



AGENDA
REGULAR MEETING OF THE
WINDSOR HEIGHTS CITY COUNCIL
Monday, December 4, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th St or VIA
ZOOM by registering in advance for this meeting:
<https://us02web.zoom.us/j/7832856334>
After registering, you will receive a confirmation email containing information about joining the meeting.

Notice to the Public: If you would like the supporting documents and information, please call City Hall by noon the day of the meeting. Copies of City Council Agendas are free to the public. In consideration of all, if you have a cell phone, please turn it off or put it on silent ring. The use of obscene and vulgar language, hate speech, racial slurs, slanderous comments, and any other disruptive behavior during the Council meeting will not be tolerated and the offender may be barred by the presiding officer from further comment before the Council during the meeting and/or removed from the meeting.

1. **Call to Order/Roll Call/Pledge of Allegiance**
2. **Approval of the Agenda**
3. **Swear in City Council Members Susan Skeries and Threase Harms**
4. **Public Forum:** This is time set aside for comments from the public on topics of City business other than those listed on the agenda. No action may be taken. Please come to the podium, state your name and address for the record and keep your comments to no more than 5 minutes.
5. **Consent Agenda:** Any item on the Consent Agenda may be removed for separate consideration.
 - A. Approve Minutes of the Regular Council Meeting on November 20, 2023
 - B. Approve Payment of Claims
 - C. Approve University Avenue Improvements Project Change Order 21, 22, 23, 24
 - D. Approve University Avenue Improvements Project Pay Request No. 17
 - E. Approve Resolution No. 2023-59 - A Resolution Appointing Regular and Alternative Member Representatives to the Metropolitan Planning Organization (MPO) for 2024
 - F. Approve Resolution No. 2023-60 - A Resolution Appointing Commissioner and Alternative Commissioner to the Des Moines Area Regional Transit Authority ("DART") for 2024
 - G. Approve Resolution No. 2023-61 - A Resolution Approving the 73rd Street Improvement Plans
 - H. Approve Resolution No. 2023-62 - A Resolution Waiving CEC Fees for the Iowa State Fraternal Order of Police on December 14th, 2023
 - I. Approve Resolution No. 2023-63 - A Resolution Waiving CEC Fees for the Windsor Heights Foundation's Light the Heights Event on December 28th,

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

2023

6. **New Business:**

- A. Consideration of the Second Reading of Ordinance No. 20-06 An Ordinance Amending Chapters 165 through 177 of the Code of Ordinances for the City of Windsor Heights Related to Zoning
- B. Consideration of the Second Reading of Ordinance No. 2023-10 - An Ordinance Amending Chapter 183 (Mobile Food Units)
- C. Consideration of Approval of Memorandum of Understanding (MOU) with Teamsters Local 238
- D. Consideration of Entering Into A Space Use Analysis Agreement With OPN Architects
- E. Discuss City Council Goals
- F. Discuss University Avenue Pole Banners

7. **Reports:**

- A. Mayor, Council Reports and Committee Updates, and Administration Reports
 - i Mayor's Report
 - ii Communication Committee Meeting Minutes

8. **Closed Session** Under Iowa Code Section 21.5(1)(c): To Discuss Strategy With Counsel In Matters That Are Presently In Litigation Or Where Litigation Is Imminent Where Its Disclosure Would Be Likely To Prejudice Or Disadvantage The Position Of The Governmental Body In That Litigation.

9. **Adjourn**

The agenda was posted on the official bulletin boards, posted to www.windsorheights.org, and city social media platforms in compliance with the requirements of city ordinances and the open meetings law.

City of Windsor Heights Regular Business Meeting Minutes
Monday, November 20, 2023 - 6:00 PM
WINDSOR HEIGHTS COUNCIL CHAMBERS - 1133 66th ST

1. Call to Order/Roll Call/Pledge of Allegiance

Mayor Jones called the meeting to order at 6:00 PM. Council members present: Susan Skeries, Threase Harms, Joseph Jones, and Lauren Campbell. Michael Libbie arrived after roll-call, but prior to any motions being made. Staff present: City Administrator Adam Plagge, City Clerk Adam Strait, Deputy City Clerk Nate Leuthold, City Attorney Erin Clanton, Fire Chief Jim Mease, Police Chief Pete Roth, Finance Director Rachelle Swisher, City Engineer Justin Ernst, and City Planner Trey Rouse

2. Approval of the Agenda

Motion by Susan Skeries to APPROVE Approval of the Agenda. Seconded by Threase Harms. Motion passed 5-0.

3. Presentation from MPO

Dylan Mullenix Interim Executive Director of the Des Moines Area Metropolitan Planning Organization spoke regarding the organization and potential funds available to Windsor Heights.

A. MPO Presentation File

4. Public Forum: This is time set aside for comments from the public on topics of City business other than those listed on the agenda. No action may be taken. Please come to the podium, state your name and address for the record and keep your comments to no more than 5 minutes.

Bob Bishop of 1128 64th St spoke regarding Resolution 2020-95 and increasing the annual budget for new city trees.

5. Consent Agenda: Any item on the Consent Agenda may be removed for separate consideration.

Motion by Threase Harms to APPROVE Consent Items A-M, with amendment to Item A: Minutes of the Regular City Council Meeting - amending the word "trustees" to "stakeholders" in Susan Skeries' report. Seconded by Joseph Jones. Motion passed 5-0.

A. Approve Minutes of the Regular Council Meeting on November 6, 2023

B. Approve Payment of Claims

C. Approve Financial Reports

D. Approve 68th Street Reconstruction Pay Request 6

E. Approve Resolution 2023-58 - A Resolution Appointing Carole Tillotson and Paul Walter to the Board of Adjustment

F. Approve College Drive Improvements Change Order 005

G. Approve College Drive Improvements Pay Request 17

H. Approve College Drive Improvements Certificate of Completion

- I. Approve Street Financial Report FY23
- J. Approve the TIF Debt Certification Report
- K. Approve the Urban Renewal Report
- L. Approve 2024 City Council Meeting Schedule
- M. Approve Liquor License - Little Brother - 6587 University Ave

6. New Business:

- A. Consideration of Entering Into Professional Services Proposal for Space Needs
Adam Plagge presented staff report. Motion by Susan Skeries to TABLE. Seconded by Threase Harms. Motion passed 5-0.
- B. Consideration of Code Review Agreement with Simmering-Cory
Adam Strait presented staff report. Motion by Susan Skeries to APPROVE. Seconded by Joseph Jones. Motion passed 4-1. Yea: Susan Skeries, Joseph Jones, Michael Libbie, Lauren Campbell. Nay: Threase Harms.
- C. Consideration of the First Reading of Ordinance No. 2023-10 - An Ordinance Amending Chapter 183 (Mobile Food Units)
Motion to APPROVE by Michael Libbie, with amendments as follows: in 183.03: add Ankeny, Norwalk, Grimes, Altoona, and Pleasant Hill to list of fire marshals; in 183.05 section 11: add "unless otherwise approved" to end of the section. Seconded by Susan Skeries. Motion passed 5-0.
- D. Consideration of the First Reading of Ordinance No. 20-06 An Ordinance Amending Chapters 165 through 177 of the Code of Ordinances for the City of Windsor Heights Related to Zoning
Patricia Schnieder of 6609 Lincoln: spoke regarding plan for buffers/color for the carwash on Hickman. Motion by Joseph Jones to APPROVE. Seconded by Susan Skeries. Motion passed 5-0.
- E. Consideration of the Second Reading and Waiving the Third Reading of Ordinance No. 23-09 - An Ordinance Adding Section 60.08.08 (Pedestrian Safety, Use of Medians); and to Adopt and Publish
Motion by Michael Libbie to approve. Seconded by Lauren Campbell. Motion passed 5-0.
- F. Consideration of the Third Reading of Ordinance No. 23-08 - An Ordinance Amending Section 1.12 (Warrants) Regarding Administrative Search Warrants; and to Adopt and Publish
Motion by Michael Libbie to APPROVE. Seconded by Susan Skeries. Motion passed 5-0.
- G. Review City Council Goals & Discuss Future Planning
Would like to see where we are on goal accomplishment/presentation. City Admin to gather and propose goals. Work session to discuss. Bring to council on next meeting 12/4

7. Reports:

A. Mayor, Council Reports and Committee Updates, and Administration Reports

Mayor Jones - Attended Veterans Day event; thank you to the special events committee

Threase Harms - Gave a Windsor Wonderland update and schedule of events

Lauren Campbell - Provided Veterans Day event wrap-up update

Michael Libbie - Thank you to the special events committee for Veterans Day, gave communications and economic development meeting updates, and spoke regarding a hazardous waste drop off event

Joseph Jones - Gave a DART update

Susan Skeries - Thank you to volunteers for Veterans Day event, provided recap of event, gave update on special events committee meeting and a potential movie license company switch, plans to meet with chamber regarding a sponsorship drive, and gave a thank you to staff

Adam Plagge - Dept heads working on ERP; staff, Bolton & Menk, and Des Moines Water Works are working on CIP, provided budget calendar update

B. Financial Report: FY25 Budget Calendar

C. Fire Chief's Report

D. Police Chief's Report

8. **Adjourn**

Motion by Threase Harms to adjourn the meeting at 7:19 PM. Seconded by Susan Skeries. Motion passed 5-0

Mike Jones, Mayor

Adam Strait, City Clerk

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK#	CHECK DATE
ABSOLUTE CONCRETE CONSTRUCTION	PAY REQUEST #17 COLLEGE FINAL		36,564.93	56134	11/20/23
ALL STAR CONCRETE	68TH STREET PAY REQUEST #6		392,676.93	56133	11/17/23
AMERICAN FENCE COMPANY	DOG PARK FENCE		35,531.00	56109	11/17/23
AMERITAS LIFE INS. CORP.	DENTAL INS	4,502.04		4545	11/17/23
AMERITAS LIFE INS. CORP.	VISION INS	82.64		4546	11/17/23
AMERITAS LIFE INS. CORP.	VISION INS	254.64	4,839.32	4550	11/20/23
ASSURITY	ASSURITY		834.38	4554	11/20/23
BANKERS TRUST COMPANY	<i>See Vendor Activity Report</i>		2,375.80	56112	11/17/23
BOLTON & MENK			13,174.00	56113	11/17/23
BOOT BARN INC	CLOTHING ALLOWANCE		148.47	56114	11/17/23
BRICK GENTRY PC	OCT LEGAL FEES		3,802.50	56115	11/17/23
CENTRAL IOWA READY MIX	68TH ST INTAKE REPAIR		478.00	56116	11/17/23
CENTURY LINK	TELEPHONE		4.64	56117	11/17/23
CITY OF WEST DES MOINES	CROSSING GUARD SERVICE		820.82	56118	11/17/23
COMPUTER PROJECTS OF IL	AUTH APPS FOR NCIC/IOWA SYSTEM		280.00	56119	11/17/23
CONSTRUCTION MATERIALS TESTING	68TH ST RECON		642.50	56120	11/17/23
EMPLOYEE BENEFIT SYSTEMS	INSURANCE		19,029.00	4544	11/17/23
FEDERAL TAX DEPOSIT	FED/FICA TAX		27,190.76	4551	11/20/23
FENNER IRRIGATION	WINTERIZE IRRIGATION SYSTEM		300.00	56121	11/17/23
GALLS INC	CLOTHING ALLOWANCE		1,225.57	56122	11/17/23
GRAINGER	SUPPLIES		83.76	56123	11/17/23
IA DEPT OF JUSTICE	TITLE TRANSFER FEE		200.00	56108	11/16/23
ICMA RETIREMENT TRUST	ICMA		421.08	4548	11/20/23
IPERS	PROTECT IPERS		33,081.48	4547	11/20/23
ISOLVED BENEFIT SERVICES	FLEX CLD BENEFI		578.85	4552	11/20/23
JONES, BRIAN	CPR CARDS REIMBURSEMENT		42.00	56124	11/17/23
MANHATTANLIFE	MANHATTAN LIFE		288.74	4553	11/20/23
METRO WASTE AUTHORITY	LIGHTBULB DISPOSAL		18.63	56125	11/17/23
DES MOINES REGISTER	PUBLICATIONS		834.91	56126	11/17/23
SECURITY EQUIPMENT INC	DOOR REPAIR		281.50	56127	11/17/23
Strauss Security Solutions	CEC REPAIRS		184.00	56128	11/17/23
STREET COLLECTIVE	2023 OPERATING COSTS		5,000.00	56129	11/17/23
TREASURER STATE OF IOWA	STATE TAXES		8,357.51	4549	11/20/23
WEX FLEET UNIVERSAL	FUEL		3,535.21	56130	11/17/23
WRIGHT OUTDOOR SOLUTIONS	FALL BED CLEAN UP		1,715.00	56131	11/17/23
ZWC CONDOMINIUM ASSOC	PEST CONTROL		53.50	56132	11/17/23
Accounts Payable Total			594,594.79		

Payroll Checks

001	GENERAL	1,496.33
Total Paid On: 11/20/23		1,496.33
001	GENERAL	62,809.01
110	ROAD USE TAX	7,163.19
740	STORM WATER	1,664.91
Total Paid On: 11/22/23		71,637.11

VENDOR NAME	REFERENCE	AMOUNT	VENDOR TOTAL	CHECK CHECK#	CHECK DATE
		=====			
Total Payroll Paid		73,133.44			
		=====			
Report Total		667,728.23			
		=====			

CLAIMS REPORT
CLAIMS FUND SUMMARYPage 3
Payroll Checks: 11/15/2023-11/27/2023

FUND	NAME	AMOUNT
001	GENERAL	145,630.70
110	ROAD USE TAX	17,504.35
112	EMPLOYEE BENEFITS	23,613.68
303	COLBY PARK	13,174.00
319	2020 STREET PROJECTS	36,564.93
323	68TH ST	393,319.43
333	DOG PARK UPDATES	35,531.00
670	LANDFILL/GARBAGE	18.63
740	STORM WATER	2,371.51

	TOTAL FUNDS	667,728.23

ACCOUNTS PAYABLE VENDOR ACTIVITY

11/15/2023 THRU 11/27/2023

INVOICE NO	LN	DATE	PO NO	REFERENCE	TRACK		1099	NET	CHECK	PD DATE
					CD	GL ACCOUNT				
58 BANKERS TRUST COMPANY										
11172023 1054	1	11/17/23		FALL FEST ADS		001-470-6497		7.00	56112	11/17/23
11172023 1054	2	11/17/23		FALL FEST ADS		001-470-6497		10.00	56112	11/17/23
11172023 1054	3	11/17/23		FALL FEST ADS		001-470-6497		15.00	56112	11/17/23
11172023 1054	4	11/17/23		CONSTANT CONTACT		001-620-6373		81.00	56112	11/17/23
11172023 1054	5	11/17/23		FALL FEST ADS		001-470-6497		15.00	56112	11/17/23
11172023 1054	6	11/17/23		WEBSCORER FOR WHAMM		001-470-6497		50.00	56112	11/17/23
11172023 1054	7	11/17/23		WEARABLE NAME TAGS		001-620-6507		30.73	56112	11/17/23
11172023 1054	8	11/17/23		WEARABLE NAME TAGS		001-110-6507		30.73	56112	11/17/23
11172023 1054	9	11/17/23		WEARABLE NAME TAGS		110-210-6507		30.74	56112	11/17/23
11172023 1054	10	11/17/23		FALL FEST ADS		001-470-6497		25.00	56112	11/17/23
11172023 1054	11	11/17/23		FALL FEST PA SYSTEM		001-470-6497		226.60	56112	11/17/23
11172023 1054	12	11/17/23		FALL FEST ADS		001-470-6497		13.97	56112	11/17/23
11172023 3526	1	11/17/23		STORAGE UNIT		001-470-6499		25.99	56112	11/17/23
11172023 3526	2	11/17/23		POPCORN		001-470-6496		120.00	56112	11/17/23
11172023 3526	3	11/17/23		BUDGET WORKSHOPS		001-620-6230		100.00	56112	11/17/23
11172023 3526	4	11/17/23		SUPPLIES		001-610-6507		124.35	56112	11/17/23
11172023 3526	5	11/17/23		ZOOM		001-610-6507		31.98	56112	11/17/23
11172023 3526	6	11/17/23		BUSINESS NEWSPAPER		001-620-6210		77.87	56112	11/17/23
11172023 3526	7	11/17/23		W2/1099 FORMS		001-620-6506		125.27	56112	11/17/23
11172023 3526	8	11/17/23		ADOBE/CREATIVE CLOUD		001-615-6507		267.03	56112	11/17/23
11172023 3526	9	11/17/23		SILENT DISCO DEPOSIT REFUND		001-470-6497		500.00-	56112	11/17/23
11172023 8417	1	11/17/23		TRAINING		001-110-6499		271.27	56112	11/17/23
11172023 8417	2	11/17/23		TRAINING		001-110-6230		75.00	56112	11/17/23
11172023 8417	3	11/17/23		TRAINING		001-110-6230		75.00	56112	11/17/23
11172023 8417	4	11/17/23		ZOOM		001-110-6507		74.95	56112	11/17/23
11172023 8417	5	11/17/23		ZOOM		001-150-6507		74.95	56112	11/17/23
11172023 8425	1	11/17/23		METRO CHIEFS LUNCH		001-150-6599		19.65	56112	11/17/23
11172023 8425	2	11/17/23		E551 IGNITION SWITCH		001-150-6332		186.70	56112	11/17/23
11172023 8425	3	11/17/23		SUPPLIES		001-150-6599		5.34	56112	11/17/23
11172023 8425	4	11/17/23		POC BACKGROUND CHECKS		001-150-6411		75.00	56112	11/17/23
11172023 8425	5	11/17/23		IAPFC HOTEL		001-150-6240		109.76	56112	11/17/23
11172023 8433	1	11/17/23		DOG PARK		001-430-6511		65.79	56112	11/17/23
11172023 8433	2	11/17/23		DOG PARK		001-430-6511		67.80	56112	11/17/23
11172023 8433	3	11/17/23		DOG PARK		001-430-6511		341.33	56112	11/17/23
11172023 8433	4	11/17/23		IA AG		001-430-6407		25.00	56112	11/17/23
BANKERS TRUST COMPANY								2375.80		
								2375.80		
***** REPORT TOTAL *****								2375.80		



**BOLTON
& MENK**

Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

November 29, 2023

Adam Plagge
City Administrator
1145 66th Street, Suite 1
Windsor Heights, Iowa 50324

RE: University Avenue Improvements Project
Windsor Heights, Iowa
Change Order 21, 22, 23, 24

Enclosed are Change Orders No. 21, 22, 23 and 24 for additional and reduced work on the University Avenue Improvements project. The additional work includes additional traffic control, modifications to traffic signals, storm sewer modifications, restocking of tree grates and HMA pavement.

This change order is part of closing out the project.

If you have any questions or comments, please contact me at 515-259-9190.

Sincerely,

Bolton & Menk, Inc.

Justin Ernst, P.E.
Project Manager

Enclosure

CHANGE ORDER
For Local Public Agency Projects

No.: 021

Non-Substantial: ☒

Substantial: ☐

Administering Office
Concurrence Date

Accounting ID No. (5-digit number):36634

Project Number: STBG-SWAP-8477(614)--SG-77

Contract Work Type: PCC PAVEMENT - REPLACE

Local Public Agency: City of Windsor Heights

Contractor: Elder Corporation

Date Prepared: October 13, 2021

You are hereby authorized to make the following changes to the contract documents.

A - Description of change to be made:

0650 - Increase Item for "Traffic Control"

B - Reason for change:

0650 - Additional traffic control for partial depth patching and joint repair.

C - Settlement for cost(s) of change as follows with items addressed in Sections F and/or G:

0650 - (('Lump Sum Item) Traffic Control) 1 LS @ \$6,160.00

\$5,600.00 actual cost of work + \$560.00 10% contractor mark-up = \$6,160.00 Total Cost of additional work shown in Sec F.

D - Justification for cost(s) (See I.M. 6.000, Attachment D, Chapter 2.36, for acceptable justification):

0650 - Similar pricing to previous project.

E - Contract time adjustment:

☒ No Working Days added

☐ Working Days added: _____

☐ Unknown at this time

Justification for selection:

N/A

F - Items included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Line Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
		0650	2528-8445110 - Traffic Control	\$1.00	6,160.000	\$6,160.00
				TOTAL		\$6,160.00

G - Items not included in contract:

Participating					For deductions enter as "-x.xx"		
Federal-aid	State-aid	Change Number	Item Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
						TOTAL	

H. Signatures

Signatures will be applied through DocExpress.

CHANGE ORDER
For Local Public Agency Projects

No.: 022

Non-Substantial: ☒

Substantial: ☐

Administering Office
Concurrence Date

Accounting ID No. (5-digit number):36634

Project Number: STBG-SWAP-8477(614)- - SG-77

Contract Work Type: PCC PAVEMENT - REPLACE

Local Public Agency: City of Windsor Heights

Contractor: Elder Corporation

Date Prepared: January 18, 2022

You are hereby authorized to make the following changes to the contract documents.

A - Description of change to be made:

0620 - Increase Item for "Traffic Signalization"

B - Reason for change:

0620 - An additional pedestrian push button station is required. The pedestrian push button station was to be located on the new traffic signal pole at the NW corner of 73rd & University, but the signal pole was shifted such that the push button will not meet ADA requirements.

C - Settlement for cost(s) of change as follows with items addressed in Sections F and/or G:

0620 - (Traffic Signalization) 1 LS @ \$5,272.30

\$4,793.00 actual cost of work + \$479.30 10% contractor mark-up = \$5,272.30

D - Justification for cost(s) (See I.M. 6.000, Attachment D, Chapter 2.36, for acceptable justification):

0620 - Similar pricing on previous project.

E - Contract time adjustment: ☒ No Working Days added

☐ Working Days added: _____ ☐ Unknown at this time

Justification for selection:

F - Items included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Line Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
		0620	Traffic Signalization	\$1.00	5,272.300	\$5,272.30
Add Row Delete Row TOTAL						\$5,272.30

G - Items not included in contract:

Participating					For deductions enter as "-x.xx"		
Federal-aid	State-aid	Change Number	Item Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
Add Row Delete Row TOTAL							

H. Signatures

Signatures will be applied through DocExpress.

City of Windsor Heights Install new Pushbutton station at 73rd and University			Baker Electric Inc. DIVISION 1		
NO.	Scope	UNIT	UNIT COST	QTY	TOTAL
1	Scope				\$0.00
2					\$0.00
3	Iowa one call flag and submit for locates	ls	\$185.00	1	\$185.00
4	Fabrication and powdercoating of PB pole	ls	\$765.00	1	\$765.00
5	PB pole footing, include min order of concrete and anchor bolts	ea	\$675.00	1	\$675.00
6	Install conduit out of TS pole between pole and footing and dig over to new location tie into footing, regrout pole-materials	ls	\$125.00	1	\$125.00
7	mini hoe	day	\$275.00	1	\$275.00
8	Labor initial install of footing and conduit excavation	hr	\$86.50	16	\$1,384.00
9	Labor to return- install wire and pole, move pushbutton,plug hole in pole,strip forms and grade	hr	\$86.50	16	\$1,384.00
10					\$0.00
11					\$0.00
12					\$0.00
13					\$0.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21	Does not include				\$0.00
22	Removal of any concrete footings				\$0.00
23	Bond				\$0.00
24	Removal or Replacement of any concrete or asphalt				\$0.00
25	Landscaping seed or sod				\$0.00
26	Survey				\$0.00
27	Traffic Control				\$0.00
28					\$0.00
29					\$0.00
30	Joe Henkels Baker Electric Inc				\$0.00
31	515-245-9584				\$0.00
32	Fax 515-557-3385				\$0.00
33	Cell 515-202-9300				\$0.00
34	jhenkels@bakerelectric.com				\$0.00
35					\$0.00
36					\$0.00
37					\$0.00
38	Please contact me with any comments or additional information you would like provided				\$0.00
39					\$0.00
40					\$0.00
41					\$0.00
42					\$0.00
43					\$0.00
44					\$0.00
45					\$0.00
46					\$0.00
47					\$0.00
48					\$0.00
49					\$0.00
50					\$0.00
51					\$0.00
52					\$0.00
53					\$0.00
54					\$0.00
55					\$0.00
56					\$0.00
TOTAL					\$4,793.00

CHANGE ORDER
For Local Public Agency Projects

No.: 023

Non-Substantial: ☒

Substantial: ☐

Administering Office
Concurrence Date

Accounting ID No. (5-digit number):36634

Project Number: STBG-SWAP-8477(614)--SG-77

Contract Work Type: PCC PAVEMENT - REPLACE

Local Public Agency: City of Windsor Heights

Contractor: Elder Corporation

Date Prepared: March 22, 2022

You are hereby authorized to make the following changes to the contract documents.

A - Description of change to be made:

0620 - Increase Item for "Traffic Signalization"

B - Reason for change:

0620 - An additional pedestrian push button station is required at the NW corner of 63rd Street & University Avenue. The existing push button station does not meet ADA requirements as it is not located adjacent to the landing and is more than 4 feet above the landing surface.

C - Settlement for cost(s) of change as follows with items addressed in Sections F and/or G:

0620 - (Traffic Signalization) 1 LS @ \$3,835.70

\$3,487.00 actual cost of work + \$348.70 10% contractor mark-up = \$3,835.70

D - Justification for cost(s) (See I.M. 6.000, Attachment D, Chapter 2.36, for acceptable justification):

0620 - Similar pricing on previous project.

E - Contract time adjustment: ☒ No Working Days added

☐ Working Days added: _____ ☐ Unknown at this time

Justification for selection:

F - Items included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Line Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
		0620	Traffic Signalization	\$1.00	3,835.700	\$3,835.70
Add Row Delete Row TOTAL						\$3,835.70

G - Items not included in contract:

Participating					For deductions enter as "-x.xx"		
Federal-aid	State-aid	Change Number	Item Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
Add Row Delete Row TOTAL							

H. Signatures

 3/29/22

Signatures will be applied through DocExpress.

City of Windsor Heights Install new Pushbutton station at 63rd and University NW corner			Baker Electric inc. DIVISION 1		
NO.	Scope	UNIT	UNIT COST	QTY	TOTAL
1	Scope				\$0.00
2	Pushbuttons Oval Pelzo pushbuttons installed	ea	\$265.00	2	\$530.00
3	Iowa one call flag and submit for locates	ls	\$185.00	1	\$185.00
4	PB pole	ls	\$565.00	1	\$565.00
5	PB pole footing, include min order of concrete and anchor bolts	ea	\$985.00	1	\$985.00
6	Install conduit out of HH to footing	ls	\$255.00	1	\$255.00
7	mini hoe	day	\$275.00	1	\$275.00
8					\$0.00
9	Labor to return- install wire and pole, move pushbutton, plug hole in pole, strip forms	hr	\$86.50	8	\$692.00
10					\$0.00
11					\$0.00
12					\$0.00
13					\$0.00
14					\$0.00
15					\$0.00
16					\$0.00
17					\$0.00
18					\$0.00
19					\$0.00
20					\$0.00
21	Does not include				\$0.00
22	Removal of any concrete footings				\$0.00
23	Bond				\$0.00
24	Removal or Replacement of any concrete or asphalt				\$0.00
25	Landscaping seed or sod				\$0.00
26	Survey				\$0.00
27	Traffic Control				\$0.00
28					\$0.00
29					\$0.00
30	Joe Henkels Baker Electric Inc				\$0.00
31	515-245-9584				\$0.00
32	Fax 515-557-3385				\$0.00
33	Cell 515-202-9300				\$0.00
34	jhenkels@bakerelectric.com				\$0.00
35					\$0.00
36					\$0.00
37					\$0.00
38	Please contact me with any comments or additional information you would like provided				\$0.00
39					\$0.00
40					\$0.00
41					\$0.00
42					\$0.00
43					\$0.00
44					\$0.00
45					\$0.00
46					\$0.00
47					\$0.00
48					\$0.00
49					\$0.00
50					\$0.00
51					\$0.00
52					\$0.00
53					\$0.00
54					\$0.00
55					\$0.00
56					\$0.00
TOTAL					\$3,487.00

CHANGE ORDER
For Local Public Agency Projects

No.: 024

Non-Substantial: ☒

Substantial: ☐

Administering Office
Concurrence Date

Accounting ID No. (5-digit number):36634

Project Number: STBG-SWAP-8477(614)--SG-77

Contract Work Type: PCC PAVEMENT - REPLACE

Local Public Agency: City of Windsor Heights

Contractor: Elder Corporation

Date Prepared: November 27, 2023

You are hereby authorized to make the following changes to the contract documents.

A - Description of change to be made:

- 8016 - Add Item "Storm Sewer, Pipe Connections"
- 8017 - Add Item "Storm Sewer, Unused Structures"
- 8018 - Add Item "Storm Sewer, Temporary Connection"
- 8019 - Add Item "Tree Grate and Frame, Unused Restocking"
- 8020 - Add Item "Cold Patch, HMA"

B - Reason for change:

- 8016 - Compensation for storm sewer blind bend connections and additional connections to structures due to plan revisions.
- 8017 - Compensation for storm sewer structures that were built and delivered to site but were unable to be used due to unforeseen conditions that required design changes.
- 8018 - Compensation for temporary storm sewer connection made at 70th Street while Centurylink moved conflicting duct bank and to connect storm sewer through the 2020/2021 winter shutdown.
- 8019 - Compensation for tree grates and frames that were delivered to the the site but could not be installed due to unforeseen conflicts.
- 8020 - Compensation for an HMA street cold patch on the north leg of the 66th St. intersection along the new curb & gutter.

C - Settlement for cost(s) of change as follows with items addressed in Sections F and/or G:

- 8016 - (Lump Sum' Item) Storm Sewer, Pipe Connections \$2,221.00/LS
- 8017 - (Lump Sum' Item) Storm Sewer, Unused Structures \$4,768.00/LS
- 8018 - (Lump Sum' Item) Storm Sewer, Temporary Connection \$22,894.00/LS.
- 8019 - (Lump Sum' Item) Tree Grate and Frame, Unused Restocking \$6,512.44/LS
- 8020 - (Lump Sum' Item) Cold Patch, HMA \$3,080.97/LS

D - Justification for cost(s) (See I.M. 6.000, Attachment D, Chapter 2.36, for acceptable justification):

- 8016 - Price is similar to previous project.
- 8017 - Price is similar to previous project.
- 8018 - Price is similar to previous project.
- 8019 - Price is similar to previous project.
- 8020 - Price is similar to previous project.

E - Contract time adjustment: ☒ No Working Days added

☐ Working Days added: _____ ☐ Unknown at this time

Justification for selection:

F - Items included in contract:

Participating				For deductions enter as "-x.xx"		
Federal-aid	State-aid	Line Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
				Add Row	Delete Row	TOTAL

G - Items not included in contract:

Participating					For deductions enter as "-x.xx"		
Federal-aid	State-aid	Change Number	Item Number	Item Description	Unit Price .xx	Quantity .xxx	Amount .xx
	x	8016	2599-9999010	Storm Sewer, Pipe Connections	\$2,221.00	1.000	\$2,221.00
	x	8017	2599-9999010	Storm Sewer, Unused Structures	\$4,768.00	1.000	\$4,768.00
	x	8018	2599-9999010	Storm Sewer, Temporary Connections	\$22,894.00	1.000	\$22,894.00
	x	8019	2599-9999010	Tree Grate and Frame, Unused Restocking	\$6,512.44	1.000	\$6,512.44
	x	8020	2599-9999010	Cold Patch, HMA	\$3,080.97	1.000	\$3,080.97
				29,883			
				Add Row	Delete Row	TOTAL	\$39,476.41

H. Signatures

Signatures will be applied through DocExpress.



**BOLTON
& MENK**

Real People. Real Solutions.

430 E Grand Avenue
Suite 101
Des Moines, IA 50309

Ph: (515) 259-9190
Fax: (515) 233-4430
Bolton-Menk.com

November 29, 2023

Adam Plagge
City Administrator
1145 66th Street, Suite 1
Windsor Heights, Iowa 50324

RE: University Avenue Improvements Project
Windsor Heights, Iowa
Contractor Pay Request No. 17

Enclosed are three (3) copies of Pay Request No. 17 for work completed on the University Avenue Improvements project for work completed, under the contract between the City of Windsor Heights and Elder Corp. We have checked the pay request and recommend payment to Elder Corp in the amount of \$166,858.86.

Upon approval of Pay Request No. 17, please sign all copies of Pay Request No. 17 in the space provided. Return one executed copy of the pay estimate to our office and one executed copy of the pay request to Elder Corp with payment.

If you have any questions or comments, please contact me at 515-259-9190.

Sincerely,

Bolton & Menk, Inc.

Justin Ernst, P.E.
Project Manager

Enclosure

CONTRACTOR'S PAY REQUEST		DISTRIBUTION:
University Avenue		CONTRACTOR (1)
City of Windsor Heights, Iowa		OWNER (1)
Windsor Heights, Iowa		ENGINEER (1)
BMI PROJECT NO.A13.114724	WORK COMPLETED THROUGH NOVEMBER 13, 2023	BONDING CO. (1)
AMOUNT BID PLUS APPROVED CHANGE ORDERS		\$6,991,370.99
TOTAL, COMPLETED WORK TO DATE		\$6,233,656.60
RETAINED PERCENTAGE (3%)		\$30,000.00
TOTAL AMOUNT OF OTHER PAYMENTS OR (DEDUCTIONS)		\$0.00
NET AMOUNT DUE TO CONTRACTOR TO DATE		\$6,203,656.60
TOTAL AMOUNT PAID ON PREVIOUS ESTIMATES		\$6,036,797.74
PAY CONTRACTOR AS ESTIMATE NO. 17		\$166,858.86

Certificate for Partial Payment

I hereby certify that, to the best of my knowledge and belief, all items quantities and prices of work and material shown on this Estimate are correct.

Contractor: Elder Corporation
5088 E University Avenue
Pleasant Hill, IA 50327

By  Brent Thompson, V.P.
Name Title

Date 11-29-2023

CHECKED AND APPROVED AS TO QUANTITIES AND AMOUNT:

ENGINEER: BOLTON & MENK, INC., 430 E Grand Avenue, Ste 101, Des Moines, IA 50309

By  , PROJECT ENGINEER

Date 11/29/2023

APPROVED FOR PAYMENT:

OWNER:

By _____
Name Title

And _____
Name Title

Partial Pay Estimate No.:

17

University Avenue

City of Windsor Heights, Iowa

Windsor Heights, Iowa

BMI PROJECT NO.A13.114724 WORK COMPLETED THROUGH DATE NOVEMBER 13, 2023

ITEM NO.	SUDAS REF NO.	ITEM	UNIT PRICE	AS BID		PREVIOUS ESTIMATE		COMPLETED TO DATE	
				ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT
1	0	CLEARING AND GRUBBING	\$172.00	29	UNIT \$4,988.00	29.00	UNIT \$4,988.00	29.00	UNIT \$4,988.00
2	0	EXCAVATION, CLASS 10, ROADWAY AND BORROW	\$52.00	2949	CY \$153,348.00	3037.80	CY \$157,965.60	3,037.80	CY \$157,965.60
3	0	TOPSOIL, FURNISH AND SPREAD	\$37.00	1300	CY \$48,100.00	1300.00	CY \$48,100.00	1,300.00	CY \$48,100.00
4	0	SPECIAL COMPACTION OF SUBGRADE	\$6,100.00	16.22	STA \$98,942.00	5.56	STA \$33,916.00	5.56	STA \$33,916.00
5	0	MODIFIED SUBBASE	\$54.00	2200	CY \$118,800.00	2174.90	CY \$117,444.60	2,174.90	CY \$117,444.60
6	0	SHOULDER FINISHING, EARTH	\$600.00	32.5	STA \$19,500.00	31.29	STA \$18,774.00	31.29	STA \$18,774.00
7	0	PATCHES, FULL-DEPTH REPAIR	\$118.00	3389.8	SY \$399,996.40	1987.30	SY \$234,501.40	2,004.90	SY \$236,578.20
8	0	PATCHES BY COUNT (REPAIR)	\$270.00	29	EACH \$7,830.00	24.00	EACH \$6,480.00	24.00	EACH \$6,480.00
9	0	REMOVAL OF CURB	\$3,200.00	0.9	STA \$2,880.00	1.20	STA \$3,840.00	1.20	STA \$3,840.00
10	0	PAVEMENT SCARIFICATION	\$6.50	1873.3	SY \$12,176.45	1873.30	SY \$12,176.45	1,873.30	SY \$12,176.45
11	0	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS	\$73.00	11722	SY \$855,720.60	11178.10	SY \$816,001.30	11,178.10	SY \$816,001.30
12	0	MEDIAN, P.C. CONCRETE, 6 IN	\$129.00	13	SY \$1,677.00	13.00	SY \$1,677.00	13.00	SY \$1,677.00
13	0	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	\$7,900.00	1	LS \$7,900.00	0.62	LS \$4,900.00	0.62	LS \$4,900.00
14	0	HOT MIX ASPHALT STANDARD TRAFFIC, SURFACE COURSE, 1/2 IN. MIX, FRICT	\$58.00	1392.2	TON \$80,747.60	1395.26	TON \$80,925.08	1,395.26	TON \$80,925.08
15	0	ASPHALT BINDER, PG 64-22S, STANDARD TRAFFIC	\$510.00	84	TON \$42,840.00	57.85	TON \$29,503.50	57.85	TON \$29,503.50
16	0	TEMPORARY PAVEMENT	\$90.00	500	SY \$45,000.00	569.70	SY \$51,273.00	569.70	SY \$51,273.00
17	0	REMOVAL OF CONCRETE FOOTINGS OF LIGHT POLES	\$214.00	68	EACH \$14,552.00	49.00	EACH \$10,486.00	49.00	EACH \$10,486.00
18	0	REMOVAL OF LIGHT POLES	\$720.00	46	EACH \$33,120.00	49.00	EACH \$35,280.00	49.00	EACH \$35,280.00
19	0	MODULAR BLOCK RETAINING WALL	\$84.00	150	SF \$12,600.00	150.00	SF \$12,600.00	150.00	SF \$12,600.00
20	0	MANHOLE, STORM SEWER, SW-401, 48 IN	\$2,700.00	10	EACH \$27,000.00	7.00	EACH \$18,900.00	7.00	EACH \$18,900.00
21	0	MANHOLE, STORM SEWER, SW-401, 60 IN	\$4,200.00	7	EACH \$29,400.00	6.00	EACH \$25,200.00	6.00	EACH \$25,200.00
22	0	MANHOLE, STORM SEWER, SW-401, 72 IN	\$5,400.00	1	EACH \$5,400.00	1.00	EACH \$5,400.00	1.00	EACH \$5,400.00
23	0	INTAKE, SW-501	\$2,500.00	3	EACH \$7,500.00	3.00	EACH \$7,500.00	3.00	EACH \$7,500.00
24	0	INTAKE, SW-503	\$4,000.00	2	EACH \$8,000.00	2.00	EACH \$8,000.00	2.00	EACH \$8,000.00
25	0	INTAKE, SW-505	\$3,900.00	16	EACH \$62,400.00	15.00	EACH \$58,500.00	15.00	EACH \$58,500.00
26	0	INTAKE, SW-506	\$7,800.00	3	EACH \$23,400.00	3.00	EACH \$23,400.00	3.00	EACH \$23,400.00
27	0	MANHOLE ADJUSTMENT, MINOR	\$1,100.00	57	EACH \$62,700.00	41.00	EACH \$45,100.00	43.00	EACH \$47,300.00
28	0	MANHOLE ADJUSTMENT, MAJOR	\$3,100.00	7	EACH \$21,700.00	22.00	EACH \$68,200.00	22.00	EACH \$68,200.00
29	0	CONNECTION TO EXISTING MANHOLE	\$1,900.00	2	EACH \$3,800.00	3.00	EACH \$5,700.00	7.00	EACH \$13,300.00
30	0	CONNECTION TO EXISTING INTAKE	\$1,900.00	1	EACH \$1,900.00	0.00	EACH \$0.00	7.00	EACH \$13,300.00
31	0	SUBDRAIN, PERFORATED PLASTIC PIPE, 4 IN. DIA.	\$16.50	3483	LF \$57,469.50	2590.00	LF \$42,735.00	2,590.00	LF \$42,735.00
32	0	SUBDRAIN, PERFORATED PLASTIC PIPE, 6 IN. DIA.	\$52.00	38	LF \$1,976.00	24.00	LF \$1,248.00	24.00	LF \$1,248.00
33	0	SUBDRAIN, PVC, STANDARD, NON-PERFORATED, 6 IN	\$48.00	17	LF \$816.00	45.00	LF \$2,160.00	45.00	LF \$2,160.00
34	0	SUBDRAIN RISER, 6 IN., AS PER PLAN	\$670.00	13	EACH \$8,710.00	13.00	EACH \$8,710.00	13.00	EACH \$8,710.00
35	0	SUBDRAIN OUTLET, DR-303	\$440.00	13	EACH \$5,720.00	19.00	EACH \$8,360.00	19.00	EACH \$8,360.00
36	0	STORM SEWER GRAVITY MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC),	\$45.00	16	LF \$720.00	16.00	LF \$720.00	16.00	LF \$720.00
37	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$79.00	155	LF \$12,245.00	30.00	LF \$2,370.00	30.00	LF \$2,370.00
38	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$81.00	1003	LF \$81,243.00	359.00	LF \$29,079.00	359.00	LF \$29,079.00
39	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$92.00	367	LF \$33,764.00	216.00	LF \$19,872.00	216.00	LF \$19,872.00
40	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$78.00	32	LF \$2,496.00	10.00	LF \$780.00	10.00	LF \$780.00
41	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$87.00	330	LF \$28,710.00	272.60	LF \$23,716.20	272.60	LF \$23,716.20
42	0	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RC	\$119.00	334	LF \$39,746.00	282.00	LF \$33,558.00	282.00	LF \$33,558.00
43	0	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	\$29.00	1714	LF \$49,706.00	1356.00	LF \$39,324.00	1,356.00	LF \$39,324.00
44	0	STORM, SEWER ABANDONMENT, FILL AND PLUG, LESS THAN OR EQUAL TO 3	\$26.50	403	LF \$10,679.50	63.00	LF \$1,669.50	63.00	LF \$1,669.50
45	0	EROSION OF STONE	\$83.00	6	TON \$498.00	6.05	TON \$502.15	6.05	TON \$502.15
46	0	REMOVAL OF PAVEMENT	\$10.75	14151	SY \$152,123.25	15246.80	SY \$163,903.10	14,201.10	SY \$152,661.83
47	0	REMOVAL OF INTAKES AND UTILITY ACCESSES	\$920.00	44	EACH \$40,480.00	32.00	EACH \$29,440.00	32.00	EACH \$29,440.00

Partial Pay Estimate No.:

17

University Avenue

City of Windsor Heights, Iowa

Windsor Heights, Iowa

BMI PROJECT NO.A13.114724 WORK COMPLETED THROUGH DATE NOVEMBER 13, 2023

ITEM NO.	SUDAS REF NO.	ITEM	UNIT PRICE	AS BID		PREVIOUS ESTIMATE		COMPLETED TO DATE	
				ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT
48	0	REMOVAL OF SIDEWALK	\$8.00	3201.3	SY \$25,610.40	3149.17	SY \$25,193.36	3,149.17	SY \$25,193.36
49	0	SIDEWALK, P.C. CONCRETE, 4 IN	\$45.00	1543.7	SY \$69,466.50	1402.50	SY \$63,112.50	1,402.50	SY \$63,112.50
50	0	SIDEWALK, P.C. CONCRETE, 6 IN	\$43.00	386.3	SY \$16,610.90	288.60	SY \$12,409.80	288.60	SY \$12,409.80
51	0	SIDEWALK, REINFORCED P.C. CONCRETE, 6 IN	\$64.00	38	SY \$2,432.00	38.00	SY \$2,432.00	38.00	SY \$2,432.00
52	0	DETECTABLE WARNINGS	\$86.00	855	SF \$73,530.00	855.00	SF \$73,530.00	855.00	SF \$73,530.00
53	0	CURB AND GUTTER, P.C. CONCRETE, 2.0 FT	\$36.00	4621.4	LF \$166,370.40	4681.07	LF \$168,518.40	4,681.07	LF \$168,518.40
54	0	DRIVEWAY, P.C. CONCRETE, 6 IN	\$25.50	743.7	SY \$18,964.35	856.10	SY \$21,830.55	856.10	SY \$21,830.55
55	0	REMOVAL OF PAVED DRIVEWAY	\$18.50	530.3	SY \$9,810.55	550.30	SY \$10,180.55	550.30	SY \$10,180.55
56	0	LIGHTING POLES	\$7,900.00	36	EACH \$284,400.00	38.00	EACH \$300,200.00	38.00	EACH \$300,200.00
57	0	REMOVE AND REINSTALL SIGN AS PER PLAN	\$158.00	27	EACH \$4,266.00	18.00	EACH \$2,844.00	18.00	EACH \$2,844.00
58	0	REMOVAL OF TYPE A SIGN ASSEMBLY	\$105.00	33	EACH \$3,465.00	27.00	EACH \$2,835.00	27.00	EACH \$2,835.00
59	0	PERFORATED SQUARE STEEL TUBE POSTS	\$16.00	260	LF \$4,160.00	280.00	LF \$4,480.00	290.00	LF \$4,640.00
60	0	PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY SOIL INSTAL	\$53.00	26	EACH \$1,378.00	28.00	EACH \$1,484.00	29.00	EACH \$1,537.00
61	0	TYPE A SIGNS, SHEET ALUMINUM	\$10.50	241	SF \$2,530.50	251.50	SF \$2,640.75	251.50	SF \$2,640.75
62	0	TRAFFIC SIGNALIZATION	\$572,762.64	1	LS \$572,762.64	0.97	LS \$519,764.21	1.00	LS \$572,762.64
63	0	PAINTED PAVEMENT MARKINGS, DURABLE	\$142.00	236.3	STA \$33,554.60	320.45	STA \$45,503.90	321.01	STA \$45,583.42
64	0	PAINTED SYMBOLS AND LEGENDS, DURABLE	\$147.00	61	EACH \$8,967.00	63.00	EACH \$9,261.00	63.00	EACH \$9,261.00
65	0	TRAFFIC CONTROL	\$55,844.24	1	LS \$55,844.24	1.00	LS \$39,174.40	1.00	LS \$55,844.24
66	0	TEMPORARY LANE SEPARATOR SYSTEM	\$10.50	3895	LF \$40,897.50	520.00	LF \$5,460.00	520.00	LF \$5,460.00
67	0	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	\$84.00	200	CDAY \$16,800.00	221.00	CDAY \$18,564.00	221.00	CDAY \$18,564.00
68	0	MOBILIZATION	\$698,788.15	1	LS \$698,788.15	0.98	LS \$684,500.00	1.00	LS \$698,788.15
69	0	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	\$35.00	300	CY \$10,500.00	0.00	CY \$0.00	205.71	CY \$7,200.00
70	0	WATER SERVICE CURB STOP AND BOX, WATER SERVICE CURB STOP AND BOX	\$2,800.00	20	EACH \$56,000.00	7.00	EACH \$19,600.00	7.00	EACH \$19,600.00
71	0	VALVE BOX EXTENSION OR ADJUSTMENT	\$480.00	40	EACH \$19,200.00	40.00	EACH \$19,200.00	40.00	EACH \$19,200.00
72	0	('CUBIC YARDS' ITEM) ENGINEERED SOIL MIX (BIOCELLS)	\$70.00	25	CY \$1,750.00	25.00	CY \$1,750.00	25.00	CY \$1,750.00
73	0	('CUBIC YARDS' ITEM) STRUCTURAL SOIL MIX	\$260.00	315	CY \$81,900.00	291.00	CY \$75,660.00	291.00	CY \$75,660.00
74	0	('CUBIC YARDS' ITEM) TOPSOIL COMPOST AMENDED (PLANTING BEDS)	\$61.00	500	CY \$30,500.00	500.00	CY \$30,500.00	500.00	CY \$30,500.00
75	0	('EACH' ITEM) 10 INCH WATERMAIN ALTERATION- BUS SHELTER	\$7,300.00	1	EACH \$7,300.00	0.00	EACH \$0.00	0.00	EACH \$0.00
76	0	('EACH' ITEM) 6 FOOT BENCH	\$2,600.00	8	EACH \$20,800.00	8.00	EACH \$20,800.00	8.00	EACH \$20,800.00
77	0	('EACH' ITEM) BIKE RACK	\$1,100.00	12	EACH \$13,200.00	10.00	EACH \$11,000.00	10.00	EACH \$11,000.00
78	0	('EACH' ITEM) BULBS	\$2.00	1334	EACH \$2,668.00	1334.00	EACH \$2,668.00	1,334.00	EACH \$2,668.00
79	0	('EACH' ITEM) CHARGING STATION	\$2,700.00	3	EACH \$8,100.00	3.00	EACH \$8,100.00	3.00	EACH \$8,100.00
80	0	('EACH' ITEM) COLUMN MONUMENT	\$34,000.00	2	EACH \$68,000.00	2.00	EACH \$68,000.00	2.00	EACH \$68,000.00
81	0	('EACH' ITEM) ENTRY MONUMENT	\$45,000.00	2	EACH \$90,000.00	2.00	EACH \$90,000.00	2.00	EACH \$90,000.00
82	0	('EACH' ITEM) GFCI (INCL. PEDESTAL AND ENCLOSURE)	\$600.00	19	EACH \$11,400.00	9.00	EACH \$5,400.00	9.00	EACH \$5,400.00
83	0	('EACH' ITEM) HH-1	\$740.00	5	EACH \$3,700.00	7.00	EACH \$5,180.00	7.00	EACH \$5,180.00
84	0	('EACH' ITEM) HH-2	\$710.00	10	EACH \$7,100.00	10.00	EACH \$7,100.00	10.00	EACH \$7,100.00
85	0	('EACH' ITEM) LITTER RECEPTACLE	\$2,100.00	7	EACH \$14,700.00	7.00	EACH \$14,700.00	7.00	EACH \$14,700.00
86	0	('EACH' ITEM) NYLOPLAST DRAIN BASIN 12 INCH (BIOCELLS)	\$1,400.00	2	EACH \$2,800.00	2.00	EACH \$2,800.00	2.00	EACH \$2,800.00
87	0	('EACH' ITEM) PERENNIAL GROUND COVER (1 GALLON)	\$9.50	1764	EACH \$16,758.00	1764.00	EACH \$16,758.00	1,712.00	EACH \$16,264.00
88	0	('EACH' ITEM) POLE BASE FOOTING (TYPES S1 S2 S3 & S4 FIXTURES	\$3,500.00	36	EACH \$126,000.00	38.00	EACH \$133,000.00	38.00	EACH \$133,000.00
89	0	('EACH' ITEM) RECYCLING RECEPTACLE	\$2,400.00	7	EACH \$16,800.00	7.00	EACH \$16,800.00	7.00	EACH \$16,800.00
90	0	('EACH' ITEM) REFINISH EXISTING TRAFFIC SIGNAL POLES & ARMS	\$13,000.00	4	EACH \$52,000.00	4.00	EACH \$52,000.00	4.00	EACH \$52,000.00
91	0	('EACH' ITEM) REINFORCED MONOLITHIC CONCRETE FOREBAY (BIOCELLS)	\$6,300.00	2	EACH \$12,600.00	2.00	EACH \$12,600.00	2.00	EACH \$12,600.00
92	0	('EACH' ITEM) RELOCATE HYDRANT ASSEMBLY	\$4,100.00	4	EACH \$16,400.00	3.00	EACH \$12,300.00	3.00	EACH \$12,300.00
93	0	('EACH' ITEM) REMOVE AND REPLACE HYDRANT ASSEMBLY	\$8,400.00	2	EACH \$16,800.00	2.00	EACH \$16,800.00	2.00	EACH \$16,800.00
94	0	('EACH' ITEM) SIGN UPLIGHTS (TYPE S5 FIXTURE)	\$1,400.00	8	EACH \$11,200.00	8.00	EACH \$11,200.00	8.00	EACH \$11,200.00
95	0	('EACH' ITEM) SINGLE HEAD RDWY LIGHT (TYPE S6 FIXTURE)	\$620.00	12	EACH \$7,440.00	4.00	EACH \$2,480.00	4.00	EACH \$2,480.00

Partial Pay Estimate No.:

17

University Avenue

City of Windsor Heights, Iowa

Windsor Heights, Iowa

BMI PROJECT NO.A13.114724 WORK COMPLETED THROUGH DATE NOVEMBER 13, 2023

ITEM NO.	SUDAS REF NO.	ITEM	UNIT PRICE	AS BID		PREVIOUS ESTIMATE		COMPLETED TO DATE	
				ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT
96	0	('EACH' ITEM) STONE BLOCK BENCH	\$1,800.00	19	EACH \$34,200.00	19.00	EACH \$34,200.00	19.00	EACH \$34,200.00
97	0	('EACH' ITEM) STONE BLOCK CUBE	\$1,100.00	27	EACH \$29,700.00	27.00	EACH \$29,700.00	27.00	EACH \$29,700.00
98	0	('EACH' ITEM) TREE GRATE AND FRAME	\$3,200.00	15	EACH \$48,000.00	7.00	EACH \$22,400.00	7.00	EACH \$22,400.00
99	0	('EACH' ITEM) TYPE 1 WATERMAIN ALTERATION	\$6,100.00	4	EACH \$24,400.00	0.00	EACH \$0.00	0.00	EACH \$0.00
100	0	('EACH' ITEM) TYPE 3 WATERMAIN ALTERATION	\$7,300.00	1	EACH \$7,300.00	1.00	EACH \$7,300.00	1.00	EACH \$7,300.00
101	0	('EACH' ITEM) WATER SERVICE CURB STOP & BOX ADJUSTMENT	\$2,800.00	20	EACH \$56,000.00	1.00	EACH \$2,800.00	1.00	EACH \$2,800.00
102	0	('EACH' ITEM) WAYFINDING SIGN KIOSK	\$11,000.00	3	EACH \$33,000.00	1.50	EACH \$16,500.00	3.00	EACH \$33,000.00
103	0	('LINEAR FEET' ITEM) #10 AWG CU	\$2.50	1629	LF \$4,072.50	1175.00	LF \$2,937.50	1,175.00	LF \$2,937.50
104	0	('LINEAR FEET' ITEM) #2 AWG CU	\$5.25	4005	LF \$21,026.25	0.00	LF \$0.00	0.00	LF \$0.00
105	0	('LINEAR FEET' ITEM) #3 AWG CU	\$4.75	3360	LF \$15,960.00	3360.00	LF \$15,960.00	3,360.00	LF \$15,960.00
106	0	('LINEAR FEET' ITEM) #4 AWG CU	\$4.75	7599	LF \$36,095.25	7440.00	LF \$35,340.00	7,440.00	LF \$35,340.00
107	0	('LINEAR FEET' ITEM) #6 AWG CU	\$4.25	9106	LF \$38,700.50	8935.00	LF \$37,973.75	8,935.00	LF \$37,973.75
108	0	('LINEAR FEET' ITEM) #8 AWG CU	\$4.00	26580	LF \$106,320.00	21375.00	LF \$85,500.00	21,375.00	LF \$85,500.00
109	0	('LINEAR FEET' ITEM) CONCRETE BAND 8 INCH WIDTH	\$87.00	360	LF \$31,320.00	401.50	LF \$34,930.50	401.50	LF \$34,930.50
110	0	('LINEAR FEET' ITEM) LIMESTONE EDGER	\$26.50	600	LF \$15,900.00	573.60	LF \$15,200.40	573.60	LF \$15,200.40
111	0	('LINEAR FEET' ITEM) TRENCHING CONDUIT	\$12.25	19553	LF \$239,524.25	10346.00	LF \$126,738.50	10,346.00	LF \$126,738.50
112	0	('SQUARE YARDS' ITEM) CONCRETE UNIT PAVERS	\$247.00	325	SY \$80,275.00	311.50	SY \$76,940.50	311.50	SY \$76,940.50
113	0	('TONS' ITEM) FOUNDATION ROCK	\$77.00	10	TON \$770.00	0.00	TON \$0.00	0.00	TON \$0.00
114	0	('TONS' ITEM) NO. 57 STONE (AGGREGATE CHAMBER)	\$90.00	16	TON \$1,440.00	17.83	TON \$1,604.70	17.83	TON \$1,604.70
115	0	('TONS' ITEM) NO. 8 STONE (CHOCKER LAYER)	\$77.00	3	TON \$231.00	4.11	TON \$316.47	4.11	TON \$316.47
116	0	MULCHING	\$2,100.00	1.6	ACRE \$3,360.00	1.24	ACRE \$2,604.00	1.60	ACRE \$3,360.00
117	0	SEEDING AND FERTILIZING (URBAN)	\$1,000.00	1.6	ACRE \$1,600.00	0.69	ACRE \$690.00	1.60	ACRE \$1,600.00
118	0	SLOPE PROTECTION, WOOD EXCELSIOR MAT	\$9.50	115	SQ \$1,092.50	7.71	SQ \$73.25	7.71	SQ \$73.25
119	0	STABILIZED CONSTRUCTION ENTRANCE, EC-303	\$76.00	300	LF \$22,800.00	170.00	LF \$12,920.00	170.00	LF \$12,920.00
120	0	PERIMETER AND SLOP SEDIMENT CONTROL DEVICE, 9 IN. DIA.	\$2.00	5540	LF \$11,080.00	1200.00	LF \$2,400.00	1,530.00	LF \$3,060.00
121	0	REMOVAL OF PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE	\$0.50	5540	LF \$2,770.00	0.00	LF \$0.00	1,530.00	LF \$765.00
122	0	OPEN-THROAT CURB INTAKE SEDIMENT FILTER, EC-602	\$10.50	20	LF \$210.00	12.00	LF \$126.00	12.00	LF \$126.00
123	0	MAINTENANCE OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	\$26.50	4	EACH \$106.00	0.00	EACH \$0.00	0.00	EACH \$0.00
124	0	REMOVAL OF OPEN-THROAT CURB INTAKE SEDIMENT FILTER	\$26.50	4	EACH \$106.00	0.00	EACH \$0.00	0.00	EACH \$0.00
125	0	GRATE INTAKE SEDIMENT FILTER BAG	\$205.00	43	EACH \$8,815.00	34.00	EACH \$6,970.00	34.00	EACH \$6,970.00
126	0	MAINTENANCE OF GRATE INTAKE SEDIMENT FILTER BAG	\$26.50	43	EACH \$1,139.50	0.00	EACH \$0.00	34.00	EACH \$901.00
127	0	REMOVAL OF GRATE INTAKE SEDIMENT FILTER BAG	\$10.50	43	EACH \$451.50	0.00	EACH \$0.00	0.00	EACH \$0.00
128	0	MOBILIZATION, EROSION CONTROL	\$500.00	10	EACH \$5,000.00	6.00	EACH \$3,000.00	10.00	EACH \$5,000.00
129	0	MOBILIZATION, EMERGENCY EROSIONS CONTROL	\$1,000.00	1	EACH \$1,000.00	0.00	EACH \$0.00	0.00	EACH \$0.00
130	0	SHRUBS	\$48.00	53	EACH \$2,544.00	53.00	EACH \$2,544.00	53.00	EACH \$2,544.00
131	0	TREES	\$470.00	48	EACH \$22,560.00	43.00	EACH \$20,210.00	43.00	EACH \$20,210.00
132	0	MODIFIED SUBBASE	\$60.00	630	CY \$37,800.00	697.30	CY \$41,838.00	697.30	CY \$41,838.00
133	0	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN	\$51.00	4525.1	SY \$230,780.10	4343.90	SY \$221,538.90	4,343.90	SY \$221,538.90
8001	0	SUBGRADE STABILIZATION MATERIAL, POLYMER GIRD	\$3.85	722	SY \$2,779.70	1790.90	SY \$6,894.97	1,790.90	SY \$6,894.97
8002	0	PAINTED PAVEMENT MARKINGS, WATERBORNE OR SOLVENT-BASED	\$75.00	27.82	STA \$2,086.50	64.42	STA \$4,831.50	64.42	STA \$4,831.50
8003	0	SAW PAVEMENT (FULL DEPTH)	\$4.05	800	LF \$3,240.00	1236.00	LF \$5,005.80	1,236.00	LF \$5,005.80
8004	0	LOCATE TRAFFIC SIGNALS	\$836.00	1	LS \$836.00	1.00	LS \$836.00	1.00	LS \$836.00
8005	0	TEMPORARY TRAFFIC CONTROL FOR WINTER SHUTDOWN	\$5,390.00	1	LS \$5,390.00	1.00	LS \$5,390.00	1.00	LS \$5,390.00
8006	0	TEMPORARY TRAFFIC CONTROL WINTER MAINTENANCE	\$385.00	3	EACH \$1,155.00	0.00	EACH \$0.00	0.00	EACH \$0.00
8007	0	PAVEMENT MARKINGS REMOVED	\$800.00	0.5	STA \$400.00	0.50	STA \$400.00	0.50	STA \$400.00
8008	0	TRAFFIC SIGNAL INTERCONNECTION	\$60,767.30	1	LS \$60,767.30	1.00	LS \$60,767.30	1.00	LS \$60,767.30
8009	0	HYDRANT AND TEE REMOVAL	\$5,900.00	1	LS \$5,900.00	1.00	LS \$5,900.00	1.00	LS \$5,900.00
8010	0	PAVEMENT MARKING REMOVAL	\$1,430.00	1	LS \$1,430.00	1.00	LS \$1,430.00	1.00	LS \$1,430.00

Partial Pay Estimate No.:

17

University Avenue

City of Windsor Heights, Iowa

Windsor Heights, Iowa

BMI PROJECT NO.A13.114724 WORK COMPLETED THROUGH DATE NOVEMBER 13, 2023

ITEM NO.	SUDAS REF NO.	ITEM	UNIT PRICE	AS BID		PREVIOUS ESTIMATE		COMPLETED TO DATE	
				ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT	ESTIMATED QUANTITY	ESTIMATED AMOUNT
8011	0	PATCHES, PARTIAL-DEPTH P.C.C. FINISH	\$26.70	1	SF \$26.70	0.00	SF \$0.00	0.00	SF \$0.00
8012	0	PARTIAL DEPTH PCC JOINT AND CRACK REPAIR PATCHES	\$26.70	1200	LF \$32,040.00	1471.00	LF \$39,275.70	1,471.00	LF \$39,275.70
8013	0	GROOVES CUT FOR PAVEMENT MARKINGS	\$27.50	150	STA \$4,125.00	91.88	STA \$2,526.70	91.88	STA \$2,526.70
8014	0	GROOVES CUT FOR SYMBOLS AND LEGENDS	\$99.00	36	EACH \$3,564.00	60.00	EACH \$5,940.00	60.00	EACH \$5,940.00
8015	0	REMOVE AND REPLACE VALVE VAULT TOP	\$41,150.00	1	LS \$41,150.00	1.00	LS \$41,150.00	1.00	LS \$41,150.00
8016	0	STORM SEWER, PIPE CONNECTIONS	\$2,221.00	1	LS \$2,221.00	0.00	LS \$0.00	1.00	LS \$2,221.00
8017	0	STORM SEWER, UNUSED STRUCTURES	\$4,768.00	1	LS \$4,768.00	0.00	LS \$0.00	1.00	LS \$4,768.00
8018	0	STORM SEWER, TEMPORARY CONNECTION	\$22,894.00	1	LS \$22,894.00	0.00	LS \$0.00	1.00	LS \$22,894.00
8019	0	TREE GRATE AND FRAME, UNUSED RESTOCKING	\$6,512.44	1	LS \$6,512.44	0.00	LS \$0.00	1.00	LS \$6,512.44
8020	0	COLD PATCH, HMA	\$3,080.97	1	LS \$3,080.97	0.00	LS \$0.00	1.00	LS \$3,080.97
8999	0	STOCKPILED MATERIAL	\$32,310.00	1	LS \$32,310.00	0.00	LS \$0.00	0.00	LS \$0.00
		TOTAL AMOUNT:			\$6,991,370.99		\$6,066,797.74		\$6,233,656.60

RESOLUTION NO. 2023-59

**A RESOLUTION APPOINTING REGULAR AND ALTERNATE MEMBER
REPRESENTATIVES TO THE METROPOLITAN PLANNING ORGANIZATION (MPO)
FOR 2024**

WHEREAS, the City of Windsor Heights, Iowa, is a member community of the Metropolitan Planning Organization; and

WHEREAS, the City desires to appoint Mayor Mike Jones as the Primary Policy Committee representative of the MPO, and Councilor Michael Libbie as an alternate representative member to act as a designee when the regular representative is unable to attend a meeting(s); and

WHEREAS, the City desires to appoint City Engineer Justin Ernst as the Primary Technical Committee representative, and the City appoints Public Works Director Jason Roberts as an alternate representative member to act as a designee when the regular representative is unable to attend a meeting(s); and

WHEREAS, the City desires to nominate Mayor Mike Jones to the Executive Committee representative; and

WHEREAS, in order to make the above appointment it is required that the Council approve such appointment by resolution.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF WINDSOR HEIGHTS, IOWA AS FOLLOWS:

Mayor Mike Jones is hereby appointed as the Primary Policy Committee representative of and Council Member Michael Libbie is appointed as an alternate representative of the MPO effective for calendar year 2024.

BE IT FURTHER RESOLVED that City Engineer Justin Ernst is hereby appointed as the Primary Technical Committee representative and Public Works Director Jason Roberts is appointed as the alternate representative effective for calendar year 2024.

BE IT FURTHER RESOLVED that Mayor Mike Jones is hereby the City of Windsor Heights Executive Committee representative nominee effective for calendar year 2024.

Passed and Approved, this 4th day of December, 2023.

Mike Jones, Mayor

ATTEST: Adam Strait, City Clerk

RESOLUTION NO. 2023-60

**RESOLUTION APPOINTING COMMISSIONER AND ALTERNATE
COMMISSIONER TO THE DES MOINES AREA REGIONAL TRANSIT AUTHORITY
("DART") FOR 2024**

WHEREAS, the City of Windsor Heights proudly supports and participates in the governance of the Des Moines Area Regional Transit Authority ("DART"); and

WHEREAS, the Des Moines Area Regional Transit Authority is governed by a Board of Commissioners that consists of elected officials throughout the Des Moines Metro, one from each member government; and

WHEREAS, per the Substituted and Restated 28E Agreement, it is the responsibility of the Mayor to appoint both a Commissioner and Alternate Commissioner; and

WHEREAS, Mayor Jones appoints Councilor Joseph Jones to serve as Commissioner and Councilor Lauren Campbell serve as Alternate Commissioner.

NOW, THEREFORE, BE IT RESOLVED that Joseph Jones is appointed to serve as Commissioner and Councilor Lauren Campbell is appointed to serve as Alternate Commissioner to the Des Moines Area Regional Transit Authority for the 2024 calendar year.

Passed and Approved this 4th day of December, 2023.

Mike Jones, Mayor

Attest: Adam Strait, City Clerk

RESOLUTION NO. 2023-61

A RESOLUTION APPROVING THE 73RD STREET IMPROVEMENT PLANS

WHEREAS, the 73rd Street Improvement Plans as prepared by Bolton & Menk, Inc. dated November 7th, 2023 have been reviewed by City staff; and

WHEREAS, said plans conform to the City's regulations, design standards, and specifications.

NOW, THEREFORE, BE IT RESOLVED that the 73rd Street Improvement Plans, prepared by Bolton & Menk, Inc., dated November 7th, 2023 are hereby approved.

Passed and Approved this 4th day of December, 2023.

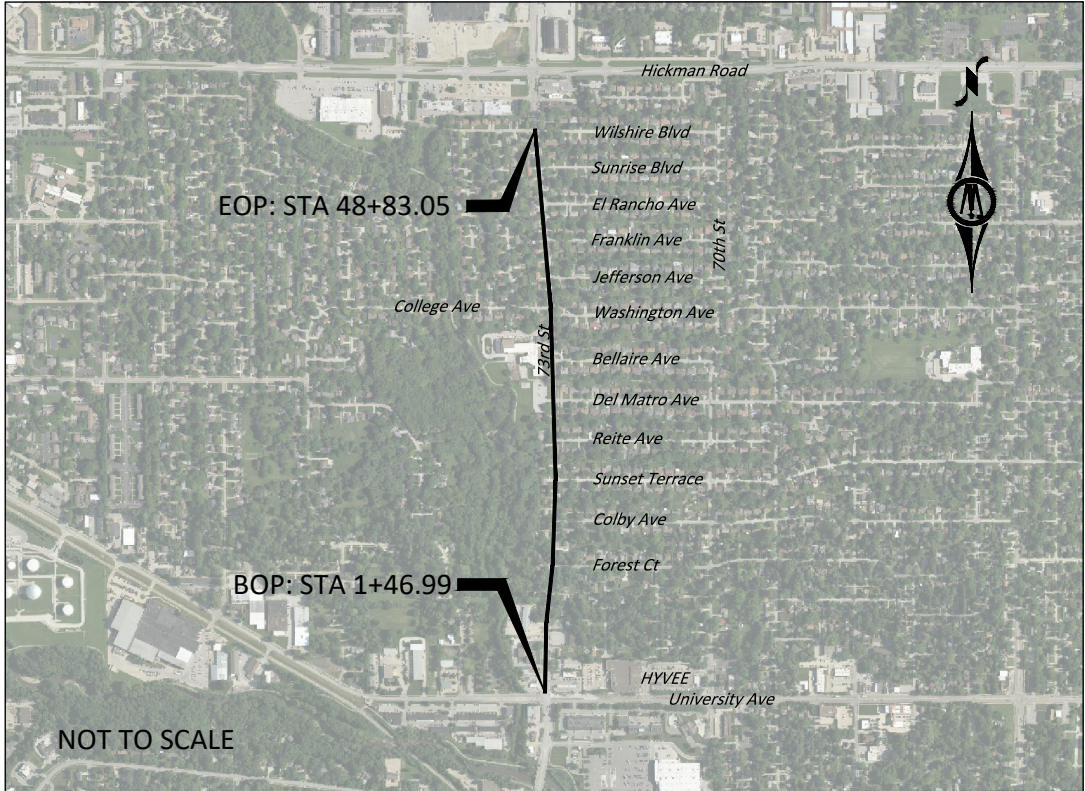
Mike Jones, Mayor

Attest: Adam Strait, City Clerk

© Bolton & Menk, Inc. 2023. All Rights Reserved.
H:\WINDSOR\G:\IA\13120659\CAD\CD\Sheets\120659_A01_DOT.dwg 1/17/2023 11:29:44 PM

THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2. THE CONTRACTOR SHALL CARRY OUT THE TERMS AND CONDITIONS OF GENERAL PERMIT NO. 2 AND THE STORM WATER POLLUTION PREVENTION PLAN WHICH IS A PART OF THESE CONTRACT DOCUMENTS. REFER TO SECTION 2602 OF THE STANDARD SPECIFICATIONS FOR ADDITIONAL INFORMATION.

OWNER/APPLICANT
CITY OF WINDSOR HEIGHTS, IOWA
1145 66TH ST.
WINDSOR HEIGHTS, IOWA 50324
PHONE: 515-279-3662



MAP OF THE
CITY OF WINDSOR HEIGHTS
POLK COUNTY, IA

URBAN ROAD SYSTEM

CITY OF WINDSOR HEIGHTS

PCC PAVEMENT WIDENING WITH PCC RESURFACING IN THE CITY OF WINDSOR HEIGHTS, ON 73RD STREET: FROM UNIVERSITY AVENUE TO HICKMAN ROAD

REFER TO THE PROPOSAL FORM FOR LIST OF APPLICABLE SPECIFICATIONS.

UTILITY CONTACTS

SANITARY SEWER: CITY OF WINDSOR HEIGHTS
JASON ROBERTS
1145 66TH ST.
WINDSOR HEIGHTS, IOWA 50324
CELL: 515-279-3662

STORM SEWER: CITY OF WINDSOR HEIGHTS
JASON ROBERTS
1145 66TH ST.
WINDSOR HEIGHTS, IOWA 50324
CELL: 515-279-3662

WATER: DES MOINES WATER WORKS
CARLA SCHUMACHER
2201 GEORGE FLAGG PARKWAY
DES MOINES, IOWA 50321
CSCHUMACHER@DMWW.COM

NATURAL GAS: MIDAMERICAN ENERGY
SCOT ENGER
3500 104TH STREET
URBANDALE, IA 50322
CELL: 515-252-6742
SCOT.ENG@MIDAMERICAN.COM

ELECTRIC: MIDAMERICAN ENERGY
SCOT ENGER
3500 104TH STREET
URBANDALE, IA 50322
CELL: 515-252-6742
SCOT.ENG@MIDAMERICAN.COM

COMMUNICATIONS LUMEN:
ASHLIE CLEMENTS
2103 E. UNIVERSITY
DES MOINES, IA 50317
CELL: 906-284-2821
ASHLIE.CLEMENTS@LUMEN.COM

IOWA COMMUNICATION NETWORK:
TIMOTHY FLICKINGER
400 EAST 14TH STREET
DES MOINES, IA 50319
CELL: 515-491-3750
TIMOTHY.FLICKINGER@IOWA.GOV

VERIZON
MARK ALEXANDER
CELL: 515-499-5998

MEDIACOM
KEVIN COLLINS
CELL: 515-554-2648
KCCOLLINS1@MEDIACOMCC.COM



NOTE: THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS UTILITY QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW, NOTIFY IOWA ONE CALL 1-800-292-8989.

SHEET TOTAL: 163 PAGES

SHEET INDEX

SHEET NO.	SHEET TITLE
A.01	TITLE SHEET
A.02	ISSUE SHEET
B.01	TYPICAL SECTIONS
B.02 - B.04	DETAILS
C.01 - C.04	ESTIMATED QUANTITIES AND ESTIMATE REFERENCE NOTES
C.05 - C.19	TABULATIONS
C.20 - C.21	POLLUTION PREVENTION PLAN
D.01 - D.08	PLAN AND PROFILE SHEET
E.01 - E.06	SIDE ROAD PLAN AND PROFILE SHEET
F.01 - F.05	REMOVALS SHEET
G.01 - G.03	CONTROL POINT AND ALIGNMENT DATA
J.01 - J.05	STAGING
J.06	TRAFFIC CONTROL
L.01 - L.15	JOINTING
L.16 - L.22	INTERSECTION DETAILS
M.01 - M.15	STORM SEWER PLAN & PROFILE
M.16	STORM SEWER PIPE TABULATION
M.17	STORM SEWER STRUCTURE TABULATION
MWM.01 - MWM.02	WATER MAIN GENERAL NOTES & DETAILS
MWM.03	FITTINGS TABULATION
MWM.04	DETAILS
MWM.05 - MWM.19	WATER MAIN - PLAN & PROFILE
N.01 - N.05	PAVEMENT MARKINGS
N.06 - N.10	HAWK SIGNAL PLAN
R.01 - R.04	POLLUTION PREVENTION PLAN
S.01 - S.10	SIDEWALK PLAN
S.11 - S.26	ADA COMPLIANCE
W.01 - W.10	CROSS SECTIONS

STANDARD ROAD PLANS

STANDARD ROAD PLANS ARE LISTED ON SHEET NUMBER C.05

PRINT DATE: 11-07-2023

MILEAGE SUMMARY

Div.	Location	Lin. Ft.	Miles
URBAN:			
	73rd Street Sta 1+46.99 to Sta 48+83.05	4736.06	0.89
	TOTAL:	4736.06	0.89

PLAN REVISIONS

DATE	SHEET NUMBER	APPROVED BY



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.

JUSTIN ERNST, P.E.

REG. NO. 23753 DATE:

MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023

PAGES OR SHEETS COVERED BY THIS SEAL:

ALL SHEETS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\V\W\30501 - C\A\1317-089\CAD\30501.dwg 11/7/2023 9:50:17 PM

EXISTING TOPOGRAPHIC SYMBOLS

	ACCESS GRATE		REGULATION STATION GAS
	AIR CONDITION UNIT		SATELLITE DISH
	ANTENNA		SIGN TRAFFIC
	AUTO SPRINKLER CONNECTION		SIGNAL CONTROL CABINET
	BARRICADE PERMANENT		SOIL BORING
	BASKETBALL POST		SIREN
	BENCH		TELEPHONE BOOTH
	BIRD FEEDER		TILE INLET
	BOLLARD		TILE OUTLET
	BUSH		TILE RISER
	CATCH BASIN RECTANGULAR CASTING		TRANSFORMER-ELECTRIC
	CATCH BASIN CIRCULAR CASTING		TREE-CONIFEROUS
	CURB STOP		TREE-DEAD
	CLEAN OUT		TREE-DECIDUOUS
	CULVERT END		TREE STUMP
	DRINKING FOUNTAIN		TRAFFIC ARM BARRIER
	DOWN SPOUT		TRAFFIC SIGNAL
	FILL PIPE		TRASH CAN
	FIRE HYDRANT		UTILITY MARKER
	FLAG POLE		VALVE
	FLARED END / APRON		VALVE POST INDICATOR
	FUEL PUMP		VALVE VAULT
	GRILL		VENT PIPE
	GUY WIRE ANCHOR		WATER SPIGOT
	HANDHOLE		WELL
	HANDICAP SPACE		WETLAND DELINEATED MARKER
	IRRIGATION SPRINKLER HEAD		WETLAND
	IRRIGATION VALVE BOX		WET WELL
	LIFT STATION CONTROL PANEL		YARD HYDRANT

PROPOSED TOPOGRAPHIC SYMBOLS

	CLEANOUT
	MANHOLE
	LIFT STATION
	STORM SEWER CIRCULAR CASTING
	STORM SEWER RECTANGULAR CASTING
	STORM SEWER FLARED END / APRON
	STORM SEWER OUTLET STRUCTURE
	STORM SEWER OVERFLOW STRUCTURE
	CURB BOX
	FIRE HYDRANT
	WATER VALVE
	WATER REDUCER
	WATER BEND
	WATER TEE
	WATER CROSS
	WATER SLEEVE
	WATER CAP / PLUG
	RIP RAP
	DRAINAGE FLOW
	TRAFFIC SIGNS
	PEDESTAL-COMMUNICATION
	PEDESTAL-ELECTRIC
	PEDESTRIAN PUSH BUTTON
	PICNIC TABLE
	POLE-UTILITY
	POST
	RAILROAD SIGNAL POLE

SURVEY SYMBOLS

	BENCH MARK LOCATION
	CONTROL POINT
	MONUMENT IRON FOUND
	CAST IRON MONUMENT

EXISTING TOPOGRAPHIC LINES

	RETAINING WALL
	FENCE
	FENCE-DECORATIVE
	GUARD RAIL
	TREE LINE
	BUSH LINE

SURVEY LINES

	CONTROLLED ACCESS BOUNDARY
	CENTERLINE
	EXISTING EASEMENT LINE
	PROPOSED EASEMENT LINE
	EXISTING LOT LINE
	PROPOSED LOT LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	SETBACK LINE
	SECTION LINE
	QUARTER LINE
	SIXTEENTH LINE
	TEMPORARY EASEMENT

EXISTING UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	CLIVE WATERMAIN
	WATERMAIN
	WATER SERVICE

PROPOSED UTILITY LINES

	FORCEMAIN
	SANITARY SEWER
	SANITARY SERVICE
	STORM SEWER
	STORM SEWER DRAIN TILE
	WATERMAIN
	WATER SERVICE
	PIPE CASING

GRADING INFORMATION

	EXISTING CONTOUR MINOR
	EXISTING CONTOUR MAJOR
	PROPOSED CONTOUR MINOR
	PROPOSED CONTOUR MAJOR
	PROPOSED GRADING LIMITS / SLOPE LIMITS
	PROPOSED SPOT ELEVATION
	RISE:RUN (SLOPE)

HATCH PATTERNS

	8" PCC PAVEMENT		6" PCC DRIVEWAY
	6" PCC TRAIL		FULL DEPTH PATCH
	PCC SIDEWALK (SEE S SHEETS FOR DEPTH)		

EXISTING PRIVATE UTILITY LINES

NOTE:
EXISTING UTILITY INFORMATION SHOWN ON THIS PLAN HAS BEEN PROVIDED BY THE UTILITY OWNER. THE CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS PRIOR TO COMMENCING CONSTRUCTION AS REQUIRED BY STATE LAW. NOTIFY **IOWA ONE CALL**, 1-800-292-8989 OR 811.

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D UNLESS OTHERWISE NOTED. THIS UTILITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA"

	UNDERGROUND FIBER OPTIC
	UNDERGROUND ELECTRIC
	UNDERGROUND GAS
	UNDERGROUND COMMUNICATION
	OVERHEAD ELECTRIC
	OVERHEAD COMMUNICATION
	OVERHEAD UTILITY

UTILITIES IDENTIFIED WITH A QUALITY LEVEL :

LINE TYPES FOLLOW THE FORMAT: UTILITY TYPE - QUALITY LEVEL
EXAMPLE: G-A G-A UNDERGROUND GAS, QUALITY LEVEL A
UTILITY QUALITY LEVEL (A,B,C,D) DEFINITIONS CAN BE FOUND IN CI/ASCE 38-02.

UTILITY QUALITY LEVELS:

QUALITY LEVEL D: PROVIDES THE MOST BASIC LEVEL OF INFORMATION. IT INVOLVES COLLECTING DATA FROM EXISTING UTILITY RECORDS. RECORDS MAY INCLUDE AS-BUILT DRAWINGS, DISTRIBUTION AND SERVICES MAPS, EXISTING GEOGRAPHIC INFORMATION SYSTEM DATABASES, CONSTRUCTION PLANS, ETC.

QUALITY LEVEL C: INVOLVES SURVEYING VISIBLE SUBSURFACE UTILITY STRUCTURES SUCH AS MANHOLES, HAND-HOLES, UTILITY VALVES AND METERS, FIRE HYDRANTS, PEDESTALS AND UTILITY MARKERS, AND THEN CORRELATING THE INFORMATION WITH EXISTING UTILITY RECORDS TO CREATE COMPOSITE DRAWINGS. INCLUDES QUALITY LEVEL D ACTIVITIES.

QUALITY LEVEL B: INVOLVES DESIGNATING THE HORIZONTAL POSITION OF SUBSURFACE UTILITIES THROUGH SURFACE DETECTION METHODS AND COLLECTING THE INFORMATION THROUGH A SURVEY METHOD. INCLUDES QUALITY LEVEL C AND D TASKS.

QUALITY LEVEL A: PROVIDES THE HIGHEST LEVEL OF ACCURACY. IT INVOLVES LOCATING OR POTHOLING UTILITIES AS WELL AS ACTIVITIES IN QUALITY LEVELS B, C, AND D. THE LOCATED FACILITY INFORMATION IS SURVEYED AND MAPPED AND THE DATA PROVIDES PRECISE PLAN AND PROFILE INFORMATION.

ABBREVIATIONS

A	ALGEBRAIC DIFFERENCE	F.O.	FIELD ORDER	RET	RETAINING
ADJ	ADJUST	GRAN	GRANULAR	RSC	RIGID STEEL CONDUIT
ALT	ALTERNATE	GRAV	GRAVEL	RT	RIGHT
B-B	BACK TO BACK	GU	GUTTER	SAN	SANITARY SEWER
BIT	BITUMINOUS	GV	GATE VALVE	SCH	SCHEDULE
BLDG	BUILDING	HDPE	HIGH DENSITY POLYETHYLENE	SERV	SERVICE
BMP	BEST MANAGEMENT PRACTICE	HH	HANDHOLE	SHLD	SHOULDER
BP	BOTTOM OF PIPE	HP	HIGH POINT	STA	STATION
BR	BEGIN RADIUS	HWL	HIGH WATER LEVEL	STD	STANDARD
BV	BUTTERFLY VALVE	HYD	HYDRANT	STM	STORM SEWER
CB	CATCH BASIN	I	INVERT	TC	TOP OF CURB
C&G	CURB AND GUTTER	K	CURVE COEFFICIENT	TE	TEMPORARY EASEMENT
CIP	CAST IRON PIPE	L	LENGTH	TEMP	TEMPORARY
CIPP	CURED-IN-PLACE PIPE	LO	LOWEST OPENING	TNH	TOP NUT HYDRANT
CL	CENTER LINE	LP	LOW POINT	TP	TOP OF PIPE
CL	CLASS	LT	LEFT	TYP	TYPICAL
CLVT	CULVERT	MH	MANHOLE	VCP	VITRIFIED CLAY PIPE
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	VERT	VERTICAL
C.O.	CHANGE ORDER	MR	MID RADIUS	VPC	VERTICAL POINT OF CURVE
COMM	COMMUNICATION	NIC	NOT IN CONTRACT	VPI	VERTICAL POINT OF INTERSECTION
CON	CONCRETE	NMC	NON-METALLIC CONDUIT	VPT	VERTICAL POINT OF TANGENT
CSP	CORRUGATED STEEL PIPE	NTS	NOT TO SCALE	WM	WATERMAIN
DIA	DIAMETER	NWL	NORMAL WATER LEVEL	WW	WATER WORKS
DIP	DUCTILE IRON PIPE	OHW	ORDINARY HIGH WATER LEVEL		
DMWW	DES MOINES WATER WORKS	PC	POINT OF CURVE		
DWY	DRIVEWAY	PCC	PORTLAND CEMENT CONCRETE	AC	ACRES
E	EXTERNAL CURVE DISTANCE	PE	PERMANENT EASEMENT	CF	CUBIC FEET
ELEC	ELECTRIC	PED	PEDESTRIAN, PEDESTAL	CV	COMPACTED VOLUME
ELEV	ELEVATION	PERF	PERFORATED PIPE	CY	CUBIC YARD
EOF	EMERGENCY OVERFLOW	PERM	PERMANENT	EA	EACH
ER	END RADIUS	PI	POINT OF INTERSECTION	EV	EXCAVATED VOLUME
ESMT	EASEMENT	PL	PROPERTY LINE	LB	POUND
EX	EXISTING	PRC	POINT OF REVERSE CURVE	LF	LINEAR FEET
FES	FLARED END SECTION	PT	POINT OF TANGENT	LS	LUMP SUM
F-F	FACE TO FACE	PVC	POLYVINYL CHLORIDE PIPE	LV	LOOSE VOLUME
FF	FINISHED FLOOR	PVMT	PAVEMENT	SF	SQUARE FEET
F&I	FURNISH AND INSTALL	R	RADIUS	SV	STOCKPILE VOLUME
FM	FORCEMAIN	R/W	RIGHT-OF-WAY	SY	SQUARE YARD
FO	FIBER OPTIC	RCP	REINFORCED CONCRETE PIPE		

CHECK
PLANS

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK COUNTY

PROJECT NUMBER

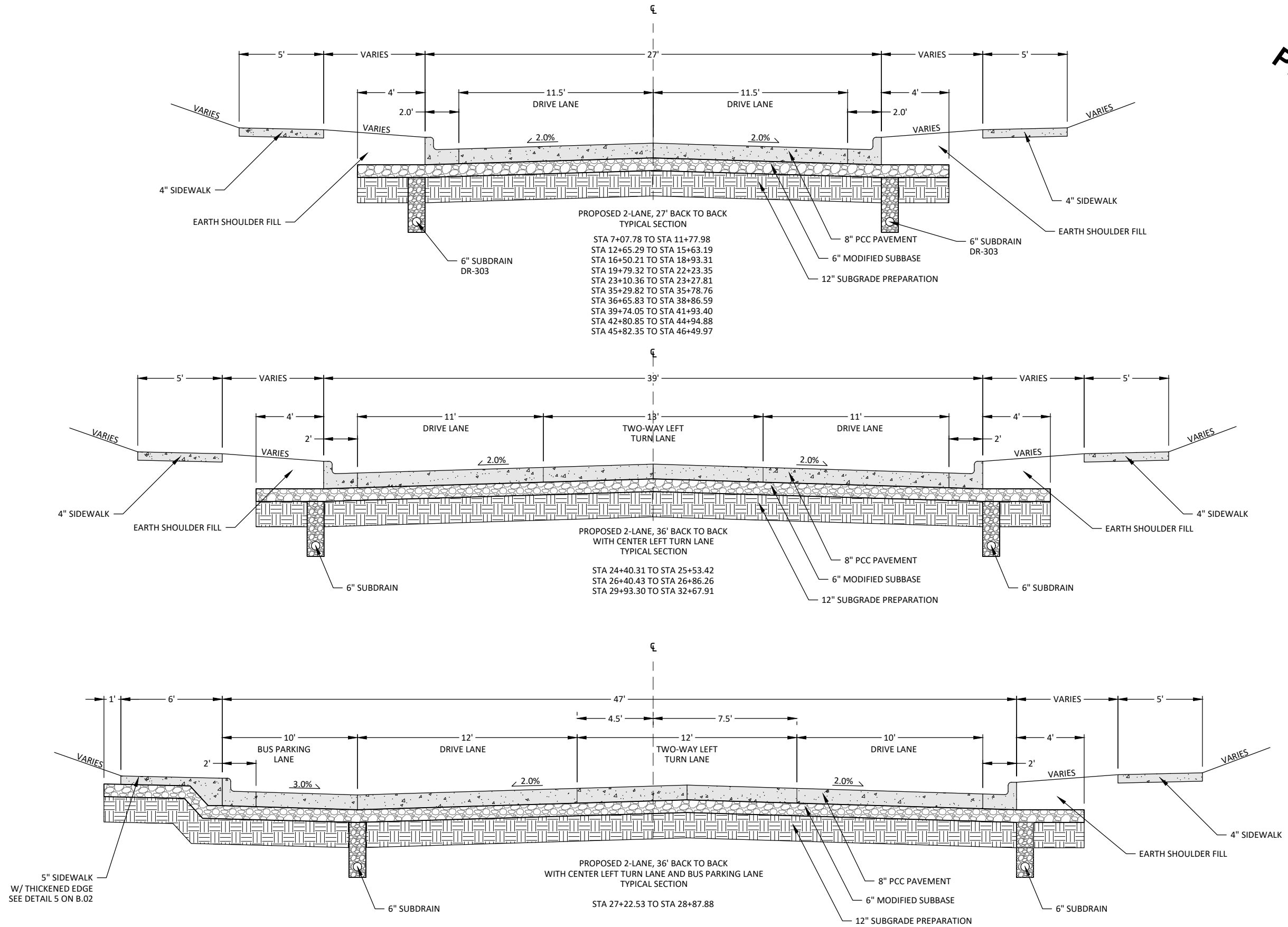
STP-U-8477(615)--70-77

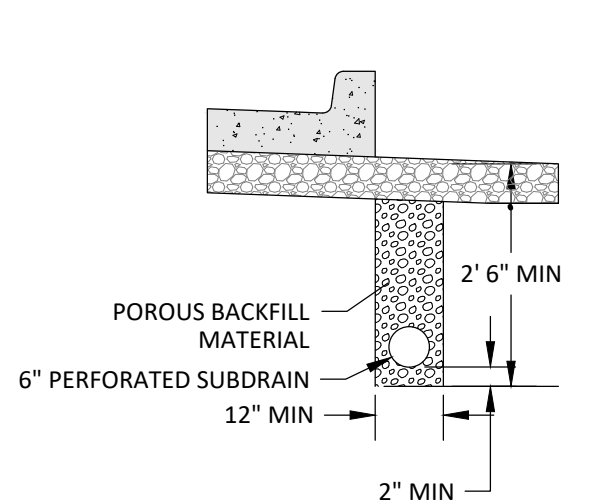
SHEET NUMBER

A.02

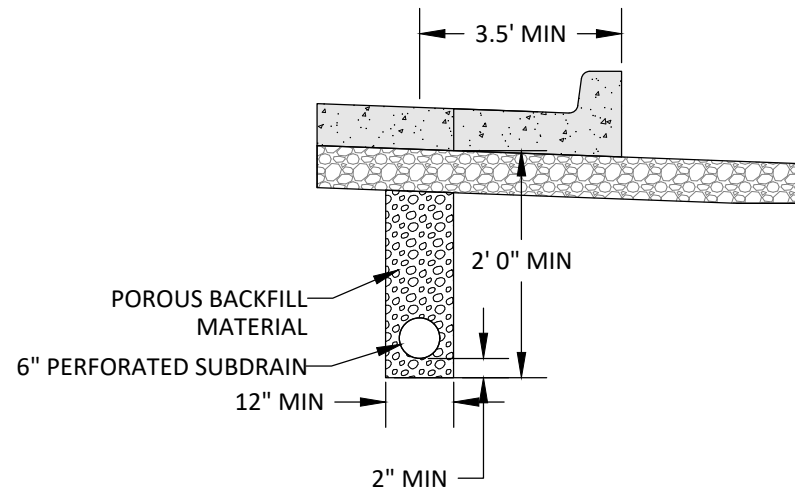
REVISED

CHECK
PLANS

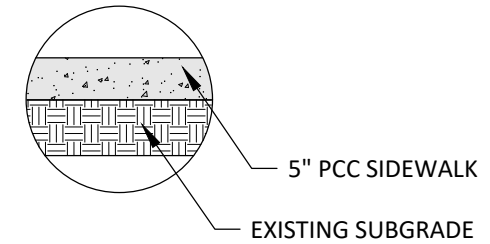




1
B.02 6" PERFORATED SUBDRAIN
NTS

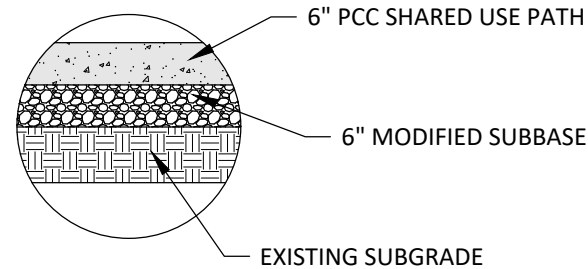


2
B.02 6" PERFORATED SUBDRAIN UNDER PAVEMENT
NTS

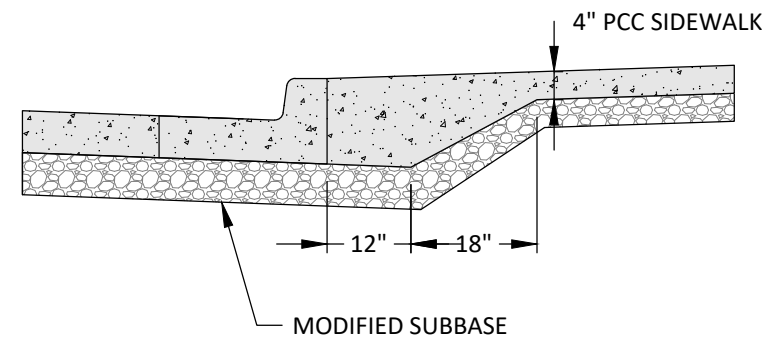


3
B.02 5" PCC SIDEWALK
NTS

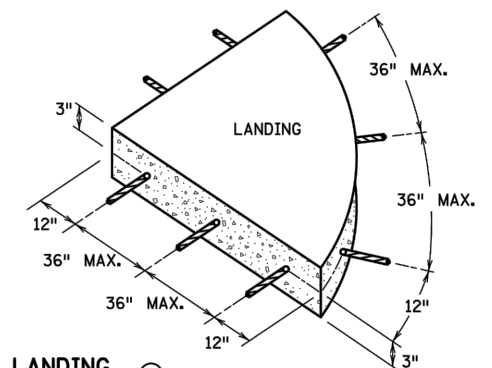
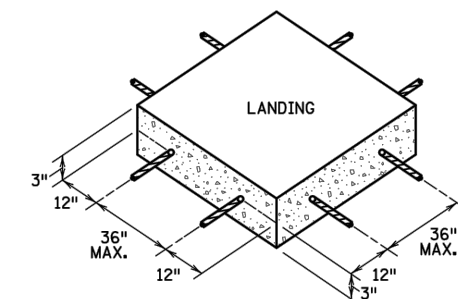
CHECK
PLANS



4
B.02 6" PCC SHARED USE PATH
NTS



5
B.02 THICKENED EDGE SIDEWALK
NTS

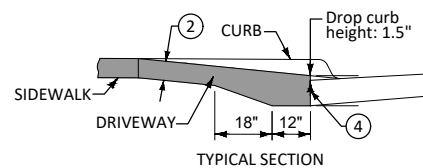
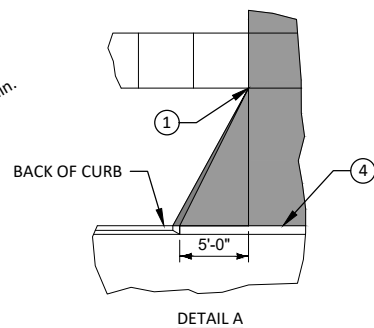
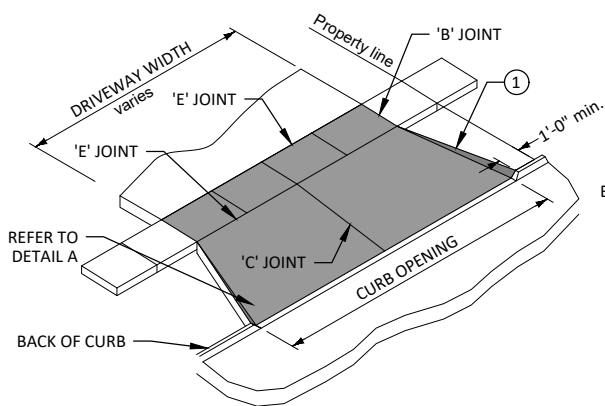


SEPARATE LANDING
POUR REINFORCEMENT ①

NOTES:

- ① TO ENSURE RAMPS AND LANDINGS ARE PROPERLY CONSTRUCTED, ALL INITIAL LANDINGS AT A TOP OF A RAMPED SURFACE (RUNNING SLOPE GREATER THAN 2%) SHALL BE FORMED AND PLACED SEPARATELY IN AN INDEPENDENT CONCRETE POUR. FOLLOW SIDEWALK REINFORCEMENT DETAILS ON THIS SHEET FOR ALL SEPARATELY POURED INITIAL LANDINGS. (INCIDENTAL)

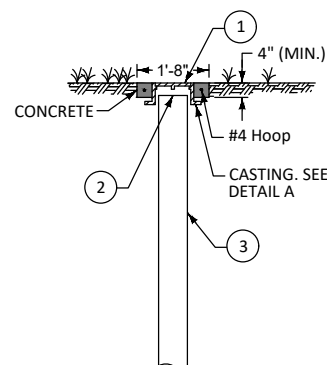
6
S SHEETS LANDING REINFORCEMENT
NTS



- ① TRANSITION THE CURB HEIGHT TO 0 INCHES AT END OF TAPER/RADIUS OR AT THE FRONT EDGE OF SIDEWALK. DO NOT EXTEND RAISED CURB ACROSS SIDEWALK.
- ② PAVEMENT THICKNESS SHALL BE 6 INCHES MINIMUM.
- ③ SIDEWALK THICKNESS THROUGH DRIVEWAY SHALL MATCH THICKNESS OF DRIVEWAY.
- ④ PROVIDE 'B' JOINT AT BACK OF CURB.
- ⑤ ALL APPROACH JOINTS SHALL BE SEALED.

7
D SHEETS

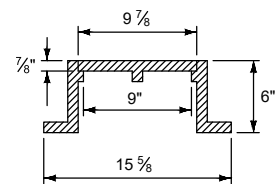
TYPICAL DRIVEWAY
NTS



TYPE A-1 CLEANOUT

USE IN NON TRAFFIC AREAS.

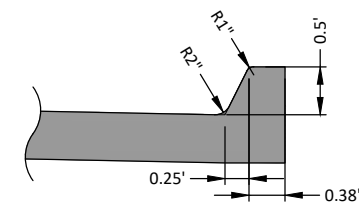
- ① LIGHT DUTY CASTING. LABEL LID WITH "STORM" OR "STORM C.O."
- ② DO NOT ALLOW CASTING TO BEAR ON TOP OF RISER PIPE; PROVIDE 2 INCH CLEARANCE, MINIMUM.
- ③ PVC RISER PIPE; MATCH DIAMETER OF SUBDRAIN (8 INCHES MAXIMUM).
- ④ DESIGN IS INTENDED FOR USE IN CONJUNCTION WITH 8 INCH PVC RISER PIPE. OTHER SIZED CAPS MAY BE USED WITH SMALLER PIPE, AS APPROVED BY THE ENGINEER.



DETAIL A ① ④
(DIMENSIONS ARE NOMINAL)

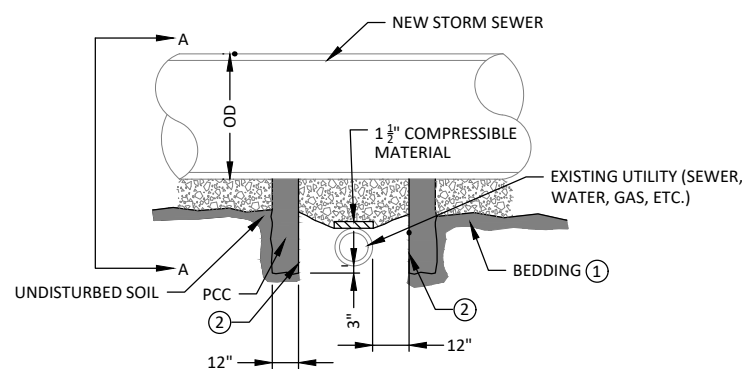
8
D SHEETS

SUBDRAIN CLEANOUT
NTS



9
D SHEETS

STANDARD CURB
NTS

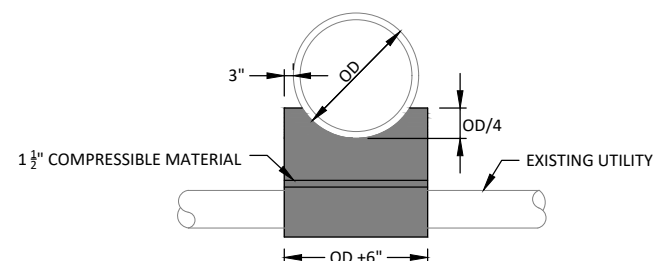


INSTALL PIPE SUPPORT FOR ALL NEW SEWERS 12 INCHES IN DIAMETER OR LARGER WHEN CLEARANCE BETWEEN BOTTOM OF NEW SEWER AND TOP OF EXISTING LINE IS 12 INCHES OR LESS.

- ① COMPLY WITH STANDARD ROAD PLAN SW-101.
- ② FROM INTERIOR SURFACE OF FOOTINGS. KEEP THE 12 INCH UTILITY CLEAR ZONE FREE OF CONCRETE.

OD = OUTSIDE PIPE DIAMETER

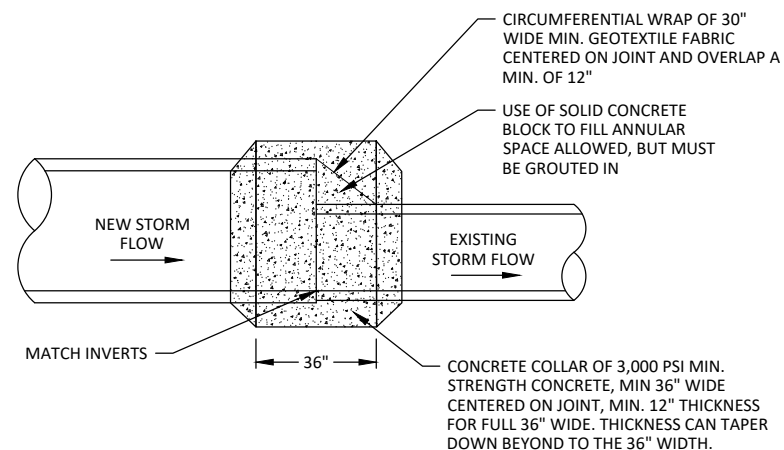
NOTE: ITEM TO BE CONSIDERED INCIDENTAL



SECTION A-A

10
D SHEETS

PIPE SUPPORT OVER EXISTING UTILITY LINE
NTS



11
D SHEETS

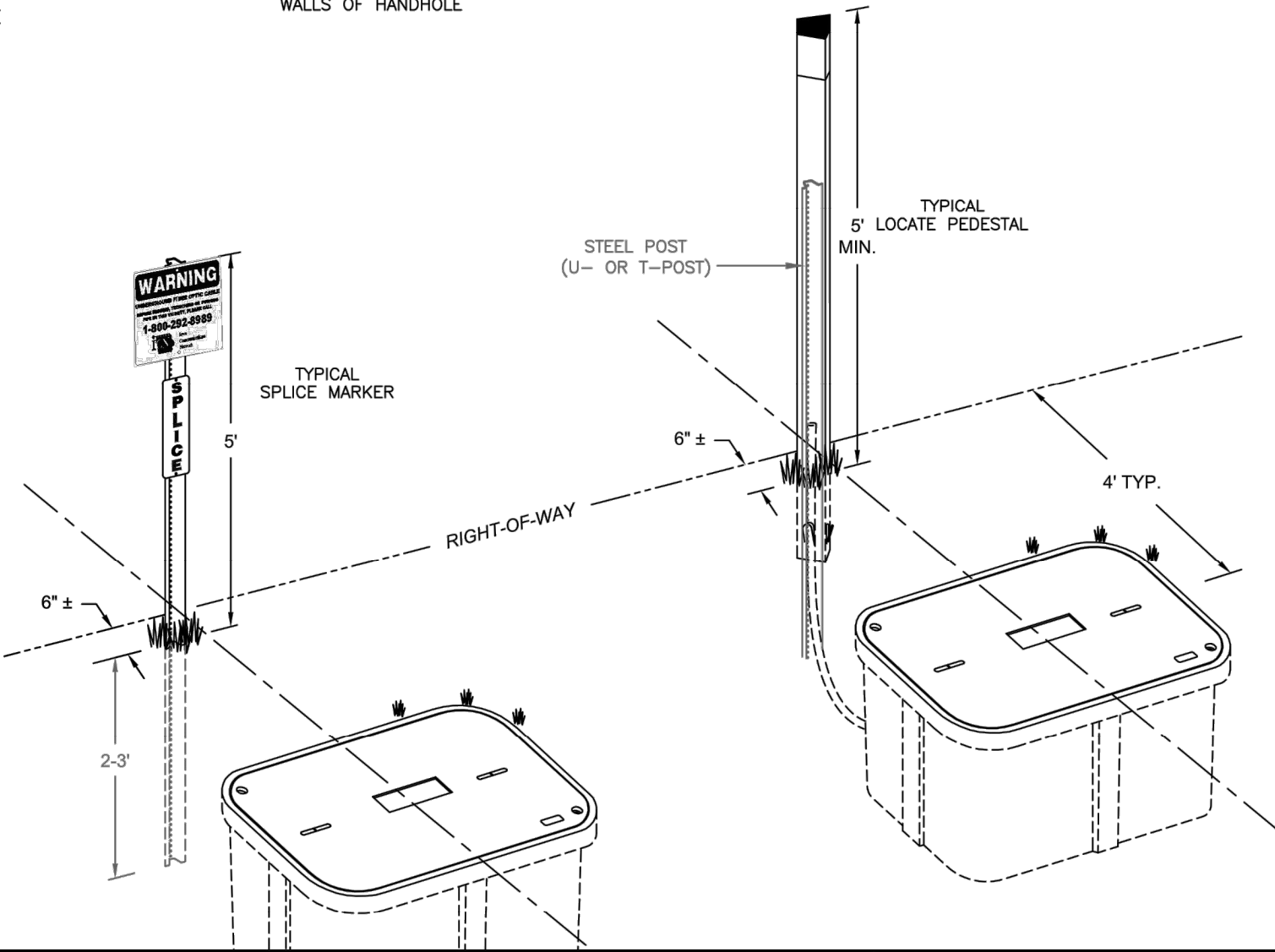
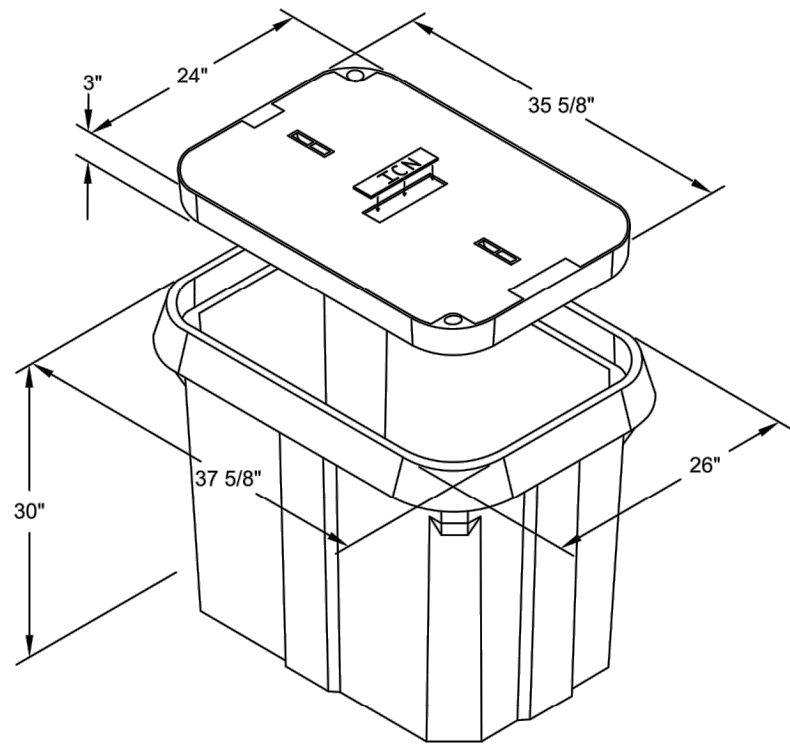
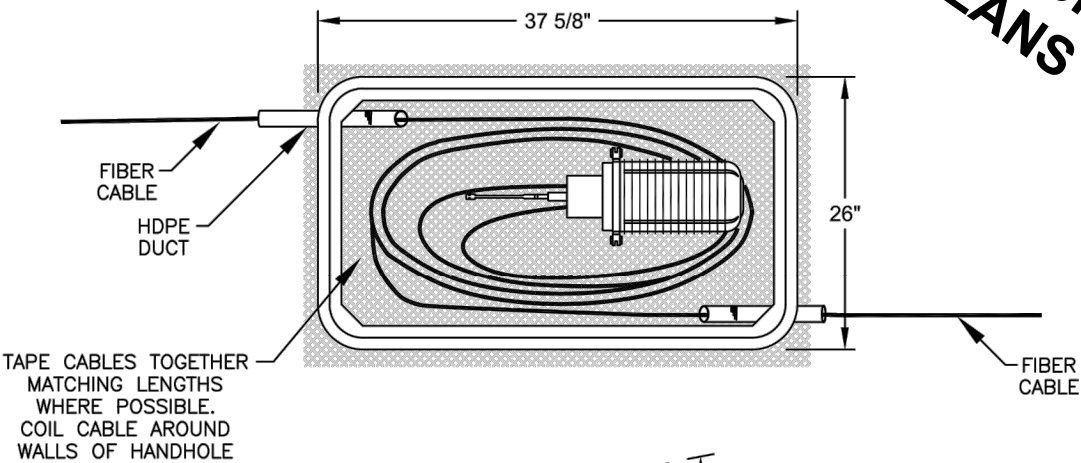
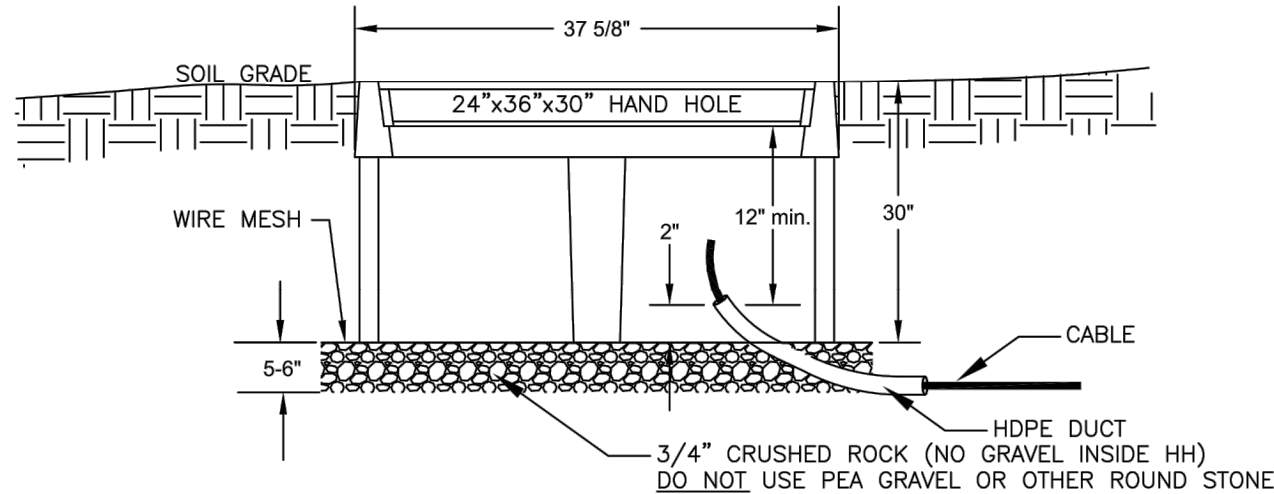
CONNECTION TO EXISTING STORM SEWER
NTS

CHECK
PLANS

HANDHOLE PLACEMENT TYPICAL

24" X 36" X 30" HAND HOLE

CHECK
PLANS



IOWA COMMUNICATIONS NETWORK
GRIMES STATE OFFICE BUILDING
400 EAST 14TH STREET
DES MOINES, IOWA 50319
ICN© 2014, COPY WITH PERMISSION

THIS DRAWING IS PROVIDED FOR GENERAL
INFORMATION ONLY AND IS NOT TO BE USED
TO DETERMINE PRECISE ICN PLACEMENT.
CALL ONE CALL BEFORE EXCAVATION
(1-800-292-8989 OR 811)

CONSTRUCTION DETAIL
HANDHOLE TYPICAL - ICN STANDARD
24" x 36" x 30"
TYPICAL HANDHOLE

SCALE: NONE

SIZE: 11 x 17

3	REVISION	11-10-14	7	REVISION	12-11-17
4	REVISION	8-21-15	8	REVISION	7-19-18
5	REVISION	8-19-16	9	REVISION	11-4-19
6	REVISION	8-24-16	10	REVISION	6-30-21

O:\AutoCAD Standards\TYPICALS\TYPICAL-HH PLACEMENT.dwg

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\BOLTON\OneDrive\Documents\120859_C01_DOT.dwg 11/7/2023 11:17:05 PM

ESTIMATED PROJECT QUANTITIES - BASE BID						
ITEM NO.	ITEM CODE	ITEM	UNIT	DIV1	DIV2	AS BUILT QUANT.
1	2101-0850002	CLEARING & GRUBBING	UNIT	11	0	
2	2102-0425071	SPECIAL BACKFILL	CY	50	0	
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW	CY	10440	0	
4	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL	CY	165	0	
5	2105-8425015	TOPSOIL STRIP, SALVAGE, & SPREAD	CY	2124	0	
6	2109-8225100	SPECIAL COMPACTION OF SUBGRADE	STA	53.6	0	
7	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID	SY	5000	0	
8	2115-0100000	MODIFIED SUBBASE	CY	4035	0	
9	2115-0100000	MODIFIED SUBBASE (TRAIL)	CY	181	0	
10	2123-7450020	SHOULDER FINISHING, EARTH	STA	81.7	0	
11	2301-1034080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3I DURABILITY, 8 IN.	SY	19677	0	
12	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES	LS	1	0	
13	2304-0101000	TEMPORARY PAVEMENT	SY	1500	0	
14	2312-8260051	GRANULAR SURFACING ON RD, CLASS A CRUSHED STONE	TON	6199	0	
15	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN.	EACH	6	0	
16	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN.	EACH	7	0	
17	2435-0140172	MANHOLE, STORM SEWER, SW-401, 72 IN.	EACH	1	0	
18	2435-0140196	MANHOLE, STORM SEWER, SW-401, 96 IN.	EACH	1	0	
19	2435-0250500	INTAKE, SW-505	EACH	37	0	
20	2435-0250600	INTAKE, SW-506	EACH	17	0	
21	2435-0250900	INTAKE, SW-509	EACH	1	0	
22	2435-0251000	INTAKE, SW-510	EACH	3	0	
23	2435-0251230	INTAKE, SW-512, 30 IN.	EACH	1	0	
24	2435-0251236	INTAKE, SW-512, 36 IN.	EACH	1	0	
25	2435-0600010	MANHOLE ADJUSTMENT, MINOR	EACH	33	0	
26	2435-0600020	MANHOLE ADJUSTMENT, MAJOR	EACH	1	0	
27	2435-0600110	INTAKE ADJUSTMENT, MINOR	EACH	2	0	
28	2435-0600120	INTAKE ADJUSTMENT, MAJOR	EACH	1	0	
29	2435-0700010	CONNECTION TO EXISTING MANHOLE	EACH	2	0	
30	2502-8212206	SUBDRAIN PERFORATED PLASTIC PIPE 6 IN. DIA.	LF	5170	0	
31	2502-8221006	SUBDRAIN RISER 6 IN. AS PER PLAN	EACH	15	0	
32	2502-8221303	SUBDRAIN OUTLET, DR-303	EACH	17	0	
33	2503-0114212	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 12 IN.	LF	8	0	
34	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN.	LF	1017	0	
35	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN.	LF	778	0	
36	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN.	LF	2504	0	
37	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN.	LF	544	0	
38	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN.	LF	180	0	
39	2503-0114248	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 48 IN.	LF	8	0	
40	2503-0114254	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 54 IN.	LF	8	0	
41	2503-0114266	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 66 IN.	LF	8	0	
42	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN.	LF	3335	0	
43	2503-0200136	REMOVE STORM SEWER PIPE GREATER THAN 36 IN.	LF	115	0	
44	2504-0200404	SANITARY SEWER SERVICE STUB, POLYVINYL CHLORIDE PIPE (PVC), 4 IN.	LF	50	0	
45	2510-6745850	REMOVAL OF PAVEMENT	SY	17965	0	
46	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES	EACH	51	0	
47	2511-0300000	REMOVAL OF RECREATIONAL TRAIL	SY	542	0	
48	2511-0302600	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN.	SY	670	0	
49	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL	STA	7.7	0	
50	2511-6745900	REMOVAL OF SIDEWALK	SY	3498	0	
51	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN.	SY	4089	0	
52	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN.	SY	187	0	
53	2511-7528101	DETECTABLE WARNINGS	SF	390	0	
54	2512-1725206	CURB AND GUTTER, P.C. CONCRETE, 2.0 FT.	LF	10	0	
55	2514-0000200	REMOVAL OF CURB	STA	0.5	0	
56	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN.	SY	2174	0	
57	2515-2475006	DRIVEWAY, P.C. CONCRETE, 7 IN.	SY	1180	0	
58	2515-6745600	REMOVAL OF PAVED DRIVEWAY	SY	3212	0	
59	2523-0000310	HANDHOLES AND JUNCTION BOXES	EACH	3	0	
60	2524-6765110	REMOVAL OF TYPE A SIGN	EACH	72	0	
61	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY	EACH	21	0	
62	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS	LF	370	0	
63	2524-9276021	PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY SOIL INSTALLATION	EACH	37	0	
64	2524-9325001	TYPE A SIGNS, ALUMINUM	SF	374.5	0	
65	2525-0000100	TRAFFIC SIGNALIZATION	LS	1	0	
66	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED	STA	136	0	

ESTIMATED PROJECT QUANTITIES - BASE BID						
ITEM NO.	ITEM CODE	ITEM	UNIT	DIV1	DIV2	AS BUILT QUANT.
67	2527-9263117	PAINTED PAVEMENT MARKINGS, DURABLE	STA	168	0	
68	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED	EACH	25	0	
69	2527-9263137	PAINTED SYMBOLS AND LEGENDS, DURABLE	EACH	168	0	
70	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS	EACH	25	0	
71	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS	LS	60	0	
72	2528-8445110	TRAFFIC CONTROL	SY	51	0	
73	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS)	LS	1	0	
74	2529-5070110	PATCH FULL-DEPTH FINISH BY AREA	CY	975	0	
75	2533-4980005	MOBILIZATION	LF	0	79	
76	2552-0000220	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL	LF	0	554	
77	2554-0114006	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 6 IN.	LF	0	421	
78	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN.	LF	0	3963	
79	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN. (RESTRAINED JOINT)	LF	0	714	
80	2554-0114012	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 12 IN.	LBS	0	6082	
81	2554-0114012	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 12 IN. (RESTRAINED JOINT)	EACH	0	11	
82	2554-0203000	FITTINGS BY WEIGHT, DUCTILE IRON PIPE	EACH	0	8	
83	2554-0207008	VALVE, GATE, DIP, 8 IN.	EACH	0	2	
84	2554-0207012	VALVE, GATE, DIP, 12 IN.	EACH	0	15	
85	2554-0208008	TAPPING VALVE ASSEMBLY, 8 IN.	EACH	0	14	
86	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201	EACH	0	6	
87	2554-0210205	FIRE HYDRANT ASSEMBLY REMOVAL	EACH	0	35	
88	2554-0211002	FLUSHING DEVICE (BLOWOFF), 2 IN.	EACH	0	6	
89	2554-0212050	VALVE BOX REMOVAL	EACH	0	2	
90	2599-9999005	('EACH' ITEM) 1-IN CHLORINATION TAP	EACH	0	51	
91	2599-9999005	('EACH' ITEM) PREPARE EXCAVATION FOR TAPPING SLEEVE & VALVE	EACH	0	2	
92	2599-9999005	('EACH' ITEM) TAP FEE, 1-IN, REPLACEMENT TAP FOR WATER SERVICE TRANSFER	EACH	0	2	
93	2599-9999005	('EACH' ITEM) TAP FEE, 2-IN, REPLACEMENT TAP FOR WATER SERVICE TRANSFER	EACH	0	4	
94	2599-9999005	('EACH' ITEM) WATER SERVICE TRANSFER COORDINATION, LEAD DISCOVERED	EACH	0	11	
95	2599-9999005	('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 1-IN, OPPOSITE SIDE	EACH	0	40	
96	2599-9999005	('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 1-IN, SAME SIDE	EACH	0	1	
97	2599-9999005	('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 2-IN, OPPOSITE SIDE	EACH	0	1	
98	2599-9999005	('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 2-IN, SAME SIDE	LF	0	1290	
99	2599-9999009	('LINEAR FEET' ITEM) REMOVAL OF EXISTING WATER MAIN IN CONFLICT WITH NEW CONSTRUCTION	LS	1	0	
100	2599-9999010	('LUMP SUM' ITEM) MAINTENANCE OF SOLID WASTE COLLECTION	LS	1	0	
101	2599-9999010	('LUMP SUM' ITEM) REMOVE AND REINSTALL ELECTRIC SPEED SIGN	LS	1	0	
102	2599-9999010	('LUMP SUM' ITEM) SWPPP MANAGEMENT	LS	1	0	
103	2599-9999010	('LUMP SUM' ITEM) VIBRATION MONITORING	TON	0	100	
104	2599-9999020	('TONS' ITEM) FOUNDATION ROCK	ACRE	2.63	0	
105	2601-2634105	MULCHING, BONDED FIBER MATRIX	SQ	1150	0	
106	2601-2639010	SODDING	MGAL	690	0	
107	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL OR SLOPE PROTECTION	LF	300	0	
108	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE	LF	8350	0	
109	2602-0000309	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.	LF	8350	0	
110	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	32	0	
111	2602-0000500	OPEN-THROAT CURB INTAKE SEDIMENT FILTER	EACH	108	0	
112	2602-0000530	GRATE INTAKE SEDIMENT FILTER BAG	EACH	1	0	
113	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	0	
114	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL				

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_C01_DOT.dwg 11/7/2023 11:17:07 PM

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
1	2101-0850002	CLEARING & GRUBBING REFER TO F SHEET FOR LOCATIONS. ALL WOOD MATERIAL GENERATED AS A RESULT OF CLEARING AND GRUBBING MUST BE DISPOSED OF ACCORDING TO IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP EMERALD ASH BORER QUARANTINE ORDER. FOR MORE INFORMATION SEE WWW.IOWATREEPESTS.COM.
2	2102-0425071	SPECIAL BACKFILL BID ITEM IS TO ESTABLISH A UNIT PRICE IF UNSUITABLE OR UNSTABLE MATERIAL IS ENCOUNTERED. MATERIAL TO BE USED IN CONJUNCTION WITH UNSUITABLE OR UNSTABLE MATERIAL REMOVAL. RECLAIMED ASPHALT PAVEMENT (RAP) AND RECLAIMED HMA SHALL NOT BE USED FOR THE SPECIAL BACKFILL.
3	2102-2710070	EXCAVATION, CLASS 10, ROADWAY AND BORROW OVERHAUL WILL NOT BE PAID FOR SEPARATELY AND SHALL BE INCLUDED IN THE COST OF THIS ITEM. ALL WASTE MUST BE REMOVED FROM THE PROJECT SITE. THE EMBANKMENT/FILL IS INCLUDED WITH THIS ITEM AND WILL NOT BE MEASURED SEPARATELY. TOPSOIL, FURNISH AND SPREAD IS MEASURED SEPARATELY AND NOT INCLUDED WITH THIS ITEM. EXCESS MATERIAL WILL BE THE PROPERTY OF THE CONTRACTOR AND HAULED OFF SITE. SEE SHEET C.X FOR TABULATION. CUT = 10,439.56 CY FILL+30% = 629.15 CY BORROW = 0,000 CY WASTE = 9810.41 CY
4	2102-2710080	EXCAVATION, CLASS 10, UNSUITABLE OR UNSTABLE MATERIAL BID ITEM IS TO ESTABLISH A UNIT PRICE IF UNSUITABLE OR UNSTABLE MATERIAL IS ENCOUNTERED WITHIN THE PROJECT AREA. THE AMOUNT OF REMOVALS SHALL BE DETERMINED BY ENGINEER. ASSUMED 5% OF THE SPECIAL SUBGRADE AREA AT A DEPTH OF 1 FOOT.
5	2105-8425015	TOPSOIL STRIP, SALVAGE, & SPREAD A. FOR AREAS OF GREENSPACE CAPTURED FROM REMOVAL OF EXISTING PAVEMENT AND WITHIN CONSTRUCTION LIMITS. MINIMUM DEPTH OF 6" REQUIRED. B. TOPSOIL SALVAGED FROM EXCAVATED AREAS TO BE PLIABLE LOAM CONTAINING ORGANIC CONTENT CAPABLE OF SUSTAINING TURF GRASS AND BE FREE OF ADMIXTURE OF SUBSOIL, REASONABLY FREE OF CLAY LUMPS, OR OTHER DEBRIS GREATER THAN 1 IN. DIAMETER. C. THIS ITEM SHALL BE PAID FOR BY THE CUBIC YARD OF TOPSOIL INSTALLED
6	2109-8225100	SPECIAL COMPACTION OF SUBGRADE AREA OF SPECIAL COMPACTION OF SUBGRADE SHALL INCLUDE ALL PORTIONS OF THE ROADBED TO BE COVERED BY THE PAVEMENT, PLUS 4 FEET BEYOND THE OUTER LIMITS OF THE PAVEMENT. SUBGRADE PREPARATION MUST BE COMPLETE IN 2 - 6" LIFTS. MOISTURE, DENSITY, AND PROOF ROLL TESTING WILL BE REQUIRED FOR EACH LIFT. REFER TO TYPICAL SECTIONS ON B SHEETS FOR LOCATION AND DETAILS.
7	2113-0001100	SUBGRADE STABILIZATION MATERIAL, POLYMER GRID BID ITEM IS TO ESTABLISH A UNIT PRICE. THE AMOUNT NEEDED SHALL BE DETERMINED BY ENGINEER.
8	2115-0100000	MODIFIED SUBBASE AREA OF SUBBASE SHALL INCLUDE ALL PORTIONS OF THE ROADBED TO BE COVERED BY THE PAVEMENT, PLUS 4 FEET BEYOND THE OUTER LIMITS OF THE PAVEMENT. REFER TO TAB 100-24. REFER TO TYPICAL SECTIONS ON B SHEETS FOR LOCATION AND DETAILS
9	2115-0100000	MODIFIED SUBBASE (TRAIL) REFER TO TAB. 100-24. REFER TO TYPICAL SECTIONS ON B SHEETS FOR LOCATION AND DETAILS. ONLY FOR USE UNDER RECREATIONAL TRAIL.
10	2123-7450020	SHOULDER FINISHING, EARTH REFER TO TYPICAL SECTIONS ON B SHEETS FOR LOCATION AND DETAILS
11	2301-1034080	STANDARD OR SLIP FORM PORTLAND CEMENT CONCRETE PAVEMENT, CLASS C, CLASS 3I DURABILITY, 8 IN. REFER TO B SHEETS FOR TYPICAL PAVEMENT SECTIONS, D SHEETS FOR LAYOUT, AND L SHEETS FOR JOINT SPACING. COLD WEATHER CONCRETE PLACEMENT SHALL BE INCLUDED IN THE COST OF THIS ITEM. SEE SHEET C.07 FOR TABULATION. CERTIFIED PLANT INSPECTION WILL BE REQUIRED FOR THIS ITEM. CONTRACTOR SHALL USE A C-SUD MIX IN ACCORDANCE WITH PROPORTION TABLE 4 OF IOWA DOT I.M. 529 FOR ALL SLIP-FORM PAVING. A STANDARD CLASS C-WR MIX SHALL BE USED FOR ALL HAND FINISHED PAVEMENT. KEYWAY JOINTS WILL NOT BE PERMITTED. CERTIFIED PLANT INSPECTION WILL BE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THICKNESS WILL BE CHECKED AND ADJUSTMENTS PER SPECIFICATIONS.
12	2301-6911722	PORTLAND CEMENT CONCRETE PAVEMENT SAMPLES ITEM IS FOR THE PAVEMENT CORES NEEDED TO VERIFY PAVEMENT THICKNESS AS DESCRIBED IN SPECIFICATION 2301. TABLE 2301.05-01 SHALL APPLY.
13	2304-0101000	TEMPORARY PAVEMENT SEE J SHEETS FOR LOCATIONS. THIS ITEM SHALL BE MEASURED ON AN AREA BASIS IN SQUARE YARDS. PAYMENT WILL BE MADE PER SQUARE YARD OF TEMPORARY PAVEMENT INSTALLED ON THE PROJECT. PAYMENT SHALL INCLUDE ALL LABOR AND MATERIALS TO INSTALL AND REMOVE TEMPORARY PAVEMENT. ITEM IS TO BE USED FOR CONSTRUCTION OF TEMPORARY PAVEMENT AS NEEDED BETWEEN PHASES OR AS DIRECTED BY ENGINEER. DEPTH OF TEMPORARY SHALL BE A MINIMUM OF 7 IN. REMOVAL AND MAINTENANCE SHALL BE INCLUDED IN THE COST OF THIS ITEM. CURB TO BE INSTALLED AND SHALL BE INCLUDED IN THE COST OF THIS ITEM, ASPHALT CURB MAY BE USED. CONTRACTOR TO GRADE TO DRAIN. MEASUREMENT AND PAYMENT WILL BE THE AMOUNT OF TEMPORARY PAVEMENT INSTALLED.
14	2312-8260051	GRANULAR SURFACING ON RD, CLASS A CRUSHED STONE ITEM IS TO BE USED FOR CONSTRUCTION OF TEMPORARY PROPERTY ACCESS AS DETAILED IN THE TRAFFIC CONTROL PLANS. DEPTH OF TEMPORARY ACCESSES SHALL BE 8 INCHES. CONTRACTOR TO PROVIDE TICKETS THAT ARE CERTIFIED BY THE PRODUCER, SIGNED BY ORIGINATOR AND RECEIVER, DOCUMENTATION OF SCALE CHECKS AND DOCUMENTATION THAT TARE WEIGHTS WERE NEWLY DETERMINED. REMOVAL AND MAINTENANCE SHALL BE INCLUDED IN THE COST OF THIS ITEM.
15	2435-0140148	MANHOLE, STORM SEWER, SW-401, 48 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER".
16	2435-0140160	MANHOLE, STORM SEWER, SW-401, 60 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER".
17	2435-0140172	MANHOLE, STORM SEWER, SW-401, 72 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER".
18	2435-0140196	MANHOLE, STORM SEWER, SW-401, 96 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER".
19	2435-0250500	INTAKE, SW-505 REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.
20	2435-0250600	INTAKE, SW-506 REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.
21	2435-0250900	INTAKE, SW-509 REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.
22	2435-0251000	INTAKE, SW-510 REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.
23	2435-0251230	INTAKE, SW-512, 30 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.
24	2435-0251236	INTAKE, SW-512, 36 IN. REFER TO STORM SEWER STRUCTURE TABLE ON M.17. SEE M-SHEET FOR LOCATIONS.

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
25	2435-0600010	MANHOLE ADJUSTMENT, MINOR REFER TO TAB 104-10. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER". MANHOLE CASTINGS SHALL BE SW-602 TYPE A OUTSIDE OF PAVEMENT AND TYPE B WITHIN PAVEMENT AND READ "SANITARY SEWER". ADJUSTMENT RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL. NEW INTERNAL CHIMNEY SEALS SHALL BE INCLUDED IN THE COST OF THIS ITEM.
26	2435-0600020	MANHOLE ADJUSTMENT, MAJOR REFER TO TAB 104-10. MANHOLE CASTINGS SHALL BE SW-602 TYPE E OUTSIDE OF PAVEMENT AND TYPE F WITHIN PAVEMENT AND READ "STORM SEWER". MANHOLE CASTINGS SHALL BE SW-602 TYPE A OUTSIDE OF PAVEMENT AND TYPE B WITHIN PAVEMENT AND READ "SANITARY SEWER". ADJUSTMENT RINGS TO BE CRETEX PRO-RING OR APPROVED EQUAL. NEW INTERNAL CHIMNEY SEALS SHALL BE INCLUDED IN THE COST OF THIS ITEM.
27	2435-0600110	INTAKE ADJUSTMENT, MINOR SEE M-SHEETS FOR LOCATIONS.
28	2435-0600120	INTAKE ADJUSTMENT, MAJOR SEE M-SHEETS FOR LOCATIONS.
29	2435-0700010	CONNECTION TO EXISTING MANHOLE SEE M-SHEETS FOR LOCATIONS.
30	2502-8212206	SUBDRAIN PERFORATED PLASTIC PIPE 6 IN. DIA. SEE M-SHEETS FOR LOCATIONS.
31	2502-8221006	SUBDRAIN RISER 6 IN. AS PER PLAN SUBDRAIN CLEANOUTS SHALL BE TYPE A-1 PVC RISER WITH CASTINGS. METHOD OF MEASUREMENT: PER EACH SUBDRAIN RISER INSTALLED. BASIS OF PAYMENT: FOR EACH RISER INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE. PAYMENT IS FULL COMPENSATION FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO INSTALL SUBDRAIN RISERS, INCLUDING PIPE, BEND, CASTINGS AND CONCRETE.
32	2502-8221303	SUBDRAIN OUTLET, DR-303 SUBDRAIN OUTLETS SHALL BE CORRUGATED METAL PIPE (CMP) WITH RODENT GUARDS.
33	2503-0114212	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 12 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
34	2503-0114215	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 15 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
35	2503-0114218	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 18 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
36	2503-0114224	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 24 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
37	2503-0114230	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 30 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
38	2503-0114236	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 36 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
39	2503-0114248	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 48 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
40	2503-0114254	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 54 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
41	2503-0114266	STORM SEWER GRAVITY MAIN, TRENCHED, REINFORCED CONCRETE PIPE (RCP), 2000D (CLASS III), 66 IN. PIPE TO HAVE GASKETED JOINTS WHERE SPECIFIED ON THE PLAN SHEETS. TRENCH COMPACTION TESTING SHALL BE PROVIDED BY THE CONTRACTOR. CONTRACTOR SHALL CLEAN AND TELEVIEW ALL STORM SEWERS AND TURN OVER THE DATA TO THE CITY UPON COMPLETION OF TESTING AND INSPECTION. SEE M-SHEETS FOR LOCATIONS
42	2503-0200036	REMOVE STORM SEWER PIPE LESS THAN OR EQUAL TO 36 IN. THIS ITEM INCLUDES FURNISHING AND PLACING BACKFILL MATERIAL.
43	2503-0200136	REMOVE STORM SEWER PIPE GREATER THAN 36 IN. THIS ITEM INCLUDES FURNISHING AND PLACING BACKFILL MATERIAL.
44	2504-0200404	SANITARY SEWER SERVICE STUB, POLYVINYL CHLORIDE PIPE (PVC), 4 IN. SEE MSA-SHEETS FOR LOCATIONS.
45	2510-6745850	REMOVAL OF PAVEMENT REFER TO TAB.110-1. PAVEMENT SAW CUTTING IS INCIDENTAL TO THIS ITEM. REMOVED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND HAULED OFF SITE. REMOVAL INCLUDES ALL PAVEMENT TYPE AND THICKNESSES. THE EXISTING PAVEMENT SECTION IS COOMPOSED OF +/- 2.5 IN. HMA ON +/- 8 IN OF PCC.
46	2510-6750600	REMOVAL OF INTAKES AND UTILITY ACCESSES THIS ITEM INCLUDES FURNISHING, INSTALLING AND COMPACTING BACKFILL MATERIAL.
47	2511-0300000	REMOVAL OF RECREATIONAL TRAIL REFER TO TAB. 110-5. INCLUDES FULL DEPTH SAW CUT AND REMOVAL REGARDLESS OF TRAIL THICKNESS. EXISTING TRAIL THICKNESS ASSUMED TO BE APPROXIMATELY 6 IN. SEE TRAFFIC CONTROL PLAN FOR PEDESTRIAN STAGING OR CLOSINGS
48	2511-0302600	RECREATIONAL TRAIL, PORTLAND CEMENT CONCRETE, 6 IN. CONCRETE SHALL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. SEE SHEET C.19 FOR TABULATION. CERTIFIED PLANT INSPECTION WILL BE REQUIRED FOR THIS ITEM. COLD WEATHER CONCRETE PLACEMENT SHALL BE INCLUDED IN THE COST OF THIS ITEM.

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_C01_DOT.dwg 11/7/2023 11:17:12 PM

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
49	2511-0310100	SPECIAL COMPACTION OF SUBGRADE FOR RECREATIONAL TRAIL SEE TRAFFIC CONTROL PLAN FOR PEDESTRIAN STAGING OR CLOSINGS.
50	2511-6745900	REMOVAL OF SIDEWALK REFER TO TAB. 110-5. INCLUDES FULL DEPTH SAW CUT AND REMOVAL REGARDLESS OF SIDEWALK THICKNESS. SEE TRAFFIC CONTROL PLAN FOR PEDESTRIAN STAGING OR CLOSINGS
51	2511-7526004	SIDEWALK, P.C. CONCRETE, 4 IN. CONCRETE SHALL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. SEE TRAFFIC CONTROL PLAN FOR PEDESTRIAN STAGING OR CLOSINGS. CERTIFIED PLANT INSPECTION WILL BE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COLD WEATHER CONCRETE PLACEMENT SHALL BE INCLUDED IN THE COST OF THIS ITEM.
52	2511-7526006	SIDEWALK, P.C. CONCRETE, 6 IN. CONCRETE SHALL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. SEE TRAFFIC CONTROL PLAN FOR PEDESTRIAN STAGING OR CLOSINGS. CERTIFIED PLANT INSPECTION WILL BE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COLD WEATHER CONCRETE PLACEMENT SHALL BE INCLUDED IN THE COST OF THIS ITEM.
53	2511-7528101	DETECTABLE WARNINGS DETECTABLE WARNING PANELS SHALL BE RED CAST IRON MATERIAL.
54	2512-1725206	CURB AND GUTTER, P.C. CONCRETE, 2.0 FT. CONCRETE SHALL BE C-4 MIX WITH MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 CALENDAR DAYS AND A MINIMUM FLEXURAL STRENGTH OF 500 PSI AT 7 CALENDAR DAYS. SLAG IN NOT ALLOWED. SEE SHEET C.18 FOR TABULATION. CERTIFIED PLANT INSPECTION WILL BE REQUIRED FOR THIS ITEM. COLD WEATHER CONCRETE PLACEMENT SHALL BE INCLUDED IN THE COST OF THIS ITEM.
55	2514-0000200	REMOVAL OF CURB
56	2515-2475006	DRIVEWAY, P.C. CONCRETE, 6 IN. CONCRETE SHALL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. REFER TO TAB 102-3. CERTIFIED PLANT INSPECTION WILL BE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO EXTRA PAYMENT WILL BE MADE FOR COLD WEATHER PAVING OPERATIONS OR MATERIALS.
57	2515-2475006	DRIVEWAY, P.C. CONCRETE, 7 IN. CONCRETE SHALL BE A C-4 MIX WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS. SLAG IS NOT ALLOWED. REFER TO TAB 102-3. CERTIFIED PLANT INSPECTION WILL BE REQUIRED AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO EXTRA PAYMENT WILL BE MADE FOR COLD WEATHER PAVING OPERATIONS OR MATERIALS.
58	2515-6745600	REMOVAL OF PAVED DRIVEWAY REFER TO TAB. 110-8 . INCLUDES FULL DEPTH SAW CUT AND REMOVAL REGARDLESS OF DRIVEWAY THICKNESS AND MATERIAL. REMOVAL LIMITS TO BE MARKED BY ENGINEER.
59	2523-0000310	HANDHOLES AND JUNCTION BOXES REFER TO B SHEETS FOR HANDHOLE AND JUNTION BOXES DETAIL. ITEM SHALL INCLUDE ALL WORK ASSOCIATED WITH ADJUSTING HANDHOLES OR JUNCTION BOXES TO FINISHED GRADE. CONTRACTOR TO WORK WITH IOWA CONNECTIONS NEWTORK (ICN) AND ENGINEER TO RELOCATE HANDHOLES OR JUNCTION BOXES THAT ARE IN CONFLICT.
60	2524-6765110	REMOVAL OF TYPE A SIGN REFER TO TABULATION 190-62 FOR LOCATION AND DETAILS. ITEM IS FOR THE REMOVAL OF SHEET ALUMINUM, GALVANIZED SHEET OR PLYWOOD SIGN PANEL FROM ITS SUPPORT STRUCTURE IE: WOOD/STEEL POSTS, OVERHEAD TRUSS OR ANOTHER SIGN. MEASUREMENT: EACH. THE ENGINEER WILL COUNT THE NUMBER OF TYPE A SIGN PANELS REMOVED AND DISPOSED OF. PAYMENT: THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH TYPE A SIGN PANEL REMOVED
61	2524-6765210	REMOVAL OF TYPE A SIGN ASSEMBLY REFER TO TABULATION 190-62 FOR LOCATION AND DETAILS. THIS ITEM FOR THE REMOVAL OF TYPE A SIGN ASSEMBLIES, INCLUDING THE SIGN PANELS, SIGN BRACKETS, SUPPORTING STRUCTURES AND HARDWARE. CONTRACTOR SHALL CAREFULLY DISMANTLE EACH SIGN ASSEMBLY. SIGN POSTS, BRACKETS AND HARDWARE SHALL BECOME PROPERTY OF THE CONTRACTOR. SIGN PANELS SHALL BECOME PROPERTY OF THE CONTRACTOR TO DISPOSE OF. ALL HOLES RESULTING FROM REMOVAL OF POST SHALL BE FILLED LEVEL WITH THE ADJACENT GRADE WITH BACKFILL MATERIAL CONFORMING TO THE STANDARD SPECIFICATIONS. MEASUREMENT: THE ENGINEER WILL COUNT THE NUMBER OF SIGN ASSEMBLIES REMOVED. PAYMENT: THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE FOR EACH SIGN ASSEMBLY REMOVED.
62	2524-9276010	PERFORATED SQUARE STEEL TUBE POSTS REFER TO TABULATION(S) 190-50 AND/OR 190-51 FOR LOCATIONS AND DETAILS.
63	2524-9276021	PERFORATED SQUARE STEEL TUBE POST ANCHOR, BREAK-AWAY SOIL INSTALLATION REFER TO TABULATION(S) 190-50 AND/OR 190-51 FOR LOCATIONS AND DETAILS.
64	2524-9325001	TYPE A SIGNS, ALUMINUM REFER TO TABULATION(S) 190-51 AND/OR 190-66 FOR LOCATIONS AND DETAILS.
65	2525-0000100	TRAFFIC SIGNALIZATION REFER TO N SHEETS FOR PLANS, QUANTITIES, NOTES AND DETAILS. INCLUDES ALL PERMANENT TRAFFIC SIGNALIZATION WORK.
66	2527-9263109	PAINTED PAVEMENT MARKING, WATERBORNE OR SOLVENT-BASED REFER TO TAB. 108-29. REFER TO STANDARD ROAD PLAN PM-110.
67	2527-9263117	PAINTED PAVEMENT MARKINGS, DURABLE REFER TO TAB. 108-29. REFER TO STANDARD ROAD PLAN PM-110.
68	2527-9263137	PAINTED SYMBOLS AND LEGENDS, WATERBORNE OR SOLVENT-BASED REFER TO TAB. 108-22. REFER TO STANDARD ROAD PLAN PM-111.
69	2527-9263137	PAINTED SYMBOLS AND LEGENDS, DURABLE REFER TO TAB. 108-22. REFER TO STANDARD ROAD PLAN PM-111.
70	2527-9270111	GROOVES CUT FOR PAVEMENT MARKINGS
71	2527-9270120	GROOVES CUT FOR SYMBOLS AND LEGENDS
72	2528-8445110	TRAFFIC CONTROL REFER TO J SHEETS FOR TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL FURNISH ALL TRAFFIC CONTROL DEVICES FOR THE DURATION OF CONSTRUCTION. TRAFFIC CONTROL SHALL COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREET AND HIGHWAYS (MUTCD). CONTROLS SHALL BE PROPERLY LOCATED, MAINTAINED, AND KEPT CLEAN AND LEGIBLE BY THE CONTRACTOR AT ALL TIMES. THIS ITEM COVERS ALL TRAFFIC CONTROL WORK DETAILED ON THE J SHEETS AND AS REQUIRED. CONTRACTOR SHALL PROVIDE A MINIMUM OF 1 WEEK NOTICE TO CITY OF WINDSOR HEIGHTS PRIOR TO ANY ROAD CLOSURES. INCLUDES ADJUSTING SIGNALIZATION DETECTION, TIMINGS AND SIGNAL HEAD BAGGING AS NEEDED AT UNIVERSITY FOR PHASING REQUIREMENTS AND TO RETURN TO PRECONSTRUCTION OPERATIONS. ITEM INCLUDES SAFETY CLOSURES AND SAFETY FENCING NEEDED TO SECURE SITE.

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
73	2528-9290050	PORTABLE DYNAMIC MESSAGE SIGN (PDMS) SEE PLANS FOR NOTES.
74	2529-5070110	PATCH FULL-DEPTH FINISH BY AREA M-4 CONCRETE MIX WILL BE ALLOWED FOR FULL DEPTH PATCH WORK. ALL FULL DEPTH PATCHES TO BE MARKED AND MEASURED BY THE ENGINEER. FULL DEPTH SAW CUTS ALONG THE REMOVAL LIMITS SHALL BE INCLUDED IN THE COST OF THIS ITEM. EXISTING PAVEMENT THICKNESS ACCORDING TO CORE SAMPLES = +/- 8.25 INCHES. CERTIFIED PLANT INSPECTION WILL BE REQUIRED FOR THIS ITEM. SEE D SHEETS FOR LOCATIONS.
75	2533-4980005	MOBILIZATION
76	2552-0000220	REPLACEMENT OF UNSUITABLE BACKFILL MATERIAL NO RECYCLED CONRETE OR RIP RAP WILL BE ALLOWED. QUANTITY IS ESTIMATED TO ESTABLISH A UNIT PRICE, ONLY QUANTITY APPROVED BY THE ENGINEER WILL BE PAID.
77	2554-0114006	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 6 IN. PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL POLYVINYL CHLORIDE (PVC) PIPE OF SPECIFIED SIZE INCLUDING EXCAVATION, PIPE, BEDDING, THRUST RESTRAINT, TRACER WIRE SYSTEM INSTALLATION, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. ABANDONMENT OF EXISTING WATER MAIN INCLUDES REMOVAL OF IDENTIFIED VALVES AND TEES, REMOVAL OF VALVE BOXES, REMOVAL OF HYDRANTS, AND EITHER PLUGGING ENDS OF ABANDONED MAINS WITH CONCRETE TO ABANDON EXISTING MAIN IN PLACE OR REMOVAL OF EXISTING WATER MAIN AT AREAS OF CONFLICT WITHIN CONSTRUCTION. ABANDONMENT IN PLACE SHALL BE INCLUDED IN THE COST OF THIS ITEM. REMOVAL OF EXISTING WATER MAIN DUE TO CONFLICTS IS PAID IN A SEPARATE BID ITEM. THE ENGINEER WILL DETERMINE THE LENGTH OF PIPE INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST 0.1 FOOT FOR PVC PIPE INSTALLED. BASIS OF PAYMENT: FOR EACH 0.1 FOOT OF PIPE REMOVAL, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
78	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN. PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL POLYVINYL CHLORIDE (PVC) PIPE OF SPECIFIED SIZE INCLUDING EXCAVATION, PIPE, BEDDING, THRUST RESTRAINT, TRACER WIRE SYSTEM INSTALLATION, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. ABANDONMENT OF EXISTING WATER MAIN INCLUDES REMOVAL OF IDENTIFIED VALVES AND TEES, REMOVAL OF VALVE BOXES, REMOVAL OF HYDRANTS, AND EITHER PLUGGING ENDS OF ABANDONED MAINS WITH CONCRETE TO ABANDON EXISTING MAIN IN PLACE OR REMOVAL OF EXISTING WATER MAIN DUE TO CONFLICTS IS PAID IN A SEPARATE BID ITEM. THE ENGINEER WILL DETERMINE THE LENGTH OF PIPE INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST 0.1 FOOT FOR PVC PIPE INSTALLED. BASIS OF PAYMENT: FOR EACH 0.1 FOOT OF PIPE REMOVAL, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
79	2554-0114008	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 8 IN. (RESTRAINED JOINT) PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL POLYVINYL CHLORIDE (PVC) PIPE OF SPECIFIED SIZE INCLUDING EXCAVATION, PIPE, BEDDING, THRUST RESTRAINT, TRACER WIRE SYSTEM INSTALLATION, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. ABANDONMENT OF EXISTING WATER MAIN INCLUDES REMOVAL OF IDENTIFIED VALVES AND TEES, REMOVAL OF VALVE BOXES, REMOVAL OF HYDRANTS, AND EITHER PLUGGING ENDS OF ABANDONED MAINS WITH CONCRETE TO ABANDON EXISTING MAIN IN PLACE OR REMOVAL OF EXISTING WATER MAIN AT AREAS OF CONFLICT WITHIN CONSTRUCTION. ABANDONMENT IN PLACE SHALL BE INCLUDED IN THE COST OF THIS ITEM. REMOVAL OF EXISTING WATER MAIN DUE TO CONFLICTS IS PAID IN A SEPARATE BID ITEM. THE ENGINEER WILL DETERMINE THE LENGTH OF PIPE INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST 0.1 FOOT FOR PVC PIPE INSTALLED. BASIS OF PAYMENT: FOR EACH 0.1 FOOT OF PIPE REMOVAL, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
80	2554-0114012	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 12 IN. PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL POLYVINYL CHLORIDE (PVC) PIPE OF SPECIFIED SIZE INCLUDING EXCAVATION, PIPE, BEDDING, THRUST RESTRAINT, TRACER WIRE SYSTEM INSTALLATION, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. ABANDONMENT OF EXISTING WATER MAIN INCLUDES REMOVAL OF IDENTIFIED VALVES AND TEES, REMOVAL OF VALVE BOXES, REMOVAL OF HYDRANTS, AND EITHER PLUGGING ENDS OF ABANDONED MAINS WITH CONCRETE TO ABANDON EXISTING MAIN IN PLACE OR REMOVAL OF EXISTING WATER MAIN DUE TO CONFLICTS IS PAID IN A SEPARATE BID ITEM. THE ENGINEER WILL DETERMINE THE LENGTH OF PIPE INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST 0.1 FOOT FOR PVC PIPE INSTALLED. BASIS OF PAYMENT: FOR EACH 0.1 FOOT OF PIPE REMOVAL, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
81	2554-0114012	WATER MAIN, TRENCHED, POLYVINYL CHLORIDE PIPE (PVC), 12 IN. (RESTRAINED JOINT) PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL POLYVINYL CHLORIDE (PVC) PIPE OF SPECIFIED SIZE INCLUDING EXCAVATION, PIPE, BEDDING, THRUST RESTRAINT, TRACER WIRE SYSTEM INSTALLATION, BACKFILL, COMPACTION, PRESSURE TESTING, AND DISINFECTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. ABANDONMENT OF EXISTING WATER MAIN INCLUDES REMOVAL OF IDENTIFIED VALVES AND TEES, REMOVAL OF VALVE BOXES, REMOVAL OF HYDRANTS, AND EITHER PLUGGING ENDS OF ABANDONED MAINS WITH CONCRETE TO ABANDON EXISTING MAIN IN PLACE OR REMOVAL OF EXISTING WATER MAIN AT AREAS OF CONFLICT WITHIN CONSTRUCTION. ABANDONMENT IN PLACE SHALL BE INCLUDED IN THE COST OF THIS ITEM. REMOVAL OF EXISTING WATER MAIN DUE TO CONFLICTS IS PAID IN A SEPARATE BID ITEM. THE ENGINEER WILL DETERMINE THE LENGTH OF PIPE INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST 0.1 FOOT FOR PVC PIPE INSTALLED. BASIS OF PAYMENT: FOR EACH 0.1 FOOT OF PIPE REMOVAL, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
82	2554-0203000	FITTINGS BY WEIGHT, DUCTILE IRON PIPE PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL FITTINGS OF SPECIAL SIZE AND TYPE LISTED IN FITTINGS SCHEDULE AND SHOWN ON PLANS INCLUDING EXCAVATION, POLYETHYLENE ENCASEMENT, THRUST RESTRAINT, BONDING CABLES AND NITRILE GASKETS FOR FITTINGS ON DI PIPE, BACKFILL, AND COMPACTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. THE ENGINEER WILL COUNT THE TYPE AND NUMBER OF FITTINGS INSTALLED. THE CONTRACTOR WILL BE PAID THE CONTRACT UNIT PRICE PER POUND FOR EACH FITTING INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH TYPE AND NUMBER OF FITTINGS INSTALLED AND DETERMINE WEIGHT. BASIS OF PAYMENT: FOR WEIGHT OF PIPE FITTINGS, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
83	2554-0207008	VALVE, GATE, DIP, 8 IN. PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL VALVE OF SPECIFIED SIZE WITH VALVE BOX (DEPTH PER PLANS) INCLUDING EXCAVATION, VALVE, VALVE BOX, VALVE BOX ADAPTER, POLYETHYLENE ENCASEMENT, BEDDING, THRUST RESTRAINT, BONDING CABLE, NITRILE GASKETS, BACKFILL, AND COMPACTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. THE ENGINEER WILL COUNT THE NUMBER OF VALVES INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH VALVE INSTALLED. BASIS OF PAYMENT: FOR EACH VALVE INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
84	2554-0207012	VALVE, GATE, DIP, 12 IN. PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL VALVE OF SPECIFIED SIZE WITH VALVE BOX (DEPTH PER PLANS) INCLUDING EXCAVATION, VALVE, VALVE BOX, VALVE BOX ADAPTER, POLYETHYLENE ENCASEMENT, BEDDING, THRUST RESTRAINT, BONDING CABLE, NITRILE GASKETS, BACKFILL, AND COMPACTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. THE ENGINEER WILL COUNT THE NUMBER OF VALVES INSTALLED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH VALVE INSTALLED. BASIS OF PAYMENT: FOR EACH VALVE INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
85	2554-0208008	TAPPING VALVE ASSEMBLY, 8 IN.
86	2554-0210201	FIRE HYDRANT ASSEMBLY, WM-201 PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL FIRE HYDRANT ON NEW WATER MAIN, INCLUDING FIRE HYDRANT, TEE, 6" D. I. PIPING, FITTINGS, 6" VALVE, VALVE BOX, VALVE BOX ADAPTER, TRACER WIRE SYSTEM AND POST INCLUDING EXCAVATION, POLYETHYLENE ENCASEMENT, THRUST RESTRAINT AS NECESSARY, BONDING CABLES, NITRILE GASKETS, BACKFILL AND COMPACTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH FIRE HYDRANT ASSEMBLY INSTALLED. BASIS OF PAYMENT: FOR EACH FIRE HYDRANT ASSEMBLY INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
87	2554-0210205	FIRE HYDRANT ASSEMBLY REMOVAL REFER TO F SHEET FOR LOCATIONS. ITEM INCLUDES THE REMOVAL OF HYDRANT AND VALVE AND CAPPING THE EXISTING WATER MAIN. CONTRACTOR TO COORDINATE WITH DMWW ON DISPOSAL.

CHECK PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\VWS\DW\CD\A\W1317-0029\CD\DW\Sheet120859.dwg, DOT.dwg, 11/7/2023, 11:47:47 PM

ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
88	2554-0211002	FLUSHING DEVICE (BLOWOFF), 2 IN. PROVIDE ALL THE MATERIAL, LABOR, AND EQUIPMENT TO INSTALL AND REMOVE TEMPORARY FLUSHING DEVICE BLOWOFF, MINIMUM 2" DIAMETER, PER PLANS AND IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH FLUSHING DEVICE INSTALLED. BASIS OF PAYMENT: FOR EACH FLUSHING DEVICE INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
89	2554-0212050	<u>VALVE BOX REMOVAL</u>
90	2599-9999005	<u>('EACH' ITEM) 1-IN CHLORINATION TAP</u> PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO INSTALL AND REMOVE A 1" CHLORINATION TAP PER PLANS AND IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH CHLORINE TAPS INSTALLED. BASIS OF PAYMENT: FOR EACH CHLORINE TAP INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
91	2599-9999005	<u>('EACH' ITEM) PREPARE EXCAVATION FOR TAPPING SLEEVE & VALVE</u> PROVIDE MATERIAL, EQUIPMENT, AND LABOR TO PREPARE EXCAVATION FOR INSTALLATION OF THE TAPPING SLEEVE AND VALVE INCLUDING SHORING, CLEANING THE MAIN PRIOR TO TAPPING, POLYETHYLENE ENCASEMENT, THRUST BLOCKING, SETTING OF THE VALVE BOX, BACKFILL, AND COMPACTION, IN ACCORDANCE WITH SPECIAL PROVISIONS FOR WATER MAIN. TAPPING SLEEVE AND VALVE WILL BE PROVIDED AND INSTALLED BY DMWW. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH EXCAVATION. BASIS OF PAYMENT: FOR EACH EXCAVATION, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
92	2599-9999005	<u>('EACH' ITEM) TAP FEE, 1-IN, REPLACEMENT TAP FOR WATER SERVICE TRANSFER</u> PLUMBER'S PERFORMING WATER SERVICE INSTALLATION ARE REQUIRED TO SCHEDULE TAP BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. CONTRACTOR WILL PAY TAP FEE. CONTRACTOR'S PLUMBER MUST NOT HAVE PAST DUE ACCOUNTS WITH DMWW AT TIME OF TAP REQUEST OR THE TAP WILL BE DENIED. PLUMBER WILL BE REQUIRED TO SUPPLY A SURETY BOND WITH A MINIMUM VALUE OF \$20,0000 (BOND MUST BE UPDATED YEARLY UNLESS IT IS A CONTINUOUS BOND). PLUMBER WILL PROVIDE PLUMBING PERMIT NUMBER FROM CITY OR COUNTY WHERE PROJECT IS LOCATED AND PROPERTY ADDRESS WHERE REPLACEMENT TAPS ARE REQUIRED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH REPLACEMENT TAP. BASIS OF PAYMENT: FOR EACH REPLACEMENT TAP, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
93	2599-9999005	<u>('EACH' ITEM) TAP FEE, 2-IN, REPLACEMENT TAP FOR WATER SERVICE TRANSFER</u> PLUMBER'S PERFORMING WATER SERVICE INSTALLATION ARE REQUIRED TO SCHEDULE TAP BY CALLING DMWW CUSTOMER SERVICE 24 HOURS PRIOR TO TAP AT 515-283-8700. CONTRACTOR WILL PAY TAP FEE. CONTRACTOR'S PLUMBER MUST NOT HAVE PAST DUE ACCOUNTS WITH DMWW AT TIME OF TAP REQUEST OR THE TAP WILL BE DENIED. PLUMBER WILL BE REQUIRED TO SUPPLY A SURETY BOND WITH A MINIMUM VALUE OF \$20,0000 (BOND MUST BE UPDATED YEARLY UNLESS IT IS A CONTINUOUS BOND). PLUMBER WILL PROVIDE PLUMBING PERMIT NUMBER FROM CITY OR COUNTY WHERE PROJECT IS LOCATED AND PROPERTY ADDRESS WHERE REPLACEMENT TAPS ARE REQUIRED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH REPLACEMENT TAP. BASIS OF PAYMENT: FOR EACH REPLACEMENT TAP, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
94	2599-9999005	<u>('EACH' ITEM) WATER SERVICE TRANSFER COORDINATION, LEAD DISCOVERED</u> DMWW WILL IDENTIFY SUSPECTED LEAD OR GALVANIZED WATER SERVICES THAT REQUIRE REPLACEMENT BASED ON TAP DATE AND HOME VISITS AHEAD OF CONSTRUCTION. CONTRACTOR AND ENGINEERING TECHNICIAN WILL CONFIRM EXISTING MATERIAL OBSERVED IN FIELD WHEN TAP IS MADE AND WHEN STOP BOX IS EXCAVATED. IF LEAD SERVICES ARE CONFIRMED, CONTRACTOR WILL COORDINATE WITH DMWW'S CONTRACTOR (TO BE IDENTIFIED AT PRE-CON). CONTRACTOR WILL COMPLETE WATER SERVICE TRANSFER PER ESTABLISHED 1-INCH WATER SERVICE TRANSFER BID ITEMS FOR WATER SERVICE LINE FROM TAP TO STOP BOX EXCEPT CONTRACTOR WILL NOT NOTIFY CUSTOMER FOR WATER OUTAGE AND WILL NOT TIE-IN TO EXISTING SERVICE. CONTRACTOR WILL SCHEDULE TAPS WITH DMWW AND COORDINATE WITH DMWW'S CONTRACTOR FOR CONNECTIONS TO STOP BOX. CONTRACTOR WILL NOTIFY DMWW'S CONTRACTOR SAME DAY TAPS SCHEDULED/RESCHEDULED OR AT LEAST 24 HOURS PRIOR TO TAP. DMWW'S CONTRACTOR WILL COMPLETE WATER SERVICE TRANSFER FROM STOP BOX TO METER, THE COST OF WHICH WILL BE CHARGED DIRECTLY TO DMWW. DMWW'S CONTRACTOR WILL NOTIFY CUSTOMER OF WATER OUTAGES FOR WATER SERVICES AND SCHEDULE AND COMPLETE CONNECTION OF SERVICE FROM STOP BOX TO METER. EXISTING SERVICE WILL REMAIN OPERATIONAL UNTIL DMWW'S CONTRACTOR COMPLETES TRANSFER. DMWW'S CONTRACTOR WILL NOTIFY CONTRACTOR WHEN SERVICE CONNECTION IS COMPLETED SO THAT EXCAVATION CAN BE BACKFILLED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH LEAD SERVICE LINE REPLACED. BASIS OF PAYMENT: FOR EACH LEAD SERVICE LINE REPLACED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
95	2599-9999005	<u>('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 1-IN, OPPOSITE SIDE</u> PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 1-INCH COPPER WATER SERVICE USING AUGER BORE OR OTHER TRENCHLESS INSTALLATION METHODS FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND STANDARD DETAIL SHEET. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION, AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR UNLESS APPROVED BY ENGINEER PRIOR TO WORK BEING COMPLETED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH WATER SERVICE TRANSFERRED. BASIS OF PAYMENT: FOR EACH WATER SERVICE TRANSFERRED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
96	2599-9999005	<u>('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 1-IN, SAME SIDE</u> PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 1-INCH COPPER WATER SERVICE USING OPEN CUT METHOD FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND STANDARD DETAIL SHEET. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION, AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR UNLESS APPROVED BY ENGINEER PRIOR TO WORK BEING COMPLETED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH WATER SERVICE TRANSFERRED. BASIS OF PAYMENT: FOR EACH WATER SERVICE TRANSFERRED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
97	2599-9999005	<u>('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 2-IN, OPPOSITE SIDE</u> PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 2-INCH COPPER WATER SERVICE USING AUGER BORE OR OTHER TRENCHLESS INSTALLATION METHODS FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND STANDARD DETAIL SHEET. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION, AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR UNLESS APPROVED BY ENGINEER PRIOR TO WORK BEING COMPLETED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH WATER SERVICE TRANSFERRED. BASIS OF PAYMENT: FOR EACH WATER SERVICE TRANSFERRED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
98	2599-9999005	<u>('EACH' ITEM) WATER SERVICE TRANSFER, COPPER, 2-IN, SAME SIDE</u> PROVIDE ALL MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO PREPARE EXCAVATION FOR THE TAP AND TO INSTALL NEW 2-INCH COPPER WATER SERVICE USING AUGER BORE OR OTHER TRENCHLESS INSTALLATION METHODS FROM THE NEW WATER MAIN CONNECTING TO THE EXISTING WATER SERVICE ON THE BUILDING SIDE OF THE NEW STOP BOX IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND STANDARD DETAIL SHEET. WORK INCLUDES, BUT IS NOT LIMITED TO, CORPORATION ELBOW, COPPER PIPE, NEW CURB STOP AND STOP BOX, AND COUPLINGS NEEDED TO CONNECT TO EXISTING SERVICE. WORK ALSO INCLUDES EXCAVATION WITH SHORING IN ACCORDANCE WITH DMWW RULES AND REGULATIONS AND OSHA REQUIREMENTS, BACKFILL, COMPACTION, AND SURFACE RESTORATION. CONTRACTOR IS REQUIRED TO COMPACT BACKFILL IN TAP HOLE USING APPROPRIATELY SIZED EQUIPMENT TO OBTAIN REQUIRED COMPACTION, INCLUDING HANDHELD COMPACTION DEVICES. COST FOR REPLACEMENT OF UNSUITABLE BACKFILL WILL BE PAID BY THE CONTRACTOR UNLESS APPROVED BY ENGINEER PRIOR TO WORK BEING COMPLETED. METHOD OF MEASUREMENT: THE ENGINEER WILL COUNT EACH WATER SERVICE TRANSFERRED. BASIS OF PAYMENT: FOR EACH WATER SERVICE TRANSFERRED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.

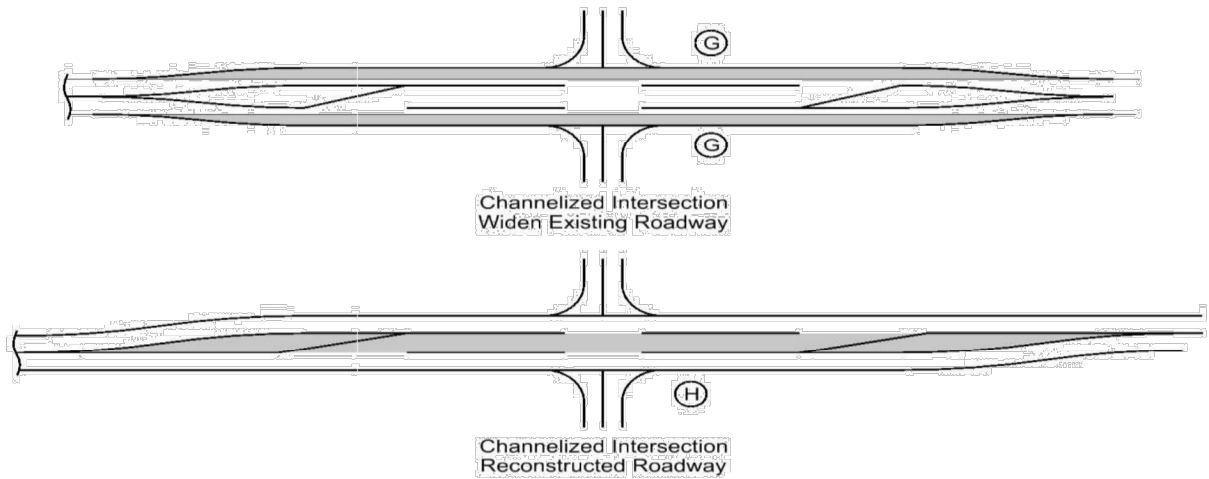
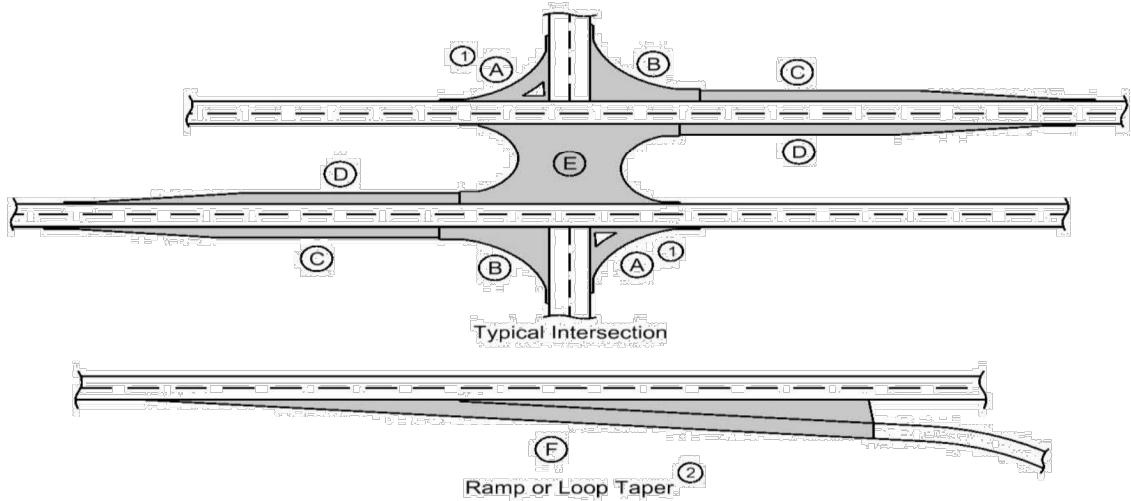
ESTIMATE REFERENCE INFORMATION		
ITEM NO.	ITEM CODE	DESCRIPTION
99	2599-9999009	<u>('LINEAR FEET' ITEM) REMOVAL OF EXISTING WATER MAIN IN CONFLICT WITH NEW CONSTRUCTION</u> PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO REMOVE EXISTING WATER MAIN IN CONFLICT WITH NEW CONSTRUCTION, REGARDLESS OF SIZE. CONTRACTOR TO CAP OR PLUG EXISTING WATER MAIN ENDS. THE ENGINEER WILL DETERMINE THE LENGTH OF EXISTING PIPE REMOVED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE LINEAR FEET OF EXISTING WATER MAIN REMOVED, REGARDLESS OF SIZE, TO THE NEAREST 0.1 FOOT. BASIS OF PAYMENT: FOR LINEAR FEET OF REMOVED WATER MAIN, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
100	2599-9999010	<u>('LUMP SUM' ITEM) MAINTENANCE OF SOLID WASTE COLLECTION</u> LUMP SUM PRICE INCLUDES, BUT IS NOT LIMITED TO, COORDINATING AND MAINTAINING SOLID WASTE COLLECTION SERVICES INCLUDING ESTABLISHING ALTERNATE COLLECTION SITES IF REQUIRED. CONTRACTOR SHALL COORDINATE WITH WASTE COLLECTION SERVICES TO ENSURE SERVICE IS MAINTAINED TO ALL PROPERTIES ADJACENT TO PROJECT SITE THROUGHOUT THE DURATION OF THE PROJECT INCLUDING RECYCLE, YARD WASTE, CURB PICKUP ITEMS (WITH APPROPRIATE STICKERS), AND DUMPSTERS. LABEL ALL BINS WITH ADDRESS BY REMOVABLE MEANS. COORDINATE DUMPSTER PICKUP TIMES WITH OWNER AND HAULAER AND MOVE DUMPSTER AS REQUIRED TO KEEP SCHEDULED PICK UP TIMES OR ARRANGE FOR OTHER PICK UP METHODS. METHOD OF MEASUREMENT: LUMP SUM ITEM; NO MEASUREMENT WILL BE MADE. BASIS OF PAYMENT: PAYMENT WILL BE MADE AT THE LUMP SUM PRICE FOR MAINTENANCE OF SOLID WASTE COLLECTION. THE ENGINEER WILL MAKE PARTIAL PAYMENTS BASED ON ESTIMATES OF THE PROJECT COMPLETION.
101	2599-9999010	<u>('LUMP SUM' ITEM) REMOVE AND REINSTALL ELECTRIC SPEED SIGN</u> INCLUDES ALL WORK FOR REMOVAL, SALVAGE AND REINSTALLATION OF THE EXISTING SPEED RADAR SIGNS. THE NEW LOCATION SHALL BE IN THE GENERAL LOCATION OF THE EXISTING SIGNS AND SHALL MEET ANY MUTCD REQUIREMENTS. REINSTALLATION SHALL FOLLOW MANUFACTURES REQUIREMENTS, INCLUDING THE FOOTING. CONTRACTOR TO FOLLOW ALL CITY AND STATE CODES. CONTRACTOR TO BE RESPONSIBLE FOR COORDINATION WITH MID AMERICAN ENERGY ON REMOVAL AND RECONNECTION TO POWER. REMOVAL OF SCHEDULED ITEMS SHALL BE IN ACCORDANCE WITH SECTION 2401, OF THE STANDARD SPECIFICATIONS. ANY DAMAGE TO THE SALVAGED ITEMS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND REPAIRED AT NO EXTRA COST TO THE CITY. THE CONTRACTOR WILL BE PAID THE LUMP SUM CONTRACT PRICE FOR THE REMOVAL, SALVAGE AND REINSTALLATION OF SPEED LIMIT SIGNS. THE PAYMENT SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EQUIPMENT AND LABOR AND FOR PERFORMANCE OF ALL WORK NECESSARY FOR PROPER REMOVAL, SALVAGING AND REINSTALLATION.
102	2599-9999010	<u>('LUMP SUM' ITEM) SWPPP MANAGEMENT</u> CONTRACTOR SHALL COORDINATE AND CARRY OUT ALL REQUIREMENTS OF IOWA DNR NPDES GENERAL PERMIT NO. 2 AND ANY LOCAL ORDINANCE REQUIREMENTS, INCLUDING: UPDATE THE SWPPP ACCORDING TO THE REQUIREMENTS OF THE NPDES GENERAL PERMIT NO. 2.REVISE THE SWPPP AND IMPLEMENT CHANGES, AS NECESSARY, TO PREVENT SEDIMENT OR HAZARDOUT MATERIALS FROM BEING TRANSPORTED OF THE SITE. SUBMIT ALL SWPP REVISIONS TO THE ENGINEER FOR REVIEW AND APPROVAL. PERFORM AND MAINTAIN RECORDS OF WEEKLY EROSION AND SEDIMENT CONTROL SITE INSPECTIONS. MAINTAIN RECORDS OF TRANSFER OF RESPONSIBILITY UNDER THE NPDES GENERAL PERMIT NO. 2. RETAIN ALL RECORDS ON-SITE, OR AS REQUIRED BY THE NPDES GENERAL PERMIT NO. 2. AFTER FINAL STABILIZATION, FILE A NOTICE OF DISCONTINUATION, ACCORDING TO THE NPDES GENERAL PERMIT NO. 2. PROVIDE ALL RECORDS AND DOCUMENTATION TO THE ENGINEER UPON COMPLETION OF THE PROJECT. RETAIN A COPY OF ALL RECORDS FOR THE PERIOD REQUIRED UNDER THE PERMIT. CONTINUE TO PERFORM THE WORK REQUIRED UNDER THIS ITEM THROUGHOUT THE DURATION OF THE PROJECT, AND UNTIL FINAL STABILIZATION IS ACHIEVED AND A NOTICE OF DISCONTINUATION IS FILED. METHOD OF MEASUREMENT: LUMP SUM ITEM; NO MEASUREMENT WILL BE MADE. BASIS OF PAYMENT: PAYMENT WILL BE AMDE AT THE LUMP SUM PRICE FOR SWPPP MANAGEMENT. DOES NOT INCLUDE INSTALLATION OR MAINTENANCE OF EROSION AND SEDIMENT CONTROL PRACTICES. THE ENGINEER MAY MAKE PARTIAL PAYMENTS BASED ON ESTIMATES OF THE PROJECT COMPLETION. FINAL PAYMENT WILL BE MADE WHEN THE SITE REACHES FINAL STABILIZATION AND THE NOTICE OF DISCONTINUATION HAS BEEN FILED.
103	2599-9999010	<u>('LUMP SUM' ITEM) VIBRATION MONITORING</u> SEE SPECIAL PROVISION FOR REQUIREMENTS.
104	2599-9999020	<u>('TONS' ITEM) FOUNDATION ROCK</u> PROVIDE ALL MATERIAL, LABOR, AND EQUIPMENT TO PLACE FOUNDATION ROCK IN TRENCH USED TO STABILIZE PIPE TRENCH PRIOR TO INSTALLATION OF PIPE. ROCK USED FOR STABILIZATION SHALL BE CRUSHED LIMESTONE, DOLOMITE, OR QUARTZITE WITH 2-INCH NOMINAL MAXIMUM SIZE WITH 95 PERCENT RETAINED ON 3/4-INCH SCREEN. CONTRACTOR TO PROVIDE ROCK TICKETS FOR PAYMENT. ENGINEER TO APPROVE USE OF FOUNDATION ROCK IN TRENCH. CONTRACTOR TO PROVIDE TICKETS THAT ARE CERTIFIED BY THE PRODUCER, SIGNED BY ORIGINATOR AND RECEIVER, DOCUMENTATION OF SCALE CHECKS AND DOCUMENTATION THAT TARE WEIGHTS WERE NEWLY DETERMINED. METHOD OF MEASUREMENT: THE ENGINEER WILL MEASURE TO THE NEAREST TON OF ROCK INSTALLED. BASIS OF PAYMENT: FOR TONS OF ROCK INSTALLED, THE CONTRACTOR SHALL BE PAID THE CONTRACT UNIT PRICE.
105	2601-2634105	<u>MULCHING, BONDED FIBER MATRIX</u> ITEM IS FOR TEMPORARY MULCHING OF DISTURBED AREAS TO SERVE AS EROSION CONTROL FOR AREAS THAT ARE NOT STABILIZED AND ARE OUTSIDE OF THE APPROVED DATES FOR SODDING. TEMPORARY MULCHING TO BE APPLIED AS APPROVED BY ENGINEER. HYDROMULCHING SHALL BE USED FOR AREAS REQUIRING MULCHING.
106	2601-2639010	<u>SODDING</u> THIS ITEM INCLUDES WATERING PER SPECIFICATIONS AND MOBILIZATION OF THE CONTRACTOR TO PROVIDE A WATERING SCHEDULE.
107	2601-2643110	<u>WATERING FOR SOD, SPECIAL DITCH CONTROL OR SLOPE PROTECTION</u> THIS ITEM IS FOR WATERING BEYOND THE AMOUNT OF WATERING PER SPECIFICATIONS FOR SOD. ESTIMATE FOR WATERING SOD IS BASED ON A TOTAL OF AN ADDITIONAL SIX WATERINGS AT A RATE OF 100 GALLONS PER SQUARE. THESE WATERING TO BE APPROVED BY ENGINEER PRIOR TO USE. MOBILIZATION SHALL BE INCLUDED IN THE COST OF THIS ITEM.
108	2602-0000150	<u>STABILIZED CONSTRUCTION ENTRANCE</u> STABILIZED CONSTRUCTION ENTRANCE TO BE INSTALLED AT EACH PHASE ENTRANCE.
109	2602-0000309	<u>PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA.</u> REFER TO TAB. 100-19. THE TABULATION INCLUDES ESTIMATED LOCATIONS FOR PLACEMENT OF "PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 9 IN. DIA." TO ADDRESS EROSION TO BE ENCOUNTERED DURING CONSTRUCTION. VERIFY THE SPECIFIC LOCATIONS WITH THE ENGINEER PRIOR TO BEGINNING PLACEMENT. BID ITEM INCLUDES 25% ADDITIONAL QUANTITY FOR FIELD ADJUSTMENTS AND REPLACEMENTS. USE PERIMETER AND SLOPE SEDIMENT CONTROL DEVICES FABRICATED USING WOOD EXCELSIOR.
110	2602-0000351	<u>REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE</u>
111	2602-0000500	<u>OPEN-THROAT CURB INTAKE SEDIMENT FILTER</u> REFER TO TAB 100-37 AND R SHEETS FOR LOCATION. MEASUREMENT: PER OPEN-THROAT CURB INTAKE SEDIMENT FILTER INSTALLED, MAINTAINED, AND REMOVED. PAYMENT: FULL COMPENSATION FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO INSTALL OPEN-THROAT CURB INTAKE SEDIMENT FILTER INSTALLED NOTED ON THE PLANS, MAINTENANCE AND CLEANOUT OF FILTER BAGS PER THE REQUIREMENTS OF THE SWPPP, AND REMOVAL AND DISPOSAL OF SEDIMENT FILTER AFTER SITE HAS ACHIEVED FINAL STABILIZATION
112	2602-0000530	<u>GRATE INTAKE SEDIMENT FILTER BAG</u> REFER TO TAB 100-37 AND R SHEETS FOR LOCATION. MEASUREMENT: PER GRATE INTAKE SEDIMENT FILTER BAG INSTALLED, MAINTAINED, AND REMOVED. PAYMENT: FULL COMPENSATION FOR ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO INSTALL SEDIMENT FILTER BAGS AT INTAKES NOTED ON THE PLANS, MAINTENANCE AND CLEANOUT OF FILTER BAGS PER THE REQUIREMENTS OF THE SWPPP, AND REMOVAL AND DISPOSAL OF SEDIMENT FILTER BAGS AFTER SITE HAS ACHIEVED FINAL STABILIZATION.
113	2602-0010010	<u>MOBILIZATIONS, EROSION CONTROL</u>
114	2602-0010020	<u>MOBILIZATIONS, EMERGENCY EROSION CONTROL</u>

CHECK PLANS

**CHECK
PLANS**

PCC PAVEMENT

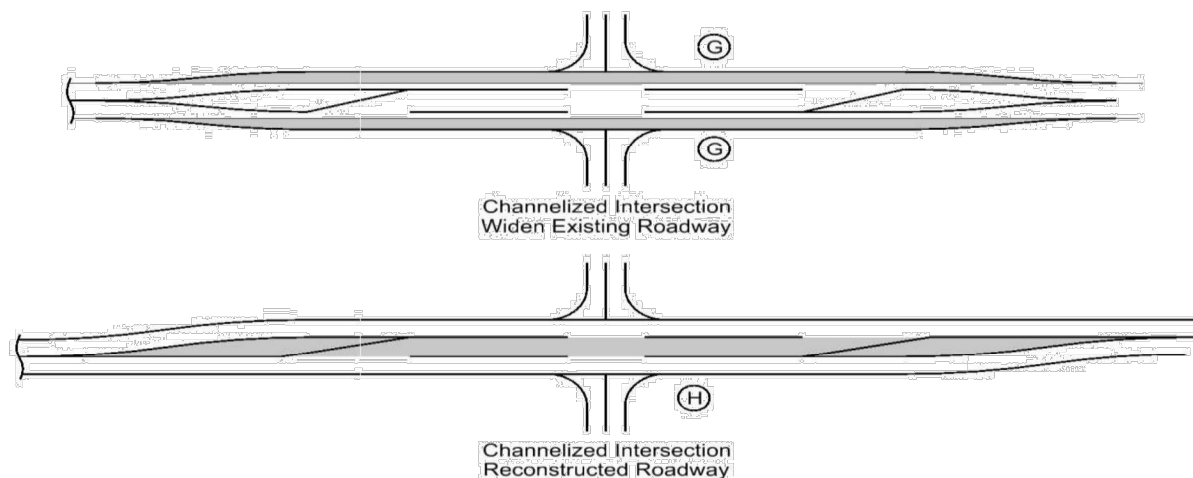
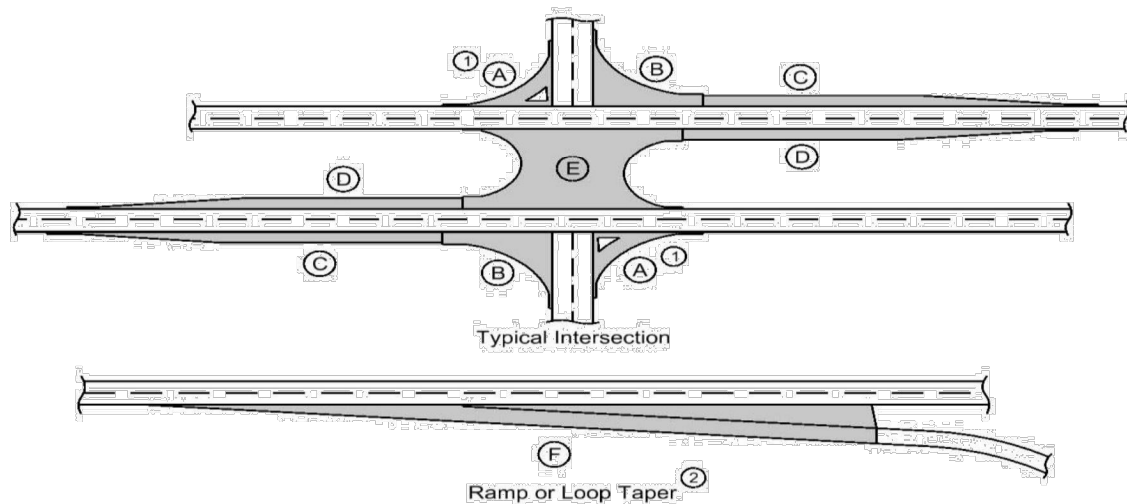
CHECK
PLANS



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

Location				Mainline			Area ③								Total Area By Pavement Thickness		Special Backfill	Modified Subbase	Granular Subbase	Remarks
Road Identification	Direction of Travel	Station to Station		Width	Length	Area	A ①	B	C	D	E	F ②	G	H						
				FT	FT	SY	SY	SY	SY	SY	SY	SY	SY	SY	8 IN	10% IN	TONS	CY	SY	
73RD ST.	SB	1+45.99	1+72.07	VARIES	26.1	0.0	77.0								77.0			16.9		73RD ST. SW RADIUS RETURN
73RD ST.	BOTH	1+72.07	4+07.81	VARIES	235.7	1604.9									1604.9			299.0		
73RD ST.	BOTH	4+07.81	7+07.83	VARIES	300.0	1304.1									1304.1			261.8		
73RD ST.	BOTH	7+07.83	11+77.98	27.0	470.2	1410.5									1410.5			304.7		
73RD ST.	BOTH	11+77.98	12+65.29	VARIES	87.3	252.8									252.8			48.6		INTERSECTION OF 73RD ST. & FOREST CT. MAIN LINE
FOREST CT.	EB	100+07.10	100+39.99	VARIES	32.9		31.9								31.9			8.4		FOREST CT. S RADIUS RETURN
FOREST CT.	BOTH	100+13.55	100+72.32	VARIES	58.8	155.1									155.1			30.1		
FOREST CT.	WB	100+13.43	100+47.32	VARIES	33.9		41.0								41.0			10.3		FOREST CT. N RADIUS RETURN
73RD ST.	BOTH	12+65.29	15+63.19	27.0	297.9	892.8									892.8			193.1		
73RD ST.	BOTH	15+63.19	16+50.22	VARIES	87.0	253.7									253.7			48.7		INTERSECTION OF 73RD ST. & COLBY AVE. MAIN LINE
COLBY AVE.	EB	200+11.43	200+44.43	VARIES	33.0		36.5								36.5			9.4		COLBY AVE. S RADIUS RETURN
COLBY AVE.	BOTH	200+13.50	200+69.43	VARIES	55.9	146.6									146.6			28.3		
COLBY AVE.	WB	200+09.67	200+42.66	VARIES	33.0		33.8								33.8			8.8		COLBY AVE. N RADIUS RETURN
73RD ST.	BOTH	16+50.22	18+93.31	27.0	243.1	729.3									729.3			157.6		
73RD ST.	BOTH	18+93.31	19+79.32	VARIES	86.0	250.2									250.2			48.1		INTERSECTION OF 73RD ST. & SUNSET TER. MAIN LINE
SUNSET TER.	EB	300+11.03	300+44.03	VARIES	33.0		36.0								36.0			9.3		SUNSET TER. S RADIUS RETURN
SUNSET TER.	BOTH	300+13.50	300+59.03	VARIES	45.5	111.2									111.2			20.8		
SUNSET TER.	WB	300+09.98	300+44.06	VARIES	34.1		35.1								35.1			9.1		SUNSET TER. N RADIUS RETURN
73RD ST.	BOTH	19+79.32	22+23.35	27.0	244.0	732.1									732.1			158.2		
73RD ST.	BOTH	22+23.35	23+10.36	VARIES	87.0	253.7									253.7			48.7		INTERSECTION OF 73RD ST. & REITE AVE. MAIN LINE
REITE AVE.	EB	400+11.25	400+44.01	VARIES	32.8		36.2								36.2			9.3		REITE AVE. S RADIUS RETURN
REITE AVE.	BOTH	400+13.50	400+89.16	VARIES	75.7	205.8									205.8			41.1		
REITE AVE.	WB	400+09.85	400+42.85	VARIES	33.0		34.1								34.1			8.9		REITE AVE. N RADIUS RETURN
73RD ST.	BOTH	23+10.36	23+27.80	27.0	17.4	52.3									52.3			11.3		
73RD ST.	BOTH	23+27.80	24+40.31	VARIES	112.5	393.7									393.7			82.3		
73RD ST.	BOTH	24+40.31	25+53.42	36.0	113.1	452.5									452.5			92.2		
73RD ST.	BOTH	25+53.42	26+40.43	VARIES	87.0	340.4									340.4			63.2		INTERSECTION OF 73RD ST. & DEL MATRO AVE.
DEL MATRO AVE.	EB	501+17.00	501+49.99	VARIES	33.0		35.9								35.9			9.3		DEL MATRO AVE. S RADIUS RETURN
DEL MATRO AVE.	BOTH	501+19.50	501+95.07	VARIES	75.6	205.6									205.6			41.0		
DEL MATRO AVE.	WB	501+16.01	501+49.12	VARIES	33.1		34.7								34.7			9.0		DEL MATRO AVE. N RADIUS RETURN
73RD ST.	BOTH	26+40.43	28+87.88	36.0	247.5	990.0									990.0			187.2		
73RD ST.	BOTH	26+94.59	29+92.74	VARIES	298.2								300.8		300.8			72.7		BUS LANE/PULL OFF
73RD ST.	BOTH	28+87.88	29+74.97	VARIES	87.1	340.4									340.4			53.7		INTERSECTION OF 73RD ST. & BELLAIRE AVE. MAIN LINE
BELLAIRE AVE.	EB	600+18.48	600+51.45	VARIES	33.0		38.2								38.2			9.7		BELLAIRE AVE. S RADIUS RETURN
BELLAIRE AVE.	BOTH	600+19.52	601+06.45	VARIES	86.9	239.6									239.6			48.4		
BELLAIRE AVE.	WB	600+14.67	600+47.67	VARIES	33.0		32.8								32.8			8.6		BELLAIRE AVE. N RADIUS RETURN
73RD ST.	BOTH	29+74.97	32+67.91	36.0	292.9	1171.8									1171.8			237.4		
73RD ST.	BOTH	32+67.91	34+17.39	VARIES	149.5	571.8									571.8			104.6		INTERSECTION OF 73RD ST. & WASHINGTON AVE./COLLEGE DR.
WASHINGTON AVE.	EB	700+18.81	700+51.74	VARIES	32.9		38.9								38.9			9.8		WASHINGTON AVE. S RADIUS RETURN
WASHINGTON AVE.	BOTH	700+19.52	700+76.74	VARIES	57.2	150.4									150.4			29.1		
WASHINGTON AVE.	WB	700+14.42	700+47.38	VARIES	33.0		32.5								32.5			8.6		WASHINGTON AVE. N RADIUS RETURN
COLLEGE DR.	EB	800+21.29	800+52.33	VARIES	31.0		41.5								41.5			10.3		COLLEGE DR. S RADIUS RETURN
COLLEGE DR.	BOTH	800+40.08	800+80.48	VARIES	40.4	100.0									100.0			18.2		
COLLEGE DR.	WB	800+48.60	800+87.57	VARIES	39.0		44.8								44.8			11.0		COLLEGE DR. N RADIUS RETURN
73RD ST.	BOTH	34+17.39	35+29.82	VARIES	112.4	393.5									393.5			81.9		
73RD ST.	BOTH	35+29.82	35+78.76	27.0	48.9	146.9									146.9			31.7		
73RD ST.	BOTH	35+78.76	36+65.83	VARIES	87.1	253.6									253.6			48.7		INTERSECTION OF 73RD ST. & JEFFERSON AVE.
JEFFERSON AVE.	EB	900+12.46	900+45.52	VARIES	33.1		38.2								38.2			9.7		JEFFERSON AVE. S RADIUS RETURN
JEFFERSON AVE.	BOTH	900+13.50	901+01.87	VARIES	88.4	243.8									243.8			49.3		
JEFFERSON AVE.	WB	900+08.68	900+41.66	VARIES	33.0		32.6								32.6			8.6		JEFFERSON AVE. N RADIUS RETURN

**CHECK
PLANS**



- ① Does not include raised island area or curb. Refer to tabulation 112-4 for quantities.
- ② Refer to PV-410, PV-411, PV-412, and PV-414.
- ③ Quantity includes Pavement Header.

[illegible]

ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.

- 1) Refer to MI-210
- 2) Refer to EW-501.
- 3) Refer to EW-501 or EW-502.

*Predetermined for access point not constructed with this project.

CHECK
PLANS

Location		Type	Length of Opening 1			W	12PR	SR2	Pipe Culvert 3					Aprons	Driveway Surface Area		Driveway Surfacing Material	Remarks
Station	Side	A, B, C, Safety Ramp, or Predetermined*	Case	1½" Dropped Curb	3" Dropped Curb				H	Size	Pipe Length	Lt.	Rt.		HMA	PCC		
			1 or 2	LF	LF	FT	FT	FT	FT	IN	LF	LF	LF	No.	SY	SY	TON	
2+73.37	LT		2	83.0		73.0										157.2		7301 University Avenue - 7" DEPTH
3+53.95	RT		2	31.0		21.0										35.9		1233 73RD ST - 7" DEPTH
3+90.47	LT		2	35.8		25.9										54.2		1250 73RD ST - 7" DEPTH
4+38.45	RT		2	35.0		27.7										45.7		1233 73RD ST - 7" DEPTH
5+34.22	RT		2	35.0		25.0										46.1		1237 73RD ST - 7" DEPTH
5+89.45	RT		2	35.1		25.0										56.4		1239 73RD ST - 7" DEPTH
6+03.75	LT		2	35.8		25.7										91.3		1250 73RD ST - 7" DEPTH
6+47.84	LT		2	28.1		18.0										68.6		1300 73RD ST - 7" DEPTH
6+55.11	RT		2	35.0		24.9										70.7		1239 73RD ST - 7" DEPTH
7+07.83	RT		2	34.6		24.6										73.5		1251 73RD ST - 7" DEPTH
7+28.93	LT		2	40.0		30.0										98.4		1300 73RD ST - 7" DEPTH
8+24.74	RT		2	26.0		16.0										52.6		1261 73RD ST - 6" DEPTH
8+28.18	LT		2	29.0		19.0										60.4		1300 73RD ST - 7" DEPTH
9+87.69	RT		2	20.1		10.0										37.5		1275 73RD ST - 6" DEPTH
10+11.09	LT		2	21.0		11.0										36.5		1330 73RD ST - 6" DEPTH
10+16.24	RT		2	27.5		17.5										61.4		1325 73RD ST - 6" DEPTH
11+30.32	LT		2	30.0		20.0										59.3		1342 73RD ST - 6" DEPTH
12+36.59	LT		2	43.1		33.1										86.4		1350/1400 73RD ST - 6" DEPTH
13+73.23	RT		2	35.8		26.0										98.2		1401/1415 73RD ST - 6" DEPTH
14+29.76	LT		2	20.7		11.0										27.1		1414 73RD ST - 6" DEPTH
14+51.81	LT		2	20.0		10.0										27.2		1418 73RD ST - 6" DEPTH
15+20.69	LT		2	21.0		10.1										30.4		1418 73RD ST - 6" DEPTH
16+02.68	LT		2	25.6		15.6										42.3		1422 73RD ST - 6" DEPTH
16+38.51	LT		2	20.0		10.0										29.7		1426 73RD ST - 6" DEPTH
16+94.10	LT		2	19.9		9.9										29.7		1426 73RD ST - 6" DEPTH
17+28.82	LT		2	20.0		10.0										29.8		1430 73RD ST - 6" DEPTH
17+86.87	LT		2	20.0		10.0										30.1		1430 73RD ST - 6" DEPTH
18+20.28	RT		2	27.0		17.0										40.9		7218 SUNSET TERRACE - 6" DEPTH
18+48.42	LT		2	32.0		22.0										55.9		1434 73RD ST - 6" DEPTH
19+35.34	LT		2	31.0		21.0										55.5		1438 73RD ST - 6" DEPTH
20+49.86	RT		2	32.0		22.0										53.1		7219 SUNSET TERRACE - 6" DEPTH
20+55.47	LT		2	34.9		24.9										64.0		1442 73RD ST - 6" DEPTH
21+07.24	LT		2	26.5		16.5										45.2		1504 73RD ST - 6" DEPTH
21+68.58	LT		2	22.0		12.0										34.9		1508 73RD ST - 6" DEPTH
22+32.11	LT		2	34.8		25.0										65.0		1508 73RD ST - 6" DEPTH
400+65.25	RT		2	28.8		18.8										17.4		7218 REITE AVE - 6" DEPTH
400+64.40	LT		2	28.1		18.1										19.4		7219 REITE AVE - 6" DEPTH
23+34.28	LT		2	26.1		16.1										42.3		1512 73RD ST - 6" DEPTH
24+61.68	LT		2	26.1		16.1										35.8		1516 73RD ST - 6" DEPTH
25+18.23	LT		1	64.5		36.0										185.1		1600 73RD ST - 7" DEPTH
501+58.86	RT		2	22.4		17.0										21.7		7218 DEL MATRO AVE - 6" DEPTH
501+57.77	LT		2	28.7		18.7										30.7		7219 DEL MATRO AVE - 6" DEPTH
600+71.21	RT		2	22.9		16.9										22.6		7218 BELLAIRE AVE - 6" DEPTH
600+67.71	LT		2	26.3		16.3										25.9		7219 BELLAIRE AVE - 6" DEPTH
29+89.62	RT		2	21.0		11.0										20.7		7219 BELLAIRE AVE - 6" DEPTH
30+20.67	LT		2	44.8		37.0										74.8		1600 73RD ST - 7" DEPTH
31+77.43	LT		2	37.9		27.9										61.9		1600 73RD ST - 7" DEPTH
32+32.08	RT		2	26.3		16.3										26.6		7222 WASHINGTON AVE - 6" DEPTH
35+26.59	LT		2	26.4		16.4										45.8		1808 73RD ST - 6" DEPTH
36+16.21	LT		2	26.5		17.0										45.8		1812 73RD ST - 6" DEPTH
900+78.70	RT		2	26.3		16.3										24.0		7222 JEFFERSON AVE - 6" DEPTH
900+69.96	LT		2	26.4		16.4										23.8		7223 JEFFERSON AVE - 6" DEPTH
37+58.99	LT		2	26.5		16.4										42.2		1816 73RD ST - 6" DEPTH
38+52.29	LT		2	26.3		16.3										43.3		1820 73RD ST - 6" DEPTH
39+32.16	LT		2	26.5		16.5										43.2		1908 73RD ST - 6" DEPTH
40+10.31	RT		2	26.4		16.4										38.8		7223 FRANKLIN AVE - 6" DEPTH
40+14.30	LT		2	26.4		16.4										42.3		1912 73RD ST - 6" DEPTH
40+52.36	LT		2	22.1		12.1										33.1		1916 73RD ST - 6" DEPTH
40+98.27	LT		2	26.8		16.8										43.3		1916 73RD ST - 6" DEPTH
41+26.39	RT		2	26.0		16.1										37.2		7254 EL RANCHO AVE - 6" DEPTH
41+81.31	LT		2	26.3		16.3										42.6		1920 73RD ST - 6" DEPTH
42+19.47	LT		2	26.2		16.2										42.5		2008 73RD ST - 6" DEPTH
43+00.99	LT		2	26.5		16.5										43.3		2012 73RD ST - 6" DEPTH
43+54.24	RT		2	28.0		17.8										40.7		7255 EL RANCHO AVE - 6" DEPTH
44+49.38	LT		2	26.4		16.4										42.8		2016 73RD ST - 6" DEPTH
45+44.78	LT		2	26.5		16.5										42.9		2020 73RD ST - 6" DEPTH
46+23.79	LT		2	28.4		18.4										47.3		2108 73RD ST - 6" DEPTH
46+69.68	LT		2	32.3		22.3										52.1		2112 73RD ST - 6" DEPTH
																		6" DEPTH TOTAL = 2173.54 SY
																		7" DEPTH TOTAL = 1180.08 SY

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\W\WINDSOR CD - LA\1317-089\CD\DWG\1317032.dwg 11/7/2023 9:51:24 PM

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES									100-19 10-19-21	
Possible Standards: EC-204										
Location			Perimeter and Slope			Ditch Check		Remarks		
Begin Station	End Station	Side	Length of Installation			Length of Installation				
			9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	12 inch Dia LF	20 inch Dia LF			
1+52.11	2+34.57	LT	90.32					73RD ST, ALONG BACK OF CURB		
1+72.13	2+16.31	RT	46.51					73RD ST, ALONG BACK OF CURB		
2+70.40	12+00.23	RT	842.47					73RD ST, ALONG BACK OF CURB		
3+08.22	25+03.73	LT	2178.98					73RD ST, ALONG BACK OF CURB		
3+25.00		LT						73RD ST, INLET PROTECTION DEVICE		
3+25.00		RT						73RD ST, INLET PROTECTION DEVICE		
4+10.15		RT						73RD ST, INLET PROTECTION DEVICE		
5+08.53		RT						73RD ST, INLET PROTECTION DEVICE		
5+62.79		RT						73RD ST, INLET PROTECTION DEVICE		
6+23.42		RT						73RD ST, INLET PROTECTION DEVICE		
6+82.72		RT						73RD ST, INLET PROTECTION DEVICE		
7+86.64		RT						73RD ST, INLET PROTECTION DEVICE		
9+14.94		LT						73RD ST, INLET PROTECTION DEVICE		
9+22.81		RT						73RD ST, INLET PROTECTION DEVICE		
11+70.38		RT						73RD ST, INLET PROTECTION DEVICE		
100+29.74	100+72.36	RT	42.83					FOREST CT, ALONG BACK OF CURB		
100+32.56	100+72.38	LT	40.51					FOREST CT, ALONG BACK OF CURB		
100+54.34		RT						FOREST CT, INLET PROTECTION DEVICE		
100+54.27		LT						FOREST CT, INLET PROTECTION DEVICE		
12+43.04	15+85.42	RT	337.18					73RD ST, ALONG BACK OF CURB		
12+72.73		RT						73RD ST, INLET PROTECTION DEVICE		
14+87.86		RT						73RD ST, INLET PROTECTION DEVICE		
200+31.57	200+69.48	RT	38.4					COLBY AVE, ALONG BACK OF CURB		
200+30.87	200+69.42	LT	38.99					COLBY AVE, ALONG BACK OF CURB		
200+51.38		RT						COLBY AVE, INLET PROTECTION DEVICE		
200+51.41		LT						COLBY AVE, INLET PROTECTION DEVICE		
16+27.96	19+15.46	RT	290.51					73RD ST, ALONG BACK OF CURB		
18+85.77		RT						73RD ST, INLET PROTECTION DEVICE		
300+31.14	300+59.03	RT	28.34					SUNSET TER, ALONG BACK OF CURB		
300+31.19	300+59.02	LT	28.36					SUNSET TER, ALONG BACK OF CURB		
300+51.05		RT						SUNSET TER, INLET PROTECTION DEVICE		
300+50.51		LT						SUNSET TER, INLET PROTECTION DEVICE		
19+57.07	22+45.60	RT	285.73					73RD ST, ALONG BACK OF CURB		
19+86.83		RT						73RD ST, INLET PROTECTION DEVICE		
20+92.55		RT						73RD ST, INLET PROTECTION DEVICE		
21+25.04		RT						73RD ST, INLET PROTECTION DEVICE		
21+25.00		LT						73RD ST, INLET PROTECTION DEVICE		
400+31.55	400+89.21	RT	29.36					REITE AVE, ALONG BACK OF CURB		
400+30.96	400+89.21	LT	30.82					REITE AVE, ALONG BACK OF CURB		
400+61.30		RT						REITE AVE, INLET PROTECTION DEVICE		
22+88.11	25+68.63	RT	284.45					73RD ST, ALONG BACK OF CURB		
23+81.52		RT						73RD ST, INLET PROTECTION DEVICE		
23+81.86		LT						73RD ST, INLET PROTECTION DEVICE		
25+32.73	33+61.37	LT	598.45					73RD ST, ALONG BACK OF CURB		
25+45.92		RT						73RD ST, INLET PROTECTION DEVICE		
501+41.53	501+91.32	RT	39.05					DEL MATRO AVE, ALONG BACK OF CURB		
501+31.08	501+91.12	LT	36.75					DEL MATRO AVE, ALONG BACK OF CURB		
501+78.48		RT						DEL MATRO AVE, INLET PROTECTION DEVICE		
501+78.48		LT						DEL MATRO AVE, INLET PROTECTION DEVICE		
26+25.28	29+03.03	RT	279.84					73RD ST, ALONG BACK OF CURB		
27+20.99		LT						73RD ST, INLET PROTECTION DEVICE		
27+20.99		RT						73RD ST, INLET PROTECTION DEVICE		
600+42.56	601+06.50	RT	46.184					BELLAIRE AVE, ALONG BACK OF CURB		
600+30.48	601+06.51	LT	50.93					BELLAIRE AVE, ALONG BACK OF CURB		
600+89.14		RT						BELLAIRE AVE, INLET PROTECTION DEVICE		
600+89.14		LT						BELLAIRE AVE, INLET PROTECTION DEVICE		
29+59.82	32+83.06	RT	304.86					73RD ST, ALONG BACK OF CURB		
32+87.97		LT						73RD ST, INLET PROTECTION DEVICE		
700+30.37	700+76.80	LT	47.59					WASHINGTON AVE, ALONG BACK OF CURB		
700+42.90	700+76.80	RT	34.09					WASHINGTON AVE, ALONG BACK OF CURB		
700+59.23		RT						WASHINGTON AVE, INLET PROTECTION DEVICE		
700+59.24		LT						WASHINGTON AVE, INLET PROTECTION DEVICE		
33+39.87	32+06.56	RT	267.54					73RD ST, ALONG BACK OF CURB		
800+62.65	800+40.08	LT	22.37					COLLEGE DR, ALONG BACK OF CURB		
800+65.86	800+40.08	RT	26.96					COLLEGE DR, ALONG BACK OF CURB		
33+39.38	47+95.80	LT	1402.44					73RD ST, ALONG BACK OF CURB		
34+86.24		RT						73RD ST, INLET PROTECTION DEVICE		
900+33.84	901+01.82	RT	56.41					JEFFERSON AVE, ALONG BACK OF CURB		
900+32.32	901+01.82	LT	55.29					JEFFERSON AVE, ALONG BACK OF CURB		
900+50.44		LT						JEFFERSON AVE, INLET PROTECTION DEVICE		
900+52.37		RT						JEFFERSON AVE, INLET PROTECTION DEVICE		
36+42.17	39+03.29	RT	266.73					73RD ST, ALONG BACK OF CURB		
36+91.55		LT						73RD ST, INLET PROTECTION DEVICE		
36+91.02		RT						73RD ST, INLET PROTECTION DEVICE		
38+79.06		RT						73RD ST, INLET PROTECTION DEVICE		
1000+32.19	1000+72.72	RT	41.47					FRANKLIN AVE, ALONG BACK OF CURB		
1000+24.58	1000+72.72	LT	48.88					FRANKLIN AVE, ALONG BACK OF CURB		
1000+55.16		RT						FRANKLIN AVE, INLET PROTECTION DEVICE		
1000+55.17		LT						FRANKLIN AVE, INLET PROTECTION DEVICE		
39+57.37	42+10.08	RT	231.72					73RD ST, ALONG BACK OF CURB		
39+81.55		LT						73RD ST, INLET PROTECTION DEVICE		
ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC				CITY OF WINDSOR HEIGHTS		POLK	COURT

REMOVAL OF CONCRETE DRIVES					110-08 04-17-18
* Not a Bid Item					
Location		Area	Saw Cut*	Remarks	
Station	Side	SY	LF		
2+70.07	LT	130.3		7301 UNIVERSITY AVE - ASSUMED 6 IN. THICKNESS	
3+54.05	RT	35.7		1233 73RD ST - ASSUMED 6 IN. THICKNESS	
3+90.21	LT	48.3		1220 73RD ST - ASSUMED 6 IN. THICKNESS	
4+38.56	RT	48.0		1233 73RD ST - ASSUMED 6 IN. THICKNESS	
5+34.54	RT	43.3		1237 73RD ST - ASSUMED 6 IN. THICKNESS	
5+88.29	RT	47.9		1239 73RD ST - ASSUMED 6 IN. THICKNESS	
6+06.42	LT	48.1		1250 73RD ST - ASSUMED 6 IN. THICKNESS	
6+47.82	LT	43.2		1300 73RD ST - ASSUMED 6 IN. THICKNESS	
6+55.13	RT	59.9		1239 73RD ST - ASSUMED 6 IN. THICKNESS	
7+10.06	RT	70.8		1251 73RD ST - ASSUMED 6 IN. THICKNESS	
7+28.93	LT	84.8		1300 73RD ST - ASSUMED 6 IN. THICKNESS	
8+24.74	RT	56.3		1261 73RD ST - ASSUMED 6 IN. THICKNESS	
8+28.41	LT	62.4		1300 73RD ST - ASSUMED 6 IN. THICKNESS	
9+87.69	RT	36.1		1275 73RD ST - ASSUMED 6 IN. THICKNESS	
10+11.09	LT	33.1		1330 73RD ST - ASSUMED 6 IN. THICKNESS	
10+16.24	RT	60.2		1325 73RD ST - ASSUMED 6 IN. THICKNESS	
11+30.32	LT	53.0		1342 73RD ST - ASSUMED 6 IN. THICKNESS	
12+36.59	LT	91.6		1350/1400 73RD ST - ASSUMED 6 IN. THICKNESS	
13+73.23	RT	95.2		1401/1415 73RD ST - ASSUMED 6 IN. THICKNESS	
14+29.76	LT	29.7		1414 73RD ST - ASSUMED 6 IN. THICKNESS	
14+51.81	LT	25.2		1418 73RD ST - ASSUMED 6 IN. THICKNESS	
15+20.77	LT	26.9		1418 73RD ST - ASSUMED 6 IN. THICKNESS	
16+02.68	LT	38.9		1422 73RD ST - ASSUMED 6 IN. THICKNESS	
16+38.51	LT	28.5		1426 73RD ST - ASSUMED 6 IN. THICKNESS	
16+94.10	LT	28.2		1426 73RD ST - ASSUMED 6 IN. THICKNESS	
17+28.82	LT	28.7		1430 73RD ST - ASSUMED 6 IN. THICKNESS	
17+86.87	LT	28.5		1430 73RD ST - ASSUMED 6 IN. THICKNESS	
18+20.37	RT	42.6		7218 SUNSET TERRACE - ASSUMED 6 IN. THICKNESS	
18+48.42	LT	53.7		1434 73RD ST - ASSUMED 6 IN. THICKNESS	
19+35.34	LT	53.0		1438 73RD ST - ASSUMED 6 IN. THICKNESS	
20+49.86	RT	52.1		7219 SUNSET TERRACE - ASSUMED 6 IN. THICKNESS	
20+55.47	LT	64.9		1442 73RD ST - ASSUMED 6 IN. THICKNESS	
21+07.24	LT	42.0		1504 73RD ST - ASSUMED 6 IN. THICKNESS	
21+68.58	LT	34.7		1508 73RD ST - ASSUMED 6 IN. THICKNESS	
22+32.11	LT	61.0		1508 73RD ST - ASSUMED 6 IN. THICKNESS	
400+65.76	RT	17.7		7218 REITE AVE - ASSUMED 6 IN. THICKNESS	
400+64.40	LT	19.0		7219 REITE AVE - ASSUMED 6 IN. THICKNESS	
23+34.28	LT	38.5		1512 73RD ST - ASSUMED 6 IN. THICKNESS	
24+61.68	LT	42.3		1516 73RD ST - ASSUMED 6 IN. THICKNESS	
25+17.21	LT	150.0		1600 73RD ST - ASSUMED 6 IN. THICKNESS	
501+58.86	RT	24.3		7218 DEL MATRO AVE - ASSUMED 6 IN. THICKNESS	
501+57.77	LT	29.6		7219 DEL MATRO AVE - ASSUMED 6 IN. THICKNESS	
600+71.21	RT	25.4		7218 BELLAIRE AVE - ASSUMED 6 IN. THICKNESS	
600+67.71	LT	27.7		7219 BELLAIRE AVE - ASSUMED 6 IN. THICKNESS	
29+89.62	RT	32.9		7219 BELLAIRE AVE - ASSUMED 6 IN. THICKNESS	
30+20.67	LT	109.1		1600 73RD ST - ASSUMED 6 IN. THICKNESS	
31+77.43	LT	82.0		1600 73RD ST - ASSUMED 6 IN. THICKNESS	
32+32.08	RT	42.3		7222 WASHINGTON AVE - ASSUMED 6 IN. THICKNESS	
35+26.59	LT	44.5		1808 73RD ST - ASSUMED 6 IN. THICKNESS	
36+16.21	LT	40.5		1812 73RD ST - ASSUMED 6 IN. THICKNESS	
900+78.68	RT	25.4		7222 JEFFERSON AVE - ASSUMED 6 IN. THICKNESS	
900+69.96	LT	24.7		7223 JEFFERSON AVE - ASSUMED 6 IN. THICKNESS	
37+58.99	LT	39.2		1816 73RD ST - ASSUMED 6 IN. THICKNESS	
38+52.29	LT	43.3		1820 73RD ST - ASSUMED 6 IN. THICKNESS	
39+32.16	LT	41.5		1908 73RD ST - ASSUMED 6 IN. THICKNESS	
40+10.31	RT	39.4		7223 FRANKLIN AVE - ASSUMED 6 IN. THICKNESS	
40+14.30	LT	41.2		1912 73RD ST - ASSUMED 6 IN. THICKNESS	
40+52.36	LT	29.6		1916 73RD ST - ASSUMED 6 IN. THICKNESS	
40+98.27	LT	41.1		1916 FRANKLIN AVE - ASSUMED 6 IN. THICKNESS	
41+26.39	RT	36.9		7254 EL RANCHO AVE - ASSUMED 6 IN. THICKNESS	
41+81.31	LT	41.0		1920 73RD ST - ASSUMED 6 IN. THICKNESS	
42+19.47	LT	40.9		2008 73RD ST - ASSUMED 6 IN. THICKNESS	
43+00.99	LT	40.9		2012 73RD ST - ASSUMED 6 IN. THICKNESS	
43+54.24	RT	39.4		7255 EL RANCHO AVE - ASSUMED 6 IN. THICKNESS	
44+49.38	LT	40.4		2016 73RD ST - ASSUMED 6 IN. THICKNESS	
45+44.78	LT	42.9		2020 73RD ST - ASSUMED 6 IN. THICKNESS	
46+23.79	LT	39.3		2108 73RD ST - ASSUMED 6 IN. THICKNESS	
46+69.68	LT	51.0		2112 73RD ST - ASSUMED 6 IN. THICKNESS	

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\W\50501 - C10\A\1317-0893\DWG\120859_C02_DOT.dwg 11/7/2023 9:51:29 PM

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES									100-19 10-19-21
Possible Standards: EC-204									
Location			Perimeter and Slope			Ditch Check		Remarks	
Begin Station	End Station	Side	Length of Installation			Length of Installation			
			9 inch Dia LF	12 inch Dia LF	20 inch Dia LF	12 inch Dia LF	20 inch Dia LF		
39+81.55		RT						73RD ST, INLET PROTECTION DEVICE	
1100+28.63	1100+73.23	RT	46.53					EL RANCHO AVE, ALONG BACK OF CURB	
1100+24.60	1100+73.22	LT	49.42					EL RANCHO AVE, ALONG BACK OF CURB	
1100+55.10		RT						EL RANCHO AVE, INLET PROTECTION DEVICE	
1100+55.10		LT						EL RANCHO AVE, INLET PROTECTION DEVICE	
42+64.17	45+11.57	RT	236.38					73RD ST, ALONG BACK OF CURB	
42+88.36		RT						73RD ST, INLET PROTECTION DEVICE	
43+71.76		LT						73RD ST, INLET PROTECTION DEVICE	
43+74.88		RT						73RD ST, INLET PROTECTION DEVICE	
1200+68.67	1200+72.78	RT	46.06					SUNRISE BLVD, ALONG BACK OF CURB	
1200+24.57	1200+72.78	LT	49					SUNRISE BLVD, ALONG BACK OF CURB	
1200+55.21		RT						SUNRISE BLVD, INLET PROTECTION DEVICE	
1200+55.21		LT						SUNRISE BLVD, INLET PROTECTION DEVICE	
45+65.66	47+94.22	RT	229.77					73RD ST, ALONG BACK OF CURB	
49+89.85		LT						73RD ST, INLET PROTECTION DEVICE	
49+89.85		RT						73RD ST, INLET PROTECTION DEVICE	

ADJUSTMENT OF FIXTURES				104-10 08-01-08
No.	Location Station	Type of Fixture	Adjustment	
1	1+92.13	Handhole	Adjust, By Others	
2	2+18.40	Handhole	Adjust, By Others	
3	3+08.18	Handhole - Communication	Adjust, By Others	
4	3+11.26	Manhole - Sanitary Sewer	Adjust, Minor	
5	3+48.34	Handhole - Electric	Adjust, By Others	
6	3+75.52	Handhole - Communication	Adjust, By Others	
7	5+53.67	Handhole - Communication	Adjust, By Others	
8	5+54.36	Manhole - Sanitary Sewer	Adjust, Minor	
9	5+57.31	Handhole	Adjust, Minor	
10	5+61.61	Handhole	Adjust, By Others	
11	6+23.95	Utility Pole	Relocate Pole, By Others	
12	6+32.62	Manhole - Sanitary Sewer	Adjust, Minor	
13	7+48.88	Utility Pole	Relocate Pole, By Others	
14	7+53.79	Handhole - Communication	Adjust, By Others	
15	7+53.93	Handhole - Communication	Adjust, By Others	
16	7+54.09	Handhole - Communication	Adjust, By Others	
17	7+63.39	Handhole	Adjust, By Others	
18	8+75.85	Utility Pole	Relocate Pole, By Others	
19	8+82.77	Manhole - Sanitary Sewer	Adjust, Minor	
20	10+01.66	Utility Pole	Relocate Pole, By Others	
21	11+23.47	Utility Pole	Relocate Pole, By Others	
22	12+28.31	Manhole - Sanitary Sewer	Adjust, Minor	
23	14+44.81	Utility Pole	Relocate Pole, By Others	
24	15+46.75	Handhole - Electric	Adjust, By Others	
25	15+75.54	Manhole - Sanitary Sewer	Adjust, Minor	
26	15+76.06	Manhole - Sanitary Sewer	Adjust, Minor	
27	15+88.72	Utility Pole	Relocate Pole, By Others	
28	19+09.79	Manhole - Sanitary Sewer	Adjust, Minor	
29	19+60.93	Utility Pole	Relocate Pole, By Others	
30	19+68.59	Handhole	Adjust, By Others	
31	19+96.43	Manhole - Sanitary Sewer	Adjust, Minor	
32	20+98.92	Utility Pole	Relocate Pole, By Others	
33	22+46.91	Utility Pole	Relocate Pole, By Others	
34	22+46.91	Manhole - Sanitary Sewer	Adjust, Minor	
35	22+64.92	Manhole - Sanitary Sewer	Adjust, Minor	
36	23+74.42	Utility Pole	Relocate Pole, By Others	
37	24+25.76	Manhole - Sanitary Sewer	Adjust, Minor	
38	24+26.87	Manhole - Sanitary Sewer	Adjust, Minor	
39	24+31.68	Utility Pole	Relocate Pole, By Others	
40	25+97.64	Manhole - Sanitary Sewer	Adjust, Minor	
41	26+07.20	Manhole - Sanitary Sewer	Adjust, Minor	
42	26+11.96	Utility Pole	Relocate Pole, By Others	
43	27+57.21	Water Valve	Adjust, By Others	
44	27+66.07	Utility Pole	Relocate Pole, By Others	
45	27+72.98	Manhole - Sanitary Sewer	Adjust, Minor	
46	28+40.33	Utility Pole	Relocate Pole, By Others	
47	29+23.91	Manhole - Sanitary Sewer	Adjust, Minor	
48	30+17.05	Utility Pole	Relocate Pole, By Others	
49	30+95.61	Handhole	Adjust, Minor	
50	33+02.52	Manhole - Sanitary Sewer	Adjust, Minor	
51	33+19.18	Manhole - Sanitary Sewer	Adjust, Minor	
52	33+73.13	Manhole - Sanitary Sewer	Adjust, Minor	
53	33+91.65	Utility Pole	Relocate Pole, By Others	
54	34+67.19	Utility Pole	Relocate Pole, By Others	
55	35+99.85	Handhole - Communication	Adjust, Minor	
56	36+23.16	Manhole - Sanitary Sewer	Adjust, Minor	
57	37+23.64	Manhole - Sanitary Sewer	Adjust, Minor	
58	39+15.68	Utility Pole	Relocate Pole, By Others	
59	39+34.05	Manhole - Sanitary Sewer	Adjust, Minor	
60	40+24.34	Manhole - Sanitary Sewer	Adjust, Minor	
61	40+89.35	Utility Pole	Relocate Pole, By Others	
62	41+69.12	Handhole - Communication	Adjust, Minor	
63	42+16.56	Utility Pole	Relocate Pole, By Others	
64	42+37.12	Manhole - Sanitary Sewer	Adjust, Minor	
65	43+49.98	Manhole - Sanitary Sewer	Adjust, Minor	
66	43+89.64	Utility Pole	Relocate Pole, By Others	
67	44+19.43	Manhole - Sanitary Sewer	Adjust, Minor	
68	45+23.94	Utility Pole	Relocate Pole, By Others	
69	45+40.38	Manhole - Sanitary Sewer	Adjust, Minor	
70	46+12.68	Utility Pole	Relocate Pole, By Others	
71	47+37.84	Manhole - Sanitary Sewer	Adjust, Minor	

CHECK
PLANS

PAVEMENT MARKING LINE TYPES

See PM-110

***MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

*BCY4 - Place on the same side of the roadway to match existing markings near the project.

**NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

BCY4: Broken Centerline (Yellow) @ 0.25

DCY4: Double Centerline (Yellow) @ 2.00

ELY4: Edge Line Left (Yellow) @ 1.00

SLW4: Solid Lane Line (White) @ 1.00

NPY4: No Passing Zone Line (Yellow) @ 1.25

CHY8: Channelizing Line (Yellow) @ 2.00

BLW4: Broken Lane Line (White) @ 0.25

CBW6: Crosswalk Bar (White) @ 15.00

ELW4: Edge Line Right (White) @ 1.00

SLW2: Stop Line (White) @ 1.00

CHECK
PLANS

Location				Length by Line Type (Unfactored)																	Remarks		
Road ID	Station to Station		Dir. of Travel	Marking Type	Side			BCY4*	DCY4	NPY4**	BLW4	ELW4	ELY4	SLW4	CHY8	CBW6	SLW2						
					L	C	R																
73RD STREET	1+71.00		SB	Durable Paint	X											0.62							
73RD STREET	1+82.47		SB	Durable Paint	X												0.39						
73RD STREET	1+82.47	4+07.47	SB	Durable Paint	X									2.25									
73RD STREET	1+82.47	4+07.47	SB	Durable Paint	X									2.25									
73RD STREET	1+82.62	6+89.22	BOTH	Durable Paint		X	X								12.90								
73RD STREET	6+89.22	11+78.44	BOTH	Durable Paint		X			4.89														
73RD STREET	12+64.75	15+63.70	BOTH	Durable Paint		X			2.99														
73RD STREET	16+49.72	18+93.32	BOTH	Durable Paint		X			2.44														
73RD STREET	19+79.33	22+23.86	BOTH	Durable Paint		X			2.45														
73RD STREET	23+10.41	23+27.83	BOTH	Durable Paint		X			0.17														
73RD STREET	23+27.83	24+40.30	BOTH	Durable Paint		X			2.83														
73RD STREET	24+40.30	25+74.75	SB	Durable Paint	X				1.34														
73RD STREET	24+40.30	25+74.75	NB	Durable Paint			X		1.34														
73RD STREET	26+19.27	29+09.56	SB	Durable Paint	X				2.90														
73RD STREET	26+19.27	29+09.56	NB	Durable Paint			X		2.90														
73RD STREET	27+22.53	29+62.53	SB	Durable Paint	X										2.40								
73RD STREET	29+54.22	32+89.65	SB	Durable Paint	X				3.35														
73RD STREET	29+54.22	32+89.65	NB	Durable Paint			X		3.35														
73RD STREET	30+27.25		NB	Durable Paint			X										0.10						
73RD STREET	30+70.20		BOTH	Durable Paint												0.34							
73RD STREET	31+13.37		SB	Durable Paint	X												0.10						
73RD STREET	33+34.35	34+17.32	SB	Durable Paint	X				0.83														
73RD STREET	33+34.35	34+17.32	NB	Durable Paint			X		0.83														
73RD STREET	34+17.32	35+29.82	BOTH	Durable Paint		X									2.82								
73RD STREET	35+29.82	35+78.76	BOTH	Durable Paint		X			0.49														
73RD STREET	36+65.36	38+87.14	BOTH	Durable Paint		X			2.22														
73RD STREET	39+73.60	41+93.95	BOTH	Durable Paint		X			2.20														
73RD STREET	42+80.40	44+95.43	BOTH	Durable Paint		X			2.15														
73RD STREET	45+81.90	46+49.45	BOTH	Durable Paint		X			0.68														
73RD STREET	46+49.45	48+26.56	BOTH	Durable Paint		X									4.27								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\10859_02_DOT.dwg 11/7/2023 9:51:34 PM

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\W\WSDHW_CAD\14141317-0893\DWG\120859_C02_DOT.dwg 11/7/2023 9:51:39 PM

110-14 04-16-13						
SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL						
* Not a bid item						
Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe		Fill Material*	Remarks
			≤ 36 inch diameter	> 36 inch diameter	Flowable Mortar or CLSM	
			LF	LF	CY	
STA 1+84.73, 42.62' L TO STA 3+25.16, 20.21' L	Storm Sewer	Removal	143			
STA 3+25.16, 20.21' L TO STA 3+23.99, 31.81' R	Storm Sewer	Removal	53			
STA 3+25.16, 20.21' L TO STA 3+27.44, 32.98' L	Storm Sewer	Removal	13			
STA 9+12.72, 21.06' L TO STA 9+14.83, 14.17' L	Storm Sewer	Removal		8		
STA 9+14.83, 14.17' L TO STA 9+28.12, 39.27' R	Storm Sewer	Removal	65			INCLUDES EXISTING STORM SEWER STUBS TO EX INTAKES AT STA 9+18.96 AND STA 9+30.59
STA 9+24.87, 19.52' R TO STA 12+03.83, 23.21' R	Storm Sewer	Removal	279			
STA 11+99.64, 13.97' L TO STA 12+03.83, 23.21' R	Storm Sewer	Removal	38			
STA 12+03.83, 23.21' R TO STA 12+35.79, 22.75' R	Storm Sewer	Removal	36			
STA 15+88.13, 20.74' R TO STA 16+25.08, 24.12' R	Storm Sewer	Removal	38			
STA 16+25.08, 24.12' R TO STA 17+70.69, 22.71' R	Storm Sewer	Removal	146			
STA 17+70.69, 22.71' R TO STA 19+19.81, 23.30' R	Storm Sewer	Removal	150			
STA 19+19.81, 23.30' R TO STA 19+55.88, 23.10' R	Storm Sewer	Removal	37			
STA 19+52.37, 27.18' R TO STA 21+34.97, 14.60' R	Storm Sewer	Removal	180			
STA 21+34.97, 14.60' R TO STA 21+35.38, 14.28' L	Storm Sewer	Removal	29			
STA 24.34.97, 14.60' R TO STA 22+49.12, 22.38' R	Storm Sewer	Removal	115			
STA 22+49.12, 22.38' R TO STA 22+84.33, 23.71' R	Storm Sewer	Removal	36			
STA 22+84.33, 23.71' R TO STA 23+99.64, 24.30' R	Storm Sewer	Removal	116			
STA 23+81.46, 14.30' L TO STA 23+81.99, 24.05' L	Storm Sewer	Removal		10		
STA 23+81.46, 14.30' L TO STA 23+99.64, 24.30' R	Storm Sewer	Removal	43			
STA 23+99.64, 24.30' L TO STA 24+03.23, 28.92' R	Storm Sewer	Removal	6			
STA 23+99.64, 24.30' L TO STA 25+80.00, 23.10' R	Storm Sewer	Removal	181			
STA 25+80.00, 23.10' R TO STA 25+80.26, 11.61' L	Storm Sewer	Removal	35			
STA 25+80.00, 23.10' R TO STA 26+14.02, 23.60' R	Storm Sewer	Removal	35			
STA 26+14.02, 23.60' R TO STA 29+15.93, 25.80' R	Storm Sewer	Removal	303			
STA 29+15.93, 25.80' R TO STA 29+48.98, 26.09' R	Storm Sewer	Removal	34			
STA 31+03.17, 33.78' R TO STA 31+04.18, 25.85' R	Storm Sewer	Removal		8		
STA 32+86.75, 21.75' L TO STA 33+10.57, 22.51' R	Storm Sewer	Removal	50			
STA 32+95.81, 25.47' R TO STA 33+10.57, 22.51' R	Storm Sewer	Removal	15			
STA 33+10.57, 22.51' R TO STA 33+28.03, 26.02' R	Storm Sewer	Removal	18			
STA 32+86.75, 21.75' L TO STA 33+54.50, 23.09' L	Storm Sewer	Removal	68			
STA 33+56.86, 27.35' L TO STA 33+91.13, 27.54' L	Storm Sewer	Removal	41			
STA 36+05.19, 23.27' R TO STA 36+40.21, 22.91' R	Storm Sewer	Removal	35			
STA 36+10.50, 35.79' R TO STA 36+38.84, 35.94' R	Storm Sewer	Removal	28			
STA 36+40.21, 22.92' R TO STA 36+38.84, 35.94' R	Storm Sewer	Removal	13			
STA 36+40.21, 22.92' R TO STA 36+90.39, 23.63' R	Storm Sewer	Removal	50			
STA 36+92.21, 33.80' L TO STA 36+90.64, 32.66' R	Storm Sewer	Removal	70			INCLUDES EXISTING STORM SEWER STUB TO EX INTAKE AT STA 36+95.21.
STA 36+90.39, 23.63' R TO STA 38+99.11, 19.36' R	Storm Sewer	Removal	210			
STA 38+99.11, 19.36' R TO STA 39+11.17, 20.17' R	Storm Sewer	Removal	12			
STA 38+99.11, 19.36' R TO STA 39+13.50, 39.39' R	Storm Sewer	Removal	25			
STA 39+15.50, 39.39' R TO STA 39+11.94, 55.31' R	Storm Sewer	Removal	16			
STA 39+11.17, 20.17' R TO STA 39+50.72, 21.22' R	Storm Sewer	Removal	40			
STA 42+23.07, 26.74' R TO STA 42+53.72, 25.90' R	Storm Sewer	Removal	31			
STA 42+53.72, 25.90' R TO STA 43+76.25, 25.89' R	Storm Sewer	Removal	122			
STA 43+70.60, 22.76' L TO STA 43+76.25, 25.89' R	Storm Sewer	Removal	54			
STA 43+75.39, 18.50' R TO STA 45+08.86, 22.40' R	Storm Sewer	Removal	134			
STA 45+08.86, 22.40' R TO STA 45+23.37, 24.52' R	Storm Sewer	Removal	15			
STA 45+08.86, 22.40' R TO STA 45+22.49, 35.43' R	Storm Sewer	Removal	19			
STA 45+23.37, 24.52' R TO STA 45+56.81, 24.54' R	Storm Sewer	Removal	33			
STA 45+22.49, 35.43' R TO STA 45+20.00, 59.30' R	Storm Sewer	Removal	24			

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\1177023\1177023.dwg 11/7/2023 9:51:44 PM

110-5 10-20-15 SIDEWALK REMOVAL				
* Not a bid item				
Begin Station	End Station	Area	Saw Cut*	Remarks
		SY	LF	
1+64.38	2+34.76	64.0		TRAIL ASSUMED 5" THICKNESS
1+78.38	2+21.43	18.7		RT - ASSUMED 4" THICKNESS.
2+64.78	3+43.47	33.8		RT - ASSUMED 4" THICKNESS.
3+07.57	3+77.27	61.3		TRAIL ASSUMED 5" THICKNESS
3+64.46	4+24.56	25.8		RT - ASSUMED 4" THICKNESS.
4+03.41	5+89.29	165.2		TRAIL ASSUMED 5" THICKNESS
4+53.07	5+22.29	29.9		RT - ASSUMED 4" THICKNESS.
5+47.75	5+76.23	12.5		RT - ASSUMED 4" THICKNESS.
6+01.72	6+42.27	17.9		RT - ASSUMED 4" THICKNESS.
6+17.29	6+36.93	17.9		TRAIL ASSUMED 5" THICKNESS
6+54.76	7+14.17	51.1		TRAIL ASSUMED 5" THICKNESS
6+67.32	6+95.55	12.3		RT - ASSUMED 4" THICKNESS.
7+21.64	8+15.18	41.0		RT - ASSUMED 4" THICKNESS.
7+43.83	8+19.21	64.9		TRAIL ASSUMED 5" THICKNESS
8+35.03	9+82.19	64.6		RT - ASSUMED 4" THICKNESS.
8+37.68	9+64.59	117.6		TRAIL ASSUMED 5" THICKNESS
9+64.59	10+05.00	18.3		LT - ASSUMED 4" THICKNESS.
9+92.54	10+09.05	6.9		RT - ASSUMED 4" THICKNESS.
10+15.46	11+20.72	47.0		LT - ASSUMED 4" THICKNESS.
10+24.99	12+06.95	83.5		RT - ASSUMED 4" THICKNESS.
11+39.26	12+19.91	34.3		LT - ASSUMED 4" THICKNESS.
12+35.79	13+60.18	55.9		RT - ASSUMED 4" THICKNESS.
12+53.29	14+24.68	74.8		LT - ASSUMED 4" THICKNESS.
13+85.64	15+91.73	89.5		RT - ASSUMED 4" THICKNESS.
14+35.86	14+46.77	4.7		LT - ASSUMED 4" THICKNESS.
14+56.89	15+15.63	24.3		LT - ASSUMED 4" THICKNESS.
15+25.68	15+94.81	30.5		LT - ASSUMED 4" THICKNESS.
16+10.56	16+33.51	9.9		LT - ASSUMED 4" THICKNESS.
16+20.36	18+12.18	75.2		RT - ASSUMED 4" THICKNESS.
16+43.57	16+89.07	19.7		LT - ASSUMED 4" THICKNESS.
16+98.99	17+23.72	10.6		LT - ASSUMED 4" THICKNESS.
17+33.78	17+81.74	20.9		LT - ASSUMED 4" THICKNESS.
17+91.75	18+37.54	19.6		LT - ASSUMED 4" THICKNESS.
18+28.56	19+21.07	37.0		RT - ASSUMED 4" THICKNESS.
18+59.25	19+24.73	28.6		LT - ASSUMED 4" THICKNESS.
19+45.99	20+43.04	42.7		LT - ASSUMED 4" THICKNESS.
19+52.37	20+38.97	35.6		RT - ASSUMED 4" THICKNESS.
20+60.91	22+53.61	82.9		RT - ASSUMED 4" THICKNESS.
20+67.91	20+99.04	13.4		LT - ASSUMED 4" THICKNESS.
21+15.48	21+62.68	20.4		LT - ASSUMED 4" THICKNESS.
21+74.50	22+19.65	20.2		LT - ASSUMED 4" THICKNESS.
22+45.49	23+26.06	35.4		LT - ASSUMED 4" THICKNESS.
22+79.73	25+83.72	115.7		RT - ASSUMED 4" THICKNESS.
23+42.13	24+53.55	48.7		LT - ASSUMED 4" THICKNESS.
24+69.36	24+96.65	13.7		LT - ASSUMED 4" THICKNESS.
25+10.83	25+17.88	2.9		LT - ASSUMED 4" THICKNESS.
25+31.81	29+98.92	393.9		LT - ASSUMED 4" THICKNESS.
501+32.18	501+50.78	8.2		DEL MATRO AVE - ASSUMED 4" THICKNESS.
501+67.30	501+95.06	12.3		DEL MATRO AVE - ASSUMED 4" THICKNESS.
26+10.25	29+18.59	119.8		RT - ASSUMED 4" THICKNESS.
600+36.71	600+60.90	9.2		BELLAIRe AVE - ASSUMED 4" THICKNESS.
600+81.69	600+95.71	5.5		BELLAIRe AVE - ASSUMED 4" THICKNESS.
29+45.42	29+83.83	18.1		RT - ASSUMED 4" THICKNESS.
29+95.52	32+23.99	111.4		RT - ASSUMED 4" THICKNESS.
30+38.46	33+56.86	92.5		LT - ASSUMED 4" THICKNESS.
31+91.19	31+63.51	67.1		LT - ASSUMED 4" THICKNESS.
32+40.69	32+98.85	28.1		RT - ASSUMED 4" THICKNESS.
700+36.33	700+76.76	16.0		WASHINGTON AVE - ASSUMED 4" THICKNESS.
33+25.13	36+09.18	124.8		RT - ASSUMED 4" THICKNESS.
33+91.13	35+18.38	55.9		LT - ASSUMED 4" THICKNESS.
35+34.68	36+08.04	32.0		LT - ASSUMED 4" THICKNESS.
900+29.33	900+61.06	14.1		JEFFERSON AVE LT - ASSUMED 4" THICKNESS.
900+78.18	901+01.90	10.1		JEFFERSON AVE LT - ASSUMED 4" THICKNESS.
900+32.89	900+70.36	16.3		JEFFERSON AVE RT - ASSUMED 4" THICKNESS.
900+86.83	901+02.87	7.1		JEFFERSON AVE RT - ASSUMED 4" THICKNESS.
36+24.28	37+50.61	54.7		LT - ASSUMED 4" THICKNESS.
36+36.82	39+18.33	131.6		RT - ASSUMED 4" THICKNESS.
37+67.30	38+44.13	24.4		LT - ASSUMED 4" THICKNESS.
38+60.46	39+23.76	23.0		LT - ASSUMED 4" THICKNESS.
1000+34.63	1000+63.23	12.5		FRANKLIN AVE - ASSUMED 4" THICKNESS.
39+40.36	40+06.21	26.5		LT - ASSUMED 4" THICKNESS.
39+45.39	40+02.46	26.3		RT - ASSUMED 4" THICKNESS.
40+19.11	41+19.33	43.4		RT - ASSUMED 4" THICKNESS.
40+22.47	40+45.39	9.9		LT - ASSUMED 4" THICKNESS.
40+56.35	40+89.86	14.3		LT - ASSUMED 4" THICKNESS.
41+06.53	41+73.26	28.4		LT - ASSUMED 4" THICKNESS.
41+35.60	42+19.02	39.6		RT - ASSUMED 4" THICKNESS.
41+89.56	42+11.20	9.6		LT - ASSUMED 4" THICKNESS.
42+27.58	42+92.78	28.6		LT - ASSUMED 4" THICKNESS.
42+57.18	43+44.66	40.7		RT - ASSUMED 4" THICKNESS.
43+09.24	44+41.16	57.4		LT - ASSUMED 4" THICKNESS.
43+62.90	45+21.32	70.6		RT - ASSUMED 4" THICKNESS.

110-5 10-20-15 SIDEWALK REMOVAL				
* Not a bid item				
Begin Station	End Station	Area	Saw Cut*	Remarks
		SY	LF	
44+56.99	45+36.58	34.8		LT - ASSUMED 4" THICKNESS.
45+52.98	46+14.66	26.1		LT - ASSUMED 4" THICKNESS.
45+60.59	48+25.48	139.8		RT - ASSUMED 4" THICKNESS.
46+31.11	46+58.35	11.6		LT - ASSUMED 4" THICKNESS.
46+80.75	48+28.97	90.5		LT - ASSUMED 4" THICKNESS.
48+55.71	48+81.62	15.7		RT - ASSUMED 4" THICKNESS.
48+69.62	48+83.05	15.7		LT - ASSUMED 4" THICKNESS.

110-1 04-16-13 REMOVAL OF PAVEMENT						
Refer to Tabulation 102-5						
* Not a Bid Item						
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	Remarks
				SY	LF	
1+72.06	47+95.03	BOTH	COMPOSITE	15375.0		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
100+12.52	100+72.32	BOTH	COMPOSITE	184.9		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
200+12.35	200+69.41	BOTH	COMPOSITE	178.6		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
300+12.37	300+59.03	BOTH	COMPOSITE	165.0		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
400+12.41	400+89.16	BOTH	COMPOSITE	231.9		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
501+12.42	501+95.07	BOTH	COMPOSITE	249.4		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
600+13.57	601+06.45	BOTH	COMPOSITE	278.7		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
700+12.45	700+76.74	BOTH	COMPOSITE	196.5		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
800+87.41	800+40.08	BOTH	COMPOSITE	178.4		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
900+12.42	901+01.87	BOTH	COMPOSITE	267.8		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
1000+12.76	1000+72.56	BOTH	COMPOSITE	183.5		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC
1100+12.76	1100+73.16	BOTH	CONCRETE	178.9		EX PVMT SECTION APPROXIMATELY 7" PCC. FOR FULL DEPTH PATCH
1200+12.71	1200+72.70	BOTH	COMPOSITE	178.6		EX PVMT SECTION APPROX 2.25" HMA UNDERLAIN BY 6" PCC

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\LA\LA1317-0093.DWG (3-DW Sheets) 12/05/20 C02 - DOT.dwg 11/7/2023 9:51:49 PM

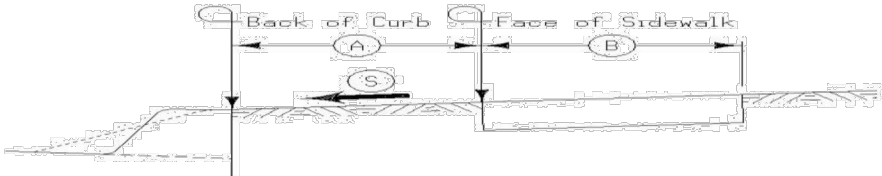
113-1A 04-16-19												
SIDEWALKS See MI-220 and S Sheets												
Road Identification	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Trail PCC Sidewalk	10" PCC Sidewalk	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SY	SF	
73RD ST.	1+61.39	1+86.74	LT	0.00	Varies	VAR		29.0			41	Trail Section
73RD ST.	1+63.40	1+74.41	LT	VAR	4.00	VAR	6.7					
73RD ST.	1+86.62	2+12.78	RT	VAR	Varies	VAR	13.8					
73RD ST.	1+86.74	2+35.07	LT	6.00	10.00	1.50%			53.7			
73RD ST.	2+12.78	2+20.91	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	2+65.22	2+73.80	RT	0.00	5.00	VAR		4.6			10	
73RD ST.	2+73.80	3+43.57	RT	8.25	5.00	VAR	38.8					
73RD ST.	3+07.57	3+77.66	LT	6.15	10.00	VAR			77.8			Trail Section
73RD ST.	3+64.52	4+24.60	RT	8.00	5.00	VAR	33.1					
73RD ST.	4+03.43	5+92.57	LT	VAR	10.00	VAR			213.8			Trail Section
73RD ST.	4+52.77	5+22.09	RT	8' TO 8.6'	5.00	VAR	37.8					
73RD ST.	5+47.43	5+76.36	RT	9' TO 9.75'	5.00	VAR	15.8					
73RD ST.	6+01.70	6+42.60	RT	VAR	5.00	VAR	22.3					
73RD ST.	6+17.88	6+37.37	LT	17.00	10.00	VAR			22.0			Trail Section
73RD ST.	6+55.31	7+14.18	LT	VAR	10.00	VAR			65.9			Trail Section
73RD ST.	6+67.61	6+97.83	RT	VAR	5.00	VAR	16.8					
73RD ST.	7+22.40	8+16.73	RT	11.50	5.00	VAR	52.4					
73RD ST.	7+43.67	8+19.05	LT	6.50	10.00	VAR			83.8			Trail Section
73RD ST.	8+32.75	9+83.29	RT	11.50	5.00	VAR	83.7					
73RD ST.	8+37.49	9+51.93	LT	VAR	10.00	VAR			148.1			Trail Section
73RD ST.	9+51.93	10+05.17	LT	12.00	5.00	VAR	30.1					
73RD ST.	9+93.30	10+07.48	RT	11.50	5.00	VAR	7.8					
73RD ST.	10+15.59	11+20.57	LT	VAR	5.00	VAR	58.3					
73RD ST.	10+24.99	11+96.60	RT	11.50	5.00	VAR	95.3					
73RD ST.	11+40.05	12+20.01	LT	VAR	5.00	VAR	44.6					
73RD ST.	11+96.60	12+04.77	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	12+38.50	12+46.67	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	12+46.67	13+60.42	RT	11.50	5.00	VAR	63.5					
73RD ST.	12+53.16	14+24.76	LT	VAR	5.00	VAR	94.8					
73RD ST.	13+86.05	15+81.81	RT	11.50	5.00	VAR	109.9				10	
73RD ST.	14+35.15	14+46.76	LT	VAR	5.00	VAR	6.3					
73RD ST.	14+56.87	15+15.55	LT	VAR	5.00	VAR	32.1					
73RD ST.	15+25.83	15+94.88	LT	VAR	5.00	VAR	38.2					
73RD ST.	15+81.81	15+89.98	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	16+10.47	16+33.53	LT	13.90	5.00	VAR	12.8					
73RD ST.	16+23.42	16+31.60	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	16+31.60	18+12.13	RT	11.50	5.00	VAR	100.3					
73RD ST.	16+43.48	16+86.85	LT	13.90	5.00	VAR	25.4					
73RD ST.	16+99.07	17+23.82	LT	13.90	5.00	VAR	13.8					
73RD ST.	17+33.82	17+81.81	LT	13.90	5.00	VAR	26.7					
73RD ST.	17+91.92	18+37.57	LT	13.90	5.00	VAR	25.4					
73RD ST.	18+28.46	19+11.93	RT	11.50	5.00	VAR	46.4					
73RD ST.	18+59.28	19+24.69	LT	14.00	5.00	VAR	36.3					
73RD ST.	19+11.93	19+20.10	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	19+45.99	20+43.03	LT	14.30	5.00	VAR	53.9					
73RD ST.	19+52.53	19+60.70	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	19+60.70	20+38.84	RT	11.50	5.00	VAR	43.4					
73RD ST.	20+60.88	22+41.97	RT	11.50	5.00	VAR	100.6					
73RD ST.	20+67.92	20+98.98	LT	14.30	5.00	VAR	17.3					
73RD ST.	21+15.50	21+62.63	LT	14.30	5.00	VAR	26.2					
73RD ST.	21+74.61	22+19.72	LT	14.20	5.00	VAR	25.1					
73RD ST.	22+41.97	22+50.14	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	22+45.51	23+26.23	LT	VAR	5.00	VAR	44.5					
73RD ST.	22+83.57	22+91.74	RT	0.00	5.00	VAR		4.5			10	
73RD ST.	22+91.74	25+67.50	RT	VAR	5.00	VAR	153.2					
73RD ST.	23+42.30	24+53.69	LT	10.5' TO 13.3'	5.00	VAR	61.9					
73RD ST.	24+69.78	24+91.08	LT	10.7'	5.00	VAR	11.8					
73RD ST.	24+91.08	24+97.16	LT	10.7'	5.00	VAR		3.7				
73RD ST.	25+09.40	25+17.94	LT	VAR	5.00	VAR	4.5					
73RD ST.	25+31.98	25+37.50	LT	0.00	5.00	VAR		3.6				
73RD ST.	25+37.50	27+17.47	LT	VAR	5.00	VAR	99.5					
73RD ST.	25+67.50	25+77.30	RT	0.00	5.00	VAR		4.8			14	
DEL MATRO AVE.	501+31.58	501+50.68	RT	VAR	5.00	VAR	8.5					
DEL MATRO AVE.	501+67.06	501+95.05	RT	VAR	5.00	VAR	12.4					
73RD ST.	26+16.56	26+26.38	RT	0.00	5.00	VAR		5.0			10	
73RD ST.	26+26.38	29+03.36	RT	VAR	5.00	VAR	154.3					
73RD ST.	27+17.47	29+67.53	LT	0.00	5.00	VAR	167.0					Class A Sidewalk
73RD ST.	27+79.22	27+99.22	LT	6.00	7.00	VAR	15.6					Bike Rack Parking
73RD ST.	28+05.09	28+15.09	LT	6.00	10.00	VAR	11.1					Sidewalk Connection
73RD ST.	28+56.09	28+96.09	LT	6.00	7.00	VAR	31.1					Bike Rack Parking
73RD ST.	29+03.36	29+12.63	RT	0.00	5.00	VAR		4.6			13	
73RD ST.	29+28.84	29+48.84	LT	6.00	7.00	VAR	15.6					Bike Rack Parking
ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC				CITY OF WINDSOR HEIGHTS		POLK	COUNTY	PROJECT NUMBER	STP-U-8477

290-01 04-15-14										
SIDEWALK CONSTRAINTS										
1. Widths: Widths listed in the S sheets are minimums.										
2. Cross Slopes: Construct all sidewalks, curb ramps, and landings/turning spaces at a target cross slope of 1.5%. Cross slopes exceeding 2.0% will not be allowed, except for areas tying into existing pavement. In these areas, transition from existing pavement cross slope to a cross slope of less than 2.0% within one panel at a rate not to exceed 1.0% per foot.										
3. Longitudinal Slopes: a. Sidewalk: i. Roadway slope exceeds 5.0%: Sidewalk longitudinal slope exceeding the roadway slope by more than 2.0% will not be allowed. ii. Roadway slope 5.0% or less: Sidewalk longitudinal slope exceeding 5.0% will not be allowed. b. Ramps: i. Ramps 15.0' in length or less: Longitudinal slope exceeding 8.3% will not be allowed. ii. Ramps greater than 15.0' in length: Construct with the longitudinal slope necessary to conform to the design.										
4. Landing/Turning Spaces: Longitudinal slopes exceeding 2.0% will not be allowed.										
CHECK PLANS										

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\LA\LA1317-0893\LA1317-0893.dwg 11/7/2023 9:51:54 PM

113-1A
04-16-19

SIDEWALKS
See MI-220 and S Sheets



CHECK
PLANS

Road Identification	Station to Station		Side	A	B	S	4" PCC Sidewalk	6" PCC Sidewalk	Trail PCC Sidewalk	10" PCC Sidewalk	Detectable Warnings	Remarks
				FT	FT	%	SY	SY	SY	SY	SF	
BELLAIRE AVE.	600+33.43	600+62.82	RT	VAR	5.00	VAR	16.3					
BELLAIRE AVE.	600+79.74	601+06.48	RT	VAR	5.00	VAR	14.1					
73RD ST.	29+50.41	29+59.85	RT	0.00	5.00	VAR		4.9				
73RD ST.	29+59.85	29+84.10	RT	VAR	5.00	VAR	13.5					
73RD ST.	29+67.53	30+03.27	LT	0.00	5.00	VAR	19.9					
73RD ST.	29+95.14	30+67.26	RT	7.00	5.00	VAR	40.1					
73RD ST.	30+38.27	30+67.07	LT	11.00	5.00	VAR	16.0					
73RD ST.	30+61.77	30+77.03	LT	16.40	5.00	VAR	8.4					Sidewalk Connection
73RD ST.	30+67.07	30+73.07	LT	10.36	5.00	VAR	4.0					
73RD ST.	30+67.07	30+73.07	LT	0.00	6.00	VAR		8.1			12	
73RD ST.	30+67.26	30+73.26	LT	4.50	6.00	VAR	4.9					
73RD ST.	30+67.26	30+73.26	LT	0.00	6.00	VAR		3.5			12	
73RD ST.	30+73.07	31+63.48	LT	11.35	5.00	VAR	50.1					
73RD ST.	30+73.26	32+23.91	RT	6.80	5.00	VAR	83.8					
73RD ST.	31+91.38	33+49.03	LT	10.50	5.00	VAR	87.6					
73RD ST.	32+40.24	32+81.72	RT	VAR	5.00	VAR	23.1					
73RD ST.	32+81.72	32+91.63	RT	0.00	5.00	VAR		5.1			14	
WASHINGTON AVE.	700+32.24	700+76.76	RT	VAR	4.00	VAR	20.4					
73RD ST.	33+31.33	33+41.24	RT	0.00	5.00	VAR		5.1			10	
73RD ST.	33+41.24	35+98.78	RT	VAR	5.00	VAR	143.1					
73RD ST.	33+49.03	33+59.21	LT	0.00	5.00	VAR		9.0			12	
COLLEGE DR.	800+62.47	800+41.98	LT	VAR	5.00	VAR	11.4					
73RD ST.	33+91.05	33+99.52	LT	0.00	5.00	VAR		4.6			10	
73RD ST.	33+99.52	35+18.38	LT	VAR	5.00	VAR	66.0					
73RD ST.	35+34.79	36+07.96	LT	14.70	5.00	VAR	40.7					
73RD ST.	35+98.78	36+06.44	RT	0.00	5.00	VAR		4.0			10	
JEFFERSON AVE.	900+33.03	900+70.54	RT	VAR	5.00	VAR	20.9					
JEFFERSON AVE.	900+86.86	901+01.87	RT	VAR	5.00	VAR	8.1					
JEFFERSON AVE.	900+30.78	900+61.75	LT	VAR	5.00	VAR	17.1					
JEFFERSON AVE.	900+78.15	901+01.86	LT	VAR	5.00	VAR	12.9					
73RD ST.	36+24.46	37+50.72	LT	13' TO 14.5'	5.00	VAR	69.7					
73RD ST.	36+38.22	36+45.94	RT	0.00	5.00	VAR		4.0			10	
73RD ST.	36+45.94	39+00.24	RT	6.50	5.00	VAR	141.9					
73RD ST.	37+67.26	38+44.13	LT	13.25' TO 13.7'	5.00	VAR	42.3					
73RD ST.	38+60.45	39+23.90	LT	13.5' TO 13.7'	5.00	VAR	35.3					
73RD ST.	39+00.24	39+10.21	LT	0.00	5.00	VAR		4.8			14	
FRANKLIN AVE.	1000+27.51	1000+72.70	RT	VAR	4.00	VAR	19.9					
73RD ST.	39+40.42	40+06.13	LT	13.3' TO 13.5'	5.00	VAR	36.5					
73RD ST.	39+50.40	39+60.40	RT	0.00	5.00	VAR		5.1			10	
73RD ST.	39+60.40	40+02.10	RT	VAR	5.00	VAR	23.1					
73RD ST.	40+18.52	41+18.38	RT	6.50	5.00	VAR	55.4					
73RD ST.	40+22.48	40+46.32	LT	13.20	5.00	VAR	13.2					
73RD ST.	40+58.39	40+89.89	LT	13.25	5.00	VAR	17.5					
73RD ST.	41+06.65	41+73.15	LT	13.35	5.00	VAR	36.9					
73RD ST.	41+34.40	42+07.05	RT	6.50	5.00	VAR	40.5					
73RD ST.	41+89.46	42+11.35	LT	13.40	5.00	VAR	12.2					
73RD ST.	42+07.05	42+17.02	RT	0.00	5.00	VAR		5.1			10	
73RD ST.	42+27.58	42+92.73	LT	13.50	5.00	VAR	36.2					
73RD ST.	42+57.23	42+67.20	RT	0.00	5.00	VAR		5.1			10	
73RD ST.	42+67.20	43+44.82	RT	6.50	5.00	VAR	43.0					
73RD ST.	43+09.24	44+41.19	LT	13.45	5.00	VAR	73.3					
73RD ST.	43+62.58	45+08.53	RT	6.50	5.00	VAR	81.2					
73RD ST.	44+57.56	45+36.55	LT	VAR	5.00	VAR	43.9					
73RD ST.	45+08.53	45+18.49	RT	0.00	5.00	VAR		5.1			10	
73RD ST.	45+53.02	46+14.59	LT	13.40	5.00	VAR	34.2					
73RD ST.	45+58.73	45+68.70	RT	0.00	5.00	VAR					10	
73RD ST.	45+68.70	48+21.59	RT	VAR	5.00	VAR	141.2					
73RD ST.	46+32.99	46+58.52	LT	VAR	5.00	VAR	13.6					
73RD ST.	46+80.85	48+24.42	LT	VAR	5.00	VAR	80.2					
73RD ST.	48+21.59	48+28.13	RT	0.00	5.00	VAR		4.0			10	
73RD ST.	48+24.42	48+34.95	LT	0.00	5.00	VAR		5.2			14	
WILSHIRE AVE.	1300+65.98	1300+76.01	RT	VAR	5.00	VAR	5.2					
WILSHIRE AVE.	1300+60.14	1300+70.79	LT	VAR	5.00	VAR	5.7					
73RD ST.	48+54.03	48+60.35	RT	0.00	5.00	VAR		3.7			10	
73RD ST.	48+60.35	48+81.62	RT	VAR	5.00	VAR	11.6					NE Quad Wilshire & 73rd Street
73RD ST.	48+64.30	48+72.99	LT	0.00	5.00	VAR		4.4			10	
73RD ST.	48+72.99	48+83.05	LT	VAR	5.00	VAR	5.7					NW Quad Wilshire & 73rd Street

EXISTING SIGNS TO BE REMOVED

SIGN NUMBER OR DESCRIPTION	LOCATION STATION	DIRECTION OF TRAVEL	TYPE 'A' SIGN ASSEMBLY	TYPE 'B' SIGN ASSEMBLY	REMOVE EXISTING SIGNS		CONCRETE FOUNDATION	SUPPORT STRUCTURE & FOUNDATION	APPLICABLE SIGNING NOTES	REMARKS
			Ⓐ	Ⓑ	Ⓐ	Ⓑ	Ⓕ	Ⓖ		
			EACH	EACH	EACH	EACH	EACH	EACH		
NO TRUCKS SIGN	1+88.74	NB			1					73RD STREET
SPEED LIMIT SIGN	3+73.12	NB			1					73RD STREET
NO PARKING SIGN	8+75.88	NB			1					73RD STREET
NO PASSING ZONE SIGN	8+75.88	NB			1					73RD STREET
SPEED LIMIT SIGN	11+65.41	SB			1					73RD STREET
NO PARKING SIGN	11+65.41	SB	1		1					73RD STREET
STOP SIGN	12+36.39	WB			1					FOREST COURT
STREET NAME SIGNS	12+36.39	WB	1		2					FOREST COURT
SPEED LIMIT SIGN	15+88.72	NB			1					73RD STREET
NO PARKING SIGN	15+88.73	NB			1					73RD STREET
STOP SIGN	16+21.65	WB			1					COLBY AVENUE
STREET NAME SIGNS	16+21.65	WB	1		2					COLBY AVENUE
STOP SIGN	19+53.74	WB			1					SUNSET TERRACE
STREET NAME SIGNS	19+53.74	WB	1		2					SUNSET TERRACE
NO PARKING SIGN	19+60.93	NB			1					73RD STREET
SPEED LIMIT SIGN	19+61.75	SB			1					73RD STREET
NO PARKING SIGN	19+61.75	SB			1					73RD STREET
STOP SIGN	22+81.56	WB			1					REITE AVENUE
STREET NAME SIGNS	22+81.56	WB	1		2					REITE AVENUE
NO PARKING SIGN	23+74.42	SB			1					73RD STREET
NEIGHBORHOOD WATCH SIGN	24+31.82	NB			1					73RD STREET
NO PARKING SIGN	24+31.82	NB			1					73RD STREET
SCHOOL ZONE SIGN	25+56.60	NB	1		1					73RD STREET
STOP SIGN	26+10.53	WB			1					DEL MATRO AVENUE
STREET NAME SIGNS	26+10.53	WB	1		2					DEL MATRO AVENUE
SPEED LIMIT SIGN	28+40.33	NB			1					73RD STREET
STOP SIGN	29+46.26	WB			1					BELLAIRE AVENUE
NO PARKING SIGN	29+46.26	WB			1					BELLAIRE AVENUE
STREET NAME SIGNS	29+46.26	WB	1		2					BELLAIRE AVENUE
SCHOOL ZONE SIGN	30+53.95	NB	1		1					73RD STREET
SCHOOL ZONE SIGN	31+02.00	SB	1		1					73RD STREET
NO PARKING SIGN	32+74.45	SB	1		1					73RD STREET
STOP SIGN	33+25.64	WB			1					WASHINGTON AVENUE
STREET NAME SIGNS	33+25.64	WB	1		2					WASHINGTON AVENUE
NO PARKING SIGN	33+25.64	WB			1					WASHINGTON AVENUE
STOP SIGN	33+59.20	EB			1					COLLEGE DR
NO PARKING SIGN	33+59.20	EB			1					COLLEGE DR
STREET NAME SIGNS	33+59.20	EB			2					COLLEGE DR
SCHOOL ZONE SIGN	34+28.94	SB	1		1					73RD STREET
NO PARKING SIGN	35+66.80	NB			1					73RD STREET
SPEED LIMIT SIGN	35+87.99	SB	1		1					73RD STREET
STOP SIGN	36+36.81	WB			1					JEFFERSON AVENUE
STREET NAME SIGNS	36+36.81	WB	1		2					JEFFERSON AVENUE
NO PARKING SIGN	36+36.81	WB			1					JEFFERSON AVENUE
NO PARKING SIGN	38+31.26	SB	1		1					73RD STREET
STOP SIGN	39+45.39	WB			1					FRANKLIN AVENUE
STREET NAME SIGNS	39+45.39	WB	1		2					FRANKLIN AVENUE
NO PARKING SIGN	39+45.39	WB			1					FRANKLIN AVENUE
SPEED LIMIT SIGN	42+16.56	NB			1					73RD STREET
STOP SIGN	42+52.84	WB			1					EL RANCHO AVENUE
NO PARKING SIGN	42+53.84	WB			1					EL RANCHO AVENUE
STREET NAME SIGNS	42+52.84	WB	1		2					EL RANCHO AVENUE
STOP SIGN	45+56.33	WB			1					SUNRISE BOULEVARD
STREET NAME SIGNS	45+56.33	WB	1		2					SUNRISE BOULEVARD
STOP SIGN	4834.39	EB			1					WILSHIRE BOULEVARD
STREET NAME SIGNS	4834.39	EB	1		2					WILSHIRE BOULEVARD
STOP SIGN	4860.29	WB			1					
STREET NAME SIGNS	4860.29	WB	1		2					

**CHECK
PLANS**

PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

Road Identification	Location																	SCHOOL	XING	STOP	AHEAD	ONLY	BIKE	LANE	EXIT	Groove Cuts	Remarks
	Station	Side																									
73RD STREET	2+07.00	LT				1																					
73RD STREET	2+07.00	LT	1																								
73RD STREET	2+07.00	RT			1																						
73RD STREET	2+95.00	LT				1																					
73RD STREET	2+95.00	LT	1																								
73RD STREET	2+95.00	RT			1																						
73RD STREET	3+82.50	LT	1																								
73RD STREET	3+82.50	LT				1																					
73RD STREET	3+82.50	RT			1																						
73RD STREET	24+69.00	CL			1																						
73RD STREET	24+85.00	CL			1																						
73RD STREET	27+68.00	CL			1																						
73RD STREET	27+84.00	CL			1																						
73RD STREET	31+38.00	CL			1																						
73RD STREET	31+54.00	CL			1																						
73RD STREET	33+40.00	CL			1																						
73RD STREET	33+56.00	CL			1																						
73RD STREET	49+66.00	CL			1																						
73RD STREET	49+90.00	CL			1																						
73RD STREET	51+81.50	RT			1																						
73RD STREET	51+98.00	LT		1																							
73RD STREET	52+20.00	RT																			1						
73RD STREET	52+36.00	LT																			1						
73RD STREET	52+57.25	RT			1																						
73RD STREET	52+74.00	LT		1																							

CHECK
PLANS

REMOVAL OF INTAKES AND UTILITY ACCESSES

No.	Location/Description	Type	Remarks
1	STA 3+23.99, 31.81' RT	Intakes	STORM SEWER INTAKE
2	STA 3+25.16, 20.21' LT	Utilities	STORM SEWER MANHOLE
3	STA 3+27.44, 32.98' LT	Intakes	STORM SEWER INTAKE
4	STA 9+18.96, 14.06' LT	Intakes	STORM SEWER INTAKE
5	STA 9+27.56, 31.29' RT	Utilities	STORM SEWER MANHOLE
6	STA 9+30.59, 13.92' RT	Intakes	STORM SEWER INTAKE
7	STA 11+99.64, 13.97' LT	Intakes	STORM SEWER INTAKE
8	STA 12+03.83, 23.21' RT	Intakes	STORM SEWER INTAKE
9	STA 12+39.14, 21.44' RT	Intakes	STORM SEWER INTAKE
10	STA 15+88.12, 20.74' RT	Intakes	STORM SEWER INTAKE
11	STA 16+25.08, 24.12' RT	Intakes	STORM SEWER INTAKE
12	STA 17+70.69, 22.71' RT	Intakes	STORM SEWER INTAKE
13	STA 19+19.81, 23.30' RT	Intakes	STORM SEWER INTAKE
14	STA 19+55.88, 23.10' RT	Intakes	STORM SEWER INTAKE
15	STA 21+34.97, 14.60' RT	Intakes	STORM SEWER INTAKE
16	STA 21+35.38, 14.28' LT	Intakes	STORM SEWER INTAKE
17	STA 22+49.12, 22.38' RT	Intakes	STORM SEWER INTAKE
18	STA 22+84.33, 23.71' RT	Intakes	STORM SEWER INTAKE
19	STA 23+81.46, 14.30' LT	Intakes	STORM SEWER INTAKE
20	STA 23+99.64, 24.30' RT	Utilities	STORM SEWER MANHOLE
21	STA 25+80.00, 23.10' RT	Intakes	STORM SEWER INTAKE
22	STA 25+80.26, 11.61' LT	Intakes	STORM SEWER INTAKE
23	STA 26+14.02, 23.60' RT	Intakes	STORM SEWER INTAKE
24	STA 29+15.93, 25.80' RT	Intakes	STORM SEWER INTAKE

REMOVAL OF INTAKES AND UTILITY ACCESSES

No.	Location/Description	Type	Remarks
26	STA 32+95.81, 25.47' RT	Intakes	STORM SEWER INTAKE
27	STA 33+10.57, 22.51' RT	Utilities	STORM SEWER MANHOLE
28	STA 33+28.03, 26.02' RT	Intakes	STORM SEWER INTAKE
29	STA 33+54.50, 23.09' LT	Intakes	STORM SEWER INTAKE
30	STA 33+95.18, 21.29' LT	Intakes	STORM SEWER INTAKE
31	STA 36+05.20, 23.26' RT	Intakes	STORM SEWER INTAKE
32	STA 36+10.50, 35.79' RT	Intakes	STORM SEWER INTAKE
33	STA 36+34.56, 35.62' RT	Intakes	STORM SEWER INTAKE
34	STA 36+38.84, 35.94' RT	Utilities	STORM SEWER MANHOLE
35	STA 36+40.21, 22.92' RT	Intakes	STORM SEWER INTAKE
36	STA 36+90.39, 23.63' RT	Intakes	STORM SEWER INTAKE
37	STA 36+90.64, 32.66' RT	Utilities	STORM SEWER MANHOLE
38	STA 36+95.24, 14.19' LT	Intakes	STORM SEWER INTAKE
39	STA 38+99.11, 19.36' RT	Utilities	STORM SEWER MANHOLE
40	STA 39+11.17, 20.17' RT	Intakes	STORM SEWER INTAKE
41	STA 39+13.50, 39.39' RT	Intakes	STORM SEWER INTAKE
42	STA 39+50.72, 21.22' RT	Intakes	STORM SEWER INTAKE
43	STA 42+23.07, 26.74' RT	Intakes	STORM SEWER INTAKE
44	STA 42+53.72, 25.90' RT	Intakes	STORM SEWER INTAKE
45	STA 43+75.39, 18.50' RT	Intakes	STORM SEWER INTAKE
46	STA 43+76.25, 25.89' RT	Utilities	STORM SEWER MANHOLE
47	STA 43+76.42, 13.84' LT	Intakes	STORM SEWER INTAKE
48	STA 45+08.86, 22.40' RT	Utilities	STORM SEWER MANHOLE
49	STA 45+22.49, 35.43' RT	Utilities	STORM SEWER MANHOLE

CLEARING AND GRUBBING

Location		Work and Material Type	Trees, Stumps, and Logs and Down Timber Material Diameters														All Other Materials		Estimated Quantities			Remarks													
Station to Station or Ref. Loc. Sign to Ref. Loc. Sign or Description	Direction of Travel		3"-6"	>6"-9"	>9"-12"	>12"-15"	>15"-18"	>18"-24"	>24"-30"	>30"-36"	>36"-42"	>42"-48"	>48"-60"	>60"-72"	>72"	Length	Width	Units	Area	Herbicide Application															
STA 13+39.75, 33.07' L	SB	Trees - Clearing and Grubbing			1													6.7			73RD STREET														
STA 13+57.79, 33.80' L	SB	Trees - Clearing and Grubbing		1														3.9			73RD STREET														

© Bolton & Menk, Inc. 2023. All Rights Reserved.
L:\V\W\50501\CD LA\141317-0893\CD LA\141317-0893.dwg 11/7/2023 9:52:04 PM

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK COUNTY

PROJECT NUMBER

STP-U-8477(615)--70-77

SHEET NUMBER

C.17

REVISED

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\LA\141317-089\LA01\Drawings\120859_002_DOT.dwg 11/7/2023 9:52:09 PM

MATERIALS FOR TYPE 'A' SIGNS

190-51
10-15-13

TYPE A SIGNING TYPICALS	SIGN NUMBER	DIR OF TRAVEL	SIGN LOCATION	WOOD POSTS			PERFORATED SQUARE STEEL TUBE						Steel Rect. Tube			TYPE A SIGN MOUNTING BRACKETS						INSTALLATION			REMARKS	
				NO. OF POSTS	4 x 6		LEG 1	LEG 2	LEG 3	ANCHOR			NO. OF POSTS	POST LENGTH	ANCHORS	ONE POST BRACKET	TWO POST	AUXILIARY	H	F	F1	TYPE	DIM 'X'	SEE SIGNING NOTES		
			STATION		LEG 1	LEG 2				CONC	SOIL	SLIPBASE														FT
NO TRUCKS	R5-2	NB	1+88.74																					3	4	
PEED LIMIT 25	R2-1	NB	2+96.51				10					1												3	5	
CTION CONTROL	R3-8ACD	SB	4+98.28				10					1												3	10	
NO PARKING	R8-3	NB	7+61.22				10					1												3	4	
PEED LIMIT 25	R2-1	SB	11+66.83				10					1												3	5	
NO PARKING	R8-3	SB	11+66.83																					3	4	
STREET NAME	IA-2	WB	100+45.12				10					1												3	8	
STREET NAME	IA-2	WB	100+45.12																					3	8	
STOP SIGN	R1-1	WB	100+45.12																					3	6.25	
STREET NAME	IA-2	WB	200+43.14				10					1												3	8	
STREET NAME	IA-2	WB	200+43.14																					3	8	
STOP SIGN	R1-1	WB	200+43.14																					3	6.25	
PEED LIMIT 25	R2-1	NB	16+77.52				10					1												3	5	
NO PARKING	R8-3	NB	16+77.52																					3	4	
STREET NAME	IA-2	WB	300+43.29				10					1												3	8	
STREET NAME	IA-2	WB	300+43.29																					3	8	
STOP SIGN	R1-1	WB	300+43.29																					3	6.25	
PEED LIMIT 25	R2-1	SB	19+61.21				10					1												3	5	
NO PARKING	R8-3	SB	19+61.21																					3	4	
NO PARKING	R8-3	NB	20+02.61				10					1												3	4	
STREET NAME	IA-2	WB	400+43.24				10					1												3	8	
STREET NAME	IA-2	WB	400+43.24																					3	8	
STOP SIGN	R1-1	WB	400+43.24																					3	6.25	
NO PARKING	R8-3	SB	23+69.50				10					1												3	4	
WAY LEFT TURN	R3-9B	NB	23+89.90				10					1												3	6	
PEED LIMIT 25	R2-1	NB	24+31.68				10					1												3	5	
NO PARKING	R8-3	NB	24+31.68																					3	4	
PED. CROSSING	S1-1	NB	25+53.43				10					1												3	9	
STREET NAME	IA-2	WB	501+36.25				10					1												3	8	
STREET NAME	IA-2	WB	501+36.25																					3	8	
STOP SIGN	R1-1	WB	501+36.25																					3	6.25	
WAY LEFT TURN	R3-9B	SB	26+36.35				10					1												3	6	
WAY LEFT TURN	R3-9B	NB	26+86.02				10					1												3	6	
PED. CROSSING	S1-1	NB	27+78.78				10					1												3	9	
AHEAD WARNING	W16-9B	NB	27+78.78																					3	2.5	
PEED LIMIT 25	R2-1	NB	28+45.56				10					1												3	5	
STREET NAME	IA-2	WB	600+42.77				10					1												3	8	
STREET NAME	IA-2	WB	600+42.77																					3	8	
STOP SIGN	R1-1	WB	600+42.77																					3	6.25	
NO PARKING	R8-3	WB	600+42.77																					3	4	
		NB	30+27.33				10					1												3		
		SB	31+13.42				10					1												3		
NO PARKING	R8-3	SB	32+77.64				10					1												3	4	
STREET NAME	IA-2	WB	700+43.10				10					1												3	8	
STREET NAME	IA-2	WB	700+43.10																					3	8	
STOP SIGN	R1-1	WB	700+43.10																					3	6.25	
NO PARKING	R8-3	WB	700+43.10																					3	4	
WAY LEFT TURN	R3-9B	SB	33+31.21				10					1												3	6	
STREET NAME	IA-2	EB	800+57.52				10					1												3	8	
STREET NAME	IA-2	EB	800+57.52																					3	8	
STOP SIGN	R1-1	EB	800+57.52																					3	6.25	
PED. CROSSING	S1-1	SB	34+28.89				10					1												3	9	
AHEAD WARNING	W16-9B	SB	34+28.89																					3	2.5	
PEED LIMIT 25	R2-1	SB	35+90.24				10					1												3	5	
STREET NAME	IA-2	WB	900+43.25				10					1												3	8	
STREET NAME	IA-2	WB	900+43.25																					3	8	
STOP SIGN	R1-1	WB	900+43.25																					3	6.25	
NO PARKING	R8-3	WB	900+43.25																					3	4	
NO PARKING	R8-3	SB	38+24.96				10					1												3	4	
STREET NAME	IA-2	WB	1000+42.35				10					1														

CHECK
PLANS

104-9
10-17-17

LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

Location					Longitudinal Subdrain (DR-303)							Subdrain Outlet		Porous* Backfill	Class "A"* Crushed Stone	Remarks	
Line No.	Road or Lane Identification	Station to Station		Side	Depth	Shoulder		Backslope		Bridge Berm (EW-203 or EW-204)			DR-303, DR-305 or DR-306				
					D	Size	Length	Size	Length	Standard Road Plan and Type	Size	Length	Station				Standard Road Plan and Type
1	73RD STREET	2+00.49	3+25.00	RT	36.0	6.0	124.5						3+25.00	DR-306	11.5		
2	73RD STREET	3+25.00	9+06.19	LT	36.0	6.0	581.2						3+25.00	DR-306	53.8		
3	73RD STREET	7+89.68	9+13.97	RT	36.0	6.0	124.3						7+89.68	DR-306	11.5		
4	73RD STREET	9+15.03	17+15.00	LT	36.0	6.0	800.0						9+15.03	DR-306	74.1		
5	73RD STREET	15+93.81	17+25.00	RT	36.0	6.0	131.2						15+93.81	DR-306	12.1		
6	73RD STREET	17+15.00	21+25.00	LT	36.0	6.0	410.0						21+25.00	DR-306	38.0		
7	73RD STREET	17+25.00	17+70.70	RT	36.0	6.0	45.7						17+70.70	DR-306	4.2		
8	73RD STREET	21+25.00	23+72.72	LT	36.0	6.0	247.7						21+25.00	DR-306	22.9		
9	73RD STREET	23+81.60	26+91.75	LT	36.0	6.0	310.2						23+81.60	DR-306	28.7		
10	73RD STREET	27+20.99	32+78.42	LT	36.0	6.0	557.4						27+20.99	DR-306	51.6		
11	73RD STREET	27+20.99	28+87.89	RT	36.0	6.0	166.9						27+20.99	DR-306	15.5		
12	73RD STREET	32+87.97	36+82.66	LT	36.0	6.0	394.7						32+87.97	DR-306	36.5		
13	73RD STREET	36+91.02	39+72.72	LT	36.0	6.0	281.7						36+91.02	DR-306	26.1		
14	73RD STREET	39+81.55	43+61.45	LT	36.0	6.0	379.9						39+81.55	DR-306	35.2		
15	73RD STREET	39+81.55	41+76.55	RT	36.0	6.0	195.0						39+81.55	DR-306	18.1		
16	73RD STREET	43+71.74	45+80.57	LT	36.0	6.0	208.8						43+71.74	DR-306	19.3		
17	73RD STREET	45+89.85	47+95.84	LT	36.0	6.0	206.0						45+89.85	DR-306	19.1		
otals							5165.2		0.0					DR-306 = 15	478.2	0.0	

Item	Depth, FT	Quantity, SY	Quantity, SF	Volume, CF	Volume, CY	CUT, CY	FILL, CY	FILL FACTOR	ADJ. FILL	NET CUT, CY
Excavation RAW data (EG-FG)						3243.32	466.04	1.35	629.15	2777.28
Existing Pavement Removal 7"	0.58	19.88	178.90	104.36	3.87					
Existing Pavement Removal 8.25"	0.69	1963.14	17668.30	12146.96	449.89					
Existing Sidewalk Removal	0.33	4039.00	448.78	149.59	5.54					
Existing Driveway Removal	0.50	3211.10	356.79	178.39	6.61					
Proposed 8" Paving	0.67	19677.00	177093.00	118062.00	4372.67					
Modified Subbase 6"	0.50	24203.29	217829.61	108914.81	4033.88					
Proposed 8" Paving (Full Depth Patch)	0.67	51.00	459.00	306.00	11.33					
Proposed Sidewalk 4"	0.33	4088.40	36795.60	12265.20	454.27					
Proposed Sidewalk 6"	0.50	186.30	1676.70	838.35	31.05					
Proposed Shared Use Path 6"	0.50	665.30	5987.70	2993.85	110.88					
Modified Subbase 6"	0.50	1081.17	9730.53	4865.27	180.20					
Proposed Driveway 6"	0.50	2173.54	19561.86	9780.93	362.26					
Proposed Driveway 7"	0.58	1180.08	10620.72	6195.42	229.46					
Proposed Topsoil	0.50	12743.11	114687.99	57344.00	2123.85					
Paving Difference						7964.13				
Sidewalk Difference						770.85				
Driveway Difference						585.11				
Topsoil						-2123.85				
						10439.56	466.04	1.35	629.15	9810.41

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK

COUNTY

PROJECT NUMBER

STP-U-8477(615)--70-77

SHEET NUMBER

C.19

REVISED

CHK
PLNS

H:\WINDSOR_H_G_I\IA\13120659\CAD\C19\Sheets\120659_C02_DOT.dwg 11/7/2023 9:52:14 PM

© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\VWS\WHS\CD\1411317-0893\CD\1411317-0893\WHS\120850_C02_DOT.dwg 11/7/2023 9:52:19 PM

110-12L 10-20-20			
POLLUTION PREVENTION PLAN			
This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP). This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review. All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP. I. ROLES AND RESPONSIBILITIES A. Designer: 1. Prepares Base PPP included in the project plan. 2. Prepares Notice of Intent (NOI) submitted to Iowa DNR. 3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required. B. Contractor: 1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP. 2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications. 3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications. 4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231). 5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2. 6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports. 7. Complies with training and certification requirements of Section 2602 of the Standard Specifications. 8. Submits amended PPP site map according to Section 2602 of the Standard Specifications. C. Subcontractors: 1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP. 2. Implement good housekeeping practices according to Paragraph III, C, 2. D. RCE/Project Engineer: 1. Is Project Storm Water Manager. 2. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance. 3. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit. 4. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors. 5. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements. 6. Is familiar with the Project PPP and storm water site map. 7. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements. 8. Is signature authority on Notice of Discontinuation. 9. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231). 10. Makes information to determine permit compliance available to the DNR upon their request. E. Inspector: 1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project. 2. Makes information to determine permit compliance available to the DNR upon their request. 3. Conducts joint required inspections of the site with the contractor/subcontractor. 4. Completes an inspection report after each inspection. 5. Is signature authority on storm water inspection reports. II. PROJECT SITE DESCRIPTION A. This Pollution Prevention Plan (PPP) is for the construction of 73rd Street through the City of Windsor Heights from University Avenue to Hickman Road. B. This PPP covers approximately 8.4 acres with an estimated 8.4 acres being disturbed. The portion of the PPP covered by this contract has 8.4 acres disturbed. C. The PPP is located in an area of two soil association, Urban Land and Clarion-Urban Land. The estimated weighted average runoff coefficient number for this PPP after completion will be 0.70. D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including: 1. Drainage Patterns - Plan and Profile sheets and Situation plans. 2. Proposed Slopes - Cross Sections. 3. Areas of Soil Disturbance - Construction limits shown on Plan and Profile sheets. 4. Location of Structural Controls - Tabulations in C sheets. 5. Locations of Non-structural Controls - Tabulations in C sheets. 6. Locations of Stabilization Practices - Generally within construction limits shown on Plan and Profile sheets. 7. Surface Waters (including wetlands) - Project Location Map and Plan and Profile sheets. 8. Locations where Storm Water is Discharged - Plan and Profile sheets.			
ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC

110-12L 10-20-20			
POLLUTION PREVENTION PLAN			
E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map. F. Runoff from this work will flow into *List Outlets for Runoff*. III. CONTROLS A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented. B. Preserve vegetation in areas not needed for construction. C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications. 1. EROSION AND SEDIMENT CONTROLS a. Stabilization Practices 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized. 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have: a) Permanently ceased on any portion of the site, or b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above. 4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets. 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips. 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in Tabulations in the C or T sheets or is referenced in Section 2105 of Standard Specifications. b. Structural Practices 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas. 2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found in the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets. c. Storm Water Management Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets. The installation of these devices may be subject to Section 404 of the Clean Water Act. 2. OTHER CONTROLS Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive applicable laws, rules or regulations shall apply. a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways. b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use. c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving. d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit. e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state. f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events. g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project. h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge. i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants. j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point. 3. APPROVED STATE OR LOCAL PLANS During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.			
POLK	COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77
SHEET NUMBER		C.20	REVISED ----

CHECK
PLANS

POLLUTION PREVENTION PLAN

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
- 1. Date of the inspection.
 - 2. Summary of the scope of the inspection.
 - 3. Name and qualifications of the personnel making the inspection.
 - 5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
 - 6. Major observations related to the implementation of the PPP.
 - 7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

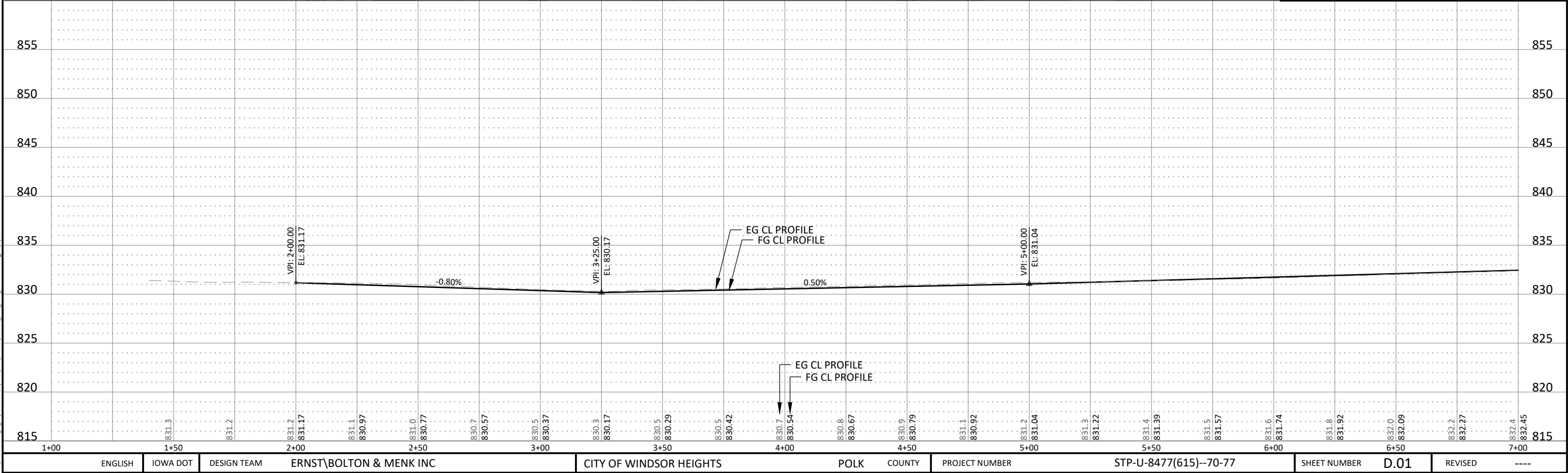
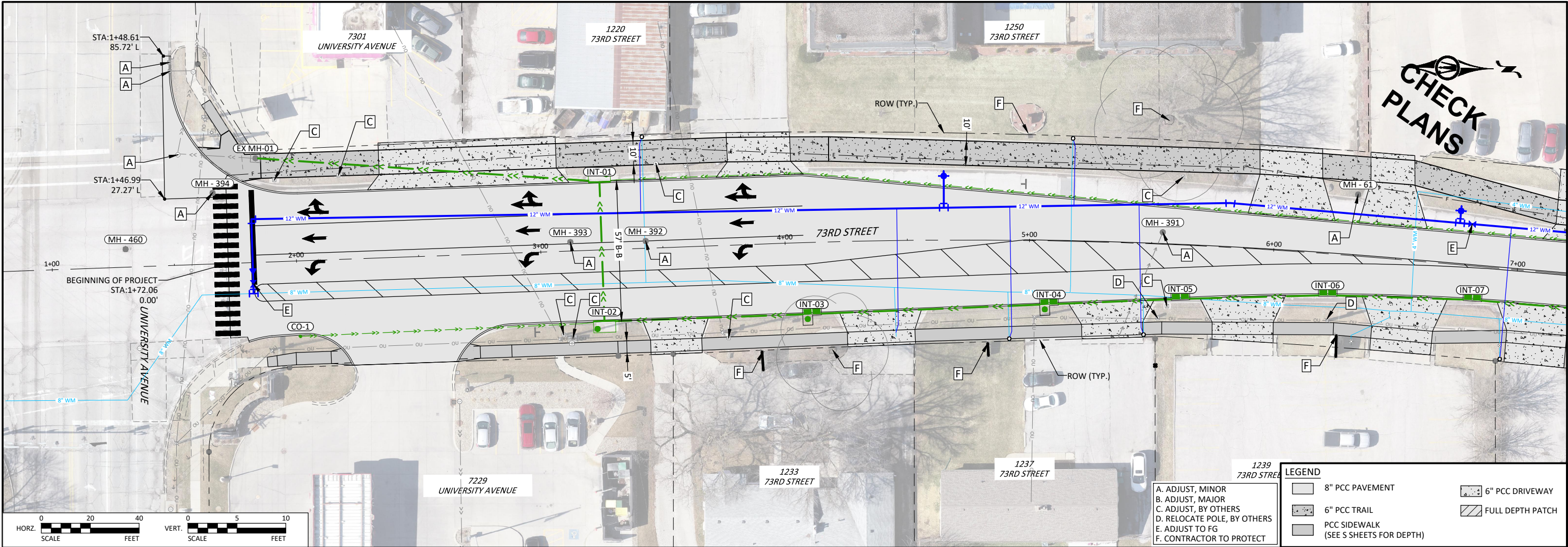
Signature

Printed or Typed Name

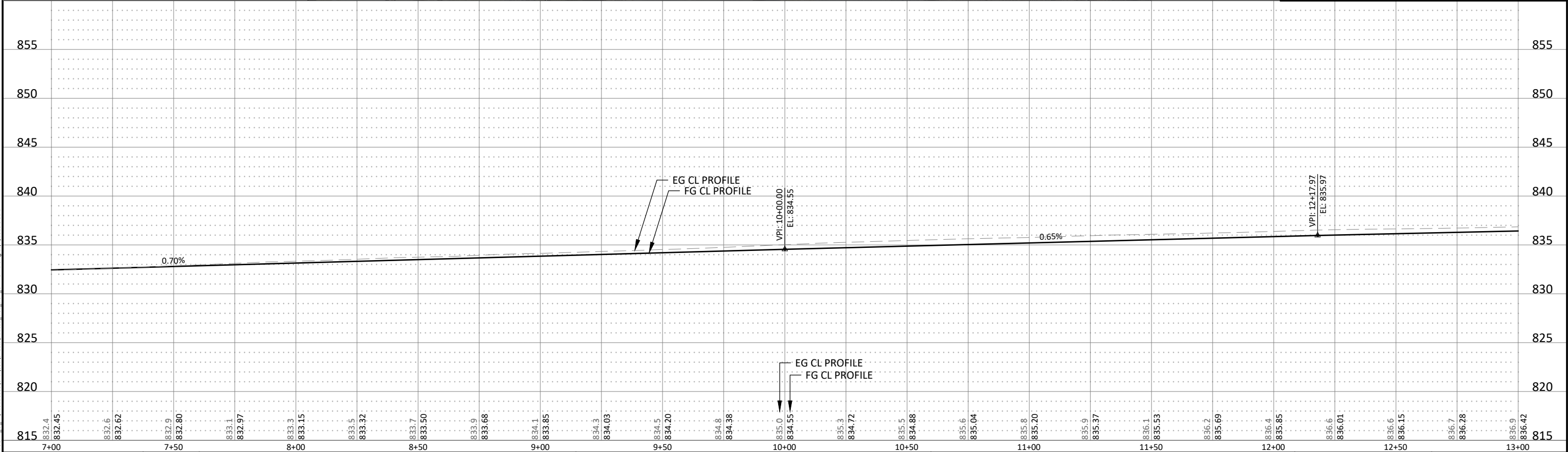
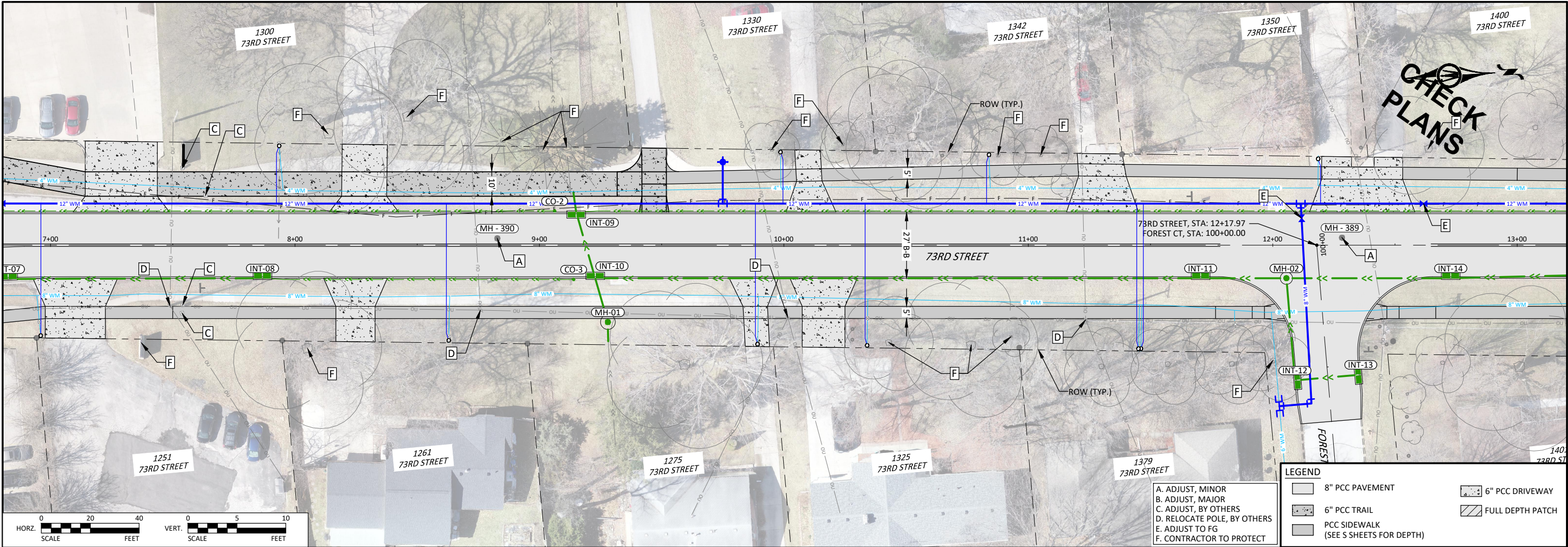
Signature

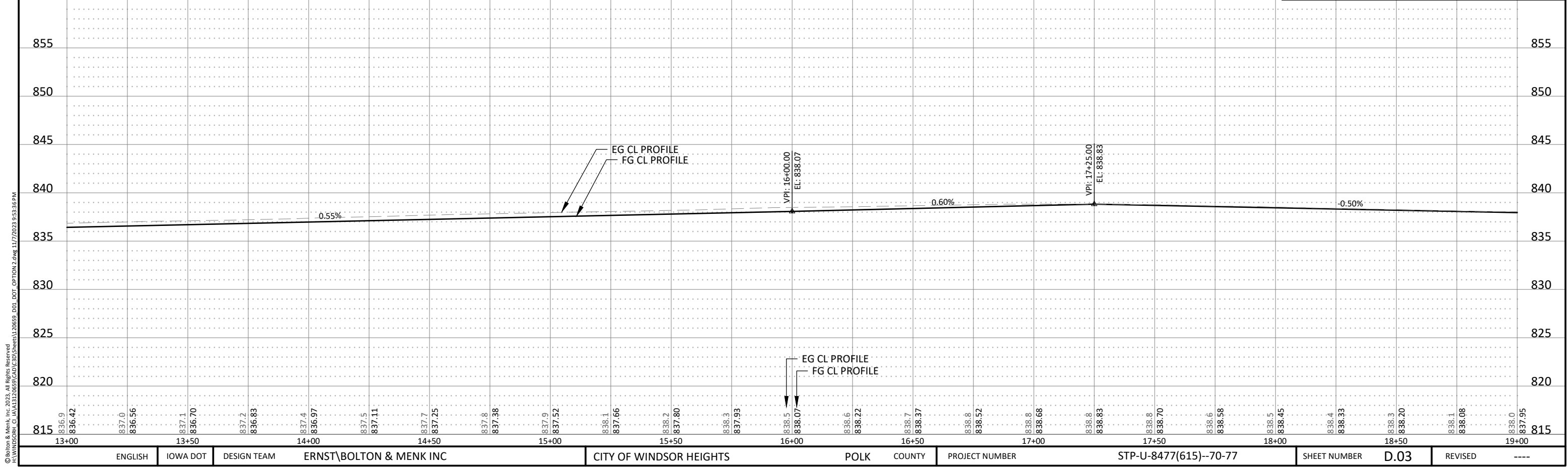
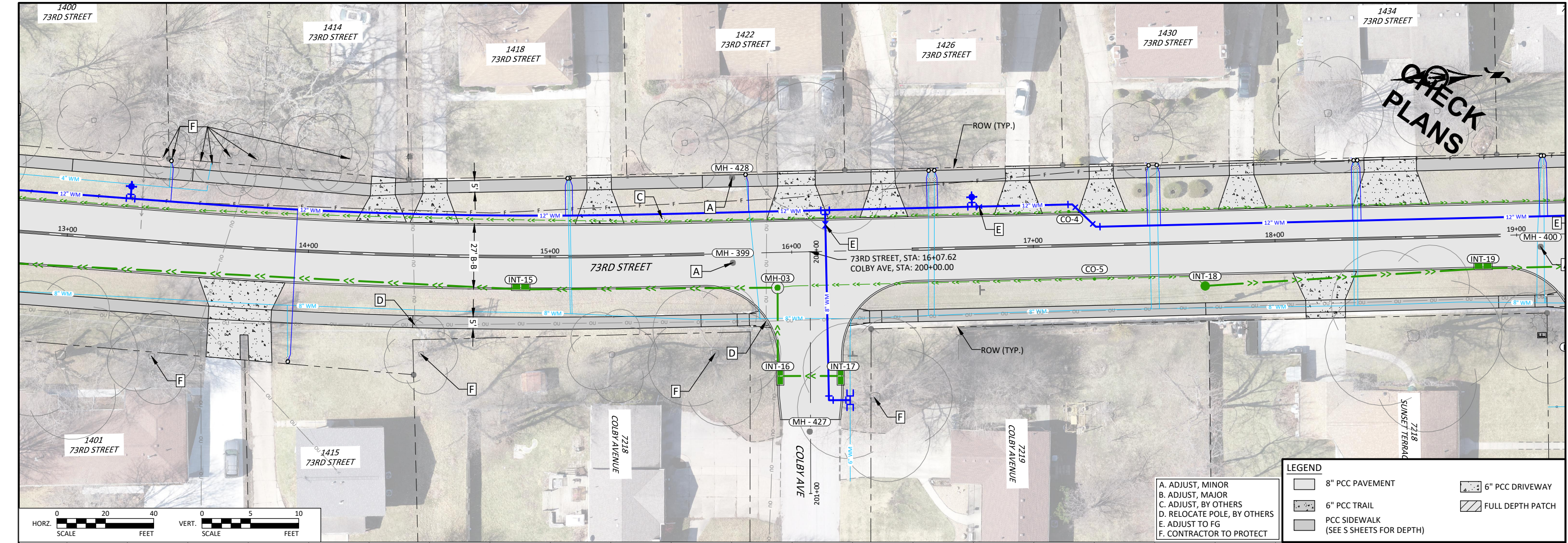
Printed or Typed Name

CHECK
PLANS

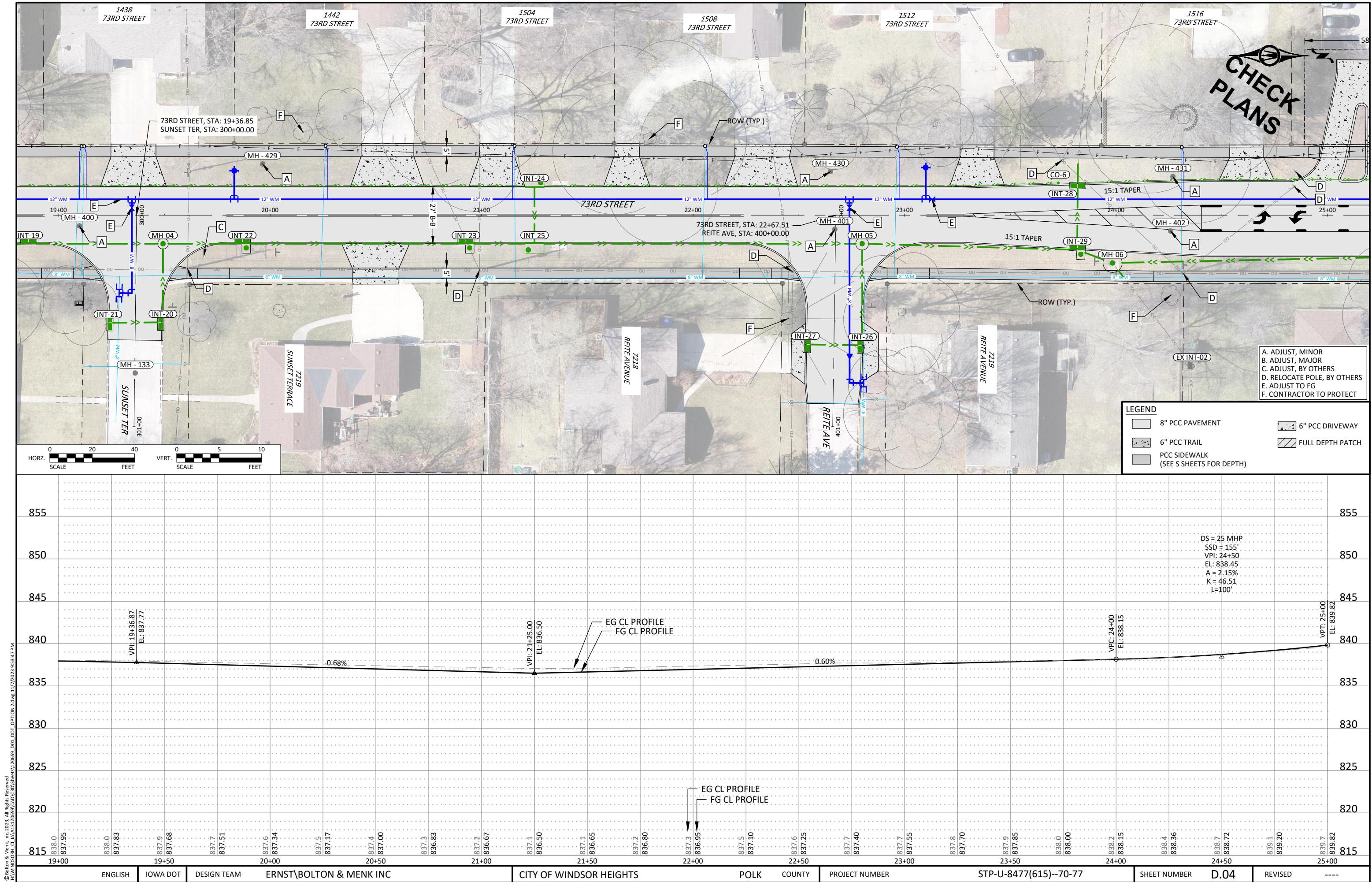


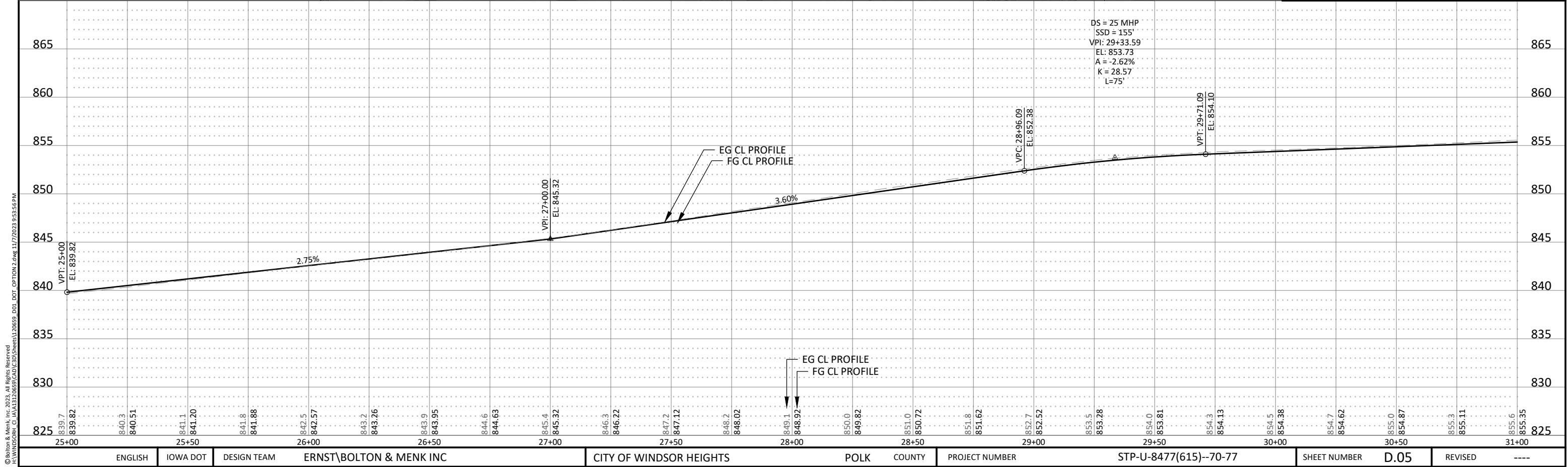
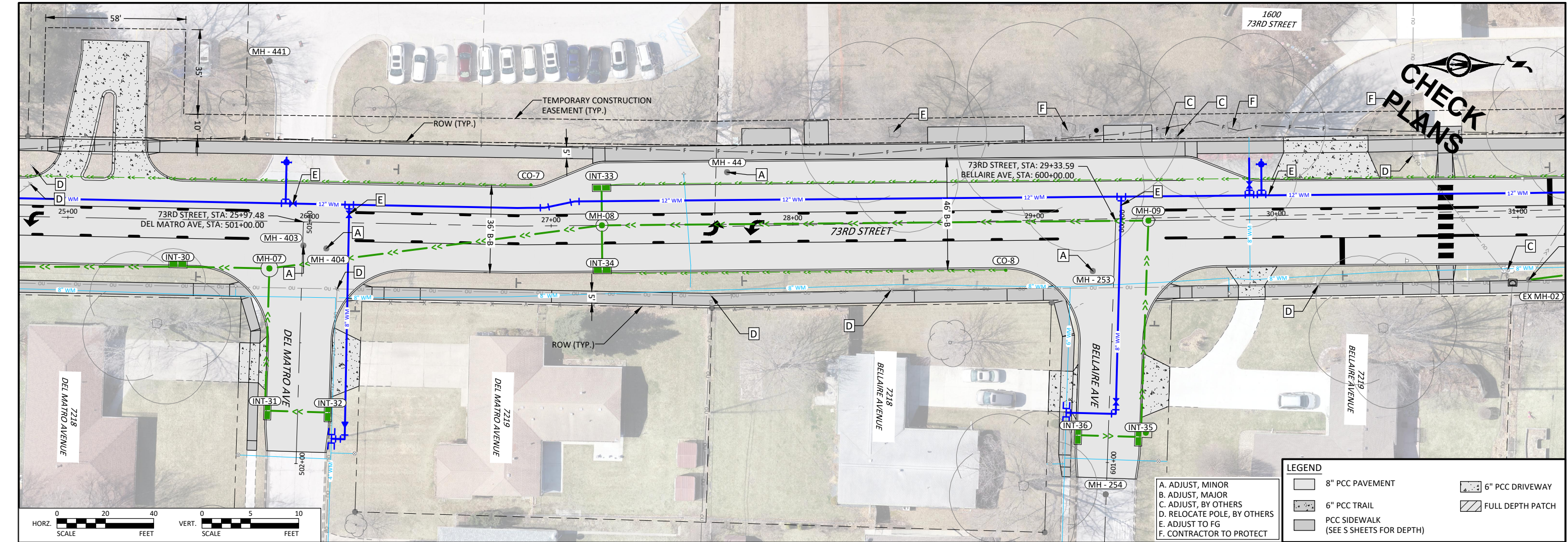
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT_OPTION 2.dwg 11/7/2023 9:53:16 PM

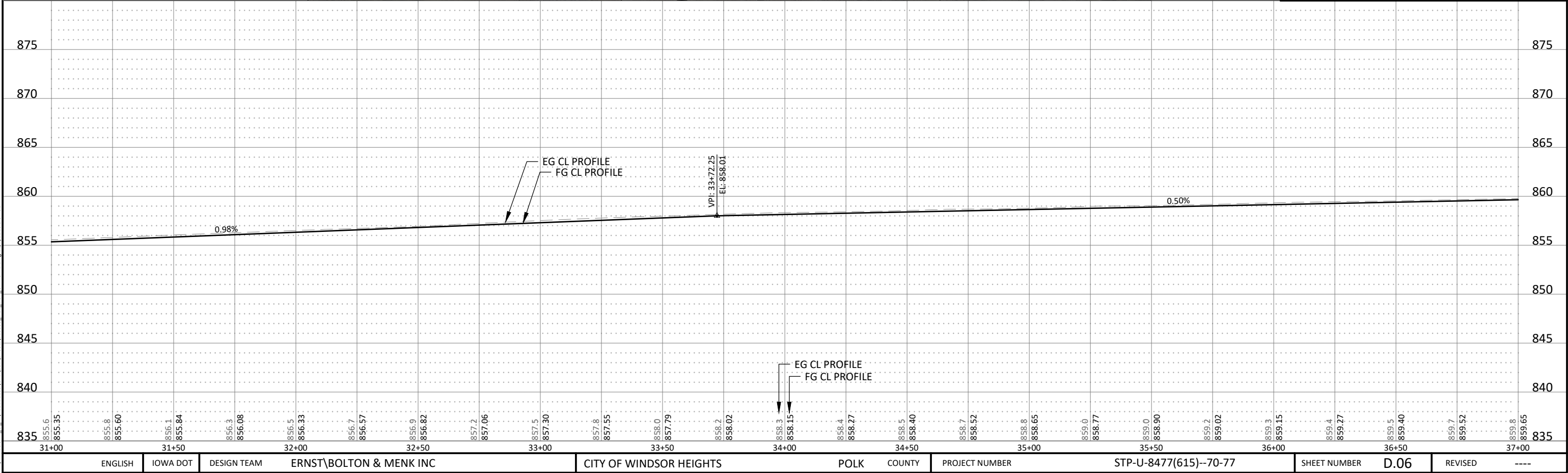
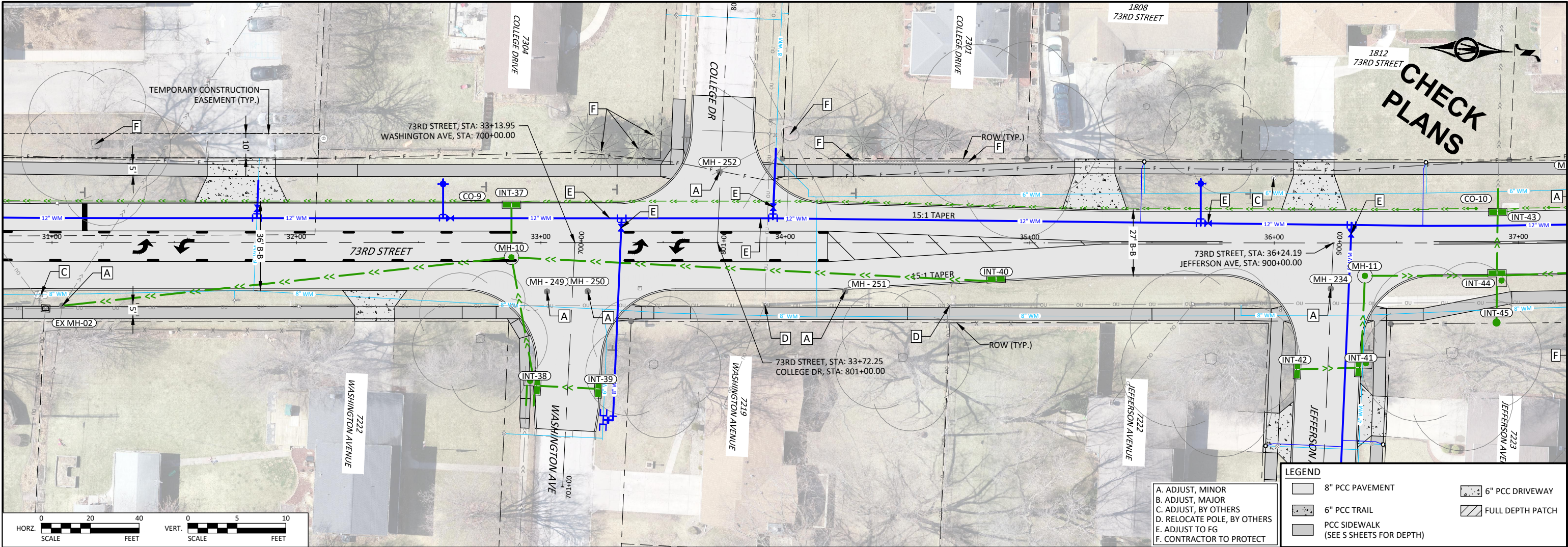




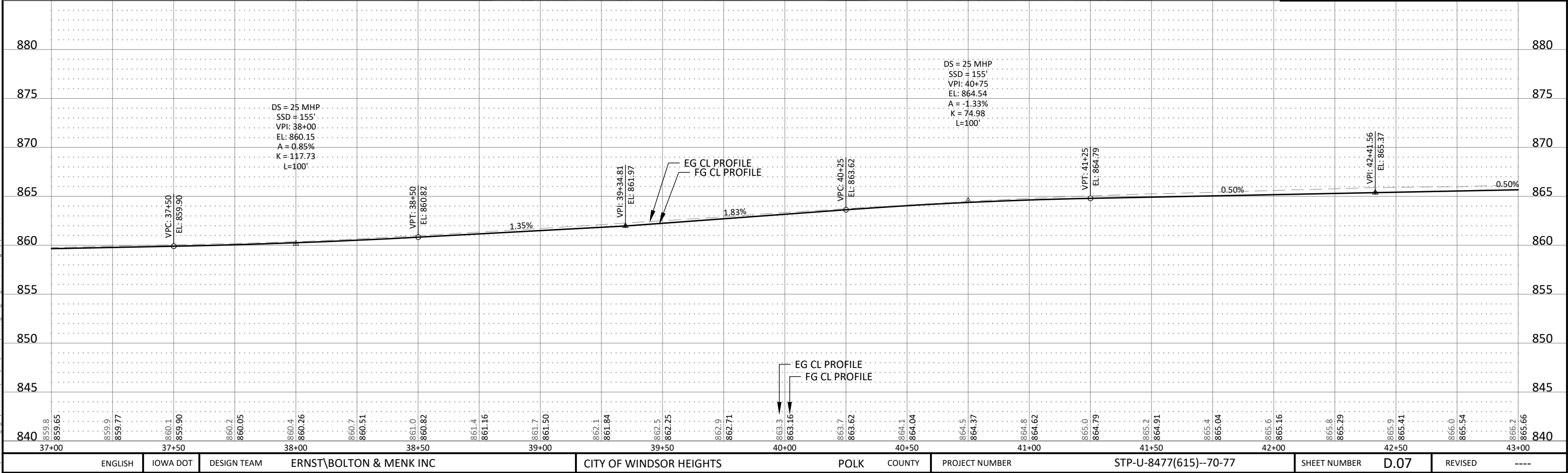
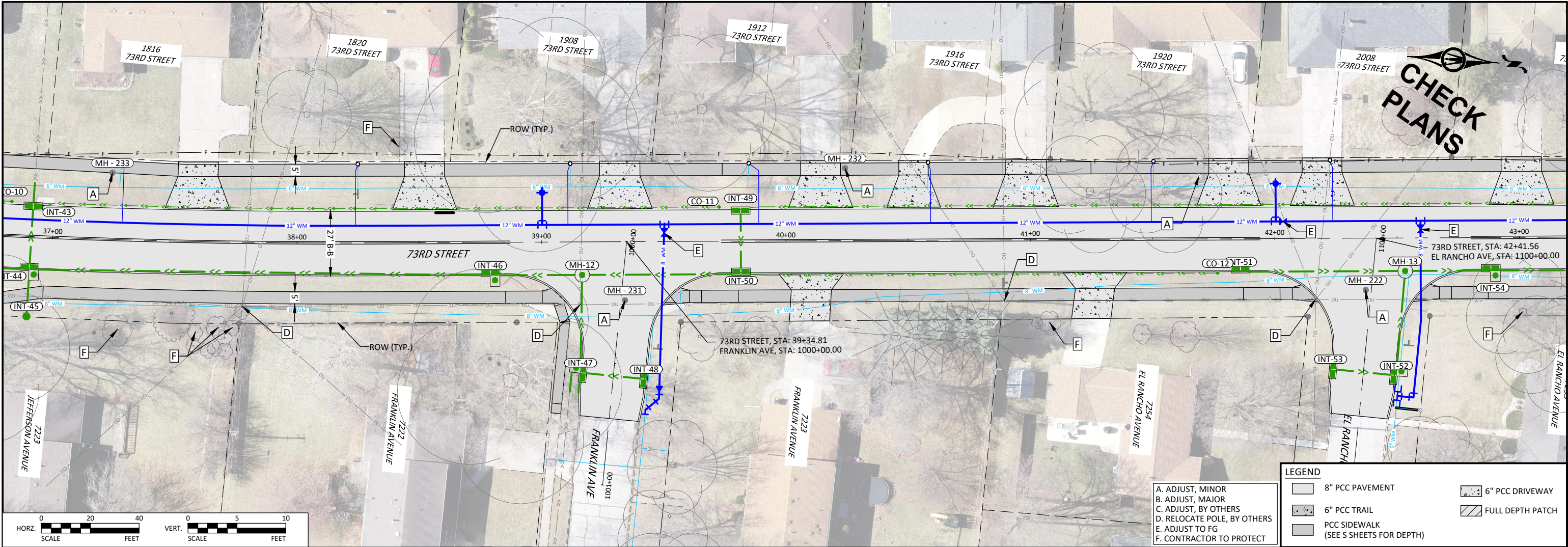
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_D01_DOT_OPTION 2.dwg 11/7/2023 9:53:36 PM



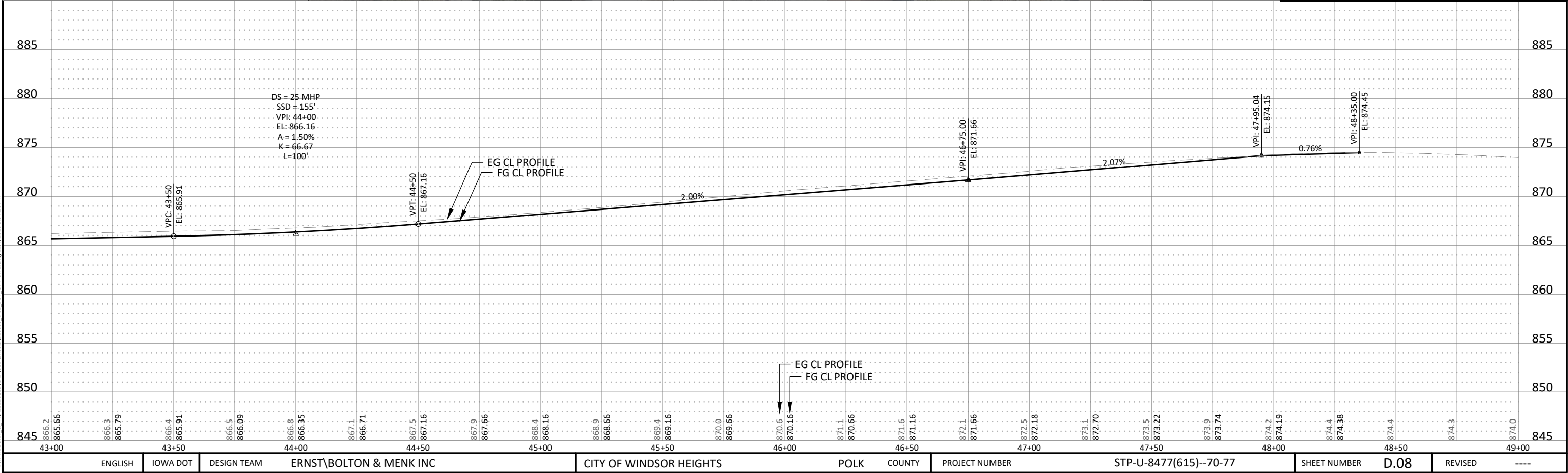
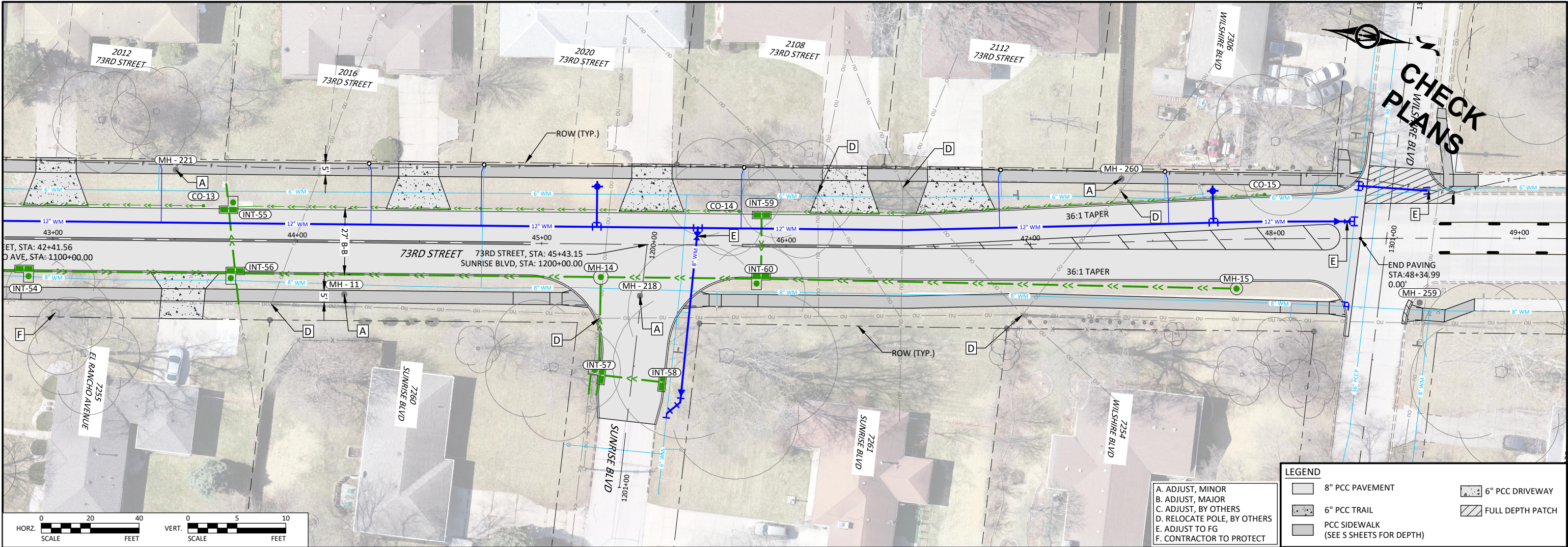




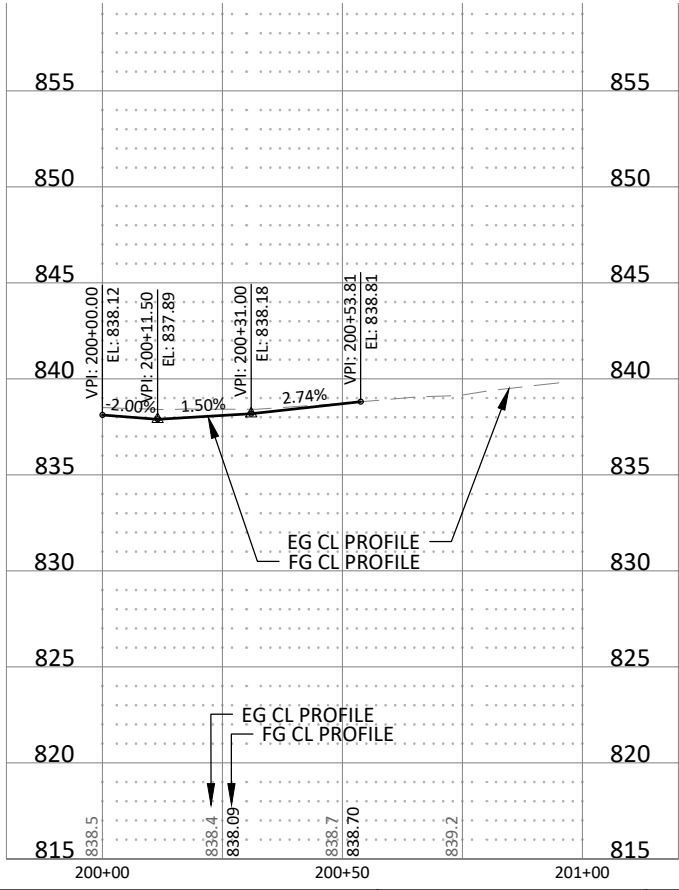
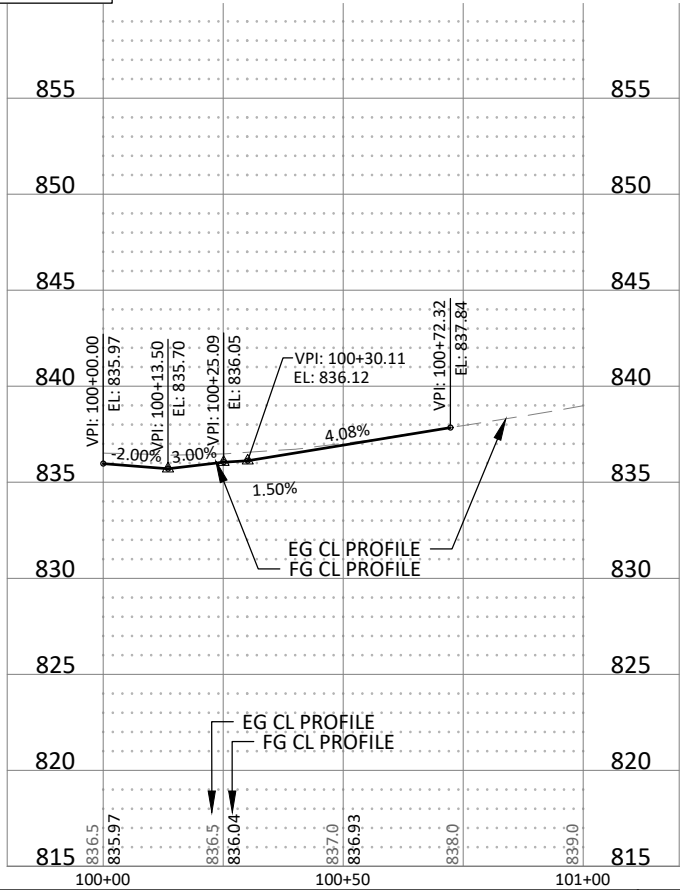
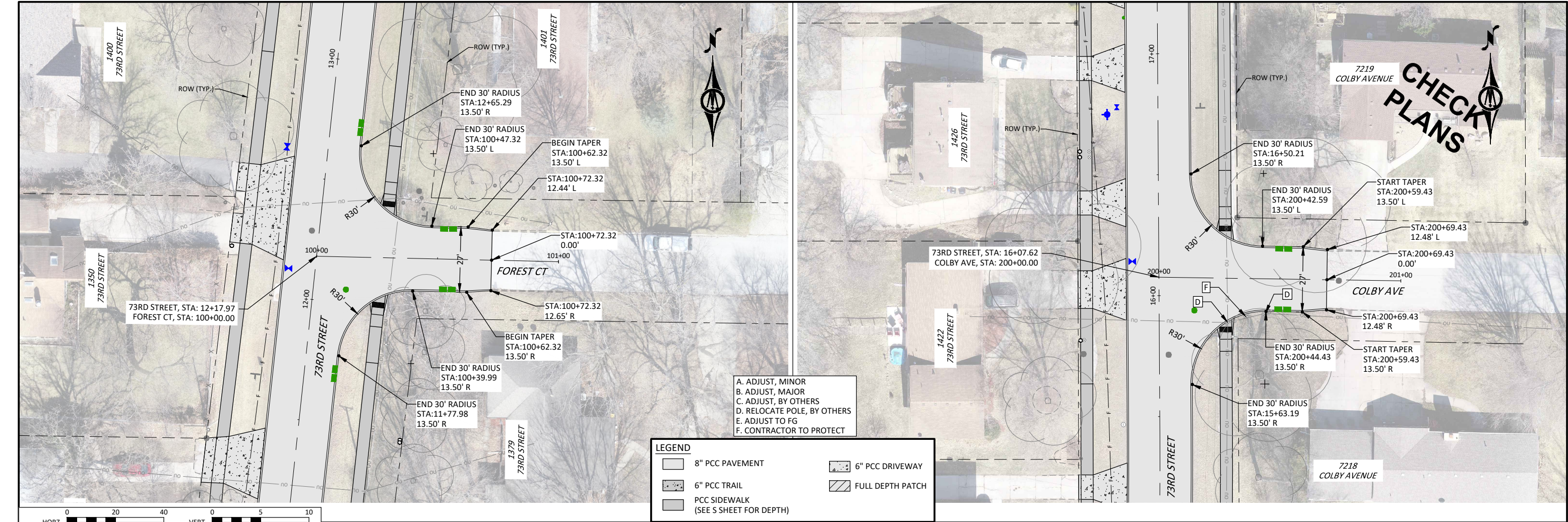
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT_OPTION 2.dwg 11/7/2023 9:54:06 PM

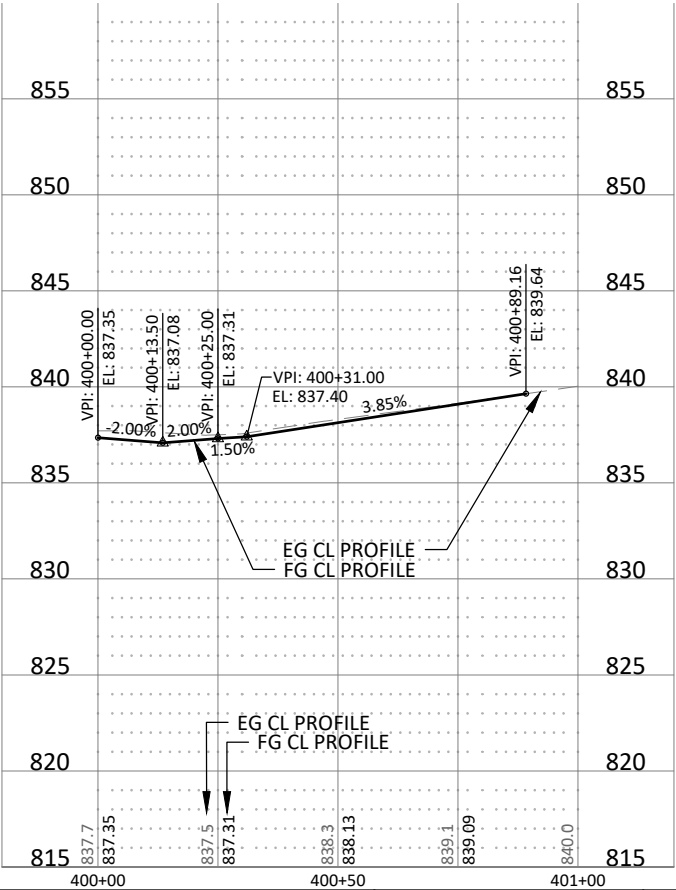
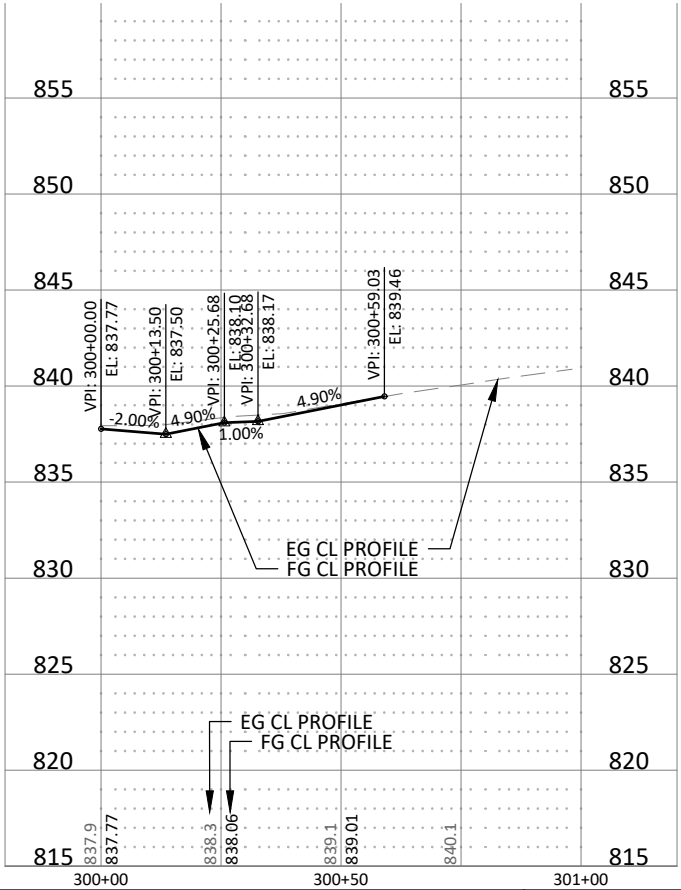
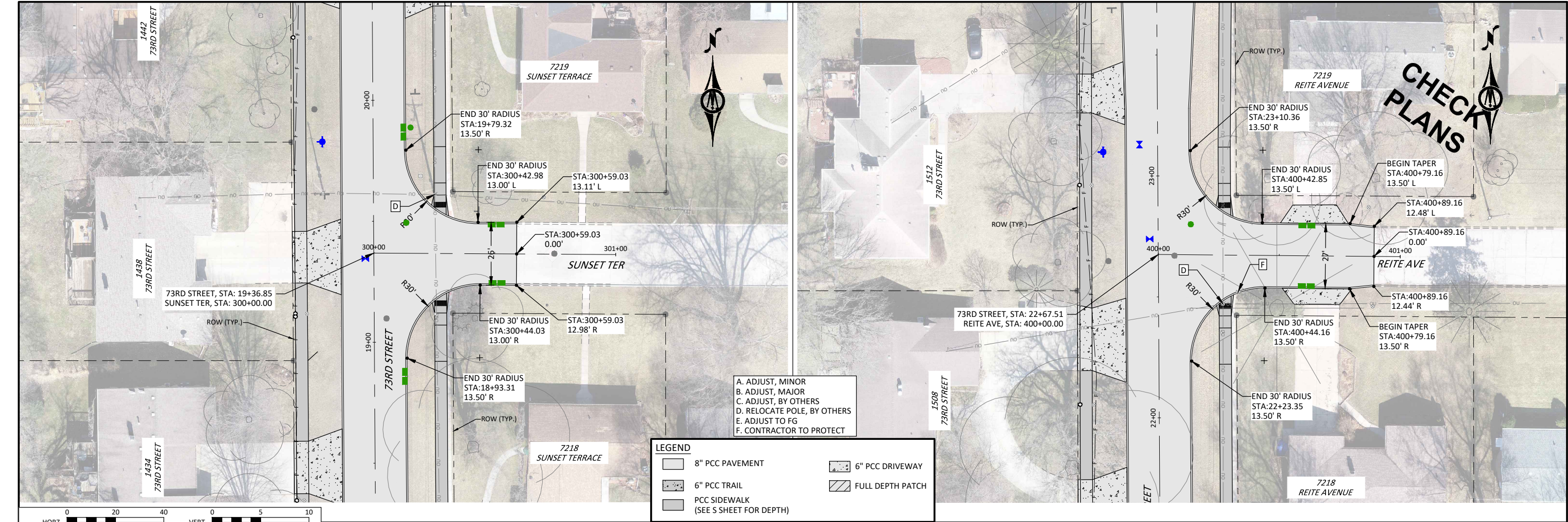


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_D01_DOT_OPTION 2.dwg 11/7/2023 9:54:16 PM

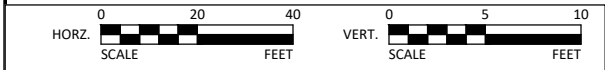
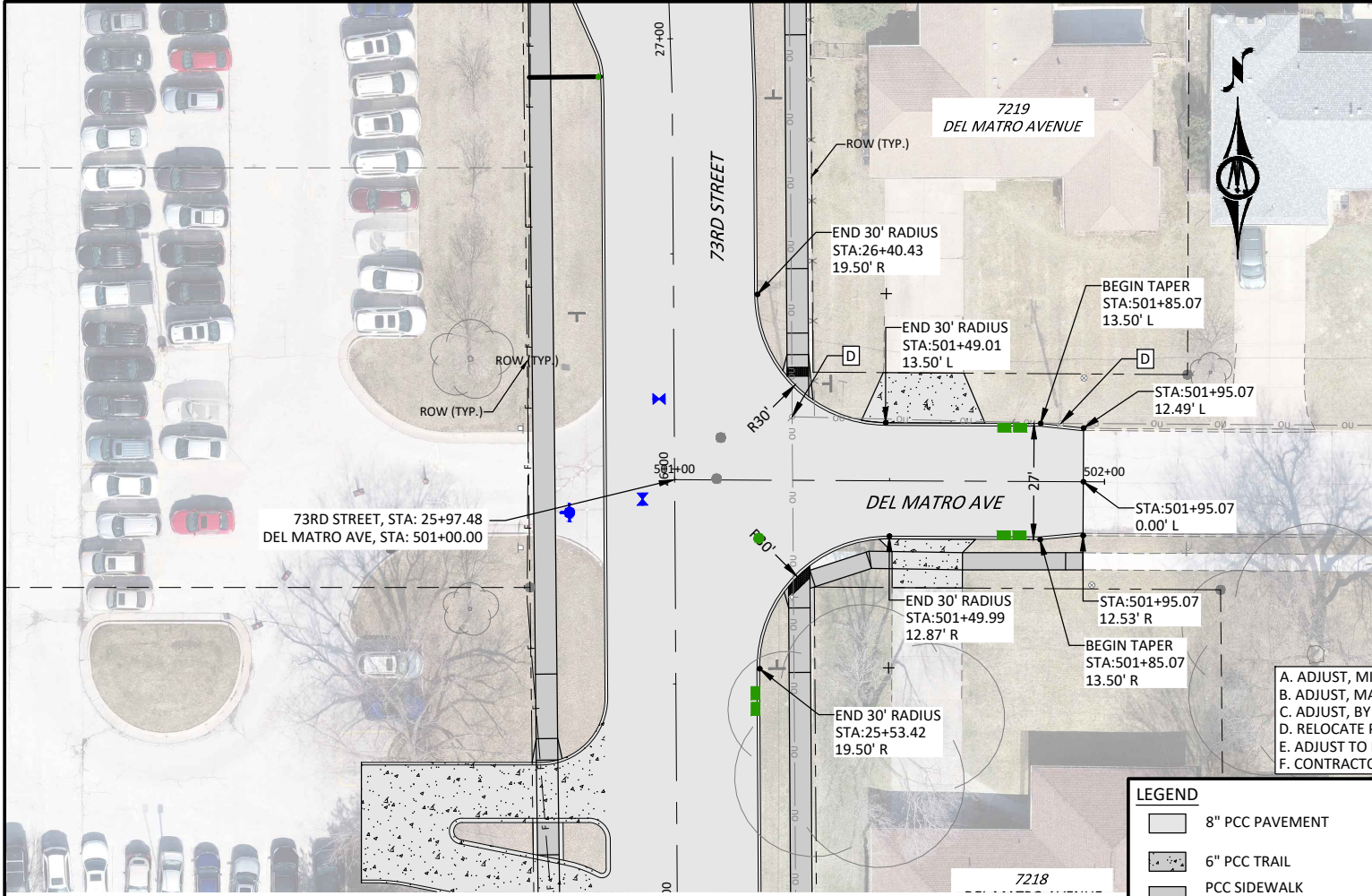


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT_OPTION 2.dwg 11/7/2023 9:54:26 PM





© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT.dwg 11/7/2023 9:55:44 PM



LEGEND

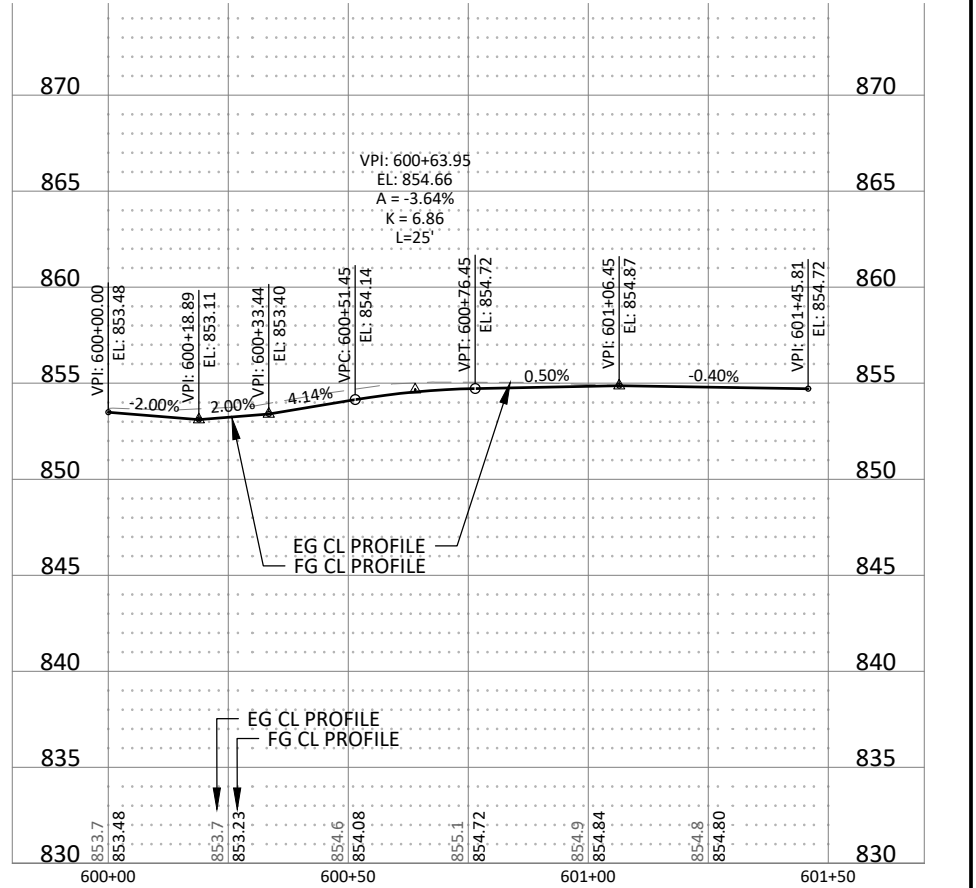
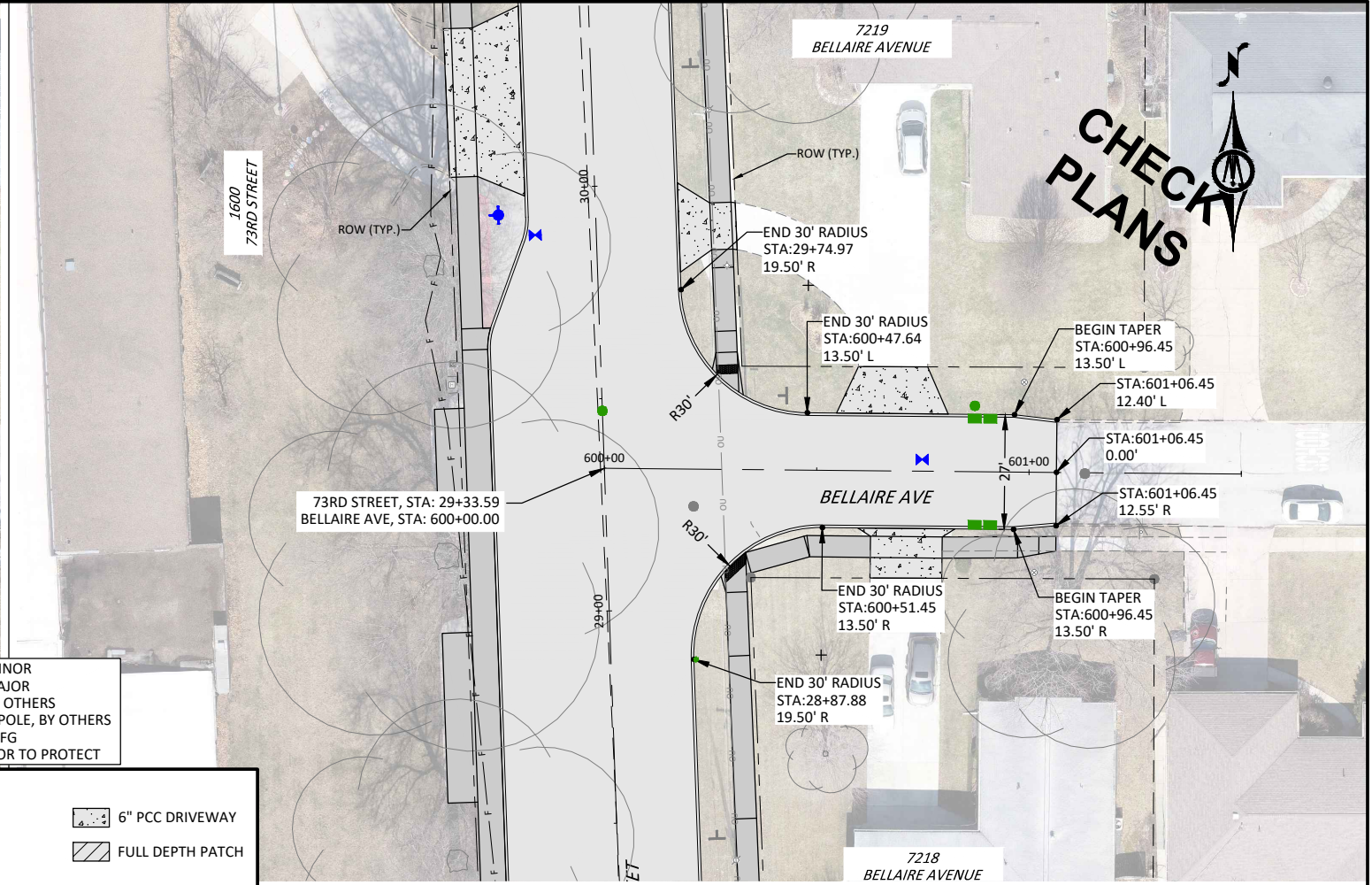
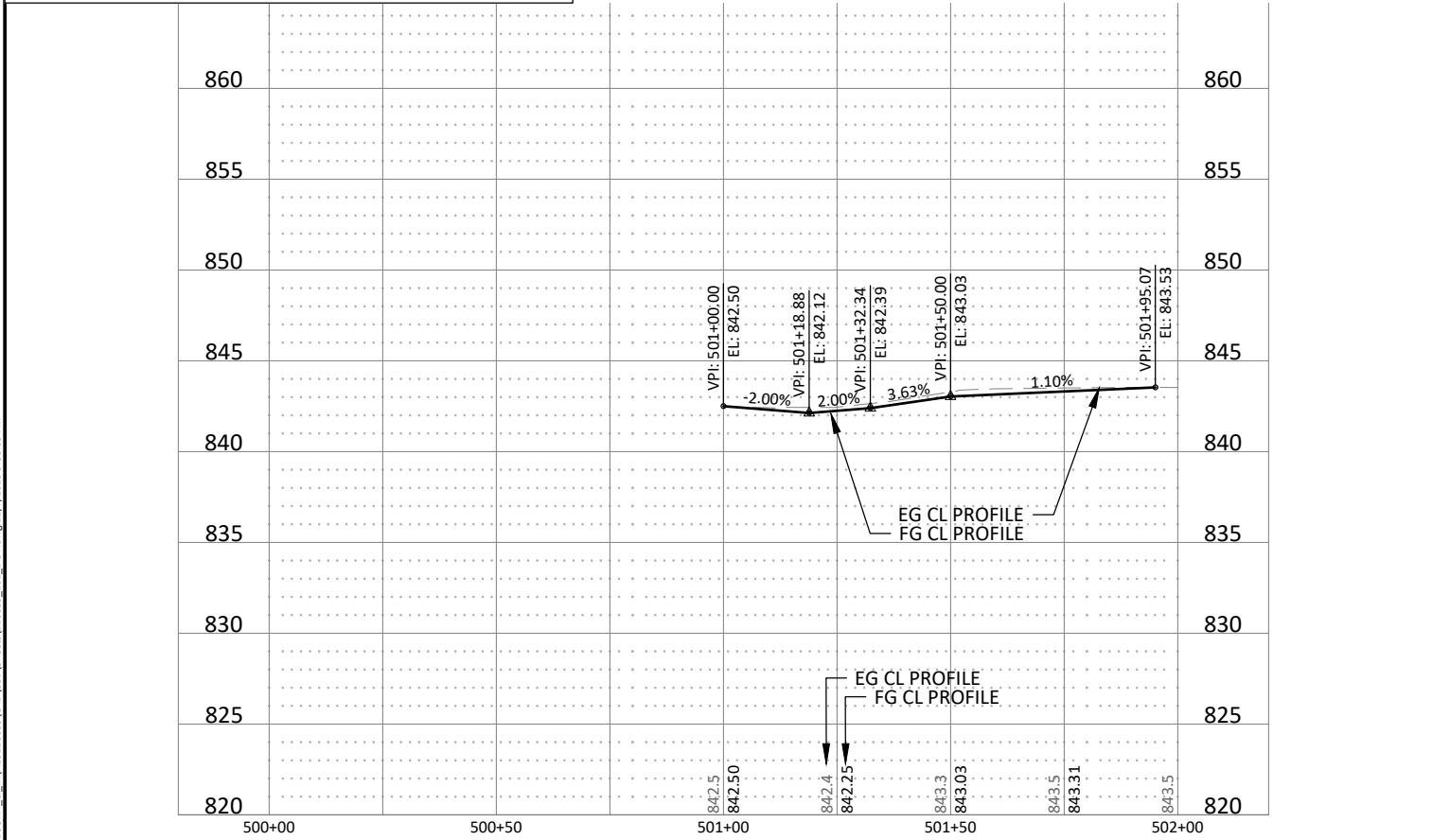
8" PCC PAVEMENT

6" PCC TRAIL

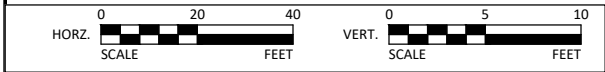
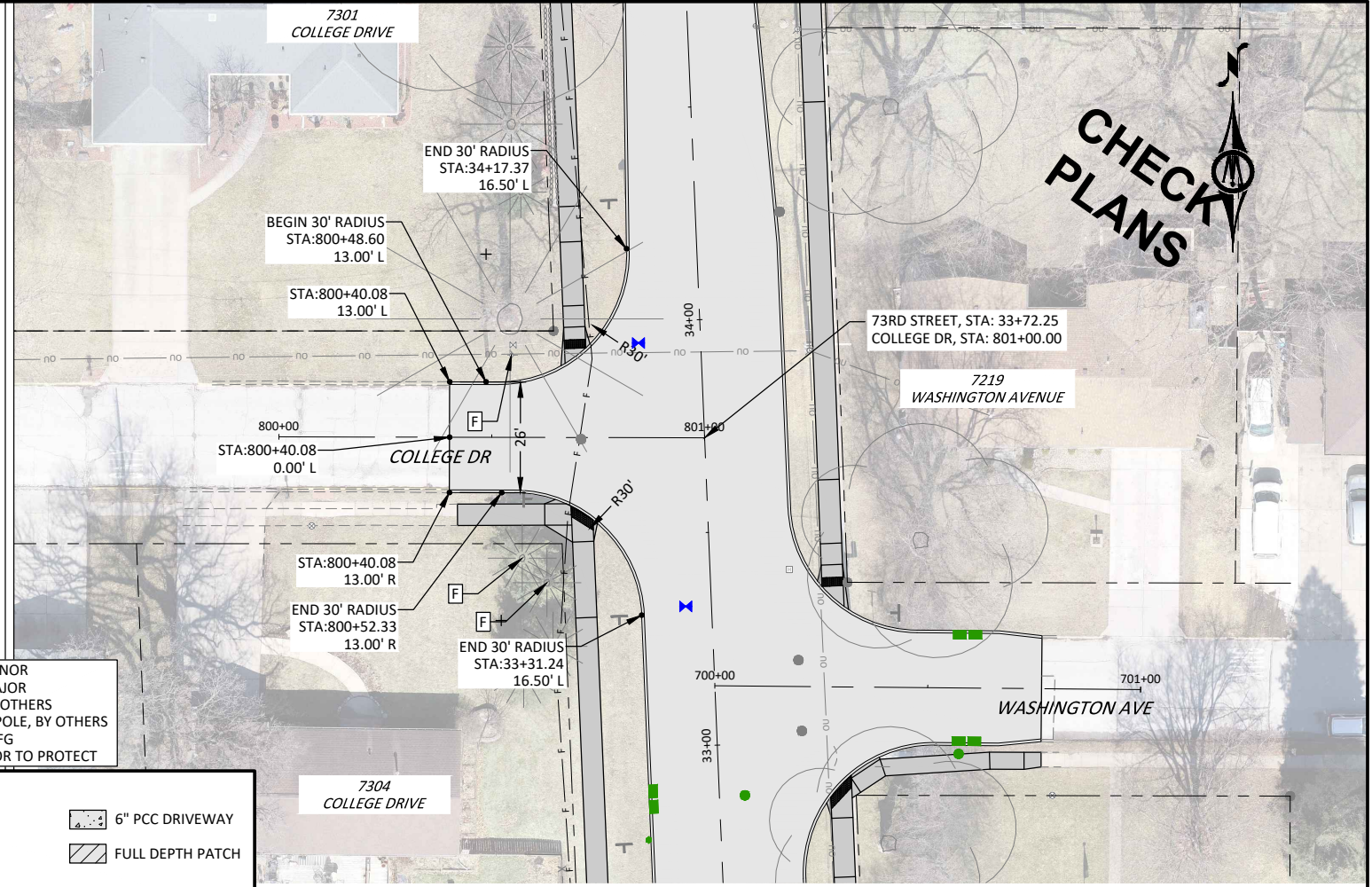
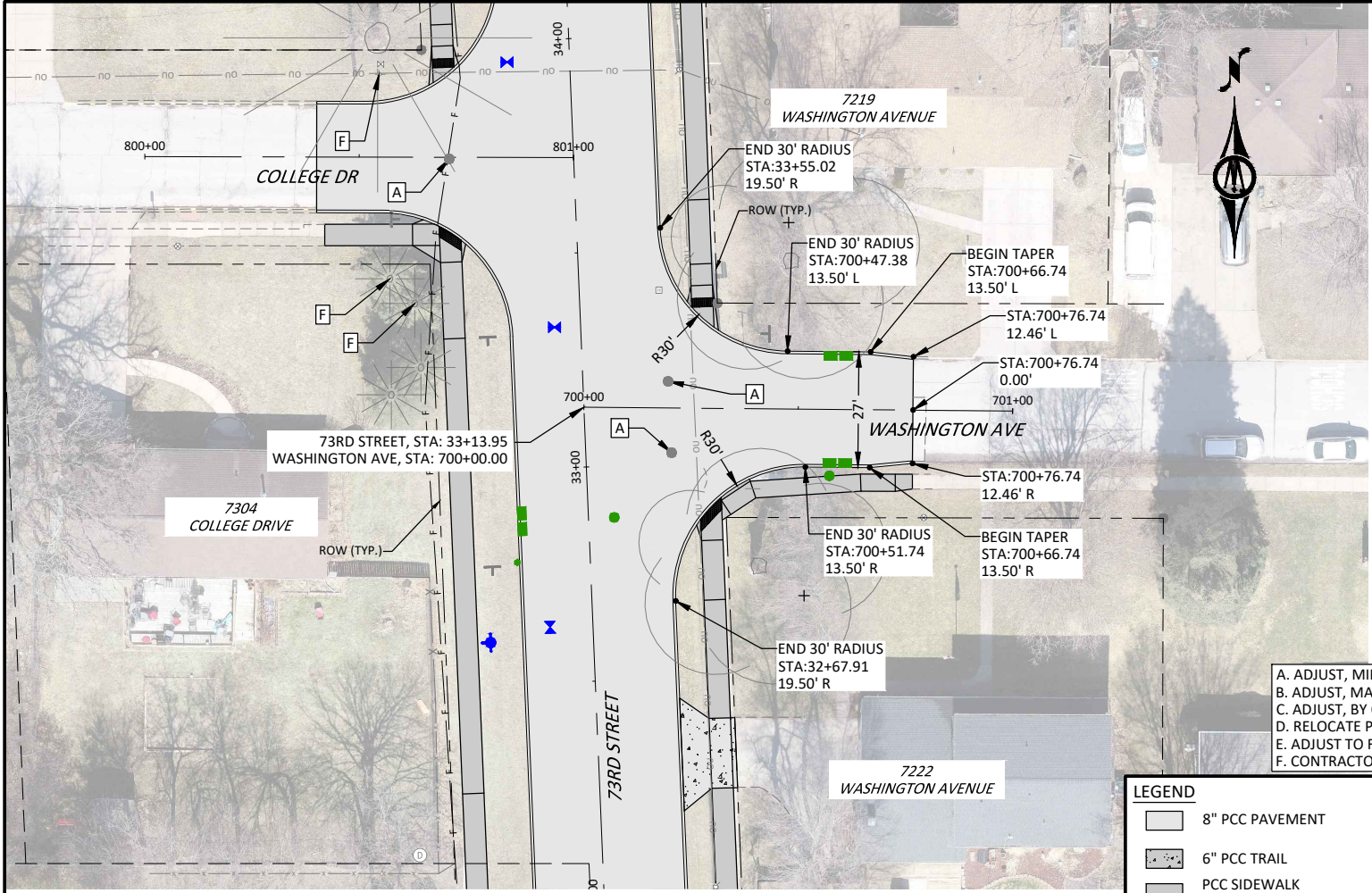
PCC SIDEWALK
(SEE S SHEET FOR DEPTH)

6" PCC DRIVEWAY

FULL DEPTH PATCH

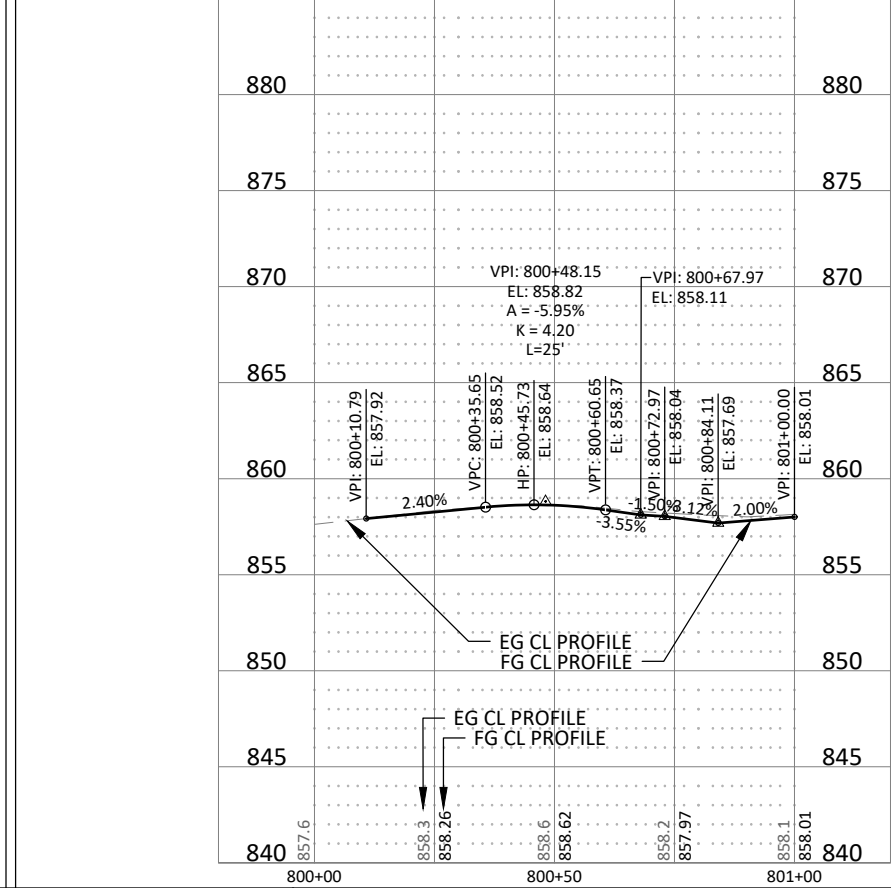
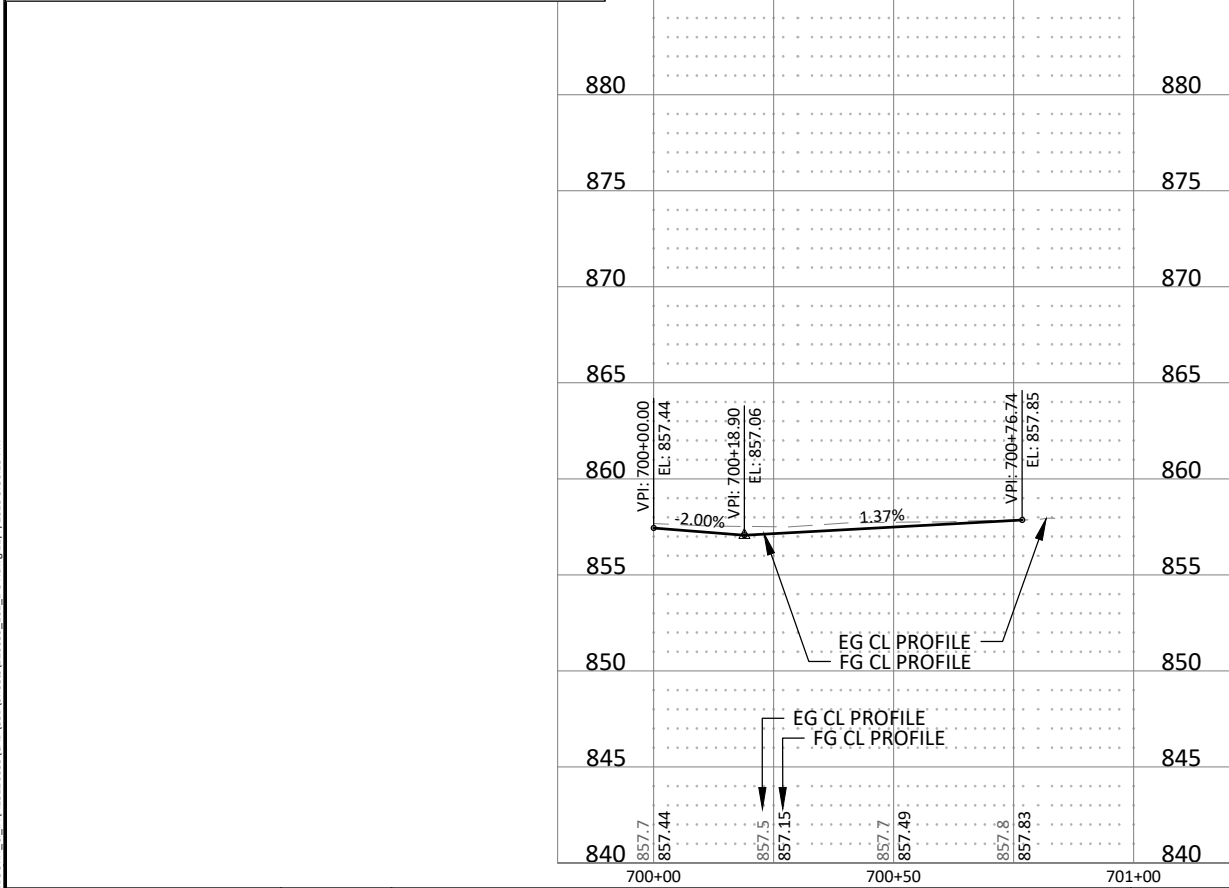


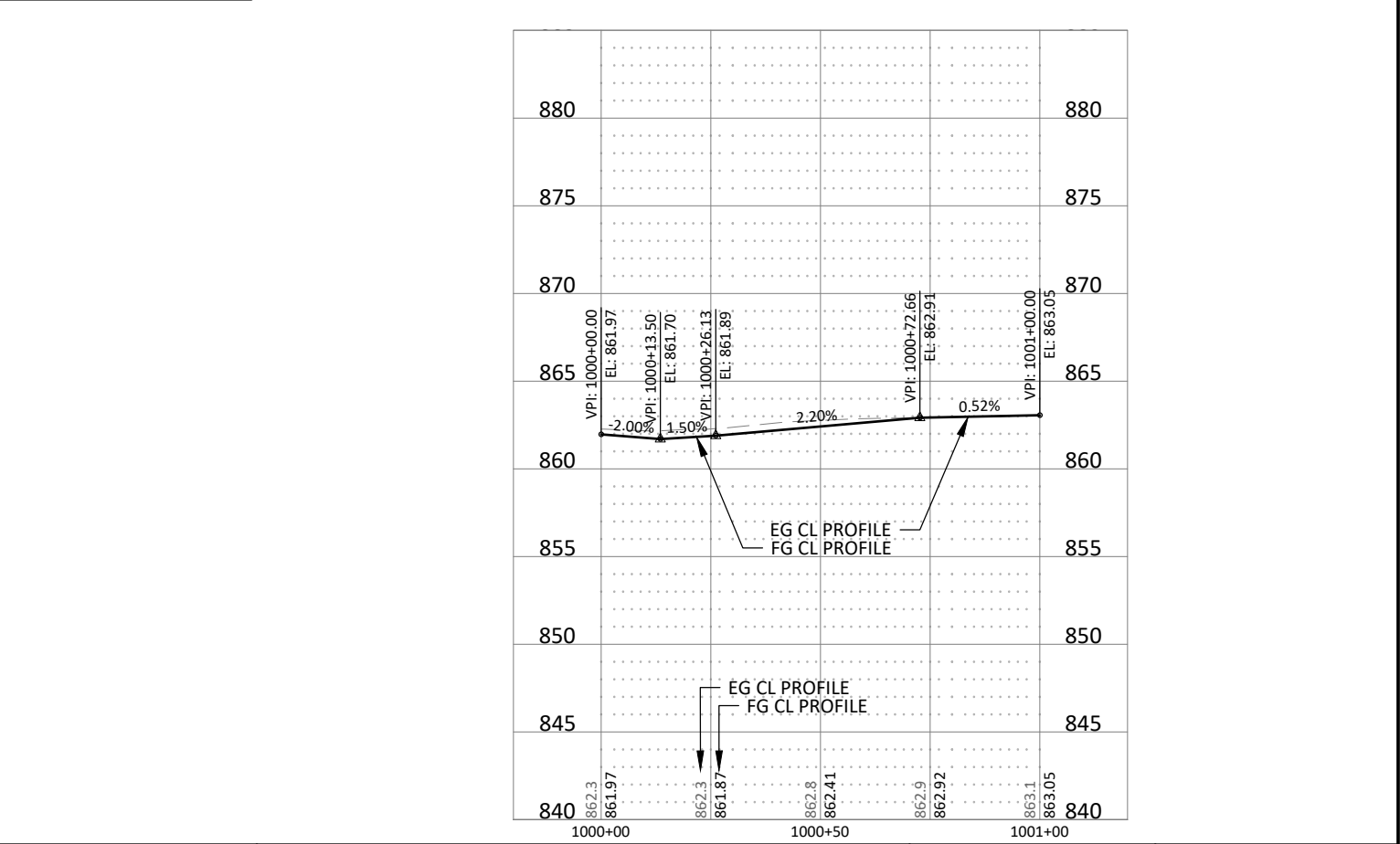
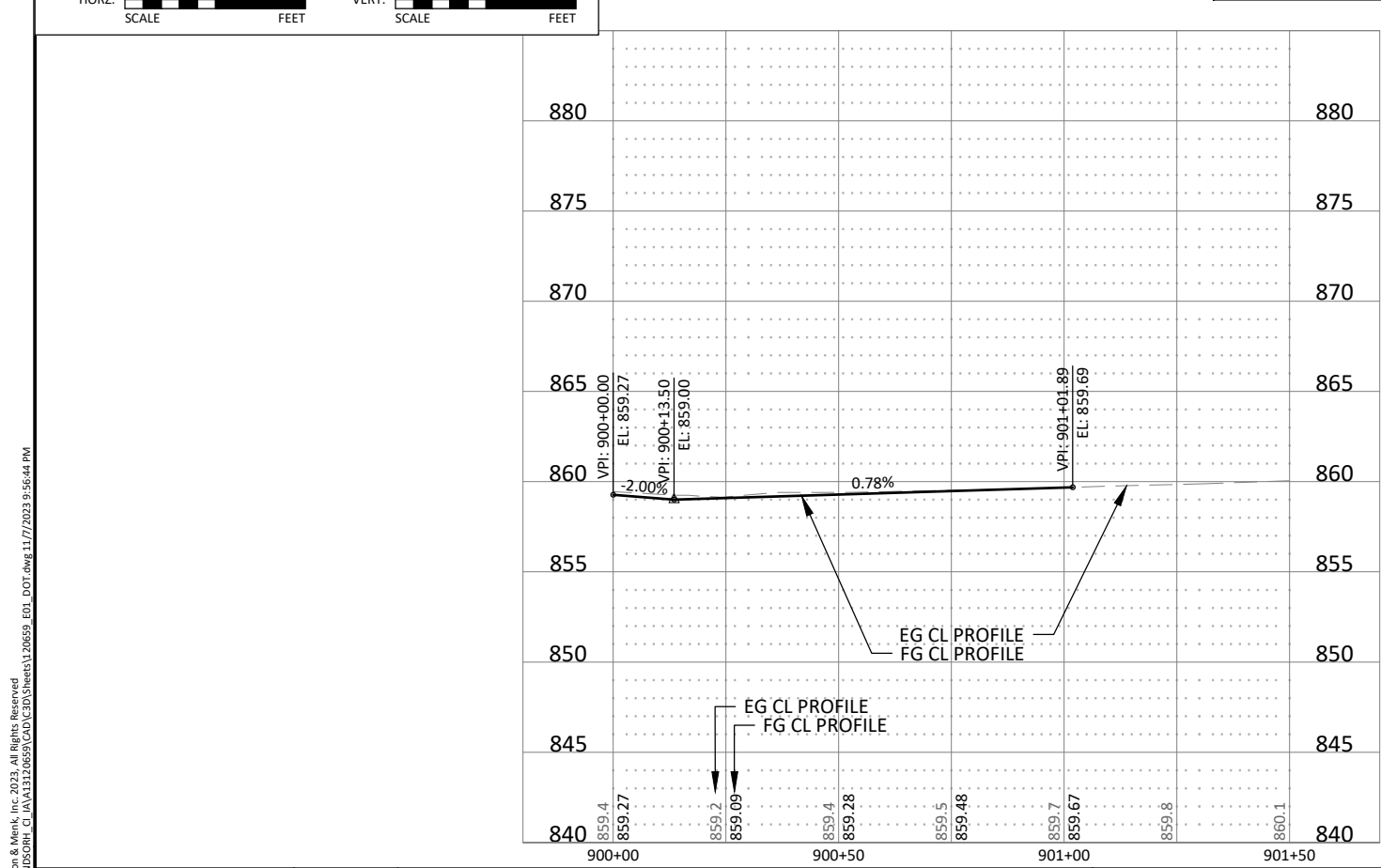
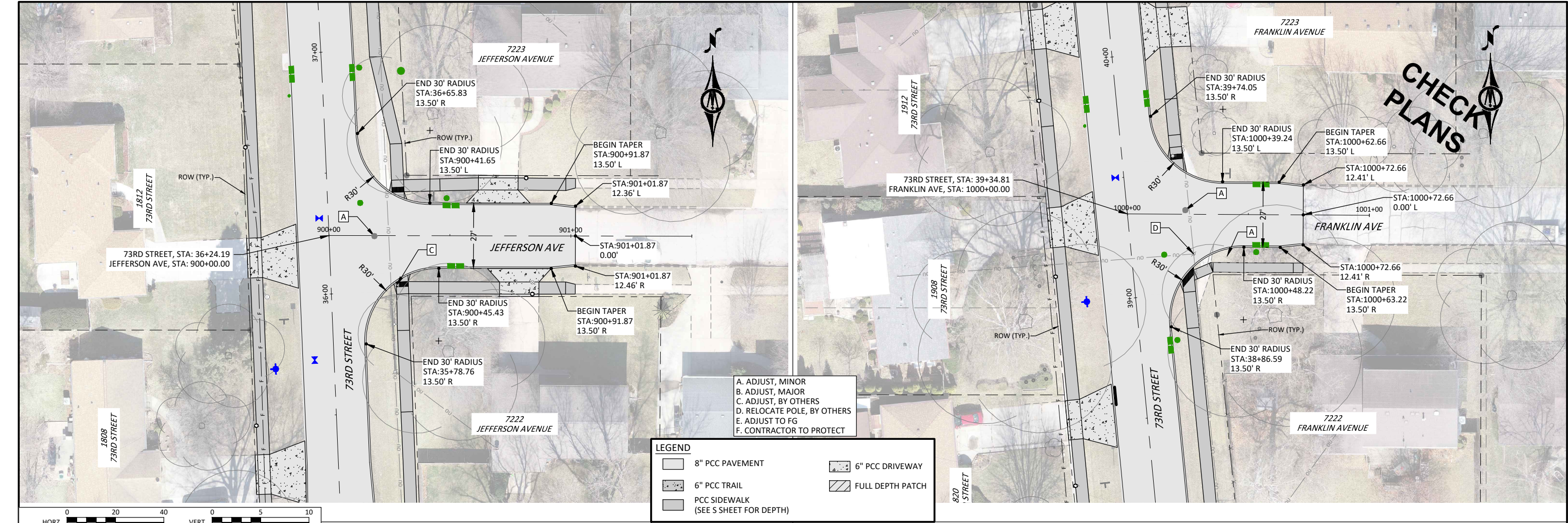
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT.dwg 11/7/2023 9:56:03 PM

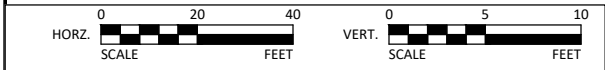
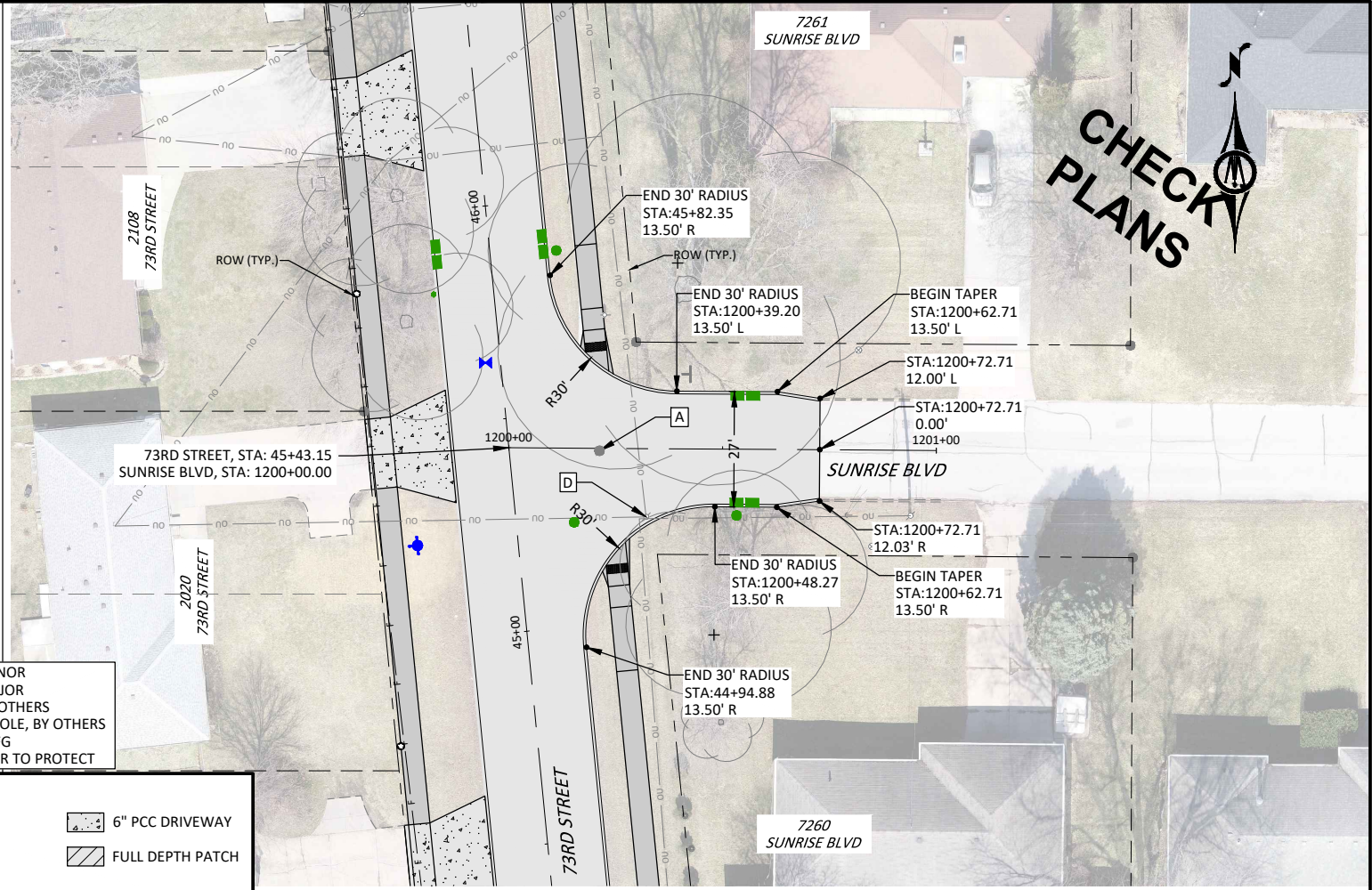
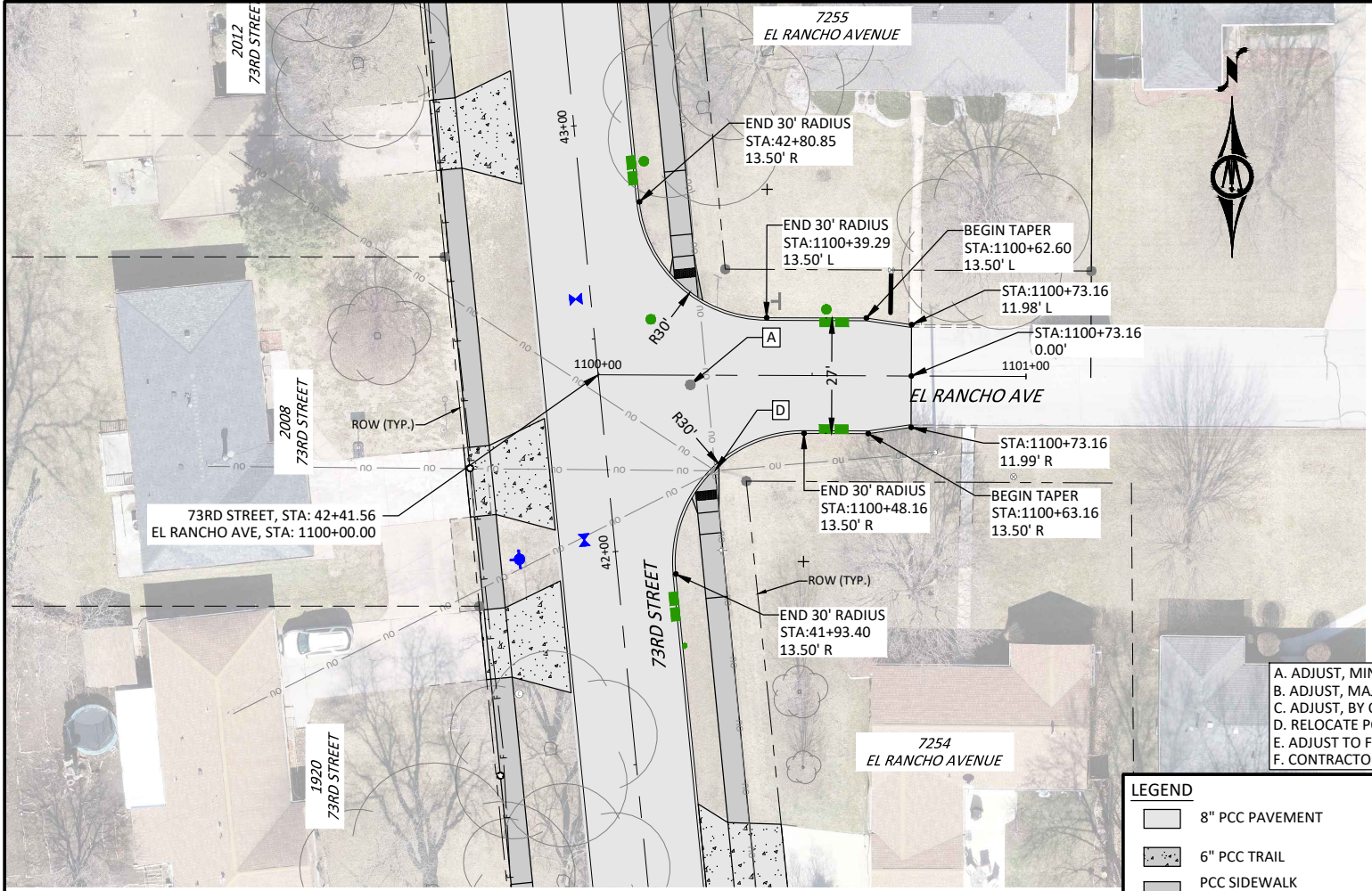


LEGEND

8" PCC PAVEMENT	6" PCC DRIVEWAY
6" PCC TRAIL	FULL DEPTH PATCH
PCC SIDEWALK (SEE S SHEET FOR DEPTH)	







LEGEND

8" PCC PAVEMENT

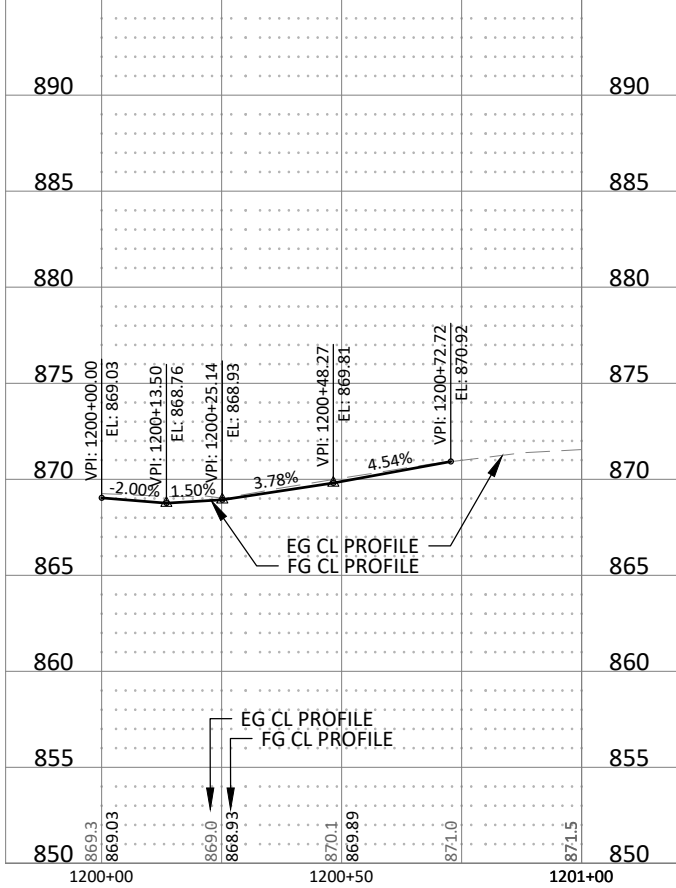
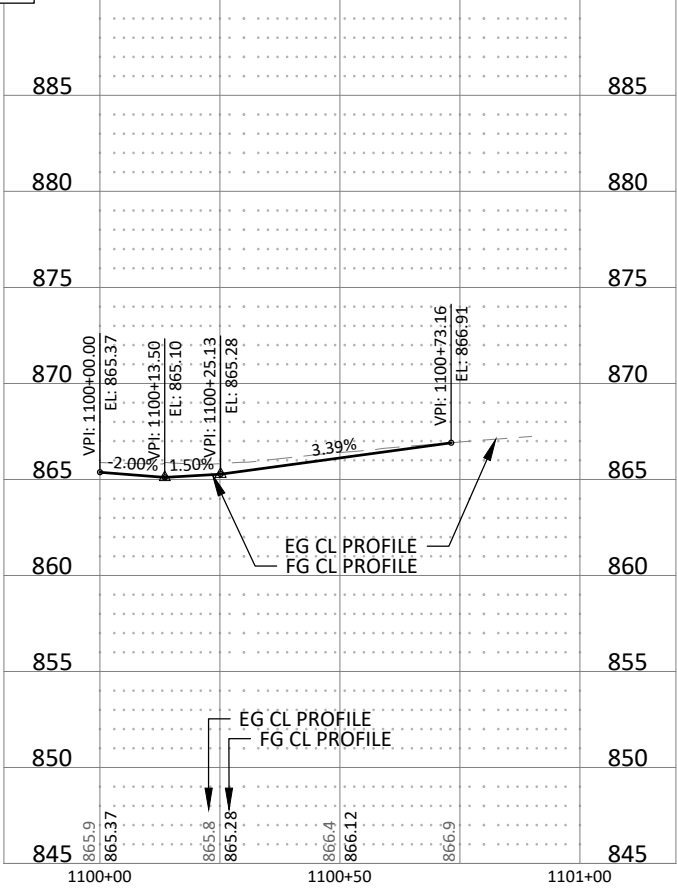
6" PCC TRAIL

PCC SIDEWALK
(SEE S SHEET FOR DEPTH)

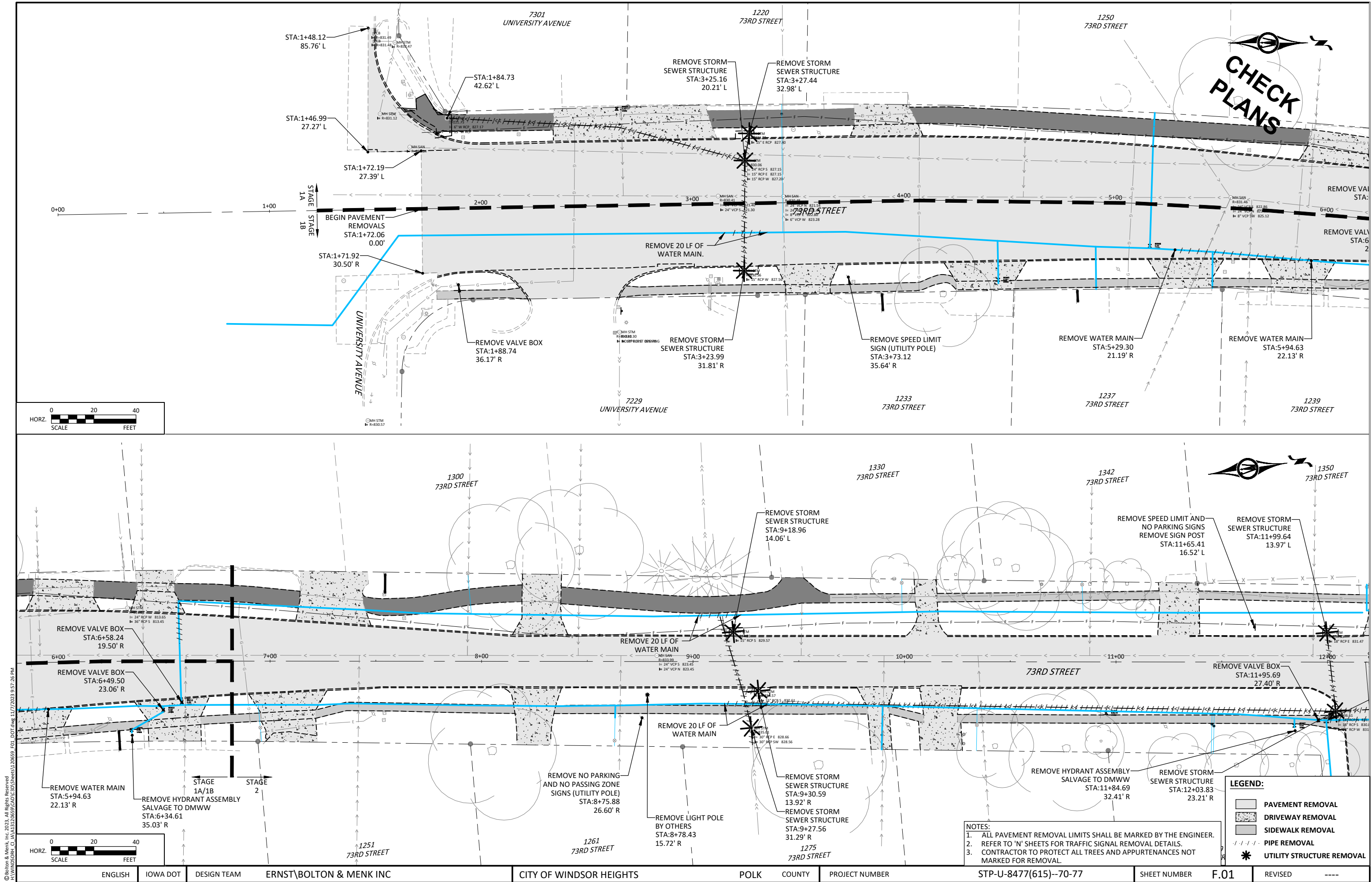
6" PCC DRIVEWAY

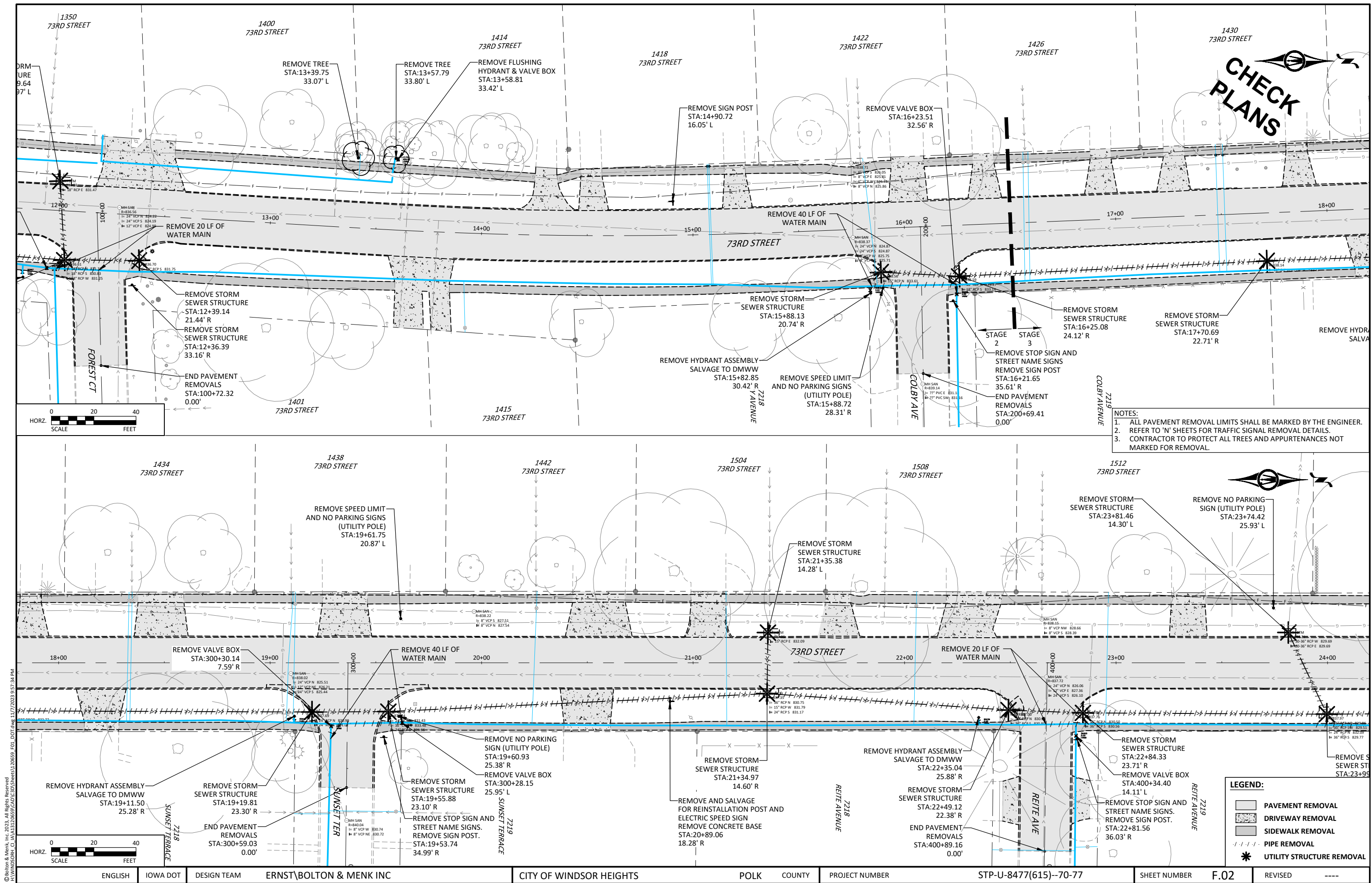
FULL DEPTH PATCH

- A. ADJUST, MINOR
- B. ADJUST, MAJOR
- C. ADJUST, BY OTHERS
- D. RELOCATE POLE, BY OTHERS
- E. ADJUST TO FG
- F. CONTRACTOR TO PROTECT

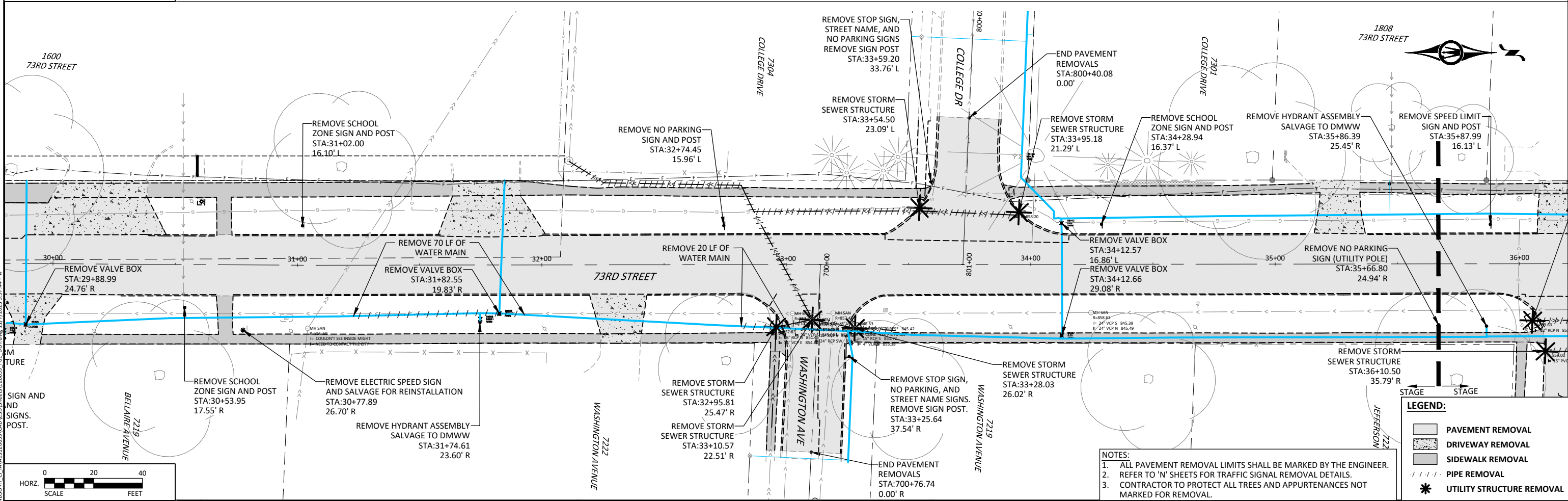
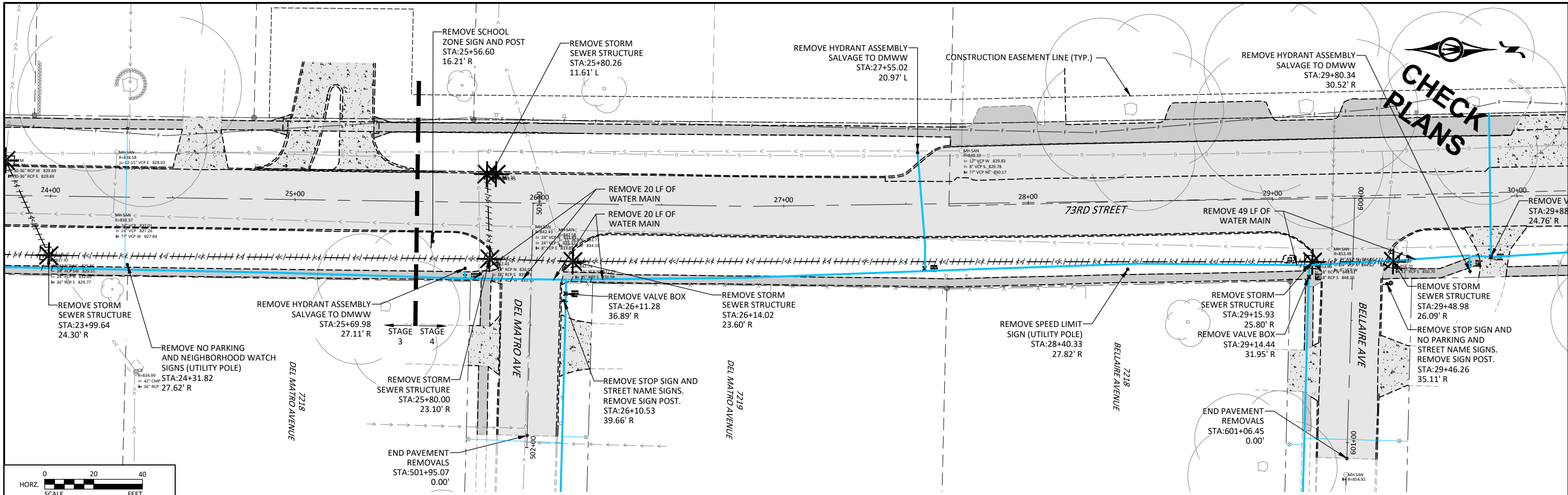


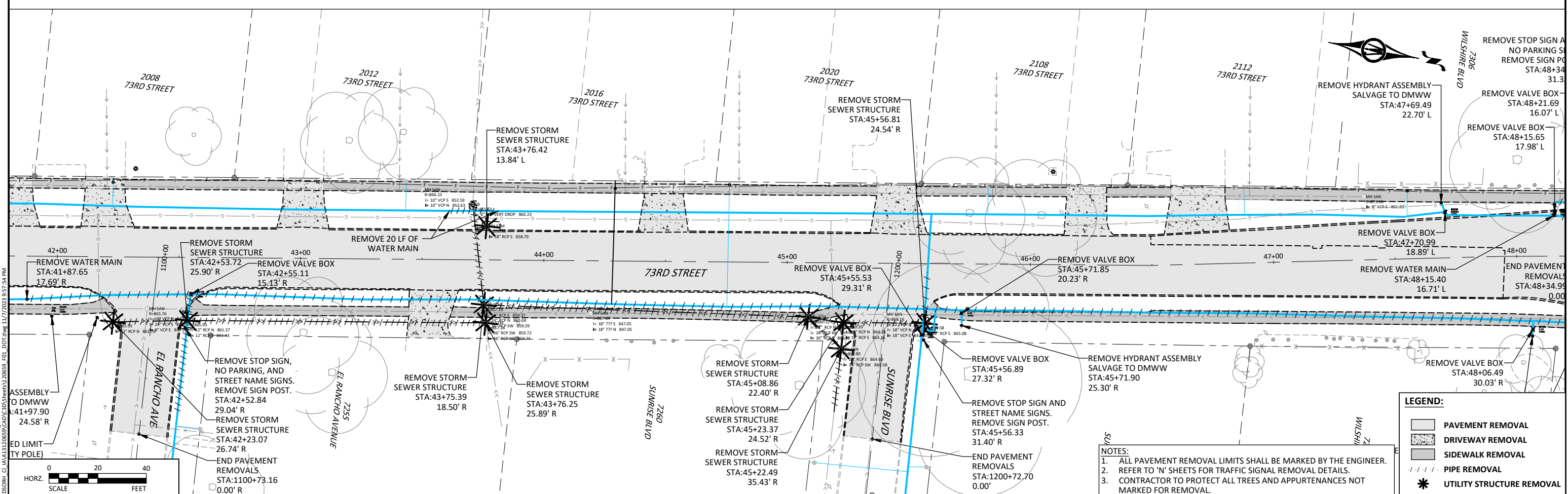
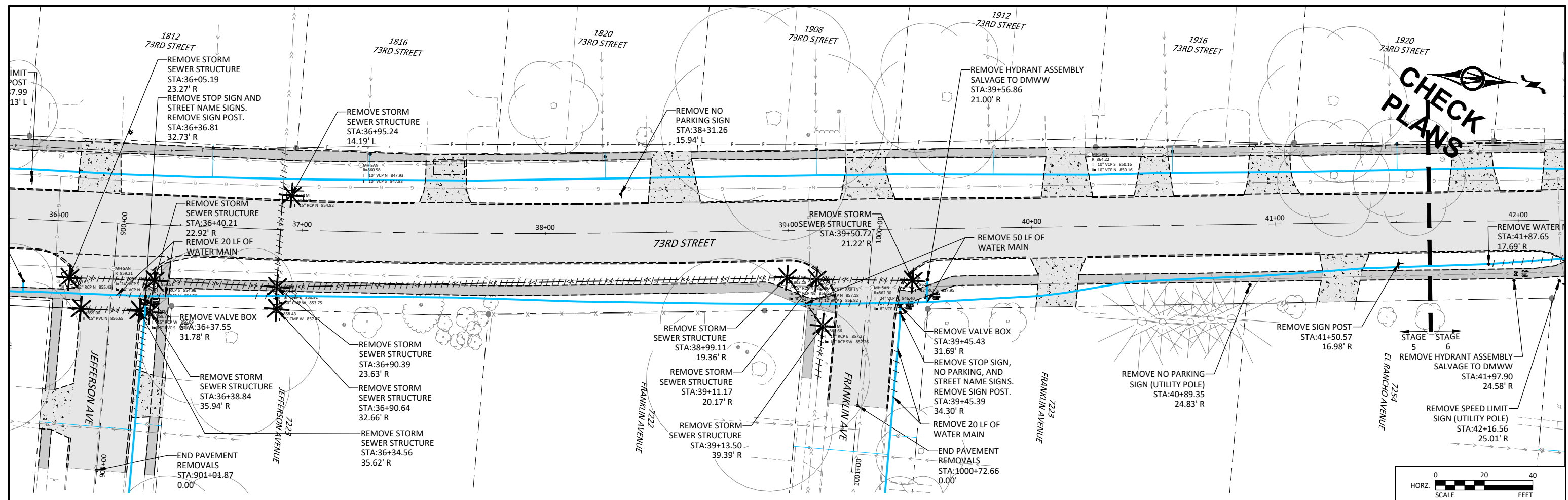
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_E01_DOT.dwg 11/7/2023 9:57:04 PM

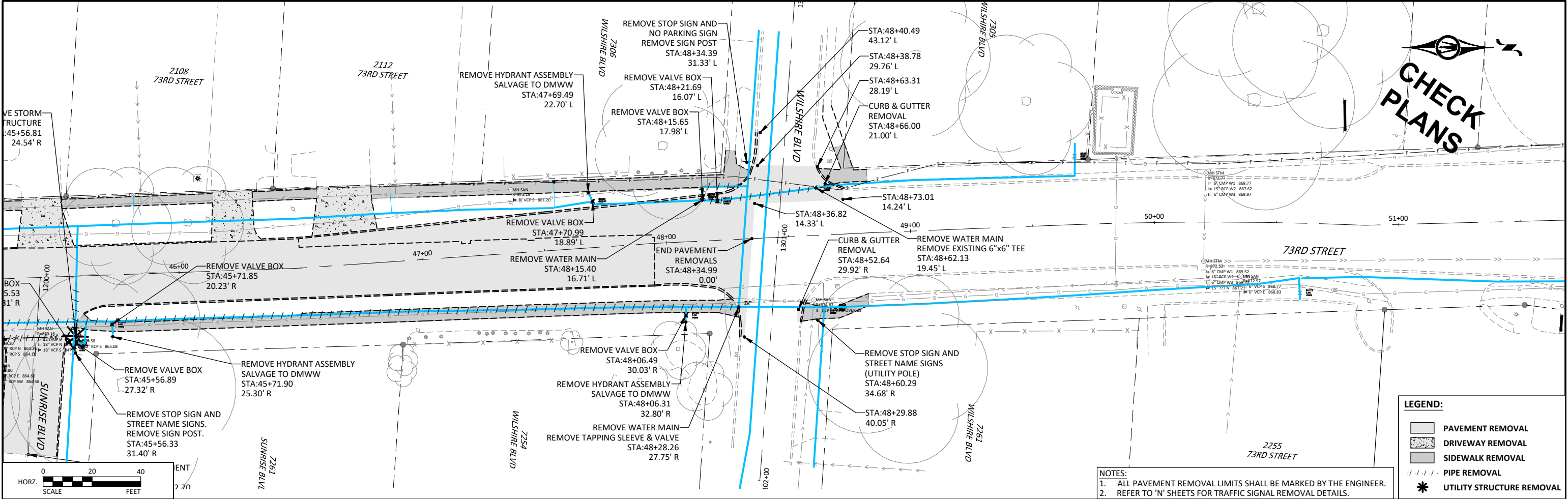




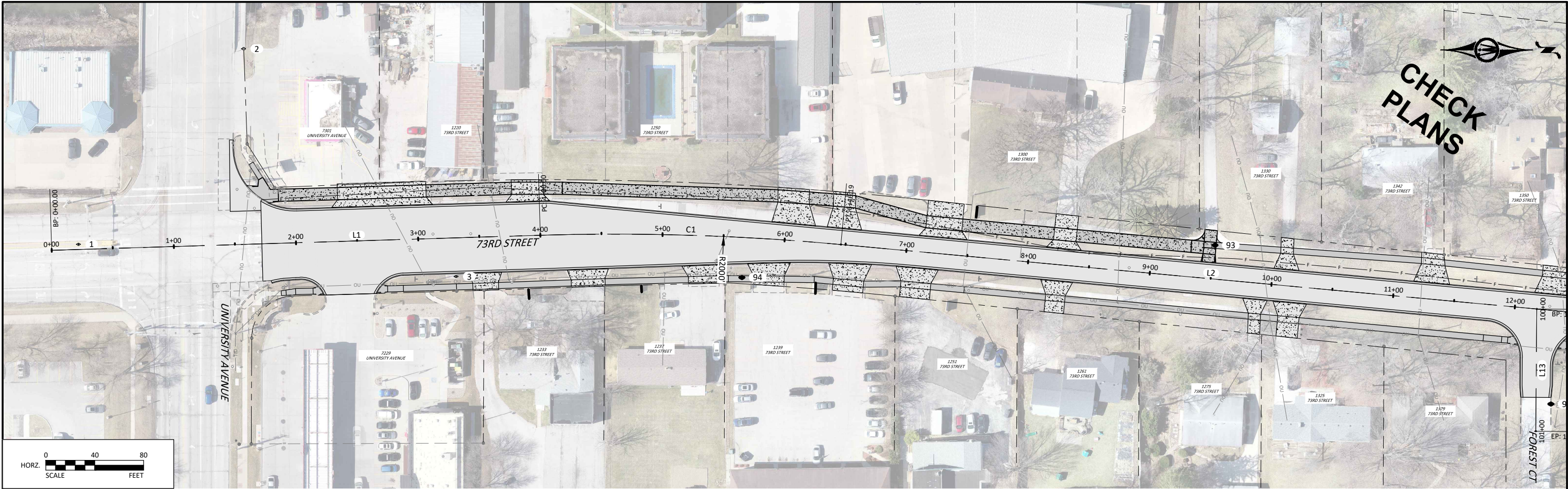
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_F01_D01.dwg 11/7/2023 9:57:34 PM

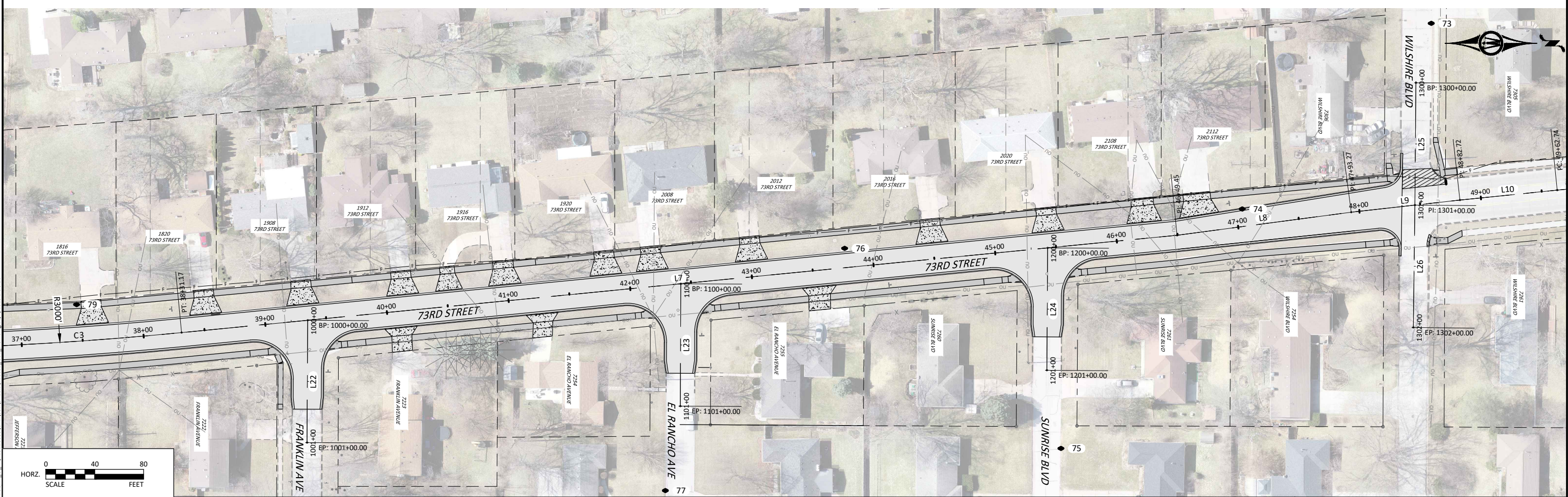
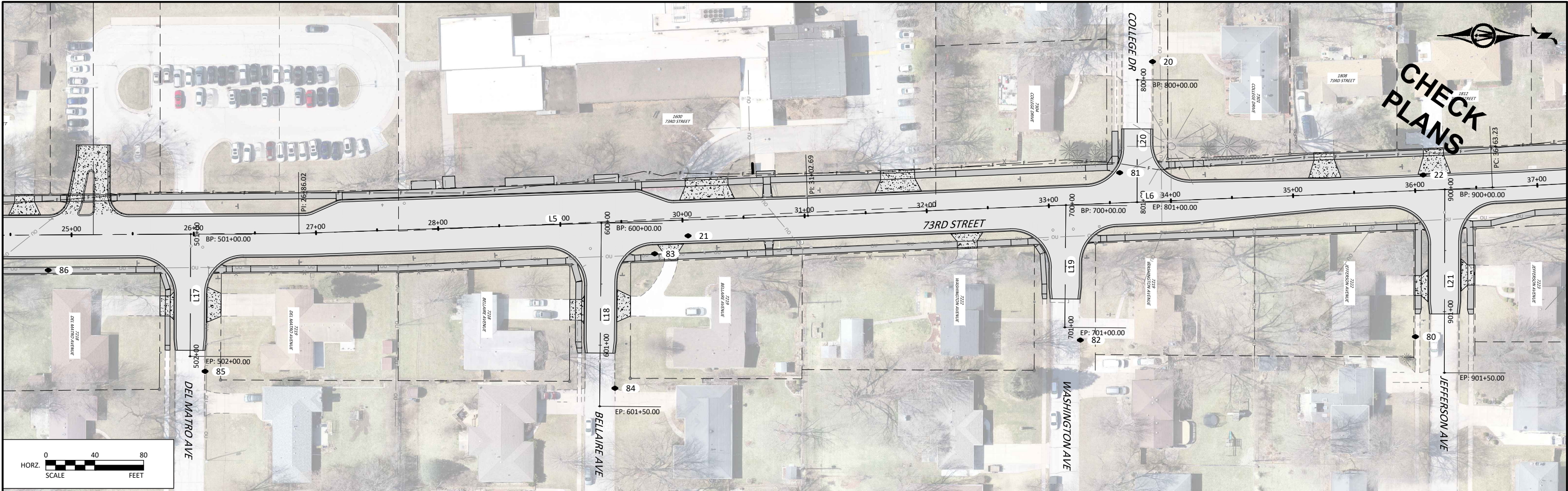




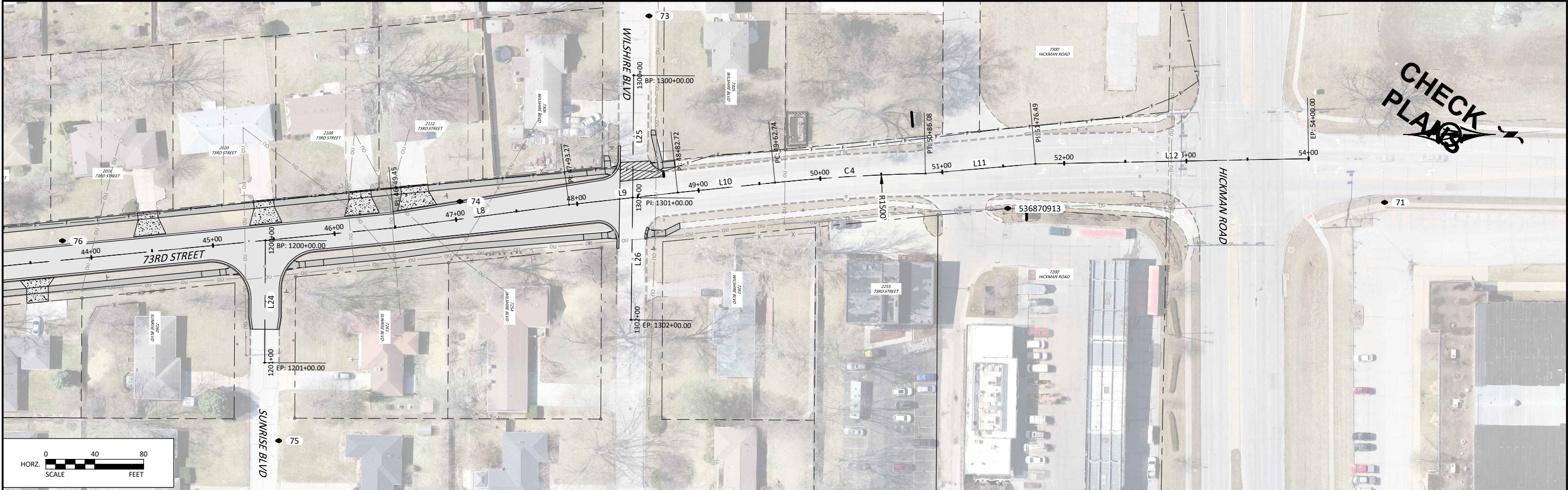


© Bolton & Menk, Inc. 2023. All Rights Reserved
C:\Users\bolton\OneDrive\Documents\120859_F01_DOT.dwg 11/7/2023 9:58:02 PM





© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\WORK\2023\01\17\2023\170859_G01_DOT.dwg 11/7/2023 9:48:30 PM



73RD STREET ALIGNMENT DATA						
NUMBER	LENGTH (FT)	START POINT (EASTING, NORTHING)	END POINT (EASTING, NORTHING)	START STATION	END STATION	LINE / CHORD DIRECTION
C1	246.187	(1580773.16,583442.01)	(1580780.73,583687.92)	4+00	6+46.19	N1° 45' 51"E
C2	196.837	(1580845.21,584384.24)	(1580853.70,584580.81)	13+45.48	15+42.32	N2° 28' 16"E
C3	167.939	(1580809.05,586700.98)	(1580797.40,586868.49)	36+63.23	38+31.17	N3° 58' 33"W
C4	123.340	(1580680.96,587993.97)	(1580673.49,588117.05)	49+62.74	50+86.08	N3° 28' 36"W
L1	400.000	(1580785.46,583042.19)	(1580773.16,583442.01)	0+00	4+00	N1° 45' 44"W
L2	699.295	(1580780.73,583687.92)	(1580845.21,584384.24)	6+46.19	13+45.48	N5° 17' 26"E
L3	288.997	(1580853.70,584580.81)	(1580851.94,584869.80)	15+42.32	18+31.32	N0° 20' 54"W
L4	854.708	(1580851.94,584869.80)	(1580846.63,585724.49)	18+31.32	26+86.02	N0° 21' 21"W
L5	416.670	(1580846.63,585724.49)	(1580832.25,586140.92)	26+86.02	31+02.69	N1° 58' 43"W
L6	560.539	(1580832.25,586140.92)	(1580809.05,586700.98)	31+02.69	36+63.23	N2° 22' 20"W
L7	818.282	(1580797.40,586868.49)	(1580717.84,587682.89)	38+31.17	46+49.45	N5° 34' 47"W
L8	143.813	(1580717.84,587682.89)	(1580698.99,587825.47)	46+49.45	47+93.27	N7° 31' 54"W
L9	89.456	(1580698.99,587825.47)	(1580689.10,587914.37)	47+93.27	48+82.72	N6° 21' 09"W
L10	80.014	(1580689.10,587914.37)	(1580680.96,587993.97)	48+82.72	49+62.74	N5° 49' 56"W
L11	90.407	(1580673.49,588117.05)	(1580665.63,588207.12)	50+86.08	51+76.49	N4° 59' 12"W
L12	223.515	(1580665.63,588207.12)	(1580661.36,588430.59)	51+76.49	54+00	N1° 05' 36"W

SIDE STREET ALIGNMENT DATA						
NUMBER	LENGTH (FT)	START POINT (EASTING, NORTHING)	END POINT (EASTING, NORTHING)	START STATION	END STATION	LINE / CHORD DIRECTION
L13	100.000	(1580833.46,584257.27)	(1580933.45,584256.44)	100+00	101+00	S89° 31' 21"E
L14	100.000	(1580853.30,584646.11)	(1580953.29,584644.61)	200+00	201+00	S89° 08' 32"E
L15	100.000	(1580851.28,584975.33)	(1580951.28,584974.74)	300+00	301+00	S89° 39' 35"E
L16	100.000	(1580849.23,585305.99)	(1580949.23,585305.10)	400+00	401+00	S89° 29' 28"E
L17	100.000	(1580847.18,585635.95)	(1580947.18,585635.45)	501+00	502+00	S89° 42' 34"E
L18	150.000	(1580838.09,585971.92)	(1580988.08,585970.53)	600+00	601+50	S89° 28' 19"E
L19	100.000	(1580823.50,586351.99)	(1580923.50,586351.12)	700+00	701+00	S89° 29' 56"E
L20	100.000	(1580721.09,586410.46)	(1580821.09,586410.24)	800+00	801+00	S89° 52' 20"E
L21	150.000	(1580810.66,586661.97)	(1580960.66,586661.67)	900+00	901+50	S89° 53' 13"E
L22	100.000	(1580787.33,586971.63)	(1580887.33,586971.09)	1000+00	1001+00	S89° 41' 20"E
L23	100.000	(1580757.50,587276.93)	(1580857.50,587276.51)	1100+00	1101+00	S89° 45' 51"E
L24	100.000	(1580728.18,587577.09)	(1580828.18,587576.44)	1200+00	1201+00	S89° 37' 55"E
L25	100.000	(1580593.20,587878.37)	(1580693.19,587877.55)	1300+00	1301+00	S89° 31' 48"E
L26	100.000	(1580693.19,587877.55)	(1580793.19,587876.29)	1301+00	1302+00	S89° 16' 37"E

CONTROL POINT DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	EASTING	NORTHING
1	CNT/CUT X	831.430	1580780.56	583064.13
2	CNT/CUT X	832.850	1580620.60	583199.22
3	CNT/CUT X	830.560	1580806.85	583373.08
20	VFCP /SET CUT X IN CONC CURB	857.520	1580706.13	586422.93
21	VFCP /SET CUT X IN CONC CURB	854.760	1580848.63	586042.94
22	VFCP /SET CUT X IN CONC CURB	859.620	1580798.89	586644.33
71	VFCP /CUT X EOWK	867.990	1580697.14	588492.82
73	VFCP /CUT X BOC	870.000	1580544.63	587890.96
74	VFCP /CUT X BOC	872.990	1580696.37	587736.31
75	VFCP /CUT X BOC	872.060	1580892.04	587587.98
76	VFCP /CUT X INTK	866.680	1580728.53	587411.01
77	VFCP /CUT X BOC	868.300	1580926.51	587264.31
78	VFCP /CUT X BOC	864.070	1581027.95	586982.71
79	VFCP /CUT X EOWK	860.420	1580774.49	586782.61
80	VFCP /CUT X EOWK	860.420	1580931.10	586638.04
81	VFCP /CUT X INTK	858.110	1580797.00	586396.06
82	VFCP /CUT X BOC	858.250	1580933.90	586363.86
83	VFCP /CUT X EOWK	854.940	1580863.30	586015.57
84	VFCP /CUT X BOC	854.850	1580973.29	585983.07
85	VFCP /CUT X BOC	844.040	1580959.48	585647.72

CONTROL POINT DATA				
POINT NUMBER	RAW DESCRIPTION	ELEVATION	EASTING	NORTHING
86	VFCP /CUT X EOWK	838.820	1580876.74	585519.37
87	VFCP /CUT X BOC	842.870	1581024.12	585316.94
88	VFCP /CUT X BOC	840.250	1580925.73	584987.83
89	VFCP /CUT X EOWK	839.010	1580823.41	584809.84
90	VFCP /CUT X EOWK	840.630	1580973.15	584656.33
91	VFCP /CUT X EOWK	838.300	1580873.87	584434.75
92	VFCP /CUT X BOC	838.120	1580911.20	584268.87
93	VFCP /CUT X EOWK	834.070	1580781.30	583994.02
94	VFCP /CUT X EOWK	831.960	1580807.69	583606.96
536870913	VFCP /LMFR 1/2IN RBR	871.100	1580702.01	588184.47

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DOT.dwg 11/7/2023 9:48:37 PM

STAGING NOTES

- 1. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING PROPERTY OWNERS ALONG 73RD STREET A MINIMUM OF 7 CALENDAR DAYS PRIOR TO CHANGES IN ACCESS.
- 2. HAUL ROUTES SHALL BE APPROVED BY THE CITY PRIOR TO INITIATING HAULING.
- 3. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL ON THE PROJECT SITE.
- 4. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF HAUL ROUTES AND TEMPORARY ACCESS DRIVES.

STAGING GENERAL NOTES

- 1. IT IS RECOGNIZED THAT AS THE VARIOUS ACTIVITIES RELATED TO CONSTRUCTION PROGRESS, CERTAIN SITUATIONS MAY ARISE WHICH WILL PRECLUDE ADHERING TO THE ORIGINAL CONSTRUCTION SEQUENCE OR WHICH WOULD READILY LEND THEMSELVES TO MORE EFFICIENT STAGING OPERATIONS. SHOULD THE CONTRACTOR DESIRE TO DEVIATE FROM THE ORIGINAL PLAN, A WRITTEN ALTERNATIVE PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PROPOSED CHANGES.
- 2. WORK EXECUTED BETWEEN OCTOBER 1 AND APRIL 1, THAT IMPACTS TRAFFIC, SHALL BE APPROVED BY THE CITY. ROADWAYS SHALL BE REPAVED AND REOPENED BEFORE THE FIRST SNOWFALL.
- 3. IT IS THE PROJECT INTENT TO COMPLETE THE DRIVEWAYS, TRAIL, SIDEWALK AND SURFACE RESTORATION IMMEDIATELY FOLLOWING THE COMPLETION OF THE ROADWAY PAVEMENT.
- 4. ALL SEGMENTS OF ROADWAY SHALL BE SWEEPED AND CLEANED FROM ALL DEBRIS. FLUSH THE SURFACE WITH WATER IF DUST IS AN ISSUE PRIOR TO OPENING. ROADWAY TO BE OPENED UP BY 6 AM THE FOLLOWING DAY.
- 5. REFER TO IOWA DOT TRAFFIC CONTROL STANDARD DRAWINGS TO HANDLE CERTAIN SITUATIONS DURING CONSTRUCTION. COORDINATE WITH THE ENGINEER.
- 6. TEMPORARY EASEMENTS: CONSTRUCTION RELATED ACTIVITIES IN THE TEMPORARY ACCESS AREA ONLY ALLOWED BETWEEN JUNE 15 AND AUGUST 15 OF EACH CALENDAR YEAR, WHEN TYPICAL SCHOOL CLASSES ARE NOT IN SESSION. ANY WORK TO BE PERFORMED OUTSIDE OF SAID DATES SHALL REQUIRE WRITTEN APPROVAL FROM THE SCHOOL DISTRICT.
- 7. PERMANENT PAVEMENT MARKINGS TO OCCUR AFTER MULTIPLE STAGES ARE COMPLETE OR AT THE END OF THE PROJECT.

DETOUR

- 1. DETOUR TO BE SET UP AND TAKEN DOWN FOR EACH CONSTRUCTION SEASON.
- 2. SET UP DYNAMIC MESSAGE BOARDS 7 CALENDAR DAYS PRIOR TO ROADWAY CLOSURE FOR EACH CONSTRUCTION SEASON. ONE ON THE SOUTH END OF THE PROJECT AND ONE ON THE NORTH END OF THE PROJECT. MESSAGE BOARDS TO INDICATE THE DATE OF CLOSURES.
- 3. FOLLOW IOWA DOT PERMIT REQUIREMENTS FOR SIGNS ON HICKMAN ROAD AND HWY 28 (63RD STREET)

STAGE 1A - TRAFFIC

- 1. SET UP TRAFFIC CONTROL FOR STAGE 1A AS SHOWN IN THE J SHEETS.
- 2. CONTRACTOR TO DETERMINE NEEDED LANE CLOSURES ON UNIVERSITY AVENUE. PROVIDE LAYOUTS AND NOTICE TO CITY 48 HOURS PRIOR TO LANE CLOSURES.
- 3. ADJUST SIGNAL DETECTION AND TIMINGS.

STAGE 1A - CONSTRUCTION

- 1. REMOVE PAVEMENT TO ALLOW ENOUGH ROADWAY FOR 2 WAY TRAFFIC (MIN 12'DRIVELANES) ON STAGE 1B. INSTALL TEMPORARY GRAVEL ACCESS AS SHOWN IN THE J SHEETS.
- 2. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL TRAIL BACKFILL AND SURFACE RESTORATION.
- 3. INSTALLATION OF WATER SERVICES TO STAGE 1B TO OCCUR AFTER 7 PM AND/OR ON SATURDAYS TO MINIMIZE ROADWAY CLOSURES DURING BUSINESS HOURS. CONTRACTOR TO COORDINATE ROADWAY CLOSURES WITH AFFECTED BUSINESSES AND PROPERTY OWNERS. PAVEMENT GAPS TO BE FILLED WITH GRAVEL AFTER INSTALLATION. ROADWAY TO BE OPENED UP BY 6 AM THE FOLLOWING DAY.
- 4. INSTALLATION OF STORM SEWER TO INTAKE 02 AND THE INSTALLATION OF INTAKE 02 TO OCCUR AFTER 7 PM AND/OR ON SATURDAYS TO MINIMIZE ROADWAY CLOSURES DURING BUSINESS HOURS. CONTRACTOR TO COORDINATE ROADWAY CLOSURES WITH AFFECTED BUSINESSES AND PROPERTY OWNERS. PAVEMENT GAPS TO BE FILLED WITH GRAVEL AFTER INSTALLATION. ROADWAY TO BE OPENED UP BY 6 AM THE FOLLOWING DAY.

STAGE 1B - TRAFFIC

- 1. SET UP TRAFFIC CONTROL FOR STAGE 1B AS SHOWN IN THE J SHEETS.
- 2. CONTRACTOR TO DETERMINE NEEDED LANE CLOSURES ON UNIVERSITY AVENUE. PROVIDE LAYOUTS AND NOTICE TO CITY 48 HOURS PRIOR TO LANE CLOSURES.
- 3. ADJUST SIGNAL DETECTION, TIMINGS AND BAG HEADS AS NEEDED.

STAGE 1B - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, INSTALL TEMPORARY GRAVEL DRIVEWAYS, GRADE, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT AS NEEDED BETWEEN STAGE 1 AND 2.
- 3. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

STAGE 2 - TRAFFIC

- 1. MAINTAIN DETOUR FROM PHASE 1 AS SHOWN ON THE J SHEETS.
- 2. SET UP TRAFFIC CONTROL FOR STAGE 2 AS SHOWN IN THE J SHEETS.

STAGE 2 - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, INSTALL TEMPORARY GRAVEL DRIVEWAYS, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT AS NEEDED BETWEEN STAGE 2 AND 3.
- 3. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

STAGE 3 - TRAFFIC

- 1. MAINTAIN DETOUR AS SHOWN ON THE J SHEETS.
- 2. SET UP TRAFFIC CONTROL FOR STAGE 3 AS SHOWN IN THE J SHEETS.
- 3. DRIVEWAY TO SCHOOL PARKING LOT SHALL ONLY BE CLOSED BETWEEN JUNE 15 AND AUGUST 15, WHEN TYPICAL SCHOOL CLASSES ARE NOT IN SESSION.

STAGE 3 - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT AS NEEDED BETWEEN STAGE 3 AND 4.
- 3. INSTALL PERMANENT PAVEMENT MARKINGS IN SCHOOL DRIVEWAY.
- 4. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

STAGE 4 - TRAFFIC

- 1. MAINTAIN DETOUR AS SHOWN ON THE J SHEETS.
- 2. SET UP TRAFFIC CONTROL FOR STAGE 4 AS SHOWN IN THE J SHEETS.
- 3. DRIVEWAY TO SCHOOL PARKING LOT SHALL ONLY BE CLOSED BETWEEN JUNE 15 AND AUGUST 15, WHEN TYPICAL SCHOOL CLASSES ARE NOT IN SESSION.
- 4. ROADWAY BETWEEN STAGE 4 AND WASHINGTON AVE SHALL ONLY BE CLOSED BETWEEN JUNE 15 AND AUGUST 15, WHEN TYPICAL SCHOOL CLASSES ARE NOT IN SESSION.

STAGE 4 - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, INSTALL PEDESTRIAN TRAFFIC SIGNAL, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT AS NEEDED BETWEEN STAGE 4 AND 5.
- 3. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

STAGE 5 - TRAFFIC

- 1. MAINTAIN DETOUR AS SHOWN ON THE J SHEETS.
- 2. SET UP TRAFFIC CONTROL FOR STAGE 5 AS SHOWN IN THE J SHEETS.

STAGE 5 - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT AS NEEDED BETWEEN STAGE 5 AND 6.
- 3. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

STAGE 6 - TRAFFIC

- 1. MAINTAIN DETOUR AS SHOWN ON THE J SHEETS.
- 2. SET UP TRAFFIC CONTROL FOR STAGE 6 AS SHOWN IN THE J SHEETS.

STAGE 6 - CONSTRUCTION

- 1. REMOVE EXISTING ROADWAY, GRADE, INSTALL WATER MAIN AND STORM SEWER, INSTALL SUBDRAIN, PAVE ROADWAY, PAVE DRIVEWAYS, INSTALL SIDEWALK, BACKFILL AND SURFACE RESTORATION.
- 2. INSTALL TEMPORARY PAVEMENT MARKINGS AND PERMANENT SIGNAGE.

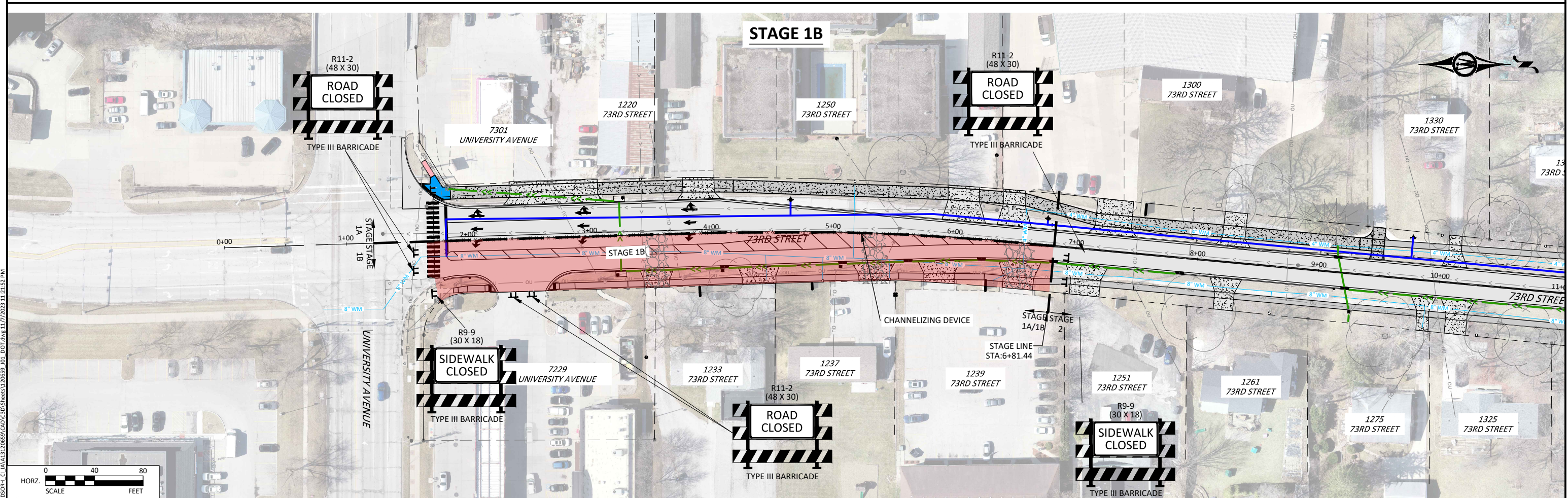
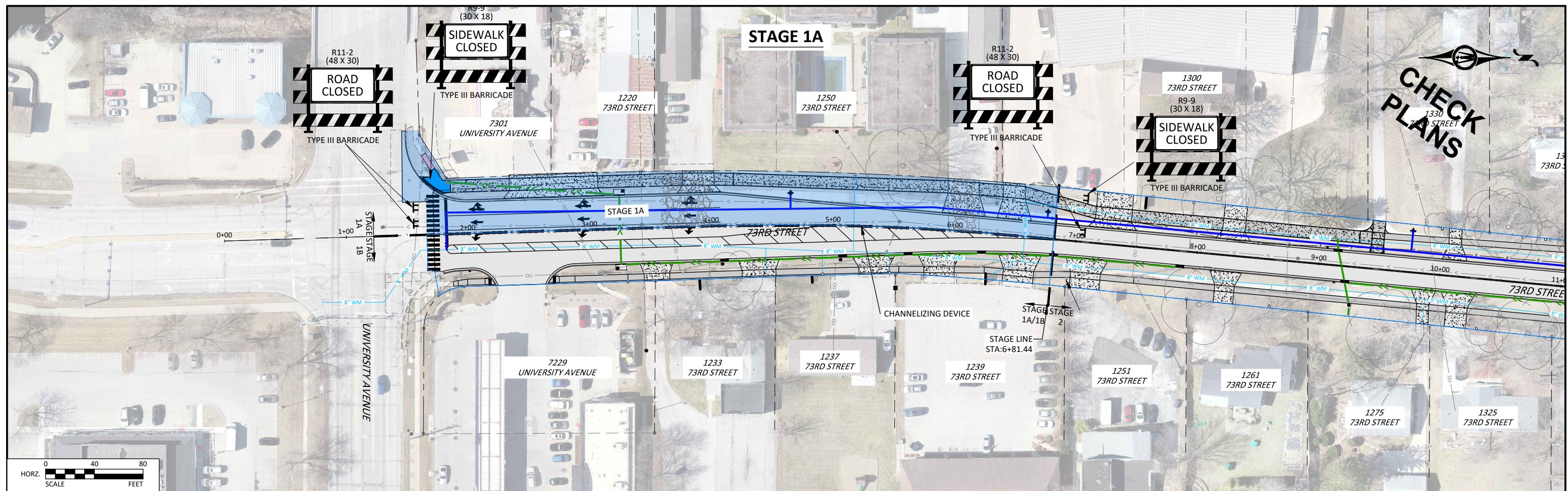
TRAFFIC CONTROL PLAN

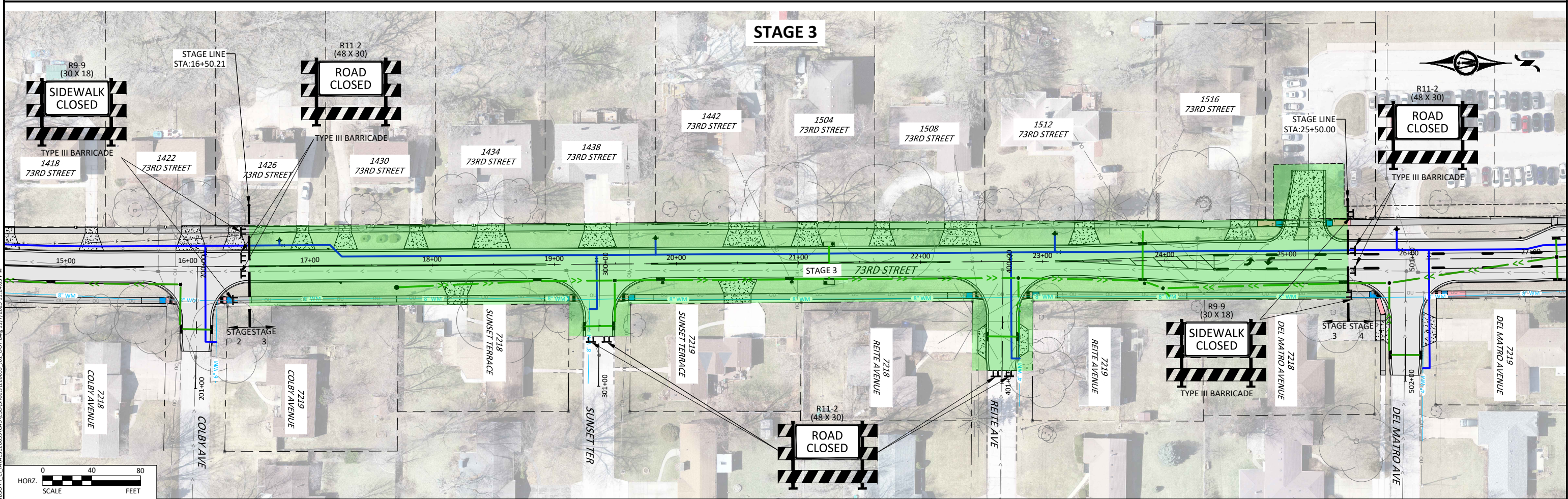
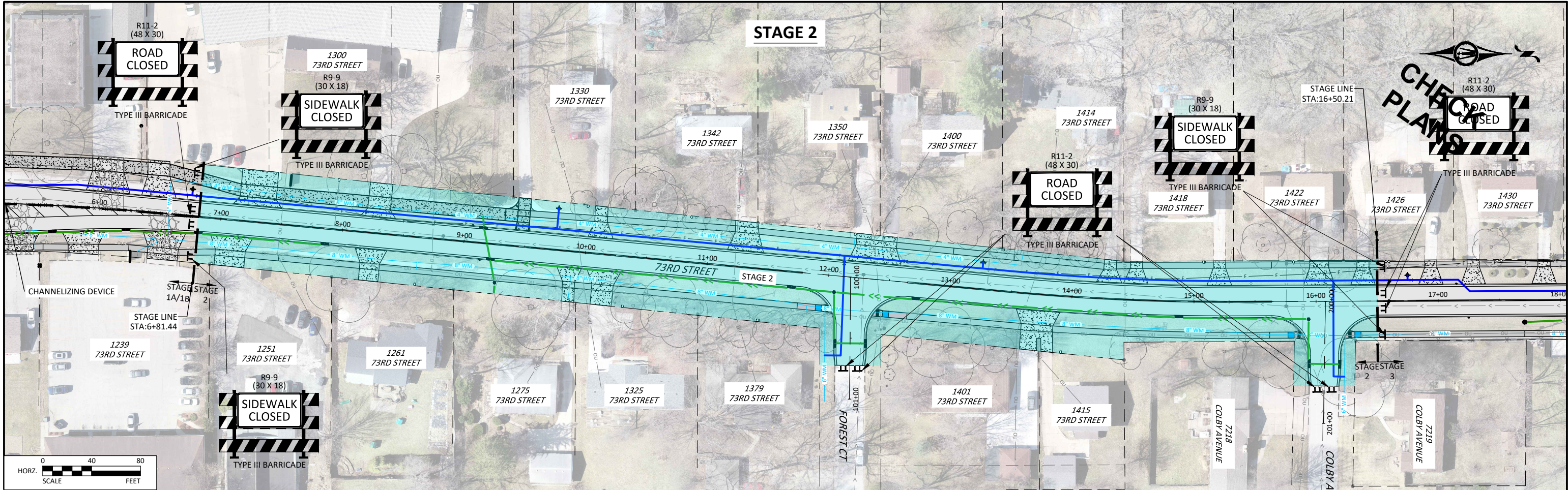
- 1. CONTRACTOR TO VERIFY TRAFFIC CONTROL DEVICES AT A MINIMUM OF ONCE A DAY OR IMMEDIATELY AFTER A WEATHER EVENT. CORRECT AS NECESSARY.
- 2. THE CONTRACTOR SHALL PROVIDE 48 HOURS STREET/LANE CLOSURE NOTICE TO THE CITY.
- 3. TRAFFIC CONTROL SIGNS INSTALLED FOR MORE THAN THREE DAYS SHALL BE POST MOUNTED.

THE CONTRACTOR SHALL EMPLOY SOUND PRACTICES OF SAFETY AND TRAFFIC CONTROL. THESE METHODS AND PRACTICES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

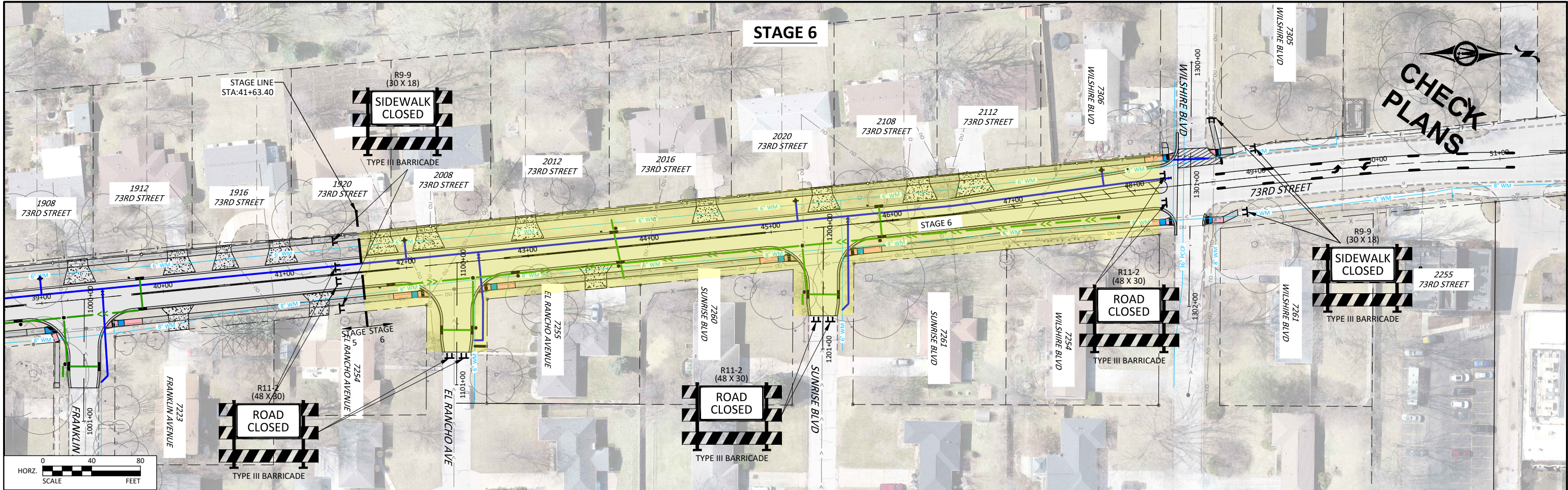
- 1. THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL WITH OTHER PROJECTS.
- 2. TRAFFIC CONTROL ON THIS PROJECT SHALL BE IN ACCORDANCE WITH SPECIFIC LAYOUTS ON THESE PLANS. TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS SHALL BE PER CURRENT PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
- 3. AT FULL CLOSURE LOCATIONS, CONTRACTOR SHALL PROVIDE ENOUGH TYPE III BARRICADES TO COMPLETELY CROSS THE ROADWAY.
- 4. SIGN WASHING SHALL BE CONSIDERED INCIDENTAL TO TRAFFIC CONTROL AND REQUIRED AS DIRECTED BY THE PROJECT ENGINEER.

CHECK
PLANS

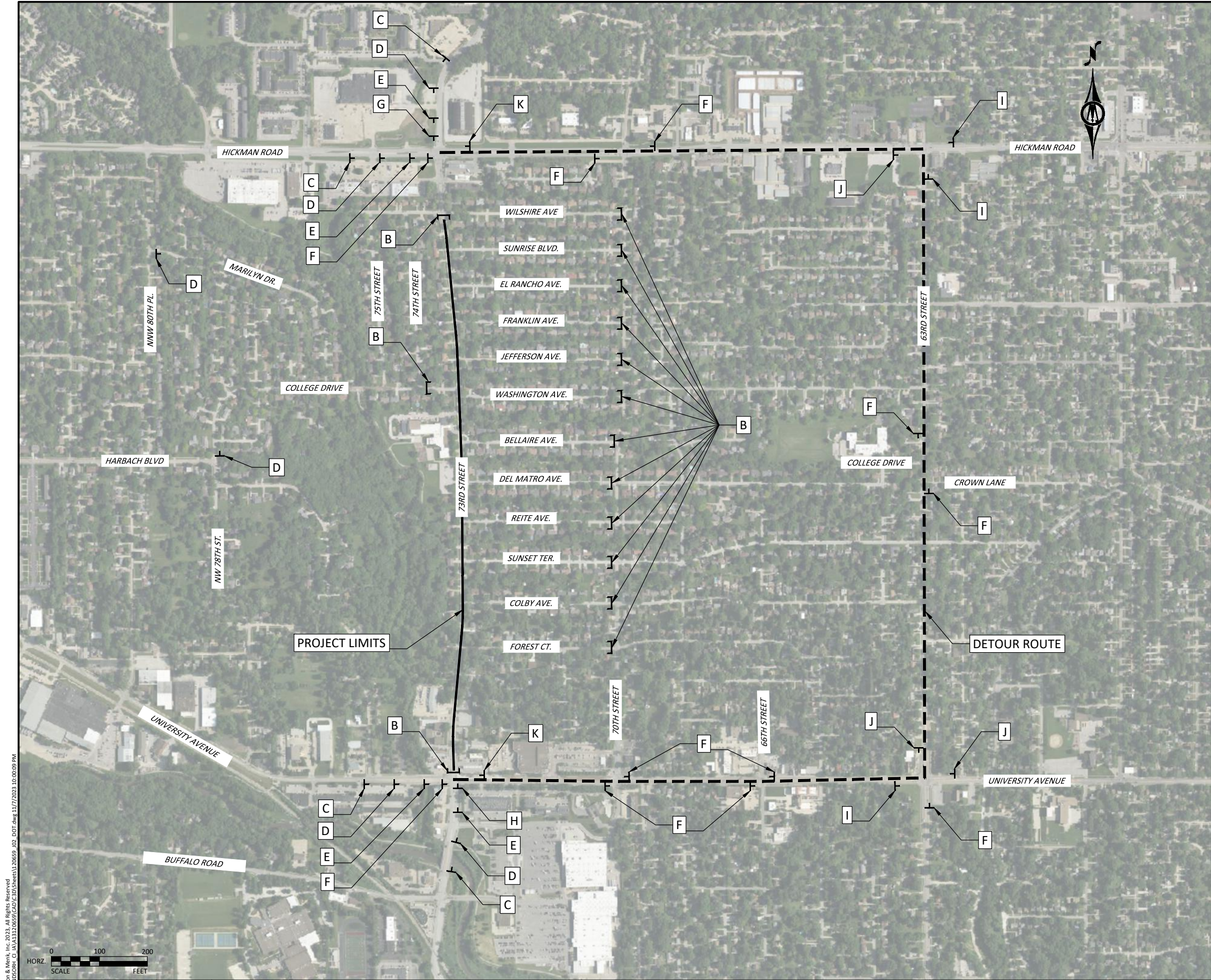




© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT.dwg 11/7/2023 11:24:05 PM



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\W\5050\DWG\LA\LA1317-0593\LA1317-0593.dwg 11/7/2023 11:32:47 PM



R11-2
(48 X 30)

ROAD
CLOSED

TYPE III BARRICADE

A

W20-1
(48 X 48)

ROAD
WORK
AHEAD

C

W20-2
(48 X 48)

DETOUR
AHEAD

E

SPECIAL
73RD STREET
M4-9T
(30 X 24)

DETOUR
←

G

SPECIAL
73RD STREET
M4-9ATL
(30 X 24)

DETOUR
↙

I

SPECIAL
73RD STREET
M4-8A
(24 X 18)

END
DETOUR

K

R11-4
(60 X 30)

ROAD CLOSED
TO
THRU TRAFFIC

CHECK
PLANS

B

W20-3
(48 X 48)

ROAD
CLOSED
AHEAD

D

SPECIAL
73RD STREET
M4-9T
(30 X 24)

DETOUR
↑

F

SPECIAL
73RD STREET
M4-9R
(30 X 24)

DETOUR
→

H

SPECIAL
73RD STREET
M4-9ATR
(30 X 24)

DETOUR
↘

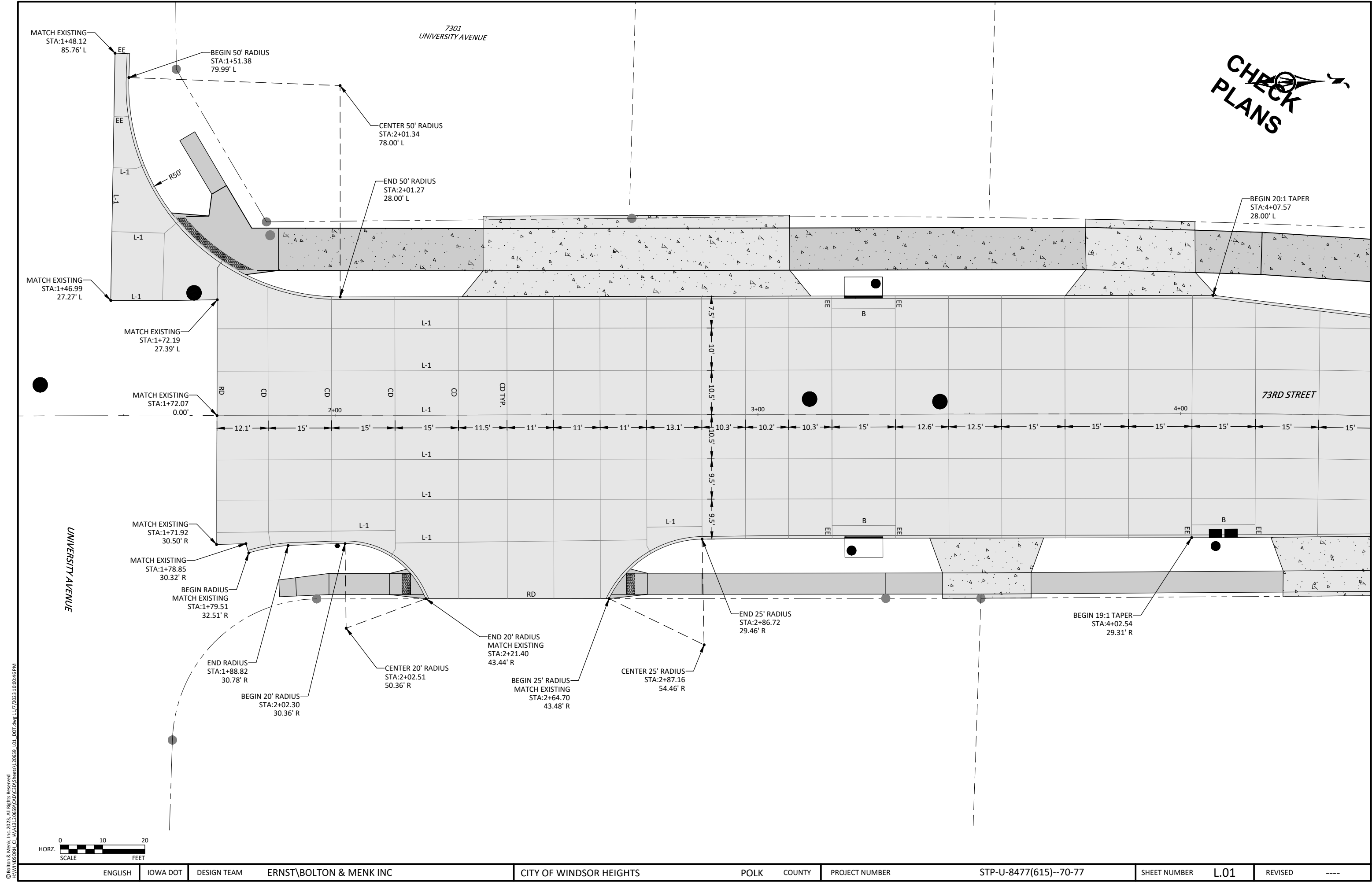
J

G20-2A
(48 X 24)

END
ROAD WORK

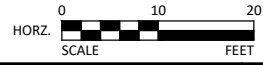
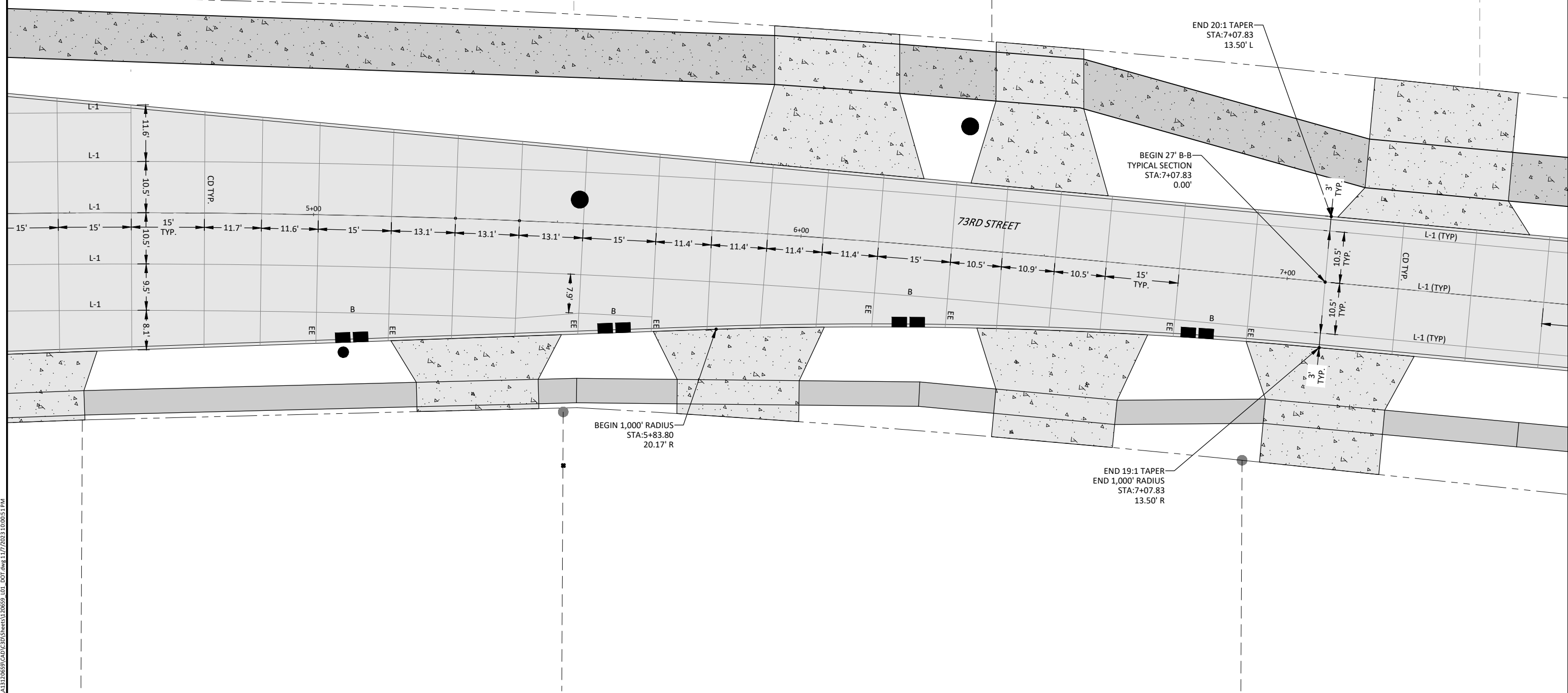
L

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\LA\1312\0893\CD\DWG\120859_002_DOT.dwg 11/7/2023 10:00:09 PM



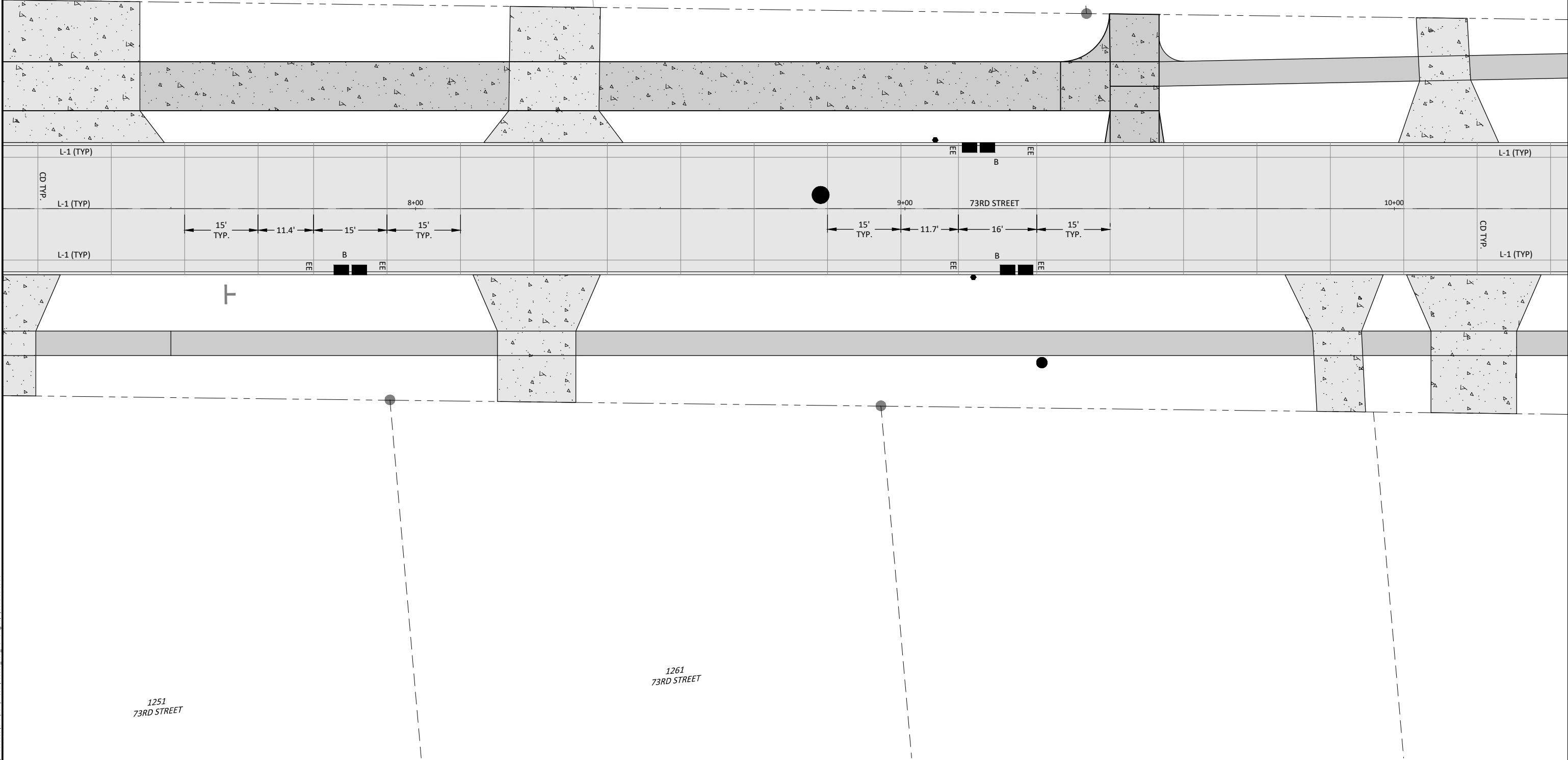
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101_DOT.dwg 1/7/2023 10:00:46 PM

CHECK
PLANS

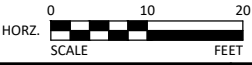


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101_DOT.dwg 1/7/2023 10:00:51 PM

CHECK
PLANS

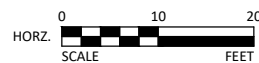


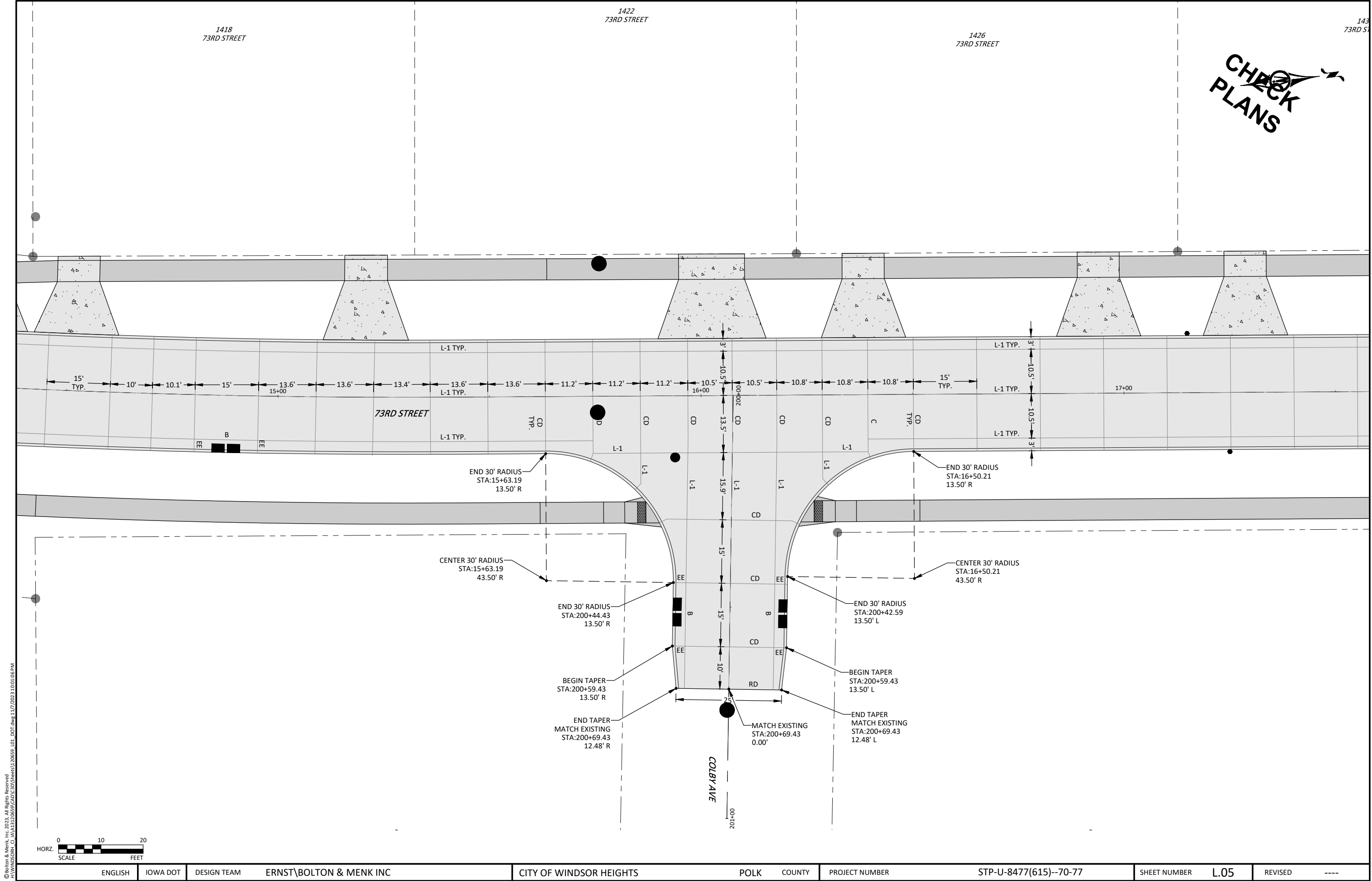
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\14\141317-0893\CD\14\141317-0893\120859_101_DOT.dwg 1/7/2023 10:00:56 PM



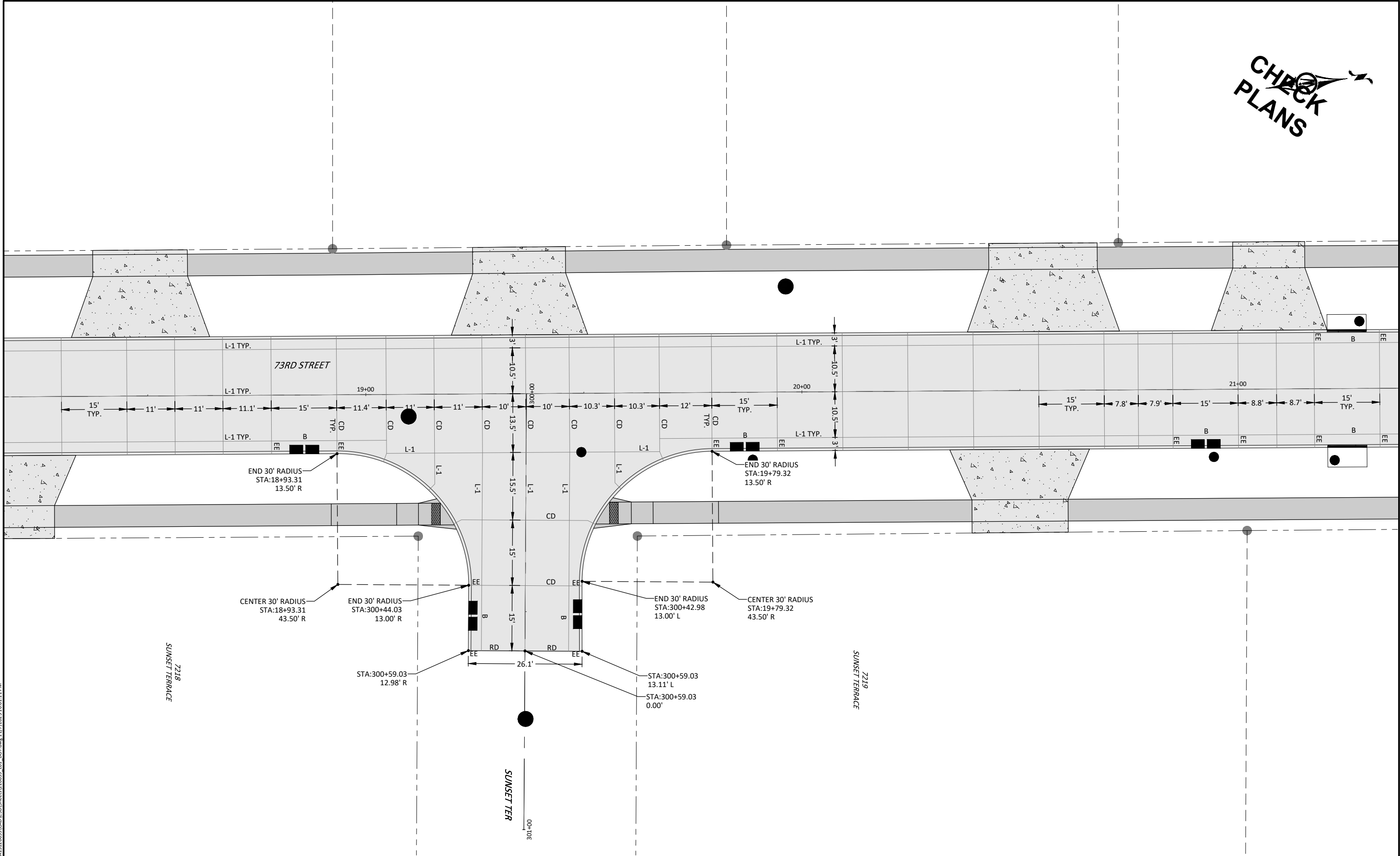
ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	L.03	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------

© Bolton & Menk, Inc. 2023. All Rights Reserved
H:\WINDSORH CI\A\A13120659\CAD\C3D\Sheets\120659 L01 DOT.dwg 11/7/2023 10:01:01 PM



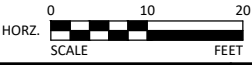
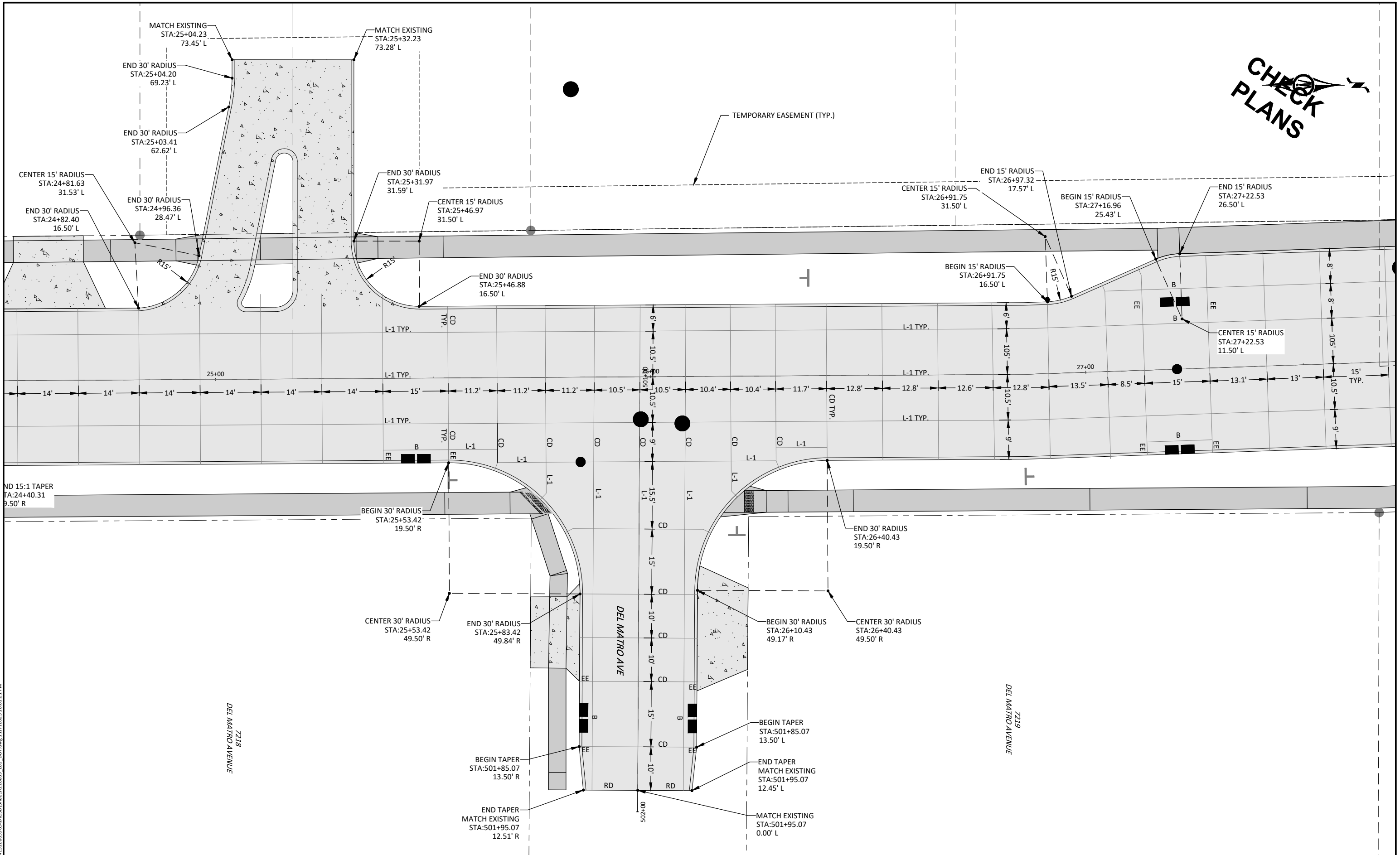


CHECK
PLANS



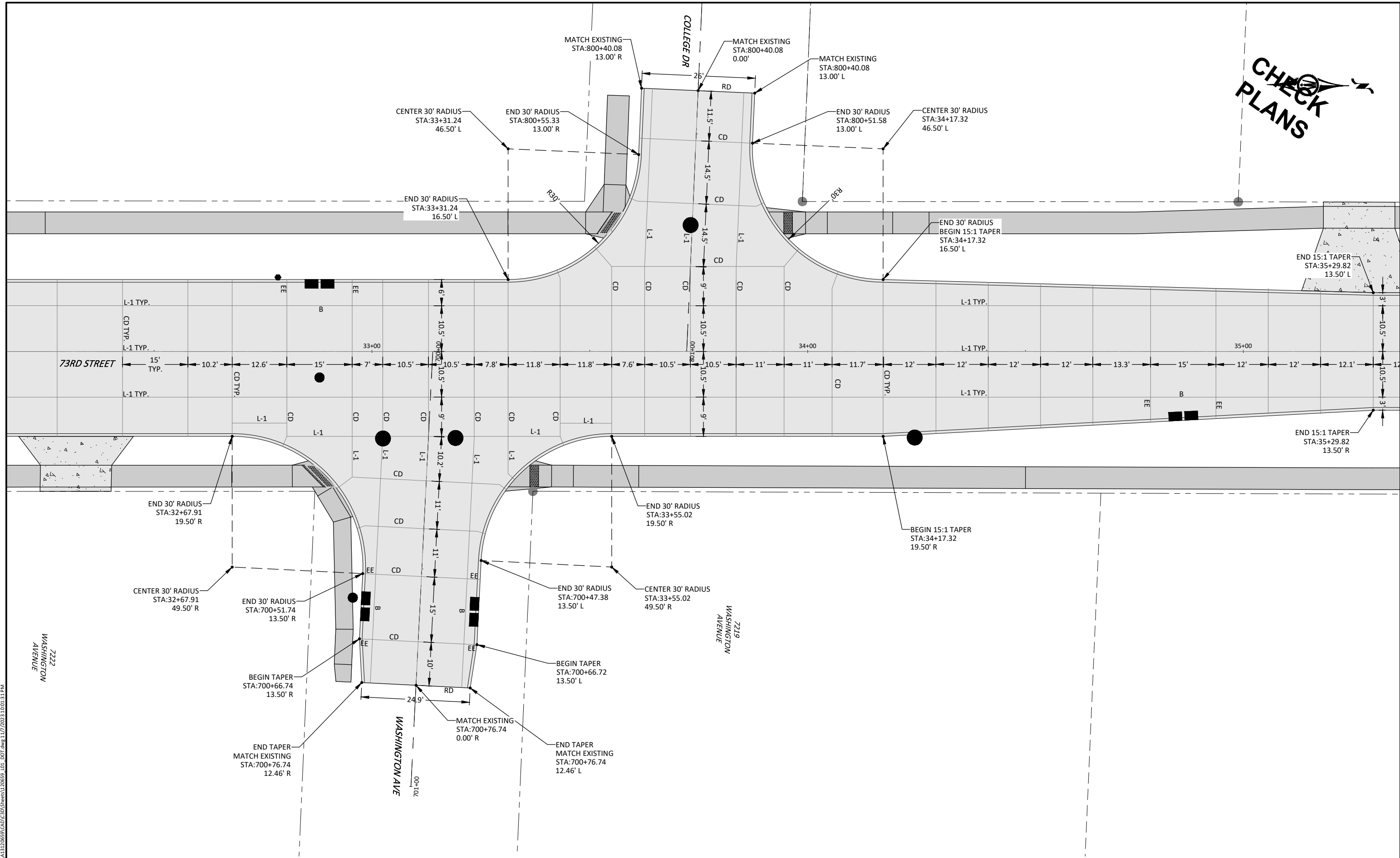
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\14\141317-0859\CD\14\141317-0859.dwg 1/7/2023 10:01:11 PM

CHECK PLANS

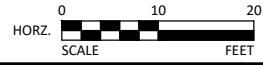


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101_DOT.dwg 1/7/2023 10:01:21 PM

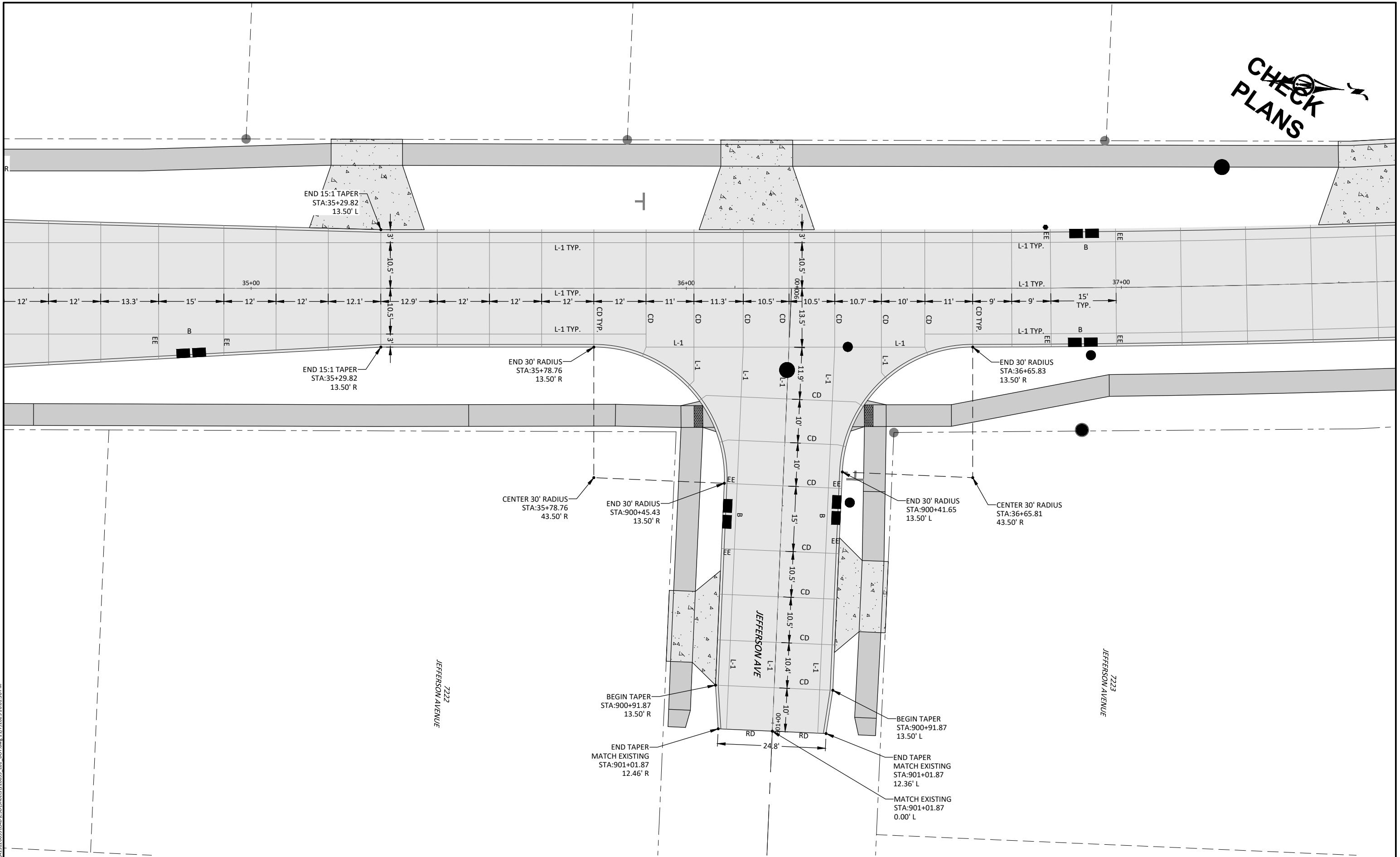
CHECK
PLANS



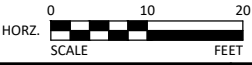
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101_DOT.dwg 1/7/2023 10:01:31 PM

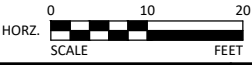
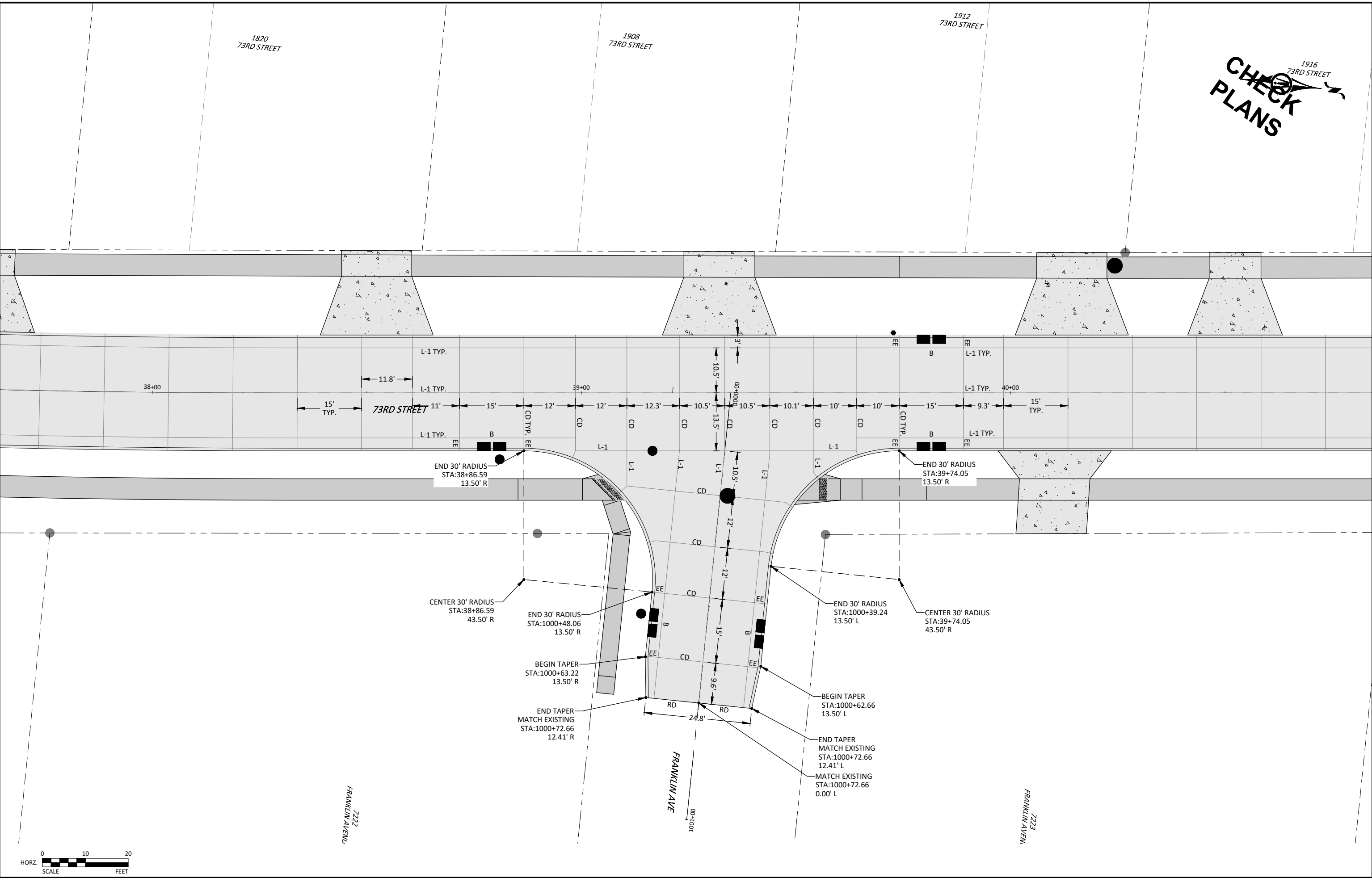


CHECK
PLANS



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD LA\1517-0893\CD\Drawings\120859_101_DOT.dwg 1/7/2023 10:01:36 PM



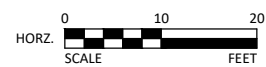
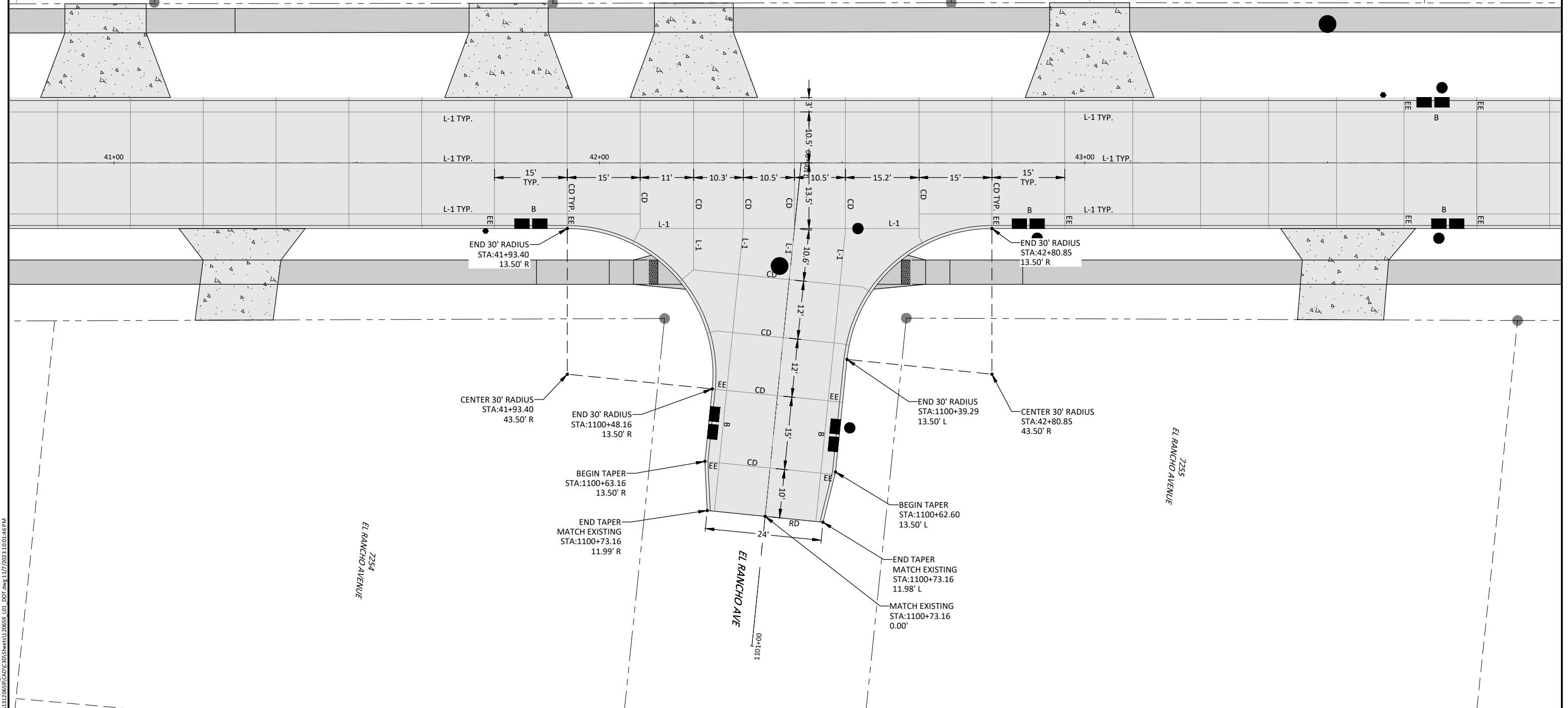


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101_DOT.dwg 1/7/2023 10:01:41 PM

ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	L.12	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------

2012
73RD STREET

CHECK PLANS



2016
73RD STREET

2020
73RD STREET

2108
73RD STREET

2112
73RD STREET

**CHECK
PLANS**

15' TYP.

L-1 TYP.

12' 12.1' 12' 12' 12.4' 10.5' 10.5' 10.1' 10' 10' 15' 13' 12' 12.1' 15' TYP.

45+00

46+00

47+00

73RD STREET

END 30' RADIUS
STA:44+94.88
13.50' R

END 30' RADIUS
STA:45+82.35
13.50' R

BEGIN 15:1 TAPER
MATCH EXISTING
STA:46+49.97
13.50' L

BEGIN 15:1 TAPER
MATCH EXISTING
STA:46+49.97
13.50' L

CENTER 30' RADIUS
STA:44+94.88
43.50' R

END 30' RADIUS
STA:1200+48.27
13.50' R

BEGIN TAPER
STA:1200+62.71
13.50' R

END TAPER
MATCH EXISTING
STA:1200+72.71
12.03' R

SUNRISE BLVD

RD

00+00

100+00

END 30' RADIUS
STA:1200+39.20
13.50' L

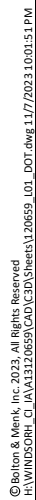
BEGIN TAPER
STA:1200+62.71
13.50' L

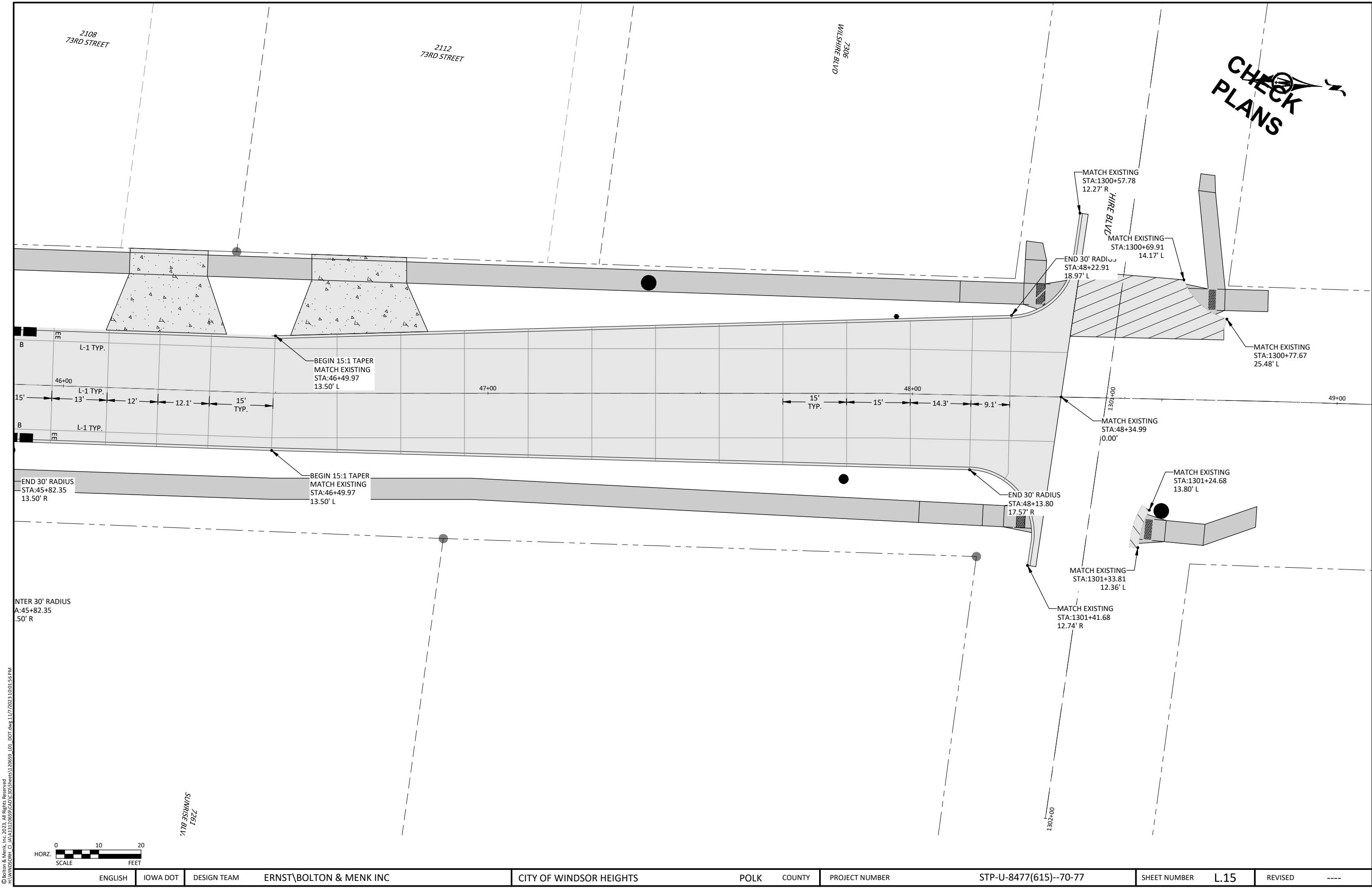
END TAPER
MATCH EXISTING
STA:1200+72.71
12.00' L

MATCH EXISTING
STA:1200+72.71
0.00'

7260
SUNRISE BLVD

7261
SUNRISE BLVD





CHECK PLANS

7301 UNIVERSITY AVENUE

MATCH EXISTING STA:1+48.12 85.76' L

MATCH EXISTING FG=831.72

MATCH EXISTING STA:1+51.61 85.63' L

BEGIN 50' RADIUS STA:1+51.38 79.99' L

831.98 TC 831.48 FG

R50

MATCH EXISTING STA:1+46.99 27.27' L

MATCH EXISTING STA:1+72.19 27.39' L

MATCH EXISTING STA:1+72.06 0.00' R

MATCH EXISTING FG=831.21

0.9%

2.0%

0.7%

831

831.42 TC 830.95 FG

831.46 TC 830.95 FG

MATCH EXISTING STA:1+71.92 30.50' R

MATCH EXISTING FG=830.92

MATCH EXISTING STA:1+78.85 30.32' R

MATCH EXISTING STA:1+79.51 32.51' R

830.42 TC 829.92 FG

830.05 TC 829.92 FG

830.12 TC 829.62 FG

830.09 TC 829.59 FG

830.53 TC 830.04 FG

73RD STREET

3+00

4+00

830

830.17

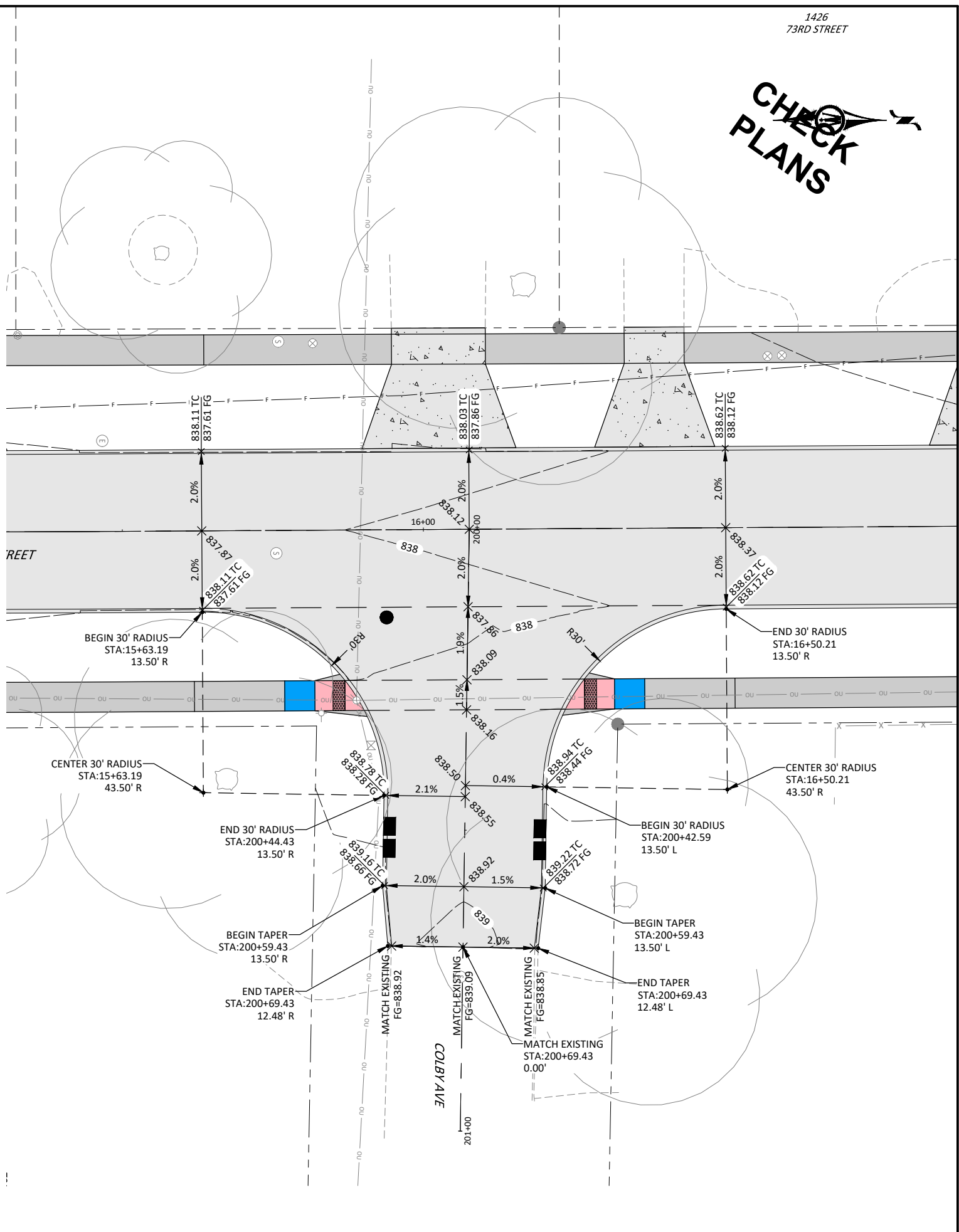
0

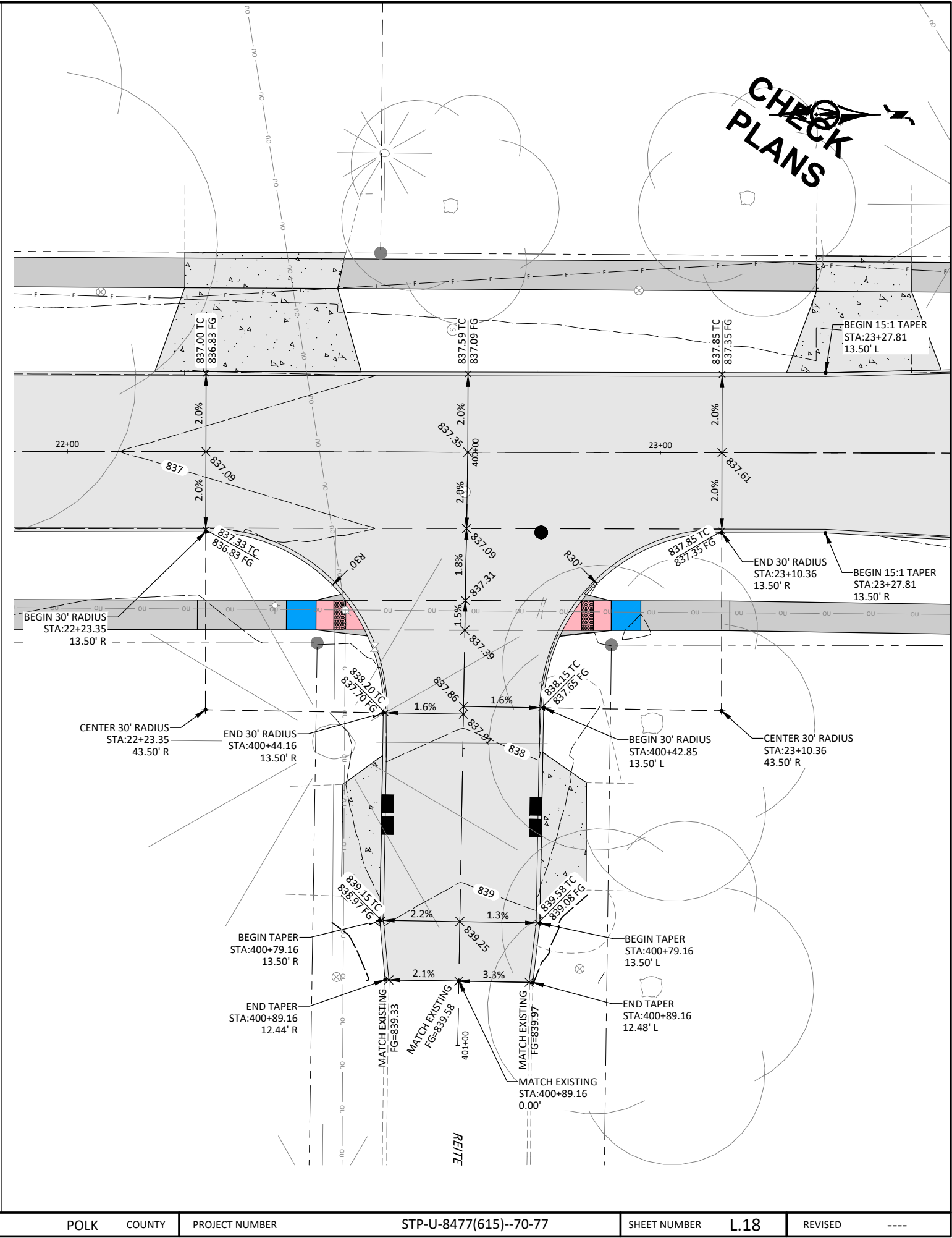
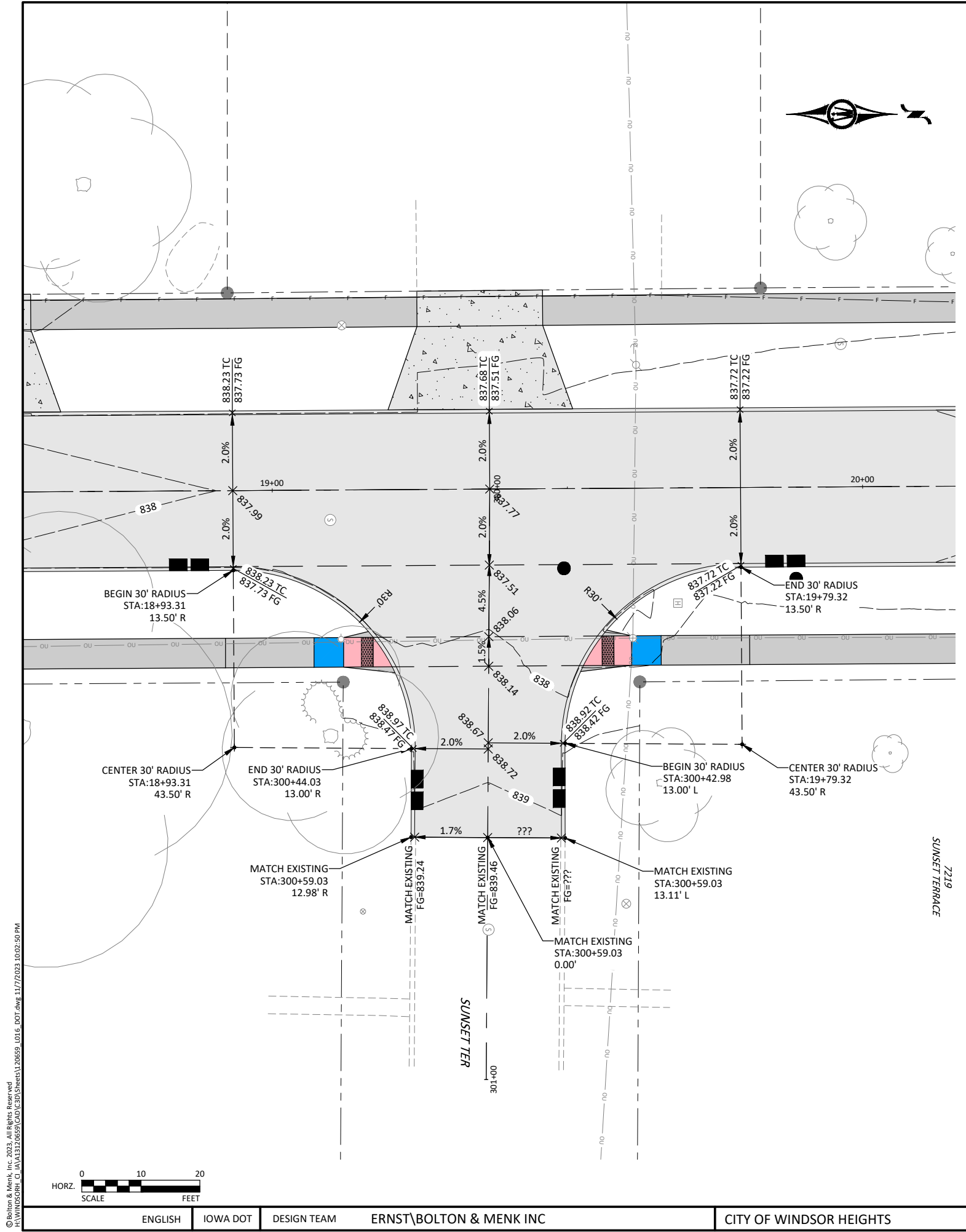
10

20

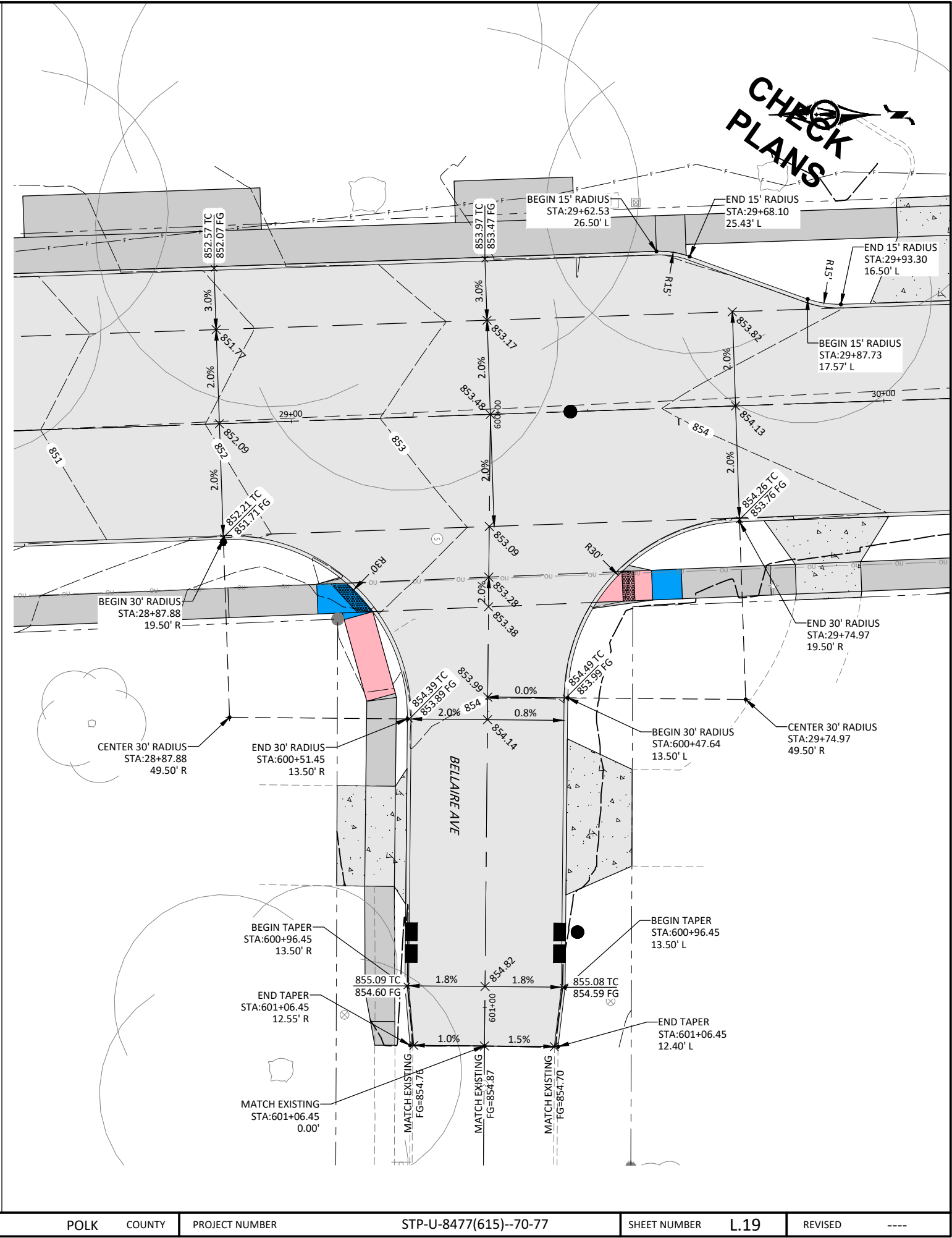
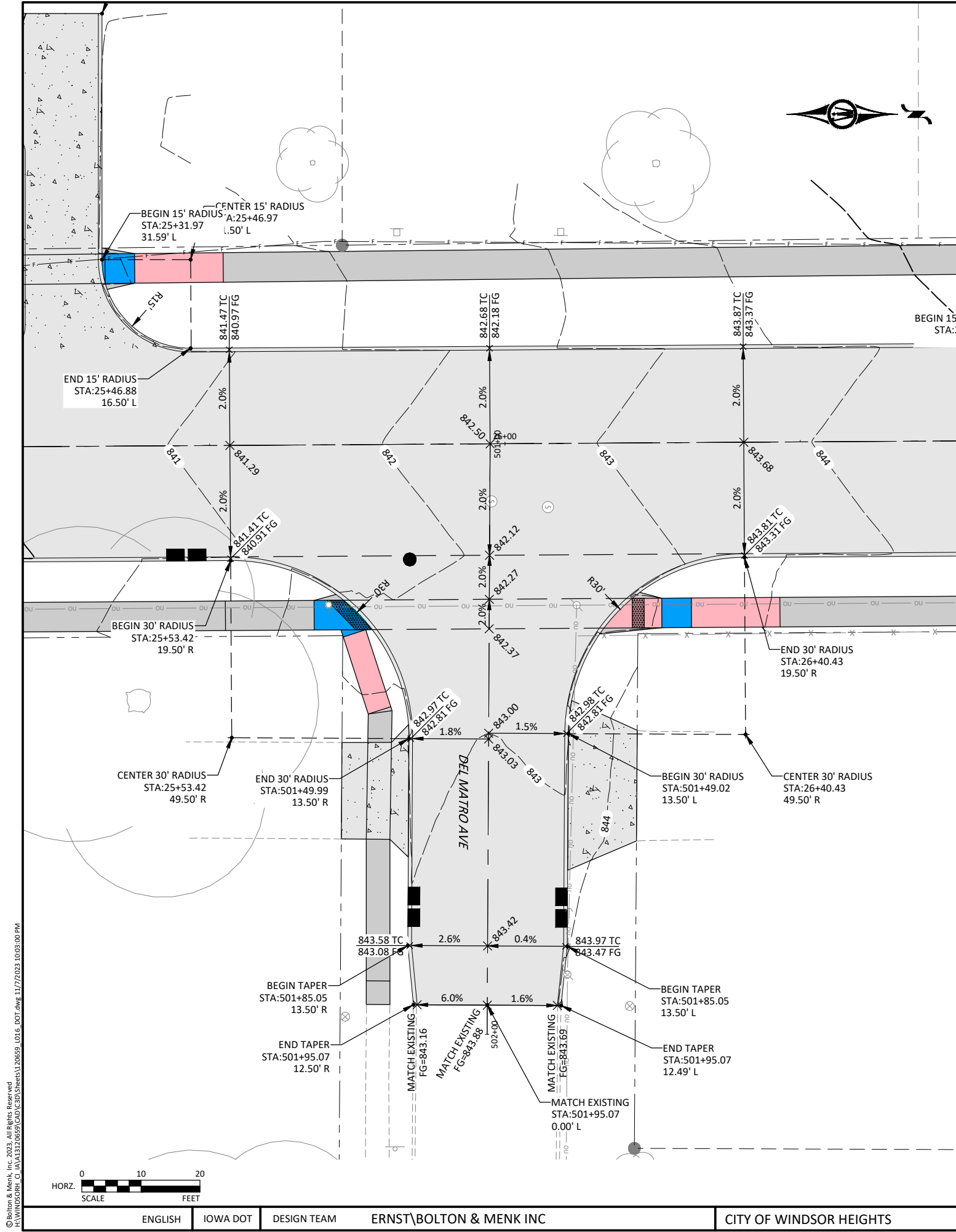
HORZ. SCALE FEET

on & Merit, Inc. 2023. All Rights Reserved
 0509H: G:\A13120559\CAD\3D\Sheet1120659_L01.dwg 11/7/2023 10:02:31 PM

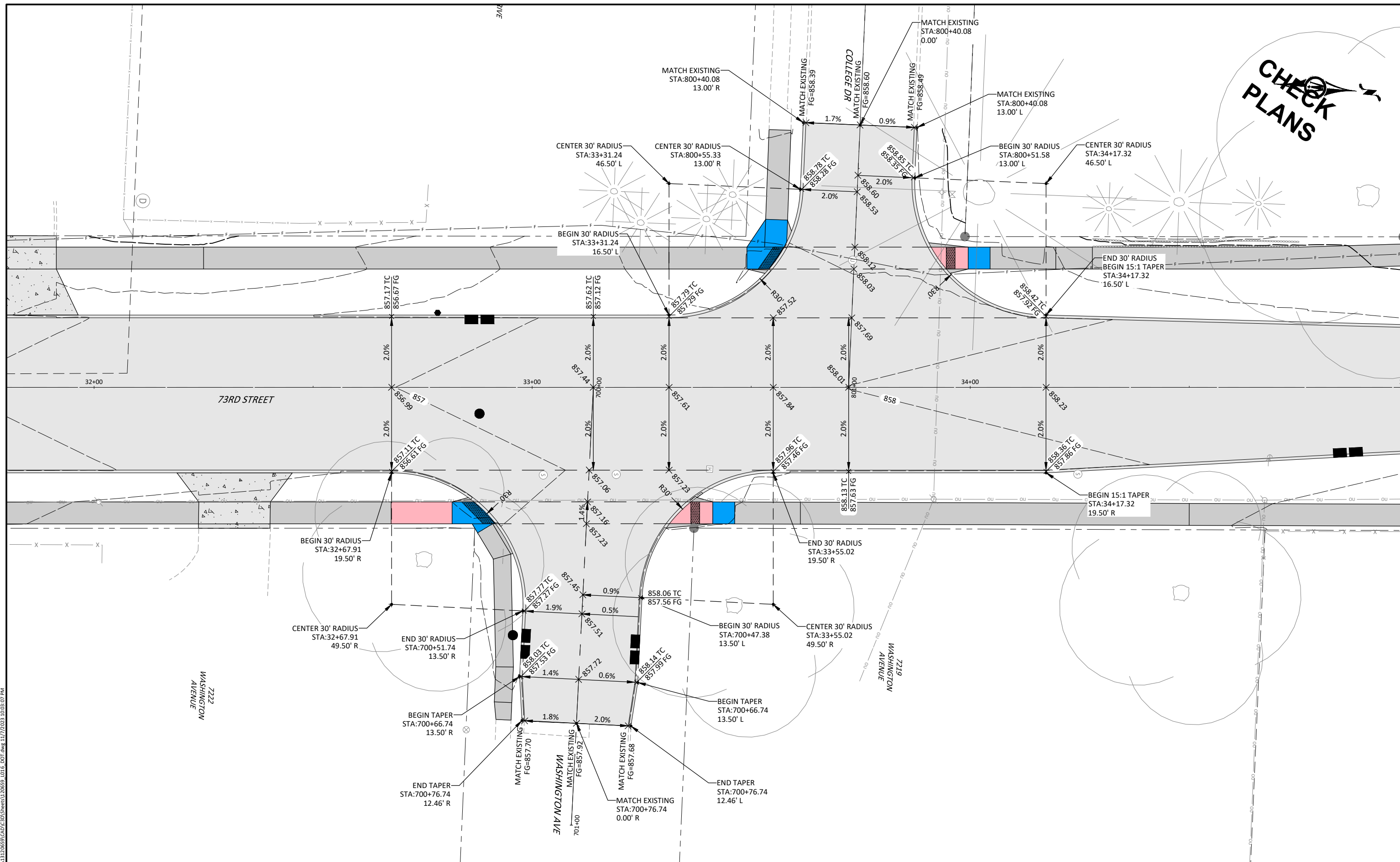


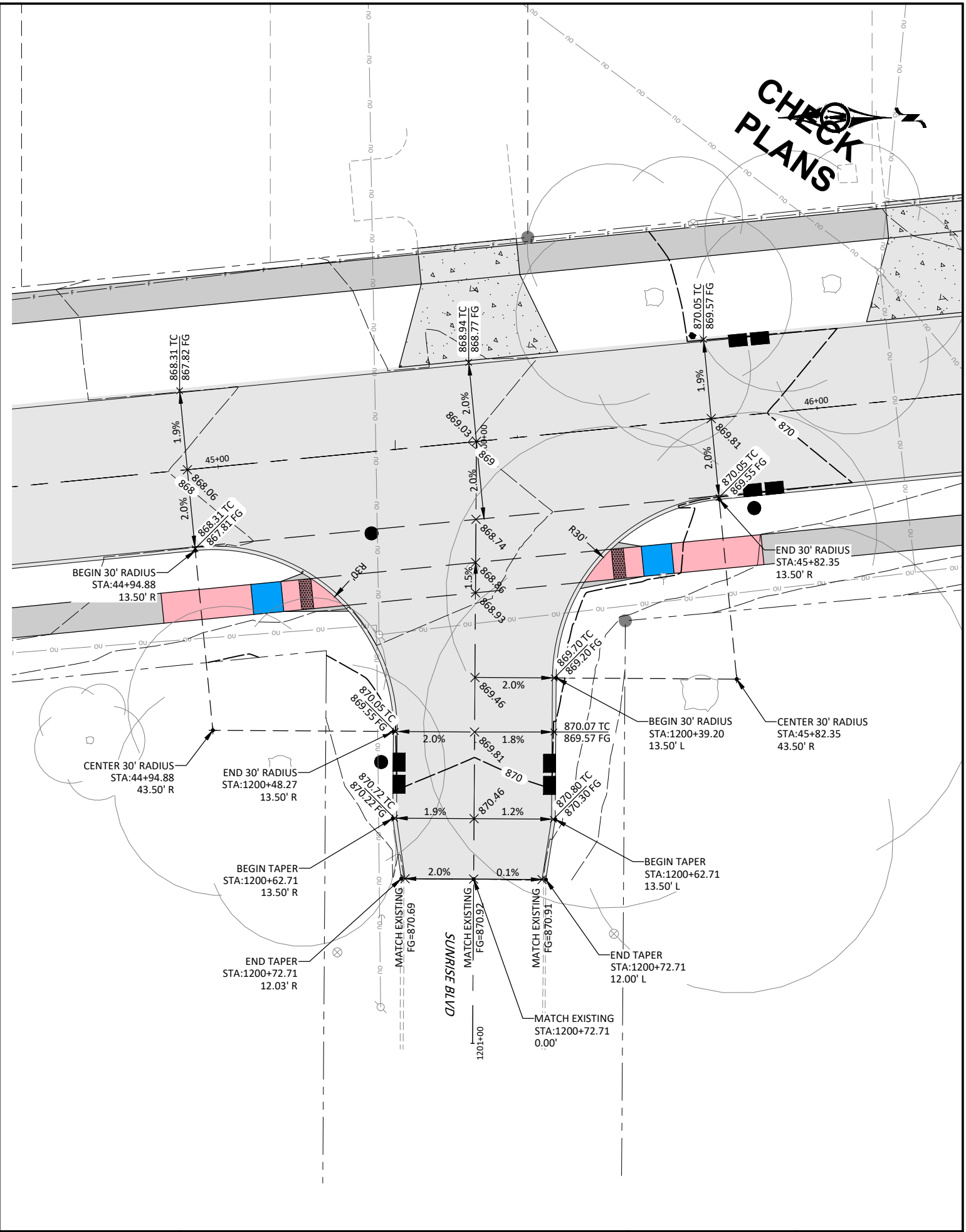
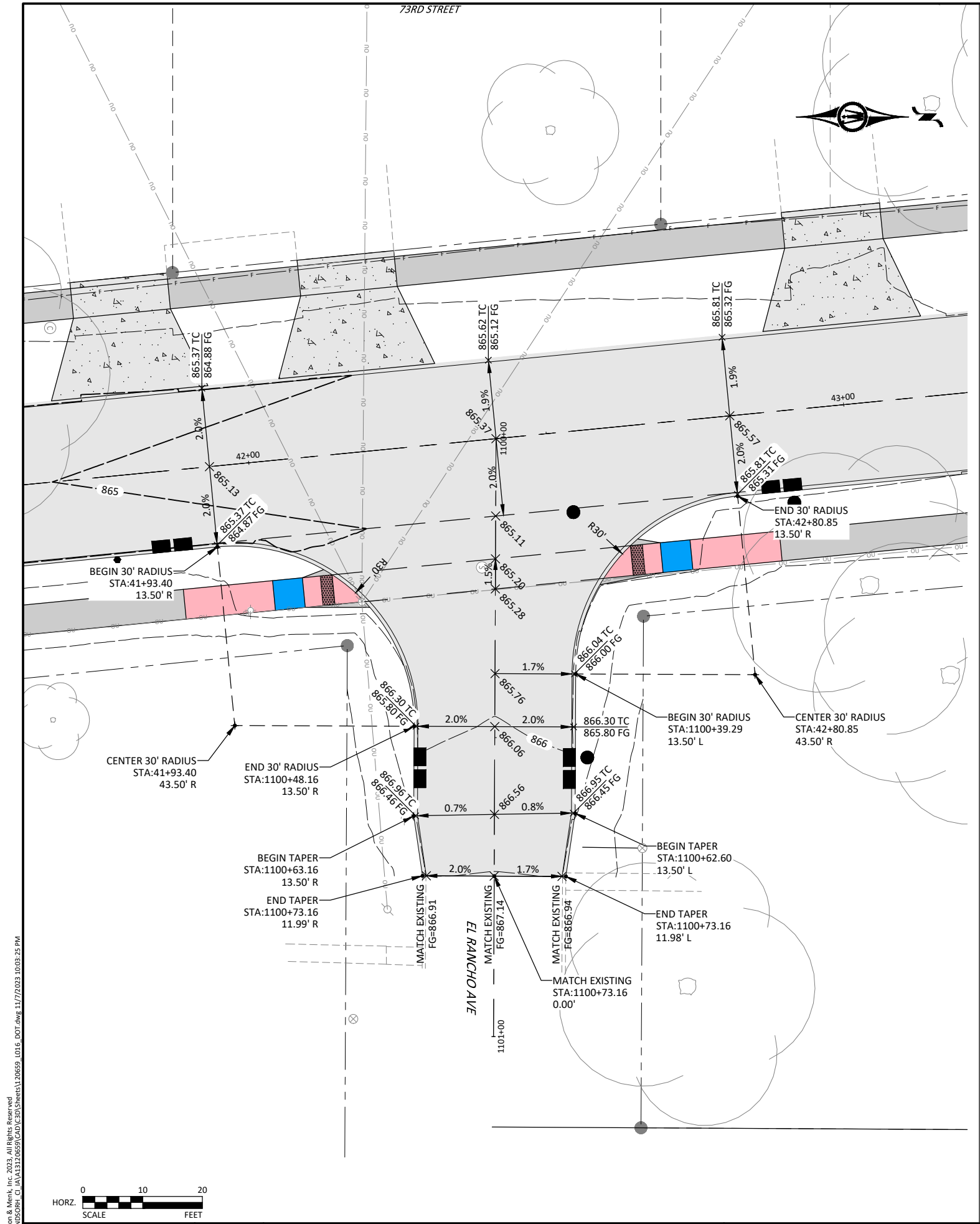


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101E_DOT.dwg 11/7/2023 10:02:56 PM

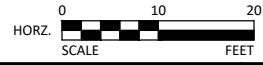


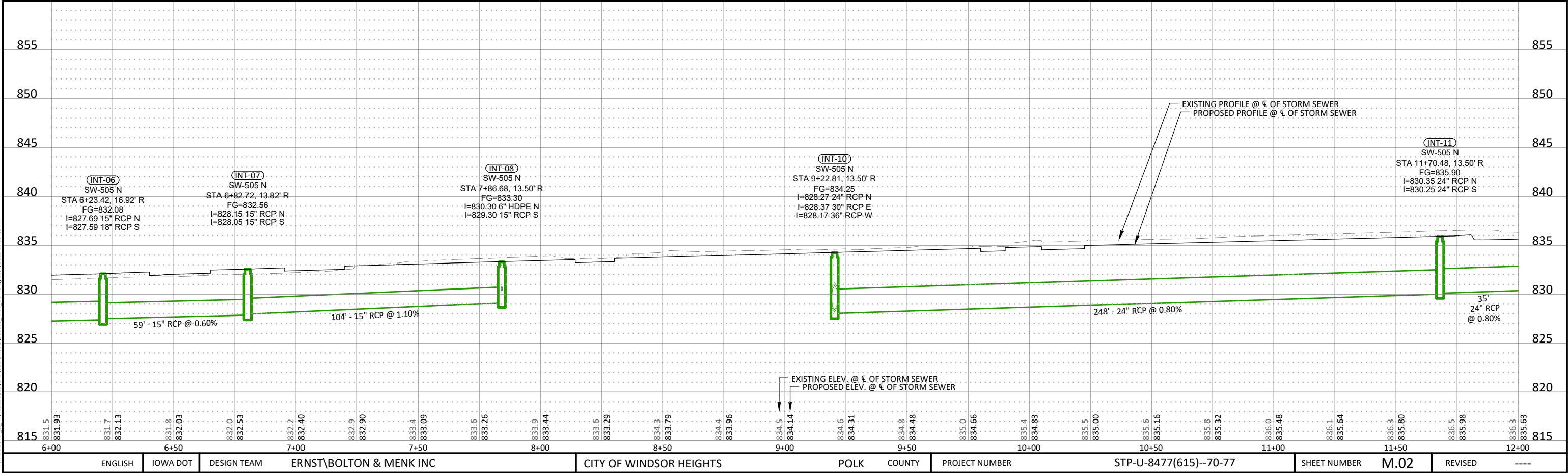
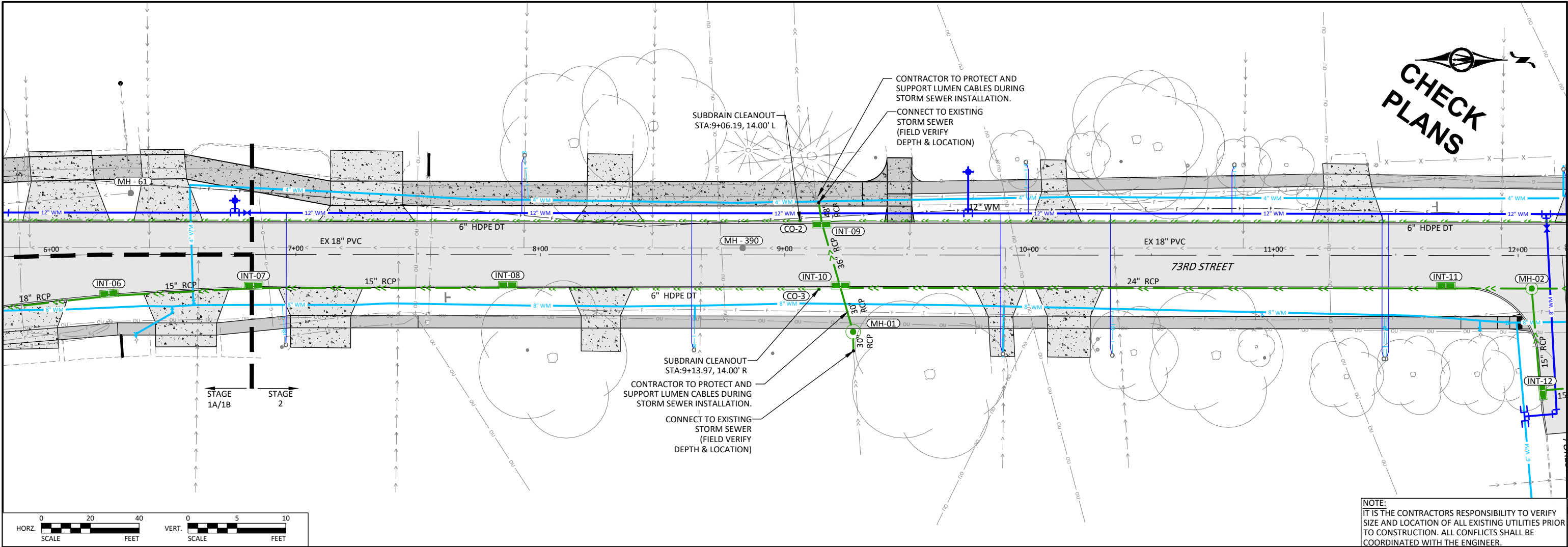
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_101E_DOT.dwg 11/7/2023 10:03:00 PM



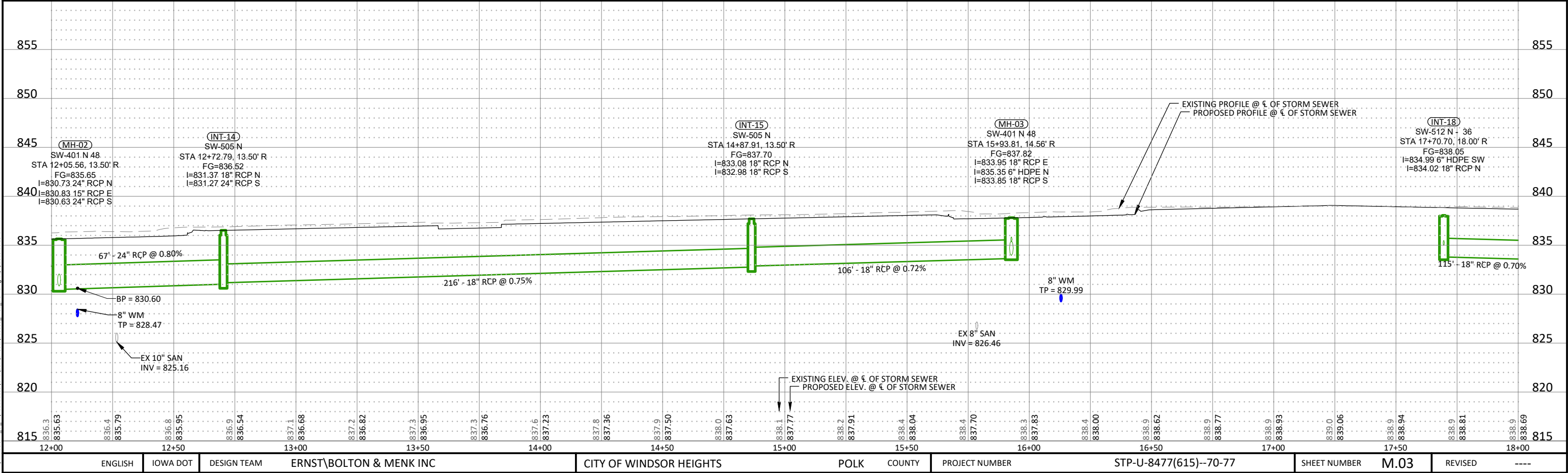
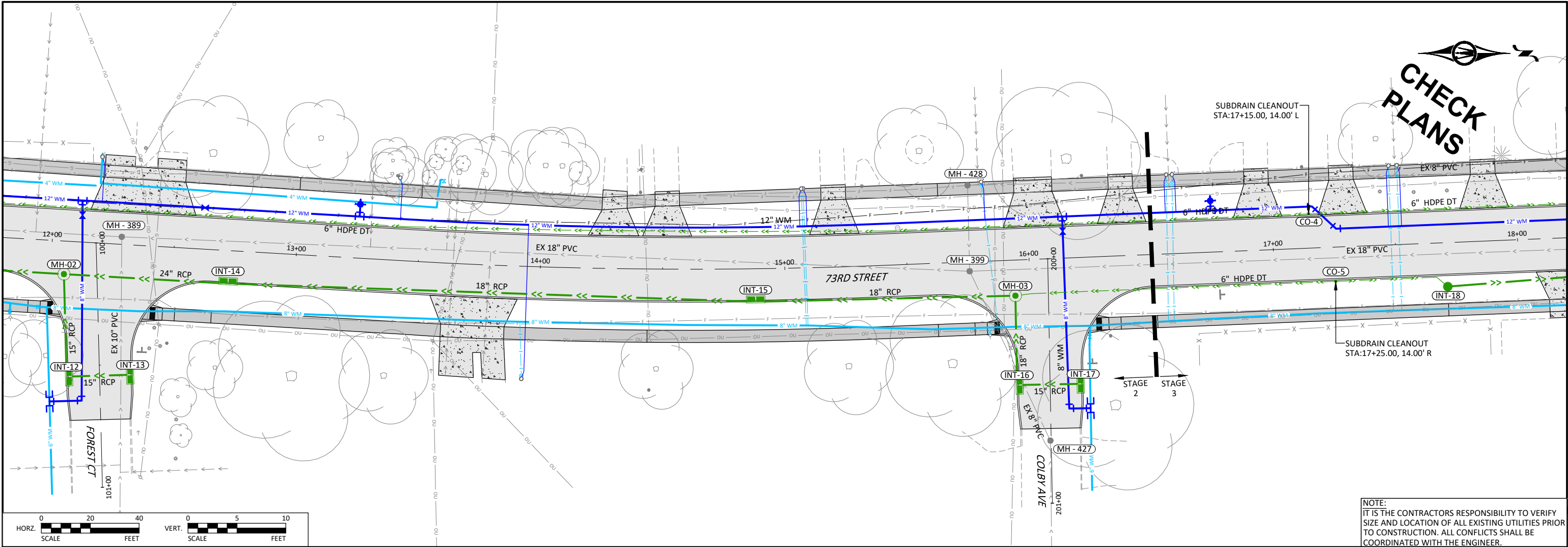


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\LA\1317-0893\CD\Drawings\120859_101E.DOT.dwg 11/7/2023 10:03:25 PM

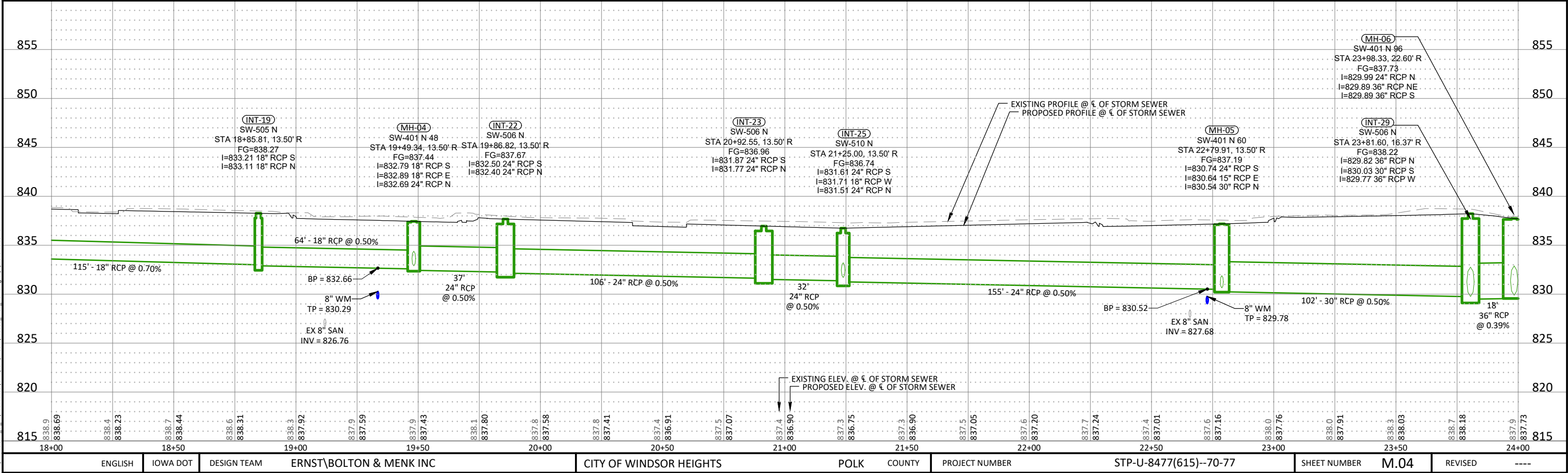
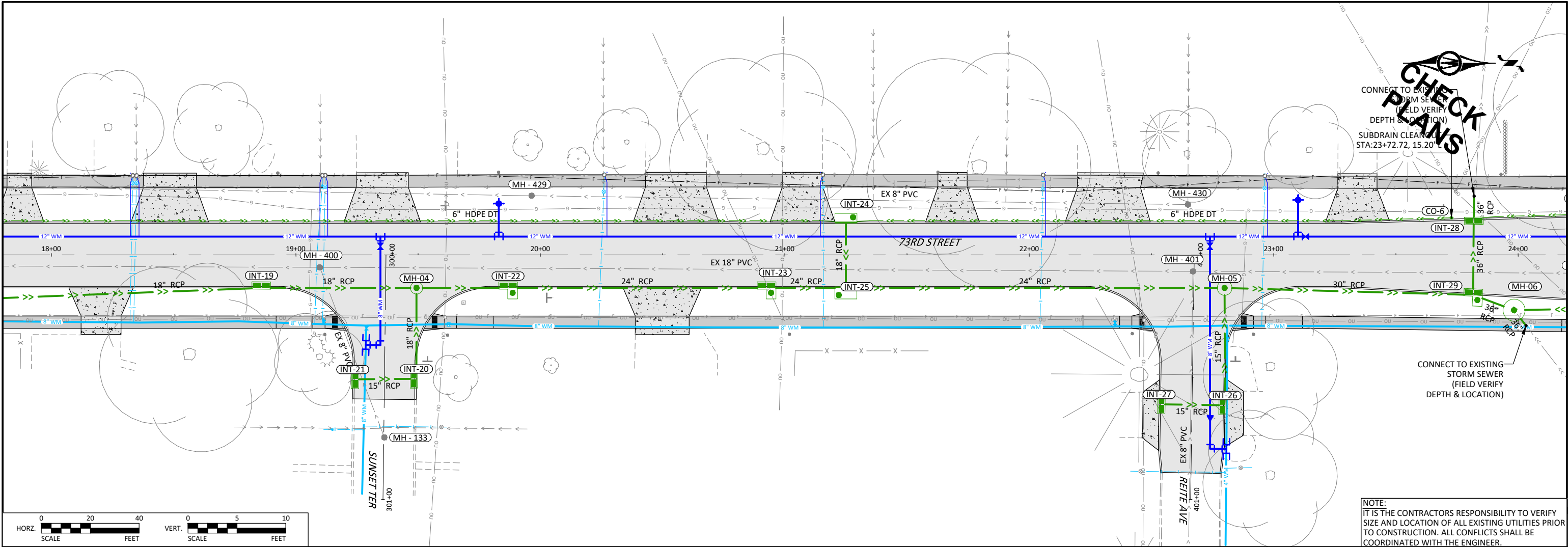




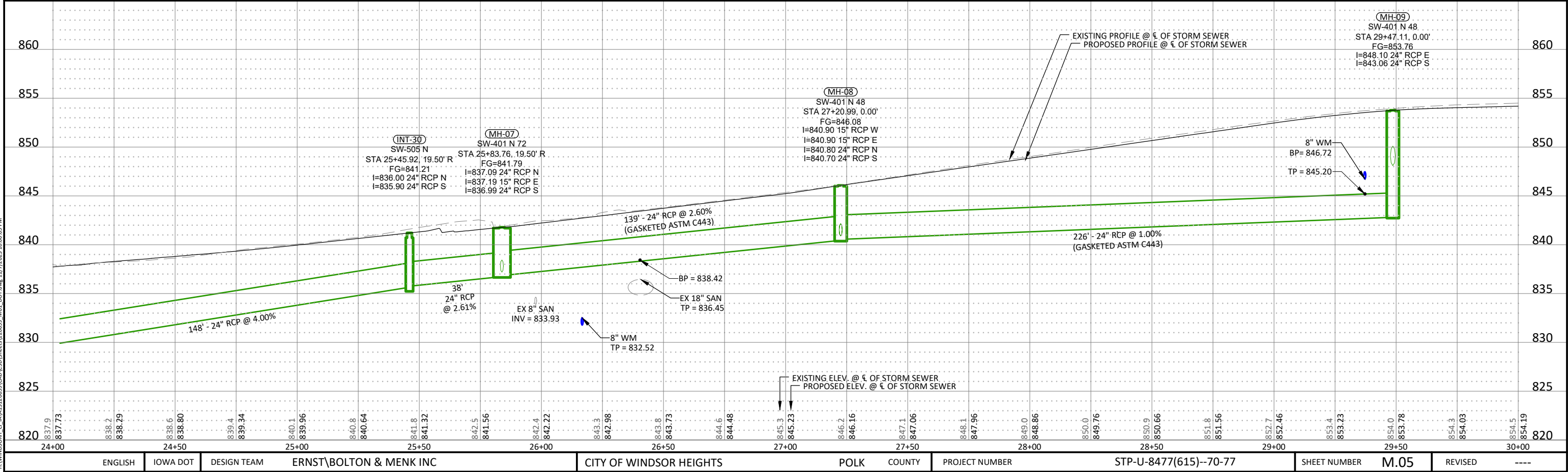
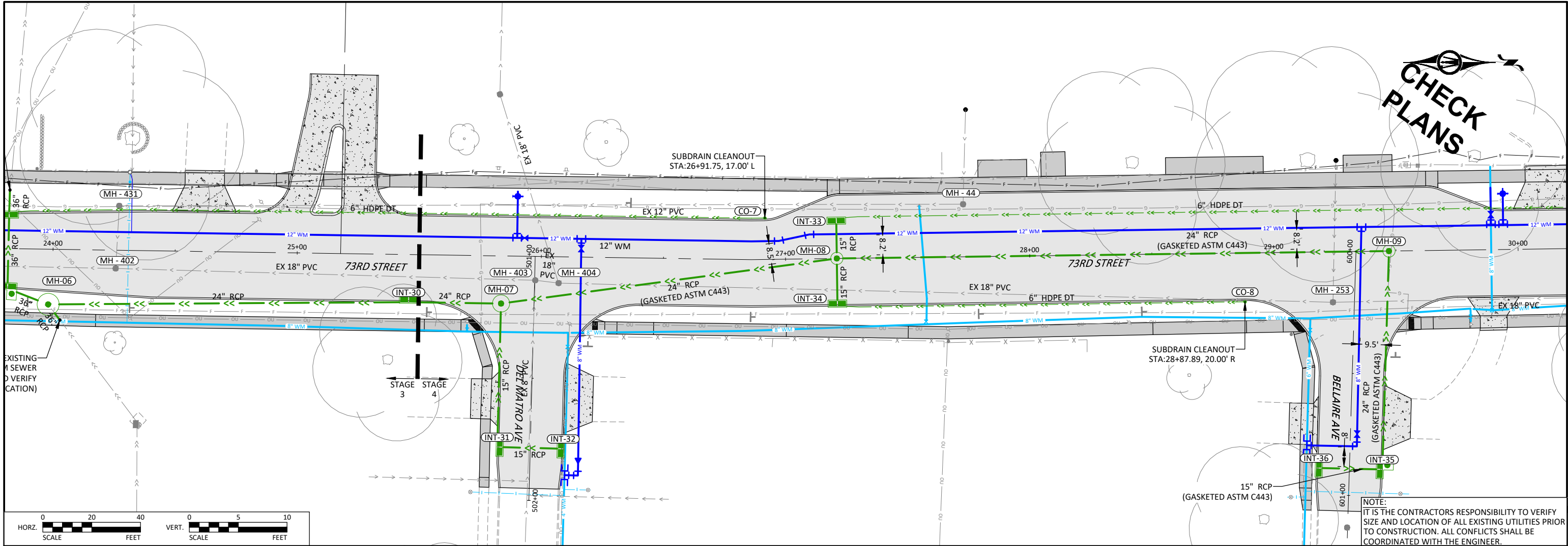
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:05:05 PM

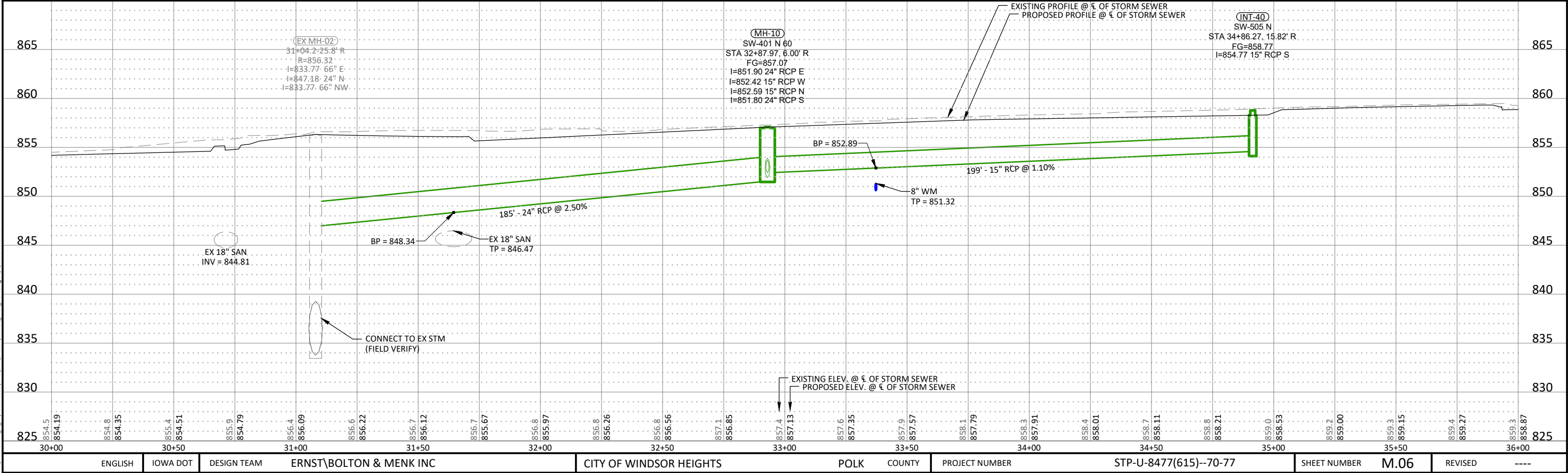
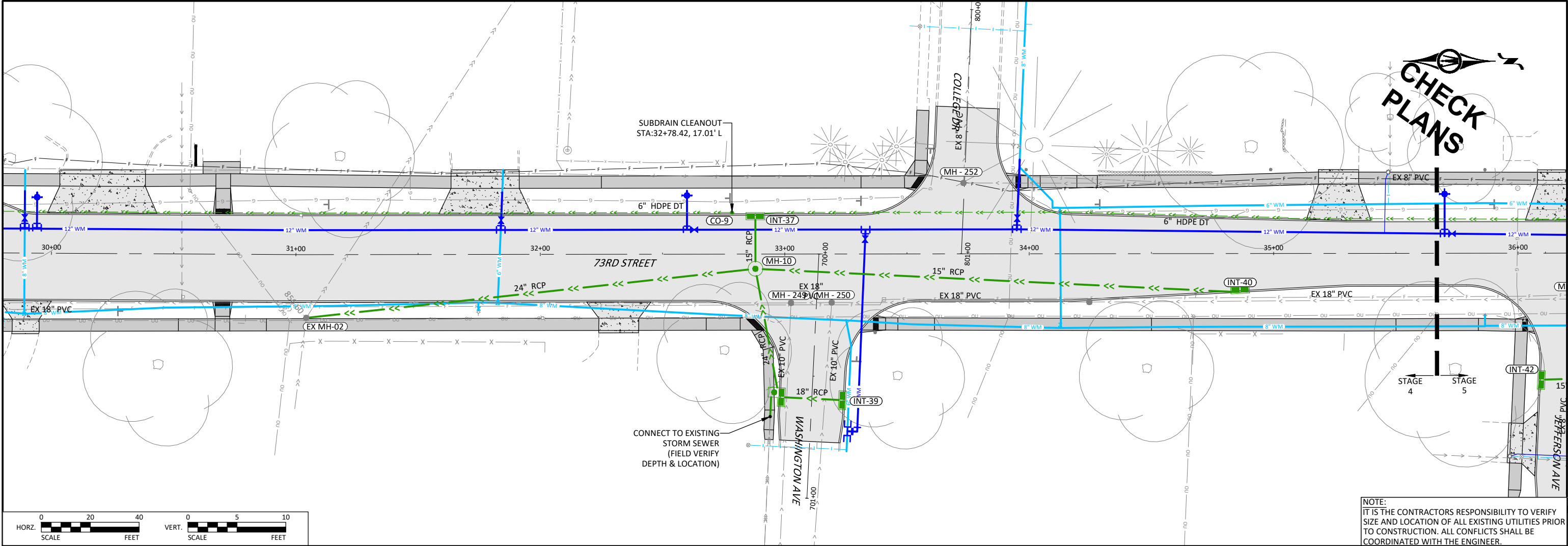


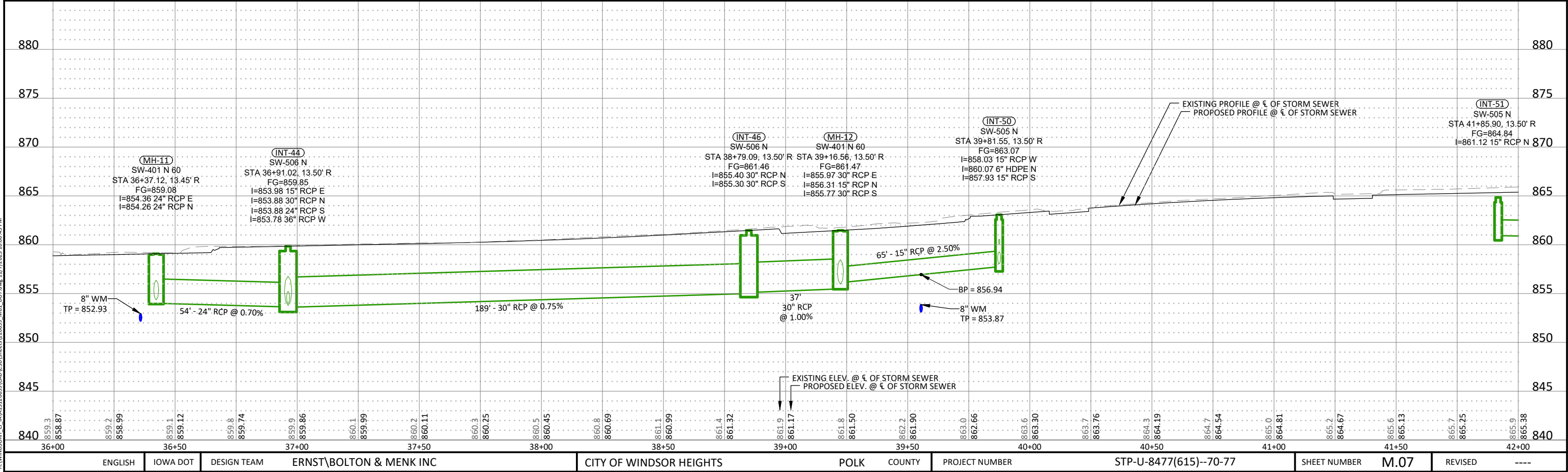
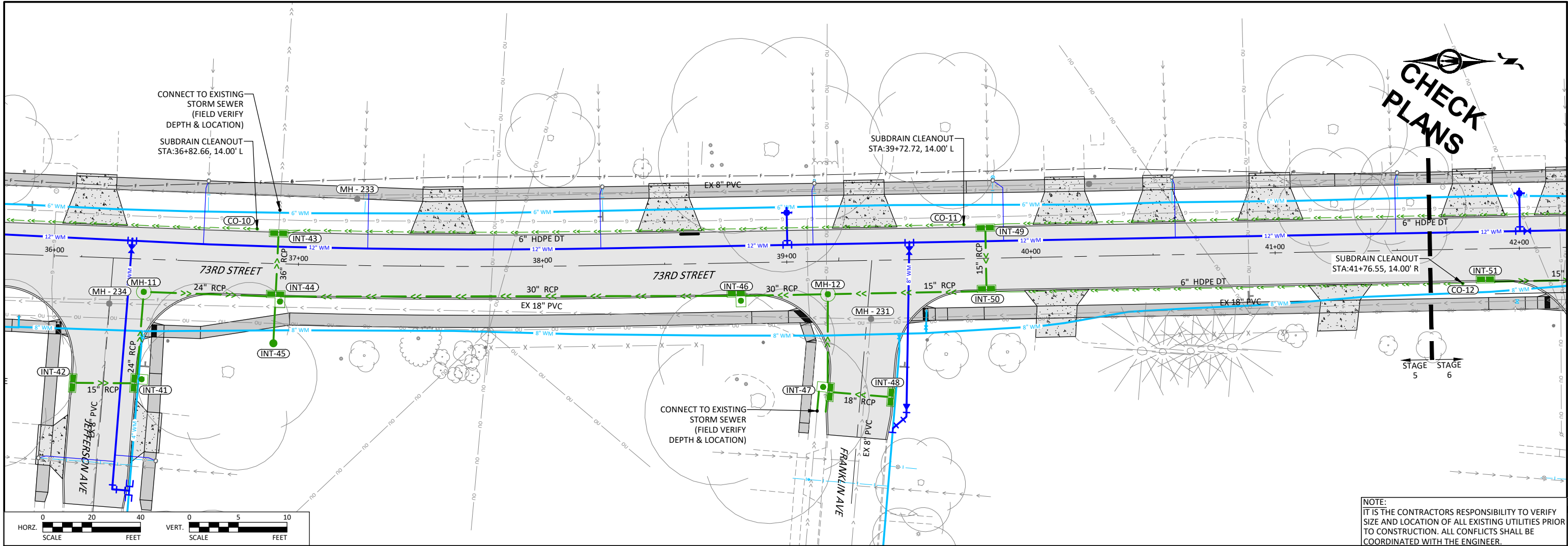
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:05:24 PM



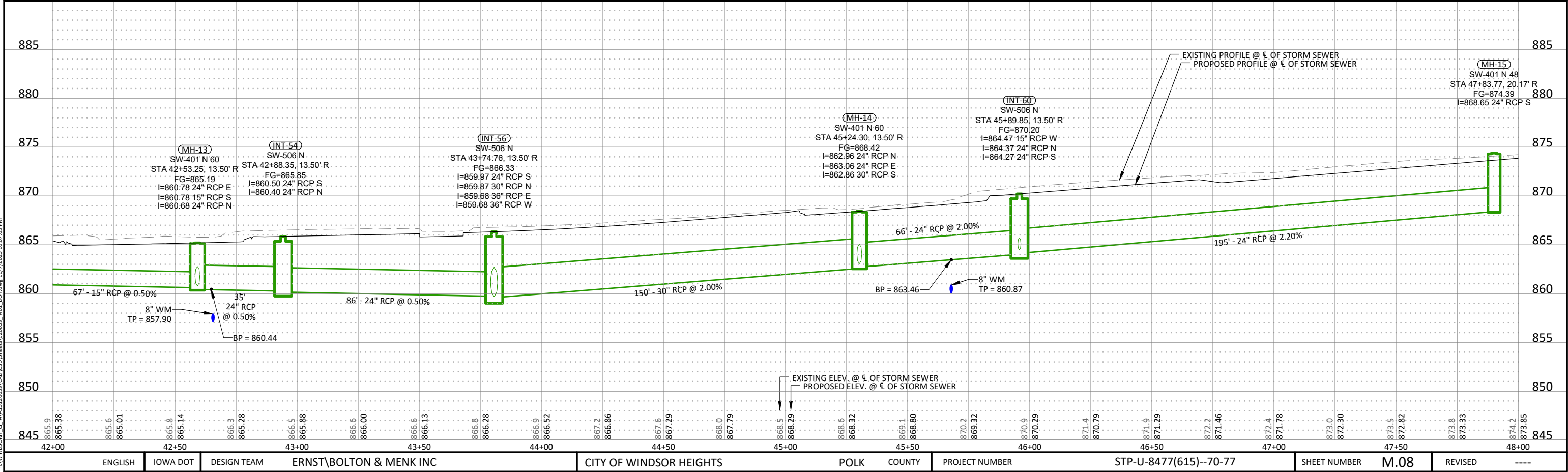
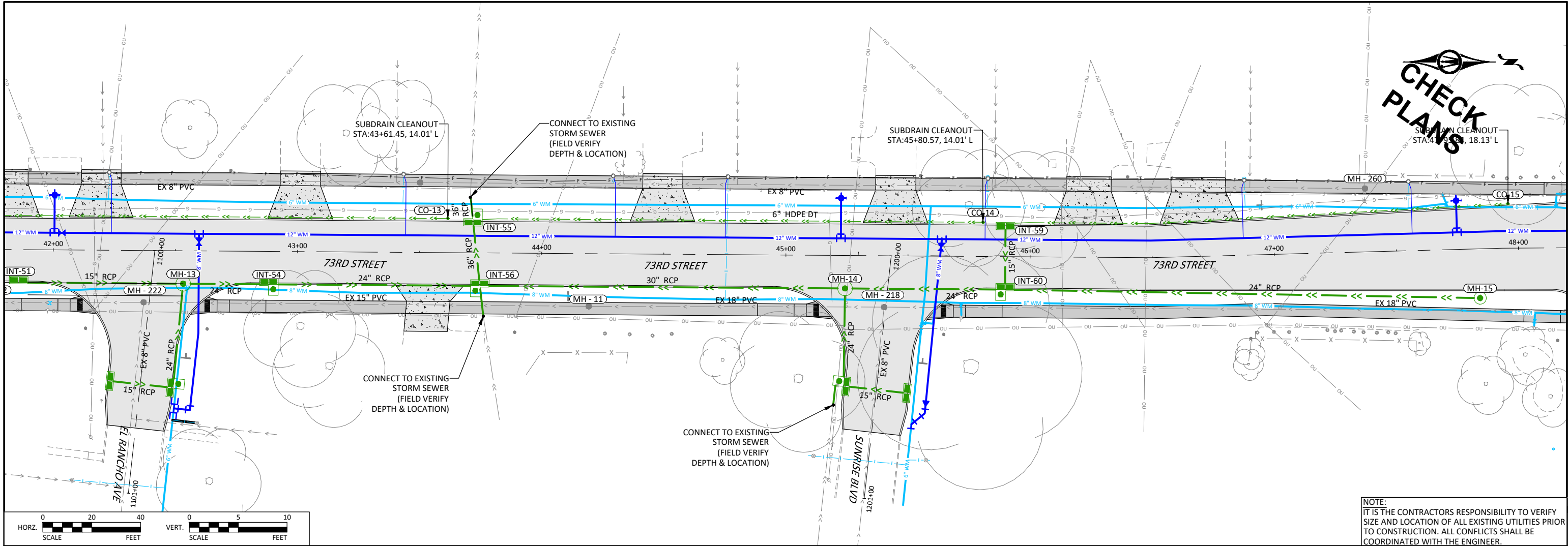
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_401_DOT.dwg 11/7/2023 10:05:45 PM



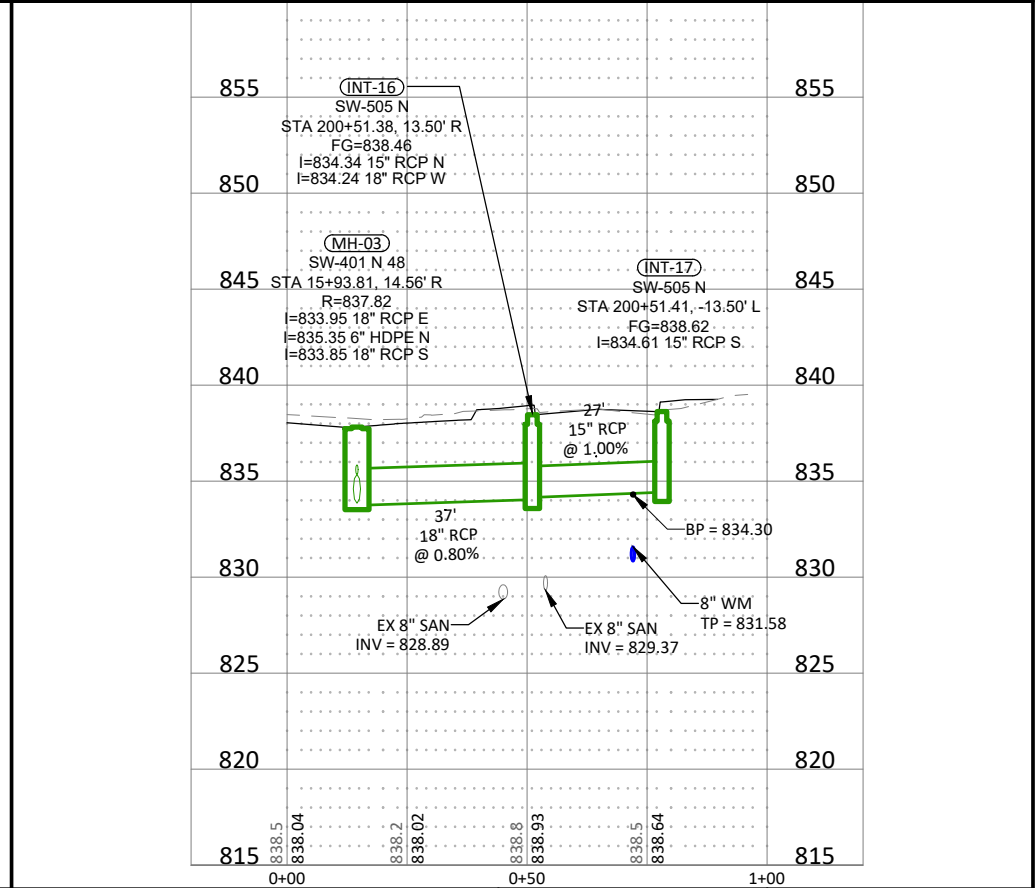
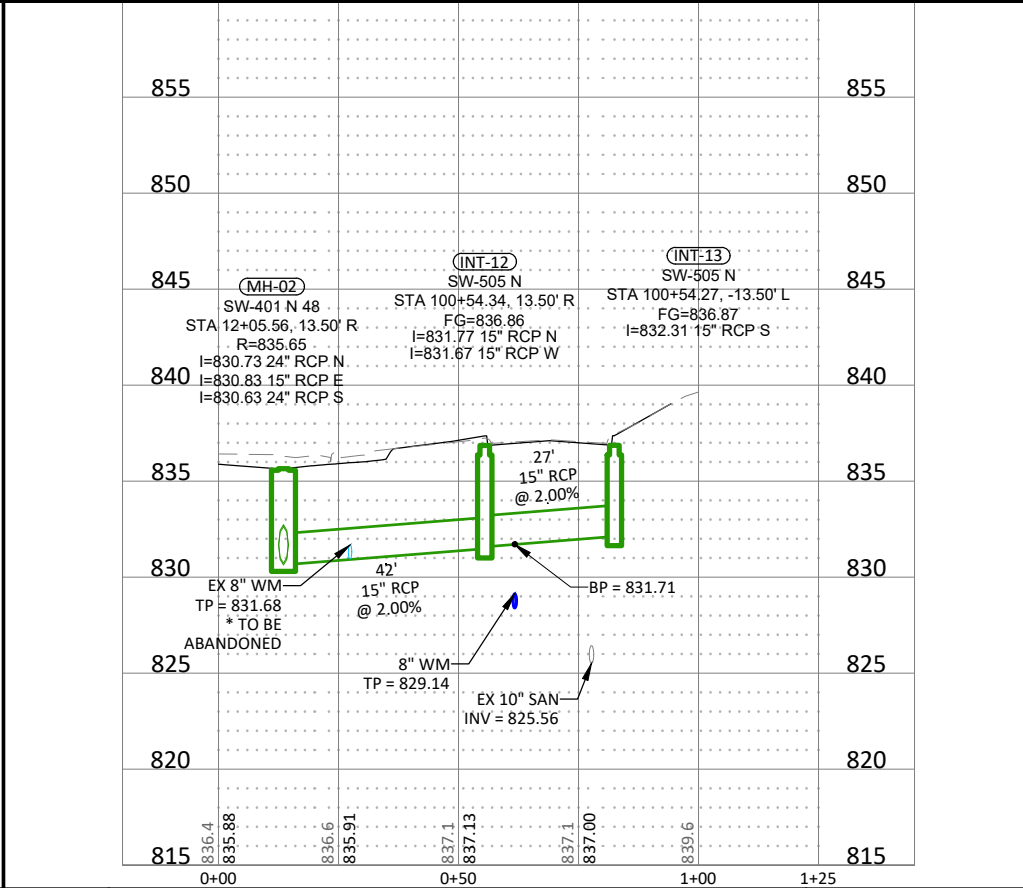
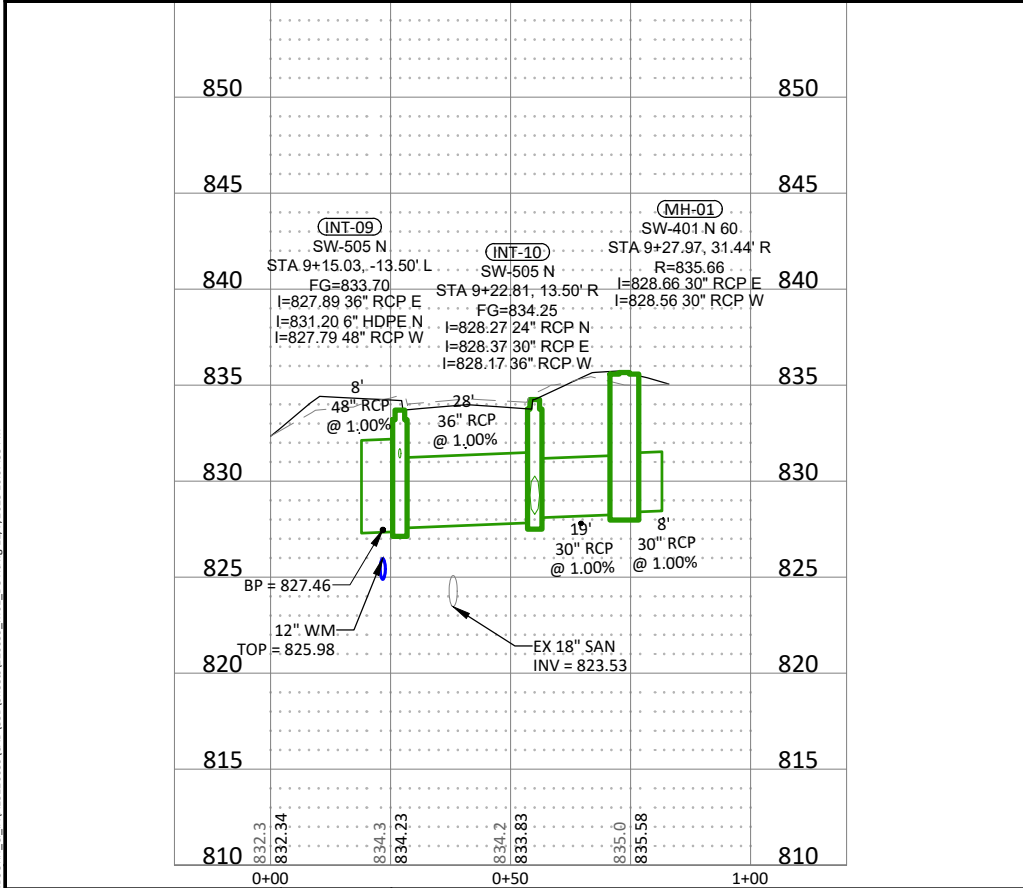
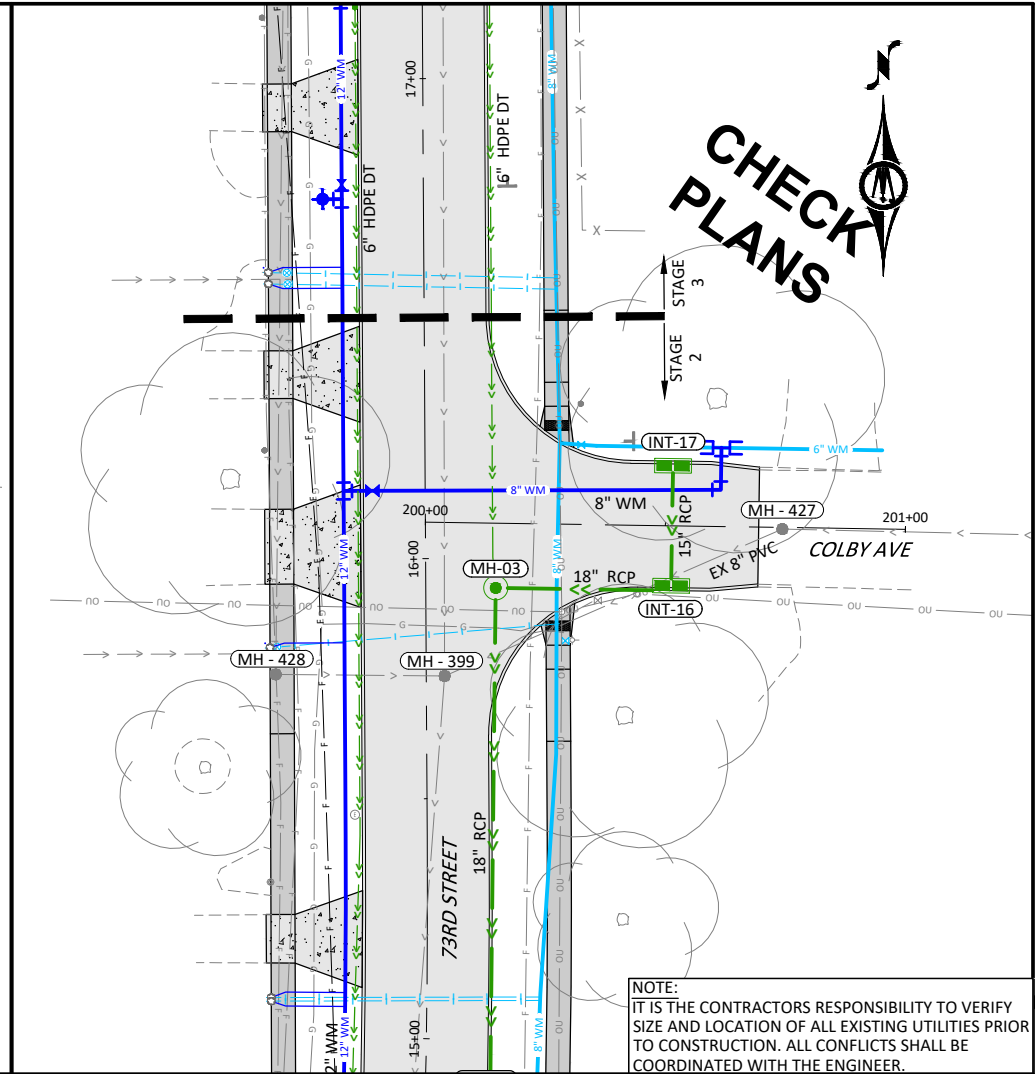
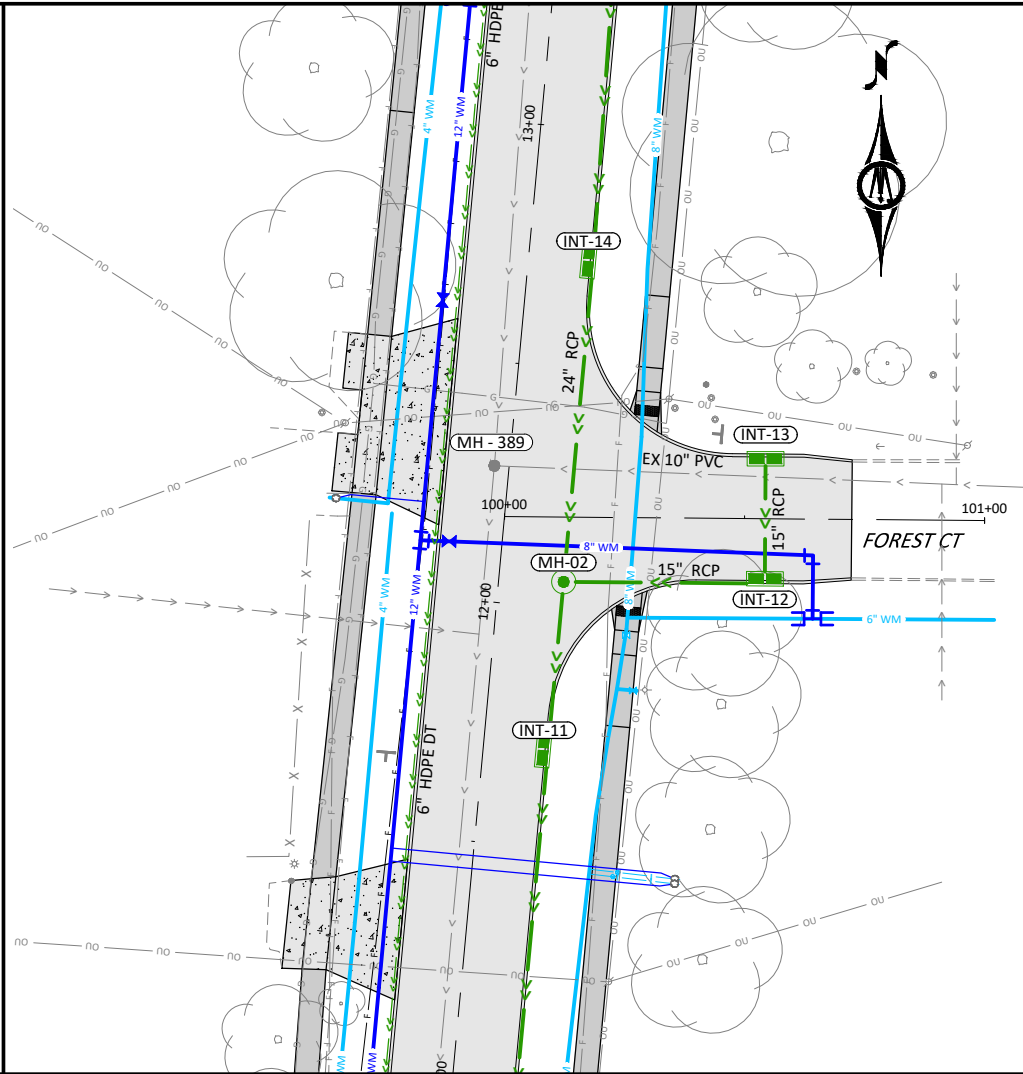
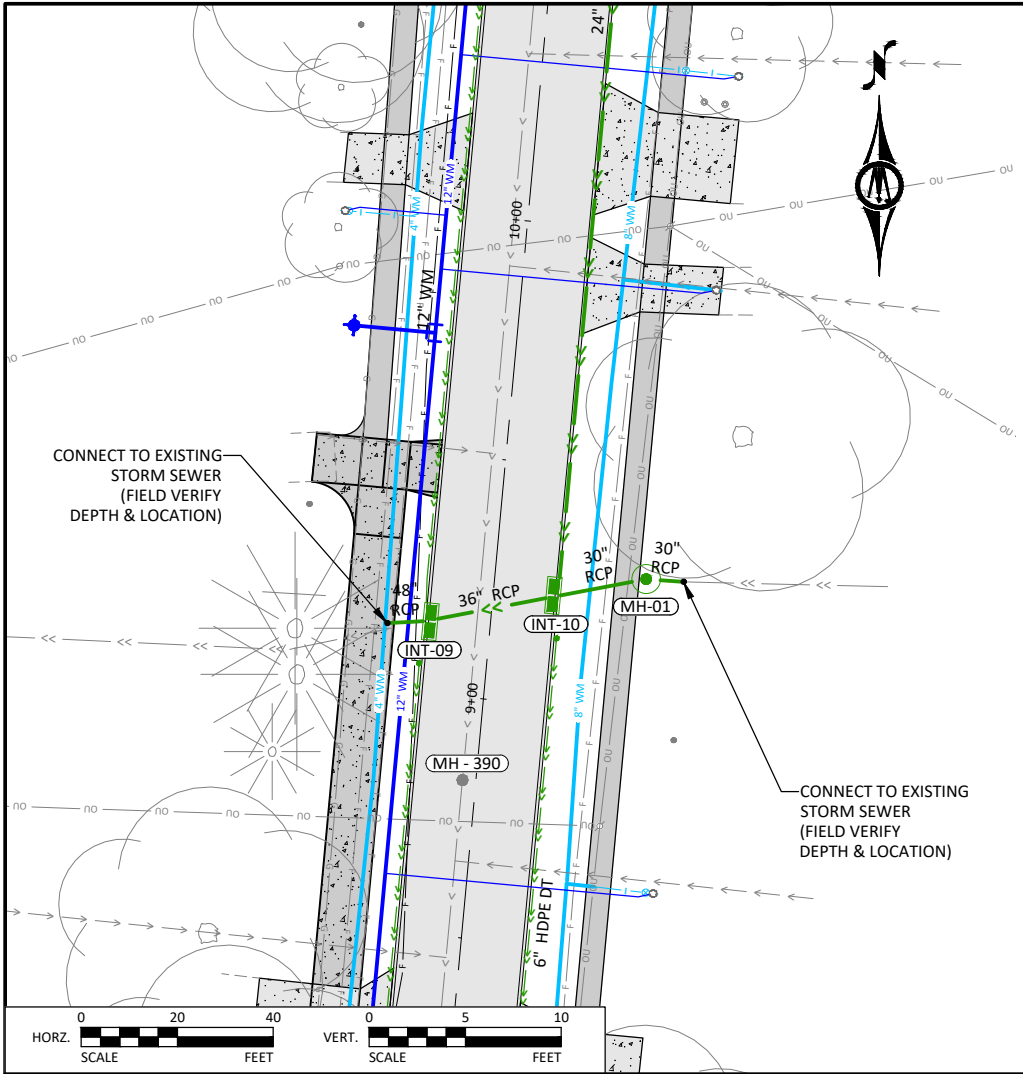




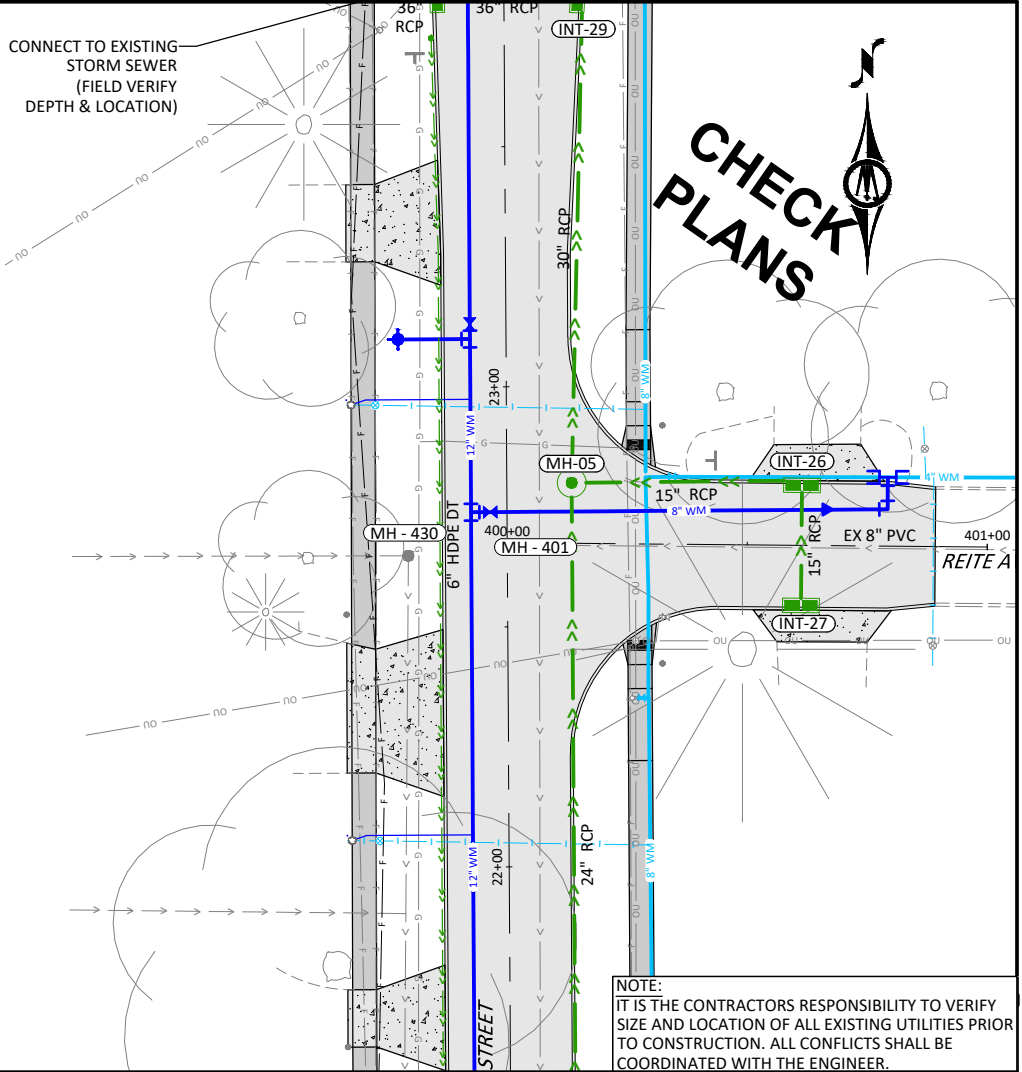
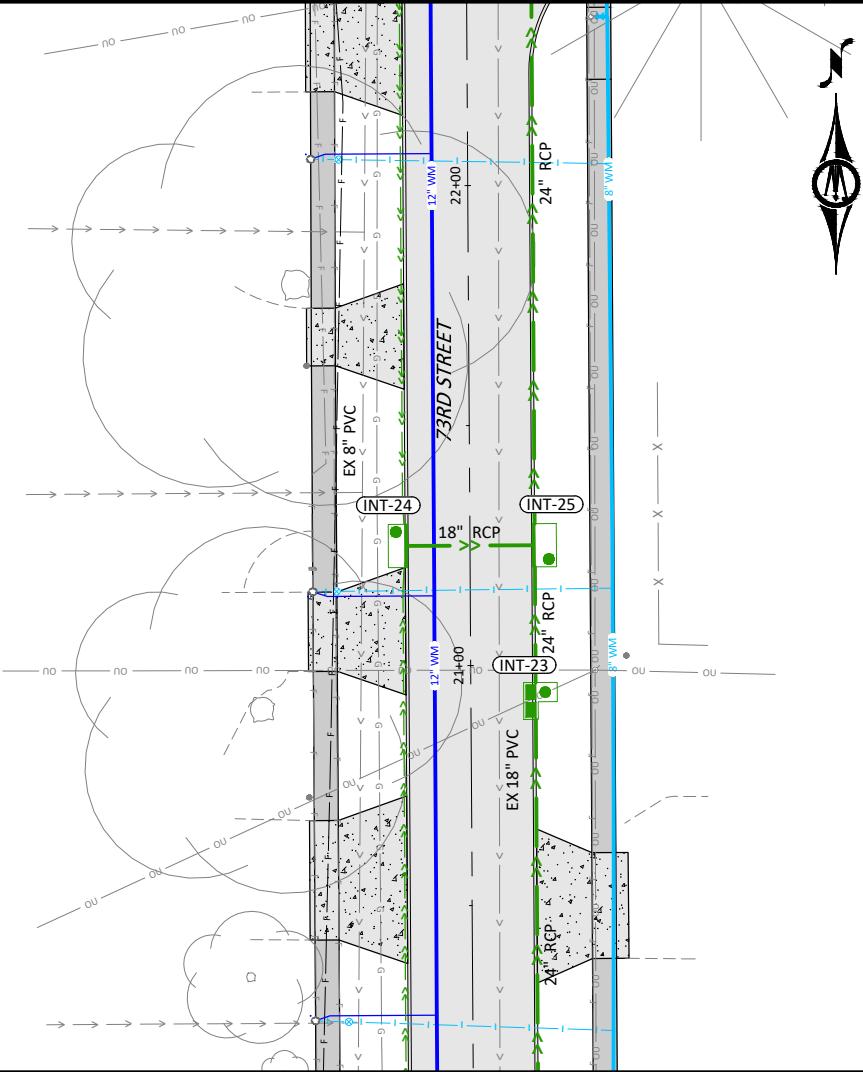
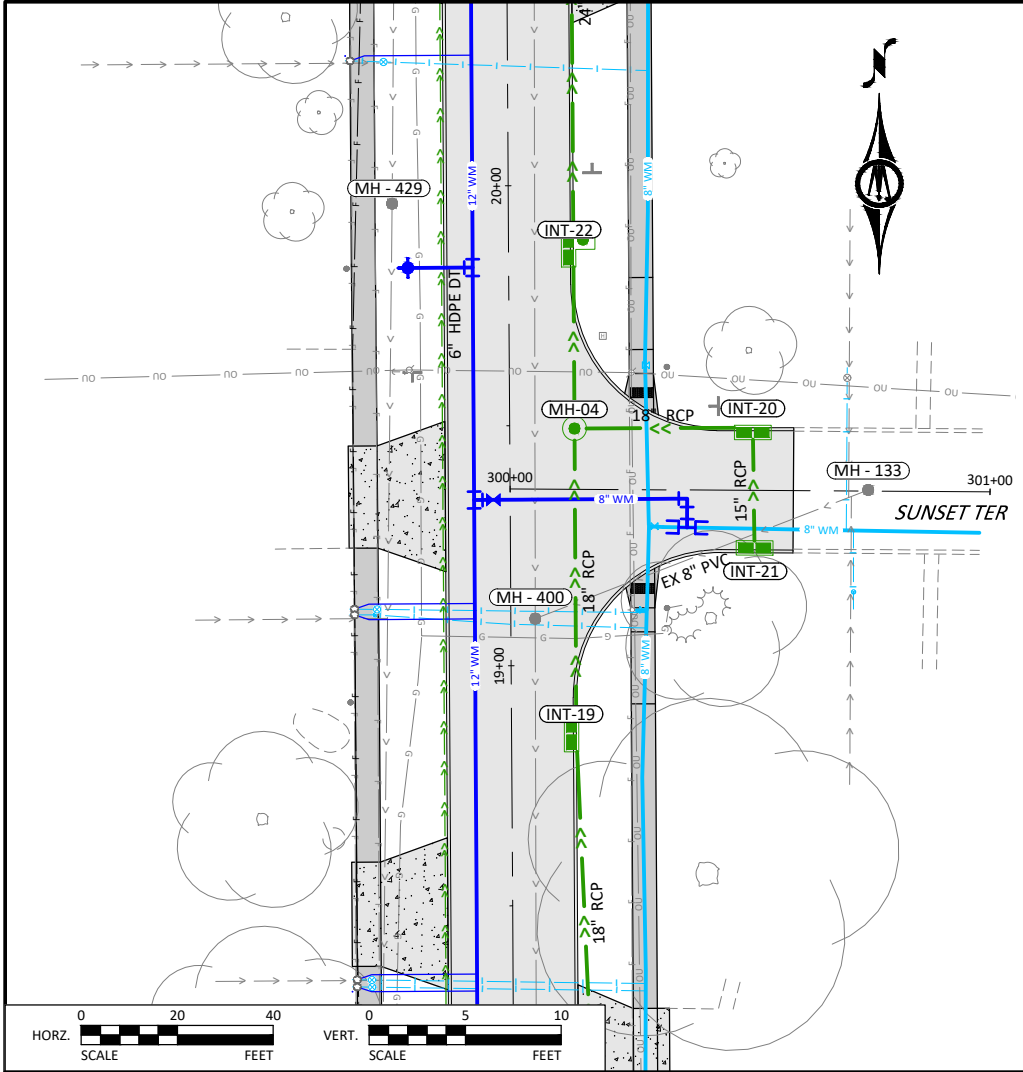
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_401_DOT.dwg 11/7/2023 10:06:45 PM



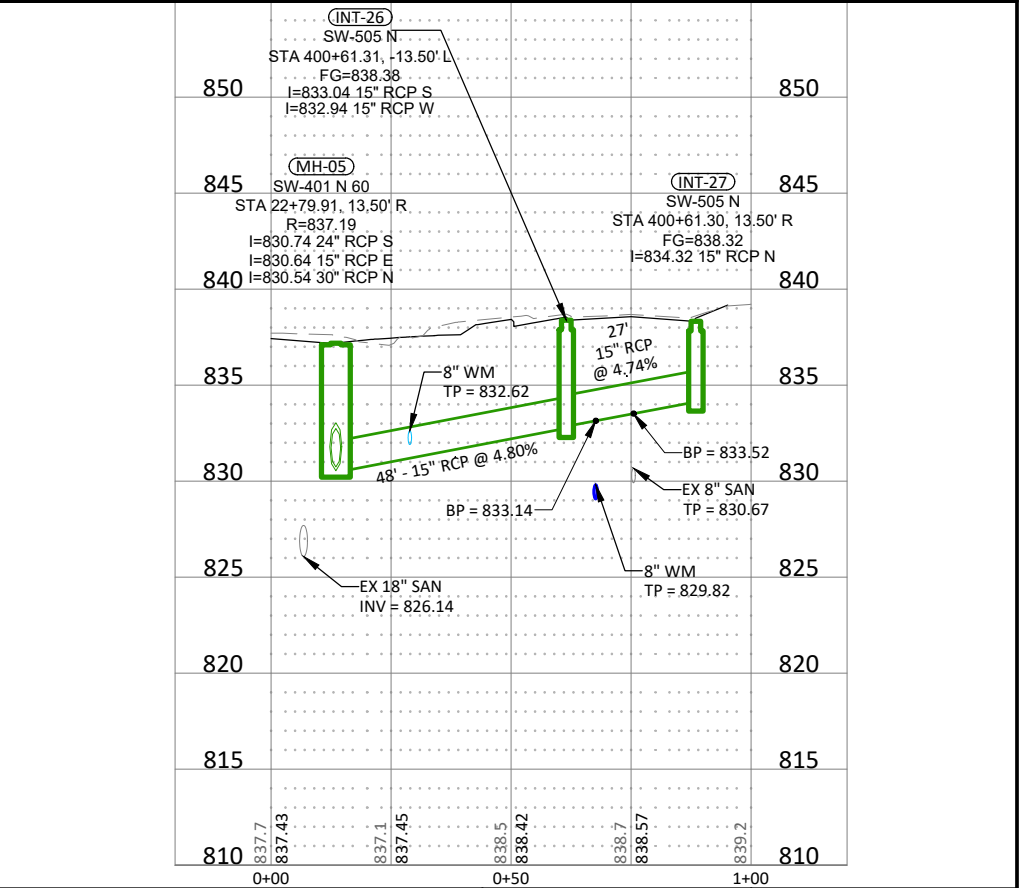
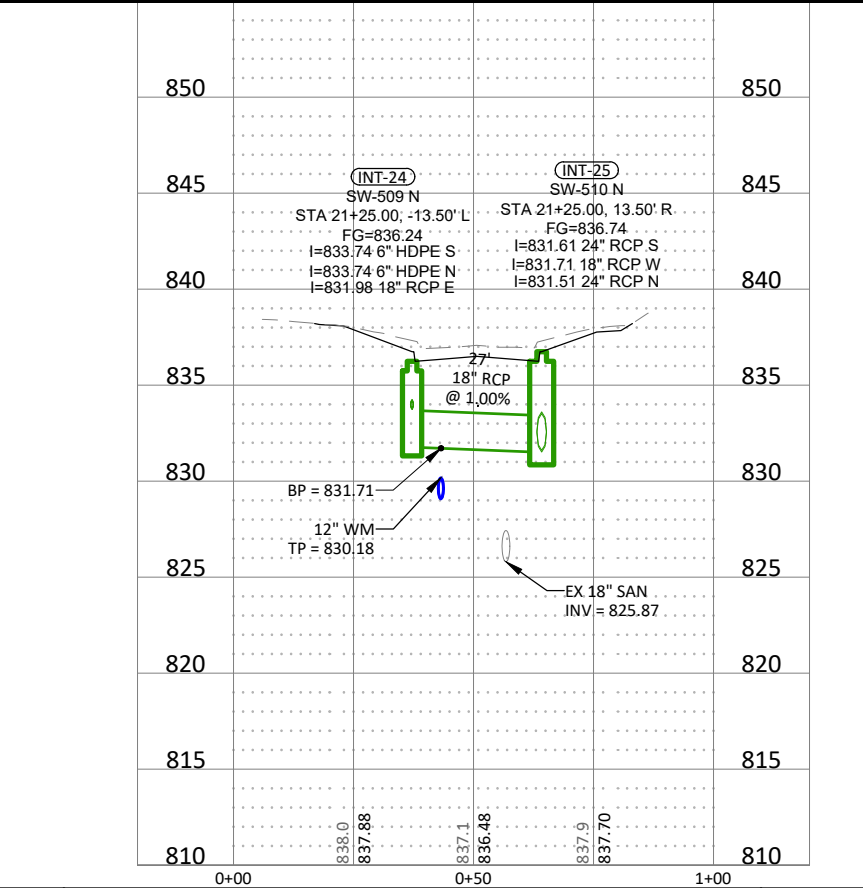
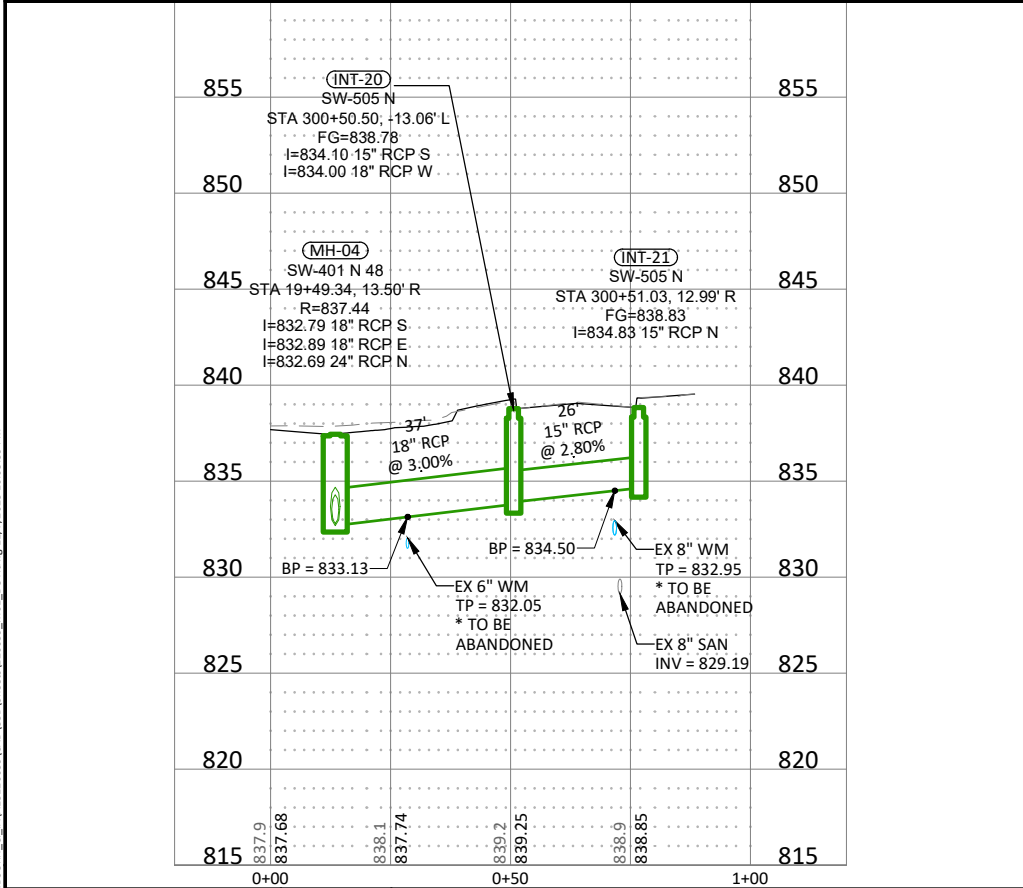
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:07:05 PM



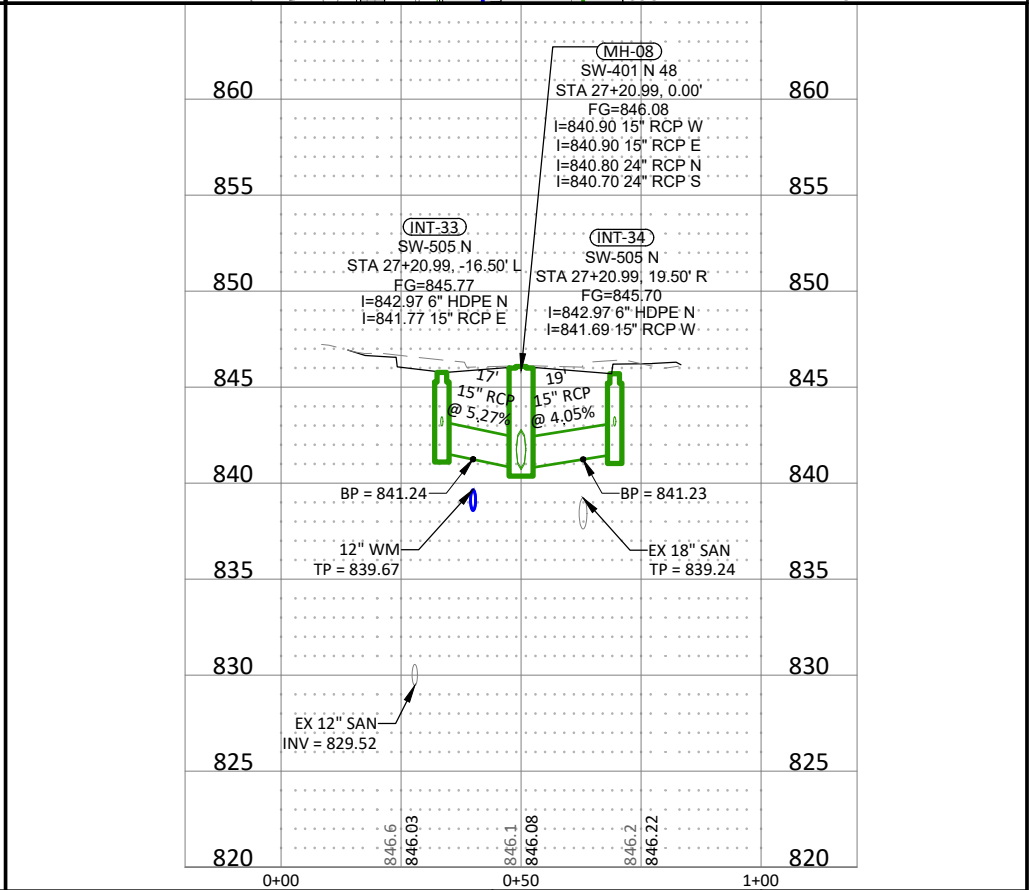
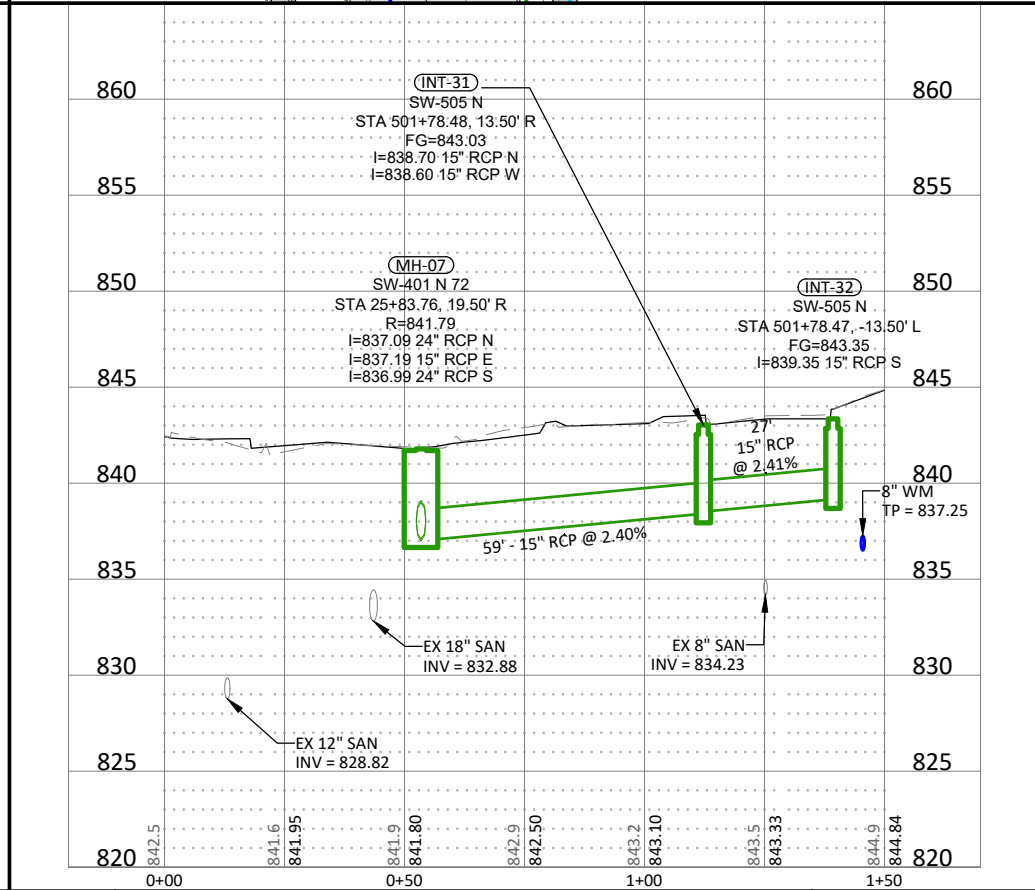
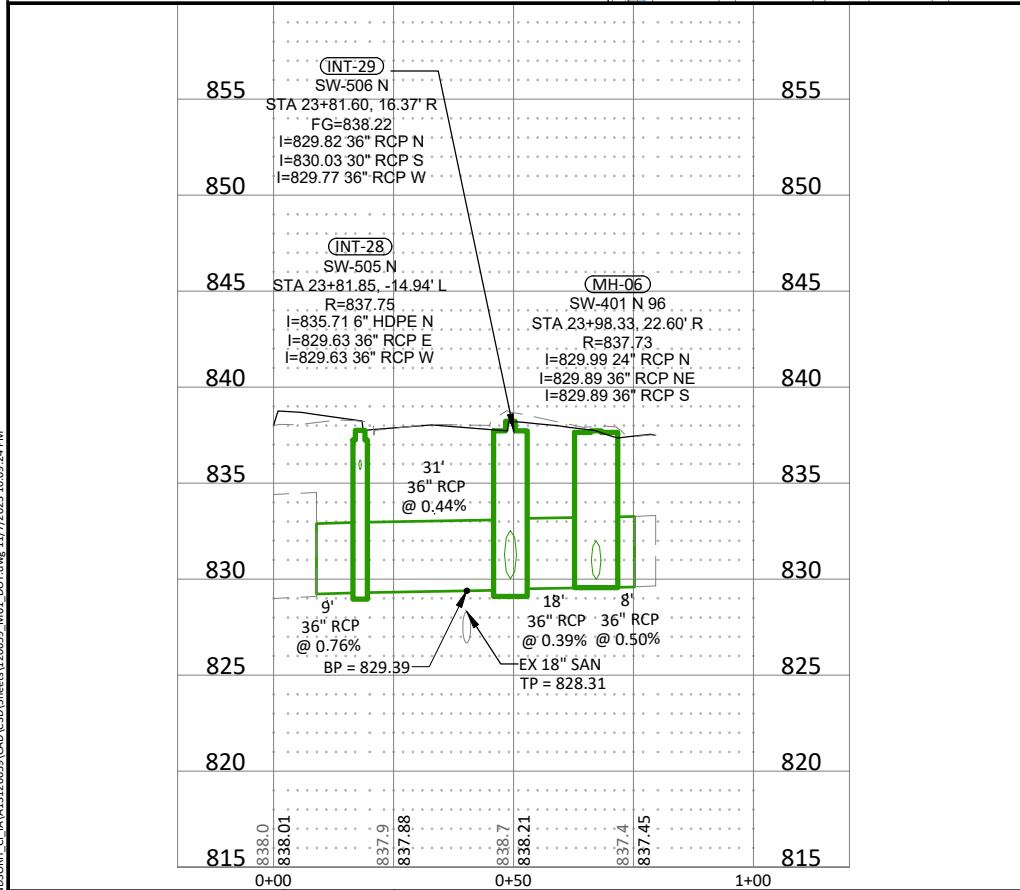
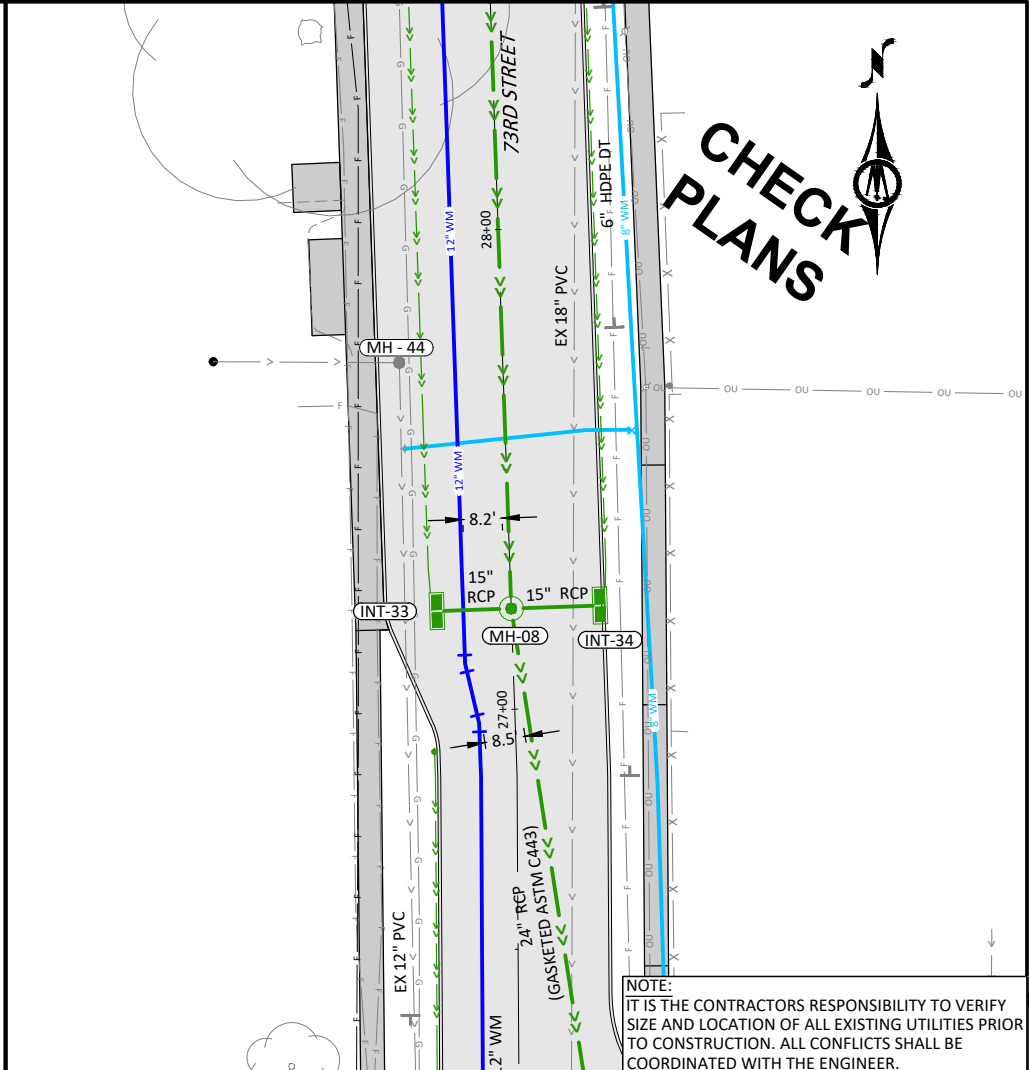
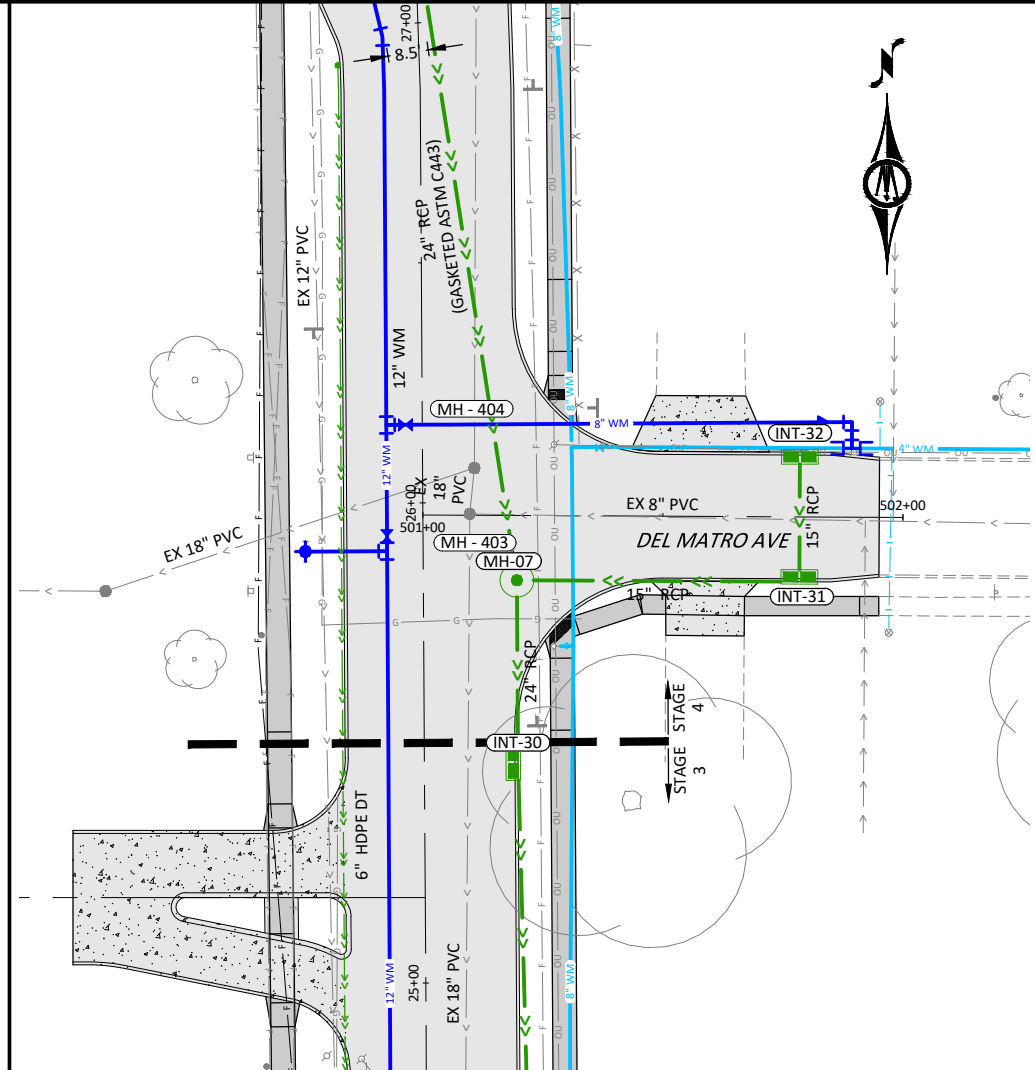
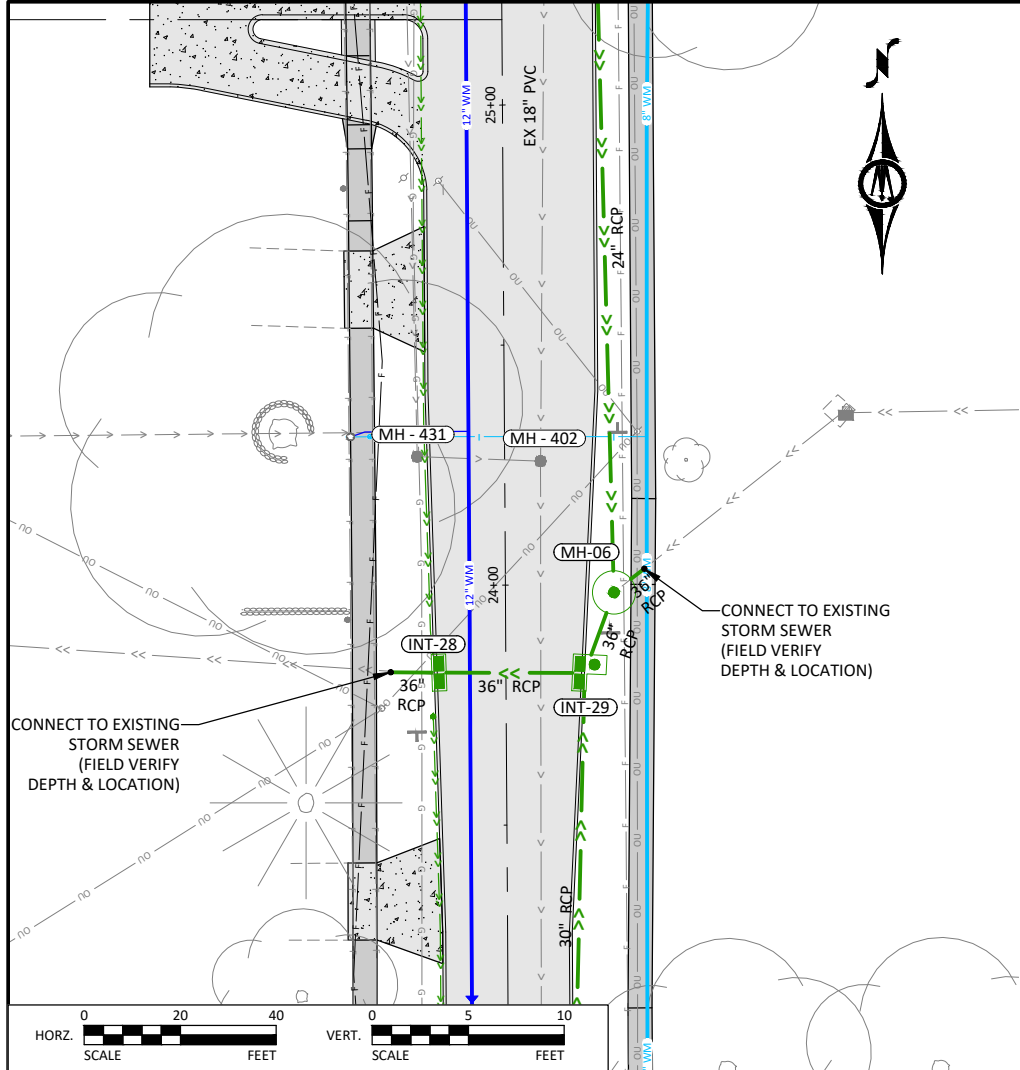
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:07:53 PM



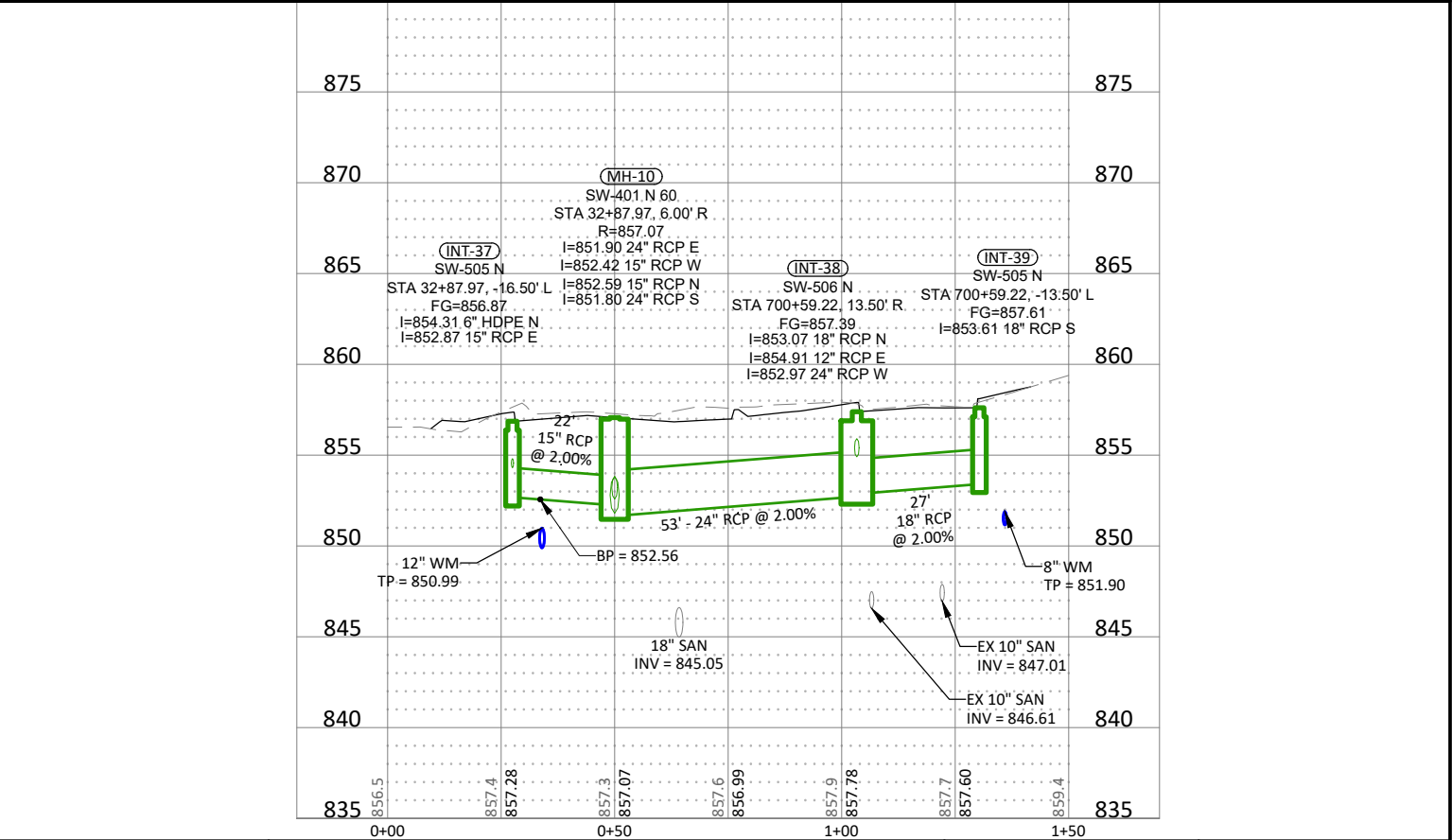
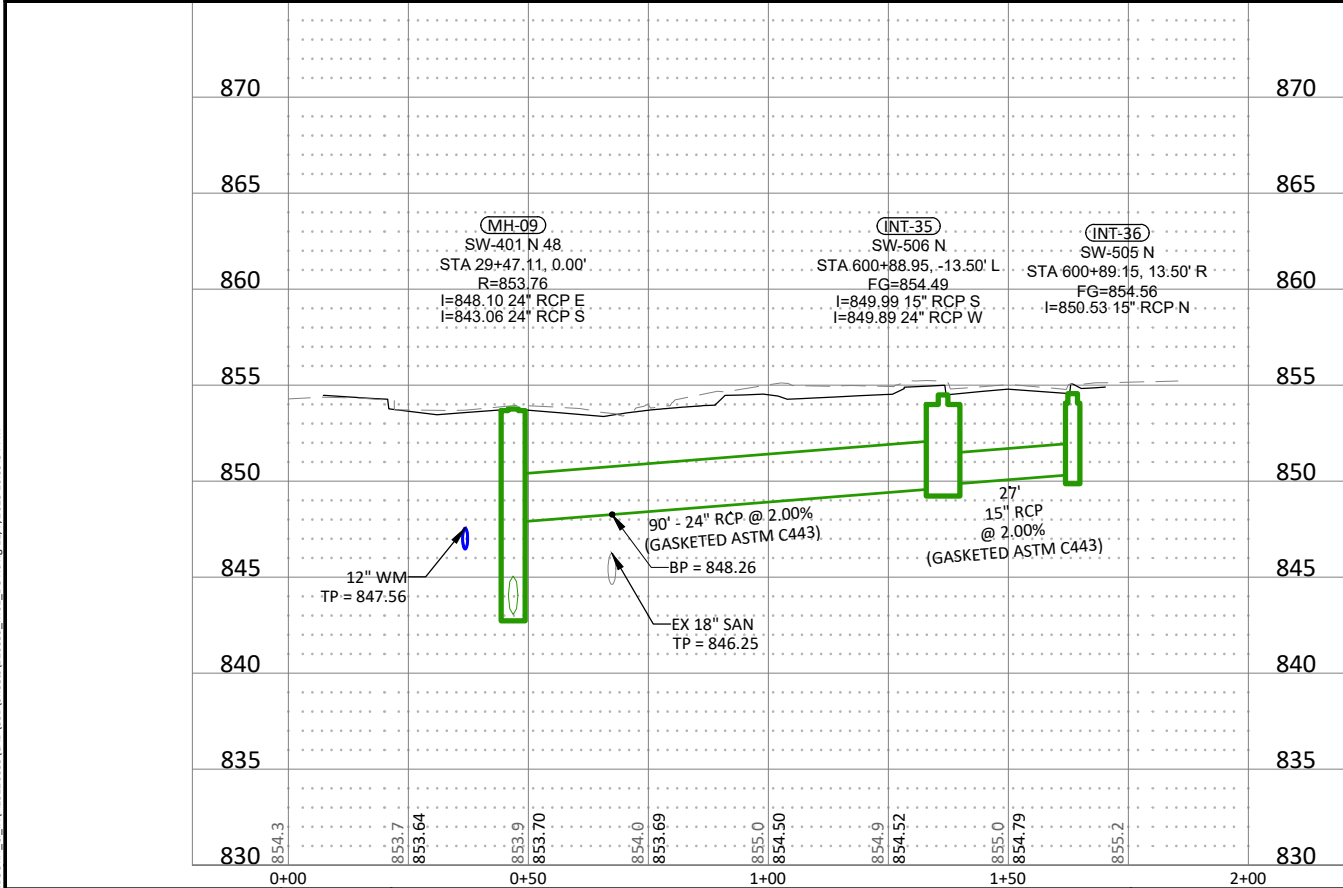
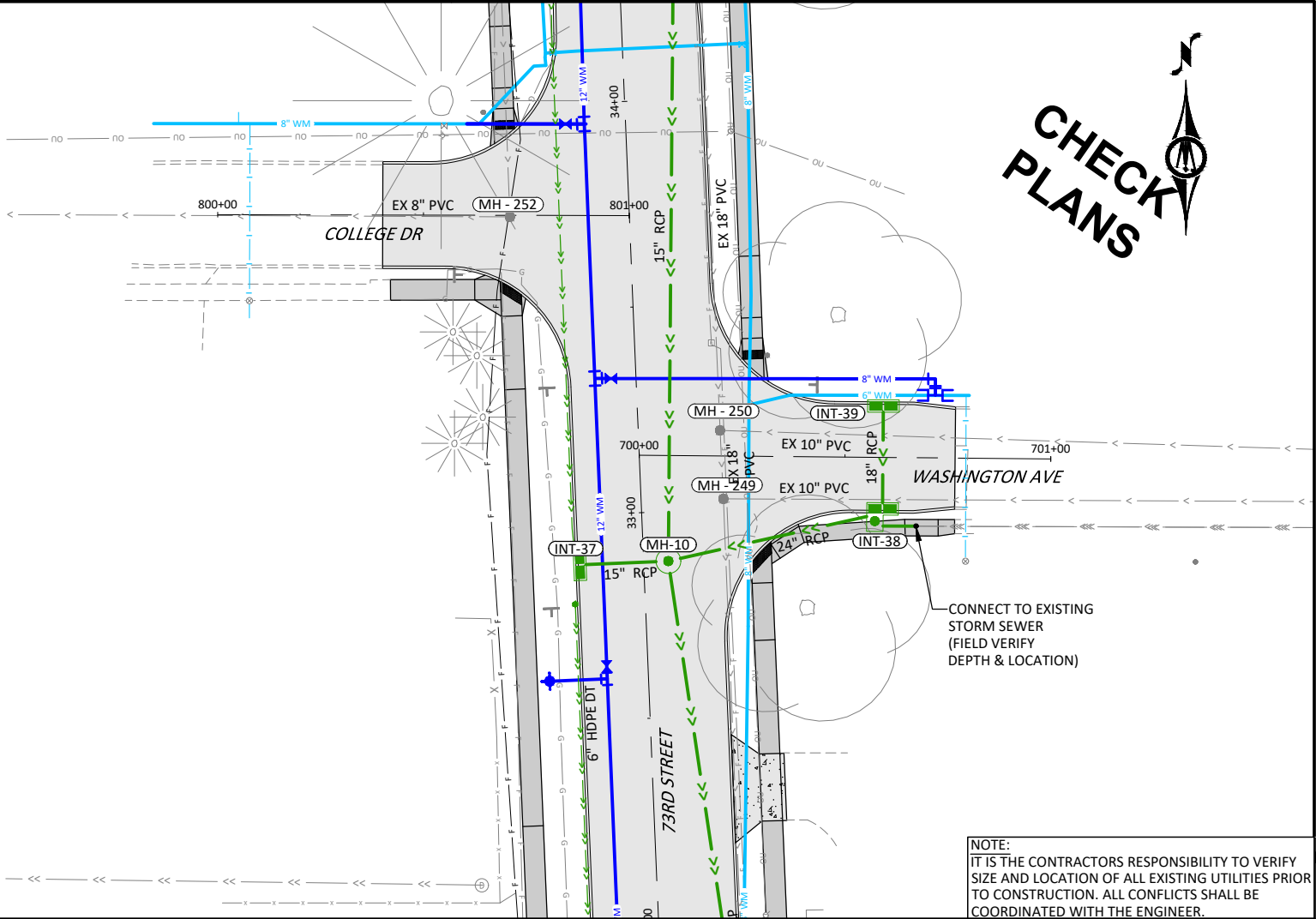
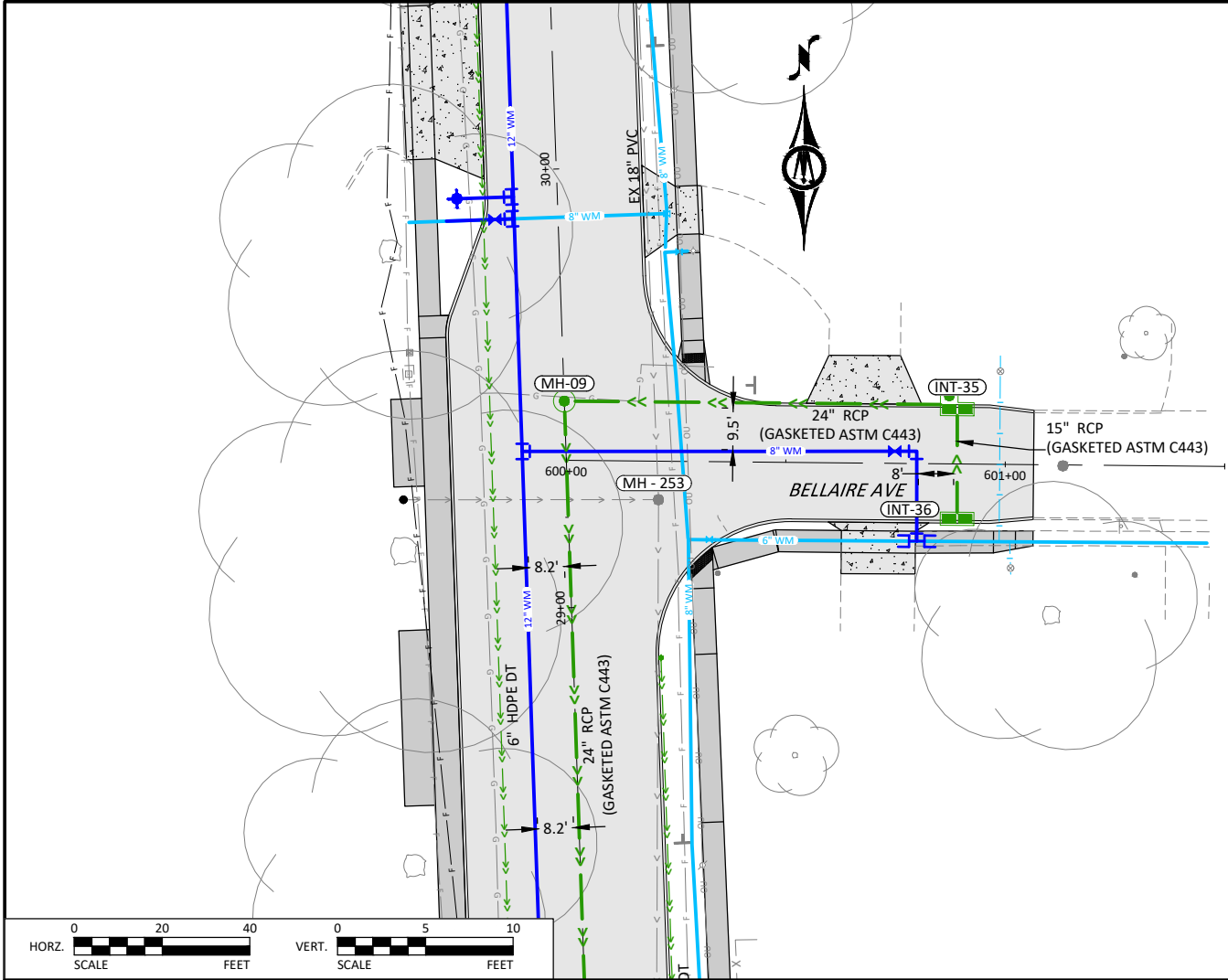
NOTE:
IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY
SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR
TO CONSTRUCTION. ALL CONFLICTS SHALL BE
COORDINATED WITH THE ENGINEER.



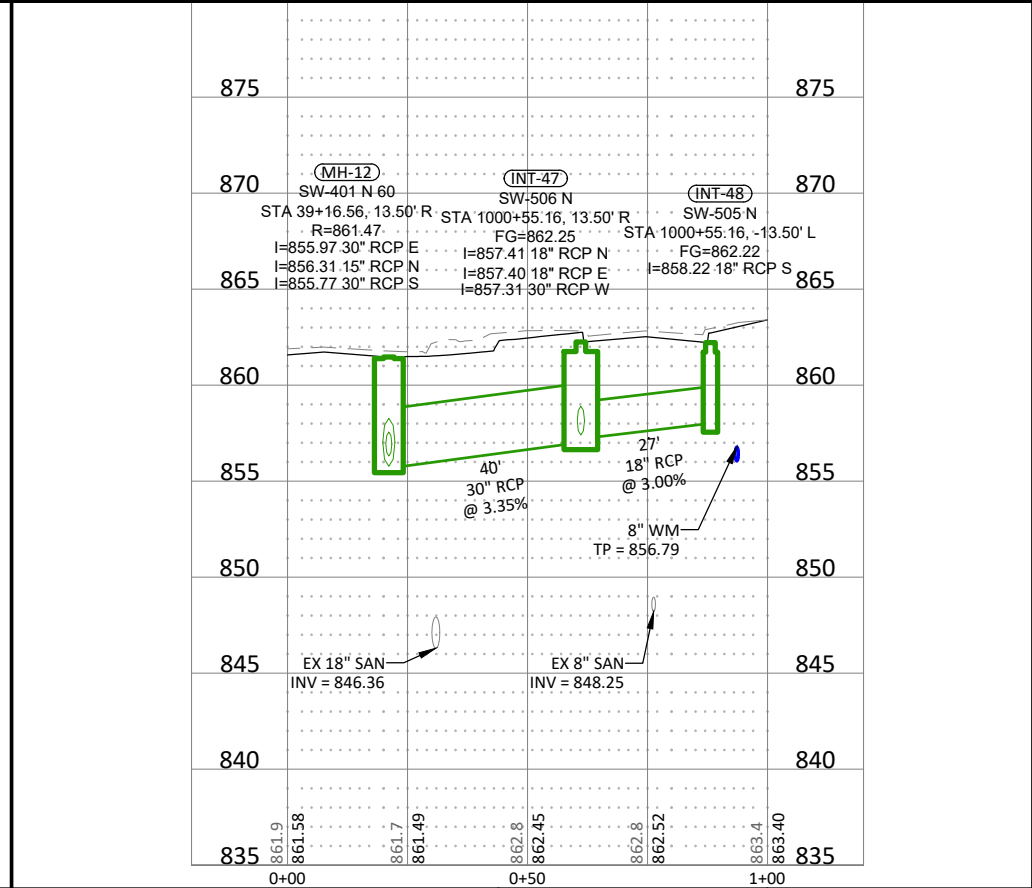
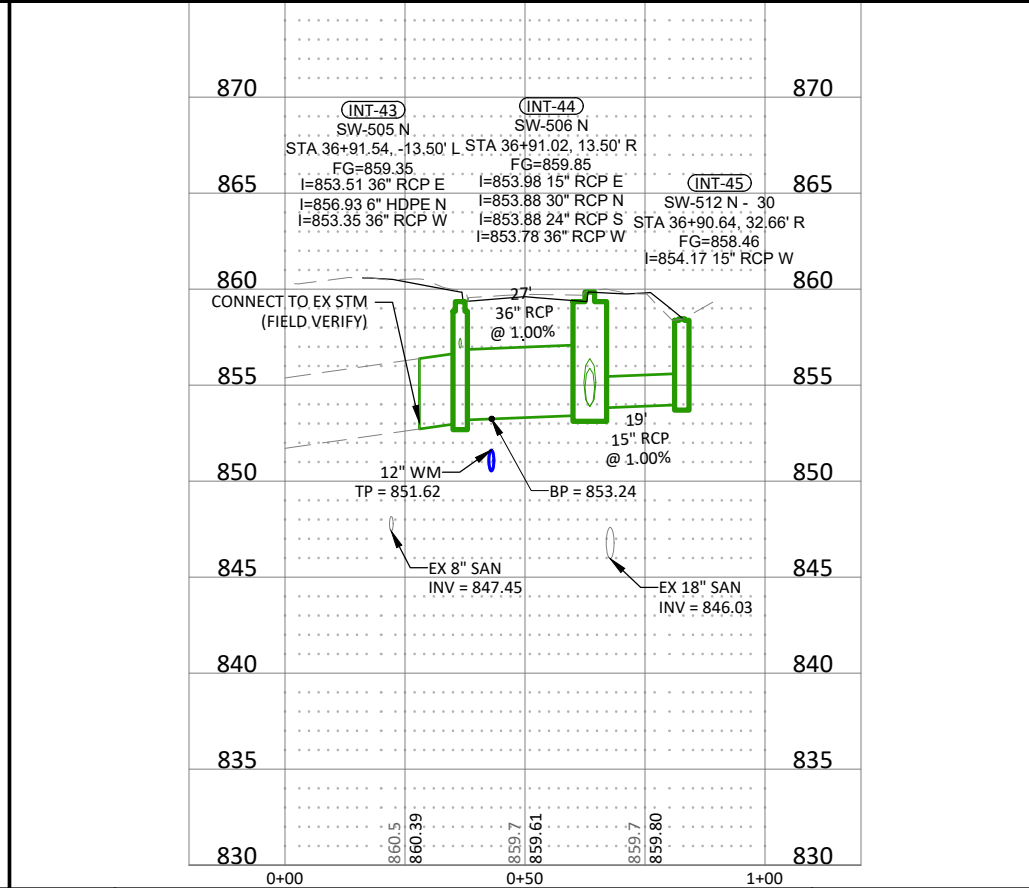
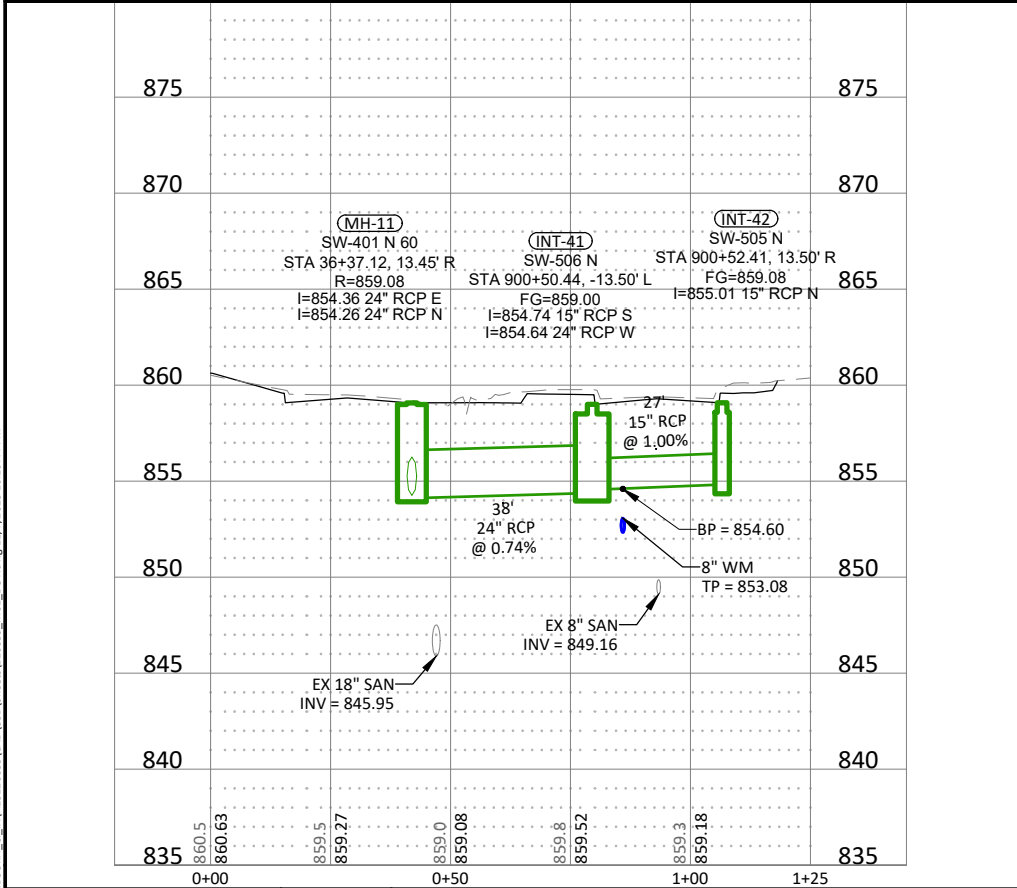
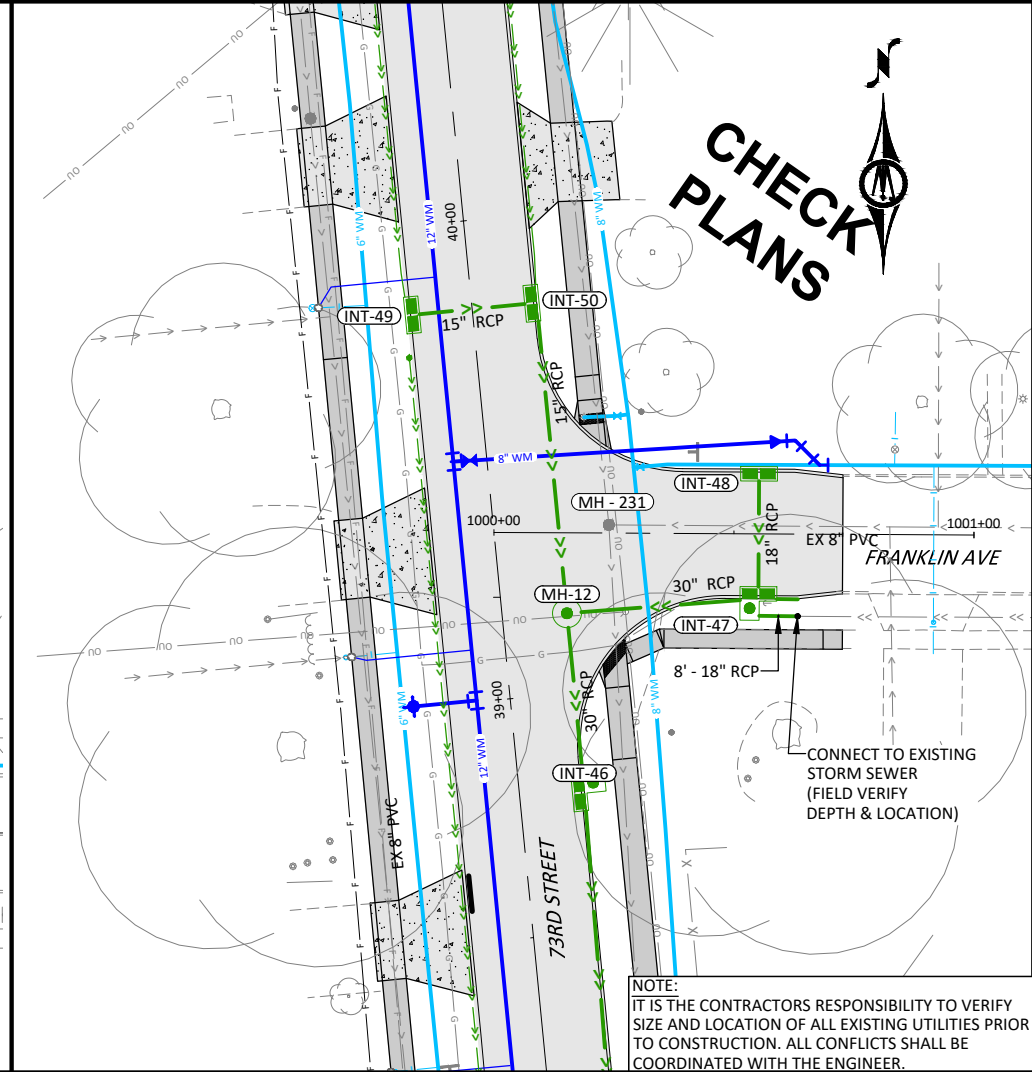
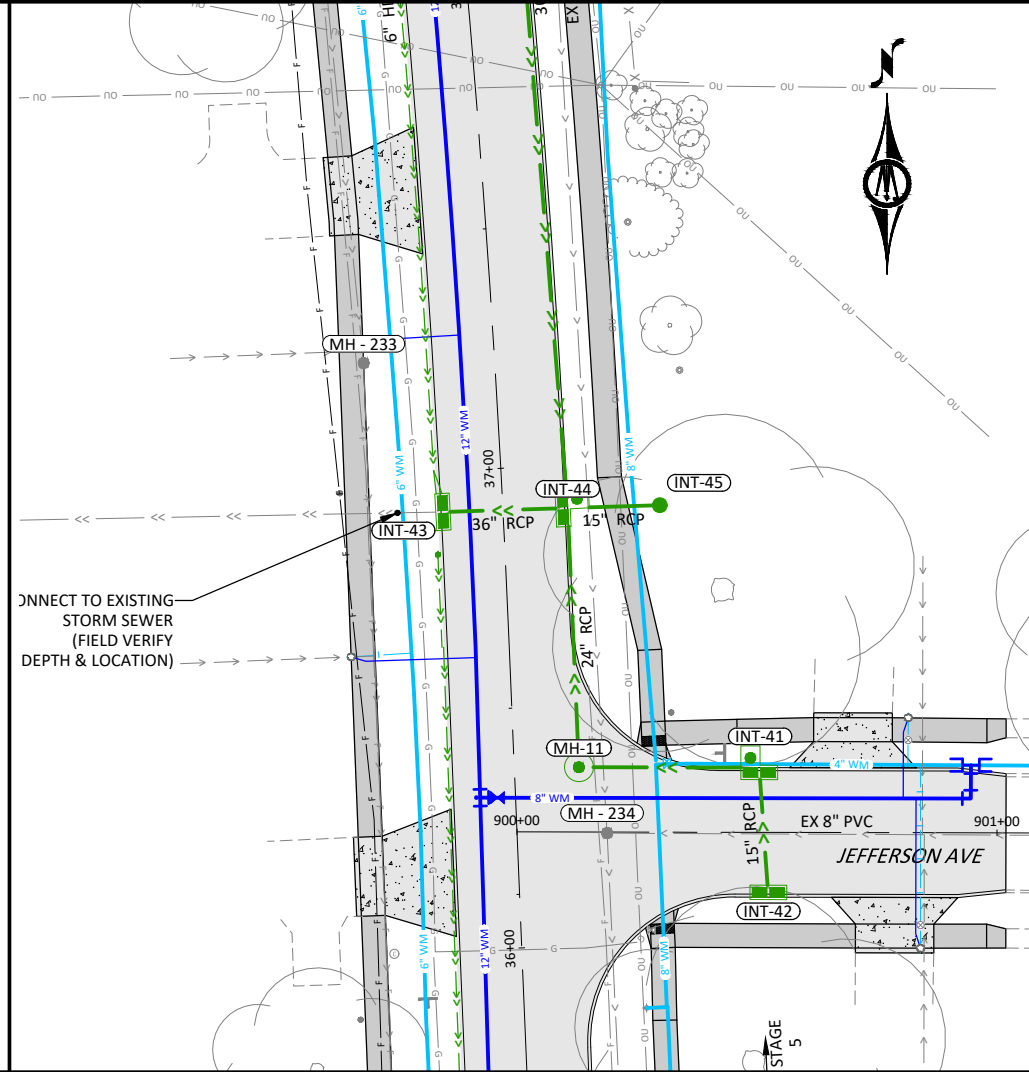
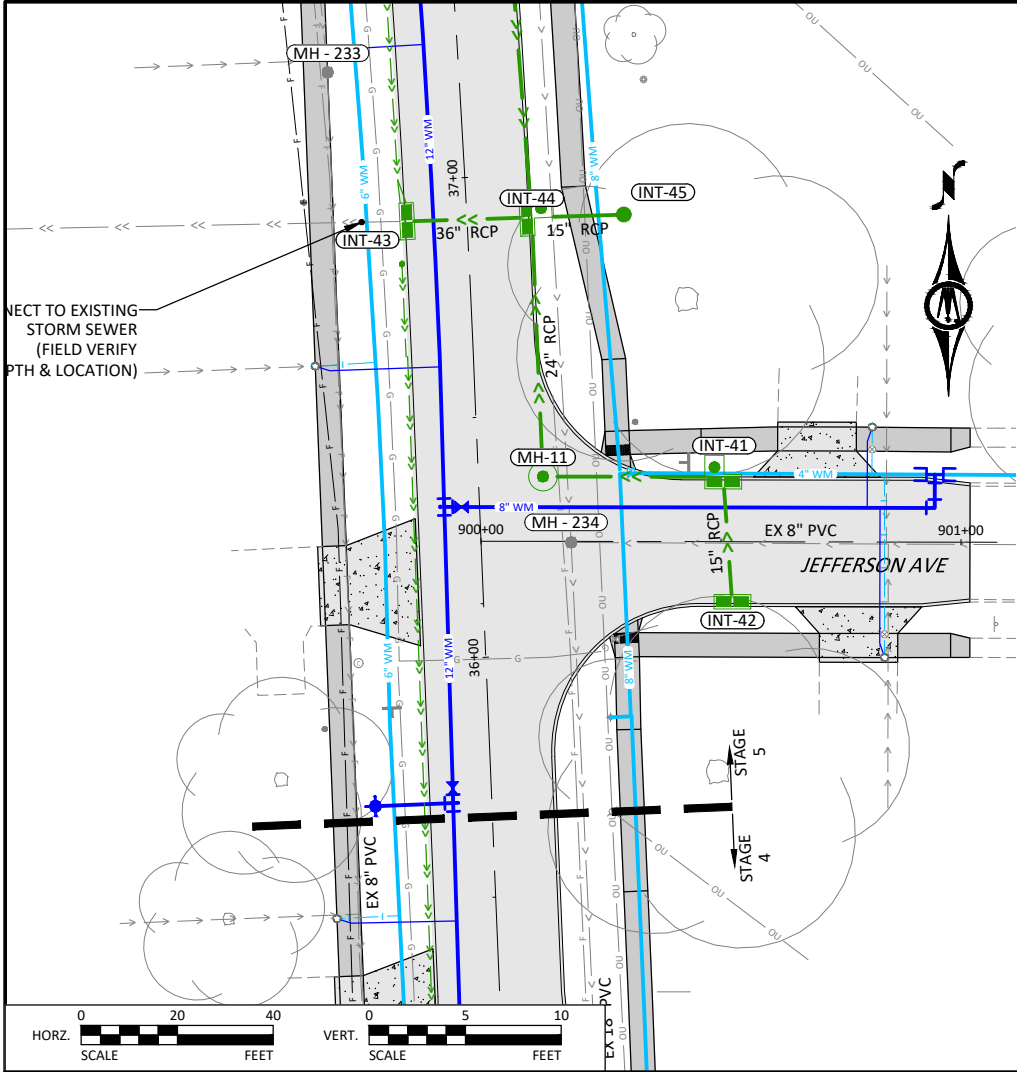
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_401_DOT.dwg 11/7/2023 10:08:39 PM



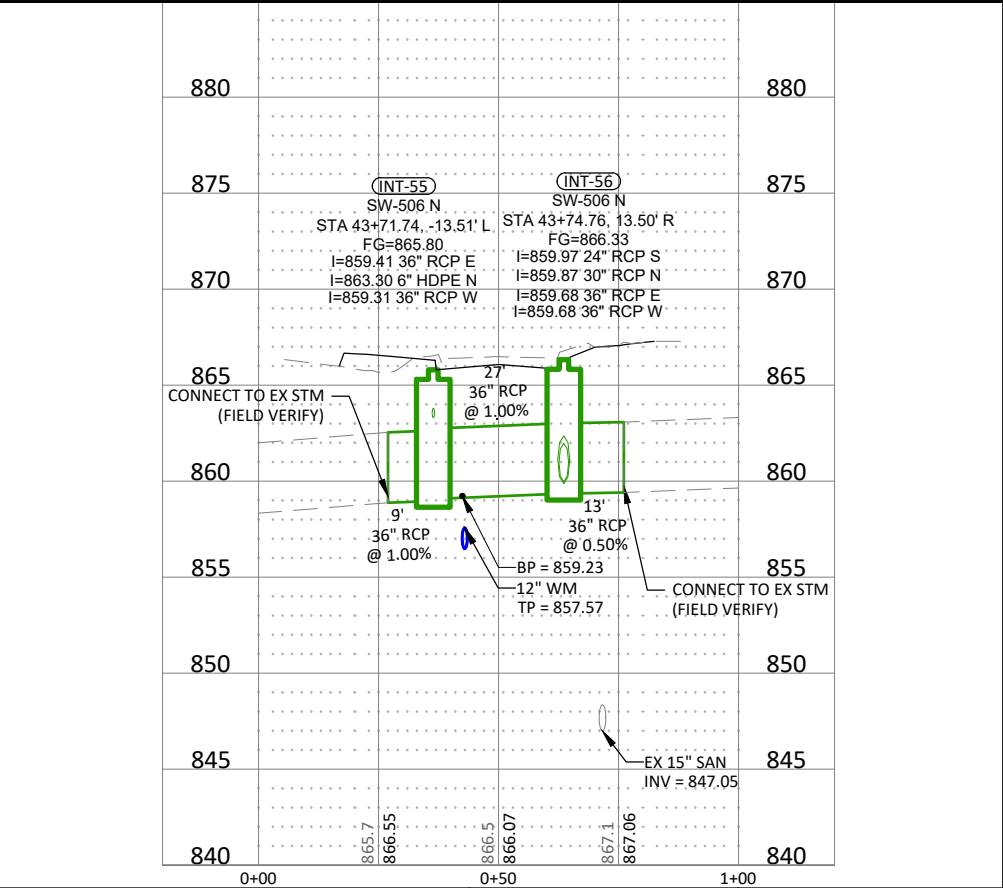
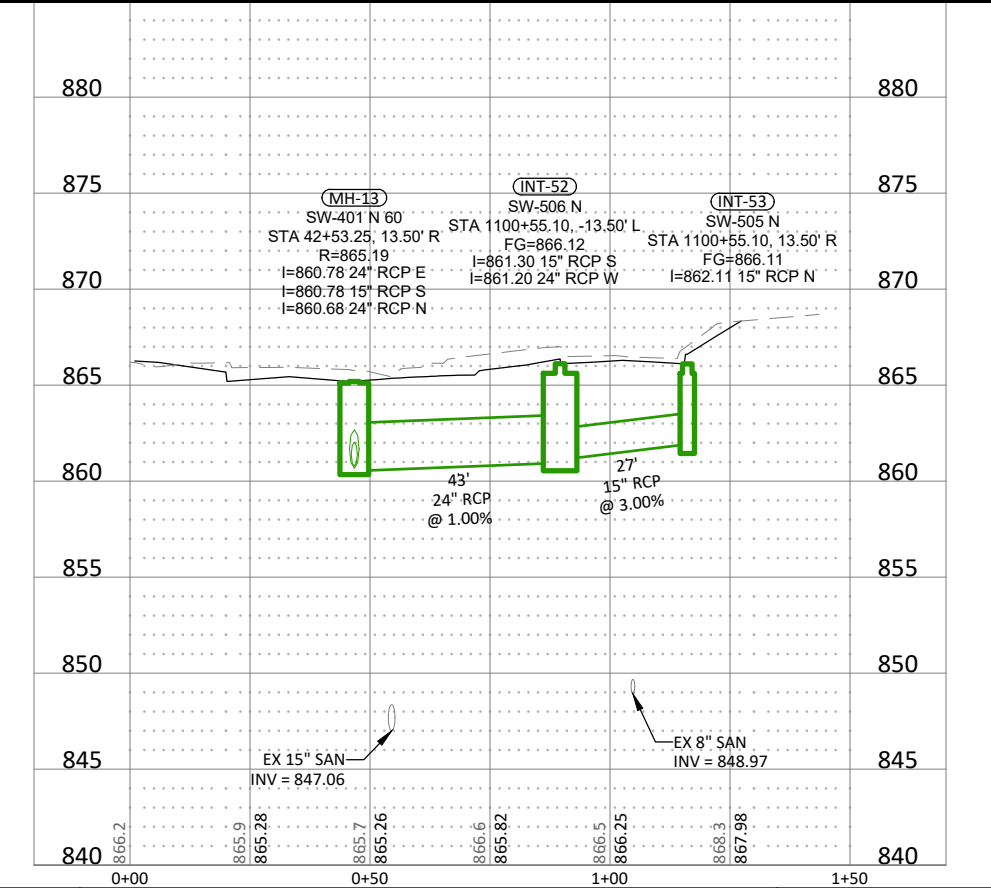
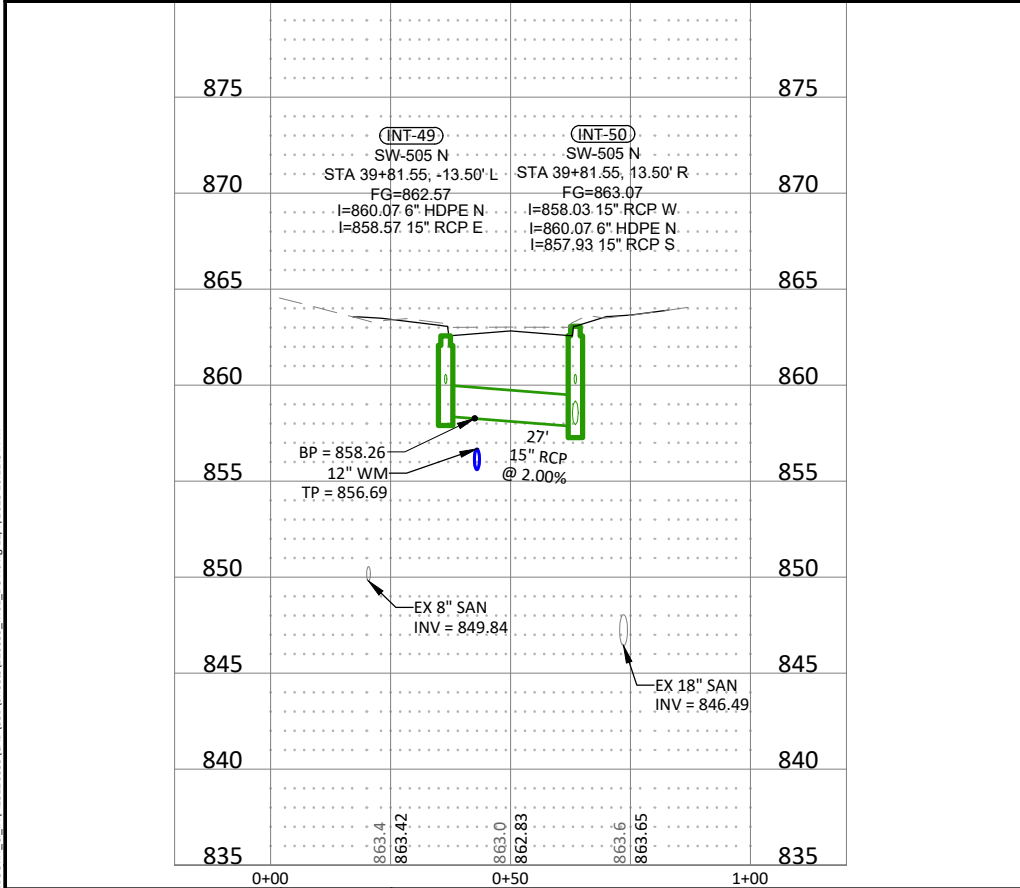
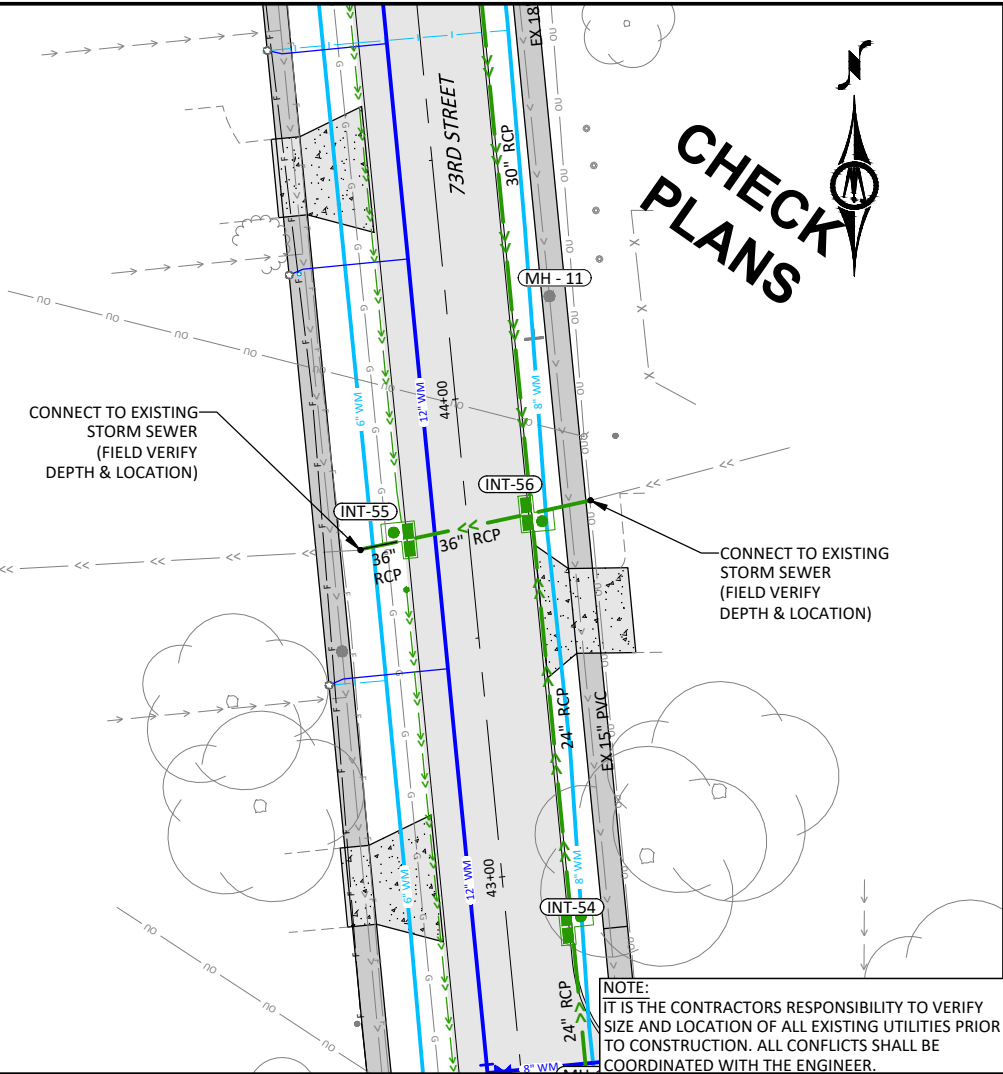
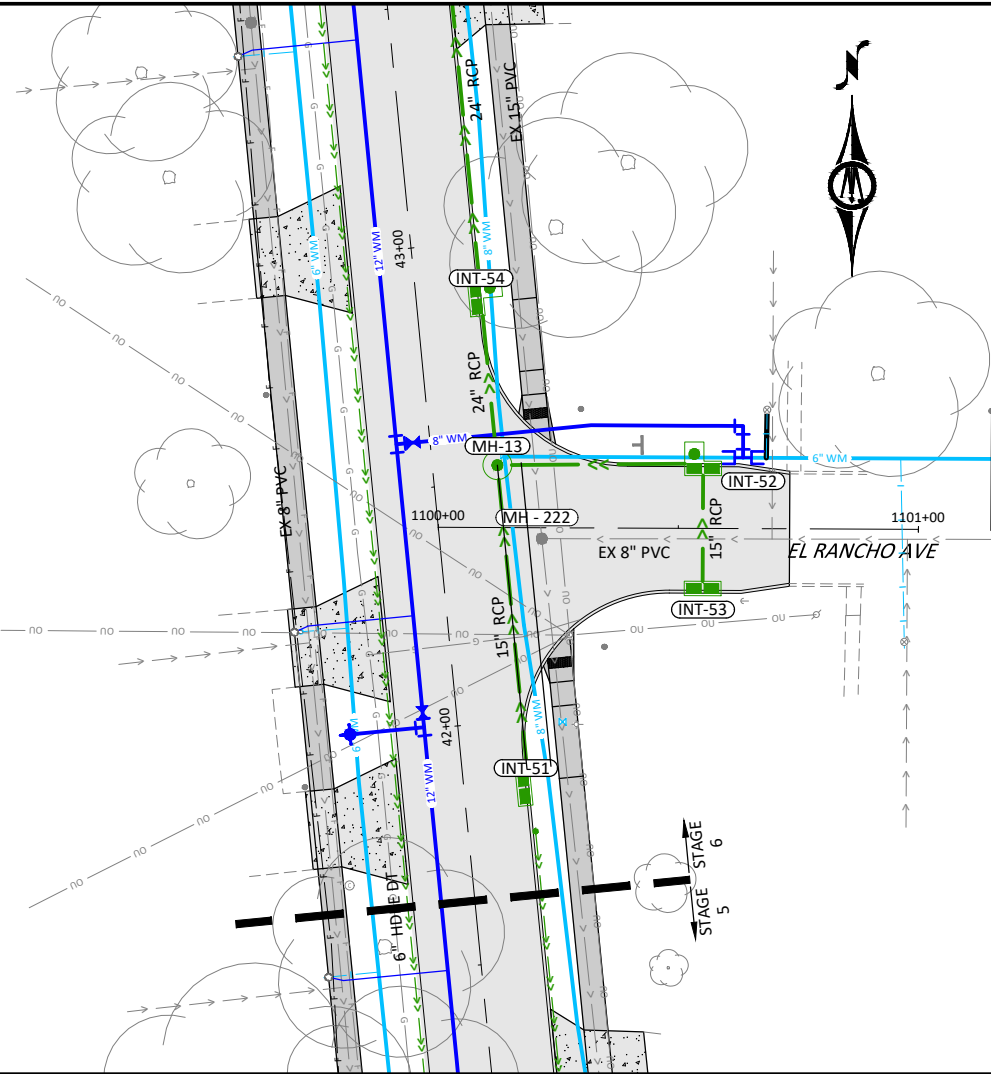
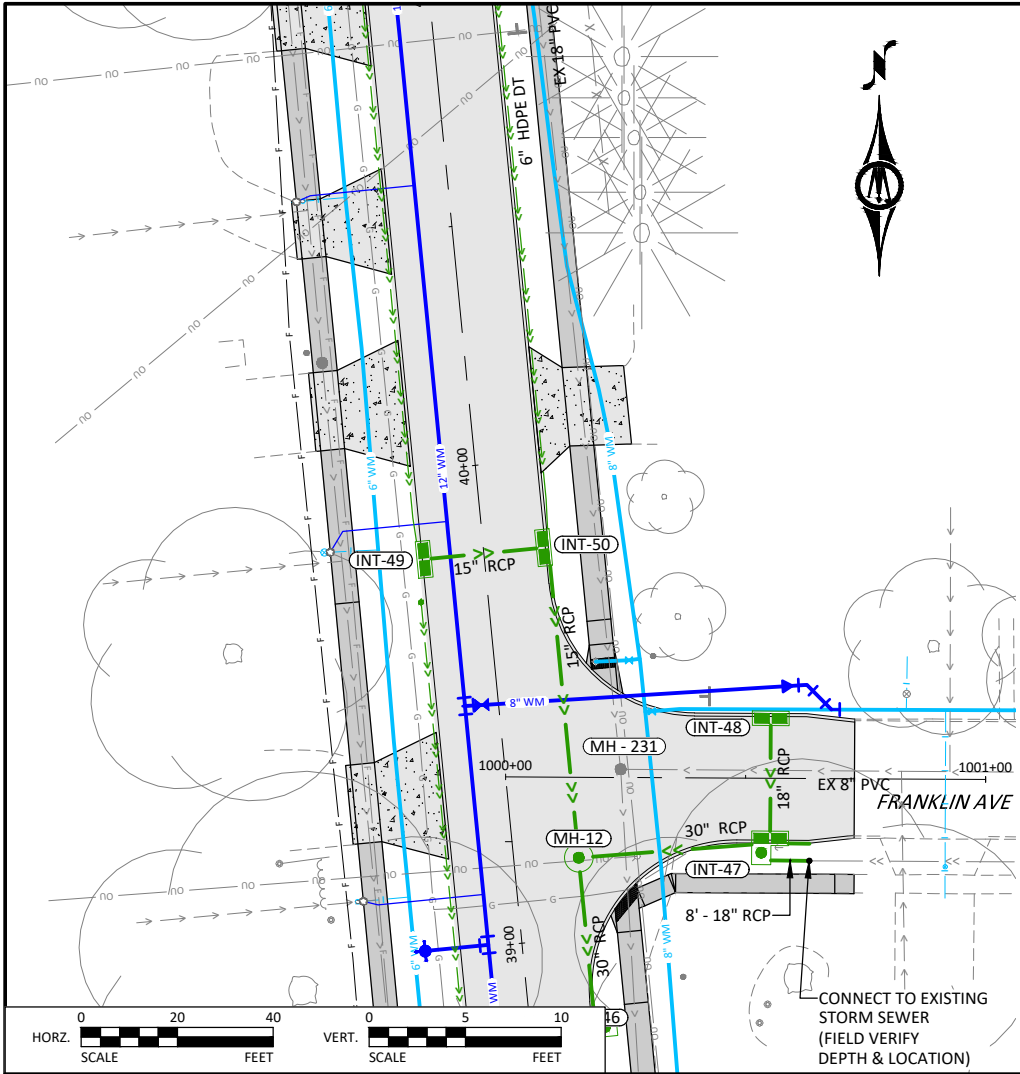
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_401_DOT.dwg 11/7/2023 10:05:24 PM



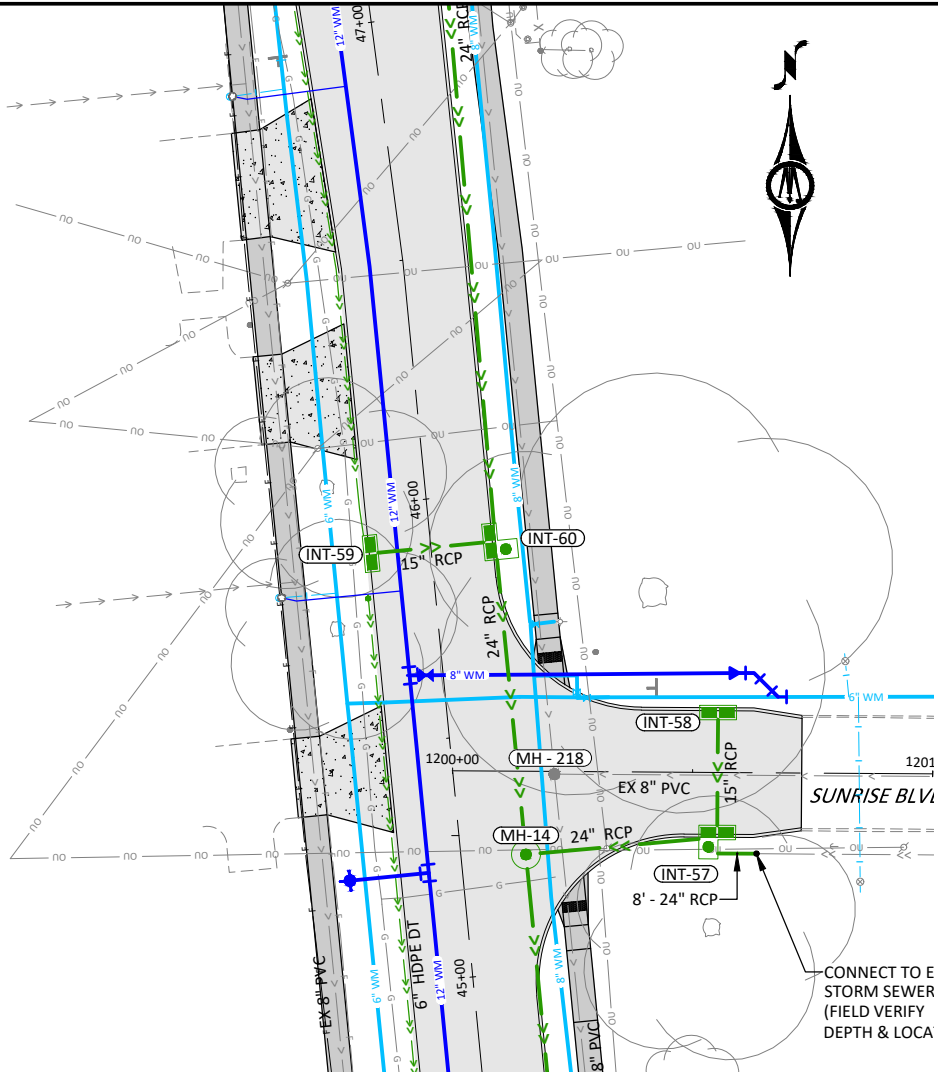
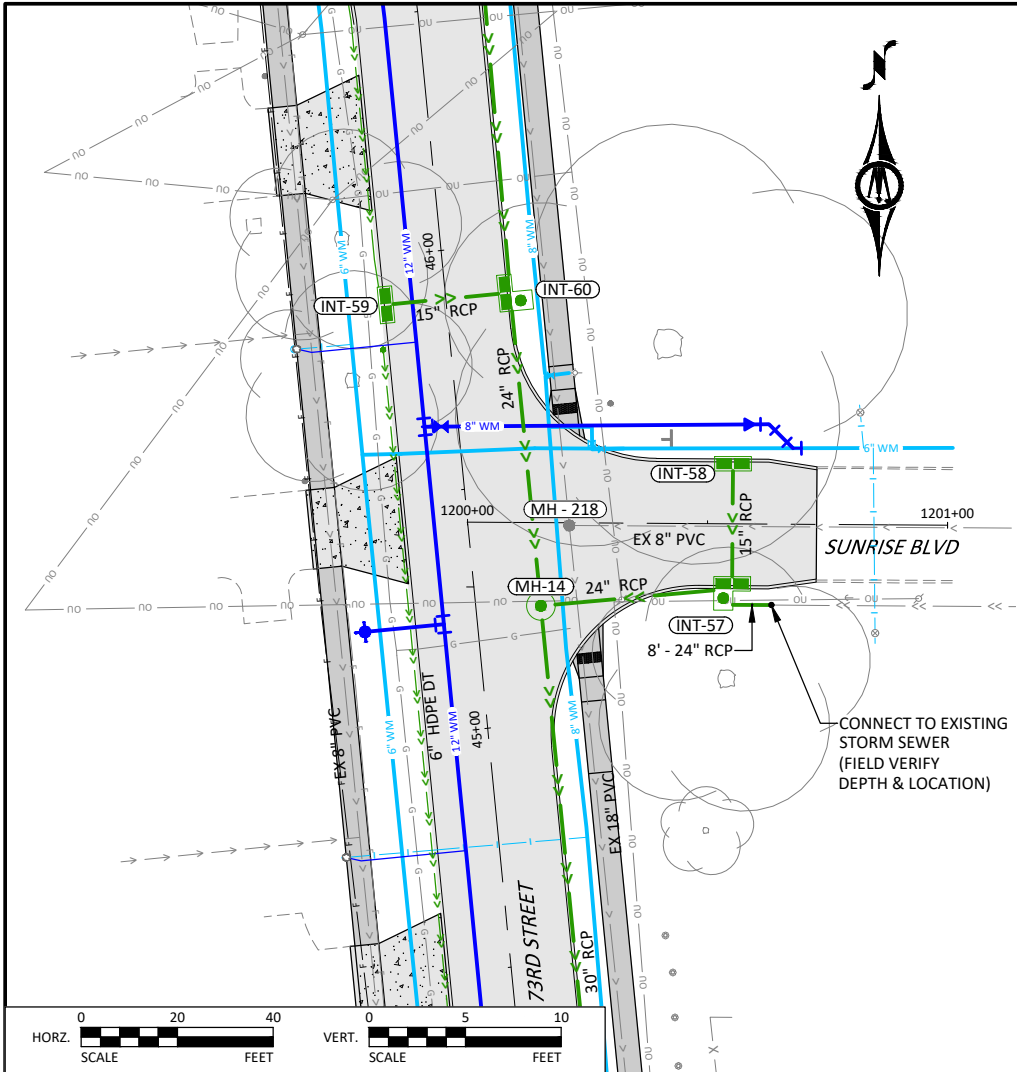
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:05:54 PM



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_M01_DOT.dwg 11/7/2023 10:10:44 PM

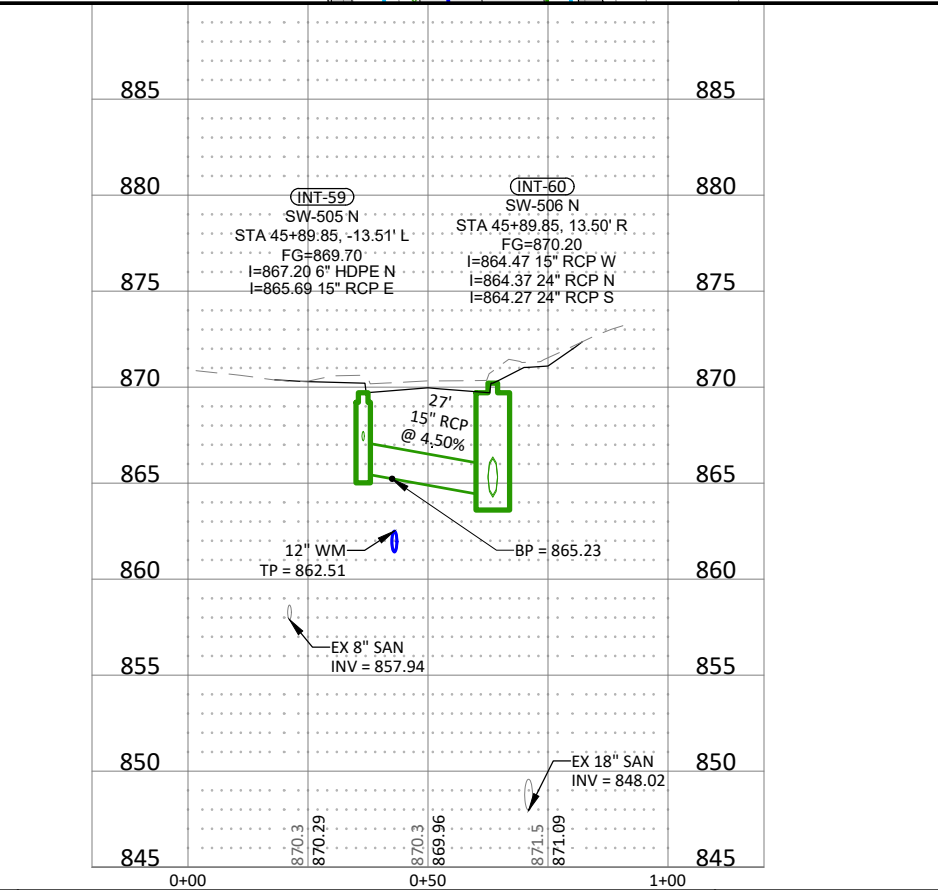
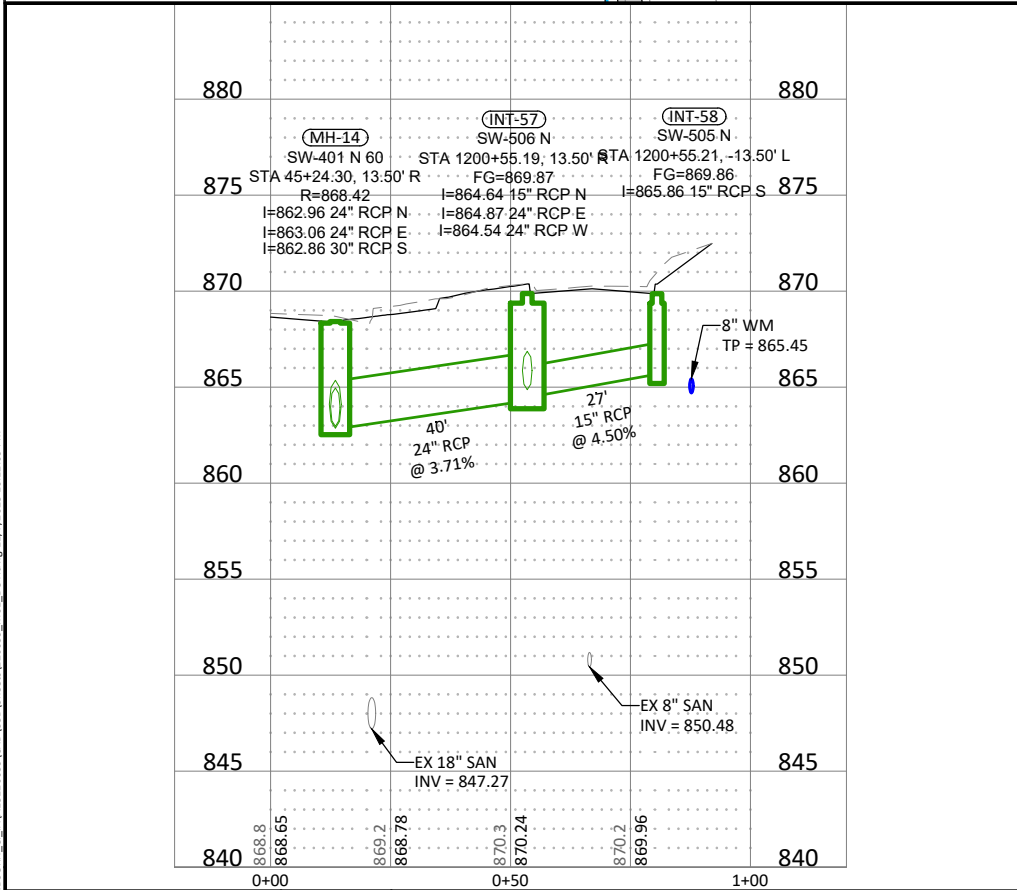


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_401_DOT.dwg 11/7/2023 10:11:34 PM



CHECK
PLANS

NOTE:
IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY
SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR
TO CONSTRUCTION. ALL CONFLICTS SHALL BE
COORDINATED WITH THE ENGINEER.



© Bolton & Menk, Inc. 2023. All Rights Reserved.
\\VW\SSM\CD\A\141312\089\CD\DWG\120859_M01_DOT.dwg 11/7/2023 10:12:09 PM

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\LA\LA16117-0893\LA16117-0893.dwg 11/7/2023 10:12:38 PM

STORM SEWER PIPES							
PIPE ID	FROM STRUCTURE	TO STRUCTURE	PIPE DIA	Length	PIPE GRADE	START INV	END INV
STM - 1	INT-01	EX MH-01	24" RCP	141 LF	0.40%	825.39	824.83
STM - 2	INT-02	INT-01	24" RCP	57 LF	0.41%	825.73	825.49
STM - 3	INT-03	INT-02	24" RCP	85 LF	0.40%	826.17	825.83
STM - 4	INT-04	INT-03	24" RCP	97 LF	0.50%	826.76	826.27
STM - 5	INT-05	INT-04	18" RCP	54 LF	0.50%	827.13	826.86
STM - 6	INT-06	INT-05	18" RCP	60 LF	0.60%	827.59	827.23
STM - 7	INT-07	INT-06	15" RCP	59 LF	0.60%	828.05	827.69
STM - 8	INT-08	INT-07	15" RCP	104 LF	1.10%	829.30	828.15
STM - 9	INT-09	CONNECT TO EX-01	48" RCP	8 LF	1.00%	827.79	827.71
STM - 10	INT-10	INT-09	36" RCP	28 LF	1.00%	828.17	827.89
STM - 11	MH-01	INT-10	30" RCP	19 LF	1.00%	828.56	828.37
STM - 12	CONNECT TO EX-02	MH-01	30" RCP	8 LF	1.00%	828.74	828.66
STM - 13	INT-11	INT-10	24" RCP	248 LF	0.80%	830.25	828.27
STM - 14	MH-02	INT-11	24" RCP	35 LF	0.80%	830.63	830.35
STM - 15	INT-12	MH-02	15" RCP	42 LF	2.00%	831.67	830.83
STM - 16	INT-13	INT-12	15" RCP	27 LF	2.00%	832.31	831.77
STM - 17	INT-14	MH-02	24" RCP	67 LF	0.80%	831.27	830.73
STM - 18	INT-15	INT-14	18" RCP	216 LF	0.75%	832.98	831.37
STM - 19	MH-03	INT-15	18" RCP	106 LF	0.72%	833.85	833.08
STM - 20	INT-16	MH-03	18" RCP	37 LF	0.80%	834.24	833.95
STM - 21	INT-17	INT-16	15" RCP	27 LF	1.00%	834.61	834.34
STM - 22	INT-18	INT-19	18" RCP	115 LF	0.70%	834.02	833.21
STM - 23	INT-19	MH-04	18" RCP	64 LF	0.50%	833.11	832.79
STM - 24	INT-20	MH-04	18" RCP	37 LF	3.00%	834.00	832.89
STM - 25	INT-21	INT-20	15" RCP	26 LF	2.80%	834.83	834.10
STM - 26	MH-04	INT-22	24" RCP	37 LF	0.50%	832.69	832.50
STM - 27	INT-22	INT-23	24" RCP	106 LF	0.50%	832.40	831.87
STM - 28	INT-23	INT-25	24" RCP	32 LF	0.50%	831.77	831.61
STM - 29	INT-24	INT-25	18" RCP	27 LF	1.00%	831.98	831.71
STM - 30	INT-25	MH-05	24" RCP	155 LF	0.50%	831.51	830.74
STM - 31	INT-26	MH-05	15" RCP	48 LF	4.80%	832.94	830.64
STM - 32	INT-27	INT-26	15" RCP	27 LF	4.74%	834.32	833.04
STM - 33	MH-05	INT-29	30" RCP	102 LF	0.50%	830.54	830.03
STM - 34	INT-28	CONNECT TO EX-03	36" RCP	9 LF	0.76%	829.63	829.56
STM - 35	INT-29	INT-28	36" RCP	31 LF	0.44%	829.77	829.63
STM - 36	MH-06	INT-29	36" RCP	18 LF	0.39%	829.89	829.82
STM - 37	CONNECT TO EX-04	MH-06	36" RCP	8 LF	0.50%	829.93	829.89
STM - 38	INT-30	MH-06	24" RCP	148 LF	4.00%	835.90	829.99
STM - 39	MH-07	INT-30	24" RCP	38 LF	2.61%	836.99	836.00
STM - 40	INT-31	MH-07	15" RCP	59 LF	2.40%	838.60	837.19
STM - 41	INT-32	INT-31	15" RCP	27 LF	2.41%	839.35	838.70
STM - 42	MH-08	MH-07	24" RCP	139 LF	2.60%	840.70	837.09
STM - 43	INT-33	MH-08	15" RCP	17 LF	5.27%	841.77	840.90
STM - 44	INT-34	MH-08	15" RCP	19 LF	4.05%	841.69	840.90
STM - 45	MH-09	MH-08	24" RCP	226 LF	1.00%	843.06	840.80

STORM SEWER PIPES							
PIPE ID	FROM STRUCTURE	TO STRUCTURE	PIPE DIA	Length	PIPE GRADE	START INV	END INV
STM - 46	INT-35	MH-09	24" RCP	90 LF	2.00%	849.89	848.10
STM - 47	INT-36	INT-35	15" RCP	27 LF	2.00%	850.53	849.99
STM - 48	MH-10	EX MH-02	24" RCP	185 LF	2.50%	851.80	847.18
STM - 49	INT-37	MH-10	15" RCP	22 LF	2.00%	852.87	852.42
STM - 50	INT-38	MH-10	24" RCP	53 LF	2.00%	852.97	851.90
STM - 51	INT-39	INT-38	18" RCP	27 LF	2.00%	853.61	853.07
STM - 52	CONNECT TO EX-05	INT-38	12" RCP	8 LF	0.80%	854.97	854.91
STM - 53	INT-40	MH-10	15" RCP	199 LF	1.10%	854.77	852.59
STM - 54	INT-42	INT-41	15" RCP	27 LF	1.00%	855.01	854.74
STM - 55	INT-41	MH-11	24" RCP	38 LF	0.74%	854.64	854.36
STM - 56	MH-11	INT-44	24" RCP	54 LF	0.70%	854.26	853.88
STM - 57	INT-43	CONNECT TO EX-06	36" RCP	8 LF	3.58%	853.35	853.05
STM - 58	INT-44	INT-43	36" RCP	27 LF	1.00%	853.78	853.51
STM - 59	INT-45	INT-44	15" RCP	19 LF	1.00%	854.17	853.98
STM - 60	INT-46	INT-44	30" RCP	189 LF	0.75%	855.30	853.88
STM - 61	MH-12	INT-46	30" RCP	37 LF	1.00%	855.77	855.40
STM - 62	INT-47	MH-12	30" RCP	40 LF	3.35%	857.31	855.97
STM - 63	INT-48	INT-47	18" RCP	27 LF	3.00%	858.22	857.41
STM - 64	CONNECT TO EX-07	INT-47	18" RCP	8 LF	1.00%	857.48	857.40
STM - 65	INT-50	MH-12	15" RCP	65 LF	2.50%	857.93	856.31
STM - 66	INT-49	INT-50	15" RCP	27 LF	2.00%	858.57	858.03
STM - 67	INT-51	MH-13	15" RCP	67 LF	0.50%	861.12	860.78
STM - 68	INT-52	MH-13	24" RCP	43 LF	1.00%	861.20	860.78
STM - 69	INT-53	INT-52	15" RCP	27 LF	3.00%	862.11	861.30
STM - 70	MH-13	INT-54	24" RCP	35 LF	0.50%	860.68	860.50
STM - 71	INT-54	INT-56	24" RCP	86 LF	0.50%	860.40	859.97
STM - 72	INT-55	CONNECT TO EX-08	36" RCP	9 LF	1.00%	859.31	859.21
STM - 73	INT-56	INT-55	36" RCP	27 LF	1.00%	859.68	859.41
STM - 74	CONNECT TO EX-09	INT-56	36" RCP	13 LF	0.50%	859.74	859.68
STM - 75	MH-14	INT-56	30" RCP	150 LF	2.00%	862.86	859.87
STM - 76	INT-57	MH-14	24" RCP	40 LF	3.71%	864.54	863.06
STM - 77	INT-58	INT-57	15" RCP	27 LF	4.50%	865.86	864.64
STM - 78	CONNECT TO EX-10	INT-57	24" RCP	8 LF	1.50%	864.99	864.87
STM - 79	INT-60	MH-14	24" RCP	66 LF	2.00%	864.27	862.96
STM - 80	INT-59	INT-60	15" RCP	27 LF	4.50%	865.69	864.47
STM - 81	MH-15	INT-60	24" RCP	195 LF	2.20%	868.65	864.37

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\V\WSDHW\CD LA\141312-0859\CD LA\DWG\120659_M16_DOT.dwg 11/7/2023 10:12:47 PM

STORM SEWER STRUCTURES							
STRUCTURE	ALIGNMENT	STATION	OFFSET	TYPE	RIM/FG ELEV	INLET ELEV	OUTLET ELEV
EX MH-01	120659-ALGN-73RD ST	1+84.73	-42.62' L	SW-401 E 48	831.33	824.83, 24" RCP N	
EX MH-02	120659-ALGN-73RD ST	31+04.18	25.85' R	SW-401 E 48	856.32	833.77, 66" RCP E 847.18, 24" RCP N	833.77, 66" RCP NW
INT-01	120659-ALGN-73RD ST	3+25.00	-27.99' L	SW-510 N	830.12	825.49, 24" RCP E 827.06, 6" HDPE N	825.39, 24" RCP S
INT-02	120659-ALGN-73RD ST	3+25.00	29.32' R	SW-510 N	830.09	825.83, 24" RCP N 827.09, 6" HDPE S	825.73, 24" RCP W
INT-03	120659-ALGN-73RD ST	4+10.15	29.29' R	SW-506 N	830.53	826.27, 24" RCP N	826.17, 24" RCP S
INT-04	120659-ALGN-73RD ST	5+08.46	25.96' R	SW-506 N	831.09	826.86, 18" RCP N	826.76, 24" RCP S
INT-05	120659-ALGN-73RD ST	5+62.79	22.07' R	SW-505 N	831.55	827.23, 18" RCP N	827.13, 18" RCP S
INT-06	120659-ALGN-73RD ST	6+23.42	16.92' R	SW-505 N	832.08	827.69, 15" RCP N	827.59, 18" RCP S
INT-07	120659-ALGN-73RD ST	6+82.72	13.82' R	SW-505 N	832.56	828.15, 15" RCP N	828.05, 15" RCP S
INT-08	120659-ALGN-73RD ST	7+86.68	13.50' R	SW-505 N	833.30	830.30, 6" HDPE N	829.30, 15" RCP S
INT-09	120659-ALGN-73RD ST	9+15.03	-13.50' L	SW-505 N	833.70	827.89, 36" RCP E 831.20, 6" HDPE N	827.79, 48" RCP W
INT-10	120659-ALGN-73RD ST	9+22.81	13.50' R	SW-505 N	834.25	828.27, 24" RCP N 828.37, 30" RCP E	828.17, 36" RCP W
INT-11	120659-ALGN-73RD ST	11+70.48	13.50' R	SW-505 N	835.90	830.35, 24" RCP N	830.25, 24" RCP S
INT-12	120659-ALGN-FOREST CT	100+54.34	13.50' R	SW-505 N	836.86	831.77, 15" RCP N	831.67, 15" RCP W
INT-13	120659-ALGN-FOREST CT	100+54.27	-13.50' L	SW-505 N	836.87		832.31, 15" RCP S
INT-14	120659-ALGN-73RD ST	12+72.79	13.50' R	SW-505 N	836.52	831.37, 18" RCP N	831.27, 24" RCP S
INT-15	120659-ALGN-73RD ST	14+87.91	13.50' R	SW-505 N	837.70	833.08, 18" RCP N	832.98, 18" RCP S
INT-16	120659-ALGN-COLBY AVE	200+51.38	13.50' R	SW-505 N	838.46	834.34, 15" RCP N	834.24, 18" RCP W
INT-17	120659-ALGN-COLBY AVE	200+51.41	-13.50' L	SW-505 N	838.62		834.61, 15" RCP S
INT-18	120659-ALGN-73RD ST	17+70.70	18.00' R	SW-512 N - 36	838.05	834.99, 6" HDPE SW	834.02, 18" RCP N
INT-19	120659-ALGN-73RD ST	18+85.81	13.50' R	SW-505 N	838.27	833.21, 18" RCP S	833.11, 18" RCP N
INT-20	120659-ALGN-SUNSET TER	300+50.50	-13.06' L	SW-505 N	838.78	834.10, 15" RCP S	834.00, 18" RCP W
INT-21	120659-ALGN-SUNSET TER	300+51.03	12.99' R	SW-505 N	838.83		834.83, 15" RCP N
INT-22	120659-ALGN-73RD ST	19+86.82	13.50' R	SW-506 N	837.67	832.50, 24" RCP S	832.40, 24" RCP N
INT-23	120659-ALGN-73RD ST	20+92.55	13.50' R	SW-506 N	836.96	831.87, 24" RCP S	831.77, 24" RCP N
INT-24	120659-ALGN-73RD ST	21+25.00	-13.50' L	SW-509 N	836.24	833.74, 6" HDPE S 833.74, 6" HDPE N	831.98, 18" RCP E
INT-25	120659-ALGN-73RD ST	21+25.00	13.50' R	SW-510 N	836.74	831.61, 24" RCP S 831.71, 18" RCP W	831.51, 24" RCP N
INT-26	120659-ALGN-REITE AVE	400+61.31	-13.50' L	SW-505 N	838.38	833.04, 15" RCP S	832.94, 15" RCP W
INT-27	120659-ALGN-REITE AVE	400+61.30	13.50' R	SW-505 N	838.32		834.32, 15" RCP N
INT-28	120659-ALGN-73RD ST	23+81.85	-14.94' L	SW-505 N	837.75	835.71, 6" HDPE N 829.63, 36" RCP E	829.63, 36" RCP W
INT-29	120659-ALGN-73RD ST	23+81.60	16.37' R	SW-506 N	838.22	829.82, 36" RCP N 830.03, 30" RCP S	829.77, 36" RCP W
INT-30	120659-ALGN-73RD ST	25+45.92	19.50' R	SW-505 N	841.21	836.00, 24" RCP N	835.90, 24" RCP S
INT-31	120659-ALGN-DEL MATRO AVE	501+78.48	13.50' R	SW-505 N	843.03	838.70, 15" RCP N	838.60, 15" RCP W
INT-32	120659-ALGN-DEL MATRO AVE	501+78.47	-13.50' L	SW-505 N	843.35		839.35, 15" RCP S
INT-33	120659-ALGN-73RD ST	27+20.99	-16.50' L	SW-505 N	845.77	842.97, 6" HDPE N	841.77, 15" RCP E
INT-34	120659-ALGN-73RD ST	27+20.99	19.50' R	SW-505 N	845.70	842.97, 6" HDPE N	841.69, 15" RCP W
INT-35	120659-ALGN-BELLAIRE AVE	600+88.95	-13.50' L	SW-506 N	854.49	849.99, 15" RCP S	849.89, 24" RCP W
INT-36	120659-ALGN-BELLAIRE AVE	600+89.15	13.50' R	SW-505 N	854.56		850.53, 15" RCP N
INT-37	120659-ALGN-73RD ST	32+87.97	-16.50' L	SW-505 N	856.87	854.31, 6" HDPE N	852.87, 15" RCP E
INT-38	120659-ALGN-WASHINGTON AVE	700+59.22	13.50' R	SW-506 N	857.39	853.07, 18" RCP N 854.91, 12" RCP E	852.97, 24" RCP W
INT-39	120659-ALGN-WASHINGTON AVE	700+59.22	-13.50' L	SW-505 N	857.61		853.61, 18" RCP S
INT-40	120659-ALGN-73RD ST	34+86.27	15.82' R	SW-505 N	858.77		854.77, 15" RCP S

STORM SEWER STRUCTURES							
STRUCTURE	ALIGNMENT	STATION	OFFSET	TYPE	RIM/FG ELEV	INLET ELEV	OUTLET ELEV
INT-41	120659-ALGN-JEFFERSON AVE	900+50.44	-13.50' L	SW-506 N	859.00	854.74, 15" RCP S	854.64, 24" RCP W
INT-42	120659-ALGN-JEFFERSON AVE	900+52.41	13.50' R	SW-505 N	859.08		855.01, 15" RCP N
INT-43	120659-ALGN-73RD ST	36+91.54	-13.50' L	SW-505 N	859.35	853.51, 36" RCP E 856.93, 6" HDPE N	853.35, 36" RCP W
INT-44	120659-ALGN-73RD ST	36+91.02	13.50' R	SW-506 N	859.85	853.98, 15" RCP E 853.88, 30" RCP N 853.88, 24" RCP S	853.78, 36" RCP W
INT-45	120659-ALGN-73RD ST	36+90.64	32.66' R	SW-512 N - 30	858.46		854.17, 15" RCP W
INT-46	120659-ALGN-73RD ST	38+79.09	13.50' R	SW-506 N	861.46	855.40, 30" RCP N	855.30, 30" RCP S
INT-47	120659-ALGN-FRANKLIN AVE	1000+55.16	13.50' R	SW-506 N	862.25	857.41, 18" RCP N 857.40, 18" RCP E	857.31, 30" RCP W
INT-48	120659-ALGN-FRANKLIN AVE	1000+55.16	-13.50' L	SW-505 N	862.22		858.22, 18" RCP S
INT-49	120659-ALGN-73RD ST	39+81.55	-13.50' L	SW-505 N	862.57	860.07, 6" HDPE N	858.57, 15" RCP E
INT-50	120659-ALGN-73RD ST	39+81.55	13.50' R	SW-505 N	863.07	858.03, 15" RCP W 860.07, 6" HDPE N	857.93, 15" RCP S
INT-51	120659-ALGN-73RD ST	41+85.90	13.50' R	SW-505 N	864.84		861.12, 15" RCP N
INT-52	120659-ALGN-EL RANCHO AVE	1100+55.10	-13.50' L	SW-506 N	866.12	861.30, 15" RCP S	861.20, 24" RCP W
INT-53	120659-ALGN-EL RANCHO AVE	1100+55.10	13.50' R	SW-505 N	866.11		862.11, 15" RCP N
INT-54	120659-ALGN-73RD ST	42+88.35	13.50' R	SW-506 N	865.85	860.50, 24" RCP S	860.40, 24" RCP N
INT-55	120659-ALGN-73RD ST	43+71.74	-13.51' L	SW-506 N	865.80	859.41, 36" RCP E 863.30, 6" HDPE N	859.31, 36" RCP W
INT-56	120659-ALGN-73RD ST	43+74.76	13.50' R	SW-506 N	866.33	859.97, 24" RCP S 859.87, 30" RCP N 859.68, 36" RCP E	859.68, 36" RCP W
INT-57	120659-ALGN-SUNRISE BLVD	1200+55.19	13.50' R	SW-506 N	869.87	864.64, 15" RCP N 864.87, 24" RCP E	864.54, 24" RCP W
INT-58	120659-ALGN-SUNRISE BLVD	1200+55.21	-13.50' L	SW-505 N	869.86		865.86, 15" RCP S
INT-59	120659-ALGN-73RD ST	45+89.85	-13.51' L	SW-505 N	869.70	867.20, 6" HDPE N	865.69, 15" RCP E
INT-60	120659-ALGN-73RD ST	45+89.85	13.50' R	SW-506 N	870.20	864.47, 15" RCP W 864.37, 24" RCP N	864.27, 24" RCP S
MH-01	120659-ALGN-73RD ST	9+27.97	31.44' R	SW-401 N 60	835.66	828.66, 30" RCP E	828.56, 30" RCP W
MH-02	120659-ALGN-73RD ST	12+05.56	13.50' R	SW-401 N 48	835.65	830.73, 24" RCP N 830.83, 15" RCP E	830.63, 24" RCP S
MH-03	120659-ALGN-73RD ST	15+93.81	14.56' R	SW-401 N 48	837.82	833.95, 18" RCP E 835.35, 6" HDPE N	833.85, 18" RCP S
MH-04	120659-ALGN-73RD ST	19+49.34	13.50' R	SW-401 N 48	837.44	832.79, 18" RCP S 832.89, 18" RCP E	832.69, 24" RCP N
MH-05	120659-ALGN-73RD ST	22+79.91	13.50' R	SW-401 N 60	837.19	830.74, 24" RCP S 830.64, 15" RCP E	830.54, 30" RCP N
MH-06	120659-ALGN-73RD ST	23+98.33	22.60' R	SW-401 N 96	837.73	829.99, 24" RCP N 829.89, 36" RCP NE	829.89, 36" RCP S
MH-07	120659-ALGN-73RD ST	25+83.76	19.50' R	SW-401 N 72	841.79	837.09, 24" RCP N 837.19, 15" RCP E	836.99, 24" RCP S
MH-08	120659-ALGN-73RD ST	27+20.99	0.00'	SW-401 N 48	846.08	840.90, 15" RCP W 840.90, 15" RCP E 840.80, 24" RCP N	840.70, 24" RCP S
MH-09	120659-ALGN-73RD ST	29+47.11	0.00'	SW-401 N 48	853.76	848.10, 24" RCP E	843.06, 24" RCP S
MH-10	120659-ALGN-73RD ST	32+87.97	6.00' R	SW-401 N 60	857.07	851.90, 24" RCP E 852.42, 15" RCP W 852.59, 15" RCP N	851.80, 24" RCP S
MH-11	120659-ALGN-73RD ST	36+37.12	13.45' R	SW-401 N 60	859.08	854.36, 24" RCP E	854.26, 24" RCP N
MH-12	120659-ALGN-73RD ST	39+16.56	13.50' R	SW-401 N 60	861.47	855.97, 30" RCP E 856.31, 15" RCP N	855.77, 30" RCP S
MH-13	120659-ALGN-73RD ST	42+53.25	13.50' R	SW-401 N 60	865.19	860.78, 24" RCP E 860.78, 15" RCP S	860.68, 24" RCP N
MH-14	120659-ALGN-73RD ST	45+24.30	13.50' R	SW-401 N 60	868.42	862.96, 24" RCP N 863.06, 24" RCP E	862.86, 30" RCP S
MH-15	120659-ALGN-73RD ST	47+83.77	20.17' R	SW-401 N 48	874.39		868.65, 24" RCP S

CHECK
PLANS

WATER MAIN CONSTRUCTION NOTES:

1. SHOP DRAWING REVIEW: DMWW TO REVIEW SHOP DRAWING SUBMITTALS FOR ALL MATERIAL RELATED TO WATER MAIN WORK AS SOON AS PRACTICABLE AFTER NOTICE TO PROCEED AND PRIOR TO PURCHASE. DMWW REQUIRES A MINIMUM OF 15 DAYS FOR REVIEW. CONTRACTOR TO SUBMIT SHOP DRAWINGS ELECTRONICALLY TO:
CARLA SCHUMACHER
CSCHUMACHER@DMWW.COM
OFFICE: (515) 323-6227
2. INSPECTION: A DMWW'S ENGINEERING TECHNICIAN WILL BE ASSIGNED AS AN INSPECTOR FOR THE PROJECT TO INSPECT MATERIALS USED AND WORK DONE FOR CONFORMANCE TO PLANS AND SPECIFICATIONS.
3. PAYMENT: DMWW ENGINEERING TECHNICIAN WILL COORDINATE WITH CITY INSPECTOR FOR INSTALLED QUANTITIES FOR PAY APPLICATIONS.
4. CHANGE ORDERS: CONTRACTOR, DMWW INSPECTOR, AND CITY INSPECTOR TO AGREE ON COMPENSATION **PRIOR** TO COMMENCING ANY WORK THAT IS NOT COVERED BY THE CONTRACT FOR WATER MAIN ITEMS. **WORK PERFORMED PRIOR TO AN AGREEMENT WILL NOT BE CONSIDERED FOR COMPENSATION.**
5. START OF WORK NOTIFICATION: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN 48 HOURS PRIOR TO START OF WATER MAIN RELATED CONSTRUCTION ACTIVITY FOR EACH STAGE OF CONSTRUCTION INVOLVING WATER MAIN INSTALLATION.
6. WATER SHUTDOWNS:

6.1. CONTRACTOR TO NOTIFY CUSTOMERS A MINIMUM OF 24 HOURS IN ADVANCE OF WATER SHUTDOWNS. DMWW WILL PROVIDE DOOR TAGS TO CONTRACTOR. DMWW TO ASSIST CONTRACTOR IN IDENTIFICATION OF SERVICES REQUIRING CUSTOMER NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.

6.2. CONTRACTOR REQUIRED TO NOTIFY BUSINESS CUSTOMERS A MINIMUM OF 72 HOURS IN ADVANCE OF WATER SHUTDOWNS. COORDINATE WITH DMWW PERSONNEL FOR SCHEDULING AND NOTIFICATIONS. NOTIFICATIONS ARE INCIDENTAL TO WATER SERVICE BID ITEM.

6.3. WATER MAIN SHUTDOWNS MAY NEED TO BE COMPLETED OUTSIDE OF NORMAL WORKING HOURS (7 AM TO 7 PM) TO MINIMIZE IMPACT ON AFFECTED CUSTOMERS. NO ADDITIONAL COMPENSATION WILL BE PAID FOR WORK OUTSIDE NORMAL WORKING HOURS.
7. CONNECTION TO EXISTING WATER MAINS: CONTRACTOR TO NOTIFY DMWW ENGINEERING TECHNICIAN A MINIMUM OF 72 HOURS BEFORE BEGINNING WORK THAT REQUIRES ISOLATION OF A PORTION OF THE DISTRIBUTION SYSTEM.
8. VALVE AND HYDRANT OPERATION: ALL VALVES AND HYDRANTS TO BE OPERATED BY DMWW PERSONNEL ONLY. CONTRACTOR TO COORDINATE WITH ENGINEERING TECHNICIAN 72 HOURS IN ADVANCE OF REQUIRED OPERATION.
9. TESTING:

9.1. PRESSURE TEST AND CHLORINATE IN ACCORDANCE WITH SPECIAL PROVISIONS 026740 AND 026750. ALLOW A MINIMUM OF 3 DAYS FOR EACH SECTION TO BE TESTED.
10. TAPS ON WATER MAIN:

10.1. CONTRACTOR TO SCHEDULE THE FOLLOWING TAPS WITH DMWW CUSTOMER SERVICE BY CALLING 515-283-8700 A MINIMUM OF 24 HOURS PRIOR TO TAP:

10.1.1. 1" CHLORINATION TAPS

10.1.2. 1" AND 2" WATER SERVICE TAPS

10.2. TAPPING SLEEVE & VALVES ARE SCHEDULED BY DMWW ENGINEERING TECHNICIAN.

10.3. CONTRACTOR SHALL HAVE EXCAVATION PREPARED AND PROPERLY SHORED IN ADVANCE OF SCHEDULED TAP IN ACCORDANCE WITH DMWW RULES AND REGULATIONS LOCATED AT WWW.DMWW.COM AND OSHA REQUIREMENTS.
11. WATER MAIN SPECIFIC QUESTIONS OR COMPLAINTS FROM CUSTOMERS ARE TO BE REFERRED TO DMWW'S ENGINEERING TECHNICIAN AND CITY INSPECTOR IMMEDIATELY.
12. TRENCHES WILL NOT BE LEFT OPEN WHEN CONTRACTOR IS NOT WORKING.
13. TRAFFIC CONTROL FOR THE PROJECT WILL REQUIRE CONSIDERATION OF WATER MAIN CONSTRUCTION REQUIREMENTS, INCLUDING ABANDONMENT OF EXISTING WATER MAIN AND REMOVAL OF HYDRANTS AND VALVE BOXES THAT MAY BE IN THE WAY OF NEW PAVING OR STRUCTURES.
14. PREVENT ANY DIRT OR FOREIGN MATERIAL FROM ENTERING THE NEW MAIN BY INSTALLING TEMPORARY WATER TIGHT PLUG OR CAP ON THE END OF THE PIPE DURING ANY STOPPAGE OF INSTALLATION.

C900 PVC & CL52 DIP Restrained Joint (RJ) Table									
Nominal Pipe Diameter (in)	Pipe Material**	Minimum Restrained Length (ft)*							
		Horizontal & Vertical (Up) Bend				Vertical (Down) Bend			Cap/Dead End
		11.25°	22.5°	45°	90°	11.25°	22.5°	45°	
16	PVC	7	14	29	70	19	39	80	147
12	PVC	6	11	23	55	15	30	62	113
8	PVC	4	8	16	39	10	21	43	80
16	DIP	7	14	28	70	17	35	70	178
8	DIP	4	8	16	38	10	20	40	97
*Use restrained joints on all pipe joints that fall within the lengths above on both sides of the fitting indicated.									
**Ductile Iron Pipe (DIP) is assumed to be polyethylene encased									
***This table is based on the following assumptions:									
	Soil Type:	ML							
	Factor of Safety:	2							
	Min. Bury Depth:	5							
	Test Pressure:	150							
	Trench Condition:	Type 3							

WATER SERVICE SCHEDULE																	
EXISTING SERVICE CONNECTION INFORMATION									NEW SERVICE CONNECTION INFORMATION (MAIN TO STOP BOX)								
SHEET	ADDRESS	STREET TAPPED	NAME	SERVICE SIZE (INCH)	MATERIAL TYPE	DATE TAPPED	SERVICE TYPE	CONNECTION TYPE	TAP LOCATION	STOP BOX LOCATION	MAIN SIZE	MAIN TYPE	MAIN DEPTH	TAP SIZE	SERVICE SIZE	MATERIAL TYPE	NOTES
	1119 73rd St	University	DaVita	6	UNK	UNK	FIRE SERVICE	VALVE									
	1119 73rd St	Taps Fire Inside	DaVita	2	UNK	UNK	DOM										
	1120/1150 73rd St	CLIVE WATER															
	7229 (7215) University Ave	GIS-University BL-10" main in University	Kum & Go #98	6	UNK	1997	FIRE SERVICE	VALVE									
	7229 (7215) University Ave	TAPS FIRE	Kum & Go #98	2	UNK	1997	DOM	SB									
	7229 (7215) University Ave (CUT @ MAIN)	UNIVERSITY	Kum & Go #98	1	UNK	1900	DOM	SB									
	7229 (7215) University Ave (CUT @ MAIN)	UNIVERSITY	Kum & Go #98	2	UNK	UNK	DOM	SB									
	7301 University	73rd St	Flowerama of Amer Inc	3/4	SUSPECTED LEAD	UNK	DOM	SB				CI					
	1220 73rd St	73rd St	A to Z Rental	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1233 73rd St	73rd St	Betty Hill Dance Studio	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1237 73rd St	73rd St	Klassic Kids Child Development	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1237 73rd St	73rd St	Klassic Kids Child Development	1	UNK	1995	FIRE SERVICE	SB			12	PVC	6'	1"	1"	COPPER	
	1239 73rd St	73rd St	KIK Properties	3/4	UNK	1958	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1250 73rd St	73rd St	Windsor Chateau Partners LLC	2	SUSPECTED LEAD	UNK	DOM	VALVE			12	PVC	6'	1"	1"	COPPER	
	1251(1243) 73rd St *	73rd St	Davidson Motoyama LLC	3/4	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1261 73rd St	73rd St	Moris	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1275 73rd St	73rd St	Neal	1	SUSPECTED LEAD	2010	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1277 73rd St	73rd St	Neal	UNK	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1300 73rd St/ (1320)	73rd St	Citywide Heating & Airconditioning	3/4	UNK	1958	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1325 73rd St	73rd St	McClimon	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1330 73rd St	73rd St	Sears	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1342 73rd St	73rd St	Wilson	UNK	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1342 73rd St	73rd St	Wilson	UNK	UNK	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1350 73rd St	73rd St	Pagilai	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1375 73rd St	73rd St	Sterling Investments, LLC	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1379 73rd St	73rd St	Sterling Investments, LLC	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1400 73rd St	73rd St	Meyer	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1401 73rd St	73rd St	Wolf	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1405 73rd St	73rd St	Wolf	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	

- LEGEND:
1. NEW 1" WATER SERVICE, STOP BOX, AND CONNECTION TO NEW WATER MAIN OPPOSITE SIDE OF THE STREET.
2. NEW 1" WATER SERVICE, STOP BOX, AND CONNECTION TO NEW WATER MAIN SAME SIDE OF THE STREET.

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\WINDSOR\DWG\172023\1013.01.DWG 11/17/2023 10:13:01 PM

WATER SERVICE SCHEDULE																	
EXISTING SERVICE CONNECTION INFORMATION									NEW SERVICE CONNECTION INFORMATION (MAIN TO STOP BOX)								
SHEET	ADDRESS	STREET TAPPED	NAME	SERVICE SIZE (INCH)	MATERIAL TYPE	DATE TAPPED	SERVICE TYPE	CONNECTION TYPE	TAP LOCATION	STOP BOX LOCATION	MAIN SIZE	MAIN TYPE	MAIN DEPTH	TAP SIZE	SERVICE SIZE	MATERIAL TYPE	NOTES
	1414 73rd St	73rd St	Your Space LLC	3/4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1415 73rd St	73rd St	Bolin	UNK	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1417 73rd St	73rd St	Bolin	SAME TAP	AS ABOVE						12	PVC	6'	1"	1"	COPPER	
	1418 73rd St	73rd St	Brent	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1420 73rd St	73rd St	Brent	SAME TAP	AS ABOVE						12	PVC	6'	1"	1"	COPPER	
	1422 73rd St	73rd St	Johnson	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1426 73rd St	73rd St	AJK RE LLC	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1428 73rd St	73rd St	AJK RE LLC	UNK	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1430 73rd St	73rd St	Investor Specialists INC	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1432 73rd St	73rd St	Investor Specialists INC	UNK	SUSPECTED LEAD	UNK	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1434 73rd St	73rd St	Corley	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1436 73rd St	73rd St	Corley	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1438 73rd St	73rd St	Kramer	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1440 73rd St	73rd St	Kramer	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1442 73rd St	73rd St	Wells	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1504 73rd St	73rd St	Weber	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1508 73rd St	73rd St	Kincade	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1512 73rd St	73rd St	Lack	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1516 73rd St	73rd St	Kilmer	3/4	UNK	1954	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7217 Del Matro *	GIS-NI BL-NI	Doggett	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7218 Del Matro *	GIS-NI BL-NI	Orr	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1600 73rd St (Cut at Main)	73rd St	West Des Moines School	1/2	UNK	1926	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1600 73rd St (Cut at Main)	73rd St	West Des Moines School	4	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1600 73rd St.	73rd St	West Des Moines School	2	UNK	1952	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1600 73rd St.	73rd St	West Des Moines School	6	UNK	1992	FIRE SERVICE	VALVE			12	PVC	6'	1"	1"	COPPER	
	1600 73rd St	Taps Existing Private	West Des Moines School	6	UNK	2005	FIRE SERVICE	TS&V ON PRIVATE			12	PVC	6'	6"	6"	COPPER	
	7218 Bellaire Ave	Bellaire	Lekowsky	3/4	UNK	1956	DOM	SB			8	PVC	6'	1"	1"	COPPER	
	7218 Bellaire Ave	Bellaire	Lekowsky	UNK	SUSPECTED LEAD		DOM	SB			8	PVC	6'	1"	1"	COPPER	
	7219 Bellaire Ave	Bellaire	Potter	3/4	UNK	1956	DOM	SB			8	PVC	6'	1"	1"	COPPER	
	7219 Bellaire Ave	Bellaire	Potter	UNK	SUSPECTED LEAD		DOM	SB			8	PVC	6'	1"	1"	COPPER	
	7219 Washington Ave *	GIS-NI BL-NI	Dixon	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7222 Washington Ave *	GIS-NI BL-NI	Kloster	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1808 73rd St	73rd St	Hamersley	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1812 73rd St	73rd St	Hora	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1816 73rd St	73rd St	Weiler	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1820 73rd St	73rd St	Engel	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1908 73rd St	73rd St	Pavlik	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1912 73rd St	73rd St	Snyder	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7222 Franklin *	GIS-NI BL-NI	Stockton	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1916 3rd St	73rd St	Davitt	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	1920 73rd St	73rd St	Liana	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2008 73rd St	73rd St	Sahota	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2012 73rd St	73rd St	Maertz	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2016 73rd St	73rd St	Hausman	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2016 73rd St	73rd St	Hausman	UNK	SUSPECTED LEAD		DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2020 73rd St	73rd St	Lian	3/4	UNK	1956	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7261 Sunrise Blvd *	Sunrise Blv	Scavo	UNK	SUSPECTED LEAD	NI	DOM	SB			8	PVC	6'	1"	1"	COPPER	
	2108 73rd St	73rd St	Engstrom	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	7304 Wilshire Blvd	73rd St.	Scott	3/4	UNK	1957	DOM	SB			12	PVC	6'	1"	1"	COPPER	
	2112 73rd St	73rd St	Win	3/4	UNK	1957	DOM	SB									
	2255 73rd St	73rd St	Network Inc	UNK	UNK	1970	DOM	SB									
	7300 Hickman (Cut at Main) *	GIS-NI BL-UNK	Jakes Fire Works	1	UNK	1961	DOM	SB									
	7300 Hickman Rd	73rd St	Jakes Fire Works	6	DI	2021	FIRE SERVICE	VALVE									
	7300 Hickman Rd	Taps 6" Fire	Jakes Fire Works	2	DI	2021	DOM										

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\LA\LA1317-0093\DWG\LA1317-0093.dwg 11/7/2023 10:13:22 PM

WATERMAIN FITTING TABLE					
STATION	STREET	SIDE (L/R)	TYPE	SIZE	REMARKS
1+82.00	73RD ST.	12.7' R	TAPPING SLEEVE & VALVE	8"x8"	
1+82.04	73RD ST.	4.7' R	REDUCER	12"x8"	
1+82.14	73RD ST.	17.8' L	90° BEND	12"	HORIZONTAL
4+65.00	73RD ST.	13.2' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
5+81.23	73RD ST.	18.1' L	11.25" BEND	12"	HORIZONTAL
6+75.00	73RD ST.	17.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
6+80.00	73RD ST.	17.0' L	VALVE	12"	
9+75.00	73RD ST.	17.0' L	MJ x AJ TEE	12"	PART OF HYDRANT ASSEMBLY
12+11.45	73RD ST.	17.0' L	TEE	12"x8"	
12+11.77	73RD ST.	11.0' L	VALVE	8"	
100+64.32	FOREST CT.	7.6' R	90° BEND	8"	HORIZONTAL
100+64.33	FOREST CT.	12.8' R	45° BEND	8"	VERTICAL
100+64.33	FOREST CT.	16.8' R	45° BEND	8"	VERTICAL
100+64.33	FOREST CT.	20.8' R	TEE	8"x6"	
100+61.32	FOREST CT.	20.8' R	SOLID SLEEVE	6"	
100+67.32	FOREST CT.	20.8' R	SOLID SLEEVE	6"	
12+61.68	73RD ST.	17.0' L	VALVE	12"	
13+25.00	73RD ST.	17.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
16+14.22	73RD ST.	17.0' L	TEE	12"x8"	
16+14.20	73RD ST.	11.0' L	VALVE	8"	
200+42.97	COLBY AVE.	7.3' L	11.25° BEND	8"	VERTICAL
200+58.44	COLBY AVE.	16.4' L	SOLID SLEEVE	6"	
200+64.43	COLBY AVE.	7.6' L	90° BEND	8"	HORIZONTAL
200+61.43	COLBY AVE.	12.0' L	11.25° BEND	8"	VERTICAL
200+61.44	COLBY AVE.	16.4' L	TEE	8"x6"	
200+64.44	COLBY AVE.	16.4' L	SOLID SLEEVE	6"	
16+75.00	73RD ST.	17.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
16+78.00	73RD ST.	17.0' L	VALVE	12"	
17+16.50	73RD ST.	17.0' L	45° BEND	12"	HORIZONTAL
17+26.00	73RD ST.	7.5' L	45° BEND	12"	HORIZONTAL
19+34.59	73RD ST.	7.5' L	TEE	12"x8"	
19+34.59	73RD ST.	3.5' L	VALVE	8"	
300+30.91	SUNSET TER.	1.8' R	45° BEND	8"	VERTICAL
300+33.91	SUNSET TER.	1.8' R	45° BEND	8"	VERTICAL
300+33.92	SUNSET TER.	7.8' R	SOLID SLEEVE	8"	
300+36.91	SUNSET TER.	1.8' R	90° BEND	8"	HORIZONTAL
300+36.91	SUNSET TER.	7.8' R	TEE	8"x8"	
300+39.82	SUNSET TER.	7.8' R	SOLID SLEEVE	8"	
19+83.00	73RD ST.	7.5' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
22+73.92	73RD ST.	7.5' L	TEE	12"x8"	
22+73.92	73RD ST.	3.5' L	VALVE	8"	
400+67.72	REITE AVE.	7.5' L	REDUCER	8"x6"	
400+70.72	REITE AVE.	7.5' L	45° BEND	6"	VERTICAL
400+74.20	REITE AVE.	7.5' L	45° BEND	6"	VERTICAL
400+76.17	REITE AVE.	14.3' L	SOLID SLEEVE	4"	
400+79.20	REITE AVE.	7.7' L	90° BEND	6"	HORIZONTAL
400+79.16	REITE AVE.	14.3' L	TEE	6"x4"	
400+82.16	REITE AVE.	14.3' L	SOLID SLEEVE	4"	
23+10.00	73RD ST.	7.5' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
23+13.00	73RD ST.	7.5' L	VALVE	12"	
23+72.79	73RD ST.	7.5' L	45° BEND	12"	VERTICAL
23+76.79	73RD ST.	7.5' L	45° BEND	12"	VERTICAL
23+86.79	73RD ST.	7.5' L	45° BEND	12"	VERTICAL
23+90.79	73RD ST.	7.5' L	45° BEND	12"	VERTICAL
25+90.00	73RD ST.	7.5' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
25+93.00	73RD ST.	7.5' L	VALVE	12"	
26+16.28	73RD ST.	7.5' L	TEE	12"x8"	
26+16.28	73RD ST.	3.5' L	VALVE	8"	
501+01.76	DEL MATRO AVE.	18.8' L	45° BEND	8"	VERTICAL
501+05.66	DEL MATRO AVE.	18.8' L	45° BEND	8"	VERTICAL
501+84.28	DEL MATRO AVE.	19.7' L	REDUCER	8"x6"	
501+86.28	DEL MATRO AVE.	14.3' L	SOLID SLEEVE	4"	
501+89.28	DEL MATRO AVE.	19.8' L	90° BEND	6"	HORIZONTAL
501+89.28	DEL MATRO AVE.	14.3' L	TEE	6"x4"	
501+92.27	DEL MATRO AVE.	14.3' L	SOLID SLEEVE	4"	
26+79.32	73RD ST.	7.5' L	11.25° BEND	12"	HORIZONTAL
27+09.88	73RD ST.	10.0' L	11.25° BEND	12"	HORIZONTAL
29+35.97	73RD ST.	10.0' L	TEE	12"x8"	
600+74.80	BELLAIRE AVE.	2.8' L	VALVE	8"	
600+79.80	BELLAIRE AVE.	2.8' L	90° BEND	8"	HORIZONTAL
600+77.00	BELLAIRE AVE.	17.7' R	SOLID SLEEVE	6"	

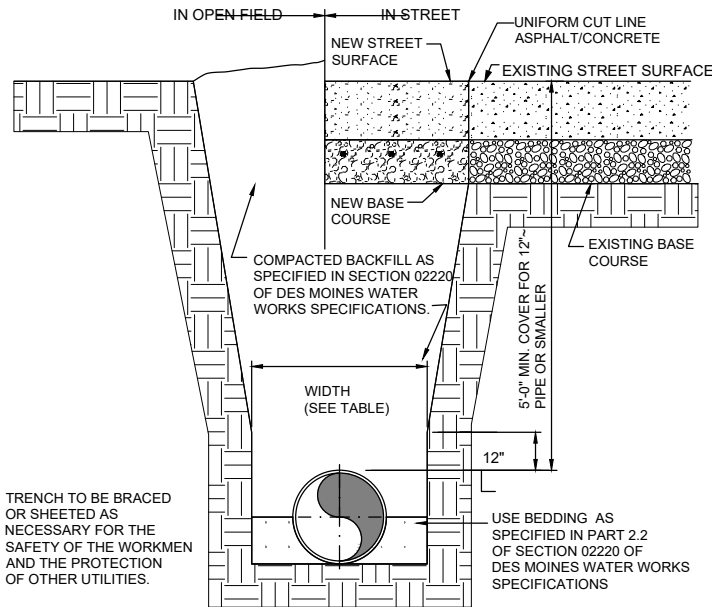
WATERMAIN FITTING TABLE					
STATION	STREET	SIDE (L/R)	TYPE	SIZE	REMARKS
600+80.00	BELLAIRE AVE.	17.7' R	TEE	8"x6"	
600+83.00	BELLAIRE AVE.	17.7' R	SOLID SLEEVE	6"	
29+94.01	73RD ST.	10.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
32+60.00	73RD ST.	10.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
32+63.00	73RD ST.	10.0' L	VALVE	12"	
33+28.11	73RD ST.	10.0' L	VALVE	12"	
33+33.05	73RD ST.	10.0' L	TEE	12"x8"	
33+32.88	73RD ST.	6.1' L	VALVE	8"	
700+13.59	WASHINGTON AVE.	18.8'	45° BEND	8"	VERTICAL
700+16.59	WASHINGTON AVE.	18.8'	45° BEND	8"	VERTICAL
700+36.59	WASHINGTON AVE.	18.9'	45° BEND	8'	VERTICAL
700+39.59	WASHINGTON AVE.	18.9'	45° BEND	8"	VERTICAL
700+68.83	WASHINGTON AVE.	15.2' L	SOLID SLEEVE	6"	
700+71.80	WASHINGTON AVE.	19.2' L	90° BEND	8"	HORIZONTAL
700+71.83	WASHINGTON AVE.	15.2' L	TEE	8"x6"	
700+74.83	WASHINGTON AVE.	15.2' L	SOLID SLEEVE	6"	
33+94.90	73RD ST.	10.0' L	TEE	12"x8"	
33+95.12	73RD ST.	14.6' L	VALVE	8"	
35+69.94	73RD ST.	8.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
35+72.94	73RD ST.	8.0' L	VALVE	12"	
36+31.64	73RD ST.	7.4' L	TEE	12"x8"	
36+31.48	73RD ST.	3.7' L	VALVE	8"	
900+94.52	JEFFERSON AVE.	7.1' L	90° BEND	8"	HORIZONTAL
900+91.55	JEFFERSON AVE.	14.1' L	SOLID SLEEVE	4"	
900+94.54	JEFFERSON AVE.	14.1' L	TEE	8"x4"	
900+97.54	JEFFERSON AVE.	14.1' L	SOLID SLEEVE	4"	
36+83.31	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
36+86.41	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
36+96.44	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
36+99.70	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
39+00.34	73RD ST.	7.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
39+50.32	73RD ST.	7.0' L	TEE	12"x8"	
39+50.19	73RD ST.	3.5' L	VALVE	8"	
1000+02.95	FRANKLIN AVE.	15.5' L	45° BEND	8"	VERTICAL
1000+06.09	FRANKLIN AVE.	15.7' L	45° BEND	8"	VERTICAL
1000+37.44	FRANKLIN AVE.	17.8' L	45° BEND	8"	VERTICAL
1000+40.43	FRANKLIN AVE.	18.0' L	45° BEND	8"	VERTICAL
1000+59.66	FRANKLIN AVE.	19.3' L	REDUCER	8"x6"	
1000+62.65	FRANKLIN AVE.	19.5' L	45° BEND	6"	HORIZONTAL
1000+67.77	FRANKLIN AVE.	14.4' L	45° BEND	6"	HORIZONTAL
42+00.41	73RD ST.	7.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
42+03.41	73RD ST.	7.0' L	VALVE	12"	
42+59.62	73RD ST.	7.0' L	TEE	12"x8"	
42+59.62	73RD ST.	3.5' L	VALVE	8"	
1100+03.60	EL RANCHO AVE.	18.5' L	45° BEND	8"	VERTICAL
1100+05.67	EL RANCHO AVE.	18.7' L	45° BEND	8"	VERTICAL
1100+63.40	EL RANCHO AVE.	21.4' L	90° BEND	8"	HORIZONTAL
1100+60.44	EL RANCHO AVE.	14.8' L	SOLID SLEEVE	6"	
1100+63.43	EL RANCHO AVE.	14.8' L	TEE	8"x6"	
1100+66.43	EL RANCHO AVE.	14.8' L	SOLID SLEEVE	6"	
43+63.85	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
43+67.45	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
43+77.45	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
43+81.25	73RD ST.	7.0' L	45° BEND	12"	VERTICAL
45+22.45	73RD ST.	7.0' L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
45+63.79	73RD ST.	7.0' L	TEE	12"x8"	
45+63.47	73RD ST.	3.5' L	VALVE	8"	
1200+02.72	SUNRISE BLVD.	20.0' L	45° BEND	8"	VERTICAL
1200+05.52	SUNRISE BLVD.	20.0' L	45° BEND	8"	VERTICAL
1200+59.65	SUNRISE BLVD.	20.7' L	REDUCER	8"x6"	
1200+62.65	SUNRISE BLVD.	20.8' L	45° BEND	6"	HORIZONTAL
1200+67.69	SUNRISE BLVD.	15.8' L	45° BEND	6"	HORIZONTAL
45+82.45	73RD ST.	7.0 L	45° BEND	12"	VERTICAL
45+84.85	73RD ST.	7.0 L	45° BEND	12"	VERTICAL
45+94.85	73RD ST.	7.0 L	45° BEND	12"	VERTICAL
45+97.84	73RD ST.	7.0 L	45° BEND	12"	VERTICAL
47+75.00	73RD ST.	7.0 L	MJ x AJ TEE	12"x6"	PART OF HYDRANT ASSEMBLY
48+26.51	73RD ST.	7.0' L	REDUCER	12"x8"	
48+28.42	73RD ST.	7.0' L	TAPPING SLEEVE & VALVE	8"x8"	
48+28.26	73RD ST.	27.7 R	90° BEND	8"	HORIZONTAL
48+62.13	73RD ST.	19.5' L	SOLID SLEEVE	6"	

CHECK
PLANS

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859 MWM01.DOT.dwg 11/7/2023 10:13:32 PM

\$DATES

\$MODEL\$VALUES

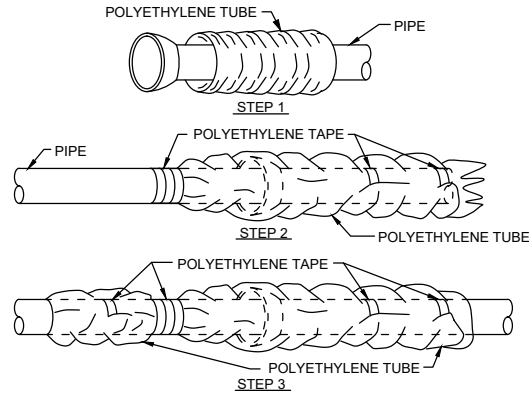


PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
16"	2'-4"	3'-4"
20"	2'-8"	3'-8"

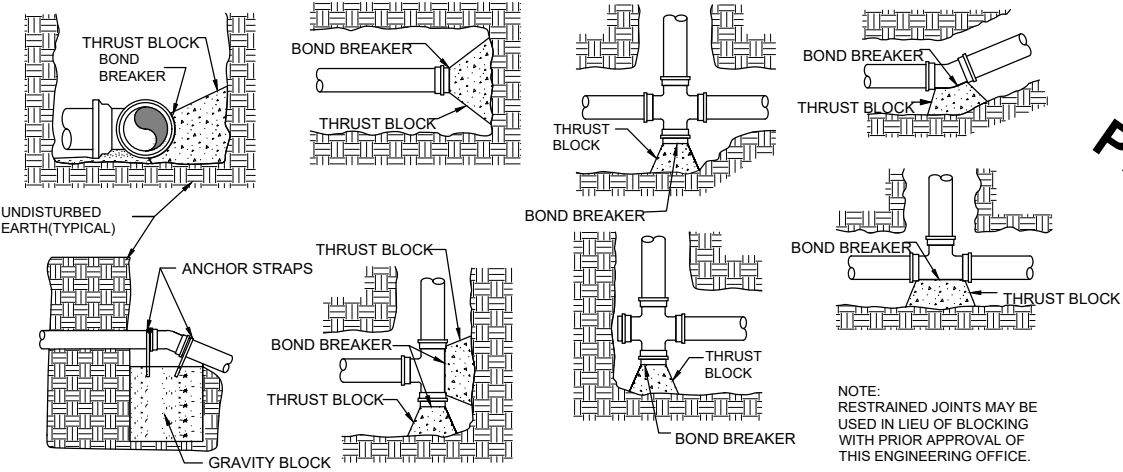
TYPICAL TRENCH SECTION
NOT TO SCALE

- STEP 1 - PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO THE TRENCH
- STEP 2 - PULL THE TUBE OVER THE LENGTH OF PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE
- STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP AND TAPED IN PLACE.

NOTE: IRON PIPE FITTINGS, INCLUDING VALVES AND HYDRANTS SHALL BE WRAPPED WITH TWO LAYERS OF POLYETHYLENE MATERIAL. THE WRAPPING SHALL EXTEND AT LEAST 1' BEYOND THE FITTING JOINTS ONTO THE ADJOINING PIPE AND SHALL BE FASTENED TO THE PIPE WITH PLASTIC TAPE. TAPE SHALL BE USED AS NEEDED TO HOLD WRAP IN PLACE. EITHER POLYETHYLENE SHEETS OR SLIT TUBING MAY BE USED.



POLYETHYLENE WRAP FIELD INSTALLATION DETAIL
NOT TO SCALE

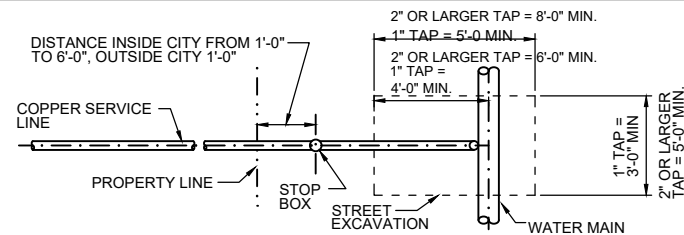


SIZE OF PIPE	VOLUME IN CUBIC YARDS			
	11 1/4"	22.5"	45"	90"
4"	0.24	0.65	1.35	2.03
6"	0.24	0.65	1.35	2.03
8"	0.45	1.14	2.35	3.49
12"	0.98	2.44	4.99	7.38
16"	1.73	4.27	8.70	12.84
20"	2.66	6.56	13.36	19.70
24"	3.70	9.25	18.94	27.96
30"	5.73	14.26	29.15	42.99

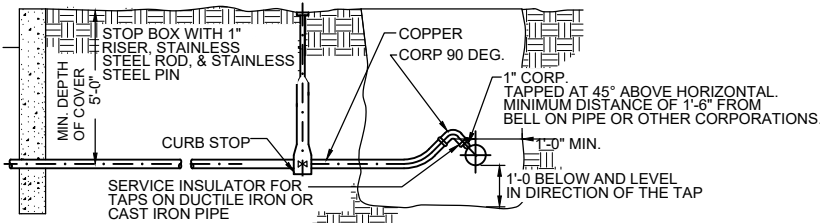
VOLUME OF GRAVITY BLOCK
NOT TO SCALE

SIZE OF PIPE	MINIMUM BEARING SURFACE (IN SQ. FT.)				TEE OR DEAD END
	11 1/4"	22.5"	45"	90"	
6"	1	2	4	8	6
8"	2	4	8	14	10
12"	4	8	16	29	21
16"	7	14	28	51	36
20"	11	22	43	79	56
24"	16	31	61	112	79

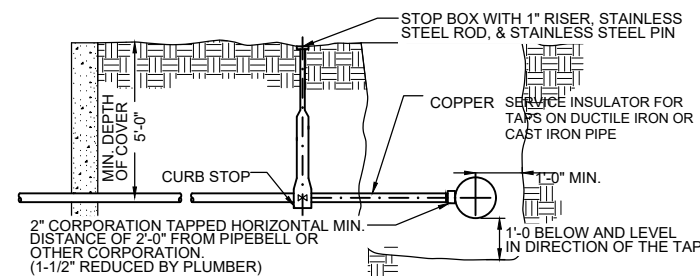
STANDARD CONCRETE THRUST BLOCKS
NOT TO SCALE



1" & 2" SERVICE INSTALLATION PLAN



1" SERVICE INSTATION SECTION



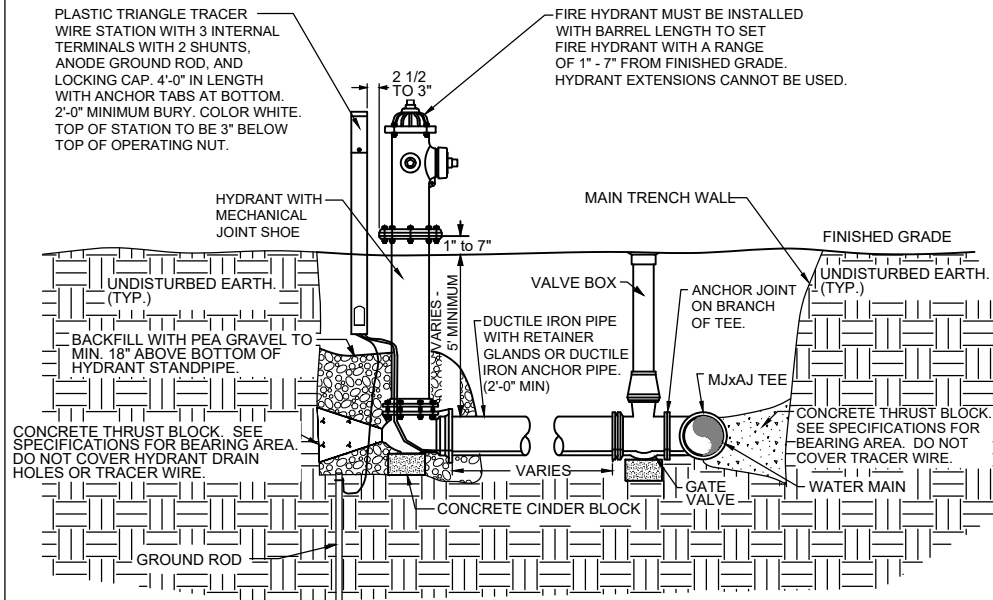
2" SERVICE INSTALLATION SECTION
SERVICE INSTALLATION
NOT TO SCALE

TRACER WIRE (SEE 505.6.6 FOR TRACER SYSTEM SPECIFICATIONS). FASTEN TO MIDPOINT OF EACH PIPE SECTION WITH PLASTIC TAPE. INSTALL ON ALL PIPE MATERIALS EXCLUDING TYPE K COPPER AND RED BRASS.

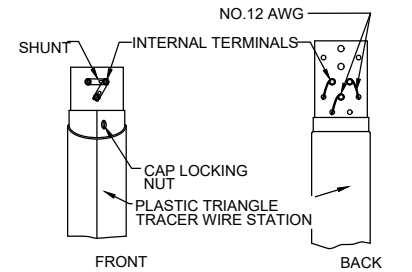
TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.

NOTE: IRON PIPE, VALVE, FITTINGS AND HYDRANT (BURIED PORTION) TO BE WRAPPED WITH POLYETHYLENE ENCASUREMENT MATERIAL PER DES MOINES WATER WORKS STANDARDS.

TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.



STANDARD HYDRANT ON WATER MAINS 16" OR LESS
NOT TO SCALE



TRACER WIRE RECEPTACLE DETAIL
NOT TO SCALE

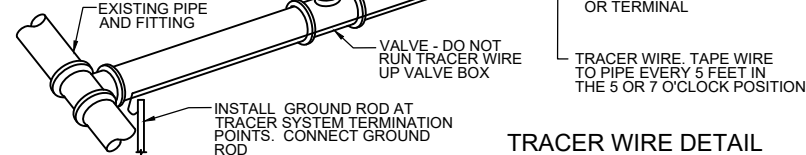
TRACER WIRE (SEE 505.6.6 FOR TRACER SYSTEM SPECIFICATIONS). FASTEN TO MIDPOINT OF EACH PIPE SECTION WITH PLASTIC TAPE. INSTALL ON ALL PIPE MATERIALS EXCLUDING TYPE K COPPER AND RED BRASS.

EXTEND TRACER WIRE UP HYDRANT BARREL TO TRACER WIRE STATION TO INTERNAL TERMINALS.

INSTALL GROUND ROD AT EACH TRACER WIRE RECEPTACLE

NOTE:

- CARE MUST BE EXERCISED TO PRESERVE THE INTEGRITY OF THE INSULATION ON THE TRACER WIRE.
- TRACER WIRE MAY BE INSTALLED IN PLASTIC CONDUIT FOR ADDITIONAL PROTECTION FROM POTENTIAL DAMAGE, BUT IT IS NOT REQUIRED.



TRACER WIRE DETAIL
NOT TO SCALE

CHECK PLANS

Des Moines Water Works
Water You Can Trust for Life
ENGINEERING DEPARTMENT
Des Moines, Iowa

STANDARD DETAIL SHEET

UPDATED 1-06-23

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

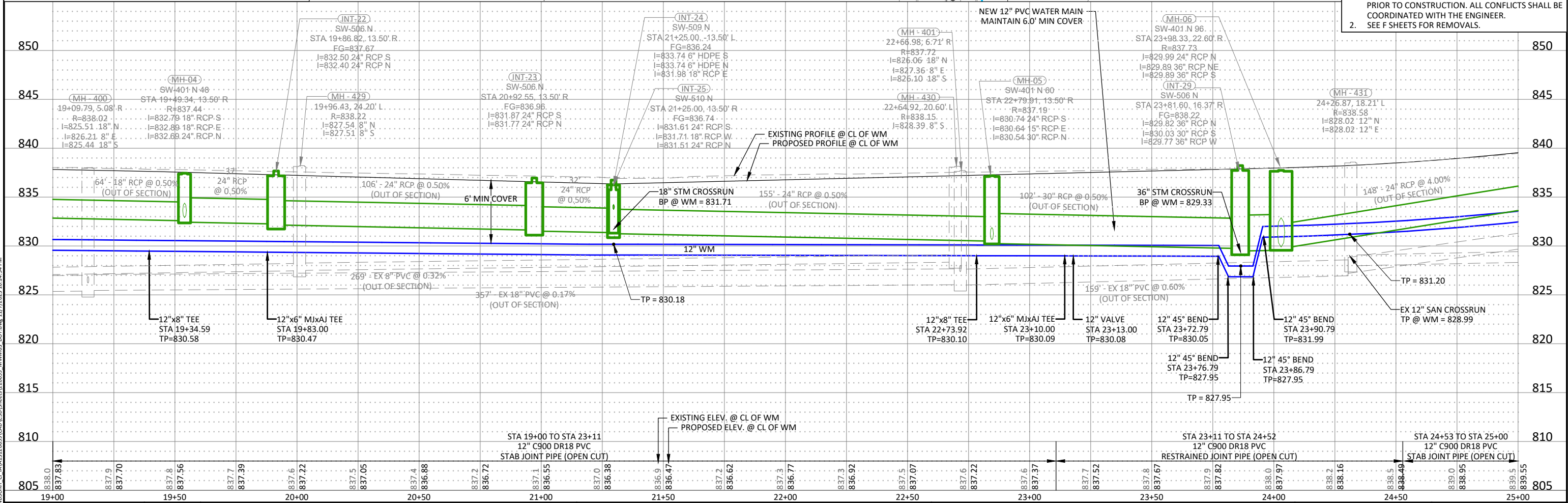
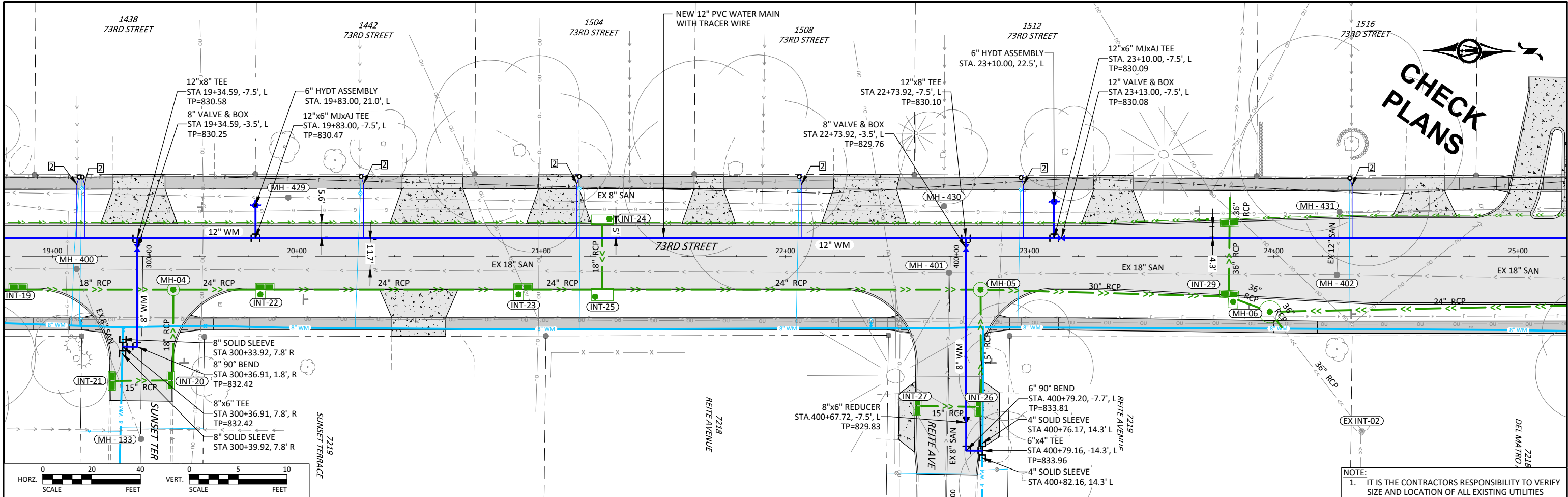
POLK COUNTY

PROJECT NUMBER

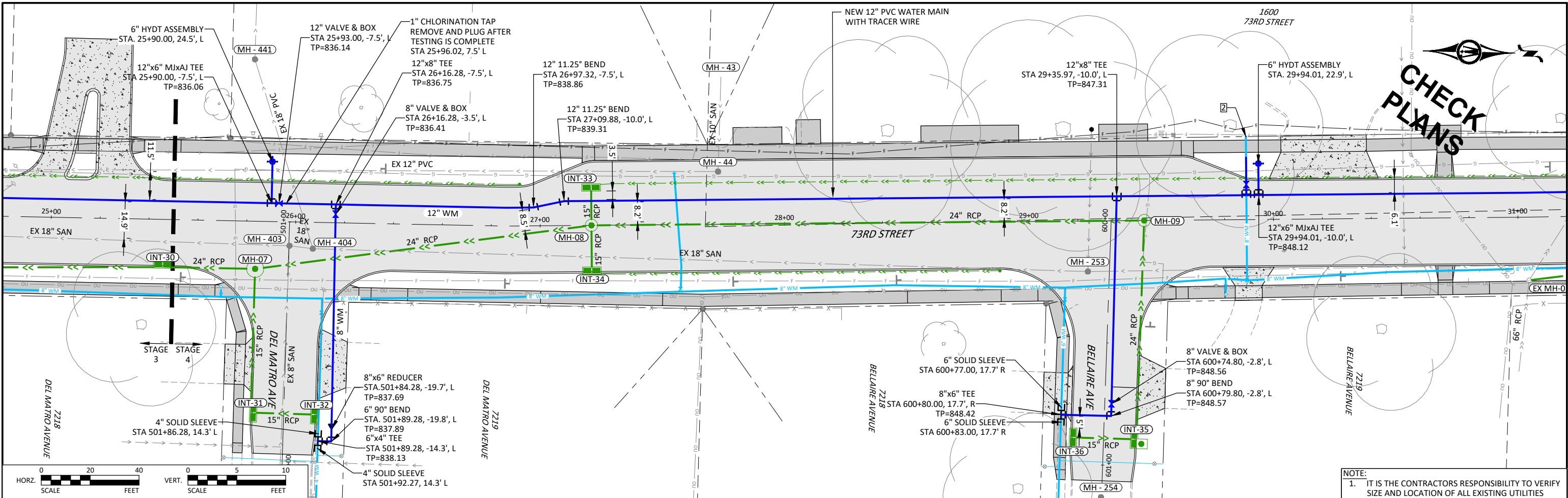
STP-U-8477(615)--70-77

SHEET NUMBER MWM.04

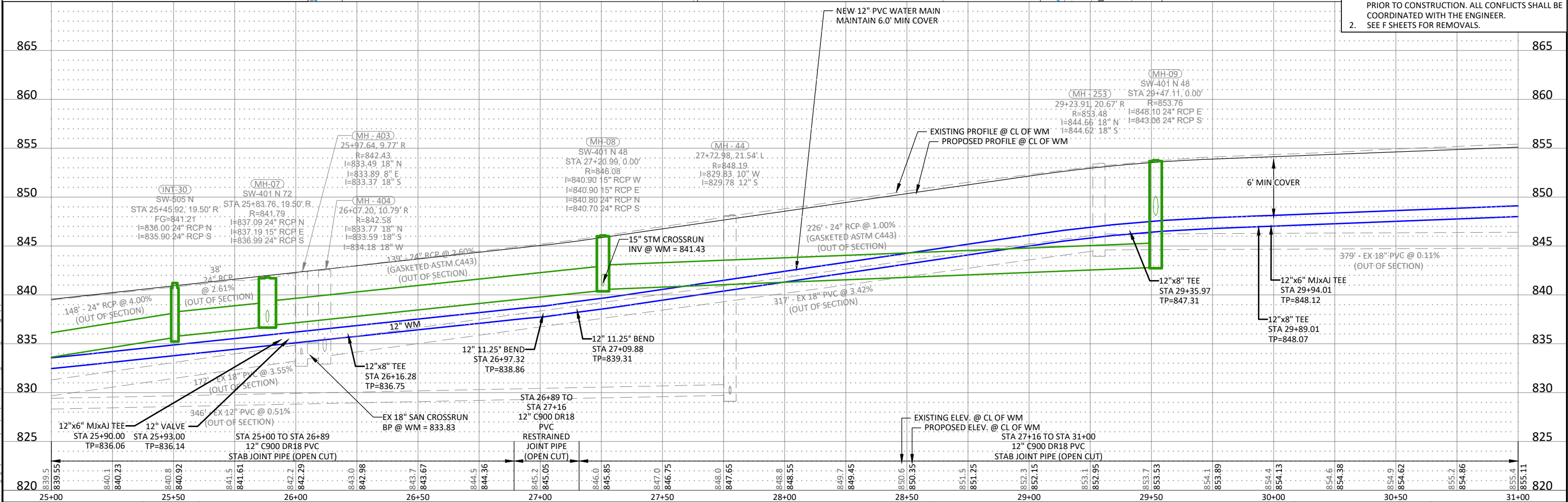
REVISED

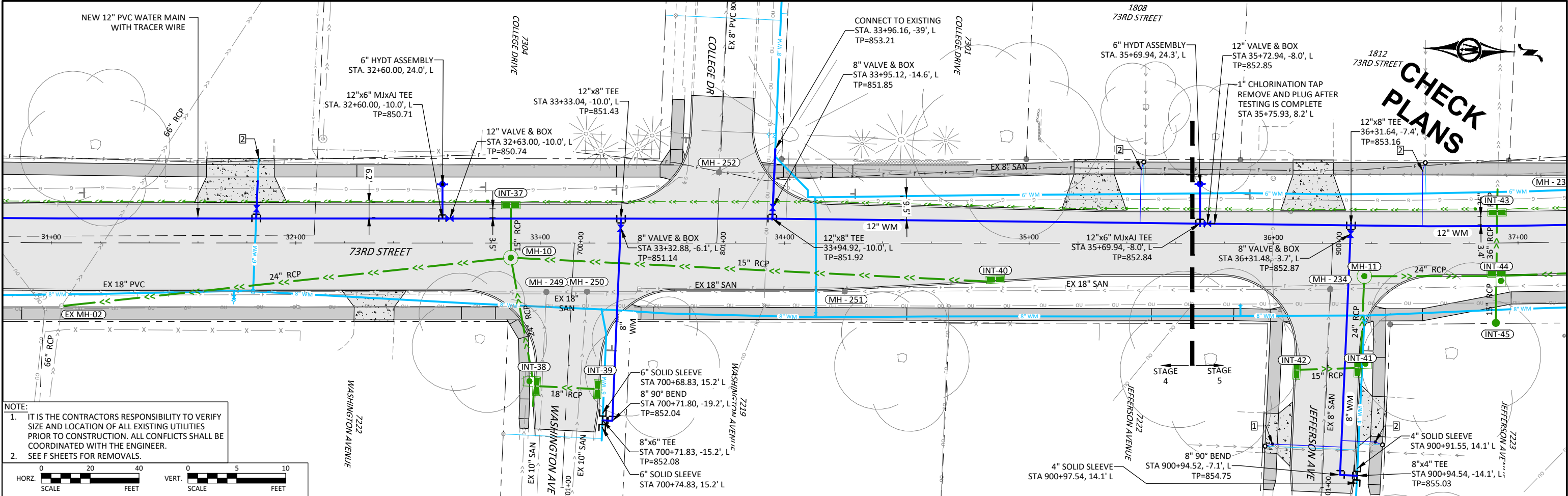


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_MWM08.DOT.dwg 11/17/2023 10:14:54 PM

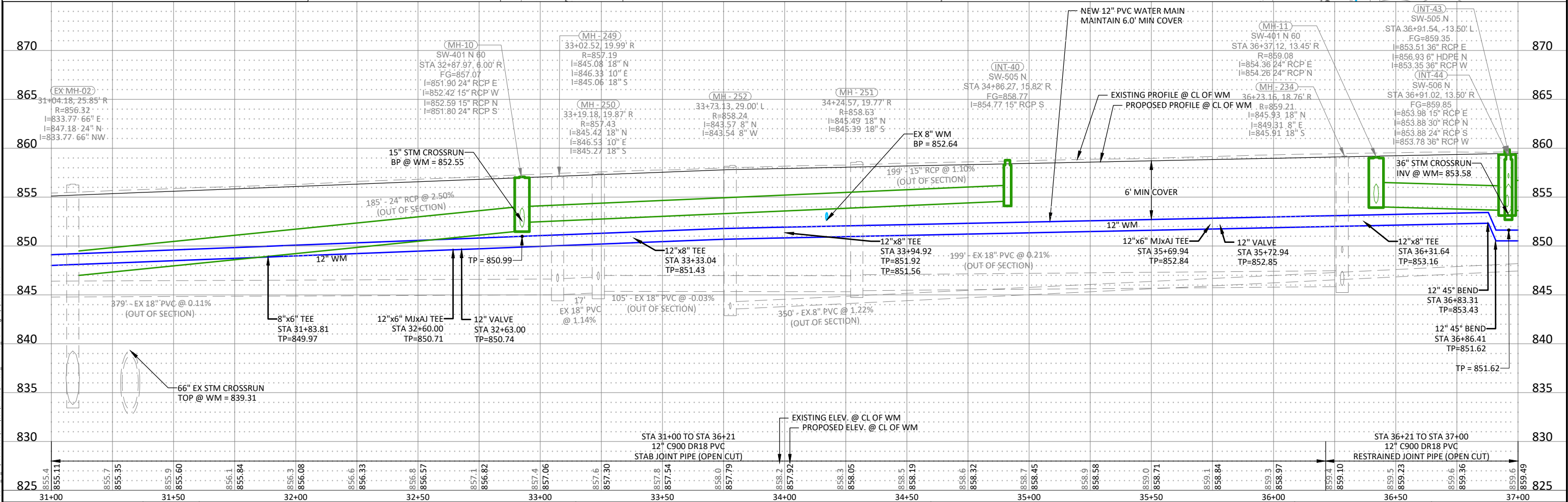
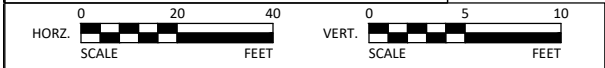


NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
2. SEE F SHEETS FOR REMOVALS.

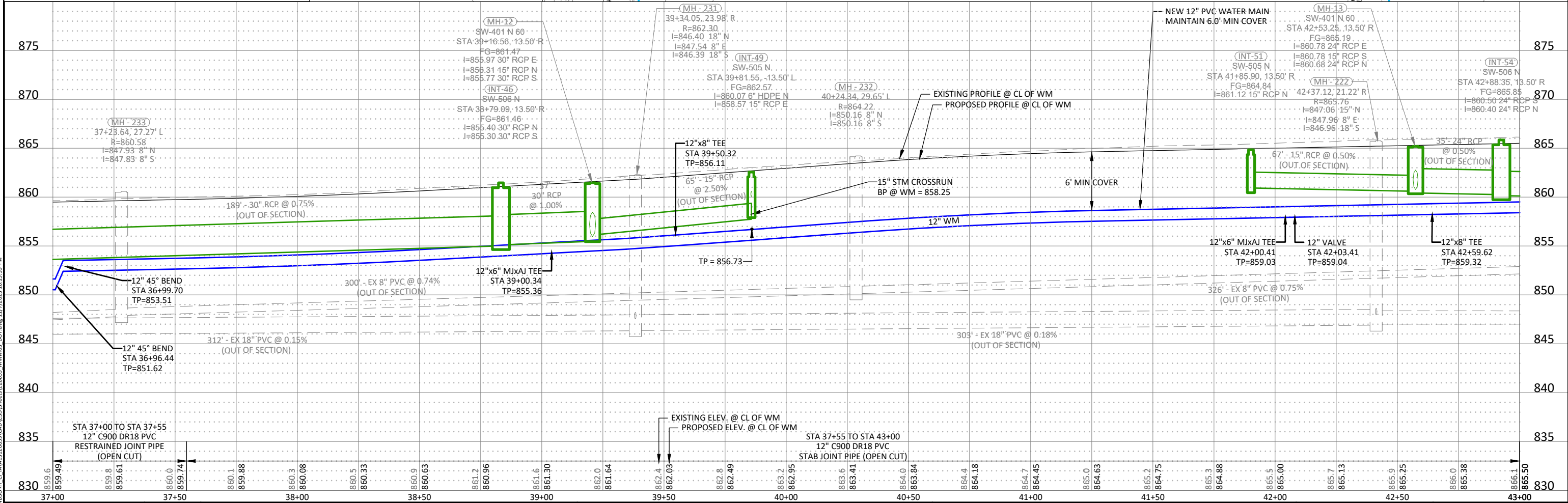
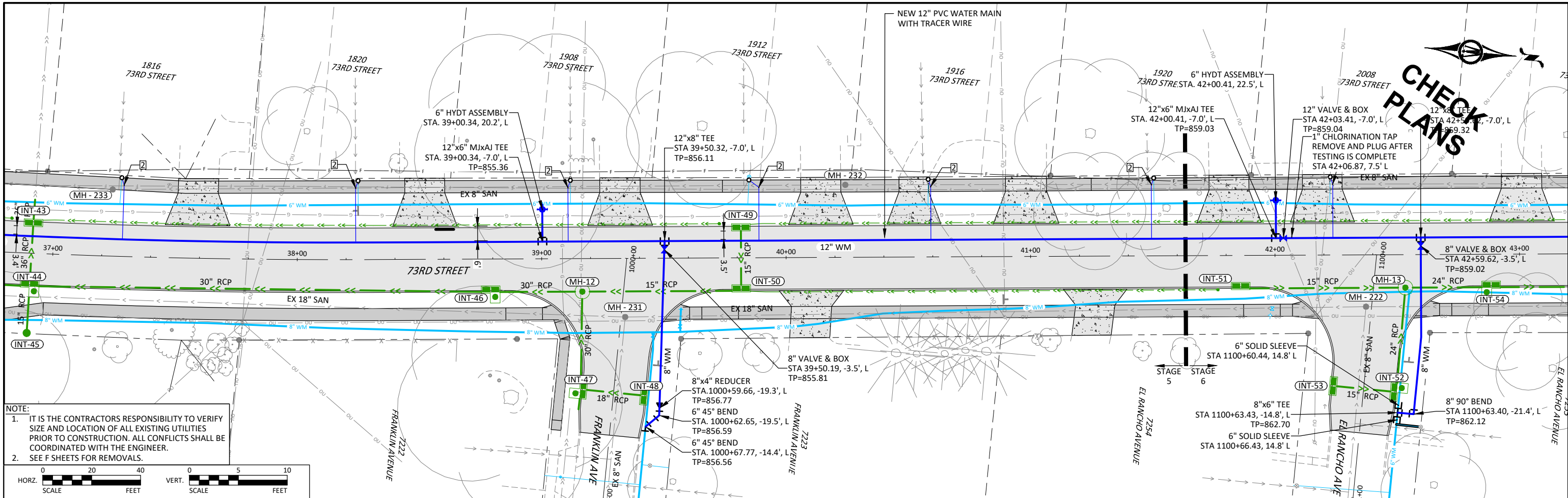




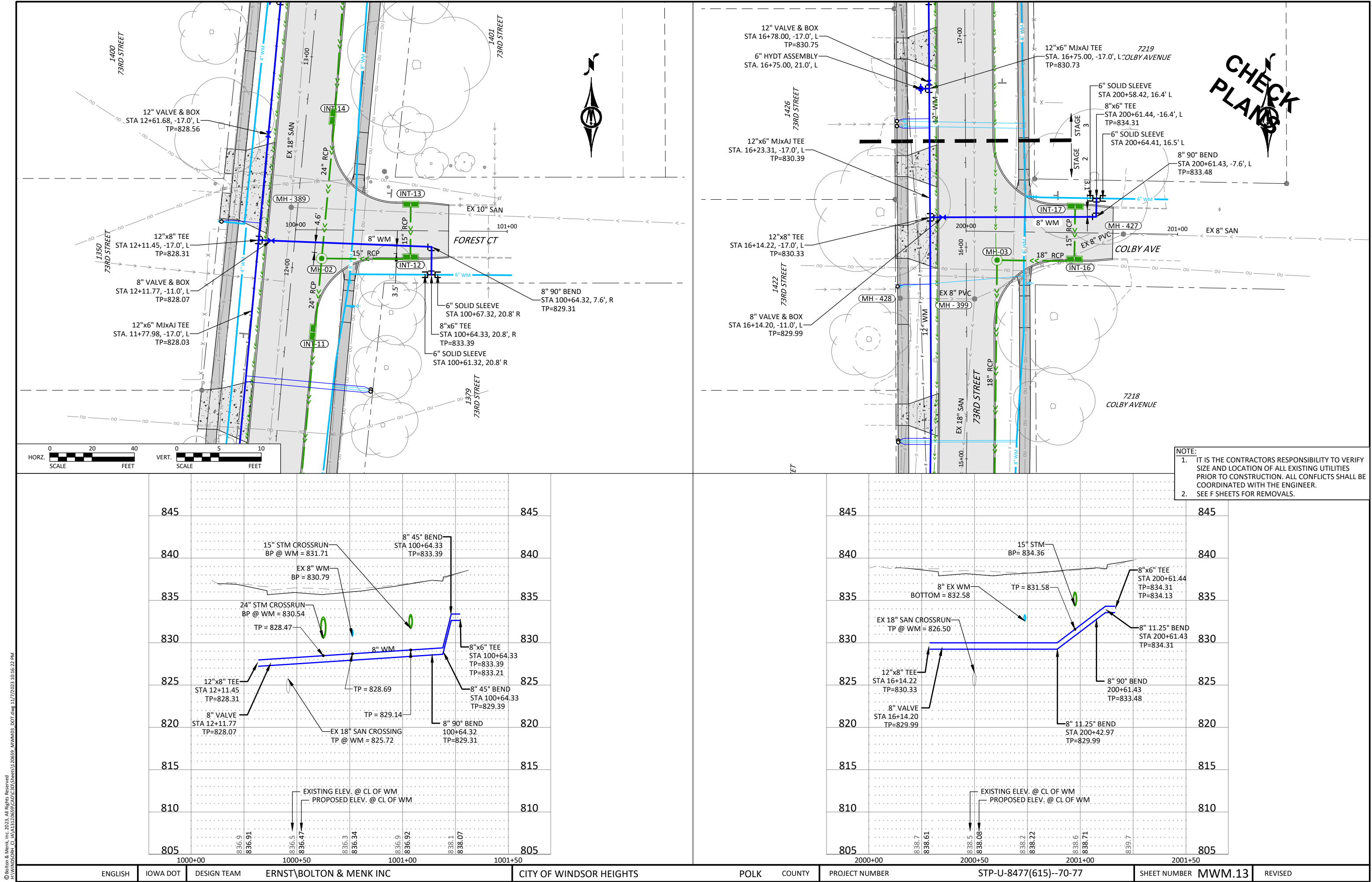
NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
2. SEE F SHEETS FOR REMOVALS.



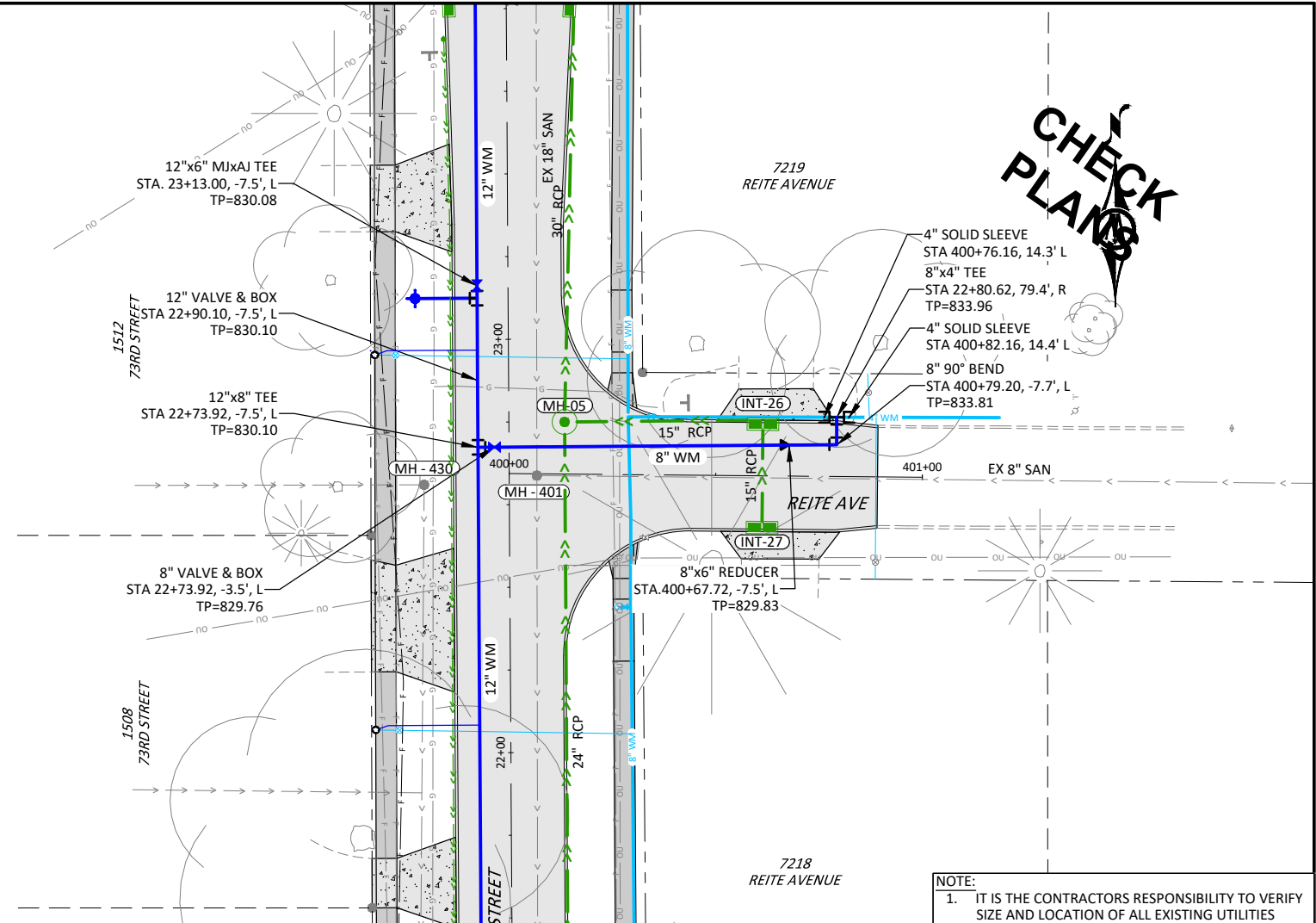
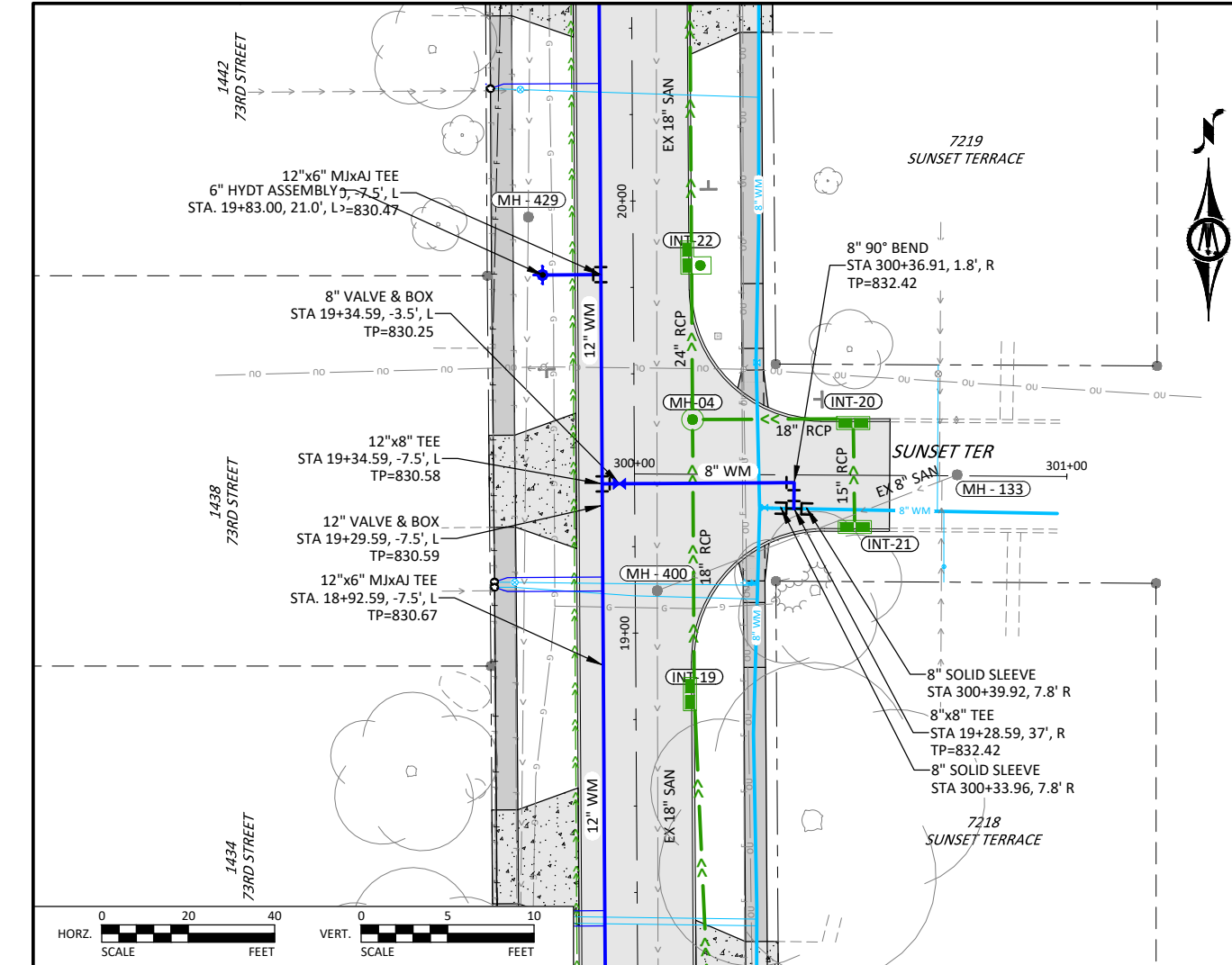
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\2023\120859 MWM10.DOT.dwg 11/17/2023 10:15:23 PM



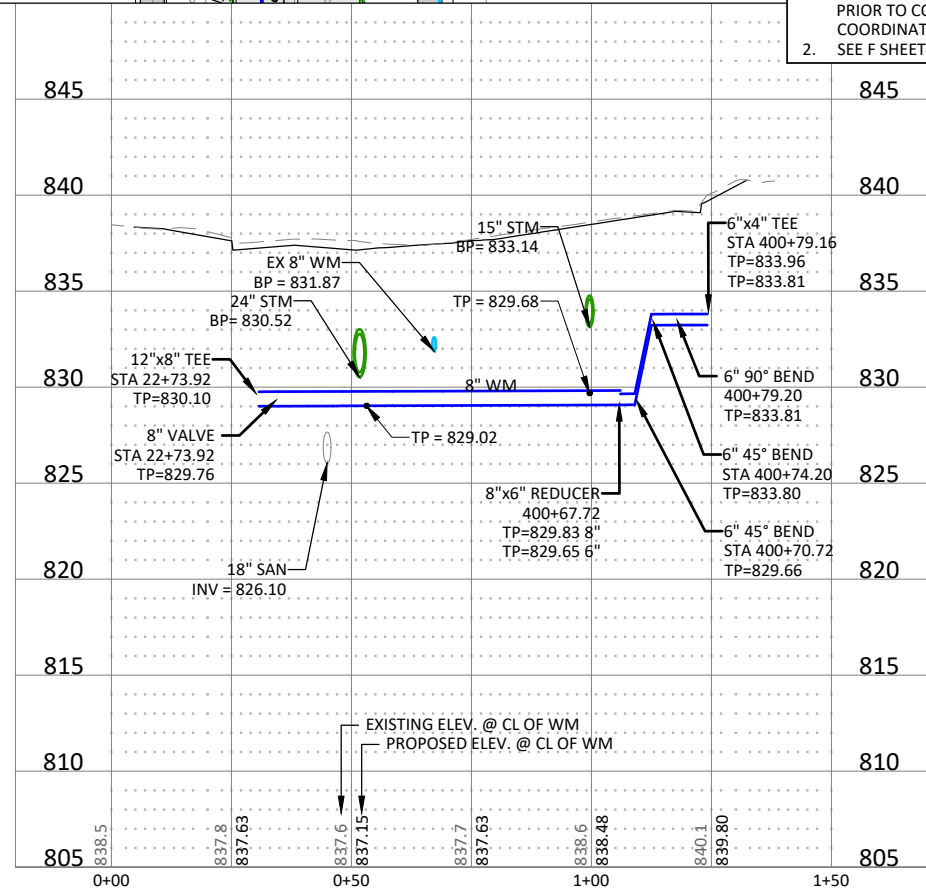
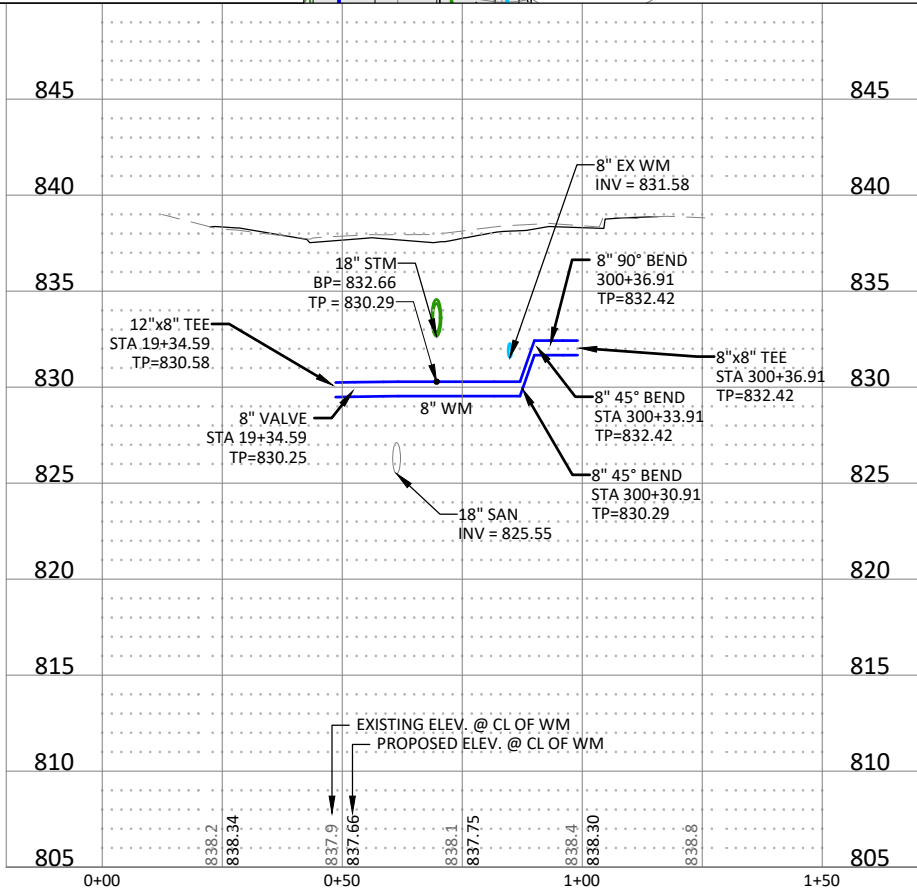
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_MWM03.DOT.dwg 11/17/2023 10:15:39 PM



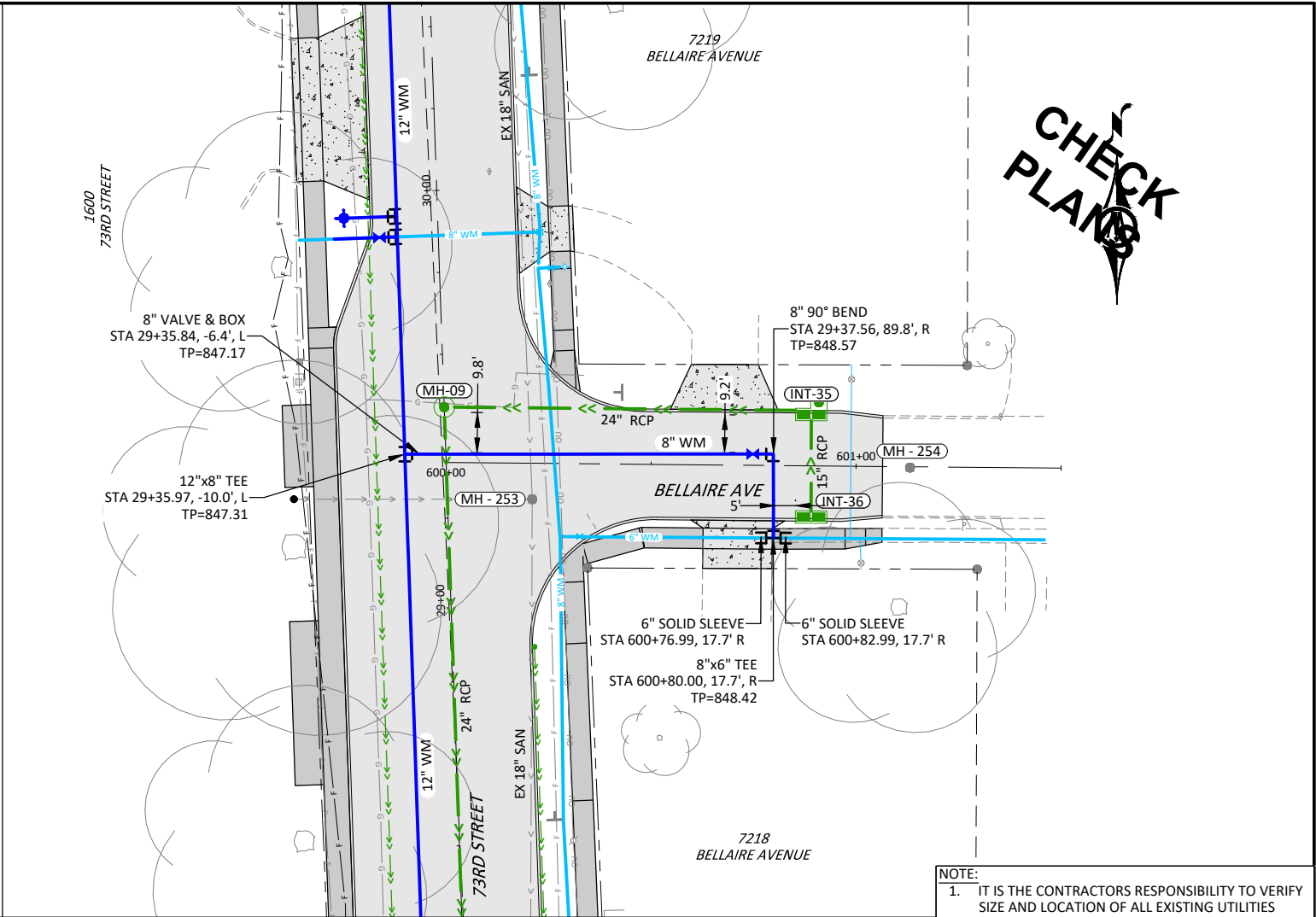
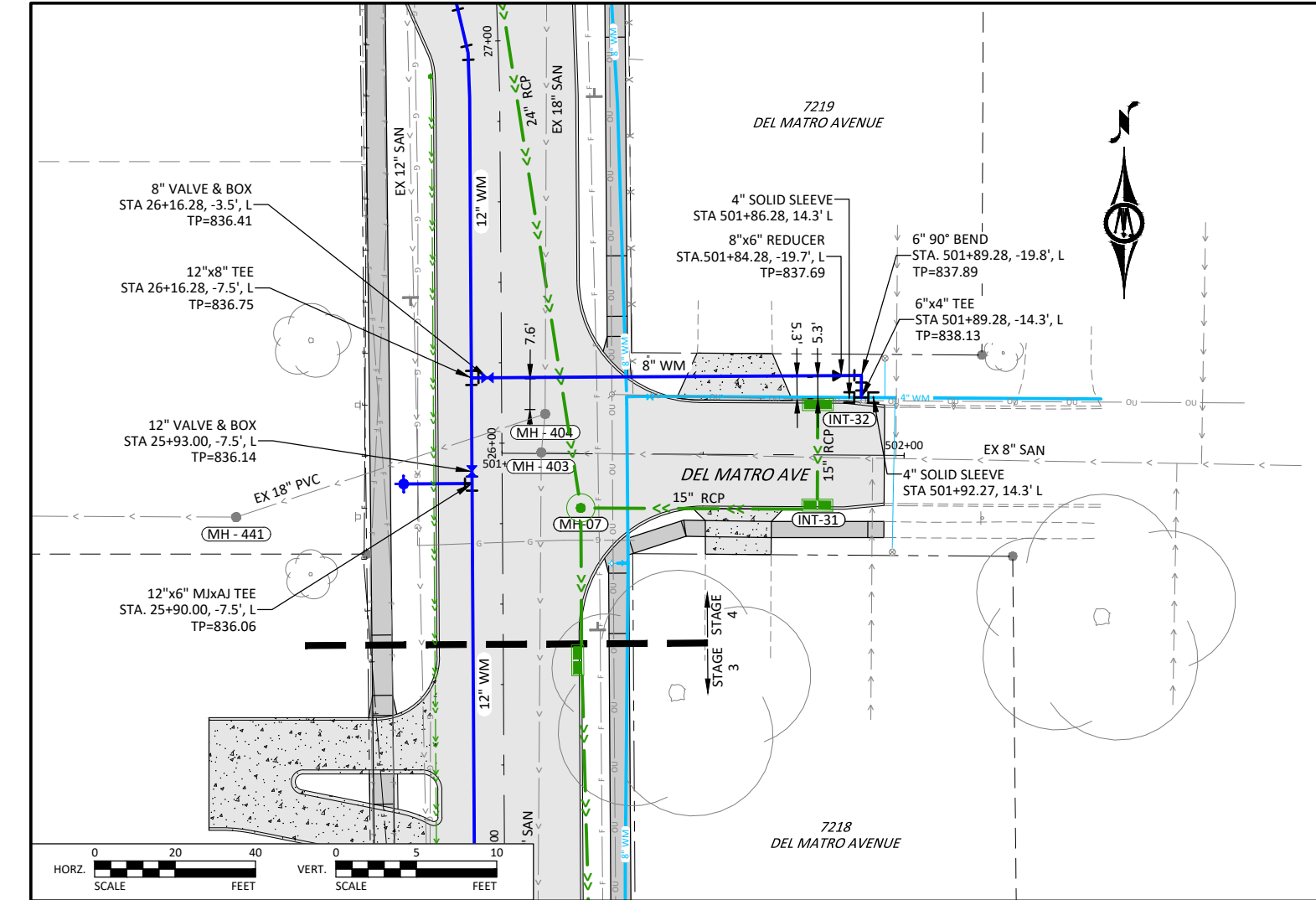
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859 MWM13.DWG 11/7/2023 10:16:22 PM



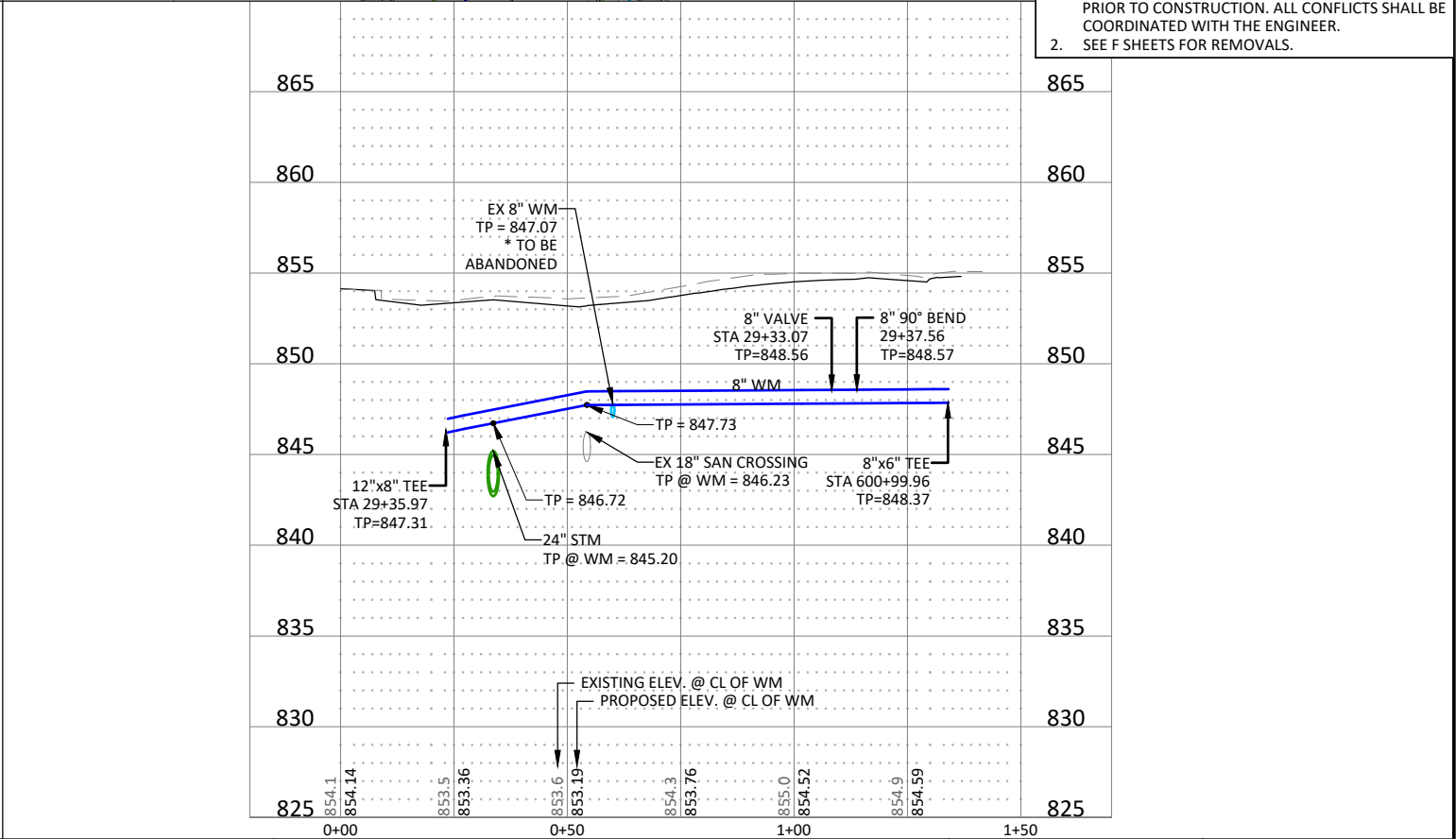
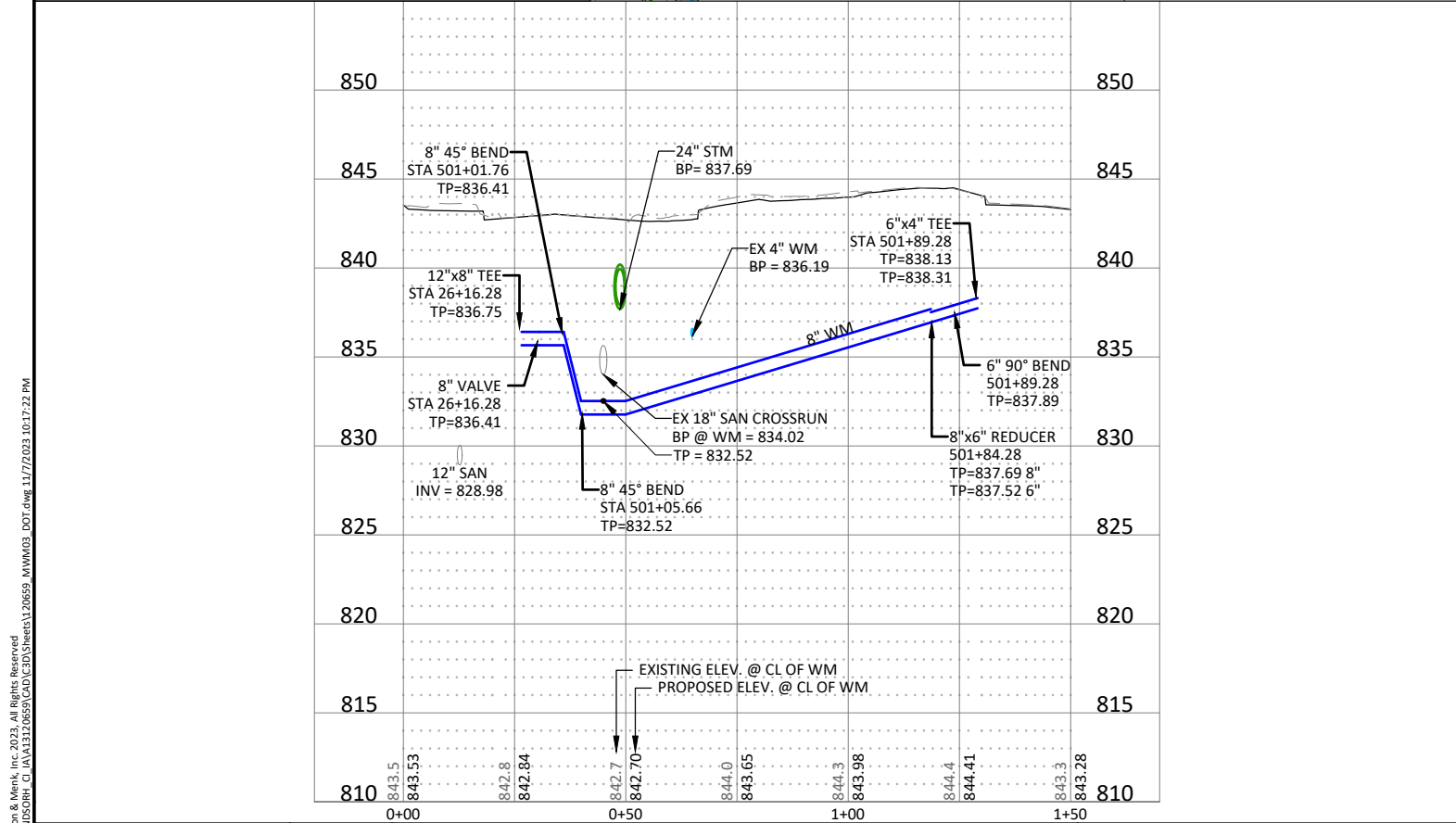
- NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
 2. SEE F SHEETS FOR REMOVALS.

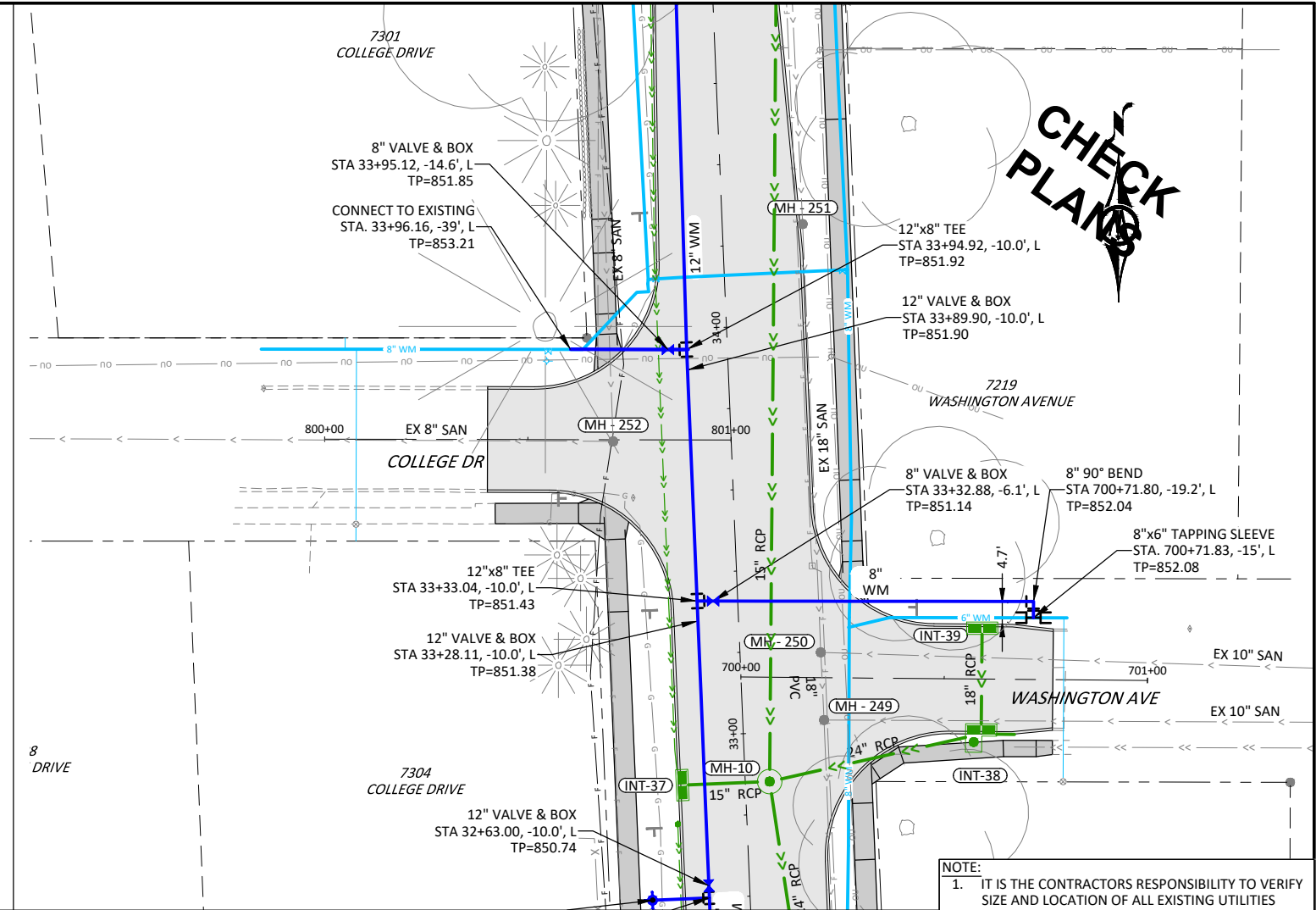
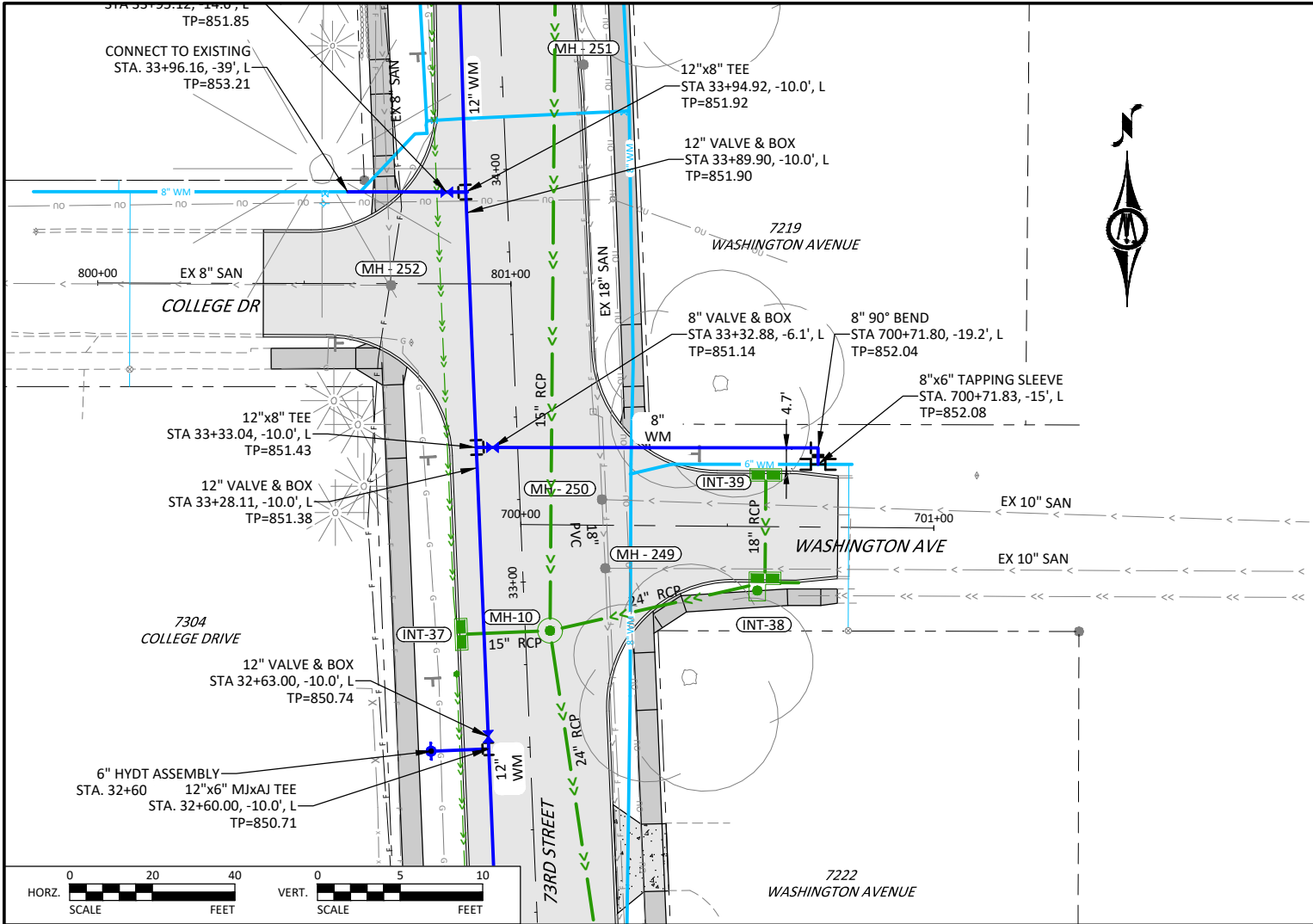


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_MWM14.DWG 11/7/2023 10:16:52 PM

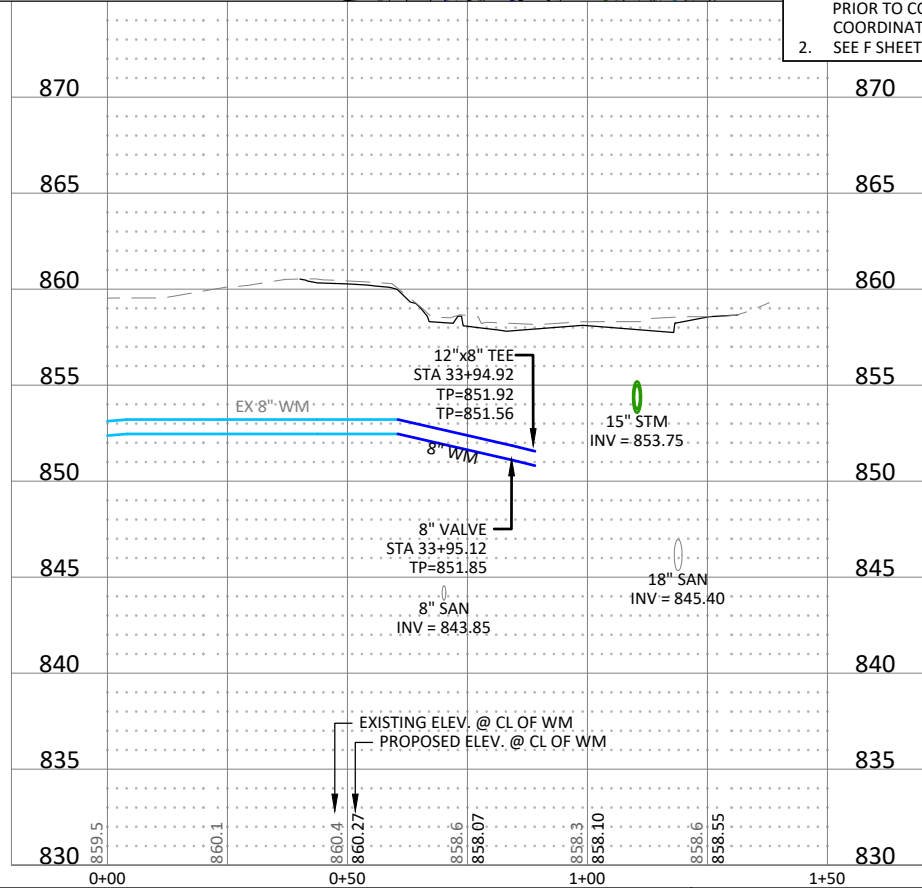
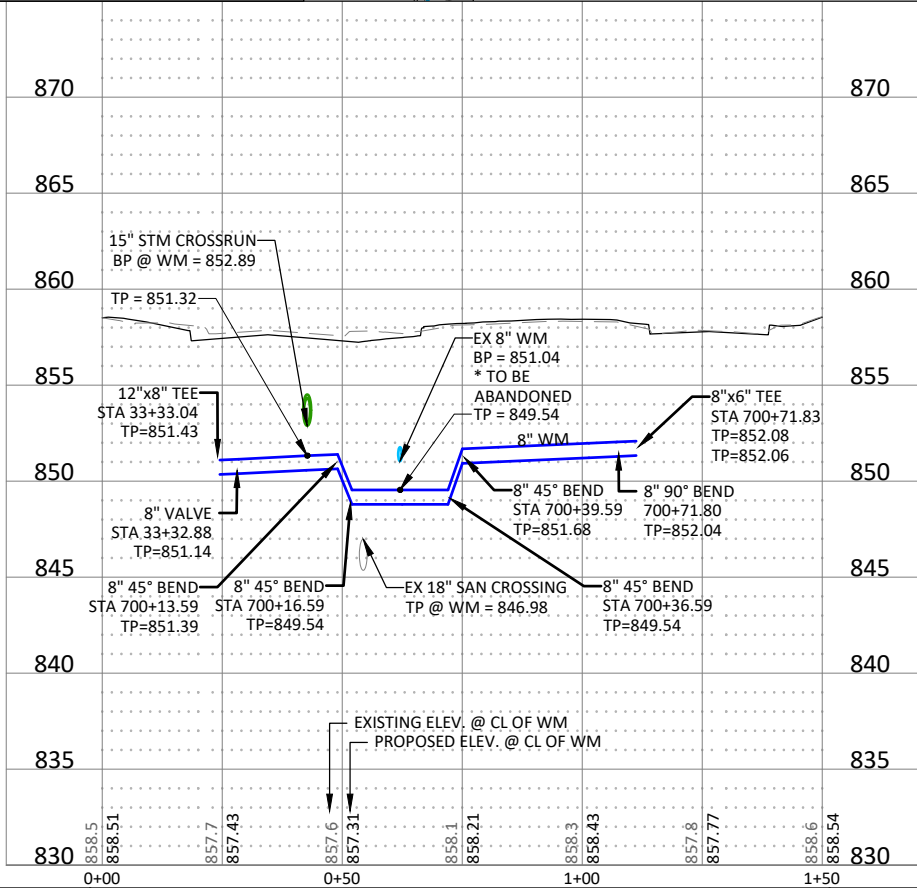


NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
2. SEE F SHEETS FOR REMOVALS.

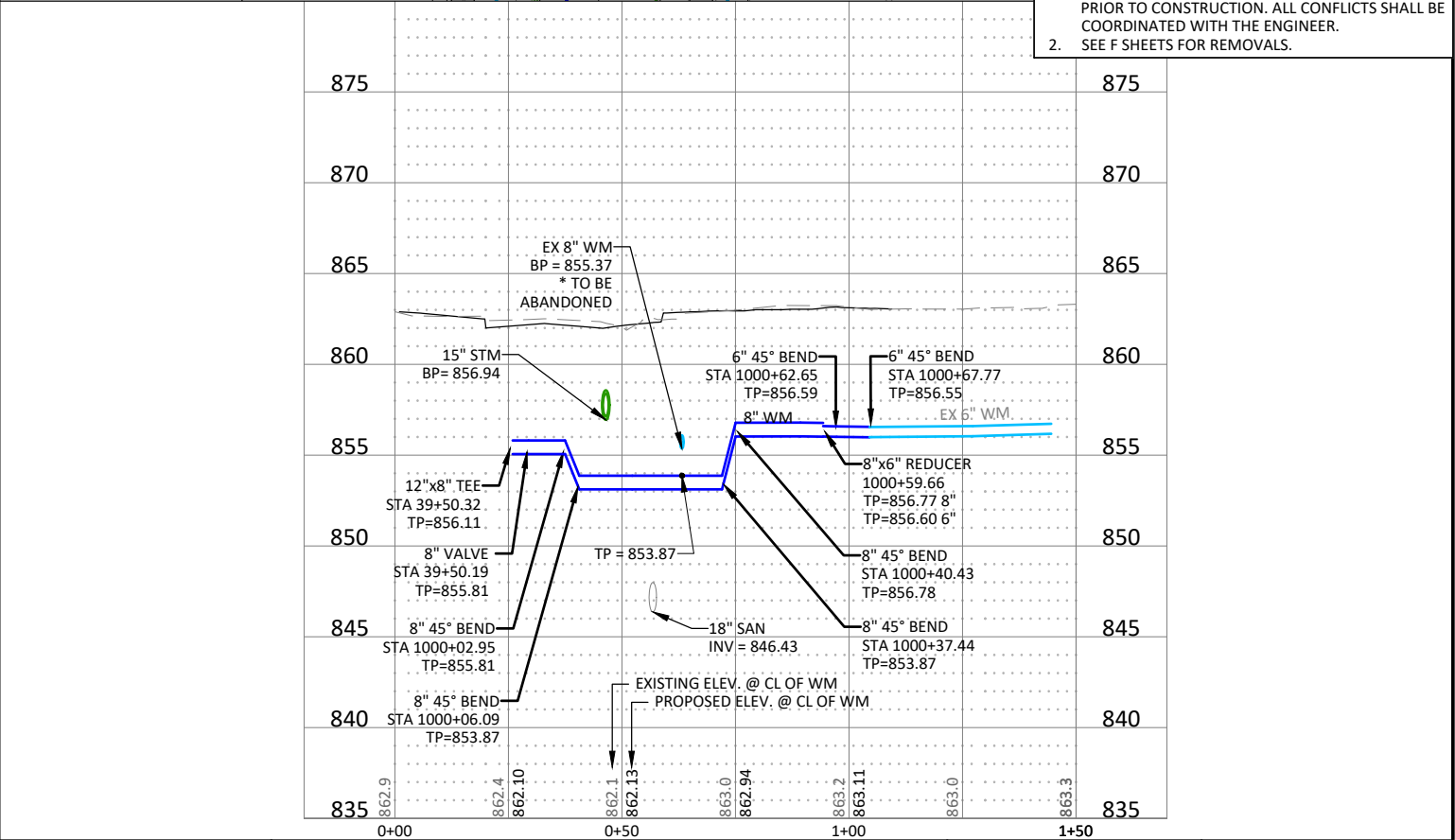
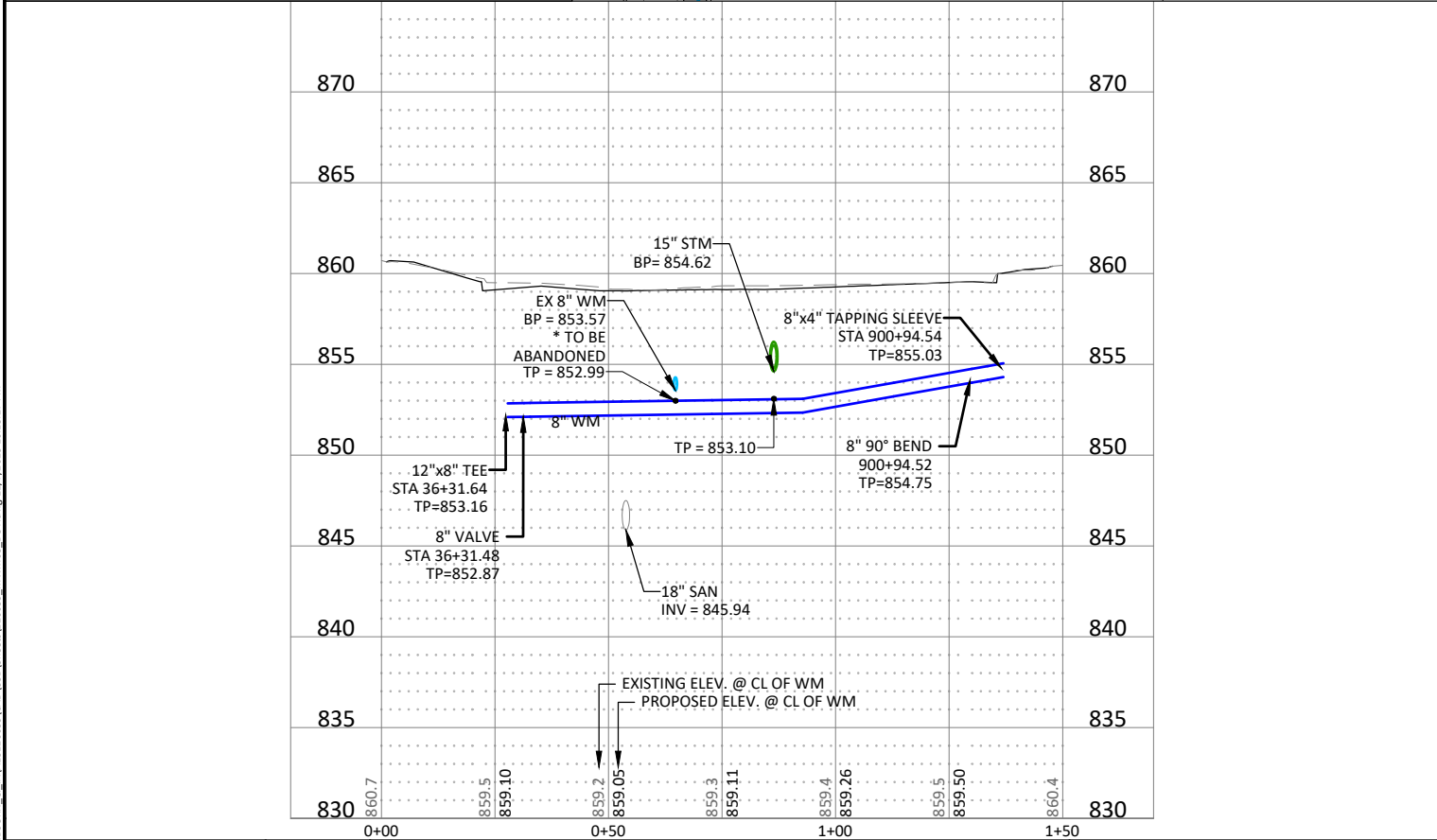
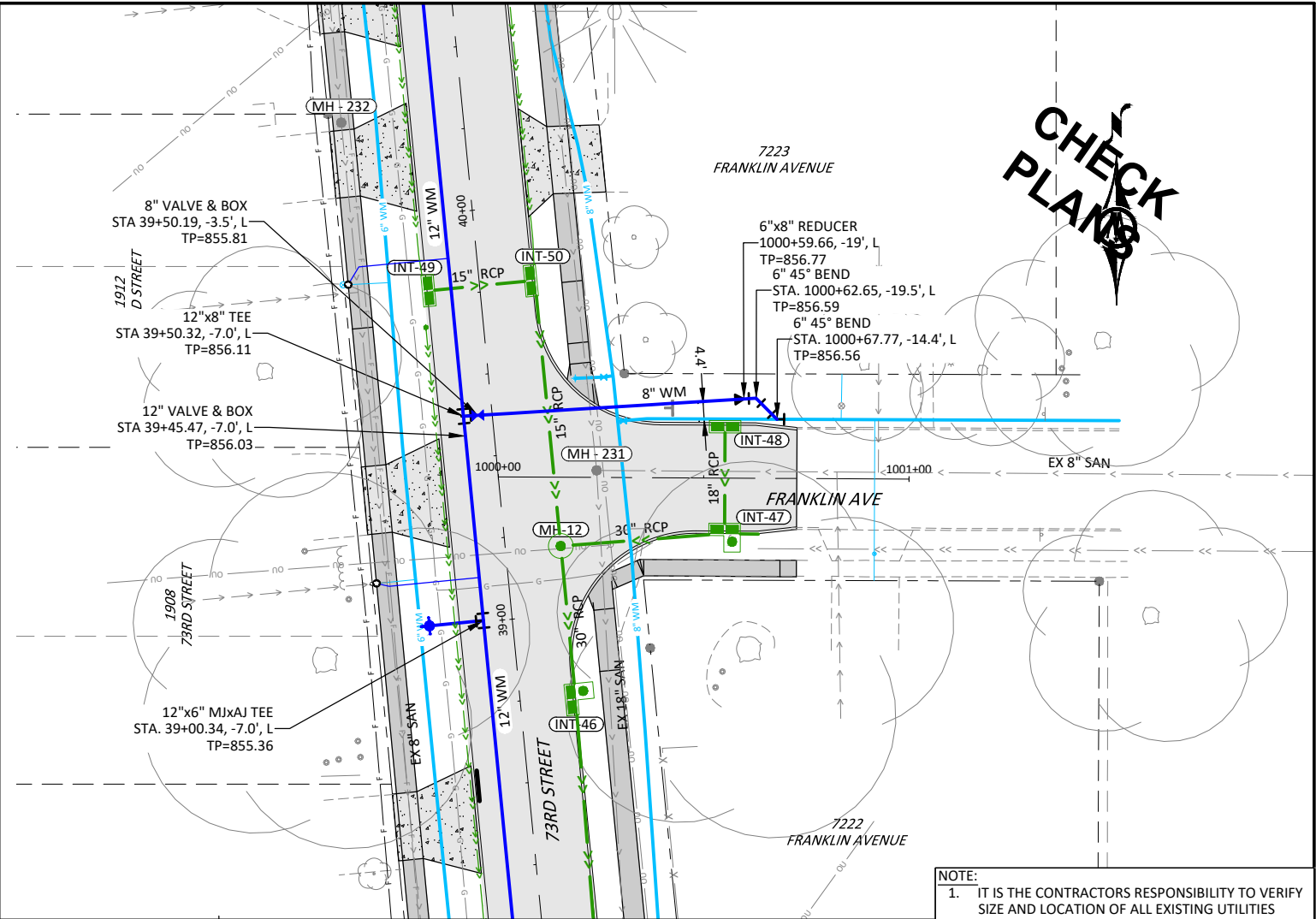
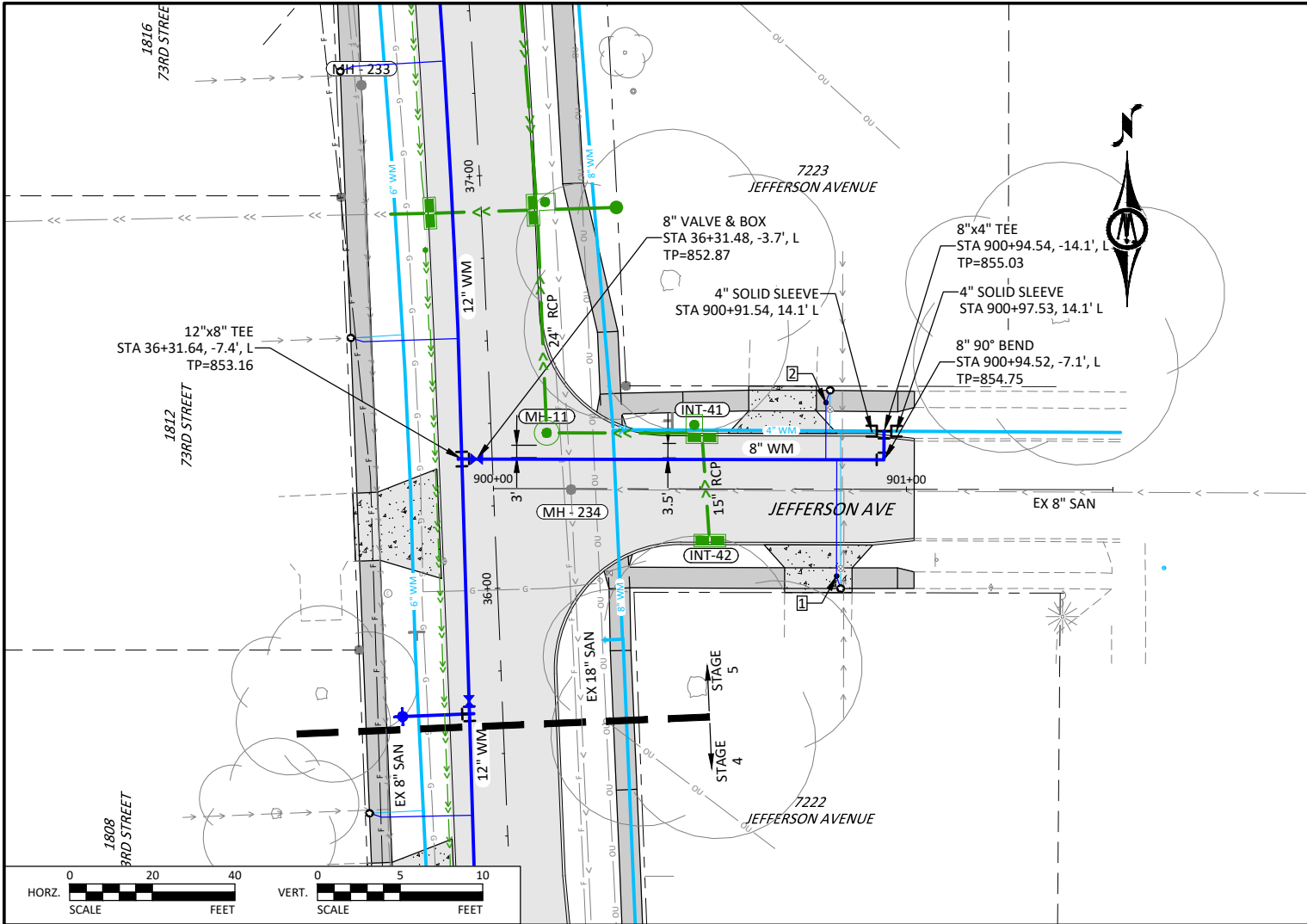




- NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
 2. SEE F SHEETS FOR REMOVALS.



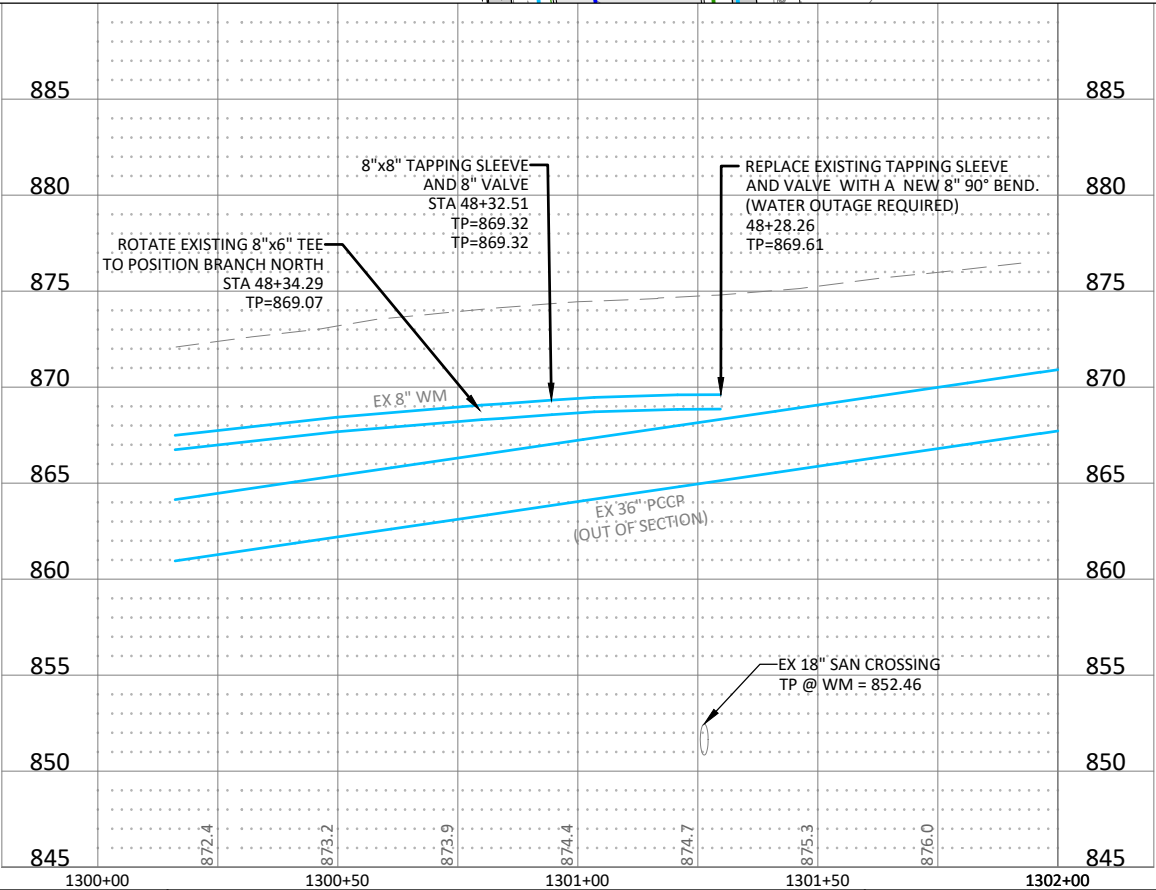
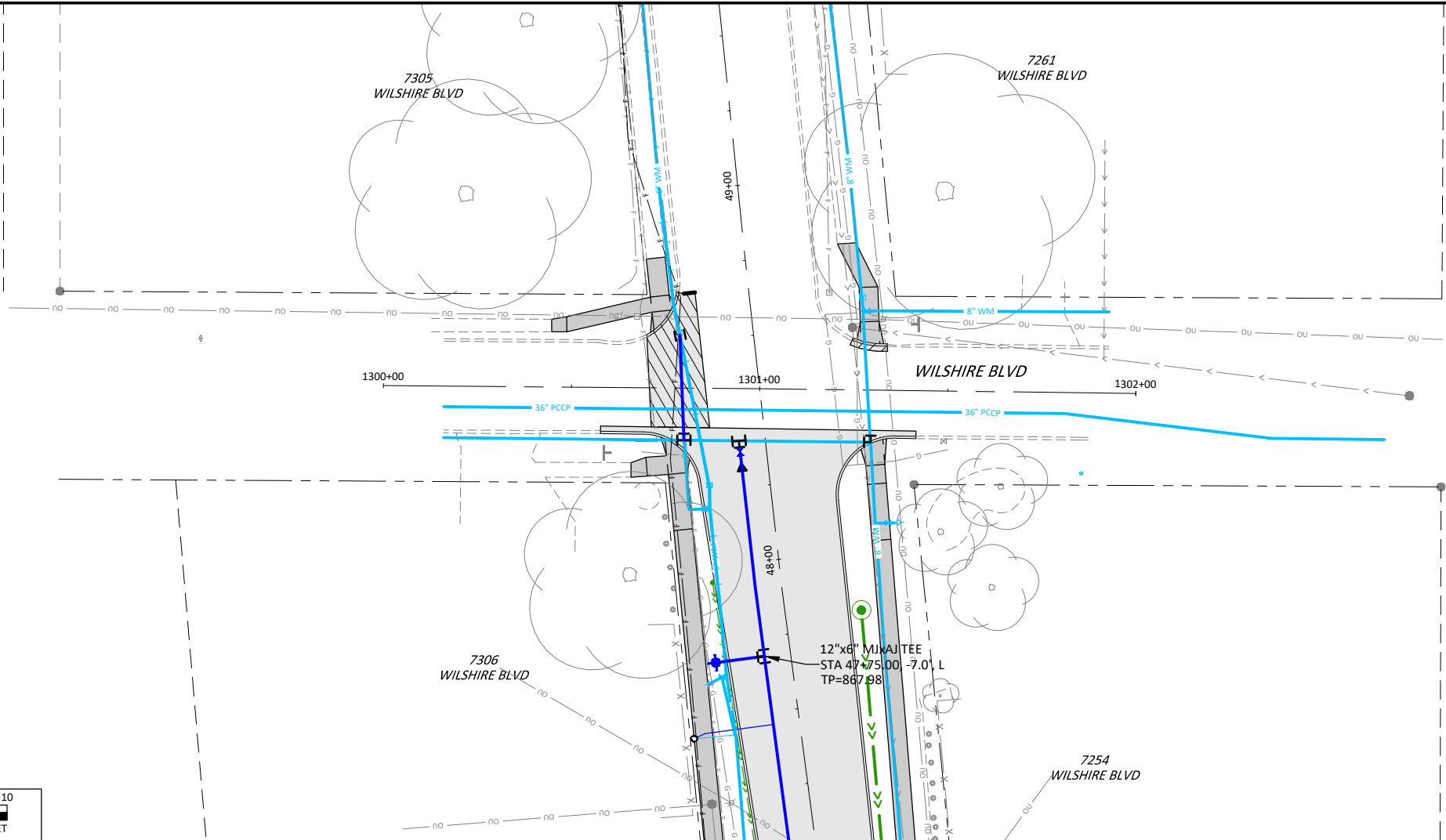
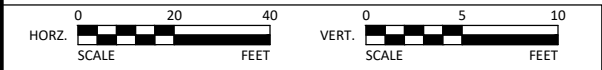
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859 MWM03.DOT.dwg 11/7/2023 10:17:56 PM



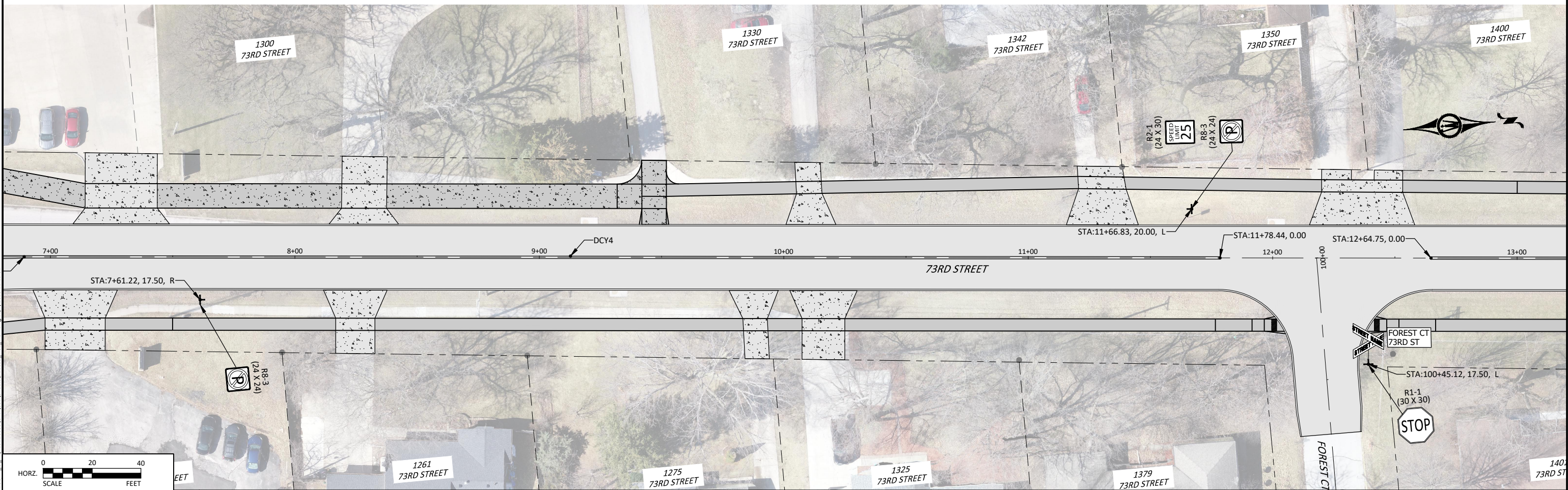
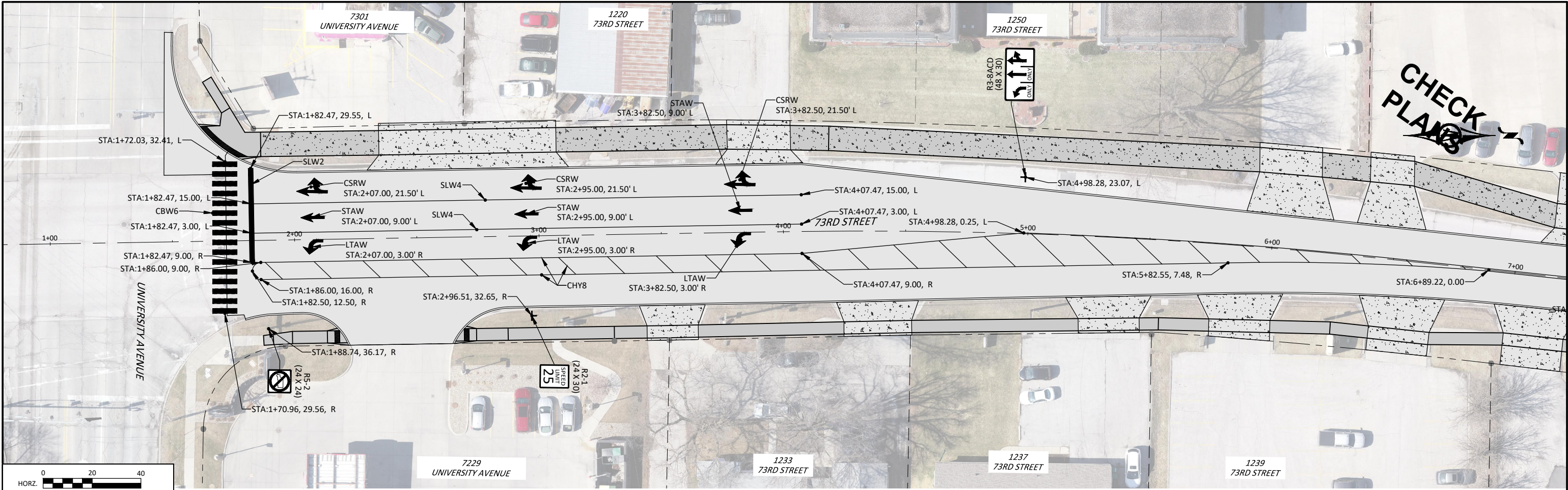
NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
2. SEE F SHEETS FOR REMOVALS.

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_MWM03.DOT.dwg 11/7/2023 10:18:27 PM

CHECK
PLANS

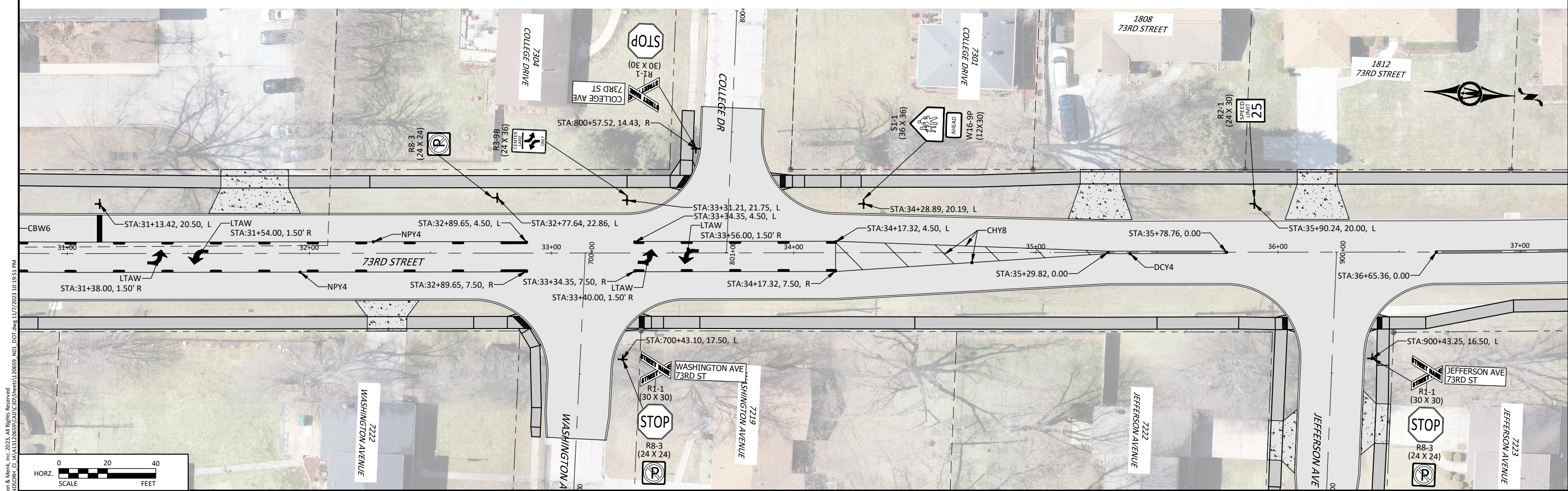
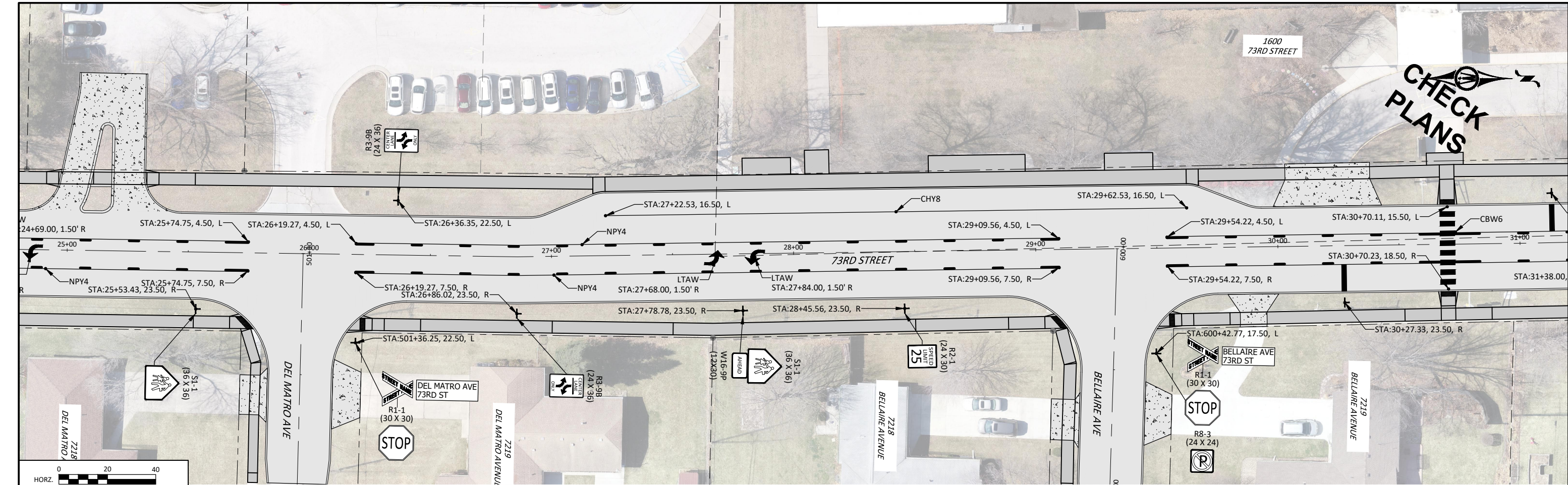


- NOTE:
1. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY SIZE AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. ALL CONFLICTS SHALL BE COORDINATED WITH THE ENGINEER.
 2. SEE F SHEETS FOR REMOVALS.
 3. A WATER OUTAGE IS REQUIRED TO CONNECT EXISTING 6" AND 8" WATER MAINS TO THE NORTH. COORDINATE WORK WITH REQUIRED TRAFFIC CONTROL FOR INTERSECTION.
 4. FIELD VERIFY TOP OF 36" PCCP FEEDER MAIN. PROTECT FEEDER MAIN AT ALL TIMES. DO NOT EXPOSE FEEDER MAIN OR REMOVE SOIL ADJACENT TO FEED MAIN WITHOUT APPROVAL FROM DMWW ENGINEER.
 5. IT IS ANTICIPATED THAT NEW WATER MAIN CROSSING FEEDER MAIN WILL CROSS OVER FEEDER MAIN IF A MINIMUM COVERAGE OF 4.5' CAN BE MAINTAINED AT THE CROSSING.



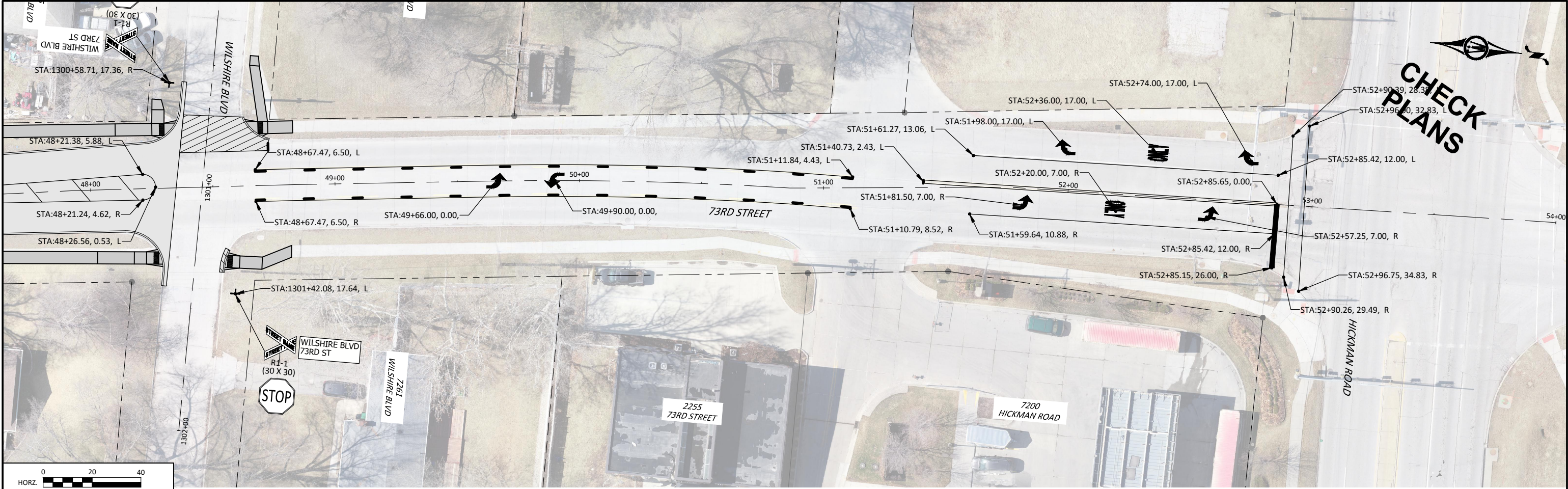
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\14141312\0893\CAD\CD\Drawings\120859_N01_DOT.dwg 11/7/2023 10:19:31 PM

ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	N.01	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_001_DOT.dwg 11/7/2023 10:19:51 PM

ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	N.03	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\DWG\14141312\DWG\120859_N01_DOT.dwg 11/7/2023 10:20:09 PM

ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	N.05	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------

TRAFFIC SIGNAL GENERAL NOTES

1.

THE TRAFFIC SIGNAL INSTALLATION SHALL BE IN CONFORMANCE TO THE 2023 STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) TRAFFIC SIGNAL DETAILS AND STANDARD SPECIFICATIONS, IN ADDITION TO THE PLAN DETAILS AND APPLICABLE PROJECT SPECIAL PROVISIONS.
2.

PROVIDE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR THE STREETS AND HIGHWAY, AS ADOPTED BY THE IOWA DEPARTMENT OF TRANSPORTATION.
3.

ALL QUANTITIES SHOWN IN THE TRAFFIC SIGNAL PLANS AND SPECIFICATIONS ARE FOR INFORMATIONAL AND ESTIMATING PURPOSES ONLY. THE CONTRACTOR'S LUMP SUM BID SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FUNCTIONAL TRAFFIC SIGNAL INSTALLATION IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS.
4.

THE PLAN LOCATIONS OF UNDERGROUND UTILITIES ARE APPROXIMATE ONLY. THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES SHALL BE DETERMINED BY THE CONTRACTOR AT THE EXPENSE OF THE CONTRACTOR AND AT THE TIME OF PROJECT CONSTRUCTION. IT SHALL BE THE DUTY AND RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.
5.

THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION ON THE PROJECT TO ESTABLISH LOCATIONS. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
6.

PROVIDE STRUCTURAL CONCRETE TESTING (2 CYLINDERS, 7-DAY AND 28-DAY, FOR EACH BATCH) IN ACCORDANCE WITH ASTM C39 AS POURED FOR POLE FOOTINGS. CONCRETE FOOTING SHALL HAVE 4,500 PSI STRENGTH.
7.

INSTALL ONE SIGNAL CABLE FROM EACH SIGNAL HEAD TO THE BASE OF THE POLE. A 5-CONDUCTOR CABLE SHALL BE USED IN THE POLE FOR EACH 3-SECTION AND PEDESTRIAN SIGNAL HEAD. ALL SIGNAL CABLE SHALL BE #14 AWG UNLESS OTHERWISE NOTED ON THE PLANS.
8.

TRAFFIC SIGNAL MOUNTING BRACKETS SHALL UTILIZE STAINLESS STEEL BANDING FOR SIDE OF POLE MOUNTING AND GALVANIZED STEEL CABLE FOR MAST ARM MOUNTING.
9.

ALL SIGNAL INDICATIONS SHALL BE LED IN ACCORDANCE WITH MOST RECENT ITE SPECIFICATIONS. SIGNAL HEADS SHALL HAVE BLACK FACES, VISORS, BODIES, AND BACKPLATES (WHERE INDICATED). VISORS SHALL BE CAP STYLE.
10.

UNLESS OTHERWISE DIRECTED, TRAFFIC SIGNAL HEADS ON MAST ARMS ARE TO BE ALIGNED OVER THE CENTER OF INTERSECTION APPROACH LANES. APPROXIMATE LOCATIONS ARE SHOWN IN THE TRAFFIC SIGNAL POLE DATA TABLE. CONTRACTOR SHALL FIELD VERIFY SIGNAL HEAD LOCATIONS.
11.

LUMINAIRES SHALL BE LED, 18,000 LUMENS (+/- 5%), 100 LUMENS/WATT EFFICACY, 4000 K COLOR TEMPERATURE, TYPE II DISTRIBUTION, MEDIUM, B3-U0-G3, L70>70,000 HOURS WITH AT LEAST 5-YEAR WARRANTY, GRAY FINISH AND PHOTOCELL CONTROL.
12.

INSTALL TWO (2) 1-CONDUCTOR #10 CABLES FROM THE LUMINAIRE HEAD TO THE BASE OF THE POLE. FURNISH AND INSTALL FUSED CONNECTORS AT THE POLE BASE. FURNISH AND INSTALL UNFUSED Y CONNECTORS IN THE ADJACENT HANDHOLE WHERE APPLICABLE.
13.

ELECTRICAL SERVICE SHALL BE 120 V SINGLE-PHASE. SIGNALS AND LIGHTING SHALL BE METERED. LIGHTING SHALL BE ON SEPARATE 20 AMPERE BREAKER. CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. CONTRACTOR TO APPLY FOR ELECTRICAL PERMIT, FEE TO BE WAIVED.
14.

COORDINATE WITH CITY OF WINDSOR HEIGHTS ENGINEERING DIVISION AND ENGINEER ONE WEEK PRIOR TO SIGNAL TURN-ON FOR NOTIFICATION OF SIGNAL TURN-ON.
15.

PEDESTAL POLE AND BASE SHALL HAVE A NATURAL FINISH PER SUPPLIERS SPECIFICATION.
16.

THE CONTRACTOR HAS THE OPTION TO FIELD ADJUST LOCATION OF PROPOSED HANDHOLES DUE TO FIELD CONDITIONS IN COORDINATION WITH THE ENGINEER.
17.

THE CONTROLLER CABINET ADDRESS IS _____

SIGNAL LEGEND

PROPOSED

- POWER SOURCE
- 332A CABINET AND 2070 ATC CONTROLLER
- TRAFFIC SIGNAL POLE, FOOTING SYMBOL, AND IDENTIFYING NUMBER
- TRAFFIC SIGNAL HEAD WITH BACKPLATE SYMBOL AND IDENTIFYING NUMBER
- TRAFFIC SIGNAL HEAD SYMBOL AND IDENTIFYING NUMBER
- PEDESTRIAN PUSHBUTTON IDENTIFYING NUMBER
- MAST ARM MOUNTED SIGN SYMBOL AND IDENTIFYING NUMBER
- LUMINAIRE
- 24" HANDHOLE SYMBOL AND IDENTIFYING NUMBER - TYPE I
- "TUB" HANDHOLE SYMBOL AND IDENTIFYING NUMBER - TYPE III OR IV
- TRENCHED SIGNAL CONDUIT
- PUSHED SIGNAL CONDUIT

EXISTING

- EXISTING SIGNAL CONDUIT
- WOODEN SIGNAL POLE AND IDENTIFYING NUMBER
- LABELS WITH AN IDENTIFYING NUMBER FOLLOWED BY THE LETTER "E" REPRESENT EXISTING EQUIPMENT.
-
-

CHECK PLANS

ABBREVIATIONS

SIG	SIGNAL HEAD CABLE	Y2	NON-FUSED WYE CONNECTOR FOR STREET LIGHTING NON-FUSED
PED HD	PEDESTRIAN HEAD CABLE	Y3	WYE CONNECTOR FOR STREET LIGHTING FUSED IN-LINE
PED PB	PEDESTRIAN PUSHBUTTON CABLE	L1	CONNECTOR FOR STREET LIGHTING NON-FUSED IN-LINE
CNTRL	CONTROLLER	L2	CONNECTOR FOR STREET LIGHTING SHIELDED LOOP DETECTOR
LUM	LUMINAIRE	DET	LEAD-IN
N	NEUTRAL	LOOP	DETECTOR LOOP WIRE IN TUBING
LN1	POWER - LINE 1	HH	HANDHOLE
LN2	POWER - LINE 2	FY	FLASHING YELLOW
GR	GROUND WIRE 1c #6	SY	STEADY YELLOW
TR	TRACER WIRE 1c #10	FO	FIBER OPTIC CABLE
PR	PULL ROPE	SM	SINGLE MODE
Y1	FUSED WYE CONNECTOR FOR STREET LIGHTING	UAC	USE AS CONSTRUCTED

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\V\W\50501 - C\A\141317-0893\CAD\3-D\Drawings\120859_N05_DOT.dwg 11/7/2023 10:20:26 PM

ESTIMATE OF TRAFFIC SIGNAL QUANTITIES			
ITEM	DESCRIPTION	UNITS	TOTAL
CABINET	CABINET	EACH	1
	CONTROLLER	EACH	1
DETECTION	PEDESTRIAN PUSH BUTTON STATION (APS) WITH SIGN	EACH	2
TRAFFIC SIGNAL HEADS	12" LED R,R,Y MAST ARM MOUNT	EACH	2
	12" LED R,R,Y POLE MOUNT	EACH	2
	LED PEDESTRIAN SIGNAL HEAD SIDE OF POLE MOUNT	EACH	2
POWER SUPPLY	POWER SUPPLY	EACH	1
HANDHOLES	TYPE I - PRE-CAST CONCRETE HANDHOLE	EACH	2
WIRE AND CABLE	SIGNAL CABLE - 2C #14 AWG	LIN FT	160
	SIGNAL CABLE - 5C #14 AWG	LIN FT	805
	LUMINAIRE CABLE - 1C #8 AWG	LIN FT	260
	LUMINAIRE CABLE - 1C #10 AWG	LIN FT	80
	POWER - 1C #6	LIN FT	75
	GROUND - 1C #6 BARE	LIN FT	250
	TRACER - 1C #10	LIN FT	250
	PULL TAPE	LIN FT	250
CONDUIT	2" PVC, TRENCHED	LIN FT	105
	2" PVC, PUSHED	LIN FT	0
	3" PVC, TRENCHED	LIN FT	45
	3" PVC, PUSHED	LIN FT	0
CONCRETE FOOTINGS	CONTROLLER CABINET FOOTING	EACH	1
	SIGNAL POLE FOOTING 3'-0" DIA. X 12'-0"	EACH	2
TRAFFIC SIGNAL POLES	STEEL COMBINATION SIGNAL/LIGHTING - 20' MAST ARM	EACH	2
LUMINAIRE	LUMINAIRE, LED, TYPE II	EACH	2
	CONNECTOR, Y-1	EACH	2
	CONNECTOR, Y-2	EACH	4
MISC.	TRAFFIC SIGN	EACH	6

TRAFFIC SIGNAL HEAD QUANTITIES							
POLE NO.	SIGNAL HEAD NUMBERS	3-SECT 12" R,R,Y	1-SECT 16" HAND/WP W/ CNTDWN	BACK PLATE	MOUNTING		NOTES
					OH	SIDE	
1							
	23	1		1	1		
	24	1				1	
	25		1			1	
2							
	21	1				1	
	22	1		1	1		
	26		1			1	
SUB-TOTALS		4	2	2	2	4	

CONDUIT QUANTITIES (FT)					
FROM	TO	TRENCHED		PUSHED	
		2" DIA NMC	3" DIA NMC	2" DIA NMC	3" DIA NMC
SOP	CAB	45			
CAB	HH1	10			
HH1	PED STN 3	15			
HH1	POLE 1	20			
HH1	HH 2		45		
HH2	PED STN 4	10			
HH2	POLE 2	5			
SUB-TOTALS		105	45	0	0

WIRE QUANTITIES (FT)									
FROM	TO	PULL TAPE	1C#10 TR-O	#6 BARE GND	1C #6 POWER	1C #8 LUM	1C #10 LUM	2C#14 PB SIGNAL	5C#14 SIGNAL
SOP	CAB	75	75	75	75				
CAB	HH1	30	30	30		60		60	180
HH1	PED STN 3	25	25	25				25	
HH1	POLE 1	30	30	30		80			150
POLE 1							40		75
HH1	HH 2	55	55	55		55		55	165
HH2	PED STN 4	20	20	20				20	
HH2	POLE 2	15	15	15		65			105
POLE 2							40		130
SUB-TOTALS		250	250	250	75	260	80	160	805

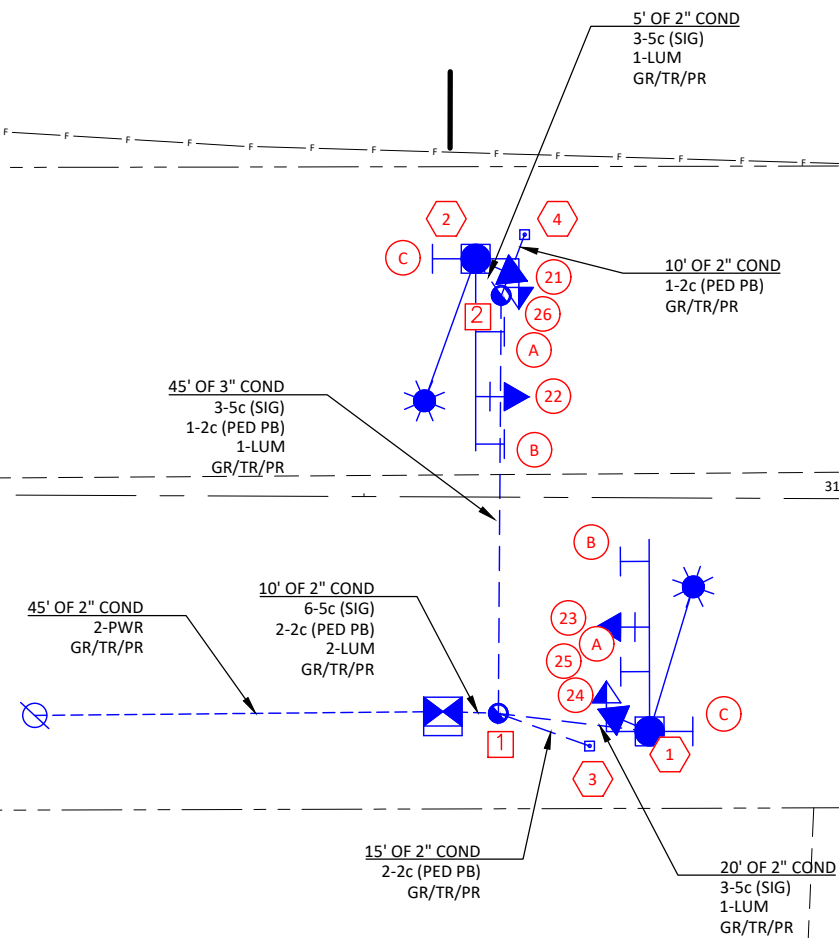
TRAFFIC HAWK POLE DATA FOR 73RD ST												
POLE NO.	POLE TYPE	MAST ARM LENGTH (FT)	TRAFFIC SIGNAL HEADS (1)		TRAFFIC SIGNS (1)		LUMINAIRE ARM			FOOTING DIMENSIONS		REMARKS
			QTY.	LOCATION ON MAST ARM (FT)	QTY.	LOCATION ON MAST ARM (FT)	SPREAD (FT)	MOUNTING HEIGHT (FT)	ORIENTATION (DEGREES)	DIA. (FT)	DEPTH (FT)	
1	COMBINATION SIGNAL/LIGHTING	20	1	15	2	8, 19	15	35	0	3	12	
2	COMBINATION SIGNAL/LIGHTING	20	1	10	2	6, 17	15	35	0	3	12	

(1) LOCATION IS DISTANCE FROM CENTER OF POLE MEASURED OUT TO THE CENTER OF THE SIGNAL HEAD OR SIGN

CHECK
PLANS

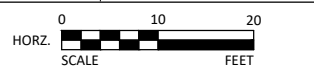


CHECK
PLANS



7219
BELLAIRE AVENUE

7222
WASHINGTON
AVENUE



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CA\14141312\0893\CA\14141312\0893\120859_N05.DOT.dwg 11/17/2023 10:20:38 PM

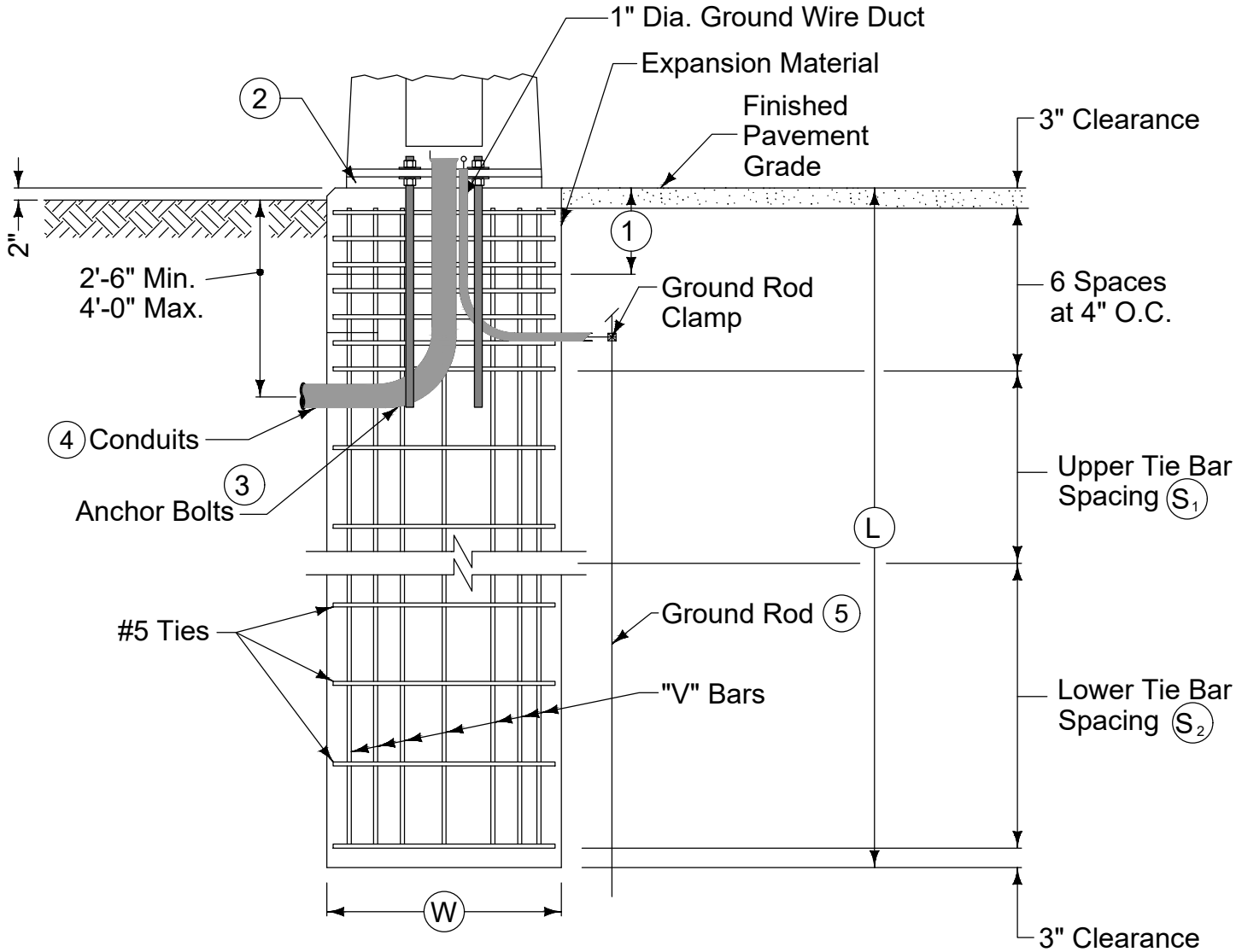
ENGLISH	IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC	CITY OF WINDSOR HEIGHTS	POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77	SHEET NUMBER	N.09	REVISED	----
---------	----------	-------------	-------------------------	-------------------------	-------------	----------------	------------------------	--------------	------	---------	------

CHECK PLANS

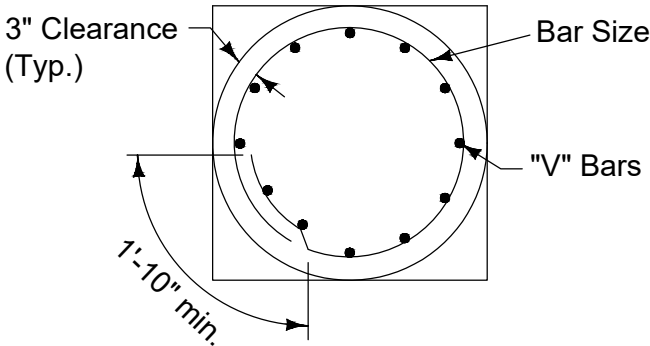
The Type A Foundation is the normally required foundation construction. Where rock is encountered, the Engineer may approve the use of the Type B or C Foundation. Prior to installing a foundation in rock, obtain a subsurface investigation certified by a geotechnical engineer licensed in the State of Iowa.

- 1 Shape top 11 inches with forms. See Detail A.
- 2 Install rodent guard inside of pole base or non-shrink grout with weep hole.
- 3 Furnish nut, nut and plate, or nut and anchor bolt assembly ring plate on embedded end.
- 4 Provide conduits as per plans.
- 5 Install ground rod adjacent to foundation or in adjacent handhole.

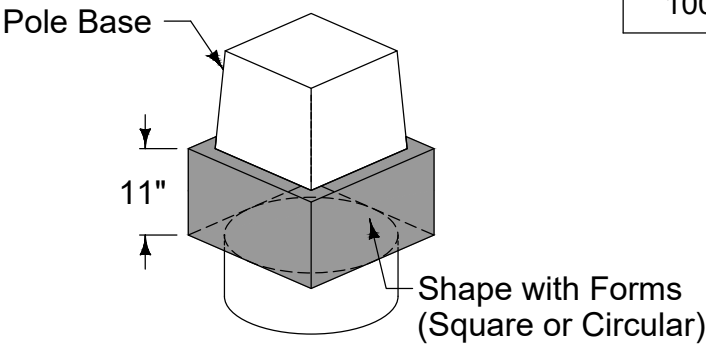
Max. Mast Arm Length	Foundation		"V" Bars			Tie Bars				
	W	L	Count	Size	Length	Count	Upper Spacing		Lower Spacing	
							# Spaces	S ₁	# Spaces	S ₂
35'-0"	3'-0"	12'-0"	12	#8	11'-6"	17	9	12"	N/A	N/A
45'-0"	3'-0"	14'-0"	12	#8	13'-6"	19	11	12"	N/A	N/A
55'-0"	3'-0"	16'-0"	12	#8	15'-6"	25	12	8"	5	12"
60'-0"	3'-0"	18'-0"	13	#8	17'-6"	28	15	8"	5	12"
70'-0"	3'-6"	18'-0"	12	#10	17'-6"	28	15	8"	5	12"
80'-0"	3'-6"	21'-0"	14	#10	20'-6"	40	28	6"	4	12"
90'-0"	4'-0"	22'-0"	16	#10	21'-6"	42	24	6"	10	8"
100'-0"	4'-0"	24'-0"	18	#10	23'-6"	47	32	6"	7	8"



MAST ARM POLE FOUNDATION IN SOIL
TYPE A FOUNDATION



PLAN VIEW

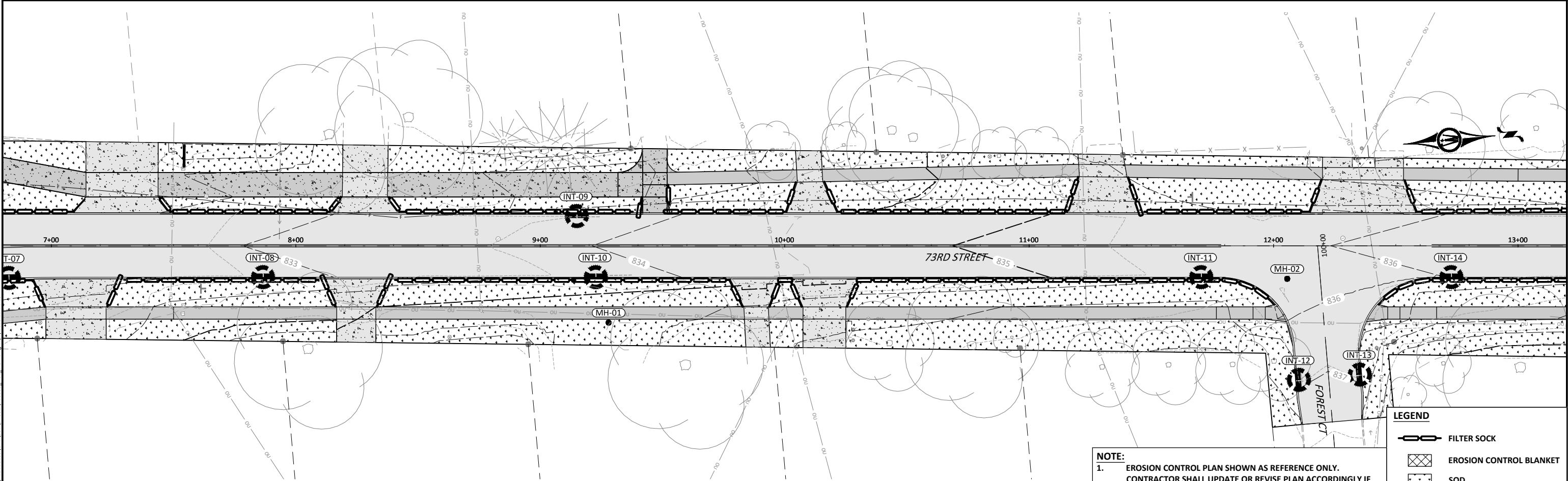
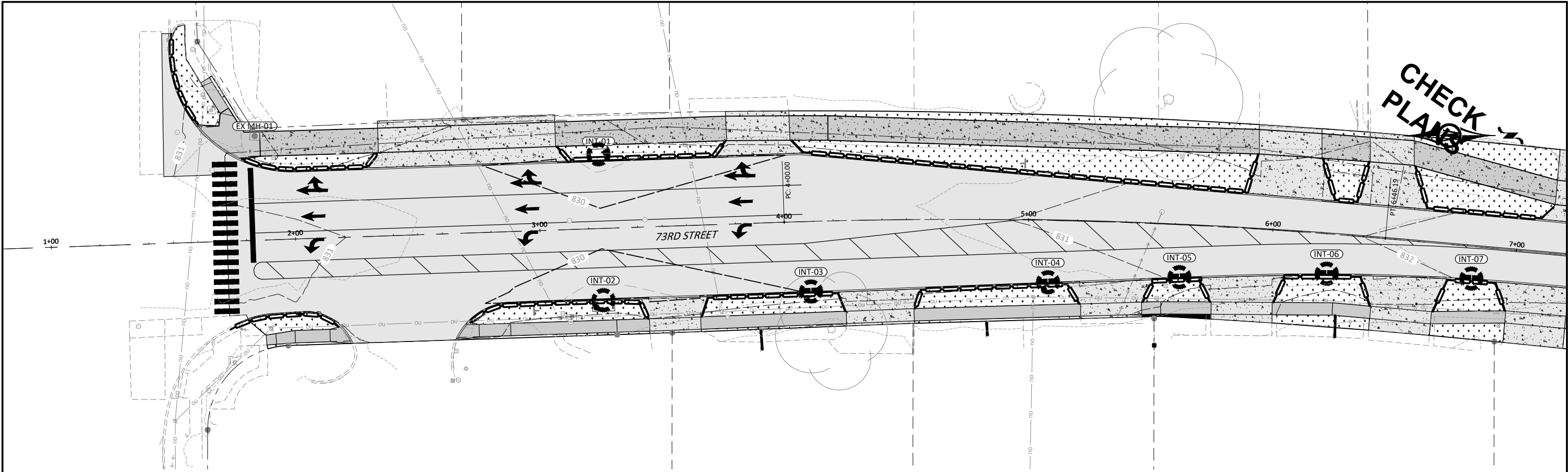


DETAIL 'A'

FIGURE 8010.102

SHEET 1 OF 4

© Bolton & Menk, Inc. 2023. All Rights Reserved. C:\Users\bolton\OneDrive\Documents\120859_005_DOT.dwg 11/7/2023 10:20:41 PM

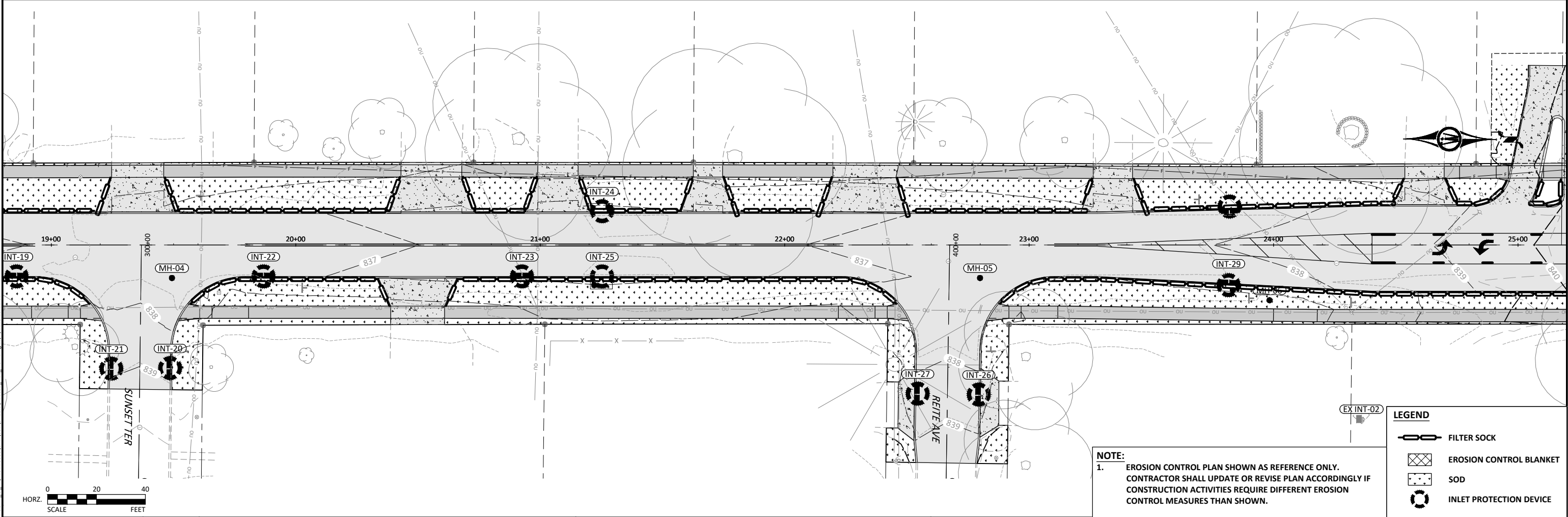
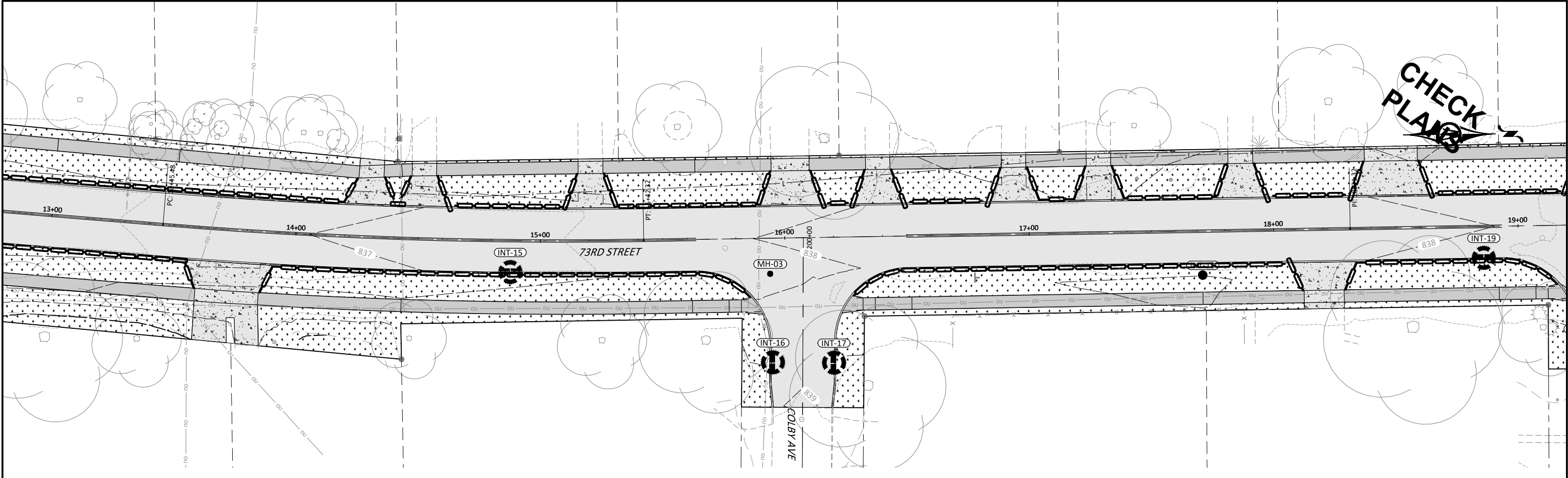


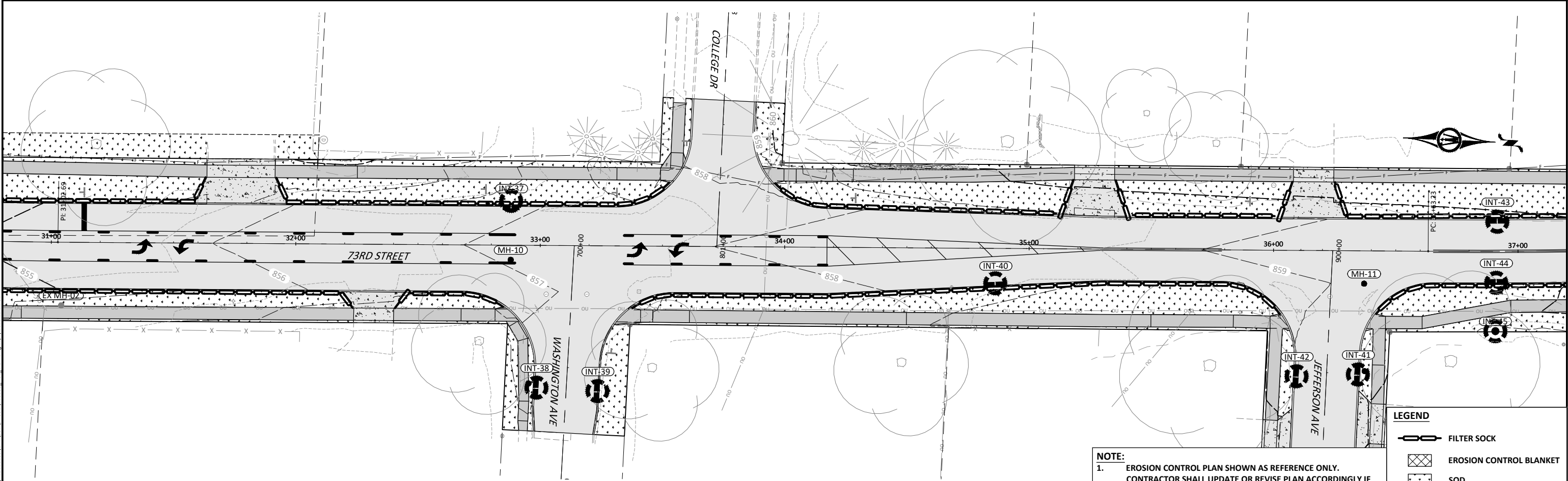
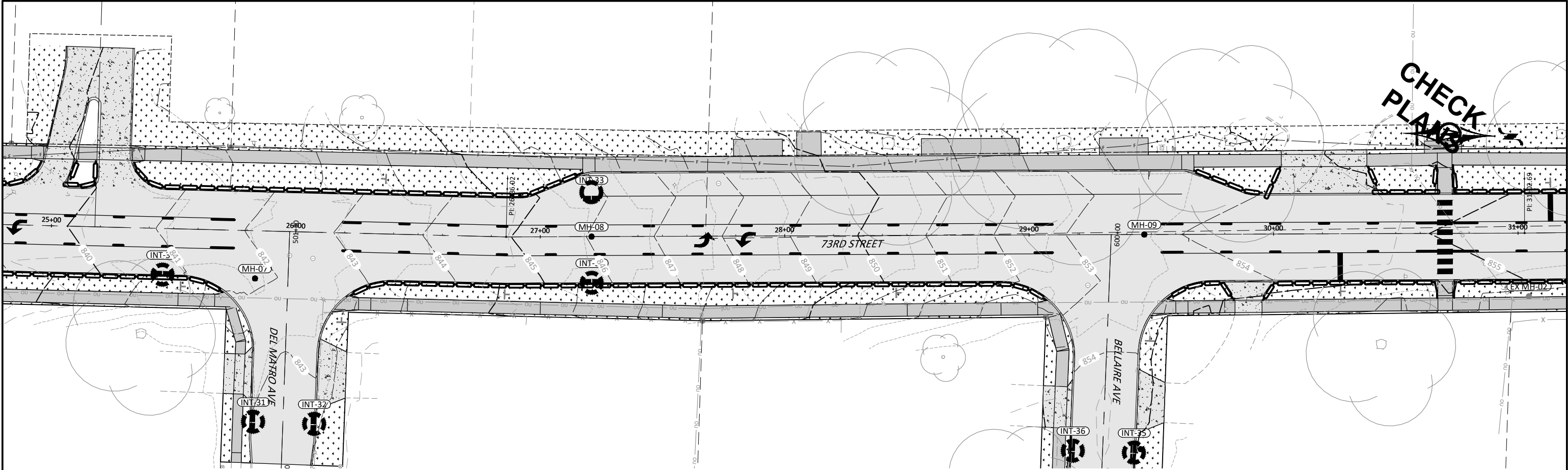
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\128559_R01_DOT.dwg 11/7/2023 10:31:15 PM



NOTE:
1. EROSION CONTROL PLAN SHOWN AS REFERENCE ONLY. CONTRACTOR SHALL UPDATE OR REVISE PLAN ACCORDINGLY IF CONSTRUCTION ACTIVITIES REQUIRE DIFFERENT EROSION CONTROL MEASURES THAN SHOWN.

LEGEND	
	FILTER SOCK
	EROSION CONTROL BLANKET
	SOD
	INLET PROTECTION DEVICE

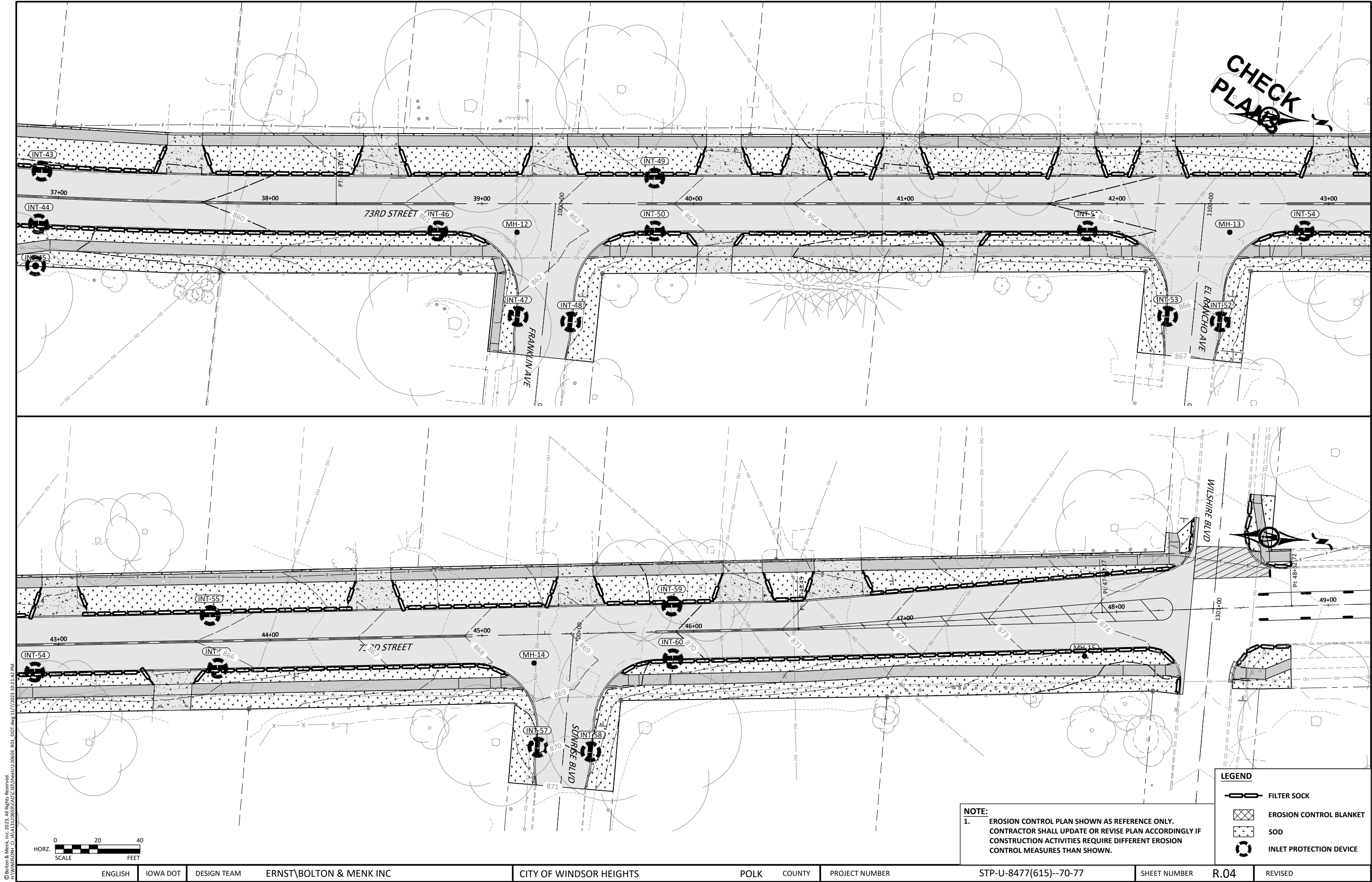




NOTE:
1. EROSION CONTROL PLAN SHOWN AS REFERENCE ONLY. CONTRACTOR SHALL UPDATE OR REVISE PLAN ACCORDINGLY IF CONSTRUCTION ACTIVITIES REQUIRE DIFFERENT EROSION CONTROL MEASURES THAN SHOWN.

LEGEND	
	FILTER SOCK
	EROSION CONTROL BLANKET
	SOD
	INLET PROTECTION DEVICE

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_R01_DOT.dwg 11/7/2023 10:31:32 PM



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_R01_DOT.dwg 11/7/2023 10:31:42 PM

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK COUNTY

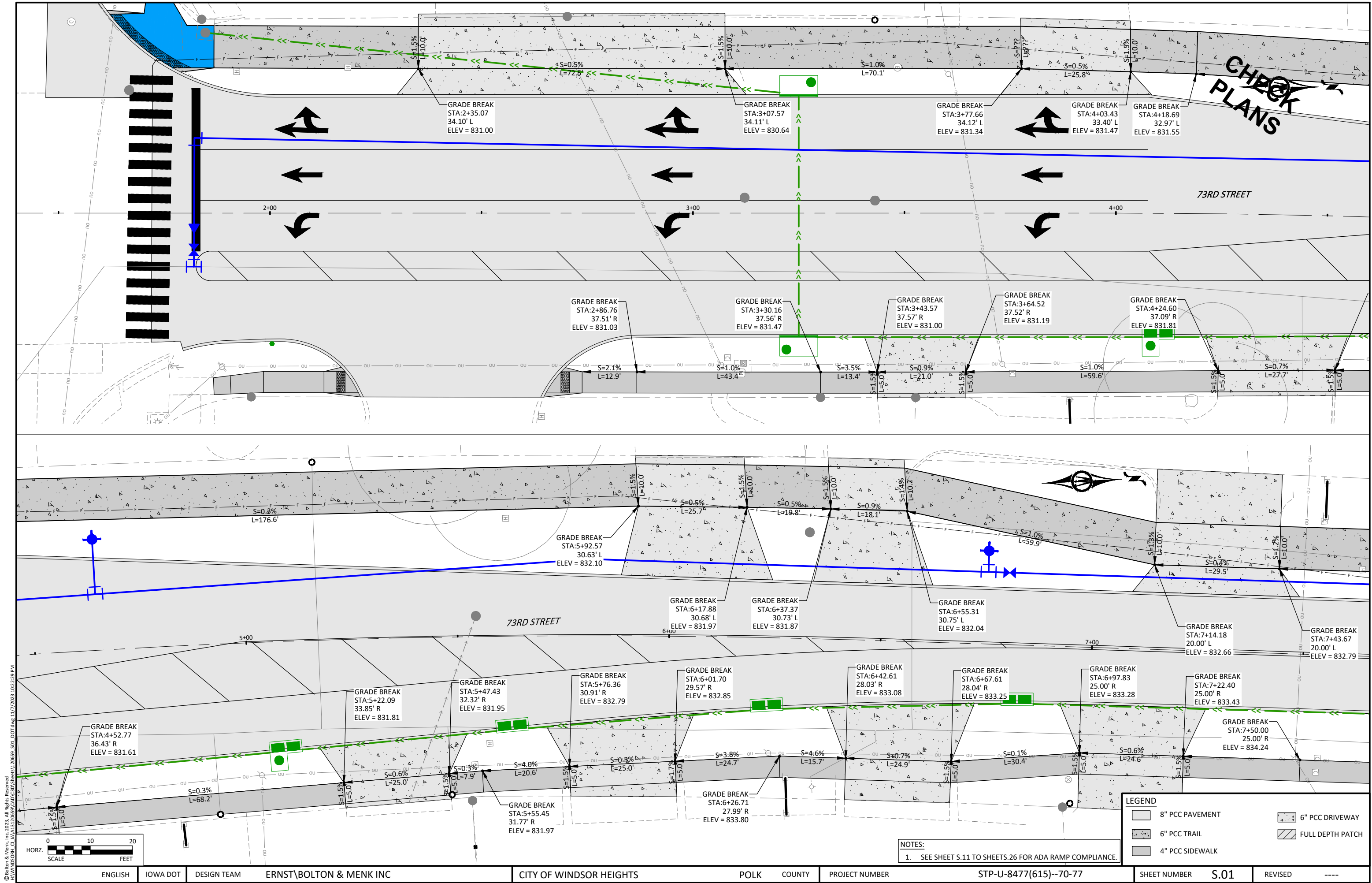
PROJECT NUMBER

STP-U-8477(615)--70-77

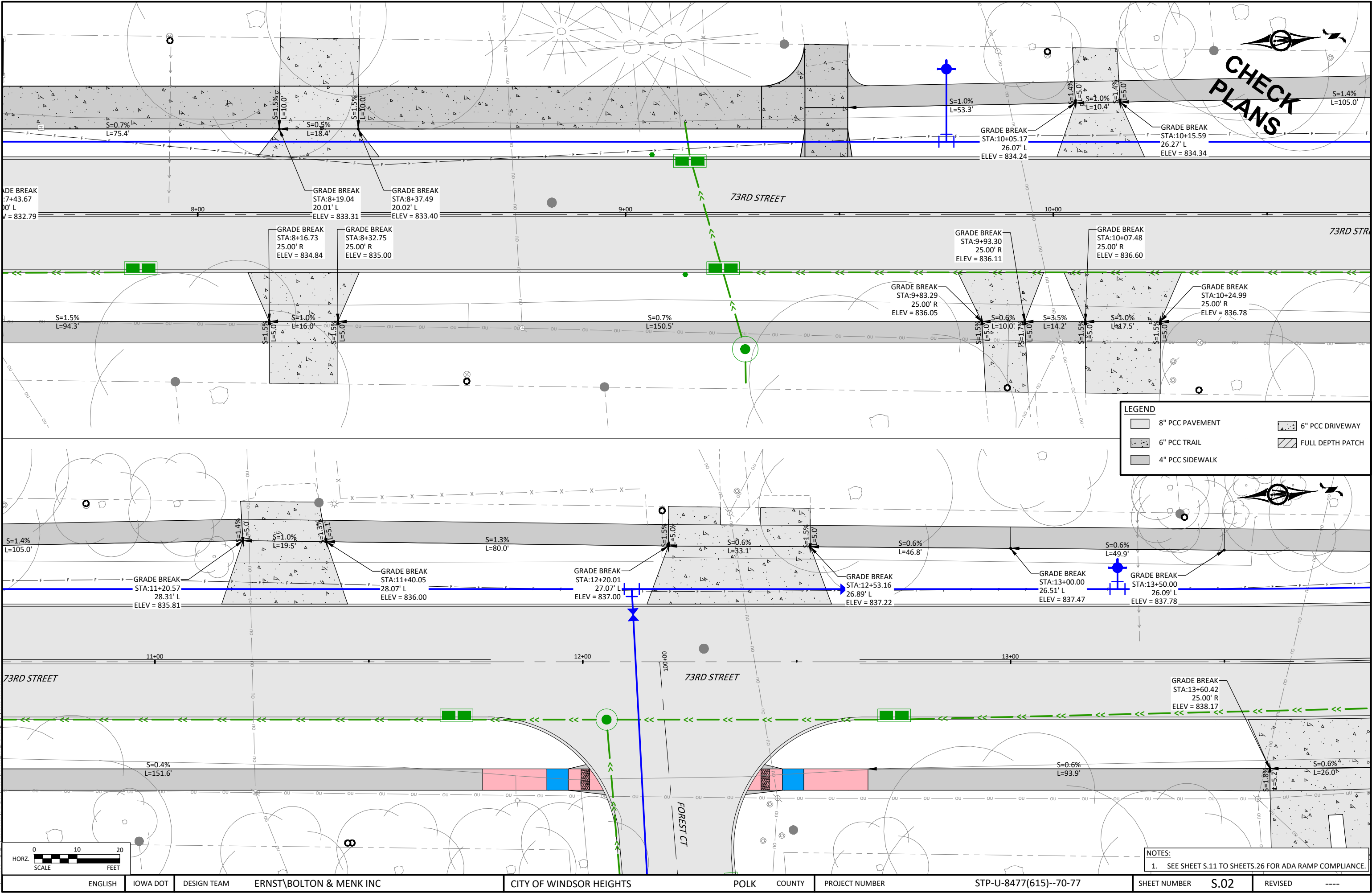
SHEET NUMBER

R.04

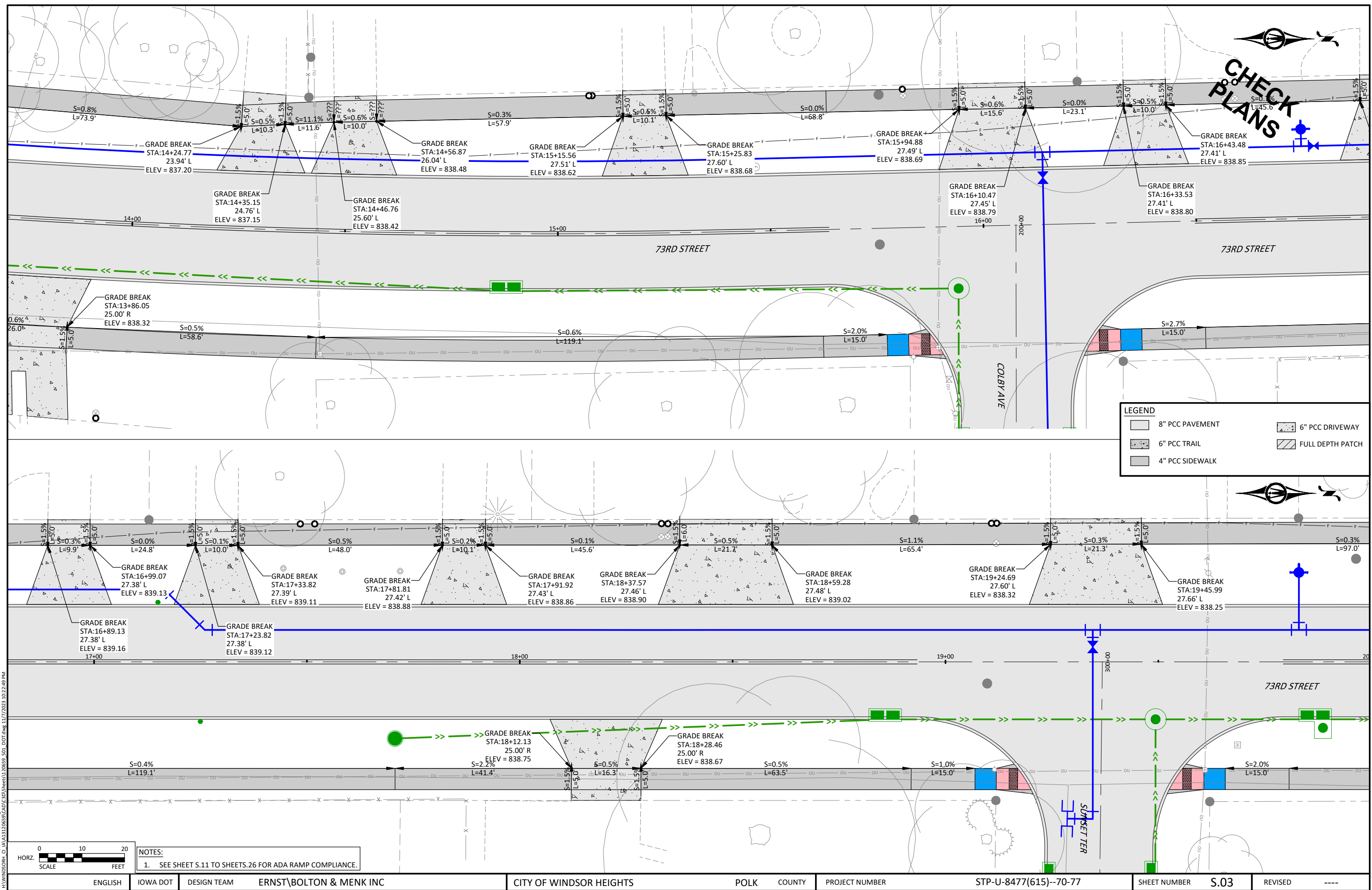
REVISED

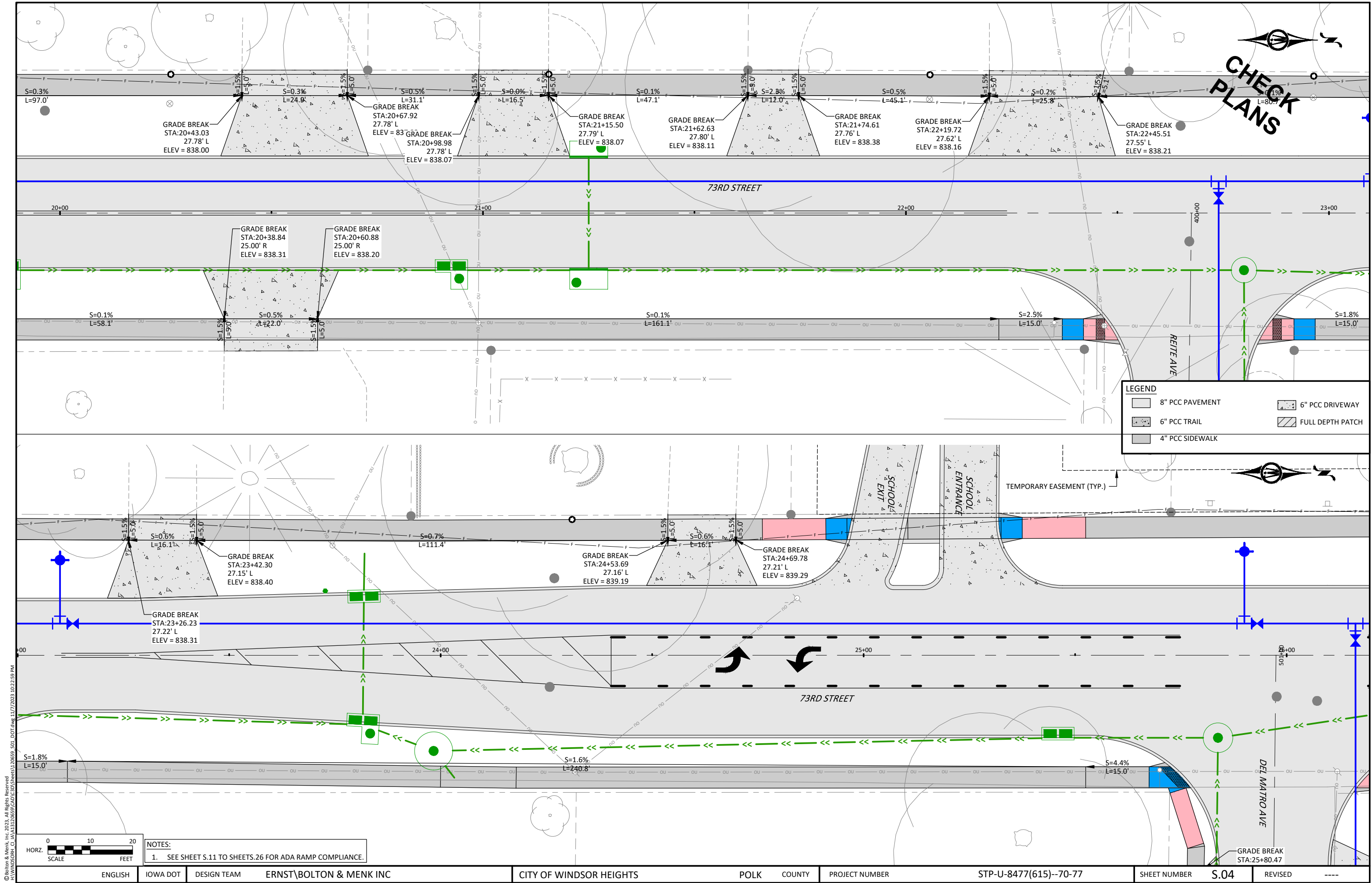


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_S01_DOT.dwg 11/7/2023 10:22:29 PM



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\170859_S01_DOT.dwg 11/7/2023 10:22:30 PM





© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\WORK\DOT\U-8477\DOT\U-8477.dwg 11/7/2023 10:22:59 PM

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

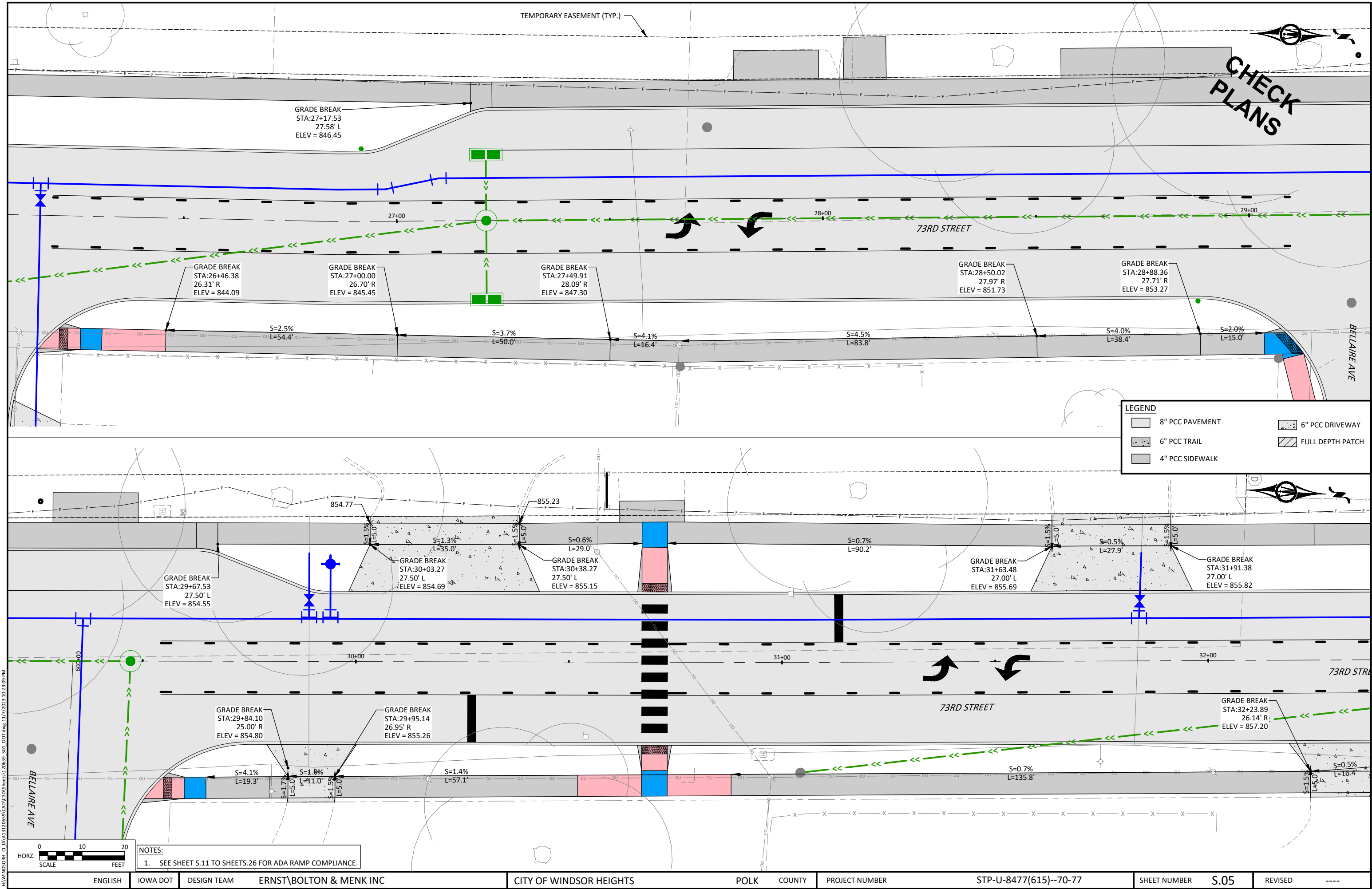
POLK COUNTY

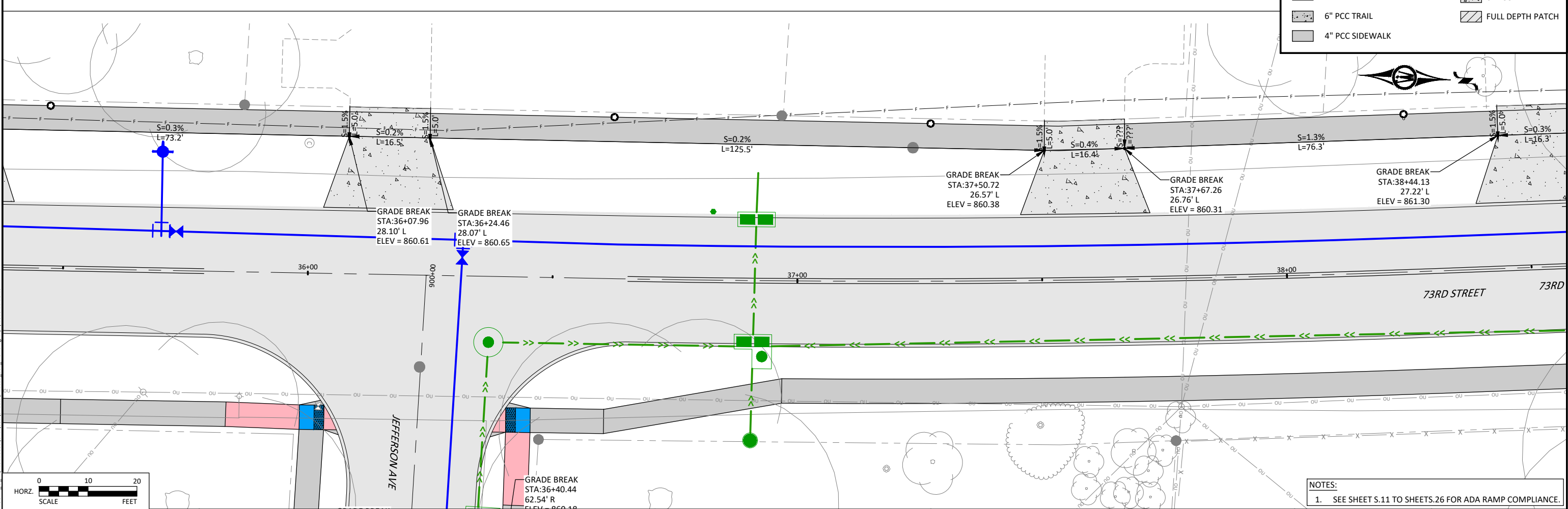
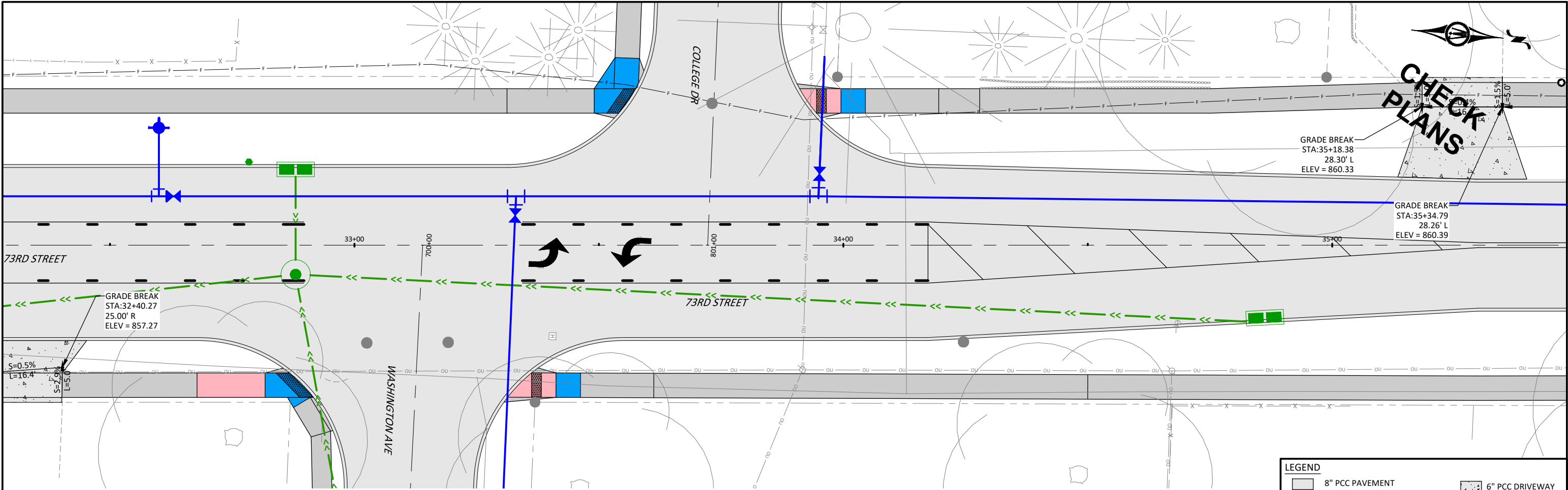
PROJECT NUMBER

STP-U-8477(615)--70-77

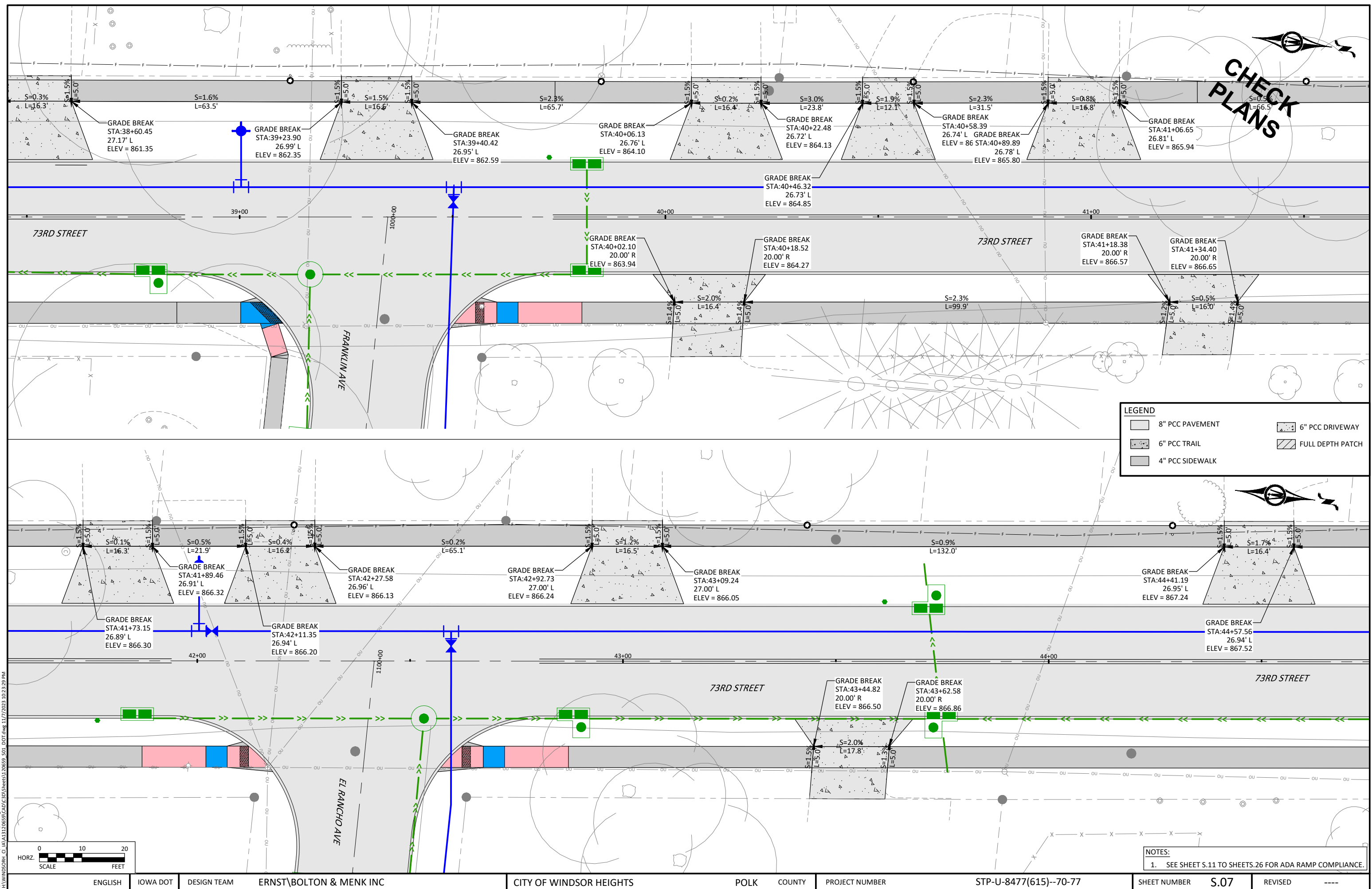
SHEET NUMBER S.04

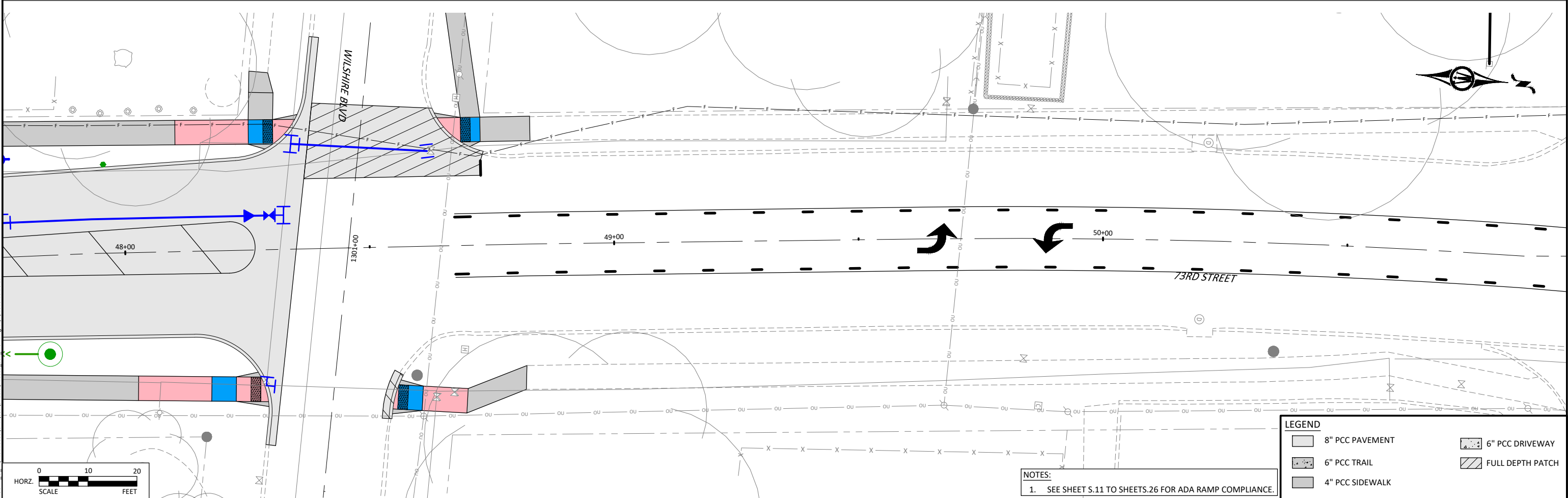
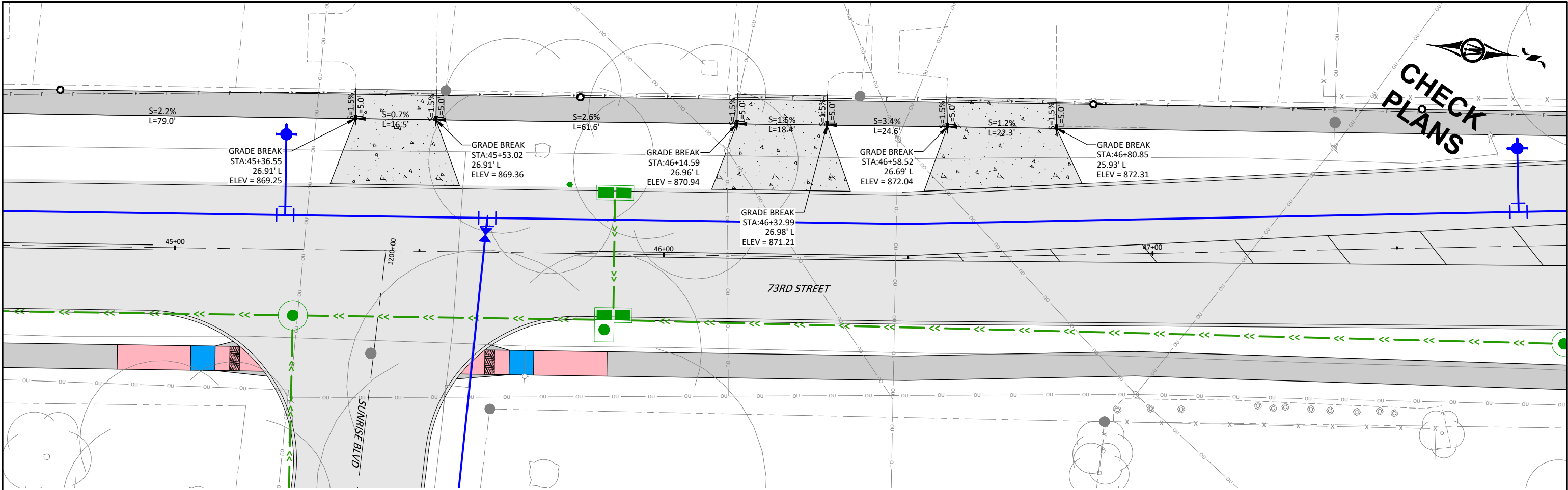
REVISED ----

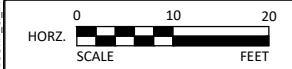
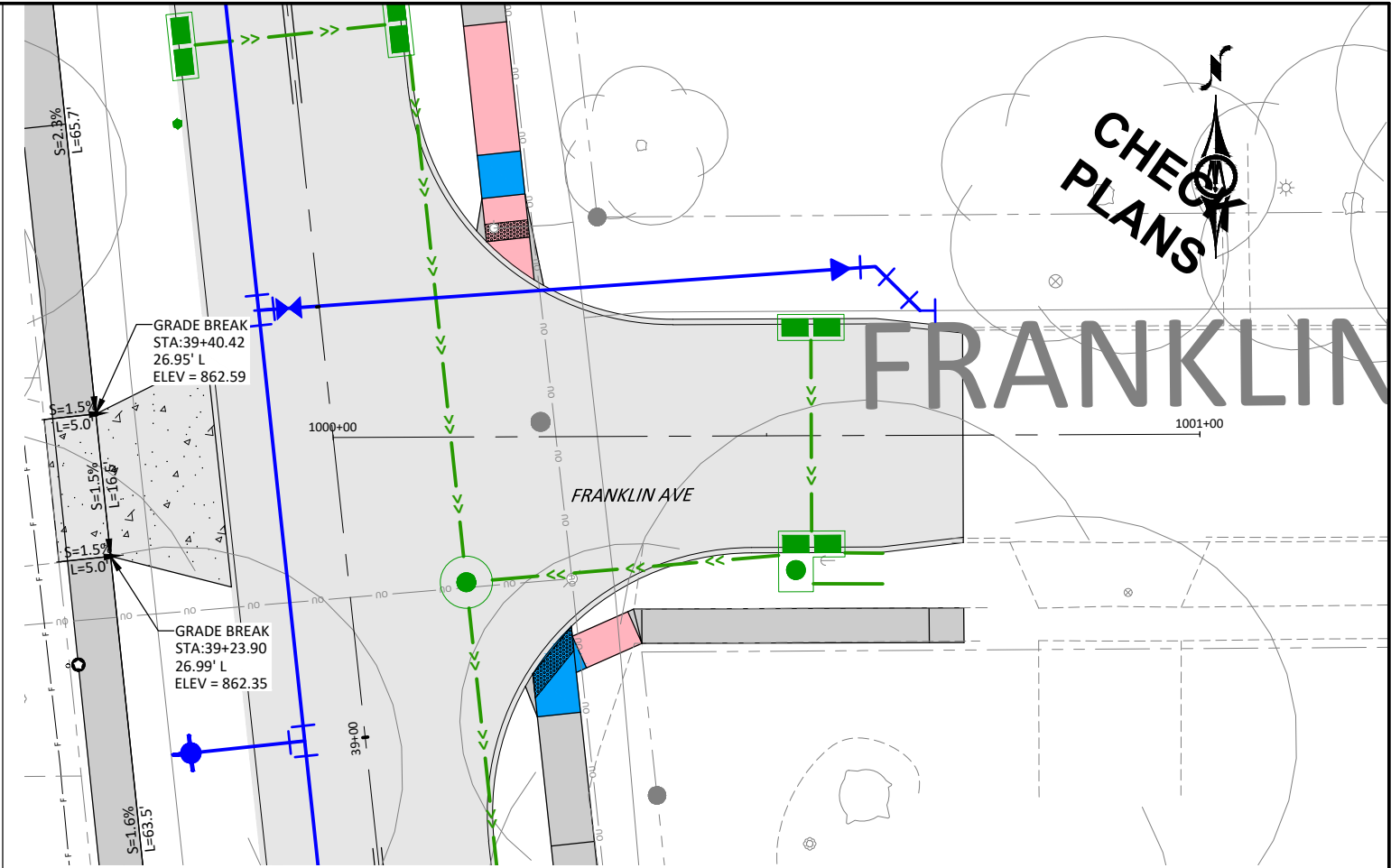
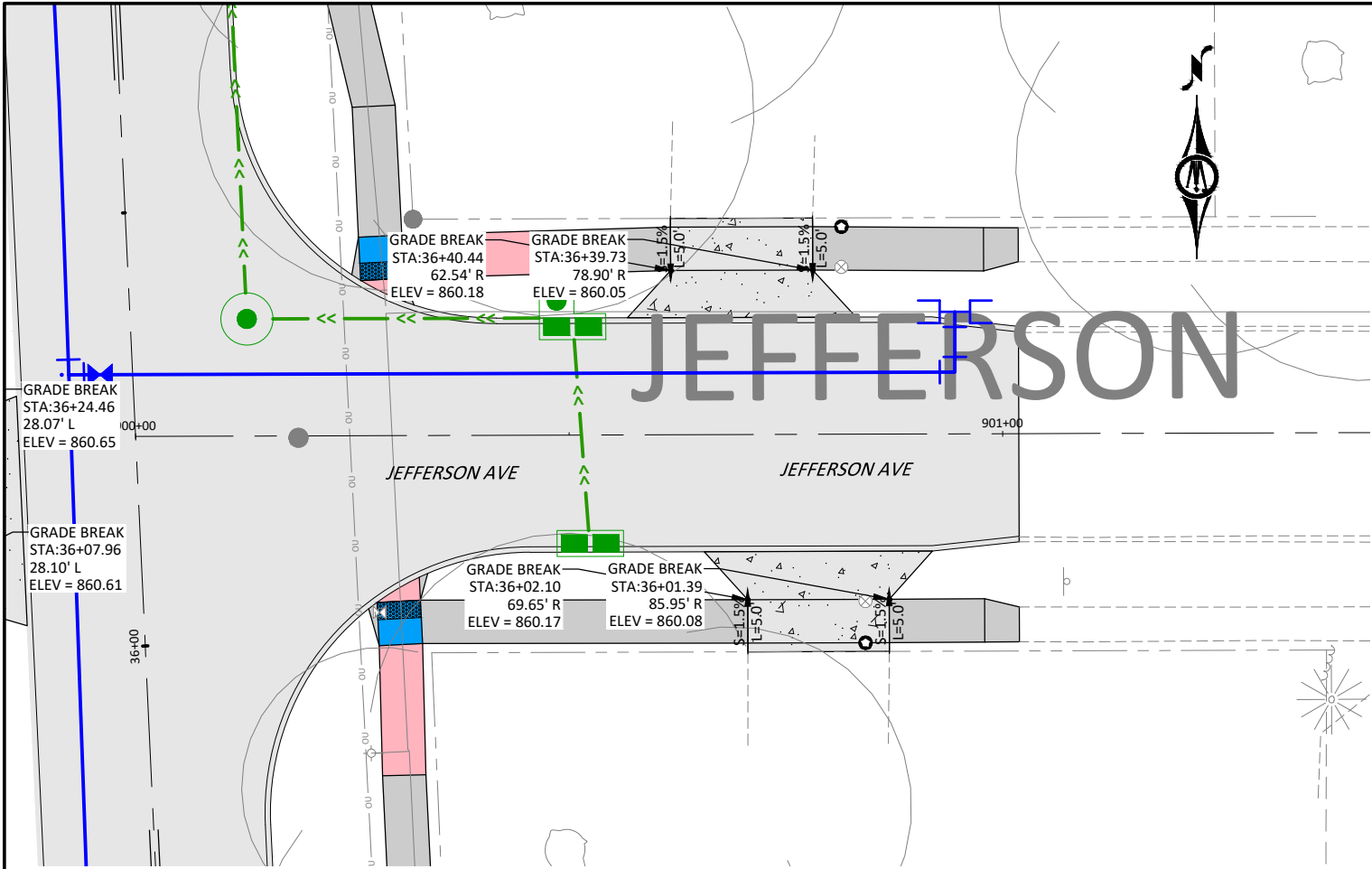




© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\V\WINDSOR\CD\14141317-0893\CD\14141317-0893.dwg 11/7/2023 10:23:19 PM

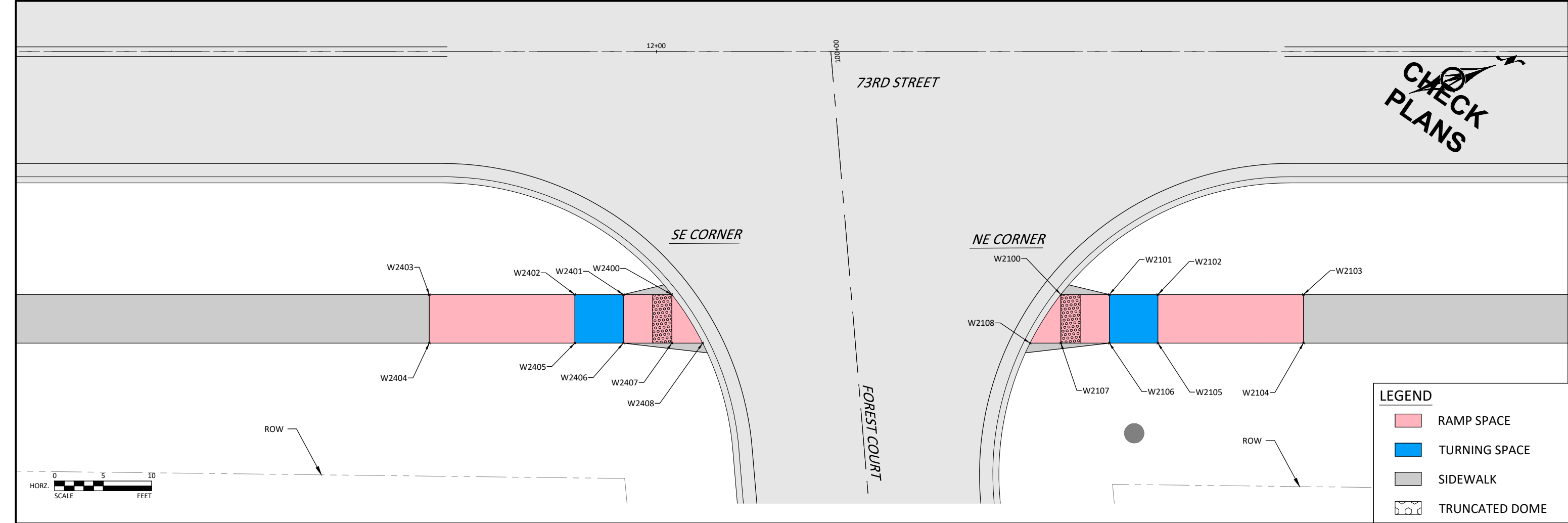






NOTES:
1. SEE SHEET S.11 TO SHEETS.26 FOR ADA RAMP COMPLIANCE.

LEGEND			
	8" PCC PAVEMENT		6" PCC DRIVEWAY
	6" PCC TRAIL		FULL DEPTH PATCH
	4" PCC SIDEWALK		



113-10

04-18-17

SIDEWALK COMPLIANCE

See S Sheets

* Does not include curb

① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

② Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	- " PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W2100	W2101	Ramp Running Slope	6	5.00	0.33	6.6%	0.5% to 8.3%					W2100	12+41.67	25.00	836.28
W2100	W2108	Crosswalk Cross Slope - Yield Condition	6	5.93	0.06	1.0%	0.0% to 2.0%					W2101	12+46.67	25.00	836.61
W2100	W2107	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W2102	12+51.67	25.00	836.68
W2101	W2102	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W2103	12+66.67	25.00	837.66
W2101	W2106	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W2104	12+66.67	30.00	837.73
W2102	W2103	Ramp Running Slope	6	15.00	0.98	6.5%	0.5% to 8.3%					W2105	12+51.67	30.00	836.76
W2102	W2105	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W2106	12+46.67	30.00	836.68
W2103	W2104	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W2107	12+41.67	30.00	836.36
W2104	W2105	Ramp Running Slope	6	15.00	-0.97	-6.5%	0.5% to 8.3%					W2108	12+38.50	30.00	836.34
W2105	W2106	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%	Yes							
W2106	W2107	Ramp Running Slope	6	5.00	-0.32	-6.4%	0.5% to 8.3%								
W2107	W2108	Ramp Running Slope	6	3.20	-0.02	-0.6%	0.5% to 8.3%								
W2400	W2401	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W2400	12+01.60	25.00	835.93
W2400	W2407	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W2401	11+96.60	25.00	836.25
W2400	W2408	Crosswalk Cross Slope - Yield Condition	6	5.93	0.09	1.5%	0.0% to 2.0%					W2402	11+91.60	25.00	836.33
W2401	W2402	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W2403	11+76.60	25.00	837.30
W2401	W2406	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W2404	11+76.60	30.00	837.38
W2402	W2403	Ramp Running Slope	6	15.00	0.97	6.5%	0.5% to 8.3%					W2405	11+91.60	30.00	836.40
W2402	W2405	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W2406	11+96.60	30.00	836.33
W2403	W2404	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W2407	12+01.60	30.00	836.00
W2404	W2405	Ramp Running Slope	6	15.00	-0.98	-6.5%	0.5% to 8.3%					W2408	12+04.77	30.00	836.02
W2405	W2406	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W2406	W2407	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W2407	W2408	Ramp Running Slope	6	3.20	0.02	0.6%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\V\W\50501 - C\A\1317-0859\120859_509_DOT.dwg 11/7/2023 10:24:23 PM

73RD STREET

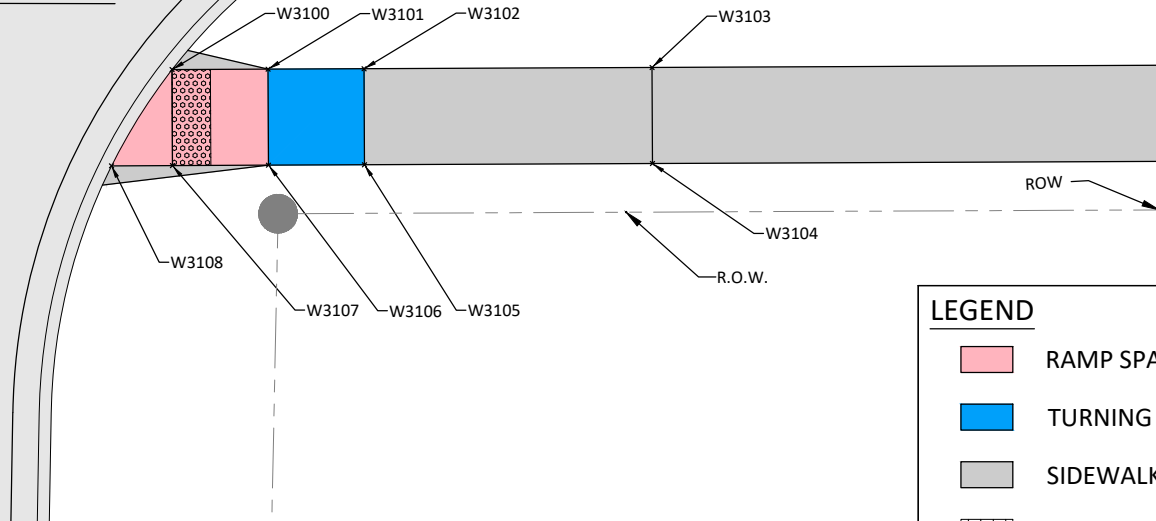
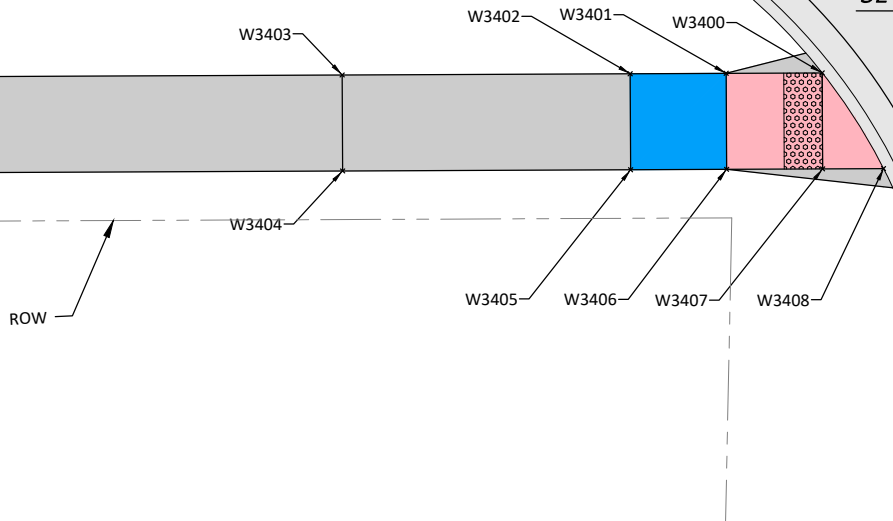
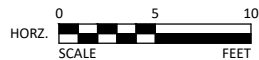
16+00
200+00

73RD STREET



SE CORNER

NE CORNER



LEGEND

- RAMP SPACE
- TURNING SPACE
- SIDEWALK
- TRUNCATED DOME

SIDEWALK COMPLIANCE

See 5 Sheets

113-10
04-18-17

- * Does not include curb
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
② Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W3100	W3101	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W3100	16+26.60	25.00	838.33
W3100	W3107	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W3101	16+31.60	25.00	838.65
W3100	W3108	Crosswalk Cross Slope - Yield Condition	6	5.90	0.03	0.5%	0.0% to 2.0%					W3102	16+36.60	25.00	838.73
W3101	W3102	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W3103	16+51.60	25.00	838.33
W3101	W3106	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W3104	16+51.60	30.00	838.40
W3102	W3103	Sidewalk Running Slope	4	15.00	-0.40	-2.7%	0.5% to 5.0%					W3105	16+36.60	30.00	838.80
W3102	W3105	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W3106	16+31.60	30.00	838.73
W3103	W3104	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W3107	16+26.60	30.00	838.40
W3104	W3105	Sidewalk Running Slope	4	15.00	0.40	2.7%	0.5% to 5.0%					W3108	16+23.42	30.00	838.36
W3105	W3106	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W3106	W3107	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W3107	W3108	Ramp Running Slope	6	3.17	-0.04	-1.3%	0.5% to 8.3%								
W3400	W3401	Ramp Running Slope	6	5.00	0.33	6.6%	0.5% to 8.3%					W3400	15+76.81	25.00	838.03
W3400	W3407	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W3401	15+71.81	25.00	838.36
W3400	W3408	Crosswalk Cross Slope - Yield Condition	6	5.92	0.09	1.5%	0.0% to 2.0%					W3402	15+66.81	25.00	838.43
W3401	W3402	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W3403	15+51.81	25.00	838.74
W3401	W3406	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W3404	15+51.81	30.00	838.81
W3402	W3403	Ramp Running Slope	6	15.00	0.31	2.1%	0.5% to 8.3%					W3405	15+66.81	30.00	838.51
W3402	W3405	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W3406	15+71.81	30.00	838.43
W3403	W3404	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W3407	15+76.81	30.00	838.11
W3404	W3405	Ramp Running Slope	6	15.00	-0.30	-2.0%	0.5% to 8.3%					W3408	15+89.98	30.00	838.12
W3405	W3406	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%	Yes							
W3406	W3407	Ramp Running Slope	6	5.00	-0.32	-6.4%	0.5% to 8.3%								
W3407	W3408	Ramp Running Slope	6	3.17	0.01	0.3%	0.5% to 8.3%								

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

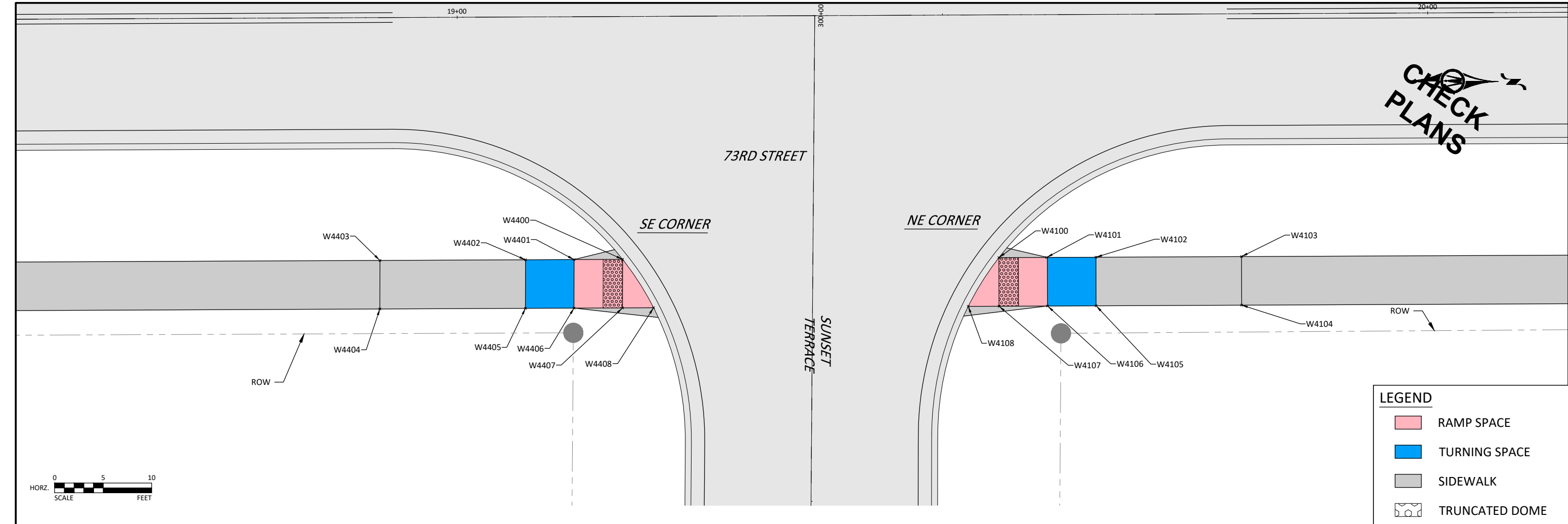
POLK COUNTY

PROJECT NUMBER

STP-U-8477(615)--70-77

SHEET NUMBER S.12

REVISED ----



113-10

04-18-17

SIDEWALK COMPLIANCE

See S Sheets

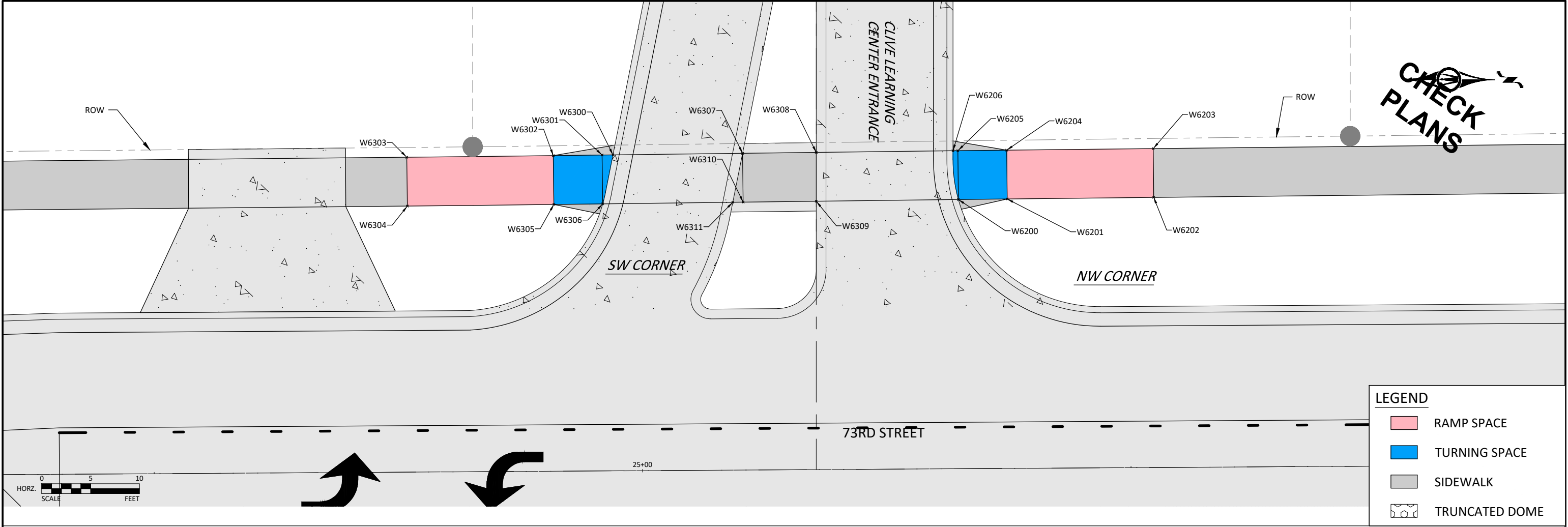
* Does not include curb

① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

② Refer to tabulation 113-01 for bid quantities.

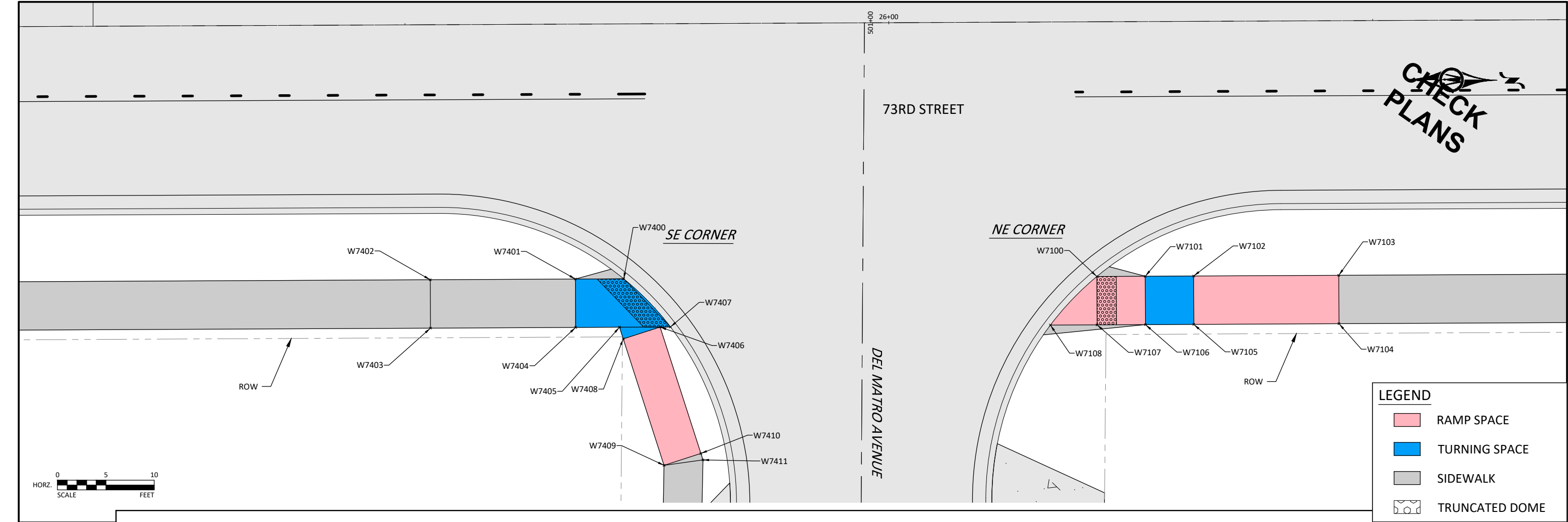
Point to Point		Sidewalk Designation	" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W4100	W4101	Ramp Running Slope	6	5.00	0.15	3.0%	0.5% to 8.3%					W4100	19+55.70	25.00	837.73
W4100	W4107	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W4101	19+60.70	25.00	837.88
W4100	W4108	Crosswalk Cross Slope - Yield Condition	6	3.92	0.11	2.8%	0.0% to 3.8%					W4102	19+65.70	25.00	837.95
W4101	W4102	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W4103	19+80.70	25.00	838.25
W4101	W4106	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W4104	19+80.70	30.00	838.33
W4102	W4103	Sidewalk Running Slope	4	15.00	0.30	2.0%	0.5% to 5.0%					W4105	19+65.70	30.00	838.03
W4102	W4105	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W4106	19+60.70	30.00	837.95
W4103	W4104	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W4107	19+55.70	30.00	837.80
W4104	W4105	Sidewalk Running Slope	4	15.00	-0.30	-2.0%	0.5% to 5.0%					W4108	19+52.53	30.00	837.84
W4105	W4106	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%	Yes							
W4106	W4107	Ramp Running Slope	6	5.00	-0.15	-3.0%	0.5% to 8.3%								
W4107	W4108	Ramp Running Slope	6	3.17	0.04	1.3%	0.5% to 8.3%								
W4400	W4401	Ramp Running Slope	6	5.00	0.07	1.4%	0.5% to 8.3%					W4400	19+16.93	25.00	838.05
W4400	W4407	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W4401	19+21.93	25.00	838.12
W4400	W4408	Crosswalk Cross Slope - Yield Condition	6	5.92	0.06	1.0%	0.0% to 2.0%					W4402	19+26.93	25.00	838.20
W4401	W4402	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W4403	19+41.93	25.00	838.35
W4401	W4406	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W4404	19+41.93	30.00	838.43
W4402	W4403	Sidewalk Running Slope	4	15.00	0.15	1.0%	0.5% to 5.0%					W4405	19+26.93	30.00	838.27
W4402	W4405	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W4406	19+21.93	30.00	838.20
W4403	W4404	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W4407	19+16.93	30.00	838.12
W4404	W4405	Sidewalk Running Slope	4	15.00	-0.16	-1.1%	0.5% to 5.0%					W4408	19+20.10	30.00	838.11
W4405	W4406	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W4406	W4407	Ramp Running Slope	6	5.00	-0.08	-1.6%	0.5% to 8.3%								
W4407	W4408	Ramp Running Slope	6	3.20	-0.01	-0.3%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\V\W\DOT\113-10\113-10-04-18-17\113-10-04-18-17.dwg 11/7/2023 10:24:33 PM



SIDEWALK COMPLIANCE															113-10 04-18-17
See 5 Sheets															
* Does not include curb															
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.															
② Refer to tabulation 113-01 for bid quantities.															
Point to Point		Sidewalk Designation	- " PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W6200	W6201	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W6200	25+32.50	27.56	840.93
W6200	W6205	Landing/Turning Space	4	5.00	0.04	0.8%	0.1% to 2.0%					W6201	25+37.50	27.58	841.01
W6200	W6206	Crosswalk Cross Slope - Yield Condition	6	5.02	0.03	0.6%	0.0% to 2.0%					W6202	25+52.50	27.65	841.48
W6201	W6202	Ramp Running Slope	6	15.00	0.47	3.1%	0.5% to 8.3%					W6203	25+52.50	32.65	841.55
W6201	W6204	Landing/Turning Space	4	5.00	0.03	0.6%	0.1% to 2.0%					W6204	25+37.50	32.58	841.04
W6202	W6203	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W6205	25+32.50	32.56	840.97
W6203	W6204	Ramp Running Slope	6	15.00	-0.51	-3.4%	0.5% to 8.3%					W6206	25+31.98	25.56	840.96
W6204	W6205	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W6205	W6206	Landing/Turning Space	4	5.00	-0.01	-0.2%	0.1% to 2.0%								
W6300	W6301	Landing/Turning Space	4	1.11	0.01	0.9%	0.1% to 2.0%					W6300	24+97.16	32.35	839.82
W6300	W6306	Landing/Turning Space	4	5.12	-0.06	-1.2%	0.1% to 2.0%					W6301	24+96.08	32.34	839.83
W6301	W6302	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W6302	24+91.08	32.31	839.91
W6301	W6306	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%					W6303	24+76.08	32.24	839.53
W6302	W6303	Ramp Running Slope	6	15.00	-0.38	-2.5%	0.5% to 8.3%					W6304	24+76.08	27.24	839.46
W6302	W6305	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%	Yes				W6305	24+91.08	27.31	839.83
W6303	W6304	Ramp Cross Slope	6	5.00	-0.07	-1.4%	0.1% to 2.0%					W6306	24+96.08	27.34	839.76
W6304	W6305	Ramp Running Slope	6	15.00	0.37	2.5%	0.5% to 8.3%								
W6305	W6306	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W6307	W6308	Sidewalk Running Slope	4	7.54	0.35	4.6%	0.5% to 5.0%	Yes				W6307	25+10.46	32.43	840.11
W6307	W6310	Sidewalk Cross Slope	4	5.00	-0.07	-1.4%	0.5% to 2.0%					W6308	25+17.94	32.47	840.46
W6307	W6311	Crosswalk Cross Slope - Yield Condition	6	5.11	-0.07	-1.4%	0.0% to 2.0%					W6309	25+17.94	27.47	840.39
W6308	W6309	Crosswalk Cross Slope - Yield Condition	6	5.00	-0.07	-1.4%	0.0% to 2.0%					W6310	25+10.46	27.43	840.04
W6309	W6310	Sidewalk Running Slope	4	7.54	-0.35	-4.6%	0.5% to 5.0%	Yes				W6311	25+09.40	27.42	840.04
W6310	W6311	Sidewalk Running Slope	4	1.06	0.00	0.0%	0.5% to 5.0%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_509_DOT.dwg, 11/7/2023, 10:24:43 PM



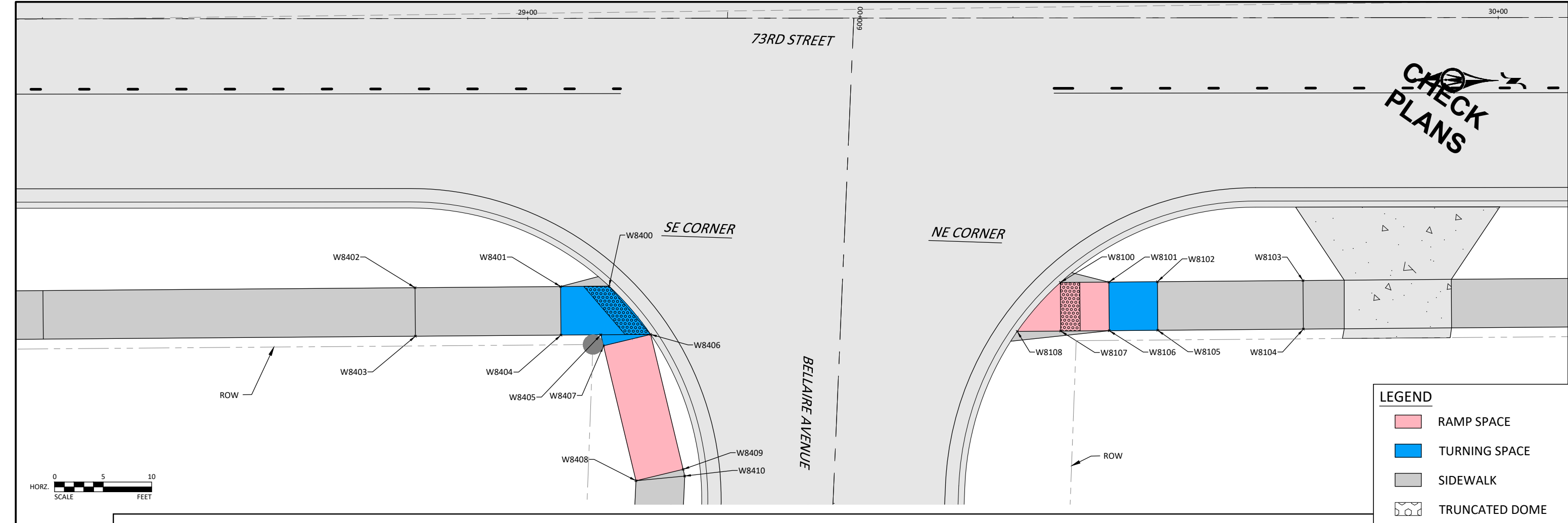
SIDEWALK COMPLIANCE

See 5 Sheets

- * Does not include curb
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
② Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	_" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W7100	W7101	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W7100	26+21.38	26.32	842.72
W7100	W7107	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W7101	26+26.38	26.32	843.04
W7100	W7108	Crosswalk Cross Slope - Yield Condition	6	6.95	0.03	0.4%	0.0% to 2.0%					W7102	26+31.38	26.32	843.12
W7101	W7102	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7103	26+46.38	26.31	844.09
W7101	W7106	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7104	26+46.38	31.31	844.17
W7102	W7103	Ramp Running Slope	6	15.00	0.97	6.5%	0.5% to 8.3%					W7105	26+31.38	31.32	843.19
W7102	W7105	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W7106	26+26.38	31.32	843.12
W7103	W7104	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W7107	26+21.38	31.32	842.79
W7104	W7105	Ramp Running Slope	6	15.00	-0.98	-6.5%	0.5% to 8.3%					W7108	26+16.56	31.33	842.75
W7105	W7106	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W7106	W7107	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W7107	W7108	Ramp Running Slope	6	4.82	-0.04	-0.8%	0.5% to 8.3%								
W7400	W7401	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W7400	25+72.50	26.34	842.12
W7400	W7405	Landing/Turning Space	4	5.02	0.09	1.8%	0.1% to 2.0%	Yes				W7401	25+67.50	26.35	842.19
W7400	W7407	Crosswalk Cross Slope - Yield Condition	6	6.93	0.04	0.6%	0.0% to 2.0%					W7402	25+52.50	26.35	841.53
W7401	W7402	Sidewalk Running Slope	4	15.00	-0.66	-4.4%	0.5% to 5.0%	Yes				W7403	25+52.50	31.35	841.60
W7401	W7404	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7404	25+67.50	31.35	842.27
W7402	W7403	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W7405	25+72.03	31.34	842.21
W7403	W7404	Sidewalk Running Slope	4	15.00	0.67	4.5%	0.5% to 5.0%	Yes				W7406	25+76.23	31.34	842.17
W7404	W7405	Landing/Turning Space	4	4.54	-0.06	-1.3%	0.1% to 2.0%					W7407	25+77.30	31.34	842.16
W7405	W7406	Landing/Turning Space	4	4.20	-0.04	-1.0%	0.1% to 2.0%					W7408	25+72.42	32.55	842.23
W7405	W7408	Landing/Turning Space	4	1.27	0.02	1.6%	0.1% to 2.0%	Yes				W7409	25+76.57	45.64	843.26
W7406	W7407	Landing/Turning Space	4	1.07	-0.01	-0.9%	0.1% to 2.0%					W7410	25+80.38	44.43	843.20
W7406	W7408	Landing/Turning Space	4	4.00	0.06	1.5%	0.1% to 2.0%					W7411	25+80.59	45.10	843.22
W7406	W7410	Ramp Running Slope	6	13.71	1.03	7.5%	0.5% to 8.3%	Yes							
W7408	W7409	Ramp Running Slope	6	13.71	1.03	7.5%	0.5% to 8.3%	Yes							
W7409	W7410	Ramp Cross Slope	6	4.00	-0.06	-1.5%	0.1% to 2.0%								
W7409	W7411	Sidewalk Cross Slope	4	4.00	-0.04	-1.0%	0.5% to 2.0%								
W7410	W7411	Sidewalk Running Slope	4	0.70	0.02	2.9%	0.5% to 5.0%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\PROJECTS\2023\IOWA DOT\117\2023\10-2-48 PM



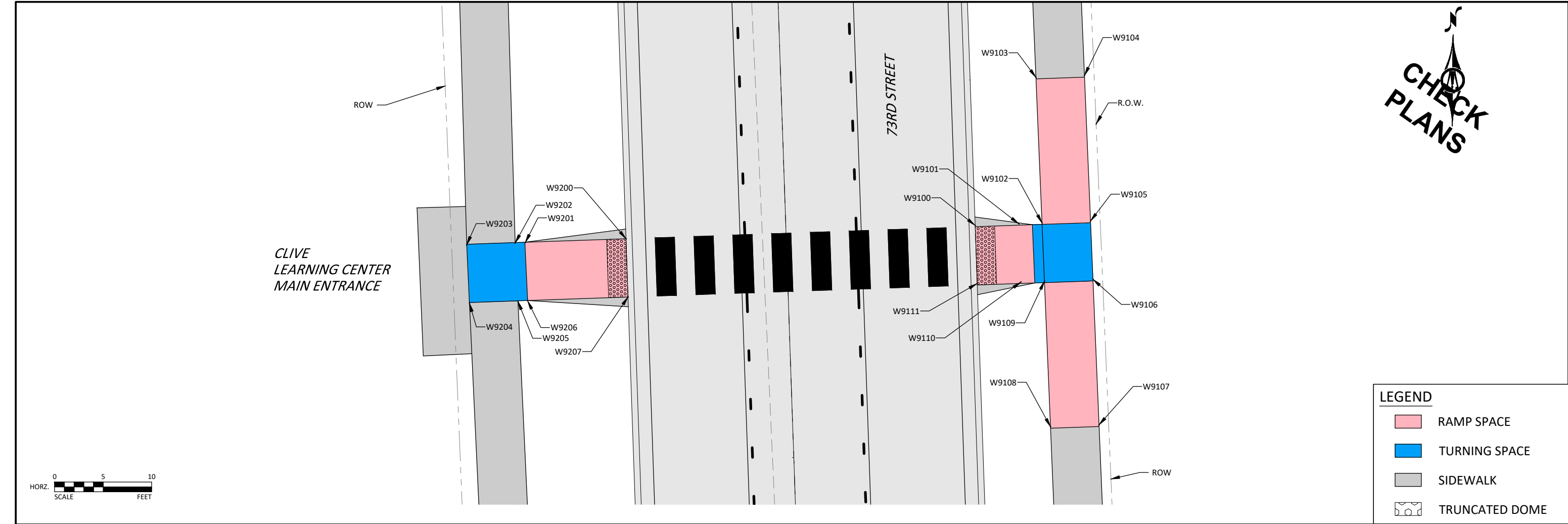
SIDEWALK COMPLIANCE

See S Sheets

- * Does not include curb
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
② Refer to tabulation 113-01 for bid quantities.

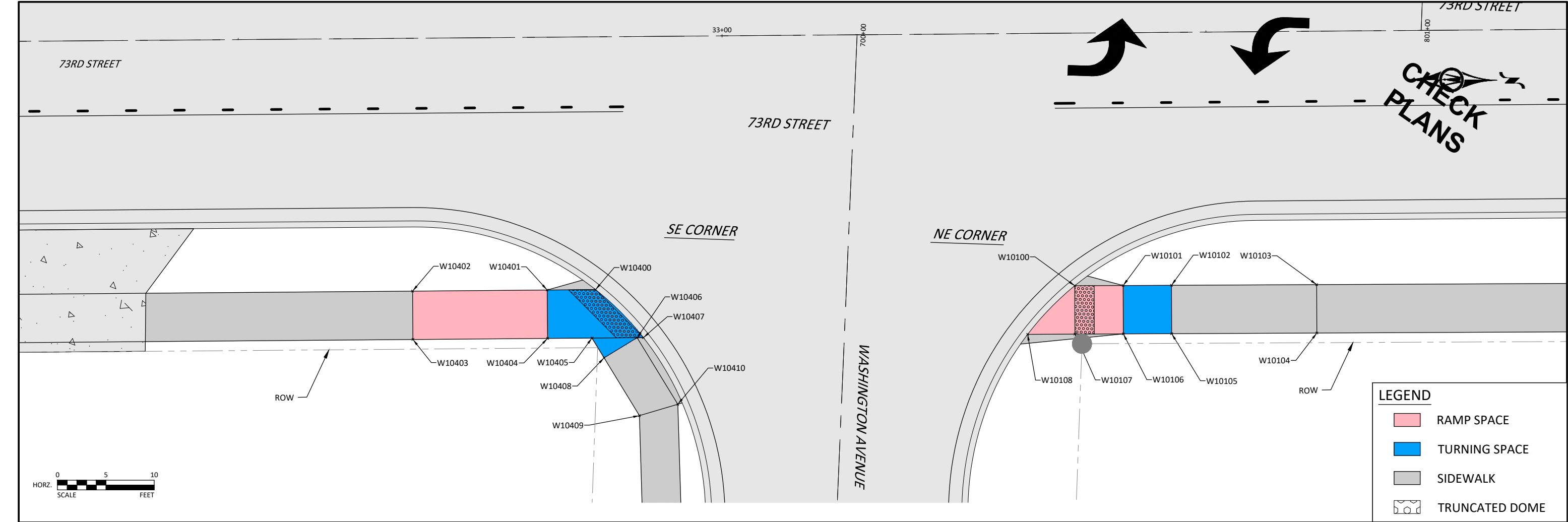
Point to Point		Sidewalk Designation	- " PCC Sidewalk (2)	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.	(1)	%			Point	Station	Offset	Elevation
W7100	W7101	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W7100	26+21.38	26.32	842.72
W7100	W7107	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W7101	26+26.38	26.32	843.04
W7100	W7108	Crosswalk Cross Slope - Yield Condition	6	6.95	0.03	0.4%	0.0% to 2.0%					W7102	26+31.38	26.32	843.12
W7101	W7102	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7103	26+46.38	26.31	844.09
W7101	W7106	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7104	26+46.38	31.31	844.17
W7102	W7103	Ramp Running Slope	6	15.00	0.97	6.5%	0.5% to 8.3%					W7105	26+31.38	31.32	843.19
W7102	W7105	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W7106	26+26.38	31.32	843.12
W7103	W7104	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W7107	26+21.38	31.32	842.79
W7104	W7105	Ramp Running Slope	6	15.00	-0.98	-6.5%	0.5% to 8.3%					W7108	26+16.56	31.33	842.75
W7105	W7106	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W7106	W7107	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W7107	W7108	Ramp Running Slope	6	4.82	-0.04	-0.8%	0.5% to 8.3%								
W7400	W7401	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W7400	25+72.50	26.34	842.12
W7400	W7405	Landing/Turning Space	4	5.02	0.09	1.8%	0.1% to 2.0%	Yes				W7401	25+67.50	26.35	842.19
W7400	W7407	Crosswalk Cross Slope - Yield Condition	6	6.93	0.04	0.6%	0.0% to 2.0%					W7402	25+52.50	26.35	841.53
W7401	W7402	Sidewalk Running Slope	4	15.00	-0.66	-4.4%	0.5% to 5.0%	Yes				W7403	25+52.50	31.35	841.60
W7401	W7404	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W7404	25+67.50	31.35	842.27
W7402	W7403	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W7405	25+72.03	31.34	842.21
W7403	W7404	Sidewalk Running Slope	4	15.00	0.67	4.5%	0.5% to 5.0%	Yes				W7406	25+76.23	31.34	842.17
W7404	W7405	Landing/Turning Space	4	4.54	-0.06	-1.3%	0.1% to 2.0%					W7407	25+77.30	31.34	842.16
W7405	W7406	Landing/Turning Space	4	4.20	-0.04	-1.0%	0.1% to 2.0%					W7408	25+72.42	32.55	842.23
W7405	W7408	Landing/Turning Space	4	1.27	0.02	1.6%	0.1% to 2.0%	Yes				W7409	25+76.57	45.64	843.26
W7406	W7407	Landing/Turning Space	4	1.07	-0.01	-0.9%	0.1% to 2.0%					W7410	25+80.38	44.43	843.20
W7406	W7408	Landing/Turning Space	4	4.00	0.06	1.5%	0.1% to 2.0%					W7411	25+80.59	45.10	843.22
W7406	W7410	Ramp Running Slope	6	13.71	1.03	7.5%	0.5% to 8.3%	Yes							
W7408	W7409	Ramp Running Slope	6	13.71	1.03	7.5%	0.5% to 8.3%	Yes							
W7409	W7410	Ramp Cross Slope	6	4.00	-0.06	-1.5%	0.1% to 2.0%								
W7409	W7411	Sidewalk Cross Slope	4	4.00	-0.04	-1.0%	0.5% to 2.0%								
W7410	W7411	Sidewalk Running Slope	4	0.70	0.02	2.9%	0.5% to 5.0%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_509_DOT.dwg 11/7/2023 10:24:53 PM



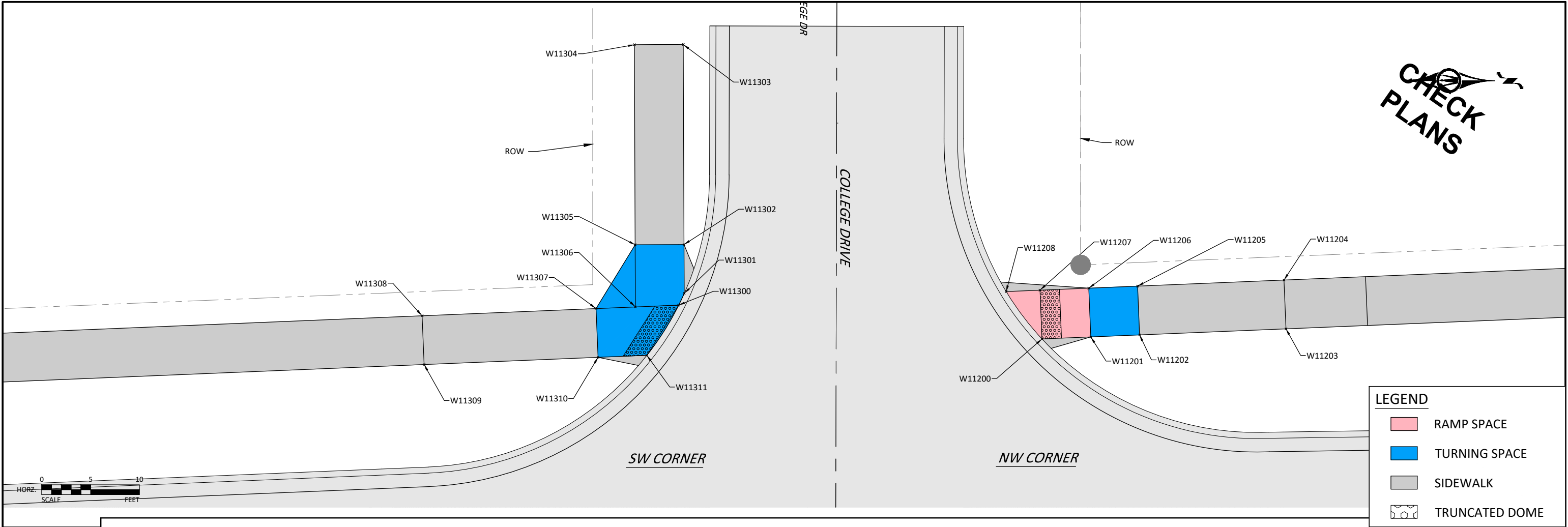
SIDEWALK COMPLIANCE															113-10 04-18-17
See 5 Sheets															
* Does not include curb															
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.															
② Refer to tabulation 113-01 for bid quantities.															
Point to Point		Sidewalk Designation	- " PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.	①	%			Point	Station	Offset	Elevation
W9100	W9101	Ramp Running Slope	6	4.50	0.33	7.3%	0.5% to 8.3%					W9100	30+73.23	19.50	854.75
W9100	W9111	Crosswalk Cross Slope - No Yield Condition	6	6.00	0.09	1.5%	0.0% to 5.0%					W9101	30+73.25	24.00	855.08
W9101	W9102	Landing/Turning Space	4	2.39	0.04	1.7%	0.1% to 2.0%	Yes				W9102	30+73.26	26.39	855.12
W9101	W9110	Landing/Turning Space	4	6.00	-0.08	-1.3%	0.1% to 2.0%					W9103	30+88.26	26.28	856.25
W9102	W9103	Ramp Running Slope	6	15.00	1.13	7.5%	0.5% to 8.3%	Yes				W9104	30+88.27	31.28	856.32
W9102	W9105	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W9105	30+73.27	31.39	855.20
W9102	W9109	Landing/Turning Space	4	6.00	-0.08	-1.3%	0.1% to 2.0%					W9106	30+67.27	31.44	855.11
W9103	W9104	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W9107	30+52.28	31.54	856.16
W9104	W9105	Ramp Running Slope	6	15.00	-1.12	-7.5%	0.5% to 8.3%	Yes				W9108	30+52.26	26.54	856.09
W9105	W9106	Landing/Turning Space	4	6.00	-0.09	-1.5%	0.1% to 2.0%					W9109	30+67.26	26.43	855.04
W9106	W9107	Ramp Running Slope	6	15.00	1.05	7.0%	0.5% to 8.3%					W9110	30+67.25	24.00	855.00
W9106	W9109	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%					W9111	30+67.23	19.50	854.84
W9107	W9108	Ramp Cross Slope	6	5.00	-0.07	-1.4%	0.1% to 2.0%								
W9108	W9109	Ramp Running Slope	6	15.00	-1.05	-7.0%	0.5% to 8.3%								
W9109	W9110	Landing/Turning Space	4	2.39	-0.04	-1.7%	0.1% to 2.0%	Yes							
W9110	W9111	Ramp Running Slope	6	4.50	-0.16	-3.6%	0.5% to 8.3%								
W9200	W9201	Ramp Running Slope	6	10.39	0.21	2.0%	0.5% to 8.3%					W9200	30+73.11	16.50	854.81
W9200	W9207	Crosswalk Cross Slope - No Yield Condition	6	6.00	0.41	6.8%	0.0% to 7.8%					W9201	30+73.07	26.89	855.02
W9201	W9202	Landing/Turning Space	4	1.04	0.02	1.9%	0.1% to 2.0%	Yes				W9202	30+73.07	27.93	855.04
W9201	W9206	Landing/Turning Space	4	6.00	0.04	0.7%	0.1% to 2.0%					W9203	30+73.05	32.93	855.12
W9202	W9203	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W9204	30+67.05	32.85	855.13
W9202	W9205	Landing/Turning Space	4	6.00	0.01	0.2%	0.1% to 2.0%					W9205	30+67.07	27.85	855.05
W9203	W9204	Landing/Turning Space	4	6.00	0.01	0.2%	0.1% to 2.0%					W9206	30+67.07	26.85	855.06
W9204	W9205	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%	Yes				W9207	30+67.11	16.50	855.22
W9205	W9206	Landing/Turning Space	4	1.04	0.01	1.0%	0.1% to 2.0%								
W9206	W9207	Ramp Running Slope	6	10.39	0.16	1.5%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_509_DOT.dwg 11/7/2023 10:24:58 PM



113-10 04-18-17																	
SIDEWALK COMPLIANCE See S Sheets																	
* Does not include curb ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications. ② Refer to tabulation 113-01 for bid quantities.																	
Point to Point		Sidewalk Designation	- " PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES					
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation		
W10100	W10101	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W10100	33+36.24	26.11	857.55		
W10100	W10107	Ramp Cross Slope	6	6.99	0.07	1.0%	0.1% to 2.0%					W10101	33+41.24	26.13	857.87		
W10100	W10108	Crosswalk Cross Slope - Yield Condition	6	6.95	0.01	0.1%	0.0% to 2.0%					W10102	33+46.24	26.14	857.95		
W10101	W10102	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W10103	33+61.24	26.19	858.40		
W10101	W10106	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W10104	33+61.24	31.19	858.48		
W10102	W10103	Ramp Running Slope	6	15.00	0.45	3.0%	0.5% to 8.3%					W10105	33+46.24	31.14	858.02		
W10102	W10105	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W10106	33+41.24	31.13	857.95		
W10103	W10104	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W10107	33+36.24	31.11	857.62		
W10104	W10105	Ramp Running Slope	6	15.00	-0.46	-3.1%	0.5% to 8.3%					W10108	33+31.33	31.10	857.56		
W10105	W10106	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%										
W10106	W10107	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%										
W10107	W10108	Ramp Running Slope	6	4.89	-0.06	-1.2%	0.5% to 8.3%										
W10400	W10401	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W10400	32+86.72	26.13	856.93		
W10400	W10405	Landing/Turning Space	4	5.02	0.09	1.8%	0.1% to 2.0%	Yes				W10401	32+81.72	26.13	857.00		
W10400	W10407	Crosswalk Cross Slope - Yield Condition	6	7.01	0.09	1.3%	0.0% to 2.0%					W10402	32+67.81	26.13	857.77		
W10401	W10402	Ramp Running Slope	6	15.00	0.77	5.1%	0.5% to 8.3%					W10403	32+67.81	31.13	857.84		
W10401	W10404	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W10404	32+81.72	31.13	857.08		
W10402	W10403	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W10405	32+86.31	31.13	857.02		
W10403	W10404	Ramp Running Slope	6	15.00	-0.76	-5.1%	0.5% to 8.3%					W10406	32+90.97	31.13	857.02		
W10404	W10405	Landing/Turning Space	4	4.10	4.59	-1.5%	0.1% to 2.0%					W10407	32+91.63	31.13	857.02		
W10405	W10406	Landing/Turning Space	4	4.66	0.00	0.0%	0.1% to 2.0%					W10408	32+84.54	33.18	857.06		
W10405	W10408	Landing/Turning Space	4	2.40	0.04	1.7%	0.1% to 2.0%	Yes				W10409	32+91.15	39.19	857.24		
W10406	W10407	Landing/Turning Space	4	0.65	0.00	0.0%	0.1% to 2.0%					W10410	32+95.12	38.04	857.23		
W10406	W10408	Landing/Turning Space	4	4.00	0.04	1.0%	0.1% to 2.0%										
W10406	W10410	Sidewalk Running Slope	4	8.06	0.21	2.6%	0.5% to 5.0%										
W10408	W10409	Sidewalk Running Slope	4	7.00	0.18	2.6%	0.5% to 5.0%										
W10409	W10410	Sidewalk Cross Slope	4	4.14	-0.01	-0.2%	0.5% to 2.0%										
ENGLISH		IOWA DOT	DESIGN TEAM	ERNST\BOLTON & MENK INC			CITY OF WINDSOR HEIGHTS			POLK COUNTY	PROJECT NUMBER	STP-U-8477(615)--70-77		SHEET NUMBER	S.19	REVISED	----

© Bolton & Menk, Inc. 2023. All Rights Reserved.
A:\V\WINDSOR\CD\LA\W11311-000\DWG\113-10-04-18-17.dwg 11/7/2023 10:25:03 PM



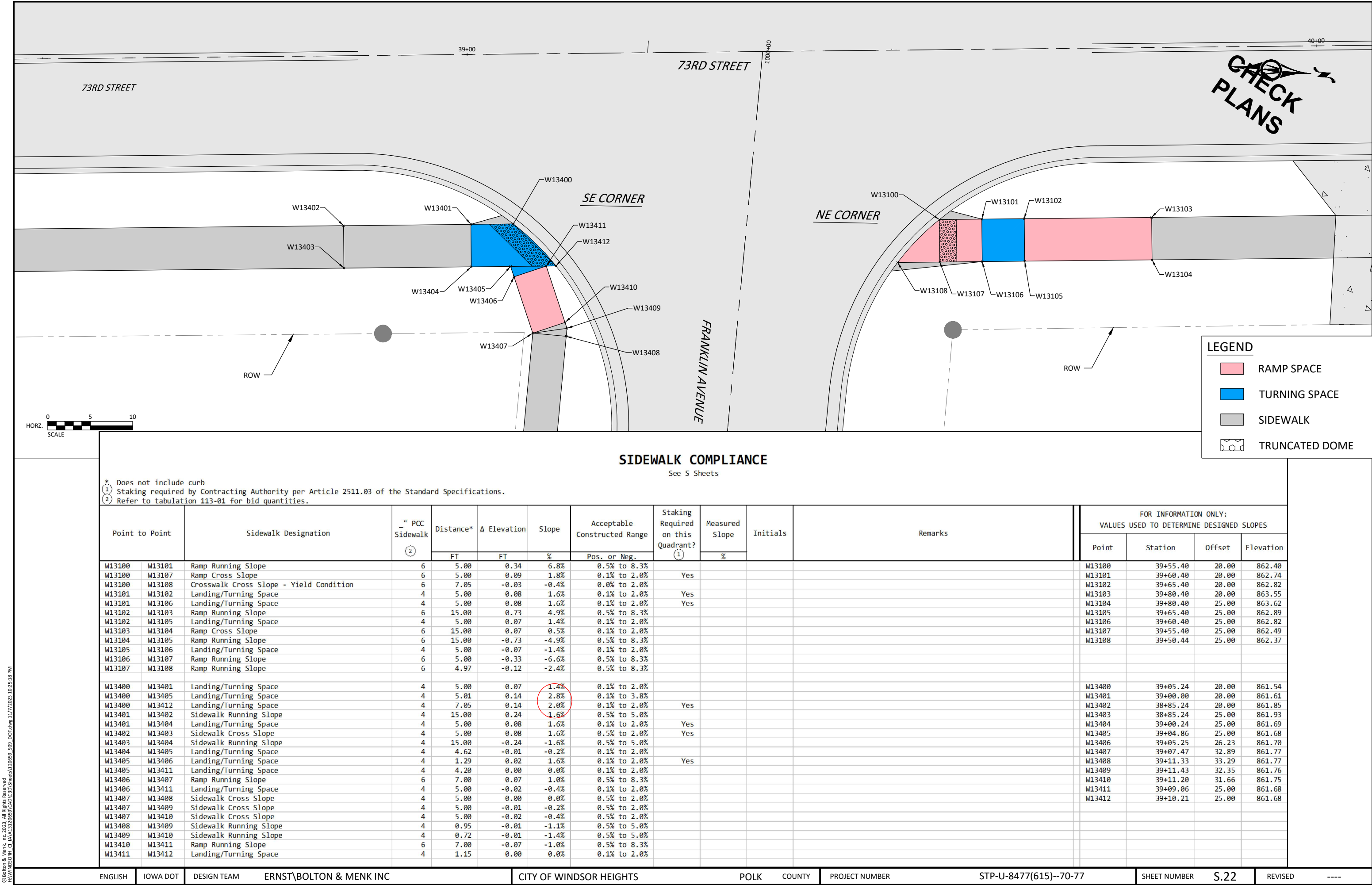
SIDEWALK COMPLIANCE

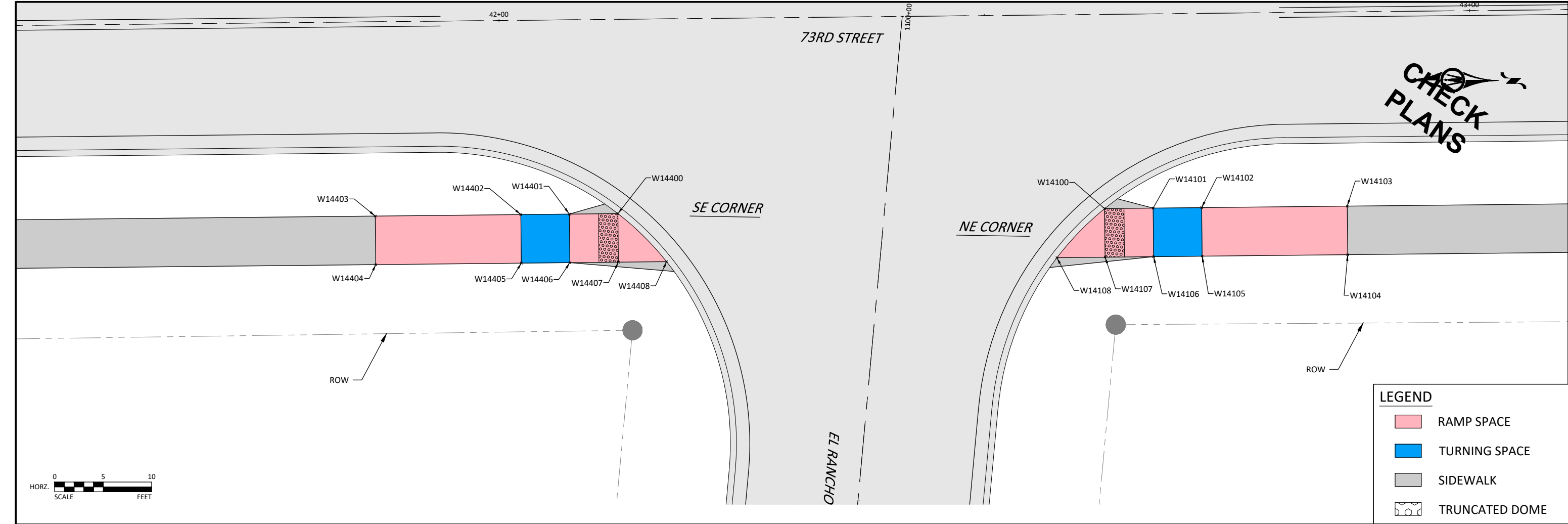
See S Sheets

- * Does not include curb
- ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.
- ② Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	- " PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W11200	W11201	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W11200	33+94.52	27.00	858.15
W11200	W11207	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W11201	33+99.52	27.00	858.47
W11200	W11208	Crosswalk Cross Slope - Yield Condition	6	6.08	0.04	0.7%	0.0% to 2.0%					W11202	34+04.52	27.00	858.55
W11201	W11202	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W11203	34+19.52	27.00	858.94
W11201	W11206	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W11204	34+19.52	32.00	859.02
W11202	W11203	Sidewalk Running Slope	4	15.00	0.39	2.6%	0.5% to 5.0%					W11205	34+04.52	32.00	858.62
W11202	W11205	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W11206	33+99.52	32.00	858.55
W11203	W11204	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%	Yes				W11207	33+94.52	32.00	858.22
W11204	W11205	Sidewalk Running Slope	4	15.00	-0.40	-2.7%	0.5% to 5.0%					W11208	33+91.05	32.00	858.19
W11205	W11206	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W11206	W11207	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W11207	W11208	Ramp Running Slope	6	3.47	-0.03	-0.9%	0.5% to 8.3%								
W11300	W11301	Landing/Turning Space	4	1.33	0.02	1.5%	0.1% to 2.0%					W11300	33+57.50	32.00	858.01
W11300	W11306	Landing/Turning Space	4	5.00	0.00	0.0%	0.1% to 2.0%					W11301	33+58.11	33.17	858.03
W11300	W11311	Landing/Turning Space	4	6.08	-0.10	-1.6%	0.1% to 2.0%	Yes				W11302	33+58.30	38.17	858.10
W11301	W11302	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W11303	33+59.07	58.64	859.02
W11302	W11303	Sidewalk Running Slope	4	20.48	0.92	4.5%	0.5% to 5.0%	Yes				W11304	33+54.08	58.85	859.09
W11302	W11305	Landing/Turning Space	4	5.00	0.00	0.0%	0.1% to 2.0%					W11305	33+53.31	38.36	858.10
W11303	W11304	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W11306	33+53.07	32.00	858.01
W11304	W11305	Sidewalk Running Slope	4	20.48	-0.99	-4.8%	0.5% to 5.0%	Yes				W11307	33+49.03	32.00	858.01
W11305	W11306	Landing/Turning Space	4	6.36	-0.09	-1.4%	0.1% to 2.0%					W11308	33+31.21	32.00	858.43
W11305	W11307	Landing/Turning Space	4	7.66	-0.09	-1.2%	0.1% to 2.0%					W11309	33+31.21	27.00	858.35
W11306	W11307	Landing/Turning Space	4	4.03	0.00	0.0%	0.1% to 2.0%					W11310	33+49.03	27.00	857.96
W11306	W11311	Landing/Turning Space	4	5.09	-0.10	-2.0%	0.1% to 2.0%	Yes				W11311	33+54.03	27.00	857.91
W11307	W11308	Sidewalk Running Slope	4	17.82	0.42	2.4%	0.5% to 5.0%								
W11307	W11310	Landing/Turning Space	4	5.00	-0.05	-1.0%	0.1% to 2.0%								
W11308	W11309	Sidewalk Cross Slope	4	5.00	-0.08	-1.6%	0.5% to 2.0%	Yes							
W11309	W11310	Ramp Running Slope	6	17.82	-0.39	-2.2%	0.5% to 8.3%								
W11310	W11311	Landing/Turning Space	4	5.00	-0.05	-1.0%	0.1% to 2.0%								

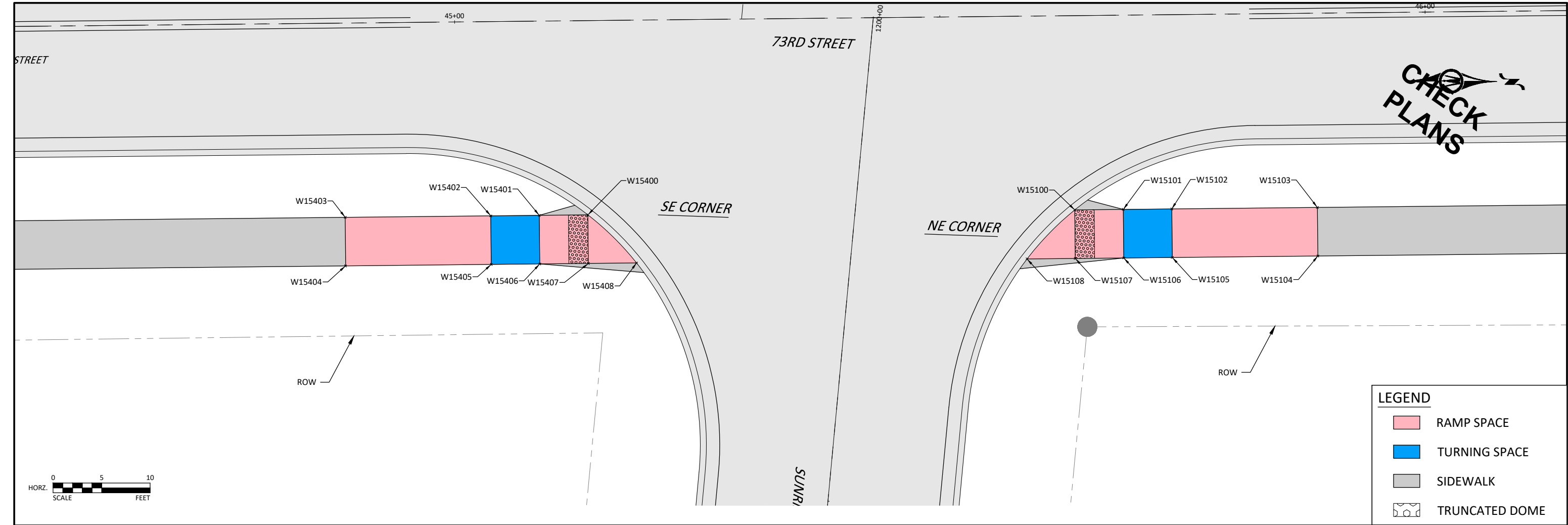
© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\WORKSPACE\CD LA\W11311-0859\CD LA\W11311-0859\120859_509_DOT.dwg 11/7/2023 10:25:00 PM





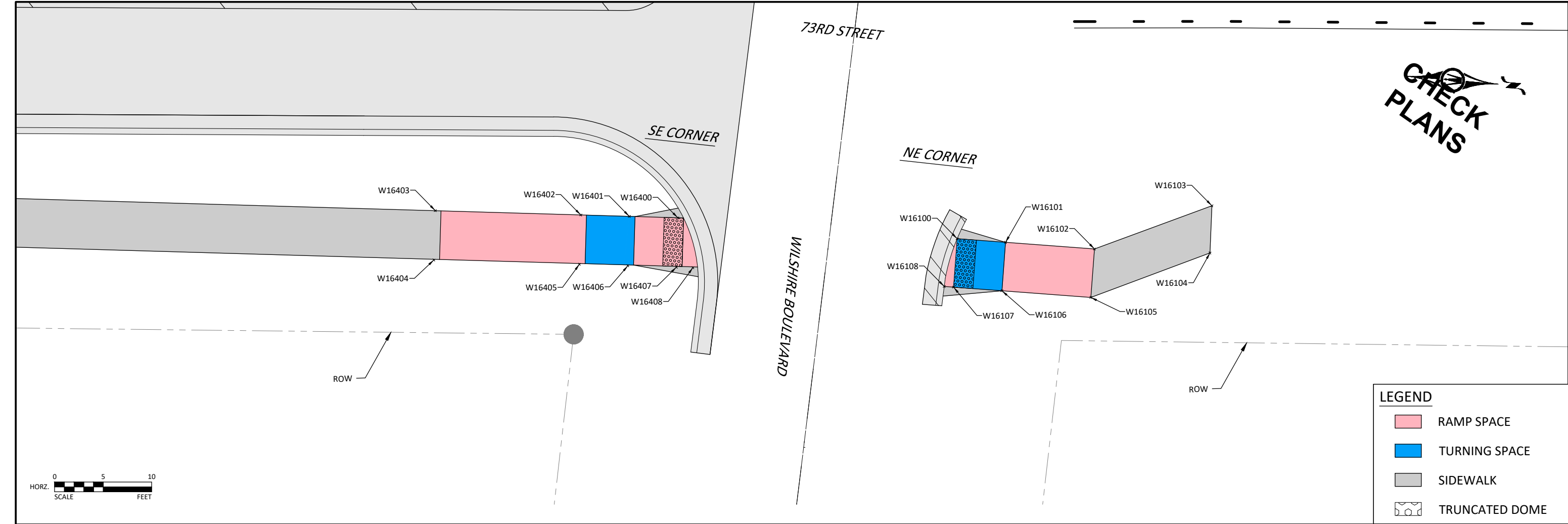
SIDEWALK COMPLIANCE															113-10 04-18-17
See 5 Sheets															
* Does not include curb															
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.															
② Refer to tabulation 113-01 for bid quantities.															
Point to Point		Sidewalk Designation	" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant?	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.	①	%			Point	Station	Offset	Elevation
W14100	W14101	Ramp Running Slope	6	5.00	0.33	6.6%	0.5% to 8.3%	Yes				W14100	42+62.20	20.00	865.45
W14100	W14107	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%					W14101	42+67.20	20.00	865.78
W14100	W14108	Crosswalk Cross Slope - Yield Condition	6	7.05	0.04	0.6%	0.0% to 2.0%					W14102	42+72.20	20.00	865.85
W14101	W14102	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W14103	42+87.20	20.00	866.83
W14101	W14106	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W14104	42+87.20	25.00	866.90
W14102	W14103	Ramp Running Slope	6	15.00	0.98	6.5%	0.5% to 8.3%		Yes				W14105	42+72.20	25.00
W14102	W14105	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%					W14106	42+67.20	25.00	865.85
W14103	W14104	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%					W14107	42+62.20	25.00	865.53
W14104	W14105	Ramp Running Slope	6	15.00	-0.97	-6.5%	0.5% to 8.3%	Yes				W14108	42+57.23	25.00	865.49
W14105	W14106	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%								
W14106	W14107	Ramp Running Slope	6	5.00	-0.32	-6.4%	0.5% to 8.3%								
W14107	W14108	Ramp Running Slope	6	4.97	-0.04	-0.8%	0.5% to 8.3%								
W14400	W14401	Ramp Running Slope	6	5.00	0.32	6.4%	0.5% to 8.3%					W14400	42+12.05	20.00	865.12
W14400	W14407	Ramp Cross Slope	6	7.05	0.07	1.0%	0.1% to 2.0%					W14401	42+07.05	20.00	865.44
W14400	W14408	Crosswalk Cross Slope - Yield Condition	6	5.92	0.07	1.2%	0.0% to 2.0%					W14402	42+02.05	20.00	865.52
W14401	W14402	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W14403	41+87.05	20.00	866.49
W14401	W14406	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W14404	41+87.05	25.00	866.57
W14402	W14403	Ramp Running Slope	6	15.00	0.97	6.5%	0.5% to 8.3%					W14405	42+02.05	25.00	865.59
W14402	W14405	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W14406	42+07.05	25.00	865.52
W14403	W14404	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%		Yes			W14407	42+12.05	25.00	865.19
W14404	W14405	Ramp Running Slope	6	15.00	-0.98	-6.5%	0.5% to 8.3%					W14408	42+17.02	25.00	865.19
W14405	W14406	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W14406	W14407	Ramp Running Slope	6	5.00	-0.33	-6.6%	0.5% to 8.3%								
W14407	W14408	Ramp Running Slope	6	4.97	0.00	0.0%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\V\W\50501\CD\141317-0059\CD\141317-0059-S09-DOT.dwg 11/7/2023 10:25:23 PM



SIDEWALK COMPLIANCE															113-10 04-18-17
See 5 Sheets															
* Does not include curb															
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.															
② Refer to tabulation 113-01 for bid quantities.															
Point to Point		Sidewalk Designation	" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.		%			Point	Station	Offset	Elevation
W14100	W14101	Ramp Running Slope	6	5.00	0.33	6.6%	0.5% to 8.3%	Yes				W14100	45+63.70	20.00	869.43
W14100	W14107	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%					W14101	45+68.70	20.00	869.76
W14100	W14108	Crosswalk Cross Slope - Yield Condition	6	7.05	-0.05	-0.7%	0.0% to 2.0%					W14102	45+73.70	20.00	869.83
W14101	W14102	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%	Yes				W14103	45+88.70	20.00	871.01
W14101	W14106	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W14104	45+88.70	25.00	871.08
W14102	W14103	Ramp Running Slope	6	15.00	1.18	7.9%	0.5% to 8.3%					W14105	45+73.70	25.00	869.91
W14102	W14105	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W14106	45+68.70	25.00	869.83
W14103	W14104	Sidewalk Cross Slope	4	5.00	0.07	1.4%	0.5% to 2.0%	Yes				W14107	45+63.70	25.00	869.51
W14104	W14105	Ramp Running Slope	6	15.00	-1.17	-7.8%	0.5% to 8.3%					W14108	45+58.73	25.00	869.38
W14105	W14106	Landing/Turning Space	4	5.00	-0.08	-1.6%	0.1% to 2.0%								
W14106	W14107	Ramp Running Slope	6	5.00	-0.32	-6.4%	0.5% to 8.3%								
W14107	W14108	Ramp Running Slope	6	4.97	-0.13	-2.6%	0.5% to 8.3%								
W14400	W14401	Ramp Running Slope	6	5.00	0.07	1.4%	0.5% to 8.3%	Yes				W14400	45+13.53	20.00	868.61
W14400	W14407	Ramp Cross Slope	6	7.05	0.07	1.0%	0.1% to 2.0%					W14401	45+08.53	20.00	868.68
W14400	W14408	Crosswalk Cross Slope - Yield Condition	6	5.92	0.11	1.9%	0.0% to 2.0%					W14402	45+03.53	20.00	868.76
W14401	W14402	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W14403	44+88.53	20.00	868.11
W14401	W14406	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W14404	44+88.53	25.00	868.19
W14402	W14403	Ramp Running Slope	6	15.00	-0.65	-4.3%	0.5% to 8.3%	Yes				W14405	45+03.53	25.00	868.83
W14402	W14405	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W14406	45+08.53	25.00	868.76
W14403	W14404	Sidewalk Cross Slope	4	5.00	0.08	1.6%	0.5% to 2.0%					W14407	45+13.53	25.00	868.68
W14404	W14405	Ramp Running Slope	6	15.00	0.64	4.3%	0.5% to 8.3%					W14408	45+18.49	25.00	868.72
W14405	W14406	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W14406	W14407	Ramp Running Slope	6	5.00	-0.08	-1.6%	0.5% to 8.3%								
W14407	W14408	Ramp Running Slope	6	4.97	0.04	0.8%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
I:\V\WINDSOR\CD\14141317-0859\CD\14141317-0859\120859_509_DOT.dwg 11/7/2023 10:25:28 PM



113-10

04-18-17

SIDEWALK COMPLIANCE

See 5 Sheets

* Does not include curb

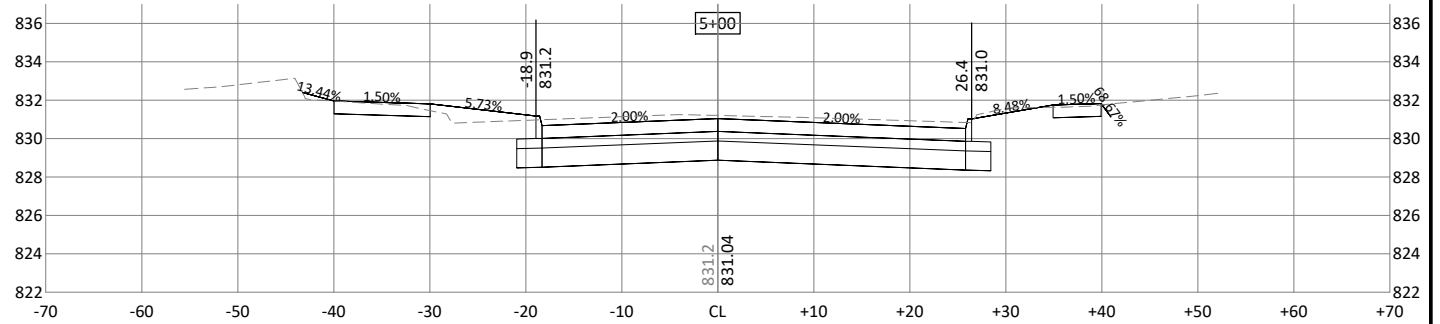
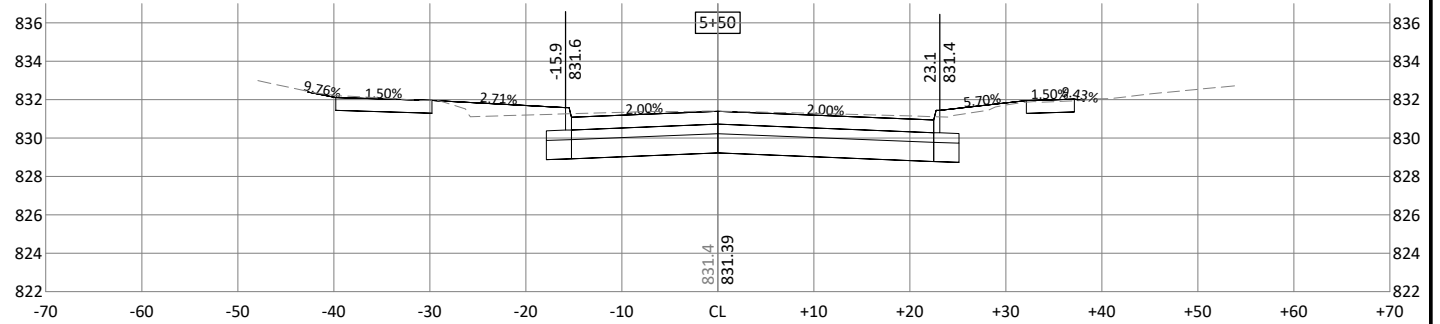
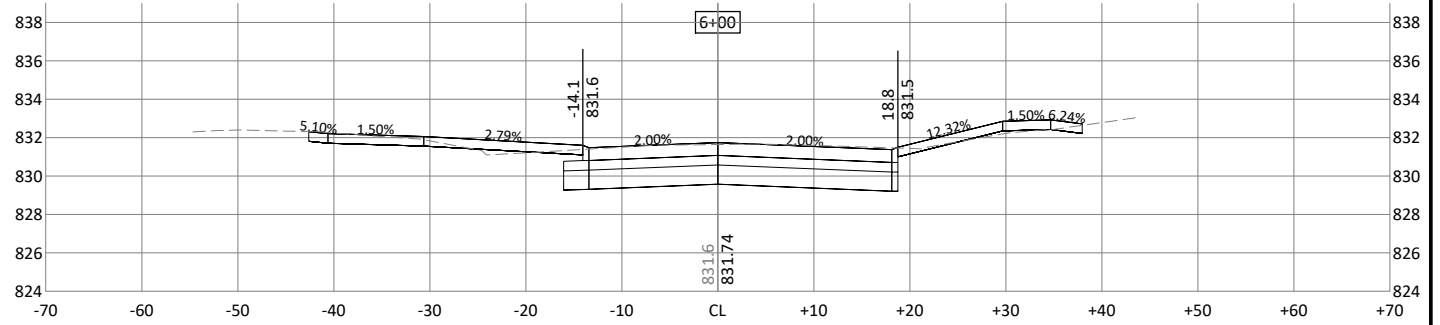
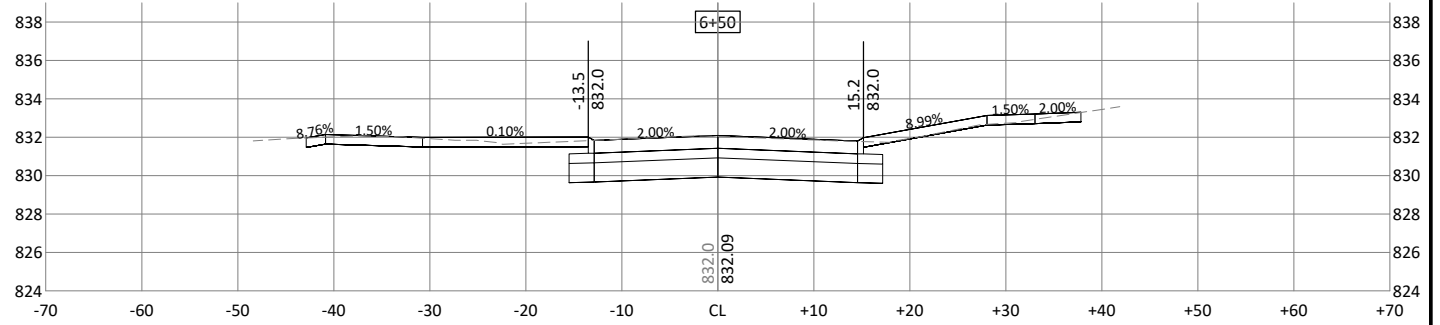
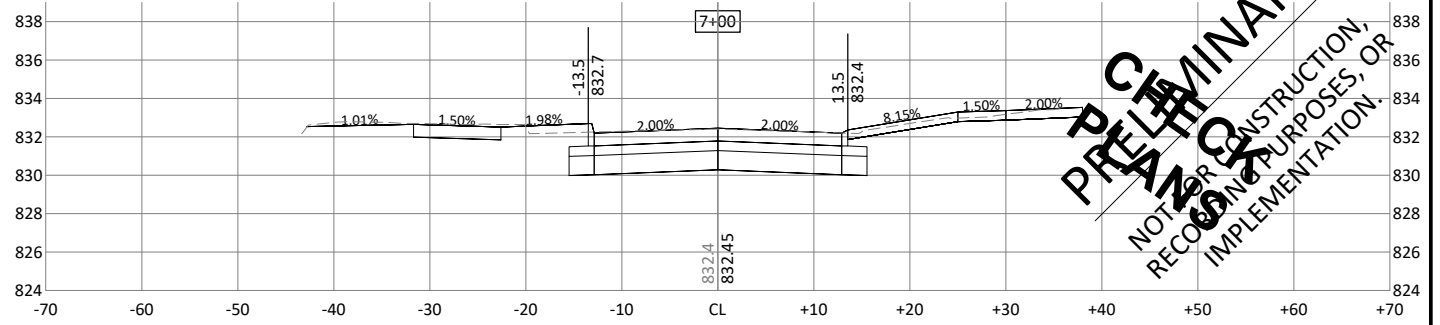
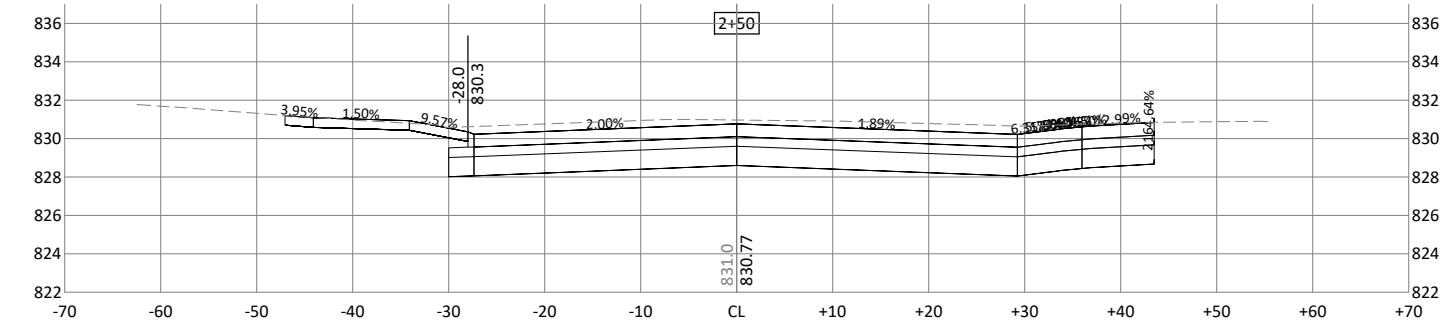
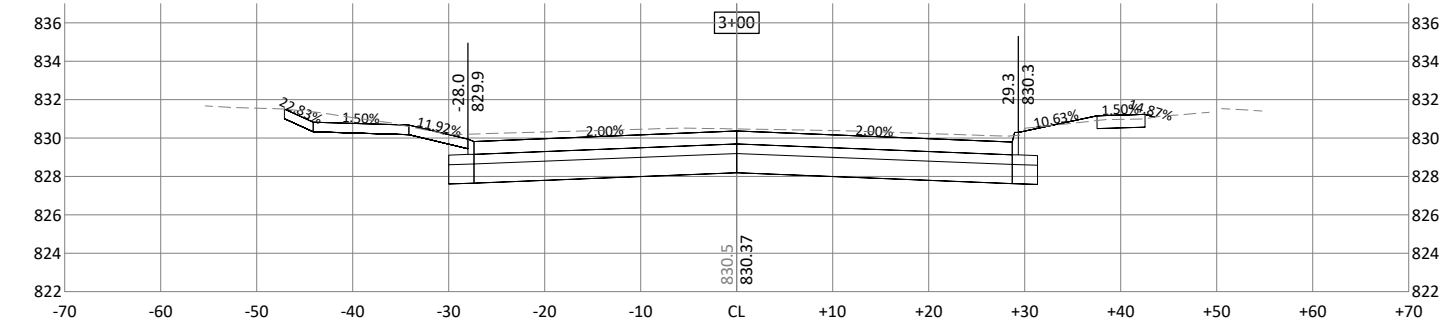
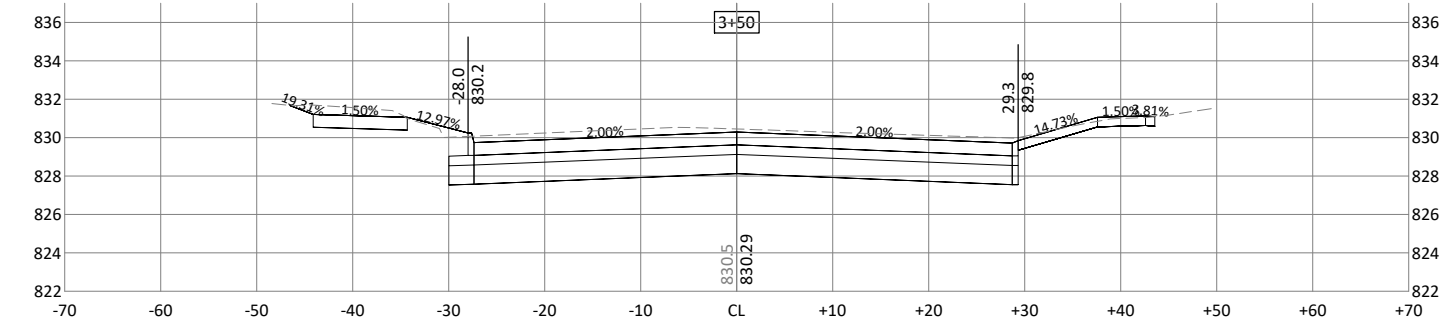
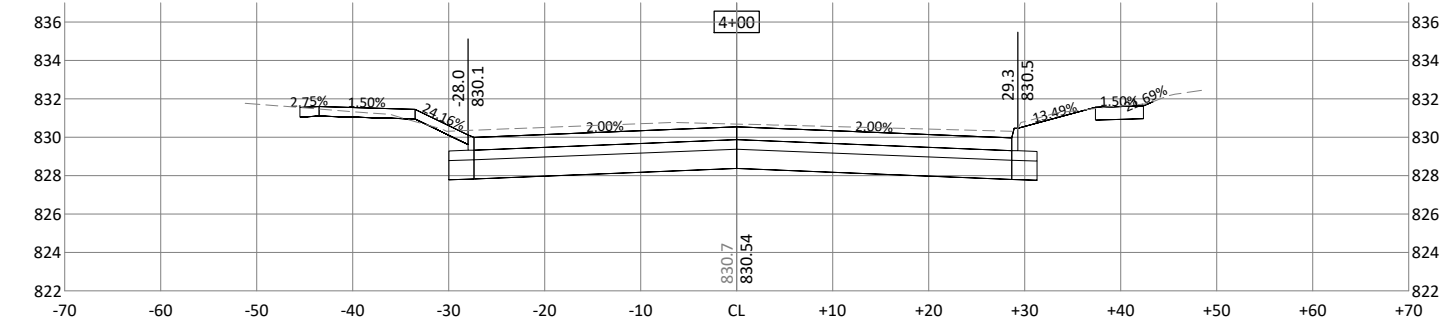
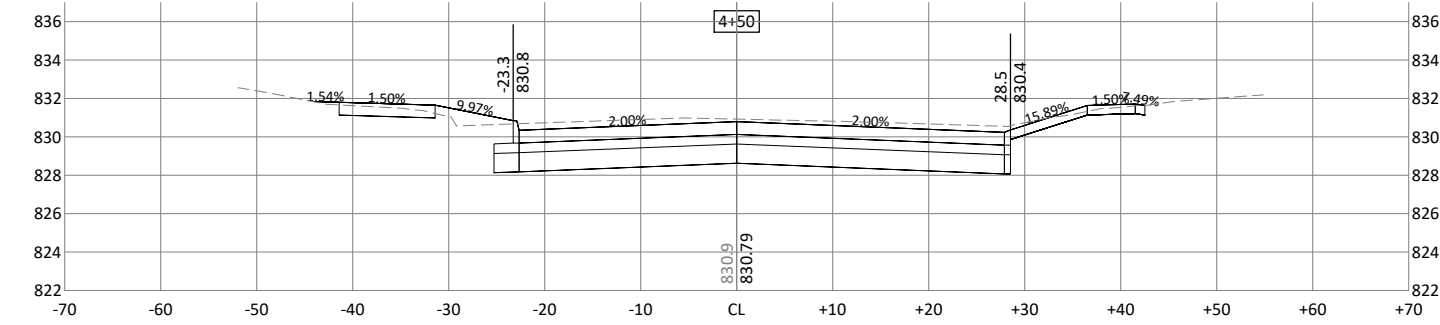
① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.

② Refer to tabulation 113-01 for bid quantities.

Point to Point		Sidewalk Designation	" PCC Sidewalk ②	Distance*	Δ Elevation	Slope	Acceptable Constructed Range	Staking Required on this Quadrant? ①	Measured Slope	Initials	Remarks	FOR INFORMATION ONLY: VALUES USED TO DETERMINE DESIGNED SLOPES			
				FT	FT	%	Pos. or Neg.	%	Point			Station	Offset	Elevation	
W16100	W16101	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16100	48+55.37	28.17	874.69
W16100	W16107	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16101	48+60.35	28.55	874.77
W16100	W16108	Crosswalk Cross Slope - Yield Condition	6	5.09	0.05	1.0%	0.0% to 2.0%					W16102	48+69.52	29.25	874.79
W16101	W16102	Ramp Running Slope	6	9.19	0.02	0.2%	0.5% to 8.3%					W16103	48+81.62	24.82	874.79
W16101	W16106	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W16104	48+81.41	29.68	874.92
W16102	W16103	Sidewalk Running Slope	4	12.89	0.00	0.0%	0.5% to 5.0%					W16105	48+69.14	34.24	874.87
W16102	W16105	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16106	48+59.97	33.54	874.84
W16103	W16104	Match Existing Cross Slope	4	5.00	0.13	2.6%	Match Existing					W16107	48+54.99	33.16	874.77
W16104	W16105	Sidewalk Running Slope	4	12.89	-0.05	-0.4%	0.5% to 5.0%					W16108	48+54.03	33.08	874.74
W16105	W16106	Ramp Running Slope	6	9.19	-0.03	-0.3%	0.5% to 8.3%								
W16106	W16107	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W16107	W16108	Ramp Running Slope	6	0.96	-0.03	-3.1%	0.5% to 8.3%								
W16400	W16401	Ramp Running Slope	6	5.00	0.10	2.0%	0.5% to 8.3%					W16400	48+26.59	25.98	874.61
W16400	W16407	Ramp Cross Slope	6	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16401	48+21.59	25.82	874.71
W16400	W16408	Crosswalk Cross Slope - Yield Condition	6	5.36	0.03	0.6%	0.0% to 2.0%					W16402	48+16.59	25.66	874.78
W16401	W16402	Landing/Turning Space	4	5.00	0.07	1.4%	0.1% to 2.0%					W16403	48+01.60	25.20	874.94
W16401	W16406	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16404	48+01.44	30.28	875.01
W16402	W16403	Ramp Running Slope	6	15.00	0.16	1.1%	0.5% to 8.3%					W16405	48+16.44	30.74	874.86
W16402	W16405	Landing/Turning Space	4	5.00	0.08	1.6%	0.1% to 2.0%	Yes				W16406	48+21.43	30.90	874.79
W16403	W16404	Ramp Cross Slope	6	5.00	0.07	1.4%	0.1% to 2.0%					W16407	48+26.43	31.06	874.69
W16404	W16405	Ramp Running Slope	6	15.00	-0.15	-1.0%	0.5% to 8.3%					W16408	48+28.13	31.11	874.64
W16405	W16406	Landing/Turning Space	4	5.00	-0.07	-1.4%	0.1% to 2.0%								
W16406	W16407	Ramp Running Slope	6	5.00	-0.10	-2.0%	0.5% to 8.3%								
W16407	W16408	Ramp Running Slope	6	1.70	-0.05	-2.9%	0.5% to 8.3%								

© Bolton & Menk, Inc. 2023. All Rights Reserved.
\\VW050001\CD\14161317-0893\CD\14161317-Sheets\120859_509_DOT.dwg 11/7/2023 10:25:33 PM

© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_W01_DOT.dwg 11/7/2023 10:26:14 PM



PRELIMINARY
NOT FOR CONSTRUCTION,
RECORDING PURPOSES, OR
IMPLEMENTATION



ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK COUNTY

PROJECT NUMBER

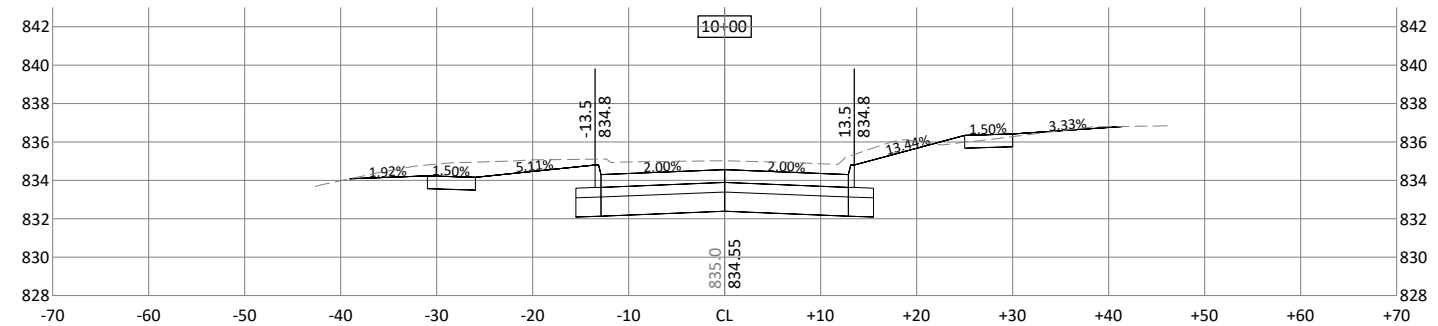
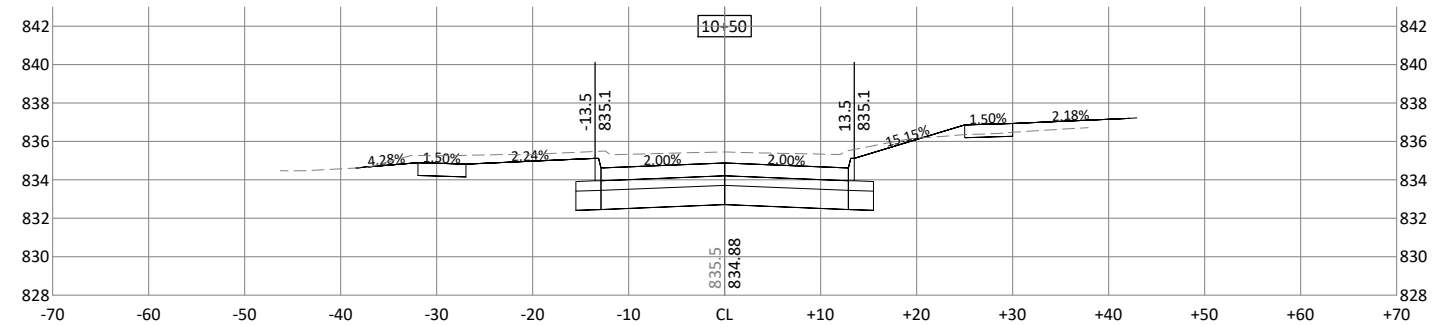
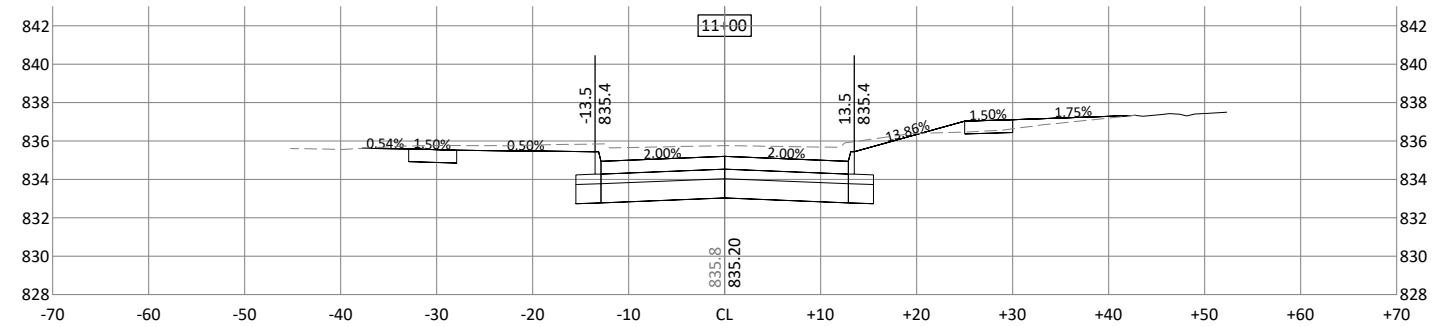
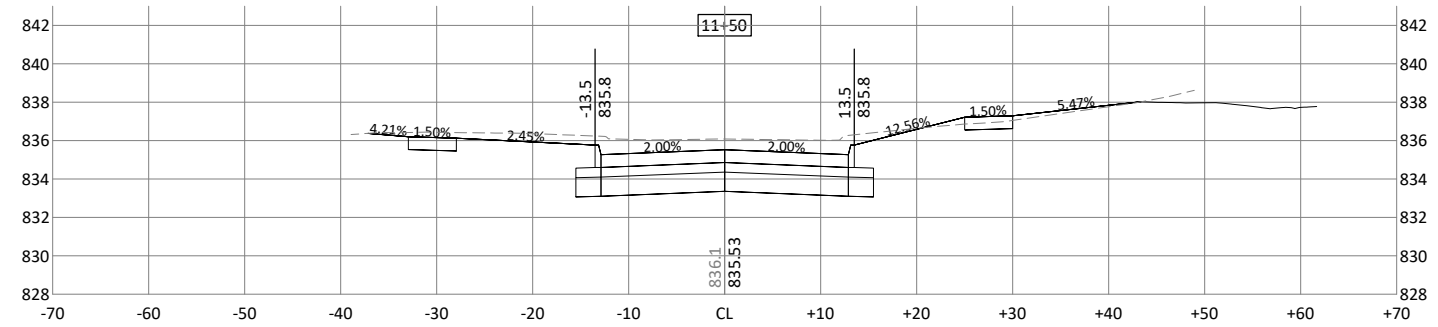
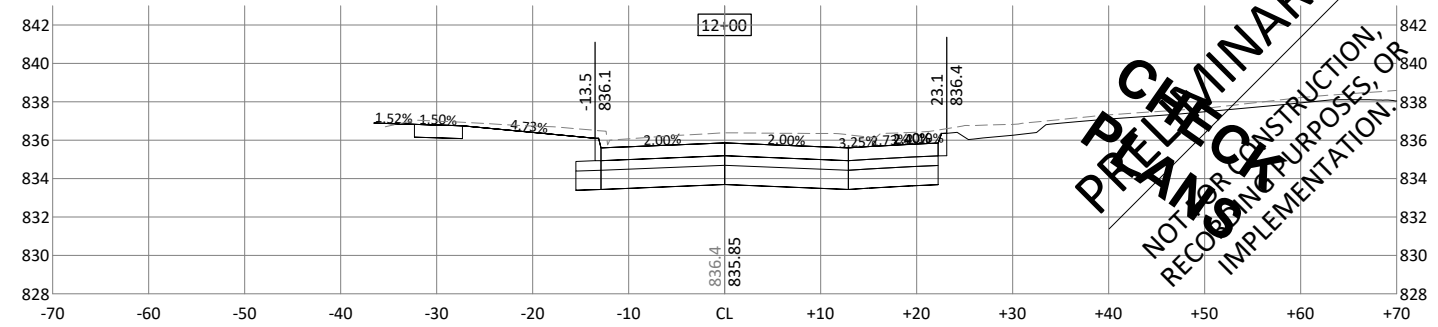
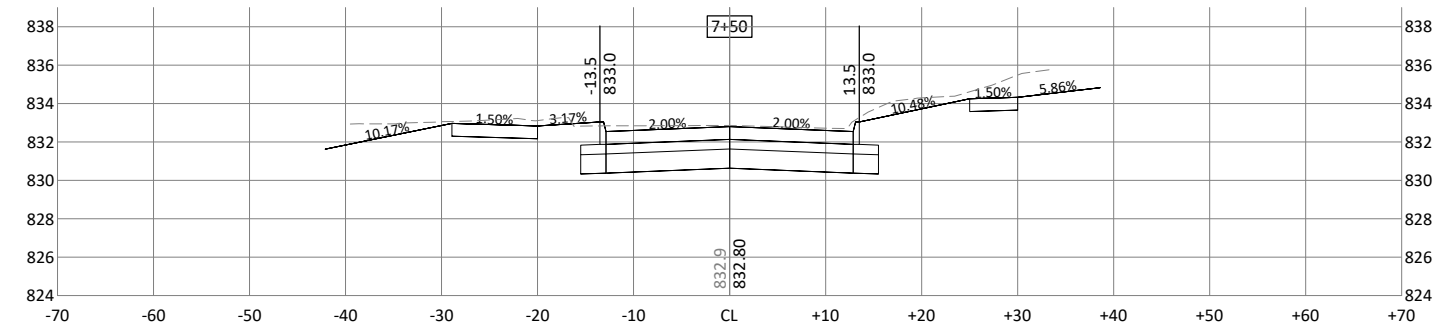
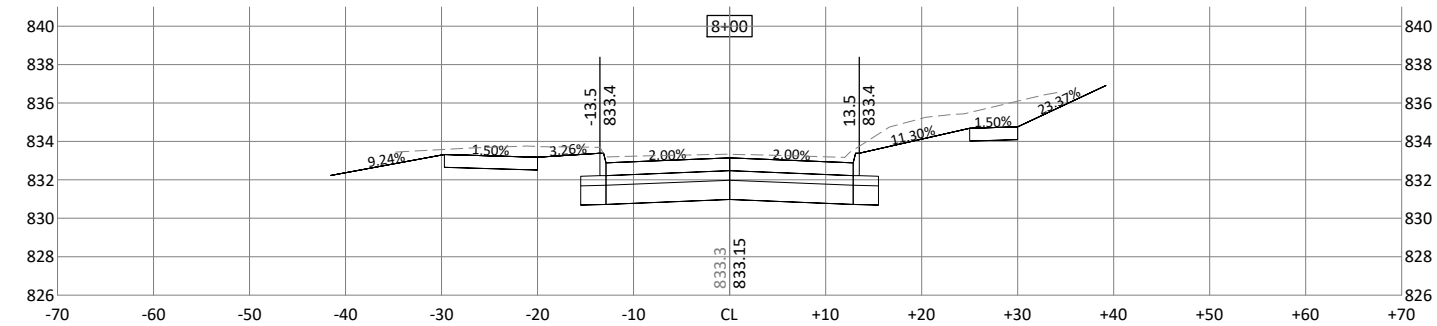
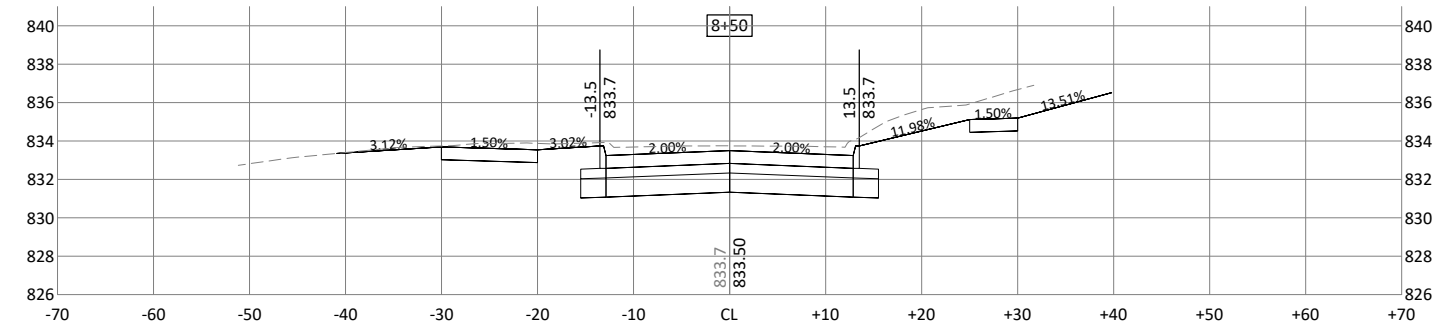
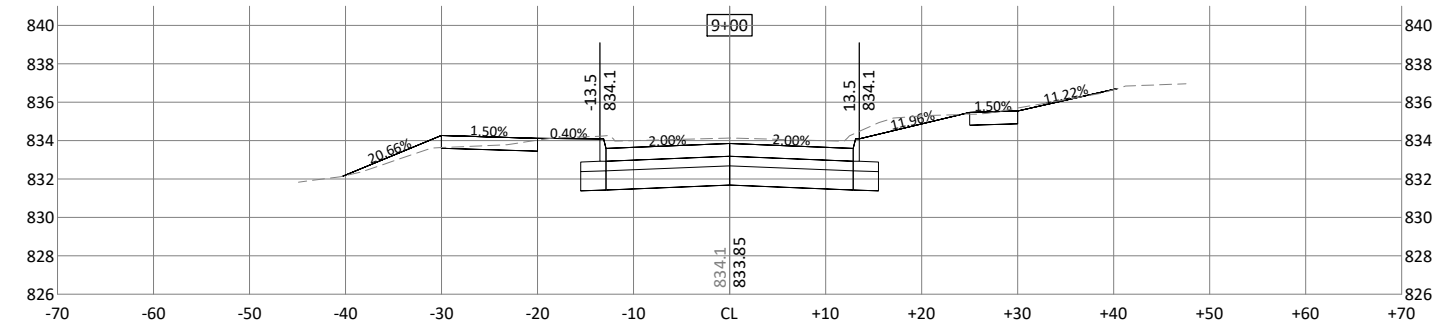
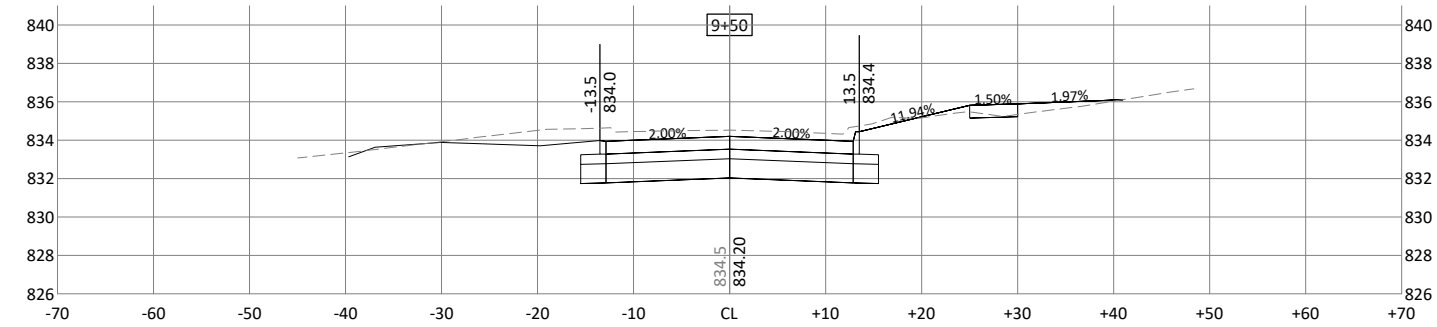
STP-U-8477(615)--70-77

SHEET NUMBER

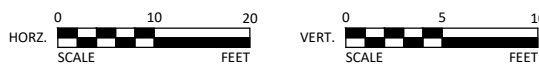
W.01

REVISED

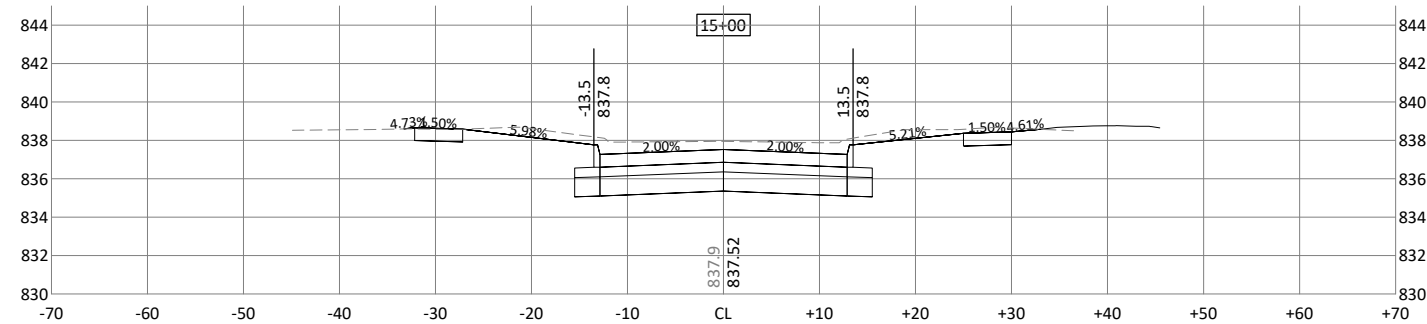
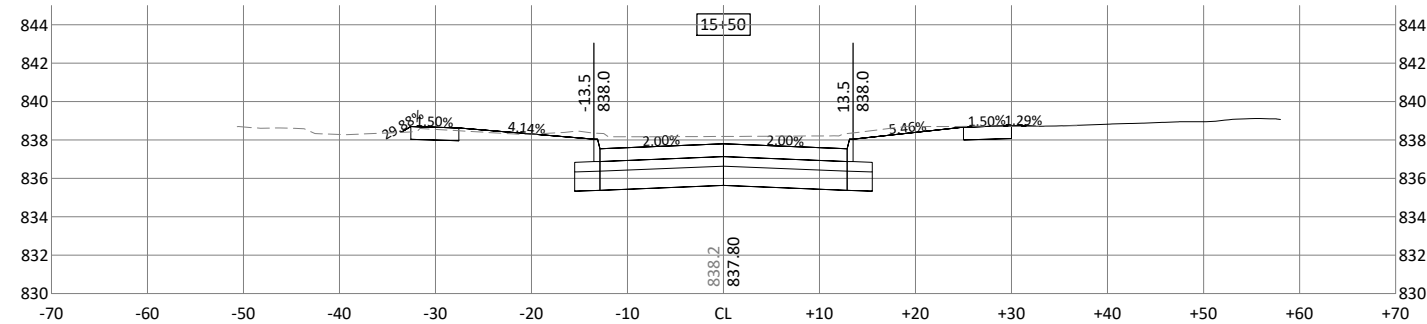
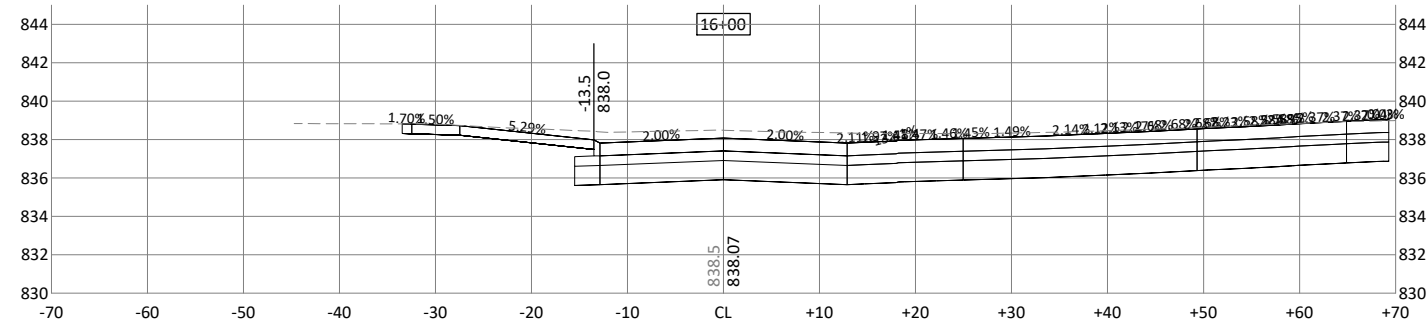
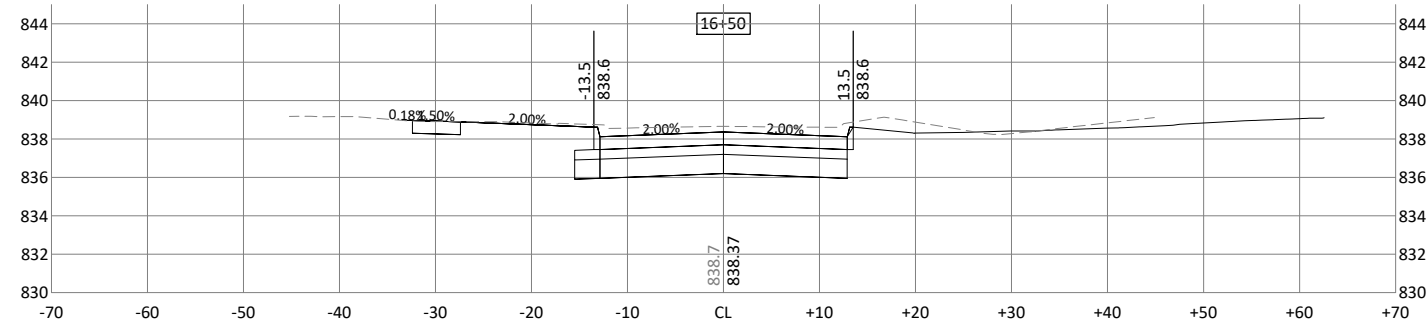
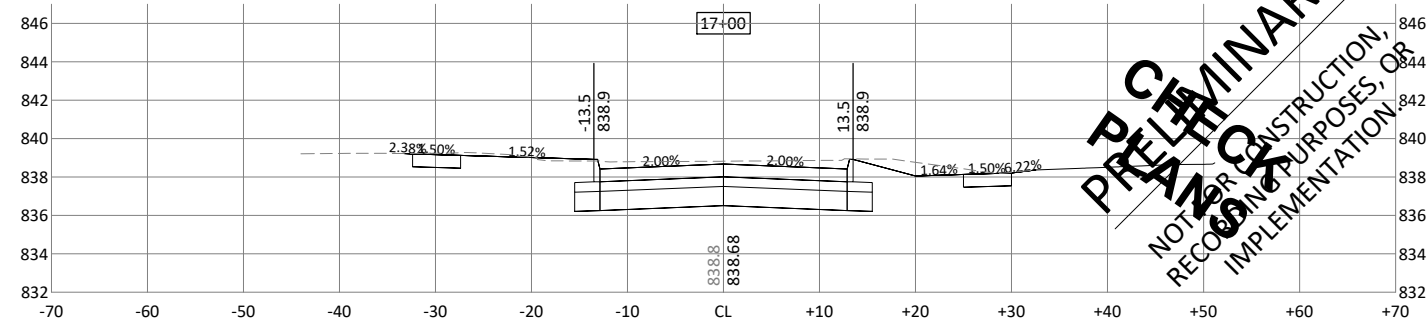
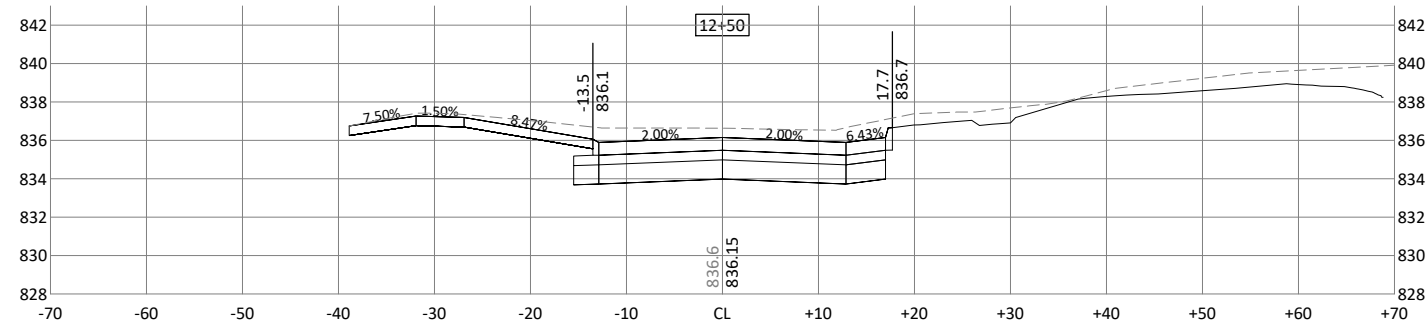
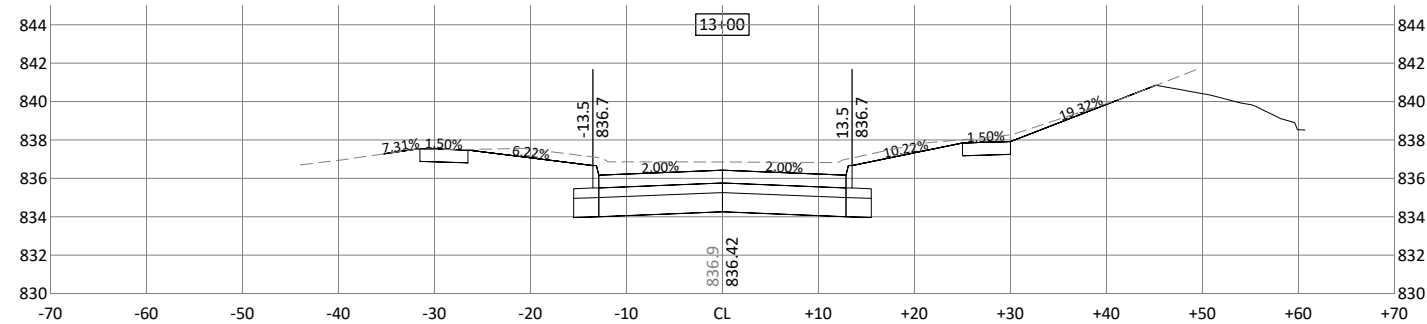
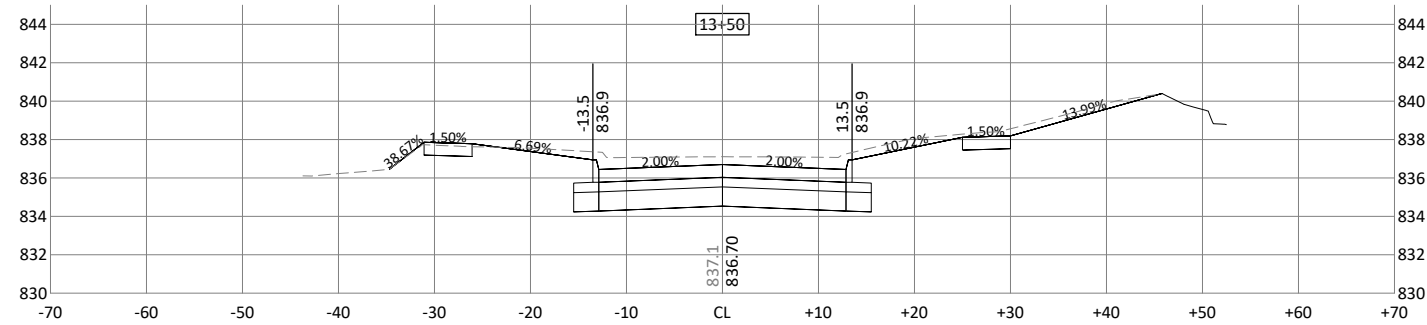
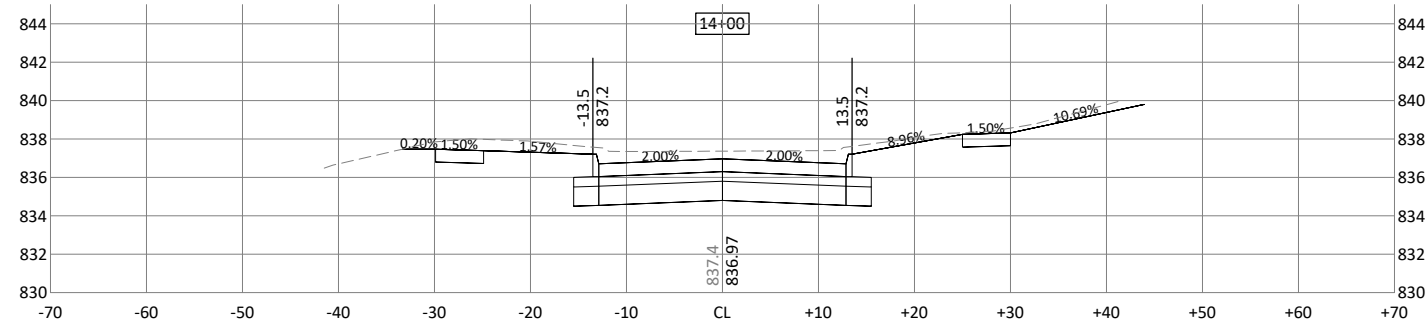
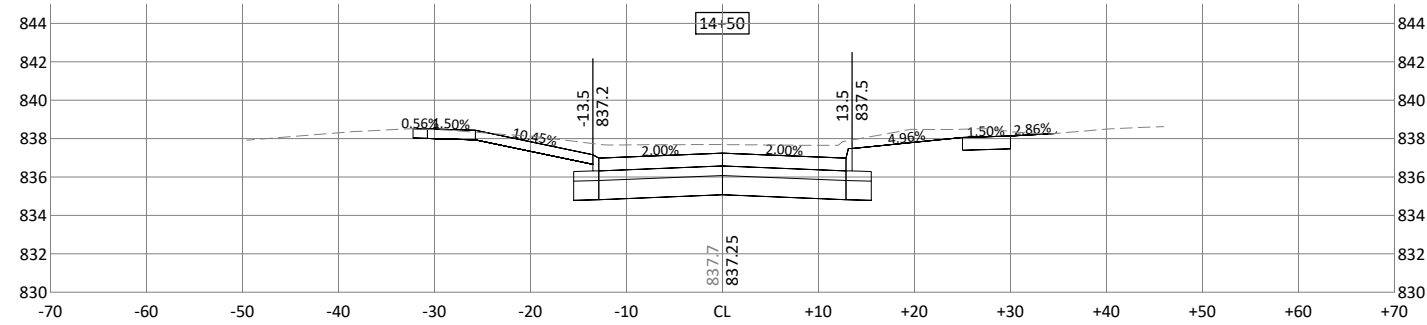
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120850_W01_DOT.dwg 11/7/2023 10:26:27 PM



PRELIMINARY
NOT FOR CONSTRUCTION,
RECONSTRUCTION, OR
IMPLEMENTATION.



© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_W03_DOT.dwg 11/7/2023 10:26:42 PM



PRELIMINARY
NOT FOR CONSTRUCTION,
RECORDING PURPOSES, OR
IMPLEMENTATION

ENGLISH

IOWA DOT

DESIGN TEAM

ERNST\BOLTON & MENK INC

CITY OF WINDSOR HEIGHTS

POLK COUNTY

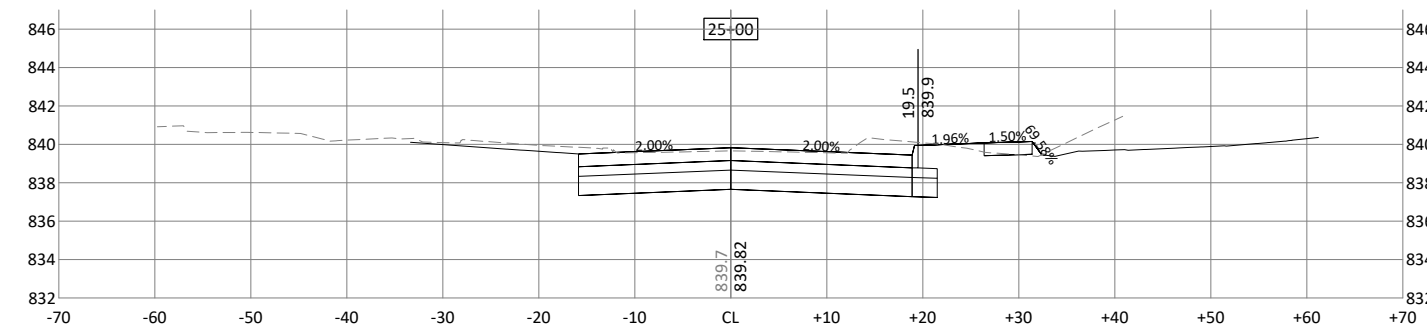
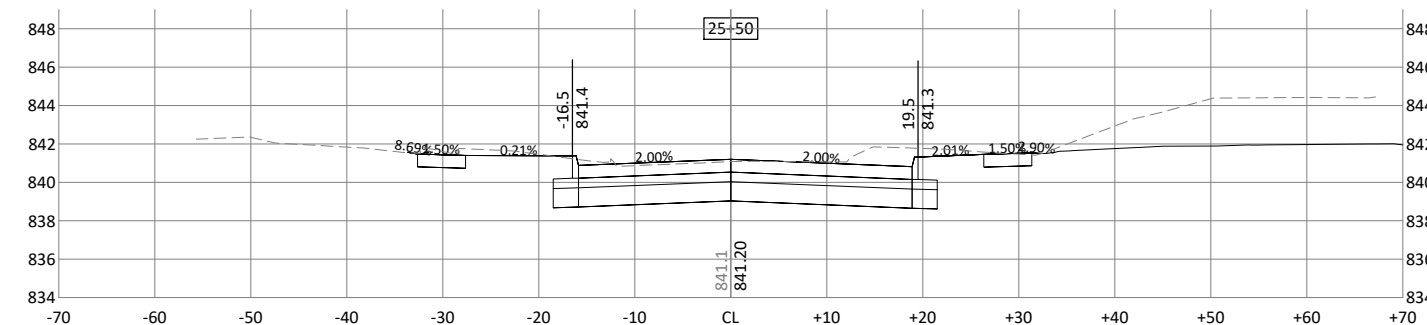
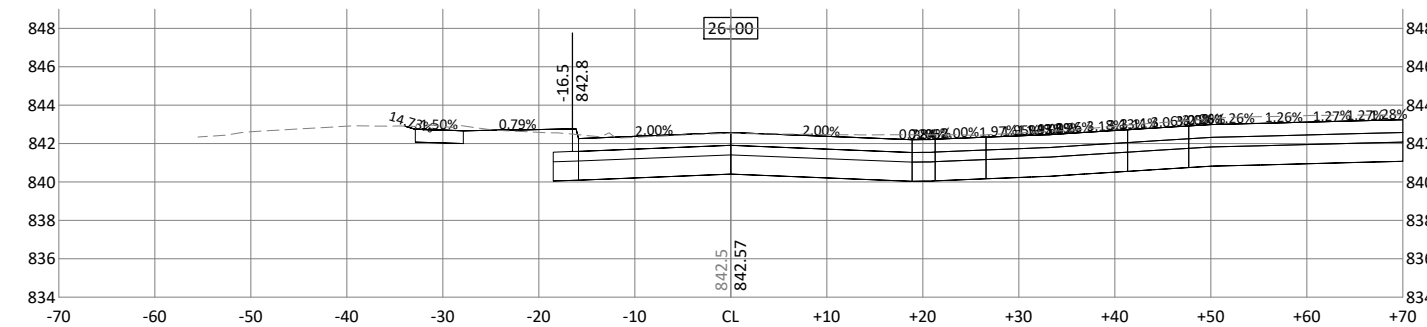
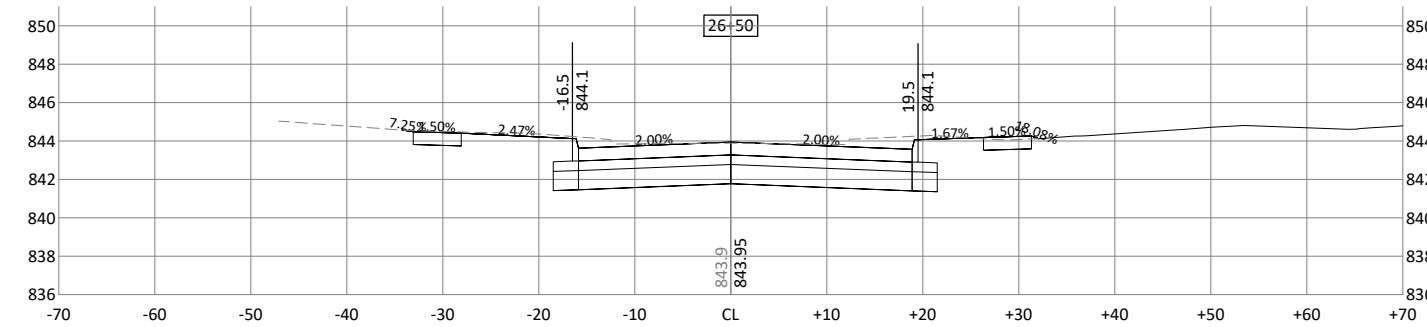
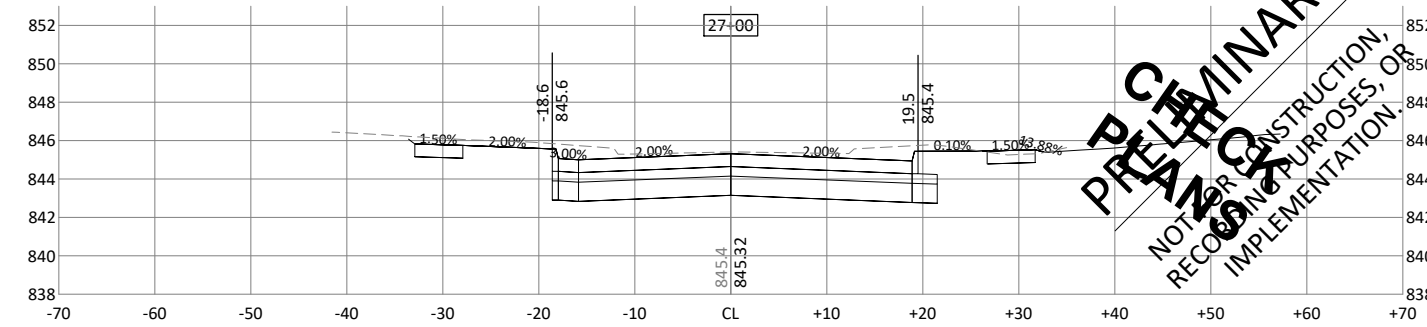
PROJECT NUMBER

STP-U-8477(615)--70-77

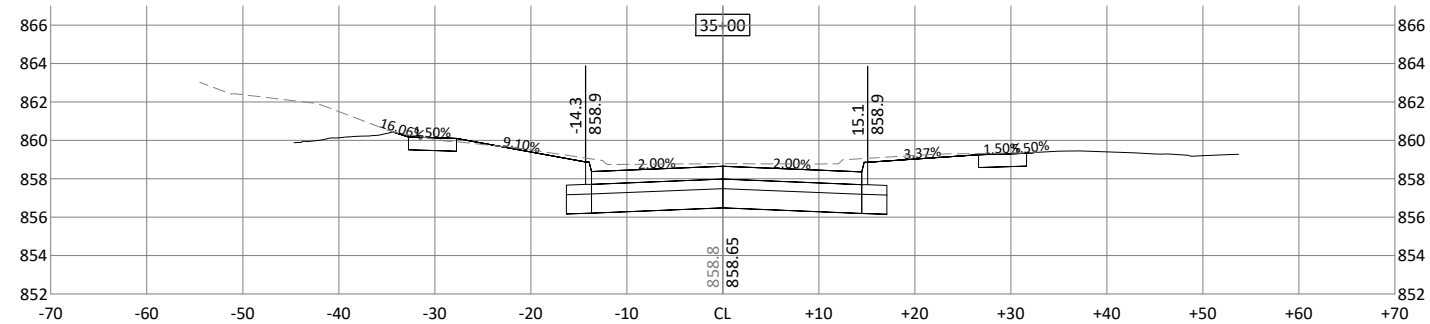
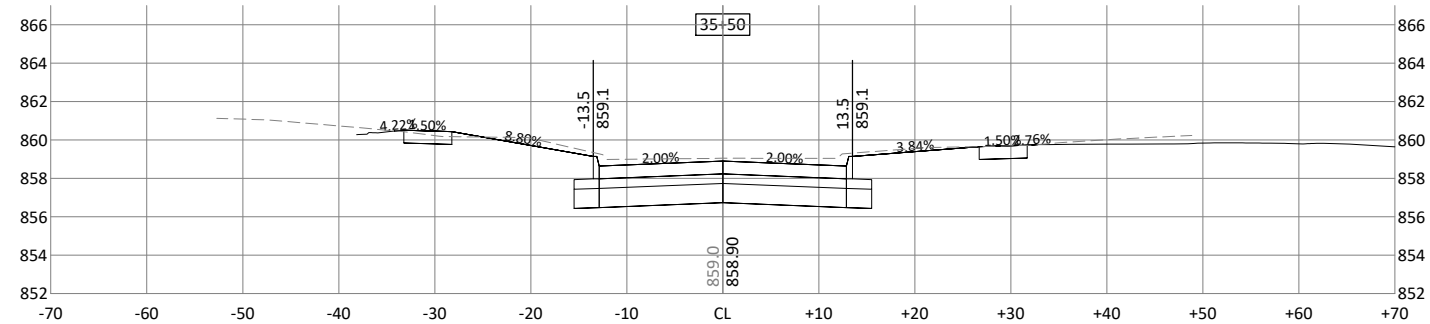
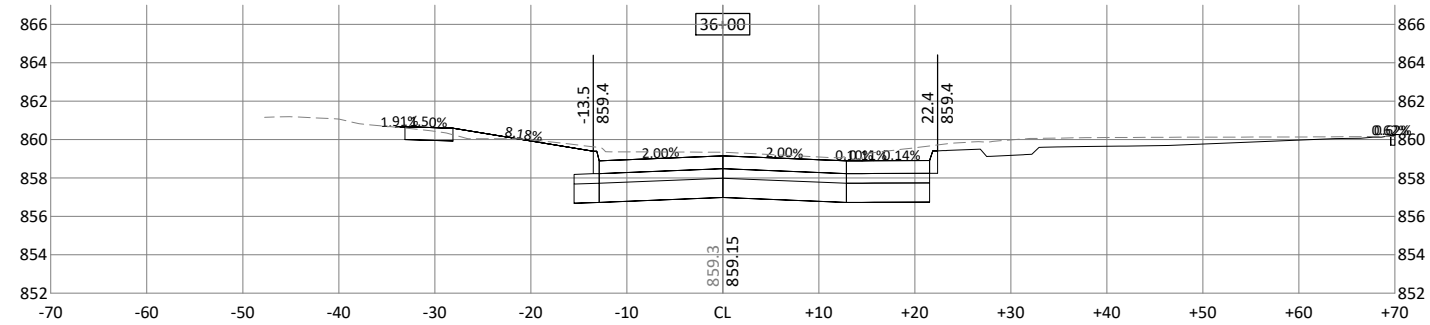
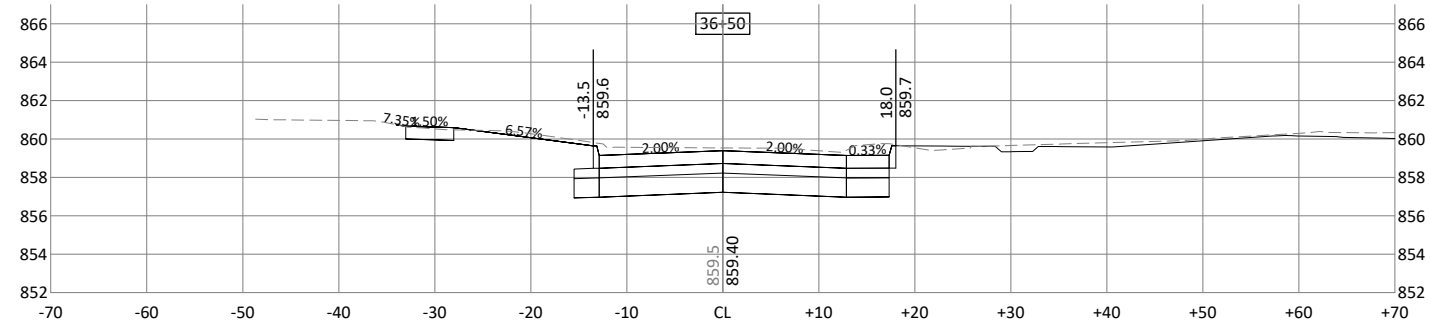
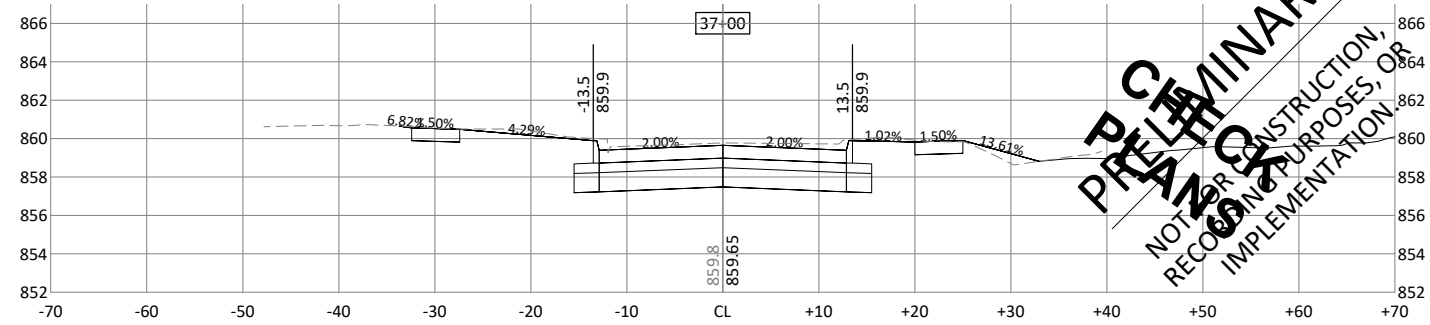
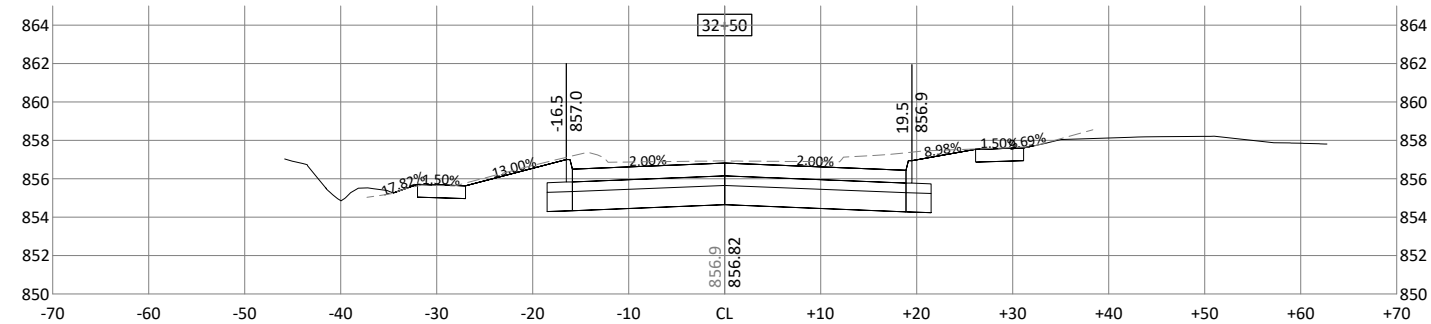
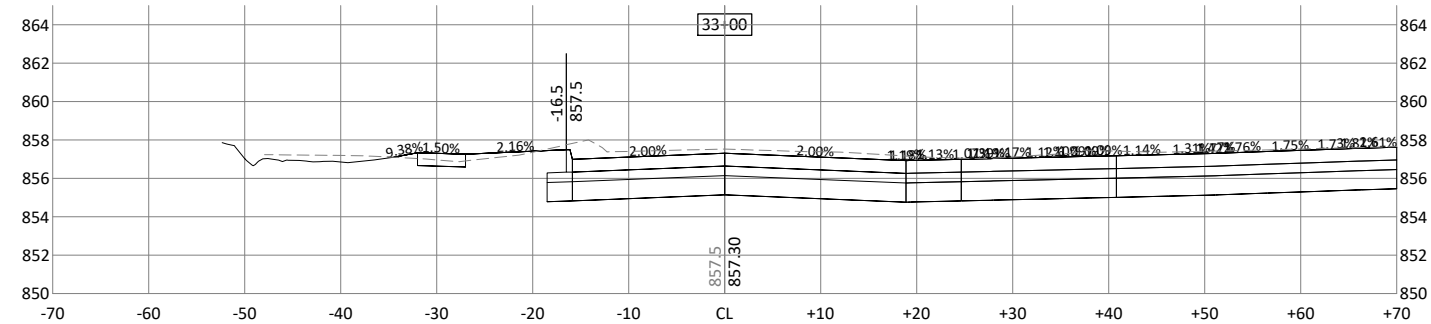
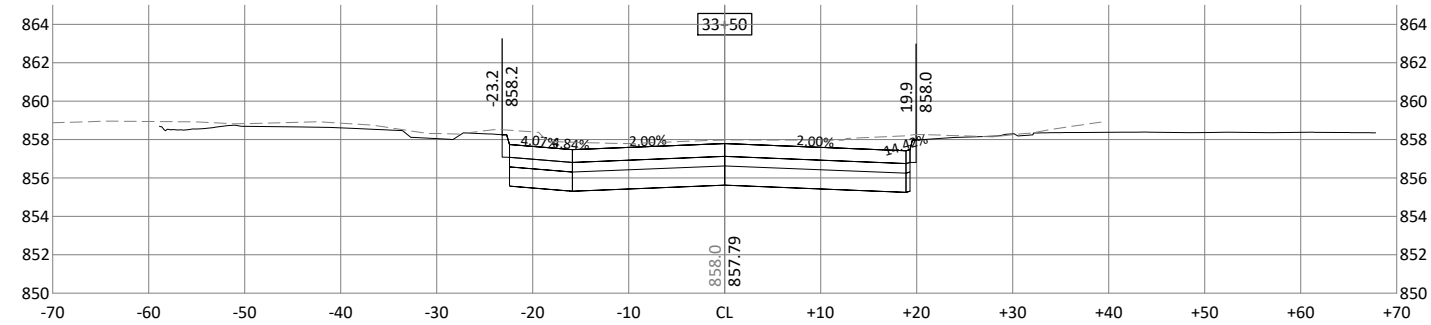
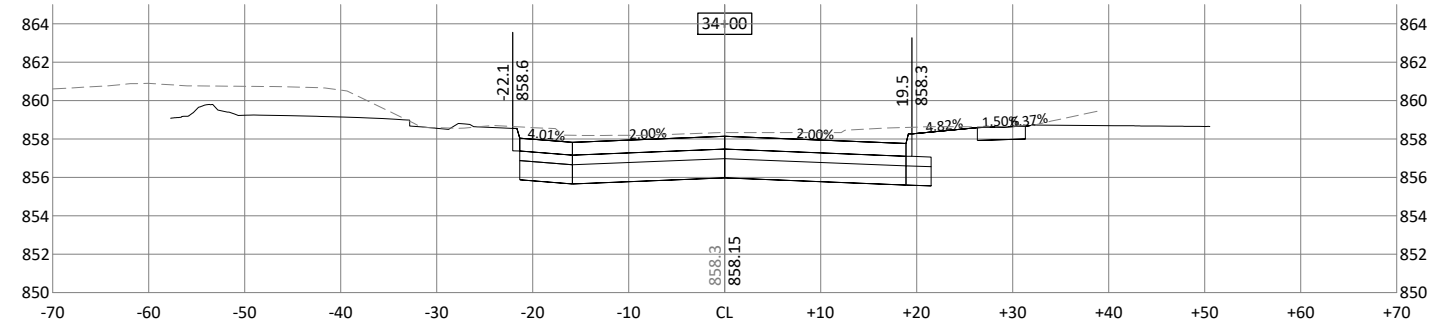
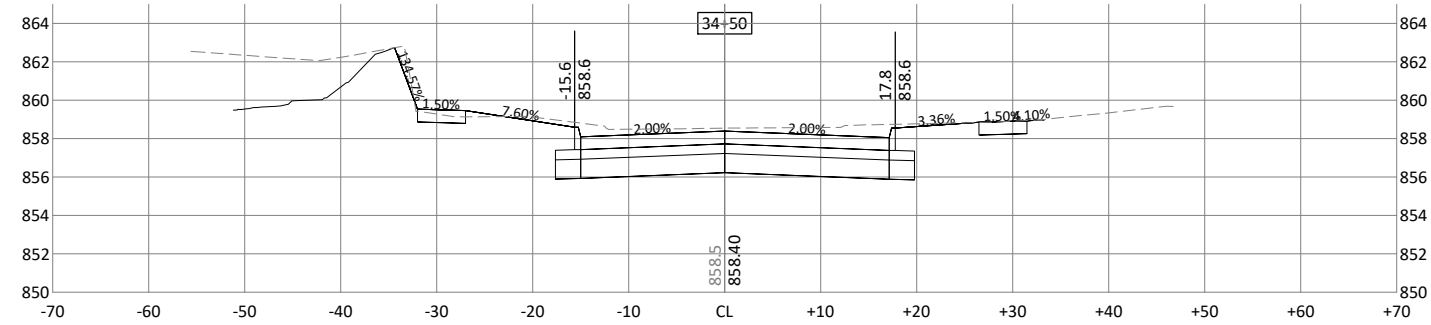
SHEET NUMBER

W.03

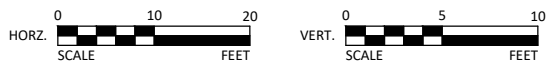
REVISED



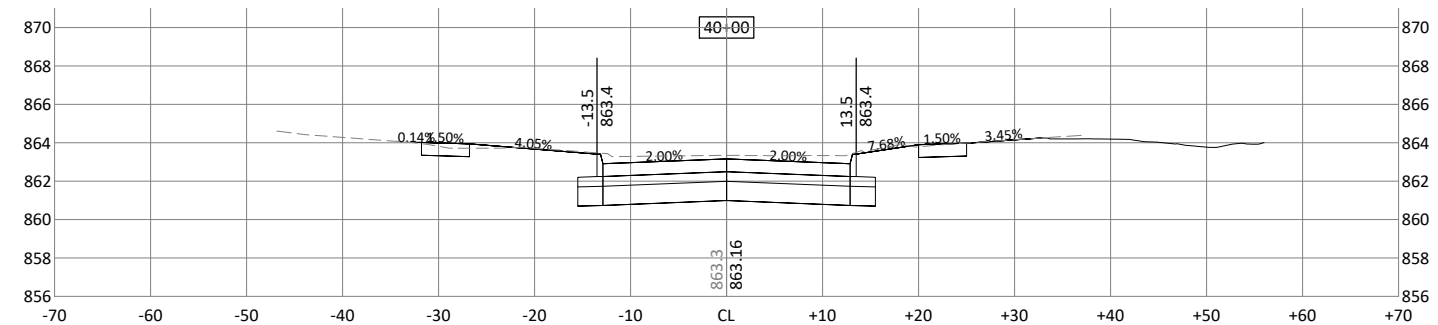
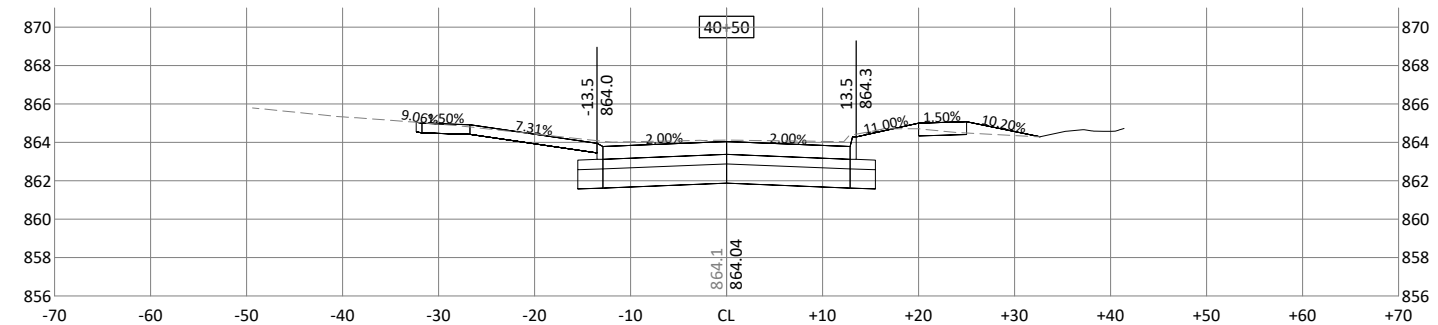
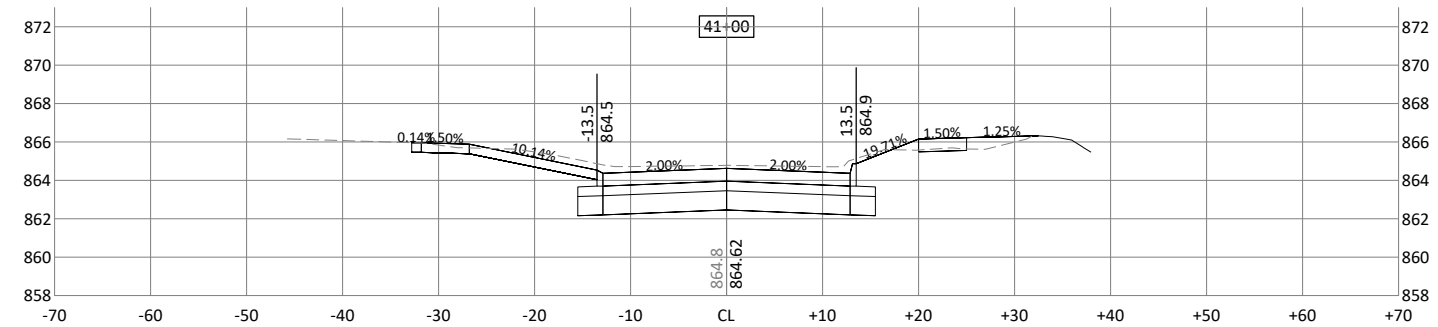
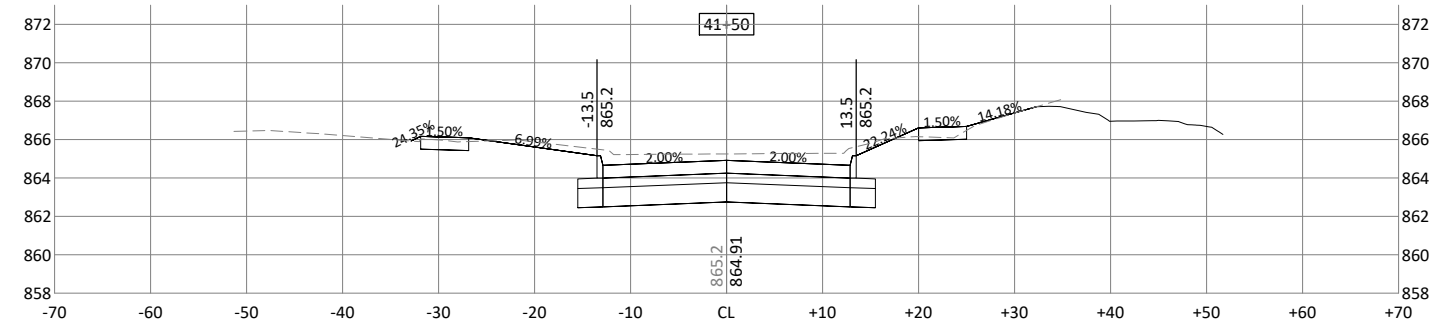
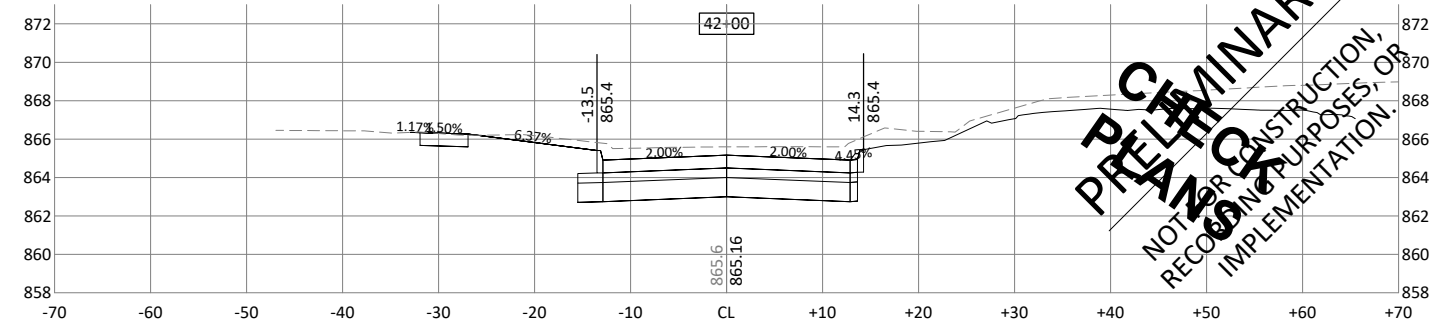
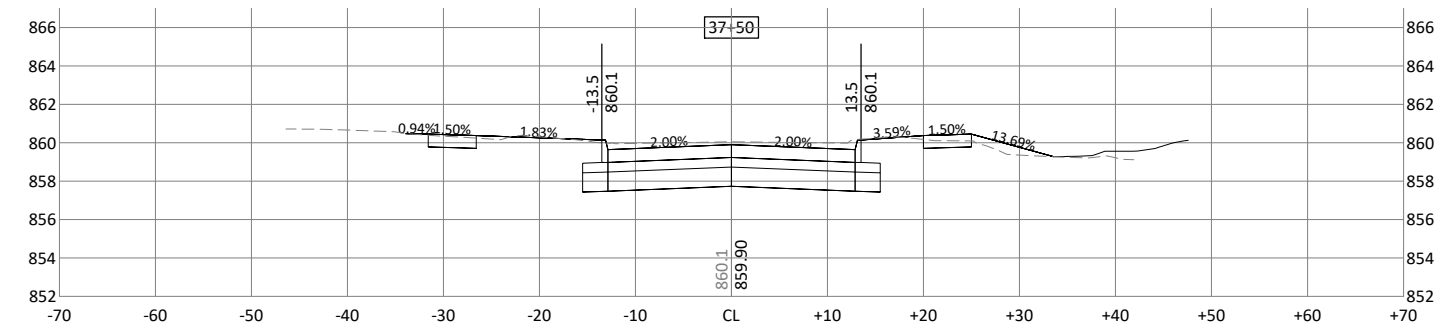
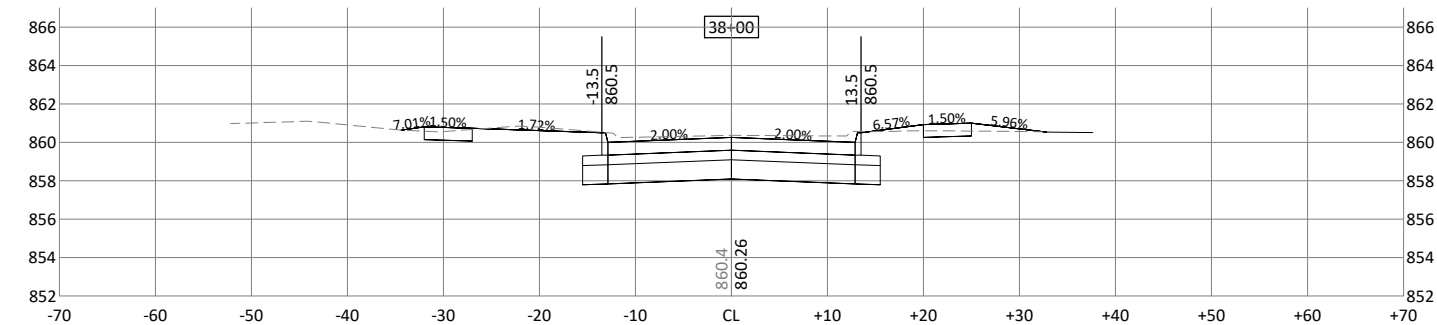
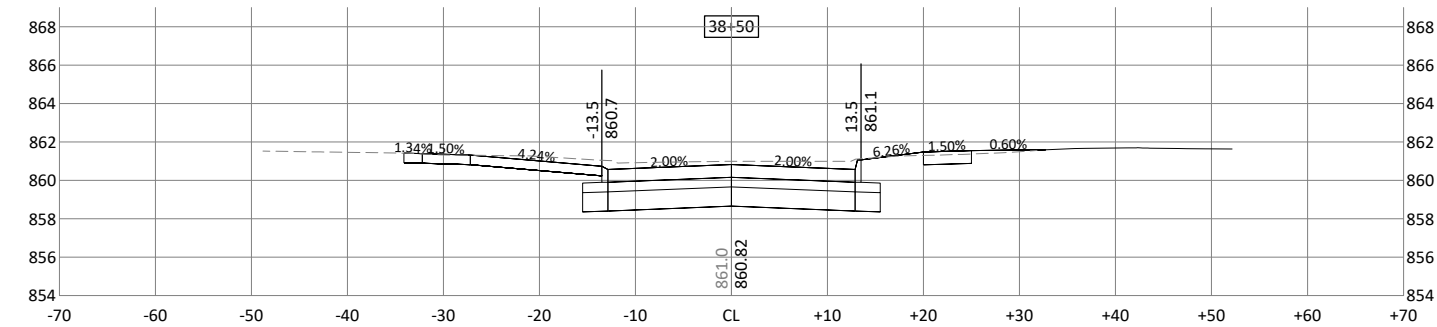
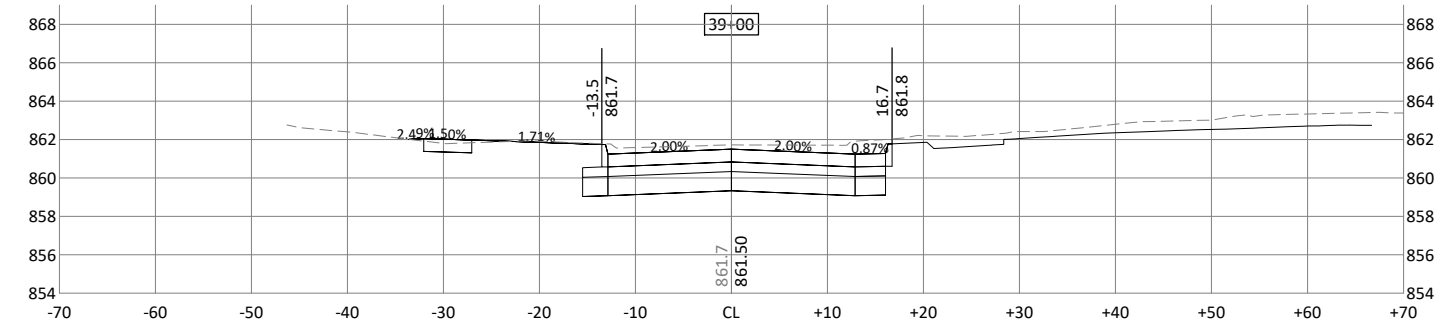
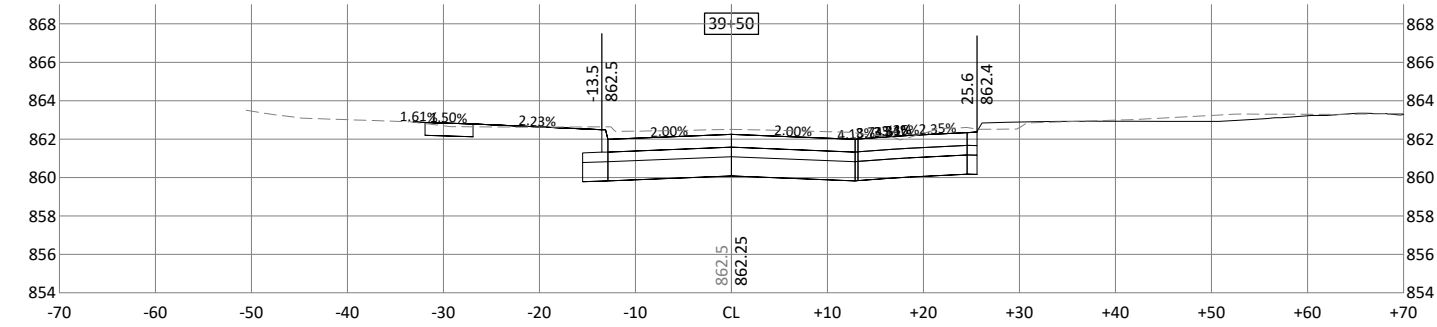
© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120859_W01_DOT.dwg 11/7/2023 10:27:42 PM



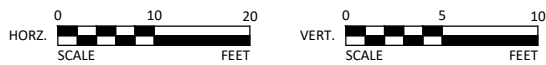
PRELIMINARY
NOT FOR CONSTRUCTION,
RECORDING PURPOSES, OR
IMPLEMENTATION.

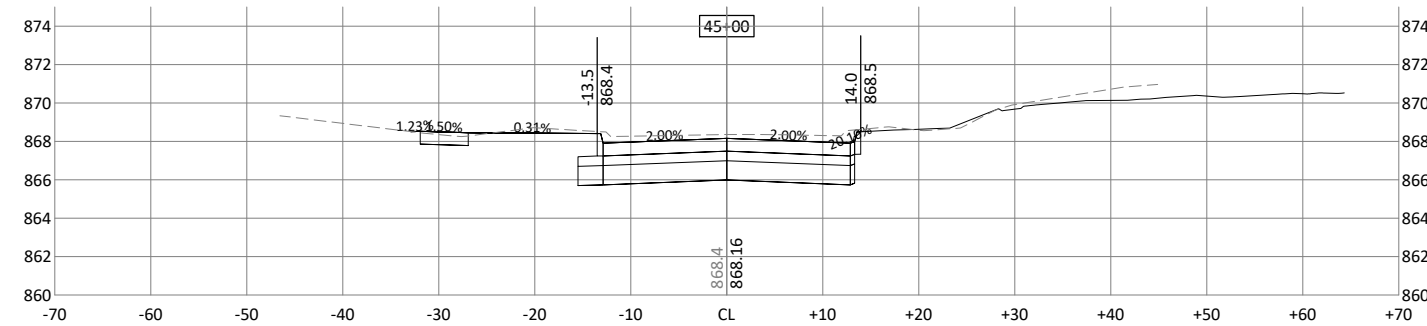
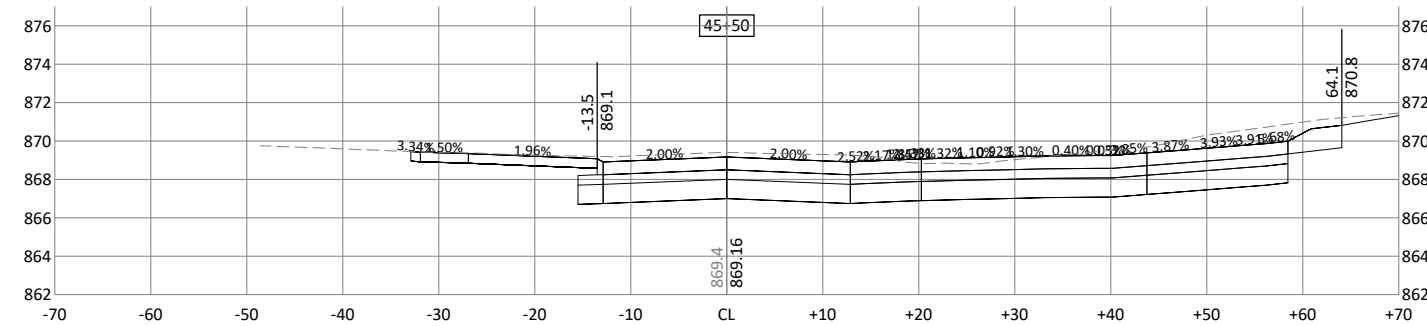
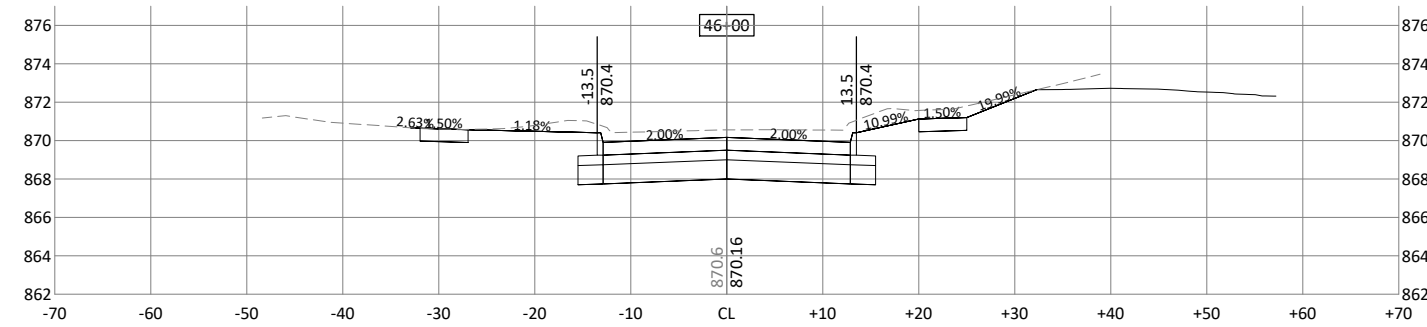
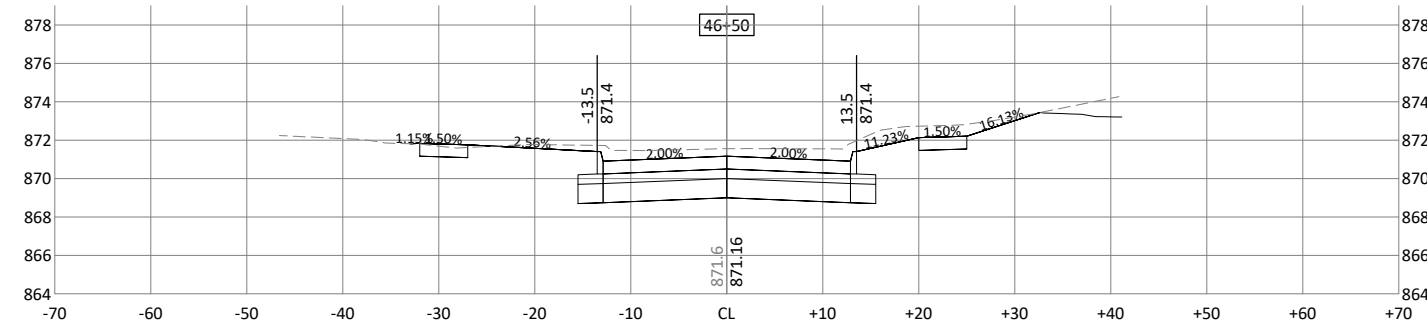
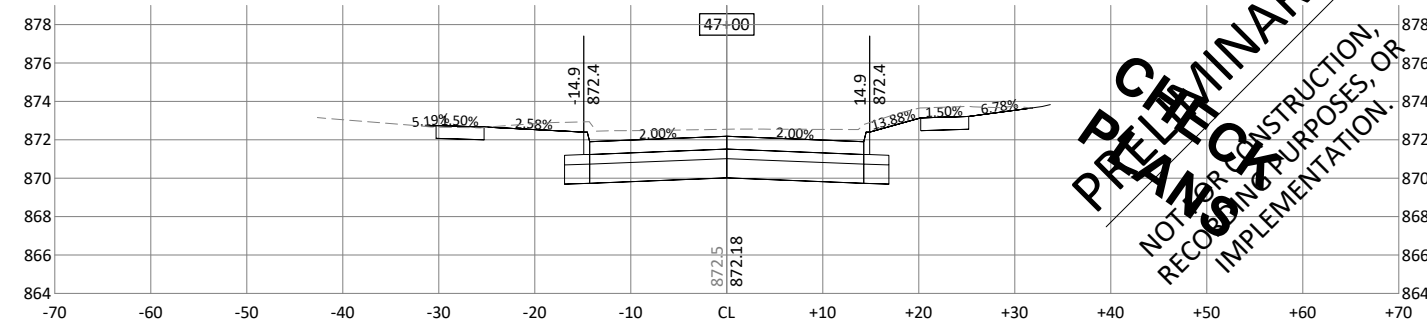


© Bolton & Menk, Inc. 2023. All Rights Reserved.
C:\Users\bolton\OneDrive\Documents\120850_W01_DOT.dwg 11/7/2023 10:27:57 PM



PRELIMINARY
NOT FOR CONSTRUCTION,
RECONSTRUCTION, OR
IMPLEMENTATION.

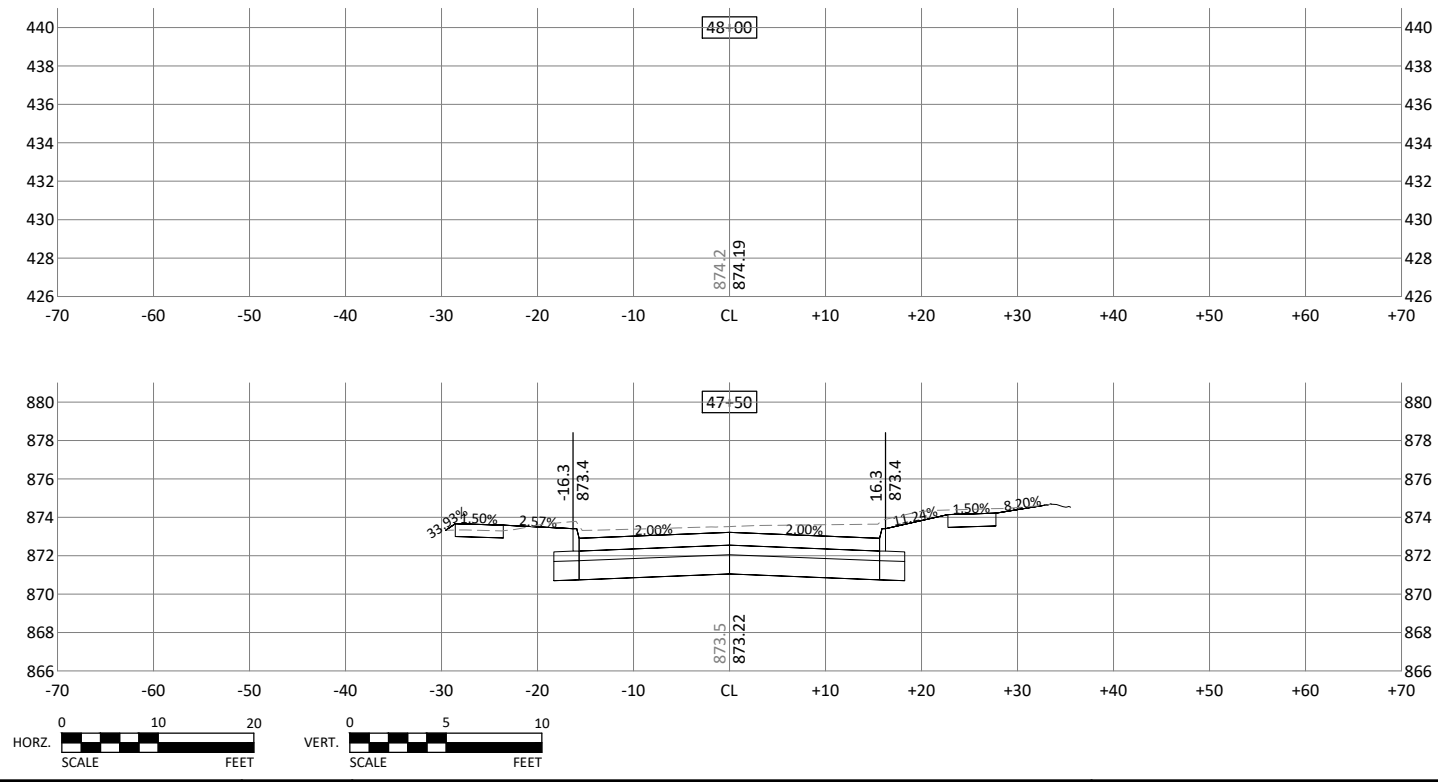




© Bolton & Menk, Inc. 2023, All Rights Reserved
H:\WINDSORH_CI\JA\A13120659\CAD\C3D\Sheets\120659_W01_DOT.dwg 11/7/2023 10:28:12 PM



PRELIMINARY
 NOT FOR CONSTRUCTION,
 RECORDING PURPOSES, OR
 IMPLEMENTATION.



© Bolton & Menk, Inc. 2023. All Rights Reserved.
 C:\Users\bolton\OneDrive\Documents\120859_W01_DOT.dwg 11/7/2023 10:28:27 PM



TO: Windsor Heights City Council

CC: Adam Plagge, City Administrator
Mayor Mike Jones

FROM: Nate Leuthold, Deputy City Clerk

DATE: 30 November 2023

SUBJECT: Waiving fees for the Community Center for the Iowa State Fraternal Order of Police on December 14th, 2023

The Iowa State Fraternal Order of Police is requesting the fees to be waived for their rental of the Windsor Heights Community Center on Thursday, December 14th from 5:30 to 7:30 PM. The Association is holding an annual meeting, with which our own Officer Nissen is involved. They would like to use the full space in the Community Center so they can use the AV equipment for presentations. The fee for the rental (with the typical nonprofit discount) is \$352.00. Staff will not schedule a professional cleaning for the event and will perform a visual inspection the next day to determine if the cleaning crew needs to be scheduled to avoid a cleaning charge to the City.

RESOLUTION NO. 2023-63

**A RESOLUTION WAIVING CEC FEES FOR THE IOWA STATE FRATERNAL
ORDER OF POLICE ON DECEMBER 14TH, 2023**

WHEREAS, The Iowa State Fraternal Order of Police will be holding an annual meeting on December 14th, 2023; and

WHEREAS, The Iowa State Fraternal Order of Police will be using the Windsor Heights Community Event Center for this event; and

WHEREAS, The Iowa State Fraternal Order of Police is requesting that the City waive all fees for this event.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY
OF WINDSOR HEIGHTS, IOWA:**

That rental fees associated with the December 14th, 2023 rental of the Windsor Heights Community Event Center by The Iowa State Fraternal Order of Police be waived.

Passed and approved this 4th day of December, 2023.

Mike Jones, Mayor

Adam Strait, City Clerk



TO: Windsor Heights City Council

CC: Adam Plagge, City Administrator
Mayor Mike Jones

FROM: Nate Leuthold, Deputy City Clerk

DATE: 30 November 2023

SUBJECT: Waiving fees for the Community Center for the Windsor Heights Foundation on December 28th, 2023

The Windsor Heights Foundation is requesting the fees to be waived for their rental of the Windsor Heights Community Center on Thursday, December 28th from 2 PM to 7 PM. The Foundation is holding their annual Light the Heights fundraiser. They assemble and sell luminary kits for residents to place in their front yards on New Year's Eve. This will be their main fundraiser for the 2022 Nights in the Heights Concert series. They would like to use the full space in the Community Center to assemble and sell the luminary kits to residents. The fee for the rental (with the typical nonprofit discount) is \$880. Staff will not schedule a professional cleaning for the event and will perform a visual inspection the next day to determine if the cleaning crew needs to be scheduled to avoid a cleaning charge to the City.

RESOLUTION NO. 2023-63

**A RESOLUTION WAIVING CEC FEES FOR THE WINDSOR HEIGHTS
FOUNDATION'S LIGHT THE HEIGHTS EVENT ON DECEMBER 28TH, 2023**

WHEREAS, The Windsor Heights Foundation will be holding its Light the Heights event on December 28th, 2023; and

WHEREAS, The Windsor Heights Foundation will be using the Windsor Heights Community Event Center for this event; and

WHEREAS, The Windsor Heights Foundation is requesting that the City waive all fees for this event.

**NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY
OF WINDSOR HEIGHTS, IOWA:**

That rental fees associated with the December 28th, 2023 rental of the Windsor Heights Community Event Center by The Windsor Heights Foundation be waived.

Passed and approved this 4th day of December, 2023.

Mike Jones, Mayor

Adam Strait, City Clerk

ORDINANCE NO. 23-06

AN ORDINANCE AMENDING CHAPTERS 165 THROUGH 177 OF THE CODE OF ORDINANCES FOR THE CITY OF WINDSOR HEIGHTS RELATED TO ZONING

WHEREAS, the City of Windsor Heights seeks to promote the public health, safety, general welfare, and aesthetics of the community through consistent, content- neutral and nondiscriminatory code requirements within its city limits; and

WHEREAS, the Planning and Zoning Commission reviewed Chapters 165 through 177 and proposed changes and recommended approval of the same; and

WHEREAS, the City Council of the City of Windsor Heights do hereby find and declare that the amendments to Chapters 165 through 177 are necessary.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF WINDSOR HEIGHTS, POLK COUNTY, IOWA:

SECTION 1. Purpose. The purpose of this ordinance is to amend Chapters 165 through 177 as follows.

SECTION 2. Amended. See Exhibit 1.

SECTION 3. Repealer. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 4. Severability. If any section, provision, or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 5. Effective Date. This ordinance shall be effective after the final passage, approval and publication as provided by law.

Passed and Approved this Day of 2023.

1st Reading: November 20, 2023

2nd Reading:

3rd Reading:

Publish Date:

(SEAL)

Mike Jones, Mayor

ATTEST: Adam Strait, City Clerk



STAFF REPORT
CITY COUNCIL
December 4, 2023

TO: CITY COUNCIL

FROM: Adam Plagge, City Administrator

SUBJECT: Consideration of the Second Reading of Ordinance No. 2023-10 - An Ordinance Amending Chapter 183 (Mobile Food Units)

GENERAL INFORMATION

The following two sections were revised as follows per City Council feedback:

11. No mobile food unit shall be left at its operating location at the end of its business day, **unless it is operating as part of a multi-day special event and has approval from the City Administrator.**

183.03 APPLICATION.

A Mobile Food License application form available from the Building and Zoning Department must be filled out and submitted to the City Clerk for processing. The completed application must be submitted together with a copy of the applicant's Iowa retail sales tax permit and proof of liability insurance, including commercial general liability insurance coverage and automotive liability insurance coverage. Commercial general liability insurance shall include coverage for bodily injury, death and property damage with limits of liability of not less than one million dollars per occurrence and aggregate combined single limit. Automobile liability insurance coverage shall include coverage for bodily injury, death and property damage with limits of liability of not less than one million dollars per occurrence, combined single limit. Certificates of insurance shall provide that the policy or policies have been endorsed to provide thirty days advance notice of cancellation and forty-five days advance notice of non-renewal and ten days advance notice of cancellation for non-payment of premium and that these notices shall be provided to the City finance department by email, facsimile or mail. Cancellation of required insurance automatically revokes and terminates the Mobile Food Unit License to operate in Windsor Heights unless other insurance policies are provided in a timely manner to the City. If the mobile food unit sells food or beverages other than pre-packaged items that do not require hot or cold handling procedures, the application shall also contain a copy of the mobile food unit's license issued by the Iowa Department of Inspections and Appeals, a copy of the food establishment license issued by the Iowa Department of Inspections and Appeals for any commissary kitchen or other premises where food is prepared, copies of the food protection

manager certifications, the name and address of the facility at which any waste fat, waste oil or waste grease generated by the mobile food unit operation is disposed of, and a copy of the certificate of annual compliance issued by the fire marshal of **Des Moines, Clive, Ankeny, Urbandale, Norwalk, Grimes, Altoona, Pleasant Hill, Johnston, Waukee, or West Des Moines.**

SUMMARY

ATTACHMENTS

1. Ordinance No. 23-10 - Amendments to Chapter 183 (Mobile Food Units)
2. MOBILE FOOD UNIT Special Event Permit 10-27-23
3. Mobile Food Unit License 10-27-23

ORDINANCE NO. 23-09

AN ORDINANCE AMENDING CHAPTER 183 (MOBILE FOOD UNITS)

BE IT ENACTED by the City Council of the City of Windsor Heights, Iowa, as follows:

SECTION 1. SECTION MODIFIED. Chapter 183 (Mobile Food Units) is amended using the following new language:

CHAPTER 183 MOBILE FOOD UNITS

183.01 Definitions	183.06 Reserved
183.02 License and Permit Required	183.07 Reserved
183.03 Application	183.08 Enforcement and Penalties
183.04 Exceptions	
183.05 General Regulations for All Mobile Food Units	

183.01 DEFINITIONS.

1. “Commissary” means a licensed food facility regulated by a governmental entity where food is stored, prepared, portioned, packaged or any combination thereof, and where such food is intended for consumption at another location or place from a mobile food unit..

2. “Food establishment” means an operation that stores, prepares, packages, serves, vends, or otherwise provides food for human consumption. For the purposes of this chapter, “food establishment” does not include an establishment that offers only pre-packaged foods that are non-potentially hazardous; a produce stand which sells only whole, uncut fresh fruits and vegetables; an establishment operating in a farmers market if potentially hazardous food is not sold or distributed; a residence in which food that is non-potentially hazardous is sold for consumption off premises to a consumer customer provided the food is labeled so as to identify its preparer; a private home that receives catered or home-delivered food; child care facilities or food establishments in hospitals or health care facilities which are subject to regulation by state agencies; supply vehicles and vending machines.

3. “Mobile food unit” means motorized, a self-propelled food establishment food truck, or a trailer, pushcart, or vehicle towed by a motorized vehicle, that is readily movable including a tent, and which typically operates at a remote location and returns to base of operation or commissary at the end of its daily business. Mobile food units are considered Class III or Class IV mobile food units by the Iowa Department of Inspections and Appeals.

4. “Potentially hazardous food” A biological (microorganism), chemical (cleansers, pesticides), or physical (fingernail, plastic) property that may cause an unacceptable consumer health risk.

5. “Pushcart” means a non-motorized food establishment limited to serving non-potentially hazardous packaged foods with limited assembly or commercial or commissary prepared foods that are reheated on the pushcart, such a frankfurters. Pushcarts may be towed by a vehicle, but

are generally capable of being moved by human power. Pushcarts are considered Class III mobile food units by the Iowa Department of Inspections and Appeals.

6. Mobile Food Unit License: This is a City of Windsor Heights issued license necessary for all Mobile Food Units operating in Windsor Heights City limits, unless the mobile food unit is operating on private property as part of a private event under Code Section 183.04.

7. Special Event Permit: This is a permit necessary for all Mobile Food Units operating in the City of Windsor Heights right-of-way or in a City Park. The permit is valid for a specified period of time and at a specified location. This permit does not supersede the need for a Mobile Food Unit License.

183.02 LICENSE AND PERMIT REQUIRED.

No person shall sell or offer for sale or otherwise engage in a business as a mobile food unit within the City without having first obtained a license to operate as such. A Mobile Food Unit License is a special license and is required in addition to any other required City business license or state license or permit the person may hold or be required to hold. A separate Mobile Food Unit License is required for each mobile food vehicle from which business is conducted in the City. Mobile Food Unit Licenses are not transferable or assignable. The license fee required shall be established by the City Council by resolution. Licenses expire 365 days after license issuance. No person shall sell or offer for sale or otherwise engage in business as a mobile food unit within the public right-of-way or in a City Park unless otherwise approved by the City Administrator or their designee by a Special Event Permit. The granting of a Special Event Permit is discretionary based on available space and event requirements. A Special Event fee may be charged by the City of Windsor Heights or the event host.

183.03 APPLICATION.

A Mobile Food License application form available from the Building and Zoning Department must be filled out and submitted to the City Clerk for processing. The completed application must be submitted together with a copy of the applicant's Iowa retail sales tax permit and proof of liability insurance, including commercial general liability insurance coverage and automotive liability insurance coverage. Commercial general liability insurance shall include coverage for bodily injury, death and property damage with limits of liability of not less than one million dollars per occurrence and aggregate combined single limit. Automobile liability insurance coverage shall include coverage for bodily injury, death and property damage with limits of liability of not less than one million dollars per occurrence, combined single limit. Certificates of insurance shall provide that the policy or policies have been endorsed to provide thirty days advance notice of cancellation and forty-five days advance notice of non-renewal and ten days advance notice of cancellation for non-payment of premium and that these notices shall be provided to the City finance department by email, facsimile or mail. Cancellation of required insurance automatically revokes and terminates the Mobile Food Unit License to operate in Windsor Heights unless other insurance policies are provided in a timely manner to the City. If the mobile food unit sells food or beverages other than pre-packaged items that do not require hot or cold handling procedures, the application shall also contain a copy of the mobile food unit's license issued by the Iowa Department of Inspections and Appeals, a copy of the food establishment license issued by the Iowa Department of Inspections and Appeals for any commissary kitchen or other premises where food is prepared, copies of the food protection manager certifications, the name and address of the facility at which any waste fat, waste oil or

waste grease generated by the mobile food unit operation is disposed of, and a copy of the certificate of annual compliance issued by the fire marshal of Des Moines, Clive, Ankeny, Urbandale, Norwalk, Grimes, Altoona, Pleasant Hill, Johnston, Waukee, or West Des Moines.

183.04 EXCEPTIONS.

1. Mobile food units associated with a private party on private property hosted by the owner of the property upon which the unit is dispensing food and/or beverage, such as a graduation party, wedding reception, birthday celebration or similar event, are exempt from the licensing provisions of this chapter provided the unit's participation is by invitation or contract with the host and provided the vendor displays proof of its authorization to operate in Iowa and required health inspection certification.

183.05 GENERAL REGULATIONS FOR ALL MOBILE FOOD UNITS

1. Mobile food units shall have, and at all times maintain, all necessary licenses and permits from the Iowa Department of Inspections and Appeals as well as the City of Windsor Heights's required permits and licenses.

2. Mobile food units shall at all times operate in compliance with all applicable food, health and sanitation laws and shall comply with all health department regulations regarding food service, food storage and preparation, food handling and food cooking and shall have a valid inspection certificate or permit evidencing health department inspection and approval on display and easily visible to the mobile food unit's patrons at all times in operation.

3. No mobile food unit shall offer for sale or sell food and/or beverage between the hours of 12:00 a.m. and 6:00 a.m.

4. No mobile food unit may operate in the right-of-way absent of a receipt of a special event permit from City Administration or their designee.

5. No mobile food unit shall operate within a City park absent receipt of a special event permit from City Administration or their designee.

6. No mobile food unit shall park or stand within (1) 40 feet of a pedestrian crosswalk, or a stop sign or traffic signal light, (2) adjacent to a designated bicycle lane, or (3) absent written authorization of the restaurant, within 200 feet of any public entrance to any permanent restaurant during hours the restaurant is open for business. For purposes of this section, bars that serve food are deemed to be restaurants. Mobile food units that are not directly involved with the sponsor organization shall not park or stand within 1,200 feet (3 City blocks) of an approved special event.

7. No mobile food unit shall operate in a manner that violates Chapter 54 of the City Code concerning noise. A mobile food unit owner or operator shall not call out to, cry out, shout out or otherwise communicate or make any noise or use any device to call attention to their cart's location and operation.

8. A mobile food unit owner or operator is responsible for keeping and maintaining the area around and within fifty feet of the mobile food unit neat, clean and free from trash, debris, garbage and other hazardous conditions at all times regardless of whether the trash, debris or garbage originated from the operation of the unit or was left in the area by a pedestrian passerby or natural conditions. A mobile food unit owner or operator shall provide adequate trash receptacles for the public for all garbage from its operation and from the accumulation of garbage in the area around their unit all times the unit is in operation. At the close of its daily business, the mobile food unit owner or operator must remove all garbage from the area and properly dispose of it away from the site of its operation; the garbage shall not simply be placed in nearby public garbage receptacles provided for use to the general public at large.

9. The license required by this chapter, the state sales tax permit and all licenses, permits or certificates required to be displayed by state law, shall be posted on the mobile food unit so as to be readily visible to all persons conducting business with the mobile food unit.

10. Mobile food units shall only offer single service food utensils such as cups, straws, knives, forks, spoons, stirrers, plates, bowls, wrappers, containers, and similar utensils, which shall be individually wrapped if usual, and kept in a clean place and only used once in the service of food and/or beverage.

11. No mobile food unit shall be left at its operating location at the end of its business day, unless it is operating as part of a multi-day special event and has approval from the City Administrator.

12. No mobile food unit shall conduct operations at a location or in a manner that hinders, impedes or restricts access to a pay phone, mail box, emergency call box, traffic control box, fire hydrant, entrance to a building or a driveway.

13. A mobile food unit operating on private property shall not encroach into any public sidewalk or public right-of-way. The window or area where a patron orders and receives their purchase shall be located so as to not require a patron to stand, or create a line that may cause pedestrians to be in the public right of way, vehicle travel lane, including parking lot drive aisles, or similar situation that may create a potential safety hazard. Sales shall be conducted on the sidewalk or pathway side of the mobile food unit wherever possible, away from moving vehicles. All private property owners allowing mobile food units on property must maintain a food service license issued by the State of Iowa Department of Inspections & Appeals and certificate of insurance.

14. No mobile food unit is allowed on the grounds of any school unless it has been invited to be there as part of a school authorized function.

15. The City reserves the right to move a mobile food unit from any location if determined to be necessary for the provision of emergency or public services or in the interest of public safety, peace and welfare.

16. No mobile food unit shall offer for sale or sell any liquor, beer or wine from such unit unless a Liquor License has been approved by the Iowa Alcoholic Beverage Division.

17. No mobile food truck should provide or allow any dining area, tables, chairs, booths, benches, bar stools, stand-up counters, or similar furniture unless allowed by a private lease on private property.

18. No mobile food unit shall be used for any purpose other than as a mobile food unit offering food and/or beverage to customers.

19. Mobile food units shall serve patrons which are on foot only; no drive-up service to the unit itself shall be provided or allowed.

20. The mobile food unit must be located on a paved or rocked surface, unless approved as part of an event permit.

183.06 RESERVED.

183.07 RESERVED

183.08 ENFORCEMENT AND PENALTIES.

The Polk County Health Department, the Windsor Heights Police Department, the Windsor Heights Fire Department and the Windsor Heights Building and Zoning Department of the City of Windsor Heights are authorized to enforce this chapter. The Polk County Health Department may elect to pursue enforcement under the provision of this chapter or under applicable state laws and regulations with the sanctions available thereunder.

The performance of any action contrary to the provisions of this chapter may be cited as a municipal infraction offense. Additionally, failure to adhere to the regulations is cause for revocation or suspension of a license to operate as a mobile food unit. Any license issued under the provisions of this chapter may be suspended or revoked by the City as follows:

- The vendor has violated this chapter or any other chapter of this code or has otherwise conducted his/her business in an unlawful manner.
- The vendor has conducted his/her business in such manner as to endanger the public welfare, safety, order or morals.
- The City has received and investigated three (3) or more found complaints during the license term related to the manner in which the vendor is conducting business.
- Emergency Revocation. The Police or Fire Chief may suspend or revoke any license or permit immediately, upon oral notification to the operator of the mobile food unit, in the event the mobile food unit is creating a danger to the public health or safety. In such event, the vendor shall immediately cease operations. The Police or Fire Chief will cause the notice of revocation to be served in person by a city official or by mail to the vendor's local address within twenty-four (24) hours.
- Notice of Suspension or Revocation; Right to Appeal. The Police or Fire Chief shall cause notice of the certificate revocation to be served in person by a city official or by mail to the vendor's local address, which notice shall specify the reason(s) for such action, at which time operations of the vendor must cease within the corporate limits of the City. The vendor may appeal the revocation of the certificate to the City Council at its next regularly scheduled meeting by filing with the City Clerk a written request for an appeal to the City Council at least seven (7) days prior to the meeting. The City Council may affirm, modify or reverse the decision of the Police or Fire Chief to revoke such certificate. If a certificate is revoked, no refund of any license fee paid shall be made. Upon the revocation, the vendor is not eligible for the issuance of a new permit under this chapter for a period of one year from the date the permit revocation is served in person or deposited in the U.S. mail.

SECTION 2. REPEALER. All ordinances or parts or ordinances in conflict with the provisions of this ordinance are hereby repealed.

SECTION 3. SEVERABILITY CLAUSE. If any section, provision or part of this ordinance shall be adjudged invalid or unconstitutional, such adjudication shall not affect the validity of the ordinance as a whole or any section, provision or part thereof not adjudged invalid or unconstitutional.

SECTION 4. WHEN EFFECTIVE. This ordinance shall be in effect from and after its final passage, approval and publication as provided by law.

Passed and approved 1st Reading on this __20__th day of __November____, 2023.

Passed and approved 2nd Reading on this ____th day of _____, 2023.

Passed and approved 3rd and final Reading on this ____th day of _____, 2023.

(SEAL)

Mike Jones, Mayor

ATTEST: Adam Strait, City Clerk



**WINDSOR
HEIGHTS**
the heart of it all

City of Windsor Heights

www.windsorheights.org

Send to City Clerk at astrait@windsorheights.org or call 515-645-6810

MOBILE FOOD UNIT Special Event Permit

This is a permit necessary for all Mobile Food Units operating in the ROW or in a City Park. The permit is valid for a defined period at a specified location and is granted at the City Administrator's discretion. This permit does not supersede the need for a Mobile Food Unit License

Date of Submission: _____ Event Fee Amount (if any): _____

NAME: _____ ADDRESS: _____

BUSINESS ADDRESS (if applicable): _____

EMAIL ADDRESS: _____ PHONE: _____

DESCRIPTION: _____

This application is for:
☐ Pushcart ☐ Mobile Food Unit ☐ Other _____

Date, Location and Time Duration of Requested Special Event Permit: _____

Attach a copy of City of Windsor Heights Mobile Food Unit License pursuant to Chapter 183.

Signature _____ Date _____

City Administrator or Designee Approved _____ Date _____

Location Attached or Noted:
☐ Yes ☐ No ☐ Other _____

Application and Payment Complete:
☐ Yes ☐ No

Permit approved:
☐ Yes ☐ No ☐ Other _____

Approved Date, Location and Time Duration of Special Event Permit: _____

This permit shall be available for inspection at all times that the mobile food unit is in operation along with the City License.



**WINDSOR
HEIGHTS**
the heart of it all

City of Windsor Heights

www.windsorheights.org

Send to Windsor Heights at astrait@windsorheights.org or 515-645-6826

MOBILE FOOD UNIT LICENSE

Mobile Food Unit License: This is a City issued license necessary for all Mobile Food Units operating in Windsor Heights City limits unless operating on private property as part of a private event.

Date of Submission: _____ Fee Amount: \$75

NAME: _____ ADDRESS: _____

BUSINESS ADDRESS (if applicable): _____

EMAIL ADDRESS: _____ PHONE: _____

DESCRIPTION: _____

This application is for:
☐ Pushcart ☐ Mobile Food Unit ☐ Other _____

Describe the type of food and beverages to be sold? _____

Attach a copy of approval required by the State of Iowa Department of Inspections and Appeals pursuant to Chapter 183.
Attach copy of Iowa Retail Sales Tax Permit.
Attach a copy of commercial general liability insurance shall include coverage for bodily injury, death and property damage with limits of liability of not less than one million dollars per occurrence and aggregate combined single limit.
Attach a copy of the certificate of annual compliance issued by the fire marshal of Des Moines, Clive, Urbandale, Johnston, Waukee, or West Des Moines.
Attach a copy of food protection manager certification.
Attach name and address of facility at which any waste fat or grease is disposed of.

Mobile Food Units are not allowed to operate in Right Of Way or on City property, including parks, without a Special Event Permit.

Signature _____ Date _____

City Clerk _____ Date _____

Location Approved:
Yes oN Other _____

Application and Payment:
Yes oN

License approved:
Yes oN Other _____

Approval Period: _____

STAFF REPORT CITY COUNCIL

To: City Council
From: Pete Roth, Chief of Police
Date: November 30, 2023
Re: Consideration of Approval of Memorandum of Understanding (MOU) with Teamsters Local 238

GENERAL INFORMATION

The current collective bargaining agreement with Teamsters Local 238 is effective through June 30, 2026. To address a current issue with a part-time police officer and the detective schedule, the Police Department worked with the union to propose an update to the current contract.

SUMMARY

Part-time officers are restricted from surpassing the pay scale of a one-year officer. Following the recent retirement of a longstanding staff member, an officer sought and obtained approval to transition to part-time status. This employee has over 16 years of service with the City. To be able to accommodate compensating this employee at Step 7, the need to update the contract through an MOU was deemed necessary.

The department is also pursuing the option to initiate certified officers at a pay level aligned with their relevant years of service on the current wage scale. The current contract only allows starting an appropriate employee no higher than Step 4. This initiative aims to attract and recruit potential high-quality candidates possessing advanced experience and skills.

Furthermore, the MOU addresses adjustments to the detective schedule, enabling modifications to better align with the investigator's workload, assignments, and training.

Collaborating with the City Administrator, supervisors, and union stewards, the department crafted the attached MOU and strongly recommends its approval. The union voted and approved the language in November.

ATTACHMENTS

1. MOU

Memorandum of Understanding
Between
The City of Windsor Heights, Iowa
And
Teamsters Local 238

Teamsters Local No. 238 (the “Union”) and the City of Windsor Heights (the “City”) enter the following Letter of Understanding to implement changes to the current contract. All contractual references in this Letter of Understanding refer to the July 1, 2023 – June 30, 2026, Collective Bargaining Agreement between the City and the Union for eligible employees of the Police Department of the City of Windsor Heights (the “Contract”).

The Union and the City agreed to the following:

1. The Chief of Police may start a new employee with applicable experience at a level on the wage scale commensurate with their qualifications. This includes part-time police officers.
2. Detective Division: Employees assigned to the Detective Division will work a 40-hour week. Overtime shall be paid for any time more than 40 hours in each week, or in excess of their normal work hours for the week (e.g., eight or ten hours in a day).

CITY OF WINDSOR HEIGHTS, IOWA

TEAMSTERS LOCAL UNION NO.238

Mayor Date

Teamsters Business Agent Date

City Administrator Date



To: Mayor and City Council
From: Adam Plagge, City Administrator
Date: December 4th, 2023
Subject: Space Use Analysis

GENERAL INFORMATION

At the City Council meeting on November 20th, Administration was directed to review prior discussions and/or analysis completed regarding City facilities space use. Below is a brief timeline of relevant information located by staff.

Pre-2010: The City explored a PSB remodel. Designs from these discussions are bookmarked.
Feb. 2014: PS Director McDaniel presented a self-created needs assessment for PSB to the PS Committee. The assessment was not substantially acted upon. The assessment is bookmarked.
Feb. 2014: Current City Hall was purchased.
April 2014: Current City Hall was partially remodeled. Concepts from this period are bookmarked.
2014-2015: Police and Fire Staff largely self-performed some remodeling of the current PSB and the basement was professionally waterproofed with a negative air intake for evidence storage. The PSB garage/workout facility also appears to have had some self-performed remodeling completed.
2017: The City considered engaging a consultant to conduct a Public Safety department study analyzing PS workload, appropriate staffing and support functions. The study appears to have ultimately been completed internally by the PS Director and is bookmarked.
2018: PW facilities analysis completed (bookmarked) with the following priority recommendations:

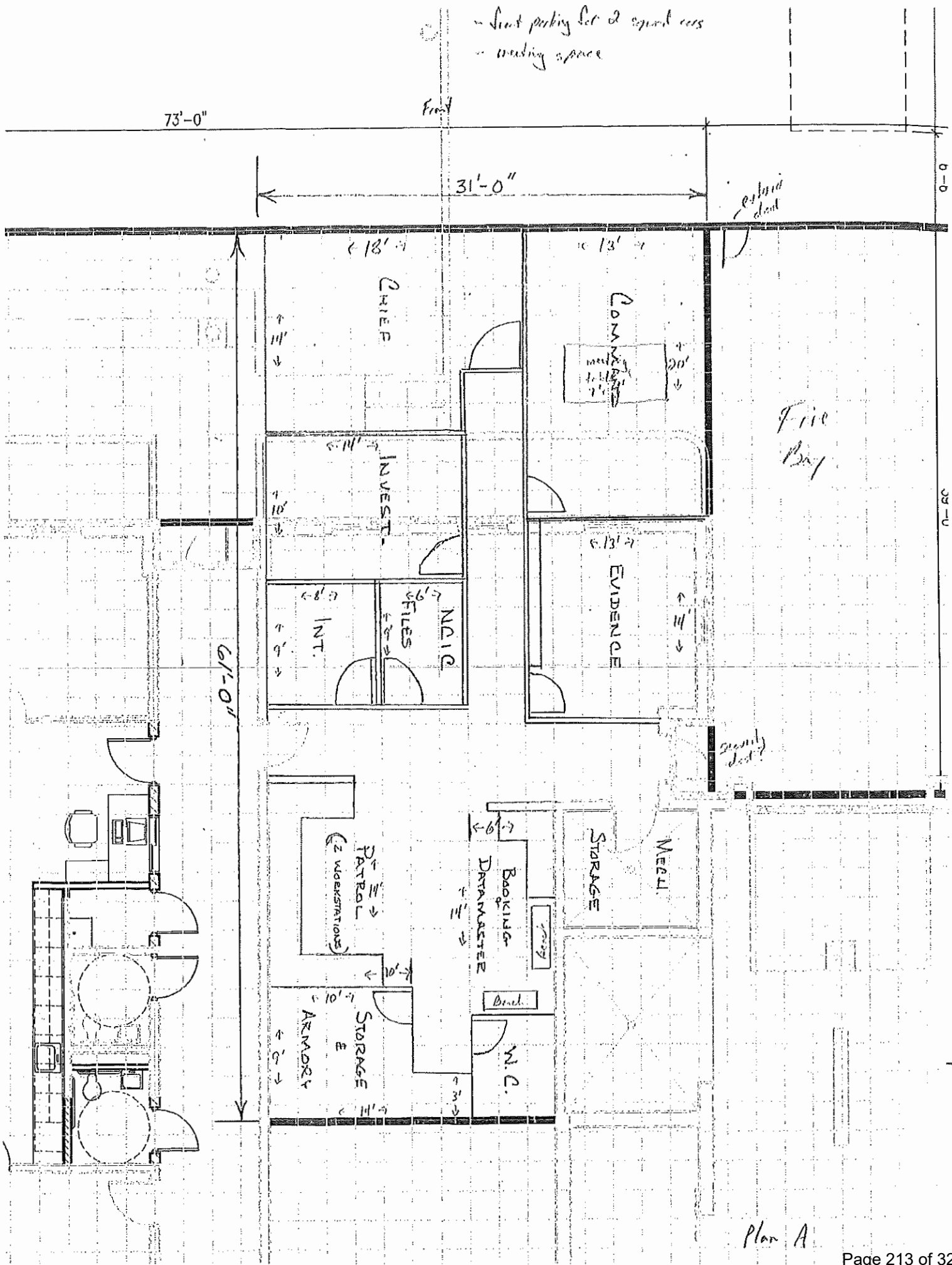
1. Re-roof of existing building: \$80,000 – 80 mill TPO membrane roof with Flute-fill insulation over existing roof. Installed November 2018.
2. New Salt Building: \$220,000 – precast concrete structure with membrane roof. Previously proposed but not acted upon.
3. Office addition: \$56,000 – 440 sf addition to match existing building. Not acted upon.
4. Replace unit heaters in maintenance bays: \$40,000 – gas fired radiant heaters. Installed November 2022.
5. Cold Storage: \$440,000 – Metal building to match existing building. Not acted upon.
6. Office/Restroom remodel: \$45,000 – Material upgrade for office, break room, kitchen and locker room. Minor enhancements to fixtures, paint and appliances.
7. Tuck pointing of PWB. Not acted upon.

2023: PW Facilities Analysis updated and staff began planning for 2024 salt shed replacement.

To the extent Administration was able to track down relevant information, no holistic city facilities study has been completed in the past 20 years. Periodically, internal targeted studies have been conducted but in many instances these studies were incomplete in scope or not substantially acted upon. The sole external study, for the PW building, resulted in priority repairs to the roof, heaters and office/restroom and staff is planning for the salt shed replacement. Administration encourages Council to consider a holistic space use and facilities analysis now or in the relative near future as staffing models have continued to evolve and deferred building maintenance has been or is in danger of building up. With this

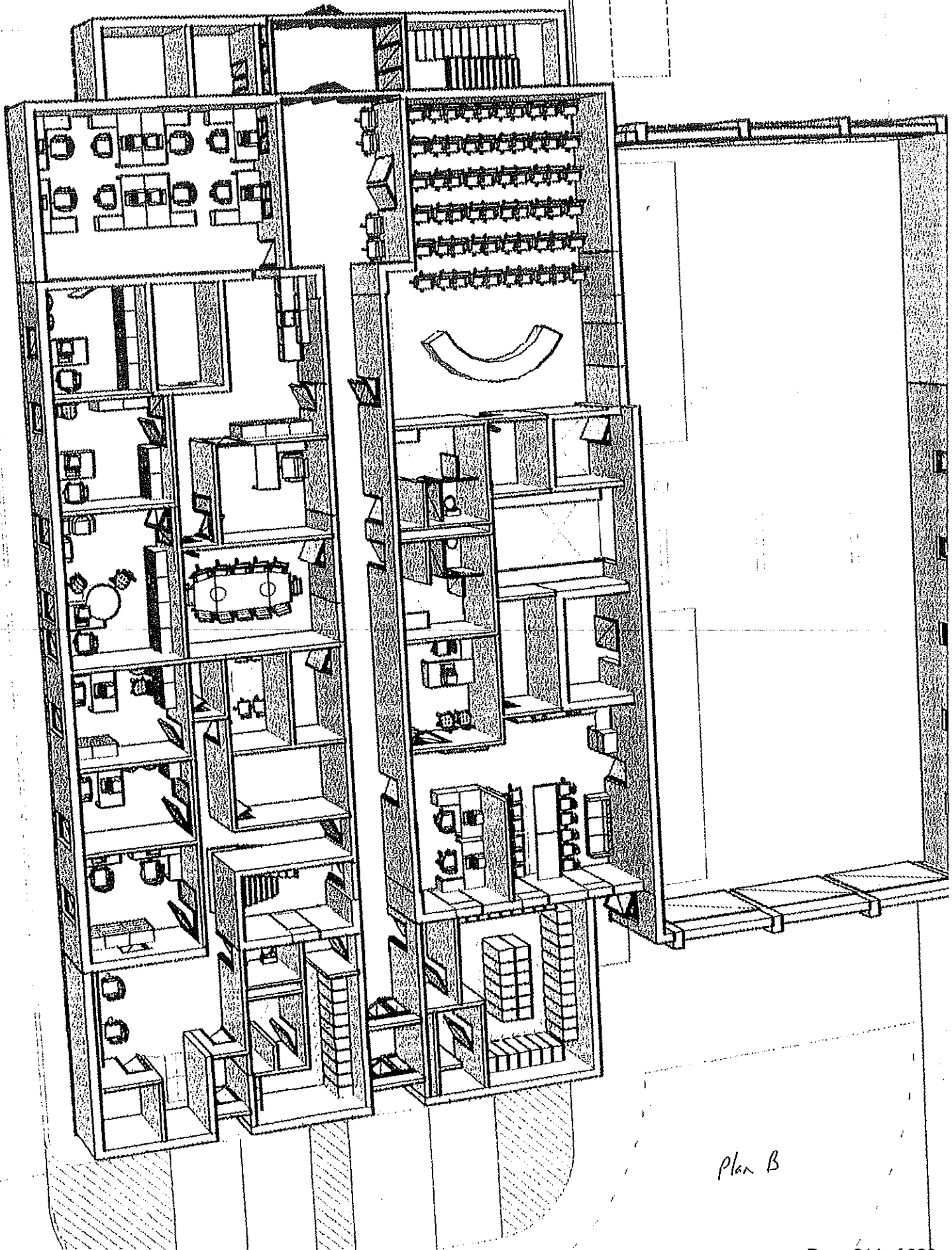
in mind, apart from the critical salt shed replacement and some other moderate in scope repairs administration has observed across facilities, current city facilities are providing for basic staff needs, though there are several apparent underutilized or inefficient spaces across facilities.

- front parking lot 2 squad cars
 - meeting space



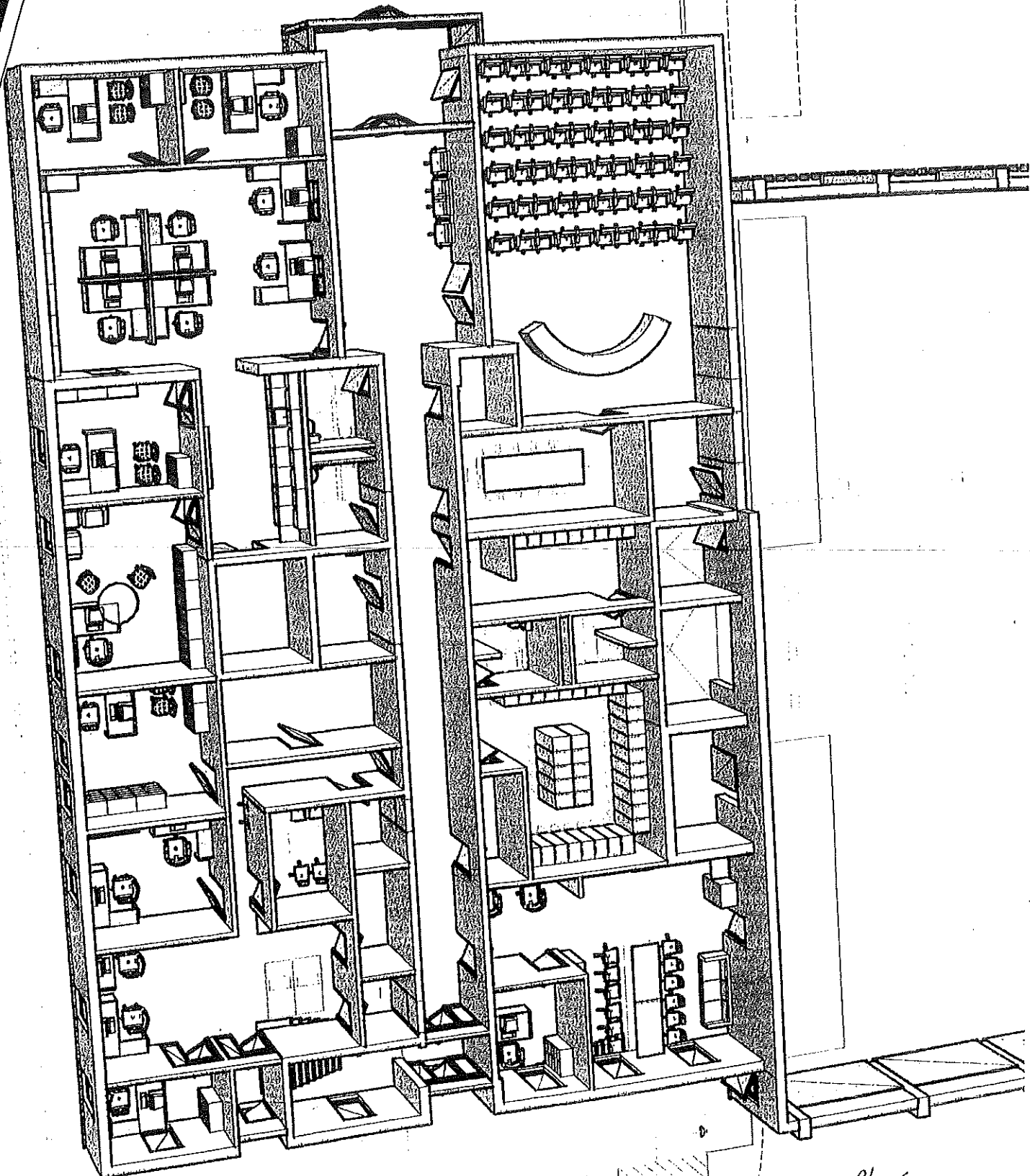
2010 PS Concepts

Front

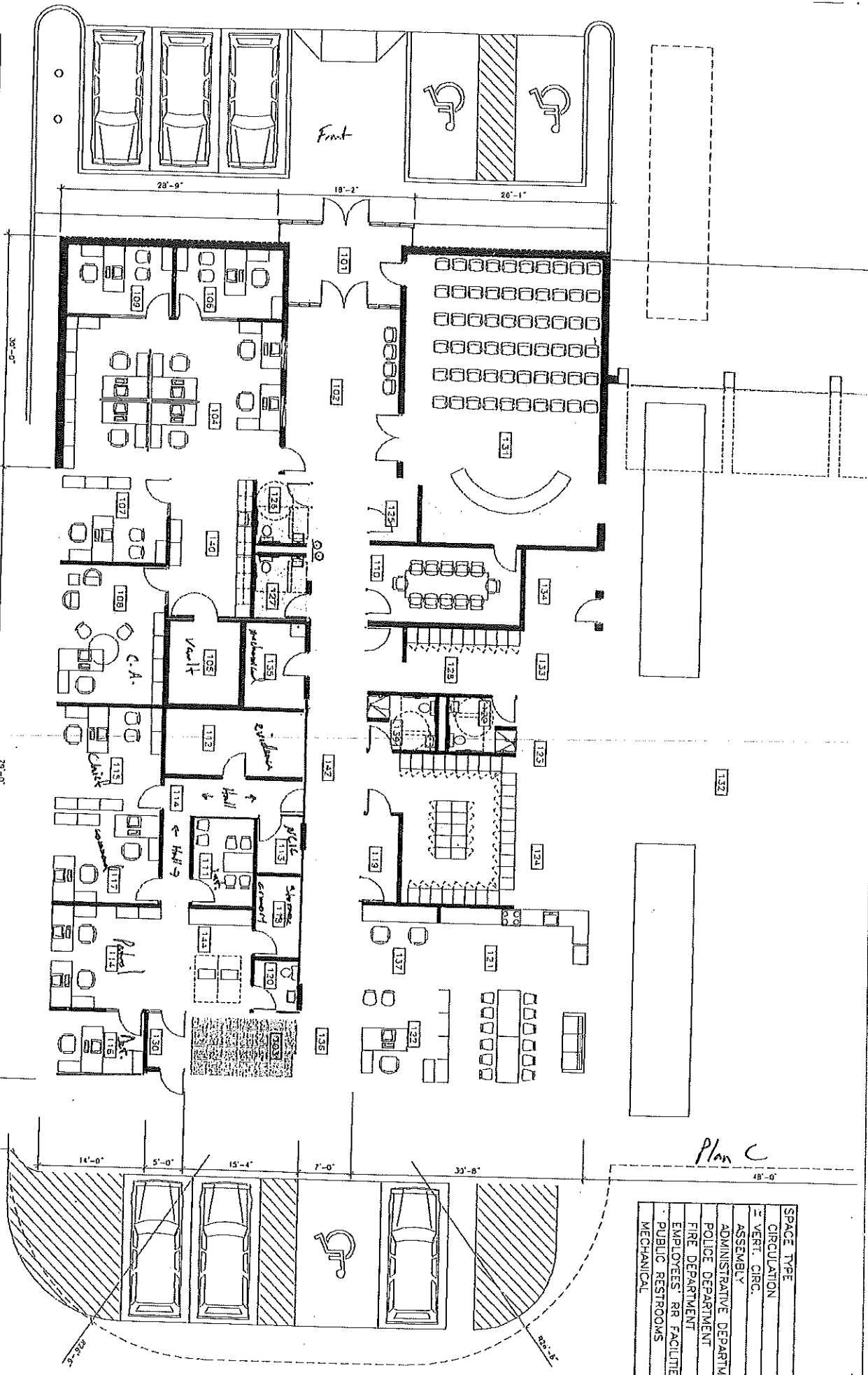


Plan B

Front



Plan C



No	Room Name	Area
101	RECEPTION	180 SF
102	RECEPTION	180 SF
103	RECEPTION	180 SF
104	RECEPTION	180 SF
105	RECEPTION	180 SF
106	RECEPTION	180 SF
107	RECEPTION	180 SF
108	RECEPTION	180 SF
109	RECEPTION	180 SF
110	RECEPTION	180 SF

No	Room Name	Area
111	RECEPTION	180 SF
112	RECEPTION	180 SF
113	RECEPTION	180 SF
114	RECEPTION	180 SF
115	RECEPTION	180 SF
116	RECEPTION	180 SF
117	RECEPTION	180 SF
118	RECEPTION	180 SF
119	RECEPTION	180 SF
120	RECEPTION	180 SF

No	Room Name	Area
121	RECEPTION	180 SF
122	RECEPTION	180 SF
123	RECEPTION	180 SF
124	RECEPTION	180 SF
125	RECEPTION	180 SF
126	RECEPTION	180 SF
127	RECEPTION	180 SF
128	RECEPTION	180 SF
129	RECEPTION	180 SF
130	RECEPTION	180 SF

No	Room Name	Area
131	RECEPTION	180 SF
132	RECEPTION	180 SF
133	RECEPTION	180 SF
134	RECEPTION	180 SF
135	RECEPTION	180 SF
136	RECEPTION	180 SF
137	RECEPTION	180 SF
138	RECEPTION	180 SF
139	RECEPTION	180 SF
140	RECEPTION	180 SF

No	Room Name	Area
141	RECEPTION	180 SF
142	RECEPTION	180 SF
143	RECEPTION	180 SF
144	RECEPTION	180 SF
145	RECEPTION	180 SF
146	RECEPTION	180 SF
147	RECEPTION	180 SF

No	Room Name	Area
148	RECEPTION	180 SF
149	RECEPTION	180 SF
150	RECEPTION	180 SF
151	RECEPTION	180 SF
152	RECEPTION	180 SF
153	RECEPTION	180 SF
154	RECEPTION	180 SF
155	RECEPTION	180 SF
156	RECEPTION	180 SF
157	RECEPTION	180 SF

Plan C

SPACE TYPE
CIRCULATION
VERT. CIRC.
ASSEMBLY
ADMINISTRATIVE DEPARTMENT
POLICE DEPARTMENT
FIRE DEPARTMENT
EMPLOYEES' RR FACILITIES
PUBLIC RESTROOMS
MECHANICAL



Windsor Heights Police Department

Phone: (515) 277-4453

1133 66th Street

Fax: (515) 271-8160

Windsor Heights, Iowa 50324

www.windsorheights.org

Police Department Space Needs - 2014

1 solo office for Chief w/ min. of two visitor seats - prefer addition of small meeting table

2 solo offices for Lieutenants w/ min. of two visitor seats

2 dual offices for two Detectives; TCSC+ATE or volunteer - two shared visitor seats each

2 or 3 patrol report stations

1 OWI processing room (isolated work station w/ DataMaster near prisoner area)

2 or 3 temporary holding cells near a prisoner processing area and restroom

1 interrogation room located internally and secure - separate from OWI processing room

1 larger interview room with access from main hallway for walk-ins

1 “war room” - large common area capable of holding briefings, laying out major cases

1 large equipment & supply storage/shelving area with gun cleaning station

1 large walk-in closet for secure armory

Men’s and women’s locker rooms complete with bathrooms, showers, large police lockers with equipment footlocker - prefer in separate, secure area due to weapons

Possibly relocate some/all of records area and personnel – centralized corridor?

Existing evidence storage and long-term records storage area in basement is sufficient

Detached covered fleet parking and additional large equipment storage area

Rear of building prisoner entrance in lieu of sally port

+Does not include city I.T. needs or mechanical infrastructure

Recommended Next Steps

- Tour multiple newly opened police facilities and ask for success strategies and lessons learned. Take city administrator and interested elected officials.
- Invite city's insurance provider to conduct a risk assessment of existing facilities.
- Invite area criminal justice professionals to do a site audit of existing facilities (include county attorney, DCI director, Homeland Security, feds, etc.)
- Form a public advisory committee of interested residents and business owners to evaluate findings, make recommendations, and garner support.
- Consider attending an IACP or other reputable training that provides instruction on how to plan, design, and construct city facilities.
- Obtain IACP publication about facilities planning.

Building Committee Memorandum

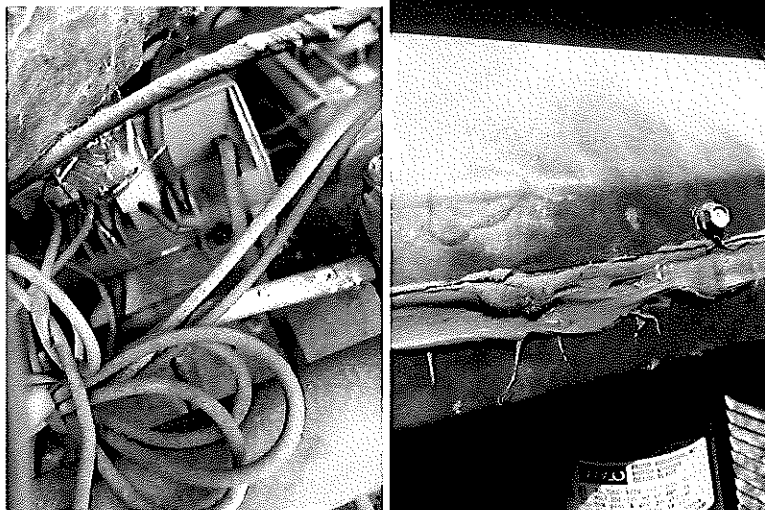
March 21, 2014

TO: Honorable Mayor and City Council
FROM: Jason VanAusdall, Dir. Public Works
RE: 1145 66th St. – City Administrative Building

Topic: Major Items of interest

Since the inspection of the building there has been some bids received that may need to be addressed before taking possession:

- The rubber roof membrane has some issues that POA (Property Owners Association) would need to address at some point. The company that put the roof on, Bailey Roofing Contractors, Inc. has proposed a bid of **\$5,625.00**
- The dentist office has its own HVAC unit on the roof (a new one). Ours is original to the building (1989). Per the inspection report, it is at the end of its life. The pictures show Fire Caulking of the leaking heat exchanger (Love that)! Another pic shows orange flame (top of pic-should be blue). Replacement bid **\$8,600**

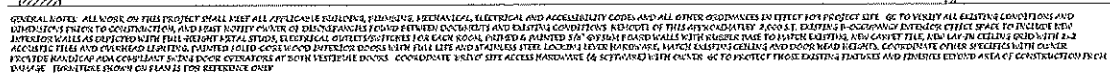


- Getting fiber optic, in conduit, from existing city hall to new building is no small feat. There will need to be a perpetual easement established coming out the rear of existing city hall and run through the parking lot(s) to the rear of the new building. Preliminary easement preparation has been done, and will take 2 more days to complete, once a low bid contractor has chosen his own path to accomplish this task. A rough estimation of total cost **\$13,000** (Boring, easement, and electrician).

The entire rear portion of the parking lot and portions of the driveway are in need of replacement. This will need to be address in the near future with the POA. The other items mentioned throughout the inspection report are minor maintenance items that PW will address upon purchase. This agreement for PW to assume all maintenance of building exterior and grounds will need addresses at time of purchase as well.

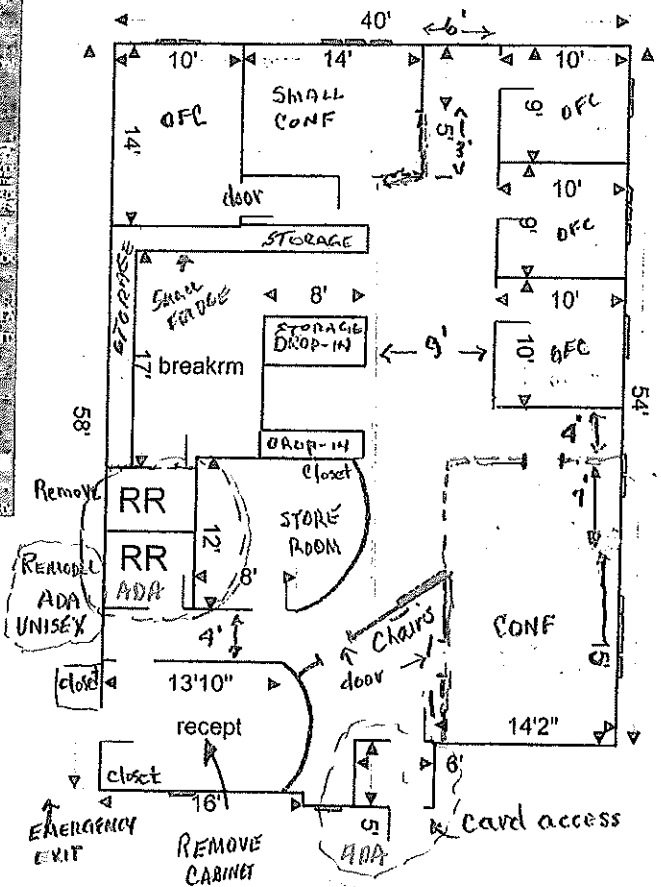
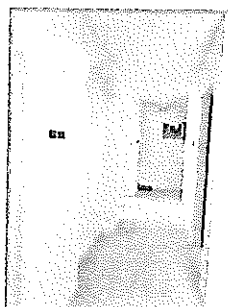
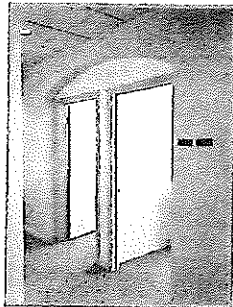
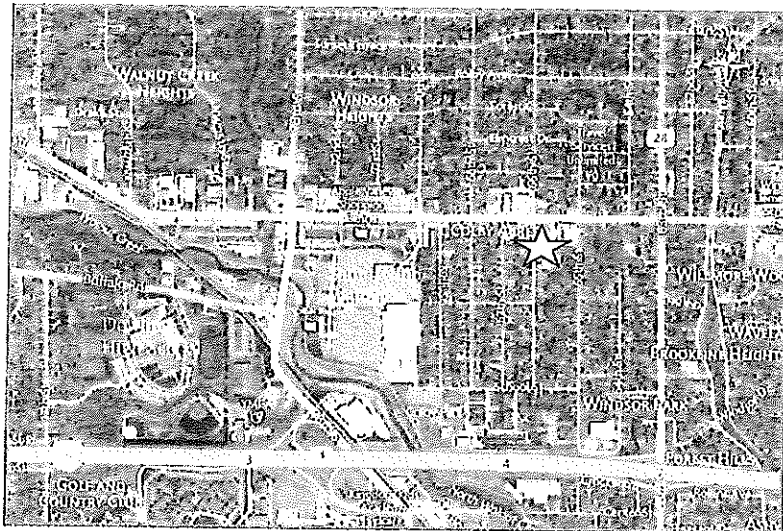
Overall, this is a very well built building; 6" wide steel studs, well insulated, brick exterior, good drainage, and good infrastructure to work with.

Jason VanAusdall
Public Works Director



1 PARTIAL FLOOR PLAN
12' x 12'

444



Contact Teri Maki
515.480.1067

DENNY ELWELL COMPANY

Denny Elwell Company 2401 S.E. Tones Drive, Suite 17 Ankeny, Iowa 50021
515.964.1587 www.dennyelwellcompany.com

HALLWAYS 44"
36"

1/16" = 1'



Public Safety Workload Analysis



Windsor Heights Police Department

Phone: 515.277.4453

Windsor Heights Fire Department

Phone: 515.279.9450

1133 66th Street
Windsor Heights, Iowa 50323

December, 2018

Public Safety Director E. Chad McCluskey



GOVERNMENT

Dave Burgess, Mayor
Zachary Bales-Henry, Councilman
Threase Harms, Councilwoman
Joseph Jones, Councilman
Mike Jones, Councilman
Mike Loffredo, Councilman

Elizabeth Hansen, City Administrator

Erin M. Clanton / Matthew S. Brick, Brick Gentry P.C. – City Attorney

Travis Cooke – City Clerk
Jessica Vogel – Deputy City Clerk / Communications Specialist
E. Chad McCluskey – Public Safety Director / Chief of Police and Fire Services
Dalton Jacobus – Public Works Director
Sheilah Lizer – Building and Zoning Official
Michele Denkinger – Parks and Recreation Coordinator

THE COMMUNITY

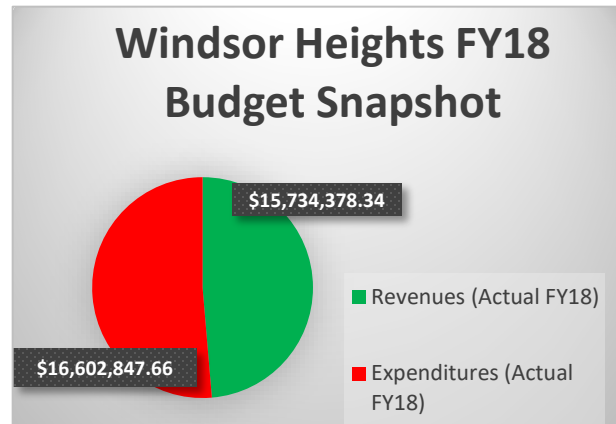
Incorporated on July 19, 1941, the City of Windsor Heights, Iowa is located in Polk County and the City is part of the Des Moines, Iowa metropolitan area. With a population of approximately 4,860 living in approximately 2,289 households, the City encompasses 1.41 square miles of land with bordering communities including Clive to the west, Des Moines to the east, Urbandale to the north and West Des Moines to the south. The estimated median income for a household is at \$55,931, while the median family income for the City of Windsor Heights is estimated at \$65,536.

The community enjoys a mix of residential, multifamily and commercial properties. The City is home to the highest grossing WalMart Store in the State of Iowa, which also is the only WalMart store with a main line Des Moines Area Regional Transit (DART / public transportation) stop in the metropolitan area. Next to WalMart is one of two metropolitan Sam's Club's and HyVee has a grocery store in the southwestern part of the City. Other small businesses, restaurants, and services are also present within the City. In addition, the DART hub located in the parking lot of WalMart and Sam's Club is the busiest Metropolitan DART hub outside of the Downtown Des Moines corridor, leading to high influxes of pedestrian and transient traffic.

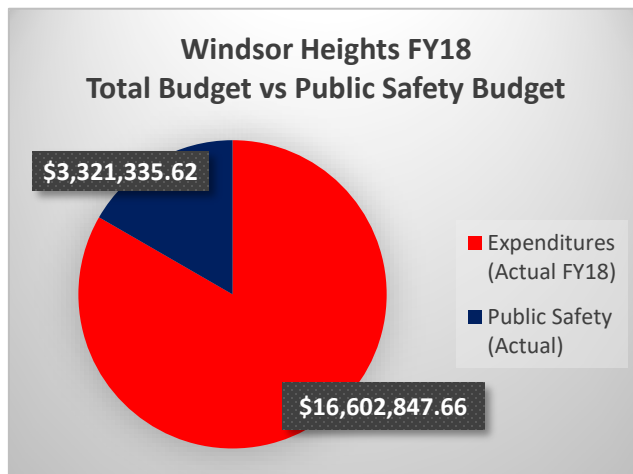
FINANCIAL SNAPSHOT

The City of Windsor Heights operates on a fiscal year of July 1 through June 30. The City levy rate is \$16.58088 as of the FY18 budget year (July 1, 2017 through June 30, 2018). As of January 2017, property valuation within the City had risen 9.46% over the previous valuation reported in January, 2016.

Actual revenues for FY18, ending June 30, 2018 were \$15,734,378.34, while actual expenditures for FY18, ending June 30, 2018 were \$16,602,847.66.



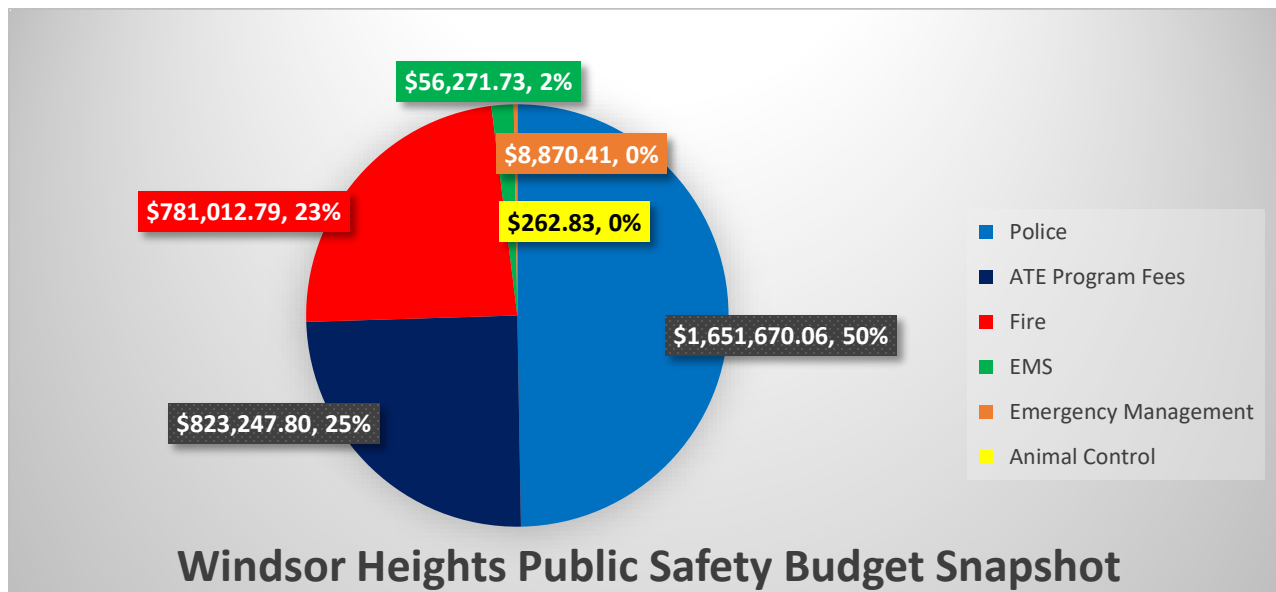
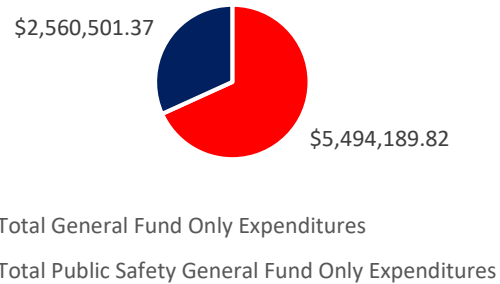
Actual expenditures for Public Safety (including Police, Fire, EMS, Animal Control, and Emergency Management) for FY18 were \$3,321,335.62. Approximately 20% of the City's actual total expenditures for FY18 went towards Public Safety. Windsor Heights is unique in comparison to other communities as no general fund monies are budgeted for Public Works, and most other comparable communities do not expend



funds out of their Police Budgets for the Automatic Traffic Enforcement programs – which, in FY18, added an additional \$823,247.80 burden to the Police Department fee line item. As a result, all departments funded through the general fund appear to have a higher percentage of the budget than would be present if the Public Works budget was part of the general fund. Furthermore, the Police budget appears at an inflated rate because of the over \$800,000.00 in ATE program fees.

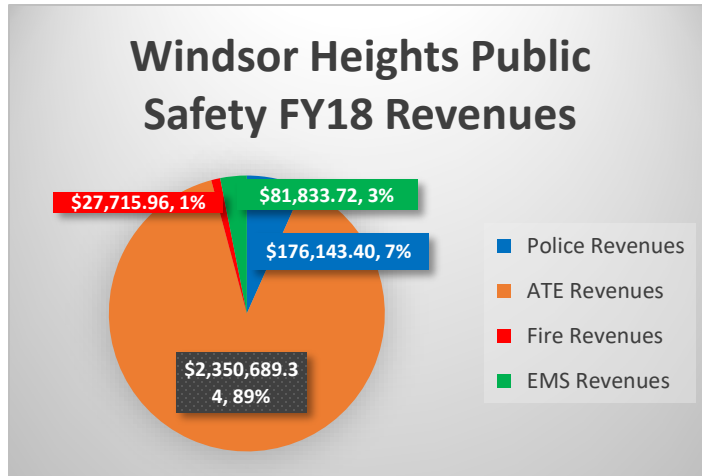
If a review is completed looking at only FY18 actual general fund expenditures, excluding other funds/restricted funds, the City of Windsor Heights had actual general fund expenditures of \$5,494,189.82 in FY18. The total actual general fund expenditures for Public Safety totaled \$2,560,501.37, or 46.60% of all general fund expenditures. The total actual Public Safety expenditures include \$823,247.80 expended for ATE program fees, which if removed from the Police fee line item would result in the total Public Safety impact to the overall general fund budget of 31.62%.

FY18 ACTUAL GENERAL FUND ONLY EXPENDITURE VIEW



FY18 Public Safety expenses include Police, Fire, EMS, Emergency Management and Animal Control funds, as noted above. The table below illustrates the break down for each fund/department.

Department	Expenditures	% of Public Safety	% of Total Budget
Police	\$1,651,670.06	49.73%	9.95%
ATE Program Fees	\$823,247.80	24.79%	4.96%
Fire	\$781,012.97	23.52%	4.70%
EMS	56,271.73	1.69%	0.34%
Emergency Management	\$8,870.41	0.27%	0.05%
Animal Control	\$262.83	0.01%	0.00%



Total revenues for FY18, ending June 30, 2018, were \$15,734,378.34. The Police Department was responsible for \$2,526,832.74 in income, including \$2,350,689.34 in revenues from the Automated Traffic Enforcement (ATE) program. While \$2,350,378.34 was the actual gross revenue from the ATE program, the program had expenses totaling \$823,247.80 – for a net revenue of \$1,528,116.50.

In addition, the Fire Department had revenues of \$27,715.96 from sources such as rental and commercial inspections. Finally, Ambulance billing resulted in revenues of \$81,833.72.

POLICE DEPARTMENT

The Windsor Heights Police Department provides 24-hour, full-service law enforcement coverage to the City of Windsor Heights. The mission of the Police Department is to safeguard the lives and property of those we serve, to reduce the incidence and fear of crime, and to enhance public safety while working with the community to improve their quality of life. The goal of the Police Department is to build strong community partnerships, provide quality and professional policing services to collaborate towards preservation of peace, order, safety, and problem resolution. Police Department personnel are held to the highest of standards of integrity and ethics.

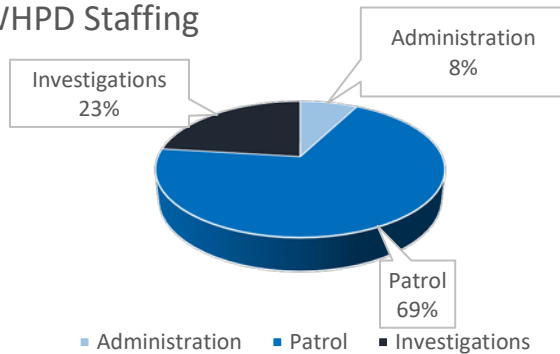
The Police Department has an array of roles within the community. These roles include proactive patrols, targeted patrols, quality of life issue mediation/resolution, reactive responses to crimes and disorder, investigation of crimes, and value-added services such as identification fingerprinting and accident reporting. Officers are likely to be the first contact for those living and visiting our community who encounter any type of problem. Officers mitigate many issues throughout their workday to include mental health issues, substance abuse issues, neighborhood disputes and other non-criminal complaints.

The Windsor Heights Police Department currently employs fourteen full-time staff members, thirteen of which are certified/sworn officers. Two (2) reserve officers also support the department assisting on larger events, such as parades.



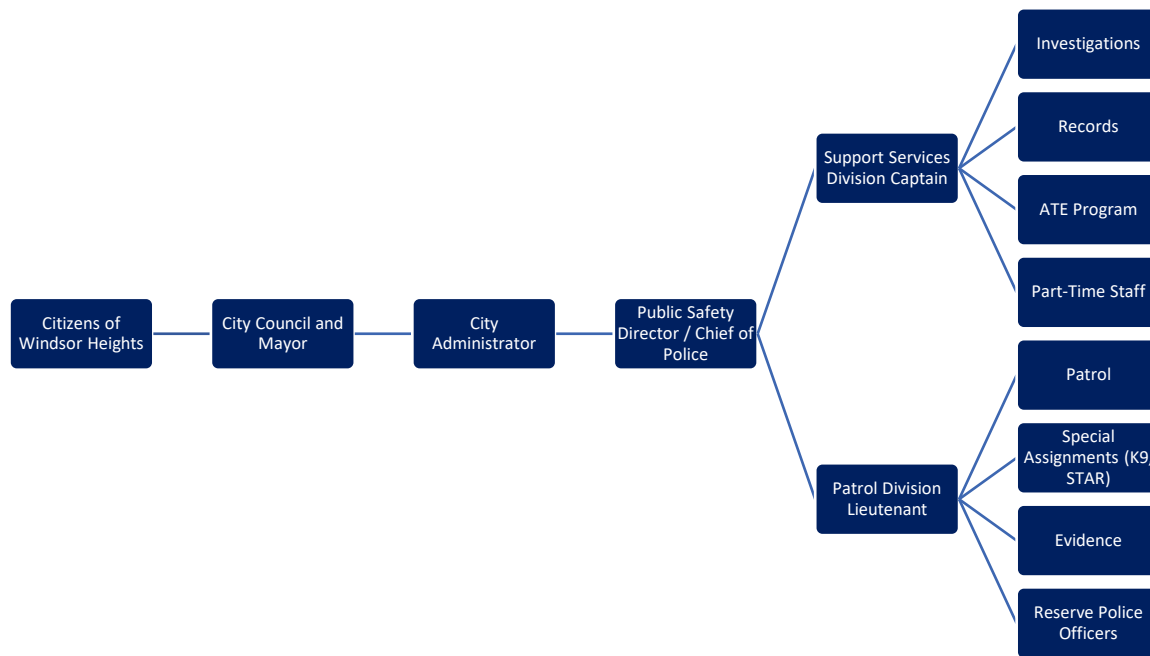
PATROL DIVISION

WHPD Staffing



The Patrol Division consists of nine members of the department, including the Patrol Commander, Lieutenant Pearson. The Patrol Division is responsible for education, enforcement, community relations and incident reporting. The Patrol Division comprises 69% of the Police Departments sworn officers. The International City/County Management Association (ICMA) Center for Public

Safety Management opines patrol staffing should make up at least 60% of the total number of sworn officers.



CURRENT WINDSOR HIEGHTS POLICE DEPARTMENT ORGANIZATIONAL CHART

Officers below the rank of Lieutenant are members of the Teamsters Local 238 collective bargaining unit and negotiate their contract with the City every three years. The current contract is in effect from July 1, 2017 through June 30, 2020.

Patrol officers currently work a 10-hour shift schedule with set days off. Officers are assigned to one of two “crews” based on their days off. Days off rotations are Monday / Tuesday and Thursday / Friday. In addition, officers are off-duty every other weekend. All officers normally work on Wednesday each week, and Wednesday is typically used as training days to help maintain officer certifications.

WINDSOR HEIGHTS POLICE SCHEDULE**Example Week 1:**

Crew	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	Work	Work	Work	Off	Off	Off	Off
2	Off	Off	Work	Work	Work	Work	Work

Example Week 2:

Crew	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
1	Work	Work	Work	Off	Off	Work	Work
2	Off	Off	Work	Work	Work	Off	Off

WINDSOR HEIGHTS POLICE SHIFTS

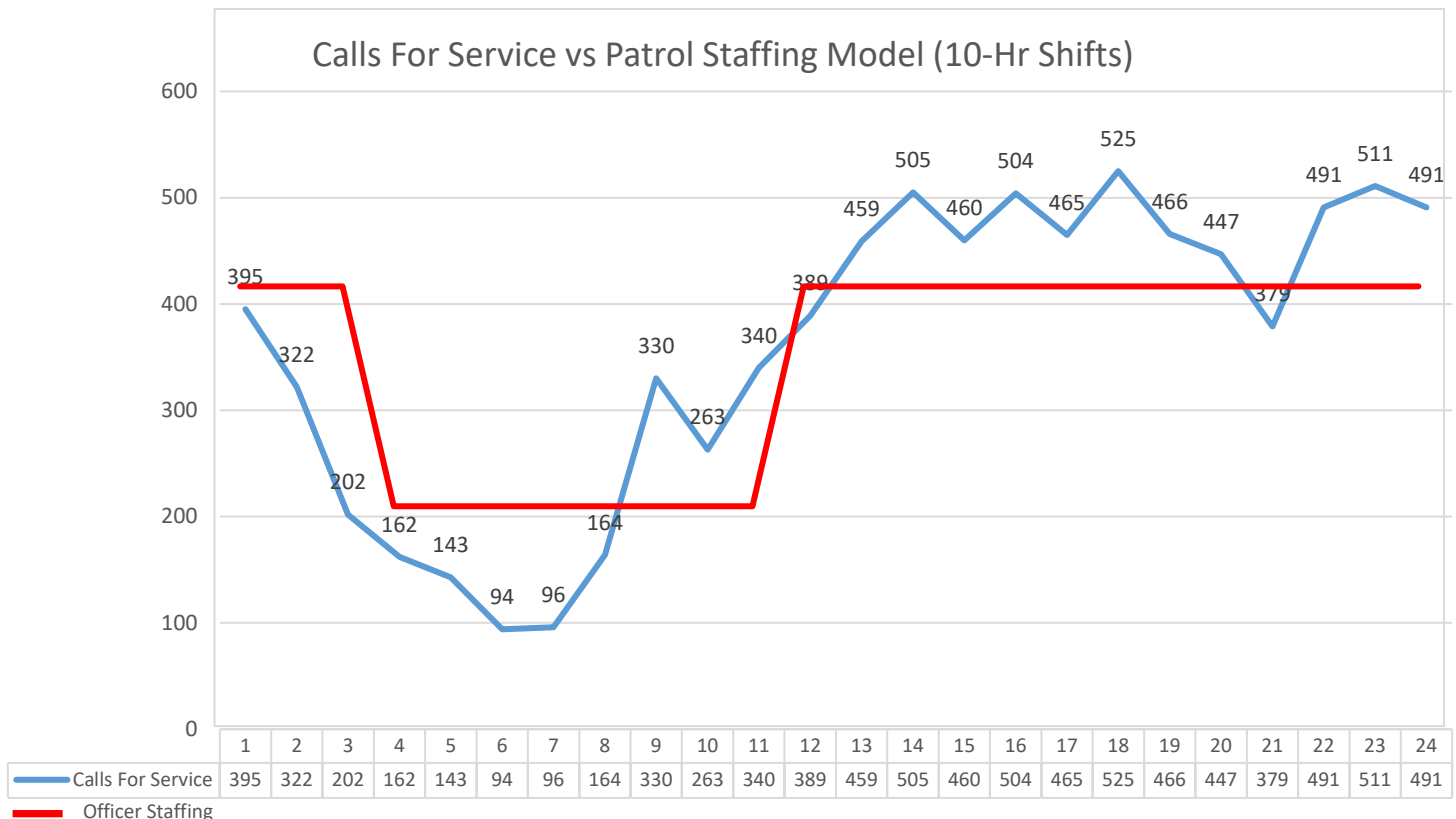
Day Shift (7am – 5pm)			
	Early Swing (11 am – 9pm)		
		Late Swing (5pm – 3am)	
			Night Shift (9pm – 7am)

The current patrol staffing schedule allows the most effective and efficient deployment of current authorized personnel for coverage, however there are still 8 hours of each day when only one officer is on duty (3am – 11am) with the exception of Wednesday. Operations with one officer on-duty pose significant officer safety concerns as outside agencies must be relied upon for any type of assistance/back-up should more than one officer be required on an incident. Adding to the safety concerns, the Windsor Heights Police Department (and Fire Department for that matter) operate on a radio system controlled by Polk County and are dispatched by Polk County. Des Moines has their own radio system and the other three contiguous cities all operate through WESTCOM dispatch. This adds a great deal of risk to our officers as there is no direct communication with our neighboring communities. Furthermore, our neighboring departments cannot scan our channel to potentially hear a need for additional resources, and the flow of information when an officer is requesting additional resources must go through Polk County dispatch to another dispatch center before additional units are sent. Complicating the issue even more, WESTCOM utilizes “closest unit dispatching” and Windsor Heights units are automatically handicapped in responding to help the neighboring communities by a 4-minute delay built into WESTCOM’s dispatching software as a result of not being on the same radio system. Not only is this not ideal, but this is a major safety concern for officers – particularly those on duty from 3am to 7am when no immediate backup is available. After the 7:00 to 8:00 am hour, there is normally someone in investigations or administration that can quickly respond to assist the on-duty patrol officer if needed. Historically, most major incidents and officer-involved shootings are over within seconds, further stressing the need for quick response when needed. The speed at which law enforcement situations turn deadly, added to the theory that officers

lose 50 percent of their strength in the first 30-seconds of a fight, demonstrates the critical necessity of timely backup when necessary.

A duty shift with only one officer on duty also creates a bottleneck in officer's abilities to respond to calls for service. The officer must resolve one call before they can respond to a second call, versus having a second officer who could either respond or break free from one call to respond to a second call for service. The 7am to 11am period of time when the shifts run with only one officer encompass morning rush hour traffic and the pre-school period for local elementary schools. Not having two officers on duty also severely limits the ability of the department to provide proactive policing strategies during staffing shortages.

The department has done a good job of allocation of resources based on call load under the current staffing model. As shown in the graph below, resources (red line) closely mirror the calls for service trend (blue line) throughout the FY18 timeframe. It is critical to note, while staffing graph mirrors calls for service trends, there is only one or two officers on duty at any given time with the exception of Wednesday. Also important to note is call volume tends to increase starting at the 7:00 to 8:00 am hours and steadily rises through mid-afternoon.



An equally important component is the need to calculate staffing relief into any analysis of workload. Staffing relief, according to Citygate Associates, LLC management consultants, who have completed several comprehensive services and delivery reviews of police departments across the United States, is a term that describes the number of

personnel it takes to provide coverage for a scheduled position or deploymentⁱ. This staffing relief calculation considers necessary staffing to account for vacation, sick leave, training, and work-related injuries. Citygate does note the actual time needed for each agency may vary dependent upon actual leave allocations, utilization, injuries and training. Citygate cites, at a minimum, it takes 5.25 full time equivalents (FTE's), for a single officer to be staffed 24/7/365. Based on this formula, 10.5 FTE's would be required to staff two officers on each shift. Windsor Heights Police Department currently has 8 officers assigned to patrol duties, indicating an additional three officers would be necessary to staff 2 officers on a 24/7/365 basis.

The Washington State Auditor's Office lead initiative, the Local Government Performance Center, issued a report in October of 2012 entitled "*Calculating Staffing Needs using the Relief Factor Method: Determining the amount of staffing resources needed to cover a staffing post.*" This report, prepared by FLT Consulting, Inc. provides a guide for staffing one police officer "post" 24/7/365. This method utilizes a formula based on determining the amount of coverage needed compared to amount of available staff time. The report averages various leave at 18.4% per year, including jury duty, sick leave, vacation, military, bereavement, FMLA, disability, leave without pay, training absences (include new hire training), mandatory in-service training, optional training, and vacancy hours. Based on 24-hours coverage and calculating 10-hour shifts, this formula would equate to 4.13 FTE's necessary, *on average*, to cover a single 24-hour day. It is important to note FTE's cannot be split into percentages, so any number over a whole number would equate to an additional FTE necessity. In this calculation, we would need five officers per day for 24-hour coverage, which would indicate a need for 10 officers in patrol (5 per crew). Currently, we staff eight officers assigned to patrol duties and this model indicates the need for two additional FTE's in patrol. The Patrol Commander is not assigned to a patrol shift, and therefore not included in these calculations, as he provides administrative supervision over the patrol officers.

During FY18 (July 1, 2017 through June 30, 2018), the Patrol Division handled 8,603 calls for service. 2,652 of those calls were traffic stops, which accounted for 30.83% of the total Patrol calls for service. Of the remaining 5,951 calls for service, the top five highest classifications included building checks, citizen requests to speak with an officer, assist officers/agencies, suspicious characters/circumstances, and traffic accidents. These top five classifications were closely followed, in call volumes, by disturbance and shoplifting calls.

During FY18, officers spent a total of 4,533 hours and 32 minutes assigned to calls, with the average call requiring 41 minutes to resolve. In a 365-day year, there are a total of 8,760 hours (24 hours multiplied by 365 days), so officers were committed 51.75% of the available time throughout FY18. Traffic stops accounted for 1018 hours and 23 minutes in FY18, or 11.62% of an officer's total available time. If traffic stops are removed from the overall time calculations, officers were still committed for a total of 3515 hours and 9 minutes, or 40.13% of the total available hours in a year.

The following pages include a list of calls by type, the total number of each type of call, the average time spent on each type of call, and the total time spent on each call type through FY18.

Call Type	Total # of Calls	Avg Time Expended	Total Time Expended
ABANDONED VEHICLE	48	0:21	16:59
ACCIDENT	296	0:40	199:22
ALARM SILENT	6	0:07	0:46
ANIMAL CALL	256	0:34	148:47
ASSAULT	17	0:32	9:13
ASSIST OFFICER/AGENCY	474	0:30	237:07
ATTEMPT TO LOCATE	14	4:04	57:01
AUDIBLE ALARM	63	0:12	13:22
BAR CHECK	31	0:06	3:35
BROADCAST	38	0:38	24:40
BUILDING CHECK	513	0:07	68:12
BURGLARY	63	0:49	52:16
CHASE OR PURSUIT	7	0:13	1:33
CHILD IN NEED OF ASSISTANCE (CHINA)	22	0:15	5:34
CIVIL CASE	2	0:17	0:34
COMMERCIAL FIRE	42	0:21	14:58
CONTROLLED BURN	1	0:06	0:06
DEBRIS IN ROADWAY	31	0:18	9:48
DISPUTE/DISAGREEMENT	194	0:34	110:56
DOMESTIC	97	0:46	75:01
DPQ	68	0:14	16:37
DRIVEBY SHOOTING	1	0:19	0:19
FIGHT	17	0:42	12:09
FOLLOW UP	155	0:27	71:17
FRAUD	66	0:44	49:24
GUNSHOTS	7	0:17	2:03
HARASSMENT	30	0:49	24:41
HAZMAT ASSIGNMENT	10	0:29	4:52
HIT & RUN	52	0:45	39:21
IDENT TRIP	144	0:14	34:41
ILLEGAL DUMPING	3	0:14	0:43
ILLEGAL PARKING	217	0:11	41:50
IMPOUND RELEASE	7	0:23	2:45
INCOMPLETE 911 CALL	94	0:11	18:30
INDECENT EXPOSURE	1	0:00	0:00
INFORMATION	105	5:32	581:47
INTOXICATED PERSON	20	0:47	15:54
INVESTIGATION ASSIGNMENT	13	0:42	9:12
KNOCK AND TALK	1	0:17	0:17
LARCENY MOTOR VEHICLE	13	0:39	8:35
LOST PROPERTY	7	0:29	3:28
MENTAL PROBLEM	12	0:48	9:38
MESSAGE	490	0:24	203:32
MISCELLANEOUS TRIP	241	0:22	90:58
MISSING PERSON	14	0:33	7:54
NARCOTIC ACTIVITY	29	0:33	16:09
NULL	9	0:55	8:15
OFFICER EMERGENCY	1	0:03	0:03
OPEN DOOR	14	0:12	3:01
OWI	11	1:12	13:21

PERSON DOWN	1	0:01	0:01
PUBLIC ASSIST	209	0:26	90:54
PUBLIC WORKS INFORMATION	21	5:17	111:05
RADAR SETUP	10	0:20	3:29
RECKLESS DRIVER(S)	64	0:26	28:09
RECOVERED/FOUND PROPERTY	46	0:36	28:13
RESCUE ASSIGNMENT	1	1:52	1:52
RESIDENTIAL FIRE	14	0:33	7:48
ROADS HAZARDOUS/BLOCKED	15	0:52	13:12
ROBBERY	10	1:02	10:29
RUNAWAY	16	1:13	19:28
SEARCH WARRANT	1	0:04	0:04
SEXUAL ASSAULT	8	0:37	4:57
SHOOTING	3	0:18	0:54
SHOPLIFTER	204	1:10	239:38
SPECIAL WATCH	92	0:19	29:30
STAB/GUNSHOOT - OVERRIDE	2	0:06	0:13
STALLED VEHICLE	181	0:17	51:49
STILL ASSIGNMENT	14	1:13	17:12
STRUCTURE - FIRE	1	0:31	0:31
SUICIDE	22	1:05	23:55
SUSPICIOUS	465	0:22	177:52
TEST EVENT	6	0:00	0:03
THEFT	149	0:56	139:17
THREATS	10	0:52	8:46
TRAFFIC SIGNAL PROBLEM	18	1:06	19:55
TRAFFIC STOP	2652	0:23	1018:23
TRANSPORT	10	0:55	9:19
TRESPASS	18	0:39	11:54
UNKNOWN PROBLEM	44	0:39	9:47
VANDALISM	28	0:37	17:21
VEH IN DITCH DUE TO ROADS	4	2:03	8:14
VEHICLE UNLOCK	19	0:15	4:53
WANTED PERSON	48	0:41	33:30
WELFARE CHECK	130	0:22	49:49
WIRES DOWN - ELECTRICAL HAZARD	10	0:09	1:39
	8603	0:41	4533:32

Some analysts discuss dispatched calls for service versus officer initiated traffic stops, whether those traffic stops are “optional” activity, and whether traffic stops should be counted in any type of analysis. Traffic stops are a critical component of proactive policing and community caretaking functions. Numerous reports of reckless drivers and speeding come into the Police Department from our citizens regularly, and citizens demand attention to these issues. Officers spend time monitoring these areas and then initiate traffic stops based, in part, on these complaints. Many traffic stops result from dispatched calls for service, such as impaired drivers and suspects to other crimes (i.e. shoplifting and disturbances). Officers can create unnecessary liability to the City for not acting when they see some traffic violations, such as an apparent impaired driver. If that driver were to be involved in an accident and injure someone, the question will arise surrounding why the officer did not act prior to the accident. Similarly, numerous high-profile cases have been solved as a result of a seemingly minor traffic offense. For example, Timothy McVeigh, the 1995 Oklahoma City Bombing suspect, was apprehended as the result of a traffic stop initiated by the Oklahoma Highway Patrol related to a tag violation.

Unbeknownst to the Oklahoma State Trooper who initiated the stop, McVeigh would later be identified as the suspect and he was already in custody on traffic charges and a charge of illegal possession of a firearm located during the traffic stop.

Currently, just under one-third, 30.83%, of the Windsor Heights Police Department activity is generated by traffic stops. The stops account for many arrests related to various criminal activity, including OWI, narcotics, and stolen property. A rash of burglary cases plaguing the City in August, 2018 were solved as the result of a traffic stop – leading to the arrest of several juvenile suspects. This activity is just as important to maintaining a safe community as responding to calls for service in only a reactive mode.

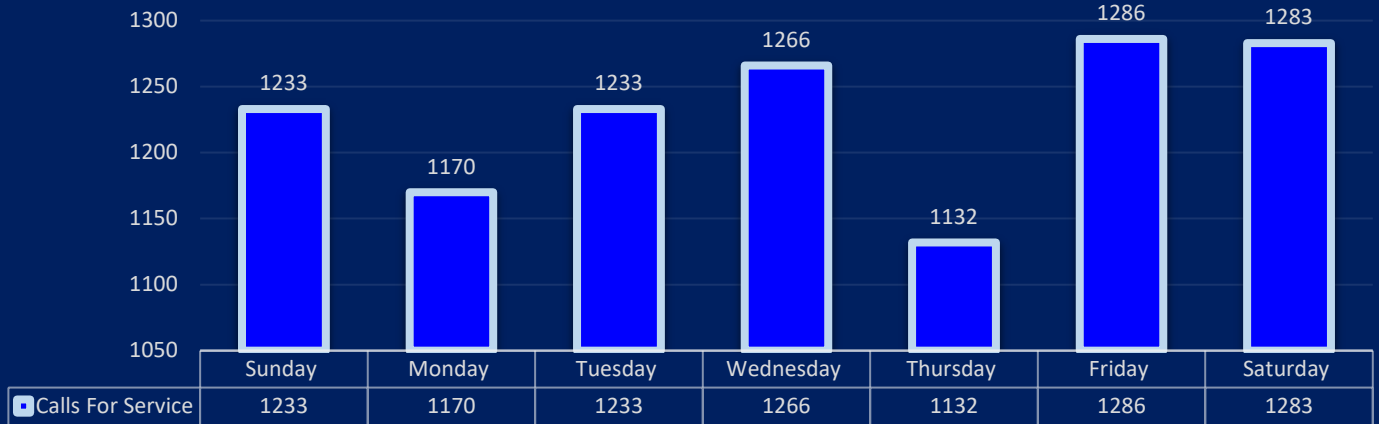
The busiest month for patrol related calls was June, and the busiest day of the week for patrol related incidents was Friday, closely followed by Saturday. Busiest times for patrol related incidents were during the 1:00 pm to 11:00 pm timeframe, with the highest number of calls during the 5:00 pm hour.

PATROL INCIDENTS BY MONTH

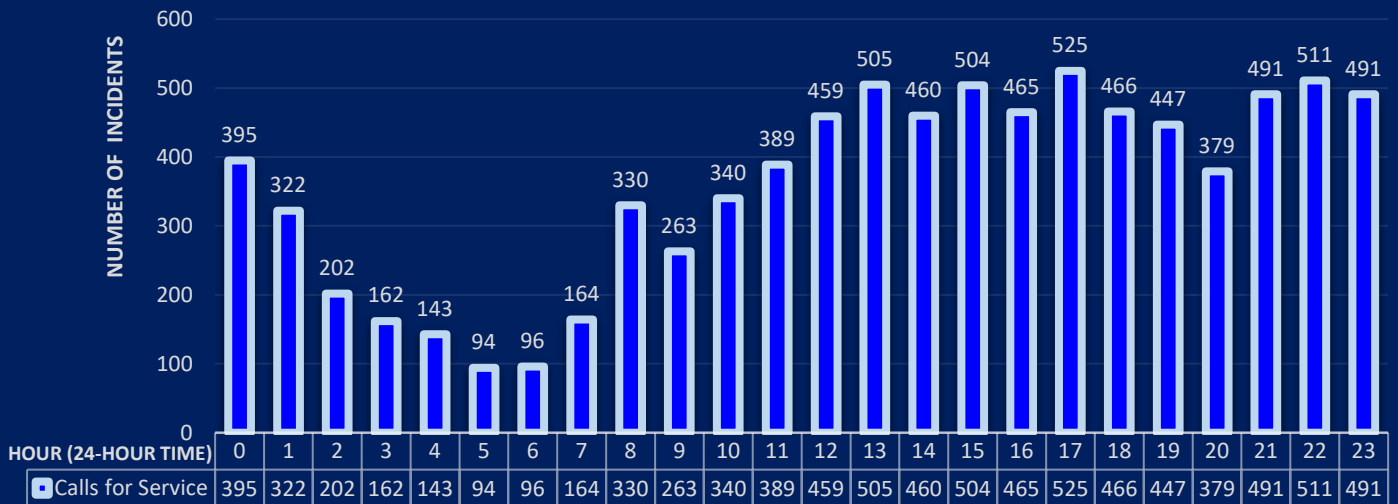


PATROL INCIDENTS BY DAY OF WEEK

WINDSOR HEIGHTS POLICE DEPARTMENT
FY 18 - July 1, 2017 through June 30, 2018
CALLS FOR SERVICE BY DAY OF WEEK

**PATROL INCIDENTS BY HOUR OF DAY**

WINDSOR HEIGHTS POLICE DEPARTMENT
FY 18 - July 1, 2017 through June 30, 2018
CALLS FOR SERVICE BY HOUR OF DAY



The International City/County Managers Association (ICMA) Center for Public Safety Management (CPM) developed the “Rule of 60,” which was alluded to earlier in this publication. The “Rule of 60” consists of two components. The first component, discussed on page 5 of this study, maintains that 60 percent of the sworn officers in a police department should be dedicated to patrol functions. The second component to the “Rule of 60” maintains that no more than 60 percent of patrol time should be “saturated” by workload demands from the community. In other words, ICMA CPM suggests that no more than 60 percent of available patrol officer time be spent responding to the service demands of the community. The remaining 40 percent of the time is the discretionary time for officers to be available to address community problems and be available for serious emergencies. Important to note, the “Rule of 60” patrol deployment does not mean the remaining 40 percent of time is downtime or break time. It is only a reflection of the point at which patrol officer time is saturated by calls for serviceⁱⁱ.

According to ICMA CPM, the ratio of dedicated time compared to discretionary time is referred to as the saturation index. ICMA offers patrol staffing is optimally deployed when the saturation index is slightly less than 60 percent. When the saturation index exceeds 60 percent, patrol manpower is largely reactive and overburdened with calls for service and workload demands. Conversely, when saturation index levels fall much lower than 60 percent, patrol resources may be underutilized and this could signal an opportunity for reduction in patrol resources or reallocation of police personnel.

ICMA warns against interpreting the saturation index too narrowly, however. Assumptions indicating saturation indices can never exceed 60 percent at any time during the day, or that in any given hour no more than 60 percent of the officer’s time be committed to calls for service should not be made. Changes should be examined when saturation index levels are at, or exceed, 60 percent for substantial periods of a given shift or at isolated and specific times during the day.

Most public safety workload analysis studies examine average time officers spent on calls during two, separate time frames. Typically, these studies look at workloads during winter months and during summer months. For this workload analysis, the months of July – August, 2017 (62 days) were compared with the months of January – February, 2018 (59 days) for the two cycles.

On average, during the summer months, officers spent 47 minutes on 1,539 total calls for service. During the winter months, officers spent an average of 45 minutes on 1,346 total calls for service. The time committed to calls for service during summer months accounted for 46.84% of available time, while time committed to calls for service during the winter months accounted for 63.00%. These times are calculated from the time the officer arrived on scene to the time the officer notified dispatch they cleared the call. These numbers typically do not include time spent writing reports for cases, as officers routinely clear calls and complete paperwork during periods when call loads decrease.

Noteworthy in the metrics mentioned above is the fact these metrics only include the initial, single officer dispatched to the call for service. Many call types require response of more than one officer, including calls such as OWI arrests, domestic violence incidents, robbery calls, etc. Due to the limitations of the Polk County 9-1-1 Computer Aided Dispatching (CAD) system, accurately accounting for the time expended by the second officer on such calls is difficult. We were able to identify 2,045 of the 8,603 calls for service noted on page 10 where multiple officers were required to respond. This accounts for approximately 24% of the calls requiring two or more officers, however developing accurate times to include in the following formulas was not possible. If accurate tracking were possible, those numbers would only lead to an increase in the officers committed time further highlighting the need for additional personnel to support the mission of the Windsor Heights Police Department.

Based on the data from FY18, officers committed time exceed the recommendation of the Center for Public Safety Management during the winter month comparison, although the overall and summer comparison were within the recommended guidelines. Worth noting, again, is while the overall average percentage of time committed falls below the 60% CPM guidelines, one can see how these numbers easily jump over the 60% mark at current staffing levels by examining the two winter months included in the data. The fact that 8-hours of each day is staffed by only one patrol officer cannot be over emphasized when reviewing the efficiency of the department.

Finally, a third formula explored in this study was developed by the International Association of Chiefs of Police (IACP)ⁱⁱⁱ. This formula has been applied throughout the United States and has been found to be very reliable in determining proper staffing needs of police departments. This formula uses an average of 45-minutes to complete a call for service, which - as noted above - is in line with actual average times for the Windsor Heights Police Department to resolve calls for service. The formula further takes into account the amount of time an officer is actually available for duty by averaging days off, holidays, vacation, sick time, etc. The formula also assumes that one-third of a police officer's time should be utilized handling calls for service, one-third of an officer's time should be spent on administrative duties, and one-third of an officer's time should be dedicated to proactive patrol, crime prevention and community relations.

To calculate the staffing needs of an agency using the IACP formula, the first step requires a determination of the number of calls for service in a year. The Windsor Heights Police Department fielded 8,603 calls for service during the calendar year 2017, as discussed above. The second step of this formula involves multiplying the total number of calls for service by the 0.75 (45 minutes), resulting in a total of 6,452.25. The third step calls for the 6,452.25 to be multiplied by 3 to add a buffer and time for preventative patrols. The total then realized is 19,356.75. Step 4, in the IACP formula, involves dividing the product by 3,650 – the number of hours necessary to staff one basic, one officer patrol unit for one year (10 hours x 365 days = 3,650) – resulting in a figure of 5.30.

Based on the IACP formula, it takes 5.30 patrol elements to handle the estimated 8,603 incidents for calendar year 2017. Since officers do not work every day of the year without any time off, we must determine the actual amount of time an officer is on duty. This will result in the number of officers required to staff patrol. For this calculation, an average of 1,992 working hours per officer is utilized. This number subtracts vacation, sick leave, and other types of time off. Subtracting the 1,992 working hours from the available 3,650 hours required to staff one patrol position, leaves 1,658 hours of actual available duty time. Dividing the 1,658 actual available duty time by 3,650 of total required time reveals 2.20 officers are required to fill each patrol position for 24/7 coverage. By multiplying the availability factor of 2.20 by the number of patrol elements required, you have the number of patrol officers needed to adequately staff the department on a 24/7/365 basis. This formula suggests 11.66, or 12 since we cannot split officers into fractions, are needed to adequately staff patrol. As a reminder, currently there are 8 officers assigned to patrol, excluding the Patrol Commander. To adequately staff the Patrol Division according to the IACP formula, an additional four (4) officers would need to be added to the department.

It is clear, regardless of which version of staffing calculations are used, the department is understaffed in patrol by a minimum of two officers, with an additional four officers needed to adequately staff all shifts on patrol. The staffing calculations utilized are not impacted by the normal daily work schedule (i.e. 12-hour shifts versus 10-hour shifts versus 8-hour shifts) of the officers, but rather are raw data driven decision points based on calls for service. Equally significant is the fact the data in the calculations is based on officers handling one call at a time, without the community waiting for an officer to respond to their issue based on the officer being committed to another call. We frequently “stack” calls for service, where officers prioritize one call over another causing a citizen in need to wait on the officer to clear another call. This leads to frustration on the part of the citizen as they may be trying to report a fraud, for instance, before going to an appointment or trying to beat rush hour traffic. Also important to note, the IACP formula examines only patrol officers needed and does not address support services, investigations, or administration. The two reserve officers are also not included in the calculations as reserve officers have fulltime jobs, unrelated to law enforcement, and typically are only available to assist with planned events. Reserve officers occasionally ride along with fulltime officers, but the coverage is sporadic at best and does not offer any sustainable relief for career personnel.

Further highlighting the need for additional personnel in the Patrol Division is the cost of overtime the department experiences as a result of officers having to cover shifts. While annual numbers are not available, for the first four months of FY18 (July – October, 2018), 42% of all overtime was attributed to officers covering patrol shifts. In the first four months of FY18, nearly \$12,000.00 was spent on overtime to cover shifts due to vacations, sick leave, training, or other absences. Overtime could be significantly reduced by properly staffing patrol shifts and alleviating the need for officers to scramble to fill shifts ensuring coverage for the community.

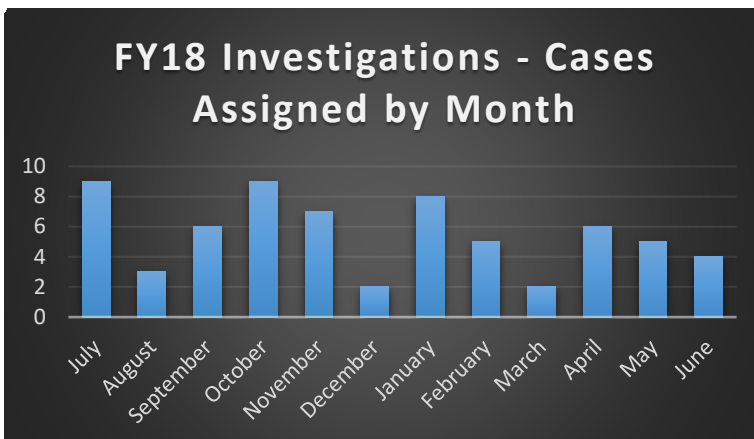
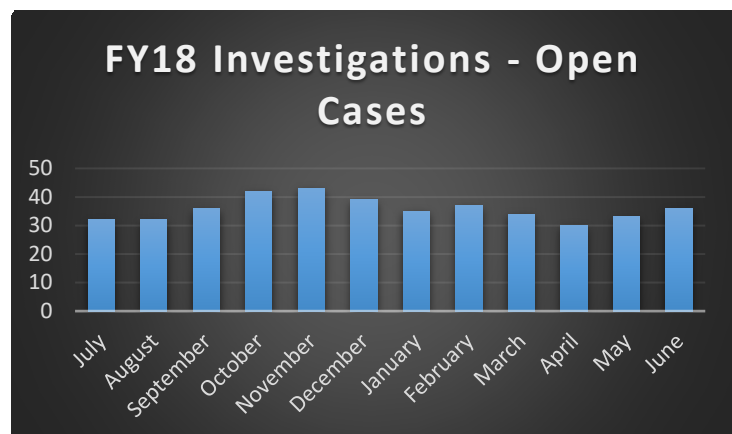
POLICE DEPARTMENT - SUPPORT SERVICES DIVISION

Three members of the department are currently assigned to the Support Services Division, including the Support Services Commander Captain Meyer. The Support Services Division is responsible for criminal investigations, case follow-up, providing support for the Patrol Division, management of the Automated Traffic Enforcement (ATE) project, and acting as liaisons between the Windsor Heights Police Department and other agencies, including prosecutors. This list is not inclusive of all duties of the Support Services Division, but rather gives insight into the primary tasks this division undertakes regularly.

Two of the members assigned to Support Services are investigators who follow-up on open cases, respond to assist patrol with calls for service, cover patrol shifts during staffing shortages and approve ATE violations. The two investigators rotate serving as a point of contact for after-hour needs so an investigator is always available to assist with investigations. Investigators are regularly called out to assist with death investigations, complex investigations, criminal follow-up, and search warrant preparation and service.

During the FY18 fiscal year, investigations was responsible for 314 hours of patrol coverage during periods of staffing shortages. This number does not represent the time investigations spent as a backup officer, but rather actual time spent as the primary officer for the City.

Investigations averaged 36 cases open per month, with an additional 6 cases assigned to investigations, on average, each month. Throughout the FY18 year, investigations cleared an average of 9 cases per month and another 3 cases per month were classified as inactive due to a lack of information to continue follow-up.



In addition to covering patrol shortages and assisting with follow-up and complex investigations, the two investigators are the primary personnel assigned to review ATE violations. Four patrol officers are also trained to review violations, and two of those assist with reviewing violations during their shifts. Most calls related to ATE violations are received

during business hours and the two investigators currently field those calls as well. Each of the 44,842 ATE citations issued in 2017 were reviewed by a sworn officer prior to the citation being issued to ensure validity. A significant number of staff hours are expended on reviewing the ATE violations, and those hours are not included in the statistics above as prior to June of 2018, those times were not tracked.

Captain Meyer, the Support Services Division Commander, is responsible for supervision of the investigators as well as the department records clerk. Captain Meyer is part of the department command staff and acts as the duty Chief in the absence of the Public Safety Director. Additionally, Captain Meyer performs the majority of the information technology functions concerning networking, computer operation, problem solving, and hardware updates for the entire City infrastructure.

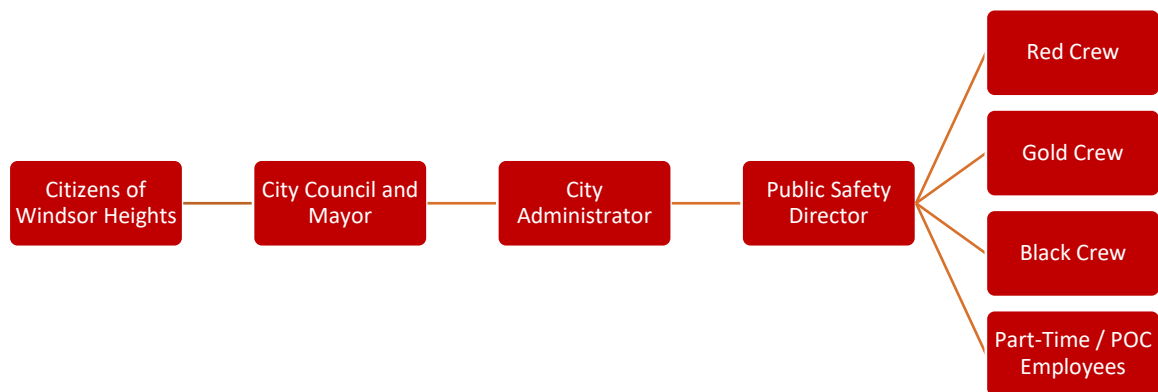
The department currently has one records clerk. In the recent past, two records clerks were present and the reduction of one has placed a huge burden on the records sections. The records clerk is responsible for answering the main department phone lines, assisting citizens who come into the Public Safety building during business hours, data entry of all cases and citations issued by Police Officers, data entry related to court dispositions and subpoenas for witness testimony, and acting as an office manager for the department. As a result of staffing only one records clerk, data entry of cases, arrests, and citations has fallen behind due to the records clerk not having the ability to keep up with all the duties previously completed by two personnel. In addition, when the records clerk is absent, or on vacation, sworn staff and command staff must fill in to ensure those who come to the police department for various reasons (copies of reports, fingerprints, paying fines, etc.) are serviced in an efficient and effective manner – stretching already stressed resources even further. Time spent on these tasks were not being tracked in the past and are not part of the above committed time matrix provided in this report.

RECOMMENDATIONS – POLICE DEPARTMENT:

1. As outlined using multiple studies above, the Windsor Heights Police Department is understaffed by a minimum of two officers. As a result of this study, it is recommended the fourteenth (14th) sworn position that was authorized in FY17 be reinstituted and that position be filled as soon as possible. A significant part of the cost associated with this position would be offset by the reduction in overtime. A fifteenth (15th) position needs to be part of a short-term plan to bring staffing levels to the minimum suggested by the research.
2. A second records clerk position needs to be filled as soon as possible to help with efficiency and alleviate the workload on the current records clerk. While this position is part of the budget amendment for FY18, the position is only funded through June 30, 2019 and this position needs to be a permanent position going forward.

FIRE DEPARTMENT

The Windsor Heights Fire Department provides 24-hour, fire and ambulance coverage to the City of Windsor Heights, meeting the requirements of Iowa Code 364.16. The mission of the Windsor Heights Fire Department is to improve the quality of life and safety of our citizens by providing the highest level of customer service through Fire Prevention, Community Risk Reduction, Emergency Response, and Training. The goal of the Fire Department is to prevent incidents of fire within the community, respond to those in need of medical and fire assistance, and continue striving to maintain the exceptional Insurance Service Office rating the City enjoys which translates to lower insurance rates for our residents.



CURRENT WINDSOR HEIGHTS FIRE DEPARTMENT ORGANIZATIONAL CHART

The Fire Department serves many roles within the community. These roles include responding to medical emergencies, responding to fire emergencies, performing life safety inspections on rental properties throughout the City, performing inspections on commercial properties throughout the community, and conducting fire education and prevention activities.

The Windsor Heights Fire Department currently employs five full-time staff members, two of which are certified as Paramedics and three of which are certified as Emergency Medical Technicians (EMT's). It is critical to note Paramedic level certified personnel can administer medication to those in need and perform advanced life support measures where EMT's cannot. With the aging population, injuries are more common and, in order to effectively treat many injuries, a Paramedic must be on site. For example, a fall victim who fractures their hip will likely experience excruciating pain. If a Paramedic is not on scene, no pain medication can be given to help alleviate the pain. In addition to the pain, the person could experience more severe medical problems, such as shock, if not properly treated. These examples highlight the need to staff full-time Paramedic certified personnel on all three Fire Department shifts.

In addition to the five full-time staff members, the Fire Department currently has fourteen part-time staff members, six of which are Paramedic level certified. Part-time staff members help cover gaps in scheduling. Due to the reduction of one Paramedic recently, the Fire Department has relied heavily on the Part-time staff members to ensure maintained Paramedic coverage. Also important to note, Part-time staff members have full-time jobs with other organizations and relying on them for regular shift coverage is not sustainable.

Finally, the Fire Department enjoys the assistance of fifteen paid-on-call staff members. These members are all trained to a level of Firefighter I and Firefighter II in-house, by our personnel, at a significant cost savings to the community versus paying for training. These personnel respond to calls for service and support the full-time and part-time cadre of personnel to ensure the Fire Department is able to function effectively and efficiently. Paid-on-call staff are paid based on their response to individual calls and they are paid for training time. Paid-on-call staff members rate of pay is based on the certifications each member holds.

Currently, the Windsor Heights Fire Department is staffed by one (1) Paramedic and one (1) EMT on two of three 24-hour shifts. The other 24-hour shift is staffed by a full-time EMT only, with part-time and paid-on-call personnel covering staffing needs on the third shift. In addition, during daytime hours, the Windsor Heights Fire Department has one (1) additional part-time member on duty the majority of the time for a total staff on-duty of three (3) per day.

The full-time staffing model for the Windsor Heights Fire Department should be more centered around Ambulance/EMS care or coverage than around actual firefighting coverage due to the incidents of EMS runs versus actual fire calls. A minimum of two personnel are necessary to operate the Ambulance. One person is required to drive the ambulance and a minimum of one more person is required for cases where the patient requires transportation to a medical facility. Operating with less than two members on-duty is not sufficient nor practical.

In contrast, the call loads and call types do not support a third position being filled 24-hours per day. While a minimum of three people are necessary for actual firefighting operations, the number of actual fires do not support three full-time personnel on a regular basis. In the case of an actual fire, automatic mutual aid is part of a standard response, and call back of personnel is in place to affect more resources for the incident. While these resources are not at the station when the call comes in, they can be deployed to the scene within a reasonable amount of time.

Another consideration for additional staffing stems from multiple calls for service taking place at the same time. During the FY18 (July 1, 2017 through June 30, 2018) timeframe, there were seventeen (17) occurrences where two simultaneous incidents occurred during the same period of time, accounting for less than 3% of all incidents requiring a Fire Department response. Three (3) occurrences resulted in three or more simultaneous incidents occurring during the same period, a total of less than 0.50% of all incidents. During the FY18 timeframe, \$130,135.07 was expended on part-time employees from the Fire and Ambulance/EMS budgets. This number could be reduced by staffing the third full-time paramedic and adjusting the number of hours part-time personnel are required to cover full-time shifts. This number will not be completely eliminated, as the part-time and paid-on-call personnel are critical to help with coverage from vacation, training, sick leave, etc., as well as necessary part-time and paid-on-call training expenses.

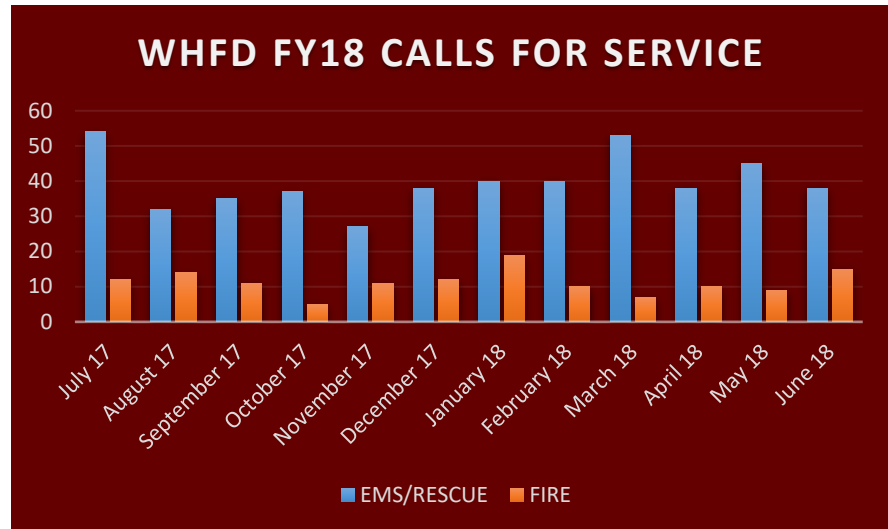
National Fire Protection Association (NFPA) Code 1720 sets the standards for the minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by volunteer and combination (career and volunteer) fire departments. The City of Windsor Heights population density is estimated at 3,447 residents per square mile and NFPA 1720 categorizes this density as "Urban."

To meet NFPA 1720 requirements, a minimum of fifteen (15) staff members need to respond to the initial full alarm assignment to a structure fire in a typical 2000 square foot, two-story, single-family dwelling, without a basement, and with no exposures, to provide full support to the operation. This number includes those responding from the Windsor Heights Fire Department, as well as automatic aid assignments for such incident. The NFPA 1720 required response time to get the fifteen members on scene is 9 minutes and this standard must be met 90% of the time for compliance. In addition, NFPA 1720 requires the fire department to have the capability for sustained operations, including fire suppression; engagement in search and rescue, forcible entry, ventilation, and perseveration of property; accountability for personnel; the deployment of a dedicated rapid intervention crew (RIC); and provision for support activities for those situations that are beyond the capability of the initial attack.

Iowa Code 132.8 requires a service program seeking ambulance authorization to apply for authorization at the level requested and states the department shall, "maintain an adequate number of ambulances and personnel to provide 24-hour-per-day, 7-day-per-week coverages." The section continues to state the number of ambulances and personnel to be maintained shall be determined by the department, and shall be based

upon, but not limited to the number of calls for service, service area and population, and availability of other services in the area. Furthermore, the Code requires a minimum of one currently certified EMT-B or EMT and one currently licensed driver trained in CPR. Subsection “g” of the Code requires a service program seeking

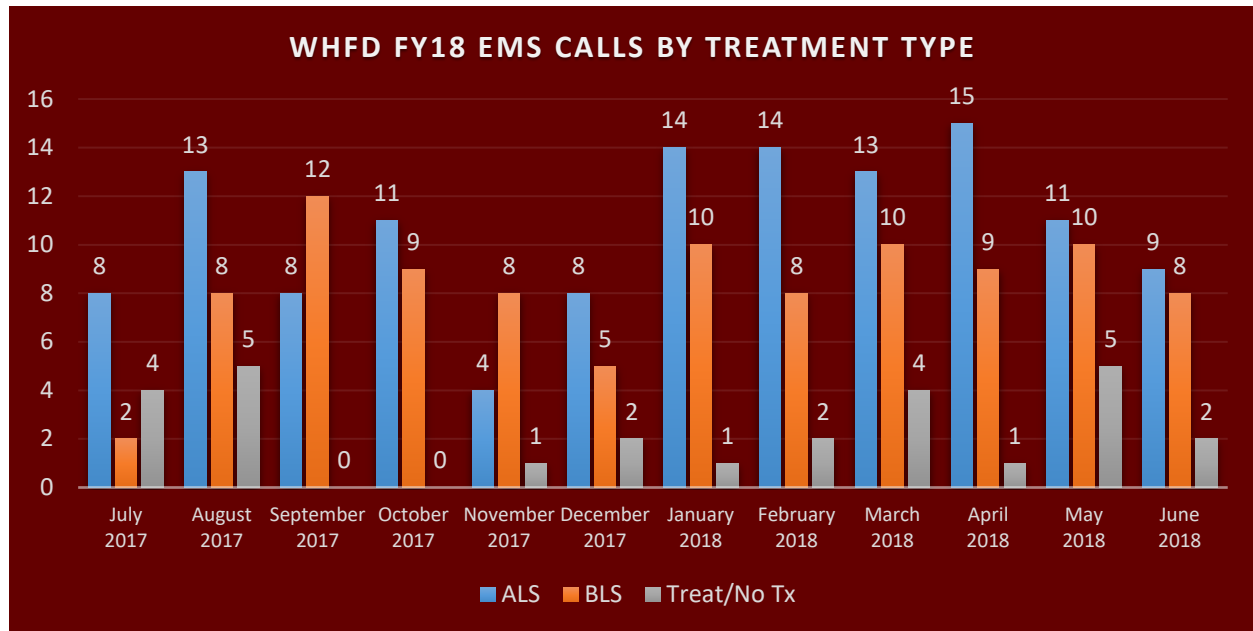
ambulance authorization shall, “only advertise or otherwise imply or hold itself out to the public as an authorized ambulance service only to the level of care maintained 24 hours per day, seven days a week.”



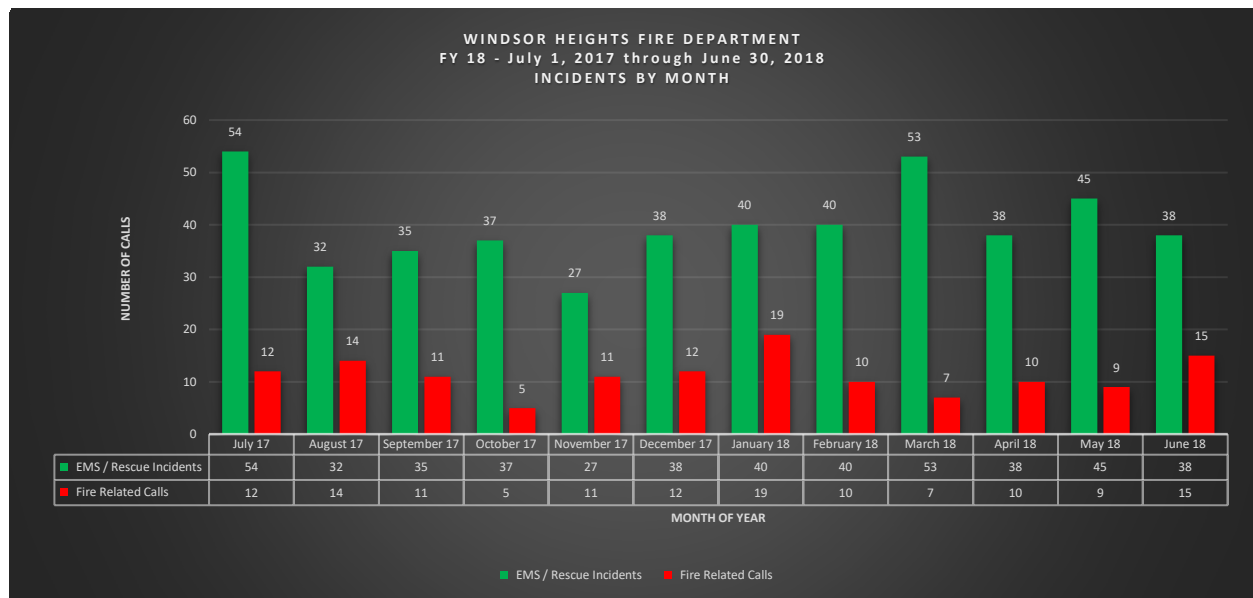
During the FY18 year, the Windsor Heights Fire Department responded to a total of 612 calls for service. Seventy-eight percent of all calls for service were EMS/Rescue related incidents, while twenty-two percent of calls for service were fire related calls. Fifty-percent of the EMS calls the Windsor Heights Fire Department responded to required Advanced Life Support measures and/or medication, while thirty-nine percent of the calls only required Basic Life Support measures. The remaining eleven-percent of calls were “treat and no transport” calls where the Fire Department conducted assessments or assisted residents but the patient was not transported to a medical care facility.

Delivery of excellent patient care is a goal of the Windsor Heights Fire Department, but also important to note are the stiff regulations on EMS/Ambulance operations. As noted by Citygate, “Unlike other aspects of firefighting, EMS care is heavily regulated and burdened with mandated oversight requirements. All of these requirements, while medically necessary, add to the [City’s] overhead cost to provide EMS. The [City] has no choice but to follow laws and regulations related to training, clinical oversight, data for tracking trends in care and paramedic skills, shelf-life of medical supplies, biomedical equipment certification, controlled drug tracking, etc.”^{iv}

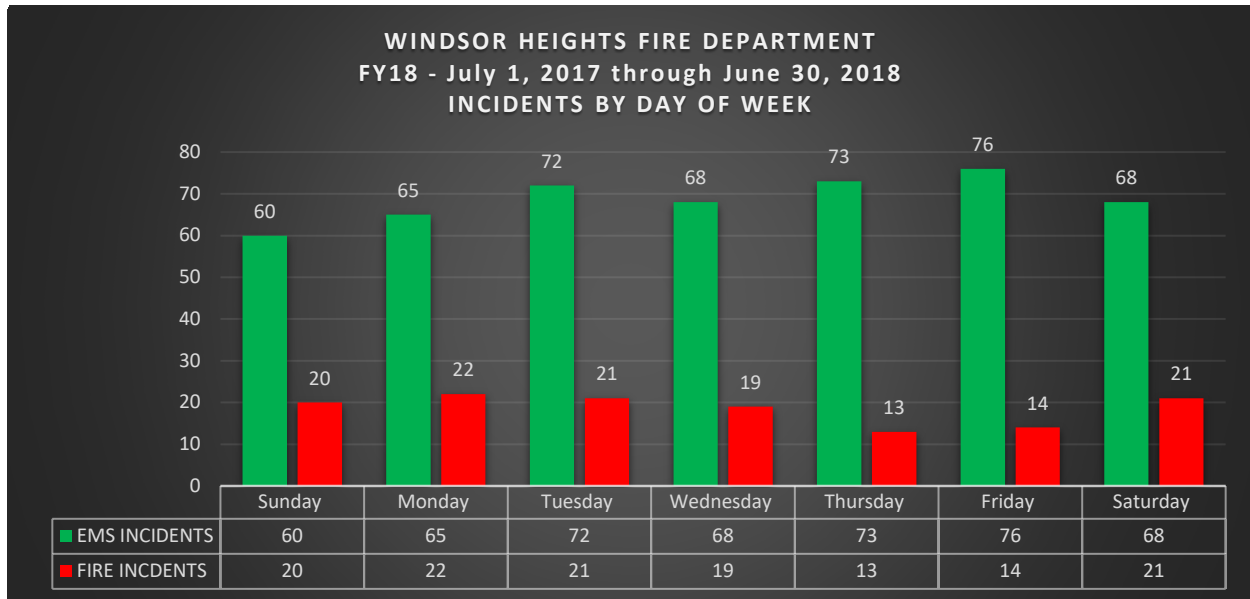
Throughout FY18, of the 254 billable Ambulance responses, 50.39% of those billable responses required Advanced Life Support (ALS) measures, 38.98% required only Basic Life Support (BLS) measures, and 10.63% were billed as treatment provided / no transport. In addition to the billable Ambulance responses, 171 responses were not billable and included responses such as motor-vehicle accidents with no patients, lift assist calls, and other no-patient responses.



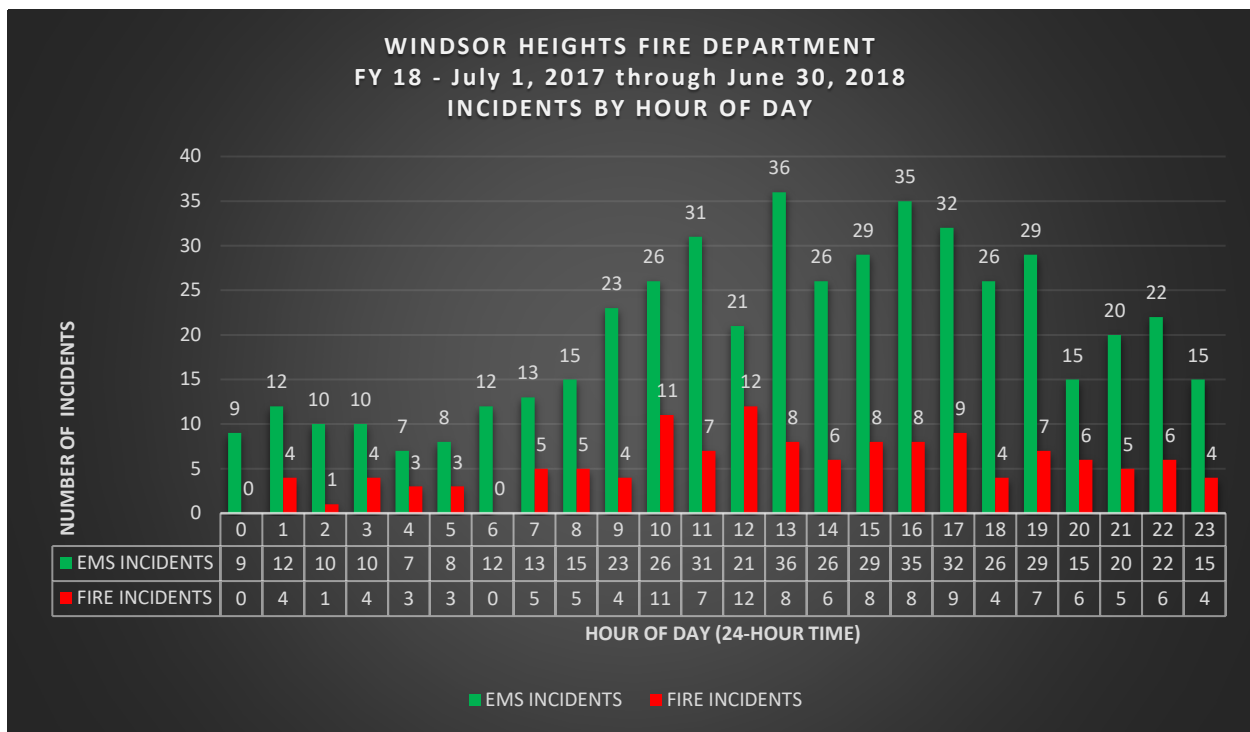
WHFD AMBULANCE SERVICE LEVEL COMPARISON



WHFD INCIDENTS BY MONTH – FY 18



WHFD INCIDENTS BY DAY OF WEEK – FY 18



WHFD INCIDENTS BY HOUR OF DAY – FY 18

A question with the Fire Service arises surrounding what the maximum utilization percentage of a firefighting unit should be. Various industry studies, including the *Carpinteria-Summerland Fire Protection District* study completed by Citygate Associates in July of 2016, discuss utilization percentages.

“During the 9-hour daytime work period, when crews on a 24-hour shift need to also pay attention to apparatus checkout, station duties, training, public education, and paperwork, plus required physical training and meal breaks, [Citygate] believes the maximum commitment UHU (Unit-Hour Utilization) per hour should not exceed 30%. Beyond that, the most important element to suffer will be training hours^v.”

In May of 2016, Fire Engineering Magazine published an article discussing UHU analysis. “The one common denominator throughout much of the research is the term “utilization.” Unit Hour Utilization (UHU) is a general term you may know. Unfortunately, it is used to refer to many methods for analysis. UHU, in its proper form, is not appropriate for our industry’s decision makers when considering average call lengths and per-hour call rates. Since we don’t respond to average calls and are probably not attempting to break hourly records, UHU is not the answer. To distance ourselves from averages, numbers of incidents, transport-only analysis, and private industry profit goals, we needed something easy and effective.^{vi}”

Furthermore, the Fire Engineering article suggests, “The basic answer is found in unit commitment, somewhat similar to utilization. We can determine how busy we are by analyzing our unit utilization through querying our total commitment. We simply divide the total seconds (yes, we’re counting seconds here) a unit is assigned to all calls by all the seconds in a year. With some easy math, the “commitment factor” is revealed.”

Fire Engineering cited a study involving Henrico, Virginia’s fire department and analyzed direct community impact of the commitment study based on travel time data and identified where and when are benchmarks consistently missed when compared to commitment factors. The benchmarks noted below were identified:

- 0.16 – 0.24 – “Ideal Commitment Range”
- 0.25 “Indicates System Stress”
- 0.26 – 0.29 – “Evaluation Range resulting in delayed incident responses”
- 0.30 “Line in the sand : not sustainable : commitment threshold when community see’s less than a 70% chance of timely emergency service and immediate relief is vital.

The benchmarks noted by the Fire Engineering article match the Citygate opinion that maximum commitment should not exceed 30%.

In calculating the commitment for the Windsor Heights Police Department, actual times spent on calls for service are only available after December 27, 2017 when the reporting software used transitioned to ImageTrend. Software used prior to ImageTrend has no reporting support without renewal of a subscription.

Throughout the first six months of 2018 (January 1 through June 30, 2018), the Windsor Heights Fire Department responded to a total of 306 calls for service. Total time spent on calls during this time frame was 247 hours, 41 minutes, and 19 seconds. Using the commitment calculation resources were committed for 14,850 minutes, or an average of 53.04 minutes per call. This puts the commitment at 5.6507%. If these numbers are used to estimate annual commitment, the annual unit hour commitment becomes 6.18%. These commitment times are well below the 25% metric indicating system stress.

Average various response metrics from Fire Department data from December 27, 2017 through June 30, 2018 are listed below. Prior to December 27, 2017, the Fire Department was utilizing a different software vendor (Firehouse) and that software does not have a report displaying similar data. Attempts to extract the data from the company would require a service contract renewal, thus the data below being reported only for the December 27, 2017 through June 30, 2018 timeframe. All data below is reported in minutes.

Average Time Notified to Enroute	Average Time Enroute to Arrived	Average Time Arrived to Left Scene	Average Time Left Scene to Destination	Average Time Unit Arrived to Back in Service
1.63 min	3.03 min	16.51 min	11.57 min	25.08 min

The NFPA Standard 1710 recommends a 4-minute or less travel time, 90% of the time, goal in urban and suburban areas. Currently, the Windsor Heights Fire Department average is 3.03 minutes, well within the NFPA standard.

In addition to maintenance of the station and equipment, fire prevention activities, training, and responding to calls for service, the Windsor Heights Fire Department is responsible for annual inspections on all rental properties throughout the City and they conduct commercial property fire inspections. These rental inspections are performed with a focus on life safety issues and are designed as another means to keep residents safe. While conducting the rental inspections, WHFD personnel also note any other City Code violations, including nuisances, and the WHFD team then works with the Planning and Zoning Official to ensure those items are resolved. During the FY18 timeframe, the WHFD team conducted a total of 160 rental inspections.

Each rental inspection requires approximately 30 minutes, which adds an additional 2400 minutes to the time resources are committed to a task. With the addition of the rental inspection duties, Fire Department unit hour commitment rise to 7.17%.

A total of 264 commercial facility inspections were conducted during FY18 by the WHFD team. These inspections are often required by law and the insurance companies providing insurance to the property. The inspections ensure life safety items, such as smoke alarms, fire sprinkler systems, egress and exits and other considerations, are sufficient and functioning properly. The WHFD team also performs monthly inspections on all City owned facilities to ensure fire extinguishers are charged and ready in case of a fire.

Commercial fire inspections average 45-minutes per inspection. Similar to rental inspections, commercial fire inspections add a total of 5940 minutes resources are committed to a task. With commercial and rental inspections, unit commitment climbs to 9.64%, still well under the 16% to 24% ideal commitment range cited by Fire Engineering.

Commercial plan review is the final piece of the fire inspection process. Commercial plan reviews take place when a business is building, remodeling, or renovating space and commercial plan reviews ensure the facilities meet Fire Codes adopted by the City. These reviews include occupancy ratings, detailing how many people can safely fit in a space, as well as ensuring proper equipment is in place (such as smoke alarms, fire sprinklers) in case of a fire.

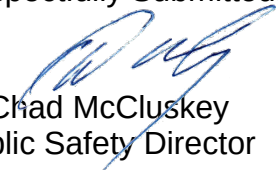
Training of Windsor Heights Fire Department personnel is primarily handled in-house, at a considerable cost savings to the City. All new personnel, who are not already certified, attend basic training that prepares them to test for Firefighter I and Firefighter II level certifications. The WHFD training programs is one of the best in the metro area and other agencies regularly comment on the abilities of our personnel. Training includes medical/EMS training, classroom training, operations training, and we are fortunate enough to be involved in a partnership affording our personnel live fire training opportunities that many agencies do not the ability to facilitate on a regular basis. Training is typically scheduled for each Wednesday, and basic / new hire academies are scheduled as needed. All fire personnel are trained in First Aid/CPR/AED, Hazardous Materials Operational Level Responder, Blood Borne Pathogens, Firefighter I and Firefighter II at a minimum.

RECOMMENDATIONS – FIRE DEPARTMENT:

1. In order to continue to provide emergency medical care to the community, as noted several times throughout this report, Windsor Heights must staff a minimum of 2 people per shift, with at least one of those being a Paramedic level trained member. While fire calls do not support staffing of 6 full-time employees, no less than 2 per shift is required in order to ensure EMS coverage to the citizens. It is therefore recommended that the third Paramedic full-time position be reinstated and this position has been planned in the Public Safety Director's FY20 budget proposal.
2. A reduction in part-time hours could serve to fund part of the full-time Paramedic position, however part-time hours are still necessary to ensure coverage for sick leave, vacation, training, and other times when one member of the 2-man crew is absent from duty. The FY20 budget plans for a reduction in part-time coverage from 12-hours each day of the year, to 8-hours each day of the year – reducing the part-time staffing by 33%. The 8-hour part-time shifts will be scheduled to cover during the times of greater call volume.

3. The Fire Department needs to be staffed with a first line supervisor/manager. This position cannot operate effectively on a 24/48 schedule as 2 of the 3 shifts operate without frontline supervision. The Fire Department needs to have one supervisor who works business hours and is responsible for the day-to-day operations of the department and management of Fire Department personnel. The Public Safety Director is currently the only supervisor for the Fire Department. The recommendation is this person be the rank of Captain and operate as a Deputy Fire Chief, second in command to the Public Safety Director. This position needs to be considered in the short-term strategic planning for the City.
4. Analysis needs to be completed on the current Fire Department training methodology and scheduling. Many members have noted training each and every Wednesday night takes a toll on members who already must balance their time between work and home life. Identifying efficiencies in the training schedule could help alleviate some of the burden put on members, while maintaining the high training standards we currently enjoy. This analysis is currently in progress.
5. Finally, a daily schedule of duties needs to be implemented to ensure structure among each shift in the Fire Department and to ensure sharing of duties, such as rental inspections, commercial inspections and vehicle maintenance. As demonstrated above in the numbers of inspections being completed, it is important for all members to be properly trained and for these duties to be schedule across shifts to ensure a balanced workload. A daily schedule would also allow much needed structure to the workday of the Fire Department personnel. This recommendation is also already in progress.

Respectfully Submitted,



E. Chad McCluskey
Public Safety Director

ⁱ Citygate Associates, LLC *Comprehensive Services Delivery and Staffing Review*, City of Eloy, Arizona, November 22, 2016, p59.

ⁱⁱ ICMA Center for Public Safety Management, *Walterboro, South Carolina Public Safety Department Analysis*, July, 2013, p58-59

ⁱⁱⁱ City of Nixa, Missouri, *2015 Staffing Study*, p2-4

^{iv} Citygate Associates, LLC *Standards of Response Cover and Headquarters Staffing Adequacy Study*, Carpinteria-Summerland Fire Protection District, California, July 27, 2016, p66

^v Citygate Associates, LLC *Standards of Response Cover and Headquarters Staffing Adequacy Study*, Carpinteria-Summerland Fire Protection District, California, July 27, 2016, p43

^{vi} Fire Engineering Magazine, *How Busy is Busy*, May 1, 2016, <https://www.fireengineering.com/articles/print/volume-169/issue-5/departments/fireems/how-busy-is-busy.html>

Facilities Study for the City of Windsor Heights
Public Works Maintenance Garage and Salt Storage Shed



W I N D S O R
H E I G H T S
the heart of it all

Completed by:
SVPA Architects Inc.
Tometich Engineering
Twin Rivers Engineering Consultants



www.svpa-architects.com
Phone 515.327.5990

1466 28th Street, Suite 200
West Des Moines, Iowa 50266

Project: #18037 Windsor Heights Public Works Facilities Assessment

July 24, 2018

SVPA Architects has been retained by the City of Windsor Heights to complete a facility study of the Public Works Maintenance Garage and Salt Storage Building. The purpose of this study is to provide the City with an accounting of the strengths and weaknesses of the facility that can be used as a resource to determine how funds should be spent on this building. This evaluation is the first step in the process by the City in development, alterations and updates to the existing facilities.

Facilities Study of Public Works Maintenance Garage and Salt Storage Shed.

Maintenance Garage:

Original Building: Approx. 8,610 SF with garage(S-1) and office spaces(B).

Construction Type: Type-V, unsprinkled.

Condition: Average-Poor condition

Utilities: Natural gas, electric



www.svpa-architects.com
Phone 515.327.5990

1466 28th Street, Suite 200
West Des Moines, Iowa 50266

Project: #18037 Windsor Heights Public Works Facilities Assessment

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>
1. Structural Assessment	4
2. Mechanical Assessment	11
3. Plumbing Assessment	14
4. Fire Protection Assessment	16
5. Electrical Assessment	17
6. Architectural Assessment	19
7. Additional Information	36
8. Executive Summary	39

Project: #18037 Windsor Heights Public Works Facilities Assessment

1. STRUCTURAL REVIEW

The purpose of this investigation was to investigate the cause and assess the extent of damage to the building. The scope of our investigation included the following:

1. Obtained background information from Thad Long and Ron Paskach of SVPA.
2. Site review of the property on April 29, 2018, photographs were taken.
3. Reviewed plans prepared by Woodburn and O'Neil Architects dated September of 1980.
4. Preparation of a written report of our findings.



1. View from the northeast



2. View from the northwest



3. View from the southeast



4. View from the southwest

Project: #18037 Windsor Heights Public Works Facilities Assessment



5, 6. Views of block distress



7, 8. Views of block distress

Results of Investigation:

There are two buildings that are the subject of this report. The first building is the maintenance shed measuring 122'-8" x 70'-4" and the second building is the salt storage shed which measures 29'-8" x 40'-0". Both buildings were constructed at the same time with basically the same techniques. The footings are of poured concrete and the foundation wall is of reinforced concrete block that is 8' high. The structure is a premanufactured metal building with a steel moment frame with purlins and girts supporting the corrugated metal siding and roofing panels. There is a wood framed mezzanine that is identified in the drawings as capable of supporting 125#/sf (this needs to be posted for OSHA).

The concern with the building is that the salt has deteriorated the concrete block, the concrete floors and the metal in some portions of the buildings. The salt storage shed has severe deterioration, the maintenance building has many areas of deterioration.

Project: #18037 Windsor Heights Public Works Facilities Assessment



9, 10. Views of efflorescence



11, 12. Views of interior mezzanine



13, 14. Views of mezzanine

Project: #18037 Windsor Heights Public Works Facilities Assessment



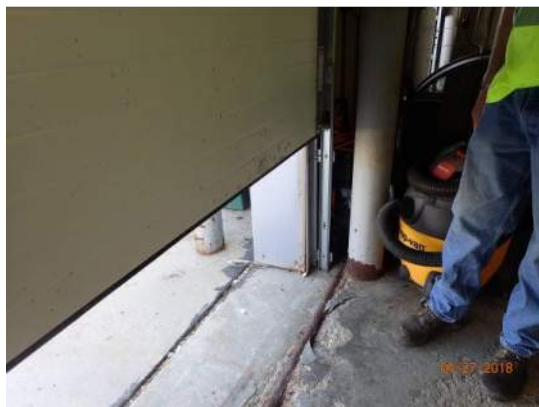
15, 16. View of second mezzanine



17, 18. Overview of shop



19, 20. View of concrete in need of repair



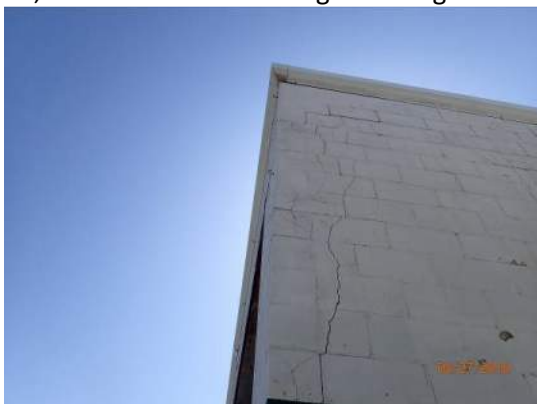
Project: #18037 Windsor Heights Public Works Facilities Assessment



21, 22. Views of salt storage building



23, 24. Views of salt storage building



25, 26. Views of masonry distress

Project: #18037 Windsor Heights Public Works Facilities Assessment



27, 28. Interior views of masonry distress and steel rusting



29. View of damage at base



30. Overview

Evaluation and Assessment:

The maintenance building has numerous areas of concern. Most of them are related to deterioration due to salt. The first is the concrete block. There is efflorescence (salts leaching through the block) in many areas. The potential concern is that the salts are also rusting the reinforcing steel inside of the block. There is "crazing" (numerous hairline fractures) of the block. At this point it does not appear that the block is failing, but the slow deterioration will eventually lead to more severe problems. The block could be cleaned and sealed to extend its life.

The balance of the side walls is corrugated steel siding. The steel siding and steel framework appear to be in good condition for their age. It does not appear the salt has affected it as much as the masonry. The steel columns in the center of the building have rust at the base. This will need to be sandblasted and re-painted. Consideration for a concrete protection bollard should be reviewed to protect both the structure and the finish.

Project: #18037 Windsor Heights Public Works Facilities Assessment

The wood framed mezzanines appear to be in good condition. The mezzanines did not appear to be load rated as required by OSHA, but the drawings indicate they have a 125#/sf capacity. The landing of the stair did not appear to have a 4" toe kick.

The floor of the building is in poor condition. The salts have eaten the surface of the concrete. There are many areas where the pitting of the concrete is present, especially at the overhead doors. The floors do slope to the middle and there is a trench drain that collects the salt-laden water. There are significant cracks radiating from these locations. An epoxy topping could be added to the floor or the floor could be removed and replaced.

In general, the maintenance building needs some improvements but can be economically salvaged. The salt storage building has significant deterioration in many areas. The roof framing has been compromised by rusting of the steel framing members. The roof will continue to rust and will eventually be close to collapse. The sidewalls also have significant signs of deterioration, especially on the north side. There are many cracks in the masonry block. The block will continue to deteriorate as it continues to be exposed to salt and weather. The building will most likely be more expensive to repair than to replace.

Conclusions:

Based on the results of our investigation, the following conclusions would appear to be warranted.

1. The maintenance building needs some improvements but is economically salvageable.
2. The salt storage building should be demolished and replaced.

Our conclusions are based upon the information made available to us at the time of our investigation. Should additional information be uncovered or made available, we retain the right to revise or supplement our report accordingly.

Project: #18037 Windsor Heights Public Works Facilities Assessment

2. MECHANICAL REVIEW

Heating

The building is heated with the use of gas-fired equipment. The maintenance bays are served by multiple Reznor gas-fired unit heaters. These unit heaters are original to the building that was constructed in 1983. The last time these units were serviced, the technician noted that some of the heaters are leaking flue gases, likely from the heat exchangers. At 35 years of age, these units are well past the average service life for this type of equipment and should be scheduled to be replaced. Stratification in the work bays is another observed issue in the summer and winter. Temperatures on the mezzanine are significantly higher than they are on the floor. Destratification or ceiling fans can be added to provide circulation and maintain more consistent temperatures in the bays. This will also circulate the warm air at the upper portions of the bays down to the floor where it can be beneficial for the occupants and reduce run time on the equipment.

The office is heated with a Goodman high efficiency, gas-fired furnace that is located up on the mezzanine. The furnace was installed in 2013 to replace the original. This unit has another 8 to 10 years of service with good maintenance and could continue to be utilized if no significant changes to the administrative areas are made that would affect heating loads. Duct is routed from the mezzanine down to the offices below. Exposed spiral ductwork is routed to the individual rooms. Return air is routed below the floor slab. It is common for underground ductwork to corrode over time. It would be recommended to camera the existing below slab ductwork to determine the continuity of the ductwork. If the ductwork has failed this is often a pathway for water to collect inside the ductwork.

A small electric unit heater is installed in the kennel area.

Recommendation: Replace Unit Heaters in Maintenance Bays

1. Remove and replace the existing gas-fired unit heaters in the maintenance bays with gas-fired infrared radiant heaters.
2. The estimated construction budget cost for new gas-fired infrared heaters is \$30,000 to \$40,000.

Cooling Plant:

The office, break room, sign shop and locker room areas on the west side of the building are air conditioned utilizing a direct expansion (DX) coil installed on the furnace. Refrigerant piping is routed to a 3-ton Goodman air cooled condensing unit that is pad mounted at grade on the southwest corner of the building. The DX coil was installed when the furnace was replaced. The condensing unit was salvaged from another building. The condensing unit was manufactured in 2004. With 14 years of service between the public works building and its previous installation, it is nearly the end of its normal service life.

A through wall air conditioner is installed for conditioning of the kennel area.

Recommendation: Destratification Fans and Controls in Maintenance Bays

Project: #18037 Windsor Heights Public Works Facilities Assessment

1. Add destratification fans and automatic controls in the maintenance bays.
2. The estimated construction budget cost for destratification fans and controls is \$12,500 to \$15,000.
3. Replace air cooled condensing unit and refrigerant piping for the furnace system serving the office area.
4. The estimated construction budget cost for a new condensing unit and refrigerant piping is \$5,000 to \$7,500.

Ventilation Systems:

No ventilation air is provided to the furnace system serving the offices. Providing ventilation air to meet current code requirements and ventilation standards will improve the indoor air quality for the office area. Providing some tempering through an energy recovery unit will allow ventilation air to be provided without adding any additional load to the existing furnace and maintain mixed air temperatures into the furnace above the manufacturer's requirements for the heat exchanger. Restroom and locker room exhaust can be ducted through the energy recovery unit to temper the incoming ventilation air.

Ventilation in the work bays is provided with exhaust fans located on the roof that are manually switched. With vehicles being moved in and out of the bays and the potential for vehicle exhaust emissions into the work bays, a carbon monoxide/nitrogen dioxide detection control panel and sensors should be provided to monitor CO and NO₂ levels and purge the work bays of any vehicle exhaust fumes.

The restrooms and sign shop are provided with exhaust fans and ductwork for exhausting these spaces with individual exhaust fans control with a wall switch. At the time of the walk through the exhaust appeared to be adequate.

A gas range is being used in the break room. A hood with fire suppression should be considered over the range to remove heat, cooking smoke and vapors. Fire suppression may be required by the local authority with this being used in a commercial building.

A ducted vehicle exhaust system is installed in the west work bays. The utility set fan no longer operates and the system has not been used in several years. Another utility set fan is mounted next to the vehicle exhaust fan. It appears this may have been used at one time for welding exhaust. For the extent the vehicle exhaust has been used, the best option may be to remove the system and use openings in the overhead doors if maintenance is necessary on running vehicles. A new welding exhaust fan and movable arm are recommended for any welding work.

Recommendations

Ventilation Improvements – Office

1. Add minimum required ventilation air to the existing furnace system serving the offices with the use of an energy recovery unit. The energy recovery unit would also be used to exhaust the building to maintain the proper pressure relationship in the building. Exhaust would be taken from the building at the restrooms and locker rooms with a need for general exhaust. New

Project: #18037 Windsor Heights Public Works Facilities Assessment

ductwork is required to extend building exhaust to the energy recovery unit and fresh air to the return air duct on the furnace. The exhaust removed from the building would be utilized to temper the raw outside air by transferring energy through an energy recovery core. This approach is a very energy efficient method for providing ventilation for the building.

2. The estimated construction budget cost for adding an energy recovery ventilation system to the office furnace system is \$5,000 to \$7,500.

Ventilation Improvements – Maintenance Bays

1. Provide new exhaust fans, make-up air louvers and ductwork, and CO/NO2 controls and sensors for gas detection and ventilation controls in the maintenance bays.
2. The estimated construction budget cost for the ventilation system and controls is \$60,000 to \$80,000.

Return Air Duct Investigation and Replacement

1. Investigate the condition of existing return ductwork below grade with camera and replace with ductwork above grade as necessary.
2. The estimated construction budget cost for investigation and duct replacement is \$7,500 to \$10,000.

Replace Condensing Unit

1. Provide new air cooled condensing unit and refrigerant piping for the furnace system serving the office area.
2. The estimated construction budget cost for a new condensing unit and refrigerant piping is \$5,000 to \$7,500.

Range Hood with Fire Suppression

1. Provide a range hood with fire suppression for the gas range in the break room.
2. The estimated construction budget cost for a range hood with integral fire suppression is \$12,000 to \$14,000.

Welding Exhaust

1. Provide a new welding exhaust arm with integral fan in the maintenance bay.
2. The estimated construction budget cost for a new welding exhaust arm and fan is \$6,000 to \$8,000.

Temperature Controls:

The building temperature controls are served by a stand-alone heat-cool thermostat for the office area and heat-only thermostats for the gas-fired unit heaters. The thermostats do not have any night setback capabilities. Replacing the existing thermostats with programmable thermostats will provide some operational cost savings.

Recommendation: Programmable Thermostat for Furnace Controls

1. Provide programmable thermostat for the furnace system serving the offices.
2. The estimated construction budget cost for new programmable thermostat controls is \$200 to \$300.

Project: #18037 Windsor Heights Public Works Facilities Assessment

3. PLUMBING REVIEW

Domestic Water:

There is a 2-inch water service that enters the far west side of the work bays, under the stairs to the mezzanine. The service is provided with what appears to be a 1-inch meter. There is no backflow preventer on the water service. The water service size is adequate for the current fixture demand in the building.

Domestic water piping material appears to be copper as visually observed where pipe insulation has been removed.

A surge tank was added on the 2-inch service to address issues with water surge into the building when the fire hydrant to the north of the building was used. After the hydrant was shut off there was a water pressure surge into the building that caused the water heater to discharge and flood the rooms below the mezzanine. The surge tank has addressed the issue.

The domestic hot water is generated by a Ruud, 38 MBH gas-fired water heater with 40 gallons of storage. The hot water system does not include a recirculated loop or pump. Pipe lengths for hot water are relatively short and recirculation isn't necessary unless there is a need for quicker delivery of the hot water at the fixtures. The gas-fired water heater appears to have been installed in 2012 or 2013 based on the manufactured date of the water heater. The water heater is a standard efficiency unit. The heater has another 5 to 10 years of useful life based on an average water heater useful life span.

Sanitary Sewer:

The existing sanitary sewer for the building does not have any known issues. Trench drains in the work bays are extended to a sand/oil interceptor which is pumped out on a regular maintenance schedule. The trench drain grates are showing signs of deterioration. Replacement grates could be provided if desired.

Recommendation: Replace Trench Drain Grates

1. Provide new trench drain grates at the existing trench drain locations.
2. The estimated construction budget cost new trench drain grates is \$5,000 to \$7,500.

Plumbing Fixtures:

The plumbing fixtures throughout the building appear original to the building construction. Water closets are flush valve type fixtures. The west work bays have an emergency eye wash station. To meet current standards, tempered water should be supplied to the eye wash station. ADA accessibility requirements are not being met for the restrooms, emergency eye wash, or water cooler.

Recommendation: Plumbing Fixture Replacement for ADA

1. Provide new ADA compliant plumbing fixtures for the locker rooms and maintenance bays.
2. Provide a tempered water mixing valve for the emergency eye wash.

Project: #18037 Windsor Heights Public Works Facilities Assessment

3. The estimated construction budget cost for new plumbing fixtures is \$15,000 to \$20,000.

Pressure Washer:

A Hotsy pressure washer is installed in the west service bay. The unit has its own internal gas-fired heater. Consider creating a dedicated wash bay so electrical and mechanical in the wash bay can be water resistant and withstand the harsh environment of the wash bay.

Recommendation: Wash Bay Relocation

1. Relocate pressure washer to the new dedicated wash bay. Add dedicated exhaust for the wash bay. Provide new trench drains as necessary. Infrared heater for wash bay will be stainless steel construction.
2. The estimated construction budget cost for the wash bay relocation is \$40,000 to \$50,000.
3. Wash bay would be best located at the east end of the existing building if plumbing and drainage can be located which would be determined with additional calculations during schematic design.

Fluid Delivery System:

Fluid tanks are located on the mezzanine for motor oil, transmission fluid, grease, diesel fuel and rear end grease. Pneumatic pumps and piping transfer the fluid from the tanks on the mezzanine to hose reel locations in the west maintenance bay. Water and air are also provided at the hose reel locations. The fluid delivery tank storage location needs to be reviewed as it relates to hazardous material storage and secondary containment.

Compressed Air:

Shop air is provided by a reciprocating compressor located up on the mezzanine. The nameplate on the tank is dated 1967. The belt drive 5 hp motor appears relatively new. A new compressor will operate more efficiently and quietly than the current compressor. The compressed air pipe distribution is with black iron pipe. A 1-inch main is extended from the air compressor to the maintenance bays.

Recommendation: Replace Air Compressor

1. Provide new air compressor for the maintenance bays.
2. The estimated construction budget cost for installation of a new air compressor is \$10,000 to \$12,500.

Natural Gas Service:

The gas service and meter are located on the south side of the building. The gas service serves the domestic hot water heater, furnace, unit heaters, emergency generator, pressure washer and range in the break room. The service size and pressure are adequate for the current building needs.

Project: #18037 Windsor Heights Public Works Facilities Assessment

4. FIRE PROTECTION REVIEW

Fire Protection:

The building does not have a fire protection sprinkler system.

Recommendation

1. Provide a fire protection sprinkler system for the building. There may be some limitations in available flow and pressure to support a fire sprinkler system due to the 4-inch main that serves the fire hydrant to the north of the building. More extensive site survey information and flow and pressure test data will be needed to determine feasibility.
2. The estimated construction budget cost for a fire protection sprinkler system and water service is \$40,000 to \$50,000.

Project: #18037 Windsor Heights Public Works Facilities Assessment

5. ELECTRICAL REVIEW

Electric Service:

Power to the building is fed from a 50 KVA MidAmerican Energy pole mounted transformer. Secondary conductors are fed overhead from the transformer to a manual transfer switch located behind a desk in the office. The transfer switch is not readily accessible. The transfer switch feeds a main distribution panel on the mezzanine and a generator on the south side of the building. The service voltage is 120/240 Volt, 1 Phase.

Power Distribution:

The main distribution panel on the mezzanine level consists of 3 ITE panelboards mounted side by side. The first panel has a 225A-2P main circuit breaker and has sub-feed lugs to the second panel which has sub-feed lugs to the third panel. The panels feed all the lighting, receptacles and equipment within the building. There is physical space in the panels for additional circuits to be added. The equipment is original to the building and is in good condition for continued use.

Generator:

An Onan natural gas generator is located on the south side of the building. Natural gas is connected to MidAmerican Energy service. The generator is set up to serve the entire building via the manual transfer switch and is rated for 13.3KW at 120/240 Volt, 1 Phase. The generator is a hand-me-down from the fire department and is undersized to adequately serve the all the equipment within the building.

Recommendation

1. Reconfigure the electric service with replacement of the generator. The service would be fed overhead from the pole mounted transformer to a Service Entrance Rated automatic transfer switch located in a dedicated room on the northwest corner of the mezzanine level. The transfer switch normal power would be connected to the existing ITE main distribution panel described above. The transfer switch emergency power would be fed to a new 50 KW generator with sub-base fuel tank. The generator would be located on the front west side of the building to minimize the feeder circuit length and allow for easy refilling access. The size of the electric service and the generator would need to be revisited during design to assure they can accommodate mechanical improvements and any building additions.
2. The estimated construction budget cost for the reconfigured electric service with new generator is \$45,000 to \$55,000.

Lighting:

Interior lighting consists primarily of fluorescent type fixtures. The fixtures in the shop areas were upgraded about 5 years ago. These fixtures utilize 5000k T8 fluorescent lamps. The shop fixtures provide good light levels and are in good condition. The fixtures in the other areas of the building are original to the building and vary in condition from fair to poor.

Automatic lighting control systems were not observed.

Project: #18037 Windsor Heights Public Works Facilities Assessment

Site lighting consists of LED building mounted lights and a MidAmerican Energy parking lot light mounted to the transformer pole. The building mounted LED lights were recently installed and are in good condition.

Emergency egress and exit lighting appears to be in good condition.

Recommendation

1. The fluorescent light fixtures in the shop are suitable for continued use, however, they should be considered for an upgrade to LED type lighting. The lights in the remainder of the building should be upgraded to LED type lights.
2. The estimated construction budget cost for shop lighting upgrades is \$25,000. The estimated construction budget cost for lighting upgrades in the rest of the building is \$10,000.
3. Automatic lighting controls should be added throughout the building. The estimated construction budget cost range for lighting controls is \$4,000 to \$5000.

Fire Alarm System:

There is no fire alarm system in this building.

Recommendations

1. A fire alarm system will need to be added if fire protection sprinkler is added. The extent of the system could vary from minimum requirements to full automatic detection throughout the building.
2. The estimated construction budget for a fire alarm system is \$5,000 to \$20,000.

Intercom System:

There are 2 intercom speakers, one in each shop, that are tied into the phone system. The speakers and system are reportedly functional. No recommendations.

Voice/Data Cabling System:

The voice/data cabling system consists of a switch on the wall in the mezzanine area and a couple of CAT 5e data drops to the office and into the shops. The equipment and cabling are in good condition, however, internet service to the building is reported to be slow. No recommendations to the existing internal system is needed, the quality and speed of the internet service should be evaluated and improved for better overall performance and productivity.

Project: #18037 Windsor Heights Public Works Facilities Assessment

6. ARCHITECTURAL REVIEW

Maintenance Building:

Roof

The roof is a single slope metal roof that drains from north to south. The original screw down metal roof is still in place and is experiencing leaks at several locations. The original batt insulation is also in place and shows signs of water damage in more than half of its area. Several of the roof penetrations and curbs show signs or leaks either active or previously active. The gutters at the back of the building appear to leak at each of the seams. The downspouts appear to be in place and working. The downspouts empty on to splash blocks and the water is surface drained.

Critical Issues:

1. New roof is required.
2. A flute-fill roofing system would work best for this facility. It would add insulation and provide an 60 or 80 mil TPO membrane above that would be much less likely to leak.
3. The deeper insulation would require taller curbs.
4. Replace gutters and downspouts.

Exterior Walls:



North elevation



North elevation

Project: #18037 Windsor Heights Public Works Facilities Assessment



North elevation



NE corner



East elevation



SE corner



South elevation door



South elevation generator

Project: #18037 Windsor Heights Public Works Facilities Assessment



South elevation missing mortar



South elevation



SW corner condenser



SW corner



SW corner missing mortar



West elevation efflorescence

Project: #18037 Windsor Heights Public Works Facilities Assessment



West elevation efflorescence



West elevation efflorescence



West elevation efflorescence



West elevation efflorescence



West elevation rusted frame



NW corner efflorescence and missing mortar

The exterior walls consist of a lower painted concrete block section about 8 feet tall, and an upper pre-finished metal panels section. The lower concrete block section has several areas that are experiencing efflorescence. The building was constructed at a time when salt was added to mortar to allow masonry

Project: #18037 Windsor Heights Public Works Facilities Assessment

to be laid in cold conditions. The block itself also has salts present in the cement used to make the block. If water finds its way to the salts, the wall will experience efflorescence, which is water acting as a vehicle to carry the salts out of the block. This is then expressed as a white powder or haze on the face of the masonry materials. If water is present in the walls, several types of damage can occur and shorten the life of the building. The west walls especially are showing signs of water damage on the exterior of the building with failing mortar, cracks, efflorescence, rusted metal (window frames, lintels). The failed mortar joints will require tuck-pointing.

It may make sense to add brick or some other exterior to the CMU portion of the wall so that a more substantial weather barrier and insulation can be added between the brick and the existing block. This would make the building much easier to heat, cool and maintain.

Additionally, there are no expansion/contraction joints in the masonry or metal panels of the walls which can cause the walls to expand into the door and window openings when it gets hot. This can make it difficult to open and close doors, especially on the south facing walls.

The pre-finished metal panels above the concrete block appear to be in good to average condition. The problem is the flashing between the metal panels and the concrete block that was installed by the metal panel installer. The flashing wasn't installed to be water tight and is allowing water to leak into the concrete block. This is likely the cause of much of the efflorescence and rusted window and door frames. It is recommended to remove the existing flashing and install new flashing behind the metal panels with overlapping joints sealed with a butyl sealant that won't dry out. Additionally, a continuous layer of butyl sealant should be set below the flashing to make a continuous weather barrier that won't allow water to be wind-blown up behind. In addition to the water issues, it is likely that these walls will not meet the current energy code and if improvements are made to the building, the insulation value of the walls will need to be increased.

The overhead doors seem to be in good condition and the operators work well. If the exterior of the building is painted, it will probably make sense to paint these doors as well. Several of the hollow metal swing doors and frames are rusted and should be painted or replaced.

Critical Issues:

1. Flashing needs to be removed and new flashing installed.
2. Insulation behind the panels needs to be increased to meet code.
3. Efflorescence needs to be removed, treated and the walls repainted.
4. Replace rusted doors and windows

Project: #18037 Windsor Heights Public Works Facilities Assessment

Interior Ceilings:



West bays water damage



West bays water damage



West bays water damage



West bays water damage



East bay's water damage



East bay's water damage

Project: #18037 Windsor Heights Public Works Facilities Assessment



East bay's water damage



East bays water damage



East bays water damage

The interior ceilings consist of exposed Kraft-faced insulation and painted steel beams and purlins. This is a very typical finish for a utility building. Several areas of the ceiling insulation and structure have signs of water infiltration and damage. Some areas are much worse than others, but much of the insulation is damaged beyond the ability to just paint over it. If it is decided to add the flute-fill TPO roof system mentioned earlier, the insulation inside of the building could be removed and the metal panels above could be painted white. New white paint on the ceilings will spread light around the building better and reduce the number of fixtures needed.

Animal control room ceiling is a drywall ceiling and has water damage that will need to be repaired and painted.

The ceilings of the offices and locker room are drywall but only require small repairs and paint.

The ceilings of the shower/restroom are ACT and are in desperate need of replacement.

Critical Issues:

1. After roof leaks are addressed, upgrade and paint underside of roof.

Project: #18037 Windsor Heights Public Works Facilities Assessment

2. Repair and paint drywall ceilings.
3. Replace ACT ceilings in shower/restroom.

Interior Walls:



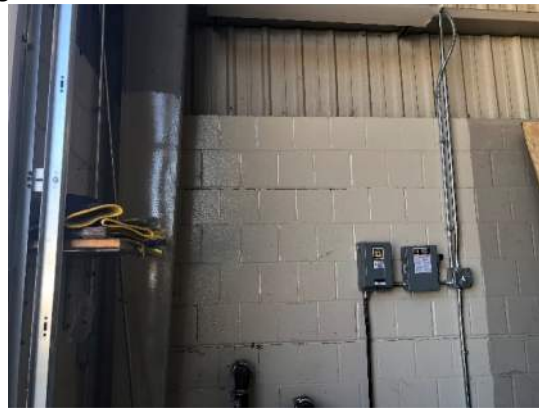
Dog cage rooms



dog cage room



Rusted frame in dog cage room



Wall cracks at SE corner



East wall efflorescence



South wall efflorescence

Project: #18037 Windsor Heights Public Works Facilities Assessment



South wall efflorescence



South wall efflorescence



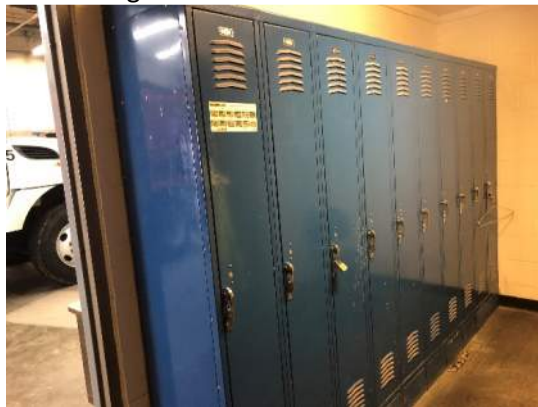
South wall efflorescence and water damage



Interior sign room wall



Locker room / restroom/ shower room



Locker room

Project: #18037 Windsor Heights Public Works Facilities Assessment



Sign room



Break room



Break room



wall of breakroom



South end of mezzanine



Furnace room on mezzanine

Project: #18037 Windsor Heights Public Works Facilities Assessment



Furnace room on mezzanine



Mezzanine



Mezzanine



Mezzanine



Break room



Break room

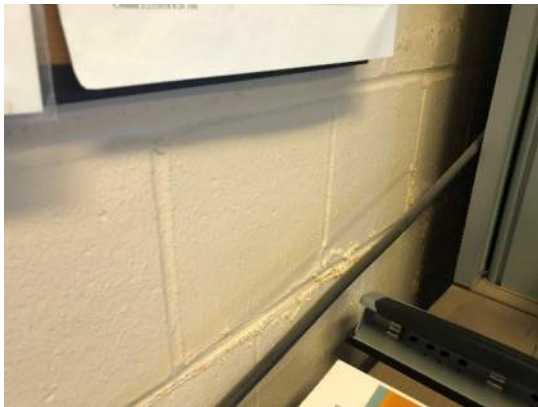
Project: #18037 Windsor Heights Public Works Facilities Assessment



Office



Office



Efflorescence on West office wall

The interior walls are painted concrete block for the most part (mezzanine has a few framed walls). Overall the condition of the concrete block walls is good. Almost all the exterior walls have efflorescence present that has caused the paint to discolor and fail. It is hoped that addressing the flashing issues on the building exterior will eliminate the water infiltration and end the efflorescence inside the building. The walls will need to be cleaned with a weak acid solution and wire brush. Once the area is cleaned, rinsed and dried, new primer and paint can be applied. If the water infiltration issue is properly addressed on the building exterior, the efflorescence should not return.

The upper portion of the exterior walls is a metal liner panel similar to the exterior. The original drawings for the building indicate that there is approximately 2" of batt insulation behind the liner panels. This is far less than is required by the current energy code even for a partially conditioned building. The liner panels can be removed and additional rigid or spray foam insulation installed, and the liner panel reinstalled. Depending on the type of insulation board/spray installed, a layer of drywall may be required as a thermal barrier to protect the insulation from fire.

Project: #18037 Windsor Heights Public Works Facilities Assessment

The concrete block walls separating the kitchen and breakroom are not structural, but they do contain electrical and plumbing lines which may present challenges if it is desired to move that wall.

Critical Issues:

1. Clean efflorescence off walls and paint.
2. Insulation behind the panels needs to be increased to meet code.

Interior Floors:



NE corner door



West bays



East bay's



NE corner at brine pump

The interior floors are sealed concrete for the most part (mezzanine has framed plywood floors). Overall the condition of the concrete floors is good. There are some areas in the maintenance bays where salt and heavy equipment has caused damage to the floors. At the sill of several of the overhead doors there is spalled concrete and rusted out steel pipe that was cast into the floor slab. The concrete slab near the brine pump is spalled as well as areas where the trucks park. The cast iron trench drain grate has oxidized from the salt but is still in good condition. The bottoms of the interior columns and base plates of the structure show signs of rust that will need to be repaired.

Critical Issues:

1. Clean/blast floors to remove loose material and paint.

Project: #18037 Windsor Heights Public Works Facilities Assessment

2. Repair/replace trench drain covers.

Conclusions:

Through the investigation it appears that the maintenance building would be economically feasible to repair and upgrade as long as the building meets current and future area needs.

Salt Shed:

Original Building: Approx. 1,200 SF (S-1).
Construction Type: Type-IIB, unsprinkled.
Condition: Poor condition

Roof



Salt building distressed materials



Salt building distressed roof structure



Salt building distressed steel supports

The roof is a single slope metal roof that drains from north to south. The original screw down metal roof is still in place and is experiencing leaks at several locations. The original batt insulation is also in place and shows signs of water damage in more than half of its area. Several of the roof penetrations and curbs

Project: #18037 Windsor Heights Public Works Facilities Assessment

show signs or leaks either active or previously active. The gutters at the back of the building appear to leak at each of the seams. The downspouts appear to be missing and need to be replaced. The downspouts empty out on to splash blocks and the water is surface drained.

Critical Issues:

1. New roof required.
2. New structure for roof that won't rust should be considered.
3. Insulation is not required.
4. Replace gutters and downspouts.
5. Replacement of building makes most sense - safety.

Exterior Walls:



NW corner



North elevation



Rusted opening steel



Interior

Project: #18037 Windsor Heights Public Works Facilities Assessment



Cracks in all corners



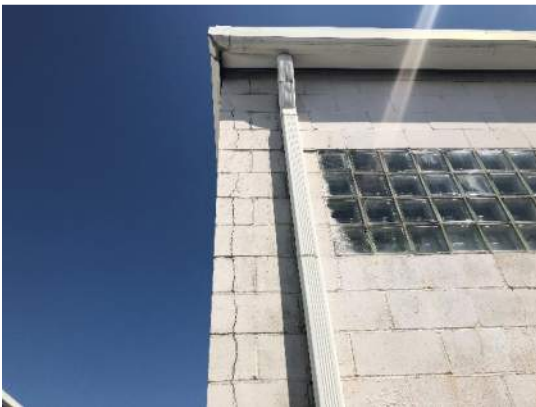
East elevation



South elevation



Cracks in all corners



Cracks in all corners

The exterior walls consist of painted concrete block. The concrete block has several areas that are experiencing efflorescence and major cracks. This building is subject to great lateral forces when salt is



www.svpa-architects.com
Phone 515.327.5990

1466 28th Street, Suite 200
West Des Moines, Iowa 50266

Project: #18037 Windsor Heights Public Works Facilities Assessment

delivered to the building and when salt is removed with heavy equipment. The steel plate and bollards at the front openings are rusted badly.

Critical Issues:

1. Building is extensively damaged and should be considered for replacement.

Conclusions:

Building is extensively damaged and should be considered for replacement.

Our conclusions are based upon the information made available to us at the time of our investigation. Should additional information be uncovered or made available, we retain the right to revise or supplement our report accordingly.

Project: #18037 Windsor Heights Public Works Facilities Assessment

ADDITIONAL INFORMATION

SVPA Architects (Thad Long, AIA and Ron Paskach, AIA) met on June 21, 2018 with the Windsor Heights Public Works maintenance staff to determine the future use/space needs for the maintenance building.

The issues reviewed Included:

1. Current operation
2. Current staffing
3. Current equipment space needs
4. Current deficiencies of the building
5. Equipment sales/purchases
6. Future operation
7. Future staffing
8. Future equipment space needs
9. Potential building additions, and site organization

The building currently houses a single office shared by the Public Works Director and Assistant Public Works Director, a break room, a kitchenette, toilet/shower/locker room, a sign shop, equipment maintenance room, equipment storage room, dog kennel, record storage room, furnace room, and storage mezzanine. A separate salt storage building is also on this site.

Current Operation:

The staff operates this building as efficiently as possible but feel it would operate better if there was more space. Currently the facility only has one office that is shared between the Public Works Director and Assistant Public Works Director. The shared office space presents several difficulties in office productivity and effective management of the department. If privacy is needed, one of the occupants needs to vacate the office until invited back in which can interrupt phone calls and other operations. Evaluation of an additional office for the Public Works Director to have the ability to have private meetings with two to three additional people would be ideal.

The sub-standard condition of the shower room causes the showers and locker space to be almost unused. The facility could be better used with improvements to the locker area by providing a locker space for personal belongings and a separate private changing restroom facility with one shower. This would support the need for female and male privacy. Currently the facility has a total of 6 full time employees and additional summer time help. If space allowed, two uni-sex restrooms would be ideal with one equipped with a shower. A minimum of one restroom including the shower would be designed to meet ADA requirements. The locker area could be accessed separately from the each of the restrooms that would be utilized as private changing rooms.

The kitchenette and break room seem to be oversized/inefficient for the number of actual employees utilizing the space each day. Re-organization of the space by removing a wall or relocating some plumbing will allow for better use of the current square footage and allow better flow through the kitchenette. The

Project: #18037 Windsor Heights Public Works Facilities Assessment

kitchen space requires minimal appliances with microwave, sink, refrigerator and dishwasher. It was determined that laundry facilities are not used or needed in the foreseen future.

The equipment maintenance room (west bay) is fairly tight especially when vehicles are stored inside. When winter snow removal blades are attached to the trucks, the space gets even tighter. The current maintenance equipment fits in the current facility, but the addition of cold storage for varying seasonal storage would be ideal. It would allow for better use of the west bays for equipment storage. The far east portion of the space has a make-shift wash bay but the surrounding materials are not waterproof and the bay isn't well used because of the challenges with getting surrounding stored items wet and dirty with its use. Equipment cleaning is accomplished mostly outside, which is difficult during several months of the year and not ideal for the wash bay equipment or the exterior concrete apron, which can pose a slip hazard.

Current Staffing:

No changes are anticipated for staffing of this facility at this time. The current building cannot accommodate additional staff as it is currently configured, if the City determined to hire more staff the space would be extremely tight. There was discussion about the difficulty of accommodating female staff in terms of lockers, showers, and toilet facilities. All of these amenities are in the same room, making it difficult to allow for concurrent male and female use. At the time of the interview there were no female staff in the building, but with summer help and other City Staff, providing private changing facilities while still allowing access to lockers will be an improvement.

Current equipment space needs:

Based on information known at the time the public works staff did not see anticipate major changes for equipment storage requirements. While some equipment is being purchased, other pieces are being sold and the existing equipment storage space handles the current equipment needs. The addition of wing blades for each of the plows and a broom for the skip loader have been discussed as an additional equipment that would require storage space. It is important to note is the layout of storage space could be improved. When the time comes to change out between winter and summer seasonal equipment, all the vehicles must be taken out of the east bays of the building to provide access to stored items and equipment. It was noted additional storage would allow the process to go much more smoothly if stored items could be in a separate "cold storage shed" with overhead sectional doors. Additional storage would allow space for snow blades, road signs and barriers, and allow better access to equipment and vehicles. The additional storage would allow for the west bays as functional maintenance bays and not have to utilized for storage areas.

Current deficiencies of the building:

A walk-thru lift in the maintenance area is needed for proper vehicle maintenance and is a need for the facility. This lift will need to be sized for the largest truck in the fleet. A walk-thru lift will allow staff to complete all standard vehicle maintenance and some repairs on fleet vehicles without having to lay on the ground.

Project: #18037 Windsor Heights Public Works Facilities Assessment

As discussed earlier, additional office space for the Assistant Public Works Director will allow for better management and minimize interruptions to work flow.

Improved locker room, changing, shower and restroom facilities will allow much needed privacy and the ability for female employees to comfortably use the facilities. An improved layout and upgraded finishes would encourage use of a currently underutilized facility.

Re-organized breakroom and kitchenette facilities can be organized for a more efficient use of square footage, allowing better utilization and full staff meetings when needed.

Equipment sales/purchases:

It is understood that City Public Works staff currently plans to sell one backhoe and purchase a skid broom. It was discussed that the balance of equipment is not expected to increase or decrease by any appreciable amount in the foreseeable future. The equates to the current building space being adequate for equipment if the current items being stored had additional or separate space.

Future Operation:

No future changes in operation were identified. Currently space is being utilized for the animal control and it was determined that this space demand will continue into the foreseeable future. No additional square footage is required at this time.

Future staffing:

No future changes or additions to staffing were identified. The fluctuations in staffing were identified as hiring 3 people for summer help with the full-time count of 6 employees to remain.

Future equipment space needs:

The future need for equipment storage was identified as a cold storage shed to house seasonal equipment and attachments to free up floor space in the maintenance building. The items in question include: snow blades, snow blowers, mower decks, road maintenance etc. It may also make sense to store Christmas lights and decorations in this shed with proper storage racks.

Potential building additions, and site organization:

This report recommends removing the existing salt storage building and replacing it. The attached site plan shows a potential layout for replacing the salt building and adding a small cold storage addition between the salt and maintenance buildings. The salt building would rotate to align better with the drive and a cold storage shed can be added to the east side of the existing maintenance building. Separate office space for the Public Works Assistant Director is critical for ongoing operations and management. The addition of a small 400 sf office could be added to the west end of the north side of the building near the existing entrance, directly outside the current office space. This will allow for the current office to be converted to break room space or to be maintained as small office. The Public Works Assistant Directors space could be just a desk space, which could require a small overall footprint if actual office space is not available.

Project: #18037 Windsor Heights Public Works Facilities Assessment

PRIORITY LIST & COSTS (IN 2018 DOLLARS)

1. Re-roof of existing building:
 - a. \$80,000 – 80 mill TPO membrane roof with Flute-fill insulation over existing roof.
2. New Salt Building:
 - a. \$220,000 – precast concrete structure with membrane roof.
3. Office addition:
 - a. \$56,000 – 440 sf addition to match existing building.
4. Replace unit heaters in maintenance bays:
 - a. \$40,000 – gas fired radiant heaters.
5. Cold Storage:
 - a. \$440,000 – Metal building to match existing building.
6. Office/Restroom remodel:
 - a. \$45,000 – Material upgrade for office, break room, kitchen and locker room.

Additional upgrades to systems that may not be priorities are listed separately within the body of the mechanical and electrical sections of this report.

EXECUTIVE SUMMARY

Based on input from the Public Works staff and Assistant Public Works Director, the current equipment maintenance space is adequate until additional items are purchased. Currently it handles majority of its intended uses but requires shuffling of vehicles and equipment to get access and does not allow for the west bays to be used for regular maintenance. If additional storage is provided for seasonal items with the replacement of existing salt storage building, the existing space can be improved with a designated wash bay and a walk-thru lift for city vehicle maintenance. Storage space would allow for the west bays to be utilized for maintenance and service of the Public Works vehicles.

The current breakroom, restroom, locker space and office square footage on the west portion of the building can be organized to be more efficient with the addition of a Public Works Director's office as discussed directly to the north on the west end. This addition would allow direct access to the existing interior space and visual connection to the current operations with direct view of the overhead doors and parking lot. The remaining space could potentially house the remaining office space for the Public Works Assistant Director, the breakroom, kitchenette, a locker area, and changing/shower facilities. It is assumed the current plumbing is located within the wall that separates break room and kitchenette, removal of the interior walls and a portion of the floor which would require the relocation of plumbing but could provide a more effective and efficient layout.

In summary the existing building has served as valid Public Works facility for many years and will continue to work for its intended use. Several improvements could be made with the removal of the existing salt

Project: #18037 Windsor Heights Public Works Facilities Assessment

storage building which needs replacement. The attached site diagram indicates a possible solution to replace the salt storage and would allow the addition of cold storage. As described in the potential building additions relocated of the stored seasonal equipment would free up space within the building and allow for better access to all the equipment, the vehicles and allow space for a wash-bay and actual service bays. A small office would allow the remaining break, restroom and office space to be re-organized to better service the existing building.

Next steps would be to engage SVPA to provide programming and schematic design services for the facility. Once a conceptual site plan and building plans are produced and approved by the Public Works Staff and Director an estimated cost range for construction could be determined. Phasing of the proposed improvements could be determined and prioritized at once there is a better understanding of construction cost and available funding. The estimated cost of construction would include site improvements for the proposed building additions and interior renovated spaces. The schematic drawings and cost estimate created in the next phase of design that would allow for the City to plan and discuss if phasing the proposed improvement because of funding. The improvements could be broken in to two phases which would include site and east building and salt storage addition as one phase and the interior renovations as a separate phase. Breaking the proposed improvements into separate phases may add to the overall construction costs, the sequence of the two phases should not matter it could be determined by the Public Works Staff or funding availability.

The proposed east site addition is approximately 3,560 square feet based on a preliminary study of available space on site (see attached site concept). Average costs for a pre-engineered building can range between \$80 to \$105 per square foot depending on several factors site, floor finish, under slab drainage, lighting and mechanical requirements. The east addition construction budget could be in the range of \$300,000 to \$400,000 not including unknown site costs and owner soft costs. The office addition and remodel construction budget could range between \$150,000 to \$250,000 depending on amount of plumbing that needs to be relocated and office addition square footage.

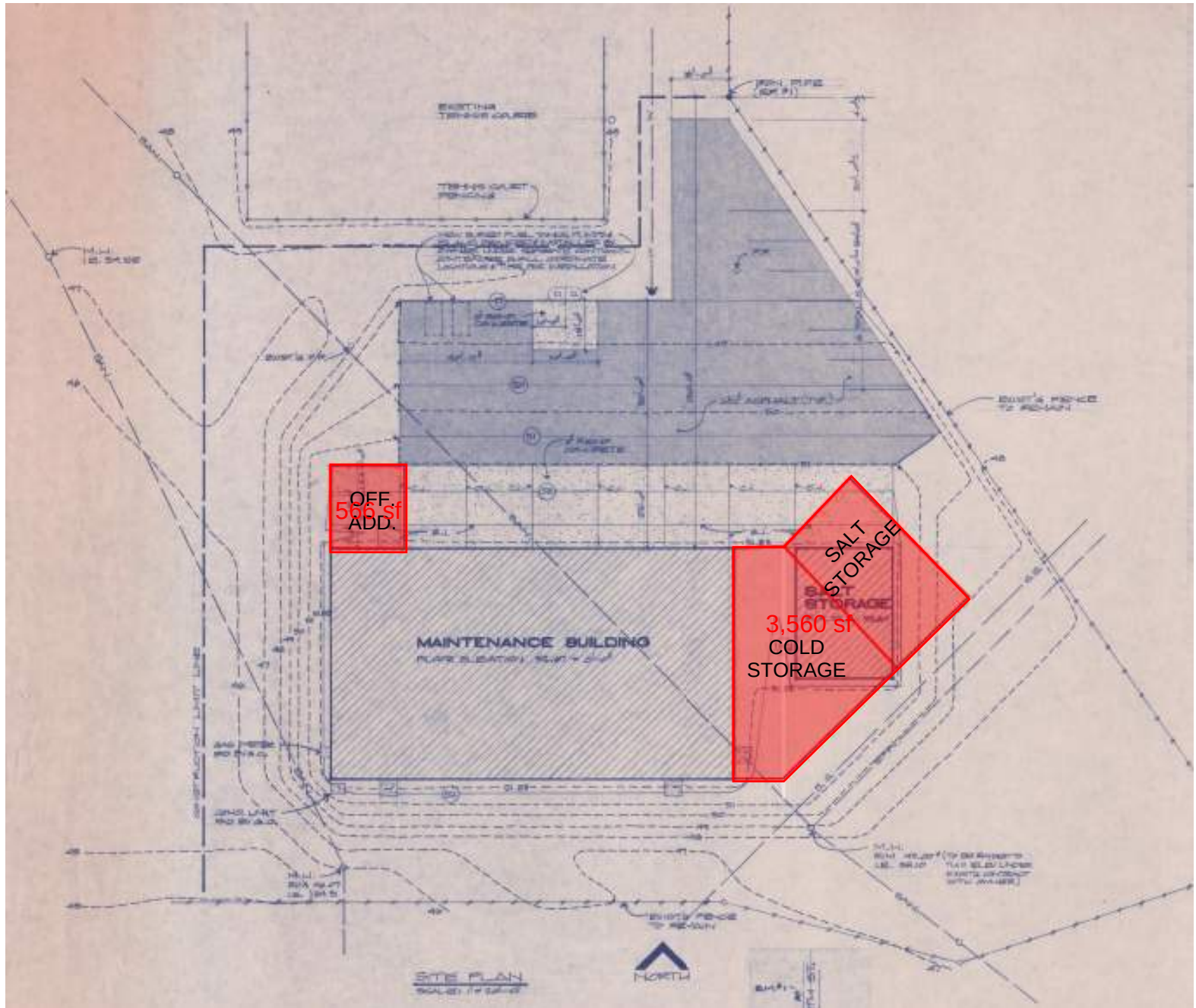
In summary the existing Public Works facility has good life remaining and with a few proposed additions and improvements would serve the needs of Windsor Heights for several years.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to be "J. M. P.", is written over the text of the letter.

SVPA Architects Inc.
Tometich Engineering, Inc.
Twin Rivers Engineering, Inc.

POTENTIAL SITE IMPROVMENTS PLAN





To: Mayor and City Council
From: Adam Plagge, City Administrator
Date: November 06, 2023
Subject: Council Goals

GENERAL INFORMATION

The below goals were adopted by City Council on February 6, 2023. Administration wanted to provide these to City Council and staff as a refresher prior to beginning the budgeting process as City staff will utilize these goals as broad direction for planning and operational purposes. If the Council has any revisions or feedback on when and how City Council would like to revisit the goals, staff will set aside time at a future City Council meeting for this process to take place. Department heads and administration have provided updates to goals to the extent of our collective knowledge

City Hall Staff comments in red.

Police Department comments in blue.

Fire Department comments in green.

COMMUNITY VISION STATEMENT

Working together to build the best small city in the metro.

The City of Windsor Heights is uniquely positioned within the Des Moines metro. As a land-locked suburb the community must think creatively about how to attract and retain businesses, customers, and residents as growth options will be required to be innovative and likely grass-roots efforts. In order to be proactive in learning and planning for the future, the city completed a visioning and data collection process to assist with future planning.

The visioning process was facilitated by J. Scott Raecker, Executive Director of The Robert D. and Billie Ray Center at Drake University and Cassandra Halls, President of 2 THE TOP. The visioning process included multiple steps to capture input from the community, business, partners, peers, and others to help the Mayor and Council understand what direction is most important, allow for sharing of ideas and accept constructive feedback.

COMMUNITY MISSION STATEMENT

The mission of Windsor Heights is to provide our residents, businesses, and visitors with a safe environment and exceptional city services through a team-oriented and fiscally responsible approach in order to create a unique, sustainably vibrant community.

2023 CITY COUNCIL GOALS

Goal #1 – Focus City services, resources, and cooperative partnerships on creating and maintaining a **safe community** for all residents, businesses, and visitors.

Objective A: Recruit and train quality staff while maintaining adequate staffing levels in all departments, including 24/7 paramedic staffing.

Department head positions are fully staffed, and department leaders are encouraged to attend and/or are attending relevant training such as clerk school, various work-related coursework through Iowa State University Institute for Transportation, Iowa League of Cities trainings, ICC, pursuit of becoming a Certified Arborist, Northwestern Police supervision training and other opportunities as department heads see fit. Recent postings for police and public works positions have attracted quality candidates and have been or are being successfully filled by qualified applicants.

The Fire Department has made large gains in ensuring that we consistently meet 24/7 Paramedic staffing regularly, in large part due to the aggressive hiring of PT staff at the Paramedic level. Another option to help ensure compliance with this initiative would be to discuss “mandatory overtime” for needed staff with our FT employees during the upcoming Union negotiations. The Fire Department is also working with the developer of the Windsor to conduct training in some of their homes prior to demolition.

The Police Department remains committed to enhancing staff professional development through the identification of various opportunities, such as training and special assignments. Emphasizing and maintaining collaboration with local public safety agencies, such as WestCom, Polk County Emergency Management, and the Polk County Attorney’s Office, is a top priority. Ongoing efforts involve sending department staff to various relevant training sessions and classes.

Additionally, the department is working with WestCom to implement CrimeView—a mapping and reporting feature. This initiative aims to provide the public with access to information on reported crimes within specific geographic areas. While this functionality is currently integrated into our Records Reporting System (RMS), technical challenges currently hinder its activation. Efforts are underway to address these issues and enable the seamless deployment of CrimeView.

Objective B: Implement policies and practices leading to clean air and protection of water resources – i.e. expanding anti-smoking initiatives and membership in Central Iowa Water Trails efforts.

Departmental policies limiting unnecessary idling of city vehicles is currently under consideration. City Council has directed staff to consider incentivizing EV chargers as part of future development and staff is working towards obtaining CRS designation to reduce residents’ flood insurance cost.

Objective C: Replace aging vehicles and equipment and seek to transition to fuel-efficient vehicles as practical.

The Police Department is actively transitioning its vehicle fleet to incorporate hybrids or fuel-efficient models whenever feasible. This initiative aims to significantly diminish engine idling, minimize carbon emissions, curtail fuel expenses, and extend the overall lifespan of the vehicles. As of December 2023, half of the patrol vehicles are now hybrid models.

[Type text]

Simultaneously, the department is in the process of migrating historical maintenance records into a digital format that aligns with the standards used by other city departments. The objective is to maintain record maintenance activities for each vehicle, plan for upcoming maintenance needs, and formulate a systematic fleet replacement schedule.

The Fire Department is continually looking for options to extend the life of our equipment by reevaluating our maintenance program and ensuring we are maintaining equipment as directed by vendor schedules. We are also discussing potential options with other agencies to employ a “shared resources” agreement that could give the City of Windsor Heights access to reserve equipment without the full financial burden of owning the equipment outright. Having this access would mitigate issues such as A553 being OOS and eliminate dependence of “borrowing” apparatus from other agencies. This could also allow us to extend replacement dates as we would have a solidified reserve apparatus when ours has issues.

An end loader, a fire engine, and one snowplow have been scheduled for replacement and a policy will be considered to require purchase of hybrid/electric vehicles going forward, unless financially or operationally impractical.

Objective D: The City should work to become the employer of choice for our employees, and perspective employees, by ensuring alignment of wages, benefits, and employee support to create a positive and engaging work environment.

The Administration has completed a review of non-union salaries for employees whom have been with the City for more than a year and has recommended adjustments as needed. Salaries for new positions are being reviewed and compared across the greater metro area for competitiveness prior to posting and department heads are focused on creating a healthy collaborative working environment for staff. A new salary study, utilizing a mixture of rural, suburban and exurb cities as comparison points for non-union employees is expected to get underway in 2024.

A draft city policy change to expand the residency requirement for most city staff was submitted to City Hall in November 2023 and discussed with the Personnel and Finance Committee at a past meeting. Also, recommend space analysis be conducted for the Public Safety Building to ensure fire personnel have adequate sleeping areas and locker rooms for male and female officers.

The Police Department worked with the union to draft a MOU to allow increased flexibility with the hiring of officers with experience and work hours for the detectives. Supervisors work with their direct reports to identify training areas and professional development opportunities.

The Fire Department has made it a priority to implement a culture of ownership for its employees. This includes giving the members the ability to be project leads for items such as maintenance, PPE, training, community outreach, and EMS delivery. We have also made it a point to invest in our members and, when able, allow them to participate in outside training and educational events to build on their current skill sets.

Goal #2 – Develop and implement processes to ensure the delivery of exceptional City services.

Objective A: Pursue shared and contracted services with neighboring community partners in service delivery on recreational programming, and traffic signal operation and maintenance.

The City maintains active productive partnerships with the Des Moines Library, Windsor Heights-Urbandale Sanitary Sewer District, Des Moines Water Works and Westcom for provision of services. Additionally, staff are exploring sharing vehicle resources with other fire departments and coordination of traffic signals with West Des Moines.

Objective B: Revise the City's code of ordinances to address outdated regulations.

Staff has proposed and City Council has approved a full non-zoning Ordinance review to be conducted by Simmering-Cory. The Zoning Code is currently in the process of being and four Ordinance updates have been considered by City Council since September.

PD highly recommends this due to many changes in the state law that have occurred over the past several years.

Objective C: Improve the City's enforcement of nuisance violations in an effort to clean up properties throughout the community.

Staff has implemented a quarterly tracking and reporting program of nuisances. Staff has obtained access to Des Moines Water Works customer service information to obtain phone numbers and emails for property owners to be able to better connect with property owners as needed. Staff are also working with legal to revise the timeline from approximately six weeks to four or less to start formal nuisance abatement on issues that are particularly time sensitive. Additionally, staff have begun proactively tracking rental property listings in Windsor Heights to better ensure compliance with rental permit requirements.

Goal #3 – Protect the **financial future** of the City through reasonable and well-thought-out fiscal policies and adherence to generally accepted government finance practices.

Objective A: Update the Equipment Revolving Program (ERP) annually.

Each department is completing a maintenance program and assigning a staff member to ensure compliance with the program. Department heads are currently in the process of reviewing the ERP and providing justification for proposed replacement timelines. The ERP will be annually discussed and reviewed by City Council at the beginning of the budget process.

Objective B: Update the Capital Improvement Program (CIP) annually.

Staff is currently reviewing the CIP, working with Des Moines Water Works to coordinate planned projects with areas with water main issues and ensure our capital improvements rates are being adequately funded to support planned CIP improvements.

Objective C: Balance the continuation of basic municipal services with the addition of new program initiatives considering the availability of financial resources long-term.

[Type text]

No update.

Objective D: Establish a standard budgeting process that will institute continuity that will allow multi-year analysis and decision-making.

PD recommends a working budget workshop with the council instead of a regular meeting.

Objective E: Receive a clean fiscal year audit report.

The City audit is currently being finalized.

Objective F: Investigate and pursue new revenue streams.

A parkland dedication fee is being implemented and electrical inspections were recently moved to Safe Building from the State so that the City obtains its shares in these revenues. Rental properties on the market are now being proactively monitored to ensure rental certificates are being obtained. Staff are also reviewing storm water and water capital fund fees to ensure these revenues are sufficient for funding the CIP. The annual rate schedule is slated to come before Council December 18th and an analysis of CEC operational revenues and expenses, including cleaning fees, is currently underway.

PD - During City Ordinance Update/Review – parking fines and fees are recommended to be increased as well as the scheduled fines for other relevant city ordinance violations.

Goal #4 – Create and maintain a **high-functioning City team** of elected officials, professional staff and volunteer board members via regular and pertinent training and continuing education opportunities.

Objective A: Review and revise the Council and employee handbooks.

City administration has reviewed the current employee handbook as well as a previous draft and anticipates bringing significant proposed revisions to council in 2024.

Objective B: Identify and allocate resources to support ongoing employee training focused upon improving customer service.

The city safety committee has been established and held its first meeting November 30th and Administrative staff have recently attended MPI and IMFOA training sessions which included customer focus related classes.

Objective C: Develop a retention and succession plan to prepare for future employee turnover.

Department heads have been asked to document key tasks and duties to ensure better continuity when turnover occurs. City hall staff is also prioritizing cross training to help build institutional memory.

The Police Department promoted two new lieutenants in September. They will rotate responsibilities every three to four years. Both will serve as acting chief during Chief Roth's absences. They have been scheduled for supervisor and command schools. The department is reviewing other duties for officers to perform or be offered training.

Both Clerks have been working to create new or update old “how-to”/best practices sheets for various clerical tasks.

Goal #5 – Build a **unique and sustainably vibrant community** that contributes to the overall character of the Greater Des Moines region.

Objective A: Invest in art and culture opportunities unique to the region in cooperation with Bravo.

A development agreement is being drafted to install a mural on the Little Brother building. The proposed The Windsor project also provides an opportunity for public art at the intersection of 63rd and University if City Council so desires.

Objective B: Continue to invest, at the City level, in community events while fostering partnerships with the Foundation, Chamber of Commerce, and other community partners.

City Council members Skeries, Cambell and Harms continue to manage a wide range of special events in Colby Park in partnership with community partners. The Des Moines Public Library also hosts a range of events in Windsor Heights as does Walnut Creek Church. the Chamber has become more active in all city committees since the merger and that they’ve been more engaged in community events/city business. The City also continues to partner with the Foundation on Nights in the Heights, Windsor Wonderland and their members are active on a number of City committees.

Objective C: Invest in community artwork.

A development agreement is being drafted to install a mural on the Little Brother building. The proposed The Windsor project also provides an opportunity for public art at the intersection of 63rd and University if City Council so desires.

Objective D: Continue implementation of the Colby Park plan; make decisions regarding what to do with Lions Park; pursue new trails and bike hub facility; and initiate discussion for establishing a new northeast park amenity.

Phase 1 Colby Park construction is preparing to get underway. Public Works is preparing ideas for 2024 improvements to Lions Park. City Administration is working with Colby Interests on a potential bike trail connection to Sherwood Forest. Staff are reviewing TAP grant opportunities to repair portions of the existing trail system.

Goal #6 – Pursue a **comprehensive economic development strategy** that supports a healthy business sector and contributes to a better overall quality of life.

Objective A: Invest in a comprehensive marketing plan for business attraction using the community survey results.

Staff needs further direction from City Council.

Objective B: Build on the existing partnership with local development partners.

[Type text]

Administration is actively working with Colby Interests, Walmart, Midwest Fidelity Partners, and Caliber on development and/or beautification projects.

Objective C: Establish a source of funding in support of property redevelopment and rehabilitation. Specifically focus resources in support of minority-owned business grants.

The City has a number of abatements and programs already in existence that have been passed over the past three years but it wasn't clear if people knew how to take advantage of them due to their difficulty to find. They have since all been added to the website.

Goal #7 – Plan and **invest in City infrastructure** to ensure the long-term viability of the community's roadways, utilities, parks, and public facilities.

Objective A: Establish a long-term funding plan for streets, sewers, parks, storm sewers, city facility improvements, sidewalks/trailways, flood mitigation and other large-scale investments.

Staff is currently updating the CIP, working with Des Moines Water Works to coordinate planned projects with areas with water main issues and ensure our capital improvements fund with Des Moines Water Works and our internal storm water fund are being adequately funded to support CIP improvements.

Objective B: Expand existing community recreation options and pursue partnerships with the schools and other community organizations.

No staff comments, pending potential input from Council Member Skeries.

Objective C: Complete a long-term public facilities plan.

Staff have proposed a space use analysis to help evaluate facilities' space needs and scheduled maintenance.

Objective D: Implement a plan to address Walnut Creek bank stabilization.

Administration will likely recommend a substantial storm water fee increases to help fund storm water infrastructure needs for Walnut Creek as well as storm water pipes that are experiencing issues between Wilshire and Forest Ct.

Objective E: Focus capital resources on improving safety and availability of pedestrian facilities.

Staff needs further direction from City Council.

Objective F: Research and identify green technologies that could be made available to residents and businesses as a way of addressing environmental concerns.

Council has directed staff to consider incentivizing EV chargers as part of future development.

Goal #8 – Pursue initiatives aimed at growing Windsor Heights as a **diverse and inclusive community**.

Objective A: Identify new and emerging housing sector needs and develop strategies to pursue.

Administration recommends evaluating a property acquisition strategy along University Ave to facilitate aggregation of properties for redevelopment as mixed use to expand housing diversity options.

Objective B: Plan and hold new multi-cultural special events with community partners.

No staff comments, pending potential input from Council Member Skeries.

Objective C: Maintain City's commitment to unbiased policing and equal treatment of all residents regardless of age, race, sexual orientation, or physical disability.

The current PD policy addresses and reinforces this commitment. Recurring training on this subject as well as de-escalation, mental health, intervention, etc. is conducted.

Objective D: Pursue grant opportunities to encourage the growth of minority-owned businesses.

Staff has a meeting scheduled with Greater Des Moines Partnership next week and will pick their brain for opportunities.

Goal #9 – Continually strive to better **communicate with Windsor Heights residents** to achieve the most transparent government and understand citizen viewpoints.

Objective A: Continue to communicate with residents through newsletters and look at other opportunities to communicate that will best serve the community.

Implemented a monthly printed newsletter that is mailed to every residence. Continue to explore ways to improve and utilize alert systems on the City's website such as popup windows and banner alerts

Objective B: Maximize the use of social media to offer multiple methods of disseminating information to the public.

Use social media to push out information to the public such as special events and work with public works to push out information on City improvement activities such as road work and dog park closures.

The Fire Department will update the website to reflect the recent changes.

PD – has used Facebook several times in 2023 to push information out to the public on events, incidents, and reminders. Also planning/training on how to utilize other delivery methods.

Objective C: Develop a marketing plan to establish Windsor Heights as a destination for residents in the region.

No substantial work has been completed towards this goal. Staff has meet with P7 to discuss development of a communications plan and have continued to develop a marketing relationship with the Chamber

[Type text]

Objective D: Continuously improve the City's website to ensure accessibility for all.

No substantial work has yet been completed towards this goal. An upcoming winter project is to label images for alt text for any vision impaired users of the City's website.

Objective E: Highlight programs in the metro area that can benefit Windsor Heights' residents; Metro Home Program, Storm Water Best Management Reimbursement Program, Neighborhood Finance Corporation, etc.

Promote programs through social media and on the City's website. Had a 2023 newsletter dedicated to these programs to inform residents.

Additional Staff Suggested Goals

1. Maximize utility and revenue opportunities for the CEC.
2. Upgrade the City's IT infrastructure to ensure better security and less downtime for services.
3. Consolidate digital data management into a secured unified system accessible and searchable by City staff, elected officials and public as appropriate.
4. Establish self-supporting utility rates and fees to support CIP projects for stormwater, sanitary sewer, and water to help reduce general fund constraints.
5. Establish protocols that include enhanced tracking and budgeting to ensure fiscal discipline and efficient workflow for City operations.



STAFF REPORT
CITY COUNCIL
December 4, 2023

TO: CITY COUNCIL
FROM: Adam Plagge, City Administrator
SUBJECT: Discuss University Avenue Pole Banners

GENERAL INFORMATION

The Communications Committee reviewed street banner designs that were created in 2021 and selected the attached white angled banner design to use on the 37 black street poles along University Ave. between spring and fall. The banners will be removed during winter while the snow flake lights are up. Quotes are being obtained for a durable vinyl banner and the cost will be less than \$2,800. Administration will proceed with selecting a vendor and purchasing these banners, barring alternative feedback from Council.

SUMMARY

ATTACHMENTS

1. Banner G



W I N D S O R H E I G H T S

the heart of it all

MAYOR'S REPORT

Report Covers October 13th – November 30th, 2023

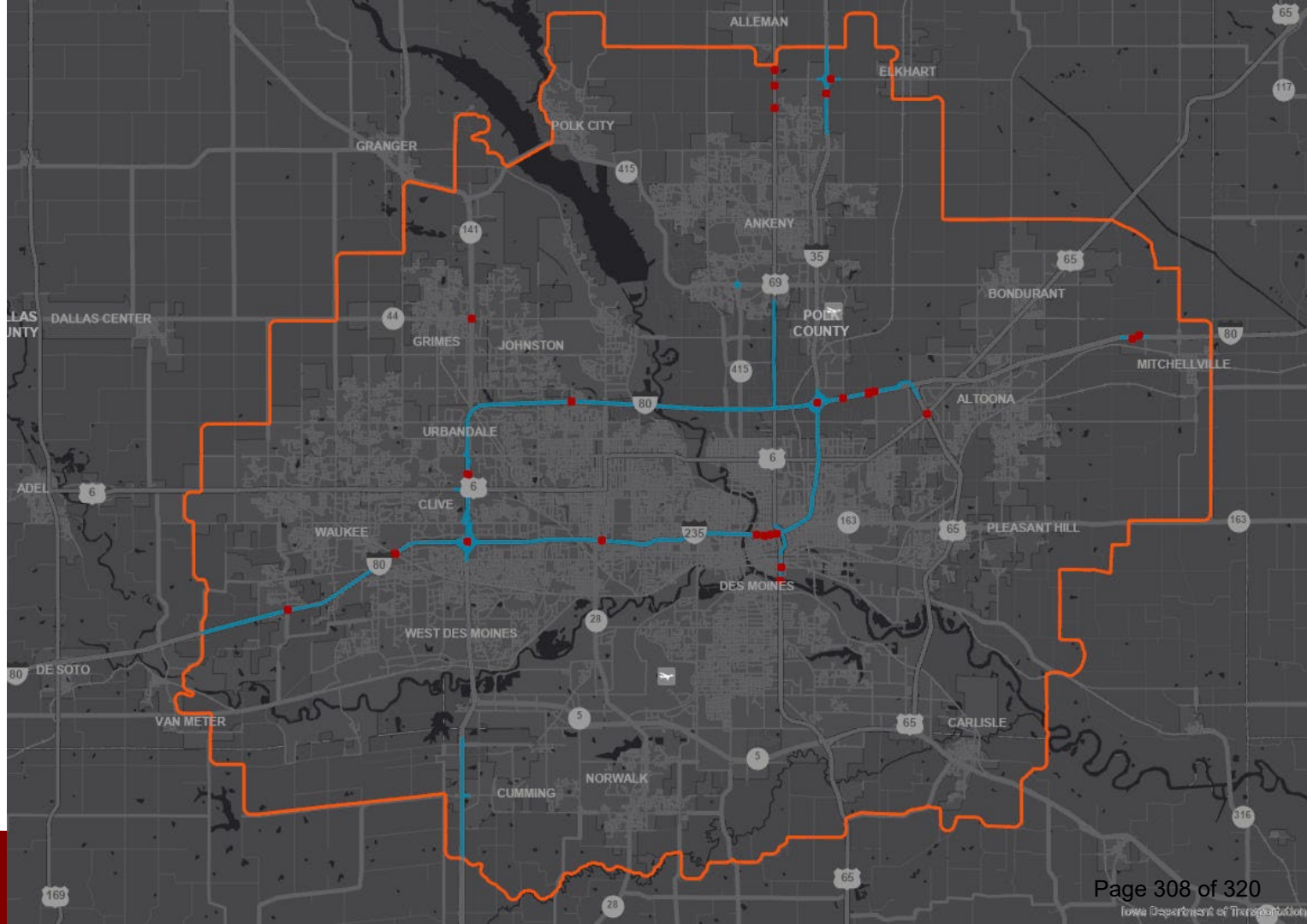
- Attended MPO meeting on October 19th. We got an update on the Airport Authority's efforts to get bonding through the Country (which passed), that the MPO will be receiving an estimated \$8 million in funds to be awarded for member communities who have projects designed to reduce transportation emissions and an update on the executive director search.
- I spoke to AJ a number of times and applaud his and staff's efforts to see repairs to the damaged curb at 7804 College, that a resident came and spoke to us about.
- Over the years I have received inquiries about our zoning/fence code and whether or not corner lots are prohibited from erecting privacy fences. AJ conferred with BMI multiple times, as they were in the process of writing the code and the universal consensus is that there is no language prohibiting the building of privacy fences on corner lots, assuming all other setback requirements are appropriate.
- Attended the special events committee meeting on October 20th.
- Chief Roth, Lieutenant Irlbeck, Councilors Skeries and Jones, AJ and I attended the DMACC Criminal Justice's Program's recognition of the City of Windsor Heights and Police Department for donating two old squad cars.



- Spoke to AJ and I believe we settled on spring cleanup being June 15th, 2024. With that, I will plan on the City Wide Garage Sale being the Saturday prior. I will organize it, as I have in years past.
- Attended the Public Safety Committee meeting virtually on November 8th. Later, I attended the Mayor's meeting (MIALG) with Councilor Jones at Waterfront in Ankeny. We were joined by a number of legislators including Senator Bousset and Representatives Forbes, Gaines, Matson and Wilburn. The City officials spoke strongly about their desire to maintain home rule, ability to control their own property taxes and protecting TIF.
- Councilors Skeries and Campbell brought forward some concerns about the Mobile Food Unit Ordinance following the Fall Festival. AJ proposed some changes which were brought to Council.
- I volunteered at Hy-Vee the morning of Veteran's Day and visited with a number of Veterans who came from all over the Metro for Hy-Vee's celebration. I then attended our event in Colby Park at the CEC. As always, kudos to the Special Events Committee for all of their efforts to make it such a wonderful event, to everyone who donated and volunteered their time.
- On November 14th I attended the MAC Celebration at the Hub Spot in downtown Des Moines. I have a chance to visit with Mayor Cownie, Mayor Edwards, Councilor Cope and Mayor Elect Boesen.
- I received an email from a concerned citizen (not a Windsor Heights residents) regarding his observations on several occasions of City vehicles idling, in his opinion, unnecessarily. Idling policies or laws are not uncommon across the US, although they are rare in Iowa. I drafted some policies and sent them to AJ. He is conferring with department heads and I expect to bring something to Council in the coming meetings.
- Attended the MPO policy committee meeting on November 16th. As it has been over the past few months, the major topics surrounds the funding and ongoing construction of the Water Trails projects in the downtown area, on the Des Moines and Raccoon Rivers. We also heard from the DOT on projects coming up over the next 5 years (part of that presentation is attached) and received the schedule for the upcoming STBG program (I have emailed AJ about this already). Over the past few months, it was represented to us that the Executive Director Search Committee was narrowing down search firms to hire for the executive director. At this meeting, it was then proposed that the policy committee forego hiring a search firm and instead, conduct the process internally. Myself, Mayor Clarke, and Councilor Riva from Norwalk disagreed with this recommendation, highlighting some concerns also brought forth by the representative from Pleasant Hill. Ultimately, a motion passed on a roll call vote to send it back to the Search Committee and that they were to bring Policy a recommendation for a search firm. There will be a special Policy Committee meeting on this topic on December 14th.
- Tiffany from the Chamber of Commerce has inquired about holding a State of the City Breakfast as well as a meeting with elected officials. I am supportive of both of these ideas. The breakfast is tentatively scheduled for June 18th, 2024 and she will update us with information on the meeting with elected officials.
- Communications Committee met on November 27th and those minutes should be distributed to Council. We talked about a new resident meeting packet, banners to be placed on University in the warm months and communications goals for the upcoming year.

- I have been discussing with Mayors Clarke and Edwards who would be appropriate to nominate to the MPO Executive Committee for our subarea next year.
- Upcoming events: December 2nd, I will be volunteering at Windsor Wonderland. December 5th, UpLift funder meeting. December 6th, Des Moines Children's Museum Open House. December 12th, MAC meeting. December 13th, MIALG. December 14th, Special Policy Committee meeting of the MPO.

2024-2028
Five Year
Program –
Iowa DOT
programmed
projects in
the DMAMPO
boundaries



I-35/80/235

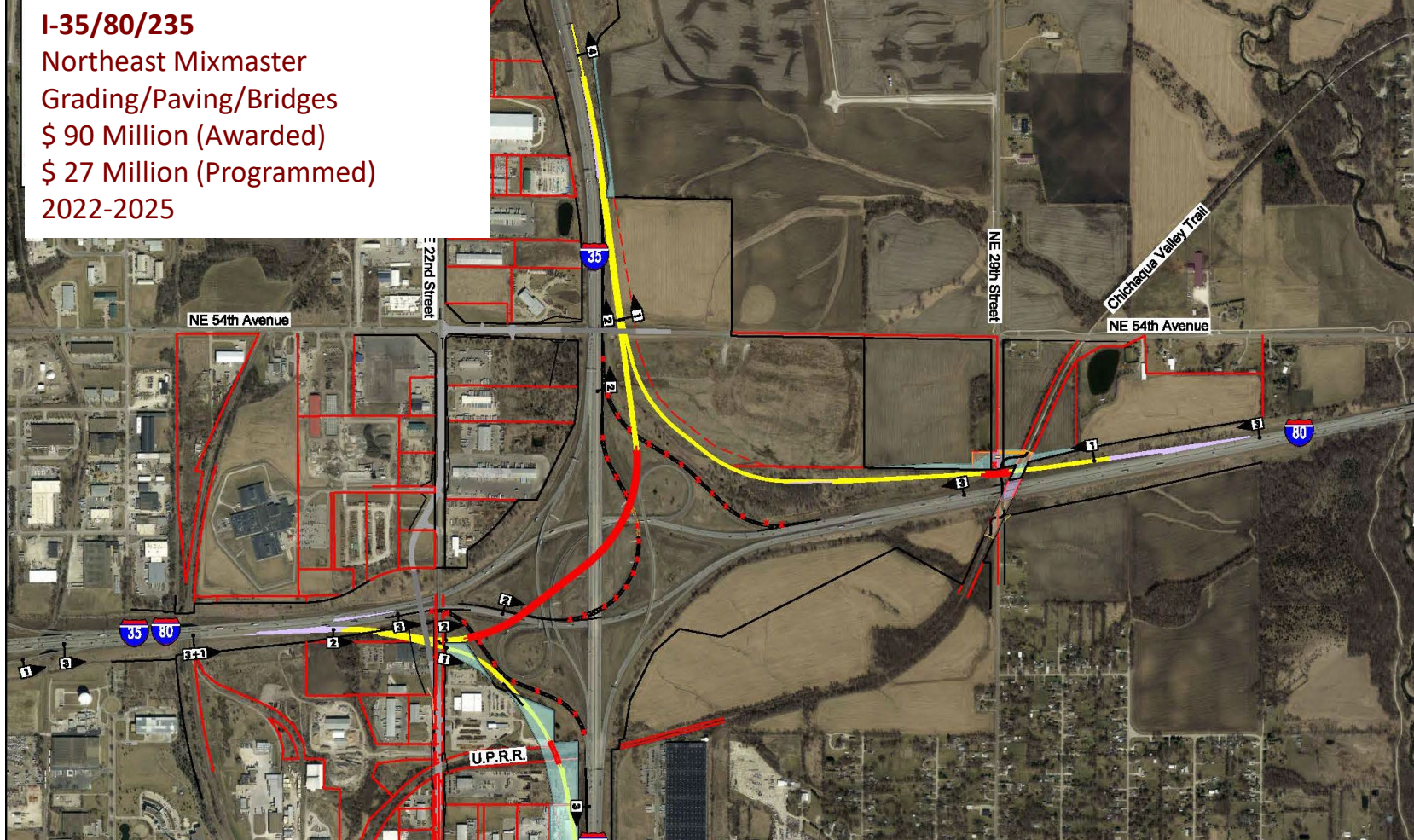
Northeast Mixmaster

Grading/Paving/Bridges

\$ 90 Million (Awarded)

\$ 27 Million (Programmed)

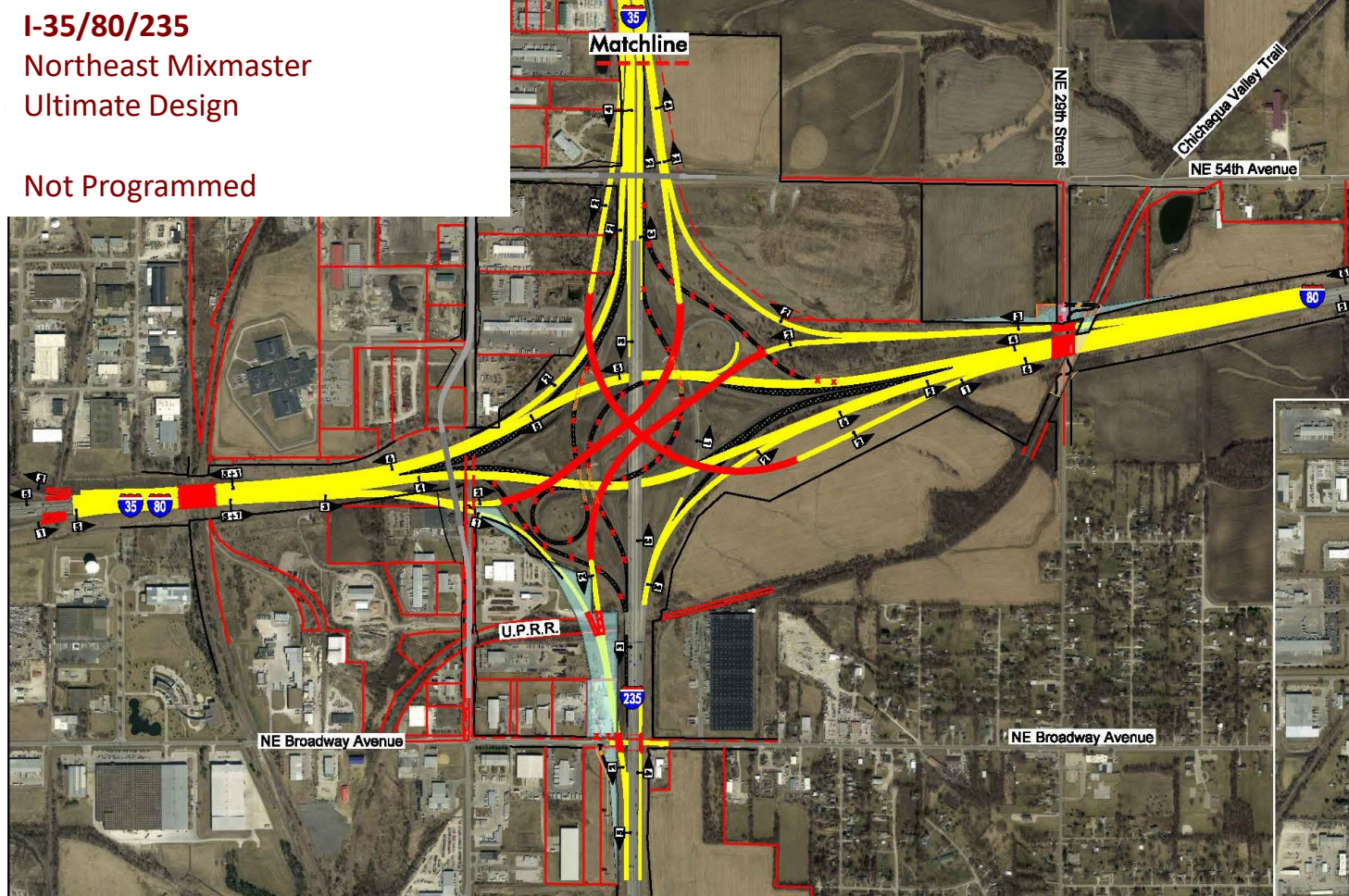
2022-2025



I-35/80/235

Northeast Mixmaster
Ultimate Design

Not Programmed



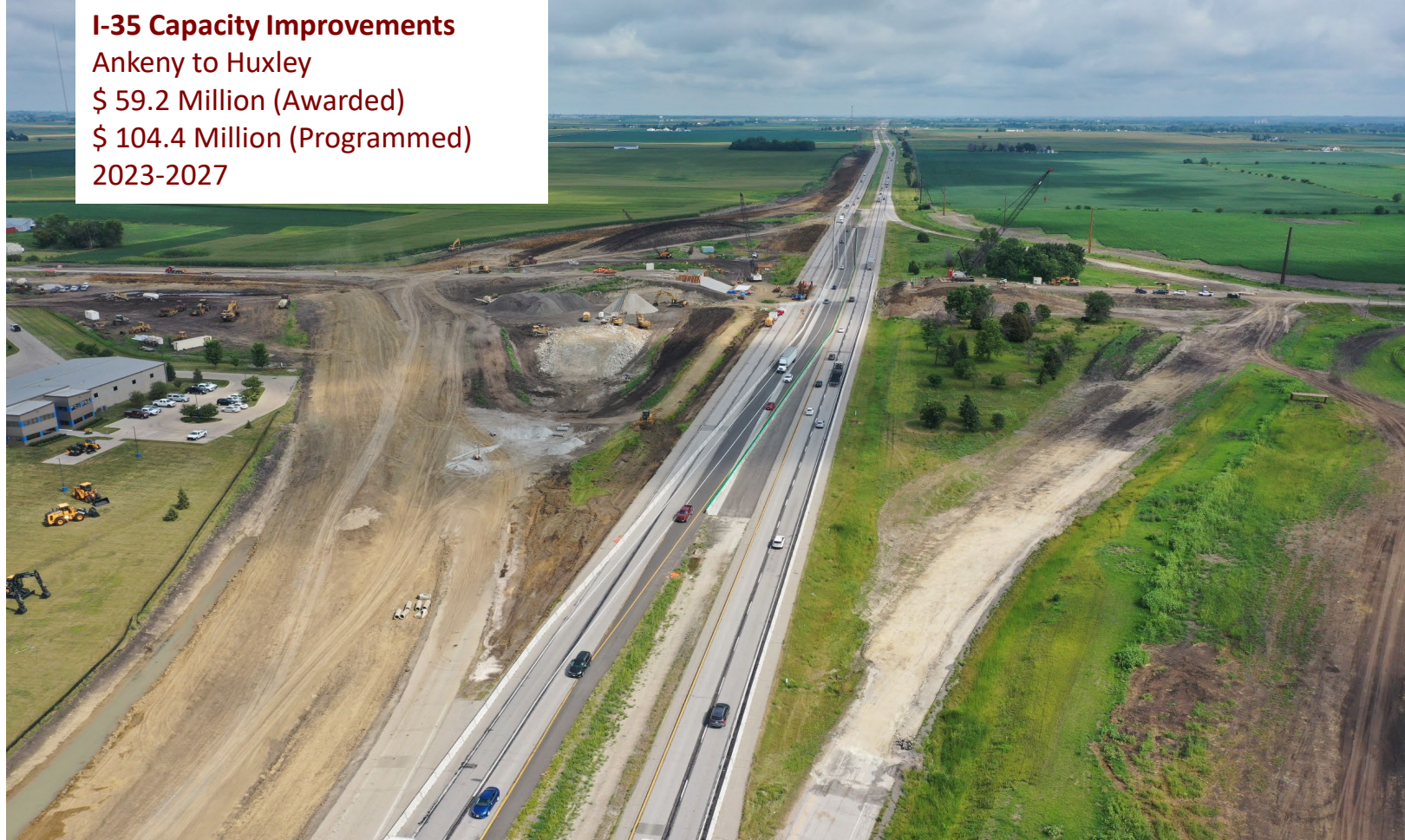
I-35 Capacity Improvements

Ankeny to Huxley

\$ 59.2 Million (Awarded)

\$ 104.4 Million (Programmed)

2023-2027



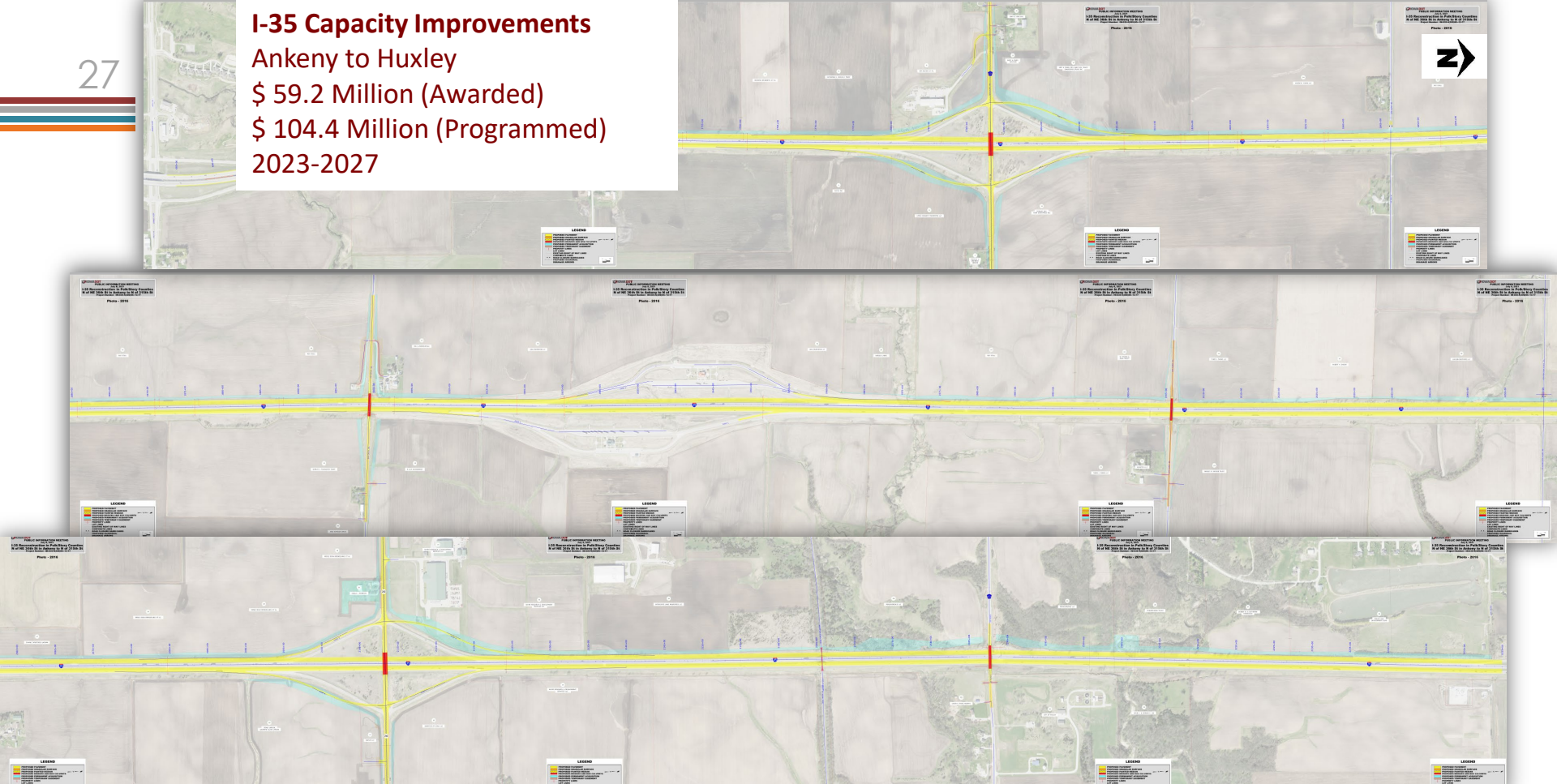
I-35 Capacity Improvements

Ankeny to Huxley

\$ 59.2 Million (Awarded)

\$ 104.4 Million (Programmed)

2023-2027



I-35 Ankeny to Ames Capacity Improvements

E-57 to North of US 30

2027 ROW

\$5.2 Million (Programmed)

2028 Grade/Pave/Signs

\$ 11.1 Million (Programmed)

2029+ Grade/Pave/Bridge

\$57.5 Million (Unprogrammed)

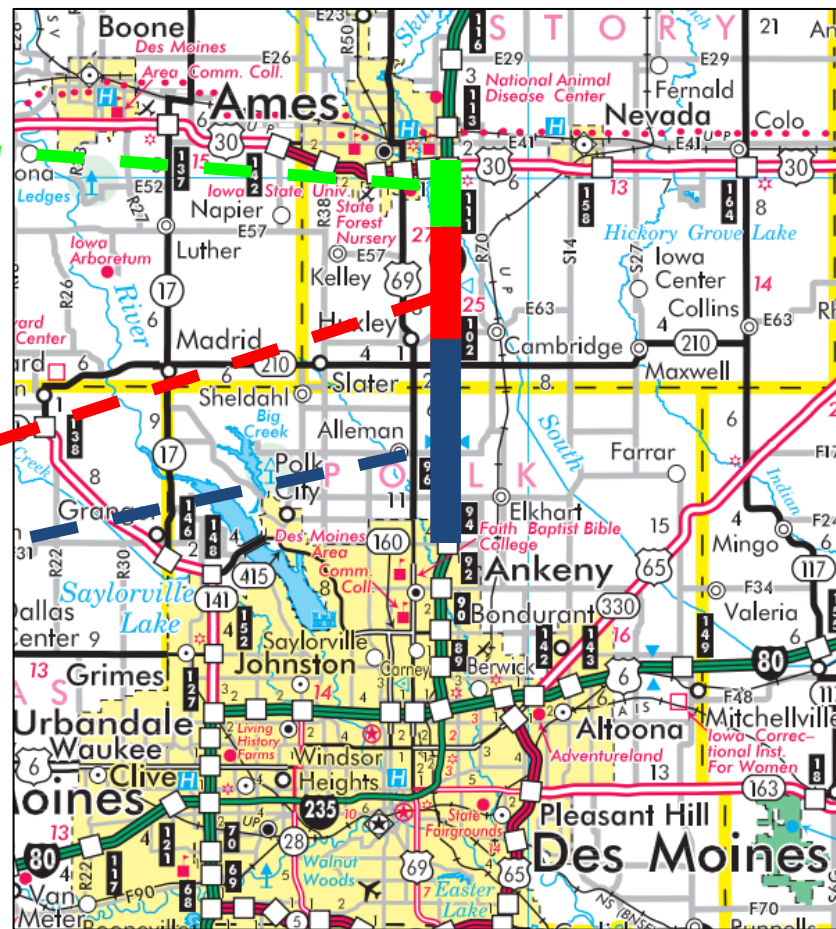
Huxley to E-57 (Unprogrammed)

Ankeny to Huxley

\$ 59.2 Million (Awarded)

\$ 104.4 Million (Programmed)

2023-2027



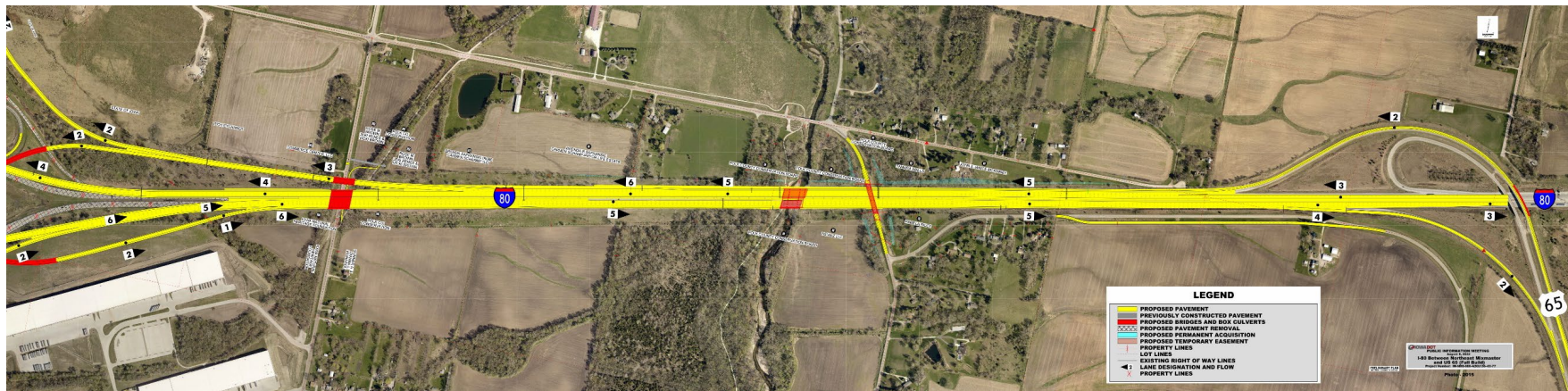
I-35/80/235

Northeast Mixmaster to US 65

Capacity Improvements

\$ 76.1 Million (Programmed)

2025 - 2028



I-35/80 & US 6 (Hickman)

Interchange Reconstruction

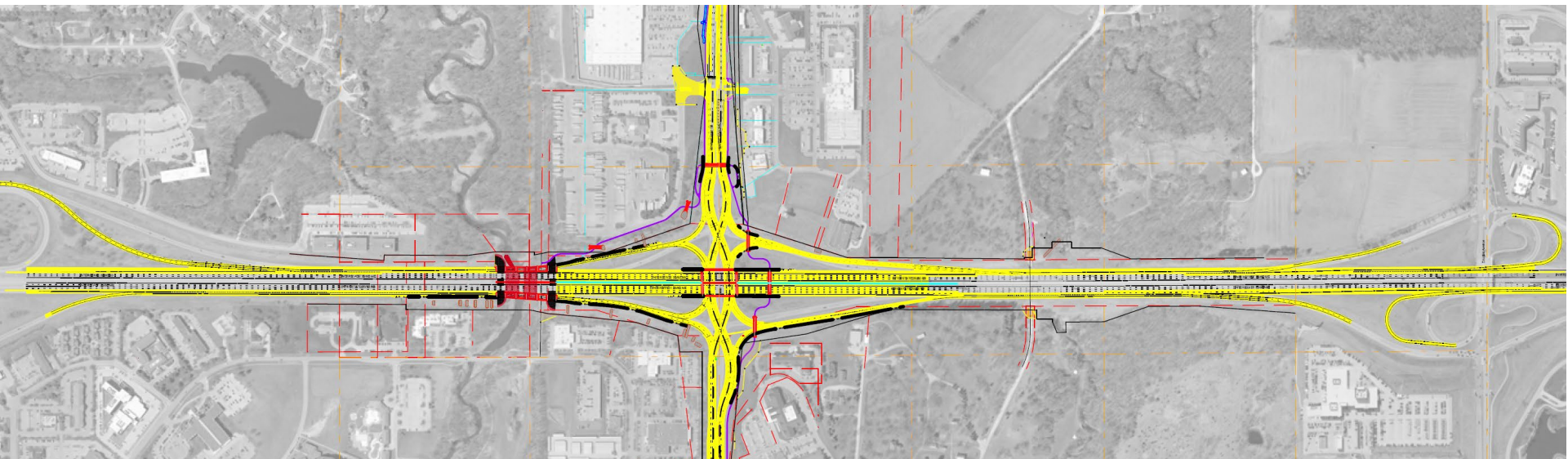
\$ 6.1 Million ROW (Programmed)

\$ 93.8 Million Construction

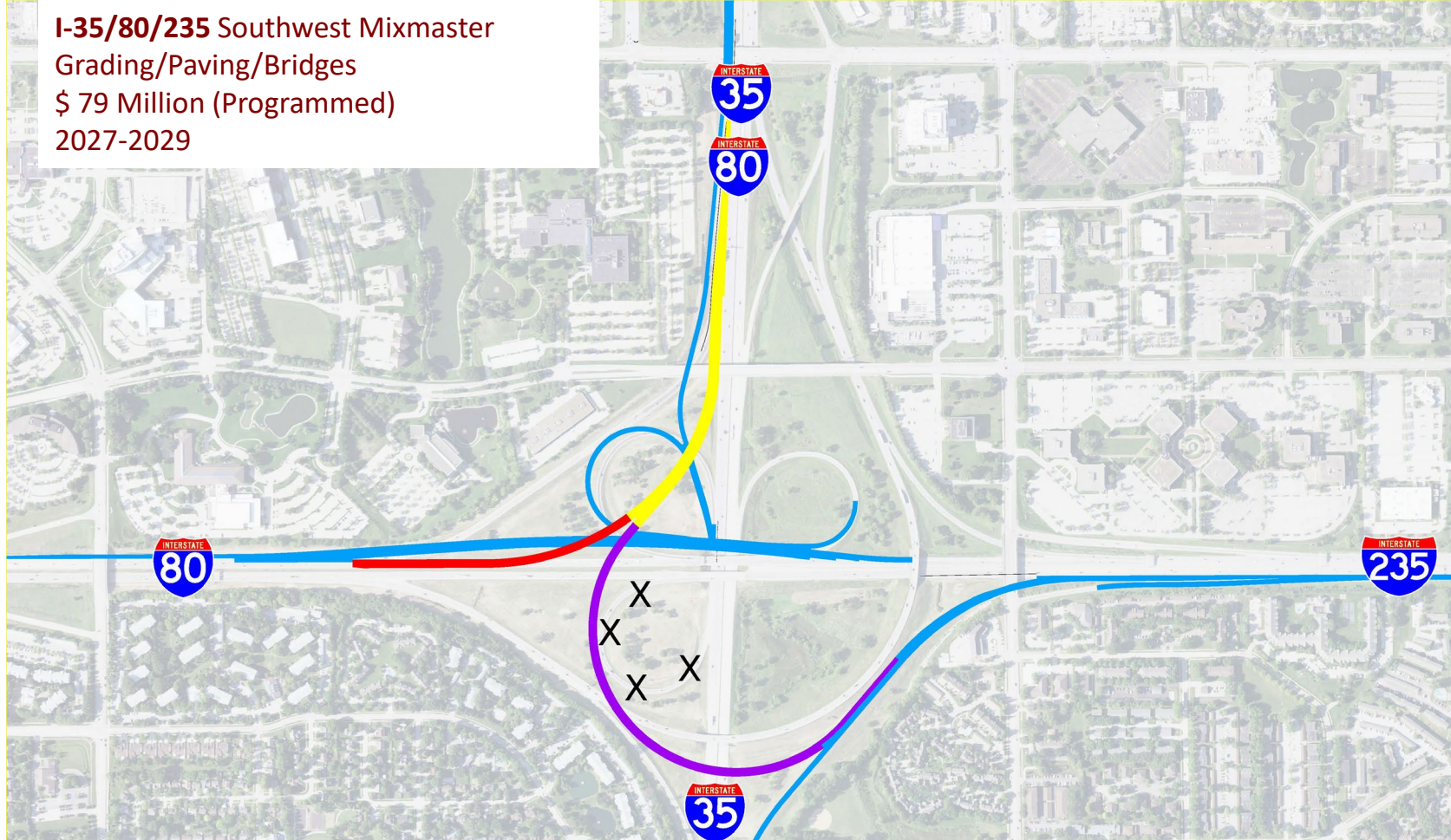
(Programmed)

2025 - 2028

NOT TO SCALE



I-35/80/235 Southwest Mixmaster
Grading/Paving/Bridges
\$ 79 Million (Programmed)
2027-2029



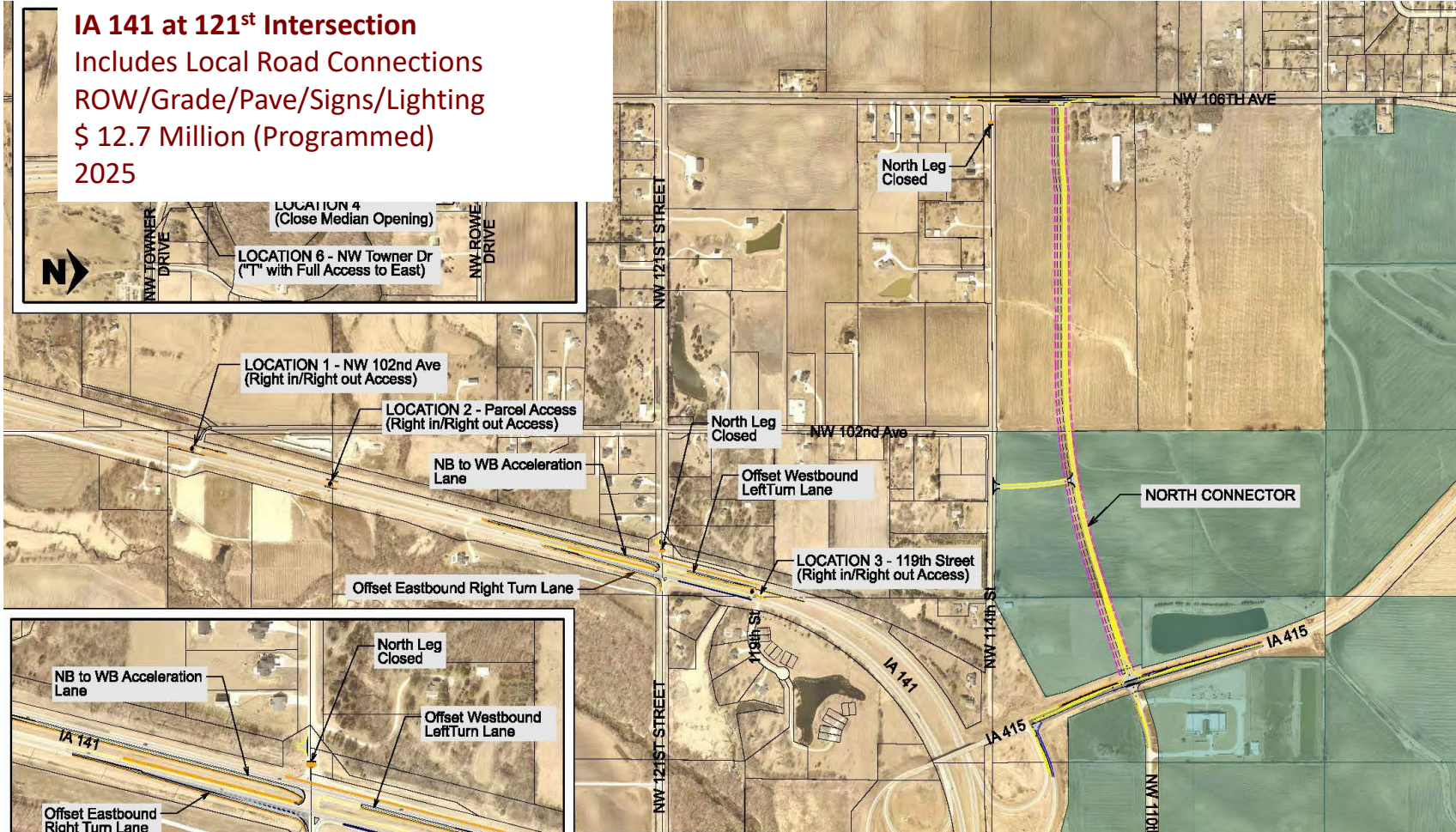
IA 141 at 121st Intersection

Includes Local Road Connections

ROW/Grade/Pave/Signs/Lighting

\$ 12.7 Million (Programmed)

2025



US 69

Maury Street Intersection Reconstruction
Paving \$1.3 Million (Programmed)
2025

Des Moines River Bridge Replacement
Bridge \$21 Million (Programmed)
2027



Communications Committee Minutes

10:30AM 11-27-23

In attendance: Mayor Jones, Council Member Libbie, Chamber Director Menke, City Clerk Strait and City Administrator Plagge.

Welcome Packet Discussion

Council Member Libbie led discussion on historical intentions of City Council members delivering a swag bag to new WH homeowners and renters in conjunction with assistance from Windsor Heights Chamber. The Committee discussed reviving this initiative and making a WH packet of information and swag available at City Hall for City Council members to deliver if desired, or after two weeks mailed by staff. Council Member Libbie indicated he would be happy to hand deliver booklets to new residents. It was estimated there are 10-25 new homeowners and renters per month in WH though staff will connect with DMWW to establish a refined estimate.

The Chamber Director suggested the welcome packet be kept to a fairly limited in size so that people actually go through the information. It was noted Urbandale receives a new resident list from DMWW and then Chamber mails out paper items only.

The Chamber Director suggested incorporating this initiative into an annual booklet mailing the Chamber is planning at no cost to the City. The booklet will be mailed out to each business in WH and could include an overprint for new residents that would just contain four WH specific pages (Cover, Council information, list of Chamber members, other info as desired). Printing would be handled by Chamber. The Chamber would solicit a limited number of WH business to provide coupon, discounts or swag if desired.

Committee coalesced around this idea and that the City could prepare a supplemental residential guide to drop into this WH booklet. It was recommended to collapse information from the existing Windsor Heights New Resident Guide into this supplement along with Council Member information.

Staff will email the existing welcome packet to Tiffany along with the estimated number of new water connections per month to establish a print count and Chamber will work with their printing partner to create a design for review.

Banner Discussion

Committee reviewed 2021 banner designs and discussed different types of banners and how frequently to potentially change banners out. General consensus was to get a quote for a high-quality vinyl banner to use from Spring to Fall and use the white angled banner design along University Ave. Staff will obtain quotes to bring in front of the City Council.

City Communications Goals Discussion

Mayor Jones noted many of the previous Committee goals have been completed such as the website design and the newsletter implementation. It was noted the website on MACS doesn't look right, that website traffic should be periodically reviewed to ensure the buttons are being appropriately programmed and that information should be kept up to date. Administration noted at the last staff meeting the City Clerk reviewed how to use the website with department heads and keeping the website up to date was discussed as a departmental responsibility in conjunction with the Communications Director. Mayor Jones also noted the importance of getting communications policies and policies in general centralized and accessible to help with adherence.