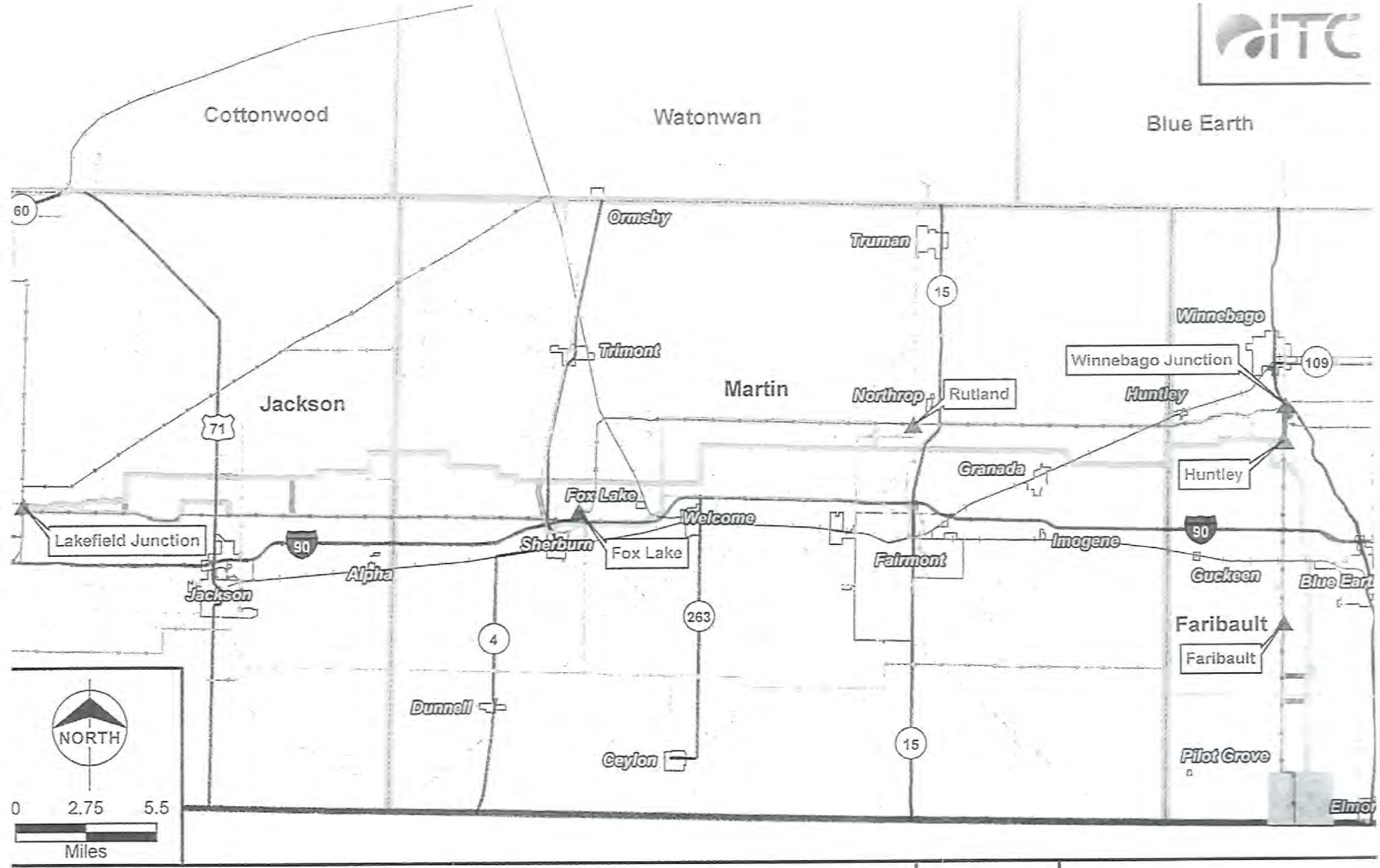
Please rule justly for us!

Vickie Eberhardt

July 28, 2013



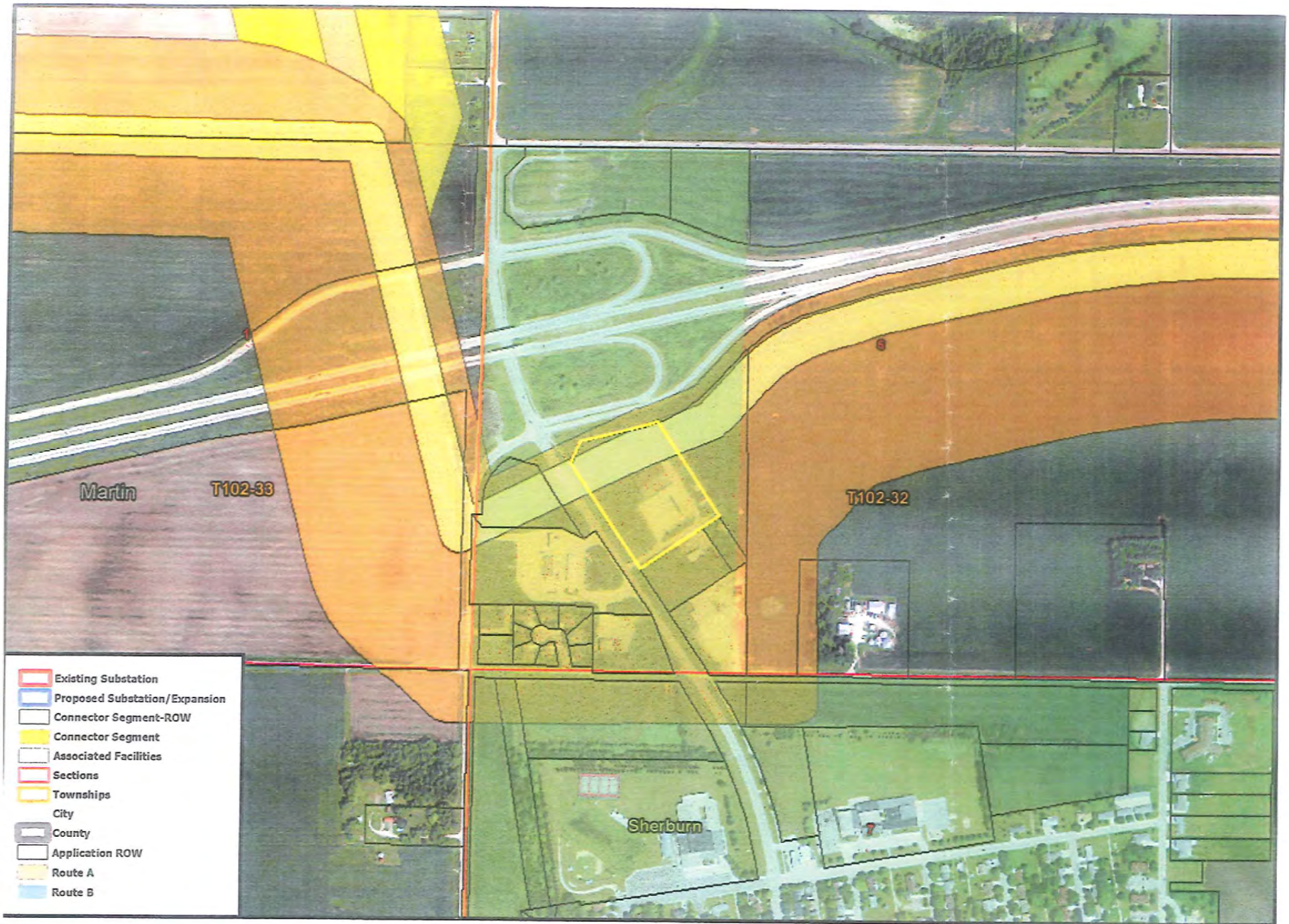
Legend

- Route A
- Route B
- Connector Segment
- Associated Facilities
- Existing Substation
- Proposed Substation
- Existing 69 kV Lines
- Existing 161 kV Lines
- City
- County Boundary
- State Boundary
- Existing Pipeline

Map Locator

ITC Midwest
Minnesota-Iowa
345 kV Transmission Project

Route Overview



ITC MCG

1 inch = 600 feet

ASSEMBLY OF GOD

*The right of way area represented is approximate and is subject to change.

N W E S

Date: 7/16/2013

MINNESOTA DEPARTMENT OF COMMERCE

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http://mn.gov/commerce/energyfacilities

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Jerry Kinney Email: _____

Street Address: 115 Deer Run

City: Jackson State: MN ZIP: 56143

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SEE ATTACHED DOCUMENT

Signature: Jerry L Kinney Date: 7-28-13

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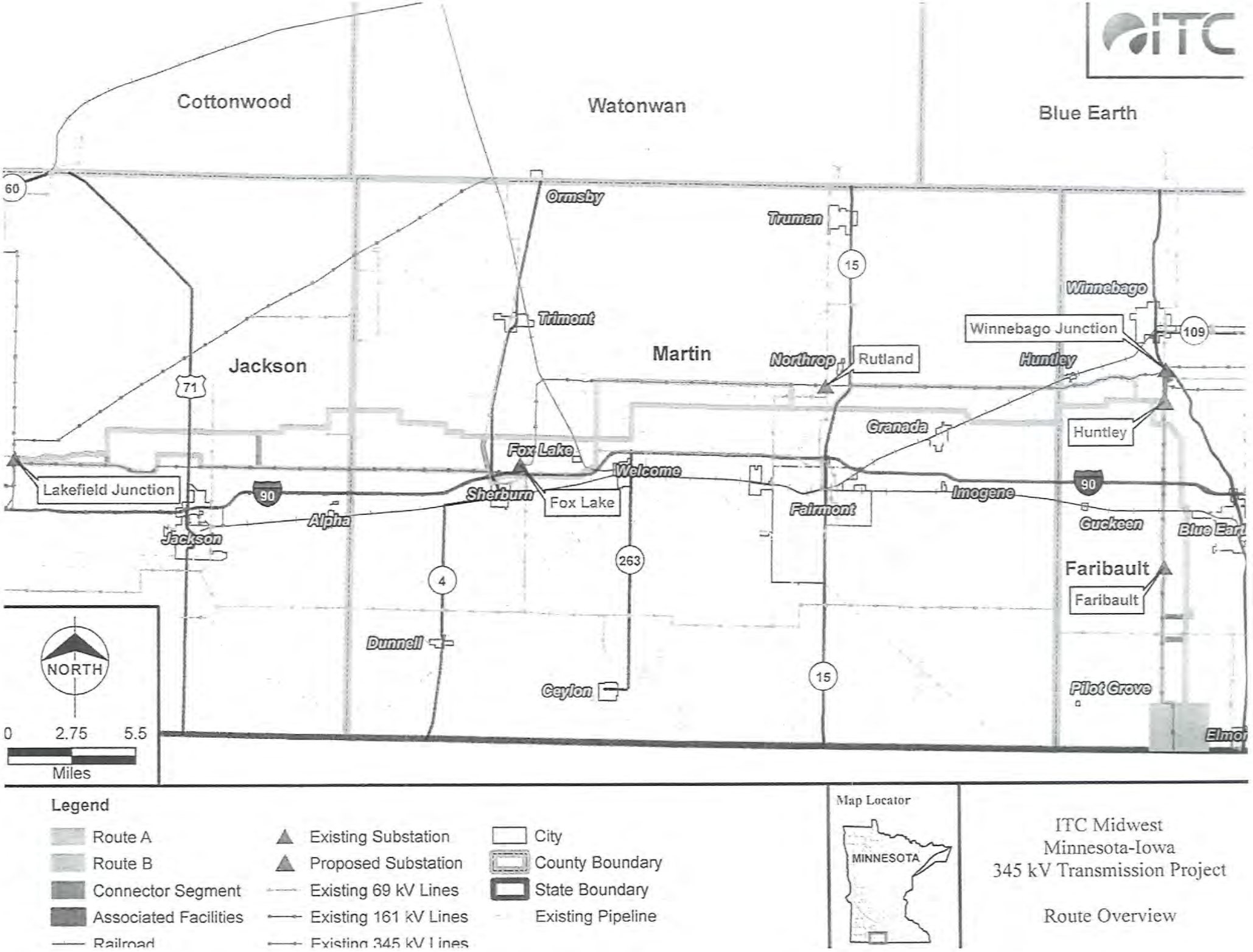
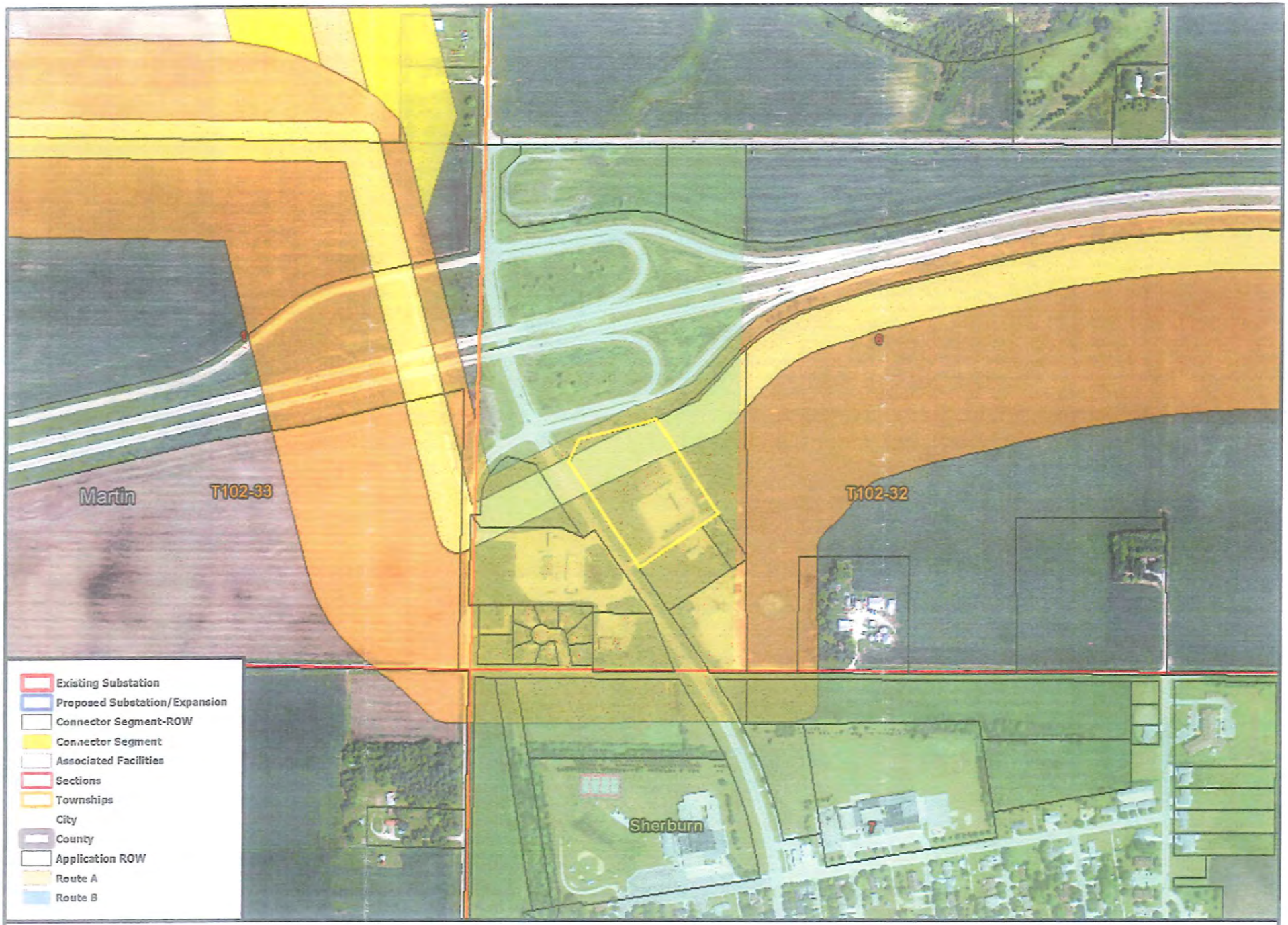
Jerry L Kinney

July 28, 2013



ITC Midwest
Minnesota-Iowa
345 kV Transmission Project

Route Overview



ITC JCG

1 inch = 600 feet

ASSEMBLY OF GOD

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N W E S

Date: 7/16/2013

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Charlotte Kitner Email: _____

Street Address: 409 Fox Lake Ave.

City: Sherburn State: Mn ZIP: 56171

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?
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I would like you to reconsider putting the line in City limits of Sherburn. It could go North of I-90 as planned. Its to close to our public schools. Both High School and Grade school would be affected.

Signature: Charlotte Kitner Date: 7/28/13

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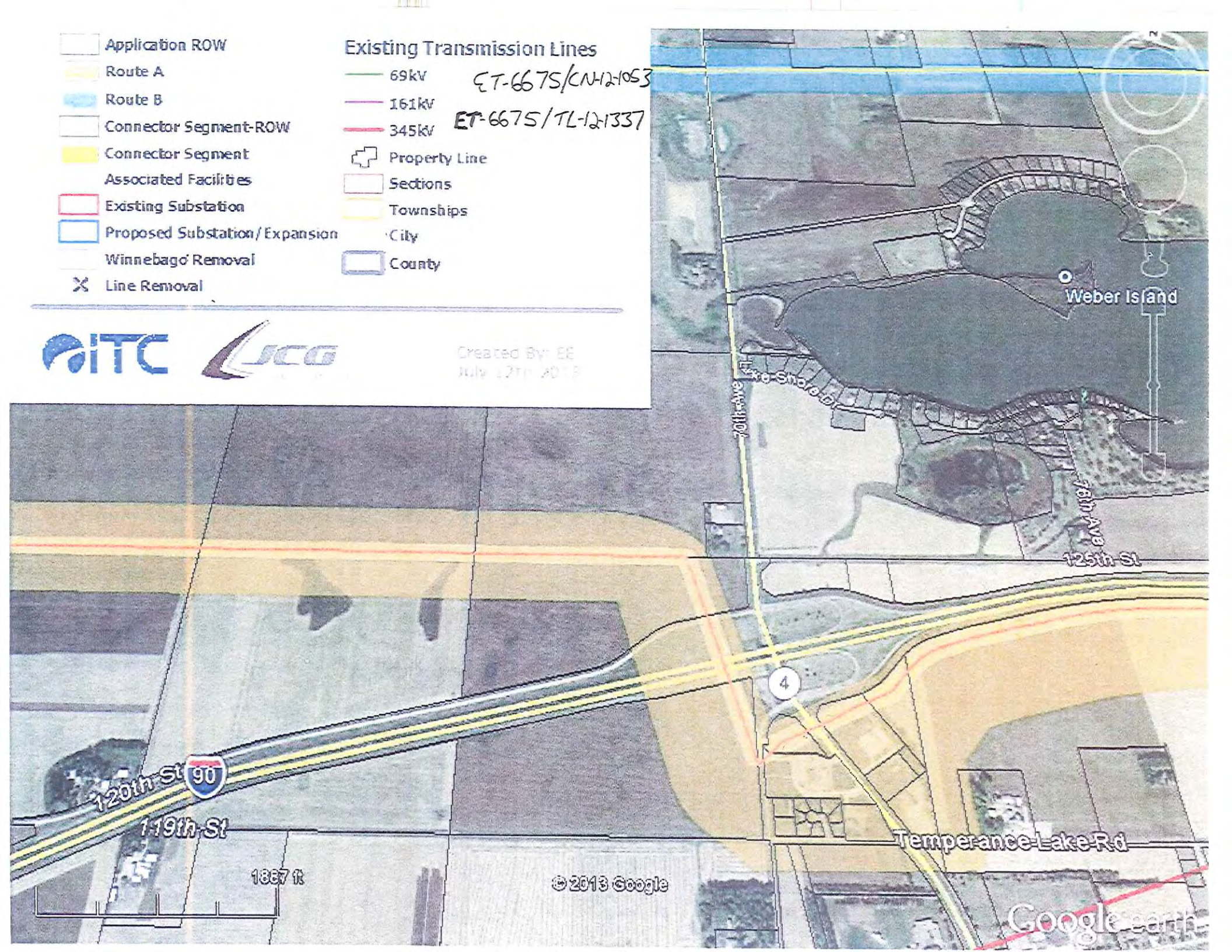
Application ROW
Route A
Route B
Connector Segment-ROW
Connector Segment
Associated Facilities
Existing Substation
Proposed Substation/Expansion
Winnebago Removal
Line Removal
Existing Transmission Lines
69kV
161kV
345kV
ET-6675/CN12-1053
ET-6675/TL-121337
Property Line
Sections
Townships
City
County
ITC
JCG
Created By: EE
Weber Island
Lake Shore Dr
70th Ave
78th Ave
125th St
120th St
90
119th St
4
Temperance Lake Rd
1867 ft
© 2013 Google
Google Earth

From: Rod Kittleson
To: Kirsch, Raymond (COMM)
Subject: itc mn-ia 345 kv line
Date: Thursday, August 01, 2013 9:27:32 AM

Mr Kirsch,

As a landowner and active farmer in Martin co.MN I am offering comment on the proposed 345 kv line. *If needed at all*, I believe the route A following an existing 161 line preferable to route B. Zig zagging as it would through Elm Creek township would, in my opinion , have a negative impact on some sensitive areas including crep land, wetlands and wildlife management areas. It would be visually unappealing as well as place obstructions along our land in section 36 of Elm Creek. Also in this area of 140th st. is a historical home and active bed and breakfast, Four Columns Inn, on the old Winnebago- Jackson stage route as well as remnants of the old road itself.

Thank you for your consideration,

Rod Kittleson

MINNESOTA DEPARTMENT OF COMMERCE

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PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Sue Koons Email: WCsue@frontiernet.net

Street Address: 1473 State Hwy 4

City: Sherburn State: MN ZIP: 56171

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SEE ATTACHED DOCUMENT

Signature: Sue Koons Date: 7-28-13

Please submit this form at today's meeting or mail it to the address provided on the back. You may use additional sheets, as necessary. Comments can also be e-mailed to the Department of Commerce Environmental Review Manager, Ray Kirsch, at: raymond.kirsch@state.mn.us or submitted online at: http://mn.gov/commerce/energyfacilities.

We, the undersigned worshippers and friends of Sherburn Assembly of God Regional Worship Center, #2 Crossroads Drive, Sherburn, MN 56171, beg your careful consideration of our request regarding :

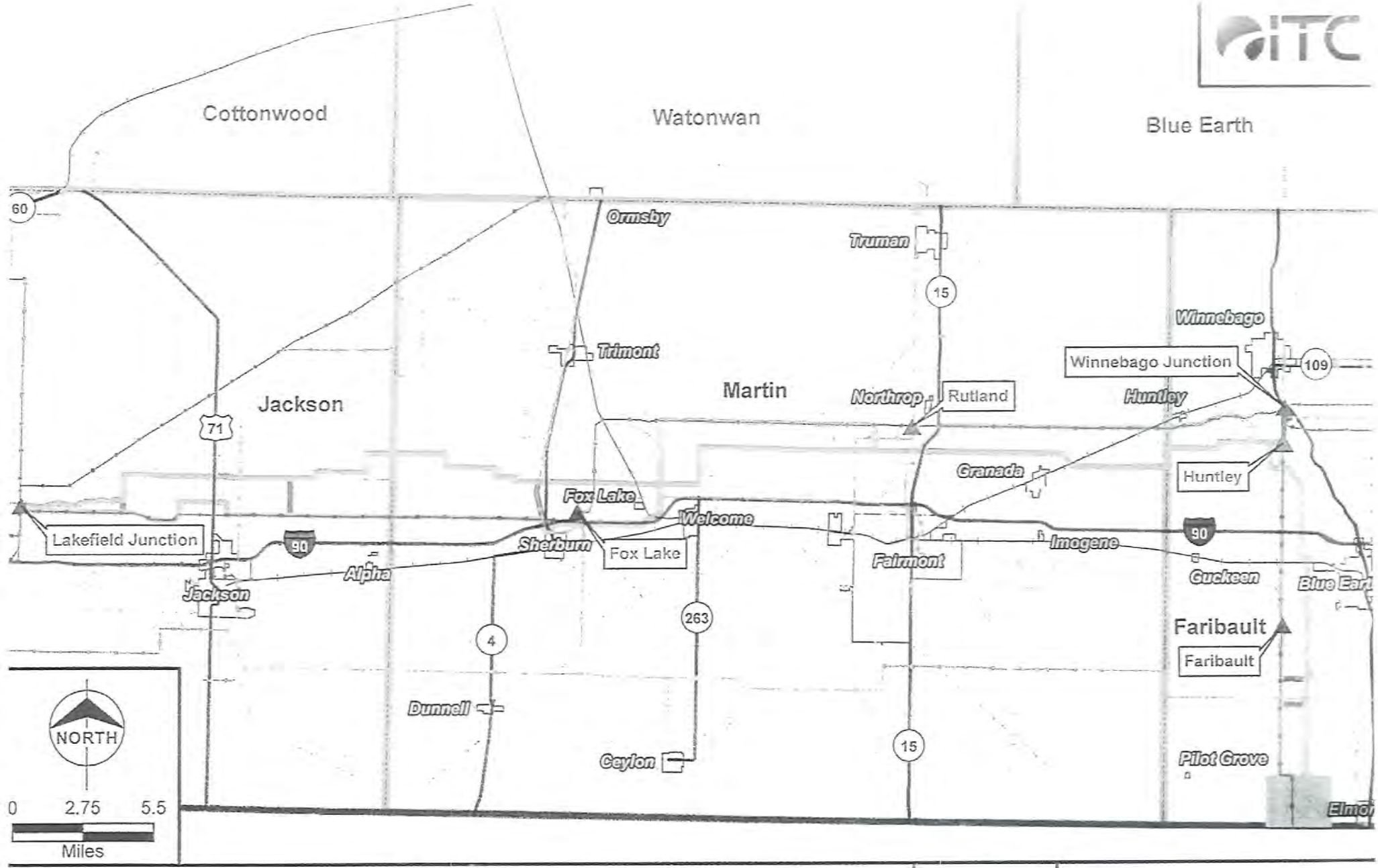
P U C Docket ET-6675/CN-12-1053 and P U C Docket ET-6675/TL-12-1337

The original notices regarding the "proposed route" were at best unclear, and were possibly deceptive. The detailed maps used at the public hearings showed an abrupt "jog" south across Interstate 90 near the MN Hiway 4 intersection. The proposed easement, which then crosses our church lawn came as a complete surprise. For the following reasons, please require ITC Midwest LLC to use a different route.

1) Future planned church expansion to the north becomes impossible.
2) The route planners did not have our facility marked as a Church on their maps, possibly causing them to erroneously plan this route.
3) The 345KVA line would be located 100 feet from our building, 120 feet from our PA system, almost certainly causing significant interference and static.
4) We use the area designated as "easement" for our children's and youth programs outdoor activities.
5) This route would effectively take from us at least a third of our property.
6) There are many researchers who have clearly shown a strong connection between illnesses, including cancers, and a person's proximity to high voltage powerlines. Even the E P A cautions citizens that "There is reason for concern" and advises "prudent avoidance" of high voltage power lines. (from http://safespaceprotection.com/electrostress-from-powerlines.aspx)
7) Whether you believe these warnings (in #6) or not, they have a huge impact on much of the public with significant consequence:
   a) property located under a power line frequently loses up to ½ of its market value
   b) we are not a "traditional" Church depending on people coming out of religious habit, we are an "evangelistic", outreach church, depending on people to join us because they want to. A high voltage line near our building would be a deterrent to our ministry
8) We are a very active congregation. People who attend here are often at the facility 3 or more times each week for worship, music, Christian education, children's ministries, Bible studies, personal ministry, etc. This is not a "one hour a week" church. Such extended exposure to a High Voltage Power field would be dangerous
9) Our entire building is steel, even the stud walls. The entire structure is "bonded" as required by code. This means (1) the entire steel frame, (2) all of the studs in the interior walls with (2a) steel drywall screws just a fraction of an inch below the surface of the plaster, (3) the entire steel exterior of the building, and (4) the common wire and the ground wire in every switch, outlet, conduit and breaker box/fuse box are all connected. This is all grounded to a copper ground rod. This means our building is a very good target for electric current flow. The ground rod is probably not nearly large enough to actually handle the potential build-up, which would leave every steel door frame, every drywall screw head, every door knob which is latched to the steel frames, the entire exterior of the building, and probably every part of the plumbing system as "hot" electrified, just waiting for someone to touch it.

Please rule justly for us!

July 28, 2013



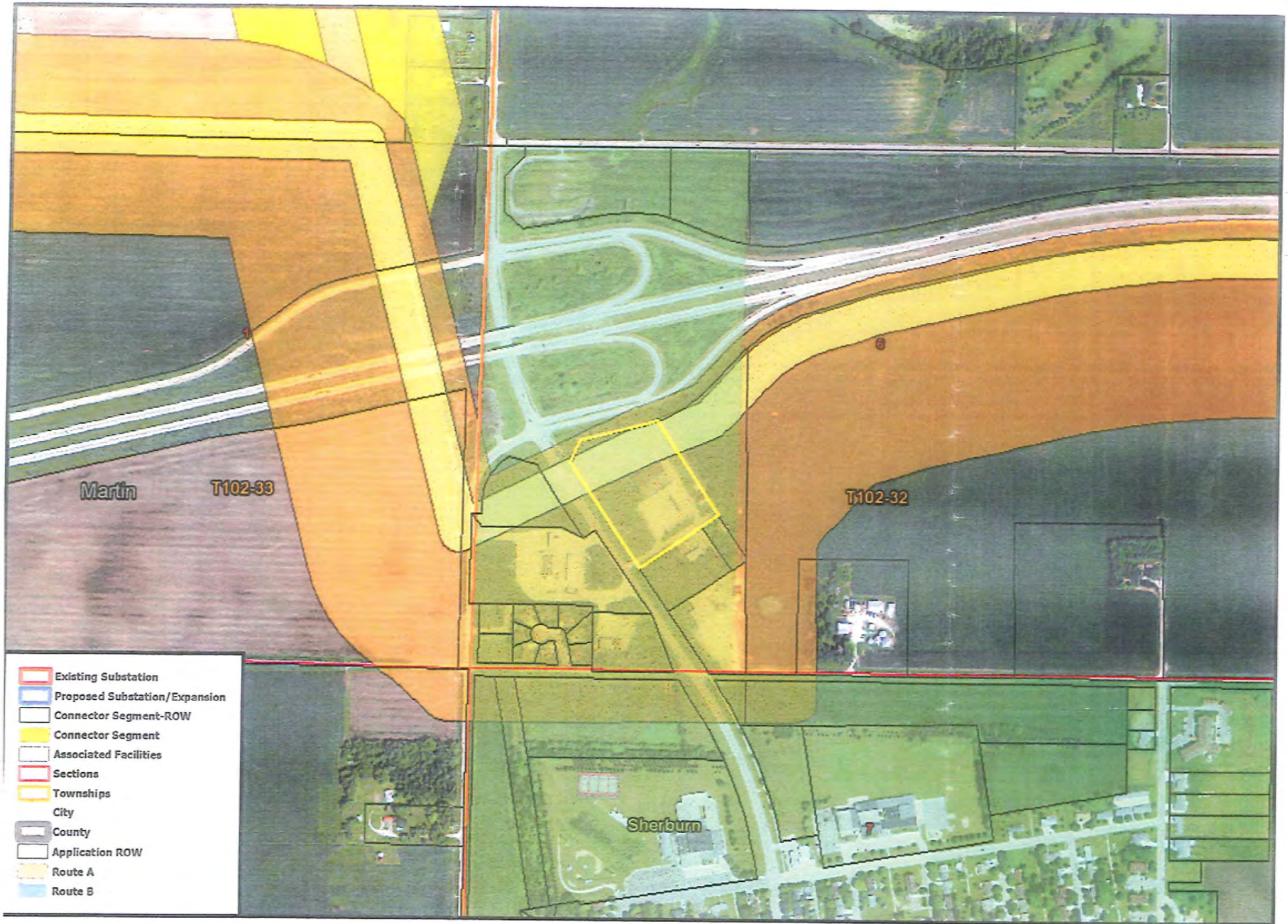
Legend

- Route A
- Route B
- Connector Segment
- Associated Facilities
- Existing Substation
- Proposed Substation
- Existing 69 kV Lines
- Existing 161 kV Lines
- City
- County Boundary
- State Boundary
- Existing Pipeline

Map Locator

ITC Midwest
Minnesota-Iowa
345 kV Transmission Project

Route Overview



1 inch = 600 feet

ASSEMBLY OF GOD

*The right of way area represented is approximate and is subject to change.

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Date: 7/16/2013

MINNESOTA DEPARTMENT OF COMMERCE

Energy Facility Permitting
85 7th Place East, Suite 500
St. Paul, Minnesota 55101-2198
ph 651.539.1885 | fax 651.539.1549
http://mn.gov/commerce/energyfacilities

PUBLIC COMMENT FORM

Minnesota to Iowa 345 kV Transmission Line Project

Docket Nos. ET6675/TL-12-1337 and ET6675/CN-12-1053

Name: Laura Kramer Email: _____

Street Address: PO Box K

City: Trimont MN State: MN ZIP: 56176

Please share your comments on the environmental impact statement (EIS) that will be prepared for the Minnesota to Iowa 345 kV transmission line project. What issues / impacts need to be evaluated for the project? What alternatives routes should be considered to mitigate these impacts? What alternatives to the project should be studied?
Comments must be received by Friday, August 2, 2013.

Plan A is not acceptable. As a resident of Sherburn, MN we do not need a 345,000 KV line going through our city limits. Plan B is north of I 90 and would be acceptable by the residents of Sherburn. You will be coming close to our Grade School and High School if you use Plan A. There are too many lives at stake. Our small children are at risk. Please consider Plan B. Plan A will go right over a church and close to close to a residential area. Please consider these (People))

Signature: Laura Kramer Date: 7-28-13

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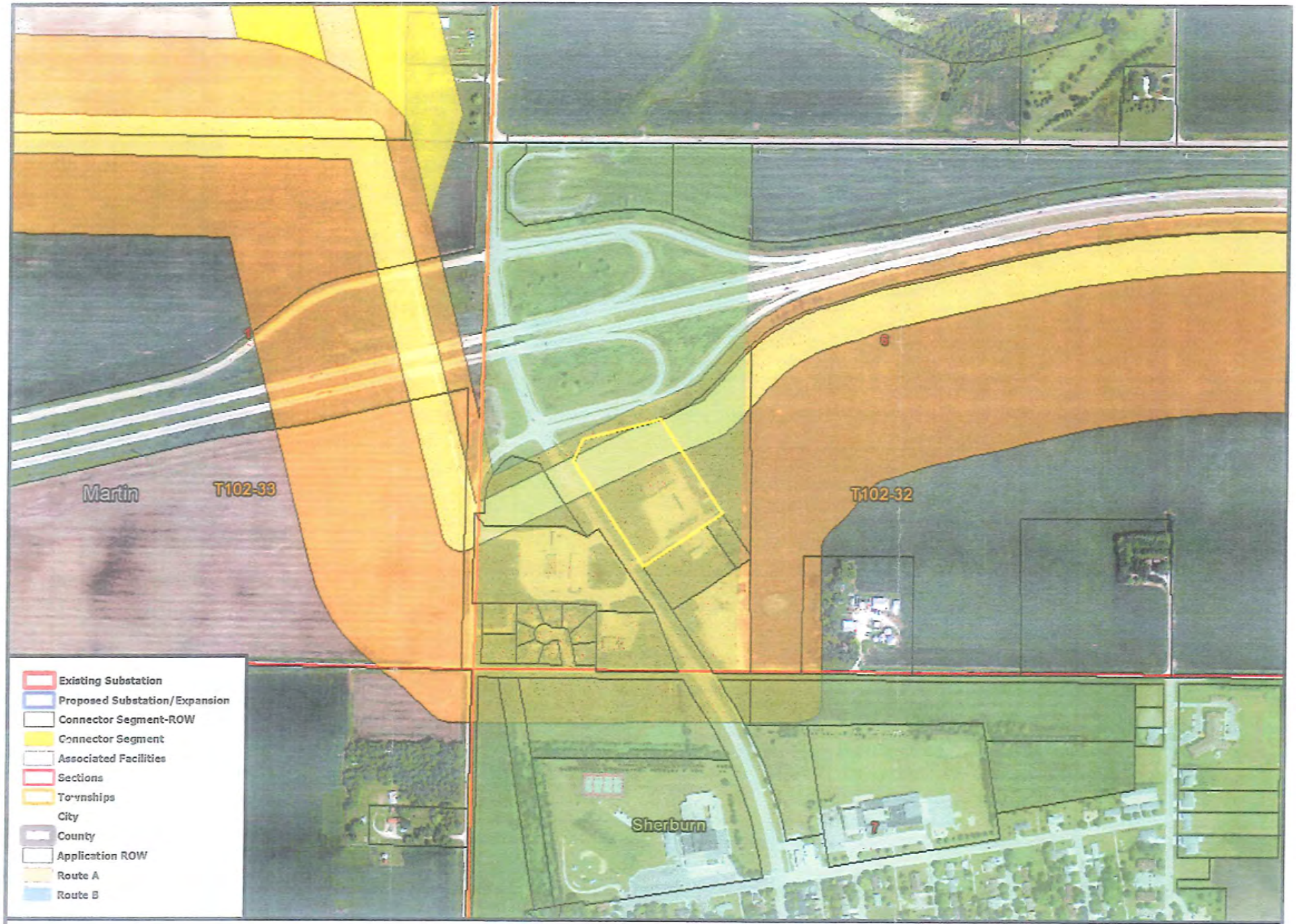
Copy to Lori Swanson A.G.



ITC MCG

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Date: 7/16/2013