

Iowa Homeland Security & Emergency Management  
7900 Hickman Rd, Ste 500  
Windsor Heights, IA 50324

**Iowa Flood Mitigation Program (FMP)  
Flood Recovery Project Application**

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**What is the Flood Recovery Fund?**

A Flood Recovery Fund is established in the state treasury under the control of the Flood Mitigation Board to provide funding to eligible political subdivisions of the state to implement flood response, flood recovery, or flood mitigation projects.

**Eligibility:**

- 1) An eligible applicant is a political subdivision of the state located in a county designated under presidential disaster declaration DR-4421-IA and also located in a county where the federal emergency management agency individual assistance program has been activated.
- 2) Eligible projects must support flood response, flood recovery, or flood mitigation. Eligible project types include construction and reconstruction of levees, embankments, impounding reservoirs, conduits or other means that are necessary for the protection from the effects of floodwaters and may include the deepening, widening, alteration, change, diversion, or other improvement of watercourses if necessary for the protection of such property from the effects of flood waters. A project may consist of one or more phases of construction or reconstruction that are contracted for separately if the larger project, of which the project is a part, otherwise meets the requirements of this subrule.

**Application Process:**

This application is designed to capture the necessary information to meet program requirements.

- 1) Description of the project and how the project supports flood response, flood recovery, or flood mitigation activities.
- 2) Description of financial assistance need through the Flood Recovery Fund.
- 3) Description of the necessary expense or serious need of the political subdivision.
- 4) Details on any additional funds to be applied to the project.

**Flood Mitigation Board Process:**

- 1) Review the application.
- 2) Approve, defer, or deny the application.

**Iowa Flood Mitigation Program (FMP)  
Flood Recovery Project Application**

**I. Applicant Information**

<b>A. Applicant/Community Name</b>	<b>B. Address</b>		<b>City, State, Zip Code</b>		
City of Buffalo	329 Dodge St		Buffalo, IA 52728		
<b>C. Point of Contact (POC) Name for Project</b>		<b>POC Title</b>	<b>POC Agency</b>	<b>POC Email</b>	
Tanna Leonard		City Clerk	City of Buffalo	<a href="mailto:buffalocityhall@mchsi.com">buffalocityhall@mchsi.com</a>	
<b>POC PO Box and Zip Code</b>	<b>POC Street Address</b>	<b>POC City, State, Zip Code</b>		<b>POC Phone</b>	
PO 557	329 Dodge St	Buffalo, IA 52728		563-381-2226	
<b>Alternate POC Name or Authorized Representative</b>		<b>Alt POC Title</b>	<b>Alt POC Agency</b>	<b>Alternate POC Email</b>	
Sally Rodriguez		Mayor	City of Buffalo	<a href="mailto:mayor@buffaloioowa.org">mayor@buffaloioowa.org</a>	
<b>Alt POC PO Box and Zip Code</b>	<b>Alt POC Street Address</b>	<b>Alt POC City, State, Zip Code</b>		<b>Alt POC Phone</b>	
52728	329 Dodge Street	Buffalo, IA 52728		563-381-2226	
<b>D. Federal Tax ID # / FEIN</b>	<b>E. County Name</b>	<b>F. US Congressional District(s)</b>		<b>State Legislative Districts</b>	
	Scott	2		Senate 45	House 90
<b>G. Is the Applicant/Community participating in the National Flood Insurance Program (NFIP)?</b>			<b>Community's CID Number</b>		
YES			190241		

**II. Project Cost Information**

A. Identify the requested funding source:

**Permanent Work**

**B. Project Budget Summary**

Engineering and deisgn	\$	13,600.00
Permits, survey, easements	\$	10,100.00
Construction	\$	224,560.00
<b>Total Project Budget Summary</b>	<b>\$</b>	<b>248,260.00</b>

**C. Project Funding Source**

Identify all anticipated funding sources for the project and the amounts.

State that you have applied for and/or received approved federal, state and/or local financial assistance.

Please insert additional rows as needed.

Identify source	Applied/ Received	Federal \$	State \$	Local \$	TOTAL
Flood Recovery Fund			\$ 211,021.00		\$ 211,021.00
City of Buffalo				\$ 37,239.00	\$ 37,239.00
					\$ -
					\$ -
					\$ -
					\$ -
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<b>Total Project Funding Source</b>		<b>\$ -</b>	<b>\$ 211,021.00</b>	<b>\$ 37,239.00</b>	<b>\$ 248,260.00</b>

### III. Project Plan Summary

**A. Provide a brief description of the project and how the project supported flood response or will support future flood recovery and flood mitigation activities. This is a summary of Tab B - Project Plan.**

We are building a detention basin to reduce the flow of flood water therefore reducing the risk of flooding to residential properties within the project area.

**B. Provide a brief description of the financial assistance need through the Flood Recovery Fund.**

We budget for routine maintenance, however the costs to mitigate the project are not available in our budget. We can reduce the entire project costs by adding in the mitigation portion at the same time instead of bringing the ditch to pre-flood conditions and then completing the mitigation project later. We will be paying additional fees for engineering, oversight, and mobilization fee.

**C. Explain how financial assistance through the Flood Recovery Fund is essential to meet the necessary expenses or serious needs of the applicant related to flood response, flood recovery, and flood mitigation.**

If we do not receive funding we will not be able to mitigate the project and reduce the risk of flooding to the residential neighborhood.

**D. Provide details of any additional funds that can be applied to the project.**

We are not aware of any other funding resources available. We discussed the options with FEMA and they will not fit into any of their mitigation projects. We are able to pay a percentage of the project from our routine maintenance budget. However this amount is significantly larger than the average routing maintenance fees due to the flooding event in May of 2019. Other projects will be set aside to prioritize the repairs of this project.

**E. Description of Project Location (i.e. Latitude and Longitude (minimum 6 digits after the decimal), Neighborhood, Subdivision, Geographic Boundaries, Driving Directions, etc.)**

The Project is located on Elm Street in Buffalo between the intersections of Ash Street and Chestnut Street. Beginning at Lat/Lon 41.455718, -90.734167 and ending at Lat/Lon 41.458150, -90.733918. The Detention basin is located in the farm field to the north of the intersection of Elm and Ash Street. It would be reducing the flow of nearly ten acres of field and slowing the waters that run down through a residential neighborhood, entering the municipal storm system and then the Mississippi River.

#### IV. Work Schedule

A. List the major milestones for this project.

Task	Months/Years from Award		Responsible Party
	Start	Complete	
Notice of Grant Award	1	1	HSEMD
Engineering & Design	2	2	City of Buffalo
Permitting	3	3	City of Buffalo
Construction contractor procurement, selection, &	3	4	City of Buffalo
Construction	4	5	Contractor
Project Acceptance	5	6	City of Buffalo
Project Closeout	6	7	City & HSEMD
<b>Total Project Duration:</b>	<b>7 Months</b>		

#### V. Certifications

To the best of my knowledge and belief, I certify that all data in this application packet is complete, true and correct. The governing body of the applicant has duly authorized this document and hereby applies for assistance as documented in this application. The applicant understands that the project shall not proceed until Flood Mitigation Board approval is granted.

Signature of the Chief Executive Officer
Sally Rodriguez
Name of the Chief Executive Officer
Mayor
Title
City of Buffalo
Organization
February 5, 2020
Date
563-381-2226
Phone Number

Signature of the Authorized Representative
Tanna Leonard
Name of Authorized Representative
City Clerk
Title
City of Buffalo
Organization
February 5, 2020
Date
PO Box 557 / 329 Dodge Street
PO Box / Street Address
Buffalo, Iowa 52728
City, State and Zip Code
563-381-2226
Phone Number
<a href="mailto:buffalocityhall@mchsi.com">buffalocityhall@mchsi.com</a>
Email Address

# ELM STREET DRAINAGE IMPROVEMENTS

## CITY OF BUFFALO

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## BUFFALO, IOWA

**PROJECT ENGINEER**  
 MICHAEL W. JANECEK, P.E.  
 MARTIN & WHITACRE SURVEYORS & ENGINEERS, INC 563-263-7691

**CITY OF BUFFALO CONTACTS**  
 ART HORST  
 DIRECTOR OF PUBLIC WORKS 563-381-3530

**ALLIANT ENERGY**  
 1-800-255-4268

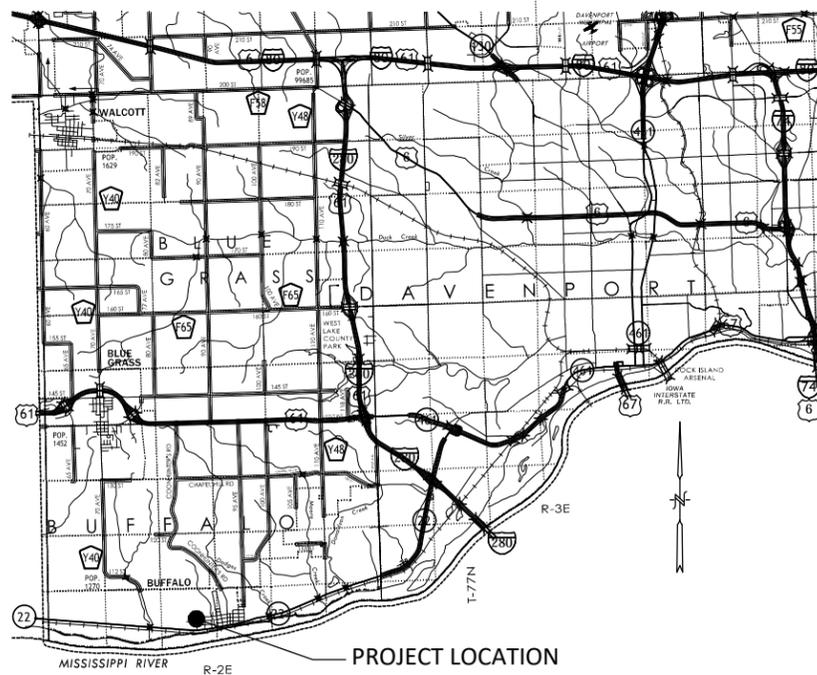
**CENTURY LINK**  
 1-877-348-9007

**MEDIACOM**  
 1-855-633-4226

**PROJECT DESCRIPTION:** DETENTION BASIN AND DITCH IMPROVEMENTS  
**LOCATION:** ALONG ELM STREET



PROJECT LOCATION



**VICINITY MAP**  
 NOT TO SCALE

SHEET INDEX		
REV #	SHEET NO.	SHEET TITLE
2	A.01	COVER PAGE
2	A.02	LEGEND & GENERAL NOTES
2	A.03	SITE & GRADING PLAN
1	B.01	DETAILS
1	D.01	PLAN & PROFILE
2	D.02	PLAN & PROFILE
0	W.01	CROSS SECTION



THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT IOWA STATEWIDE URBAN DESIGN STANDARDS AND SPECIFICATIONS, CITY BIDDING DOCUMENTS AND PROJECT SPECIAL CONDITIONS

THIS PROJECT SHALL OPERATE UNDER NPDES GENERAL PERMIT NO. 2 FOR "STORMWATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FOR CONSTRUCTION ACTIVITIES" THE DEVELOPER HAS FILED A PERMIT, ALL CONTRACTORS SHALL SIGN AND ADHERE TO PROJECT SWPPP

CONTRACTORS SHALL CALL IOWA ONE CALL 1-800-292-8989 PRIOR TO START OF WORK. EXISTING UTILITIES SHOWN ARE DERIVED FROM SURVEY & MAPPING DATA. FIELD LOCATE AND VERIFY ALL UTILITIES SHOWN. THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES AND REPAIR DAMAGES.

CONTRACTORS SHALL PROVIDE TEMPORARY FENCING TO PREVENT ENTRANCE BY PEDESTRIANS AND VEHICLES. ALL WORK SHALL MEET CITY SAFETY PROTOCOLS



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA

*Michael W. Janeczek* 12/16/2019  
 MICHAEL W. JANECEK, P.E. IA. REG. NO 15289 DATE

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2019

Pages or sheets covered by this seal:  
 A.01 THROUGH W.01

ELM STREET DRAINAGE IMPROVEMENTS  
 CITY OF BUFFALO  
 BUFFALO, IOWA  
 8427.19

**Martin & Whitacre**  
**Surveyors & Engineers, Inc.**  
 MUSCATINE, IOWA  
 EMAIL: info@martin-whitacre.com  
 P.O. BOX 413  
 VOICE (563) 263-7691



REVISIONS:  
 1 ALTERNATE - REVISIONS  
 2 FENCE/ENTRANCE  
 3  
 4

DATE: 11/4/19  
 JOB NO: 8427.19  
 SHEETS: 7  
 SHEET: A.01

**EXISTING TOPOGRAPHIC/UTILITIES**

	EXISTING PROPERTY LINE
	EXISTING EASEMENT LINE
	EXISTING SETBACK LINE
	EXISTING FENCE LINE
	EXISTING TELEPHONE LINE
	EXISTING FIBER OPTIC LINE
	EXISTING UNDERGROUND ELECTRIC
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND GAS LINE
	EXISTING WATER MAIN OR SERVICE
	EXISTING STORM SEWER/CULVERT
	EXISTING SANITARY SEWER
	EXISTING TELEPHONE RISER
	EXISTING CABLE TV RISER
	EXISTING ELECTRIC METER
	EXISTING ELECTRIC TRANSFORMER
	EXISTING ELECTRICAL MANHOLE
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING GAS METER
	EXISTING WATER VALVE
	EXISTING CURB BOX
	EXISTING FIRE HYDRANT
	EXISTING STORM SEWER INTAKE
	EXISTING STORM SEWER MANHOLE
	EXISTING SANITARY MANHOLE
	SIGN

**CONTOUR LINES**

	EXISTING MAJOR CONTOUR LINE
	EXISTING MINOR CONTOUR LINE
	PROPOSED MAJOR CONTOUR LINE
	PROPOSED MINOR CONTOUR LINE

**COMMON ABBREVIATIONS**

PCC	PORTLAND CONCRETE CEMENT
HMA	HOT MIX ASPHALT
DIP	DUCTILE IRON PIPE
RCP	REINFORCED CONCRETE PIPE
PVC	POLY VINYL CHLORIDE PIPE
CMP	CORRUGATED METAL PIPE
PE	POLYETHYLENE PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
IDOT	IOWA DEPARTMENT OF TRANSPORTATION
SUDAS	STATEWIDE URBAN DESIGN AND SPECIFICATIONS
LUST	LEAKING UNDERGROUND STORAGE TANK
MPW	MUSCATINE POWER & WATER

**PROPOSED TOPOGRAPHIC/UTILITIES**

	PROPOSED FENCE LINE
	PROPOSED TELEPHONE LINE
	PROPOSED FIBER OPTIC LINE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED OVERHEAD ELECTRIC
	PROPOSED UNDERGROUND GAS LINE
	PROPOSED WATER MAIN OR SERVICE
	PROPOSED STORM SEWER/CULVERT
	PROPOSED SANITARY SEWER
	PROPOSED SILT FENCE
	PROPOSED TELEPHONE RISER
	PROPOSED CABLE TV RISER
	PROPOSED COMMUNICATION STORAGE VAULT
	PROPOSED COMMUNICATION HANDHOLE
	PROPOSED COMMUNICATION FLOWER POT
	PROPOSED ELECTRIC METER
	PROPOSED ELECTRIC TRANSFORMER
	PROPOSED ELECTRIC HANDHOLE
	PROPOSED ELECTRICAL MANHOLE
	PROPOSED POWER POLE
	PROPOSED LIGHT POLE
	PROPOSED GAS METER
	PROPOSED WATER VALVE
	PROPOSED CURB BOX
	PROPOSED FIRE HYDRANT
	PROPOSED SW-501 STORM INTAKE
	PROPOSED SW-505 DOUBLE STORM INTAKE
	PROPOSED SW-507 STORM INTAKE
	PROPOSED SW-510 STORM INTAKE
	PROPOSED FLARED END
	PROPOSED STORM SEWER MANHOLE
	PROPOSED SANITARY MANHOLE
	SIGN

**HATCHES**

	PROPOSED PCC PAVEMENT HATCH
	PROPOSED HMA PAVEMENT HATCH
	PROPOSED CURB & GUTTER HATCH
	PROPOSED GRAVEL HATCH
	PROPOSED RIP RAP
	PROPOSED FLEXAMAT

**LANDSCAPING**

	PROPOSED DECIDUOUS TREE
	PROPOSED SHRUB

**GENERAL NOTES AND PROJECT SPECIFICATIONS**

- THE INTENT OF THE PLANS AND SPECIFICATIONS IS TO PROVIDE CONSTRUCTION DOCUMENTS FOR A GENERAL CONTRACTOR UNDER CONTRACT WITH THE CITY OF BUFFALO.
- ALL WORK SHALL FOLLOW CURRENT POSTED IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) FOR MATERIALS AND EXECUTION.
- CONSTRUCTION STAKING WILL BE PROVIDED BY A LICENSED LAND SURVEYOR AT THE OWNER'S EXPENSE.
- THE PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF BUFFALO REQUIREMENTS, THE IOWA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION" LATEST EDITION; IOWA SUDAS SPECIFICATIONS; THE CONTRACT DOCUMENTS AND THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY THE CITY AND ALL UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROTECT ALL EXISTING UTILITIES AND PAVED STREETS, INCLUDING ANY NOT SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE ENGINEER IF ANY CONFLICTS WITH THE DRAWINGS OCCUR. ANY DAMAGE TO EXISTING UTILITIES CAUSED BY TRENCHING AND GRADING OPERATIONS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITY LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. IT IS POSSIBLE THAT THERE ARE OTHER UTILITIES WHOSE EXISTENCE IS PRESENTLY NOT KNOWN OR SHOWN. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND TO AVOID DAMAGE THERETO. MINOR CONFLICT WITH UNDERGROUND UTILITIES THAT ARE ABANDONED BUT NOT REMOVED BY THE UTILITY COMPANY SHALL BE REMOVED AS NECESSARY FOR THE CONSTRUCTION OF THE PROJECT BY THE CONTRACTOR. REMOVAL SHALL BE INCIDENTAL TO THE CONTRACT AND SHALL NOT ENTITLE THE CONTRACTOR TO ANY EXTRA COMPENSATION.
- THE CITY AND UTILITY COMPANIES SHALL HAVE ACCESS TO THE PROJECT FOR CONSTRUCTION AND TO MAKE EXTENSIONS OR ADJUSTMENTS OF SERVICES. NO CLAIM FOR ADDITIONAL COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR ANY INTERFERENCE OR DELAY CAUSED BY SUCH WORK.
- ALL UNSUITABLE MATERIAL, CONSTRUCTION DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS, AND EXISTING PAVEMENT, SIDEWALKS AND DRIVEWAY PAVEMENT SCHEDULED FOR REMOVAL SHALL BE PROPERLY DISPOSED OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL LAWS AND GUIDELINES. THE CONTRACTOR SHALL DISPOSE OF REMOVED CONCRETE IN A METHOD APPROVED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS OR UNDESIRABLE MATERIAL, WHICH IS NOT TO BE INCORPORATED IN THE WORK INVOLVED IN THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.
- PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTIONS AREAS. DO NOT ALLOW WATER TO DRAIN OR TO POND ONTO PRIVATE PROPERTY.
- EROSION CONTROL FEATURES SHALL BE INCORPORATED INTO THE CONSTRUCTION AT THE EARLIEST POSSIBLE TIME TO LIMIT EROSION AND STREAM POLLUTION AND SHALL BE MAINTAINED UNTIL ACCEPTANCE OF THE PROJECT BY THE CITY.
- ALL STORM SEWER INLETS THAT RECEIVE DRAINAGE FROM EXPOSED EARTH AREAS SHALL BE PROTECTED FROM INTAKE OF ERODED SOIL WITH COMPOST FILTER SOCK OR OTHER ACCEPTABLE INLET PROTECTION MEASURES. THE INLET PROTECTION SHALL BE MAINTAINED ACCORDING TO THE PROJECT SWPPP.
- WHEN NOT INITIATED AT AN EXISTING JOINT, REMOVAL OF EXISTING CONCRETE PAVEMENT, ASPHALT OR CONCRETE DRIVES AND SIDEWALKS SHALL BE INITIATED WITH FULL DEPTH SAW CUTS, EXERCISING EXTREME CARE TO AVOID SURFACE BREAKS AND SPALLING. IF SURFACE BREAKS OR SPALLING OCCUR, ADDITIONAL REMOVAL AND REPLACEMENT SHALL BE MADE AT THE CONTRACTOR'S EXPENSE. THE COST OF SAW CUTS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF CONSTRUCTION.
- THE CONTRACTOR SHALL PREVENT SILT AND DEBRIS FROM ENTERING STORM AND SANITARY SEWERS AND SHALL REMOVE ANY SUCH MATERIAL THAT ENTERS THE SEWERS. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS WORK.
- CARE SHALL BE TAKEN TO PREVENT STORM WATER FROM UNDERMINING THE PAVEMENT DURING CONSTRUCTION. IF AREAS BECOME UNDERMINED, THEY SHALL BE REPAIRED IN A MANNER ACCEPTABLE TO THE ENGINEER. PRESSURE GROUTING MY BE REQUIRED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ADJACENT STREETS AND PROPERTY FREE FROM EXCESSIVE BUILD-UP OF SOIL AND/OR GRANULAR MATERIAL FROM THE PROJECT. THE CONTRACTOR SHALL CLEAN EXCESS SOIL AND OTHER MATERIAL FROM THE ADJACENT STREETS ON A DAILY BASIS TO THE SATISFACTION OF THE ENGINEER. ANY DAMAGE DONE TO EXISTING STREETS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT THE SPREAD OF DUST FROM THE CONSTRUCTION AREAS AND HAUL ROUTES, WHICH MAY INCLUDE THE APPLICATION OF WATER AS DIRECTED BY THE ENGINEER. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- SPECIAL CARE SHALL BE TAKEN WHEN FORMING AT INTERSECTIONS SO THAT THE PROFILES AND GRADES OBTAINED ARE AS SHOWN ON THE PLANS AND GRADE SHEETS. SHORT LENGTH OF FORMS OR FLEXIBLE FORMS MAY BE NECESSARY AT THESE LOCATIONS.
- ANY PROPERTY DAMAGE OR DISTURBANCE TO PRIVATE PROPERTY OUTSIDE OF GRADING/CONSTRUCTION LIMITS SHALL REQUIRE THE CONTRACTOR TO RESTORE THE PROPERTY TO ORIGINAL OR BETTER CONDITION AT HIS OWN EXPENSE.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE ENCOUNTERED BETWEEN THE PLANS AND SPECIFICATIONS AND THE EXISTING FIELD CONDITIONS.
- CONSTRUCTION STAKING, INSPECTION AND TESTING SHALL BE THE RESPONSIBILITY OF THE OWNER.
- TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE DETAILS AND STANDARDS SHOWN IN THESE PLANS AND THE CONTRACT DOCUMENTS, AND IN COMPLIANCE WITH IOWA DEPARTMENT OF TRANSPORTATION AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).

- PROPERTY CORNERS SHALL BE PROTECTED DURING CONSTRUCTION. PROPERTY CORNERS DISTURBED BY CONTRACTOR OPERATIONS SHALL BE REPLACED AT HIS OWN EXPENSE.
- ALL DIMENSIONS AND RADIUS MEASUREMENTS ARE TO THE EDGE OF PAVEMENT UNLESS OTHERWISE SHOWN.
- ALL STORM SEWER SHALL BE REINFORCED CONCRETE PIPE.
- REMOVE, AND DISPOSE OF BEDROCK AND CONCRETE OFF SITE; INCIDENTAL TO GRADING BID ITEM. BED ROCK EXCAVATION MAY BE REQUIRED IN THESE AREAS.
- REMOVE AND SALVAGE RIP RAP 9 INCHES AND LARGER. REINSTALL AROUND PROPOSED FLARED END SECTIONS THROUGHOUT THE PROJECT AREA TO A MINIMUM DEPTH OF 20 INCHES WITH ENGINEER FABRIC (INCIDENTAL).
- INSTALL NEW 6 FOOT COMMERCIAL GRADE GALVANIZED CHAIN LINK FENCE WITH THREE (3) STRANDS OF BARBED WIRE ALONG THE TOP.
- ALTERNATE BID OPTION OF RIP RAP ONLY IN DITCH SECTIONS INSTEAD OF FLEXAMAT.

**GRADING NOTES**

- EXISTING VEGETATION AND ROOT ZONE SHALL BE COMPLETELY STRIPPED REGARDLESS OF DEPTH. AN AVERAGE DEPTH OF APPROXIMATELY 6 INCHES IS ANTICIPATED, HOWEVER NO ADDITIONAL COMPENSATION WILL BE PAID FOR VARIATIONS IN THE DEPTH. TOPSOIL SHALL THEN BE STOCKPILED ON SITE TO BE RE-USED AS NON-STRUCTURAL FILL(SEE GRADING QUANTITY TABLE) AND RE-SPREAD PRIOR TO SEEDING/SODDING; EXCESS SOIL SHALL BE DISTRIBUTED TO THE EAST OF THE DEVELOPED AREA, SPREAD UNIFORMLY ACROSS THE SITE.
- EMBANKMENT FILL SHALL BE OF A MATERIAL THAT WILL COMPACT AND DEVELOP A STABILITY SATISFACTORY TO THE ENGINEER. COMPACTION SHALL BE IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AND STANDARD SPECIFICATIONS.
- PROVIDE POSITIVE DRAINAGE AT ALL TIMES WITHIN THE CONSTRUCTION AREAS. DO NOT ALLOW WATER TO DRAIN OR TO POND ONTO PRIVATE PROPERTY.
- THE EXPOSED SUBGRADE SHALL BE PROOF-ROLLED THOROUGHLY TO DETECT ANY UNSUITABLE AREAS. AT THE DIRECTION OF THE ENGINEER, THESE REGIONS SHALL BE STABILIZED TO MEET DENSITY REQUIREMENTS BY CORING OUT AND REPLACING WITH STABILIZATION ROCK OR OTHER METHOD ACCEPTABLE TO THE ENGINEER.
- ALL UNSUITABLE MATERIAL, SEAL COAT, CONCRETE, ETC. SHALL BE PROPERLY DISPOSED OF OFF SITE.
- ALL DISTURBED AREAS NOT DESIGNATED TO RECEIVE PLANTINGS SHALL BE SEEDED WITH AN IADOT TYPE 1 PERMANENT LAWN MIXTURE PLACED ON A PREPARED SEEDBED AND SHALL BE FERTILIZED AND MULCHED IN ACCORDANCE WITH IADOT SPECIFICATIONS. ALL AREAS TO BE SEEDED SHALL ALSO RECEIVE A MINIMUM 6 INCHES OF TOPSOIL IN ACCORDANCE WITH NPDES GENERAL PERMIT #2.
- THE ESTIMATED EARTHWORK QUANTITIES SHOWN ON THE GRADING PLAN ARE FOR THE BENEFIT OF THE CONTRACTOR AND SHOULD BE FIELD AND PLAN VERIFIED PRIOR TO BIDDING. PAYMENT FOR SUCH ITEMS SHALL BE BY PLAN QUANTITY AND NO FURTHER COMPENSATION SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER UNLESS THERE IS AN APPROVED REVISION IN THE PLANS.
- OVER-EXCAVATE DETENTION POND 1 FOOT TO SERVE AS TEMPORARY SEDIMENT BASINS UNTIL SITE IS 70% STABILIZED.
- CLEAR AND GRUB ALL EXISTING VEGETATION IN THE AREA OF THE DETENTION POND AND THE REST OF CONSTRUCTION LIMITS.

**ESTIMATED PROJECT QUANTITIES**

ITEM NO.	ITEM	UNIT	QNTY
1	TOPSOIL STRIP, SALVAGE, AND RESPREAD	CY	500
2	EARTH EXCAVATION AND GRADING	CY	1,496
3	REMOVE STORM SEWER CULVERT	LF	129
4	15" STORM SEWER W/ BEDDING	LF	323.0
5	15" APRON GUARD	EA	2.0
6	15" FLARED END SECTION	EA	14.0
7	ORIFICE PLATE	EA	1.0
8	REMOVE ROADWAY	SF	1,501
9	INSTALL ROADWAY PAVEMENT FOR WIDENING	SF	2,508
10	REMOVE AND REPLACE ASPHALT DRIVEWAY	SF	658
11	REMOVE AND REPLACE ROCK DRIVEWAY	TON	4
12	REMOVE, SALVAGE, & REINSTALL PCC STAMPED SIDEWALK	SF	32
13	INSTALL NEW ASPHALT DRIVEWAY	SF	248
14	INSTALL NEW ROCK DRIVEWAY	SF	400
15	TRAFFIC CONTROL, COMPLETE	LS	1.0
16	REMOVE, SALVAGE, AND REINSTALL RIP RAP	TONS	175
17	FLEXAMAT	SY	985
18	EROSION CONTROL, COMPLETE	LS	1.0
19	REMOVE, SALVAGE, & REINSTALL FIELD FENCE W/ GATE	LF	165
20	SEEDING, FERTILIZING, AND WOOD EXCELSIOR MAT	AC	0.2
21	SEEDING, FERTILIZING, AND MULCHING	AC	0.6
22	MOBILIZATION	LS	1.0
<b>ALTERNATE BID ITEM</b>			
A.1	RIP RAP INSTEAD OF FLEXAMAT	TONS	1,095.0

F:\CIVIL\3D PROJECTS\8427 ELM STREET DRAINAGE IMPROVEMENTS\3 PLAN SHEETS\PLAN SHEETS.DWG PLOTTED: 12/16/2019

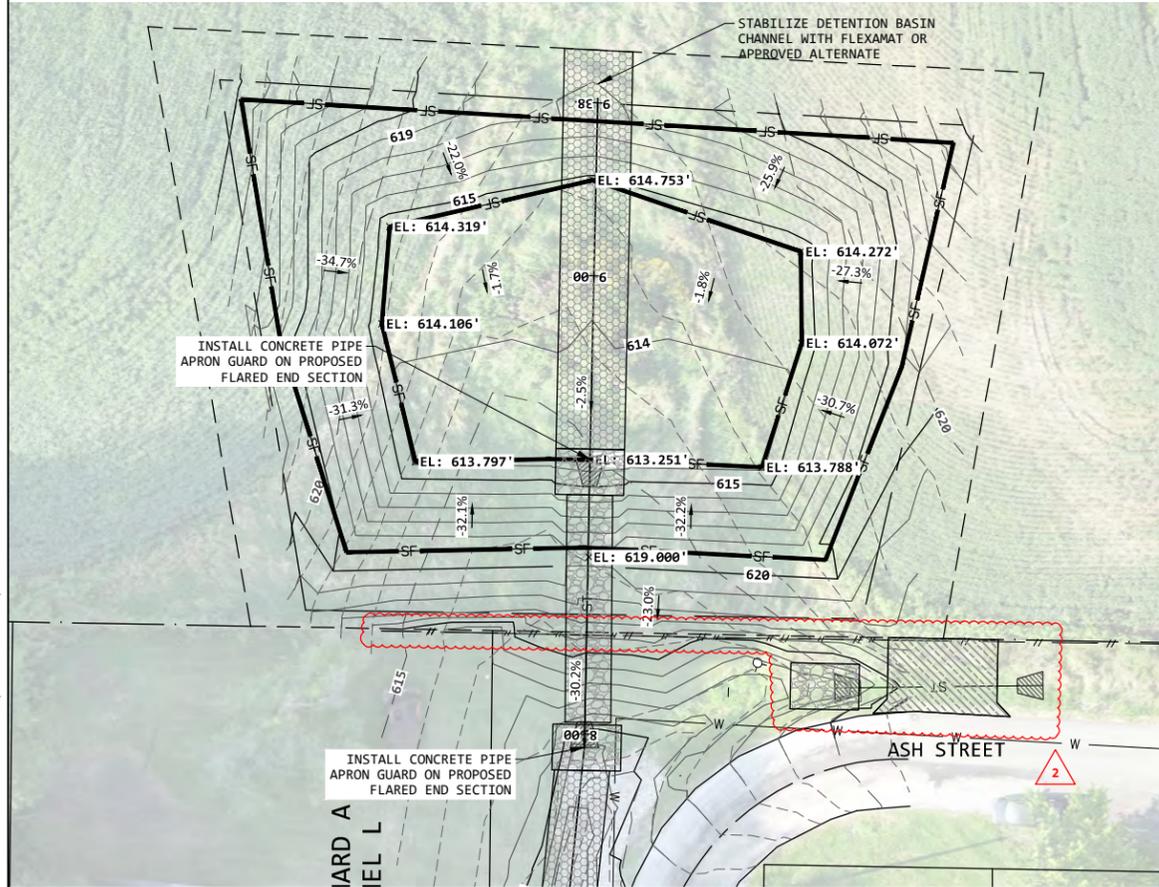
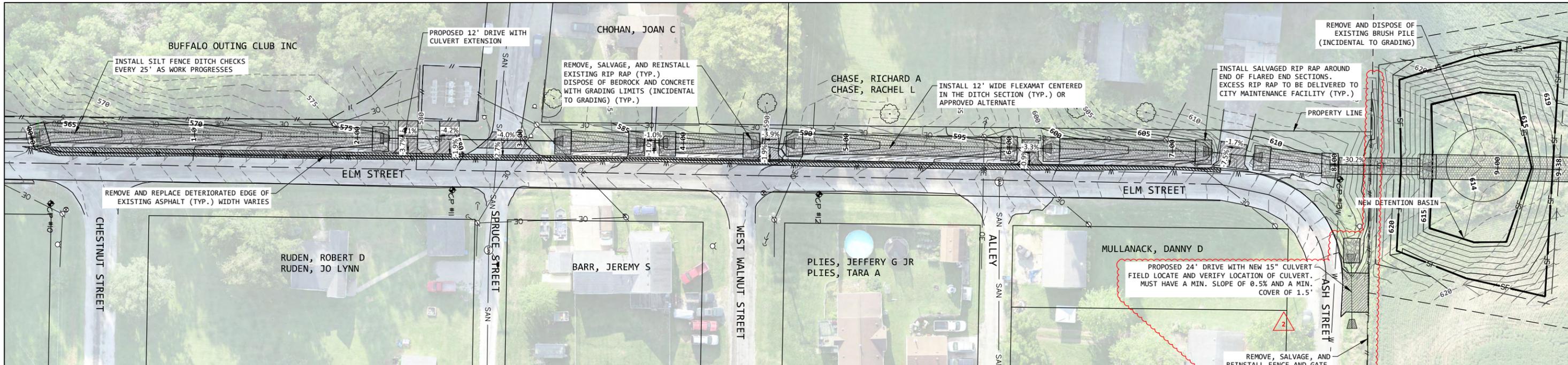
#	DATE	DESCRIPTION	BY	DESIGNED BY:
				JMS
				DRAWN BY:
				JMS
2	12/17/19	ADJUSTED DRIVE AND GATE ONTO FARM LAND	JMS	PROJECT ENGR:
1	11/25/19	FENCE, DRIVE, AND ATLERNATE - RIP RAP	JMS	MWJ

**Martin & Whitacre**  
**Surveyors & Engineers, Inc.**  
P.O. BOX 413  
MUSCATINE, IOWA  
VOICE (563) 263-7691  
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**ELM STREET DRAINAGE IMPROVEMENTS**  
**CITY OF BUFFALO**  
**BUFFALO, IOWA**

**LEGEND & GENERAL NOTES**

PROJ NO:	8427.19	DRAWING NO:	A.02
CONST PROJ:	000		
SCALE:	AS NOTED	SHEET NO:	2 OF 8
DATE:	11/4/19		



CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	8039357.29	21444989.88	565.15	1/2" REBAR
11	8039603.69	21444981.33	580.01	1/2" REBAR
12	8039828.66	21444984.01	591.68	1/2" REBAR
13	8040148.30	21444974.90	612.16	1/2" REBAR
14	8038920.35	21444937.93	558.62	1/2" REBAR

**DETENTION SUMMARY:**  
 STORAGE REQUIRED: 36,370 CF  
 STORAGE PROVIDED: 36,603 CF  
 ORIFICE SIZE: Ø 11.6"  
 INVERT OF ORIFICE: 613.25'  
 OUTLET PIPE SIZE: 15.0"  
 HWL/OVERFLOW ELEVATION: 619.00'

**GRADING SUMMARY:**

	CUT(CY)	FILL(CY)
UNADJUSTED	1,401	803
PAVEMENT	95	-54
SUBTOTAL	1,496	749
25% SHRINKAGE		187
TOTAL	1496	936

NET: 560 CY EXCESS DISPOSED OF OFFSITE BY CONTRACTOR

**EROSION CONTROL NOTES**

- ALL EROSION CONTROL FEATURES SHALL BE IN ACCORDANCE WITH THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS), IADOT "STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION," AND CITY OF MUSCATINE STANDARD SPECIFICATIONS IN SO FAR AS APPLICABLE.
- VEHICLE TRACKING CONTROL MEASURES SHALL BE PLACED TO LIMIT MUD/DEBRIS FROM CITY STREETS.
- INSTALL EROSION CONTROL MEASURES, WHERE POSSIBLE, PRIOR TO THE COMMENCEMENT OF ANY EARTH DISTURBING OPERATIONS. ANY REMAINING CONTROL MEASURES MUST BE INSTALLED AS SOON AS REASONABLY POSSIBLE AFTER GRADING OPERATIONS BEGIN.
- THE CONTRACTOR SHALL DESIGNATE, PRIOR TO BEGINNING CONSTRUCTION, A PERSON OR PERSONS WHO CAN BE CONTACTED IN AN EMERGENCY. THESE PEOPLE SHALL BE AVAILABLE TO REPAIR AND MAINTAIN EROSION DEVICES ON A 24 HOUR PER DAY BASIS. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING INSPECTIONS OF THE EROSION CONTROL SYSTEM AS REQUIRED BY THE NPDES PERMIT AND STORM WATER POLLUTION PREVENTION PLAN.
- IN AN EFFORT TO LIMIT SOIL EROSION THE FOLLOWING SEQUENCE OF GRADING ACTIVITY AND TEMPORARY SEDIMENT CONTROL MEASURES ARE REQUIRED.
  - PLACE SILT FENCE AT THE TOE OF UNSEEDED/UNSOODED SLOPES DURING CONSTRUCTION. ADDITIONAL SILT FENCE MAY BE REQUIRED FOR PROPER EROSION CONTROL.
  - ONCE FINAL SUBGRADE ELEVATIONS ARE OBTAINED, PAVING OPERATIONS CAN PROCEED. MAINTAIN STRAW BALES AND SILT FENCING DURING PAVING OPERATIONS AS MUCH AS PRACTICAL.
  - TEMPORARY STOCK PILES SHALL BE GRADED TO DRAIN WITH A MAXIMUM SIDE SLOPE OF 3 HORIZONTAL TO 1 VERTICAL.
  - UPON COMPLETION OF PAVING AND LANDSCAPING OPERATIONS CONTRACTOR SHALL CLEAN STORM SEWER SYSTEMS OF DEBRIS AND SILT.
  - EROSION CONTROL SYSTEM TO BE MAINTAINED BY THE GENERAL CONTRACTOR AFTER EACH RAINFALL EVENT AND THROUGHOUT THE COURSE OF THE PROJECT AND REMOVED UPON PROJECT COMPLETION AFTER AN ADEQUATE STAND OF GRASS HAS BEEN ESTABLISHED.
- FOR TEMPORARY SEEDING OR INACTIVITY OF 14 DAYS, THE ENTIRE AREA THAT WAS DISTURBED SHALL BE IMMEDIATELY SEEDING WITH OATS AT A RATE OF 65LBS/ACRE AND ANNUAL RYE GRASS AT A RATE OF 40LBS/ACRE OR APPROVED EQUAL BY THE CITY. THIS SHALL BE PLACED ON A PREPARED SEEDBED. THE ENTIRE AREA SHALL BE FERTILIZED AT THE RATE OF 600 POUNDS PER ACRE WITH A 13-13-13 FERTILIZER INCORPORATED INTO THE SEEDBED. AT THE CONCLUSION OF THE GRADING OPERATIONS PERMANENT SEEDING SHALL BE PLACED PER CITY SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR EXAMINING ALL EROSION CONTROL MEASURES ONCE EACH WEEK. EROSION CONTROL MEASURES SHALL BE MAINTAINED OR, IF NEEDED, REPLACED SO THEY WILL FUNCTION AS ORIGINALLY DESIGNED. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE CITY SOIL EROSION INSPECTOR AND REPORT THE STATUS OF ALL EROSION CONTROL MEASURES AFTER INCOMPLIANT INSPECTIONS. EROSION CONTROL INSPECTION RECORDS SHALL BE KEPT DETAILING ALL ACTIVITIES AND INSPECTIONS THROUGHOUT THE COURSE OF CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE EROSION CONTROL MEASURES AND RECORDS UNTIL PAVING OPERATIONS ARE COMPLETE AFTER WHICH THE BUILDING CONTRACTOR IS RESPONSIBLE UNTIL NO LESS THAN 70% PERMANENT GROUND COVER IS ACHIEVED AT WHICH TIME ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED. ONCE ALL TEMPORARY EROSION CONTROL MEASURES ARE REMOVED, A NOTICE OF DISCONTINUATION OF CONSTRUCTION ACTIVITY SHALL BE FILED.
- THE ENGINEER ASSUMES THAT PROPER MAINTENANCE OF THE DETENTION BASIN AND INFILTRATION BASINS WILL BE PERFORMED BY THE OWNER, AND THAT DOWNSTREAM PROPERTIES WILL EXPERIENCE NO ADVERSE EFFECTS FROM THIS DEVELOPMENT.
- SEED AND FERTILIZE ALL DISTURBED AREAS. INSTALL WOOD EXCELSIOR MAT ON SLOPES OF DETENTION POND. INSTALL MULCH ON ALL OTHER AREAS.

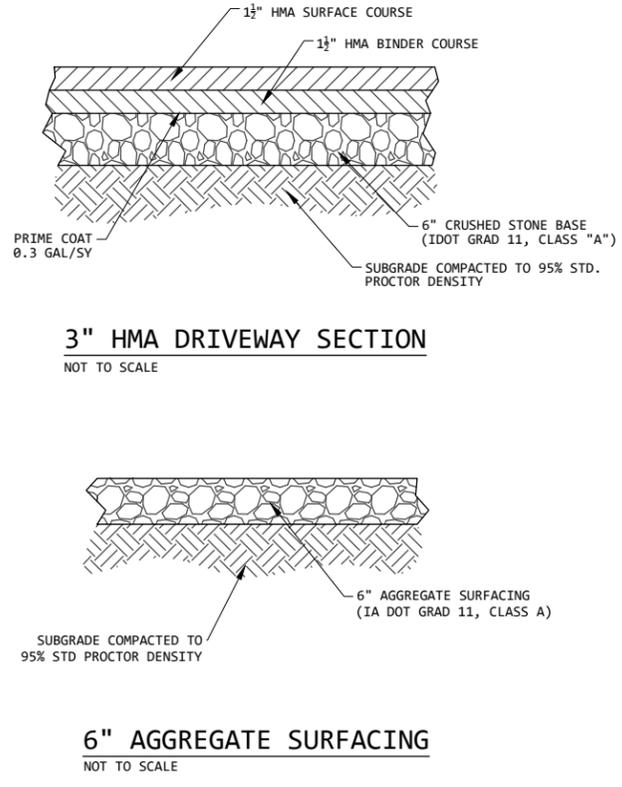
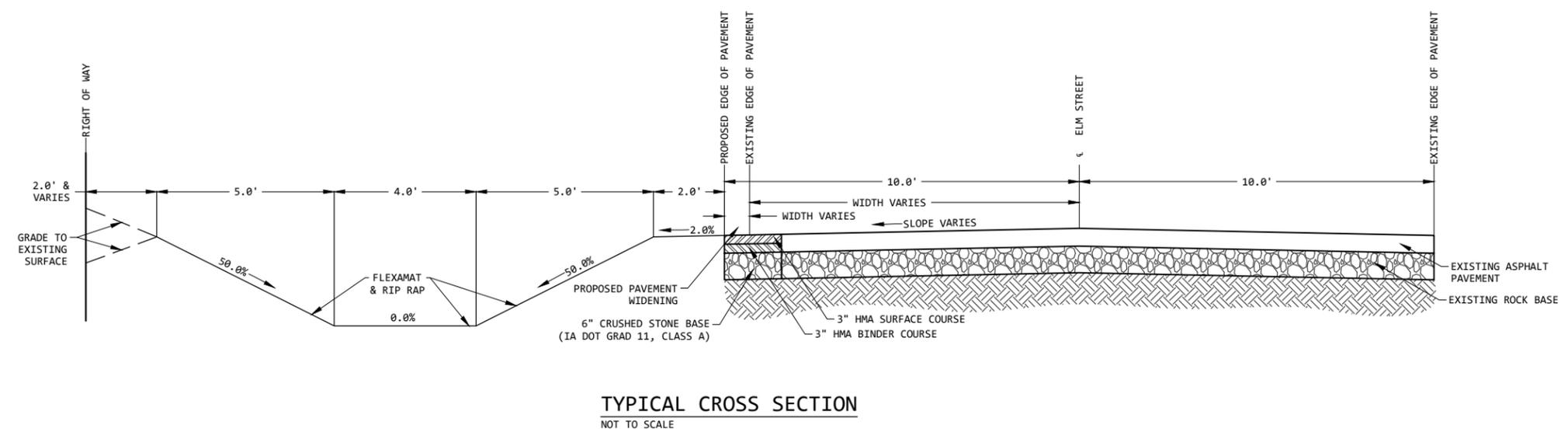
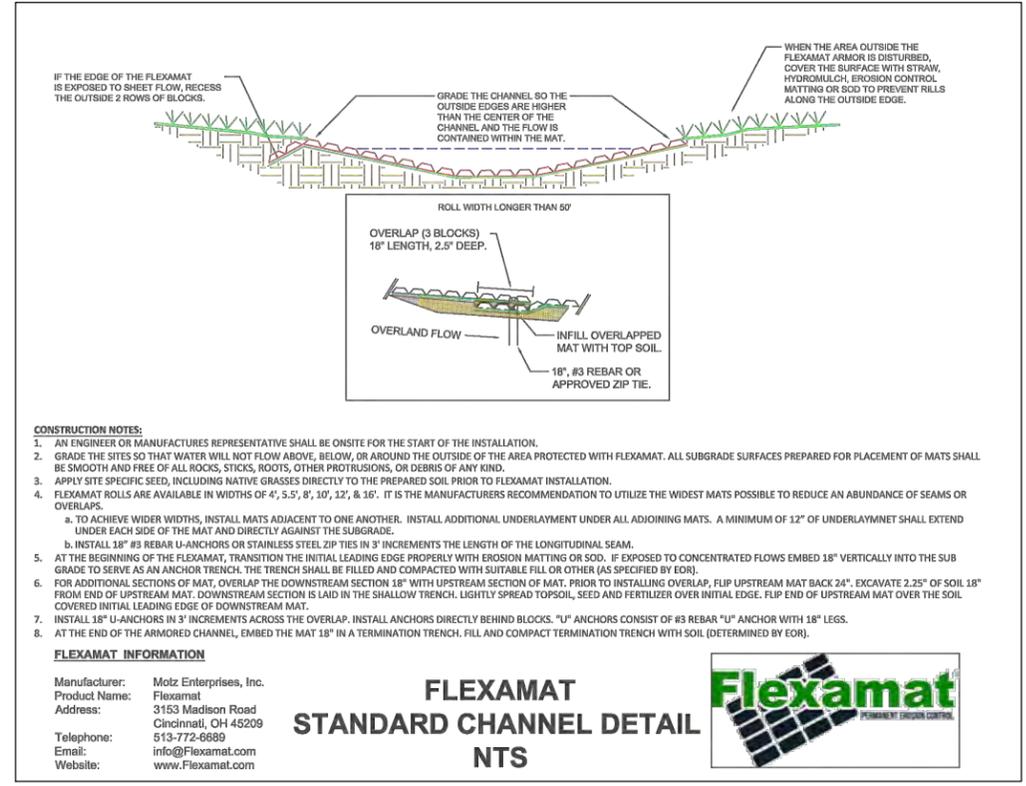
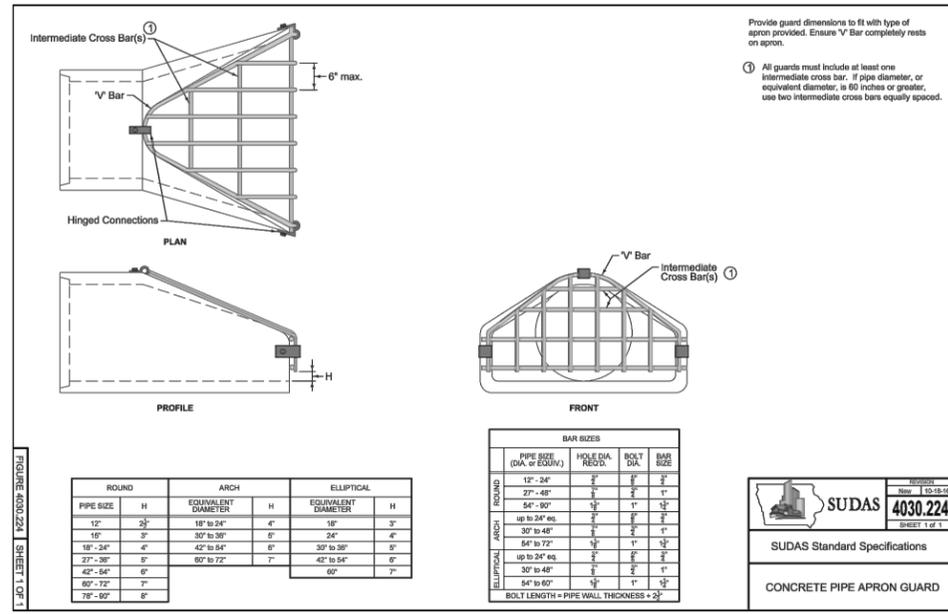
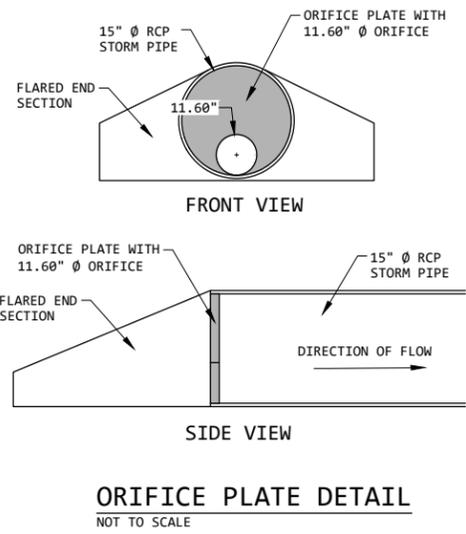
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#	DATE	DESCRIPTION	BY	DESIGNED BY:
				JMS
				DRAWN BY:
				JMS
2	12/17/19	FENCE, DRIVE, CULVERT	JMS	PROJECT ENGR:
1	11/25/19	FENCE, DRIVE, FES GUARD AND ALTERNATE - RIP RAP	JMS	MWJ

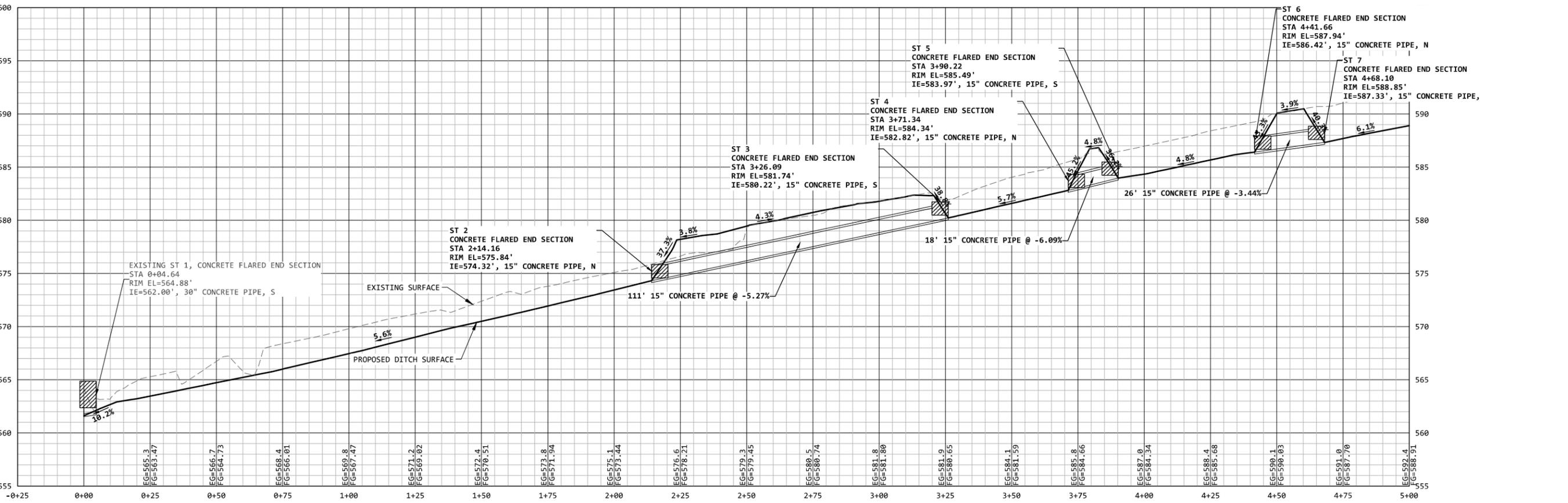
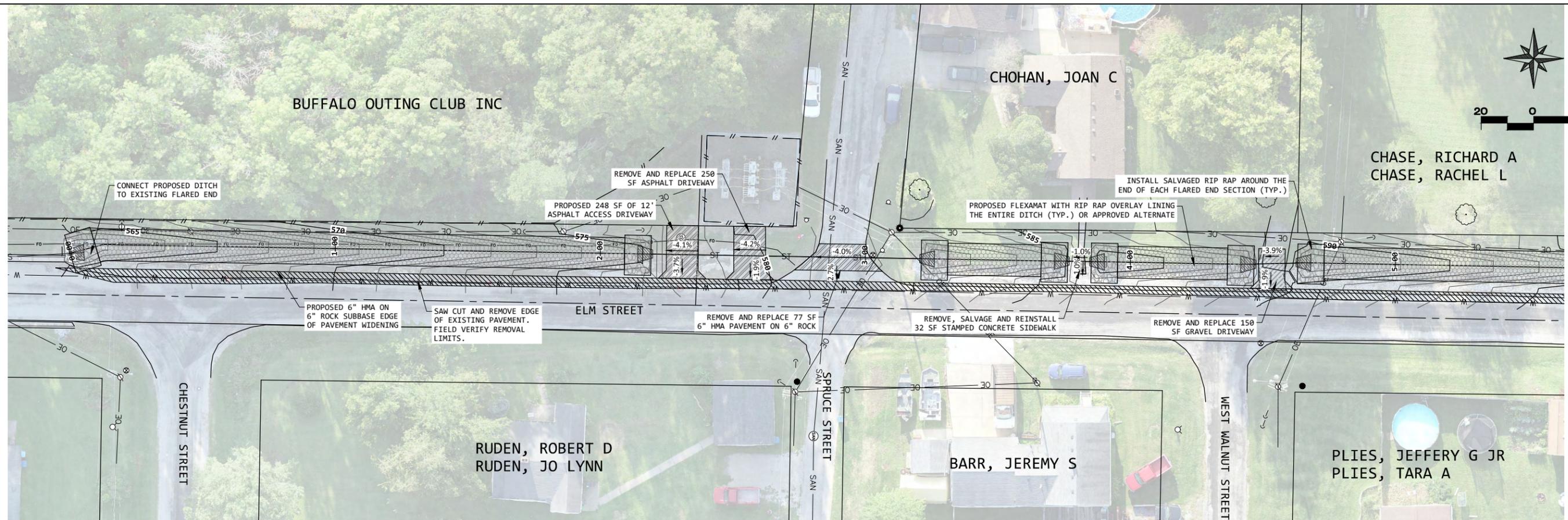
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 CITY OF BUFFALO  
 BUFFALO, IOWA

PROJ NO:	8427.19	DRAWING NO:
CONST PROJ:	000	A.03
SCALE:	AS NOTED	SHEET NO:
DATE:	11/4/19	3 OF 7



#	DATE	DESCRIPTION	BY	DESIGNED BY:		<p><b>Martin &amp; Whitacre</b> Surveyors &amp; Engineers, Inc. P.O. BOX 413 MUSCATINE, IOWA VOICE (563) 263-7691 EMAIL info@martin-whitacre.com</p>	<p>ELM STREET DRAINAGE IMPROVEMENTS CITY OF BUFFALO BUFFALO, IOWA</p>	<p>DETAILS</p>	PROJ NO:	8427.19	DRAWING NO:
				DRAWN BY:	JMS				CONST PROJ:	000	B.01
				PROJECT ENGR:	MWJ				SCALE:	AS NOTED	SHEET NO:
1	11/25/19	FENCE, DRIVE, APRON GUARD, AND ATTERNATE - RIP RAP	JMS						DATE:	11/4/19	4 OF 7



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1	11/25/19	ATLERNATE - RIP RAP	JMS

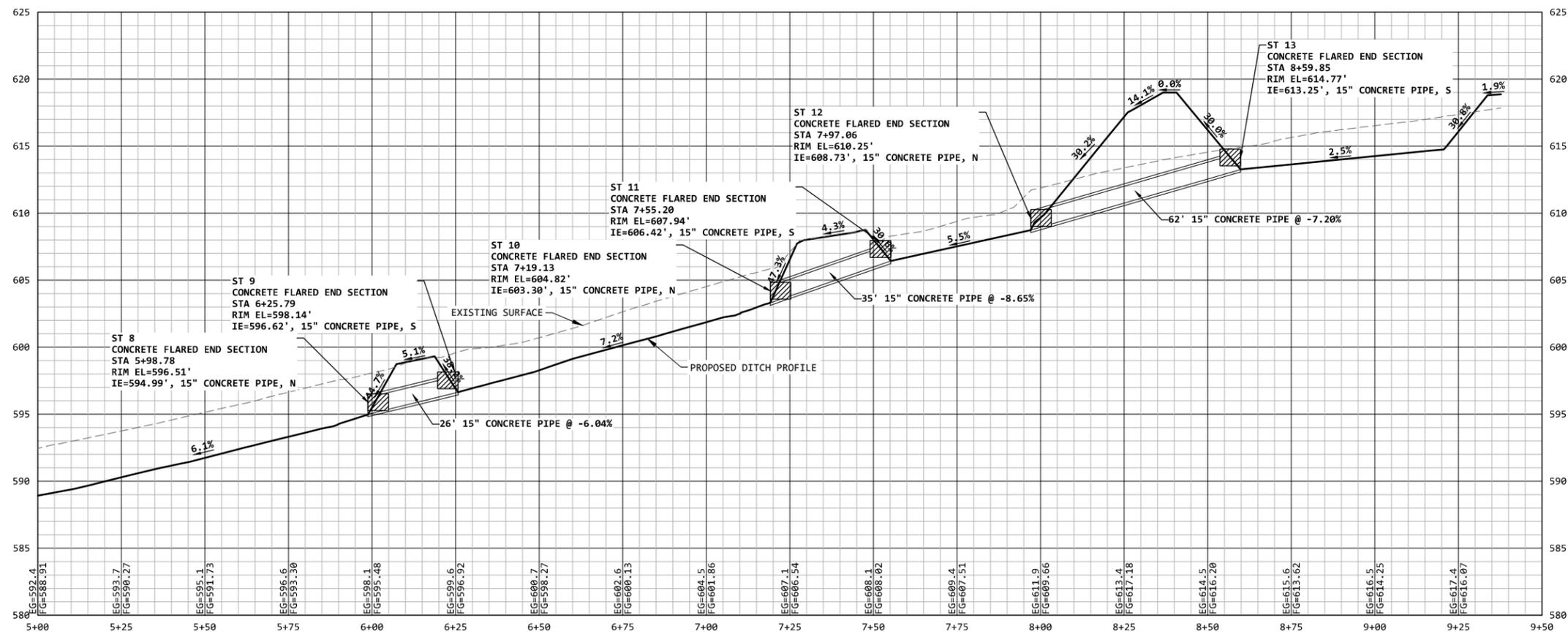
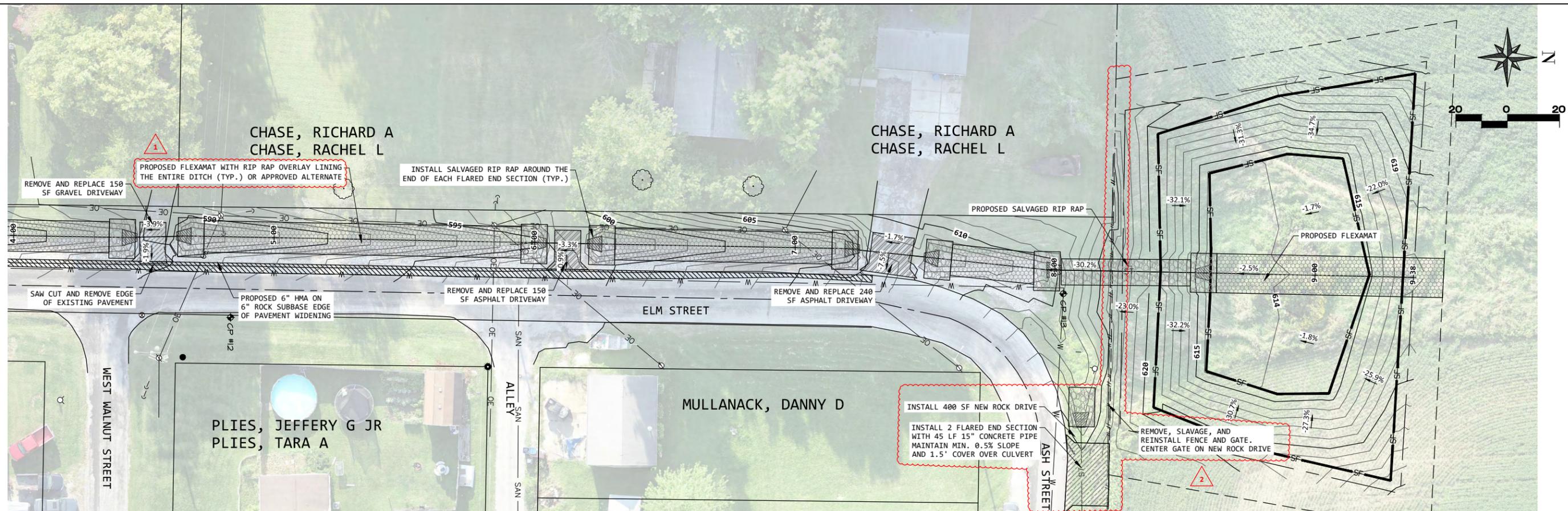
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 BUFFALO, IOWA

PLAN & PROFILE

PROJ NO:	8427.19	DRAWING NO:	D.01
CONST PROJ:	000		
SCALE:	AS NOTED	SHEET NO:	5 OF 7
DATE:	11/4/19		



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DRAWN BY:	JMS
PROJECT ENGR:	MWJ

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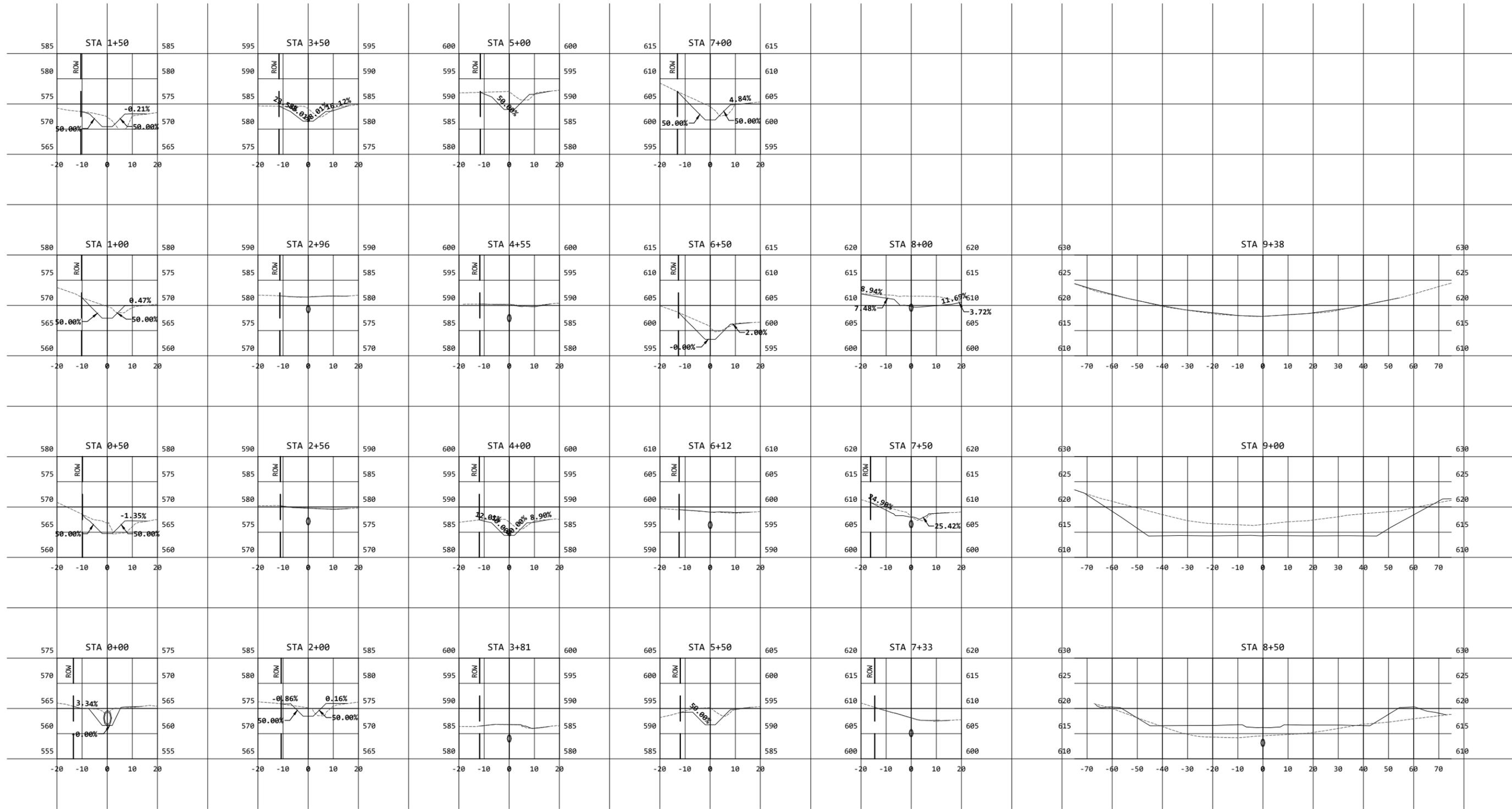
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CROSS SECTIONS

PROJ NO:	8427.19	DRAWING NO:	W.01
CONST PROJ:	000		
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DATE:	11/4/19		