CEDAR RAPIDS ATE PROGRAM

APRIL 16, 2015

SUPPORTING INFORMATION FOR APPEAL OF AGENCY ACTION IN DEPARTMENT OF TRANSPORTATION'S MARCH 17, 2015 "EVALUATION OF CEDAR RAPIDS AUTOMATED TRAFFIC ENFORCEMENT REPORT- PRIMARY HIGHWAY SYSTEM"

1. Agreements for Approval of a Traffic Control Device (5), sometimes referred to as DOT permits
2. Primary Highway System Automated Traffic Enforcement Guidelines – June 2012
3. Primary Highway System Automated Traffic Enforcement Guidelines – January 2013
4. April 3, 2013 letter to Police Chief Wayne Jerman from Steve Gent
5. May 1, 2013 letter from Cedar Rapids Police Chief Wayne Jerman to Steve Gent and Tim Crouch
6. (Undated) Notice of Intended Action by Transportation Department
7. (Undated) "Iowa Department of Transportation ATE Rulemaking Authority"
8. Department of Transportation Commission Order No. H-2014-33 re: 12/10/13 meeting date
9. May 2014 Report to Iowa Department of Transportation – City of Cedar Rapids Automated Traffic Enforcement on Primary Roadway 2013 with Appendices A through D
10. September 8, 2014 electronic mail message from Sergeant Mike Wallerstedt to Steve Gent, with preceding messages from Steve Gent and Tim Crouch
11. September 9, 2014 electronic mail message from Sergeant Mike Wallerstedt to Tim Crouch, with preceding messages from Tim Crouch and Steve Gent
12. September 15, 2014 electronic mail message from Sergeant Mike Wallerstedt to Steve Gent

1. Agreements for Approval of a Traffic Control Device (5), sometimes referred to as DOT permits

Form 810071wd
03-04

Iowa Department of Transportation

AGREEMENT FOR APPROVAL OF A TRAFFIC CONTROL DEVICE

Four copies of application and sketch must be
filed with the Office of Traffic Engineering and Safety
Iowa Department of Transportation
Ames, Iowa

County Linn

Applicant City Of Cedar Rapids
Name of Governmental Authority

Approval is requested for authority to install and maintain a traffic control device at the following location:

SB I-380 (IA 27) & Truss at Exit 21 DOT # 57031

THE APPLICANT UNDERSTANDS THAT THE TRAFFIC CONTROL DEVICE MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IOWA DEPARTMENT OF TRANSPORTATION. THE APPLICANT ASSUMES RESPONSIBILY FOR THE OPERATION OF THE TRAFFIC CONTROL DEVICE. THE APPLICANT ALSO ASSUMES ALL COSTS FOR ELECTRICITY, MAINTENANCE, AND REPLACEMENT FOR THE ABOVE TRAFFIC CONTROL DEVICE.

Attach *(to all copies of the application)* a drawing of the proposed installation. Drawing to be complete, showing location of traffic control device in relation to sidewalks, driveways, streets, etc.

Show extra indications such as pedestrian "Walk-Don't Walk", etc., in detail on proposed installation drawing.

OPERATION

The traffic control shall function as follows:

Camera / strobe dual cabinets, antennas, and conduit will be mounted on existing truss sign structures.

Cameras and equipment will be used for photo speed enforcement of the I-380 speed limit.

Project #60-10-023

By [signature] Name

Public Works Director/City Engineer 9/13/10
Title *(Mayor, Clerk, or Engineer)* Date

NOTE: The signal installation must have final inspection and approval by the Iowa Department of Transportation before being placed in operation. Please notify the State Traffic Engineer, Office of Traffic Engineering and Safety, Iowa Department of Transportation, Ames, Iowa, one (1) week before signal turn on.

AUTHORIZATION

Approval is granted, subject to the conditions and restrictions set forth herein, for the installation of a traffic control device at the location described above.

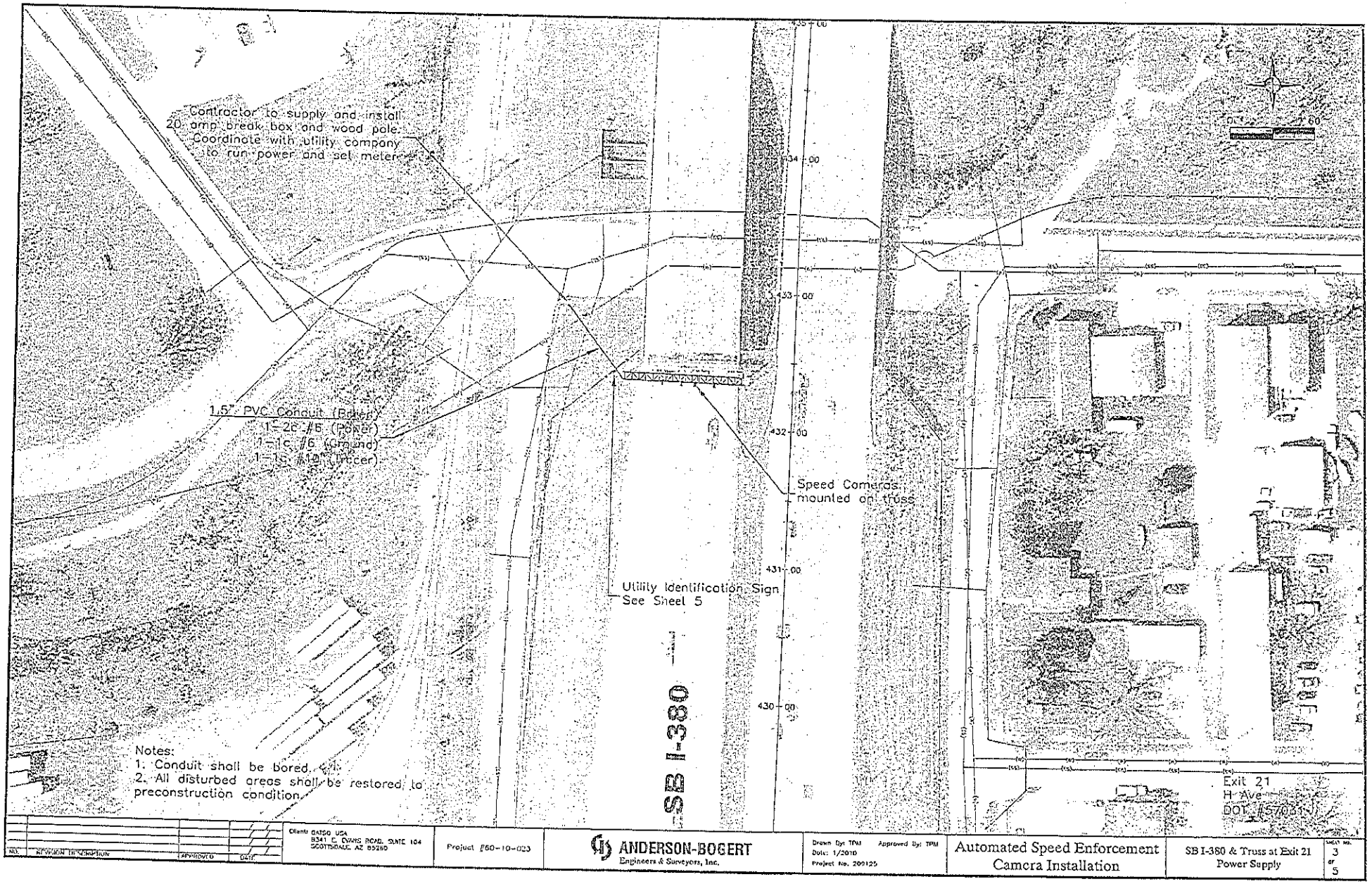
CONDITION AND/OR RESTRICTIONS _____

THE IOWA DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO:

(1) Require the removal of such traffic control device upon thirty days' written notice. Either lack of supervision, inadequate enforcement, unapproved operation, or intolerable congestion shall be considered sufficient reason to require removal.

(2) Revoke and annul the issued permit if the installation is not in operation within eighteen (18) months after date of approval.

Name _____ 9/23/10
State Traffic Engineer, Date
Iowa Department of Transportation



Client: GATSO USA
8341 E. EVANS ROAD, SUITE 104
SCOTTSDALE, AZ 85260

Project #60-10-023

ANDERSON-BOGERT
Engineers & Surveyors, Inc.

Drawn By: TPM Approved By: TPM
Date: 1/2010
Project No. 200125

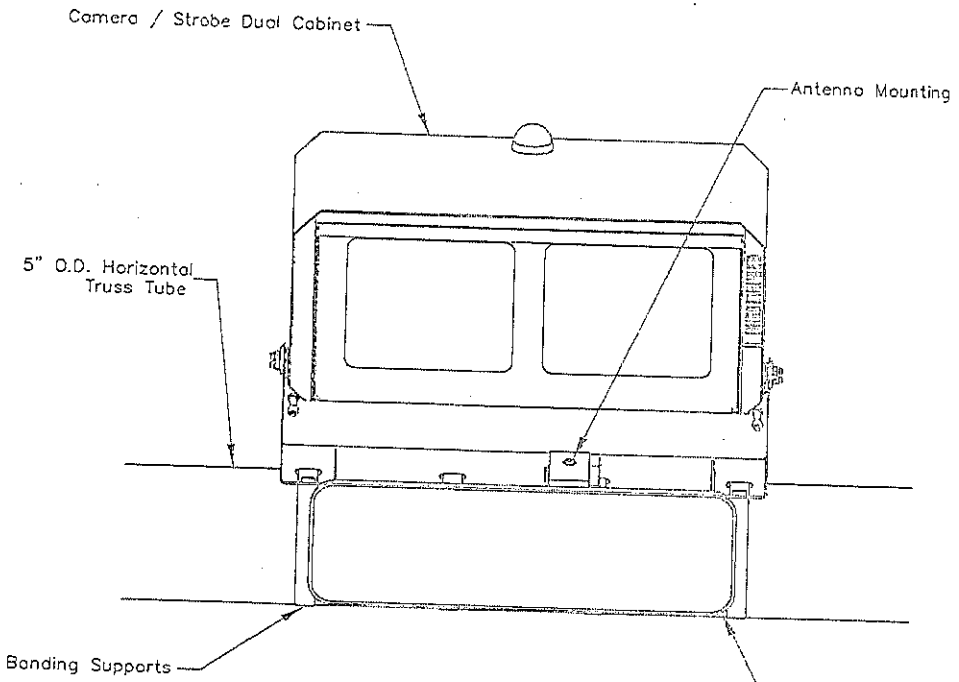
Automated Speed Enforcement
Camera Installation

SB I-380 & Truss at Exit 21
Power Supply

Sheet No. 3 of 5

T:\ACAD\200125\dwg\SB 380 H Ave\077_SB_D.dwg 9-03-10 01:24:28 PM tpm281

Stainless Steel Banding:
Cameras shall be secured to truss by using a minimum of four (4) 3/4-inch wide stainless steel banding material. Banding material shall be 300 Series.

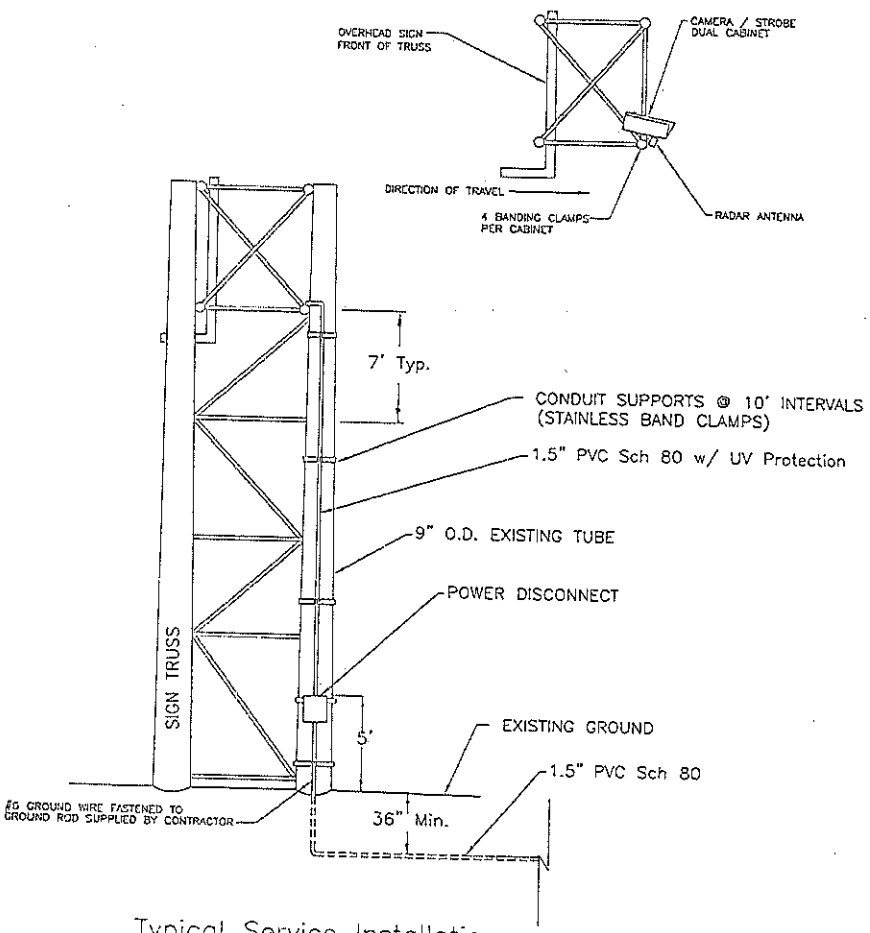


Typical Camera/Strobe Dual Cabinet & Radar Antenna Mounting

Note:
Field hole drilling of the sign truss structure shall not be permitted.

Construction shall be in compliance with the AASHTO Standard Specification for Structural Supports for highway signs, Luminaries, and Traffic Signals, Series 2009.

Typical Cabinet Location



Typical Service Installation

NO.	REVISION DESCRIPTION	APPROVED	DATE

Client: GATSO USA
8341 E. EVANS ROAD, SUITE 104
SCOTTSDALE, AZ 85260

Project #60-10-023

ANDERSON-BOGERT
Engineers & Surveyors, Inc.

Drawn By: TPM Approved By: TPM
Date: 1/2010
Project No. 209125

Automated Speed Enforcement
Camera Installation

Camera Mounting & Service Installation Details

SHEET NO. 4 OF 5

I:\ACAD\209125\dwg\SB 380 M Ave\077_SB_Details.dwg 9-09-10 01:27:30 PM tpm231

Form 810071wd
03-04

Iowa Department of Transportation

AGREEMENT FOR APPROVAL OF A TRAFFIC CONTROL DEVICE

Four copies of application and sketch must be filed with the Office of Traffic Engineering and Safety
Iowa Department of Transportation
Ames, Iowa

County Linn

Applicant City Of Cedar Rapids
Name of Governmental Authority

Approval is requested for authority to install and maintain a traffic control device at the following location:

NB I-380 (IA 27) & Truss at Exit 22 DOT #57032

NB I-380 (IA 27) & Truss at Exit 19A DOT #57019

THE APPLICANT UNDERSTANDS THAT THE TRAFFIC CONTROL DEVICE MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IOWA DEPARTMENT OF TRANSPORTATION. THE APPLICANT ASSUMES RESPONSIBILY FOR THE OPERATION OF THE TRAFFIC CONTROL DEVICE. THE APPLICANT ALSO ASSUMES ALL COSTS FOR ELECTRICITY, MAINTENANCE, AND REPLACEMENT FOR THE ABOVE TRAFFIC CONTROL DEVICE.

Attach *(to all copies of the application)* a drawing of the proposed installation. Drawing to be complete, showing location of traffic control device in relation to sidewalks, driveways, streets, etc.

Show extra indications such as pedestrian "Walk-Don't Walk", etc., in detail on proposed installation drawing.

OPERATION

The traffic control shall function as follows:

Camera / strobe dual cabinets, antennas, and conduit will be mounted on existing truss sign structures.

Cameras and equipment will be used for photo speed enforcement of the I-380 speed limit.

Project #60-10-023

By David J. Edgar (Name) — Public Works Director (Title *(Mayor, Clerk, or Engineer)*) — 2/9/10 (Date)

NOTE: The signal installation must have final inspection and approval by the Iowa Department of Transportation before being placed in operation. Please notify the State Traffic Engineer, Office of Traffic Engineering and Safety, Iowa Department of Transportation, Ames, Iowa, one (1) week before signal turn on.

AUTHORIZATION

Approval is granted, subject to the conditions and restrictions set forth herein, for the installation of a traffic control device at the location described above.

CONDITION AND/OR RESTRICTIONS _____

THE IOWA DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO:

(1) Require the removal of such traffic control device upon thirty days' written notice. Either lack of supervision, inadequate enforcement, unapproved operation, or intolerable congestion shall be considered sufficient reason to require removal.

(2) Revoke and annul the issued permit if the installation is not in operation within eighteen (18) months after date of approval.

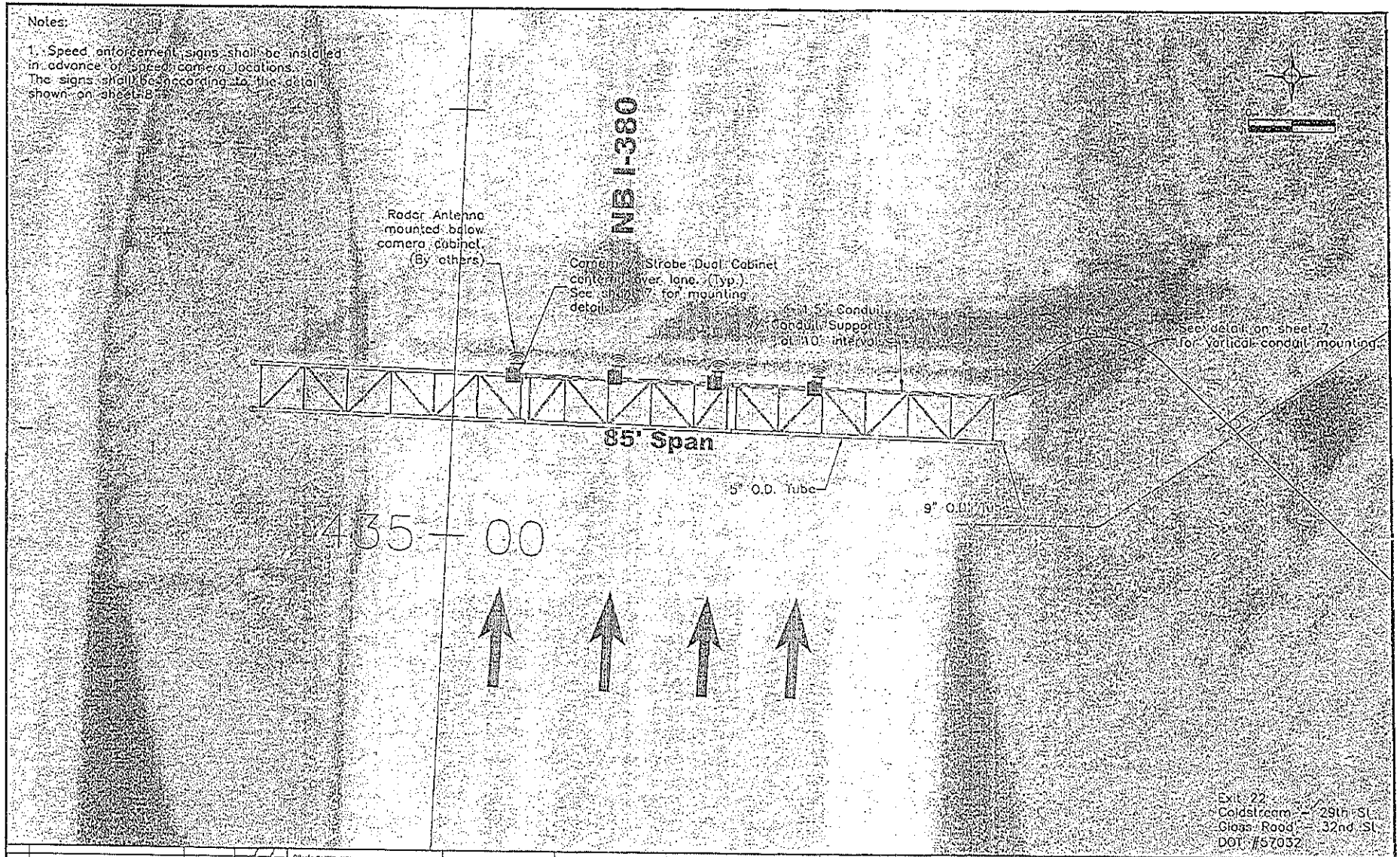
Name _____ 4/13/10

State Traffic Engineer,
Iowa Department of Transportation

Date

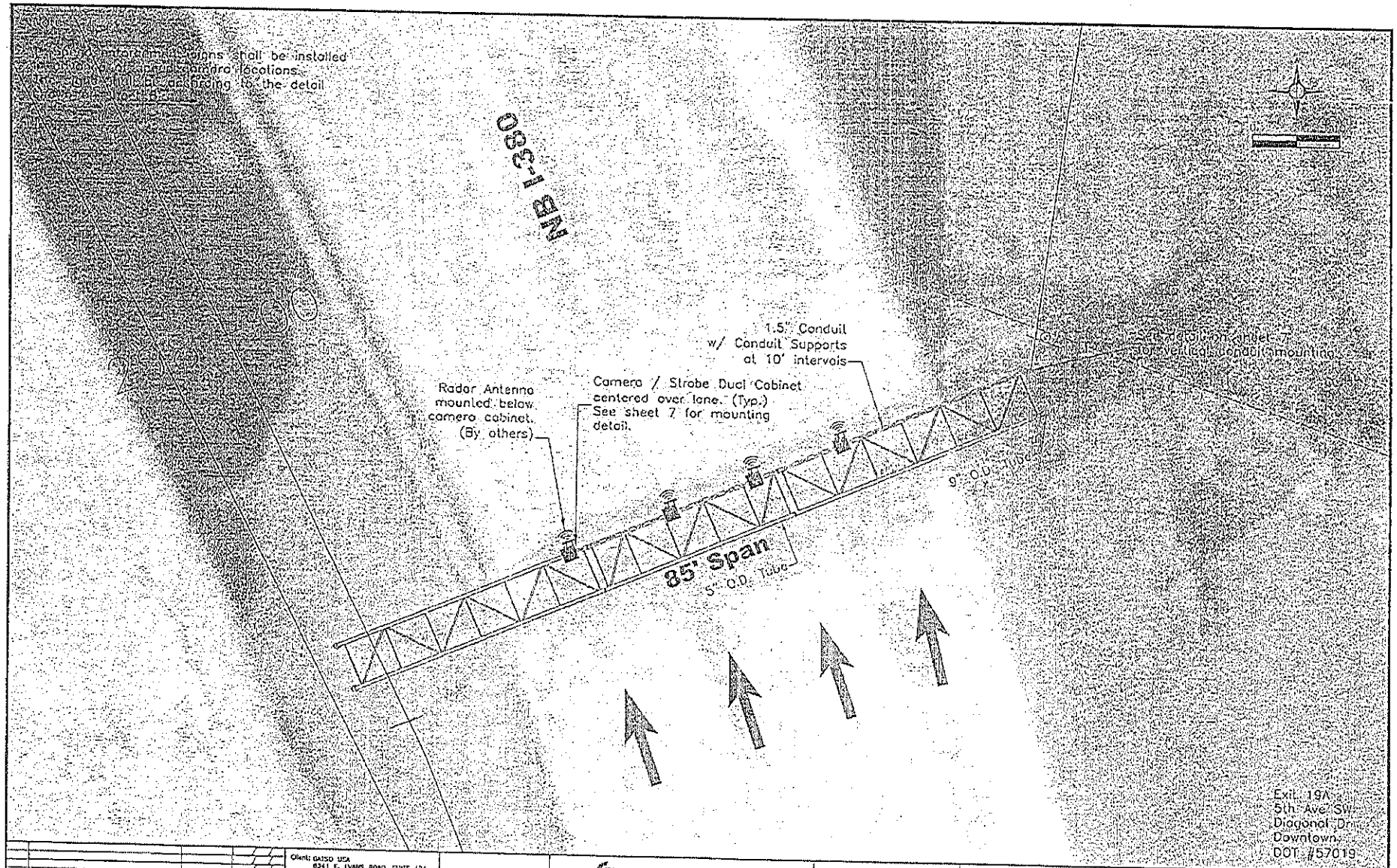
Notes:

1. Speed enforcement signs shall be installed in advance of speed camera locations. The signs shall be according to the detail shown on sheet 8.



No.	Revision / Description	Approved	Date	Client: CAREO USA 3241 E. EVANS ROAD, SUITE 104 SCOTTSDALE, AZ 85260	Project #00-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: TPW Approved By: TPW Date: 1/2010 Project No. 201123	Automated Speed Enforcement Camera Installation	NB I-380 & Truss at Exit 22	Sheet No. 1 of 8

T:\ACAD\201123\dgn\I-380\435_I-80.dwg 3-31-10 03:54:43 PM tpw28



Exit 19A
5th Ave SW
Diagonal Dr
Downtown
DOT #57019

Client: GATSO USA 8241 E. EVANS ROAD, SUITE 104 SCOTTSDALE, AZ 85260	Project #60-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: YPH Approved By: YPH Date: 1/2010 Project No. 209125	Automated Speed Enforcement Camera Installation	NB I-380 & Truss at Exit 19A	SHEET NO. 4 of 8

F:\ACAD\209125\Vs\VS 380\9125_NB B.dwg 3-31-10 04:20:45 PM lpm231

Form 810071wd
03-04

Iowa Department of Transportation

AGREEMENT FOR APPROVAL OF A TRAFFIC CONTROL DEVICE

Four copies of application and sketch must be filed with the Office of Traffic Engineering and Safety
Iowa Department of Transportation
Ames, Iowa

County Linn

Applicant City Of Cedar Rapids
Name of Governmental Authority

Approval is requested for authority to install and maintain a traffic control device at the following location:

SB I-380 (IA 27) & Truss at Exit 19B DOT # 32075

THE APPLICANT UNDERSTANDS THAT THE TRAFFIC CONTROL DEVICE MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IOWA DEPARTMENT OF TRANSPORTATION. THE APPLICANT ASSUMES RESPONSIBILY FOR THE OPERATION OF THE TRAFFIC CONTROL DEVICE. THE APPLICANT ALSO ASSUMES ALL COSTS FOR ELECTRICITY, MAINTENANCE, AND REPLACEMENT FOR THE ABOVE TRAFFIC CONTROL DEVICE.

Attach *(to all copies of the application)* a drawing of the proposed installation. Drawing to be complete, showing location of traffic control device in relation to sidewalks, driveways, streets, etc.

Show extra indications such as pedestrian "Walk-Don't Walk", etc., in detail on proposed installation drawing.

OPERATION

The traffic control shall function as follows:

Camera / strobe dual cabinets, antennas, and conduit will be mounted on existing truss sign structures.

Cameras and equipment will be used for photo speed enforcement of the I-380 speed limit.

Project #60-10-023

By David J. Edgar
Name

Public Works Director/City Engr.
Title *(Mayor, Clerk, or Engineer)*

11/8/10
Date

NOTE: The signal installation must have final inspection and approval by the Iowa Department of Transportation before being placed in operation. Please notify the State Traffic Engineer, Office of Traffic Engineering and Safety, Iowa Department of Transportation, Ames, Iowa, one (1) week before signal turn on.

AUTHORIZATION

Approval is granted, subject to the conditions and restrictions set forth herein, for the installation of a traffic control device at the location described above.

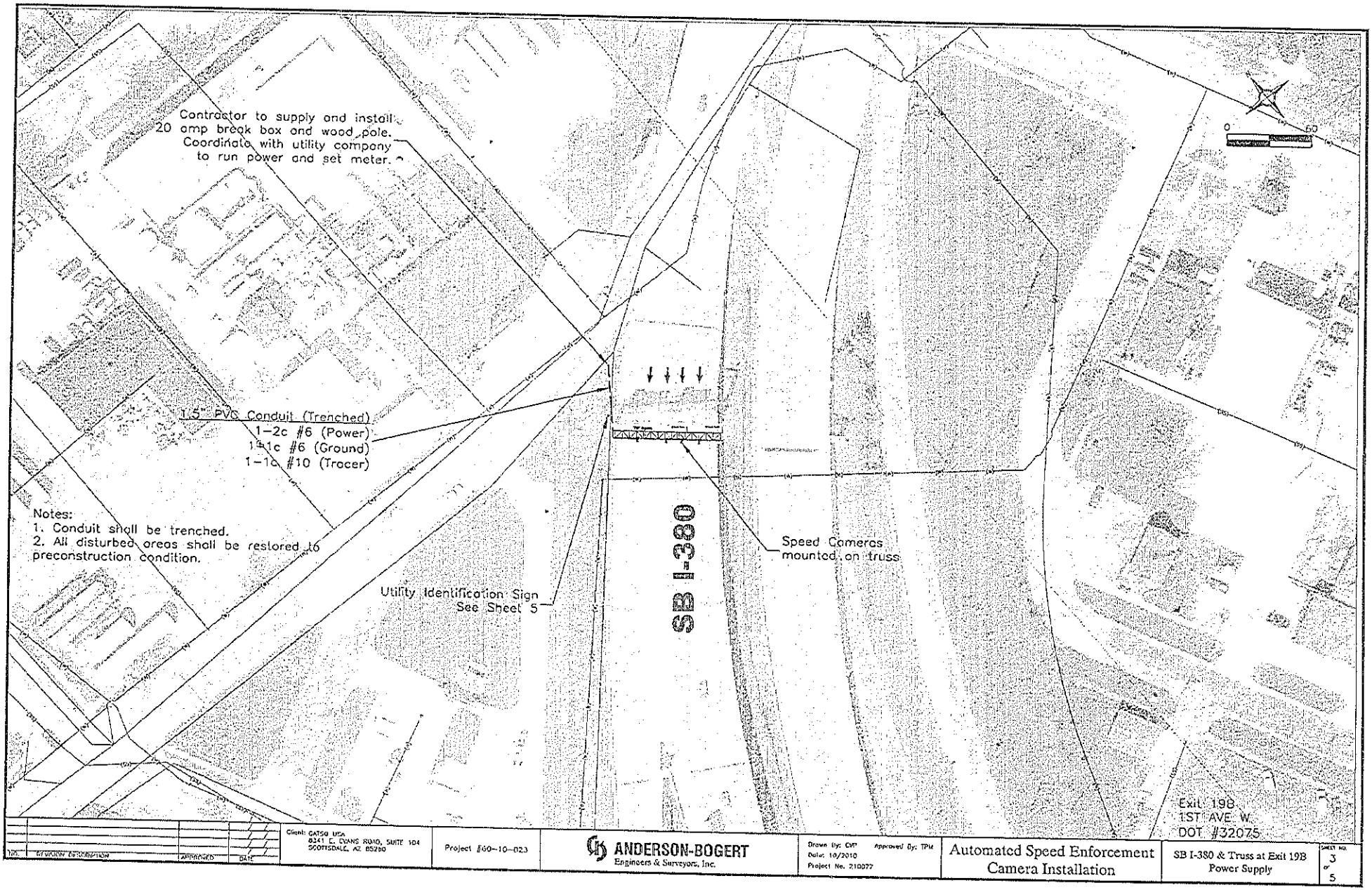
CONDITION AND/OR RESTRICTIONS _____

THE IOWA DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO:

(1) Require the removal of such traffic control device upon thirty days' written notice. Either lack of supervision, inadequate enforcement, unapproved operation, or intolerable congestion shall be considered sufficient reason to require removal.

(2) Revoke and annul the issued permit if the installation is not in operation within eighteen (18) months after date of approval.

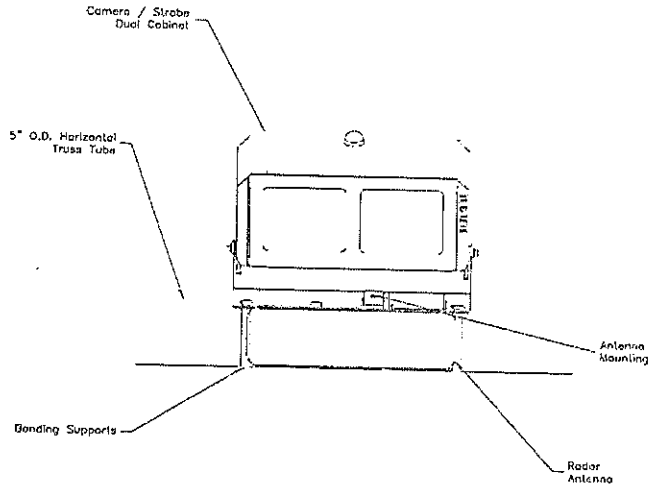
Name _____ 11/29/10
State Traffic Engineer, Date
Iowa Department of Transportation



NO. REVISION DESCRIPTION APPROVED DATE	Client: GATSO USA 8241 E. EVANS ROAD, SUITE 104 SCOTTSDALE, AZ 85260	Project #60-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: CMT Approved By: TPM Date: 10/2010 Project No. 210072	Automated Speed Enforcement Camera Installation	SB I-380 & Truss at Exit 198 Power Supply	SHEET NO. 3 of 5

T:\ACAD\209125\dwg\SB 380 1st Ave W\ACAD-072_SB_D-2.dwg 10-26-10 09:28:45 AM tpm281

Stainless Steel Banding:
Cameras shall be secured to truss by using a minimum of four (4) 3/4-inch wide stainless steel bands. Banding material shall be 300 Series.



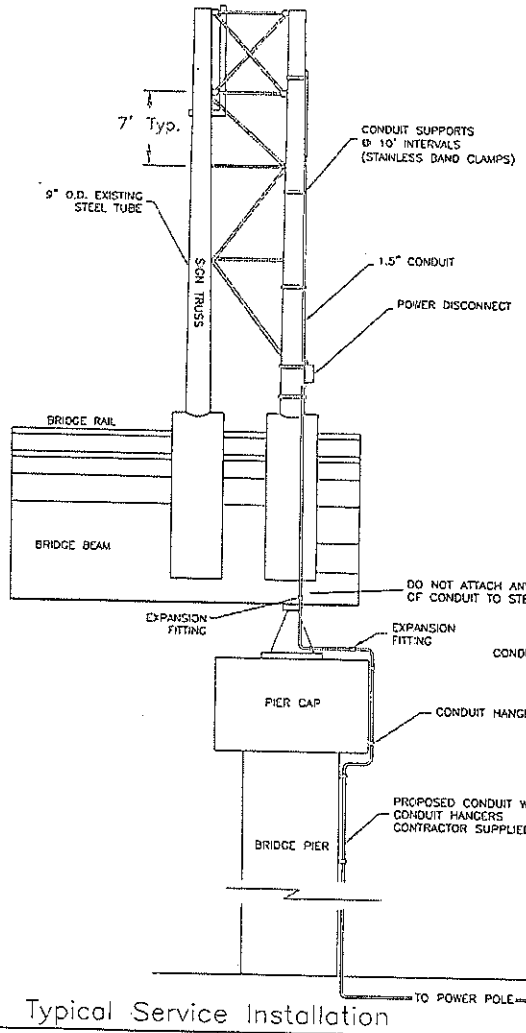
Typical Camera/Strobe Dual Cabinet & Radar Antenna Mounting

Note:
Field hole drilling of the sign truss structure shall not be permitted.

Project shall meet the AASHTO Standard Specification for Structural Supports for highway signs, Luminaries, and Traffic Signals, Series 2009.

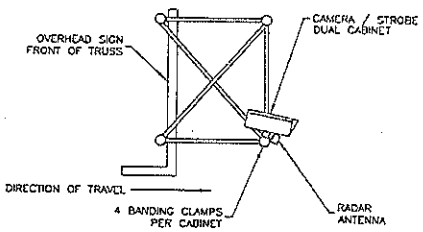
NOTE:
RISER ASSEMBLY INCLUDES 150' 1.5" RIGID STEEL CONDUIT, SUPPORTS, CLAMPS, HARDWARE, SEALANT, AND ALL OTHER MISCELLANEOUS MATERIALS.

ALL EPOXY FOR CONNECTING HARDWARE TO BRIDGE PIER SHALL CONFORM TO ASTM C881, TYPE I EPOXY RESIN.



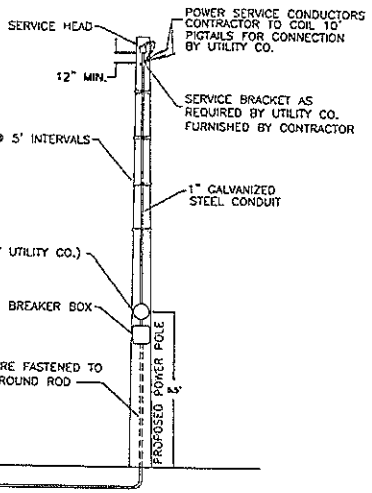
Typical Service Installation

Typical Cabinet Location



NOTE:
THE CONTRACTOR SHALL CONSTRUCT EXPANSION FITTINGS IN THE CONDUIT AT A MINIMUM OF LOCATIONS ALONG THE CONDUIT AND AT ALL LOCATIONS WHERE THE CONDUIT CROSSES AN EXPANSION JOINT. THE EXPANSION FITTING SHALL PERMIT A 2-1/2" MINIMUM TRAVEL IN EITHER DIRECTION.

EXPANSION FITTING
NTS



NO.	REVISION OR DESCRIPTION	APPROVED	DATE

Client: GATSO USA
8341 E. EVANS ROAD, SUITE 104
SCOTTSDALE, AZ 85260

Project #60-10-023

ANDERSON-BOGERT
Engineers & Surveyors, Inc.

Drawn By: CVP Approved By: TPM
Date: 10/2010
Project No. 210077

Automated Speed Enforcement Camera Installation

Camera Mounting & Service Installation Details

SHEET NO. 4 OF 5

T:\ACAD\260125\dwg\SR 360 1st Ave W\077_SR-2_Detail-newdwg 10-26-10 08:22:59 AM tpm261

Form 810071wd
03-04

Iowa Department of Transportation

AGREEMENT FOR APPROVAL OF A TRAFFIC CONTROL DEVICE

Four copies of application and sketch must be filed with the Office of Traffic Engineering and Safety
Iowa Department of Transportation
Ames, Iowa

County Linn

Applicant City Of Cedar Rapids
Name of Governmental Authority

Approval is requested for authority to install and maintain a traffic control device at the following location:

1st Avenue SW (IA 922/ Bus. 151) and L St SW

Collins Rd (IA 100) exit ramp and Center Point Rd NE

Williams Blvd (IA 922/ Bus. 151) SW and 16th Ave SW

2nd Avenue SW and 3rd Street SW

THE APPLICANT UNDERSTANDS THAT THE TRAFFIC CONTROL DEVICE MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IOWA DEPARTMENT OF TRANSPORTATION. THE APPLICANT ASSUMES RESPONSIBILY FOR THE OPERATION OF THE TRAFFIC CONTROL DEVICE. THE APPLICANT ALSO ASSUMES ALL COSTS FOR ELECTRICITY, MAINTENANCE, AND REPLACEMENT FOR THE ABOVE TRAFFIC CONTROL DEVICE.

Attach *(to all copies of the application)* a drawing of the proposed installation. Drawing to be complete, showing location of traffic control device in relation to sidewalks, driveways, streets, etc.

Show extra indications such as pedestrian "Walk-Don't Walk", etc., in detail on proposed installation drawing.

OPERATION

The traffic control shall function as follows: Existing traffic signals shall remain fully intact.

Monitoring cameras, antennas, and cabinet will be mounted on combination mast-arm / poles in advance of the intersections.

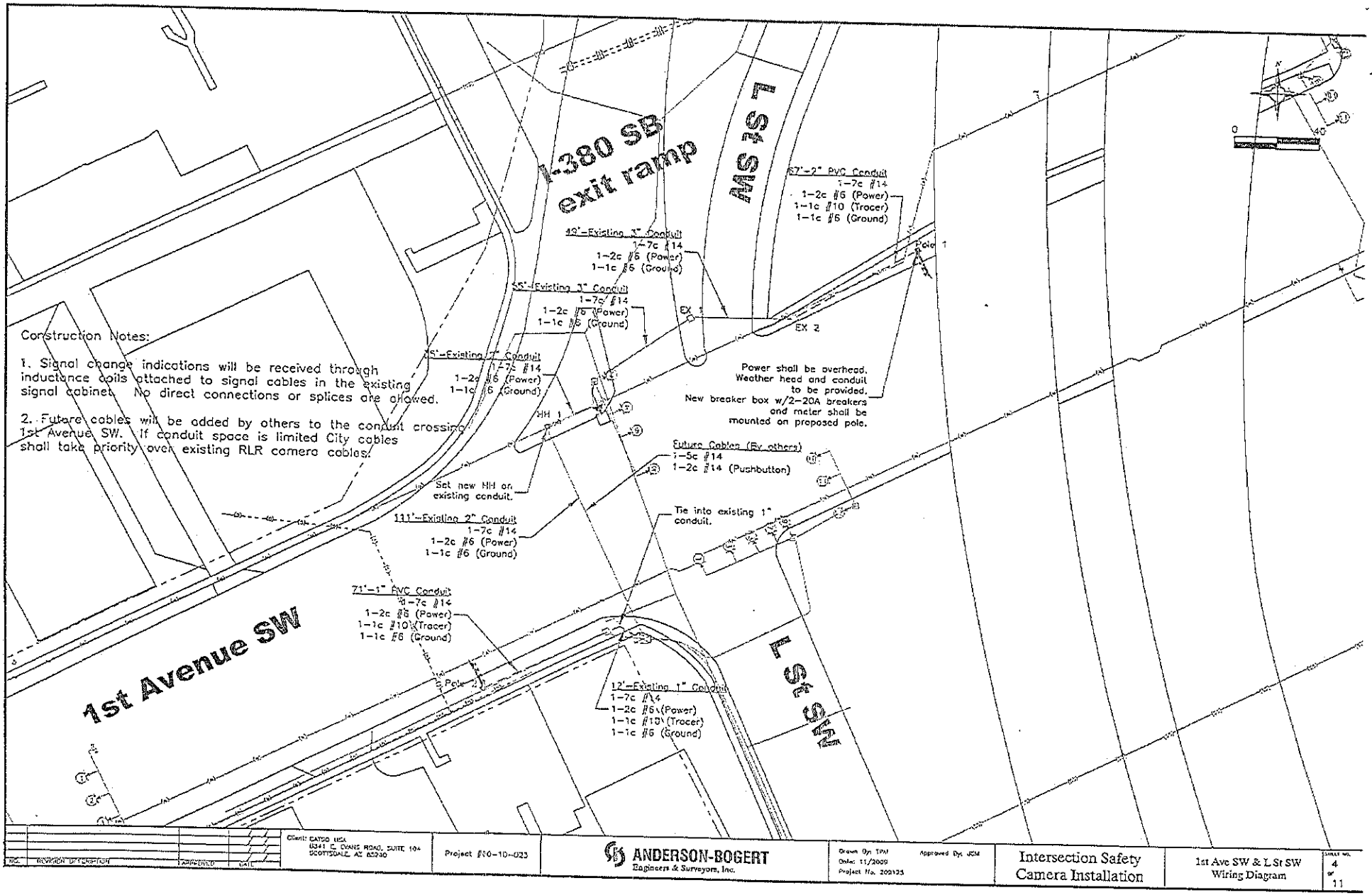
Cameras and equipment will be used for photo speed enforcement at the above referenced intersections for the appropriate speed limit.

Existing traffic signal will have no changes in operation.

Project #60-10-023

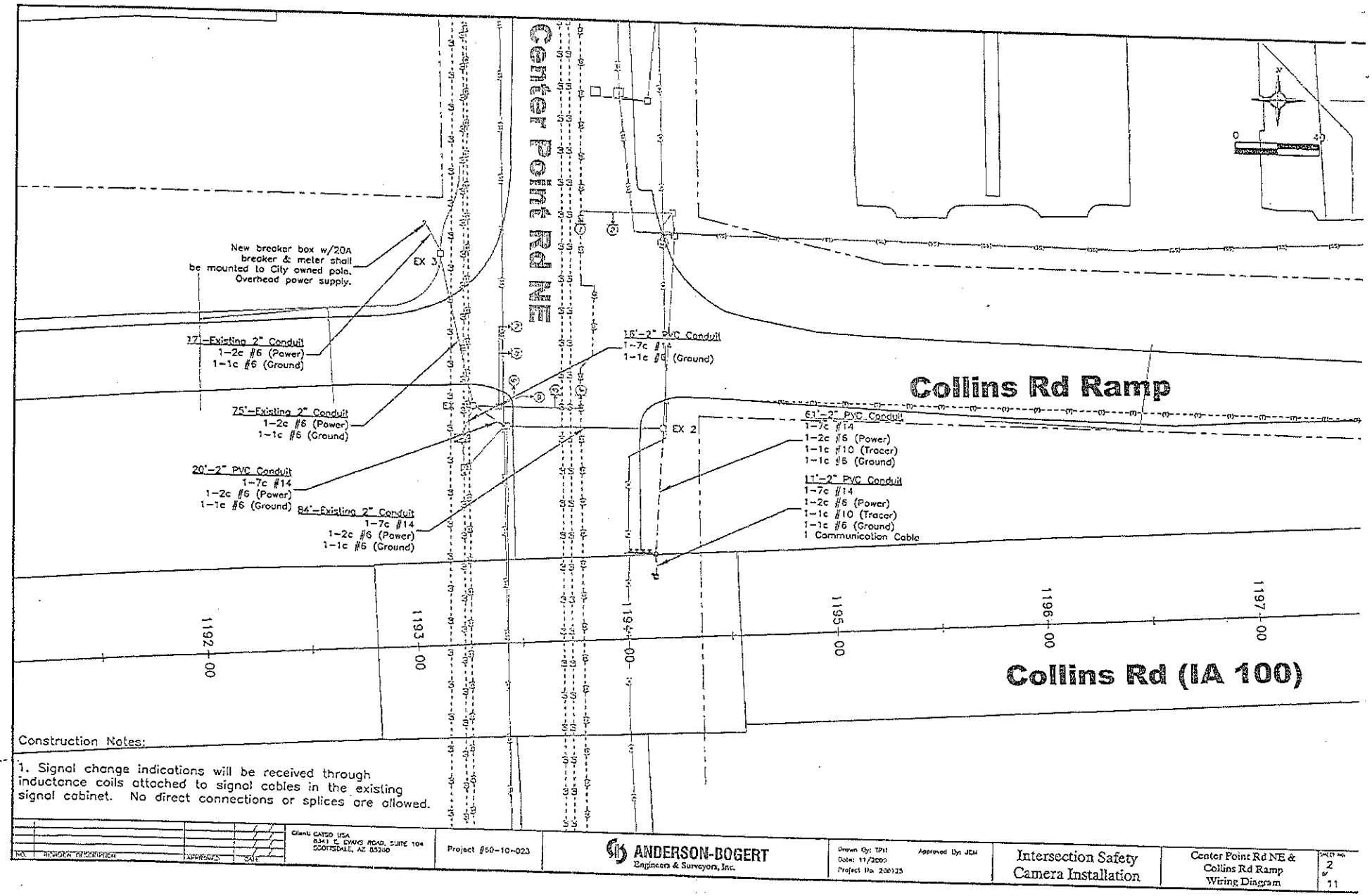
By Ron Gulp — Name
Project Engineer II — Title *(Mayor, Clerk, or Engineer)*
3-11-10 — Date

NOTE: The signal installation must have final inspection and approval by the Iowa Department of Transportation before being placed in operation. Please notify the State Traffic Engineer, Office of Traffic Engineering and Safety, Iowa Department of Transportation, Ames, Iowa, one (1) week before signal turn on.



NO.	REVISION OF DESCRIPTION	APPROVED	DATE	Client: CATSO USA 8341 E. EVANS ROAD, SUITE 104 SCOTTSDALE, AZ 85260	Project #10-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: TPM Approved By: JCM Date: 11/2009 Project No. 200125	Intersection Safety Camera Installation	1st Ave SW & L St SW Wiring Diagram	SHEET NO. 4 OF 11

I:\ACAD\200125\dwg\Streets 2nd\1st_L.dwg 12-03-09 02:30:07 PM tpm281



Construction Notes:

1. Signal change indications will be received through inductance coils attached to signal cables in the existing signal cabinet. No direct connections or splices are allowed.

NO.	REVISION DESCRIPTION	APPROVED	DATE

Client: CATSO USA
8341 E. EVANS ROAD, SUITE 104
SCOTTSDALE, AZ 85260

Project #50-10-023

ANDERSON-BOGERT
Engineers & Surveyors, Inc.

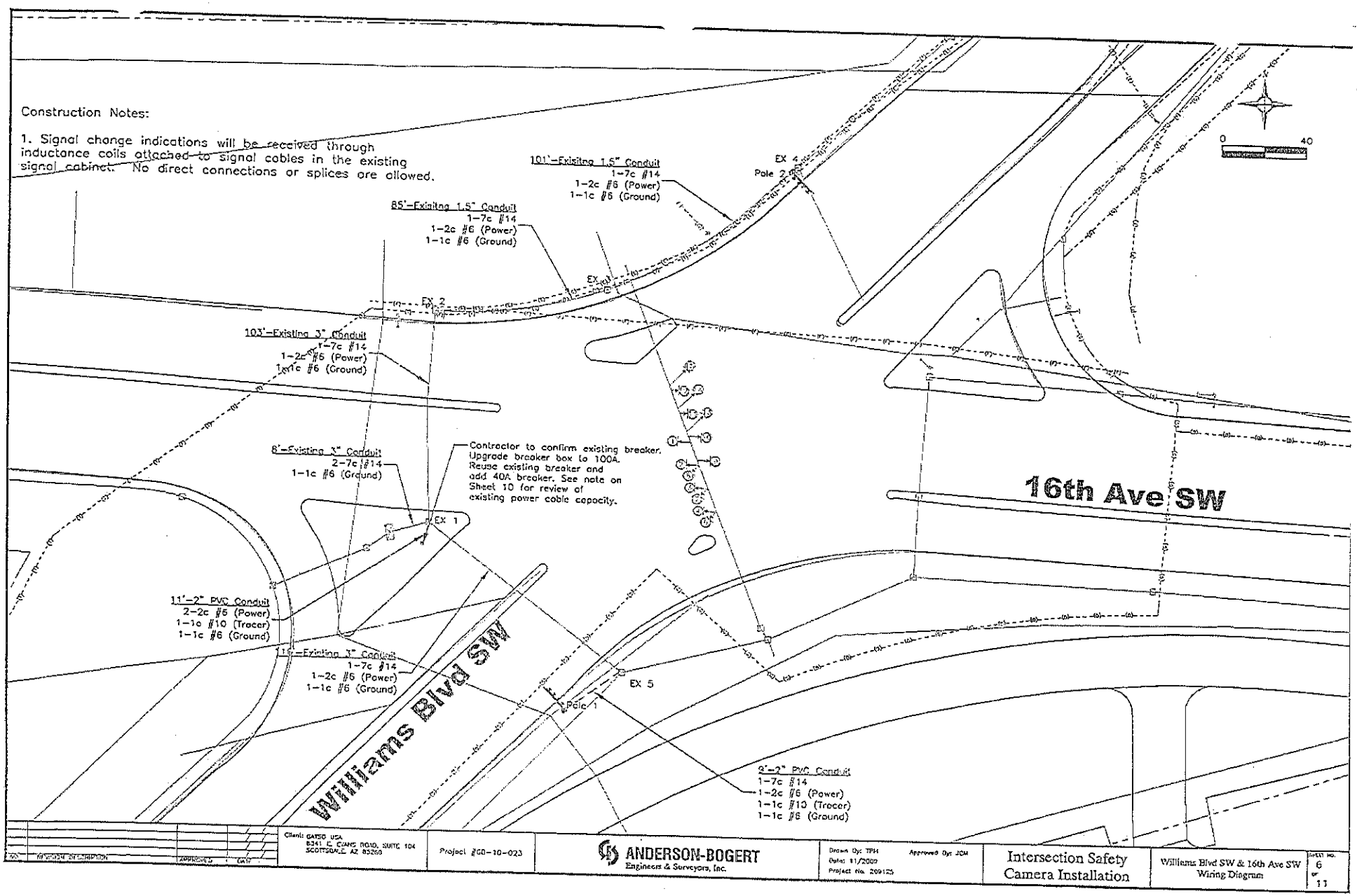
Drawn By: TPH
Date: 11/2009
Project No. 209123
Approved By: JCM

Intersection Safety Camera Installation

Center Point Rd NE & Collins Rd Ramp Wiring Diagram

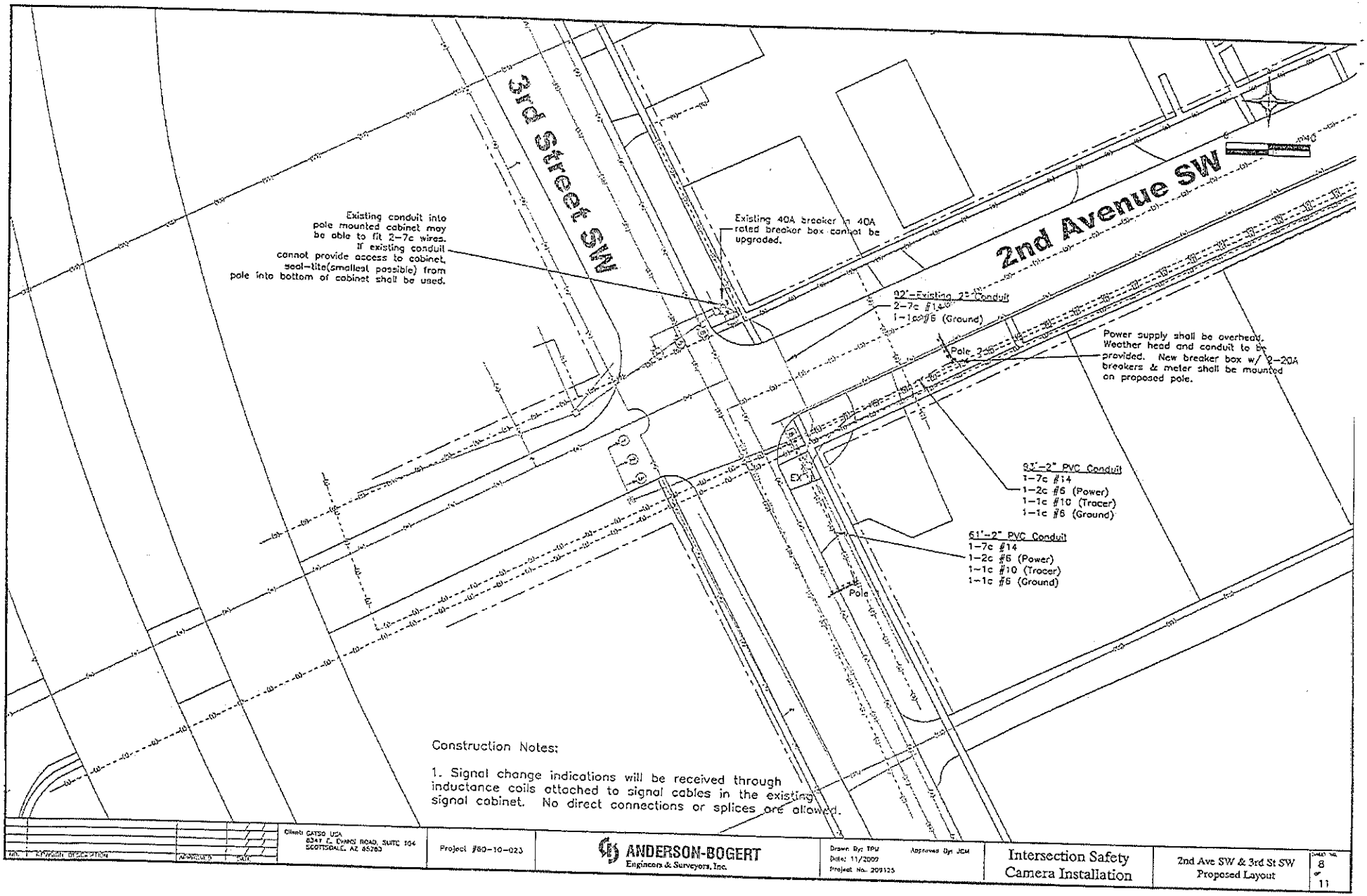
SHEET NO. 2 OF 11

T:\ACAD\209123\dwg\Sheets 2nd\Center Point Rd_Collins Rd.dwg 12-03-09 02:47:25 PM tpm281



f:\ACAD\209123\dwg\Sheets 2nd\Williams_16th.dwg 12-10-09 01:35:08 PM lpm281

NO.	REVISION DESCRIPTION	APPROVED	DATE	Client: GATSO USA, 8341 E. CANS ROAD, SUITE 104, SCOTTSDALE, AZ 85260	Project #60-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: TPH Approved By: JCM Date: 11/2009 Project No. 209123	Intersection Safety Camera Installation	Williams Blvd SW & 16th Ave SW Wiring Diagram	SHEET NO. 6 OF 11



T:\ACAD\209125\Sheets 2nd\2nd_3rd.dwg 12-03-09 02:37:28 PM lpm281

Client: GATSO USA, 8247 E. Evans Road, Suite 104, Scottsdale, AZ 85260	Project #80-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.	Drawn By: TPU Approved By: JCM Date: 11/2009 Project No.: 209125	Intersection Safety Camera Installation	2nd Ave SW & 3rd St SW Proposed Layout	Sheet No. 8 of 11

Form 810071wd
03-04

Iowa Department of Transportation

AGREEMENT FOR APPROVAL OF A TRAFFIC CONTROL DEVICE

Four copies of application and sketch must be filed with the Office of Traffic Engineering and Safety
Iowa Department of Transportation
Ames, Iowa

County Linn

Applicant City Of Cedar Rapids
Name of Governmental Authority

Approval is requested for authority to install and maintain a traffic control device at the following location:

1st Avenue E (IA 922/ Bus. 151) and 10th Street E

THE APPLICANT UNDERSTANDS THAT THE TRAFFIC CONTROL DEVICE MUST COMPLY WITH THE REQUIREMENTS OF THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, IOWA DEPARTMENT OF TRANSPORTATION. THE APPLICANT ASSUMES RESPONSIBILY FOR THE OPERATION OF THE TRAFFIC CONTROL DEVICE. THE APPLICANT ALSO ASSUMES ALL COSTS FOR ELECTRICITY, MAINTENANCE, AND REPLACEMENT FOR THE ABOVE TRAFFIC CONTROL DEVICE.

Attach *(to all copies of the application)* a drawing of the proposed installation. Drawing to be complete, showing location of traffic control device in relation to sidewalks, driveways, streets, etc.

Show extra indications such as pedestrian "Walk-Don't Walk", etc., in detail on proposed installation drawing.

OPERATION

The traffic control shall function as follows: Existing fully actuated six-phase traffic signal with advance dilemma zone protection, pedestrian actuation and indications on all legs shall remain fully intact.

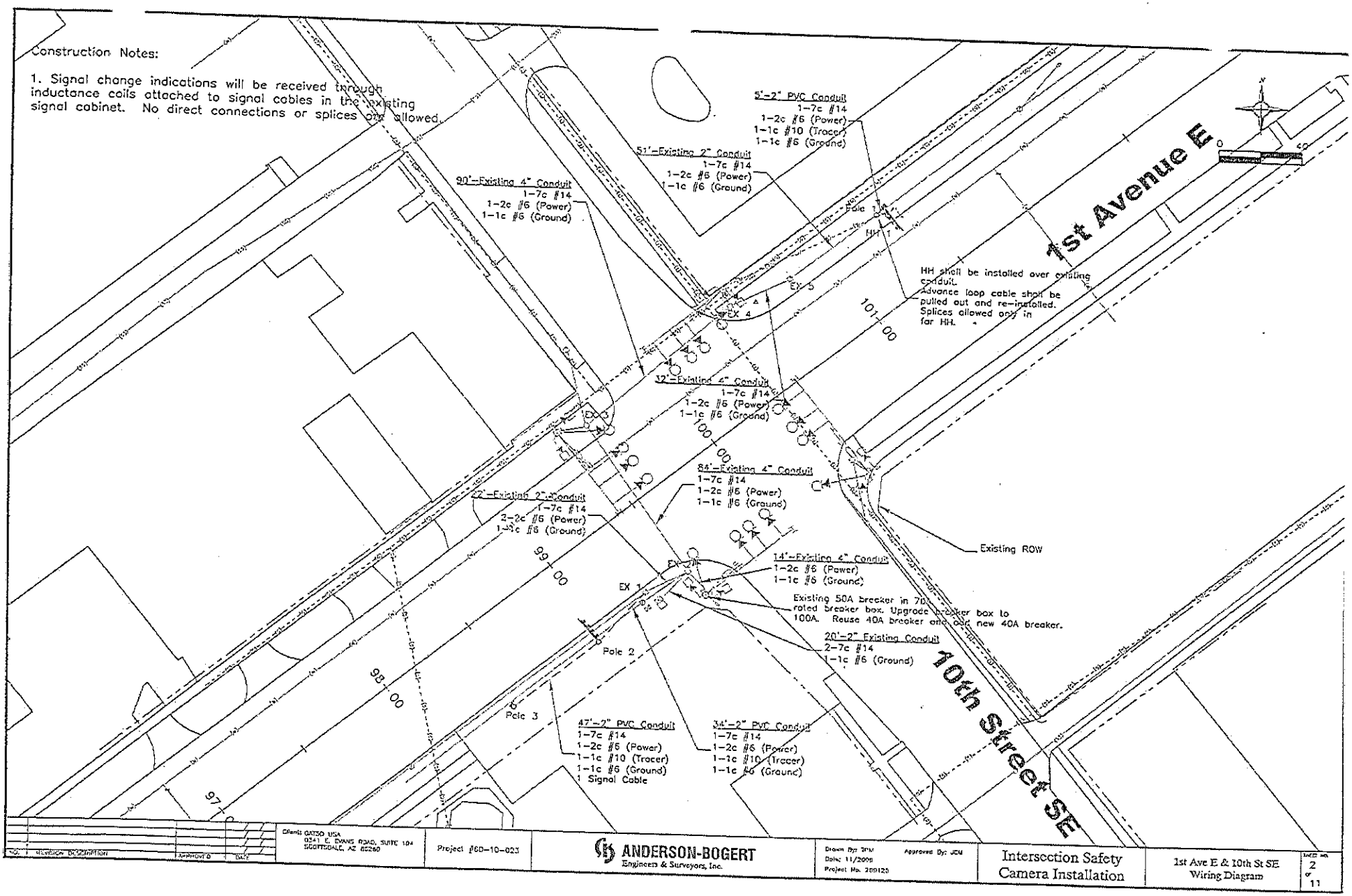
Monitoring cameras, antennas, and cabinet will be mounted on combination mast-arm / poles in advance of the intersection on 1st Ave.

Cameras and equipment will be used for photo speed enforcement of the 1st Avenue E (IA 922/Bus. 151) speed limit at the intersection of 10th Street E. Existing traffic signal will have no changes in operation.

Project #60-10-023

By _____ Name | Project Engineer II Title *(Mayor, Clerk, or Engineer)* | 3-11-10 Date

NOTE: The signal installation must have final inspection and approval by the Iowa Department of Transportation before being placed in operation. Please notify the State Traffic Engineer, Office of Traffic Engineering and Safety, Iowa Department of Transportation, Ames, Iowa, one (1) week before signal turn on.



NO.	REVISION DESCRIPTION	APPROVED	DATE	Client: QATSO USA 8241 E. EVANS ROAD, SUITE 104 SCOTTSDALE, AZ 85260	Project #60-10-023	ANDERSON-BOGERT Engineers & Surveyors, Inc.

Drawn By: JPM Approved By: JCM
Date: 11/2009
Project No. 209125

Intersection Safety Camera Installation

1st Ave E & 10th St SE Wiring Diagram

SHEET NO. 2 OF 11

I:\ACAD\209125\dwg\Sheets\Int_10th.dwg 12-07-09 10:17:52 AM lpm281

2. Primary Highway System Automated Traffic Enforcement Guidelines – June 2012

Primary Highway System Automated Traffic~~Camera~~ Enforcement Guidelines

Iowa Department of Transportation
June 2012

Introduction

When used properly, automated camera enforcement technology has the potential to be an effective tool to enhance traffic safety. It should only be considered after other engineering and enforcement solutions have been explored and implemented.

These guidelines are designed to ensure consistency statewide in the use of automated enforcement technology on the Primary Highway System. Devices covered by this guidance include speed and red-light camera enforcement technologies.

Iowans value the safety and security of their communities. They expect their transportation system to provide them and others with a safe and efficient means of travel. Therefore, they should expect automated enforcement systems to be used only at locations where there is a significant crash history or high-risk of such occurrences; and where the technology can directly address the primary traffic safety issue. Iowans should also expect these systems to provide uniform notice and meet a high standard for operational practice.

Seldom should an automated enforcement system be used as a long-term solution for speeding or red-light running. Instead, a traffic safety plan should be developed that includes solutions such as infrastructure improvements, use of innovative traffic control systems, alternative enforcement approaches and public education, which can eliminate the need for automated enforcement. Funding for these long-term solutions could come from collection of traffic citation fees.

These guidelines include a requirement for ongoing evaluation to measure the effectiveness of automated traffic enforcement technology on lowering traffic speeds and/or reducing crashes. This evaluation process can also be used to convey to the public the effectiveness of the system on enhancing traffic safety. In addition, it will assist in determining whether continued use of the technology is warranted at specific locations.

Use of traffic safety data

Traffic safety data must be used to determine where fixed automated enforcement is warranted. Potential candidates include high-crash and high-risk locations. These guidelines apply to all municipalities currently using or planning to use these technologies on Iowa's Primary Highway System. Existing photo enforcement systems or proposed locations not on Iowa's Primary Highway System are not subject to these guidelines and may be used as deemed necessary by the jurisdiction responsible for those roadways.

- **High-crash locations** are those where data indicates a greater frequency or higher rate of crashes.
- **High-risk locations** are those where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.

Submitting a "Justification report"

A municipality requesting to install ~~an~~ fixed automated enforcement system on the Primary Highway System shall prepare a justification report. The report shall be submitted to the Iowa Department of Transportation district engineer. Its content will be used to consider for approval installation of automated enforcement at a specific highway location(s). If approved, the municipality will be directed to complete the necessary permit(s) to perform installation.

The justification report shall provide adequate information on the proposed location(s) and supporting evidence as to why an automated enforcement system is needed. The Iowa DOT will consider the potential for operational and safety benefits.

1. **Site selection criteria**
   To be considered for installation of an automated enforcement system, the highway location must fit within one or more of these descriptions.
   - An area where conventional enforcement is unsafe, ~~or~~ ineffective or unable to adequately address the traffic safety need
   - An area or intersection with a significant history of crashes, which can be attributed to red-light running or speeding
   - An intersection with a significant history of red-light offenses
   - A school zone
   - A work zone
   - A location where operational issues create significant problems and an automated enforcement system can help manage a more orderly flow of traffic

2. **Supporting data**
   The justification report shall document existing traffic speeds, posted speed limits, locations of speed limit signs, traffic volumes, intersection geometry, traffic violations, crash history, law enforcement measures taken, and public education provided. This data shall also be used to report on the primary cause(s) of the traffic problem(s) and to identify potential countermeasures.

   Automated enforcement technology should only be considered after other engineering and enforcement solutions have been explored and implemented. The justification report shall document what other solutions have been implemented and why additional countermeasures cannot be taken.

   In addition, the report shall document discussions held and actions taken with partnering agencies who have resources that could aid in the reduction of crashes.

   The justification report shall also provide assurance that the existing speed limits and traffic signal timings are appropriate and were established using accepted standards.

NOTE: In 2012, the Center for Transportation, Research & Education at Iowa State University published the report, Toolbox of Countermeasures to Reduce Red Light Running. This report will serve as a reference for local agencies and the Iowa DOT. Presently, no similar reference exists for automated speed enforcement.

Minimum requirements

For each fixed automated enforcement system installed on the Primary Highway System, the following minimum requirements shall be met.

1. **Public awareness**

A key element to the success of any traffic enforcement practice, including the use of automated enforcement, is implementation of a strong public awareness campaign. Minimally, the following communication strategies shall be employed.

- Information on the location of each automated enforcement site shall be published on a public website within the jurisdiction(s) where the site is located. The public and media shall be notified of the location of the website.
- The public shall be notified of the municipality's intent to install automated enforcement technology at any new location. Minimally, this shall be accomplished by publishing an official public notice in the local paper once per month for a total of three months prior to installation. Other means of notifying the public are encouraged.
- With each new installation, the local jurisdiction shall provide a one month familiarization period in which the automated enforcement technology will be in normal use; however, only warning notices will be issued to violators.

2. **Signage**

- Permanent signs mayshall be posted on primary access roads entering municipalities that use automated traffic enforcement technology.
- For all speed or red-light running automated enforcement locations, signs shall be ~~Intersections where automated traffic technology is used to monitor red-light violations shall have signs~~ posted in advance of the locationsintersection to advise drivers that ~~red-light~~ cameras are in place.
- For mobile automated enforcement (equipment installed in a vehicle or trailer parked along a shoulder), temporary signs advising that speed is monitored by automated traffic technology shall be posted in advance of the enforcement area.
- All signing will be in accordance with the *Manual on Uniform Traffic Control Devices*.

3. **Enforcement**

Automated traffic enforcement technology shall be used in conjunction with conventional law enforcement methods; and not used as a replacement for law enforcement officer contact.

Evaluation

Annually, each jurisdiction with active automated enforcement on Iowa Primary Highway systems shall evaluate the effectiveness of its use. The results shall be reported to the Iowa DOT's Office of Traffic and Safety by the ~~end of February~~April 15th each year following a full calendar year of operation, based on performance for the previous year. At a minimum, the evaluation shall:

- Address the impact of automated traffic enforcement technology on reducing the speeds and/or number of red-light running violations at sites being monitored.
- Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years (for intersection enforcement, only the monitored approaches need to be included in the evaluation).
- Provide information on the total number of citations issued, fees assessed, fees collected, costs incurred by the municipality to operate/manage the system, and fees paid to any vendor.

Continued use of automated enforcement technology

The Iowa DOT will utilize information collected annually from municipalities using automated enforcement technologies to assist in evaluating the continued need for such systems at each authorized location. Continued use will be contingent on the effectiveness of the system and appropriate administration of it by the municipality. The department understands that even the most effective safety countermeasure will only reduce crashes to a certain level, at which time, crash numbers will plateau at this lower level.

The Iowa DOT reserves the right to require removal or modification of a system in a particular location, as deemed appropriate.

3. Primary Highway System Automated Traffic Enforcement Guidelines – January 2013

Primary Highway System
Automated Traffic Enforcement Guidelines

Iowa Department of Transportation
Revised January 2013

Introduction

When used properly, automated camera enforcement technology has the potential to be an effective tool to enhance traffic safety. It should only be considered after other engineering and enforcement solutions have been explored and implemented.

These guidelines are designed to ensure consistency statewide in the use of automated enforcement technology on the Primary Highway System. Devices covered by this guidance include speed and red-light camera enforcement technologies.

Iowans value the safety and security of their communities. They expect their transportation system to provide them and others with a safe and efficient means of travel. Therefore, they should expect automated enforcement systems to be used only at locations where there is a significant crash history or high-risk of such occurrences; and where the technology can directly address the primary traffic safety issue. Iowans should also expect these systems to provide uniform notice and meet a high standard for operational practice.

Seldom should an automated enforcement system be used as a long-term solution for speeding or red-light running. Instead, a traffic safety plan should be developed that includes solutions such as infrastructure improvements, use of innovative traffic control systems, alternative enforcement approaches and public education, which can eliminate the need for automated enforcement. Funding for these long-term solutions could come from collection of traffic citation fees.

These guidelines include a requirement for ongoing evaluation to measure the effectiveness of automated traffic enforcement technology on lowering traffic speeds and/or reducing crashes. This evaluation process can also be used to convey to the public the effectiveness of the system on enhancing traffic safety. In addition, it will assist in determining whether continued use of the technology is warranted at specific locations.

Use of traffic safety data

Traffic safety data must be used to determine where fixed automated enforcement is warranted. Potential candidates include high-crash and high-risk locations. These guidelines apply to all municipalities currently using or planning to use these technologies on Iowa's Primary Highway System. Existing photo enforcement systems or proposed locations not on Iowa's Primary Highway System are not subject to these guidelines and may be used as deemed necessary by the jurisdiction responsible for those roadways.

- **High-crash locations** are those where data indicates a greater frequency or higher rate of crashes.
- **High-risk locations** are those where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.

Submitting a "Justification report"

A municipality requesting to install a fixed automated enforcement system on the Primary Highway System shall prepare a justification report. The report shall be submitted to the Iowa Department of Transportation district engineer. Its content will be used to consider for approval installation of automated enforcement at a specific highway location(s). If approved, the municipality will be directed to complete the necessary permit(s) to perform installation.

The justification report shall provide adequate information on the proposed location(s) and supporting evidence as to why an automated enforcement system is needed. The Iowa DOT will consider the potential for operational and safety benefits.

1. **Site selection criteria**
   To be considered for installation of an automated enforcement system, the highway location must fit within one or more of these descriptions.
   - An area where conventional enforcement is unsafe, ineffective or unable to adequately address the traffic safety need
   - An area or intersection with a significant history of crashes, which can be attributed to red-light running or speeding
   - An intersection with a significant history of red-light offenses
   - A school zone
   - A work zone
   - A location where operational issues create significant problems and an automated enforcement system can help manage a more orderly flow of traffic

2. **Supporting data**
   The justification report shall document existing traffic speeds, posted speed limits, locations of speed limit signs, traffic volumes, intersection geometry, traffic violations, crash history, law enforcement measures taken, and public education provided. This data shall also be used to report on the primary cause(s) of the traffic problem(s) and to identify potential countermeasures.

   Automated enforcement technology should only be considered after other engineering and enforcement solutions have been explored and implemented. The justification report shall document what other solutions have been implemented and why additional countermeasures cannot be taken.

   In addition, the report shall document discussions held and actions taken with partnering agencies who have resources that could aid in the reduction of crashes.

   The justification report shall also provide assurance that the existing speed limits and traffic signal timings are appropriate and were established using accepted standards.

NOTE: In 2012, the Center for Transportation, Research & Education at Iowa State University published the report, Toolbox of Countermeasures to Reduce Red Light Running. This report will serve as a reference for local agencies and the Iowa DOT. Presently, no similar reference exists for automated speed enforcement.

Minimum requirements
For each fixed automated enforcement system installed on the Primary Highway System, the following minimum requirements shall be met.

1. **Public awareness**
A key element to the success of any traffic enforcement practice, including the use of automated enforcement, is implementation of a strong public awareness campaign. Minimally, the following communication strategies shall be employed.
    - Information on the location of each automated enforcement site shall be published on a public website within the jurisdiction(s) where the site is located. The public and media shall be notified of the location of the website.
    - The public shall be notified of the municipality's intent to install automated enforcement technology at any new location. Minimally, this shall be accomplished by publishing an official public notice in the local paper once per month for a total of three months prior to installation. Other means of notifying the public are encouraged.
    - With each new installation, the local jurisdiction shall provide a one month familiarization period in which the automated enforcement technology will be in normal use; however, only warning notices will be issued to violators.

2. **Signage**
    - Permanent signs may be posted on primary access roads entering municipalities that use automated traffic enforcement technology.
    - For all speed or red-light running automated enforcement locations, signs shall be posted in advance of the locations to advise drivers that cameras are in place.
    - For mobile automated enforcement (equipment installed in a vehicle or trailer parked along a shoulder), temporary signs advising that speed is monitored by automated traffic technology shall be posted in advance of the enforcement area.
    - All signing will be in accordance with the *Manual on Uniform Traffic Control Devices*.

3. **Enforcement**
Automated traffic enforcement technology shall be used in conjunction with conventional law enforcement methods; and not used as a replacement for law enforcement officer contact.

Evaluation
Annually, each jurisdiction with active automated enforcement on Iowa Primary Highway systems shall evaluate the effectiveness of its use. The results shall be reported to the Iowa DOT's Office of Traffic and Safety by April 15th each year following a full calendar year of operation, based on performance for the previous year. At a minimum, the evaluation shall:

- Address the impact of automated traffic enforcement technology on reducing the speeds and/or number of red-light running violations at sites being monitored.
- Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years (for intersection enforcement, only the monitored approaches need to be included in the evaluation).
- Provide information on the total number of citations issued, fees assessed, fees collected, costs incurred by the municipality to operate/manage the system, and fees paid to any vendor.

Continued use of automated enforcement technology

The Iowa DOT will utilize information collected annually from municipalities using automated enforcement technologies to assist in evaluating the continued need for such systems at each authorized location. Continued use will be contingent on the effectiveness of the system and appropriate administration of it by the municipality. The department understands that even the most effective safety countermeasure will only reduce crashes to a certain level, at which time, crash numbers will plateau at this lower level.

The Iowa DOT reserves the right to require removal or modification of a system in a particular location, as deemed appropriate.

4. April 3, 2013 letter to Police Chief Wayne Jerman from Steve Gent

Iowa Department of Transportation

Highway Division – District 6 Office
5455 Kirkwood Blvd. SW
Cedar Rapids, IA 52404

319-364-0235
FAX: 319-364-9614
jim.schnoebelen@dot.iowa.gov

April 3, 2013 REF: Automated Traffic Enforcement (ATE) Guidelines

Police Chief Wayne Jerman
Cedar Rapids Police Department
505 First Street SW
Cedar Rapids, Iowa 52404

04-08-13A

Dear Chief Jerman:

Because the Iowa Legislature has not moved forward with any automated traffic enforcement laws this session, the Iowa DOT announced it will begin the formal rulemaking process to address the placement of fixed and mobile automated enforcement units on the primary highway system. The proposed rules will include many of the requirements in the existing Iowa DOT Automated Traffic Enforcement Guidelines. The official rulemaking process may take a full year to complete.

The reason for this correspondence is twofold. First, I wanted to remind you of the requirement in the ATE Guidelines for submission of the annual evaluation which is due on April 15. The second reason is to provide you some information on mobile enforcement unit use on primary roads and to request interim action on the city's part.

In regards to the annual evaluations, we understand there may have been some confusion about the need for the reports because of the proposed legislation and/or rulemaking process. Because of this we anticipate you may need extra time and would like the reports to be submitted by May 1st. Let us know if that is not workable.

To help you gather updated 2012 crash data for your report, attached is document describing a process where you can download the updated crash data.

Also, here is a link to the revised guidelines:
http://www.iowadot.gov/traffic/pdfs/automatetrafficenforecementguidelines.pdf

As mentioned above, the second issue relates to the use of mobile enforcement units. In preparation for beginning the formal rule making process, the Iowa DOT has been reviewing our legal responsibilities regarding the primary highway system. Based on that review, the department believes we need to initiate some immediate changes in how the mobile speed camera units are currently being used on the primary highway system.

Iowa law, I.C§306.4(4)(a), provides that the Iowa DOT and cities exercise concurrent jurisdiction over the municipal extensions of primary. This means the Iowa DOT and the city *share* the responsibility for these roads within the city limits, including the responsibility to keep these municipal extensions of primary roads free from obstructions. Iowa DOT has concurrent responsibility with respect to keeping such ROW areas free from obstructions, pursuant to I.C. Chapter 318 because the Iowa

DOT is the "highway authority" responsible for removing all obstructions from the primary road ROWs under its jurisdiction. *See*, I.C. 306.4(1); I.C 318.318.1(2); and I.C. 318.4.

As you know, in addition to Iowa Code Chapter 318, Iowa Code Chapter 321 also addresses the placement of obstructions or vehicles on the shoulders of the primary road system. All of these authorities demonstrate that the City cannot, by resolution or ordinance, place unmanned mobile enforcement units on the ROW or shoulders of the primary road system and in any manner it chooses. Rather, such placement must comply with existing state law - specifically Iowa Code Chapter 318; Iowa Code 321.366 and Iowa Code 321.348.

The challenge for the Iowa DOT and the City in this situation is balancing Iowa DOT's authority to regulate and maintain the safety of the primary road system (under Iowa Code Chapters 307, 318 and 321) with the City's authority to regulate and maintain safety through law enforcement activities. The City and the Iowa DOT must work together to develop a process that allows for placement of ATE units on the primary road system in a manner which is consistent with, and not in conflict with, the above provisions of current state law.

At this time, the Iowa DOT cordially asks the City to not place the mobile automated enforcement units on the primary road system until discussions can be held regarding appropriate placement of the units.

Please feel free to contact me if you have any questions or need further information.

Sincerely,

Jim Schnoebelen, P.E.
District Engineer

cc: John Adam, Highway Division Director (john.adam@dot.iowa.gov)
Iowa DOT, Ames

cc: Steve Gent, Traffic & Safety (steve.gent@dot.iowa.gov)
Iowa DOT, Ames

5. May 1, 2013 letter from Cedar Rapids Police Chief Wayne Jerman to Steve Gent and Tim Crouch

CEDAR RAPIDS
City of Five Seasons

May 1, 2013

Mr. Steve Gent
Mr. Tim Crouch
Iowa Dept. of Transportation
Office of Traffic and Safety
800 Lincoln Way
Ames, IA 50010

RE: Cedar Rapids' Automated Traffic Enforcement Program

Dear Sirs:

As a matter of comity between governmental entities, we are providing the following information pursuant to a request set out in the document entitled "Primary Highway System Automated Traffic Enforcement Guidelines" with a revision date of January 2013. The "guidelines" were provided in the form of an e-mail attachment to Steve Gent's January 22, 2013 electronic mail to multiple individuals, including Sgt. Michael Wallerstedt of the Cedar Rapids Police Department.

As a preliminary matter, the City of Cedar Rapids does not recognize the "guidelines" as having the force or effect of properly promulgated rules for the Iowa Department of Transportation. We are informed IDOT is undertaking formal rulemaking with respect to Automated Traffic Enforcement (or "ATE"), and the City will participate in that process as warranted.

Accordingly, without acknowledging that IDOT can lawfully require the report described in the above referenced "guidelines," the City offers the following information. It is provided with a reservation of all rights and authority vested in the City with respect to the subject matter addressed herein.

Background:

In March of 2010, Cedar Rapids installed and activated the first of its ATE equipment. Locations were chosen based on crash history. The City's Traffic Engineering Department identified intersections with a high number of crashes using crash reports obtained from the police department and crash reports submitted by drivers involved. Originally, 10 intersections were identified. Two intersections were eliminated after review showed that redesign of the intersection could play a role in reducing crashes. The remaining locations include 1st Avenue (Hwy 922) and 10th Street East, 1st Avenue (Hwy 922) and L Street West, and Williams Boulevard (Hwy 922) and 16th Avenue SW. The equipment at these intersections monitors both red light violations and speed violations.

Cedar Rapids Police Department
505 First Street SW • Cedar Rapids, Iowa 52404-2103
(319) 286-5375 • FAX (319) 286-5462

Also included is a section of Interstate 380 known as the "S" curves. Crash history was a determining factor for the installation of ATE equipment. That equipment has been installed on existing trusses over I-380 northbound over Diagonal Drive SW, and J Avenue NE, as well as over I-380 southbound at J Avenue NE and just prior to the southbound off ramp for 1st Avenue West. These locations were selected as a result of close consultations with IDOT along with a safety study conducted by IDOT (the Road Safety Audit for I-380 through the Cities of Cedar Rapids and Hiawatha in Linn County, Iowa. Final Report March 2009).

Engineering Report:

The City of Cedar Rapids has used the guidance and best practices published by numerous agencies, including the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), the Institute of Transportation Engineers (ITE), and Iowa State University's Institute for Transportation (InTrans). The City has applied that guidance and best practices to address red light violations and to reduce the severity of intersection-related crashes, incorporating it into both new and existing signalized intersections.

In the latest Statewide Safety Improvement Candidate Location (SICL) list released by the Iowa Department of Transportation, the City has one intersection in the top 50 (27th) and nine in the top 200 for the state. Of those nine, seven are signalized and under the jurisdiction of the City. The City of Cedar Rapids has also been ranked 19th best of 200 cities nationwide in the America's Best Driver's Report published by Allstate Insurance. Each of these agencies cites automated enforcement as an effective measure to reduce red light running.

A recent study by InTrans (entitled "Evaluating the Effectiveness of Red Light Running Camera Enforcement in Cedar Rapids and Developing Guidelines for Selection and Use of Red Light Running Countermeasures") concluded "the main findings of the research conducted as part of this study support the idea that the cameras have had a positive effect on safety at the intersections."

For signalized intersections in Cedar Rapids, the City has employed certain engineering countermeasures included in the guidance and best practices of agencies cited above. They can be summarized as follows:

Improve Signal Visibility

1. All signals are designed to follow the standards (listed as "shall" statements) in the Manual on Uniform Traffic Control Devices. In nearly all cases, the City also follows the MUTCD's guidance ("should" statements).
2. Signals Placed Overhead – All signals have at least one, and typically two, signal heads mounted on a mast arm for each approach. An additional far side pole mounted head is also provided for improved visibility.
3. Signal for Each Approach Lane – All through lanes have an overhead signal.
4. Size of Signal Displays – All signal indications are 12-inch LEDs.
5. Line of Sight – All of the intersections under automated enforcement have an acceptable line of sight. Programmable lenses are used at two of the locations, due to intersection angle and the proximity to adjacent signalized intersections. The new programmable

lenses are LED and the angle of the light can be adjusted from the ground to provide optimal visibility under these circumstances.

6. Visors – Standard equipment for all signal and pedestrian indications.
7. Signal Conspicuity – Backplates and LED signal indications are standard equipment.

Increase Likelihood of Stopping

1. Stop bars are present at all signalized intersections.
2. Signal Ahead signs (W3-3) are used if signal visibility is an issue because of the roadway geometry, or when a signal is the first one encountered on an arterial roadway.
3. Left Turn Signal signs (R10-10) are used to supplement protected left turn heads to avoid driver confusion when the through movement is green.

Address Intentional Violations

1. Signal Optimization – Approximately 80 percent of all traffic signals in Cedar Rapids are connected to a Central Traffic Management system which monitors the operation of the signals and manages groups of signals that are operated in coordinated timing plans. The City is nearly complete with an upgrade of our communication system from copper to fiber. Work will be completed this summer and all 237 traffic signals will be monitored from a Traffic Management Center. New traffic management software, traffic monitoring cameras, and adaptive traffic control, is part of the upgrade and will be used to monitor and improve operations.
2. Signal Cycle Length – Cedar Rapids uses traffic signal optimization software and provides training to staff engineers to properly employ cycle lengths, phasing, timing and offsets.
3. Yellow-Change Interval – All yellow-change intervals are calculated according to ITE's recommended guidelines.
4. All-Red Clearance Interval - The City also uses all-red interval per ITE. It does not reduce the likelihood of entering the intersection on a red signal, but there are studies showing it can positively impact the safety of an intersection.
5. Dilemma-Zone Protection – All new signals are designed with dilemma-zone protection. All existing signals have dilemma-zone protection if the approach speeds are greater than 25mph. In the downtown, many of the signals are pre-timed. As they are upgraded, we are adding detection to operate in actuated-coordinate mode.
6. Flashing Mode – Many signals are operated in overnight flash when volumes are low. Crash statistics for these locations are monitored. If three or more crashes occur in a year, the signal is no longer operated in overnight flash mode. The City is evaluating the use of overnight flash, as several recent studies have shown the potential for increased crashes during overnight flash. We have not seen this same outcome in Cedar Rapids.

Statistical Information:

In addition to the above engineering report, the City offers the following statistics relevant to its own ongoing assessment of the ATE program. They are divided between crash statistics and total violations for all of the locations where ATE equipment is used.

Crash statistics at each of the locations using ATE equipment:

1st Avenue (Hwy 922) & 10th Street East

	Property Damage Only	Injury Accident	Total
2008-	2	2	4
2009-	5	2	7
2010-	4	1	5
2011-	3	0	3
2012-	8	0	8

1st Avenue (Hwy 922) & L Street West

	Property Damage Only	Injury Accident	Total
2008-	6	4	10
2009-	4	2	6
2010-	11	3	14
2011-	5	1	6
2012-	3	1	4

Williams Boulevard (Hwy 922) & 16th Avenue SW

	Property Damage only	Injury Accident	Total
2008-	2	3	5
2009-	5	6	11
2010-	1	3	4
2011-	1	1	2
2012-	3	0	3

I-380 "S" Curves

	Property Damage Only	Injury Accident	Fatality	Total
2008-	16	17	1*	34
2009-	14	28	2	44
2010-	13	11	0	23
2011-	17	3	0	20
2012-	18	9	0	27

* One crash resulted in 2 fatalities

Violation totals at each of the locations using ATE equipment:

1st Avenue & 10th Street East

	Red Light	Speed	Total
2010-	531	2,416	2,947
2011-	293	491	784
2012-	541	374	915

1st Avenue & L Street West

	Red Light	Speed	Total
2010-	190	342	532
2011-	400	476	876
2012-	929	578	1,507

Williams Boulevard & 16th Avenue SW

	Red Light	Speed	Total
2010-	9	10	19
2011-	425	1,107	1,532
2012-	509	1,101	1,610

I-380 (speed only)

	Northbound	Southbound	Total
2010-	34,939	11,589	46,528
2011-	45,965	46,001	91,966
2012-	45,436	39,038	84,474

Conclusion:

We trust the above information will be of some assistance to IDOT in better understanding Cedar Rapids' ATE program. If you have any questions concerning any of the information contained within this report, please contact Sergeant Michael Wallerstedt directly at **319-286-5460**.

Respectfully,

Wayne M. Jerman
Chief of Police

WMJ/lmj

6. (Undated) Notice of Intended Action by Transportation Department

ARC 1037C

TRANSPORTATION DEPARTMENT[761]

Notice of Intended Action

Notice is also given to the public that the Administrative Rules Review Committee may, on its own motion or on written request by any individual or group, review this proposed action under section 17A.8(6) at a regular or special meeting where the public or interested persons may be heard.

Pursuant to the authority of Iowa Code sections 307.10 and 307.12, the Iowa Department of Transportation hereby gives Notice of Intended Action to adopt new Chapter 144, "Automated Traffic Enforcement on the Primary Road System," Iowa Administrative Code.

This proposed new chapter establishes the requirements, procedures, and responsibilities in the use of automated traffic enforcement systems, for fixed and mobile automated enforcement, on the primary road system and will ensure consistency statewide in the use of these systems.

Any interested person may submit written comments or suggestions on the proposed rules before 4:30 p.m. on October 31, 2013. Written comments and suggestions should be addressed to Tracy George, Iowa Department of Transportation, Office of Policy and Legislative Services, 800 Lincoln Way, Ames, Iowa 50010; or sent by e-mail to tracy.george@dot.iowa.gov.

Any interested party or persons may present their views either orally or in writing at the public hearing that will be held on Wednesday, October 30, 2013, at 1 p.m. at the Hampton Inn and Suites, 6210 SE Convenience Boulevard, Ankeny, Iowa 50021.

At the public hearing, persons will be asked to give their names and addresses for the record and to confine their remarks to the subject of the proposed rules. Persons who wish to make oral presentations at the public hearing may contact Tracy George at (515)239-1358 or by e-mail at tracy.george@dot.iowa.gov prior to the date of the hearing.

Any person who intends to attend the public hearing and requires special accommodations for specific needs, such as those relating to hearing or mobility impairments, should contact Tracy George.

These rules do not provide for waivers. Any person who believes that the person's circumstances meet the statutory criteria for a waiver may petition the Department for a waiver under 761—Chapter 11.

After analysis and review of this rule making, it has been determined that a positive impact on private sector jobs is possible but not able to be determined, as it is not known how many jurisdictions may apply for automated traffic enforcement systems or how many will decide to have the reports completed by consultants. The impact on private sector jobs will be minimal.

These rules are intended to implement Iowa Code chapter 318 and sections 306.4, 307.12, 321.348 and 321.366.

The following amendment is proposed.

Adopt the following **new** 761—Chapter 144:

CHAPTER 144
AUTOMATED TRAFFIC ENFORCEMENT ON THE PRIMARY ROAD SYSTEM

761—144.1(307) Purpose. The purpose of this chapter is to establish requirements, procedures, and responsibilities in the use of automated traffic enforcement systems on the primary road system. This chapter ensures consistency statewide in the use of automated traffic enforcement systems on the primary road system and pertains to fixed and mobile automated enforcement.

761—144.2(307) Contact information. Information relating to this chapter may be obtained from the Office of Traffic and Safety, Iowa Department of Transportation, 800 Lincoln Way, Ames, Iowa 50010.

761—144.3(307) Definitions. As used in this chapter:

"Automated enforcement" means the use of automated traffic enforcement systems for enforcement of laws regulating vehicular traffic.

"Automated traffic enforcement system" means a system that operates in conjunction with an official traffic-control signal, as described in Iowa Code section 321.257, or a speed measuring device to produce recorded images of vehicles being operated in violation of traffic or speed laws.

"High-crash location" means a location where data indicates a greater frequency or higher rate of crashes when compared with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

"High-risk location" means a location where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.

"Interstate roads" means the same as defined in Iowa Code section 306.3.

"Local jurisdiction" means a city or county.

"Primary road system" means the same as defined in Iowa Code section 306.3.

761—144.4(307) Overview.

144.4(1) *General.*

a. Automated enforcement shall only be considered after other engineering and enforcement solutions have been explored and implemented.

b. An automated traffic enforcement system should not be used as a long-term solution for speeding or red-light running.

c. Automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.

d. Automated enforcement shall only be considered in areas with a documented high-crash or high-risk location in any of the following:

(1) An area or intersection with a significant history of crashes, which can be attributed to red-light running or speeding.

(2) A school zone.

144.4(2) *Applicability.*

a. These rules apply only to local jurisdictions using or planning to use automated enforcement on the primary road system.

b. The department does not have the authority to own or operate any automated traffic enforcement system.

c. The department shall not receive any financial payment from any automated traffic enforcement system owned or operated by a local jurisdiction.

144.4(3) *Department approval.* A local jurisdiction must obtain approval from the department prior to using an automated traffic enforcement system on the primary road system.

761—144.5(307) Automated traffic enforcement system request.

144.5(1) *Justification report.* A local jurisdiction requesting to use an automated traffic enforcement system on the primary road system shall provide the department a justification report. A licensed, professional engineer knowledgeable in traffic safety shall sign the justification report.

a. The justification report shall provide all necessary information and documentation to clearly define the area, provide evidence documenting why the area is a high-crash or high-risk location, and describe the process used to justify the automated traffic enforcement request.

b. At a minimum, the justification report shall:

(1) Document existing traffic speeds, posted speed limits, traffic volumes, and intersection or roadway geometry. Provide assurance that existing speed limits and traffic signal timings are appropriate and describe how they were established.

(2) Document applicable crash history, the primary crash types, crash causes, crash severity, and traffic violations. Only crashes attributable to speeding or the running of a red light shall be included

in this report. Compare crash data with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

(3) Identify the critical traffic safety issue(s) from the data in subparagraphs 144.5(1)*"b"*(1) and (2) above and provide a comprehensive list of countermeasures that may address the critical traffic safety issue(s).

(4) Document solutions or safety countermeasures that have been implemented along with those that have been considered but not implemented. These may include law enforcement, engineering, public education campaigns, and other safety countermeasures.

(5) Document discussions held and actions taken with partnering agencies that have resources which could aid in the reduction of crashes attributable to speeding or the running of a red light.

(6) Document why the local jurisdiction believes automated enforcement is the best solution to address the critical traffic safety issue(s).

c. If the request is for a mobile automated enforcement system, the justification report shall also:

(1) Include a description of the mobile unit.

(2) Include the proposed duration of use at each location and indicate where the unit will be physically placed relative to the curb, shoulder, median, etc.

144.5(2) *Request to department.* The local jurisdiction shall submit a request and a justification report to the appropriate district engineer.

144.5(3) *Department review.* Within 90 days of receipt of the request and a complete justification report, the department will either approve or deny specific automated enforcement locations. The department may need additional response time if collection of data is needed, such as conducting a speed study. Incomplete justification reports will be returned to the local jurisdiction. The department will review the request and justification report, evaluate the process used, and determine if the proposed automated traffic enforcement system is needed and warranted. If approval to proceed is granted to the local jurisdiction, the department shall prepare an agreement which will be signed by the department and the local jurisdiction.

144.5(4) *Public notice.* Once the department receives a request and a complete justification report from a local jurisdiction, the department may notify the public and include information on the department's Web site.

761—144.6(306,307,318,321) Minimum requirements for automated traffic enforcement systems. The following minimum requirements must be met for each automated traffic enforcement system.

144.6(1) *Safe environment for motorists.*

a. Any fixed or mobile automated traffic enforcement system must not create a potentially unsafe environment for motorists.

b. The system shall:

(1) Be installed and maintained in a safe manner.

(2) Be located where it does not impede, oppose or interfere with free passage along the primary highway right-of-way.

(3) Be located where it does not create a visual obstruction to passing motorists.

(4) Not be placed or parked on any shoulder or median of any interstate highway.

(5) Not be placed or parked within 15 feet of the outside traffic lane of any interstate highway, unless shielded by a crashworthy barrier.

(6) Not be placed or parked on the outside shoulder of any other primary highway for longer than 48 hours unless shielded by a crashworthy barrier.

(7) Not be placed or parked within 2 feet of the back of the curb of a municipal extension of any primary road.

(8) Be placed in a manner to avoid creating traffic backups or delays.

(9) Not be placed nor operational within the defined limits of any construction or maintenance work zone.

c. Mobile automated traffic enforcement systems in a vehicle shall be owned and operated by a law enforcement agency, be marked with official decals, and have an "official" license plate affixed to the vehicle.

144.6(2) *Signage.*

a. Permanent signs may be posted on primary access roads entering local jurisdictions that use automated enforcement technology.

b. For all fixed automated traffic enforcement systems, permanent signs shall be posted in advance of the locations where enforcement systems are in use to advise drivers that cameras are in place.

c. For mobile automated traffic enforcement systems, temporary or permanent signs advising that speed is monitored by automated traffic technology shall be posted in advance of the enforcement area as agreed to by the department and the local jurisdiction.

d. All signing shall be in accordance with the "Manual on Uniform Traffic Control Devices," as adopted in 761—Chapter 130.

144.6(3) *Enforcement.* If used, automated enforcement technology shall be used in conjunction with conventional law enforcement methods, not as a replacement for law enforcement officer contact.

144.6(4) *Calibration.* Automated traffic enforcement systems require periodic calibration to ensure accuracy and reliability. Calibration shall be conducted by a local law enforcement officer, trained in the use and calibration of the system, at least quarterly for fixed systems and prior to being used at any new location for mobile systems.

761—144.7(307) Evaluation and reporting.

144.7(1) *Annual evaluation.* Annually, each local jurisdiction with active automated enforcement on Iowa's primary highway system shall evaluate the effectiveness of its use.

a. At a minimum, the evaluation shall:

(1) Address the impact of automated enforcement technology on reducing speeds or the number of red-light running violations for those sites being monitored.

(2) Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years. If the system includes intersection enforcement, only the monitored approaches should be included in the evaluation.

(3) Evaluate and document the automated traffic enforcement system's impact on addressing the critical traffic safety issue(s) listed in the justification report if a justification report was part of the system's initial approval process.

(4) Provide the total number of citations issued for each calendar year the system has been in operation.

(5) Certify that the calibration requirements of subrule 144.6(4) have been met.

b. Reserved.

144.7(2) *Reporting requirements.* The annual evaluation shall be reported to the department's office of traffic and safety at the address listed in rule 761—144.2(307) by May 1 each year following a full calendar year of operation and shall be based on performance for the previous year.

761—144.8(307) Continued use of automated traffic enforcement system.

144.8(1) *Reevaluation.* The department will utilize information collected from the annual evaluation reports from local jurisdictions to assist in evaluating the continued need for such systems at each location. Continued use will be contingent on the effectiveness of the system, appropriate administration of it by the local jurisdiction, the continued compliance with these rules, changes in traffic patterns, infrastructure improvements, and implementation of other identified safety countermeasures.

144.8(2) *Reserve the right.* The department reserves the right to require removal or modification of a system in a particular location, as deemed appropriate.

761—144.9(307) Appeal process. A local jurisdiction may appeal a decision made by the department as part of this chapter by submitting a written explanation of the issue and any supporting information

to the director of transportation. Once the director receives the appeal, the director shall have 30 days to respond. The director's decision is final agency action.

These rules are intended to implement Iowa Code chapter 318 and sections 306.4, 307.12, 321.348 and 321.366.

7. (Undated) "Iowa Department of Transportation ATE Rulemaking Authority"

Iowa Department of Transportation ATE Rulemaking Authority

1. Iowa Code § 307.2 creates the state department of transportation and provides that it "shall be responsible for the planning, development, *regulation* and improvement of transportation in the state as provided by law."

2. Iowa Code section 307.12(1)(j) authorizes the DOT Director to "Adopt rules in accordance with chapter 17A as the director deems necessary for the administration of the department and the *exercise of the director's and department's powers and duties.*" (Emphasis added).

    a. The *"director's and the department's powers and duties"* relating to the primary road system and its right-of-way (ROW) areas are mainly found in Iowa Code Chapters 318 and 321;

3. Iowa Code Chapter 318: Iowa Code Chapter 318 addresses obstructions in the highway ROW (See, Iowa Code Chapter 318 titled "Obstructions in Highway Rights-Of-Way");

    a. The purpose of Iowa Code Chapter 318 is "to enhance public safety" (See, I.C. 318.2);

    b. Chapter 318 gives DOT authority over all primary roads and their ROW areas. See, I.C. 318.1(1) and (2)(designating DOT as the "highway authority" in charge of primary roads under Chapter 318);

    c. Chapter 318 defines "Highway right-of-way" to include the traveled portion of the road, its shoulders and all other areas on either side of the road to the outer boundaries of the ROW. See, I.C. 318.1(3);

    d. Chapter 318 imposes a duty on the public to "not place, or cause to be placed, an obstruction within any highway right-of-way." See, I.C. 318.3;

e. Chapter 318 *requires* DOT (as the "highway authority" in charge of primary roads) to remove anything that might constitute an "obstruction" from the primary highway ROW (See, I.C. 318.4);

f. Chapter 318 provides DOT with legal authority to remove such obstructions (See, I.C. 318.5 and 318.6) and to enjoin individuals from placing such obstructions (See, I.C. 318.7).

g. Anything (including a fixed or mobile ATE unit) can be an "obstruction" if placed in the ROW such that it "impedes, opposes, or interferes with free passage along the highway right-of-way..." See, I.C. 318.1(4) and I.C. 318.3 ("A person shall not place or cause to be placed an obstruction within any highway right-of-way. This prohibition includes *but is not limited to,* the following actions...")(Emphasis added);

4. Iowa Code Chapter 321: Iowa Code Chapter 321 also contains come provisions applicable to the primary road ROW;

   a. Iowa Code § 321.366 specifically prohibits operators of non-emergency vehicles from parking a vehicle on the shoulder or right-of-way in the absence of an emergency;

5. The Relationship between DOT, the Cities and the Primary Road system:

   a. DOT and the Cities do have *concurrent jurisdiction* over the municipal extensions of primary roads located within a city (See, I.C. 306.4);

   b. But, under the provisions of I.C. Chapter 318 referenced above in paragraph 3 (subparagraphs a-g) DOT is the ultimate legal authority with respect to keeping primary road ROW areas free of obstructions;

8. Department of Transportation Commission Order No. H-2014-33 re: 12/10/13 meeting date

Form 102110wd
06-13

2

DEPARTMENT OF TRANSPORTATION
COMMISSION ORDER

Division/Bureau/Office Highway Order No. H-2014-33

Submitted by Steve Gent Phone No. 515-239-1129 Meeting Date Dec.10, 2013

Title Administrative Rules - 761 IAC 144, Automated Traffic Enforcement on the Primary Road System

DISCUSSION/BACKGROUND:

The department is proposing to adopt a new rule chapter concerning automated traffic enforcement (ATE) on the Primary Road System that will govern the implementation and placement of those ATE systems. These rules address both fixed and mobile systems and include speed and red-light camera enforcement and will ensure consistency statewide in the use of ATE systems.

The department held a public hearing on October 30, 2013, where 13 people shared their comments. The department also received 164 written comments during the public comment period that ended on October 31, 2013. Most of the comments received did not address any specific issues related to the proposed rules, rather they either favored or opposed existing camera systems or addressed topics that were beyond the department's authority. Based on the comments received, the following changes to the Notice of Intended Action were made:

1. Subparagraph 144.6(1)"b"(10) was added to paragraph 144.6(1)"b" to prevent automated traffic enforcement systems from being placed within the first 1,000 feet of a lower speed limit. This change provides drivers a reasonable distance to adjust their speed to a lower speed limit before encountering an automated speed camera.

2. Paragraph 144.6(1)"c" stating that mobile automated traffic enforcement systems in a vehicle shall be owned and operated by a law enforcement agency, be marked with official decals and have an "official" license plate affixed to the vehicle was moved to new paragraph 144.6(3)"b" because it better fits under the subrule concerning enforcement.

PROPOSAL/ACTION RECOMMENDATION:

It is recommended the Commission approve the attached rules.

COMMISSION ACTION:

Moved by _____ Seconded by _____

Division Director _____ Legal _____ State Director _____

	Vote		
	Aye	Nay	Pass
Cleaveland			
Miles			
Reasner			
Rielly			
Rose			
Wiley			
Yanney			

Adopt the following **new** 761—Chapter 144:

CHAPTER 144

AUTOMATED TRAFFIC ENFORCEMENT ON THE PRIMARY ROAD SYSTEM

761—144.1(307) Purpose. The purpose of this chapter is to establish requirements, procedures, and responsibilities in the use of automated traffic enforcement systems on the primary road system. This chapter ensures consistency statewide in the use of automated traffic enforcement systems on the primary road system and pertains to fixed and mobile automated enforcement.

761—144.2(307) Contact information. Information relating to this chapter may be obtained from the Office of Traffic and Safety, Iowa Department of Transportation, 800 Lincoln Way, Ames, Iowa 50010.

761—144.3(307) Definitions. As used in this chapter:

"Automated enforcement" means the use of automated traffic enforcement systems for enforcement of laws regulating vehicular traffic.

"Automated traffic enforcement system" means a system that operates in conjunction with an official traffic-control signal, as described in Iowa Code section 321.257, or a speed measuring device to produce recorded images of vehicles being operated in violation of traffic or speed laws.

"High-crash location" means a location where data indicates a greater frequency or higher rate of crashes when compared with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

"High-risk location" means a location where the safety of citizens or law enforcement officers would be at higher risk through conventional enforcement methods.

"Interstate roads" means the same as defined in Iowa Code section 306.3.

4

"Local jurisdiction" means a city or county.

"Primary road system" means the same as defined in Iowa Code section 306.3.

761—144.4(307) Overview.

144.4(1) *General.*

a. Automated enforcement shall only be considered after other engineering and enforcement solutions have been explored and implemented.

b. An automated traffic enforcement system should not be used as a long-term solution for speeding or red-light running.

c. Automated enforcement should only be considered in extremely limited situations on interstate roads because they are the safest class of any roadway in the state and they typically carry a significant amount of non-familiar motorists.

d. Automated enforcement shall only be considered in areas with a documented high-crash or high-risk location in any of the following:

(1) An area or intersection with a significant history of crashes, which can be attributed to red-light running or speeding.

(2) A school zone.

144.4(2) *Applicability.*

a. These rules apply only to local jurisdictions using or planning to use automated enforcement on the primary road system.

b. The department does not have the authority to own or operate any automated traffic enforcement system.

c. The department shall not receive any financial payment from any automated traffic enforcement system owned or operated by a local jurisdiction.

144.4(3) *Department approval.* A local jurisdiction must obtain approval from the department prior to using an automated traffic enforcement system on the primary road system.

761—144.5(307) Automated traffic enforcement system request.

144.5(1) *Justification report.* A local jurisdiction requesting to use an automated traffic enforcement system on the primary road system shall provide the department a justification report. A licensed, professional engineer knowledgeable in traffic safety shall sign the justification report.

a. The justification report shall provide all necessary information and documentation to clearly define the area, provide evidence documenting why the area is a high-crash or high-risk location, and describe the process used to justify the automated traffic enforcement request.

b. At a minimum, the justification report shall:

(1) Document existing traffic speeds, posted speed limits, traffic volumes, and intersection or roadway geometry. Provide assurance that existing speed limits and traffic signal timings are appropriate and describe how they were established.

(2) Document applicable crash history, the primary crash types, crash causes, crash severity, and traffic violations. Only crashes attributable to speeding or the running of a red light shall be included in this report. Compare crash data with other similar locations within the local jurisdiction, other like jurisdictions, or larger metropolitan area.

(3) Identify the critical traffic safety issue(s) from the data in subparagraphs 144.5(1)*"b"*(1) and (2) above and provide a comprehensive list of countermeasures that may address the critical traffic safety issue(s).

(4) Document solutions or safety countermeasures that have been implemented along with those that have been considered but not implemented. These may include law enforcement, engineering, public education campaigns, and other safety countermeasures.

(5) Document discussions held and actions taken with partnering agencies that have resources which could aid in the reduction of crashes attributable to speeding or the running of a red light.

(6) Document why the local jurisdiction believes automated enforcement is the best solution to address the critical traffic safety issue(s).

c. If the request is for a mobile automated enforcement system, the justification report shall also:

(1) Include a description of the mobile unit.

(2) Include the proposed duration of use at each location and indicate where the unit will be physically placed relative to the curb, shoulder, median, etc.

144.5(2) *Request to department.* The local jurisdiction shall submit a request and a justification report to the appropriate district engineer.

144.5(3) *Department review.* Within 90 days of receipt of the request and a complete justification report, the department will either approve or deny specific automated enforcement locations. The department may need additional response time if collection of data is needed, such as conducting a speed study. Incomplete justification reports will be returned to the local jurisdiction. The department will review the request and justification report, evaluate the process used, and determine if the proposed automated traffic enforcement system is needed and warranted. If approval to proceed is granted to the local jurisdiction, the department shall prepare an agreement which will be signed by the department and the local jurisdiction.

144.5(4) *Public notice.* Once the department receives a request and a complete justification report from a local jurisdiction, the department may notify the public and include information on the department's Web site.

761—144.6(306,307,318,321) Minimum requirements for automated traffic enforcement

systems. The following minimum requirements must be met for each automated traffic enforcement system.

144.6(1) *Safe environment for motorists.*

a. Any fixed or mobile automated traffic enforcement system must not create a potentially unsafe environment for motorists.

b. The system shall:

(1) Be installed and maintained in a safe manner.

(2) Be located where it does not impede, oppose or interfere with free passage along the primary highway right-of-way.

(3) Be located where it does not create a visual obstruction to passing motorists.

(4) Not be placed or parked on any shoulder or median of any interstate highway.

(5) Not be placed or parked within 15 feet of the outside traffic lane of any interstate highway, unless shielded by a crashworthy barrier.

(6) Not be placed or parked on the outside shoulder of any other primary highway for longer than 48 hours unless shielded by a crashworthy barrier.

(7) Not be placed or parked within 2 feet of the back of the curb of a municipal extension of any primary road.

(8) Be placed in a manner to avoid creating traffic backups or delays.

(9) Not be placed nor operational within the defined limits of any construction or maintenance work zone.

(10) Not be placed within the first 1,000 feet of a lower speed limit.

144.6(2) *Signage.*

a. Permanent signs may be posted on primary access roads entering local jurisdictions that use automated enforcement technology.

8

b. For all fixed automated traffic enforcement systems, permanent signs shall be posted in advance of the locations where enforcement systems are in use to advise drivers that cameras are in place.

c. For mobile automated traffic enforcement systems, temporary or permanent signs advising that speed is monitored by automated traffic technology shall be posted in advance of the enforcement area as agreed to by the department and the local jurisdiction.

d. All signing shall be in accordance with the "Manual on Uniform Traffic Control Devices," as adopted in 761—Chapter 130.

144.6(3) *Enforcement.*

a. If used, automated enforcement technology shall be used in conjunction with conventional law enforcement methods, not as a replacement for law enforcement officer contact.

b. Mobile automated traffic enforcement systems in a vehicle shall be owned and operated by a law enforcement agency, be marked with official decals, and have an "official" license plate affixed to the vehicle.

144.6(4) *Calibration.* Automated traffic enforcement systems require periodic calibration to ensure accuracy and reliability. Calibration shall be conducted by a local law enforcement officer, trained in the use and calibration of the system, at least quarterly for fixed systems and prior to being used at any new location for mobile systems.

761—144.7(307) Evaluation and reporting.

144.7(1) *Annual evaluation.* Annually, each local jurisdiction with active automated enforcement on Iowa's primary highway system shall evaluate the effectiveness of its use.

a. At a minimum, the evaluation shall:

(1) Address the impact of automated enforcement technology on reducing speeds or the number

of red-light running violations for those sites being monitored.

(2) Identify the number and type of collisions at the sites being monitored, listing comparison data for before-and-after years. If the system includes intersection enforcement, only the monitored approaches should be included in the evaluation.

(3) Evaluate and document the automated traffic enforcement system's impact on addressing the critical traffic safety issue(s) listed in the justification report if a justification report was part of the system's initial approval process.

(4) Provide the total number of citations issued for each calendar year the system has been in operation.

(5) Certify that the calibration requirements of subrule 144.6(4) have been met.

b. Reserved.

144.7(2) *Reporting requirements.* The annual evaluation shall be reported to the department's office of traffic and safety at the address listed in rule 761—144.2(307) by May 1 each year following a full calendar year of operation and shall be based on performance for the previous year.

761—144.8(307) Continued use of automated traffic enforcement system.

144.8(1) *Reevaluation.* The department will utilize information collected from the annual evaluation reports from local jurisdictions to assist in evaluating the continued need for such systems at each location. Continued use will be contingent on the effectiveness of the system, appropriate administration of it by the local jurisdiction, the continued compliance with these rules, changes in traffic patterns, infrastructure improvements, and implementation of other identified safety countermeasures.

144.8(2) *Reserve the right.* The department reserves the right to require removal or modification of a system in a particular location, as deemed appropriate.

10

761—144.9(307) Appeal process. A local jurisdiction may appeal a decision made by the department as part of this chapter by submitting a written explanation of the issue and any supporting information to the director of transportation. Once the director receives the appeal, the director shall have 30 days to respond. The director's decision is final agency action.

These rules are intended to implement Iowa Code chapter 318 and sections 306.4, 307.12, 321.348 and 321.366.

9. May 2014 Report to Iowa Department of Transportation – City of Cedar Rapids Automated Traffic Enforcement on Primary Roadway 2013 with Appendices A through D

CEDAR RAPIDS
City of Five Seasons®

REPORT TO IOWA DEPARTMENT OF TRANSPORTATION

CITY OF CEDAR RAPIDS AUTOMATED TRAFFIC ENFORCEMENT ON PRIMARY ROADWAY 2013

MAY 2014

Cedar Rapids Police Department
505 First Street SW • Cedar Rapids, Iowa 52404-2103 • (319) 286-5375 • FAX (319) 286-5447

BACKGROUND

Cedar Rapids began installing automated traffic enforcement (ATE) in March of 2010. The city utilizes ATE's at locations and intersections that have been identified by the City's Traffic Engineering Department as having a high number of crashes. A combination of crash rates and the number of crashes per intersection was used to identify the locations. The pre-installation analysis was particularly concerned with the number of right angle crashes. Also highlighted was the increasing number of crashes occurring on I-380 within a section known as the "S" curves.

INTERSECTIONS

Numerous agencies, including the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), the Institute of Transportation Engineers (ITE), and Iowa State University's Institute for Transportation (InTrans), have published guidance and best practices for addressing red light running, and reducing the severity of intersection related crashes. The City of Cedar Rapids has used this guidance and incorporated it into existing signalized intersections and new signalized intersections. We believe that adherence to this guidance has contributed to Cedar Rapids' safety record being better than most communities in Iowa. In the latest Statewide Safety Improvement Candidate Location (SICL) list released by the Iowa Department of Transportation, the City has only one intersection in the top 50 (27th), and only 9 out of the top 200 in the state. Only 7 of these are signalized and under the jurisdiction of the City. The City of Cedar Rapids has also been ranked 19th best or lower out of 200 cities nationwide in the America's Best Driver's Report published by Allstate Insurance. Automated enforcement is mentioned by each of these agencies as an effective measure to reduce red lighting running. A recent study by the InTrans/CTRE Center for Transportation Research and Education (Iowa State University), *Evaluating the Effectiveness of Red Light Running Camera Enforcement in Cedar Rapids and Developing Guidelines for Selection and use of Red Light Running Countermeasures*, concluded "the main findings of the research conducted as part of this study, support the idea that the cameras have had a positive safety effect at the intersections".

The City of Cedar Rapids also followed many of the recommendations for automated speed enforcement found in the *Speed Enforcement Camera Systems Operational Guidelines* published by NHTSA.

The following summary is a list of engineering countermeasures included in guidance and best practices from the agencies above that have been applied to signalized intersections in Cedar Rapids:

Improve Signal Visibility

1. **All signals**
   Are designed to follow the standards ("shall" statements) listed in the Manual on Uniform Traffic Control Devices. In nearly all cases, the City will also follow guidance ("should" statements).

2. **Signals Placed Overhead**
   All signals have at least one and typically two signal heads mounted on a mast arm for each approach. An additional far side pole mounted head is also provided for improved visibility.

3. **Signal for Each Approach Lane**
   All through lanes have an overhead signal.

4. **Size of Signal Displays**
   All signal indications are 12-inch LED's.

5. **Line of Sight**
   All of the intersections under automated enforcement have an acceptable line of sight. Programmable lenses are used at two of the locations, due to intersection angle and the proximity of two adjacent signalized intersections. The new programmable lenses are LED and the angle of the light can be adjusted from the ground to provide optimal visibility under these circumstances.

6. **Visors** –
   Standard equipment for all signal and pedestrian indications.

7. **Signal Conspicuity**
   Backplates and LED signal indications are standard equipment.

Increase Likelihood of Stopping

1. Stop bars are present at all signalized intersections.
2. Signal Ahead signs (W3-3) are used if signal visibility is an issue because of the roadway geometry or when a signal is the first one encountered on an arterial roadway.
3. Left Turn Signal signs (R10-10) are used to supplement protected left turn heads to avoid driver confusion when the through movement is green.

Address Intentional Violations

1. **Signal Optimization**
   Approximately 80 percent of all traffic signals in Cedar Rapids are connected to a Central Traffic Management system which monitors the operation of the signals and manages groups of signals that are operated in coordinated timing plans. The City is nearly complete with an upgrade of our communication system from copper to fiber. Work will be completed this summer and all 237 traffic signals will be monitored from a Traffic Management Center. New traffic management software, traffic monitoring cameras, and adaptive traffic control is part of the upgrade and will be used to monitor and improve operations.

2. **Signal Cycle Length**
   Cedar Rapids uses traffic signal optimization software, and provides training to staff engineers to properly employ cycle lengths, phasing, timing and offsets.

3. **Yellow-Change Interval**
   All yellow-change intervals are calculated according to ITE's recommended guidelines.

4. **All-Red Clearance Interval**
   The City also uses an all-red interval per ITE. It does not reduce the likelihood of entering the intersection on Red, but there are studies that show it can positively impact the safety of an intersection.

5. **Dilemma-Zone Protection**
   All new signals are designed with dilemma-zone protection. All existing signals have dilemma zone protection if the approach speeds are greater than 25mph. In the downtown many of the signals are pre-timed. As they are upgraded, we are adding detection to operate in actuated-coordinate mode.

6. **Flashing Mode** –
   Many signals are operated in overnight flash when volumes are low. Crash statistics for these locations are monitored and if 3 or more crashes occur in a year, the signal is no longer operated in overnight flash mode. The City is evaluating the use of overnight flash, as several recent studies have shown the potential for increased crashes during overnight flash. We have not seen this same outcome in Cedar Rapids.

The ATE equipment utilized at intersections by Cedar Rapids provides both red light and speed violation monitoring. Crash rates were the guiding factor for intersection selection. The broadest goal of the program has been the reduction of crashes caused by red light running but part of the red light running problem is the driver who speeds up to "beat the red light" instead of stopping. In order to achieve the reduction we have to change driver behavior. Without the speed enforcement option, there is a real possibility that drivers would learn to accelerate instead of apply the brakes.

The following crash data was taken from the accident reporting program TraCs. Only accident reports completed by an officer are included in this data.

1ST AVE. AND 10th ST. SE

	2008	2009	2012	2013
Total	4	7	4	5
Property Damage Only	2	5	4	3
Personal Injury Status				
Incapacitating	1	0	0	0
Non-incapacitating	0	1	0	1
Possible	1	1	0	1
Manner of Crash				
Non-Collision	1	0	0	0
Head-On	0	0	0	0
Rear-End	1	5	2	2
Angle, left turn	0	1	1	0
Broadside	2	1	1	3
Driver Contributing Factors				
	2-Ran Light	1-Ran Light	1-Ran Light	2-Ran Light
	2-Too close	1-Left turn	1-Left turn	1- Left Turn
	1-Control	4-Control	1-Control	1-Control
	1-Reckless	1-Reckless	1-On Phone	1-Turn
	1-Pedestrian	1-OWI		2-Other
Weather Conditions				
Clear	4	2	3	2
Partly Cloudy	0	1	0	0
Cloudy	0	3	1	3
Rain	0	1	0	1
Snow	0	1	0	0
Surface Conditions				
Dry	4	4	4	3
Wet	0	2	0	1
Snow	0	1	0	1
Environmental Factors				
None	3	6	4	4
Weather	0	1	0	1
Glare	1	0	0	0
Roadway Condition				
None	4	6	4	5
Road Surface	0	1	0	0

1ST AVE AND L ST WEST

	2008	2009	2012	2013
Total	6	4	3	8
Property Damage Only	3	3	3	5
Personal Injury Status				
Non-Incapacitating	2	0	0	0
Possible	1	1	0	3
Manner of Crash				
Rear- End	0	1	1	0
Left Turn	4	0	1	2
Broadside	2	3	0	6
Sideswipe	0	0	1	0
Driver Contributing Factor				
	2-DTS	3-DTS	1-Left Turn	5-DTS
	4-Left Turn	1-Too close	1-Control	2-Left Turn
			2-Others	2-Unk
Weather Conditions				
Clear	1	1	2	3
Partly Cloudy	2	1	0	0
Cloudy	3	2	1	5
Rain	1	0	0	1
Surface Conditions				
Dry	4	3	3	6
Wet	2	0	0	2
Snow	0	1	0	0
Environmental Factors				
None	6	4	2	8
Other	0	0	1	0
Roadway Condition				
None	6	4	3	8

WILLIAMS BOULEVARD AND 16TH AVE SW

	2008	2009	2012	2013
Total	4	10	1	3
Property Damage Only	3	5	1	3
Personal Injury Status				
Non-Incapacitating	1	4	0	0
Possible	0	1	0	0
Manner of Crash				
Rear End	2	3	0	0
Left Turn	2	4	1	2
Broadside	0	3	0	1
Driver Contributing Factors				
	1-Left Turn	4-Left Turns	2-Unk	2-Left Turn
	2-Control	2-DTS		1-DTS
	1-Other	2-Control		
		1-Too close		
		1-Other		
		2-Unk		
Weather Conditions				
Clear	3	5	0	3
Partly Cloudy	0	2	0	0
Cloudy	1	2	1	0
Rain	1	0	0	0
Snow	0	1	0	0
Surface Conditions				
Dry	3	8	1	3
Wet	1	1	0	0
Snow	0	1	0	0
Environmental Factors				
None	3	8	1	3
Weather	1	1	0	0
Glare	0	1	0	0
Roadway Condition				
None	4	9	1	3
Road Surface	0	1	0	0

I-380 Crashes

Pre-ATE installation crash data showed an average of 2 deaths a year for several years, along with a high number of injury-related crashes. The data shows that not only has the total number of crashes been reduced per year, but there have been fewer injuries related to crashes, and zero fatal crashes since the installation and use of ATE. Pre-installation data shows that a majority of crashes resulted in some type of injury. The number of personal injury crashes was greater than the total number of property damage crashes. Crashes still occur, however, those that do occur result in fewer injuries; and no crashes have resulted in a death since ATE installation. Post-installation data reveals that property damage crashes now number higher than injury crashes.

I-380 Design

Because of its design, I-380 creates a hazardous environment for law enforcement officers and problematic for speed enforcement. Most of the "S" curve is either elevated with steep embankments, or nothing to the side of the travel portion but a paved shoulder and a wall. There are limited places where an officer can safely set a squad car to monitor traffic. Even when a traffic law violation is observed, the officer may not be able to pursue without creating an additional hazard for the motoring public. Another concern for law enforcement is the limited escape routes available, if the need arises during a traffic stop to take evasive action. When law enforcement is called to respond to an event on I-380, steps have to be taken to ensure the safety of all First Responders. That usually means additional squad cars positioned up-stream in an attempt to slow the traffic down and divert the traffic to a specific lane.

There has been no reconstruction, redesign, or major changes to the roadway or traffic flow, since ATE started.

ROAD SAFETY AUDIT FOR 1-380

THROUGH CEDAR RAPIDS AND HIAWATHA IN LINN COUNTY, IOWA

FINAL REPORT – MARCH 2009

This report is a product of a common concern between the Cedar Rapids Police Department and the Iowa Department of Transportation District 6 Office; the safety of I-380. The report addresses several issues including the increasing number of crashes, roadway surface conditions (friction), traffic volumes, and speed. The report acknowledges the very problem that ATE's are designed and installed to address the high number of crashes in the "S" curves.

Automated Traffic Enforcement is one of approximately 40 safety issues listed in the I-380 Cedar Rapids Corridor Safety Initiatives. Also listed is the need for surface treatment in low friction areas. A friction coating has been applied to a test section within the "S" curves and seems to be providing additional crash reduction.

Speeding

The Iowa Department of Transportation's Road Safety Audit for I-380 (2009), identified speed as the leading cause of crashes on mainline I-380 (pg. 9). The posted speed limit within the "S" curves is 55 miles per hour. It has been set at 55 mph since the roadway was constructed.

The speed limit is not constant along I-380 within the boundaries of Cedar Rapids. For southbound I-380, the speed limit changes from a rural interstate speed of 70 mph, to 60 mph north of Hiawatha. The speed limit remains 60 mph for approximately four miles. For northbound I-380 the speed limit changes from 70 mph, to 60 mph south of Highway 30 and remains 60 mph for approximately 3 miles. A conclusion can be drawn that some motorists are choosing to ignore the reduction in speeds and enter the "S" curves without slowing.

Historically, the Cedar Rapids Police Department has utilized traditional speed enforcement, along with a variety of other practices, in an effort to maintain safe driving speeds. Those include multi-officer enforcement projects, as well as "zero" tolerance, multi-agency operations. The City even used aircraft for a number of years.

According to the Road Safety Audit, the only speed study done was in a 60 mph zone located near Coldstream Ave NE. The Audit acknowledges that "the area of particular interest for speed compliance is between the "S" curves on either side of the "5 in 1 Bridge", and no speed sampling data is available for that location".

In February 2013, the Cedar Rapids Police Department, using Laser Radar, conducted a speed study on I-380 within the "S" curves at 7th St NE. The speeds of 10,138 vehicles were recorded, with an average speed of 58.33 mph in the 55 mph speed zone.

Crash Data for I-380

This crash data was taken from the accident reporting program (TraCs). Only accident reports completed by an officer are included.

I-380 "S" CURVES CRASH DATA

	2008	2009	2012	2013
TOTAL	35	47	26	33
Property Damage Only	14	16	15	22
Personal Injury Status				
Incapacitating	2	3	3	0
Non-Incapacitating	10	10	4	0
Possible	8	16	4	11
Fatal	1	2	0	0
Manner Of Crash				
Non-Collision	17	20	10	10
Head-on	1	5	1	1
Rear-end	3	8	11	10
Angle, oncoming left turn	0	0	0	0
Broadside	3	2	0	3
Sideswipe, same direction	8	11	3	9
Sideswipe, opposite	0	0	0	0
Unknown	3	1	1	0
Driver Contributing Factors				
	24-Control	33-Control	16-Control	16-Control
	3-Too fast	6-Too Fast	5-Too Fast	5-Too Fast
	1-Mechanical	1-Feel Asleep	3-Too Close	6-Too Close
	1-Unknown	1-Medical	1-Medical	1-Mechanical
	3-Swerving	1-Wrongway	1-Reckless	2-Reckless
	4-OWI	2-Swerving	2-Other	2-Asleep
		1-Overcorrecting	2-Swerving	1-Overcorrecting
		5-OWI	1-OWI	5-OWI
Weather Conditions				
Clear	13	14	11	17
Partly cloudy	5	3	0	3
Cloudy	17	27	11	10
Fog	0	3	0	0
Rain	8	14	2	2
Snow	9	6	6	5
Blowing snow, dirt etc.	1	0	0	1

Surface Conditions				
Dry	12	14	14	21
Wet	9	18	3	3
Ice	3	7	2	4
Snow	9	6	6	5
Slush	2	2	1	0
Environmental factors				
None	23	20	17	27
Weather	10	26	8	5
Previous Accident	1	0	1	1
Other	1	1	0	0
Roadway Condition				
None	23	30	19	24
Road Surface	11	17	6	5
Debris	1	0	0	0
Work Zone	0	0	1	3
Obstruction	0	0	0	1

Hearing Process

One of the most common complaints about automated traffic enforcement is the lack of due process. Cedar Rapids takes that concern very seriously and believes that our appeal process addresses that concern. By statute, the Notice of Violation goes to the owner of the vehicle, identical to a parking citation. Like a parking ticket, this is a civil infraction not a criminal charge. The recipient has 30 days to pay the fine, or request an appeal. If, after the original due date no action has been taken, a second notice is mailed. The hearing is presided over by a community member, in good standing, who simply has a desire to serve. They have no affiliation with the police department or the legal profession. If the recipient is not satisfied with the outcome of the hearing, then they may request the infraction be moved to District Court.

Accuracy

Yet another often repeated challenge to automated traffic enforcement is the technology. The system employed by Cedar Rapids has built-in software designed to ensure the highest level of accuracy. First the system preforms a self-test daily to ensure that it is operating properly. Then the radar validates the hardware and software parameters, and system settings every minute. If one of the verifications fails the system shuts down, no radar reading will take place and no photos will be taken. Annually the calibration is checked using a Target Speed Simulator. The TSS is mounted to the outside of the radar/camera box. It then sends signals that mimic different speeds and the radar must return the correct speed reading. If any of those verifications are incorrect the radar is removed and replaced. There are no adjustments that can be made on site. The Cedar Rapids Police Department verified the calibration of the equipment on January 12th, 2014 and again on April 22nd, 2014.

Citation Totals - Intersections

		2011	2012	2013
1st Ave @ 10th St EB	Red Light	215	452	284
	Speed	195	202	206
1st Ave @ 10th St WB	Red Light	78	89	128
	Speed	296	172	457
1st Ave @ L St WB	Red Light	135	414	281
	Speed	464	469	423
1st Ave @ L St EB	Red Light	265	515	366
	Speed	12	109	163
Williams @ 16th Ave NB	Red Light	395	459	596
	Speed	1065	1039	1275
Williams @ 16th Ave SB	Red Light	30	50	41
	Speed	42	62	47

CITATIONS TOTAL I-380

	2011	2012	2013
Diagonal Dr NB	9190	10109	4218
J Ave NB	36775	35327	36069
J Ave SB	44775	38052	44529
1st Av Ramp SB	1226	986	1234

APPENDIX LIST

Appendix A	Cedar Rapids Traffic Engineering Intersection Crash Diagrams - 1st Ave and 10th St East
Appendix B	Cedar Rapids Traffic Engineering Intersection Crash Diagrams - 1st Ave and L St West
Appendix C	Cedar Rapids Traffic Engineering Intersection Crash Diagrams - Williams and 16th SW
Appendix D	380 Cedar Rapids Corridor Safety Initiatives

APPENDIX A

CEDAR RAPIDS TRAFFIC ENGINEERING

INTERSECTION CRASH DIAGRAMS

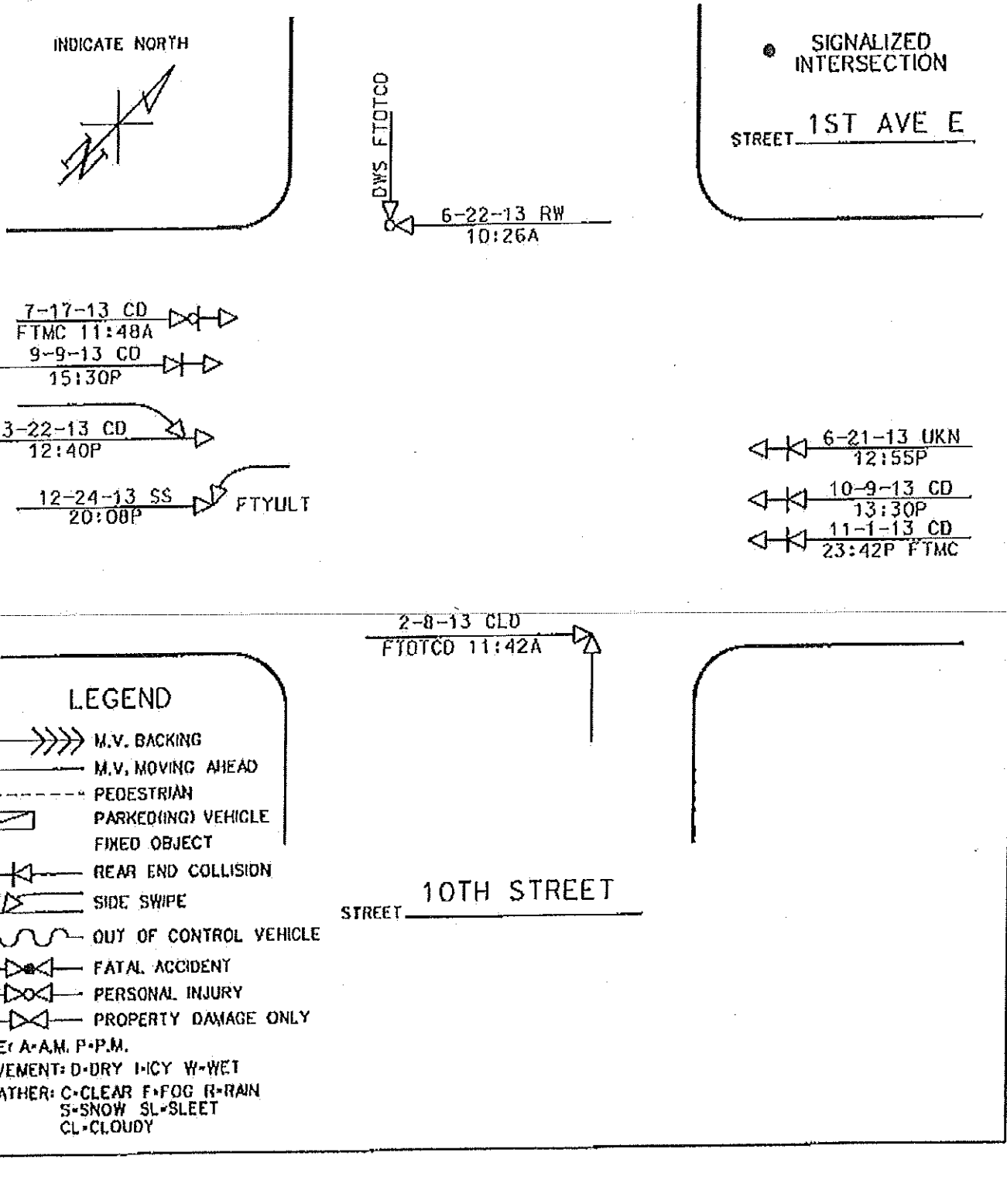
1ST AVENUE AND 10th STREET EAST

Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2013

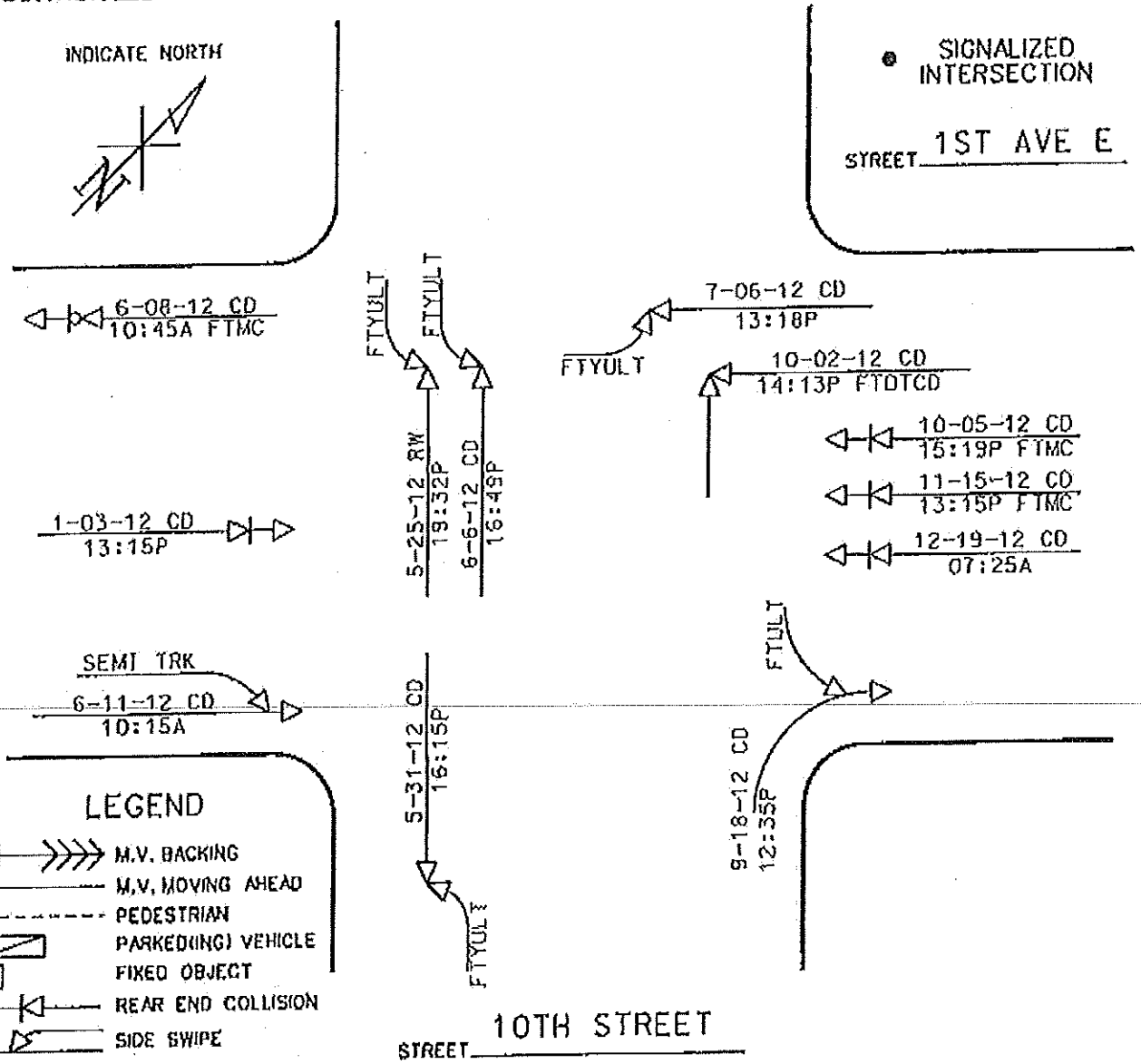


Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2012



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

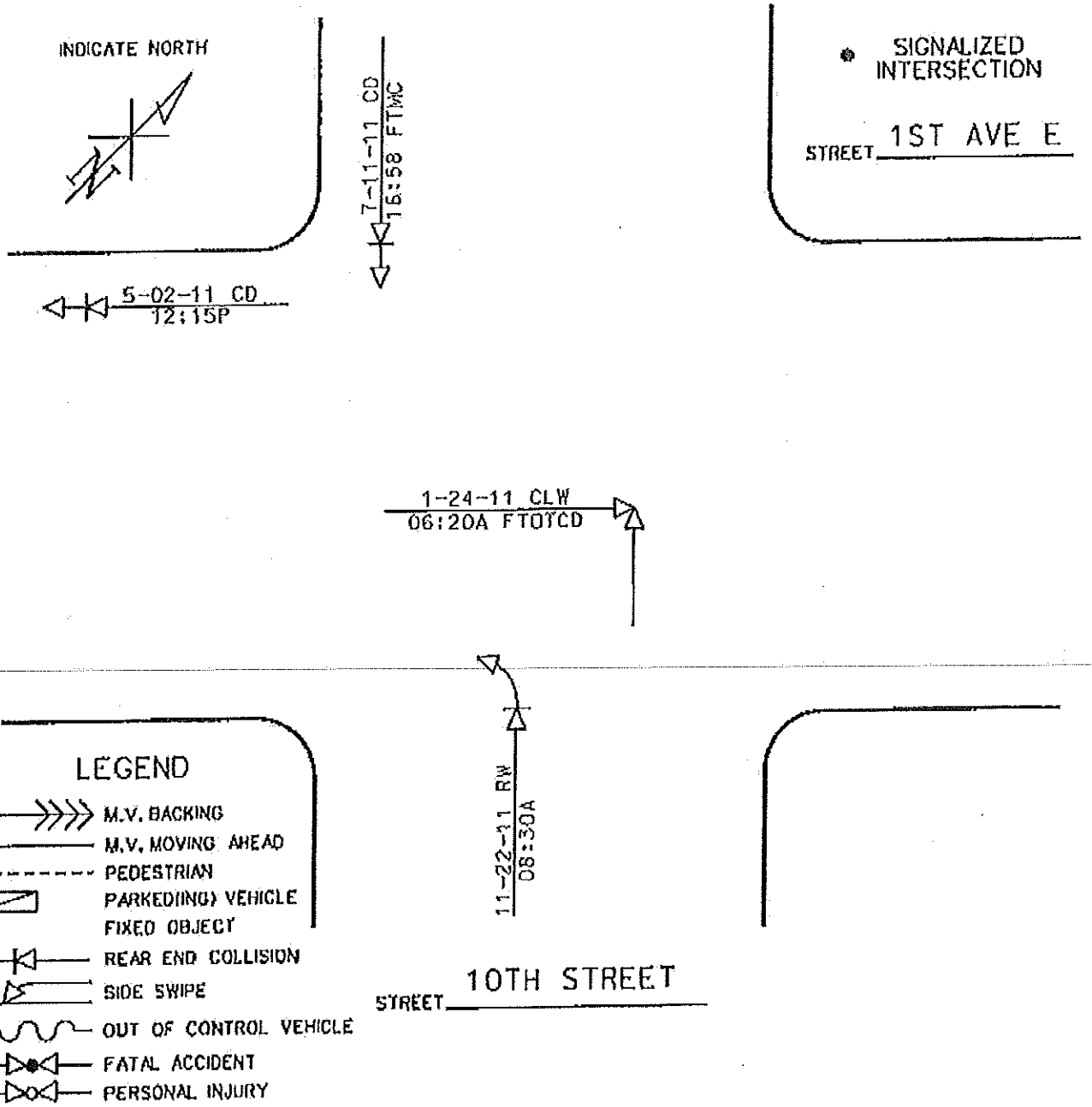
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2011

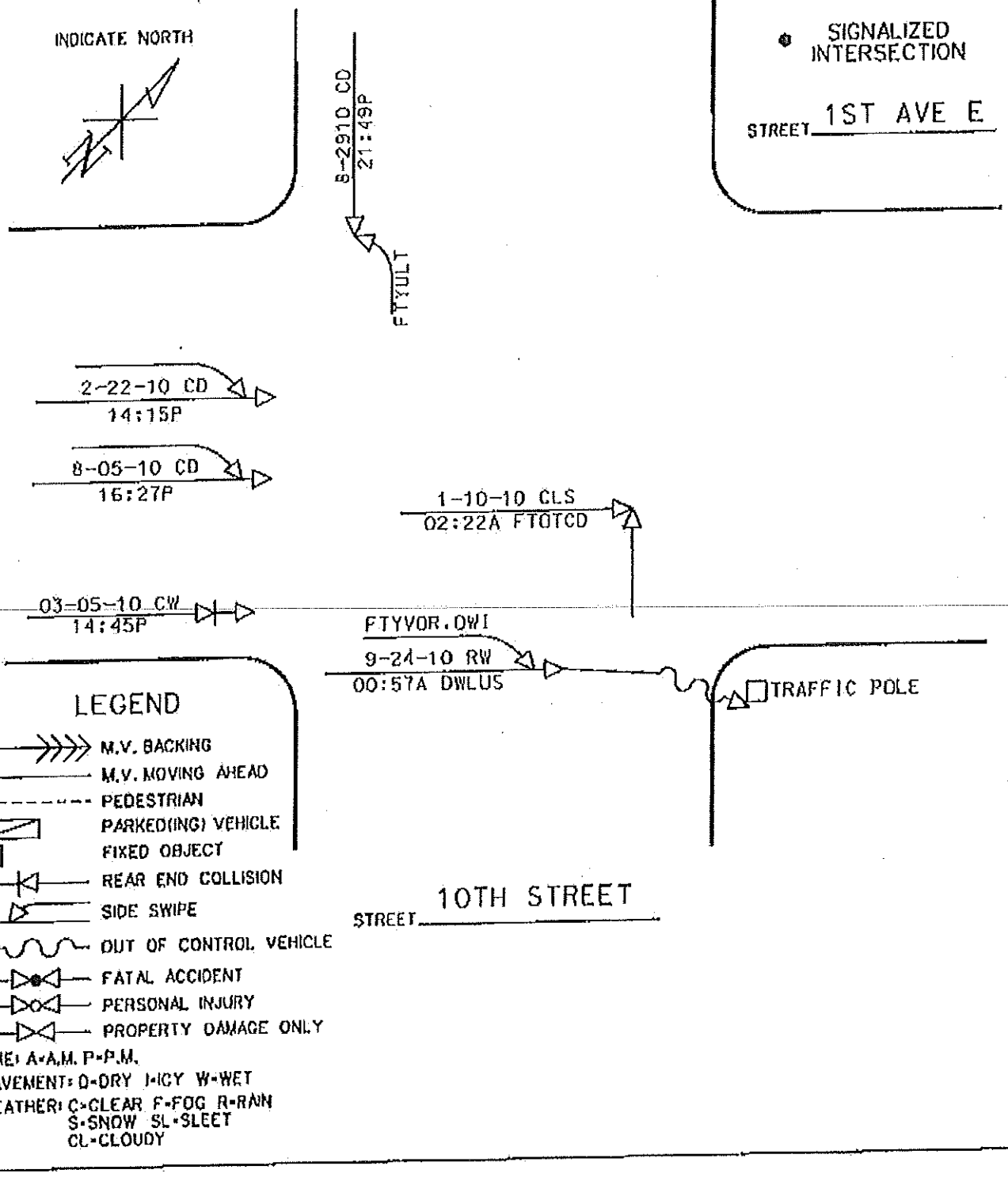


Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2010

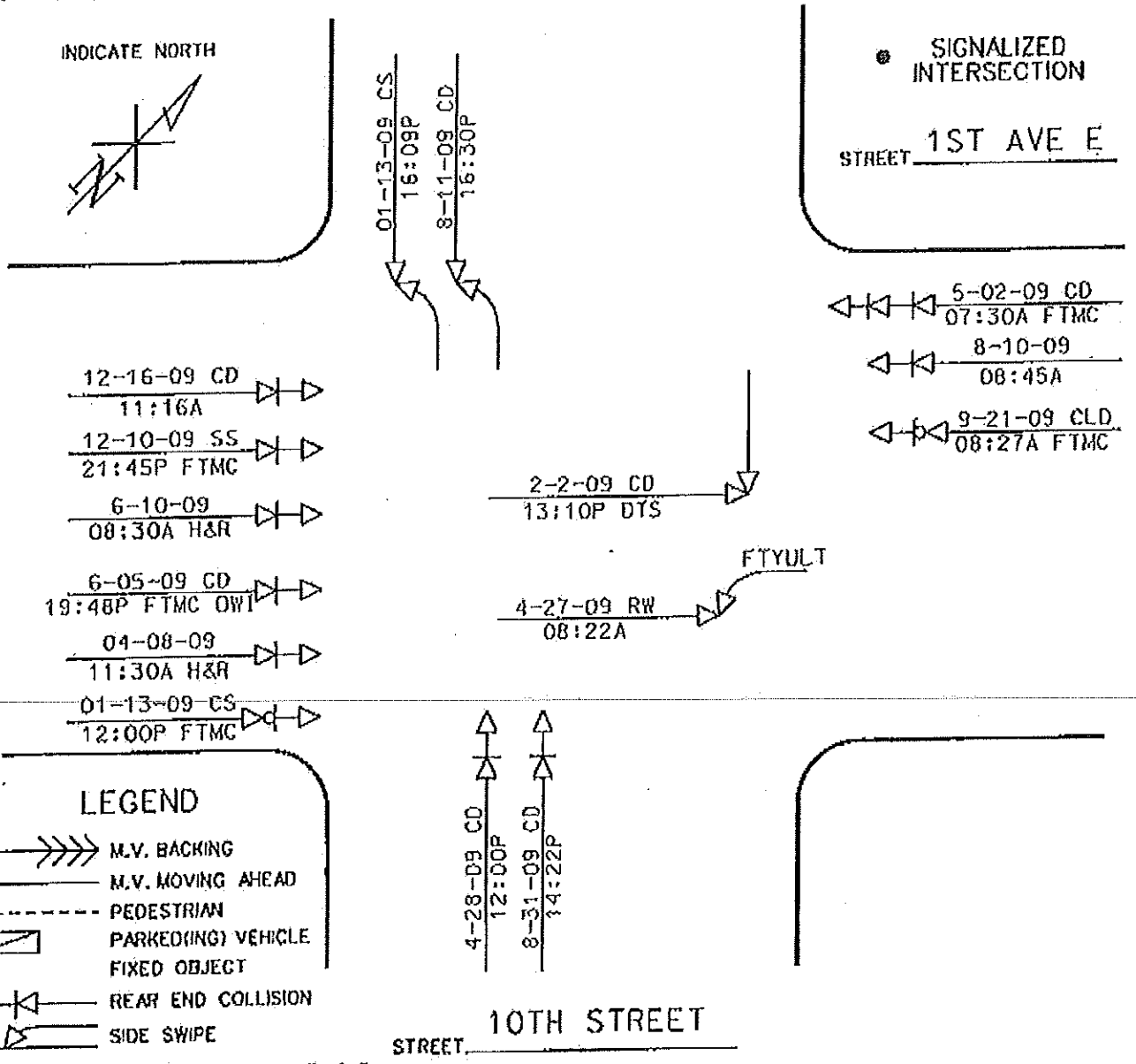


Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2009

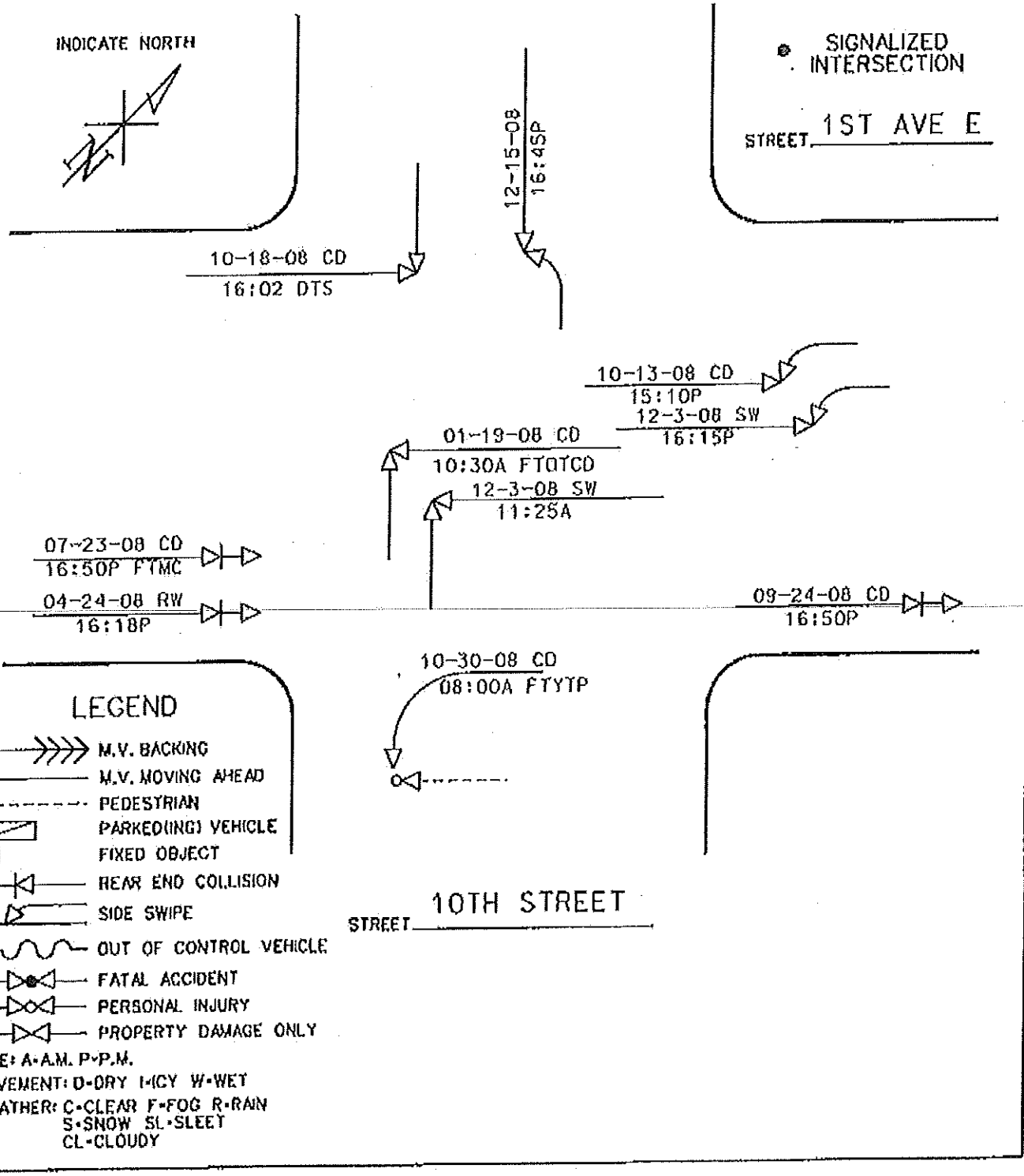


Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2008



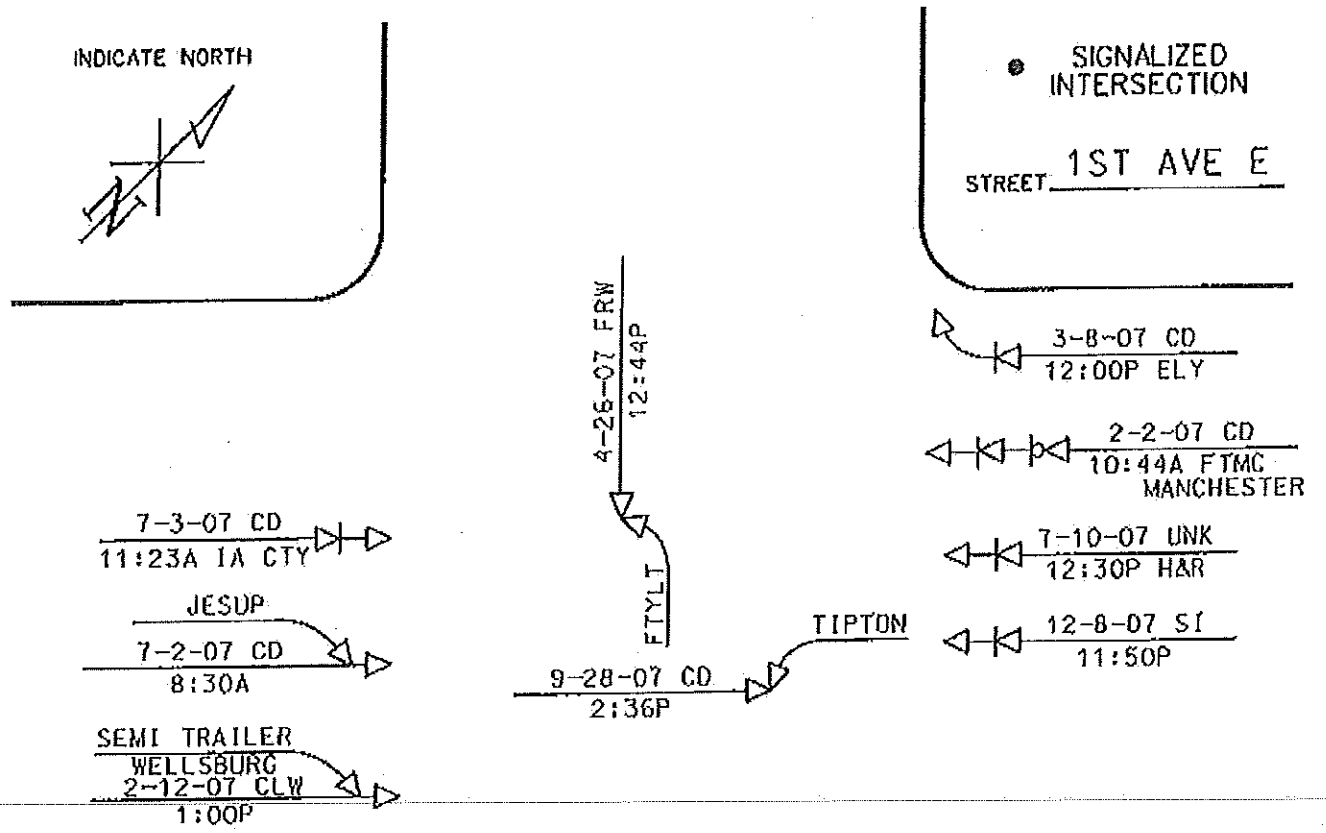
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2007



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(NO) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

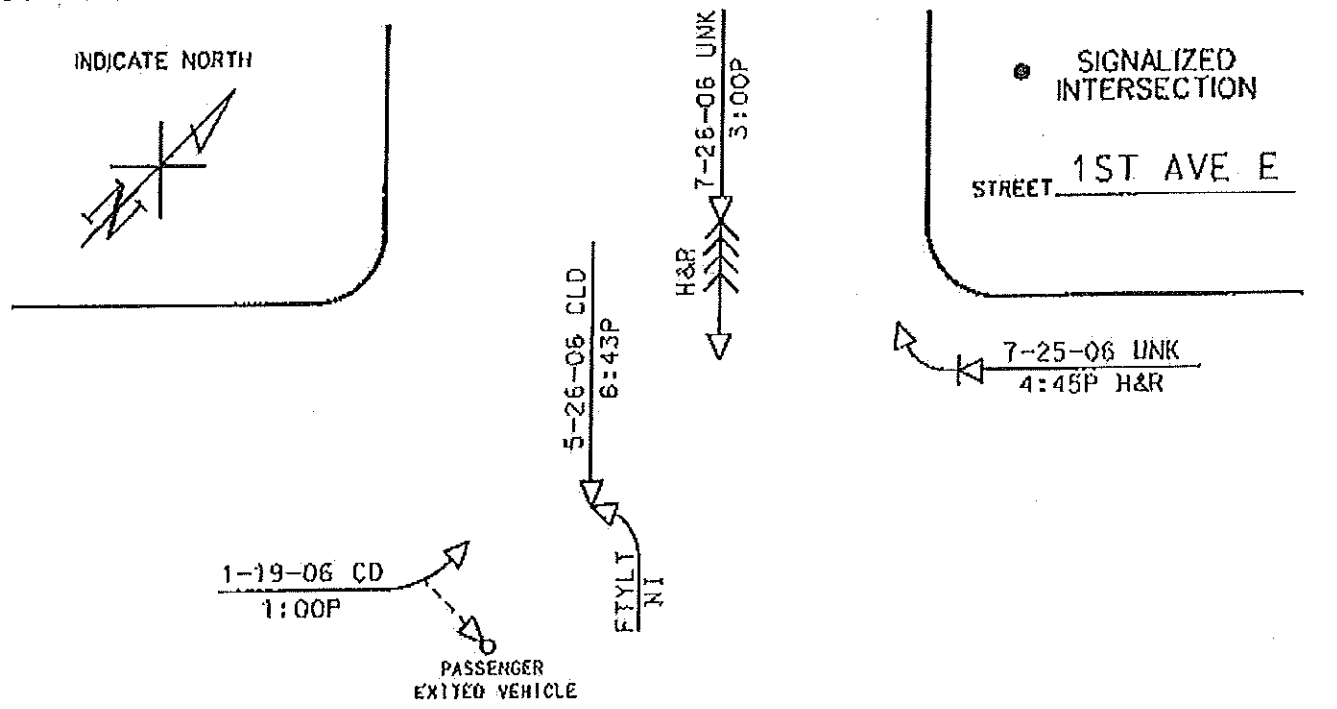
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

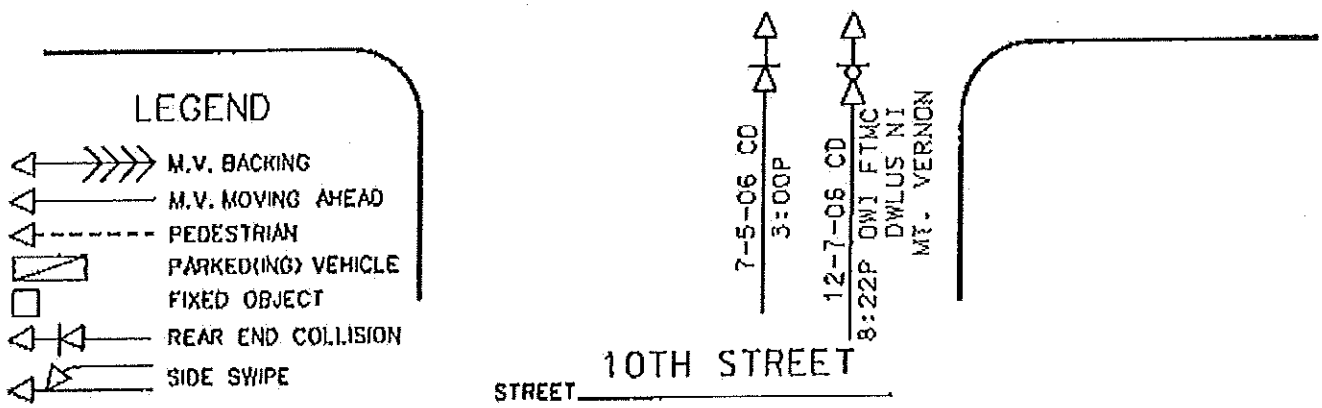
Appendix A

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVENUE EAST AND 10TH STREET PERIOD 2006





APPENDIX B

CEDAR RAPIDS TRAFFIC ENGINEERING
INTERSECTION CRASH DIAGRAMS

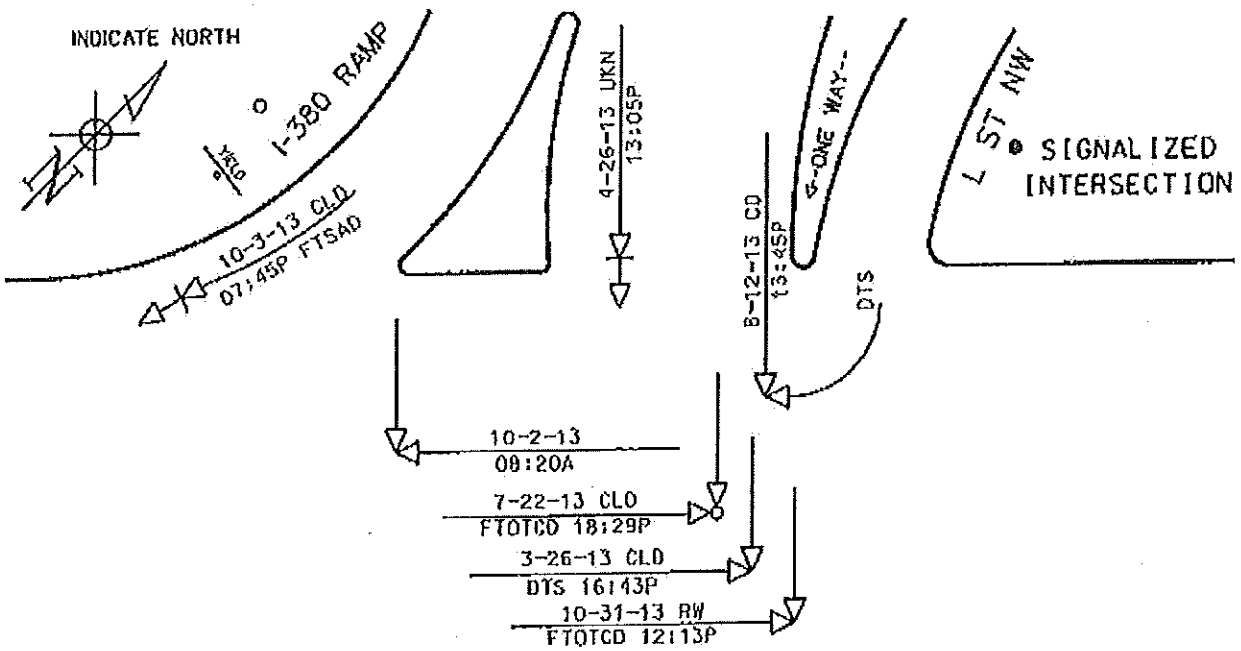
1ST AVENUE AND L STREET WEST

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380 SB OFF RAMP PERIOD 2013



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

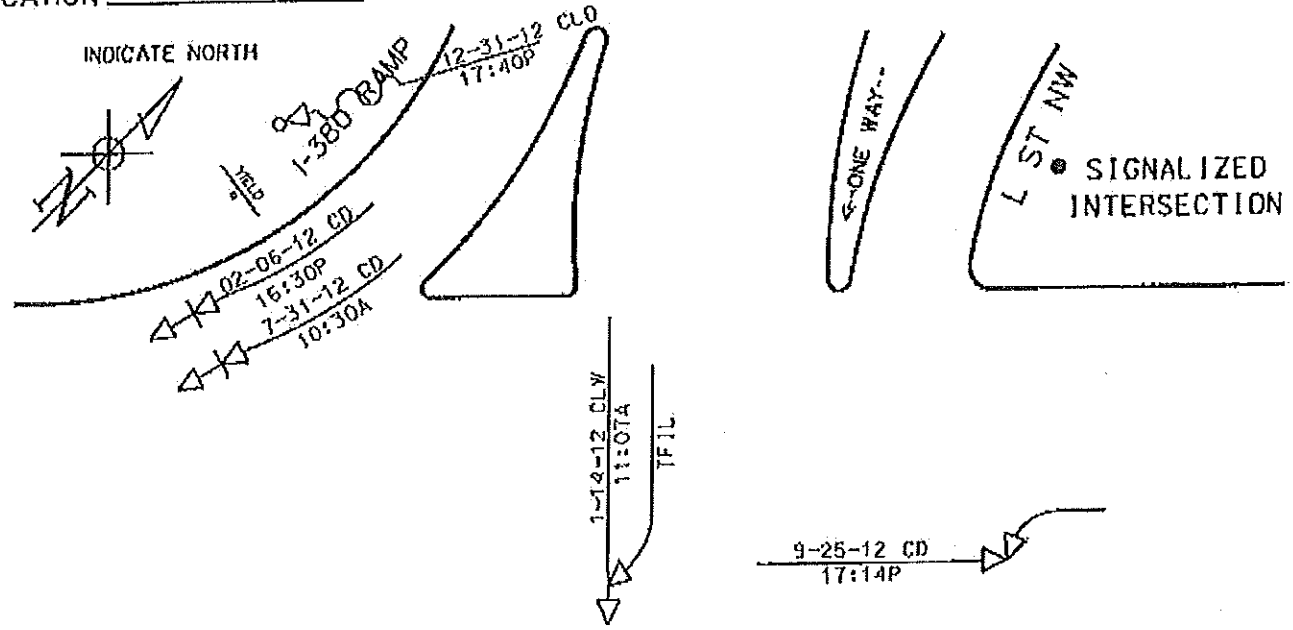
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380SB OFF RAMP PERIOD 2012



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

STREET L ST SW

STREET 1ST AVE. WEST

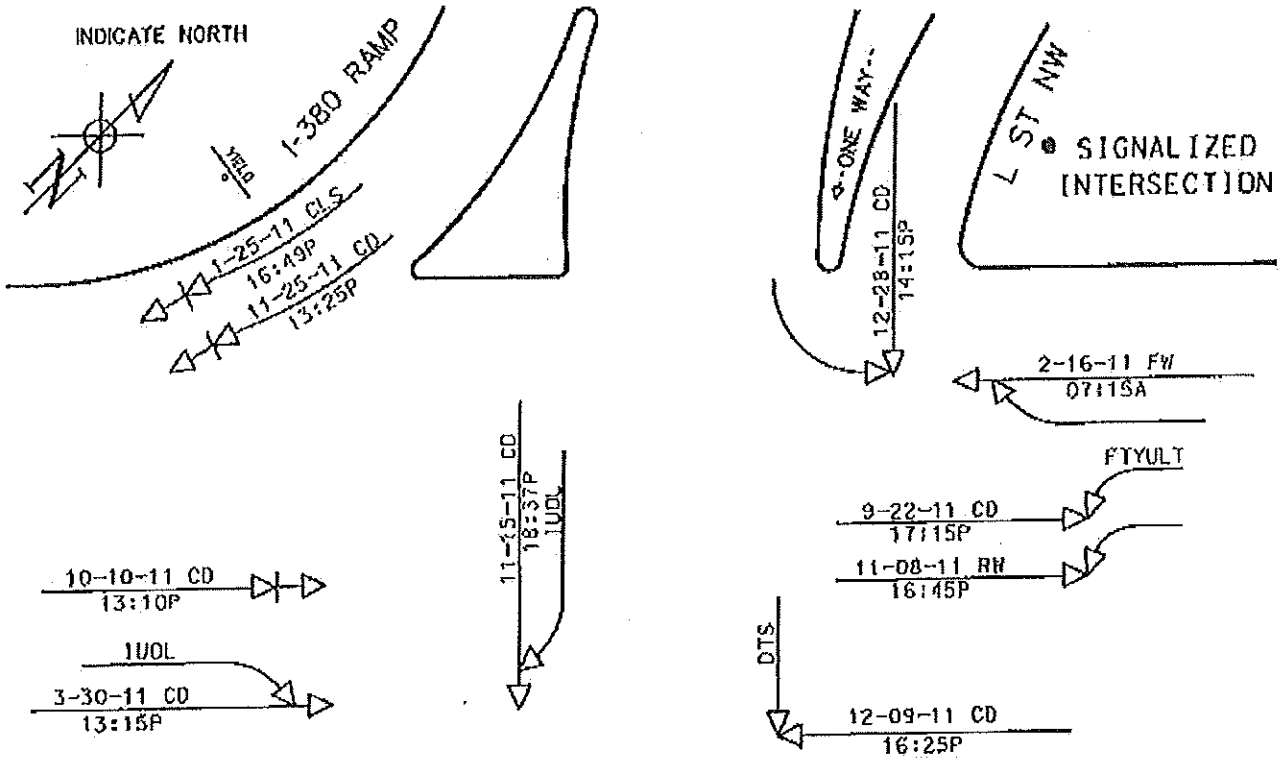
ONE WAY

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380SB OFF RAMP PERIOD 2011



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

STREET L ST SW

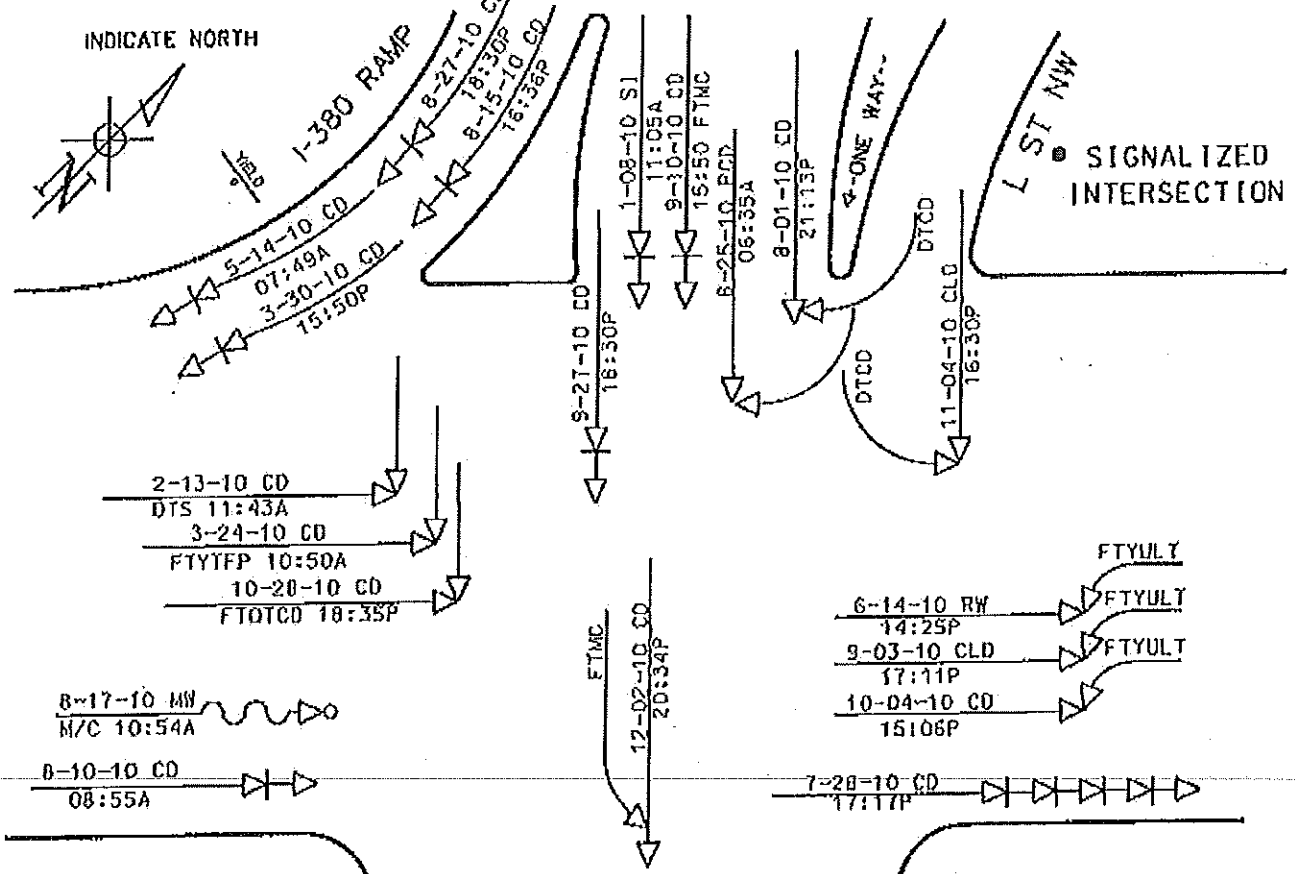
ONE WAY
STREET 1ST AVE. WEST

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380 SB OFF RAMP PERIOD 2010



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

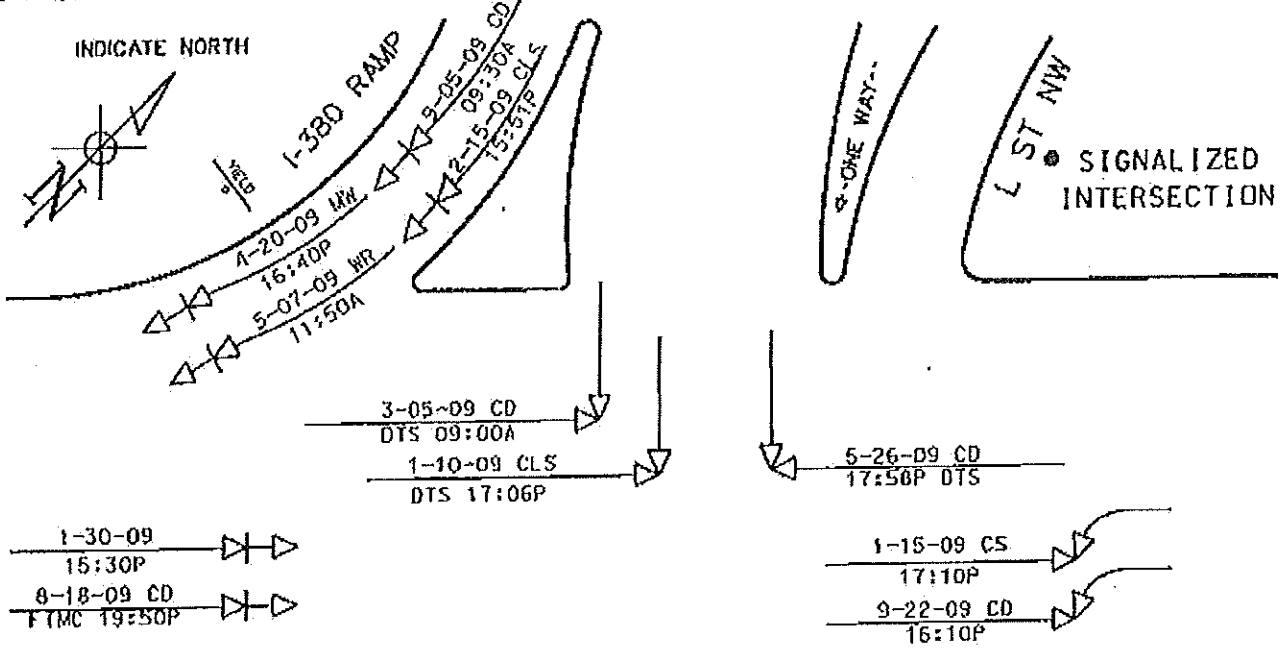
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380 SB OFF RAMP PERIOD 2009



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

STREET L ST SW

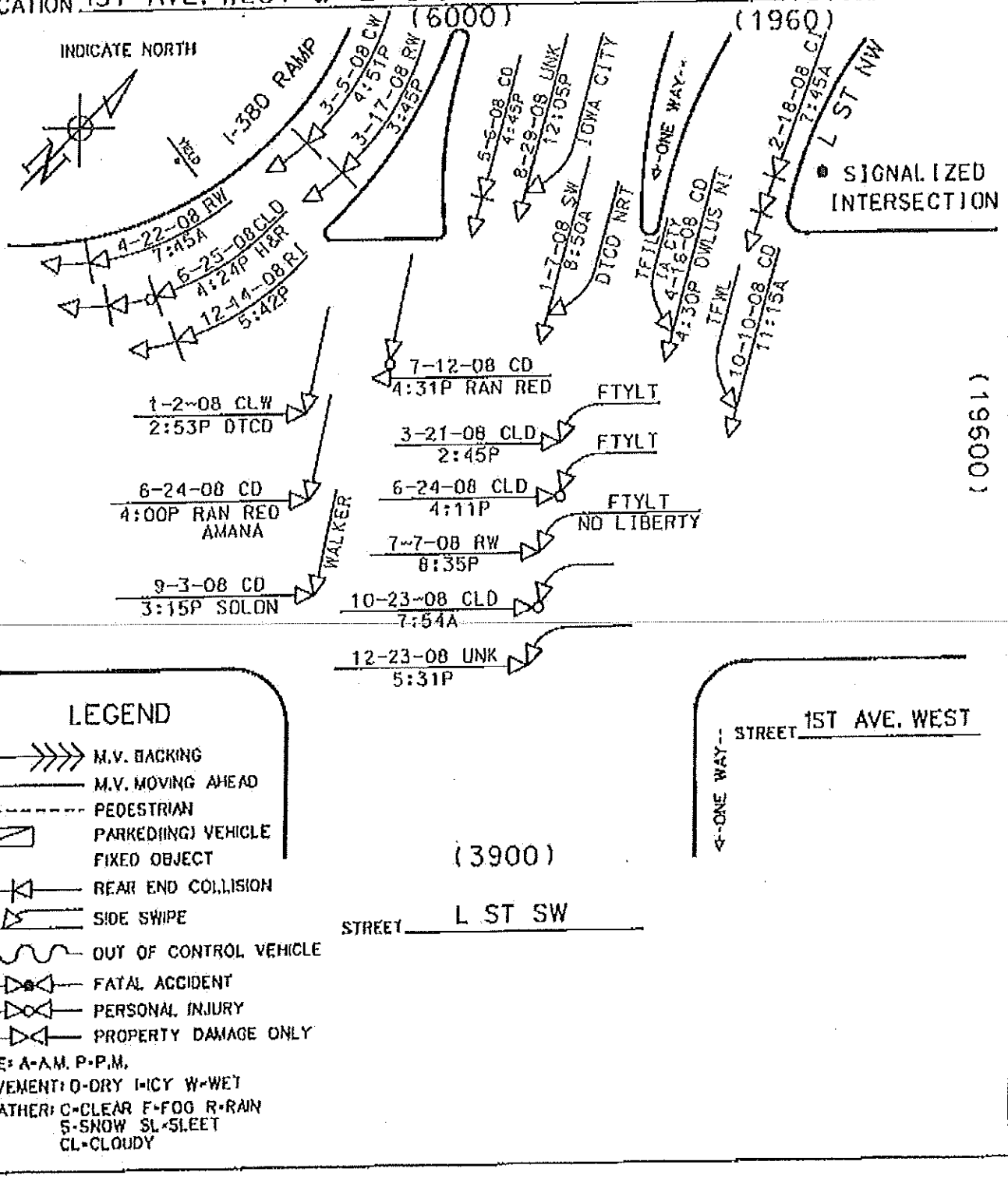
ONE WAY STREET 1ST AVE. WEST

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380 SB OFF RAMP PERIOD 2008

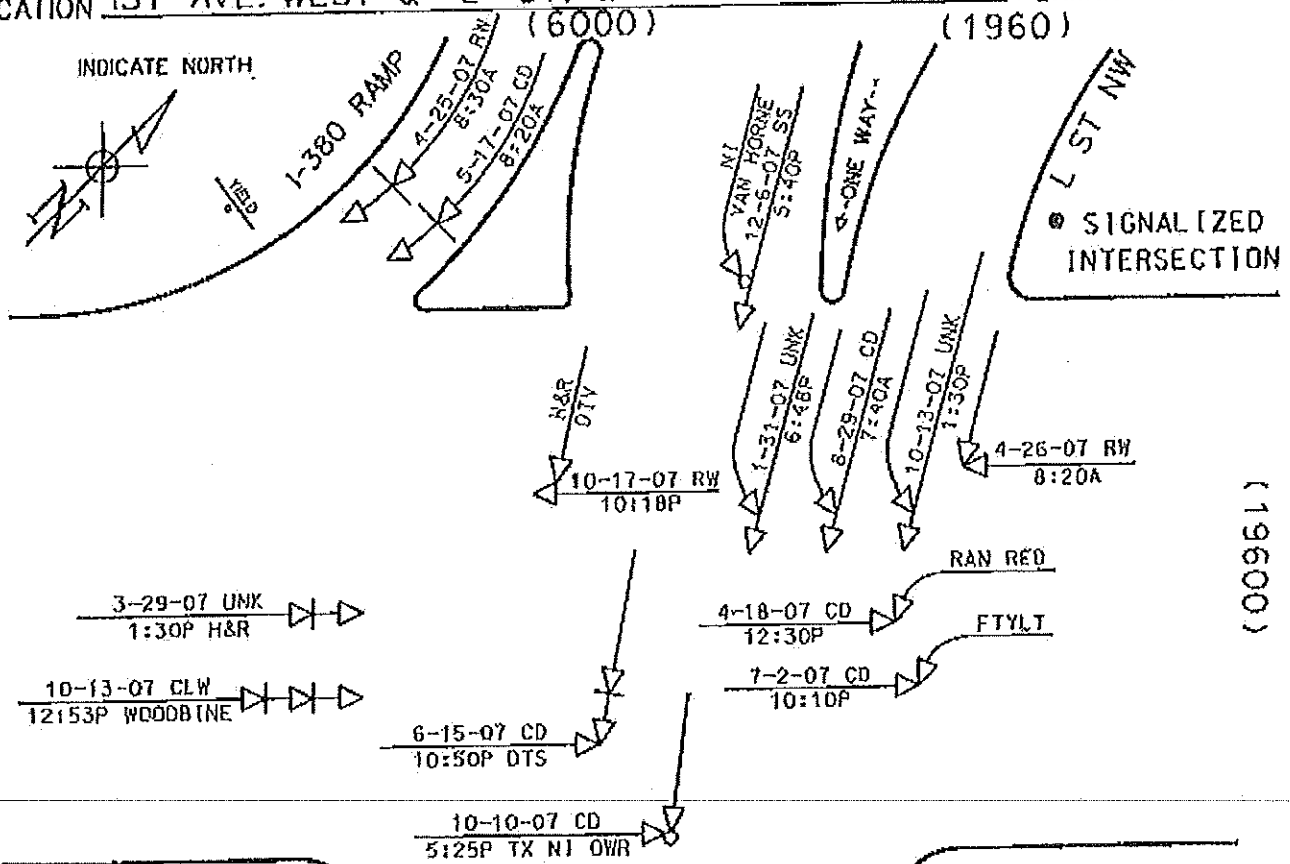


Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380 SB OFF RAMP PERIOD 2007



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

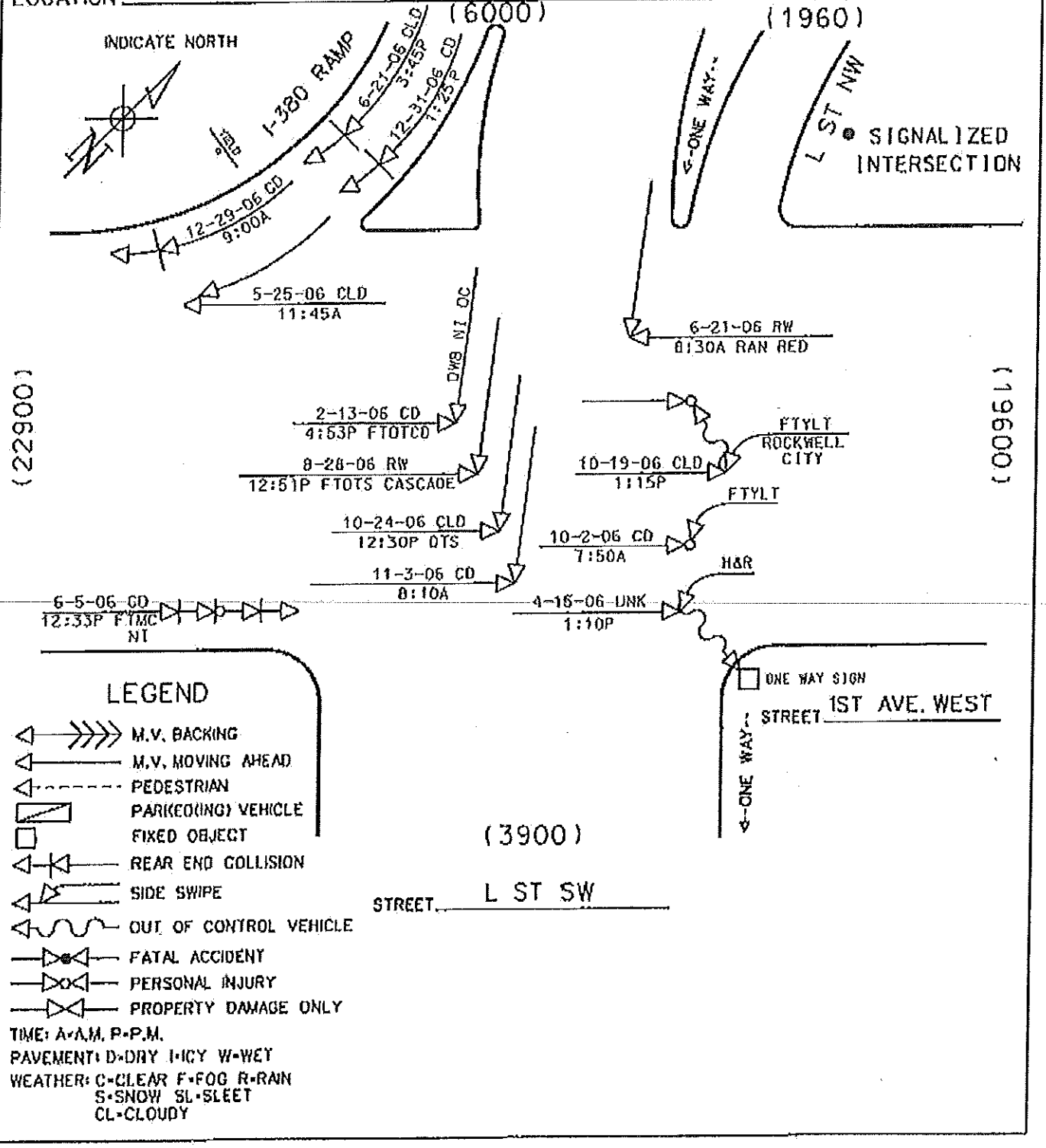
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix B

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 1ST AVE. WEST & "L" ST. & I-380SB OFF RAMP PERIOD 2006



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARK(ED)(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

APPENDIX C

CEDAR RAPIDS TRAFFIC ENGINEERING

INTERSECTION CRASH DIAGRAMS

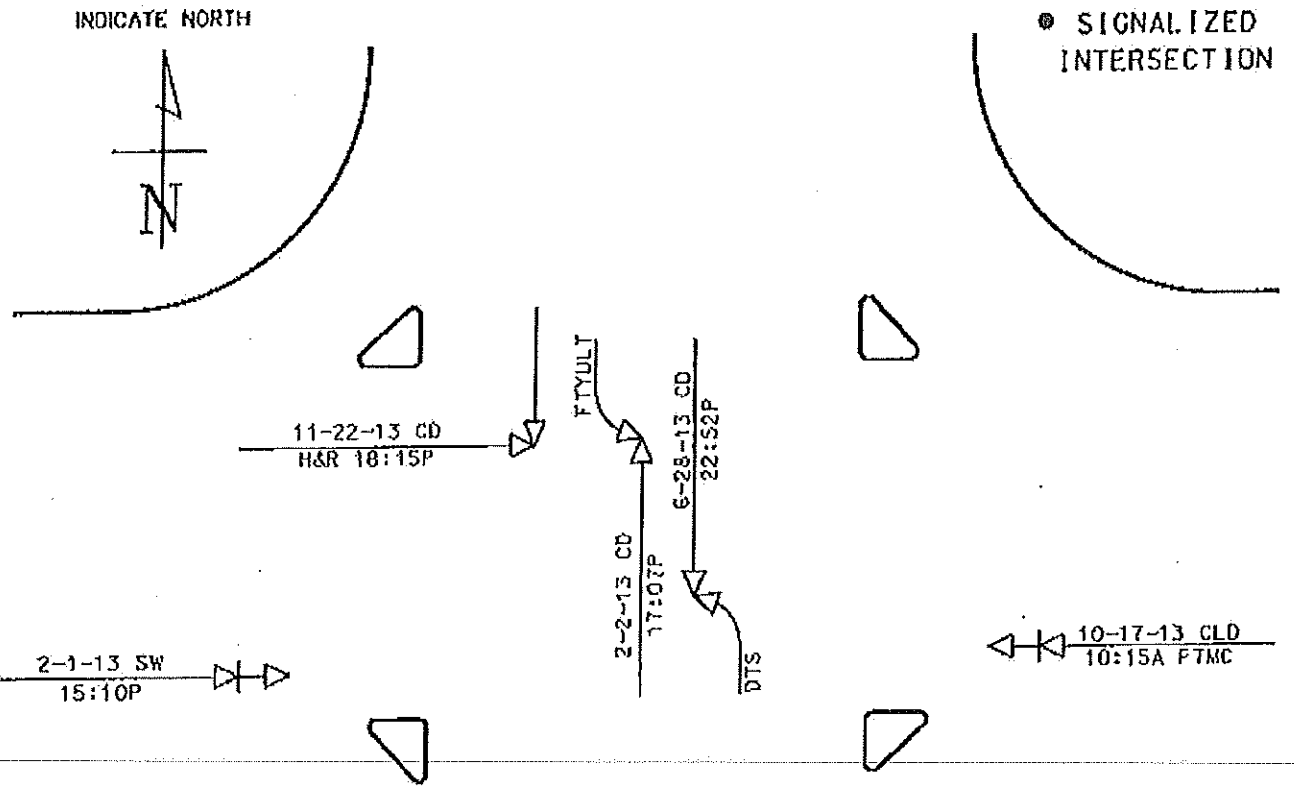
WILLIAMS BOULEVARD AND 16th AVENUE SW

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2013



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

STREET 16TH AVE.

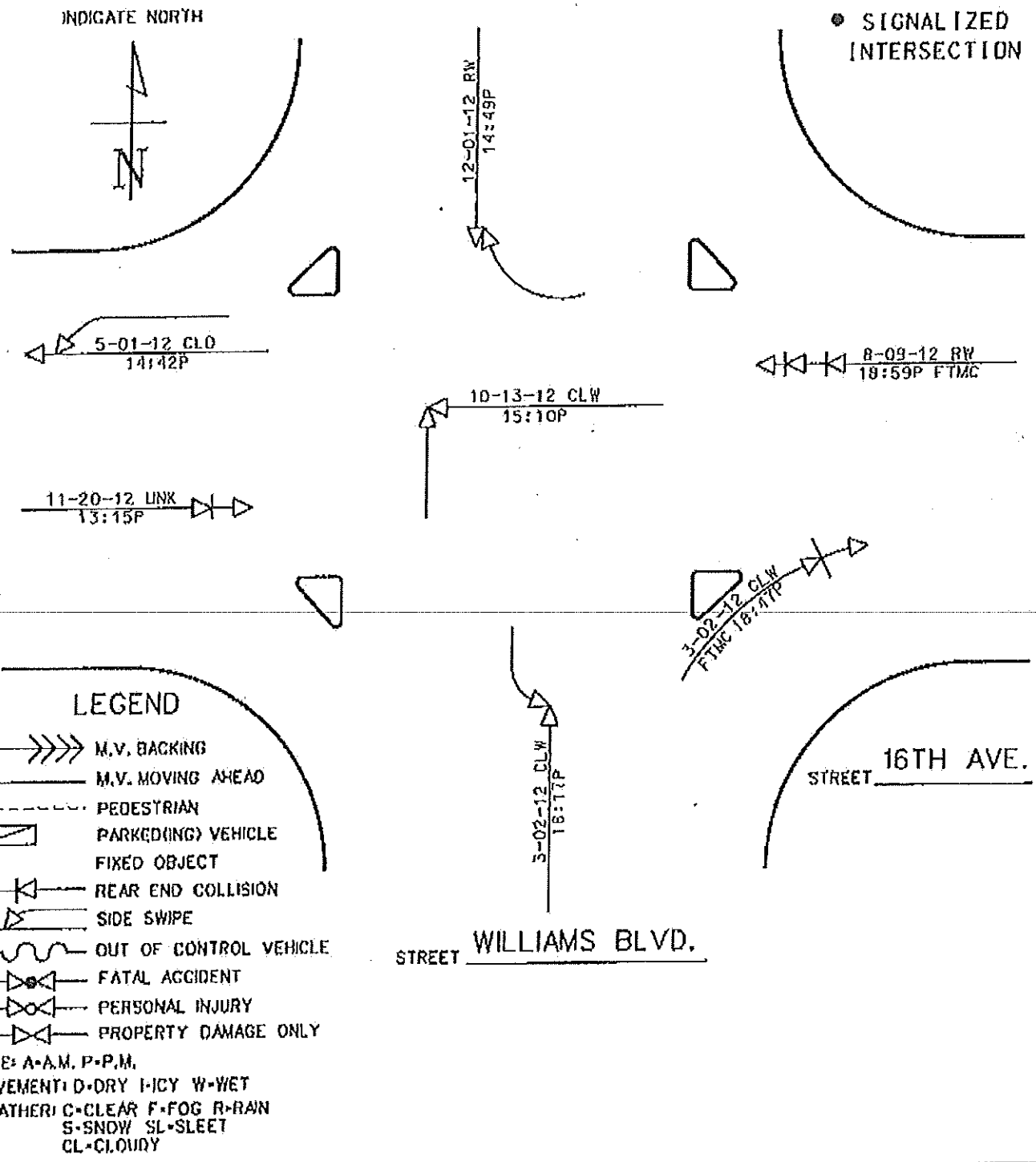
STREET WILLIAMS BLVD.

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2012

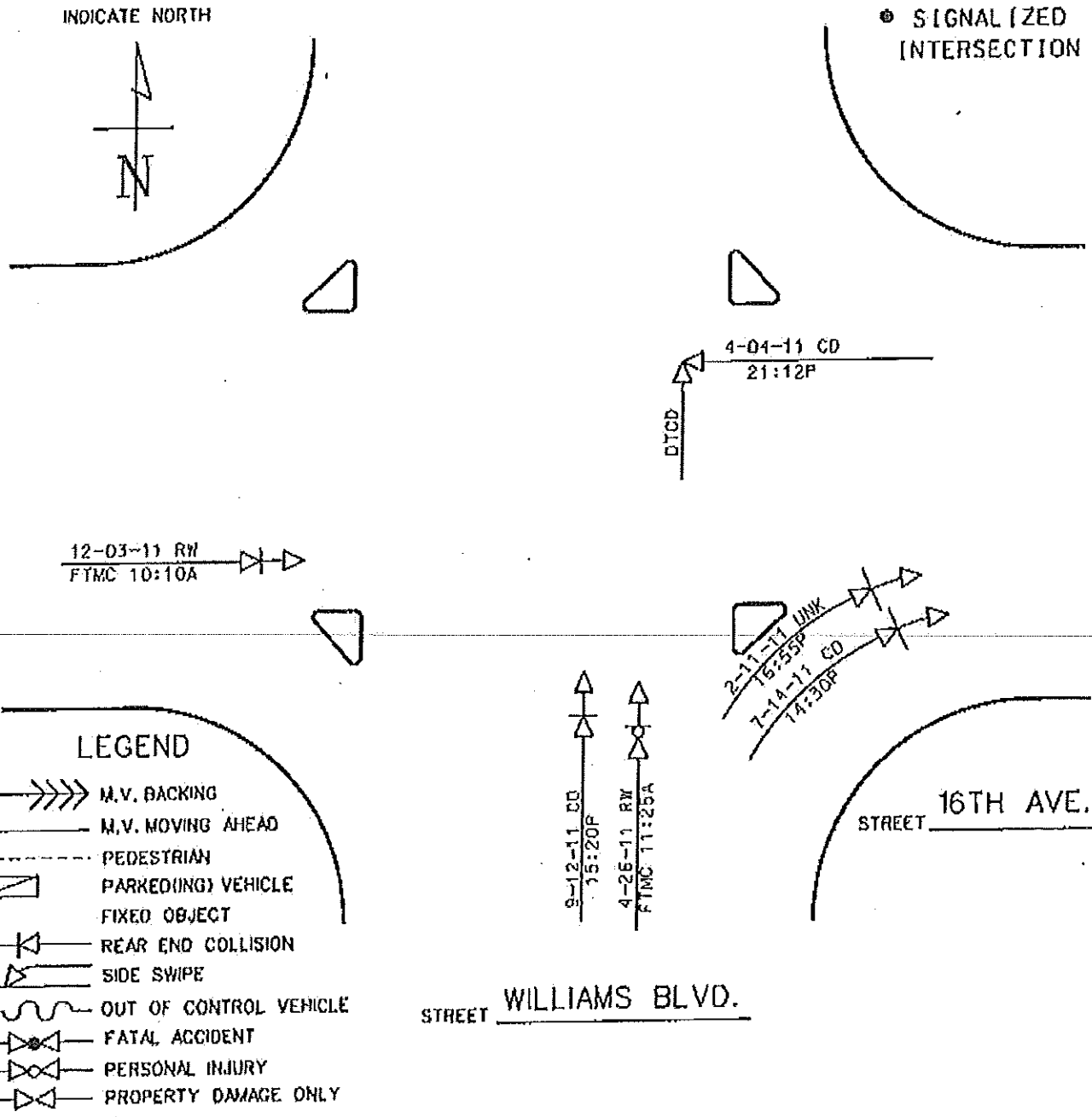


Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2011



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

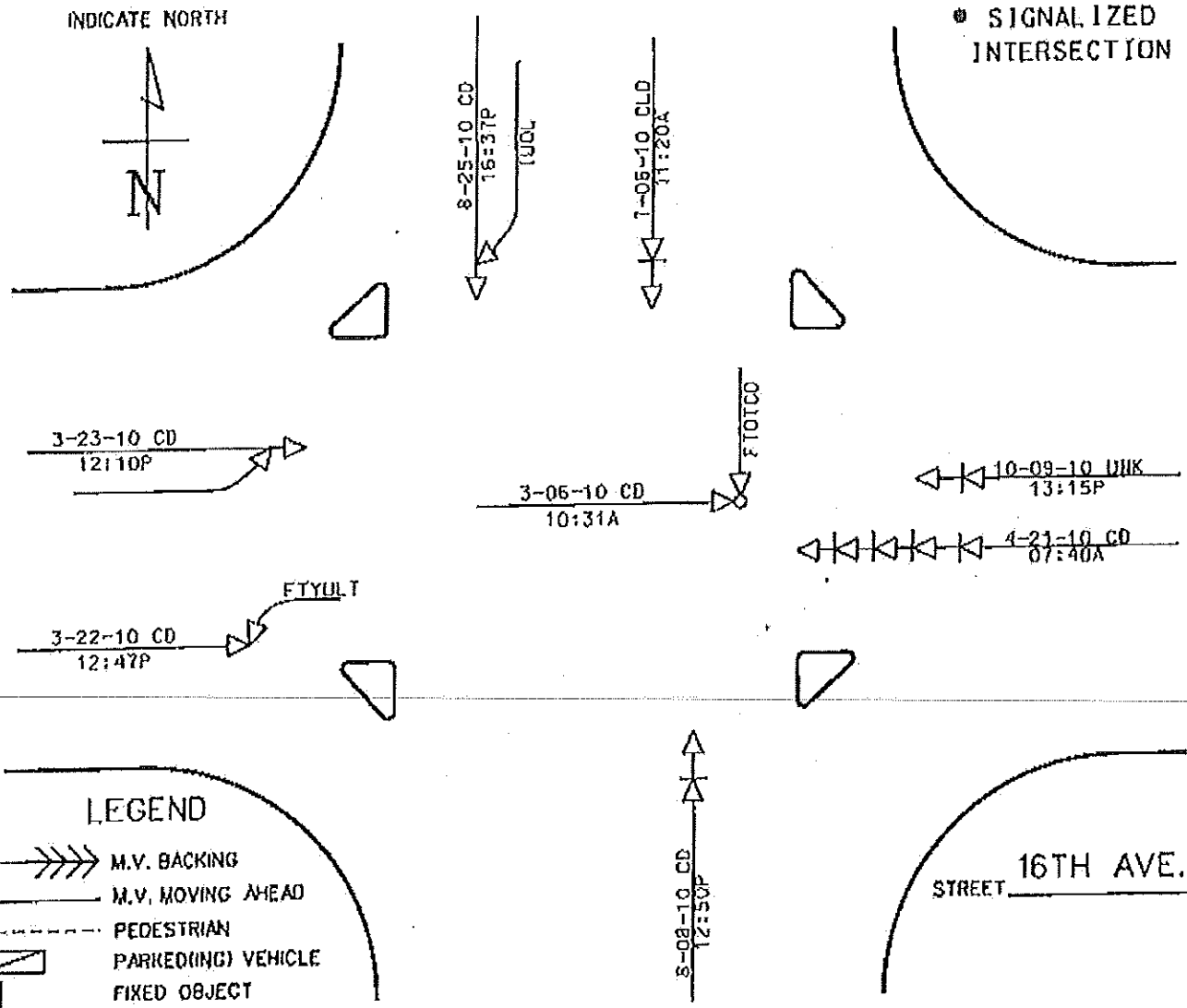
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2010



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

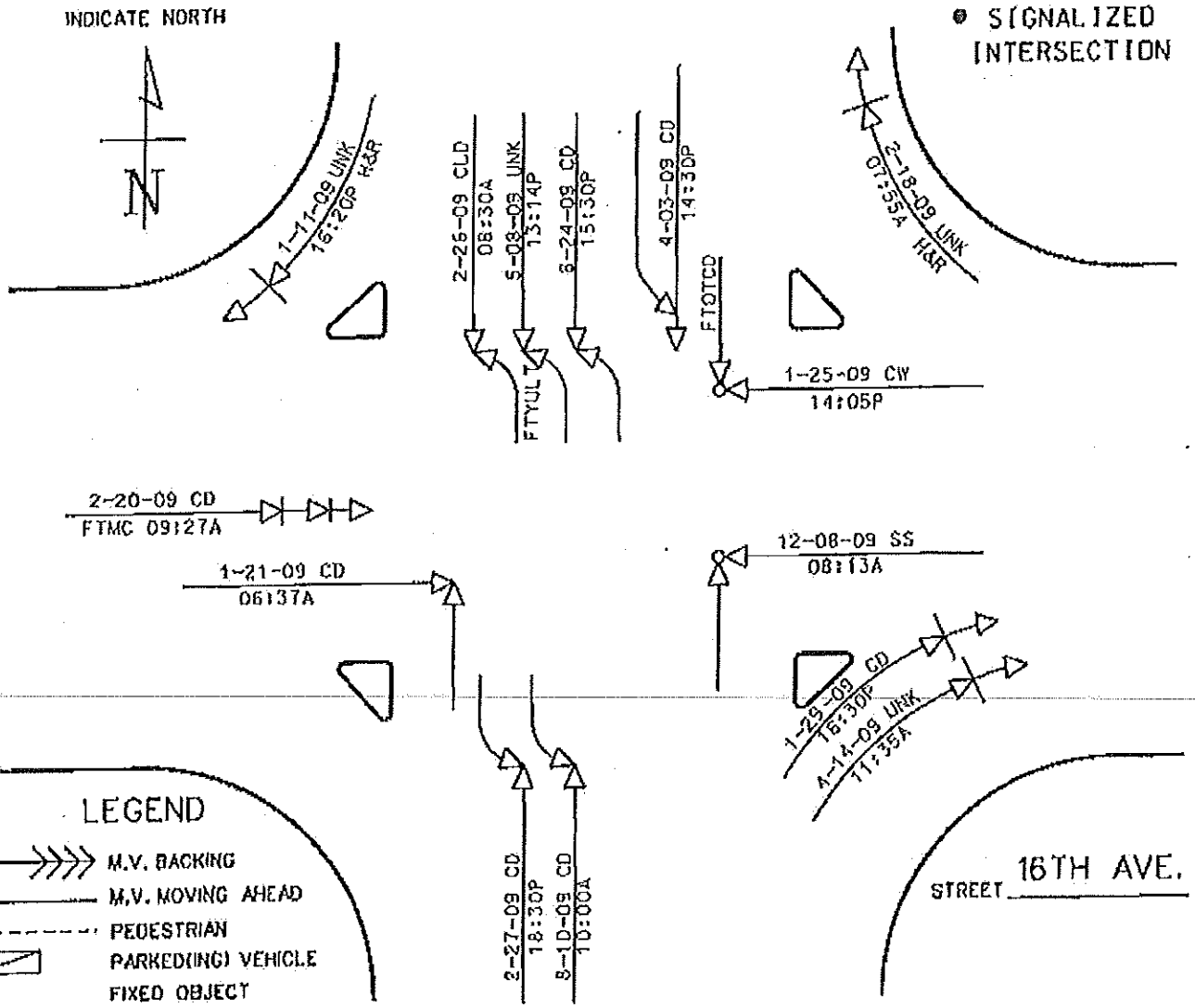
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2009



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

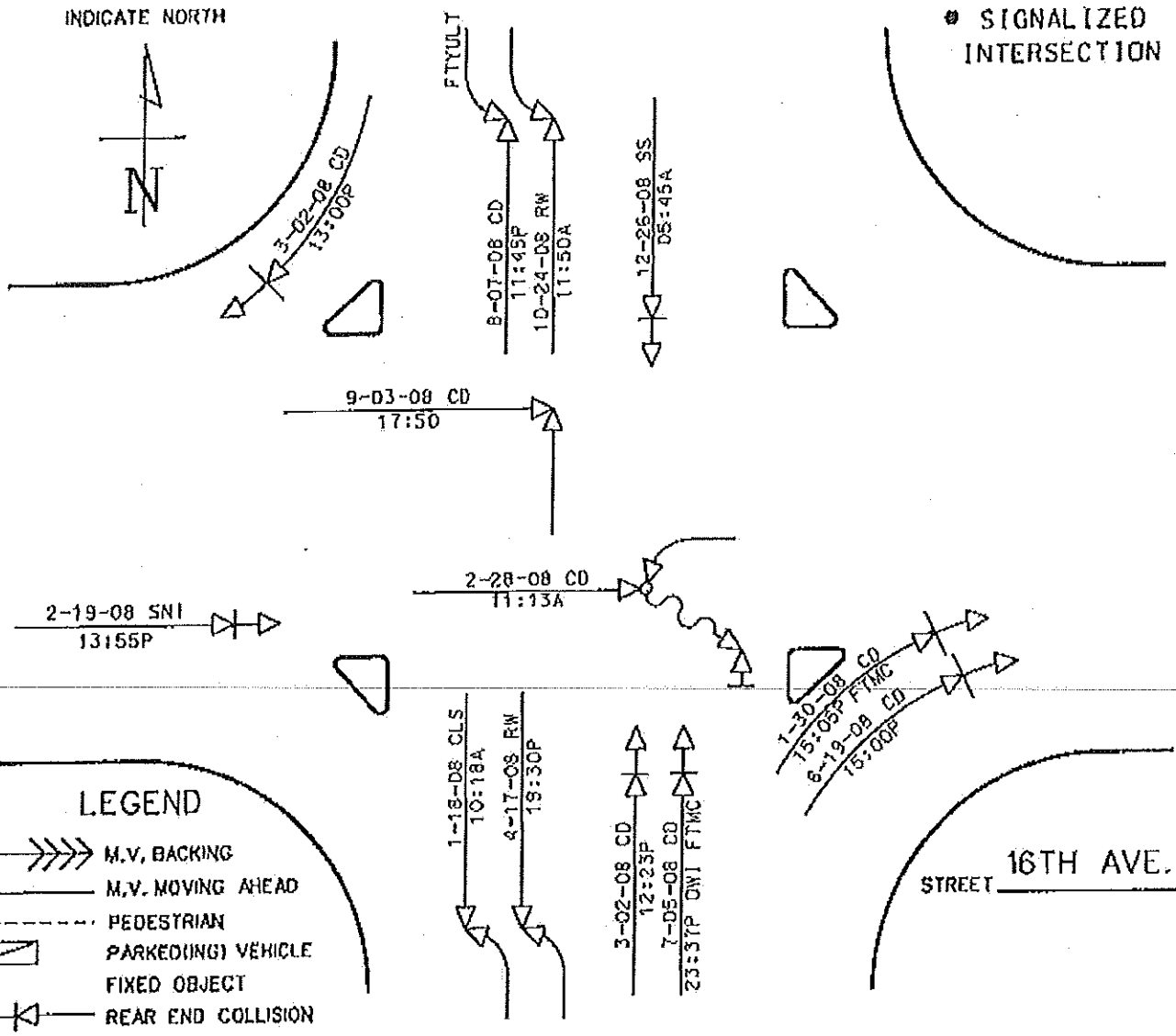
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2008



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

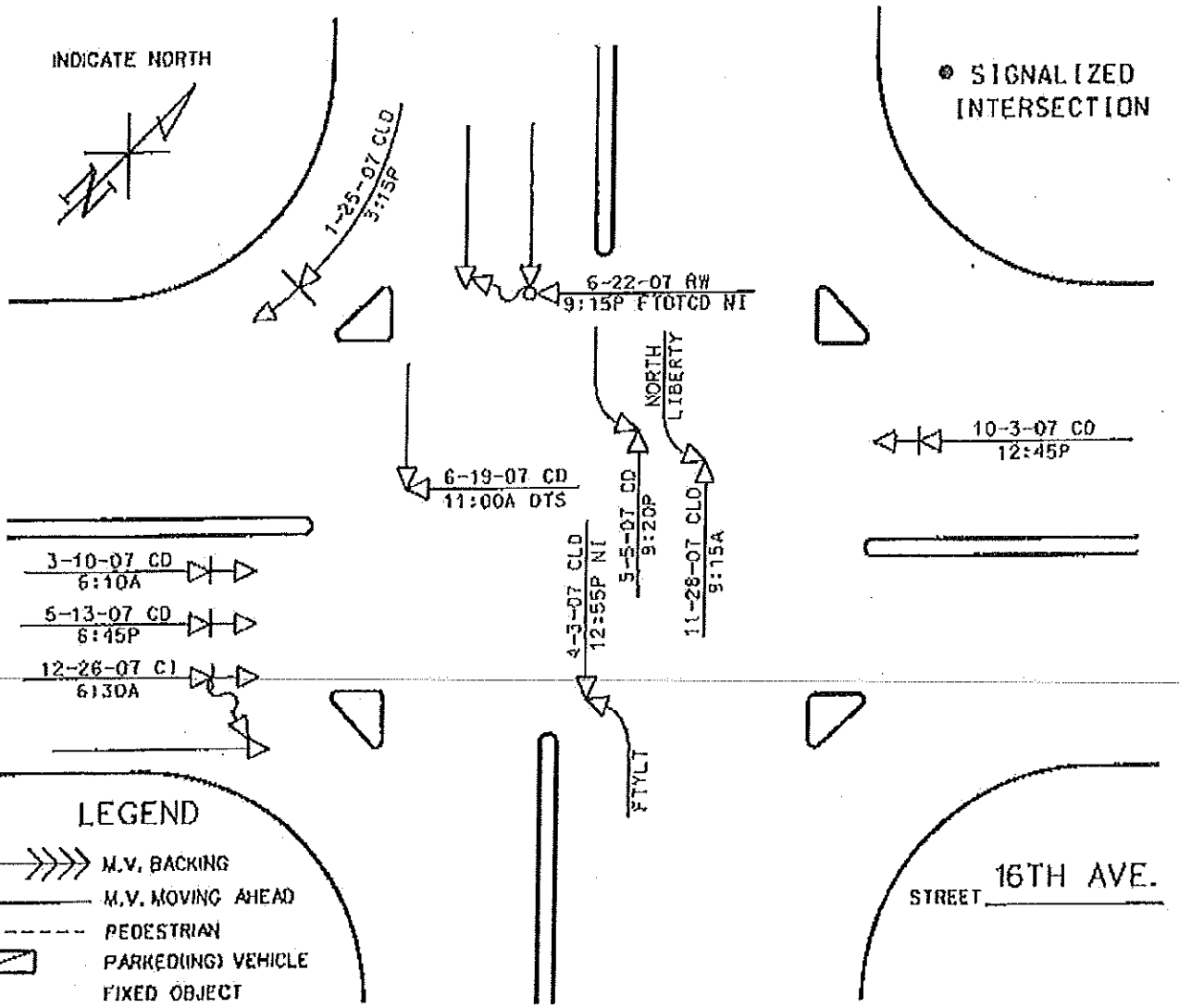
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2007



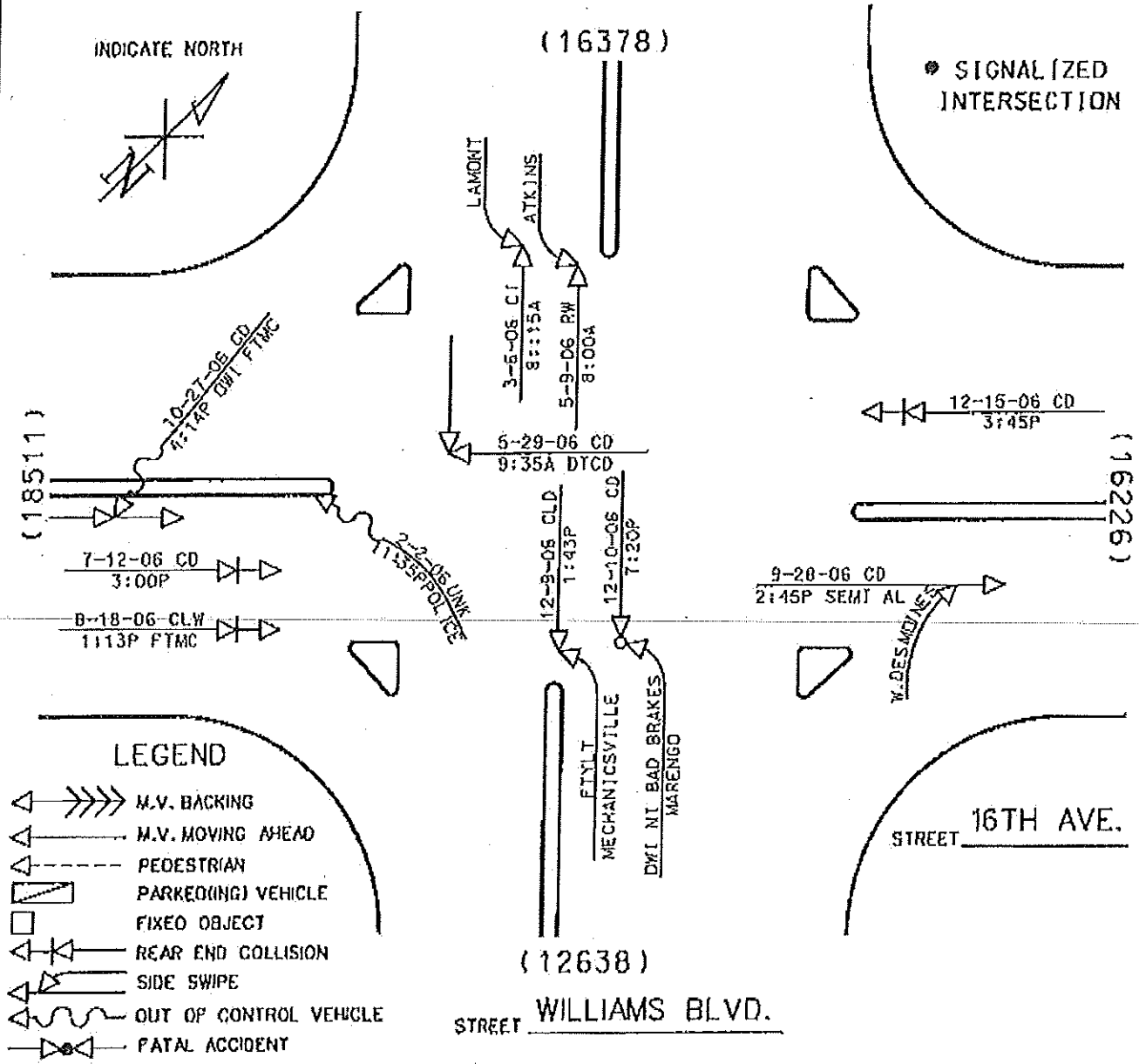
TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

Appendix C

CITY OF CEDAR RAPIDS, IOWA
TRAFFIC ENGINEERING DEPARTMENT

COLLISION DIAGRAM

LOCATION 16TH AVE. & WILLIAMS BLVD. S.W. PERIOD 2006



LEGEND

- M.V. BACKING
- M.V. MOVING AHEAD
- PEDESTRIAN
- PARKED(ING) VEHICLE
- FIXED OBJECT
- REAR END COLLISION
- SIDE SWIPE
- OUT OF CONTROL VEHICLE
- FATAL ACCIDENT
- PERSONAL INJURY
- PROPERTY DAMAGE ONLY

TIME: A-A.M. P-P.M.
PAVEMENT: D-DRY I-ICY W-WET
WEATHER: C-CLEAR F-FOG R-RAIN
S-SNOW SL-SLEET
CL-CLOUDY

APPENDIX D

I-380 CEDAR RAPIDS

CORRIDOR SAFETY INITIATIVES

I-380 Cedar Rapids Corridor Safety Initiatives

As of: 10/20/11

	Recommendation	Status / Schedule	Lead Agency / Office/ Individual	Remarks
	Short Term Options			
1	Establish Multi-Disciplinary Corridor Safety Team ITEM TRACKING COMPLETE tho efforts will be ongoing	Kick-Off meeting held January 25th, 2010.	City of Cedar Rapids - Scott Hamlin	
2	Replace warning signs - entire corridor ITEM COMPLETE	Signs installed	Iowa DOT - Steve Wilson	Will replace all in corridor with new bright yellow signs. DOT Maintenance to install. See also item 21.
3	Replace guide and regulatory signs - entire corridor	All signs have been either replaced or under contract to be replaced.	Iowa DOT - Steve Wilson	Will be done by contract(s). Reviewed destinations impacted by flood - Czech museum & Convention & Visitors Bureau to remain in place. Science Station dest. to be covered/removed
4	Replace delineators - entire corridor ITEM COMPLETE	DOT Maintenance completed	Iowa DOT - Maintenance - Randy Roethlisberger	Some (buttons) are missing, some misaligned, some just dirty. DOT Maintenance will install. Relatively small quantities - will come out of DOT Maintenance operations budget
5	Add 1/10 mile markers	Need to review and make decision if to go forward. DOT leaning toward not implementing. At 4/26/10 MDST general concensus was 1/2mile spacing but were going to get feedback from Waterloo police	MDST	DOT district office views as lower priority & may choose not to implement, but open to input from local enforcement & emergency responders.
6	Install guidance markers on bridge rails ITEM COMPLETE	Markers installed and complete.	Iowa DOT - Steve Wilson	DOT district office views as lower priority. DOT Maintenance to install. 890 yellow reflectors, 380 white. Future consideration: Should white reflectors have some type of black backing for better visibility?
7	Replace all burned-out bulbs in roadway lighting ITEM TRACKING COMPLETE tho some work is ongoing	Replaced bulbs. Completed flood damage repairs. Meter installation complete.	Iowa DOT - Maintenance - Randy Roethlisberger	Bulb replacement complete, but ongoing. Luminaire repairs ongoing. Non-flood related repairs completed in house in lieu of including in items 8 & 9 work.
8	Install new lighting in unlighted areas north for CBD	Field review held Nov 10th 2009. Concept complete 1/27/11. Project is on DOT program monitor list, not in 12-16 program. On call consultant to start work on design	Iowa DOT - Traffic and Safety - Mike Jorgensen	Will be done by contract. No funding programmed yet. DOT project no. IMN-380-6(262)20--OE-57
9	Study need for additional lighting on SB I-380 south of H Ave NE ITEM NOT IMPLEMENTED		Iowa DOT - Traffic and Safety - Mike Jorgensen	Field review determined no apparent deficiencies for SB lighting south of H Ave - item will not be implements
10	Upgrade and replace all pavement markings along I-380 ITEM COMPLETE	TSF project for grooved in nighttime wet reflective tape on lane lines from "H" Ave to Diagonal completed. Other lanes repainted by DOT paint crew	Iowa DOT - Tom Storey	
11	Study traffic signal modifications at east terminus of Wilson Ave interchange ITEM NOT IMPLEMENTED	City concluded lead-lag phasing is not a contributor to higher percentage of traffic signal related crashes. Item dropped as not warranted.	City of Cedar Rapids - Traffic Engineering	Reduce possible driver confusion that may be caused by EB lagging left turn

I-380 Cedar Rapids Corridor Safety Initiatives

	Recommendation	Status / Schedule	Lead Agency / Office/ Individual	Remarks
12	Remove trees w/in ROW along NB 380 at 1st St NW off ramp ITEM COMPLETE	City and DOT concur removal of tree would not in itself be effective. Building is biggest issue blocking view. Refer to item 25 and I-380 study		Tree is on city property. City arborist thought fence may be more of an obstruction. High quality tree.
13	Review I-380 SB to 1st Ave WB off-ramp signing and pavement marking improvements	DOT/City met 4/27/08 to discuss responsibilities & concept. City still to put up lane use signs on mast arms - was waiting on completion of pole inspection, status? Other signs were installed by DOT Maintenance.	Iowa DOT - Steve Wilson	Replace turn restriction signs with larger, more visible devices. City also to address trees that block portions of view of signals. DOT repainted arrows. Interim improvements until longer term work is completed potentially with flood planning efforts
14	Place 'Watch for Stopped Traffic' warning signs along 1st Ave WB ramps ITEM NOT IMPLEMENTED	DOT/City met 4/27/08 to discuss responsibilities and concept. Decided not to implement	Iowa DOT - Steve Wilson	Along right side, prior to the termini. Other improvements (better signing, tree removal, etc) should suffice for interim.
15a	DOT/City consensus on I-380 SB to US 30 lane markings ITEM COMPLETE	City/DOT agreed to install interim pavement markings w/ resurfacing - work complete. Additional gore signing already in place.	Iowa DOT - Tom Storey / Steve Wilson	Completed with HMA resurfacing project Spring 2009
15b	I380 SB to US 30 lane markings	Add consideration of conversion to single lane exit to I-380 study.	Iowa DOT - Cathy Cutler	Will need to review traffic capacity.
16	Development of and training for Changeable Message Sign (CMS) operations	Training with City (PD only), DOT District Staff & Operations Center staff held 6/16/09. More training probably needed - make MDST agenda item	Iowa DOT - SEOC	Develop acceptable messaging and operation of advisory notices for drivers using existing CMS devices. Dispatchers & Command post now called DOT Ops Center directly less of a need - John Hass & Cory will coordinate.
17	Install median barrier (high-tension cable rail) in narrow median areas	Project let in August 2010, work underway	Iowa DOT - Tom Storey / Troy Jerman	Intent is to proceed with the project without median openings (see item 37).
18	Review all unshielded bridge piers and install high-tension cable where warranted	Reviewed as part of 6/10 field exam (item 17), included in that project	Iowa DOT - Tom Storey / Troy Jerman	Specific areas of concern include the outside of horizontal curves and high crash locations
19	Develop media news release describing safety audit recommendations and the proposed improvements to be pursued ITEM COMPLETE	CR Gazette has already had an article and there have been a couple of radio interviews ⇨ no specific new release required. Item complete.	Iowa DOT - Cathy Cutler	
20	Consider installing additional Automatic Traffic Recorder (ATR) in curve area ITEM NOT IMPLEMENTED	Can install additional. Per City, if speed enforcement cameras are approved and installed, this item can be deferred	Iowa DOT - Steve Wilson & Trans Data office	To monitor traffic volumes and speed. NOTE - RWIS (weather) cameras are thru public web site.
21	Install additional curve warning signing either side of s-curve ITEM COMPLETE	Installation complete. Steve will provide notification to city as part of Traffic Safety Device permit that DOT will be responsible for maintenance	Iowa DOT - Steve Wilson	Flashing beacon, replacing existing sign and beacons (w/ solar).

I-380 Cedar Rapids Corridor Safety Initiatives

	Recommendation	Status / Schedule	Lead Agency / Office/ Individual	Remarks
22	Review safe operating speed through s-curve area and appropriateness of posted speed ITEM COMPLETE	Completed detailing ball bank testing - results did not indicate warrant for reduced speed limit.	Iowa DOT - Steve Wilson	Design speed is 60 mph. Smooth tire friction testing will be separate effort.
23	Review and implement improvements at 1st St NW termini for sign and marking visibility ITEM COMPLETE	Some signs have already been upgraded. Had intended to include lamp changes as part of lighting project (item 8) and concept, but was not discussed. DOT maintenance completed work.	Iowa DOT	Includes relocating or shielding roadway lamps and replacing guide signs. Existing markings were worn. DOT Maintenance to try flat black paint on lamp adjacent to signal head to remove glare.
24	Enhance pavement markings in the larger gore areas	Not sure if it has been a problem and may not implement - will monitor for now.	Iowa DOT - Steve Wilson	Especially interchanges north of CBD. Consider chevron markings or special surface treatments. Contrast tape? Not part of TSF S application.
	Longer Term, Higher Cost Options			
25	Study acquisition of and removal of Linn County Sheriff building along I-380 just south of 1st St ramp	DOT not actively pursuing		
26	Study potential installation of ice detection system on S in 1 bridge ITEM NOT IMPLEMENTED	Reviewed as part of I-380 River Crossing ITS study, determined not cost effective (typically more cost effective in isolated rural areas) - decided not to pursue. Results of I-74 pilot project? Pavement & subsurface temps/conditions info available thru RWIS site at http://weatherview.iowadot.gov/. Camera shots also available at this public web site	Iowa DOT - Roger Walton	Review effectiveness of pilot installation on I-74 bridge. Was not installed in time to evaluate winter 2008/2009. I74 system is passive system (does not activate brine system). Also does not send alert messages - provides real time pavement condition data.
27	Additional CMS devices on each side of s-curve	Reviewed as part of I-380 River Crossing ITS study. Roadside DMS's recommended. Schedule?	Iowa DOT - Roger Walton	Use to advise drivers of pavement surface conditions, crashes, delays, etc. Considering as lower priority since "S" curve is already pretty well "bracketed" by existing DMS - considering side mount DMS near approaches. See also item 30
28	Study 1st Ave west termini for long-term improvements	DOT considering on hold while City completes flood recovery master plan	Iowa DOT - Cathy Cutler	Potential connector closings, geometric changes. Arrow signals already in place
29	Study implementation of automated enforcement - speed and traffic signal	Cameras in place. Evaluation of effectiveness to be done - timeframe?	City of Cedar Rapids - Traffic Engineering	Mobile speed camera also in use. Maybe eventual "point to point" speed enforcement on I-380.
30	Installation of additional cameras at key locations to monitor I-380 traffic conditions and improve response times	Part of ITS efforts (item 27)	Iowa DOT - Roger Walton	Currently intend to start an effort to evaluate the ITS systems sometime late in 2010 (funding 2011 at earliest).

I-380 Cedar Rapids Corridor Safety Initiatives

	Recommendation	Status / Schedule	Lead Agency / Office/ Individual	Remarks
31	If low friction areas are determined, implement corrective actions where warranted	Smooth tire friction testing complete - interpretation of results difficult. Let project for friction course test sections - Spring 2012 construction	Iowa DOT - Ken Yanna	Especially in s-curve areas. Possible "fixes" include diamond grinding and placement of high-friction treatment.
32	Replace cantilever guide sign for SB I-380 (for U.S. 30 interchange) near 33rd Ave SW interchange with full truss	Confirm concept and obtain funding. Include review as part of I-380 study.	Iowa DOT - Ken Yanna	Requires some study first. Intent is to provide guide signs for each lane of travel
33	Retro-fit existing bridge rail with concrete barrier rail on 5 in 1 bridge and SB to EB ramp bridge at US 30 interchange	To be let with HMA resurfacing project. SB in FY 12, Scheduled for May 12 letting; NB in FY 13	Iowa DOT - Ken Yanna	In DOT scheduling system as Project No. IMN-380-6(244)13--0E-57. Split to match up with two years of HMA resurfacing?
34	Construct IA 100 Extension	Dependant of funding availability. 28E Mitigation agreement approved. Design underway through DOT contract. Mitigation ROW in 2012/2013		
	Misc notes and issues mentioned in report, but not covered by a specific recommendation			
35	IA 100 interchange	Review as part of I-380 interchange study.		
36	speed limit reductions suggested by police chief ITEM NOT IMPLEMENTED	ISOT not actively pursuing		
37	CR police suggestions to add median crossovers to help with speed enforcement ITEM NOT IMPLEMENTED	May be in conflict w/ desire to install median barriers. Reviewed during barrier field exam (item 17). Intend to install barriers without median openings	Iowa DOT - Tom Storey / Troy Jerman	Will need FHWA concurrence. Initial review indicated not adding crossovers. Considering removal of existing just north of US30. Discussed at April 26 2010 multi-disciplinary task force - enforcement reps present were OK with not having openings in high tension barrier
38	Some ramp termini had numerous crashes but almost all were PDO or low injury - I think my intent would not be to focus on those	Not addressing with this effort		
39	Many apparently signal related crashes at 1st Ave W, H or J Ave NE, Coldstream Ave NE and Glass Rd NE, Blairs Ferry Road	Not addressing with this effort		
40	Recognition & compliance w/ traffic signal by WB traffic on Blairs Ferry Rd just east of I-380 is problematic - numerous rear end crashes	Not addressing with this effort		
41	Apply for State Traffic Safety Improvement Program funds ITEM COMPLETE	Obtained for friction course for 2011.	Iowa DOT - Tom Storey	Potential projects include signing, pavement marking, lighting and bridge rail replacement

10. September 8, 2014 electronic mail message from Sergeant Mike Wallerstedt to Steve Gent, with preceding messages from Steve Gent and Tim Crouch

Jacobi, Elizabeth D.

From: Wallerstedt, Michael W.
Sent: Monday, September 08, 2014 2:09 PM
To: Gent, Steve [DOT]
Cc: Jerman, Wayne M.
Subject: RE: Cedar Rapids 2013 ATE Report

Dear Mr. Gent:

In response to the two requests in your August 22 e-mail message below, the City of Cedar Rapids Police Department offers the following information:

Paragraph 3 – The crash data is for (a) accidents in the northbound lanes from I-380 at Diagonal Dr. overpass to the I-380 at J Ave. NE overpass and (b) accidents in the southbound lanes from I-380 at J Ave. NE overpass to I-380 at 1st Ave West exit.

Paragraph 4 - The cameras located at I-380 northbound at Diagonal Dr. overpass are 859.9 feet beyond (or north of) the posted 55 mph speed limit signs. The cameras located at I-380 southbound at J Ave. NE overpass are 896.1 feet beyond (or south of) the posted 55 mph speed limit sign.

As you may be aware, some individuals (outside of DOT) claim your e-mail means that the cameras on I-380 are illegal, and that any notice of violation based on one of those cameras is invalid. As you have recognized, however, these cameras were installed pursuant to DOT permits issued in 2010. The application for the permits included extensive specifications for the operation of the cameras, and they have been continuously operated in accordance with those permitted specifications.

We recognize, and we appreciate, that your e-mail merely seeks information. We also note that throughout our contact with the DOT since as early as June 2012, neither your department nor ours has ever viewed DOT's ATE regulations as prohibiting the location or operation of the I-380 cameras in Cedar Rapids. If the DOT has changed its position on that matter, we have not been made aware of it. We also note that the rules themselves do not say they are retroactive, and we must therefore reserve our rights under applicable law should the agency take action based on the retroactive application of Rule 761-144.6.

We hope the information we've provided above will be helpful. If you require any further information, we will strive to cooperate.

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org

From: Gent, Steve [DOT] [mailto:Steve.Gent@dot.iowa.gov]
Sent: Friday, August 22, 2014 5:06 PM

To: Wallerstedt, Michael W.
Cc: Jerman, Wayne M.; Crouch, Tim [DOT]
Subject: Cedar Rapids 2013 ATE Report

Sergeant Mike Wallerstedt,

We have completed our initial review of your automated traffic enforcement report covering calendar year 2013. Based on that review we are requesting some additional information from you. Below is a list of the items we are requesting along with some comments about your report:

1. You provided a good summary of intersection crashes and violations at the monitored intersections. You did not provide crash data for 2010 and 2011. We suspect you did not provide this information because the cameras were activated in 2010 and 2011 and the "installed year" is often eliminated when looking at the performance of a safety enhancement. To facilitate future annual submissions, we are including a preferred example of how to display this information. This format is being shared with other affected cities. To simplify your future annual submissions, all crashes for each intersection may be provided instead of just crashes for the monitored approaches as suggested in the 761—144.7 of the Administrative Rules. Include at least two full years of before data for each location and please include all years including 2010 and 2011. No action is needed on this item at this time.
2. Similar to item 1. above, you provided a good summary of the crash and violation data for the fixed speed cameras on I-380. In future annual submissions please include at least two full years of before data and include all years including 2010 and 2011. Also, attached is an example of a preferred method of displaying this information. No action is needed on this item at this time.
3. Regarding the speed cameras on I-380, provide information on the exact limits of your evaluation of crashes. Your report only references I-380 "S" Curve Crash Data, not specific begin and end points for this evaluation.
4. It appears some of the I-380 speed cameras are within 1000 feet of a speed limit change. This is not allowed as per Administrative Rule 761—144.6 "Minimum requirements for automated traffic enforcement systems". Please document and provide these distances for each of the I-380 speed cameras.

Thank you for your time and attention in providing this information in accordance with the Automated Traffic Enforcement rules. Please provide this information within 30 days if possible.

Steve

Steve J. Gent
Director, Traffic and Safety
Iowa Department of Transportation
(515)239-1129

From: Wallerstedt, Michael W. [mailto:m.wallerstedt@cedar-rapids.org]
Sent: Thursday, May 01, 2014 4:23 PM
To: Crouch, Tim [DOT]
Subject: Trying again

Tim,
Sorry again.
I'll send it in two emails. The final one is being overnighted.

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org

11. September 9, 2014 electronic mail message from Sergeant Mike Wallerstedt to Tim Crouch, with preceding messages from Tim Crouch and Steve Gent

Jacobi, Elizabeth D.

From: Wallerstedt, Michael W.
Sent: Tuesday, September 09, 2014 11:25 AM
To: Crouch, Tim [DOT]
Cc: Jacobi, Elizabeth D.; Charipar, Angie M.; Jerman, Wayne M.
Subject: RE: Cedar Rapids 2013 ATE Report

Dear Mr. Crouch:

West bound lanes of 1st Ave East (Hwy 922) at 10th St East- Speed limit sign is 298.3 feet east of the crosswalk.

We recognize, and we appreciate, that your e-mail merely seeks information. We also note that throughout our contact with the DOT since as early as June 2012, neither your department nor ours has ever viewed DOT's ATE regulations as prohibiting the location or operation of the I-380 cameras in Cedar Rapids. If the DOT has changed its position on that matter, we have not been made aware of it. We also note that the rules themselves do not say they are retroactive, and we must therefore reserve our rights under applicable law should the agency take action based on the retroactive application of Rule 761-144.6.

We hope the information we've provided above will be helpful. If you require any further information, we will strive to cooperate.

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org

From: Crouch, Tim [DOT] [mailto:Tim.Crouch@dot.iowa.gov]
Sent: Monday, September 08, 2014 3:46 PM
To: Wallerstedt, Michael W.
Cc: Jerman, Wayne M.; Gent, Steve [DOT]
Subject: RE: Cedar Rapids 2013 ATE Report

Sergeant Mike Wallerstedt,

It has recently been brought to the attention of the Department there may be another automated enforcement location that is located within 1000' of a lower speed limit. The location is on 1st Ave at the intersection with 10th St E. This is not

allowed as per Administrative Rule 761—144.6 "Minimum requirements for automated traffic enforcement systems". Please document and provide these distances for each of the speed cameras on 1st Ave at 10th St E.

Thank you for your time and attention in providing this information in accordance with the Automated Traffic Enforcement rules. Please provide this information within 30 days if possible.

Tim

Timothy D. Crouch, PE, PTOE
State Traffic Engineer
Iowa Department of Transportation
515-239-1513
fax 515-239-1891
tim.crouch@dot.iowa.gov

From: Gent, Steve [DOT]
Sent: Friday, August 22, 2014 5:06 PM
To: m.wallerstedt@cedar-rapids.org
Cc: 'w.jerman@cedar-rapids.org'; Crouch, Tim [DOT]
Subject: Cedar Rapids 2013 ATE Report

Sergeant Mike Wallerstedt,

We have completed our initial review of your automated traffic enforcement report covering calendar year 2013. Based on that review we are requesting some additional information from you. Below is a list of the items we are requesting along with some comments about your report:

1. You provided a good summary of intersection crashes and violations at the monitored intersections. You did not provide crash data for 2010 and 2011. We suspect you did not provide this information because the cameras were activated in 2010 and 2011 and the "installed year" is often eliminated when looking at the performance of a safety enhancement. To facilitate future annual submissions, we are including a preferred example of how to display this information. This format is being shared with other affected cities. To simplify your future annual submissions, all crashes for each intersection may be provided instead of just crashes for the monitored approaches as suggested in the 761—144.7 of the Administrative Rules. Include at least two full years of before data for each location and please include all years including 2010 and 2011. No action is needed on this item at this time.
2. Similar to item 1. above, you provided a good summary of the crash and violation data for the fixed speed cameras on I-380. In future annual submissions please include at least two full years of before data and include all years including 2010 and 2011. Also, attached is an example of a preferred method of displaying this information. No action is needed on this item at this time.
3. Regarding the speed cameras on I-380, provide information on the exact limits of your evaluation of crashes. Your report only references I-380 "S" Curve Crash Data, not specific begin and end points for this evaluation.
4. It appears some of the I-380 speed cameras are within 1000 feet of a speed limit change. This is not allowed as per Administrative Rule 761—144.6 "Minimum requirements for automated traffic enforcement systems". Please document and provide these distances for each of the I-380 speed cameras.

Thank you for your time and attention in providing this information in accordance with the Automated Traffic Enforcement rules. Please provide this information within 30 days if possible.

Steve

Steve J. Gent
Director, Traffic and Safety
Iowa Department of Transportation
(515)239-1129

From: Wallerstedt, Michael W. [mailto:m.wallerstedt@cedar-rapids.org]
Sent: Thursday, May 01, 2014 4:23 PM
To: Crouch, Tim [DOT]
Subject: Trying again

Tim,
Sorry again.
I'll send it in two emails. The final one is being overnighted.

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org

12. September 15, 2014 electronic mail message from Sergeant Mike Wallerstedt to Steve Gent

Jacobi, Elizabeth D.

From: Wallerstedt, Michael W.
Sent: Monday, September 15, 2014 2:16 PM
To: Gent, Steve [DOT] (Steve.Gent@dot.iowa.gov)
Cc: Charipar, Angie M.; Jacobi, Elizabeth D.; Jerman, Wayne M.
Subject: Cedar Rapids Proposals

Dear Mr. Gent,

Thank you for taking time to visit with us by phone Friday. In accordance with that discussion, we write to offer possible ways to resolve whether the City of Cedar Rapids' ATE (automated traffic enforcement) equipment is properly placed on the State's primary roads within the City limits.

As we understand DOT's concerns, the distance guidelines are meant to ensure motorists receive sufficient notice of change in speed limits before any enforcement action is taken. We have tried to address those concerns as part of our proposals. If we have misconstrued the DOT's concerns, please let us know and we will try to respond accordingly.

Because engineering considerations are different on I-380 than on First Avenue East, our proposals and some of the rationale behind them, are set forth in two parts.

I. Cameras located on I-380 northbound at Diagonal Dr. SW, and southbound at J Ave NE:

As you know, the City and DOT jointly determined in 2010 that the current locations for the cameras would afford the greatest available safety measures given the roadway characteristics in the so-called S-curves near downtown. This decision was made based primarily on various engineering considerations, as well as the site of existing trusses, so that cameras could be located without putting additional structures on the primary roadways or otherwise interfering with travel.

The City therefore proposes the following two solutions as most likely to retain the optimal impact on safety for the area in question. They are not listed in any particular order.

- *Iowa Department of Transportation could authorize relocation of the speed limit signs to create the 1000 foot distance.*

  Additionally, DOT could add "REDUCE SPEED AHEAD" signs to give motorists further warning of the decrease in speed limit from 60 to 55. Currently, similar signs are in place as the speed limit changes from 70 mph to 60 mph for motorists coming toward the middle of the city from both the north and the south.

- *DOT could waive the 1000 foot guideline set out in subparagraph (1)b (10) of 761 IAC 144.6.*

  Because of the unique circumstances of these particular camera locations, an administrative waiver for Cedar Rapids is warranted and would not affect applicability of the distance guidelines in other situations.

As you may know, ATE equipment for northbound traffic on I-380 at Diagonal Dr. SW monitors traffic speed in all four lanes, which includes the exit ramp lane. The equipment is mounted on a truss 859.9 feet beyond the point at which the 55 mph speed limit begins (i.e., at the 55 mph speed limit sign). A vehicle will travel an additional 48.75 feet (15 meters per installation and calibration recommendations) past the truss before its speed is detected and recorded by radar and its image photographed. Therefore, the point at which enforcement action commences is more than 900 feet past the speed limit sign. It should be borne in mind that ATE equipment is programmed to record only those vehicles traveling 67 miles per hour or more in a 55 mph zone.

It is also significant that vehicles recorded by ATE equipment come to that point from a 60 mph zone which is three miles long. These vehicles, therefore, had been exceeding the posted 60 mph limit. If a vehicle is exceeding the posted limit for three miles, and is traveling 67 mph at the time it reaches a point 900 feet into the 55 mph speed zone, it doesn't seem that requiring ATE equipment to be 100 feet further to the north would resolve the problem. The stretch of roadway in question is one of the few places on I-380 where speed limit signs are mounted on both the right and left side of the roadway, with red warning flags attached to the top and "Photo Enforced" signs mounted on the same posts. In fact, it would seem those who disregard the earlier notices would disregard them even if the location of ATE equipment afforded them an additional 100 feet of travel before the equipment is activated.

A similar analysis applies to ATE equipment for I-380 southbound at J Ave NE. That equipment is mounted to trusses which are 896.1 feet beyond the posted 55 mph speed limit (i.e., where the 55 mph speed zone begins). Taking into account the additional distance a southbound vehicle must travel before activating an ATE camera and radar, the cited vehicle necessarily has been traveling 67 mph or faster for nearly 950 feet into the 55 mph zone. As with northbound traffic, the speed zone for southbound traffic changes north of Cedar Rapids city limits, from 70 mph to 60 mph. Any motorist causing the ATE equipment to activate has traveled through a 60 mph speed zone for four miles. Again, it would seem these motorists would not reduce their speed to 55 mph if given an additional 50 feet worth of notice before reaching the point at which the ATE equipment is activated.

A third possibility for resolving issues for I-380 cameras would be for the City to move ATE equipment on I-380 to locations suitable to both the IDOT and the City. This approach, however, entails significantly greater costs relative to benefits in terms of public expenditure, traffic disruption, more equipment on primary roadways and delay of implementation. We offer the following observations to show why this possibility is less appropriate than the two above.

Northbound I-380 does not currently have a truss or gantry suitable for automated speed enforcement. The next truss for northbound lanes is at 1st Street Northwest Exit #19C, which is in the middle of a curve. Safety considerations, however, dictate the need for vehicles to slow down well before reaching the curve. Therefore, a new truss would have to be constructed.

For I-380 southbound, there is an existing truss that sits just south of the H Avenue Northeast overpass. This truss could be used to monitor traffic prior to the first major curve of southbound 380. In order to ensure this option is both feasible and appropriate, however, further analysis and discussion between the City and DOT would be necessary.

II. Cameras located at First Avenue East and 10th Street Southeast:

The City of Cedar Rapids asks the Iowa Department of Transportation to waive the 1000 foot guideline with respect to this camera location. This ATE equipment is used to monitor red light violations. ATE equipment detects an offense when a vehicle crosses into the intersection after the traffic signal has changed to red but not where the vehicle crosses into the intersection on a yellow light, even if it is still in the intersection on a red light. Speed is not an element of this violation so the 1000 foot distance is irrelevant to a proper analysis.

The ATE equipment at First Avenue East and 10th Street Southeast also has the capability to, and does in fact, monitor speed. The purpose of this function at an intersection is to eliminate instances in which drivers accelerate upon reaching a yellow light, attempting to "beat the red light." Because traffic engineering principles are far different for a surface street such as First Avenue in town, however, the 1000 foot guideline should not be applied in the same manner as it has been applied to highways. As the DOT has stated, the 1000 foot rule is designed to give drivers some time to adjust their speed. As set out above, we do not agree that drivers need or are entitled to 1000 feet to adjust their speed in order to comply with posted speed limits, but even if they did, 1000 feet is far more than necessary to slow to 30 mph from a 35 mph zone.

Mike Wallerstedt
Sergeant, Traffic Division
Cedar Rapids Police Department
505 1st St SW Cedar Rapids, Iowa

Office (319) 286-5460
Email: m.wallerstedt@cedar-rapids.org