

County Commissioner Meeting

April 19, 2018

10:00 A.M. - 1:30 P.M.

at

The College of Muscogee Nation

2170 Raven Circle

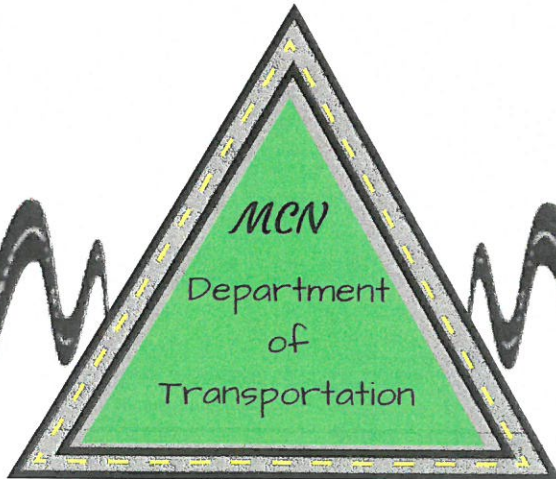
Okmulgee, OK 74447

Room 107

Please RSVP to Shelby Deere at (918) 549-2711

No later the 5:00 P.M. on Thursday April 5th.

Lunch will be provided



Muscogee (Creek) Nation

County Commissioner Meeting

April 19, 2018

10:00 a.m. – 1:30 p.m.

College of the Muscogee Nation

10:00-10:05	Kirk Carson – TTP Manager – Welcome
10:05-10:20	Principal Chief James Floyd
10:20-10:40	Ben Chaney – Secretary of Interior Affairs
10:40-11:00	Tom Edwards – Cross Timbers Consulting
11:00-11:15	Kirk Carson – TTP Manager
11:15-11:30	Questions and County Commissioner Priority Projects
11:30-11:45	Meet and Greet with County Commissioners
11:45-12:45	Lunch (provided)
12:45-1:20	Open Discussion
1:20-1:30	Kirk Carson – TTP Manager – Closing Remarks

County Commissioner Meeting

Guest List

April 19, 2018

	Guest	Organization	Please Sign in
1	Kirk Carson	MCN Transportation Manager	<i>Kirk Carson</i>
2	Tami Humphrey	MCN - Federal Roads	<i>Tami Humphrey</i>
3	Shelby Deere	MCN - Federal Roads	<i>Shelby Deere</i>
4	Mose Lindsey	MCN - Transportation	<i>Mose Lindsey</i>
5	Joyce Proctor	MCN - Transportation	<i>Joyce Proctor</i>
6	Ben Chaney	MCN - Secretary Of Interior	<i>Ben</i>
7	Jesse Allen	MCN- Interior	<i>Jesse Allen</i>
8	April Welch	MCN- Interior	<i>April Welch</i>
9	Tom Edwards	Cross Timbers	<i>Tom Edwards</i>
10	Carla Edwards	Cross Timbers	<i>Carla Edwards</i>
11	Barney McIntosh	MCN	<i>Barney McIntosh</i>
12	Mike Morgan	MCN	<i>Mike Morgan</i>
13	Marvin Lowe	MCN	<i>Marvin Lowe</i>
14	Glenn Funk	MCN	<i>Glenn Funk</i>
15	Harvey Fox	MCN	<i>Harvey Fox</i>
16	Cara Alexander	MCN	<i>Cara Alexander</i>
17	Tim Kelly	Wagoner #3	<i>Tim Kelly</i>
18	Engineer	Wagoner #3	<i>Engineer</i>
19	Bruce Smith	Okfuskee #3	<i>Bruce Smith</i>
20	Foreman	Okfuskee #3	
21	Kenny Payne	Muskogee #3	<i>Kenny Payne</i>
22	Barry Hughes	BIA	<i>Barry Hughes</i>
23	Cliff Wofford	Mayes #2	<i>Cliff Wofford</i>
24	Bob Hardridge	Okmulgee #2	<i>Bob Hardridge</i>
25	Foreman	Okmulgee #2	<i>Foreman</i>
26	Foreman	Okmulgee #2	<i>Foreman</i>

27	Terry Swayze	CEC	Terry Swayze
28	Kenneth Prader	CEC	Kenneth Prader
29	Randall Hicks	MCN National Council	RR
30	Guest <i>Christina Anderson</i>	<i>Attorney</i>	<i>Christina Anderson</i>
31	Danny Wilson	Okfuskee #1	<i>Danny Wilson</i>
32	Jerry McPeak	MCN - Tribal Admin.	<i>Jerry McPeak</i>
33	Steven Wright	Muskogee #2	
34	Foreman - <i>Morris Fowler</i>	Muskogee #2	<i>Morris Fowler</i> & <i>Morris Fowler</i>
35	Neda - Admin. Assistant	Muskogee #2	<i>Neda Payer</i>
36	Terry Wilson	Okfuskee #2	<i>Terry Wilson</i>
37	Foreman	Okfuskee #2	
38	Ron Ballard	Okmulgee #1	<i>→</i>
39	Foreman	Okmulgee #1	
40	James Connors	Okmulgee #3	<i>James Connors</i>
41	Foreman	Okmulgee #3	<i>Jim Connors</i>
42	Louis Hicks	MCN - 2nd Chief	<i>Louis Hicks</i>
43	Lane Whitehouse	Creek #3	<i>Lane Whitehouse</i>
44	Foreman	Creek #3	
45	Newt Stephens	Creek #1	<i>Newt Stephens</i>
46	First Deputy	Creek #1	<i>Rich Sch</i>
47	Mike Anathamatten - Supervisor	Creek #2	<i>Mike Anathamatten</i>
48	Joe Moore	Hughes #3	<i>Joe Moore</i>
49	Foreman	Hughes #3	<i>Joe Moore</i>
50	Ken Dole	Muskogee #1	<i>Ken Dole</i>
51	Deputy Commissioner	Muskogee #1	<i>Bd</i>
52	Chris Edwards	Wagoner #2	<i>Chris Edwards</i>
53	Foreman	Wagoner #2	<i>Steve H. H.</i>
54	John Fothergill - Chief Deputy	Tulsa #2	<i>John Fothergill</i>
55	Ron Peters	Tulsa #3	<i>Ron Peters</i>
56	Harry Creech	Tulsa #3	
57	Tom Rains	Tulsa #3	<i>Tom Rains</i>
58	Tim Pendley	McIntosh #2	<i>Tim Pendley</i>
59	Foreman	Hughes #2	
60	Gary Phillips	Hughes #1	<i>Gary Phillips</i>

[illegible]



County Commissioner Meeting

918-352-2691

Creeks

County

2

District

Leon Warner

Commissioner

Top 3 roads that need work:

1. W. 141st St. S.

(cloud)

Not official

2. S. 529th W Ave Bridge #164 RUBI #00972

(struck) Not official

3. S. 369th W Ave

Not official

Michael G. Gathman

Signature

4/19/18

Date

Silvercitt

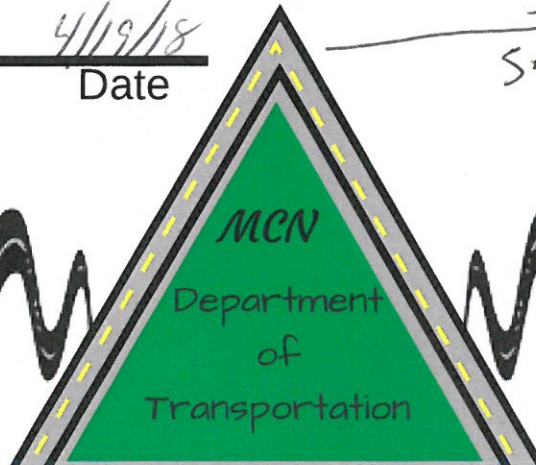
#1207

official

SHAM 2

#1291

official



Creek County District 2
Commissioner Leon Warner
Contact: (O) 918-352-2691 © 918-606-2715

South 369th West Avenue-Muscogee (Creek) Nation Route #1266- From State Highway 33 to the North to West 91st Street South (two miles). Currently this portion of the road is chip and seal and very deteriorated. Two miles will need to be resurfaced. Estimated cost of materials is \$60,000 to \$65,000.

District two is interested in sharing the expense and or provide labor and equipment for this project. This road is on the Muscogee Road Inventory.

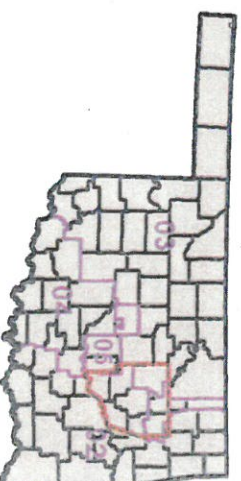
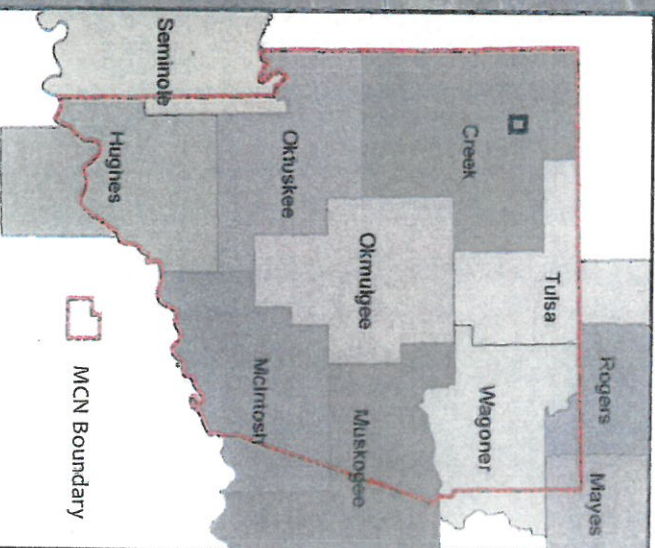
Muscogee (Creek) Nation

Route 1266

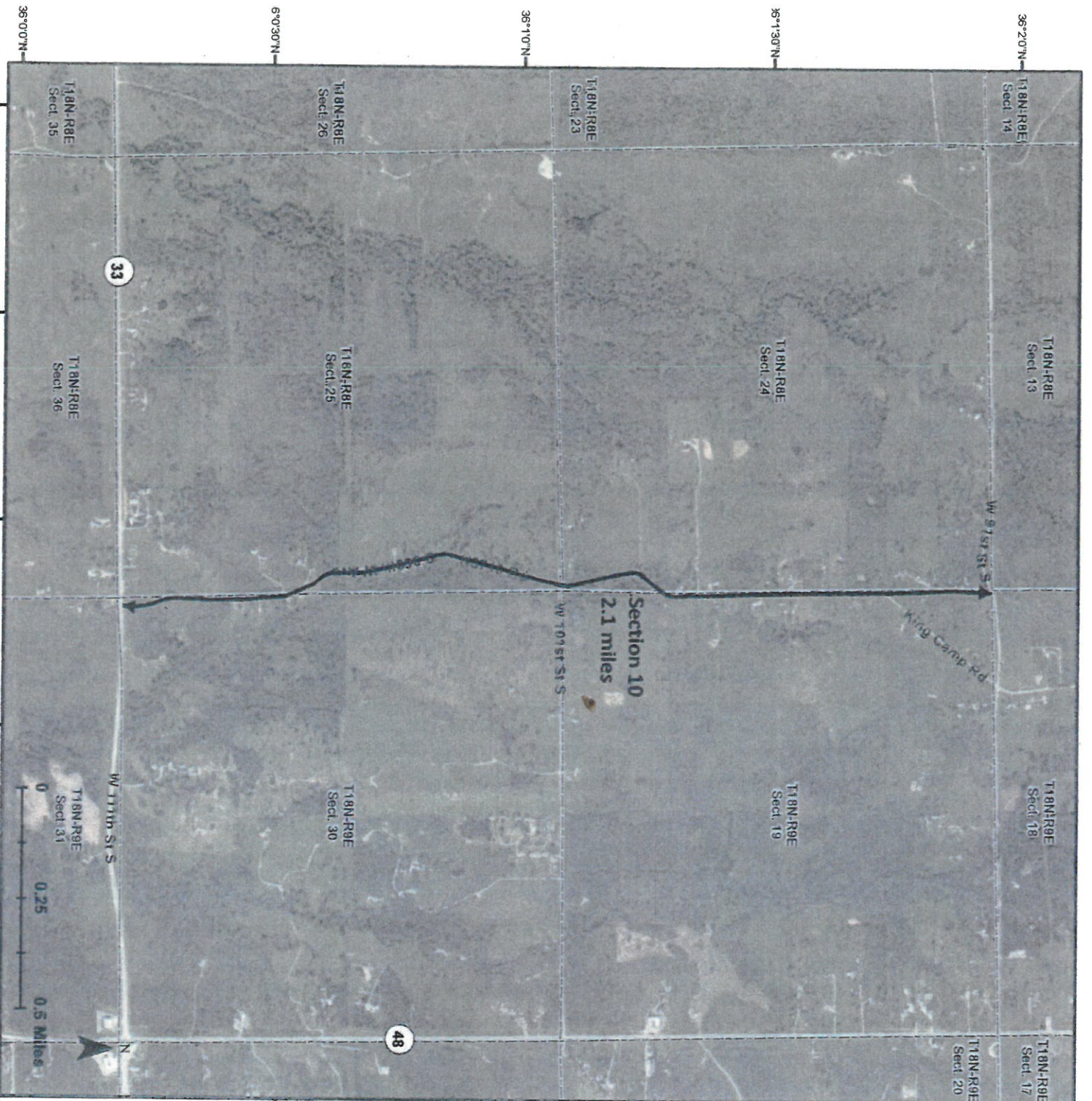
8 CREEK

Creek County

Total: 2.1 miles



Congressional District 03



369th Ave (Sub station rd)

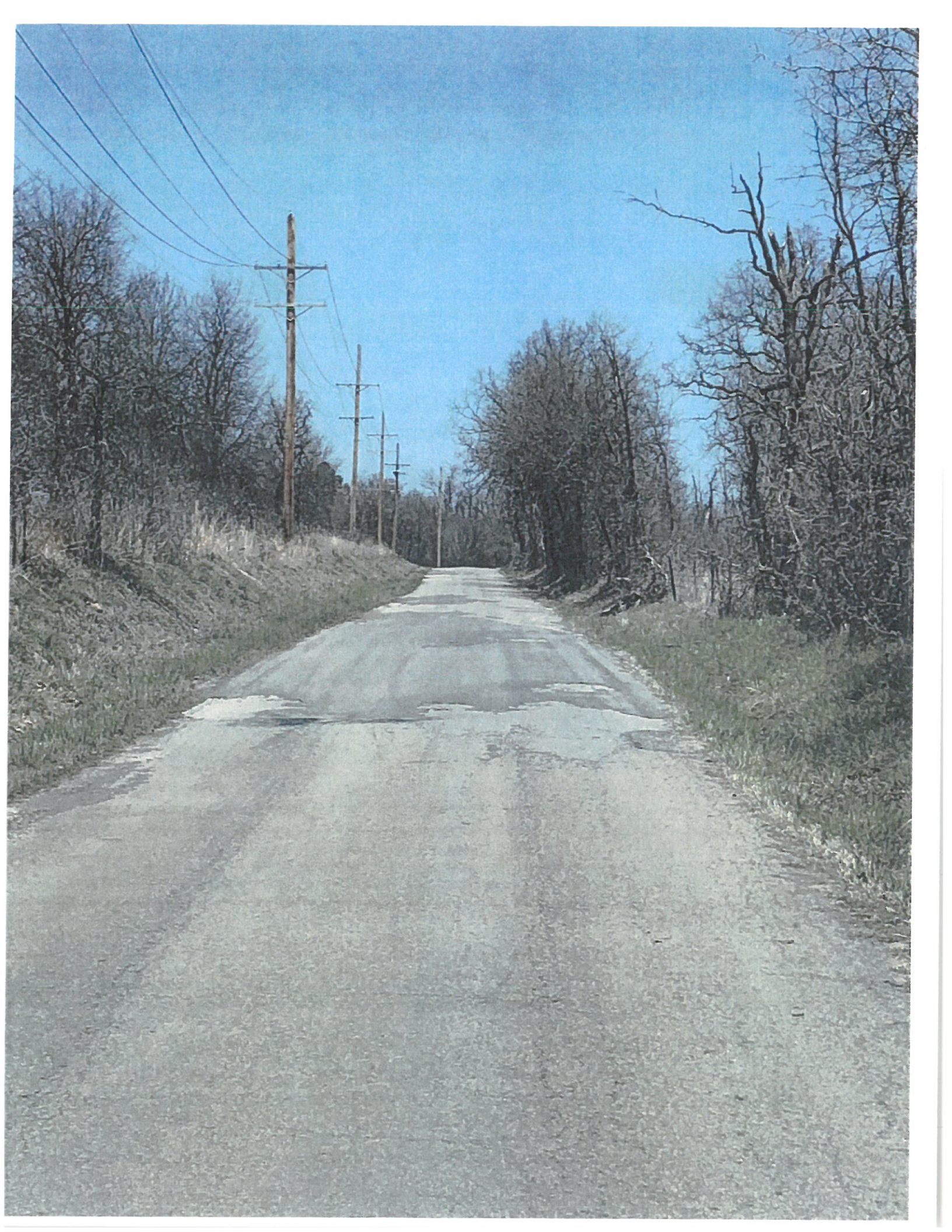




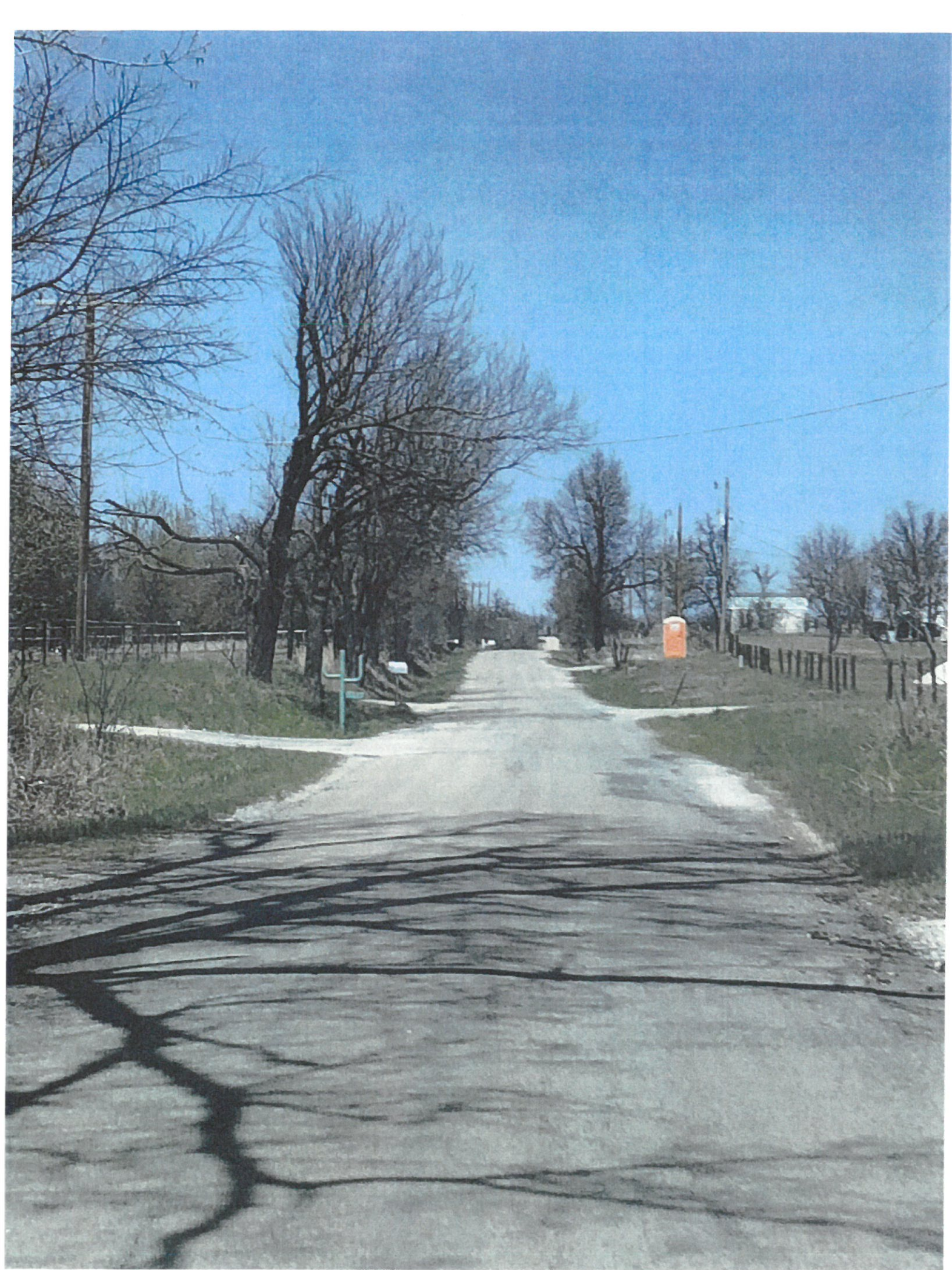












Creek County District 2
Commissioner Leon Warner
Contact: (O) 918-352-2691 © 918-606-2715

West 141st Street South-Muscogee (Creek) Nation Route #1278-From State Highway 48 going West for 2 miles. This portion of the road is currently a gravel road. This road leads to both a soon to be newly constructed bridge and to Creek Nation Tribal land. Two miles will need to be chip and sealed. Estimated cost of materials is \$60,000 to \$65,000.

District two is interested in sharing the expense and or provide labor and equipment for this project. This road is on the Muscogee Road Inventory.

Muscogee (Creek) Nation

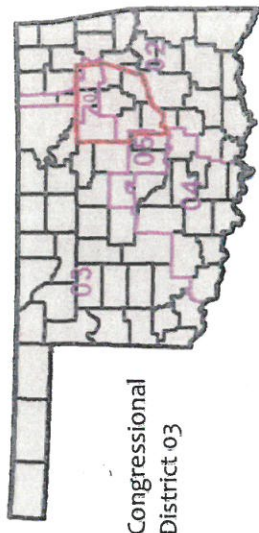
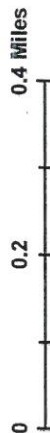
CLOUD

Creek County

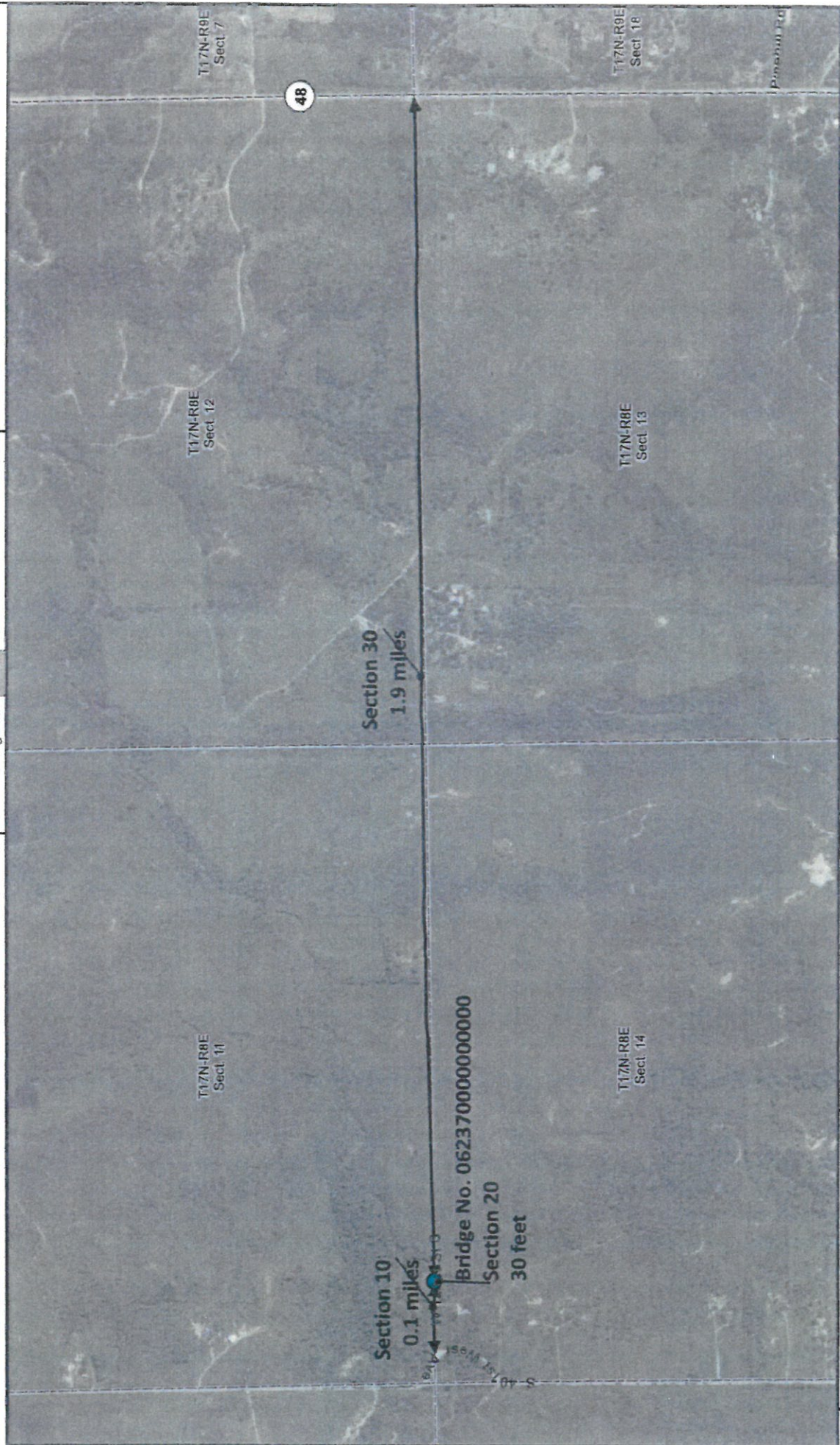
Total: 2.0 miles



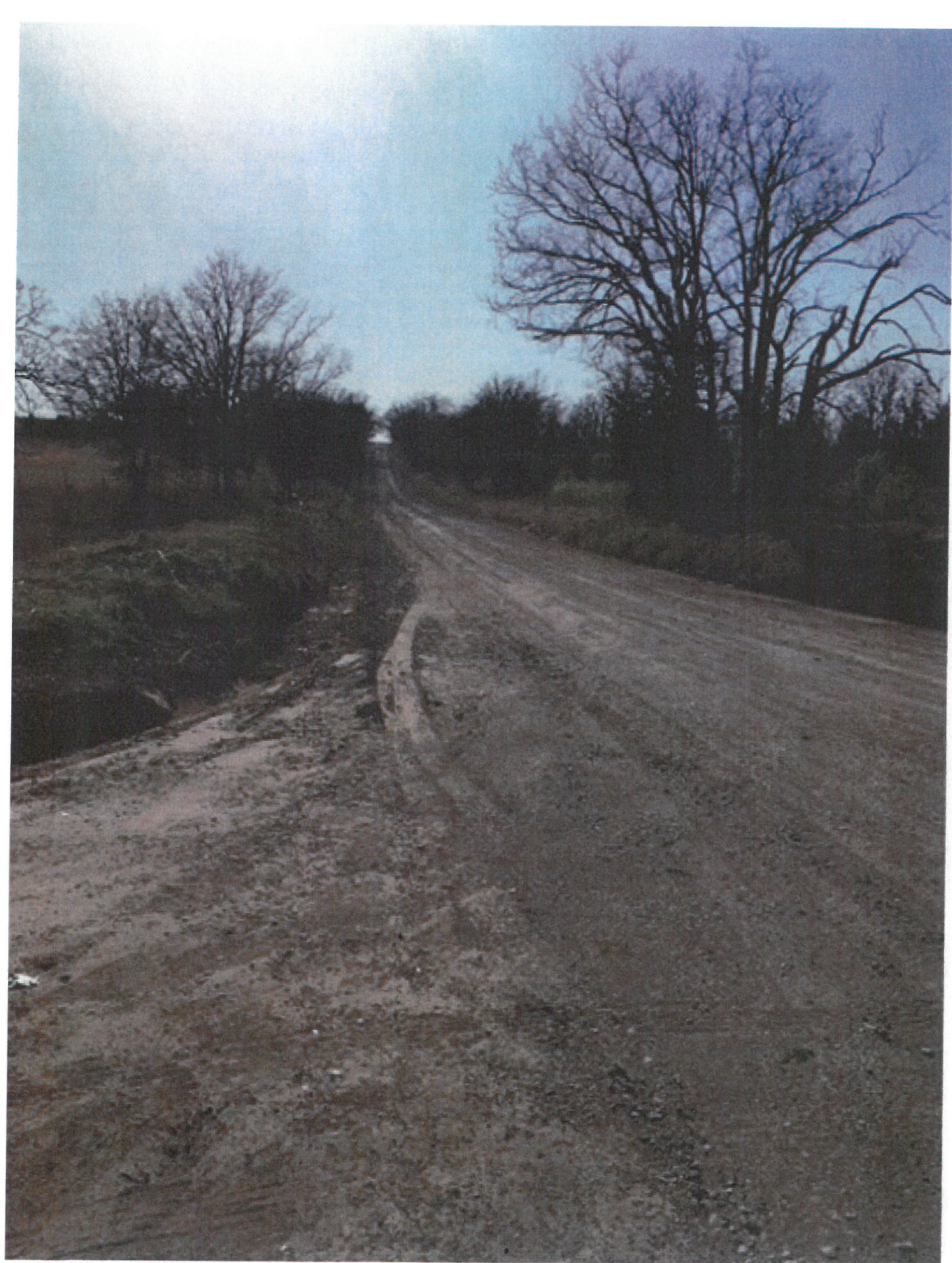
Route 1278

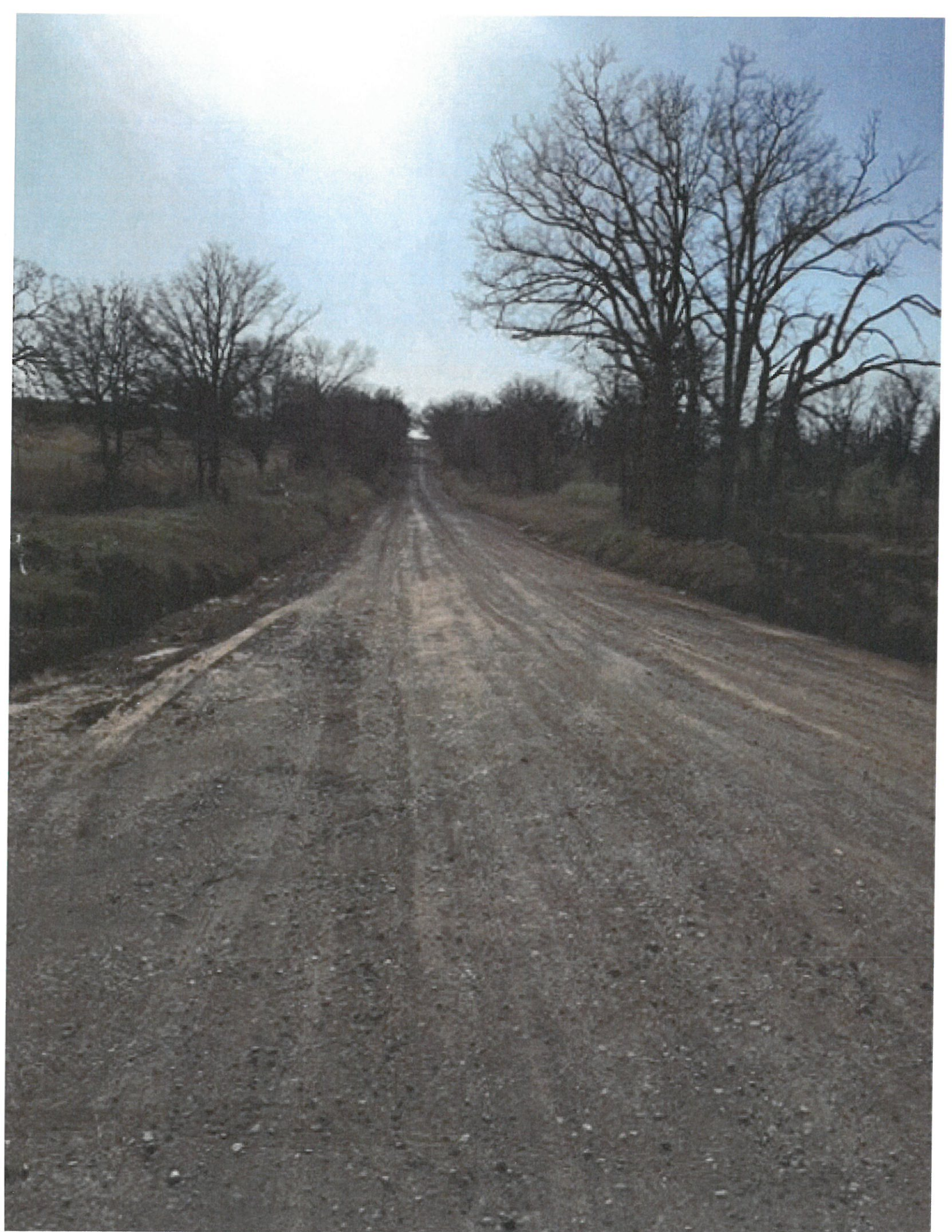


Congressional District 03



14.58 CT 5 (C1111111)





Creek County District 2
Commissioner Leon Warner
Contact: (O) 918-352-2691 © 918-606-2715

Bridge Local ID #164-NBI # 00972-Route N3610 South 529th West Avenue over Little Deep Fork Creek-Muscogee (Creek) Nation Route # 1259- A fracture critical bridge that is both structurally deficient and functionally obsolete with a low 14 ton load restriction. Estimated cost of materials is \$150,000 to \$175,000 if the County were to construct the bridge.

District two is interested in sharing the expense and or provide labor and equipment for this project. This bridge is on the Muscogee Road Inventory.

Muscogee (Creek) Nation

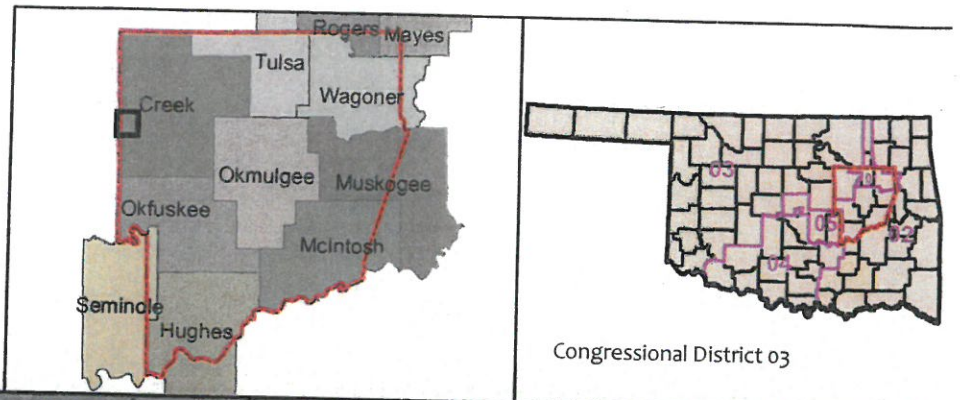


Route 1259

S LAKE

Creek County

Total: 5.7 miles



Congressional District 03



Fracture Critical Bridge Inspection Report

NBI Bridge No.: 00972

Local ID: 164

Route N3610 over LITTLE DEEP FORK CREEK
Creek County



Prepared for:

Oklahoma Department of Transportation

Field Division 08

Inspection Date:

3/11/2013



Report Prepared By:

BURGESS & NIPLE, INC.

5085 Reed Rd.
Columbus, Ohio 43220
614-459-2050

BURGESS & NIPLE
Engineers ■ Surveyors ■ Planners

BURGESS & NIPLE

5085 Reed Road | Columbus, OH 43220 | 614.459.2050

Mr. Bob Rusch, P.E.
Bridge Engineer
Oklahoma Department of
Transportation
200 Northeast 21st Street
Oklahoma City, OK 73102-3204

Re: Fracture Critical Bridge Inspection Report
Structure No.: 19N3610E0800007
NBI No.: 00972
Local ID: 164
N3610 (S 529th W Ave.) over Little Deep Fork Creek
Creek County, District 2

April 1, 2013

Dear Mr. Rusch:

Burgess & Niple (B&N) performed a fracture critical and routine inspection of the above referenced bridge on March 11, 2013. The bridge is a 52-foot long, single span pony truss **(photos 1 and 2)**.

The limits of the inspection were from the south abutment to the north abutment. Inspection team members included Dale E. Poorman, PE (Team Leader) and Douglas L. Pratt, PE

The bridge is currently open with a 14 ton load restriction **(photos 3 and 4)**, as per the latest load rating report date June 10, 2003.

This report includes appendices containing:

- Condition photographs
- Oklahoma DOT Bridge Inspection Form
- PONTIS element report
- CX Letter
- Scour Plan of Action
- FCM Inspection Frequency worksheet

The current and previous NBI ratings for the bridge are:

NBI Item	Previous Rating (2012)	Current Rating (2013)
NBI Item 58 (Deck)	6 = Satisfactory	5 = Fair
NBI Item 59 (Superstructure)	4 = Poor	4 = Poor
NBI Item 60 (Substructure)	5 = Fair	2 = Critical
NBI Item 61 (Channel)	7 = Minor Damage	3 = Bank Protection Failed
Sufficiency Rating	39.9 (SD)	26.1 (SD, FO)

The bridge is structurally deficient and functionally obsolete.

RECOMMENDED ACTIONS, in order of decreasing priority, are as follows:

Priority Code **CX** – *Bridge condition is bad enough that there is a possibility of failure of a major structural component if repairs are not completed within the next few days.*

- Place riprap in front of the south abutment and along the south bank for 50 feet upstream of the bridge to protect the abutment foundation from the effects of further scour. Relocate the channel away from the south abutment by removing soil from the north bank and remove the tree growing in the channel at the west edge of the bridge.
- Place piles along the south edge of the south abutment backwall to allow the bearings to be jacked. The piles should be driven to the top of the abutment footing (or to refusal if the piles miss the foundation) and should be attached to the backwall. Once the bearings are level, the jacks can be encased in concrete to act as the permanent bridge seat.

The CX finding was discussed with Mr. David Howard of Creek County District 2 on March 13, 2013 and a follow up letter (attached) was sent to the county on March 13, 2013. The CX items must be satisfactorily completed by June 9, 2013 (90 days past initial date informed). *Note: CX repairs were satisfactorily completed on April 1, 2013 and inspected by Dale Poorman and Ed Cinadr (photos 21, 22 and 23).*

Priority Code **PX** – *Bridge condition is such that immediate repair is not necessary, but should be completed within the next several weeks or months.*

- Install bridge end markers at all four corners of the bridge.
- Seal cracks in the deck to prevent deck drainage from infiltrating the deck and causing damage to the concrete and floor system members.
- Periodically remove soil and debris from the deck, lower chord, truss bearings and abutment seats to inhibit corrosion of the adjacent structural steel members.
- Abrasively clean and paint the ends of the truss members and gusset plates at the bearings where active corrosion exists due to the panel points being buried under soil. Monitor the corrosion holes in the gusset plates at the northwest bearing for signs of distress and additional section loss.
- Remove hanging lower lateral bracing rod. Consider replacing missing lower lateral bracing should the deck need to be replaced.
- Remove tree at west edge of bridge.

Priority Code **FX** – *Bridge condition is such that repair should not be necessary any time soon, monitor during future inspections.*

- Monitor the spalls in the underside of the deck for further spalling.
- Monitor the west upper chord for additional misalignment at U3.
- Monitor the square headed bolts used to connect the truss members to the gusset plates for signs of distress or movement of the member at the panel point.
- Monitor the bows in the upper chord gusset plates for further bowing or other signs of distress.
- Monitor the vertical hairline crack in the north abutment for displacement of the crack and deterioration of the concrete.

It is recommended that this structure be inspected on a 24 month Routine/Fracture Critical Inspection Frequency and a 24 month Other/Special Inspection Frequency. However, due to the CX repair items discovered during this inspection, a 6 month Other/Special inspection frequency is required until the repairs are completed.

We thank you for the opportunity to provide our engineering services. Please contact me if you have any questions or comments.

Sincerely,

BURGESS & NIPLE, INC.



Dale E. Poorman, PE
Team Leader

Attachments



4-1-2013

SIGNIFICANT FINDINGS are as follows:**NBI Item 36 – Traffic Safety** (5 = Fair condition)

- **PX** – Bridge end markers are missing from all four corners of the bridge (**photo 1**).
- The bridge rail is bent due to vehicular collision at the southeast corner of the bridge.
- None of the traffic safety items meet current standards for a non-National Highway System roadway.

NBI Item 58 – Deck (5 = Fair condition)

- **PX** – The concrete deck surface has numerous indentations and transverse cracks (**photo 5**). The cracks at the wheel lines are worn to 1/8-inch wide at the surface.
- **PX** – Soil and debris have accumulated on the deck between the wheel lines (**photo 5**). The soil and debris tend to hold moisture, allowing drainage to infiltrate the deck cracks, which promotes deterioration of the deck and floor system.
- **FX** – Several small spalls (less than 1 square foot) exist in the underside of the deck between stringers 1 and 2 near floor beam 1 (**photo 6**). The spalls expose corroded longitudinal reinforcing steel. It is unusual that the longitudinal reinforcing is exposed, as the transverse reinforcing should be closest to the surface of the deck underside.

NBI Item 59 – Superstructure (4 = Poor condition)

Fracture Critical Member Rating Summary	
Floor Beams	6 = Satisfactory condition
Truss Lower Chord	5 = Fair condition
Truss Web Members	5 = Fair condition

Stringers – (4 = Poor condition)

- **PX** – A 1-inch long and a 3-inch long corrosion hole exists through the web of stringer 1 at the north abutment (**photo 7**). This is due to the stringer ends being encased in soil at the bearing seat. There appears to still be adequate section in the stringer web over the bearing area to support the exterior stringer; however, corrosion and loss will continue to occur if soil remains against the steel.
- **PX** – The stringer ends are encased in soil at both abutments (**photo 8**). With the exception of stringer 1 at the north abutment, the section loss is negligible.
- The stringers are unpainted and typically have surface corrosion with no significant section loss throughout the bridge

[FCM] Floor Beams – (6 = Satisfactory condition)

- The floor beams are unpainted and typically have surface corrosion with no significant section loss.

Floor System Bracing – (5 = Fair condition)

- **PX** – The lower lateral bracing is missing between floor beams 1 and 2, with the bracing rod hanging from the west end of floor beam 2 (**photo 9**). The lower lateral bracing is not crucial on this bridge since there is a concrete deck to resist lateral loads.

Truss Upper Chord – (5 = Fair condition)

- **FX** – The west upper chord is offset 1/2 inch at U3, with member U1U3 being east of U3U5. The upper chord appears to have been built with this offset since there were no signs of distress or movement observed at the U3 connection.
- The upper chord is unpainted and typically has surface corrosion with no significant section loss.

[FCM] Truss Lower Chord – (5 = Fair condition)

- **PX** – Gravel and debris are spilling from the deck surface onto the lower chord (**photo 10**). Surface corrosion with pitting less than 1/16-inch deep exists under the debris. This debris holds moisture and promotes corrosion of the steel.

[FCM] Truss Web Members – (5 = Fair condition)

- **PX** – Tree branches are growing through both trusses (**photo 11**). Vegetation tends to shade and drop foliage, both of which prolong dampening of the steel and promote corrosion.
- **FX** – Square headed bolts were used to connect the verticals and diagonals to the gusset plates. These bolts transfer the force of the member by bearing against the holes in the connecting members and are considerably weaker connections than modern friction type bolts where the forces are transferred by clamping action.
- Truss verticals and diagonals are unpainted and typically have surface corrosion with no significant section loss.

Truss End Posts – (5 = Fair condition)

- **PX** – The end posts exhibit active corrosion with pitting up to 1/8-inch deep near the bearings due to the ends of the being engulfed in soil (**photo 12**).
- The end posts are unpainted and typically have surface corrosion with no significant section loss throughout the remainder of the member.

Gusset Plates – (4 = Poor condition)

- **PX** – The gusset plates at L6 corrosion holes measuring 1 1/2-inches vertical by 3-inches horizontal in the inboard plate and 1-inch vertical by 1 1/2-inches horizontal in the outboard plate (**photos 13 and 14**). The steel surrounding the corrosion holes is knife edged for 2 inches. This corrosion and section loss is due to the end of the truss being engulfed in soil.
- **PX** – Gusset plates at the L0 and L6 typically have active corrosion with pitting up to 1/8-inch deep. The corrosion and section loss is due to the ends of the truss being engulfed in soil.

- **FX** – Several of the upper chord gusset plates exhibit bows (**photo 15**). The bowed gusset plates appear to have occurred during construction due to the inconsistent amount of bow between the inboard and outboard gusset plates at the panel point.

Member Alignment – (5 = Fair condition)

- **FX** – The west upper chord is offset 1/2 inch at U3, with member U1U3 being east of U3U5. The west upper chord is offset 1/2 inch at U3 with U1U3 east of U3U5.

Load Deflection – (6 = Satisfactory condition)

- No significant deflections or vibrations were observed during the passage of vehicular traffic.

NBI Item 60 – Substructure (2 = Critical condition) Controlled by Scour rating.

Abutments – (3 = Serious condition)

- **CX** – A 3 foot deep scour hole exists along the breastwall of the south abutment due to the channel flow directly impacting the abutment (**photo 16**). The footing of the abutment is exposed; however, it could not be determined if the footing is undermined due to the irregular surface where the footing was cast against earth. The abutment has rotated north, with respect to the bearings, 9 inches at the west truss and 9 1/2 inches at the east truss. These measurements were taken from the center of the anchor bolt to the center of the slotted hole in the bearing. The soil behind the abutment backwall is unconsolidated and a shovel could be easily pushed into the fill for up to 2 feet, indicating that soil pressure is not rotating the wall (**photo 17**). The bearings currently bear on the south edge of the south abutment bearing seat at an angle (**photo 12**). It appears that as the truss contracts the bearings pull the abutment north; however, when the truss expands the bearings slide further off the abutment. This effect is causing the abutment to rotate. The previous inspection noted the abutment to be rotated north 6 inches over 15 feet; the current inspection measured 5 inches over 15 feet at the east edge of the deck. It is unlikely that the abutment is naturally returning to a vertical orientation given the conditions observed during this inspection. The most likely reason for the difference in measurements is due to not knowing the exact location where the previous measurement was taken.
- **FX** – The north abutment has a vertical hairline crack with efflorescence near the bridge centerline. The edge of the bearing seat exhibits spalls along the edge with no loss of bearing area for the stringers or truss bearings.
- Shallow spalls exposing embedded steel members were observed in the face of the south abutment near the bridge centerline and under the east bearing seat (**photo 18**). The exposed steel occurs approximately 6 feet above the bottom of the channel.

Bearings – (3 = Serious condition)

- **CX** – The bearings at the south abutment have slid off the south edge of the south abutment bearing seat and currently bear at an angle against the edge of the bearing seat (**photos 12 and 19**). The west bearing has moved south 9 inches and is rotated 21 degrees. The east bearing has moved south 9 1/2 inches and is rotated 17 degrees.

Bearing movement measurements were taken from the center of the anchor bolt to the center of the slotted hole in the bearing. Should the abutment continue to rotate north the truss will eventually bear on the lower chord and lower chord gusset plate at L0; currently there is less than a 1/4-inch gap between the bearing seat and the lower chord. A situation of the lower chord and lower chord gusset plate bearing on the abutment seat will not significantly affect the integrity of the truss; however, this condition will not stop the jacking effect the bearings currently have on rotating the abutment.

- **FX** – The truss bearings are engulfed in soil up to 18-inches deep. The soil is causing corrosion of the bearings with negligible section loss noted.

NBI Item 61 – Channel and Channel Protection (3 = Bank Protection Failed condition)

Channel Scour – (3 = Serious condition)

- **CX** – The stream is directed towards the south abutment at an approximate 30 degree angle (**photo 20**). This has caused a scour hole to develop along the breastwall of the south abutment. The most severe scour exists from the bridge centerline to the east edge of the abutment. This scour hole was measured to be 3 feet deeper than the thalweg measured upstream of the bridge. The scour hole has exposed the face of the footing. It could not be determined if the footing was undermined as the face of the footing is irregular and appears to have been cast against the soil. According to the Structural Inventory and Appraisal data the foundation is noted to be a spread footing. The soil is a sandy loam with no observed outcropping of bedrock. The stream flows from west to east at the bridge site.
- Sandbars exist in the channel downstream of the bridge.

Embankment Erosion – (6 = Satisfactory condition)

- A drainage ditch exists upstream of the bridge but has no effect on the stability of the south abutment.

Debris – (6 = Satisfactory condition)

- A small accumulation of drift exists along the north bank under the bridge.

Vegetation – (5 = Fair condition)

- **PX** – A large tree exists along the west truss and is leaning over the creek just upstream of the bridge (**photo 11**). Should this tree fall across the channel, the resulting flow around the fallen tree could cause scour issues.

NBI Item 72 – Approach (6 = Satisfactory condition)

Approach Alignment – (7 = Good condition)

- The approach roadway is straight at both ends of the bridge with no interference in the line of sight for motorists.

Approach Roadway Condition – (6 = Satisfactory condition)

- The gravel roadway at both ends of the bridge has been recently graded; no potholes or ruts were observed during this inspection.

Approach Roadway Settlement – (6 = Satisfactory condition)

- No settlement was observed at the approaches. Based on the amount of rotation of the south abutment, settlement of the roadway would be expected.

NBI Item 113 – Scour Rating (2 = Scour Critical - Extensive Scour has Occurred) The scour rating was downgraded from 5 = Calculated Scour Within Limits of Foundation based on field observations.

- **CX** – A 3 foot deep scour hole exists along the breastwall of the south abutment, exposing the top of the footing. The stream is currently directed towards the south abutment at an approximate angle of 30 degrees.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 1 - End view looking south. Note: Missing bridge end markers.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 2 - Elevation looking west.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 3 - Looking north at south approach load posting sign.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 4 - Looking south at north approach load posting sign.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 5 - Looking northwest at typical deck condition. Note: Transverse cracks and debris.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 6 - Looking north at underside of the deck between stringers 1 and 2, near floor beam 1.
Note: Spall with exposed reinforcing steel.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 7 - Looking northwest at stringer 1, north abutment. Note: 1-inch and 3-inch square corrosion holes and section loss of stringer web.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 8 - Looking south at south abutment bridge seat between stringers 2 and 3. Note: Soil and debris on bridge seat.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 9 - Looking east at floor system between floor beam 1 and 2. Note: Broken and missing lower lateral bracing rods.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 10 - Looking north at west L2. Note: Debris on lower chord.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 11 - Looking northwest at west truss. Note: Tree near truss has branches growing through the truss.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 12 - Looking west at east truss bearing, south abutment. Note: End post is pitted where buried; Bearing is rotated 17 degrees and has slid 9 1/2 inches to the south.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 13 - Looking northeast at west L6. Note: 1 1/2-inch x 3-inch corrosion hole with surrounding section loss at inboard gusset plate.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 14 - Looking northwest at west L6. Note: 1-inch x 1 1/2-inch corrosion hole with surrounding section loss at outboard gusset plate.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 15 - Looking south at east U1. Note: Inboard gusset plate bowed 1/8-inch.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 16 - Looking east along south abutment. Note: Scour has occurred along the abutment.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 17 - Looking northeast at west truss bearing, south abutment. Note: Soil is loose behind abutment wall as evidenced by shovel easily pushed down to handle.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 18 - Looking south at south abutment. Note: Spalls with exposed embedded steel members.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 19 - Looking northeast at west truss bearing, south abutment. Note: Bearing is rotated 21 degrees and has slid 9 inches to the south.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 20 - Looking upstream at channel and bridge. Note: Stream impacts south abutment.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 21 - Looking north at bearing seat repair for the southeast bearing.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 22 - Looking north at bearing seat repair for the southwest bearing.

NBI #	Structure #	County	Fac. Carried	Fac. Intersected	Insp. Date
00972	19N3610E0800007	Creek	N3610	LITTLE DEEP FORK CREEK	3/11/2013



Photograph 23 - Looking east along south abutment at the riprap repair.

BURGESS & NIPLE

5085 Reed Road | Columbus, OH 43220 | 614.459.2050

Mr. Rick Stewart
Creek County Commissioner, District 2
317 E. Lee, Suite 103
Sapulpa, OK 74066

Re: Bridge Local ID 164
NBI Bridge Number 00972
N3610 (S 529th W. Ave.) over Little Deep Fork
Creek

March 13, 2013

Dear Mr. Gann:

The above referenced bridge received a fracture critical inspection by Burgess & Niple, Inc. on March 11, 2013 as part of our contract with the Oklahoma Department of Transportation. The following CX items were observed during this inspection:

- A 3.5-foot deep scour hole exists at the face of the south abutment. We recommend riprap be placed along the face of the abutment and for 40 feet upstream of the bridge to protect the substructure from further scour.
- Relocate the channel away from the south abutment by removing soil from the north bank. A tree growing at the west edge of the bridge should also be taken down during this time.
- The bearings at the south abutment have partially fallen off of the abutment back wall and the masonry plates are now rocked 22 degrees on the west truss and 17 degrees on the east truss. Repair options were discussed with David Howard at the bridge site on March 13. One option is to place piles along the south edge of the south abutment backwall to allow the bearings to be jacked. The piles should be driven to the top of the abutment footing (or to refusal if the piles miss the foundation) and should be attached to the backwall. Once the bearings are level, the jacks can be encased in concrete to act as the permanent bridge seat.

The gusset plates at the northwest bearing have corrosion holes and extensive section loss that will require analysis. If the gusset plates require repair, we will send sketches to retrofit the section loss. These gusset plates should be cleaned and painted to prevent additional section loss.

Per the ODOT Bridge Inspection Manual, CX repairs are required to be satisfactorily completed within 90 days.

Feel free to contact me with any questions or comments you may have regarding this issue. My contact information is as follows: mobile – 614-849-2278
email – dale.poorman@burgessniple.com

Sincerely,

BURGESS & NIPLE, INC.

A handwritten signature in blue ink, reading "Dale E. Poorman", is positioned above a horizontal line.

Dale E. Poorman, PE
Project Engineer

cc: Wes Kellogg, PE, ODOT Field Service Engineer
 Bruce Martin, ODOT Field Div. 8 County Bridge Coordinator

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **00972** Structure No.: **19N3610E0800007** Local ID: **164**

Suff. Rating: **26.1** Health Index :
Structurally Deficient **66.9**

IDENTIFICATION Description: 52' PONY TRUSS SPAN 1. State: Oklahoma 2. SHD District: Division 8 3. County Code: CREEK 4. Place Code: Unknown Admin. Area: Cnty. District 2 5. Inventory Route (Route On Structure): 1 - 4 - 1 - N3610 - 0 6. Feature Intersected: LITTLE DEEP FORK CREEK 7. Facility Carried: N3610 9. Location: 4.3S OF SHAMROCK 11. Mile Post: 0.700 mi 13. LRS Inv. Route./ Subroute.: -1 -1 16. Latitude: 35 50 49.28 17. Longitude: 096 35 00.75 98. Border Br. Code: Jkknown (P) % Resp.: 0 99. Border Br. #: Unknown			INSPECTION <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Type</th> <th>Insp Req.</th> <th>Insp Done</th> <th>Freq:</th> <th>Insp. Date:</th> <th>Next Insp.:</th> </tr> </thead> <tbody> <tr> <td>NBI:</td> <td></td> <td>Y</td> <td>24</td> <td>3/11/2013</td> <td>3/11/2015</td> </tr> <tr> <td>FC Freq.:</td> <td>Y</td> <td>Y</td> <td>24</td> <td>3/11/2013</td> <td>3/11/2015</td> </tr> <tr> <td>UW Freq.:</td> <td>N</td> <td>N</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> <tr> <td>OS Freq.:</td> <td>Y</td> <td>Y</td> <td>6</td> <td>1/1/1901</td> <td>9/11/2013</td> </tr> </tbody> </table>			Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:	NBI:		Y	24	3/11/2013	3/11/2015	FC Freq.:	Y	Y	24	3/11/2013	3/11/2015	UW Freq.:	N	N	NA	NA	NA	OS Freq.:	Y	Y	6	1/1/1901	9/11/2013
Type	Insp Req.	Insp Done	Freq:	Insp. Date:	Next Insp.:																														
NBI:		Y	24	3/11/2013	3/11/2015																														
FC Freq.:	Y	Y	24	3/11/2013	3/11/2015																														
UW Freq.:	N	N	NA	NA	NA																														
OS Freq.:	Y	Y	6	1/1/1901	9/11/2013																														
STRUCTURE TYPE AND MATERIALS 43. Main Span Material and Design Type Steel Truss-Thru 44. Approach Span Material and Design Type Unknown (NBI) Unknown (P) 45. No. of Spans Main Unit: 1 46. No. of Approach Spans: 0 107. Deck Type: 1 Concrete-Cast-in-Place 108A. Wearing Surface: 1 Monolithic Concrete 108B. Membrane: 0 None 108C. Deck Protection: None			CLASSIFICATION 12. Base Hwy Network : Not on Base Network 20. Toll Facility: 3 On free road 21. Custodian: 02County Hwy Agency 22. Owner: 02County Hwy Agency 26. Functional Class: 09 Rural Local 37. Historical Sig.: 5 Not eligible for NRHP 100. Defense Highway: 0 Not a STRAHNET h 101. Parallel Structure: No bridge exists 102. Dir. of Traffic: 3 1-lane Br for 2-way 103. Temp. Structure: Not Applicable (P) 104. Highway System: 0 Not on NHS 105. Fed. Land Hwy 0 N/A (NBI) 110. National Truck Network: 0 Not part of na 112. NBIS Length: Long Enough																																
AGE AND SERVICE 27. Year Built: 1920 106. Year Reconstructed: Unknown 28A. Lanes on: 1 28B. Lanes Under: 0 19. Detour Length: 2.0 mi 29. ADT: 100 30. Year of ADT: 2010 109. Truck ADT %: 10 42A. Type of Service on: 1 Highway 42B. Type of Service under: 5 Waterway			CONDITION 58. Deck: 5 Fair 59. Super.: 4 Poor 60. Sub.: 2 Critical 62. Culvert: N N/A (NBI) 61. Channel/Channel Protection: 3 Bank Prot Failed Flowline Notes: [2013] FL to TOD = 18'6" at southeast corner of bridge. 3/21/11 - FL to TOD = 15.8' 5/21/08 - FL to TOD = 18.6'																																
GEOMETRIC DATA 10. Inv. Rte. Min. Vert. Clr.: 328.1 ft 32. Approach Roadway Width (W/ Shoulders): 18.0 ft Deck Area: 832.1 sq. ft 33. Median: 0 No median 34. Skew: 0 35. Structure Flared: 0 No flare 47. Inv. Rte. Total Horiz. Clr.: 15.7 ft 48. Length Maximum Span: 51.0 ft 49. Structure Length: 52.0 ft 50A. Curb/Sdwk Width L: 0.0 ft 50B. Curb/Sidewalk Width R: 0.0 ft 51. Width Curb to Curb: 15.7 ft 52. Width Out to Out: 16.0 ft 53. Minimum Vertical Clearance Over Bridge: 328.1 ft 54A/54B. Min. Vert. Underclearance: N Feature not hwy or RR 0.0 ft N/E S/W Meas. -1 -1 -1 -1 -1 -1 Post. DO NOT U DO NOT U DO NOT U DO NOT U DO NOT U DO NOT U 55A/55B. Minimum Lateral Underclearance R: N Feature not hwy or RR 0.0 ft 56. Minimum Lateral Underclearance L: 0.0 ft			LOAD RATING AND POSTING 31. Design Load: 0 Unknown 41. Posting status: P Posted for load 63. Op. Rating Method: 2 AS Allow. Stress-T: Alt. Op. Rating Meth.: 2 AS Allow. Stress-T 64. Operating Rating (H / HS / 3-3): 14.0 25.0 -1.1 66. Inventory Rating (H / HS / 3-3): 10.0 19.0 -1.1 65. Inv. Rating Method: 2 AS Allow. Stress-T: Alt. Inv. Rating Meth.: 2 AS Allow. Stress-T 70. Posting: 1 30.0-39.9% below Date Rated : 6/10/2003																																
PROPOSED IMPROVEMENTS 94. Bridge Cost: \$112,000 75. Type of Work: 31 Repl-Load Capacity 95. Roadway Cost: \$62,000 76. Lgth. of Improvment: 144.3 ft 96. Total Cost: \$225,000 114. Future ADT: 160 97. Year of Cost Est.: 2007 115. Year of Future ADT: 2030			NAVIGATION DATA 38. Navigation Control: Permit Not Required 39. Vertical Clearance: 0.0 ft 40. Horizontal Clearance: 0.0 ft 111. Pier Protection: 1 Not Required 116. Lift Bridge Vert. Clear.: 0.0 ft																																
APPRAISAL 36A. Bridge Rail: 0 Substandard 36C. Approach Rail: 0 Substandard 36B. Transition: 0 Substandard 36D. Approach Rail Ends: 0 Substandard 67. Str. Evaluation: 2 Intolerable - Replace 68. Deck Geometry: 8 Desirable Criteria 69. Underclearance, Vertical and Horizontal: N Not applicable (NBI) 71. Waterway Adequacy: 6 Equal Minimum 72. Approach Alignment: 8 Equal Desirable Crit 113. Scour Critical: 2 SC - Extensive Scour			200c. Temperature: 65 200d. Weather: CLEAR 201. Structural Steel ASTM Desig.: -1 -1 202. Waterproof Membrane: -1 Date Installed: 1/1/1901 203. Type Exp. Dev.: - - 204. Type of Handrail: Steel Post and Rail 205. Material and Quantity: -1.0 208. Type of Abutment: Cantilever Type of Foundation: Natural Foundation Matl. 209. Type of Pier / Found.: - - 210. Foundation Elev. -1.0 -1.0 -1.0 -1.0 -1.0 211. Wear. Surf. Prot. System: - Date Installed: 1/1/1901 213. Utilities Attached: -1 -1 -1 -1 -1 -1 -1																																
214a. Posted Weight Limit: 141414 b. Posted Speed Limit: NR c. Narrow/One Lane Bridge sign: M d. Vertical Clearance Sign: NO Advanced Warning Sign: NO Existing/Recommended Posting: 9999 9999 Min./ Max Vert. Clearance: 9999 9999 e. Navigation Lights: NO Working/Not Working: NO 215. Overpass: D - ACCO Off System 221. Substructure Cond. (U/W): - 222. Fill over RCB: -1 223. Appr. Slab/Rdwy Cond.: Satisfactory 224. Critical Feature Type: 1 225. Paint Type: Red Lead Ready Overcoat: 0 226. Date Painted: -1 227. Paint Coloring: Silver 233. Deck Forming: - 236. Deck Cleaning: -1 238. School Bus Rte: Not on Desired or Current 240. Appr. Roadway Type: Gravel			243. Girder Spacing/Number: -1.0 / -1 244. Span Lengths: 52 -1 -1 -1 -1 -1 -1 -1 245. Girder Depth: 10.000 246. Type of Overlay: - 246. Overlay Thickness: 0 246. Overlay Date: 1/1/1901 246. Overlay Depth Changed > 1"? - 247. Protective Systems: 1: - 2: - 3: - 4: - 5: - 248. No. of Field Splices w/ Corrosion: -1 249. Scour Crit. POA exists?: No 250. Culvert Headwall Dist.: -1.0 254. Thru Truss Type: Pony 256. Chan. Profile Up/Down Stream?: - 257a. OkiePROS Auto. Truck Routing: NA 258. Plans w/ found. are in file at ODOT 259. Scour Eval. is in file at ODOT 263. Interchange at Intersection 264. Interstate Milepoint -1.00																																

OKLAHOMA DEPARTMENT OF TRANSPORTATION - Bridge Inspection Report

NBI No.: **00972** Structure No.: **19N3610E0800007** Local ID: **164**

Suff. Rating: **26.1**
Structurally Deficient

Health Index :
66.9

Inspection Date: **3/11/2013**

Reported By: **DPOORMAN**

Invoice No.: **-1**

Inspected With: **-1**

Agency :

Dale Poorman (DP)

Digitally signed by Dale Poorman (DP)
DN: cn=Dale Poorman (DP), o=with Doug Pratt,
email=dale.poorman@burgessniple.com, c=US
Date: 2013.04.29 13:33:30 -0400

Structure / Inspection Notes

52' pony truss. Truss lower chord and diagonals control rating.

OS Inspection Items Include: Scour hole along south abutment; South abutment leaning and bearings rotated off south edge of abutment; Section loss to gusset plate at northwest bearing; Section loss of stringer 1 web at north abutment; Misalignment of west upper chord at U3.

Inspection Notes: C X: South abutment has 3' deep scour hole with no observed undermining, 9 1/2" rotation of abutment in relation to location of anchor bolts, and truss bearings rotated off south edge of abutment. Install riprap, jack bearings back to level and pour new concrete seat behind abutment. C X items discussed with Dave Howard (Creek County District 2 foreman at bridge site on 3/12/2013 and C X letter sent to Rick Stewart (Creek County Commissioner District 2). C X repairs completed on 4/1/2013 and inspected by D. Poorman and E. Cinadr. PX: Replace missing bridge end markers; Seal cracks in deck; Periodically remove soil from bearings, lower chord and deck; Abrasively clean and spot paint ends of lower chords and stringers at bearings; Remove hanging lower lateral bracing rods.

FX: Monitor: Spalls in soffit for growth; Misalignment of west upper chord at U3 for worsening (currently 1/2"); Square headed bolts at gusset plate connections for movement or distress; Bowing of upper chord gusset plates for worsening; Vertical hairline crack in south abutment for movement.

Elm.	Env.	Description	Un.	Qty.	Qty.St. 1	% 1	Qty.St. 2	% 2	Qty.St. 3	% 3	Qty.St. 4	% 4	Qty.St. 5	% 5
12	1	Reinforced Concrete Deck	(SF)	816	0	0 %	653	80 %	163	20 %	0	0 %	0	0 %
113	1	Steel Stringer/Floorbeam	(LF)	294	0	0 %	0	0 %	294	100 %	0	0 %	0	0 %
120	1	Steel Truss (Pony)	(LF)	104	0	0 %	0	0 %	104	100 %	0	0 %	0	0 %
152	1	Steel Floor Beam	(LF)	32	0	0 %	0	0 %	32	100 %	0	0 %	0	0 %
162	1	Steel Gusset Plate	(EA)	36	0	0 %	0	0 %	28	78 %	8	22 %	0	0 %
215	1	Reinforced Conc Abutment	(LF)	32	0	0 %	22	69 %	10	31 %	0	0 %	0	0 %
311	1	Moveable Bearing (roller, sliding, etc.)	(EA)	2	0	0 %	0	0 %	0	0 %	2	100 %	0	0 %
313	1	Fixed Bearing	(EA)	2	0	0 %	0	0 %	2	100 %	0	0 %	0	0 %
330	1	Metal Bridge Railing	(LF)	104	0	0 %	100	96 %	0	0 %	4	4 %	0	0 %
357	1	Pack Rust	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %
358	1	Concrete Cracking	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
360	1	Settlement	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
361	1	Scour	(EA)	1	0	0 %	0	0 %	1	100 %	0	0 %	0	0 %
363	1	Steel Section Loss	(EA)	1	0	0 %	1	100 %	0	0 %	0	0 %	0	0 %
659	1	Soffit of Concrete Decks and Slabs	(SF)	816	0	0 %	653	80 %	163	20 %	0	0 %	0	0 %
777	1	Steel Stringer End (5 Ft.)	(LF)	70	0	0 %	0	0 %	70	100 %	0	0 %	0	0 %
965	1	Debris	(EA)	1	1	100 %	0	0 %	0	0 %	0	0 %	0	0 %

Additional
Elements

Elem.	Element Notes (Include Size and Location of Deterioration)
12	PX: Transverse cracks in deck; Soil and debris have accumulated between the wheel lines.
113	Surface corrosion is typical
120	PX: Gravel and debris in lower chord; Tree branches growing thru both trusses; Active corrosion on end posts at bearings. FX: West upper chord has 1/2" offset at U3; Square headed bolts used at truss connections.
152	Surface corrosion on floor beams.
162	PX: West L6 gusset plate has corrosion holes up to 1 1/2" vertical in both gusset plates; Gusset plates at L0 and L6 buried with surface corrosion and 1/8" pitting. FX: Small bows in upper chord gusset plates.
215	C X: 3 foot deep scour hole exposing face of footing at south abutment; South abutment rotated north 9 to 9 1/2" with respect to anchor bolt location. FX: Vertical hairline crack with efflorescence in abutment wall near centerline. Shallow spalls exposing embedded steel members in south abutment.
311	C X: South abutment bearings slid off south face of the abutment and are rotated at 17 to 21 degrees on back side of abutment; Bearings have moved 9 to 9 1/2 inches with respect to anchor bolt location; Bearings are contributing to rotation of abutment.
313	FX: Bearings are engulfed in soil and have corrosion with 1/8" deep pitting.
330	Southeast corner bent due to collision damage.
357	FX-Rust is beginning to form between plates and bottom of verticals.
358	PX: Transverse cracks in deck.
360	Small amount of drift under bridge. Tree growing in north bank along west truss is leaning over channel.
361	C X: 3 foot deep scour hole has exposed face of south abutment footing with no undermining detected. Channel impacts south abutment at 30 degree angle of attack onto bridge.
363	PX: Stringer 1 at north abutment has corrosion holes thru web; Gusset plates at northwest bearing has loss to the bottom 1" to 1 1/2" of gusset plate between bearing and end of lower chord.
659	FX: Several small spalls exist in underside of deck between stringers 1 and 2 near floor beam 1.
777	PX: 1" long and 3" long corrosion holes in web of stringer 1 at north abutment; Stringer ends encased in soil at abutments.
965	Small amount of drift under bridge. Tree growing in north bank along west truss is leaning over channel.

PLAN OF ACTION FOR SCOUR CRITICAL BRIDGES

*ITEM #113 Currently 5 Recommended 2 BRIDGE NUMBER 19N3610E0800007

NBIS# 009 72 ; Location of Bridge: 4.3 miles south of Shamrock, OK ; Year Built: 1920

Replacement Plans: None

Foundation Type: Assumed Spread Footing

Foundation Soils Types: Silt, Sand, Clay

Bridge Size and Description: 52 foot long pony truss

ADT: 100 ; Service to Emergency Facilities or Evacuation (Y/N): N

*Sources of scour critical rating (Assessment, Analysis, and/or Observation): Observation

*Comments about rating (e.g., analysis did not account for erosion resistant material; emergency riprap placed after last flood, etc.): 3 foot scour hole exposing face of south abutment footing, South abutment rotated.

*Inspection and Monitoring:

-Current inspection frequency: 24 month FC and 24 month O/S

-Increase inspection frequency: _____

-Types (Probing, diving, inspection of banklines): Probing along south abutment

-Special Inspection Criteria (after bankfull events, during major events): During and after high flow

Monitoring Types (Fixed instrumentation, Portable instrumentation): _____

*Criteria for monitoring: Undermining of abutment footing; further rotation of abutment

Closure Plans (Limit loads, Lane closure, Full closure): Full closure of bridge

*Criteria for Closure (Discharge; Floodwater Elevation; Flood Forecast; Scour, Scoundings): Probing

*Authorization for Closure (Bridge Maintenance engineer; Inspector, Police; Statewide Bridge Closure Procedure): Bridge Inspector; County Commissioner/Foreman

* Detour Route: Travel 1 mile east and use S 513th Ave. W (Detour length = 4 miles)

*Criteria for reopening bridge: Repair of scour/undermining of south abutment

Countermeasures considered:

(1) Install riprap along south abutment Cost \$ _____

(2) Realign channel Cost \$ _____

(3) Repair bearing support at south abutment Cost \$ _____

*Countermeasure Recommended: #1, #2 and #3 Status: _____

*Author(s) of POA: Dale Poorman, PE (Burgess & Niple, Inc.) Date: 3/11/2013

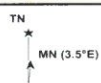
*Concurrences on POA: _____, _____, _____



Data use subject to license.

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www.delorme.com



Scale 1 : 20,800



1" = 1,733.3 ft

Data Zoom 13-3

Structure No. 19N3610E0800007
 NBI No. 00972
 Facility E3610
 Feature Int. Little Deep Fork Cr.

Overall Score 58
 Inspection Frequency 24mo FC/Routine & 24mo OS

12mo FC/Routine & 12mo OS ≤ 45
 45 < 24mo FC/Routine & 24mo OS ≤ 60
 24mo FC/Routine > 60

Screening Phase

Five points are given for each of the eight criteria in the screening phase. For each "positive" quality the bridge/FCM possesses, five points are added to its overall score.

		Points
1. New/Recently Retrofitted or Rehabilitated	No	5
2. Pin and Hangers	No	5
3. Non-redundant Eye bars	No	5
4. Plug Welds or Discontinuous Backup Bars	No	5
5. Active Fatigue Cracks	No	5
6. Susceptibility to Constraint Induced Fracture	No	5
7. Existing Maintenance Problem or Load Posted	Yes	0
8. NBI rating of FCM	5	5
		<u>35</u>

Scoring Phase

		Points
1. Fabricated under the AASHTO/AWS FCP	No	0
(refer to plans)		
2. AASHTO Temperature Zone	2	5
(refer to AASHTO LFRD Bridge Design Specifications 2007 Table 6.6.2-1)		
3. ADTT (single lane)	10	10
Was the data field measured?	No	
(refer to inspection report)		
4. Truck traffic is completely prohibited	No	0
(refer to inspection report)		
5. Fabricated using High Performance Steel	No	0
(refer to plans)		
6. NBI rating of FCM(s)	5	3
Exposed to deicers or harsh environment?	No	
(refer to fracture critical report)		
7. Internal Redundancy	No	0
Was analysis performed?	No	
(refer to plans)		
8. Structural Redundancy	No	0
(refer to plans)		
9. Remaining Fatigue Life (years)	≤25	0
(refer to calculations)		
10. Fatigue Detail Category	D	5
(refer to AASHTO LFRD Bridge Design Specifications 2007 Table 6.6.1.2.3-1)		
11. Tack Welds to FCM's or in tension zones	No	5
(refer to inspection report)		
12. Owner's/ Engineer's Discretion	-5	-5
		<u>23</u>

5 points can be added or deducted to total assessment score at the owner's/
 engineer's discretion (enter justification here).
 Section loss to NW gusset plate and repairs/movement to south abutment



County Commissioner Meeting

OKMULGEE

County

2

District

ROBT (BOB) HARDRIDGE

Commissioner

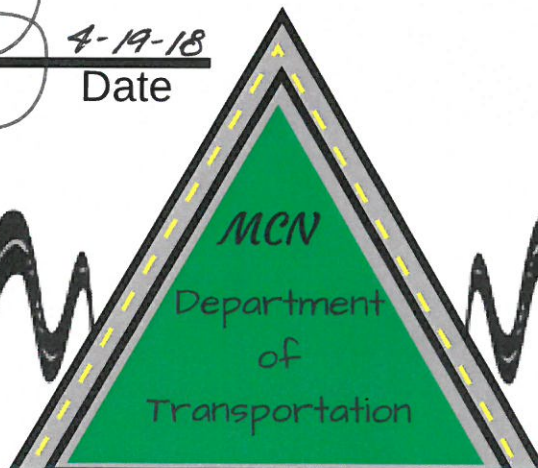
Top 3 roads that need work:

1. MAINTENANCE OF EXISTING ROADS - OVERLAYS SHARP RD
2. BALD HILL (NEW PROJECT)
3. LIBERTY (NEW PROJECT) / OLD MORRIS HWY

[Signature]
Signature

4-19-18

Date





County Commissioner Meeting

Okmulgee

County

3

District

James Connor S

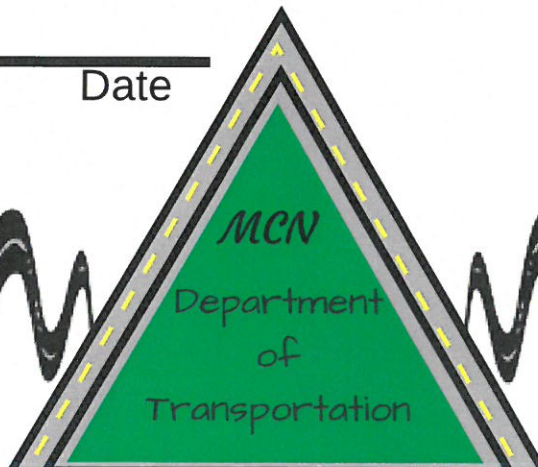
Commissioner

Top 3 roads that need work:

1. Rock Store project. 3 miles 170 - 1 mile Hedge - 1 mile 180
2. Wilson School Chestnut from Wilson Rd. to 170
3. Resurface Bryant Rd. Approx. 7 miles

Signature

Date





County Commissioner Meeting

OKmulgee

County

1

District

Ron Ballard

Commissioner

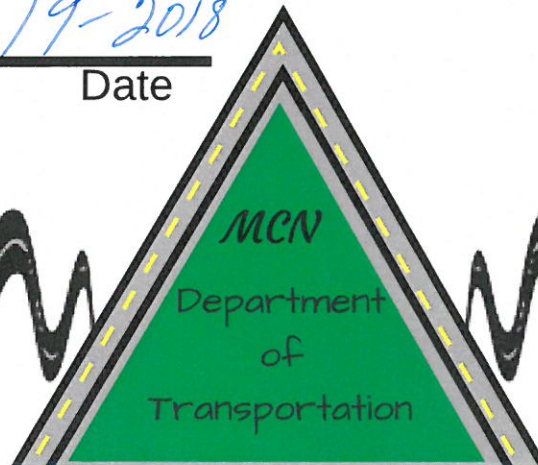
Top 3 roads that need work:

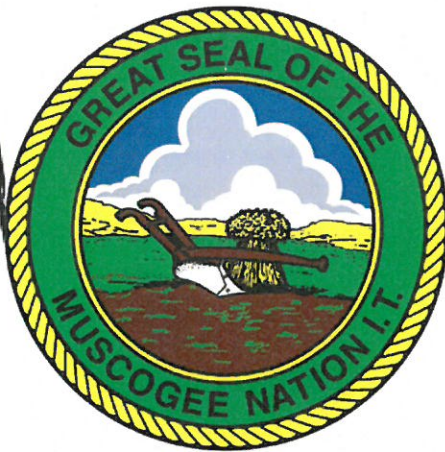
1. Dentonville RD - 16 HWY to 56 HWY
2. 251st (GARFIELD) From Hwy 75 - To Dentonville
ON 16 HWY
3. Re H4B (Bixby & Ferguson Rd)

Ron Ballard 4-19-2018

Signature

Date





County Commissioner Meeting

Okfuskee

County

1

District

Danny Wilson

Commissioner

Top 3 roads that need work:

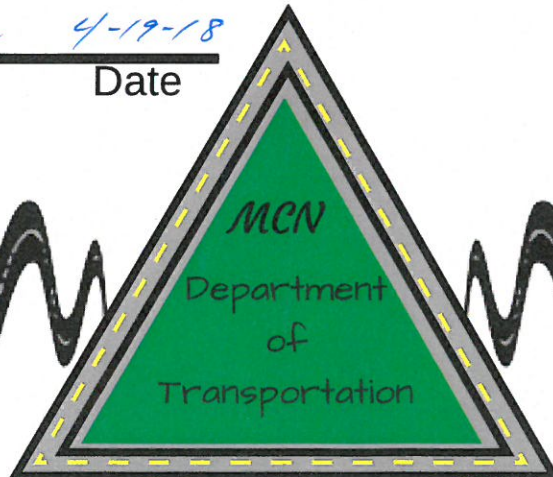
1. 3620 RD No. From 990 to 960 3mi.
2. 1030 RD E. From 48 Hwy to 3740 So to 1035 E to 3750
3. 3770 RD W From 1040 to 1020

Danny Wilson

Signature

4-19-18

Date





County Commissioner Meeting

OKfuskes

County

2

District

Terry Wilson

Commissioner

Top 3 roads that need work:

1. MASON Rd. 7m, 56 Hwy. TO 48 Hwy. 7m. overlay
E1000 Rd.

2. 56 Hwy. South TO Greenleaf Church 3740 Rd

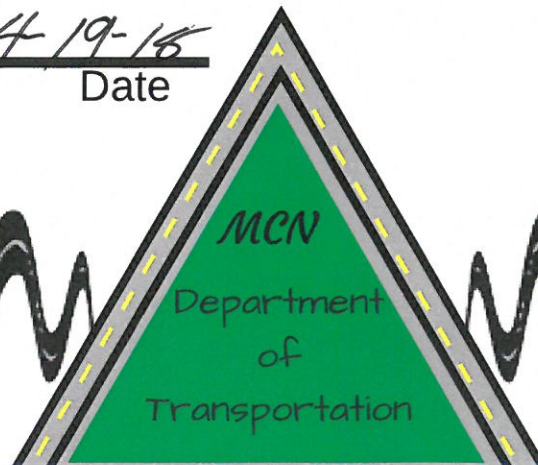
3. Haydonville North 3790 Rd - 3780 Rd 2 1/2 - 3 mile overlay

[Signature]

Signature

4-19-18

Date





County Commissioner Meeting

OKfuskee

County

#3

District

BRUCE Smith

Commissioner

Top 3 roads that need work:

1. Hutchings Church Rd

2. Welch's Lake Rd

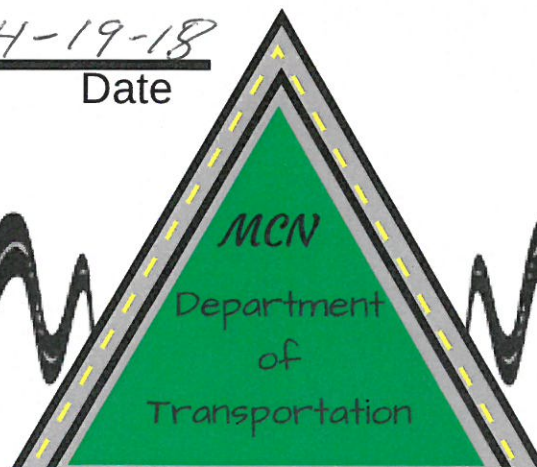
3. PSD Rd

Bruce Smith

Signature

4-19-18

Date





County Commissioner Meeting

Creek

County

1

District

Newt Stephens

Commissioner

Top 3 roads that need work:

1. 49th W. Ave from 121st S_{outh} — 141st S_{outh}

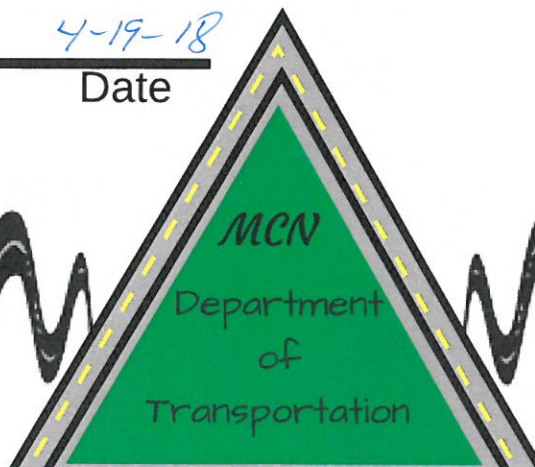
2. 49th W^{Ave} from 181st S_{outh} E 15th S_{outh} mounds

3. 97th W^{Ave} from 75th — 176th S_{outh}

Signature

4-19-18

Date





County Commissioner Meeting

CREEK

County

#3


District

Lane Whitehouse

Commissioner

Top 3 roads that need work:

1. S. 129th W. Ave. 131st St. to 127th W. Ave. To Highway 66.
2. S. 465th W. Ave. - South To. W 311th St. Se.
3. Highway 66 South - Down 193rd, 1 mi.



Signature

4-19-18

Date

MCN
Department
of
Transportation



County Commissioner Meeting

HUGHES
County

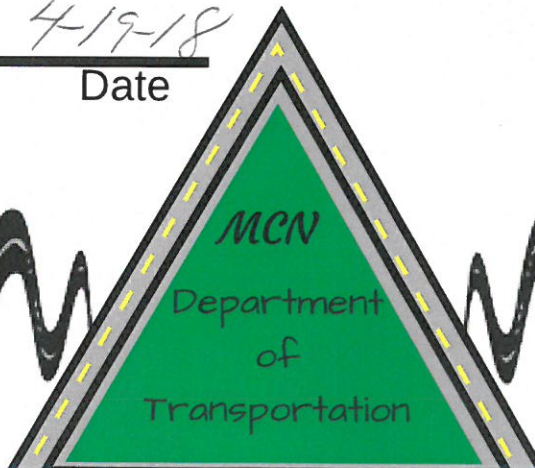
DISTRICT #1
District

GARY PHILLIPS
Commissioner

Top 3 roads that need work:

1. Lamar Road
2. Road south of Spaulding - 1 mile
3. Thomas School Road - City Road

Gary Phillips 4-19-18
Signature Date





County Commissioner Meeting

Hughes

County

3

District

Joe Moore

Commissioner

Top 3 roads that need work:

1. River Road North of Calvin, OK

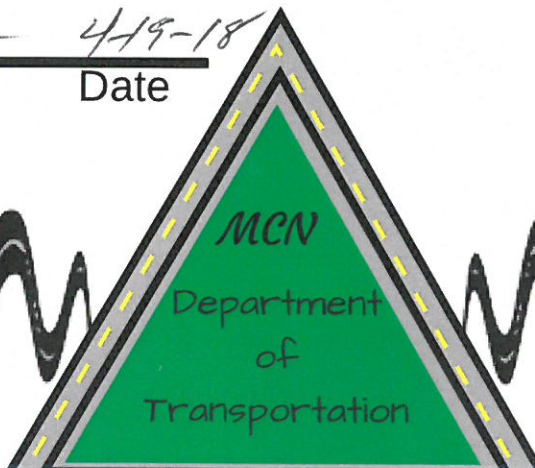
2. East west 139 Road West side of 75 Highway
North south 379

3. _____

Joe Moore 4-19-18

Signature

Date





County Commissioner Meeting

Muskogee

County

1

District

Ken Duke

Commissioner

Top 3 roads that need work:

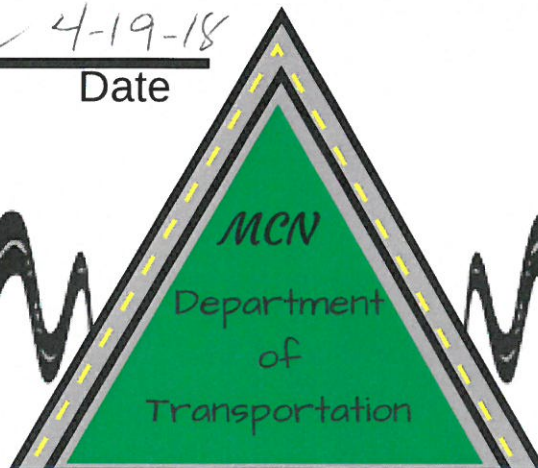
1. 123rd in Oktaha
2. Kershaw Rd (W 935) from Oktaha Rd east
3. Harris Rd - Main st. to 69 hwy

Ken Duke

Signature

4-19-18

Date





County Commissioner Meeting

Muskogee

County

#3

District

Kenny Payne

Commissioner

Top 3 roads that need work:

1. Duncan Road - Haskell, OK. From "204th to 244th"

2. Fern Mountain Road - Muskogee, OK

3. A - Taft Road From Mockingbird Ln to Hwy 72. ★ "wide right of way"

3. B - North 204th Street West "From Hwy 16 to Baynton, OK."

Signature

Date

MCN
Department
of
Transportation



County Commissioner Meeting

McIntosh

County

2

District

Tim Fendley

Commissioner

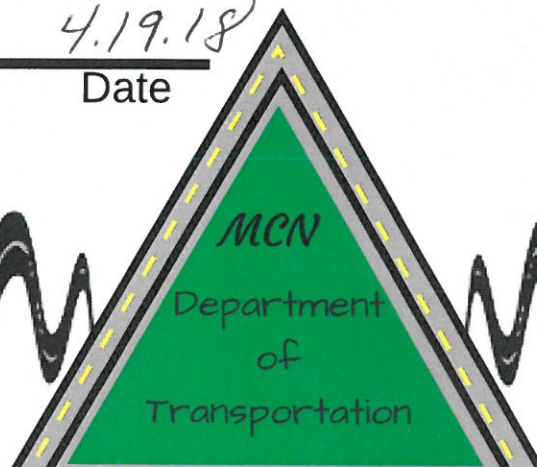
Top 3 roads that need work:

1. Deere's Chapel Rd 54130 Rd Overlay
2. Oakuskee Church Rd.
3. 54140 Rd.

Tim Fendley 4.19.18

Signature

Date





County Commissioner Meeting

Wagoner

County

2

District

Chris Edwards

Commissioner

Top 3 roads that need work:

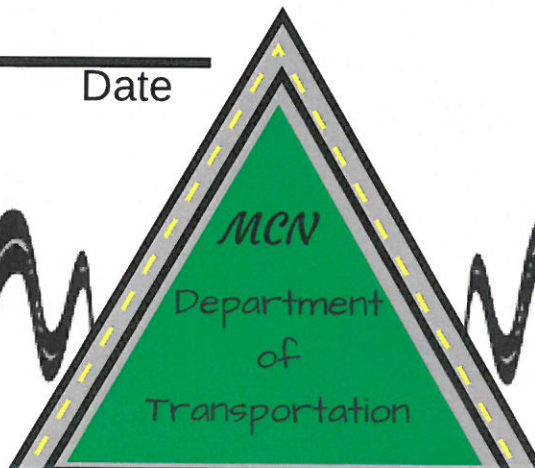
1. Okay/Porter Rd (connects S.R. 69 and S.H. 16)

2. _____

3. _____

Signature

Date





County Commissioner Meeting

Tulsa

County

A3

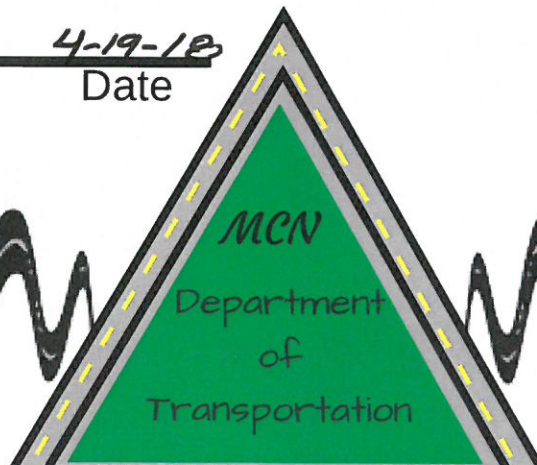
District

Commissioner

Top 3 roads that need work:

1. Garnett Road - 91st to 101st St. So. Dist 3
2. Wekiwa Road - 129th W Ave to 177th W Ave Dist 2
3. 161st St. So. - US 75 to Lewis Ave - overlay Dist 3

Tom Rains - Co. Engr. 4-19-18
Signature Date





County Commissioner Meeting

MAYES

County

2

District

MEREDITH FRALEY

Commissioner

Top 3 roads that need work:

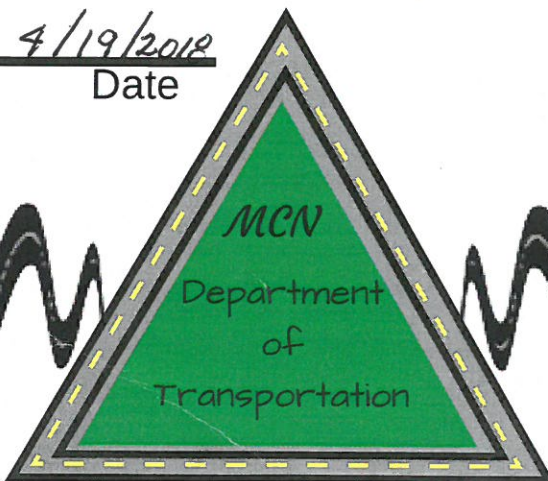
1. S 426 Between W 590 & W 600 1 mi

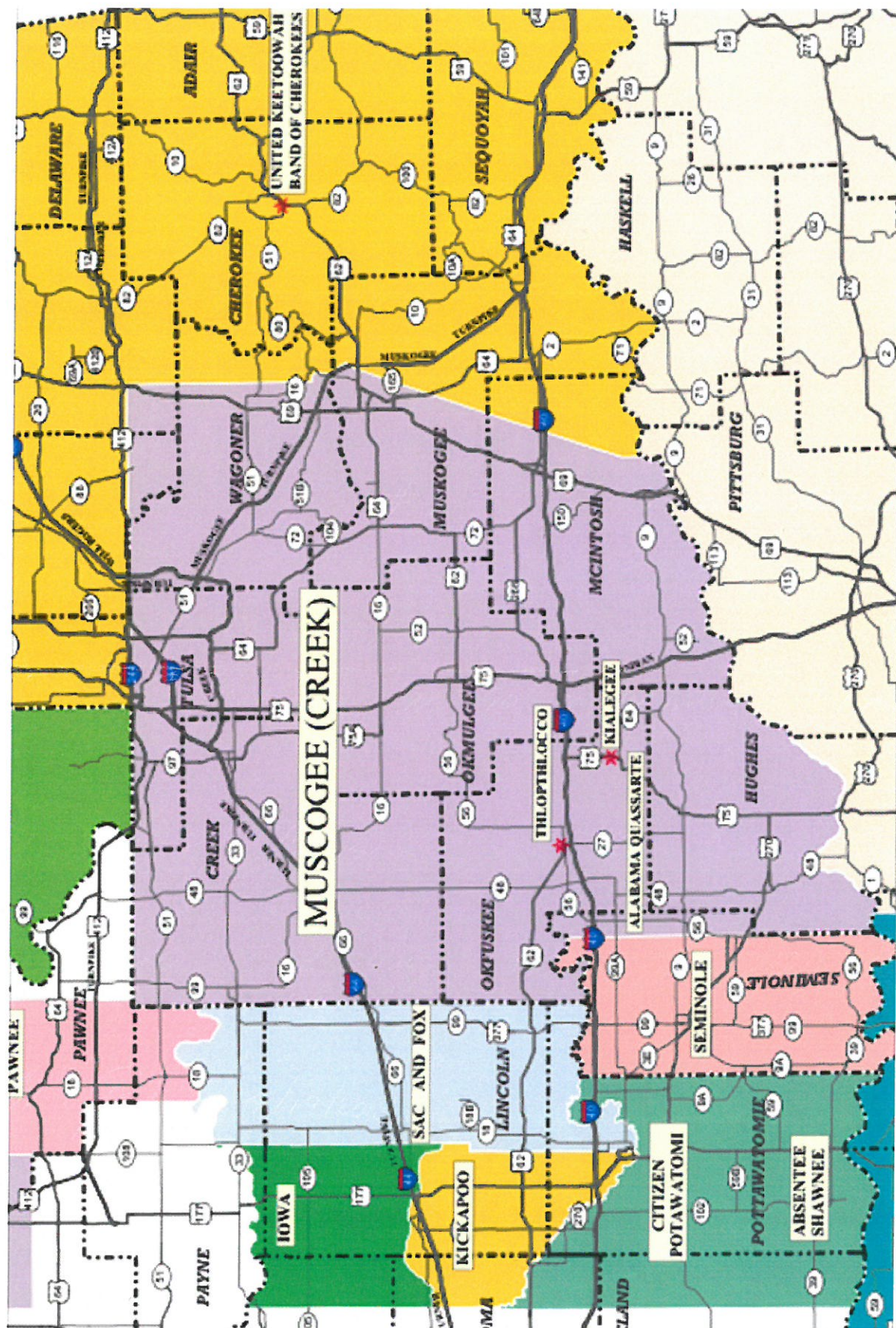
2. Town of Mazie 1 mi

3. W 620 E of S 425 75425.5 N of W 620 1 1/2 mi


Signature

4/19/2018
Date





Mayes County

*Ewal
to Sobrone*

