

PUBLIC COMMENT SIGNUP SHEET

8.3.2015

Pursuant to N.C. Gen. Stat. §153A-52.1, the Henderson County welcomes public comment at its meetings. Please note that each speaker is limited to three (3) minutes, unless a different time limit is announced. Also, the Board may adopt rules limiting the number of persons speaking taking the same position on a given issue, and other rules regarding the maintenance of good order.

Each speaker should be aware and by their signatures hereto they agree that their comments may be recorded (by audio-visual recordings, photography or other means), and may be (but are not required to be) broadcast by the County as a part of the broadcast of this meeting, or as a part of the County's programming on its local video channel(s). By their signature they further agree that Henderson County is and will be the sole owner of all rights in and to such programming. The undersigned hereby indemnifies Henderson County, its employees and agents, against any and all claims, damages, liabilities, costs and expenses arising out of the use of the undersigned's images and words in connection therewith.

1. ✓ KAYE CALDWELL
PRINTED NAME
224 Thompson St #101
Hendersonville, NC 28792
MAILING ADDRESS

Kaye Caldwell
SIGNATURE

Transmission Lines
Topic

2. ✓ DAVID ARDIS
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2508 DAVIS MOUNT
P.O. Box 729 Horse Sho
MAILING ADDRESS

David Ardis
SIGNATURE

Transmission Lines
Topic

3. ✓ Debra Stephens
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Zirconia, NC. 28790
MAILING ADDRESS

Debra S. Stephens
SIGNATURE

Duke Energy
HVTL
Topic

4. ✓ Judy Peyton
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204 Keela Ct.
Hendersonville, NC 28792
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Judy Peyton
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Duke: A Better Way
Topic

5. Norman P. Olson
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204 Keela Ct.
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[Signature]
SIGNATURE
Duke Transmission
Topic Lines

6. ✓ Thomas W Hill
PRINTED NAME
2700 Mt Olivet Rd
Zirconia, NC 28790
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Thomas W Hill
SIGNATURE
Request for Support
Topic

7. ✓ Baird Blake
PRINTED NAME
61 Cummings Battle Trl
Hendersonville, NC 28739
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[Signature]
SIGNATURE
Duke Transmission line
Topic

8. ✓ Janie Henderson
PRINTED NAME
205 Solmar Rd
Fletcher, NC 28732
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SIGNATURE
Responsibility for Informing Public
Topic about Transmission Lines

9. ✓ Joyce Bluhm
PRINTED NAME
70 Cottage Ridge
Fletcher 28732
MAILING ADDRESS

J. Joyce Bluhm
SIGNATURE
Duke Energy North Hills Project
Topic

10. ✓ Gordon Smith
PRINTED NAME
262 Fortescue Rd
Zirconia NC
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[Signature]
SIGNATURE
Duke Power 230KV
Topic Proposed Routes

9:00 a.m. PUBLIC HEARING

Sign-up Sheet

Public Hearing regarding Rezoning application #R-2015-02

August 3, 2015

Please Print

Name:

Address:

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August 3, 2015

Tommy Thompson, Chairman
Charlie Messer, Vice-Chairman
William Lapsley, Commissioner
Grady Hawkins, Commissioner
Michael Edney, Commissioner
Henderson County Board of Commissioners
1 Historic Courthouse Square, Suite 1
Hendersonville, NC 28792

Subject: Duke Energy Rights-Of-Way Expansion Plans
Proposed WC Transmission Enhancements (26 June 2015)

Gentlemen:

The purpose of this letter is request your active support in demanding that Duke Energy address the installation of underground transmission lines in Henderson County as needed for the referenced project. A credible cost trade-off based on existing rights-of-way should be performed before a route is selected.

Many of us residents of Henderson County are up in arms regarding the alternate routes Duke has proposed for the project because of the extremely adverse effect the planned 140-foot steel towers would have on our property values. Adverse impacts on the environment and the tourist trade which our county depends on for economic support are also legitimate concerns. But the major issue is that the property affected by the routes represents the major financial asset that many of us have acquired during our lives.

It is unrealistic to expect that the project can be stopped in view of the ever-increasing demand for electric power. However, the people should have a say-so about the routing and construction of the lines. After all, we are the ones who will pay for it. Most of us do not believe that Duke will pay any attention to our protests and will force their corporate will upon us. Their stated approach is to make the routing decision themselves and present it to the North Carolina Utilities Commission for approval early in 2016.

Duke has taken a very negative approach toward the underground option and made statements which are misleading. Underground transmission lines are more expensive to build, but they require much smaller rights-of-way. With minor additions, Duke can place the new lines in the rights-of-way it already has for the 100 kilovolt line that runs from Campobello to Lake Julian. The six proposed three-phase 230 kilovolt lines can be insulated with modern technology coatings and placed close to each other underground rather than separating them by the large distances required for overhead stringing. Concrete vaults are required every 1,000 to 2,000 feet for underground construction, but towers are required every 1,000 feet or less for overhead lines. See Attachment 1 for underground pictorials.

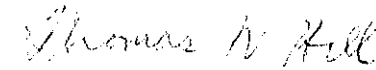
The end cost based on using existing rights-of-way is nowhere near as great as Duke is claiming. The Wisconsin Public Service Commission has estimated the costs per mile for a new 138 kilovolt system at about \$400,000 for overhead and \$2 million for underground, which include the costs of new rights-of-way for both. However, the cost avoidance for going underground with existing rights-of-way would offset a major portion of the cost difference between the two. Furthermore, the County would benefit significantly jobs-wise by putting the planned expenditures into constructing the underground system rather than paying the fair price for scenic real estate which the overhead alternatives will harm. Duke has stated an intent to spend \$320 million on the project with about \$80 million invested in the substation.

One additional consideration is the health damage posed by overhead lines. A single line is not the issue here, but rather six overhead lines which comprise two 230 kilovolt systems, and they will undoubtedly be increased to more in the future. There is no doubt that the rates of childhood leukemia and brain cancer are increased in the vicinity of high voltage overhead transmission lines. See, Attachment 2 herewith. The strong magnetic fields the currents create are the problem. In underground lines the magnetic fields tend to cancel each other, but that is not the case for overhead lines.

In sum, this is 2015, and not the 1960s when the existing overhead towers were built. It is time for Duke Energy to step up and begin placing its lines underground, with the goal of eliminating all of its overhead eyesores within our lifetimes.

The Henderson County Commissioners can help to achieve this good goal by taking a public stand which demands a realistic assessment of the costs and benefits of underground versus overhead construction of the transmission lines being proposed by Duke Energy. Letters from the County Commissioners to the State Utilities Commission and our elected State representatives would be most helpful.

Thank you for your consideration of this request.



Thomas W. Hill
2700 Mount Olivet Road
Zirconia, NC 28790
Tele: 828-693-5727

2 Atchs

Atch 1 - <http://psc.wi.gov/thelibrary/publications/electric/electric11.pdf>, excerpt

Atch 2 - <http://emwatch.com/power-line-emf/>, excerpt

Figure 11 Examples of XLPE Conduit Assembly

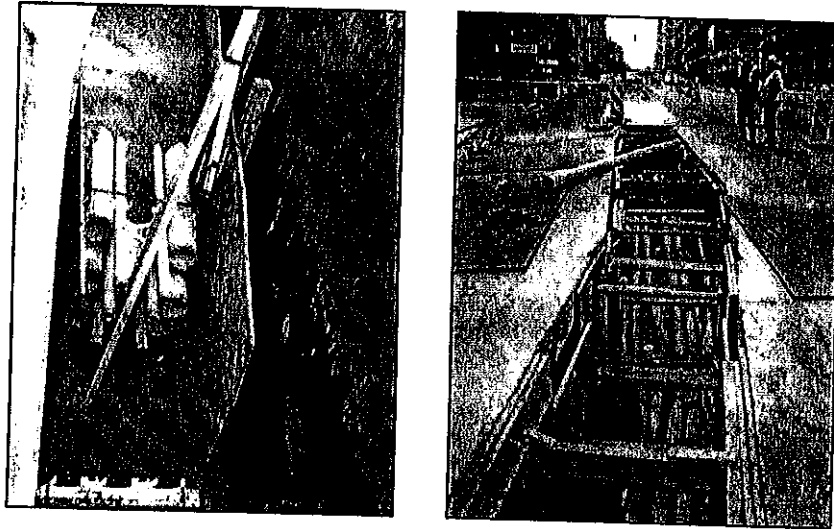
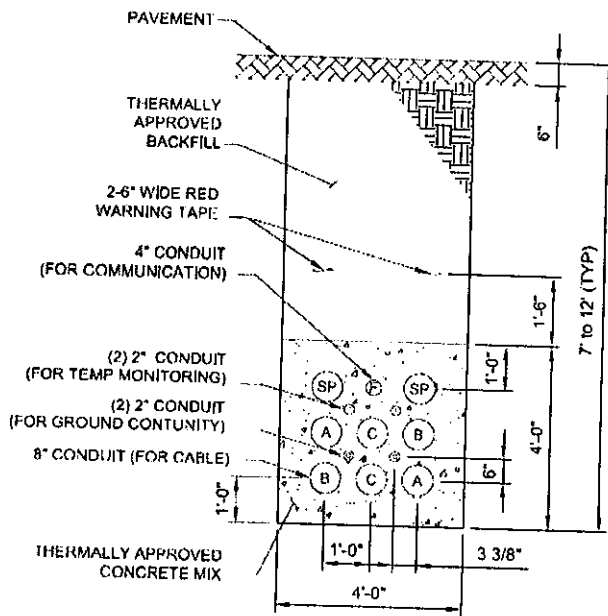


Figure 12 Sample Configuration of an XLPE Duct Bank



TYPICAL CONCRETE ENCASED DUCTBANK
 W/ 1 FIBER, 2 CONTINUITY, AND 2 TEMP MONITORING
 CONDUITS FACING UP STATION
 NOT TO SCALE

Costs

The estimated cost for constructing underground transmission lines ranges from 4 to 14 times more expensive than overhead lines of the same voltage and same distance. A typical new 69 kV overhead single-circuit transmission line costs approximately \$285,000 per mile as opposed to \$1.5 million per mile for a new 69 kV underground line (without the terminals). A new 138 kV overhead line costs approximately \$390,000 per mile as opposed to \$2 million per mile for underground (without the terminals).

These costs are determined by the local environment, the distances between splices and termination points, and the number of ancillary facilities required. Other issues that make underground transmission lines more costly are right-of-way access, start-up complications, construction limitations in urban areas, conflicts with other utilities, trenching construction issues, crossing natural or manmade barriers, and the potential need for forced cooling facilities. Other transmission facilities in or near the line may also require new or upgraded facilities to balance power issues such as fault currents and voltage transients, all adding to the cost.

While it may be useful to sometimes compare the general cost differences between overhead and underground construction, the actual costs for underground may be quite different. Underground transmission construction can be very site-specific, especially for higher voltage lines. Components of underground transmission are often not interchangeable as they are for overhead. A complete in-depth study and characterization of the subsurface and electrical environment is necessary in order to get an accurate cost estimate for undergrounding a specific section of transmission. This can make the cost of underground transmission extremely variable when calculated on a per-mile basis.

Underground Operating Considerations

Post-construction issues such as aesthetics, electric and magnetic fields (EMF), and property values are usually less of an issue for underground lines. Underground lines are not visible after construction and have less impact on property values and aesthetics.

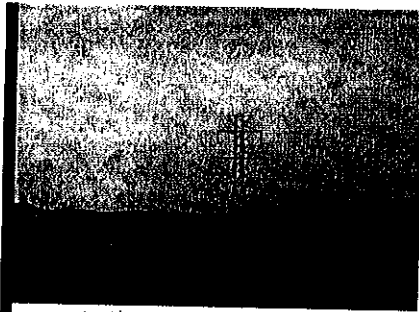
Apart from cost and construction issues, there are continued maintenance and safety issues associated with the right-of-way. The right-of-way must be kept safe from accidental contact by subsequent construction activities. To protect individual ducts (for SCFF and XLPE lines) against accidental future dig-ins, a concrete duct bank, a concrete slab, or patio blocks are installed above the line, along with a system of warning signs ("high-voltage buried cable").

Additionally, if the cables are not constructed under roads or highways, the ROW must be kept clear of vegetation with long roots such as trees that could interfere with the system.

Cable Repairs

Repair costs for an underground line are usually greater than costs for an equivalent overhead line. Leaks can cost \$50,000 to \$100,000 to locate and repair. A leak detection system for a HPFF cable system can cost from \$1,000 to \$400,000 to purchase and install depending on the system technology.

Molded joints for splices in XLPE line could cost about \$20,000 to repair. Field-made splices could cost up to \$60,000 to repair.



Government organisations (which fund many of the studies) may not wish to

promote the view that power line EMF can cause disease. People would ask "why have you allowed this health hazard?" The same applies to the power distribution industry.

Research studies can be structured so as to demonstrate whatever conclusions their sponsors would like to promote.

Big money, from government and industry, could be backing the (minority of) research which fails to find health effects from power line radiation. These large and powerful organisations greatly influence public (and even scientific) opinion.

Therefore the evidence for EMF health effects will likely remain inconclusive, and may never be sufficient to prove unequivocally that long-term exposure to low-level, low-frequency EMF actually causes disease.

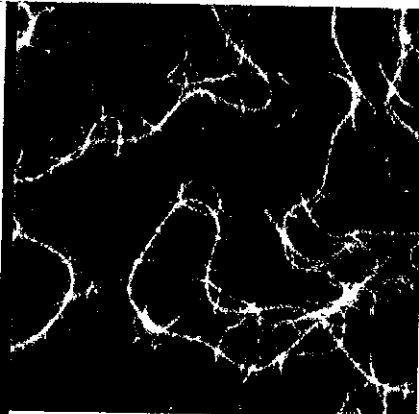
What do Scientists Believe about EMF Health Risks?

Claim Your Free EMF Guidelines

Power line EMF is classified as Extremely Low Frequency (ELF) radiation. The lower the frequency, the longer the wavelength.

In the 1970's many scientists believed that ELF electromagnetic radiation could not possibly have any biological effects, damaging or otherwise, because it was thought that the long wavelength would prevent its interaction with a very small body such as a human being. (The wavelength of a 60 Hz power wave is 5000 km.)

As the economist Keynes said "When the facts change, I change my mind".



Well, the facts (or at least our understanding of them) have changed. And yet we

may not fully understand exactly how and why low-frequency EM radiation affects human bodies and health.

All we know is that it does.

Fortunately, scientists are just as good as economists at changing their mind! Concerning power line EMF and health issues, most of them already have, judging by the Bio-Initiative Report of 2012.

This report, compiled by a group of internationally respected scientists specialising in this field, urges

"Health agencies and regulatory agencies that set public safety standards for ELF-EMF and RFR should act now to adopt new, biologically-relevant safety limits that key to the lowest scientific benchmarks for harm coming from the recent studies, plus a lower safety margin.

Existing public safety limits are too high by several orders of magnitude..." (Emphasis ours)

And long ago in 2002, the World Health Organisation's International Agency for Research on Cancer (IARC) upped its classification of power line radiation to "possibly carcinogenic (cancer-causing) to humans."

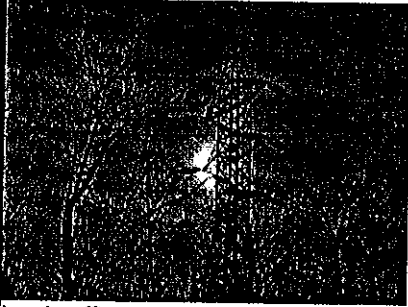
Should You Worry About Radiation from Power Lines?

The strongest evidence we have so far relates to childhood leukemia, where it appears that exposure to magnetic fields higher than 3 milligauss increases the risk of acquiring it. Several studies confirm this.

Atch 2

The risk of childhood leukemia in children **not** exposed to unusual amounts of low-frequency EMF is fortunately very low – between 3 and 5 cases per 100,000 children – but it increases by approximately 100% in homes where the average low-frequency EMF level is higher than 4 milligauss.

Power lines are only one source of low-frequency EMF found in the home and workplace. There are many others. So it is quite possible for low frequency EMF to exceed 4 milligauss in a person's bedroom at night (even though most of the electrical circuits in the house are not in use) especially if the constant background EMF from a nearby power line is contributing, say, 2 milligauss.



In that situation a person could easily be exposed to low-frequency EMF – at a

level sufficient to cause leukemia in some children.

But it would be a mistake to focus only on childhood leukemia, or any other health outcome.

Claim Your Free
EMF Guidelines

al issue is the long-term cellular damage that apparently affects every person who is exposed to low-frequency EMF for as long as they remain exposed.

ately, most people do not succumb to any major illness as a result of their exposure to this kind of EMF. Their natural repair mechanisms are able to deal with the damage.

repair process does have to take place, and it does use up energy and resources – which are therefore no longer available to the body when dealing with other stresses. And that is enough to cause serious disease in some of the more vulnerable members of the community, including the unborn, pregnant mothers, children, sick people, and the aged.

So long-term exposure to high levels of power line and sub-station EMF is actually not good for anyone – and is potentially harmful to everyone.

Duration of EMF Exposure – How Long is Too Long?

Most studies show that the association between health effects, such as cancer, and high EMF occurs over many years. But you would not want to be too relaxed about this.

Leukemia, cancer and heart disease are not conditions which suddenly arise out of nowhere. There is a long process of gradually deteriorating conditions within the body, which finally culminates in disease.



Electromagnetic radiation starts doing damage from the first exposure. For a long

while there may be no noticeable symptoms, but that does not mean that nothing is happening. As the exposure continues, damage could be accumulating.

If the exposure is stopped early enough, the body can recover completely and repair, or adapt to the damage that has occurred.

No one can tell exactly how long it will take for power line radiation to cause a serious disease in any individual. For most people it may take decades and for others it will not occur in a lifetime.

But a small percentage of people who live close to power lines will become sick within 3 to 5 years. Children are most vulnerable, particularly to leukemia. See our page **Who is at risk?** for more information on this.

IN GOD WE TRUST

USMAC Mission

To defend, promote and assist in the awareness and furtherance of our U. S. Motto, "In God We Trust," on public buildings, structures, monuments, the printed page, and to encourage our Godly Heritage in various other aspects.

USMAC Board

David White, Chair (336) 239-0473
davidmwhite7@aol.com

Rick Lanier, Vice Chair (336) 798-7700
7thheaven@windstream.net

Pastor Mark Smith, Secretary (336) 306-6476
MSDKSmith@icloud.com

Fred McClure, Treasurer (336) 249-9269
fred@fredmclure.com

Dr. Ron Baily, Chaplain (336) 785-0529
rbaily4520@aol.com

Dr. Richard Callahan (336) 259-9113
richardd.callahan@gmail.com

What you can do!

Pray

- * For municipalities to vote "Yes" to display our National Motto-*In God We Trust*.
- * For pastors to catch our vision and motivate their members in our mission.
- * For patriotic individuals to get involved in their local community.

Promote

- * Contact your city or county commissioners to request the U.S. Motto be displayed.
- * Ask your pastor or civic organization to invite a member of the USMAC to share our mission.
- * Get involved! One active, energetic voice can make a tremendous difference.

Provide

- * USMAC incurs ALL costs to display the U.S. Motto on government buildings.
- * We depend on churches and patriotic individuals to meet these needs.
- * Costs range up to \$2,500 per location
- * Become a *USMAC Partner* with a *One Time Gift* to promote a permanent and public reminder of America's Godly Heritage.

*If the foundations be destroyed,
what can the righteous do?*

Psalm 11:3

Donations may be mailed to:

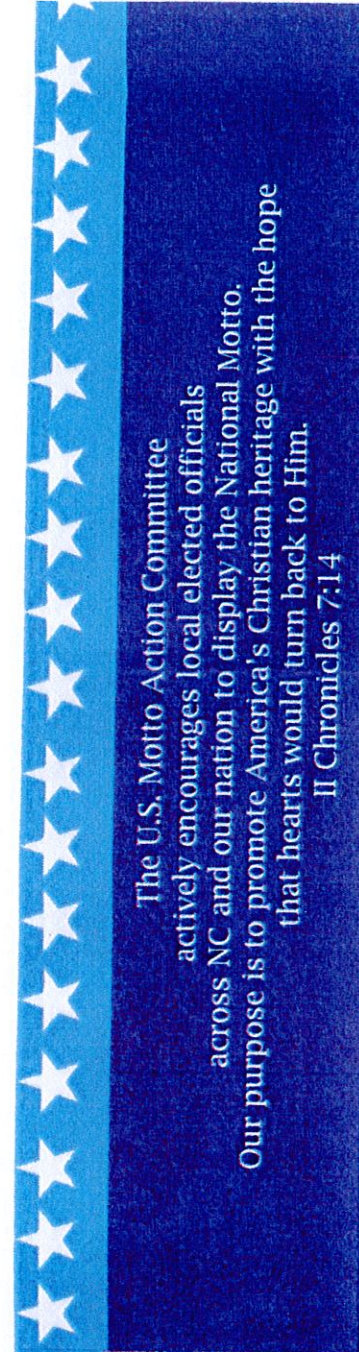
USMAC
P.O. Box 1351
Lexington, NC 27293
(336) 798-7700 usmotto02@gmail.com

The U. S. Motto Action Committee

Promoting the public display of
the national motto of the United States

Hear me, O LORD, hear me, that this people
may know that thou art the LORD God, and
that thou hast turned their heart back again.

1 Kings 18:37



We believe God gave birth to the **U.S. Motto Action Committee.**

A BRIEF HISTORY

August 2002
 With a desire to promote patriotism, David White petitioned Commissioner Rick Lanier to place the national motto, *In God We Trust*, on the Davidson County Governmental Center.

November 26, 2002
 Commissioner Lanier led the Davidson County Commissioners to approve the display of our National Motto.

December 29, 2002
 The US Motto was publicly displayed on the Davidson County Governmental Center.

December 30, 2002
 In an effort to promote America's Godly Heritage, David White, Rick Lanier, Todd Clark, and Fred McClure formed the US Motto Action Committee. Shortly thereafter, Pastor Ron Baily was added as Committee Chaplain.

June 24, 2003
 Two ACLU-funded attorneys sued Davidson County citing the public display of the Motto violated the "separation of church and state."

August 12, 2003
 Due to the proactive efforts of the USMAC, the Commissioners unanimously decided to fight the lawsuit.

May 2004
 U. S. District Court Judge William Osteen, Sr. dismissed the lawsuit, citing no church/state conflict.

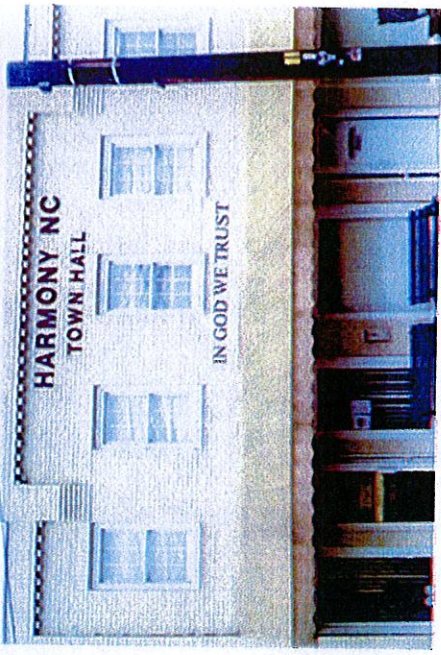
May 13, 2005
 The U. S. Fourth Circuit Court of Appeals affirmed Judge Osteen's opinion.

November 14, 2005
 The U. S. Supreme Court refused to hear the case. The decision of the Fourth Circuit Court of Appeals became case law.
 Ref: *Lambeth and Lea vs. Davidson County, NC # 04-1753*

The U.S. Motto Action Committee actively encourages local elected officials across NC and our nation to display the National Motto. Our purpose is to promote America's Christian heritage with the hope that hearts would turn back to Him.
 II Chronicles 7:14

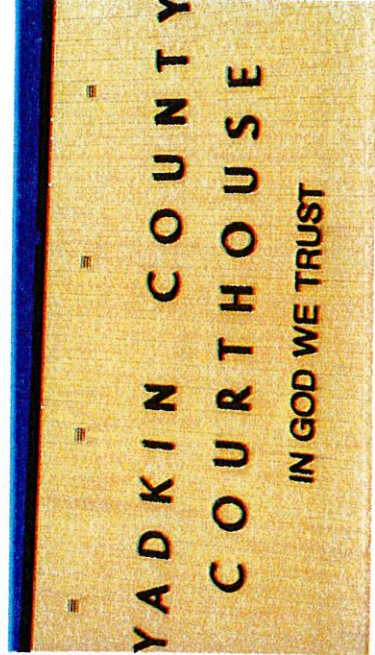


Approved on 2/10/2015



Approved on 3/02/2015

"If we ever forget that we are One Nation Under God, then we will be one nation gone under." *Ronald Reagan*



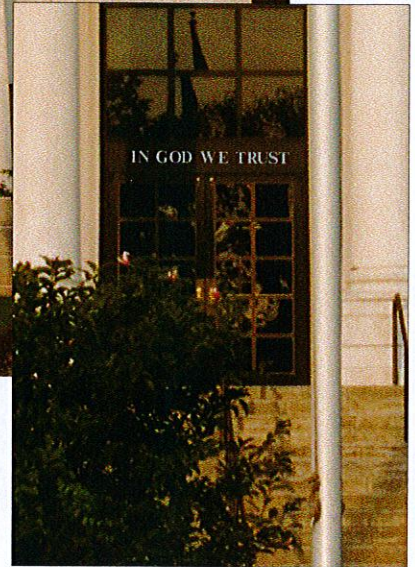
Approved on 3/02/2006



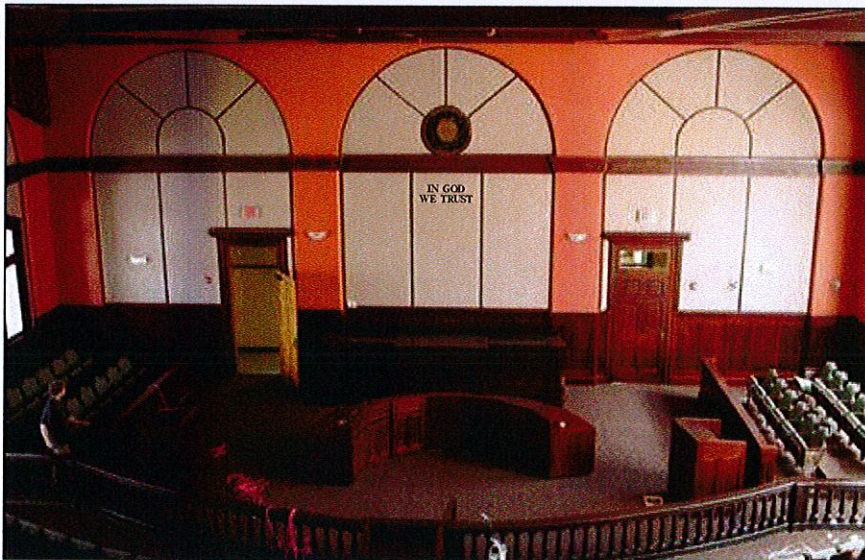
Approved on 12/09/2014

To join our effort to publicly display the U.S. Motto on your city or county building, contact us at (336) 798-7700 or usmotto02@gmail.com

5" letters .25" plate flush Mount



6" letters Black Minnesota Plastic



Henderson