BOLTON & MENK
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January 24, 2017

Board of Supervisors
Palo Alto County Courthouse
Emmetsburg, IA 50536

Board of Supervisors
Pocahontas County Courthouse
Pocahontas, IA 50574

Re: Engineer's Report
2014 Flood Damages Repairs
Joint Drainage District No. 63

To the Board Members and Landowners in the Drainage District:

Background. The very heavy rains of June 2014 damaged several drainage district open ditches in Palo Alto and Pocahontas Counties. It resulted in a presidential disaster declaration for a broad area which included Palo Alto and Pocahontas Counties. Drainage Districts in the counties had three or four times before secured funding from this source for the repair of damages incurred during disasters. In order to position drainage districts with eligible damages to be able to apply for disaster recovery cost share funding from the Federal Emergency Management Agency and from the State Department of Homeland Security the board directed Bolton & Menk, Inc. to assess open ditches selected by the county engineer for possible damages and to assist the board in applying for funding as may be needed.

The Joint Drainage District No. 63 main open ditch was one of approximately 24 ditches reviewed. Ultimately, applications for disaster recovery funding assistance was filed for nine drainage districts. Eligible projects would receive cost share of 75% federal and 10% state for the costs of the repairs to the public drainage facilities plus partial funding for engineering and administration. Joint Drainage District No. 63 reported $92,600 in damages.

The board was surprised by an initial FEMA decision that the repairs were not eligible, as identical repairs were eligible in prior disaster recoveries. The denial decision had been based upon an interpretation of the FEMA rules which required regular maintenance of the ditches and regular review. Regular was strictly interpreted to mean annually. The repairs were delayed awaiting the results of the appeals. Unfortunately the appeal is still ongoing although a final appeal decision is anticipated soon.

The board has determined to proceed with a public hearing that would be required if funding assistance is not secured so that the district can be put in a good position to receive bids for the work. Doing the work before funding assistance is secured will not affect the district's eligibility for funding assistance from either agency.

Damages. The open ditch of Joint Drainage District No. 63 suffered extensive damage during and immediately following the June 2014 storms. These damages are described and tabulated in the first attachment to this letter report.

Bolton & Menk is an equal opportunity employer.

Proposed Work. Attached to this report is a summary of the identified disaster recovery repairs that were submitted to federal and state officials for cost share assistance. The locations of these repair sites are shown on the accompanying map. An estimate of the cost of accomplishing these repairs is presented in the same attachment. We recommend that these repairs be accomplished. We further recommend that the district also make similar bank and pipe repairs that will likely be discovered during the work.

Estimated Cost. This cost estimate is based upon bids received for similar projects of which we are familiar and we believe it to be conservative. However, no guarantee is made or implied.

Joint Drainage District No. 63 Main Open Ditch

Disaster-recovery repairs	$ 92,600
Inflation Adjustment (10%)	9,260
Construction Subtotal	$101,860
Construction-related Damages	8,000
FEMA Assessment and Administration	5,000
Engineering Services thru Public Hearing	4,000
Bid Letting Services	4,000
Construction Staking, Observation & Admin.	15,000
Legal, Publications and Admin.	3,000
Contingency	6,000
Total Estimated Project Cost	**$146,860**
Potential Funding Assistance	$ 85,000
Potential Net Cost	$ 61,860

Respectfully submitted
Bolton & Menk, Inc.

Donald D. Etler

Donald D. Etler, P.E.
Senior Project Manager

Attachments (2)

Bolton & Menk is an equal opportunity employer.

PALO ALTO COUNTY, IOWA
2014 FLOOD DAMAGE - FEMA REPAIRS
JOINT DRAINAGE DISTRICT 63

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ESTIMATED PROJECT QUANTITIES

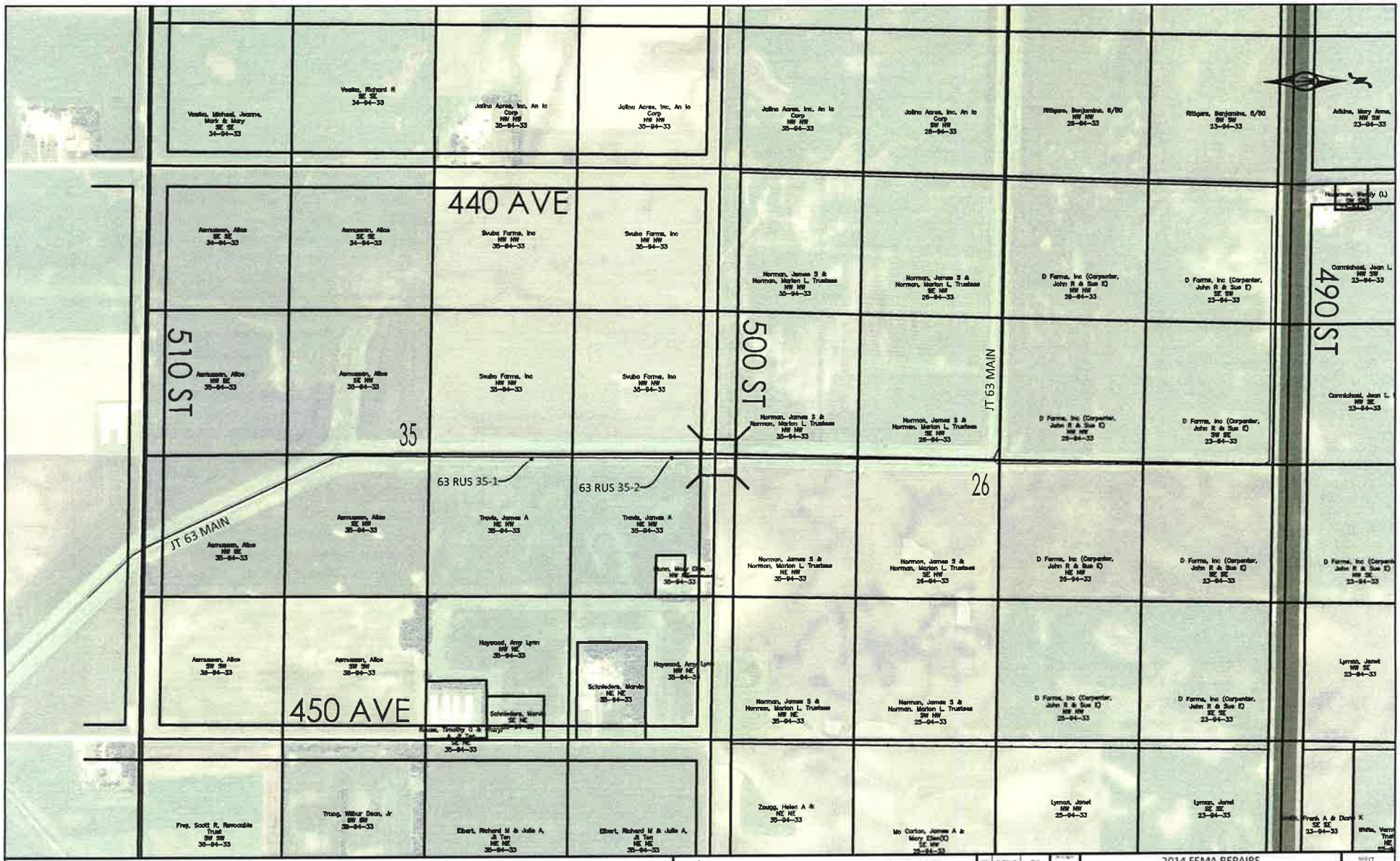
ITEM NO.	ITEM CODE	ITEM	UNIT	TOTAL	AS BUILT QUAN.	UNIT PRICE	TOTAL
DIVISION 1 - GENERAL PROVISIONS AND COVENANTS							
1	1090-105-D-0	MOBILIZATION	LS	1		$5,000.00	$5,000.00
DIVISION 2 - EARTHWORK							
2	2010-108-X-0	CHANNEL EXCAVATION	LF	4,440		$2.50	$11,100.00
3	2010-108-X-1	BANK FILL	LF	2,410		$2.50	$6,025.00
4	2010-108-X-2	BANK SHAPING	LF	550		$2.50	$1,375.00
DIVISION 4 - SEWERS AND DRAINS							
5	4010-108-A-1	PIPE CULVERT SD, TRENCHED, CMP, 18"	LF	148		$32.00	$4,736.00
6	4010-108-A-1	PIPE CULVERT SD, TRENCHED, CMP, 24"	LF	48		$37.00	$1,776.00
7	4010-108-A-1	PIPE CULVERT SD, TRENCHED, CMP, 30"	LF	48		$40.00	$1,920.00
8	4010-108-A-1	PIPE CULVERT SD, TRENCHED, CMP, 36"	LF	48		$45.00	$2,160.00
10	4010-108-A-1	PIPE CULVERT TE, TRENCHED, CMP, 12"	LF	200		$26.00	$5,200.00
11	4010-108-A-1	PIPE CULVERT TE, TRENCHED, CMP, 15"	LF	60		$31.00	$1,860.00
DIVISION 9 - SITE WORK AND LANDSCAPING							
13	9010-108-A-0	SEEDING AND FERTILIZING, ONE SIDE	LF	7,400.0		$1.40	$10,360.00
14	9040-108-J-0	RIP RAP, TYPE E	TON	1,140.0		$38.00	$43,320.00
15	9060-108-E-0	REMOVAL OF FENCE	LF	885.0		$1.00	$885.00

APPROXIMATE ESTIMATED COST OPINION: $95,717.00 *

*Corrected Estimate for JDD 63, Previous Estimate was found to have errors.

DD	TOWNSHIP	Section	Site No	Channel Excavation (LF)	Bank Shape (LF)	Bank Fill (LF)	Riprap (Ton)	Tile Ext Size (in)	Tile Ext Length (ft)	SD Size (in)	SD Length (ft)
JDD 63	RUS	35	1					12	20		
JDD 63	RUS	35	2	180		20					
JDD 63	RUS	29	1		140	20	20	12	20	18	60
JDD 63	RUS	28	1		160	80	130				
JDD 63	RUS	29	2	100	40						
JDD 63	RUS	29	3	230	60						
JDD 63	RUS	29	4	115							
JDD 63	RUS	29	5	110	80						
JDD 63	RUS	29	6								
JDD 63	RUS	19	1	230							
JDD 63	RUS	19	2	80							
JDD 63	RUS	19	3		40			24	20		
JDD 63	RUS	19	4	140	140						
JDD 63	RUS	19	5	155	140	30	80				
JDD 63	RUS	17	1		40		40				
JDD 63	RUS	17	2					15	20		
JDD 63	RUS	17	3	30	40		40				
JDD 63	RUS	17	4					12	20		
JDD 63	RUS	7	4					12	20		
JDD 63	RUS	7	5		150		150				
JDD 63	RUS	7	3	80			80				
JDD 63	RUS	7	2	80			80				

DD	TOWNSHIP	Section	Site No	Channel Excavation (LF)	Bank Shape (LF)	Bank Fill (LF)	Riprap (Ton)	Tile Ext Size (in)	Tile Ext Length (ft)	SD Size (in)	SD Length (ft)
JDD 63	RUS	7	1		40			12	20		
JDD 63	RUS	6	1	1500							
JDD 63	GRE	31	1			30	30	15	20		
JDD 63	RUS	20	1		120		120				
JDD 63	RUS	20	2		115		115				
JDD 63	RUS	20	3		35	30	35	12	20		
JDD 63	RUS	20	4		280						
JDD 63	RUS	28	2		80						
JDD 63	RUS	28	3	90	80						
JDD 63	RUS	28	4	280	260						
JDD 63	RUS	27	1		80	10	80	12	60	18	40
JDD 63	RUS	27	2	140	35		35				
JDD 63	GRE	30	1					12	20		
JDD 63	GRE	30	2	60	50	30	30				
JDD 63	GRE	30	3					15	20		
JDD 63	GRE	30	4	140	35	30	35				
JDD 63	GRE	31	2	230	60	80	60				
JDD 63	GRE	31	3	260	30	30				24	48
JDD 63	GRE	30	6	210	80	80				18	48
JDD 63	GRE	30	6							30	48
JDD 63	RUS	27	3			80				36	48



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DESIGNED	JGS
DRAWN	JGS
CHECKED	DDI

2014 FEMA REPAIRS

PALO ALTO COUNTY, IOWA

JT 63 FEMA LOCATIONS

SHEET D.01

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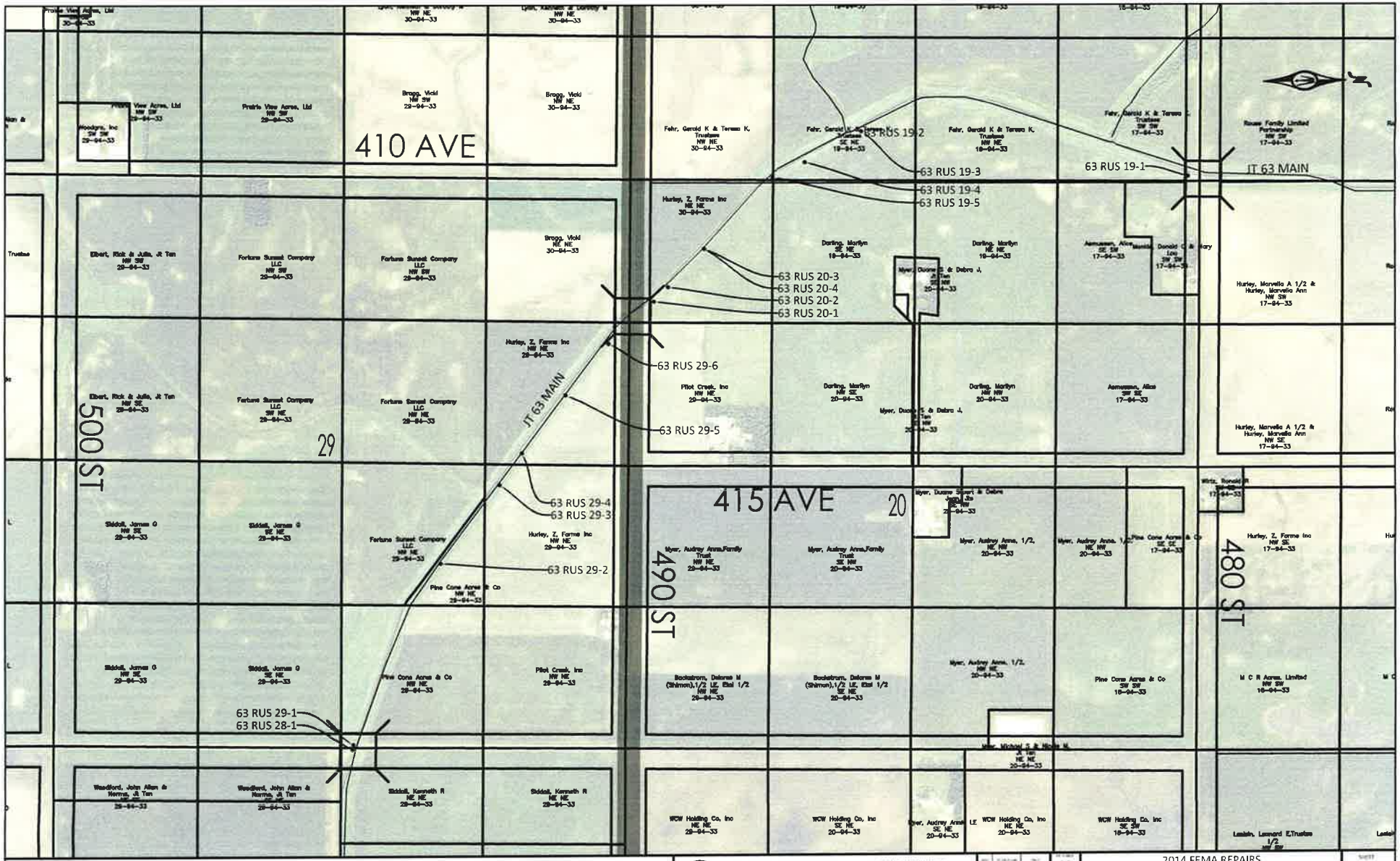

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DESIGNED	BGB
DRAWN	JCK
REVIEWED	DDF

2014 FEMA REPAIRS
PALO ALTO COUNTY, IOWA
JT 63 FEMA LOCATIONS

SHEET D.02

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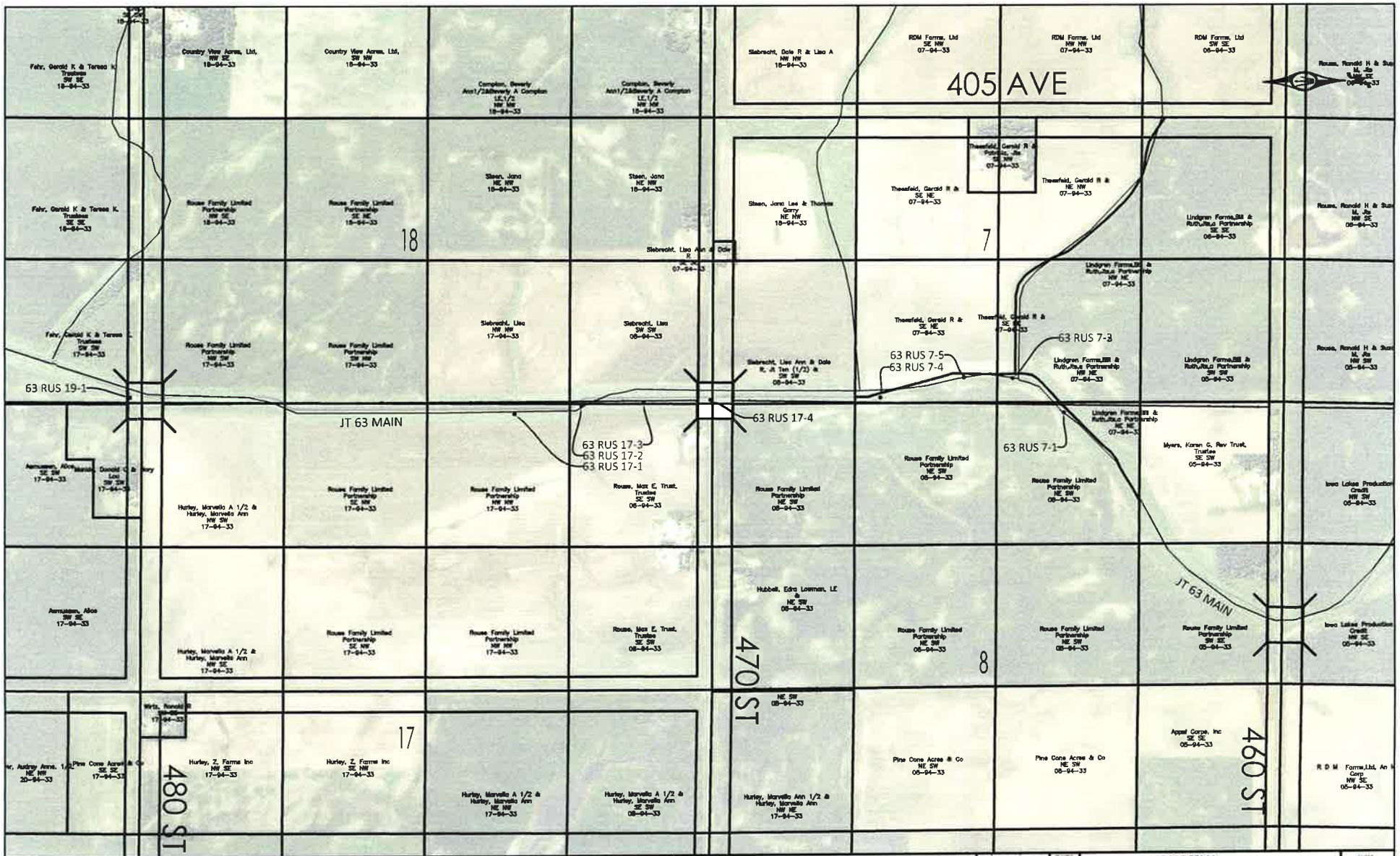

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2014 FEMA REPAIRS

PALO ALTO COUNTY, IOWA

JT 63 FEMA LOCATIONS

SHEET D.03

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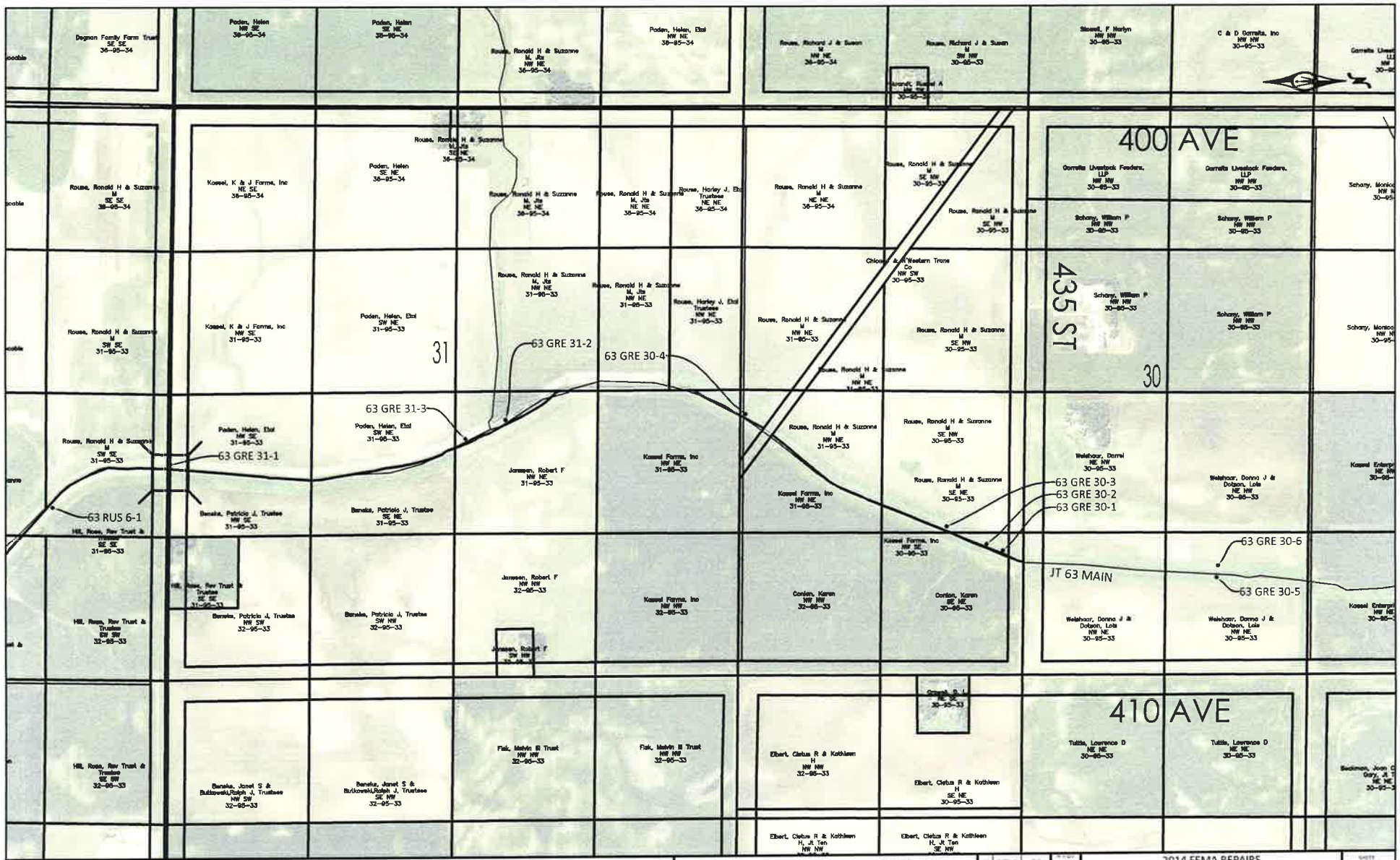

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2014 FEMA REPAIRS	D.04
PALO ALTO COUNTY, IOWA	
JT 63 FEMA LOCATIONS	