

Traffic Safety Improvement Program

Applications for Traffic Control Devices FY 2014



Received August 15, 2012

Traffic Control Devices FY 2014

Page No.	Applicant	Title/Subject	\$\$\$	
			Project	Request
1	Webster County	Signs on Paved Roads - Phase II	\$47,768.00	\$29,086.40
11	City of Ames	Redesign and upgrade Installation of Traffic Signals at the intersection of Lincoln Way and Hayward Street	\$186,300.00	\$111,500.00
25	City of West Des Moines	Traffic Signal Battery Back-up Units at 17 locations throughout West Des Moines	\$113,900.00	\$113,900.00
41	City of Clarion	Upgrade traffic signals @ IA Hwy 3 & Main Street and US Hwy 3 & 4th Street with new & larger LED lights	\$81,400.00	\$73,260.00
67	Buena Vista County	Installation of Chevron & Equipment on Curves approx 4 miles north of Storm Lake on Co Rd. M-44	\$2,410.70	\$2,410.70
75	City of Orleans	Upgrade old and outdated signs to meet MUTCD	\$1,860.00	\$1,860.00
83	Harrison County	Replace Warning & Regulatory signs along Route F-20-L with High Intensity faces to meet MUTCD	\$12,000.00	\$8,150.00
95	City of Hedrick	Installation of Solar Beacon on top of Stop Sign and Installation of Yellow beacons on each direction of IA Hwy 149	\$9,975.00	\$4,975.00
107	District #5	Replace old outdated and Poor condition Stop Signs to meet MUTCD through the District	\$20,900.00	\$20,900.00
111	Cedar County	Increase sign size, add additional curve signs with supplemental speed plaques, all to meet MUTCD	\$3,454.00	\$1,650.00
121	City of Clinton	Intersection Conflict Warning System at Two (2) locations. Mill Creek Parkway & 13th Ave North and Mill Creek Parkway & 2nd Ave South.	\$80,000.00	\$60,000.00
143	Iowa DOT, Office of Traffic & Safety	Improved Signing at Horizontal Curves Program	\$1,000,000.00	\$150,000.00
	TOTAL	12 PROJECTS	\$1,145,980	\$875,980



Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Signs on Paved Roads, Phase II
Applicant Webster County
Contact Person Jamie Johll Title Assistant County Engineer
Complete Mailing Address 703 Central Avenue
Fort Dodge, IA 50501
Phone 515-576-3281 E-Mail jjohll@webstercountyia.org
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____
Contact Person _____ Title _____
Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type
Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 47,768.00
Safety Funds Requested \$ 29,086.40

A

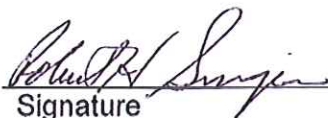
APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the Webster County Board of Supervisors

Signed:


Signature

Aug 21, 2012
Date Signed

Robert Singer, Chairman
Typed Name

Attest:


Signature

8/21/2012
Date Signed

Carol Messerly, Webster County Auditor
Typed Name

Narrative

The City of Fort Dodge, Rogers Sports Complex, Fort Dodge Regional Airport, Webster County OHV Park, two major (and numerous smaller) truck lines, four gypsum factories, three ethanol plants, and other many other businesses combine to make Webster County a regional hub for entertainment, commerce and transportation. As a result, the roads in Webster County see much higher traffic counts than any other county in the area.

Webster County has a large population of persons over 65 years old. The percentage of Webster County residents in this age group is 30% higher than the U.S. average and 11% higher than the Iowa average.

This combination of higher traffic and an older population has resulted in high crash rates on a number of Webster County roads. In an effort to improve safety on these roads, the Webster Secondary Roads Department has developed a program to upgrade signs to sizes that are easily readable by an aging population, and to prismatic sheeting material that is highly visible at night. The program consists of multiple phases. Phase I upgraded the signs along paved routes with traffic greater than 1,000 vehicles per day. Phase II will upgrade the signs on paved routes under 1,000 vehicles per day. Phase III will upgrade the signs on non-paved routes. Phase I is complete. We are seeking funding to help us implement Phase II.

The program consists of upgrading the regulatory and warning signs (stop, stop ahead, no passing zone) of various sheeting materials with an ASTM Type X or better prismatic sheeting (e.g. 3M brand Diamond Grade DG3), and increasing the overall size of the signs. The font size would also be increased and make use of Clearview font. Implementing larger, more visible signs is the first step in making Webster County a safer place to live and drive. We hope that you approve this grant so that Webster County can make this step a reality.

Cost Breakdown

The total cost of this project is estimated to be \$47,768. The signs would be purchased from Iowa Prison Industries. Webster County Secondary Roads would supply the labor and equipment. The breakdown of the costs is as follows:

LABOR

Hours	Wage Rate	Total	Name	Position
160	\$21.08	\$3,372.80	Dan Hammersland	Sign Technician
160	\$20.83	\$3,332.80	Ron Fisher	Asst. Sign Technician

EQUIPMENT

Hours	Rental Rate	Total	Description
160	\$74.85	\$11,976.00	Sign Truck

MATERIALS

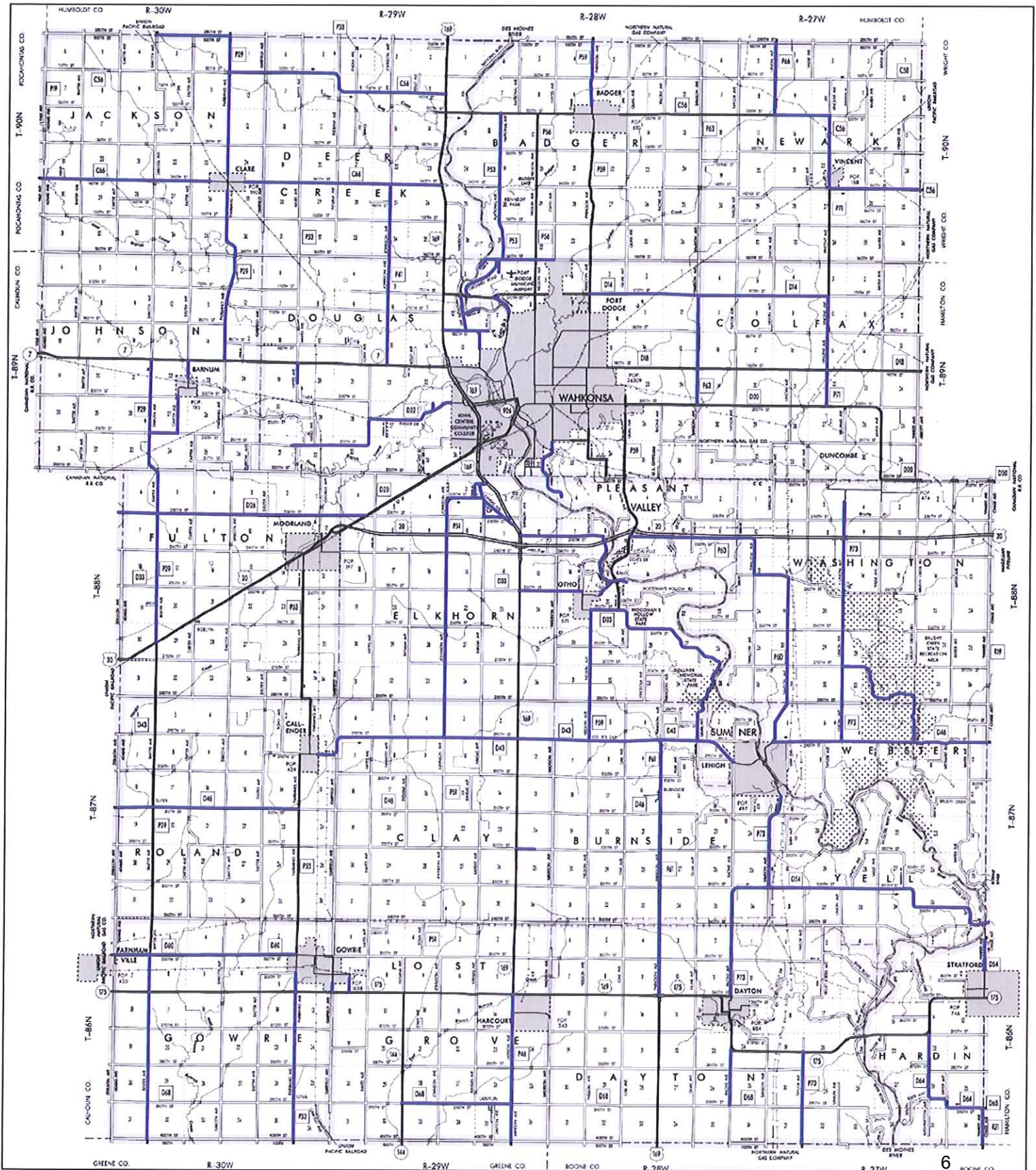
Qty	Unit Price	Total	MUTCD ID	Description
72	\$60.30	\$4,341.60	R1-1	Stop
96	\$72.70	\$6,979.20	W3-1	Stop Ahead
424	\$41.90	\$17,765.60	W14-3	No Passing Zone
		\$47,768.00	TOTAL	

Time Schedule

This project will take approximately eight weeks to complete. If the grant is approved, the signs will be ordered from Iowa Prison Industries. Upon delivery of the signs, anticipated to be Spring/Summer of 2013, Webster County Secondary Roads employees will begin installing the signs. We anticipate the project to be complete by August 31, 2013.

Webster County, Iowa

Paved Roads with AADT < 1,000 VPD



Pictures



30" Stop Sign on High Intensity



24" No Passing Zone on High Intensity



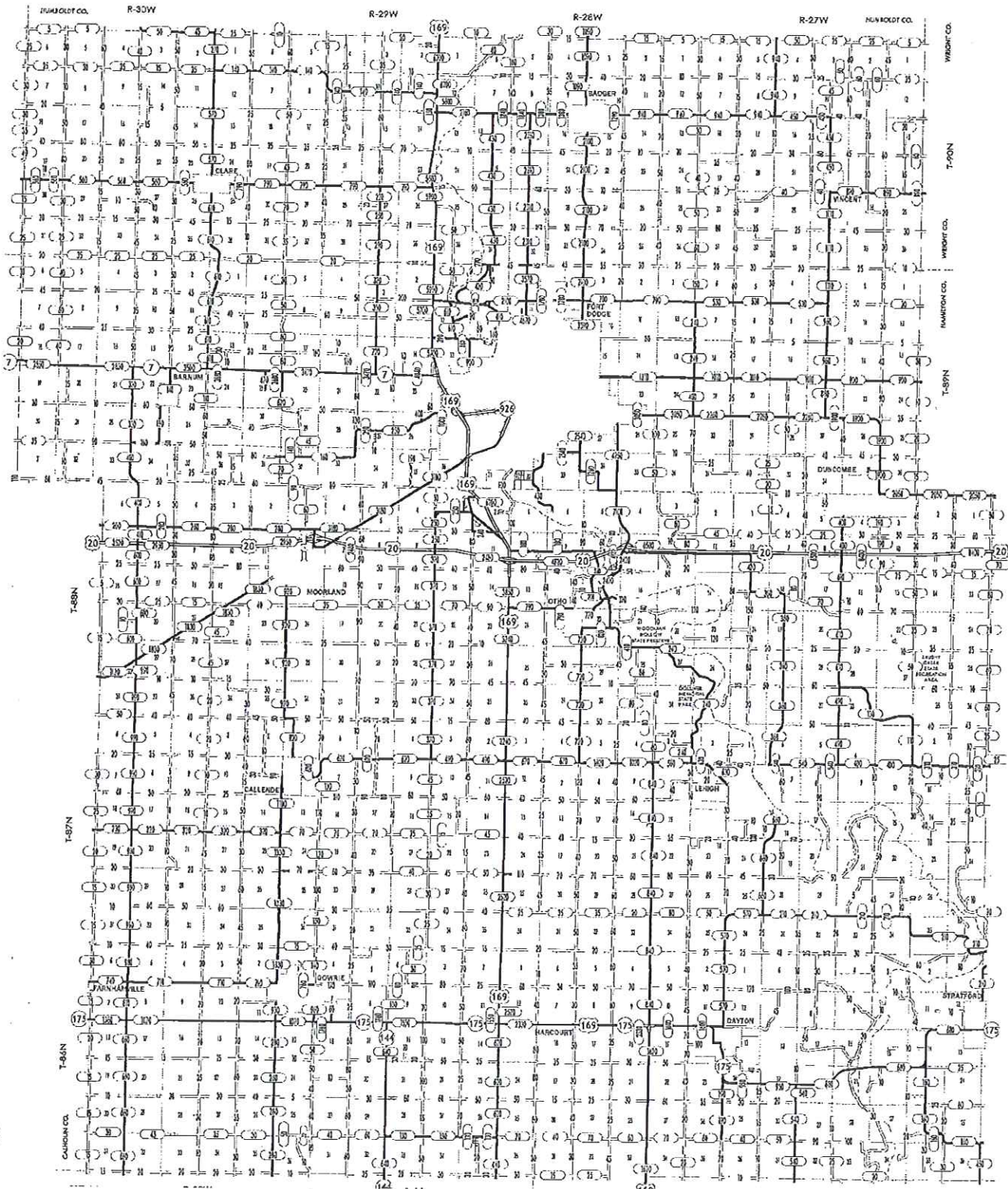
30" Stop Ahead on Engineering Grade

Plan View

A plan view is not applicable to this project.

Traffic Volumes

This is the 2011 Average Annual Daily Traffic map of Webster County.



**Iowa Department
of Transportation**

Rev. 3/08

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Traffic Signal at Lincoln Way and Hayward AvenueApplicant City of AmesContact Person Damion Pregitzer Title Traffic Engineer IIComplete Mailing Address 515 Clark Avenue, Ames, IA 50010Phone 515-239-5275 E-Mail dpregitzer@city.ames.ia.us
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 186,300Safety Funds Requested \$ 111,500

Rev. 3/08

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the City of Ames

Signed:



Signature

8/13/2012

Date Signed

Damion Pregitzer, PE, PTOE

Typed Name

Attest:



Signature

8/13/2012

Date Signed

Tracy Warner, PE

Typed Name



August 14, 2012

Terry Ostendorf
Iowa Department of Transportation
Office of Traffic and Safety
800 Lincoln Way
Ames, Iowa 50010

Dear Mr. Ostendorf:

Please consider this letter as an official endorsement from the City of Ames for the maintenance and operation of the Lincoln Way and Hayward Avenue Traffic Signal. The City of Ames assures the Iowa Department of Transportation that it will adequately maintain these improvements for their intended use, and will maintain the entire intersection and traffic control devices for a minimum of 20 years following project completion.

Please contact the City Manager's Office at (515) 239-5101 if you have any questions concerning this official endorsement. Thank you for your consideration.

Sincerely,

Ann H. Campbell
Mayor

B. Narrative:

The intersection of Lincoln Way and Hayward Avenue is located near the southwest corner of the main Iowa State University (ISU) campus. The surrounding land uses are ISU to the north, and Campustown Business District to the south; this area is a mixture of high and medium density housing and various commercial services, such as restaurants, banks, taverns, churches, etc.

An important component of this project is that it serves as the main connecting point between the newly built Ames Intermodal Facility (AIF) and the rest of the Ames network. The AIF was constructed south of project's location at the intersection of Hayward Avenue and Chamberlin Street using TIGER Grant funds. The AIF is anticipated to not only increase vehicle traffic through this intersection, but will also increase pedestrian, bicycle, and CyRide transit usage - it also serves as a connection for intercity bus and shuttles to the Des Moines Airport.

Because of this the project will add a North-South pedestrian connection along the west side of the intersection which features a refuge area in the median along Lincoln Way. This second pedestrian crossing should significantly improve the ability to serve the larger pedestrian flows seen at Campustown traffic signals. It will also add a protected left-turn phase for Westbound Lefts to help decrease the high number of FTYROW Left-Turn crashes; the second highest crash type experienced.

According to the most recent published traffic counts from the Iowa DOT, Hayward sees around 3950 ADT and Lincoln Way sees 20,400 ADT east of Hayward and 16,300 ADT to the west. Considering this intersection's proximity to the main ISU Campus it sees a significant number of pedestrians traveling to the university to-and-from surrounding rental properties and businesses. Turning movements were taken in June of 2011 by City of Ames staff and have been provided in Part H of this application.

The Speed Limit along Lincoln Way in this area is 30 MPH and 25 MPH on Hayward Avenue. Clearzone for the proposed traffic signal will provide at least 10 feet from all travel lanes to the face of any fixed piece of equipment such as signal pole footings. With the replacement of this traffic signal there will be several upgrades such as ADA compliant pedestrian push-buttons with countdown pedestrian signal indications; the push buttons will follow the requirements in Section 4E.09-11 as applicable, e.g. vibrotactile and capable of producing audible messages. The location of the pedestrian push-buttons will be on break-away pedestals located in accordance with Section 4E.08.

The new traffic signal will also include features that improve safety and operational consistency that are now part of the Standard Specifications for the City of Ames

Signal installations. They include 1) Flashing Yellow Arrows for the protected/permission operation of left-turns; 2) Radar Vehicle (fully-actuated) detection is a non-destructive form of detection, which is unaffected by weather or degrading pavements – it also is capable of detecting bicycles, radar systems provide the opportunity to create a continuous detection area required to minimize the dilemma-zone – the crash experience reflects many those types of crashes that would be reduced by this improvement; 3) Battery Back-Up Systems, which are now needed near railroad crossing signals, but will also be implemented at new or replacement signal installations in Ames – these systems ensure up to 10 or more hours of operation (running colors, flashing red operation sees considerably longer operation times).

Provided in the following pages are summary crash reports taken from the most recent update to the CMAT software, version 4.5.1 (2002-2011). As shown by the data a majority of the accidents are caused by left-turning vehicles and the vehicles that are traveling too close. Sixty-four percent (64%) of crashes involved drivers that were between the ages of 18 to 29, which are reflective of areas surrounding a state university.

With this project the City of Ames staff will utilize some of the Crash Reduction Factors found in the September 2007 FHWA guide. Specifically this project will be designed to utilize pedestrian counter measures such as countdown pedestrian signal timers. In addition, all new signal indications will be mast arm mounted using back-plates to reduce the effect of sun glare. New mounting indications will also be reviewed to provide maximum available visibility at the intersection to potentially reduce the number of rear-end accidents that occur. Finally, with the modernization of this traffic signal, new signal coordination timings will be added to ensure proper progression throughout the Lincoln Way (Campustown) corridor.

This redesign of the traffic signal system at the intersection of Lincoln Way and Hayward will also provide the opportunity for traffic data collection. The intended purpose is to collect more 24-hour traffic volume data that will be used in calculating crash rates to a higher level of accuracy. Since these data include speed and volume, they will be used to update coordination as well as provide more accurate offsets and clearance intervals. Finally, it should be noted that the equipment specified is compatible with a future planned Traffic Adaptive System through the Lincoln Way corridor in Campustown; this project is identified in the Ames Area Metropolitan Planning Organization Long Range Transportation Plan as a solution to reduce pollution and increase capacity.

C. Itemized Breakdown of Costs:

Mast Arm Poles with Luminaries Brackets	\$ 21,900.00
Traffic Signal Controller, Cabinet, and Auxiliary Equipment	\$ 13,300.00
Battery Back-Up	\$ 5,400.00
Concrete Footings	\$ 5,300.00
Traffic Signal Wiring (Various Types & Gauges)	\$ 4,300.00
Conduit (Trenched & Pushed)	\$ 6,100.00
Handholds	\$ 2,700.00
Traffic Signal Heads	\$ 7,400.00
Traffic Signal LED Indications	\$ 2,300.00
Vehicle & Bicycle Detection	\$ 20,000.00
ADA Pedestrian Push-Button System	\$ 6,600.00
Emergency Vehicle Pre-Emption	\$ 4,300.00
ADA Sidewalk & Ramps	\$ 6,600.00
Power Meter / Disconnect Box	\$ 700.00
Pavement Markings	\$ 1,700.00
Traffic Signs	\$ 2,900.00

Materials Total	\$ 111,500.00
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Labor	\$ 37,500.00
Contingency (10%)	\$ 14,900.00
Engineering, Construction Inspection/Staking (15%)	\$ 22,400.00

Totoal Project Cost	\$ 186,300.00
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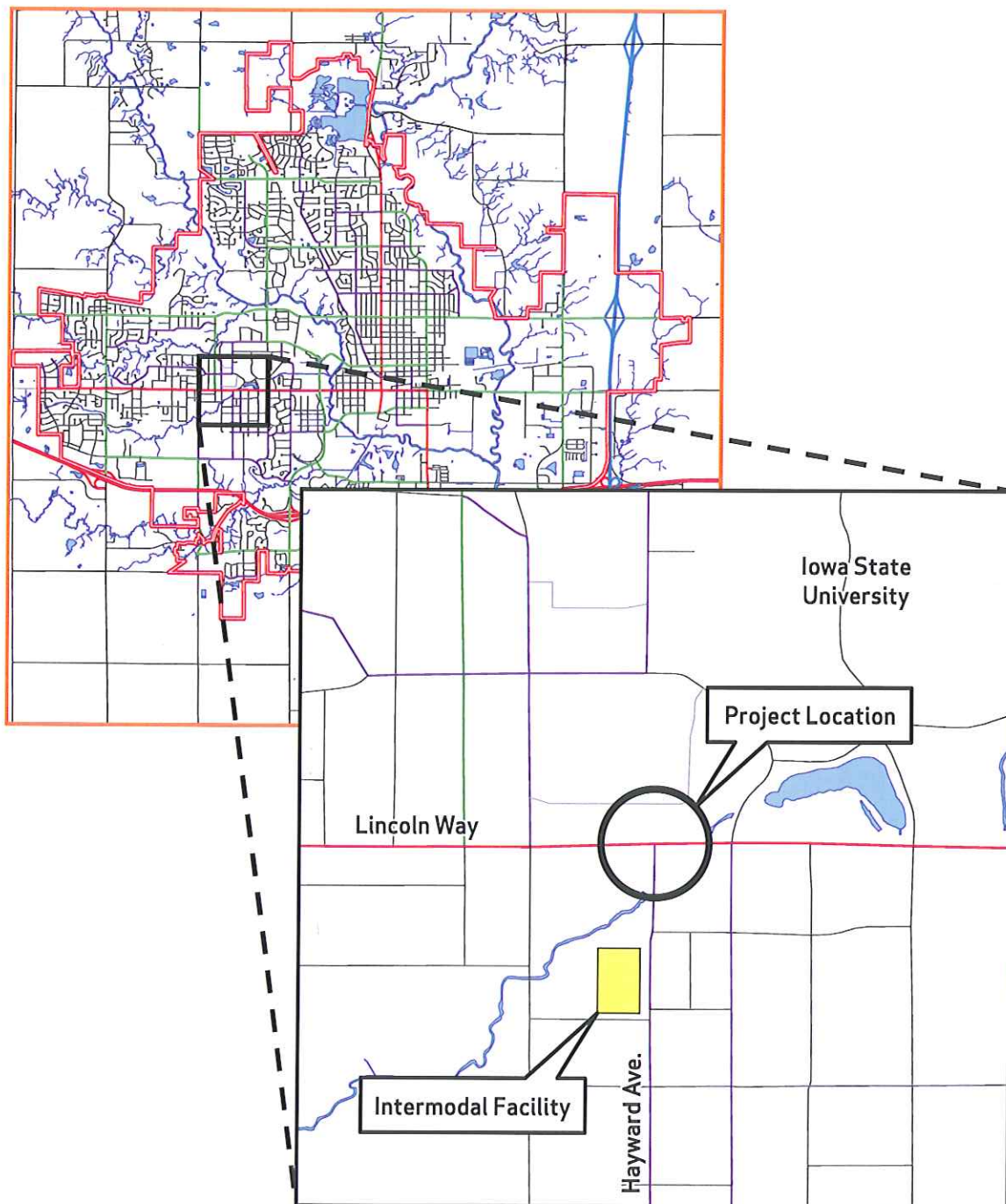
Source: unit costs taken from City of Ames Bid Tabs (2008-2011), and some recent bids from West Des Moines traffic signal installations (2011, 2012).

D. Time Schedule:**Dates:**

August 2012
September 2012
October 2012
November 2012
December 2012
January 2013
February 2013
July 2013
August 2013

Activity:

Submit TSIP Grant Application
Prepare Plans and Specifications
Iowa DOT Plan Review
Final Plan Revisions
Grant Approval from Commission
Request Bids for Project
Award Project
Begin Construction
Project Completion

E. Project Location Map:

F. Pictures of Project Location:



Northbound Approach



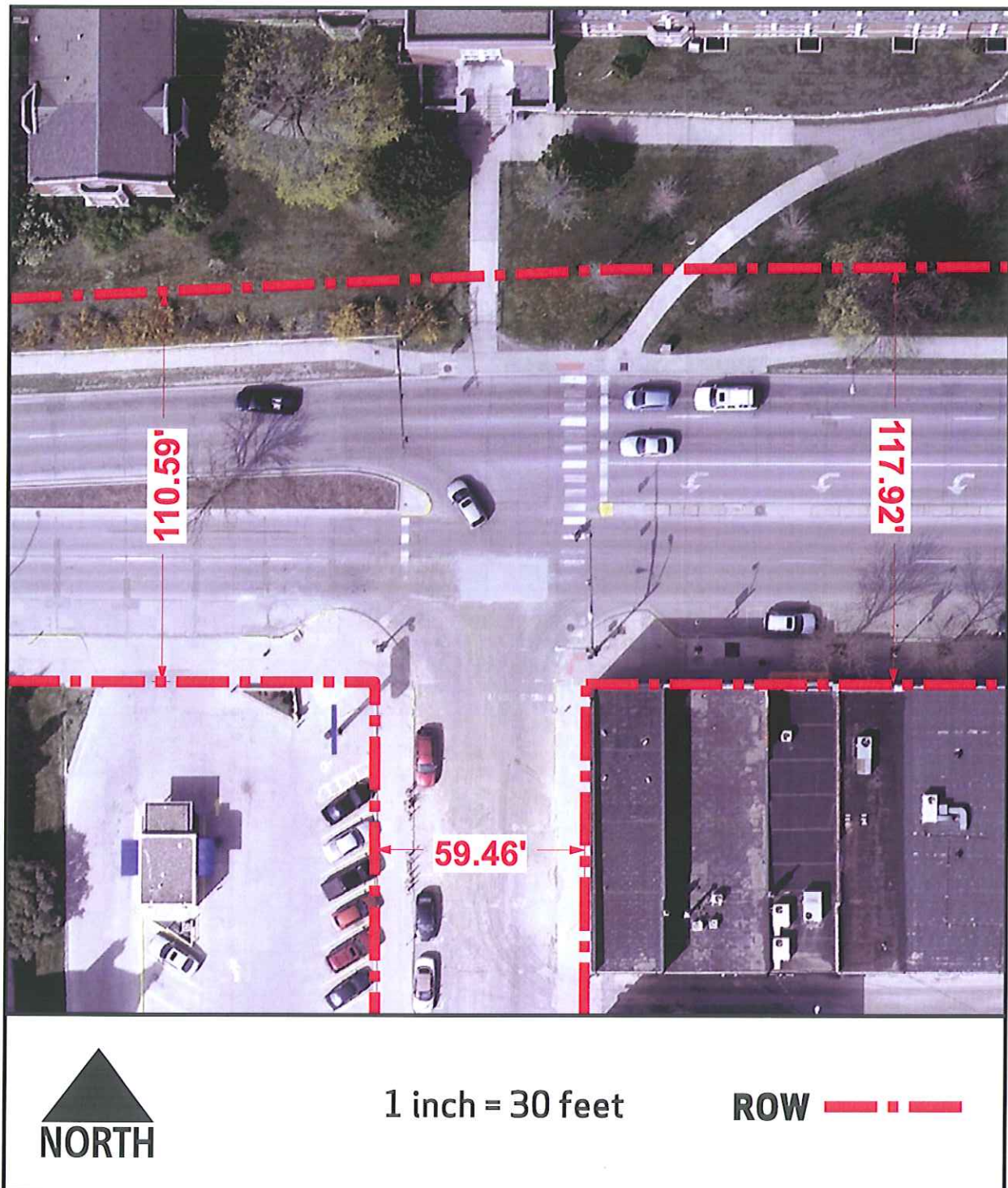
Southbound Approach



Eastbound Approach



Westbound Approach

G. Plan View - Existing ROW: (*No Changes*)

There is adequate Right-of-Way existing, therefore now changes are proposed.

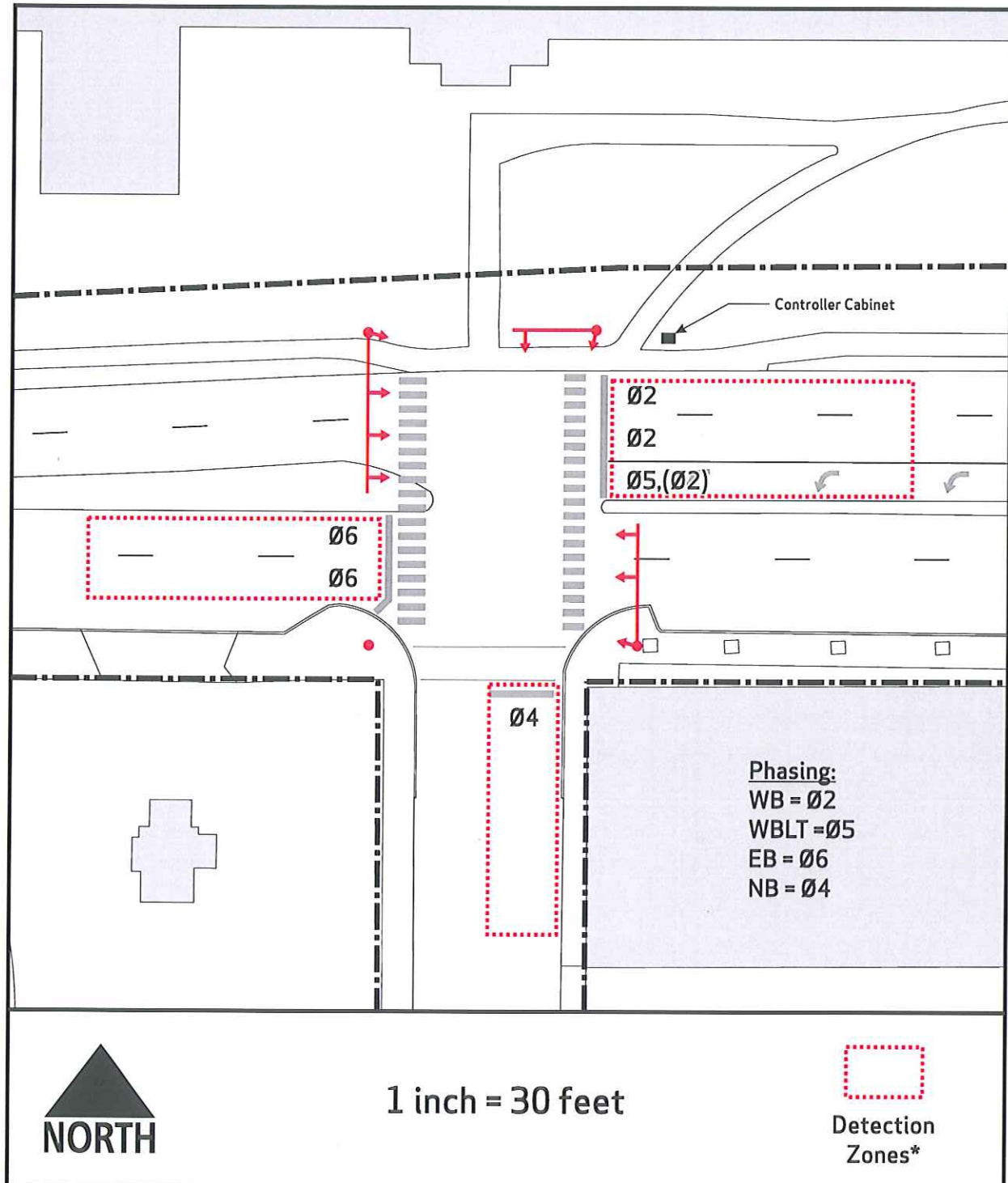
H. Turning Movement Counts:

Time	Lincoln Way Westbound		Lincoln Way Eastbound		Hayward Northbound		Pedestrians		Total Vehicle	Total Pedestrian
	L	T	T	R	L	R	E/W	N/S		
07:00 AM	1	46	90	6	5	1	1	1	149	2
07:15 AM	1	60	131	6	4	3	0	8	205	8
07:30 AM	3	48	113	13	6	7	6	6	190	12
07:45 AM	1	71	153	3	4	12	2	2	244	4
08:00 AM	7	60	105	7	2	10	2	1	191	3
08:15 AM	5	67	104	5	3	3	5	1	187	6
08:30 AM	4	81	110	3	1	7	4	1	206	5
08:45 AM	5	72	122	10	7	7	3	1	223	4
09:00 AM	3	62	94	6	6	4	3	2	175	5
09:15 AM	7	68	103	8	6	8	11	3	200	14
09:30 AM	8	71	107	6	7	8	7	3	207	10
09:45 AM	7	85	93	8	4	21	3	6	218	9
10:00 AM	8	76	92	10	7	12	5	2	205	7
10:15 AM	10	79	90	5	5	20	7	3	209	10
10:30 AM	10	85	129	9	9	13	13	2	255	15
10:45 AM	6	78	111	15	7	8	10	8	225	18
11:00 AM	9	93	91	6	13	14	6	1	226	7
11:15 AM	5	103	91	13	10	10	5	5	232	10
11:30 AM	7	118	113	18	21	13	8	10	290	18
11:45 AM	10	139	137	13	15	15	5	1	329	6
12:00 PM	13	106	148	14	19	13	8	6	313	14
12:15 PM	10	126	116	10	19	23	11	8	304	19
12:30 PM	6	129	120	13	21	17	13	9	306	22
12:45 PM	15	141	130	10	14	13	18	12	323	30
01:00 PM	9	132	161	10	19	15	6	6	346	12
01:15 PM	11	130	141	19	22	9	7	12	332	19

01:30 PM	13	118	132	6	22	20	10	12	311	22
01:45 PM	4	116	133	18	18	16	12	5	305	17
02:00 PM	1	127	124	9	16	14	8	7	291	15
02:15 PM	6	135	114	10	25	11	8	5	301	13
02:30 PM	11	111	122	9	13	7	4	2	273	6
02:45 PM	11	120	115	8	22	18	6	2	294	8
03:00 PM	12	139	121	11	22	13	6	3	318	9
03:15 PM	8	130	137	7	17	14	6	1	313	7
03:30 PM	13	142	156	9	14	10	4	5	344	9
03:45 PM	9	134	133	6	19	13	6	7	314	13
04:00 PM	15	183	147	10	20	17	10	6	392	16
04:15 PM	6	164	136	3	19	19	11	5	347	16
04:30 PM	18	132	142	13	20	9	18	5	334	23
04:45 PM	6	144	107	20	30	19	5	4	326	9
05:00 PM	10	173	131	8	25	12	9	2	359	11
05:15 PM	5	166	117	10	18	10	3	4	326	7
05:30 PM	5	110	108	17	13	8	2	5	261	7
05:45 PM	5	133	107	10	16	13	7	0	284	7
06:00 PM	5	112	116	9	17	14	6	2	273	8
06:15 PM	7	112	114	13	11	15	7	2	272	9
06:30 PM	10	116	115	11	14	8	3	2	274	5
06:45 PM	9	86	107	7	19	6	2	2	234	4

Date: June 2011

I. Traffic Signal Layout, Phasing, and Detectors:



*Detection Zones are set during the configuration of the radar systems; they are a continuous zone covering the full width of the lanes whose length is calculated to minimize the dilemma zone. (est: EB/WB - 220 ft; NB - 180 ft)



Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Traffic Signal Battery Backup Units - 17 Intersections
Applicant City of West Des Moines, Iowa
Contact Person Jim Dickinson, PE Title Principal Engineer - Traffic
Complete Mailing Address 560 South 16th Street
West Des Moines, Iowa 50265
Phone 515-222-3480 E-Mail Jim.Dickinson@wdm.iowa.com
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____
Contact Person _____ Title _____
Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 113,900
Safety Funds Requested \$ 113,900

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

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Representing the City of West Des Moines

Signed:


Signature

8-13-12
Date Signed

Bret Hodne, Director of Public Works
Typed Name

Attest:


Signature

8-13-12
Date Signed

Jim Dickinson, Principal Engineer - Traffic
Typed Name

**RESOLUTION APPROVING GRANT APPLICATION
FOR TRAFFIC SIGNAL IMPROVEMENT PROGRAM (TSIP) FUNDS**

WHEREAS, the City Council of the City of West Des Moines strongly promotes the reduction of traffic congestion and the safe, continuous operation of the city's traffic control signals,

therefore,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF WEST DES MOINES, IOWA, authorization is given to the City Engineer to apply for Traffic Safety Improvement Program (TSIP) Funds.


BE IT FURTHER RESOLVED, that if the projects are funded, the City of West Des Moines will adequately maintain the completed project for its intended public use following project completion.

PASSED AND APPROVED this 6th day of August, 2012.



Steven K. Gaer, Mayor

ATTEST:



Jody E. Smith, CMFA, MMC
City Clerk

COUNCIL ACTION	YEAS	NAYS	ABST.	ABSENT
TREVILLYAN	✓			
SCHNEIDER	✓			
TRIMBLE	✓			
OHMART	✓			
SANDAGER				✓
MOTION BY Trevillyan				
SECOND BY Trimble				
ROLL CALL # 12-236				

12-08-06-03

NARRATIVE

Traffic Signal Battery Backup Units – 17 Intersections West Des Moines, Iowa

The City of West Des Moines is submitting this application for Traffic Safety Improvement Program funds under the Traffic Control Device category. The funding request is to provide for the purchase of battery backup units to install at the seventeen (17) signalized intersections in West Des Moines. The battery backup unit is located in a separate cabinet that is mounted on or adjacent to the existing traffic signal cabinet. The battery backup units will be connected to the city's traffic signal fiber optic network. This provides the capability to monitor the status of the battery backup units from either the city's Traffic Operations Center or remotely. The battery backup units will also have the capability to send out an email notification when the unit is on battery power and when it has returned to line power. The City of West Des Moines is responsible for the operation and maintenance of the signalized intersections.

The signalized intersections included in the application for the installation of battery backup units include the following:

- 4th Street and Grand Avenue
- 8th Street and Office Park
- 8th Street and Railroad Avenue
- 28th Street and Ashworth Road
- 28th Street and Westtown Parkway
- 31st Street and Westtown Parkway
- 39th Street and Ashworth Road
- 42nd Street and Ashworth Road
- 64th Street and Coachlight Drive
- 68th Street and Coachlight Drive
- 68th Street and Stagecoach Drive
- 68th Street and Wistful Vista Drive
- EP True Parkway and Jordan Creek Town Center North Entrance
- Jordan Creek Parkway and Aviva/Wells Fargo Entrance
- Jordan Creek Parkway and Stagecoach Drive
- Prairie View Drive and Ashworth Road
- Prairie View Drive and EP True Parkway

All of the intersections are located on major arterial streets in West Des Moines carrying significant volumes of traffic serving office, commercial, and residential areas of the city. Maintaining the traffic signals in full operation during a power outage is very important at these and any signalized intersection.

Currently when there is a power outage, planned or unplanned, the affected traffic signals cease to operate. This blacked out signal condition would require all drivers to treat these signals as all way stops. However, in reality, many drivers treat a blacked out signal as a green, especially drivers on the major street.

Typically when traffic signals are blacked out, the Public Works Department will deploy temporary stop signs. This requires the signal technicians to go to the Public Works Facility, load the stop signs, and then place the stop signs at the intersection or intersections. There have been instances that the power outage has been so extensive that there were not enough temporary stop signs available to place at all of the impacted intersections. All of these steps take time and divert the city traffic technicians and police personnel away from their primary responsibilities. When these outages occur during non-working hours, response times are longer. Traffic signal technicians must be called out from home and travel to the Public Works Facility to load up the stop signs.

Both dark traffic signals as well as installing temporary stop signs at an intersection can provide a hazard to motorists. In April of this year, during a power outage, a vehicle was struck by a temporary stop sign that was installed in the intersection area. Even though the sign was weighted down, the wind blew the sign over and was struck by the vehicle.

The use of LED traffic signal indications at the intersections has made it possible to install battery backup units at the signal cabinet to provide power during the electrical outages. The battery backup unit can provide full operation of a traffic signal for over five hours. With the battery backup unit installed at a traffic signal, traffic safety and the safety of City personnel is enhanced and traffic congestion, confusion, and delay are minimized.

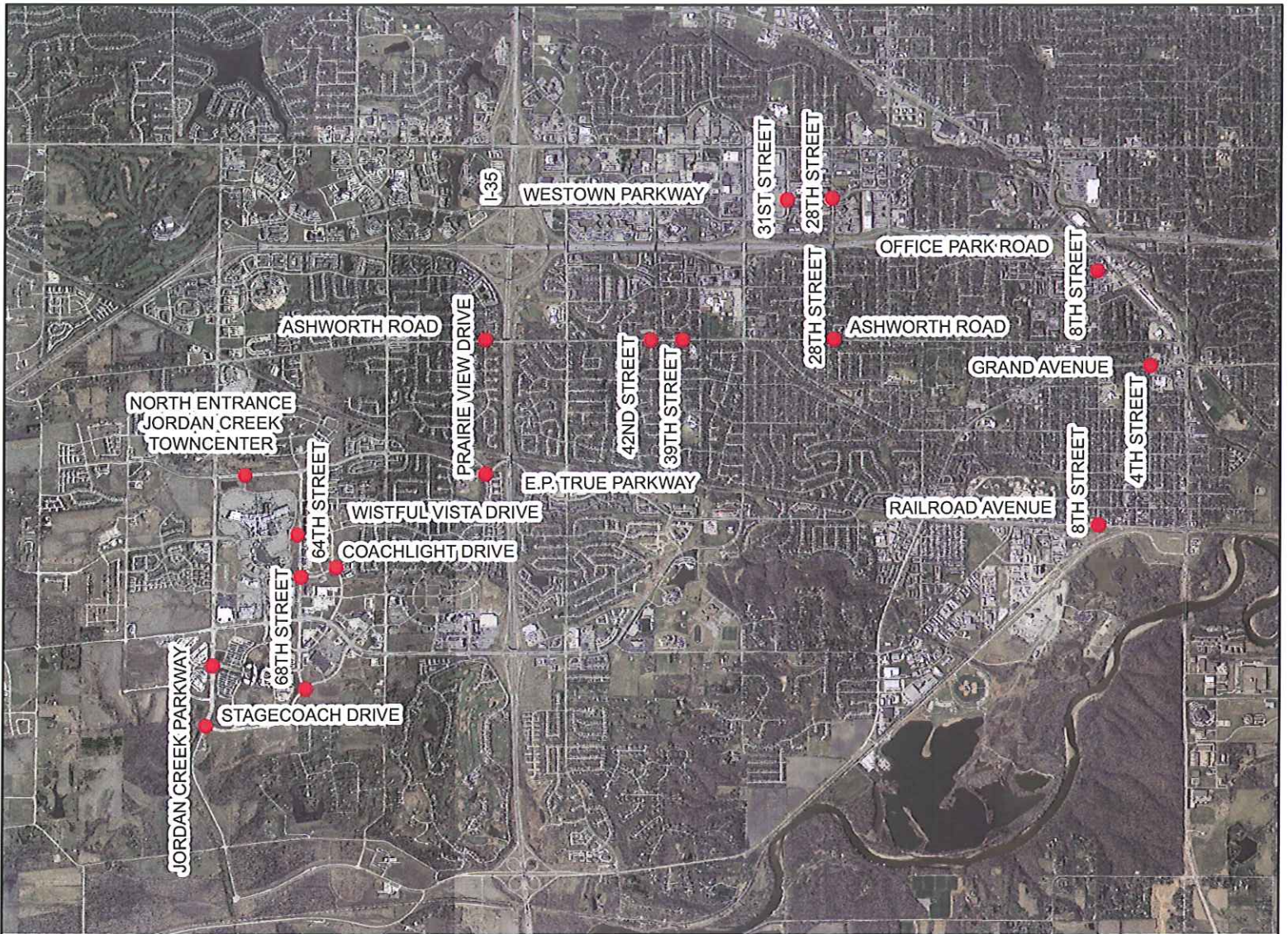
The objective of installing traffic signal battery backup units is to increase public safety and reduce traffic congestion by allowing traffic signals to function even during a power failure. A typical traffic signal intersection experiences eight to ten local power outages annually of varying lengths of time. By immediately going to battery backup power during a power outage and keeping the signals in operation will provide increased safety to the public and eliminate the need to dispatch police or signal technicians to control traffic or set up temporary stop signs. Providing continuous signal operation, even during a power outage, will improve the safety of the intersection as well as reduce traffic crashes and congestion that would occur if the signals are out during a power outage.

ITEMIZED BREAKDOWN OF COST**Traffic Signal Battery Backup Units – 17 Intersections
West Des Moines, Iowa**

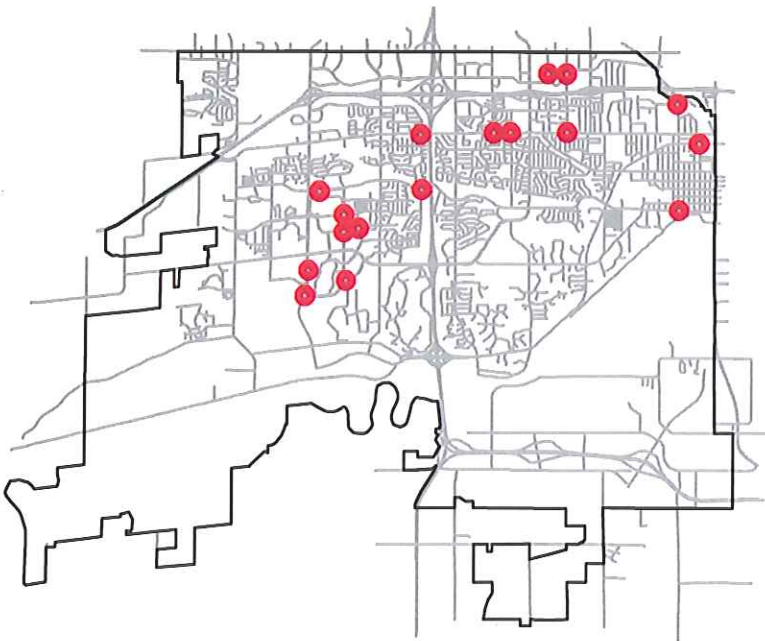
<u>Description</u>	<u>Cost</u>
Traffic Signal Battery Backup Unit 17 units @ \$6,700 each =	\$113,900

TIME SCHEDULE**Traffic Signal Battery Backup Units – 17 Intersections
West Des Moines, Iowa**

TSIP Funding Application	August, 2012
TSIP Project Selection	December, 2012
TSIP Funding Available	July, 2013
Project Letting	July, 2013
Project Installation	August, 2013
Project Completion	October, 2013



VICINTY MAP



**DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**
560 S. 16TH STREET (515)222-3475
WEST DES MOINES, IOWA 50265
FAX NO. (515)222-3478

PROJECT:

TSIP Funding

LOCATION:

Various Locations Within West Des Moines

DRAWN BY: REF

DATE: 8/1/2012

SHT. 1 OF 1

PICTURES

**Traffic Signal Battery Backup Units – 17 Intersections
West Des Moines, Iowa****Battery Backup Unit**



4th Street and Grand Avenue



8th Street and Office Park Road



8th Street and Railroad Avenue



68th Street and Coachlight Drive



68th Street and Wistful Vista Drive



EP True Parkway and North Mall Entrance



Jordan Creek Parkway and Aviva/Wells Fargo



Jordan Creek Parkway and Stagecoach Drive



Prairie View Drive and Ashworth Road



Prairie View Drive and EP True Parkway

TRAFFIC VOLUMES

Traffic Signal Battery Backup Units – 17 Intersections West Des Moines, Iowa

2010 Two-Way Daily Traffic Volumes (Vehicles Per Day - vpd)

4 th Street and Grand Avenue	Grand (1 st to 4 th)	16,302 vpd
8 th Street and Office Park Road	8 th Street (Office Park to Center)	20,513 vpd
42 nd Street and Ashworth Road	Ashworth Road (41 st to 42 nd)	10,387 vpd
S. 68 th Street and Stagecoach Drive	68 th Street (Mills to S. 64 th)	3,893 vpd

2010 Intersection Daily Entering Traffic Volumes (Vehicles Per Day - vpd)

8 th Street and Railroad Avenue	19,420 vpd
28 th Street and Ashworth Road	12,264 vpd
28 th Street and Westown Parkway	15,548 vpd
31 st Street and Westown Parkway	10,970 vpd
39 th Street and Ashworth Road	10,970 vpd
64 th Street and Coachlight Drive	4,887 vpd
68 th Street and Coachlight Drive	15,640 vpd
68 th Street and Wistful Vista Drive	11,279 vpd
EP True Parkway and N. Mall Entrance	17,562 vpd
Jordan Creek Parkway and Aviva/Wells Fargo	5,029 vpd
Jordan Creek Parkway and Stagecoach Drive	5,141 vpd
Prairie View Drive and Ashworth Road	16,738 vpd
Prairie View Drive and EP True Parkway	21,145 vpd

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project IA Highway 3 (Central Avenue) and two (2) intersections at Main Street & 4th St SE/ SW

Applicant City of Clarion

Contact Person Jon DeVries Title Director of Public Works

Complete Mailing Address 121 First ST SW
Clarion Iowa 50525

Phone 515/532-2847 E-Mail clarion@mchsi.com
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 81,400

Safety Funds Requested \$ 73,260 City will fund 10%

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT


To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the City of Clarion

Signed: 
Signature Date Signed

Mike Nail, Mayor
Typed Name

Attest:  7-9-12
Signature Date Signed

Rochelle Pohlman, City Administrator
Typed Name

RESOLUTION NO: 12-22

A RESOLUTION APPROVING APPLICATIONS FOR FUNDING FROM THE IOWA
DEPARTMENT OF TRANSPORTATION'S (DOT) TRAFFIC SAFETY IMPROVEMENT PROGRAM
FOR PROJECTS ALONG IOWA HIGHWAY 3

WHEREAS, the City of Clarion (the City) wishes to improve the safety of three intersections along Iowa Highway 3 by replacing traffic control devices at two highway intersections - Iowa Highway 3 and Main Street and Iowa Highway 3 and 4th Street - and making site specific improvements at Iowa Highway 3 and 2nd St West; and

WHEREAS, the City wishes to seek funding by submitting two applications, due August 15, 2012, for these improvements through the use of the Iowa DOT Traffic Safety Improvement Program.

NOW THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF CLARION, IOWA THAT:

The City wholeheartedly endorses these applications requesting financial assistance from the Iowa Department of Transportation to improve traffic safety along Iowa Highway 3.

The City assures the Iowa DOT that these funded improvements will be adequately maintained.

The Mayor and City Clerk/Administrator are hereby authorized to execute any and all documents necessary to submit the applications.

PASSED AND APPROVED this 9th day of July, 2012.

A handwritten signature in black ink, appearing to read "Mike Nail", written over a horizontal line.

Michael Nail, Mayor

ATTEST:

A handwritten signature in blue ink, appearing to read "Rochelle Pohlman", written over a horizontal line.

Rochelle Pohlman, City Clerk/Administrator

Narrative:

Traffic lights along Iowa Highway 3 are becoming obsolete. The City of Clarion wishes to replace incandescent traffic lights and install energy efficient, LED traffic signals at two locations in the downtown area - at the intersection of the Highway 3 and Main Street and at the intersection of Highway 3 and 4th Street East. The installations of the current signals were made between 25 and 40 years ago.

- The devices are 40 years old at Highway 3 and Main Street.
- The devices are 20 years old at Highway 3 and 4th Street.

There is a need to replace the detection devices, beyond the simple reason of age, because the current aging system is now running on “recall” or a fixed time cycle which is inefficient for through traffic on Highway 3. The speed limits along Highway 3 are 30 miles per hour and 25 miles per hour with clear sight lines and no restrictions on view.

New LED traffic lights have many advantages. They lower power consumption. They typically use only 10% of the power of incandescent lights and operate for many years without the need to change a bulb. These signals are cost effective and can provide energy savings and maintenance savings when compared to a conventional incandescent. The environment benefits and cost savings measures are important but as important is that the new lights offer high reliability for a better, safer traffic control system. The LED lights generate little heat, are shock and vibration resistant and easy to install. New advanced optical lens designs meet the luminous intensity standards while light output is redirected to motorists on the streets. Compared to traditional incandescent signals, upsized 12 inch heads with LED signals are high in brightness, show pure and consistent colors throughout the entire module area. They provide better visibility at all times - at night and in direct sun light which is critical as the population continues to age. The population of Clarion area residents with ages 65 years and older is important and growing larger. At 20.7% of the Wright County population, this is a considerably larger segment than the state average of 14.8% for people 65 and older. Upgrading traffic and pedestrian lights to a 12 inch size and greater brightness with a back plate will increase the target value and make them easier to see. This improves safety conditions. There will also be new pedestrian signals. Those that are in place now are not functioning. Installation will be a significant safety improvement. The city will provide 10% of the funding needed and requests TSIP funds for the rest of the budget.

COST of Traffic Signal Improvements at two (2) intersections:

Highway 3 & 4th Street NE/SE and Highway 3 & Main Street

1. Replace controller and cabinet at each of two (2) intersections \$15,000 each	\$30,000
(Naztec controller with Garmin GPS to interconnect all three intersections wirelessly. This would also handle loops, pedestrian phases and vehicle phases if modifications from four lanes to three lanes are made at a later date.)	
2. Install ten (10) new vehicle signal heads with 12" LED indicators & backplates/intersection	
\$12,500 for each intersection	\$25,000
3. Install LED four (8) count-down pedestrian heads \$1,250/ intersection	\$20,000
\$10,000 per intersection	
4. Pedestrian push buttons eight (8) at \$150 each plus additional wiring/intersection	<u>\$ 6,400</u>
TOTAL for two intersection upgrades	\$81,400

COST

July 9, 2012	City council approves submission of TSIP grant
July 31, 2012	Review of TSIP application with IDOT
August 14, 2012	TSIP application submission
December, 2012	IDOT notice of grant approval given
Spring, 2013	City lets bids
Summer, 2013	City awards bids and begins construction
July 1, 2013	Funding available from IDOT
September 1, 2013	Construction complete

Tab E

mapquest m^q

Map of:

[100-1699] Highway 3

Clarion, IA 50525

Notes

TSIP Application - Traffic Control Devices
Two Intersection

Highway 3 and Main Street Intersection

Intersection at Highway 3 and 4th Street NE/SE



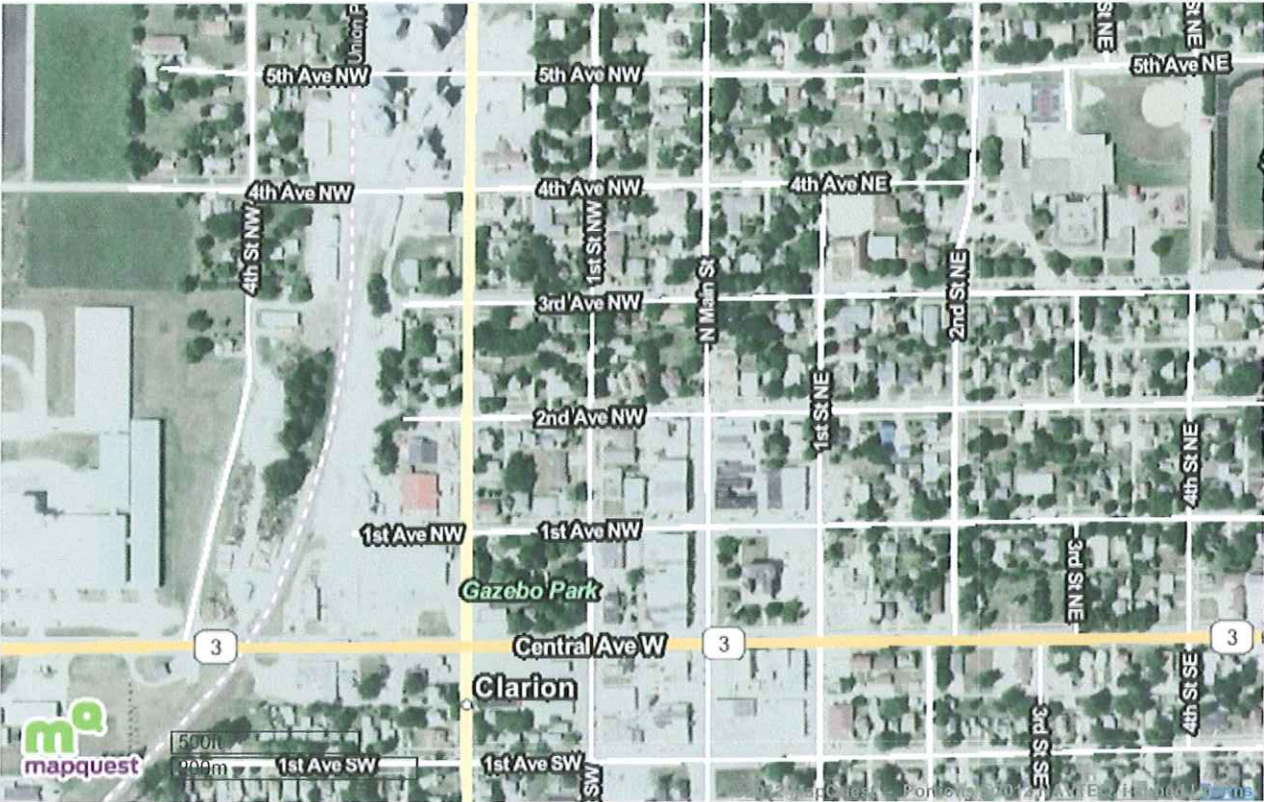
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Map of:
[100-1699] Highway 3
Clarion, IA 50525

Notes

Satellite View



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Photos

Intersection Highway 3 and 4th Street

1. Northwest and northeast corners
2. Northeast and southeast corners
3. Southeast and southwest corners
4. Southwest and northwest corners

Intersection at Highway 3 and Main Street (downtown)

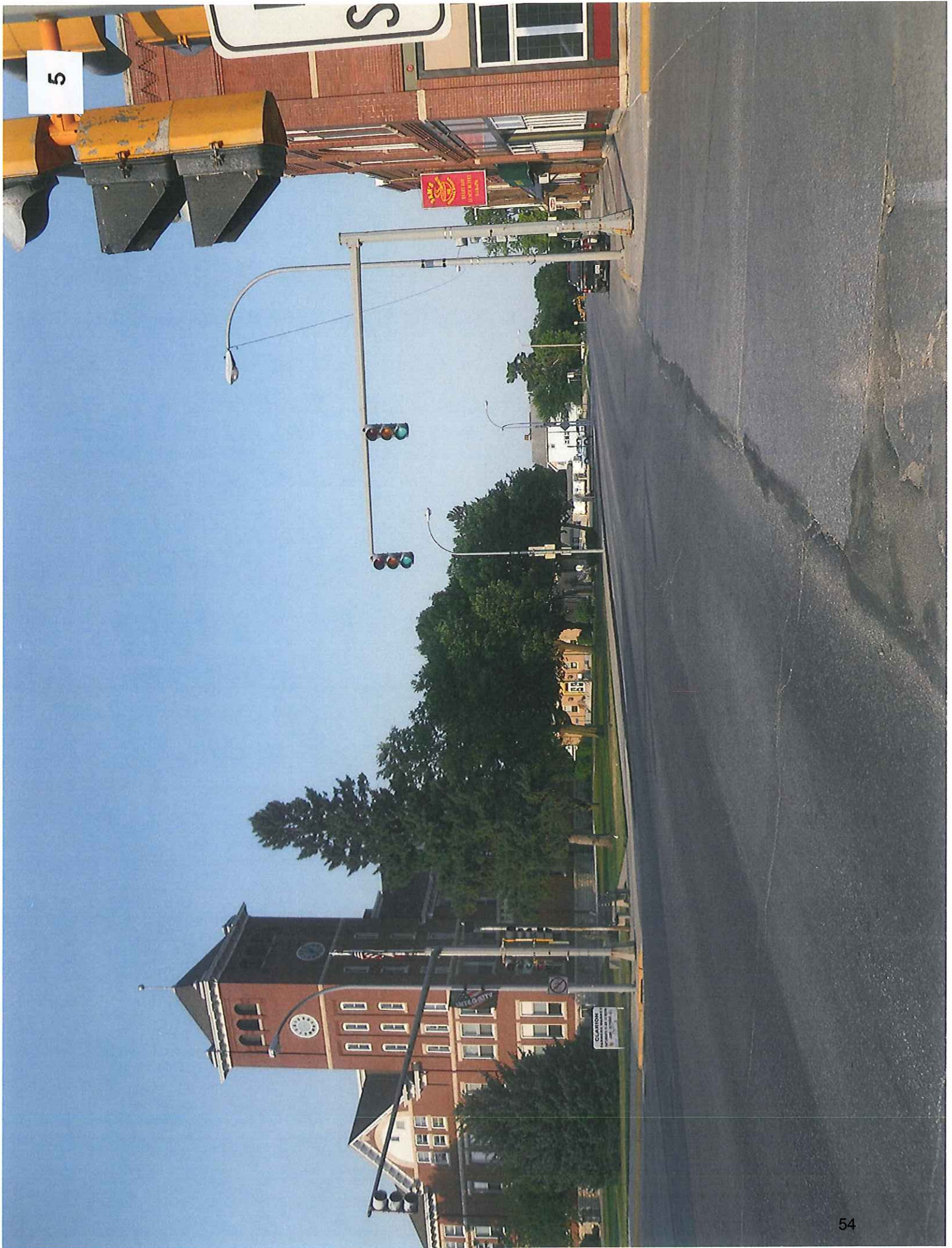
5. Northeast and southeast corners at courthouse
6. Southeast and southwest corners
7. Southwest and northwest corners
8. Northwest and northeast corners

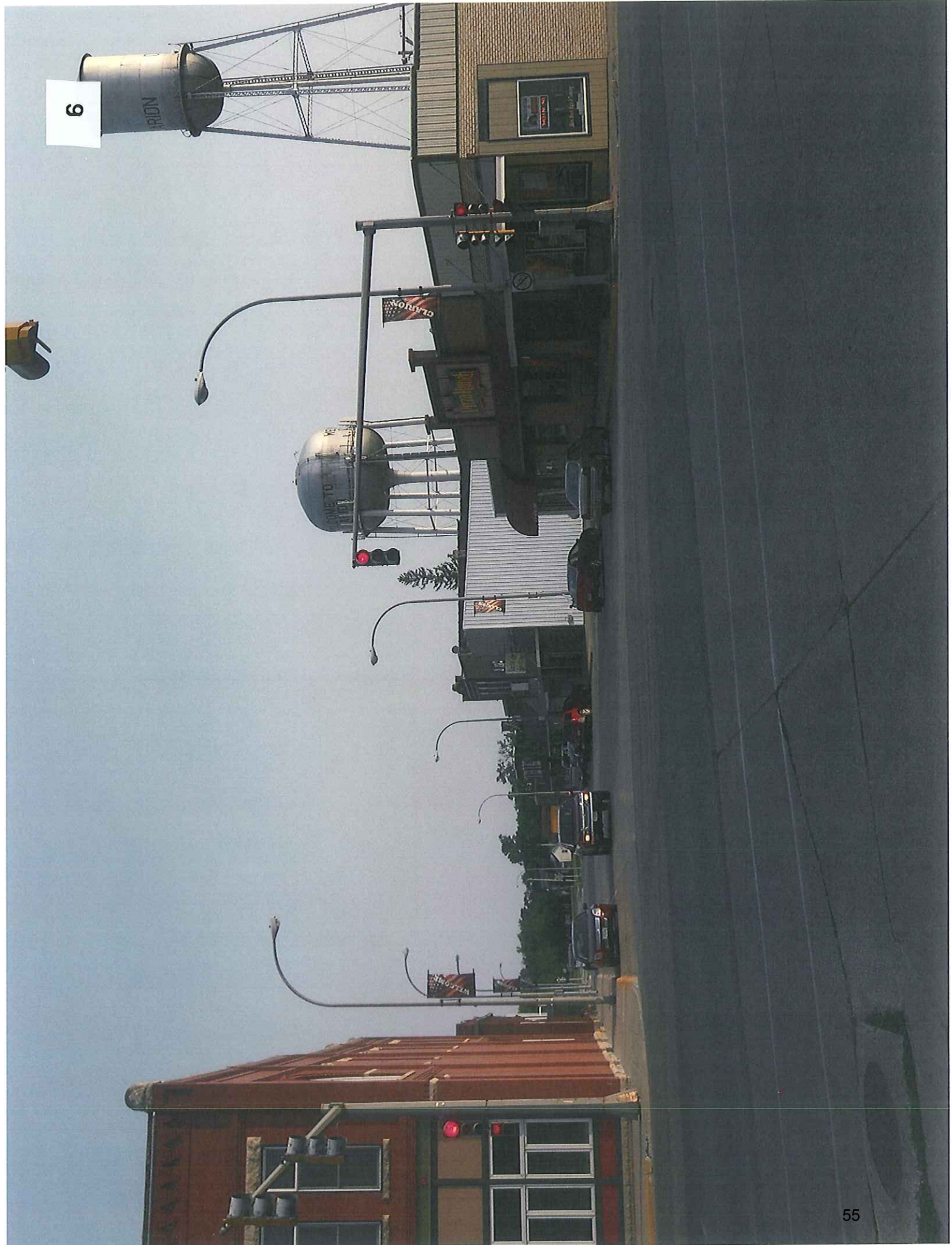








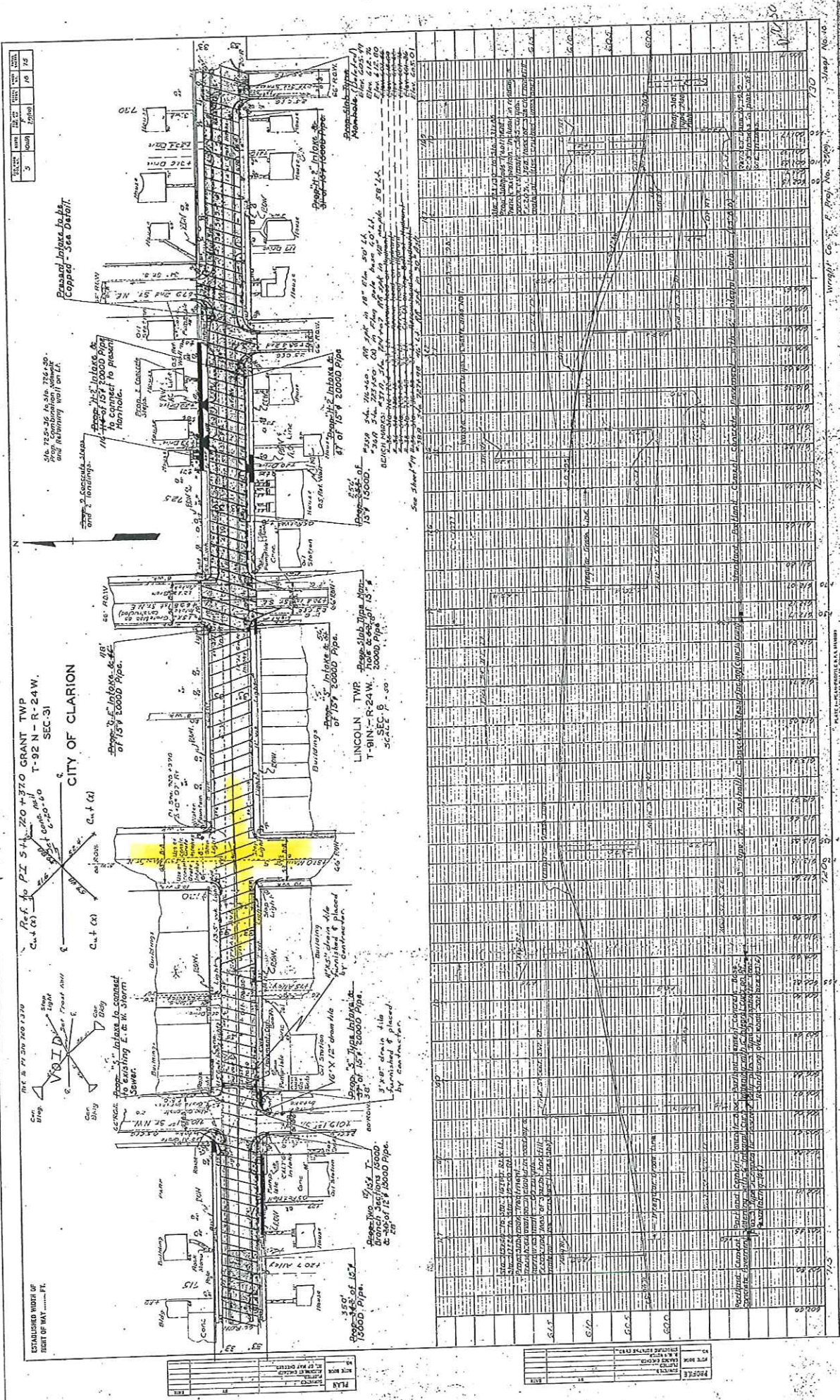


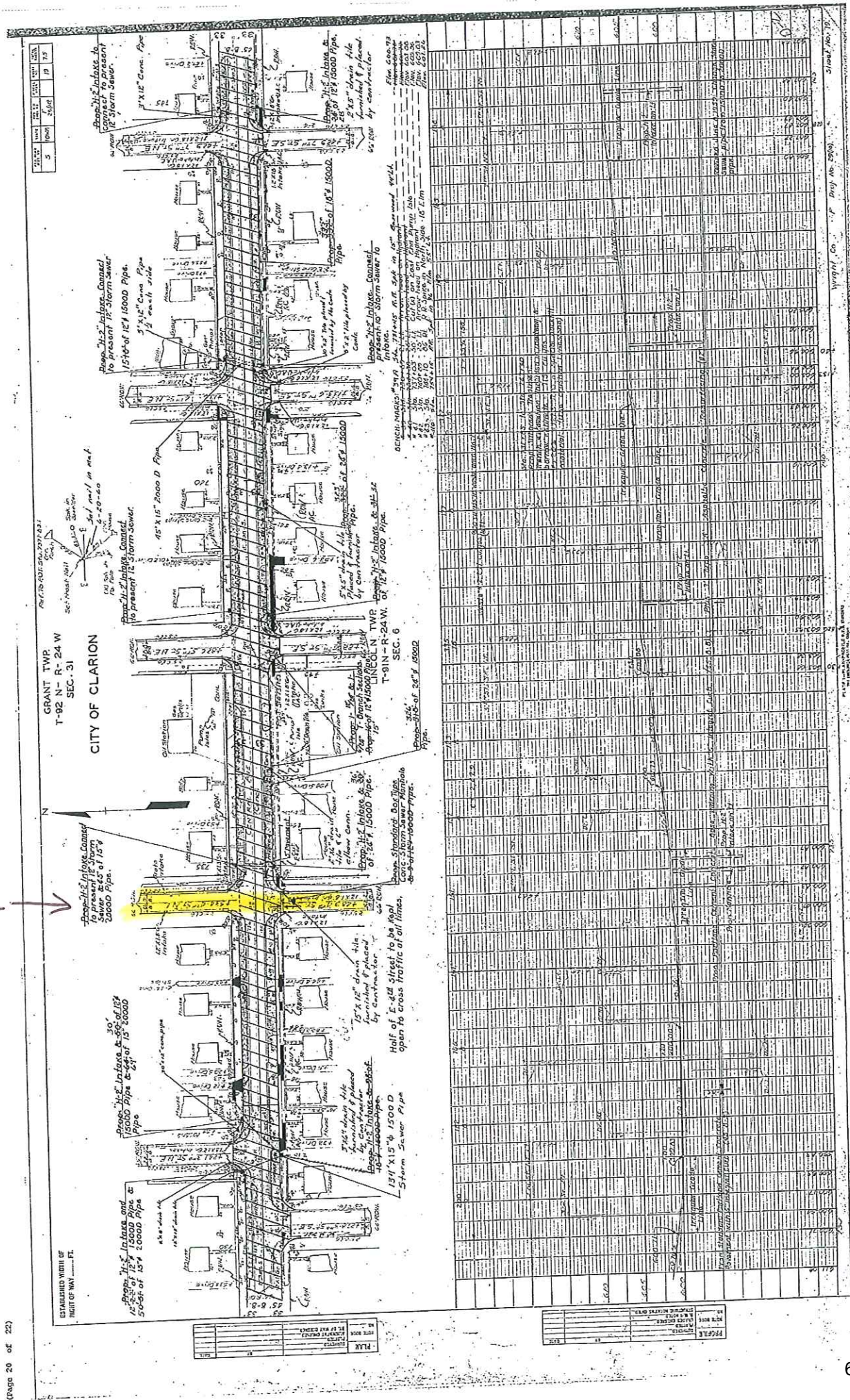






Frank Street

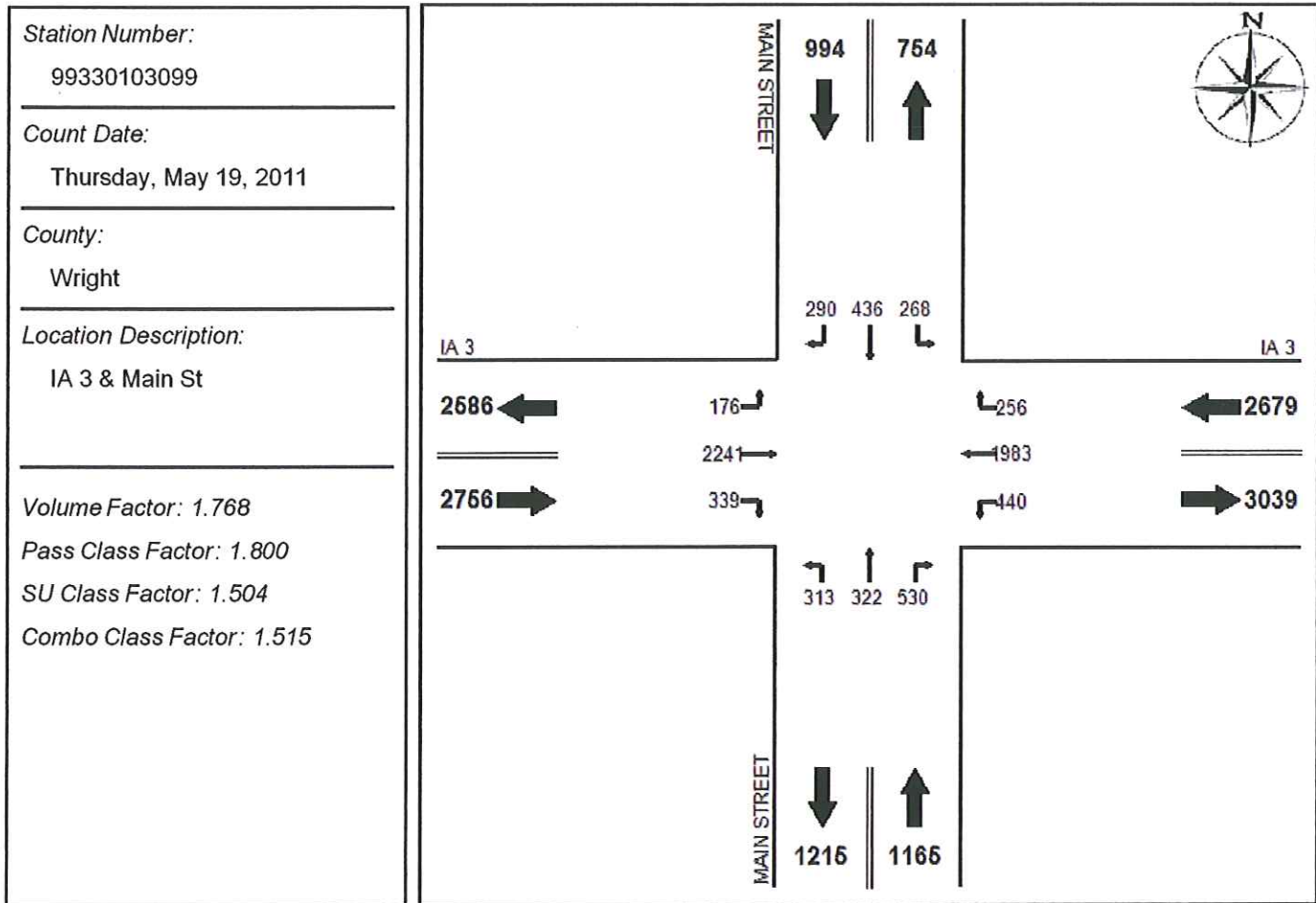




Traffic counts are included, as provided by Bob Clark, IDOT District 2 Traffic Technician, for the Highway 3 and Main Street intersection. There are no traffic counts available for Highway 3 and 4th Street.

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles

Tab H



Raw Data-All Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
07:00	14	25	8	26	167	22	11	21	37	10	134	16
08:00	12	28	18	35	191	22	11	31	31	15	177	13
11:00	15	22	23	28	127	15	20	20	32	9	191	36
12:00	28	40	34	36	222	20	36	21	48	23	195	40
15:00	25	45	26	32	143	25	29	31	49	12	184	36
16:00	32	39	29	42	140	26	26	31	47	17	206	31
17:00	23	44	24	47	133	13	41	24	51	12	180	17

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Passenger Vehicles

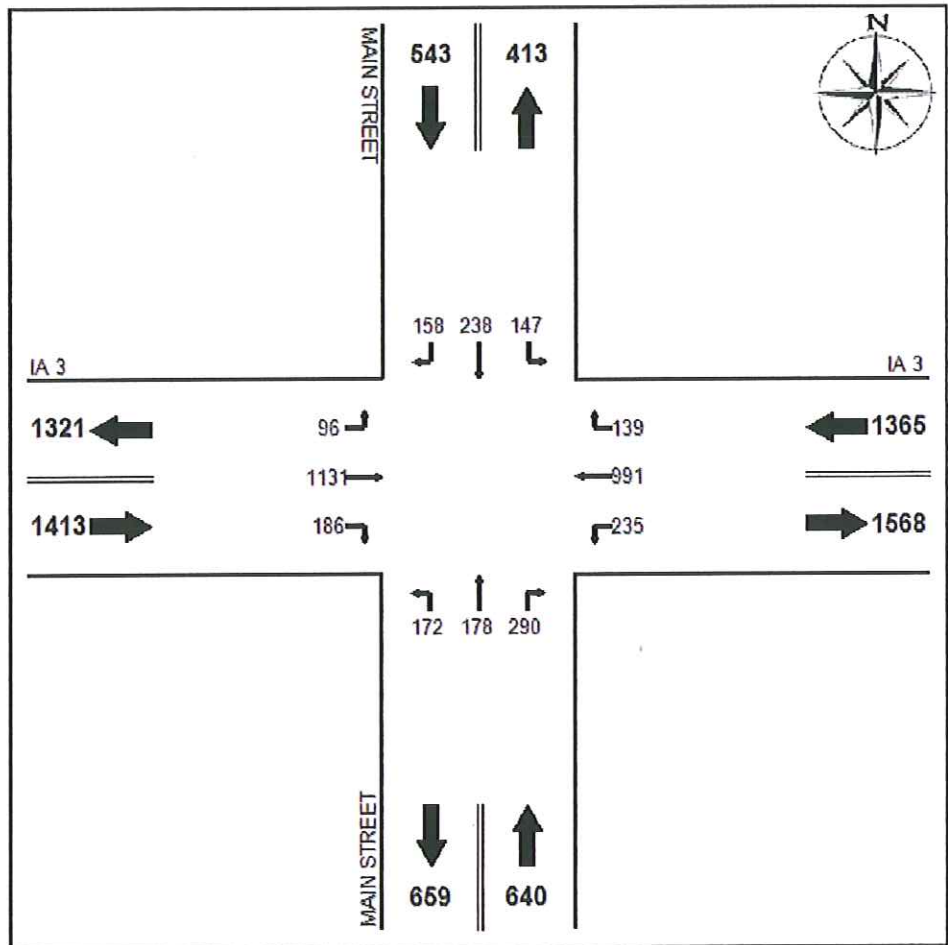
Station Number:
 99330103099

Count Date:
 Thursday, May 19, 2011

County:
 Wright

Location Description:
 IA 3 & Main St

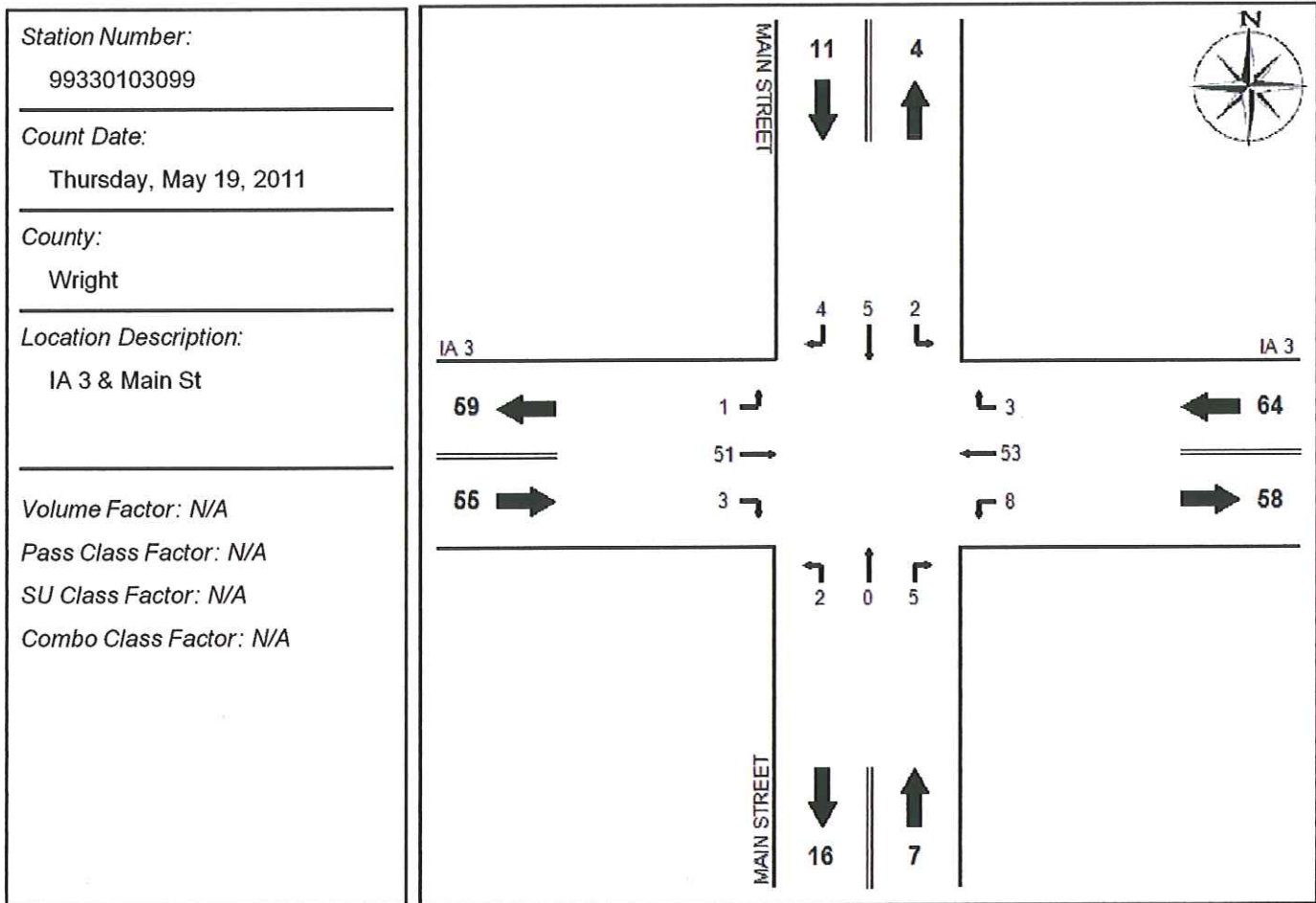
Volume Factor: N/A
Pass Class Factor: N/A
SU Class Factor: N/A
Combo Class Factor: N/A



Raw Data-Passenger Vehicles:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
07:00	14	25	8	26	148	22	11	21	36	10	118	16
08:00	12	27	18	35	159	22	10	31	29	14	155	13
11:00	14	21	21	23	110	13	20	20	32	9	165	36
12:00	28	39	34	32	186	20	35	20	47	22	178	39
15:00	24	43	25	30	124	24	29	31	48	12	161	35
16:00	32	39	28	42	132	25	26	31	47	17	188	31
17:00	23	44	24	47	132	13	41	24	51	12	166	16

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Single-Unit Trucks



Raw Data-Single-Unit Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
07:00	0	0	0	0	7	0	0	0	1	0	4	0
08:00	0	1	0	0	16	0	1	0	2	1	10	0
11:00	1	1	2	4	7	1	0	0	0	0	11	0
12:00	0	1	0	2	15	0	1	0	1	0	8	1
15:00	1	2	1	2	6	1	0	0	1	0	8	1
16:00	0	0	1	0	2	1	0	0	0	0	4	0
17:00	0	0	0	0	0	0	0	0	0	0	6	1

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Combination Trucks

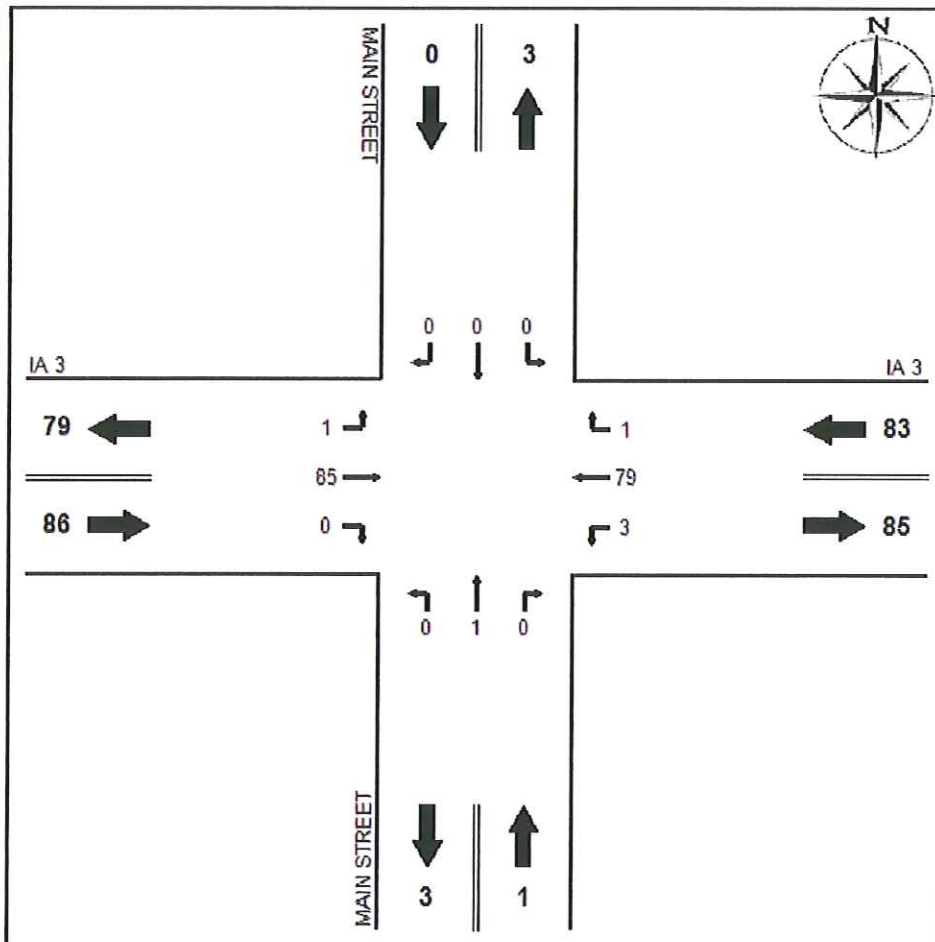
Station Number:
 99330103099

Count Date:
 Thursday, May 19, 2011

County:
 Wright

Location Description:
 IA 3 & Main St

Volume Factor: N/A
 Pass Class Factor: N/A
 SU Class Factor: N/A
 Combo Class Factor: N/A



Raw Data-Combination Trucks:

	N Leg			E Leg			S Leg			W Leg		
	L	T	R	L	T	R	L	T	R	L	T	R
07:00	0	0	0	0	12	0	0	0	0	0	12	0
08:00	0	0	0	0	16	0	0	0	0	0	12	0
11:00	0	0	0	1	10	1	0	0	0	0	15	0
12:00	0	0	0	2	21	0	0	1	0	1	9	0
15:00	0	0	0	0	13	0	0	0	0	0	15	0
16:00	0	0	0	0	6	0	0	0	0	0	14	0
17:00	0	0	0	0	1	0	0	0	0	0	8	0

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project County Road Business 71 - Section 10, T91N, R37WApplicant Buena Vista CountyContact Person Jon L. Ites Title County EngineerComplete Mailing Address P.O. Box 368
Storm Lake, Iowa 50588Phone (712) 749-2540 E-Mail jites@bvcountyiowa.com
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____
_____Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 2,410.70Safety Funds Requested \$ 2,410.70

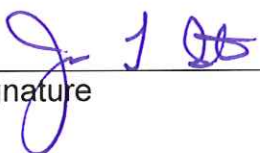
APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the Buena Vista County

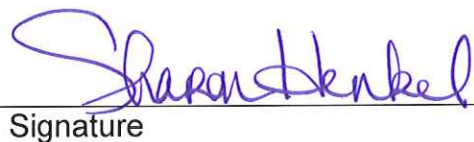
Signed:


Signature

7/25/12
Date Signed

Jon L. Ites
Typed Name

Attest:


Signature

7-25-12
Date Signed

Sharon Henkel
Typed Name

Item B

The proposed project site is a curve located on County Road M44 approximately 4 miles north of Storm Lake in Buena Vista County. This route is a major collector for the City of Storm Lake and has close to 2,000 AADT. The speed limit at the curve is 55 mph and also serves as an intersection for County Roads M44 and C43.

For Safety reasons, Buena Vista County would like to install chevrons around this curve. There have been several accidents at this curve including a fatality 3 years ago. According to Table 2C-6 of the MUTCD, Buena Vista County would like to install 12 double chevrons at a spacing of 160' around the curve with a length of 1,821 feet.

Item C

Breakdown of Costs are as follows:

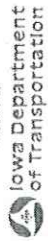
Labor: 2 men x 10 hours	\$429.90
Equipment: pickup (2hr) + Sign Truck (8hr)	\$320.00
Materials: 24 W1-8 Chevrons (18"x24" HIP)	24 x \$29.75 = \$714.00
12 Double Post Brackets	12 x \$34.50 = \$414.00
12 Galvanized Posts	12 x \$44.40 = \$532.80

-Prices were obtained from Tapco Sign Company

Item D

Time Schedule: Buena Vista would install the chevrons in the spring or summer of 2013.

HIGHWAY AND TRANSPORTATION MAP BUENA VISTA COUNTY IOWA



Phone (515) 281-1222
In Cooperation with

United States

Department of Transportation

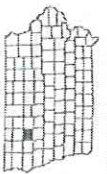
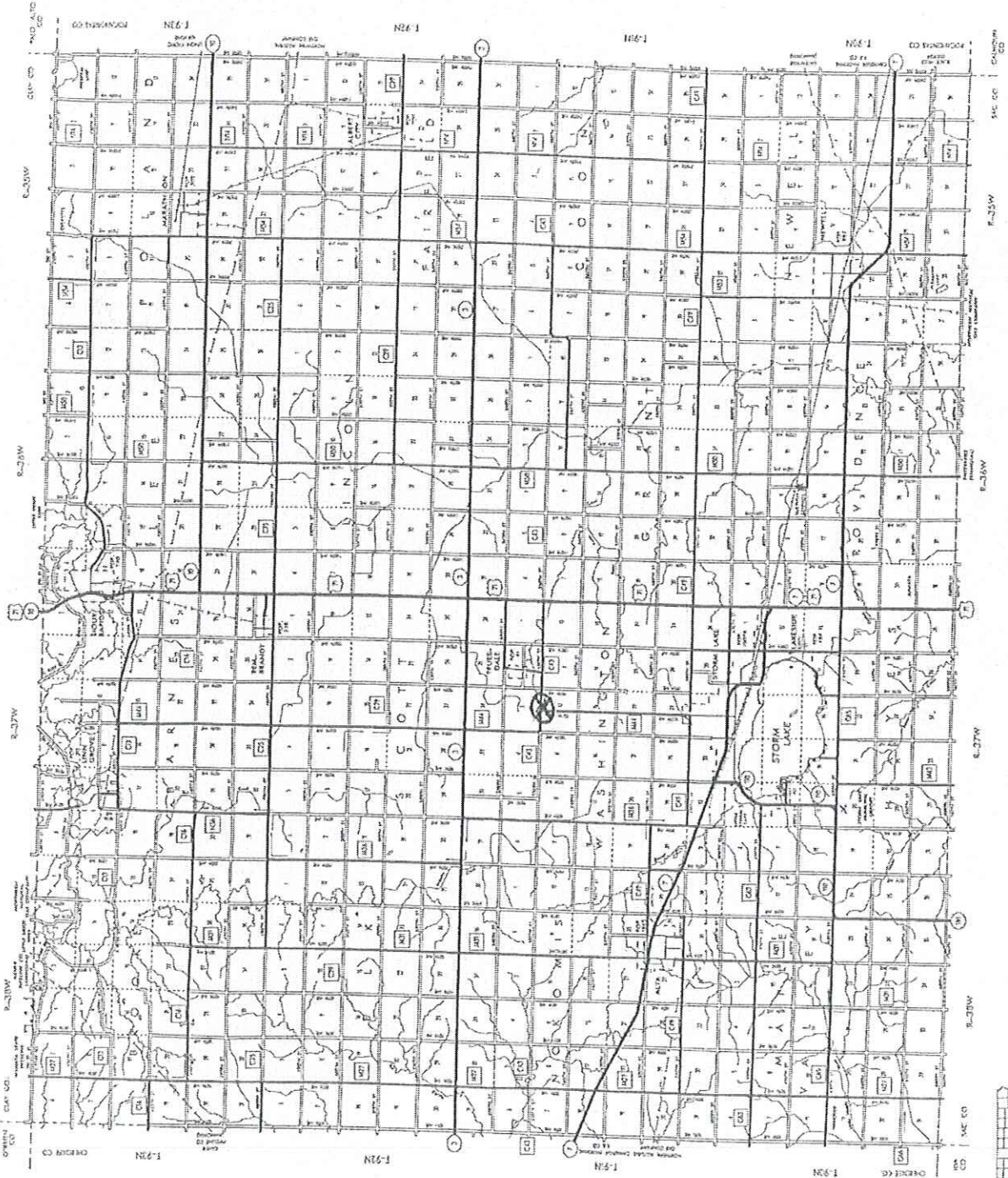


JANUARY 1, 2009



LEGEND

	INTERSTATE HIGHWAY
	U.S. HIGHWAY
	STATE HIGHWAY
	COUNTY ROAD
	RAILROAD
	WATERWAY
	LAKE
	RIVER
	STREAM
	CANAL
	DITCH
	FENCED PASTURE
	CULTIVATED LAND
	PASTURE
	FOREST
	SWAMPY LAND
	BARREN LAND
	TOWN BOUNDARY
	TOWNSHIP BOUNDARY
	SECTION BOUNDARY
	SECTION NUMBER
	TOWNSHIP AND RANGE NUMBER
	COUNTY BOUNDARY
	STATE BOUNDARY
	NATIONAL BOUNDARY



LOCATION OF PROJECT

ITEM E

Item F



M44 curve looking north



M44 curve looking west



Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project City of Orleans - Sign Upgrades

Applicant City of Orleans

Contact Person Eric Anderson Title City Councilman

Complete Mailing Address 13880 253rd Ave., P.O. Box 345, Orleans, IA 51360

Phone 712 380 4969 E-Mail valley@yourstarnet.net
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 1860

Safety Funds Requested \$ 1860

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the

City of Orleans

Signed:

Bill Maas

Signature

8/13/2012

Date Signed

Bill MAAS Mayor

Typed Name

Attest:

Vrenae Daly

Signature

8/13/12

Date Signed

Vrenae Daly Clerk

Typed Name

NARRATIVE

City of Orleans – Sign Upgrades

Orleans, Iowa

The City of Orleans is submitting this application for Traffic Safety Improvement Program funds under the Traffic Control Device category. The funding request is to provide for the purchase of replacement signage for the entire town of Orleans. The City of Orleans has many signs that are outdated, no longer needed, in disrepair or are improperly placed. The project covers the entire town which is basically shaped like an inverted horseshoe on the south side of Big Spirit Lake. By replacing these signs throughout the city, we intend to alert the drives and pedestrians to be aware of the intersection conditions. We will also bring our signage up to date to met the requirements of the current MUTCD.

Eric Anderson

**TSIP Traffic Control Devices Application
Iowa Department of Transportation**

Application Date: 8/13/2012

City Name	Orleans	Last Name (contact)	Anderson
First Name (contact)	Eric		
Title (contact)	City Councilman		
Address (line 1)	13880 253rd Ave. P.O. Box 345		
City	Orleans	State	IA
Phone (contact)	712 380 4969	Zip Code	51360
Email (contact)	valley@yourstarnet.net		

Line #	Sign		Sign Type	# Required	Sign Cost - Each	Total Expense
	Sign Size	Designation				
1	24"	R1-1	STOP	6	\$60.00	\$360
2	24"	W3-1	STOP AHEAD	1	\$60.00	\$60
3	24" x 36"	R2-1	35 mph Speed limit	9	\$60.00	\$540
4	24" x 36"	R2-1	25 mph Speed Limit	4	\$60.00	\$240
5	12" x 18"	R7-1	No Parking Any Time	2	\$60.00	\$120
6	12" x 24"	W4-4	Cross Traffic Does Not Stop	3	\$60.00	\$180
7	24"	W1-2L	Curve Left	3	\$60.00	\$180
8	24"	W1-2R	Curve Right	2	\$60.00	\$120
9	24"	W1-4L	Reverse Curve Left	1	\$60.00	\$60
Total Estimate =						\$1,860

" Look Both Ways" is not part of Standard sign

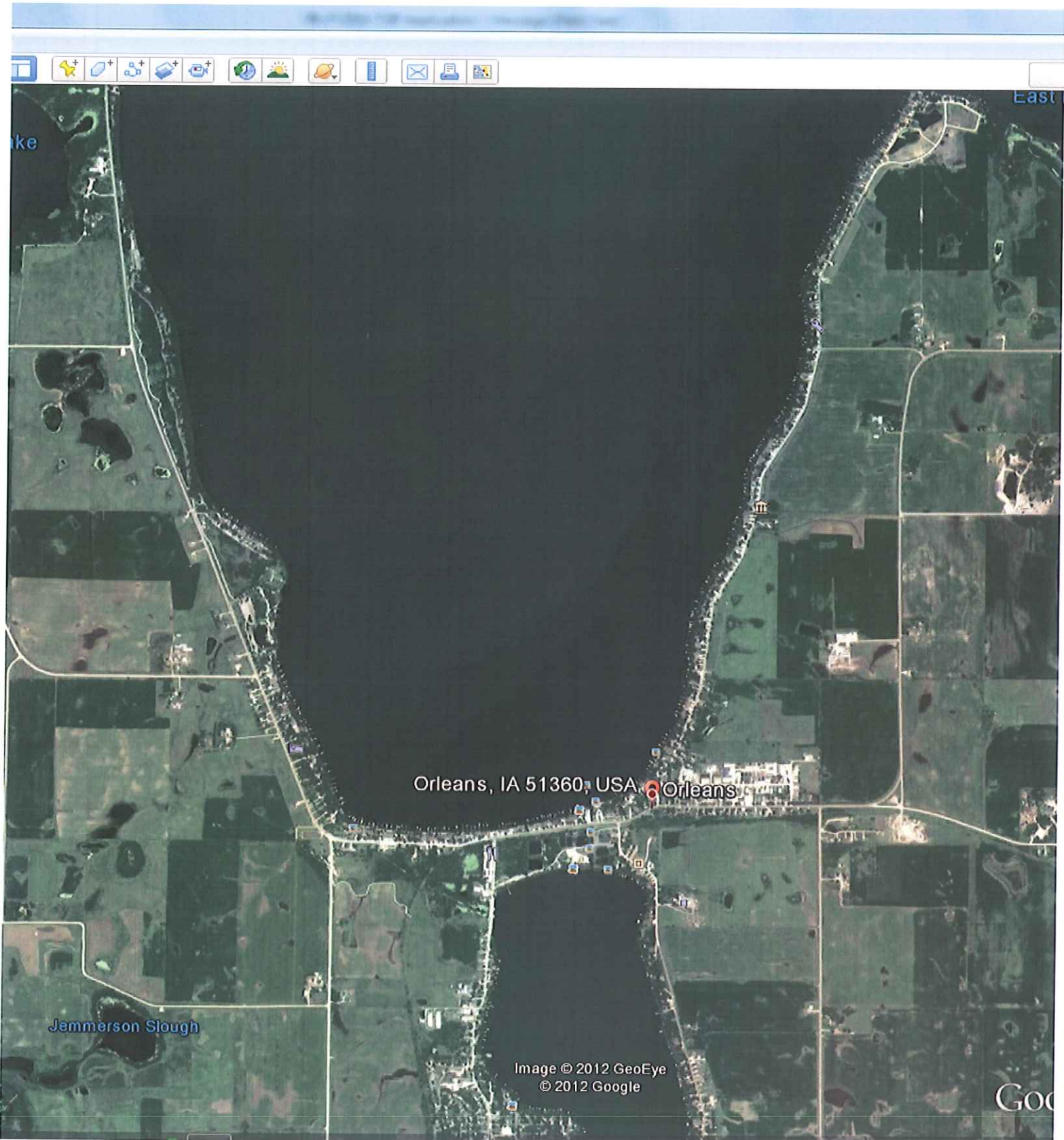
Note: All signs should be aluminum backs with prismatic sheeting for faces

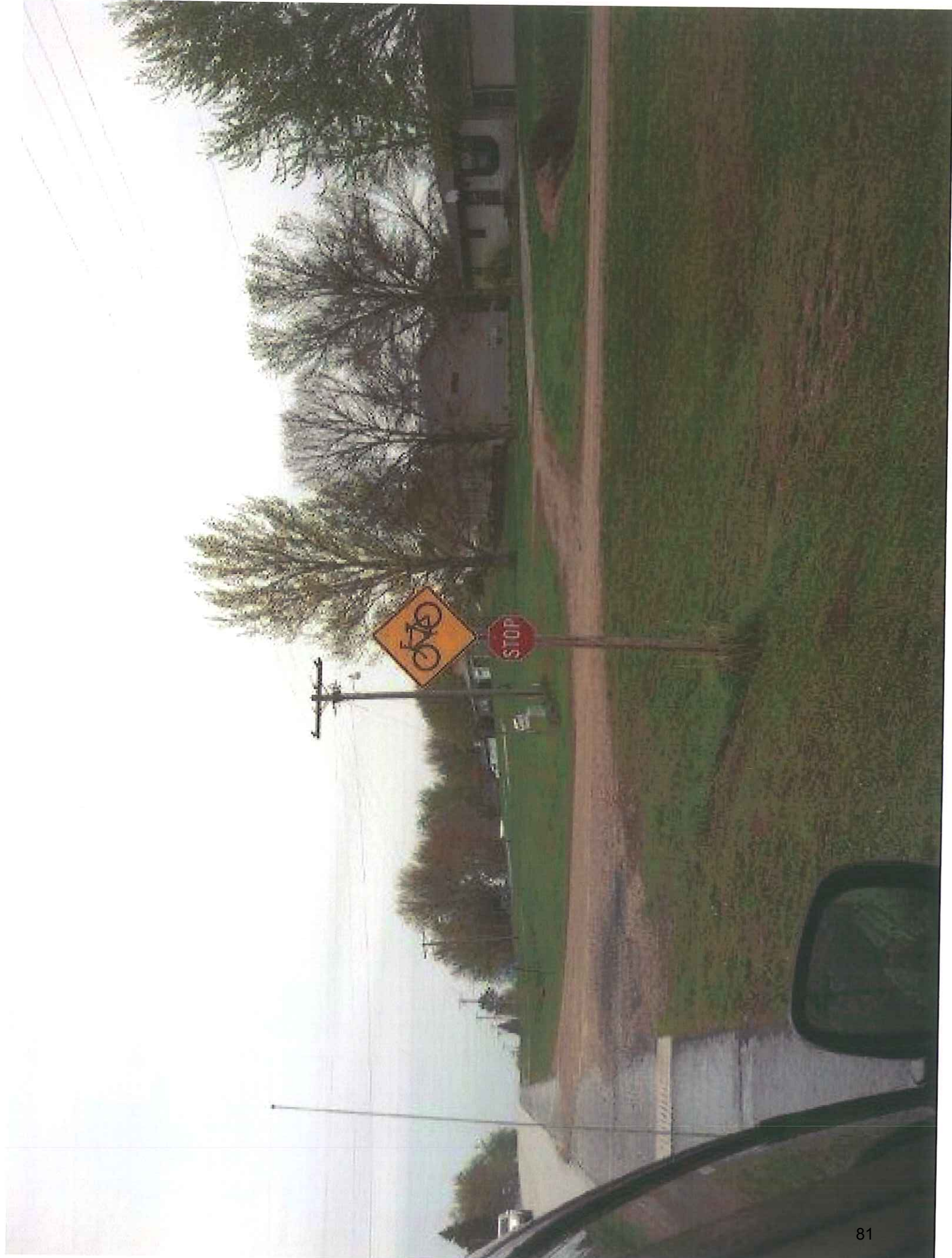
TIME SCHEDULE

Sign Replacement

Orleans, Iowa

TSIP Funding Application	-	August, 2012
TSIP Project Selection	-	December, 2012
TSIP Funding Available	-	July, 2013
Project Installation	-	July, 2013
Project Completion	-	July, 2013







Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Safety signing along Route F-20-L

Applicant Harrison County Road Department

Contact Person J Thomas Stoner, P.E. Title County Engineer

Complete Mailing Address P.O. Box 171, Logan, Iowa 51546

Phone (712) 644-3140 E-Mail jtstoner@harrisoncountya.org
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☒

Funding Amount

Total Project Cost \$ 12,000

Safety Funds Requested \$ 8,150

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the Harrison County Road Department

Signed:



Signature

7/10/12
Date Signed

J Thomas Stoner, P.E.

Typed Name

Attest:


Signature

7-19-12
Date Signed

Susan Bonham

Typed Name

HARRISON COUNTY BOARD OF SUPERVISORS

111 NORTH 2ND AVENUE, SECOND FLOOR COURTHOUSE
LOGAN, IOWA 51546-0171

PHONE: 712-644-3123

FAX: 712-644-2643

Walter Utman
Robert V. Smith
Gaylord Pitt

Chairman
Member
Member

RESOLUTION

Relating to funding application for roadway signage

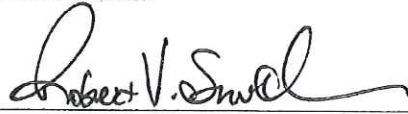
WHEREAS, the County Engineer has recommended that an application for grant funding of replacement regulatory and warning signs along Route F-20-L in Harrison County be submitted to the Iowa DOT for consideration under their Transportation Safety Improvement Program, and

WHEREAS, said application form must be certified by the Board of Supervisors, binding the County to assume responsibility for erecting any and all signage provided under this grant within the time frame submitted,

NOW THEREFORE BE IT RESOLVED that the Harrison County Board of Supervisors do hereby agree to those terms and authorize its chairman to sign the application form for the potential funding of sign materials.

Resolved this 19th day of July, 2012.


Walter Utman


Robert V. Smith


Gaylord Pitt

Attest:


Susan Bonham, County Auditor

HARRISON COUNTY ENGINEER

DEPARTMENT OF SECONDARY ROADS
301 NORTH 6TH AVENUE P.O. BOX 171
LOGAN, IOWA 51546-0171

PHONE: 712-644-3140

FAX: 712-644-3412

NARRATIVE

Harrison County's regulatory and warning signs have deteriorated in condition along a major portion of Route F-20-L, and along with the changing retro-reflectivity standards are overdue for replacement. According to our sign inventory, we have 207 regulatory and warning signs that utilize lower grade sheeting and would like to upgrade these signs to the new florescent standard. This replacement would provide compliance with the new standard, and provide EXCELLENT reflectivity to the motorists of the County.

The safety benefits of using these high visibility regulatory and warning signs will be realized after installation by demanding the motorist's attention and increasing their awareness to upcoming hazards. It will also allow us to get started on the conversion path dictated by the federal MUTCD timeline.

The following map show the portion of Route F-20-L that will be addressed in this activity.

Harrison County will be replacing all warning and regulatory signs along this route with high intensity faces.

The total number and type of signs being replaced is:

STOP = 25

STOP AHEAD = 25

RIGHT CURVE = 21

LEFT CURVE = 19

CHEVRON = 16

YIELD = 33

YIELD AHEAD = 33

DOUBLE ARROW = 19

RIGHT THEN LEFT TURN = 2

LEFT THEN RIGHT TURN = 1

RIGHT THEN LEFT CURVE = 1

OBJECT/GUARDRAIL MARKER = 8

BRIDGE APPROACH REFLECTORS = 4

HARRISON COUNTY ENGINEER

DEPARTMENT OF SECONDARY ROADS

301 NORTH 6TH AVENUE

P.O. BOX 171

LOGAN, IOWA 51546-0171

PHONE: 712-644-3140

FAX: 712-644-3412

Cost estimate* for warning and regulatory sign replacements for Harrison County safety project:

Curve/Turn signs (30x30) = \$40/each (furnish only) = \$1760

Yield sign (30x30) = \$38/each (furnish only) = \$1254

Yield Ahead signs = \$40/each (furnish only) = \$1320

Stop signs (30x30) = \$42/each (furnish only) \$1050

Stop Ahead signs = \$42/each (furnish only) = \$1050

Reflectors = \$10/each (furnish only) = \$40

Object markers = \$25/each (furnish only) \$200

Double arrows = \$44/ each (furnish only) \$836

Chevrons = \$20/each (furnish only) = \$640

Furnish only total = \$8150

*Costs based on recent purchases from Iowa Prison Industries.

HARRISON COUNTY ENGINEER

DEPARTMENT OF SECONDARY ROADS
301 NORTH 6TH AVENUE P.O. BOX 171
LOGAN, IOWA 51546-0171

PHONE: 712-644-3140

FAX: 712-644-3412

Harrison County Road Department plan to replace 207 regulatory and warning signs along Route F-20-L.

TIME SCHEDULE

Harrison County proposes to begin erecting the 207 regulatory and warning signs as soon as possible, following their delivery. This work would be accomplished with our existing work force and delays could be possible from natural disasters, such as flooding or tornados.

However, our intent is to get the new signs up as quickly as possible to maximize their effectiveness. We should be able to accomplish this within three months after delivery.

IOWA

Prepared by
**Iowa Department
of Transportation**

Phone (516) 235-1282
In Cooperation With

**United States
Department of Transportation**



JANUARY 1, 2007



22-71-07

LEGEND

[illegible]











Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project City of Hedrick, Main Street/Highway 149
Applicant City of Hedrick
Contact Person Ann M. Spilman Title City Clerk
Complete Mailing Address 109 N. Main Street
Hedrick, IA 52563-0167
Phone (641) 653-4914 E-Mail hcityclerk@awsllc.net
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____
Contact Person _____ Title _____
Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 9,975.
Safety Funds Requested \$ 4,975

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the City of Hedrick

Signed: Ann M. Spilman 7-10-12
Signature Date Signed

Ann M. Spilman
Typed Name

Attest: Michael Baetsle 7-10-12
Signature Date Signed

Michael Baetsle
Typed Name

City of Hedrick
109 N. Main Street
Hedrick, IA 52563-0167
(641) 653-4914

July 9, 2012

Office of Traffic and Safety
Iowa DOT
800 Lincoln Way
Ames, IA 50010

Re: Traffic Control Device Application

The City of Hedrick has an extremely busy intersection in the center of the city. It is located on South Main Street and Highway 149.

Our one gas station/convenience store is located on the north side of this intersection. The speed limit on Highway 149 is 45 mph all through the city. So, with the amount of gas station traffic, a driver needs to pay extra close attention to the vehicles turning into and pulling away from the station's drives when approaching this intersection. A small repair shop is located on the southeast corner of this intersection also. Attached are copies of motor vehicle accident reports that happened in or near this intersection. This has been a major concern of ours for many years. We feel that by installing a solar powered red flashing beacon on the stop sign on Main Street and posting lighted signs warning of the intersection on Highway 149, drivers would be more cautious when approaching this intersection and that future accidents could be avoided.

The safety of our citizens and those coming through our city is a top priority to us. The Council and I appreciate your consideration of our application.

Sincerely,


Tommy D. Smith, Mayor

attachments

C

The population of the City of Hedrick is 764. The forecast for Road Use Funds for fiscal year 2013 is \$94. per capita, which would be \$71,816. This money is used for the partial salary of our utility employee, vehicle maintenance as well as the maintenance of our city streets, which includes the traffic control devices. The past two years we have had street projects done by a contractor, which consist of improving streets in a certain area of the city. Our bank works with us by setting the check up like a loan, which we pay on quarterly through the fiscal year. Our only other additional income would be through our local sales tax. We designated this for infrastructure. Thus far we have used this money to buy derelict properties in the city and repair or remove houses.

D

TIME SCHEDULE

We would like to have our project completed during the summer of 2013, depending on the installer's schedule.



DICKINSON COMPANY, INC.

1616 D AVENUE WEST

TEL: 641-673-3256

MARLOWE C. DICKINSON
PRESIDENT

P. O. BOX 227



OSKALOOSA, IOWA 52577-0227

FAX: 641-673-3309

DAVID K. DICKINSON
VICE-PRESIDENT

ESTIMATE OF COST

To: City of Hedrick

June 30, 2012

Following is an estimate of the cost to install a solar powered red flashing beacon on top of the stop sign, south-bound at the Main St./Hwy 140 Junction and a wood post mounted intersection ahead sign with a solar powered amber flashing beacon along Hwy 146 at each approach to the intersection.

One 12 inch red led beacon assembly with solar panel, control box, flasher, etc., mounted to the top of the existing stop sign post at the intersection.

Estimated Cost, installed would be: \$ 3,075.00

Two 12 inch yellow led beacon assemblies with solar panel, control box, flasher, etc., mounted to a 4x6 wood post, above a 48" intersection ahead warning sign. This would include the beacon assembly, post, sign and installation.

Estimated cost, installed would be: \$ 3,450.00each X 2 = \$ 6,900.00

The Iowa Department of Transportation would have to assist in determining the proper location of the advance warning signs on Hwy 140.

Material would be available 45-60 days after order.

Please call if you have any questions regarding this estimate.

Thank you,

Dave Dickinson

Cell 641-660-0106

E

149

35

(HEDRICK CORPORATE LIMITS)

T-74N
T-73N

2

V5H (HEDRICK CORPORATE LIMITS)

C M ST. P. & P RR

LAKE ST

PRARIE AVE

PERKINS ST

LAKE ST

TWIN ST

HALF ST

WAUGH ST

2ND ST

3RD WEST ST

4TH ST

6TH ST
GRAY ST
NORTH ST

SPRING ST

MAIN ST

ST

5TH ST

ST

1ST ST

PARK

ST

4TH ST

SOUTH ST

EAST

3RD ST

ST

36

YOUNG ST

ST

BROOKS ST

ST

HURSEY ST

ST

WALDO ST

ST

20

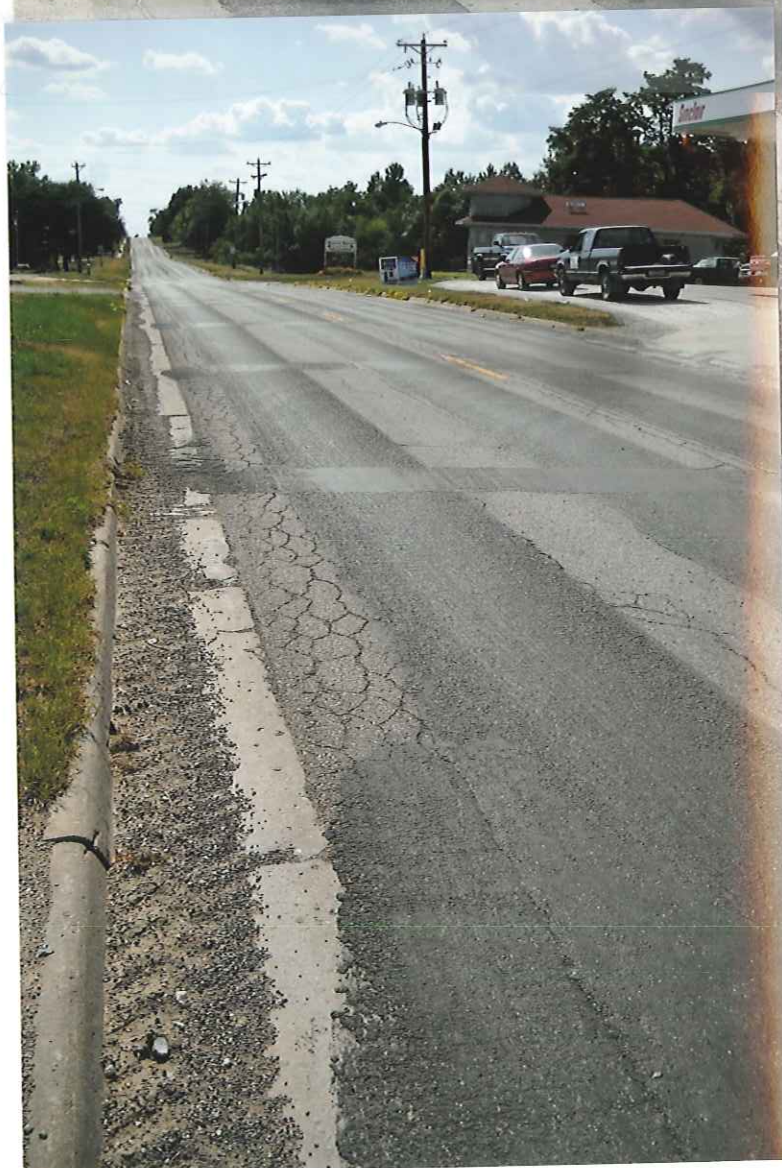
(HEDRICK CORPORATE LIMITS)

V3

MAIN STREET
(North/South)



HIGHWAY 149
(East/West)



Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Annualized Daily Traffic For All Vehicles

H

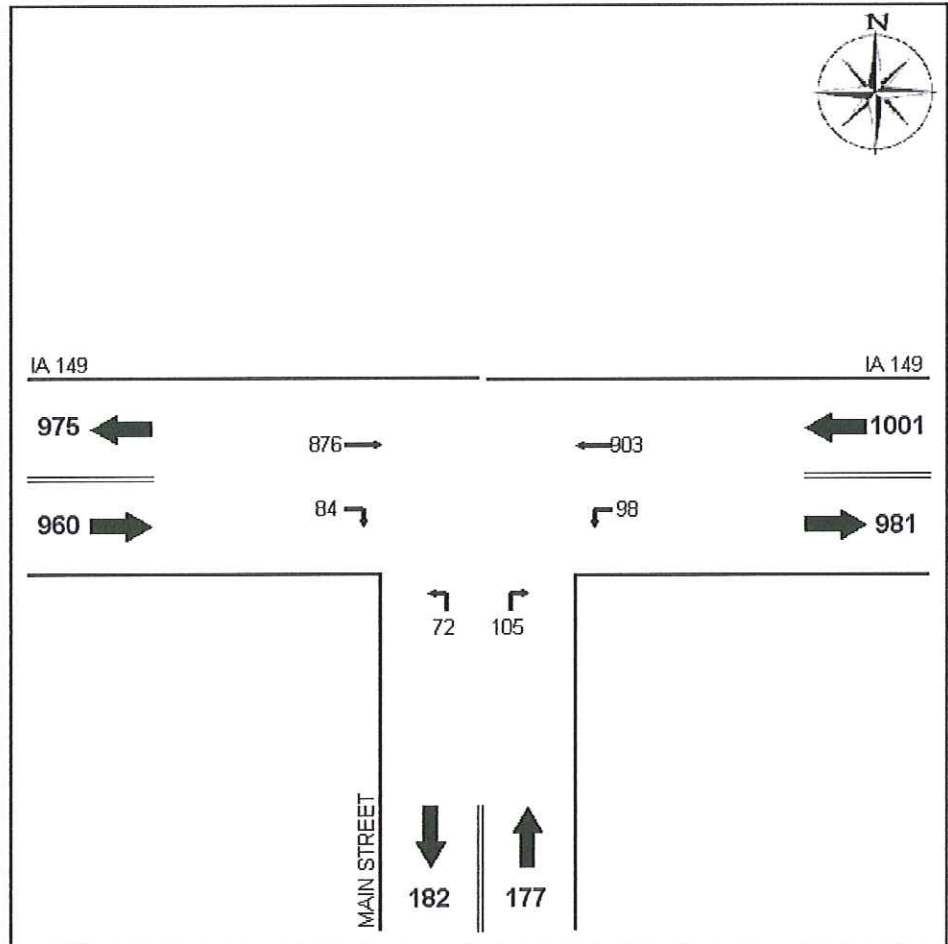
Station Number:
54111787099

Count Date:
Tuesday, June 08, 2010

County:
Keokuk

Location Description:
IA 149 & MAIN ST

Volume Factor: 1.754
Pass Class Factor: 1.794
SU Class Factor: 1.545
Combo Class Factor: 1.473

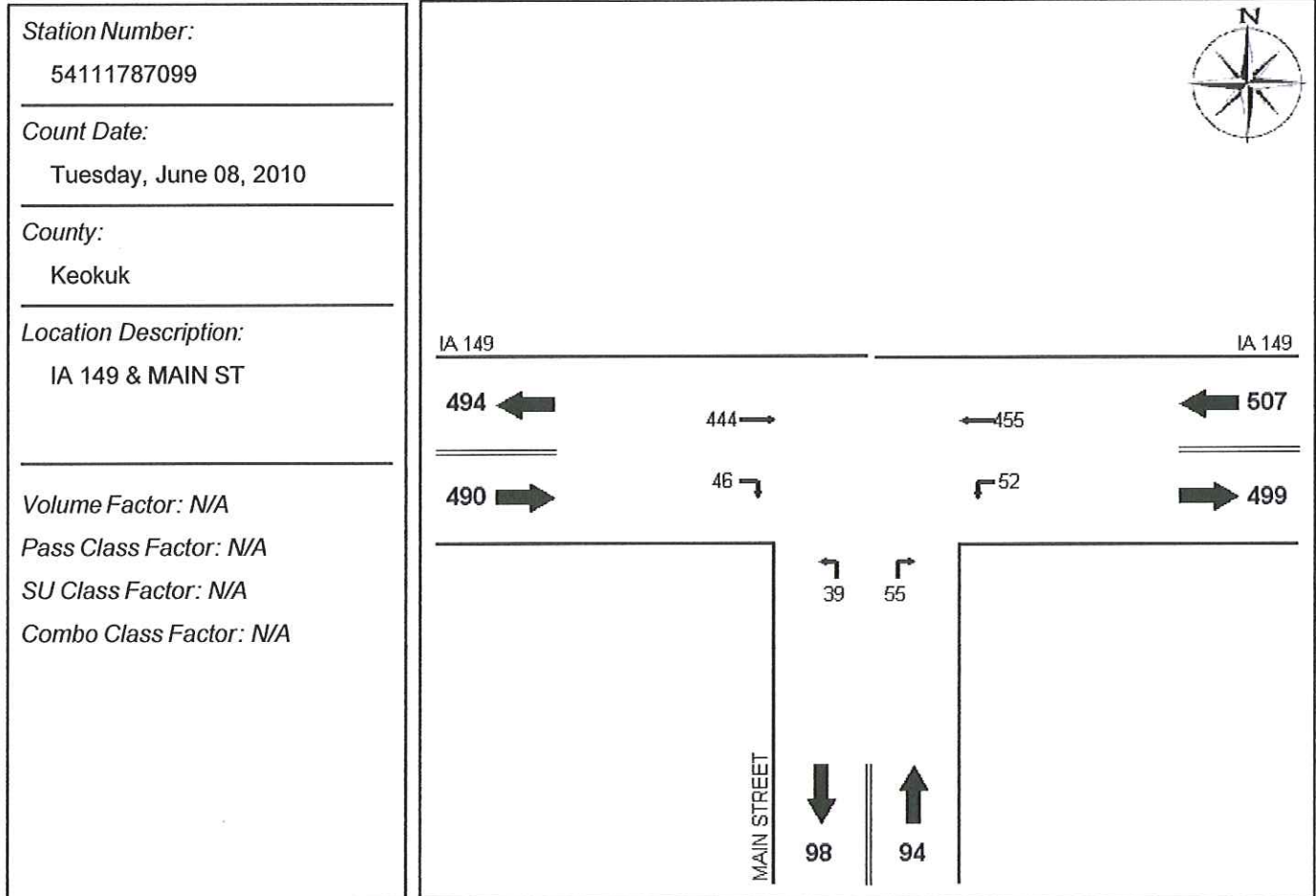


Raw Data-All Vehicles:

	E Leg		S Leg		W Leg	
	L	T	L	R	T	R
07:00	1	65	6	5	46	1
08:00	3	51	4	2	44	0
11:00	2	70	4	6	63	1
12:00	5	84	5	2	67	2
15:00	20	89	8	18	94	18
16:00	14	69	5	13	88	12
17:00	10	85	8	13	95	13

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Passenger Vehicles

H

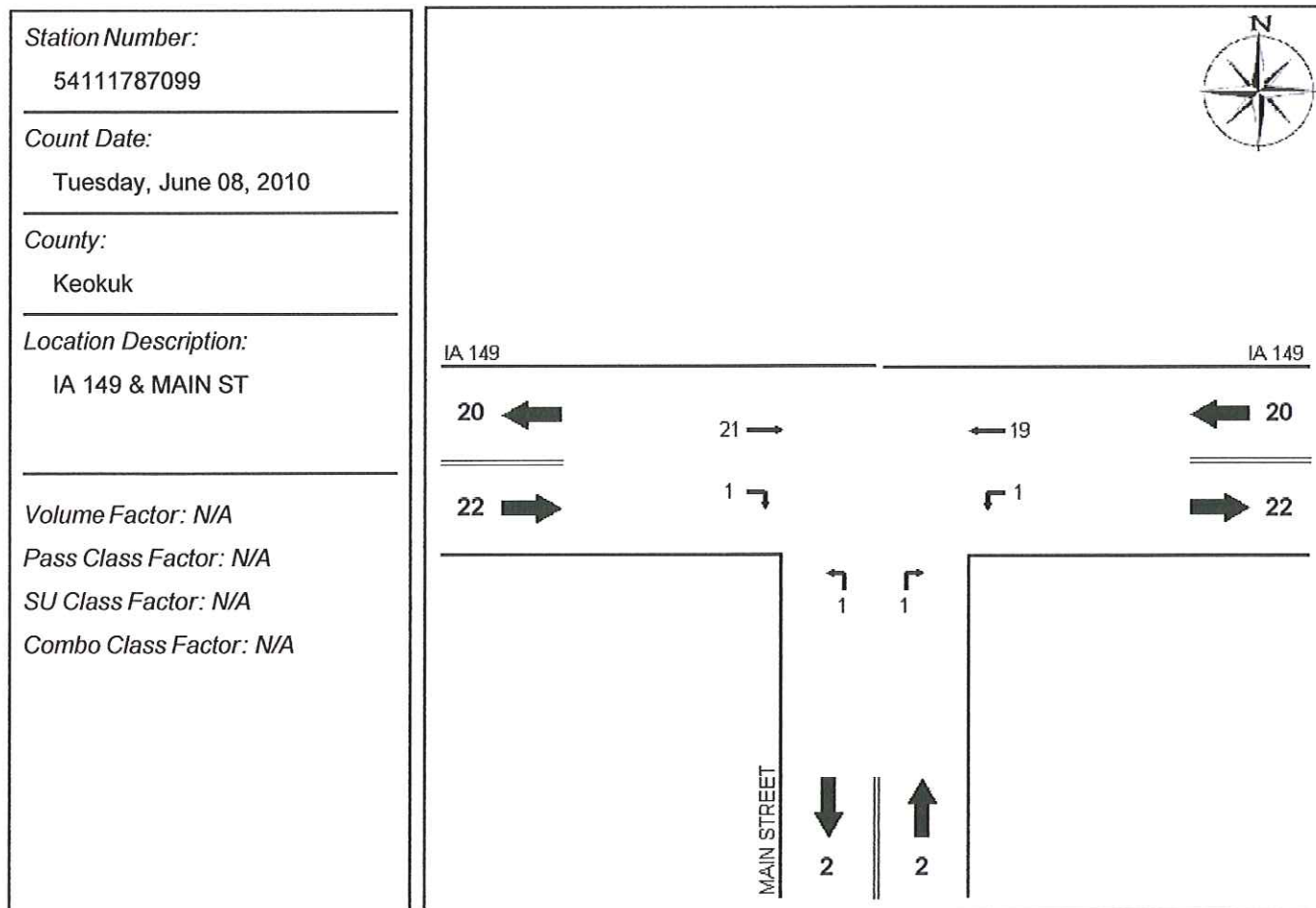


Raw Data-Passenger Vehicles:

	E Leg		S Leg		W Leg	
	L	T	L	R	T	R
07:00	1	56	6	4	37	1
08:00	2	42	4	0	38	0
11:00	1	62	4	6	55	1
12:00	5	72	5	2	57	2
15:00	20	83	8	18	90	17
16:00	13	61	4	13	84	12
17:00	10	79	8	12	83	13

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Single-Unit Trucks

H

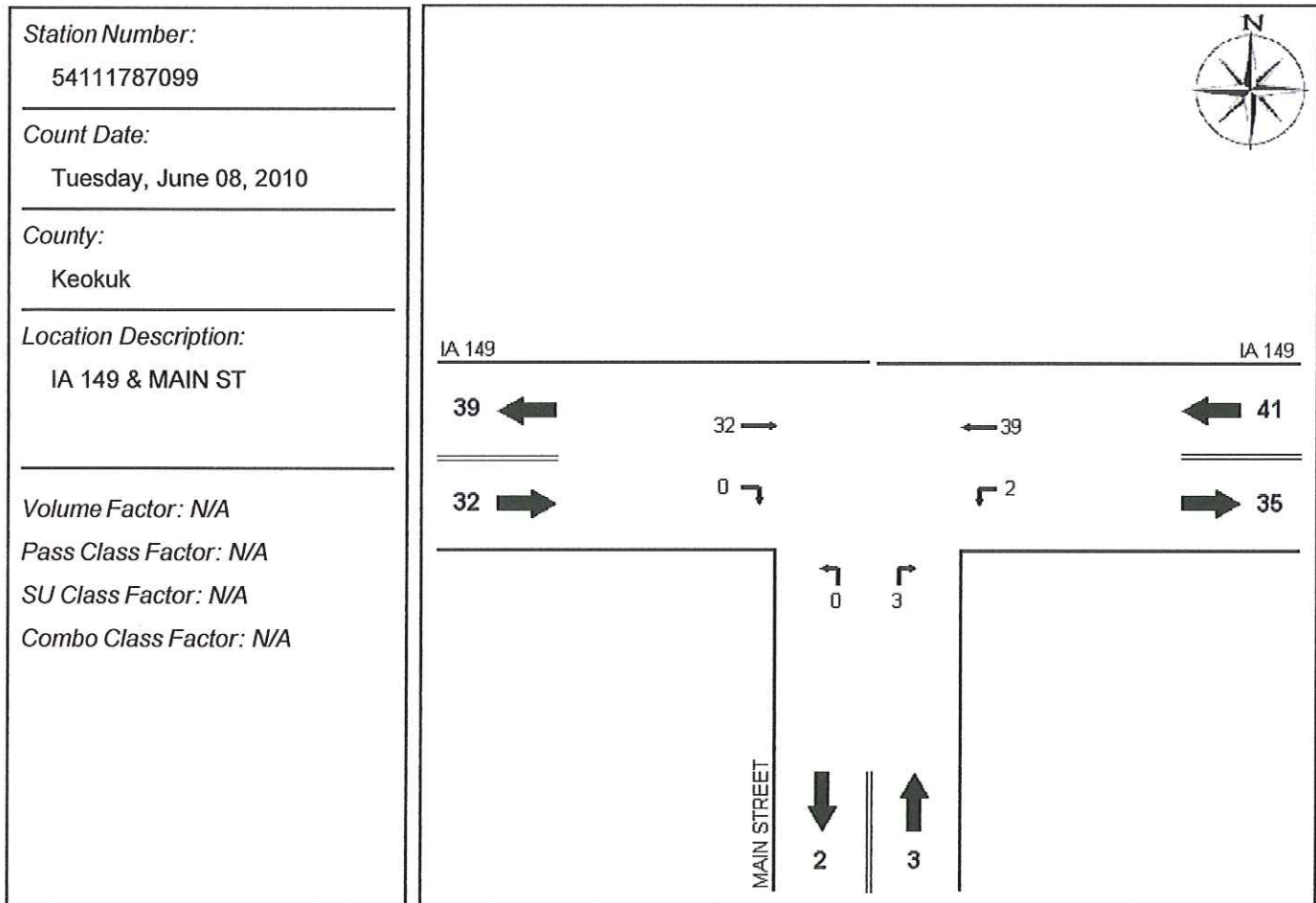


Raw Data-Single-Unit Trucks:

	E Leg		S Leg		W Leg	
	L	T	L	R	T	R
07:00	0	2	0	0	4	0
08:00	0	3	0	0	2	0
11:00	0	2	0	0	1	0
12:00	0	5	0	0	4	0
15:00	0	2	0	0	2	1
16:00	1	4	1	0	3	0
17:00	0	1	0	1	5	0

Iowa Department of Transportation
Turning Movement Traffic Count Summary
 Vehicle Type: Combination Trucks

H



Raw Data-Combination Trucks:

	E Leg		S Leg		W Leg	
	L	T	L	R	T	R
07:00	0	7	0	1	5	0
08:00	1	6	0	2	4	0
11:00	1	6	0	0	7	0
12:00	0	7	0	0	6	0
15:00	0	4	0	0	2	0
16:00	0	4	0	0	1	0
17:00	0	5	0	0	7	0



Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Regulatory stop sign replacement in District 5
Applicant Iowa DOT
Contact Person James Armstrong Title District Engineer
Complete Mailing Address 307 W. Briggs
Fairfield, Iowa 52556
Phone 641-472-4171 E-Mail James.Armstrong@dot.iowa.gov
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) NA
Contact Person _____ Title _____
Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ \$20,900.00
Safety Funds Requested \$ \$20,900.00

To: Terry Ostendorf
Office of Traffic & Safety
800 Lincoln Way
Ames, Iowa 50010

Re: TSIP Application

Mr. Ostendorf,

Please find attached documentation relating to the TSIP application for Traffic Control Device monies. District 5 wishes to replace "poor" condition stop signs as inventoried by the DOT's sign program and inspected by local forces. This will raise the safety aspect to a normal level as described in the DOT's maintenance standard, function 667.

The following narrative describes the projects intent as outlined in the application instructions.

"B" (2009 MUTCD)

1. Night time sign checks shows retroreflectivity substandard as discussed in section 2A.08.
2. Deficiencies were found in sign colors that are faded as described in section 2A.10.
3. Replace undersized stop signs (24") as described in section 2A.11.

"C"

The stop sign sizes are from the inventory program and prices are derived from the state sign shop.
Total \$20,900.00

1. 23- 48" stop signs (approx. \$2,700.00)
2. 44-36" stop signs (approx.. \$2,400.00)
3. 415- 30" stop signs (approx. \$15,800.00) *Includes replacing 99-24" signs

"D"

When this application is approved the DOT work force can start changing the stop signs during normal working hours with completion prior to spring.

"E"

Please find attached a map of the District 5 showing each intersection covered by this request.

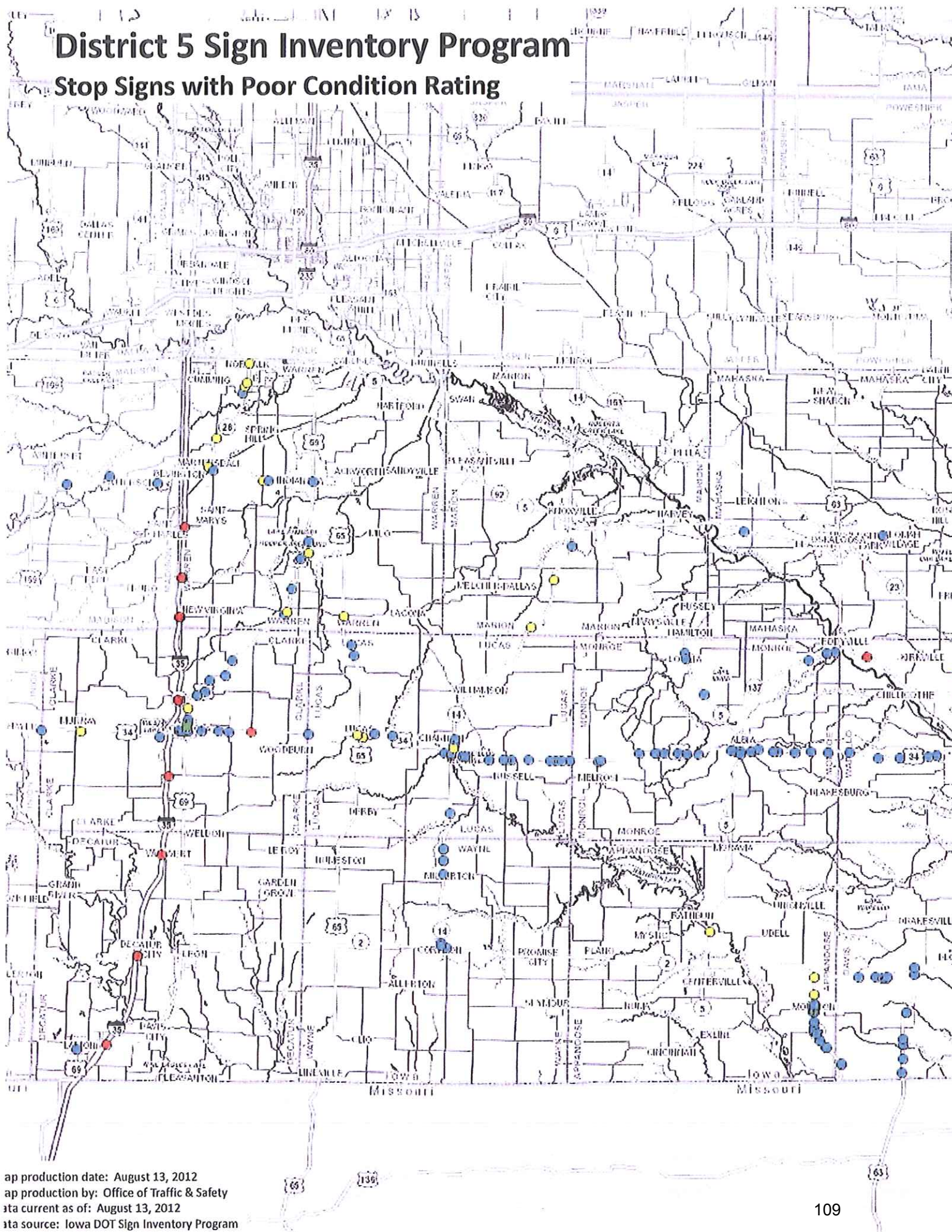
If any further questions arise please don't hesitate to call me at 641-472-4171.

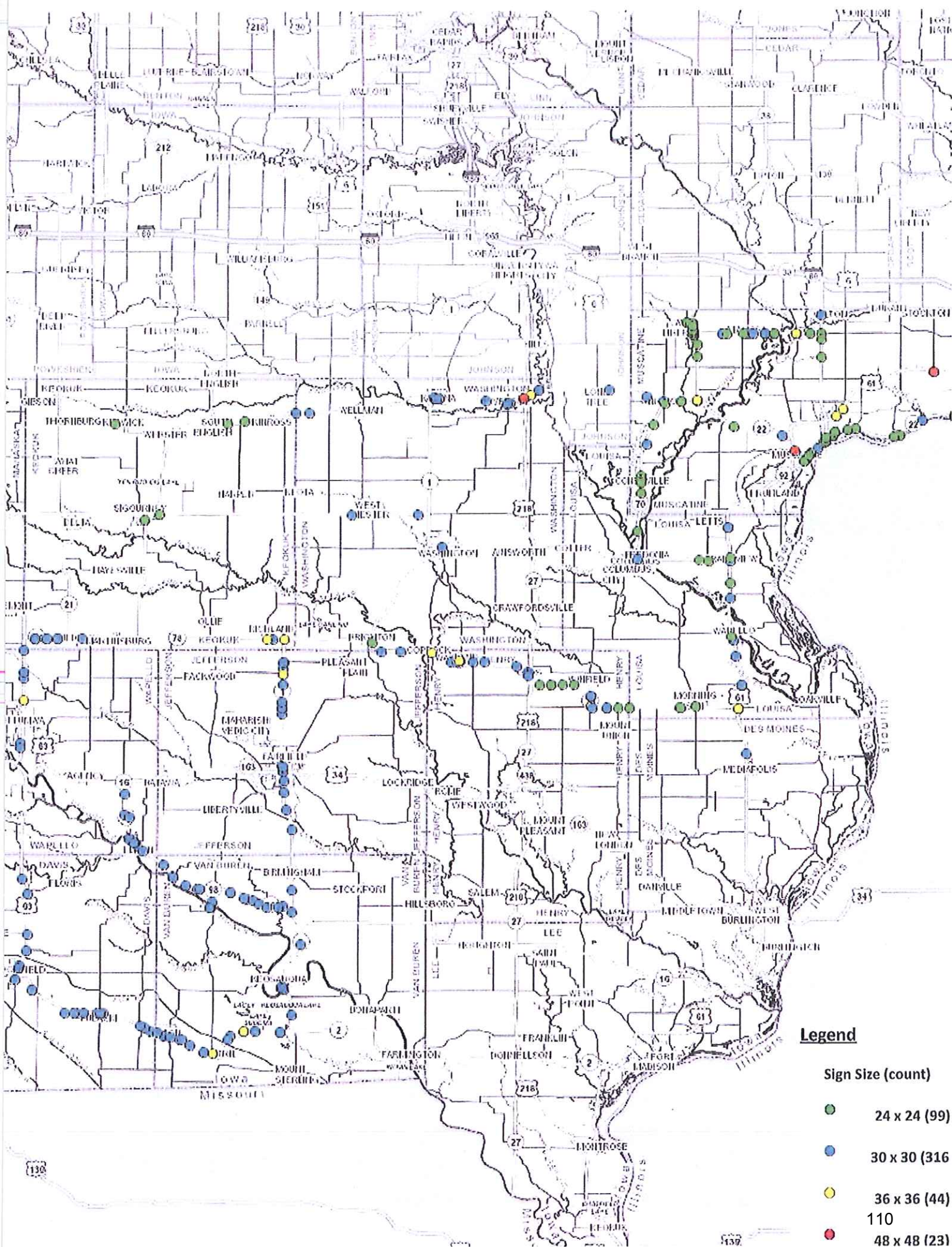
Thank you,

James Armstrong P.E.

District 5 Sign Inventory Program

Stop Signs with Poor Condition Rating







Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

 Location / Title of Project Intersection of Y26 and F44 near Sunbury

 Applicant Cedar County

 Contact Person Rob Fangmann Title County Engineer

 Complete Mailing Address 400 Cedar Street
Tipton, IA

 Phone (563) 886-6102 E-Mail engineer@cedarcountry.org
 (Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

 Complete Mailing Address _____

 Phone _____ E-Mail _____
 (Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

 Site Specific ☐
 Traffic Control Device ☒
 Safety Study ☐
Funding Amount

 Total Project Cost \$ 3,454

 Safety Funds Requested \$ 1,650

APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the Cedar County Board of Supervisors

Signed:

Wayne Deerberg
Signature

8-13-2012
Date Signed

Wayne Deerberg
Typed Name

Attest:

Cari Gritton
Signature

8-13-2012
Date Signed

Cari Gritton
Typed Name



B

OFFICE OF THE CEDAR COUNTY ENGINEER
COURTHOUSE; 400 CEDAR ST.
TIPTON, IOWA 52772-1752
www.cedarcounty.org

PHONE: (563) 886-6102 FAX: (563) 886-2110 EMAIL: engineer@cedarcounty.org

Cedar County respectfully submits this application for TSIP funds for a sign project at the intersection and the approaches of F44 and Y26 near the unincorporated town of Sunbury in southeastern Cedar County. The speed limit of the approach roadways is 55 miles per hour with stopping situations for southbound traffic on Y26 and westbound traffic on F44.

The intersection of F44 and Y26 has experienced four reported accidents since 2003 which includes one fatality in 2012. These accidents have been run off the road accidents caused by the driver's failure to navigate the turn. Cedar County has asked that INTRNS conduct a safety audit of this area to investigate any potential ways to improve the safety of the intersection. They encouraged us to apply for TSIP funds in order to construct a safety project.

The project would include the upgrade of the signing situation which includes increasing the size of the signs, adding additional curve signs with supplemental speed plaques, upgrading to micro-prismatic fluorescent yellow sheeting on the signs and utilizing new signs as outlined in the 2009 MUTCD. The north area of the turn is paved as illustrated in the enclosed aerial view. This paved area makes it impossible to place chevrons through the turn. Therefore, the county is proposing to add additional turn signing on the left side of the approach roadways.

We believe this project would improve the awareness of the turn to the driver which would help them navigate it properly and stay in their appropriate lane.

C

Cedar County TSIP Application

Cost Estimate for F44/Y26 Intersection Signing Project

<u>Count</u>	<u>Description (All signs to be micro-prismatic fluorescent yellow)</u>	<u>Cost</u>	<u>Total</u>
2	W1-1R, 36" right turn	\$80.00	\$160.00
4	W13-1P, 24" 25 mph advisory speed place	\$40.00	\$160.00
2	W1-1L, 36" left turn	\$80.00	\$160.00
2	W1-1aR, 36" combo. horizontal alignment/advisory speed sign right turn	\$80.00	\$160.00
2	W1-1aL, 36" combo. Horizontal alignment/advisory speed sign left turn	\$80.00	\$160.00
160	Lineal feet of steel sign post	\$4.00	\$640.00
8	Sign post anchor	\$20.00	\$160.00
1	Misc. hardware	\$50.00	\$50.00
Total Materials			<u>\$1,650.00</u>
40	Labor hours (Two laborors for 20 hours each)	\$20.00	\$800.00
20	Equipment hours (Unit 210, sign truck)	\$50.22	\$1,004.40
Total Labor			<u>\$1,804.40</u>
Project Total			\$3,454.40



D.

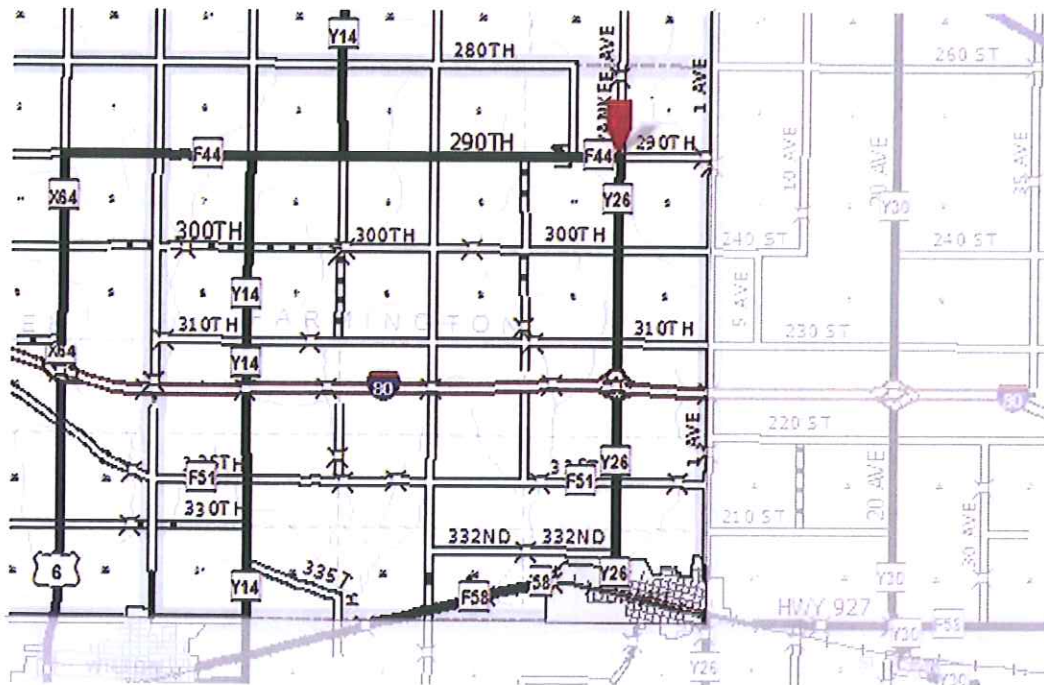
OFFICE OF THE CEDAR COUNTY ENGINEER
COURTHOUSE; 400 CEDAR ST.
TIPTON, IOWA 52772-1752
www.cedarcounty.org

PHONE: (563) 886-6102 FAX: (563) 886-2110 EMAIL: engineer@cedarcounty.org















Time Schedule

This project will take approximately a week to complete. If the grant is approved, the signs will be ordered from Iowa Prison Industries. Upon delivery of the signs (anticipated in the spring of 2013), Cedar County Secondary Roads employees will begin installation of the signs. We anticipate the project to be completed by July 1, 2013.

2:12 PM, Fri, Aug 3, 2012



Feature Key

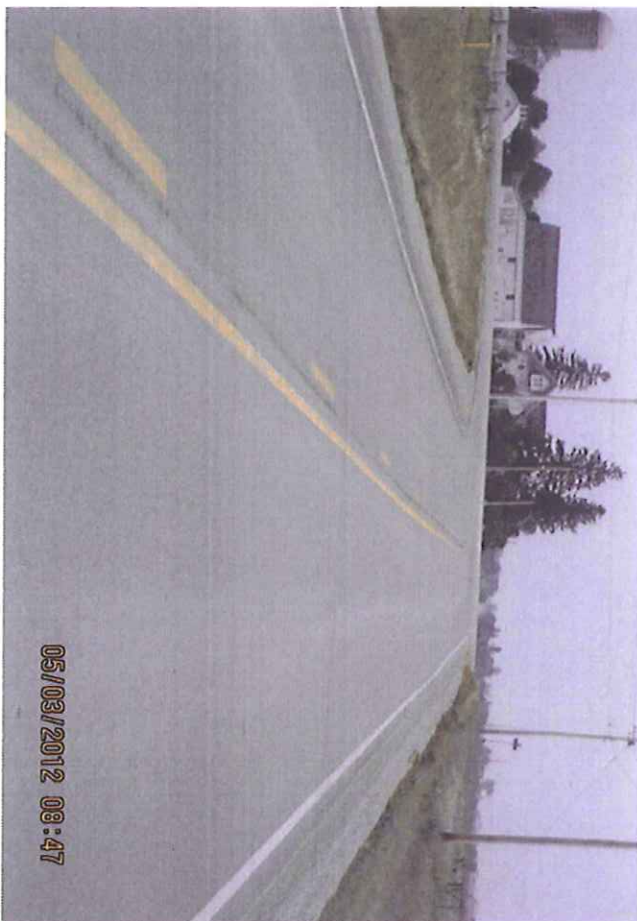
 Earth	 Gravel	 Seal Coat
 County Pavement	 State Pavement	 Divided Hwy
 Water	 City	 Township
 Railroad	 Bridge	
 State Hwy	 US Hwy	 County Hwy



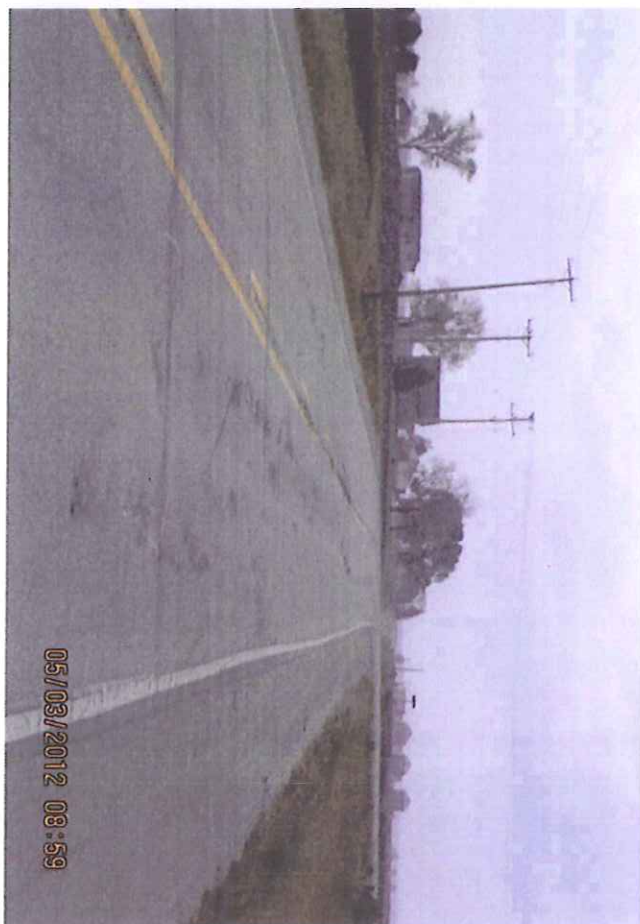
Miles



Generated by ICEASB Map Server



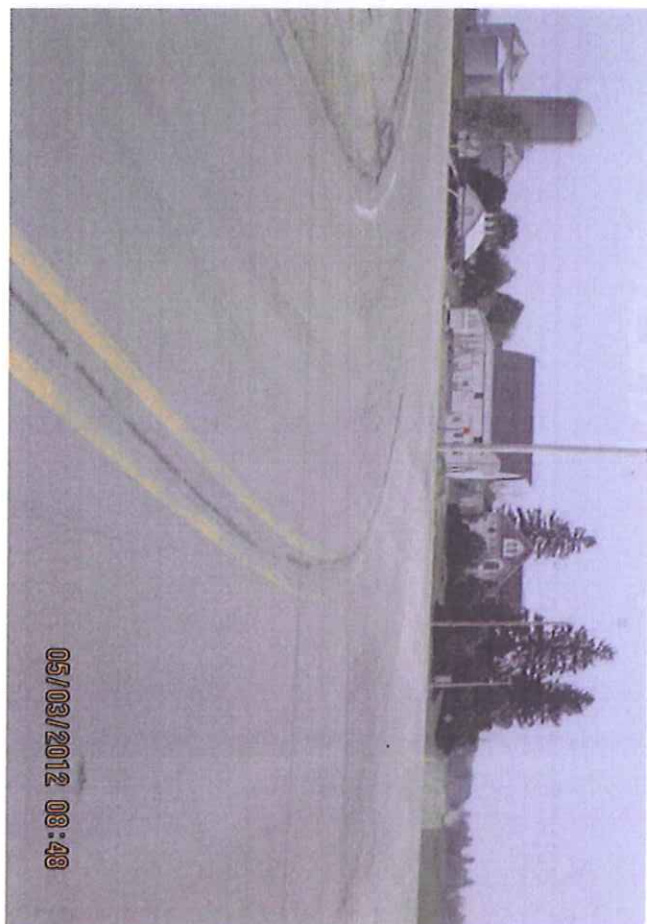
05/03/2012 08:47



05/03/2012 08:39



05/03/2012 12:54



05/03/2012 08:48

F44/Y26 TSIP Plan View



Project Site:
Intersection of
F44/Y26
2010 AADT



Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project City of Clinton, IowaApplicant City of ClintonContact Person Jason Craft Title City EngineerComplete Mailing Address P O Box 2958Phone (563)-244-3423 E-Mail jasoncraft@ci.clinton.ia.us
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 80,000Safety Funds Requested \$ 60,000


APPLICATION CERTIFICATION FOR LOCAL GOVERNMENT

To the best of my knowledge and belief, all information included in this application is true and accurate, including the commitment of all physical and financial resources. This application has been duly authorized by the participating local government(s). I understand the attached resolution(s) binds the participating local government(s) to assume responsibility if any additional funds are committed, and to ensure maintenance of any new or improved city streets or secondary roads.

I understand that, although this information is sufficient to secure a commitment of funds, a firm contract between the applicant and the Department of Transportation is required prior to the authorization of funds.

Representing the City of Clinton, Iowa

Signed:


Signature

8-15-2012
Date Signed

Mark Vulich
Typed Name

Attest:


Signature

8/16/2012
Date Signed

Patricia Van Loo
Typed Name

NARRATIVE
PAGE #1
**TRAFFIC SAFETY IMPROVEMENTS PROGRAM
MILL CREEK PARKWAY
INTERSECTION COLLISION WARNING SYSTEM
CLINTON, IOWA**

The City of Clinton is applying for Traffic Safety Improvement Program funding for safety improvements to 2 intersections in Clinton, Iowa. The proposed improvements are the installation of Intersection Collision Warning Systems (ICWS) along Mill Creek Parkway at the intersections with 2nd Avenue South and 13th Avenue North. The design will include major and minor road alerts at each intersection. This infrastructure is necessary in order to reduce vehicle collisions along Mill Creek Parkway. If funded, the City plans on constructing this project during the fall of 2013.

The existing Mill Creek Parkway is a 2-lane highway carrying an average annual daily traffic (AADT) of 7,000 vehicles per day between 2nd Avenue South and 13th Avenue North. Once the scheduled 19th Avenue North Extension Project is completed in 2014, the traffic volumes on Mill Creek Parkway are expected to increase to 9,500 AADT, per traffic modeling completed by ECIA. Currently, 13th Avenue North has an AADT of approximately 3,800, while 2nd Avenue South has an AADT of approximately 3,000. Each of these intersections with Mill Creek Parkway includes opposing dedicated left turn lanes on Mill Creek Parkway and turn lanes on each side street. Existing condition traffic modeling turning outputs and aerial photographs are attached to this application, for reference.

Over the past 5 years, there have been several major accidents at both of these intersections. During this 5-year time frame, the intersection of 13th Avenue North and Mill Creek Parkway has seen a total of 11 accidents due to failure to yield or stop sign neglect, including 1 fatality. During the same time frame, there has been 1 fatality at the intersection of 2nd Avenue South and Mill Creek Parkway, with the cause listed as "ran stop sign". Included with this grant application are copies of the officer's accident reports and a CMAT summary of the accidents at these intersections over the last 5 years.

There are several key factors contributing to this higher than average number of accidents. The speed limit on Mill Creek Parkway is posted at 45 MPH. Traffic on Mill Creek Parkway is known to travel at average speeds in excess of the posted speed limit. Though this area is heavily patrolled, the average speed limits regularly exceed 45 MPH and show no signs of slowing down. The main contributing factor to these accidents is likely the lack of adequate site distance. Though minimum site distance requirements are met, the curvilinear alignment of Mill Creek Parkway at 13th Avenue North makes it difficult for west bound traffic on 13th Avenue North to properly visualize the south bound traffic on Mill Creek Parkway. Similarly, the skewed intersection at 2nd Avenue South makes it difficult for drivers in either direction at the minor road to visualize traffic to their right on Mill Creek Parkway. Included with this application are photographs of the problem areas.

NARRATIVE
PAGE #2
**TRAFFIC SAFETY IMPROVEMENTS PROGRAM
MILL CREEK PARKWAY
INTERSECTION COLLISION WARNING SYSTEM
CLINTON, IOWA**

In order to reduce accidents at these 2 busy intersections, the City of Clinton is attempting to slow traffic on Mill Creek Parkway to vehicle speeds of at or less than the posted speed limit. This can be accomplished by the installation of a major road alert ICWS system along Mill Creek Parkway at each of these intersections. Further, installation of a minor road alert ICWS system at the stop conditions of 2nd Avenue South and 13th Avenue North should assist motorists in realizing the approaching vehicular traffic on Mill Creek Parkway. It is our opinion that the installation of this ICWS system in both directions will effectively reduce the likelihood of vehicular accidents at these 2 intersections.

With the assistance of the Traffic Safety Improvements Program Funding, the City of Clinton will be able to implement the ICWS systems in 2013. The cost estimate for the proposed project is \$80,000. The City is applying for a \$60,000 grant, with a local match of \$20,000; this figure represents a match ratio of 25 percent. The City's willingness to provide additional funding demonstrates a commitment to completing this project.

As evidenced above, the Mill Creek Parkway Intersection Control Warning System plays a crucial role in the reduction of crashes along Mill Creek Parkway. The proposed traffic safety project will improve safety throughout this important transportation corridor.

**CITY OF CLINTON
CITY ENGINEER'S DIVISION
COST ESTIMATE DEVELOPMENT SHEET**

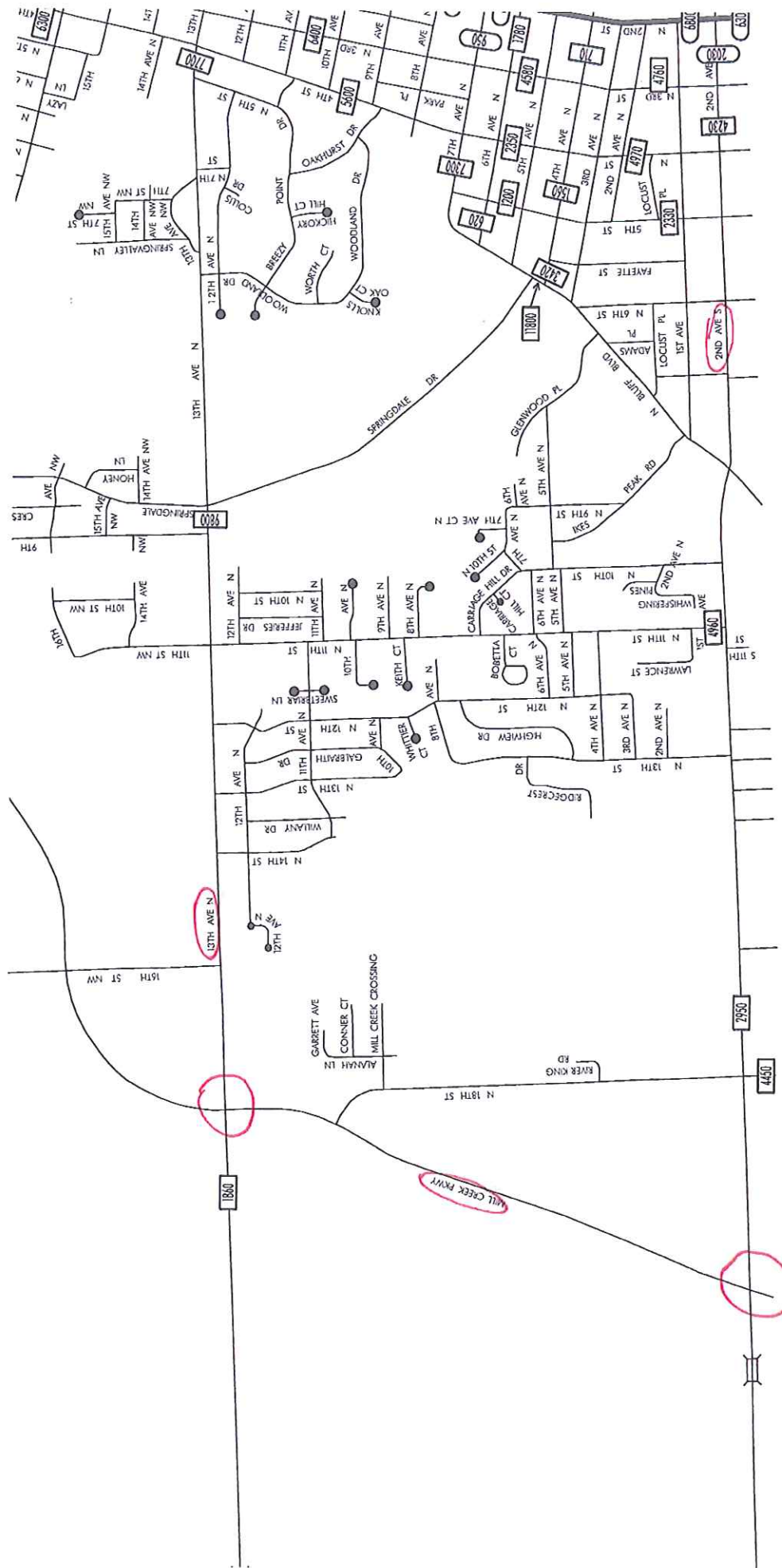
PRELIMINARY PROJECT COST ESTIMATE						
TRAFFIC SAFETY IMPROVEMENTS PROJECT						
MILL CREEK PARKWAY ICWS PROJECT						
13TH AVENUE NORTH & 2ND AVENUE SOUTH						
	BID ITEM	QUANTITY	UNIT	Unit Cost		
1	Signage	1	LS	\$ 5,000.00	\$	5,000.00
2	Detection	1	LS	\$ 20,000.00	\$	20,000.00
3	Flashing Beacons	8	EA	\$ 2,000.00	\$	16,000.00
4	Electrical	1	LS	\$ 25,000.00	\$	25,000.00
5	Traffic Control	1	LS	\$ 2,000.00	\$	2,000.00
6	Miscellaneous/Contingency	1	LS	\$ 12,000.00	\$	12,000.00

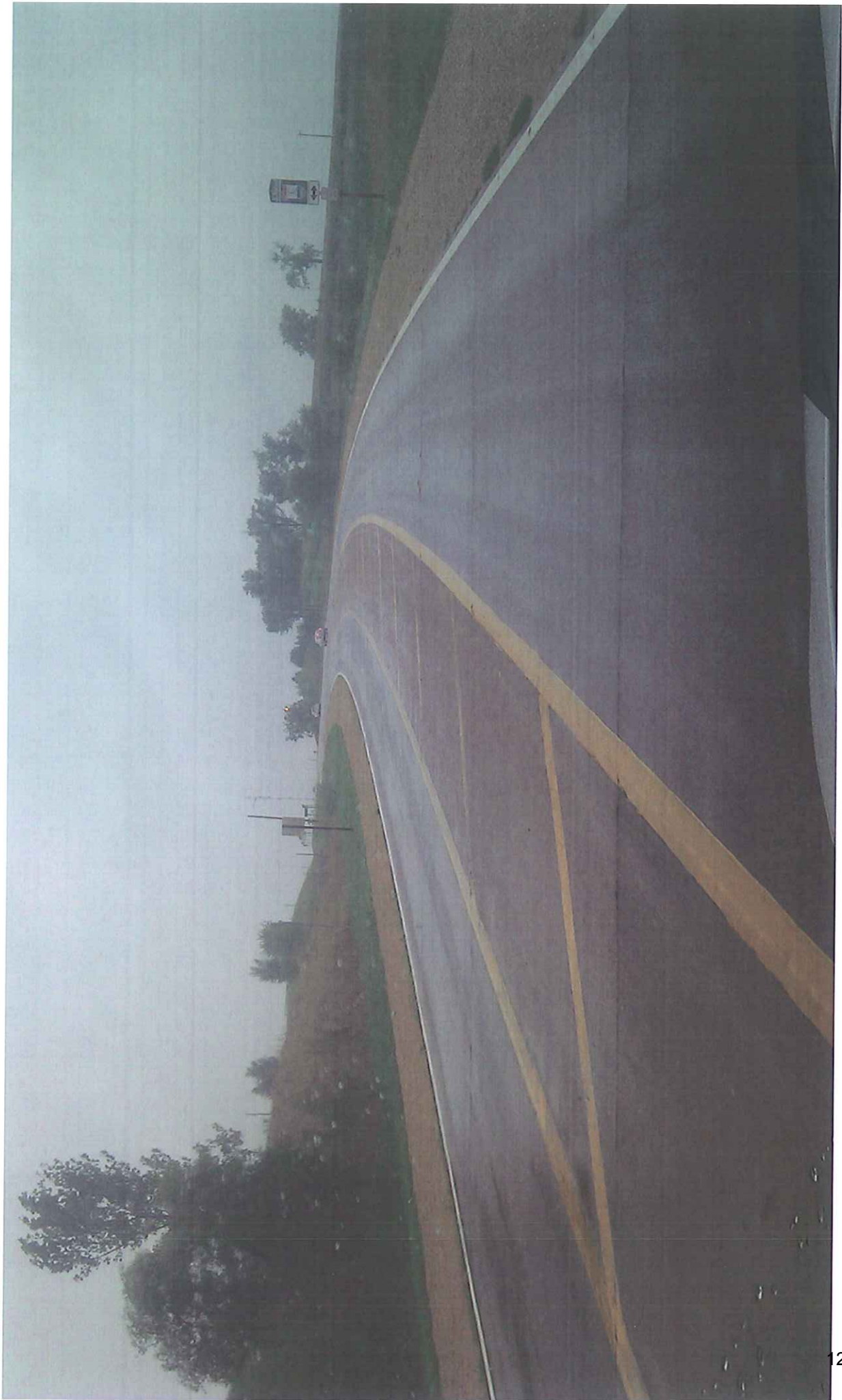
**Project Schedule
for
CITY OF CLINTON STIP PROJECT
MILL CREEK PARKWAY ICWS**

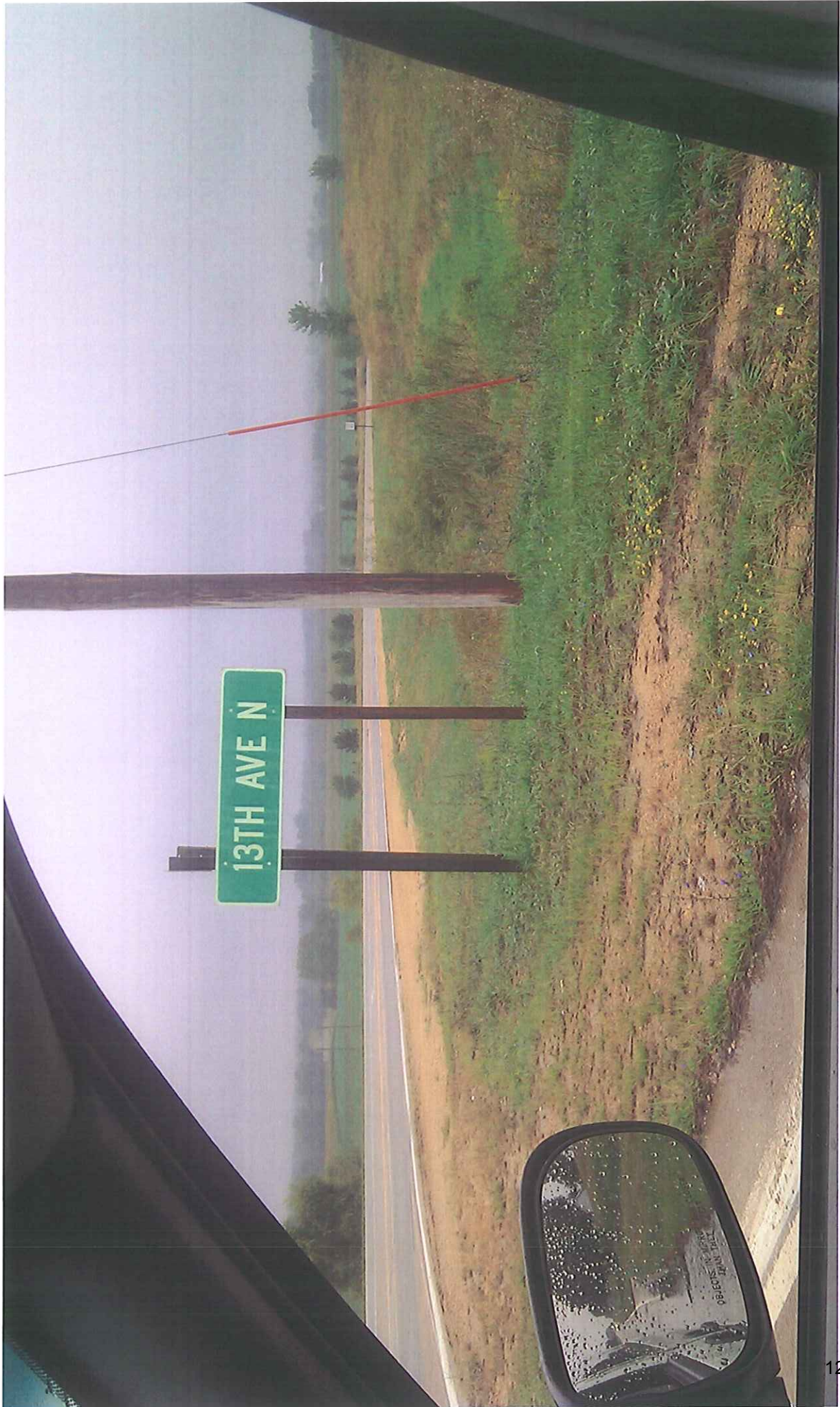
Item No.	Description	YEAR 2012									YEAR 2013								
		Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.				
1	Planning, Grant Application Submission, Approval, & Funding																		
2	Design Phase																		
3	Bid & Award Phase																		
4	Construction Phase																		

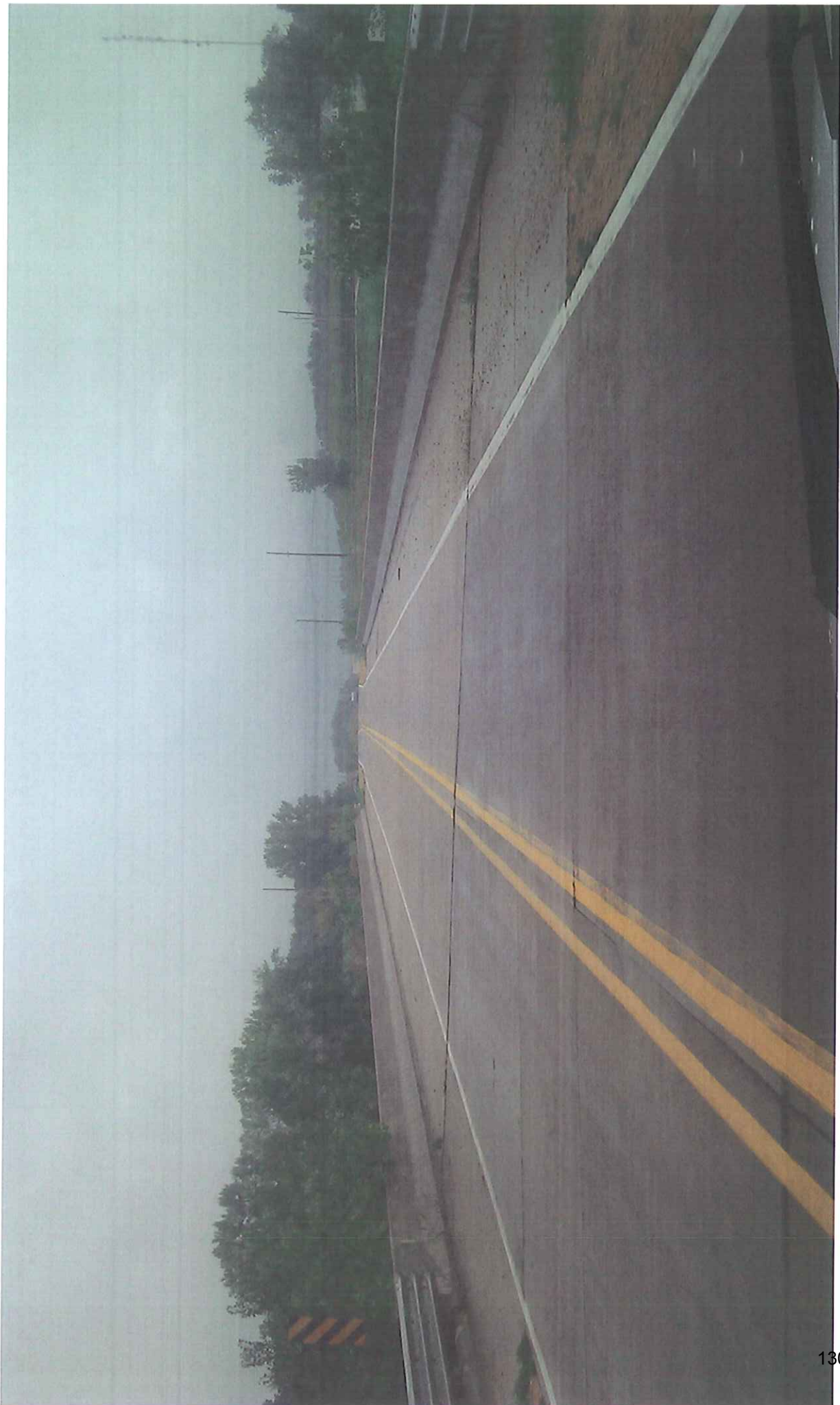
Location Map
 ICWS @ Mill Creek Pkwy & 2nd Aves
 13th Ave N

for IA DOT
 STIP App.



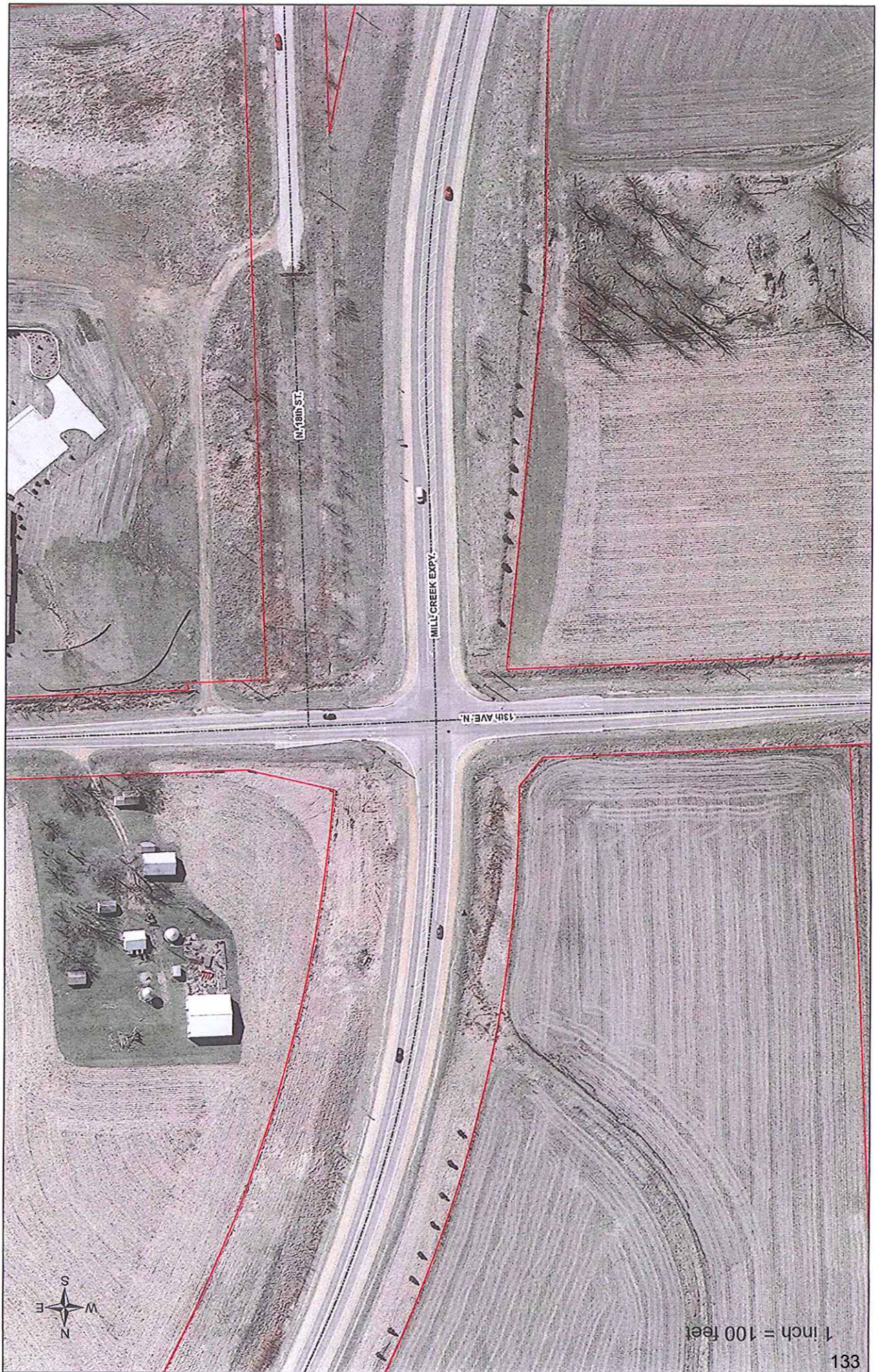


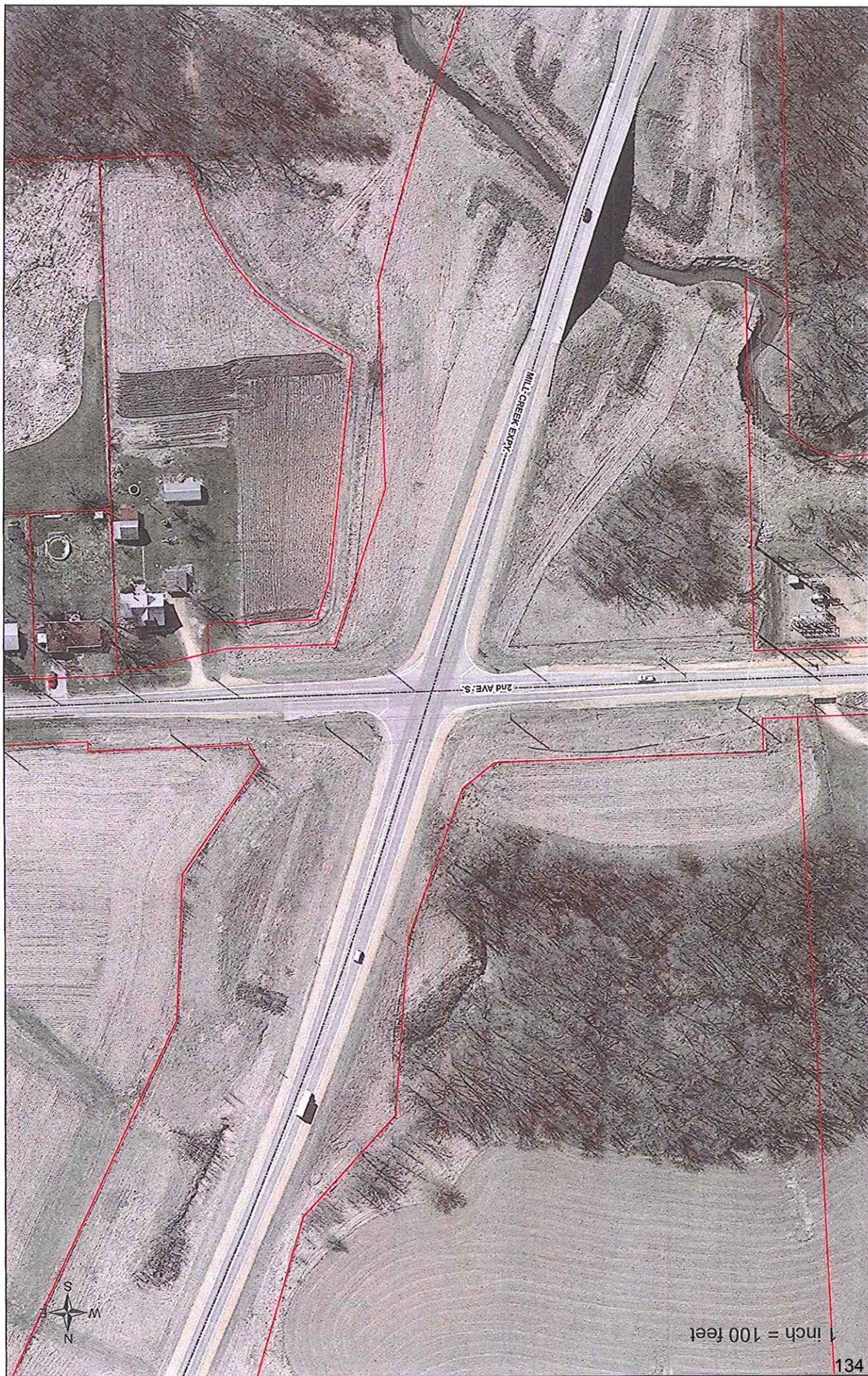




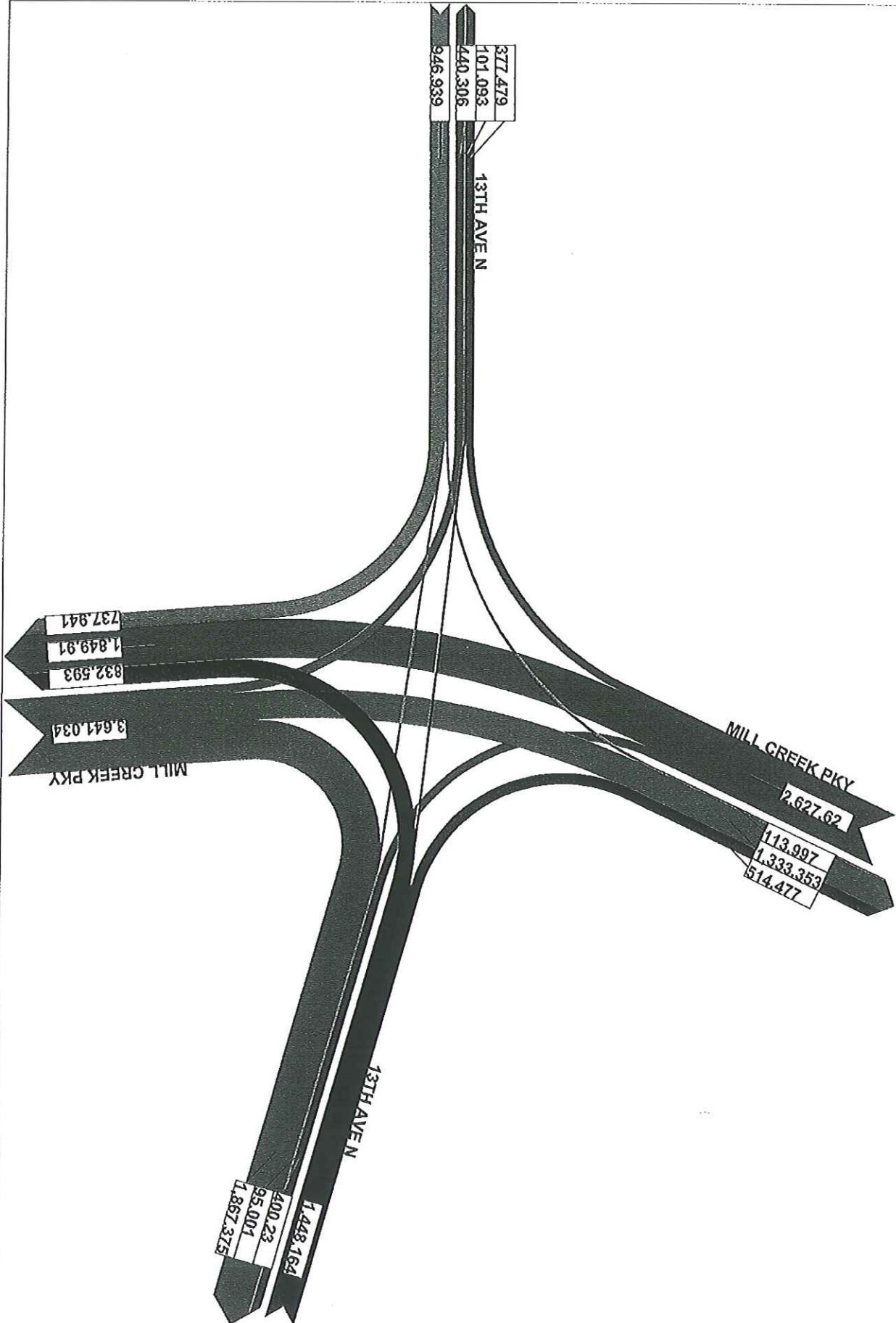








Millcreek & 13th



Mill Creek & 230th St (2nd Ave S)



ICWS 4: Major and Minor Road Alert for 2-Lane/2-Lane (or Multi-Lane) Intersection

Conditions

- Crash history exhibits a higher than expected rate and/or severity.
- Systems are typically used to address conditions where sight distance and/or gap acceptance are poor.
- Appendix A contains additional information regarding road volumes, posted speeds and potential benefits from individual deployments.

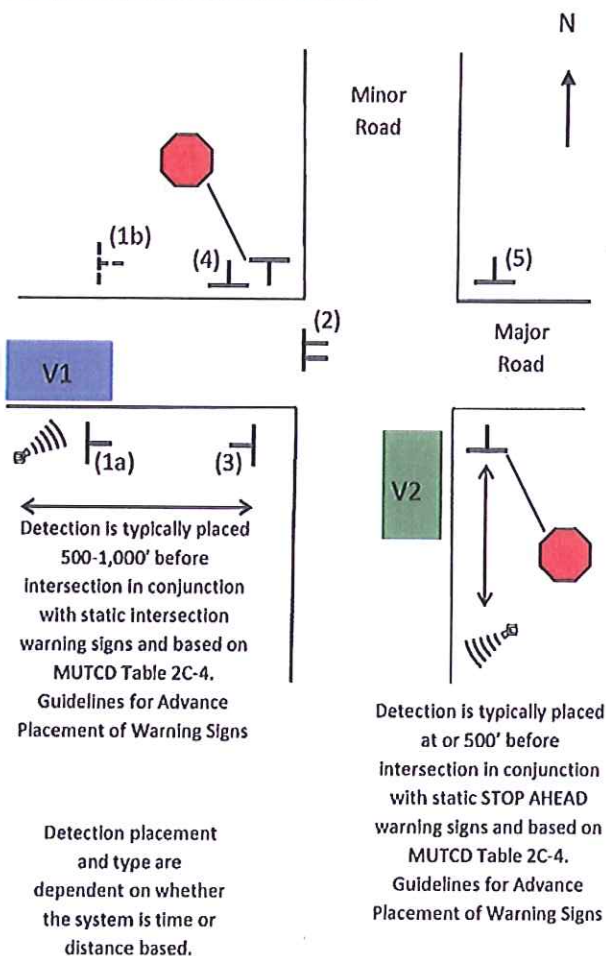
Intended Driver Use

System provides drivers on the major road with additional warning of cross traffic presence. It also provides drivers on the minor road with a similar warning of vehicle presence on the major road.

Combined, the system may allow major road drivers to take defensive action and provide minor road drivers with an indication of which direction major road traffic is approaching from.

Layout

Illustrations are not drawn to scale and are shown from both the major road, eastbound vehicle (V1) and the minor road, northbound vehicle (V2) perspectives. Refer to Options for sign placement and other details.



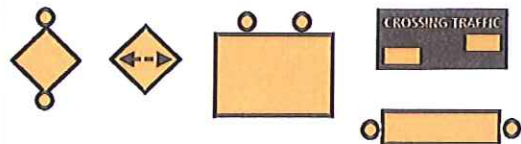
Options

Placement

For a 2-lane *major* road, one sign may be placed on the right side (1a). For a multi-lane major road, an additional sign may be placed on the left side (1b). Signing may also be suspended above the major road (2). Warning signs for the *minor* road may be placed left from STOP (3), on the far-side opposite corner (4) from STOP, OR on the far-side corner (5) from STOP.

Sign Combinations

Sign size should follow current standards in MUTCD Table 2C-2. Warning Sign and Plaque Sizes. Following are sign combinations that have been used.



Message Sets




- VEHICLE ENTERING
- WATCH FOR ENTERING TRAFFIC
- CROSSING TRAFFIC
- LOOK FOR TRAFFIC

Messages may also be combined with WHEN FLASHING plaque.




Notes and References

Systems have been deployed in Maine, Minnesota, Missouri, North Carolina and Pennsylvania. See Appendix A, signs 9-13, for further details.

Appendix A – Intersection Conflict Warning Systems: Characteristics Summary (as of October 2011)

Sign	Roadway/Intersection Characteristics	Sign/Detection Placement	Message Set
<p>1. Minor Road</p> 	<p>Iowa – Dyersville – US 20 (4-lane; 9,000 ADT) and 7th St (2-lane; 735 ADT)</p> <p>Iowa – Anamosa – US 151 (4-lane; 10,050 ADT) and Old Dubuque Rd (2-lane; 1,385 ADT)</p> <p><i>Problem: Gap acceptance</i></p> <p>Missouri – Lowry City – MO 13 (4-lane; 10,000 ADT) and 1st St (2-lane)</p> <p>Missouri – Osceola – MO 13 (4-lane; 10,000 ADT) and Truman Rd (2-lane)</p> <p>Missouri – 8 other locations</p> <p><i>Problem: Gap acceptance</i></p>	<p>Sign (with yellow flashers): 50-200' to the left of STOP and second on far-side corner from median YIELD; on major road</p> <p>Detection (loops): 1000' before intersection on major road</p>	<p>TRAFFIC APPROACHING WHEN FLASHING</p>
<p>2. Minor Road</p> 	<p>Minnesota – Goodhue County – US 52 (4-lane; 17,500 ADT) and Co Rd 9 (2-lane)</p> <p>Minnesota – Mille Lacs County – US 169 (4-lane; 11,200 ADT) and Co Rd 11 (2-lane)</p> <p>Minnesota – Lyon County – MN 23 (4-lane; 6,200 ADT) and Co Rd 7 near Marshall</p> <p>Wisconsin – Minong – US53 (4-lane; 4,400 ADT) and WI 77 (2-lane; 2,850 ADT)</p> <p>Posted speed 65 MPH</p> <p><i>Problem: Gap acceptance</i></p>	<p>Sign (DMS): First on far-side, opposite corner from STOP and second on far-side corner from median STOP/YIELD</p> <p>Detection (radar): First approximately 800' and second approximately 150' before intersection</p>	<p>Symbol: Divided highway with color and do not enter indicators</p>
<p>3. Minor Road</p> 	<p>Minnesota – Hennepin County – Co Rd 47 (2-lane; 3,150 ADT) and Lawndale Ln (2-lane; 100 ADT)</p> <p>Posted speed 40 MPH</p> <p><i>Problem: Sight distance</i></p>	<p>Sign (with yellow LED arrow-shaped flashers): Far-side corner from STOP</p> <p>Detection (radar): 750' before intersection</p>	<p>LOOK FOR TRAFFIC</p>

Appendix A – Intersection Conflict Warning Systems: Characteristics Summary (as of October 2011)

Roadway/Intersection Characteristics		Sign/Detection Placement	Message Set	
	7. Major Road	<p>Minnesota – Milaca – US 169 (4-lane; 11,200 ADT) and Co Rd 11 (2-lane) Posted speed 65 MPH</p> <p>Michigan – Benzie County – US 31 (2-lane; 8,200 ADT) and Grace/Love Rd (2-lane) Posted speed 45 MPH</p> <p>Michigan – Germfask – M-77 (2-lane; 1,900 ADT) Posted speed 45 MPH</p> <p><i>Problem: Gap acceptance and sight distance</i></p>	<p>Sign (with yellow flasher): 850-1,000' before intersection</p> <p>Detection (magnetic): 400-450' from STOP on minor road; at STOP bar; in median; in major road left turn lane</p>	CAUTION CROSSING TRAFFIC WHEN FLASHING
		8. Major Road	<p>Missouri – Tunas – Missouri 73 (2-lane; 2,100 ADT) and Routes E/D (2-lane; 400 ADT) Posted speed 55 MPH</p> <p>Missouri – Louisburg – US 65 (2-lane; 5,100 ADT) and Missouri 64 (2-lane; 1,200 ADT) Posted speed 45 MPH</p> <p><i>Problem: Sight distance</i></p> <p>Missouri – 7 other locations</p>	<p>Sign (with yellow flashers): 600-800' before intersection</p> <p>Detection (loops): Actuated at minor road STOP</p>
	9. A-Major Road B-Minor Road	<p>North Carolina – Brassfield – NC 96/Brassfield Rd (2-lane; 1,300 ADT) and NC 96/Horseshoe Rd (2-lane; 4,000 ADT) – Category 1 Posted speed 55 MPH</p> <p><i>Problem: Gap acceptance</i></p> <p>North Carolina – 46 other locations; variety of 2-lane and 4-lane roadways</p>	<p>Sign (with yellow flashers): May be placed at or before intersection on major or minor road</p> <p>Red flashers in conjunction with STOP</p> <p>Detection (loops): 250-400' from intersection based on design speed</p>	VEHICLE ENTERING (WHEN FLASHING) Occasionally, VEHICLE ENTERING FROM RIGHT (LEFT) WHEN FLASHING Occasionally, WATCH FOR APPROACHING VEHICLE

Signs and plaques larger than those shown in Tables 2C-2 and 2C-3 may be used (see Section 2A.11).

Guidance:

The minimum size for all diamond-shaped warning signs facing traffic on exit and entrance ramps should be the size identified in Table 2C-2 for the mainline roadway classification (Expressway or Freeway). If a minimum size is not provided in the Freeway Column, the Expressway size should be used. If a minimum size is not provided in the Freeway or the Expressway Column, the Oversized size should be used.

Section 2C.05 Placement of Warning Signs

Support:

For information on placement of warning signs, see Sections 2A.16 to 2A.21.

The time needed for detection, recognition, decision, and reaction is called the Perception-Response Time (PRT). Table 2C-4 is provided as an aid for determining warning sign location. The distances shown in Table 2C-4 can be adjusted for roadway features, other signing, and to improve visibility.

Guidance:

Warning signs should be placed so that they provide an adequate PRT. The distances contained in Table 2C-4 are for guidance purposes and should be applied with engineering judgment. Warning signs should not be placed too far in advance of the condition, such that drivers might tend to forget the warning because of other driving distractions, especially in urban areas.

Table 2C-4. Guidelines for Advance Placement of Warning Signs

Posted or 85th-Percentile Speed	Advance Placement Distance ¹								
	Condition A: Speed reduction and lane changing in heavy traffic ²	Condition B: Deceleration to the listed advisory speed (mph) for the condition							
		0 ³	10 ⁴	20 ⁴	30 ⁴	40 ⁴	50 ⁴	60 ⁴	70 ⁴
20 mph	225 ft	100 ft ⁵	N/A ⁵	—	—	—	—	—	—
25 mph	325 ft	100 ft ⁵	N/A ⁵	N/A ⁵	—	—	—	—	—
30 mph	460 ft	100 ft ⁵	N/A ⁵	N/A ⁵	—	—	—	—	—
35 mph	565 ft	100 ft ⁵	N/A ⁵	N/A ⁵	N/A ⁵	—	—	—	—
40 mph	670 ft	125 ft	100 ft ⁵	100 ft ⁵	N/A ⁵	—	—	—	—
45 mph	775 ft	175 ft	125 ft	100 ft ⁵	100 ft ⁵	N/A ⁵	—	—	—
50 mph	885 ft	250 ft	200 ft	175 ft	125 ft	100 ft ⁵	—	—	—
55 mph	990 ft	325 ft	275 ft	225 ft	200 ft	125 ft	N/A ⁵	—	—
60 mph	1,100 ft	400 ft	350 ft	325 ft	275 ft	200 ft	100 ft ⁵	—	—
65 mph	1,200 ft	475 ft	450 ft	400 ft	350 ft	275 ft	200 ft	100 ft ⁵	—
70 mph	1,250 ft	550 ft	525 ft	500 ft	450 ft	375 ft	275 ft	150 ft	—
75 mph	1,350 ft	650 ft	625 ft	600 ft	550 ft	475 ft	375 ft	250 ft	100 ft ⁵

¹ The distances are adjusted for a sign legibility distance of 180 feet for Condition A. The distances for Condition B have been adjusted for a sign legibility distance of 250 feet, which is appropriate for an alignment warning symbol sign. For Conditions A and B, warning signs with less than 6-inch legend or more than four words, a minimum of 100 feet should be added to the advance placement distance to provide adequate legibility of the warning sign.

² Typical conditions are locations where the road user must use extra time to adjust speed and change lanes in heavy traffic because of a complex driving situation. Typical signs are Merge and Right Lane Ends. The distances are determined by providing the driver a PRT of 14.0 to 14.5 seconds for vehicle maneuvers (2005 AASHTO Policy, Exhibit 3-3, Decision Sight Distance, Avoidance Maneuver E) minus the legibility distance of 180 feet for the appropriate sign.

³ Typical condition is the warning of a potential stop situation. Typical signs are Stop Ahead, Yield Ahead, Signal Ahead, and Intersection Warning signs. The distances are based on the 2005 AASHTO Policy, Exhibit 3-1, Stopping Sight Distance, providing a PRT of 2.5 seconds, a deceleration rate of 11.2 feet/second², minus the sign legibility distance of 180 feet.

⁴ Typical conditions are locations where the road user must decrease speed to maneuver through the warned condition. Typical signs are Turn, Curve, Reverse Turn, or Reverse Curve. The distance is determined by providing a 2.5 second PRT, a vehicle deceleration rate of 10 feet/second², minus the sign legibility distance of 250 feet.

⁵ No suggested distances are provided for these speeds, as the placement location is dependent on site conditions and other signing. An alignment warning sign may be placed anywhere from the point of curvature up to 100 feet in advance of the curve. However, the alignment warning sign should be installed in advance of the curve and at least 100 feet from any other signs.

⁶ The minimum advance placement distance is listed as 100 feet to provide adequate spacing between signs.

Application for TRAFFIC SAFETY FUNDS

GENERAL INFORMATION

Location / Title of Project Improved Signing at Horizontal Curves

Applicant Iowa DOT, Office of Traffic & Safety

Contact Person Steven Schroder Title Traffic Safety Engineer

Complete Mailing Address 800 Lincoln Way
Ames, IA 50010

Phone 515-239-1623 E-Mail steven.schroder@dot.iowa.gov
(Area Code)

If more than one highway authority is involved in this project, please indicate and fill in the information below (use additional sheets if necessary).

Co-Applicant(s) _____

Contact Person _____ Title _____

Complete Mailing Address _____

Phone _____ E-Mail _____
(Area Code)

PLEASE COMPLETE THE FOLLOWING PROJECT INFORMATION:

Application Type

Site Specific ☐
Traffic Control Device ☒
Safety Study ☐

Funding Amount

Total Project Cost \$ 1,000,000

Safety Funds Requested \$ 150,000

- A. Not applicable
- B. Local and national research indicates that a high portion of rural run-off-the-road crashes occur at horizontal curves, and that many of those crashes can be mitigated through low-cost solutions such as installing advance curve warning signs, chevron signs, or replacing existing curve warning signs with larger and/or brighter curve warning signs.

In conjunction with the safety benefits of better curve signing, the 2009 Manual on Uniform Traffic Control Devices (MUTCD) includes additional guidance and requirements for signing, specifically related to horizontal curves. These funds will help counties comply with the nominal safety requirements defined in the MUTCD.

These funds will be used to provide curve warning and chevron signs for high-crash locations, including additional funding for the horizontal curve sign program for counties.

- C. In Fiscal Year 2012, over \$133,600 was approved through the Horizontal Curve Sign Program. As this program gains popularity and becomes more widespread, even more counties will be applying for funds. Counties are allowed to apply for \$10,000 on an annual basis. The amount of \$150,000 is being requested to continue this program.
- D. There is no application deadline. Counties may apply for funds year-round. Funding is limited and applications are received and process on a first-come, first-funded basis.

Applicant

Steven Schroder
Iowa DOT, Office of Traffic & Safety

On Behalf of Counties and Iowa DOT

