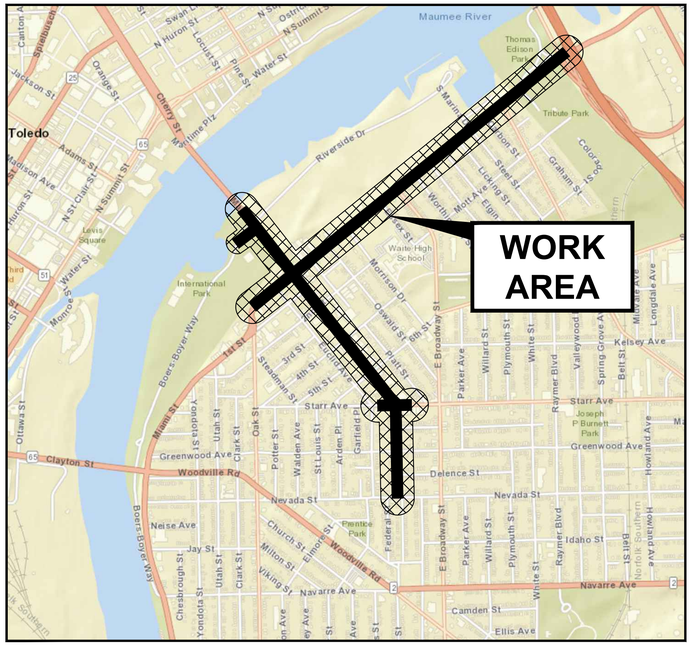

LOCATION MAP
NOT TO SCALE

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION

LUC - FRONT STREET AND MAIN STREET
ROADWAY AND STREETSCAPE IMPROVEMENTS
PID NO. 121938
CITY OF TOLEDO, LUCAS COUNTY, OHIO

INDEX OF SHEETS

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TRAFFIC CONTROL 12
SIGNALIZATION PLAN 13
LIGHTING PLAN 14
STORM WATER POLLUTION PROTECTION PLAN 15
LANDSCAPING. 16

PROJECT DESCRIPTION

THIS PROJECT WILL RESURFACE 1.02 MILES OF PAVEMENT ON FRONT STREET, FROM OAK STREET TO CRAIG STREET AND 0.92 MILES OF PAVEMENT ON MAIN STREET FROM MLK BRIDGE TO NEVEDA STREET. FRONT ST WILL BE REDUCED TO ONE LANE IN EACH DIRECTION. THIS INCLUDES RESURFACING OR REPLACING THE PAVEMENT, REMOVING AND REPLACING CURB, SIDEWALK, DRIVE APPROACHES, INSTALLATION OF MEDIAN DIVIDER, LANDSCAPING FEATURES, AS WELL AS DRAINAGE IMPROVEMENTS.

NOTES

THE 2023 CONSTRUCTION MATERIAL STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

WHERE THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION STANDARDS OVERLAP OR DIFFER FROM THE CITY OF TOLEDO, THE CURRENT CITY OF TOLEDO PART A STANDARDS AND STANDARD CONSTRUCTION DRAWINGS SHALL GOVERN.

DESIGN DESIGNATION

	FRONT ST	MAIN ST
CURRENT ADT (2025)	16,350	16001
DESIGN YEAR ADT (2045)	X	X
DESIGN HOURLY VOLUME	X	X
DIRECTIONAL DISTRIBUTION	X	X
TRUCKS (24 HOUR B&C)	1029	440
DESIGN SPEED	35 MPH	35 MPH
LEGAL SPEED	35 MPH	35 MPH
DESIGN FUNCTIONAL CLASSIFICATION	URBAN LOCAL	URBAN LOCAL

DESIGN EXCEPTIONS

NONE REQUIRED

LEGEND

EXISTING		PROPOSED	
MHSAN (S) SAN	SANITARY SEWER	MH	PIPE
MHST (D) ST CB	STORM SEWER	R/W	RIGHT-OF-WAY
MHW (W) W	WATERLINE		CURB REMOVED
MHE (E) E	ELECTRICAL		UTILITY ABANDONED
MHTE (T) T	TELEPHONE		UTILITY REMOVED
G	GAS LINES		HYDRANT
C	CABLE	MH CB	STRUCTURES, ADJUSTED OR RECONSTRUCTED
FO	FIBER-OPTIC	MH CB	STRUCTURES, NEW
	CENTERLINE		SURFACE FLOW DIRECTION
R/W	RIGHT-OF-WAY		TREES REMOVED
P/L	PROPERTY LINE	COND.	CONDUIT (SEWER PIPE)
	CURB	DEFL.	DEFLECTION
	FENCE	D.I.P.	DUCTILE IRON PIPE (WATERLINE PIPE)
WV	WATER VALVE	#-T	RIGHT-OF-WAY TAKE, TEMPORARY
GV DRS	GAS VALVE	#-WD	RIGHT-OF-WAY TAKE, PERMANENT
	HYDRANT		
	UTILITY POLE		
	GUY WIRE		
	PEDESTRIAN RAMP		
	TREES (CONIF.,DECID.)		
	SURVEY MONUMENTS		
(UNSUR)	UNSURVEYED		

APPROVALS

APPROVED: _____ DATE: _____
JEREMY MIKOLAJCZYK
INTERIM DIRECTOR
DEPARTMENT OF TRANSPORTATION

APPROVED: _____ DATE: _____
CHRISTY SONCRANT, P.E.
COMMISSIONER
DIVISION OF ENGINEERING & CONSTRUCTION MANAGEMENT

APPROVED: _____ DATE: _____
TIMOTHY D. GROSJEAN, P.E.
SENIOR TRANSPORTATION ENGINEER
DIVISION OF ENGINEERING & CONSTRUCTION MANAGEMENT

PLANS PREPARED BY:

Colliers Engineering & Design
TETRA TECH
DGL CONSULTING ENGINEERS
EDGE

UNDERGROUND UTILITIES
Contact Two Working Days Before You Dig
OHIO811.org Before You Dig
OHIO811, 8-1-1, or 1-800-362-2764
(Non-members must be called directly)

Project Survey Control System used:
Horizontal Control: NAD 83 before HARN Shift of 1995.
Vertical Control: NAVD 88
Survey Information in Project Folder.

Design Constructed: Yes ☐ No ☐		**Book**	**Page**
Construction Completion Date:		**Record Drawing Date:**	

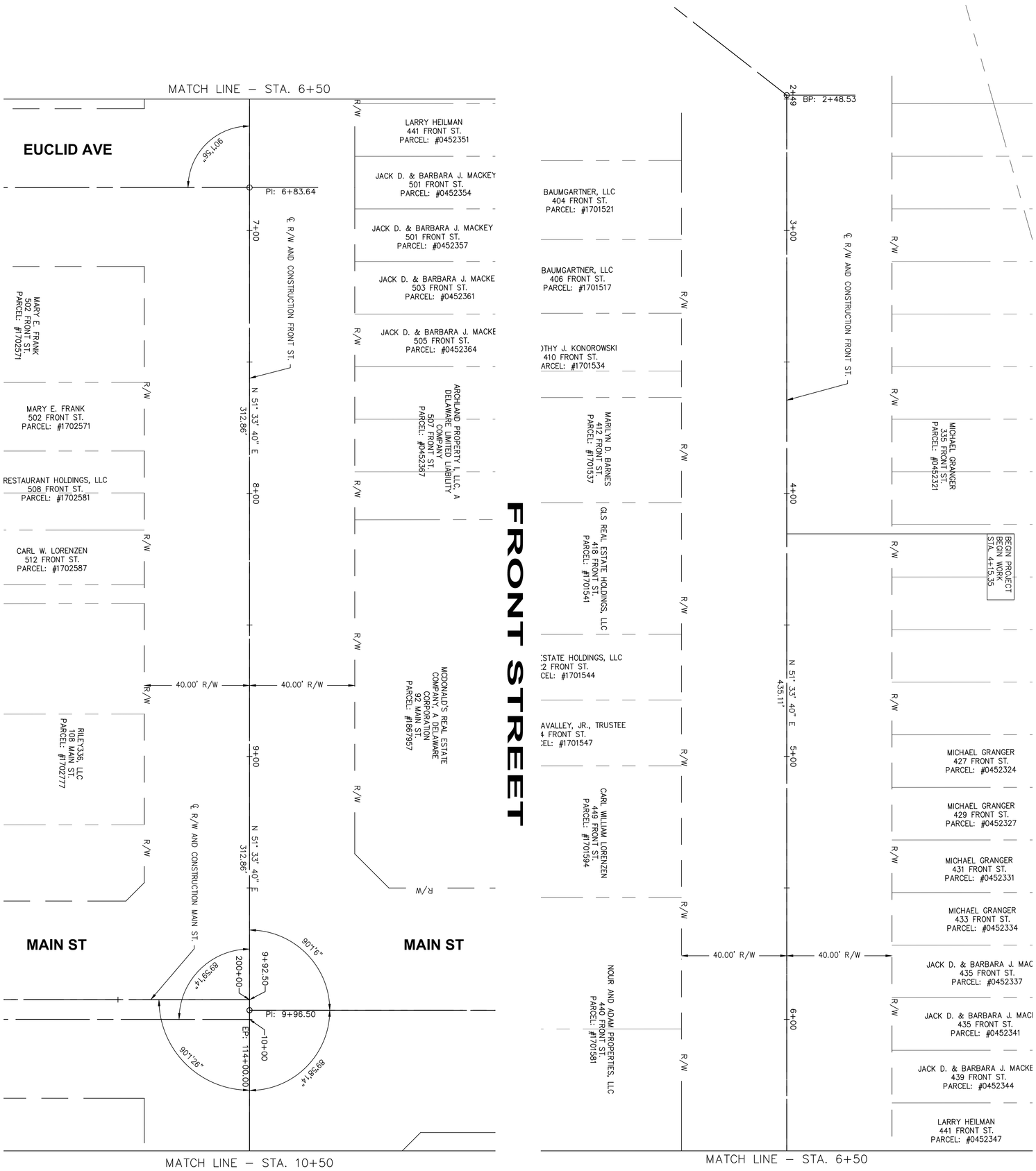
FEDERAL PROJ. NO.
E240767
PID NO.
121938
RR INVOLVEMENT
NONE

TITLE SHEET

FRONT STREET AND MAIN STREET ROADWAY AND STREETSCAPE IMPROVEMENTS

DESIGN AGENCY
Colliers Engineering & Design

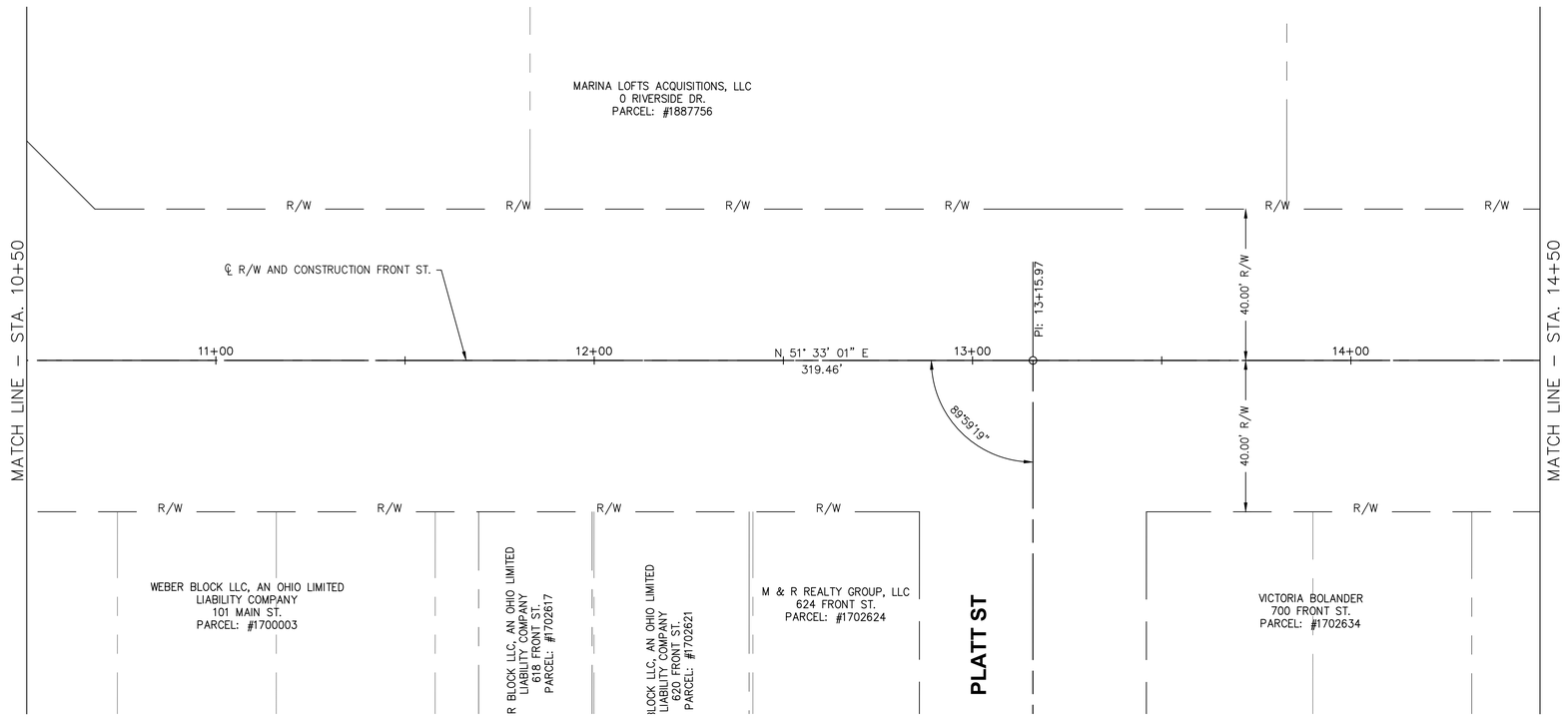
DESIGNER
MAS
REVIEWER
XF
PROJECT ID
####
SHEET TOTAL



SHEET TOTAL	COT PROJ. ID ###	REVIEWER XF	DESIGNER MAS	ODOT PID 121938	Colliers Engineering & Design	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

SCHEMATIC PLAN
FRONT STREET STA. 02+48.53 TO STA. 10+50

0 10 20 40
Horizontal
Scale In Feet



SCHEMATIC PLAN
FRONT STREET STA. 10+50 TO STA. 18+50

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

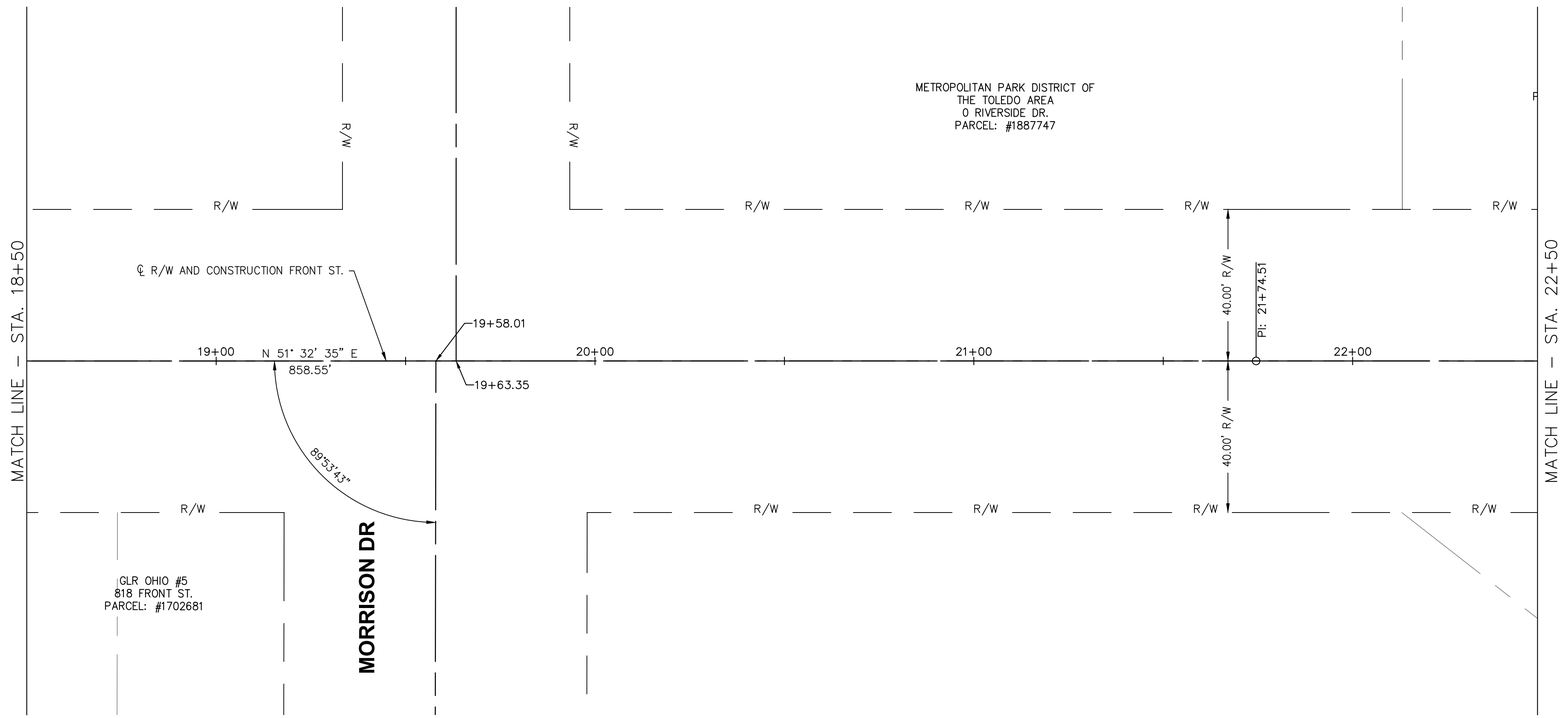
ODOT PID
121938

DESIGNER
MAS

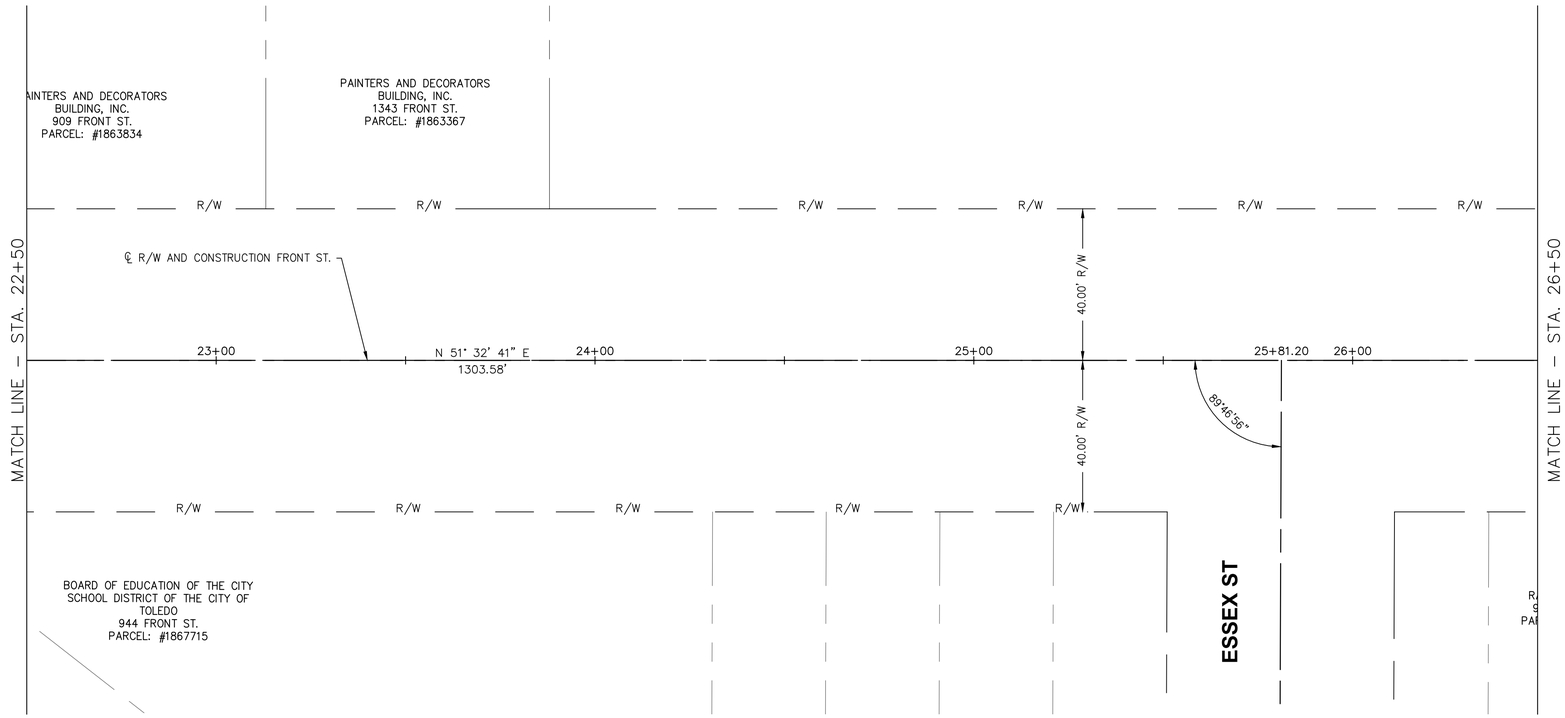
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET



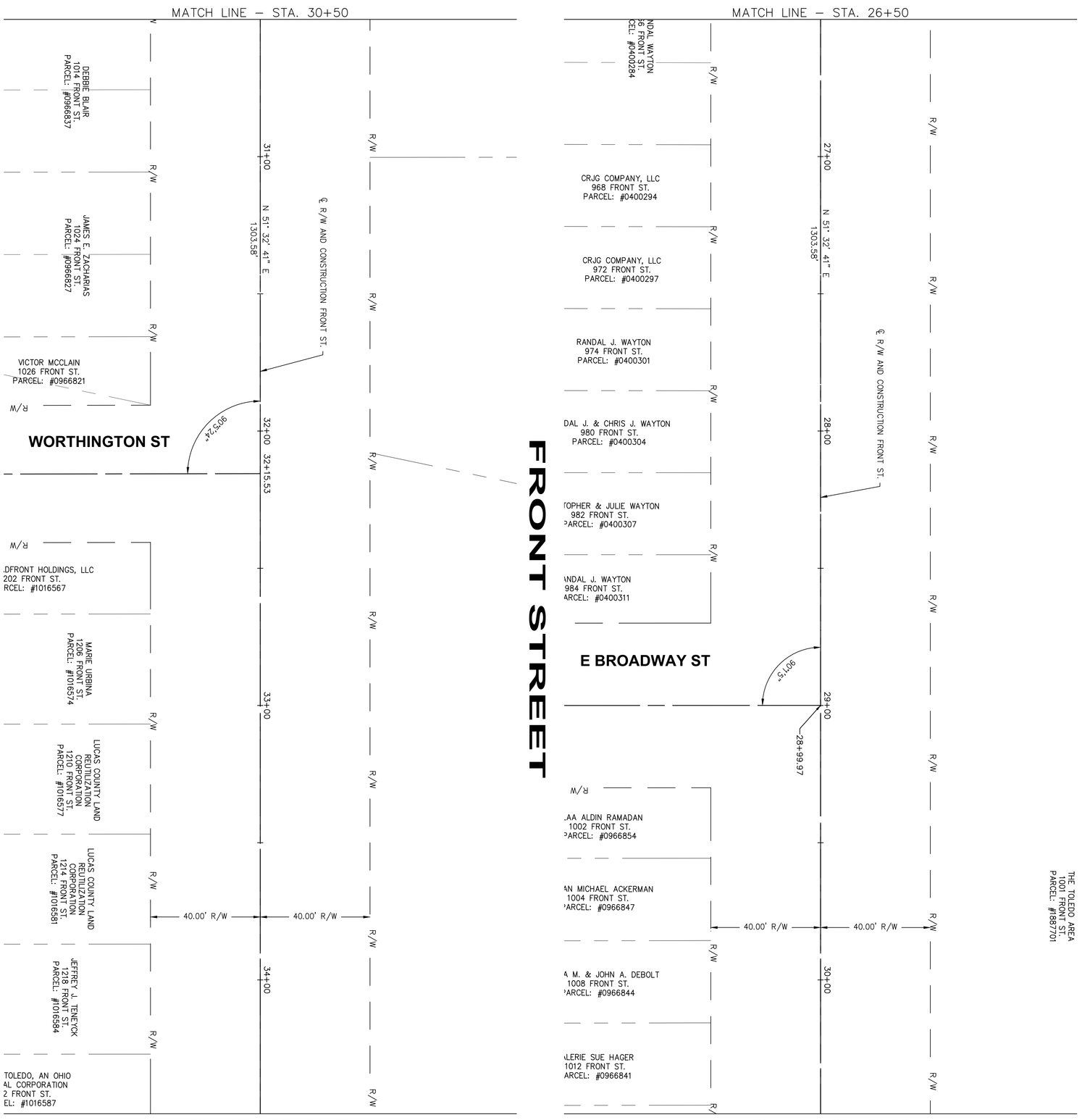
0 10 20 40
Horizontal
Scale In Feet

SCHEMATIC PLAN
FRONT STREET STA. 18+50 TO STA. 26+50

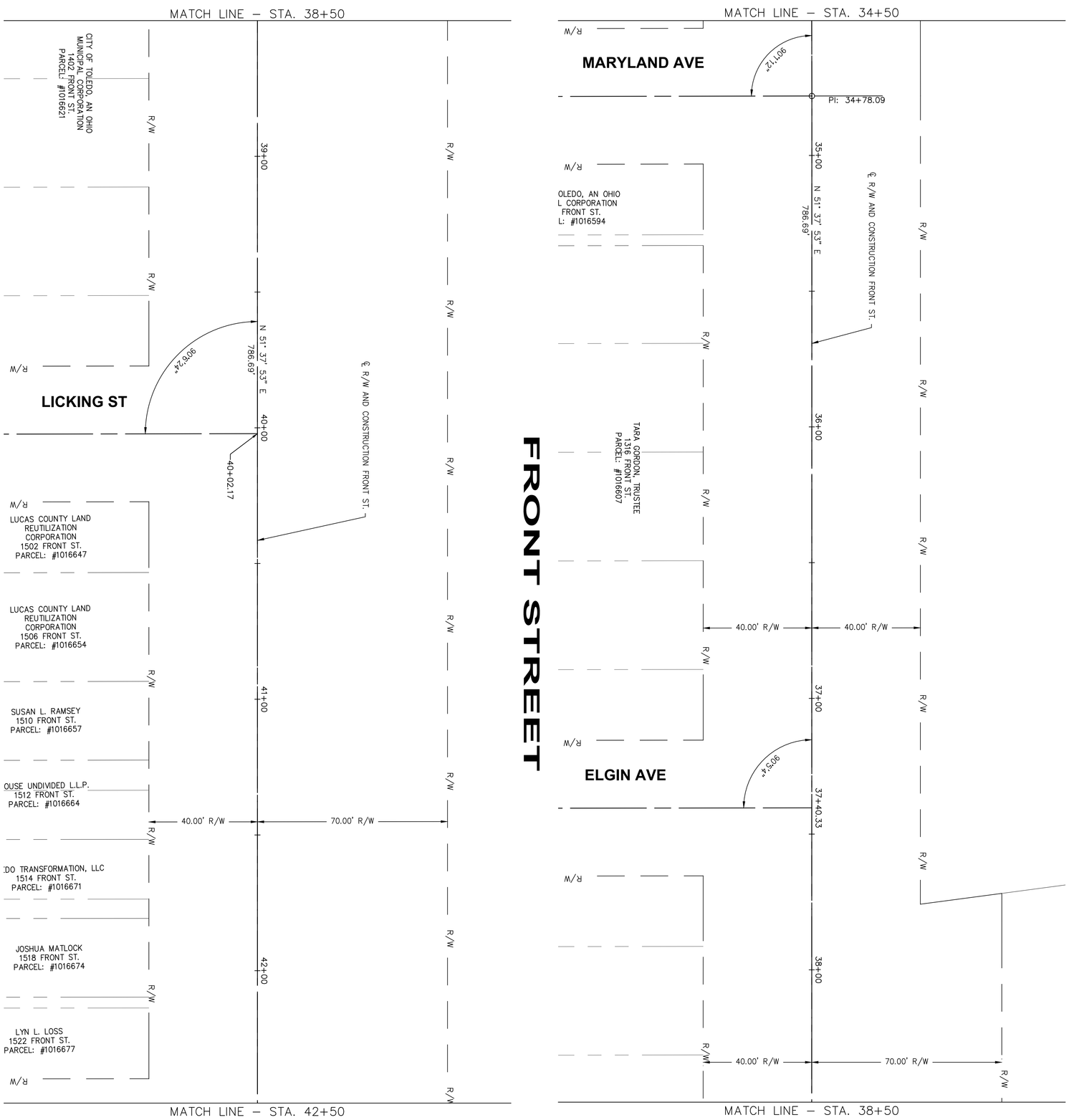
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



SHEET TOTAL	ODOT PID 121938	DESIGN AGENCY Colliers Engineering & Design	**FRONT ST & MAIN ST IMPROVEMENT PLANS**	**SCHEMATIC PLAN FRONT STREET STA. 26+50 TO STA. 34+50**	0 10 20 40 Horizontal Scale In Feet
	DESIGNER MAS				
	REVIEWER XF				
	COT PROJ. ID ####				



SHEET TOTAL	COT PROJ. ID ###	REVIEWER XF	DESIGNER MAS	ODOT PID 121938	Colliers Engineering & Design	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

SCHEMATIC PLAN
FRONT STREET STA. 34+50 TO STA. 42+50

0 10 20 40
Horizontal
Scale In Feet

FRONT STREET

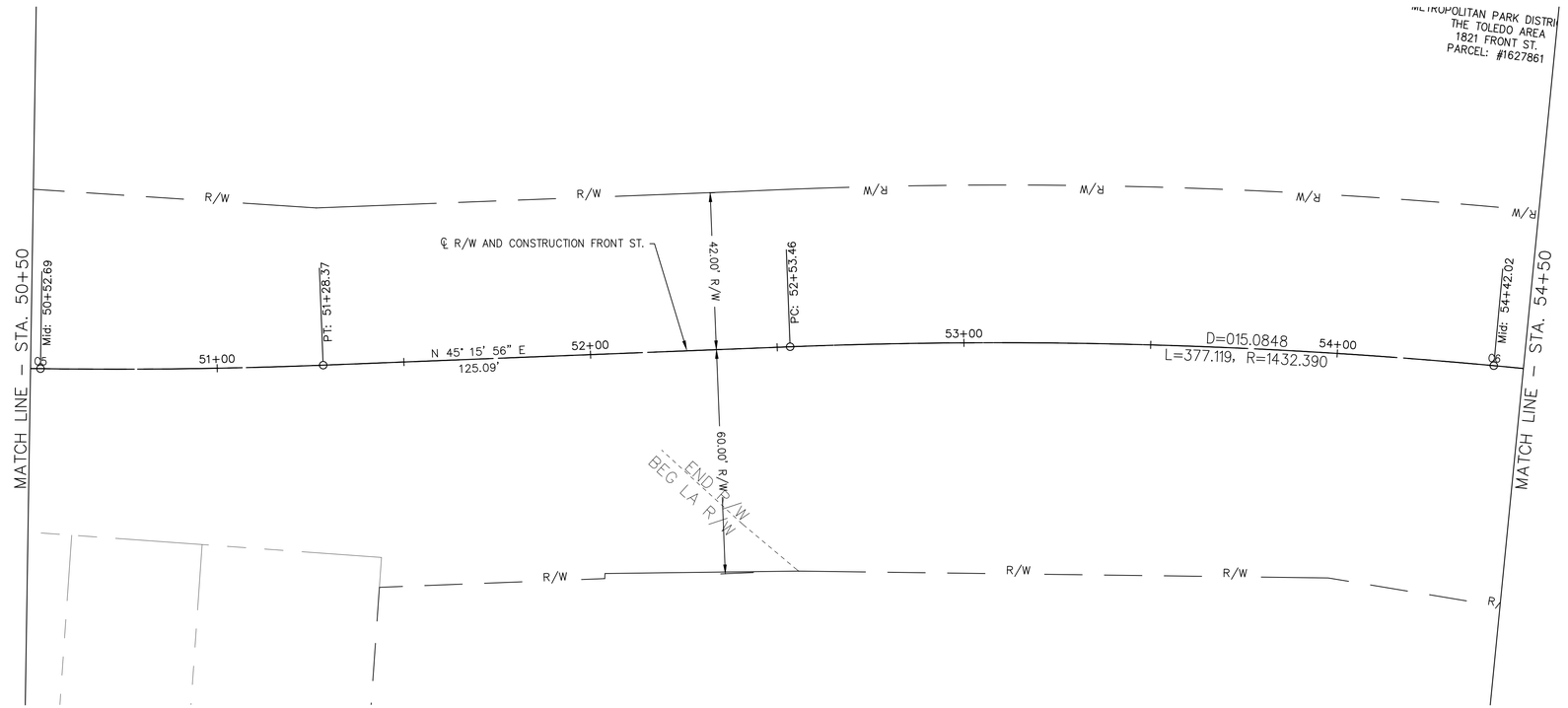
SCHEMATIC PLAN
FRONT STREET STA. 42+50 TO STA. 50+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



FRONT STREET



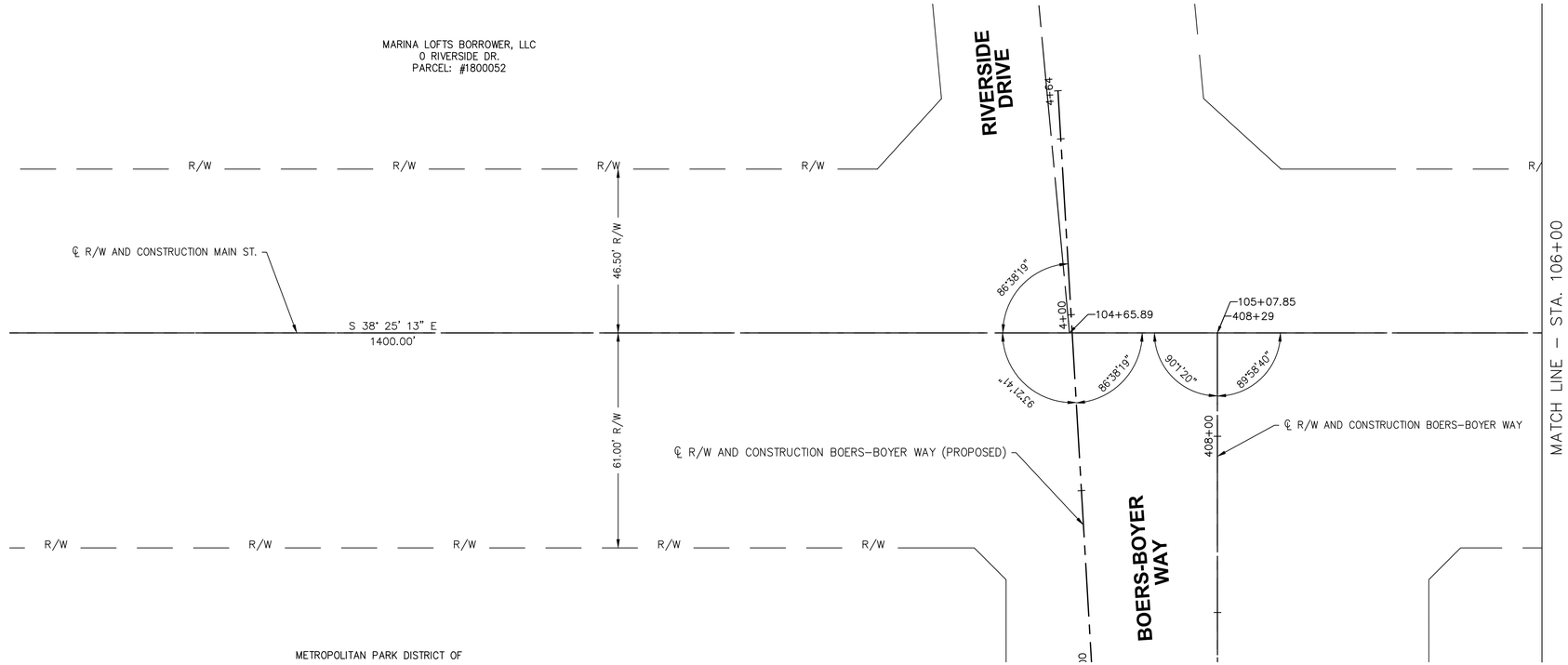
0 10 20 40
Horizontal Scale In Feet

SCHEMATIC PLAN
FRONT STREET STA. 50+50 TO STA. 58+80

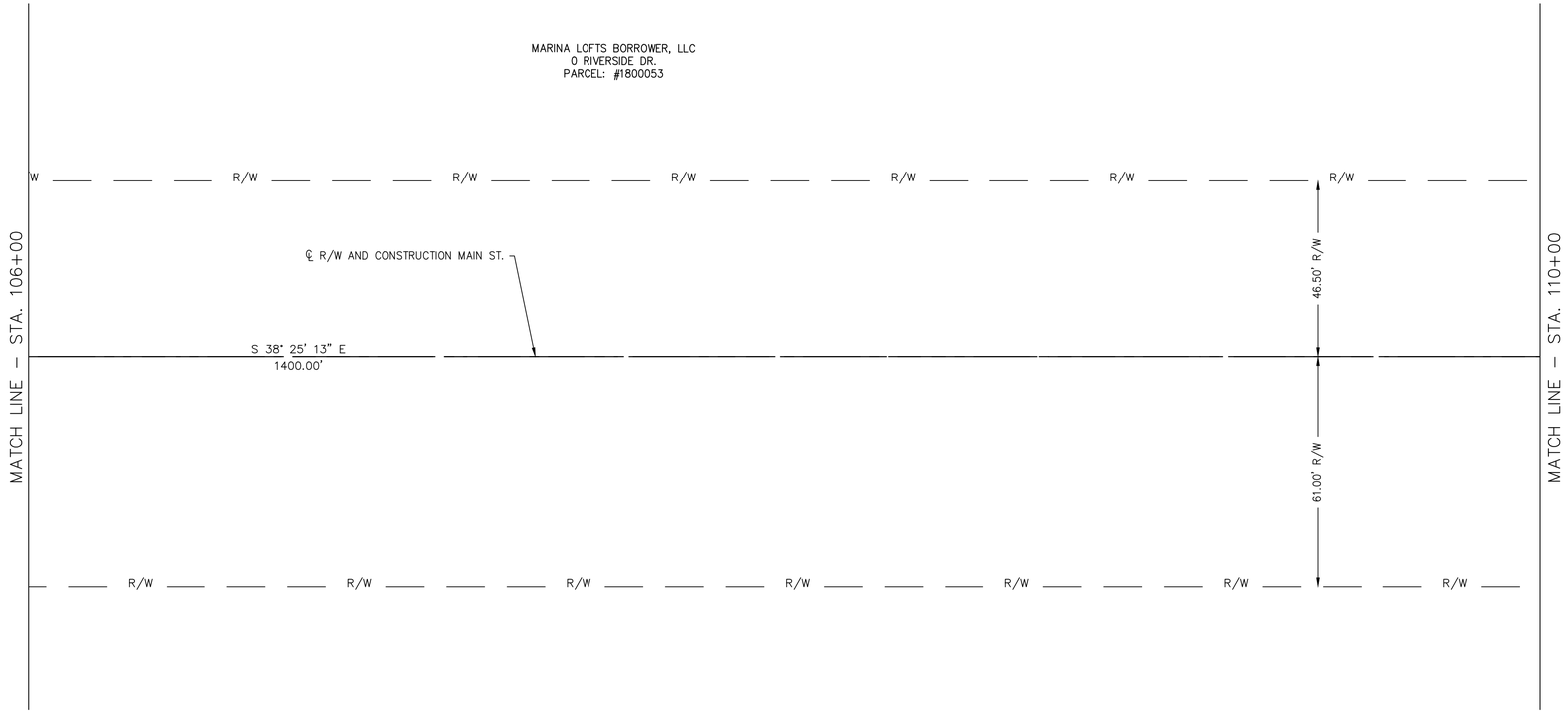
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



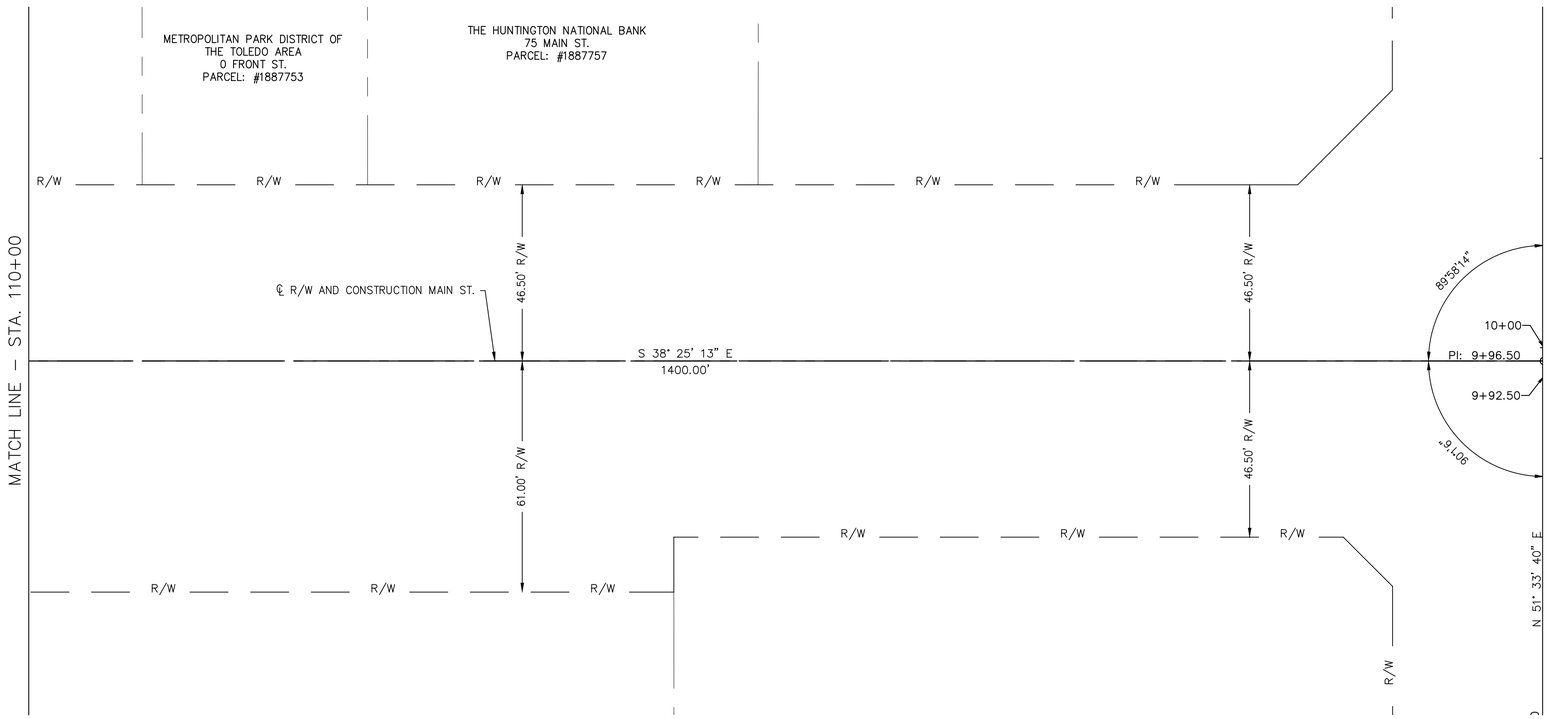
0 10 20 40
Horizontal Scale In Feet

SCHEMATIC PLAN
MAIN STREET STA. 102+00 TO STA. 110+00

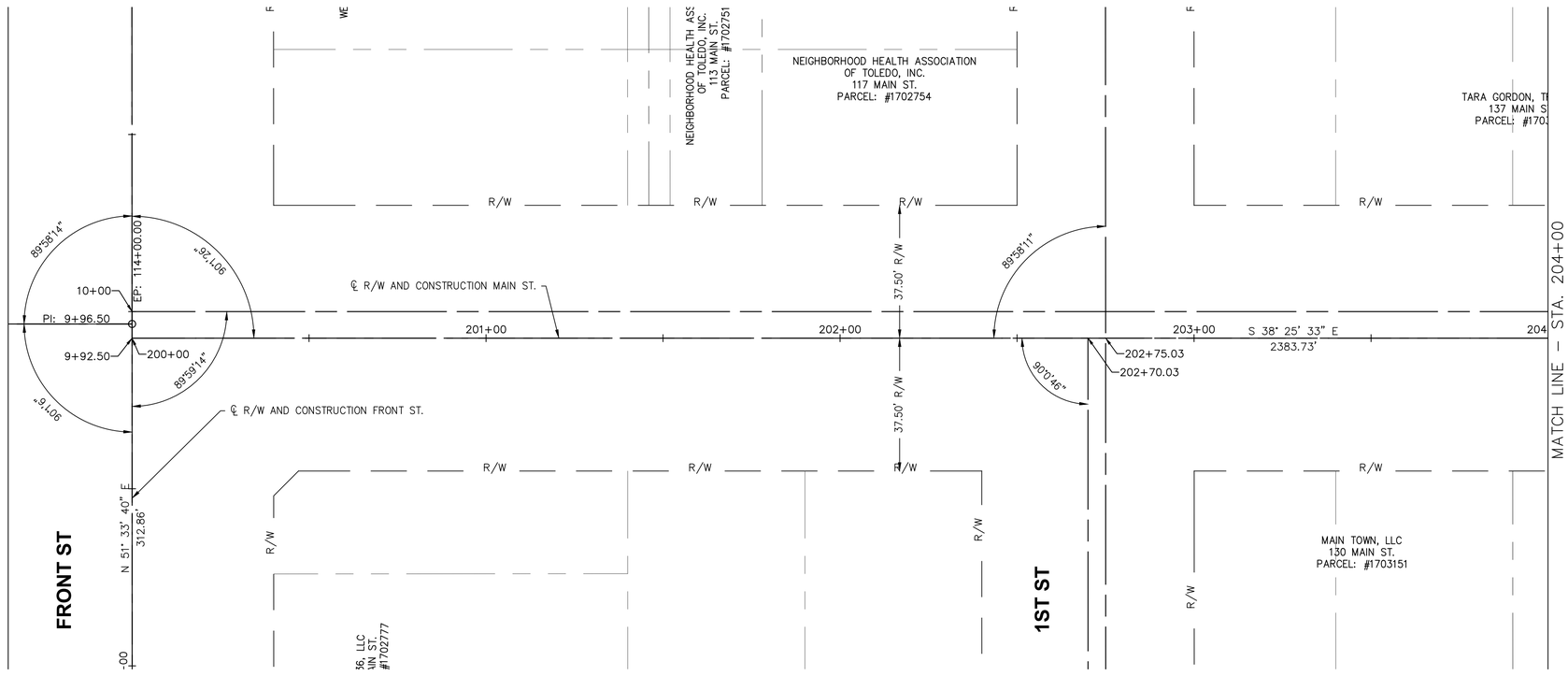
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



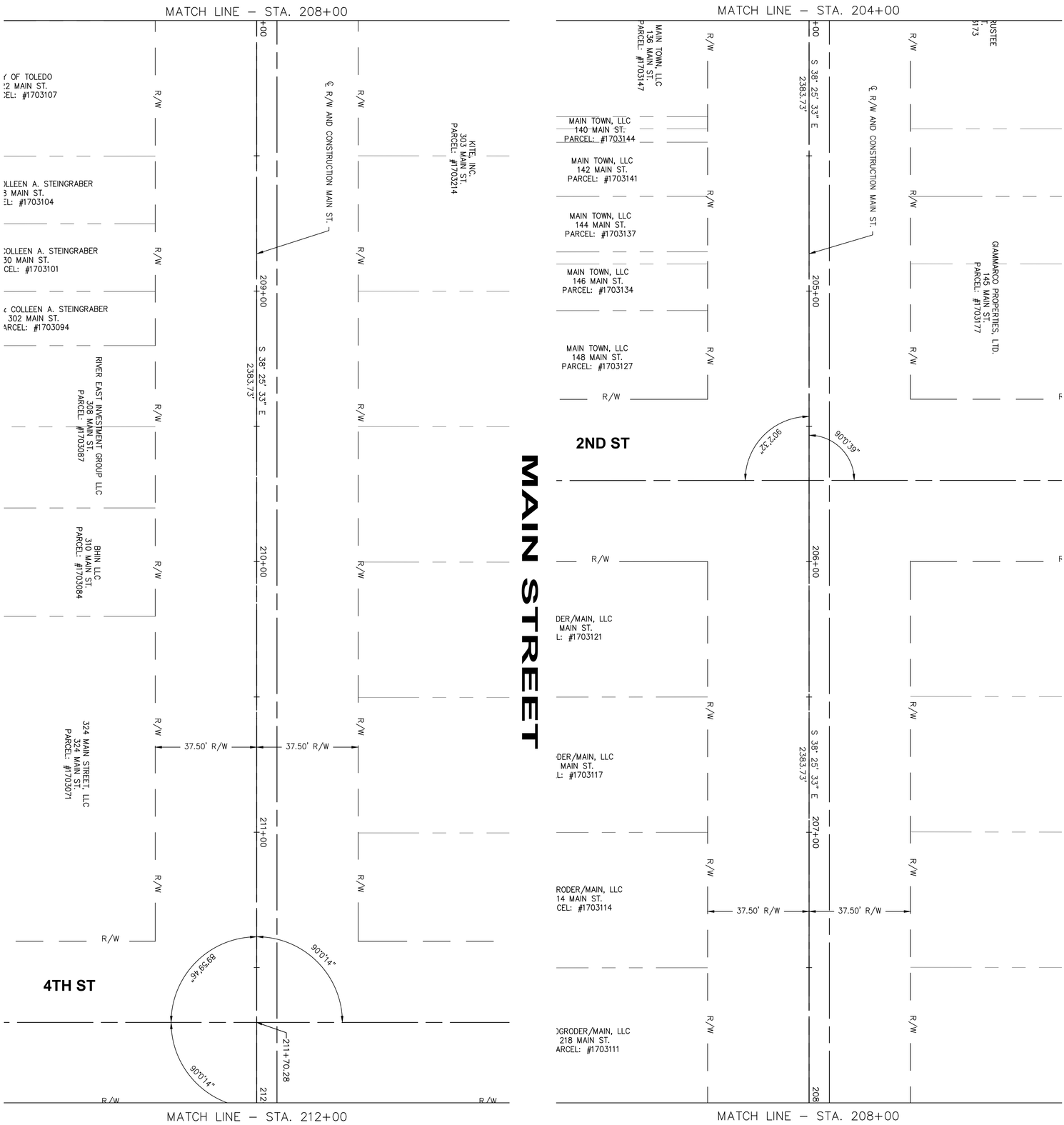
Horizontal Scale In Feet
0 10 20 40

SCHEMATIC PLAN
MAIN STREET STA. 110+00 TO STA. 204+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

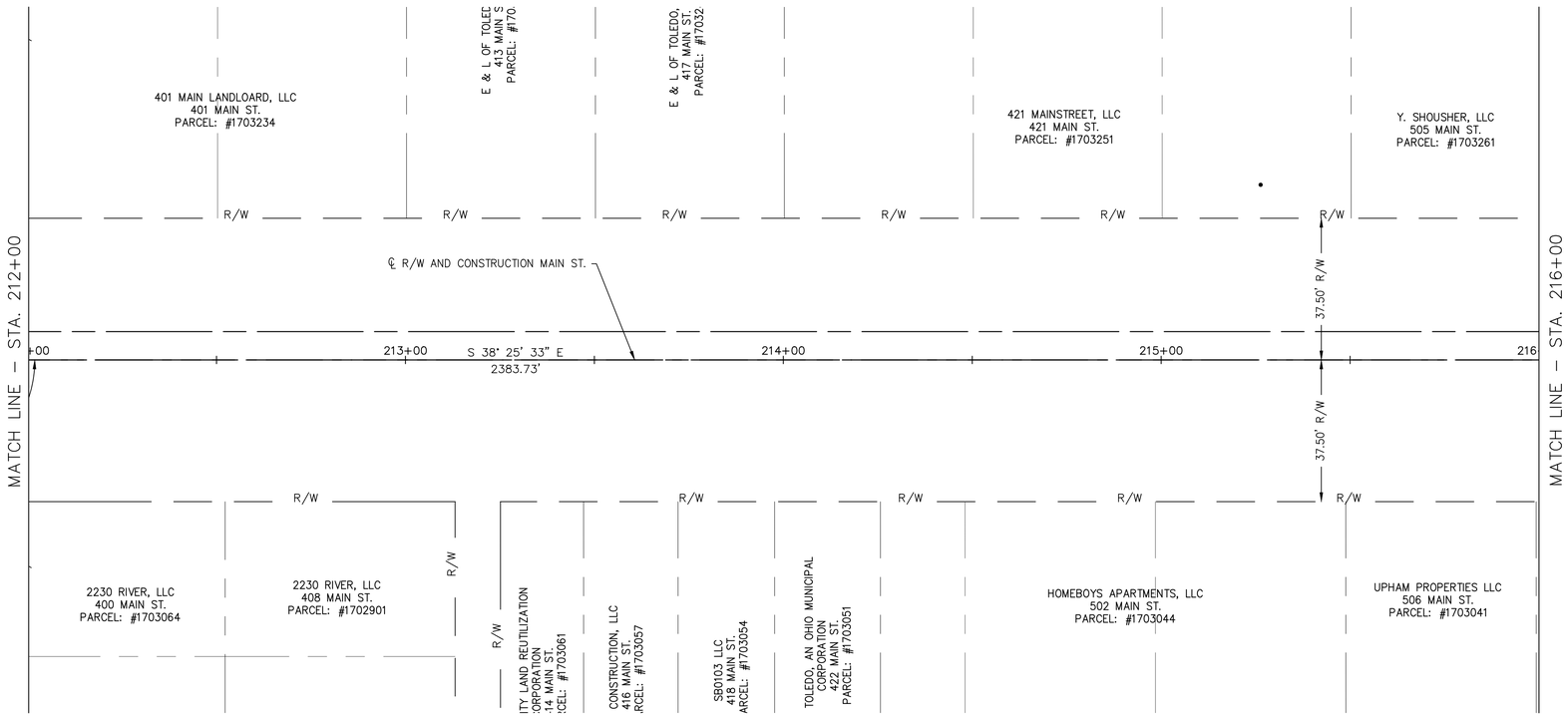
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



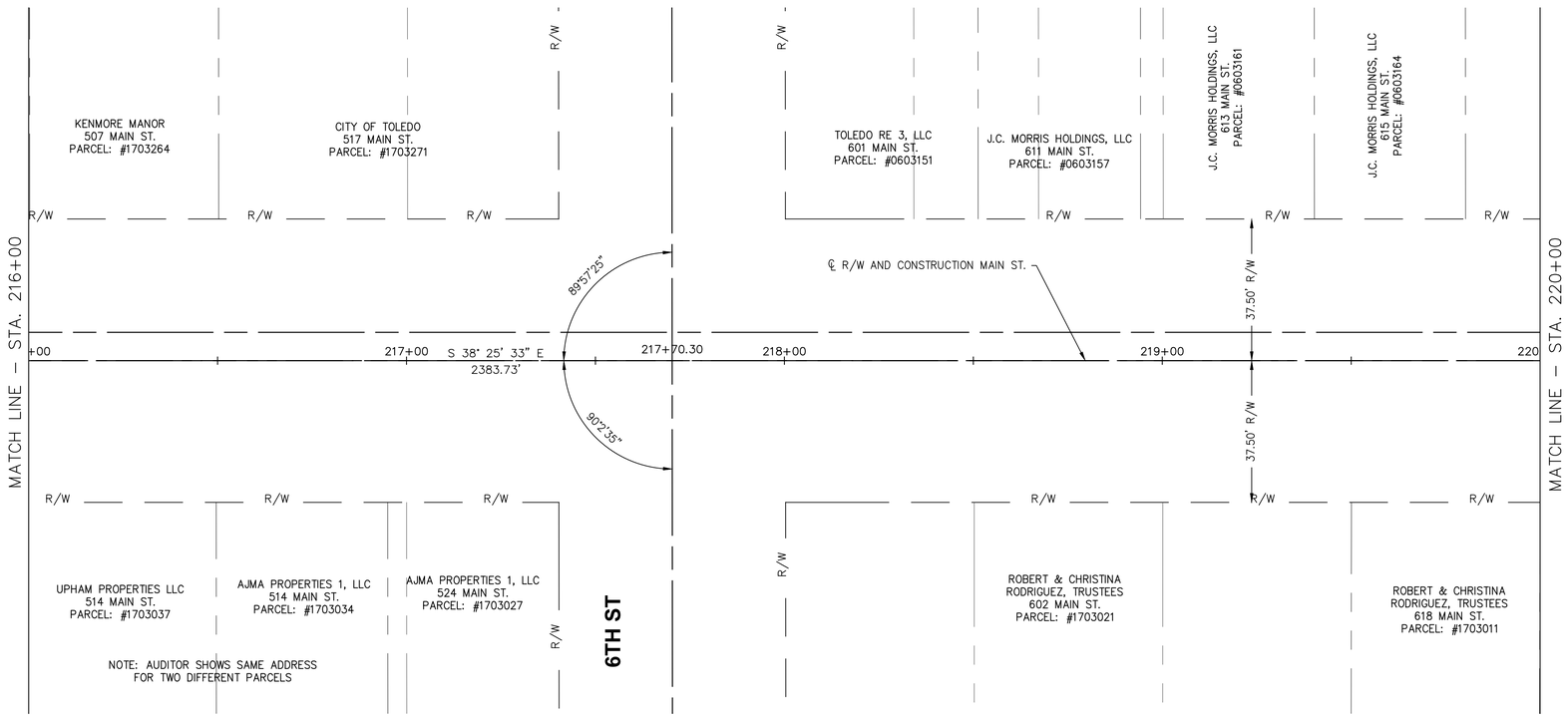
SHEET TOTAL	COT PROJ. ID ####	REVIEWER XF	DESIGNER MAS	ODOT PID 121938	Colliers Engineering & Design	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

SCHEMATIC PLAN
MAIN STREET STA. 204+00 TO STA. 212+00

0 10 20 40
Horizontal
Scale In Feet



MAIN STREET



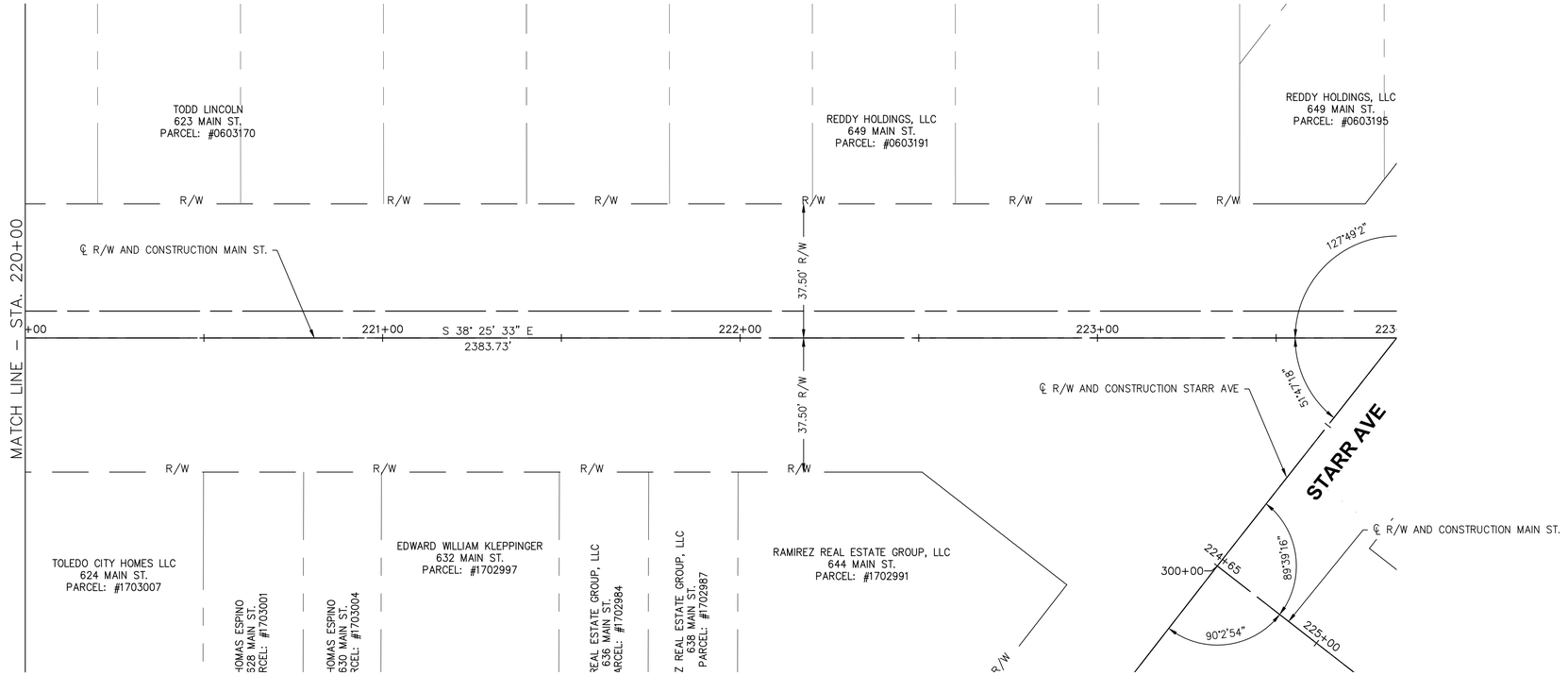
0 10 20 40
Horizontal
Scale In Feet

SCHEMATIC PLAN
MAIN STREET STA. 212+00 TO STA. 220+00

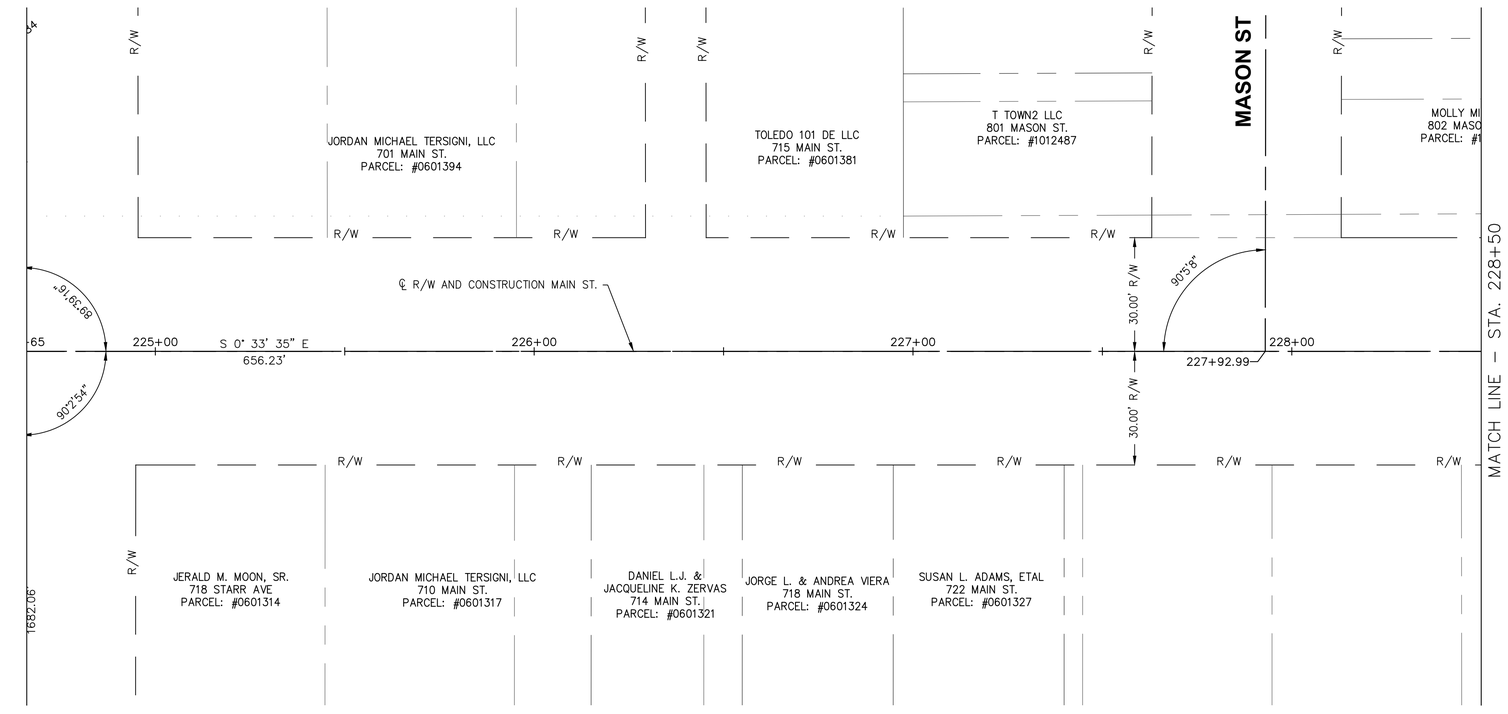
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



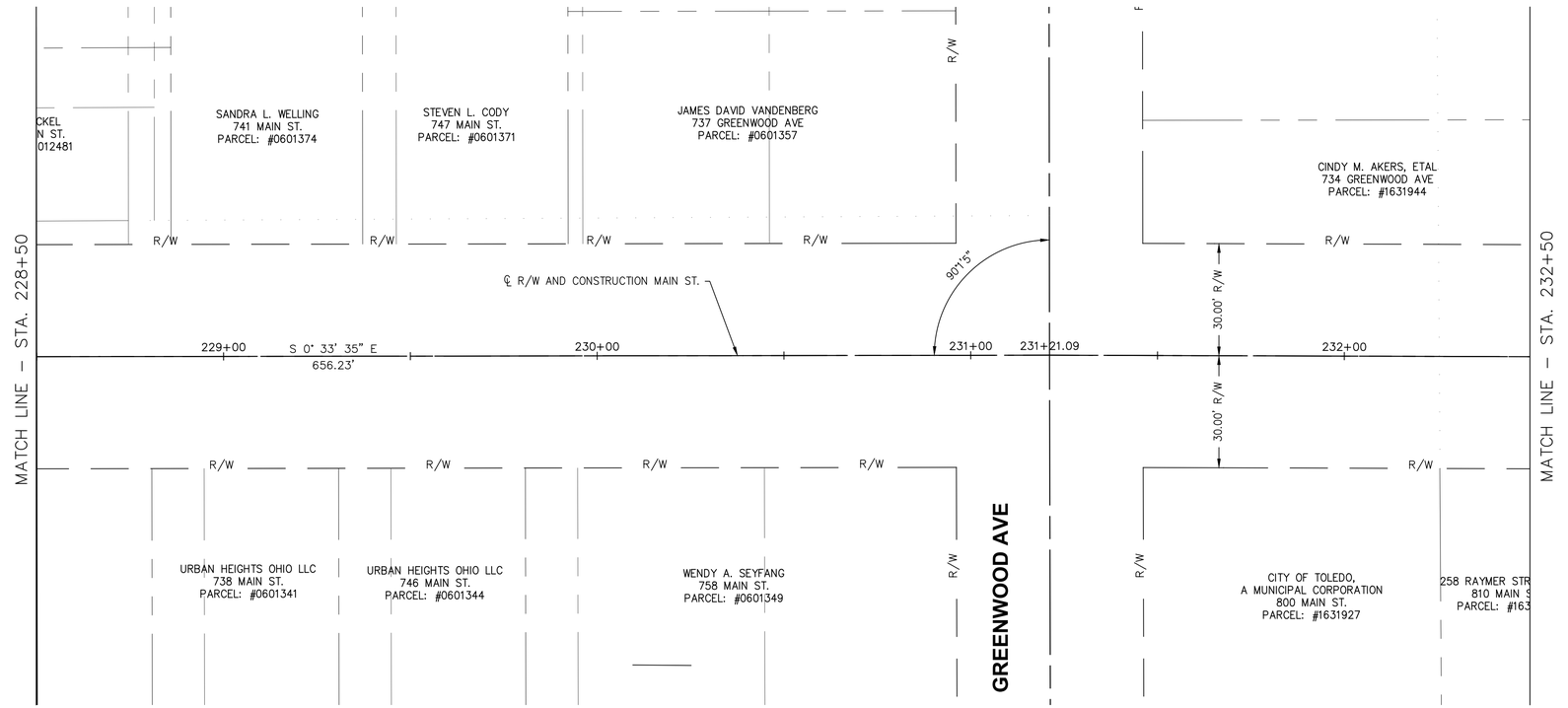
0 10 20 40
Horizontal Scale In Feet

SCHEMATIC PLAN
MAIN STREET STA. 220+00 TO STA. 228+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



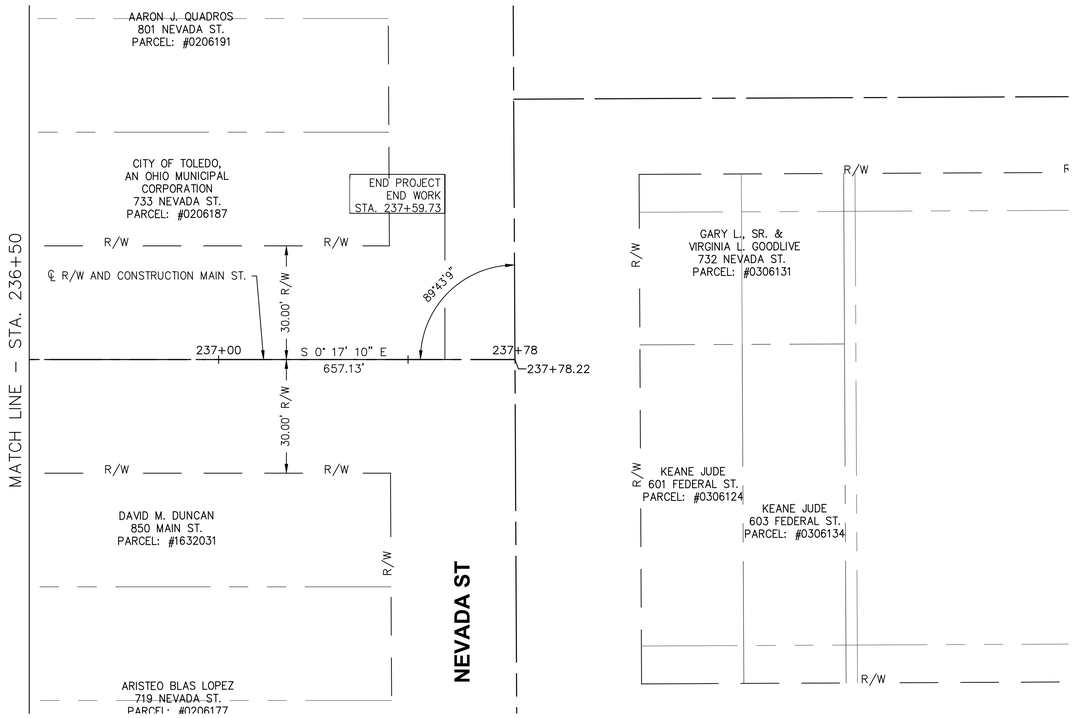
0 10 20 40
Horizontal
Scale In Feet

SCHEMATIC PLAN
MAIN STREET STA. 228+50 TO STA. 236+50

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



0 10 20 40
Horizontal
Scale In Feet

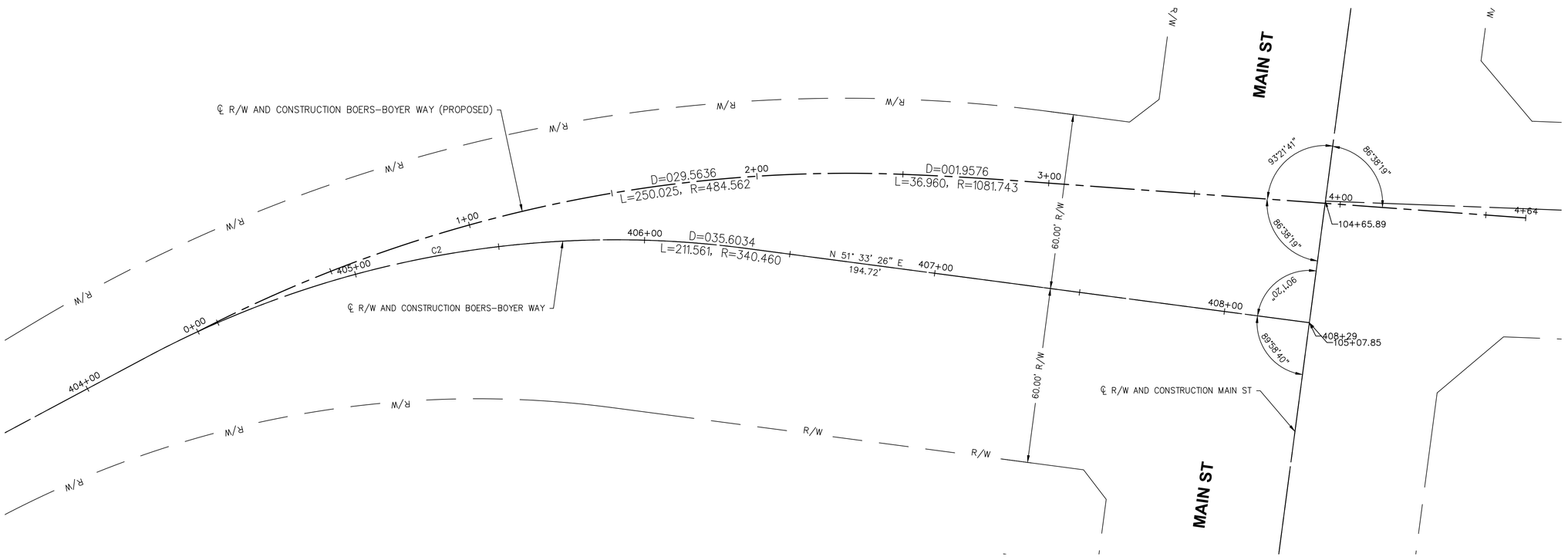
SCHEMATIC PLAN
MAIN STREET STA. 236+50 TO STA. 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



BOERS-BOYER WAY

0 10 20 40
Horizontal Scale In Feet

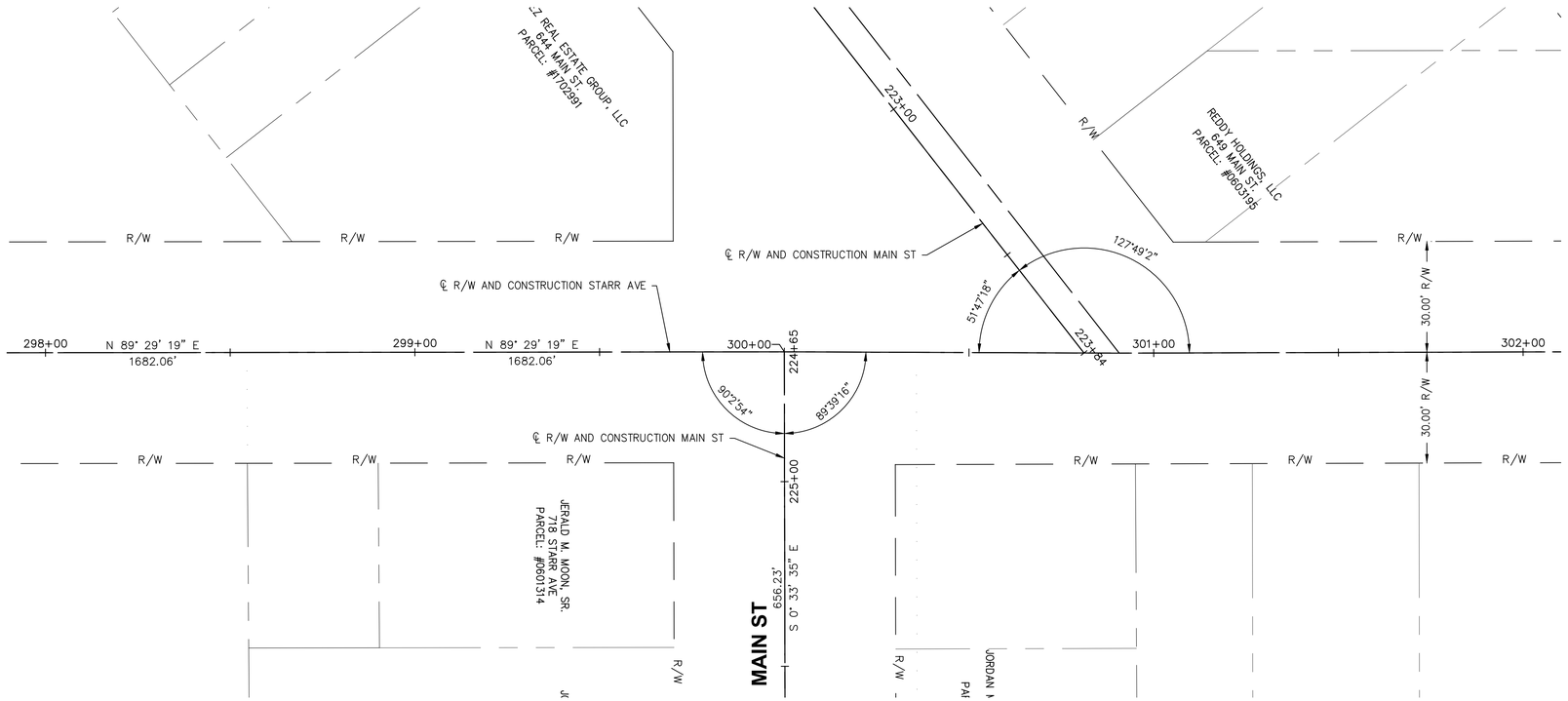
SCHEMATIC PLAN
BOERS-BOYER WAY STA. 404+50 TO STA. 408+29.33

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



STARR AVENUE

0 10 20 40
Horizontal Scale In Feet

SCHEMATIC PLAN
STARR AVENUE STA. 299+50 TO STA. 301+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STATION AND CURVE TABLE

24333 CL Boers-Boyer_Alignment

Curve Point Data

Description	Station	Northing	Easting
PC:	400+00.000	723740.63	1687764.332
RP:		724165.65	1687399.695
PT:	403+26.630	724011.73	1687938.126

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	33° 25' 07.6314"	Type:	LEFT
Radius:	560		
Length:	326.63	Tangent:	168.108
Mid-Ord:	23.646	External:	24.688
Chord:	322.02	Course:	N 32° 39' 47.8388" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	403+26.630	724011.73	1687938.126
End:	404+23.049	724104.43	1687964.628

Tangent Data

Parameter	Value	Parameter	Value
Length:	96.419	Course:	N 15° 57' 14.0231" E

Curve Point Data

Description	Station	Northing	Easting
PC:	404+23.049	724104.43	1687964.628
RP:		724010.85	1688291.975
PT:	406+34.609	724277.51	1688080.3

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	35° 36' 12.2977"	Type:	RIGHT
Radius:	340.46		
Length:	211.561	Tangent:	109.321
Mid-Ord:	16.301	External:	17.121
Chord:	208.173	Course:	N 33° 45' 20.1719" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	406+34.609	724277.51	1688080.3
End:	408+29.330	724398.57	1688232.811

Tangent Data

Parameter	Value	Parameter	Value
Length:	194.72	Course:	N 51° 33' 26.3207" E

24333 CL N Main St_Alignment

Tangent Data

Description	PT Station	Northing	Easting
Start:	100+00.000	724796.46	1687917.218
End:	114+00.000	723699.6	1688787.215

Tangent Data

Parameter	Value	Parameter	Value
Length:	1400	Course:	S 38° 25' 13.3852" E

24333 CL S Main St_Alignment

Tangent Data

Description	PT Station	Northing	Easting
Start:	200+00.000	723697.11	1688784.082
End:	223+83.728	721829.67	1690265.573

Tangent Data

Parameter	Value	Parameter	Value
Length:	2383.728	Course:	S 38° 25' 33.1888" E

24333 CL S Main St-Ext_Alignment

Tangent Data

Description	PT Station	Northing	Easting
Start:	224+64.860	721829.37	1690184.439
End:	231+21.092	721173.17	1690190.85

Tangent Data

Parameter	Value	Parameter	Value
Length:	656.232	Course:	S 00° 33' 35.1167" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	231+21.092	721173.17	1690190.85
End:	237+78.221	720516.05	1690194.132

Tangent Data

Parameter	Value	Parameter	Value
Length:	657.129	Course:	S 00° 17' 10.2394" E

24333 CL Starr Ave_Alignment

Tangent Data

Description	PT Station	Northing	Easting
Start:	283+17.940	721814.35	1688502.449
End:	299+99.997	721829.37	1690184.439

Tangent Data

Parameter	Value	Parameter	Value
Length:	1682.057	Course:	N 89° 29' 18.8609" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	299+99.997	721829.37	1690184.439
End:	300+90.677	721829.71	1690275.118

Tangent Data

Parameter	Value	Parameter	Value
Length:	90.68	Course:	N 89° 47' 08.8904" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	300+90.677	721829.71	1690275.118
End:	306+51.300	721835.66	1690835.71

Tangent Data

Parameter	Value	Parameter	Value
Length:	560.624	Course:	N 89° 23' 28.9935" E

Boers Boyer (Prop.) Alignment

Curve Point Data

Description	Station	Northing	Easting
PC:	0+00.000	724123.03	1687970.527
RP:		723983.81	1688434.658
PCC:	2+50.025	724333.9	1688099.643

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	29° 33' 48.8644"	Type:	RIGHT
Radius:	484.562		
Length:	250.025	Tangent:	127.862
Mid-Ord:	16.037	External:	16.586
Chord:	247.261	Course:	N 31° 28' 44.1513" E

Curve Point Data

Description	Station	Northing	Easting
PCC:	2+50.025	724333.9	1688099.643
RP:		723552.35	1688847.536
PT:	2+86.985	724358.99	1688126.777

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	01° 57' 27.3783"	Type:	RIGHT
Radius:	1081.743		
Length:	36.96	Tangent:	18.482
Mid-Ord:	0.158	External:	0.158
Chord:	36.958	Course:	N 47° 14' 22.2727" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+86.985	724358.99	1688126.777
End:	4+63.680	724476.73	1688258.536

Tangent Data

Parameter	Value	Parameter	Value
Length:	176.695	Course:	N 48° 13' 05.9619" E

CL Front St_Alignment

Tangent Data

Description	PT Station	Northing	Easting
Start:	2+48.530	723234.6	1688201.347
End:	6+83.640	723505.1	1688542.157

Tangent Data

Parameter	Value	Parameter	Value
Length:	435.11	Course:	N 51° 33' 40.4736" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	6+83.640	723505.1	1688542.157
End:	9+96.504	723699.6	1688787.215

Tangent Data

Parameter	Value	Parameter	Value
Length:	312.864	Course:	N 51° 33' 40.4736" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	9+96.504	723699.6	1688787.215
End:	13+15.965	723898.25	1689037.402

Tangent Data

Parameter	Value	Parameter	Value
Length:	319.461	Course:	N 51° 33' 00.5703" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	13+15.965	723898.25	1689037.402
End:	21+74.515	724432.2	1689709.712

Tangent Data

Parameter	Value	Parameter	Value
Length:	858.549	Course:	N 51° 32' 35.2239" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	21+74.515	724432.2	1689709.712
End:	34+78.090	725242.9	1690730.534

Tangent Data

Parameter	Value	Parameter	Value
Length:	1303.576	Course:	N 51° 32' 41.0192" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	34+78.090	725242.9	1690730.534
End:	42+64.777	725731.21	1691347.322

Tangent Data

Parameter	Value	Parameter	Value
Length:	786.686	Course:	N 51° 37' 52.8652" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	42+64.777	725731.21	1691347.322
End:	48+19.825	726076.01	1691782.29

Tangent Data

Parameter	Value	Parameter	Value
Length:	555.049	Course:	N 51° 35' 48.1768" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	48+19.825	726076.01	1691782.29
End:	49+77.010	726175.63	1691903.874

Tangent Data

Parameter	Value	Parameter	Value
Length:	157.184	Course:	N 50° 40' 12.6898" E

Curve Point Data

Description	Station	Northing	Easting
PC:	49+77.010	726175.63	1691903.874
RP:		727294.44	1691009.446
PT:	51+28.373	726276.21	1692016.892

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	06° 03' 16.4163"	Type:	LEFT
Radius:	1432.39		
Length:	151.364	Tangent:	75.752
Mid-Ord:	1.999	External:	2.002
Chord:	151.293	Course:	N 48° 19' 56.4150" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	51+28.373	726276.21	1692016.892
End:	52+53.459	726364.25	1692105.75

Tangent Data

Parameter	Value	Parameter	Value
Length:	125.086	Course:	N 45° 15' 56.1320" E

Curve Point Data

Description	Station	Northing	Easting
PC:	52+53.459	726364.25	1692105.75
RP:		725346.25	1693113.434
PT:	56+30.578	726591.42	1692405.405

Circular Curve Data

Parameter	Value	Parameter	Value
Delta:	15° 05' 05.3441"	Type:	RIGHT
Radius:	1432.39		
Length:	377.119	Tangent:	189.656
Mid-Ord:	12.393	External:	12.501
Chord:	376.031	Course:	N 52° 50' 02.5673" E

Tangent Data

Description	PT Station	Northing	Easting
Start:	56+30.578	726591.42	1692405.405
End:	62+92.068	726918.11	1692980.589

Tangent Data

Parameter	Value	Parameter	Value
Length:	661.49	Course:	N 60° 24' 13.7744" E

HORIZONTIAL CONTROL POINTS

Point	Northing	Easting	Description
500.00	720543.52	1690232.60	MAG NAIL SET
501.00	720832.31	1690172.71	MAG NAIL SET
502.00	721201.65	1690165.36	MAG NAIL SET
503.00	721542.69	1690209.36	MAG NAIL SET
504.00	721795.36	1690207.74	MAG NAIL SET
505.00	722163.23	1690039.40	MAG NAIL SET
506.00	722327.37	1689845.16	5/8" IRON PIN WITH "DGL CONTROL" CAP
507.00	722742.96	1689514.75	5/8" IRON PIN WITH "DGL CONTROL" CAP
508.00	723239.49	1689183.26	MAG NAIL SET
509.00	723620.05	1688814.17	5/8" IRON PIN WITH "DGL CONTROL" CAP
510.00	723793.56	1688811.57	5/8" IRON PIN WITH "DGL CONTROL" CAP
511.00	724308.71	1688257.77	MAG NAIL SET
512.00	724089.76	1689339.24	MAG NAIL SET
513.00	724637.92	1690018.53	MAG NAIL SET
514.00	725296.72	1690737.95	MAG NAIL SET
515.00	725962.32	1691576.40	MAG NAIL SET
516.00	726449.24	1692280.36	MAG NAIL SET
517.00	726612.04	1692560.77	5/8" IRON PIN WITH "DGL CONTROL" CAP
518.00	723295.77	1688324.37	MAG NAIL SET

VERTICAL CONTROL POINTS

Point	Elevation	Description
S.B.M. #1	612.88	CUT "X" ON NORTH BONNET BOLT OF FIRE HYDRANT
S.B.M. #2	613.04	MAG NAIL SET IN WEST SIDE OF TELEPHONE POWER POLE
S.B.M. #3	610.96	MAG NAIL SET IN WEST SIDE OF TELEPHONE POWER POLE
S.B.M. #4	612.16	EAST BOLT ON BASE OF "MOON AND SONS" TIRE AUTO SERVICE
S.B.M. #5	611.87	CUT "X" ON EAST CORNER OF LIGHT POLE BASE
S.B.M. #6	605.12	CUT "X" ON LIGHT POLE BASE
S.B.M. #7	599.88	CUT "[ ]" ON RETAINING WALL
S.B.M. #8	589.72	CUT "X" ON SOUTH CORNER LIGHT POLE BASE
S.B.M. #9	585.56	CUT "X" ON NORTH BOLT OF LIGHT POLE
S.B.M. #10	585.63	CUT "X" ON NORTH BOLT OF LIGHT POLE
S.B.M. #11	589.92	CUT "X" ON BASE OF LIGHT POLE
S.B.M. #12	591.09	MAG NAIL SET IN LIGHT POLE
S.B.M. #13	595.65	MAG NAIL SET IN EAST SIDE OF TELEPHONE POWER POLE
S.B.M. #14	599.70	CUT "X" ON NORTH BONNET BOLT OF FIRE HYDRANT
S.B.M. #15	601.80	CUT "X" ON EAST SIDE OF BASE OF TELEPHONE POWER POLE
S.B.M. #16	601.50	CUT "X" ON BONNET BOLT OF FIRE HYDRANT
S.B.M. #17	600.98	CUT "X" ON NORTH BONNET BOLT OF FIRE HYDRANT
S.B.M. #18	599.26	CUT "X" ON NORTHWEST CORNER OF LIGHTING PULL BOX
S.B.M. #19	604.16	CUT "X" ON EAST SIDE OF BASE OF METAL TELEPHONE POWER POLE
S.B.M. #20	598.00	CUT "X" ON WEST SIDE OF LIGHTING PULL BOX
S.B.M. #21	597.55	CUT "X" ON EAST SIDE OF LIGHTING PULL BOX
S.B.M. #22	585.11	MAG NAIL SET IN WEST SIDE OF POWER POLE

ROADWAY PLANS
SCHEMATIC TABLES

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL

UNDERGROUND UTILITIES:

THE CONTRACTOR SHALL NOTIFY THE REGISTERED UTILITY PROTECTION SERVICE AND OWNERS OF UNDERGROUND UTILITY FACILITIES IN ACCORDANCE WITH THE CITY OF TOLEDO PART A STANDARDS SECTION 105.07.

THE REGISTERED UTILITY PROTECTION SERVICE AND OWNERS OF THE UNDERGROUND UTILITY FACILITIES IN THE CITY OF TOLEDO ARE LISTED BELOW:

OHIO UTILITIES PROTECTION SERVICE (REGISTERED UTILITY PROTECTION SERVICE)
4740 BELMONT AVENUE
YOUNGSTOWN, OHIO 44505–1014
800–362–2764

AT&T
ENGINEERING ROOM
130 NORTH ERIE STREET, ROOM 714
TOLEDO, OHIO 43604
ROB FEY 419–508–0395
AT&T TRANSMISSION
MIKE DIEDERICK 216–212–8556

TOLEDO EDISON COMPANY (ELECTRIC AND STEAM)
MAIL STOP 1832
6099 ANGOLA ROAD
HOLLAND, OHIO 43528
419–249–5218
BRENT THRONE 419–249–5094

COLUMBIA GAS OF OHIO, INC.
TOLEDO OPERATIONS CENTER
2901 E. MANHATTAN BLVD.
TOLEDO, OHIO 43611
JAMES FINUCAN 419–262–0061

VERIZON
DEDT/LOC 1105/642 2270 LAKESIDE BLVD.
RICHARDSON, TEXAS 75082
ATTN: INVESTIGATION 800–526–0119
AL GUEST 330–253–8267

BUCKEYE BROADBAND
2700 OREGON RD.
NORTHWOOD, OHIO 43619
419–724–3713
ATTN: MICHAEL SHEAHAN

CITY OF TOLEDO
DIVISION OF TRAFFIC MANAGEMENT
110 NORTH WESTWOOD AVENUE
TOLEDO, OHIO 43607
419–245–1300 (INCLUDES FIRE AND POLICE COMMUNICATIONS CONDUITS, TRAFFIC SIGNS AND SIGNALS, ROAD CLOSURES)

CITY OF TOLEDO
DIVISION OF WATER DISTRIBUTION
401 SOUTH ERIE STREET
TOLEDO, OHIO 43602
419–245–1825 (SERVICE TAPS)
419–242–5040 (WATER LINES & HYDRANTS)

CITY OF TOLEDO
DIVISION OF ENGINEERING & CONSTRUCTION MANAGEMENT
600 JEFFERSON AVENUE, SUITE 300
TOLEDO, OHIO 43604
419–936–2163 (WATER ENGINEERING)
419–936–2276 (SANITARY ENGINEERING)
419–245–3221 (STORM AND PAVING)
419–936–2697 (CONSTRUCTION INSPECTION)
419–936–2685 (CONSTRUCTION SURVEYING)

ACD.NET (TELECOMMUNICATIONS)
SHIRLEY YOHNKA 517–999–3240

LUMEN (TELECOMMUNICATIONS)
JON KELLER 419–244–1931

ZAYO (TELECOMMUNICATIONS)
DAVE GALUSKA 517–913–0498

UTILITY MANHOLES AND/OR VALVE BOXES WILL BE ADJUSTED BY THEIR RESPECTIVE OWNERS. LET IT BE KNOWN TO ALL UTILITY COMPANIES THAT PROPOSED PAVING OPERATIONS WILL NECESSITATE VERTICAL ADJUSTMENTS OF EXISTING UTILITIES AND/OR APPURTENANCES LOCATED WITHIN THE PROJECT LIMITS.

NOTIFICATION:

THE CONTRACTOR SHALL NOTIFY THE ENGINEER (419–245–1345) AT LEAST SEVEN (7) DAYS IN ADVANCE OF ANY CONSTRUCTION IN ORDER TO ARRANGE FOR INSPECTION OF THE PROJECT.

THE CONTRACTOR SHALL NOTIFY, IN WRITING, ALL AFFECTED RESIDENTS (AS DETERMINED BY THE CITY OF TOLEDO) OF HIS INTENTION TO START. SAID NOTIFICATION SHALL BE MADE ONE WEEK PRIOR TO MOBILIZATION ON EACH AFFECTED STREET. THE FINAL DRAFT OF THE NOTIFICATION LETTER SHALL BE APPROVED BY THE ENGINEER PRIOR TO DISTRIBUTING. A SAMPLE TEXT OF THE NOTIFICATION LETTER IS AVAILABLE UPON REQUEST FROM THE ENGINEER. THE ENGINEER SHALL BE NOTIFIED AS TO WHEN THE NOTIFICATION IS MADE AND A COPY OF SAID NOTIFICATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO THE START OF EACH STREET. SUBSEQUENT NOTICES SHALL BE DELIVERED AS CONSTRUCTION SEQUENCE CHANGES (E.G. PIPE INSTALLATION, ROAD RECONSTRUCTION, PAVING & RESTORATION).

THE CONTRACTOR SHALL NOTIFY THE CITY OF TOLEDO DIVISION OF ENVIRONMENTAL SERVICES (419–936–3015) AT LEAST (3) DAYS PRIOR TO STARTING CONSTRUCTION FOR THE PURPOSE OF MONITORING EROSION CONTROL AND BMP MEASURES.

PRIOR TO CLOSING ANY STREET OR TRAFFIC LANE, THE CONTRACTOR SHALL NOTIFY THE DIVISION OF TRANSPORTATION 419–245–1300 OR BY EMAIL AT SHAWN.COMES@TOLEDO.OH.GOV AT LEAST SEVEN (7) DAYS PRIOR TO STARTING WORK, IN ACCORDANCE WITH CITY OF TOLEDO PART A STANDARDS, SECTION 614.03.

REMOVALS:

IN ALL SIDEWALK, DRIVE, OR PAVEMENT REMOVALS, EDGES SHALL BE CUT TO THE NEAREST JOINT WITH NEAT LINES BY USE OF A POWER SAW. SAW CUTS SHALL BE FULL DEPTH. REMOVALS SHALL BE MADE ONLY TO THE EXTENT APPROVED BY THE ENGINEER. COST OF SAW CUTS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM.

CONCRETE PAVEMENTS:

THE CONTRACTOR SHALL NOT REMOVE ANY MORE PAVEMENT OR DRIVEWAYS THAN CAN BE REPLACED IN SEVENTY–TWO (72) HOURS.

ITEM 609 - CONCRETE CURB, TYPE A, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING TYPE A CONCRETE CURB PER THE CITY OF TOLEDO STANDARD CONSTRUCTION DRAWING 21, WITH THE EXCEPTION OF THE BELOW MODIFICATION.

THE CURB HEIGHT SHALL BE MODIFIED TO 3" FROM THE PAVEMENT SURFACE ELEVATION. ALL OTHER DETAILS FROM THE SCD SHALL BE MAINTAINED, INCLUDING DRIVEWAY CURB HEIGHT AND CURB DEPTH BELOW THE PAVEMENT SURFACE ELEVATION.

CROSSING AND CONSTRUCTION OF EXISTING PIPES AND UTILITIES:

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO CONNECT TO, OR CROSS OVER OR UNDER AN EXISTING CONDUIT OR FACILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING CONDUIT OR FACILITY BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY ANY PORTION OF THE PROPOSED CONDUIT WHICH COULD BE AFFECTED BY THE LOCATION OF THE EXISTING CONDUIT OR FACILITY.

IF THE CONTRACTOR DETERMINES THAT THE ELEVATION OF AN EXISTING CONDUIT OR FACILITY TO BE CONNECTED TO DIFFERS FROM THE PLAN ELEVATION OR NECESSITATES A CHANGE IN THE PROPOSED CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATION.

IF THE CONTRACTOR DETERMINES THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING CONDUIT OR FACILITY IF CONSTRUCTED AS SHOWN ON THE PLANS, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING CONDUIT OR FACILITY.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL COSTS RESULTING FROM FAILURE TO COMPLY WITH THIS SECTION.

PAYMENT FOR ALL THE OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE PERTINENT 611 CONDUIT ITEM.

HAUL ROUTES:

ALL HAUL ROADS AND STREETS WITHIN THE PROJECT LIMITS ON WHICH TRAFFIC IS TO BE MAINTAINED SHALL BE KEPT RELATIVELY FREE FROM DUST AND DIRT. IF THEY ARE NOT MAINTAINED TO THE SATISFACTION OF THE ENGINEER, HE/SHE MAY REQUIRE THE USE OF MECHANICAL CLEANING EQUIPMENT TO REMOVE DUST AND PARTICLES FROM THE ROADWAY SURFACE AND MINIMIZE THE CHANCE OF SUCH PARTICLES BECOMING AIR–BORNE.

RESURFACING:

THE CONTRACTOR SHALL SO CONDUCT HIS WORK TO INSURE THAT EACH OPERATION IS COMPLETED ON A STREET IN A REASONABLE PERIOD OF TIME AND BEFORE ALLOWING HIS CREWS TO STOP OR SUSPEND WORK ON A STREET AND BEGIN WORK ON ANOTHER.

THE SPECIFIED THICKNESS OF RESURFACING FOR EACH STREET WITHIN THE PROJECT AREA IS INTENDED TO BE A NOMINAL THICKNESS. THE ENGINEER RESERVES THE RIGHT TO MAKE ADJUSTMENTS TO THE ACTUAL THICKNESS OF RESURFACING ON INDIVIDUAL STREETS.

ASPHALT FEATHERS AND/OR BUTT JOINTS ON ABUTTING DRIVEWAYS SHALL BE DONE WITH MAINLINE PAVING OPERATIONS AND PAID FOR UNDER THE APPROPRIATE BID ITEM. BUTT JOINTS ARE REQUIRED AT ALL INTERSECTING STREETS UNLESS OTHERWISE SHOWN ON THE PLANS.

AFTER COMPLETION OF THE FINAL ASPHALT CONCRETE SURFACE COURSE, ALL GUTTERS, FEATHERS, AND BUTT JOINTS SHALL BE SEALED WITHIN TWENTY FOUR (24) HOURS WITH ASPHALT CEMENT AS DIRECTED BY THE ENGINEER. PAVEMENT SHALL BE FEATHERED TO MEET EXISTING CASTINGS THAT ARE NOT TO BE ADJUSTED AS DIRECTED BY THE ENGINEER.

ALL COSTS REQUIRED IN ORDER TO PERFORM THE ABOVE WORK (INCLUDING STREET CLEANING) SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE ASPHALTIC CONCRETE BID ITEM.

SPRINKLER SYSTEMS:

THE PROVISIONS BELOW SHALL ONLY APPLY TO SPRINKLER SYSTEMS PARALLEL TO AND WITHIN 30 INCHES OF THE BACK OF CURB REMOVED. COST FOR REPLACEMENT AND REINSTALLATION OF SPRINKLER SYSTEMS OUTSIDE THE AFOREMENTIONED LIMITS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

THE CONTRACTOR SHALL REINSTALL CONDUIT AND SPRINKLER HEADS AT THE TIME THE CURB OR CURB AND GUTTER IS BACKFILLED. THE CONTRACTOR SHALL REPLACE DAMAGED SPRINKLER SYSTEMS USING THE SAME TYPE AND SIZE COMPONENT AS WAS EXISTING, INCLUDING ALL CONNECTIONS. IF A SEPARATE CONTRACTOR IS EMPLOYED TO REPLACE SPRINKLER SYSTEMS, INSTALLATION OF CONDUIT AND SPRINKLER HEADS SHALL BE COMPLETED WITHIN SEVEN (7) DAYS OF BACKFILLING AND PRIOR TO PLACEMENT OF TOPSOIL.

SPRINKLER HEADS: THE NOTIFICATION LETTER TO ALL RESIDENTS SHALL INCLUDE DIRECTIONS TO MARK THE SPRINKLER HEADS IN THE TREE LAWN. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING, MAINTAINING AND PRESERVING ANY SPRINKLER HEADS THAT MAY BE IMPACTED BY CONSTRUCTION.

COST FOR REINSTALLATION OF UNDAMAGED SPRINKLER HEADS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE 609 ITEM. ANY SPRINKLER HEADS SO REMOVED THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

SPRINKLER CONDUIT: A CONTINGENCY QUANTITY OF ITEM SPECIAL–CONDUIT FOR SPRINKLER SYSTEMS HAS BEEN ADDED TO THE CONTRACT TO PROVIDE FOR THE REPLACEMENT OF SPRINKLER SYSTEM CONDUIT UNAVOIDABLY DAMAGED DURING CONSTRUCTION. THIS ITEM SHALL ONLY BE USED AT THE DIRECTION OF THE ENGINEER. COST FOR REINSTALLATION OF UNDAMAGED SPRINKLER CONDUIT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE 609 ITEM.

REVIEW OF SEWERS AND DRAINAGE FACILITIES:

BEFORE ANY WORK IS STARTED ON THE PROJECT AND AGAIN BEFORE FINAL ACCEPTANCE BY THE CITY, REPRESENTATIVES OF THE CITY AND THE CONTRACTOR SHALL MAKE AN INSPECTION OF ALL EXISTING SANITARY AND STORM MANHOLES AND DRAINAGE STRUCTURES WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. RECORDS OF THE INSPECTION SHALL BE KEPT IN WRITING BY THE CITY.

ALL EXISTING SEWERS INSPECTED INITIALLY BY THE ABOVE MENTIONED PARTIES SHALL BE MAINTAINED AND LEFT IN A CONDITION REASONABLY COMPARABLE TO WHAT WAS DETERMINED BY THE ORIGINAL INSPECTION. ANY CHANGE IN THE CONDITION RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER.

ALL NEW CONDUITS, INLETS, CATCH BASINS AND MANHOLES CONSTRUCTED AS A PART OF THE PROJECT SHALL BE FREE OF FOREIGN MATTER AND IN A CLEAN CONDITION BEFORE THE PROJECT WILL BE ACCEPTED BY THE CITY.

UNRECORDED SANITARY CONCERNS

ANY UNRECORDED ACTIVE CONNECTION TO A SANITARY SEWER ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED TO THE EXISTING SANITARY SEWER TO THE SATISFACTION OF THE ENGINEER.

EXISTING SURVEY POINTS

SURVEY MONUMENTS, BENCH MARKS AND EXISTING POINTS DAMAGED OR DISTURBED BY CONSTRUCTION SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE. SHOULD CONTRACTOR FAIL TO PROPERLY REPLACE THESE POINTS, THE DIVISION OF ENGINEERING AND CONSTRUCTION MANAGEMENT WILL REPLACE THEM AT THE CONTRACTOR'S EXPENSE AFTER THREE WEEKS NOTICE.

REPAIRS/REMOVALS OF RESIDENTIAL AND COMMERCIAL WATER SERVICE LINES AND WATER MAINS:

DAMAGE TO AN EXISTING TAP OR WATER SERVICE LINE DUE TO CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR, UNLESS OTHERWISE DIRECTED BY THE DIVISION OF WATER DISTRIBUTION. THE FULL COST OF REPAIRS SHALL BE BORNE BY THE CONTRACTOR. WHEN DEEMED ADVISABLE BY THE DIVISION, THE ENTIRE SERVICE LINE SHALL BE REPLACED AND THE ENTIRE COST SHALL BE BORNE BY THE CONTRACTOR.

THE DIVISION OF WATER DISTRIBUTION SHALL BE NOTIFIED 4 HOURS IN ADVANCE OF DISTURBING A WATER SERVICE LINE IN POTENTIAL CONFLICT WITH PROPOSED CONSTRUCTION WORK. WHEN AN EXISTING SERVICE LINE IS IN CONFLICT WITH PROPOSED CONSTRUCTION WORK AND NEEDS TO BE REMOVED OR RELOCATED, SAID WORK AND COSTS SHALL BE BORNE BY THE CONTRACTOR. SAID WATER SERVICE LINES SHALL BE REPLACED FROM THE MAIN TO THE CURB STOP AT THE RIGHT–OF–WAY, UNLESS OTHERWISE SPECIFIED BY THE DIVISION.

THE DIVISION OF WATER DISTRIBUTION SHALL BE NOTIFIED THREE (3) DAYS IN ADVANCE WHEN A WATER MAIN MUST BE REMOVED OR RELOCATED FOR PROPOSED CONTRACT WORK. THE CONTRACTOR SHALL COORDINATE WITH THE DIVISION AND, UNLESS OTHERWISE DIRECTED, PERFORM THE WORK. ALL COSTS ASSOCIATED WITH THE WORK PERFORMED SHALL BE BORNE BY THE CONTRACTOR.

THE DIVISION OF WATER DISTRIBUTION RESERVES THE RIGHT TO PERFORM THE WORK.

THE DIVISION OF WATER DISTRIBUTION WILL PERFORM ALL OF THE MAIN ISOLATION AND SAMPLING FOR MAIN REMOVALS AND RELOCATIONS.

SEWER TESTING

ALL NEW SEWERS SHALL BE TESTED FOR ACCEPTANCE AS SPECIFIED IN SECTION 611 OF THE CITY OF TOLEDO PART 'A' STANDARDS BOOK.

ITEM SPECIAL LEAD WATER SERVICE LINE REPLACEMENT

THE GENERAL SUMMARY INCLUDES QUANTITIES FOR 1–INCH, 1–1/2–INCH AND 2–INCH DIAMETER LEAD WATER SERVICE LINE (WSL) REPLACEMENTS.

IF SO DIRECTED, THE CONTRACTOR SHALL REPLACE EXISTING LEAD WSL'S, 2–INCH DIAMETER AND SMALLER, WITHIN THE RIGHT–OF–WAY.

LEAD WSL REPLACEMENTS SHALL CONSIST OF PROVIDING AND INSTALLING PIPING, VALVES, FITTINGS AND APPURTENANCES FROM AND INCLUDING THE WATER MAIN

CONNECTION (RETAP); TO AND INCLUDING THE NEW CURB STOP, NEW CURB BOX AND CONNECTION TO THE EXISTING WSL; ABANDONING THE EXISTING WSL AND REMOVING THE EXISTING CURB BOX, AND RESTORATION.

RETAPS AT THE EXISTING WATER MAIN SHALL CONSIST OF EXCAVATING AT THE WATER MAIN, RETRACTING THE EXISTING CORPORATION STOP USING MUELLER B101 OR EQUIVALENT, AND RETAPPING WITH MINIMUM 1–INCH DIAMETER CORPORATION STOP.

REFER TO THE CITY OF TOLEDO CONSTRUCTION STANDARDS, RESIDENTIAL WATER SERVICE SCHEMATIC, FOR ADDITIONAL INFORMATION REGARDING WSL REPLACEMENTS.

LOCATION, SIZE AND MATERIAL OF EXISTING WSL'S, ACCORDING TO WATER DISTRIBUTION RECORDS, ARE SHOWN ON THE PLANS. PRIOR TO EXCAVATING FOR ANY RETAP, CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING CURB BOX AND WSL; AND THE SIZE AND MATERIAL OF THE EXISTING PUBLIC–SIDE AND PRIVATE–SIDE WSL FOR EACH ACTIVE PROPERTY. NO ADDITIONAL COMPENSATION WILL BE PAID TO REINSTATE WSL'S MISSED DURING WORK IN A PARTICULAR AREA REQUIRING A REMOBILIZATION TO A MISSED WSL LOCATION.

IF THE PRIVATE–SIDE WSL MATERIAL IS LEAD, THE PROJECT ENGINEER WILL COORDINATE WITH THE CITY'S PRIVATE LEAD WSL REPLACEMENT CONTRACTOR TO PERFORM THE PRIVATE–SIDE WSL REPLACEMENT.

WHERE MULTIPLE WSL'S ARE CONNECTED TO A "KING" CURB BOX, A SEPARATE TAP SHALL BE MADE FOR EACH UNIT CONNECTED TO THE "KING" CURB BOX. THE CONTRACTOR SHALL FIELD LOCATE THE "KING" CURB BOX AND EACH UNIT'S CURB BOX AND WSL. FOR EACH UNIT, THE CONTRACTOR SHALL TAP THE WATER MAIN; PROVIDE AND INSTALL NEW WSL FROM THE WATER MAIN TO THE NEW UNIT CURB BOX, TO BE LOCATED BEHIND THE WALK/NEAR THE RIGHT–OF–WAY LINE; AND RECONNECT THE WSL. THE WSL REPLACEMENT SHALL INCLUDE REMOVAL OF THE "KING" CURB BOX AND UNIT CURB BOXES.

LOCATION VERIFICATION OF THE CURB BOXES, "KING" CURB BOXES AND WSL'S SHALL BE PERFORMED USING A SURE–LOK LOCATOR OR SIMILAR DEVICE. TO VERIFY MATERIAL AND SIZE OF EXISTING PUBLIC–SIDE AND PRIVATE–SIDE WSL, EXCAVATE BETWEEN THREE (3) AND FIVE (5) FEET ON BOTH SIDES OF THE EXISTING CURB BOX.

THE CITY RESERVES THE RIGHT TO NON–PERFORM THE REPLACEMENT OF ANY WLS'S SHOWN ON THE PLANS.

IF DIRECTED BY THE CITY, IN LIEU OF OPEN CUT METHOD, WATER SERVICES SHALL BE DIRECTIONALLY BORED. THE UNIT PRICE TO BORE WILL BE PAID UNDER ITEM SPECIAL – DIRECTIONAL BORE FOR WATER MAIN TAPS. MATERIALS FOR EACH WSL WILL BE PAID UNDER THE APPROPRIATE WSL REPLACEMENT ITEM.

NOTIFICATION
THE CITY'S APPROVAL IS REQUIRED IN ADVANCE OF SCHEDULED WATER SERVICE INTERRUPTIONS.

THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO ALL PROPERTIES CONNECTED TO THE EXISTING WATER MAINS WITHIN THE PROJECT LIMITS UNTIL SUCH TIME THAT THE MATERIAL AND LOCATION OF THE PUBLIC–SIDE AND PRIVATE–SIDE WSL'S HAVE BEEN VERIFIED. WHEN TAKING A CUSTOMER'S WSL OUT OF SERVICE, THE PROCEDURES LISTED HEREIN SHALL BE FOLLOWED.

THE CONTRACTOR SHALL PROVIDE A SAMPLE OF A "WATER SERVICE INTERRUPTION" DOOR HANGER FOR REVIEW BY THE CITY. THE NOTICE SHALL BE USED TO INFORM CUSTOMERS OF SCHEDULED WATER OUTAGES. THIS NOTICE SHALL, AT A MINIMUM, OUTLINE THE FOLLOWING:

A. THE DATE OF THE EXPECTED WATER SERVICE INTERRUPTION
B. THE REASON FOR THE INTERRUPTION
C. THE EXPECTED DURATION OF THE WATER SERVICE INTERRUPTION
D. CONTRACTOR'S CONTACT INFORMATION FOR AFFECTED CUSTOMERS TO USE TO OBTAIN ADDITIONAL INFORMATION REGARDING THE INTERRUPTION
E. STEPS TO FOLLOW DURING AND AFTER THE WATER SERVICE INTERRUPTION, SUCH AS BOILING WATER, ADDRESSING RUSTY WATER, VENTING AIR FROM WSL'S, FLUSHING OR OTHER EXPECTED CUSTOMER CONCERNS.

GENERAL NOTES

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL

ITEM SPECIAL
LEAD WATER SERVICE LINE REPLACEMEN (CONTINUED)

WATER MAIN CONNECTION (NEW TAP)
NEW WATER TAPS SHALL BE INSTALLED AT THE 10 OR 2 O'CLOCK POSITIONS. PROVIDE A MINIMUM OF FOUR (4) FEET OF COVER OVER TAPS AND WATER SERVICE LINES.

A. TAPS ON DUCTILE IRON PIPE
1. WATER TAPS 1.5–INCH AND 2–INCH DIAMETER SHALL BE MADE USING A SERVICE SADDLE.
2. FOR DIRECT TAPS, WRAP A MINIMUM OF THREE (3) LAYERS OF TAPE COMPLETELY AROUND THE POLYETHYLENE–ENCASED PIPE TO COVER THE AREA WHERE THE TAPPING MACHINE WILL CONTACT THE PIPE. INSTALL THE CORPORATION STOP DIRECTLY THROUGH THE TAPE AND POLYETHYLENE WRAP.
3. FOR TAPS USING A SERVICE SADDLE, THE SADDLE AND CORPORATION STOP SHALL BE WRAPPED WITH POLYETHYLENE AFTER INSTALLATION. OVERLAP ON BOTH SIDES OF THE EXISTING WRAP AND TAPE SECURELY IN PLACE.
4. TAPS ON DIP SHALL BE NO CLOSER THAN 24 INCHES TO ANY OTHER TAP, VALVE, FITTING OR JOINT.

WATER SERVICE LINES
ALL EXISTING WATER SERVICE LINES SHALL BE REPLACED FROM THE NEW WATER MAIN TO THE CURB STOP; THE EXISTING CURB STOP AND BOX SHALL BE REPLACED. WATER SERVICE LINE SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN, FROM THE NEW TAP TO THE NEW CURB BOX, CONNECTING TO THE EXISTING WATER SERVICE LINE JUST BEYOND THE NEW CURB BOX.

THE CONTRACTOR SHALL PROVIDE WATER SERVICE LINES OF A DIAMETER TO MATCH THE EXISTING WATER SERVICE LINE, EXCEPT THAT THE MINIMUM WATER SERVICE LINE DIAMETER SHALL BE 1–INCH DIAMETER.

WATER SERVICE LINES 2 INCHES IN DIAMETER AND SMALLER SHALL BE TYPE K COPPER TUBING, UNIFORM IN DIAMETER, MANUFACTURED PER AWWA C800 APPENDIX A; OR CTS PE TUBING, SDR 9, PC250, PE4710, MANUFACTURED PER AWWA C901.

EXISTING WATER SERVICE LINES SHALL BE CONNECTED TO NEW WATER SERVICE LINES USING FLARED OR COMPRESSION FITTINGS.

FOR PE WATER SERVICE LINES, SERVICE TRACER WIRE SHALL BE CONNECTED TO THE WATER MAIN TRACER WIRE WITH COPPERHEAD SNAKEBITE DRYCONN 3–WAY DIRECT BURY LUG 3WB–01.

UNLESS OTHERWISE APPROVED BY THE CITY, DO NOT USE FITTINGS BETWEEN THE CORPORATION STOP AND THE CURB STOP.

BEDDING AND INITIAL BACKFILL FOR WATER SERVICE LINES SHALL BE NATURAL SAND.

DIRECTIONAL BORE

IF DIRECTED BY THE CITY, IN LIEU OF OPEN CUT METHOD, WATER SERVICES SHALL BE DIRECTIONALLY BORED.

ONCE THE NEW MAIN HAS PASSED ALL PRESSURE AND BACTERIOLOGICAL TESTING, CONTRACTOR SHALL EXCAVATE AT THE NEW MAIN AND AT THE NEW CURB BOX, THEN DIRECTIONALLY DRILL LONG WLS'S BETWEEN THE NEW MAIN AND THE NEW CURB BOX.

SERVICE SADDLES

A. TAPS ON DUCTILE IRON PIPE
1. SERVICE SADDLES SHALL BE USED FOR TAPS 1.5–INCH AND 2–INCH DIAMETER ON DIP.
2. SERVICE SADDLES SHALL BE DOUBLE STRAP, WITH BRASS TOP AND BRONZE STRAPS, 200 PSI; FORD 202B, A.Y. MCDONALD 3825, OR EQUAL.

CORPORATION STOPS
CORPORATION STOPS SHALL MEET THE REQUIREMENTS OF AWWA C800, SHALL BE MANUFACTURED FROM A COPPER ALLOY LISTED IN AWWA C800, AND SHALL BE RATED FOR A 300 PSI WORKING PRESSURE.

CORPORATION STOPS SHALL BE MEULLER B–25008N, FORD FB1000–X–Q–NL, OR EQUAL.

USE STAINLESS STEEL INSERT STIFFENER FOR PE WATER SERVICE LINES.

CURB BOX
NEW CURB BOX SHALL BE INSTALLED APPROXIMATELY 6 INCHES FROM THE RIGHT–OF–WAY LINE, REGARDLESS OF THE LOCATION OF THE EXISTING CURB BOX.

CURB BOX SHALL BE SOLID PLASTIC, INJECTION MOLDED DESIGNED FOR CURB STOPS THROUGH 2–INCH. CURB STOP TOP SECTION SHALL BE MAGNETICALLY LOCATABLE. CURB STOP BASE SHALL BE SCREW TYPE WITH 2–3/4" SHAFT DIAMETER. PROVIDE PLASTIC RING AND COVER WITH THE WORD "WATER" CAST NEATLY ON IT, PLASTIC PENTAGON NUT AND LOCATING WASHER.

INSTALL A CONCRETE PAVER BLOCK, MINIMUM SIZE 4 INCHES WIDE BY 8 INCHES LONG BY 2 INCHES THICK, UNDER ALL CURB STOPS.

CURB BOXES SHALL BE HIGHLINE BY OLDCASTLE MODEL 110178–14, 110178–20, OR EQUAL.

BRASS FITTINGS AND VALVES
BRASS FITTINGS AND VALVES SHALL BE MANUFACTURED PER AWWA C800. BRASS FITTINGS AND VALVES IN CONTACT WITH POTABLE WATER SHALL BE NO–LEAD BRASS FROM COPPER ALLOY NUMBER C89520 OR C89833 IN ACCORDANCE WITH THE CHEMICAL AND MECHANICAL REQUIREMENTS OF ASTM B584, AND SHALL HAVE A "NO–LEAD" IDENTIFYING MARK CAST OR STAMPED ON THE FITTING OR VALVE.

DOCUMENTATION
A. CONTRACTOR SHALL PROVIDE THE FOLLOWING DOCUMENTATION FOR EACH NEW WATER TAP AND SERVICE LINE TO THE CITY PROJECT INSPECTOR OR PROJECT ENGINEER:
1. ADDRESS
2. LOCATION OF NEW TAP, AT THE WATER MAIN, FROM THE NEAREST NEW HYDRANT
3. LOCATION OF NEW CURB BOX, FROM THE NEAREST NEW HYDRANT
4. SIZE AND MATERIAL OF NEW WATER SERVICE LINE ON THE PUBLIC/CITY SIDE OF THE CURB BOX
5. SIZE AND MATERIAL OF THE WATER SERVICE LINE ON THE PRIVATE SIDE OF THE CURB BOX
6. LOCATION AND TYPE OF ANY FITTINGS USED
7. INSTALLATION DATE
8. TYPE – DOMESTIC, IRRIGATION, ETC.

LENGTH – FROM TAP TO CURB BOX

BASIS OF PAYMENT
A. ITEMS TO BE INCLUDED FOR PAYMENT INCLUDE:
1. ITEM SPECIAL – 1"LEAD WATER SERVICE LINE REPLACEMENT– EACH
2. ITEM SPECIAL – 1–1/2"LEAD WATER SERVICE LINE REPLACEMENT – EACH
3. ITEM SPECIAL – 2"LEAD WATER SERVICE LINE REPLACEMENT – EACH
4. ITEM SPECIAL – 1" BORE FOR LEAD SERVICE REPLACEMENT – EACH
5. ITEM SPECIAL – 1–1/2" BORE FOR LEAD SERVICE REPLACEMENT – EACH
6. ITEM SPECIAL – 2" BORE FOR LEAD SERVICE REPLACEMENT – EACH

ITEM 630 - SIGNING MISC.: SOLAR-POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY

THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE SOLAR POWERED, PEDESTRIAN ACTIVATED, AND 2–SIDED WITH TWO LED ARRAY BASED YELLOW INDICATIONS ON EACH SIDE. MULTIPLE UNITS SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED. THE UNIT SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

GENERAL REQUIREMENTS

EACH RRFB SHALL CONSIST OF TWO RAPIDLY FLASHED RECTANGULAR–SHAPED YELLOW INDICATIONS HAVING LED ARRAY BASED LIGHT SOURCE.

EACH RRFB SHALL BE A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID–STATE CIRCUIT BOARDS, ETC.).

EACH RRFB SHALL CONTAIN A PEDESTRIAN INDICATION LIGHT VISIBLE BY THE PEDESTRIAN IN THE DIRECTION OF TRAVEL.

FUNCTIONAL REQUIREMENTS

EACH RRFB SHALL UTILIZE SOLAR POWER.

EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSHBUTTONS.

THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).

EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.

ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

THE UNIT SHALL BE CAPABLE OF RUNNING 14 DAYS WITHOUT SUNLIGHT.

MATERIALS
FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID–STATE CIRCUIT BOARD, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

1. RRFB INDICATIONS

A. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.

B. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.

C. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY, ALL EXPOSED HARDWARE SHALL BE ANTI–VANDAL.

D. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.

E. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM CLASS 1 SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.

F. TO MINIMIZE EXCESSIVE GLARE DURING NIGHTTIME CONDITIONS, AN AUTOMATIC SIGNAL DIMMING DEVICE SHALL BE USED TO REDUCE THE BRILLIANCE OF THE RRFB INDICATIONS.

G. AN LED PEDESTRIAN CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE INSTALLED INTEGRAL TO THE RRFB OR PUSHBOTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.

H. THE PEDESTRIAN CONFIRMATION LIGHT SHALL HAVE A MINIMUM AREA OF 0.5 SQUARE INCHES AND BE CONSPICUOUS TO PEDESTRIANS AT ALL DISTANCES FROM THE BEGINNING OF THE CONTROLLED CROSSWALK TO A POINT 10 FEET FROM THE END OF THE CONTROLLED CROSSWALK DURING BOTH DAY AND NIGHT.

2. SIGNS

A. ALL SIGN ASSEMBLIES SHALL USE ANTI–VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.

B. PEDESTRIAN PUSHBUTTONS SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSHBUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.

C. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.

D. ASSURE SIGN MEETS THE REQUIREMENTS OF C&MS 630.

3. CONTROL CIRCUIT

A. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERNS SHALL BE COMPLETELY PROGRAMMABLE.

B. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.

C. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250–1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

4. BATTERY AND SOLAR PANELS

A. BATTERY UNIT SHALL BE A 12VDC, 35 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY, BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.

B. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 40 WATTS PEAK TOTAL OUTPUT.

C. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES– 60 DEGREES TO PROVIDE MAXIMUM OUTPUT.

D. ALL FASTENERS USED SHALL BE ANTI–VANDAL.

5. WIRELESS RADIO

A. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI–FI OR APPROVED EQUAL.

B. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSHBUTTON INPUT.

C. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH–OUT THE DURATION OF THE FLASHING CYCLE.

6. PUSHBUTTON

A. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF –30 DEGREES F TO +165 DEGREES F.

B. PUSHBUTTON SHALL BE ADA COMPLIANT.

7. PEDESTAL SHAFT AND TRANSFORMER BASE – MOUNT ON A STANDARD 4.5–INCH OD ALUMINUM PEDESTAL POLE WITH TRANSFORMER TYPE PEDESTAL BASE. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED AND CAPPED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED T OTHERWISE IN THE PLANS AND BASE MANUFACTURER SHALL BE LISTED ON ODOTS QUALIFIED PRODUCTS LIST.

CONSTRUCTION

THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY

WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT

THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT

PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 'SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY'.

ITEM 202 - TROLLEY CAR TRACK SET REMOVAL

ITEM 202 – TROLLEY CAR TRACK SET REMOVAL (COMPLETE) SHALL INCLUDE THE FOLLOWING:

REMOVAL AND DISPOSAL OF THE COMPLETE TRACK STRUCTURE INCLUDING PAVEMENT WITHIN THE LIMITS OF THE TRACK SET WIDTH, RAILS, TIES, CONCRETE TIE SUPPORTS, CONCRETE BASE AND ANY OTHER STRUCTURAL APPURTENANCES INCLUDING TRACK DRAINS AND CONDUIT WHICH SHALL BE REMOVED AS INDICATED BELOW.

TRACK DRAINAGE STRUCTURES ENCOUNTERED DURING CONSTRUCTION SHALL BE REMOVED TO A DEPTH OF ONE FOOT BELOW THE PROPOSED SUBBASE. ANY TRACK DRAIN CONDUIT ASSOCIATED WITH THE DRAINAGE STRUCTURES SHALL BE PLUGGED.

NO INFORMATION IS AVAILABLE TO INDICATE THE LOCATION OF THE TRACK DRAIN CONDUITS. PAVING PLANS FOR THE OTHER STREETS WHERE TRACK REMOVAL HAS OCCURED INDICATE THAT THE CONDUIT IS LOCATED BENEATH THE TRACK BASE AND AT THE CENTER OF THE TRACK CROSS SECTION.

IN THE EVENT THAT TRACK CONDUIT WAS PLACED WITHIN THE SPECIFIED REMOVAL LIMIT, IT SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH OTHER TRACK RELATED ITEMS UNDER THIS PAY ITEM.

LOCATIONS OF THE TROLLEY CAR TRACK SETS, IF ANY ARE PRESENT ARE UNKNOWN. IT IS LIKELY THERE ARE TRACKS ON MAIN ST BETWEEN FRONT ST AND STARR AVE. APPROXIMATELY 1400' OF WHICH ARE LOCATED WITHIN THE FULL DEPTH PAVEMENT LIMITS OF THE STARR AVE RECONSTRUCTION. HOWEVER, LOCATIONS ARE NOT GUARANTEED.

THE UNIT OF PAYMENT FOR THE ITEM SHALL BE SQUARE YARDS OF TROLLEY CAR TRACK SET REMOVED. IF TROLLEY CAR TRACKS ARE NOT PRESENT, THEN REMOVAL SHALL BE PAID AS EITHER PAVEMENT REMOVED OR EXCAVATION, WHICHEVER IS SUITABLE.

TRACK STRUCTURE CROSS SECTION COMPOSITIONS ARE PROVIDED FOR INFORMATION PURPOSES ONLY. REGARDLESS OF COMPOSITION, ALL TRACK STRUCTURE REMOVAL WILL BE PAID UNDER THE APPROPRIATE ITEM AS INDICATED ON THE PLANS. SOME CAR TRACK SECTIONS MAY CONTAIN A MIXTURE OF WOODEN AND MECHANICAL TIES.

THE CITY DOES NOT GUARANTEE THE QUANTITY OF STEEL RAIL AND STEEL APPURTENANCES WITHIN THE PROJECT LIMITS.

THE UNIT PRICE FOR TROLLEY CAR TRACK REMOVAL SHALL NOT BE ADJUSTED IN THE EVENT THE CONTRACTOR DOES NOT RECOVER THE ESTIMATED QUANTITY OF STEEL RAIL AND STEEL APPURTENANCES.

ADDITIONAL EMBANKMENT, IF REQUIRED, BETWEEN THE BOTTOM OF THE TRACK BASE AND THE PROPOSED SUBGRADE WILL BE PAID FOR UNDER ITEM 203 EMBANKMENT.

THE AREA OF TROLLEY CAR TRACK SET REMOVAL INCLUDES THE REMOVAL OF ALL PAVEMENT IN THAT AREA. ITEM 202 – PAVEMENT REMOVED WILL NOT BE PAID FOR IN THAT AREA.

ENVIRONMENTAL COMMITMENTS:
1. MEASURES TO MINIMIZE HARM TO THE SECTION 4(F)/6(F) RESOURCES HAVE BEEN ESTABLISHED FOR THE PROJECT AND ARE PROJECT ENVIRONMENTAL COMMITMENTS. THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THE PLAN AS PLANS NOTES AND ENVIRONMENTAL COMMITMENTS:

A. ACCESS TO THE GLASS CITY METROPARK'S MULTIUSE TRAIL SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES VIA FLAGGING OPERATIONS AND/OR SINGLE LANE CLOSURE.

B. TEMPORARY CONSTRUCTION FENCING SHALL BE INSTALLED ALONG PROPOSED CONSTRUCTION LIMITS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES TO PROTECT THE EXISTING 4(F) PROPERTY AND THE PUBLIC.

C. APPROPRIATE SIGNAGE SHALL BE INSTALLED TO ALERT USERS OF THE GLASS CITY METROPARK'S MULTIUSE TRAIL OF CONSTRUCTION ACTIVITIES, ACCESS RESTRICTIONS, OR CLOSURES AND TO DIRECT USERS TO SECONDARY ACCESS POINTS, AS NECESSARY.

D. THE CONTRACTOR SHALL BE REQUIRED TO CLOSELY COORDINATE THE CONSTRUCTION SCHEDULE WITH THE CITY OF TOLEDO AND THE OFFICIAL WITH JURISDICTION (OWJ) PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.

E. ANY LAND DISTURBED WILL BE FULLY RESTORED AND RETURNED TO A CONDITION WHICH IS AT LEAST AS GOOD AS THAT WHICH EXISTED PRIOR TO THE PROJECT.

GENERAL NOTES

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL

RIGHT-OF-WAY ENCROACHMENTS

Right of Way Encroachments

ID #	Location	Approx Sta	Parcel #	Plat #	Address	Owner	Encroachment
1	Main St	201+50 RT	1702777	6 39 1/2 39	108 Main St	Riley336, LLC	Wendy's concrete wall
2	Main St	201+00 LT	1700003	7	101 Main St	Weber Block LLC, An ohio Limited Liability Company	Face of building
3	Main St	201+65 LT	1702751	38	113 Main St	Neighborhood Health Association	Face of building
4	Main St	202+15 LT	1702754	38	117 Main St		Face of building
5	Main St	203+30 LT 204+40 LT	1703173	109 110 111 112	137 Main St	Tara Gordon, Trustee	Concrete patio (and potentially fence columns) Face of building
6	Main St	203+50 RT	1703151	108 107	130 Main St	Main Town, LLC	Face of building
7	Main St	204+40 RT	1703144	106 105	140 Main St		
8	Main St	204+55 RT	1703141	105	142 Main St		
9	Main St	204+75 RT	1703137	105	144 Main St		
10	Main St	204+95 RT	1703134	105 104	146 Main St		
11	Main St	205+25 RT	1703127	104	148 Main St		
12	Main St	208+25 RT	1703107	99	222 Main St	City of Toledo	Landscaping timber and landscaping curb
13	Main St	208+60 RT	1703104	98	228 Main St	Daniel A. & Colleen A. Steingraber	Face of building
14	Main St	208+90 RT	1703101	98	230 Main St		
15	Main St	209+10 RT	1703094	97	302 Main St		
16	Main St	209+50 RT	1703087	97 96	308 Main St	River East Investment Group LLC	Face of building
17	Main St	210+00 RT	1703084	96	310 Main St	Bhin LLC	Face of building
18	Main St	211+20 RT	1703071	95	324 Main St	324 Main St, LLC	Face of building
19	Main St	217+20 LT	1403271	135	517 Main St	City of Toledo	Face of building
20	Main St	212+80 RT	1702901	92	408 Main St	2230 River, LLC	Face of building
21	Main St	213+35 RT	1703061	91	414 Main St	Lucas County Land Reutilization	Face of building
22	Main St	213+50 RT	1703057	91	416 Main St	Fix It Construction, LLC	Face of building
23	Main St	215+75 RT	1703041	87	506 Main St	Upham Properties, LLC	Face of building
24	Main St	217+15 RT	1703027	84	524 Main St	AJMA Properties 1, LLC	Awning overhang
25	Main St	218+30 LT	0603151	1 2	601 Main St	Toledo Re 3, LLC	Face of building
26	Main St	218+75 LT	0603157	2 3	611 Main St	J.C. Morris Holdings, LLC	Face of building
27	Main St	219+20 LT	0603161	4	613 Main St		Face of building
28	Main St	222+30 LT	0603191	12 13	649 Main St	Reddy Holdings, LLC	Face of building
29	Main St	218+15 RT 219+00 RT 219+45 RT	1703021	83 82 81 81	602 Main St	Robert & Christina Rodriguez, Trustees	Face of building Landscaping curb Landscaping curb Parking island
30	Main St	220+30 RT	1703007	79	624 Main St	Toledo City Homes LLC	Face of building
31	Main St	220+90 RT	1703004	78	630 Main St	Thomas Espino	Face of building
32	Main St	221+30 RT	1702997	77	632 Main St	Edward William Kleppinger	Face of building
33	Main St	222+40 RT	1702991	76	644 Main St	Ramirez Real Estate Group, LLC	Face of building
34	Main St	225+50 LT	0601394	20 19 18	701 Main St	Jordan Michael Tersigni, LLC	***** Landscaping curb and bushes (Remove as needed for sidewalk) ***** Landscaping curb and bushes Landscaping curb and bushes
35	Main St	225+35 RT	0601314	1	718 Starr Ave	Jerald M. Moon, Sr.	Bushes
36	Main St	225+75 RT	0601317	2 3	710 Main St	Jordan Michael Tersigni, LLC	Fence
37	Main St	226+30 RT	0601321	3 4	714 Main St	Jacqueline K. Zervas	Fence
38	Main St	228+45 LT	1012481	11	802 Mason St	Molly Mickel	Fence
39	Main St	229+15 LT	0601374	16	741 Main St	Sandra L. Welling	Fence
40	Main St	230+65 LT	0601357	14 13	737 Greenwood Ave	James David Vandenberg	Fence
41	Main St	232+00 LT	1631944	4	734 Greenwood Ave	Cindy M. Akers, Etal	Fence
42	Main St	233+75 LT	1631987	5	827 Main St	Yondota Addition, LLC	***** Landscaping blocks (Remove as needed for sidewalk) *****
43	Main St	231+50 RT	1631927	12	800 Main St	City of Toledo, A Municipal Corporation	Corner sidewalk
44	Main St	234+85 LT 235+65 LT	1632034	15 15	835 Main St	Yondota Addition, LLC	Fence Rock wall and fence
45	Main St	235+85 LT	1632041	15	851 Main St	Amy Lynn Rudicil	Fence
46	Main St	235+75 RT					***** Landscape edging / plantings *****
47	Main St	235+95 RT	1632031	15	850 Main St	David M. Duncan	***** Landscaping timbers *****
48	Main St	237+00 RT					Fence
49	Front St	4+50 LT	0452321	9 10 11 12	335 Front St	Michael Granger	Fence
50	Front St	5+00 LT	0452324	13	427 Front St		
51	Front St	5+20 LT	0452327	14	429 Front St		
52	Front St	5+45 LT	0452331	15	431 Front St		
53	Front St	5+60 LT	0452334	16	433 Front St		
54	Front St	5+80 LT	0452337	17	435 Front St	Jack D. & Barbara J. Mackey	Face of building
55	Front St	6+00 LT	0452341	18	435 Front St		
56	Front St	6+40 LT	0452347	20	441 Front St	Larry Heilman	Face of building
57	Front St	6+60 LT	0452351	21			
58	Front St	6+80 LT	0452354	22	501 Front St	Jack D. & Barbara J. Mackey	Face of building
59	Front St	7+00 LT	0452357	23			
60	Front St	7+20 LT	0452361	24	503 Front St		
61	Front St	7+30 LT	0452364	25	505 Front St		
62	Front St	14+40 LT	1887749	Marina District Deux Lot 6	0 Riverside Dr	Marina Six, LTD., An Ohio Limited Liability Company	Face of building
63	Front St	15+63 LT	1887749	Marina District Deux Lot 6	0 Riverside Dr	Marina Six, LTD., An Ohio Limited Liability Company	Fence (on property line)
64	Front St		1887755	Marina District Deux Lot 5	0 Riverside Dr	Metropolitan Park District of the Toledo Area	
65	Front St	17+50 LT	1887748	Marina District Deux Lot 5	801 Front St	Metropolitan Park District of the Toledo Area	Awning overhang and landscape plantings
66	Front St	12+75 RT	1702624	12	624 Front St	M & R Realty Group, LLC	Face of building
67	Front St	18+15 RT	1702674	22	802 Front St	GLR Ohio #5	Landscaping planting
68	Front St	18+90 RT	1702681	24	818 Front St		
69	Front St	26+15 RT	0400284	5	966 Front St	Randal Wayton	Porch, landscape rocks, landscape plantings
70	Front St	30+00 RT	0966844	7	1008 Front St	Cynthia M. & John A. Debolt	Timber retaining wall
71	Front St	30+30 RT	0966841	6	1012 Front St	Valerie Sue Hager	Fence
72	Front St	31+40 RT	0966827	3 2	1024 Front St	James E. Zacharias	Landscape timbers, landscape plantings, fence
73	Front St	34+00 RT	1016584	6	1218 Front St	Jeffrey J. Teneyck	Fence
74	Front St	34+30 RT	1016587	7	1222 Front St	City of Toledo, An Ohio Municipal Corporation	Fence
75	Front St	36+45 RT	1016607	11	1316 Front St	Tara Gordon, Trustee	Timber retaining wall
76	Front St	41+00 RT	1016657	22	1510 Front St	Susan L. Ramsey	Landscape hedges/wall
77	Front St	43+00 RT 45+00 RT	1016700	26 31 31	1540 Front St	Toledo 76, Inc.	Landscape rocks, landscape plantings Gas station sign

*** Require removal for construction**

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

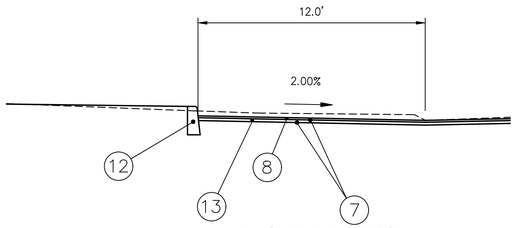
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

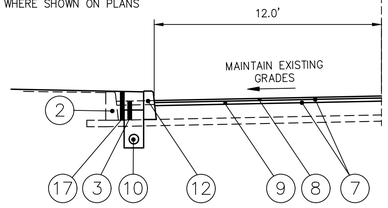
SHEET TOTAL



BUS BAY TYPICAL SECTION

(NOT TO SCALE)

STA. 20+12.68 TO STA. 21+66.46, RIGHT
STA. 27+10.73 TO STA. 28+57.47, RIGHT
STA. 40+60.55 TO STA. 42+14.34, LEFT



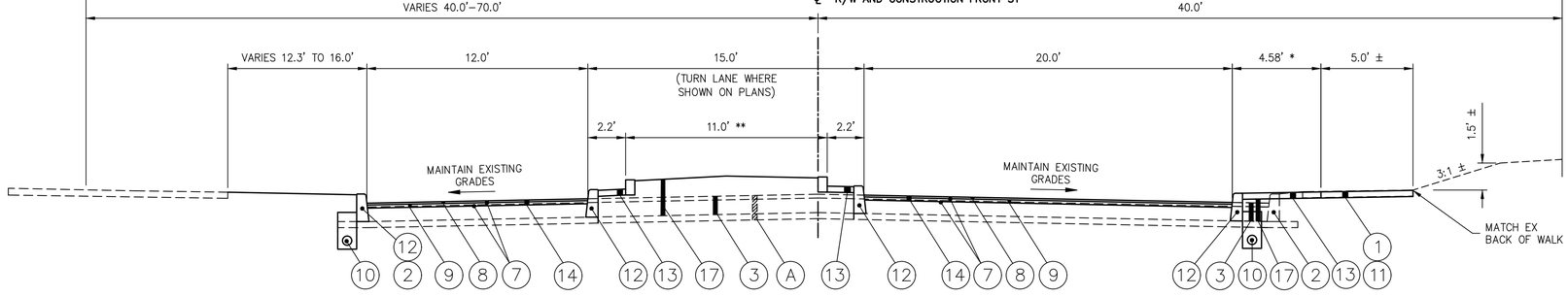
ALTERNATE SECTION –
STA. 42+98 TO 46+56

FRONT STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 13+95 TO STA. 28+65
STA. 34+67 TO STA. 40+16
STA. 43+00 TO STA. 46+56

ALTERNATE SECTION –
STA. 26+93 TO 28+65



FRONT STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 29+34 TO STA. 34+67
STA. 40+16 TO STA. 42+98

* 3.58' FROM STA. 40+58.72 TO STA. 41+83.96

** SEE SHEET 30 FOR PLANTER CURB DETAILS AND LANDSCAPING PLANS FOR LOCATIONS.

EXISTING PAVEMENT LEGEND

(A) ASPHALT SURFACE (6.5"–8.5")
BRICK (6")
SAND BASE

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

PROPOSED TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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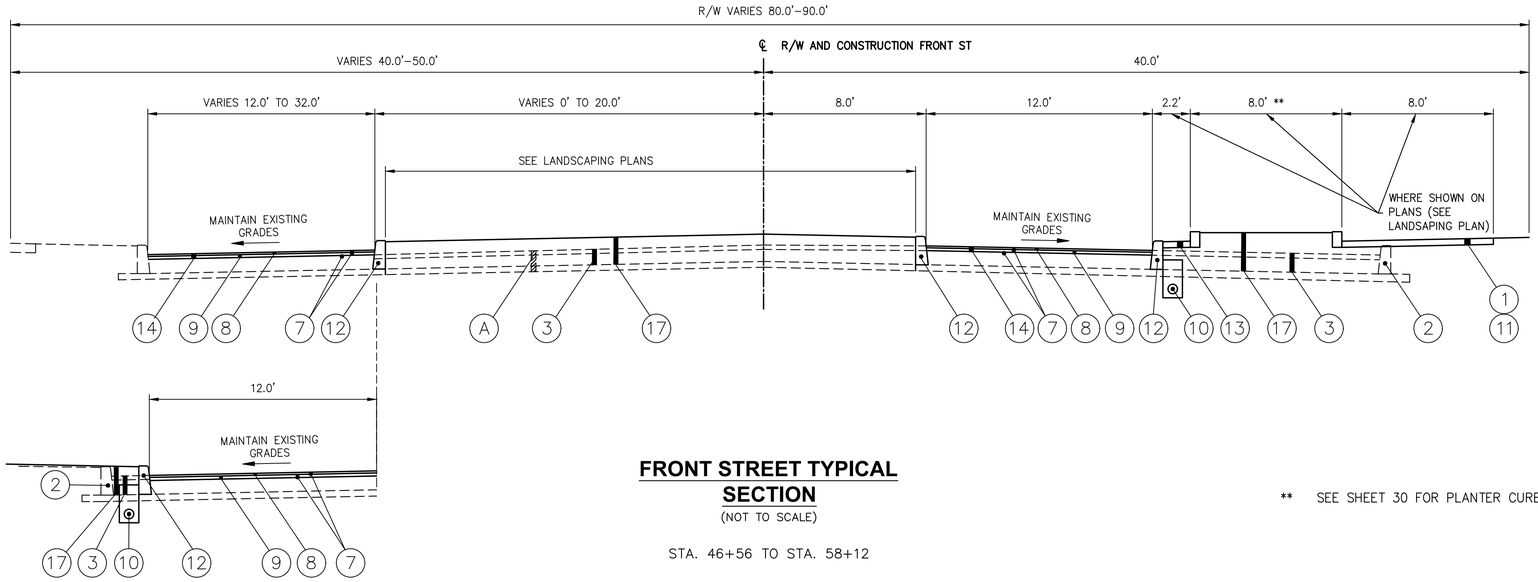


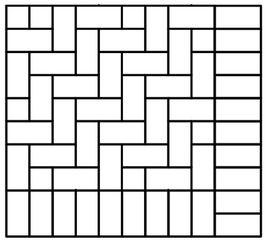
ALTERNATE SECTION –
STA. 46+56 TO 50+09

FRONT STREET TYPICAL SECTION

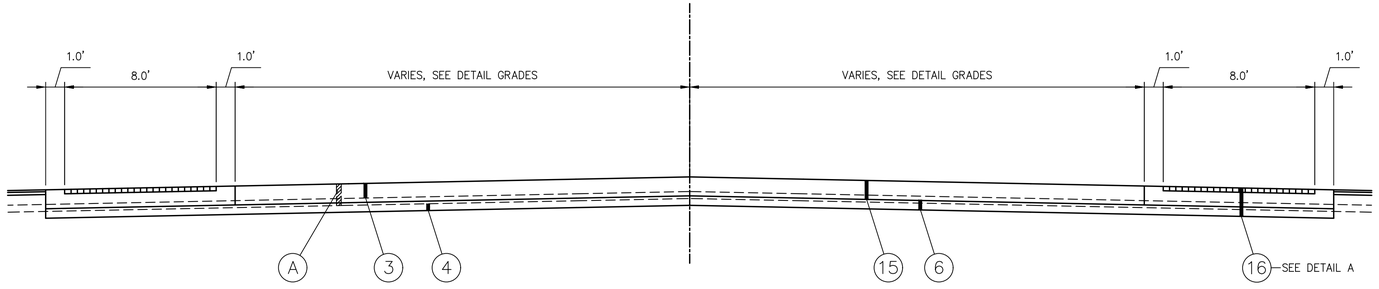
(NOT TO SCALE)

STA. 46+56 TO STA. 58+12

** SEE SHEET 30 FOR PLANTER CURB DETAILS AND LANDSCAPING PLANS FOR LOCATIONS.

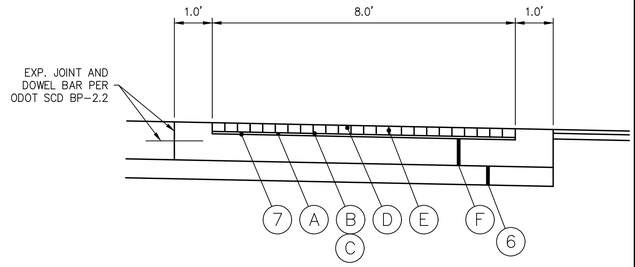


90° HERRINGBONE BRICK CROSSWALK PATTERN



INTERSECTION CONCRETE AND CROSSWALK DETAIL

(NOT TO SCALE)
(SEE PLAN FOR LOCATIONS)



DETAIL A: CROSSWALK BRICK PAVERS, AS PER PLAN (NOT TO SCALE)

NOTE: ALL ITEMS SHOWN IN DETAIL A ARE INCIDENTAL TO ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN

EXISTING PAVEMENT LEGEND

(A) ASPHALT SURFACE (12.75")
STONE (6–7")
SAND BASE

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

DETAIL A LEGEND

(A) 0.75" BITUMINOUS SETTING BED
(B) NEOPRENE MODIFIED ADHEASIVE
(C) NON–WOVEN GEOTEXTILE FABRIC
(D) 8"x4"x2.75" CLAY PAVERS
(E) JOINT FILLING SAND
(F) 8.5" CONCRETE W/ HEADERS

PROPOSED TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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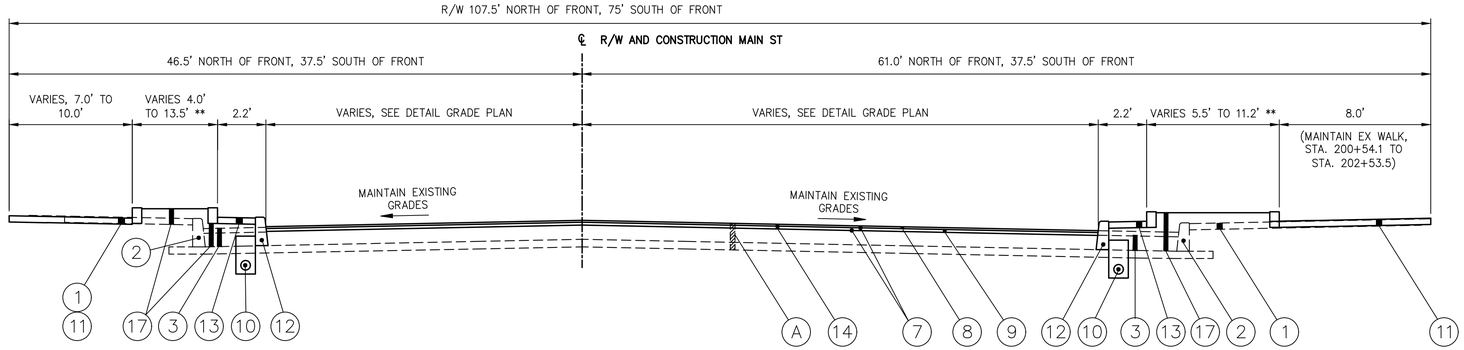
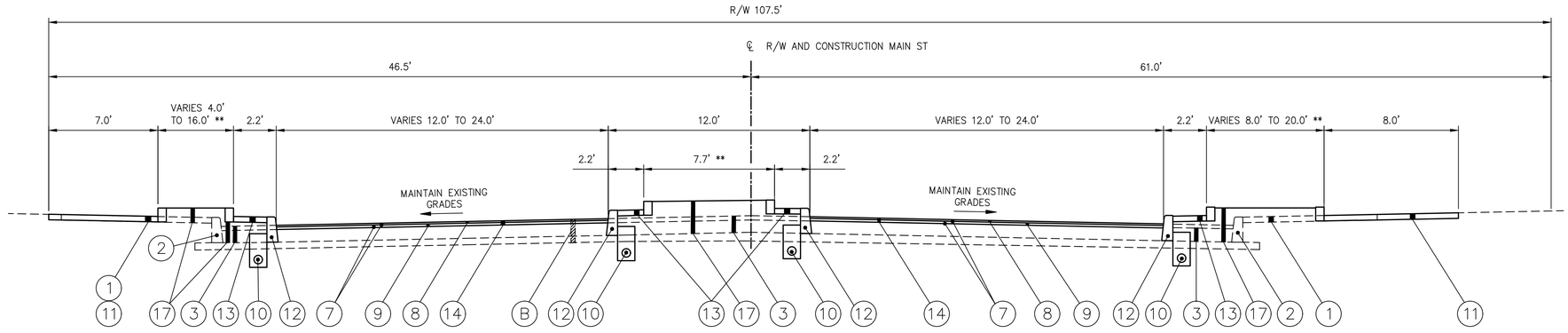


MAIN STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 105+21 TO STA 106+86
STA. 111+00 TO STA 113+28
STA. 200+45 TO STA 203+33



MAIN STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 106+86 TO STA. 111+00

** SEE SHEET 30 FOR PLANTER CURB DETAILS AND LANDSCAPING PLANS FOR LOCATIONS.

EXISTING PAVEMENT LEGEND

(A) ASPHALT SURFACE (5")
CONCRETE (8.75")
SAND BASE

(B) ASPHALT SURFACE (5")
CONCRETE (8.75")
SAND BASE

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

PROPOSED TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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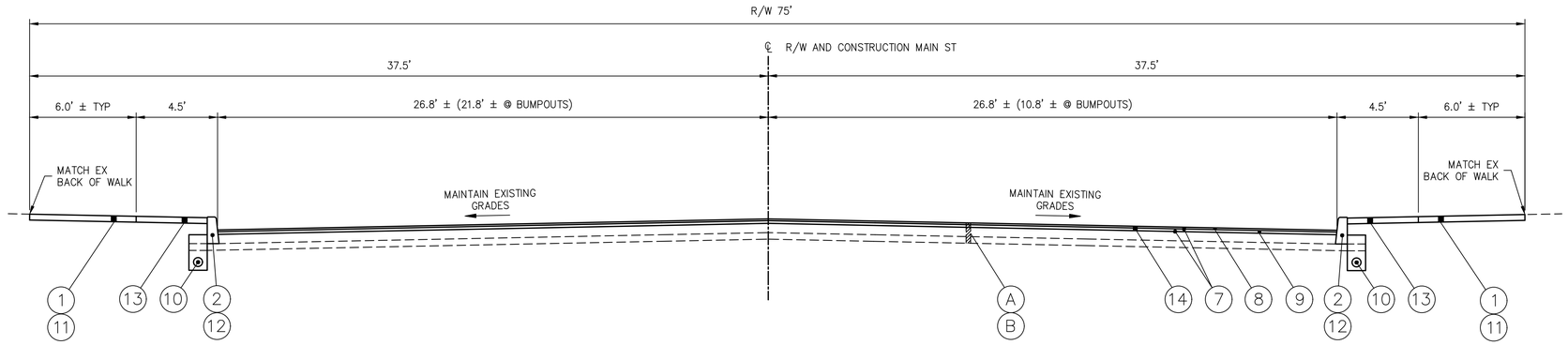
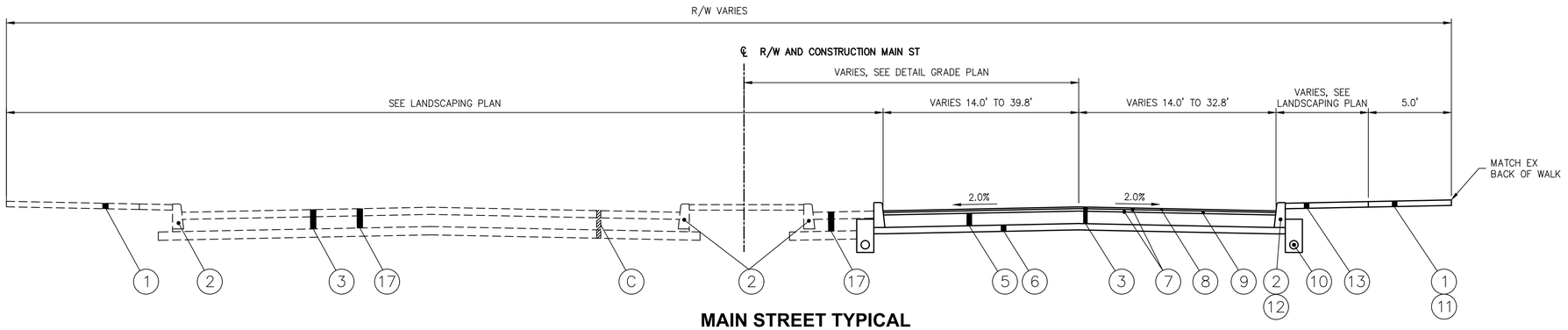


MAIN STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 203+33 TO STA 221+89



MAIN STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 221+89 TO STA 223+84

EXISTING PAVEMENT LEGEND

(A)	ASPHALT SURFACE (11.5") STONE (6") SAND BASE	STA 108+00 TO STA 112+50
(B)	ASPHALT SURFACE (12") BRICK (1") STONE (8") SAND BASE	STA 122+50 TO STA 142+00
(C)	ASPHALT SURFACE (5") CONCRETE (8.75") SAND BASE	

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

PROPOSED TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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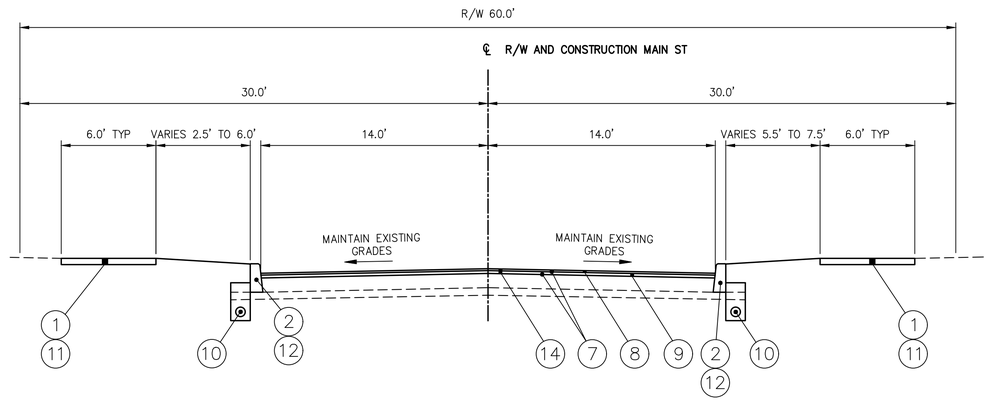

MAIN STREET TYPICAL SECTION

(NOT TO SCALE)

STA. 225+07 TO STA 267+60

EXISTING PAVEMENT LEGEND

(A) ASPHALT SURFACE (2.25"–2.75")
CONCRETE (8")
SAND BASE

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

PROPOSED TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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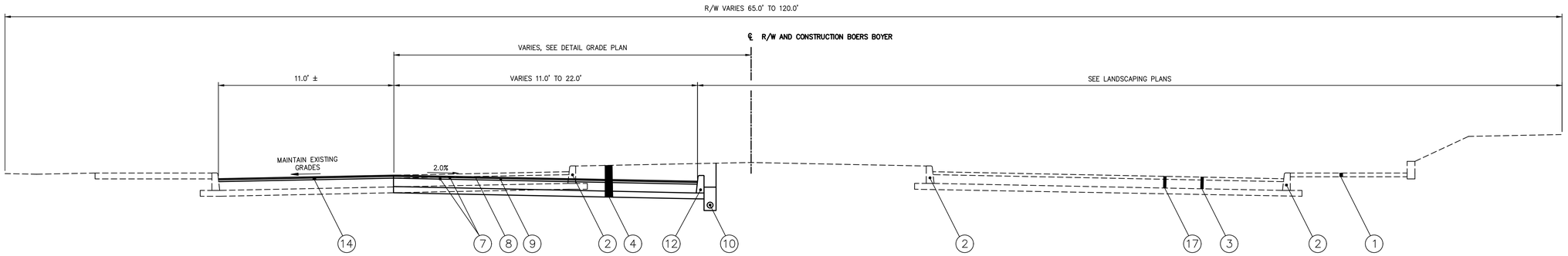
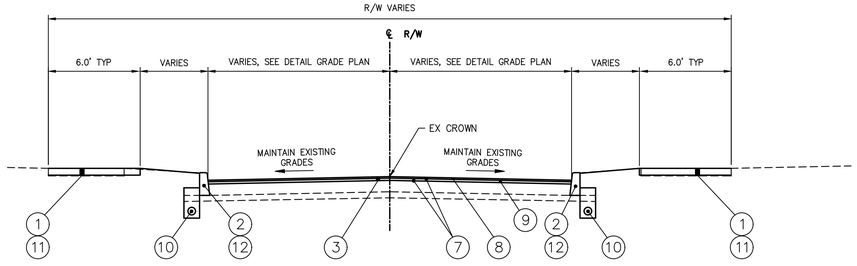


BOERS BOYER TYPICAL SECTION

(NOT TO SCALE)

STA. 404+43 TO STA. 407+84



SIDE STREET TYPICAL SECTION

(NOT TO SCALE)

EXISTING PAVEMENT LEGEND

(A) ---

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

PROPOSED TYPICAL SECTION

FRONT ST & MAIN ST IMPROVEMENT PLANS

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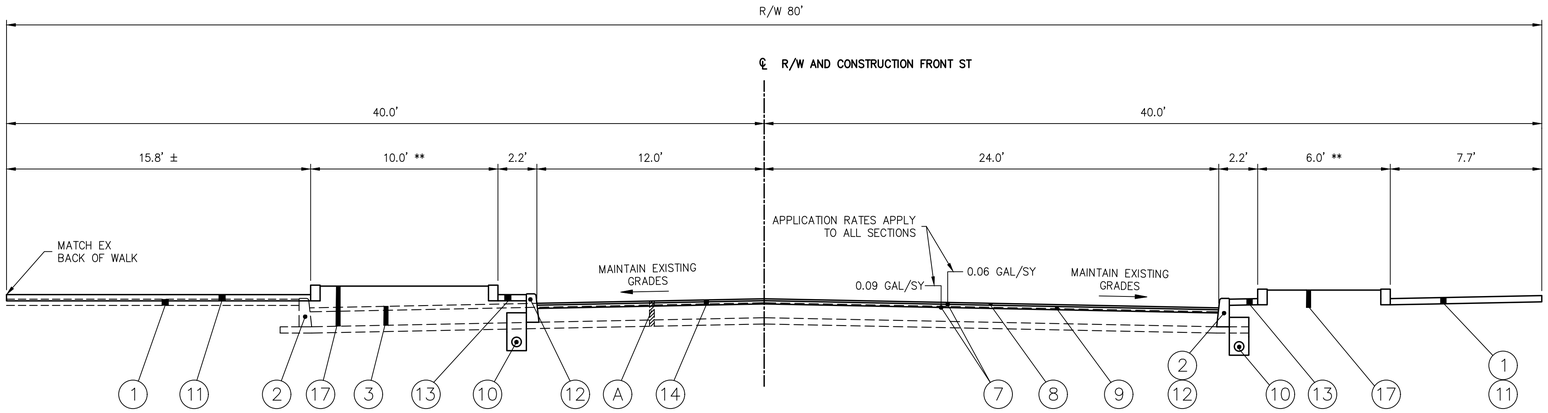
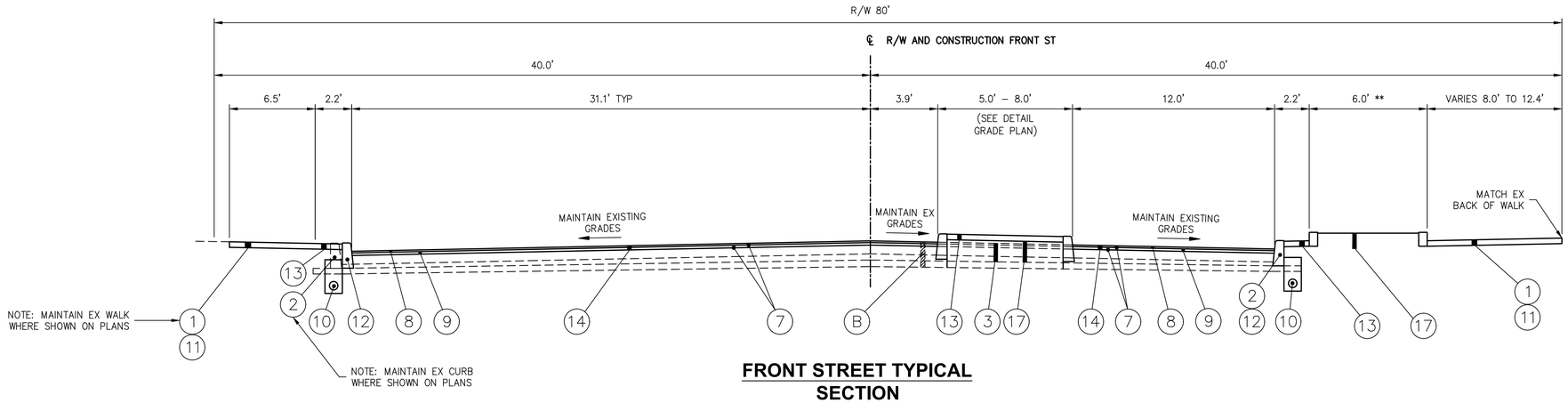


FRONT STREET TYPICAL SECTION

(NOT TO SCALE)

STA 4+16 TO STA 9+49



FRONT STREET TYPICAL SECTION

(NOT TO SCALE)

STA 10+46 TO STA 13+95

** SEE SHEET 30 FOR PLANTER CURB DETAILS AND LANDSCAPING PLANS FOR LOCATIONS.

EXISTING PAVEMENT LEGEND

(A) ASPHALT SURFACE (2.5"–3")
CONCRETE (9.5"–10.5")
SAND BASE

(B) ASPHALT SURFACE (8")
BRICK (6")
SAND BASE

PROPOSED PAVEMENT LEGEND

(1) ITEM 202 – WALK REMOVED
(2) ITEM 202 – CURB REMOVED
(3) ITEM 202 – PAVEMENT REMOVED
(4) ITEM 203 – EXCAVATION
(5) ITEM 301 – 6" ASPHALT CONCRETE BASE
(6) ITEM 304 – 6" AGGREGATE BASE
(7) ITEM 407 – TRACKLESS TACK COAT
(8) ITEM 441 – 1.25" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1 (448), PG70–22M
(9) ITEM 441 – 1.75" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2 (448), PG70–22M
(10) ITEM 605 – 6" SHALLOW PIPE UNDERDRAIN, PER 707.31 W/SOCK
(11) ITEM 608 – 4" CONCRETE WALK
(12) ITEM 609 – CONCRETE CURB, TYPE A, AS PER PLAN (STANDARD TYPE A WHERE SHOWN)
(13) ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN
(14) ITEM 254 – PAVEMENT PLANING
(15) ITEM 452 – 12" NON–REINFORCED CONCRETE PAVEMENT
(16) ITEM 608 SPECIAL – CROSSWALK BRICK PAVERS, AS PER PLAN
(17) ITEM 203 – EMBANKMENT (SEE LANDSCAPING PLAN FOR SOIL AND PLANTING DETAILS)

LIMITS OF STANDARD 6" CONCRETE CURB, TYPE A (3" AS PER PLAN OUTSIDE OF THE LIMITS BELOW)

FRONT ST:
10+46 TO 13+32.64 LT & RT
29+00 TO 40+68.24 LT
42+50 TO 50+07.81 LT

MAIN ST:
105+20 TO 110+98.28 LT & RT
221+89 TO STARR AVE LT & RT

PROPOSED TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

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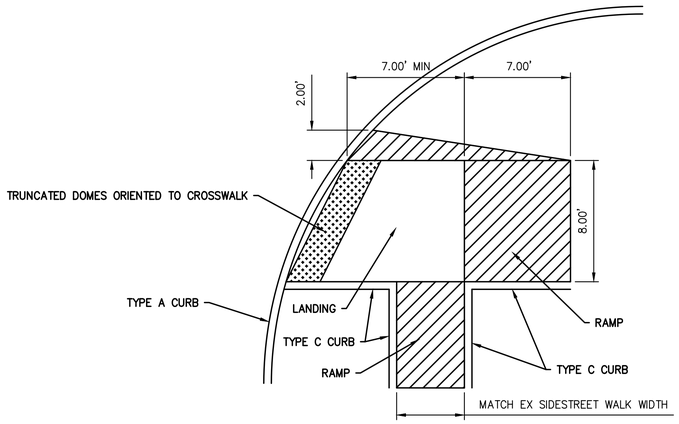
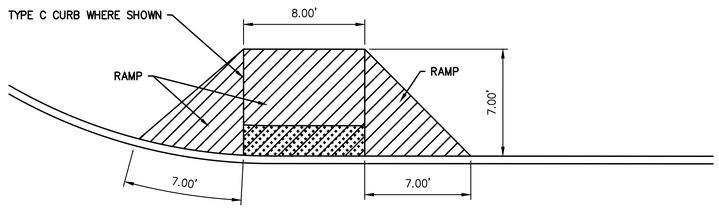
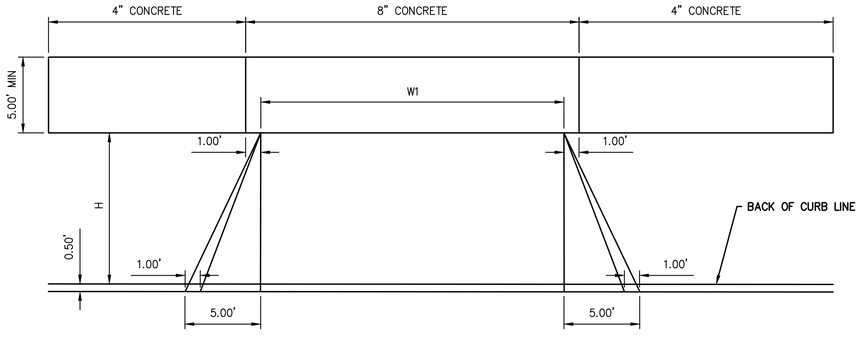


TYPICAL FRONT ST CURB RAMPS

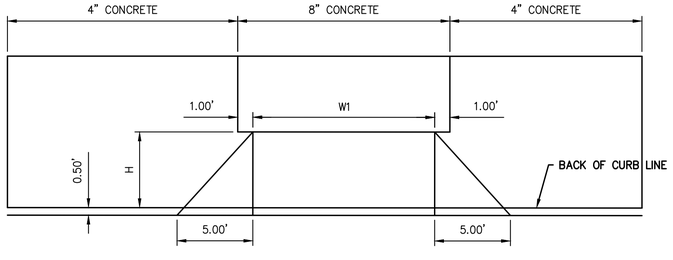
NOTE: CONTRACTOR TO FIELD ADJUST CURB RAMP DIMENSIONS AS NEEDED TO ENSURE ADA COMPLIANCE.



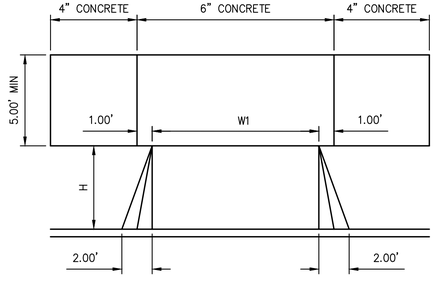
TYPICAL MAIN ST CURB RAMPS



DETAIL A - COMMERCIAL W/ TREE LAWN



DETAIL B - COMMERCIAL W/O TREE LAWN



DETAIL C - RESIDENTIAL DRIVE

COMMERCIAL DRIVES

452 – 8" NON–REINFORCED CONCRETE PAVEMENT, CLASS QC IP

RESIDENTIAL DRIVES

452 – 6" NON–REINFORCED CONCRETE PAVEMENT, CLASS QC IP

SEE SHEET XX FOR DRIVEWAY QUANTITIES

0 Horizontal Scale In Feet

MISCELLANEOUS DETAILS

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

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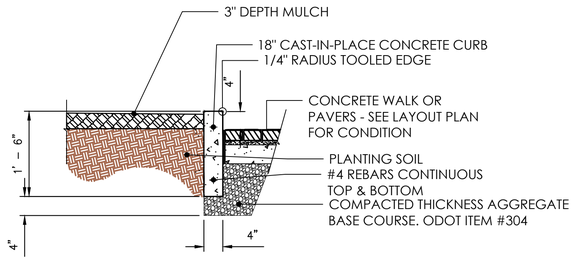
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

NOTES:

1. PROVIDE FULL-DEPTH EXPANSION JOINT WHERE ADJACENT PAVEMENT ABUTS CURB. EXPANSION JOINTS SHALL BE 1/2" WIDE WITH SEALANT.

2. PROVIDE RUBBED FINISH ON ALL EXPOSED CONCRETE SURFACES AFTER JOINT & EDGE TOOLING. PROVIDE 1/4" RADIUS ON ALL EDGES.



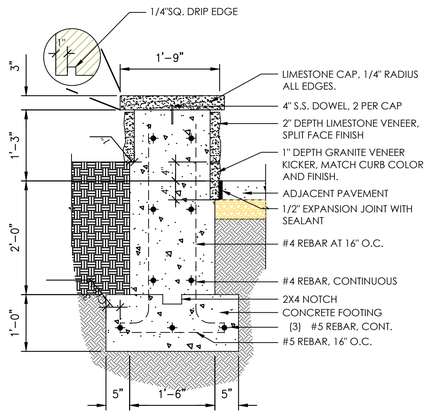
PLANTING CURB

NOTE:
STONE VENEER TO BE SPLIT FACE INDIANA LIMESTONE, 100% BUFF COLOR. LENGTH NOT TO EXCEED 4'-0", STAGGER BETWEEN CAP SPACINNG.

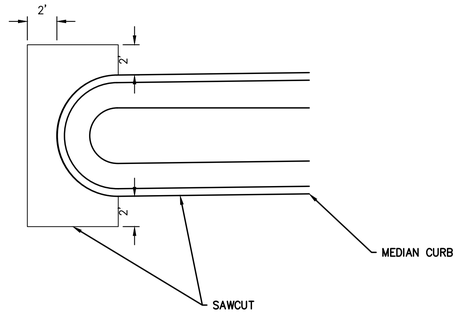
STONE CAP TO BE SAWN INDIANA LIMESTONE, 100% BUFF COLOR. LENGTH NOT TO EXCEED 4'-0". SEE PLAN FOR LAYOUT.

JOINTSR: STRIKE AND CONCAVE JOINTS SMOOTH.

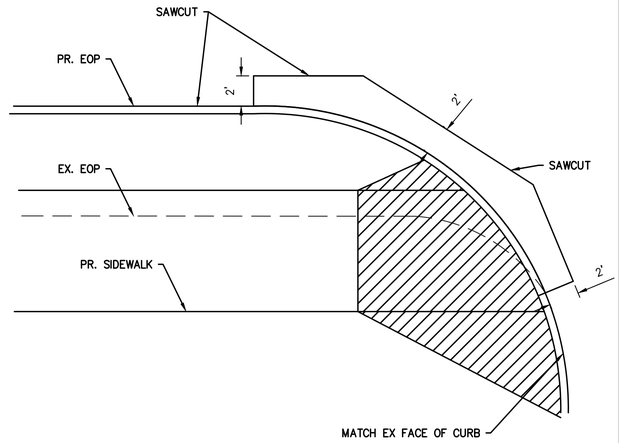
PROVIDE SHOP DRAWINGS OF CAP AND VENEER LAYOUT.



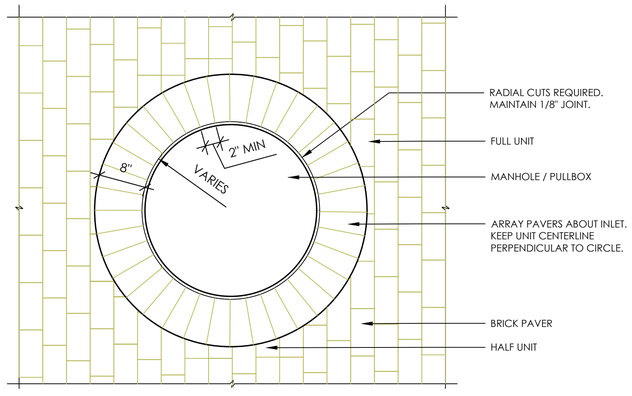
STONE VANEER WALL



TYPICAL MEDIAN NOSE CONSTRUCTION DETAILS

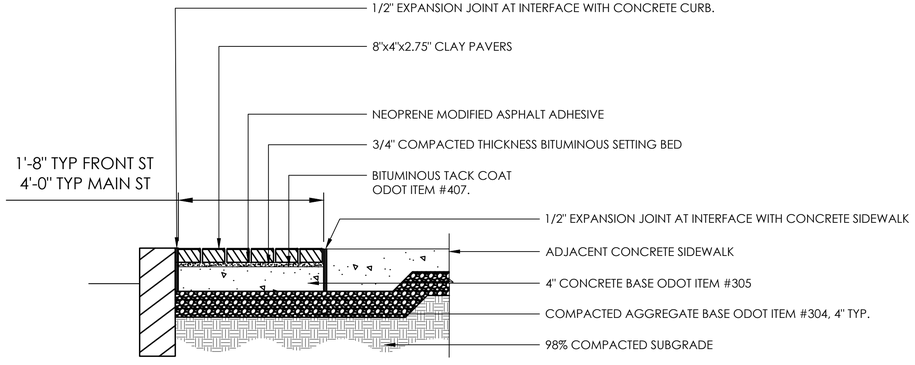


TYPICAL INTERSECTION RETURN DETAILS



PAVERS AT MANHOLE / PULLBOX / POLE BASE

NOTE: REPLACE 2' MINIMUM ADJACENT TO CURVED CURB SECTIONS AS NEEDED TO FACILITATE CONSTRUCTION.



ITEM 608 SPECIAL - BRICK PAVERS AS PER PLAN

NOTE: WITH THE EXCEPTION OF THE CONCRETE WALK, ALL ITEMS IN THE DETAIL ABOVE ARE INCIDENTAL TO ITEM 608 SPECIAL – BRICK PAVERS, AS PER PLAN. THIS INCLUDES ITEM 304 WITHIN THE LIMITS OF THE PAVERS.

0 Horizontal Scale In Feet

MISCELLANEOUS DETAILS

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL

REF NO.	SHEET NO.	STATION	SIDE	DRIVE DETAIL	APRON LENGTH "L1"	WIDTH "W"							
					FT	FT							
1	-	5+81	LT	A	19.50	11.99							
2	-	6+29	LT	A	19.50	35.00							
3	-	4+68	RT	A	7.67	20.00							
4	-	6+18	RT	A	7.68	33.00							
5	-	7+03	LT	A	19.50	12.06							
6	-	7+44	LT	A	19.50	11.99							
7	-	7+89	LT	A	18.29	24.98							
7a	-	13+16	LT	-	-	-							
8	-	12+10	RT	A	9.79	21.64							
9	-	13+79	RT	A	10.00	23.52							
10	-	14+46	RT	B	5.00	27.28							
11	-	15+67	RT	B	5.00	27.99							
12	-	16+94	RT	A	9.66	25.08							
13	-	17+85	RT	A	9.68	16.10							
14	-	18+77	LT	-	-	-							
15	-	21+05	LT	A	5.00	18.00							
16	-	22+53	LT	A	4.97	36.13							
17	-	35+79	RT	A	9.64	20.00							
18	-	38+46	RT	A	9.63	20.00							
19	-	43+30	RT	A	9.62	29.25							
20	-	44+72	RT	A	9.66	36.00							
20a	-	52+05	LT	-	9.70	30.64							
21	-	107+62	LT	RADIAL	13.50	37.56							
22	-	111+21	LT	A	14.17	30.47							
23	-	112+06	LT	A	14.17	35.18							
24	-	112+08	RT	RADIAL	15.23	39.38							
25	-	204+91	LT	B	5.00	22.00							
26	-	210+56	RT	B	5.00	29.00							
27	-	213+31	LT	B	5.00	22.00							
28	-	215+25	LT		5.00	20.79							
29	-	213+19	RT	B	5.00	12.00							
30	-	214+45	RT	B	5.00	35.72							
31	-	219+08	LT	B	5.00	16.00							
32	-	219+55	LT	B	5.00	22.00							
33	-	216+28	RT	B	5.00	18.00							
34	-	216+71	RT	B	5.00	18.00							
35	-	219+18	RT	B	5.03	28.07							
36	-	221+12	LT	B	5.00	22.00							
36a	-	222+31	LT	RADIAL	13.46	22.00							
37	-	220+57	RT	B	5.01	12.00							
38	-	221+85	RT	B	5.01	17.82							
39	-	226+37	LT	RADIAL	6.00	15.08							
40	-	227+02	LT	C	6.00	10.04							
41	-	226+55	RT	C	5.50	17.22							
42	-	227+00	RT	C	5.50	10.00							
43	-	228+46	RT	C	23.50	23.50							
44	-	228+87	LT	C	6.00	10.00							
45	-	229+97	LT	C	6.00	30.19							
46	-	228+82	RT	C	5.50	10.00							
47	-	229+34	RT	C	5.50	10.00							
48	-	230+18	RT	C	5.50	11.00							
49	-	232+24	RT	C	6.00	15.94							
50	-	232+82	LT	RADIAL	5.47	16.45							
51	-	233+76	LT	C	5.00	12.00							
52	-	232+66	RT	C	6.00	10.00							
53	-	233+00	RT	C	6.00	10.00							
54	-	233+38	RT	C	6.00	10.00							
55	-	233+88	RT	C	6.10	10.00							
56	-	234+46	RT	C	6.88	10.00							
57	-	236+16	LT	RADIAL	3.61	15.37							
58	-	234+93	RT	C	7.00	0.10							
59	-	235+64	RT	C	7.00	10.00							
60	-	236+17	RT	RADIAL	7.00	15.16							
TOTALS CARRIED TO GENERAL SUMMARY													

Horizontal
Scale In Feet
0

DRIVEWAY DETAIL TABLE

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

Colliers
Engineering
& Design

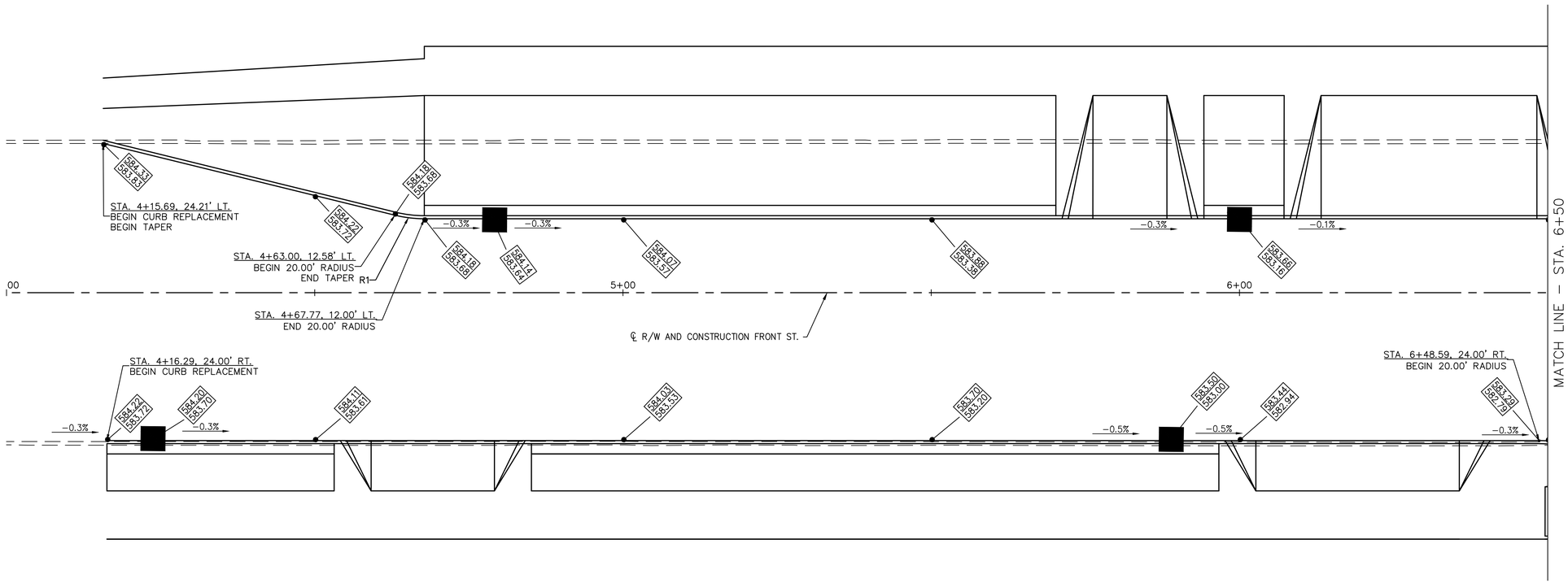
ODOT PID
121938

DESIGNER
MAS

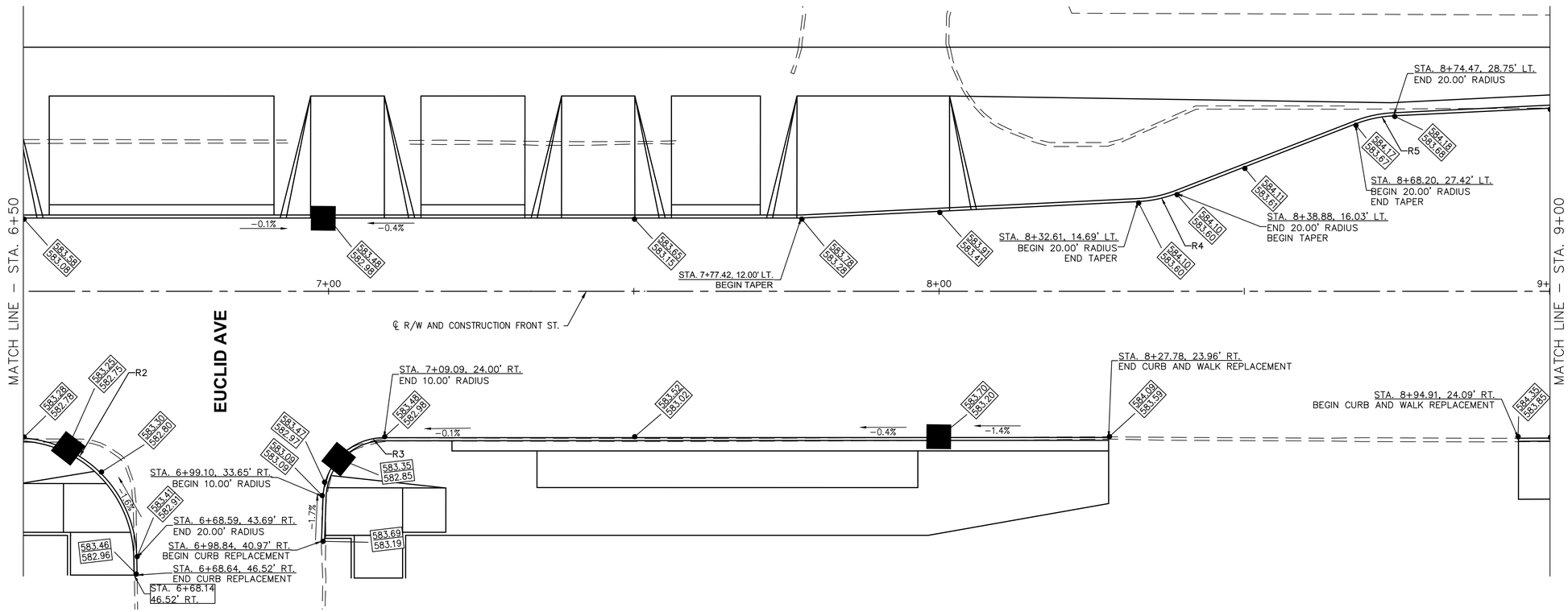
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET



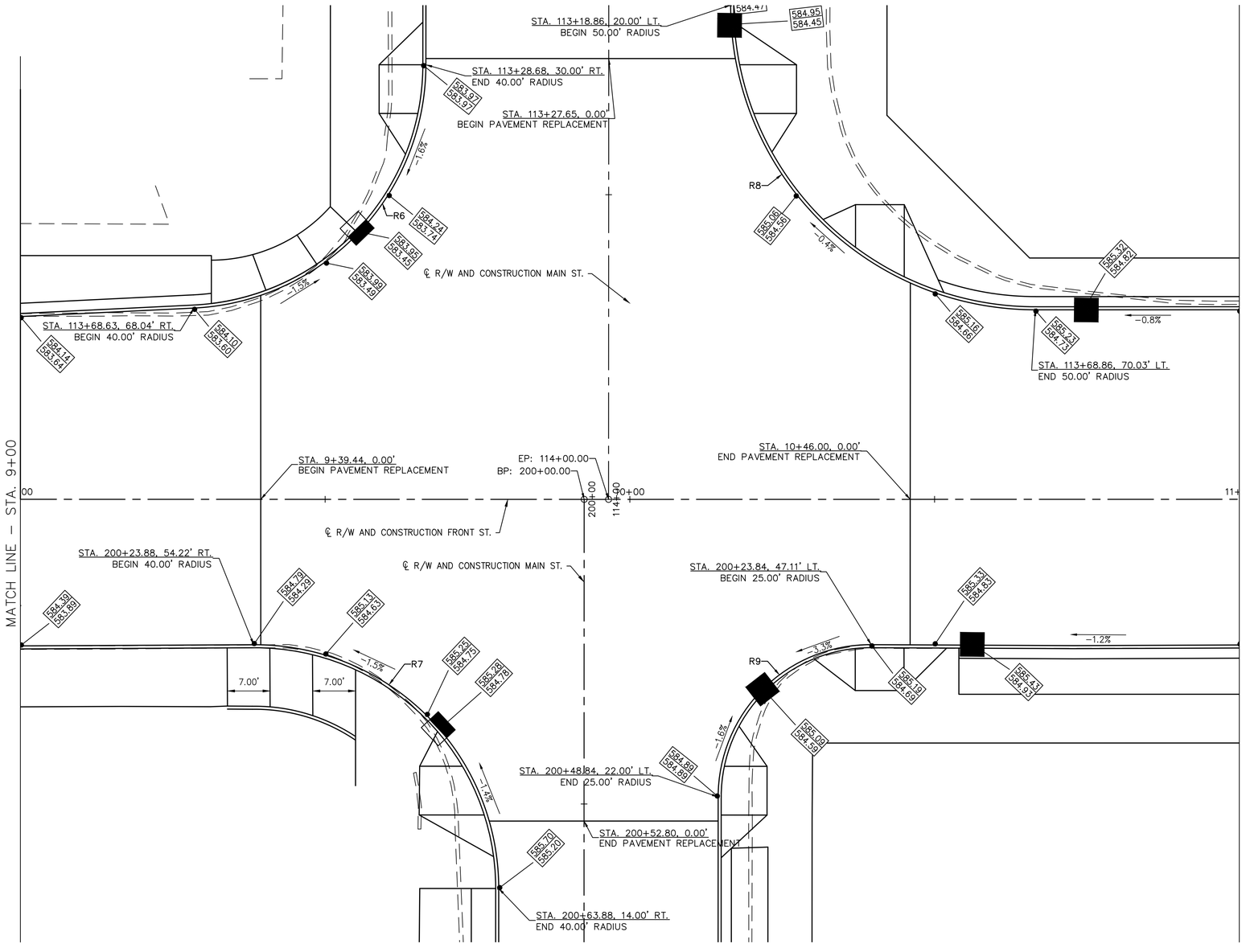


DETAIL GRADES
FRONT STREET STA. 4+00 TO 9+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



FRONT STREET / MAIN STREET INTERSECTION

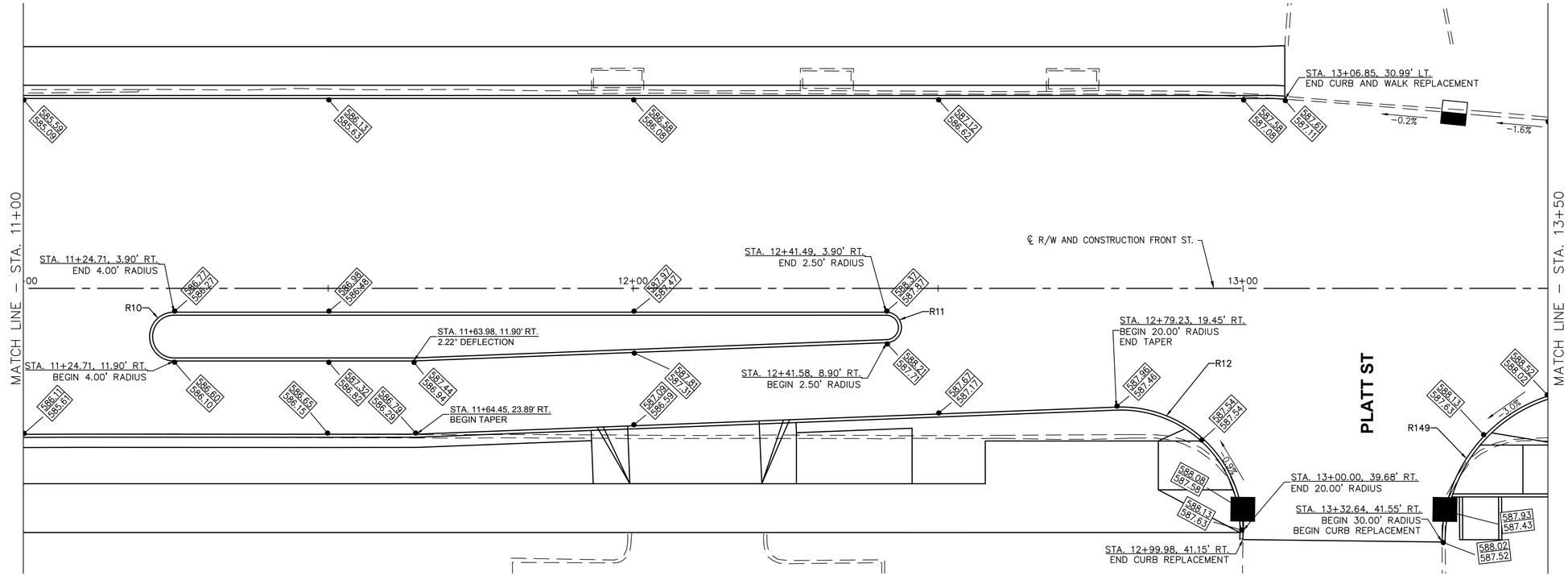
0 5 10 20
Horizontal Scale In Feet

DETAIL GRADES
FRONT STREET STA. 9+00 TO 11+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



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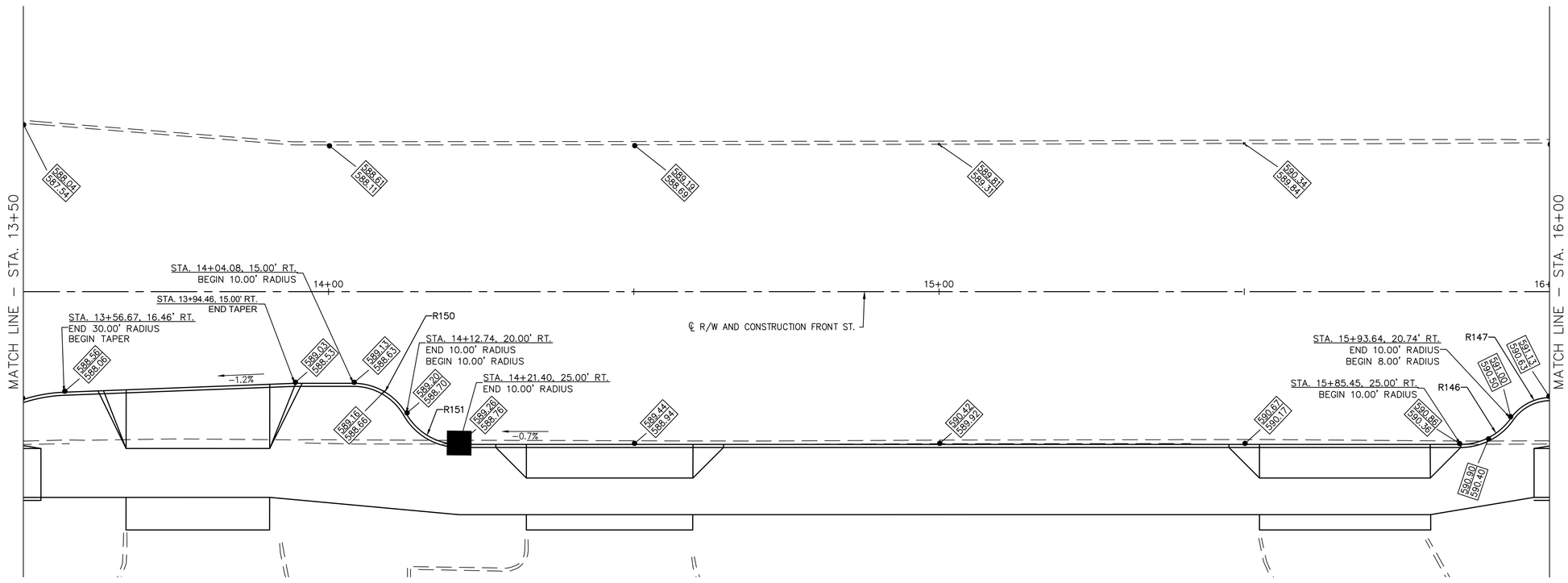


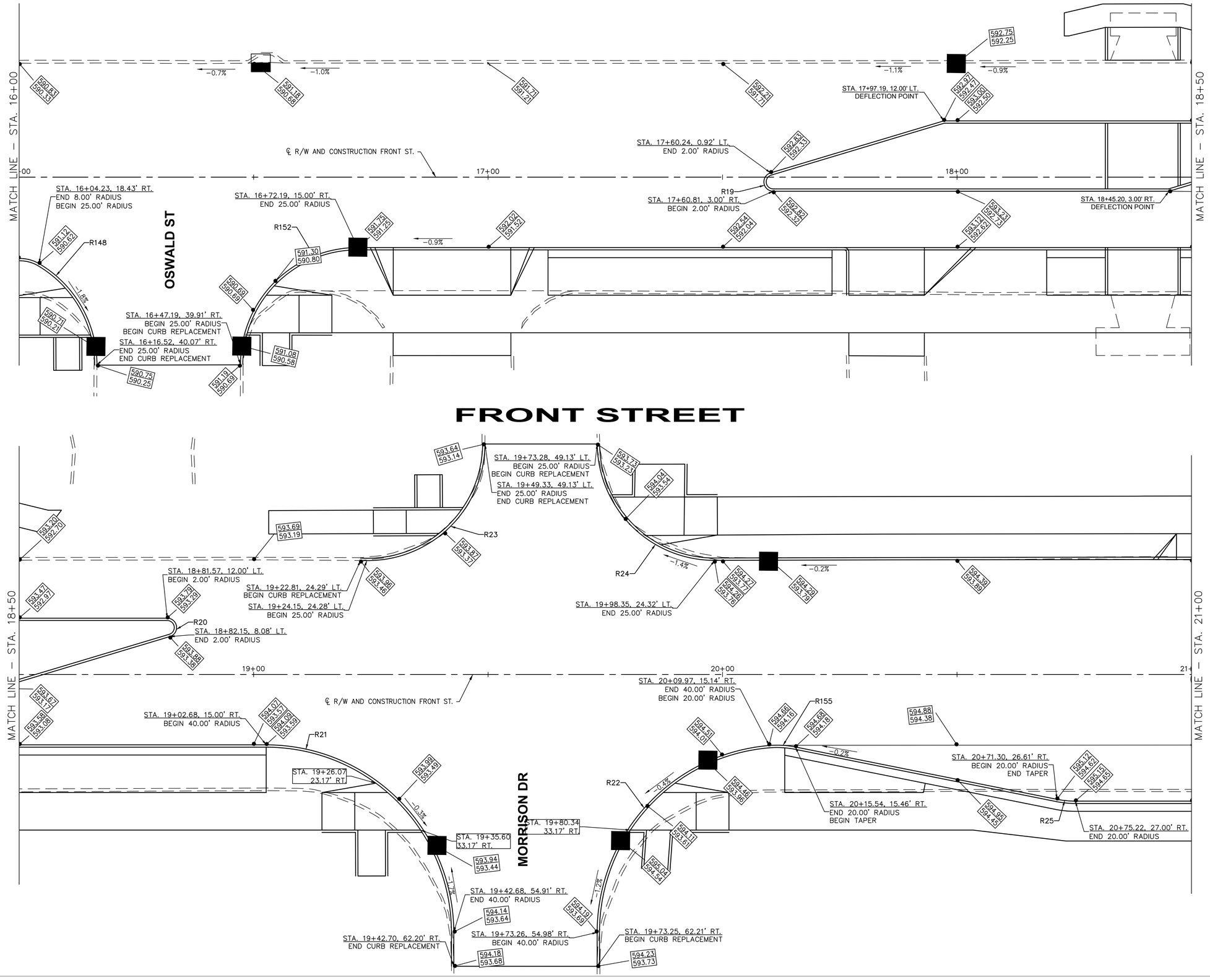
Horizontal Scale In Feet: 0, 5, 10, 20

DETAIL GRADES
FRONT STREET STA. 11+00 TO 16+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



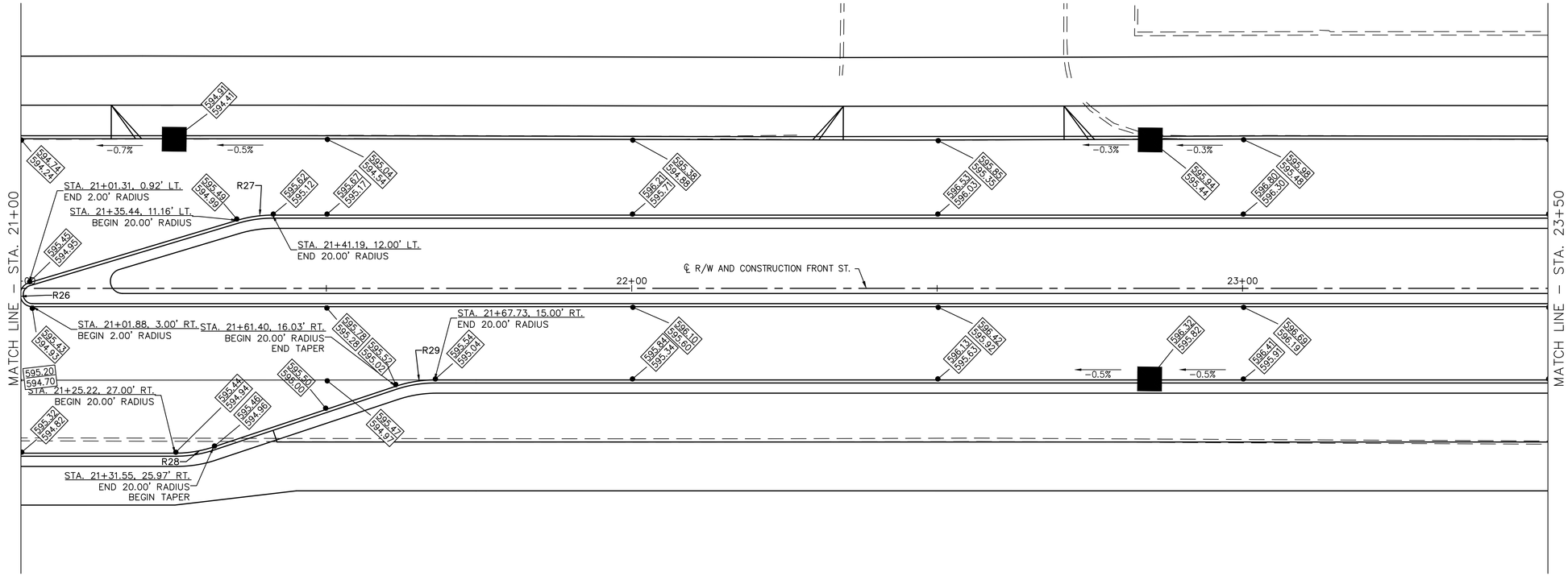
DETAIL GRADES
FRONT STREET STA. 16+00 TO 21+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



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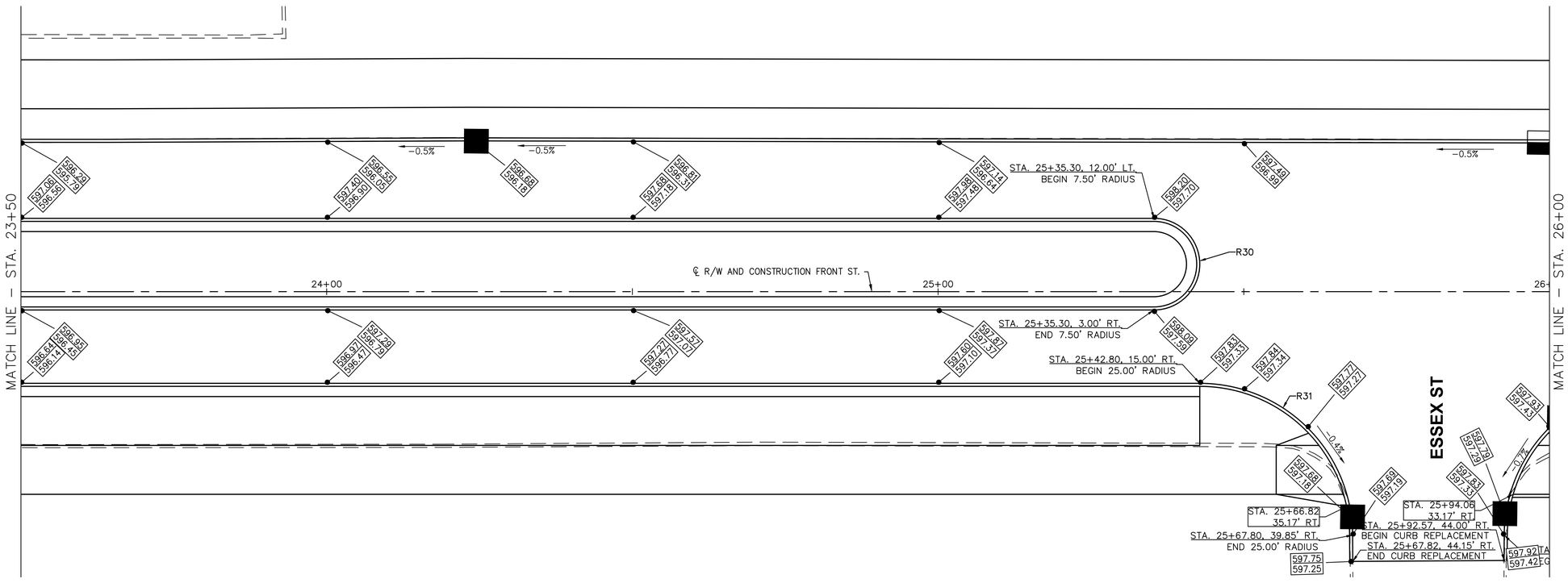


Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
FRONT STREET STA. 21+00 TO 26+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

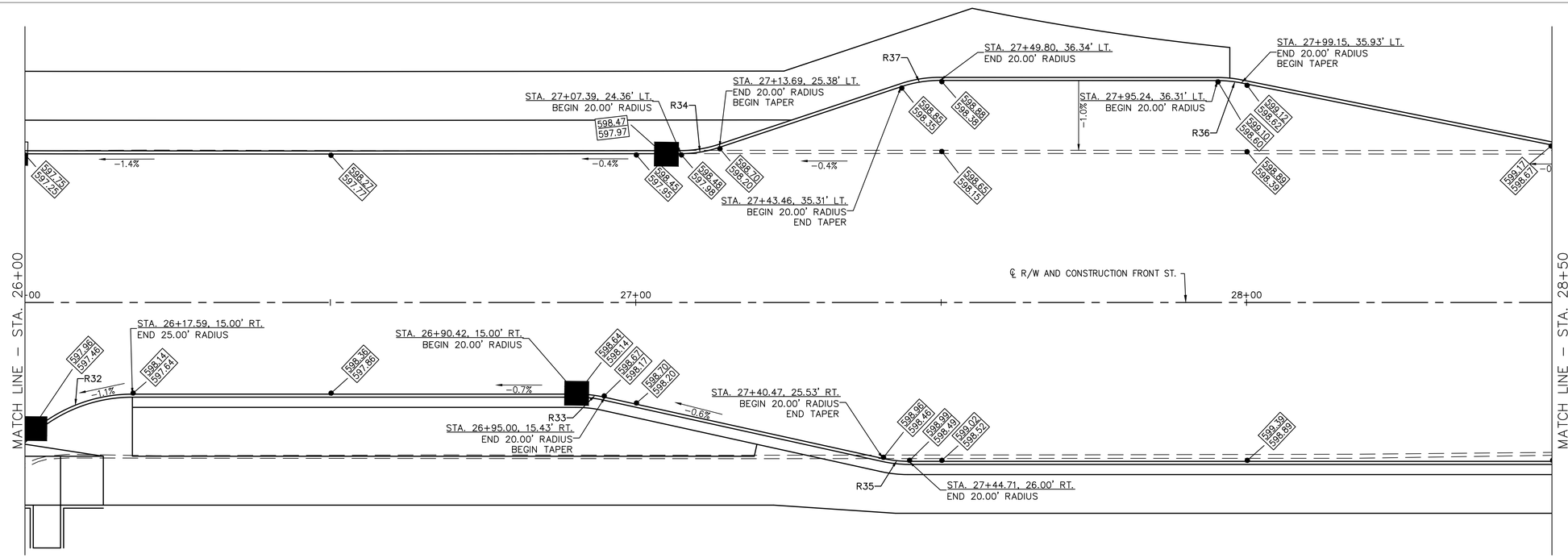
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



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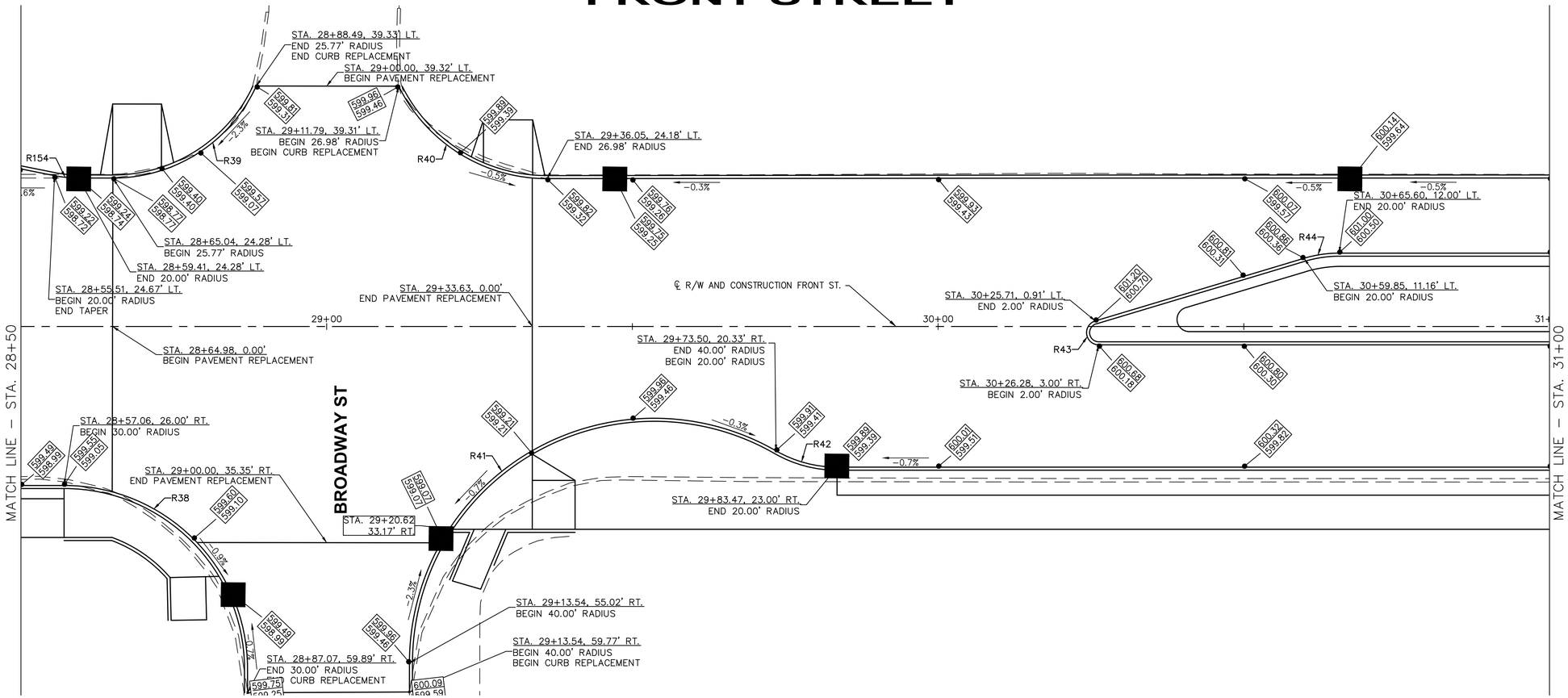

Horizontal Scale In Feet
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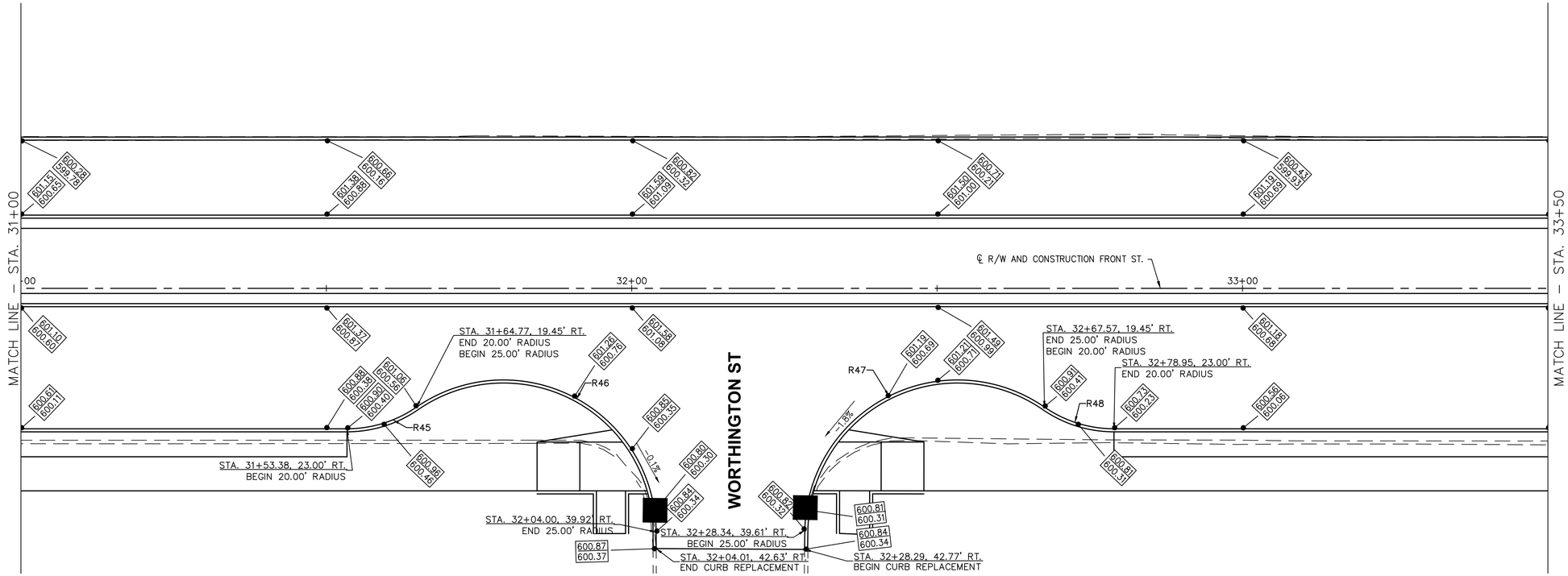
DETAIL GRADES
FRONT STREET STA. 26+00 TO 31+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



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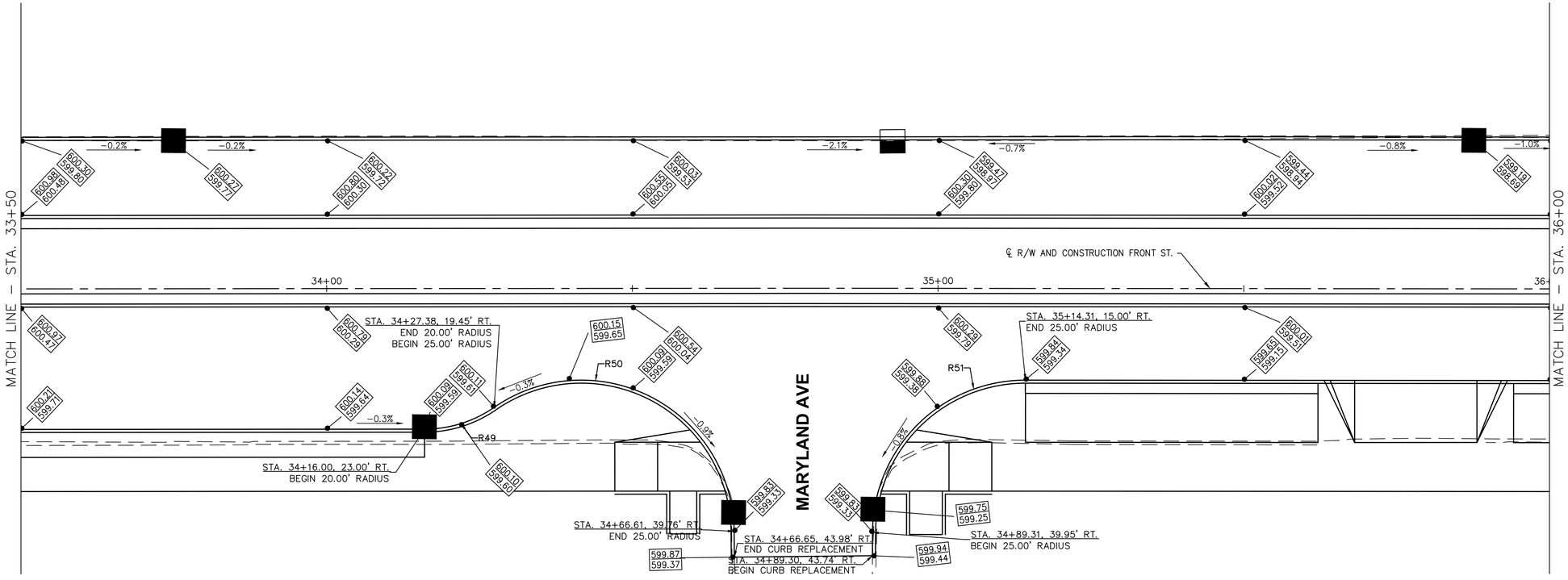


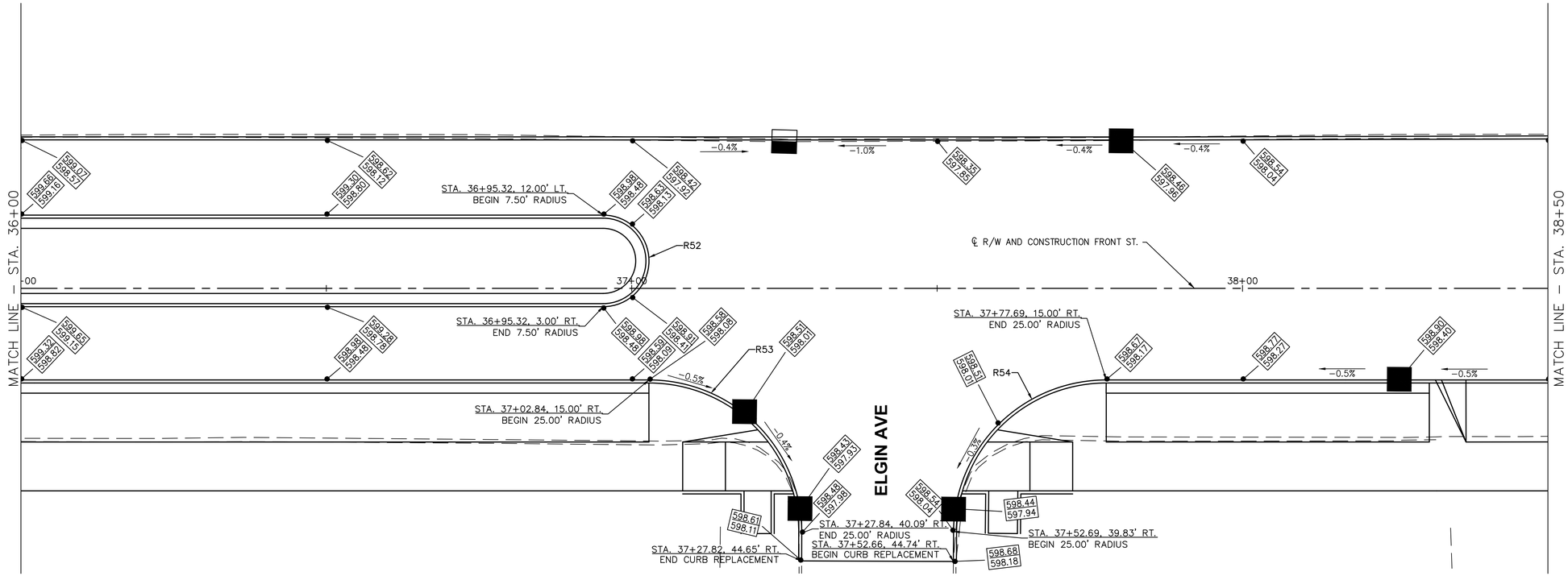
Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
FRONT STREET STA. 31+00 TO 36+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



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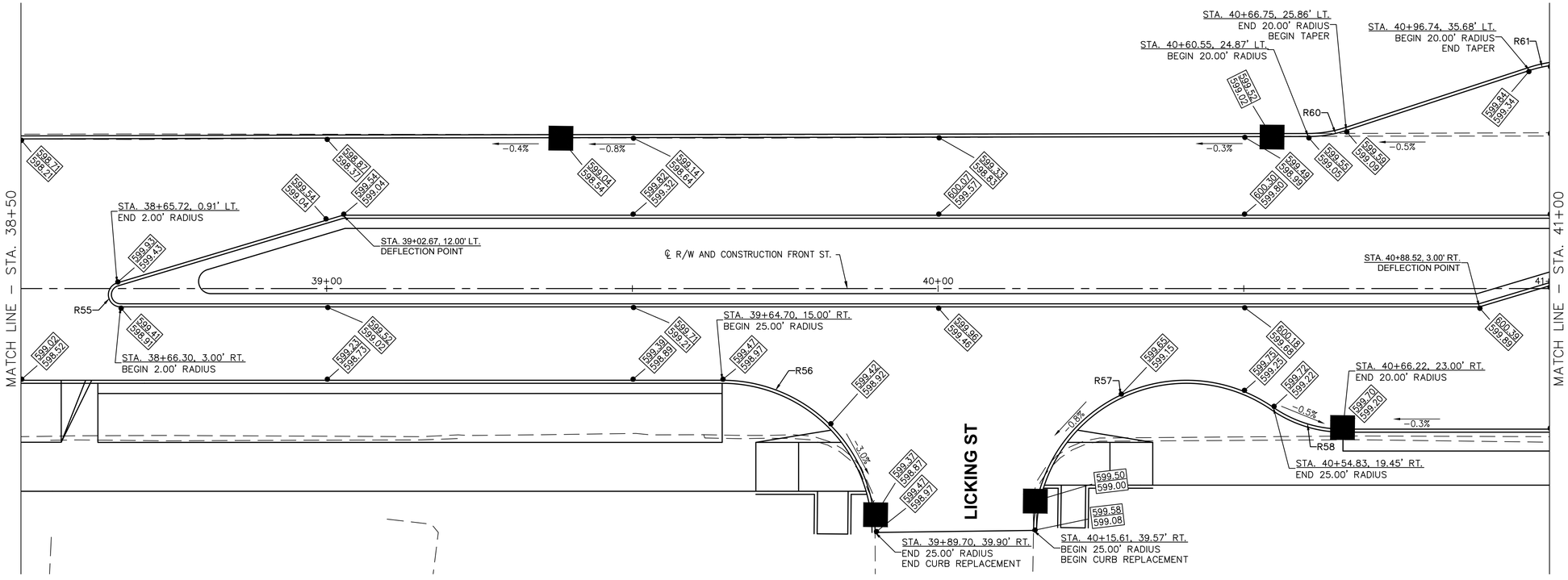


0 5 10 20
Horizontal Scale In Feet

DETAIL GRADES
FRONT STREET STA. 36+00 TO 41+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

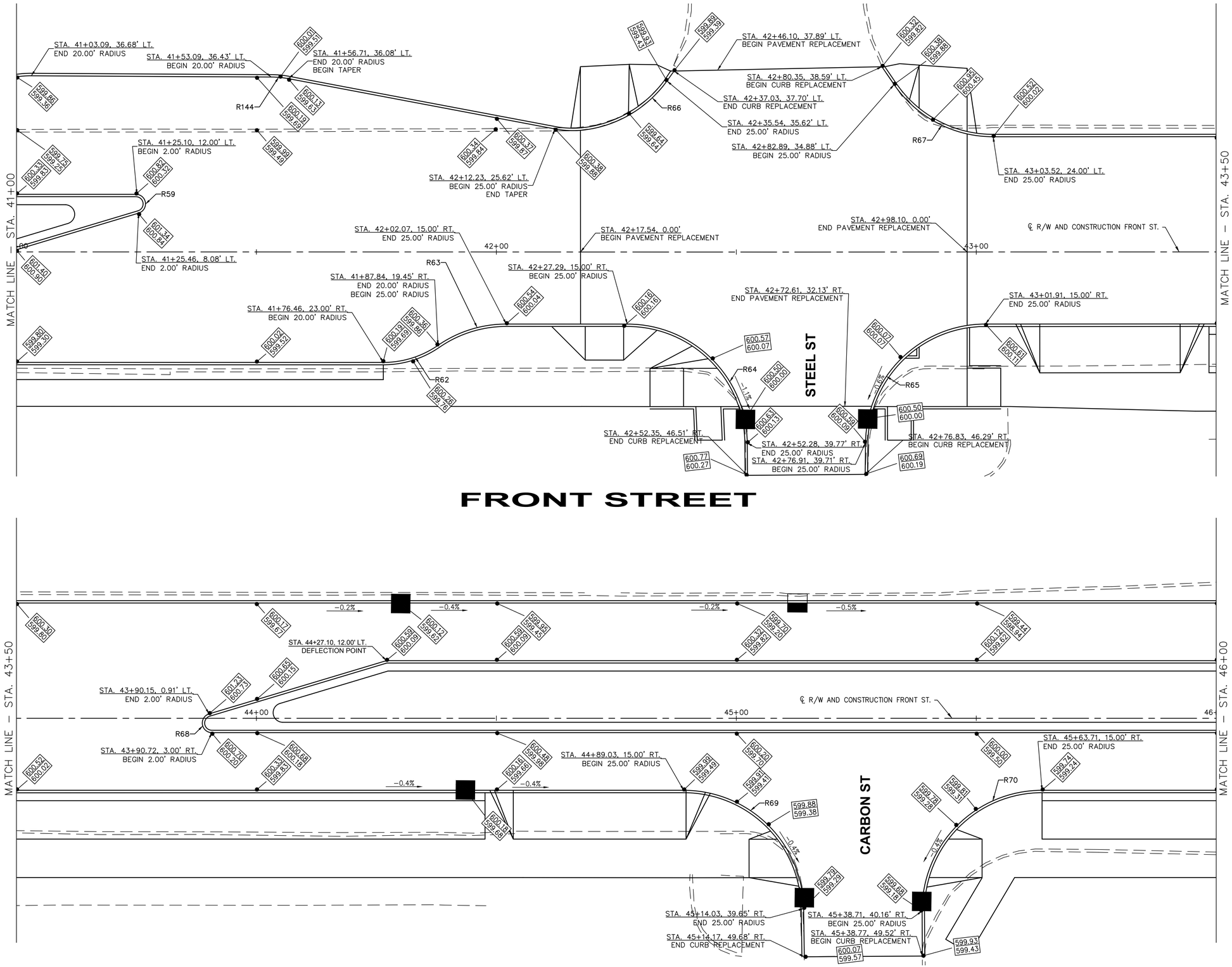
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET

0 5 10 20
Horizontal Scale In Feet

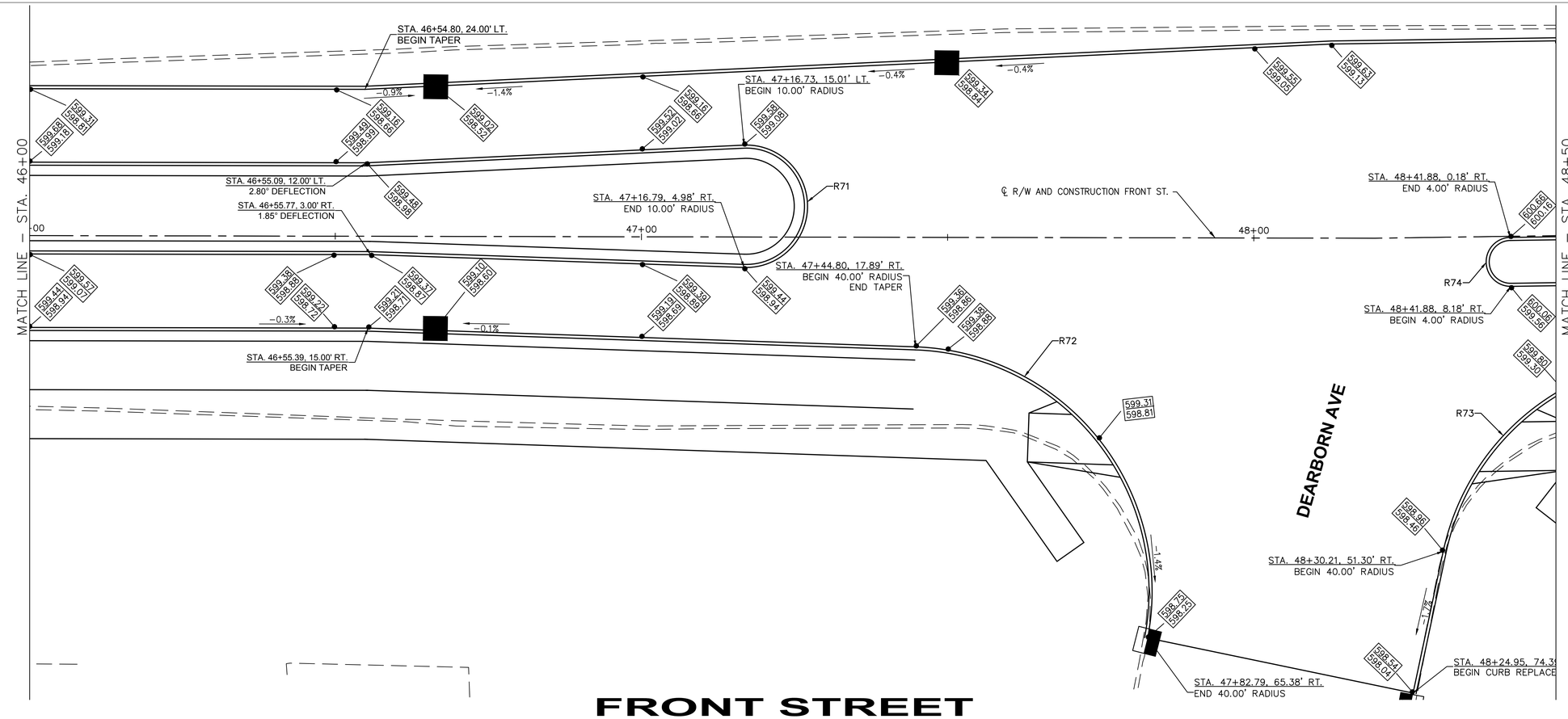
DETAIL GRADES
FRONT STREET STA. 41+00 TO 46+00

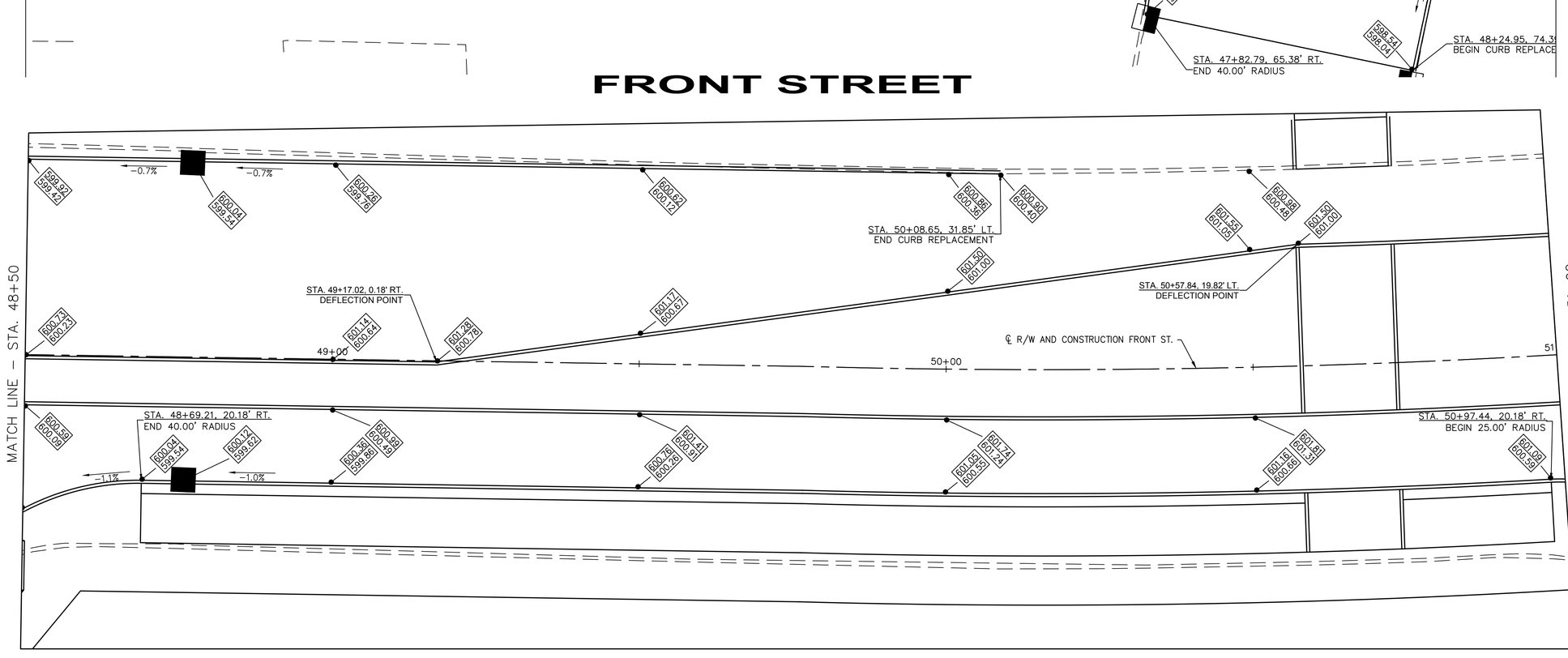
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

FRONT STREET





Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
FRONT STREET STA. 46+00 TO 51+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

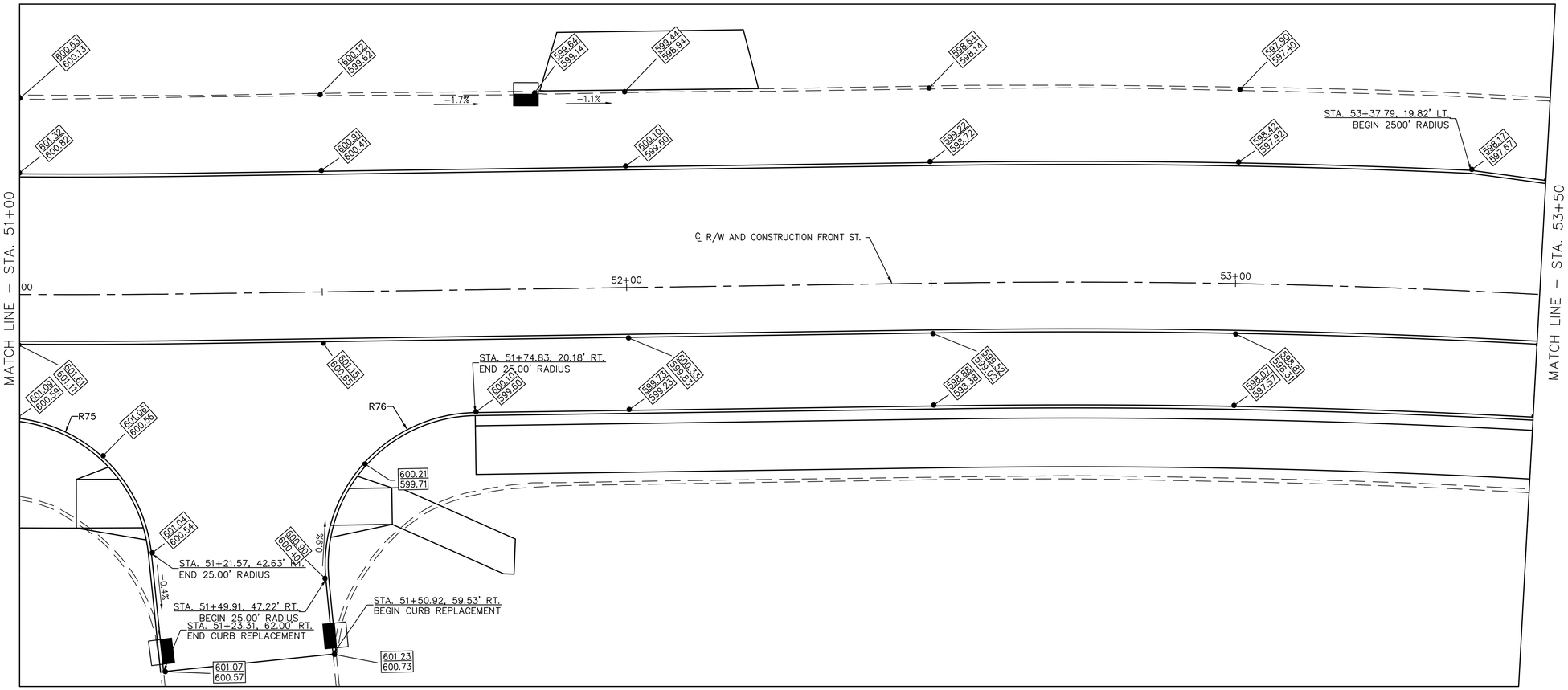
ODOT PID
121938

DESIGNER
MAS

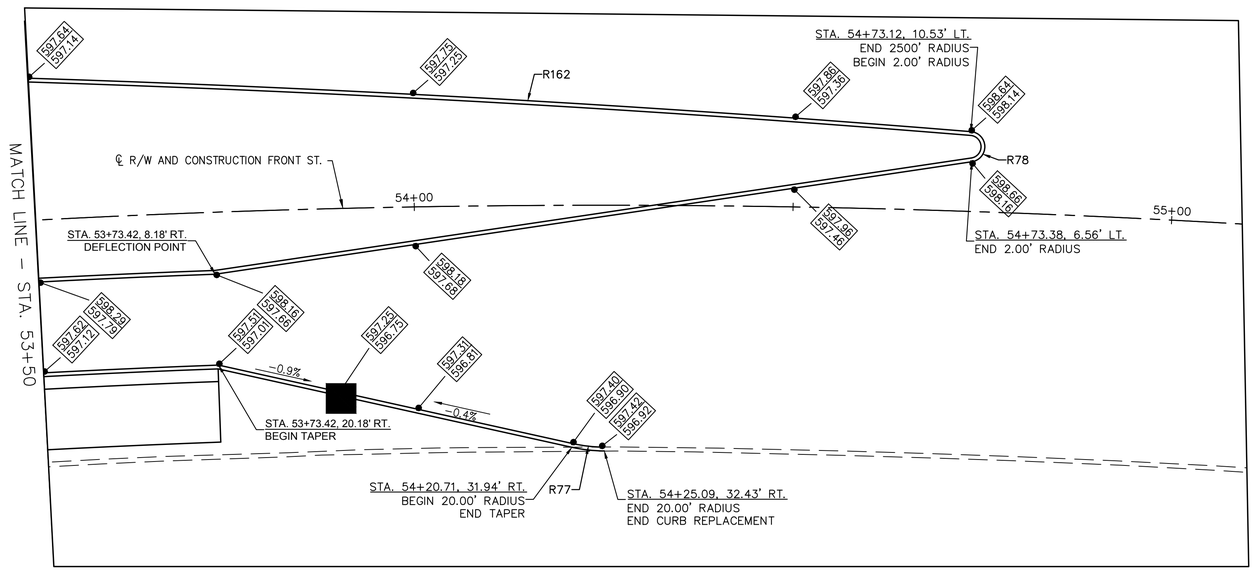
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET



0 5 10 20
Horizontal Scale In Feet

DETAIL GRADES
FRONT STREET STA. 51+00 TO 55+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

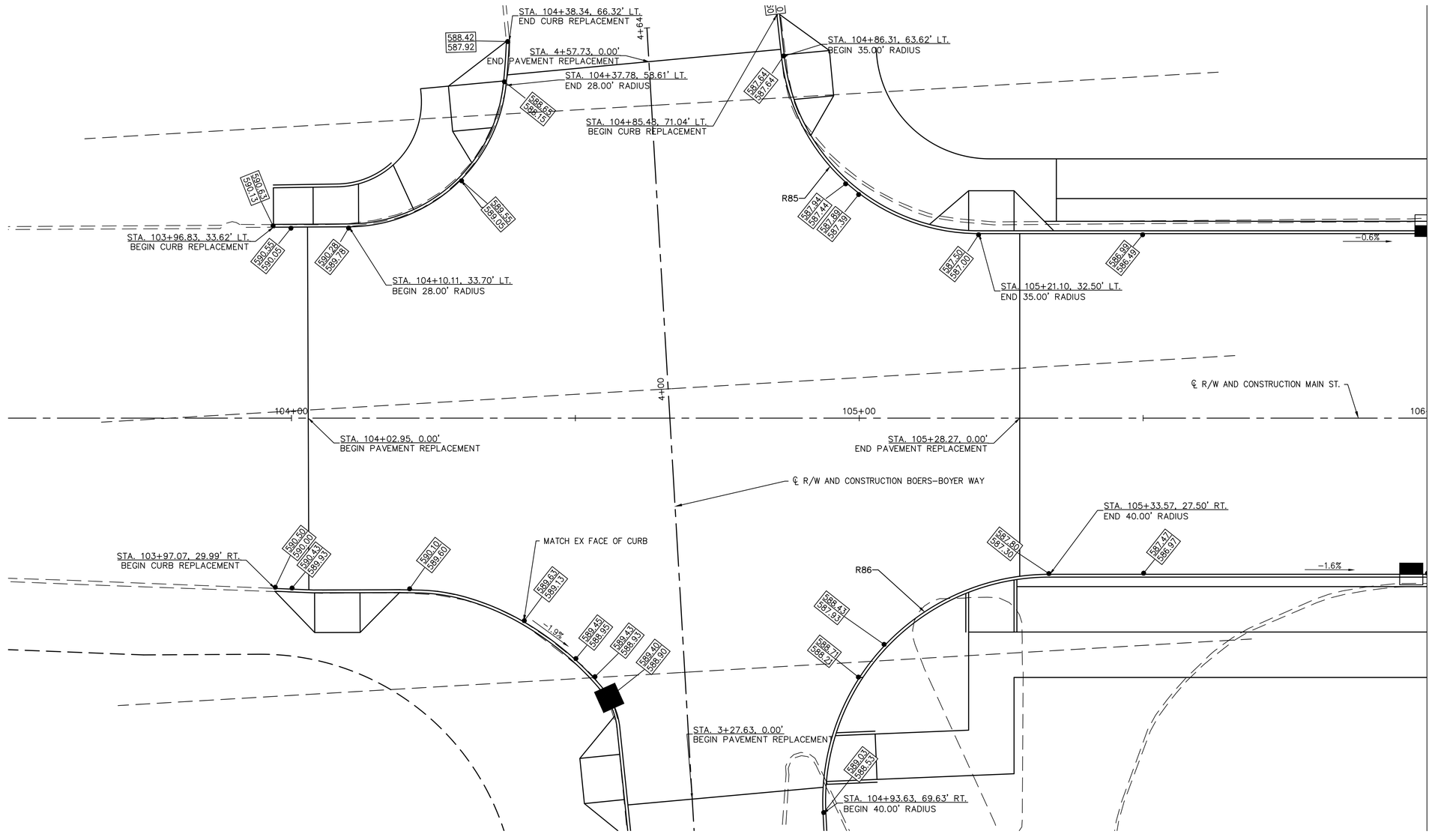
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



MAIN STREET / BOERS-BOYER WAY INTERSECTION

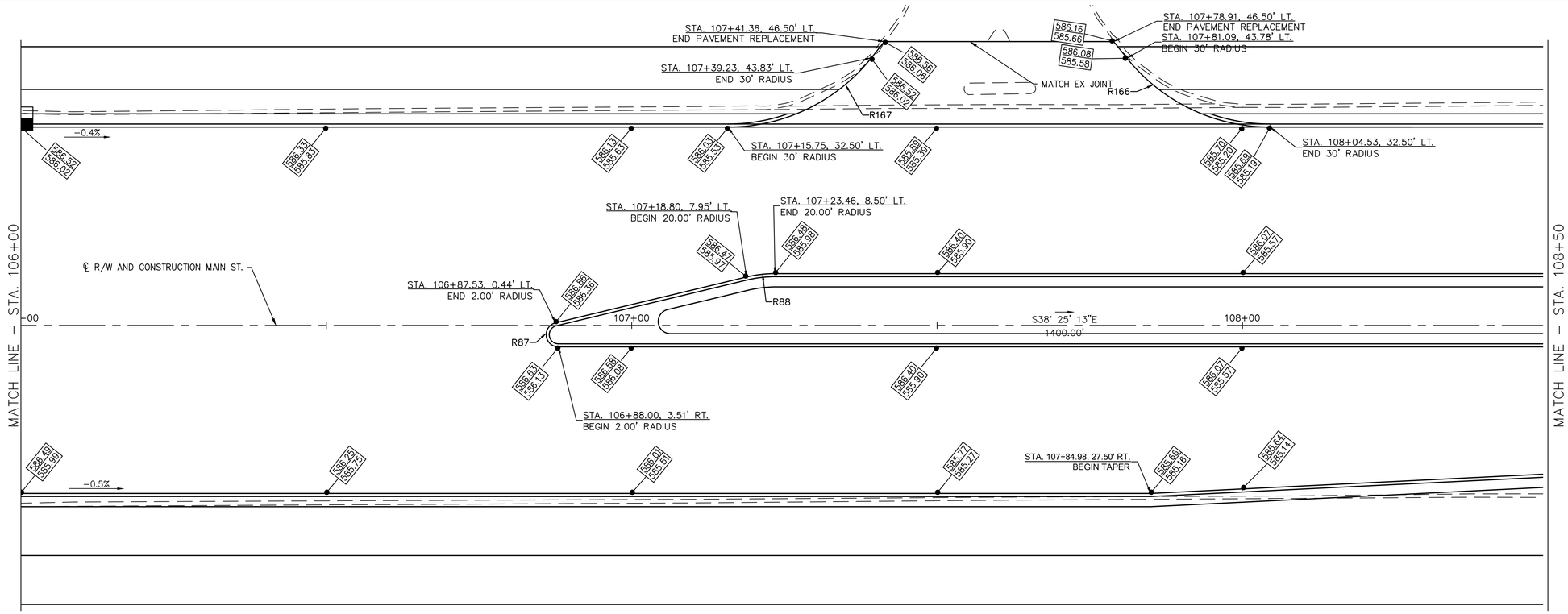
0 5 10 20
Horizontal Scale In Feet

DETAIL GRADES
MAIN STREET STA. 104+00 TO 106+00

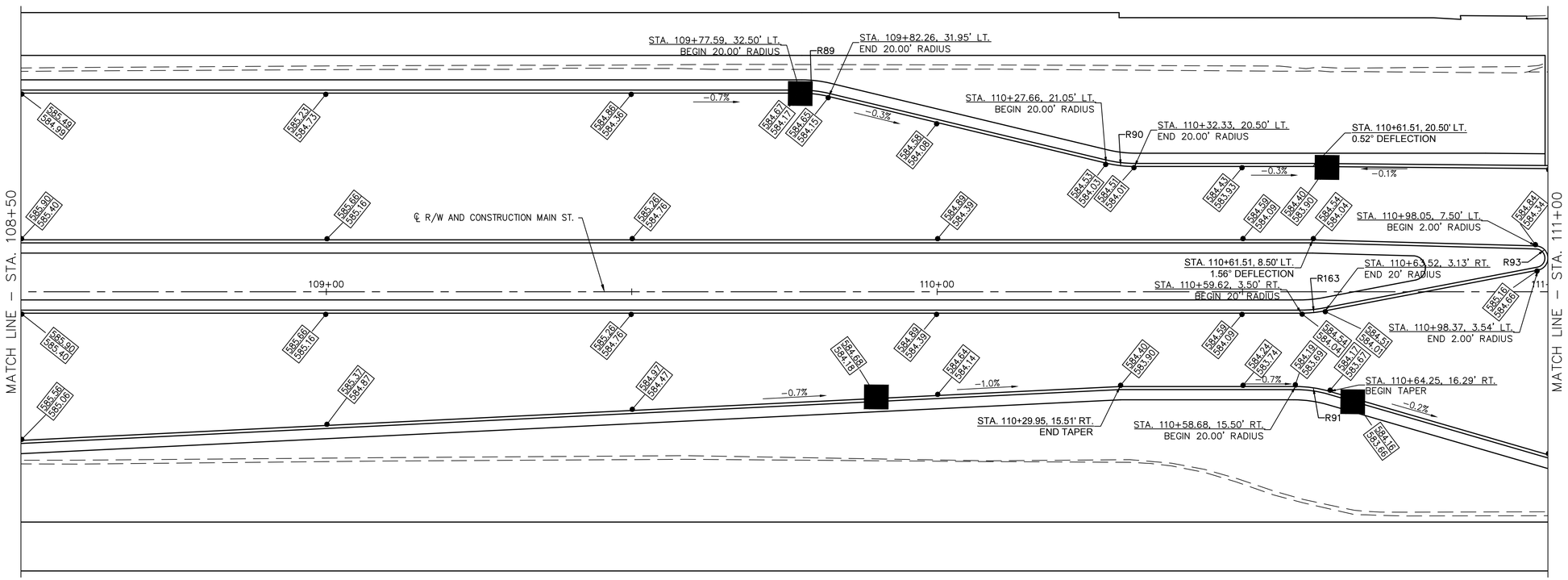
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



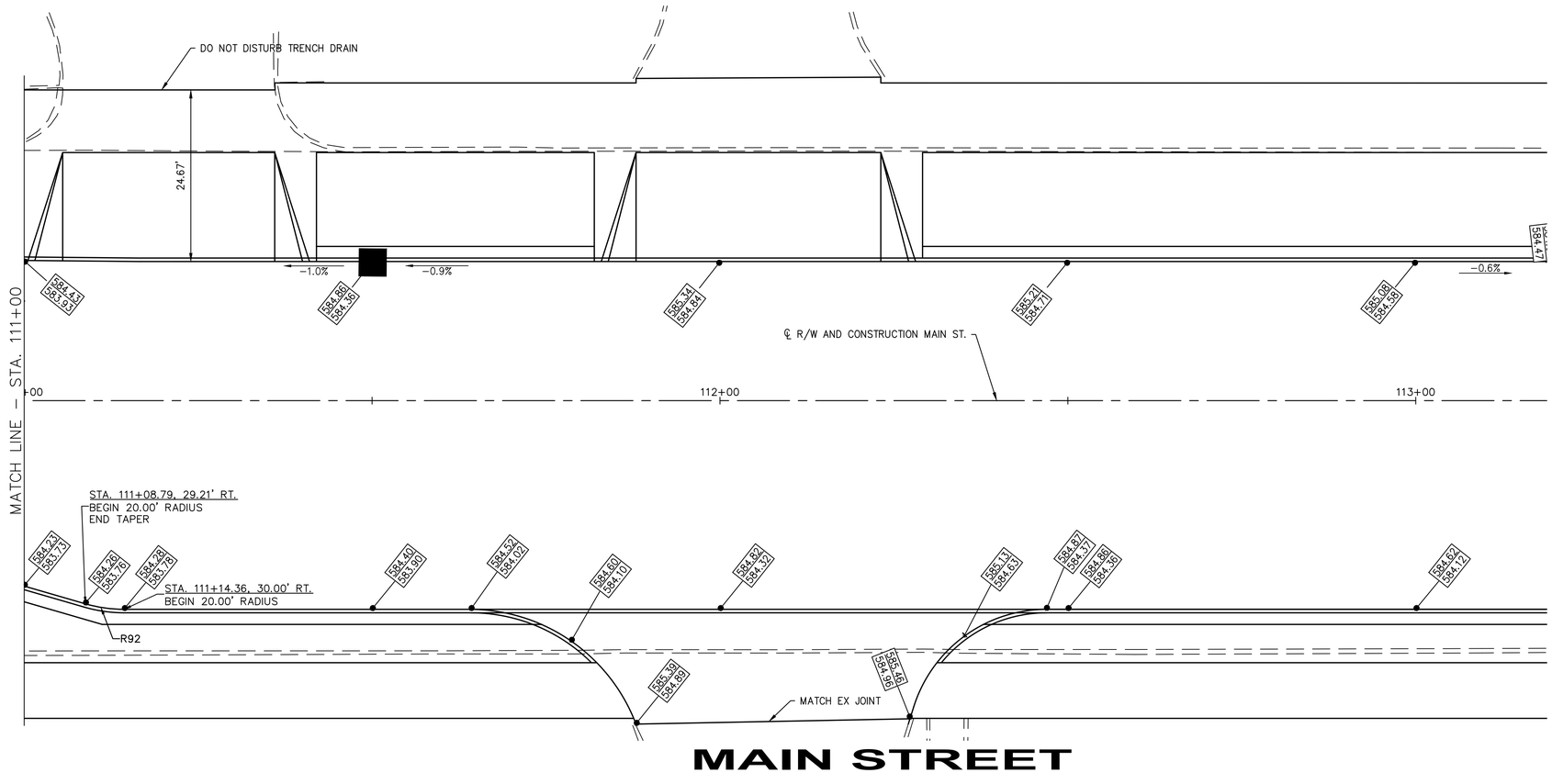
Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
MAIN STREET STA. 106+00 TO 111+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
MAIN STREET STA. 111+00 TO 113+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

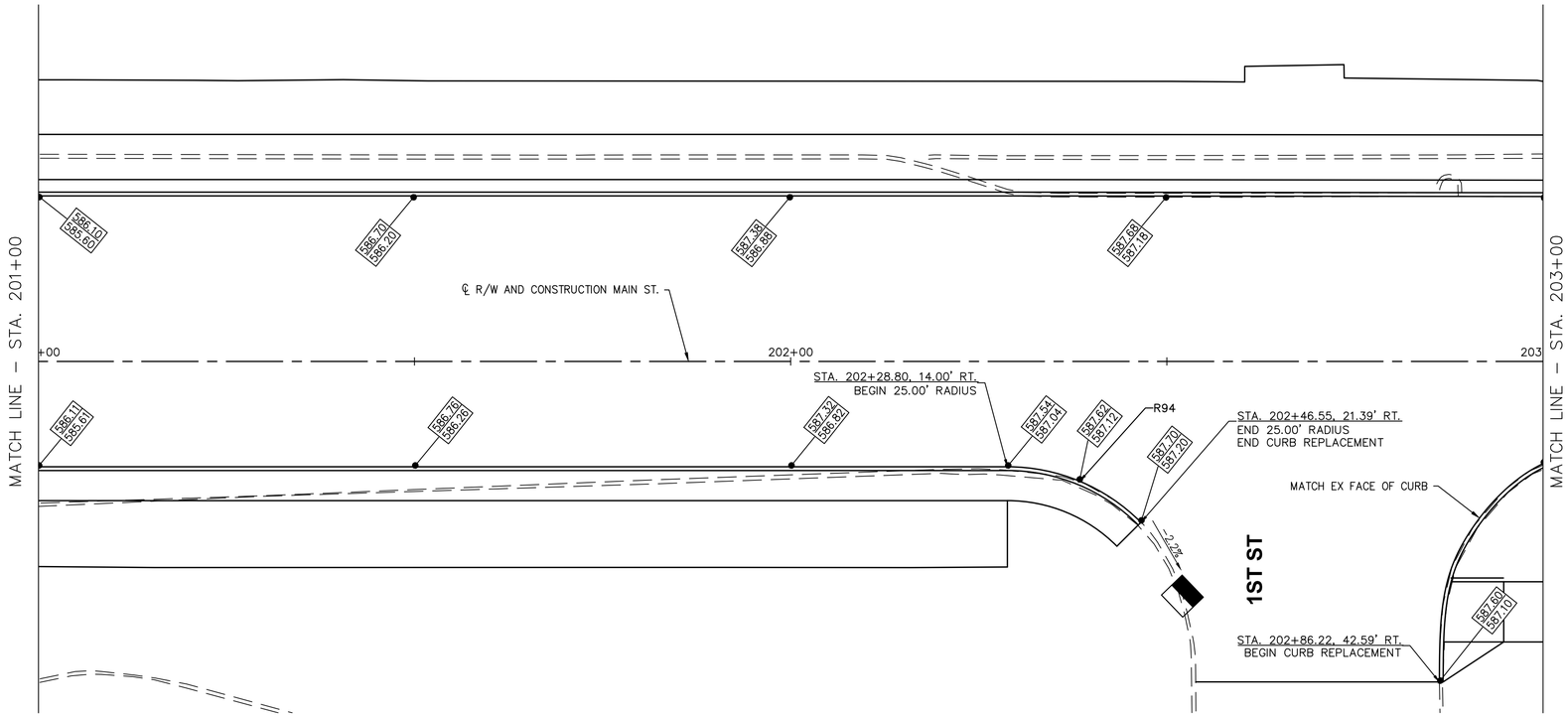
ODOT PID
121938

DESIGNER
MAS

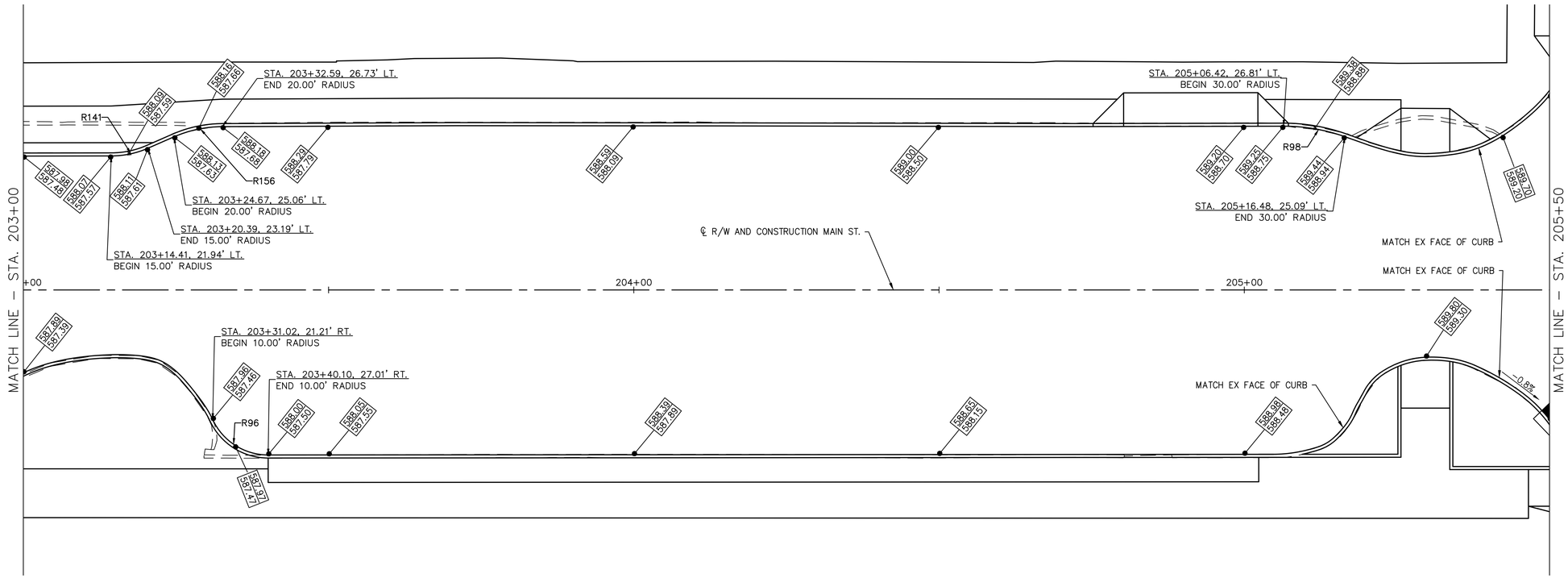
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



MAIN STREET

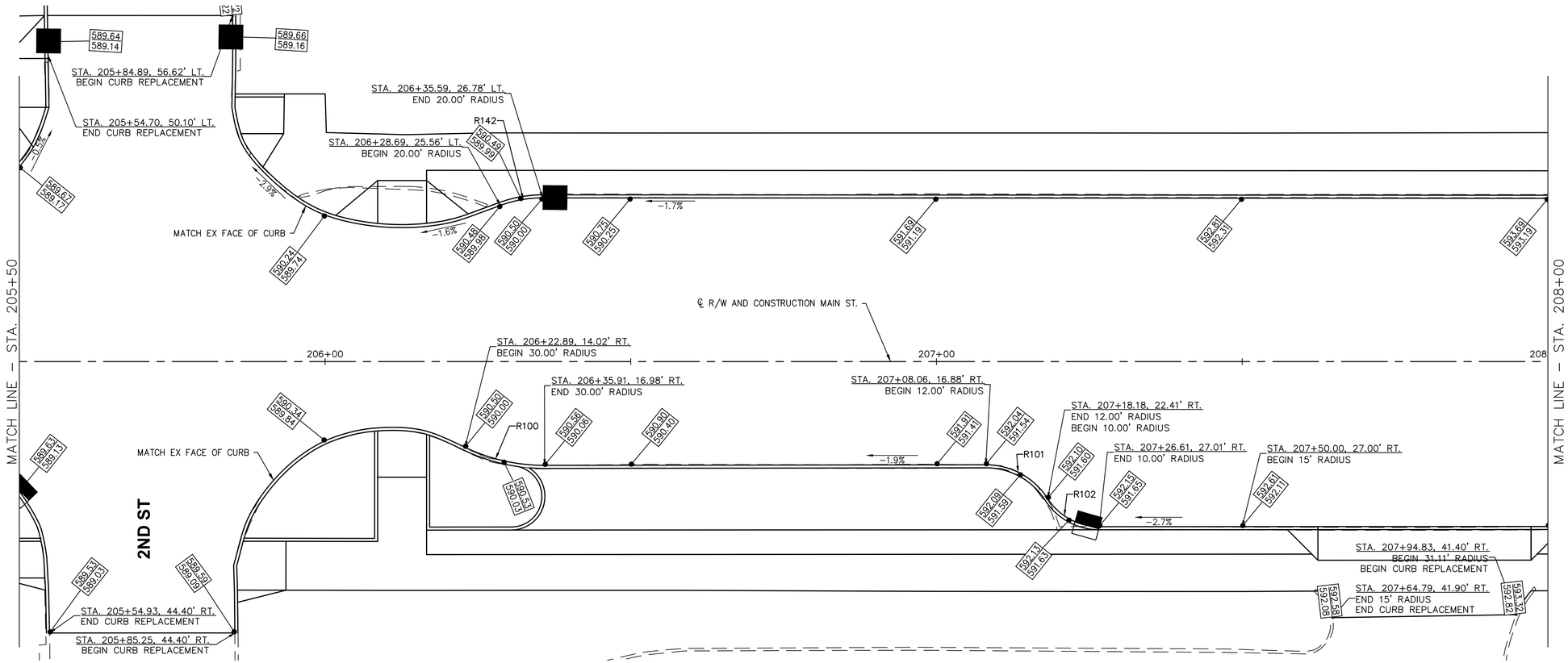


DETAIL GRADES
MAIN STREET STA. 200+50 TO 205+50

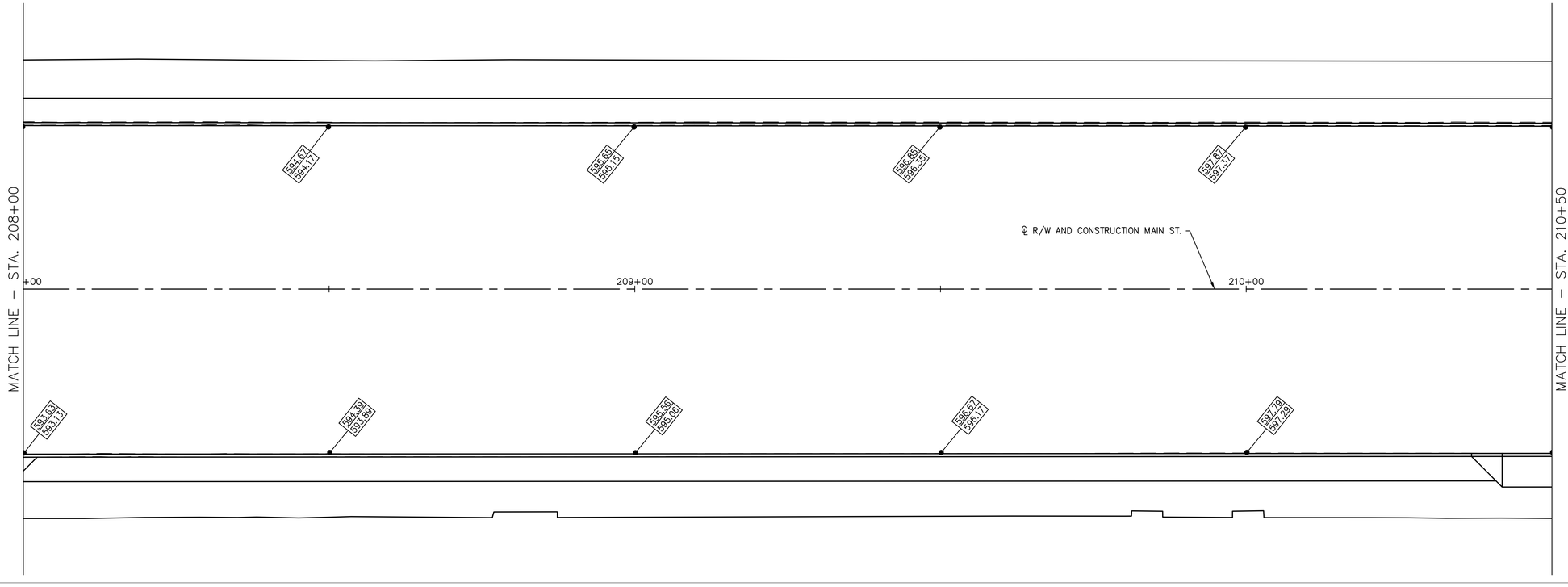
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



Horizontal Scale In Feet
0 5 10 20

DETAIL GRADES
MAIN STREET STA. 205+50 TO 210+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

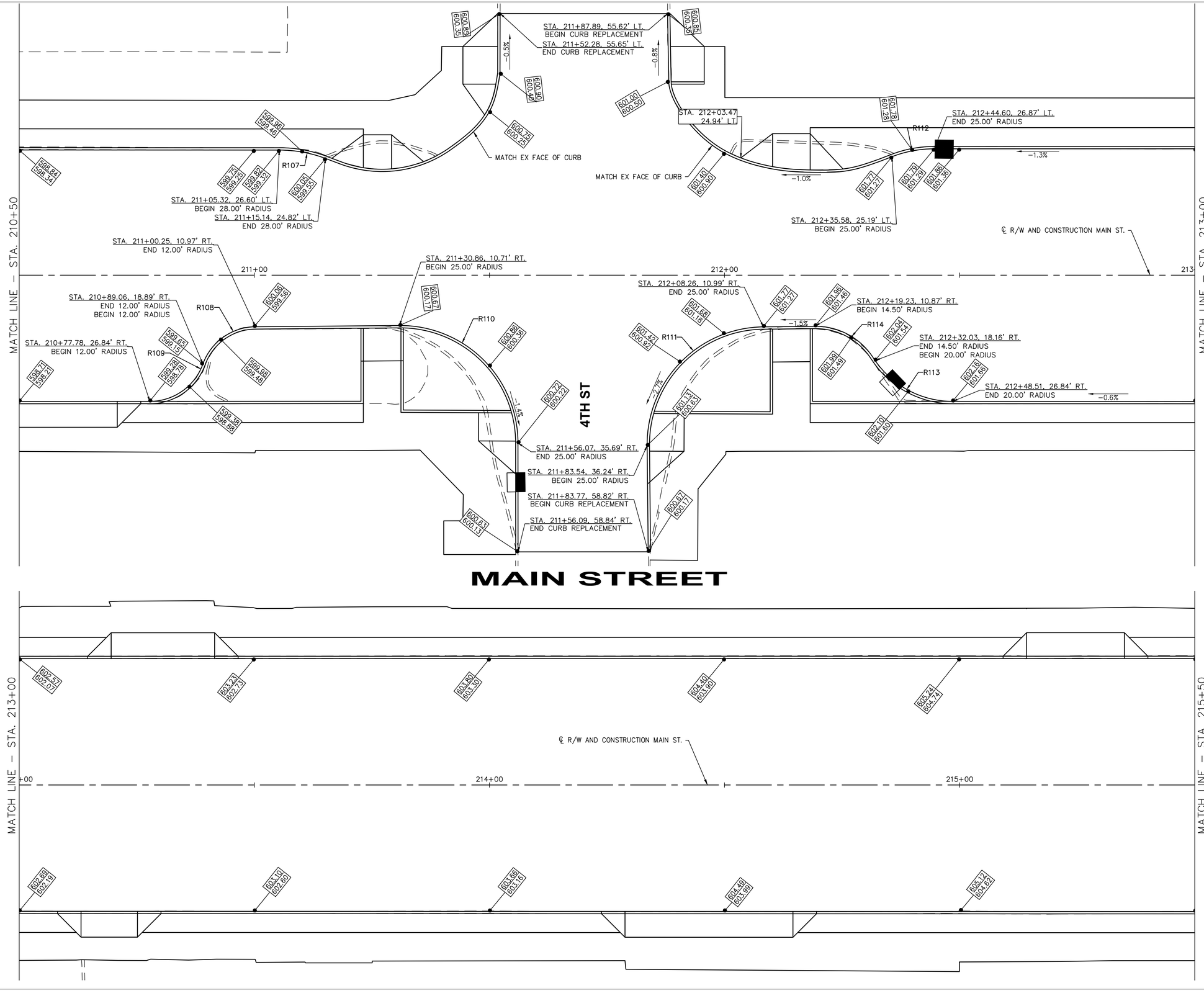
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



DETAIL GRADES
MAIN STREET STA. 210+50 TO 215+50

Horizontal Scale In Feet
0 5 10 20

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

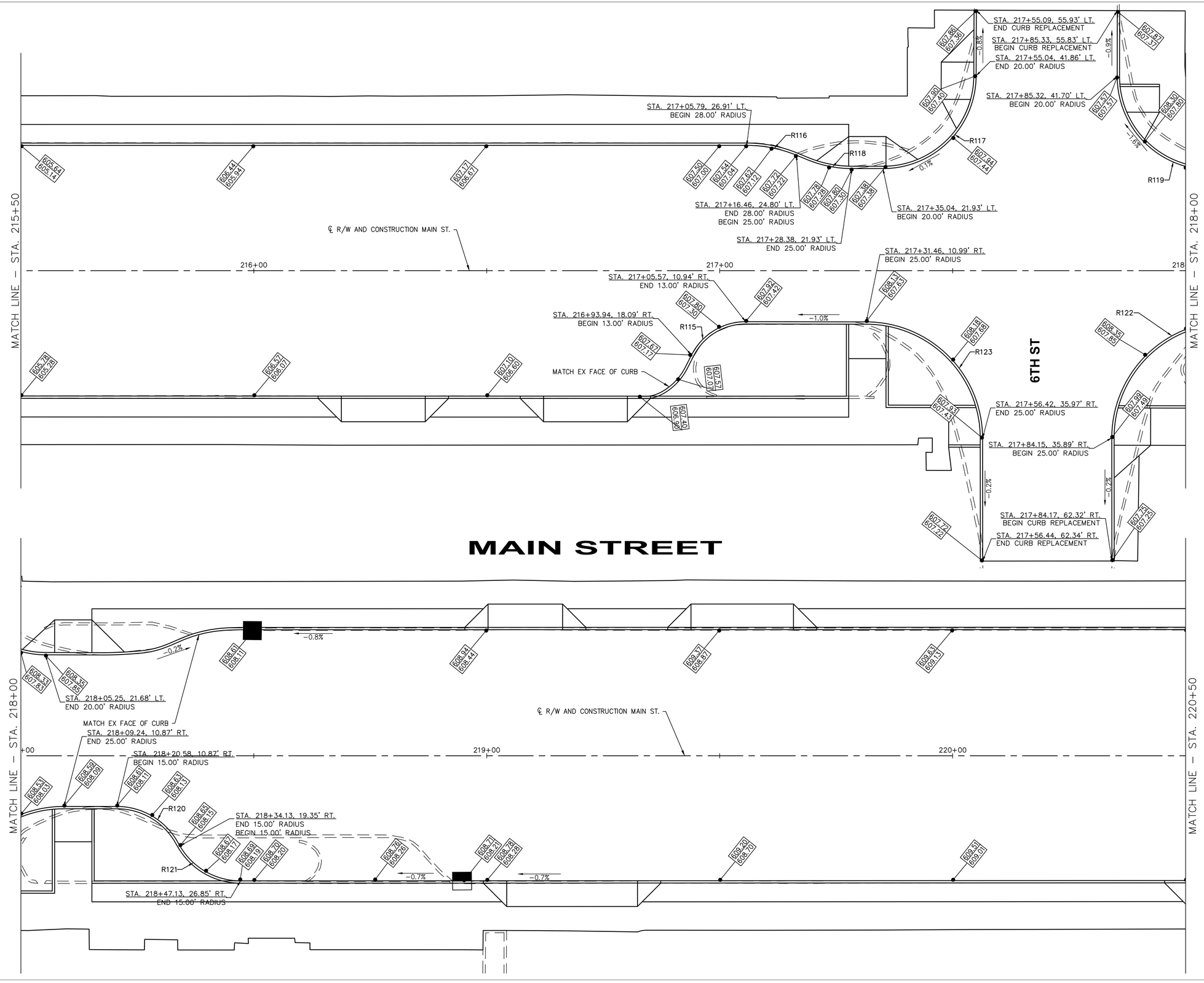
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



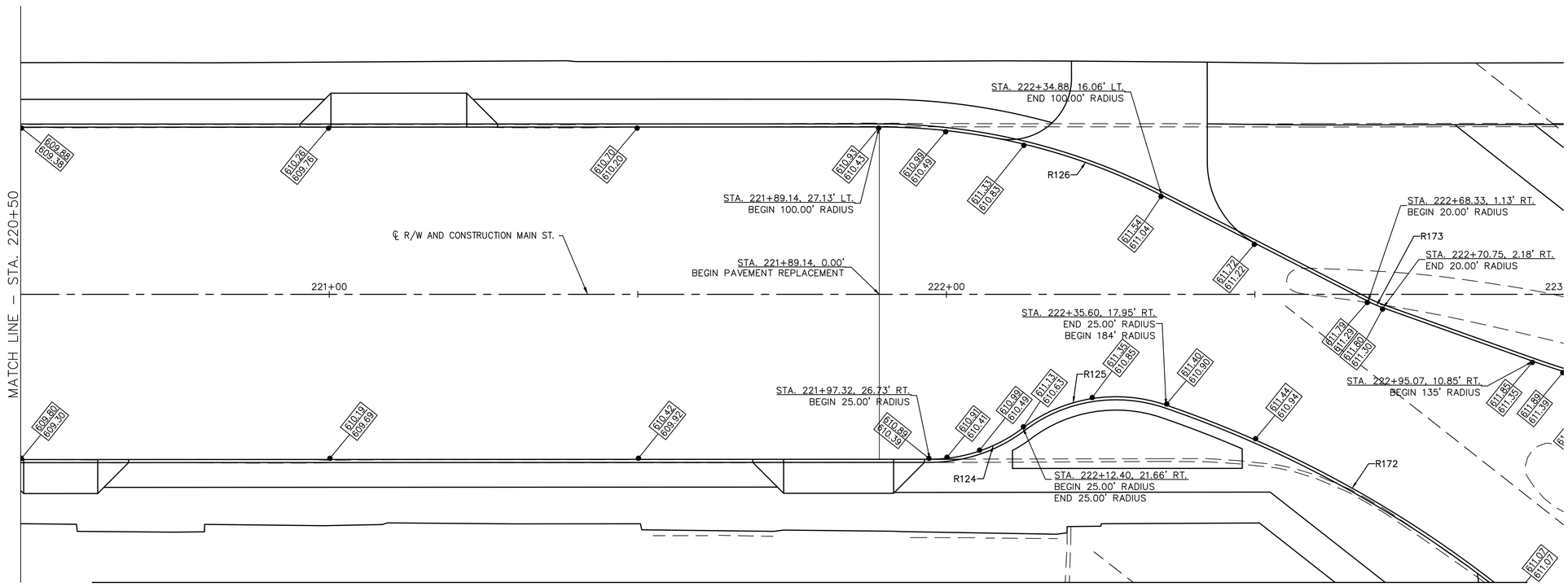
DETAIL GRADES
MAIN STREET STA. 215+50 TO 220+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



0 5 10 20
Horizontal
Scale In Feet

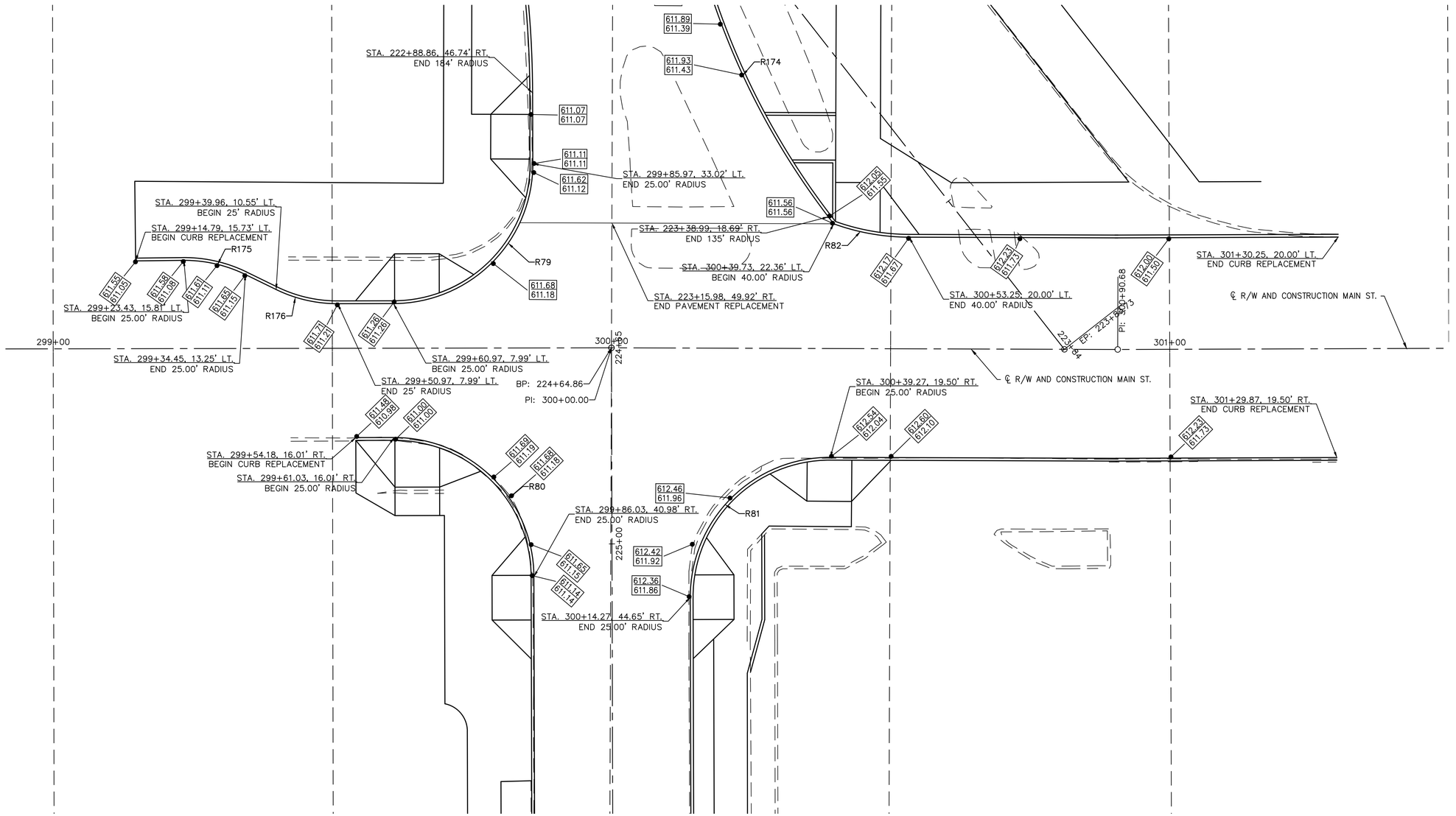
DETAIL GRADES
MAIN STREET STA. 220+50 TO 223+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



STARR AVE / MAIN STREET INTERSECTION

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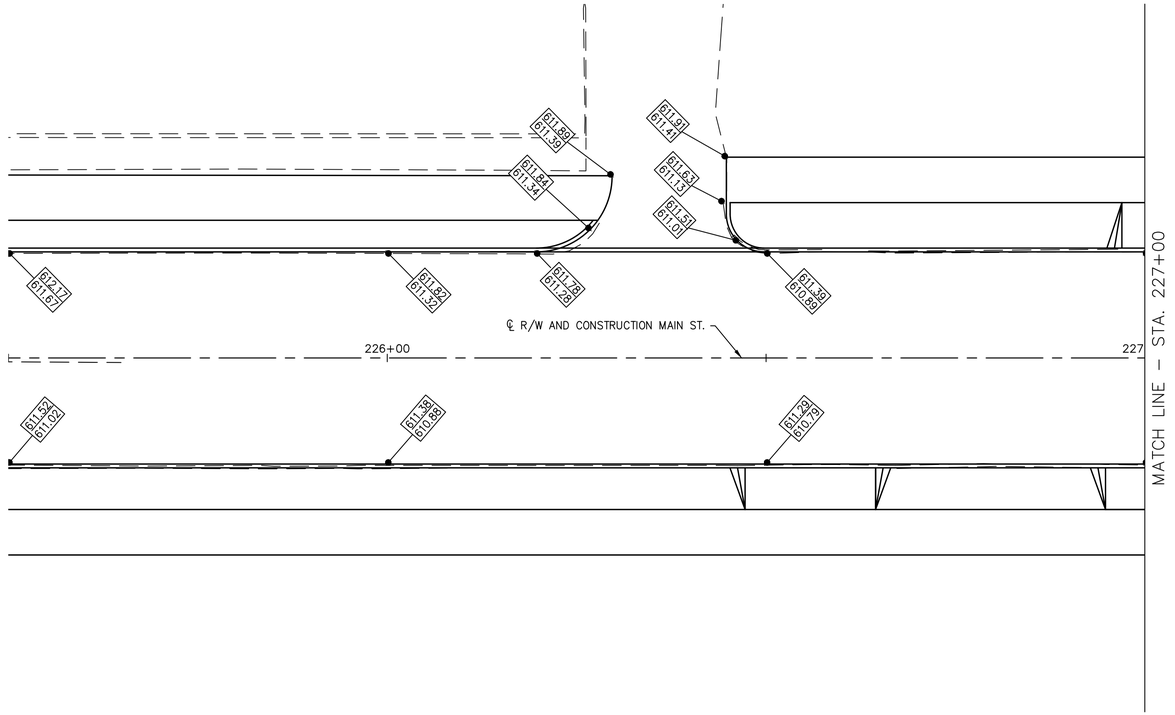
Horizontal Scale In Feet

DETAIL GRADES
STARR AVE STA. 299+00 TO 301+50

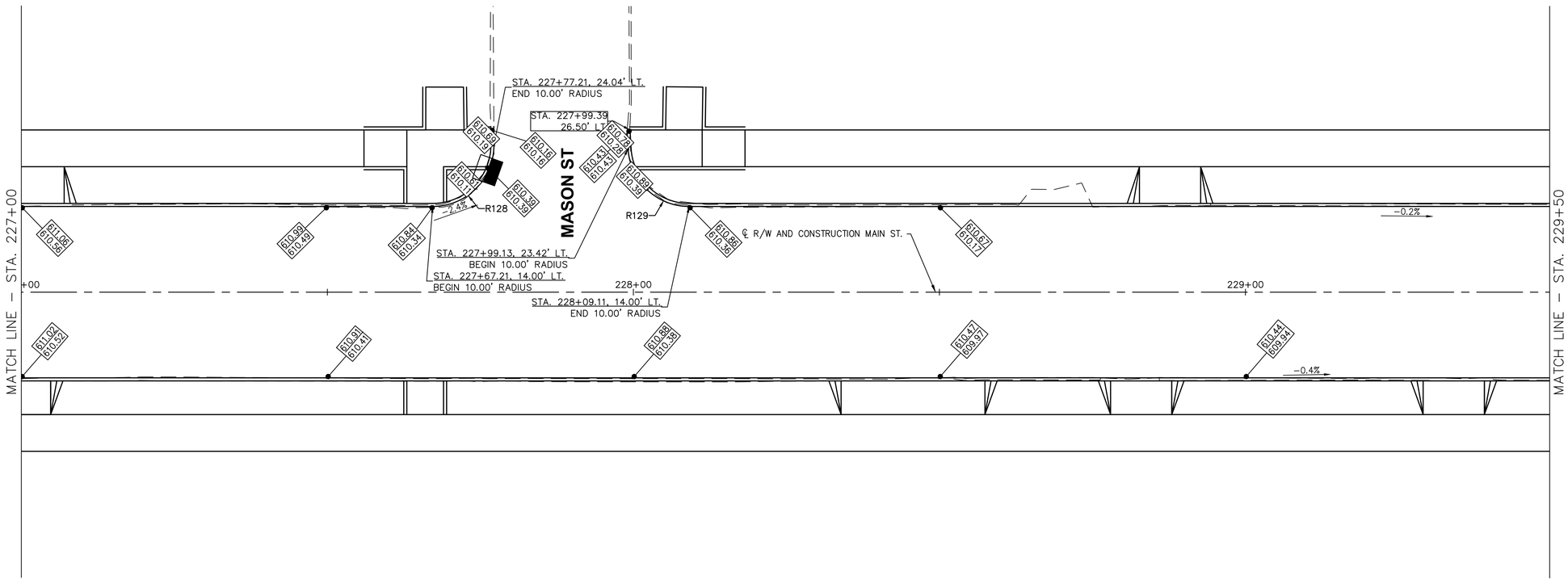
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



N

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Horizontal
Scale In Feet

DETAIL GRADES
MAIN STREET STA. 225+50 TO 229+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

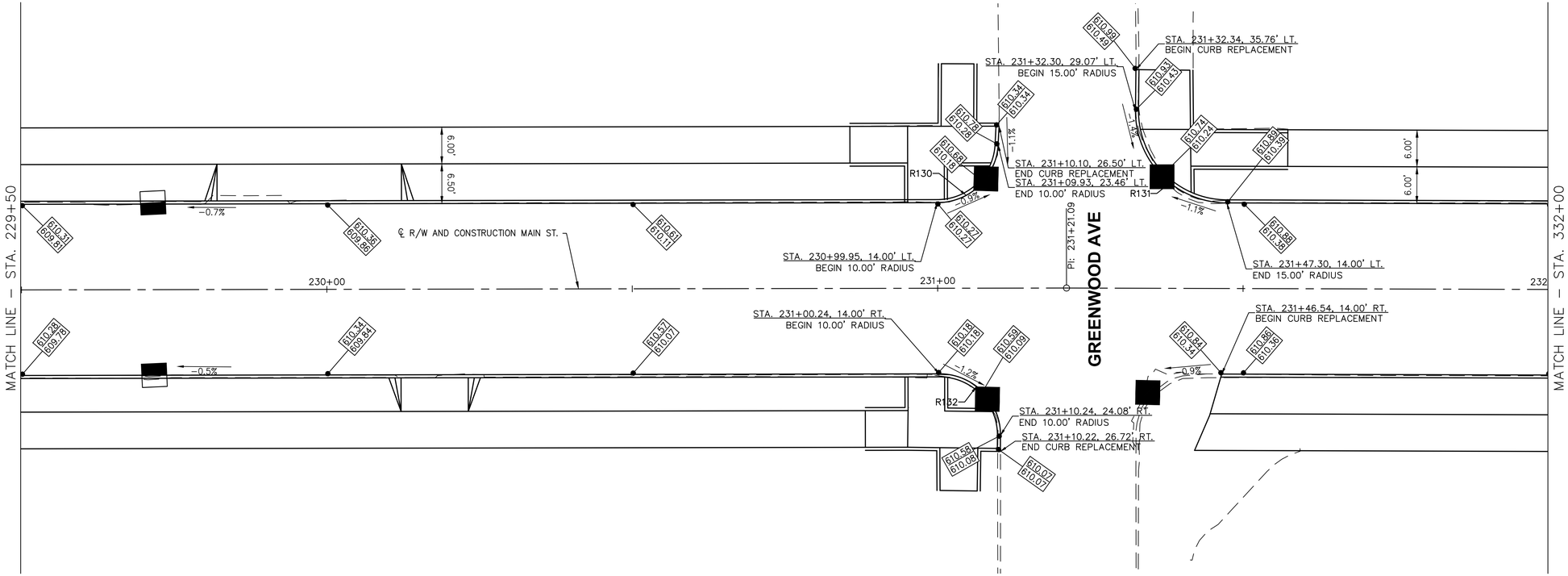
ODOT PID
121938

DESIGNER
MAS

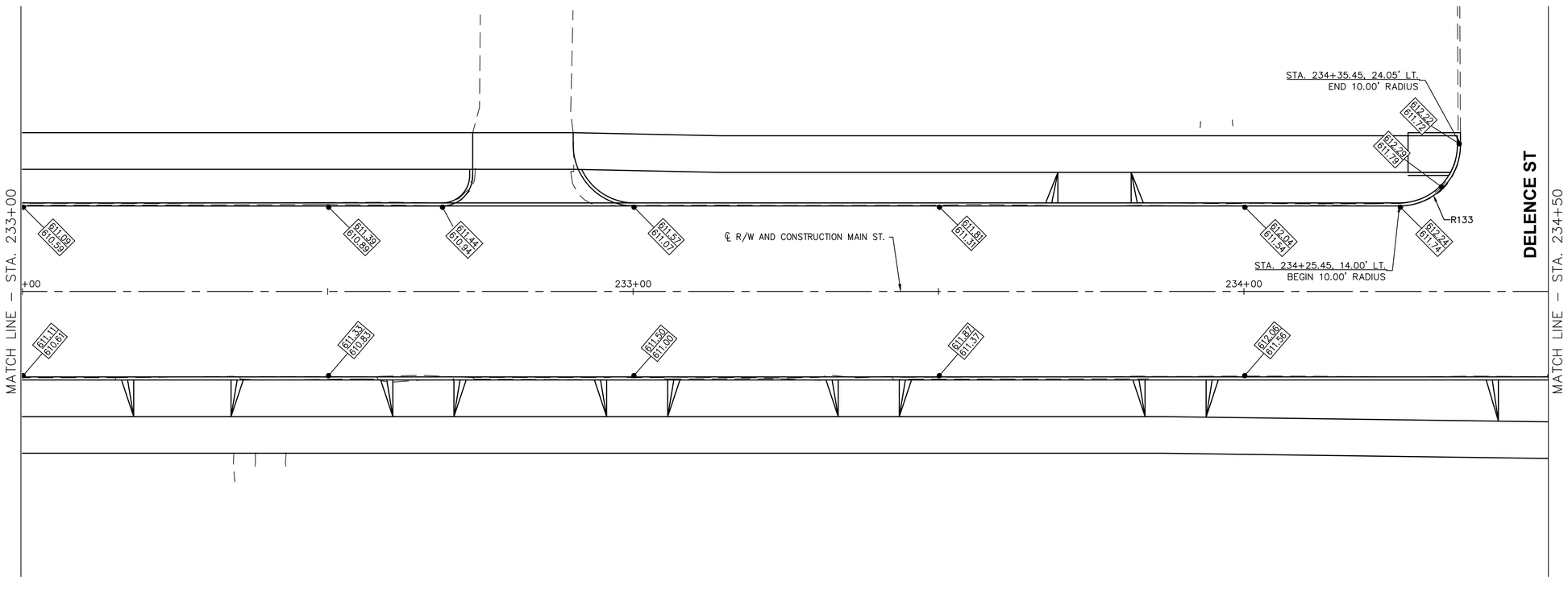
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



MAIN STREET



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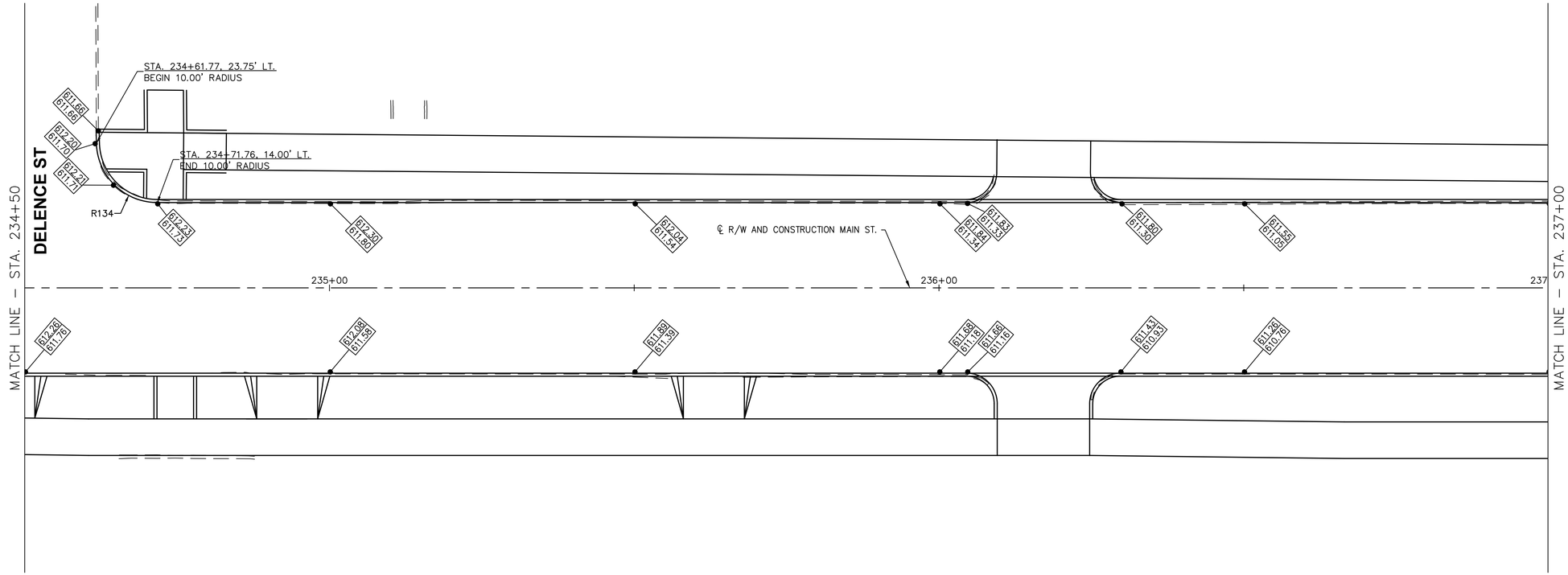
Horizontal Scale In Feet

DETAIL GRADES
MAIN STREET STA. 229+50 TO 234+50

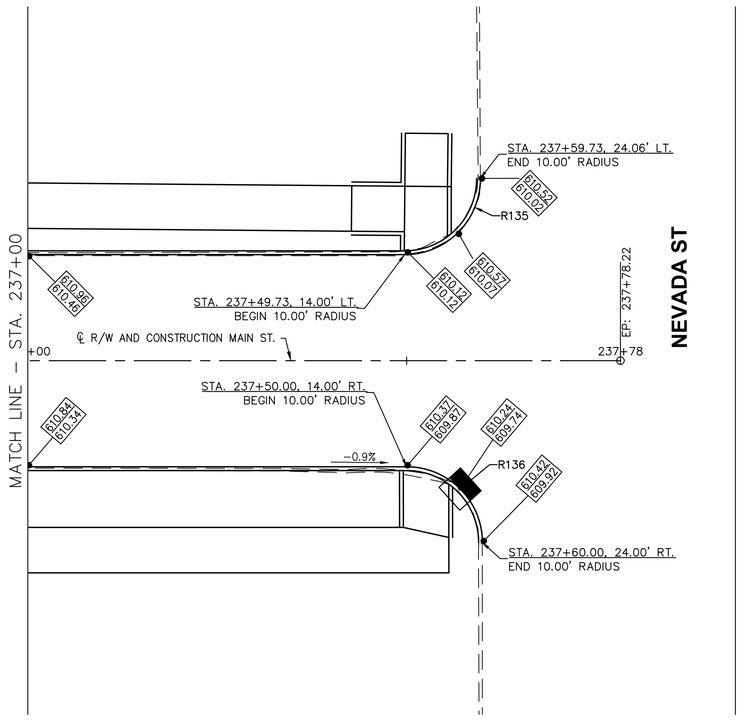
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



Horizontal Scale In Feet
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DETAIL GRADES
MAIN STREET STA. 234+50 TO 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

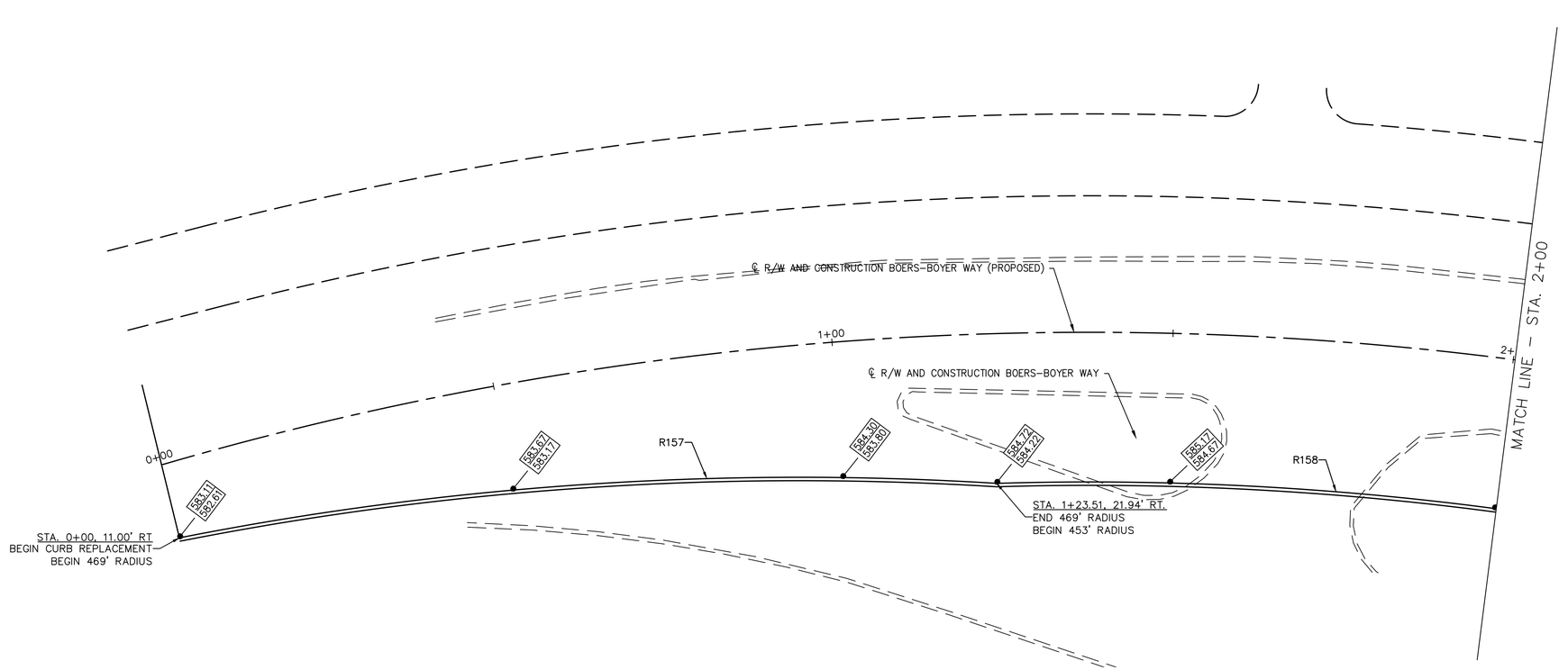
ODOT PID
121938

DESIGNER
MAS

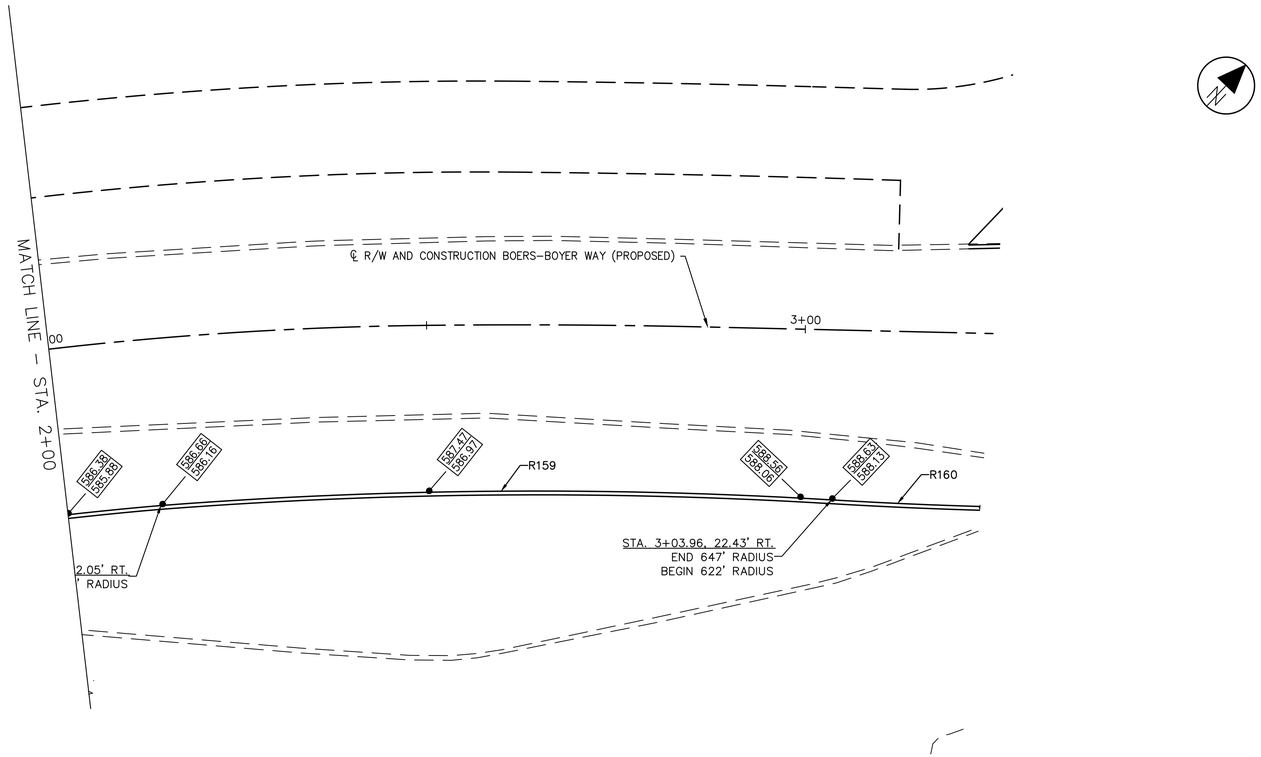
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



BOERS-BOYER WAY



0 5 10 20
Horizontal Scale In Feet

DETAIL GRADES
BOERS-BOYER WAY STA. 0+00 TO 3+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL

RADIUS TABLE

RADIUS NO.	LENGTH	RADIUS	DELTA (Δ)
R1	4.82	20.00	13°48'59"
R2	31.10	20.00	89°05'40"
R3	15.35	10.00	87°57'39"
R4	6.44	20.00	18°26'06"
R5	6.44	20.00	18°26'06"
R6	60.87	40.00	87°11'13"
R7	63.05	40.00	90°18'40"
R8	78.57	50.00	90°01'46"
R9	39.38	25.00	90°15'00"
R10	12.57	4.00	180°00'00"
R11	7.76	2.50	177°47'05"
R12	32.43	20.00	92°54'43"
R19	5.70	2.00	163°18'03"
R20	5.70	2.00	163°18'03"
R21	62.74	40.00	89°52'10"
R22	59.53	40.00	85°15'51"
R23	39.31	25.00	90°05'06"
R24	39.15	25.00	89°43'49"
R25	3.95	20.00	11°18'45"
R26	5.70	2.00	163°18'03"
R27	5.83	20.00	16°41'57"
R28	6.43	20.00	18°25'42"
R29	6.43	20.00	18°25'42"
R30	23.56	7.50	180°00'00"
R31	39.12	25.00	89°39'07"
R32	39.14	25.00	89°42'07"
R33	4.33	20.00	12°24'27"
R34	6.42	20.00	18°22'54"
R35	4.33	20.00	12°24'27"
R36	3.93	20.00	11°15'53"
R37	6.45	20.00	18°28'32"
R38	46.99	30.00	89°44'19"
R39	29.45	25.77	65°29'23"
R40	30.13	26.98	63°59'37"
R41	83.74	40.00	119°57'11"
R42	10.45	20.00	29°55'35"
R43	5.70	2.00	163°18'07"
R44	5.83	20.00	16°41'53"
R45	12.11	20.00	34°41'32"
R46	54.33	25.00	124°30'26"

RADIUS TABLE

RADIUS NO.	LENGTH	RADIUS	DELTA (Δ)
R47	54.02	25.00	123°48'06"
R48	12.11	20.00	34°41'32"
R49	12.11	20.00	34°41'32"
R50	54.17	25.00	124°08'35"
R51	39.22	25.00	89°52'36"
R52	23.56	7.50	180°00'00"
R53	39.36	25.00	90°12'18"
R54	39.10	25.00	89°37'00"
R55	5.70	2.00	163°18'03"
R56	39.17	25.00	89°46'29"
R57	53.98	25.00	123°42'30"
R58	12.11	20.00	34°41'32"
R59	5.70	2.00	163°18'03"
R60	6.30	20.00	18°02'55"
R61	6.45	20.00	18°29'26"
R62	12.11	20.00	34°41'32"
R63	15.13	25.00	34°41'07"
R64	39.04	25.00	89°28'24"
R65	38.98	25.00	89°19'27"
R66	20.24	25.00	46°23'38"
R67	24.27	25.00	55°36'59"
R68	5.70	2.00	163°18'03"
R69	38.92	25.00	89°11'17"
R70	39.42	25.00	90°21'13"
R71	32.12	10.00	184°02'02"
R72	69.09	40.00	98°58'15"
R73	53.88	40.00	77°10'17"
R74	12.57	4.00	180°00'00"
R75	36.51	25.00	83°40'09"
R76	41.31	25.00	94°40'42"
R77	4.20	20.00	12°02'41"
R78	5.82	2.00	166°52'20"
R79	39.29	25.00	90°02'54"
R80	39.25	25.00	89°57'06"
R81	39.42	25.00	90°20'44"
R82	13.79	40.00	19°45'34"
R83	40.73	28.00	83°20'54"
R85	51.09	35.00	83°37'59"
R86	64.97	40.00	93°03'20"
R87	5.81	2.00	166°30'15"

RADIUS TABLE

RADIUS NO.	LENGTH	RADIUS	DELTA (Δ)
R88	4.71	20.00	13°29'45"
R89	4.71	20.00	13°29'45"
R90	4.71	20.00	13°29'45"
R91	5.64	20.00	16°10'10"
R92	5.64	20.00	16°10'10"
R93	5.85	2.00	167°37'33"
R94	19.73	25.00	45°13'16"
R96	11.39	10.00	65°14'22"
R98	10.25	30.00	19°34'53"
R100	13.47	30.00	25°43'12"
R101	12.03	12.00	57°25'49"
R102	10.02	10.00	57°22'58"
R104	12.88	20.00	36°54'00"
R105	7.29	15.00	27°50'22"
R106	7.29	15.00	27°50'22"
R107	10.03	28.00	20°31'14"
R108	14.59	12.00	69°39'42"
R109	14.68	12.00	70°06'43"
R110	39.46	25.00	90°26'16"
R111	39.24	25.00	89°56'29"
R112	9.22	25.00	21°08'21"
R113	19.38	20.00	55°30'21"
R114	14.21	14.50	56°09'05"
R115	14.37	13.00	63°19'25"
R116	10.95	28.00	22°24'53"
R117	31.35	20.00	89°48'08"
R118	9.78	25.00	22°24'34"
R119	31.37	20.00	89°52'16"
R120	15.71	15.00	60°00'00"
R121	15.71	15.00	60°01'08"
R122	39.37	25.00	90°14'03"
R123	39.21	25.00	89°51'48"
R124	16.19	25.00	37°06'11"
R125	24.46	25.00	56°03'18"
R126	47.51	100.00	27°13'08"
R128	15.75	10.00	90°13'46"
R129	15.13	10.00	86°40'56"
R130	15.16	10.00	86°53'09"
R131	23.64	15.00	90°17'10"
R132	15.79	10.00	90°26'33"

RADIUS TABLE

RADIUS NO.	LENGTH	RADIUS	DELTA (Δ)
R133	15.76	10.00	90°16'29"
R134	15.46	10.00	88°35'39"
R135	15.76	10.00	90°19'11"
R136	15.71	10.00	90°00'50"
R137	7.93	10.00	45°26'04"
R138	3.96	5.00	45°24'31"
R139	3.96	5.00	45°24'03"
R140	7.93	10.00	45°27'26"
R141	6.15	15.00	23°29'56"
R142	7.04	20.00	20°10'19"
R144	3.64	20.00	10°25'53"
R146	9.60	10.00	54°58'47"
R147	11.91	8.00	85°19'43"
R148	26.10	25.00	59°49'18"
R149	38.42	25.00	88°03'05"
R150	10.47	10.00	60°00'00"
R151	10.47	10.00	60°00'01"
R152	39.18	25.00	89°47'56"
R154	3.93	20.00	11°14'46"
R155	5.59	20.00	16°01'28"
R156	8.15	20.00	23°20'55"
R157	120.28	468.99	14°41'42"
R158	85.51	453.09	10°48'48"
R159	88.71	647.00	7°51'20"
R160	19.79	622.00	1°49'21"
R162	137.22	2500.00	3°08'41"
R163	3.77	20.00	10°48'51"
R164	19.71	15.00	75°16'32"
R165	16.39	31.11	30°11'15"
R166	26.91	30.00	51°23'18"
R167	26.98	30.00	51°31'08"
R168	6.77	15.00	25°50'31"
R169	6.77	15.00	25°50'31"
R170	6.77	15.00	25°50'31"
R171	6.77	15.00	25°50'31"
R172	60.82	184.00	18°56'20"
R173	2.65	20.00	7°34'56"
R174	44.82	135.00	19°01'25"
R175	11.40	25.00	26°08'04"
R176	11.40	25.00	26°08'04"

CURVE TABLE

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

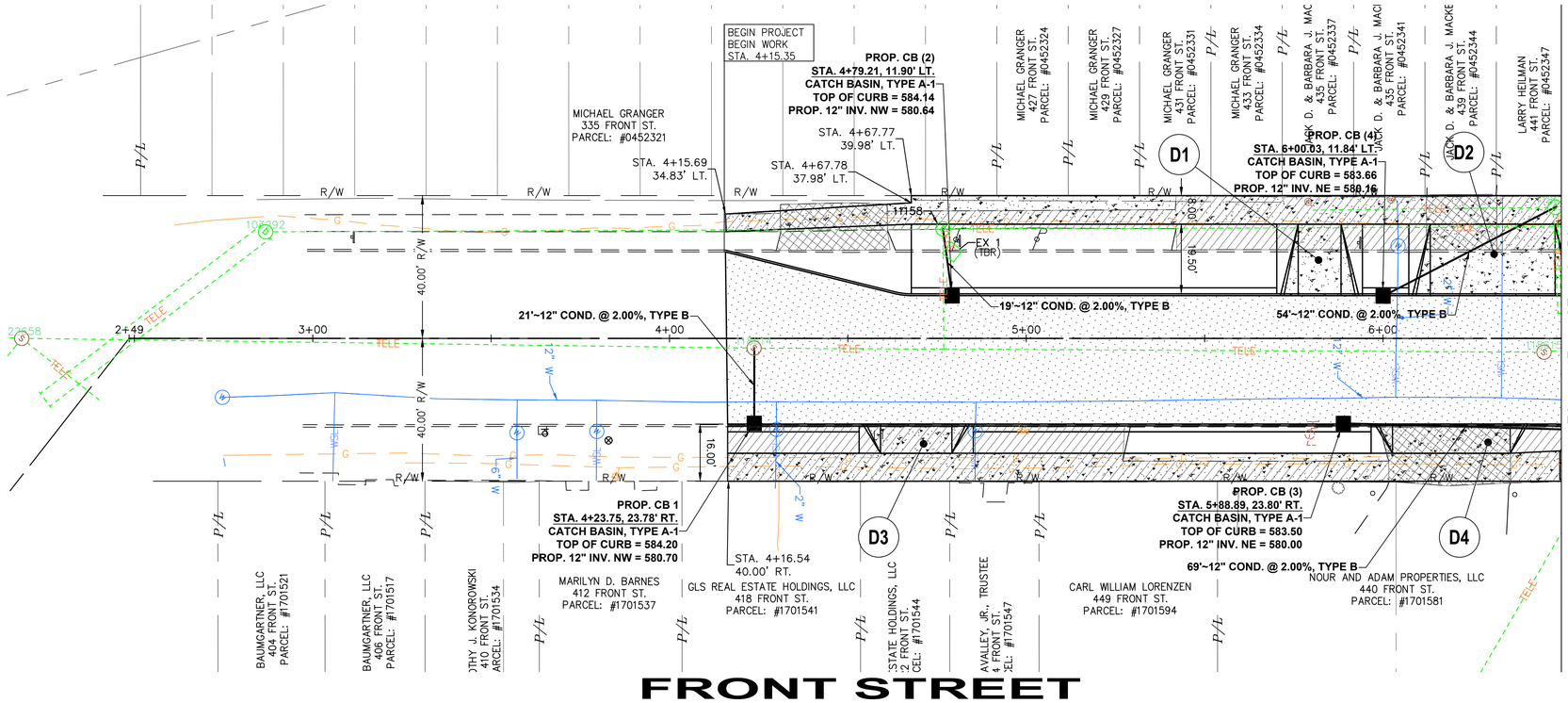
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



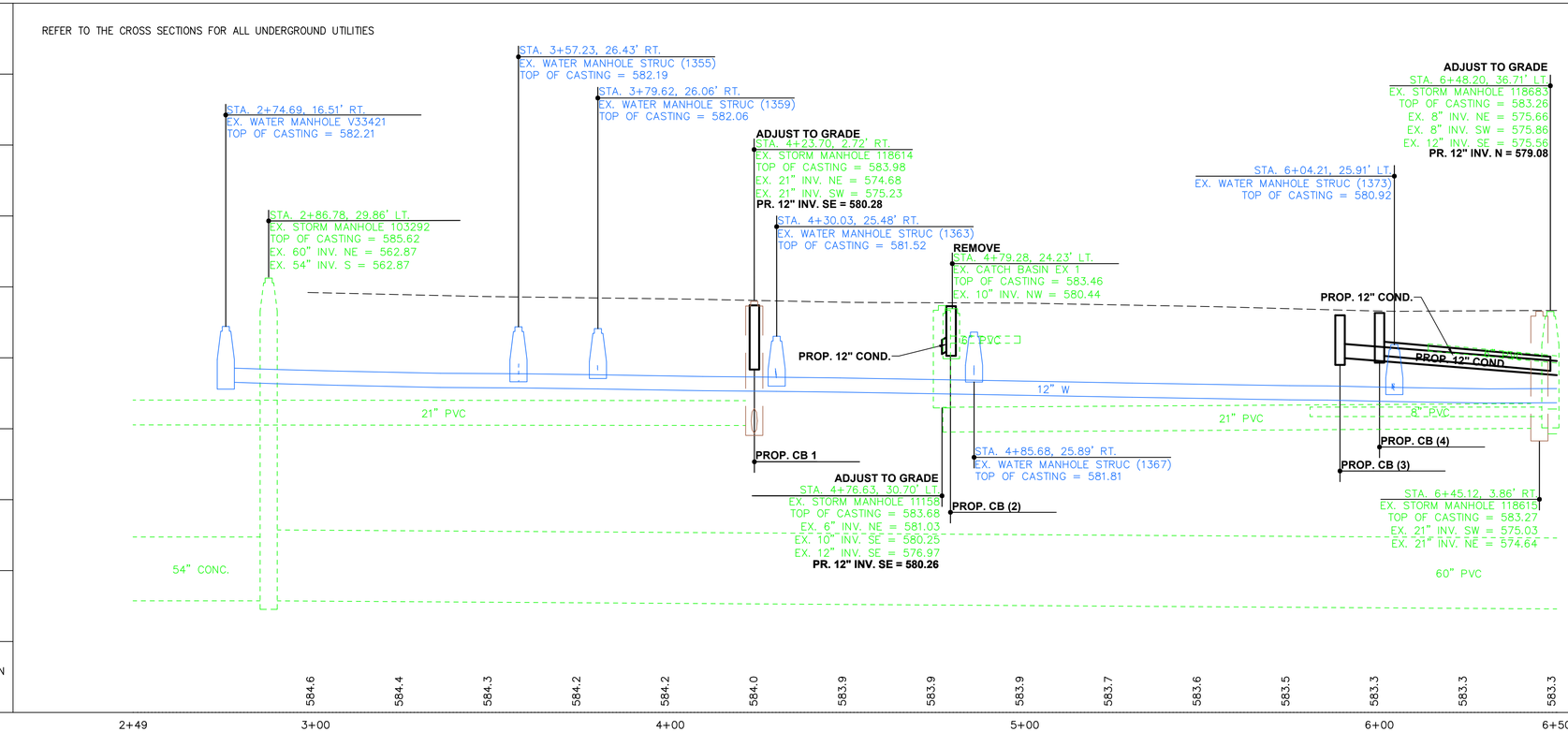
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
406 FRONT	1.5"	LEAD	UNK
412 FRONT	3/4"	LEAD	COPPER
418 FRONT	3/4"	LEAD	GALV
424 FRONT	5/8"	LEAD	UNK
435 FRONT	3/4"	LEAD	COPPER
441 FRONT	3/4"	UNK	UNK

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
FRONT STREET STA. 2+48.53 TO STA. 6+50

Horizontal Scale In Feet
0 10 20 40

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

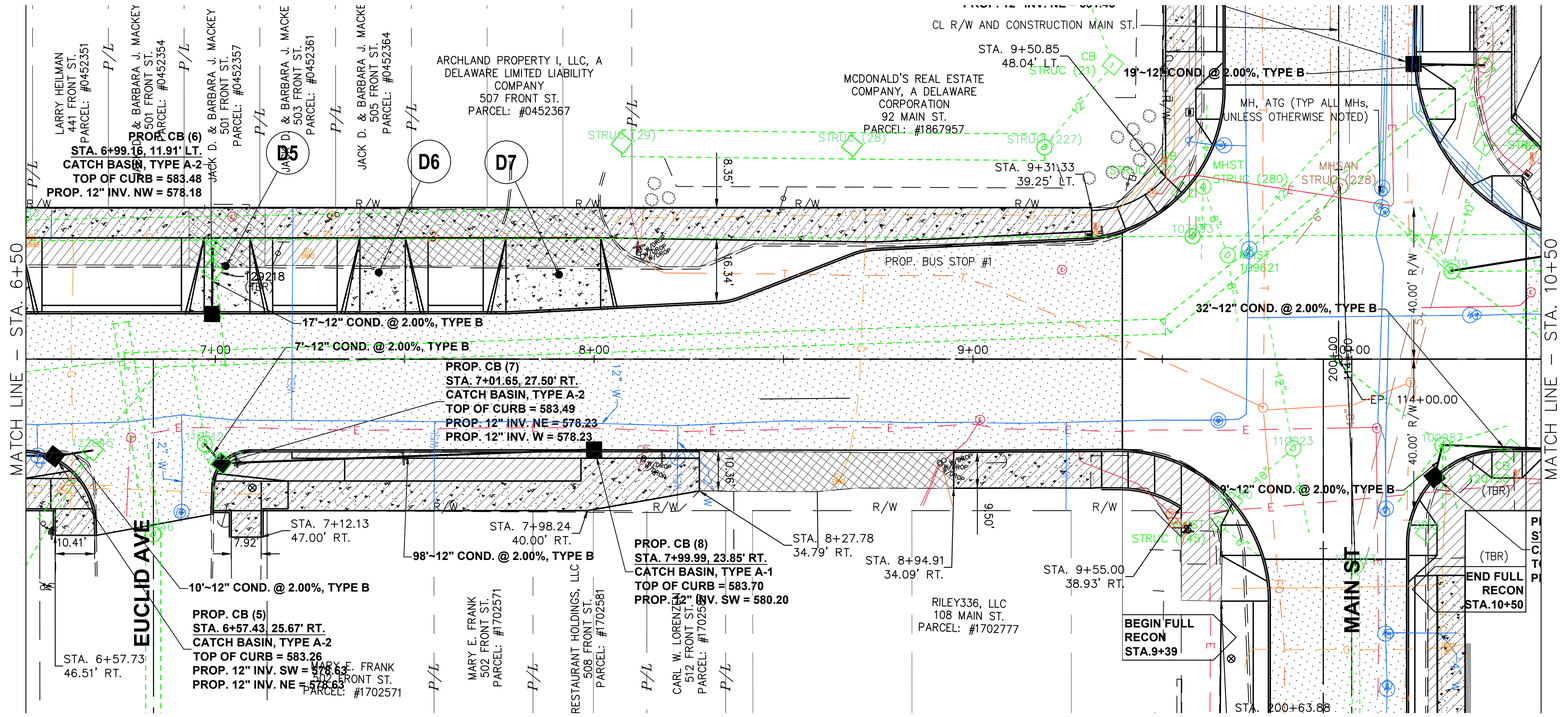
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



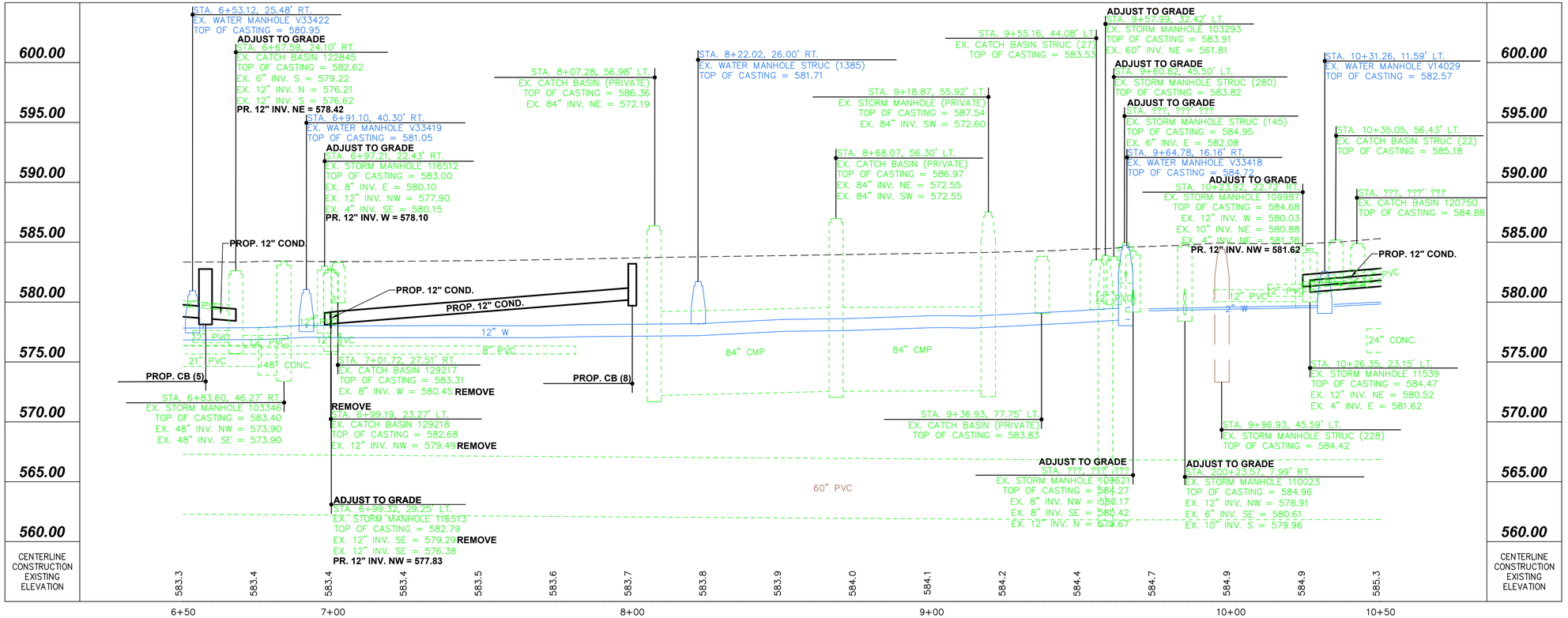
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
502 FRONT	5/8"	COPPER	COPPER
503 FRONT	3/4"	LEAD	UNK
512 FRONT	5/8"	ABANDONED	
518 FRONT	1"	COPPER	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
FRONT STREET STA. 6+50 TO STA. 10+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

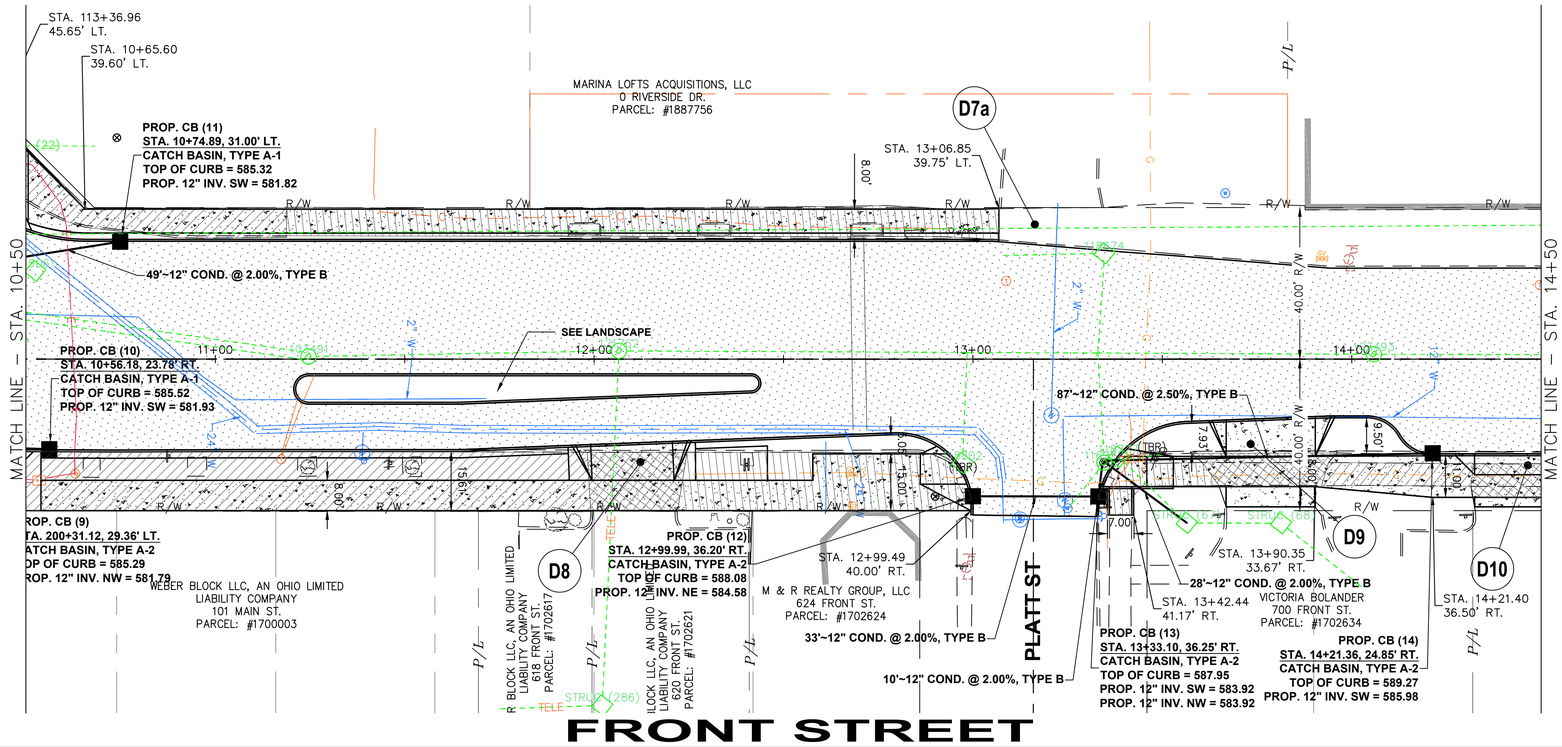
ODOT PID 121938

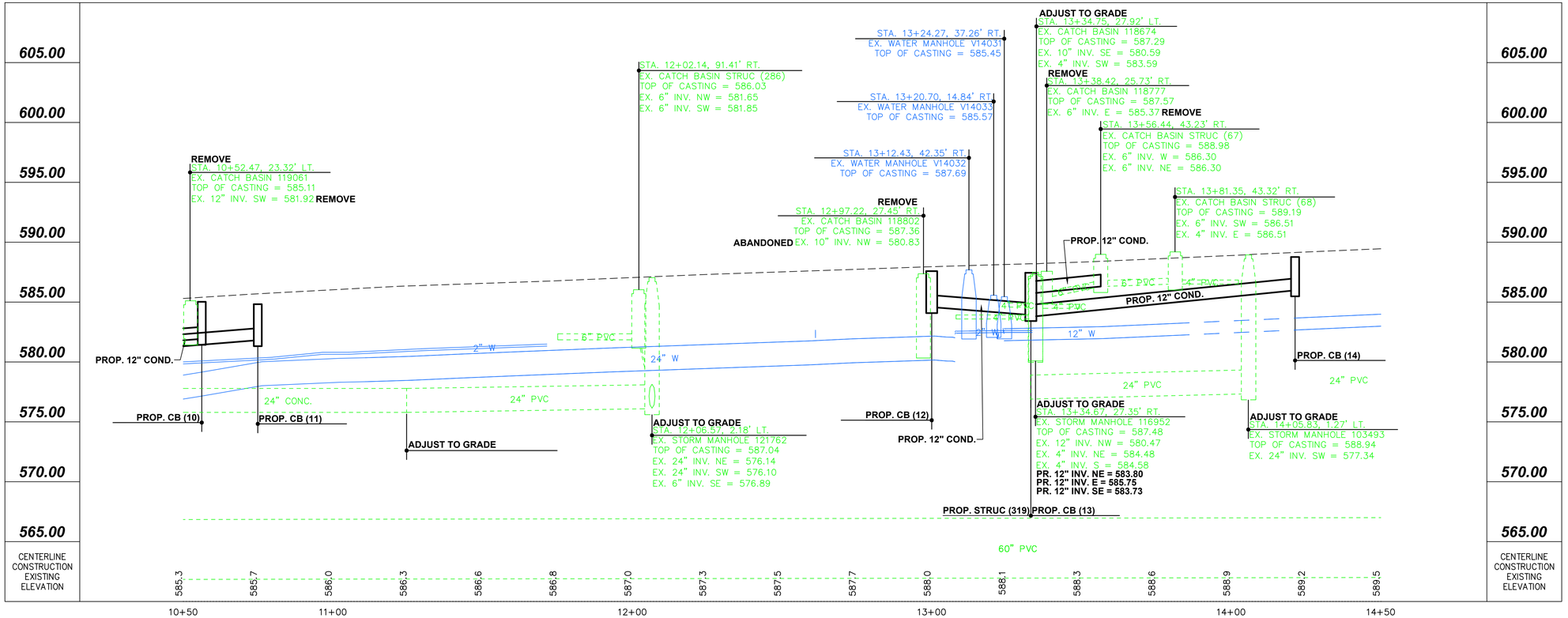
DESIGNER MAS

REVIEWER XF

COT PROJ. ID #####

SHEET TOTAL





PLAN AND PROFILE
FRONT STREET STA. 10+50 TO STA. 14+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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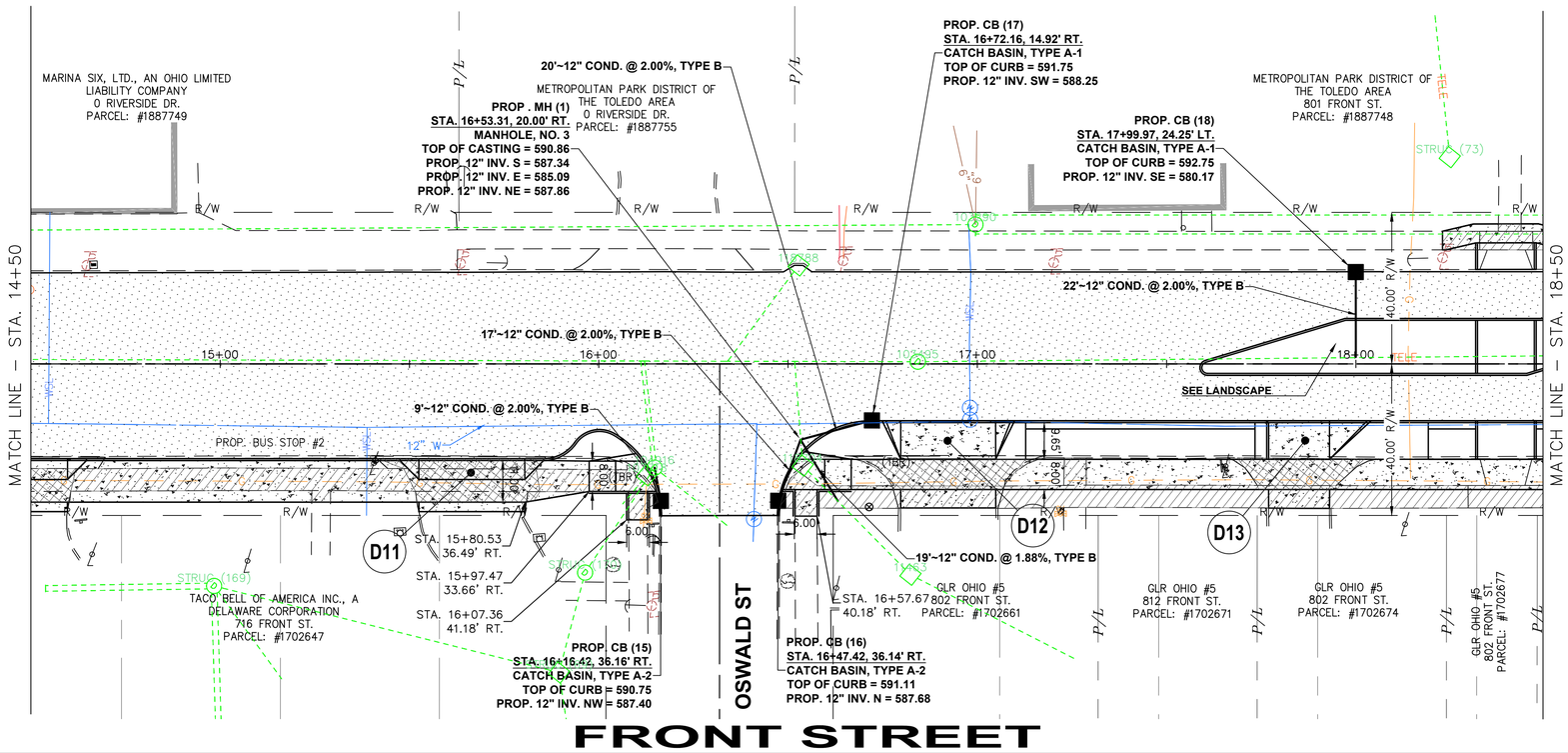
SHEET TOTAL



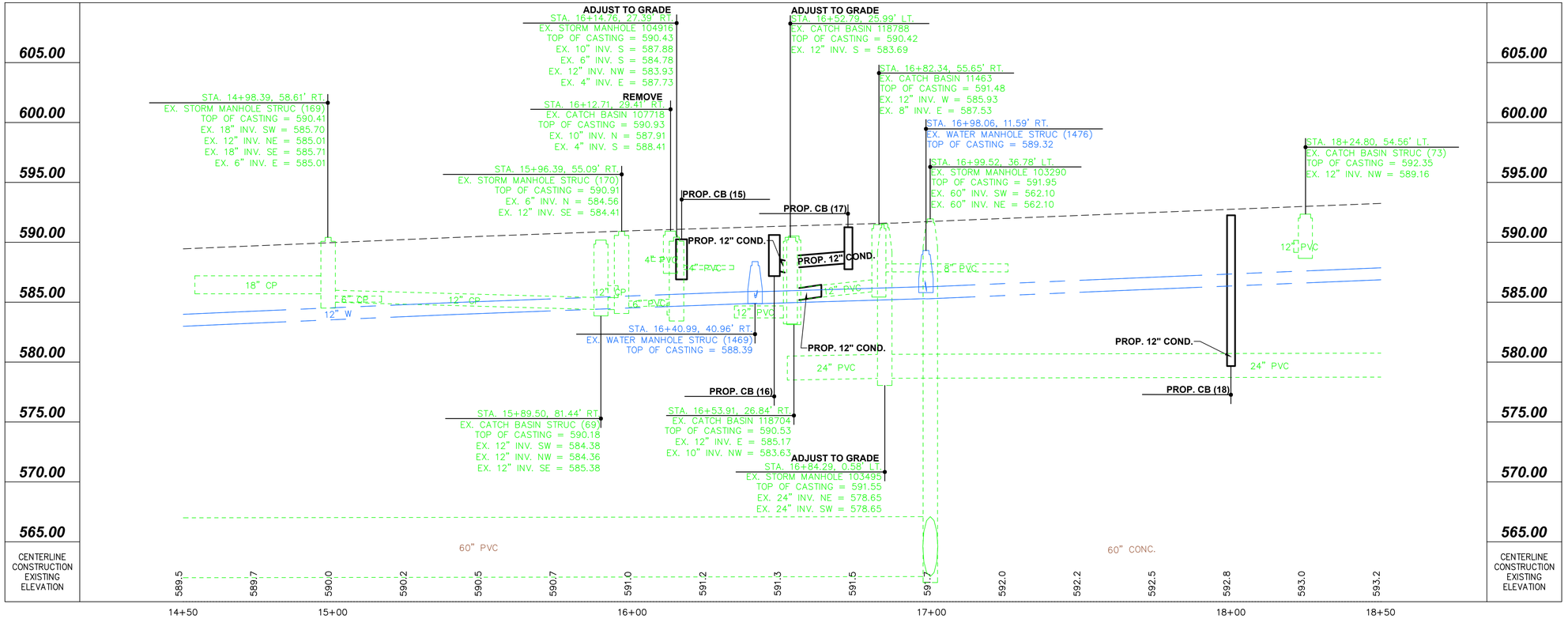
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
705 FRONT	2"	LEAD	UNK
716 FRONT	1"	COPPER	COPPER
716 FRONT	UNK	UNK	UNK
801 FRONT	1.5"	LEAD	UNK

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
FRONT STREET STA. 14+50 TO STA. 18+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

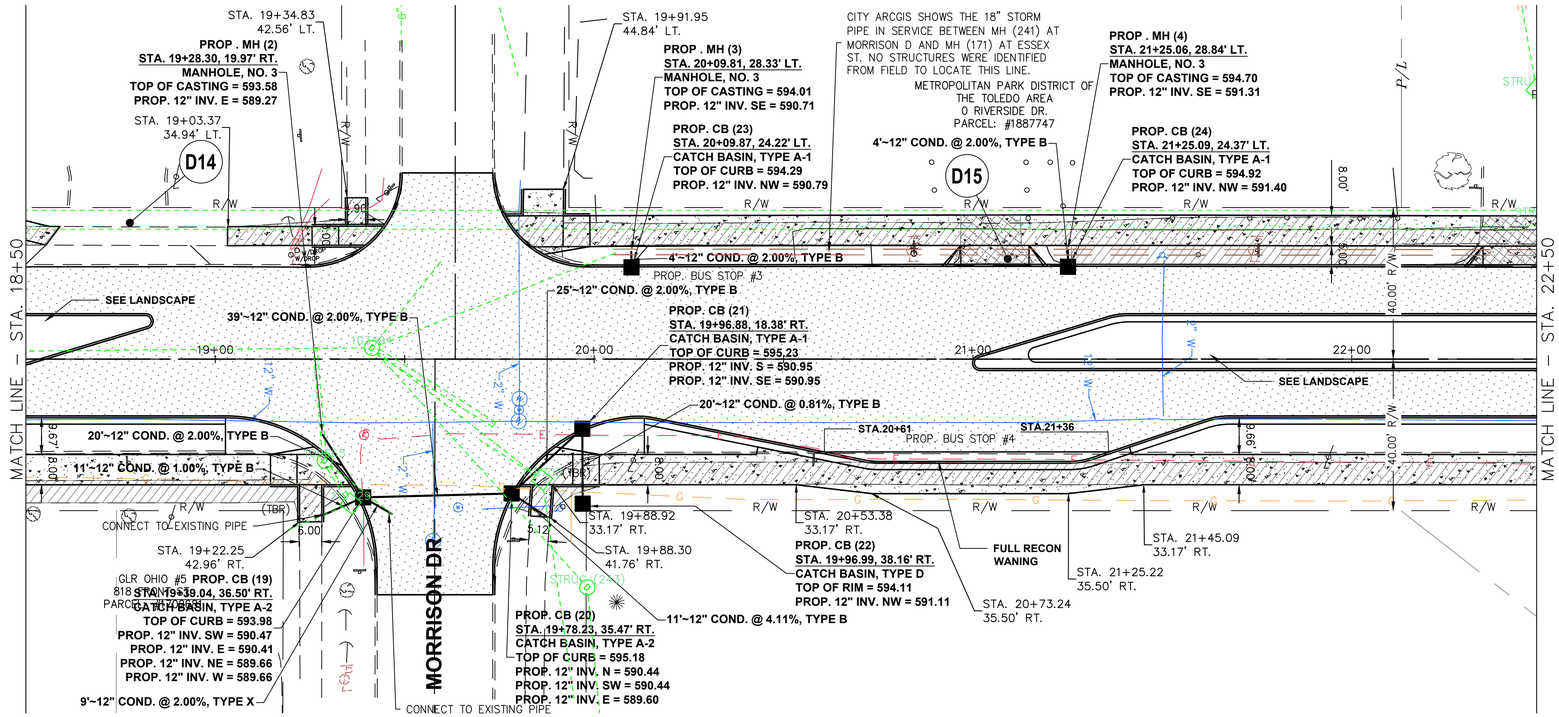
ODOT PID
121938

DESIGNER
MAS

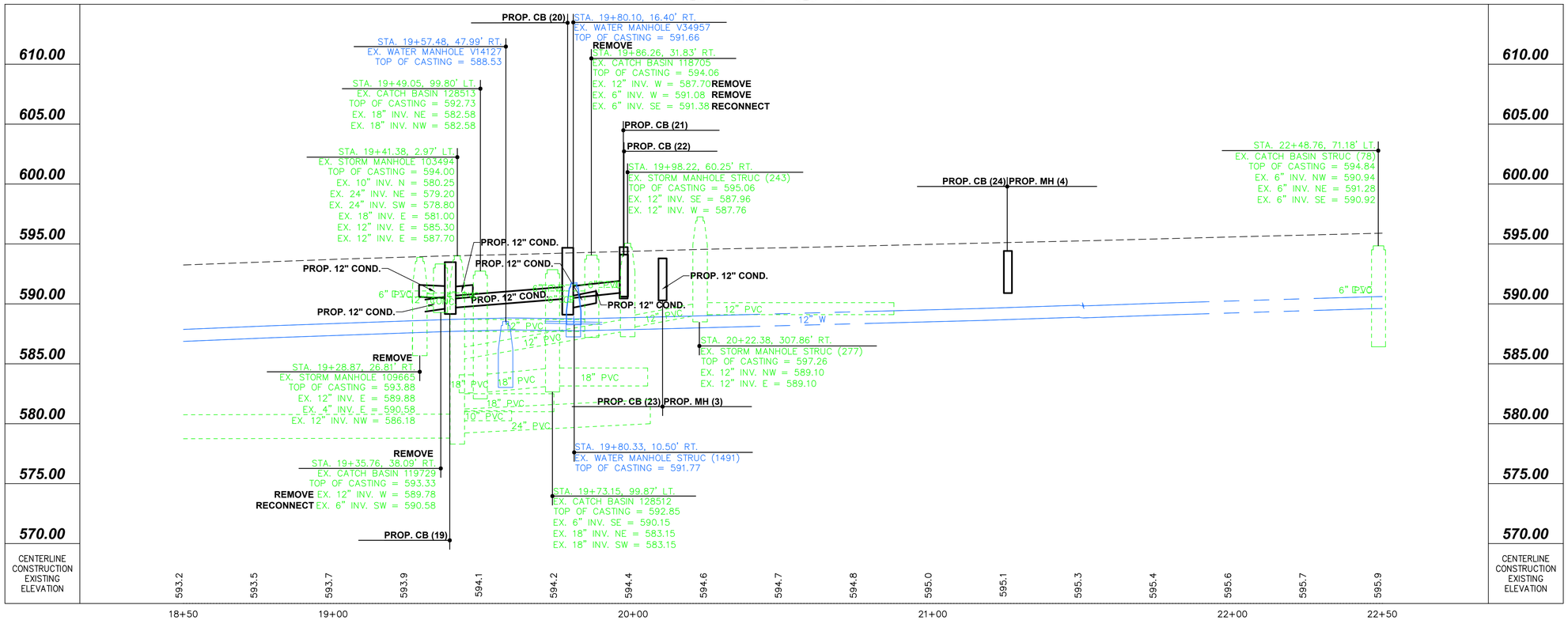
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET

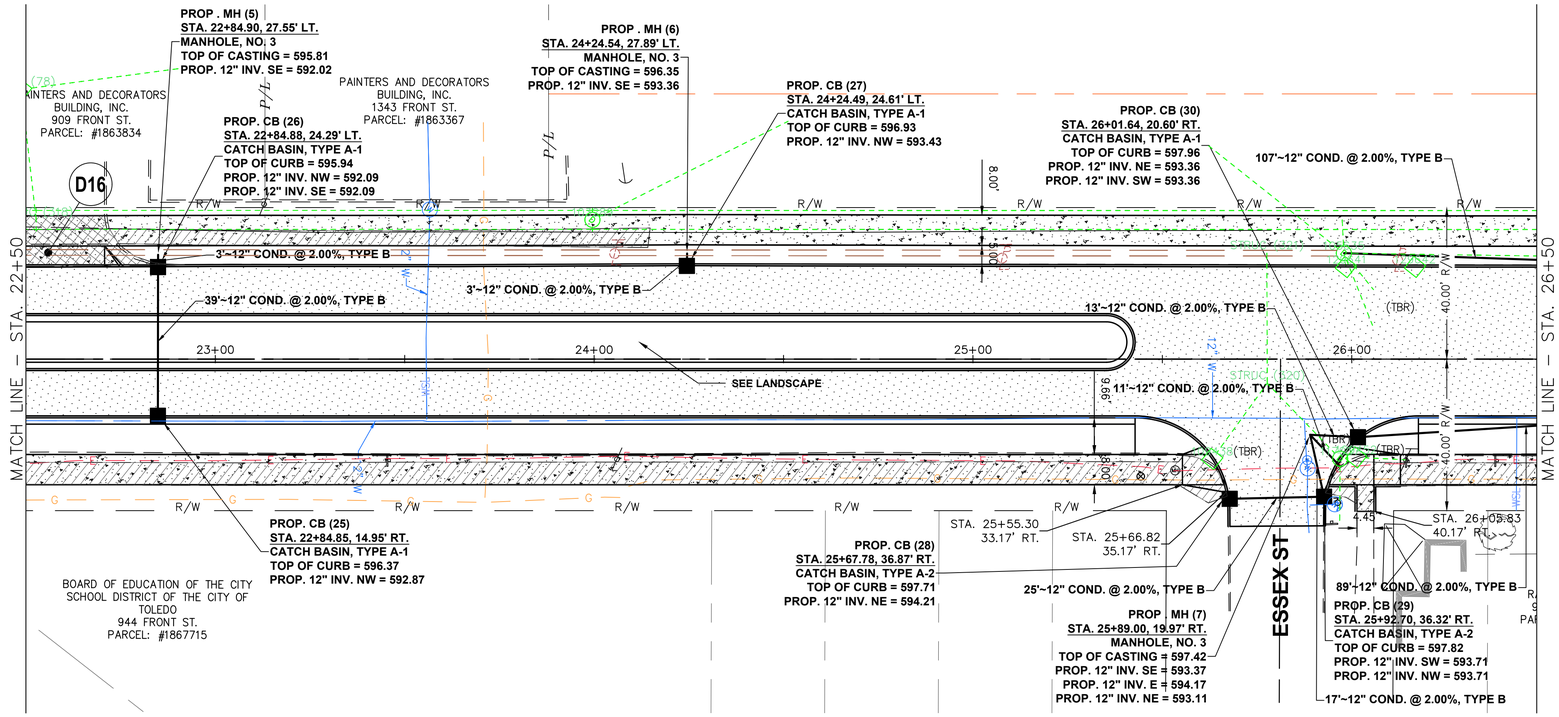


PLAN AND PROFILE
FRONT STREET STA. 18+50 TO STA. 22+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
1343 FRONT	2"	COPPER	COPPER
957 FRONT	ABANDONED		

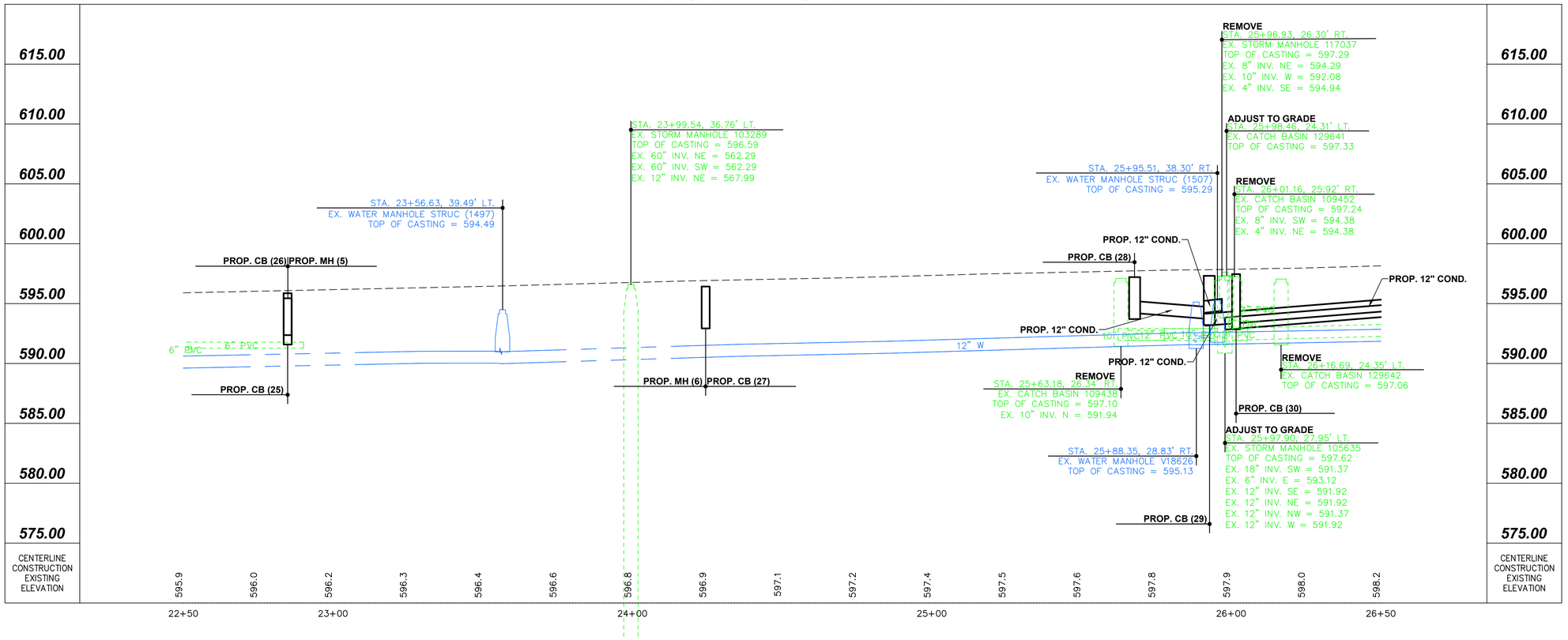
CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

FRONT STREET



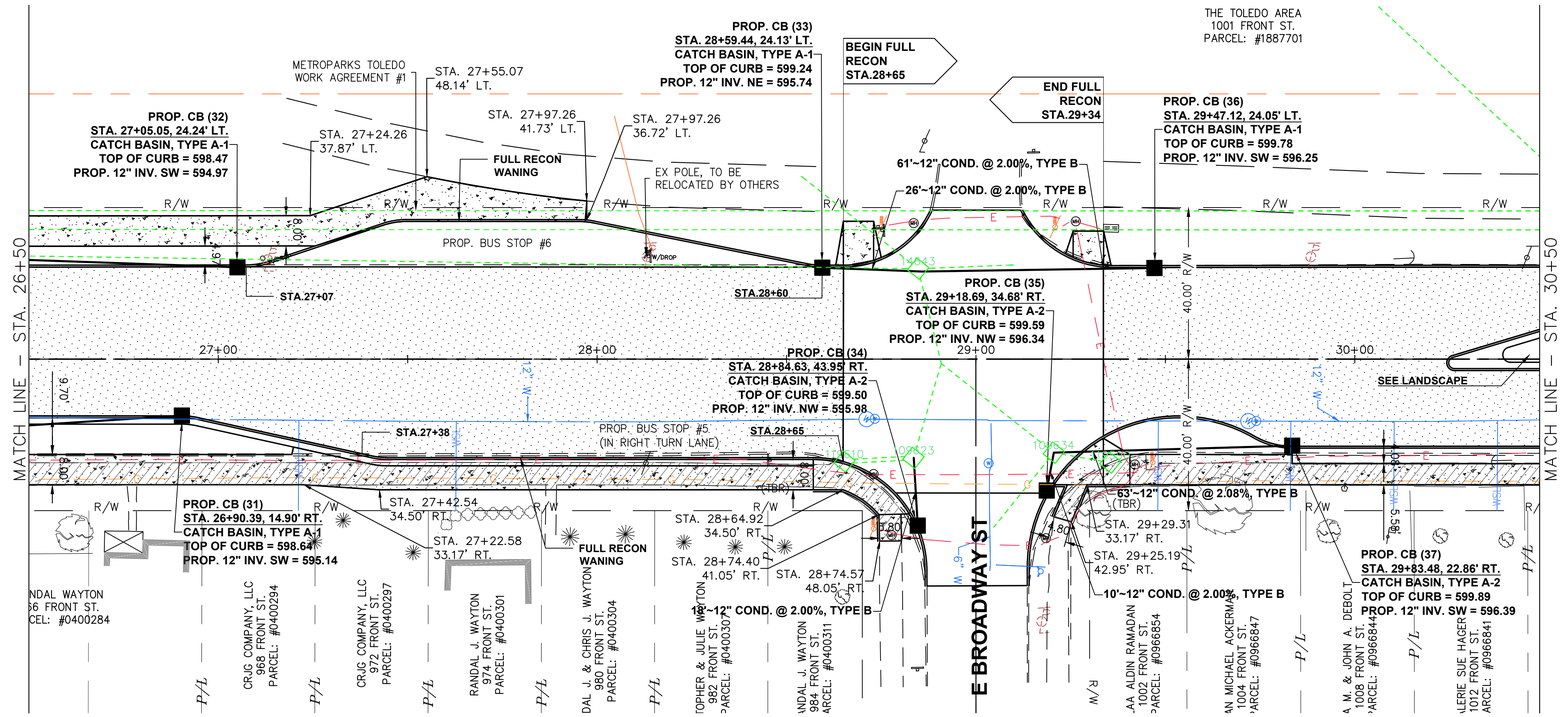
PLAN AND PROFILE
FRONT STREET STA. 22+50 TO STA. 26+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



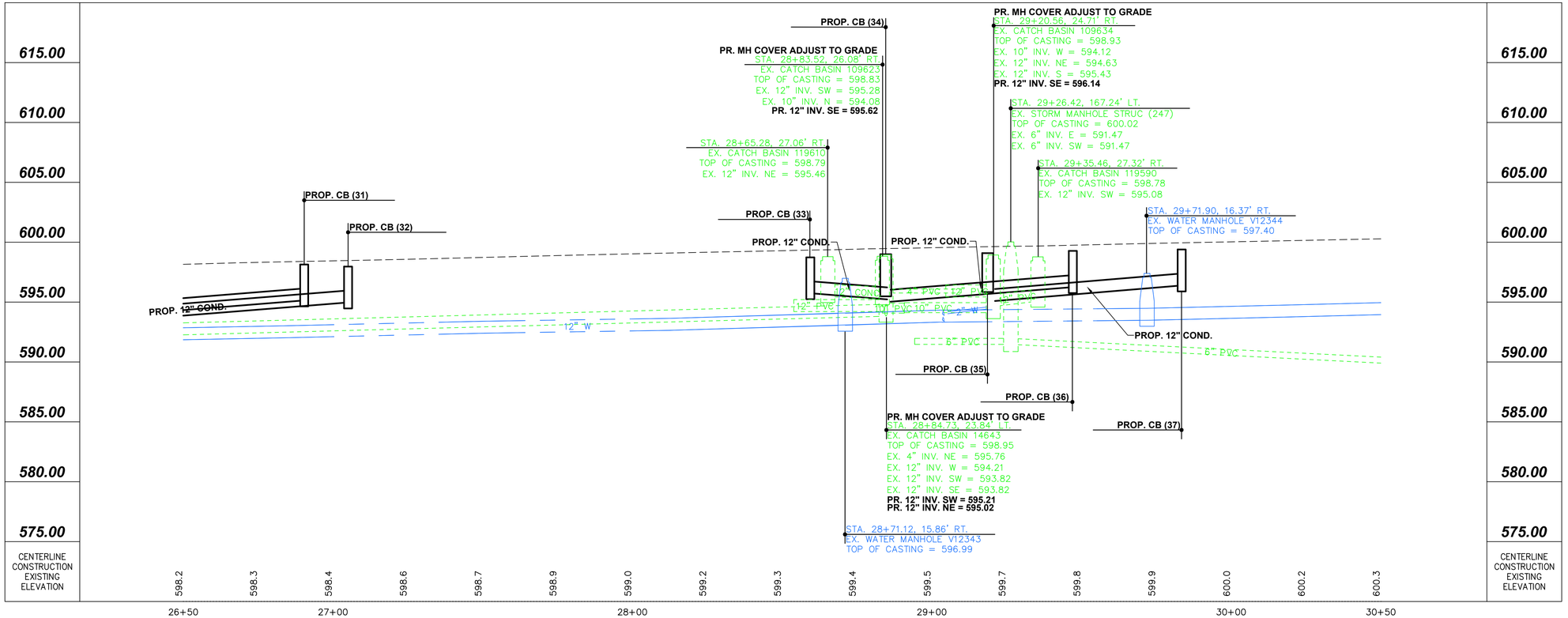
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
966 FRONT	5/8"	UNK	UNK
968 FRONT	5/8"	LEAD	UNK
974 FRONT	5/8"	LEAD	COPPER
1002 FRONT	5/8"	LEAD	UNK
1004 FRONT	3/4"	LEAD	UNK
1008 FRONT	5/8"	LEAD	COPPER
1012 FRONT	5/8"	LEAD	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
FRONT STREET STA. 26+50 TO STA. 30+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

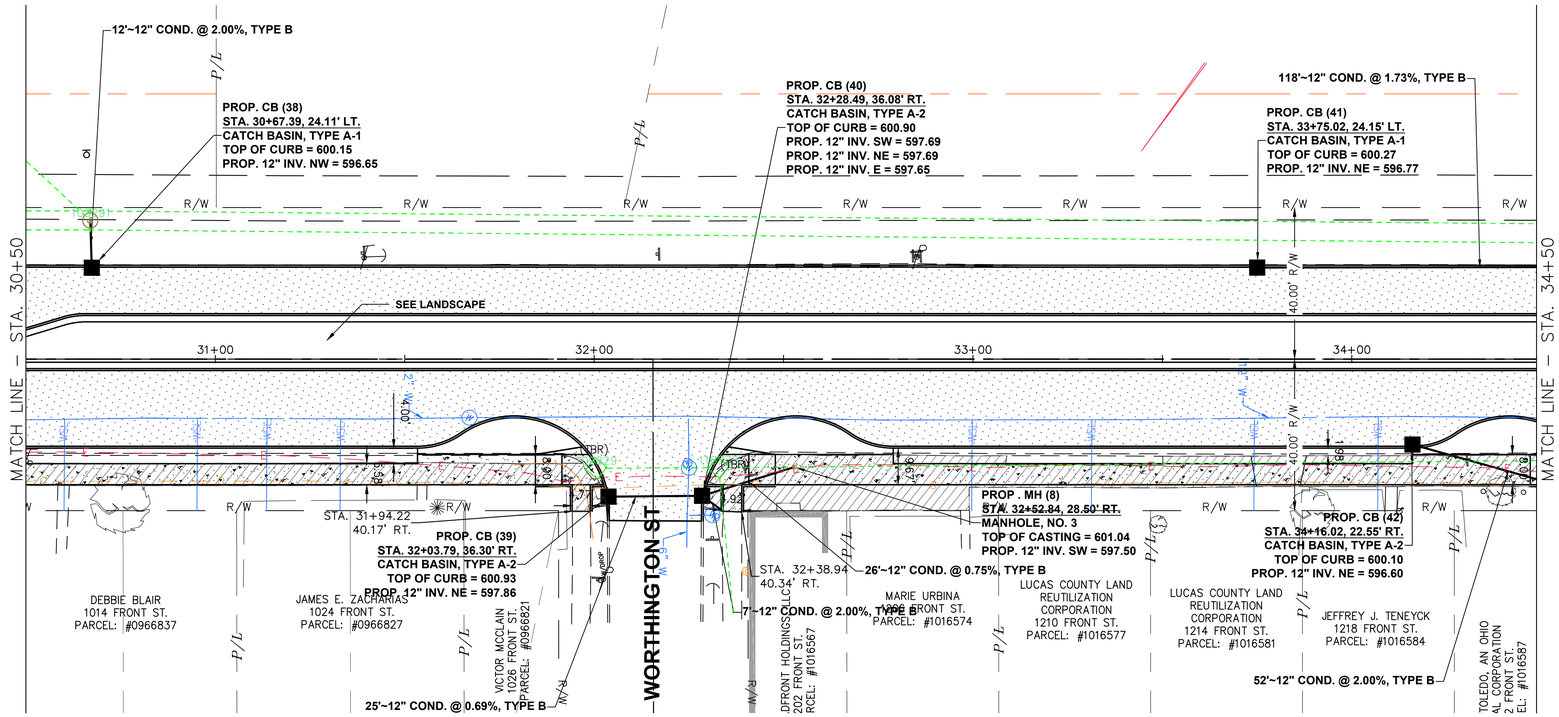
ODOT PID 121938

DESIGNER MAS

REVIEWER XF

COT PROJ. ID #####

SHEET TOTAL



FRONT STREET

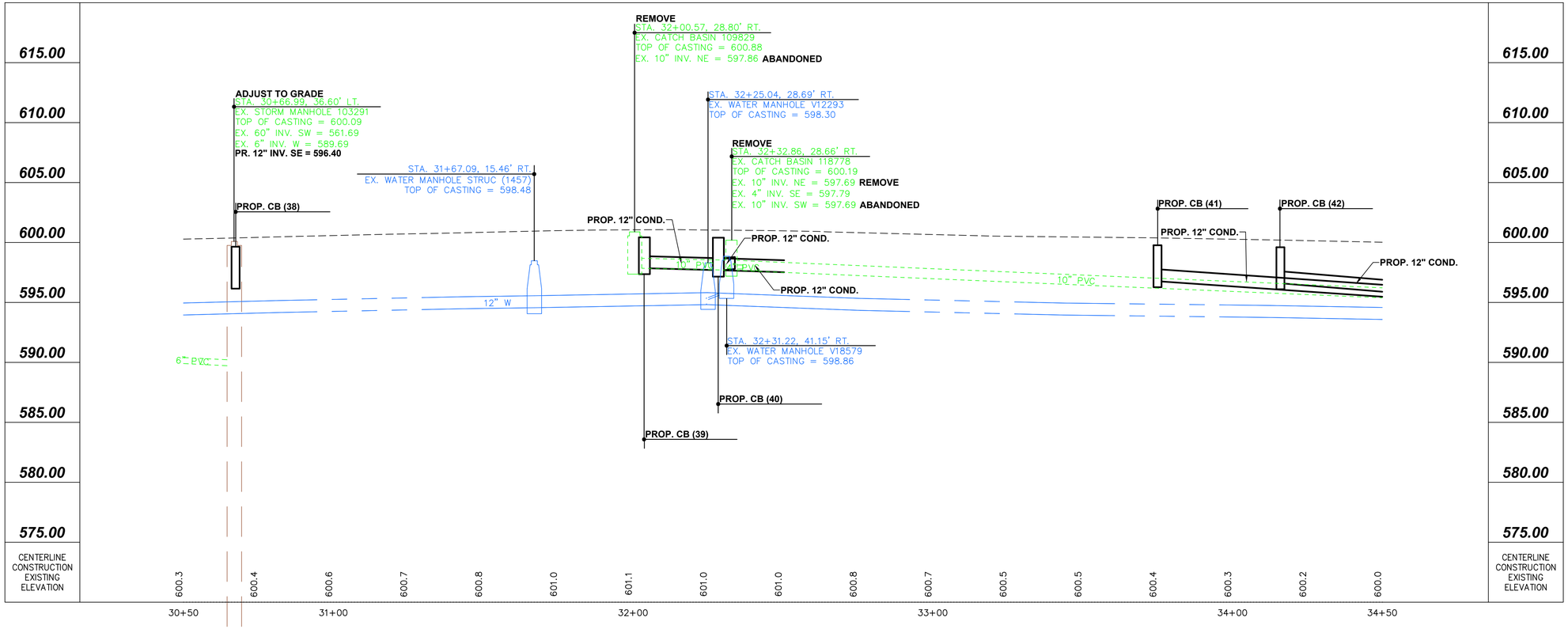
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
1014 FRONT	3/4"	LEAD	COPPER
1016 FRONT	ABANDONED		
1020 FRONT	ABANDONED		
1024 FRONT	3/4"	LEAD	GALV
1206 FRONT	5/8"	LEAD	UNK
1210 FRONT	5/8"	LEAD	UNK
1214 FRONT	ABANDONED		
1218 FRONT	ABANDONED		

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
FRONT STREET STA. 30+50 TO STA. 34+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

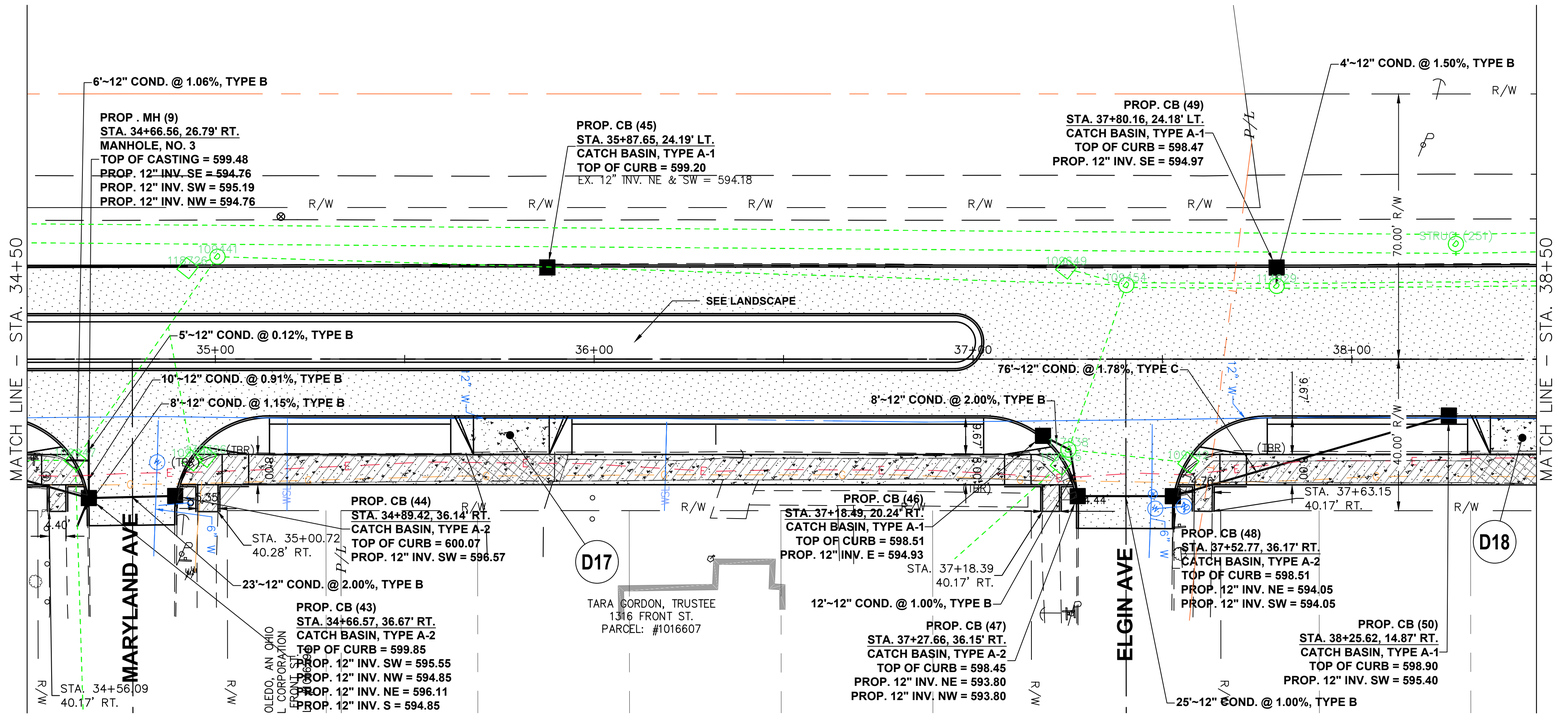
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET

WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
1302 FRONT	ABANDONED		
1316 FRONT	2"	COPPER	COPPER

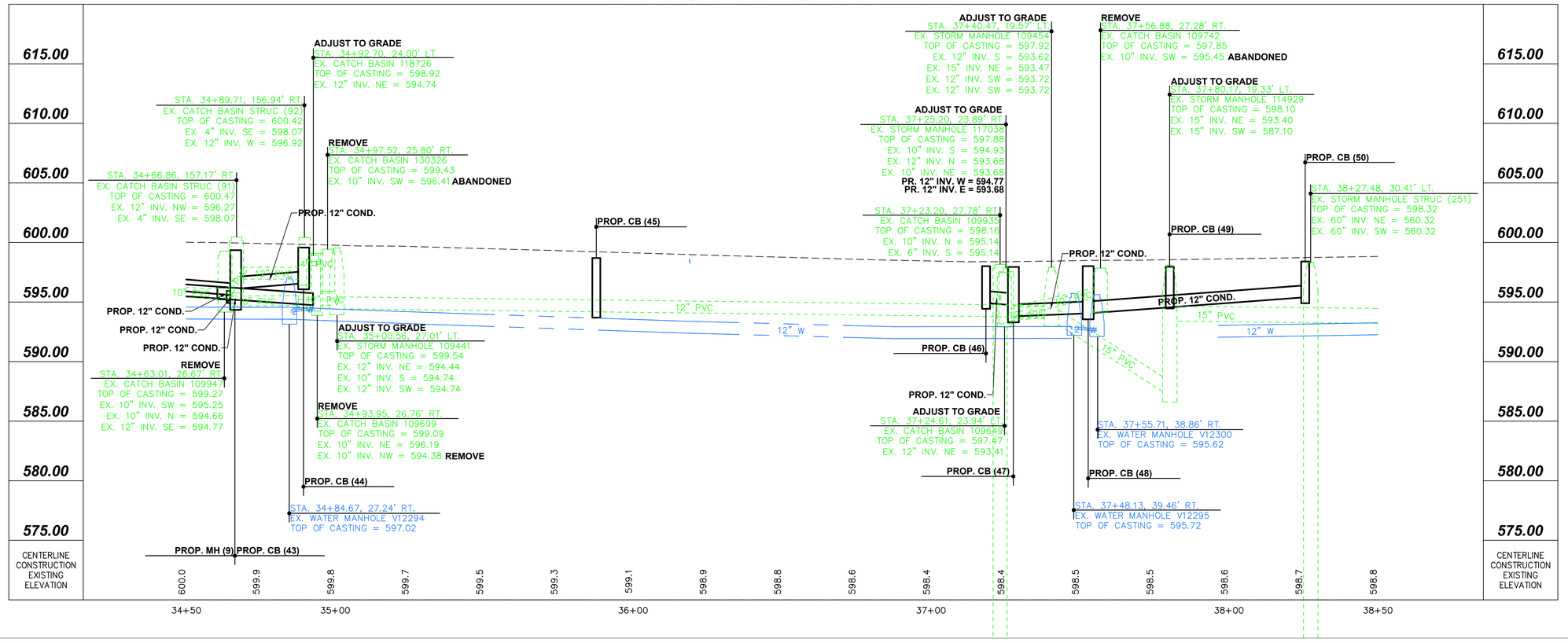
CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

0 10 20 40 Horizontal Scale In Feet



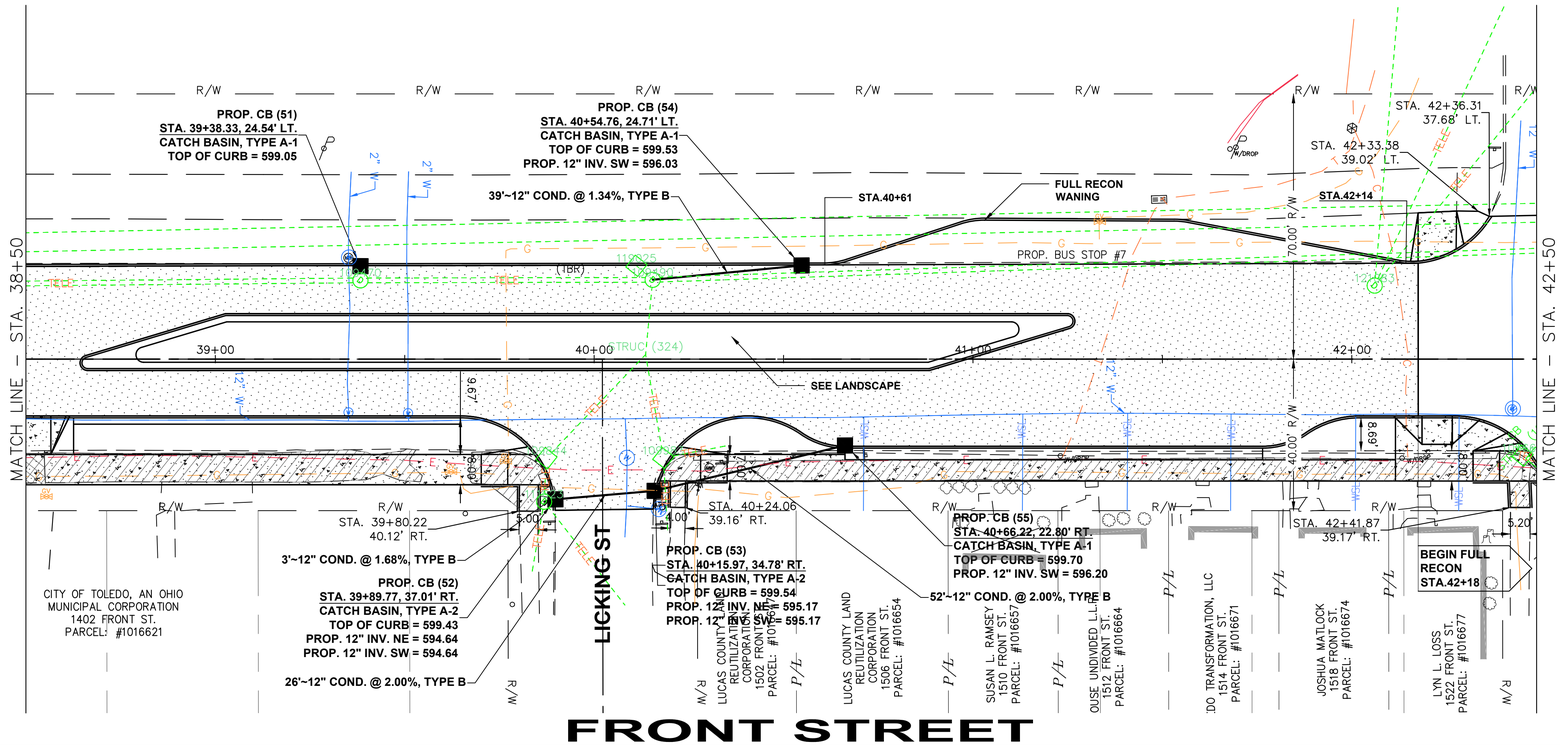
PLAN AND PROFILE
FRONT STREET STA. 34+50 TO STA. 38+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

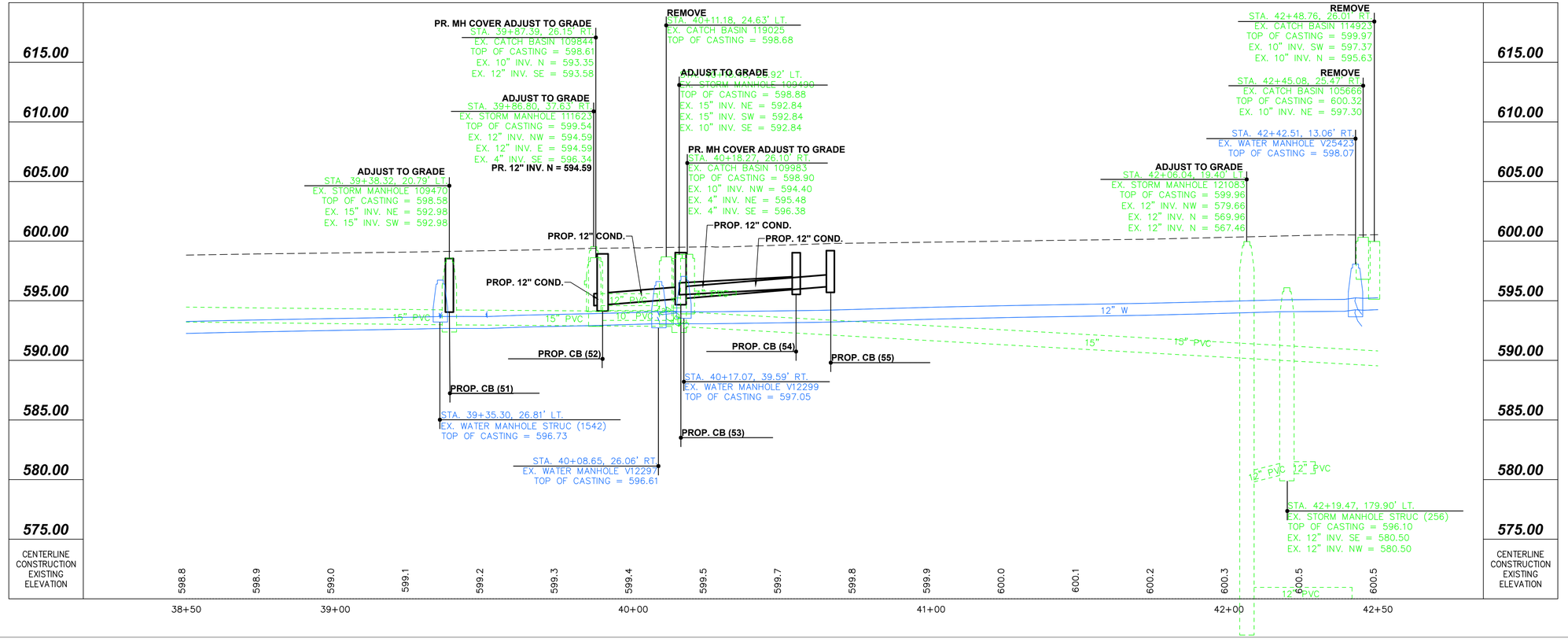
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	#####
SHEET	TOTAL



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
1506 FRONT	ABANDONED		
1510 FRONT	1"	COPPER	COPPER
1512 FRONT	1"	UNK	UNK
1514 FRONT	1"	COPPER	COPPER
1518 FRONT	3/4"	LEAD	COPPER
1522 FRONT	5/8"	LEAD	UNK

FRONT STREET



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
FRONT STREET STA. 38+50 TO STA. 42+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

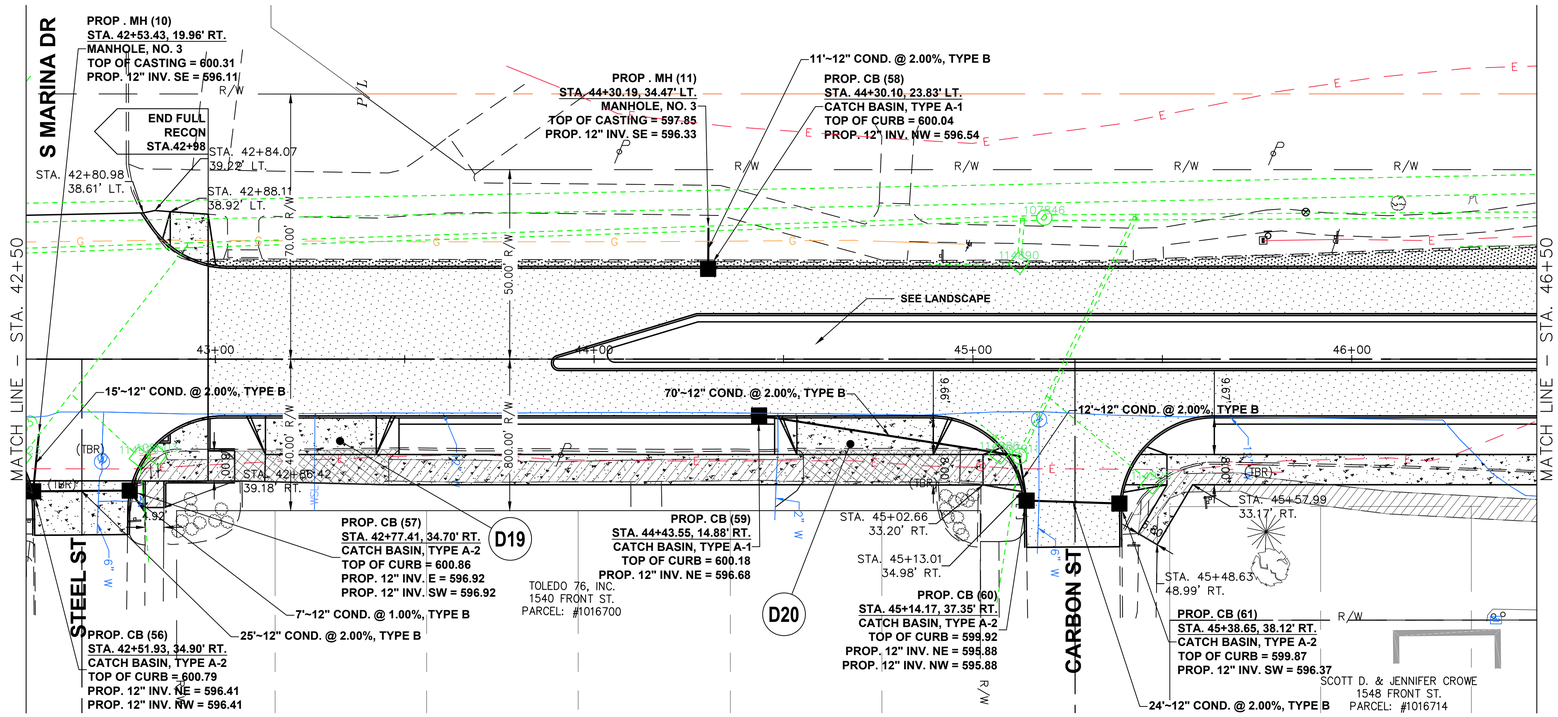
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



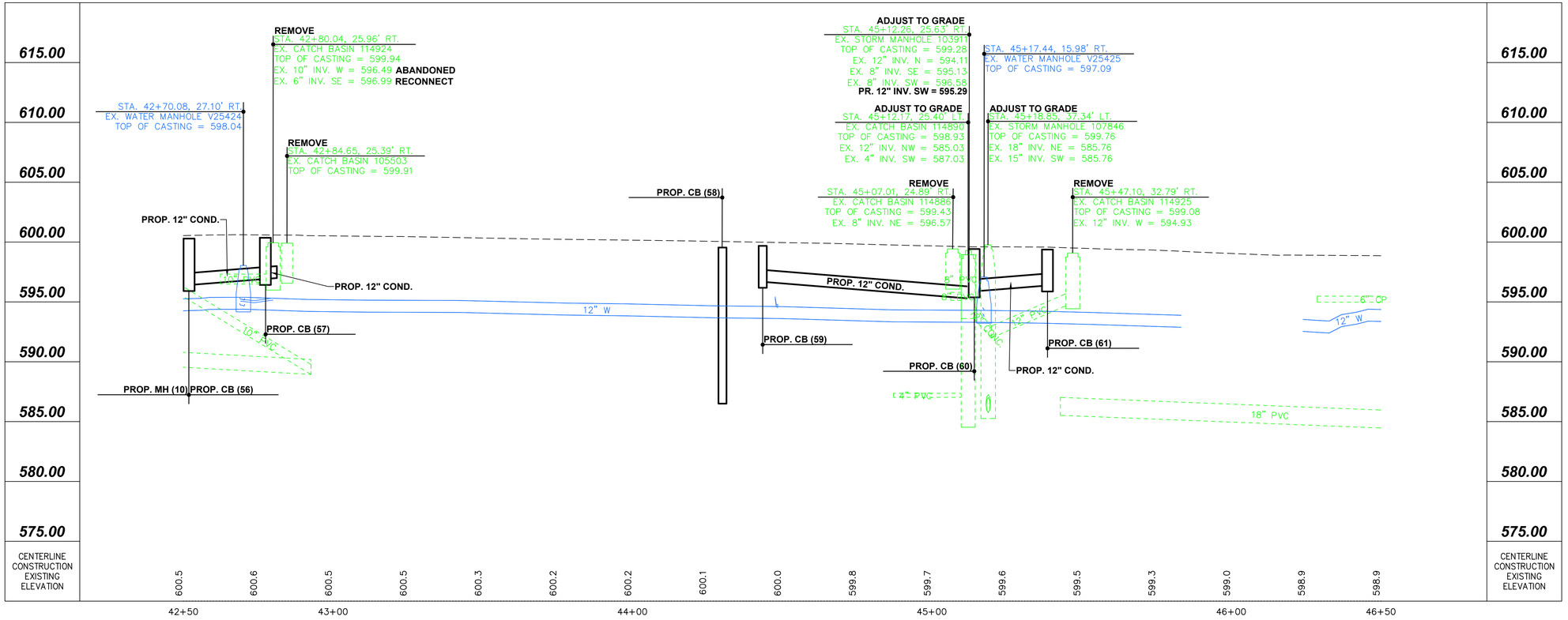
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
1536 FRONT	1"	COPPER	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
FRONT STREET STA. 42+50 TO STA. 46+50

Horizontal Scale In Feet
0 10 20 40

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

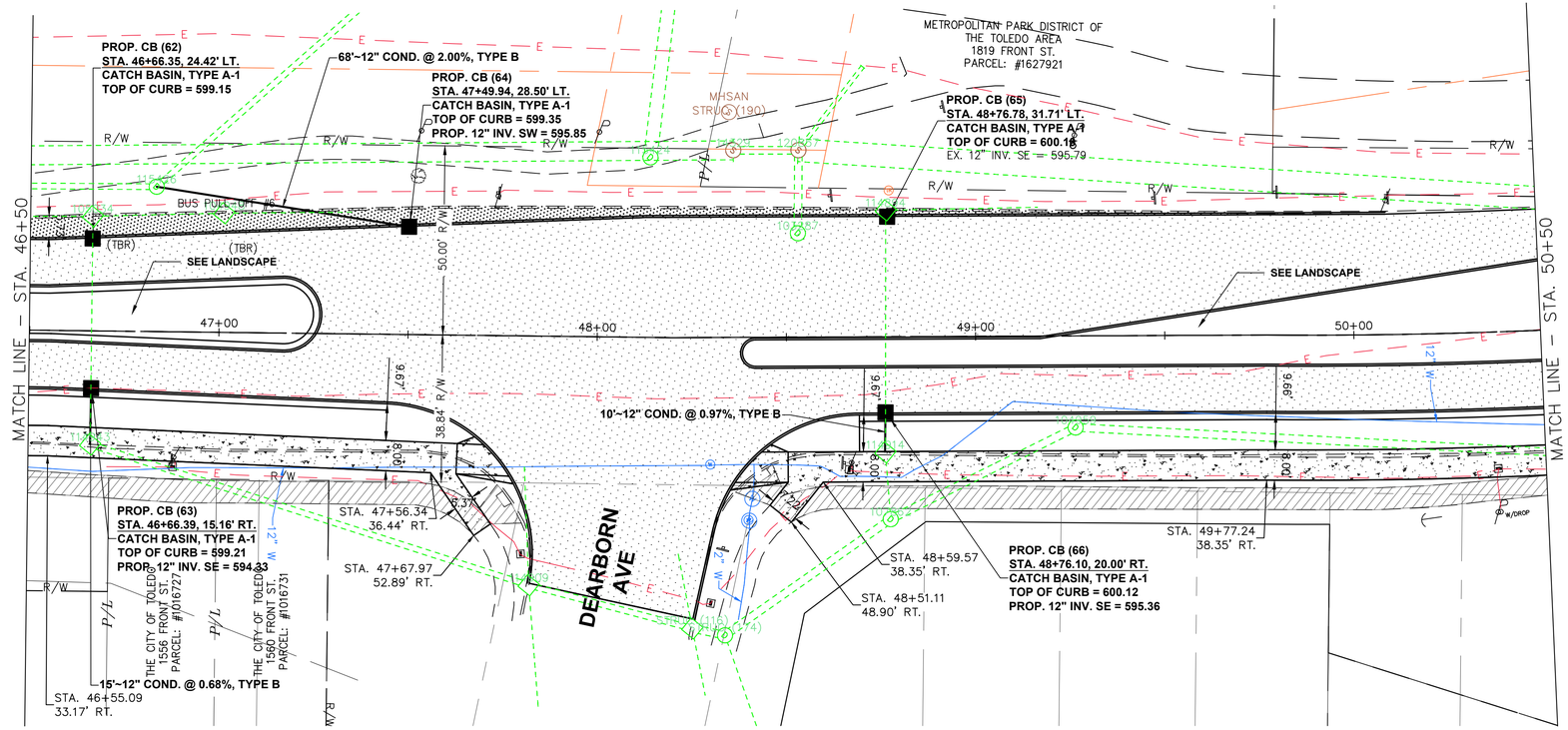
ODOT PID
121938

DESIGNER
MAS

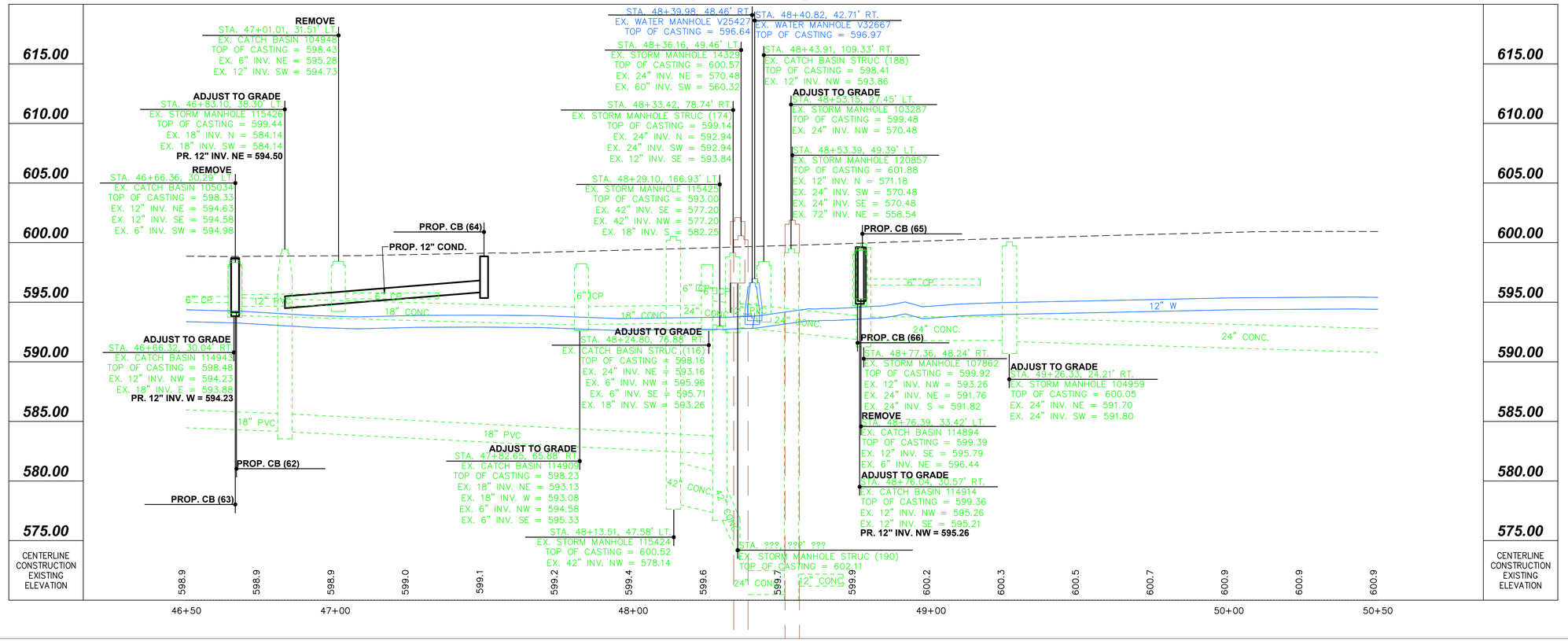
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
FRONT STREET STA. 46+50 TO STA. 50+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

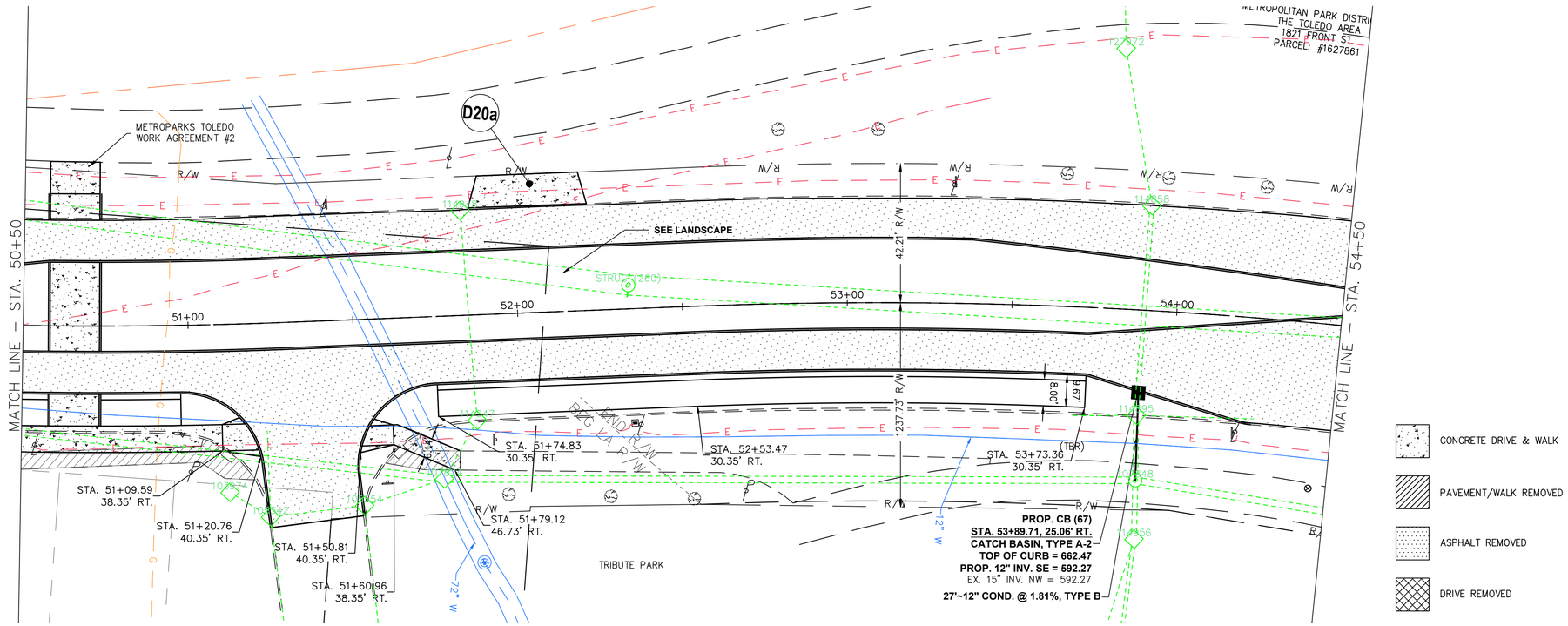
ODOT PID
121938

DESIGNER
MAS

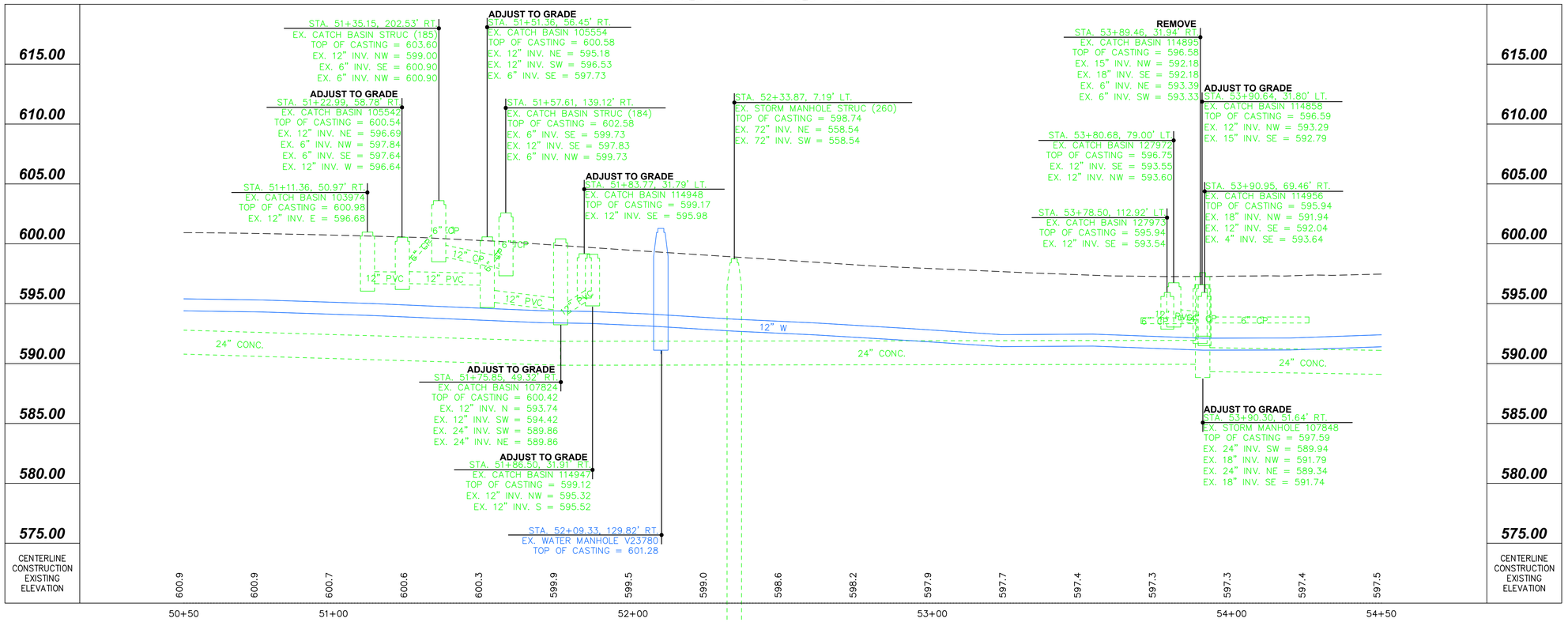
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



FRONT STREET



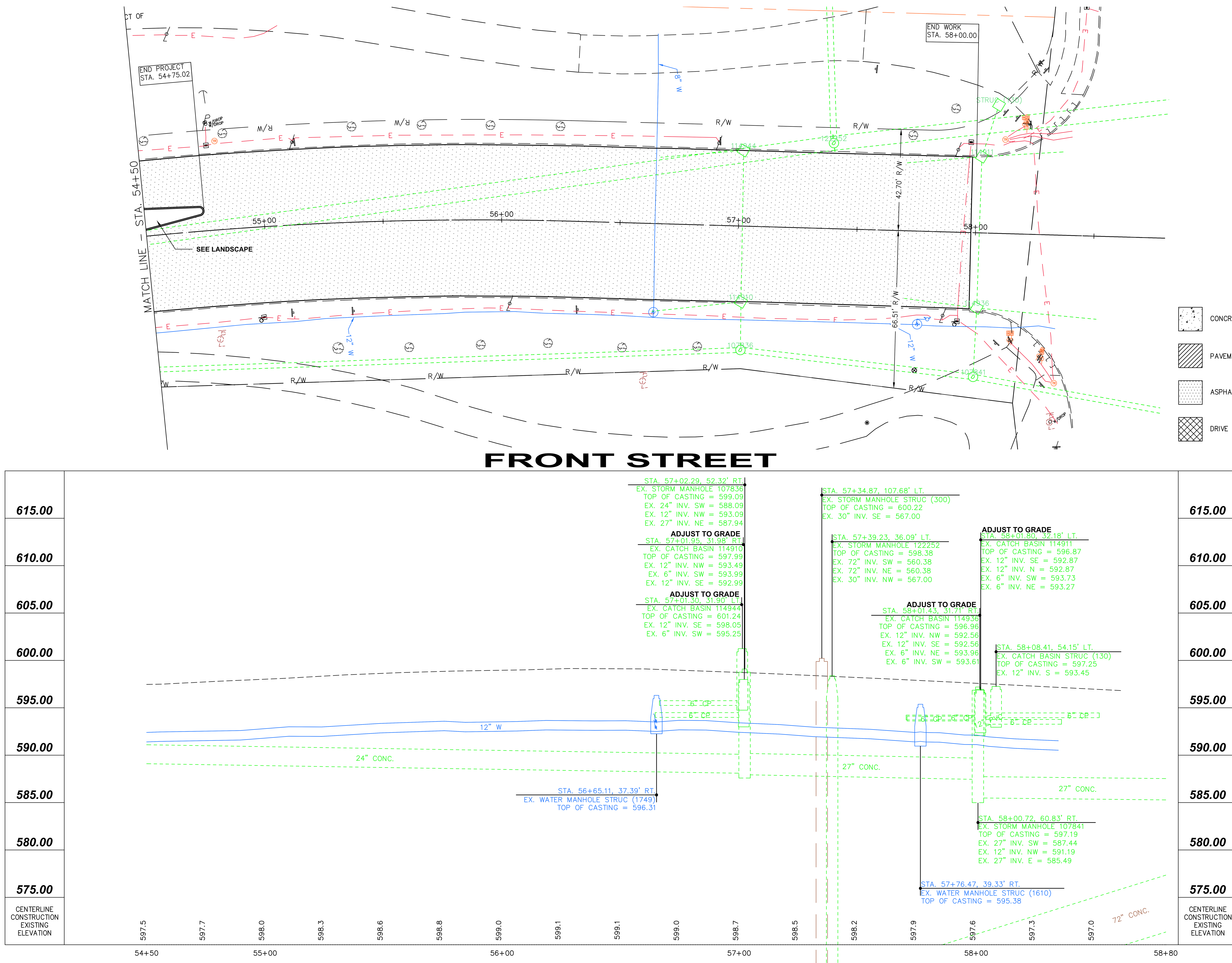
0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
FRONT STREET STA. 50+50 TO STA. 54+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

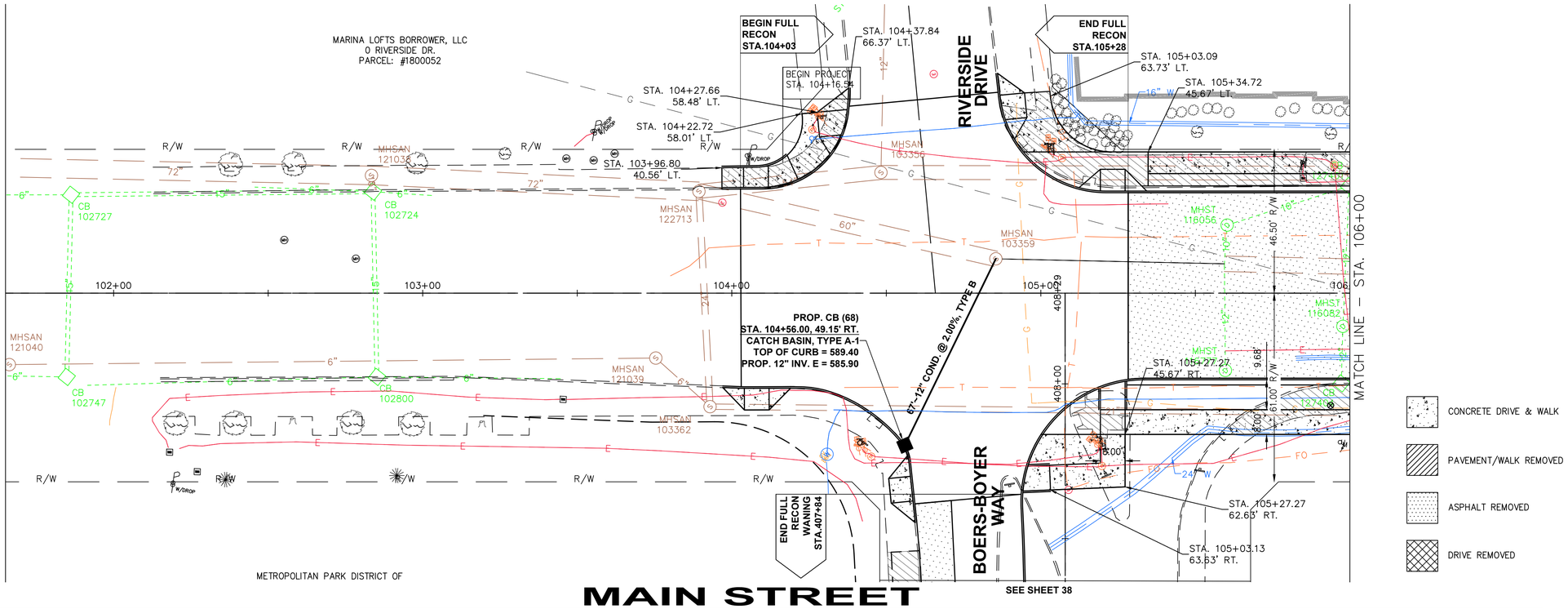
Horizontal Scale In Feet: 0 10 20 40

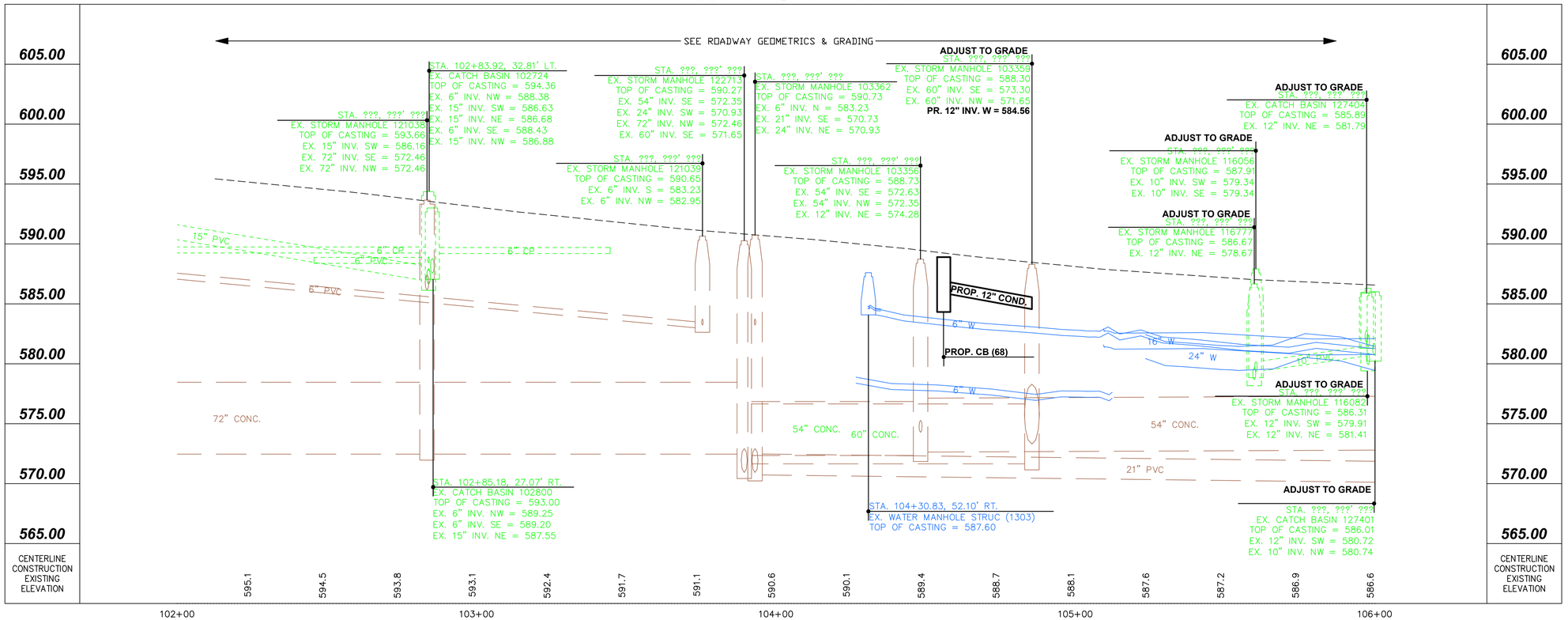
PLAN AND PROFILE
FRONT STREET STA. 54+50 TO STA. 58+80

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID 121938
DESIGNER MAS
REVIEWER XF
COT PROJ. ID ####
SHEET TOTAL





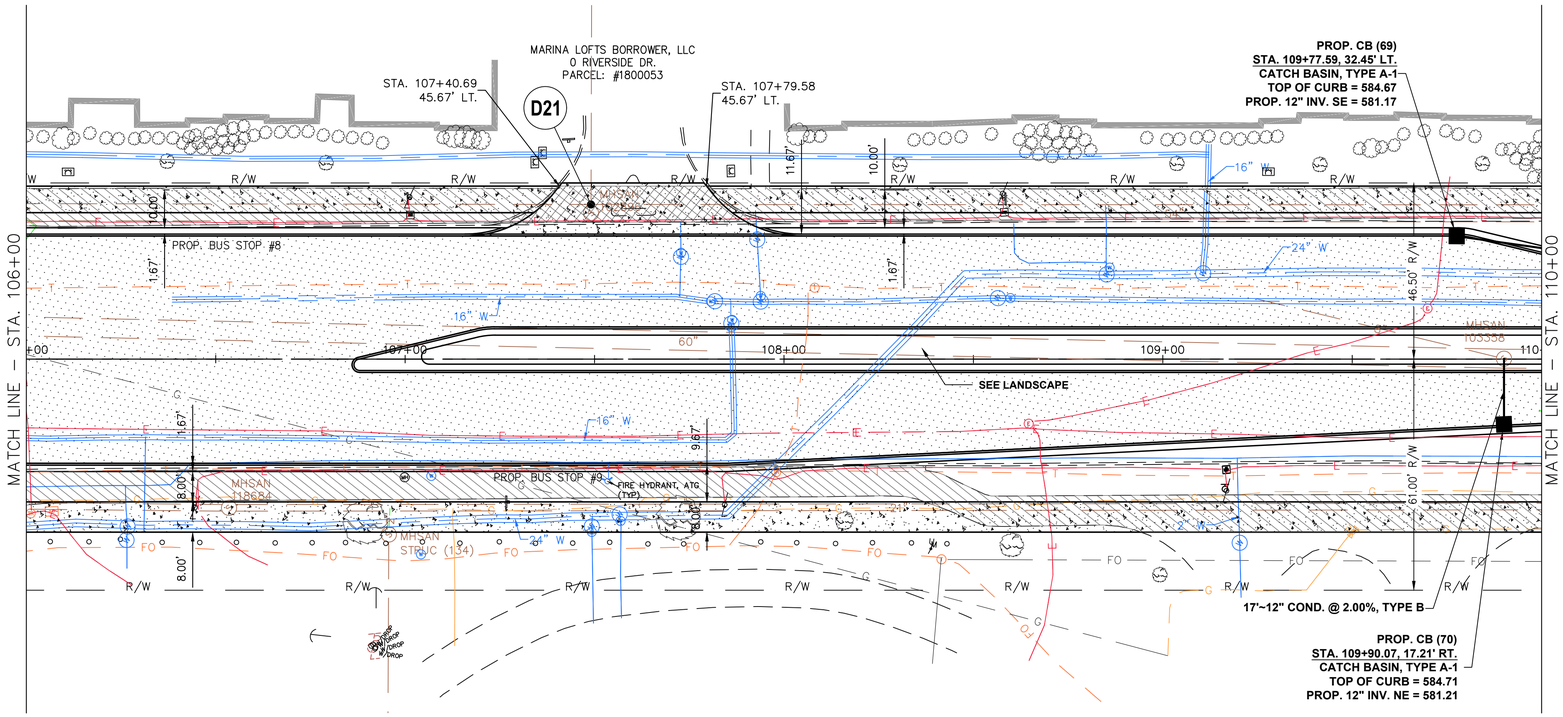
0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 102+00 TO STA. 106+00

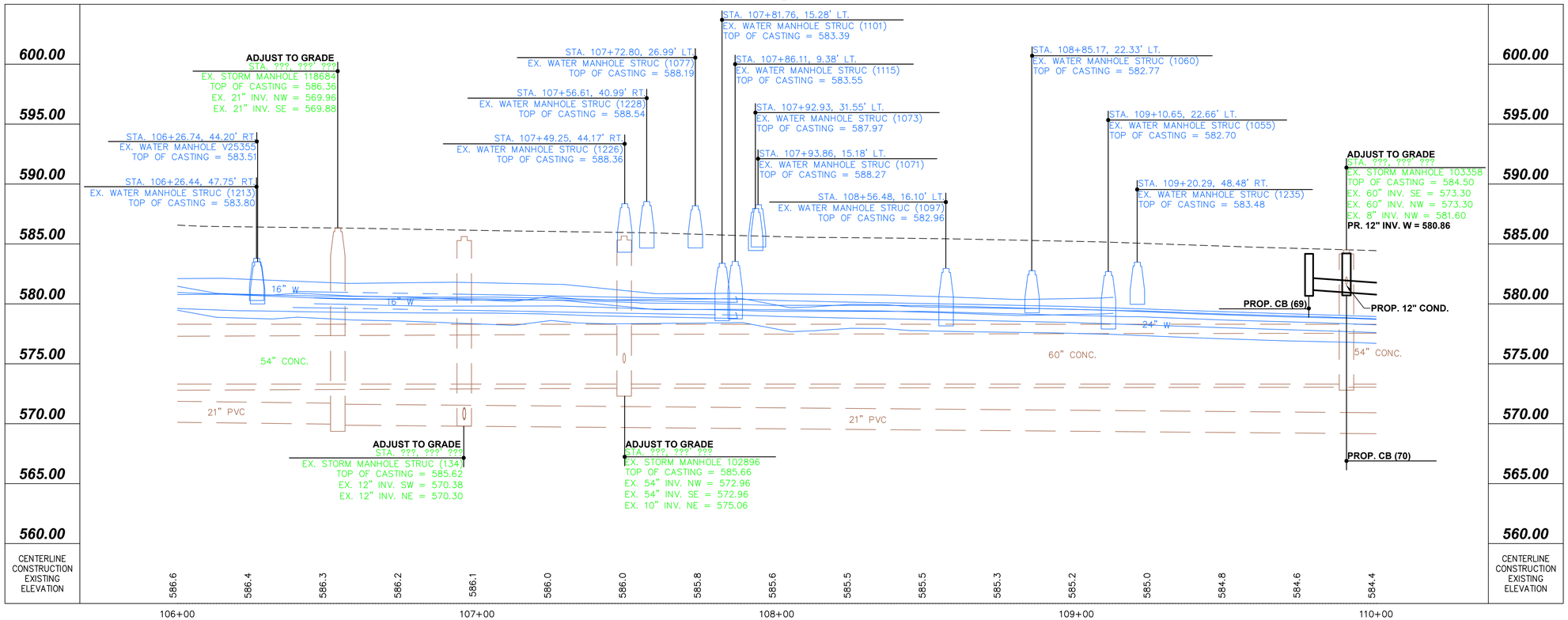
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



MAIN STREET



CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

Horizontal Scale In Feet
0 10 20 40

PLAN AND PROFILE
MAIN STREET STA. 106+00 TO STA. 110+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

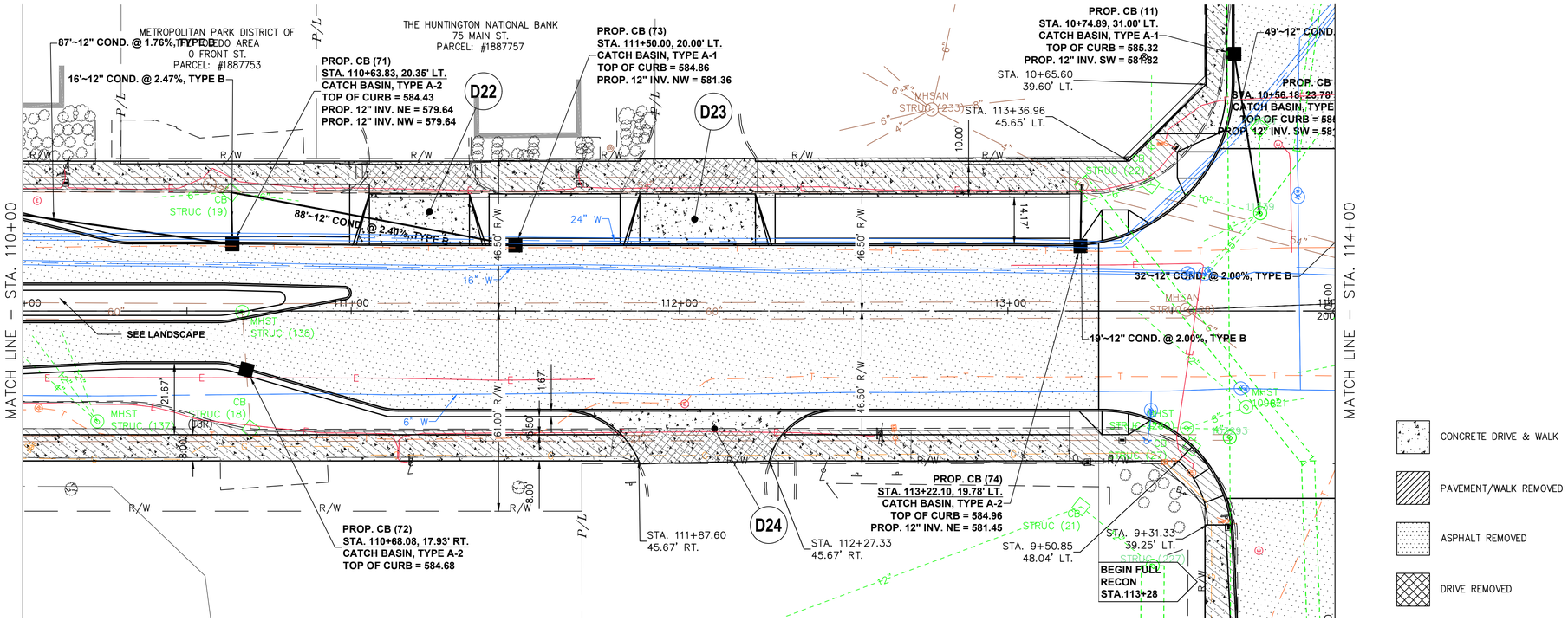
ODOT PID
121938

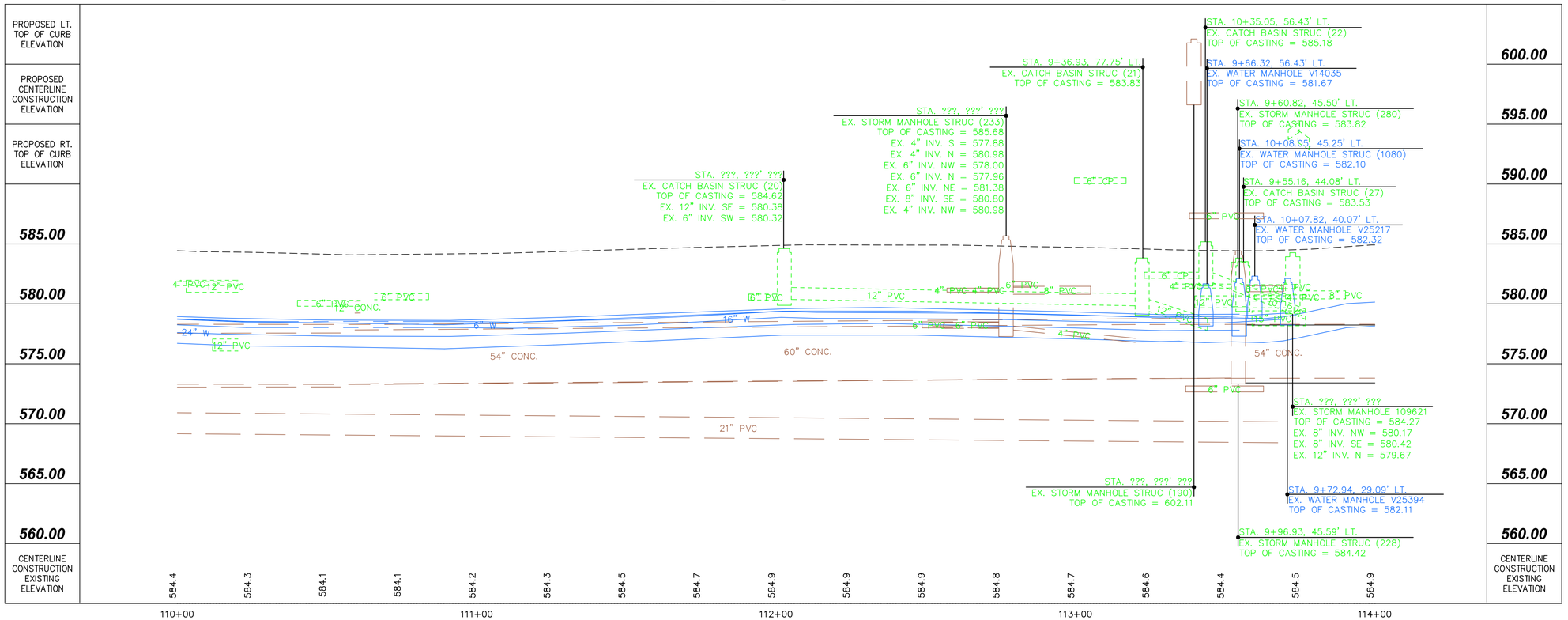
DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



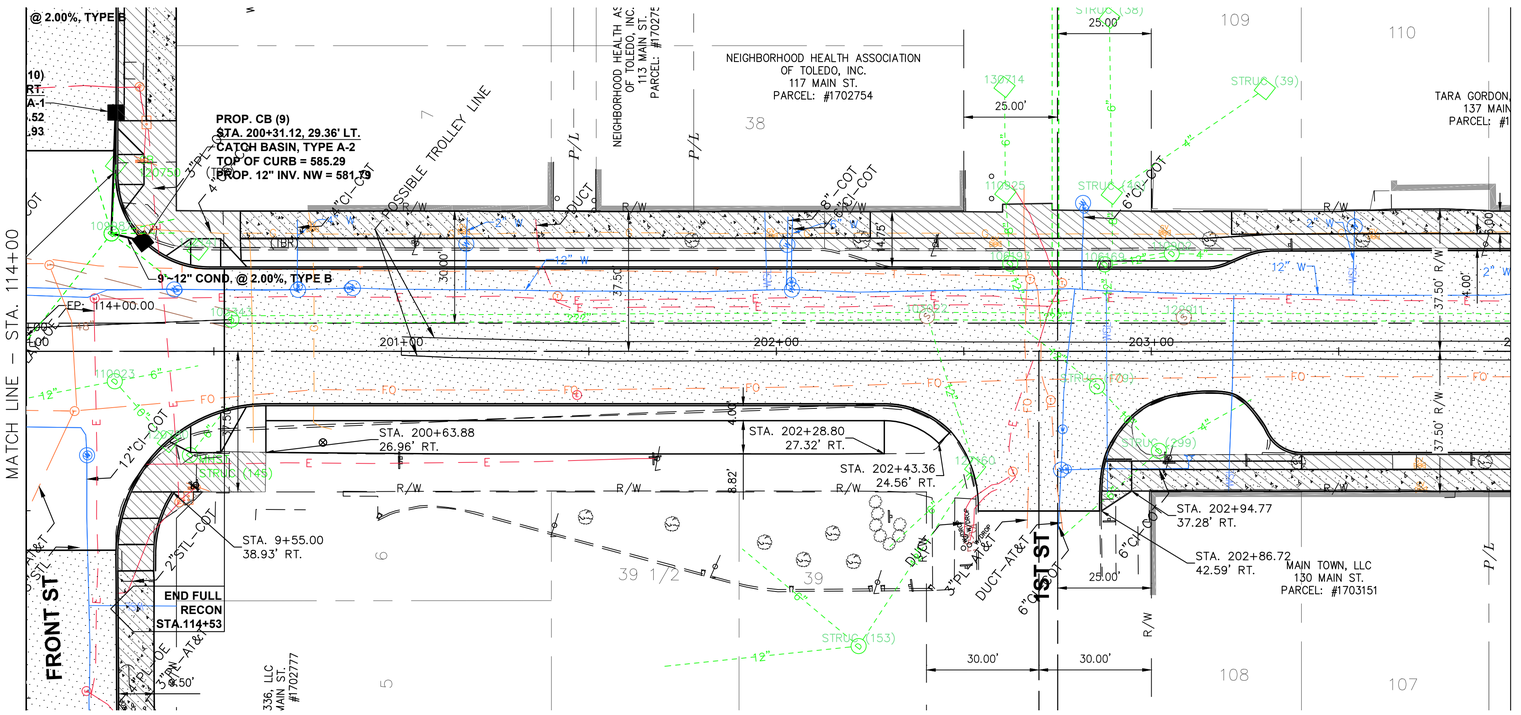


PLAN AND PROFILE
MAIN STREET STA. 110+00 TO STA. 114+00

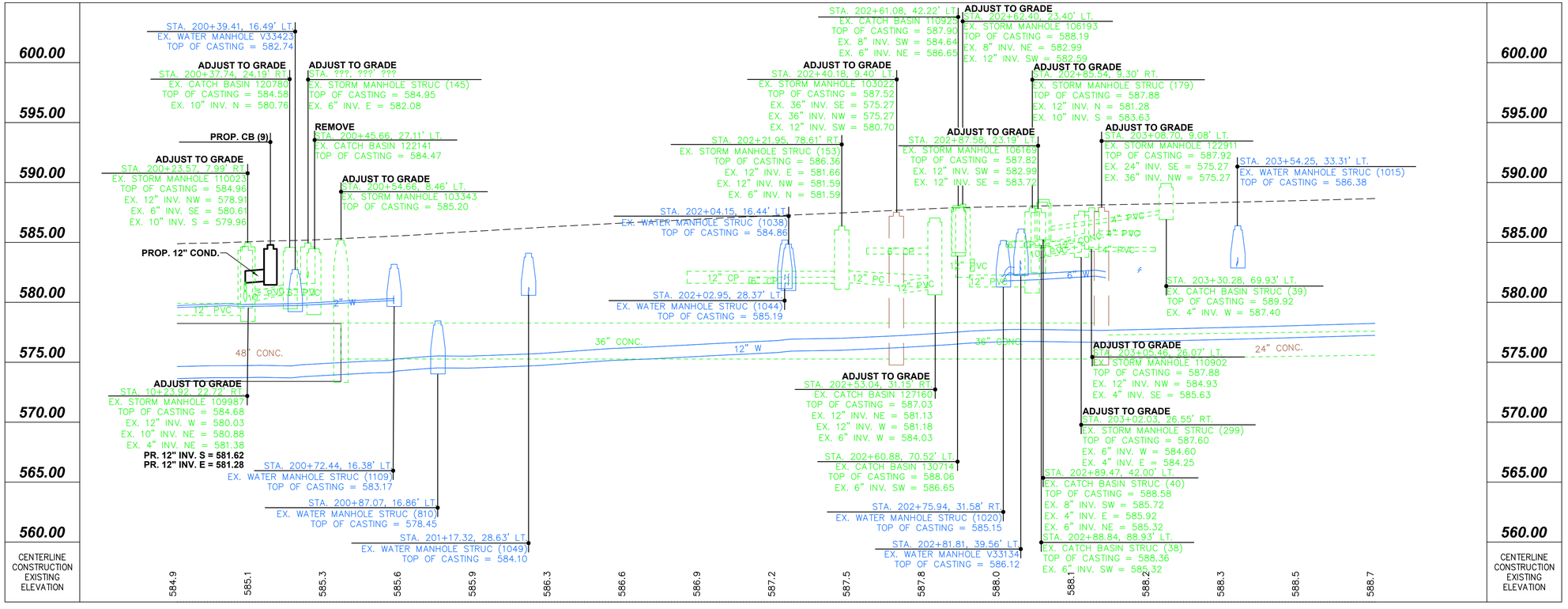
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
117 MAIN	2"	COPPER	COPPER
522 MAIN	1/2"	LEAD	COPPER
120 MAIN	1"	COPPER	COPPER
130 MAIN	5/8"	LEAD	GALV
133-135 MAIN	2"	LEAD	UNK
134 MAIN	2"	COPPER	UNK
137 MAIN	1.5"	COPPER	UNK



Horizontal Scale In Feet
0 10 20 40

PLAN AND PROFILE
MAIN STREET STA. 200+00 TO STA. 204+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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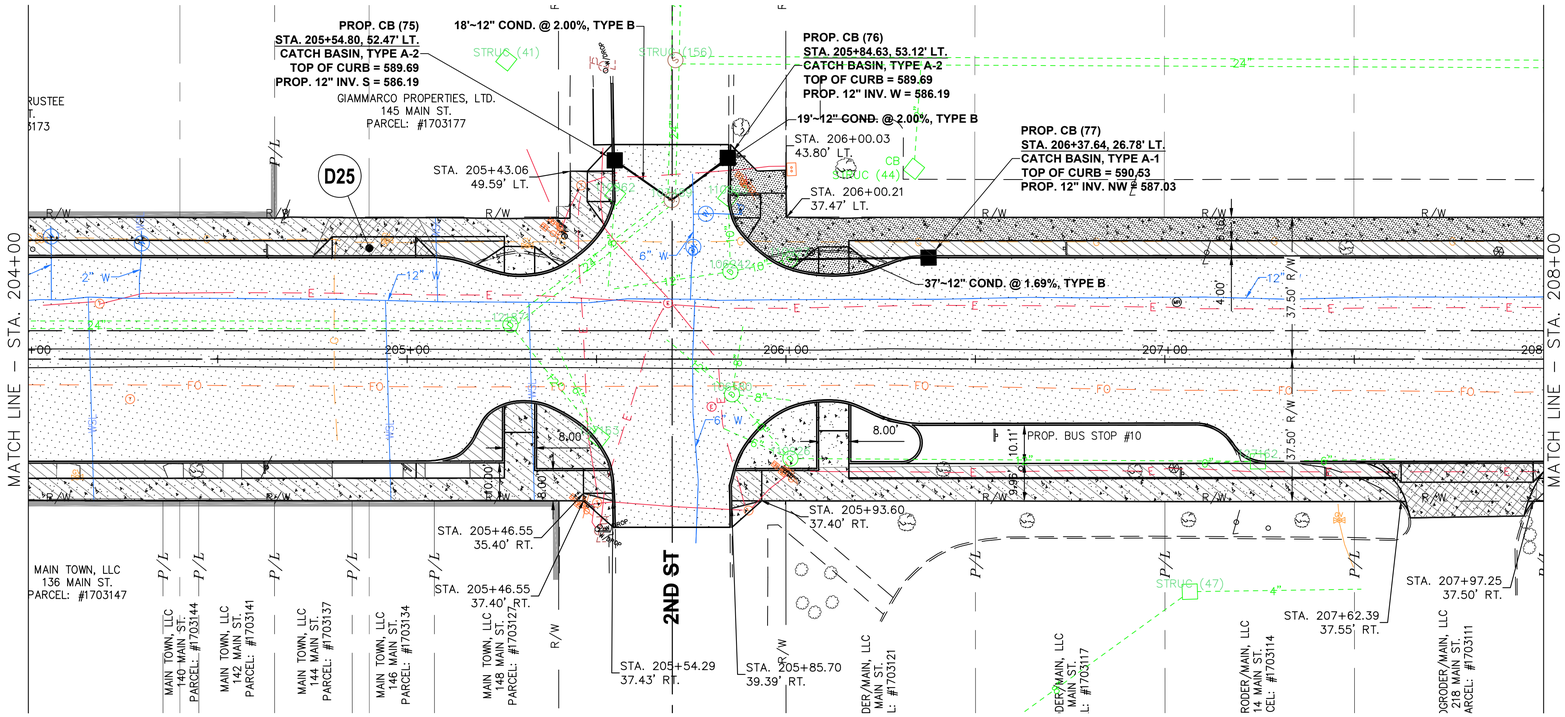
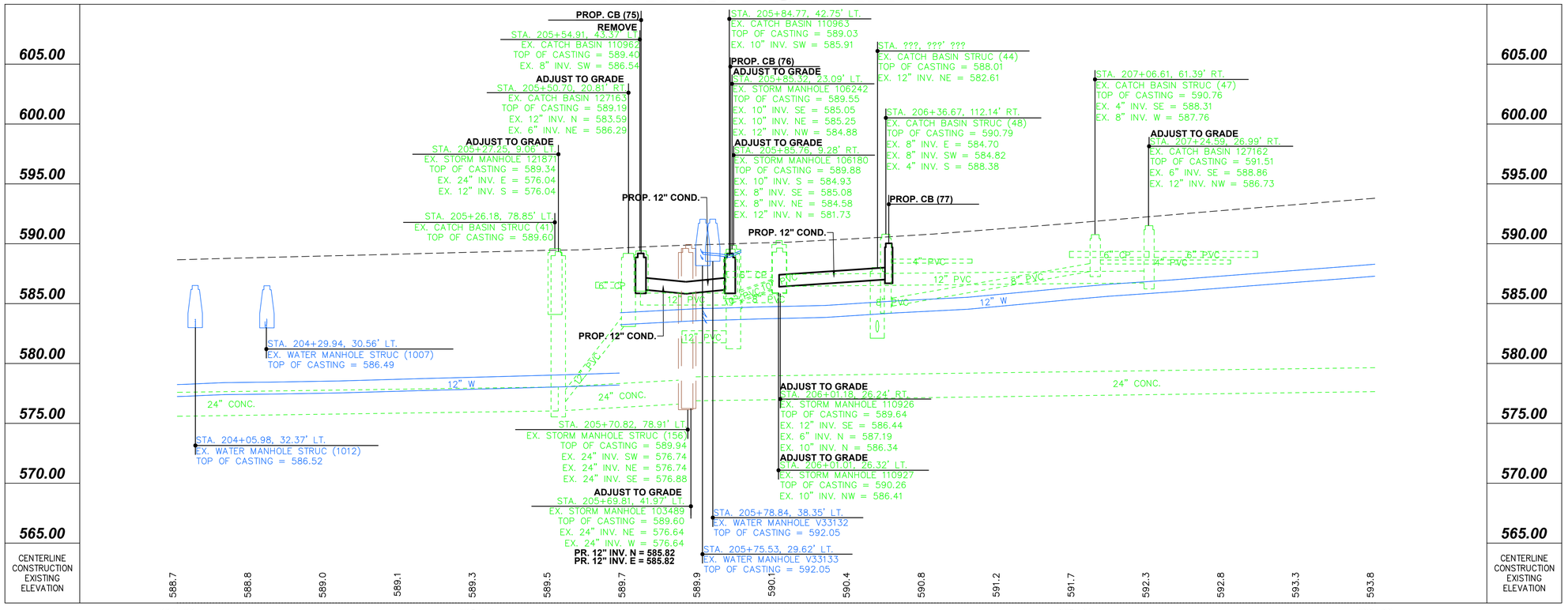
SHEET TOTAL





WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
136 MAIN	5/8"	COPPER	COPPER
138 MAIN	5/8"	UNK	UNK
139 MAIN	1"	COPPER	COPPER
145 MAIN	5/8"	COPPER	COPPER
146 MAIN	5/8"	UNK	COPPER
148 MAIN	3/4"	LEAD	UNK

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

0 10 20 40
Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 204+00 TO STA. 208+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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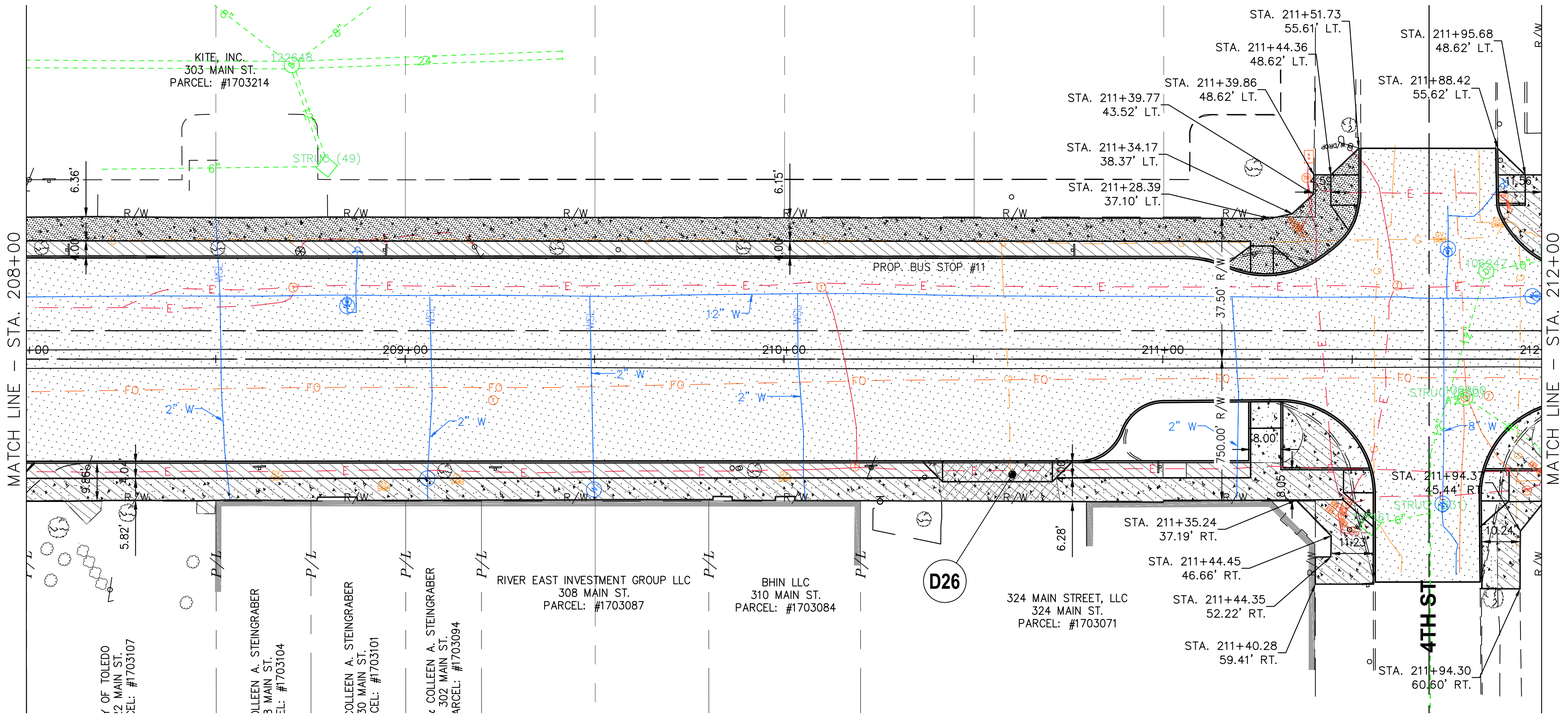
SHEET TOTAL



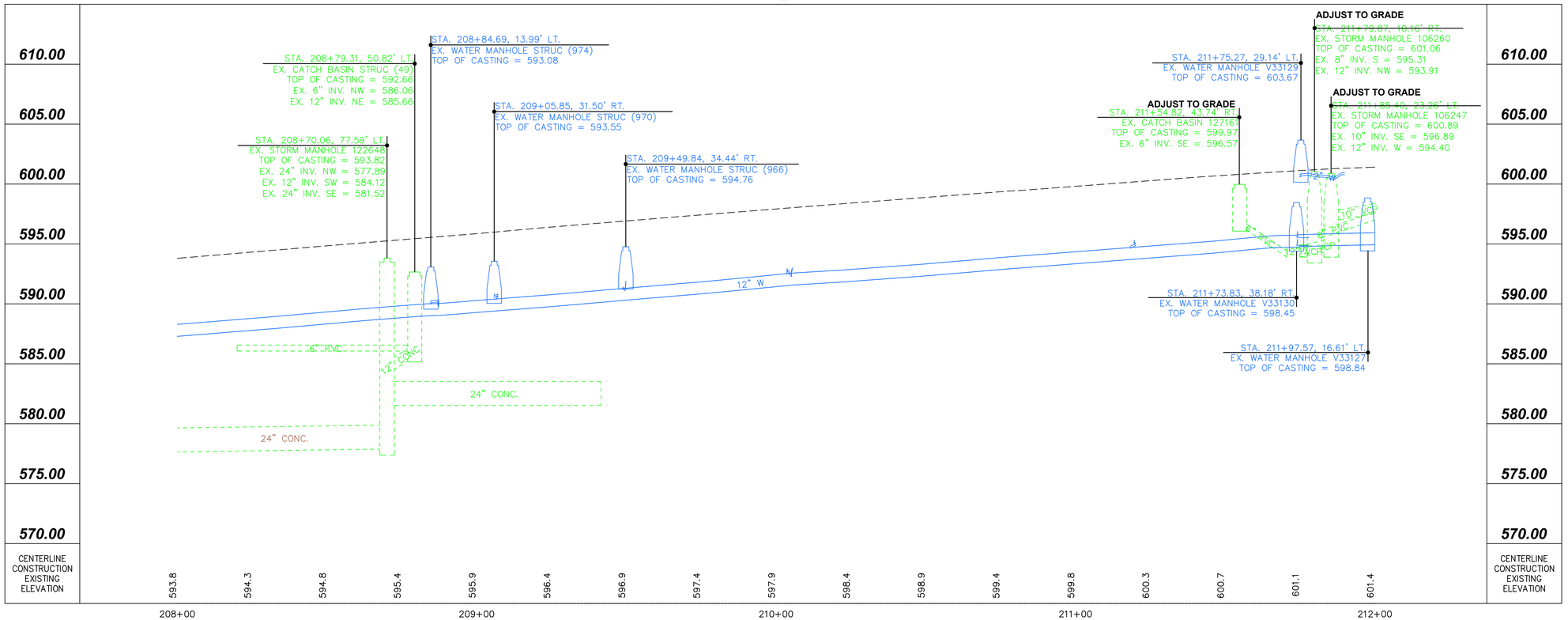
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
226 MAIN	5/8"	LEAD	UNK
228 MAIN	5/8"	LEAD	GALV
302 MAIN	5/8"	COPPER	COPPER
303 MAIN	2"	COPPER	COPPER
306 MAIN	5/8"	LEAD	UNK
308 MAIN	5/8"	UNK	UNK
314 MAIN	3/4"	LEAD	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 208+00 TO STA. 212+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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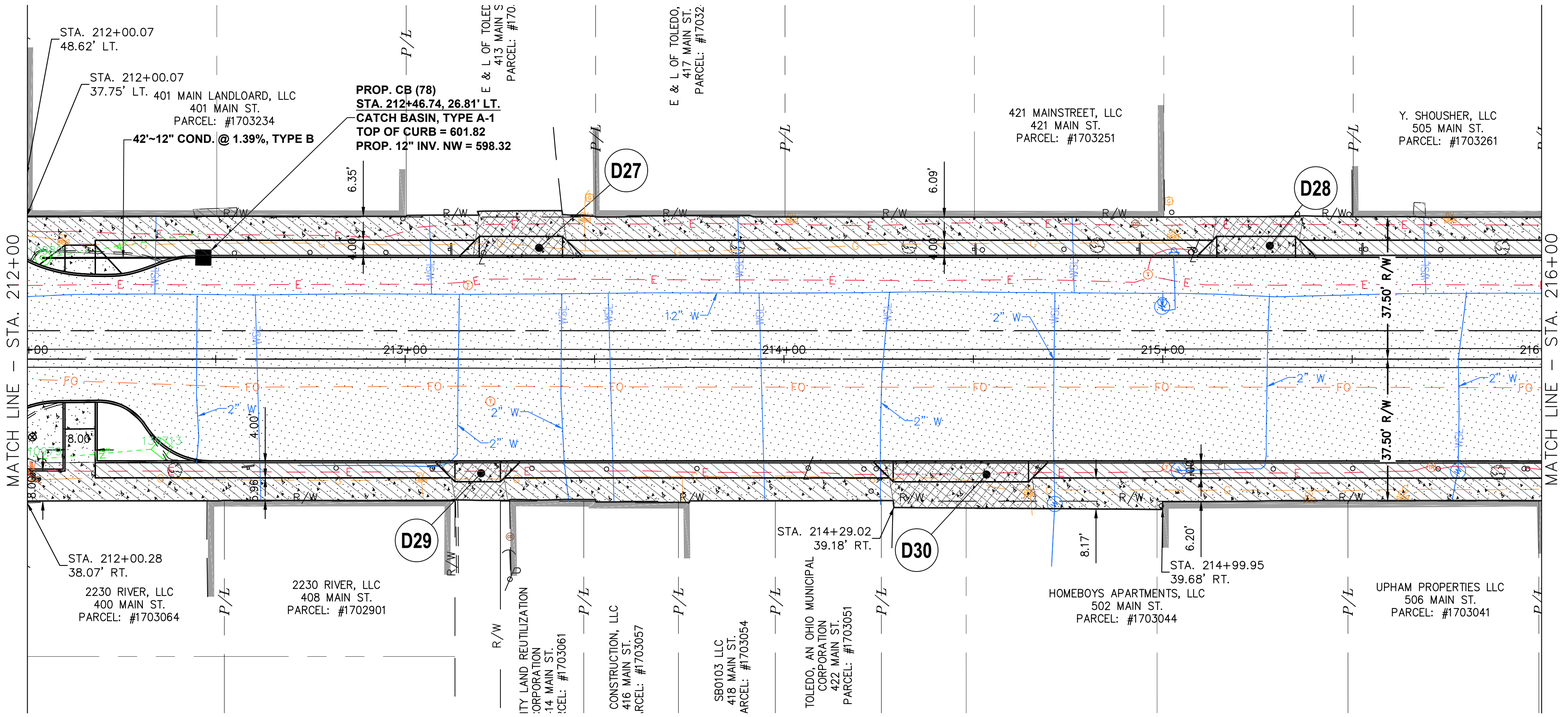
SHEET TOTAL



MAIN STREET

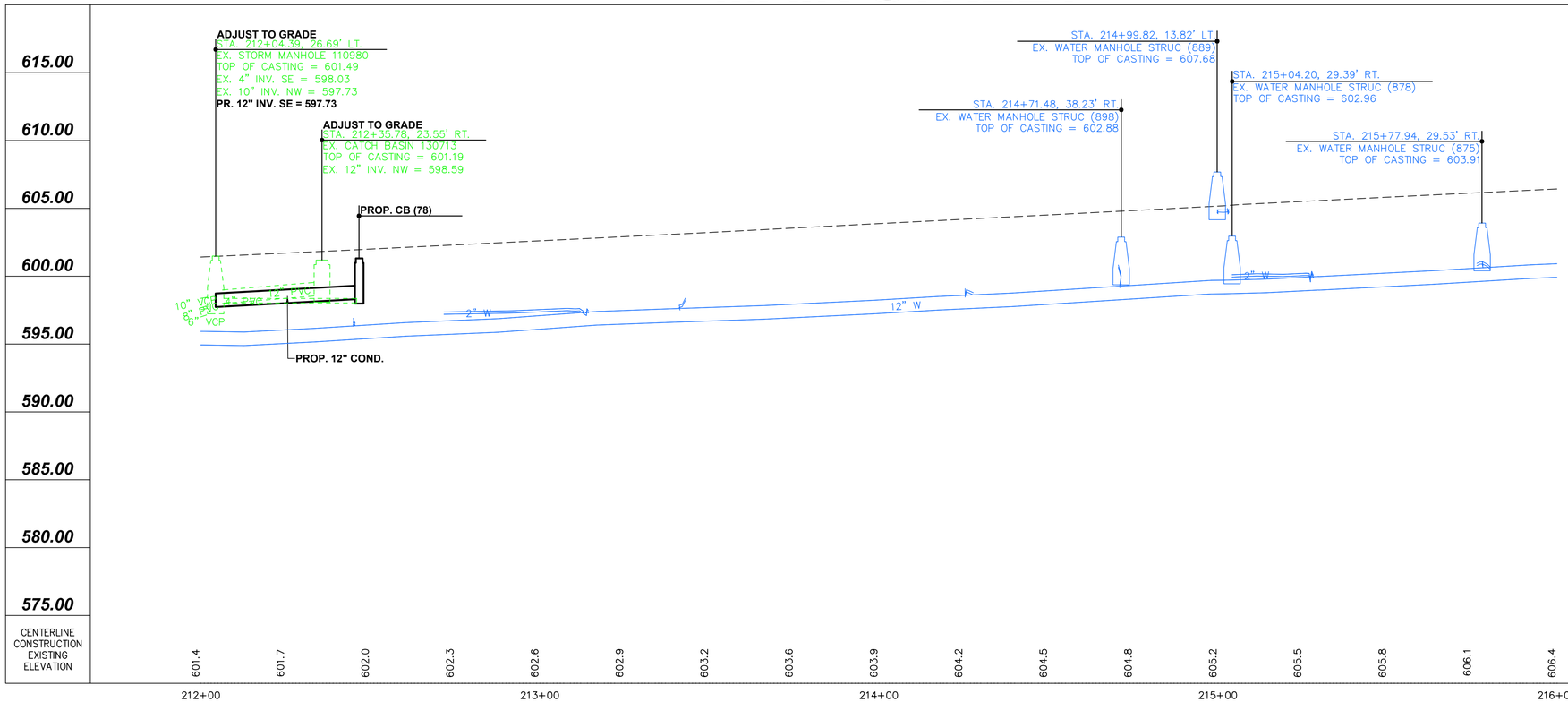
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
407 MAIN	2"	LEAD	COPPER
408 MAIN	1"	LEAD	COPPER
413 MAIN	5/8"	LEAD	COPPER
414 MAIN	5/8"	LEAD	UNK
416 MAIN	5/8"	COPPER	COPPER
417 MAIN	1"	LEAD	COPPER
418 MAIN	ABANDONED		
421 MAIN	2"	LEAD	COPPER
422 MAIN	ABANDONED		
424 MAIN	3/4"	LEAD	COPPER
428 MAIN	1"	COPPER	COPPER
502 MAIN	1/2"	LEAD	COPPER
505 MAIN	5/8"	LEAD	UNK
506 MAIN	5/8"	LEAD	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 212+00 TO STA. 216+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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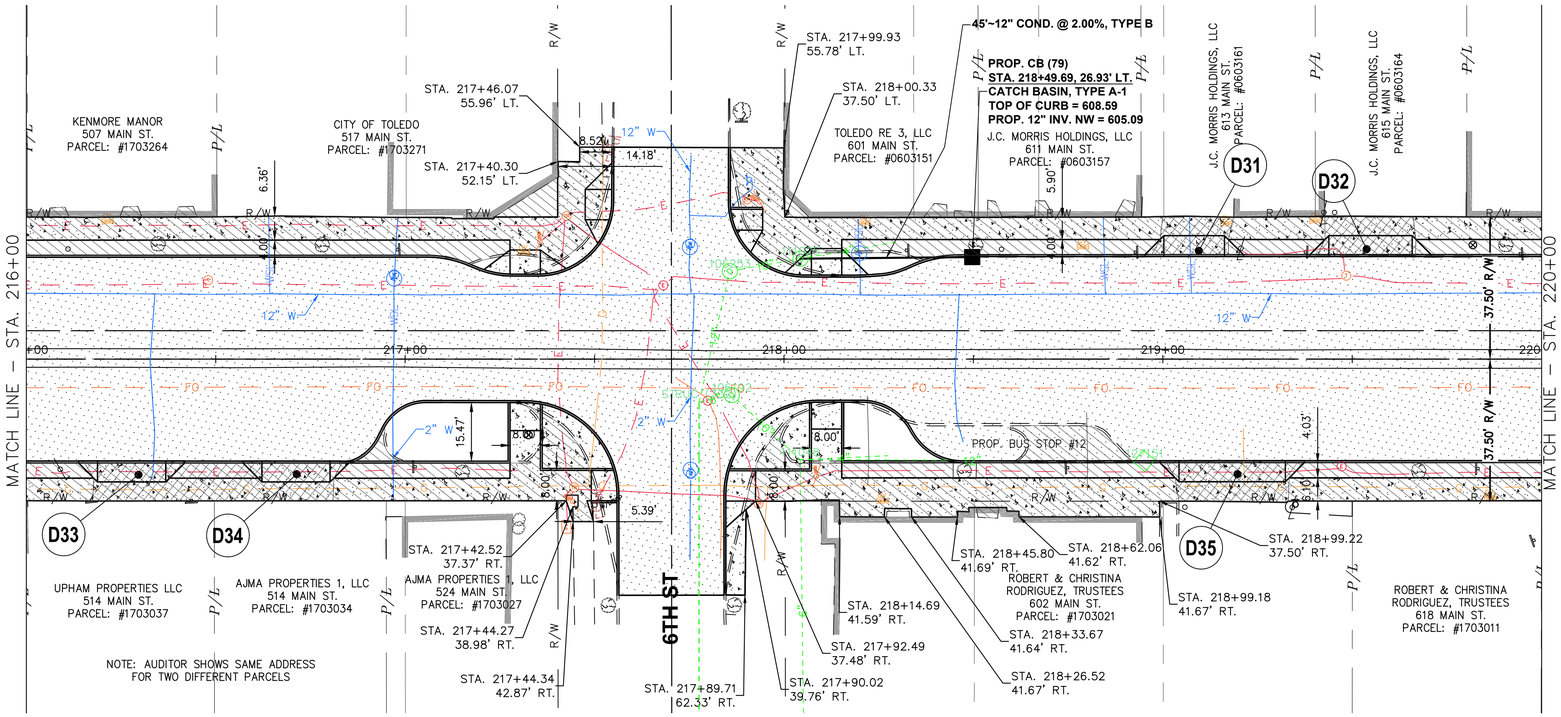
SHEET TOTAL



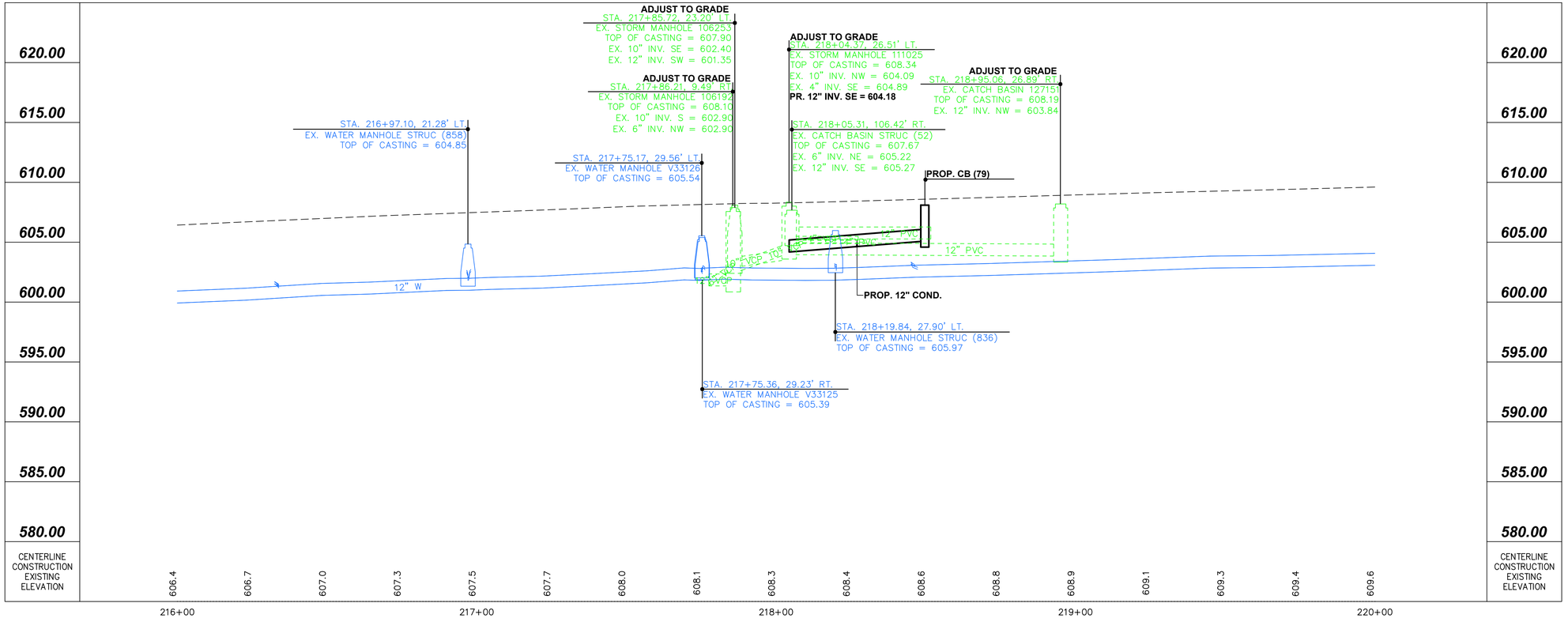
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
515-517 MAIN	5/8"	UNK	COPPER
524 MAIN	2"	COPPER	COPPER
601 MAIN	5/8"	LEAD	COPPER
605-607 MAIN	3/4"	LEAD	UNK
611 MAIN	5/8"	COPPER	COPPER
613 MAIN	UNK	UNK	UNK

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



0 10 20 40 Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 216+00 TO STA. 220+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

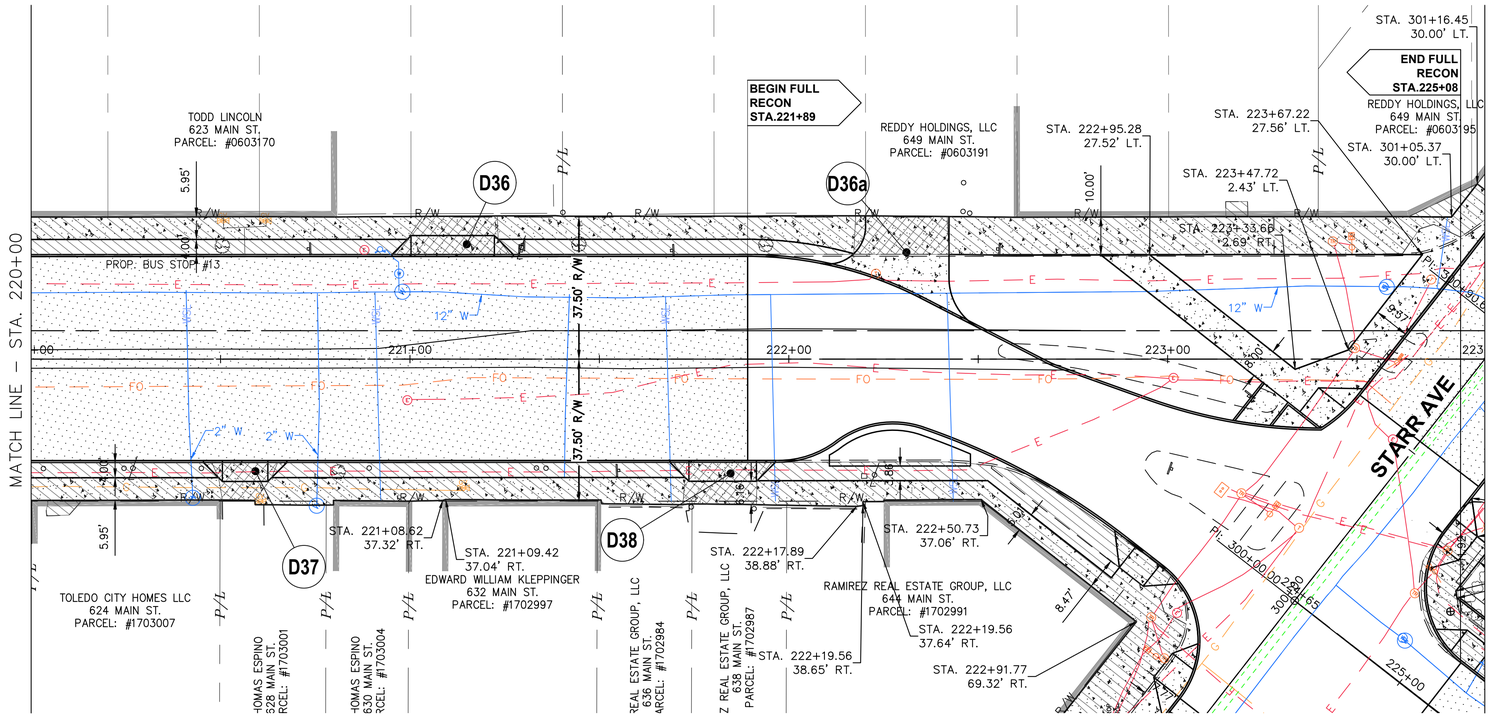
ODOT PID
121938

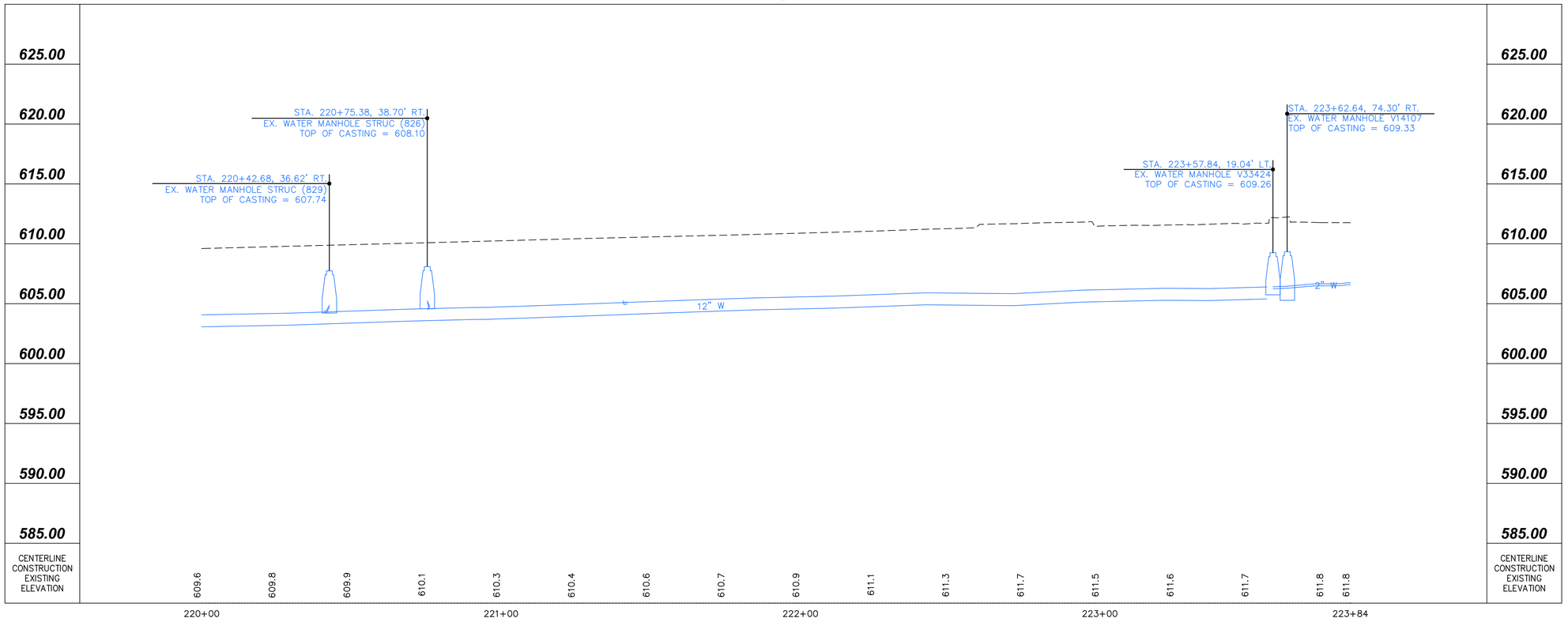
DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL





WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
624 MAIN	5/8"	UNK	UNK
630 MAIN	5/8"	LEAD	UNK
634 MAIN	5/8"	LEAD	UNK
636 MAIN	5/8"	UNK	UNK
638 MAIN	5/8"	LEAD	COPPER
644 MAIN	5/8"	LEAD	COPPER
653 MAIN	2"	LEAD	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

0 10 20 40
Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET STA. 220+00 TO STA. 223+84

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
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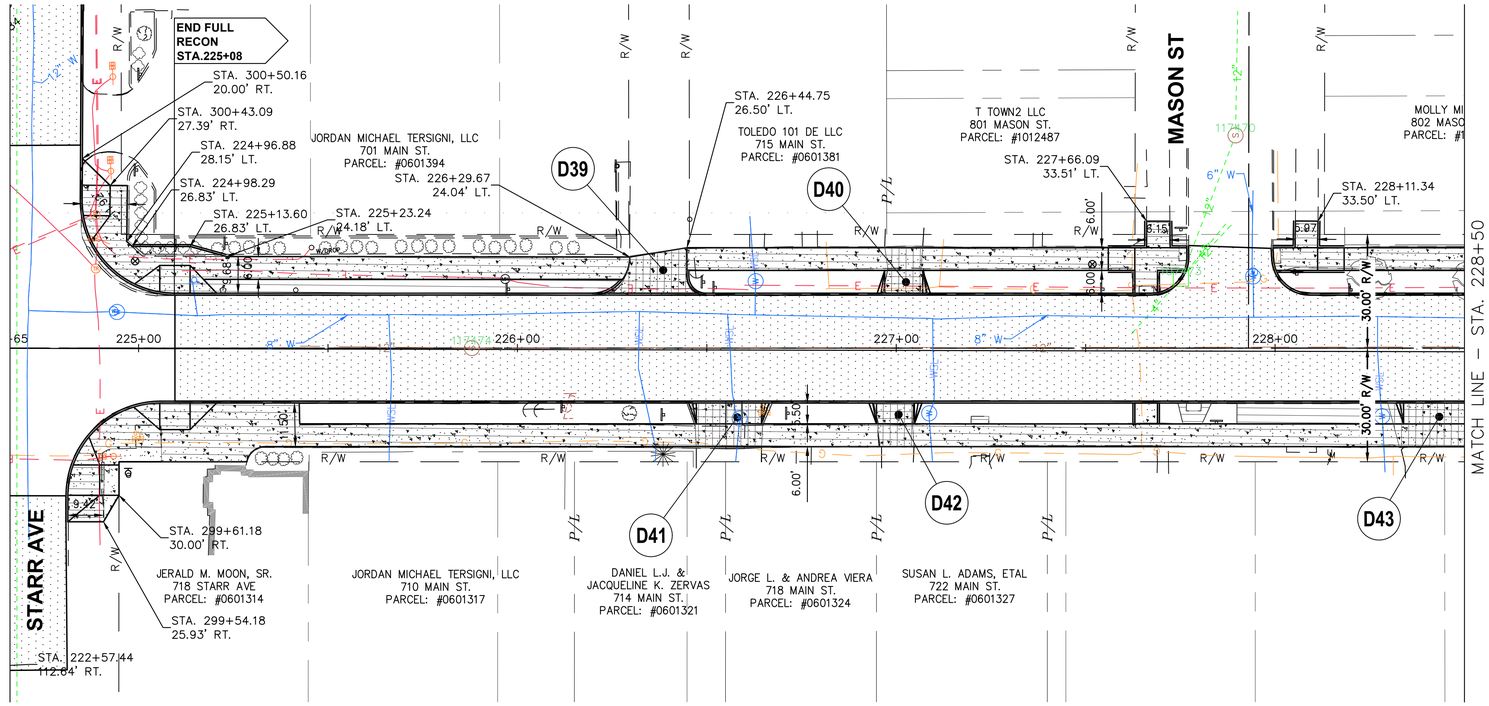
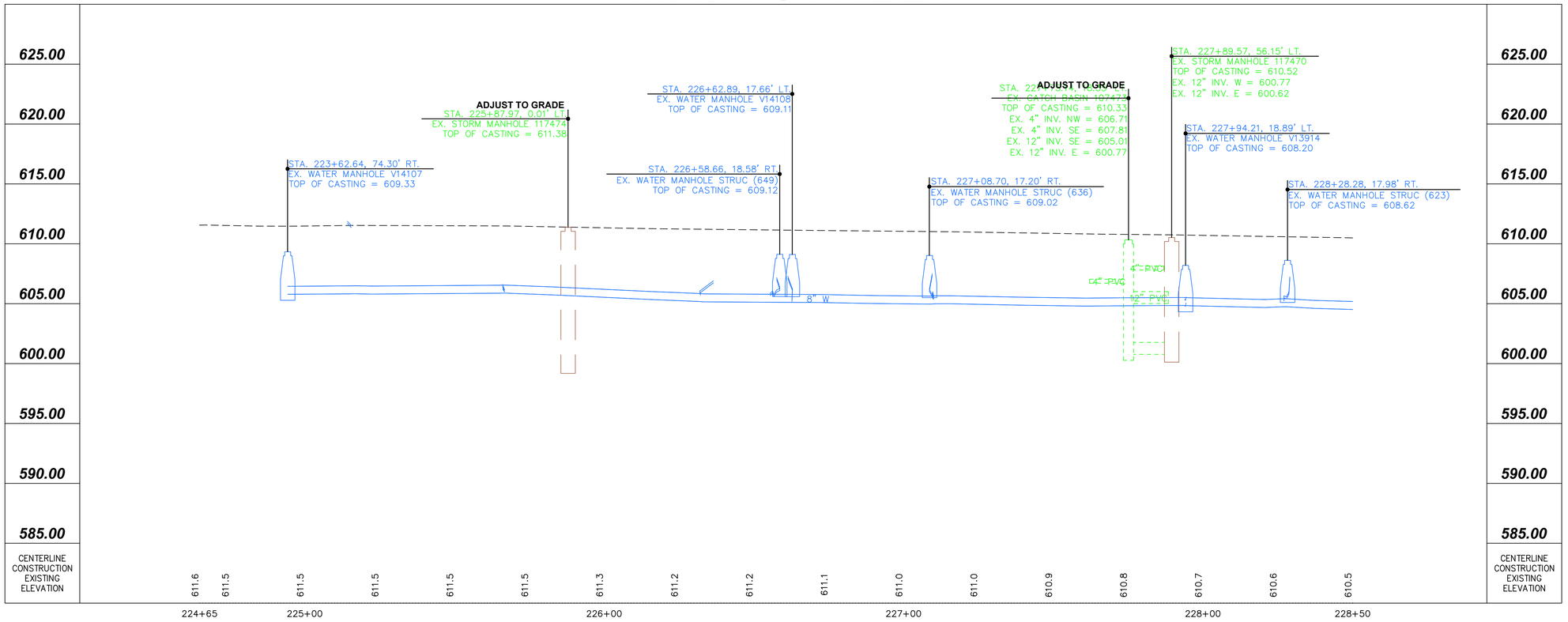
SHEET TOTAL



MAIN STREET



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
710 MAIN	ABANDONED		
714 MAIN	1"	COPPER	COPPER
717 MAIN	1"	COPPER	COPPER
718 MAIN	1"	COPPER	COPPER
722 MAIN	1"	COPPER	COPPER
732 MAIN	ABANDONED		

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

0 10 20 40
Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET EXT STA. 224+65 TO STA. 228+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

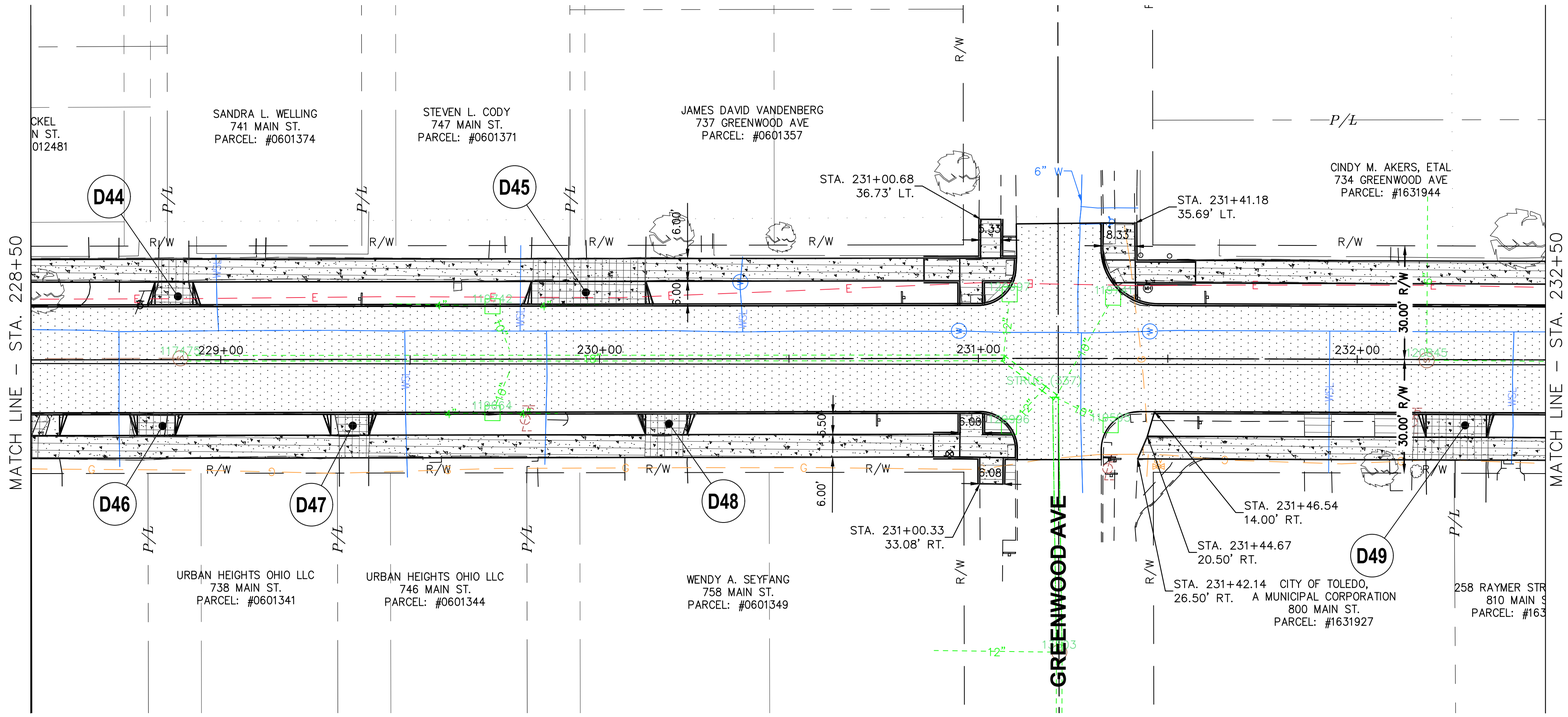
ODOT PID 121938

DESIGNER MAS

REVIEWER XF

COT PROJ. ID #####

SHEET TOTAL



MAIN STREET

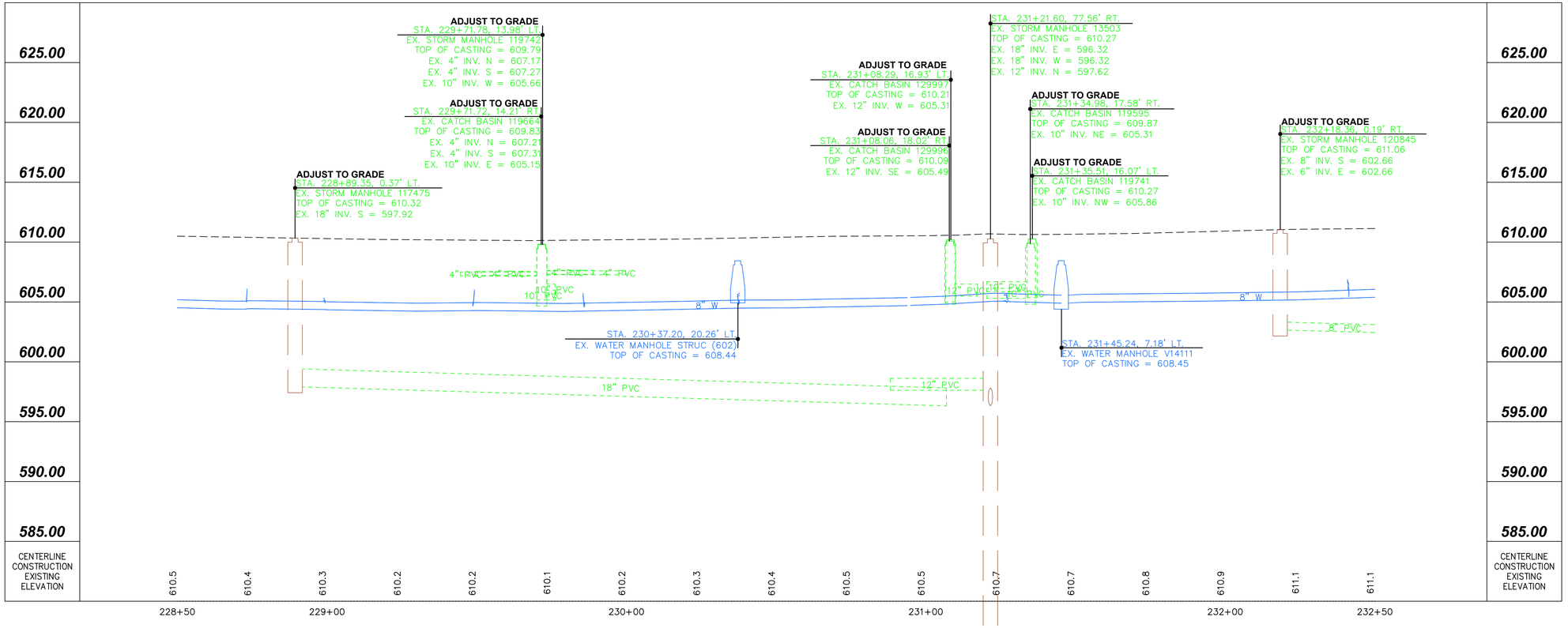
WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
741 MAIN	UNK	UNK	UNK
746 MAIN	1"	COPPER	COPPER
747 MAIN	1"	COPPER	COPPER
750 MAIN	ABANDONED		
804 MAIN	3/4"	UNK	UNK
737 GREENWOOD	1"	COPPER	COPPER
757 EUCLID	3/4"	COPPER	COPPER
810 S MAIN	1"	COPPER	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED



PLAN AND PROFILE
MAIN STREET EXT STA. 228+50 TO STA. 232+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

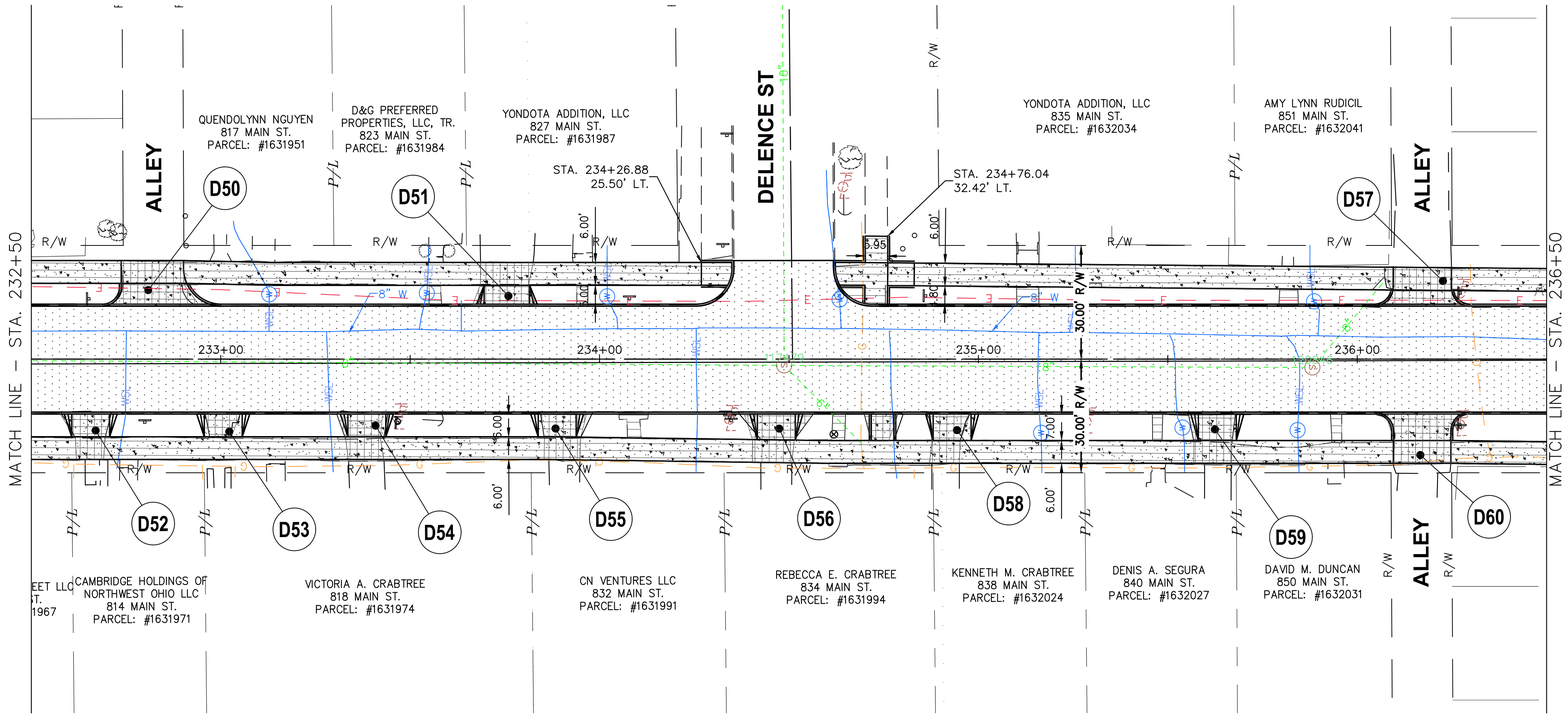
ODOT PID
121938

DESIGNER
MAS

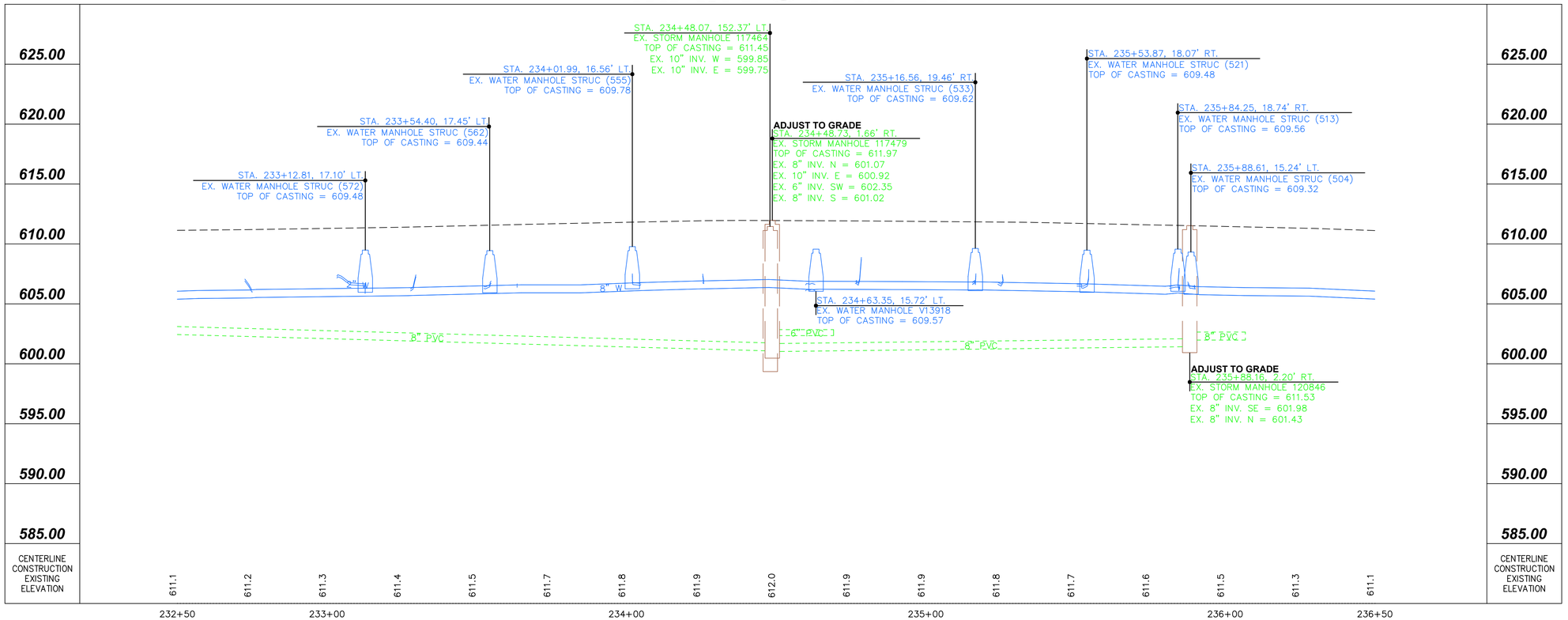
REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL



MAIN STREET



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
814 S MAIN	1"	COPPER	COPPER
817 S MAIN	UNK	UNK	UNK
818 S MAIN	UNK	UNK	UNK
823 S MAIN	1"	COPPER	COPPER
827 S MAIN	1"	COPPER	COPPER
832 S MAIN	1"	COPPER	COPPER
835 S MAIN	1"	COPPER	COPPER
836 S MAIN	5/8"	LEAD	COPPER
838 S MAIN	1"	COPPER	COPPER
850 S MAIN	1"	COPPER	COPPER
851 S MAIN	1"	COPPER	COPPER

CONCRETE DRIVE & WALK

PAVEMENT/WALK REMOVED

ASPHALT REMOVED

DRIVE REMOVED

0 10 20 40
Horizontal Scale In Feet

PLAN AND PROFILE
MAIN STREET EXT STA. 232+50 TO STA. 236+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

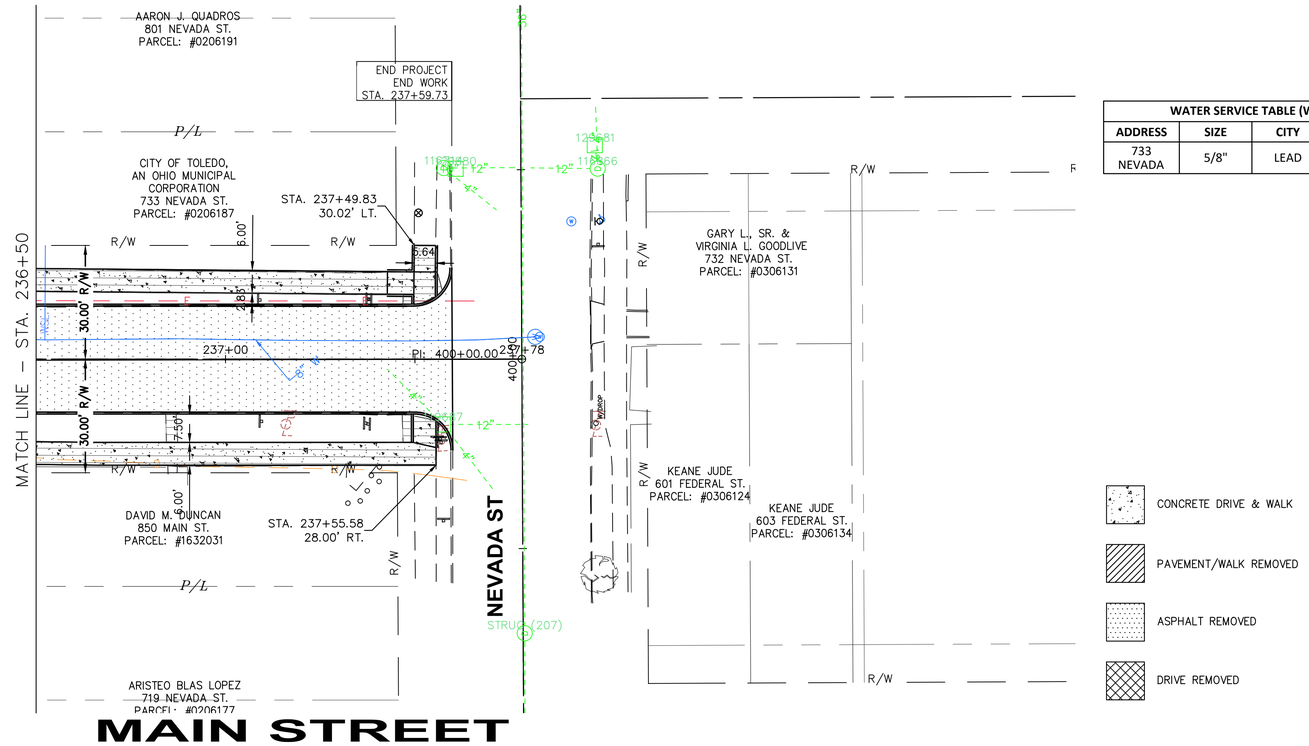
ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

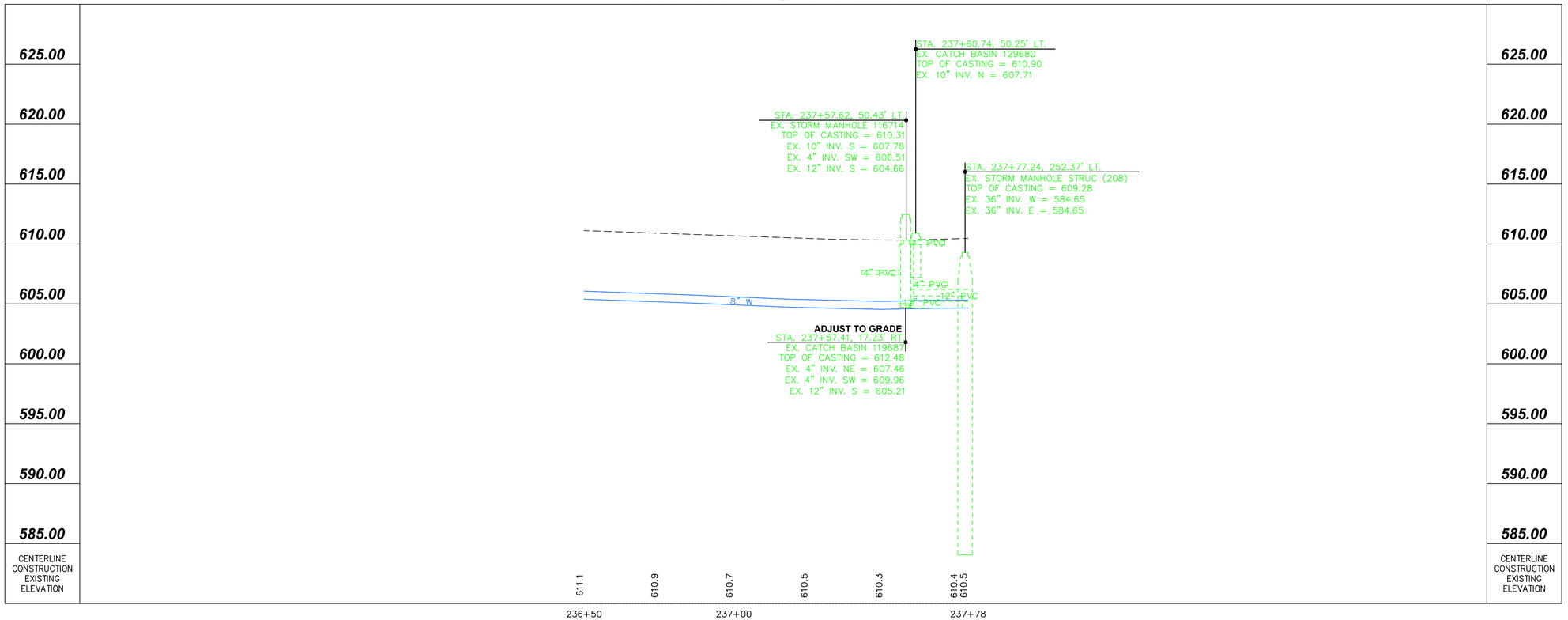
COT PROJ. ID
####

SHEET TOTAL



WATER SERVICE TABLE (WSL)			
ADDRESS	SIZE	CITY	PRIVATE
733 NEVADA	5/8"	LEAD	UNK

Horizontal Scale In Feet
0 10 20 40



PLAN AND PROFILE
MAIN STREET EXT STA. 236+50 TO STA. 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

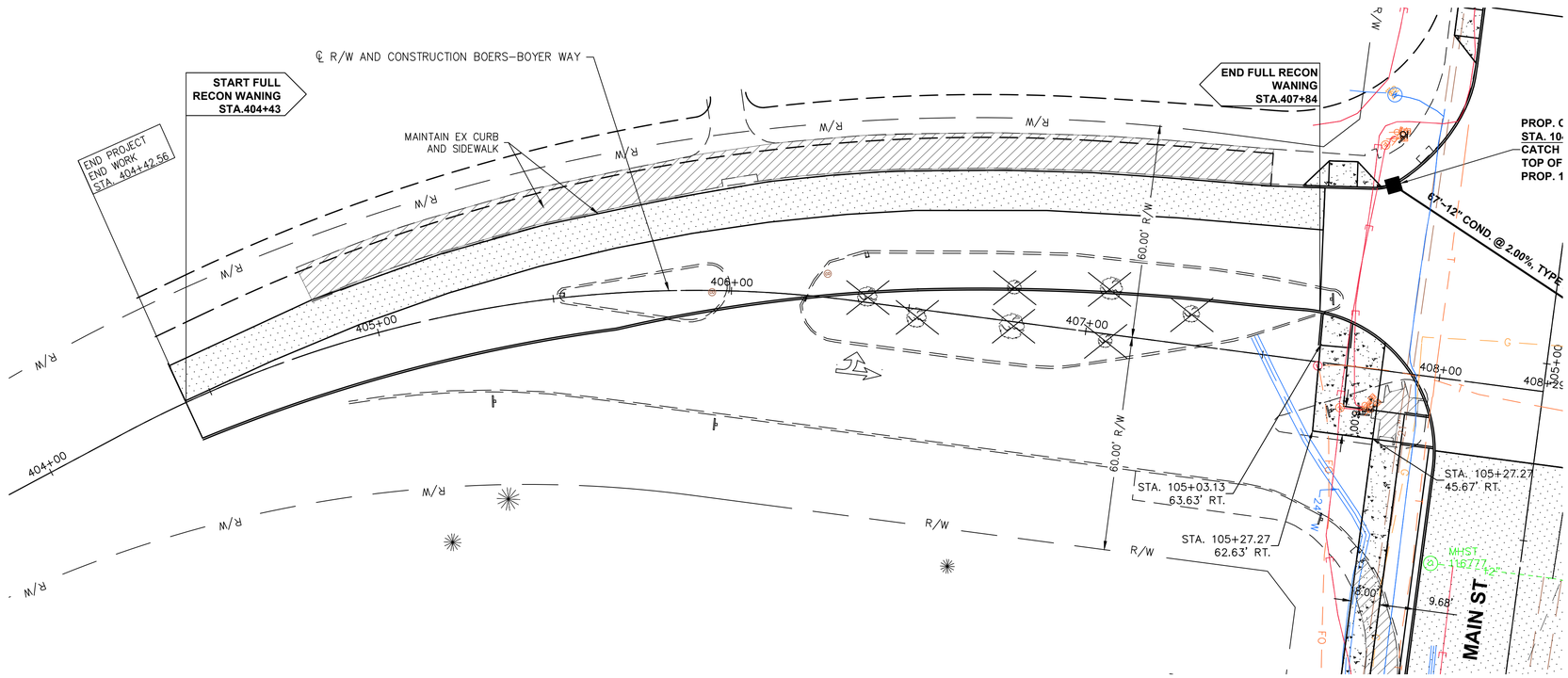
ODOT PID
121938

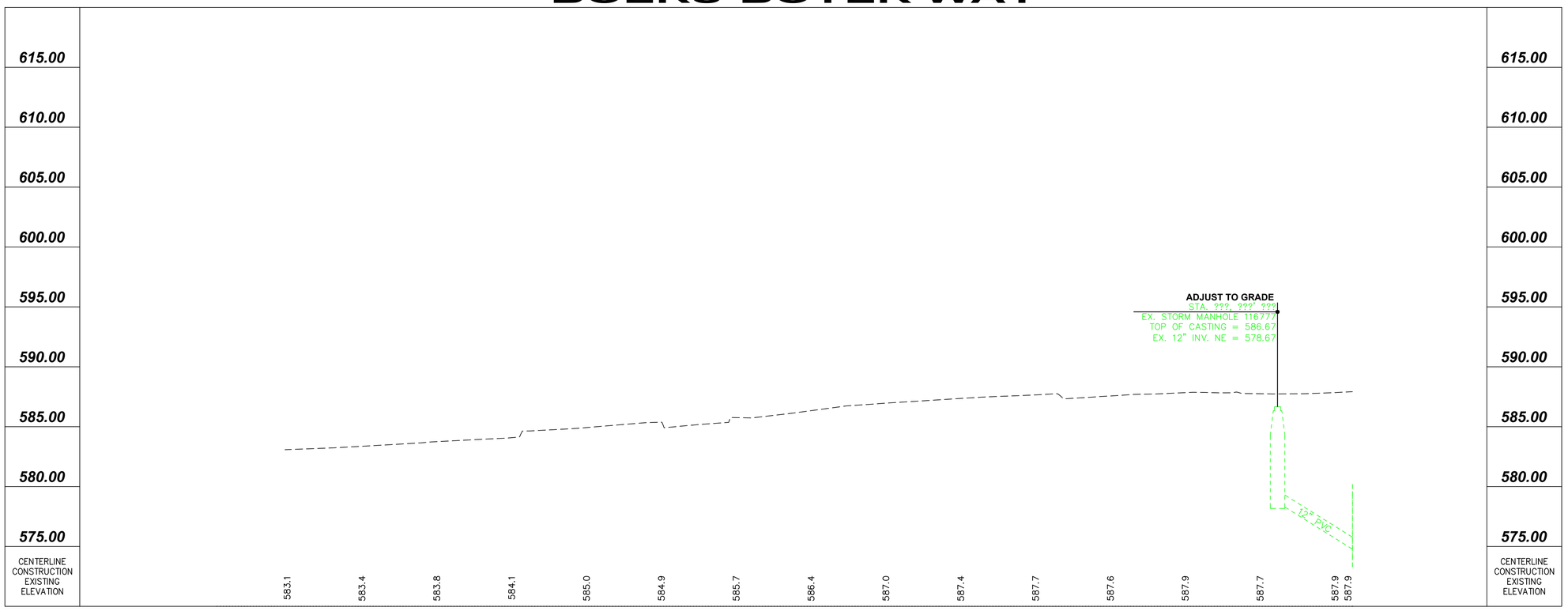
DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL





0 10 20 40
Horizontal Scale In Feet

PLAN AND PROFILE
BOERS-BOYER WAY STA. 404+50 TO STA. 408+29

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

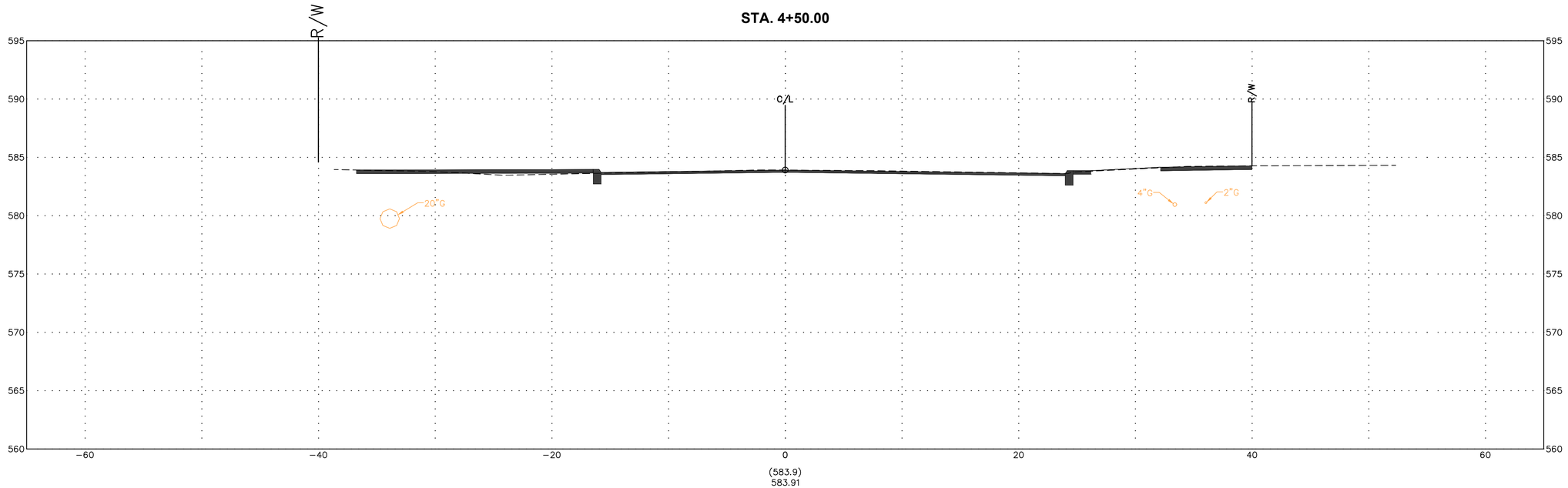
DESIGNER
MAS

REVIEWER
XF

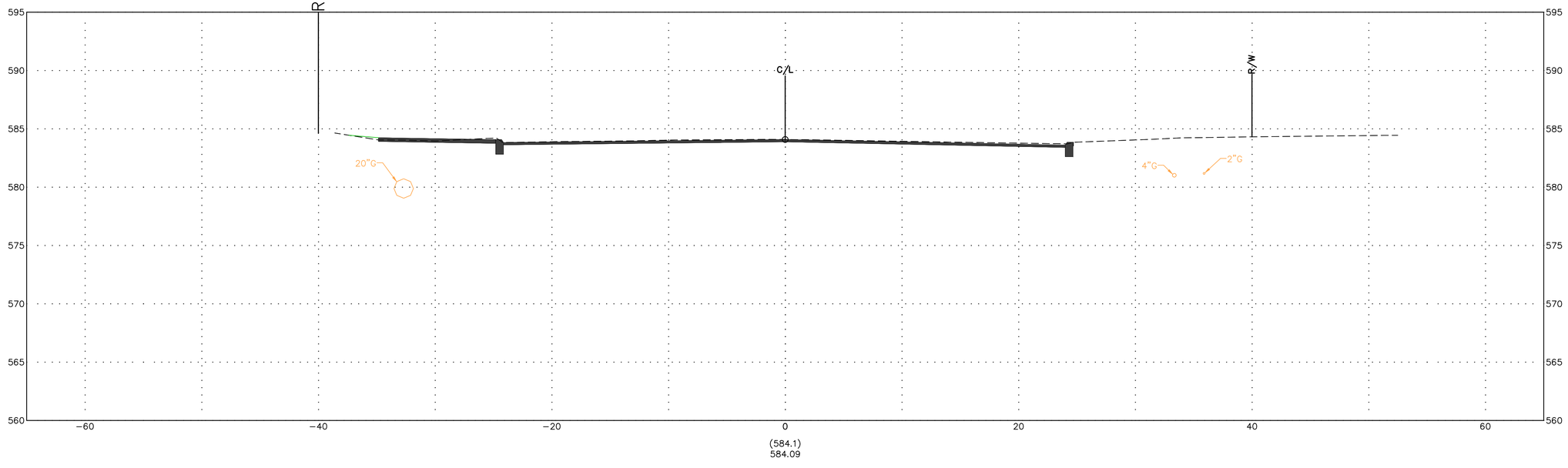
COT PROJ. ID
#####

SHEET TOTAL

STA. 4+50.00



STA. 4+16.00



CROSS SECTIONS - FRONT STREET

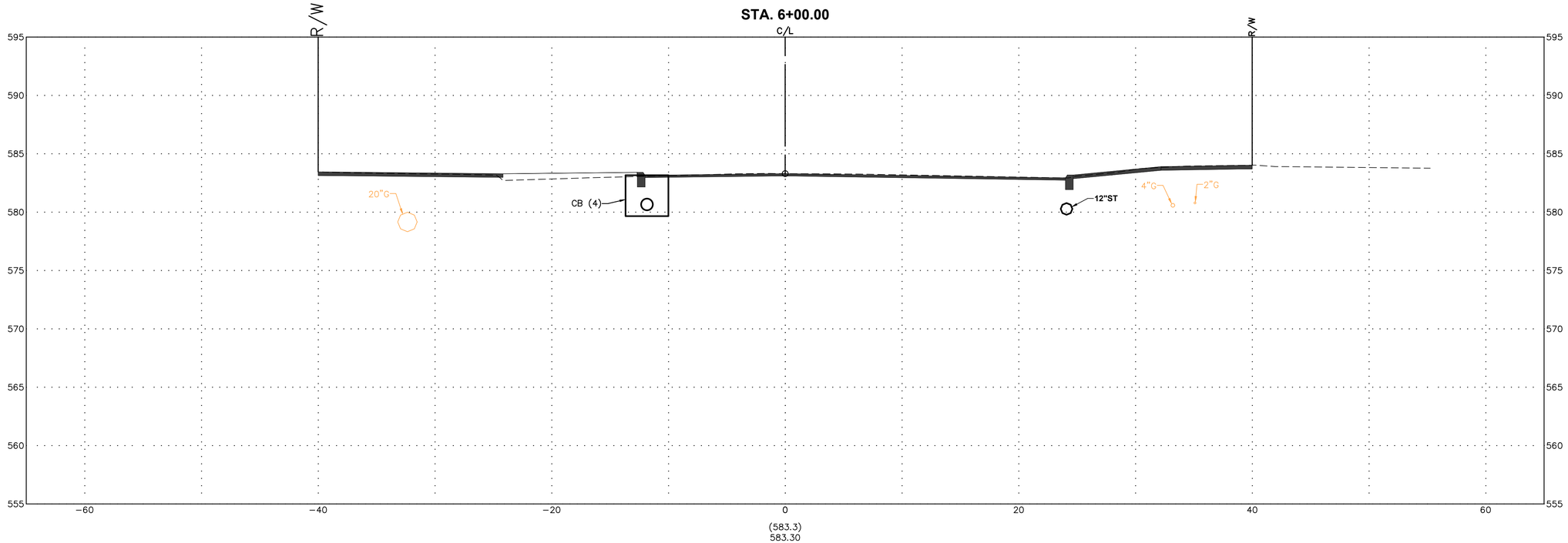
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

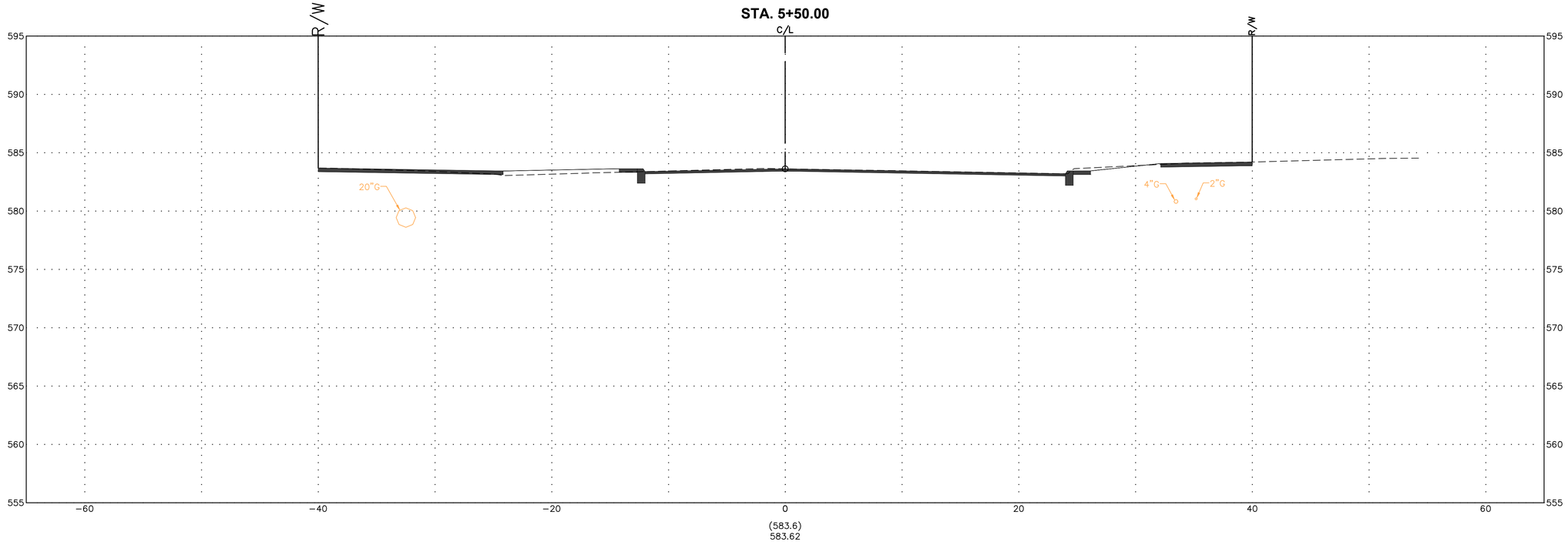
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 6+00.00



STA. 5+50.00



CROSS SECTIONS - FRONT STREET

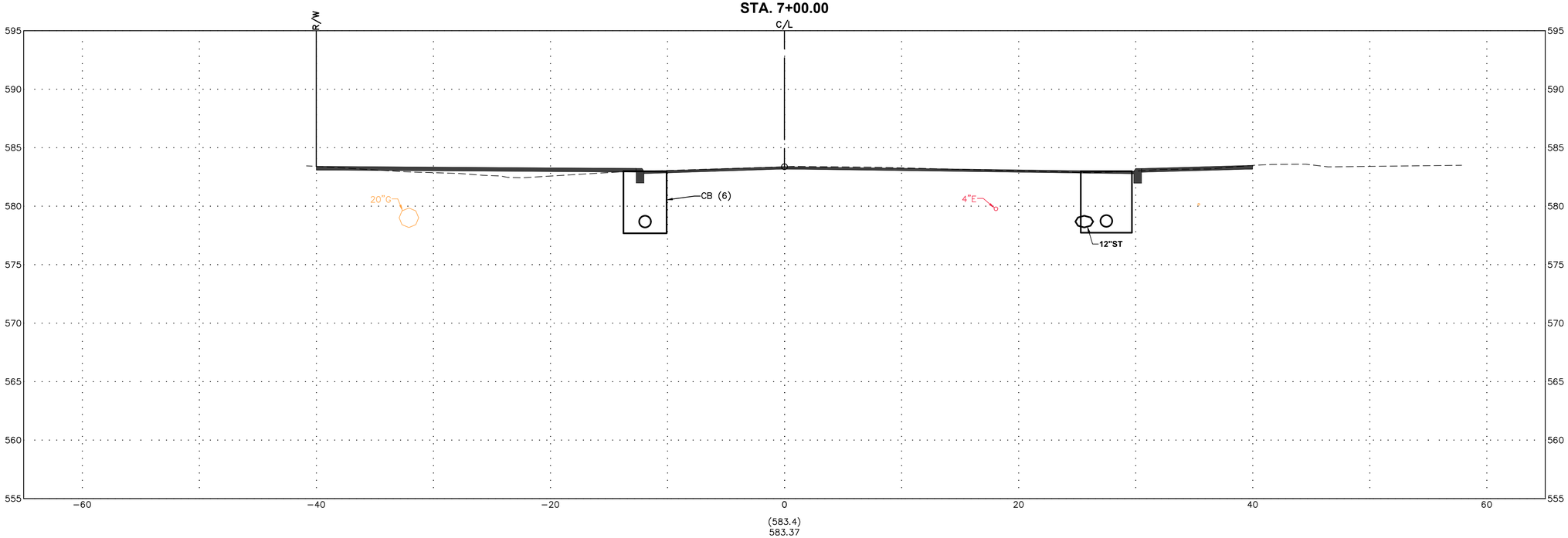
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

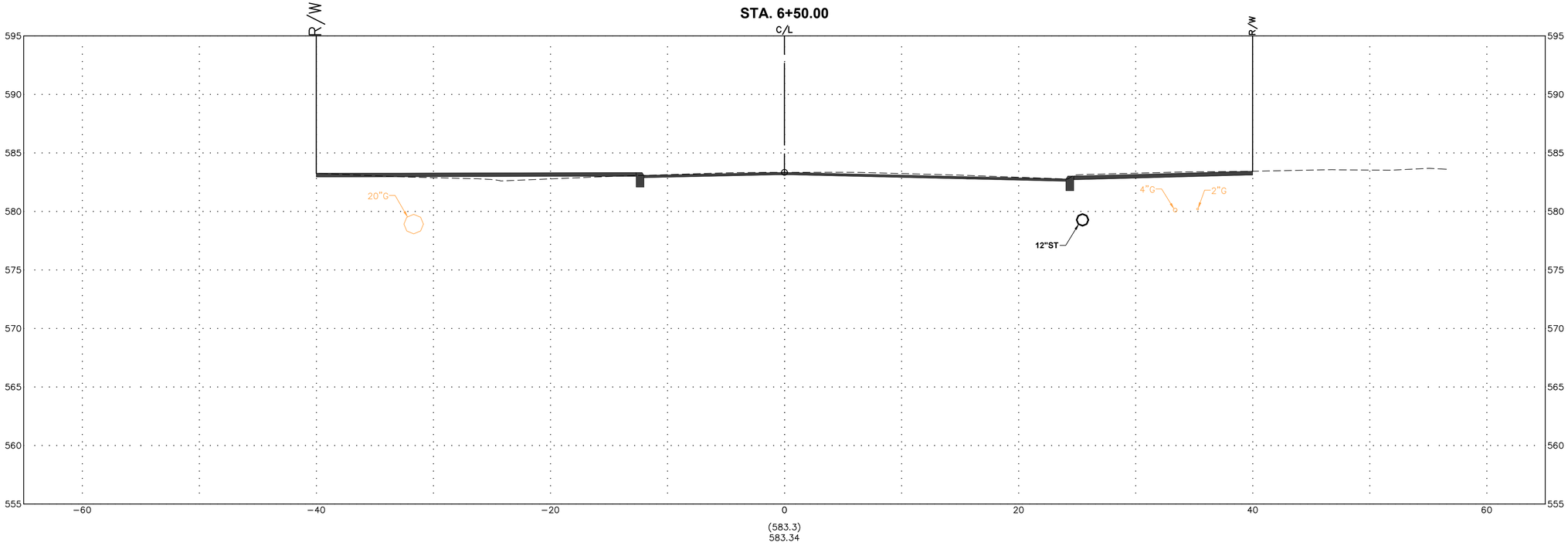
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 7+00.00



STA. 6+50.00



CROSS SECTIONS - FRONT STREET

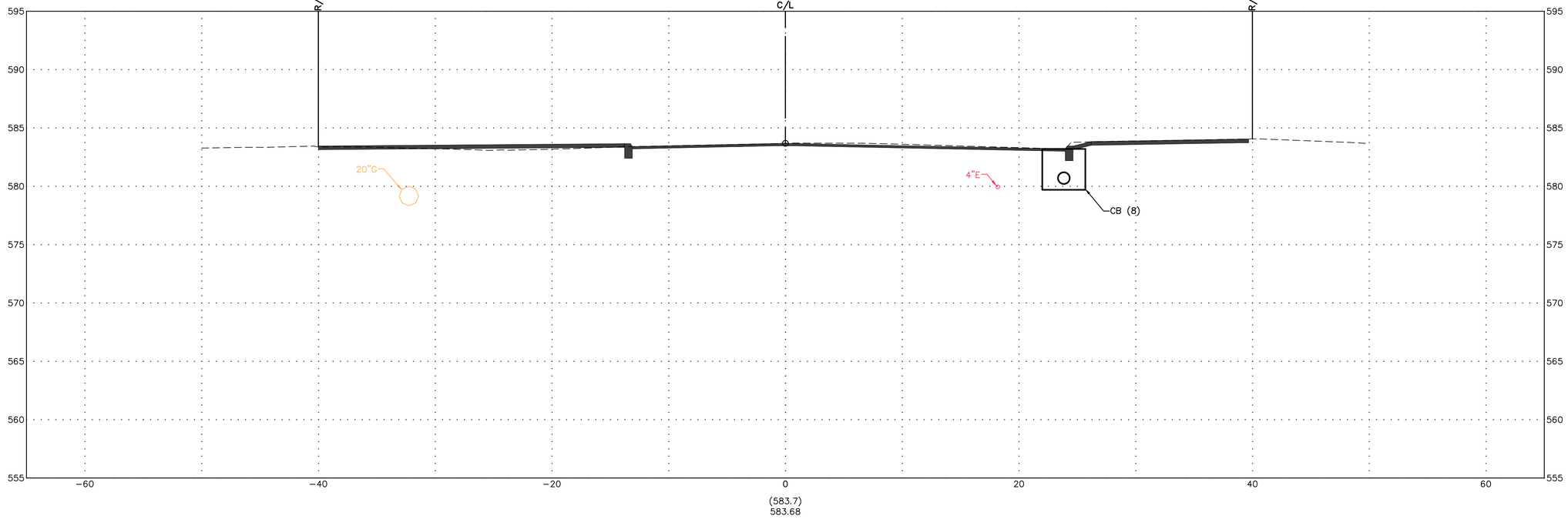
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

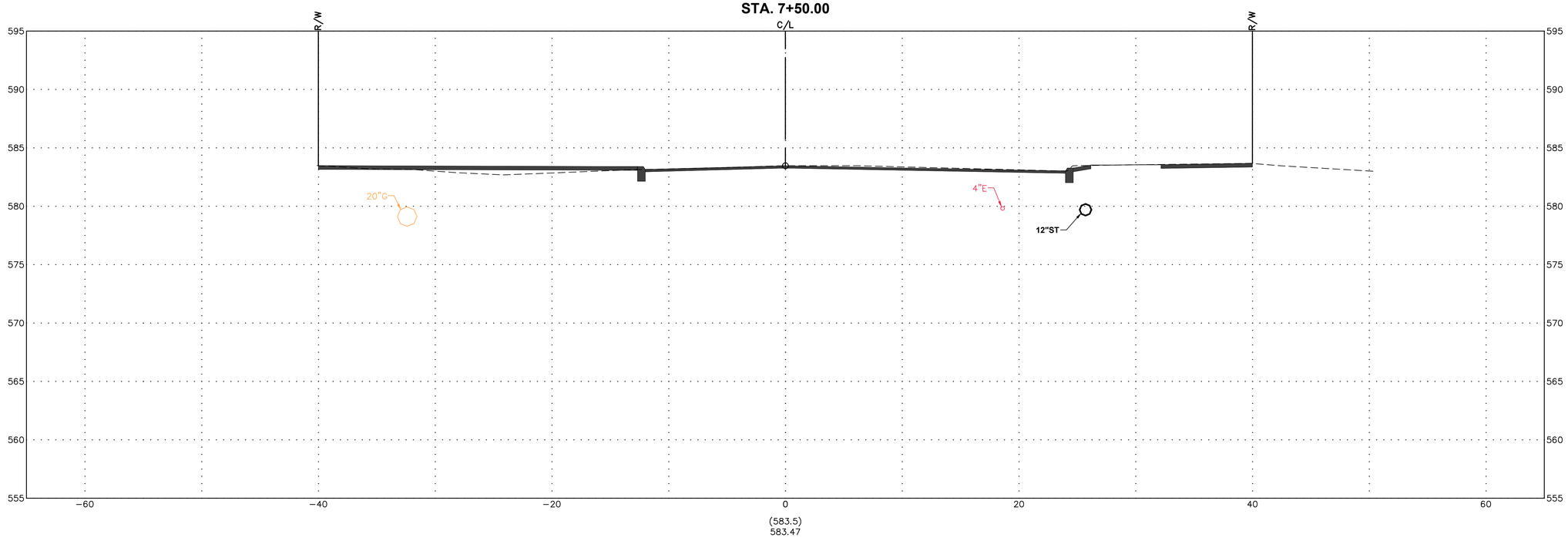
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 8+00.00



STA. 7+50.00



CROSS SECTIONS - FRONT STREET

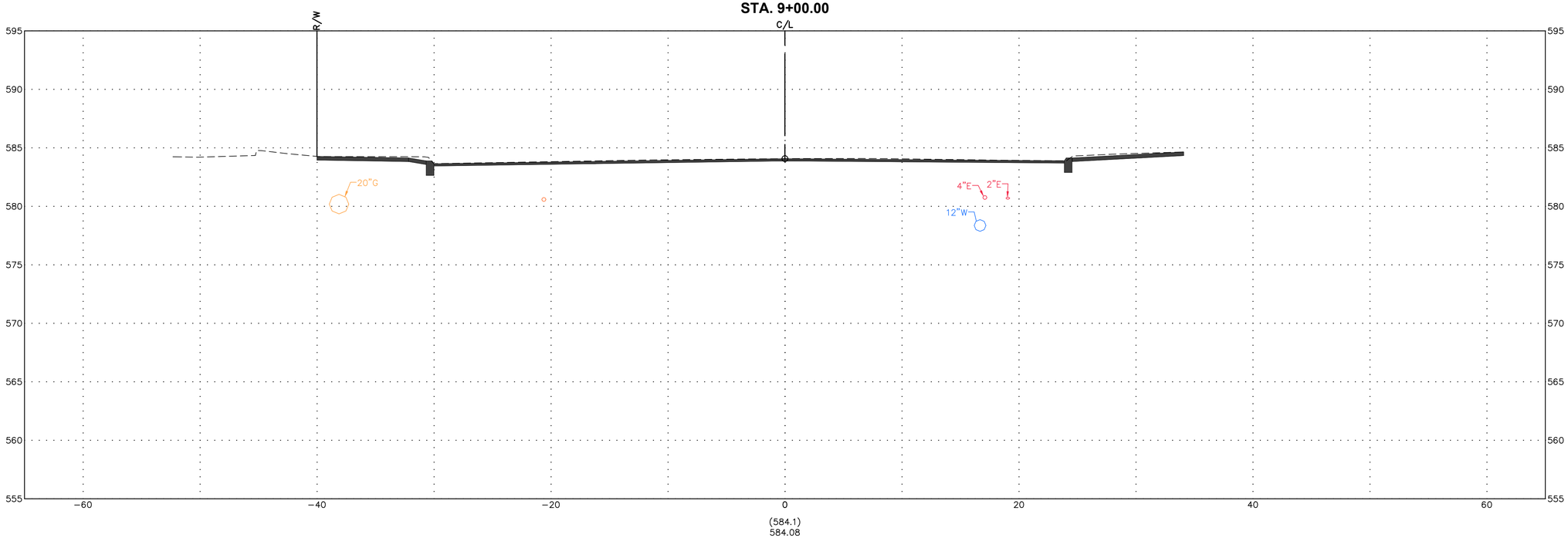
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

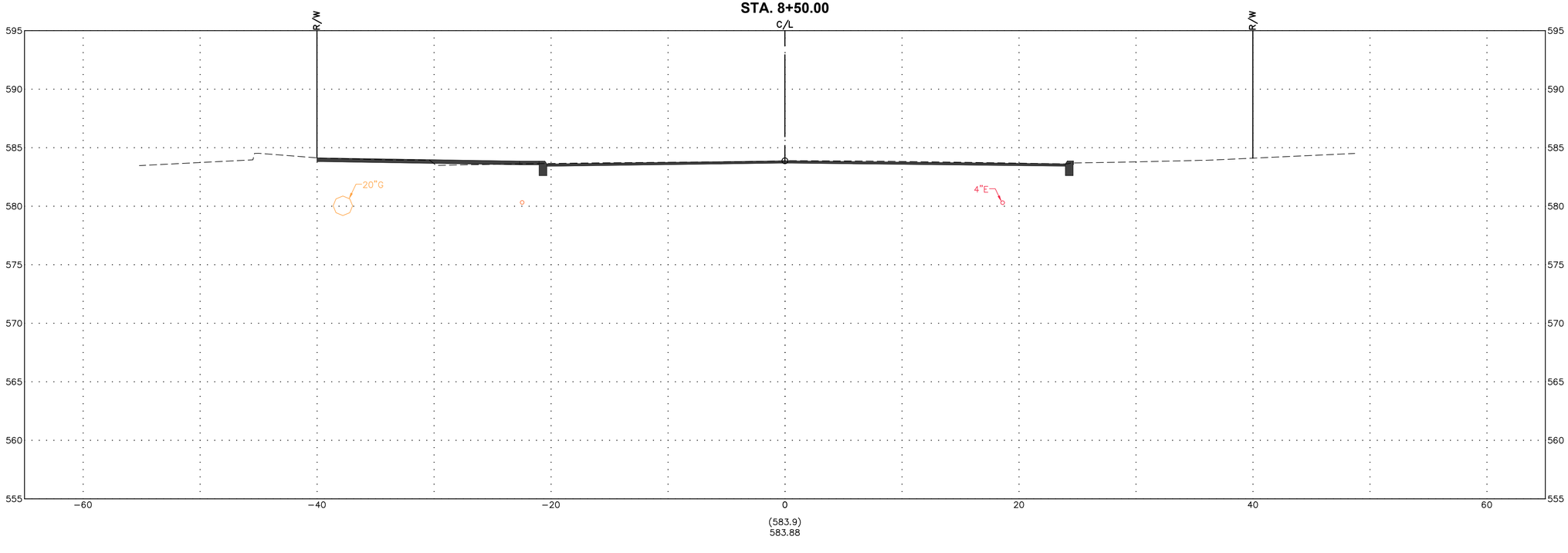
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 9+00.00



STA. 8+50.00



CROSS SECTIONS - FRONT STREET

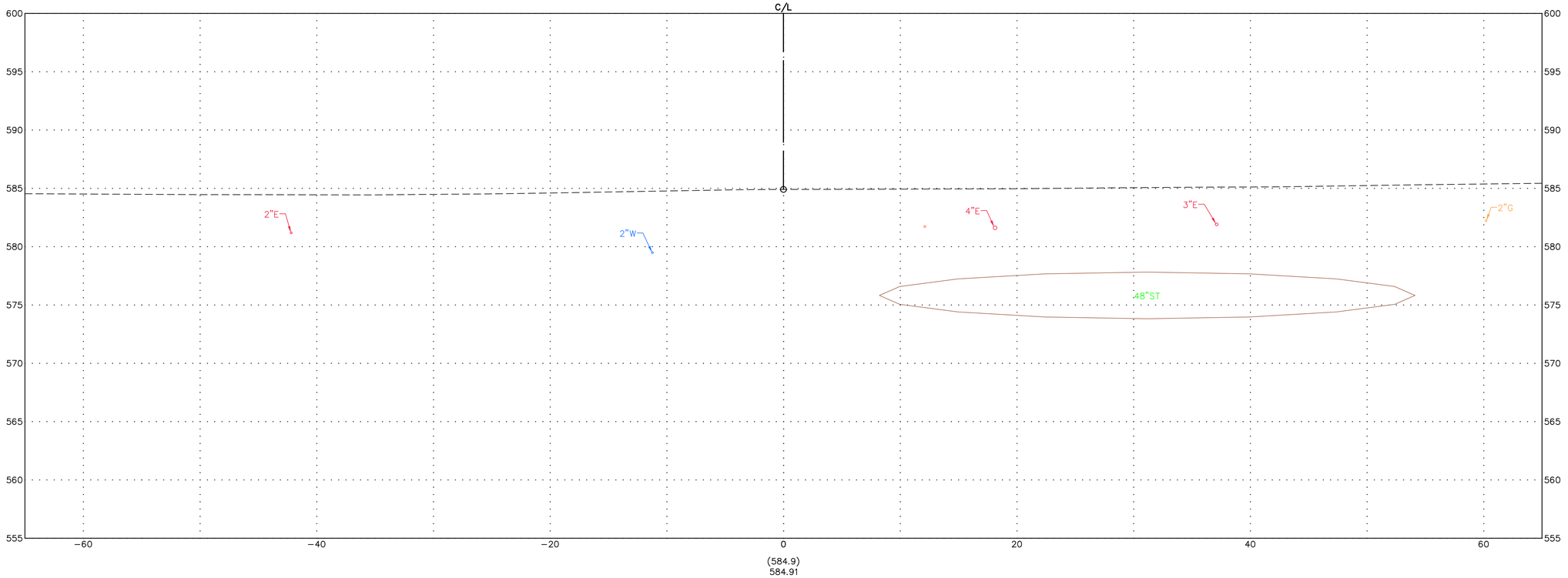
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 10+00.00



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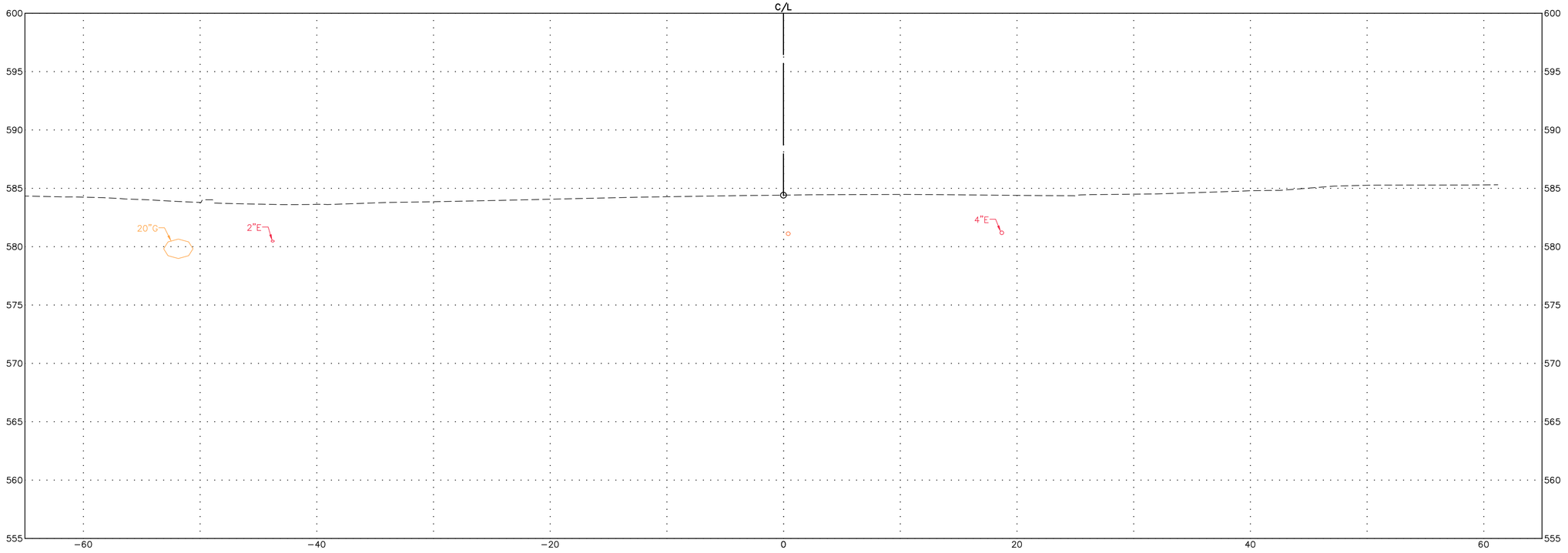
584.91

STA. 9+50.00



(584.4)
584.41

CROSS SECTIONS - FRONT STREET

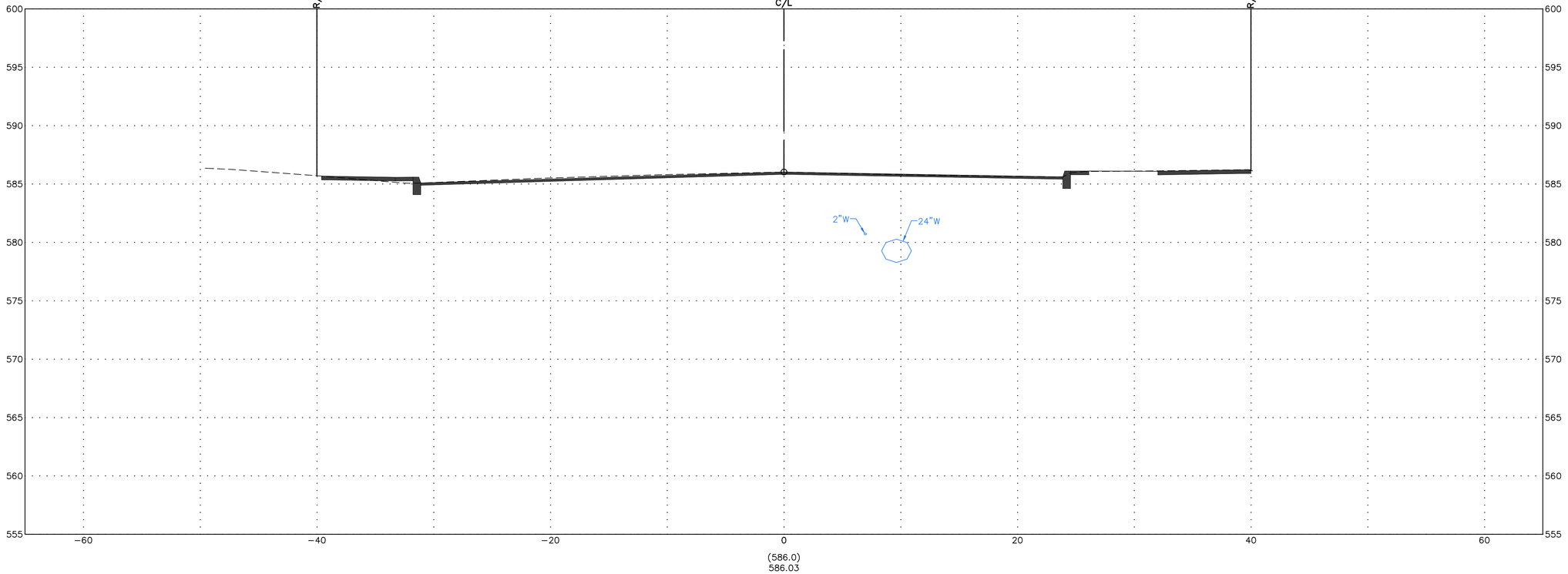
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

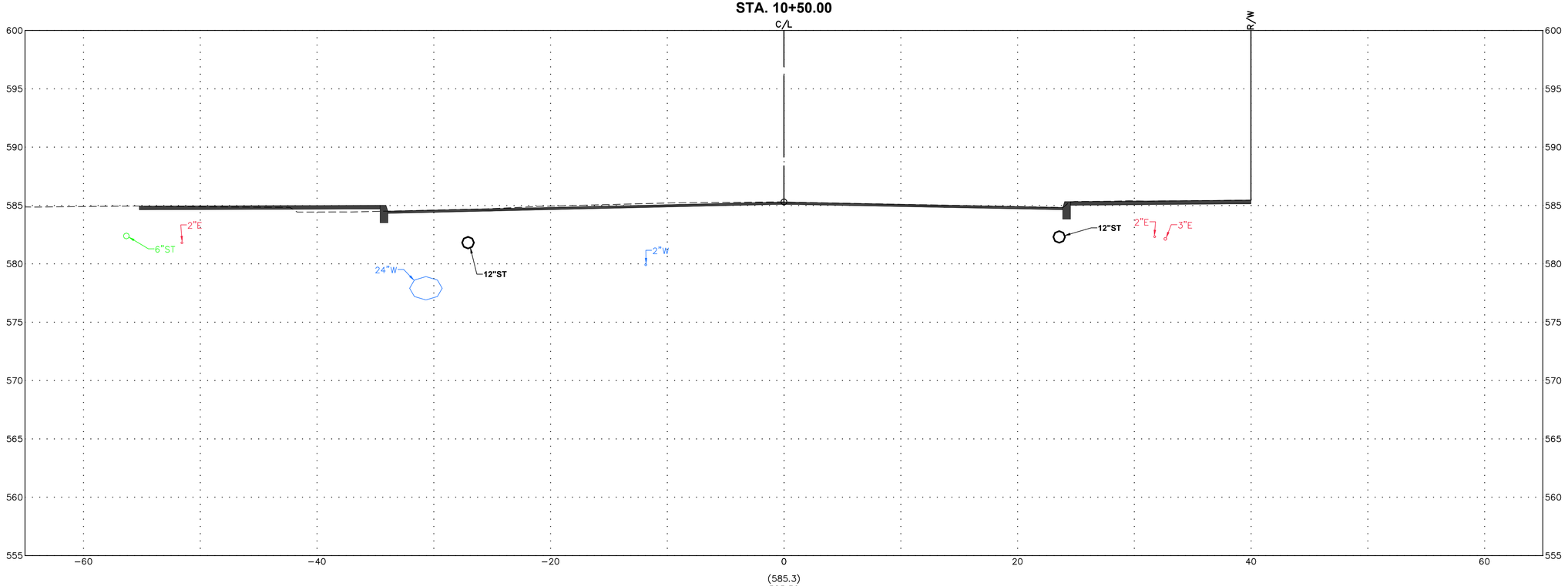
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 11+00.00



STA. 10+50.00



CROSS SECTIONS - FRONT STREET

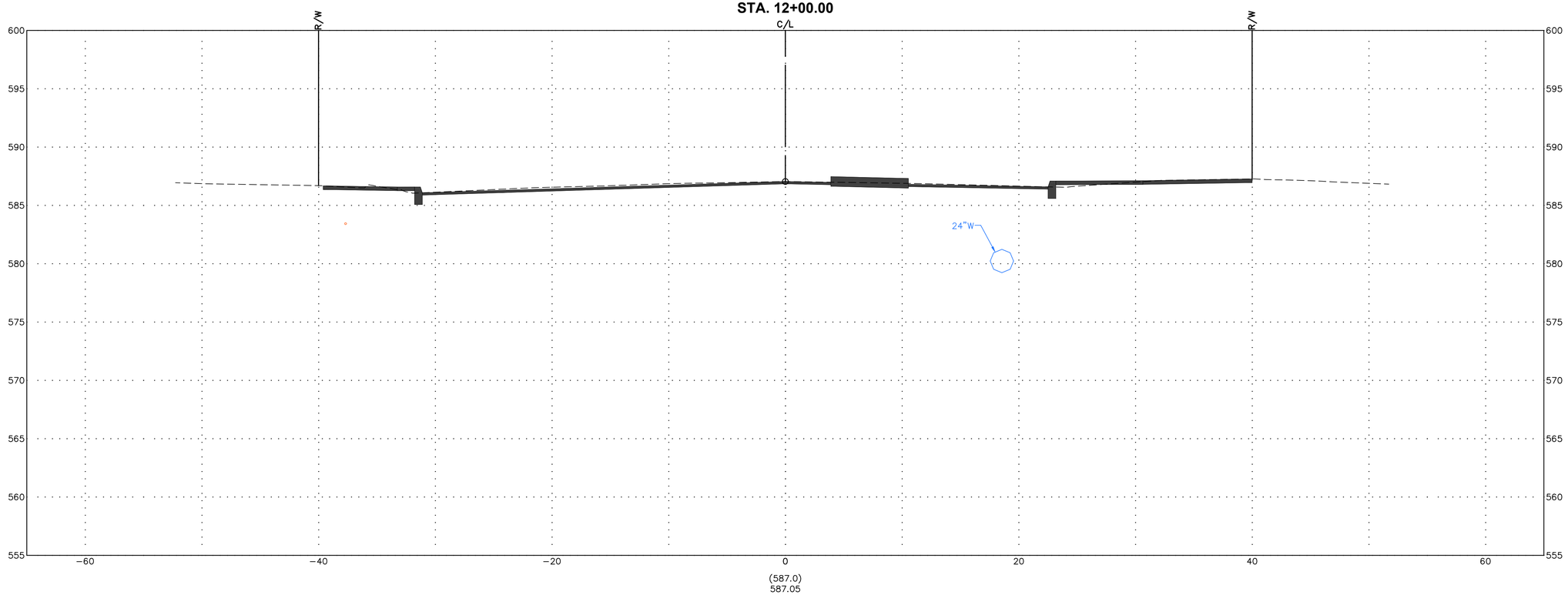
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

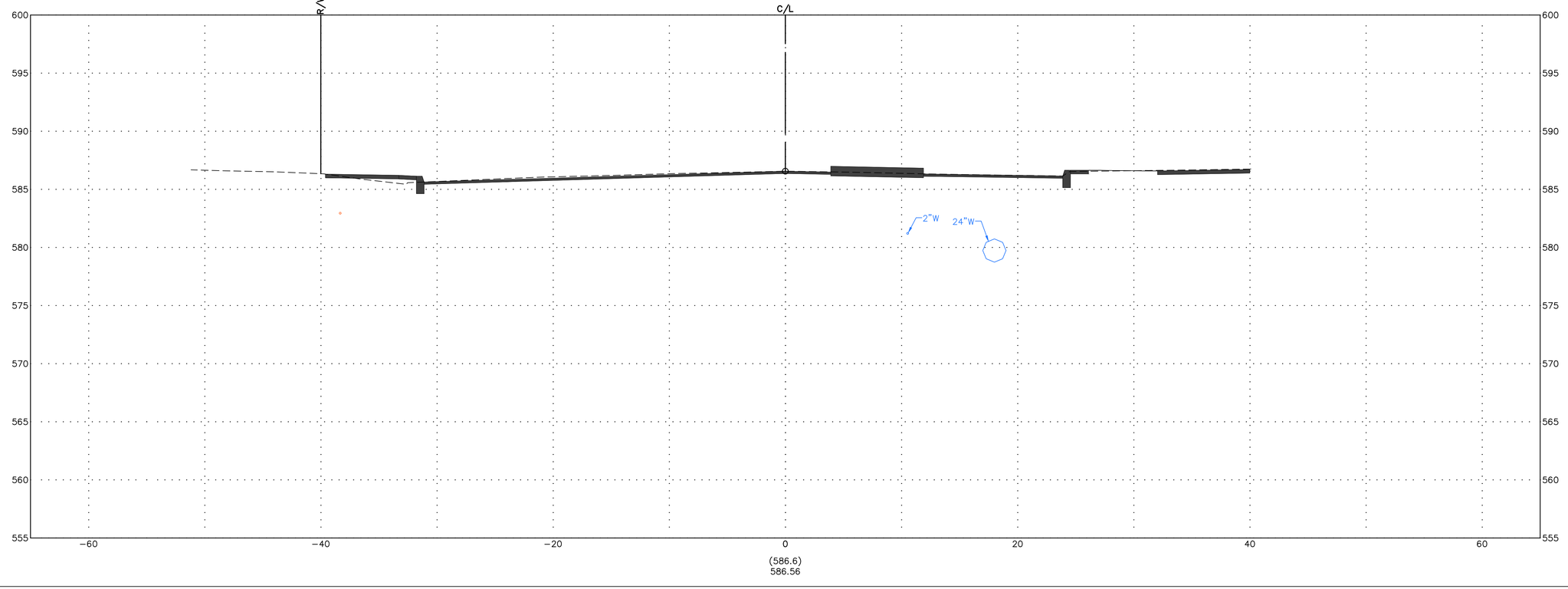
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 12+00.00



STA. 11+50.00



CROSS SECTIONS - FRONT STREET

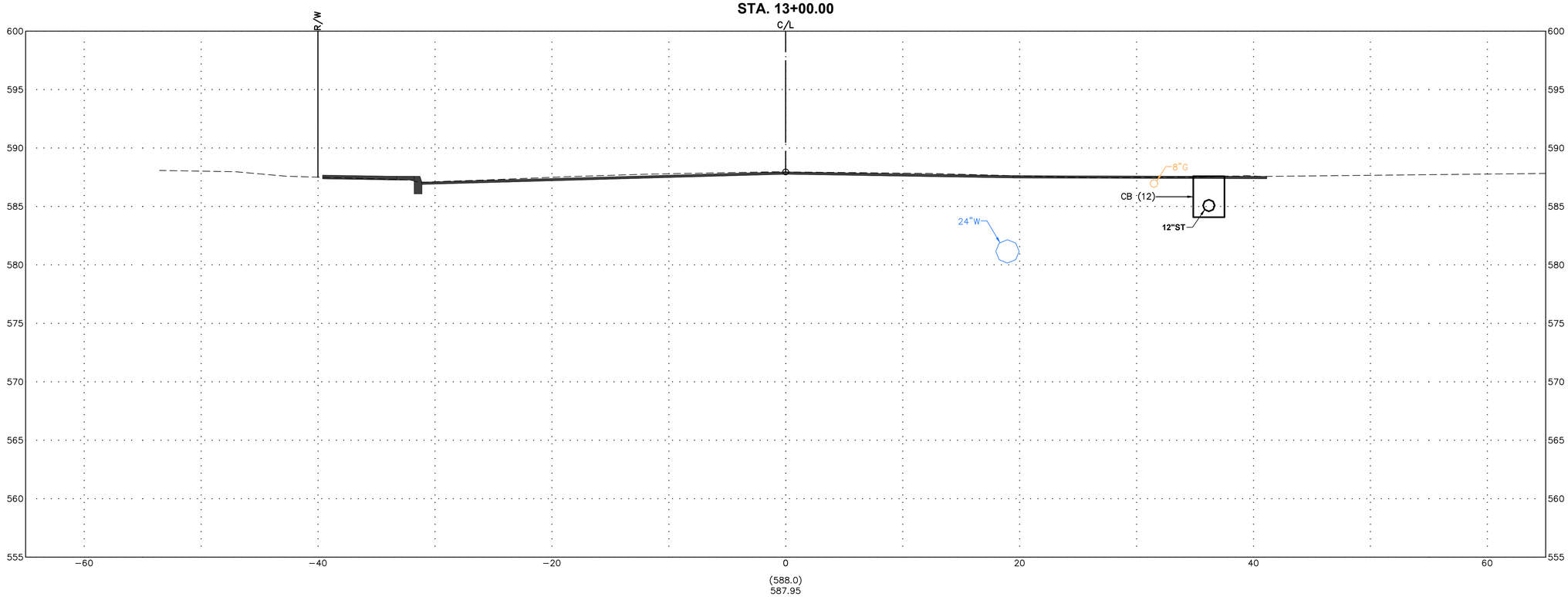
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 13+00.00



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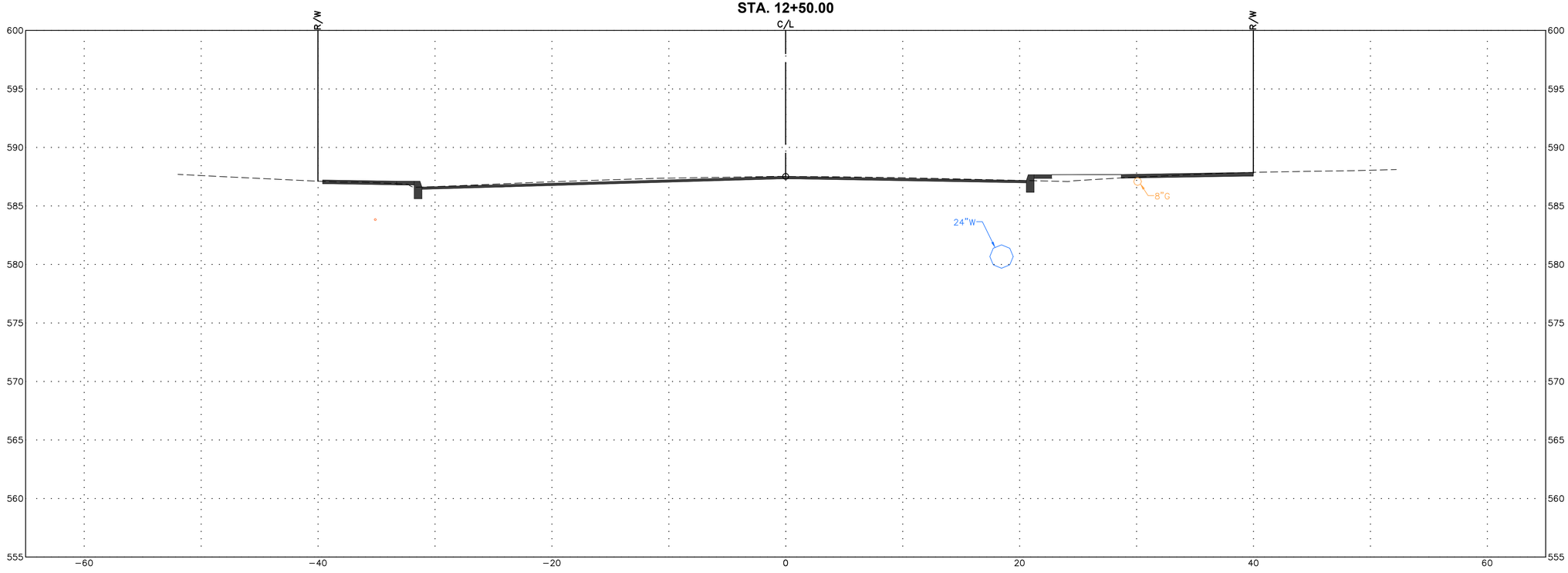
587.95

STA. 12+50.00



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587.52

CROSS SECTIONS - FRONT STREET

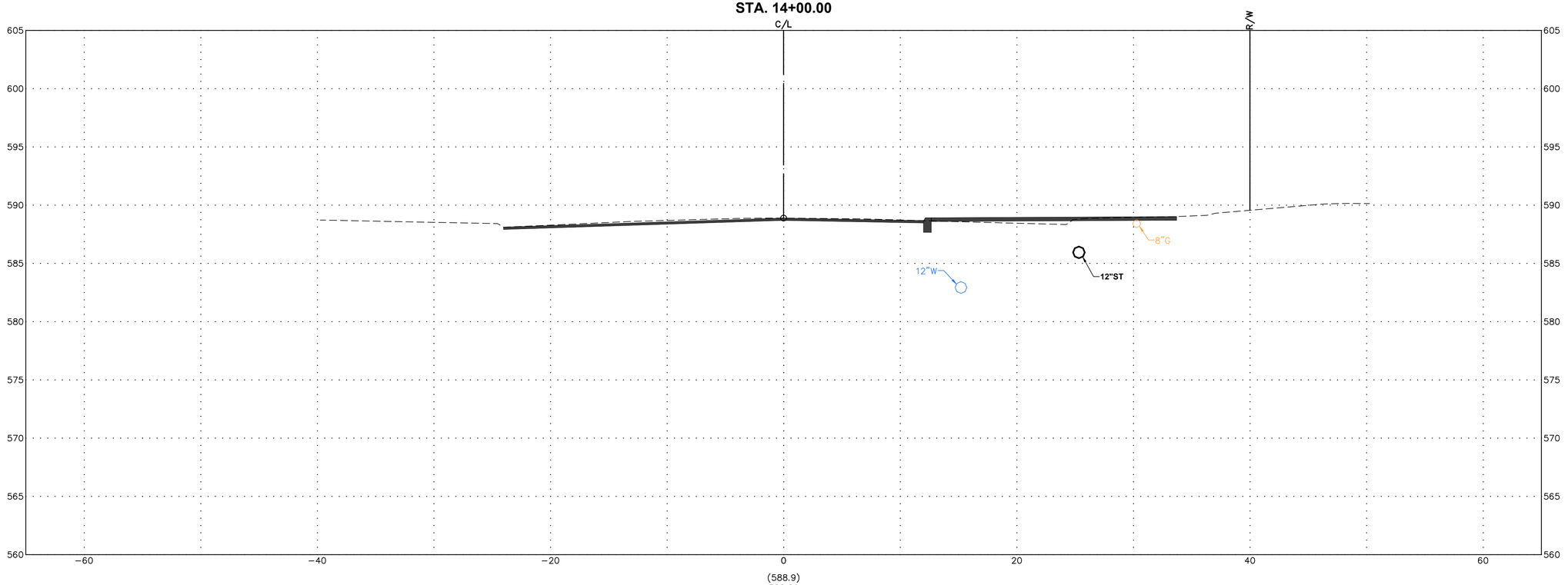
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

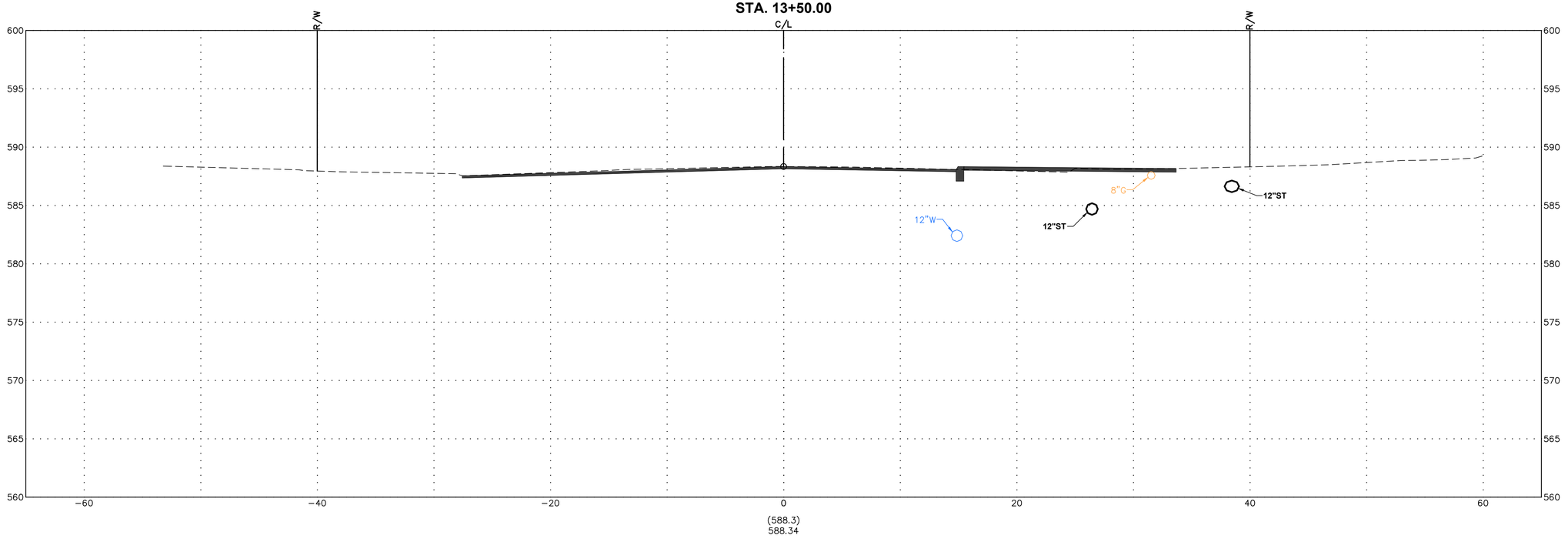
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 14+00.00



STA. 13+50.00



CROSS SECTIONS - FRONT STREET

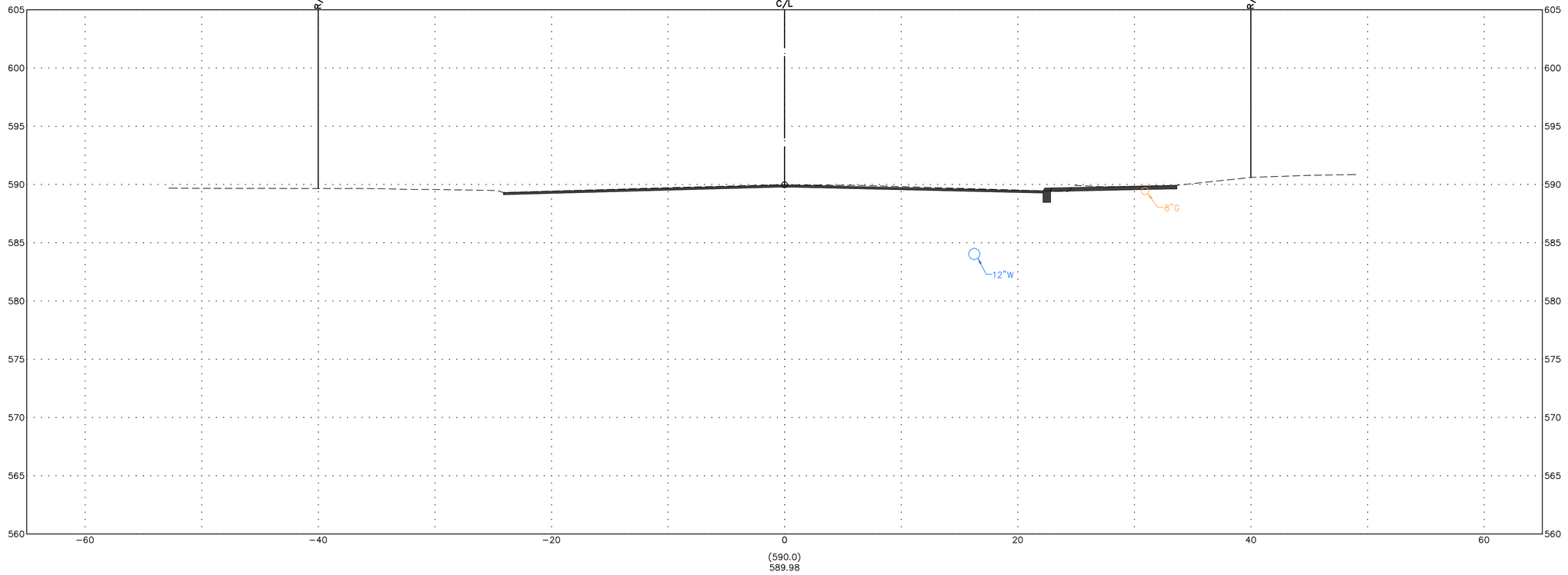
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 15+00.00



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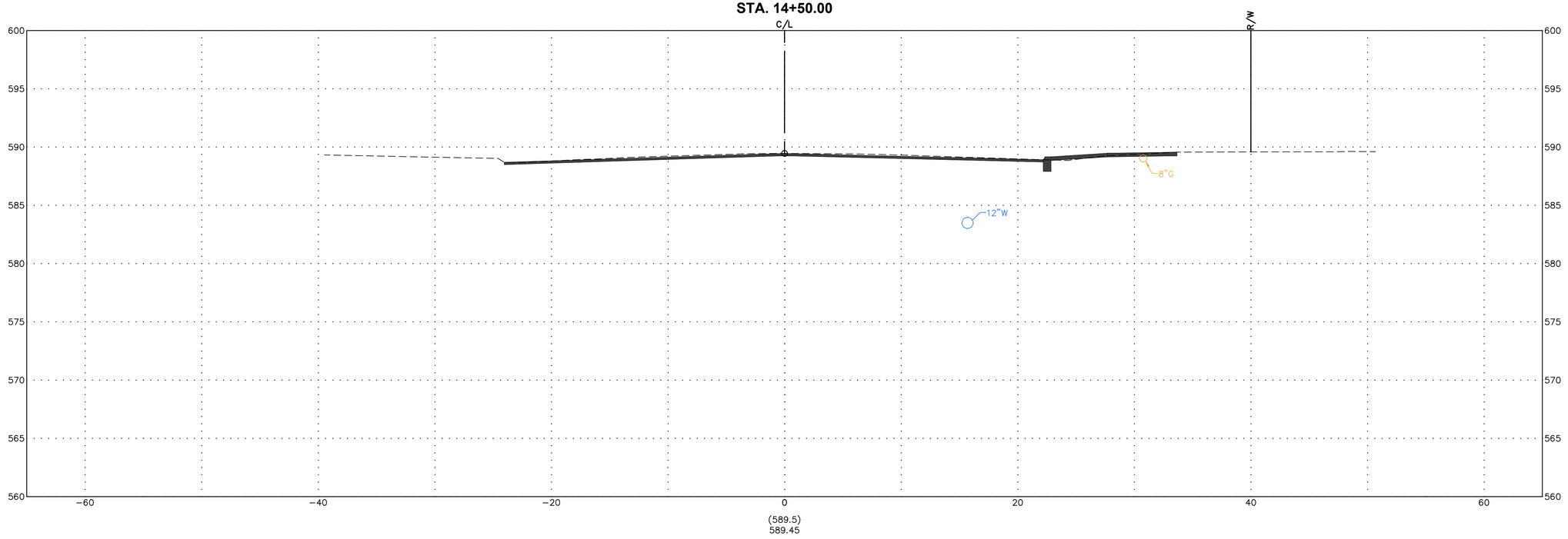
589.98

STA. 14+50.00



(589.5)
589.45

CROSS SECTIONS - FRONT STREET

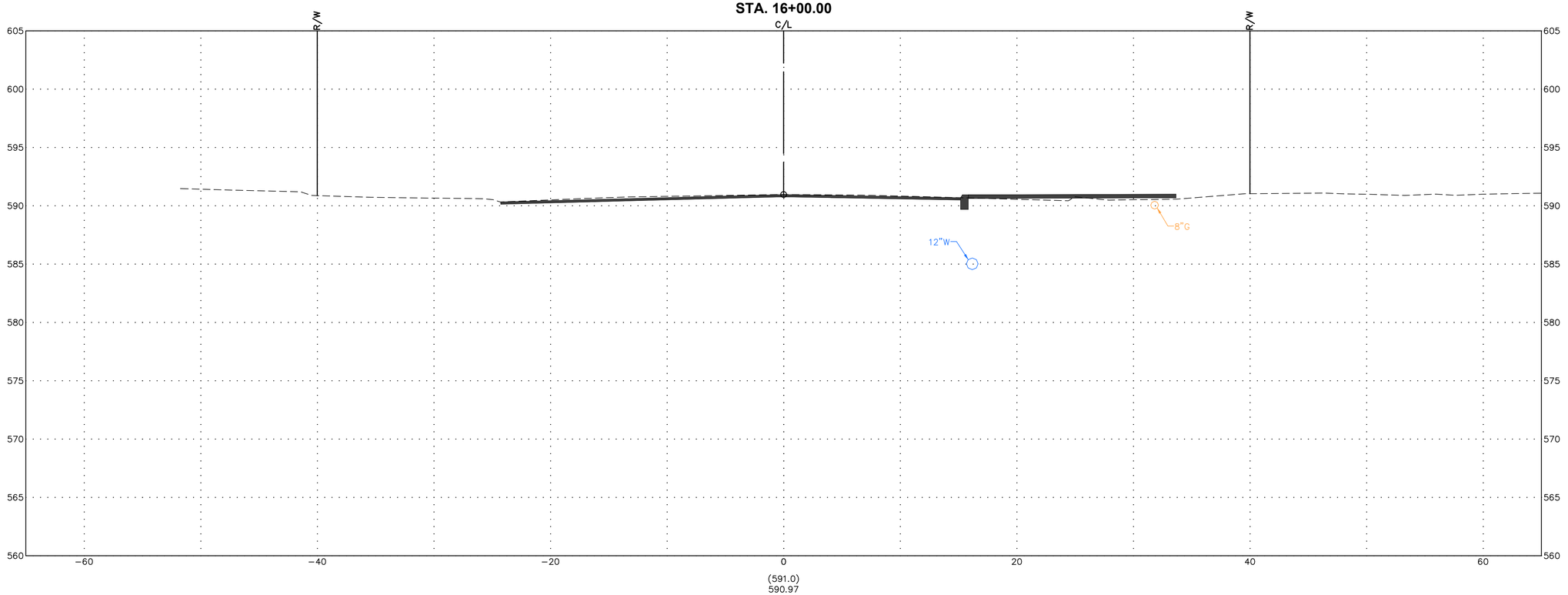
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 16+00.00



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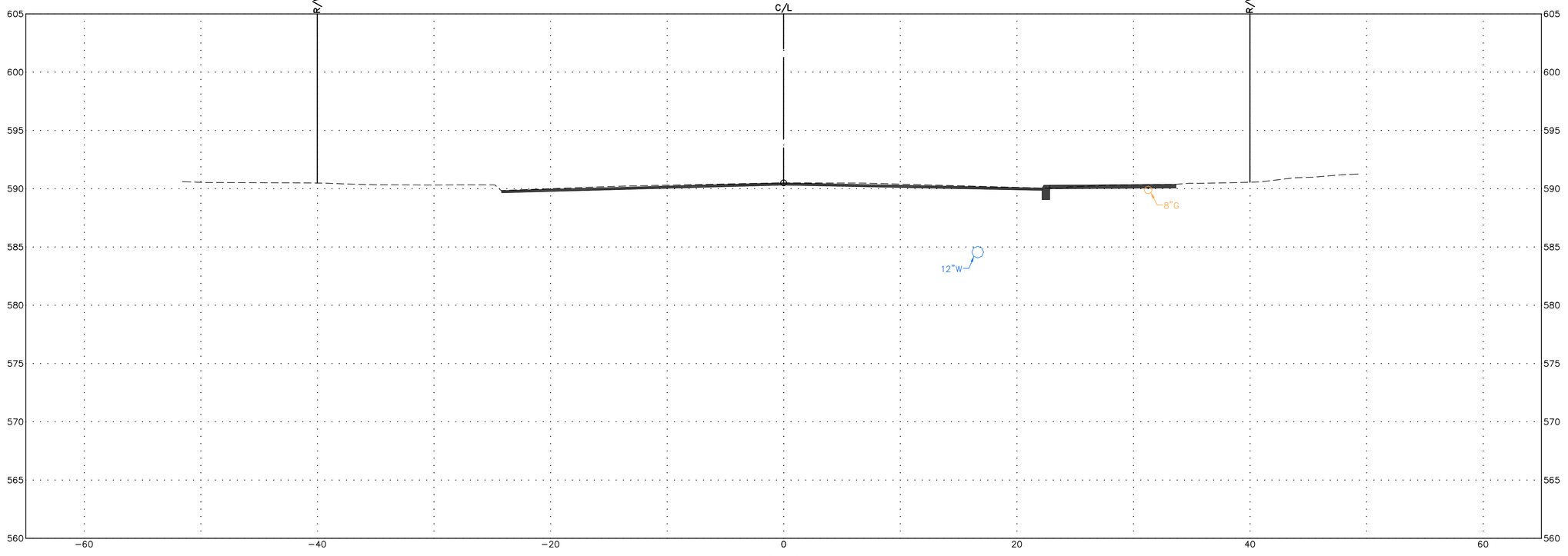
STA. 15+50.00



(590.5)
590.50

CROSS SECTIONS - FRONT STREET

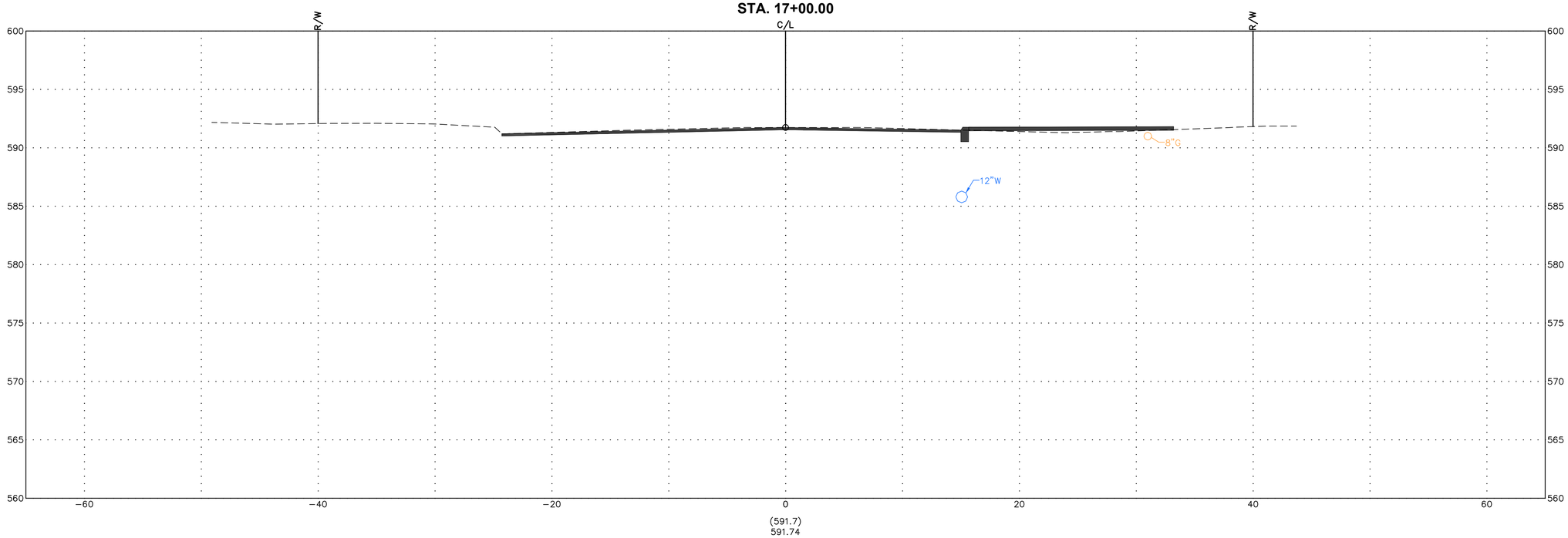
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

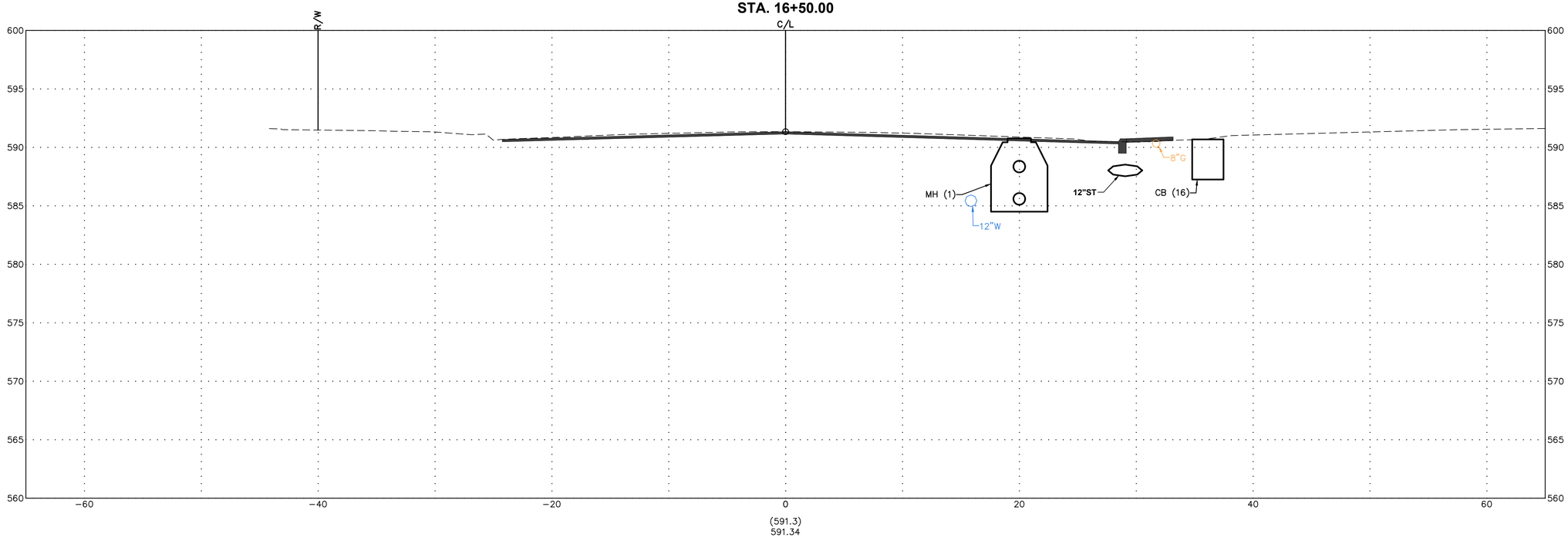
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 17+00.00



STA. 16+50.00



CROSS SECTIONS - FRONT STREET

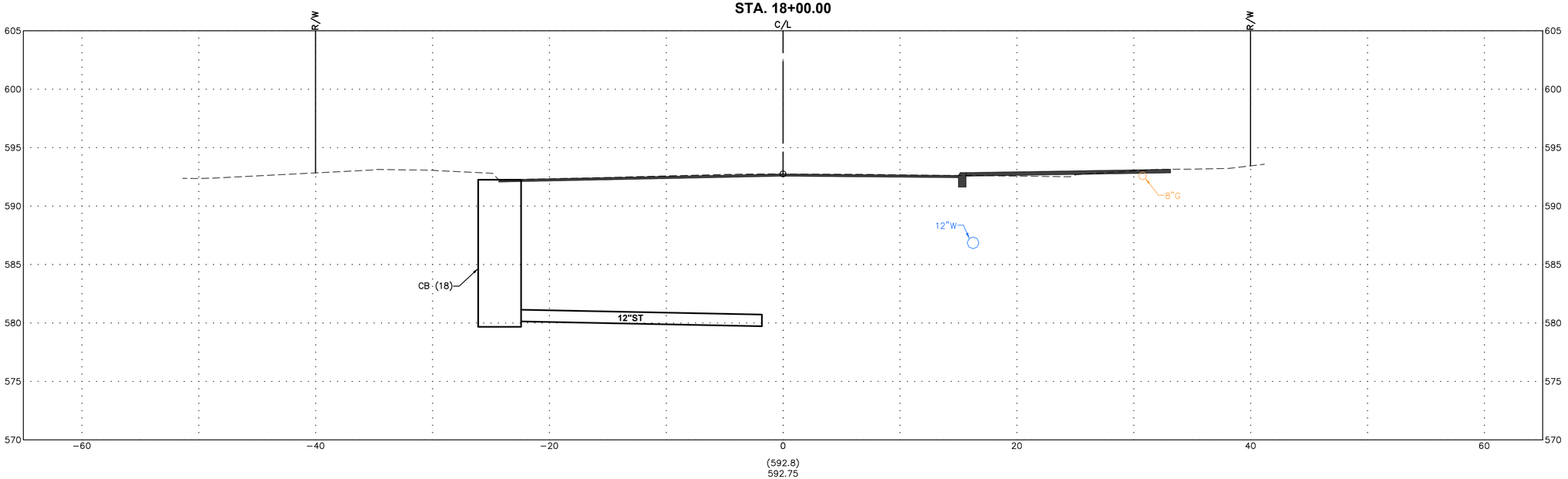
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

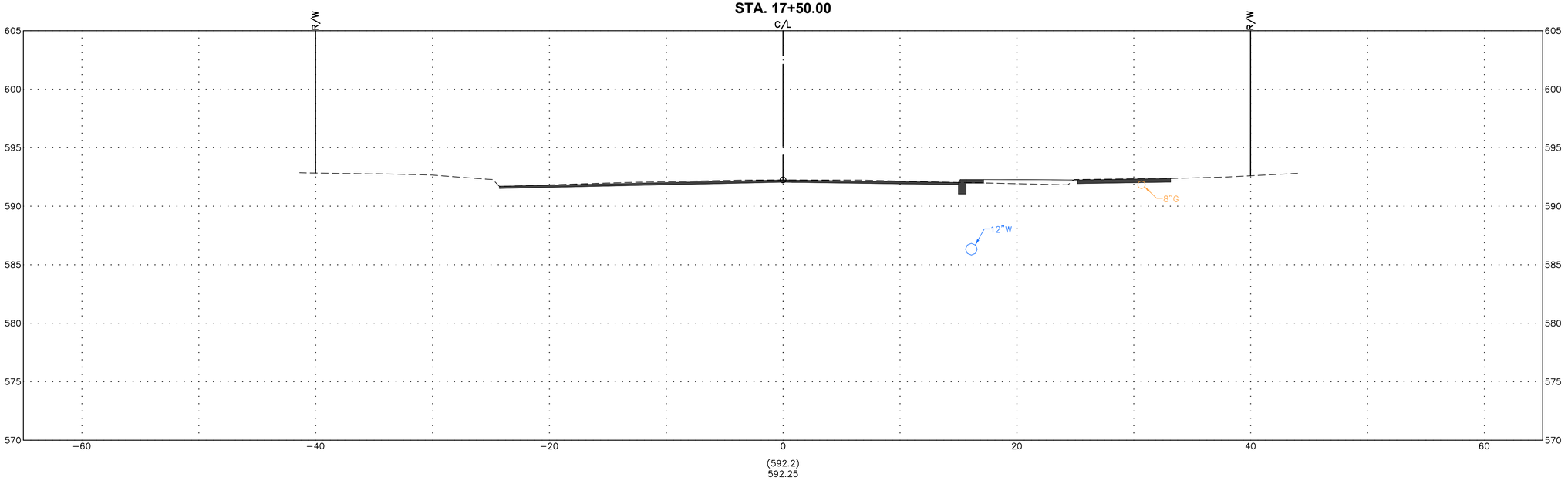
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 18+00.00



STA. 17+50.00



CROSS SECTIONS - FRONT STREET

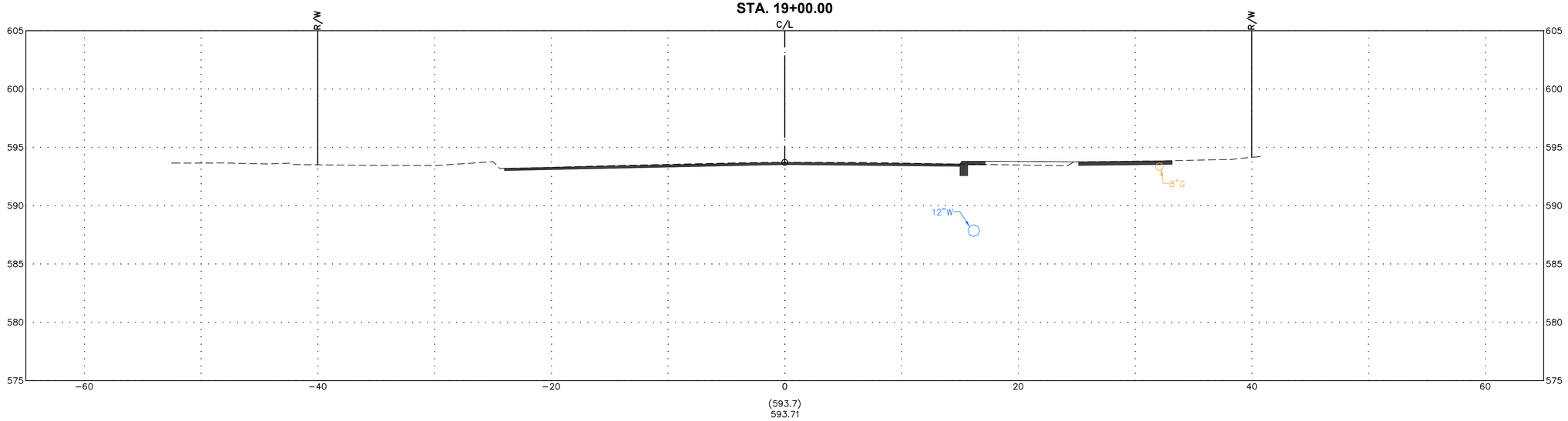
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

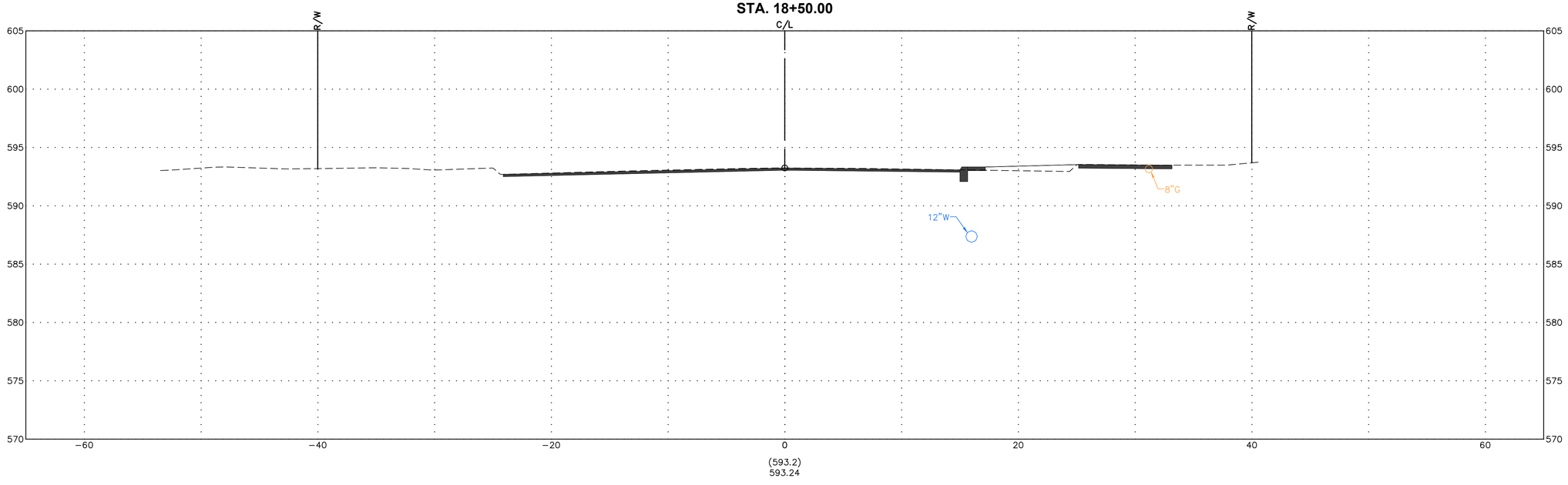
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 19+00.00



STA. 18+50.00



CROSS SECTIONS - FRONT STREET

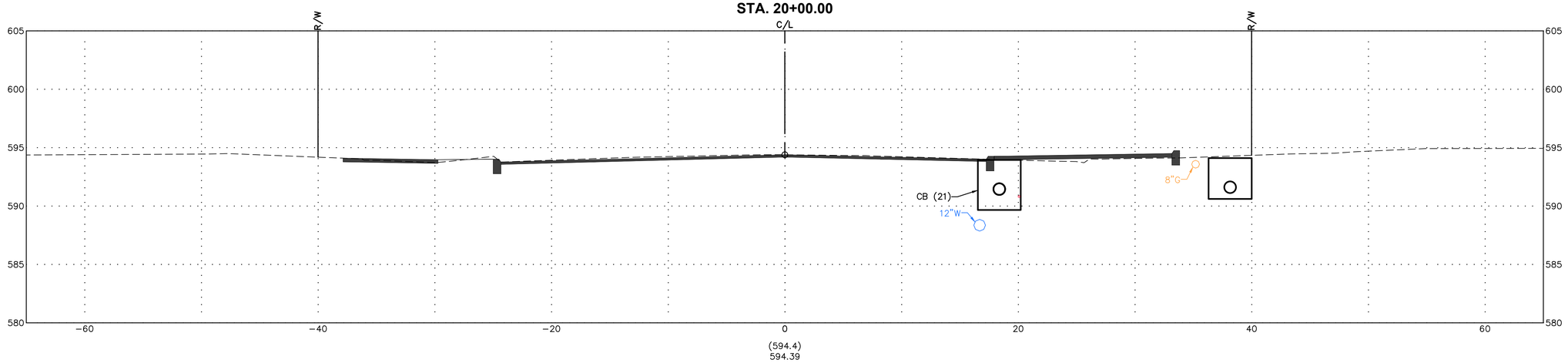
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

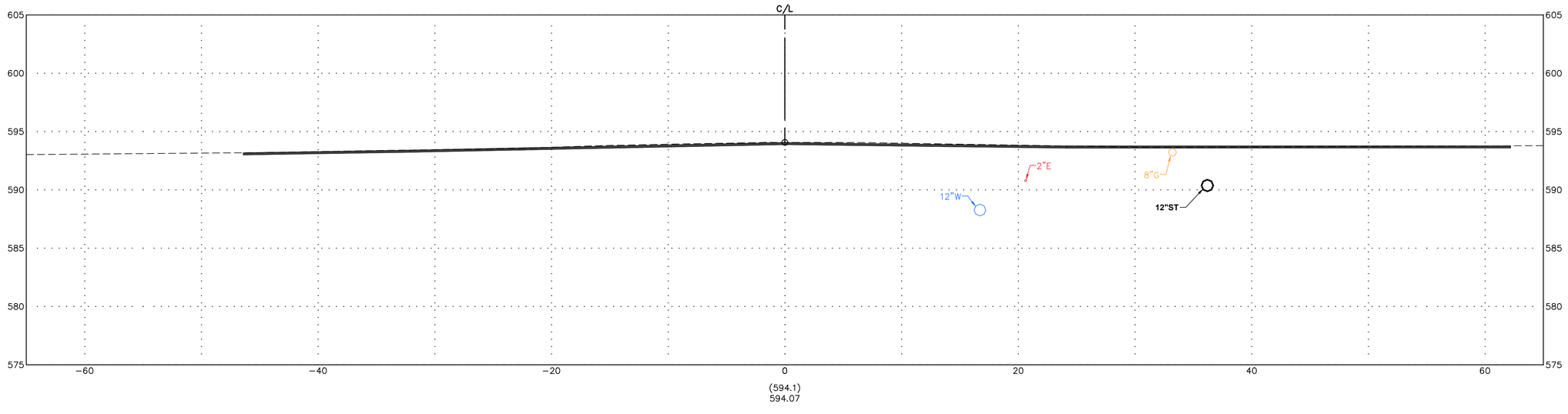
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 20+00.00



STA. 19+50.00



CROSS SECTIONS - FRONT STREET

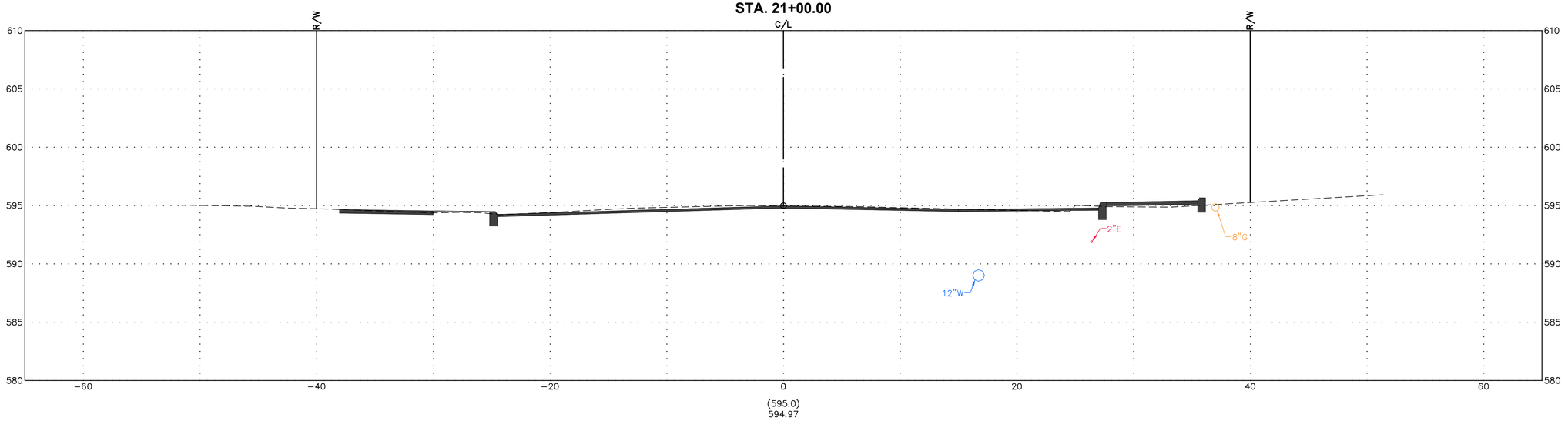
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

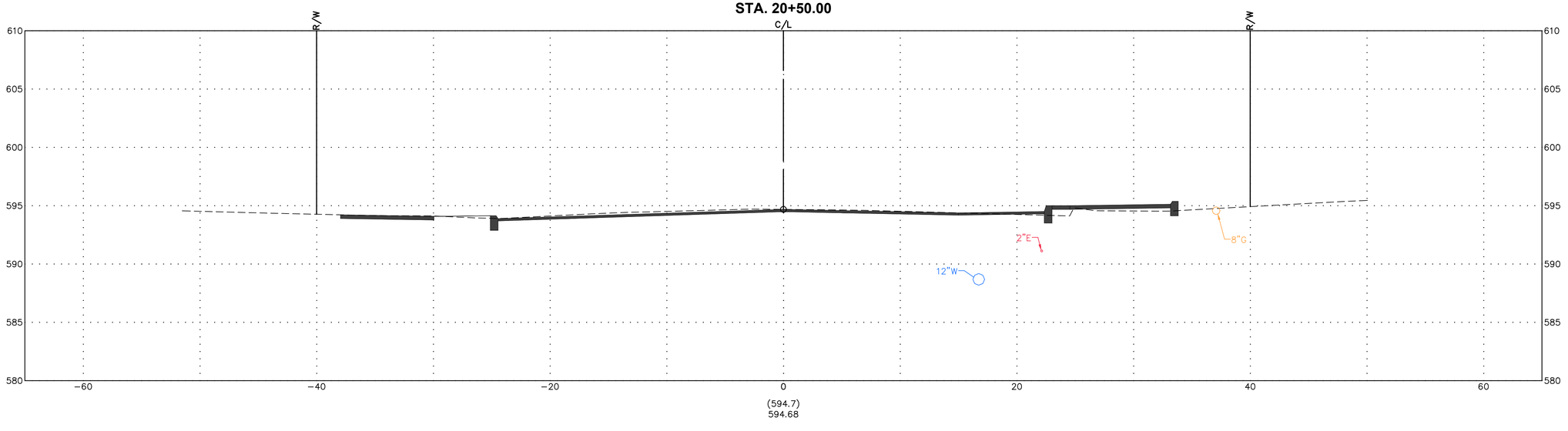
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 21+00.00



STA. 20+50.00



CROSS SECTIONS - FRONT STREET

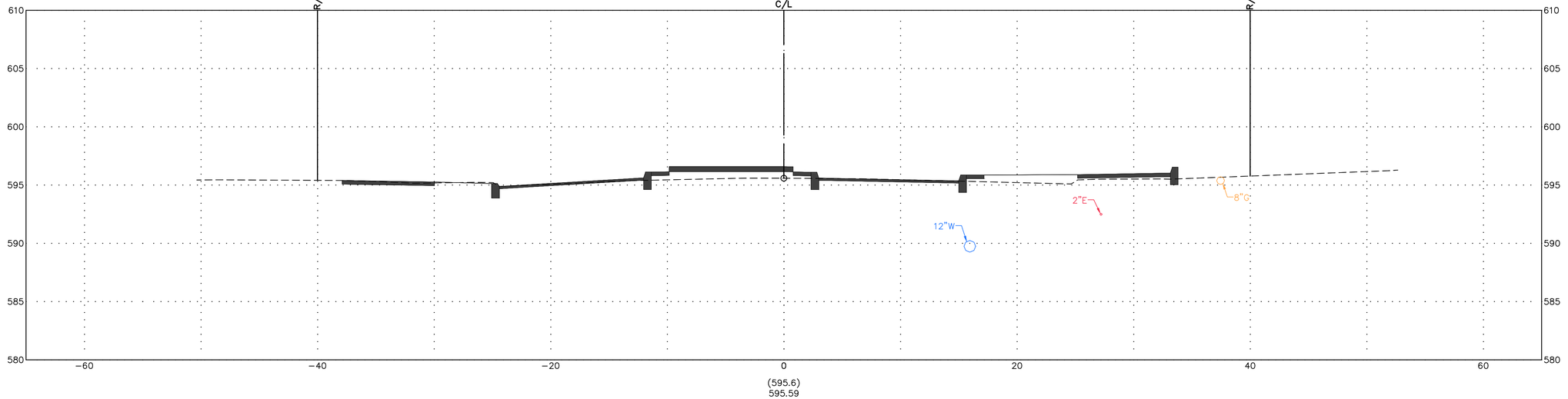
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

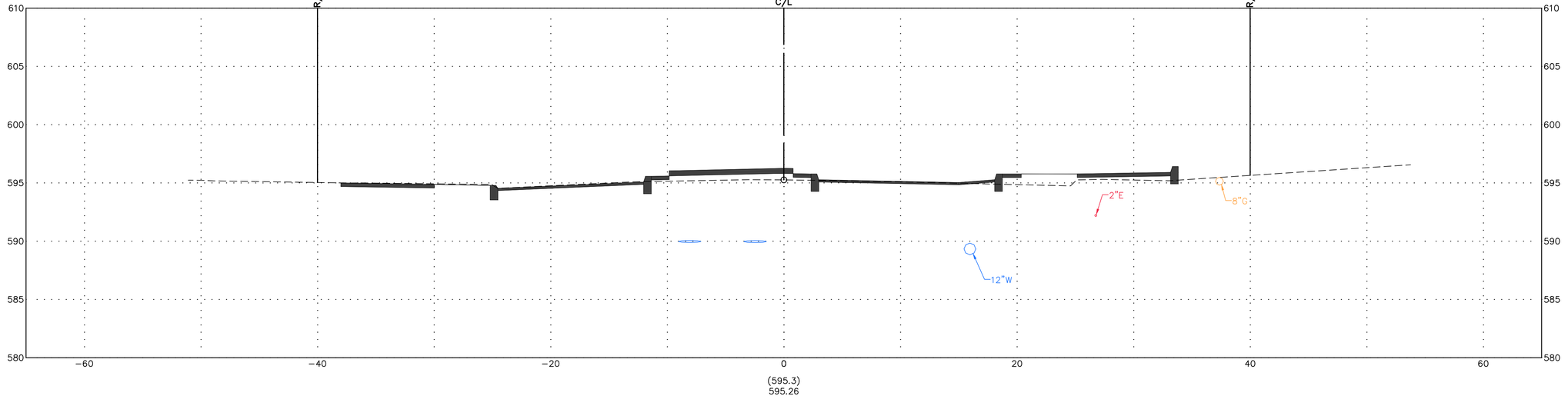
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 22+00.00



STA. 21+50.00



CROSS SECTIONS - FRONT STREET

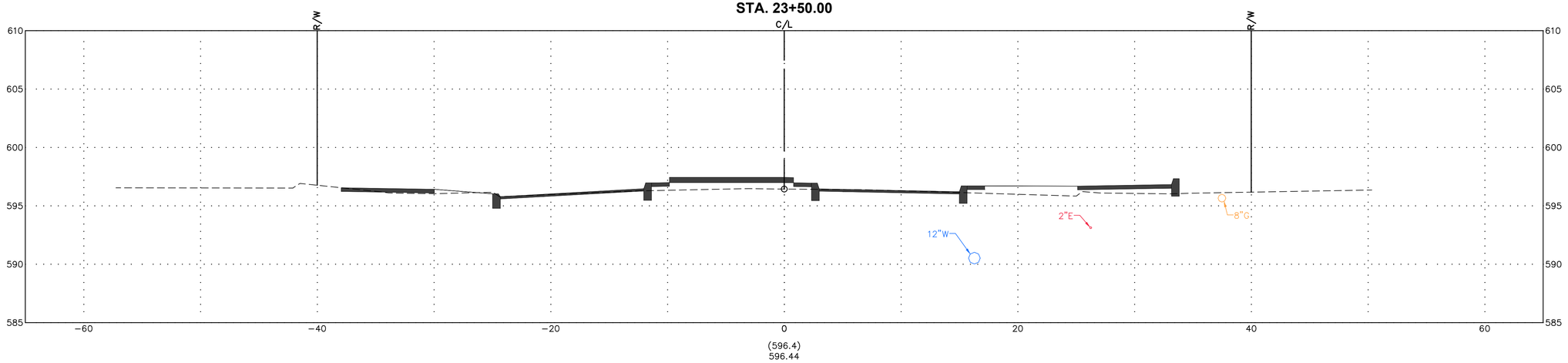
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

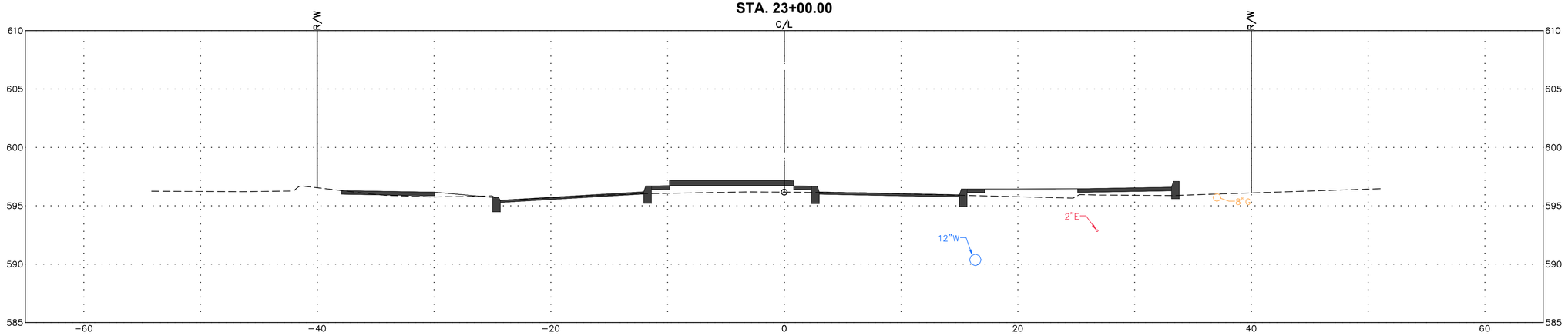
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 23+50.00



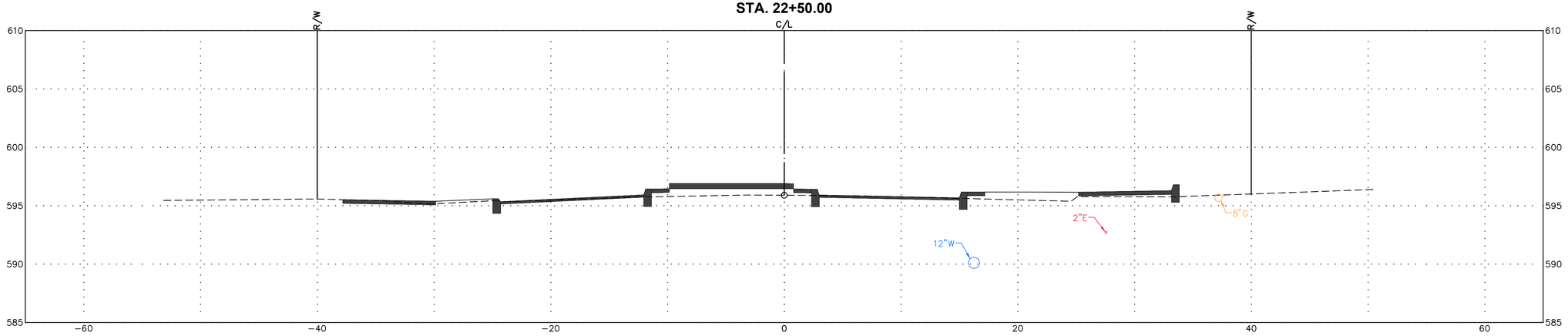
(596.4)
596.44

STA. 23+00.00



(596.2)
596.17

STA. 22+50.00



(595.9)
595.90

CROSS SECTIONS - FRONT STREET

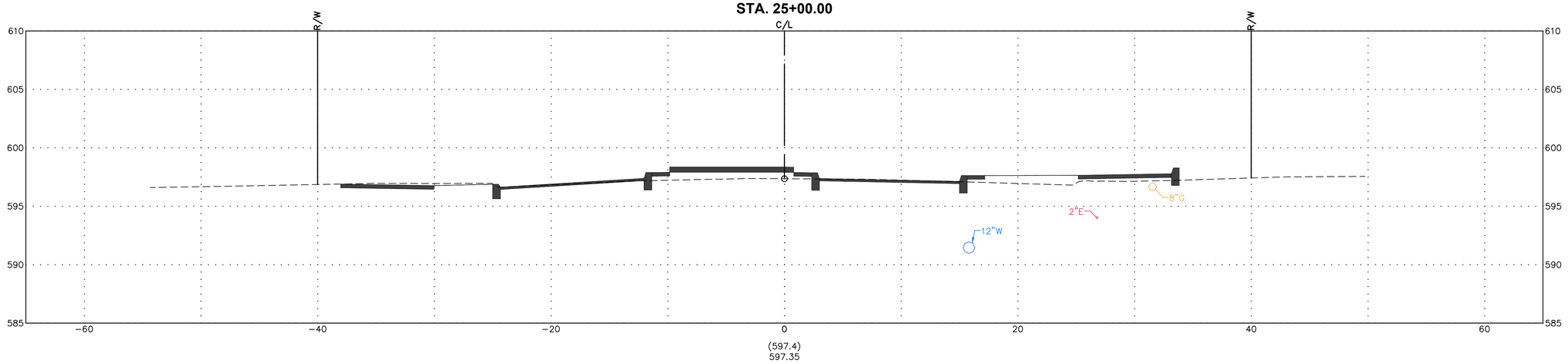
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

Colliers
Engineering & Design

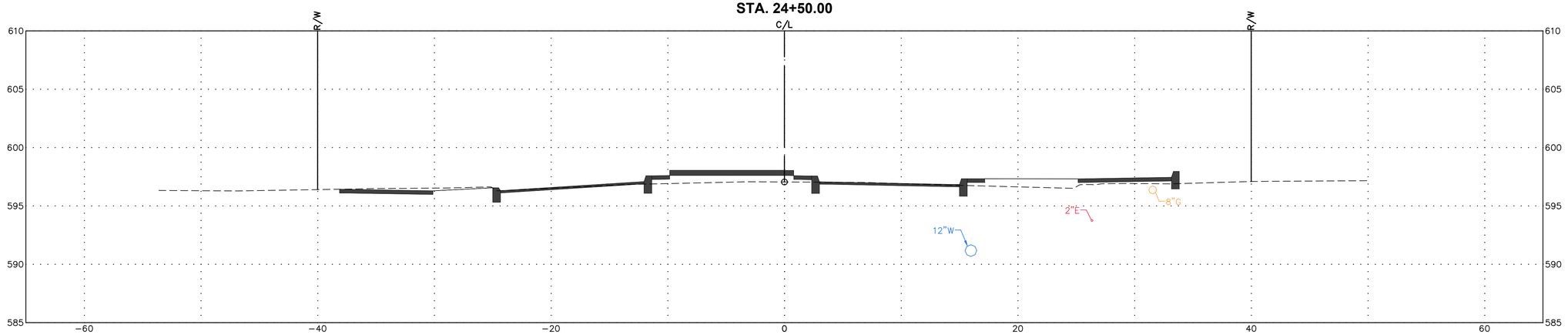
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 25+00.00



(597.4)
597.35

STA. 24+50.00



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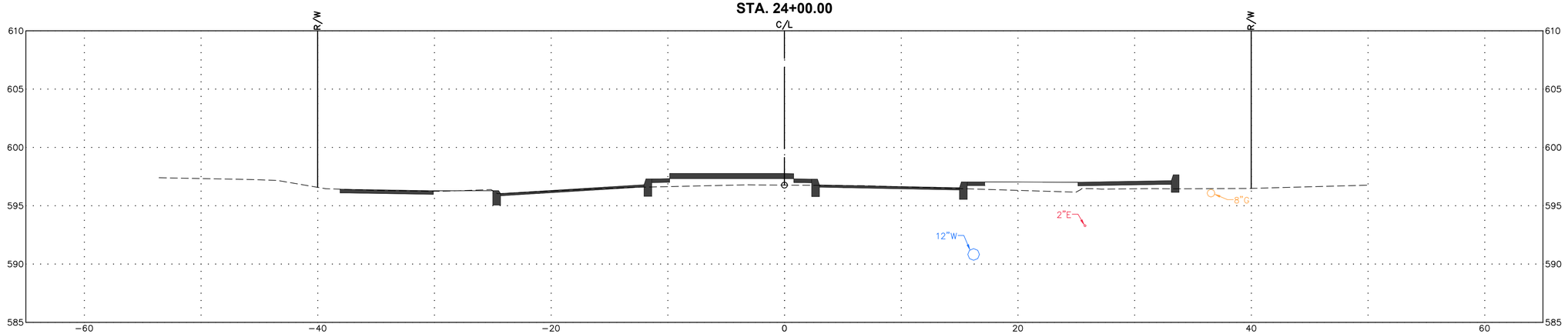
597.05

STA. 24+00.00



(596.8)
596.77

CROSS SECTIONS - FRONT STREET

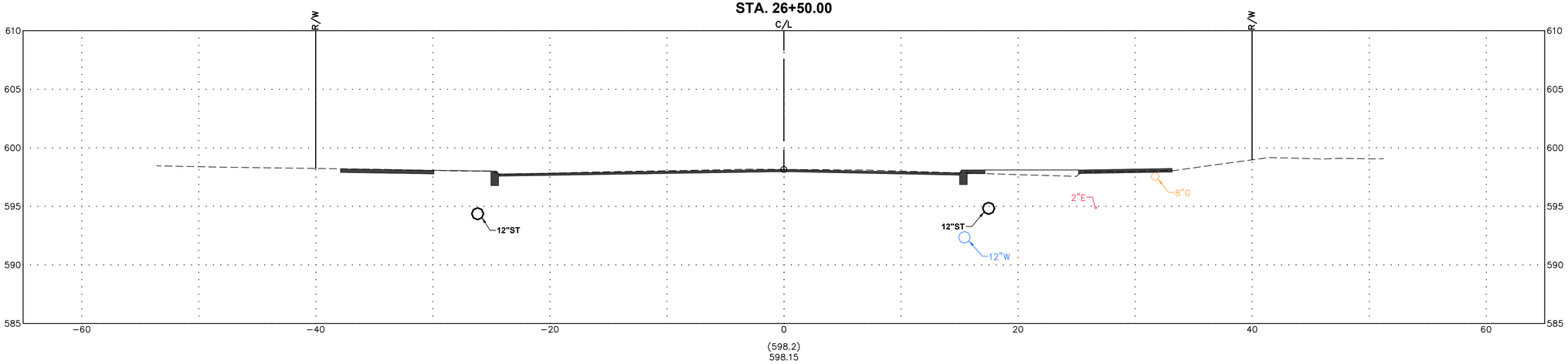
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

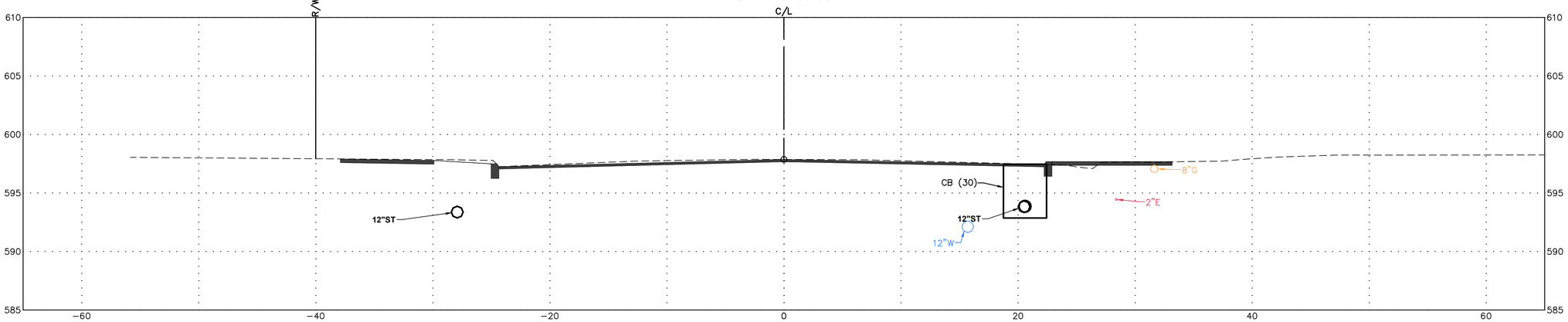
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 26+50.00



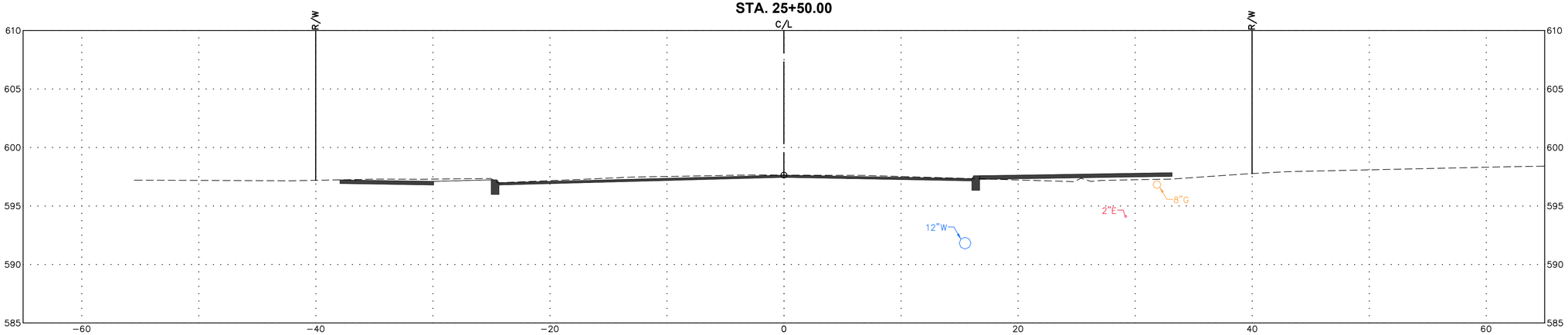
(598.2)
598.15

STA. 26+00.00



(597.9)
597.87

STA. 25+50.00



(597.6)
597.64

CROSS SECTIONS - FRONT STREET

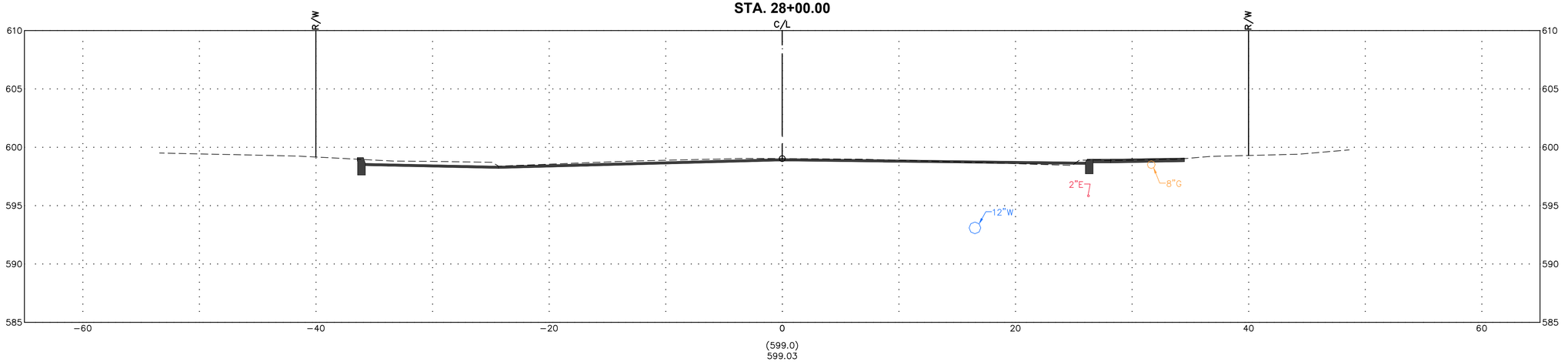
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

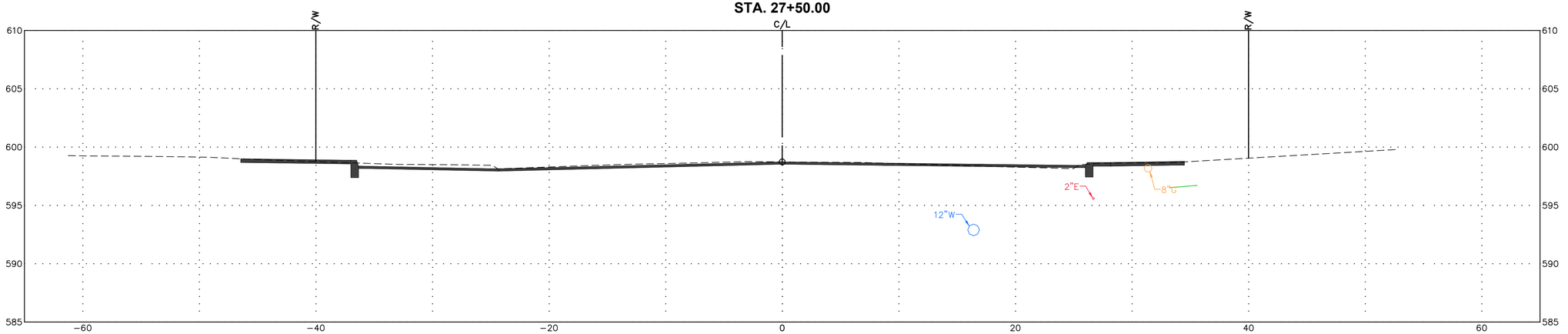
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 28+00.00



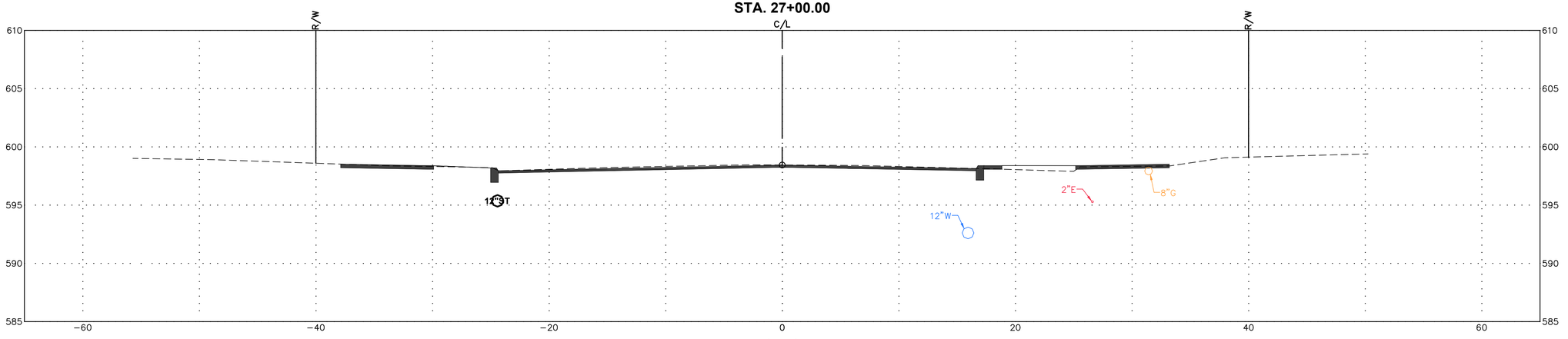
(599.0)
599.03

STA. 27+50.00



(598.7)
598.73

STA. 27+00.00



(598.4)
598.44

CROSS SECTIONS - FRONT STREET

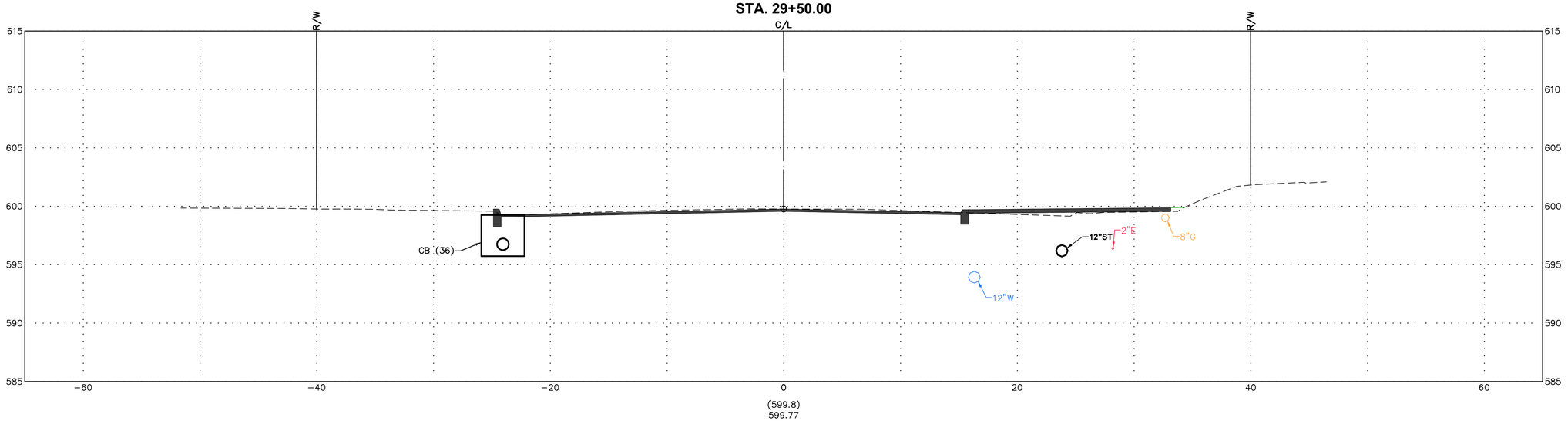
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

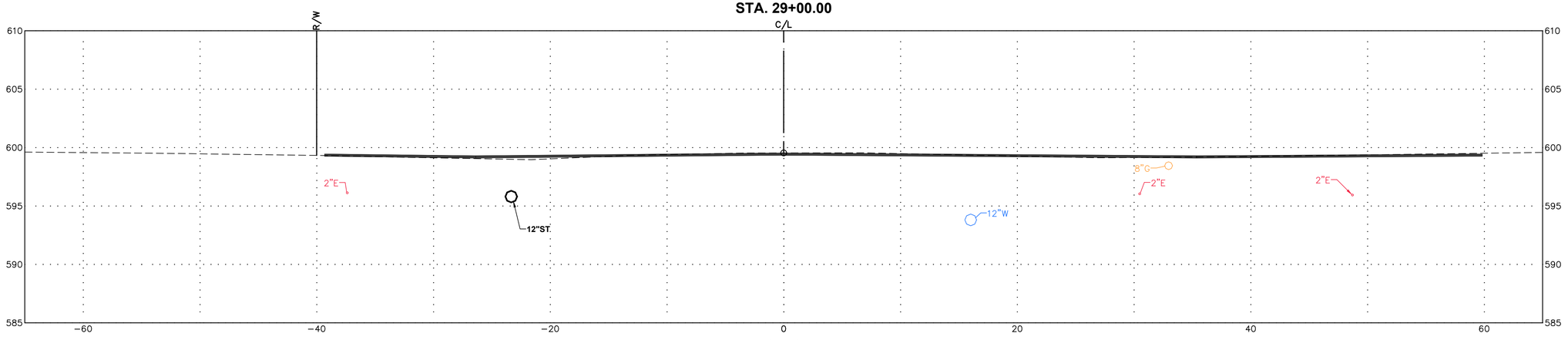
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

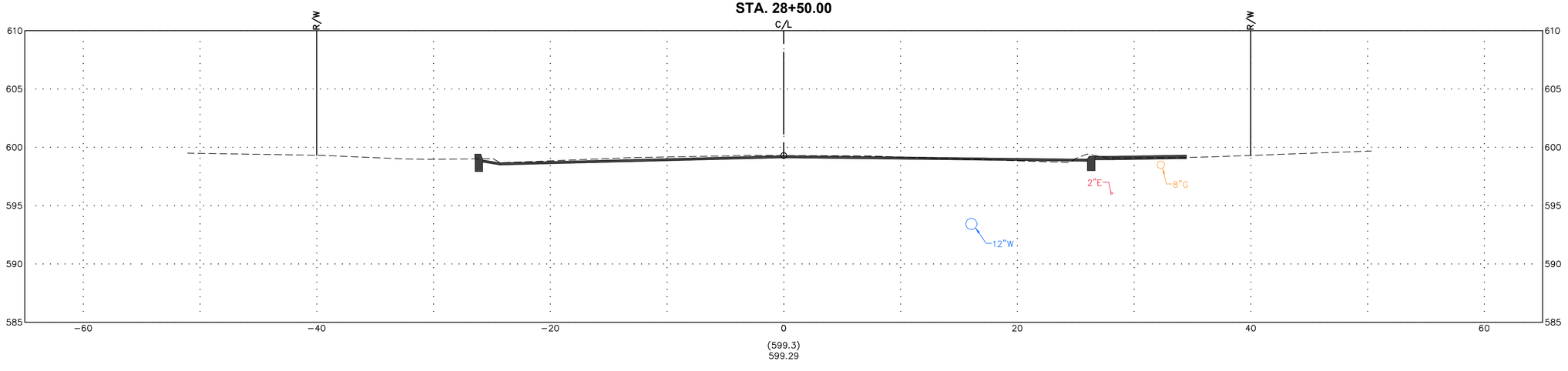
STA. 29+50.00



STA. 29+00.00



STA. 28+50.00



CROSS SECTIONS - FRONT STREET

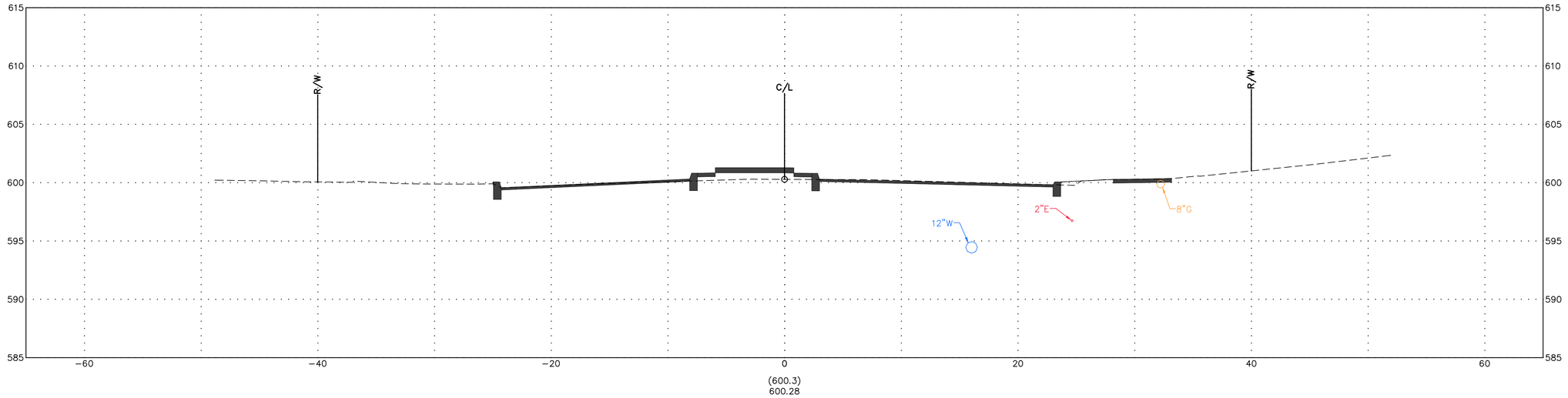
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

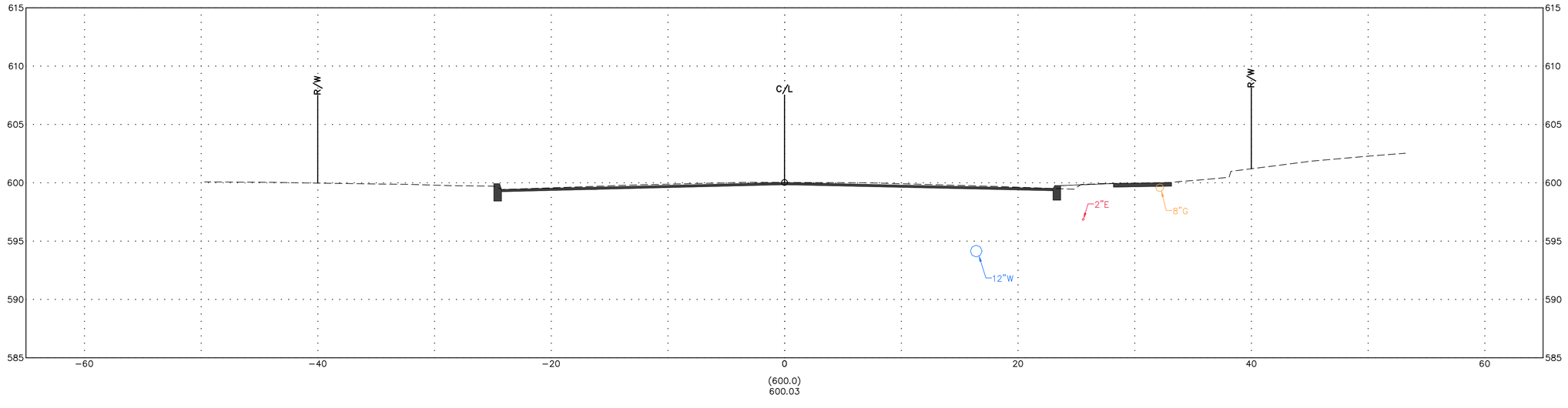
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 30+50.00



STA. 30+00.00



CROSS SECTIONS - FRONT STREET

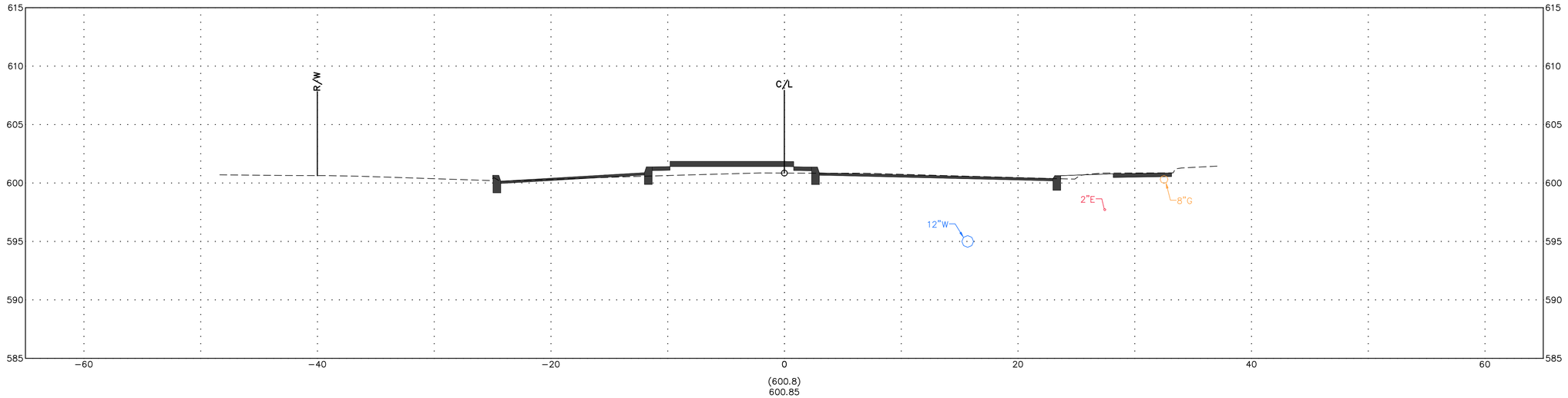
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

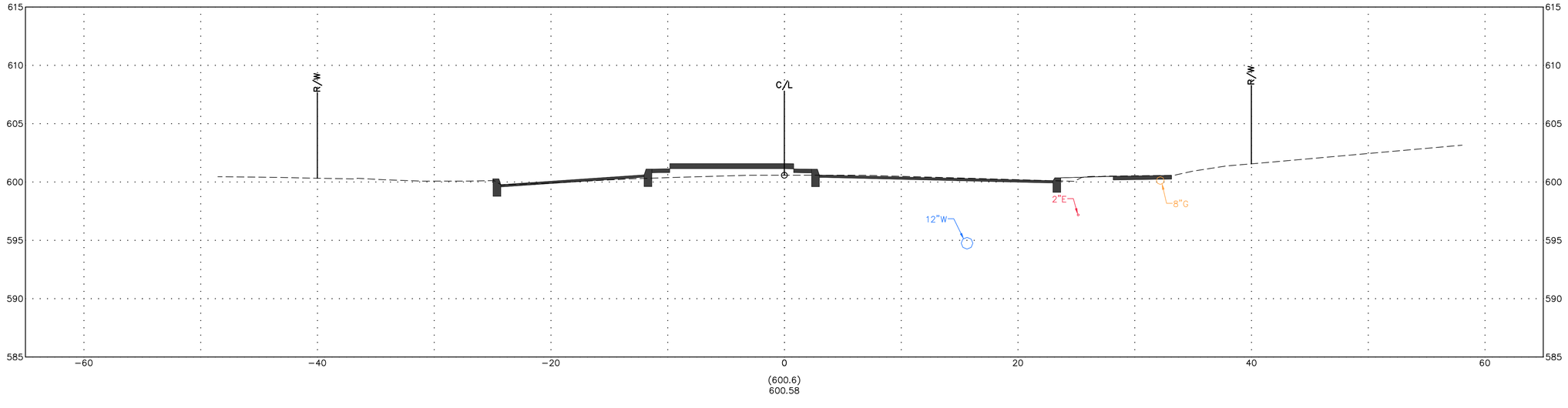
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 31+50.00



STA. 31+00.00



CROSS SECTIONS - FRONT STREET

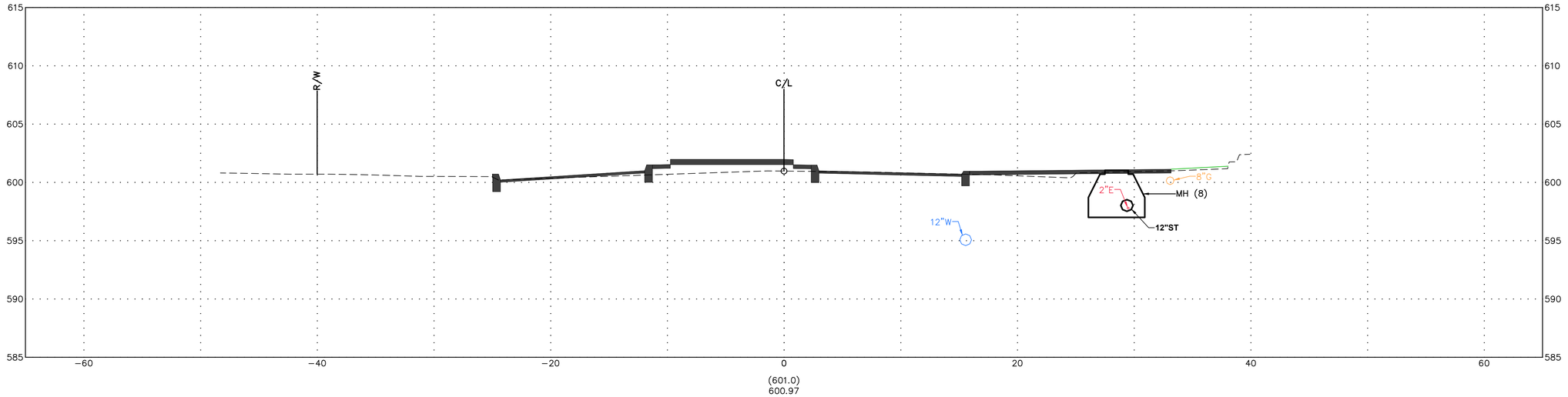
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

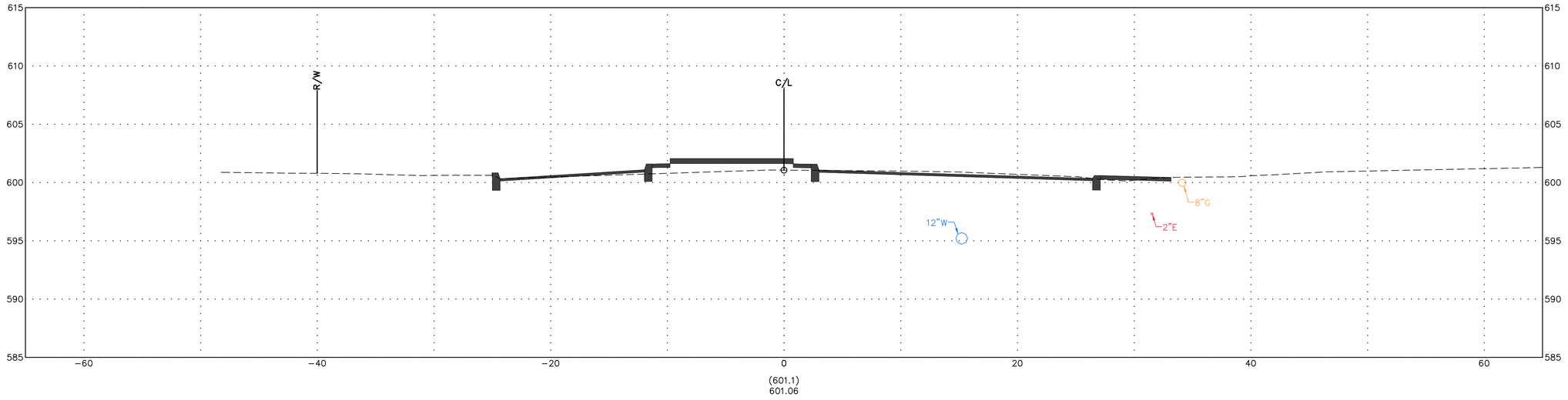
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 32+50.00



STA. 32+00.00



CROSS SECTIONS - FRONT STREET

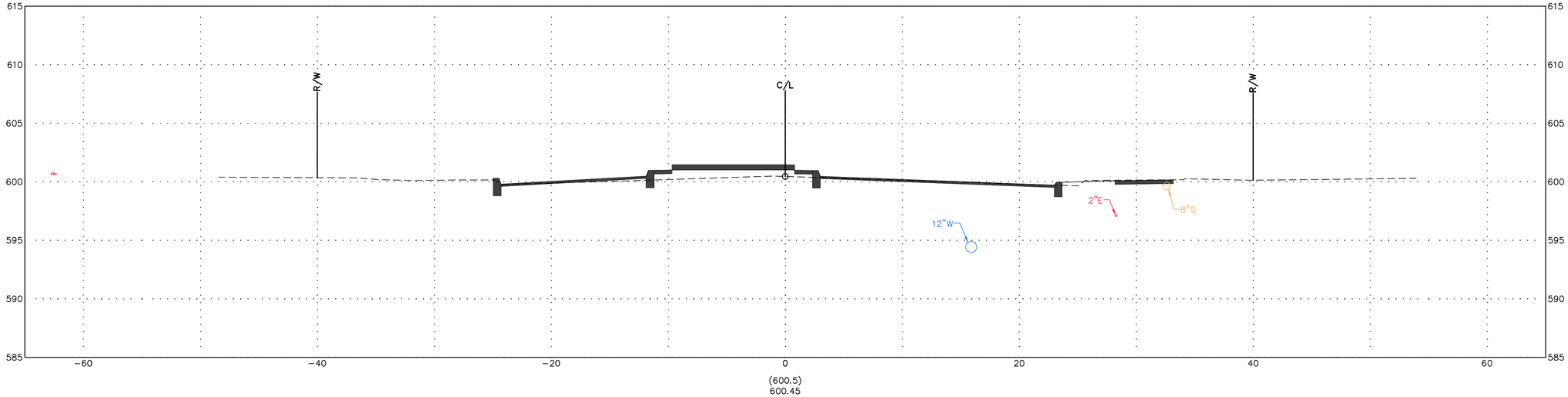
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

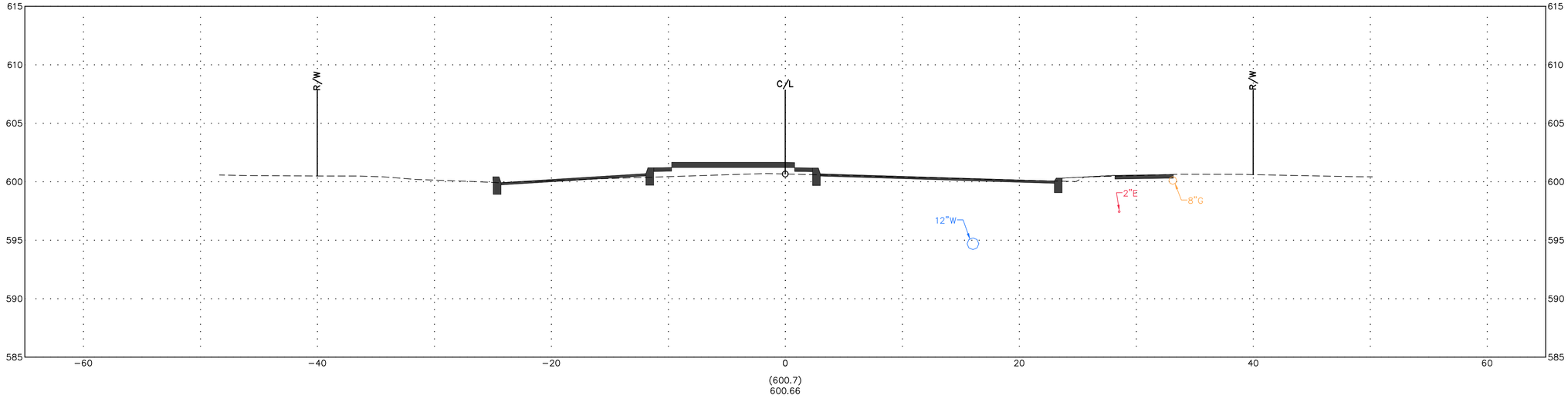
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 33+50.00



STA. 33+00.00



CROSS SECTIONS - FRONT STREET

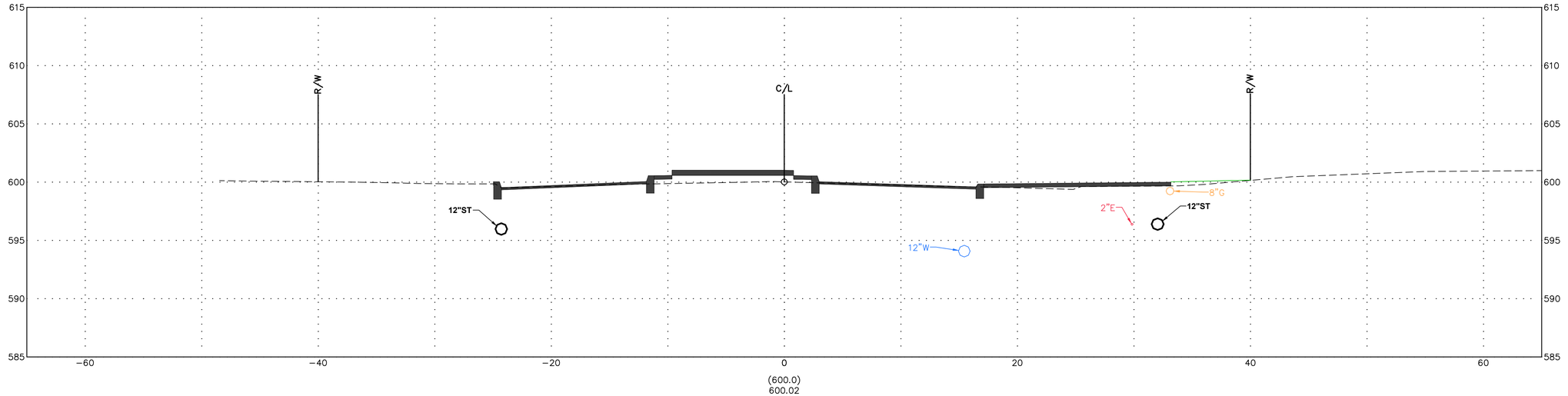
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

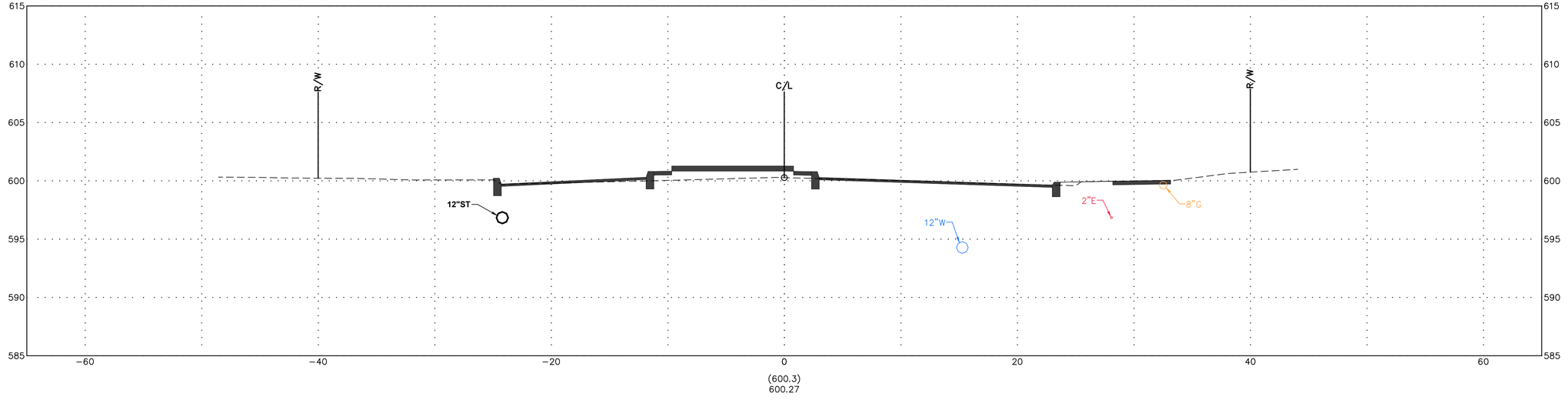
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 34+50.00



STA. 34+00.00



CROSS SECTIONS - FRONT STREET

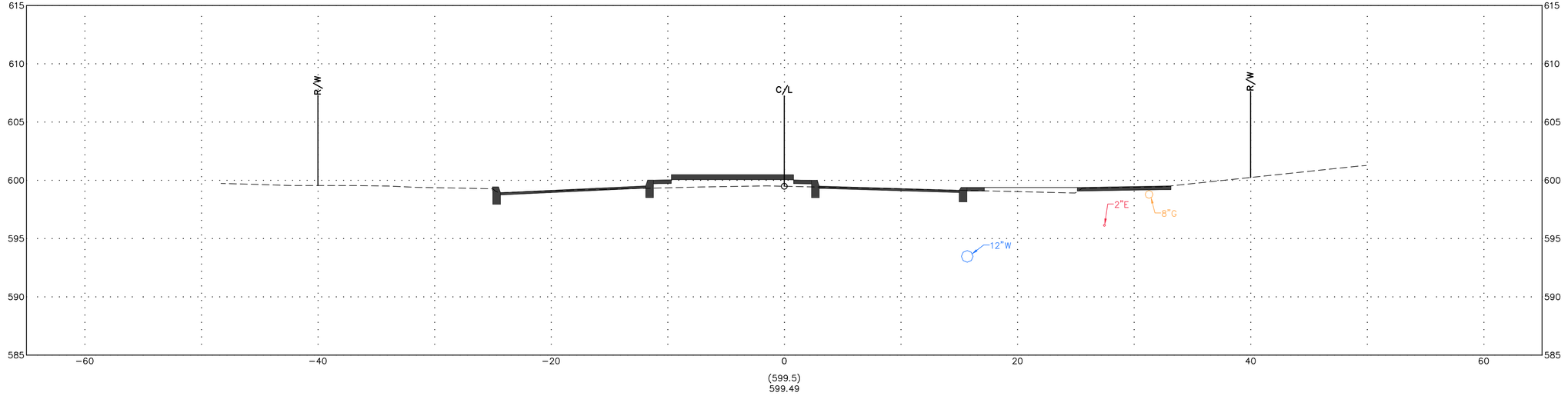
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

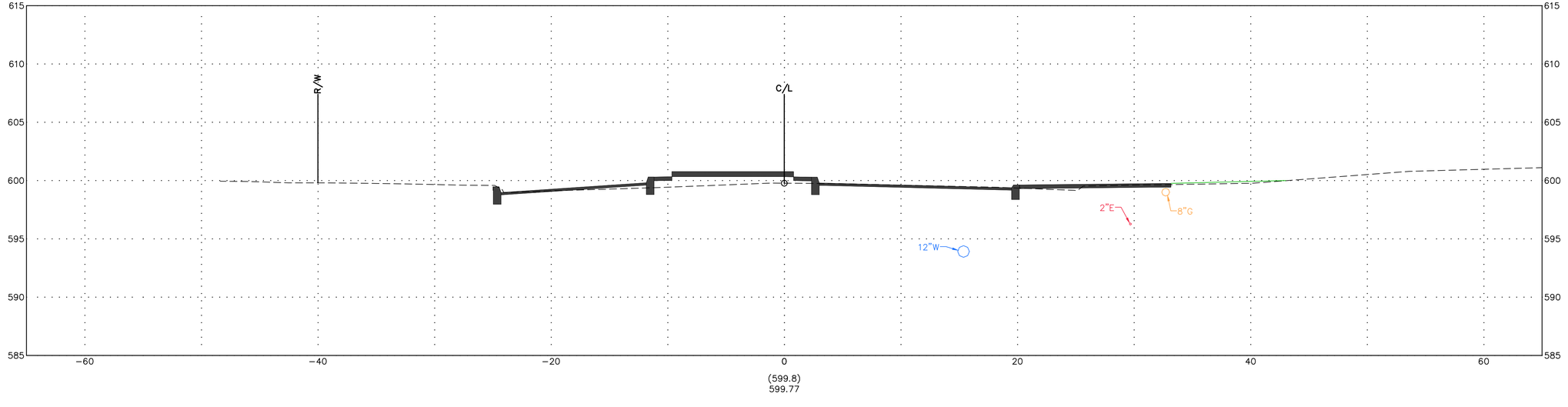
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 35+50.00



STA. 35+00.00



CROSS SECTIONS - FRONT STREET

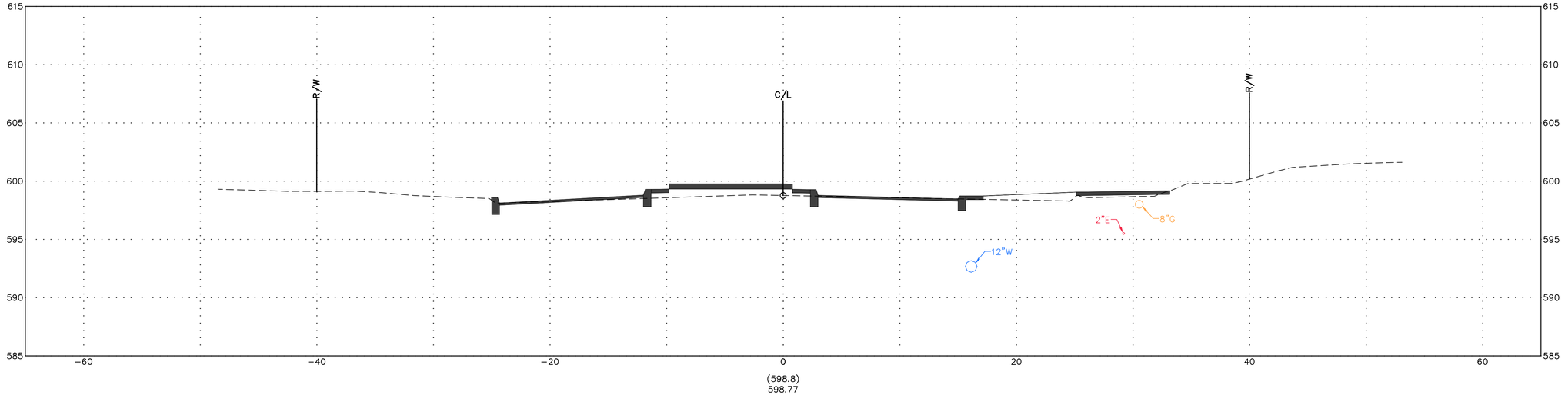
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

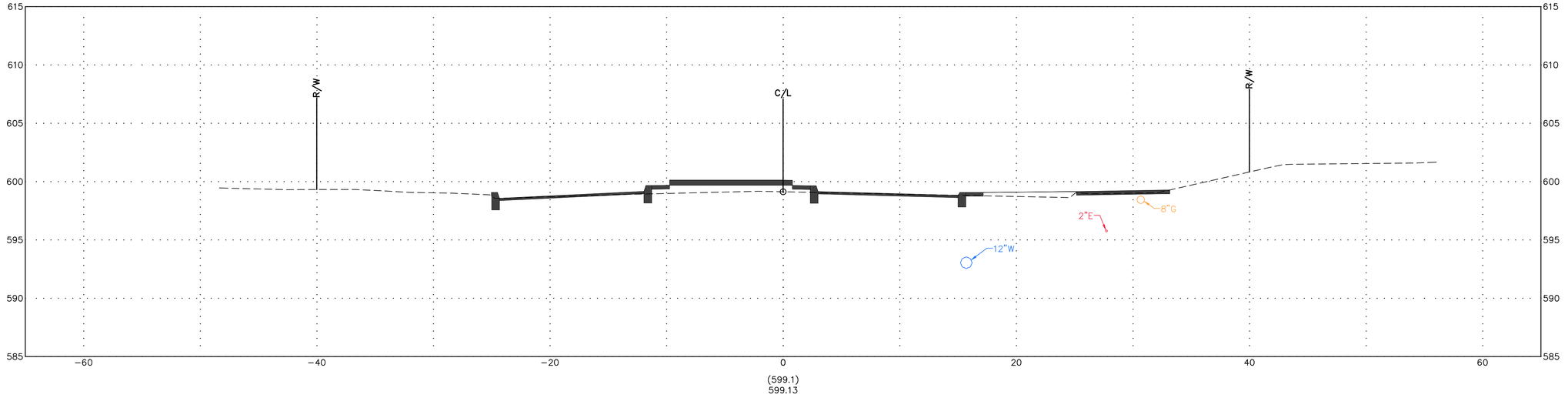
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 36+50.00



STA. 36+00.00



CROSS SECTIONS - FRONT STREET

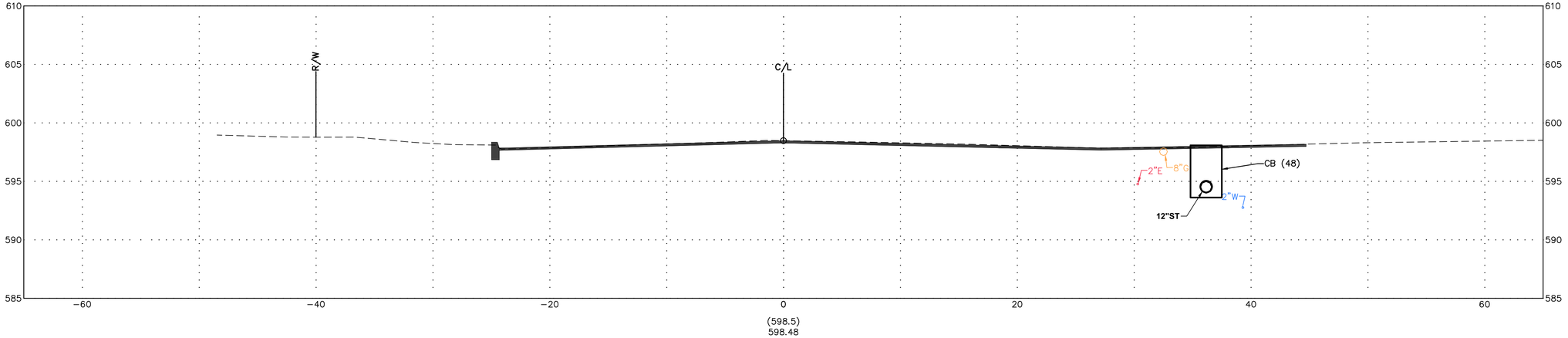
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

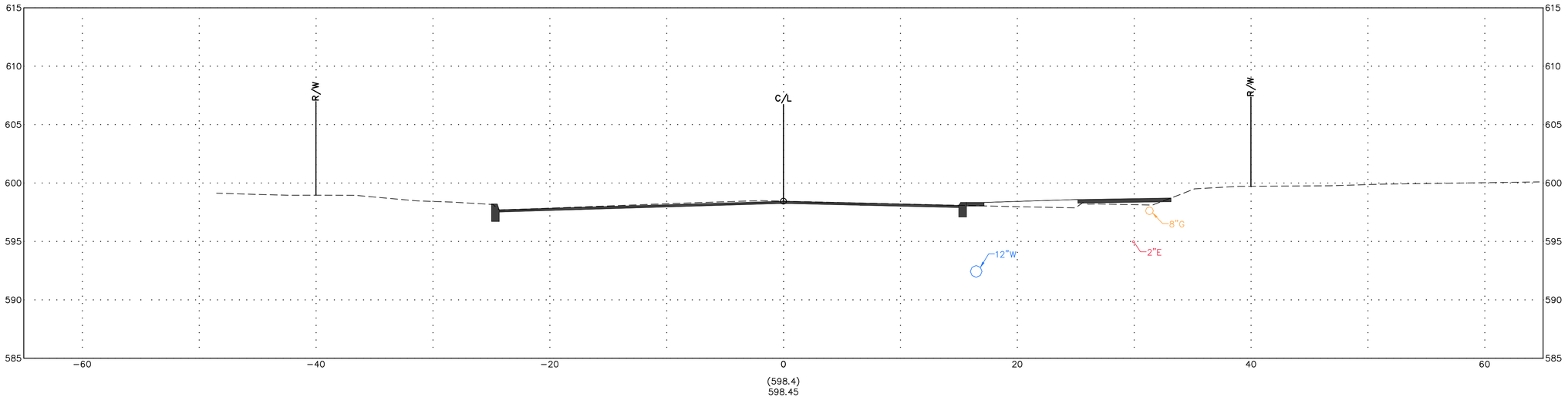
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 37+50.00



STA. 37+00.00



CROSS SECTIONS - FRONT STREET

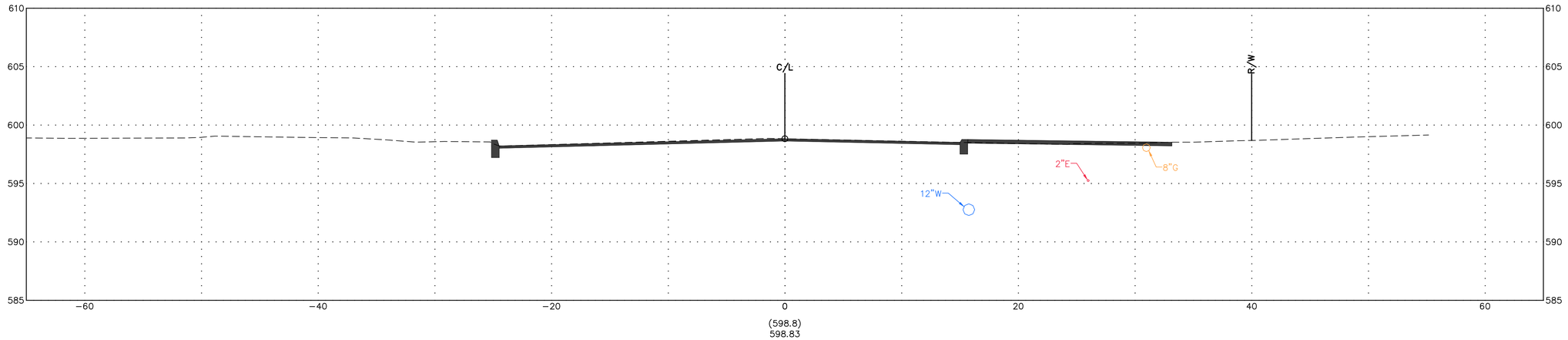
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

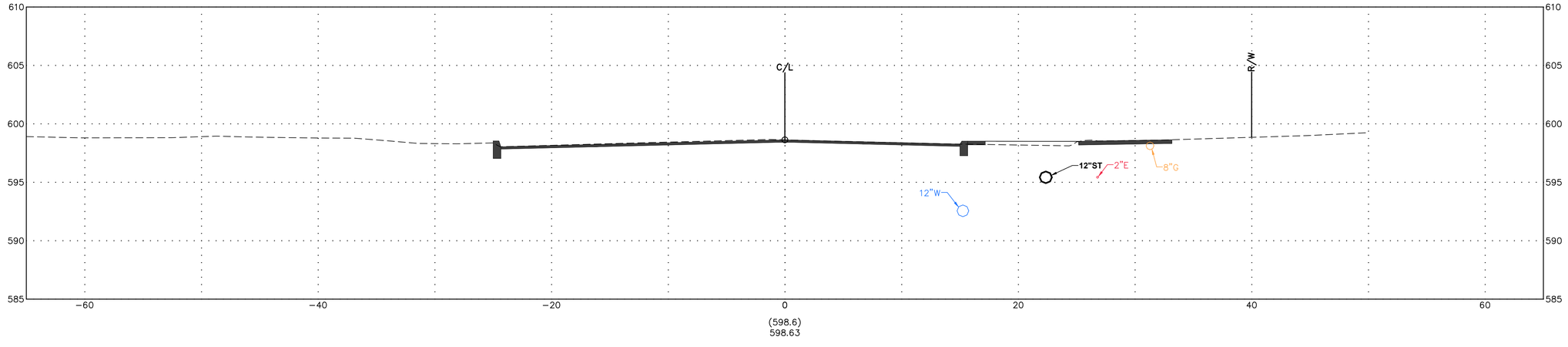
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 38+50.00



STA. 38+00.00



CROSS SECTIONS - FRONT STREET

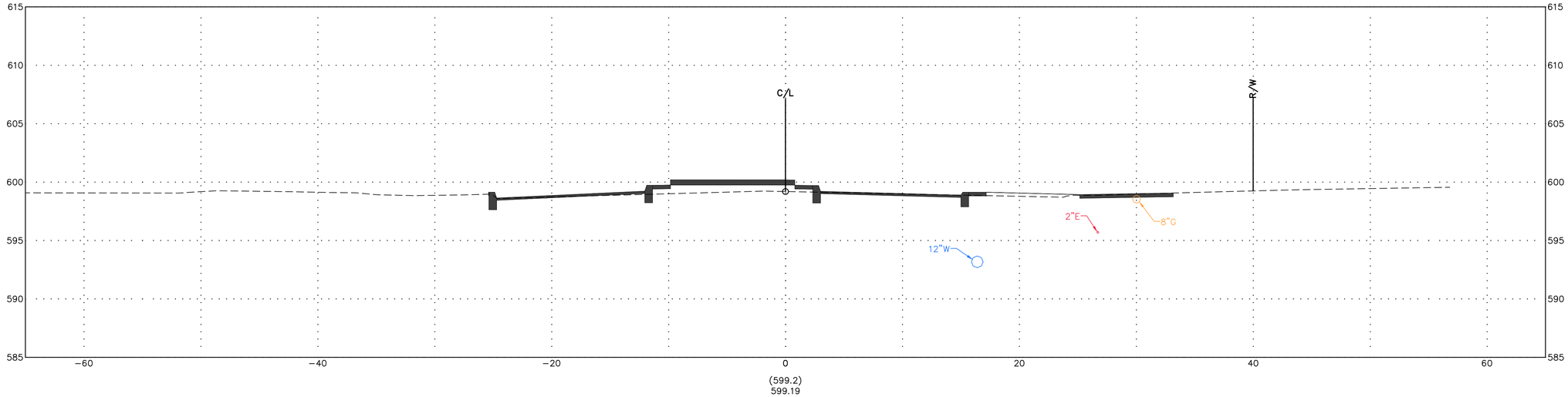
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

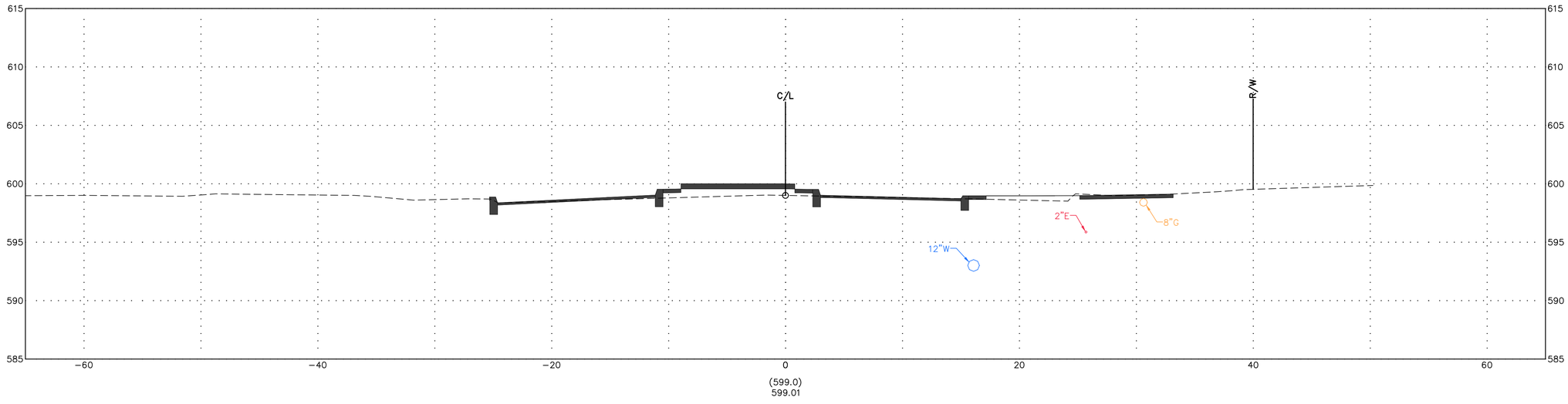
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 39+50.00



STA. 39+00.00



CROSS SECTIONS - FRONT STREET

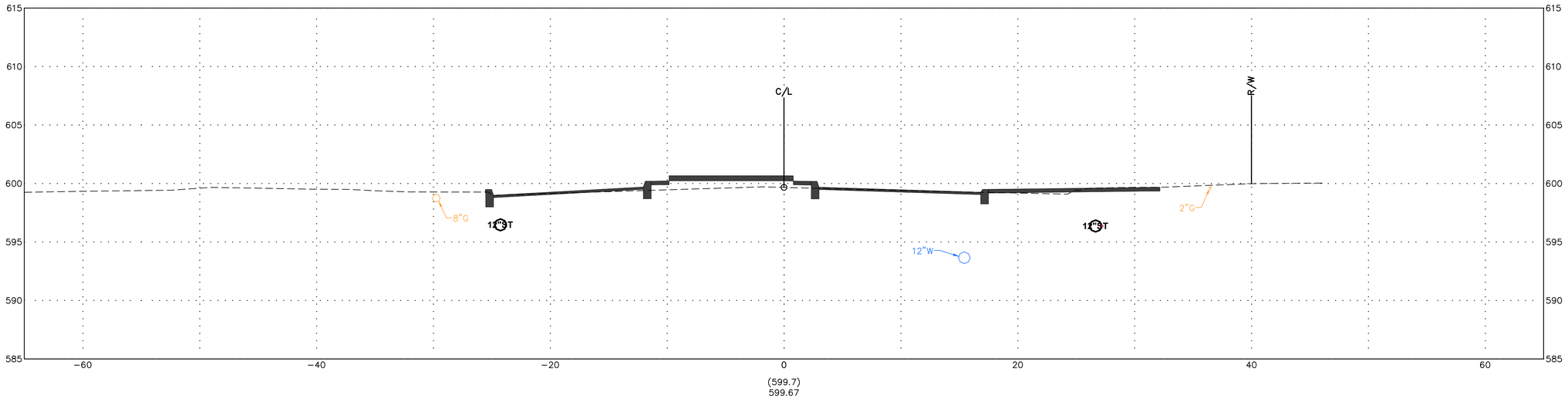
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

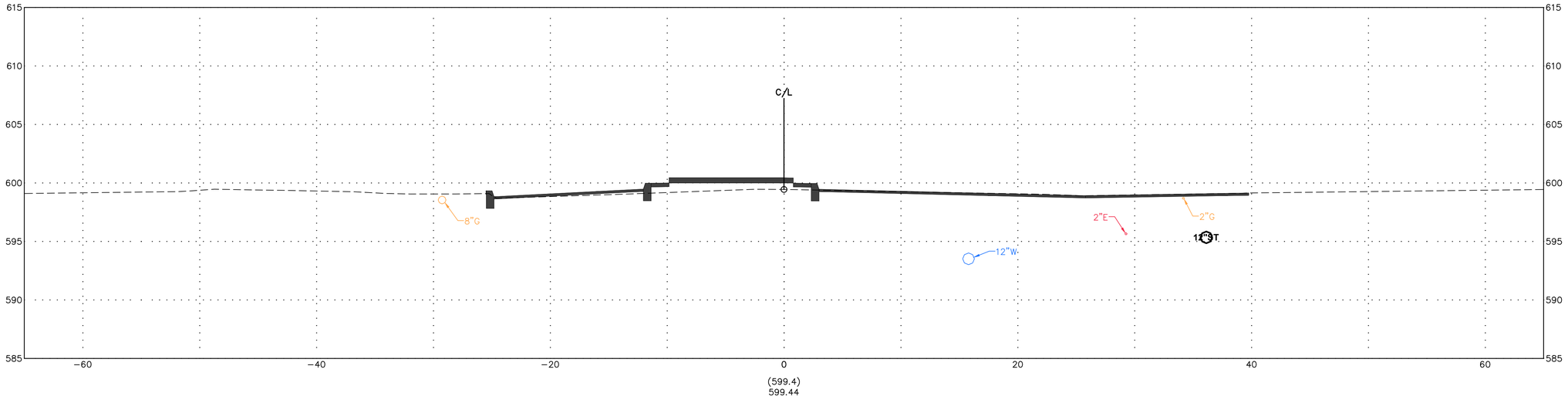
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 40+50.00



STA. 40+00.00



CROSS SECTIONS - FRONT STREET

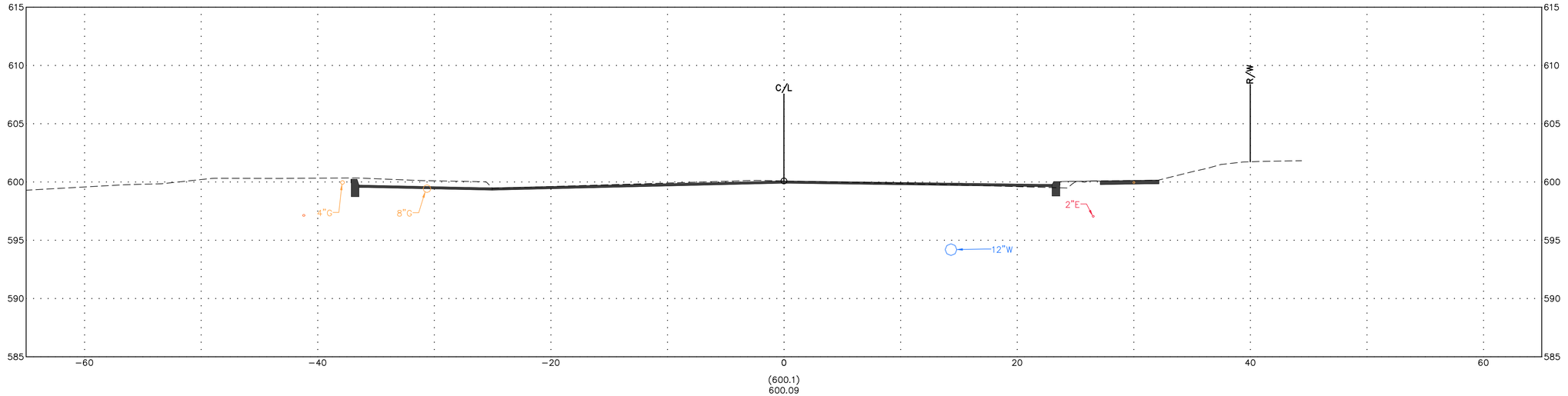
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

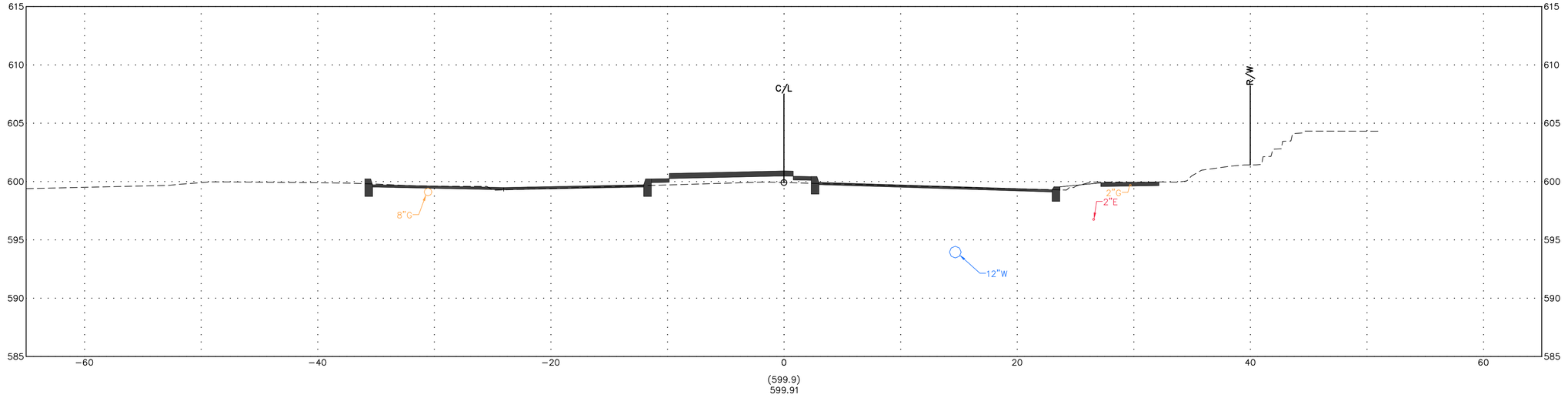
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 41+50.00



STA. 41+00.00



CROSS SECTIONS - FRONT STREET

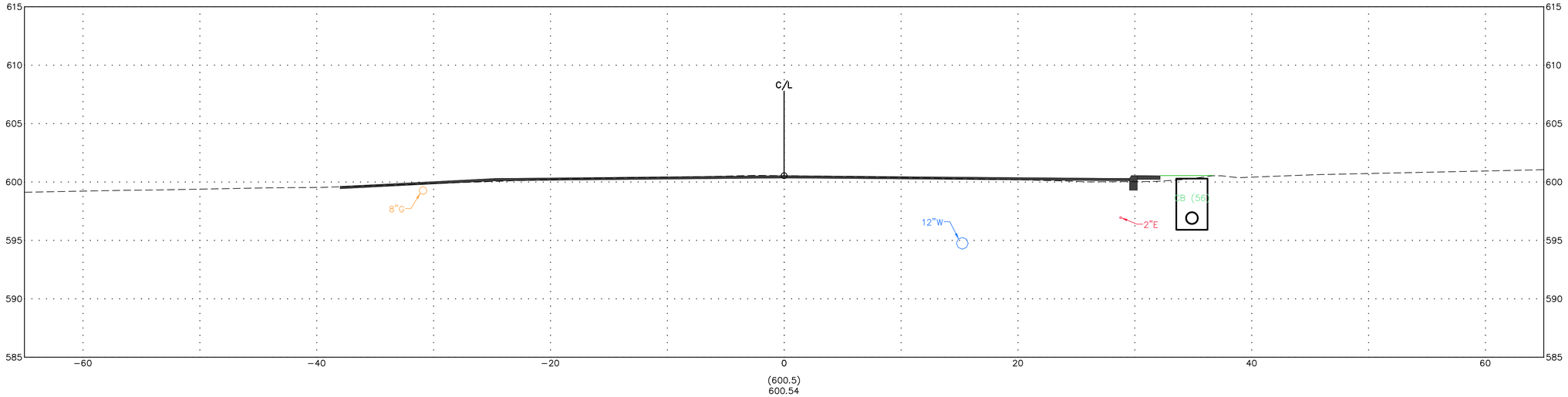
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

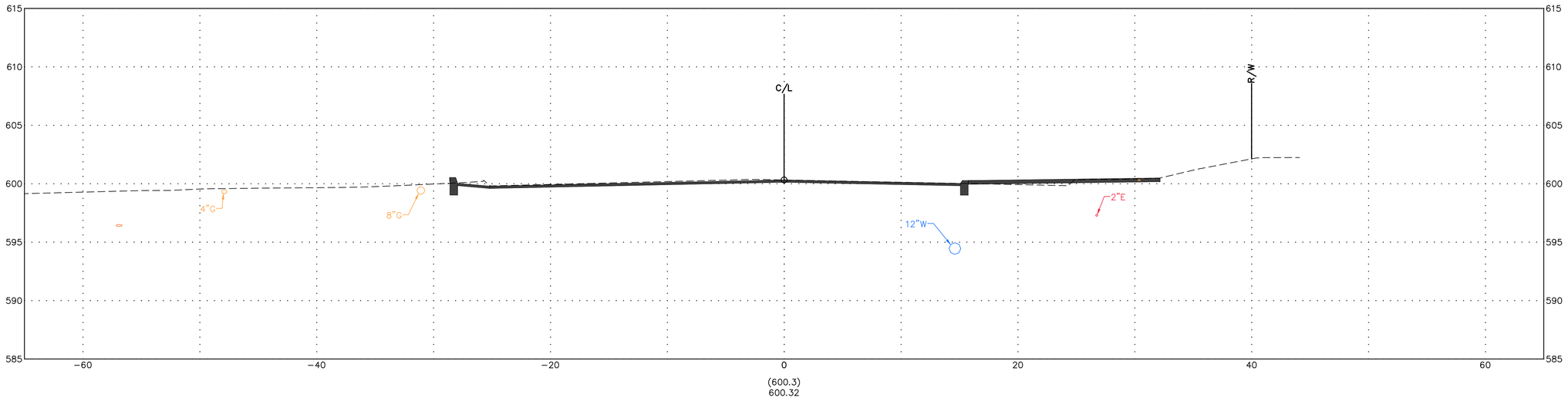
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 42+50.00



STA. 42+00.00



CROSS SECTIONS - FRONT STREET

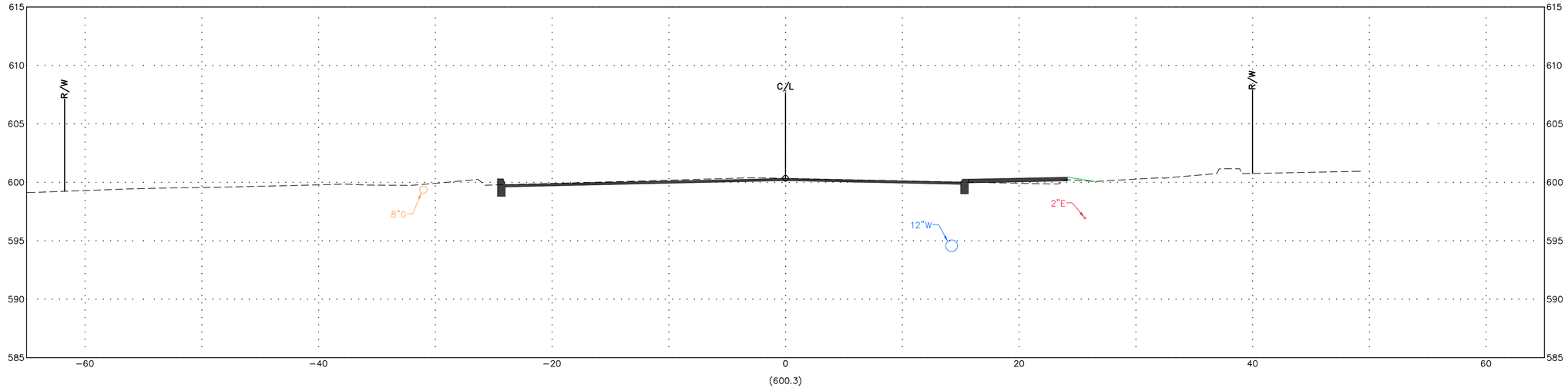
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

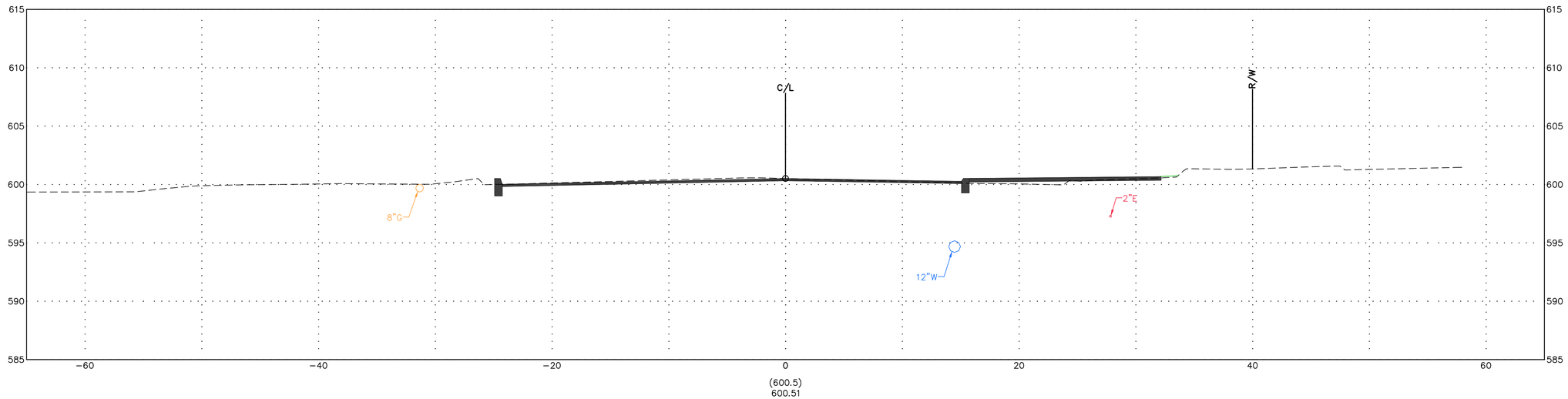
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 43+50.00



STA. 43+00.00



CROSS SECTIONS - FRONT STREET

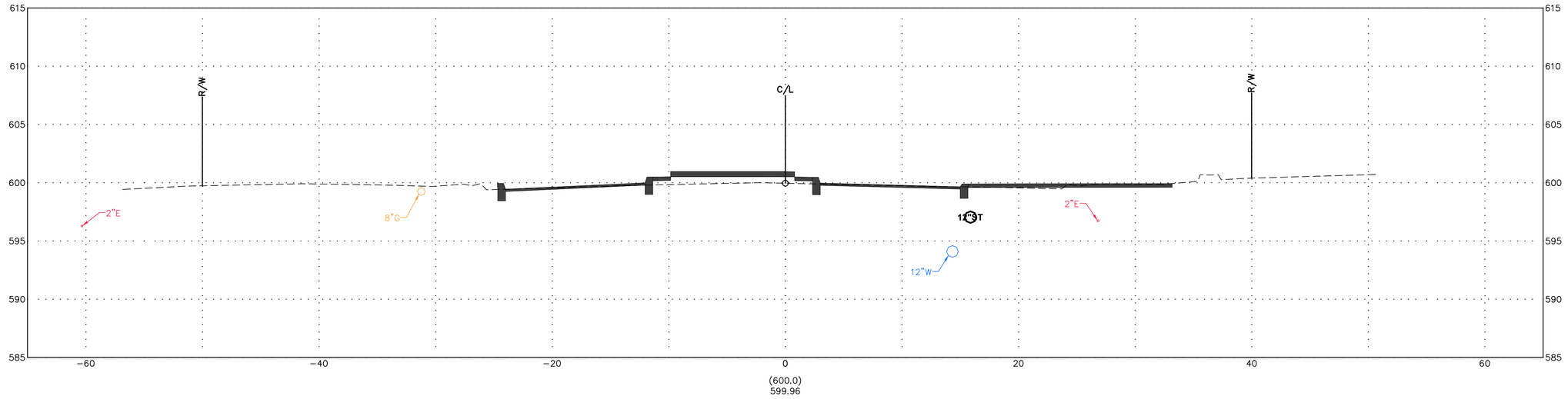
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

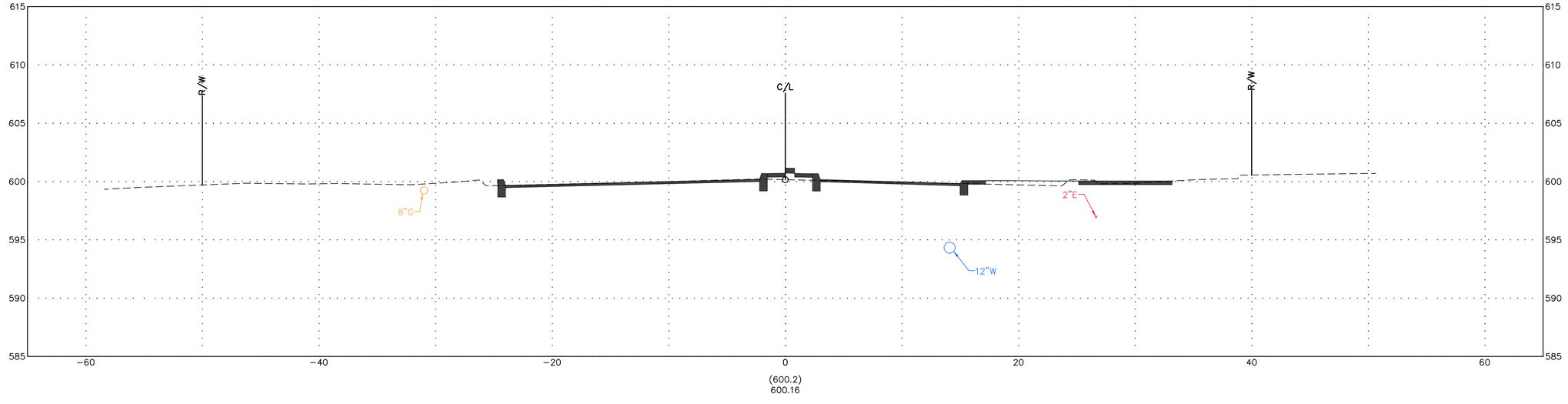
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 44+50.00



STA. 44+00.00



CROSS SECTIONS - FRONT STREET

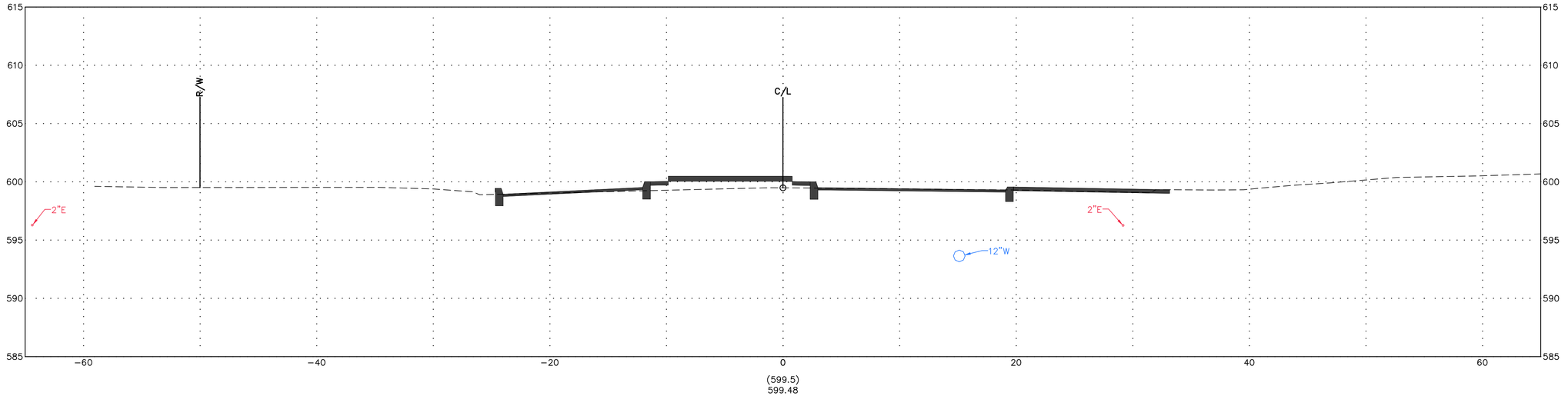
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

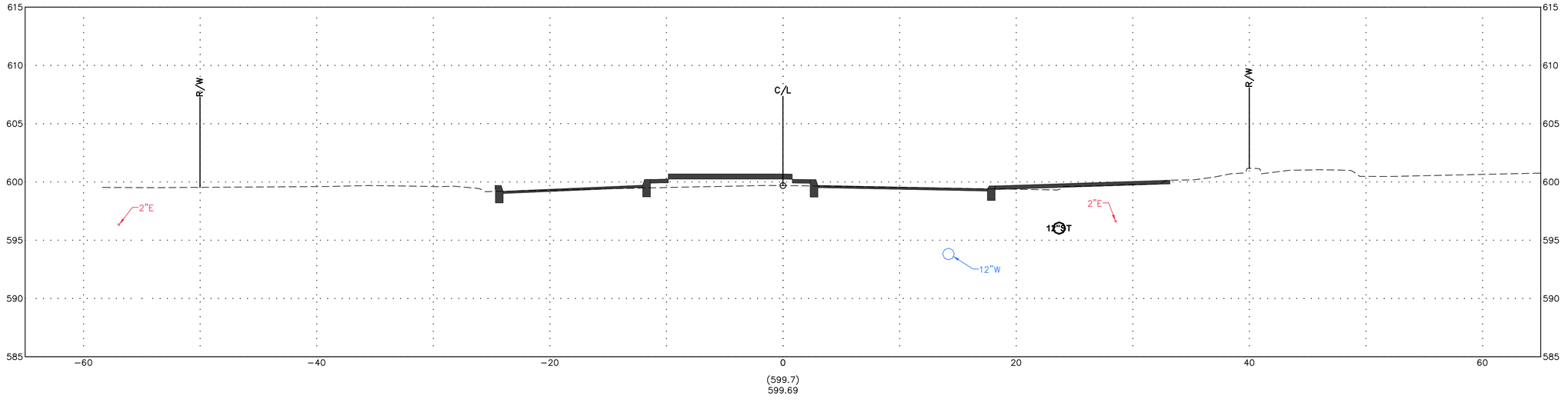
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 45+50.00



STA. 45+00.00



CROSS SECTIONS - FRONT STREET

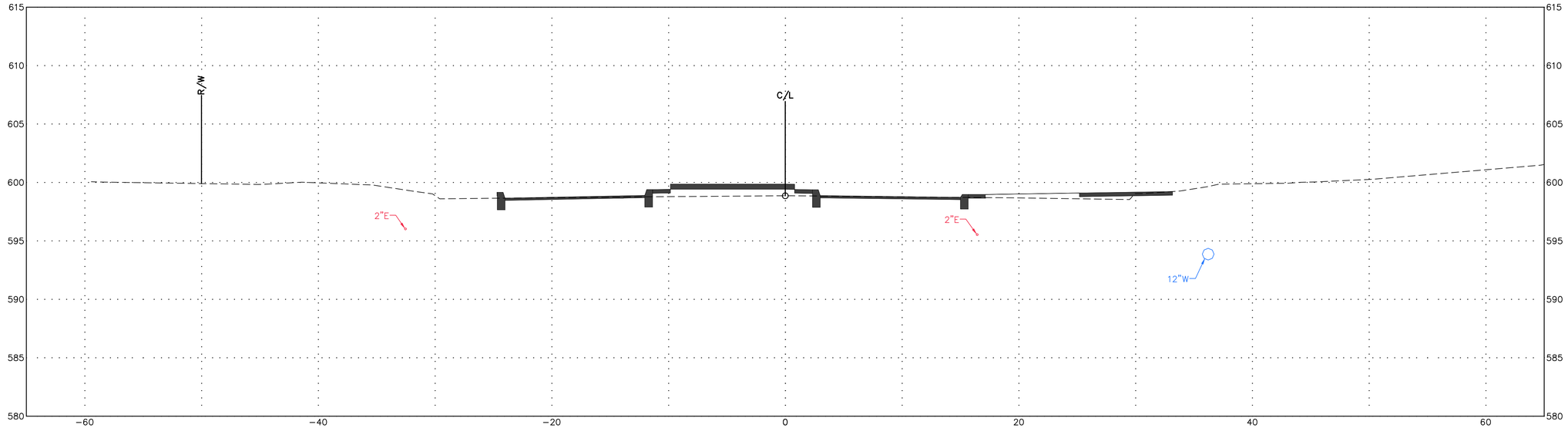
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

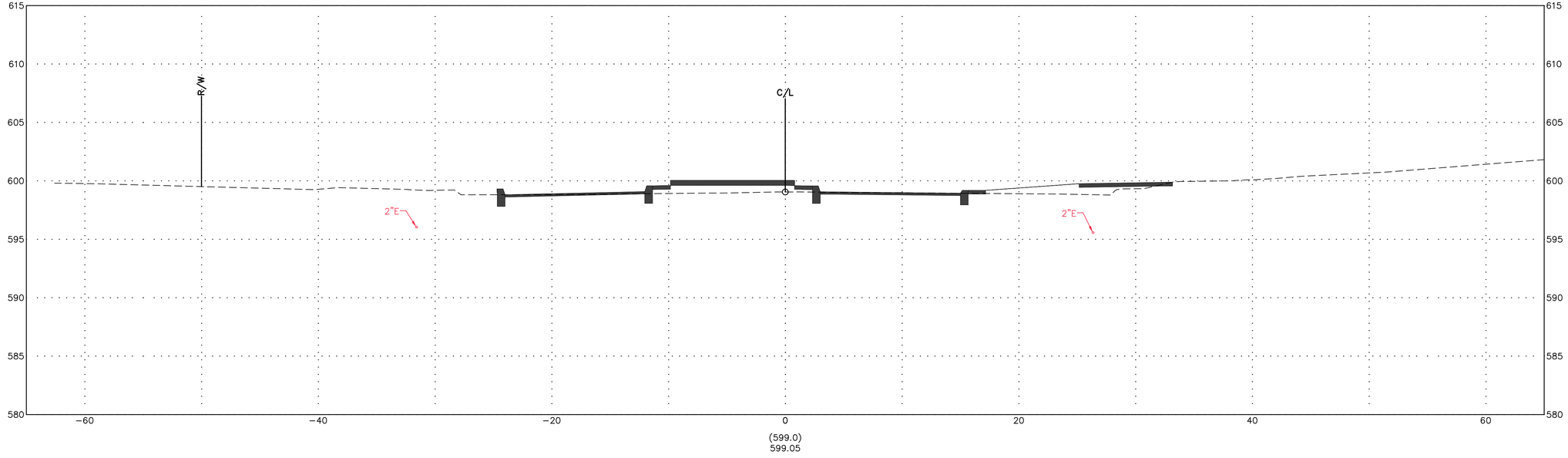
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 46+50.00



STA. 46+00.00



CROSS SECTIONS - FRONT STREET

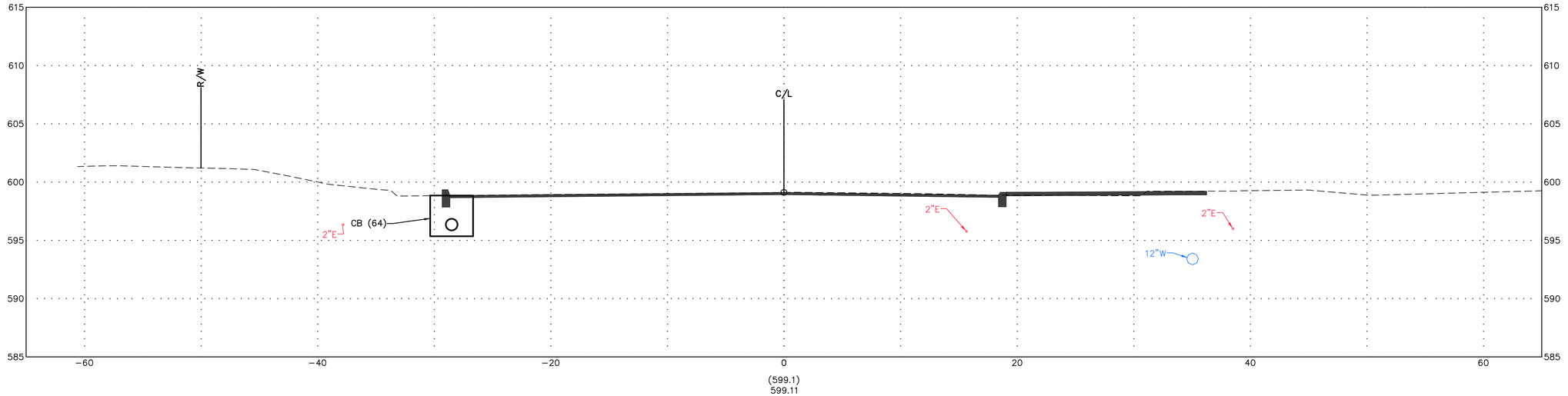
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

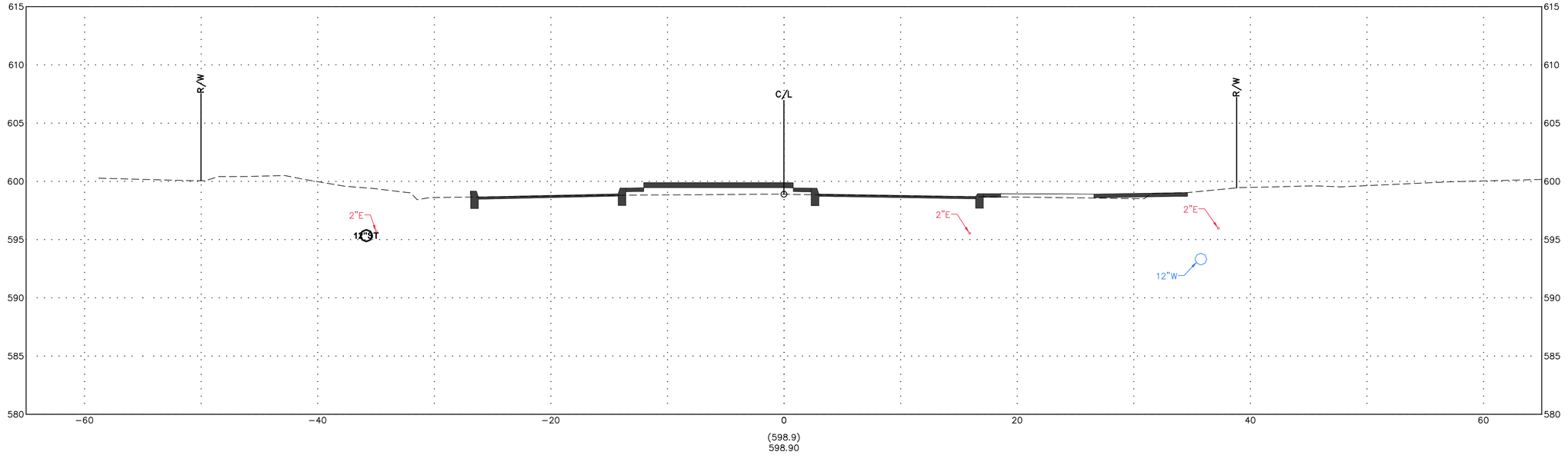
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 47+50.00



STA. 47+00.00



CROSS SECTIONS - FRONT STREET

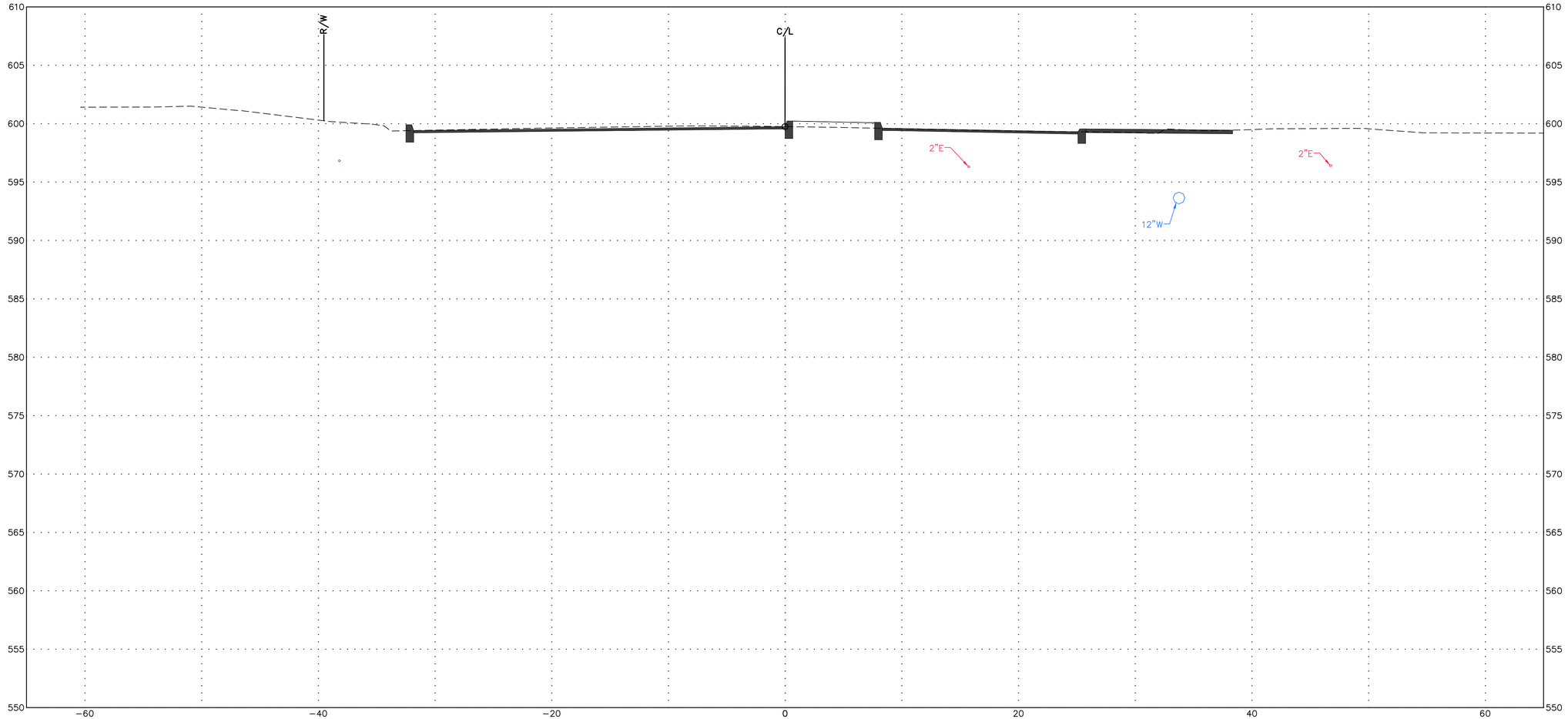
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

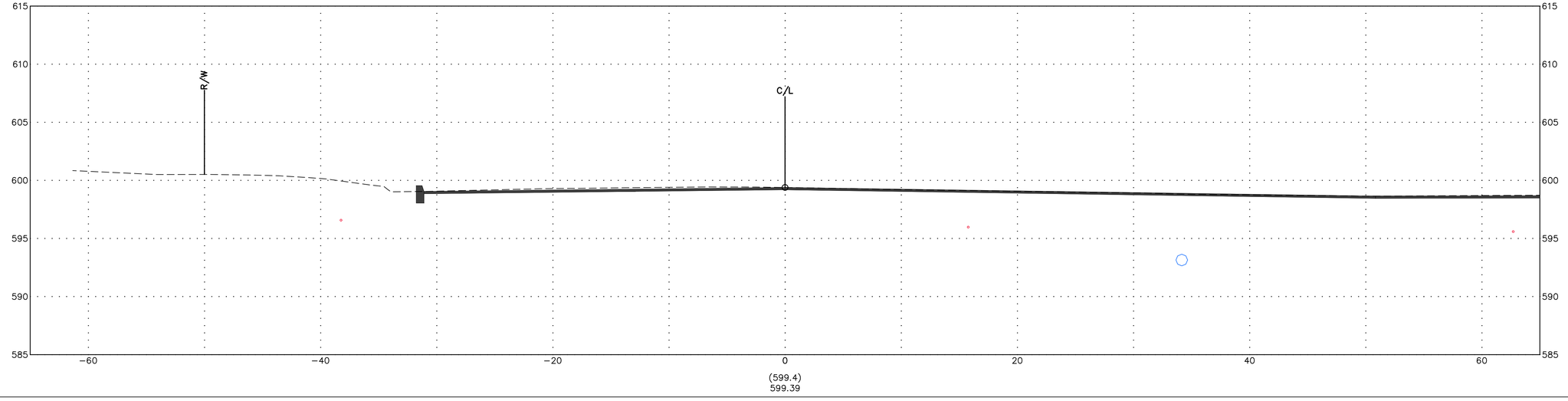
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 48+50.00



(599.7)
599.75

STA. 48+00.00



(599.4)
599.39

CROSS SECTIONS - FRONT STREET

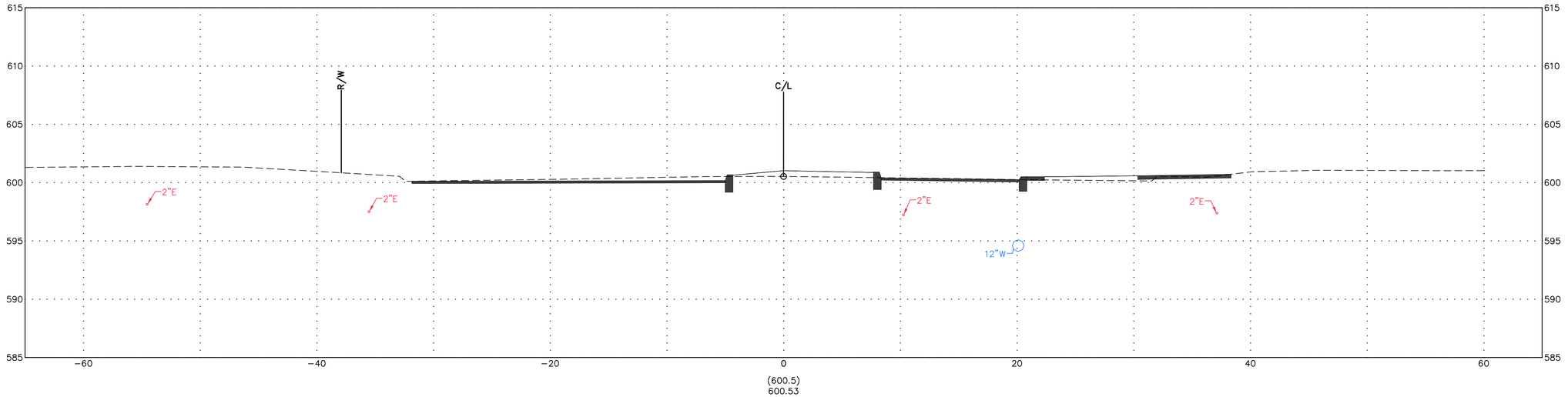
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

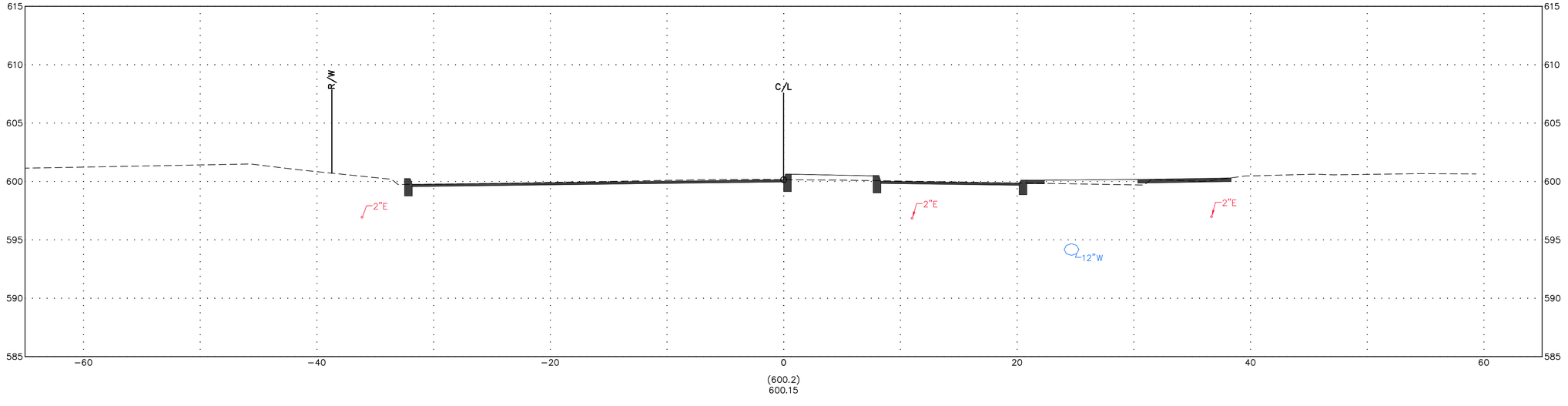
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 49+50.00



STA. 49+00.00



CROSS SECTIONS - FRONT STREET

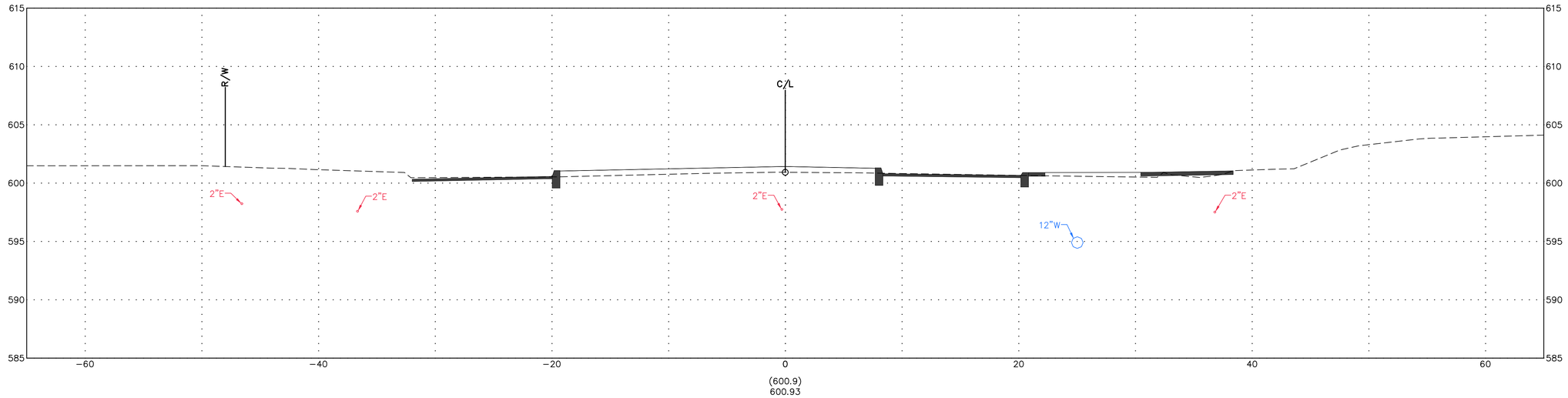
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

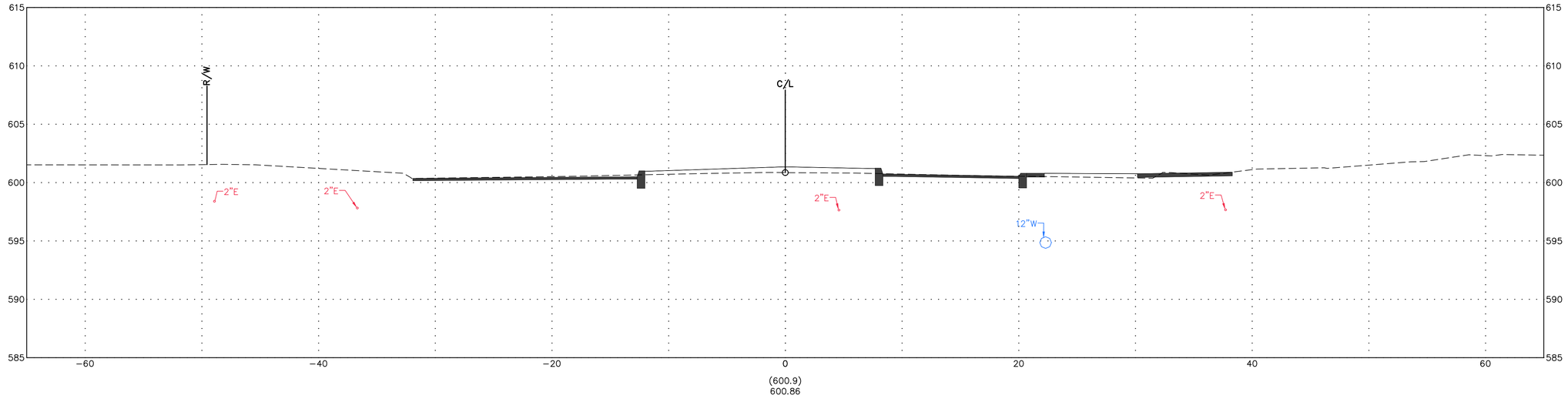
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 50+50.00



STA. 50+00.00



CROSS SECTIONS - FRONT STREET

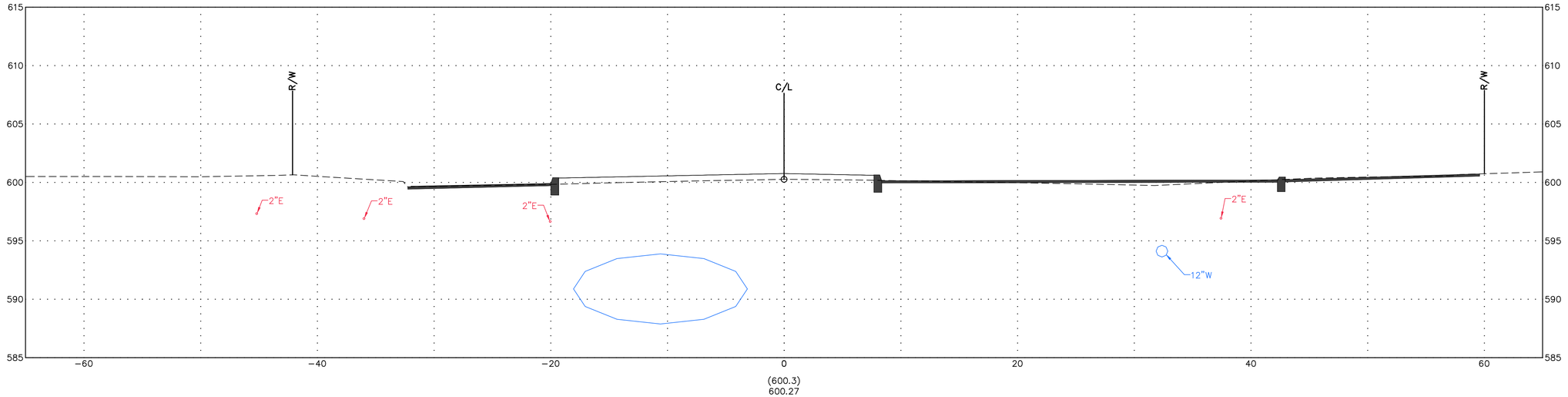
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

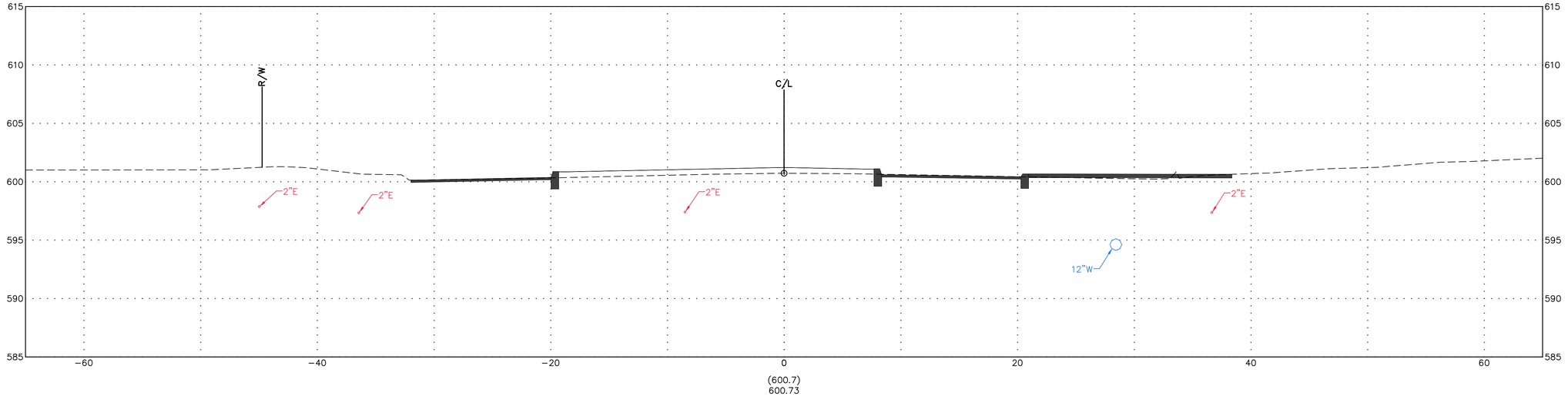
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 51+50.00



STA. 51+00.00



CROSS SECTIONS - FRONT STREET

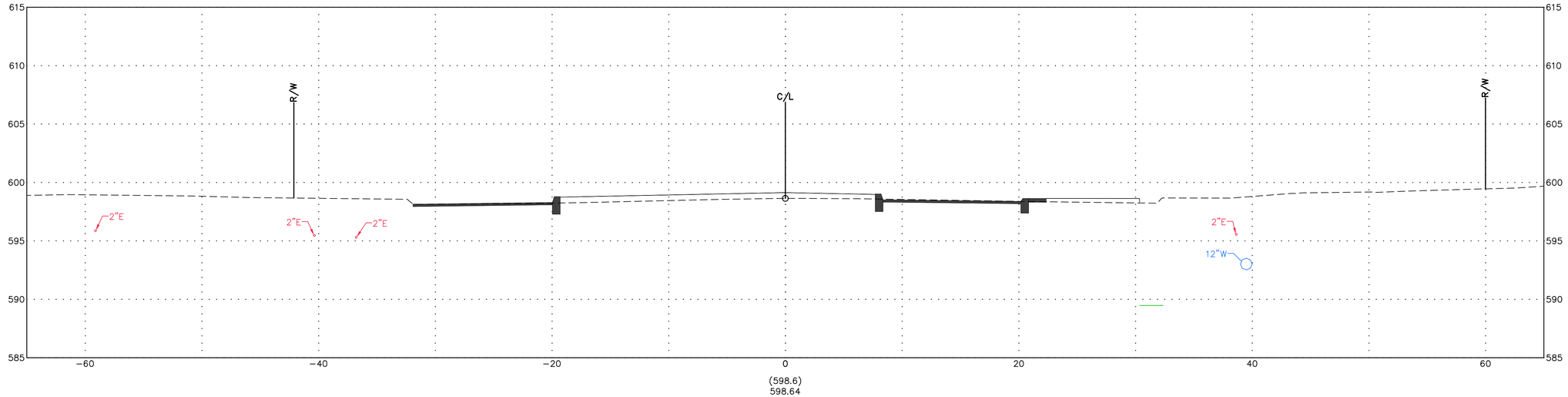
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

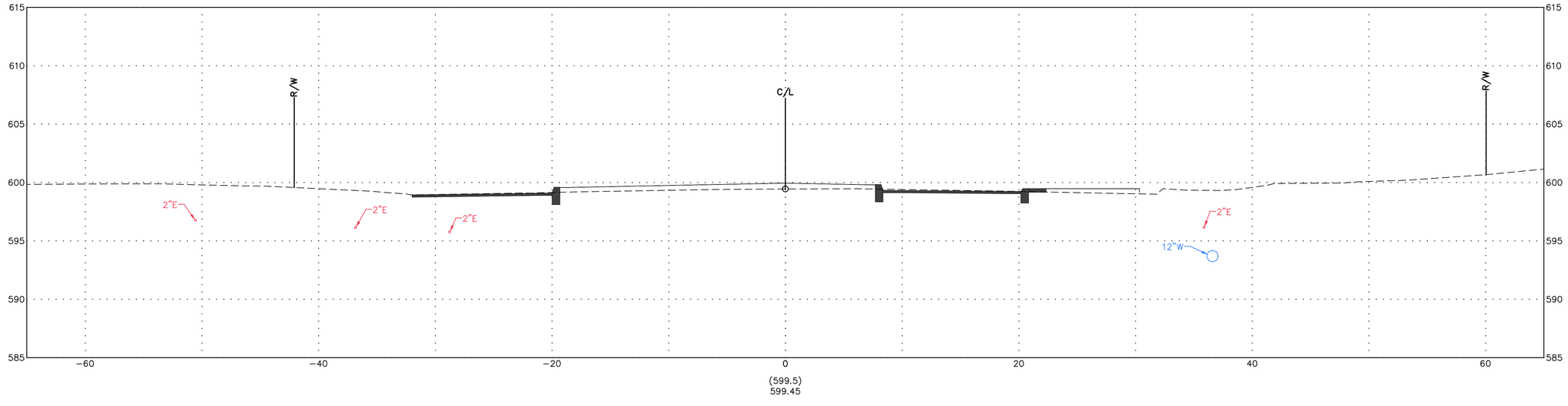
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 52+50.00



STA. 52+00.00



CROSS SECTIONS - FRONT STREET

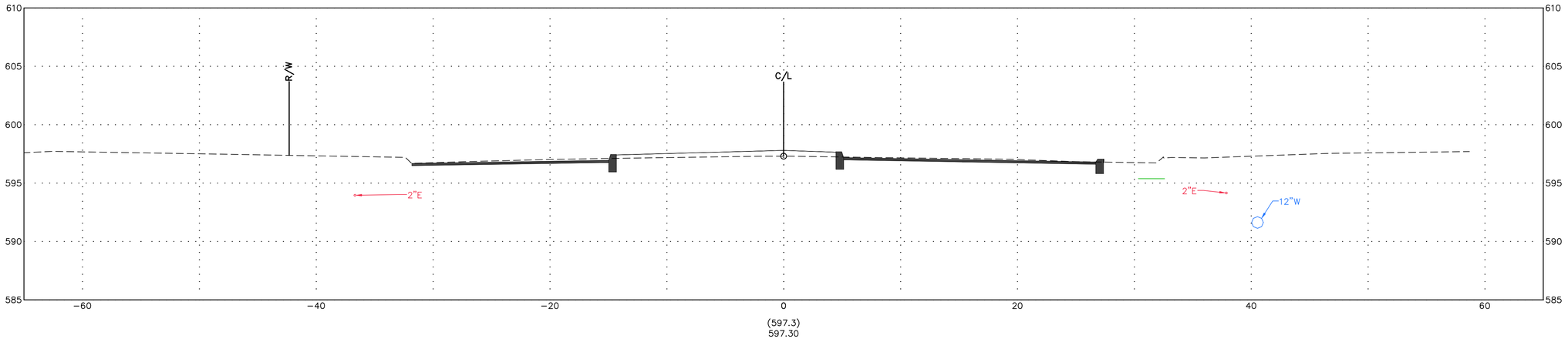
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

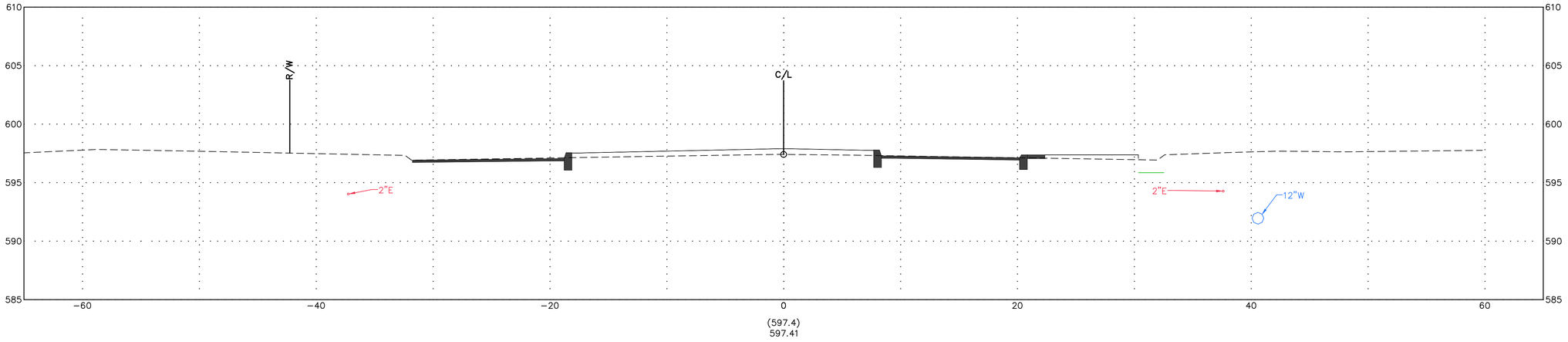
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

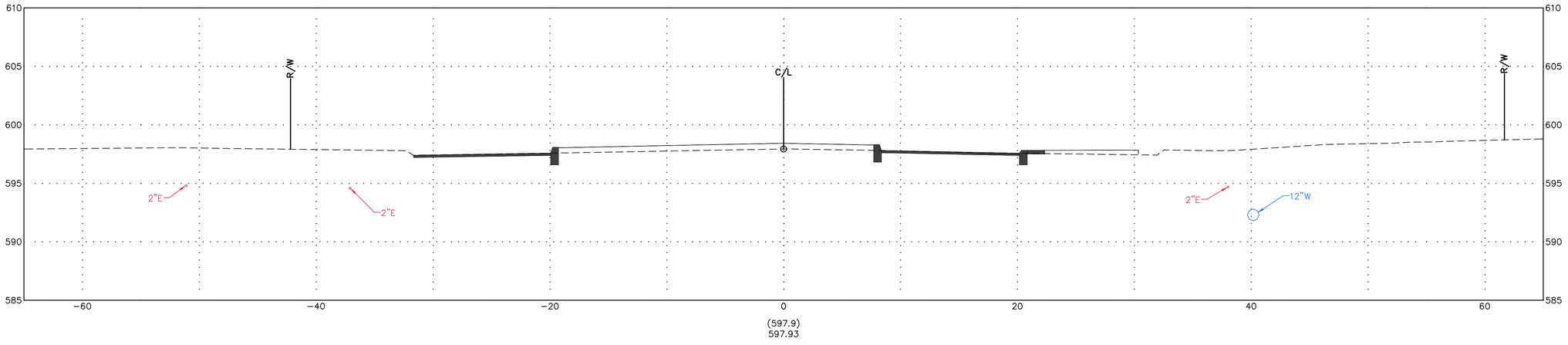
STA. 54+00.00



STA. 53+50.00



STA. 53+00.00



CROSS SECTIONS - FRONT STREET

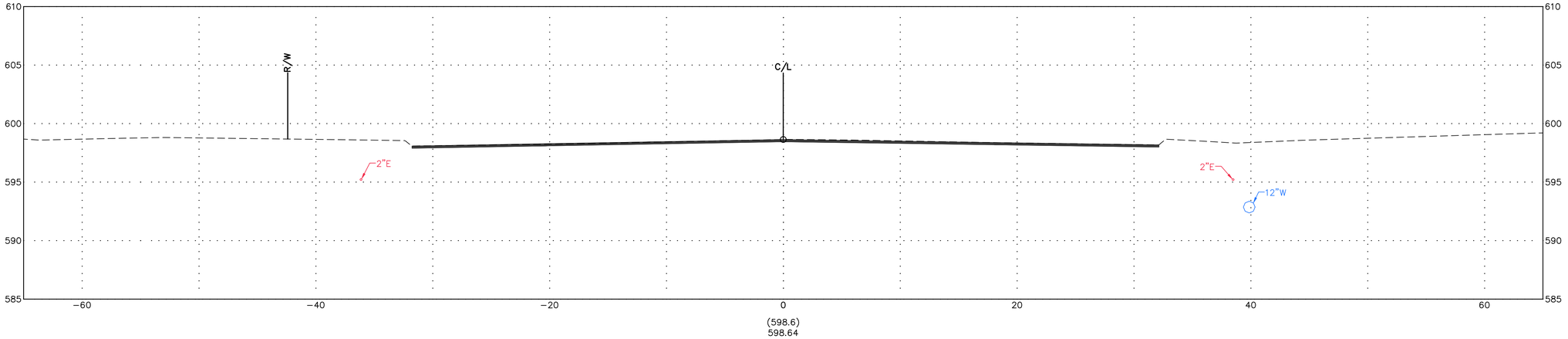
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

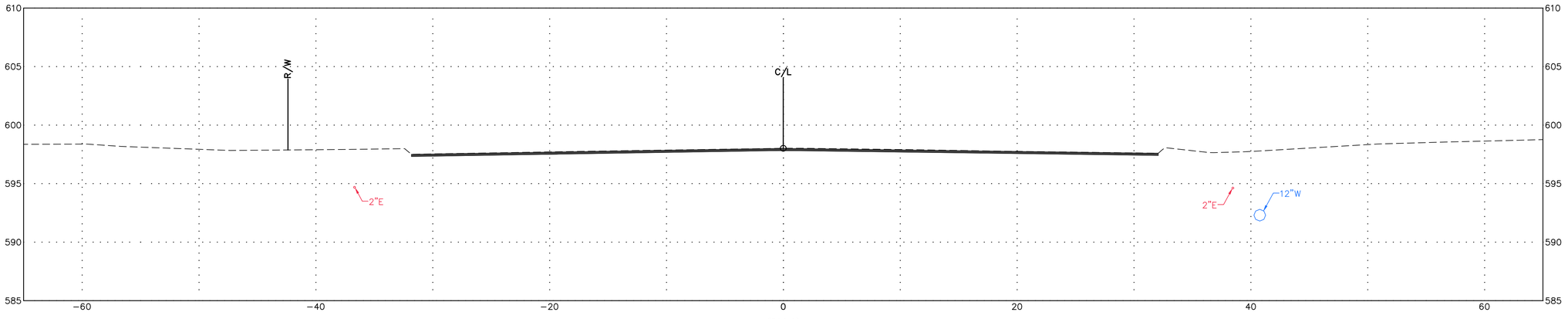
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

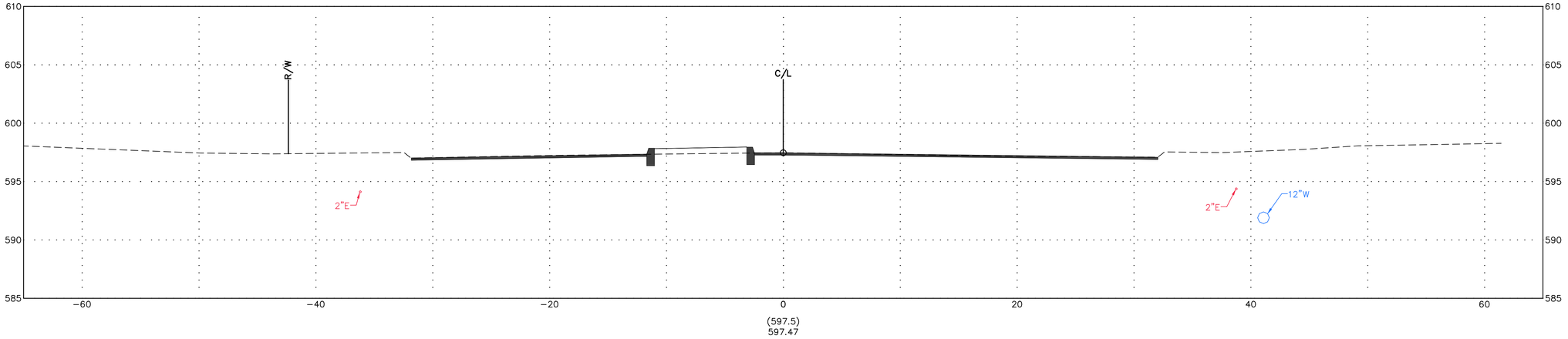
STA. 55+50.00



STA. 55+00.00



STA. 54+50.00



CROSS SECTIONS - FRONT STREET

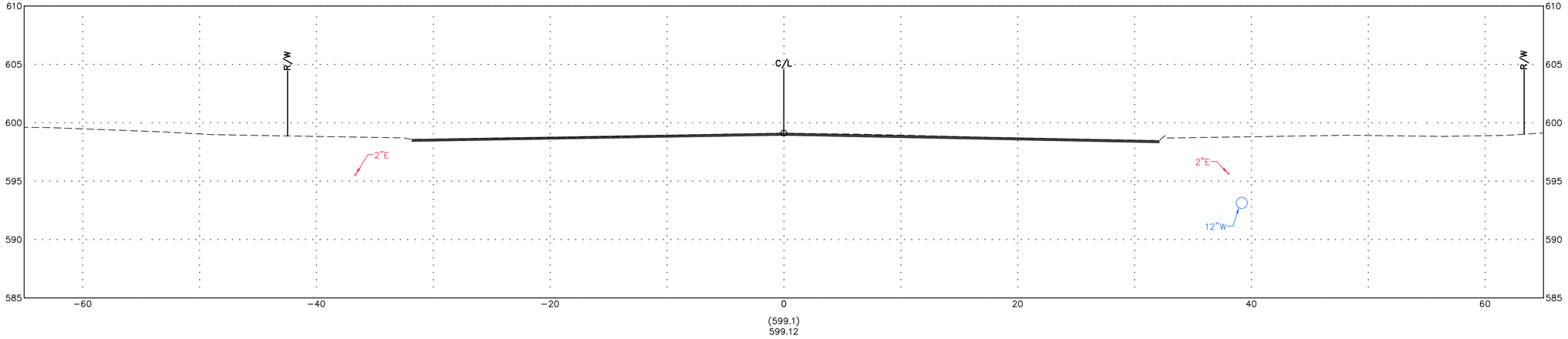
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

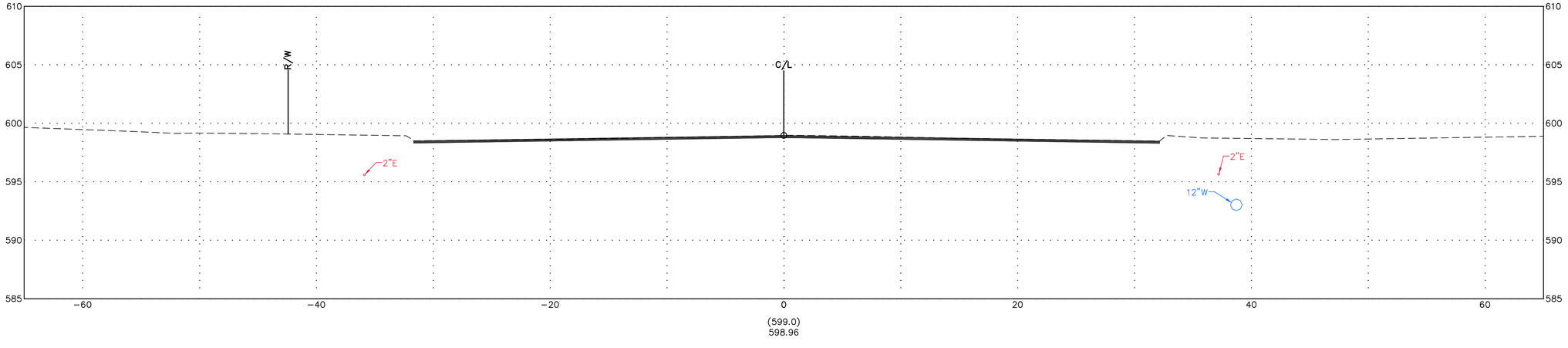
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 56+50.00



STA. 56+00.00



CROSS SECTIONS - FRONT STREET

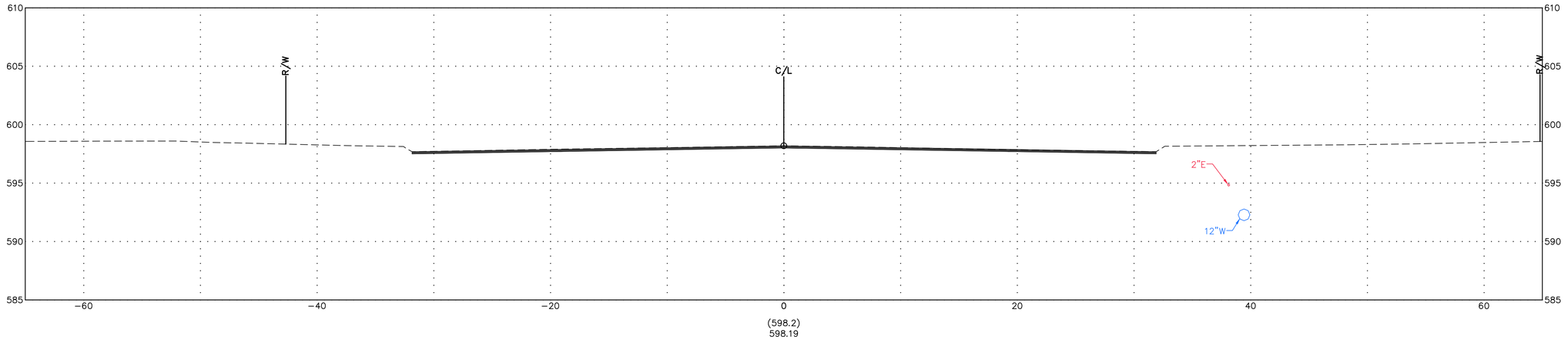
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

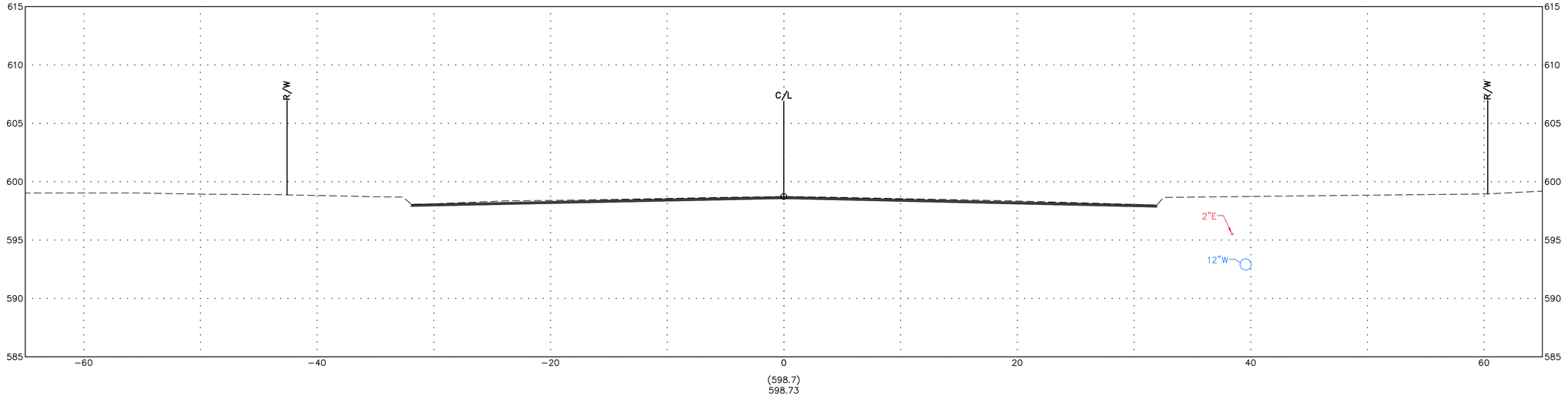
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 57+50.00



STA. 57+00.00



CROSS SECTIONS - FRONT STREET

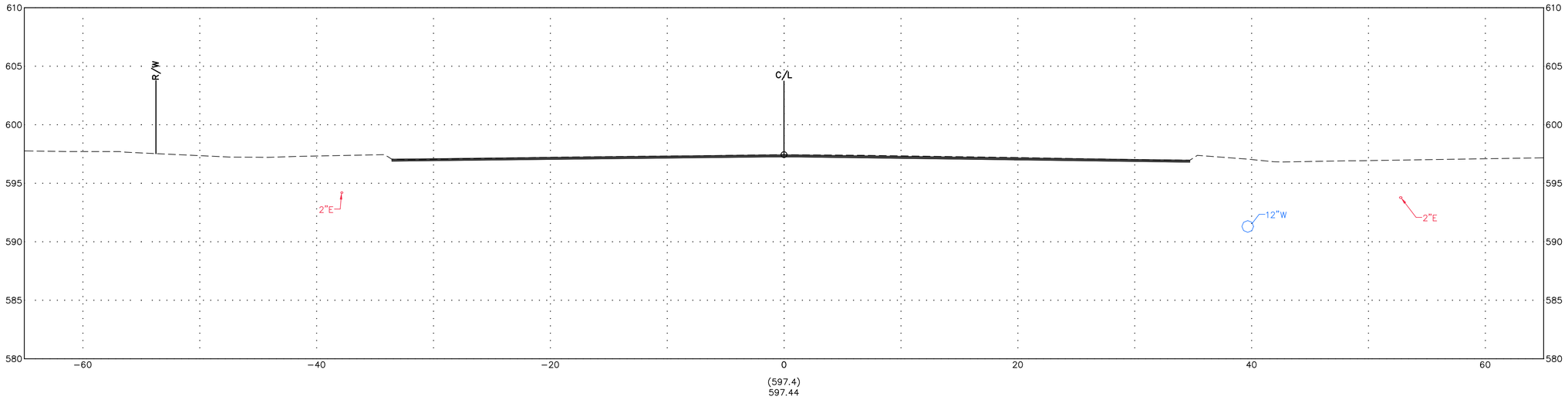
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

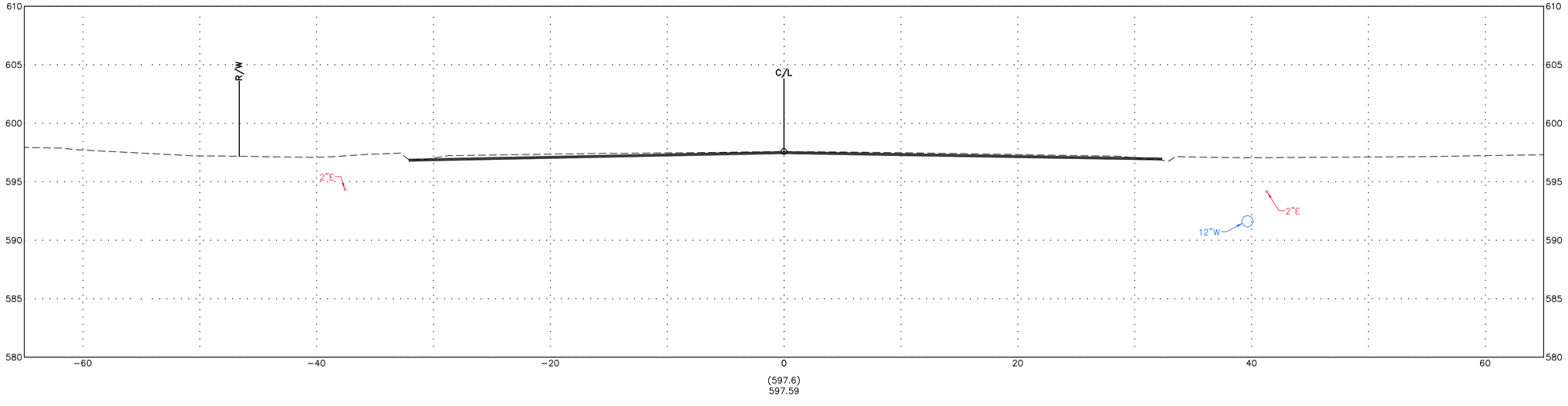
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 58+12.00



STA. 58+00.00



CROSS SECTIONS - FRONT STREET

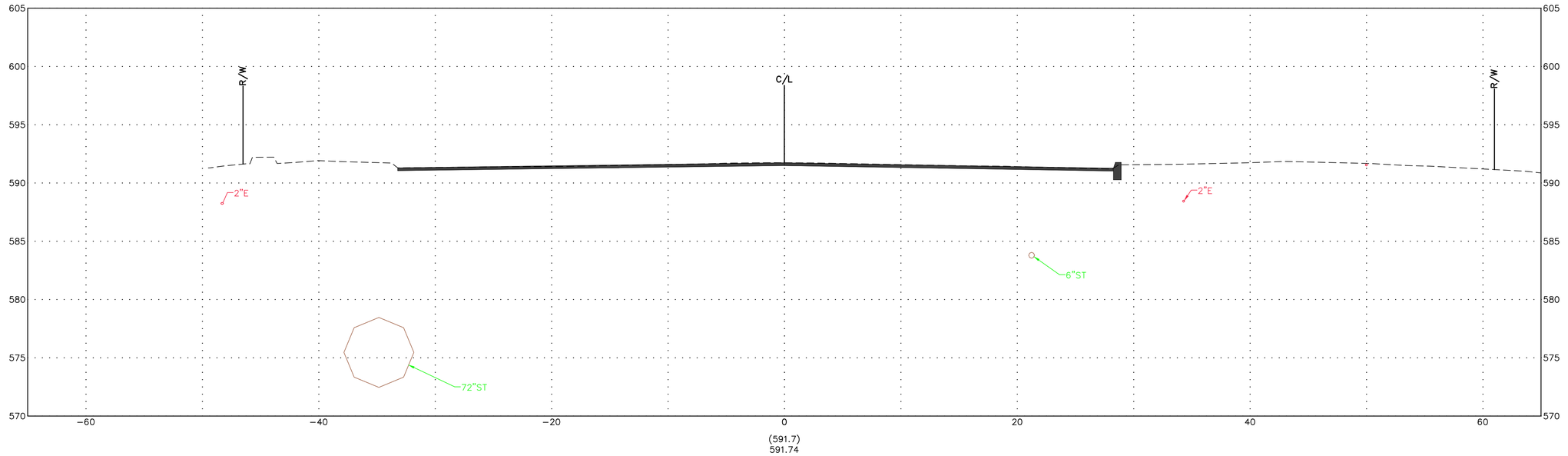
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

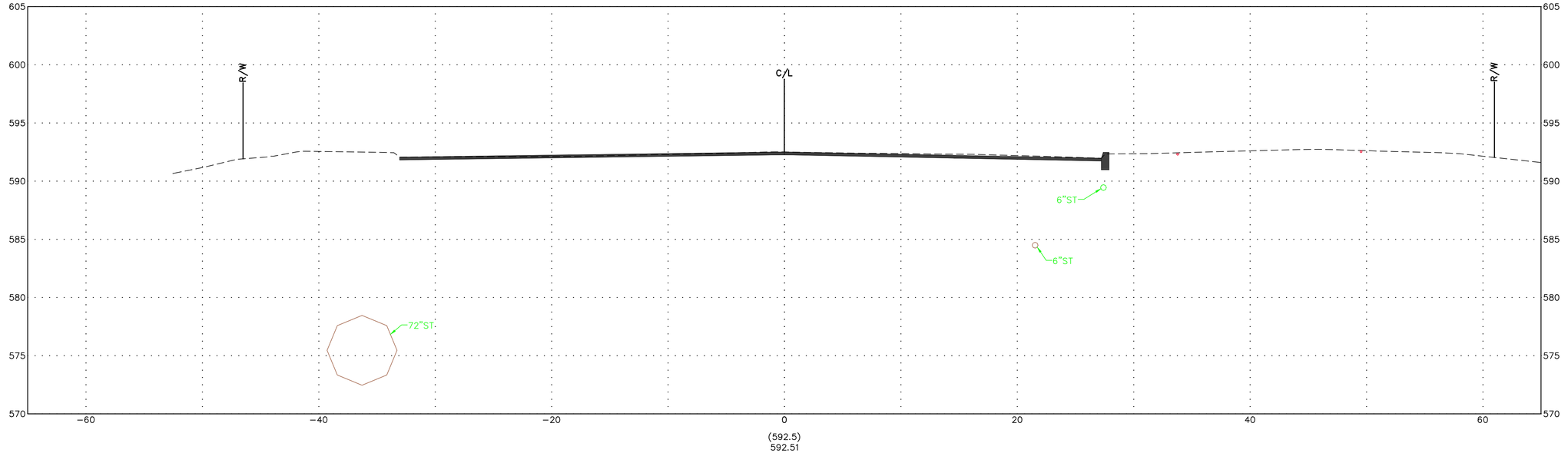
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 103+50.00



STA. 103+20.20



PROPOSED CROSS SECTION - N MAIN STREET

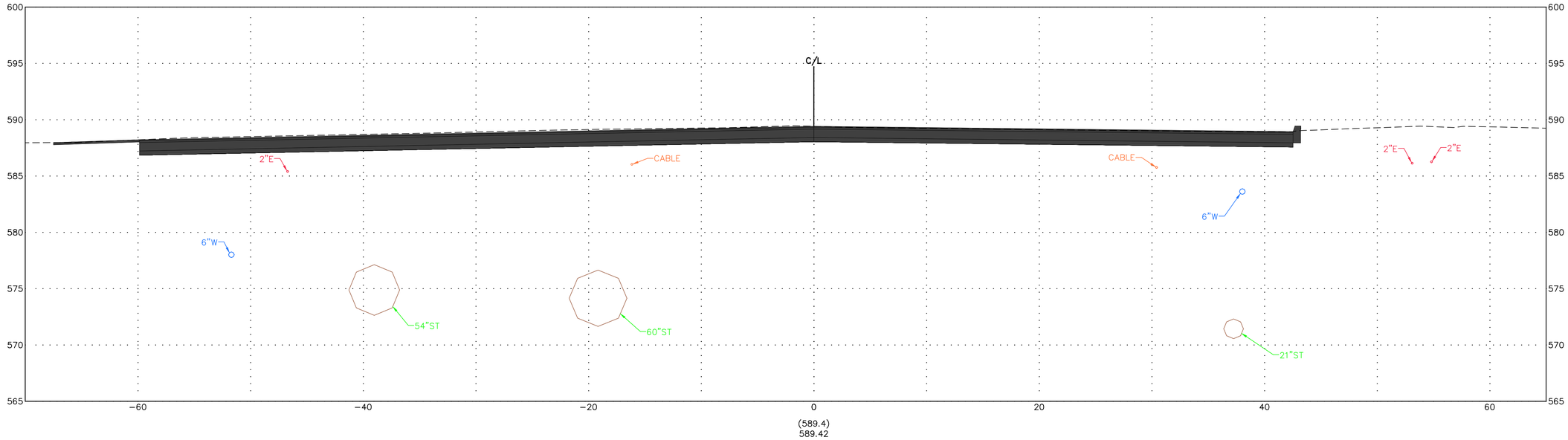
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

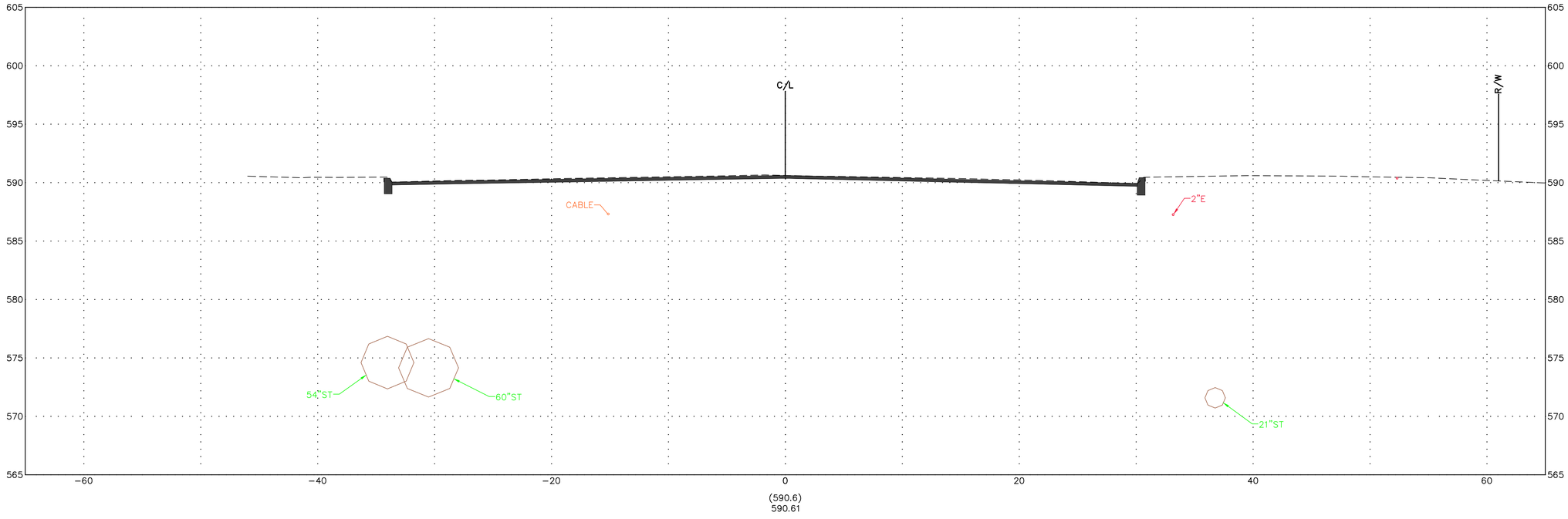
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 104+50.00



STA. 104+00.00



PROPOSED CROSS SECTION - N MAIN STREET

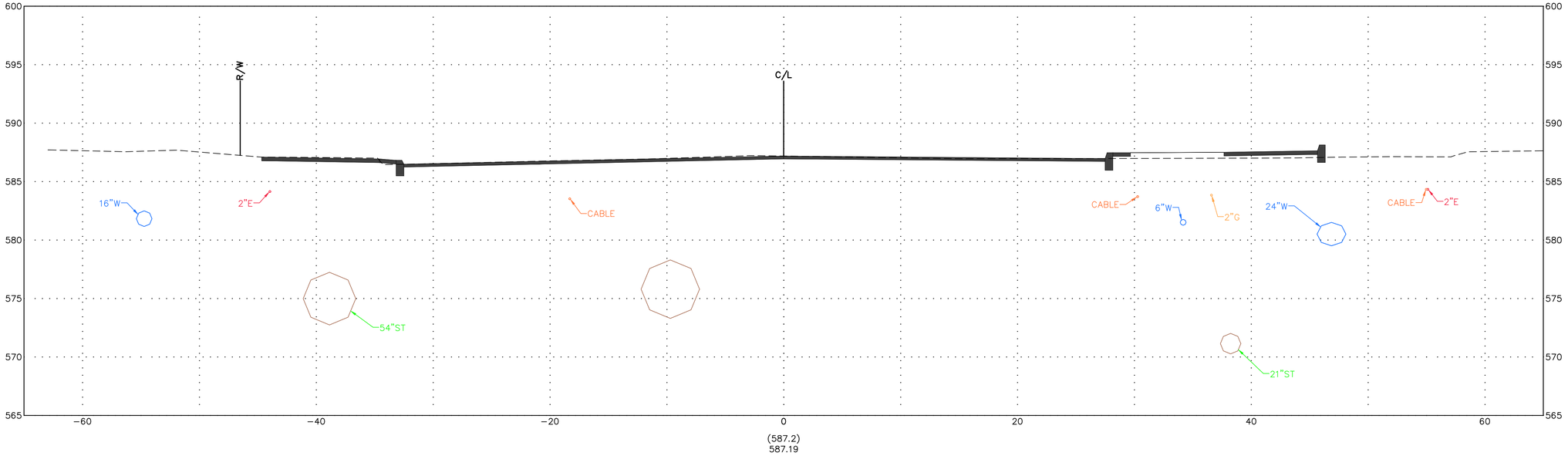
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

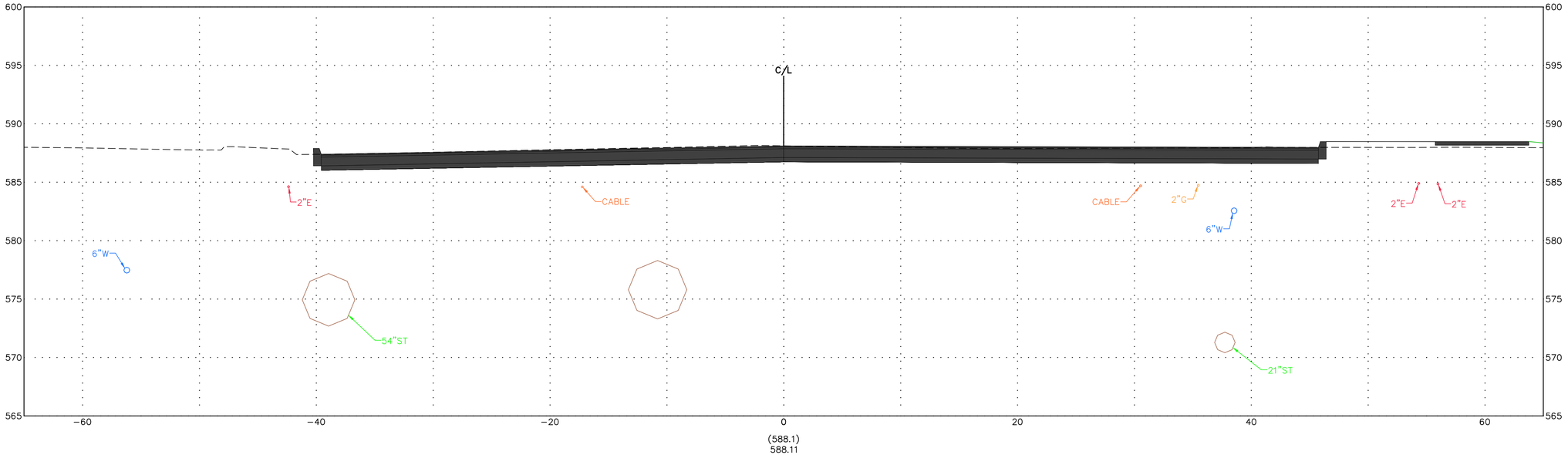
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 105+50.00



STA. 105+00.00



PROPOSED CROSS SECTION - N MAIN STREET

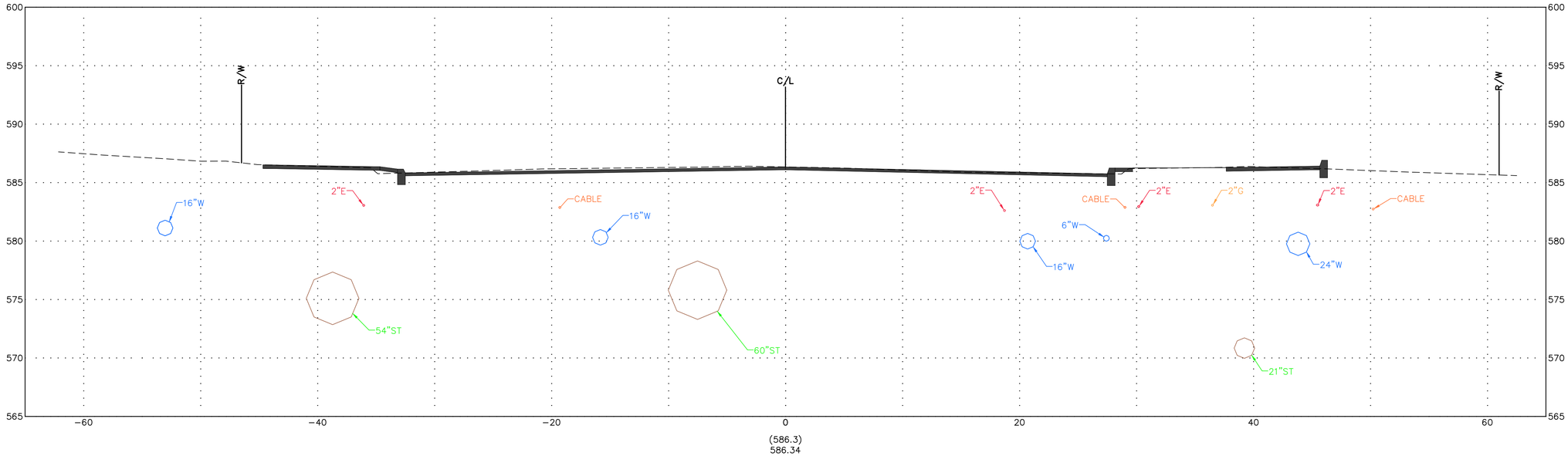
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

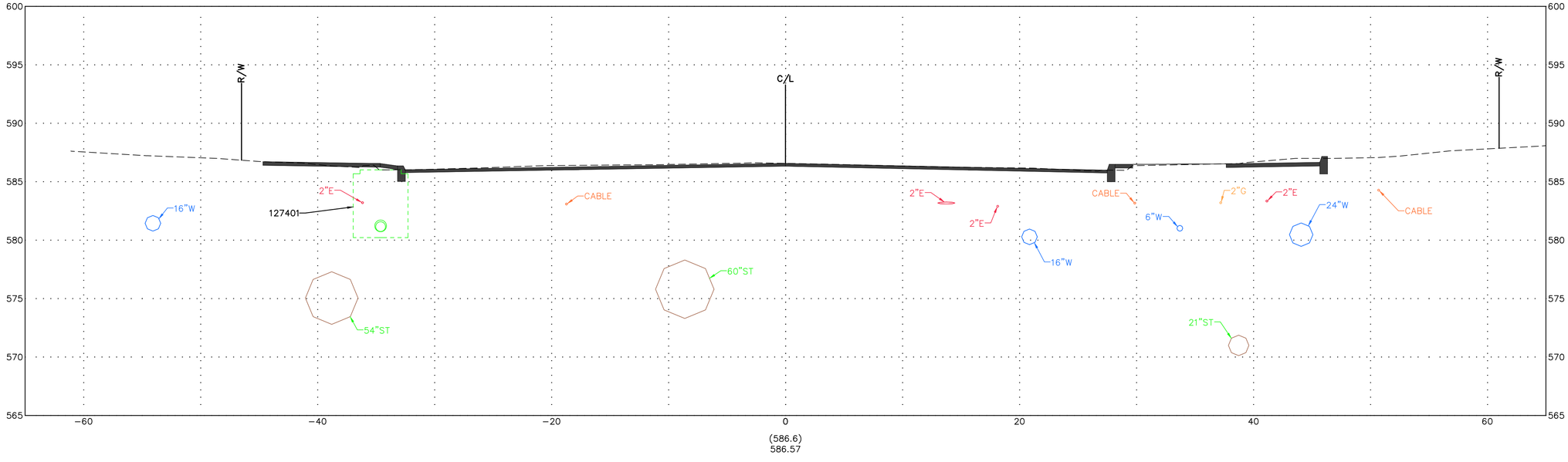
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 106+50.00



STA. 106+00.00



PROPOSED CROSS SECTION - N MAIN STREET

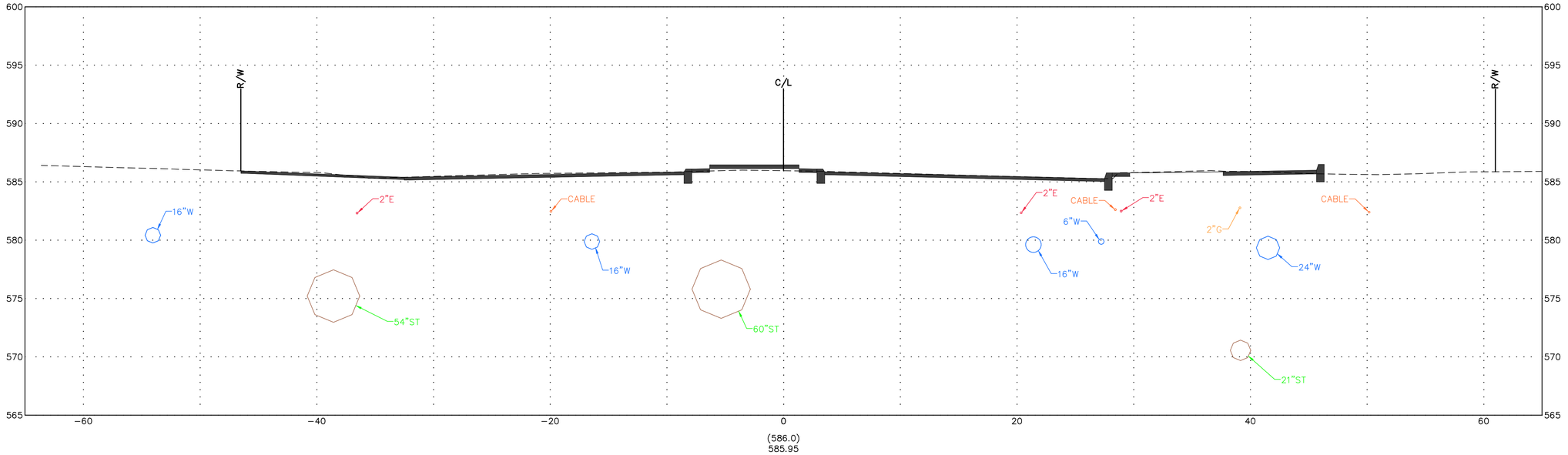
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

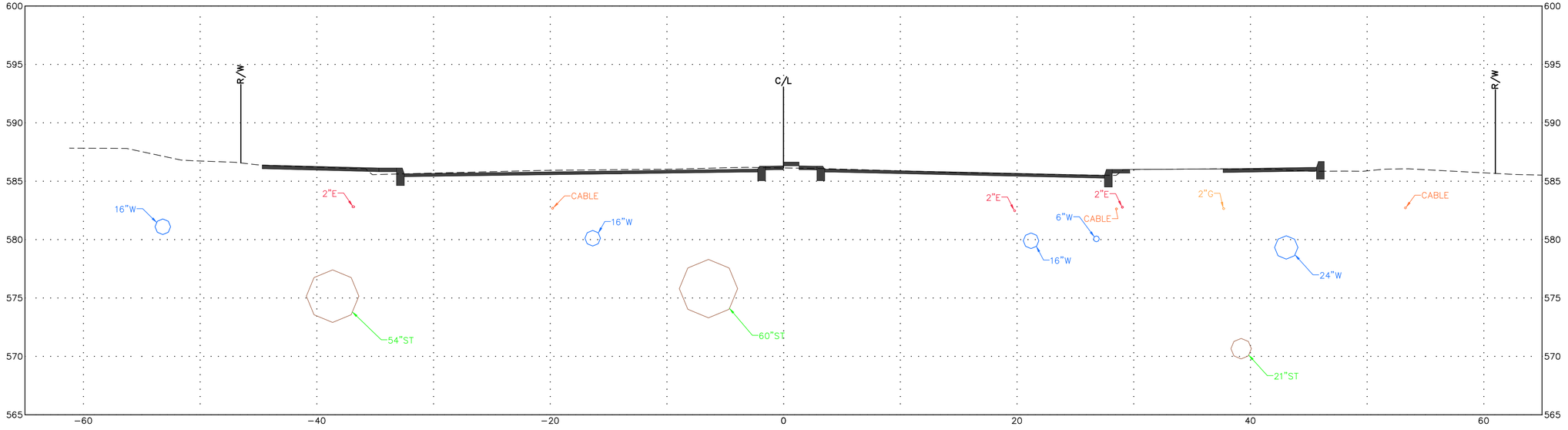
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 107+50.00



(586.0)
585.95

STA. 107+00.00



(586.1)
586.13

PROPOSED CROSS SECTION - N MAIN STREET

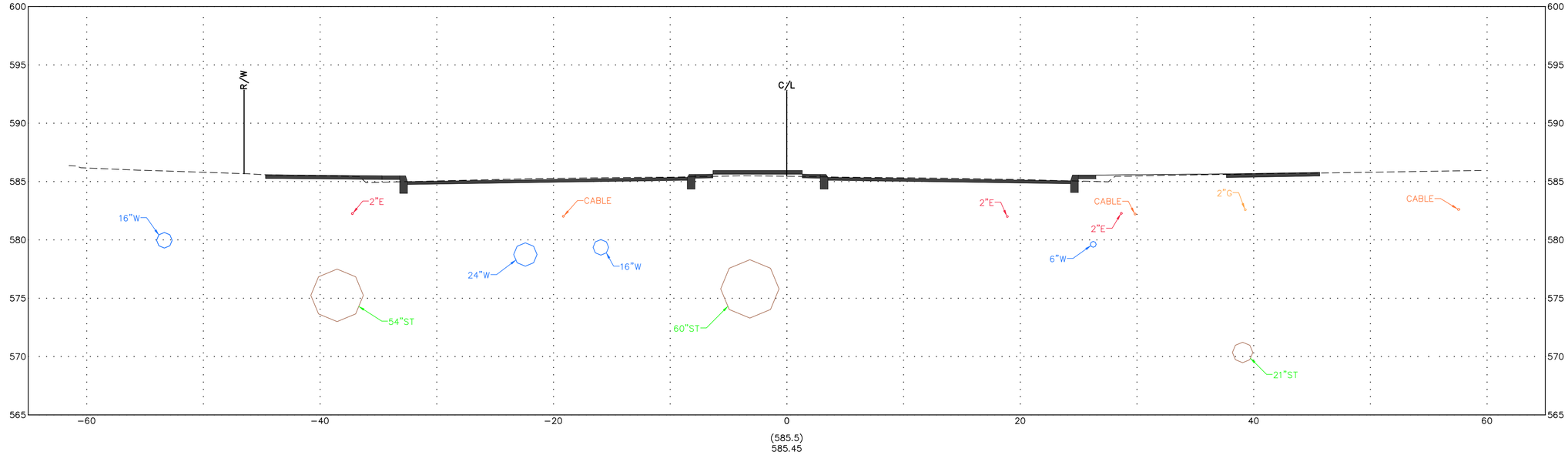
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

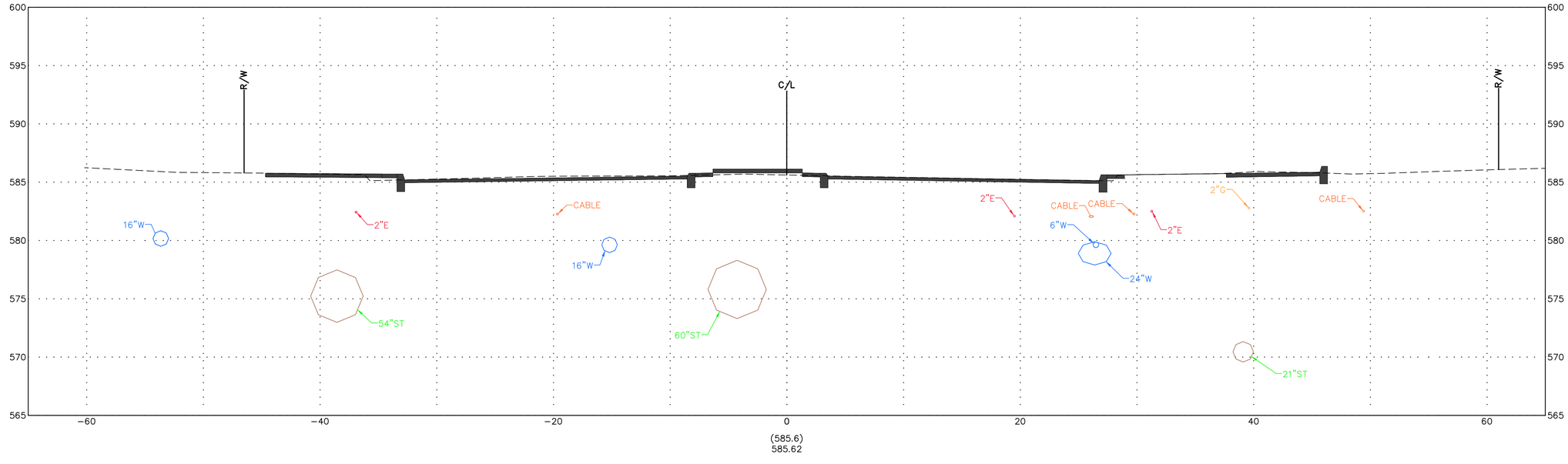
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 108+50.00



STA. 108+00.00



PROPOSED CROSS SECTION - N MAIN STREET

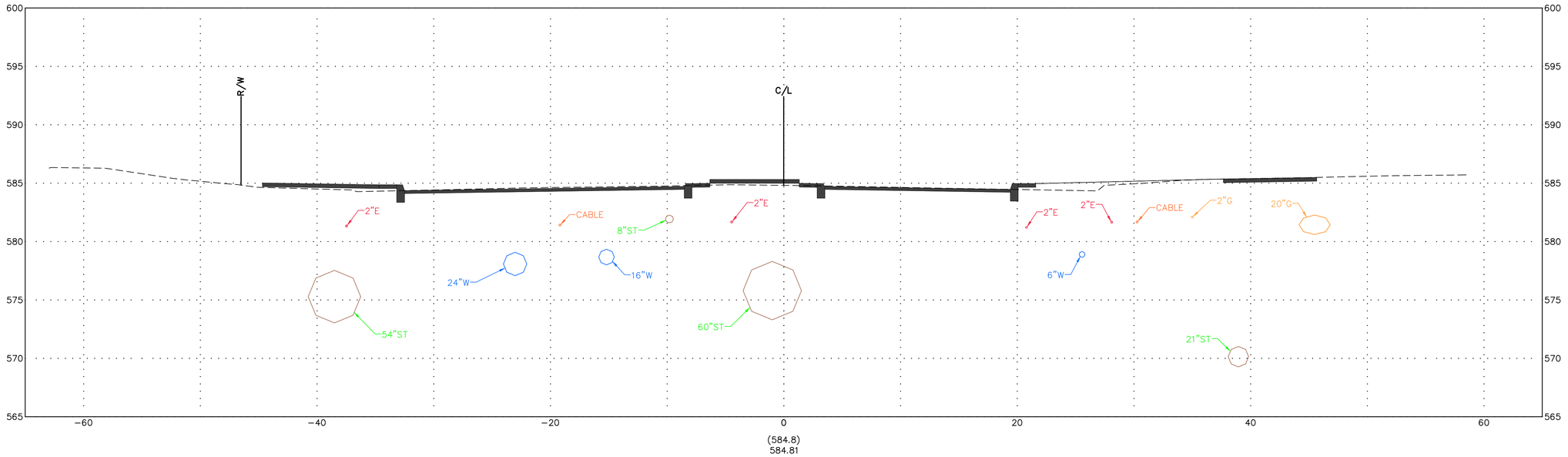
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

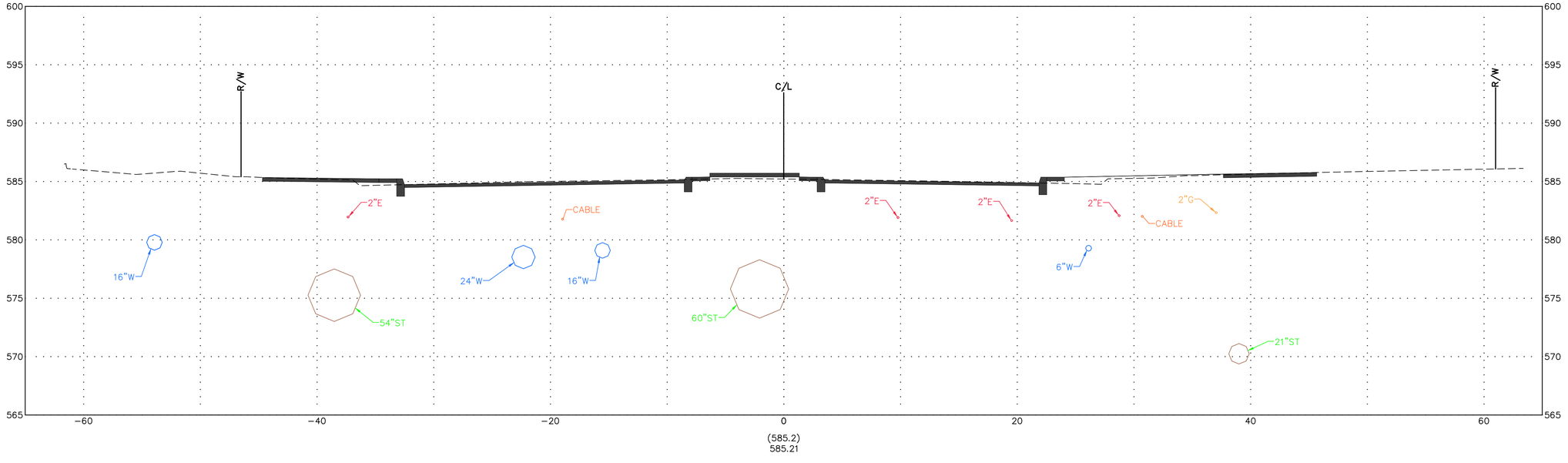
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 109+50.00



STA. 109+00.00



PROPOSED CROSS SECTION - N MAIN STREET

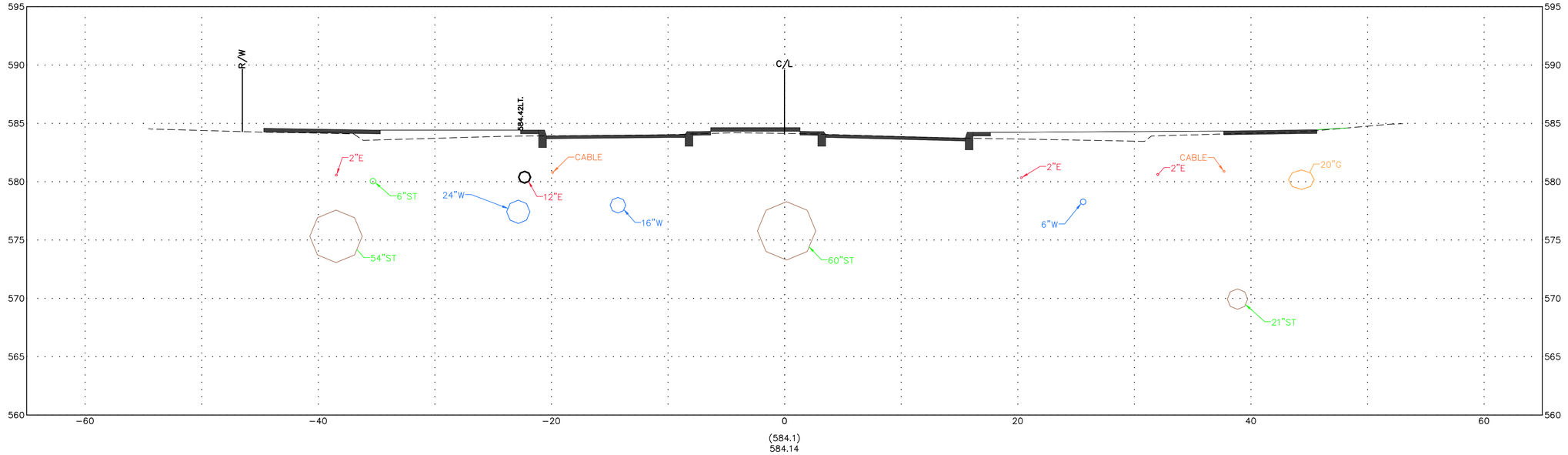
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 110+50.00



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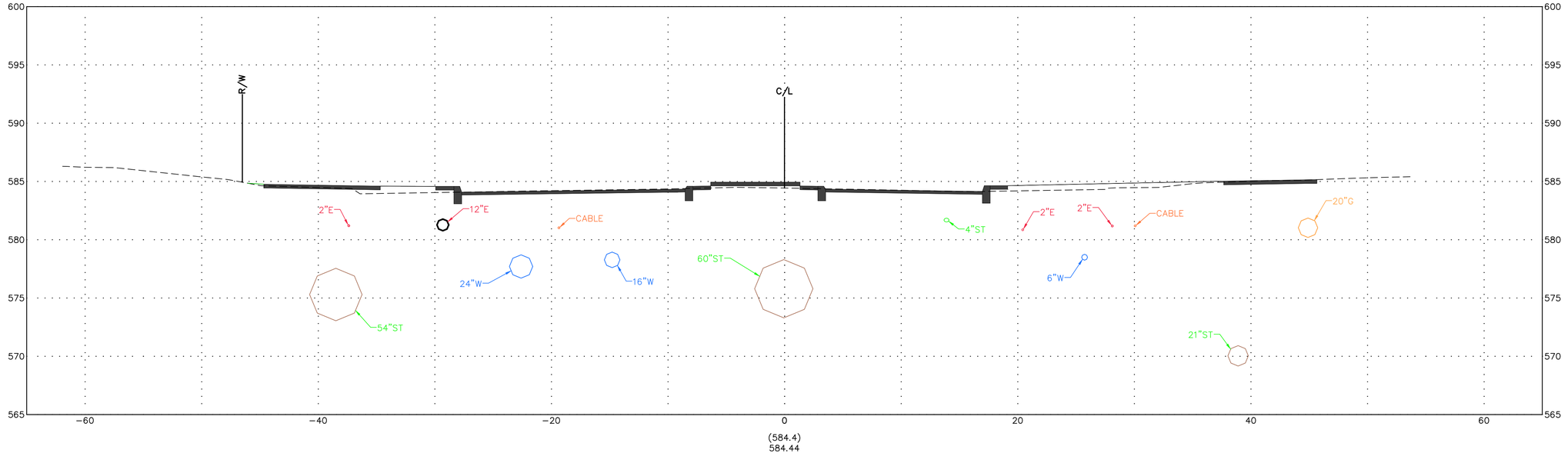
584.14

STA. 110+00.00



(584.4)
584.44

PROPOSED CROSS SECTION - N MAIN STREET

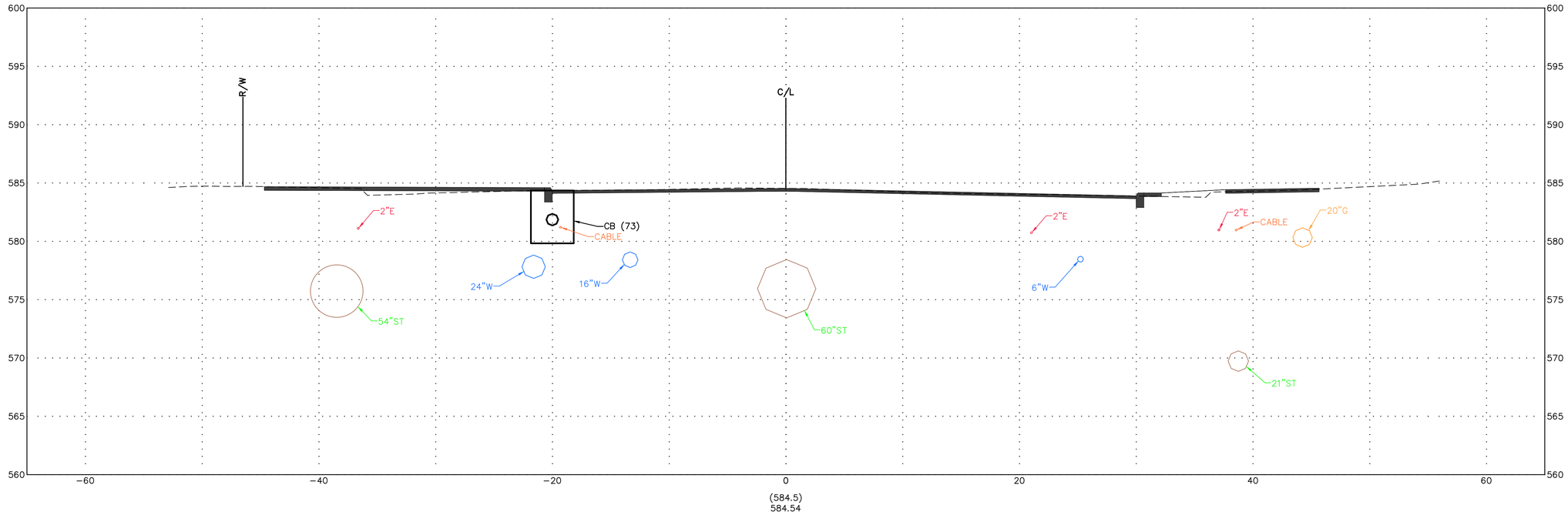
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

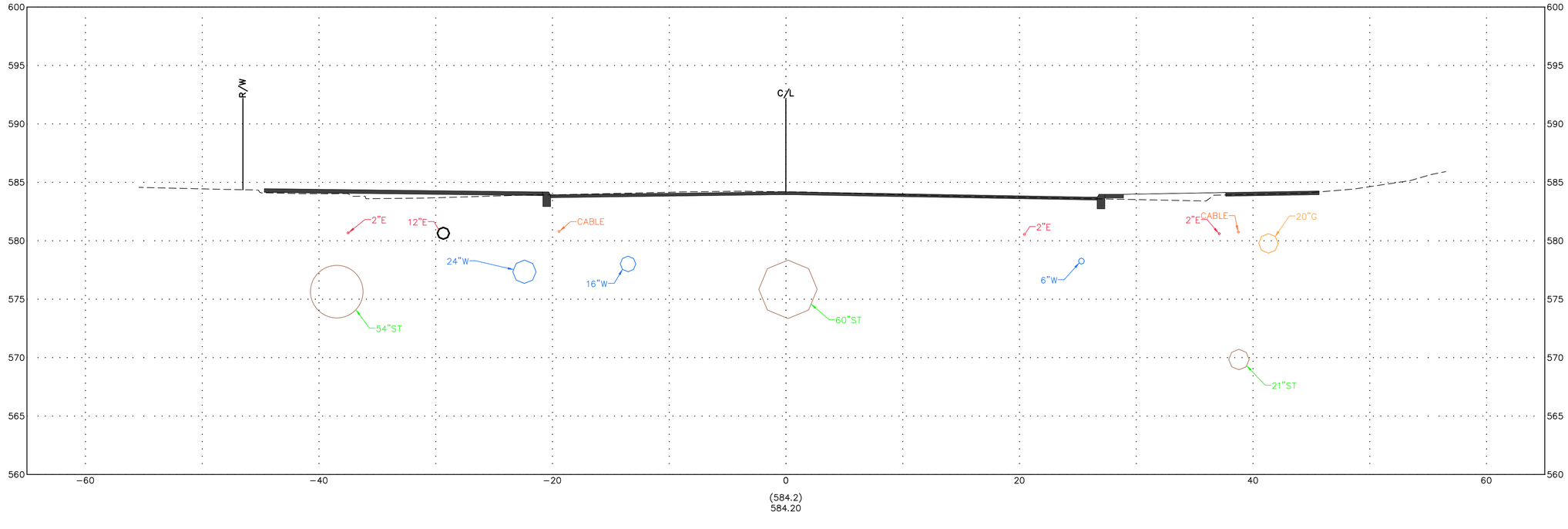
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 111+50.00



STA. 111+00.00



PROPOSED CROSS SECTION - N MAIN STREET

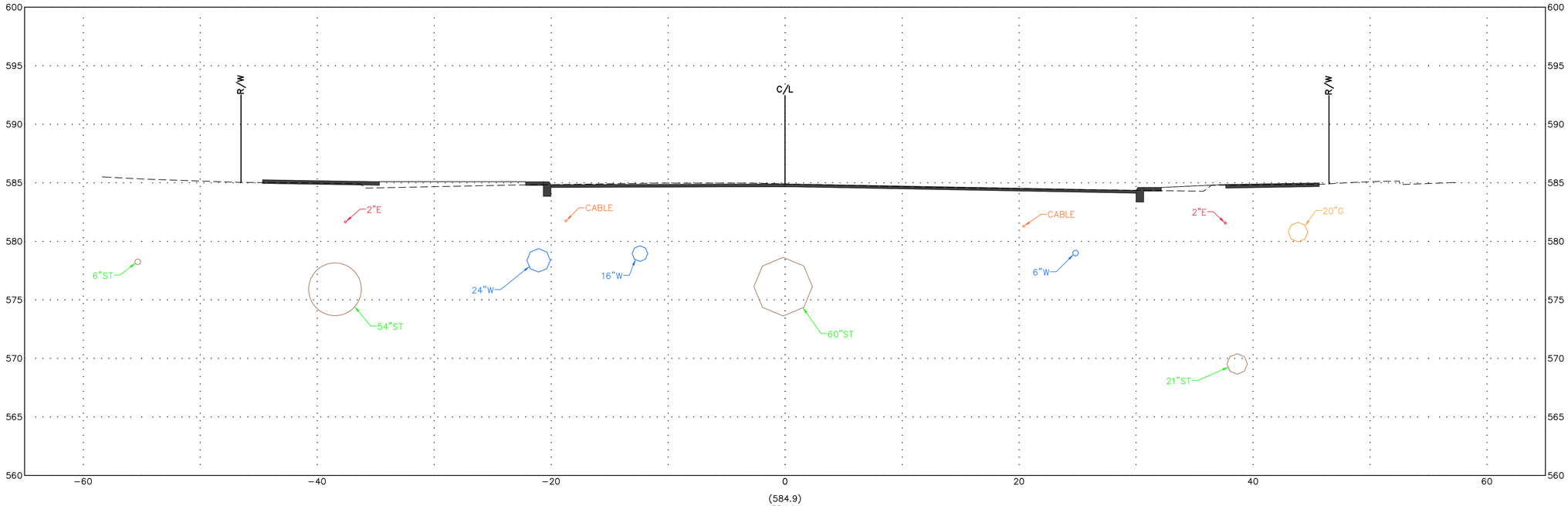
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

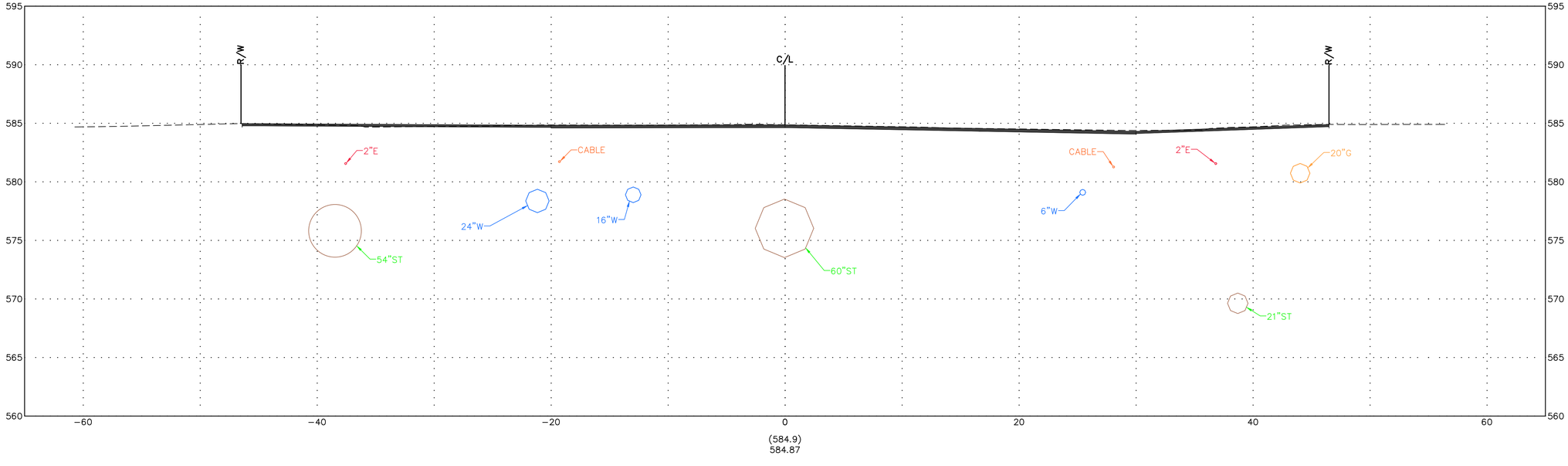
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 112+50.00



STA. 112+00.00



PROPOSED CROSS SECTION - N MAIN STREET

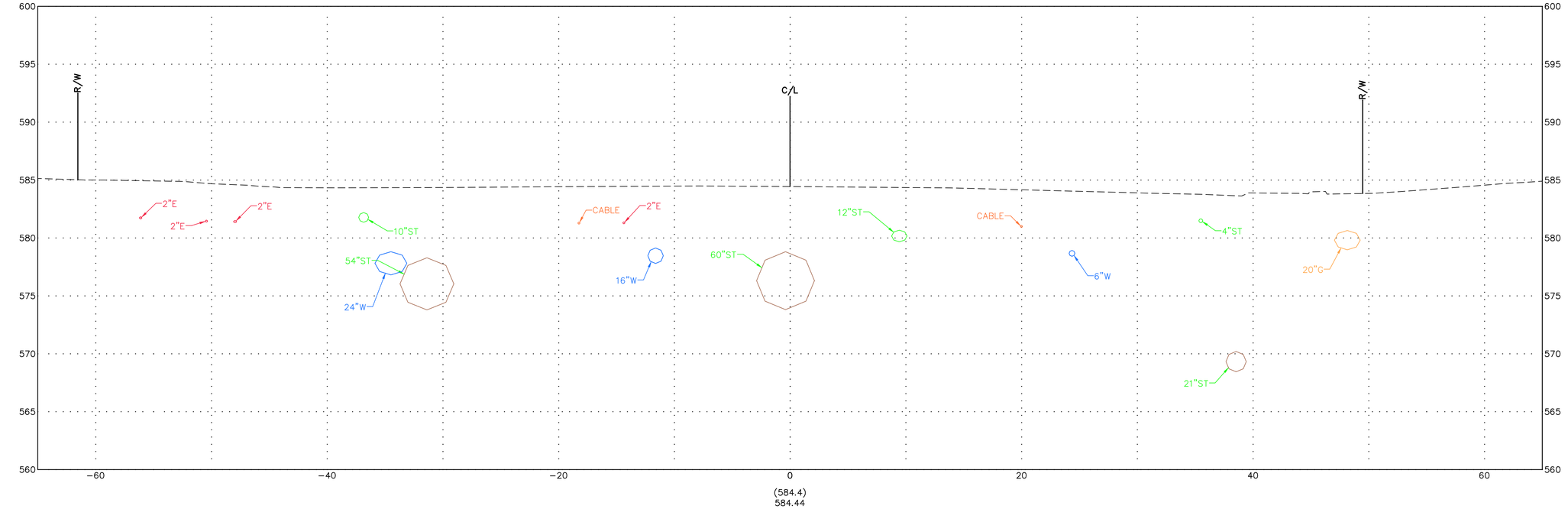
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

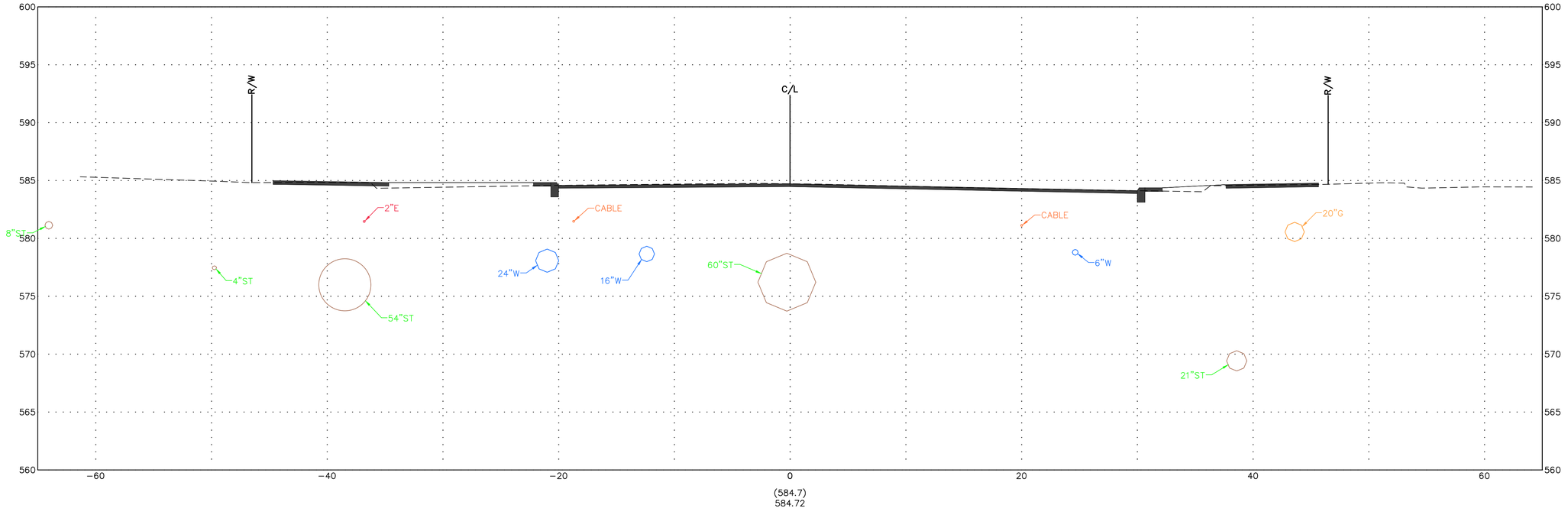
Colliers
Engineering
& Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 113+50.00



STA. 113+00.00



PROPOSED CROSS SECTION - N MAIN STREET

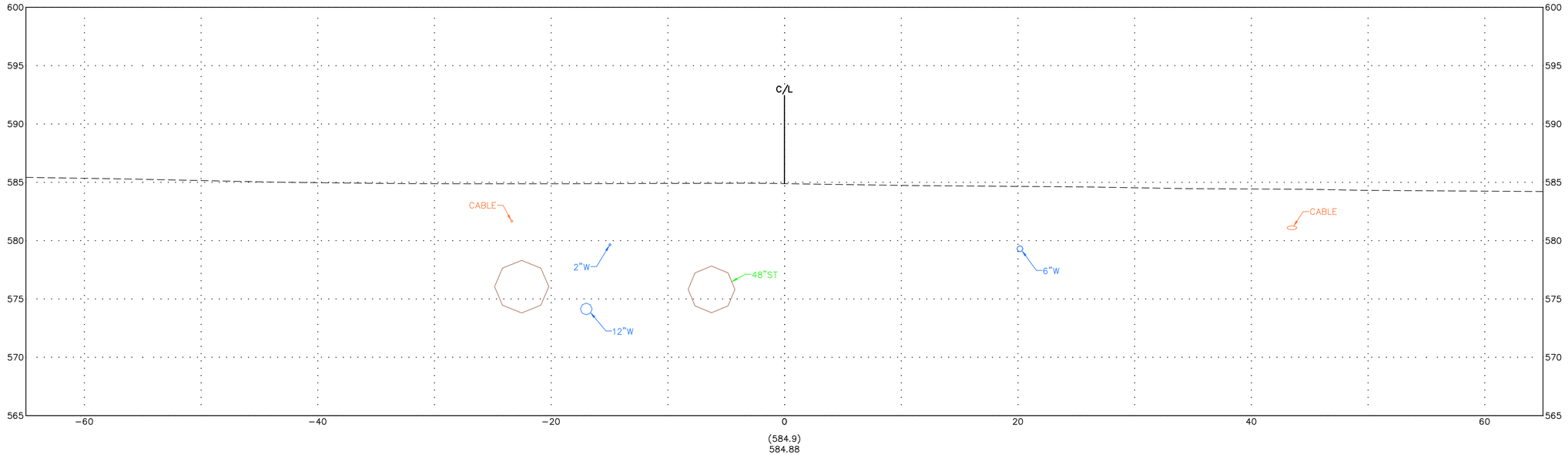
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

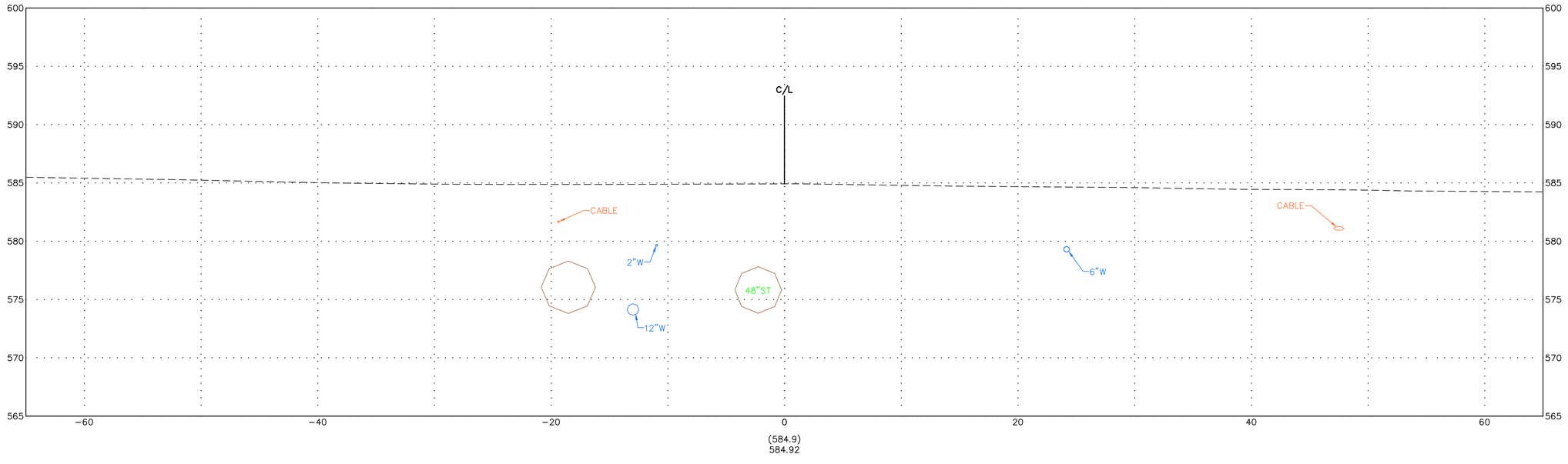
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 200+00.00



STA. 114+00.00



PROPOSED CROSS SECTION - S MAIN STREET

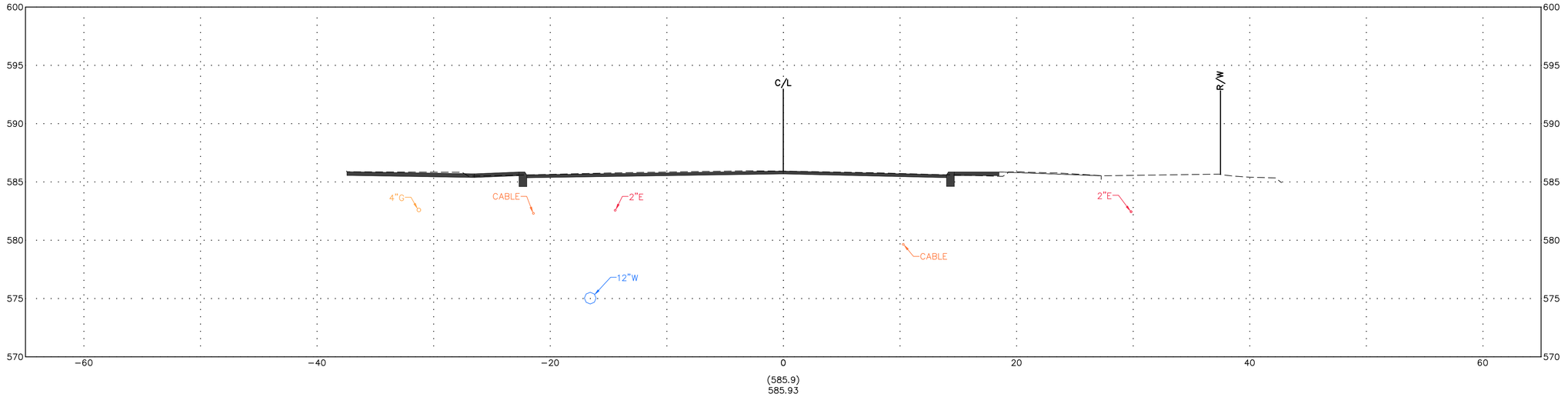
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

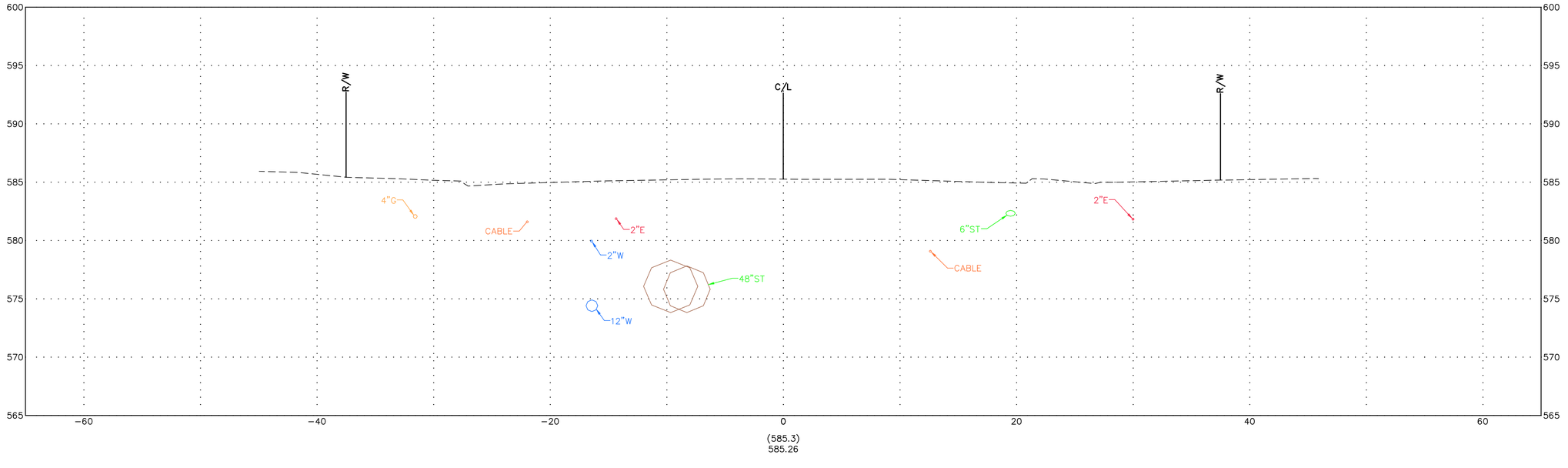
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 201+00.00



STA. 200+50.00



PROPOSED CROSS SECTION - S MAIN STREET

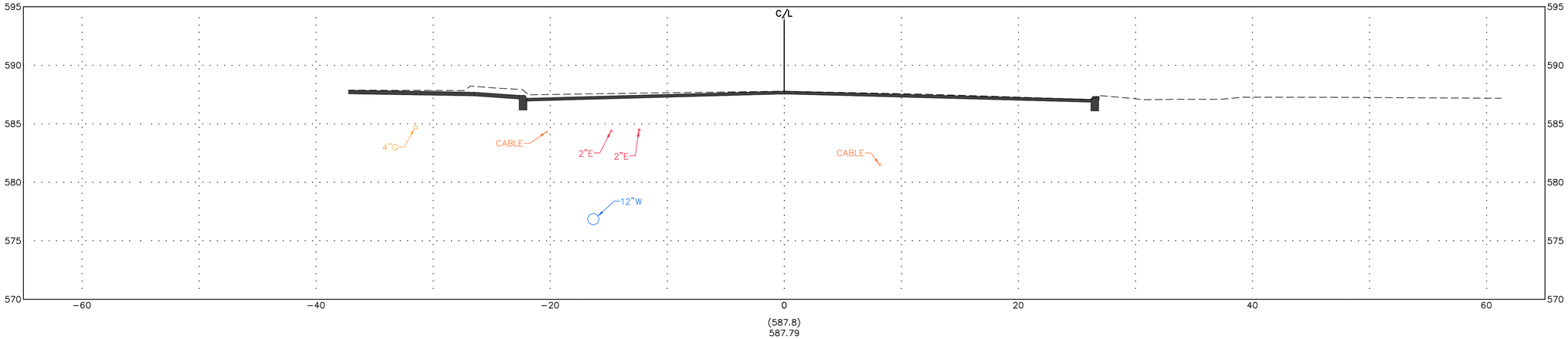
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

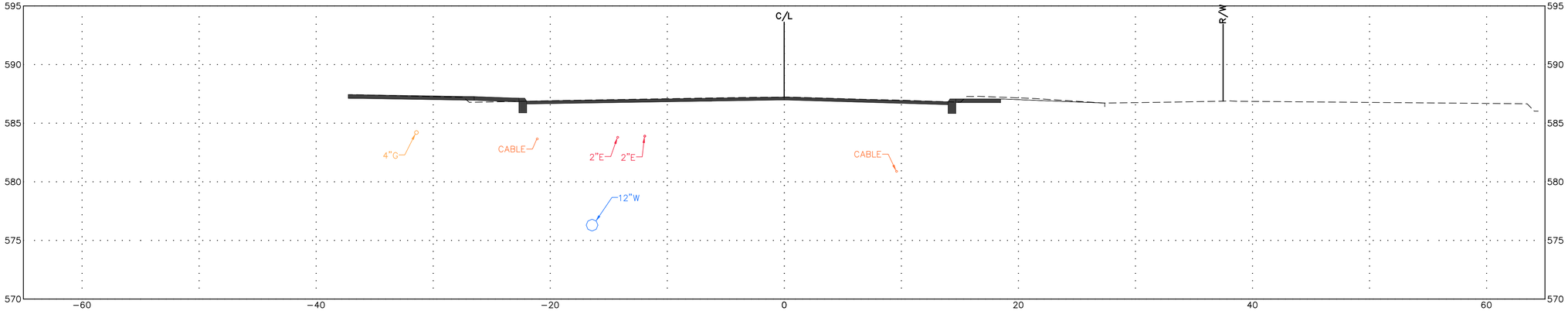
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 202+50.00



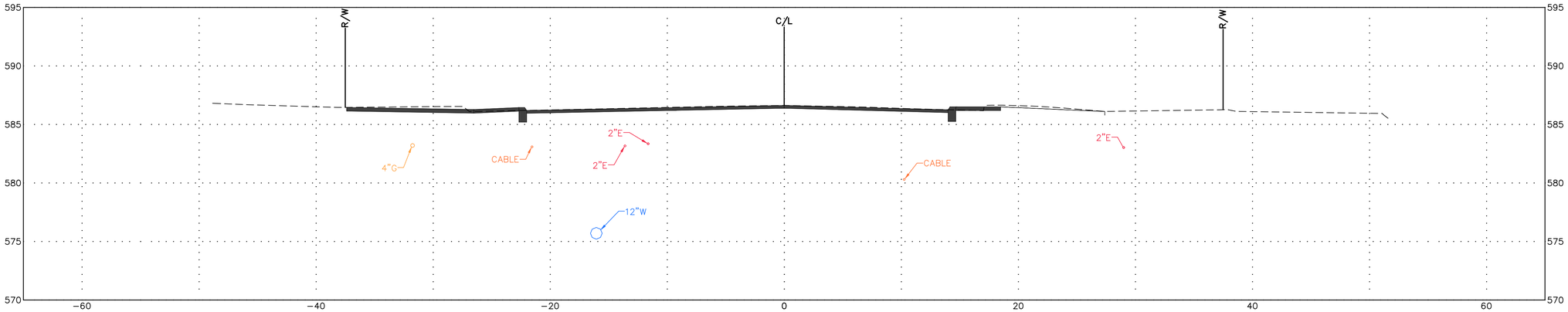
(587.8)
587.79

STA. 202+00.00



(587.2)
587.23

STA. 201+50.00



(586.6)
586.63

PROPOSED CROSS SECTION - S MAIN STREET

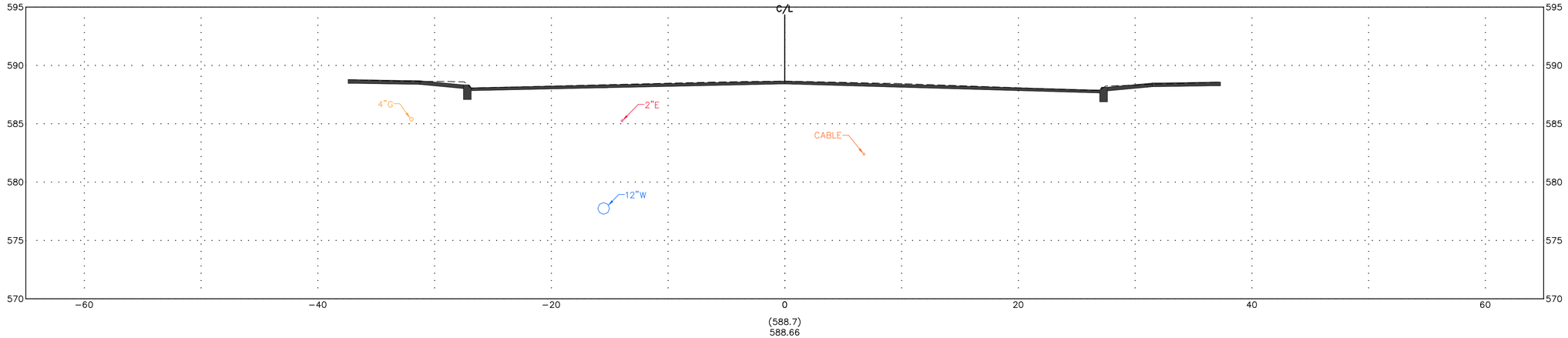
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

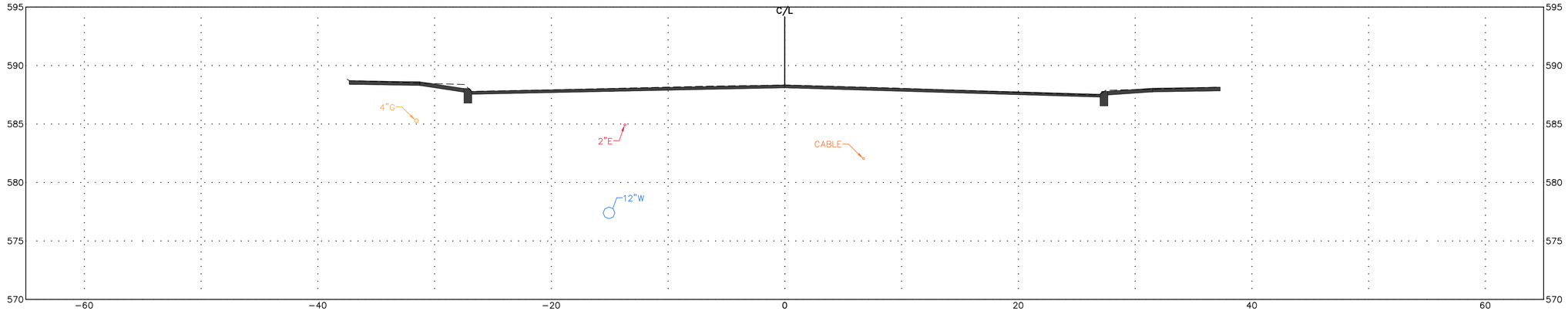
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

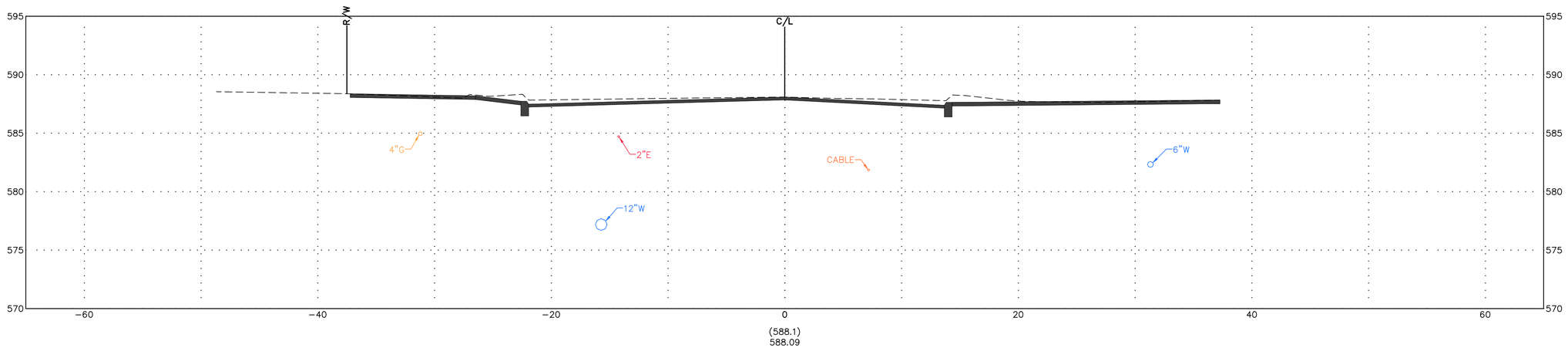
STA. 204+00.00



STA. 203+50.00



STA. 203+00.00



PROPOSED CROSS SECTION - S MAIN STREET

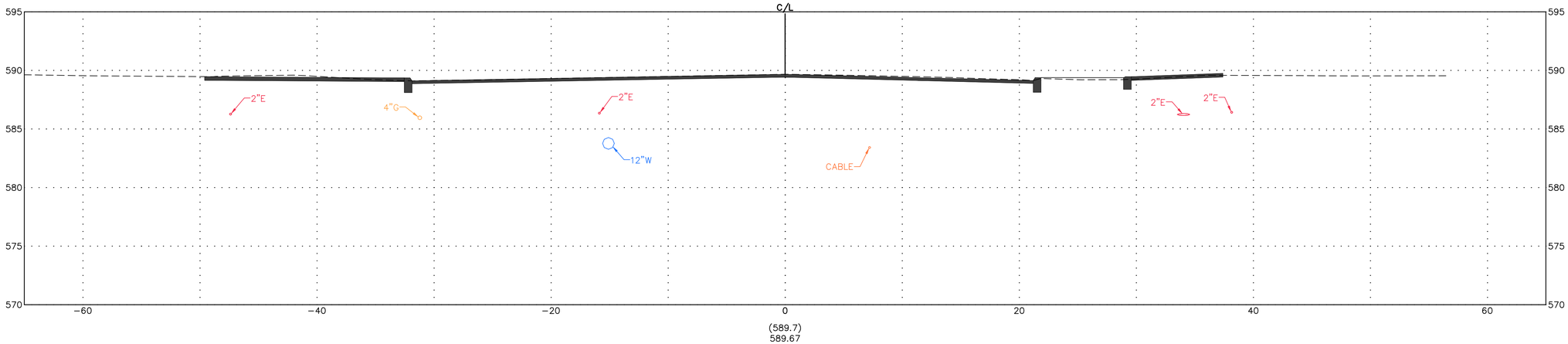
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

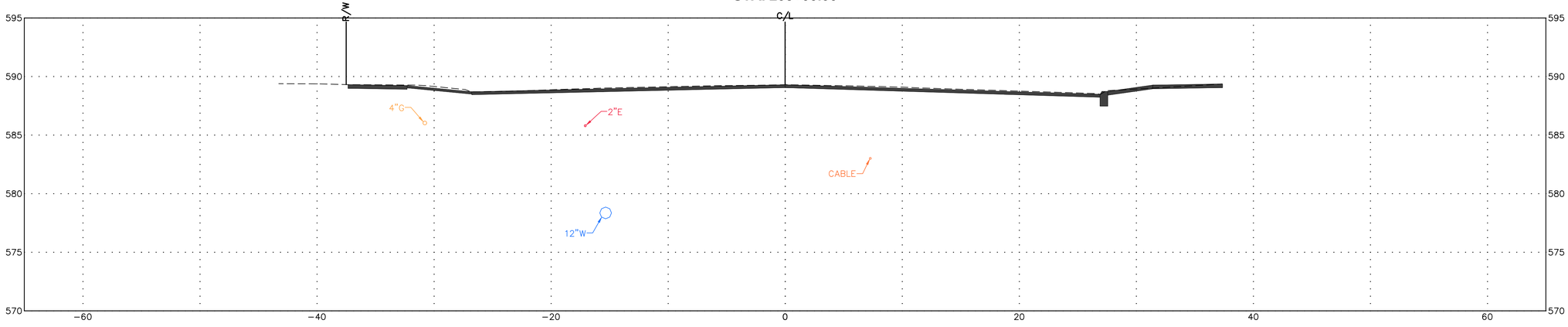
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 205+50.00



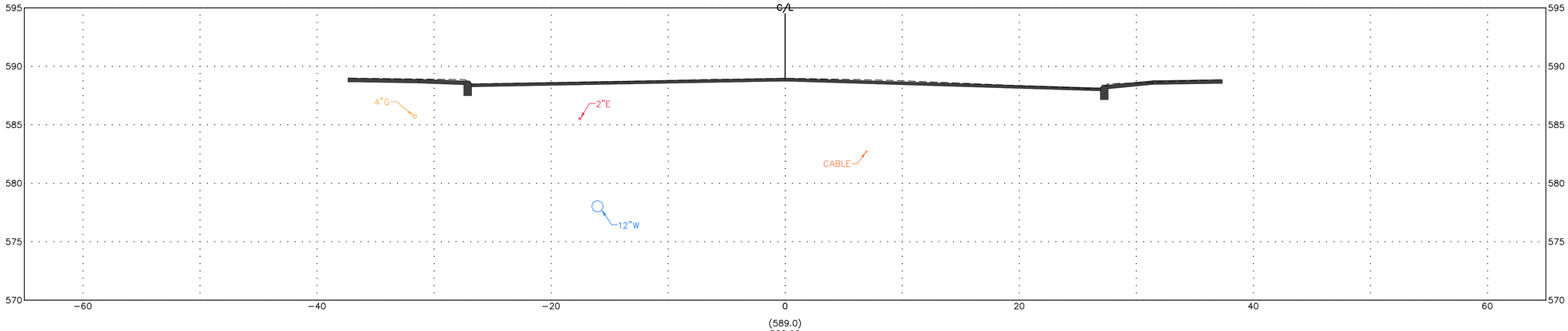
(589.7)
589.67

STA. 205+00.00



(589.3)
589.30

STA. 204+50.00



(589.0)
588.98

PROPOSED CROSS SECTION - S MAIN STREET

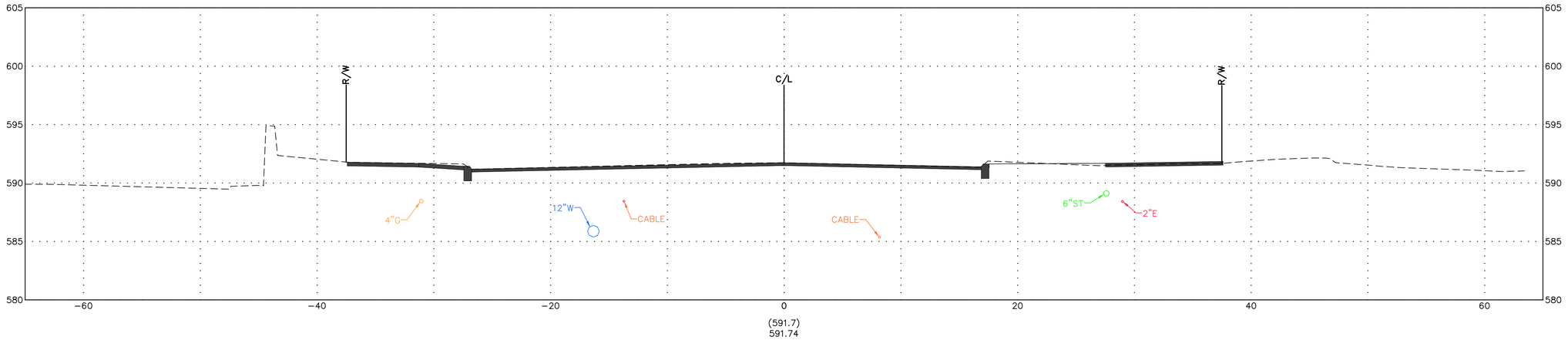
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

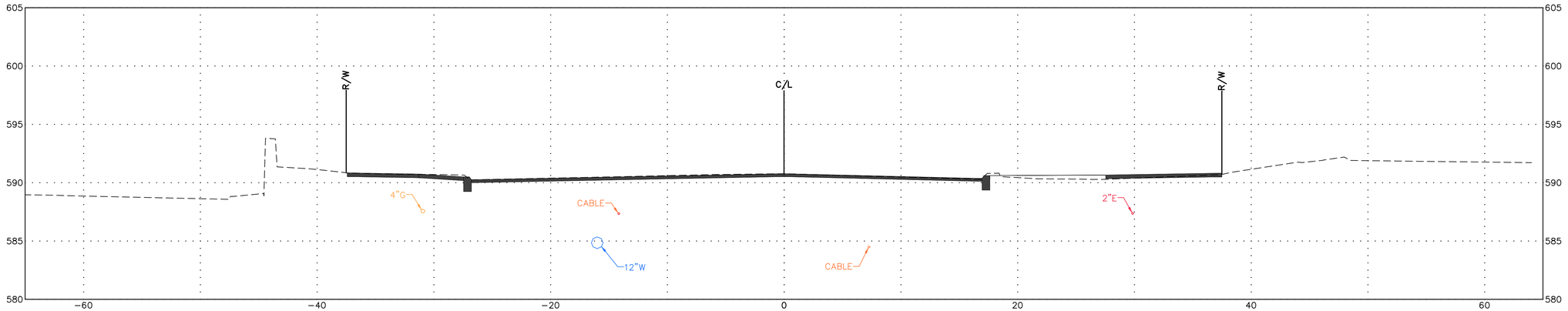
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 207+00.00



(591.7)
591.74

STA. 206+50.00



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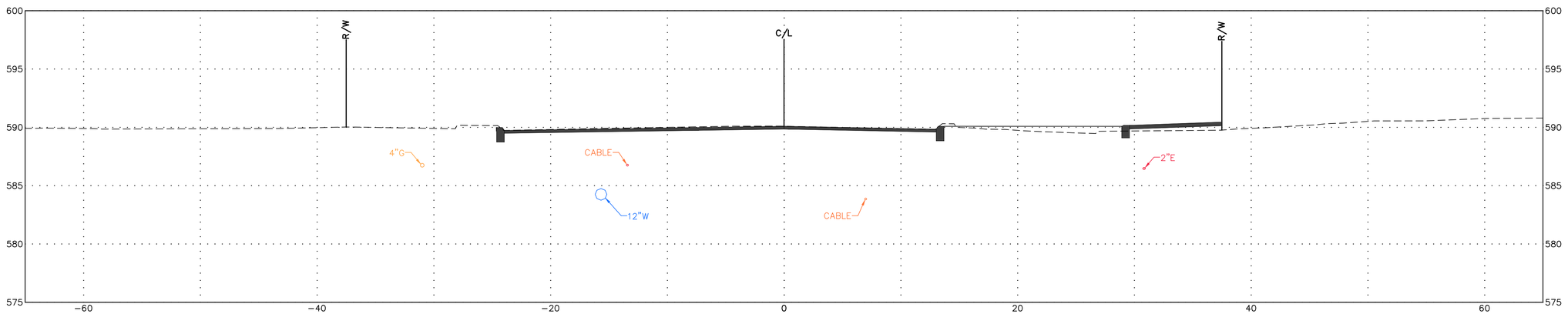
STA. 206+00.00



(590.1)
590.10

PROPOSED CROSS SECTION - S MAIN STREET

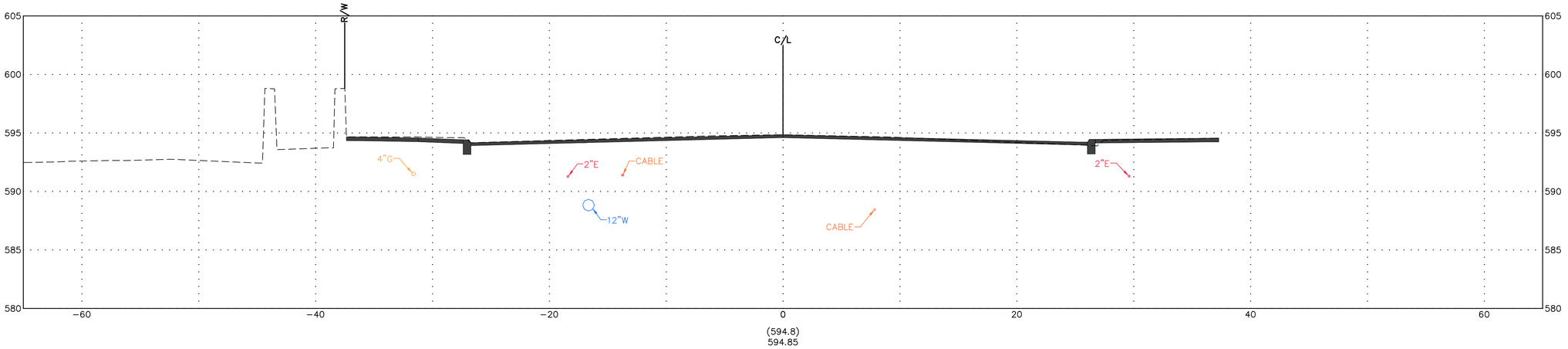
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 208+50.00



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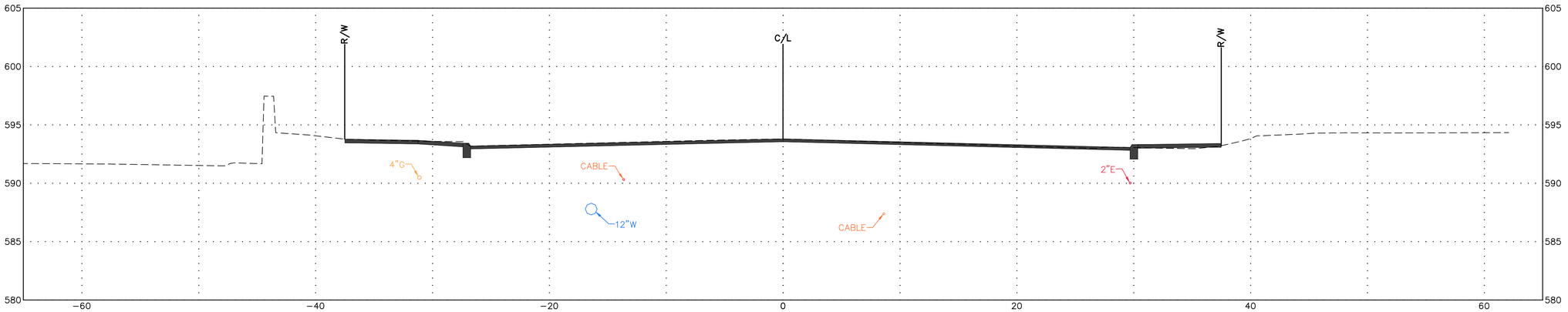
594.85

STA. 208+00.00



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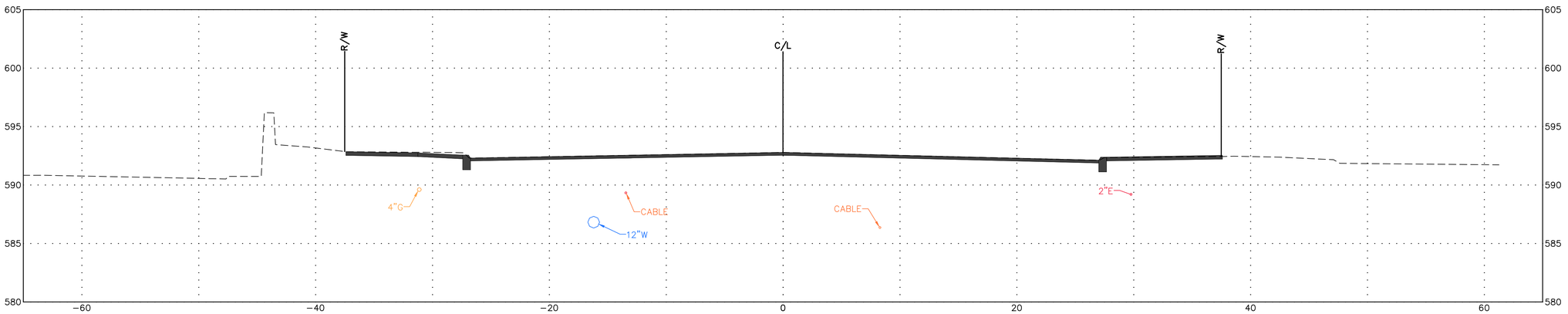
593.80

STA. 207+50.00



(592.8)
592.79

PROPOSED CROSS SECTION - S MAIN STREET

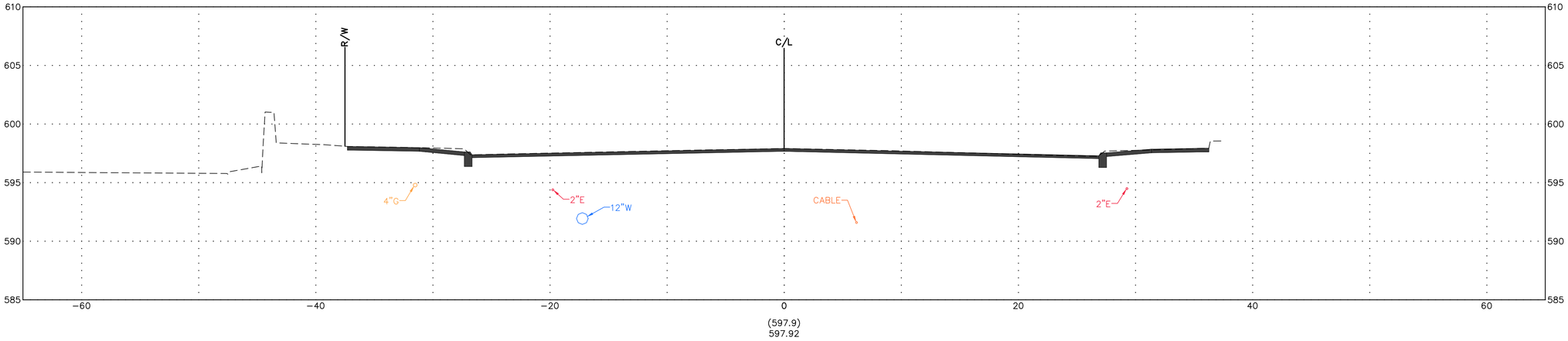
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

Colliers
Engineering & Design

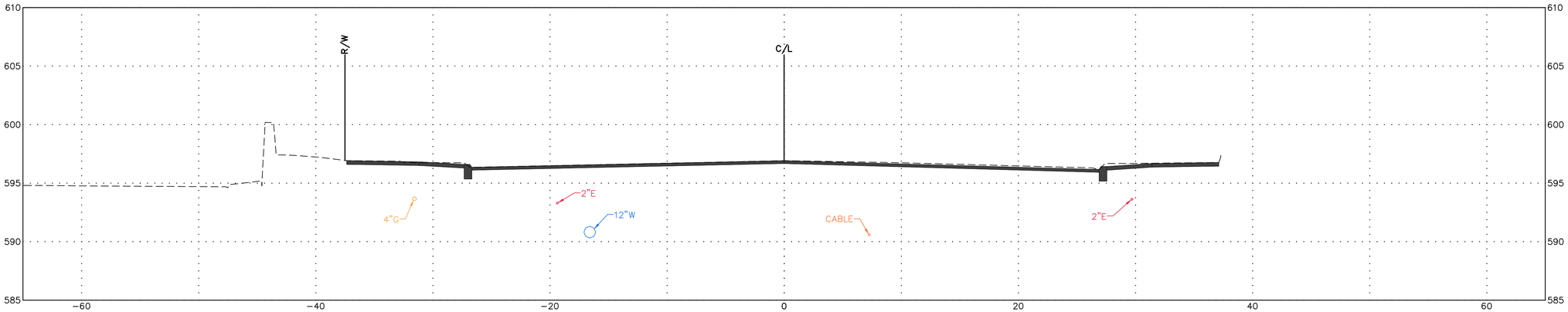
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 210+00.00



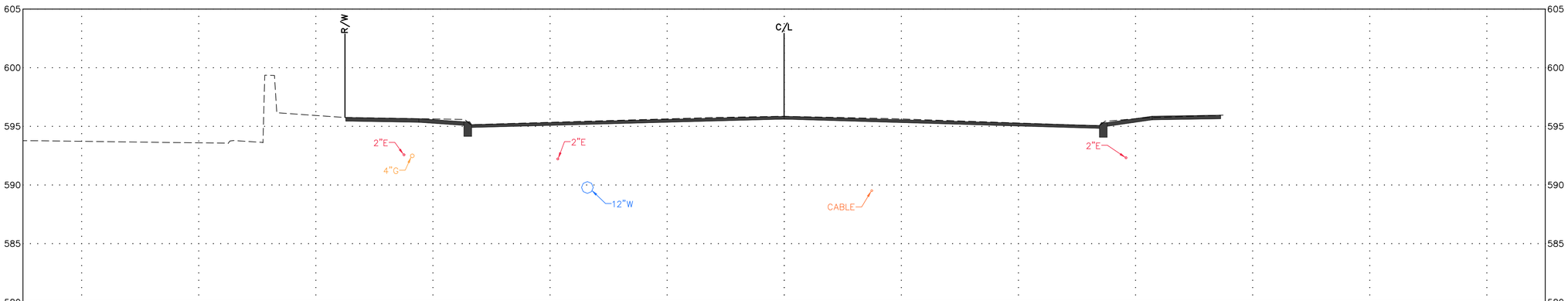
(597.9)
597.92

STA. 209+50.00



(596.9)
596.92

STA. 209+00.00



(595.9)
595.86

PROPOSED CROSS SECTION - S MAIN STREET

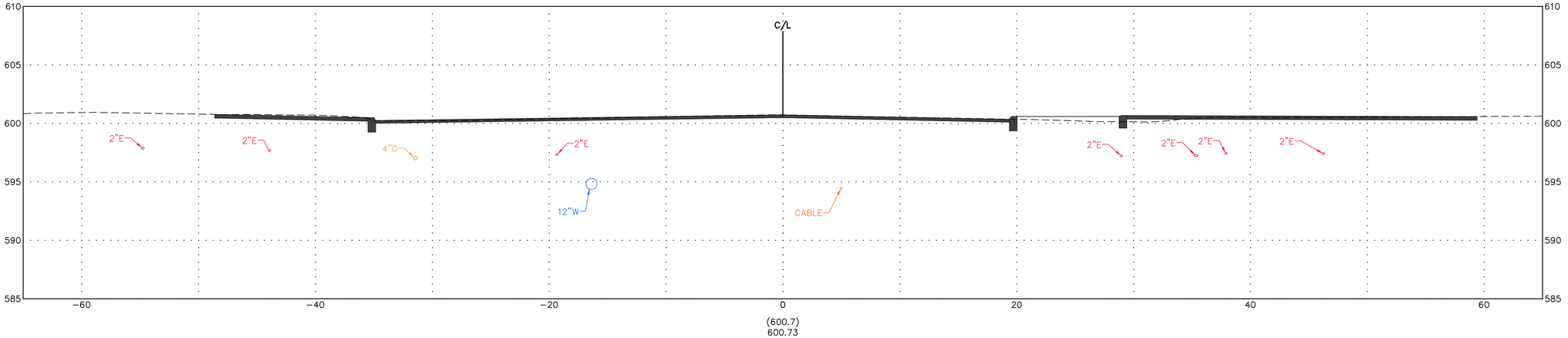
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 211+50.00



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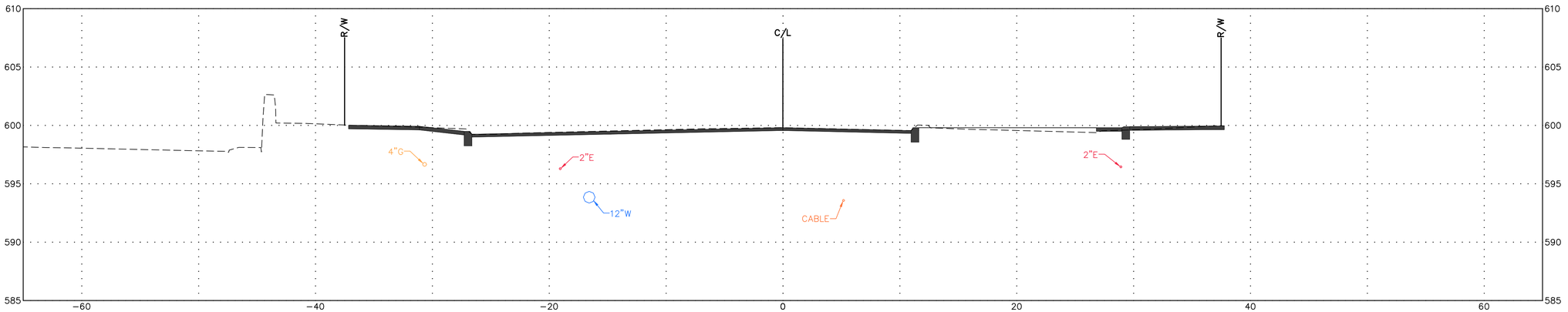
600.73

STA. 211+00.00



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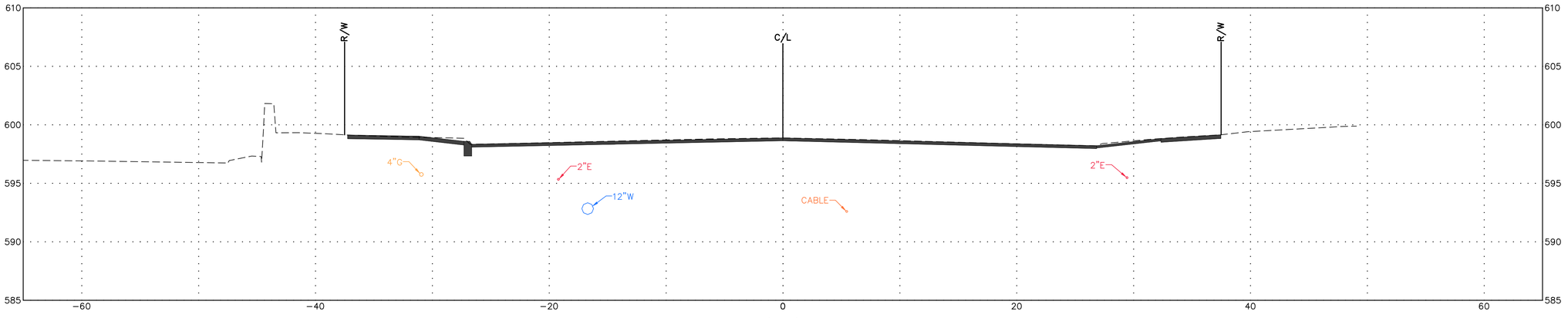
599.81

STA. 210+50.00



(598.9)
598.88

PROPOSED CROSS SECTION - S MAIN STREET

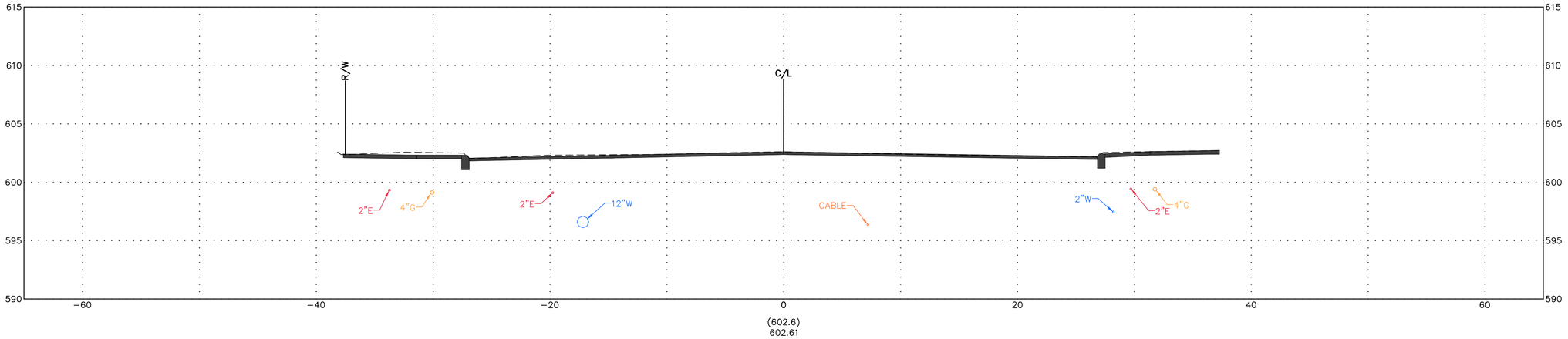
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

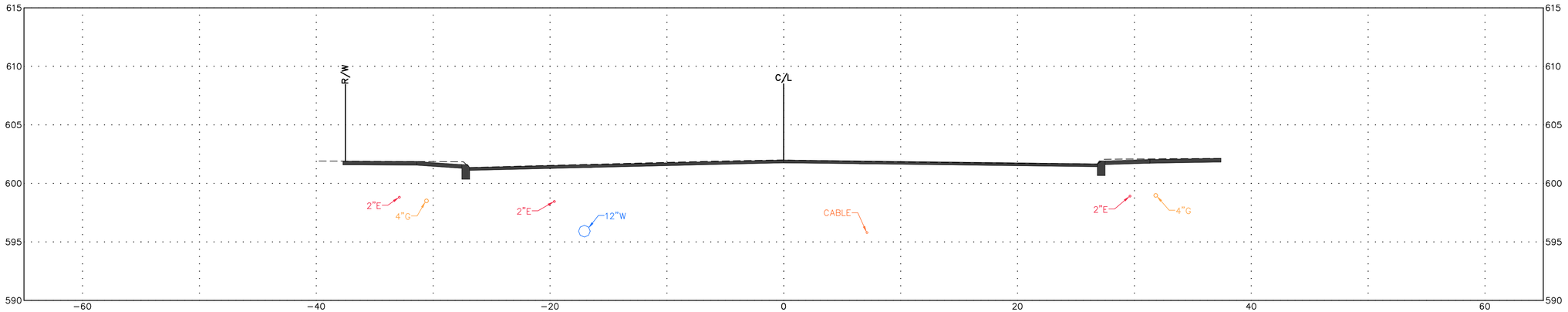
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 213+00.00



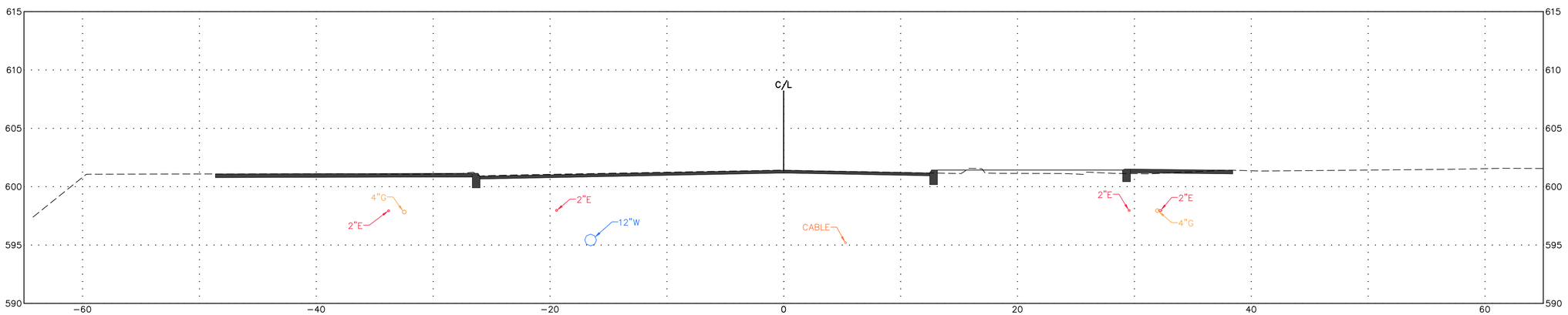
(602.6)
602.61

STA. 212+50.00



(602.0)
602.00

STA. 212+00.00



(601.4)
601.41

PROPOSED CROSS SECTION - S MAIN STREET

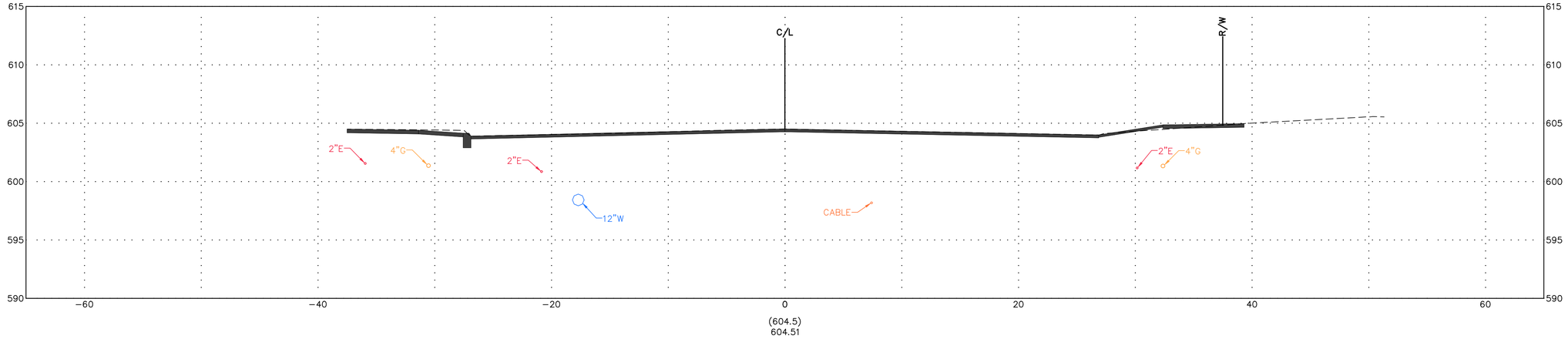
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

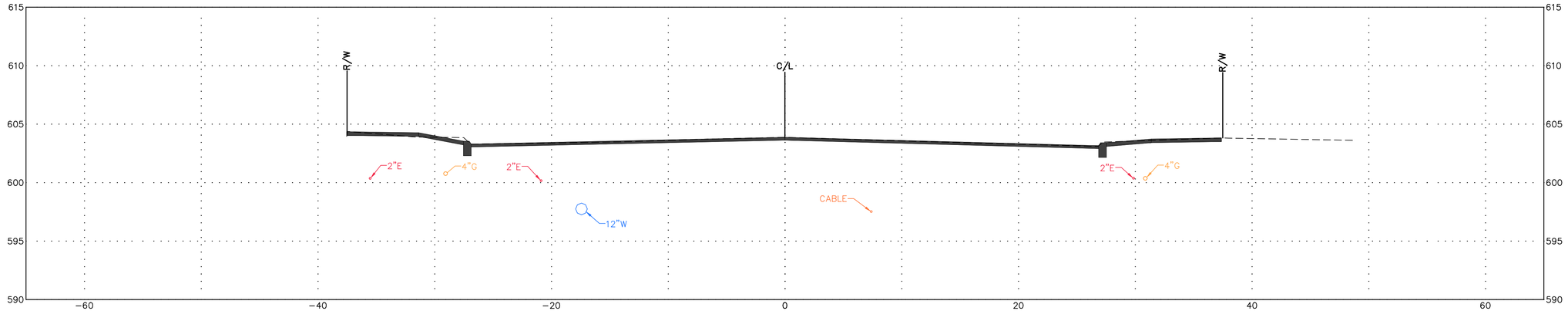
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 214+50.00



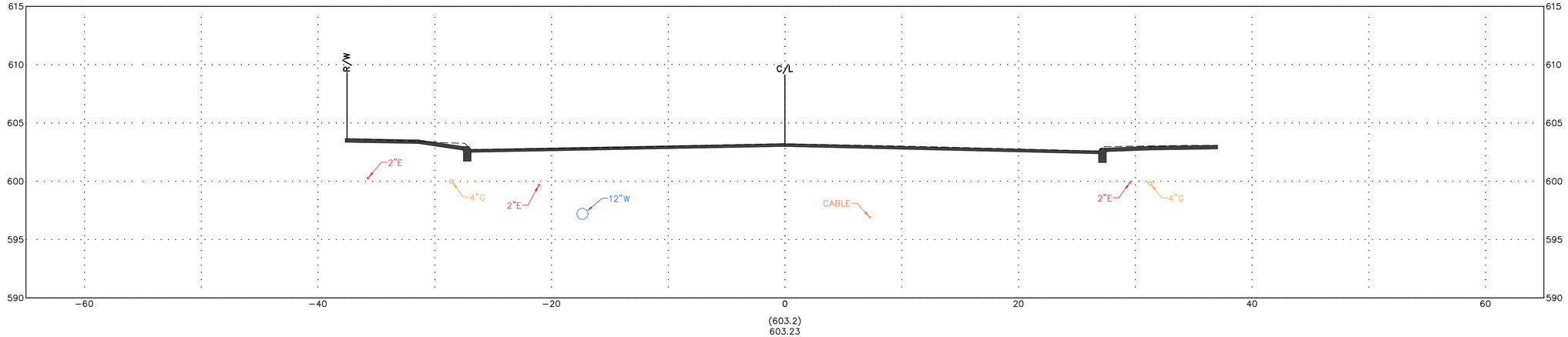
(604.5)
604.51

STA. 214+00.00



(603.9)
603.88

STA. 213+50.00



(603.2)
603.23

PROPOSED CROSS SECTION - S MAIN STREET

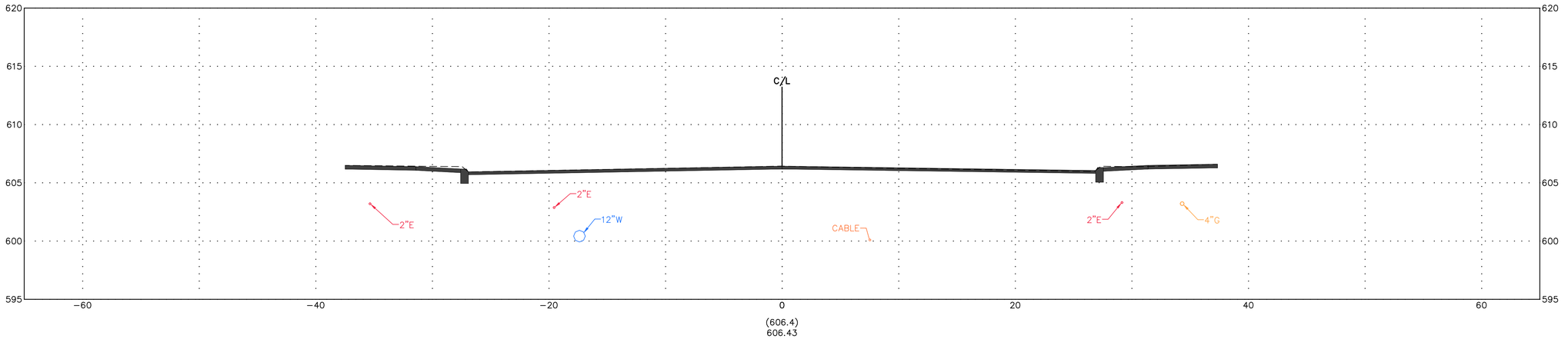
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

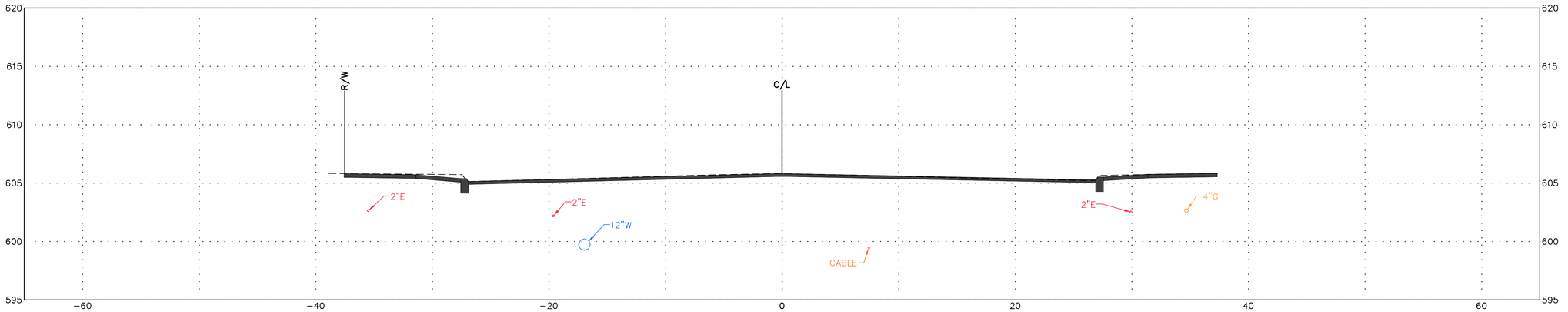
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 216+00.00



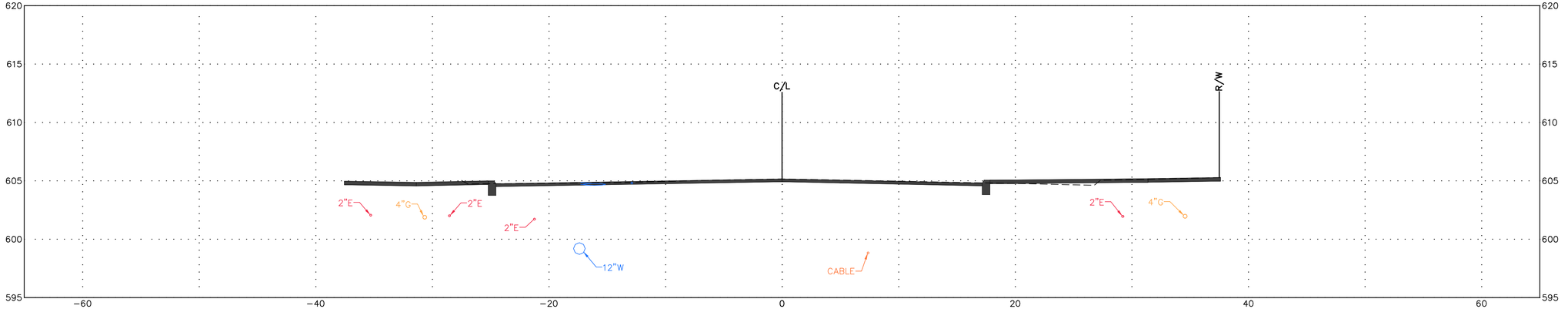
(606.4)
606.43

STA. 215+50.00



(605.8)
605.82

STA. 215+00.00



(605.2)
605.16

PROPOSED CROSS SECTION - S MAIN STREET

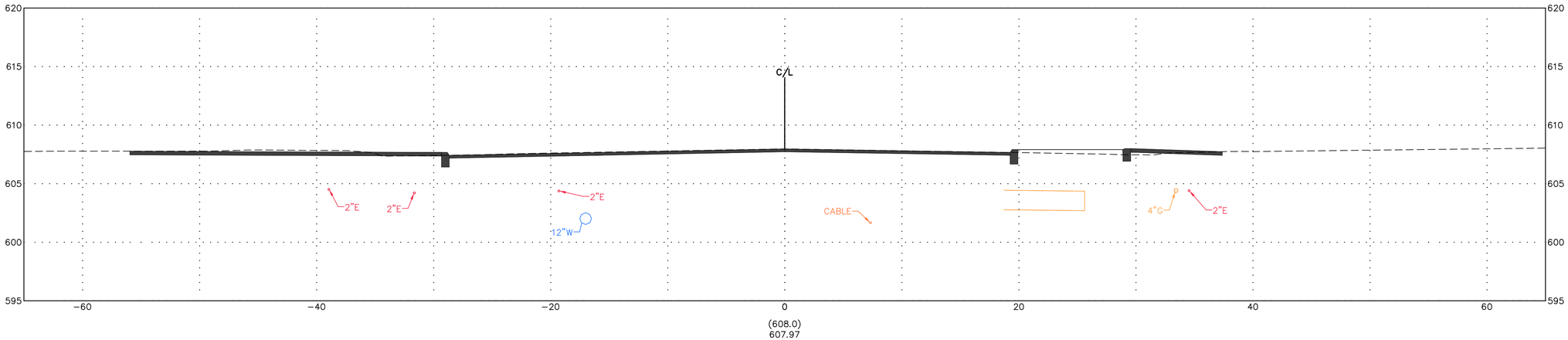
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

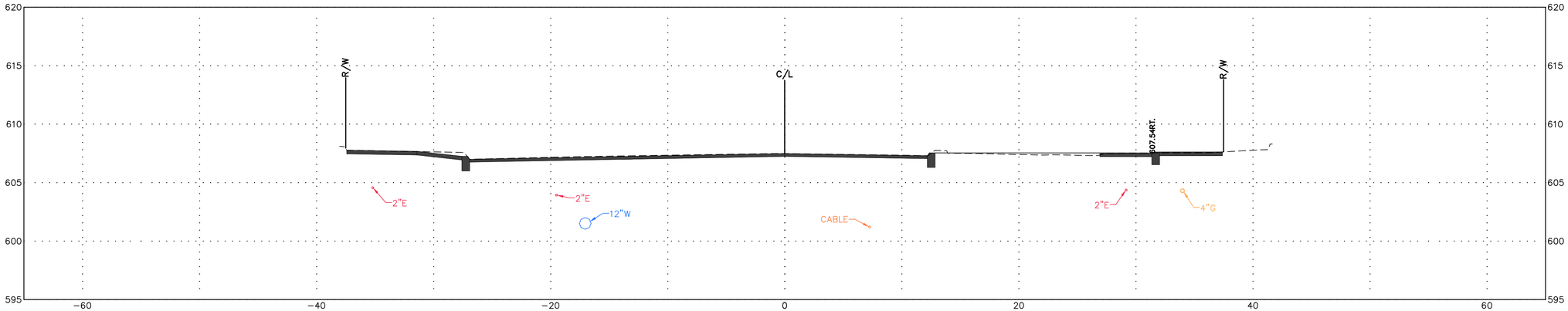
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 217+50.00



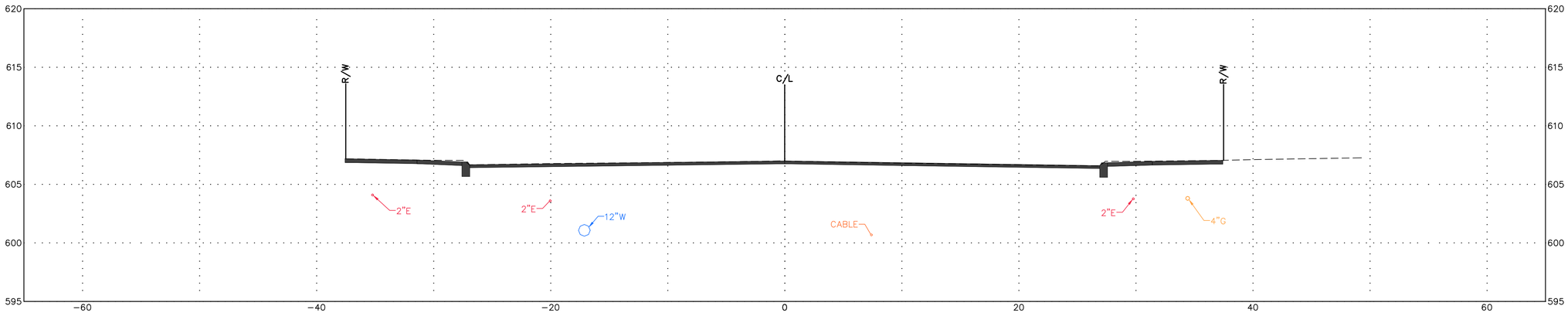
(608.0)
607.97

STA. 217+00.00



(607.5)
607.49

STA. 216+50.00



(607.0)
607.00

PROPOSED CROSS SECTION - S MAIN STREET

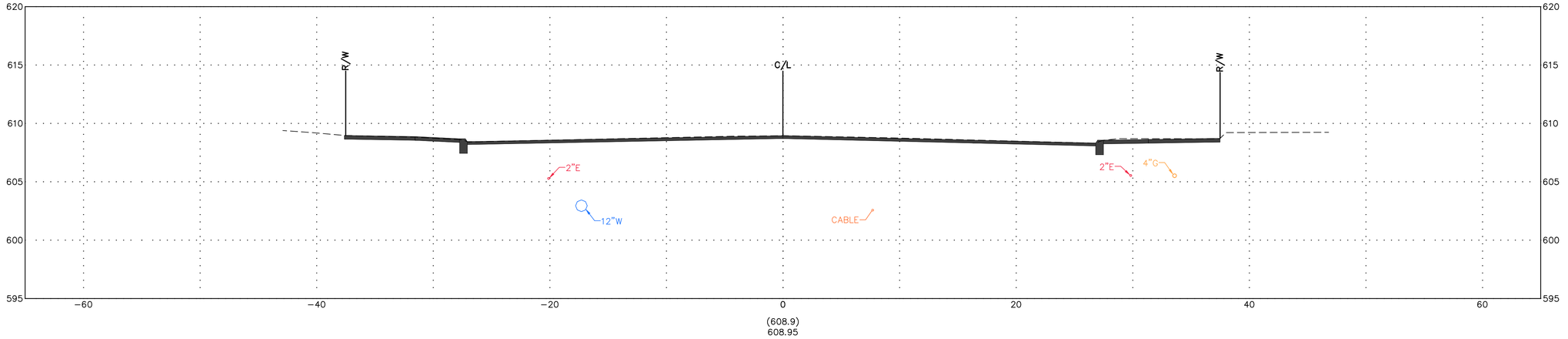
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

Colliers
Engineering & Design

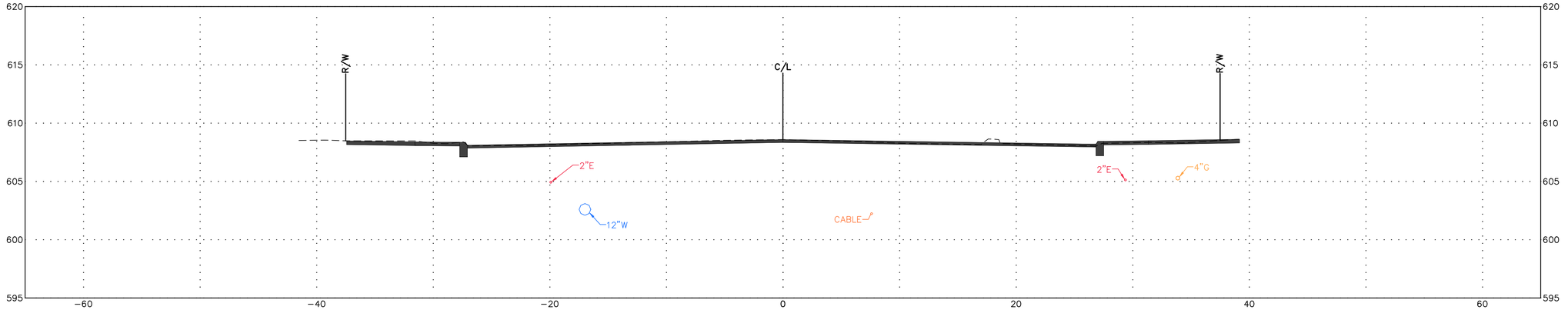
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 219+00.00



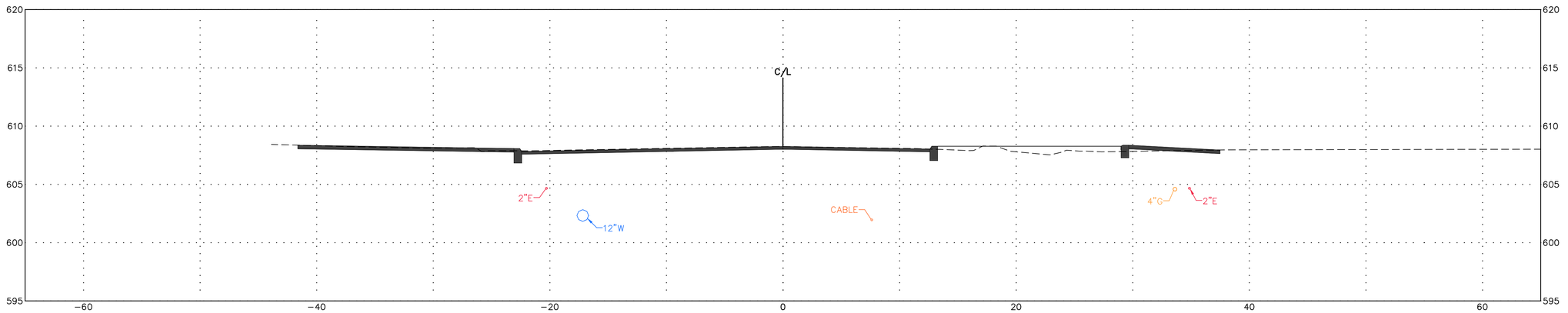
(608.9)
608.95

STA. 218+50.00



(608.6)
608.59

STA. 218+00.00



(608.3)
608.26

PROPOSED CROSS SECTION - S MAIN STREET

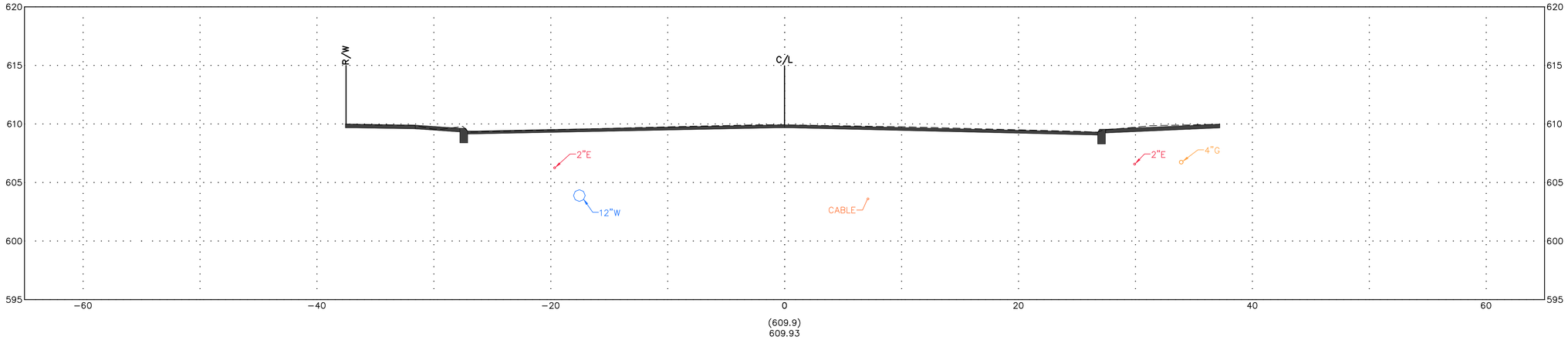
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

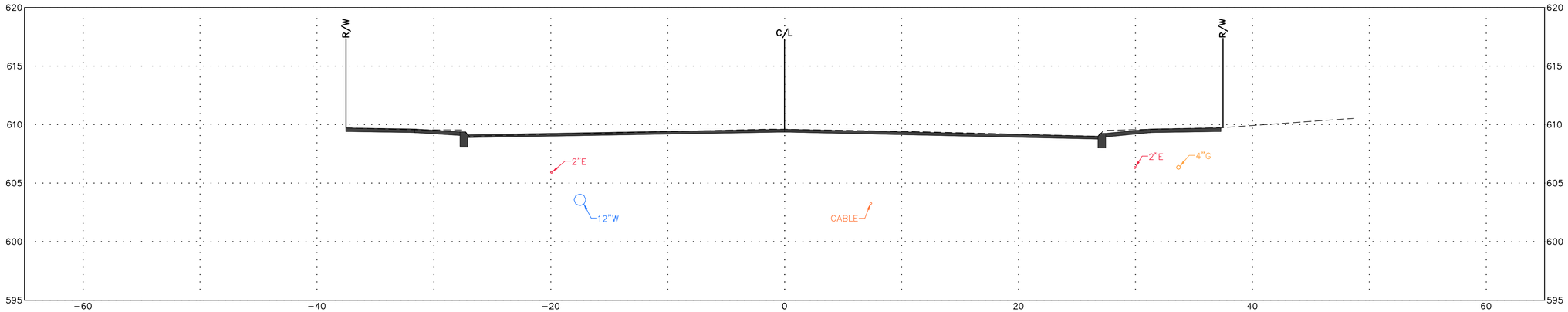
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 220+50.00



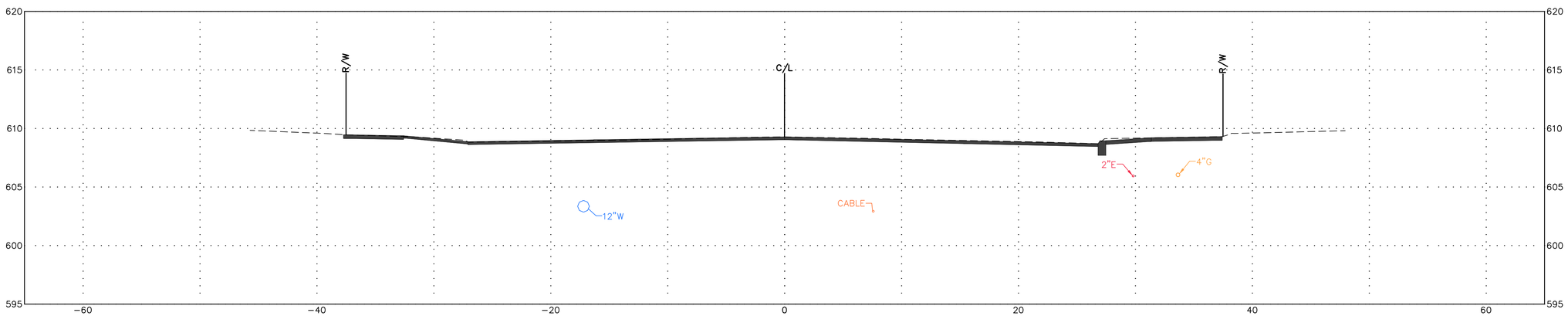
(609.9)
609.93

STA. 220+00.00



(609.6)
609.61

STA. 219+50.00



(609.3)
609.28

PROPOSED CROSS SECTION - S MAIN STREET

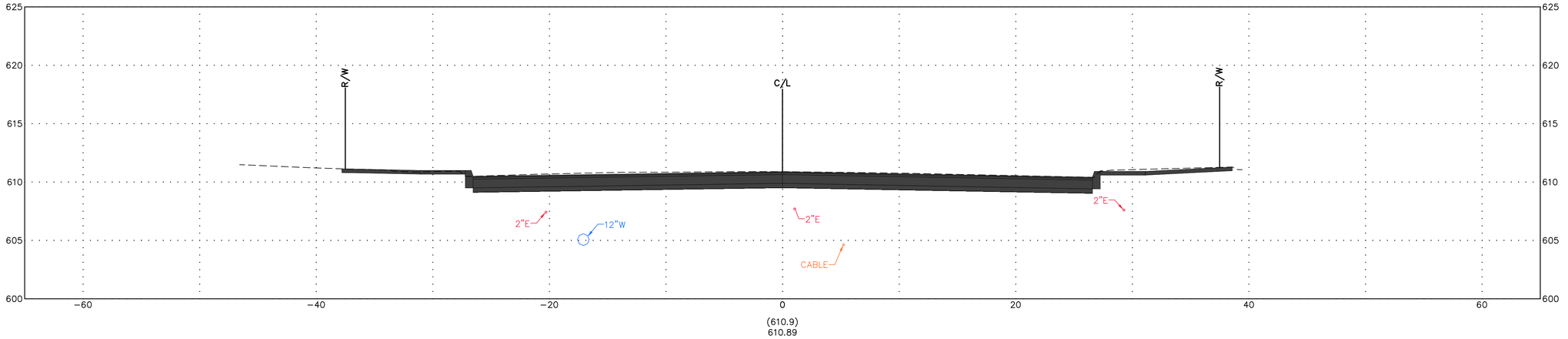
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

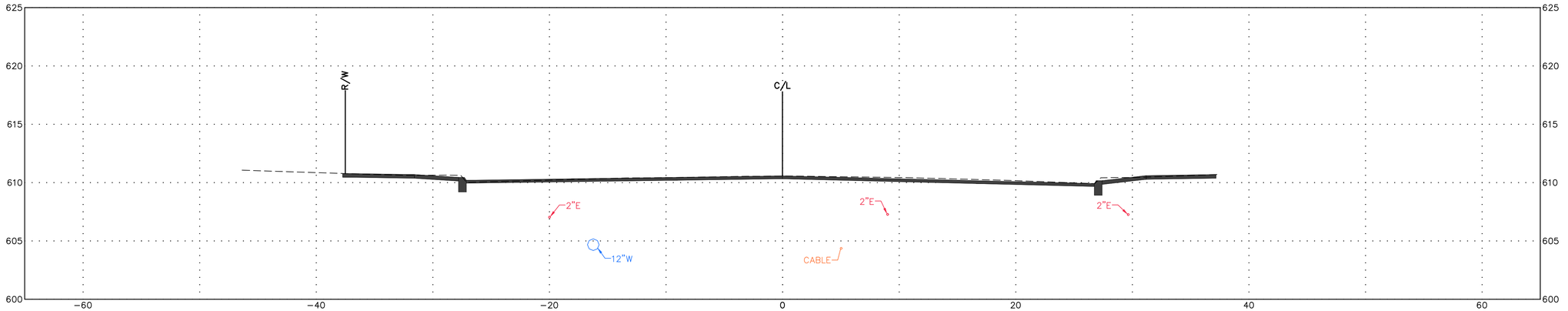
Colliers
Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

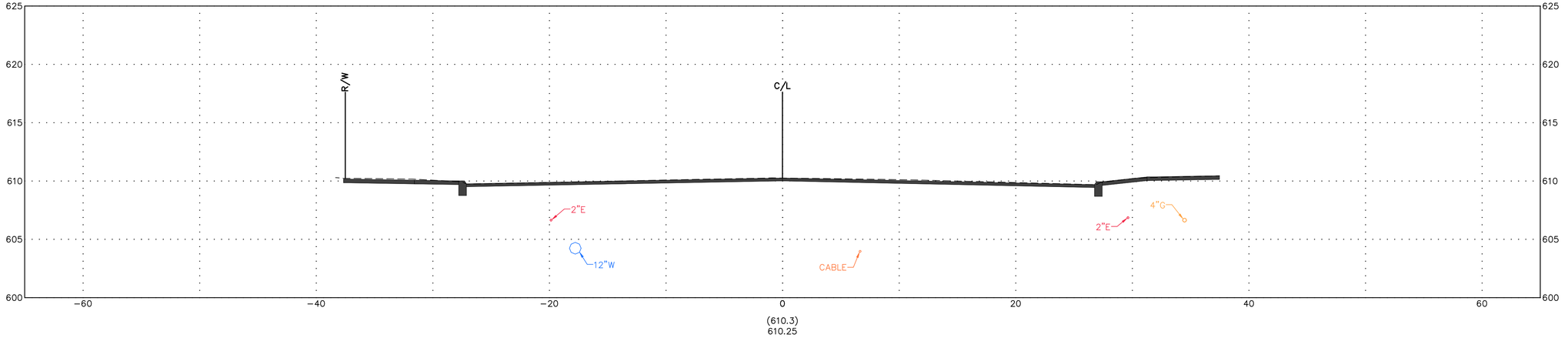
STA. 222+00.00



STA. 221+50.00



STA. 221+00.00



PROPOSED CROSS SECTION - S MAIN STREET

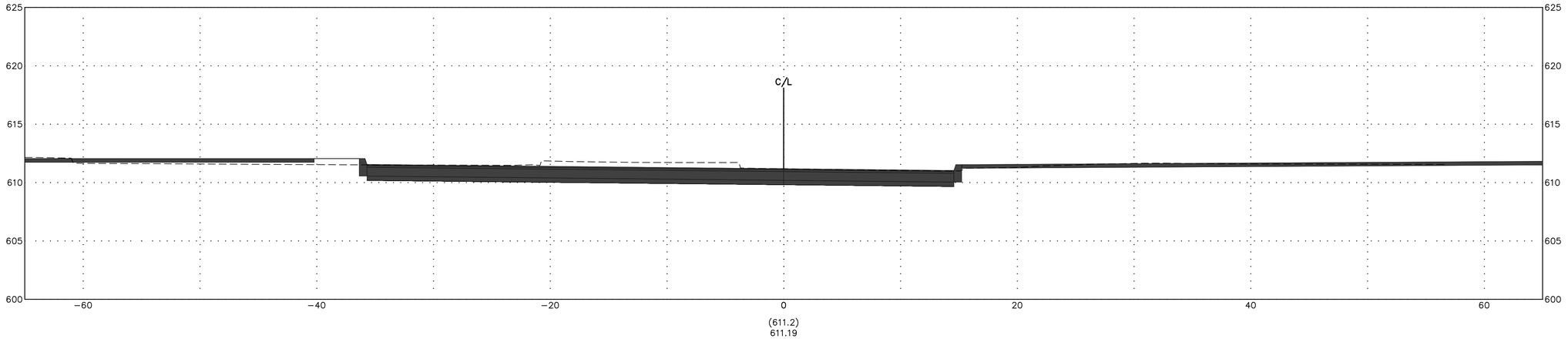
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

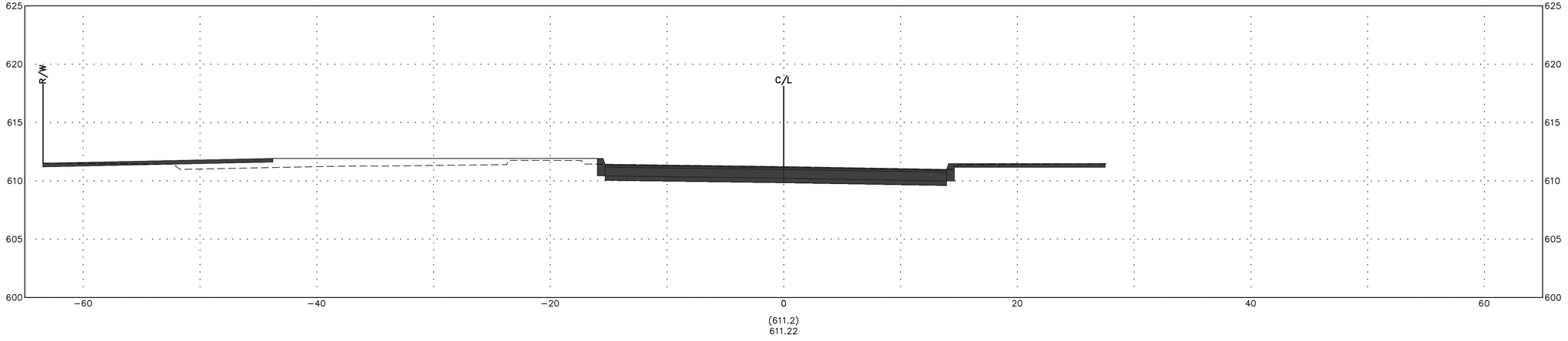
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

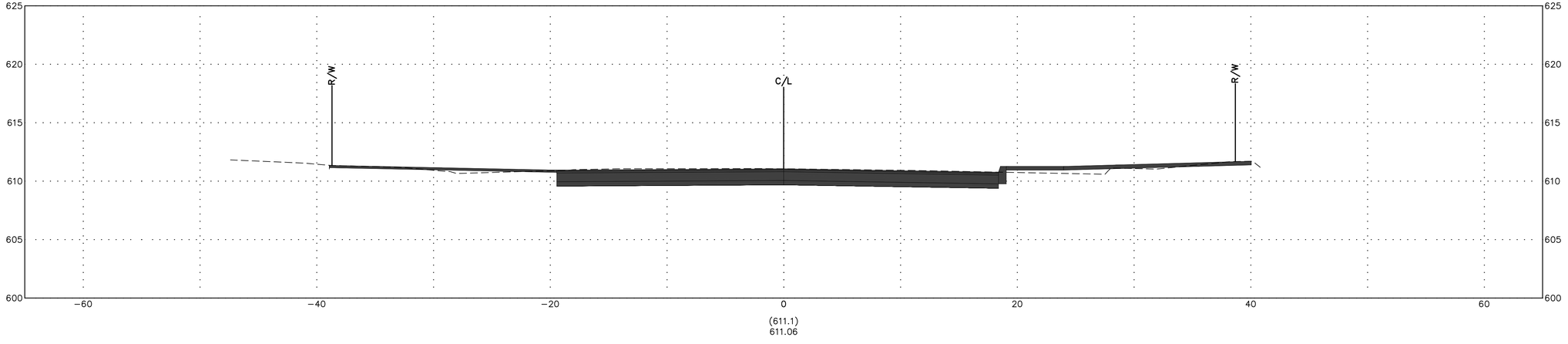
STA. 1+00.00



STA. 0+50.00



STA. 0+00.00



PROPOSED CROSS SECTION - S MAIN STREET

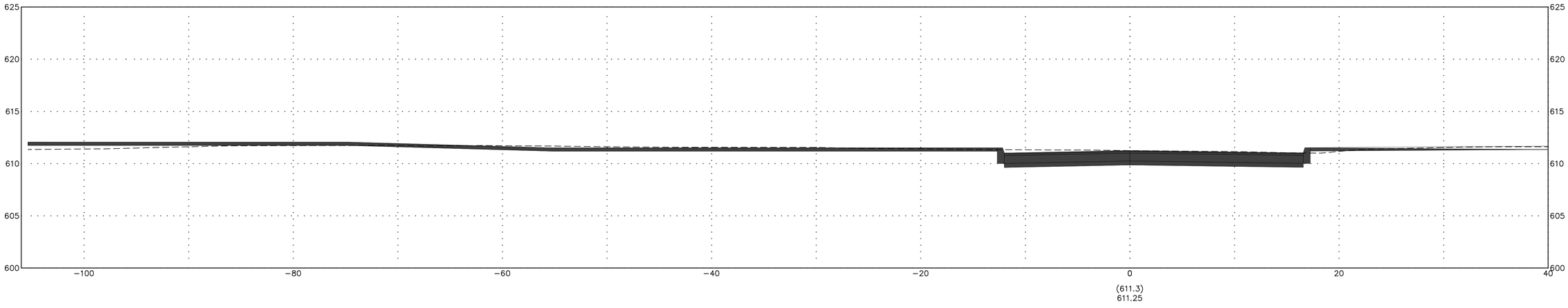
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 1+05.71



PROPOSED CROSS SECTION - S MAIN STREET

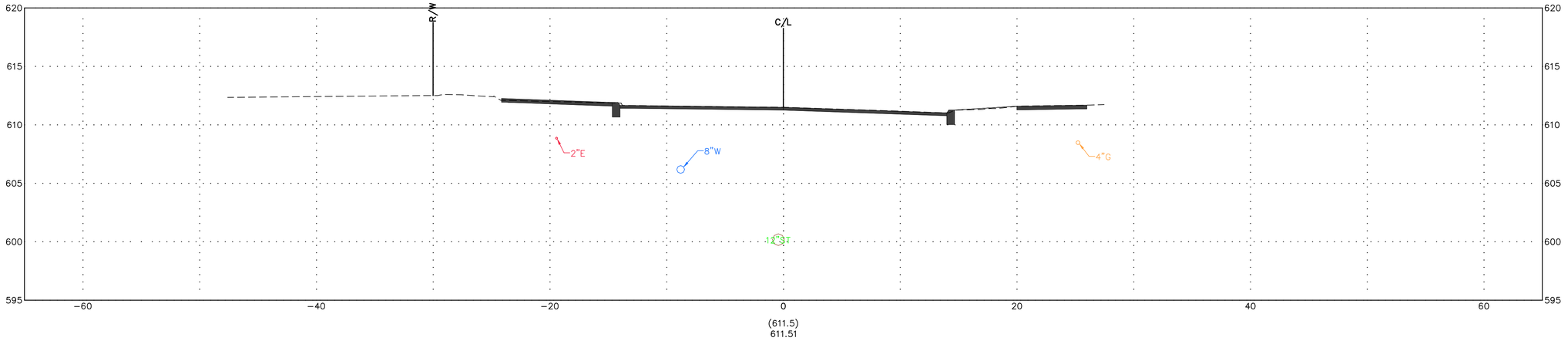
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

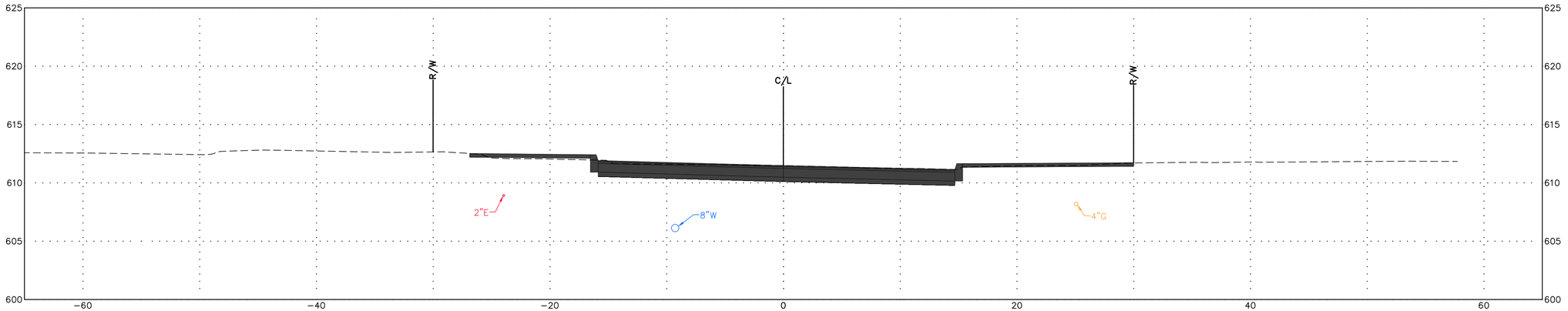
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 225+50.00



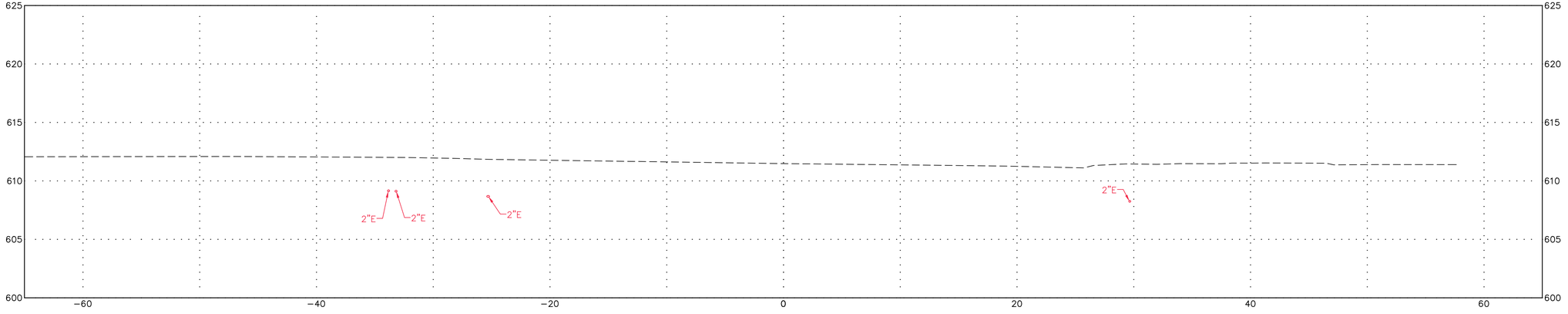
(611.5)
611.51

STA. 225+00.00



(611.5)
611.48

STA. 224+84.61



(611.5)
611.48

PROPOSED CROSS SECTION - S MAIN STREET

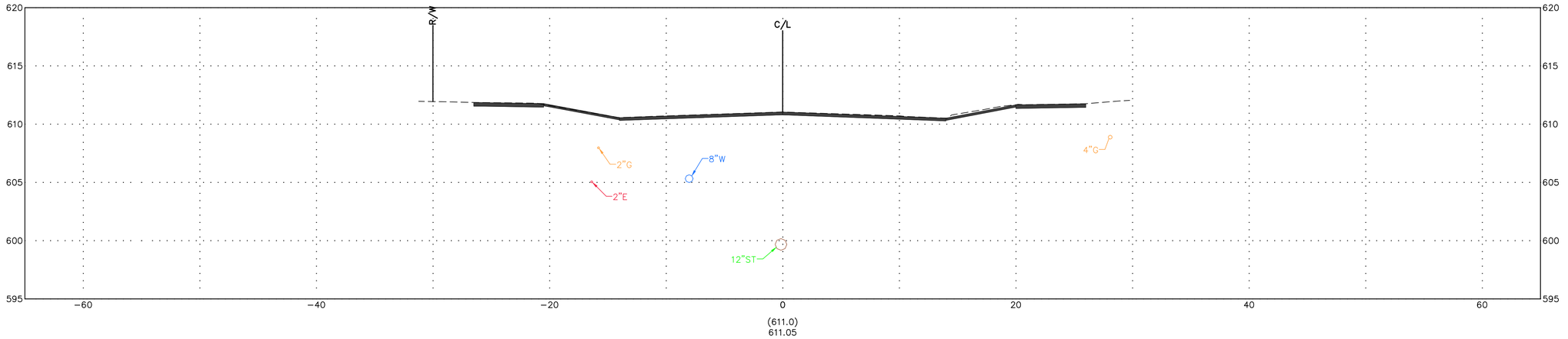
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

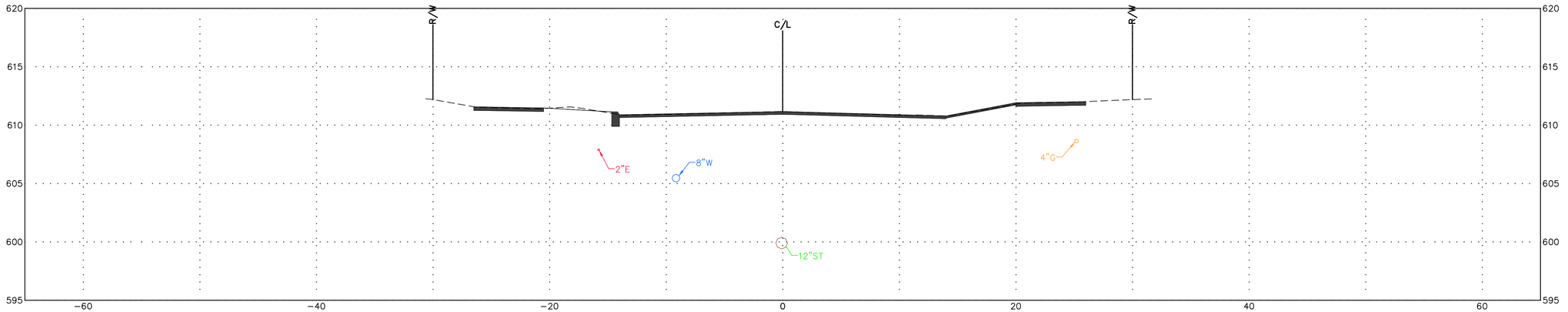
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 227+00.00



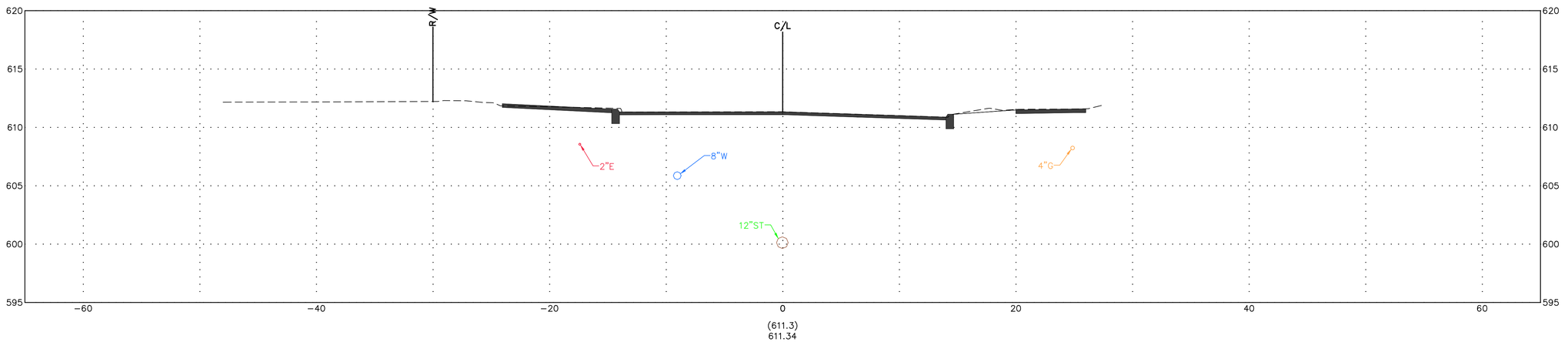
(611.0)
611.05

STA. 226+50.00



(611.2)
611.17

STA. 226+00.00



(611.3)
611.34

PROPOSED CROSS SECTION - S MAIN STREET

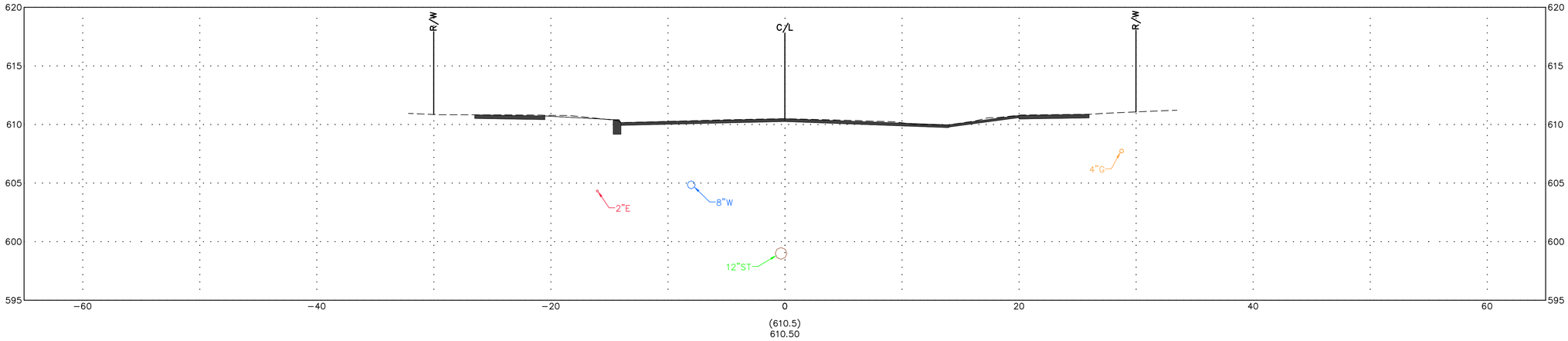
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

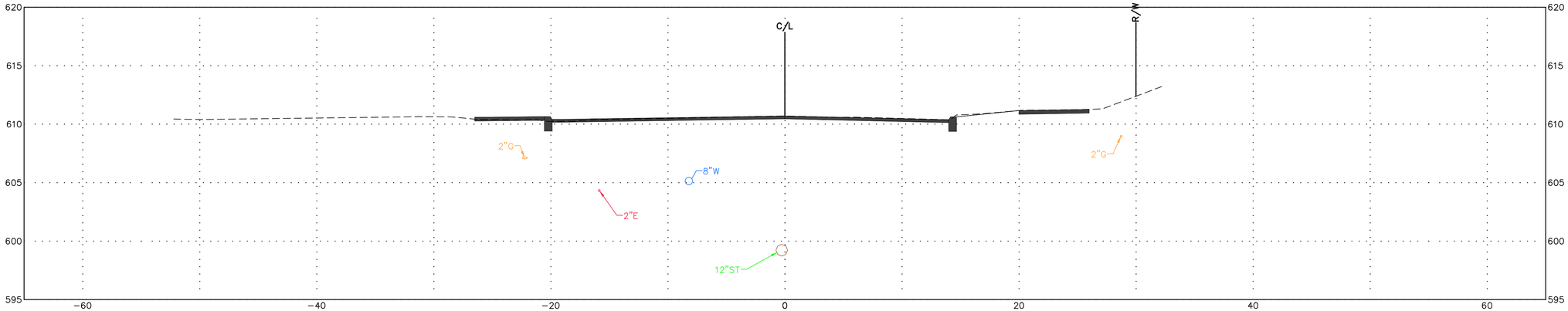
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 228+50.00



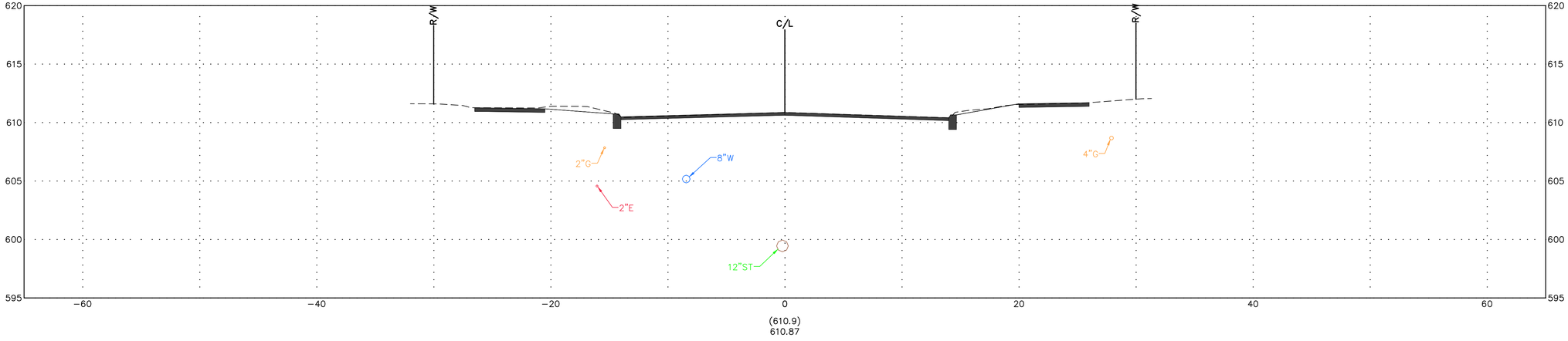
(610.5)
610.50

STA. 228+00.00



(610.7)
610.70

STA. 227+50.00



(610.9)
610.87

PROPOSED CROSS SECTION - S MAIN STREET

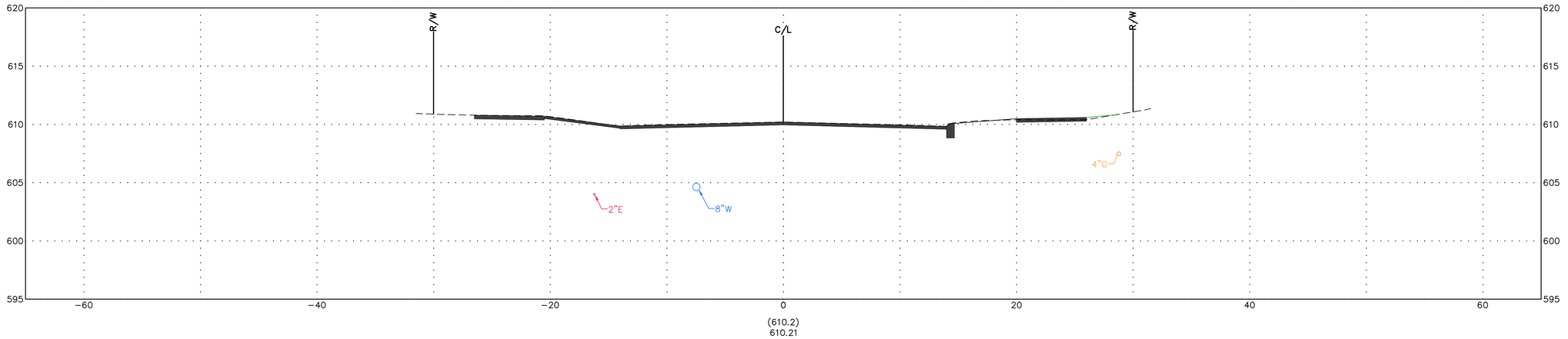
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

Colliers
Engineering
& Design

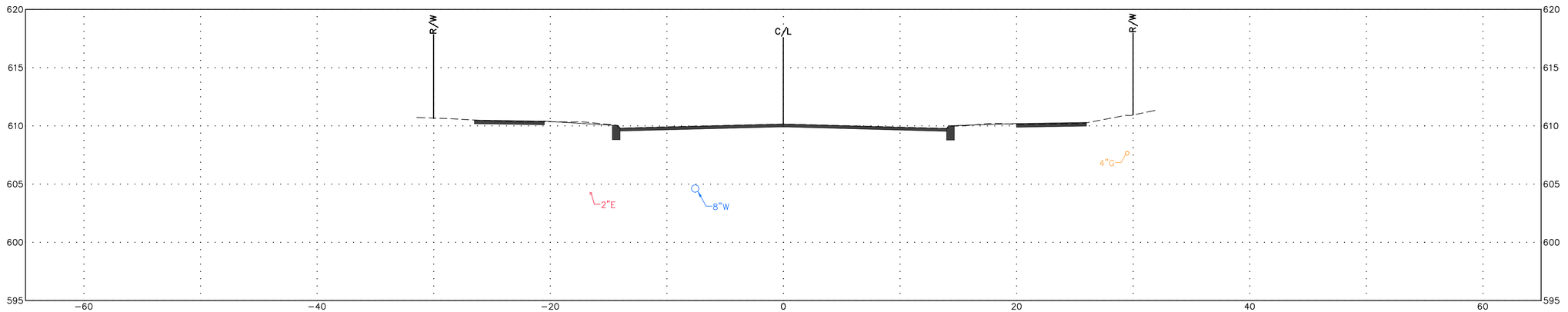
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 230+00.00



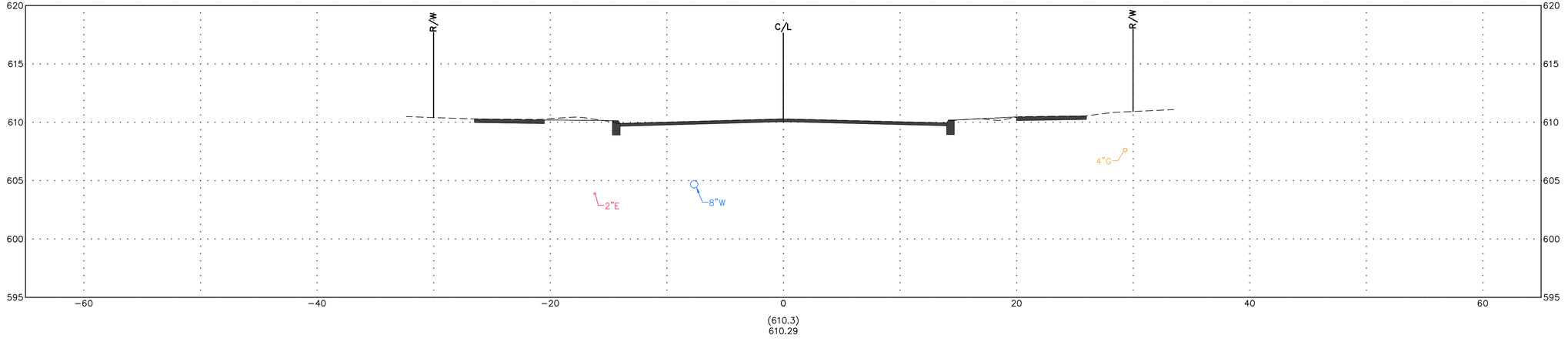
(610.2)
610.21

STA. 229+50.00



(610.2)
610.16

STA. 229+00.00



(610.3)
610.29

PROPOSED CROSS SECTION - S MAIN STREET

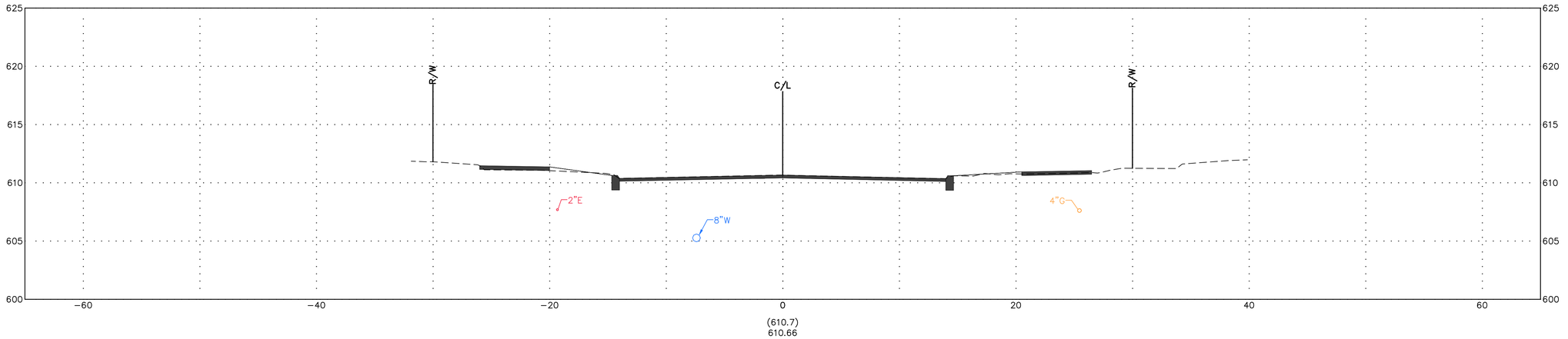
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

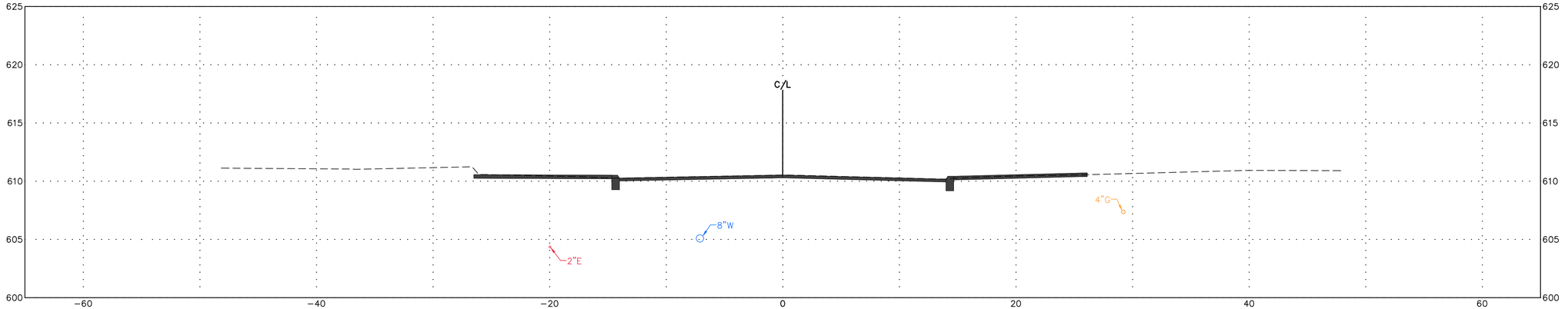
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 231+50.00



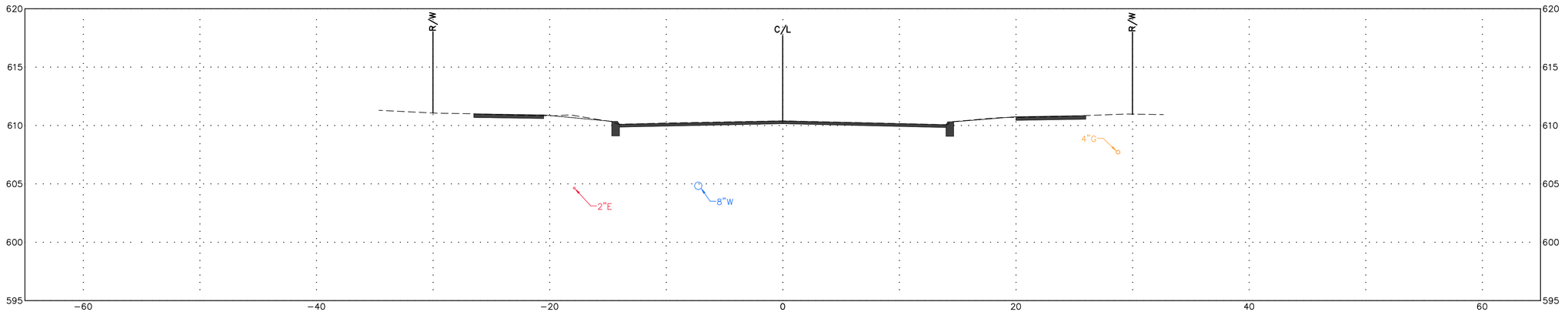
(610.7)
610.66

STA. 231+00.00



(610.5)
610.53

STA. 230+50.00



(610.4)
610.40

PROPOSED CROSS SECTION - S MAIN STREET

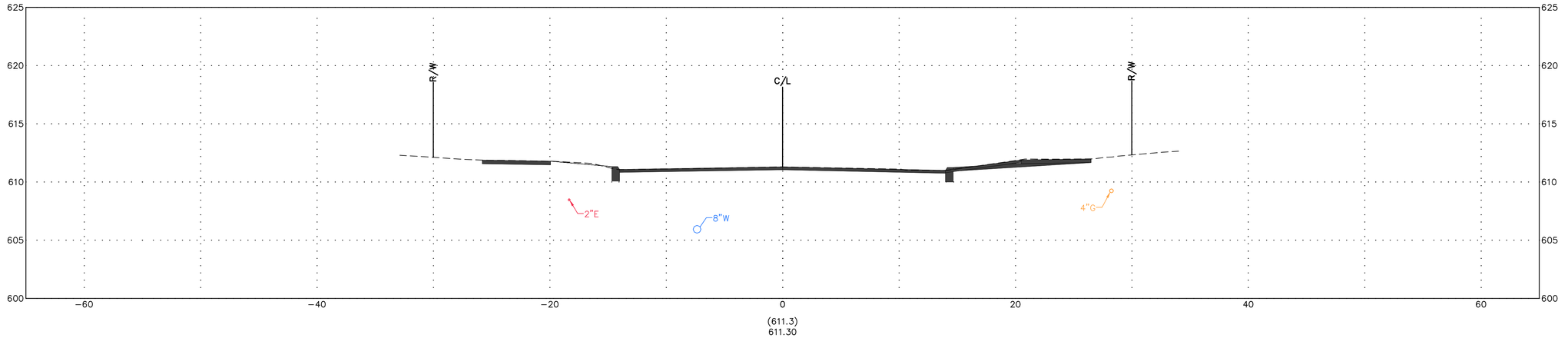
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

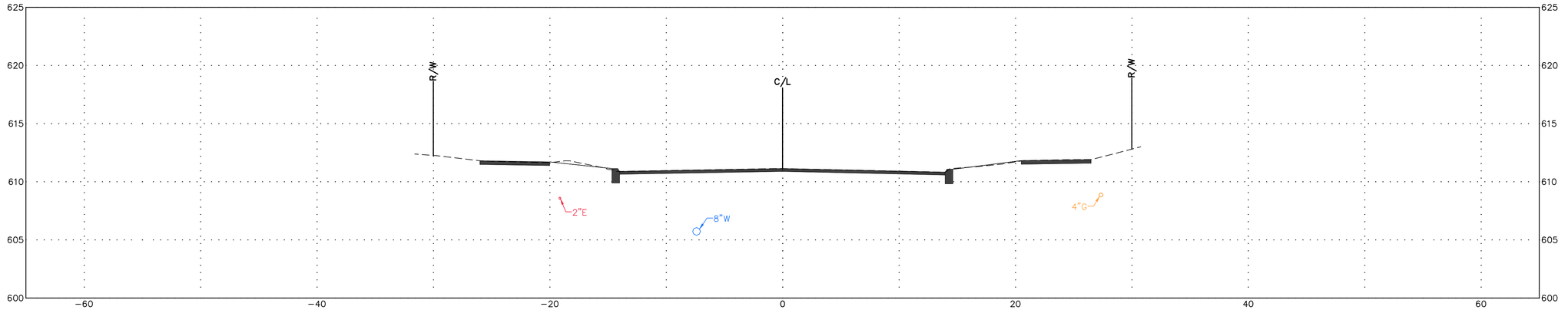
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

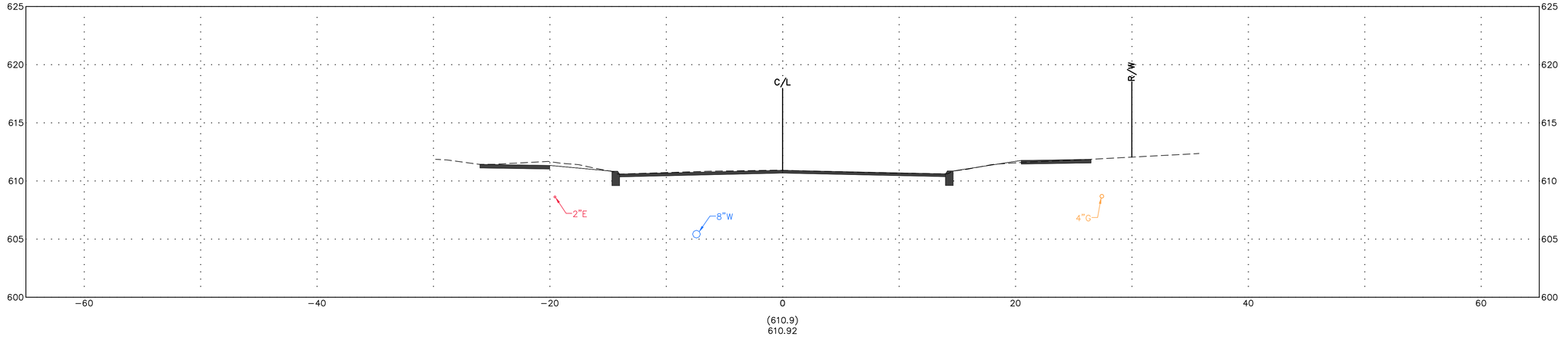
STA. 233+00.00



STA. 232+50.00



STA. 232+00.00



PROPOSED CROSS SECTION - S MAIN STREET

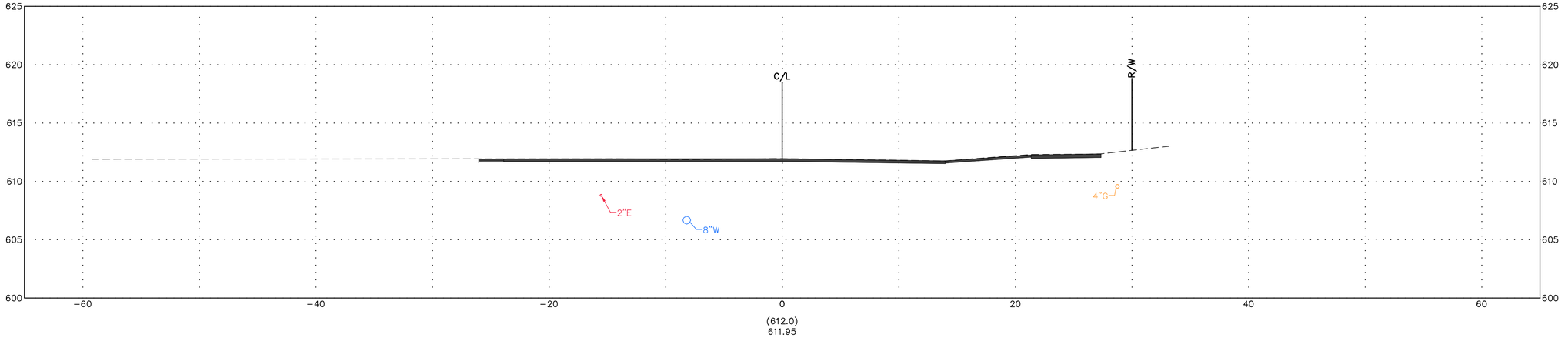
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

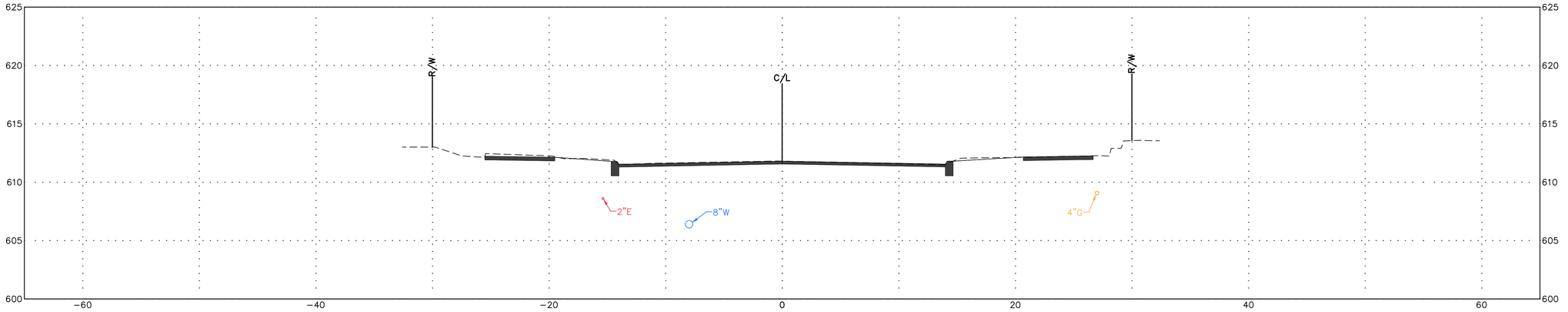
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

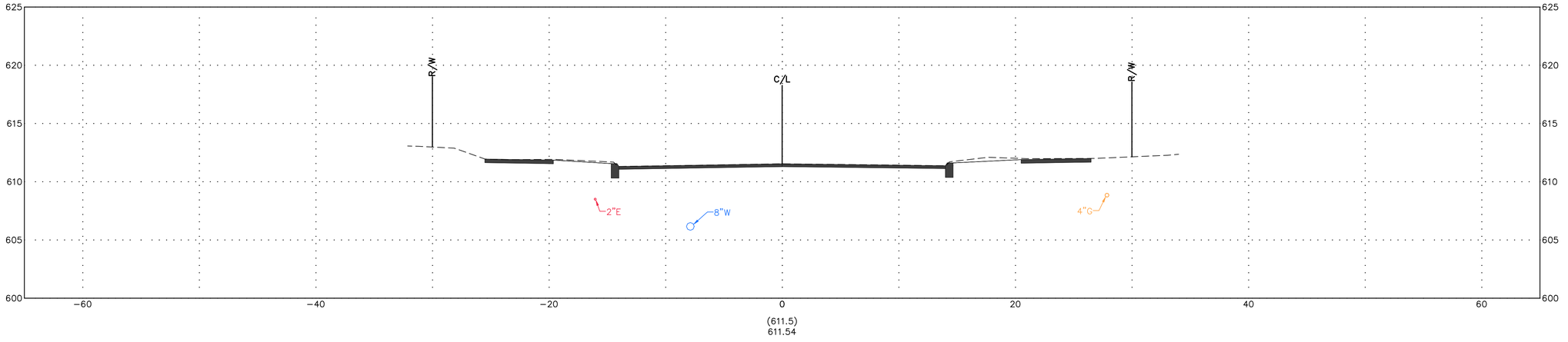
STA. 234+50.00



STA. 234+00.00



STA. 233+50.00



PROPOSED CROSS SECTION - S MAIN STREET

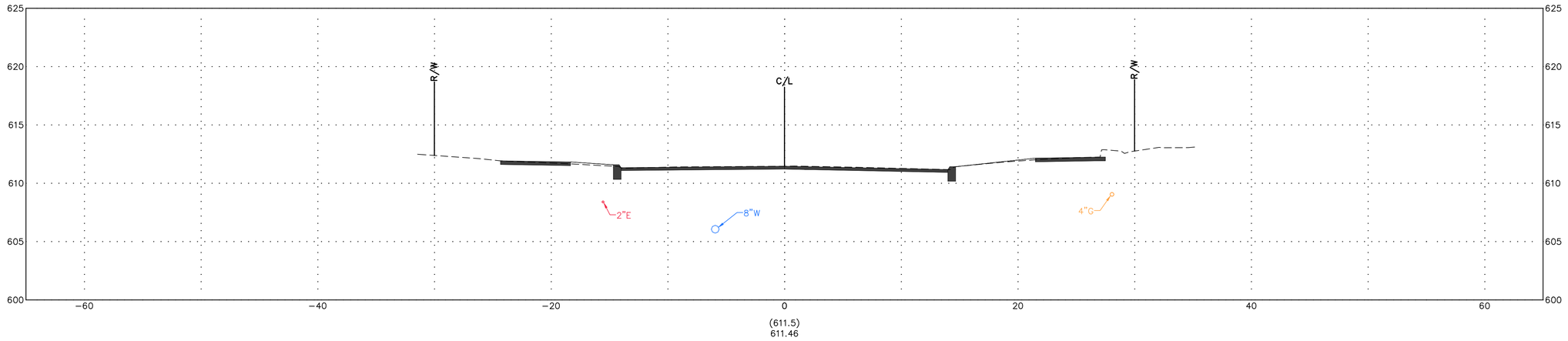
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

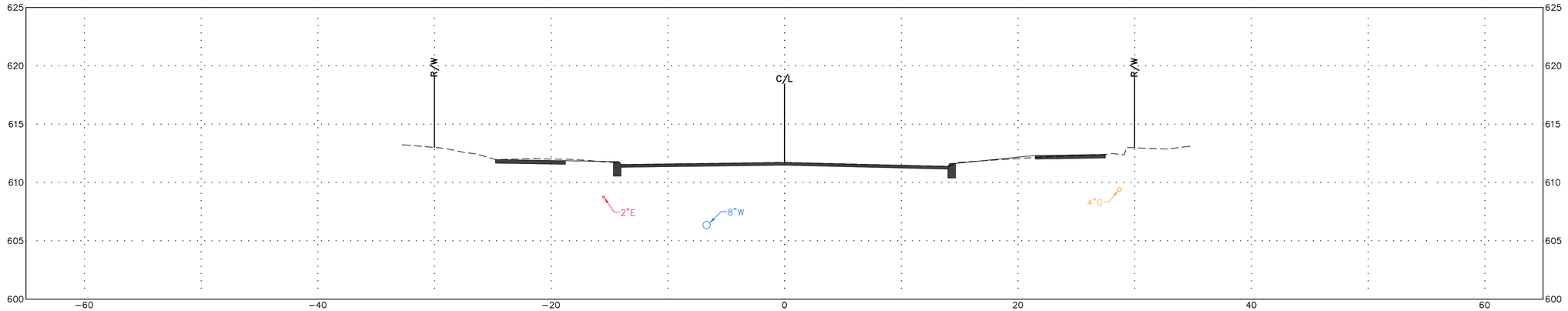
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 236+00.00



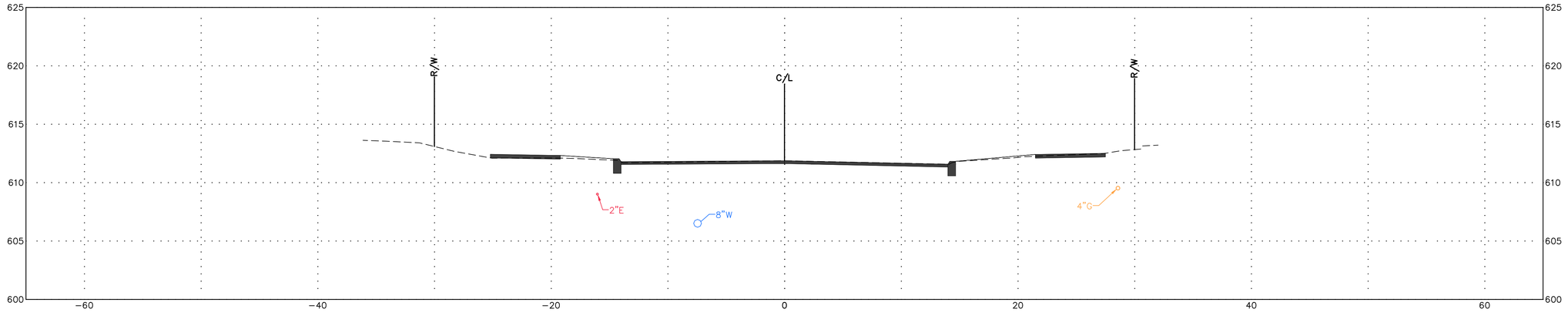
(611.5)
611.46

STA. 235+50.00



(611.7)
611.72

STA. 235+00.00



(611.9)
611.88

PROPOSED CROSS SECTION - S MAIN STREET

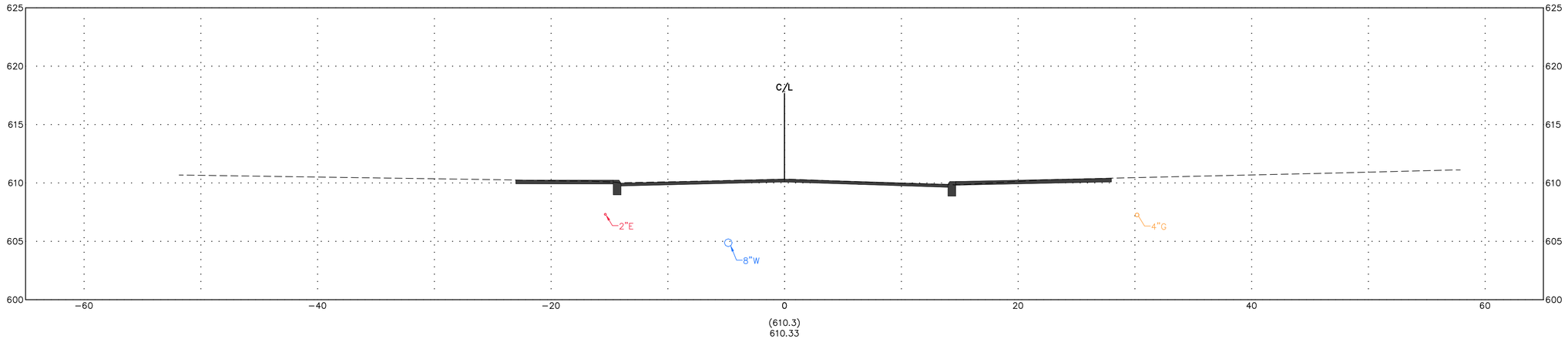
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

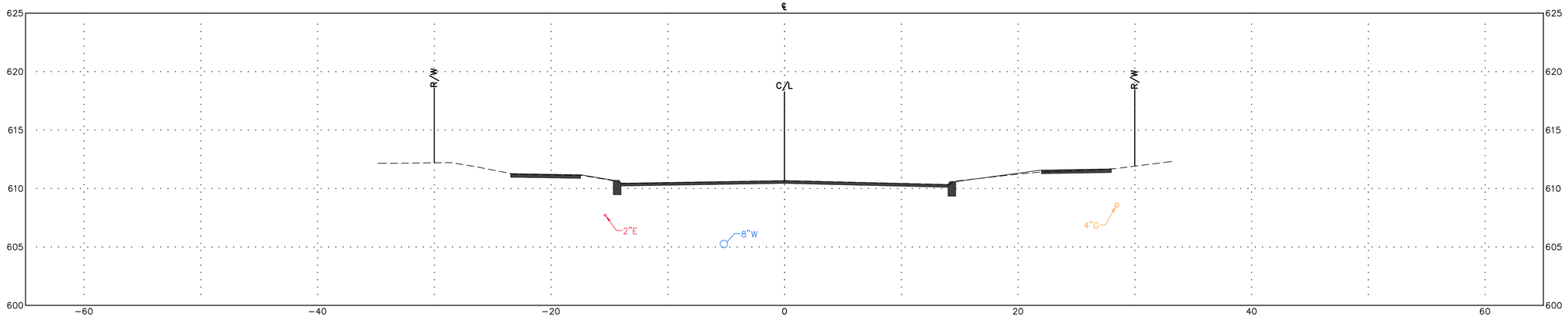
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 237+50.00



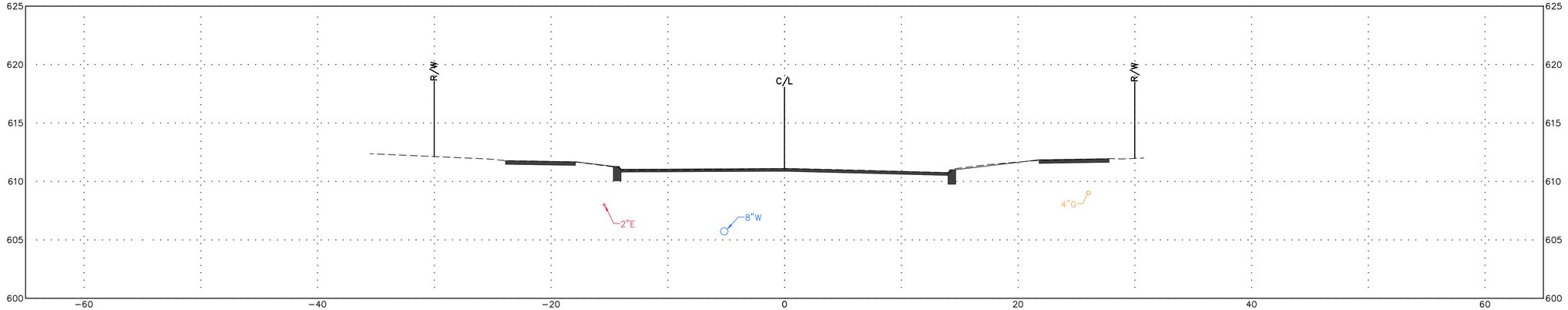
(610.3)
610.33

STA. 237+00.00



(610.7)
610.68

STA. 236+50.00



(611.1)
611.12

PROPOSED CROSS SECTION - S MAIN STREET

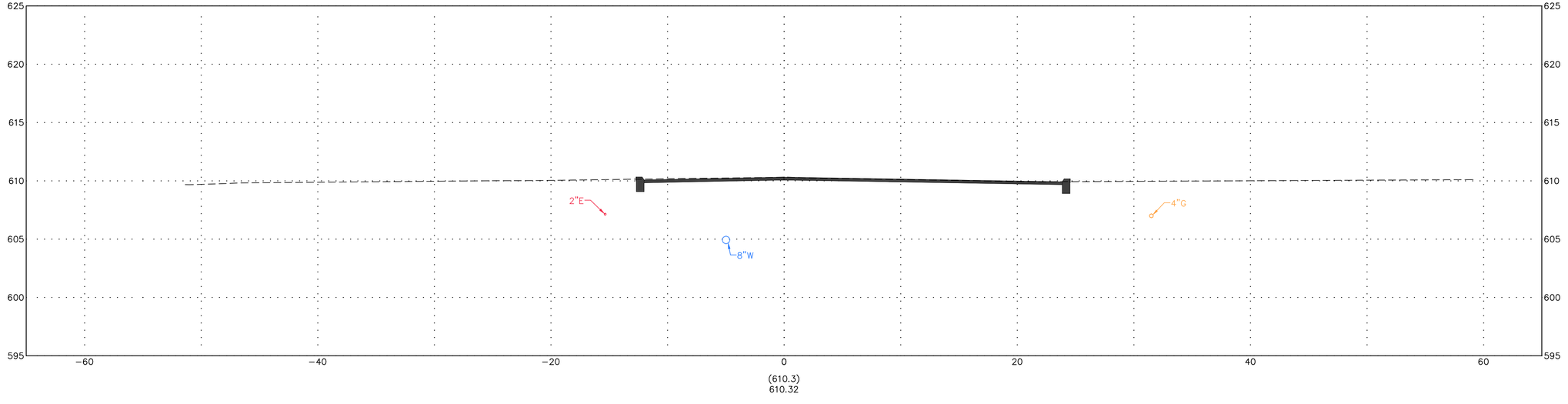
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

STA. 237+59.98



PROPOSED CROSS SECTION - S MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	TOTAL

MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, ITEM 615 PAVEMENT FOR MAINTAINING TRAFFIC, ITEM 615 ROADS FOR MAINTAINING TRAFFIC, AND TEMPORARY SURFACES USING ITEMS 410 AND 614.

LENGTH AND DURATION OF LANE CLOSURES AND RESTRICTIONS SHALL BE AT THE APPROVAL OF THE ENGINEER. IT IS THE INTENT TO MINIMIZE THE IMPACT TO THE TRAVELING PUBLIC. LANE CLOSURES OR RESTRICTIONS OVER SEGMENTS OF THE PROJECT IN WHICH NO WORK IS ANTICIPATED WITHIN A REASONABLE TIME FRAME, AS DETERMINED BY THE ENGINEER, SHALL NOT BE PERMITTED. THE LEVEL OF UTILIZATION OF MAINTENANCE OF TRAFFIC DEVICES SHALL BE COMMENSURATE WITH THE WORK IN PROGRESS.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE A OR B _____ CU. YD.
ITEM 410, TRAFFIC COMPACTED SURFACE, TYPE C _____ CU. YD.
ITEM 614, ASPHALT CONCRETE FOR MAINTAINING TRAFFIC _____ CU. YD.
ITEM 616, WATER _____ M. GAL.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN STANDARD 48 X 30 INCH ROAD CLOSED SIGNS, SIGN SUPPORTS, BARRICADES AND LIGHTS, AS DETAILED IN TRAFFIC SCD MT-101.60 AT LOCATIONS DURING PERIODS IN WHICH THE AFFECTED ROADS ARE CLOSED TO TRAFFIC.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES AS SHOWN ON THE MAINTENANCE OF TRAFFIC PLAN SHEETS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH C&MS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

SEQUENCE OF CONSTRUCTION

FRONT STREET

PHASE 1
MAINTAIN TWO WAY TRAFFIC ON THE SOUTH HALF OF FRONT STREET. BETWEEN MAIN STREET AND CRAIG BRIDGE STREET PERFORM THE FOLLOWING: CONSTRUCT THE NORTH SIDE CURB AND SIDEWALK, AND MILL AND PAVE THROUGH THE INTERMEDIATE COURSE.

PHASE 2
MAINTAIN TWO WAY TRAFFIC ON THE NORTH HALF OF FRONT STREET. STARTING AT THE WESTERN PROJECT LIMITS WEST OF MAIN STREET THROUGH CRAIG BRIDGE STREET PERFORM THE FOLLOWING: CONSTRUCT THE SOUTH SIDE CURB AND SIDEWALK, AND MILL AND PAVE THROUGH THE INTERMEDIATE COURSE.

PHASE 3
MAINTAIN TWO WAY TRAFFIC ON THE SOUTH HALF OF FRONT STREET BETWEEN THE WESTERN PROJECT LIMITS AND MAIN STREET. FROM MAIN STREET TO CRAIG BRIDGE STREET MAINTAIN TRAFFIC IN THE OUTSIDE LANES. COMPLETE THE CURB, SIDEWALK, MILLING AND PAVEMENT THROUGH THE INTERMEDIATE COURSE ON THE SECTION WEST OF MAIN STREET. FROM MAIN STREET TO CRAIG BRIDGE STREET COMPLETE THE CENTER MEDIANS. THE MEDIAN LOCATED BETWEEN STA. 11+20 AND STA. 12+44 SHALL BE COMPLETED AFTER THE PAVEMENT WEST OF MAIN STREET IS CONSTRUCTED AND TRAFFIC PLACED IN ITS FINAL TRAFFIC PATTERN.

MAIN STREET

PHASE 1
MAINTAIN TRAFFIC ON THE OUTSIDE LANES OF MAIN STREET NORTH OF FRONT STREET. CONSTRUCT THE CENTER MEDIAN, MILL THE CENTER LANES, AND PAVE THROUGH THE INTERMEDIATE COURSE.

PHASE 2
INSTALL TEMPORARY SIGNAL AT THE INTERSECTION OF MAIN STREET AND STARR AVENUE. REMOVE THE EXISTING SIGNAL AND MEDIAN AT THE INTERSECTION OF MAIN STREET AND STARR AVENUE. PAVE THE REMOVED MEDIAN AREA WITH PAVEMENT FOR MAINTAINING TRAFFIC, CLASS A. MAINTAIN MAIN STREET TRAFFIC ON THE INSIDE LANES NORTH OF FRONT STREET AND ON THE NORTH SIDE OF THE MAIN STREET PAVEMENT FROM MAIN STREET TO NEVADA STREET. CONSTRUCT THE CURB, SIDEWALK, MILLING AND PAVEMENT THROUGH THE INTERMEDIATE COURSE ON THE NORTH AND SOUTH SIDE OF MAIN STREET FROM RIVERSIDE DRIVE/BOERS-BOYER WAY TO FRONT STREET AND ON THE SOUTH/WEST SIDE FROM MAIN STREET TO NEVADA STREET.

PHASE 3
MAINTAIN TRAFFIC ON THE SOUTH/WEST SIDE OF MAIN STREET FROM FRONT STREET TO NEVADA STREET. CONSTRUCT THE CURB, WALK, MILLING, AND PAVEMENT THROUGH THE INTERMEDIATE COURSE ON THE NORTH/EAST SIDE OF MAIN STREET FROM FRONT STREET TO NEVADA STREET.

FRONT STREET AND MAIN STREET

PHASE 4
COMPLETE THE FINAL SURFACE COURSE AND FINAL PAVEMENT MARKINGS BY UTILIZING ODOT STANDARD CONSTRUCTION DRAWINGS MT-97.12 AND MT-99.20.

SIDE STREET AND DRIVE ACCESS

THE CONTRACTOR SHALL MAINTAIN SIDE STREET AND DRIVE ACCESS AT ALL TIMES UNTIL PHYSICAL CONSTRUCTION PREVENTS ACCESS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME. THE CONTRACTOR SHALL NOTIFY THE HOME OR BUSINESS OWNER NO LESS THAN 7 DAYS PRIOR TO CONSTRUCTION PREVENTING ACCESS.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES:

ITEM 616, WATER ____ M. GAL.

FLOOD LIGHTING

FLOODLIGHTING OF THE WORK SITE FOR OPERATIONS CONDUCTED DURING NIGHTTIME PERIODS SHALL BE ACCOMPLISHED SO THAT THE LIGHTS DO NOT CAUSE GLARE TO THE DRIVERS ON THE ROADWAY. TO ENSURE THE ADEQUACY OF THE FLOODLIGHT PLACEMENT, THE CONTRACTOR AND THE ENGINEER SHALL DRIVE THROUGH THE WORK SITE EACH NIGHT WHEN THE LIGHTING IS IN PLACE AND OPERATIVE PRIOR TO COMMENCING ANY WORK. IF GLARE IS DETECTED, THE LIGHT PLACEMENT AND SHIELDING SHALL BE ADJUSTED TO THE SATISFACTION OF THE ENGINEER BEFORE WORK PROCEEDS.

PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC.

LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSITANCE DURING CONSTRUCTION OPERATIONS

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW SHALL NOT BE PERMITTED AT PROJECT COST NOR TIME COMPENSATION. LEOS SHOULD NOT BE USED WHERE THE OMUTCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

- DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.
- DURING A TRAFFIC SIGNAL INSTALLATION WHEN IMPACTING THE NORMAL FUNCTION OF THE SIGNAL OR THE FLOW OF TRAFFIC, OR WHEN TRAFFIC NEEDS TO BE DIRECTED THROUGH AN ENERGIZED TRAFFIC SIGNAL CONTRARY TO THE SIGNAL DISPLAY (E.G., DIRECTING MOTORISTS THROUGH A RED LIGHT).
- DURING PERIODS WHERE TRAFFIC NEEDS TO BE DIRECTED CONTRARY TO A TRAFFIC CONTROL DEVICE (FLAGGER, SIGN [E.G. STOP SIGN, STREET OR HIGHWAY SIGNS, ETC], SIGNAL OR OTHER DEVICE USED TO REGULATE, WARN OR GUIDE TRAFFIC). TRAFFIC IN THIS INSTANCE INCLUDES VEHICULAR, PEDESTRIAN AND/OR SHARED USE PATH USERS.

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMUTCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

- FOR LANE CLOSURES THAT MEET ALL OF THE CRITERIA LISTED BELOW: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

CRITERIA

- ON A MULTI-LANE DIVIDED INTERSTATE, OTHER FREEWAY OR EXPRESSWAY; AND,
- AN AUTHORIZED SPEED LIMIT OF 45 MPH OR GREATER THAT IS IN EFFECT AT THE TIME OF THE OPERATION; AND,
- AADT OF 50,000 (OR AADT OF 30,000 WITH 25% OR HIGHER PERCENT TRUCKS)

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS AND/OR IN CONTRARY TO OTHER TRAFFIC CONTROL DEVICES IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORISTS ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 80 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED.

ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF AN LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

MAINTENANCE OF TRAFFIC SIGNAL/INTERSECTION CONTROL BEACON INSTALLATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNALS AND INTERSECTION CONTROL BEACONS INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

EXISTING SIGNAL/INTERSECTION CONTROL BEACON INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURB THE INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.

NEW OR REUSED SIGNAL/INTERSECTION CONTROL BEACON INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL THE WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT AS QUICKLY AS POSSIBLE ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN TWO HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE, ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS, WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE CRASH THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO, OR CANNOT RESPOND TO, AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION, AT THESE LOCATIONS WITHIN HIS RESPONSIBILITY, WITHIN PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OR THE CITY OF TOLEDO FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR IN ACCORDANCE WITH PROVISIONS OF SECTION 105.15.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES OR HE MAY CHOOSE TO ENTER INTO A COOPERATIVE UNDERSTANDING WITH THE LOCAL MAINTAINING AGENCY TO PROVIDE THE MAINTENANCE. THE CONTRACTOR SHALL INFORM THE ENGINEER, IN WRITING, OF THE MAINTENANCE METHOD SELECTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND REVISIONS TO THE SIGNAL SYSTEM. WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR, DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED ____ HOURS AND SHALL NOT INCLUDE THE HOURS OF ____ TO ____ ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES, OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE, SHALL BE PROTECTED, BY THE CONTRACTOR, BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS, EXCEPT FOR THE FOLLOWING INTERSECTIONS WHICH SHALL BE PROTECTED BY OFF-DUTY CITY OF TOLEDO POLICE, HIRED BY THE CONTRACTOR:

1. FRONT STREET AND MAIN STREET
2. FRONT STREET AND CRAIG BRIDGE STREET
3. MAIN STREET AND STARR AVENUE

ANY VEHICULAR TRAFFIC SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION;
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED;
4. A DIAGNOSIS OF REASON FOR THE MALFUNCTION AND PROBABILITY OF REOCCURRENCE;
5. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE.

A COPY OF THESE RECORDS SHALL BE PROVIDED TO THE ENGINEER WITHIN THREE (3) WORKING DAYS FOLLOWING COMPLETION OF EACH REPAIR.

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC.

NOTIFICATION OF TRAFFIC RESTRICTIONS

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE SPECIAL HAULING PERMITS SECTION (HAULING.PERMITS@DOT.OHIO.GOV) AND THE DISTRICT PUBLIC INFORMATION OFFICE (PIO). THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS.

INFORMATION SHOULD INCLUDE, BUT IS NOT LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

NOTIFICATION OF TRAFFIC RESTRICTIONS TIME TABLE

ITEM	DURATION OF CLOSURE	NOTICE DUE TO PERMITS & PIO
RAMP & ROAD CLOSURES	≥ 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	≤ 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	≥ 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO CLOSURE

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE.

RESIDENTIAL AND BUSINESS ACCESS

TRAFFIC SHALL BE MAINTAINED TO RESIDENTS AND BUSINESSES AT ALL TIMES AND ALL SIGNAGE NECESSARY SHALL BE PROVIDED BY THE CONTRACTOR UNDER ITEM 614 – MAINTAINING TRAFFIC.

DETOUR ROUTES BY CONTRACTOR

ANY CLOSURES THAT WILL REQUIRE A DETOUR TO BE SET, EITHER PLANNED OR UNPLANNED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY APPROVED WEEKEND CLOSURES SHALL OCCUR BETWEEN THE HOURS OF FRIDAY, 8 PM TO MONDAY, 6 AM. ALL CLOSURES SHALL BE APPROVED BY THE DIVISION OF TRAFFIC MANAGEMENT.

CONTRACTOR SHALL PROVIDE ALL SIGNAGE FOR DETOUR ROUTES FOR EACH CONSTRUCTION PHASE ACCORDING TO THE OMUTCD AND THE CITY OF TOLEDO MANUAL FOR UNIFORM TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE. DETOUR ROUTES MAY BE SUBJECT TO CHANGE AS DETERMINED BY THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT AND ALL HAUL ROUTES, DETOUR ROUTES AND ESTIMATED DURATIONS FOR EACH PHASE SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF TRAFFIC MANAGEMENT SEVEN (7) DAYS BEFORE IT TAKES EFFECT. ALL ITEMS NEEDED TO PROVIDE THE DETOUR SHALL BE PAID FOR AS PART OF THE MAINTENANCE OF TRAFFIC. CONTRACTOR SHALL NOT BE PAID EXTRA FOR ANY UNFORESEEN DETOURS OR CLOSURES. THE DIVISION OF TRAFFIC MANAGEMENT SHALL PROVIDE A PREFERRED DETOUR ROUTE.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

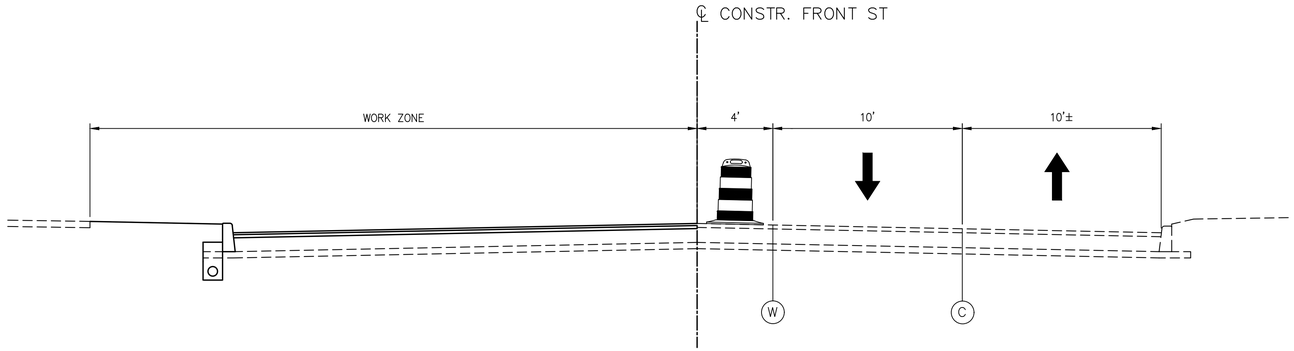
ODOT PID
121938

DESIGNER
SRC

REVIEWER
-

COT PROJ. ID
XXXX

SHEET 182 TOTAL 345



PHASE 1

STA. 10+50 TO STA. 58+12

LEGEND

- (C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)
- (W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)
- (Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)

DRUM (SPACED 25' c/c)

TRAFFIC FLOW

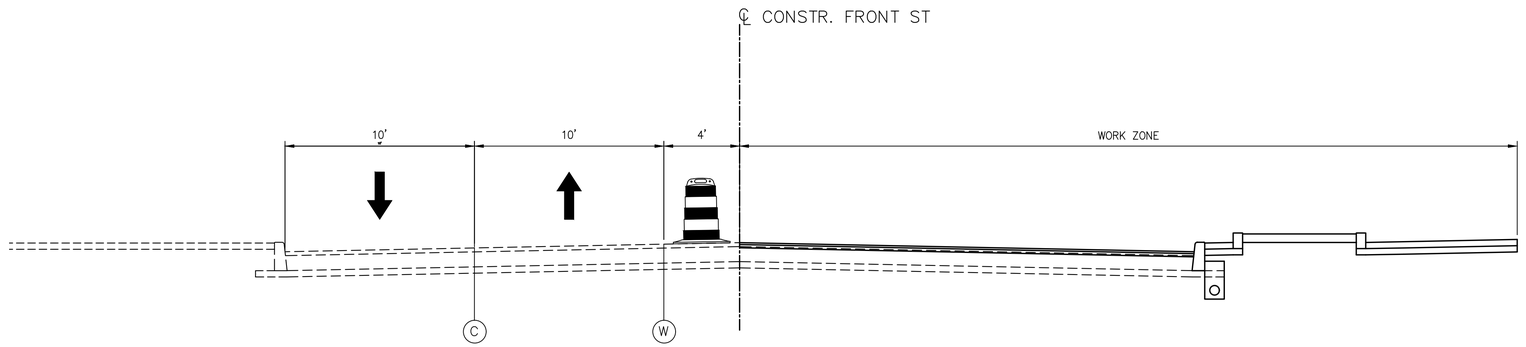
MAINTENANCE TRAFFIC TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

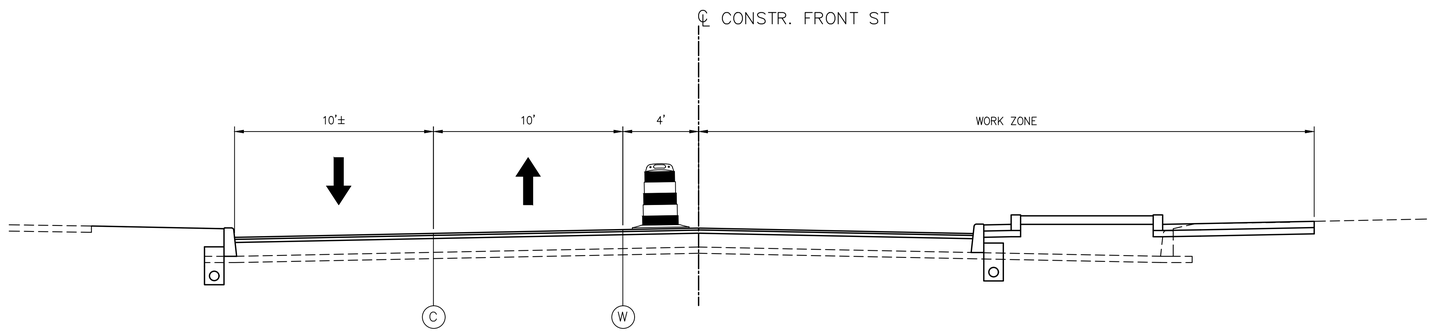
DGL CONSULTING ENGINEERS

ODOT PID	121938-
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	183
TOTAL	345



PHASE 2

STA. 4+16 TO STA. 9+50



PHASE 2

STA. 10+50 TO STA. 58+12

LEGEND

- (C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)
- (W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)
- (Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)

DRUM (SPACED 25' c/c)

TRAFFIC FLOW

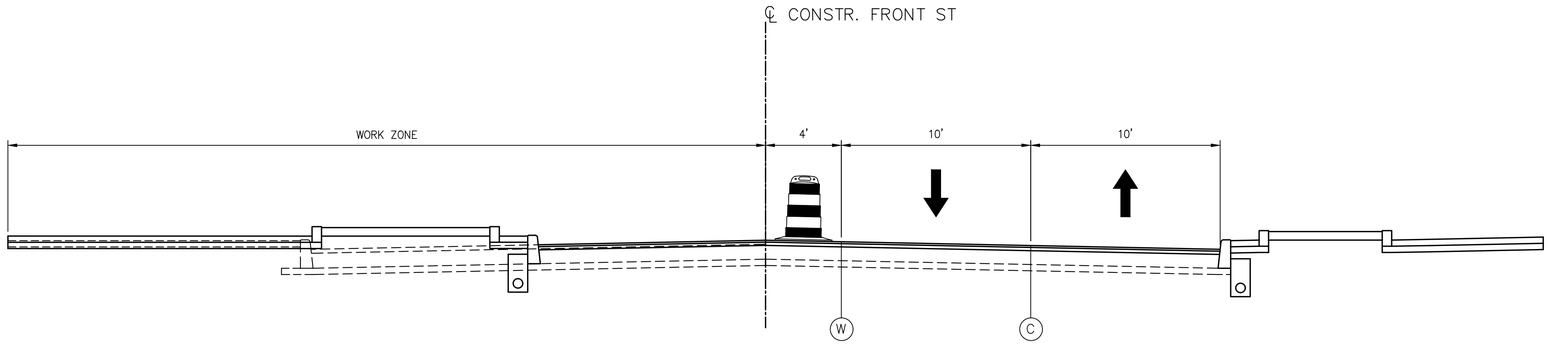
MAINTENANCE TRAFFIC TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

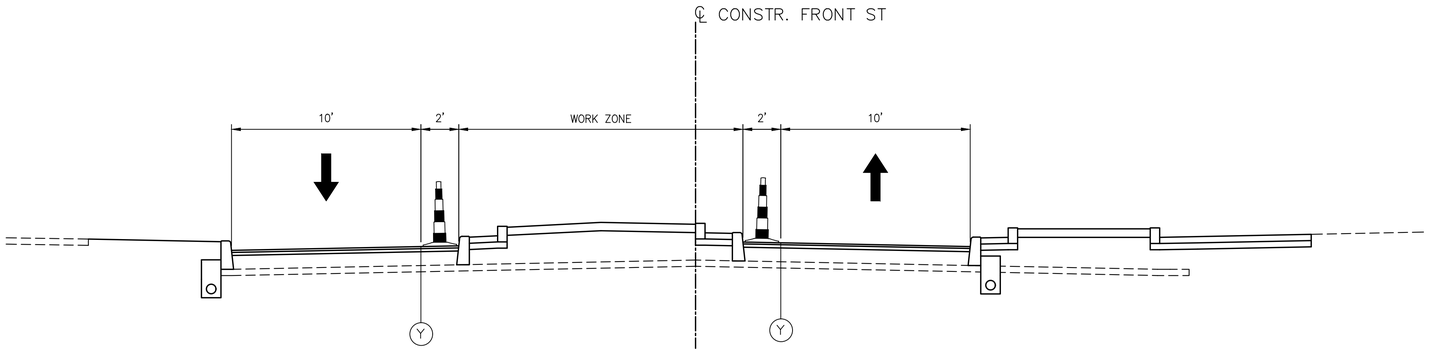
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	184
TOTAL	345



PHASE 3

STA. 4+16 TO STA. 9+50



PHASE 3

STA. 10+50 TO STA. 58+12

LEGEND

- (C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)
- (W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)
- (Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)

DRUM (SPACED 25' c/c)

TRAFFIC FLOW

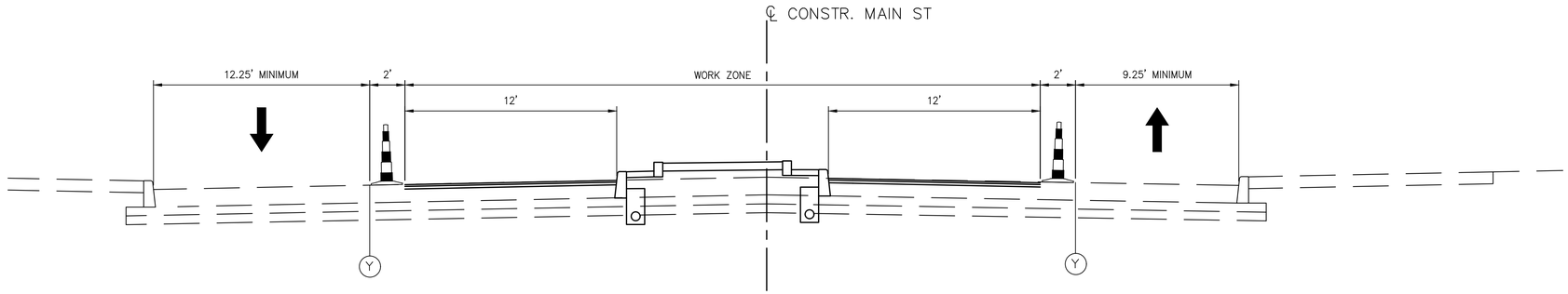
MAINTENANCE TRAFFIC TYPICAL SECTION - FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

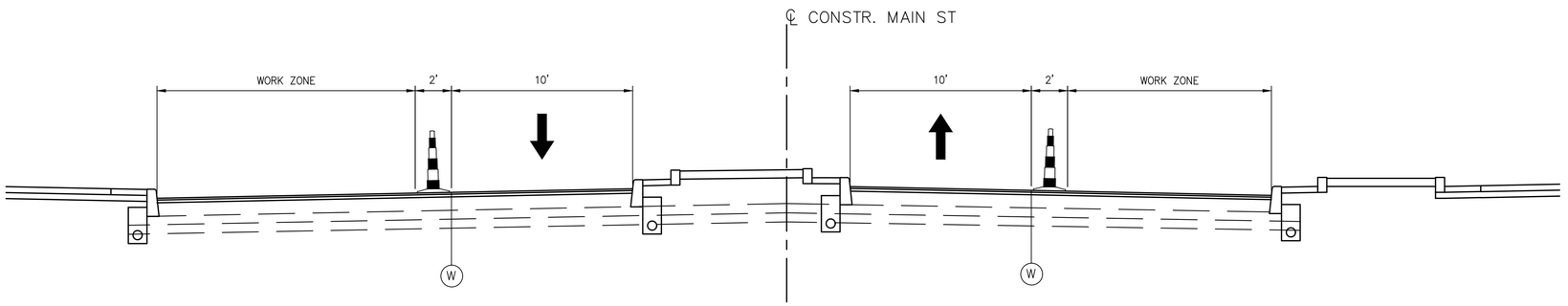
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	185
TOTAL	345



PHASE 1

STA. 105+50 TO STA. 113+50



PHASE 2

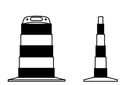
STA. 105+00 TO STA. 113+50

LEGEND

(C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)

(W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)

(Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)



DRUM (SPACED 25' c/c)

TRAFFIC FLOW

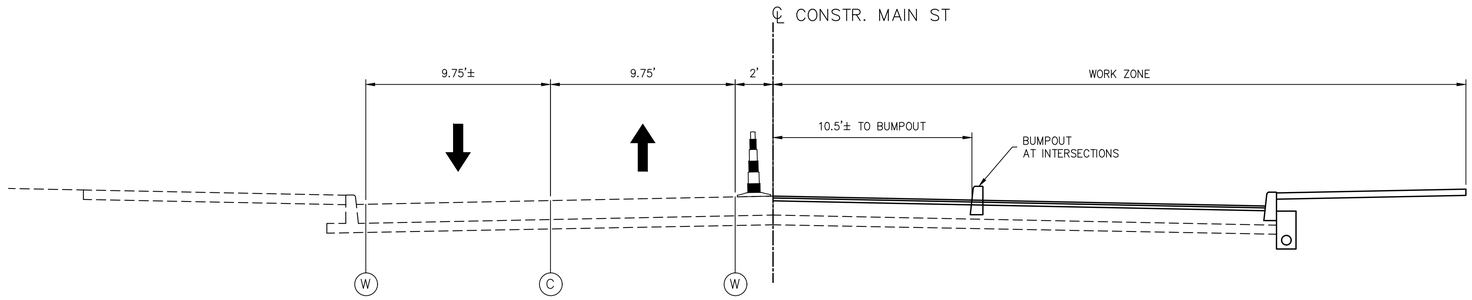
MAINTENANCE TRAFFIC TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

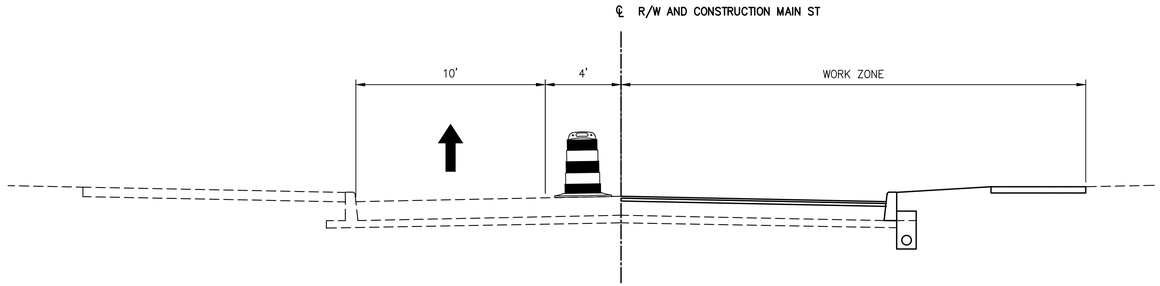
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	186
TOTAL	345



PHASE 2

STA. 200+50 TO STA. 223+50



PHASE 2

STA. 224+80 TO STA. 237+60

LEGEND

(C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)

(W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)

(Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)

DRUM (SPACED 25' c/c)

TRAFFIC FLOW

MAINTENANCE TRAFFIC TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

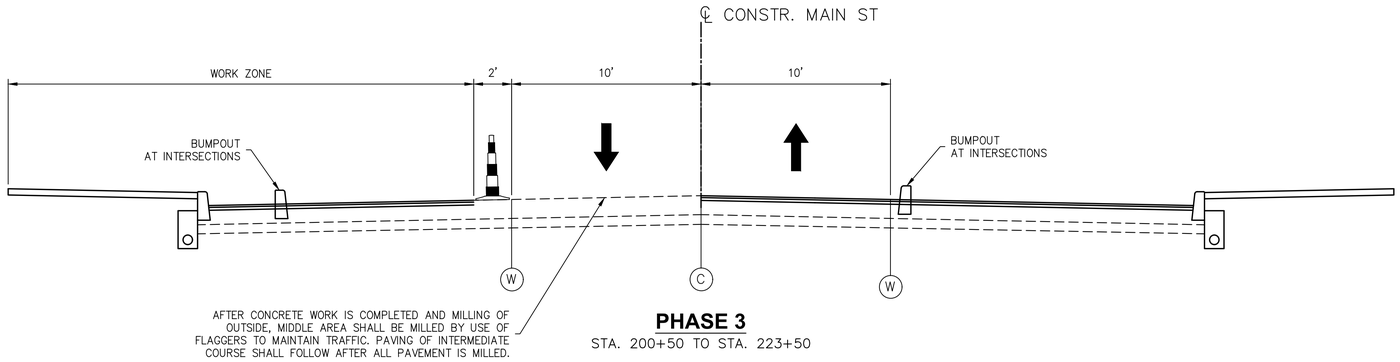
ODOT PID 121938

DESIGNER SRC

REVIEWER -

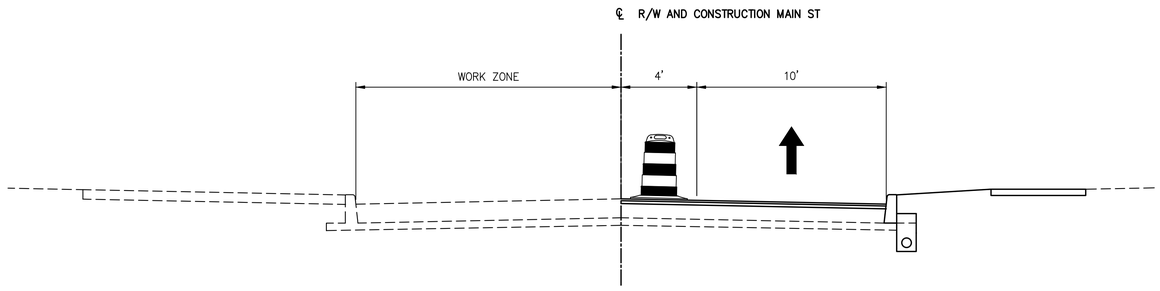
COT PROJ. ID XXXX

SHEET 187 TOTAL 345



PHASE 3

STA. 200+50 TO STA. 223+50



PHASE 3

STA. 224+80 TO STA. 237+60

LEGEND

- (C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, DOUBLE, SOLID)
- (W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)
- (Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)

DRUM (SPACED 25' c/c)

TRAFFIC FLOW

MAINTENANCE TRAFFIC TYPICAL SECTION - MAIN STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

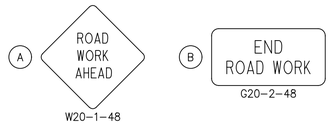
DESIGN AGENCY

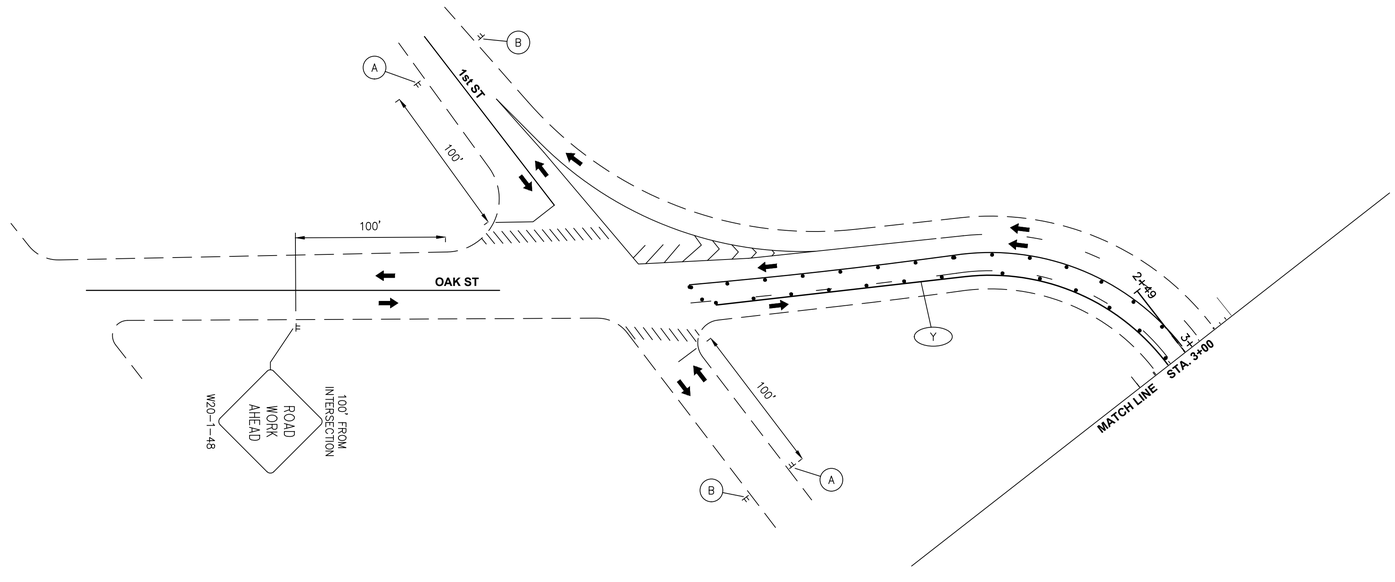
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	188
TOTAL	345

LEGEND

- (C) ITEM 614 – WORK ZONE CENTER LINE (YELLOW, SOLID, DOUBLE)
- (W) ITEM 614 – WORK ZONE EDGE LINE (WHITE)
- (Y) ITEM 614 – WORK ZONE EDGE LINE (YELLOW)
- (CH) ITEM 614 – WORK ZONE CHANNELIZING LINE
- (D) ITEM 614 – WORK ZONE DOTTED LINE
- • • • DRUMS (SPACED 25' c/c)
- TRAFFIC FLOW





0 25 50 100
Horizontal
Scale In Feet

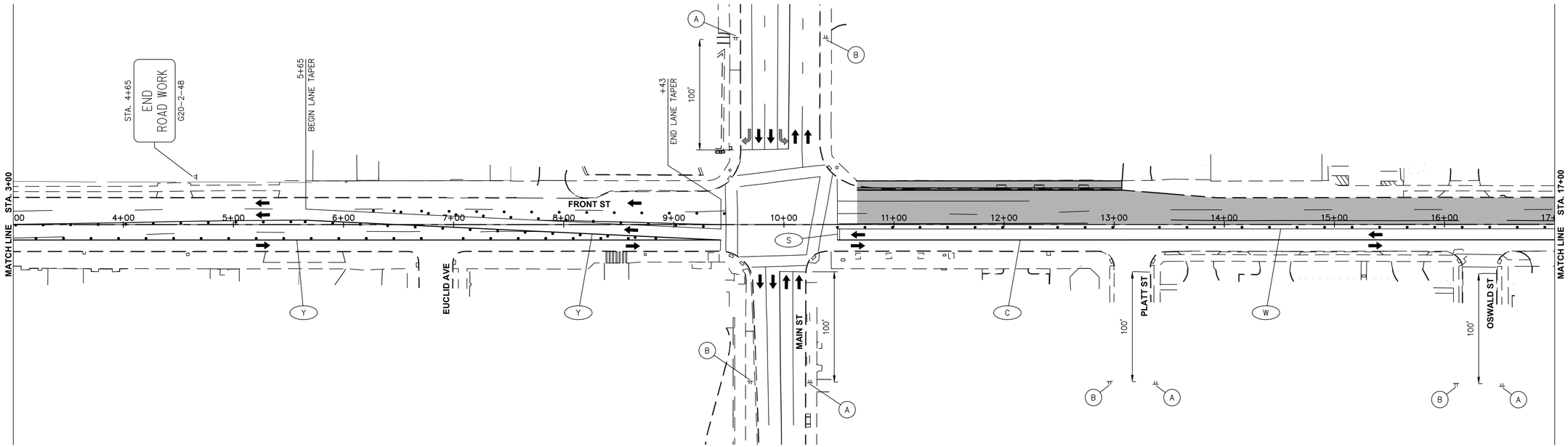
MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 1

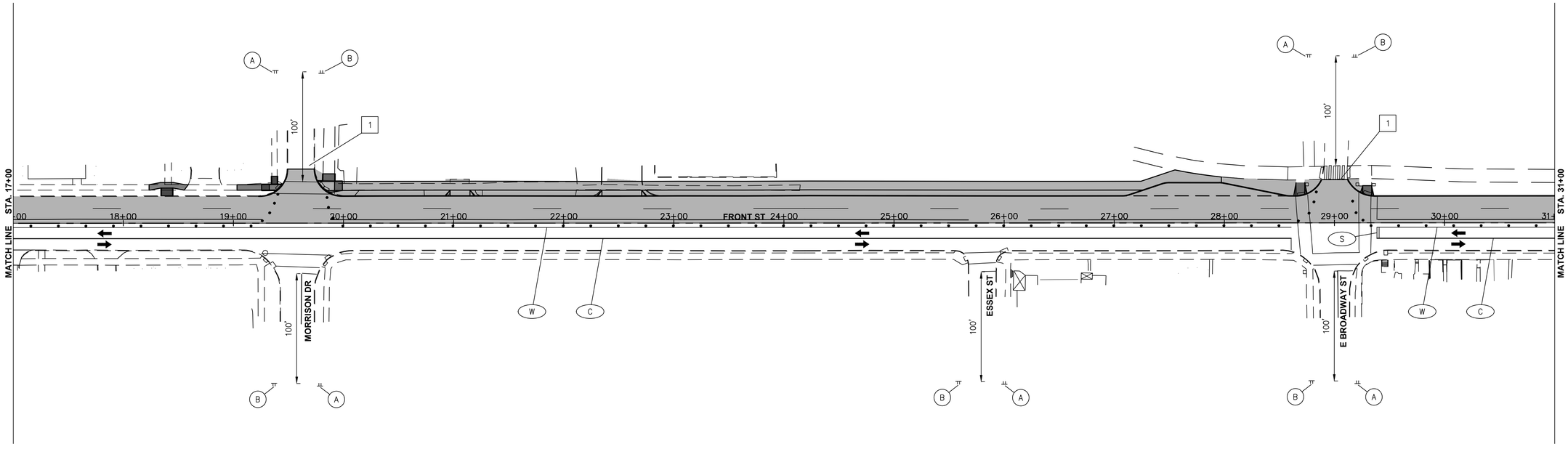
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	189
TOTAL	345





1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal Scale In Feet

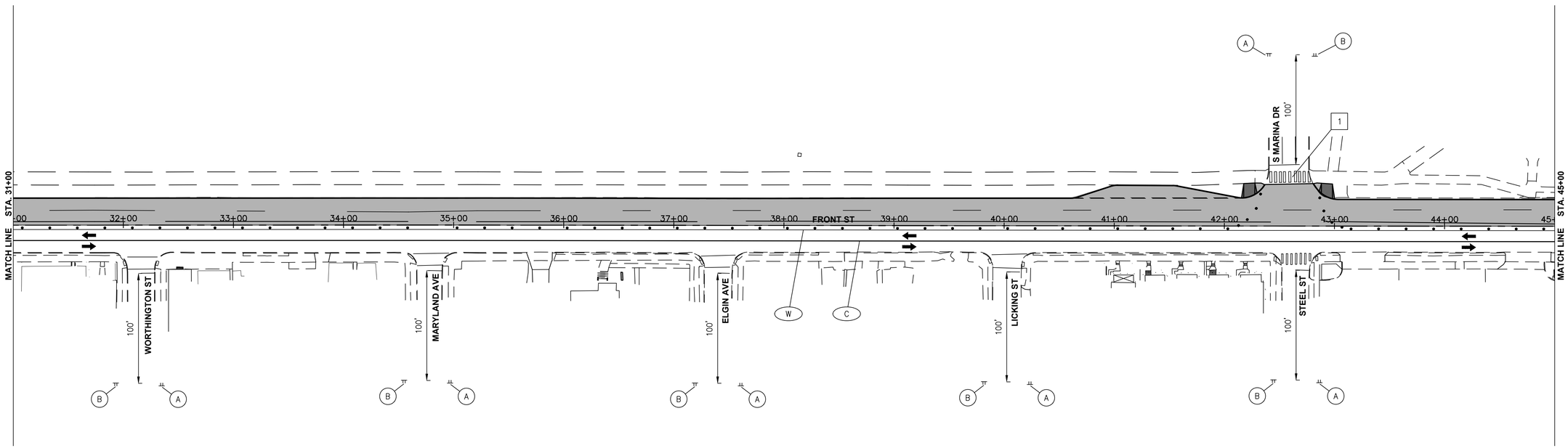
MAINTENANCE OF TRAFFIC FRONT STREET - PHASE 1

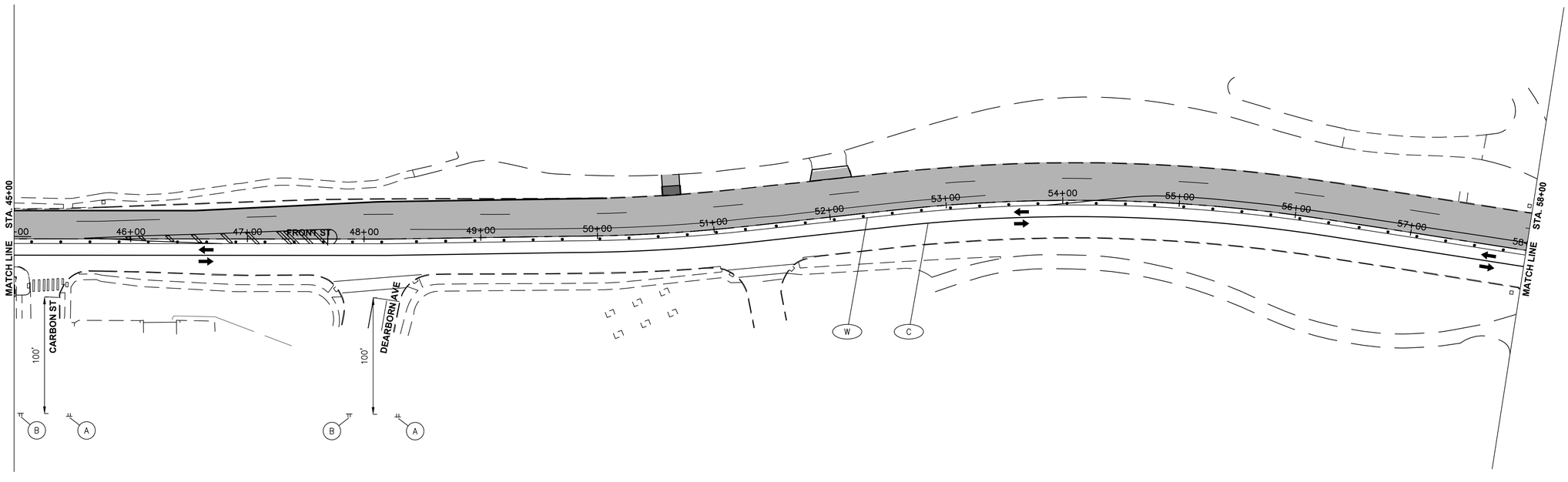
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	190
TOTAL	345





1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal Scale In Feet

MAINTENANCE OF TRAFFIC FRONT STREET - PHASE 1

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	191
TOTAL	345

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 1

FRONT ST & MAIN ST IMPROVEMENT PLANS

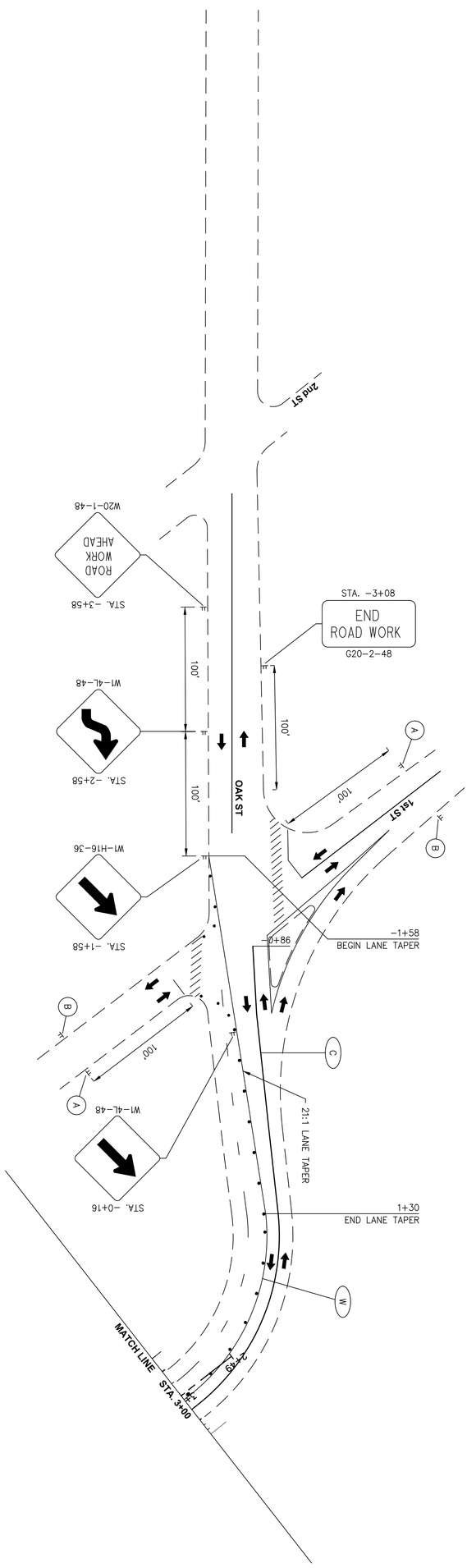
FOR MOT LEGEND SEE SHEET ___.

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	192
TOTAL	345

MATCH LINE STA. 17+00

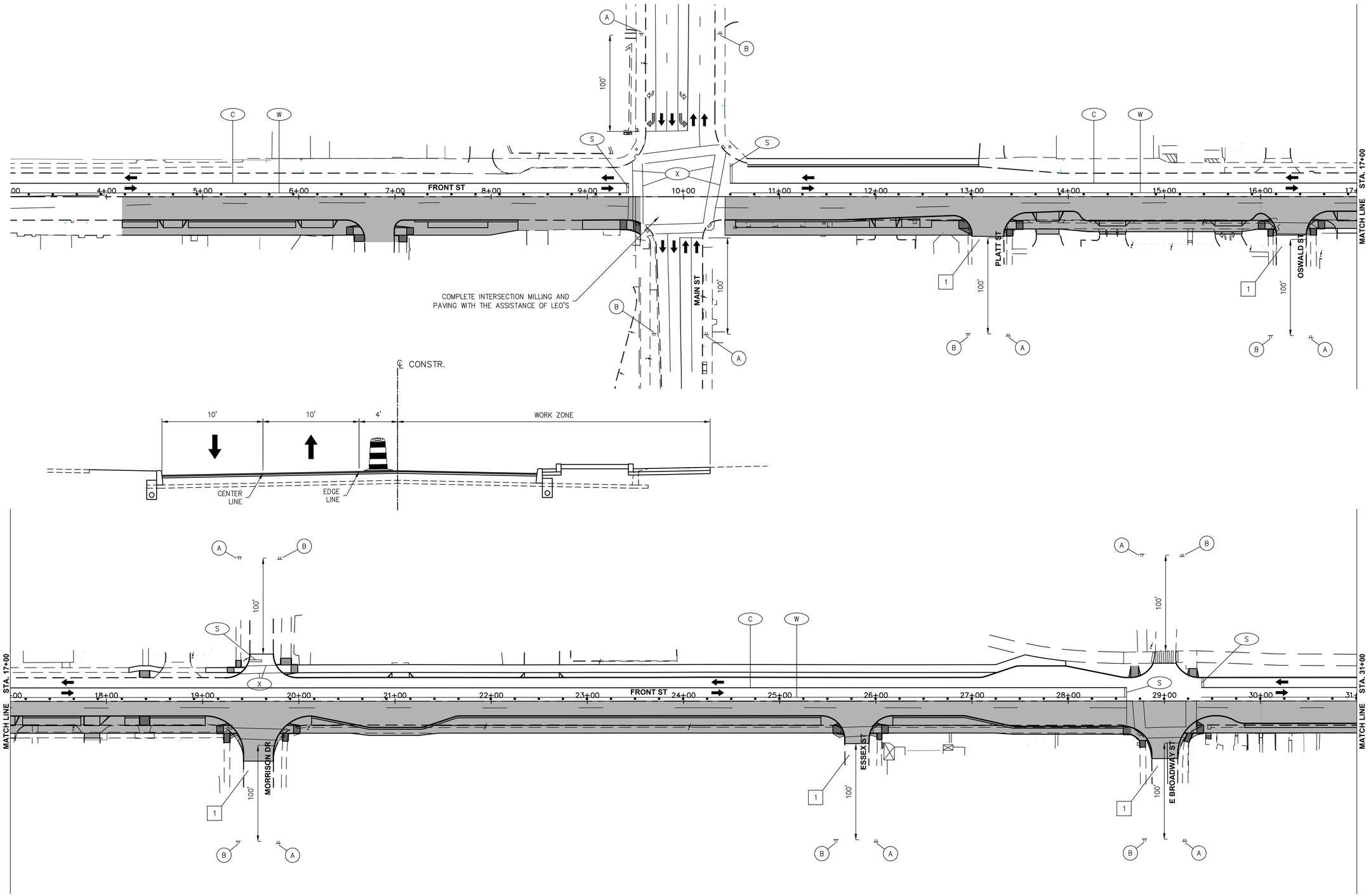


FOR MOT LEGEND SEE SHEET ---

SHEET 193 TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DGL CONSULTING ENGINEERS	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 2

0 25 50 100
Horizontal
Scale In Feet



1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET __.

0 25 50 100
Horizontal
Scale In Feet

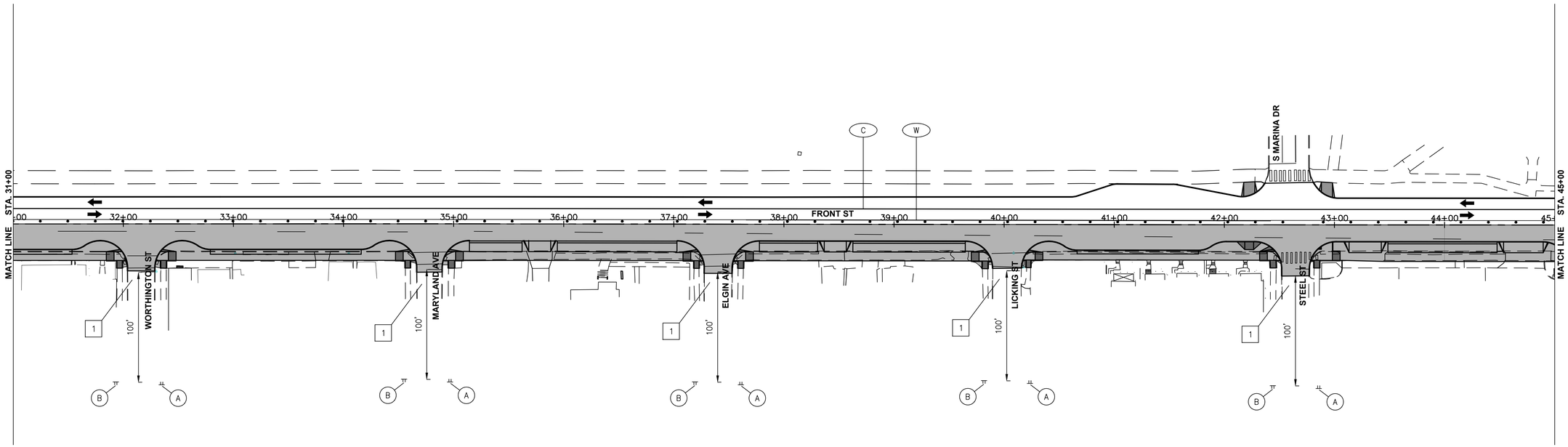
MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 2

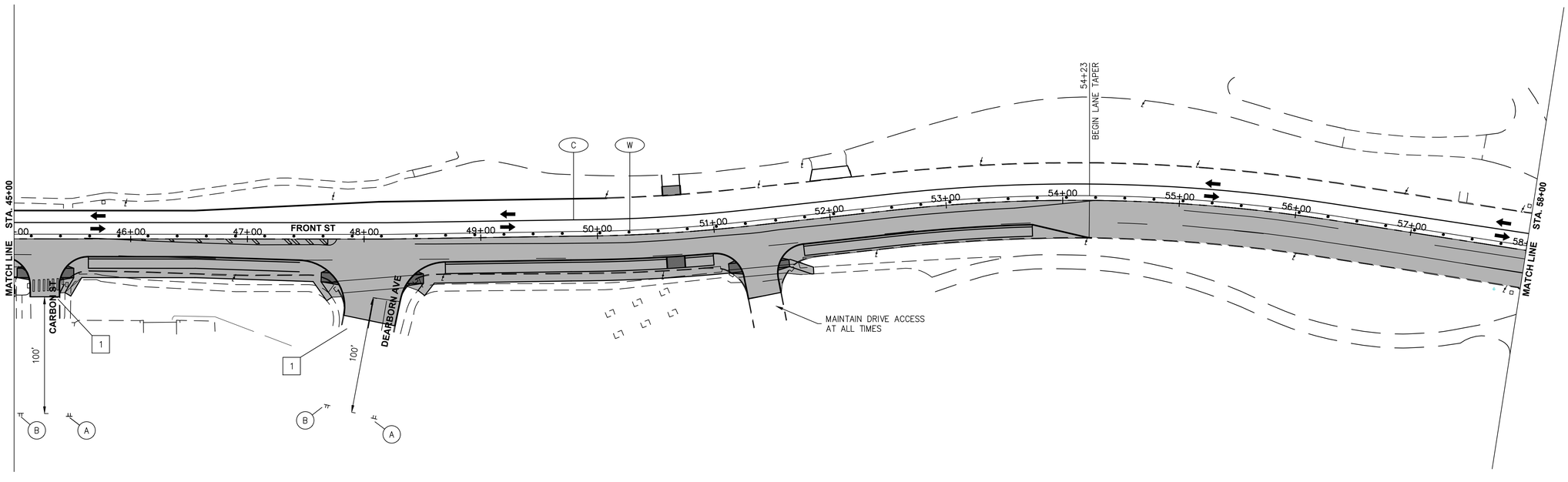
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	194
TOTAL	345





1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal Scale In Feet

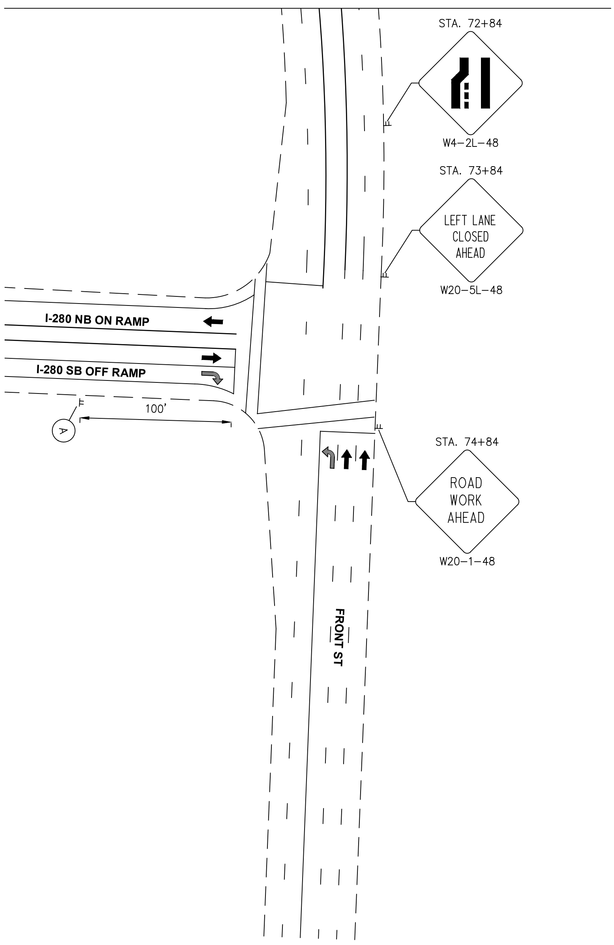
MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 2

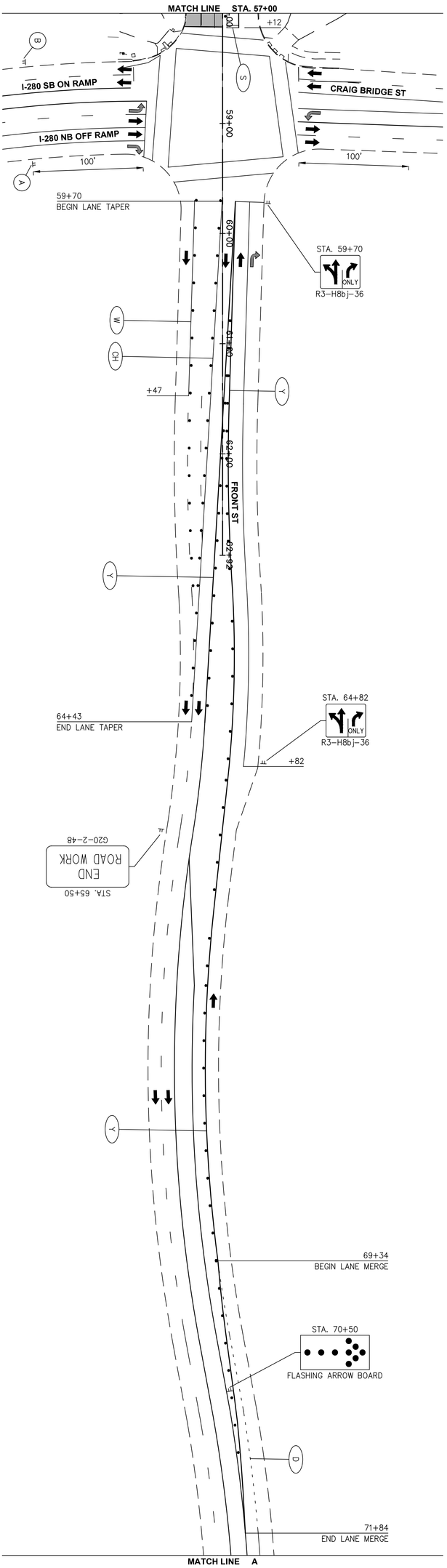
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	195
TOTAL	345





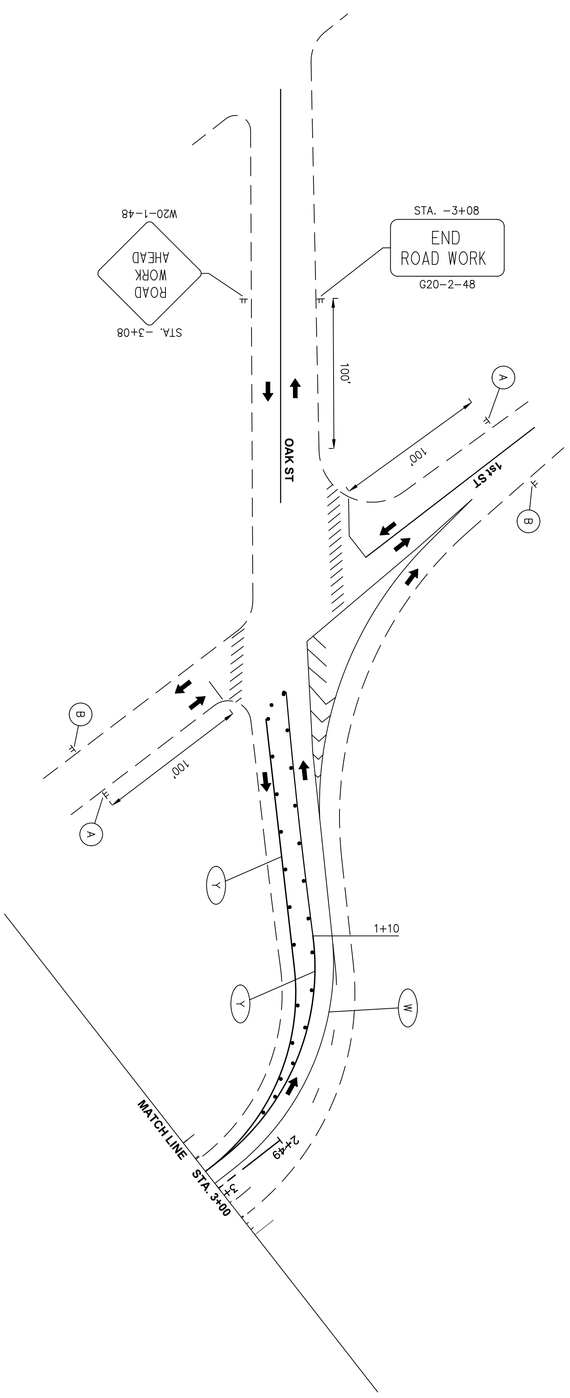
FOR MOT LEGEND SEE SHEET ----

SHEET 196 TOTAL 345	COT PROJ. ID XXXX	-	DESIGNER SRC	ODOT PID 121938	DGL	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 1

0 25 50 100
Horizontal
Scale In Feet

MATCH LINE STA. 17+00

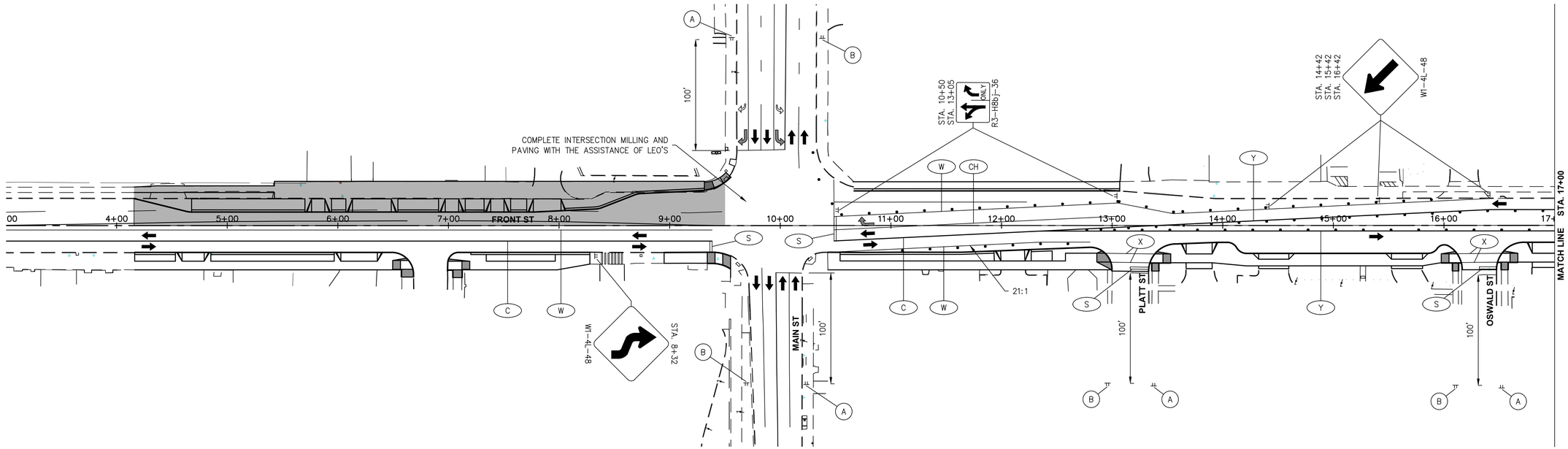


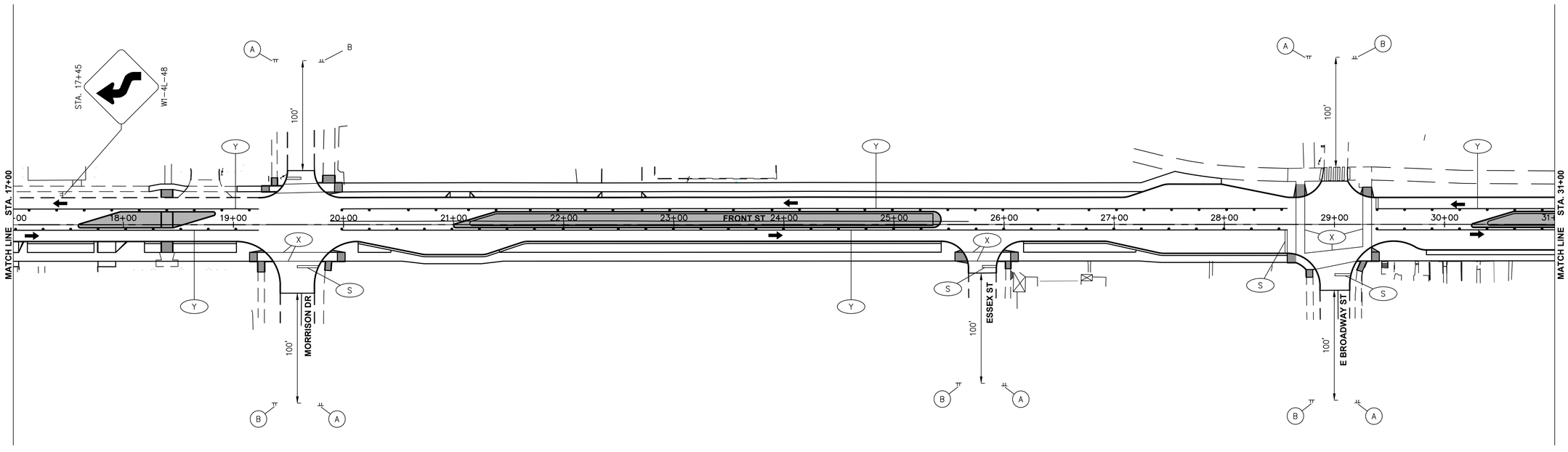
FOR MOT LEGEND SEE SHEET ---

SHEET 197 TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DGL	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 3

0 25 50 100
Horizontal
Scale In Feet





FOR MOT LEGEND SEE SHEET ___.

Horizontal Scale In Feet
0 25 50 100

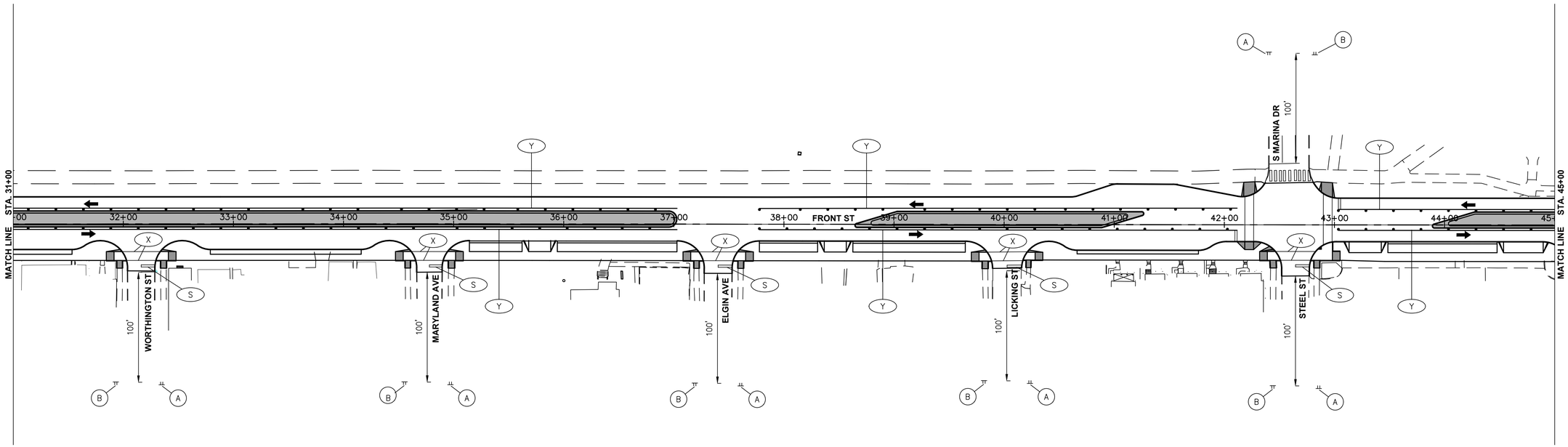
MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 3

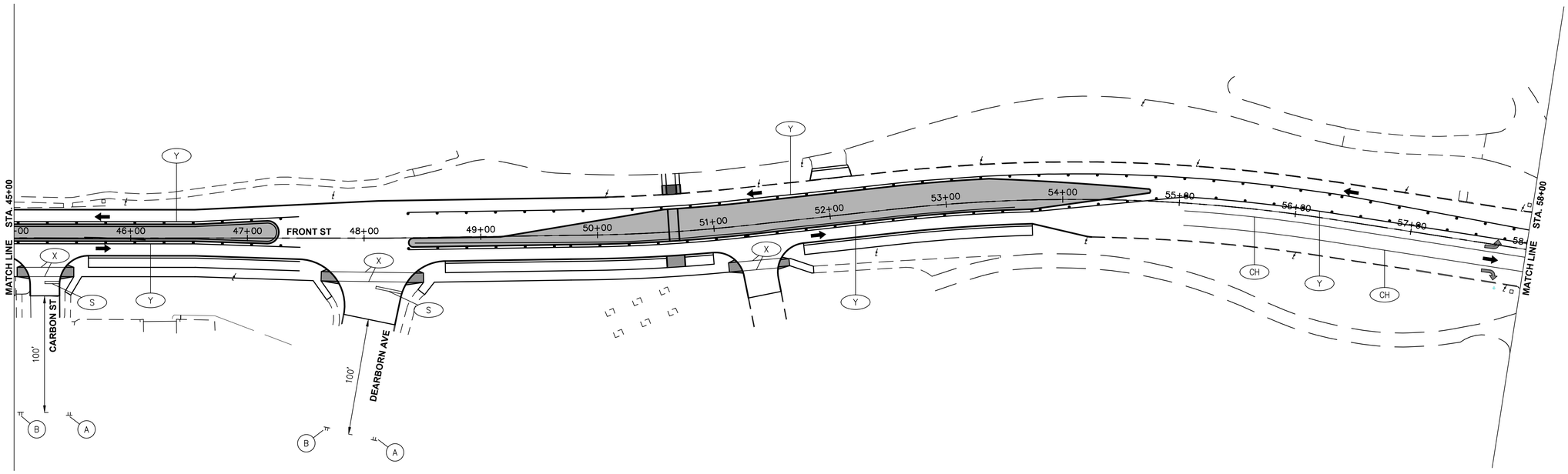
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	198
TOTAL	345





FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal Scale In Feet

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 3

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	199
TOTAL	345

MAINTENANCE OF TRAFFIC
FRONT STREET - PHASE 3

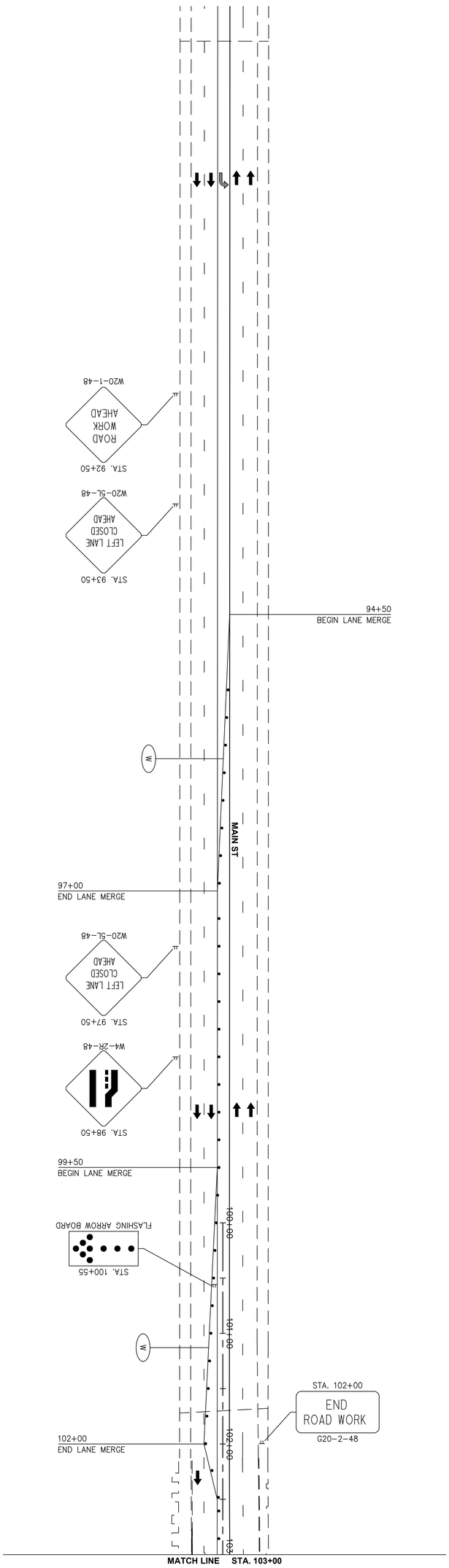
FOR MOT LEGEND SEE SHEET ___.

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

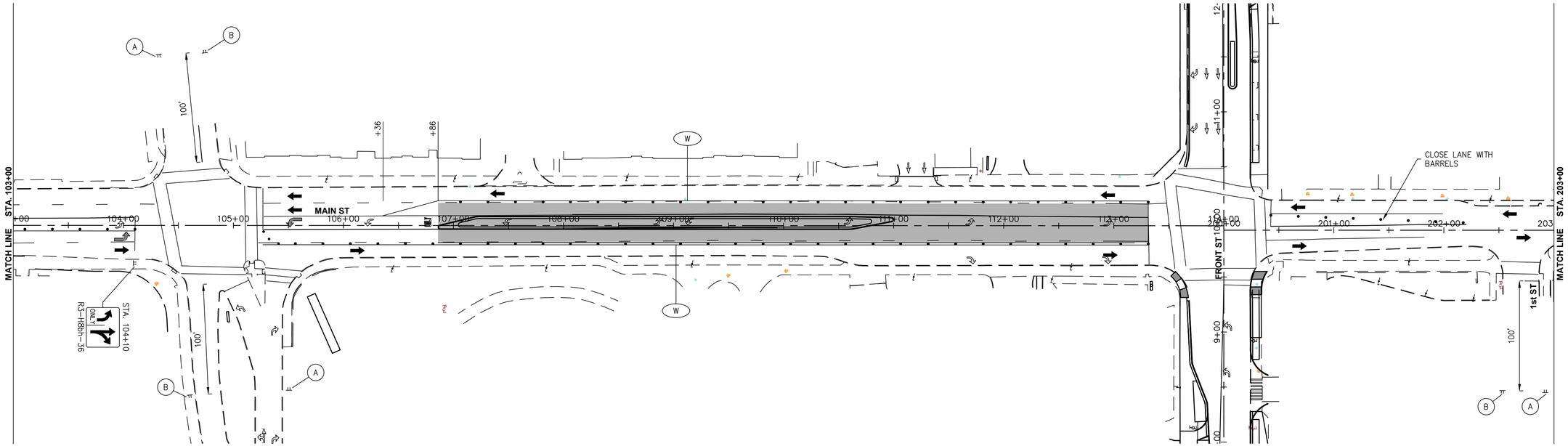
ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	200
TOTAL	345

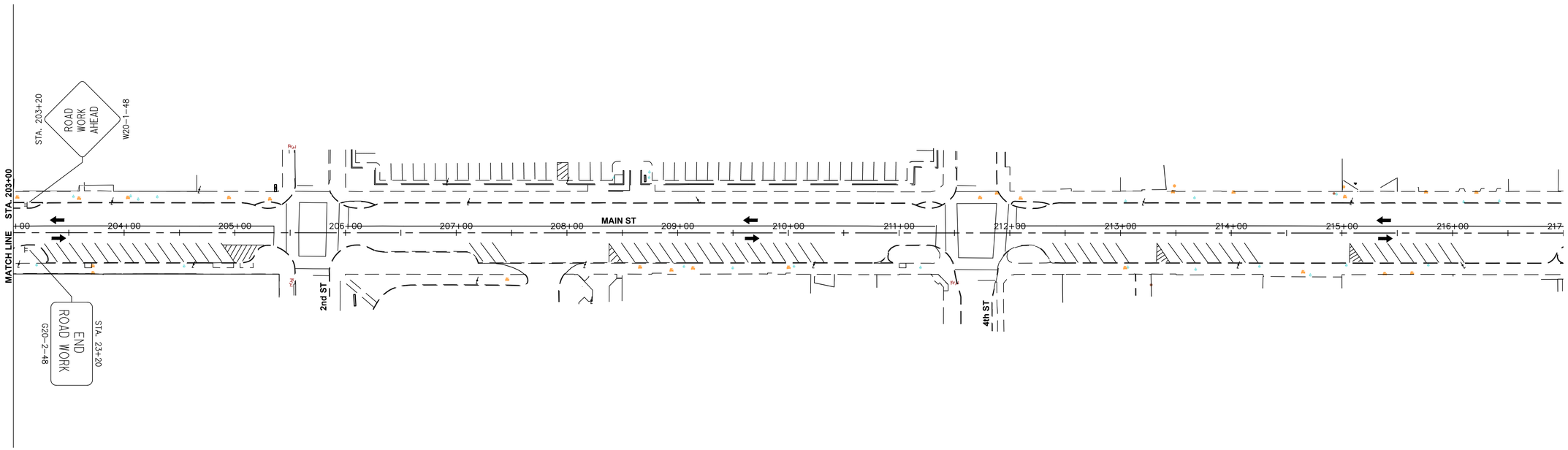


FOR MOT LEGEND SEE SHEET ---

SHEET 201 TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DESIGN AGENCY DGL	**FRONT ST & MAIN ST IMPROVEMENT PLANS**	**MAINTENANCE OF TRAFFIC MAIN STREET - PHASE 1**

0 25 50 100
Horizontal Scale In Feet





FOR MOT LEGEND SEE SHEET __.

Horizontal Scale In Feet
0 25 50 100

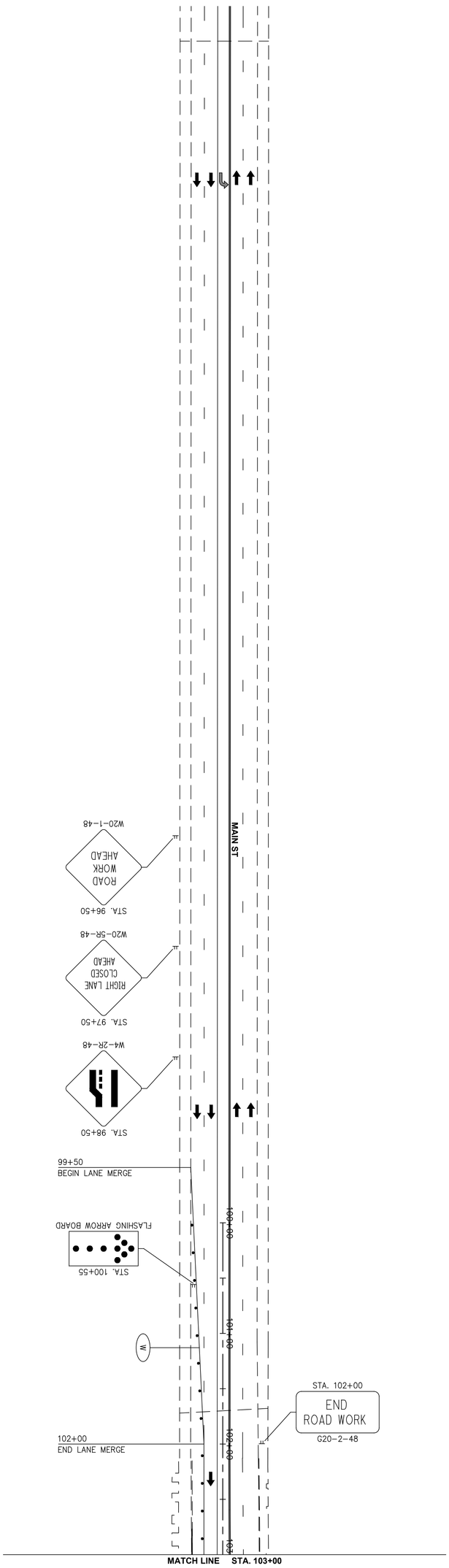
MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 1

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

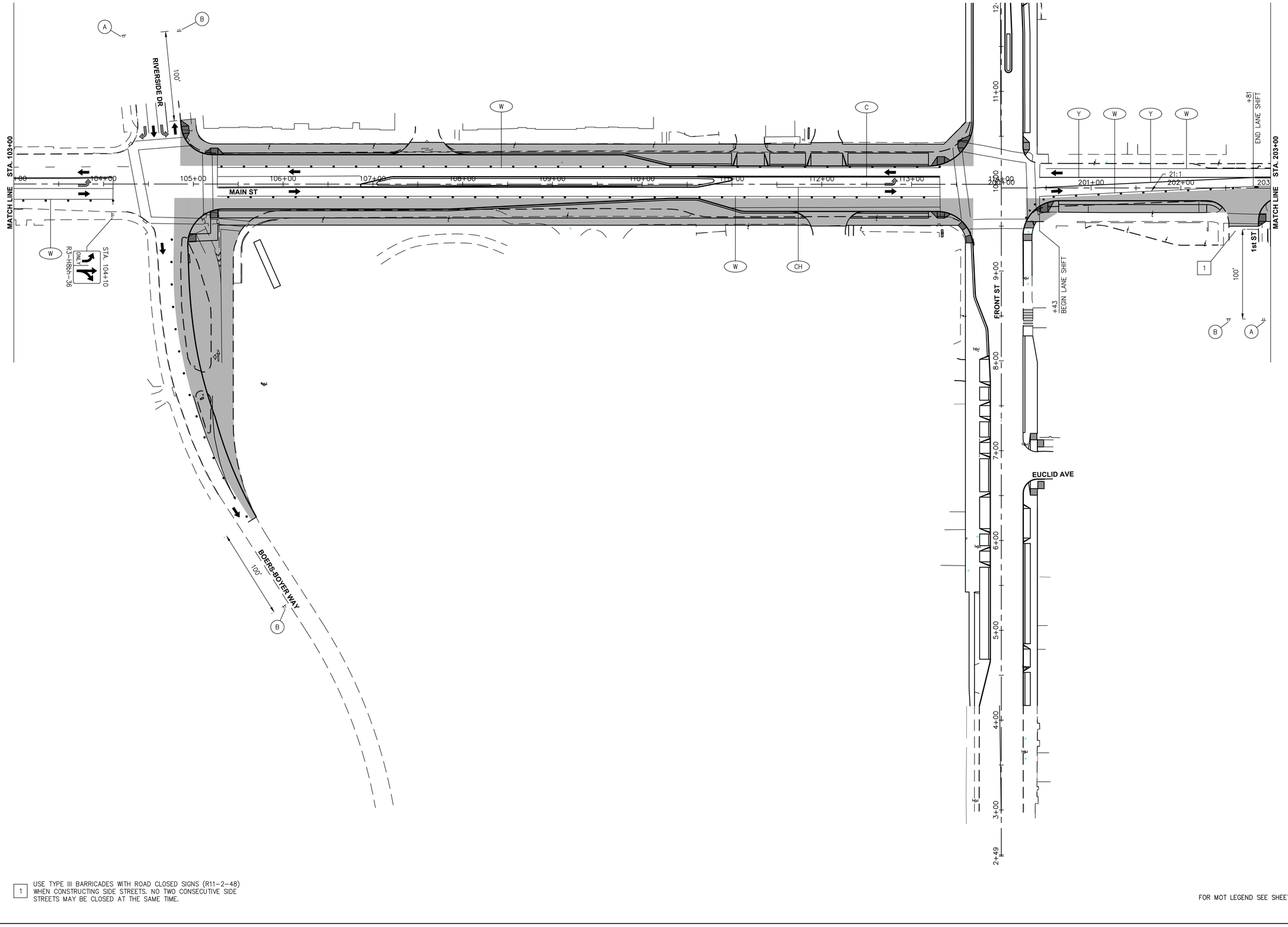
ODOT PID	121938
DESIGNER	SRC-
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	202
TOTAL	345



FOR MOT LEGEND SEE SHEET ---

SHEET 203 TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DESIGN AGENCY DGL	**FRONT ST & MAIN ST IMPROVEMENT PLANS**	**MAINTENANCE OF TRAFFIC MAIN STREET - PHASE 2**

0 25 50 100
Horizontal Scale In Feet



1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET ___.

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 2

FRONT ST & MAIN ST IMPROVEMENT PLANS

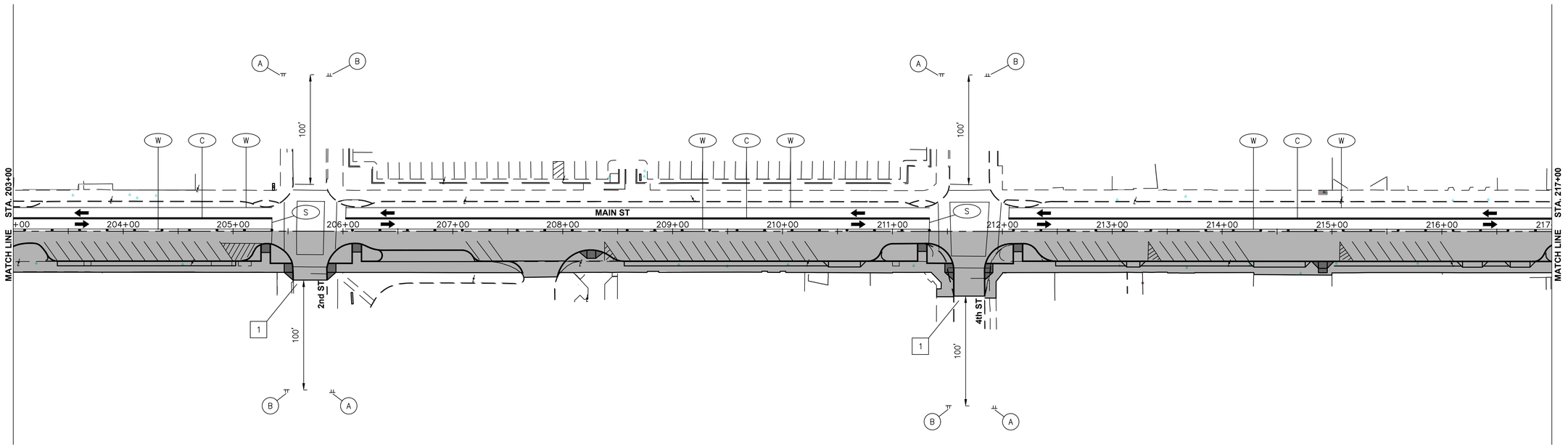
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	204
TOTAL	345

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 2

0 25 50 100
Horizontal
Scale In Feet



1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11-2-48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

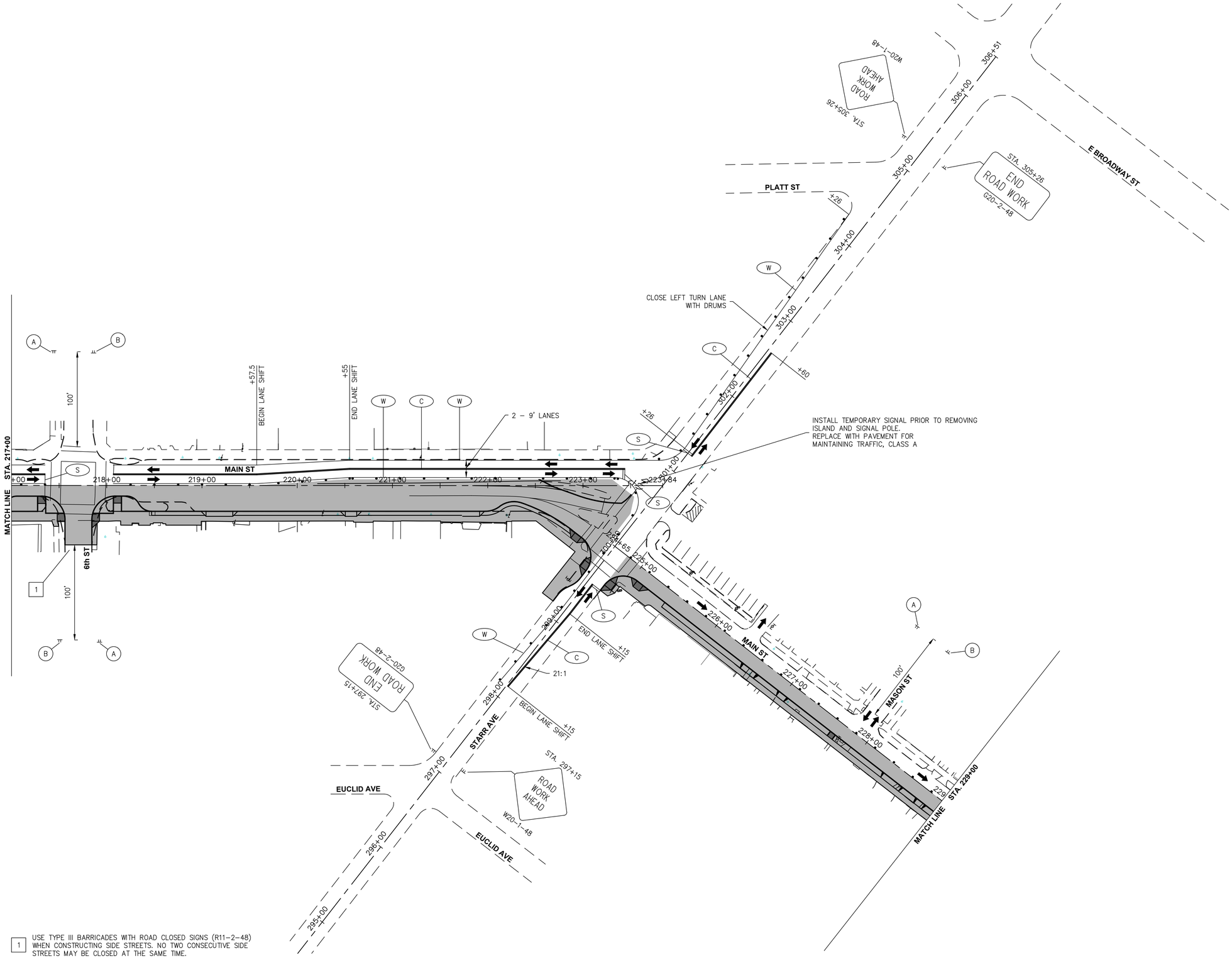
FOR MOT LEGEND SEE SHEET __.

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

DGL
CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	205
TOTAL	345



1 USE TYPE III BARRICADES WITH ROAD CLOSED SIGNS (R11–2–48) WHEN CONSTRUCTING SIDE STREETS. NO TWO CONSECUTIVE SIDE STREETS MAY BE CLOSED AT THE SAME TIME.

FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal
Scale In Feet

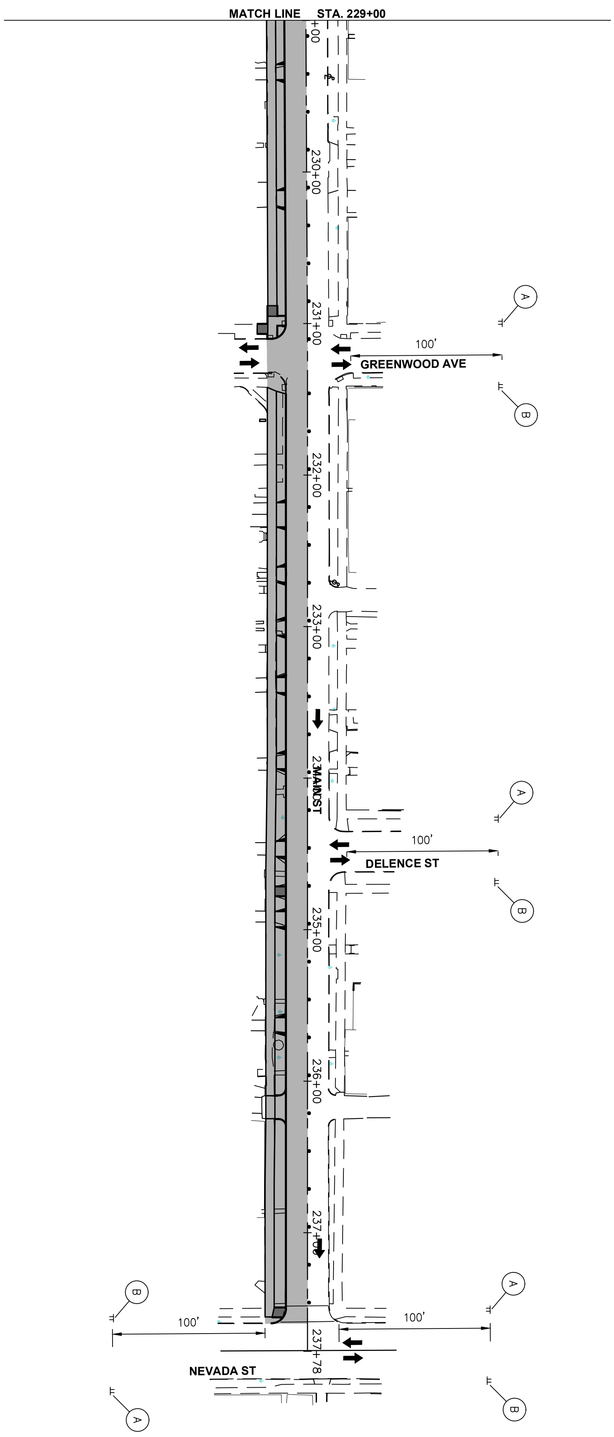
MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 2

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	206
TOTAL	345

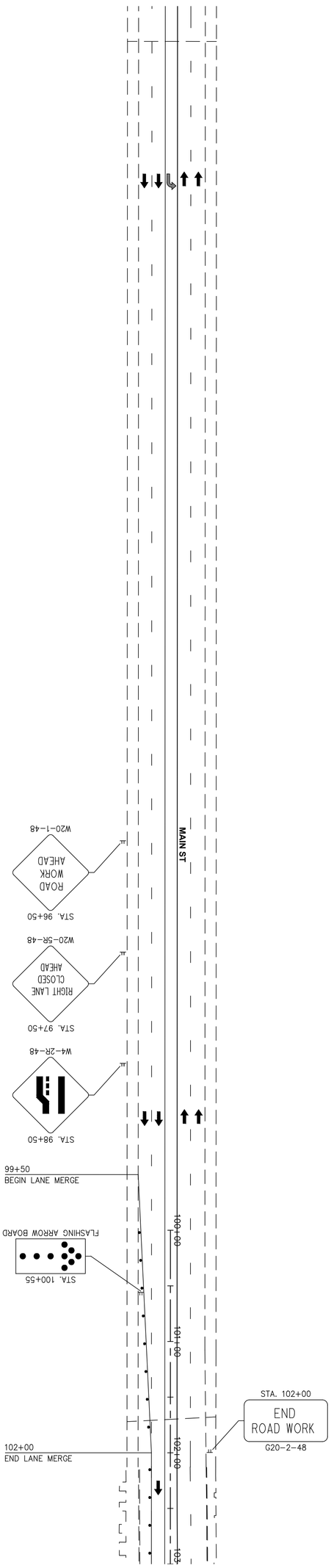


FOR MOT LEGEND SEE SHEET ——

SHEET 207 / TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DESIGN AGENCY DGL	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 2

0 25 50 100
Horizontal
Scale In Feet



FOR MOT LEGEND SEE SHEET ---

SHEET 208 / TOTAL 345	COT PROJ. ID XXXX	REVIEWER -	DESIGNER SRC	ODOT PID 121938	DGL	DESIGN AGENCY	**FRONT ST & MAIN ST IMPROVEMENT PLANS**

CONCEPTUAL MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 3

0 25 50 100
Horizontal
Scale In Feet

FOR MOT LEGEND SEE SHEET ___.

Horizontal Scale In Feet
0 25 50 100

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 3

FRONT ST & MAIN ST IMPROVEMENT PLANS

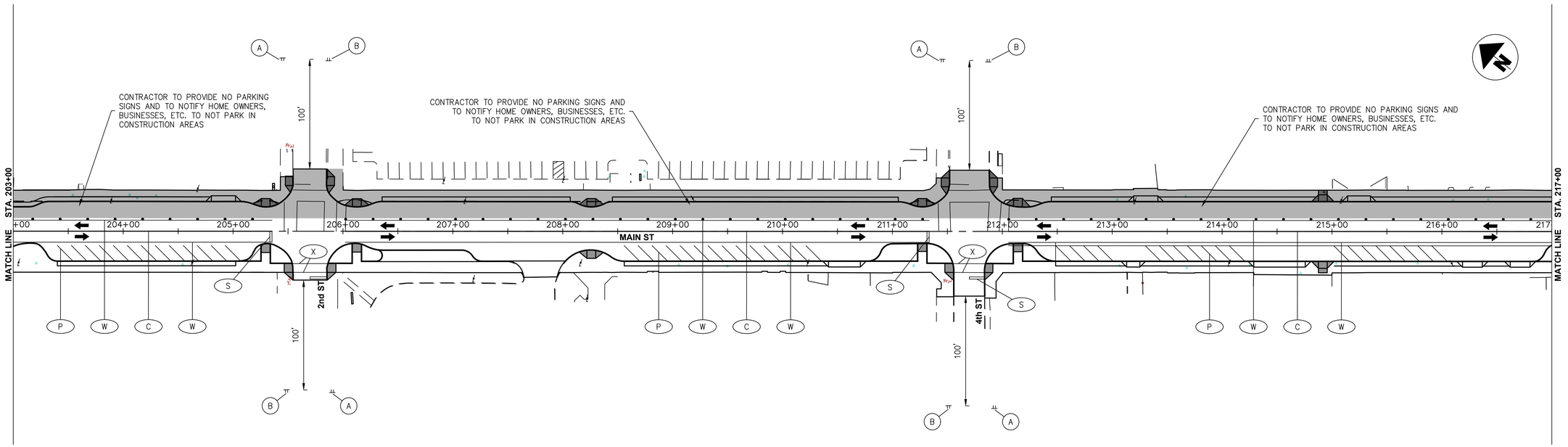
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	209
TOTAL	345

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 3

0 25 50 100
Horizontal
Scale In Feet



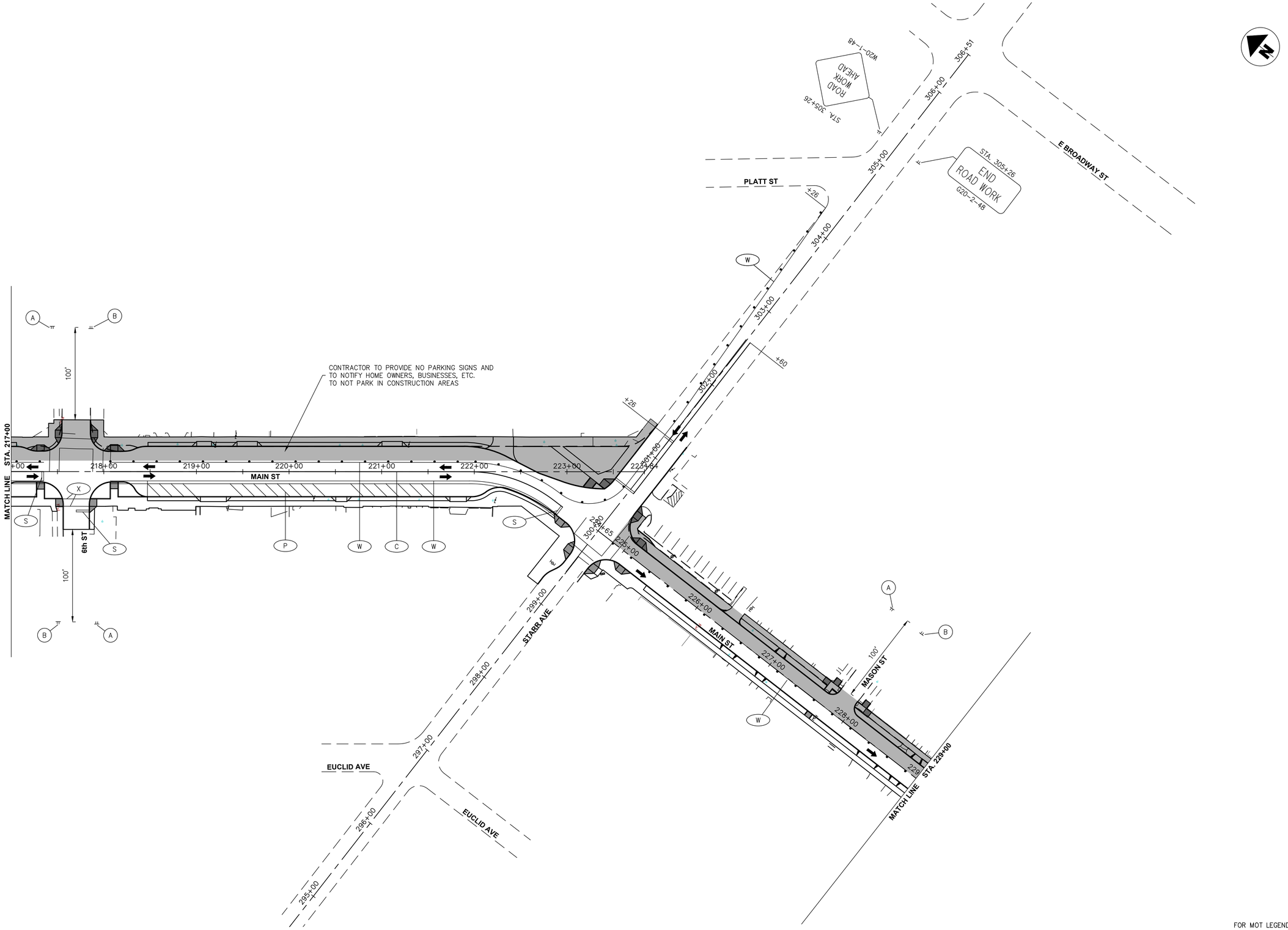
FOR MOT LEGEND SEE SHEET __.

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	210
TOTAL	345



FOR MOT LEGEND SEE SHEET __.

Horizontal Scale In Feet: 0, 25, 50, 100

MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 3

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	211
TOTAL	345

FOR MOT LEGEND SEE SHEET ___.

0 25 50 100
Horizontal Scale In Feet

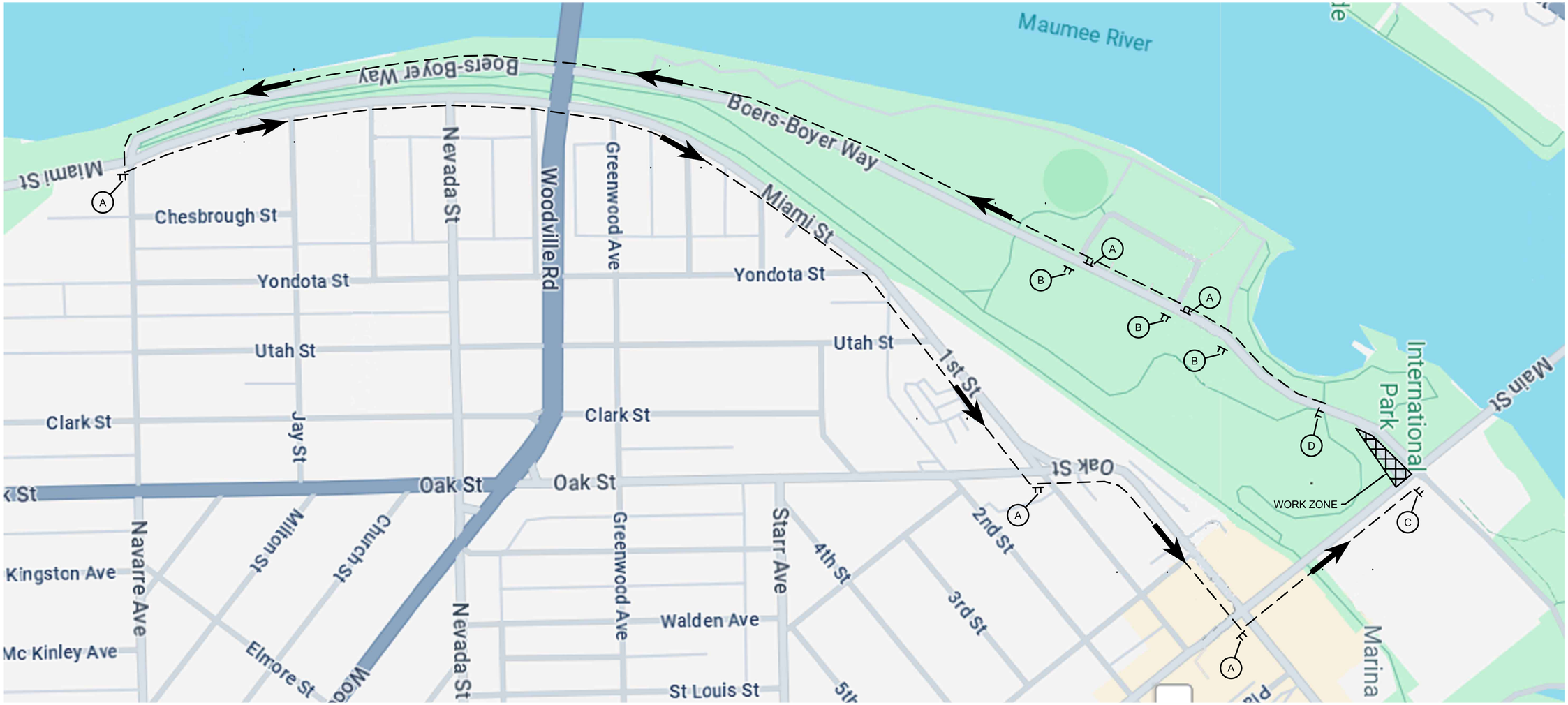
MAINTENANCE OF TRAFFIC
MAIN STREET - PHASE 3

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	212
TOTAL	345



A
DETOUR
M4-10L-48

B
DETOUR
M4-10R-48

C
END DETOUR
M4-8a-24

D
ROAD CLOSED
R11-2-48

WORK ZONE

TRAFFIC DIRECTION

NOTES

PLACE DETOUR SIGNS AT ALL PARKING LOT EXITS DIRECTING TRAFFIC TO THE ROUTE SHOWN.

TYPE III BARRICADE (D) SHALL BE PLACED JUST BEYOND THE PARKING LOT ENTANCE/EXIT

0 225 450
Horizontal Scale In Feet

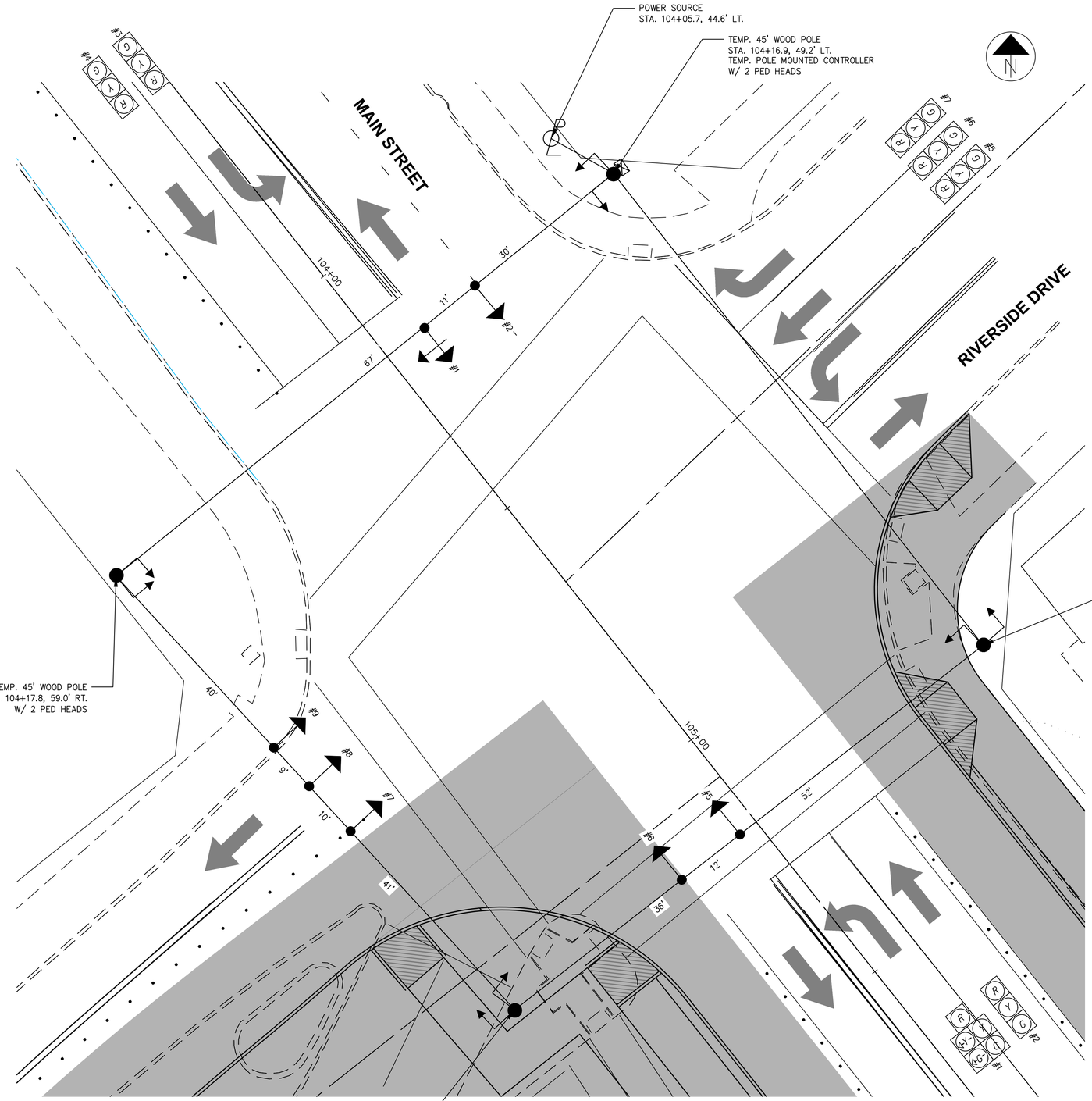
MAINTENANCE OF TRAFFIC DETOUR MAP

FRONT ST & MAIN ST IMPROVEMENT PLANS

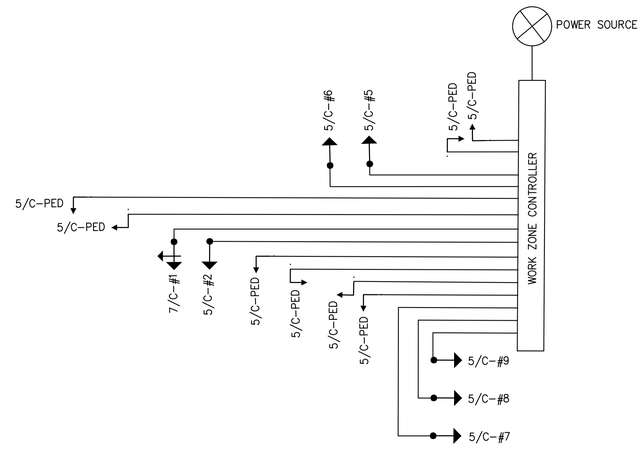
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	SRC
REVIEWER	-
COT PROJ. ID	XXXX
SHEET	213
TOTAL	345



WORK ZONE WIRING DIAGRAM



MOT SIGNAL TO BE INSTALLED WHEN DIRECTED BY THE ENGINEER
-INSTALL WOOD POLES
-INSTALL MESSENGER WIRE
-INSTALL WORK ZONE CONTROLLER, VEHICULAR SIGNAL HEADS, SIGNAL CABLE, AND PEDESTRIAN SIGNAL HEADS

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

Horizontal Scale In Feet
0 5 10 20

MOT TEMPORARY SIGNAL
MAIN ST & RIVERSIDE DR - PHASE 2 MAIN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	214
TOTAL	345

POWER SOURCE
STA. 104+05.7, 44.6' LT.

TEMP. 45' WOOD POLE
STA. 104+16.9, 49.2' LT.
TEMP. POLE MOUNTED CONTROLLER
W/ 2 PED HEADS

MAIN STREET

RIVERSIDE DRIVE

104+00

105+00

30'

11'

67'

58'

12'

31'

52'

41'

36'

48'

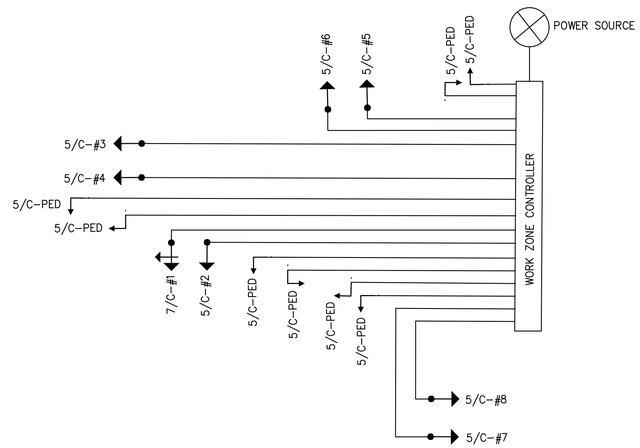
TEMP. 45' WOOD POLE
STA. 104+17.8, 59.0' RT.
W/ 2 PED HEADS

TEMP. 45' WOOD POLE
STA. 105+18.1, 48.6' LT.
W/ 2 PED HEADS

TEMP. 45' WOOD POLE
STA. 105+17.2, 51.7' RT.
W/ 2 PED HEADS

#1 #2 #3 #4 #5 #6 #7 #8

WORK ZONE WIRING DIAGRAM



PHASE 3 MAIN SUMMARY:
-ADD #3 & #4
-RELOCATE #7 & #8

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

0 5 10 20
Horizontal Scale In Feet

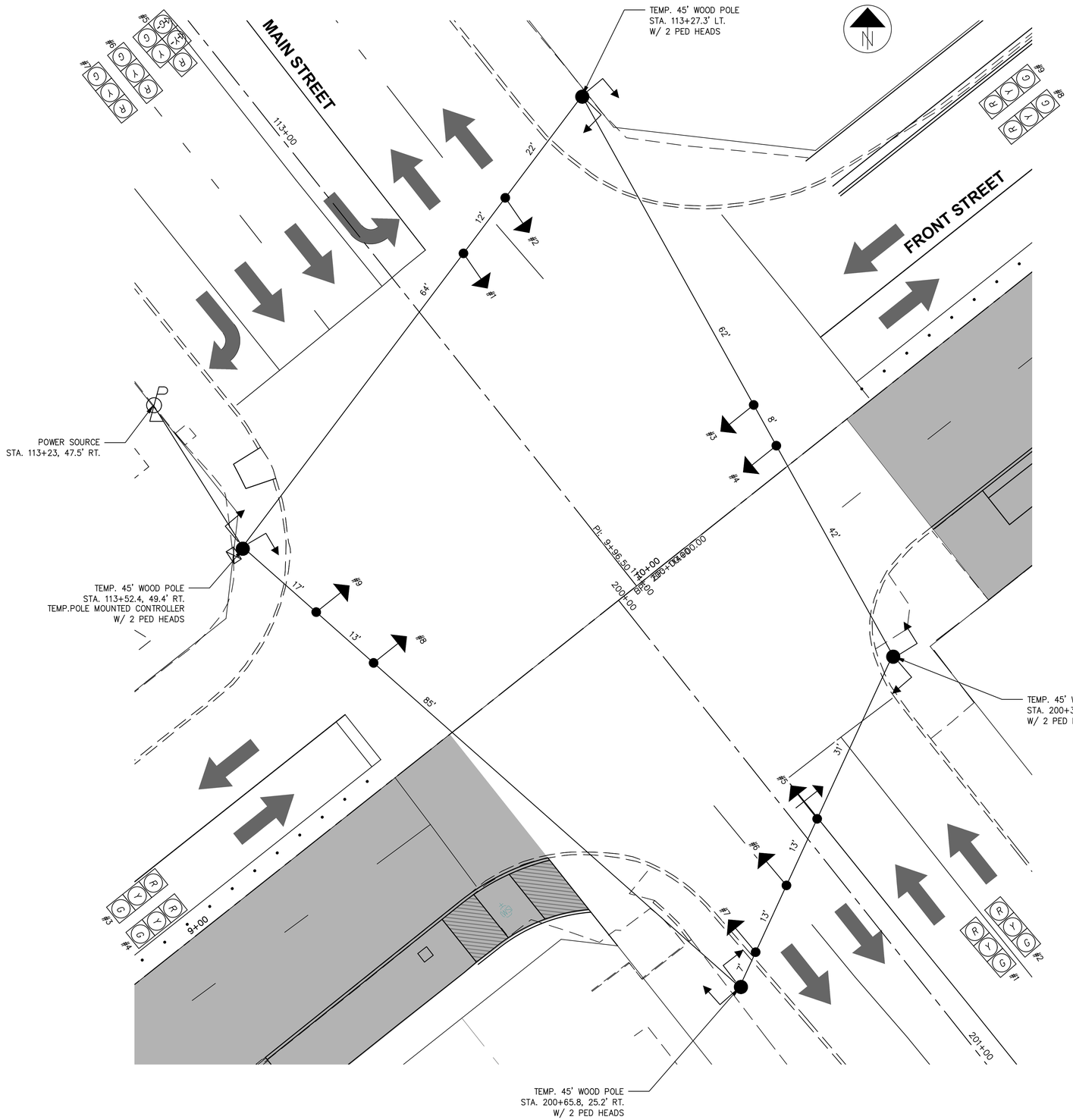
MOT TEMPORARY SIGNAL
MAIN ST & RIVERSIDE DR - PHASE 3 MAIN

FRONT ST & MAIN ST IMPROVEMENT PLANS

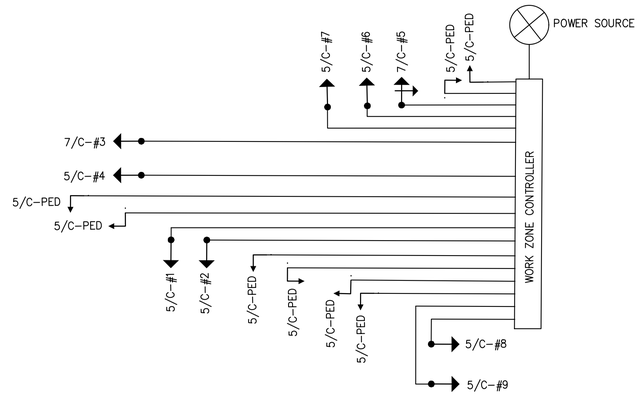
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	215
TOTAL	345



WORK ZONE WIRING DIAGRAM



MOT SIGNAL TO BE INSTALLED WHEN DIRECTED BY THE ENGINEER
-INSTALL WOOD POLES
-INSTALLED MESSENGER WIRE
-INSTALL WORK ZONE CONTROLLER, VEHICULAR SIGNAL HEADS, SIGNAL CABLE, AND PEDESTRIAN SIGNAL HEADS

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

Horizontal Scale In Feet
0 5 10 20

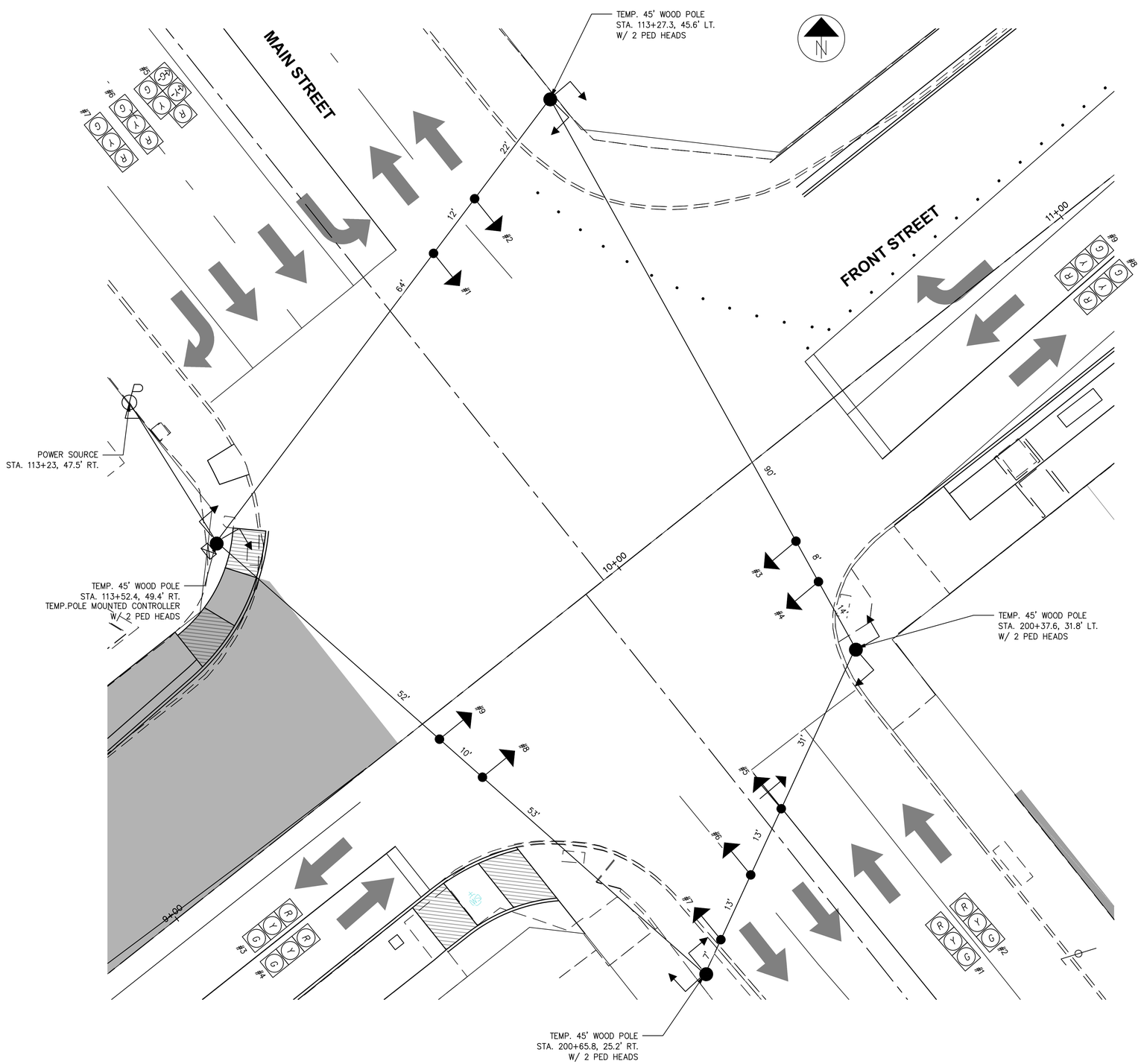
MOT TEMPORARY SIGNAL
MAIN ST & FRONT ST - PHASE 2 FRONT

FRONT ST & MAIN ST IMPROVEMENT PLANS

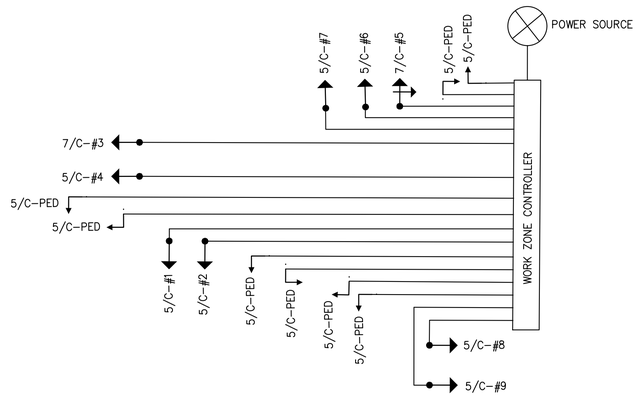
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	216
TOTAL	345



WORK ZONE WIRING DIAGRAM



PHASE 3 FRONT SUMMARY:
-RELOCATE #3 & #4
-RELOCATE #8 & #9

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

Horizontal Scale In Feet
0 5 10 20

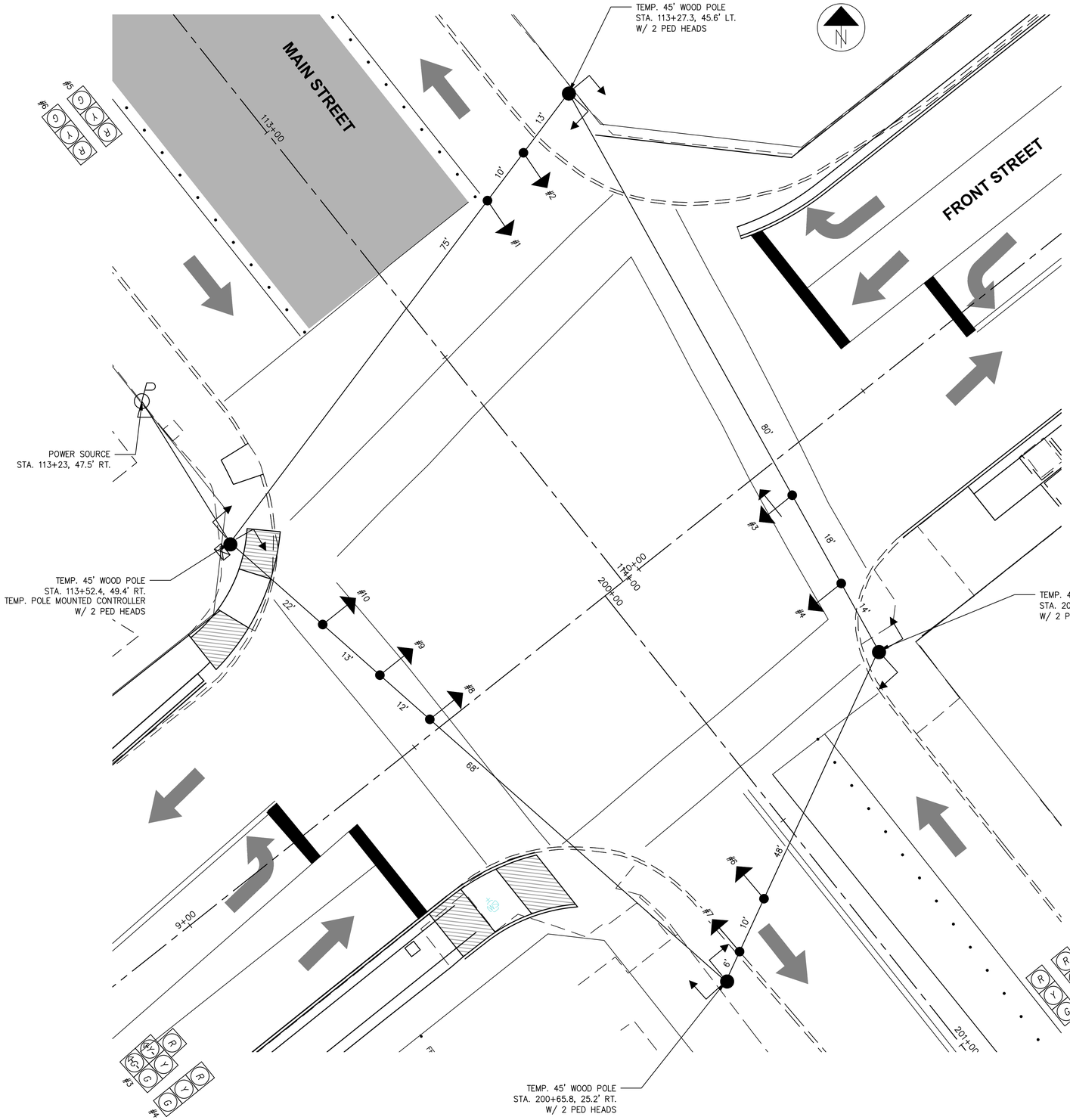
MOT TEMPORARY SIGNAL
MAIN ST & FRONT ST - PHASE 3 FRONT

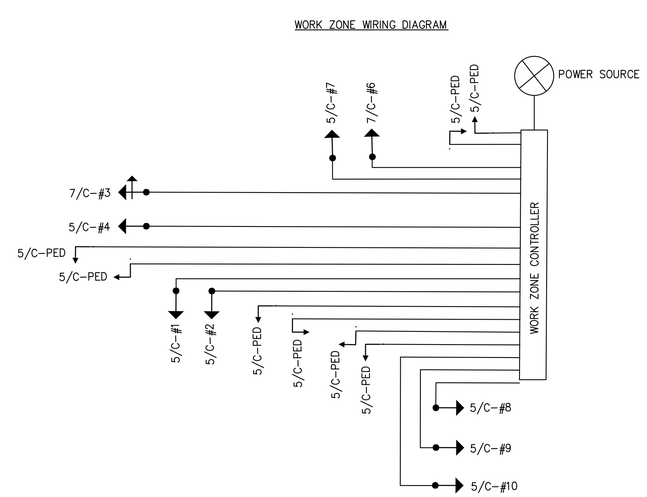
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	217
TOTAL	345





PHASE 1 MAIN SUMMARY:
-RELOCATE #1 & #2
-REPLACE #3 FROM 3-SECTION TO 5-SECTION
-RELOCATE #3 & #4
-REMOVE #5 FROM THE PROJECT
-RELOCATE #6 & #7
-RELOCATE #8, #9, AND ADD #10

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

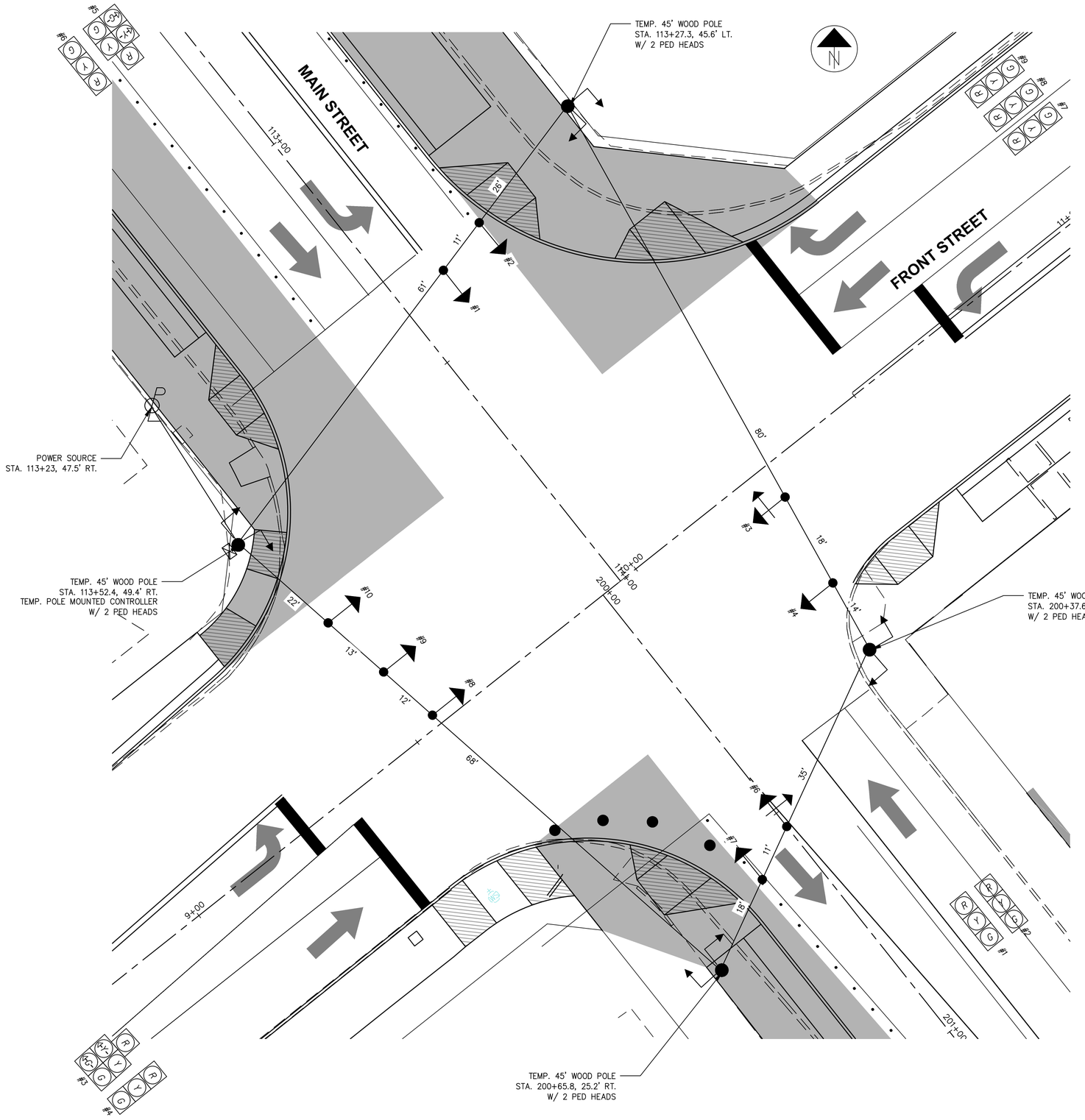
Horizontal Scale In Feet
0 5 10 20

MOT TEMPORARY SIGNAL
MAIN ST & FRONT ST - PHASE 1 MAIN

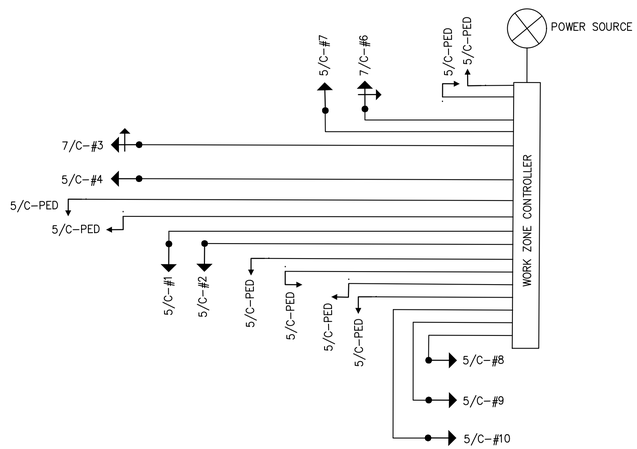
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	218
TOTAL	345



WORK ZONE WIRING DIAGRAM



PHASE 2 MAIN SUMMARY:
-RELOCATE #1 & #2
-REPLACE #6 FROM 3-SECTION TO 5-SECTION
-RELOCATE #6 & #7

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

0 5 10 20
Horizontal Scale In Feet

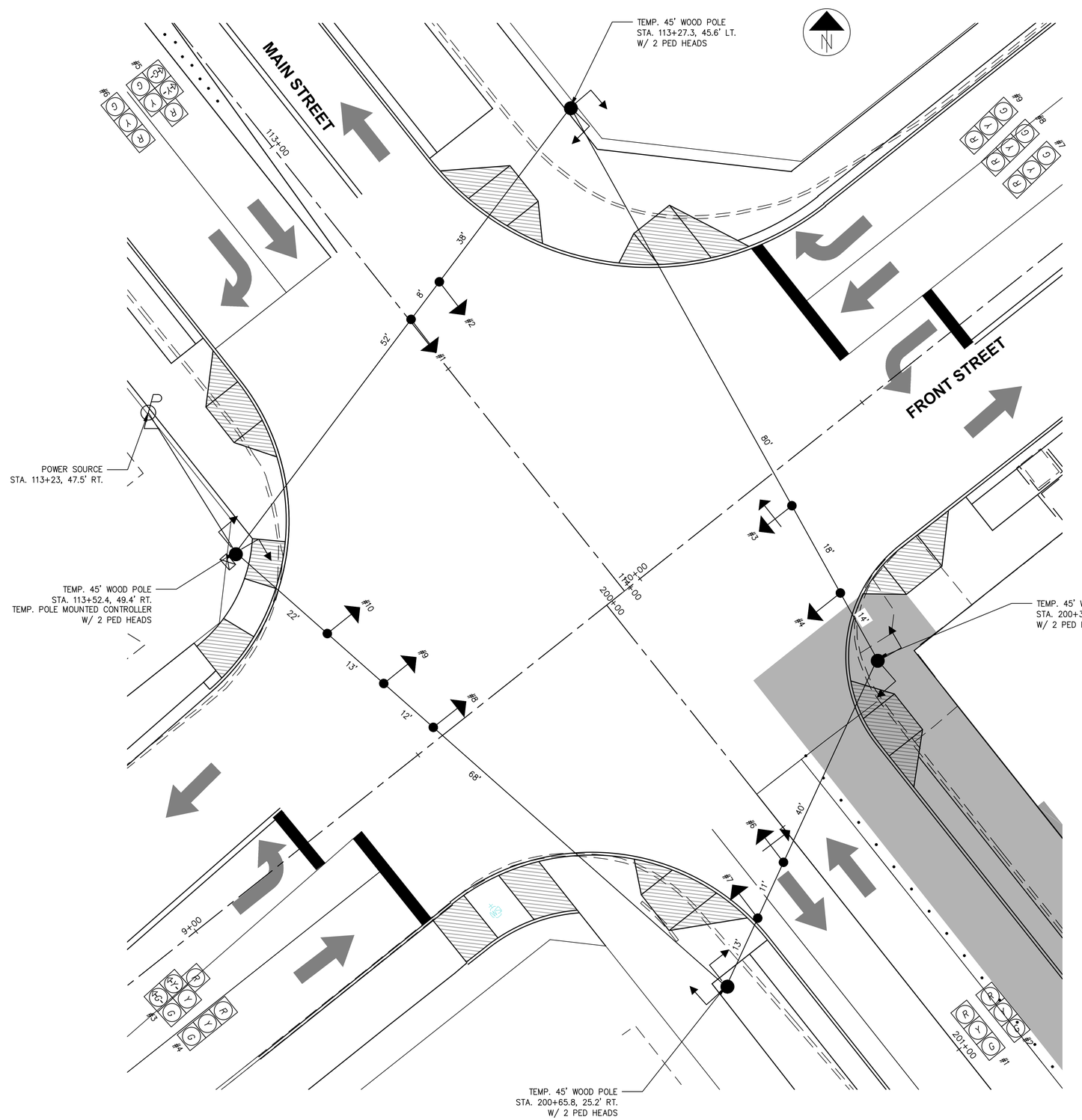
MOT TEMPORARY SIGNAL
MAIN ST & FRONT ST - PHASE 2 MAIN

FRONT ST & MAIN ST IMPROVEMENT PLANS

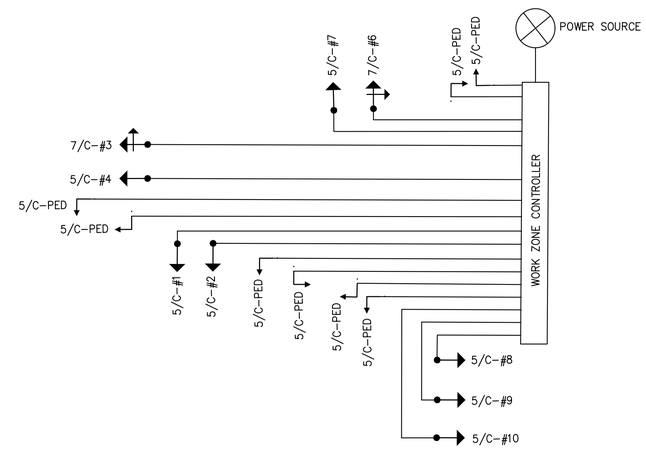
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	219
TOTAL	345



WORK ZONE WIRING DIAGRAM



PHASE 3 MAIN SUMMARY:
–RELOCATE #1 & #2
–RELOCATE #6 & #7

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

0 5 10 20
Horizontal Scale In Feet

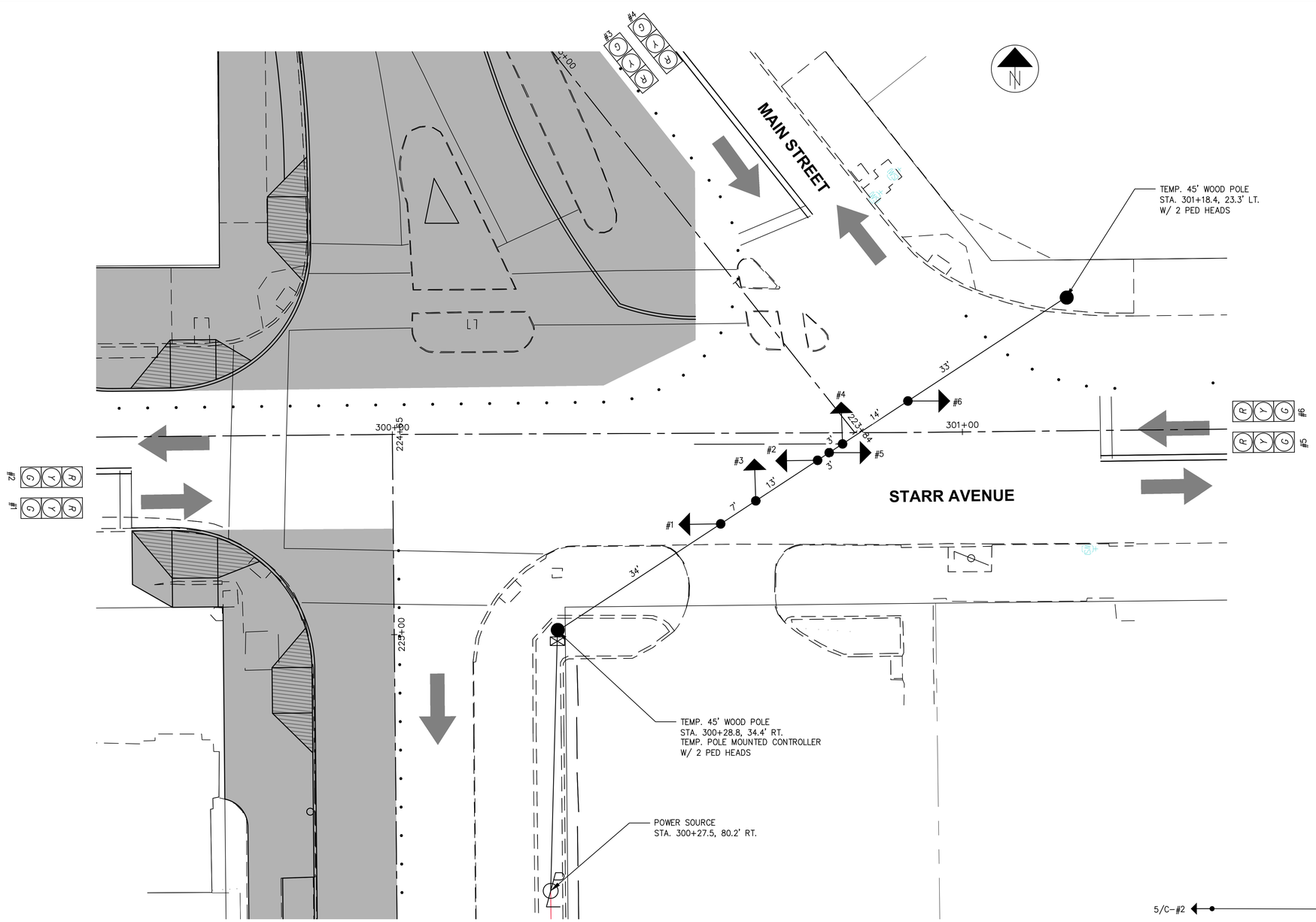
MOT TEMPORARY SIGNAL
MAIN ST & FRONT ST - PHASE 3 MAIN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

DGL CONSULTING ENGINEERS

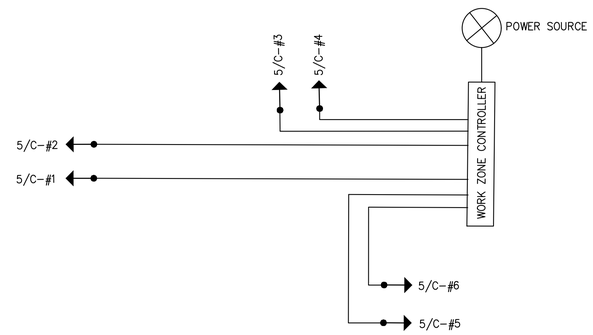
ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	220
TOTAL	345



MOT SIGNAL TO BE INSTALLED WHEN DIRECTED BY THE ENGINEER
–INSTALL WOOD POLES
–INSTALL MESSENGER WIRE
–INSTALL WORK ZONE CONTROLLER, VEHICULAR SIGNAL HEADS, AND SIGNAL CABLE

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

WORK ZONE WIRING DIAGRAM



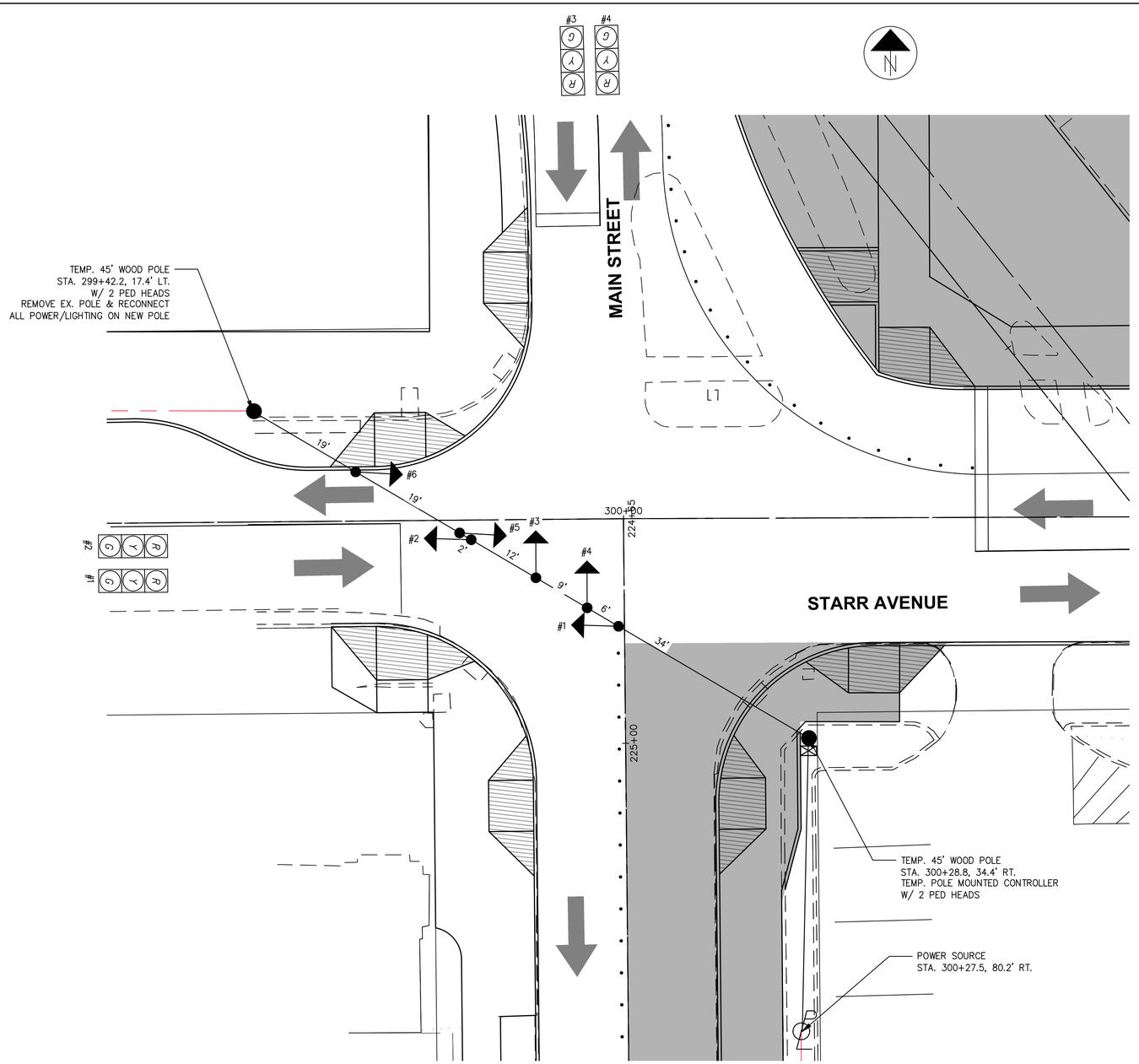
0 5 10 20
Horizontal Scale In Feet

MOT TEMPORARY SIGNAL
MAIN ST & STARR AVE - PHASE 2 MAIN

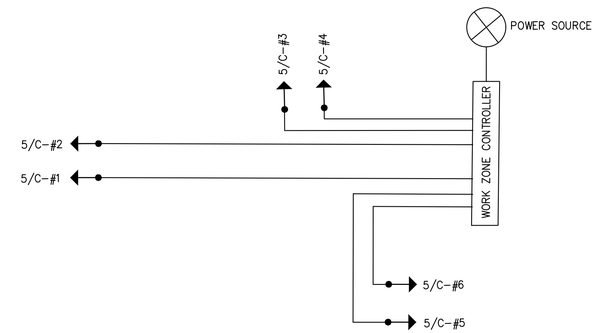
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	221
TOTAL	345



WORK ZONE WIRING DIAGRAM



MOT SIGNAL TO BE INSTALLED WHEN DIRECTED BY THE ENGINEER
-RELOCATE TEMPORARY SIGNAL
-INSTALL WOOD POLE
-INSTALL MESSENGER WIRE
-INSTALL WORK ZONE CONTROLLER, VEHICULAR SIGNAL HEADS, AND SIGNAL CABLE

NOTES TO REVIEWER:
1. IS DETECTION DESIRED FOR MOT SIGNALS?
2. SIGNAL TIMING FOR MOT SIGNAL TBD IN STAGE 3

0 5 10 20
Horizontal Scale In Feet

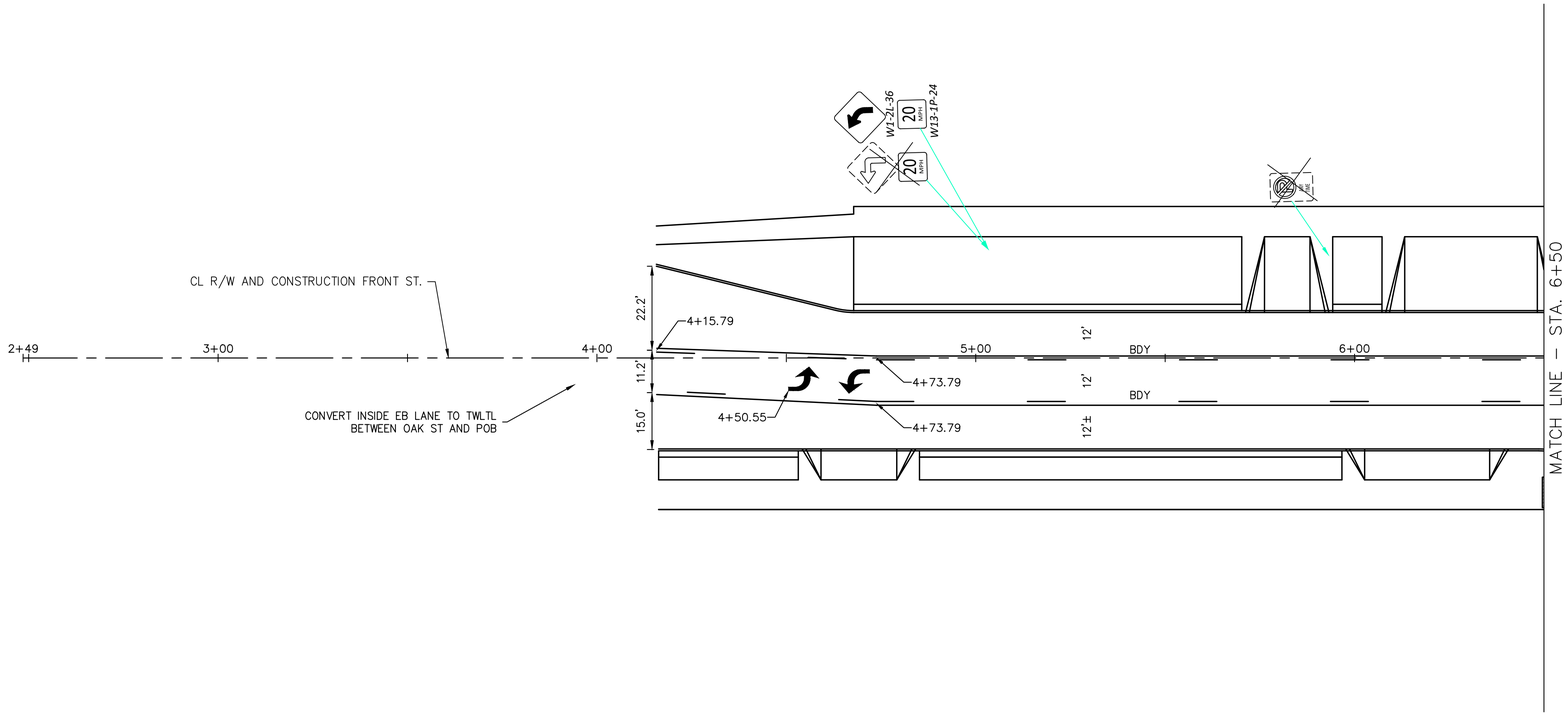
MOT TEMPORARY SIGNAL
MAIN ST & STARR AVE - PHASE 3 MAIN

FRONT ST & MAIN ST IMPROVEMENT PLANS

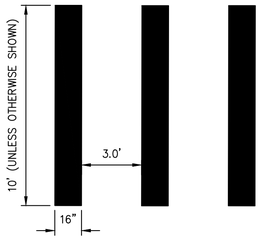
DESIGN AGENCY

DGL CONSULTING ENGINEERS

ODOT PID	121938
DESIGNER	CMS
REVIEWER	CML
COT PROJ. ID	XXXX
SHEET	222
TOTAL	345



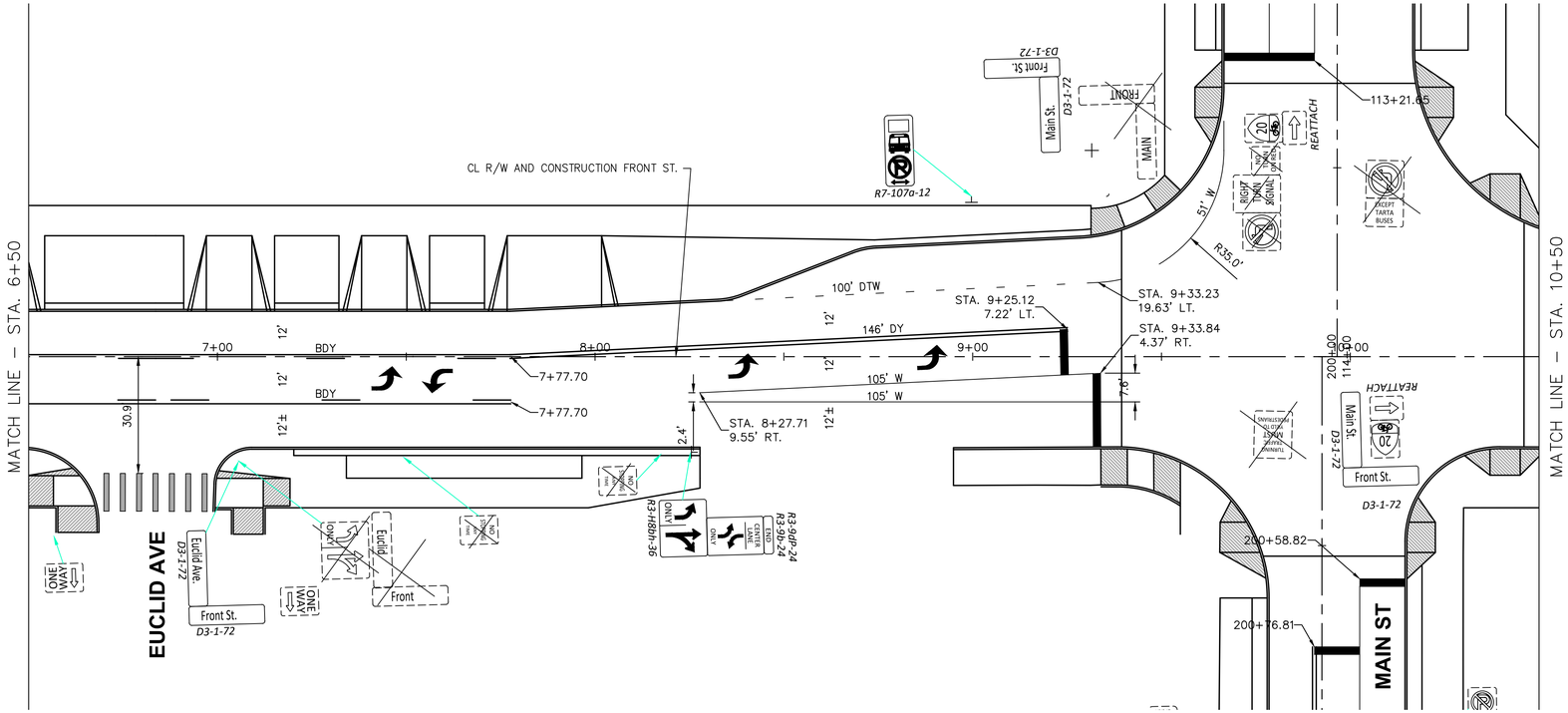
FRONT STREET

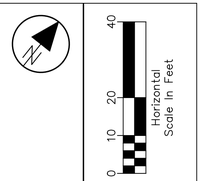


TYPICAL CROSSWALK MARKINGS

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE





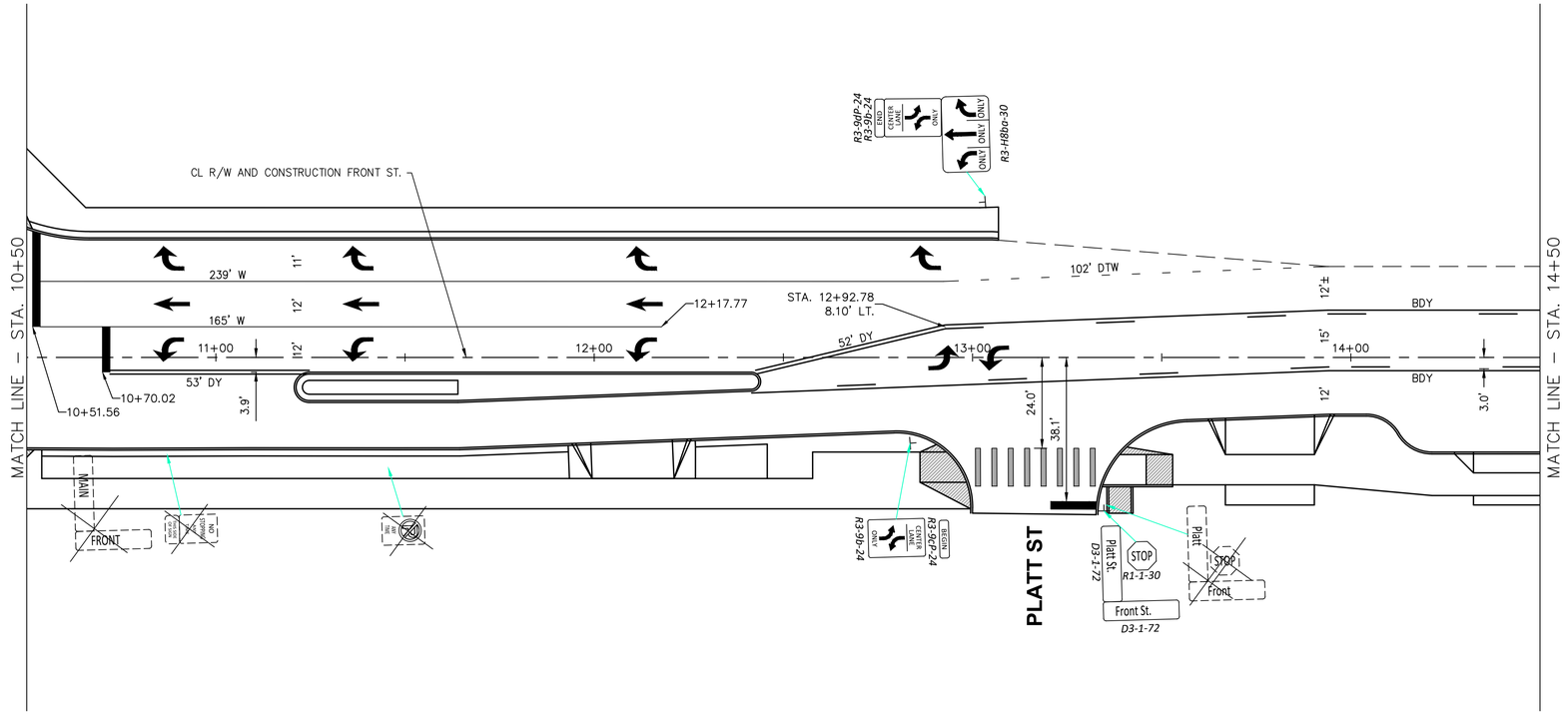
TRAFFIC CONTROL PLAN
FRONT STREET STA. 02+48.53 TO STA. 10+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	223
TOTAL	345

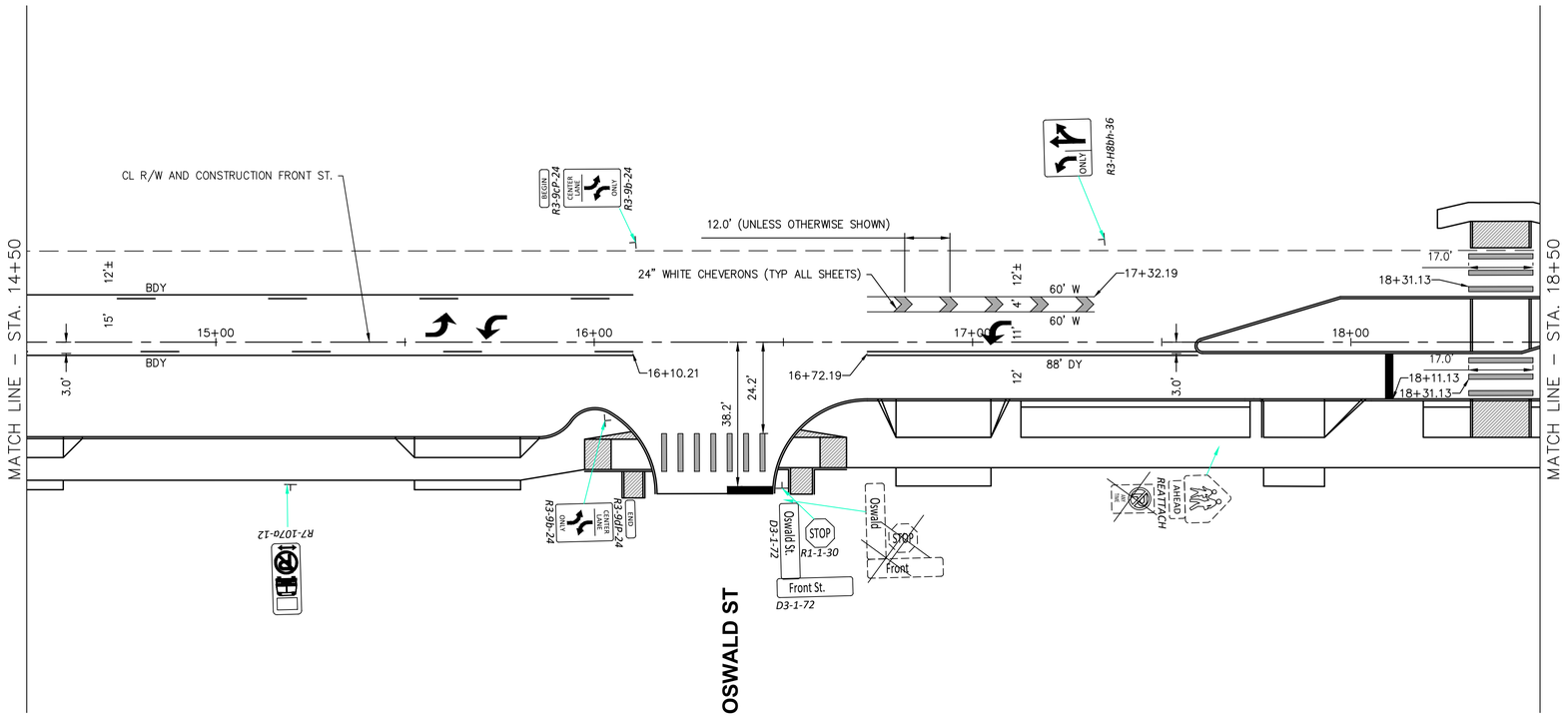
TC1
XX



LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE

FRONT STREET



OSWALD ST

0 10 20 40
Horizontal Scale In Feet

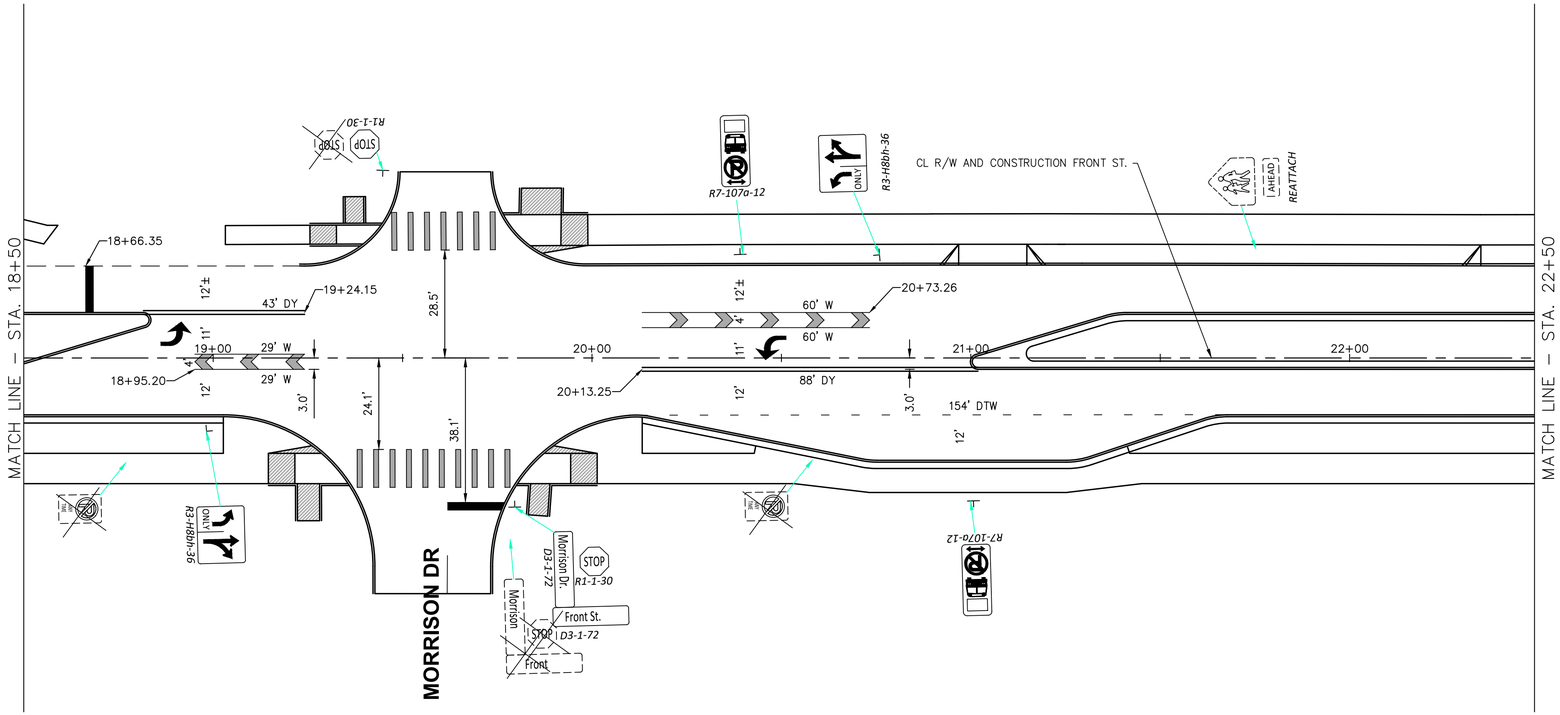
TRAFFIC CONTROL PLAN
FRONT STREET STA. 10+50 TO STA. 18+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

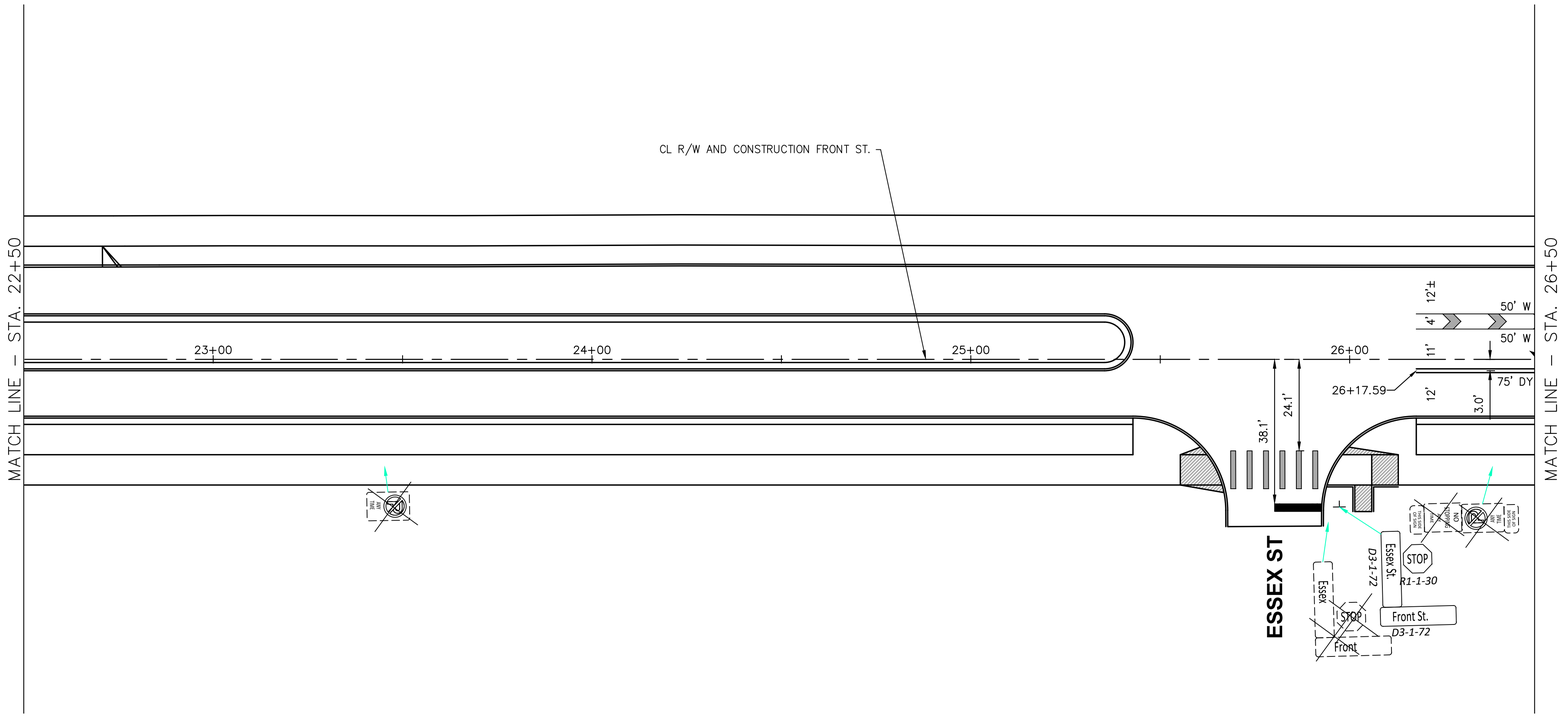
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	224
TOTAL	345

TC2
XX



FRONT STREET



LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE

0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
FRONT STREET STA. 18+50 TO STA. 26+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

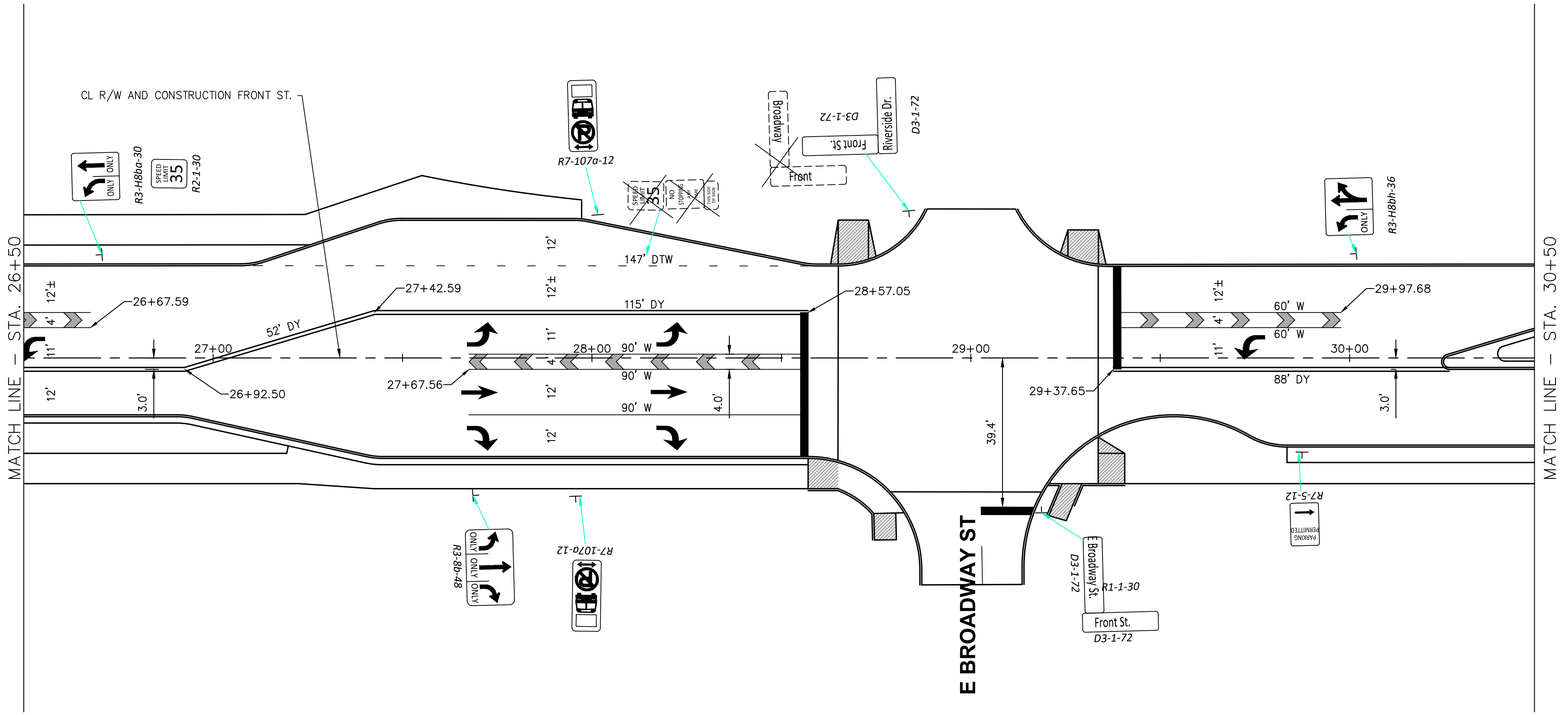
COT PROJ. ID
####

SHEET 225 | TOTAL 345

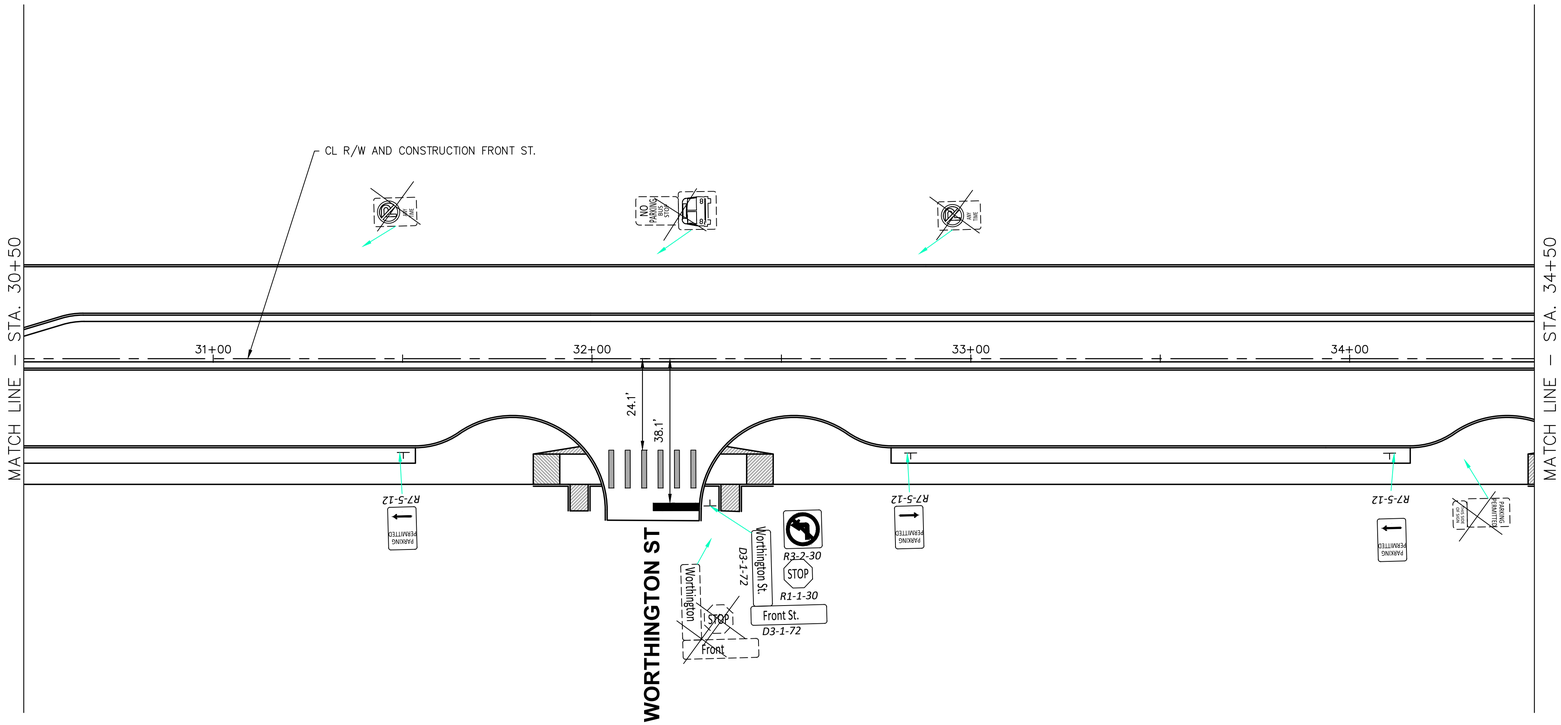
TC3
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



FRONT STREET



TRAFFIC CONTROL PLAN
FRONT STREET STA. 26+50 TO STA. 34+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

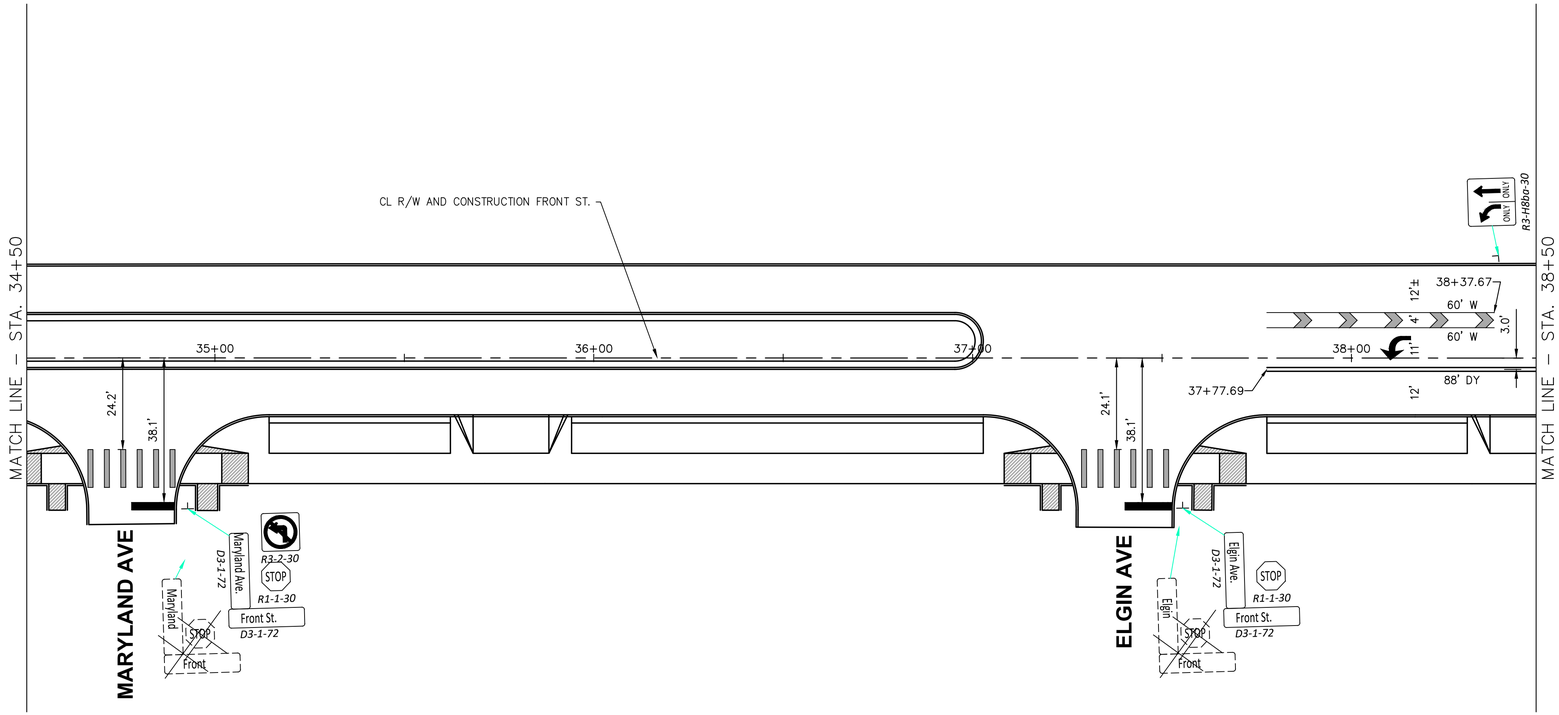
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	226
TOTAL	345

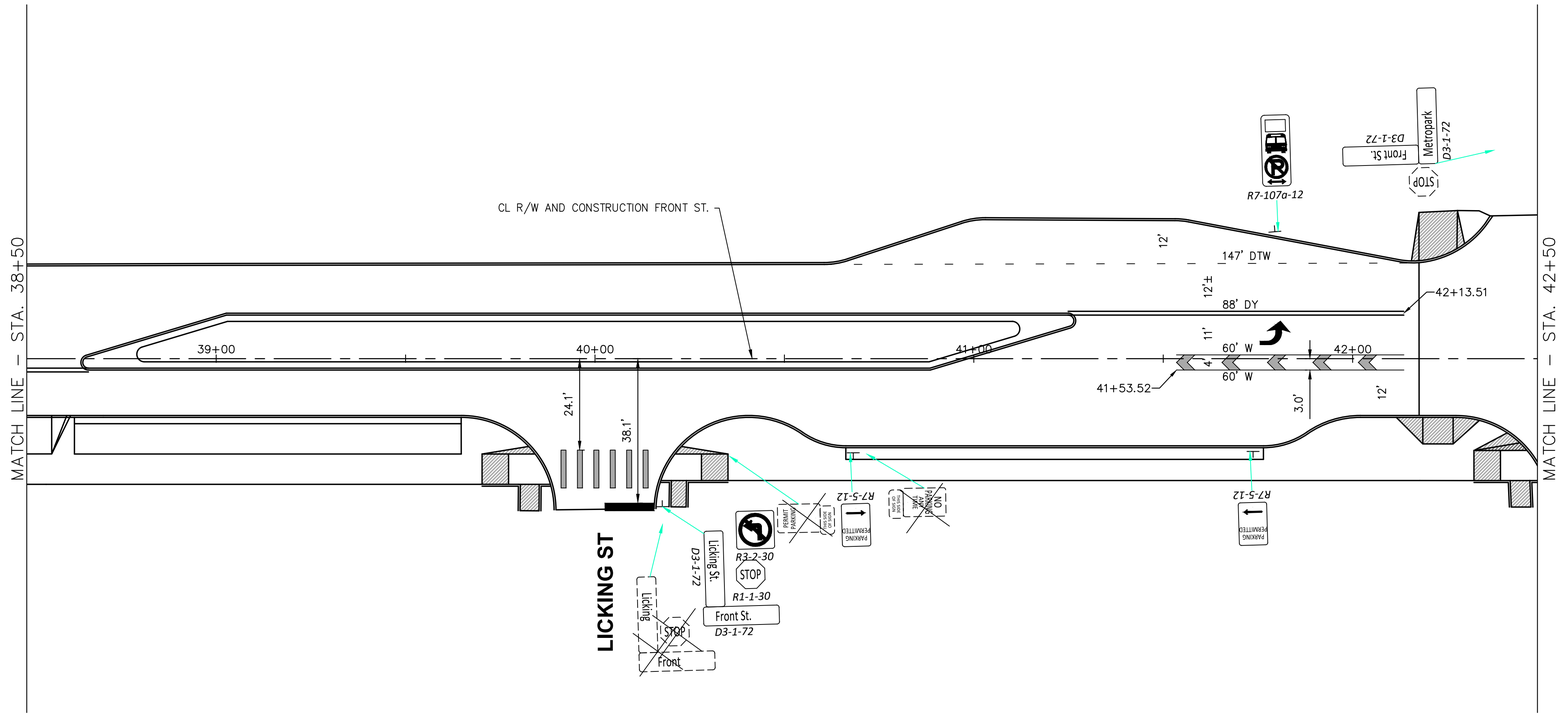
TC4
XX

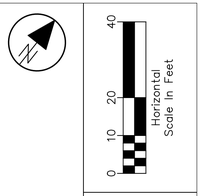
LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



FRONT STREET





TRAFFIC CONTROL PLAN
FRONT STREET STA. 34+50 TO STA. 42+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

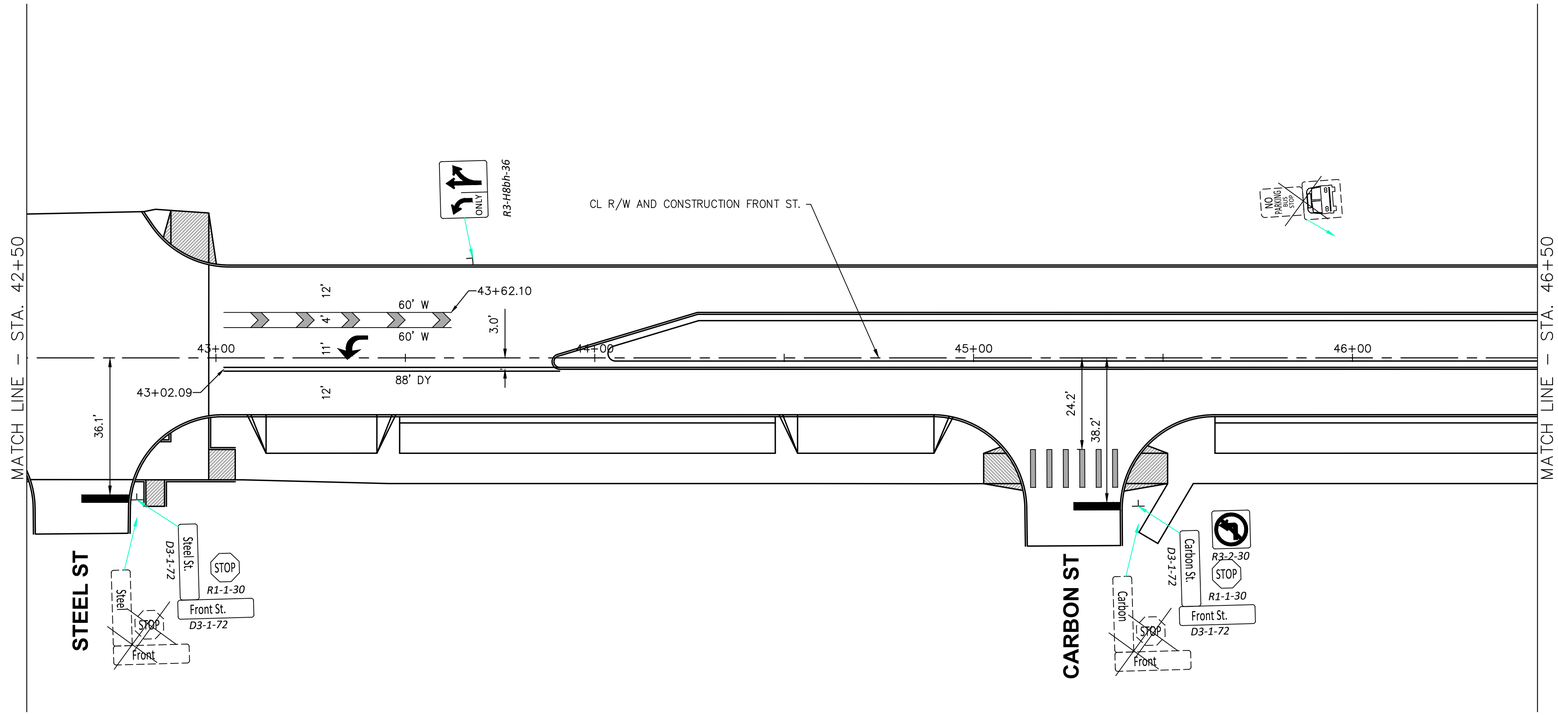
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	227
TOTAL	345

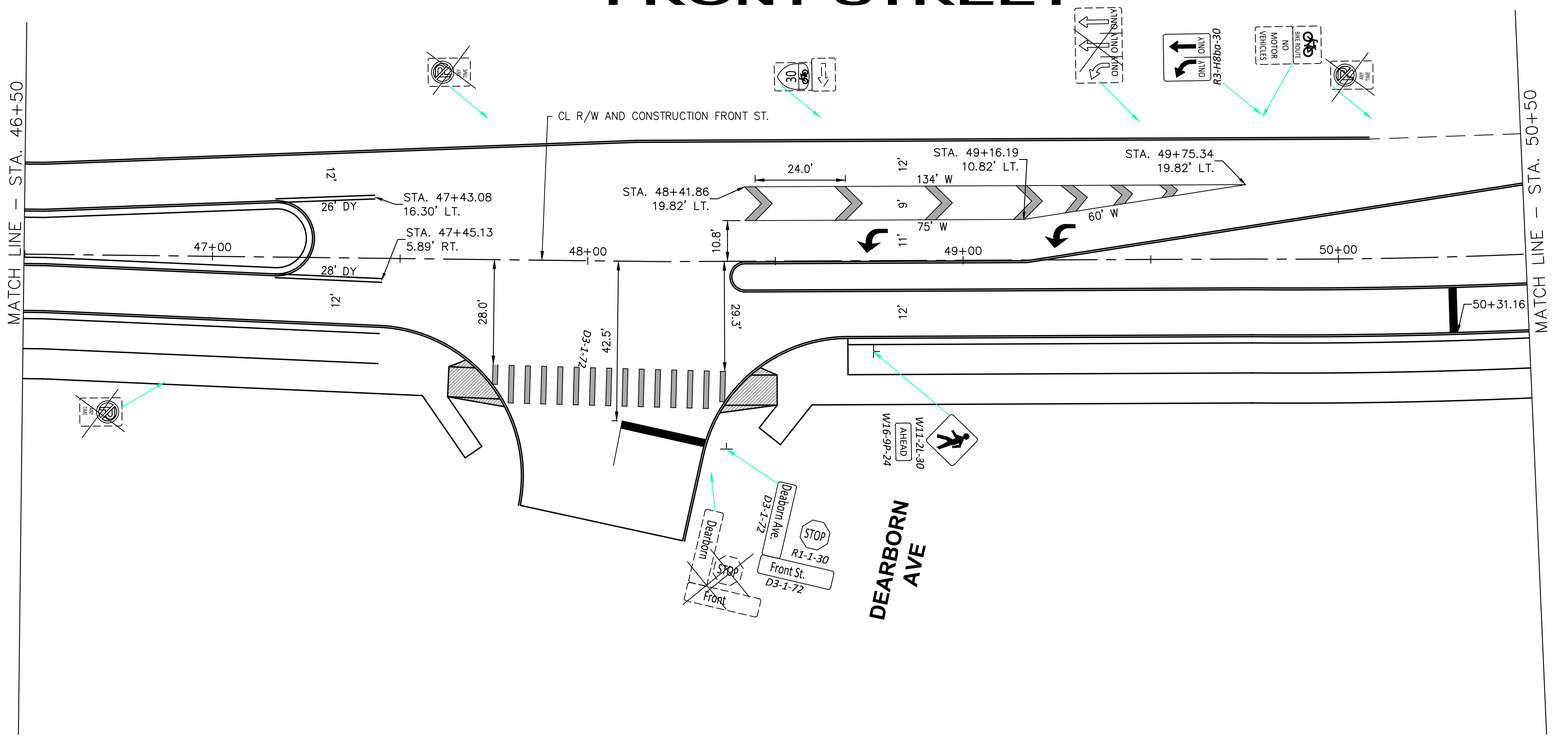
TC5
XX

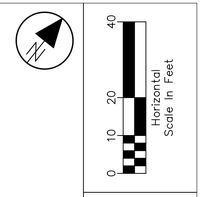
LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



FRONT STREET





TRAFFIC CONTROL PLAN
FRONT STREET STA. 42+50 TO STA. 50+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

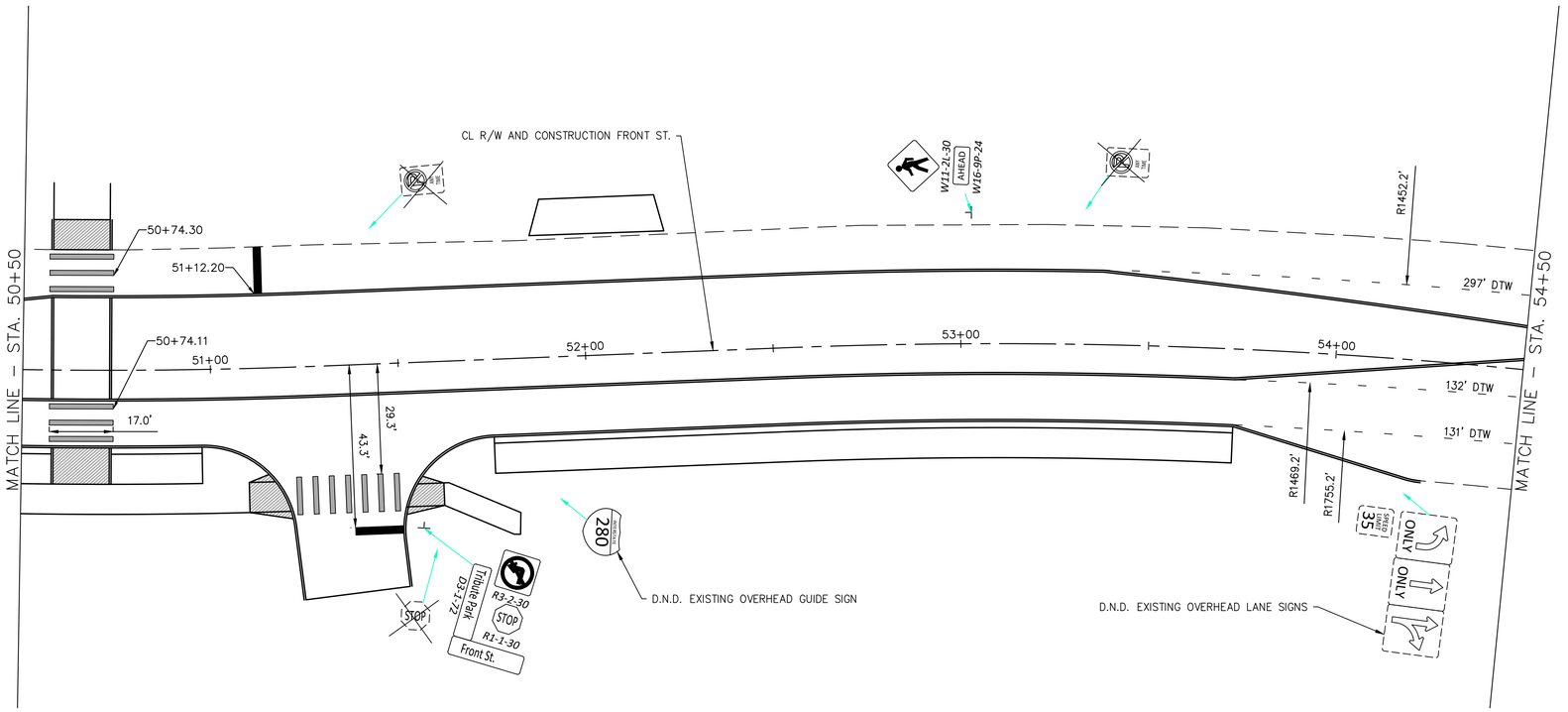
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	228
TOTAL	345

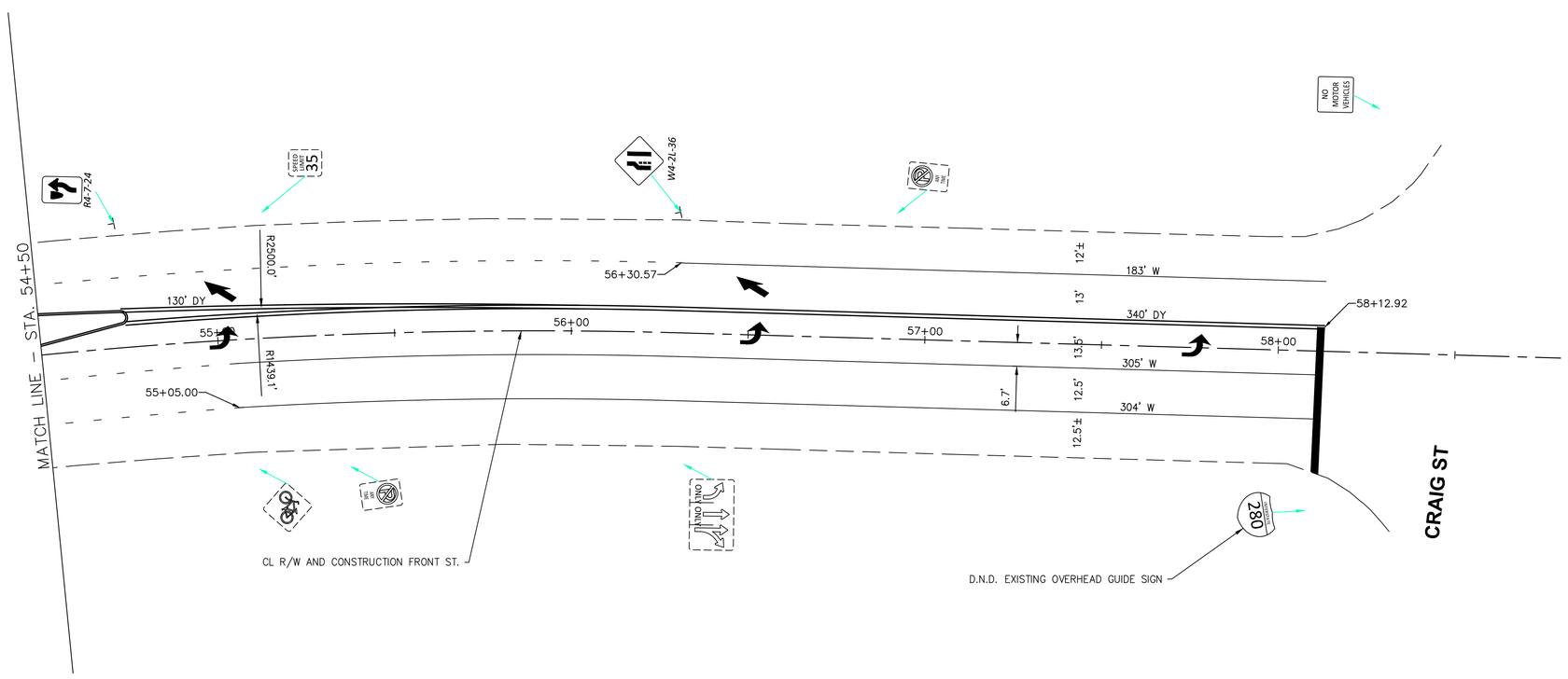
TC6
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



FRONT STREET



0 10 20 40
Horizontal Scale In Feet

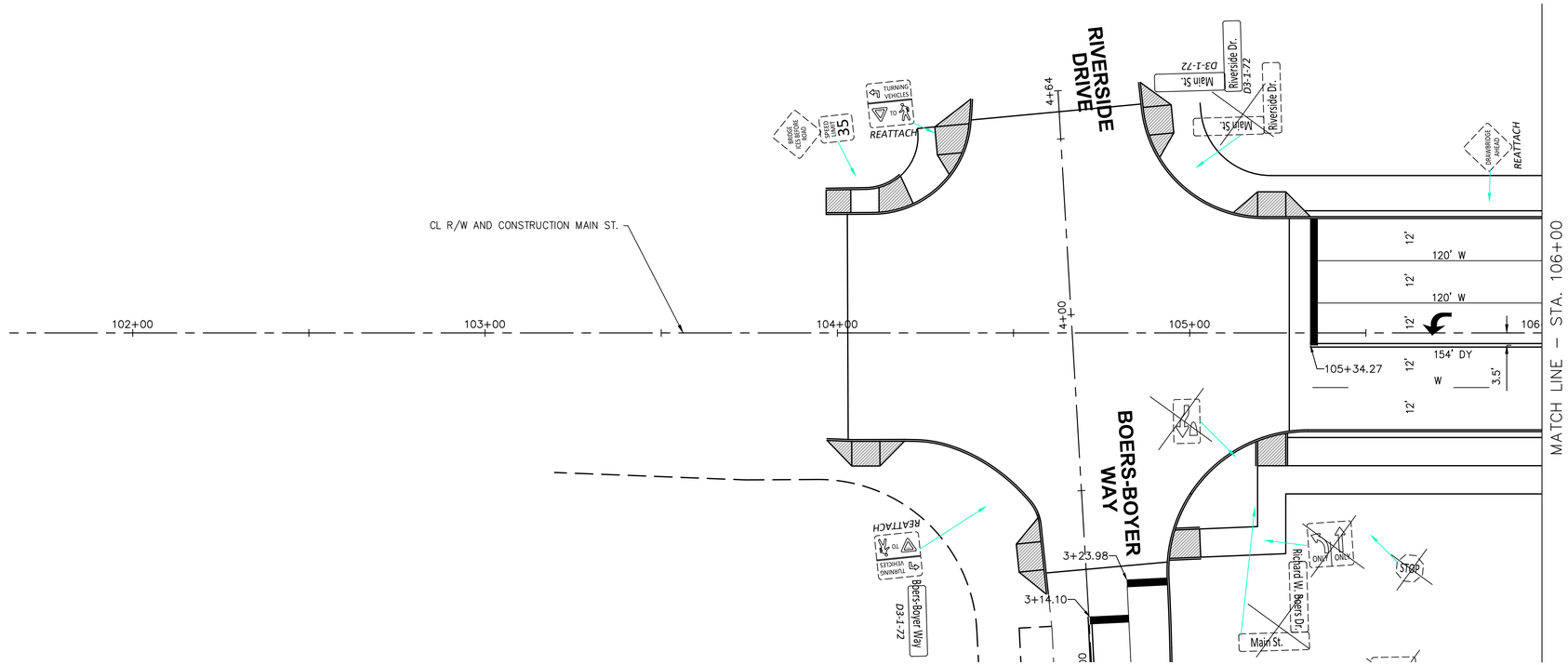
TRAFFIC CONTROL PLAN
FRONT STREET STA. 50+50 TO STA. 58+80

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	229
TOTAL	345

TC7
XX



MAIN STREET

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE

0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
MAIN STREET STA. 102+00 TO STA. 110+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

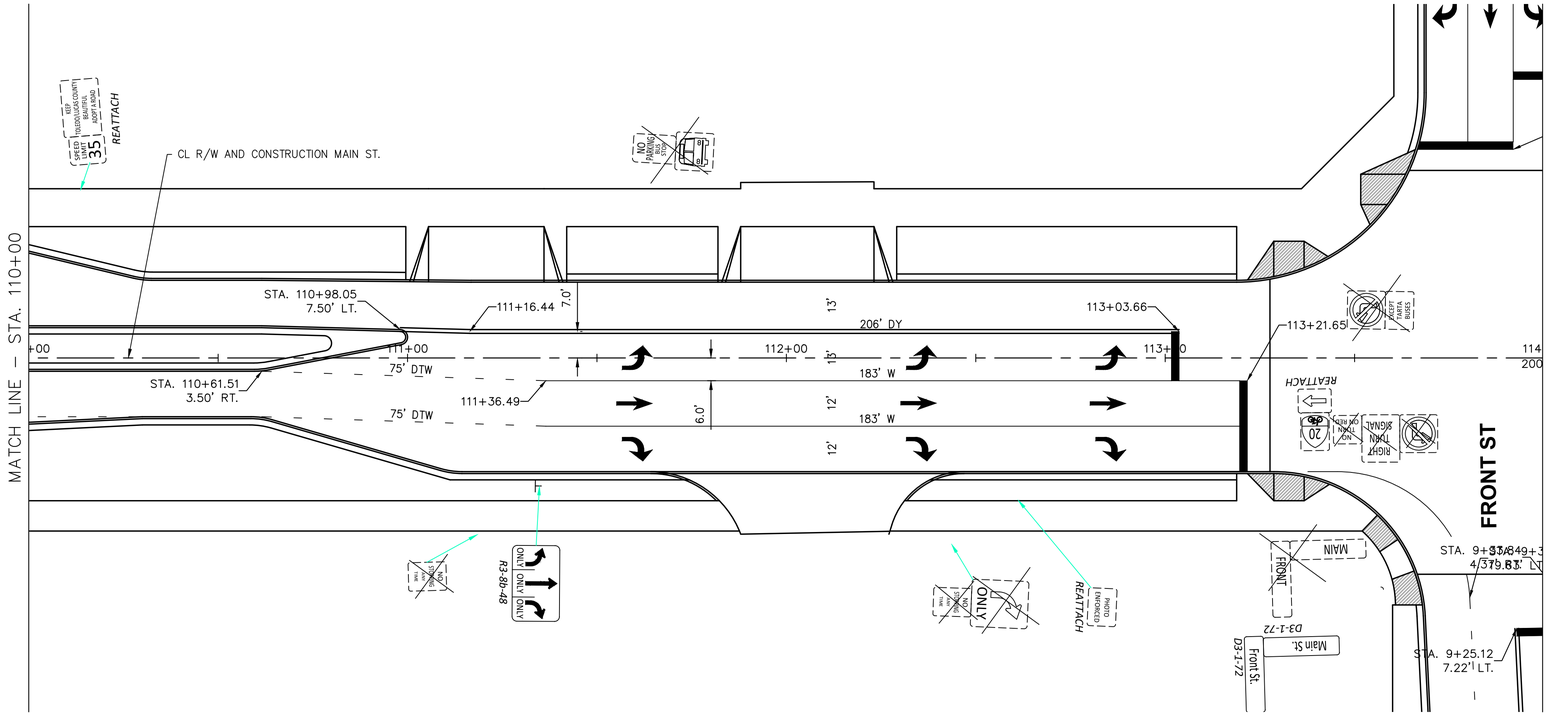
COT PROJ. ID
####

SHEET 230 | TOTAL 345

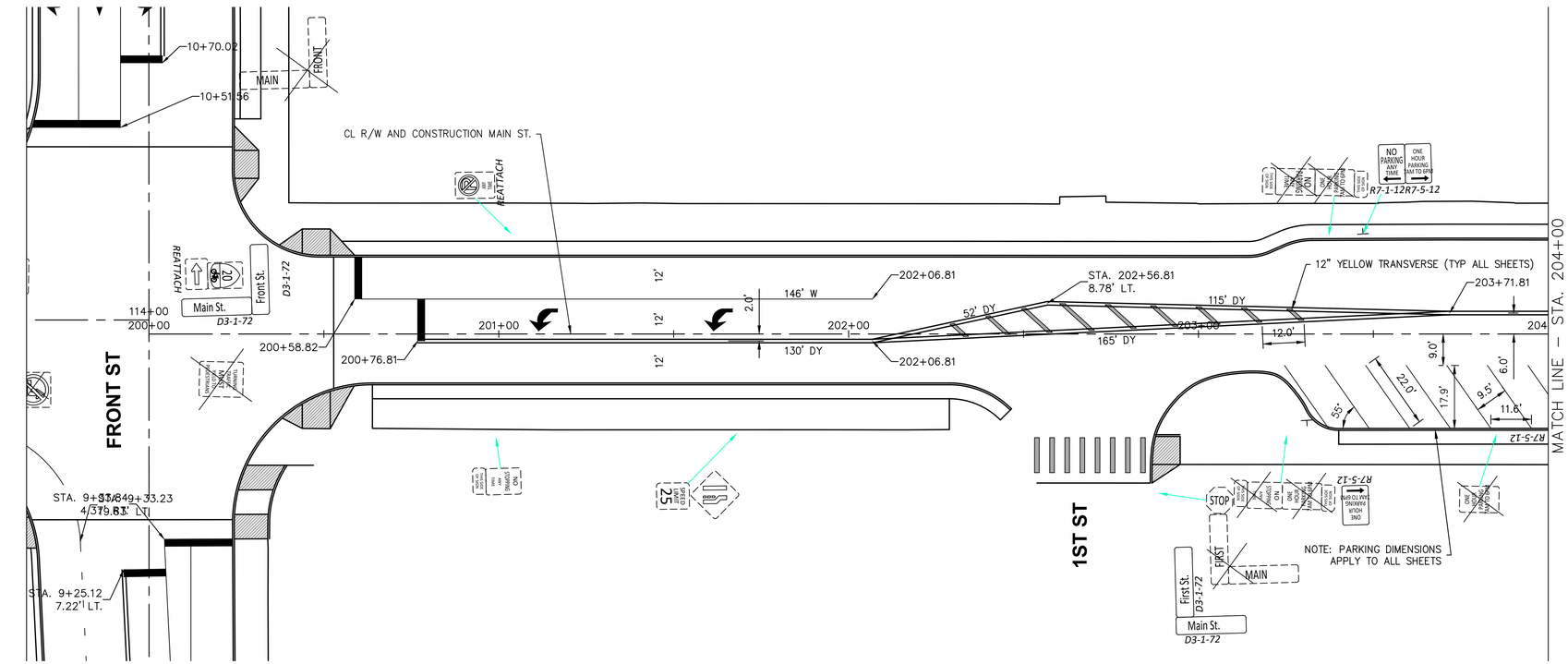
TC8
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



MAIN STREET



TRAFFIC CONTROL PLAN
MAIN STREET STA. 110+00 TO STA. 204+00

Horizontal Scale In Feet
0 10 20 40

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

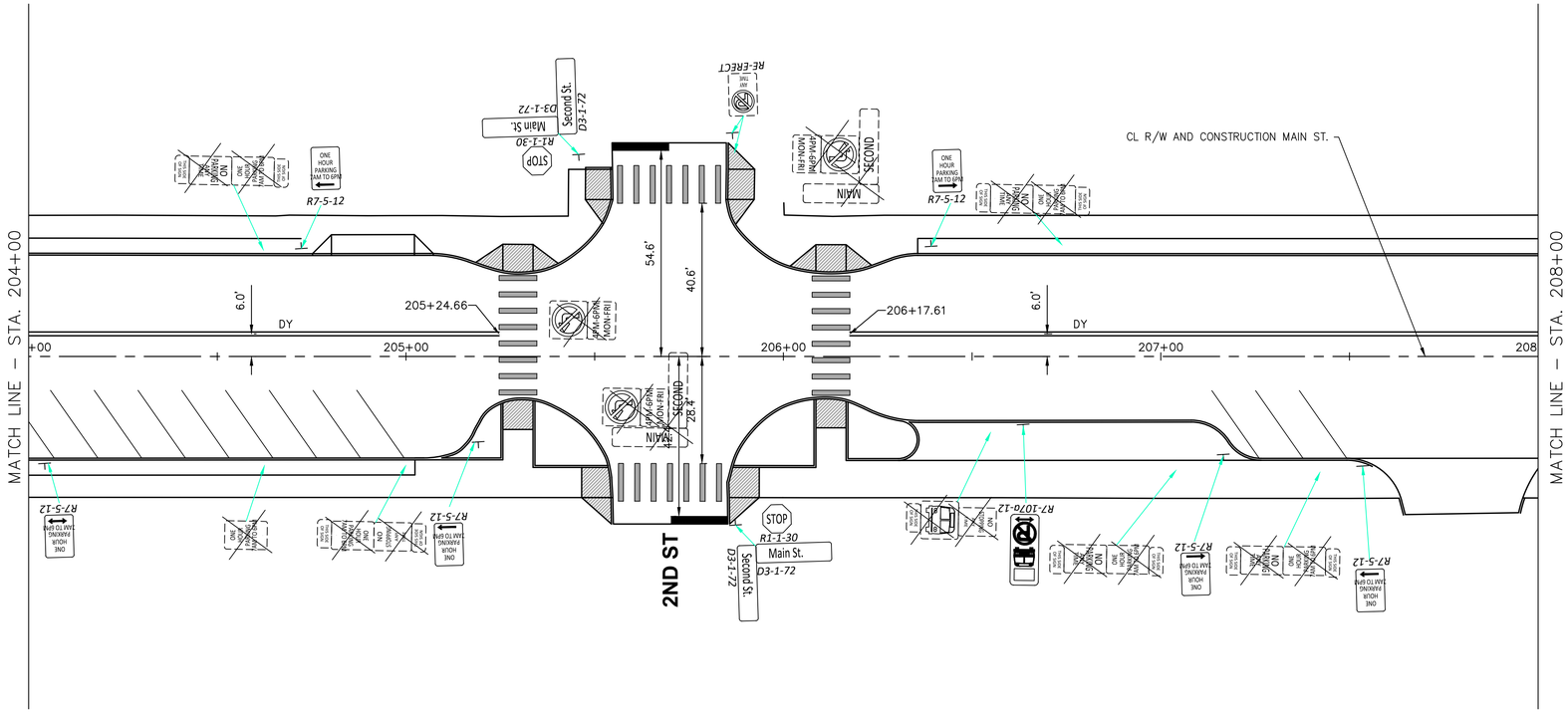
COT PROJ. ID
####

SHEET 231 | TOTAL 345

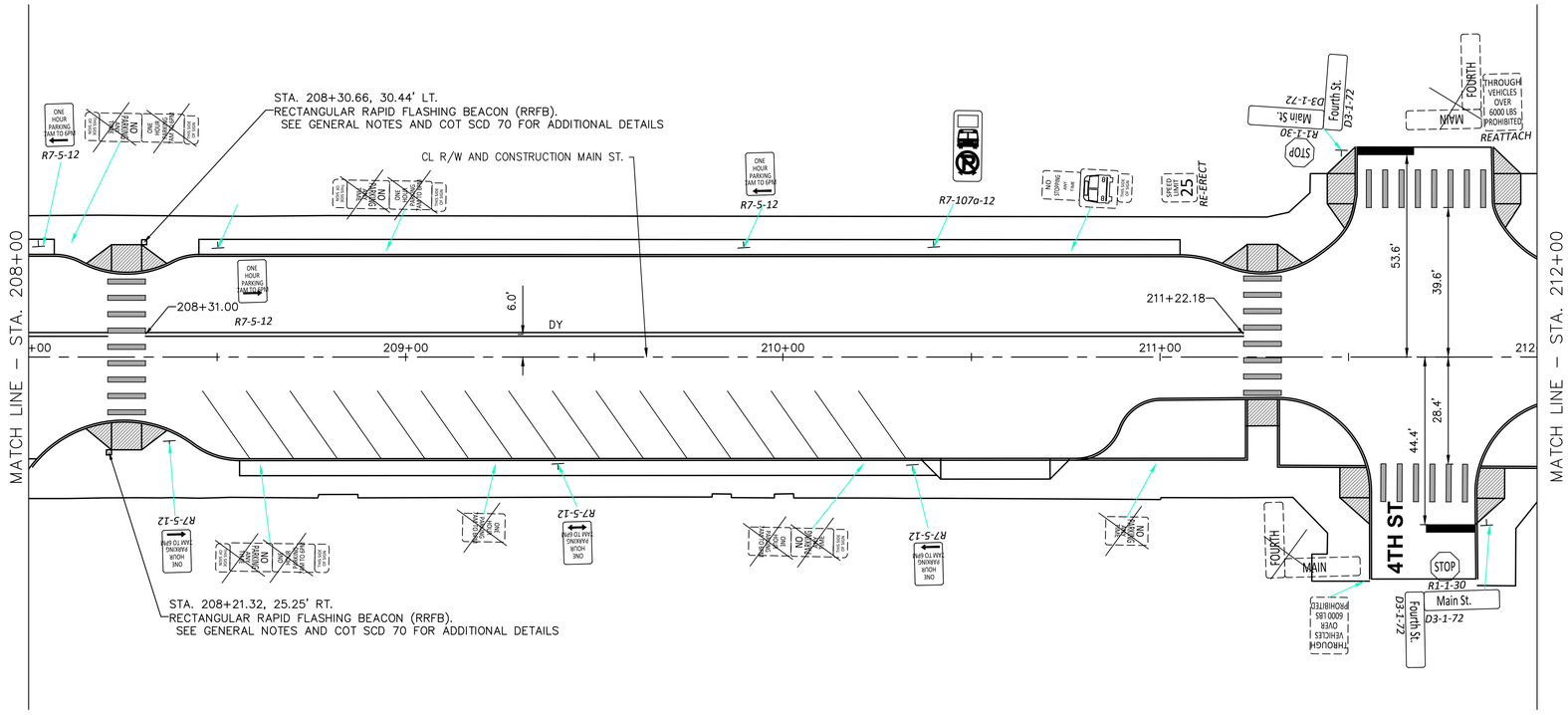
TC9
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



MAIN STREET



Horizontal Scale In Feet
0 10 20 40

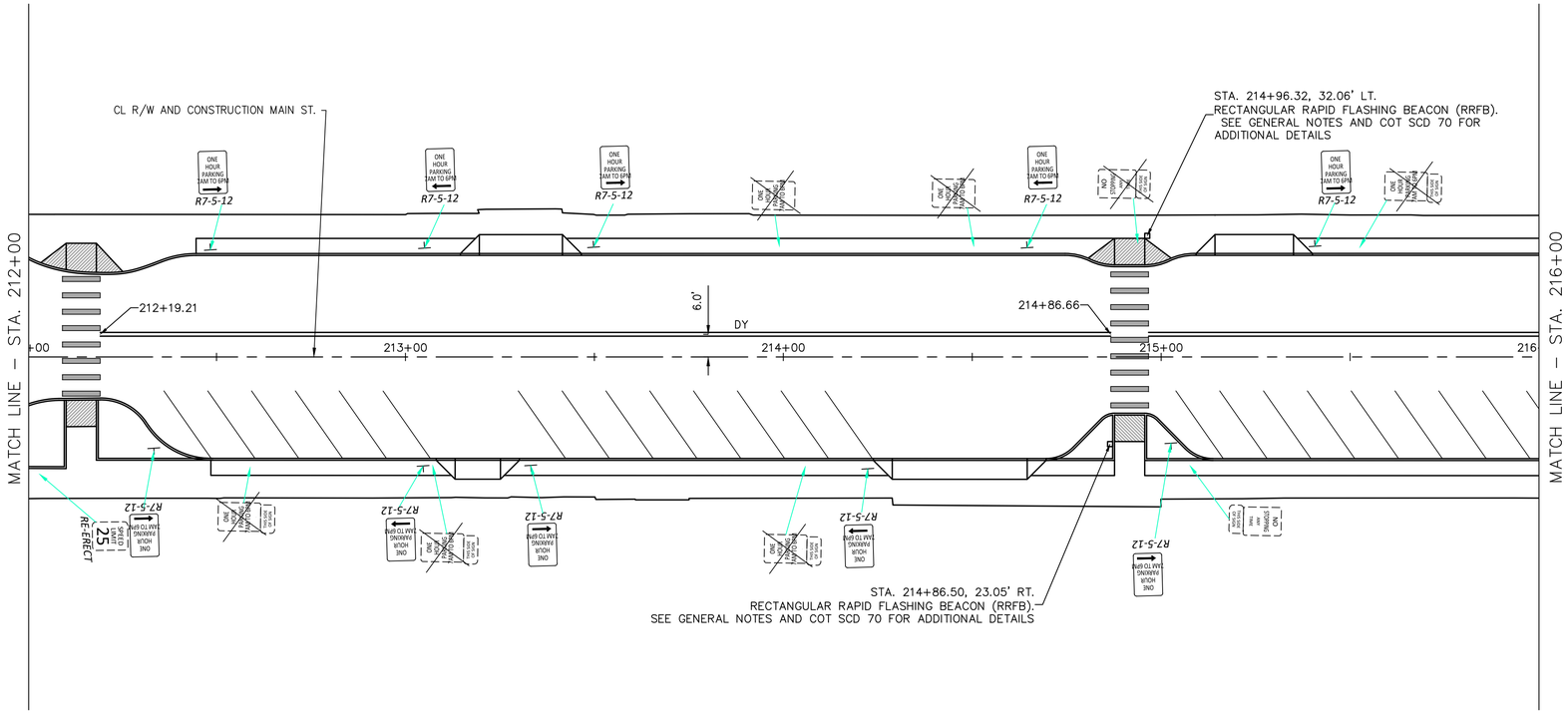
TRAFFIC CONTROL PLAN
MAIN STREET STA. 204+00 TO STA. 212+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	232
TOTAL	345

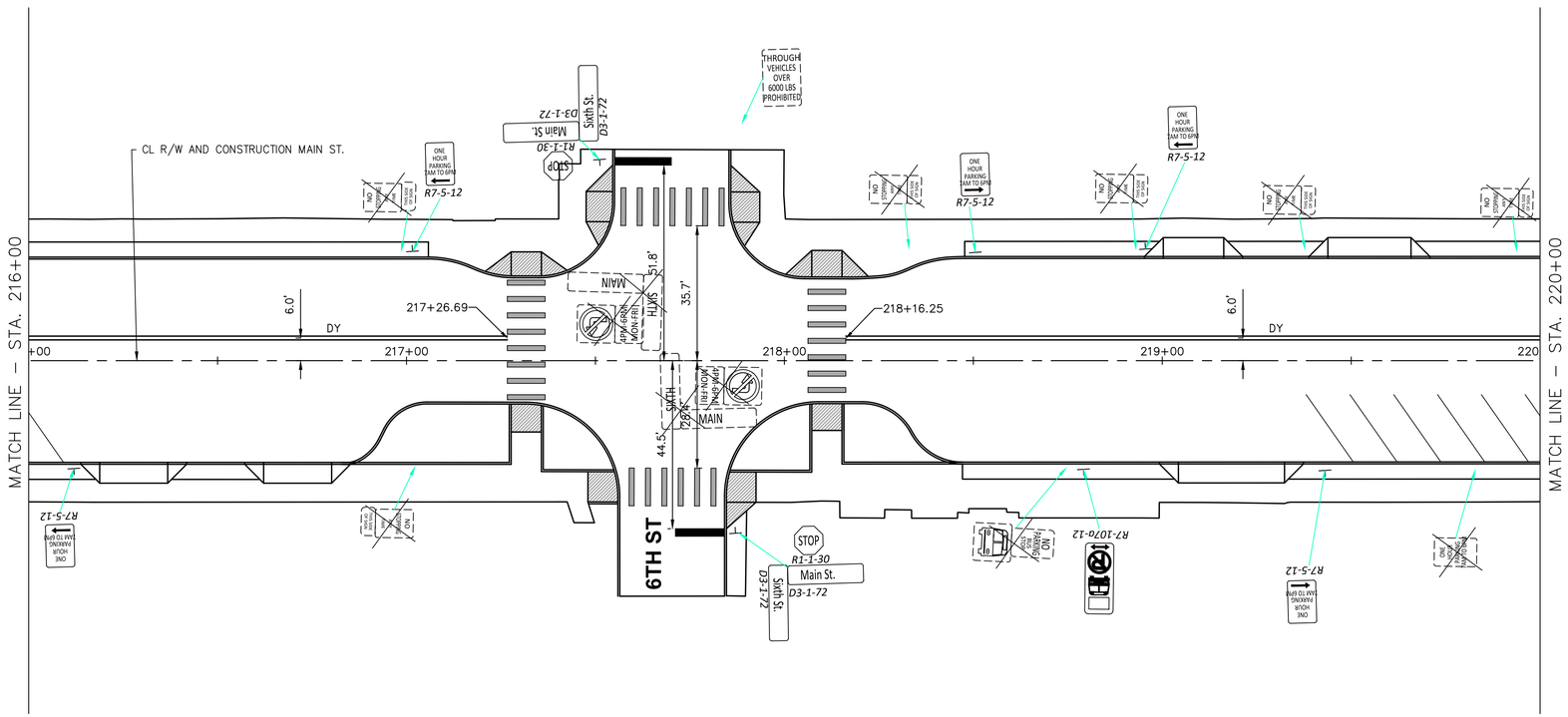
TC10
XX



LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE

MAIN STREET



0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
MAIN STREET STA. 212+00 TO STA. 220+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

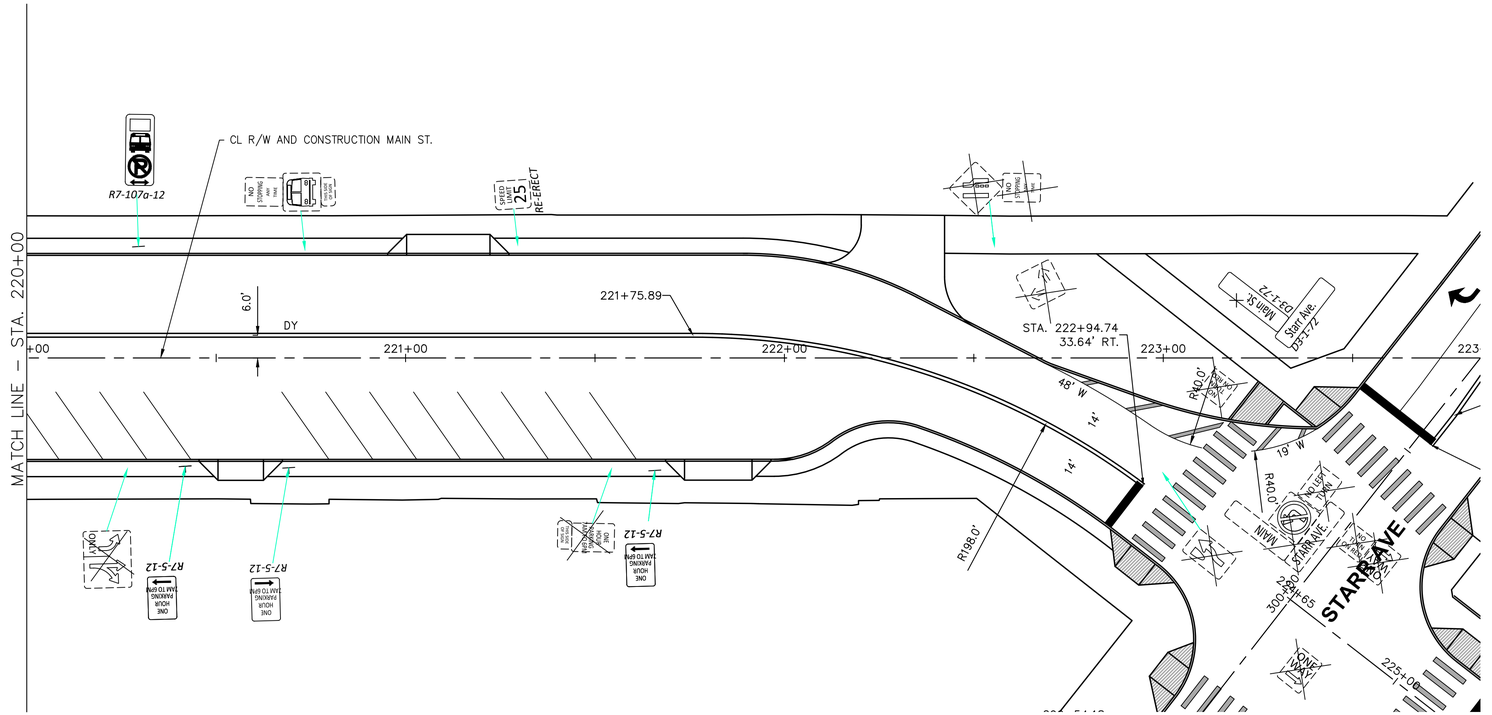
DESIGN AGENCY
Colliers Engineering & Design

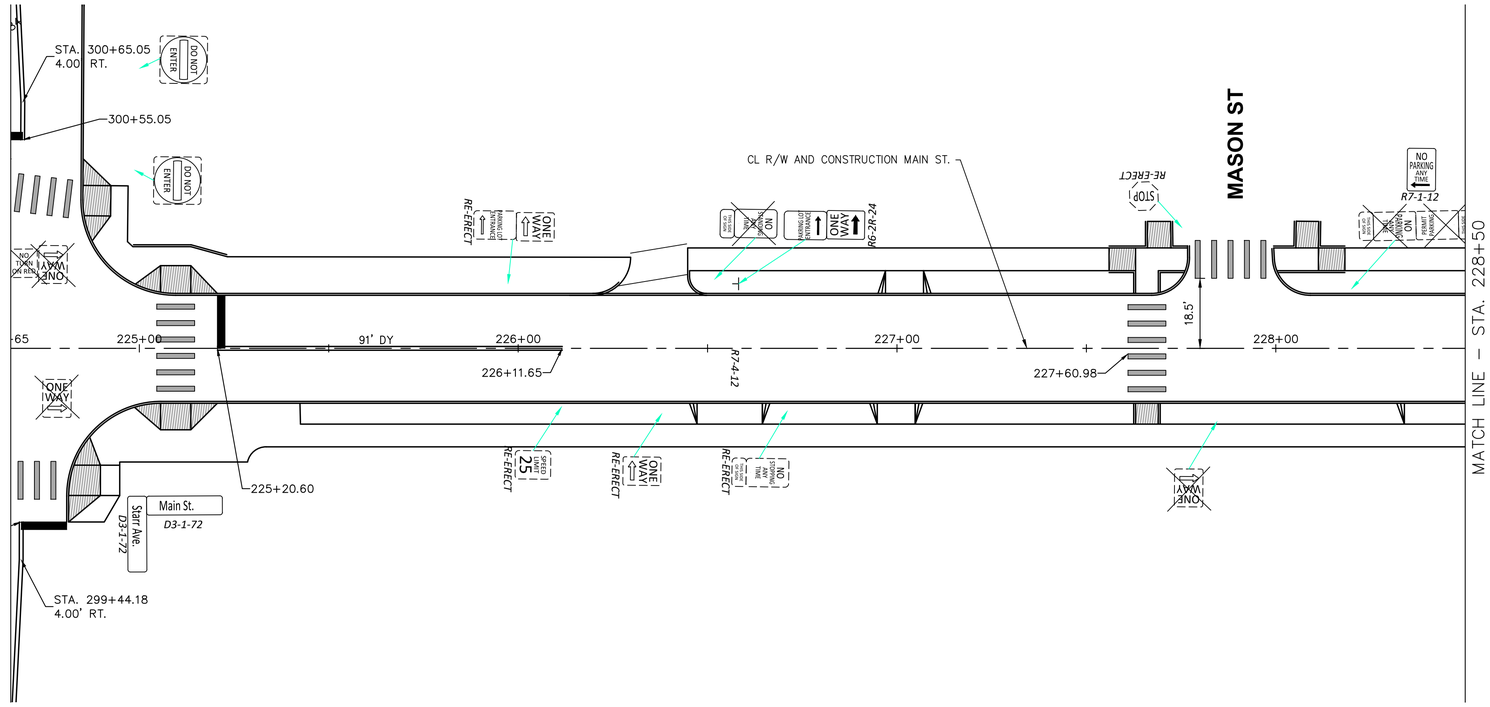
ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	233
TOTAL	345

TC11
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE





0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
MAIN STREET STA. 220+00 TO STA. 228+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

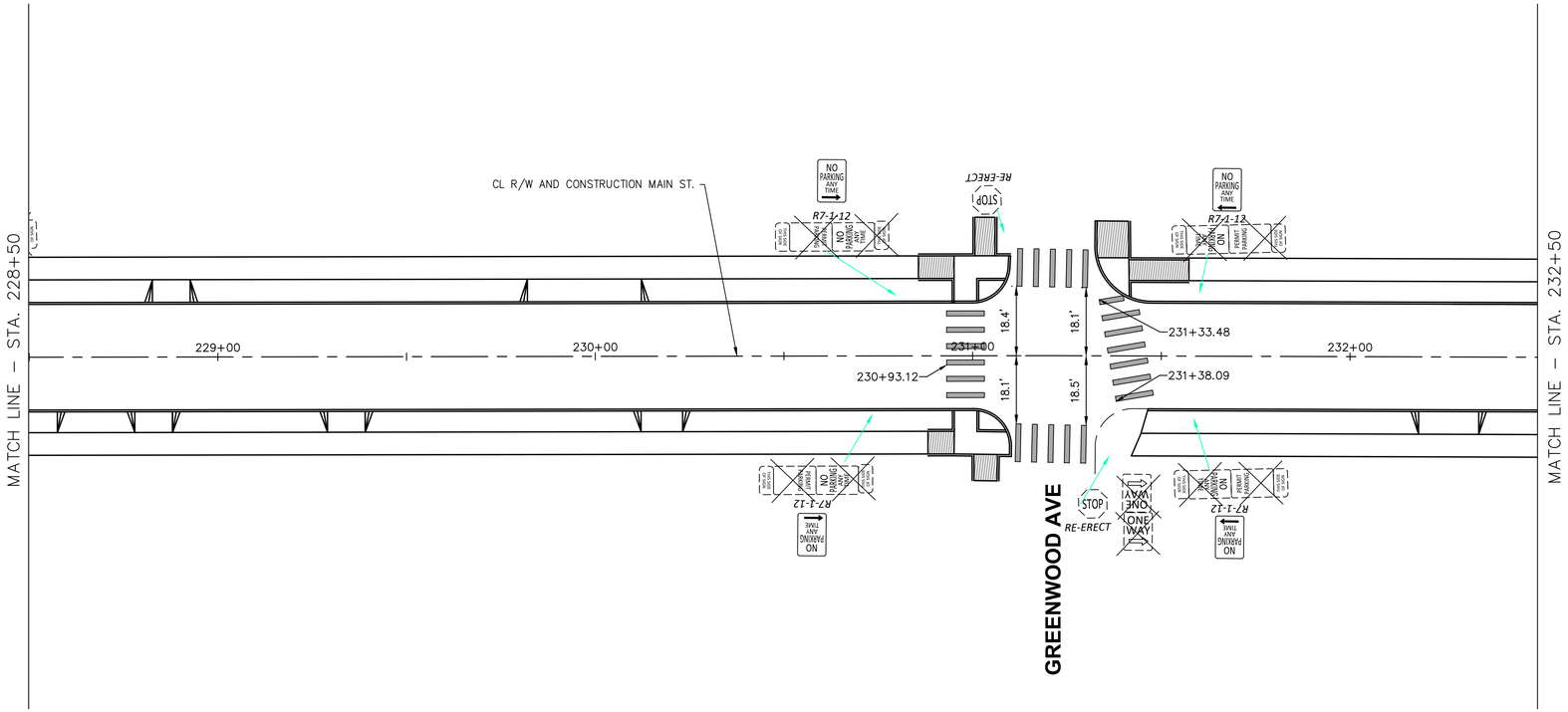
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	234
TOTAL	345

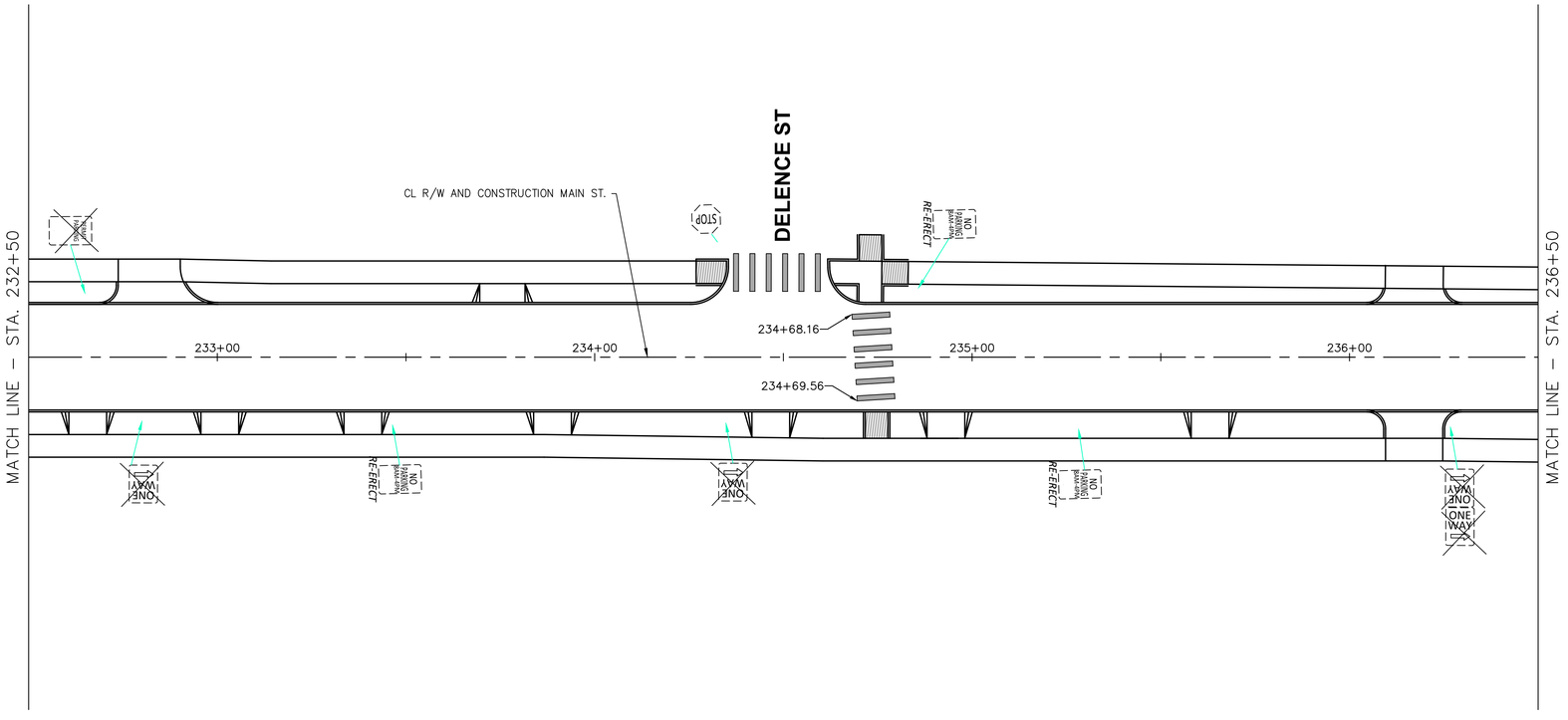
TC12
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



MAIN STREET



Horizontal Scale In Feet
0 10 20 40

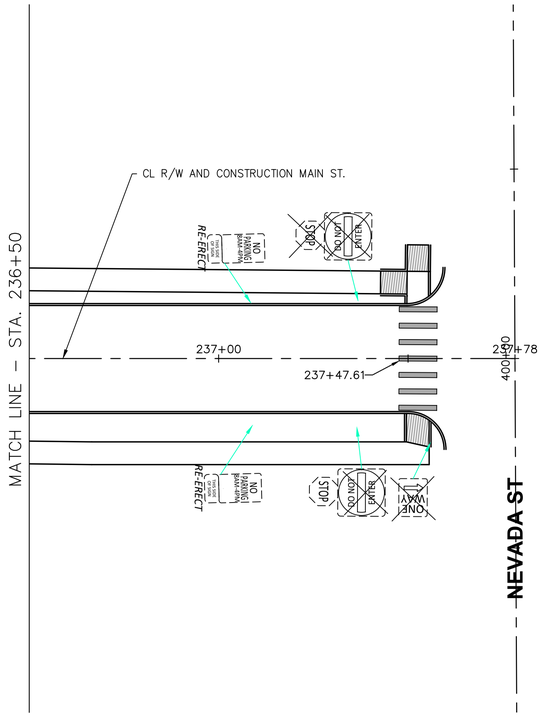
TRAFFIC CONTROL PLAN
MAIN STREET STA. 228+50 TO STA. 236+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	235
TOTAL	345

TC13
XX



MAIN STREET

N

0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
MAIN STREET STA. 236+50 TO STA. 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

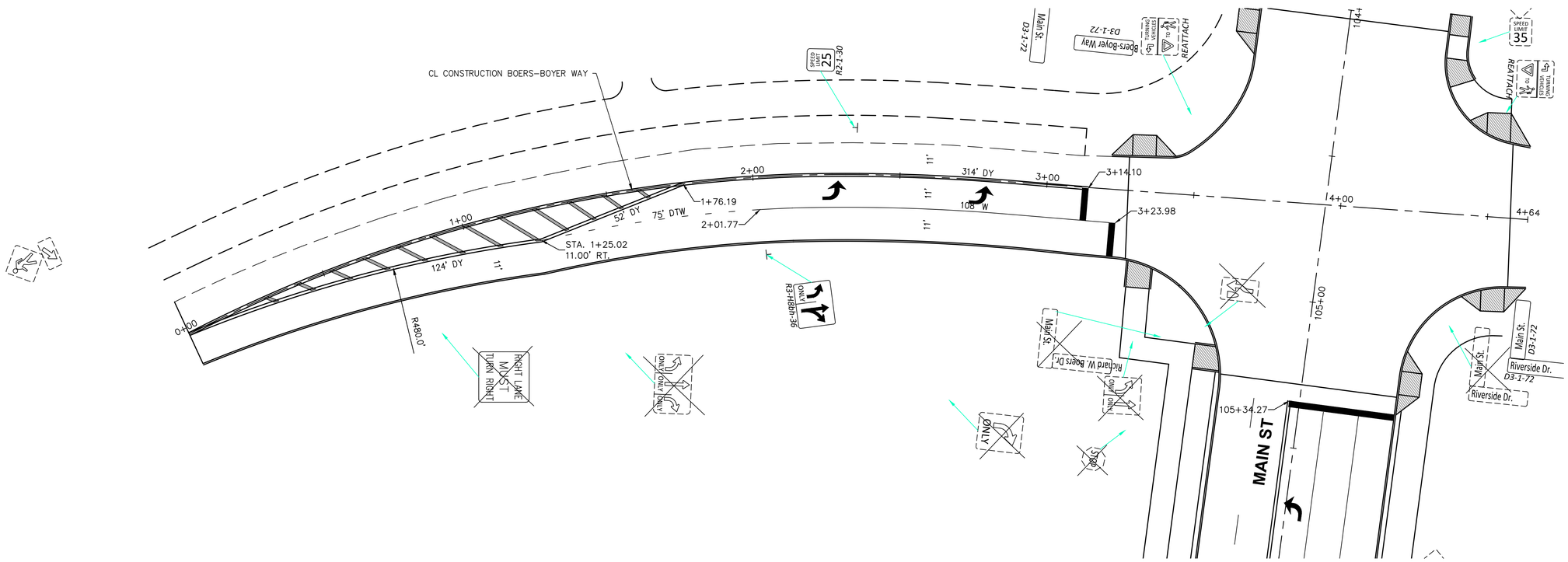
COT PROJ. ID
####

SHEET 236 | TOTAL 345

TC14
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



BOERS-BOYER WAY

0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
BOERS-BOYER WAY STA. 404+50 TO STA. 408+29.33

FRONT ST & MAIN ST IMPROVEMENT PLANS

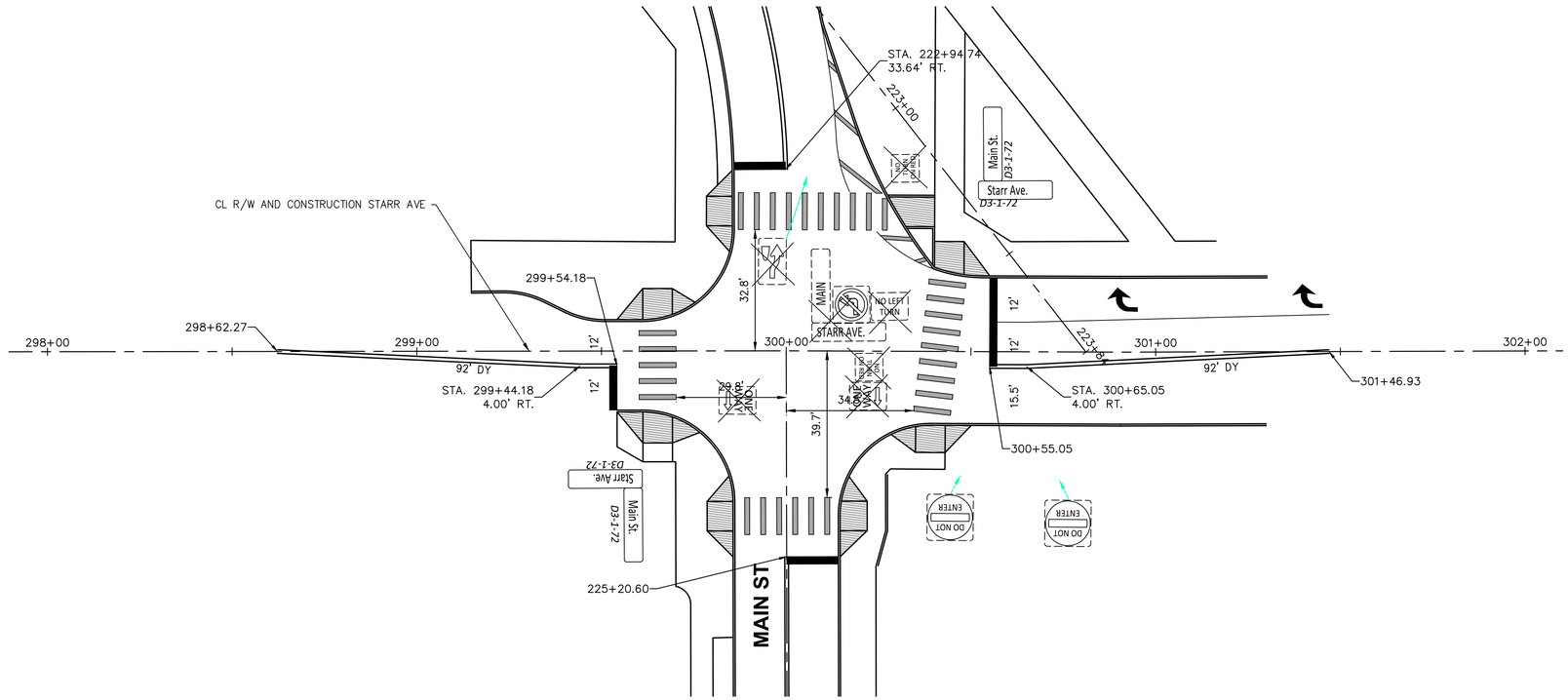
DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	237
TOTAL	345

TC15
XX

LEGEND:

DY = DOUBLE YELLOW
BDY = BROKEN DOUBLE YELLOW
Y = YELLOW
W = WHITE
DTW = DOTTED WHITE



STARR AVENUE

0 10 20 40
Horizontal Scale In Feet

TRAFFIC CONTROL PLAN
STARR AVENUE STA. 299+50 TO STA. 301+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET 238 | TOTAL 345

TC16
XX

POWER SUPPLY FOR TRAFFIC SIGNALS

ELECTRIC POWER SHALL BE OBTAINED FROM THE CITY OF BOWLING GREEN AT THE LOCATION INDICATED ON THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS.

SIGNAL ACTIVATION

PRIOR TO ACTIVATING THE NEW TRAFFIC SIGNAL, ALL ITEMS IN THE PROPOSED SIGNAL PLAN SHALL BE FULLY COMPLETED, (I.E. VEHICLE DETECTION, PEDESTRIAN SIGNAL HEADS, ETC). IF THER ARE CONSTRUCTABILITY ISSUES (I.E., ROADWAY WIDENING, ETC.) THAT PREVENT THE SIGNAL FROM BEING COMPLETED PRIO TO ACTIVATION, IT SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER. THE DISTRICT TRAFFIC ENGINEER WILL THEN REVIEW, APPROVE OR REJECT PROPOSALS TO ACTIVATE THE TRAFFIC SIGNAL PRIOR TO COMPLETION.

THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AND DISTRICT TRAFFIC ENGINEER AT LEAST 10 WORKING DAYS PRIOR TO SCHEDULING THE FINAL INSPECTION OF THE SIGNAL INSTALLATION. FINAL INSPECTION IS NOT CONSIDERED COMPLETE UNTIL DESIGNATED DISTRICT TRAFFIC PERSONNEL INSPECT THE TRAFFIC SIGNAL AND ISSUE WRITTEN APPROVAL. IF ISSUES ARE FOUND DURING THE FINAL INSPECTION THAT EFFECT THE SAFETY OF THE TRAVELING PUBLIC AND/OR THE EFFICIENCY OF THE INTERSECTION, THE SIGNAL SHALL NOT BE ACTIVATED ON THE PROPOSED DATE. ANY PUNCH LIST ITEMS THAT ARE FOUND SHALL BE CORRECTED AND REINSPECTED BY DISTRICT TRAFFIC PERSONNEL PRIOR TO FINAL ACCEPTANCE. ODOT FORCES SHALL ONLY ASSUME DAY TO DAY MAINTENANCE OF THE TRAFFIC SIGNAL AFTER FINAL WRITTEN ACCEPTANCE HAS BEEN ISSUED.

632 VEHICULAR SIGNAL HEAD (LED), 3-SECTION, 12" LENS, 1-WAY POLYCARBONATE, AS PER PLAN, BLACK

IN ADDITION TO THE REQUIREMENTS OF CMS 632 AND 732, THE VEHICULAR SIGNAL HEADS SHALL BE EAGLE SIGNAL AS MANUFACTURED BY MOBOTECH INSTALLED WITH LED'S MANUFACTURED BY GE LIGHTING SOLUTIONS. THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

THE PEDESTRIAN HYBRID BEACON SIGNAL HEADS SHALL CONSIST OF THREE SIGNAL SECTIONS, WITH A CIRCULAR YELLOW SIGNAL INDICATION CENTERED BELOW TWO HORIZONTALLY ALIGNED CIRCULAR RED SIGNAL INDICATIONS.

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC WITH VISORS AS SPECIFIED AND MEET ITE SPECIFICATIONS.

2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3. ALL UPPER SIGNAL SUPPORT HARDWARE AND PIPING UP TO AND INCLUDING THE WIRE INLET FITTING SHALL BE FERROUS METAL.

4. THE ENTRANCE FITTING SHALL BE OF THE TRI-STUD DESIGN WITH SERRATED RINGS IN ORDER TO ACHIEVE POSITIVE LOCKING.

5. ALL SIGNAL HEADS SHALL BE RIGIDLY MOUNTED TO THE MAST ARM WITH THE (COLOR) MODULE LOCATED IN FRONT OF THE MAST

6. ALUMINUM BACK-PLATES SHALL BE IN ACCORDANCE WITH THE C&MS AND INCLUDE A FLUORESCENT YELLOW REFLECTIVE BORDER.

7. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

8. SIGNAL HEADS SHALL HAVE A MINIMUM WALL THICKNESS OF 0.117 INCHES.

9. SIGNAL HEADS SHALL INCLUDE CUTAWAY TYPE VISORS UNLESS OTHERWISE SPECIFIED IN THE PLANS.

10. APPLY A BEAD OF SILICONE TO THE SIGNAL HEAD, WASHER, AND ENTRANCE ADAPTER SERRATIONS TO PREVENT WATER INTRUSION. ALSO, FILL THE SPACE BETWEEN CONCENTRIC SERRATION RINGS ON THE TOP OF THE SIGNAL HEAD TO COMPLETELY EXCLUDE WATER FROM THE SPACE BETWEEN THE CONCENTRIC RINGS.

11. BALANCE ADJUSTERS SHALL NOT BE USED ON ONE-WAY HEADS OR TETHERED HEADS.

PAYMENT FOR ITEM 632 VEHICULAR SIGNAL HEAD (LED), 3-SECTION, 12" LENS, 1-WAY, POLYCARBONATE, AS PER PLAN, BLACK SHALL BE MADE FOR COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS, AND NEW ATTACHMENT HARDWARE.

632 COVERING OF VEHICULAR SIGNAL HEAD

COVER VEHICULAR SIGNAL HEADS IF ERECTED AT INTERSECTIONS WHERE TRAFFIC IS MAINTAINED BEFORE ENERGIZING THE SIGNALS. USE A STURDY OPAQUE COVERING MATERIAL SPECIFICALLY MADE FOR USE WITH TRAFFIC SIGNALS, AND ENSURE THAT THE COLOR OF THE COVER IS DIFFERENT THAN THE SIGNAL HEAD, TAN OR BEIGE, SO THAT IT IS CLEAR TO DRIVERS THE HEADS ARE COVERED, NOT DARK. USE A METHOD OF COVERING TO COVER ATTACHMENT AND MATERIALS, INCLUDING BACK-PLATES, AS APPROVED BY THE ENGINEER. COVERS ARE TO BE FREE OF TEXT, PICTURES, OR ANY TYPE OF ADVERTISING. MAINTAIN COVERS, AND REMOVE THEM WHEN DIRECTED BY THE ENGINEER.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE STATE OR THE MAINTAINING AGENCY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 632 AND 732 THE PEDESTRIAN SIGNAL HEADS SHALL BE EAGLE SIGNAL AS MANUFACTURED BY MOBOTECH INSTALLED WITH LED'S MANUFACTURED BY GE LIGHTING SOLUTIONS. THE FOLLOWING REQUIREMENTS SHALL ALSO APPLY:

1. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF BLACK POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS.

2. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING.

3. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

4. THE PEDESTRIAN SIGNAL HEAD SHALL BE OF THE LED COUNTDOWN TYPE.

5. NEW ATTACHMENT HARDWARE AND FITTINGS SHALL BE USED.

6. THE LIGHT EMITTING DIODE (LED) MODULES SHALL MEET THE REQUIREMENTS OF C&MS 732.04-C. THE CONTRACTOR SHALL PROVIDE ODOT, IN WRITING, WITH THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS THAT ARE TO BE USED IN THE SIGNAL HEAD PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

PAYMENT FOR ITEM 632 PEDESTRIAN SIGNAL HEAD (LED), TYPE D2, COUNTDOWN, AS PER PLAN SHALL BE MADE FOR THE NUMBER OF COMPLETE SIGNAL HEAD FURNISHED AND INSTALLED, INCLUDING ALL LABOR, EQUIPMENT, MATERIALS AND NEW ATTACHMENT HARDWARE.

633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN

THE CONTROLLER SHALL BE A SIEMENS M60 TS2 TYPE 2. ALL EQUIPMENT SHALL CONFORM TO ODOT 2016 SPECIFICATIONS 633, AND 733.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN, SHALL BE AT THE CONTRACT BID PRICE, EACH, COMPLETE AND IN PLACE INCLUDING INSTALLATION, PROGRAMMING AND ALL NECESSARY ITEMS TO PLACE THE CONTROLLER.

633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN

THE CONTROLLER SHALL BE A SIEMENS M60 TS2 TYPE 2. ALL EQUIPMENT SHALL CONFORM TO ODOT 2016 SPECIFICATIONS 633, AND 733.

PAYMENT FOR ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, AS PER PLAN, SHALL BE AT THE CONTRACT BID PRICE, EACH, COMPLETE AND IN PLACE INCLUDING INSTALLATION, PROGRAMMING AND ALL NECESSARY ITEMS TO PLACE THE CONTROLLER.

633 CONTROLLER ITEM, MISC.: CABINET, TYPE TS2, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A TYPE TS2 CABINET, SIZE 7 WITH 3 SHELVES

UPS CABINET SHALL BE MOUNTED FLUSH AGAINST SIGNAL CABINET AND SEALED, UPS WIRING SHALL ENTER SIGNAL CABINET THROUGH THE CABINET RISER.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM 633, "CONTROLLER ITEM, MISC.: CABINET, TYPE TS2, INSTALLATION ONLY" FOR EACH CONTROLLER CABINET INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH CONTROLLER CABINET INSTALLED, COMPLETE AND ACCEPTED.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (CMS) AND THE TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
   - A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
   - B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   - C. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   - D. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.

2. CONDUITS.
   - A. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
   - B. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   - C. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   - D. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING.
   - A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:
     - I. USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
     - II. USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.
     - III. USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.I ABOVE.

0 10 20 40
Horizontal Scale In Feet

PEDESTRIAN HYBRID BEACON PLAN
FRONT STREET STA. 49+00 TO 52+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	RH
REVIEWER	AM
COT PROJ. ID	####
SHEET	239
TOTAL	345

IV. THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD.
   A. A ¾ INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. THE GREEN CONDUCTOR IN SIGNAL CABLES (CONDUCTOR #4) SHALL NOT BE USED TO SUPPLY POWER TO A SIGNAL INDICATION. IT WILL BE CONNECTED TO THE SIGNAL BODY AS AN EQUIPMENT GROUND IN ALUMINUM HEADS AND IT WILL BE UNUSED IN PLASTIC HEADS. UNUSED CONDUCTORS SHALL BE GROUNDED IN THE CABINET. TYPICAL USE OF CONDUCTORS IS AS FOLLOWS:

CONDUCTOR NO.	COLOR	VEHICLE SIGNAL	PEDESTRIAN SIGNAL
1	WHITE	AC NEUTRAL	AC NEUTRAL
2	RED	RED BALL	#1 DW/FDW
3	GREEN	EQUIPMENT GROUND	EQUIPMENT GROUND
4	ORANGE	YELLOW BALL	#1 DW/FDW
5	BLUE	GREEN ARROW	#2 WALK

6. POWER SERVICE AND DISCONNECT SWITCH.
   A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC-) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UN-SPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
   B. THE SERVICE NEUTRAL (AC-) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
      I. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC-) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS-2, FIGURE 5-4.
      II. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC-) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH, BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

ITEM 632- POWER SERVICE, AS PER PLAN

ELECTRIC POWER SHALL BE OBTAINED FROM THE CITY OF BOWLING GREEN, AT THE LOCATIONS INDICATED IN THE PLANS. POWER SUPPLIED SHALL BE 120 VOLTS. POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10 WITH FOLLOWING EXCEPTIONS:

1) THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.

2) THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES. METER BASES SHALL BE PAINTED TO MATCH THE SUPPORT COLOR.

3) POWER SERVICE SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS.

4) SEPARATE DISCONNECT SWITCHES SHALL BE PROVIDED FOR SIGNAL AND LIGHTING OPERATIONS. EACH DISCONNECT SWITCH SHALL BE AFFIXED WITH A PERMANENT ALL-WEATHER LABEL IDENTIFYING AS "SIGNAL" OR "LIGHTING".

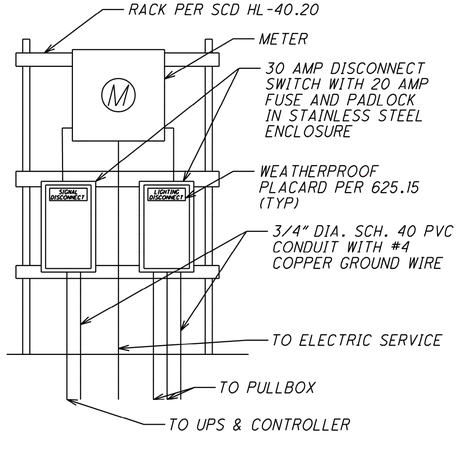
5) ALL SERVICE CABLES SHALL HAVE COPPER CONDUCTORS. ALUMINUM CONDUCTORS SHALL NOT BE PERMITTED.

6) SERVICE CABLE FROM THE POWER SOURCE WILL BE UNDERGROUND FED, AND SHALL BE INSTALLED IN CONDUIT.

7) DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO.4BKA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE STAINLESS STEEL AND ALL EXPOSED CONDUIT RISERS AND FITTINGS SHALL BE RIGID STEEL, PVC COATED INSIDE AND OUT.

8) ESTIMATED QUANTITIES ARE INCLUDED FOR EXTENSION OF POWER FROM THE TRANSFORMER TO THE METER BASE. ANY ITEM REQUIRED FOR THE POWER SERVICE NOT INCLUDED IN OTHER ITEMS (INCLUDING CONDUIT AND CABLES FROM THE METER BASE TO THE CONTROLLER) SHALL BE INCLUDED FOR PAYMENT FOR EACH ITEM 632, POWER SERVICE, AS PER PLAN.

9) THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO BEGINNING WORK. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK-UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYMENT OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY ODOT.



GROUND MOUNTED POWER SERVICE RACK

632 COMBINATION SIGNAL SUPPORT, MISC.: (TYPE), AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF INSTALLING A DECORATIVE COMBINATION SIGNAL SUPPORT (INCLUDING MAST ARM AND LIGHT POLE EXTENSION)

AFTER INSTALLATION, REPAIRS SHALL BE MADE TO ANY DAMAGE OF THE SUPPORT COATING, IN ACCORDANCE WITH THE COATING MANUFACTURER'S RECOMMENDATIONS.

PAYMENT WILL BE MADE AT THE UNIT PRICE BID UNDER ITEM 632, "COMBINATION SIGNAL SUPPORT, MISC.: (TYPE), INSTALLATION ONLY" FOR EACH SUPPORT INSTALLED AND SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH SUPPORT INSTALLED, COMPLETE AND ACCEPTED.

633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF C&MS 633 AND 733, A CABINET RISER (8 INCH MINIMUM) AND ANCHOR BOLTS WILL BE PROVIDED FOR BASE-MOUNTED CABINETS. BEFORE PERFORMING THE WORK, THE CONTRACTOR, THE CITY ENGINEER AND THE PROJECT ENGINEER WILL PERFORM A SITE INSPECTION TO ESTABLISH THE LOCATION OF THE UPS CABINET AND FOUNDATION. THE UPS UNIT SHALL BE AN ALPHA XFM 1100.

THE UPS OUTPUT NOTIFICATIONS FOR ON BATTERY, BATTERY 2-HOUR TIMER, AND LOW BATTERY SHALL BE WIRED INTO THE TRAFFIC SIGNAL CABINET BACK PANEL TO PROVIDE SPECIAL STATUS ALARMS FOR EACH OUTPUT INTO THE SIGNAL CONTROLLER.

THIS ITEM SHALL INCLUDE A RED LED STATUS INDICATOR LAMP TO ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. THE LED HOUSING SHALL BE NEMA 4X, IP65 OR IP66, RATED FOR OUTDOOR USE AND BE TAMPER/SHATTER RESISTANT. IT SHALL BE A DOMED ENCLOSURE CONTAINING A RED LENS WITH LED THAT IS VISIBLE FROM 100 FOOT MINIMUM. THE ENCLOSURE AND LED MODULE SHOULD BE PLACED AND CENTERED ON THE TOP SURFACE OF THE UPS CABINET AND SEALED FROM WATER INTRUSION. IT SHOULD BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY", WITH WIRE POLARITY INDICATED. THE RED LED SHALL ONLY ILLUMINATE TO INDICATE THE CABINET IS OPERATING UNDER UPS BACKUP POWER (THE "BACKUP" OPERATING CONDITION). THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THESE STATUS DISPLAYS WILL BE SOLID 100% DUTY CYCLE (NOT FLASHING) DISPLAYS. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC UNLESS OTHERWISE INDICATED.

ITEM 633- CABINET FOUNDATION, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 633.10 AND SCD TC-83.20, THE CONTRACTOR SHALL CONSTRUCT THE CABINET FOUNDATION TO BE (69" W X 36" D) WITH 1.5" CORNER CHAMFERS TO ACCOMODATE AN UNINTERRUPTIBLE POWER SUPPLY (UPS) AND CABINET.

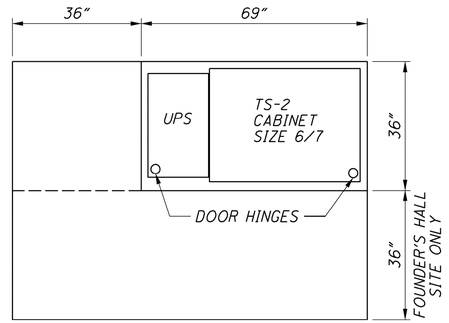
PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, TOOLS, AND EQUIPMENT TO INSTALL THE CABINET FOUNDATION COMPLETED IN PLACE.

ITEM 633 - CONTROLLER WORK PAD, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 633.11 AND TC 83.20, THE CONTRACTOR SHALL PROVIDE AND CONSTRUCT AN ENLARGED 36" WORK PAD ADJACENT TO THE SPECIFIED CONTROLLERS AS SHOWN BELOW.

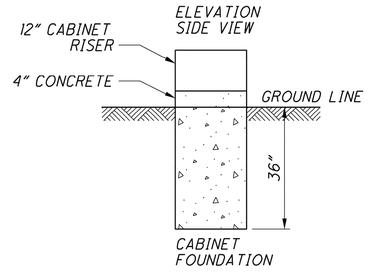
TS-2 SIZE 6/7 CABINET DETAIL (TYP.)

CABINET & WORK PAD DETAIL



PLAN VIEW

CABINET FOUNDATION DETAIL



PAYMENT SHALL INCLUDE ALL LABOR, MATERIAL, TOOLS, AND EQUIPMENT TO INSTALL THE CABINET FOUNDATION COMPLETE IN PLACE.

PEDESTRIAN HYBRID BEACON PLAN
FRONT STREET STA. 49+00 TO 52+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	RH
REVIEWER	AM
COT PROJ. ID	####
SHEET	240
TOTAL	345

ITEM 630 - GROUND MOUNTED SUPPORT, NO. 3 POST, AS PER PLAN

THIS ITEM SHALL CONSIST OF INTALLING A GROUND MOUNTED NO. 3 POST WITH THE EMBEDMENT DEPTH OF A MINIMUM OF 48". ADDITIONAL EMBEDMENT DEPTH IS INCLUDED IN THE PLAN QUANTITY PRICE FOR:

ITEM 630, GROUND MOUNTED SUPPORT, NO. 3 POST AS PER PLAN

ITEM 644 CROSSWALK LINE, AS PER PLAN

THIS WORK SHALL BE IN ACCORDANCE WITH 641.09E OF THE CMS EXCEPT THAT THE MARKINGS SHALL CONSIST OF SOLID 24 INCH WIDE WHITE STRIPES, 12 FEET LONG, SPACED AT 2 FEET.

PAYMENT FOR ITEM 644 CROSSWALK LINE, AS PER PLAN SHALL BE AT THE CONTRACT UNIT PRICE BID PER FOOT. PAYMENT SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPEMENT AND INCIDENTALS REQUIRED TO COMPLETE THE WORK.

ITEM 625 CONDUIT, 2", OR 3", AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 625, THE CONDUIT SHALL ALSO MEET THE FOLLOWING:

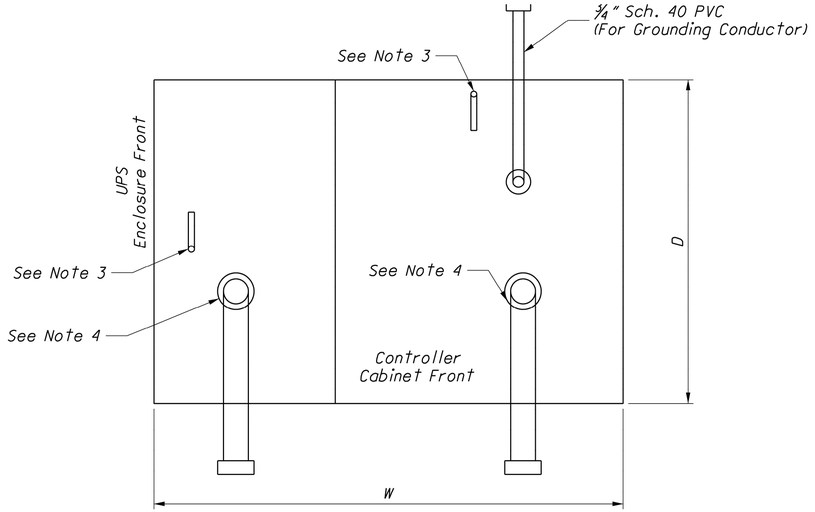
UNLESS OTHERWISE SHOWN ON THE PANS, CONDUIT AND FITTINGS SHALL CONFORM TO NEMA TC-2 FOR ELECTRICAL PLASTIC CONDUIT (EPC-40-PVC) AND FITTINGS, TYPE II AND TO NEMATC-3 FOR PVC, FITTINGS FOR USE WITH RIGIDS P.V.C CONDUIT. WHEN BENDING CONDUIT WITH HEAT, NO BROWNING, DISCOLORATION OR ANY COLLAPSING OF THE CONDUIT, WHICH REDUCES ITS INSIDE DIAMETER, WILL BE ACCEPTED. CONDUIT OR TRACE WIRE SHALL BE INCLUDED.

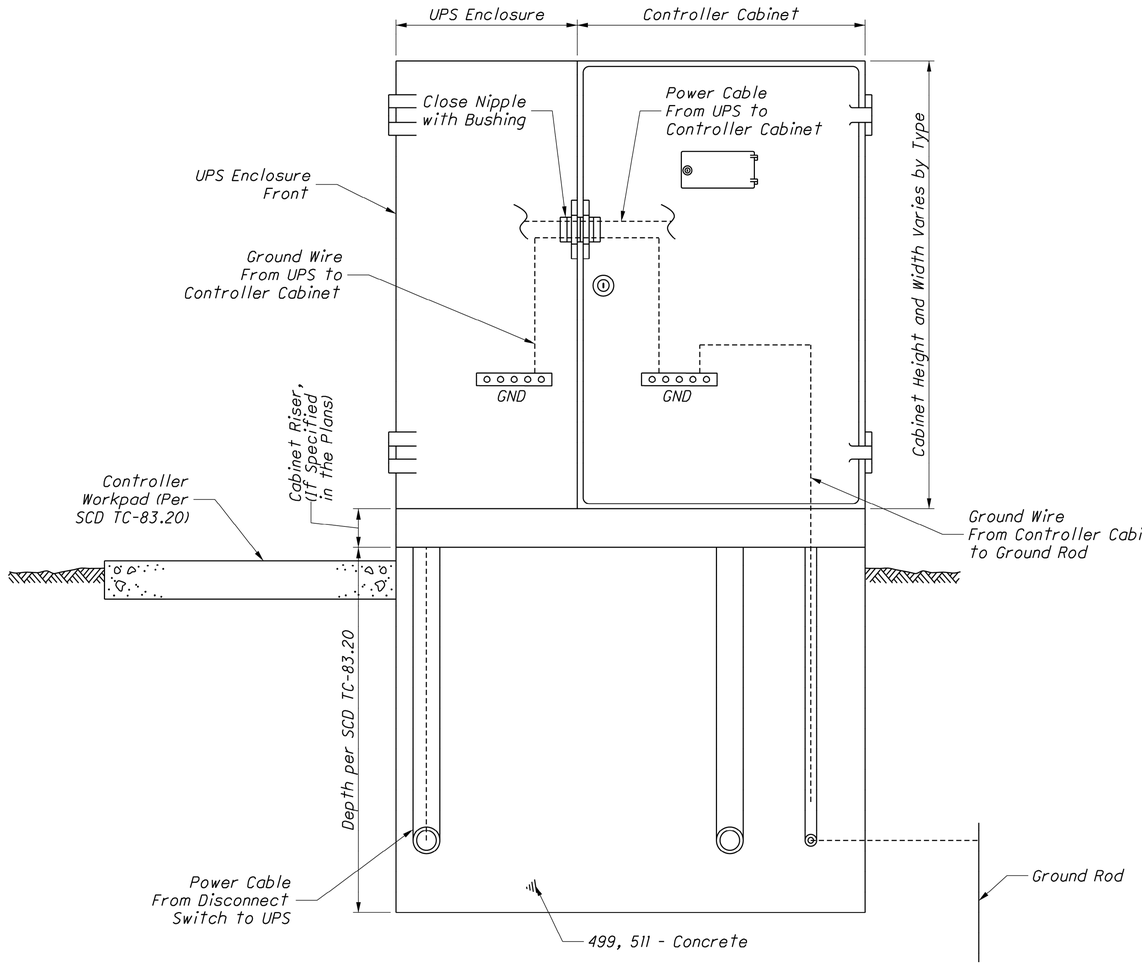
ITEM 625 CONDUIT, JACKED OR DRILLED, AS PER PLAN

THE REQUIREMENTS OF 625.14 SHALL APPLY EXCEPT THAT ONLY RIGID GALVANIZED STEEL CONDUIT IN ACCORDANCE WITH 725.14 SHALL BE USED FOR JACKING AND BORING.

ITEM 625, PLASTIC CAUTION TAPE, AS PER PLAN

THE REQUIREMENTS OF CMS 625.20 AND 725.22 SHALL APPLY WITH THE FOLLOWING AMENDMENTS: SUPPLY AND INSTALL TAPE FOR ALL PROPOSED UNDERGROUND TRAFFIC SIGNAL CONDUIT PLACED IN TRENCH. WHERE "CONDUIT, JACKED OR DRILLED, AS PER PLAN" IS USED TAPE WILL NOT BE REQUIRED. WHERE PORTIONS OF A CONDUIT RUN ARE BOTH INSTALLED IN TRENCH AND JACKED OR DRILLED, THE PORTION CONDUIT INSTALLED IN THE TRENCH SHALL INCLUDE PLASTIC CAUTION TAPE. THE UNIT COST BID FOR ALL TAPE INSTALLED IN TRENCH SHALL INCLUDE ONLY MATERIALS, EQUIPMENT, AND LABOR ASSOCIATED WITH THE TAPE; ANY COST RELATED TO CONDUIT OR TRENCH SHALL BE INCLUDED WITH RESPECTIVE PAY ITEMS.





NOTES:

1. The Uninterruptible Power Supply (UPS) enclosure shall be mounted flush up against the traffic signal cabinet and sealed with silicone. The Contractor shall be responsible for providing the necessary power cable between the UPS unit and signal cabinet.
2. The UPS should be placed on the opposite side of the pull box on a 332/336 cabinet (per Standard Construction Drawing (SCD) TC-83.20). The UPS placement for a NEMA cabinet varies, placement should provide adequate access with respect to slope, guardrail spacing, etc.
3. The size, number, and location of anchor bolts shall be in accordance with the manufacturer's recommendations.
4. The size, number, and orientation of conduit ells shall be as shown in the plan, except that a ¾" schedule 40 PVC shall be installed in each foundation.
5. 1/2" preformed joint filler as per CMS 705.03 shall be used between foundations and adjacent paved areas.
6. See SCD TC-83.20 for further details.

TYPE	W (IN.)	D (IN.)	FOUNDATION CONCRETE (CU. YD.)
TS-1	60	24	1.23
TS-2	70	36	2.16
2070/170	50	36	1.54

Horizontal Scale In Feet
0 10 20 40

PEDESTRIAN HYBRID BEACON PLAN
FRONT STREET STA. 49+00 TO 52+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

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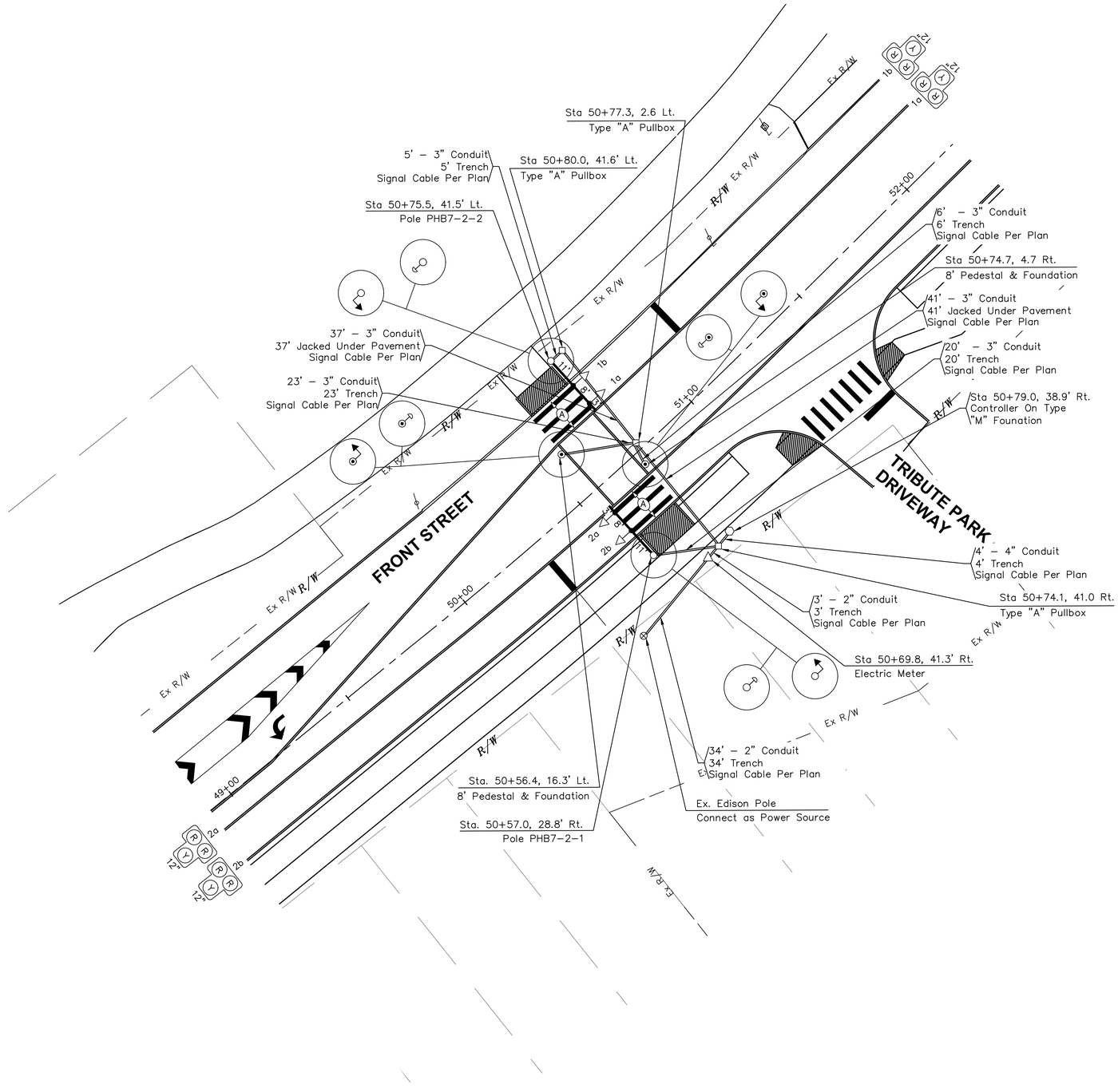
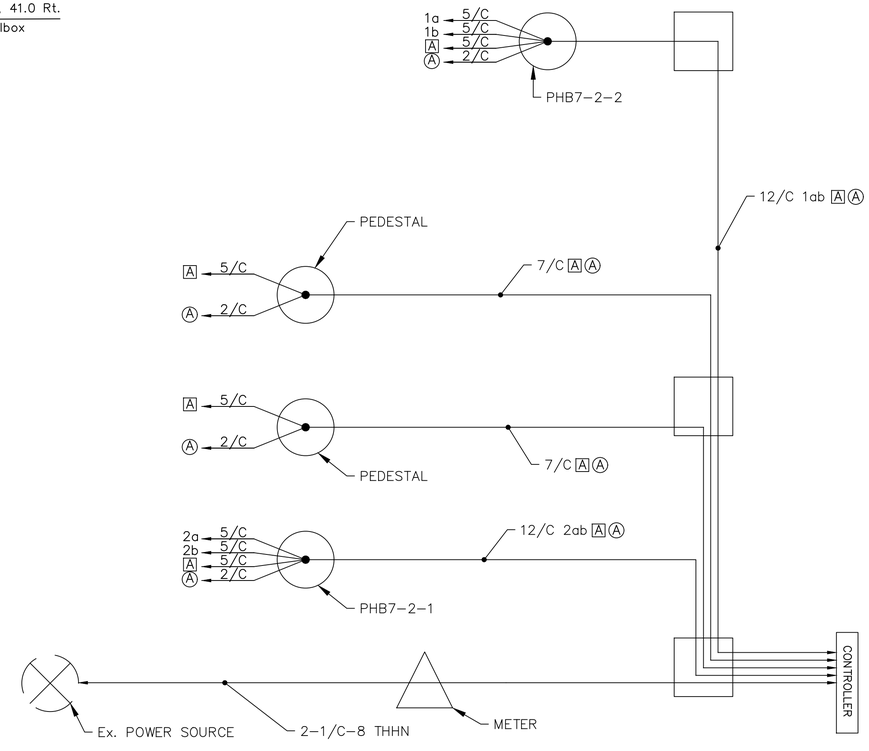
ODOT PID 121938
DESIGNER RH
REVIEWER AM
COT PROJ. ID ####
SHEET 241 TOTAL 345



PEDESTRIAN SIGNAL

PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)





WIRING DIAGRAM

PEDESTRIAN HYBRID BEACON PLAN FRONT STREET STA. 49+00 TO 52+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

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SHEET	242
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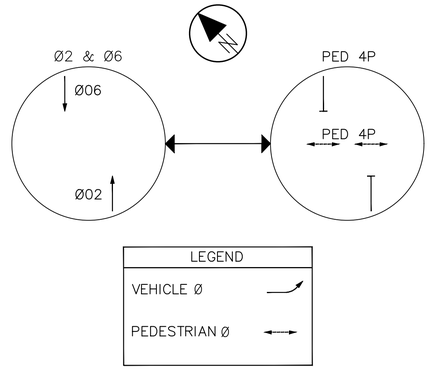
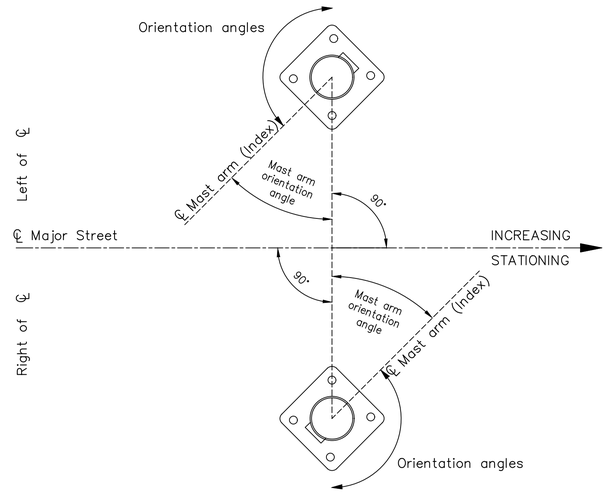
OPERATIONAL DIAGRAM & TIMING CHART

TRAFFIC SIGNAL HEADS	PEDESTRIAN SIGNAL HEAD	SIGNAL TIME (SEC.)
DARK	DON'T WALK	–
FLASHING YELLOW	DON'T WALK	2
STEADY YELLOW	DON'T WALK	5
STEADY RED	DON'T WALK	1
STEADY RED		7
ALTERNATING	FLASHING HAND COUNTDOWN TIMER	15
DARK	DON'T WALK	–

PHASING DIAGRAM





POLE ORIENTATION

POLE & MAST ARM DATA

POLE NO.	POLE GA. & SIZE	ARM GA. & SIZE	FOUNDATION	BOLT & BOLT CIRCLE
PHB7–2–1	7E10.0"x6.85"x22'–6"	7E7.0"x3.92"x22'–0"	B	1–1/2"x60"; 13–1/2"
PHB7–2–2	7E10.0"x6.85"x22'–6"	7E7.0"x3.92"x22'–0"	B	1–1/2"x60"; 13–1/2"

SUPPORT NO.	STATION	OFFSET	ORIENTATION ANGLES MEASURED FROM MAST ARM				
			MAST ARM ORIENTATION ANGLE	PEDESTRIAN SIGNAL	PEDESTRIAN BUTTON & SIGN	BRACKET ARM	HANDHOLE
			DEG	DEG	DEG	DEG	DEG
PHB7–2–1	50+57.0	28.8' RT.	0	0	90	0	180
PHB7–2–2	50+75.5	41.5' LT.	0	0	90	0	180

Horizontal Scale In Feet
0 10 20 40

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TRAFFIC CONTROL NOTES

GENERAL - SCOPE OF WORK

IT IS THE INTENT OF THESE PLANS AND SPECIFICATIONS THAT THE CONTRACTOR WILL FURNISH AND INSTALL CONDUIT, TRAFFIC SIGNAL POLES AND MAST ARMS, TRAFFIC SIGNAL HEADS, DETECTION SYSTEMS, CABLE AND WIRING, FOUNDATIONS, POWER SOURCES, PULLBOXES, GROUND RODS AND ALL MATERIALS, LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION IN PLACE, COMPLETE AND ACCEPTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

GENERAL - EXISTING TRAFFIC CONTROL SIGNS

EXISTING TRAFFIC CONTROL SIGNS WHICH INTERFERE WITH THE CONTRACTOR'S WORK WILL BE REMOVED AND REPLACED WITH REGULATORY SIGNING BY THE DIVISION OF TRAFFIC MANAGEMENT (419–245–1300). THIS DOES NOT, IN ANY WAY, RELIEVE THE CONTRACTOR'S RESPONSIBILITY UNDER ITEM 614.

GENERAL - OPERATION OF EXISTING TRAFFIC SIGNALS

THE CONTRACTOR SHALL ENSURE CONTINUED OPERATION OF THE EXISTING TRAFFIC SIGNALS AT ALL TIMES. ANY DISRUPTION TO THE OPERATION OF ANY TRAFFIC SIGNAL OR EXISTING TRAFFIC SIGNAL HARDWARE, EXCEPT CONTROLLER AND/OR INTERCONNECT, BY THE CONTRACTOR OR HIS AGENT (SUB–CONTRACTOR) SHALL BE RESTORED BY THE CONTRACTOR OR HIS AGENT (SUB–CONTRACTOR) AT NO COST TO THE STATE OF OHIO OR THE CITY OF TOLEDO.

ANY DISRUPTION OR DAMAGE TO THE TRAFFIC SIGNAL CONTROLLER OR INTERCONNECT CABLE SHALL BE REPAIRED BY CITY FORCES. ALL COSTS ASSOCIATED WITH SERVICES PROVIDED BY CITY FORCES WILL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR.

THE CONTRACTOR SHALL NOTIFY THE CITY OF TOLEDO DIVISION OF TRAFFIC MANAGEMENT IMMEDIATELY OF ANY DISRUPTION TO THE OPERATION OF ANY EXISTING TRAFFIC SIGNAL. WHERE THE CONTRACTOR HAS FAILED OR CANNOT RESPOND TO DISRUPTION TO AN EXISTING TRAFFIC SIGNAL IMMEDIATELY, THE ENGINEER MAY INVOKE THE PROVISIONS OF SECTION 105.15 AND ANY SUBSEQUENT BILLINGS TO THE STATE OF OHIO OR THE CITY OF TOLEDO FOR POLICE SERVICES AND MAINTENANCE SERVICES BY CITY FORCES SHALL BE DEDUCTED FROM MONIES DUE OR TO BECOME DUE THE CONTRACTOR.

COORDINATION OF ACTIVITIES

ALL WORK SHALL BE COORDINATED WITH THE CITY OF TOLEDO. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE ACTIVITIES TO ENSURE SMOOTH TRANSITION OF OPERATION FROM THE EXISTING SIGNAL HEADS TO THE NEW SIGNAL HEADS.

A REPRESENTATIVE OF THE CITY OF TOLEDO DIVISION OF TRAFFIC MANAGEMENT SHALL BE PRESENT AT ALL LOCATIONS WHERE VEHICULAR AND/OR PEDESTRIAN SIGNAL HEADS ARE BEING REPLACED DURING NORMAL SIGNAL OPERATION. IN THE EVENT THAT THE CONTRACTOR DESIRES TO REPLACE SIGNAL HEADS UNDER FLASH OR "ALL–OUT" CONDITION, THIS WORK SHALL BE ARRANGED, IN ADVANCE, WITH THE DIVISION OF TRAFFIC MANAGEMENT.

THE CONTRACTOR SHALL NOTIFY THE DIVISION OF TRAFFIC MANAGEMENT BY PHONE (419–245–1300) AND IN WRITING VIA EMAIL TO shawn.comes@toledo.oh.gov, john.cromly@toledo.oh.gov, kevin.mangan@toledo.oh.gov, & william.brown@toledo.oh.gov AT LEAST SEVEN (7) DAYS IN ADVANCE OF ANY AND ALL SCHEDULED WORK ON THIS PROJECT.

COORDINATION OF ACTIVITIES (FIBER)

ALL WORK SHALL BE COORDINATED WITH THE CITY OF TOLEDO. THE CONTRACTOR SHALL BE REQUIRED TO COORDINATE ACTIVITIES TO ENSURE SMOOTH TRANSITION FROM THE EXISTING TWISTED WIRE PAIR COMMUNICATIONS TO THE FIBER OPTIC COMMUNICATIONS. THE CITY SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO ANY AND ALL SCHEDULED WORK ON THIS PROJECT.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE UNDERGROUND CONSTRUCTION ACTIVITIES ON A CONTINUING BASIS WITH EACH OF THE UTILITY AGENCIES THAT HAVE FACILITIES IN THE IMMEDIATE VICINITY OF THE PROJECT AREA.

SCHEDULE OF WORK AND PROGRESS MEETINGS

THE CONTRACTOR SHALL WORK WITH ODOT AND THE CITY TO PREPARE A SCHEDULE OF WORK IN ACCORDANCE WITH THE REQUIREMENTS OF 108.02 THAT SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE CONTRACTOR SHALL PROVIDE THE CITY WITH AN ESTIMATED TIME OF DELIVERY FOR THE TRAFFIC CONTROLLER ASSEMBLIES.

THE CONTRACTOR SHALL ATTEND MONTHLY PROGRESS MEETINGS. AT EACH MEETING, THE CONTRACTOR SHALL PRESENT A WRITTEN PROGRESS REPORT AND PROJECT SCHEDULE, GIVING DETAILS OF THE CURRENT STATE OF THE CONTRACT WITH REFERENCE TO CURRENT AND PREVIOUS PROGRESS CHARTS.

WORK ITEMS

THE CONTRACTOR WILL BE REQUIRED TO PERFORM THE FOLLOWING AS PART OF THIS PROJECT:

- FURNISH AND INSTALL SIGNAL POLES AND ARMS, CONDUIT, SIGNAL CABLE, VEHICULAR AND PEDESTRIAN SIGNAL HEADS, PULLBOXES, POLE FOUNDATIONS, PEDESTAL FOUNDATIONS, VIDEO DETECTION SYSTEMS, AND GROUND RODS AT SPECIFIED LOCATIONS.
- SPLICE SIGNAL CABLE INTO VEHICULAR AND PEDESTRIAN HEADS.
- REMOVE ITEMS IDENTIFIED IN THE PLANS; SALVAGE AND DELIVER POLES AND ARMS TO THE CITY OF TOLEDO POLE YARD (200 S. ELMDALE, TOLEDO, OHIO) AND ALL OTHER ITEMS TO THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT (110 N. WESTWOOD, TOLEDO, OHIO).
- REMOVE EXISTING SIGNS; SALVAGE AND DELIVER TO THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT (110 N. WESTWOOD, TOLEDO, OHIO).

CITY OF TOLEDO WORK ITEMS

THE CITY OF TOLEDO WILL BE RESPONSIBLE FOR THE FOLLOWING ITEMS OF WORK IN CONJUNCTION WITH THIS PROJECT:

- SPLICE CABLE IN POLE BASES AND CONTROLLERS.
- INSTALL CABINET HARDWARE FOR VIDEO DETECTION SYSTEMS.
- TERMINATE CABLE IN CONTROLLER CABINETS.

STANDARD SPECIFICATIONS

EXCEPT AS OTHERWISE SPECIFICALLY REQUIRED BY THE PLANS AND SPECIAL PROVISIONS, ALL WORK ON THIS PROJECT SHALL FULLY COMPLY WITH THE MOST RECENT VERSION OF THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT, STANDARD DRAWINGS (HEREIN REFERRED TO AS "STANDARD DRAWINGS") AND THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIAL SPECIFICATIONS, 2023 EDITION (HEREIN REFERRED TO AS "SPECIFICATIONS").

THE CONTRACTOR SHALL AT ALL TIMES PERFORM HIS WORK IN A NEAT AND PROPER MANNER, IN ACCORDANCE WITH THE HIGHEST DEGREE OF WORKMANSHIP AS ACCEPTED IN THE INDUSTRY. THE ENGINEER MAY REFUSE WORK, WHICH, IN HIS OPINION, DOES NOT MEET THESE REQUIREMENTS AND IS CONSIDERED OF UNSATISFACTORY QUALITY. IN SUCH CASES, THE CONTRACTOR SHALL THEN REMOVE THE DEFICIENT WORK AND REPLACE IT WITH WORK OF SPECIFIED QUALITY AT NO ADDITIONAL EXPENSE TO THE CITY.

COMPLIANCE WITH OTHER SPECIFICATIONS AND STANDARDS

ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REQUIREMENTS OF:

- THE OMUTCD
- THE NATIONAL MUTCD
- NATIONAL ELECTRICAL CODE (NEC)
- NATIONAL ELECTRICAL SAFETY CODE (NESC)
- ASTM STANDARDS
- ANSI STANDARDS
- IMSA STANDARDS
- APPLICABLE CITY CODES AND ORDINANCES.

ALL ELECTRICAL EQUIPMENT SHALL CONFORM TO THE FOLLOWING, WHEREVER APPLICABLE:

- NEMA STANDARDS PUBLICATIONS TS 1–1989 (R–1994), TS 2–1992, TS 3.1–1996, TS 3.2–1996, AND TS 3.3–1996
- UL STANDARDS
- ELECTRONIC INDUSTRIES ASSOCIATION (EIA) STANDARDS.

WHEREVER REFERENCE IS MADE TO ANY SUCH SPECIFICATION, MANUAL, CODE, OR STANDARD, THE REFERENCE SHALL BE CONSTRUED TO MEAN THE VERSION, AS REVISED, THAT IS IN EFFECT ON THE DATE OF ISSUANCE OF THIS PROJECT.

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY AS REQUIRED BY SECTION 153.64 ORC.

UTILITIES NOTIFICATION

AT LEAST TWO WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION OPERATIONS IN AN AREA WHICH MAY INVOLVE UNDERGROUND UTILITY FACILITIES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER, THE REGISTERED UTILITY PROTECTION SERVICE AND THE OWNERS OF EACH UNDERGROUND UTILITY FACILITY SHOWN IN THE PLANS.

THE OWNER OF THE UNDERGROUND UTILITY FACILITY SHALL, WITHIN FORTY–EIGHT (48) HOURS, EXCLUDING SATURDAYS, SUNDAYS AND LEGAL HOLIDAYS, AFTER NOTICE IS RECEIVED, STAKE, MARK OR OTHERWISE DESIGNATE THE LOCATION OF THE UNDERGROUND UTILITY FACILITIES IN THE CONSTRUCTION AREA IN SUCH A MANNER AS TO INDICATE THEIR COURSE TOGETHER WITH THE APPROXIMATE DEPTH AT WHICH THEY WERE INSTALLED. THE MARKING OR LOCATING SHALL BE COORDINATED TO STAY APPROXIMATELY TWO DAYS AHEAD OF THE PLANNED CONSTRUCTION.

UTILITY OWNERSHIP

THE FOLLOWING UTILITIES AND OWNERS ARE LOCATED WITHIN THE WORK LIMITS OF THIS PROJECT:

OHIO UTILITIES PROTECTION SERVICE (REGISTERED UTILITY PROTECTION SERVICE)
4740 BELMONT AVENUE
YOUNGSTOWN, OHIO 44505–1014
800–362–2764

COLUMBIA GAS OF OHIO, INC.
333 SOUTH ERIE STREET
TOLEDO, OHIO 43602
419–252–8114

AMERITECH (INCLUDING AT&T FACILITIES)
130 NORTH ERIE STREET, 2ND FLOOR
TOLEDO, OHIO 43624
419–537–6798

TOLEDO EDISON COMPANY (ELECTRIC AND STEAM)
MAIL STOP 1832
300 MADISON AVENUE
TOLEDO, OHIO 43652
419–249–5218

NATIONAL SUPPORT/INVESTIGATIONS
DEPT 2855 LOC 642
2250 LAKESIDE BLVD.
RICHARDSON, TEXAS 75082
972–656–5038

BUCKEYE BROADBAND
2700 OREGON ROAD
NORTHWOOD, OHIO 43619
419–724–3713

CITY OF TOLEDO
DIVISION OF TRAFFIC MANAGEMENT
110 N. WESTWOOD
TOLEDO, OHIO 43607
419–245–1300 (SIGNALS AND FIRE & POLICE COMMUNICATIONS)

CITY OF TOLEDO – DIVISION OF ENGINEERING SERVICES
600 JEFFERSON AVENUE
SUITE 300
TOLEDO, OHIO 43604
419–245–1315

CITY OF TOLEDO – DIVISION OF WATER DISTRIBUTION
401 SOUTH ERIE STREET
TOLEDO, OHIO 43602
419–936–2849

MAINTAINING TRAFFIC, AS PER PLAN

TRAFFIC SHALL BE MAINTAINED TO RESIDENTS AND BUSINESSES AT TIMES AND ALL SIGNAGE NECESSARY SHALL BE PROVIDED BY THE CONTRACTOR UNDER ITEM 614–MAINTAINING TRAFFIC.

ANY CLOSURES THAT WILL REQUIRE A DETOUR TO SET, EITHER PLANNED OR UNPLANNED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY APPROVED WEEKEND CLOSURES SHALL OCCUR BETWEEN THE HOURS OF FRIDAY, 8 PM TO MONDAY, 6 AM. ALL CLOSURES SHALL BE APPROVED BY THE DIVISION OF TRAFFIC MANAGEMENT.

NOTIFICATION OF TRAFFIC RESTRICTION

PRIOR TO CLOSING ANY STREET OR TRAFFIC LANE, THE CONTRACTOR SHALL NOTIFY THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT, AT (419)–245–1300 OR BY EMAIL AT shawn.comes@toledo.oh.gov AT LEAST SEVEN (7) DAYS PRIOR TO STARTING WORK. NOTIFICATION OF TRAFFIC RESTRICTION SHALL COMPLY WITH REQUIREMENTS AS OUTLINE IN THE TRAFFIC ENGINEERING MANUAL PART 642–8 AND 642–58.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL AND TC SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.

   A. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
   B. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.051), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   C. METALLIC CONDUIT CARRYING THE LOOP WIRES FROM IN THE PAVEMENT TO THE PULL BOX SPLICE LOCATION WILL ONLY BE BONDED AT THE PULL BOX END, AND WILL NOT CONTAIN AN EQUIPMENT GROUNDING CONDUCTOR.
   D. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL–30.11.
   E. IF MULTIPLE CONDUIT RUNS BEGIN AND END AT THE SAME POINTS, ONLY ONE EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED.
   F. IF AN EQUIPMENT GROUNDING CONDUCTOR IS NEEDED IN CONDUIT BETWEEN SIGNALIZED INTERSECTIONS FOR UNDERGROUND INTERCONNECT CABLE, THE GROUNDING SYSTEM FOR EACH SIGNALIZED INTERSECTION WILL BE SEPARATED ABOUT MIDWAY BETWEEN THE INTERSECTIONS.
   G. THE MESSENGER WIRE AT SIGNALIZED INTERSECTIONS WILL BE USED AS THE CONDUCTIVE PATH FROM CORNER TO CORNER IF CONDUIT IS NOT PROVIDED UNDER THE ROADWAY. WHEN CONDUIT CONNECTS THE CORNERS OF AN INTERSECTION, AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE USED IN THE CONDUIT.

2. CONDUITS

   A. THE 725.051 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   B. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   C. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.

3. WIRE FOR GROUNDING AND BONDING

   A. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS:

   – USE 4 AWG BETWEEN THE POWER SERVICE AND SUPPORTS, POLES, PEDESTALS, CONTROLLER OR FLASHER CABINETS.
   – USE A MINIMUM 8 AWG BETWEEN LOOP DETECTOR PULL BOXES AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.i ABOVE.
   – USE A MINIMUM 8 AWG BETWEEN THE "PREPARE TO STOP WHEN FLASHING" INSTALLATION (INCLUDING SUPPORT) AND THE FIRST CONDUIT THAT REQUIRES A LARGER SIZE AS SPECIFIED IN 3.A.i ABOVE.
   – THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.

   B. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.

4. GROUND ROD

   A. A ¾" SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   B. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.

5. POWER SERVICE AND DISCONNECT SWITCH

   A. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC–) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
   B. THE SERVICE NEUTRAL (AC–) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.
      i. NEMA CONTROLLER CABINETS: IF A POWER SERVICE DISCONNECT SWITCH IS DISCONNECT SWITCH IS LOCATED BEFORE THE CONTROLLER CABINET, THE NEUTRAL (AC–) AND THE GROUNDING BARS IN THE CONTROLLER CABINET SHALL NOT BE CONNECTED TOGETHER AS SHOWN IN NEMA TS–2, FIGURE 5–4.
      ii. IF SECONDARY DISCONNECT SWITCHES ARE CONNECTED AFTER THE PRIMARY DISCONNECT SWITCH, THE NEUTRAL (AC–) SHALL ONLY BE GROUNDED AT THE PRIMARY SWITCH. EQUIPMENT GROUNDING CONDUCTORS SHALL BE BROUGHT TO THE PRIMARY SWITCH BUT SHALL BE GROUNDED AT BOTH SECONDARY AND PRIMARY SWITCHES.

6. STRUCTURE GROUNDING: HL–50.21 SHOWS A 1/0 AWG STRANDED COPPER CABLE USED FOR STRUCTURE GROUNDING. ADDITIONALLY, THIS SAME CABLE SHALL BE INSULATED AND ANY CONNECTIONS AND BARE COPPER STRANDS EXPOSED TO CONCRETE SHALL BE COVERED WITH MASTIC TO PREVENT CONTACT WITH THE CONCRETE.

7. PAYMENT
   A. ALL MATERIALS AND WORK REQUIRED TO COMPLETE THE EFFECTIVE GROUND FAULT CURRENT PATH SYSTEM ARE INCIDENTAL TO THE CONDUCTORS INSTALLED BY CONTRACT

WORK ON BRIDGES MAY BE INCLUDED IN THE BID ITEM FOR "ITEM 625, STRUCTURE GROUNDING". IN A 3–WIRE HIGHWAY LIGHTING SYSTEM, THE THIRD CONDUCTOR OF THE DUCT CABLE OR DISTRIBUTING CABLE WILL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR AND MAY AS SUCH BE APART OF THE CABLE BID ITEM.

FIBER OPTIC SPECIFICATIONS - GENERAL REQUIREMENTS

THE FOLLOWING PROVIDES THE MINIMUM STANDARDS AND QUALIFICATIONS NECESSARY TO PROVIDE A FIBER OPTIC COMMUNICATION LINK BETWEEN INTERSECTIONS IN AN INTERCONNECTED TRAFFIC SIGNAL SYSTEM. THE CONTRACTOR SHOULD ALSO REFERENCE THE NOTES REGARDING REMOVAL OF EXISTING CABLE AND CLEANING OF CONDUIT AND/OR DUCT ON SHEET 7.

MATERIALS AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF A MANUFACTURER REGULARLY ENGAGED IN THE MANUFACTURE OF PRODUCTS USED FOR OUTDOOR FIBER OPTIC SYSTEM INSTALLATIONS. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW, OF FIRST QUALITY, OF LATEST DESIGN AND BE COMPLETELY FREE FROM DEFECTS IN MATERIAL AND POOR WORKMANSHIP. ALL LIKE PIECES OF EQUIPMENT SHALL BE OF THE SAME TYPE AND MANUFACTURER TO ASSURE UNIFORMITY, INTERCHANGEABILITY OF COMPONENTS, SINGLE RESPONSIBILITY, AND MOST SATISFACTORY SERVICE.

EACH MAJOR COMPONENT OF EQUIPMENT SHALL HAVE THE MANUFACTURER'S NAME, ADDRESS, TYPE OR STYLE, MODEL OR SERIAL NUMBER AND CATALOG NUMBER ON A PLATE SECURED TO THE EQUIPMENT.

THE FIBER OPTIC INSTALLATION SHALL BE IN ACCORDANCE WITH OR EXCEED ALL MINIMAL REQUIREMENTS OF STATE CODES, NATIONAL CODES AND MANUFACTURER CODES AS APPLICABLE. CONSTRUCTION TECHNIQUES SHALL CONFORM TO THE FOLLOWING IN ORDER OF PRECEDENCE. (1) THESE STANDARDS, SPECIFICATIONS AND SPECIAL PROVISIONS; (2) CABLE MANUFACTURER; (3) ACCEPTED INDUSTRY PRACTICES.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY MISCELLANEOUS EQUIPMENT TO MAKE A COMPLETE AND OPERATING SYSTEM. THE COST FOR ALL MATERIALS AND LABOR NOT SPECIFICALLY ITEMIZED SHALL BE CONSIDERED INCIDENTAL TO THE VARIOUS ITEMS OF WORK.

APPLICABLE STANDARDS

MATERIALS AND EQUIPMENT SUPPLIED AS PART OF THE FIBER OPTIC SYSTEM SHALL COMPLY WITH THE LATEST ISSUE OF THE FOLLOWING DOCUMENTS:

- RUS RURAL UTILITY SERVICE MATERIAL ACCEPTANCE LIST
- REA SPECIFICATIONS FOR FILLED FIBER OPTIC CABLES
- EIA–STD–RS–455 STANDARD TEST PROCEDURES FOR FIBER OPTIC FIBERS, CABLES, TRANSDUCERS, CONNECTING AND TERMINATING DEVICES
- MIL–STD–202 TEST METHODS FOR ELECTRONIC AND ELECTRICAL COMPONENT PARTS
- MIL–STD–454 STANDARD GENERAL REQUIREMENTS FOR ELECTRONIC EQUIPMENT
- MIL–STD–810 ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES
- EIA/TIA–598 TUBE AND FIBER COLOR CODE
- EIA–568–A FIBER OPTIC CABLE TESTING PROCEDURES
- NFPA–70–1993 NATIONAL ELECTRICAL CODE ARTICLE 770, OPTICAL FIBER CABLE.

CONTRACTOR QUALIFICATIONS

IN ADDITION TO THE PRE–QUALIFICATION REQUIREMENTS SET FORTH IN THE STATE OF OHIO CONSTRUCTION MATERIAL SPECIFICATIONS (CMS), SECTION 102.01, THE FOLLOWING QUALIFICATION REQUIREMENTS SHALL APPLY TO THE FIBER OPTIC CONTRACT WORK. ALL BIDDERS SHALL SUBMIT DOCUMENTATION WITH THEIR BIDS SHOWING THEIR ABILITY TO COMPLY WITH THE FOLLOWING SUPERVISING FIBER OPTIC TECHNICIAN PERSONNEL REQUIREMENTS. FAILURE TO SUBMIT THIS DOCUMENTATION WITH BIDS WILL RESULT IN THE BIDDER BEING CONSIDERED NON–RESPONSIVE AND MAY BE GROUNDS FOR THE BIDDER BEING DISQUALIFIED AT THE DISCRETION OF THE CITY OF TOLEDO AND OHIO DEPARTMENT OF TRAFFIC MANAGEMENT. TECHNICIANS OTHER THAN THE SUPERVISING FIBER OPTIC TECHNICIAN SHALL SHOW PROOF OF MEETING THEIR PERSONNEL REQUIREMENTS PRIOR TO THE BEGINNING OF ANY FIBER OPTIC RELATED INTERCONNECTION WORK. FAILURE TO PROVIDE THIS PROOF TO THE ENGINEER WILL RESULT IN A HALT BEING PLACED UPON INTERCONNECTION WORK UNTIL SUCH A TIME THAT PROOF OF MEETING TECHNICIAN PERSONNEL REQUIREMENTS IS MET.

FIBER OPTIC CONTRACTOR QUALIFICATIONS

ANY PROJECT REQUIRING THE OPENING OF THE FIBER OPTIC CABLE JACKET, INSTALLATION OF FIBER OPTIC CONNECTORS, SPLICING FIBERS, OR THE TESTING OF ANY FIBER OPTIC CABLE, DROP CABLE, OR PATCH CORDS SHALL HAVE AT LEAST ONE SUPERVISING FIBER OPTIC TECHNICIAN (SFOT) ASSIGNED TO IT. SUPERVISING FIBER OPTIC TECHNICIANS SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS.

4. SUPERVISING FIBER OPTIC TECHNICIANS (SFOT) SHALL HAVE ATTENDED AND SUCCESSFULLY COMPLETED AT LEAST ONE COMPREHENSIVE "INSTALLATION OF FIBER OPTIC PRODUCTS SCHOOL". THIS SCHOOL WILL BE CONDUCTED BY A MAJOR MANUFACTURER OF FIBER OPTIC PRODUCTS OR AN APPROVED INDEPENDENT SCHOOL THAT ENCOMPASSES ALL ASPECTS OF FIBER OPTIC TECHNICIAN CERTIFICATION.
5. SFOT'S SHALL BE ABLE TO DOCUMENT A MINIMUM OF ONE YEAR OF WORK EXPERIENCE WHERE THE SPLICING, TERMINATION, AND TESTING OF FIBER OPTIC CABLE WITH AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) AND POWER METER WAS A PRIMARY JOB RESPONSIBILITY.
6. THE SFOT SHALL BE ON THE JOB SITE SUPERVISING OTHER TECHNICIANS AT LEAST THE FIRST THREE DAYS OF EACH OF THE FOLLOWING ACTIVITIES: CABLE PULLING; REMOVAL OF CABLE JACKETS; CABLE SPLICING; INSTALLATION OF FAN–OUT KITS AND CONNECTORS. THE SFOT SHALL SUPERVISE A MINIMUM OF THE FIRST THREE DAYS ACTIVITIES OF EACH OF THE ABOVE LISTED ACTIVITIES TO MAKE SURE THE OTHER TECHNICIANS ARE PERFORMING THEIR WORK ASSIGNMENTS CORRECTLY.
7. THE SFOT SHALL ALSO BE PRESENT TO REVIEW THE ENTIRE INSTALLATION BEFORE

TRAFFIC CONTROL NOTES

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
-

REVIEWER
-

COT PROJ. ID
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SHEET 244 TOTAL 345

S1
11

TRAFFIC CONTROL NOTES (CONTINUED)

COMPLETION.

TECHNICIANS, OTHER THAN THE SFOT, PERFORMING FIBER WORK SUCH AS CABLE CLEANING, SPLICING, CONNECTORIZING AND TERMINATIONS SHALL HAVE SUCCESSFULLY COMPLETED A MINIMUM OF ONE 16–HOUR FIBER OPTIC CABLE INSTALLATION COURSE FROM A MAJOR CABLE MANUFACTURER OR APPROVED INDEPENDENT SCHOOL.

ALL FIBER OPTIC TECHNICIANS SHALL CARRY EVIDENCE OF THEIR QUALIFICATIONS ON THEIR PERSON AT ALL TIMES WHEN WORKING ON THE PROJECT.

GENERAL SYSTEM CONSTRUCTION

ENTRY INTO CONTROLLER CABINETS FROM THE TRUNK CABLE SHALL BE MADE VIA THE SPECIFIED DROP CABLE. THE DROP CABLE WILL BE SPLICED TO THE TRUNK CABLE IN A SPECIFIED SPLICE ENCLOSURE. THE DROP CABLE INSIDE OF THE CABINET SHALL BE FITTED WITH A FAN–OUT KIT AND THE FAN–OUT KIT SHALL BE CONNECTORIZED AND TERMINATED IN THE SPECIFIED TERMINATION PANEL. A FOUR (4) FIBER PATCH CORD SHALL CONNECT THE DROP CABLE FIBERS IN THE TERMINATION PANEL TO THE FIBER OPTIC TRANSCEIVER.

CABLE INSTALLATION

FIBER OPTIC CABLE SHALL BE INSTALLED IN CONDUIT WHERE SHOWN IN THE PLANS. THE INSTALLATION TECHNIQUES SHALL BE SUCH THAT THE ELECTRICAL, OPTICAL, AND MECHANICAL CHARACTERISTICS OF THE CABLE ARE NOT DEGRADED. UNLESS OTHERWISE APPROVED BY THE ENGINEER, THE EQUIPMENT USED AND THE PROCEDURES FOLLOWED SHALL BE THOSE SPECIFIED BY THE MANUFACTURER OF THE CABLE. THE CABLE SHALL BE INSTALLED IN SUCH A WAY THAT NEITHER THE MINIMUM BENDING RADIUS NOR THE MAXIMUM PULLING TENSION IS VIOLATED BEFORE, DURING, OR AFTER INSTALLATION.

FIBER OPTIC CABLE SHALL BE INSTALLED AND CONNECTED TO THE PROPER EQUIPMENT TO PRODUCE A COMPLETE NETWORK SUITABLE FOR OPERATING THE TRAFFIC SIGNAL SYSTEM AS DEFINED IN THE PLANS, SPECIAL PROVISIONS, AND THE STANDARD SPECIFICATIONS.

THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO ENSURE THAT THE CABLE IS NOT DAMAGED DURING STORAGE AND INSTALLATION. THE CABLE SHALL NOT BE STEPPED ON BY WORKERS NOR RUN OVER BY ANY VEHICLE OR EQUIPMENT. THE CABLE SHALL NOT BE PULLED ALONG THE GROUND OR OVER OR AROUND OBSTRUCTIONS. ALL CABLES THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR. THE CONTRACTOR WILL NOT BE REIMBURSED FOR CABLE REINSTALLATION.

BEFORE ANY CABLE INSTALLATION IN CONDUIT IS PERFORMED, THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH FOUR (4) COPIES OF THE CABLE MANUFACTURER'S RECOMMENDED AND MAXIMUM PULLING TENSIONS FOR EACH CABLE SIZE. INCLUDED WITH THESE PULLING TENSIONS SHALL BE A LIST OF THE CABLE MANUFACTURER'S APPROVED PULLING LUBRICANTS. ONLY THOSE LUBRICANTS RECOMMENDED BY THE CABLE MANUFACTURER AND APPROVED BY THE ENGINEER, SHALL BE USED. THE ENGINEER MUST APPROVE THE CABLE PULLING LUBRICANT AND METHOD OF PULLING PRIOR TO THE INSTALLATION OF UNDERGROUND CABLE.

FIBER OPTIC CABLE SHALL NOT BE PULLED OVER EDGES OR CORNERS, OVER OR AROUND OBSTRUCTIONS, OR THROUGH UNNECESSARY CURVES OR BENDS. APPROVED CABLE GUIDES, FEEDERS, SHOES AND BUSHINGS SHALL BE USED TO PREVENT DAMAGE TO THE CABLE DURING INSTALLATION.

THE INSTALLATION OF FIBER OPTIC CABLE IN CONDUIT SHALL COMPLY WITH THE NO LOAD AND APPLIED LOAD BEND RADII SPECIFIED BELOW.

MINIMUM BEND RADIUS:

- 10 X CABLE DIAMETER UNDER NO LOAD (0–180LBS) (0–82KGS)
- 20 X CABLE DIAMETER UNDER APPLIED LOAD (181 LBS – 400 LBS)(83KGS–182KGS)
- MINIMUM BEND DIAMETER IS 2X MINIMUM BEND RADIUS

NO FIBER OPTIC CABLE SHALL BE INSTALLED PRIOR TO THE ENGINEER ACKNOWLEDGING THE CABLE DELIVERED TO THE PROJECT IS ACCEPTABLE BASED UPON THE CONTRACTOR COMPLETING THE PRE–INSTALLATION TESTING GIVEN IN THESE SPECIFICATIONS.

FIBER OPTIC CABLE INSTALLED IN CONDUIT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

- NO MORE THAN TWO 90 DEGREE CHANGES IN DIRECTION PER CABLE PULL.
- CIRCUITOUS PULLS AND PULLS EXCEEDING 1000 FEET (300 METER) SHALL BE MADE BY BACK FEEDING OR CENTER FEEDING OF CABLE.
- AFTER INSTALLATION THERE SHALL BE NO TENSION EXCEPT DUE TO CABLE WEIGHT.
- TENSION OF CABLE SHALL BE MONITORED WITH A TENSIOMETER DURING INSTALLATION.
- WHEN INSTALLING THE CABLE IN UNDERGROUND CONDUIT, THE MAXIMUM ALLOWABLE PULLING TENSION FOR THE CABLE INSTALLATION BY THE CONTRACTOR SHALL BE 70 PERCENT OF THE MANUFACTURER'S MAXIMUM PULLING TENSION. IF THE CABLE IS PULLED BY MECHANICAL MEANS, A CLUTCH DEVICE APPROVED BY THE ENGINEER SHALL BE USED TO ENSURE THAT A MAXIMUM ALLOWABLE PULLING TENSION IS NOT EXCEEDED AT ANY TIME DURING INSTALLATION.
- THE CENTRAL STRENGTH MEMBER AND THE ARAMID YARN SHALL BE DIRECTLY ATTACHED TO THE PULLING EYE. "BASKET GRIP" OR "CHINESE FINGER" TYPE ATTACHMENTS TO THE OUTER JACKET OF THE CABLE WILL NOT BE PERMITTED. A BREAKAWAY SWIVEL SHALL BE USED ON ALL PULLS.

CABLE RUNS SHALL BE CONTINUOUS BETWEEN ALLOWABLE SPLICE AND TERMINATION POINTS IN CONTROLLER CABINETS AND MULTIPLEXER CABINETS. THE CONTRACTOR SHALL CAREFULLY DETERMINE THE LENGTH OF CABLE NECESSARY TO REACH FROM TERMINATION POINT TO TERMINATION POINT.

CABLE SHALL NOT BE PULLED THROUGH ANY POLE BASE, UNLESS SPECIFIED, OR THROUGH ANY OTHER OPENING IN THE CONDUIT. THE NECESSARY LENGTH OF CABLE TO BE INSTALLED SHALL BE PULLED FROM ONE PULLBOX, CONTROLLER CABINET, OR MULTIPLEXER CABINET TO THE IMMEDIATE NEXT DOWNSTREAM PULLBOX, CONTROLLER CABINET OR MULTIPLEXER CABINET. THE REMAINING LENGTH OF CABLE TO BE INSTALLED IN THE NEXT CONDUIT SHALL BE CAREFULLY STORED IN A MANNER THAT IS NOT HAZARDOUS TO PEDESTRIAN OR VEHICULAR TRAFFIC YET ENSURES THAT NO DAMAGE TO THE CABLE SHALL OCCUR. THE CABLE SHALL BE STORED IN A MANNER THAT SHALL ALLOW THAT LENGTH OF CABLE TO BE SAFELY PULLED INTO THE NEXT CONDUIT. THE ENGINEER SHALL APPROVE THE STORING METHODS TO BE USED.

SPLICING

THE CONTRACTOR SHALL DEVELOP A PROPOSED PLAN INDICATING WHERE HE WILL SPLICE CABLE AND WHICH FIBERS OR PAIRS WILL BE SPLICED AT EACH LOCATION. THE FIBER SPLICING PLAN SHALL INCLUDE SIGNAL LOSS COMPUTATIONS FOR EACH FIBER LINK DEMONSTRATING THAT THE PLAN DOES NOT RESULT IN SIGNAL ATTENUATION EXCEEDING 80% OF THE RECOMMENDED OPTICAL BUDGET FOR THE OPTICAL TRANSMITTERS AND RECEIVERS USING THE LINK.

SPLICES SHALL ONLY BE MADE WITHIN SPLICE CABINETS, CONTROLLER CABINETS, OR IN SPLICE ENCLOSURES WITHIN PULLBOXES AS INDICATED IN THE SPECIFICATIONS. ALL FIBER OPTIC SPLICES, EXCEPT AS SPECIFICALLY NOTED IN THESE PLANS, SHALL BE FUSION SPLICES. SPLICES, INCLUDING SPLICES IN CONDUIT, POLE BASES OR PULLBOXES, WILL NOT BE PERMITTED UNLESS THEY ARE SHOWN IN A SPLICE PLAN WHICH MUST BE APPROVED BY THE ENGINEER BEFORE INSTALLATION OF THE CABLE MAY BEGIN.

THE AVERAGE SPLICE LOSS OF ANY SPLICE, WHETHER FUSION OR MECHANICAL, FOR EACH FIBER SHALL NOT EXCEED 0.2 DB (PER EIA–568–A). THE AVERAGE SPLICE LOSS IS DEFINED AS THE SUMMATION OF THE LOSS AS MEASURED IN BOTH DIRECTIONS USING AN OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) THROUGH THE SPLICE, DIVIDED BY TWO.

FUSION SPLICES REQUIRE ADEQUATE SPLICE PROTECTION. WHEN SPLICING OUTDOORS, THE SPLICED AND STRIPPED CABLE SHALL BE PROTECTED BY A SPLICE ENCLOSURE. ALL FIBER SPLICES ARE HOUSED IN SPLICE TRAYS OR ORGANIZERS INSIDE A CLOSURE. THE PROPER SPLICE TRAY SHALL BE SELECTED BASED ON THE TYPE OF PROTECTION REQUIRED BY THE SPLICE. FUSION SPLICES, REQUIRE ADDITIONAL PROTECTION AND STRAIN RELIEF WHICH CAN BE PROVIDED BY GLASS CAPILLARIES, HEAT SHRINK TUBING, OR SILICONE SEALANT (COMMONLY REFERRED TO AS RTV).

WHEN MECHANICAL SPLICES REQUIRE STORING, A MECHANICAL SPLICE TRAY ORGANIZER SHALL BE USED.

MECHANICAL SPLICES SHALL BE MADE USING 3M FIBRLOK SPLICING KITS OR APPROVED EQUAL.

FIBER OPTIC SPLICES WITHIN SPLICE CABINETS OR PULLBOXES MUST BE HOUSED IN A FIBER OPTIC SPLICE ENCLOSURE AS DEFINED IN THESE SPECIFICATIONS.

THE METHOD OF JOINING TWO REELS OF FIBER OPTIC CABLE SHALL BE FUSION SPLICING ALL OF THE TRUNK CABLE FIBERS OF ONE REEL TO THE CORRESPONDING FIBERS IN THE SECOND REEL. ALL SPLICES FOR JOINING TWO FIBER REELS OF TRUNK CABLE TOGETHER SHALL BE MADE IN THE SPLICE ENCLOSURE AT THE LAST INTERSECTION THE FIBER OPTIC CABLE PASSED THROUGH. IN OTHER WORDS, WHEN A REEL RUNS OUT OF CABLE, ANY EXCESS BEYOND THE LAST TRAFFIC SIGNAL INTERSECTION SPLICE POINT SHALL BE CUT OFF AND DISPOSED OF BY THE CONTRACTOR. THE SPLICE JOINING THE TWO CABLE REELS TOGETHER SHALL BE MADE IN THE INTERSECTION SPLICE ENCLOSURE THAT CONTAINS THE DROP CABLE TO TRUNK CABLE SPLICE. COST FOR THE QUANTITY OF CUT OFF FIBER OPTIC CABLE AND FOR ALL SPLICES REQUIRED TO INSTALL THE DROP CABLE PER THESE SPECIFICATIONS SHALL BE INCIDENTAL TO THE COST OF THE FIBER OPTIC CABLE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALCULATE HIS COST TO JOIN FIBER OPTIC REELS ON THE PROJECT BASED UPON THE REEL LENGTHS THAT HE ORDERS. WHERE INTERCONNECT SYSTEM LENGTH PERMITS, THE CONTRACTOR CAN AVOID THE COST OF JOINING CABLE REELS TOGETHER BY ORDERING A SINGLE REEL OF SUFFICIENT LENGTH TO EXTEND FROM ONE END OF PROJECT TO THE OTHER.

THE ONLY PLACE WHERE FIBERS THAT ARE NOT USED FOR INTERCONNECTION CAN BE CUT IS WHERE IT IS NECESSARY TO SPLICE TWO REELS OF CABLE TOGETHER. THIS PRACTICE OF CUTTING UNUSED FIBERS SHALL BE KEPT TO A MINIMUM AND SHALL NOT OCCUR MORE THAN ONCE PER EVERY MILE

CABLE CLEANING

LOOSE TUBE CABLE WILL REQUIRE THE CONTRACTOR TO USE A DE–GEL SOLVENT TO REMOVE WATER BLOCKING GEL FROM EXPOSED FIBERS AND/OR BUFFER TUBES PRIOR TO SPLICING OR TERMINATION OF EACH FIBER. THE SOLVENT CHOSEN FOR THIS TASK SHALL DISSOLVE THE GEL AND ALLOW FOR A COMPLETE REMOVAL OF ALL SOLVENT RESIDUE. THE SOLVENT SHALL NOT REMOVE ANY OF THE COLOR FROM INDIVIDUAL FIBER OR BUFFER TUBES AND SHALL NOT PROVE HARMFUL TO THE OUTER PE JACKET OF THE CABLE ITSELF. 3M'S PART NUMBER 4414 "FILLED CABLE CLEANING KIT" OR APPROVED EQUAL SHALL BE UTILIZED AT EVERY OPENING OF THE CABLE. COST FOR DE–GEL SOLVENT AND CLEANING OF FIBERS SHALL BE INCIDENTAL TO THE COST OF THE CABLE.

TERMINATING IN CABINETS

THE CONTRACTOR SHALL TERMINATE FIBER OPTIC CABLE ONLY IN EQUIPMENT CABINETS, MULTIPLEXER NODES, SPLICE CABINETS, AND AT THE CER AS SHOWN ON THE PLANS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TERMINATE THE FIBER OPTIC CABLE AS PER THE FOLLOWING SUGGESTED PROCEDURES:

- SPLICE THROUGH ALL FIBERS THAT ARE NOT USED AT A PARTICULAR CABINET, AND CAP UNUSED FIBERS THAT END IN A CABINET. TAPE SHALL NOT BE PERMITTED TO SEAL THE CABLE END. THE CABLE END SHALL REMAIN SEALED UNTIL TERMINATION TAKES PLACE.
- AT ALL FIBER OPTIC TERMINATION POINTS THE CONTRACTOR SHALL PROVIDE A FIBER OPTIC TERMINATION PANEL AS DEFINED IN THESE PLANS AND SPECIFICATIONS.
- MAKE ALL FIBER TERMINATIONS BY FIELD–INSTALLATION OF ST CONNECTORS DIRECTLY TO THE FIBER OPTIC CABLE VIA FAN–OUT KITS.
- CONNECT FIBER OPTIC CABLE TO THE TERMINATION PANEL PROVIDED.
- USING FIBER OPTIC PATCH CORDS, CONNECT THE FIBER OPTIC CABLE CONTAINED WITHIN THE TERMINATION PANEL TO THE EQUIPMENT IN THE CABINET. THE ATTENUATION AT EACH TERMINATION MUST BE BELOW 0.5 DB AND THE AVERAGE ATTENUATION OF ALL TERMINATIONS MUST BE LESS THAN 0.3 DB. THE RETURN LOSS AT EACH TERMINATION MUST BE AT LEAST 40 DB.
- PERMANENTLY LABEL ALL FIBER OPTIC CONNECTORS, WHETHER ON FAN–OUT KITS OR EQUIPMENT, TO PRECLUDE IMPROPER CONNECTION. THE LABELING METHOD(S) MUST BE APPROVED BY THE ENGINEER PRIOR TO USE.

FIBER OPTIC SPECIFICATIONS

FIBER OPTIC CABLE SHALL COMPLY WITH THE LATEST ISSUE OF THE FOLLOWING DOCUMENTS:

- RUS RURAL UTILITY SERVICE MATERIAL ACCEPTANCE LIST
- REA SPECIFICATIONS FOR FILLED FIBER OPTIC CABLES
- MIL–STD–454 STANDARD GENERAL REQUIREMENTS FOR ELECTRONIC EQUIPMENT
- MIL–STD–810 ENVIRONMENTAL TEST METHODS AND ENGINEERING GUIDELINES
- EIA/TIA–598 TUBE AND FIBER COLOR CODE
- EIA–568–A FIBER OPTIC CABLE TESTING PROCEDURES
- NFPA–70–1993 NATIONAL ELECTRICAL CODE ARTICLE 770, OPTICAL FIBER CABLE.

ALL MATERIALS FURNISHED SHALL BE COMPLETELY FREE FROM DEFECTS IN MATERIAL AND POOR WORKMANSHIP.

THE FIBER OPTIC CABLE SHALL:

- BE IN ACCORDANCE WITH OR EXCEED ALL MINIMAL REQUIREMENTS OF STATE CODES, NATIONAL CODES AND MANUFACTURER CODES AS APPLICABLE.
- BE NON–ARMORED, LOOSE TUBE, SINGLE MODE (SM), RATED FOR OUTDOOR USE, WITH THE FOLLOWING PROPERTIES:

CLADDING DIA.	125+/–1.0 M
COATING DIA.	245+/–10 M
NOMINAL CORE DIAMETER	8.3 M
MAX. ATTENUATION	0.4/0.3 DB/KM@1310/1550NM
PROOF TENSILE TEST	0.7 GPA

BE AN ACCEPTED CABLE WITH THE RURAL UTILITY SERVICE (RUS). DOCUMENTATION SHALL BE PROVIDED SHOWING RUS ACCEPTANCE.

CABLES SHALL BE PACKAGED WOUND ON NON–RETURNABLE WOOD SPOOLS OR REELS. THE DIAMETER OF THE DRUM SHALL BE A MINIMUM OF 20 TIMES THE DIAMETER OF THE CABLE. EACH REEL SHALL CONTAIN ONLY ONE CONTINUOUS LENGTH OF CABLE. LABELS SHALL BE ATTACHED TO THE REEL SHOWING LENGTH, CABLE IDENTIFICATION NAME AND NUMBER, AND DATE OF MANUFACTURE.

THE OUTER ENDS OF THE CABLE SHALL BE SECURELY FASTENED TO THE REEL HEAD SO AS TO PREVENT THE CABLE FROM BECOMING LOOSE DURING TRANSIT. BOTH ENDS OF THE CABLE SHALL EXTEND A MINIMUM OF 10 FEET INTO THE INSIDE OF THE CABLE REEL TO PROVIDE ACCESS FOR TESTING. TEST TAILS SHALL BE SECURED TO THE INSIDE OF THE REEL IN SUCH A MANNER THAT THEY WILL NOT BECOME LOOSE DURING TRANSPORTATION. END SEALS SHALL BE APPLIED TO EACH END OF THE CABLE TO PREVENT THE INTRUSION OF MOISTURE INTO THE CABLE.

DOCUMENTATION SHALL ACCOMPANY EACH REEL DOCUMENTING THE ATTENUATION OF EACH CABLE FIBER IN DB/KM.

FIBER OPTIC CABLE RIP CORDS SHALL BE PROVIDED AND MADE FROM EITHER STANDARD TELCO NYLON MATERIAL OR FROM BRAIDED KEVLAR. NO UN–BRAIDED KEVLAR WILL BE ACCEPTED.

CABLE JACKETING SHALL BE PERMANENTLY LABELED APPROXIMATELY EVERY TWO FEET WITH THE CABLE MANUFACTURER'S NAME, CABLE TYPE, FIBER COUNT, MANUFACTURING DATE, AND INCREMENTAL CABLE LENGTH. CABLE LENGTH SHALL REFER TO THE CABLE SHEATH LENGTH.

TRAFFIC CONTROL NOTES

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
-

REVIEWER
-

COT PROJ. ID
####

SHEET 245 | TOTAL 345

S2
11

TRAFFIC CONTROL NOTES (CONTINUED)

625 GROUND ROD, AS PER PLAN

ADD:

IN ADDITION TO THE REQUIREMENTS OF 625.16, (ADEQUATE FOR THE POWER FEED REFERENCE TO BE LOCATED IN THE NEAREST PULLBOX TO THE INCOMING LINE), A MAXIMUM OF THREE (3) OHM EARTH RESISTANCE SHALL BE OBTAINED FOR A SUPPRESSION / SAFETY / CHASSIS GROUND IN THE CONTROLLER BASE, AND ALL LIGHT POLES.
A THIRTY (30) FOOT ROD OR ANY NUMBER OF SHORTER RODS SHALL BE DRIVEN IN THE GROUND DURING CONSTRUCTION OF THE CONTROLLER BASE AND LIGHT POLES, IN ORDER TO OBTAIN A MAXIMUM OF THREE (3) OHM EARTH RESISTANCE.

625 TRENCH, AS PER PLAN

ADD:

WHERE NOTED ON THE PLANS, TRENCH SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING CONDUIT AND PULLBOXES. PULLBOX RINGS AND LIDS SHALL BE DELIVERED TO THE CITY OF TOLEDO (110 N. WESTWOOD AVE).

625 CONDUIT, 725.05., AS PER PLAN

CONDUIT SHALL CONFORM TO 625.12, WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

TYPE

UNLESS OTHERWISE SHOWN ON THE PLANS, CONDUIT AND FITTINGS SHALL CONFORM TO NEMA TC-2 FOR ELECTRICAL PLASTIC CONDUIT (EPC-40-PVC) AND FITTINGS, TYPE 11, AND TO NEMA TC-3 FOR P.V.C. FITTINGS FOR USE WITH RIGID P.V.C. CONDUIT.
CONDUIT ELBOWS SHALL CONTAIN A TRUE CIRCULAR ARC HAVING AN INSIDE RADIUS NOT LESS THAN FOUR (4) TIMES THE NOMINAL INSIDE DIAMETER OF THE CONDUIT. EACH CONDUIT COUPLING SHALL BE MANUFACTURED WITH A SHOULDER CENTERED ALONG THE INSIDE WALL OF THE COUPLING AND RAISED TO PROVIDE A BUTT SURFACE FOR CONDUIT LENGTHS OR ELBOWS.

INSTALLATION

CONDUIT SHALL BE JOINED AS DESCRIBED IN NEMA TC-2, APPENDIX A.
UNLESS OTHERWISE PROVIDED, HORIZONTAL RUNS OF UNDERGROUND CONDUIT SHALL BE PLACED AT LEAST TWENTY-FOUR (24) INCHES BELOW THE FINISHED GRADE AND AT LEAST THIRTY-SIX (36) INCHES BELOW THE FINISHED GRADE IF UNDER PAVEMENT.
CONDUIT RUNS SHALL BE INSTALLED SO AS TO DRAIN INTO PULLBOXES OR INTO A STANDARD DRAIN TEE PLACED IN THE CONDUIT RUN AT THE LOW POINT AS DESIGNATED BY THE ENGINEER.

A DRAINAGE POCKET OF AT LEAST TWELVE (12) INCHES SQUARE AND TWELVE (12) INCHES DEEP FILLED WITH APPROVED GRANULAR MATERIAL SHALL BE PROVIDED BELOW EACH DRAIN TEE. FIELD BENDS OF CONDUIT SHALL NOT BE PERMITTED. BENDS SHALL BE MADE WITH MANUFACTURED ELLS. BENDS SHALL BE USED SPARINGLY AND SHALL NOT EXCEED 180 DEGREES IN ANY SINGLE RUN.

WHERE THE PLANS INDICATE THAT AN EXISTING CONDUIT RUN IS TO BE REDIRECTED, EXTENDED AND/OR USED IN PART, THE CONTRACTOR SHALL DO ALL WORK NECESSARY TO INCORPORATE THE EXISTING CONDUIT INTO THE NEW CONDUIT SYSTEM ACCORDING TO THE STANDARDS USED HEREIN FOR NEW CONDUIT WORK.

AS NEARLY AS PRACTICAL, CONDUIT RUNS SHALL ENTER MANHOLES, PULLBOXES AND FOUNDATIONS FROM THE DIRECTION OF THE RUN AND BELOW GROUND LEVEL.
WHERE A CONDUIT RUN TERMINATES IN AN EXISTING PULLBOX OR UTILITY MANHOLE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND UTILITY COMPANY TO OBTAIN DIRECTION, SPECIFICATIONS AND INSPECTION FOR ENTERING THE PULLBOX OR MANHOLE AND SHALL CONFORM TO THEIR REQUIREMENTS. THE CONTRACTOR SHALL CORE DRILL ALL OPENINGS IN EXISTING CONCRETE PULLBOXES AND UTILITY MANHOLES. UPON COMPLETION OF THE INSTALLATION OF THE CONDUIT INTO THE PULLBOX OR MANHOLE, THE CONTRACTOR SHALL SEAL THE AREA AROUND THE CONDUIT WITH MORTAR TO THE APPROVAL OF THE ENGINEER OR UTILITY COMPANY. THIS WORK SHALL BE INCLUDED IN THE COST OF THE CONDUIT.

CONDUIT RUNS TERMINATING IN PULLBOXES SHALL EXTEND NOT LESS THAN TWO (2) INCHES NOR MORE THAN FOUR (4) INCHES INSIDE THE INSIDE WALL OF THE PULLBOX AND NOT LESS THAN SIX (6) INCHES NOR MORE THAN EIGHT (8) INCHES ABOVE THE BOTTOM.

A THREE-EIGHTHS (3/8) INCH YELLOW POLYPROPYLENE ROPE PULL LINE (OR APPROVED EQUAL) AND A TONE WIRE, 16 GAUGE MINIMUM, SHALL BE PROVIDED IN ALL NEW CONDUIT WHICH WILL NOT HAVE CABLE PULLED INTO IT AS PART OF THESE PLANS.

INNERDUCT

WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL ONE (1) INNERDUCT FOR EACH CABLE, OF AT LEAST 1" DIAMETER AND OF SUFFICIENT SIZE TO ACCOMMODATE THE CABLE TO BE PLACED INSIDE OF THE EXISTING CONDUIT.

INNERDUCT SHALL BE MANUFACTURED FROM PVC OR HDPE. INNERDUCT TO BE USED IN BENDS AND SWEEPS SHALL HAVE A MINIMUM BURN THROUGH TIME OF 90 MINUTES WHEN TESTED IN ACCORDANCE WITH BELLCORE TECHNICAL REFERENCE TR-NMT-000356, ISSUE 2, OCTOBER 1992. THE DIMENSIONS OF INNERDUCT SHALL MEET THE REQUIREMENTS OF THE MANUFACTURER'S CATALOG CUT SHEETS APPROVED BY THE ENGINEER.

625 CONDUIT, JACKED UNDER PAVEMENT, AS PER PLAN

CONDUIT BEING BORED, JACKED AND/OR DRILLED UNDER PAVEMENT SHALL BE P.V.C. SCHEDULE 40 AND SHALL INCLUDE PULL ROPE AND TONE WIRE IN ACCORDANCE WITH THE REQUIREMENTS OF 625 CONDUIT, 725.05, AS PER PLAN.

625 PULLBOX MISC: PULLBOX, TYPE A
625 PULLBOX MISC.: PULLBOX, TYPE S

PULLBOXES SHALL CONFORM TO 625.11 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

TYPE S PULLBOXES SHALL CONFORM TO 725.06, 725.07 OR 725.08 AND SHALL HAVE NOMINAL OPENING DIMENSIONS OF 24 INCHES X 35 INCHES AND SHALL BE A MINIMUM OF 36 INCHES IN DEPTH. THE WORD "TRAFFIC" SHALL BE INTEGRALLY CAST AS PART OF THE COVER OR SECURELY FASTENED WITH CORROSION RESISTANT HARDWARE. THE SUPPLIED PULLBOXES SHALL BE ABLE TO SUPPORT A 20,000 LB. MINIMUM VERTICAL LOADING WITHOUT PERMANENT DAMAGE OR DEFLECTION TO THE UNIT. THIS ITEM SHALL INCLUDE BUT IS NOT LIMITED TO THE DISPOSAL OF SURPLUS MATERIAL AND THE RESTORATION OF DISTURBED FACILITIES AND SURFACES.

THE LARGEST BEND RADIUS POSSIBLE SHALL BE MAINTAINED FOR THE FIBER OPTIC CABLE AS SPECIFIED BY THIS SPECIFICATION.

625 PULLBOX MISC.: PULLBOX RECONSTRUCTED
625 PULLBOX MISC.: PULLBOX RECONSTRUCTED AS TYPE S

EXISTING PULLBOX RINGS AND LIDS SHALL NOT BE USED FOR NEW PULLBOX INSTALLATIONS, BUT SHALL BE SALVAGED ON SITE FOR USE BY THE CITY OF TOLEDO. EXCAVATION AROUND THE EXISTING PULLBOX SHALL BE BY MANUAL METHODS, AND SHALL BE PERFORMED WITH CARE IN ORDER TO AVOID DISRUPTION TO THE TRAFFIC SIGNAL. IF DURING A PULLBOX REMOVAL AND REPLACEMENT AN EXCAVATION REMAINS, IT SHALL BE PROTECTED AT ALL TIMES.

WHERE EXISTING PULLBOXES ARE SMALLER THAN NECESSARY TO PROVIDE ADEQUATE SPACE FOR EXISTING CABLE, NEW CABLE, AND SPLICE ENCLOSURES, THEY SHALL BE REPLACED WITH PULLBOXES NOTED ON THE PLANS AS "TYPE S". SUCH PULLBOXES SHALL MEET ALL REQUIREMENTS OF 625.11 AND "ITEM 625 PULLBOX MISC.: PULLBOX, TYPE S."

ALL COSTS RELATING TO THIS SPECIFICATION, INCLUDING REMOVAL OF EXISTING PULLBOX, SHALL BE INCLUDED IN THE UNIT PRICE BID PER EACH FOR THE APPLICABLE ITEM.

625 METHOD OF MEASUREMENT

METHOD OF PAYMENT SHALL CONFORM TO 625.20 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

A. EXTENSION OF EXISTING CONDUIT SHALL BE MEASURED AS THE HORIZONTAL STRAIGHT LINE DISTANCE OF EXTENSION REQUIRED TO MEET EXISTING CONDUIT.
B. CONDUIT SHALL INCLUDE PULL LINES AND TONE WIRE.
C. CONDUIT JACKED UNDER PAVEMENT SHALL BE MEASURED AS THE HORIZONTAL STRAIGHT LINE DISTANCE FROM BACK OF CURB TO BACK OF CURB OR EDGE OF DRIVE PLUS 3' BEHIND EACH CURB OR EDGE OF DRIVE.
D. GROUND RODS WILL BE MEASURED AS ONE PER LOCATION, INDEPENDENT OF THE NUMBER REQUIRED TO MEET THE AS PER PLAN REQUIREMENTS.
E. PULLBOXES SHALL BE MEASURED BY TYPE

614 WORK ZONE TRAFFIC SIGNALS, AS PER PLAN

WORK ZONE TRAFFIC SIGNALS SHALL CONFORM TO 614.10 WITH THE FOLLOWING ADDITIONS:

ALL EQUIPMENT USED SHALL MEET CITY OF TOLEDO STANDARDS.

THE BOTTOM OF ALL SIGNAL HEADS ON MESSENGER WIRE SHALL BE A MINIMUM OF 15 FEET ABOVE GROUND LEVEL.

633 UNINTERRUPTIBLE POWER SUPPLY (UPS), 1000 WATT, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF CMS 633 AND 733 THE CONTRACTOR SHALL FURNISH, INSTALL AND TEST UNINTERRUPTIBLE POWER SUPPLY (UPS) STATUS INDICATOR LAMPS THAT ALLOW MAINTENANCE PERSONNEL AND LAW ENFORCEMENT TO QUICKLY ASSESS WHETHER A TRAFFIC SIGNAL CABINET IS BEING POWERED BY A UPS. A 1-INCH WATERPROOF NEMA 4X OR IP66 LAMP WITH A DOMED RED LENS SHALL BE USED TO INDICATE THE CABINET IS OPERATING UNDER UPS POWER (THE "BACKUP" OPERATING CONDITION). THIS LAMP SHALL BE WIRED USING MINIMUM 20GA STRANDED, INSULATED HOOKUP WIRE TO THE STATUS RELAY OUTPUTS OF THE UPS. THE WIRES SHALL BE TERMINATED BY LUGS AT THE DISPLAY END AND PERMANENTLY LABELED "BACKUP POWER STATUS DISPLAY", WITH WIRE POLARITY INDICATED. THIS ITEM INCLUDES PROGRAMMING THE UPS STATUS RELAY OUTPUTS TO PRODUCE THE LAMP STATUS DISPLAYS. THE STATUS DISPLAY SHALL BE SOLID 100% DUTY CYCLE (NOT FLASHING). THE LAMP SHALL BE PLACED IN THE UPS CABINET WALL (NOT THE ROOF) IN SUCH A MANNER AS TO BE SEALED FROM WATER INTRUSION AND VISIBLE FROM A VEHICLE AT THE STOP LINE IN THE CLOSEST LANE OF AT LEAST ONE APPROACH TO THE SIGNALIZED INTERSECTION. THE OPERATING VOLTAGE OF THE LED LAMP SHALL BE 120V AC.

816 VIDEO DETECTION SYSTEM, AS PER PLAN

ITEM 816 SHALL BE MODIFIED AS FOLLOWS:

816.01 DESCRIPTION

THE SYSTEM PROPOSED SHALL BE PREQUALIFIED BY THE OHIO DEPARTMENT OF TRANSPORTATION IN ACCORDANCE WITH SS816 AND AS MODIFIED BELOW. THE FOLLOWING SYSTEMS ARE CONSIDERED TO BE ACCEPTABLE, PROVIDED THAT THE ASSOCIATED CABLE PROVIDED WITH THE SYSTEM IS AS NOTED BELOW:

- ITERIS VANTAGE NEXT
- AUTOSCOPE IMAGE SENSOR-AIS-IV

CABLE PROVIDED WITH THE SYSTEM MUST BE A MINIMUM 5 CONDUCTOR 16 AWG STANDARD BARE COPPER CABLE, PLUS A 20 AWG 1-CONDUCTOR DOUBLE BRAIDED SOLID BARE COPPER CABLE (COAXIAL CABLE). THESE CABLES MAY BE COMBINED AS A SIAMESE/ COMPOSITE CABLE OR PROVIDED INDIVIDUALLY. OTHER SYSTEMS WILL BE ACCEPTED FOR CONSIDERATION PROVIDED THAT THE SYSTEM IS ON THE ODOT QPL AND WILL HAVE FULL FUNCTIONALITY USING THE CABLE SPECIFIED ABOVE.

816.02 MATERIALS

FOUR (4) CAMERAS, ONE THOUSAND FEET (1000') OF CABLE, AND UPDATED FOCUS EQUIPMENT (IF NEEDED) SHALL BE PROVIDED AND INSTALLED FOR EACH INTERSECTION INCLUDED IN THE PLANS.

816.04 INSTALLATION REQUIREMENTS

THE VENDOR SHALL MAKE AVAILABLE AN EXPERIENCED REPRESENTATIVE TO ASSIST IN PROPER PLACEMENT OF HARDWARE AND DETECTION ZONES.

816.05 TRAINING

TRAINING WILL NOT BE REQUIRED AS PART OF THIS PROJECT UNLESS DEEMED NECESSARY BY THE CITY OF TOLEDO.

816 VIDEO CAMERA AND VIDEO DETECTION CARD, AS PER PLAN

THIS ITEM SHALL MEET THE REQUIREMENTS SET FORTH IN ITEM 816, ABOVE, AND INCLUDES INSTALLATION

ITEM 632, INTERCONNECT MISC.: SPLICE CABINET, AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING FIBER OPTIC SPLICE CABINET, INCLUDING AUXILIARY EQUIPMENT AND SPECIFIED ACCESSORIES. ALL EQUIPMENT SHALL BE IN CONFORMANCE WITH THE TYPES, MODELS AND SYSTEMS AS SPECIFIED.

ALL EQUIPMENT AND MATERIALS SHALL BE NEW, PREQUALIFIED, AND FREE FROM DEFECTS.

EACH ELEMENT OF THE INSTALLATION SHALL BEAR A NAMEPLATE, INDELIBLE MARKING OR BRAND THAT SHALL IDENTIFY IT AS TO TYPE, MODEL, CATALOG NUMBER AND MANUFACTURER.

CABINETS SHALL BE OF A SIZE THAT IS CAPABLE OF BEING MOUNTED ON ANY OF THE CONCRETE FOUNDATIONS SHOWN IN THE STANDARD DRAWINGS, AND AS INDICATED IN THE PLANS. THE EXTERNAL DIMENSIONS OF THE CABINET SHALL BE NO LESS THAN 24" WIDE X 23" DEEP X 48" HIGH, AND SHALL INCLUDE ALL PLATES AND/OR HARDWARE NECESSARY FOR MOUNTING TO THE EXISTING FOUNDATION(S). MULTILINK BROADBAND FIBER RACK MOUNT ENCLOSURE MODEL 336S GA-TRAFFIC CONTROL CABINET 24X48X23, WITH MOUNTING PLATE, WHERE REQUIRED, OR APPROVED EQUAL IS ACCEPTABLE FOR USE. OTHER CLOSURES WILL ALSO BE CONSIDERED, PROVIDING THAT THEY PROVIDE SIMILAR FEATURES AND ACCESSIBILITY.

THE CABINET DOOR LOCK SHALL BE KEYED TO THE CITY OF TOLEDO MASTER, CORBIN KEY NO. 2 (IR6380). TWO SETS OF KEYS SHALL BE FURNISHED WITH EACH CABINET ASSEMBLY.

THE CABINET SHALL HAVE A ZIPLOCK CLOSING PLASTIC ENVELOPE FASTENED TO THE INSIDE OF THE DOOR. THE PLASTIC ENVELOPE SHALL MEASURE 12 INCHES BY 14 INCHES MINIMUM.

THIS CABINET SHALL CONTAIN ONE OR MORE RACK- OR WALL-MOUNTABLE SPLICE PANELS EQUIVALENT TO THOSE IN THE SIEMON RIC3 SERIES, WITH A COMBINED CAPACITY TO TERMINATE 216 FIBER STRANDS. EACH PANEL SHALL BE INSTALLED WITHIN THE CABINET IN A LOCATION THAT PROVIDES THE MOST ROOM FOR MAKING CONNECTIONS AND ASSURES THAT THE BEND RADIUS OF THE FIBER OPTIC CABLE IS NOT VIOLATED. EACH TERMINATION BLOCK SHALL INCLUDE PROVISIONS FOR CABLE STRAIN RELIEF, AND FOR NEATLY ORGANIZING SLACK FIBER AND BUFFER TUBES. STRAIN RELIEF AND STORAGE OF SLACK BUFFER TUBES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. EACH PANEL SHALL BE CONSTRUCTED OF POWDER-COATED METAL OR OTHER DURABLE, CORROSION-RESISTANT MATERIALS, SHALL INCLUDE ST-TO-ST ADAPTER PLATES AND SHALL HAVE A FRONT DOOR THAT ALLOWS FOR EASY ACCESS TO THE INTERIOR COMPARTMENT AND ALL CONNECTIONS.

ALTERNATIVES TO THE EQUIPMENT SPECIFIED THAT WILL REDUCE COSTS AND/OR IMPROVE FUNCTION AND/OR MAINTENANCE MAY BE CONSIDERED AT THE TIME OF CATALOG CUT REVIEW.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF "ITEM 632, INTERCONNECT, MISC.: SPLICE CABINET" AND SHALL INCLUDE ALL COSTS INCLUDING MATERIALS, EQUIPMENT AND LABOR TO PROVIDE A COMPLETE INSTALLED FIBER OPTIC SPLICE ENCLOSURE ON EXISTING FOUNDATIONS.

ITEM 632, INTERCONNECT MISC.:
TERMINATION PANEL IN NEMA CABINET, AS PER PLAN

TERMINATION PANELS USED IN NEMA CABINETS SHALL BE EQUIVALENT TO MODEL WIC-012 AS MANUFACTURED BY SIECOR. THE NEMA CABINET TERMINATION PANEL SHALL BE ATTACHED TO THE SIDE OF THE CABINET IN A PLACE THAT PROVIDES MOST ROOM FOR MAKING CONNECTIONS. THE TERMINATION PANEL SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:

THE TERMINATION BLOCK SHALL:

- HAVE THE CAPACITY TO TERMINATE TWELVE (12) OR MORE FIBERS.
- WEIGH NO MORE THAN 6 POUNDS, WITH DIMENSIONS OF NO MORE THAN 9 X 10 X 5 INCHES.
- INCLUDE PROVISIONS FOR CABLE STRAIN RELIEF, AND FOR NEATLY ORGANIZING SLACK FIBER AND BUFFER TUBES.
- BE WALL-MOUNTABLE AND PLACED NEATLY WITHIN THE CONTROLLER CABINET SUCH THAT IT DOES NOT INTERFERE WITH ACCESS TO OTHER EQUIPMENT, AND ASSURING THAT THE BEND RADIUS OF THE FIBER OPTIC CABLE IS NOT VIOLATED.
- HAVE A FRONT DOOR THAT ALLOWS FOR EASY ACCESS TO THE INTERIOR COMPARTMENT AND ALL CONNECTIONS.
- BE CONSTRUCTED OF POWDER-COATED METAL OR OTHER DURABLE, CORROSION-RESISTANT MATERIALS.

CABLE STRAIN RELIEF AND STORAGE OF SLACK BUFFER TUBES SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTION.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH ITEM, FURNISHED, INSTALLED, TESTED AND ACCEPTED BY THE CITY.

ITEM 632, INTERCONNECT MISC.: TERMINATION PANEL IN NEMA CABINET, EACH

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.
ODOT PID 121938
DESIGNER -
REVIEWER -
COT PROJ. ID ####
SHEET 246 TOTAL 345

TRAFFIC CONTROL NOTES (CONTINUED)

632 PEDESTRIAN SIGNAL HEAD, LED , (COUNTDOWN), TYPE D-2, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632.08 AND 732.05, THE FOLLOWING REQUIREMENTS SHALL APPLY:

LAMPS:

1. LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL BE MANUFACTURED BY GELCORE, DIALIGHT OR APPROVED EQUAL, AS DETERMINED BY THE CITY OF TOLEDO.
2. LED LAMP UNITS SHALL BE 16–INCH SIZE AND SHALL DISPLAY THE SYMBOLS FOR THE UPRAISED HAND OR THE WALKING PERSON.
3. SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF POLYCARBONATE AND MEET ITE SPECIFICATIONS.
4. PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY NOT BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

THE CONTRACTOR SHALL PROVIDE THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES.

THE COST OF PEDESTRIAN SIGNAL HEAD WITH LED LAMP UNITS, TYPE D–2, AS PER PLAN, SHALL INCLUDE COMPLETE UNITS FURNISHED AND INSTALLED WITH ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, AND LAMPS AS SPECIFIED.

632 PEDESTRIAN PUSHBUTTON, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING, AND INSTALLING WHERE SPECIFIED, PEDESTRIAN PUSHBUTTONS CONSISTENT WITH THE CONSTRUCTION & MATERIAL SPECIFICATIONS. THE CITY OF TOLEDO WILL SPECIFY THE LOCATIONS OF ANY AND ALL PUSHBUTTONS TO BE INSTALLED ON THIS PROJECT. ANY FIELD–DRILLING NECESSARY TO ACCOMPLISH THE INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE ITEM AND SHALL BE INCLUDED IN THE COST OF THE ITEM.

632 ACCESSIBLE PEDESTRIAN PUSHBUTTON, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING, AND INSTALLING WHERE SPECIFIED, PEDESTRIAN PUSHBUTTONS CONSISTENT WITH THE CONSTRUCTION & MATERIAL SPECIFICATIONS. THE CITY OF TOLEDO WILL SPECIFY THE LOCATIONS OF ANY AND ALL PUSHBUTTONS TO BE INSTALLED ON THIS PROJECT. ANY FIELD–DRILLING NECESSARY TO ACCOMPLISH THE INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO THE ITEM AND SHALL BE INCLUDED IN THE COST OF THE ITEM.

THE FOLLOWING MODELS ARE CONSIDERED TO BE ACCEPTABLE:

– POLARA iNS3 ACCESSIBLE PEDESTRIAN SIGNAL, 3 WIRE SYSTEM

632 VEHICULAR SIGNAL HEAD, (LED) BLACK, X-SECTION, 12" LENS, 1-WAY, WITH BACKPLATE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF 632 AND 732, THE FOLLOWING REQUIREMENTS SHALL APPLY:

LAMPS:

LED, LIGHT EMITTING DIODE, SIGNAL LAMP UNITS SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 872 AND SHALL BE PROVIDED FOR ALL SIGNAL LENS TYPES. ALL LAMP UNITS SHALL BE 12–INCH SIZE, AND SHALL BE MANUFACTURED BY GELCORE, DIALIGHT OR LEOTECK, AS DETERMINED BY THE CITY OF TOLEDO AND AS NOTED BELOW:

– THE GELCORE RED UNIT DR6–RTFB–17A IS NOT ACCEPTABLE
– GREEN BALLS SHALL HAVE A CLEAR LENS. ACCEPTABLE UNITS ARE THE DIALIGHT 433–2270–001–X; GELCORE DR6–GCFB–17A; AND LEOTECK TSL–12GA–MF–A1.

SIGNAL SECTIONS:

1) SIGNAL HEADS AND VISORS SHALL BE CONSTRUCTED OF OR POLYCARBONATE PLASTIC, AS SPECIFIED, AND MEET INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) SPECIFICATIONS.
2) PIPE, SPACERS AND FITTINGS CONSTRUCTED OF POLYCARBONATE PLASTIC MAY NOT BE USED IN LIEU OF GALVANIZED STEEL OR ALUMINUM.

MOUNTING HARDWARE:

ALL SIGNAL HEADS SHALL BE PROVIDED WITH HARDWARE FOR MOUNTING. WHEN RIGID MOUNTING IS SPECIFIED FOR USE WITH POLYCARBONATE VEHICULAR HEADS, MOUNTING HARDWARE SHALL INCLUDE APPROPRIATE BRACING AND/OR REINFORCEMENT TO ENSURE THE STRUCTURAL INTEGRITY OF THE HEAD. RIGID MOUNTING HARDWARE SHALL BE A GENERAL TRAFFIC EQUIPMENT MODEL RM–1000C–62–4 OR APPROVED EQUAL. PELCO ASTRO–BRAC ASSEMBLIES ARE NOT CONSIDERED TO BE AN ACCEPTABLE TREATMENT FOR RIGID MOUNTING. EACH SUCH ASSEMBLY SHALL NOT INCLUDE A MARK 1 TERMINAL COMPARTMENT HARDWARE FOR MAST ARM POLE ASSEMBLIES UNLESS THE SIGNAL HEADS WILL BE MOUNTED ON AN EXISTING MAST ARM. HARDWARE FOR MAST ARM POLE ASSEMBLIES SHALL BE PROVIDED SUCH THAT THE OPTICAL UNITS ARE CAPABLE OF BEING ALIGNED VERTICALLY.

BACKPLATES:

WHERE SPECIFIED TO BE INCLUDED, BACKPLATES SHALL BE LOUVERED AND CONSTRUCTED OF WROUGHT SHEET ALUMINUM, .050 INCH MINIMUM THICKNESS. BACKPLATE BASE METAL SHALL BE ANODIZED TO MAXIMIZE PAINT ADHESION ACCORDING TO MIL–A–8625, TYPE II OR TYPE I. BACKPLATES SHALL BE PAINTED ON BOTH SIDES WITH AT LEAST TWO COATS OF FLAT BLACK ALKYD ENAMEL PAINT CLOSELY MATCHING FED–STD–595B–37038. BACKPLATES SHALL EXTEND FIVE INCHES BEYOND THE OUTSIDE OF THE SIGNAL ASSEMBLY ON ALL SIDES. THE OVERALL OUTSIDE SHAPE OF THE INSTALLED BACKPLATE SHALL BE RECTANGULAR. THE BACKPLATE SHALL ALLOW NO GAPS BETWEEN THE BACKPLATE AND THE SIGNAL HEAD OR BETWEEN SIGNAL SECTIONS. A ONE–INCH WIDE CONTINUOUS OUTSIDE BORDER OF YELLOW REFLECTIVE SHEETING, TYPE H OR J, SHALL BE APPLIED TO THE FRONT FACE OF THE BACKPLATE. ALL ASSEMBLY AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL AND SHALL BE INCLUDED IN THE ITEM. IF USED, MACHINE NUTS SHALL BE THREAD–DEFORMING OR NYLON LOCKNUTS. RIVETS SHALL NOT BE USED FOR MOUNTING THE BACKPLATE TO THE SIGNAL HEAD. A MINIMUM OF FOUR MOUNTING POINTS SHALL BE USED ON EACH SIGNAL SECTION FOR ATTACHING A BACKPLATE.

VISORS:

THE VISOR FOR VEHICULAR SIGNALS SHALL BE THE TUNNEL–TYPE, NOT LESS THAN NINE (9) INCHES NOR MORE THAN TWELVE (12) INCHES IN LENGTH, AND SHALL BE DESIGNED TO REDUCE SUN PHANTOM TO A MINIMUM. THE VISOR SHALL FULLY ENCLOSE NOT LESS THAN EIGHTY PERCENT (80%) OF THE LENS CIRCUMFERENCE.

LEGEND:

COLORED ARROW LENSES SHALL BE PROVIDED WHEN AND AS SPECIFIED IN THE PLANS. ARROW LENSES SHALL CONFORM TO THE CURRENT STANDARDS OF THE INSTITUTE OF TRANSPORTATION ENGINEERS, VEHICLE TRAFFIC CONTROL SIGNAL HEADS (PUB. NO. ST–0088).

THE FOLLOWING LEGEND SHALL BE USED IN THE PLANS AND LENS TYPES SHALL BE FURNISHED IN ACCORDANCE THEREWITH:

DESIGNATION	DESCRIPTION
R	CIRCULAR RED LENS
Y	CIRCULAR YELLOW (AMBER) LENS
G	CIRCULAR GREEN LENS
<Y– OR –Y>	YELLOW (AMBER) ARROW LENS
<G– OR –G>	GREEN ARROW LENS
<R–	RED ARROW LENS

632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING CABINET FOUNDATION, SIGNAL HEADS, CABLE, SIGNAL POLES/ARMS, PULLBOX RINGS/LIDS, CABINET, CONTROLLER ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE EITHER DISPOSED OF OR SALVAGED AND DELIVERED TO THE CITY OF TOLEDO DIVISION OF TRAFFIC MANAGEMENT (110 N. WESTWOOD) GENERALLY IN ACCORDANCE WITH THE LISTING GIVEN HEREIN AND SPECIFICALLY AS IDENTIFIED IN THE FIELD DURING CONSTRUCTION. SIGNAL POLES/ARMS SHALL BE DELIVERED TO THE CITY OF TOLEDO POLE YARD (200 S ELMDALE).

ITEMS TO BE DISPOSED OF: SIGNAL CABLE

ITEMS TO BE SALVAGED: CONTROLLERS, CONTROLLER CABINETS, LED UNITS, PEDESTAL POLES AND TRANSFORMER BASES, VEHICULAR AND PEDESTRIAN SIGNAL HEADS, SIGNAL POLES AND MAST ARMS, PULLBOX RINGS AND LIDS.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE CITY OF TOLEDO ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

632 POWER SERVICE, BY TYPE, AS PER PLAN

POWER SERVICE SHALL CONFORM TO 632.24 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIALS NECESSARY TO ACCOMMODATE POWER PER THE STANDARD DRAWINGS.

THE CONTRACTOR WILL ARRANGE FOR POWER THROUGH THE TOLEDO EDISON COMPANY.

IF THE POWER SERVICE IS FOR A PEDESTRIAN HYBRID BEACON (PHB) INSTALLATION, CONTRACTOR SHALL INSTALL A CITY APPROVED METER SOCKET & DISCONNECT FOR A METERED POWER SOURCE.

ONCE THE INSTALLATION HAS BEEN COMPLETED AND INSPECTED, THE CONTRACTOR SHALL PROVIDE A LETTER TO TOLEDO EDISON THAT INCLUDES THE STATEMENT: "THE SERVICE IS BUILT ACCORDING TO NEC AND IS SAFE TO ENERGIZE".

THE CONTRACTOR SHALL NOTIFY THE CITY OF TOLEDO SIGNAL ENGINEER (419–245–1300) WHEN THESE ACTIVITIES ARE COMPLETED.

632 CABLE AND WIRE

CABLE AND WIRE SHALL CONFORM TO 632.23 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

GENERAL

THE WIRING SHALL BE AS SHOWN IN THE WIRING DIAGRAMS, ALL ENDS OF THE CONDUCTORS OR CABLES SHALL BE TAPED DURING CONSTRUCTION TO EXCLUDE MOISTURE UNTIL SPLICED OR UNTIL CONNECTIONS ARE MADE WITH THE TERMINAL APPLIANCES.

CABLE PULLED INTO CONDUIT SHALL BE BY HAND OR APPROVED MECHANICAL DEVICES. POWER WINCHES SHALL NOT BE USED FOR PULLING CABLE THROUGH CONDUIT UNLESS AUTHORIZED BY THE ENGINEER. THE CONTRACTOR MAY USE CLAY–BASED LUBRICANT IN HIS PULLING OPERATION.

CABLE SHALL BE FURNISHED AND INSTALLED AS LISTED IN 632 METHOD OF MEASUREMENT WITH THE ADDITIONS OR EXCEPTIONS STATED IN THESE NOTES. WHERE TERMINAL CONNECTIONS AND SPLICES ARE MADE IN THESE PLANS, ANY ADDITIONAL CABLE REQUIRED SHALL BE CUT TO PROPER LENGTH TO MAKE A NEAT INSTALLATION.

CABLE DRIP LOOPS SHALL BE PROVIDED AT ALL SERVICE ENTRY CAPS AND AT ALL EXPOSED ENTRANCE POINTS TO POLE SHAFTS AND MAST ARMS.

SPLICES SHALL ONLY BE PERMITTED AT POWER SOURCE LOCATION FOR THE POWER CABLE.

TWO–PIECE COMPRESSION TYPE, INSULATED CONNECTIONS WITH A NYLON INSULATING CAP SHALL BE USED IN ALL SPLICES AND SHALL BE WEATHERPROOFED BY WRAPPING WITH A UL APPROVED ALL–WEATHER ELECTRICAL TAPE.

INSULATED, CRIMP TYPE, SPACE TONGUE TYPE CONNECTORS SHALL BE USED FOR ALL TERMINAL CONNECTIONS. ONLY ONE CONDUCTOR SHALL BE USED WITH EACH SPADE TONGUE TYPE CONNECTOR.

ALL WIRES TO THE CONTROLLER CABINET SHALL BE LABELED, NEATLY LASHED AND PROTECTED BY EITHER A TEMPORARY CAPPED PEDESTAL AT PEDESTAL FOUNDATIONS OR A TEMPORARY CABINET AT OTHER CONTROLLER FOUNDATIONS.

PAYMENT FOR THE ABOVE CONNECTORS, SPLICES AND PROTECTION OF SAME SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE RESPECTIVE ITEM OF CABLE INSTALLED.

REMOVAL OF EXISTING CABLE

WHERE CALLED FOR ON THE PLANS OR WHEN DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE EXISTING CABLE PRIOR TO INSTALLATION OF NEW FIBER OPTIC COMMUNICATIONS CABLE. SOME EXISTING DUCT RUNS CONTAIN MULTIPLE CABLE RUNS, AND CARE MUST BE TAKEN TO ENSURE THE REMOVAL OF ONLY THE PROPER CABLE(S). CITY PERSONNEL WILL ASSIST IN IDENTIFYING THE PROPER CABLE(S) TO BE REMOVED. THE COST OF THIS WORK SHALL BE CONSIDERED TO BE INCIDENTAL TO THE APPLICABLE 632 ITEM OR ITEMS, FOR WHICH NO ADDITIONAL PAYMENT SHALL BE MADE.

WHERE SHOWN ON THE PLANS, EXISTING AND NEW UNDERGROUND CONDUIT, INCLUDING PORTIONS OF CONDUIT OWNED BY AT&T, SHALL BE UTILIZED FOR INSTALLATION OF NEW CABLE. WHEN INSTALLING CABLE IN EXISTING UNDERGROUND CONDUIT CONTAINING ONE OR MORE EMPTY INNERDUCTS, THE CHOICE OF INNERDUCT SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.

CLEANING OF CONDUIT AND/OR DUCT

WHERE CABLE IS TO BE PULLED THROUGH AN EXISTING AT&T TELEPHONE CONDUIT, THE CONTRACTOR SHALL CONTACT AT&T TO DETERMINE WHICH DUCT IS TO BE USED. ALL ACTIVITIES OF THE CONTRACTOR IN AT&T'S FACILITIES WILL BE SUBJECT TO THE REGULATIONS AND REQUIREMENTS OF THE AT&T COMPANY. THE CONTRACTOR WILL BE RESPONSIBLE FOR PUMPING DRY AT&T MANHOLES AT AT&T'S REQUEST (FOR DUCT ASSIGNMENT). THE CONTRACTOR IS TO CONTACT AT&T REGARDING DUCT ASSIGNMENT AND REGULATION REQUIREMENTS AT 419–245–5588.

PRIOR TO INSTALLING ANY PULL LINE OR CABLE INTO ANY CITY–OWNED OR AT&T–OWNED CONDUIT RUN, THE RUN SHALL BE THOROUGHLY CLEANED OF DEBRIS AND WATER BY BLOWING THROUGH COMPRESSED AIR OR BY RODDING WITH A MANDREL, HIGH–PRESSURE WATER, OR OTHER MEANS, IF NECESSARY, AS DIRECTED BY THE ENGINEER. AT&T TELEPHONE DUCTS THAT ARE CONSTRUCTED OF CONCRETE WILL REQUIRE RODDING, AS WATER DOES NOT MAINTAIN SUFFICIENT PRESSURE FOR CLEANING IN CONCRETE. THE COST OF THIS WORK SHALL BE CONSIDERED TO BE INCIDENTAL TO THE APPLICABLE 632 ITEM OR ITEMS, FOR WHICH NO ADDITIONAL PAYMENT SHALL BE MADE.

632 SIGNAL CABLE, AS PER PLAN

PLANS INDICATE SIGNAL CABLE AS BEING AS X/C–14 WHERE X IS A NUMBER AND WHERE X/C SHALL BE THE NUMBER OF CONDUCTORS IN THE CABLE AND 14 SHALL MEAN THAT THE CONDUCTORS SHALL BE NO. 14 A.W.G., SIGNAL CABLE SHALL BE 7–STRAND CONDUCTORS MEETING IMSA 19–1–1991, THIRD EDITION.

IN WIRING THE TRAFFIC SIGNAL HEADS, THE COMPLETE CABLE SHALL BE CARRIED THROUGH THE WIRE INLET INTO THE HEAD.

AT THE CONTROLLER LOCATION, EACH CABLE SHOWN IN THE WIRING DIAGRAM SHALL BE LABELED WITH A DURABLE LABEL EXCEPT SPARES. EXAMPLE OF TAGS:

PHASE A NORTHBOUND
PHASE A SOUTHBOUND
PHASE A LEFT TURN
X–WALK A PED INDICATIONS
X–WALK A & B INDICATIONS
X–WALK C & D INDICATIONS (IF APPLICABLE)

THE TAG SHALL BE NOT LESS THAN 0.031" THICK COPPER, BRASS OR PLASTIC AND SHALL BE EMBOSSED OR ENGRAVED WITH LETTERS OR NUMBERS OF NOT LESS THAN 1/4" HIGH. IT SHALL BE SECURELY ATTACHED WITH AN AWG NO. 14 COPPER WIRE.

THE COST FOR THIS WORK SHALL BE INCLUDED IN THE INSTALLATION OF THE VARIOUS CABLES.

THE FOLLOWING STANDARD CABLE CODE CONNECTIONS FOR TRAFFIC SIGNALS SHALL BE FOLLOWED, WHERE APPLICABLE:

5–CONDUCTOR

WIRE COLOR	ALTERNATE 1	ALTERNATE 2	ALTERNATE 3
BLACK	SPARE	SPARE	SPARE
WHITE	COMMON	COMMON	COMMON
RED	RED LAMP	DW	SPARE
GREEN	GREEN LAMP	W	W
ORANGE	YELLOW LAMP	SPARE	DW

7–CONDUCTOR

WIRE COLOR	ALTERNATE 1	ALTERNATE 2
BLACK	YELLOW ARROW	W–2
WHITE	COMMON	COMMON
RED	RED LAMP	DW–1
GREEN	GREEN LAMP	W–1
ORANGE	YELLOW LAMP	DW–2
BLUE	GREEN ARROW	SPARE
WHITE BLACK	SPARE	SPARE

12–CONDUCTOR

WIRE COLOR	ALTERNATE 1	ALTERNATE 2
RED	W–1	RED LAMP
ORANGE	SPARE	YELLOW LAMP
GREEN	DW–1	GREEN LAMP
WHITE	COMMON	COMMON
BLACK	SPARE	YELLOW ARROW/SPARE
BLUE	SPARE	GREEN ARROW/SPARE
RED/BLACK	W–2	W–1
ORANGE/BLACK	SPARE	SPARE
GREEN/BLACK	DW–2	DW–1
WHITE/BLACK	SPARE	SPARE
BLUE/BLACK	PB/SPARE	PB/SPARE
BLACK/WHITE	PB/SPARE	PB/SPARE

632 CABLE SUPPORT ASSEMBLY

CABLE SUPPORT ASSEMBLIES SHALL CONFORM TO 632.21 WITH THE FOLLOWING EXCEPTIONS:

ONE CABLE SUPPORT ASSEMBLY SHALL BE PROVIDED FOR EVERY THREE (3) CABLES ENTERING THE INTERIOR OF POLES THROUGH A WEATHERHEAD OR MAST ARM.

632 SIGNAL SUPPORT FOUNDATION, BY TYPE, AS PER PLAN

FOUNDATIONS FOR POLES AND PEDESTALS SHALL CONFORM TO 632.14 WITH THE FOLLOWING EXCEPTIONS:

AT LEAST TWO (2) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION OF FOUNDATIONS, THE CONTRACTOR SHALL CONTACT THE DIVISION OF TRAFFIC MANAGEMENT (419–245–1300). THE DIVISION OF TRAFFIC MANAGEMENT WILL MEET WITH THE CONTRACTOR ON SITE TO REVIEW AND CONFIRM FOUNDATION LOCATIONS AND MAKE ADJUSTMENTS, IF REQUIRED.

THE DIVISION OF TRAFFIC MANAGEMENT SHALL BE NOTIFIED (419–245–1300) AS TO THE SCHEDULED DATE AND TIME OF ANY POURS AND A REPRESENTATIVE WILL REVIEW THE ANCHOR BOLT PLACEMENT IN ADVANCE OF THE POUR TO CONFIRM ACCEPTABLE BOLT PLACEMENT AND STABILITY. THE DIVISION OF TRAFFIC MANAGEMENT IS WILLING TO LOAN ITS ANCHOR BOLT FORMS TO THE CONTRACTOR IN ORDER TO ENSURE ACCEPTABLE PLACEMENT AND STABILITY.

ALL CONCRETE USED ON THE PROJECT SHALL BE TESTED BY TTL ASSOCIATES, INC. OR APPROVED COMPANY. COSTS FOR CONCRETE TESTING SHALL BE INCLUDED IN THE BID PRICE.

EACH CONCRETE TRUCKLOAD SHALL BE TESTED FOR 28 DAY COMPRESSIVE STRENGTH, SLUMP, CONCRETE TEMPERATURE, AIR CONTENT, AND PLASTIC UNIT WEIGHT.

632 SIGNAL SUPPORT MISC.: SIGNAL SUPPORT WITH MAST ARM

632 COMBINATION SIGNAL SUPPORT MISC.: COMBINATION SIGNAL SUPPORT WITH MAST ARM

SIGNAL POLES AND MAST ARMS SHALL CONFORM TO 632.15 AND 732.11 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

ALL UPRIGHT POLE SHAFTS AND ALL TRAFFIC SIGNAL MAST ARMS THROUGH THIRTY–THREE (33) FEET IN LENGTH SHALL BE MADE IN ONE CONTINUOUS PIECE, BE ROUND IN CROSS SECTION AND UNIFORMLY TAPERED FROM BUTT TO TOP APPROXIMATELY ONE (1) INCH IN DIAMETER FOR EACH SEVEN (7) LINEAL FEET IN LENGTH (0.14 INCHES PER FOOT). ARMS AND POLE SHAFTS OVER THIRTY–EIGHT (38) FEET IN LENGTH MAY BE MADE IN A MAXIMUM OF TWO PIECES TO FACILITATE TRUCK SHIPMENT, BUT SOME POSITIVE MEANS OF ASSURING AN ADEQUATE AND PERMANENT FIELD CONNECTION BETWEEN THE TWO PIECES MUST BE PROVIDED.

MAST ARMS SHALL BE FABRICATED WITH A RISE OF APPROXIMATELY THREE (3) DEGREES.

ALL MAST ARMS SHALL INCLUDE SIGNAL HANGERS OF THE TYPE SHOWN FOR RIGID MOUNTINGS.

ALL COMPONENT PARTS OF THE SIGNAL SUPPORTS SHALL BE STEEL. POLE FLANGES SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. SPECIFICATION A36. HIGH STRENGTH STEEL BOLTS SHALL HAVE A MINIMUM YIELD STRENGTH OF 55,000 PSI AND MINIMUM ULTIMATE STRENGTH OF 90,000 PSI. THE POLES SHALL HAVE A MINIMUM YIELD STRENGTH OF 55,000 PSI AFTER ALL FABRICATION OPERATIONS HAVE BEEN COMPLETED. THE BASE PLATE SHALL BE STEEL IN CONFORMANCE WITH A.S.T.M. A36.

ANCHOR BOLTS FOR STEEL POLES SHALL BE FABRICATED FROM HIGH STRENGTH STEEL HAVING A MINIMUM YIELD STRENGTH OF 85,000 PSI AND A MINIMUM ULTIMATE STRENGTH OF 90,000 PSI. EACH ANCHOR BOLT SHALL HAVE THE THREADED END GALVANIZED FOR A LENGTH SUFFICIENT TO EXTEND DOWNWARD INTO THE CONCRETE FOUNDATION. EACH BOLT SHALL BE PROVIDED WITH TWO REGULAR HEX NUTS. BOTH NUTS SHALL BE HOT DIP GALVANIZED AND MEET THE PHYSICAL AND CHEMICAL REQUIREMENTS OF A.S.T.M. SPECIFICATION A325.

ALTERNATE DESIGNS, WHICH ONLY ALTER THE ABOVE STRENGTH REQUIREMENTS, WILL BE CONSIDERED PROVIDED THAT THE STRENGTH TO SUPPORT SIGNALS AND SIGNS IS AT LEAST EQUAL TO THAT OF THE SPECIFIED POLE UNDER ALL CONDITIONS OF WIND, DEAD, LIVE AND IMPACT LOADING. STRESS CALCULATIONS ACCORDING TO AASHTO "SPECIFICATION FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.
ODOT PID 121938
DESIGNER -
REVIEWER -
COT PROJ. ID ####
SHEET 247 TOTAL 345

TRAFFIC CONTROL NOTES (CONTINUED)

HIGHWAY SIGNS" SHALL BE SUBMITTED TO VERIFY THIS FACT. SAID CALCULATIONS SHALL ALSO CONSIDER WELDS, JOINTS AND OTHER STRESSED FITTINGS.

SIGNAL POLE (S) SHALL BE ERECTED BY USING EQUIPMENT ADEQUATELY DESIGNED FOR SUCH LOADS. SIGNAL POLE (S) SHALL BE RAISED INTO PLACE SO AS TO INSURE THAT THE GALVANIZED COATING IS NOT DAMAGED. SIGNAL POLE (S) SHALL BE SEATED ON THE LEVELING NUTS AND RAKED SLIGHTLY AWAY FROM THE DIRECTION THAT THE SIGNAL HEAD LOADINGS ARE TO BE APPLIED. THE ANCHOR BASE PLATE SHALL THEN BE SECURED BY ADJUSTING THE LEVELING NUTS ON THE ANCHOR BOLTS.

THE CONTRACTOR SHALL PREWIRE THE MAST ARMS PRIOR TO ASSEMBLY. HIGH STRENGTH NUTS AND BOLTS USED IN THE ASSEMBLY OF MAST ARMS TO THE POLE SHAFT SHALL BE TIGHTENED IN ACCORDANCE WITH 513.20, SECTIONS A THROUGH E, WITH THE FOLLOWING EXCEPTIONS:

1. HARDENED WASHERS AND DRIFT PINS ARE NOT REQUIRED
2. PROVISIONS OF 513.20, SECTION E, PARAGRAPHS (2) THROUGH (4) WILL NOT APPLY.

WHERE A TWO-PIECE POLE SHAFT OR MAST ARM IS REQUIRED, GREASE OR SIMILAR LUBRICANTS SHALL NOT BE USED IN THEIR ASSEMBLY.

WHERE A SECOND MAST ARM IS TO BE USED, IT SHALL BE ATTACHED TO THE POLE SHAFT AFTER THE ABOVE ASSEMBLY AS BEEN ERECTED. THE MAST ARM SHALL BE SECURED TO THE POLE SHAFT BY TIGHTENING THE TOP TWO FLANGE PLATE BOLTS PRIOR TO TIGHTENING THE BOTTOM TWO BOLTS IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

ANY BREAKS IN THE GALVANIZED COATING SHALL BE REPAIRED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

CONDUIT ELLS WHICH WILL NOT HAVE WIRE OR CABLE PULLED INTO IT DURING CONSTRUCTION SHALL BE CAPPED AT BOTH ENDS WITH MANUFACTURED CONDUIT PLUGS OR CAPS OF APPROPRIATE SIZE.

ANY FIELD DRILLING ASSOCIATED WITH THE INSTILLATION OF PUSHBUTTONS, PEDESTRIAN HEADS AND POLE MOUNTED SIGNAL HEADS SHALL INCLUDED IN THE PRICE OF THE POLE.

632 METHOD OF MEASUREMENT

METHOD OF MEASUREMENT FOR CABLE SHALL CONFORM TO 632.29 WITH THE FOLLOWING ADDITIONS OR EXCEPTIONS:

WHEN METALLIC CABLE PASSES THROUGH A PULLBOX, POLE, PEDESTAL FOUNDATION OR CONTROLLER FOUNDATION, AN ADDITIONAL ALLOWANCE OF FIVE (5) FEET FOR SLACK.

WHEN METALLIC CABLE PASSES THROUGH OR TERMINATES IN A MANHOLE, AN ADDITIONAL ALLOWANCE OF TEN (10) FEET FOR SLACK.

WHEN FIBER OPTIC CABLE PASSES THROUGH A PULLBOX, MANHOLE OR CONTROLLER FOUNDATION; OR TERMINATES IN A CONTROLLER FOUNDATION OR SPLICE CABINET, AN ADDITIONAL ALLOWANCE OF TWENTY (20) FEET FOR SLACK, AS SHOWN ON THE PLANS.

WHEN FIBER OPTIC CABLE IS TO BE SPLICED IN A PULLBOX OR MANHOLE, AN ADDITIONAL ALLOWANCE OF FIFTY (50) FEET ON THE TRUNK AND TWENTY (20) FEET ON THE DROP CABLE FOR SLACK, AS SHOWN ON THE PLANS.

POWER SERVICE SHALL BE MEASURED BY TYPE. POWER SERVICE SHALL NOT INCLUDE THE METER BASE BUT SHALL INCLUDE ARRANGING FOR POWER.

POLES SHALL INCLUDE MAST ARMS, PUSHBUTTON ACCESS HOLES, BLIND HALF COUPLINGS, CAPS FOR BLIND HALF COUPLINGS WHEN NOT UTILIZED, WIRE INLETS WITH GROMMETS, SIGNAL HANGERS AND OTHER INCIDENTAL HARDWARE AS SPECIFIED.

PEDESTALS SHALL INCLUDE A TRANSFORMER BASE WITH EXPANSION MATERIAL, INCIDENTAL HARDWARE AND, WHERE SPECIFIED, A CAP OR POLE TOP.

ITEM 632 INTERCONNECT MISC.: DROP CABLE, 6 FIBER, AS PER PLAN

ITEM 632 INTERCONNECT MISC.: DROP CABLE, 6 FIBER IN INNDERDUCT, AS PER PLAN

DROP CABLES FOR LOOSE TUBE FIBER OPTIC CABLES SHALL BE AS DESIGNATED ON THE PLANS AS A 6/F CABLE, WHICH SHALL DESCRIBE A 6-FIBER FIBER OPTIC CABLE. THIS CABLE SHALL BE PAID ON A LINEAR MEASUREMENT BASIS AND SHALL BE MADE FROM THE SAME GLASS AND CABLE MANUFACTURER THAT PROVIDES THE TRUNK CABLE. SINCE ONLY 4 FIBERS ARE REQUIRED FOR NORMAL DAISY CHAIN COMMUNICATION, UNUSED DROP CABLE FIBERS (2 FIBERS) SHALL BE EITHER SPLICED THROUGH USING FUSION SPLICES OR LEFT FOR FUTURE USE, AS DIRECTED BY THE ENGINEER. SPARE DROP CABLE FIBERS AT THE SPLICE ENCLOSURE END SHALL BE PLACED INSIDE OF THE ENCLOSURE WITH SUFFICIENT EXCESS TO PROVIDE 2 SERVICE LOOPS OR SPLICED THROUGH, AS DIRECTED BY THE ENGINEER. SPARE DROP CABLE FIBERS AT THE CONTROLLER END SHALL BE CONNECTORIZED AND TERMINATED IN THE CABINET TERMINATION PANEL USING PIGTAILS, OR SPLICED THROUGH, AS DIRECTED BY THE ENGINEER.

WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL THREE (3) INNERDUCTS OF AT LEAST 1" DIAMETER AND OF SUFFICIENT SIZE TO ACCOMMODATE THE CABLE INSIDE OF THE EXISTING CONDUIT.

ALL COSTS TO INSTALL FIBER OPTIC DROP CABLE SHALL INCLUDE THE COSTS FOR CABLE, THREE (3) INNERDUCTS, WHERE SPECIFIED, AND ALL ASSOCIATED EQUIPMENT, LABOR AND MISCELLANEOUS MATERIALS IN THE RESPECTIVE BID ITEM PRICE PER FOOT OF "ITEM 632 INTERCONNECT MISC.: DROP CABLE, 6 FIBER, AS PER PLAN OR "ITEM 632 INTERCONNECT MISC.: DROP CABLE, 6 FIBER IN INNERDUCT, AS PER PLAN".

632 INTERCONNECT MISC.: FAN-OUT KIT, 6-FIBER, 12-FIBER, AS PER PLAN

FAN-OUT KITS SHALL BE PROVIDED FOR LOOSE TUBE DROP CABLE TERMINAL ENDS THAT NEED TO BE FITTED WITH CONNECTORS. THE FAN-OUT KIT CAN BE AN INDIVIDUAL BUFFER TUBE KIT, MULTIPLE BUFFER TUBE KIT OR SPIDER DESIGN KIT. ALL FAN-OUT KITS SHALL HAVE A MINIMUM OF 24" OF TUBING COVERING EACH FIBER WHEN INSTALLATION IS COMPLETE.

PRIOR TO ANY WORK THE CONTRACTOR SHALL SUBMIT FOR APPROVAL: CATALOG CUT SHEETS, GENERAL SPECIFICATIONS, AND STANDARD OPERATING PROCEDURES FOR THE KIT THAT IS TO BE UTILIZED ON THE PROJECT. ONLY ONE TYPE OF FAN-OUT KIT MAY BE USED THROUGHOUT THE PROJECT. ALL DROP CABLE FIBERS SHALL BE FITTED WITH ST TYPE CONNECTORS AT THE TERMINATION PANEL. FAN-OUT KITS SHALL BE RATED FOR OUTDOOR USE (-40C TO 70C).

SINCE ONLY 4 DROP CABLE FIBERS ARE REQUIRED FOR TYPICAL DAISY CHAIN COMMUNICATION, ALL EXTRA DROP CABLE FIBERS AT THE CABINET END SHALL BE INSERTED INTO THE FAN-OUT KIT, CONNECTORIZED AND TERMINATED IN THE TERMINATION PANEL FOR FUTURE USE. COST FOR ALL SPLICES, CONNECTIONS AND TERMINATIONS ASSOCIATED WITH THE FAN-OUT KIT, INCLUDING ALL COSTS ASSOCIATED WITH CONNECTION TO THE DROP CABLE AND FIBER OPTIC PATCH CORDS, AS SPECIFIED ON THIS SHEET SHALL BE INCLUDED IN THE COST OF THE FAN-OUT KIT.

COST FOR LOOSE-TUBE FAN-OUT KITS SHALL BE PAID AT THE BID ITEM PRICE FOR EACH "ITEM 632 INTERCONNECT MISC.: FAN-OUT KIT, 6 FIBER, AS PER PLAN" AND SHALL INCLUDE ALL COSTS FOR MATERIAL, EQUIPMENT, TOOLS AND LABOR TO PROVIDE AND INSTALL THE FAN-OUT KIT.

ITEM 632, INTERCONNECT MISC.: FIBER OPTIC DATA MODEM

FIBER OPTIC MODEMS SHALL OPERATE AT 19,200 BAUD OVER SINGLE MODE FIBER OPTIC CABLE (WAVELENGTH 1310 NM) AND BE ABLE TO COMMUNICATE WITH AN RS-232 DATA TERMINAL BLOCK CONNECTOR. DATA MODEMS SHALL BE CAPABLE OF TRANSMITTING NTCIP PROTOCOL DATA VIA DAISY CHAIN TO UP TO SIX DROPS PER CHANNEL. DATA SHALL BE TRANSMITTED AS ONCE-PER-SECOND POLLING OF SPECIFIED DATA FROM THE CENTRAL EQUIPMENT ROOM. FIBER OPTIC DATA MODEMS SHALL PROVIDE FULL DUPLEX TRANSMISSION. MODEMS SHALL PROVIDE A SELF-HEALING RING STRUCTURE AND A RESETTABLE ANTI-STREAMING FUNCTION.

UNDER NORMAL OPERATING CONDITIONS, MODEMS SHALL MAINTAIN A POWER BUDGET OF 15 DB, MINIMUM (USING 9/125 SINGLE MODE GLASS FIBER). MODEMS SHALL OPERATE AT 12 VDC, WITH A CONTINUOUS LOAD CURRENT NO GREATER THAN 25 MA AND A PEAK LOAD CURRENT NO GREATER THAN 100 MA.

WHERE USED IN MULTIPLEXER AND/OR CENTRAL FACILITIES, ALL MODEMS SHALL BE COMPATIBLE WITH INSTALLATION IN THE MODEM RACKS, DESCRIBED IN THESE SPECIFICATIONS. ALL MISCELLANEOUS WIRING AND HARDWARE REQUIRED TO MOUNT THE MODEMS IN THE MODEM RACKS SHALL BE PROVIDED.

FIBER OPTIC MODEMS SHALL HAVE TWO PAIRS OF OPTICAL EMITTERS AND OPTICAL DETECTORS LABELED PAIR "A" AND PAIR "B", DESIGNED TO ATTACH TO STANDARD ST-TYPE OPTICAL CONNECTORS. ON EACH ASSEMBLY, THERE SHALL BE AT LEAST TWO LIGHT EMITTING DIODES (LEDS), ONE LABELED "AT" FOR TRANSMIT AND ONE LABELED "AR" FOR RECEIVE THAT ILLUMINATE WHEN THE UNIT IS TRANSMITTING AND RECEIVING, RESPECTIVELY.

MODEMS SHALL BE CAPABLE OF POINT TO POINT (MASTER) OR MULTIDROP (SLAVE) OPERATION AS REQUIRED BY THE SYSTEM DESIGN SHOWN ON THE PLANS. WHEN USED FOR MULTIDROP OPERATION, THE MODEMS SHALL BE FURNISHED AND INSTALLED TO REGENERATE THE OPTICAL SIGNAL ON A DAISY-CHAINED COMMUNICATIONS CHANNEL.

FIBER OPTIC MODEMS SHALL BE EQUIPPED WITH A SWITCH LABELED "AM" FOR MASTER OPERATION AND "AL" FOR LOCAL OPERATION.

WHEN THE SWITCH IS IN THE "AM" POSITION, THE MODEM SHALL CONVERT ELECTRICAL DATA SIGNALS TO OPTICAL SIGNALS AND TRANSMIT THESE OPTICAL SIGNALS IN A PARALLEL MODE (I.E., TWO DIRECTIONS) FROM EACH OF THE TWO EMITTERS. IN THE MASTER MODE OF OPERATION, THE UNIT SHALL ALSO CONVERT THE OPTICAL SIGNALS RECEIVED BY THE TWO DETECTORS TO ELECTRICAL SIGNALS AND SEND THE ELECTRICAL SIGNALS TO THE CONTROLLER.

WHEN THE SWITCH IS IN THE "AL" POSITION, THE MODEM SHALL CONVERT THE OPTICAL SIGNAL RECEIVED BY DETECTOR 1 TO ELECTRICAL SIGNALS AND SEND THE ELECTRICAL SIGNALS TO THE CONTROLLER. THE MODEM SHALL ALSO REGENERATE THE OPTICAL SIGNALS AND TRANSMIT THESE SIGNALS VIA EMITTER 2 TO THE NEXT ADJACENT FIBER OPTIC DATA MODEM. THE UNIT SHALL ALSO REGENERATE THE OPTICAL SIGNALS RECEIVED BY DETECTOR 2 AND TRANSMIT THESE SIGNALS VIA EMITTER 1 TO THE NEXT ADJACENT FIBER OPTIC DATA MODEM. THE UNIT SHALL ALSO CONVERT THE ELECTRICAL SIGNALS RECEIVED BY DETECTOR 1 FROM THE CONTROLLER TO OPTICAL SIGNALS AND TRANSMIT THESE SIGNALS TO THE NEXT ADJACENT FIBER OPTIC DATA MODEM. THE UNIT SHALL SUPPORT FULL DUPLEX MULTIDROP COMMUNICATIONS.

EACH MODEM SHALL HAVE AN EMERGENCY BACKUP POWER SOURCE THAT ALLOWS FOR CONTINUED OPERATION WHEN THE UNIT IS EXPERIENCING AN UNEXPECTED ELECTRICAL OUTAGE. THE MODEM SHALL BE EQUIPPED WITH A STANDARD UPS TO PROVIDE UNINTERRUPTIBLE OPERATION OF THE MULTIDROP INTERCONNECT SYSTEM, BOTH UP AND DOWN STREAM FROM THE AFFECTED DATA LINK, FOR A MINIMUM OF 12 HOURS, BASED ON A HALF DUTY CYCLE.

THE DATA PORT OF THE MODEMS SHALL BE CONNECTED TO THE TIME DIVISION MULTIPLEXER ASSEMBLY VIA THE SIGNAL DISTRIBUTION UNITS AT THE MULTIPLEXING NODES, OR THE CENTRAL EQUIPMENT ROOM AS REQUIRED IN THE PLANS AND SPECIFICATIONS.

FIBER OPTIC DATA MODEMS AT MULTIPLEXER AND CENTRAL EQUIPMENT ROOM LOCATIONS WILL BE MEASURED IN UNITS OF EACH AND PAID FOR AT THE CONTRACT UNIT PRICE PER EACH. THIS PRICE SHALL INCLUDE FURNISHING AND INSTALLING THE MODEM AND POWER SUPPLY, INCLUDING CABLES, LABELING, MODEM CARD CAGE, AND FURNISHING ALL MATERIALS, LABOR, TOOLS, EQUIPMENT, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK, IN COMPLIANCE WITH THESE SPECIFICATIONS.

ITEM 632 INTERCONNECT MISC.: FIBER OPTIC TERMINATION

FIBER OPTIC TERMINATIONS SHALL BE AS DEFINED ON SHEET 6. THE ONLY LOCATIONS WHERE FIBER OPTIC TERMINATION SHALL BE PAID SEPARATELY ARE WITHIN ABOVE-GROUND SPLICE CABINETS AND AT THE CER.

FIBER OPTIC TERMINATIONS SHALL BE PAID AT THE BID ITEM PRICE FOR EACH "ITEM 632 INTERCONNECT MISC.: FIBER OPTIC TERMINATION" AND SHALL INCLUDE ALL COSTS FOR CONNECTORS, EQUIPMENT, MATERIAL AND LABOR TO PROVIDE A TERMINATION AS SPECIFIED IN THESE PLANS.

ITEM 632 INTERCONNECT CABLE MISC.: LOOSE TUBE, SINGLE MODE, AS PER PLAN

FIBER OPTIC CABLE SHALL BE AS DESIGNATED ON THE PLANS AS X/F CABLE, WHERE X SHALL INDICATE THE NUMBER OF FIBERS CONTAINED WITHIN A FIBER OPTIC CABLE. THE FIBER OPTIC CABLE SUPPLIED SHALL BE SINGLE MODE (SM). SINGLE-MODE CABLE SHALL HAVE AN 8.3 M NOMINAL CORE DIAMETER.

ALL FIBER OPTIC CABLE SUPPLIED SHALL BE AN ACCEPTED CABLE WITH THE RURAL UTILITY SERVICE (RUS). A LIST OF ACCEPTABLE CABLE CAN BE FOUND ON THE RUS WEB SITE: (WWW.USDA.GOV/RUS/TELECOM/MATERIALS/SEC-1_LOMA.HTM).

ALL FIBER OPTIC CABLE GLASS SHALL BE SUPPLIED BY THE SAME MANUFACTURER AND SHALL BE PART OF A FIBER OPTIC CABLE UTILIZING LOOSE TUBE CONSTRUCTION WITH THE FOLLOWING PROPERTIES:

FOR SINGLE MODE FIBER:

CLADDING DIA.	125+/-1.0 M
COATING DIA.	245+/-10 M
NUMERICAL APERTURE	N/A
MAX. ATTENUATION	0.4/0.3 DB/KM@1310/1550NM
MIN. BANDWIDTH	N/A
PROOF TENSILE TEST	0.7 GPA

WHERE ARMORED CABLE IS SPECIFIED IT SHALL BE ON THE RUS ACCEPTABLE MATERIAL LIST. DOCUMENTATION SHALL BE PROVIDED SHOWING RUS ACCEPTANCE.
DOCUMENTATION SHALL BE PROVIDED SHOWING RUS ACCEPTANCE.

CABLES SHALL BE PACKAGED WOUND ON NON-RETURNABLE WOOD SPOOLS OR REELS. THE DIAMETER OF THE DRUM SHALL BE A MINIMUM OF 20 TIMES THE DIAMETER OF THE CABLE. EACH REEL SHALL CONTAIN ONLY ONE CONTINUOUS LENGTH OF CABLE. LABELS SHALL BE ATTACHED TO THE REEL SHOWING LENGTH, CABLE IDENTIFICATION NAME AND NUMBER, AND DATE OF MANUFACTURE.

THE OUTER ENDS OF THE CABLE SHALL BE SECURELY FASTENED TO THE REEL HEAD SO AS TO PREVENT THE CABLE FROM BECOMING LOOSE DURING TRANSIT. BOTH ENDS OF THE CABLE SHALL EXTEND A MINIMUM OF 10 FEET INTO THE INSIDE OF THE CABLE REEL TO PROVIDE ACCESS FOR TESTING. TEST TAILS SHALL BE SECURED TO THE INSIDE OF THE REEL IN SUCH A MANNER THAT THEY WILL NOT BECOME LOOSE DURING TRANSPORTATION. END SEALS SHALL BE APPLIED TO EACH END OF THE CABLE TO PREVENT THE INTRUSION OF MOISTURE INTO THE CABLE.

DOCUMENTATION SHALL ACCOMPANY EACH REEL DOCUMENTING THE ATTENUATION OF EACH CABLE FIBER IN DB/KM.

ALL FIBER OPTIC CABLE TO BE USED AS PART OF THE TRAFFIC SIGNAL SYSTEM SHALL BE RATED FOR OUTDOOR USE UNLESS SPECIFICALLY NOTED IN THE PLANS.

FIBER OPTIC CABLE RIP CORDS SHALL BE PROVIDED AND MADE FROM EITHER STANDARD TELCO NYLON MATERIAL OR FROM BRAIDED KEVLAR. NO UN-BRAIDED KEVLAR WILL BE ACCEPTED.

CABLE JACKETING SHALL BE PERMANENTLY LABELED APPROXIMATELY EVERY TWO FEET WITH THE CABLE MANUFACTURER'S NAME, CABLE TYPE, FIBER COUNT, MANUFACTURING DATE, AND INCREMENTAL CABLE LENGTH. CABLE LENGTH SHALL REFER TO THE CABLE SHEATH LENGTH.

A TONE WIRE, 14 GAUGE MINIMUM, SHALL BE INSTALLED EITHER INSIDE OF THE EXISTING CONDUIT OR WITHIN THE PROPOSED INNERDUCT. THE MARKING TAPE SHALL NOT BE INSTALLED WHERE CONDUIT IS EXISTING.

INNERDUCT

WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL INSTALL ONE (1) INNERDUCT FOR EACH CABLE, OF AT LEAST 1" DIAMETER AND OF SUFFICIENT SIZE TO ACCOMMODATE THE CABLE TO BE PLACED INSIDE OF THE EXISTING CONDUIT.

INNERDUCT SHALL BE MANUFACTURED FROM PVC OR HDPE. INNERDUCT TO BE USED IN BENDS AND SWEEPS SHALL HAVE A MINIMUM BURN THROUGH TIME OF 90 MINUTES WHEN TESTED IN ACCORDANCE WITH BELLCORE TECHNICAL REFERENCE TR-NMT-000356, ISSUE 2, OCTOBER 1992. THE DIMENSIONS OF INNERDUCT SHALL MEET THE REQUIREMENTS OF THE MANUFACTURER'S CATALOG CUT SHEETS APPROVED BY THE ENGINEER.

ALL COSTS TO INSTALL FIBER OPTIC CABLE SHALL INCLUDE THE COSTS FOR CABLE, ONE (1) INNERDUCT FOR EACH CABLE, WHERE SPECIFIED, AND ALL ASSOCIATED EQUIPMENT, LABOR AND MISCELLANEOUS MATERIALS IN THE RESPECTIVE BID ITEM PRICE PER FOOT OF "ITEM 632 INTERCONNECT CABLE MISC.: X-FIBER, LOOSE TUBE, SINGLE MODE, AS PER PLAN".

ITEM 632 INTERCONNECT MISC.: FIBER OPTIC PATCH CORD, 4 FIBER, AS PER PLAN

A FOUR-FIBER PATCH CORD SHALL BE PROVIDED BETWEEN EACH FIBER OPTIC TRANSCEIVER AND EACH TERMINATION PANEL. THE FIBERS SHALL BE SINGLE MODE AS REQUIRED TO MATCH THE TRUNK CABLE AND TRANSCEIVER. PATCH CORDS SHALL BE FITTED WITH ST TYPE CONNECTORS ON THE PATCH PANEL END AND LC TYPE CONNECTORS ON THE SWITCH TRANSCEIVER END UNLESS THE PROPOSED/EXISTING EQUIPMENT REQUIRES A DIFFERENT CONNECTOR. PATCH CORDS SHALL BE NO LESS THAN THREE (3) FEET IN LENGTH. CONNECTORS SHALL BE ATTACHED TO THE PATCH CORDS USING AN EPOXY CRIMPED METHODOLOGY WHERE THE KEVLAR IS CRIMPED TO THE CONNECTOR. COST FOR SUPPLYING AND INSTALLING CONNECTORS ON ALL ENDS OF THE PATCH CORD SHALL BE INCIDENTAL TO THE BID ITEM PRICE OF THE PATCH CORD. COST FOR THE PATCH CORD SHALL BE AT THE BID ITEM PRICE FOR EACH "ITEM 632 INTERCONNECT MISC.: FIBER OPTIC PATCH CORD, 4 FIBER, AS PER PLAN".

ITEM 632 INTERCONNECT MISC.: FIBER MODULE, AS PER PLAN

TWO (2) MSA COMPLIANT, SMALL FORM-FACTOR PLUGGABLE (SFP) FIBER MODULES SHALL BE PROVIDED FOR EACH TRAFFIC SIGNAL CONTROLLER. FIBER MODULES SHALL BE 1000 BASE FX AND INCLUDE DUAL LC SINGLE-MODE CONNECTORS. CONNECTORS PROVIDED SHALL BE SINGLE MODE DUPLEX PATCH CABLES AND SHALL BE ST TYPE ON THE PATCH PANEL END AND LC TYPE ON THE SWITCH TRANSCEIVER END. THE FIBER MODULES SHALL BE RATED AT OPERATING TEMPERATURES BETWEEN -40°C AND +85°C. FIBER MODULES ARE ALLOWED TO BE BUILT INTO THE ETHERNET SWITCH IN LIEU OF INDIVIDUAL PLUG-IN MODULES.

632 POWER CABLE MISC.

POWER CABLE SHALL BE DOUBLE CONDUCTOR, EIGHT (8) STRAND, TYPE THHN/THWN OF THE SIZE SHOWN ON THE PLANS AND SHALL BE COLOR CODED BLACK FOR THE UNGROUNDED CONDUCTOR AND WHITE FOR THE GROUNDED CONDUCTOR.

WHERE TYPE THHN HAS BEEN CALLED FOR IN THE PLANS, THE CONTRACTOR SHALL CONSIDER THIS TO READ "TYPE THHN/THWN".

ITEM 632, INTERCONNECT MISC.: RACK MOUNTED TERMINATION PANEL

TERMINATION PANELS USED IN THE FIELD MULTIPLEXIING CABINET ASSEMBLIES AND AT THE CENTRAL EQUIPMENT ROOM SHALL BE EQUIVALENT TO MODEL CCH-01U AS MANUFACTURED BY SIECOR. THE TERMINATION PANEL SHALL BE MOUNTED WITHIN THE 19" RACK AT THE SPECIFIED LOCATION(S)

THE TERMINATION PANEL SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:

THE TERMINATION BLOCK SHALL:

- HAVE THE CAPACITY TO TERMINATE TWENTY-FOUR (24) OR MORE FIBERS.
- WEIGH NO MORE THAN 3 POUNDS, WITH DIMENSIONS OF NO MORE THAN 2 X 17 X 12 INCHES.
- INCLUDE PROVISIONS FOR CABLE STRAIN RELIEF, AND FOR NEATLY ORGANIZING SLACK FIBER AND BUFFER TUBES.
- BE RACK-MOUNTABLE AND PLACED SUCH THAT IT DOES NOT INTERFERE WITH ACCESS TO OTHER EQUIPMENT, AND ASSURING THAT THE BEND RADIUS OF THE FIBER OPTIC CABLE IS NOT VIOLATED.
- HAVE A SLICE-OUT DRAWER THAT ALLOWS FOR EASY ACCESS TO THE INTERIOR COMPARTMENT AND ALL CONNECTIONS.
- BE CONSTRUCTED OF POWDER-COATED METAL OR OTHER DURABLE, CORROSION-RESISTANT MATERIALS.

CABLE STRAIN RELIEF AND STORAGE OF SLACK BUFFER TUBES SHALL BE ACCORDING TO THE MANUFACTURER'S INSTRUCTION.

BASIS OF PAYMENT

PAYMENT FOR ACCEPTED QUANTITIES WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH ITEM, FURNISHED, INSTALLED, TESTED AND ACCEPTED BY THE CITY.

ITEM 632, INTERCONNECT MISC.: SPLICE ENCLOSURE (UNDER GRADE), AS PER PLAN

SPLICE ENCLOSURES SHALL BE A SIECOR MODEL UCA0, 3M 2178 OR APPROVED EQUAL. INCLUDED WITH EACH ENCLOSURE SHALL BE PULLBOX WALL MOUNTING BRACKETS. WHERE ARMORED CABLE IS SPECIFIED, THE ARMOR SHALL BE GROUNDED IN THE GROUNDING SYSTEM PROVIDED WITH THE ENCLOSURE. AS A MINIMUM A 12 FIBER SPLICE TRAY SHALL BE PROVIDED WITH THE ENCLOSURE. WHERE MORE THAN 12 FIBERS ARE SPECIFIED, ADDITIONAL SPLICE TRAYS SHALL BE INCLUDED AS NECESSARY TO ACCOMMODATE THE FIBER COUNT. THE SPLICE ENCLOSURE SHALL FEATURE A MOISTURE TIGHT SEALING ARRANGEMENT THAT IS RE-ENTERABLE FOR SYSTEM EXPANSION AND REPAIR. NO STRESS SHALL BE PLACED ON FINISHED SPLICES WITHIN THE SPLICE ENCLOSURE.

AT SPLICE LOCATIONS, A RING CUT METHODOLOGY SHALL BE USED. TRUNK CABLE JACKETING SHALL BE CUT BACK A SUFFICIENT DISTANCE TO ALLOW THE UNUSED TRUNK FIBER TUBES BE STORED UNCUT/UNOPENED WITH 2 SERVICE LOOPS INSIDE THE ENCLOSURE. THE TRUNK CABLE TUBE THAT CONTAINS THE INTERCONNECT FIBERS SHALL BE OPENED TO EXPOSE THE SIX INNER FIBERS. ONLY THE TWO TRUNK CABLE FIBERS THAT WILL BE SPLICED MAY BE CUT. THE REMAINING FOUR TRUNK CABLE FIBERS IN THE OPENED TUBE SHALL REMAIN UNCUT AND STORED IN THE SPLICE TRAY WITH A MINIMUM OF TWO SERVICE LOOPS. THE ONLY TRUNK CABLE FIBERS THAT ARE TO BE CUT ARE THE 2 TRUNK CABLE FIBERS BEING SPLICED INTO THE DROP CABLE. (TO DROP CABLE FIBERS R1, T1, R2, T2)

ALL SPLICES MADE WITHIN UNDER GRADE SPLICE ENCLOSURES SHALL BE FUSION SPLICES, AND THE COST OF THESE SPLICES SHALL BE INCLUDED IN THE COST OF THE ENCLOSURE.

TRAFFIC CONTROL NOTES

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
-

REVIEWER
-

COT PROJ. ID
####

SHEET 248 | TOTAL 345

S5
11

TRAFFIC CONTROL NOTES (CONTINUED)

633 CABINET FOUNDATION, AS PER PLAN

CABINET FOUNDATIONS SHALL CONFORM TO 633.10 WITH THE FOLLOWING EXCEPTIONS OR ADDITIONS:

PROVISION OF ANCHOR BOLTS AND CONDUIT ELLS SHALL BE INCLUDED IN THIS ITEM. CONDUIT ELLS WHICH WILL NOT HAVE WIRE OR CABLE PULLED INTO THEM DURING CONSTRUCTION SHALL BE CAPPED AT BOTH ENDS WITH MANUFACTURED CONDUIT PLUGS OR CAPS OF APPROPRIATE SIZE.

THE CONTRACTOR SHALL PROTECT ALL EXPOSED CONDUIT AND CABLE AT CONTROLLER LOCATION FROM THE ELEMENTS OF WEATHER AND ENVIRONMENT UNTIL INSTALLATION OF CONTROLLER IS COMPLETE.

ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN

THIS ITEM SHALL CONFORM TO THE REQUIREMENTS OF ITEM 633, EXCEPT AS MODIFIED HEREIN.

633.01 DESCRIPTION – REPLACE WITH:

THIS WORK CONSISTS OF FURNISHING TRAFFIC SIGNAL CONTROL EQUIPMENT, INCLUDING CONTROLLERS, CABINETS, AUXILIARY EQUIPMENT AND SPECIFIED ACCESSORIES, COMPLETELY WIRED, INSTALLATION–READY, TO THE CITY OF TOLEDO ACCORDING TO THE PLANS AND SPECIAL PROVISIONS.

TRAFFIC SIGNAL CONTROLLERS SHALL BE DELIVERED TO THE TRAFFIC SIGNAL SHOP, 110 N. WESTWOOD, TOLEDO, OHIO. ALL EQUIPMENT SHALL BE IN CONFORMANCE WITH THE TYPES, MODELS, AND SYSTEMS AS SPECIFIED. THE CITY OF TOLEDO WILL SHOP–TEST AND INSTALL THIS EQUIPMENT. THE SHOP–TEST WILL INVOLVE BUILDING THE CONTROLLER PER STREET PRINT AND SEQUENCE PLAN OF INTERSECTION, PROGRAMMING OF TIMING AND OPERATING HOURS AND ANY SPECIAL FUNCTIONS. THE CONTROLLER WILL THEN BE OPERATED IN THE SHOP WITH A LIGHT BOARD TO SIMULATE THE FIELD OPERATION FOR FIVE WORKING DAYS. THE INSTALLED TRAFFIC SIGNAL CONTROL EQUIPMENT WILL BE TESTED BY THE CITY OF TOLEDO, DIVISION OF TRAFFIC MANAGEMENT IN ACCORDANCE WITH THE PLANS.

633.03 MATERIALS AND EQUIPMENT – ADD:

ALL EQUIPMENT AND MATERIALS SHALL BE NEW, PREQUALIFIED, AND FREE FROM DEFECTS. FIRMWARE/SOFTWARE SHALL COMPLY WITH APPLICABLE NEMA STANDARDS, REQUIREMENTS OF THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD).

ALL TRAFFIC CONTROL SOFTWARE, HARDWARE, AND FIRMWARE SHALL COMPLY WITH THE NATIONAL TRANSPORTATION COMMUNICATIONS FOR INTELLIGENT TRANSPORTATION SYSTEM PROTOCOL (NTCIP) CLASS B, LEVEL 2 CONFORMANCE (SNMP & STMP).

THE TRAFFIC CONTROL SOFTWARE SHALL SUPPORT AND COMPLY WITH NEMA STANDARD NTCIP 1101, "NTCIP – SIMPLE TRANSPORTATION MANAGEMENT FRAMEWORK" (STMF), POLLING AND STATUS REQUEST AND REPLY AT ONCE–PER–SECOND UPDATE, NEMA STANDARD NTCIP 2001, "NTCIP – CLASS B PROFILE", NEMA STANDARD NTCIP 1201, "NTCIP – GLOBAL OBJECT DEFINITIONS", AND NEMA STANDARD NTCIP 1202, "NTCIP OBJECT DEFINITIONS FOR ACTUATED TRAFFIC SIGNAL CONTROLLER UNITS." ALL NTCIP COMPLIANT OBJECTS, MANDATORY AND OPTIONAL, ARE TO BE INCORPORATED INTO THE TRAFFIC CONTROL SOFTWARE FOR UNITS SUPPLIED UNDER THIS CONTRACT.

THE CONTROLLER UNITS SHALL MEET THE NEMA TS 2 TYPE 2 STANDARD FOR ACTUATED UNIT (TYPE A2). THE CONTROLLER UNIT SHALL BE PROVIDED WITH A, B AND C CONNECTORS AND PORTS 1 THROUGH 3, ALLOWING INTERFACE TO EITHER TS 1 OR TS 2 CABINET ASSEMBLIES.

ELECTRICAL PARTS, WIRE, SWITCHES AND OTHER ELEMENTS OF THE INSTALLATION SHALL BE OF AMPLE CAPACITY TO CARRY THE REQUIRED CURRENT WITHOUT EXCESSIVE HEATING OR DROP OF POTENTIAL. EACH INDIVIDUAL ITEM OF EQUIPMENT SHALL BEAR A NAMEPLATE, INDELIBLE MARKING OR BRAND THAT SHALL IDENTIFY IT AS TO TYPE, MODEL, CATALOG NUMBER AND MANUFACTURER. MATERIAL AND EQUIPMENT SHALL CONFORM TO THE SPECIFICATION AS CONTAINED HEREIN.

633.05 GENERAL – REPLACE WITH:

THE CONTRACTOR SHALL SUPPLY THE FOLLOWING DOCUMENTATION:
PRIOR TO THE DELIVERY OF THE FIRST CONTROLLER ASSEMBLY OR CONTROLLER UNIT, ONE SET OF COMPLETE INSTALLATION, OPERATIONS AND MAINTENANCE DOCUMENTATION FOR THE BUS INTERFACE UNIT, MALFUNCTION MANAGEMENT UNIT, LOOP DETECTOR UNITS, FIELD MULTIPLEXER, AND FIBER OPTIC DATA MODEMS.

ONE AUTOCAD (.DWG) DRAWING FILE OF THE CONTROLLER BACK PANEL ON A CD–ROM.

PROPRIETARY SOFTWARE AND USER MANUAL FOR UPLOAD/DOWNLOAD, DATA COPY AND DIAGNOSTICS FROM ALL REMOTE TERMINALS. THIS ITEM MAY BE OMITTED IF THE LATEST VERSION HAS BEEN PROVIDED TO THE CITY OF TOLEDO WITHIN THE PREVIOUS 24–MONTH PERIOD.

WITH EACH CONTROLLER ASSEMBLY OR CONTROLLER UNIT, AN OPERATION/MAINTENANCE MANUAL INCLUDING INSTALLATION PROCEDURE, ADJUSTMENTS, THEORY OF OPERATION, FIELD TROUBLE ANALYSIS, PREVENTATIVE MAINTENANCE PROCEDURE(S), ALL SCHEMATICS, BENCH TROUBLE SHOOTING, AND VOLTAGE MEASUREMENTS.

633.06 TESTING AND PREQUALIFICATION – REPLACE WITH:

ANY CONTROLLER ASSEMBLY NOT PREVIOUSLY OPERATING ON THE CITY'S CENTRAL SYSTEM SHALL REQUIRE CERTIFICATION AND TESTING TO ENSURE COMPATIBILITY. THE LOW BIDDER WILL BE REQUIRED, WITHIN 30 DAYS FOLLOWING RECEIPT OF BIDS, TO PROVIDE MANUFACTURER CERTIFICATION THAT THE CONTROLLER MEETS ALL HARDWARE AND SOFTWARE REQUIREMENTS AS SPECIFIED HEREIN.

633.07 CONTROLLERS – REPLACE WITH:

CONTROLLERS SHALL BE FURNISHED WITH A PRE–WIRED CABINET INCLUDING ALL REQUIRED AUXILIARY EQUIPMENT IN ACCORDANCE WITH THE PLANS AND SHOP DRAWINGS. CONTROLLER PROGRAMMING SHALL BE PERFORMED BY THE CITY OF TOLEDO.

733.02 NEMA TS–2 CONTROLLER UNITS – ADD:

THE CONTROLLER UNIT FRONT PANEL SHALL CONTAIN LIQUID CRYSTAL DISPLAY (LCD) ELEMENTS THAT CAN BE READ EASILY UNDER VARIOUS LIGHTING CONDITIONS. THE LCD SHALL HAVE A BACKLIGHT AND SHALL DISPLAY CONTROLLER STATUS AND TIMING AND FUNCTIONAL SETTINGS IN CONJUNCTION WITH KEYBOARD ACTIVITY. THE CONTROLLER UNIT SHALL PROVIDE A SETUP ENTRY TO TURN THE BACKLIGHT ON OR OFF. THIS ENTRY SHALL ALSO ALLOW AT LEAST EIGHT LEVELS OF CONTRAST ADJUSTMENT OF THE BACKLIGHT.

THE CONTROLLER UNIT SHALL MAKE PROVISIONS FOR PREEMPTION AS PER NEMA TS 2 STANDARD AND SHALL PROVIDE A MEANS TO SMOOTHLY TRANSITION BACK INTO A COORDINATION PLAN AFTER PREEMPTION.

THE CONTROLLER UNIT SHALL INCLUDE A TIME RESET INPUT. THE CONTROLLER UNIT TIME SHALL ALSO BE SETTABLE THROUGH THE KEYPAD. THE CONTROLLER UNIT SHALL REVERT TO TIME BASE CONTROL FOLLOWING LOSS OF COMMUNICATIONS FROM THE CENTRAL SYSTEM, AFTER A USER–DEFINED AMOUNT OF TIME.

THE CONTROLLER UNIT SHALL BE CAPABLE OF EXTENDING THE PEDESTRIAN "FLASHING DON'T WALK" INTERVAL THROUGH THE YELLOW VEHICLE CLEARANCE INTERVAL. THIS FUNCTION SHALL BE PHASE SELECTABLE AND USER PROGRAMMABLE THROUGH THE KEYPAD.

USER–PROGRAMMED SETTINGS AND INTERSECTION CONFIGURATION DATA SHALL BE STORED IN AN ELECTRICALLY ERASABLE PROGRAMMABLE READ–ONLY MEMORY (EEPROM).

ALL ELECTRONIC MODULES SHALL BE EASILY REMOVABLE FROM THE FRONT OF THE CONTROLLER UNIT USING A STANDARD SCREWDRIVER. ALL INTERFACE CONNECTORS SHALL BE ACCESSIBLE FROM THE FRONT OF THE CONTROLLERS.

THE CONTROLLER UNIT OFFSET/SYNC REFERENCE POINT SHALL BE OPERATOR SELECTABLE.

THE CONTROLLER UNIT SHALL BE CAPABLE OF LOGGING AND DISPLAYING MALFUNCTION MANAGEMENT UNIT EVENTS.

COMMUNICATIONS SHALL BE AS REQUIRED IN THE PLANS, SPECIFICATIONS AND SPECIAL PROVISIONS TO INTERFACE WITH THE EXISTING CENTRAL SYSTEM.

THE CONTROLLER UNIT SHALL INCLUDE BOTH UNIVERSAL SERIAL BUS (USB) AND ETHERNET CONNECTIVITY.

733.03 NEMA TS–2 CABINETS – ADD:

CABINETS SHALL BE MANUFACTURED TO MEET THE NEMA STANDARD PUBLICATION NO. TS 2 1992 TRAFFIC CONTROLLER ASSEMBLIES, SIZE 5 AS PER PLAN, WITH THE FOLLOWING REQUIREMENTS:

ALL CABINETS SHALL BE CONSTRUCTED WITH A SLANTED ROOF AND A DRIP SHIELD OVER THE FRONT DOOR. THE CABINET DOOR SHALL BE HINGED USING A HEAVY GAUGE CONTINUOUS HINGE WITH A STAINLESS STEEL HINGE PIN. THE HINGE SHALL BE BOLTED TO THE CABINET SO THAT THE DOOR CAN BE REMOVED. THE FASTENERS SHALL BE MADE OF STAINLESS STEEL AND USE NYLON LOCKING NUTS.

ALL EXTERIOR SEAM WELDS SHALL BE CONTINUOUS. EXTERIOR SEAMS THAT HAVE INTERIOR WELDS SHALL BE SEALED WITH A SILICONE SEALER. ALL EDGES SHALL BE SMOOTH WITH NO SHARP EDGES.

EACH CABINET SHALL BE PROVIDED WITH TWO METAL SHELVES EQUIPPED WITH TWO LED LIGHTS UNDERNEATH FOR CABINET ILLUMINATION, MOUNTED ON ADJUSTABLE BRACKETS TO SUPPORT THE CONTROLLER UNIT AND AUXILIARY EQUIPMENT.

ALL CABINETS SHALL HAVE AN EAVES–TYPE EXHAUST VENT WITH A THERMOSTATICALLY CONTROLLED FAN (120 VOLT, 60 HERTZ). THERMOSTAT CONTROL SHALL BE ADJUSTABLE FROM 70 DEGREES F TO 162 DEGREES F.

THE CABINET DOOR SHALL BE EQUIPPED WITH A THREE–POINT LOCKING MECHANISM EMPLOYING NYLON ROLLERS, AND INCLUDING A STAINLESS STEEL HANDLE THAT CAN BE PADLOCKED. THE CABINET DOOR HANDLE SHALL OPEN IN A COUNTER–CLOCKWISE DIRECTION. THE DOOR SHALL BE SEALED WITH A NEOPRENE GASKET. ADEQUATE CLEARANCE MUST BE PROVIDED FOR A HUMAN HAND BETWEEN THE MAIN CABINET DOOR HANDLE AND THE POLICE PANEL DOOR.

THE CABINET DOOR SHALL BE DESIGNED SUCH THAT THE DOOR CAN BE FIXED IN AN OPEN POSITION AT 90, 135 AND 180 DEGREES TO THE CABINET FACE.

THE CABINET DOOR SHALL HAVE A LOUVERED–TYPE INTAKE VENT WITH A PERMANENTLY AFFIXED SCREEN TO PREVENT ENTRANCE OF SMALL CREATURES, AND A METAL FILTER THAT IS REMOVABLE AND WASHABLE.

THE MAIN CABINET DOOR LOCK SHALL BE KEYED TO THE CITY OF TOLEDO MASTER, CORBIN KEY NO. 2 (IR6380). THE POLICE PANEL DOOR LOCK SHALL BE KEYED TO THE CITY OF TOLEDO MASTER BRASS POLICE PANEL KEY. TWO SETS OF KEYS SHALL BE FURNISHED WITH EACH CABINET ASSEMBLY.

THE CABINET INTERIOR SHALL BE PAINTED WHITE AND TREATED WITH A THREE STAGE IRON PHOSPHATE COATING, A ZINC CHROMATE PRIMER COATING, AND A BAKED WHITE ALKALI ENAMEL FINISH. ALL COATINGS SHALL BE PROPERLY APPLIED AND DRIED SUCH THAT THE INTERIOR WHITE WILL NOT PEEL FOR A GUARANTEED PERIOD OF TWO YEARS.

THE CABINET SHALL HAVE A ZIPLOC CLOSING PLASTIC ENVELOPE FASTENED TO THE INSIDE OF THE DOOR. THE PLASTIC ENVELOPE SHALL MEASURE 12 INCHES BY 14 INCHES MINIMUM.

ALL CABINET ASSEMBLIES SHALL HAVE A POLICE PANEL INTEGRAL TO THE MAIN DOOR OF THE CABINET. THE LOCATION OF THE POLICE PANEL DOOR SHALL IN NO WAY INTERFERE WITH THE ABILITY TO OPEN THE MAIN CABINET DOOR. THE POLICE PANEL SHALL CONTAIN:

- A SIGNAL ON/OFF SWITCH: IN THE OFF POSITION, POWER SHALL BE REMOVED FROM THE SIGNAL HEADS IN THE INTERSECTION. THE CONTROLLER SHALL CONTINUE TO OPERATE. WHEN IN THE OFF POSITION, THE MALFUNCTION MANAGEMENT UNIT SHALL NOT CONFLICT OR REQUIRE RESET.
- AUTO/FLASH SWITCH: IN THE FLASH POSITION, POWER SHALL NOT BE REMOVED FROM THE CONTROLLER AND STOP TIME SHALL BE APPLIED.

THE INSIDE OF THE CABINET DOOR SHALL BE EQUIPPED WITH A TECHNICIAN SWITCH PANEL CONTAINING THE FOLLOWING:

- AUTO/FLASH SWITCH: WHEN IN THE FLASH POSITION, POWER SHALL BE MAINTAINED TO THE CONTROLLER AND THE INTERSECTION SHALL BE PLACED IN FLASH. THE CONTROLLER SHALL NOT BE STOP TIMED AND THE CYCLIC OPERATION OF THE CONTROLLER SHALL NOT BE AFFECTED WHEN THIS SWITCH IS IN THE FLASH POSITION. WHEN THE SWITCH IS RETURNED TO THE AUTO POSITION, THE CONTROLLER SHALL IMMEDIATELY INITIATE THE START–UP SEQUENCE.
- STOP TIME SWITCH: WHEN APPLIED, THE CONTROLLER SHALL BE STOP TIMED IN THE CURRENT INTERVAL.
- CONTROL EQUIPMENT POWER ON/OFF SWITCH: THIS SWITCH SHALL CONTROL THE CONTROLLER, MALFUNCTION MANAGEMENT UNIT AND CABINET POWER SUPPLY.
- SYSTEM/FREE SWITCH: IN THE FREE POSITION THE INTERSECTION SHALL OPERATE IN THE FREE MODE REGARDLESS OF THE STATUS OF THE CENTRAL CONTROL EQUIPMENT. UP IS THE NORMAL POSITION. DOWN IS THE FREE POSITION.

SIZE 5 CABINETS ARE SPECIFIED FOR FOUNDATION MOUNTING. THESE CABINETS SHALL BE NO LESS THAN 58 INCHES IN HEIGHT, 36 INCHES IN WIDTH, AND 16 INCHES IN DEPTH (TYPE MSX).

TERMINALS AND FACILITIES

CABINET TERMINALS AND FACILITIES SHALL MEET THE NEMA TS 2 TYPE 1 STANDARD FOR BACK PANEL CONFIGURATION 4, WITH SIXTEEN PHASES. THE BACK PANEL SHALL BE PROGRAMMABLE (I.E. MOVABLE JUMPERS OF OUTPUTS TO TERMINAL BLOCKS) AND EASILY REMOVABLE FOR MAINTENANCE. ALL BACK PANEL HARDWARE SHALL BE MOUNTED WITH STAINLESS STEEL SCREWS.

ALL WIRES FASTENED TO LOAD SWITCHES AND FLASHER PLUGS SHALL BE SOLDERED IN PLACE. CIRCUIT BOARDS MOUNTED TO THE BACKPANEL SHALL BE COATED AFTER CONSTRUCTION TO PREVENT MOISTURE BRIDGES.

THE POWER INPUT PANEL SHALL MEET THE NEMA TS 2 STANDARD FOR POWER INPUT PANELS, EXCEPT THAT NEUTRAL AND CHASSIS SHALL BE ISOLATED FROM ONE ANOTHER, AND SHALL NOT BE JUMPERED TOGETHER.

A 120 VAC INCANDESCENT LAMP ASSEMBLY SHALL BE PROVIDED WITH EACH CONTROLLER ASSEMBLY AND SHALL BE LOCATED NEAR THE UPPER PART OF THE BACK PANEL SO AS TO ILLUMINATE THE BACK PANEL. THE INCANDESCENT LAMP ASSEMBLY SHALL NOT INTERFERE WITH THE REMOVAL OR INSTALLATION OF ANY EQUIPMENT.

ALL CONTROLLER UNIT AND MMU CABLES SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE UNITS TO BE PLACED ON EITHER SHELF OR ON THE OUTSIDE TOP OF THE CABINET IN OPERATING MODE. CONNECTING CABLES SHALL BE SLEEVED IN A BRAIDED NYLON MESH OR PVC JACKET. CONNECTORS SHALL BE CAPABLE OF BEING SECURELY FASTENED TO THE APPLICABLE AUXILIARY DEVICE.

EACH CONTROLLER ASSEMBLY SHALL HAVE A COMMUNICATIONS TERMINAL BLOCK ASSEMBLY WITH SPLICING TRANSIENT VOLTAGE SURGE SUPPRESSION AND CONNECTION TERMINALS. THE COMMUNICATIONS TERMINAL BLOCK SHALL BE LOCATED ON THE RIGHT WALL OF THE CABINET AND SHALL BE ACCESSIBLE WITHOUT REMOVAL OF ANY PARTS AND SHALL BE OPTICALLY ISOLATED FOR PROTECTION FROM TRANSIENTS.

AUXILIARY EQUIPMENT AND ACCESSORIES

THE FOLLOWING EQUIPMENT SHALL BE FURNISHED WITH EACH CONTROLLER ASSEMBLY:

ONE (1) POWER SUPPLY MEETING THE NEMA TS 2 STANDARD FOR POWER SUPPLIES.

ONE (1) MALFUNCTION MANAGEMENT UNIT (MMU), WHICH SHALL MEET, AS A MINIMUM, THE REQUIREMENTS OF THE NEMA TS 2 STANDARD FOR MALFUNCTION MANAGEMENT UNITS. THE MMU SHALL BE A TYPE 16. PROGRAM CARD SHALL HAVE NO JUMPERS INSTALLED. MALFUNCTION MANAGEMENT UNITS SHALL BE CAPABLE OF SUPPORTING A "FLASHING YELLOW ARROW" PERMISSIVE–PROTECTED LEFT TURN PHASE AND SHALL INCLUDE AN ETHERNET PORT. AN ACCEPTABLE MODEL IS THE EDI SMART MONITOR MMU2–16LEip.

THREE (3) BUS INTERFACE UNITS (BIU) MEETING THE NEMA TS 2 STANDARD FOR BUS INTERFACE UNITS; TWO (2) TO PROVIDE INTERFACE BETWEEN CONTROLLER UNIT, MMU AND TERMINALS AND FACILITIES AND ONE (1) FOR THE DETECTOR RACK INTERFACE.

A MINIMUM OF TWO (2) RACK MOUNTABLE LOOP DETECTOR UNITS; TYPE A, 2 CHANNEL WITH CONFIGURATION 1 RACK, WHICH SHALL MEET THE NEMA TS 2 STANDARD FOR INDUCTIVE LOOP DETECTOR UNITS.

SIXTEEN (16) SOLID STATE LOAD SWITCHES, DISCREET COMPONENTS. LOAD SWITCHES SHALL MEET THE NEMA TS 2 STANDARD FOR THREE–CIRCUIT SOLID–STATE LOAD SWITCHES. THE INPUT AND OUTPUT INDICATORS ON THE SOLID STATE LOAD SWITCHES SHALL ILLUMINATE WHEN ACTIVE, SHOWING THE CONDITION OF THE GREEN/WALK, YELLOW, OR RED/DON'T WALK CONTROLLER DRIVERS. THE INDICATOR LIGHTS SHALL BE PERMANENTLY LABELED WITH THE LETTERS G, Y, AND R PLACED ADJACENT TO THE INDICATOR LIGHT.

ONE (1) SOLID–STATE FLASHER MEETING THE NEMA TS 2 STANDARD FOR SOLID STATE FLASHERS AND CONSTRUCTED WITH REPLACEABLE FLASHER CUBES.

SIX (6) FLASH TRANSFER RELAYS MEETING THE NEMA TS 2 STANDARD FOR FLASH TRANSFER RELAYS.

633.19 BASIS OF PAYMENT – REPLACE WITH:

PAYMENT FOR ACCEPTED QUANTITIES OF WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT WILL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT AND OTHER INCIDENTALS NECESSARY FOR EACH ITEM, FURNISHED, TESTED AND ACCEPTED BY THE CITY.

ITEM 633, CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, AS PER PLAN, FIBER OPTIC MODEM, TYPE MOUNTING, EACH

633 CONTROLLER ITEM MISC.: BUS INTERFACE UNIT

BUS INTERFACE UNITS (BIU) SHALL MEET THE NEMA TS 2 STANDARD FOR BUS INTERFACE UNITS.

633 CONTROLLER ITEM MISC.: FLASH TRANSFER RELAY

FLASH TRANSFER RELAYS SHALL MEET THE NEMA TS 2 STANDARD FOR POWER SUPPLIES.

633 CONTROLLER ITEM MISC.: TWO-CIRCUIT FLASHER

TWO–CIRCUIT FLASHERS SHALL BE SOLID–STATE AND SHALL MEET THE NEMA TS 2 STANDARD FOR SOLID STATE FLASHERS AND SHALL BE CONSTRUCTED WITH REPLACEABLE FLASHER CUBES.

633 CONTROLLER ITEM MISC.: MALFUNCTION MANAGEMENT UNIT

MALFUNCTION MANAGEMENT UNITS SHALL, AT A MINIMUM, MEET THE NEMA TS 2 STANDARD FOR POWER SUPPLIES AND SHALL BE A TYPE 16. PROGRAM CARD SHALL HAVE NO JUMPERS INSTALLED.

MALFUNCTION MANAGEMENT UNITS SHALL BE CAPABLE OF SUPPORTING A "FLASHING YELLOW ARROW" PERMISSIVE–PROTECTED LEFT TURN PHASE AND SHALL INCLUDE AN ETHERNET PORT. AN ACCEPTABLE MODEL IS THE EDI SMART MONITOR MMU2–16LEip.

633 CONTROLLER ITEM MISC.: POWER SUPPLY ASSEMBLY

POWER SUPPLY ASSEMBLIES SHALL MEET THE NEMA TS 2 STANDARD FOR POWER SUPPLIES.

ITEM 633 CONTROLLER ITEM MISC.: ETHERNET SWITCH, CABINET, AS PER PLAN

ONE (1) MANAGED LAYER 2+ ETHERNET SWITCH SHALL BE PROVIDED FOR EACH TRAFFIC SIGNAL CONTROLLER. THE ETHERNET SWITCH SHALL BE ENVIRONMENTALLY HARDENED, CAPABLE OF FITTING COMFORTABLY ON THE TRAFFIC SIGNAL CABINET SHELF, AND SHALL INCLUDE A MINIMUM OF SEVEN (7) 10/100 BASE TX PORTS. THE ETHERNET SWITCH SHALL BE RATED AT OPERATING TEMPERATURES BETWEEN –40°C AND +85°C.

EACH SUCH ETHERNET SWITCH SHALL BE PROVIDED WITH TWO (2) MSA COMPLIANT, SMALL FORM–FACTOR PLUGGABLE (SFP) FIBER MODULES. FIBER MODULES SHALL BE 1000 BASE FX AND INCLUDE DUAL LC SINGLE–MODE CONNECTORS. CONNECTORS PROVIDED SHALL BE SINGLE MODE DUPLEX PATCH CABLES AND SHALL BE ST TYPE ON THE PATCH PANEL END AND LC TYPE ON THE SWITCH TRANSCEIVER END. THE FIBER MODULES SHALL BE RATED AT OPERATING TEMPERATURES BETWEEN –40°C AND +85°C. FIBER MODULES ARE ALLOWED TO BE BUILT INTO THE ETHERNET SWITCH IN LIEU OF INDIVIDUAL PLUG–IN MODULES.

THE FOLLOWING MODELS ARE CONSIDERED TO BE ACCEPTABLE:

- COMNET CNGE11FX3TX8MS MANAGED ETHERNET SWITCH
- SIEMENS RUGGEDCOM RS900G

ITEM 633 CONTROLLER ITEM MISC.: ETHERNET SWITCH, SERVER, AS PER PLAN

ONE (1) MANAGED LAYER 2+ ETHERNET SWITCH SHALL BE PROVIDED FOR THE TRAFFIC MANAGEMENT CENTER SERVER. THE ETHERNET SWITCH SHALL BE ENVIRONMENTALLY HARDENED AND SHALL INCLUDE A MINIMUM OF TWELVE (12) 100/1000 BASE FX SFP PORTS AND A MINIMUM OF TWELVE (12) 10/100/1000 BASE TX PORTS. THE ETHERNET SWITCH SHALL BE RATED AT OPERATING TEMPERATURES BETWEEN –40°C AND +85°C.

ITEM 633 CONTROLLER UNIT, TYPE TS2/A2, WITH CABINET, TYPE TS2, SUBMITTALS AND DOCUMENTATION

EQUIPMENT LIST

WITHIN FOUR (4) WEEKS FOLLOWING AWARD OF CONTRACT, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR APPROVAL A LIST OF MAJOR EQUIPMENT AND MATERIALS WHICH HE PROPOSES TO INSTALL. THE LIST SHALL INCLUDE ALL MATERIAL THAT IS IDENTIFIED ON THE PLANS OR SPECIAL PROVISIONS, INCLUDING DETAILED SCALE DRAWINGS OF ANY NON–STANDARD OR SPECIAL EQUIPMENT AND ANY PROPOSED DEVIATION FROM THE PLANS.

SUBMITTAL DATA

PRIOR TO THE PURCHASE OR FABRICATION OF ANY EQUIPMENT OR MATERIAL FOR USE ON THIS PROJECT, THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ENGINEER CATALOG CUT SHEETS AND SPECIFICATIONS FOR ALL STANDARD, OFF–THE–SHELF ITEMS, AND SHOP DRAWINGS FOR ALL CUSTOM ITEMS. THESE DOCUMENTS SHALL CONTAIN SUFFICIENT TECHNICAL DATA FOR THE ENGINEER TO EVALUATE THE SYSTEM PROPOSED. THE QUALITY, FUNCTION, AND CAPABILITY OF EACH DELIVERABLE ITEM SHALL BE DESCRIBED. DOCUMENTS SHALL BE ORIGINALS OR COPIES EQUAL TO ORIGINALS.

SHOP DRAWINGS FOR EACH FABRICATED ITEM SHALL ALSO BE SUBMITTED. THESE DRAWINGS SHALL CONTAIN ALL INFORMATION REQUIRED FOR COMPLETE FABRICATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, SUCH AS: MATERIALS, WELDS, FINISH, ETC.

THE CONTRACTOR SHALL PROVIDE FOUR (4) COPIES OF SUBMITTALS, AND FOUR (4) COPIES OF SHOP DRAWINGS. ONE OF THESE WILL BE RETURNED TO THE CONTRACTOR WITH APPROPRIATE NOTATIONS WITHIN THIRTY (30) CALENDAR DAYS.

THE PURPOSE OF THE SUBMITTAL DATA IS TO SHOW SPECIFICALLY AND IN DETAIL HOW THE CONTRACTOR INTENDS TO SATISFY THE REQUIREMENTS OF THE CONTRACT. IF PREPRINTED LITERATURE IS UTILIZED TO SATISFY SOME OR ALL OF THESE REQUIREMENTS, NO STATEMENTS ON THE LITERATURE SHOULD CONFLICT WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL CROSS OFF OR INITIAL ANY SUCH STATEMENTS AND ATTACH AN APPROPRIATE STATEMENT CLEARLY INDICATING HOW THE REQUIREMENTS OF THE CONTRACT DOCUMENTS WILL BE FULFILLED. THE CONTRACTOR SHALL CLEARLY LABEL EACH ITEM OF SUBMITTAL DATA WITH THE BID ITEM NUMBER OR OTHER DESCRIPTION OF THE ITEM(S) TO WHICH IT APPLIES.

EACH SUBMITTAL MUST CONTAIN SUFFICIENT INFORMATION AND DETAILS TO PERMIT THE ENGINEER TO FULLY EVALUATE THE PARTICULAR COMPONENT. SUBMITTALS WHICH ARE, IN THE JUDGMENT OF THE ENGINEER, INSUFFICIENT TO PERMIT PROPER EVALUATION WILL NOT BE REVIEWED. THE CONTRACTOR SHALL NOT DEVIATE FROM SUBMITTALS MARKED "ACCEPTED" OR "ACCEPTED AS NOTED" WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER. ODOT NOR THE CITY WILL BE LIABLE FOR ANY MATERIAL PURCHASED, LABOR PERFORMED, OR DELAY TO THE WORK PRIOR TO THE APPROVAL OF THE EQUIPMENT.

THE CONTRACTOR SHALL NOT PROCEED WITH ANY ITEMS WHICH ARE MARKED "NOT ACCEPTED" OR "ACCEPTED – RESUBMIT", BUT SHALL PROCEED IMMEDIATELY TO CORRECT SAID ITEMS AND RESUBMIT THEM FOR REVIEW.

APPROVAL BY THE ENGINEER OF A CATALOG CUT SHEET AND/OR SHOP DRAWING DOES NOT RELIEVE THE CONTRACTOR OF ANY OF HIS RESPONSIBILITY UNDER THE CONTRACT FOR THE SUCCESSFUL COMPLETION OF THE WORK IN CONFORMITY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

INSTALLATION DOCUMENTATION

PRIOR TO DELIVERY, THE CONTRACTOR SHALL PROVIDE INSTRUCTIONS AND INSTALLATION MANUALS FOR EACH ITEM OF EQUIPMENT, QUANTITY AS NOTED HEREIN. THE CONTRACTOR SHALL PROVIDE ALL RELEVANT MANUALS AVAILABLE FROM THE MANUFACTURER. THE MANUALS SHALL CONTAIN SUFFICIENT INFORMATION TO OPERATE AND MAINTAIN THE EQUIPMENT INCLUDING SCHEMATIC, WIRING, AND INTERCONNECTION DIAGRAMS; COMPLETE INSTRUCTIONS FOR PROPER INSTALLATION INCLUDING EQUIPMENT

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
-

REVIEWER
-

COT PROJ. ID
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SHEET 249 | TOTAL 345

TRAFFIC CONTROL NOTES (CONTINUED)

OUTLINES, MOUNTING, WEIGHT, POWER, AND COOLING REQUIREMENTS; A COMPLETE PARTS LIST AND A LIST OF RECOMMENDED SPARES.

PRIOR TO INSTALLATION, THE CONTRACTOR SHALL SUBMIT AN EQUIPMENT COMPLEMENT INSTALLATION SUMMARY FOR EACH FIELD EQUIPMENT LOCATION AND FOR THE CENTRAL EQUIPMENT ROOM.

AFTER INSTALLATION, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS, FOR FIELD EQUIPMENT, EQUIPMENT PROVIDED INSIDE THE CENTRAL EQUIPMENT ROOM AND AT THE FIELD MULTIPLEXER LOCATION, INCLUDING WIRING DIAGRAMS APPLICABLE TO ITEMS PERFORMED UNDER THIS CONTRACT.

WARRANTIES

THE CONTRACTOR SHALL OBTAIN AND ASSIGN TO THE CITY MANUFACTURER WARRANTIES FOR ALL HARDWARE, SOFTWARE, EQUIPMENT AND MATERIAL PROVIDED UNDER THIS CONTRACT. FURTHERMORE, THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWELVE (12) MONTHS IN-SERVICE OPERATION GUARANTEE. ALL WARRANTIES SHALL BEGIN ON THE DATE OF FINAL PROJECT ACCEPTANCE, ON ALL COMPONENTS OF THE SYSTEM, INCLUDING HARDWARE, SOFTWARE, MECHANICAL AND ELECTRICAL EQUIPMENT, AND RELATED COMPONENTS.

THE CONTRACTOR SHALL ALSO WARRANTY THAT IT WILL REPLACE ANY SOFTWARE FURNISHED UNDER THIS CONTRACT, DEMONSTRATED TO BE DEFECTIVE.

THE CONTRACTOR FURTHER WARRANTS THAT IT WILL, AT THE CITY'S OPTION, REPAIR OR REPLACE HARDWARE THAT FAILS DUE TO DEFECTIVE MATERIAL OR WORKMANSHIP DURING THE FIRST TWELVE MONTHS IN-SERVICE OPERATION. THE REPAIR SHALL BE PERFORMED AT THE CITY'S SITE OR AT A REPUTABLE REPAIR CENTER AUTHORIZED BY THE CITY WITHIN THIRTY (30) DAYS.

IF THE CONTRACTOR, SUB-CONTRACTOR, VENDOR, AND/OR SUPPLIER MAKES ANY CORRECTIONS OR IMPROVEMENTS IN ANY OF THE SOFTWARE PROVIDED UNDER THIS CONTRACT BEFORE THE END OF THE IN-SERVICE OPERATION GUARANTEE PERIOD, THE CONTRACTOR SHALL PROVIDE THE SOFTWARE UPGRADE AT NO EXTRA CHARGE. THE IN-SERVICE OPERATION GUARANTEE PERIOD SHALL BE TWELVE (12) MONTHS BEGINNING ON THE DATE OF FINAL ACCEPTANCE OF THE PROJECT.

THE CONTRACTOR SHALL, BEFORE FINAL PAYMENT IS MADE UNDER THIS CONTRACT, PROVIDE EVIDENCE THAT IT HAS DEPOSITED A COPY OF THE SOURCE CODE OF THE LICENSED PROGRAM WITH AN ESCROW AGENT ACCEPTABLE TO THE CITY. DOCUMENTATION PROVIDED TO THE ESCROW AGENT MUST SHOW THAT THE ESCROW AGENT IS OBLIGATED TO MAKE A COPY OF THE SOURCE CODE AVAILABLE TO THE CITY AS DESCRIBED BELOW. THE SOURCE CODE HELD IN ESCROW WILL BE UPDATED BY THE CONTRACTOR IMMEDIATELY UPON EACH NEW RELEASE OF THE LICENSED PROGRAM. IN THE EVENT OF A FINAL ADJUDICATION OF THE CONTRACTOR AS BANKRUPT, OR ANY EVENT WHICH RESULTS IN THE CONTRACTOR NOT BEING A VIABLE BUSINESS ENTITY, THE CITY WILL, UPON PAYMENT OF THE DUPLICATION COST AND OTHER REASONABLE HANDLING CHARGES OF THE ESCROW AGENT, BE ENTITLED TO RECEIVE A COPY OF SOURCE CODE FROM THE ESCROW AGENT. THE CITY AGREES THAT IT WILL ONLY USE THE COPY OF THE SOURCE CODE INTERNALLY TO SUPPORT THE LICENSED PROGRAM. THE ESCROW AGENT'S ONLY RESPONSIBILITY WILL BE TO USE ITS GOOD FAITH EFFORTS TO CAUSE A COPY OF THE SOURCE CODE, IN A FORM AS DELIVERED TO IT BY THE CONTRACTOR, TO BE DELIVERED TO THE CITY WHEN ONE OR MORE OF THE CONDITIONS GIVEN ABOVE OCCUR.

THE CONTRACTOR SHALL ENSURE THAT THE SUPPLIERS MAINTAIN A PROGRAM FOR TECHNICAL SUPPORT AND SOFTWARE UPDATES FOLLOWING EXPIRATION OF THE WARRANTY PERIOD. THIS PROGRAM SHALL BE MADE AVAILABLE TO THE CITY IN THE FORM OF A SEPARATE, NEGOTIATED AGREEMENT FOR CONTINUING SUPPORT.

SYSTEM INTEGRATION

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INTEGRATING ALL COMMUNICATION COMPONENTS AND FIELD DEVICES TO PROVIDE FULL FUNCTIONALITY OF THE PROJECT INTERSECTIONS AS DESCRIBED IN THE CONTRACT DOCUMENTS. THE CITY WILL BE RESPONSIBLE FOR ADDING PROJECT INTERSECTIONS TO THE SYSTEM DATABASE.

THE CONTRACTOR SHALL PROVIDE ADEQUATE PERSONNEL ON-SITE DURING THE INTEGRATION OF THE COMMUNICATIONS NETWORK AND ALL FIELD EQUIPMENT TO PROVIDE UNINTERRUPTED SYSTEM MAINTENANCE, EXCEPT AS NOTED WITHIN THE GENERAL NOTES.

OBSERVATION PERIODS

ONCE ALL EQUIPMENT PROVIDED IS FULLY INSTALLED AND OPERATIONAL, THE FOLLOWING OBSERVATION PERIODS SHALL OCCUR:

- DEMONSTRATION OF RELIABLE COMMUNICATIONS BETWEEN THE TRAFFIC CONTROL SYSTEM AND EACH CONTROLLER ON EACH COMMUNICATIONS CHANNEL WITHOUT COMMUNICATION FAILURE FOR A PERIOD OF SEVEN (7) CONTINUOUS DAYS.
- DEMONSTRATION OF RELIABLE OPERATION OF THE TRAFFIC CONTROL SYSTEM AS A FULLY INTEGRATED SYSTEM FOR A PERIOD OF FOURTEEN (14) CONTINUOUS DAYS.
- DEMONSTRATION THAT COMPONENTS HAVE BEEN PROPERLY INSTALLED AND INTEGRATED BY DEMONSTRATING THAT THE SYSTEM OPERATES ACCEPTABLY UNDER NORMAL DAY-TO-DAY OPERATIONAL CONDITIONS FOR A PERIOD OF SIXTY (60) CONTINUOUS DAYS.

THE SPECIFIED OBSERVATION PERIODS MAY BE PERFORMED CONCURRENTLY.

MAINTENANCE OF NEW SYSTEMS

THE CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL FACILITIES AND EQUIPMENT THAT HE INSTALLS UNTIL FINAL ACCEPTANCE OF THE PROJECT.

IN THE CASE OF CONTRACTOR INSTALLED EQUIPMENT BEING DAMAGED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF DAMAGED EQUIPMENT, WITHOUT ADDITIONAL PAYMENT. NEITHER ODOT NOR THE CITY SHALL BE LIABLE NOR RESPONSIBLE FOR THE DAMAGES INCLUDING, BUT NOT LIMITED TO: ACTS OF GOD, LIGHTNING, FLOODS, WINDSTORMS OR ANY OTHER NATURALLY OCCURRING PHENOMENA, OR DAMAGES CAUSED BY ACCIDENTS OF ANY KIND.

TRAFFIC CONTROL NOTES

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
-

REVIEWER
-

COT PROJ. ID
####

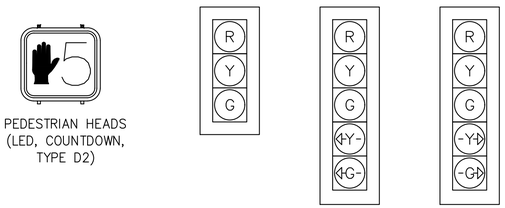
SHEET 250 | TOTAL 345

S7
11

LEGEND

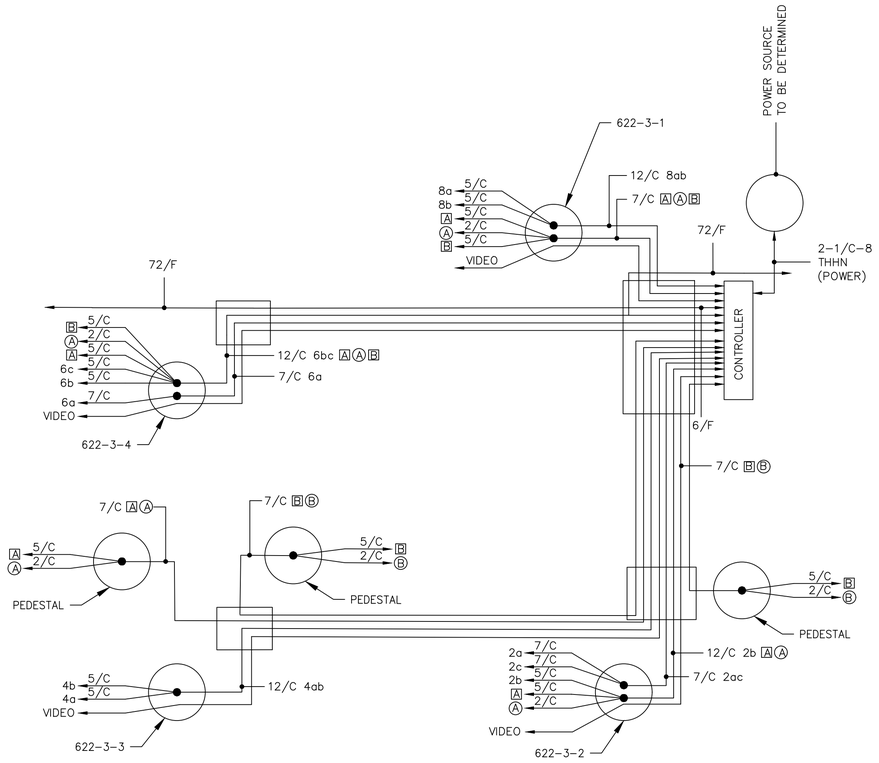
	PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	●→	○-▷
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	●→	○-▷
PEDESTRIAN SIGNAL, HEAD	●→	
PEDESTRIAN PUSH BUTTON	●-▷	
VIDEO DETECTION CAMERA	■	□
TRAFFIC PULL BOX	TR	TR
PEDESTAL SUPPORT	▪	▪
SIGNAL SUPPORT POLE	●	○
CONTROLLER AND WORK PAD (TS-2)	⊠	⊠

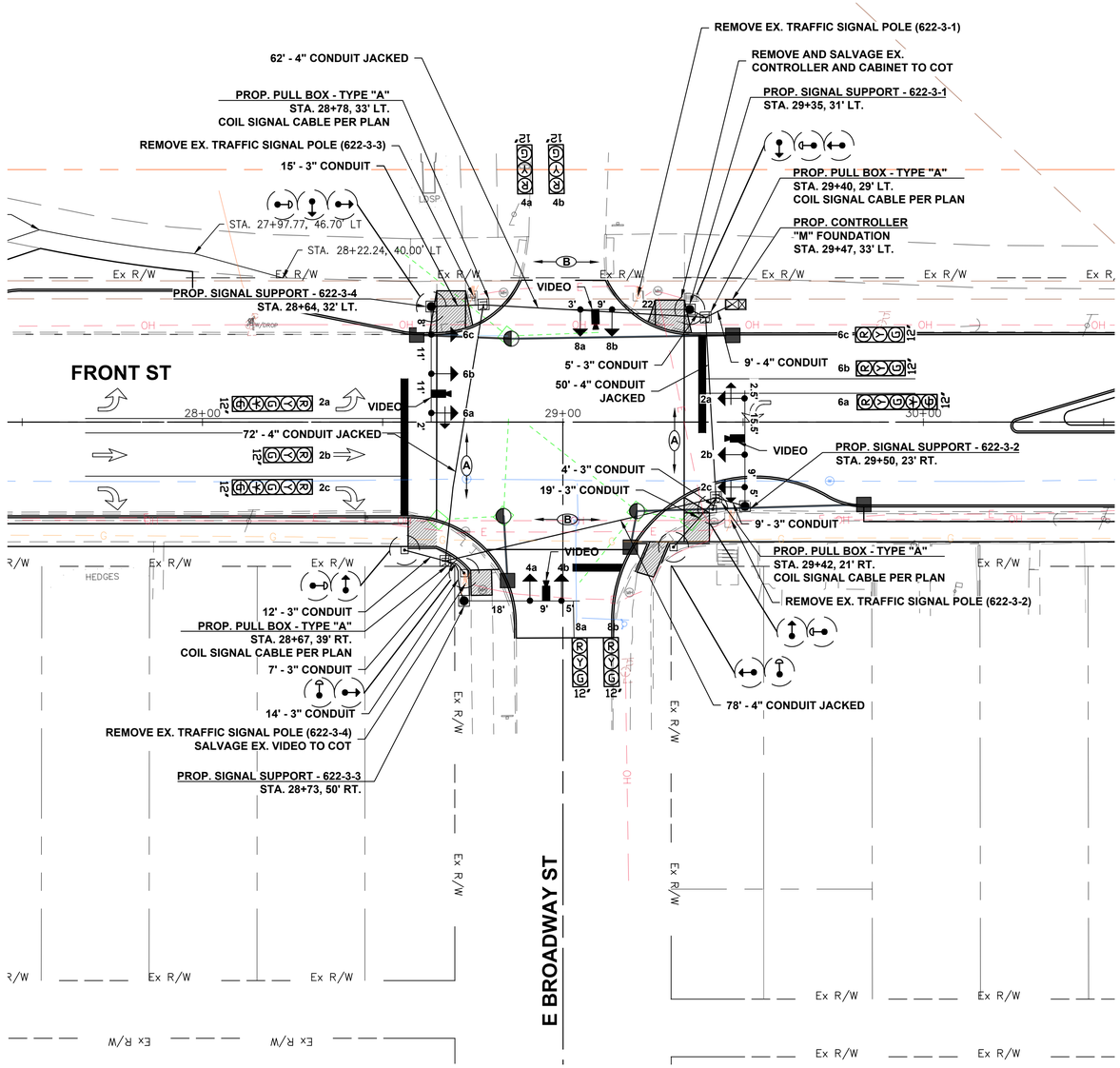
SIGNAL HEADS



PEDESTRIAN HEADS
(LED, COUNTDOWN,
TYPE D2)

POLE & MAST ARM DATA				
POLE NO.	POLE GA. & SIZE	ARM GA. & SIZE	FOUNDATION	BOLT & BOLT CIRCLE
622-3-1	7E11.0"x7.85"x22'-6"	7E8.0"x3.24"x34'-0"	C	1-1/2"x60"; 15"
622-3-2	7E11.0"x7.85"x22'-6"	7E8.0"x3.52"x32'-0"	C	1-1/2"x60"; 15"
622-3-3	7E11.0"x7.85"x22'-6"	7E8.0"x3.52"x32'-0"	C	1-1/2"x60"; 15"
622-3-4	7E11.0"x7.85"x22'-6"	7E8.0"x3.52"x32'-0"	C	1-1/2"x60"; 15"





NOTE 1:

CITY OF TOLEDO CREWS WILL PERFORM ALL WORK ASSOCIATED WITH THE INTERCONNECT FIBER.

N

0 10 20 40
Horizontal Scale In Feet

TRAFFIC SIGNAL PLAN
FRONT STREET AT E BROADWAY ST

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938

DESIGNER RSJ

REVIEWER AMD

COT PROJ. ID ####

SHEET 251 | TOTAL 345

S8
11

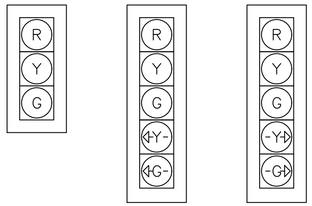
LEGEND

	PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	●→	○--▷
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	●→	○--▷
PEDESTRIAN SIGNAL, HEAD	●→	
PEDESTRIAN PUSH BUTTON	●⊳	
VIDEO DETECTION CAMERA	■	▭
TRAFFIC PULL BOX	TR	TR
PEDESTAL SUPPORT	▪	▫
SIGNAL SUPPORT POLE	●	○
CONTROLLER CABINET AND WORK PAD (TS-2)	⊠	⊠

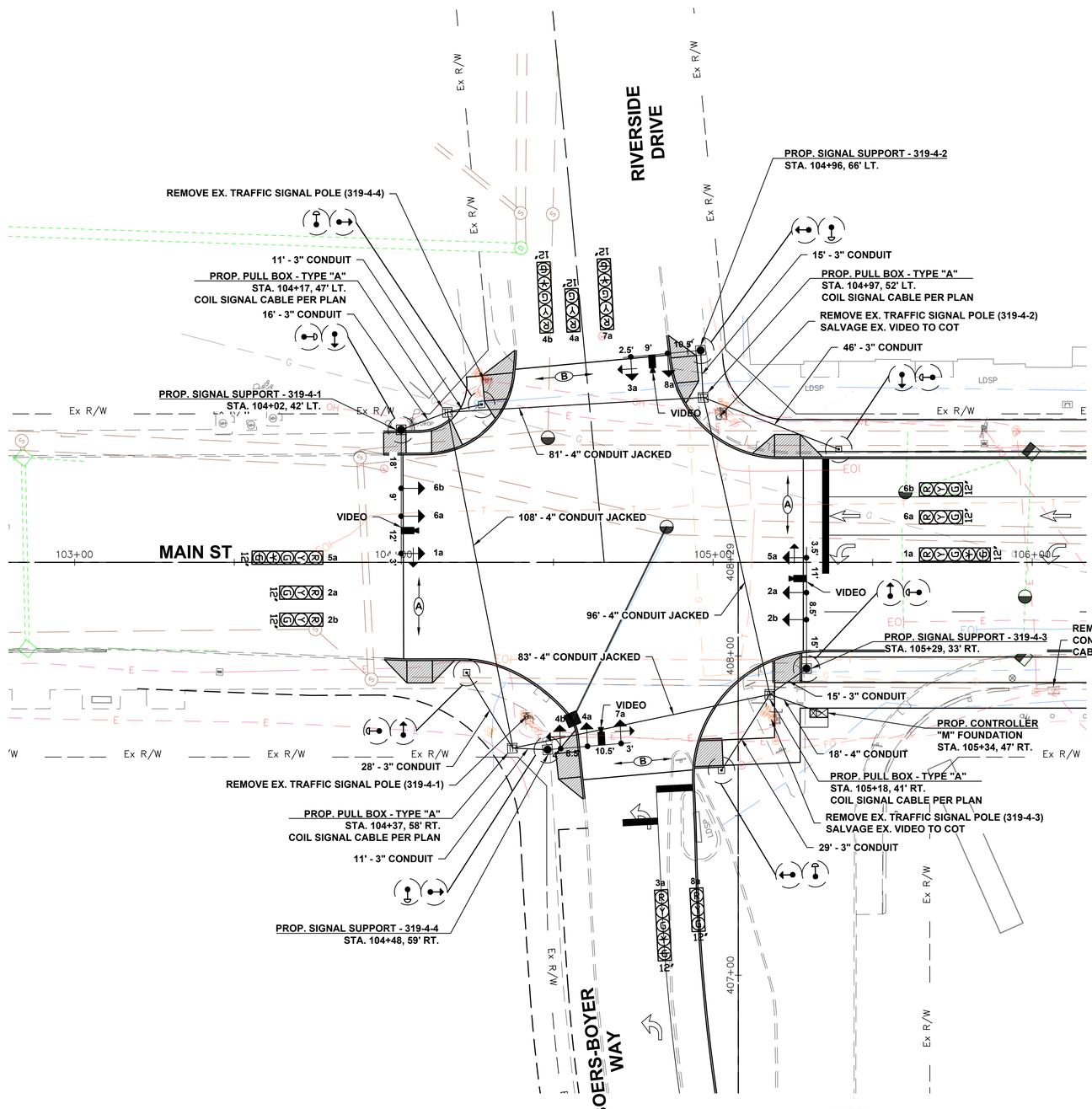
SIGNAL HEADS

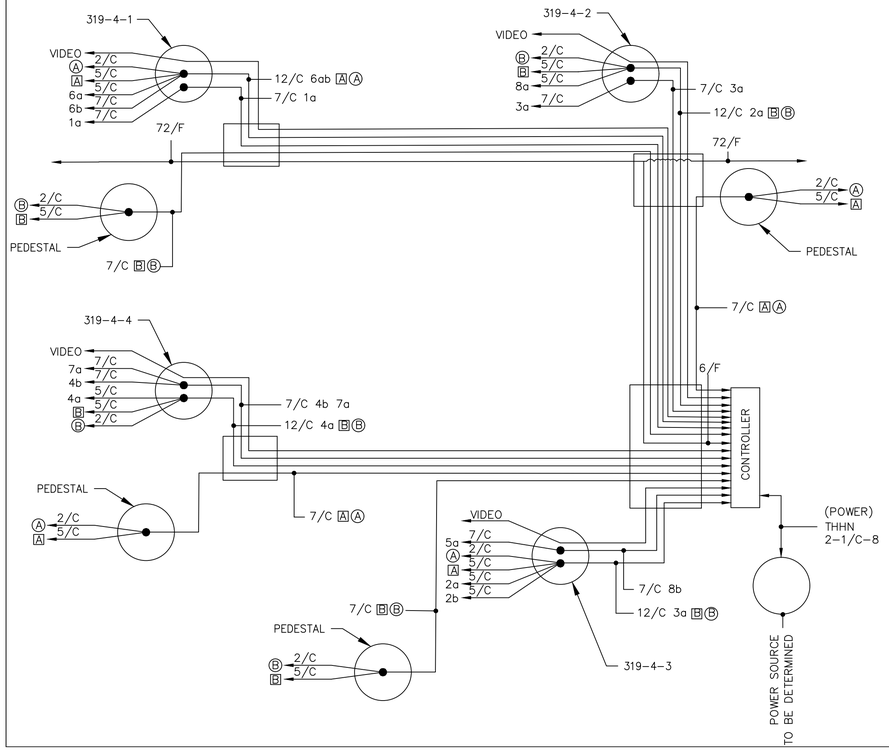


PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)



POLE & MAST ARM DATA				
POLE NO.	POLE GA. & SIZE	ARM GA. & SIZE	FOUNDATION	BOLT & BOLT CIRCLE
526-2-2	3E12.0"x8.85"x22'-6"	3E9.0"x6.90"x15'-0" 7E7.44"x3.52"x28'-0"	I	1-3/4"x90"; 16"
319-4-2	7E10.0"x6.85"x22'-6"	7E7.0"x3.92"x22'-0"	B	1-1/2"x60"; 13-1/2"
319-4-3	7E12.0"x8.85"x22'-6"	7E9.0"x3.68"x38'-0 "	D	1-1/2"x60"; 16"
319-4-4	7E10.0"x6.85"x22'-6"	7E7.0"x3.36"x26'-0"	C	1-1/2"x60"; 13-1/2"





NOTE 1:

CITY OF TOLEDO CREWS WILL PERFORM ALL WORK ASSOCIATED WITH THE INTERCONNECT FIBER.

Horizontal Scale In Feet
0 10 20 40

TRAFFIC SIGNAL PLAN
MAIN STREET AT RIVERSIDE DRIVE & BOERS-BOYER WAY

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938

DESIGNER RSJ

REVIEWER AMD

COT PROJ. ID ####

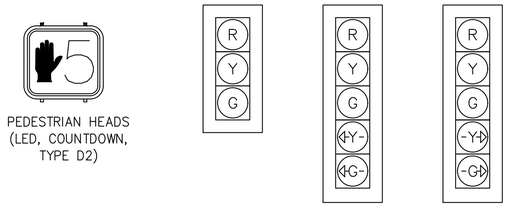
SHEET 252 TOTAL 345

S9
11

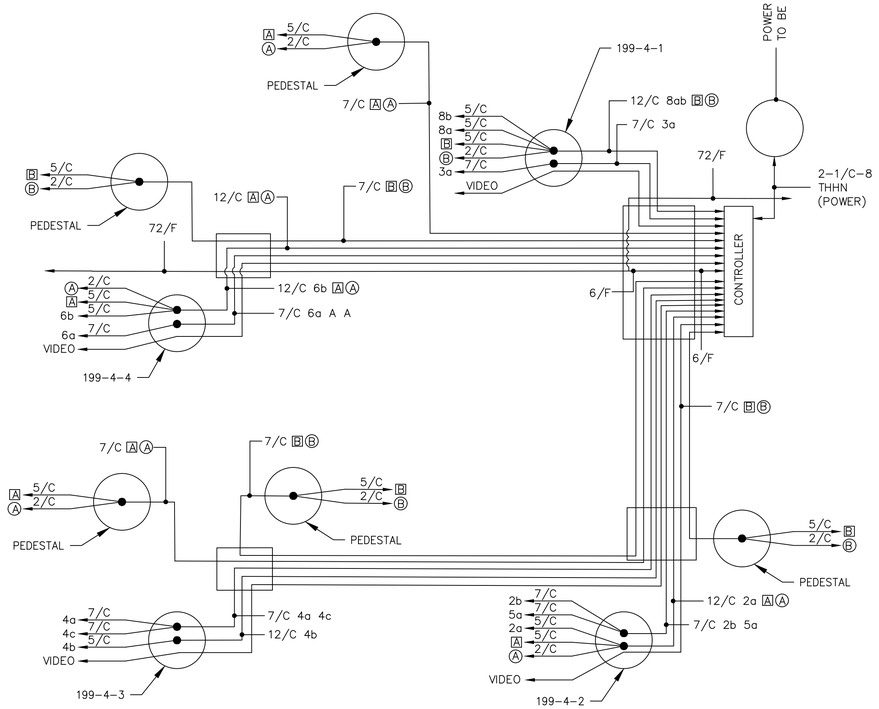
LEGEND

	PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	●→	○-▷
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	●→	○-▷
PEDESTRIAN SIGNAL, HEAD	●→	
PEDESTRIAN PUSH BUTTON	●-▷	
VIDEO DETECTION CAMERA	■	□
TRAFFIC PULL BOX	PB	PB
PEDESTAL SUPPORT	▪	▪
SIGNAL SUPPORT POLE	●	○
CONTROLLER CABINET AND WORK PAD (TS-2)	⊠	⊠

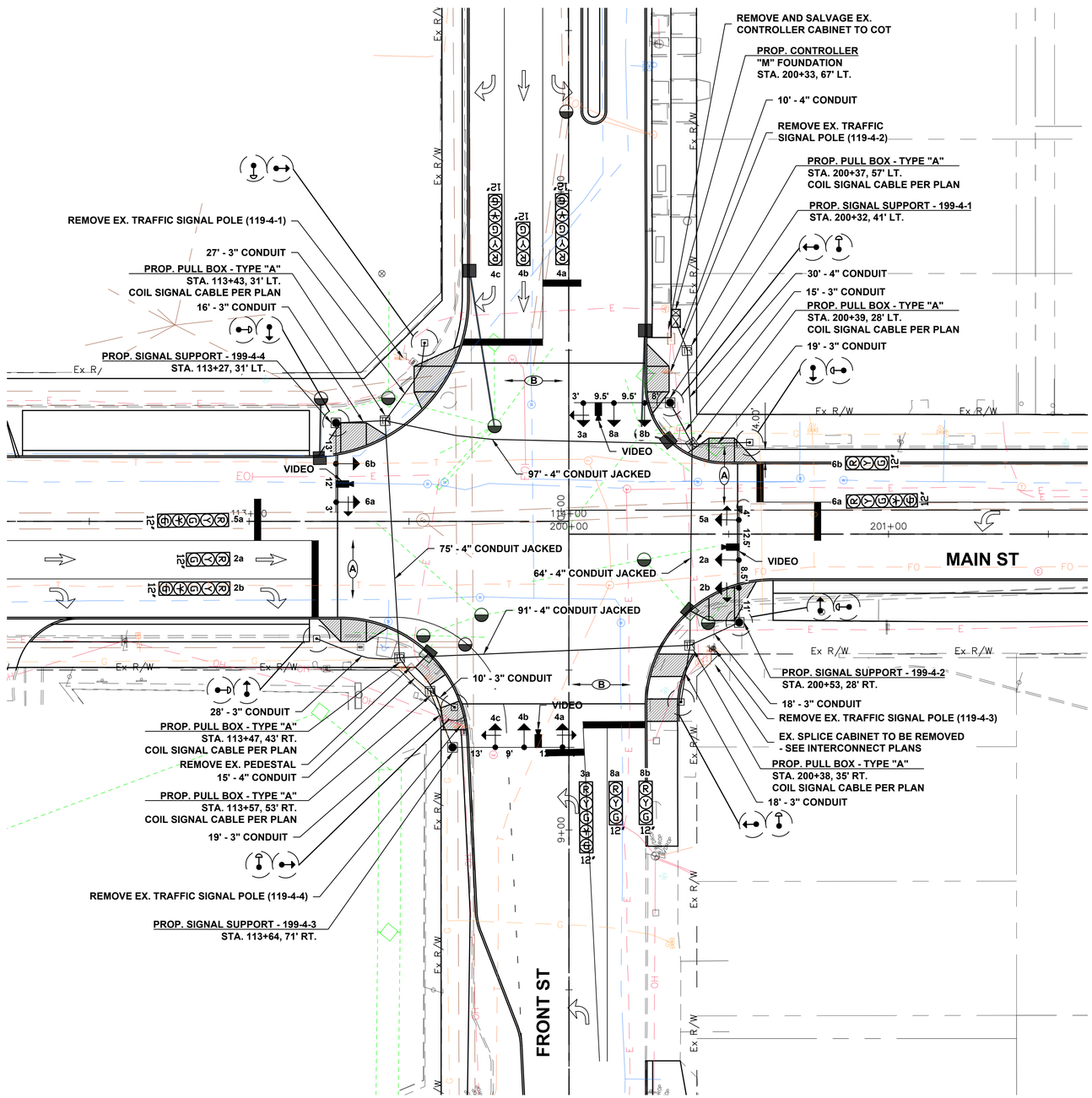
SIGNAL HEADS



PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)



POLE & MAST ARM DATA				
POLE NO.	POLE GA. & SIZE	ARM GA. & SIZE	FOUNDATION	BOLT & BOLT CIRCLE
199-4-1	7E11.0"x7.85"x22'-6"	7E8.0"x3.80"x30'-0"	C	1-1/2"x60"; 15"
199-4-2	7E12.0"x8.85"x22'-6"	7E9.0"x3.96"x36'-0"	D	1-1/2"x60"; 16"
199-4-3	7E12.0"x8.85"x22'-6"	7E9.0"x3.68"x38'-0 "	D	1-1/2"x60"; 16"
199-4-4	7E11.0"x7.85"x22'-6"	7E8.0"x4.08"x28'-0"	C	1-1/2"x60"; 15"



NOTE 1:

CITY OF TOLEDO CREWS WILL PERFORM ALL WORK ASSOCIATED WITH THE INTERCONNECT FIBER.

Horizontal Scale In Feet
0 10 20 40

TRAFFIC SIGNAL PLAN
MAIN STREET AT FRONT STREET

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938

DESIGNER RSJ

REVIEWER AMD

COT PROJ. ID ####

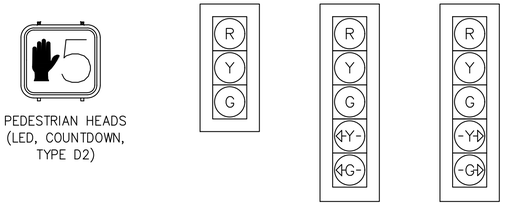
SHEET 253 TOTAL 345

S10
11

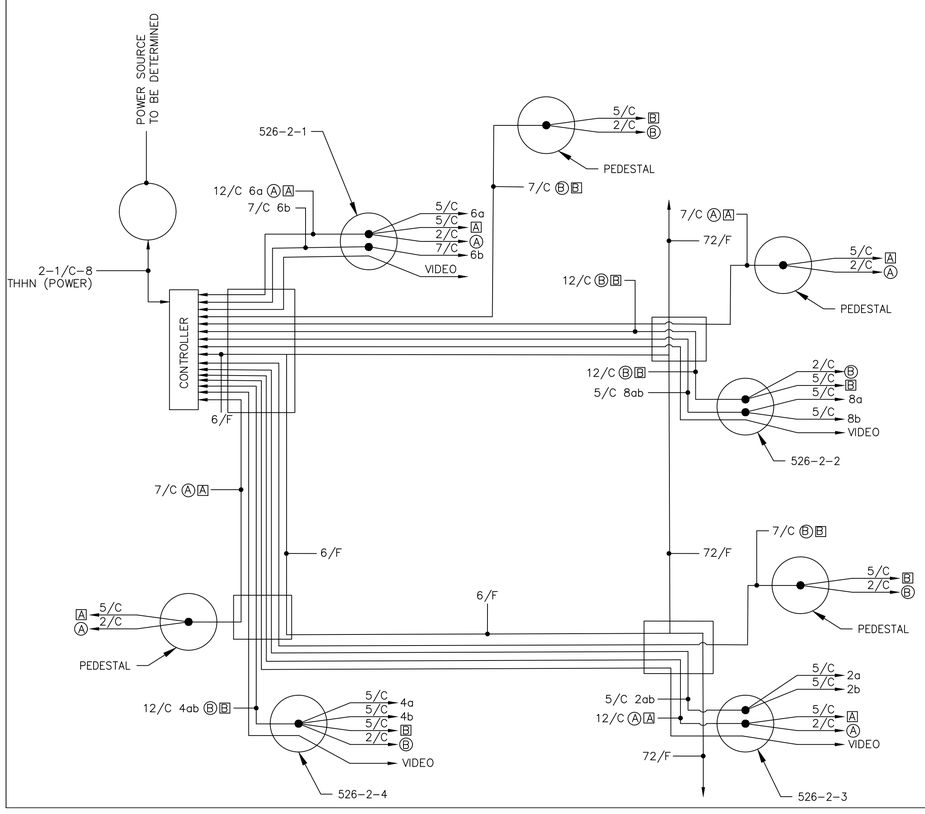
LEGEND

	PROP	EXIST
TRAFFIC SIGNAL, 3 UNIT HEAD, 12"	●→	○-▷
TRAFFIC SIGNAL, 5 UNIT HEAD, 12"	●→	○-▷
PEDESTRIAN SIGNAL, HEAD	●→	
PEDESTRIAN PUSH BUTTON	●⊳	
VIDEO DETECTION CAMERA	■	□
TRAFFIC PULL BOX	TR	TR
PEDESTAL SUPPORT	▪	▫
SIGNAL SUPPORT POLE	●	○
CONTROLLER AND WORK PAD (TS-2)	⊠	⊠

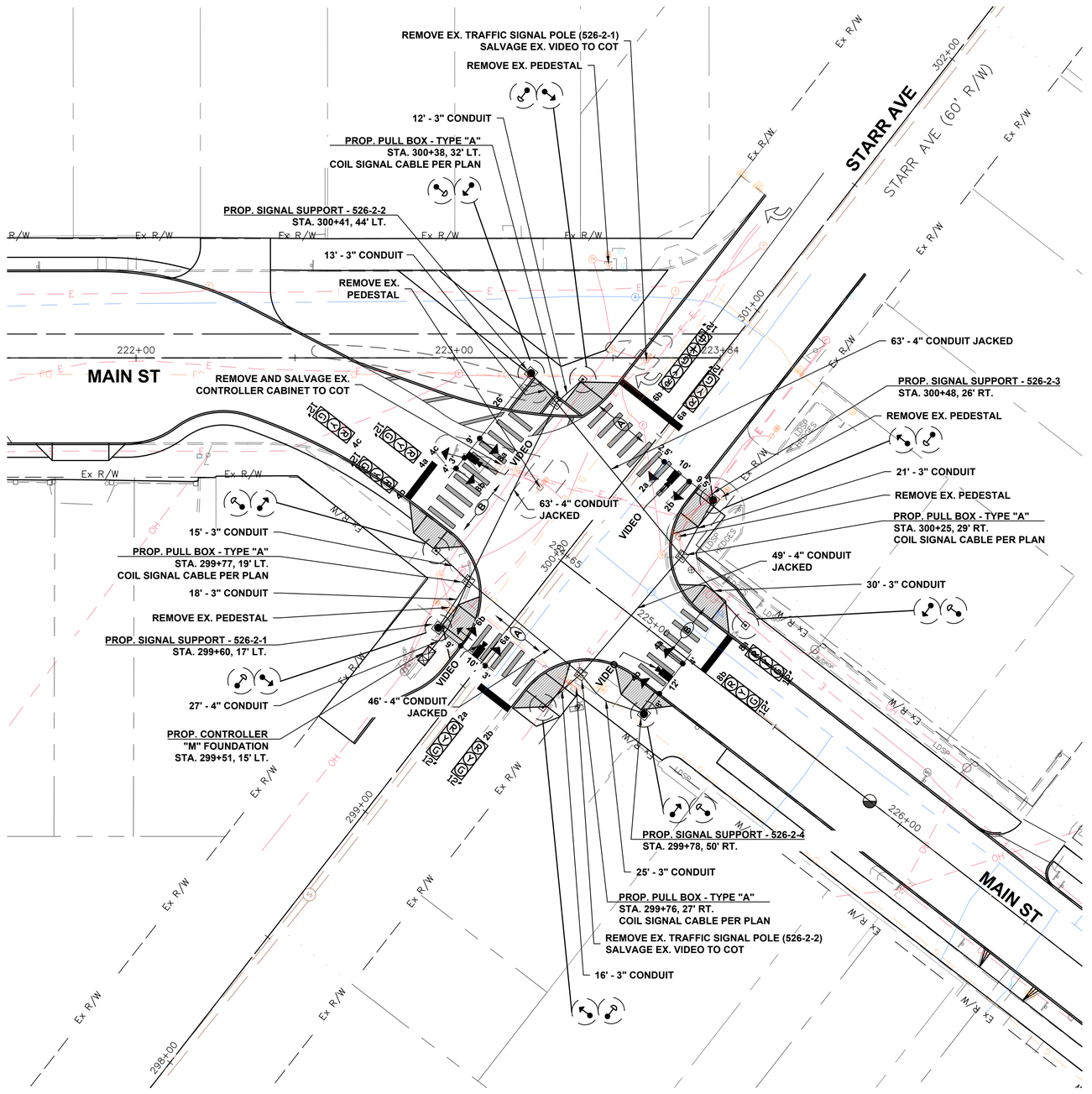
SIGNAL HEADS



PEDESTRIAN HEADS (LED, COUNTDOWN, TYPE D2)



POLE & MAST ARM DATA				
POLE NO.	POLE GA. & SIZE	ARM GA. & SIZE	FOUNDATION	BOLT & BOLT CIRCLE
526-2-1	7E10.0"x6.85"x22'-6"	7E7.0"x3.92"x22'-0"	B	1-1/2"x60"; 13-1/2"
526-2-2	3E12.0"x8.85"x22'-6"	3E9.0"x6.90"x15'-0" 7E7.44"x3.52"x28'-0"	I	1-3/4"x90"; 16"
526-2-3	7E10.0"x6.85"x22'-6"	7E7.0"x3.92"x22'-0"	B	1-1/2"x60"; 13-1/2"
526-2-4	7E10.0"x6.85"x22'-6"	7E7.0"x3.64"x24'-0"	B	1-1/2"x60"; 13-1/2"



NOTE 1:

CITY OF TOLEDO CREWS WILL PERFORM ALL WORK ASSOCIATED WITH THE INTERCONNECT FIBER.

S11
11

0 10 20 40
Horizontal
Scale In Feet

TRAFFIC SIGNAL PLAN
MAIN STREET AT STARR AVENUE

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID
121938

DESIGNER
RSJ

REVIEWER
AMD

COT PROJ. ID
####

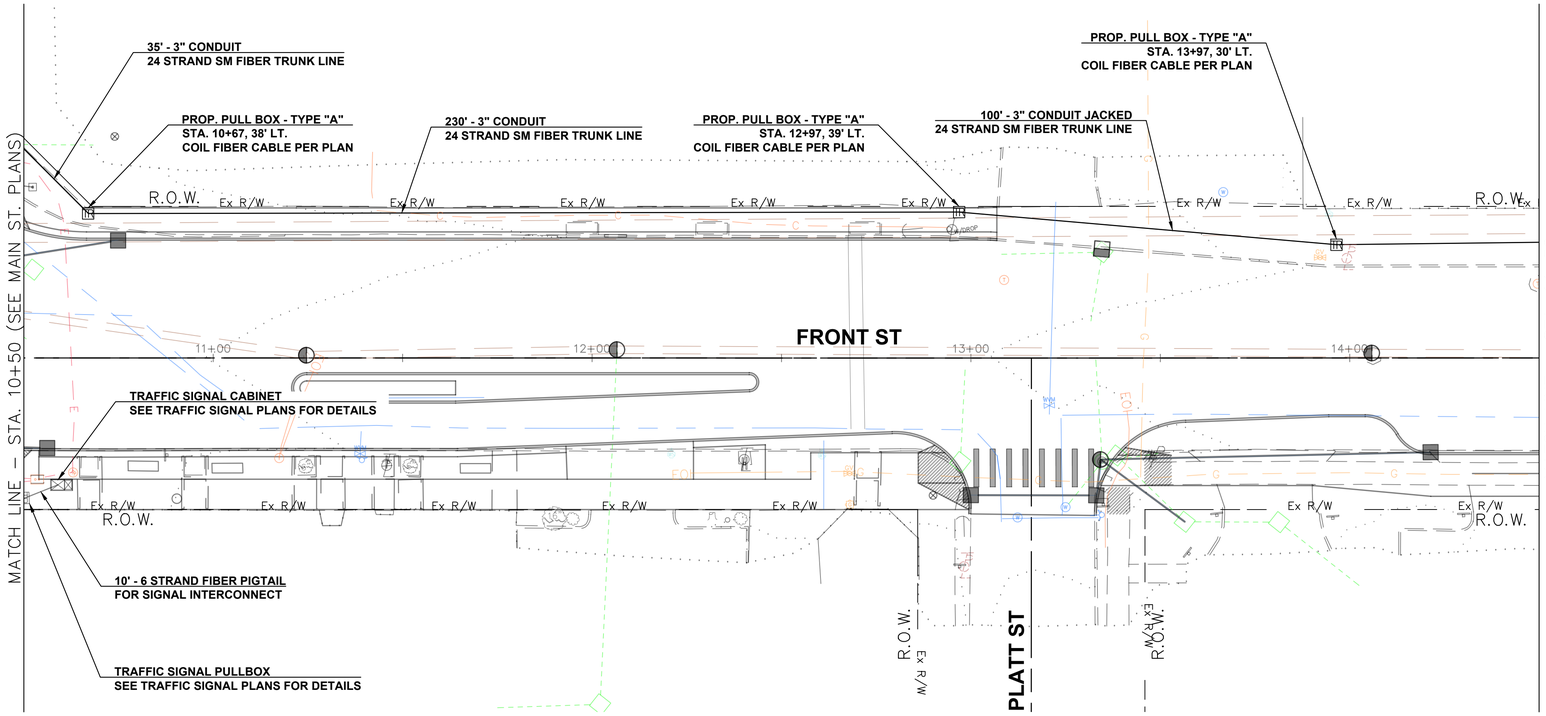
SHEET 254 | TOTAL 345

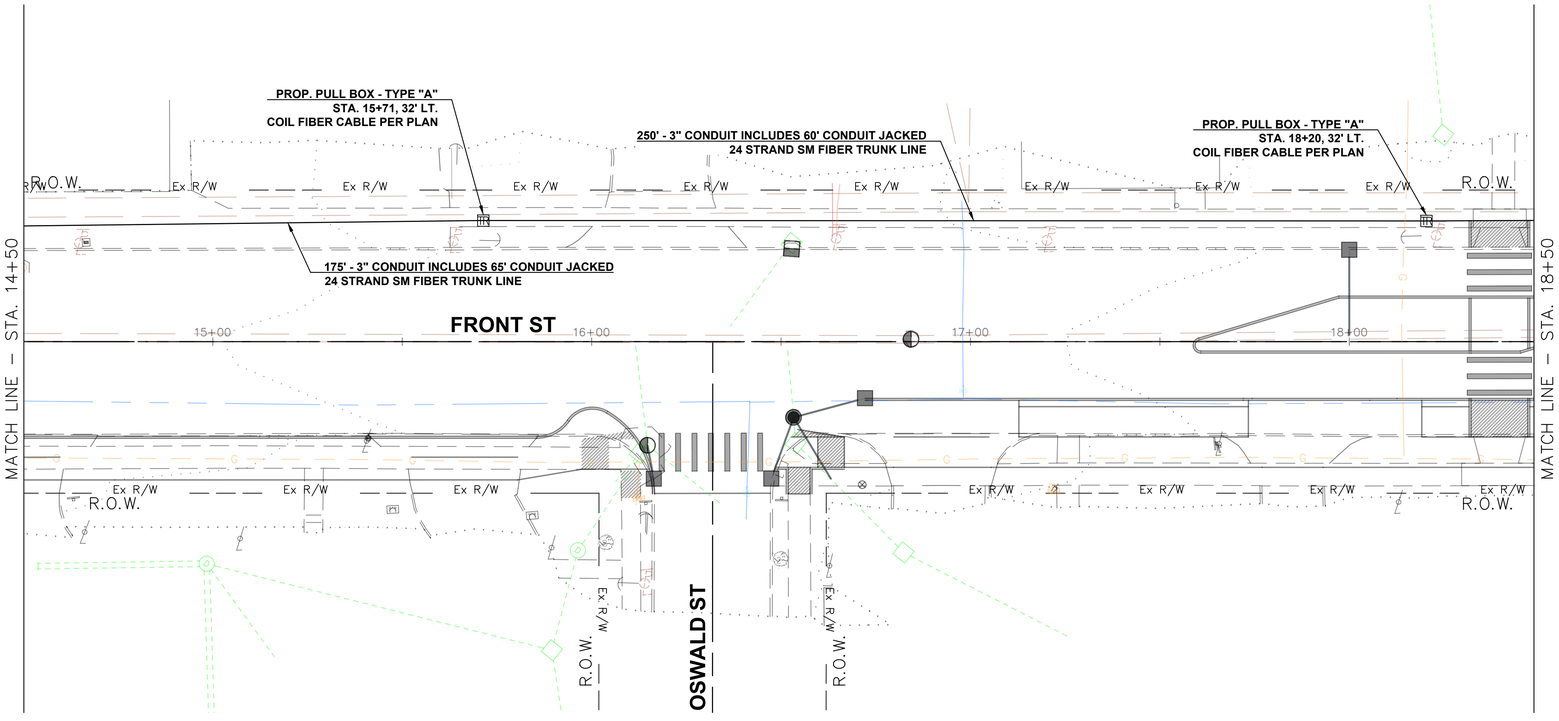
LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**





N

0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
FRONT STREET STA. 10+50 TO STA. 18+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	255
TOTAL	345

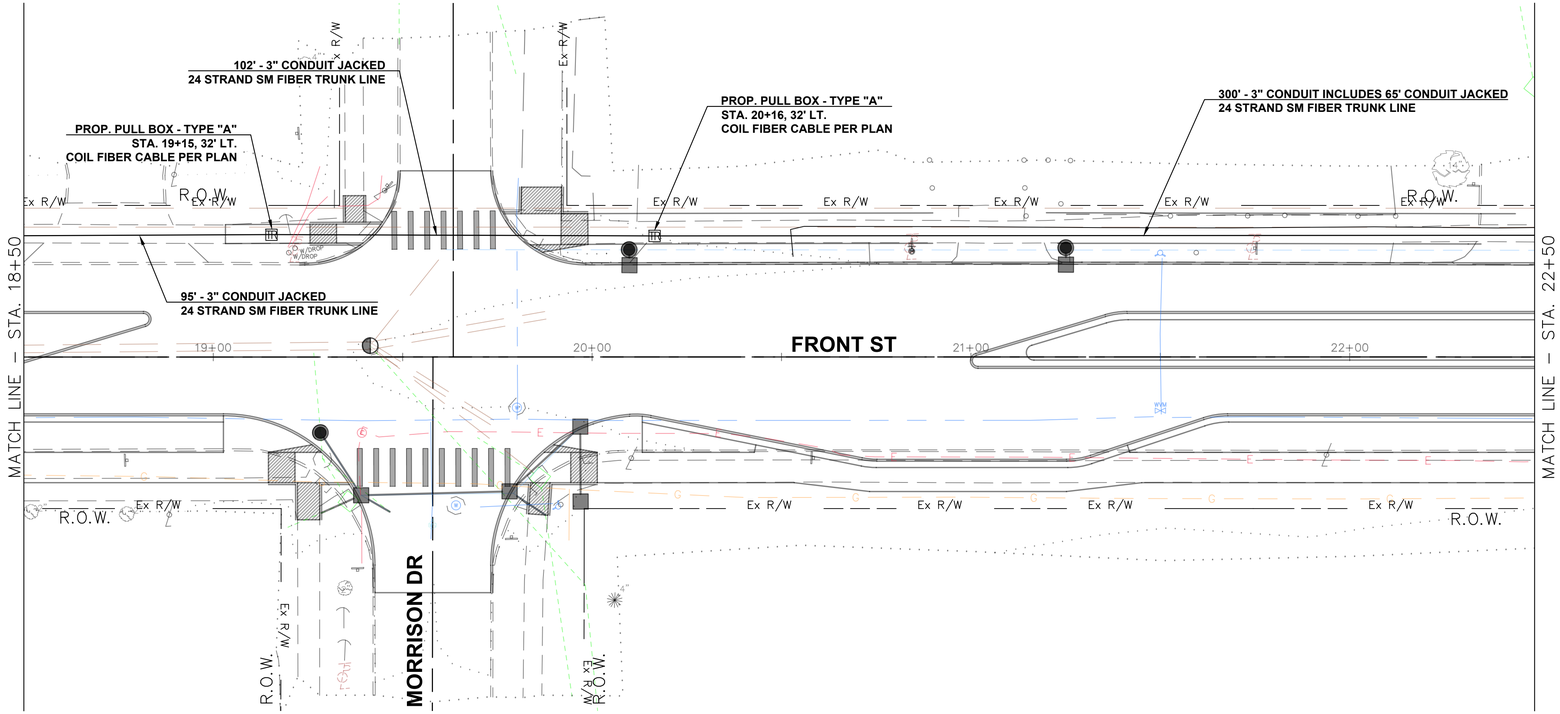
I1
10

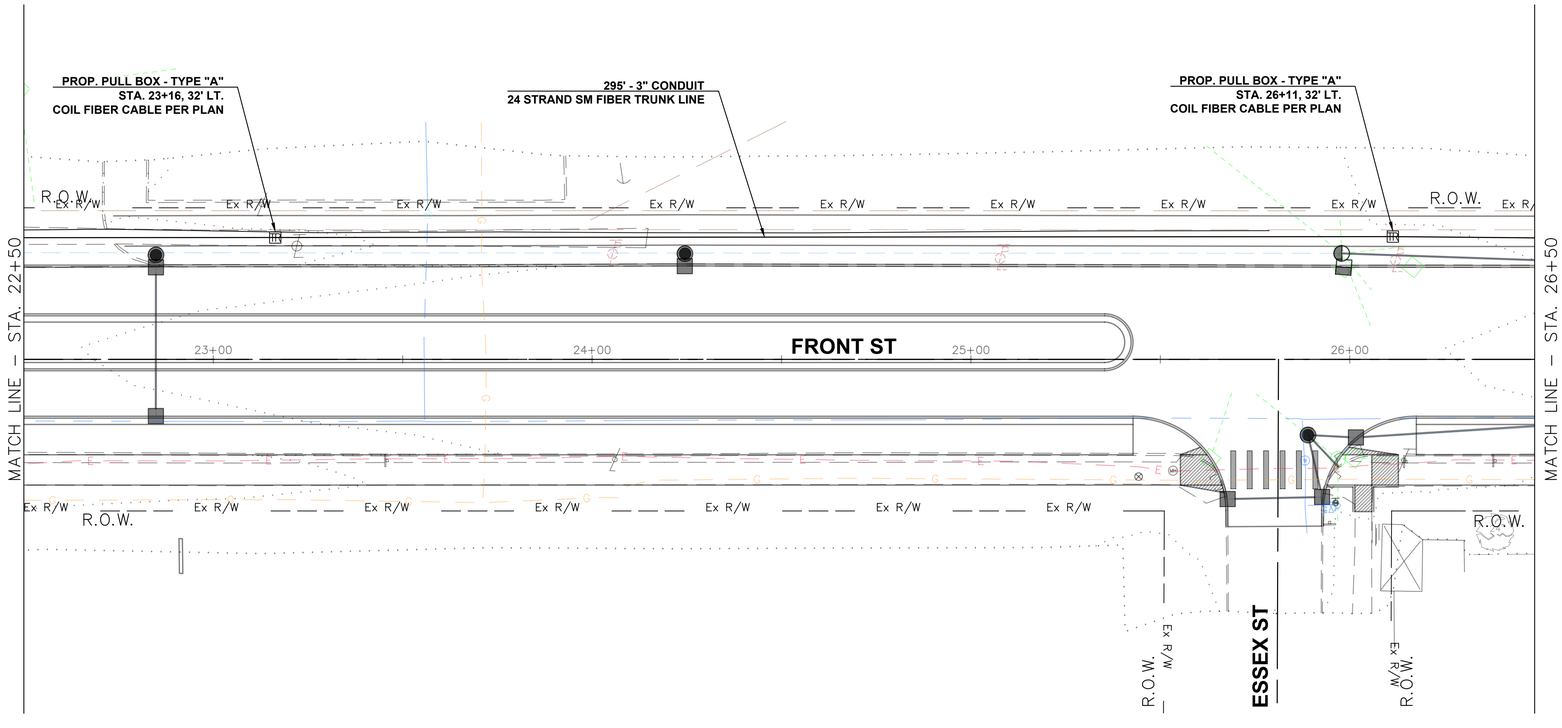
LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**





TRAFFIC FIBER INTERCONNECT PLAN
FRONT STREET STA. 18+50 TO STA. 26+50

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	256
TOTAL	345

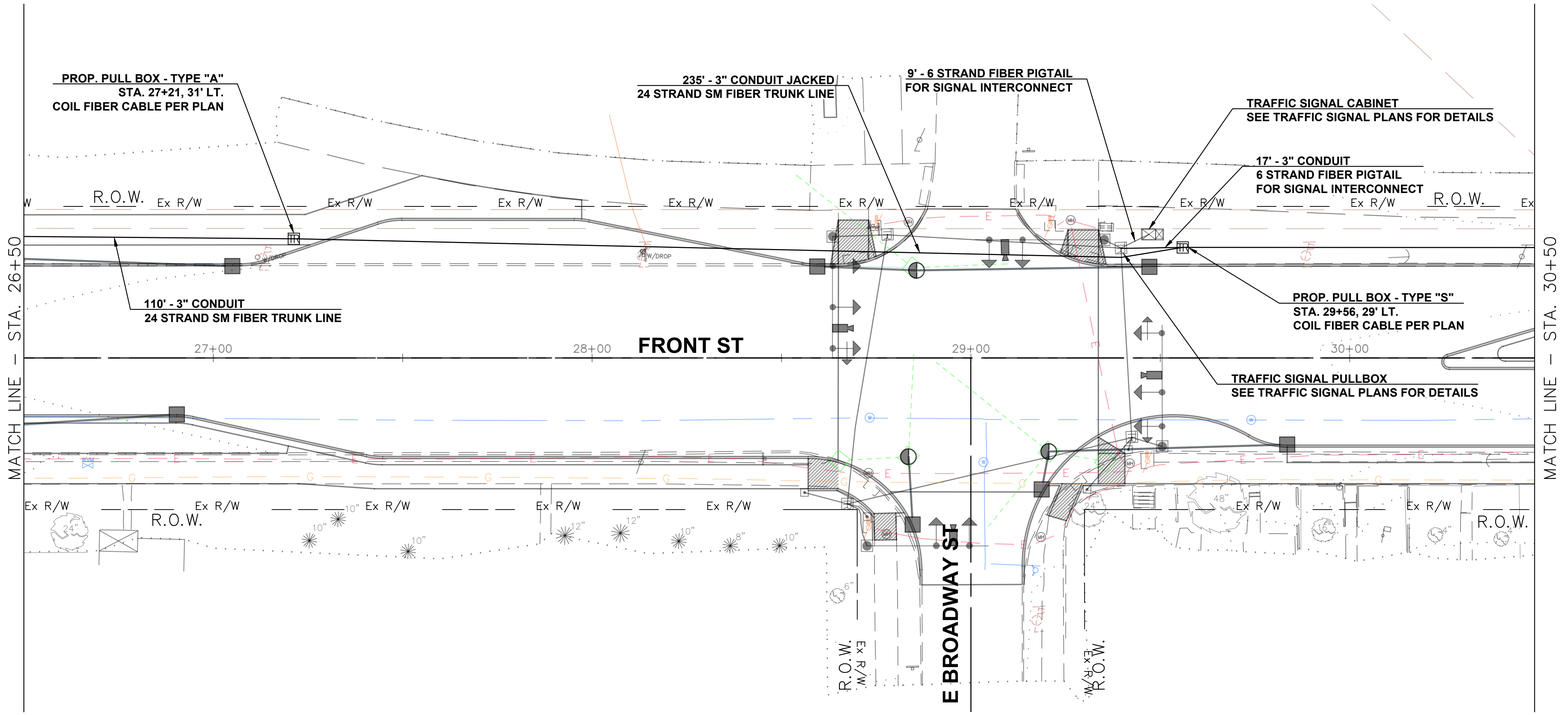
I2
10

LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**



0 10 20 40 Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
FRONT STREET STA. 26+50 TO STA. 34+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	257
TOTAL	345

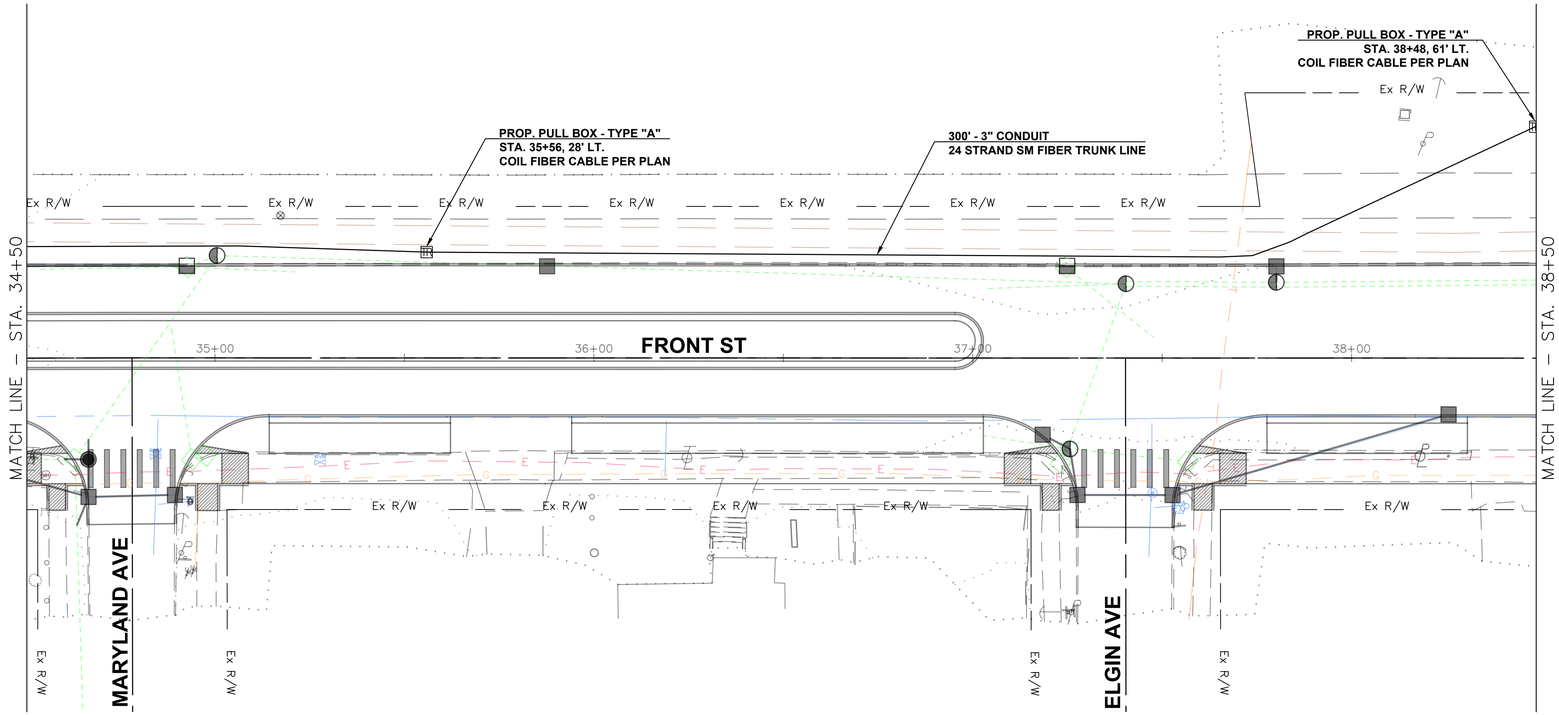
I3
10

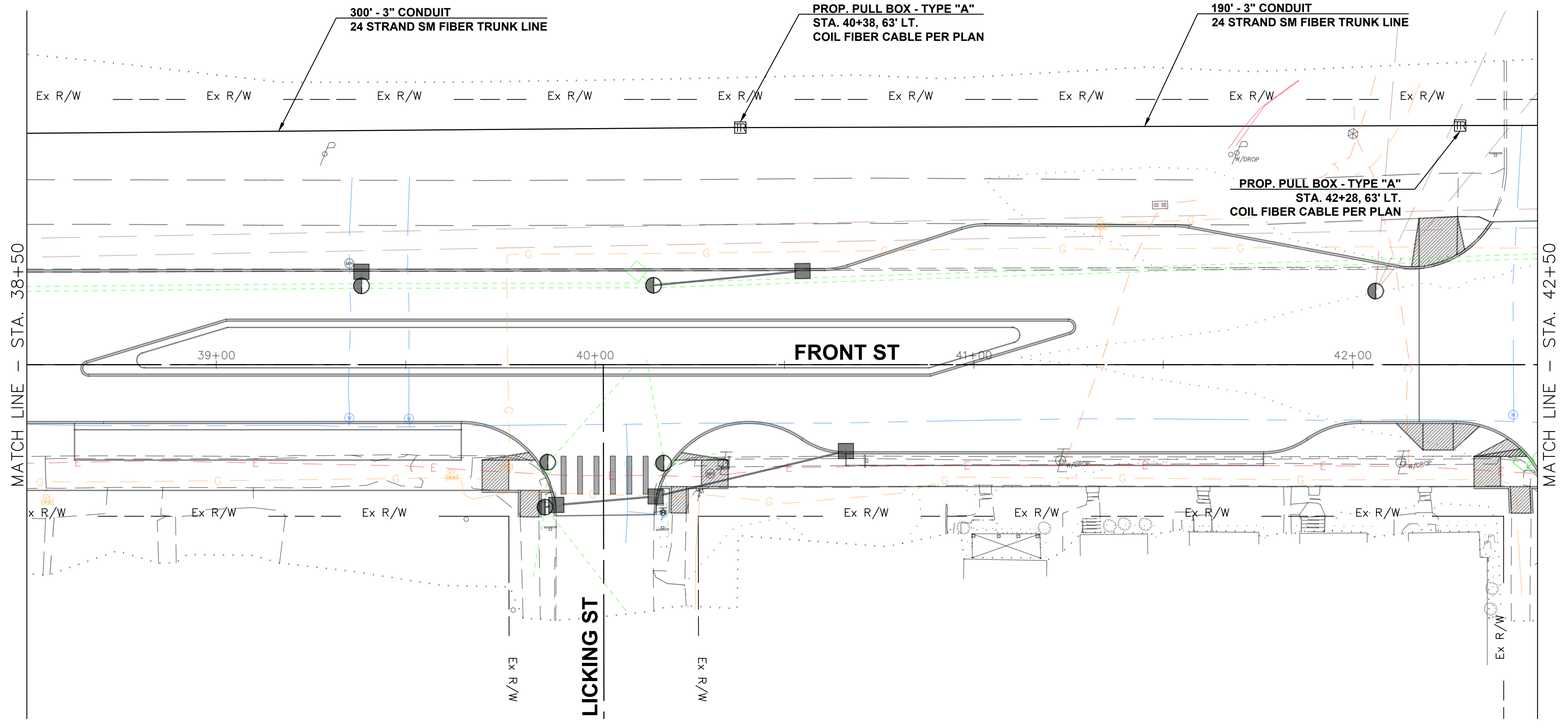
LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**





0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN FRONT STREET STA. 34+50 TO STA. 42+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	258
TOTAL	345

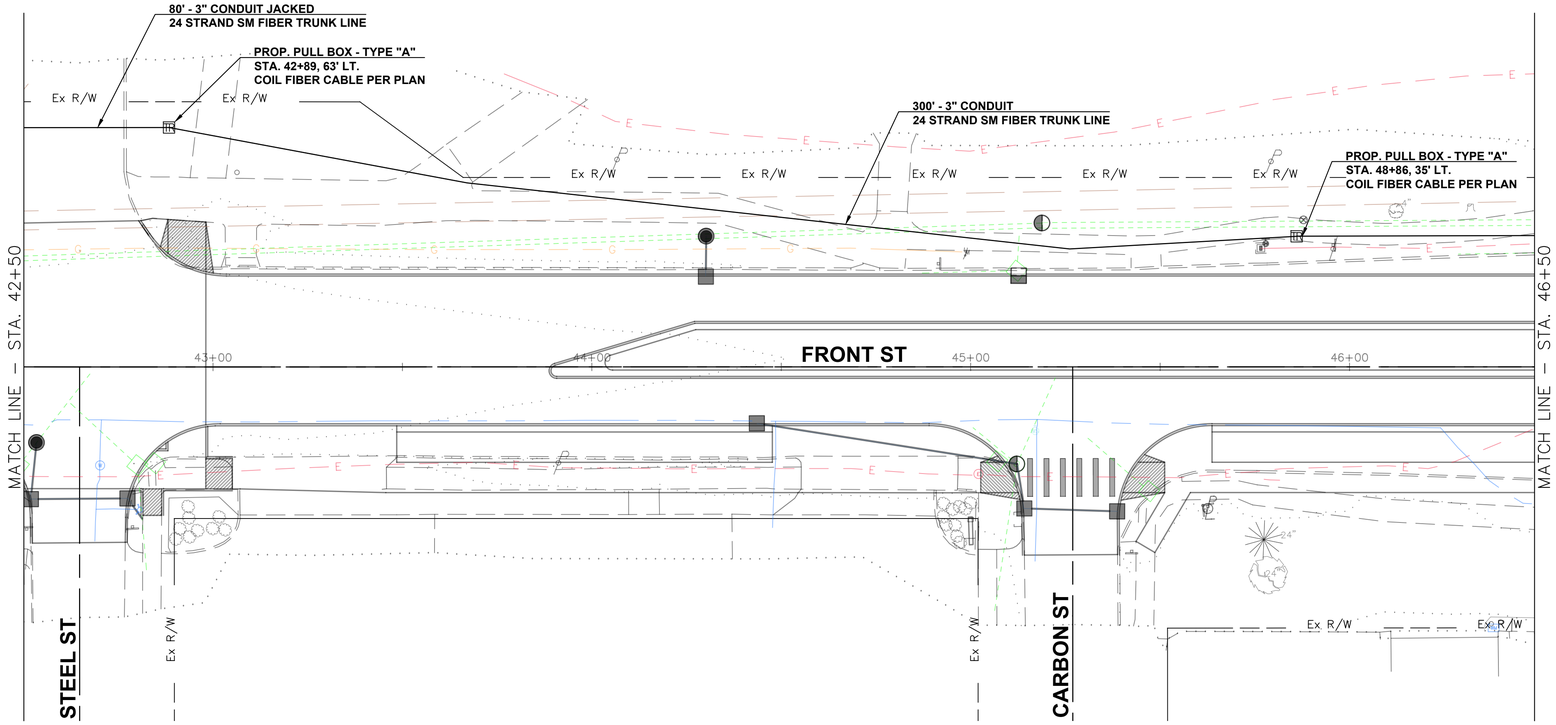
I4
10

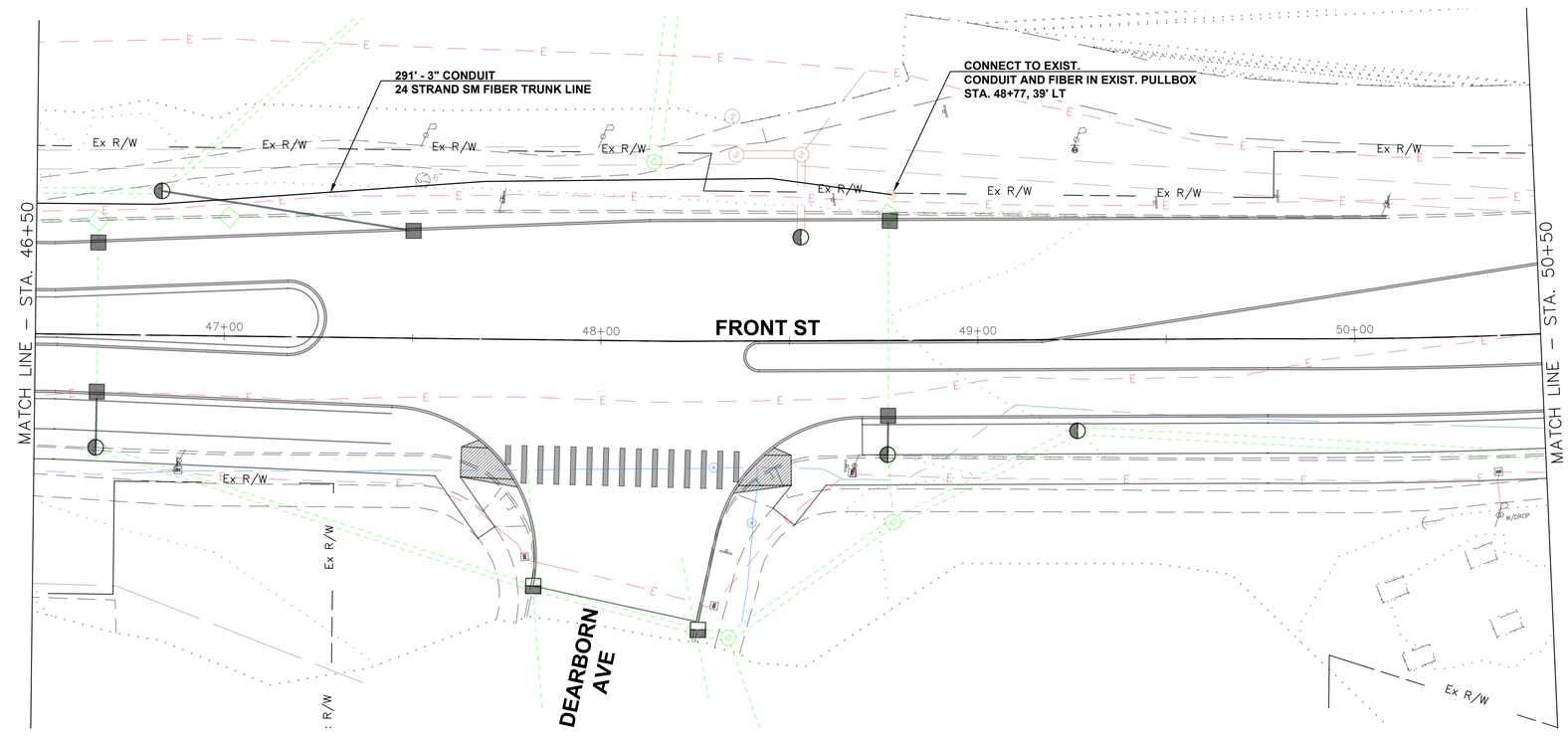
LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**





Horizontal Scale In Feet
0 10 20 40

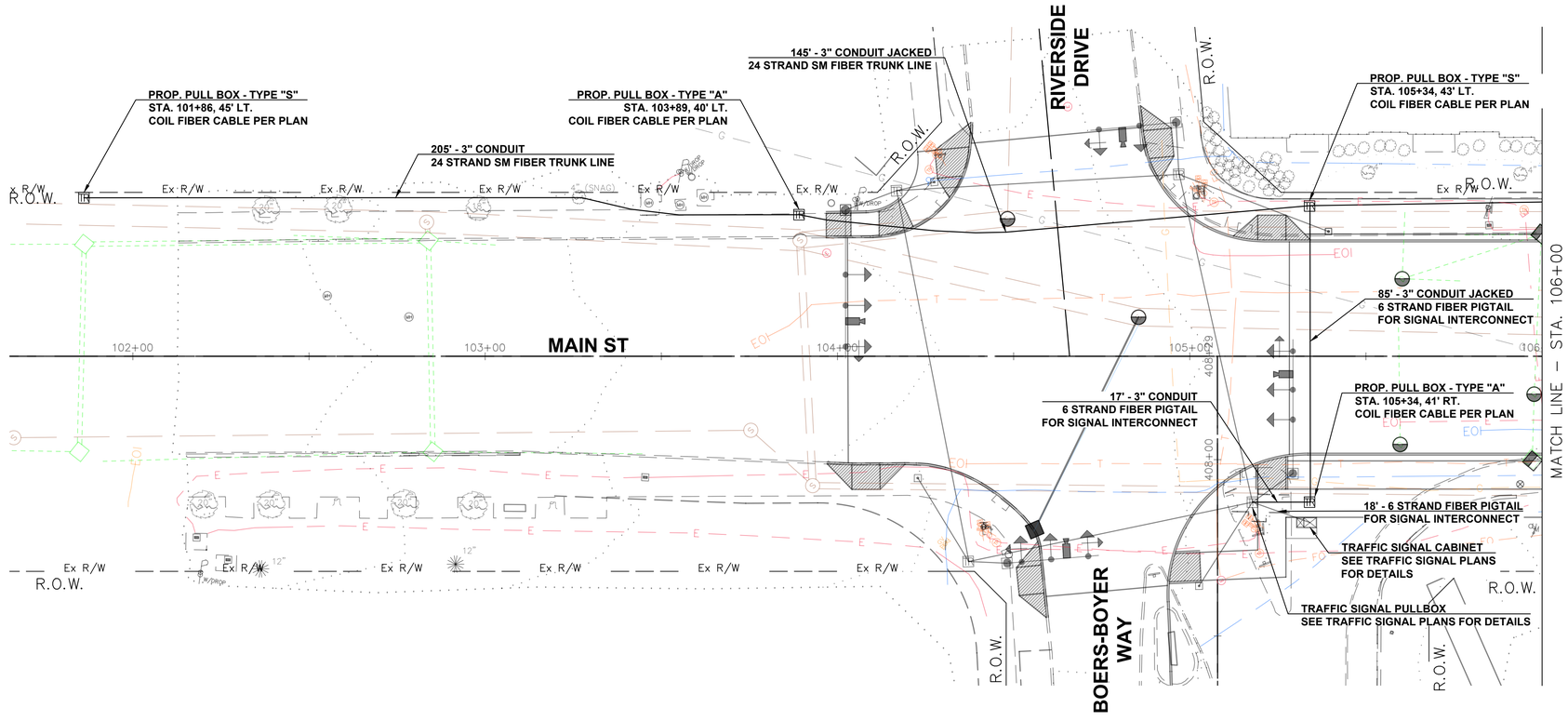
TRAFFIC FIBER INTERCONNECT PLAN
FRONT STREET STA. 42+50 TO STA. 50+50

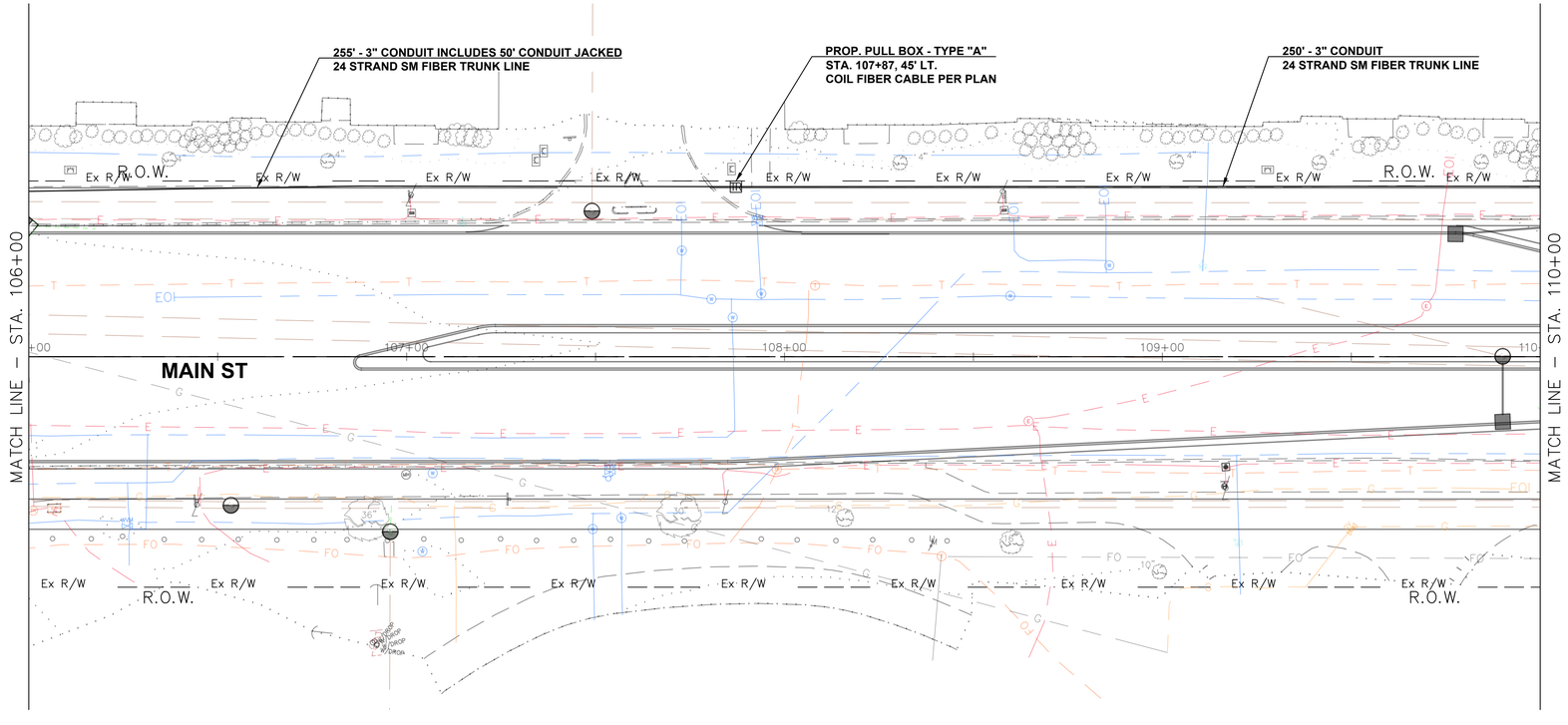
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	259
TOTAL	345

I5
10





LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	TSCC

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**

0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
MAIN STREET STA. 101+65 TO STA. 110+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938

DESIGNER RSJ

REVIEWER AMD

COT PROJ. ID ####

SHEET 260 | TOTAL 345

I6
10

LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
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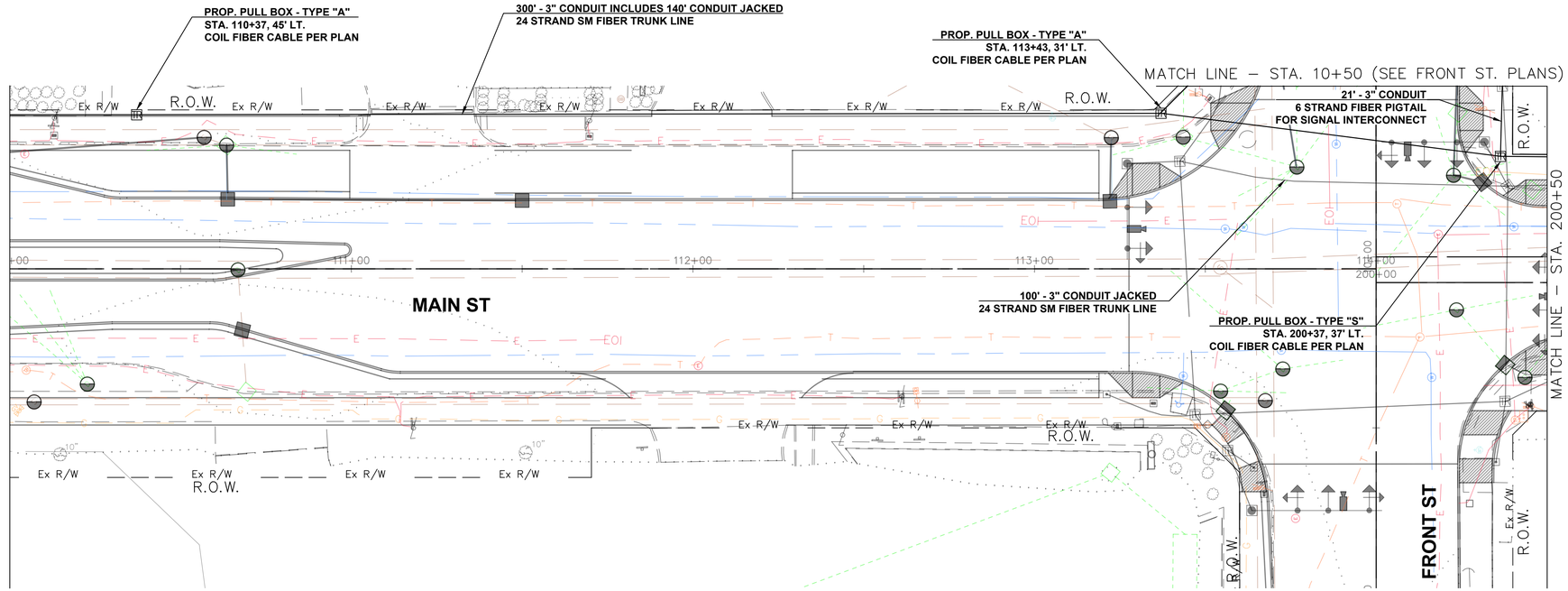
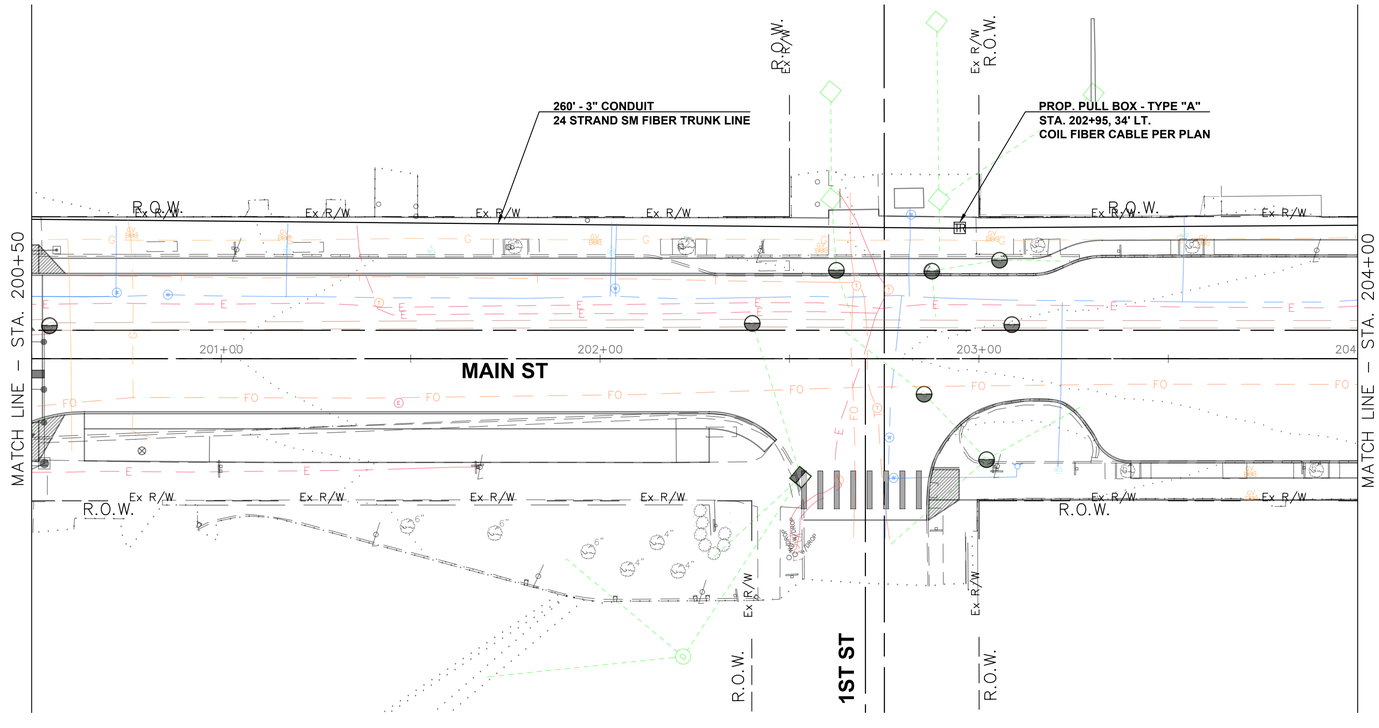




0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
MAIN STREET STA. 110+00 TO STA. 204+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	261
TOTAL	345

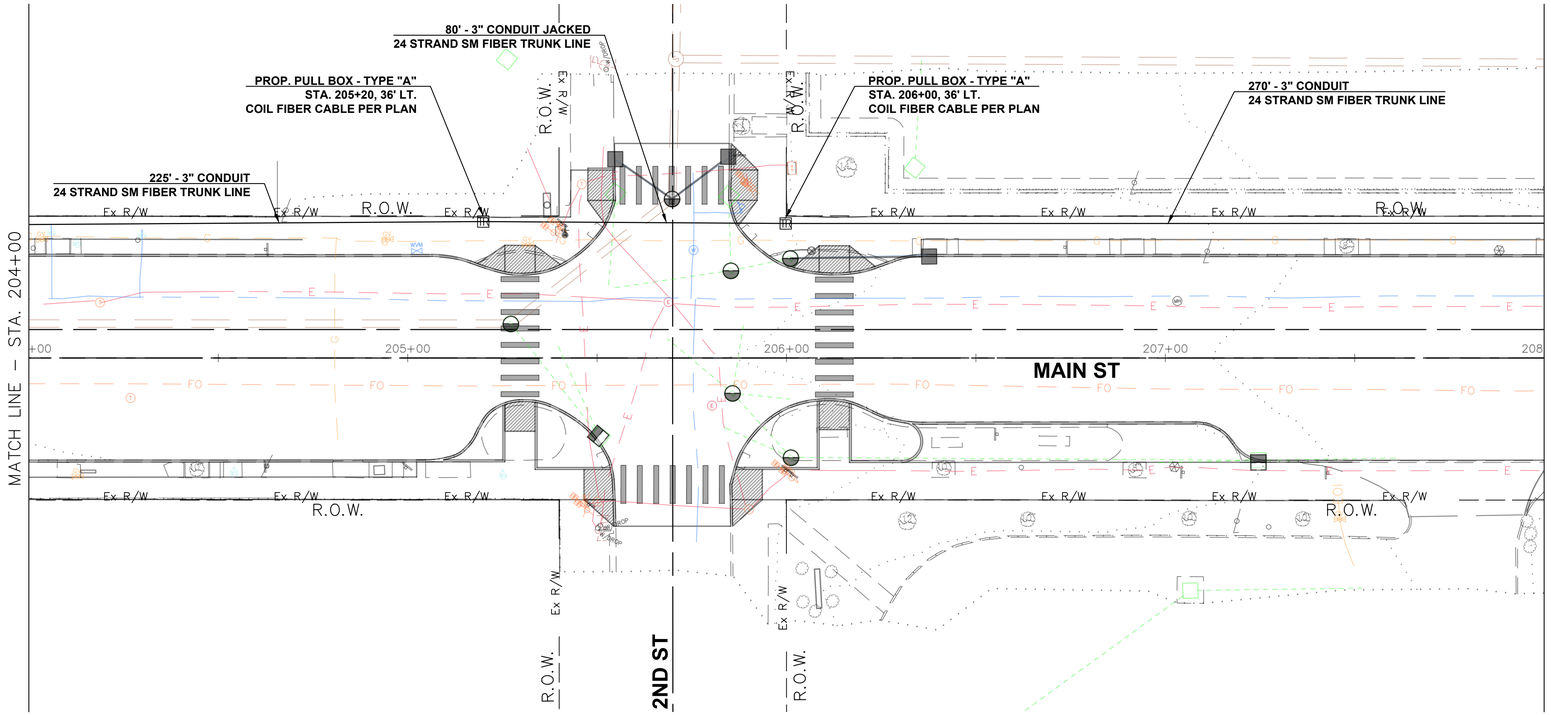
I7
10

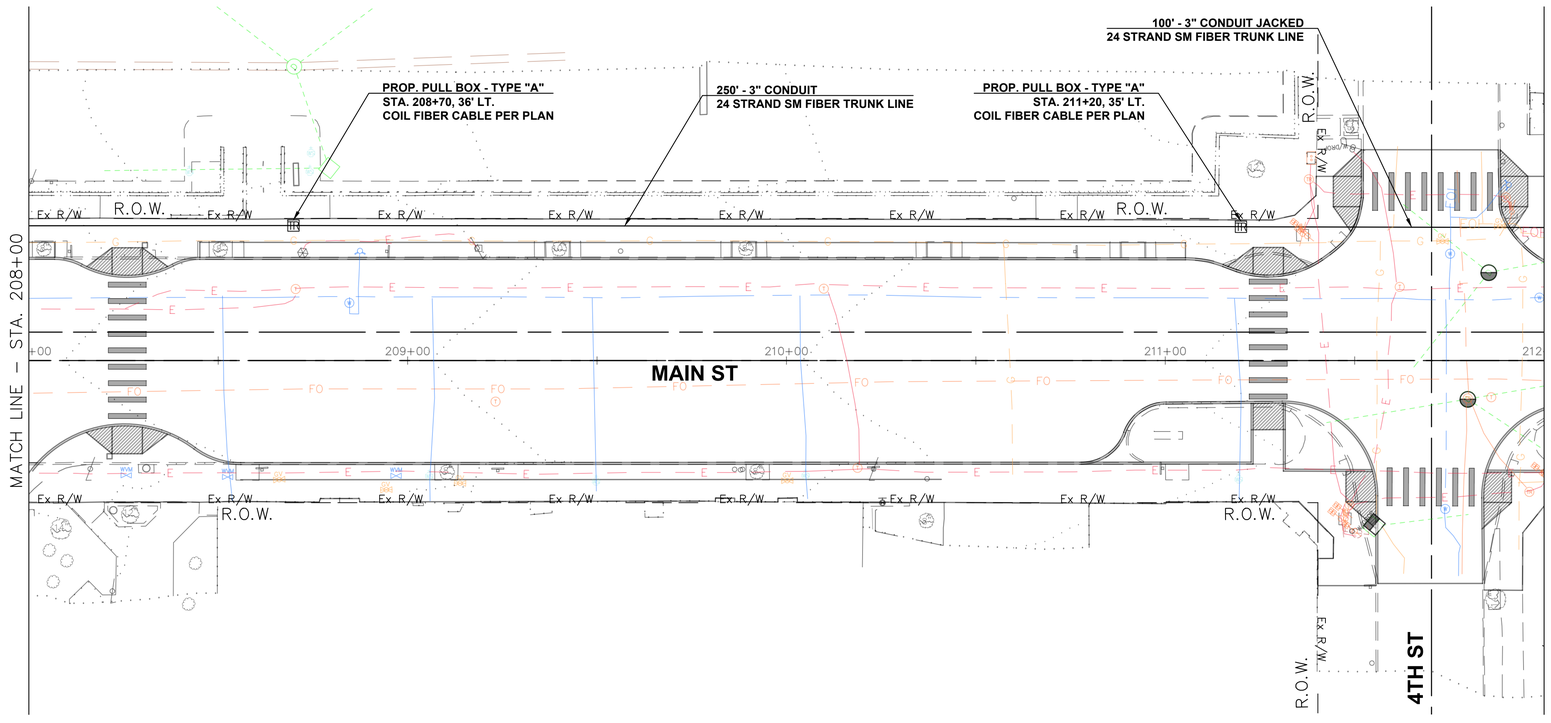
LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**





0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
MAIN STREET STA. 204+00 TO STA. 212+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	RSJ
REVIEWER	AMD
COT PROJ. ID	####
SHEET	262
TOTAL	345

I8
10

LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	FPB
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
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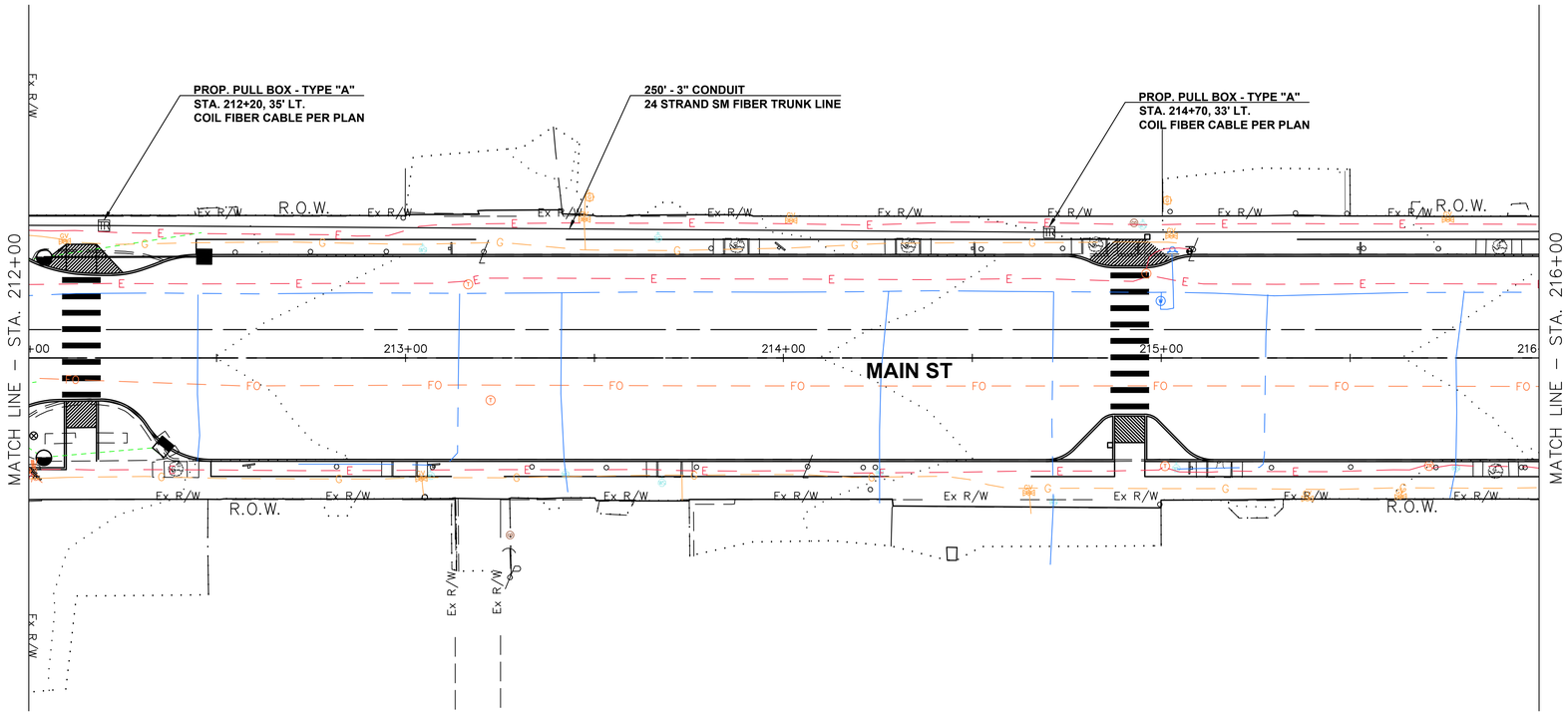
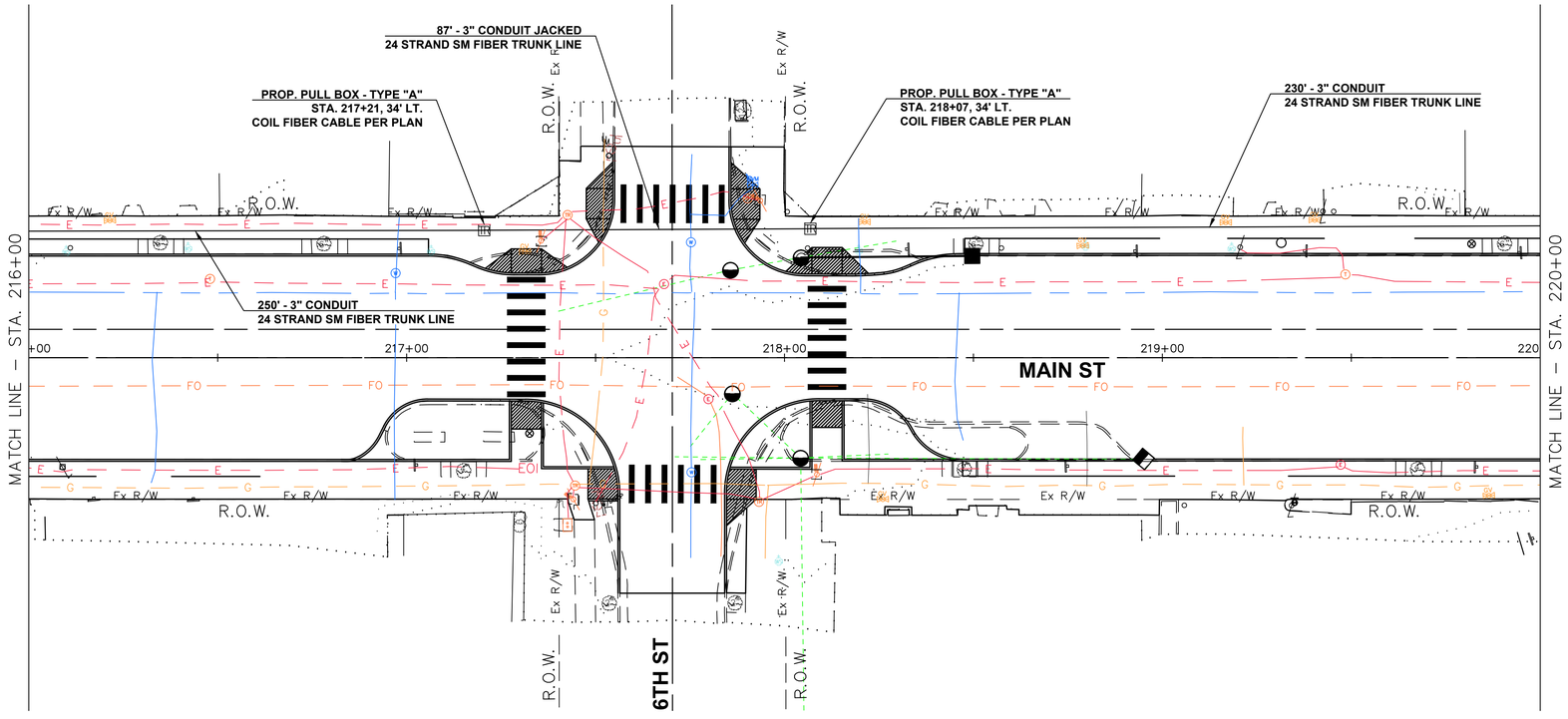




Horizontal Scale In Feet
0 10 20 40

TRAFFIC FIBER INTERCONNECT PLAN
MAIN STREET STA. 212+00 TO STA. 220+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938
DESIGNER RSJ
REVIEWER AMD
COT PROJ. ID ####
SHEET 263 TOTAL 345

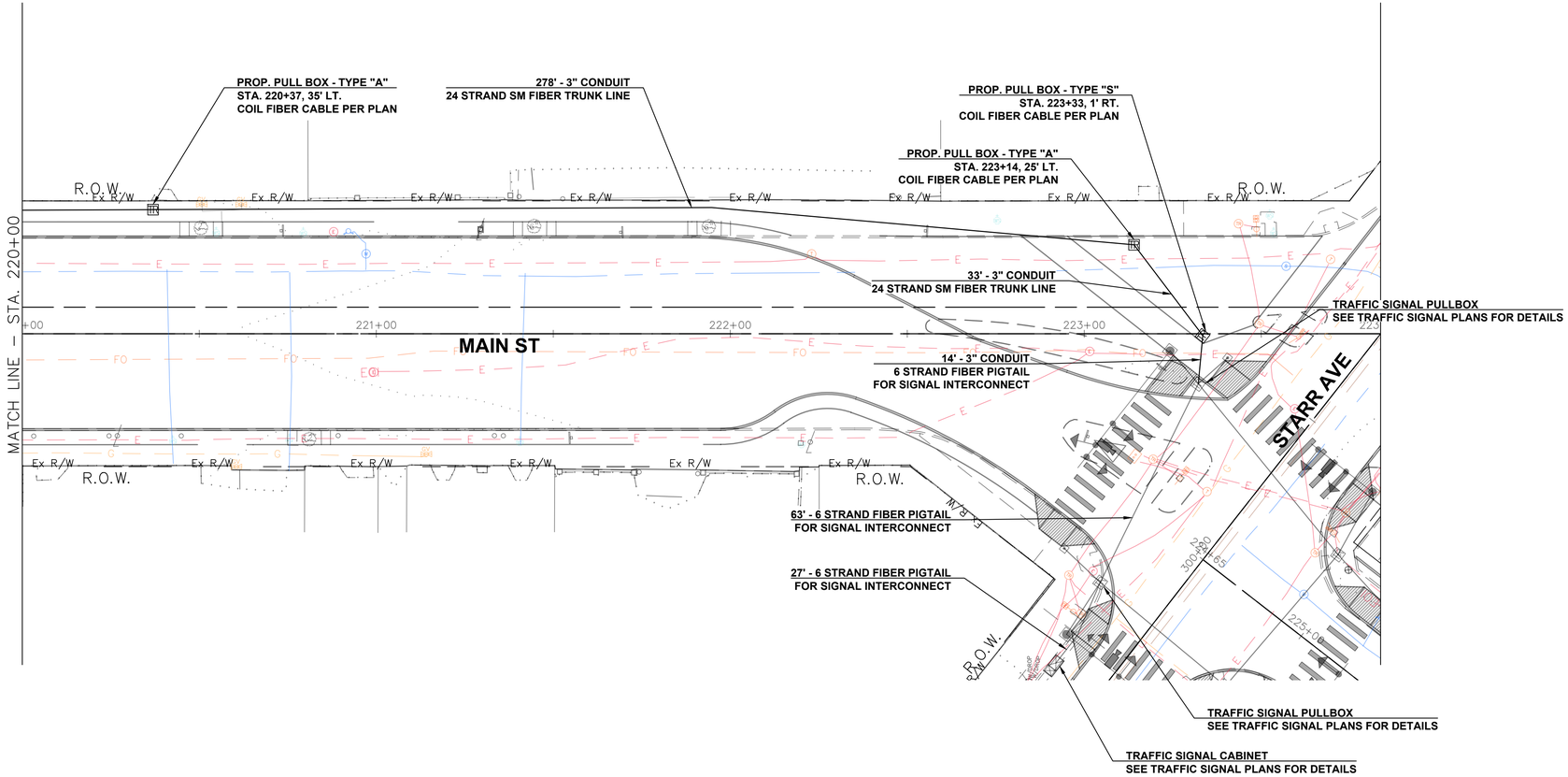
I9
10

LEGEND

	PROP
FIBER OPTIC CONDUIT	
FIBER OPTIC PULL BOX	
TRAFFIC SIGNAL CONTROLLER CABINET	

NOTES:

1. **INSTALL FIBER OPTIC CONDUIT PRIOR TO INSTALLING THE PROPOSED SIDEWALKS.**
2. **ALL CONDUITS UNDER THE ROADWAYS AND DRIVEWAYS SHALL BE JACKED AND BORED.**
3. **UNDERGROUND MARKING TAPE TO BE SUBSIDIARY TO THE PROPOSED 3" CONDUIT.**
4. **CONTRACTOR IS RESPONSIBLE FOR RESTORING THE DISTURBED AREAS WHERE CONDUITS ARE TRENCHED.**



0 10 20 40
Horizontal Scale In Feet

TRAFFIC FIBER INTERCONNECT PLAN
MAIN STREET STA. 220+00 TO STA. 228+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Department of Transportation
City of Toledo
Division of Engineering & Construction Mgmt.

ODOT PID
121938

DESIGNER
RSJ

REVIEWER
AMD

COT PROJ. ID
####

SHEET 264 | TOTAL 345

I10
10

LIGHTING GENERAL NOTES

ITEM 625 - POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE FOLLOWING IS ADDED.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:
POWER COMPANY TOLEDO EDISON
ADDRESS 6099 ANGOLA ROAD
HOLLAND, OHIO 43528

PHONE # 419-249-5094
CONTACT NAME BRENT THRONE

THE ENGINEER SHALL ENSURE THAT EACH POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE THIS SHALL BE DONE NOT ONLY FOR EACH NEW POWER SERVICE ESTABLISHED BY THIS PROJECT BUT ALSO FOR EACH EXISTING POWER SERVICE, SINCE THERE MAY BE A REASSIGNMENT OF THE RESPONSIBILITY FOR AN EXISTING SERVICE AS A RESULT OF THE WORK PERFORMED BY THIS PROJECT.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH C&MS ITEM 625, "POWER SERVICE, AS PER PLAN" WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LIGHT POLE, AESTHETIC, AS PER PLAN, A6B30, WITH BASELINE AESTHETIC FEATURES, BLACK FINISH

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A STANDARD LIGHT POLE PER C&MS 625 AND SCD HL-10.11, WITH ADDITIONAL BASELINE AESTHETIC FEATURES.

PROVIDE A POLE WITH A DOUBLE SWEEP BRACKET ARM WITH A 6' SPAN, SPIKE FINIAL AND TRIPLE SCROLL BRACE WITH A TEARDROP LUMINAIRE INSTALLED ON THE DOUBLE SWEEP BRACKET ARM AT A 30-FOOT MOUNTING HEIGHT AND A SIDEWALK LANTERN AT A 15-FOOT MOUNTING HEIGHT ON A 1-WAY STRAIGHT CLAMP-ON DOUBLE SCROLL ARM WITH A 2' SPAN, SIMILAR TO AS SHOWN ON SHEET 2 OF SCD HL-10.11.

PROVIDE A 6" DIAMETER POLE, BREAKAWAY TYPE WA BASE, ARM, FINIAL AND SCROLL BRACE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916.

ITEM 625 - LIGHT POLE, AESTHETIC, AS PER PLAN, POST-TOP, WITH BASELINE AESTHETIC FEATURES, BLACK FINISH

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A STANDARD POST-TOP LIGHT POLE PER C&MS 625 AND SCD HL-10.11, WITH ADDITIONAL BASELINE AESTHETIC FEATURES.

PROVIDE AN 18-FOOT 6" DIAMETER POLE, AND BREAKAWAY TYPE WA BASE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916, SIMILAR TO AS SHOWN ON SHEET 2 OF SCD HL-10.11.

ITEM 625 - LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, 11,900 LUMENS, BLACK

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A DECORATIVE TEARDROP-STYLE LED LUMINAIRE FOR ROADWAY ILLUMINATION.

HL-10.11 SHOWS A TEARDROP-STYLE LED LUMINAIRE SCHEMATICALLY.

THIS ITEM CONSISTS OF A BASE FITTER, GLASS (NOT ACRYLIC) TEARDROP TYPE GLOBE AND A BASIC HOUSING WITH NO DECORATIVE FEATURES SUCH AS FINIAL, CROWN, BAND OR RIBS. PROVIDE A LUMINAIRE WITH A B-U-G UP-LIGHTING RATING OF U4 OR LESS.

PROVIDE A LUMINAIRE COMPATIBLE WITH THE LIGHTING BRANCH CIRCUIT SHOWN IN THE PLANS.

PROVIDE A LUMINAIRE WITH 3G VIBRATION RATING.

PROTECT EACH LUMINAIRE USING A SURGE PROTECTIVE DEVICE (SPD) CONFORMING TO ODOT SUPPLEMENTAL SPEC 913.

ASSURE THE LUMINAIRE HAS A NOMINAL COLOR TEMPERATURE (CCT) OF 3000K.

PROVIDE A LUMINAIRE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916.

PROVIDE A LUMINAIRE LISTED ON THE ODOT SS 813 APPROVED LIST.

THE CONTRACTOR SHALL CHOOSE ONE OF THE FOLLOWING LUMINAIRES LISTED BELOW, OR AN APPROVED EQUAL:

BRAND	CATALOG NO.
HOLOPHANE	ESPL2-P50-30K-MVOLT-QSM-BK-TG4-SPDPLUGIN
KING	K804-RGD-III-100(SSL)-240V-30K-BK-KPL11

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH LUMINAIRE.

ITEM 625 - LUMINAIRE, TEARDROP, SOLID STATE (LED), AS PER PLAN, 11,900 LUMENS, BLACK

WHICH SHALL BE FULL COMPENSATION FOR ALL LBAOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN, SOLID STATE (LED), POST-TOP LANTERN, IES-II, 4,000-4,400 LUMENS, BLACK

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A DECORATIVE POST-TOP STYLE LED LUMINAIRE FOR SIDEWALK ILLUMINATION.

A LANTERN STYLE LUMINAIRE CONSISTS OF FOUR DISCRETE FLAT SLOPING SIDES, PER HL-10.11, WITH GLASS OR POLYMER PANELS, AND A ROUNDED OR POINTED TOP AND A SMALL CUPOLA. PROVIDE A LUMINAIRE WITH A B-U-G UP-LIGHTING RATING OF U2 OR LESS.

THE LUMINAIRE IS INTENDED FOR EXTERNAL ON/OFF CONTROL AND SHALL NOT INCLUDE A PHOTOCELL SOCKET.

PROVIDE A LUMINAIRE COMPATIBLE WITH THE LIGHTING BRANCH CIRCUIT SHOWN IN THE PLANS.

PROVIDE A LUMINAIRE WITH 3G VIBRATION RATING.

PROTECT EACH LUMINAIRE USING A SURGE PROTECTIVE DEVICE (SPD) CONFORMING TO ODOT SUPPLEMENTAL SPEC 913.

ASSURE THE LUMINAIRE HAS A NOMINAL COLOR TEMPERATURE (CCT) OF 3000K.

PROVIDE A LUMINAIRE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916.

PROVIDE A LUMINAIRE LISTED ON THE ODOT SS 813 APPROVED LIST.

THE CONTRACTOR SHALL CHOOSE ONE OF THE FOLLOWING LUMINAIRES LISTED BELOW, OR AN APPROVED EQUAL:

BRAND	CATALOG NO.
BRAND	CATALOG NO.
AEL	AVPL2-P102-MVOLT-ZT-30K-R2-CAY-BK-NTR-SCC-20KV-BABA
COOPER	BABA-UTLD-PA1-40-730-U-T2U-CL-BK-10K

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH LUMINAIRE.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN, SOLID STATE (LED), POST-TOP LANTERN, IES-II, 4,000-4,400 LUMENS, BLACK

WHICH SHALL BE FULL COMPENSATION FOR ALL LBAOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN, SOLID STATE (LED), POST-TOP ACORN, IES-V, 4,600-4,900 LUMENS, BLACK

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A DECORATIVE POST-TOP STYLE LED LUMINAIRE FOR ROADWAY ILLUMINATION.

HL-10.11 SHOWS AN ACORN-STYLE POST-TOP LUMINAIRE SCHEMATICALLY. THIS ITEM CONSISTS OF A BASE FITTER, GLASS (NOT ACRYLIC) GLOBE AND A ROUNDED TOP WITH NO DECORATIVE FEATURES SUCH AS FINIAL, CROWN, BAND OR RIBS. PROVIDE A LUMINAIRE WITH A B-U-G UP-LIGHTING RATING OF U4 OR LESS.

ASSURE THE LUMINAIRE POST-FITTER HAS A HINGED OR CAPTIVE DOOR.

PROVIDE A LUMINAIRE COMPATIBLE WITH THE LIGHTING BRANCH CIRCUIT SHOWN IN THE PLANS.

PROVIDE A LUMINAIRE WITH 3G VIBRATION RATING.

PROTECT EACH LUMINAIRE USING A SURGE PROTECTIVE DEVICE (SPD) CONFORMING TO ODOT SUPPLEMENTAL SPEC 913.

ASSURE THE LUMINAIRE HAS A NOMINAL COLOR TEMPERATURE (CCT) OF 3000K.

PROVIDE A LUMINAIRE WITH FACTORY-APPLIED BLACK FINISH MEETING SUPPLEMENTAL SPECIFICATION 916.

PROVIDE A LUMINAIRE LISTED ON THE ODOT SS 813 APPROVED LIST.

THE CONTRACTOR SHALL CHOOSE ONE OF THE FOLLOWING LUMINAIRES LISTED BELOW, OR AN APPROVED EQUAL:

BRAND	CATALOG NO.
HOLOPHANE	GPD3-P20-30K-MVOLT-MS-GL5-BK-TBK-FC
KING	K445-T1GR-V-40(SSL)-240V-K24-NR-30K-SST-BK
STERNBERG	PT-G74SRLED-5P-4L-30-T5-MDL02-G-BKT

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH LUMINAIRE.

ITEM 625 - LUMINAIRE, DECORATIVE, AS PER PLAN, SOLID STATE (LED), POST-TOP ACORN, IES-V, 4.600-4,900 LUMENS, BLACK

WHICH SHALL BE FULL COMPENSATION FOR ALL LBAOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PULL BOX, 725.08, 18"

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A PORTLAND CEMENT CONCRETE PULL BOX PER C&MS 625, 725, AND PLAN REQUIREMENTS. THE PULL BOX SHALL BE SQUARE WITH AN INSIDE WIDTH OF 18", A DEPTH OF 30", AND MEET THE REQUIREMENTS OF ANSI TIER 22. A MINIMUM OF 6" OF NO.7 OR NO.8 AGGREGATE SHALL BE PLACED UNDER THE PULL BOX.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM 625 - PULL BOX, 725.08, 18" AND SHALL INCLUDE ALL LABOR TOOLS, EQUIPMENT, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

PULL BOX, 725.08, 24"

THIS ITEM CONSISTS OF SUPPLYING AND INSTALLING A PORTLAND CEMENT CONCRETE PULL BOX PER C&MS 625, 725, AND PLAN REQUIREMENTS. THE PULL BOX SHALL BE SQUARE WITH AN INSIDE WIDTH OF 24", A DEPTH OF 30", AND MEET THE REQUIREMENTS OF ANSI TIER 22. A MINIMUM OF 6" OF NO.7 OR NO.8 AGGREGATE SHALL BE PLACED UNDER THE PULL BOX.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM 625 - PULL BOX, 725.08, 24" AND SHALL INCLUDE ALL LABOR TOOLS, EQUIPMENT, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

825 ARC-FLASH HAZARD CALCULATIONS AND EQUIPMENT LABEL

THIS ITEM CONSISTS OF CALCULATING THE ARC FLASH HAZARD FOR INSTALLED NEW OR EXISTING ELECTRICAL ENCLOSURES, PROVIDING DOCUMENTATION OF THE CALCULATIONS, AND APPLYING THE APPROPRIATE EXTERNAL ARC FLASH HAZARD EQUIPMENT LABEL TO ESTABLISHED INDUSTRY STANDARDS.

ELECTRICAL EQUIPMENT REQUIRING LABELS:
5 DISCONNECT SWITCHES AND 5 ENCLOSURES

ENSURE THAT MATERIAL FOR THE ARC FLASH HAZARD EQUIPMENT LABEL CONFORMS TO ODOT C&MS 730.18, REFLECTIVE SHEETING TYPE F. THE SHEETING COLOR SHALL BE SAFETY ORANGE, 4 INCHES HIGH AND SIX INCHES WIDE.

CALCULATIONS ARE TO BE DONE IN ACCORDANCE TO IEEE 1584-2002.

LABELS ARE TO BE PERMANENTLY MARKED USING STANDARD SIGN SHEETING SILK SCREEN PROCESS, SUCH THAT EACH ENCLOSURE LABEL IS UNIQUE, WITH INTEGRAL TEXT AND CHECK BOX MARKS.

REFER TO ODOT SUPPLEMENTAL SPECIFICATION 825 FOR ADDITIONAL INFORMATION.

ODOT C&MS

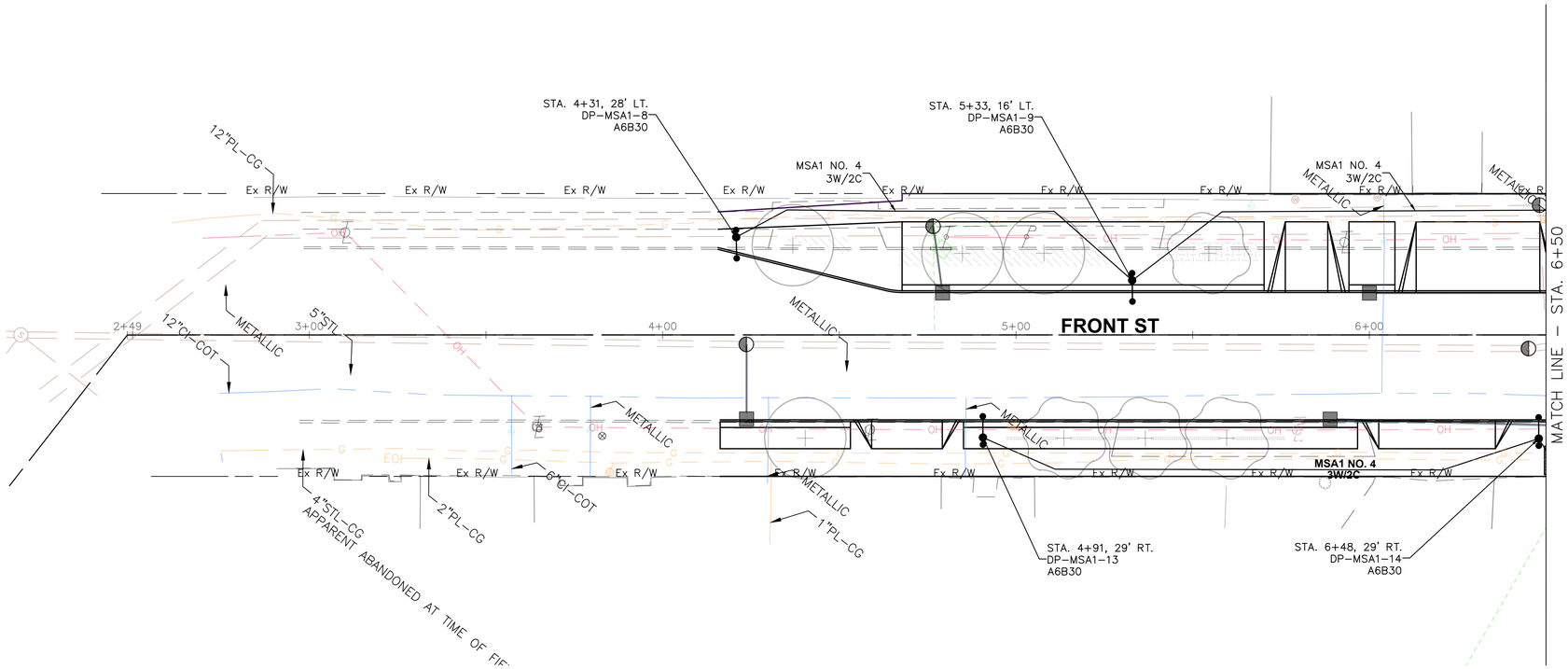
THE REQUIREMENTS LISTED IN THE 2023 ODOT C&MS SHALL GOVERN THE COMPLETION OF THE PROPOSED LIGHTING WORK SHOWN IN THE PLANS, UNLESS STATED OTHERWISE. LIGHTING ITEMS LISTED WITH STATE ITEM NO. "625" WITHIN THE GENERAL SUMMARY CONFORM TO THE STANDARD ODOT ITEM DESCRIPTIONS, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, AND OTHER INCIDENTALS NECESSARY TO COMPLETE EACH ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

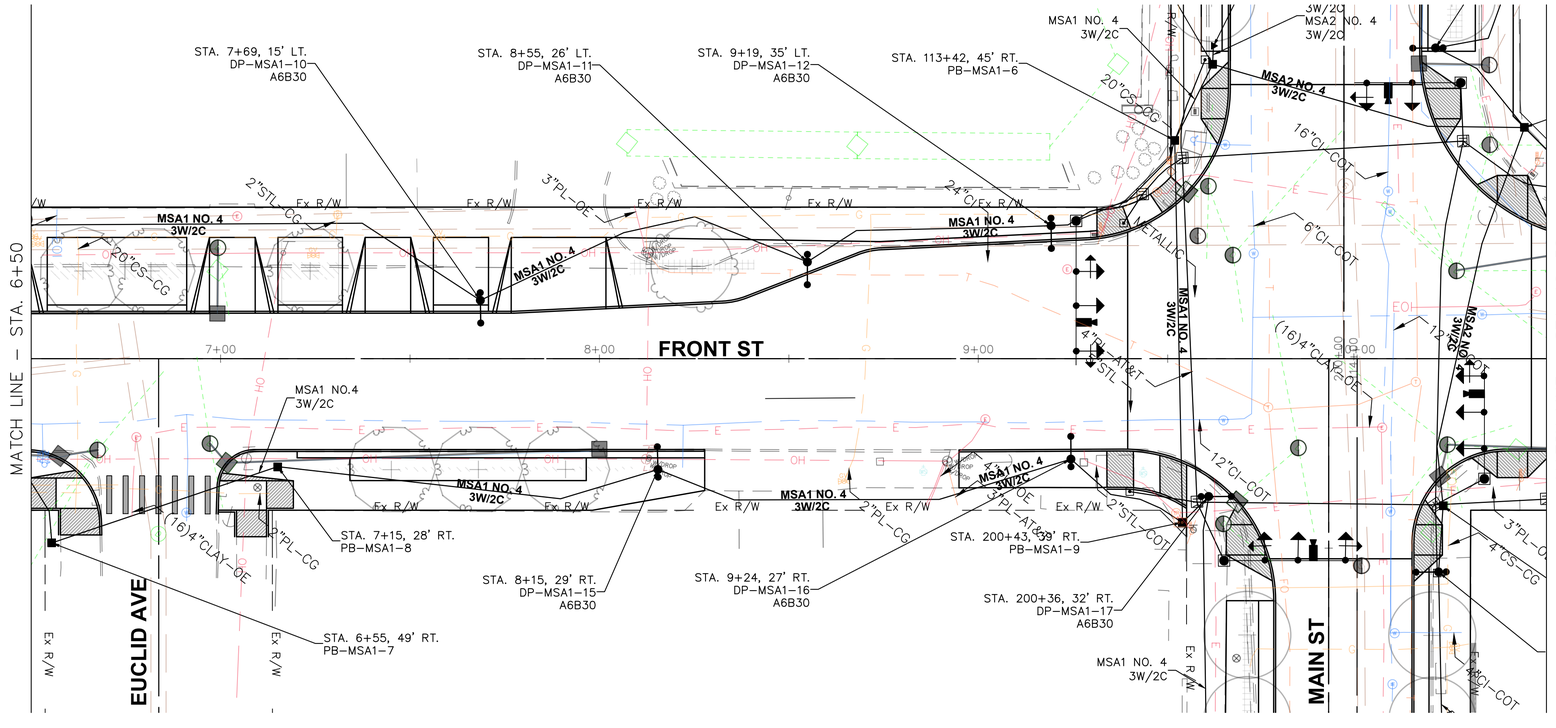
PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO MASTER NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH C&MS 631.06. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

DESIGN AGENCY

ODOT PID 121938
DESIGNER GCB
REVIEWER AMD
COT PROJ. ID ####





"DP" = DECOR. LIGHT POLE W/ TEARDROP & LANTERN
"PT" = DECOR. POST-TOP LIGHT POLE W/ ACORN

CIRCUIT
DP-FSA1-1
POWER SERVICE
POLE NO. WITHIN CIRCUIT

LIGHTING LABEL DESIGNATION

BRACKET ARM(S)
"B" = SINGLE ARM
BASE TYPE
"A" = ANCHOR
A6B30
ARM LENGTH (FT.)
SUPPORT HEIGHT (FT.)

LIGHT POLE DESIGN NUMBER

LEGEND

- PROPOSED LIGHTING CONTROL CENTER
- PROPOSED LIGHT POLE, AESTHETIC, POST-TOP, W/ ACORN LUMINAIRE
- PROPOSED LIGHT POLE, AESTHETIC, W/ TEARDROP AND LANTERN LUMINAIRES
- PROPOSED PULL BOX, 725.08, 18" (UNLESS NOTED OTHERWISE)
- PROPOSED 3" CONDUIT, 725.05 WITH 3W/2C NO. 4 AWG WIRE

0 10 20 40
Horizontal Scale In Feet

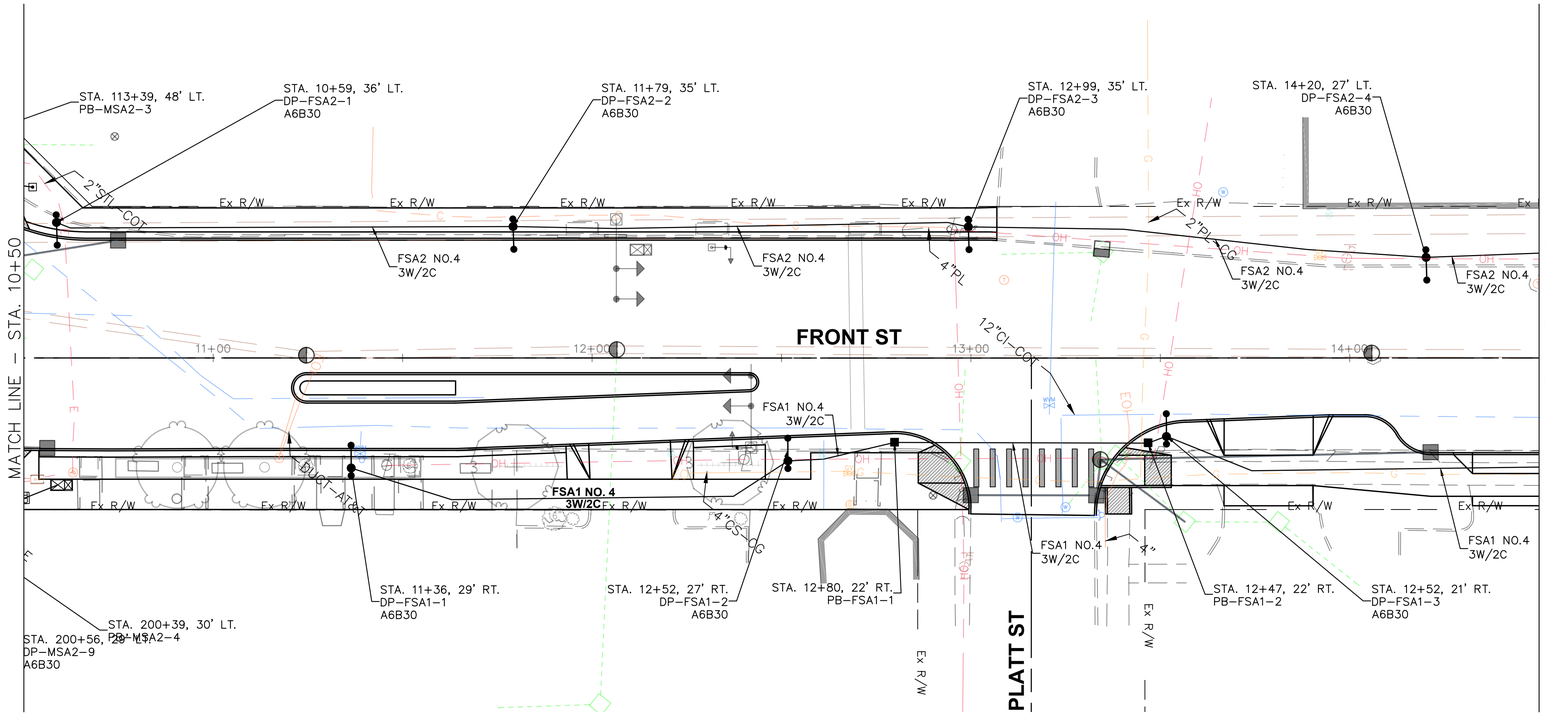
LIGHTING PLAN
FRONT STREET STA. 2+48.53 TO STA. 10+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID 121938
DESIGNER GCB
REVIEWER AMD
COT PROJ. ID ####
SHEET 266 TOTAL 345

L2
13



0 10 20 40
Horizontal Scale In Feet

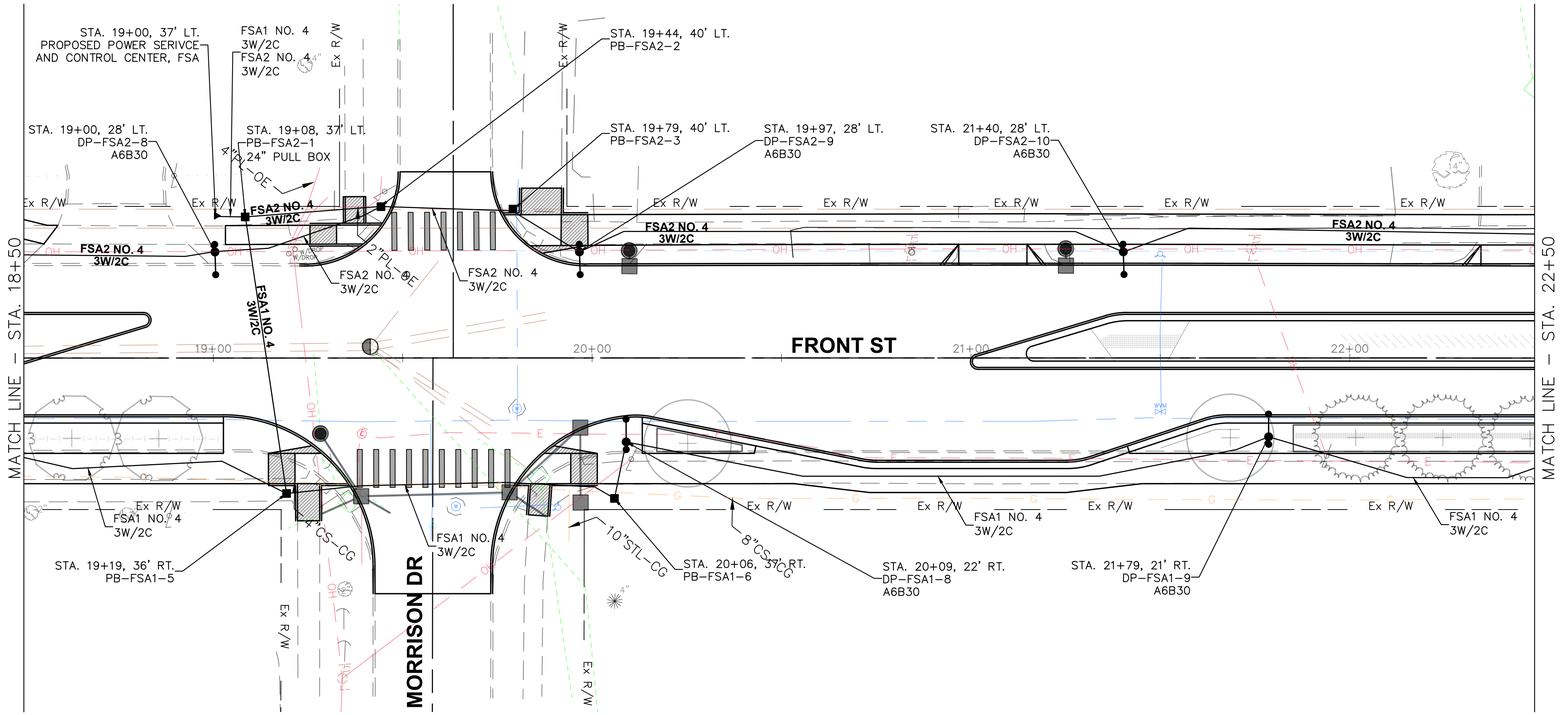
LIGHTING PLAN
FRONT STREET STA. 10+50 TO STA. 18+50

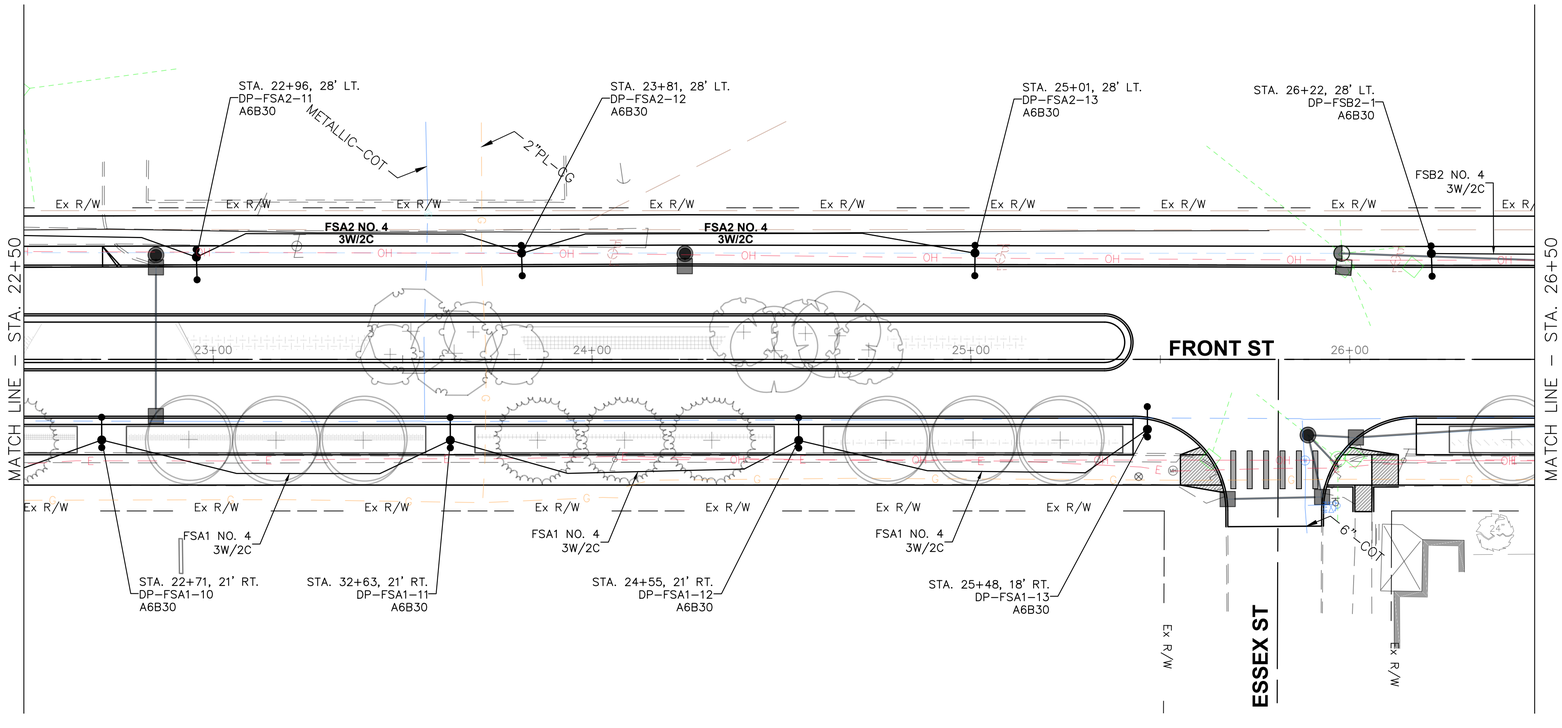
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	267
TOTAL	345

L3
13





Horizontal Scale In Feet
0 10 20 40

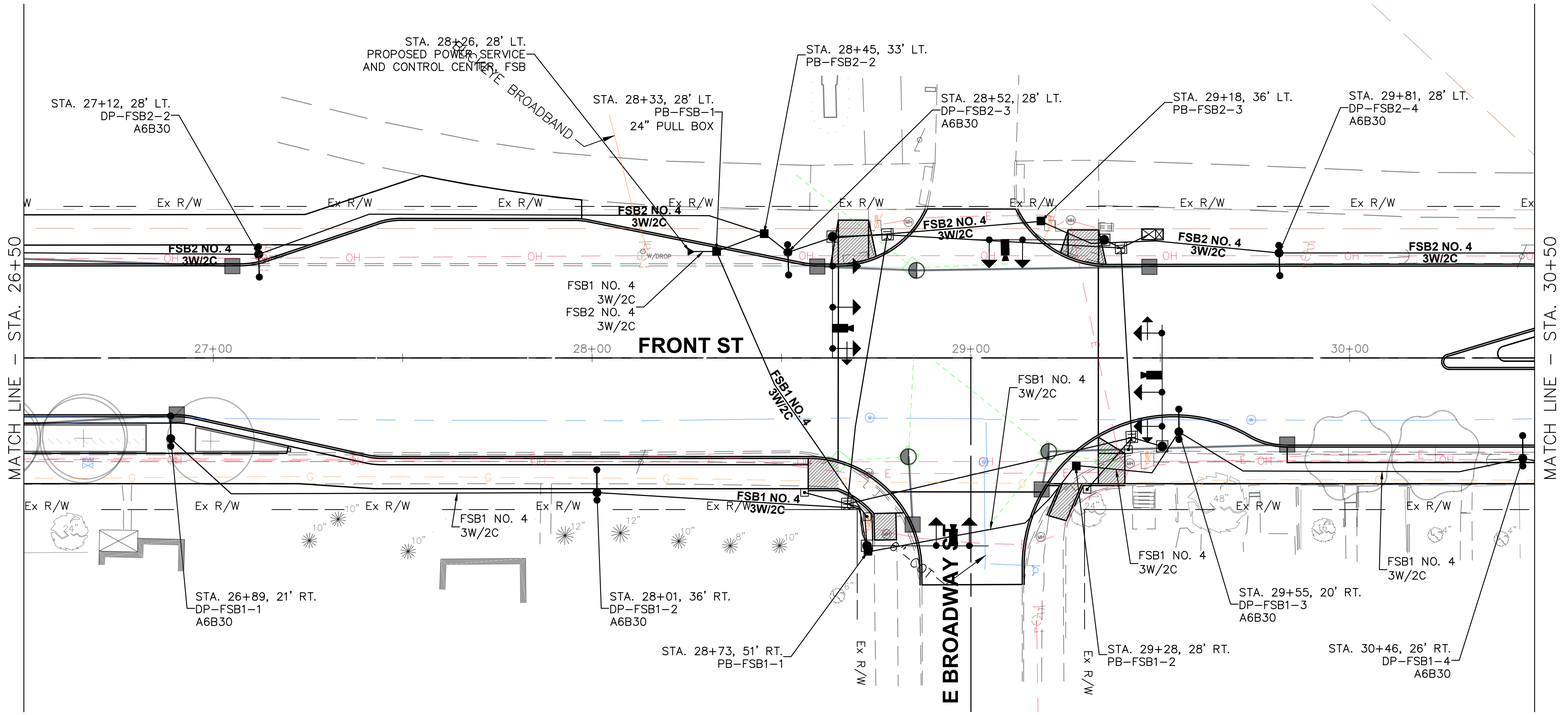
LIGHTING PLAN
FRONT STREET STA. 18+50 TO STA. 26+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	268
TOTAL	345

L4
13



N

0 10 20 40
Horizontal
Scale In Feet

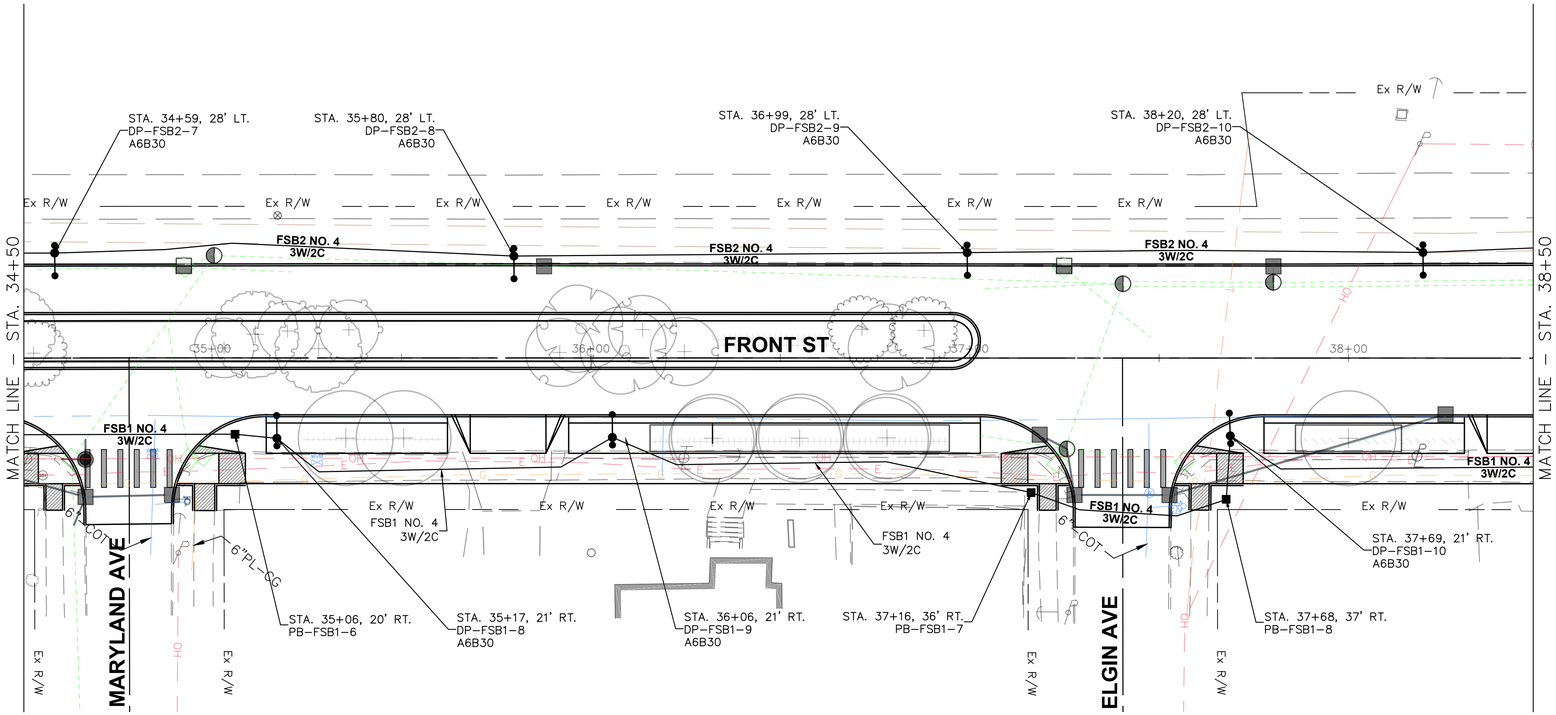
LIGHTING PLAN
FRONT STREET STA. 26+50 TO STA. 34+50

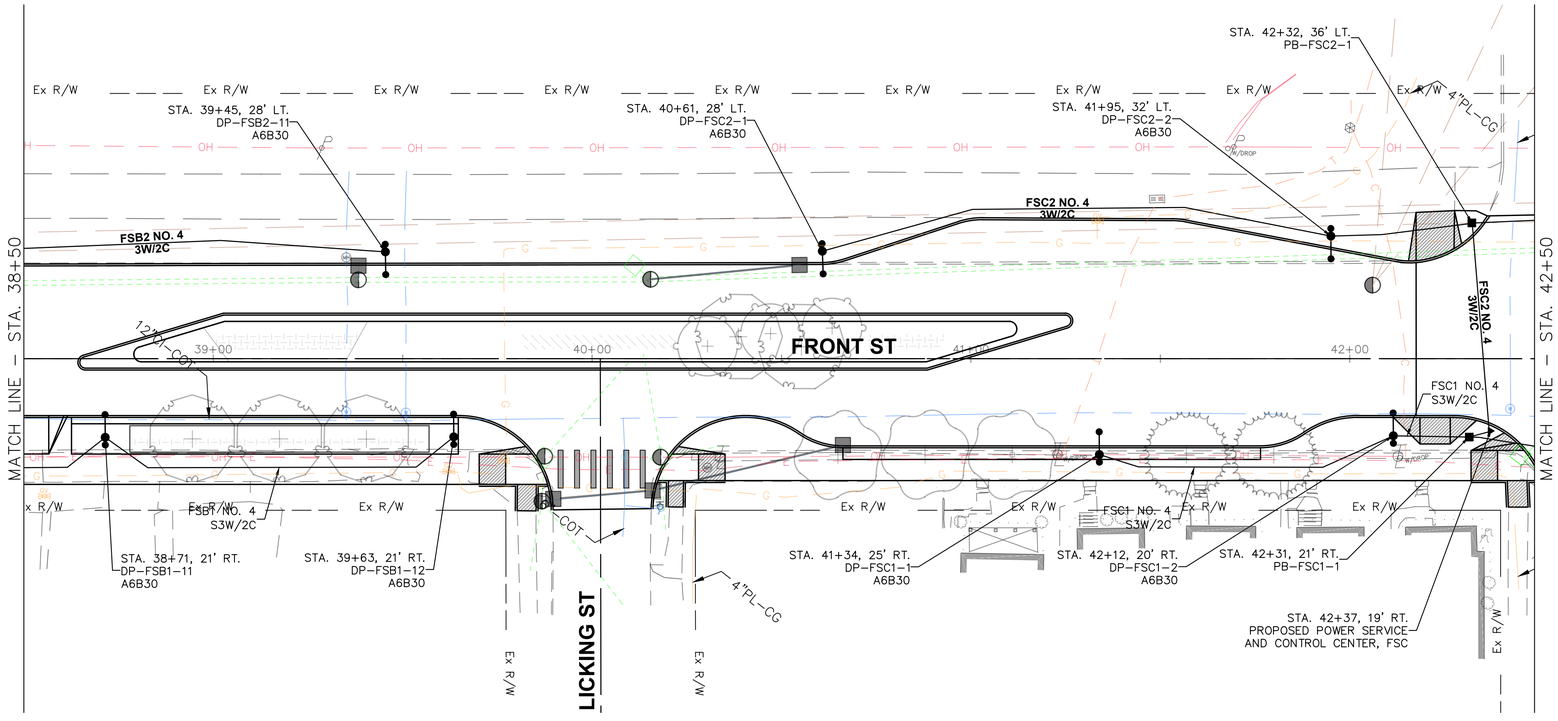
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	269
TOTAL	345

L5
13





0 10 20 40
Horizontal
Scale In Feet

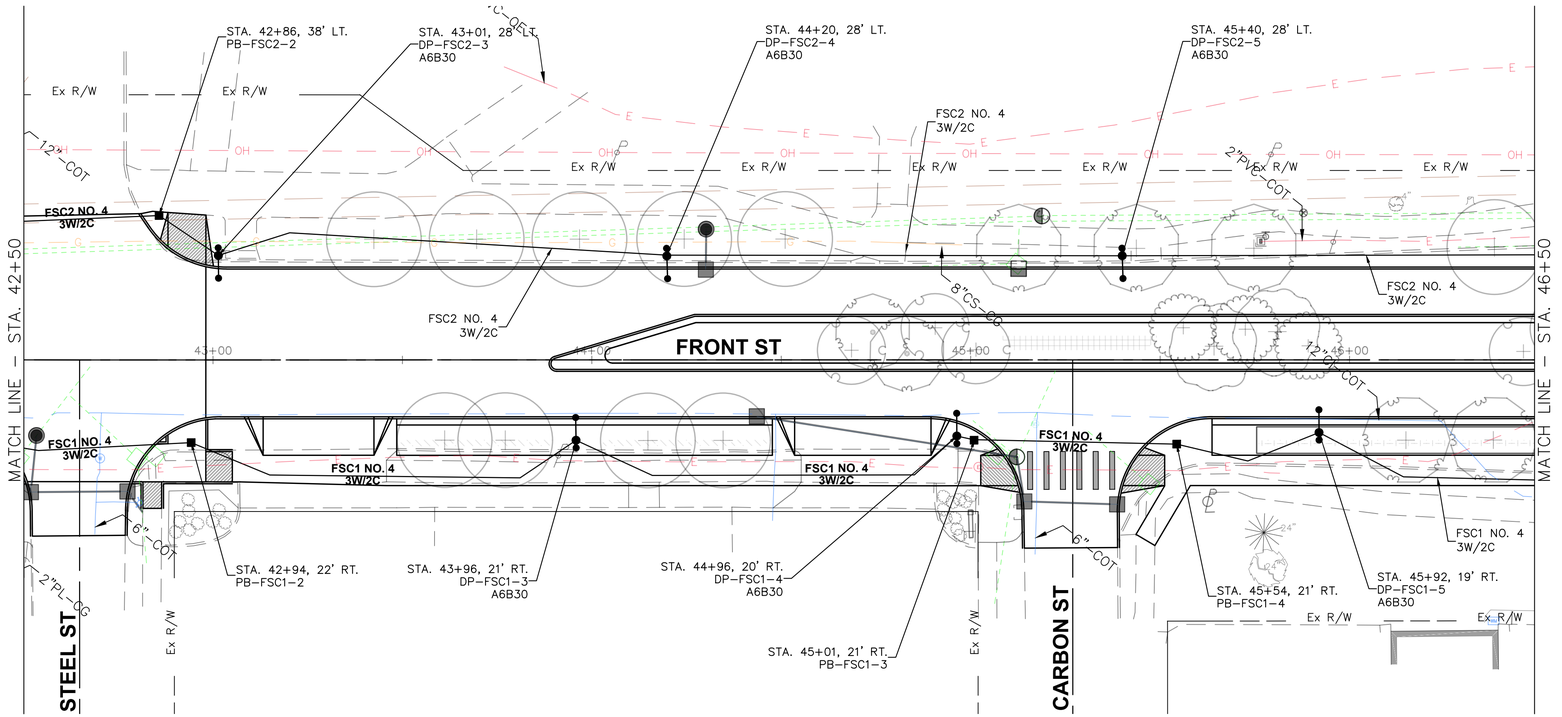
LIGHTING PLAN
FRONT STREET STA. 34+50 TO STA. 42+50

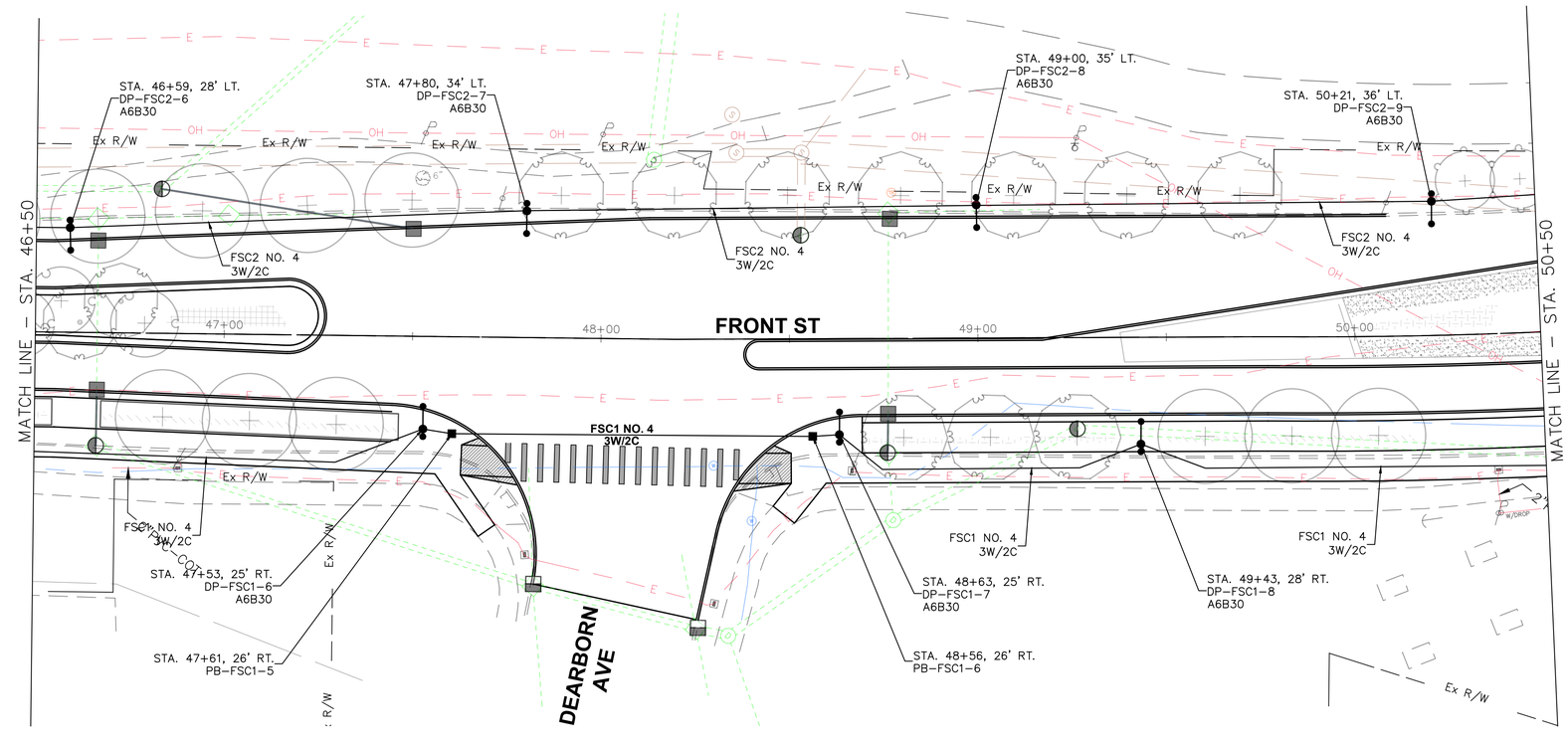
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	270
TOTAL	345

L6
13





Horizontal Scale In Feet
0 10 20 40

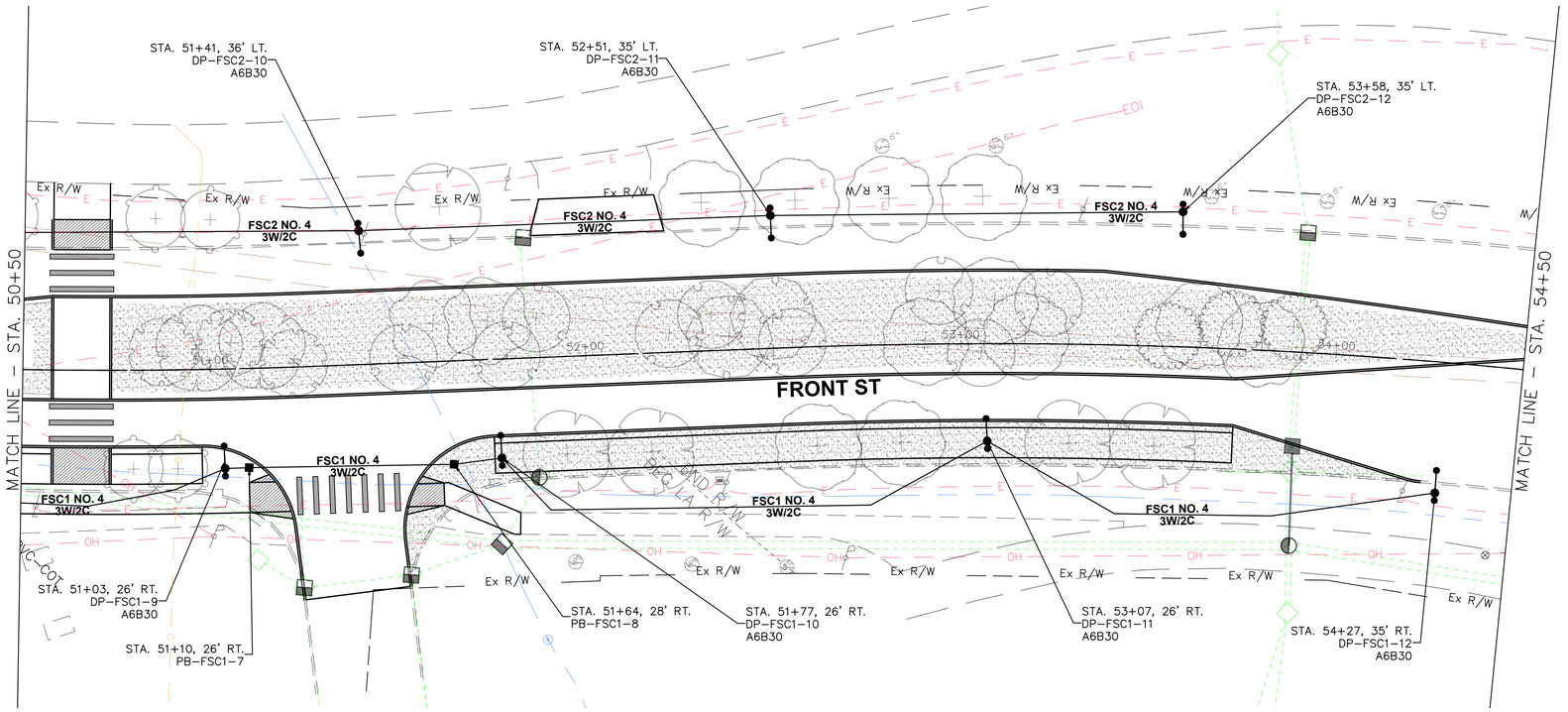
LIGHTING PLAN
FRONT STREET STA. 42+50 TO STA. 50+50

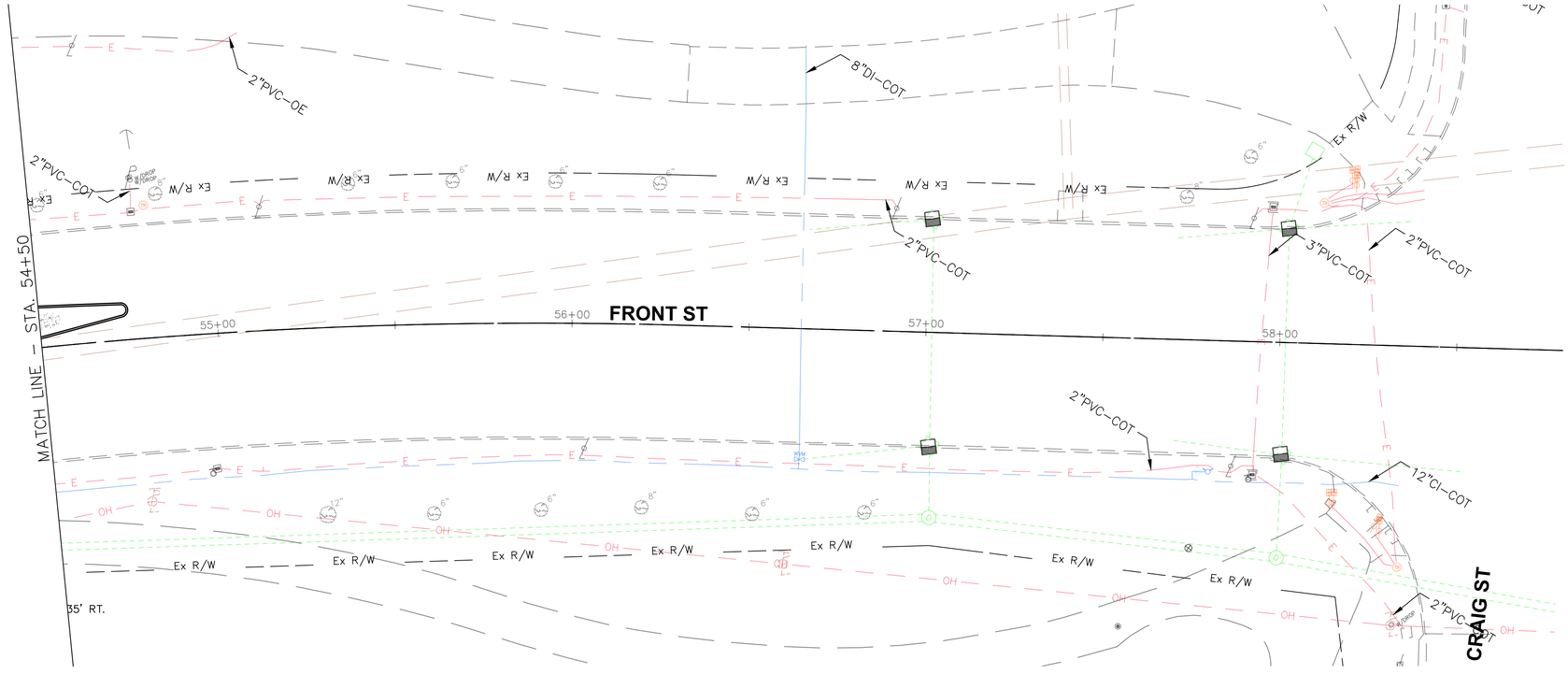
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	271
TOTAL	345

L7
13





Horizontal Scale In Feet
0 10 20 40

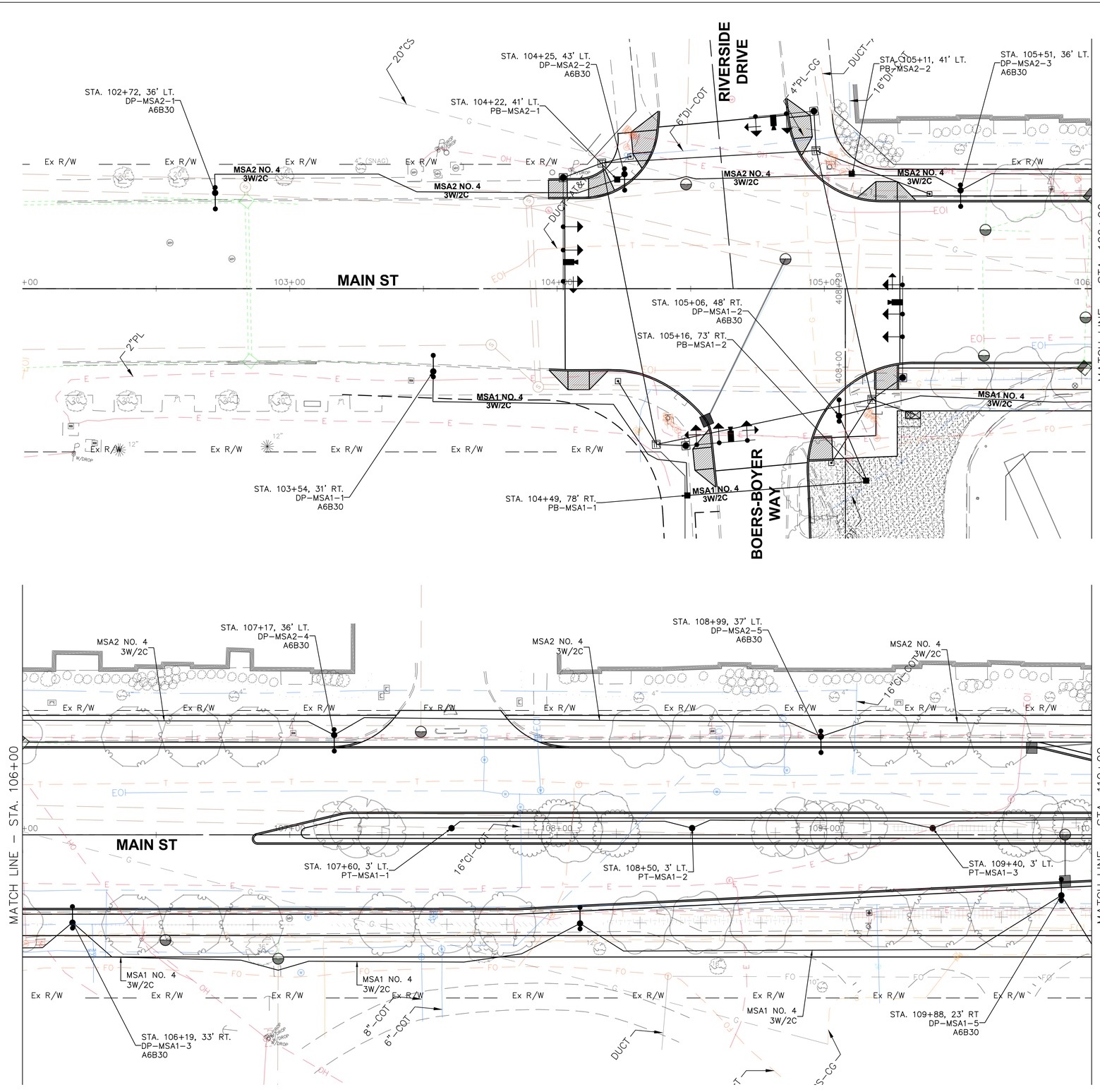
LIGHTING PLAN
FRONT STREET STA. 50+50 TO STA. 58+80

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	272
TOTAL	345

L8
13



0 10 20 40
Horizontal Scale In Feet

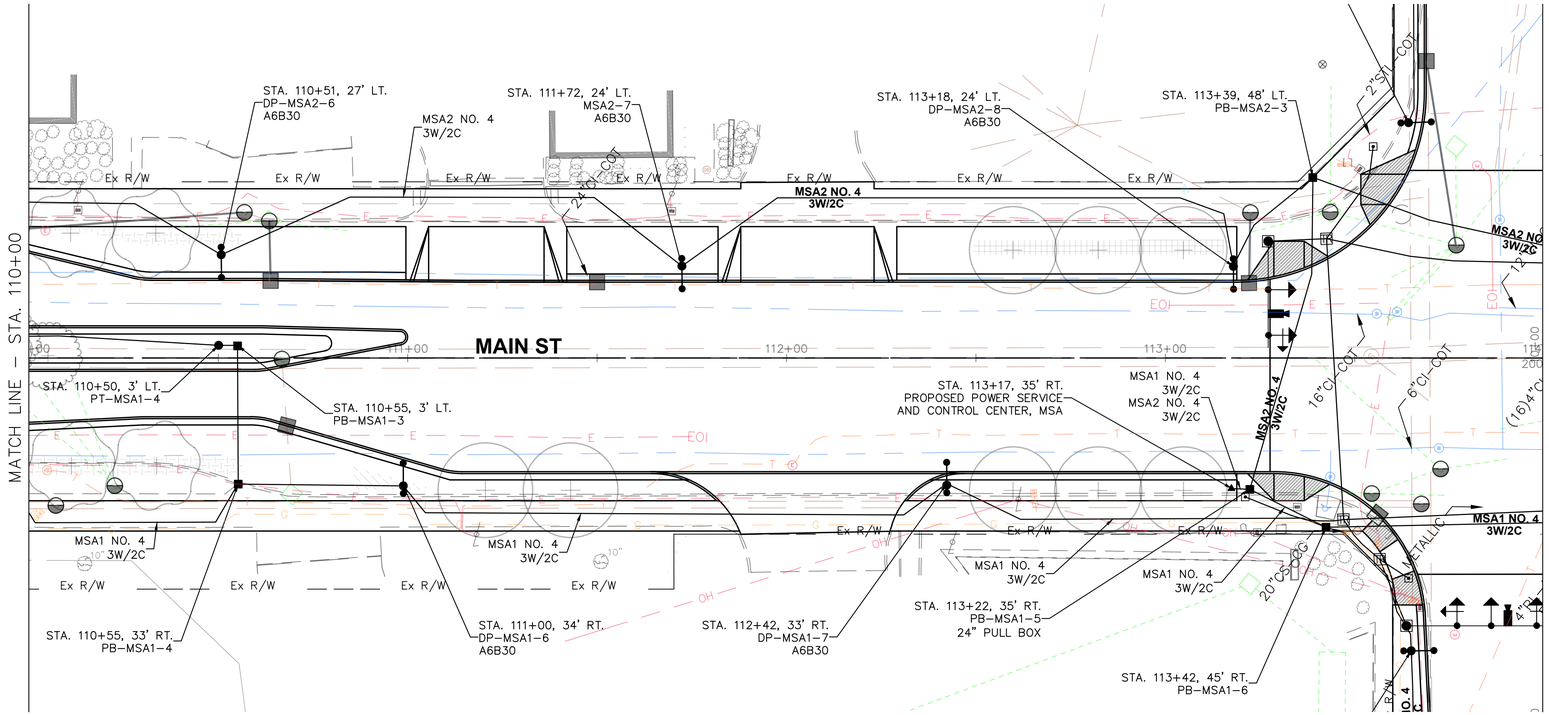
LIGHTING PLAN
MAIN STREET STA. 102+00 TO STA. 110+00

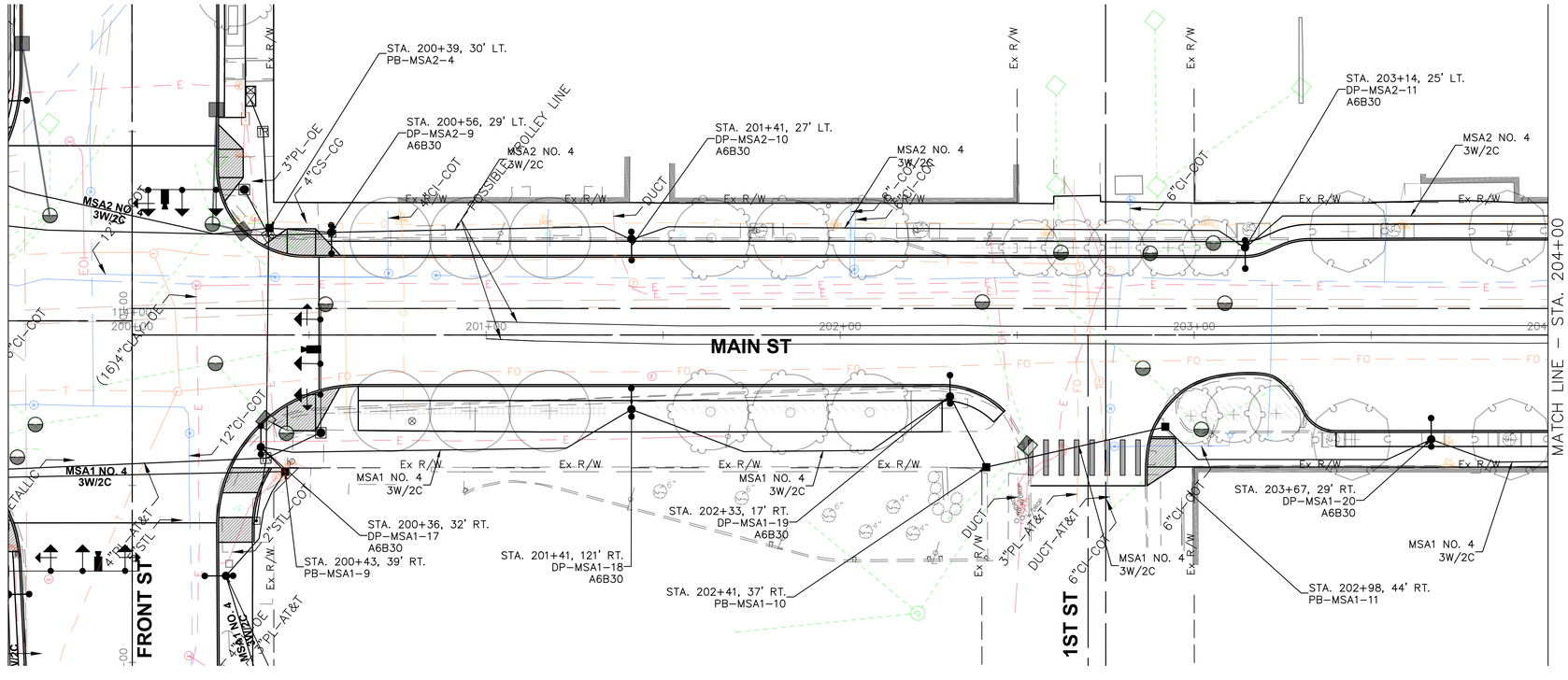
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	273
TOTAL	345

L9
13





Horizontal Scale In Feet
0 10 20 40

LIGHTING PLAN
MAIN STREET STA. 110+00 TO STA. 204+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID
121938

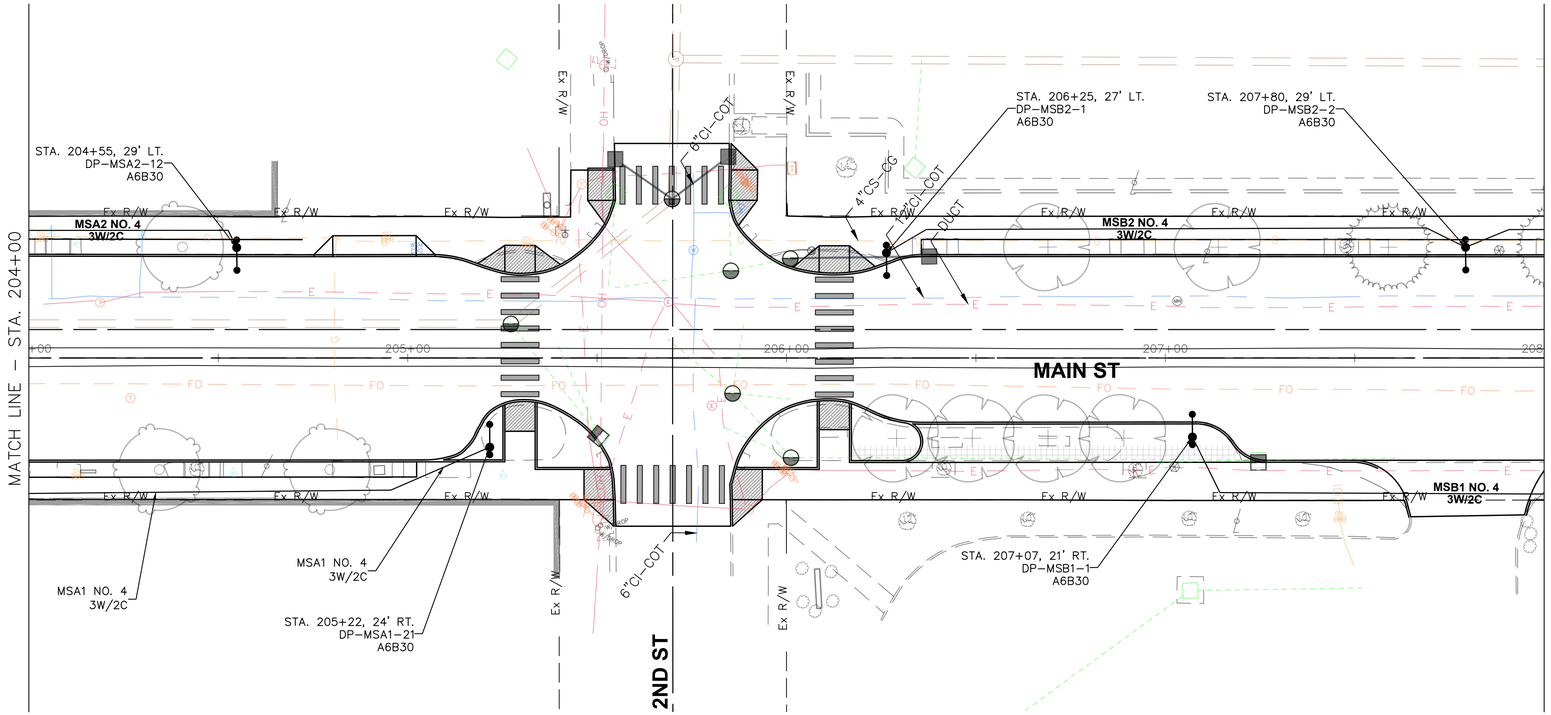
DESIGNER
GCB

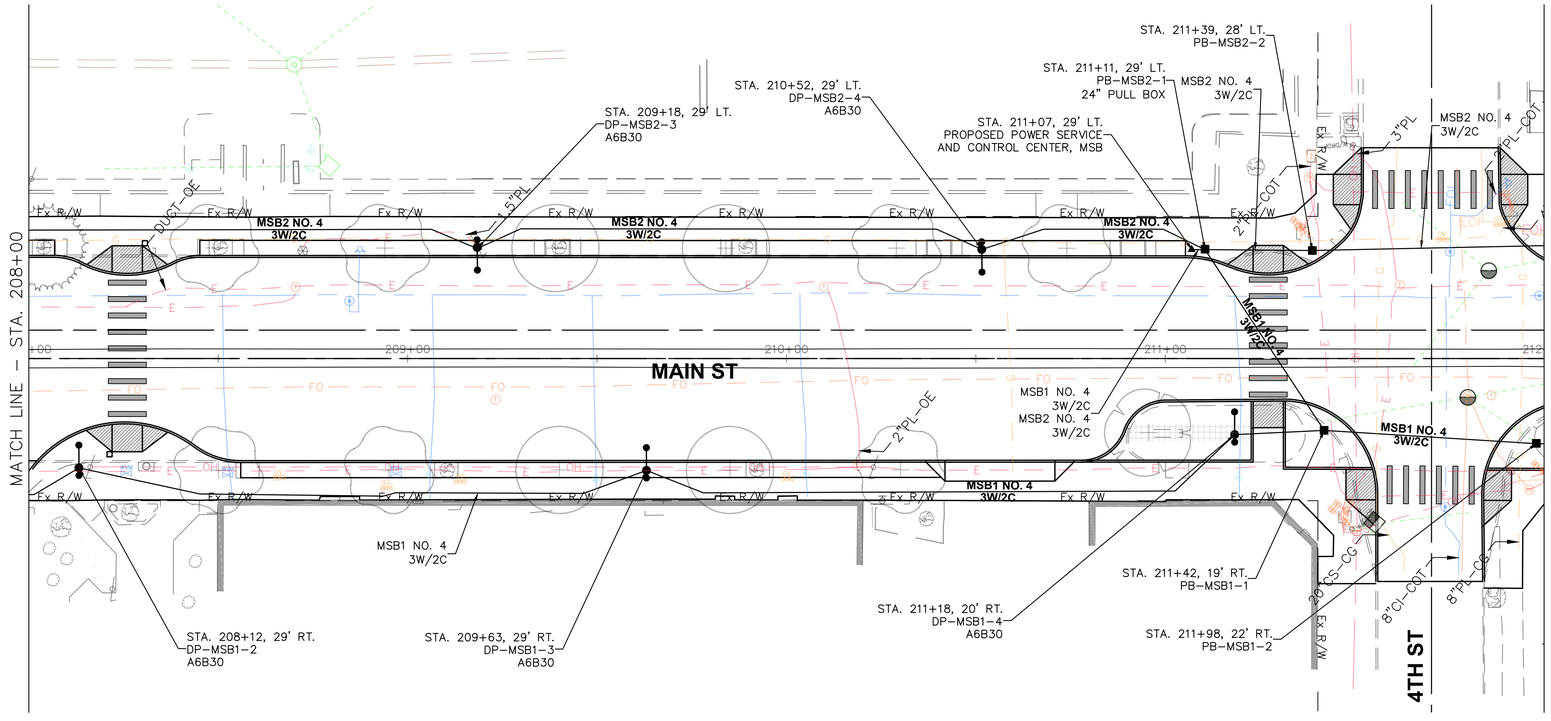
REVIEWER
AMD

COT PROJ. ID
####

SHEET 274 | TOTAL 345

L10
13





Horizontal Scale In Feet
0 10 20 40

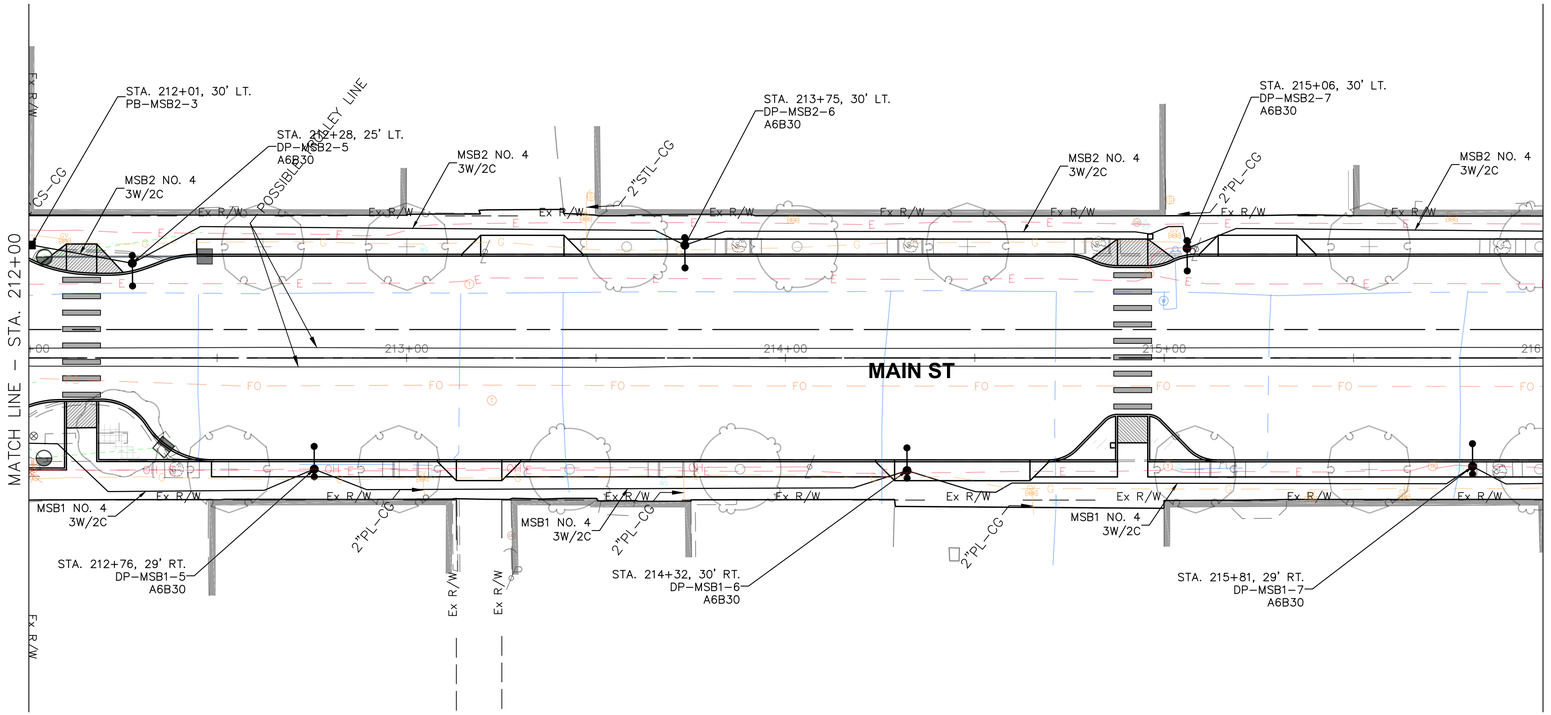
LIGHTING PLAN
MAIN STREET STA. 204+00 TO STA. 212+00

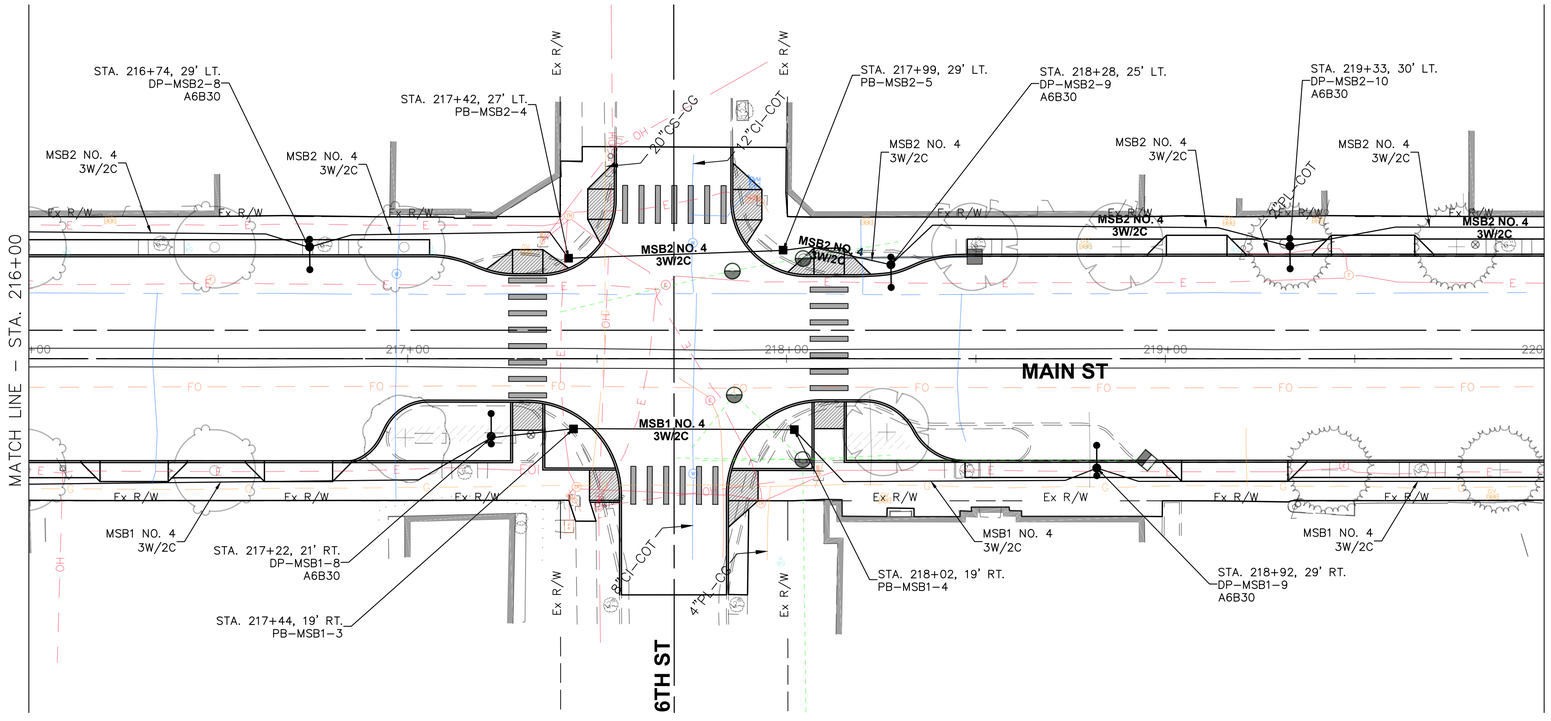
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	275
TOTAL	345

L11
13





Horizontal Scale In Feet
0 10 20 40

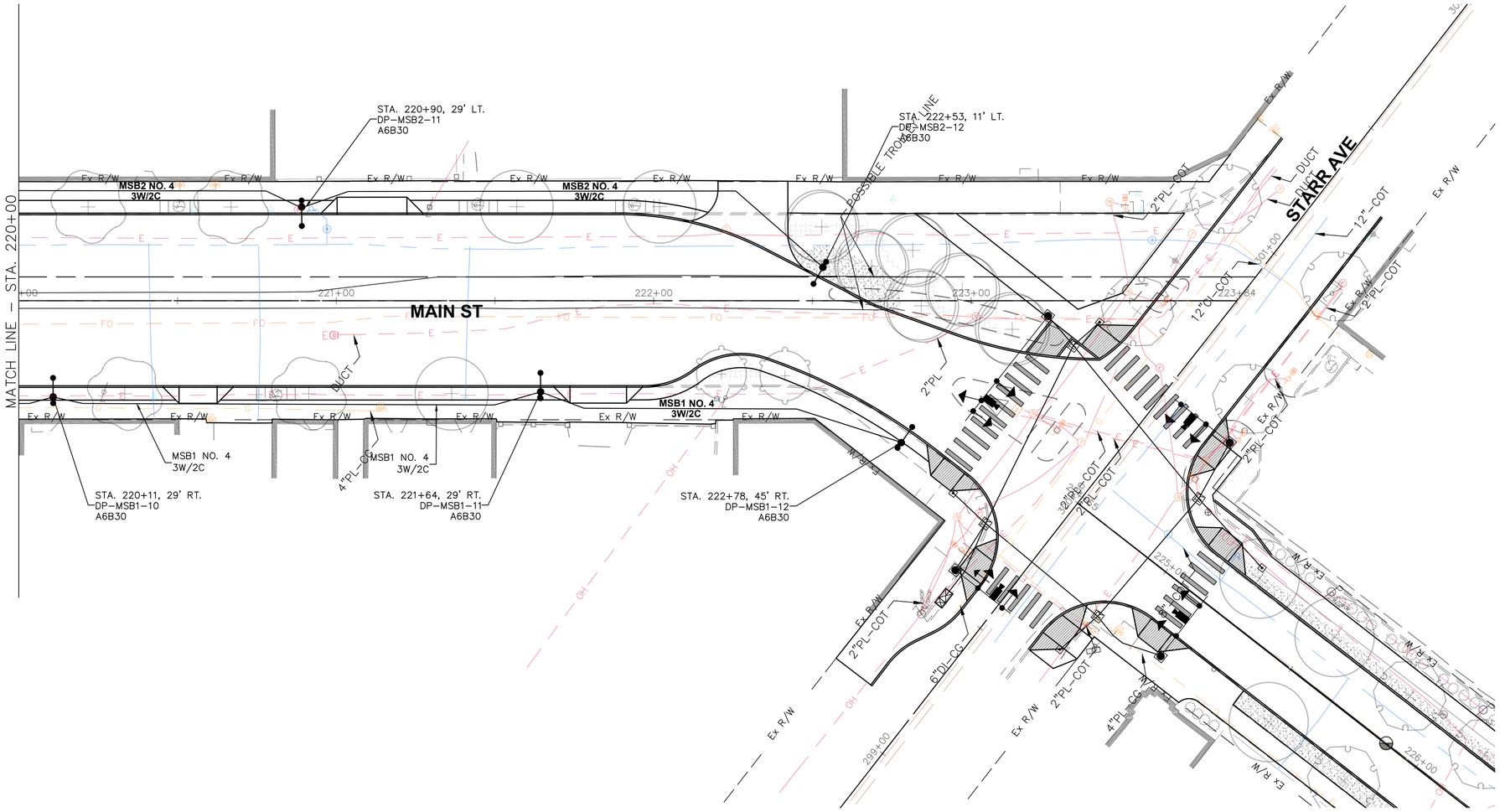
LIGHTING PLAN
MAIN STREET STA. 212+00 TO STA. 220+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID	121938
DESIGNER	GCB
REVIEWER	AMD
COT PROJ. ID	####
SHEET	276
TOTAL	345

L12
13



0 10 20 40
Horizontal Scale In Feet

LIGHTING PLAN
MAIN STREET STA. 220+00 TO STA. 223+84

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

ODOT PID
121938

DESIGNER
GCB

REVIEWER
AMD

COT PROJ. ID
####

SHEET 277 | TOTAL 345

L13
13

MATCH LINE - STA. 12+50

RIVERSIDE DRIVE

MAIN STREET

FRONT STREET

BOERS-BOYER WAY

WORK AREA

WORK AREA

WORK AREA

MATCH LINE - STA. 201+00

MAUMEE RIVER

Ua

Ur

LEGEND

- AREA INLET
- CURB INLET W/GRATE
- CURB INLET W/O GRATE
- ROADSIDE GRATE
- VENTED MANHOLE
- FLOOD PLAIN

0 30 60 120
Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET TOTAL
278 345

S1
8

MATCH LINE – STA. 201+00

MATCH LINE – STA. 215+50

MAIN STREET

WORK AREA

1ST STREET

2ND STREET

3RD STREET

4TH STREET

5TH STREET

EUCLID AVENUE

Ur

201+00 202+00 203+00 204+00 205+00 206+00 207+00 208+00 209+00 210+00 211+00 212+00 213+00 214+00 215+00

580 582 584 586 588 590 592 594 596 598 600 602 604

LEGEND

- AREA INLET
- CURB INLET W/GRATE
- CURB INLET W/O GRATE
- ROADSIDE GRATE
- VENTED MANHOLE
- FLOOD PLAIN

0 30 60 120

Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	279
TOTAL	345

S2
8



STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	280
TOTAL	345

S3
8



N

0 30 60 120
Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

SHEET 281 | TOTAL 345

S4
8

MATCH LINE - STA. 12+50

MATCH LINE - STA. 27+00

RIVERSIDE DRIVE

FRONT STREET

WORK AREA

WORK AREA

PLATT STREET

OSWALD STREET

1ST STREET

MORRISON DRIVE

ESSEX STREET

Uo

DtA

13+00 14+00 15+00 16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00

582 584 586 588 590 592 594 596 598 602 604

LEGEND

- AREA INLET
- CURB INLET W/GRATE
- CURB INLET W/O GRATE
- ROADSIDE GRATE
- VENTED MANHOLE
- FLOOD PLAIN

N

0 30 60 120

Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	282
TOTAL	345

S5
8



0 30 60 120
Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	283
TOTAL	345

S6
8

0 30 60 120
Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
Colliers Engineering & Design

ODOT PID
121938

DESIGNER
MAS

REVIEWER
XF

COT PROJ. ID
####

S7
8

SHEET 284 | TOTAL 345

MATCH LINE – STA. 52+50

WORK AREA

FRONT STREET

SR-65 / CRAIG BRIDGE STREET

I-280

Uo

LEGEND	
●	– AREA INLET
■	– CURB INLET W/GRATE
♦	– CURB INLET W/O GRATE
▲	– ROADSIDE GRATE
⬢	– VENTED MANHOLE
▨	– FLOOD PLAIN

N

0 30 60 120
Horizontal Scale In Feet

STORMWATER POLLUTION PREVENTION PLAN

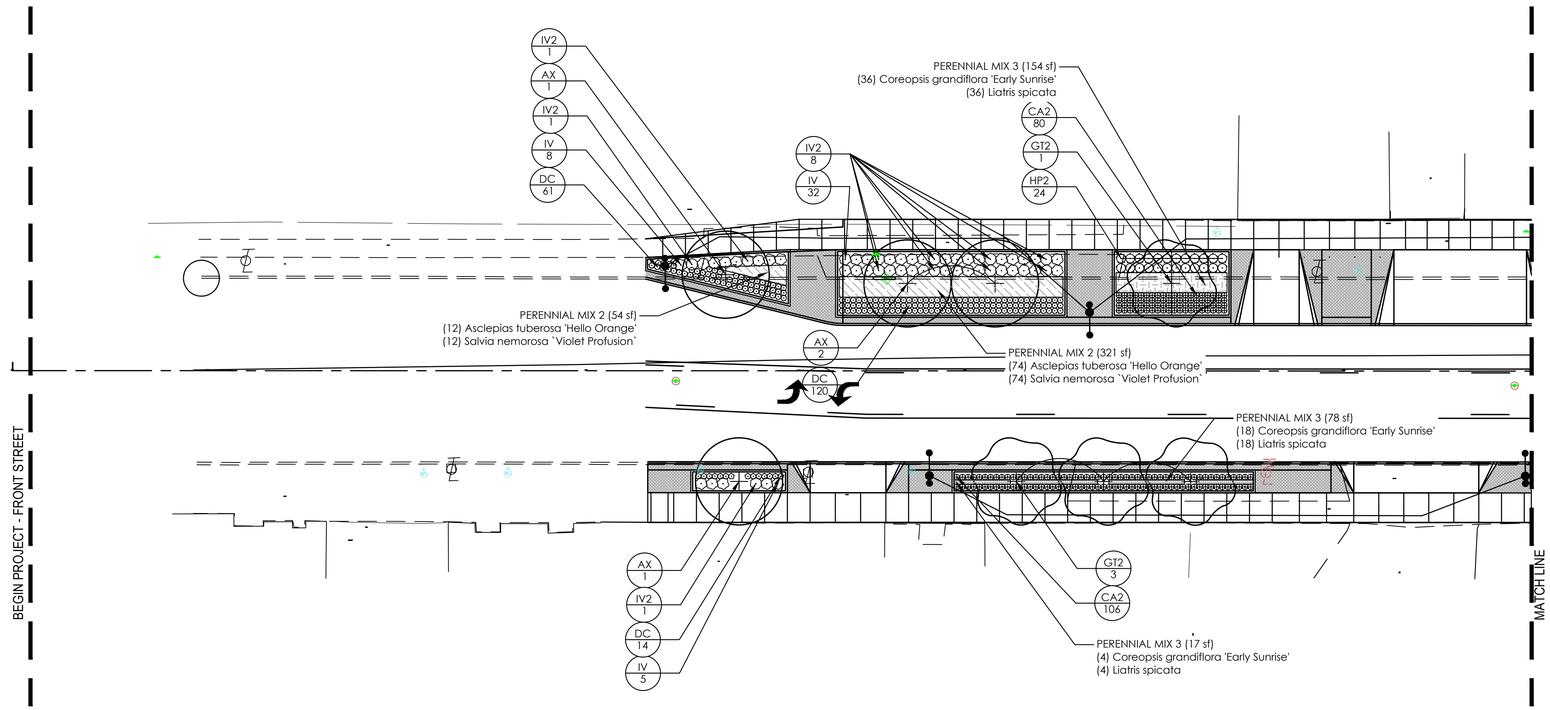
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

Colliers Engineering & Design

ODOT PID	121938
DESIGNER	MAS
REVIEWER	XF
COT PROJ. ID	####
SHEET	285
TOTAL	345

S8
8

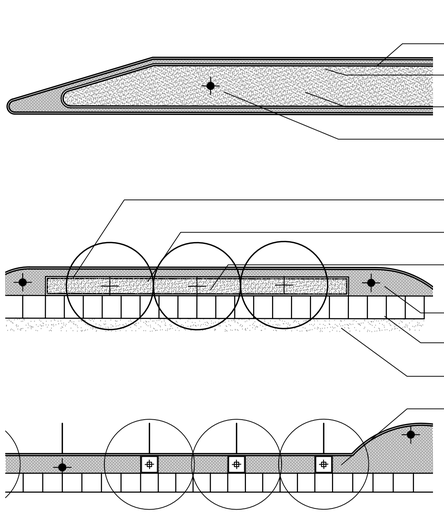


NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 2+48.53 TO STA. 6+50.00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE FRONT 2+48.5 TO 10+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
AX	4	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.	
GT2	4	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.	
SHRUBS					
HP2	24	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.	
IV	45	ILEX VERTICILLATA 'FARROWBPOP'	BERRY POPPINS® WINTERBERRY	3 GAL.	
IV2	11	ILEX VERTICILLATA 'FARROWMRP'	MR. POPPINS® WINTERBERRY	3 GAL.	
GRASSES AND PERENNIALS					
CA2	186	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.	
DC	195	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	375 SF	PERENNIAL MIX 2			
	86	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.	
	86	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.	
	232 SF	PERENNIAL MIX 3			
	54	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---	
	54	LIATRIS SPICATA	BLAZING STAR	---	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

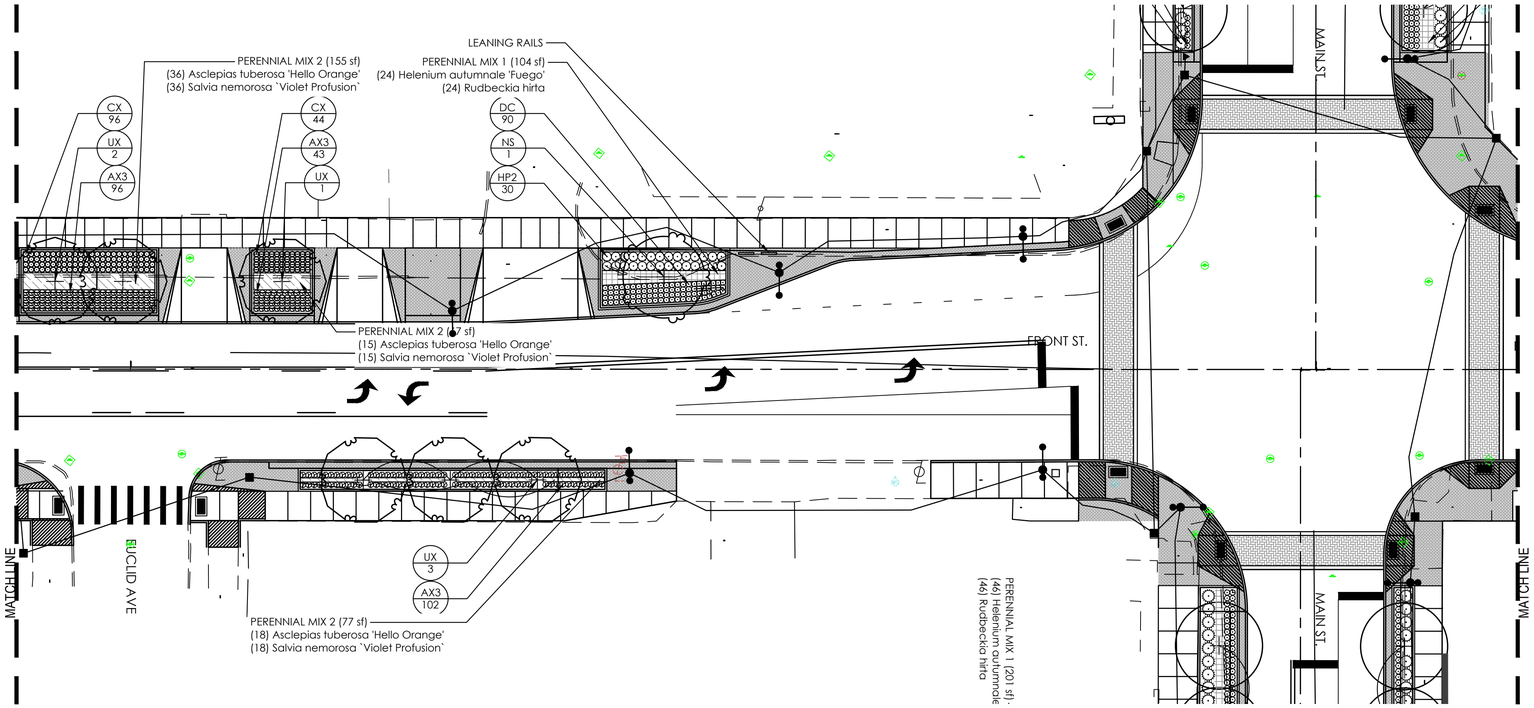
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 286 | TOTAL 345

L1
60

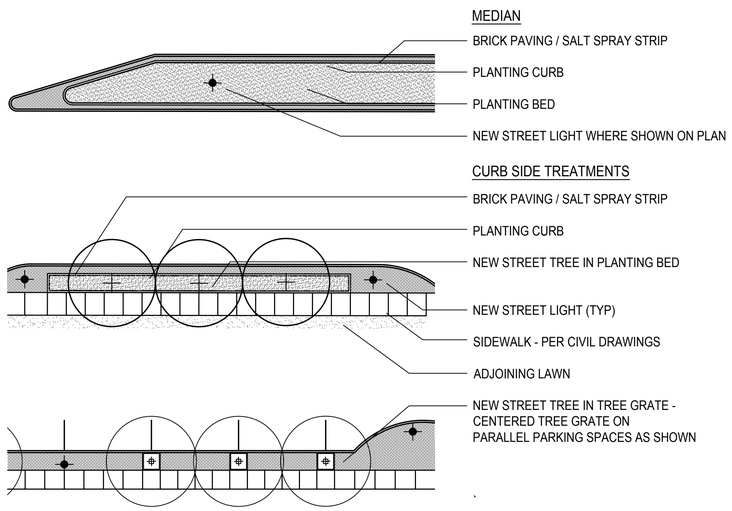


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 6+50.00 TO STA. 10+50.00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE FRONT 6+50 TO 10+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
NS	1	NYSSA SYLVATICA	TUPELO	3" CAL.		
UX	6	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.		
SHRUBS						
HP2	30	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.		
GRASSES AND PERENNIALS						
AX3	241	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.		
CX	140	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.		
DC	90	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		
SYMBOL	**QTY**	**BOTANICAL NAME**	**COMMON NAME**	**SIZE**	**SPACING**	**REMARKS**
GROUND COVERS						
	104 SF	PERENNIAL MIX 1				
	24	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	24	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	299 SF	PERENNIAL MIX 2				
	69	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	69	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		

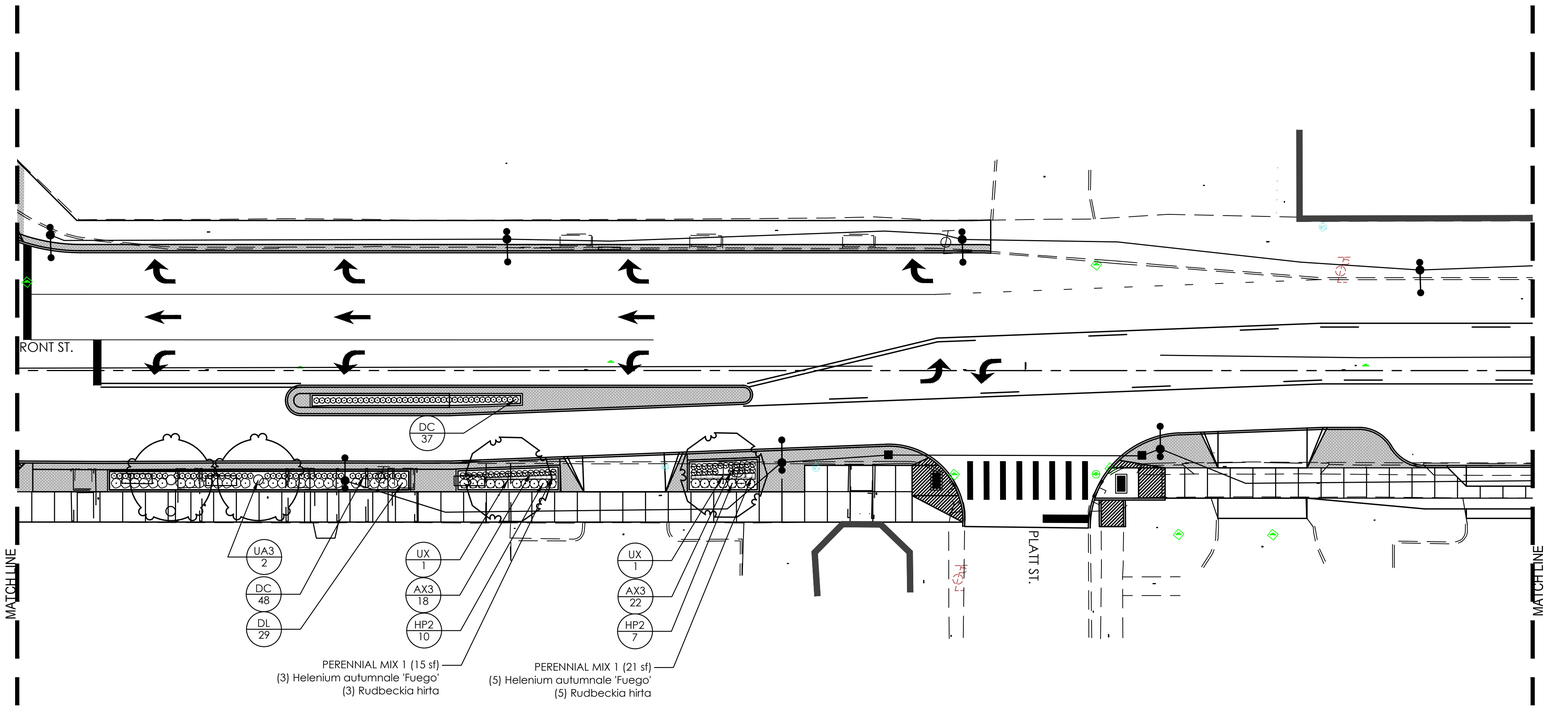
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L2
60

SHEET 287 TOTAL 345



NORTH

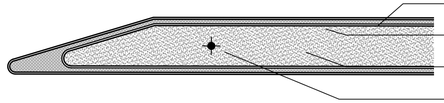
0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 10+50.00 TO STA. 14+50.00

LANDSCAPE GRAPHIC LEGEND

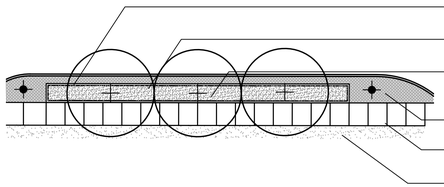
PLANTING NOTES

MEDIAN

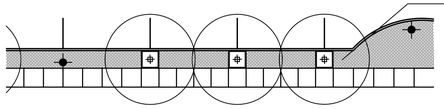


BRICK PAVING / SALT SPRAY STRIP
PLANTING CURB
PLANTING BED
NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



BRICK PAVING / SALT SPRAY STRIP
PLANTING CURB
NEW STREET TREE IN PLANTING BED
NEW STREET LIGHT (TYP)
SIDEWALK - PER CIVIL DRAWINGS
ADJOINING LAWN



NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE FRONT 10+50 TO 14+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
UX	2	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.		
UA3	2	ULMUS X 'MORTON'	ACCOLADE™ ELM	3" CAL.		
SHRUBS						
DL	29	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.		
HP2	17	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.		
GRASSES AND PERENNIALS						
AX3	40	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.		
DC	85	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	36 SF	PERENNIAL MIX 1				
	8	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	8	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

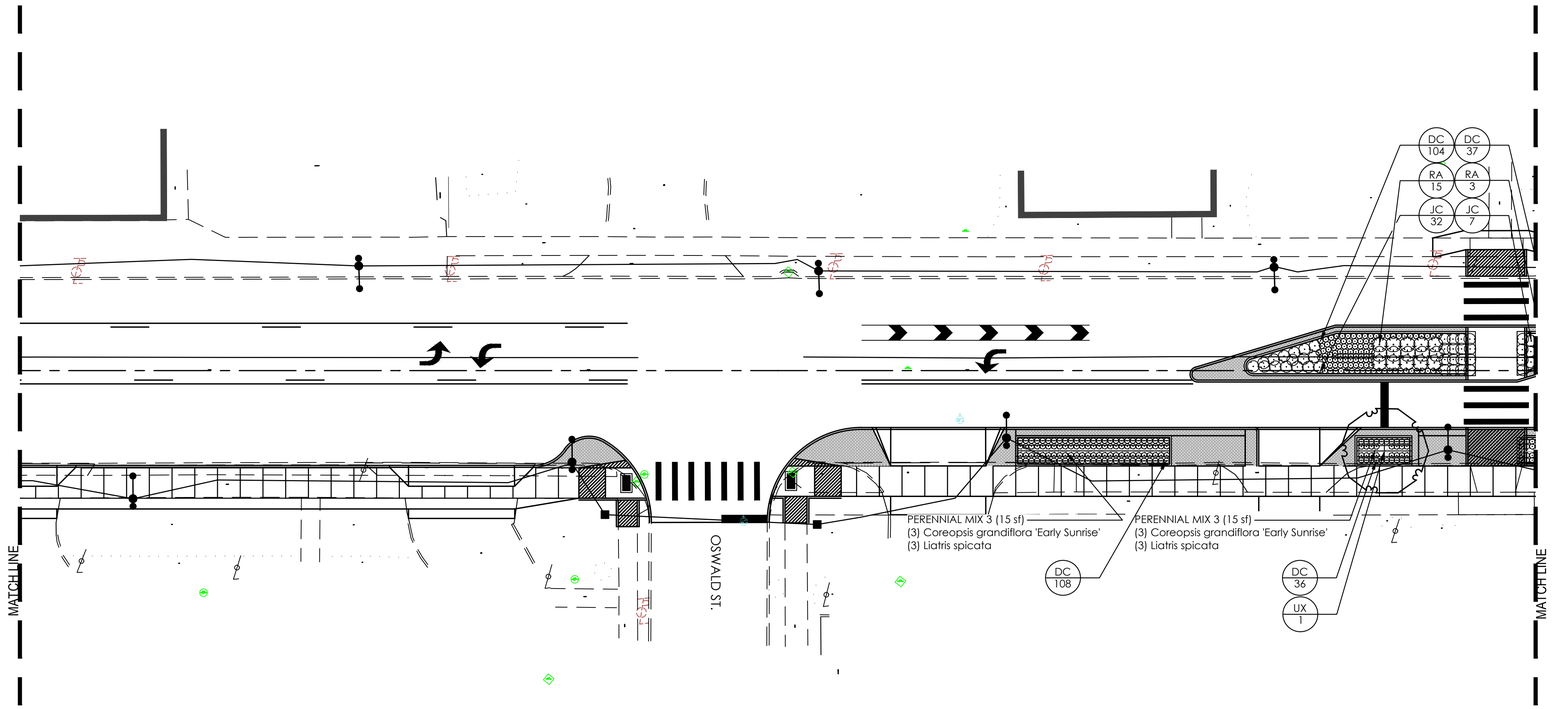
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 288 | TOTAL 345

L3
60

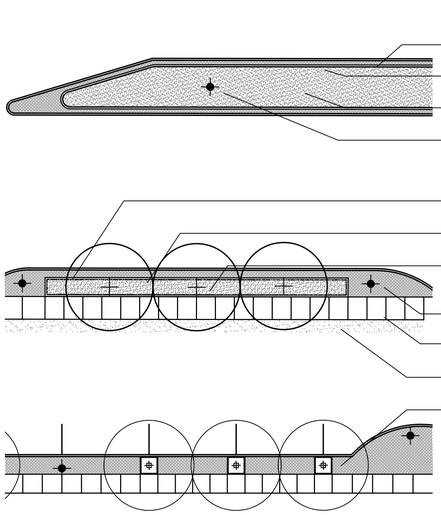


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 14+50.00 TO STA. 18+50.00

LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

PLANT SCHEDULE FRONT 14+50 TO 18+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
UX	1	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.	
SHRUBS					
JC	39	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.	
RA	15	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.	
GRASSES AND PERENNIALS					
DC	260	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	107 SF	PERENNIAL MIX 3			
	24	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---	
	24	LIATRIS SPICATA	BLAZING STAR	---	

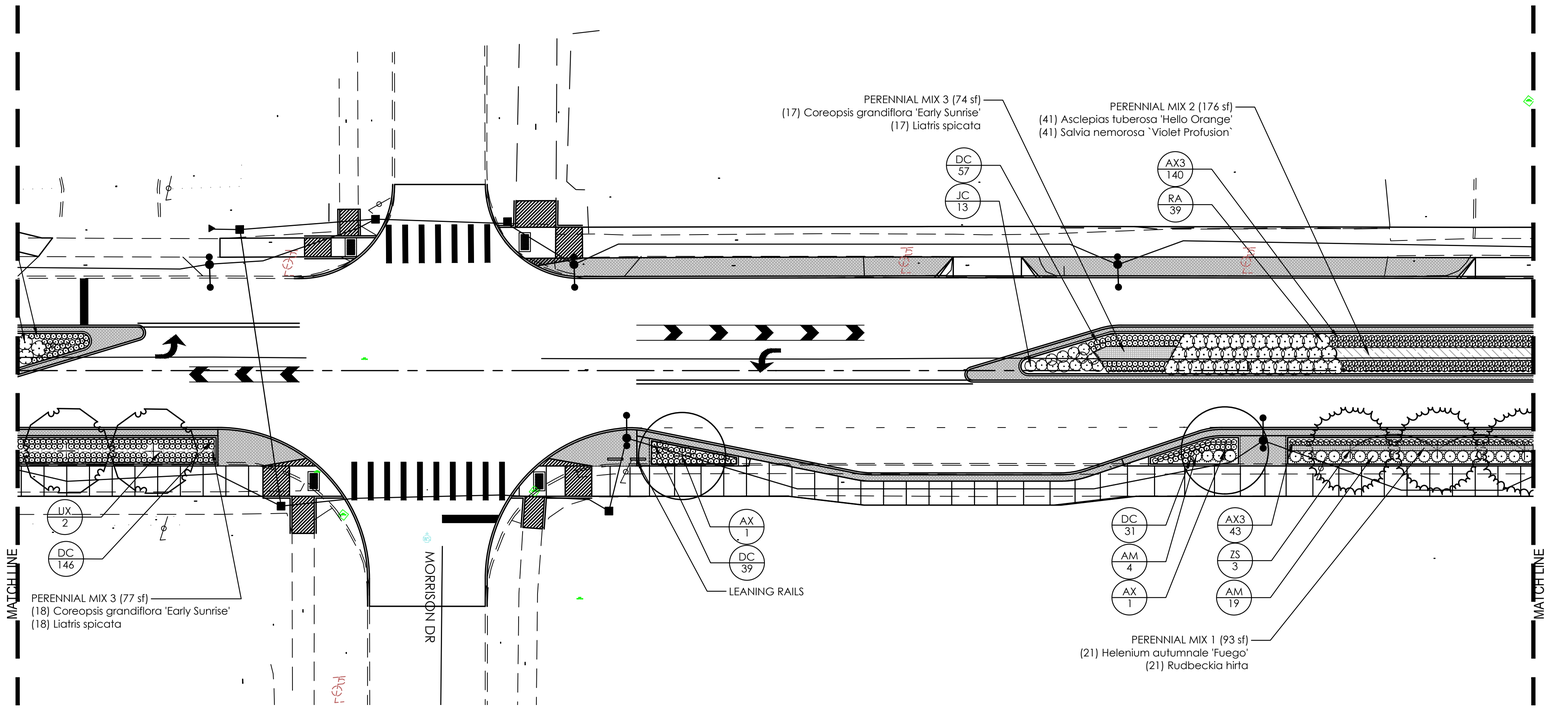
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L4
60

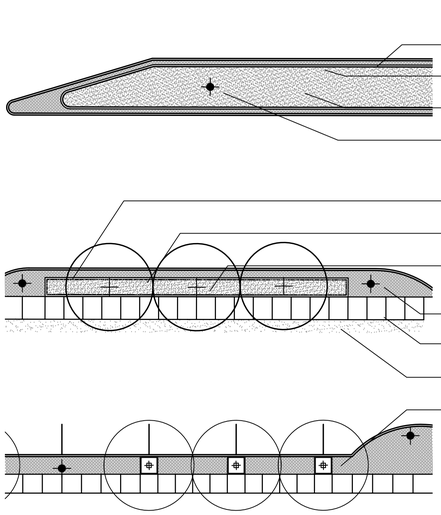
SHEET 289 TOTAL 345



NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

PLANT SCHEDULE FRONT 18+50 TO 22+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
AX	2	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.		
UX	2	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.		
ZS	3	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.		
SHRUBS						
AM	23	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.		
JC	13	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.		
RA	42	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.		
GRASSES AND PERENNIALS						
AX3	183	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.		
DC	298	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	93 SF	PERENNIAL MIX 1				
	21	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	21	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	176 SF	PERENNIAL MIX 2				
	41	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	41	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		
	151 SF	PERENNIAL MIX 3				
	35	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---		
	35	LIATRIS SPICATA	BLAZING STAR	---		

LANDSCAPE PLAN
FRONT STREET STA. 18+50.00 TO STA. 22+50.00

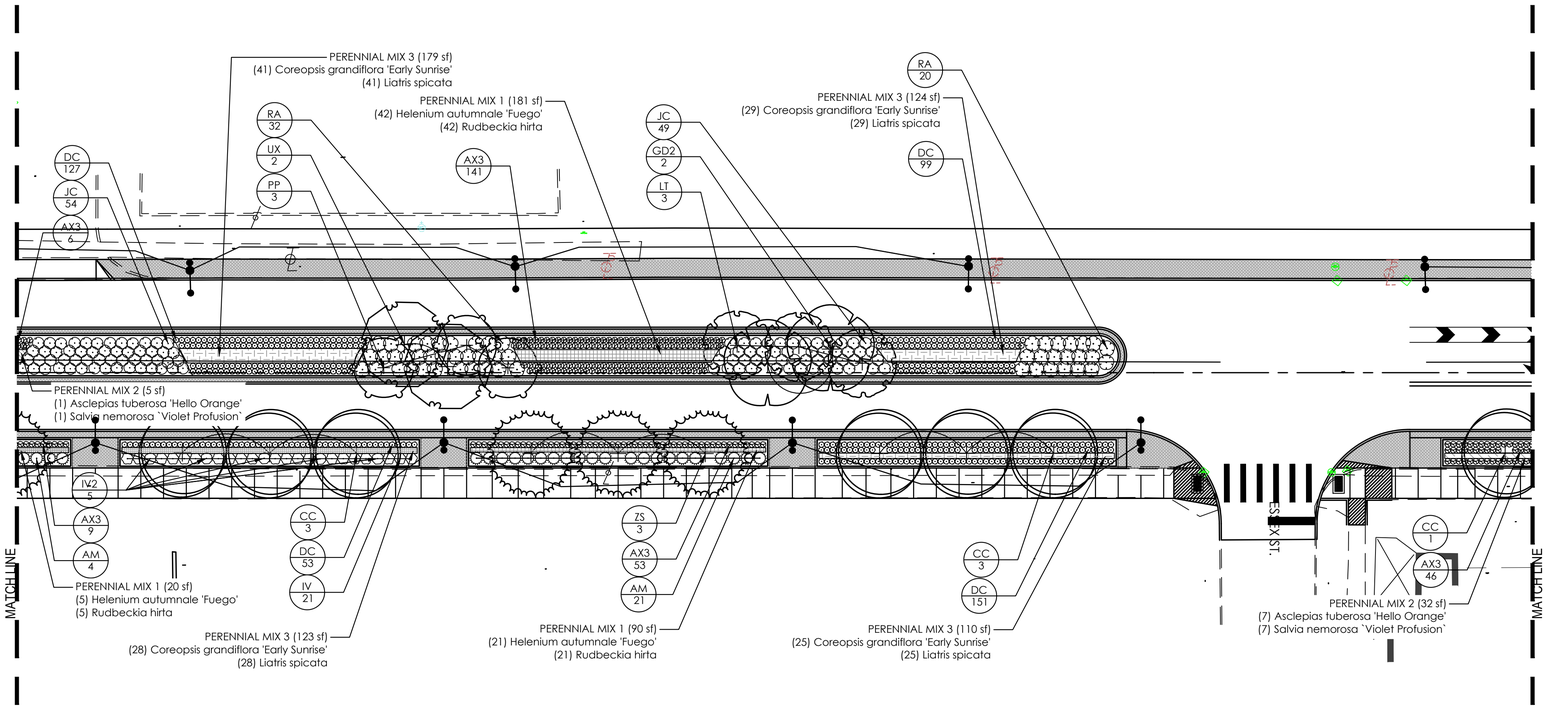
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L5
60

SHEET 290 TOTAL 345

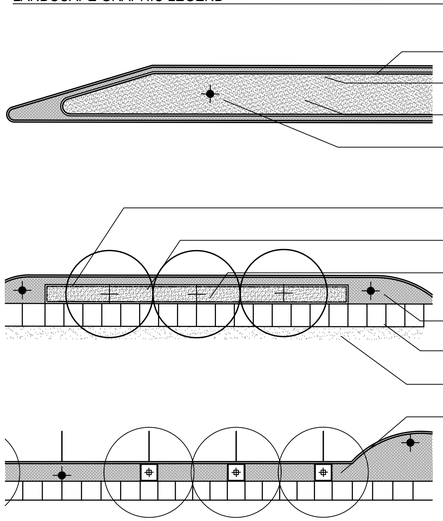


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 22+50.00 TO STA. 26+50.00

LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

PLANT SCHEDULE FRONT 22+50 TO 26+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
CC	7	CARPINUS CAROLINIANA 'J.N. STRAIN'	J.N. STRAIN AMERICAN HORNBEAM	3" CAL.		
GD2	2	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.		
LT	3	LIRIODENDRON TULIPIFERA	TULIP POPLAR	3" CAL.	B&B	
PP	3	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.		
UX	2	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.		
ZS	3	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.		
SHRUBS						
AM	25	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.		
IV	21	ILEX VERTICILLATA 'FARROWBPOP'	BERRY POPPINS® WINTERBERRY	3 GAL.		
IV2	5	ILEX VERTICILLATA 'FARROWMRP'	MR. POPPINS® WINTERBERRY	3 GAL.		
JC	103	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.		
RA	52	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.		
GRASSES AND PERENNIALS						
AX3	252	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.		
DC	430	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		

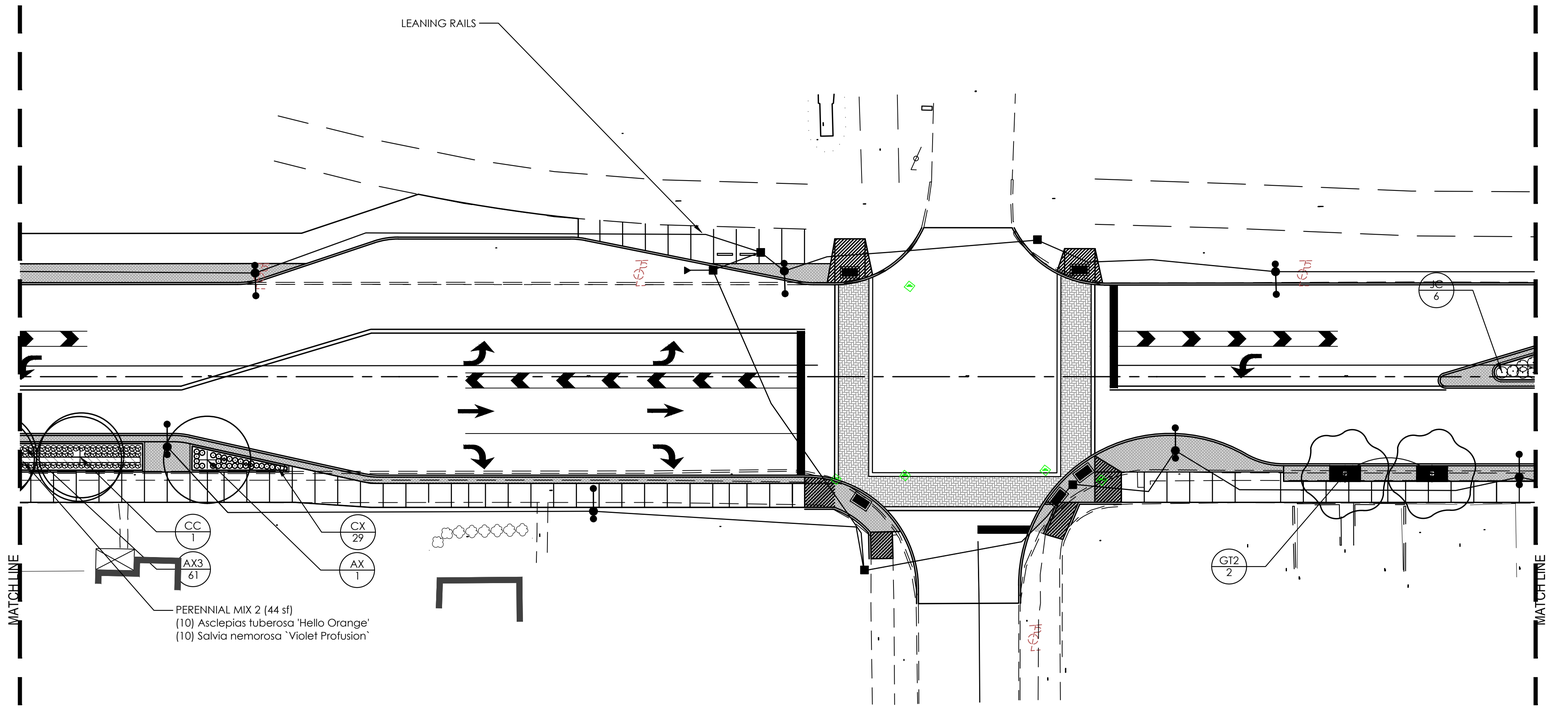
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	291 SF	PERENNIAL MIX 1				
	68	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	68	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	37 SF	PERENNIAL MIX 2				
	8	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	8	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		
	536 SF	PERENNIAL MIX 3				
	123	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---		
	123	LIATRIS SPICATA	BLAZING STAR	---		

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 291 TOTAL 345

L6
60



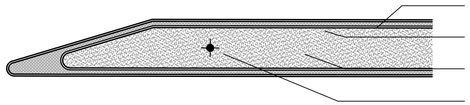
NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 26+50.00 TO STA. 30+50.00

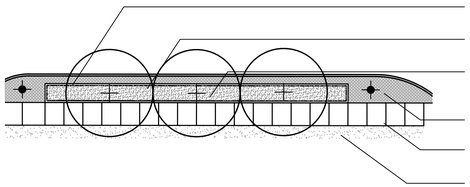
LANDSCAPE GRAPHIC LEGEND

MEDIAN

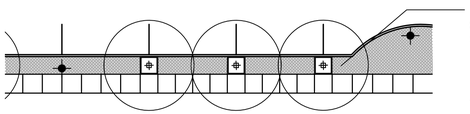


- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN



- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE FRONT 26+50 TO 30+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
AX	1	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.	
CC	1	CARPINUS CAROLINIANA 'J.N. STRAIN'	J.N. STRAIN AMERICAN HORNBEAM	3" CAL.	
GT2	2	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.	
SHRUBS					
JC	6	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.	
GRASSES AND PERENNIALS					
AX3	61	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.	
CX	29	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	44 SF	PERENNIAL MIX 2			
	10	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.	
	10	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

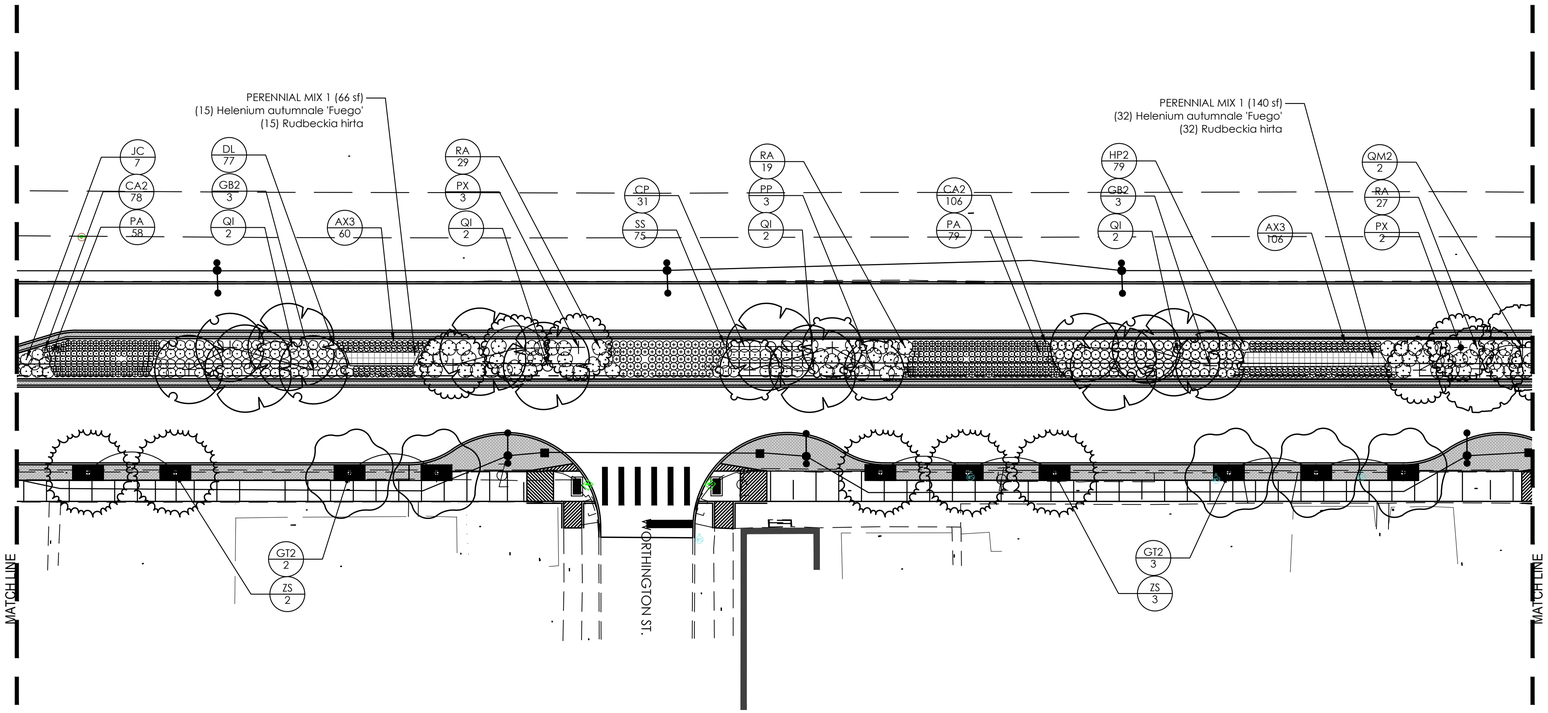
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 292 | TOTAL 345

L7
60

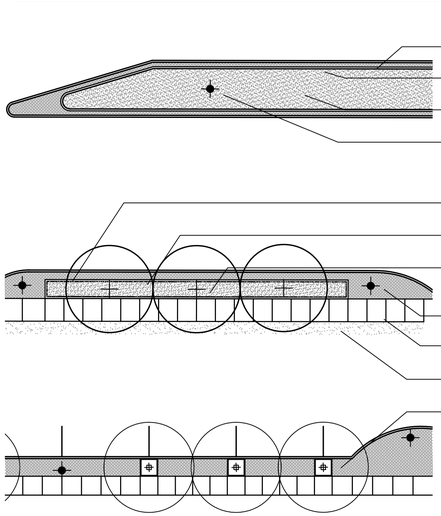


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 30+50.00 TO STA. 34+50.00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE FRONT 30+50 TO 34+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
GB2	6	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	3" CAL.			
GT2	5	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.			
PP	3	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.			
PX	5	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.			
QI	8	QUERCUS IMBRICARIA	SHINGLE OAK	3" CAL.			
ZS	5	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.			
DECIDUOUS TREES							
QM2	2	QUERCUS MUEHLENBERGII	CHINKAPIN OAK	3" CAL.	30' O.C.	B&B	
SHRUBS							
CP	31	COTONEASTER PROCUMBENS LITTLE DIPPER	LITTLE DIPPER COTONEASTER	3 GAL.			
DL	77	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.			
HP2	79	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.			
JC	7	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.			
RA	75	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.			
GRASSES AND PERENNIALS							
AX3	166	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.			
CA2	184	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.			
PA	137	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	1 GAL.			
SS	75	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	206 SF	PERENNIAL MIX 1					
	47	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.		18" O.C.	
	47	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.		18" O.C.	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

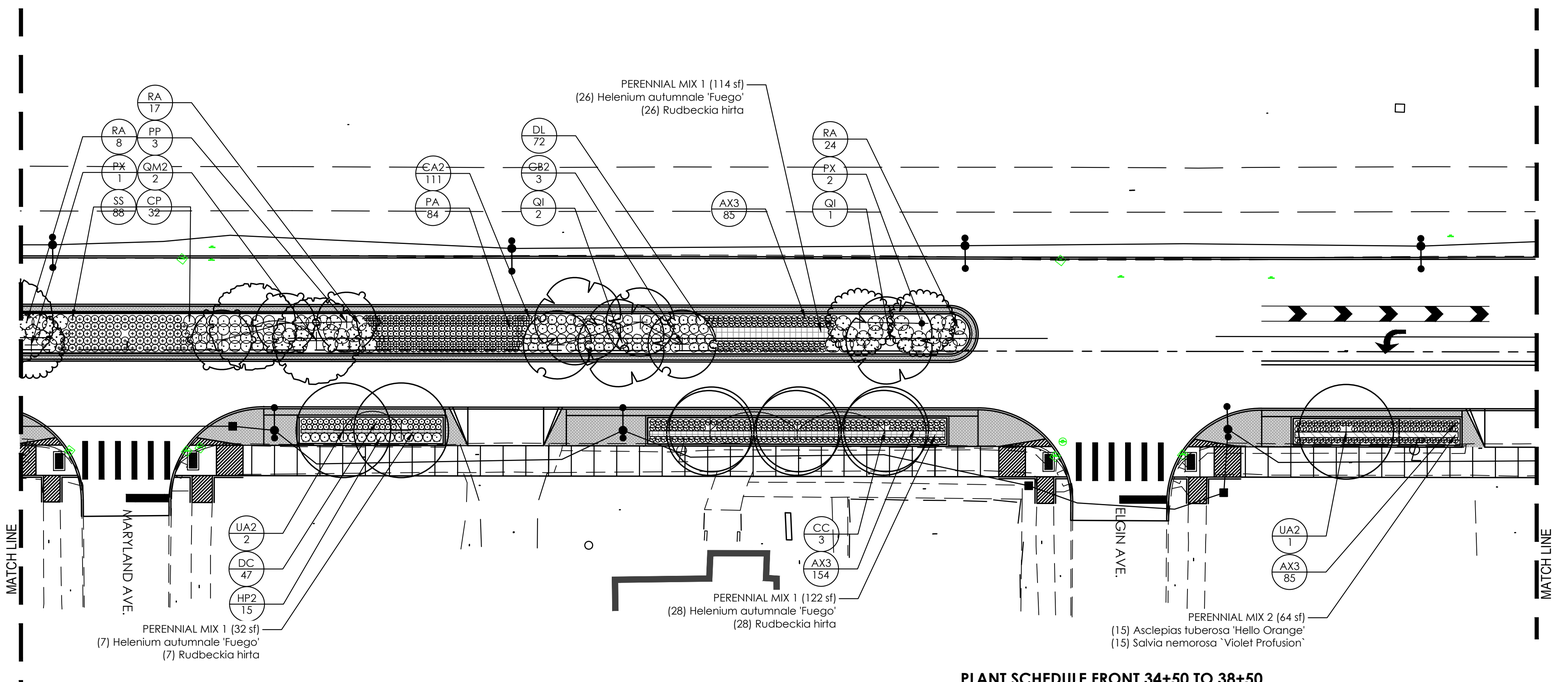
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 293 | TOTAL 345

L8
60



NORTH

0 10 20 40
Horizontal Scale In Feet

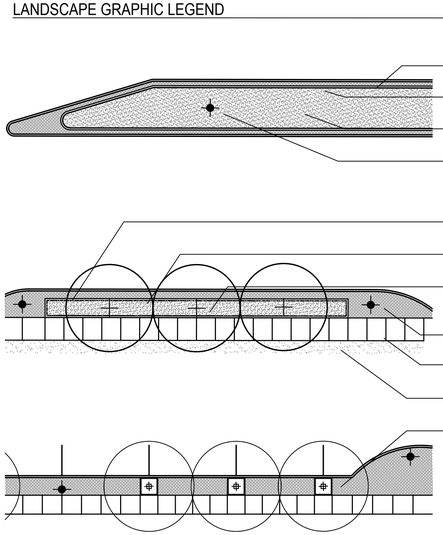
LANDSCAPE PLAN
FRONT STREET STA. 34+50.00 TO STA. 38+50.00

PLANT SCHEDULE FRONT 34+50 TO 38+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
CC	3	CARPINUS CAROLINIANA 'J.N. STRAIN'	J.N. STRAIN AMERICAN HORNBEAM	3" CAL.			
GB2	3	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	3" CAL.			
PP	3	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.			
PX	3	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.			
QI	3	QUERCUS IMBRICARIA	SHINGLE OAK	3" CAL.			
DECIDUOUS TREES							
QM2	2	QUERCUS MUEHLENBERGII	CHINKAPIN OAK	3" CAL.	30' O.C.	B&B	
UA2	3	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
SHRUBS							
CP	32	COTONEASTER PROCUMBENS LITTLE DIPPER	LITTLE DIPPER COTONEASTER	3 GAL.			
DL	72	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.			
HP2	15	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.			
RA	49	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.			
GRASSES AND PERENNIALS							
AX3	324	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.			
CA2	111	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.			
DC	47	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.			
PA	84	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	1 GAL.			
SS	88	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	268 SF	PERENNIAL MIX 1					
	61	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.		18" O.C.	
	61	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.		18" O.C.	
	64 SF	PERENNIAL MIX 2					
	15	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.			
	15	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.			

LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

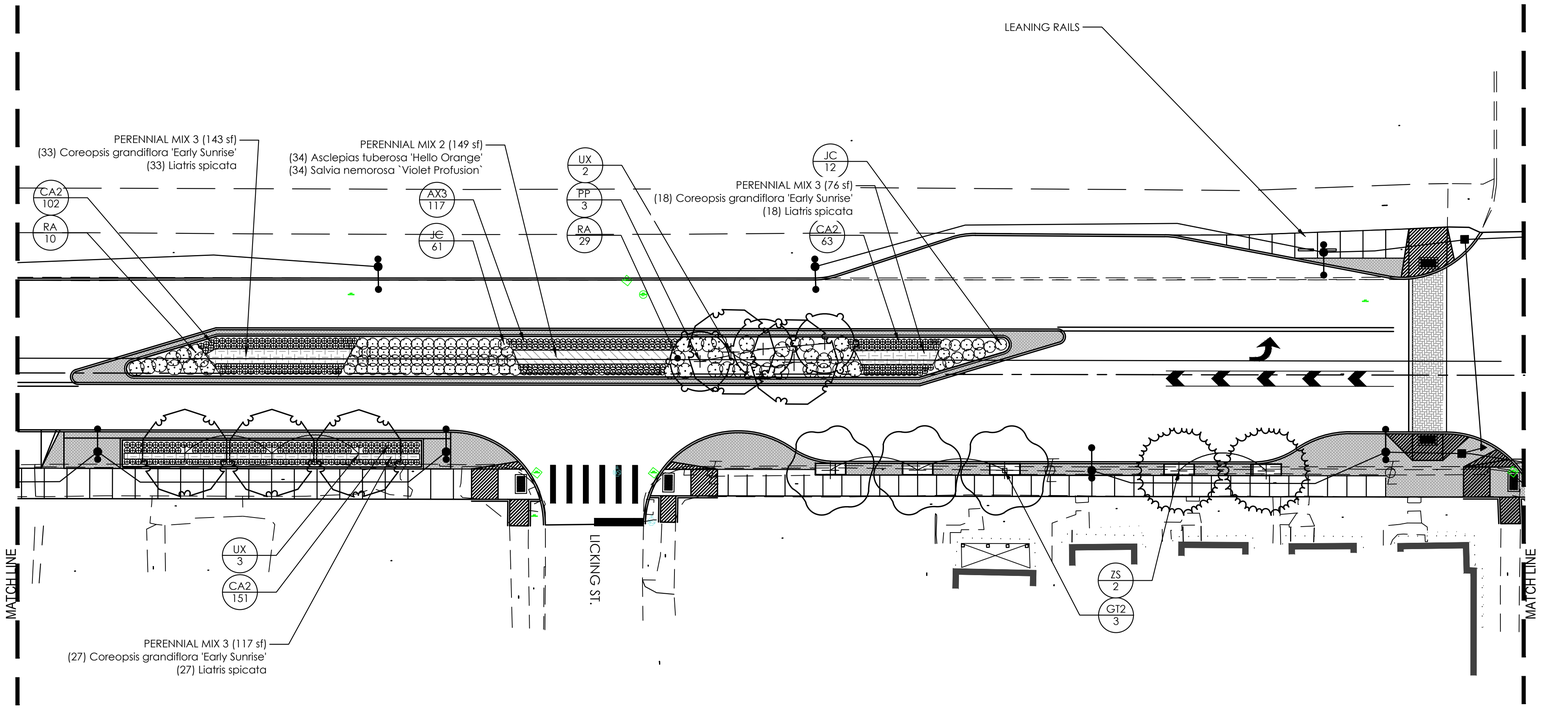
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L9
60

SHEET 294 | TOTAL 345

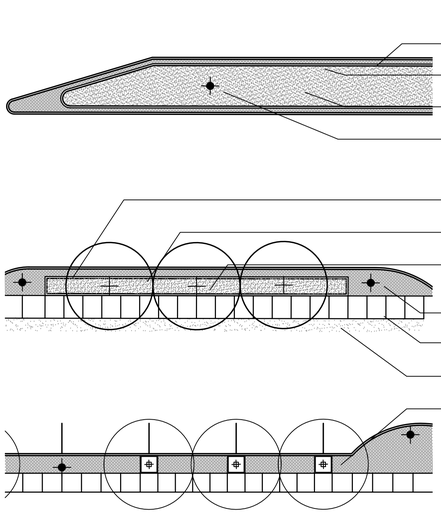


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 38+50.00 TO STA.42+50.00

LANDSCAPE GRAPHIC LEGEND



MEDIAN
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE FRONT 38+50 TO 42+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
GT2	3	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.	
PP	3	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.	
UX	5	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.	
ZS	2	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.	
SHRUBS					
JC	73	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.	
RA	39	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.	
GRASSES AND PERENNIALS					
AX3	117	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.	
CA2	316	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	149 SF	PERENNIAL MIX 2			
	34	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.	
	34	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.	
	336 SF	PERENNIAL MIX 3			
	78	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---	
	78	LIATRIS SPICATA	BLAZING STAR	---	

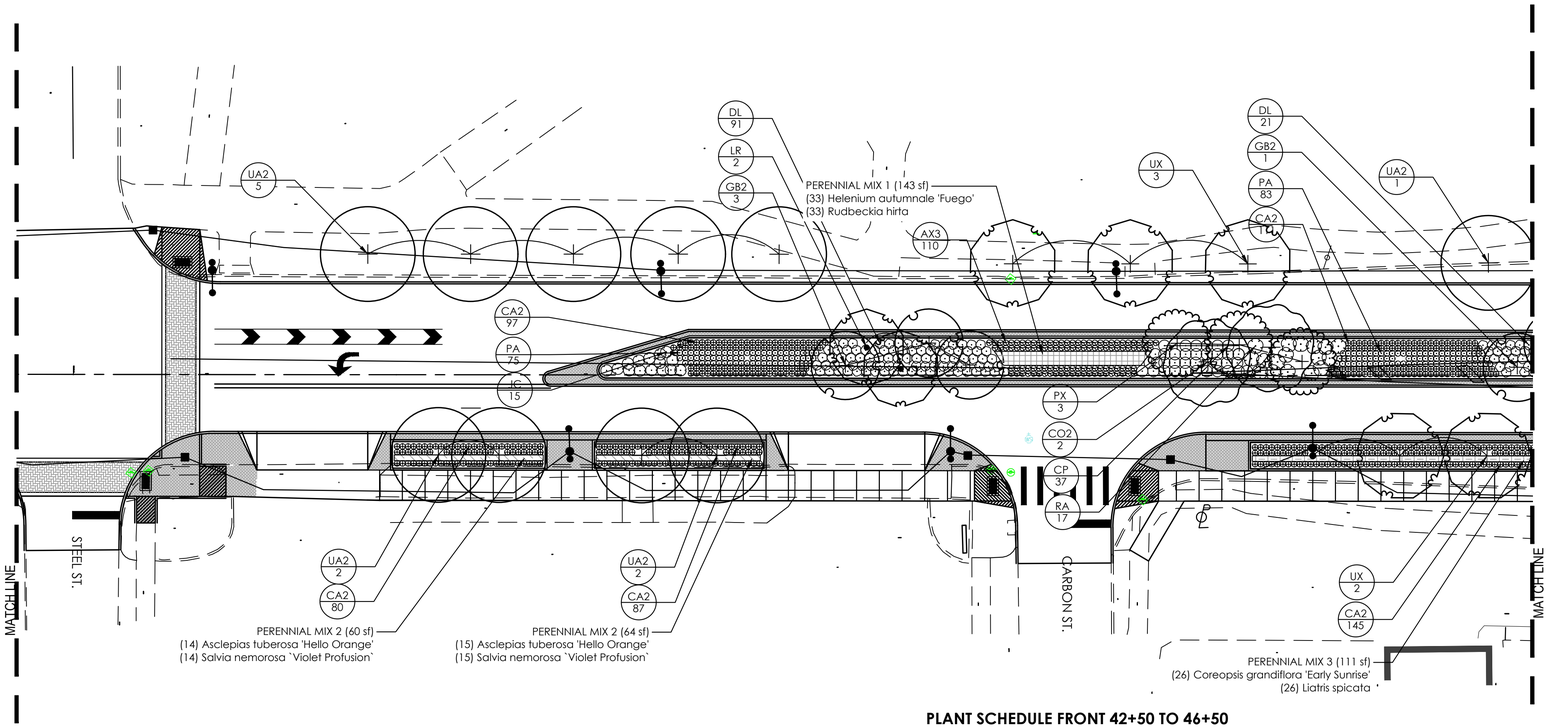
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L10
60

SHEET 295 | TOTAL 345

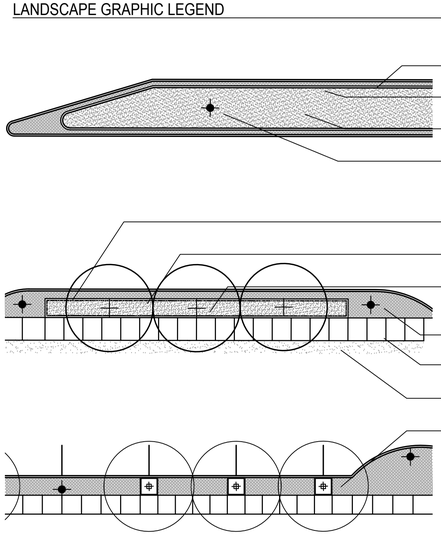


PLANT SCHEDULE FRONT 42+50 TO 46+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
CO2	2	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	PRAIRIE PRIDE HACKBERRY	3" CAL.			
GB2	4	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	3" CAL.			
LR	2	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	ROUND-LOBED SWEET GUM	3" CAL.			
PX	3	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.			
UX	5	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.			
DECIDUOUS TREES							
UA2	10	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
SHRUBS							
CP	37	COTONEASTER PROCUMBENS LITTLE DIPPER	LITTLE DIPPER COTONEASTER	3 GAL.			
DL	112	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.			
JC	15	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.			
RA	17	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.			
GRASSES AND PERENNIALS							
AX3	110	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.			
CA2	520	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.			
PA	158	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	143 SF	PERENNIAL MIX 1					
	33	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.		18" O.C.	
	33	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.		18" O.C.	
	124 SF	PERENNIAL MIX 2					
	29	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.			
	29	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.			
	111 SF	PERENNIAL MIX 3					
	26	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---			
	26	LIATRIS SPICATA	BLAZING STAR	---			

LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

LANDSCAPE PLAN
FRONT STREET STA. 42+50.00 TO STA. 46+50.00

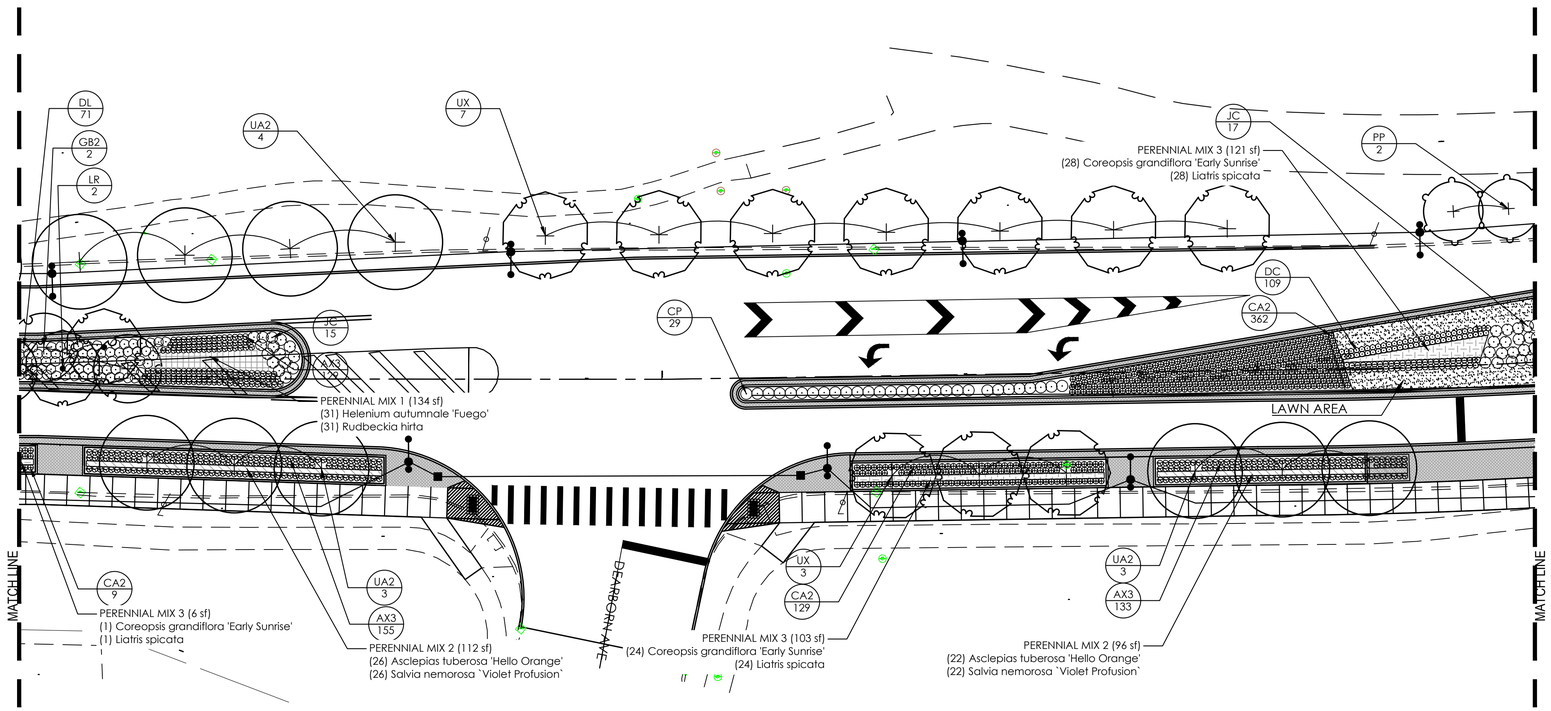
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

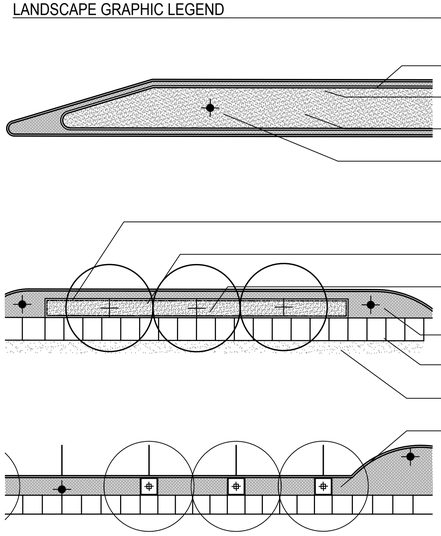
EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	296
TOTAL	345

L11
60



LANDSCAPE GRAPHIC LEGEND



PLANTING NOTES

MEDIAN

BRICK PAVING / SALT SPRAY STRIP

PLANTING CURB

PLANTING BED

NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS

BRICK PAVING / SALT SPRAY STRIP

PLANTING CURB

NEW STREET TREE IN PLANTING BED

NEW STREET LIGHT (TYP)

SIDEWALK - PER CIVIL DRAWINGS

ADJOINING LAWN

NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE FRONT 46+50 TO 50+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
GB2	2	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	3" CAL.			
LR	2	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	ROUND-LOBED SWEET GUM	3" CAL.			
PP	2	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.			
UX	10	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.			
DECIDUOUS TREES							
UA2	10	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
SHRUBS							
CP	29	COTONEASTER PROCUMBENS LITTLE DIPPER	LITTLE DIPPER COTONEASTER	3 GAL.			
DL	69	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.			
JC	32	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.			
GRASSES AND PERENNIALS							
AX3	417	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.			
CA2	500	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.			
DC	109	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	134 SF	PERENNIAL MIX 1					
	31	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.		18" O.C.	
	31	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.		18" O.C.	
	208 SF	PERENNIAL MIX 2					
	48	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.			
	48	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.			
	230 SF	PERENNIAL MIX 3					
	53	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---			
	53	LIATRIS SPICATA	BLAZING STAR	---			

NORTH

0 10 20 40 Horizontal Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 46+50.00 TO STA. 50+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

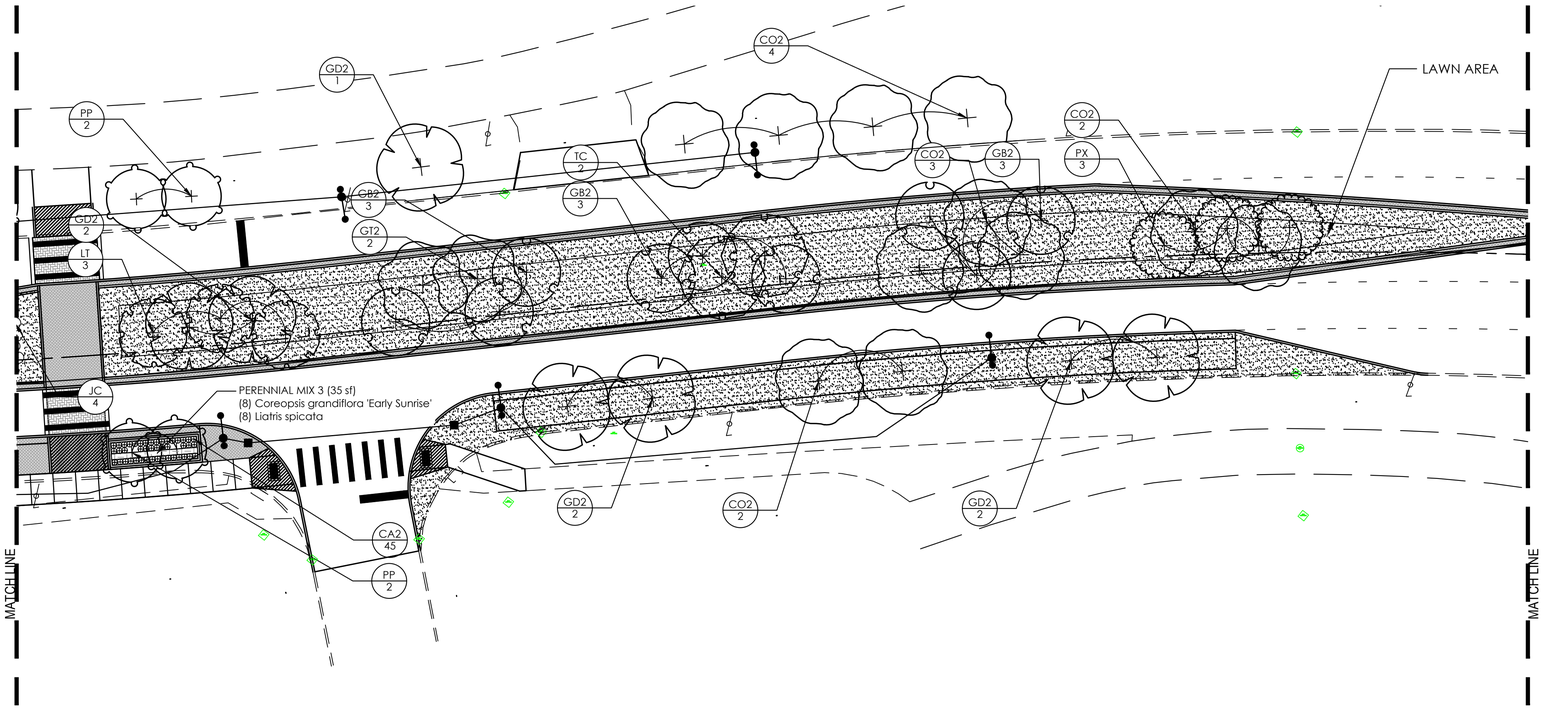
DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 297 TOTAL 345

L12
60



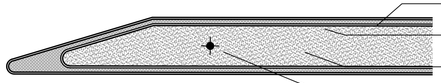
NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 50+50.00 TO STA. 54+50.00

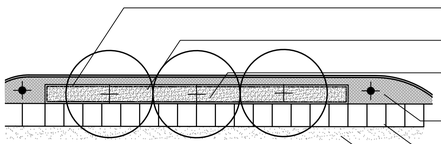
LANDSCAPE GRAPHIC LEGEND

MEDIAN

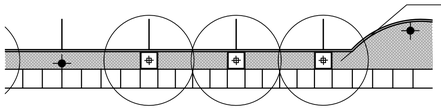


- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN



- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE FRONT 54+50 TO 58+50.80

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
CO2	11	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	PRAIRIE PRIDE HACKBERRY	3" CAL.		
GB2	9	GINKGO BILOBA 'AUTUMN GOLD'	AUTUMN GOLD MAIDENHAIR TREE	3" CAL.		
GT2	2	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.		
GD2	7	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.		
LT	3	LIRIODENDRON TULIPIFERA	TULIP POPLAR	3" CAL.	B&B	
PP	5	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.		
PX	3	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.		
TC	2	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.		
SHRUBS						
JC	2	JUNIPERUS CHINENSIS 'NICK'S COMPACT'	NICK'S COMPACT JUNIPER	5 GAL.		
GRASSES AND PERENNIALS						
CA2	58	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		

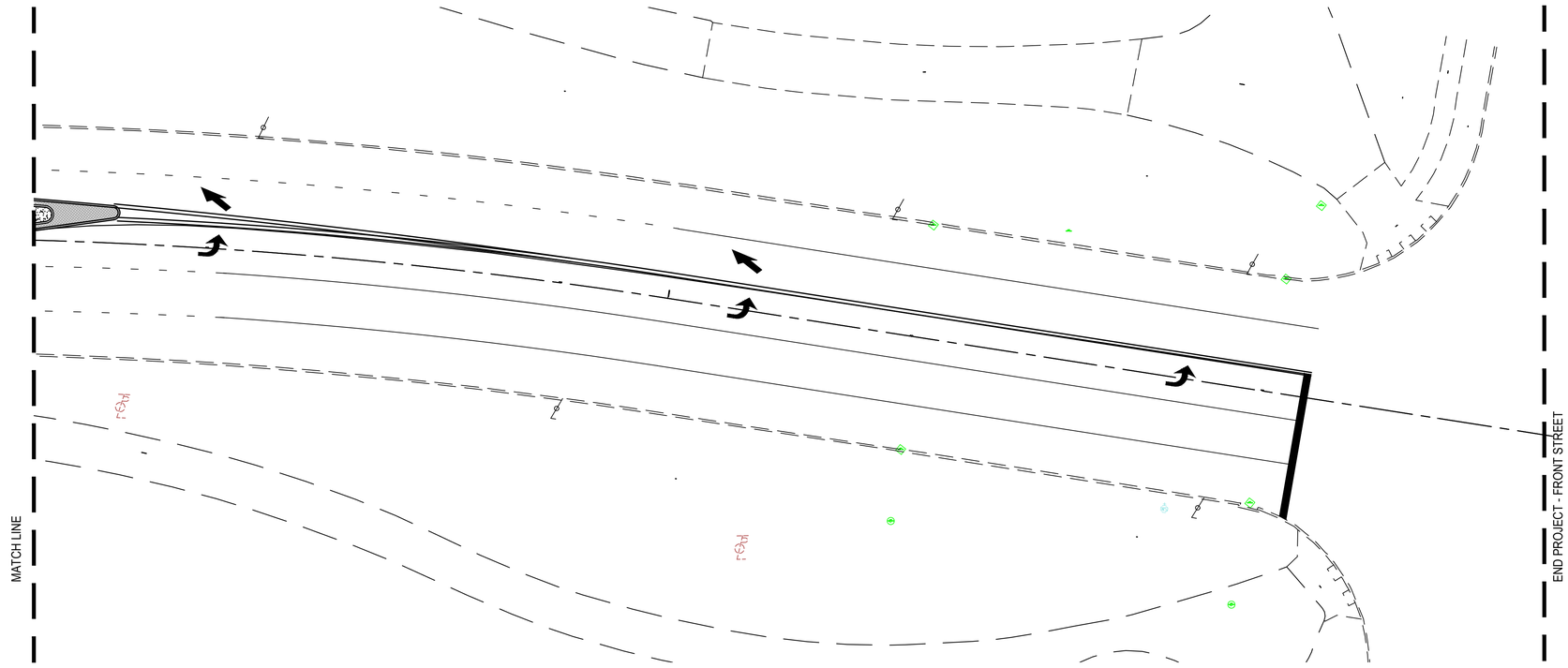
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	4,264 SF	FESTUCA ARUNDINACEA	TALL FESCUE	SEED		
	42 SF	PERENNIAL MIX 3				
	10	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---		
	10	LIATRIS SPICATA	BLAZING STAR	---		
	6,685 SF	LAWN				

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	298
TOTAL	345

L13
60



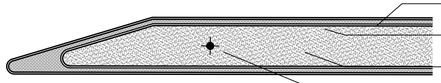
NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
FRONT STREET STA. 54+50.00 TO STA. 58+80.00

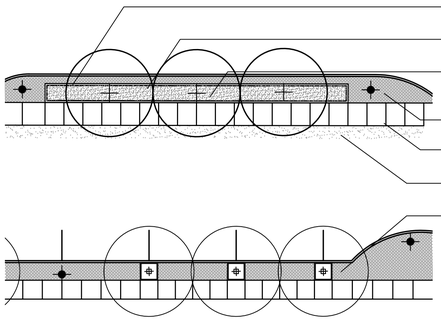
LANDSCAPE GRAPHIC LEGEND

MEDIAN



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

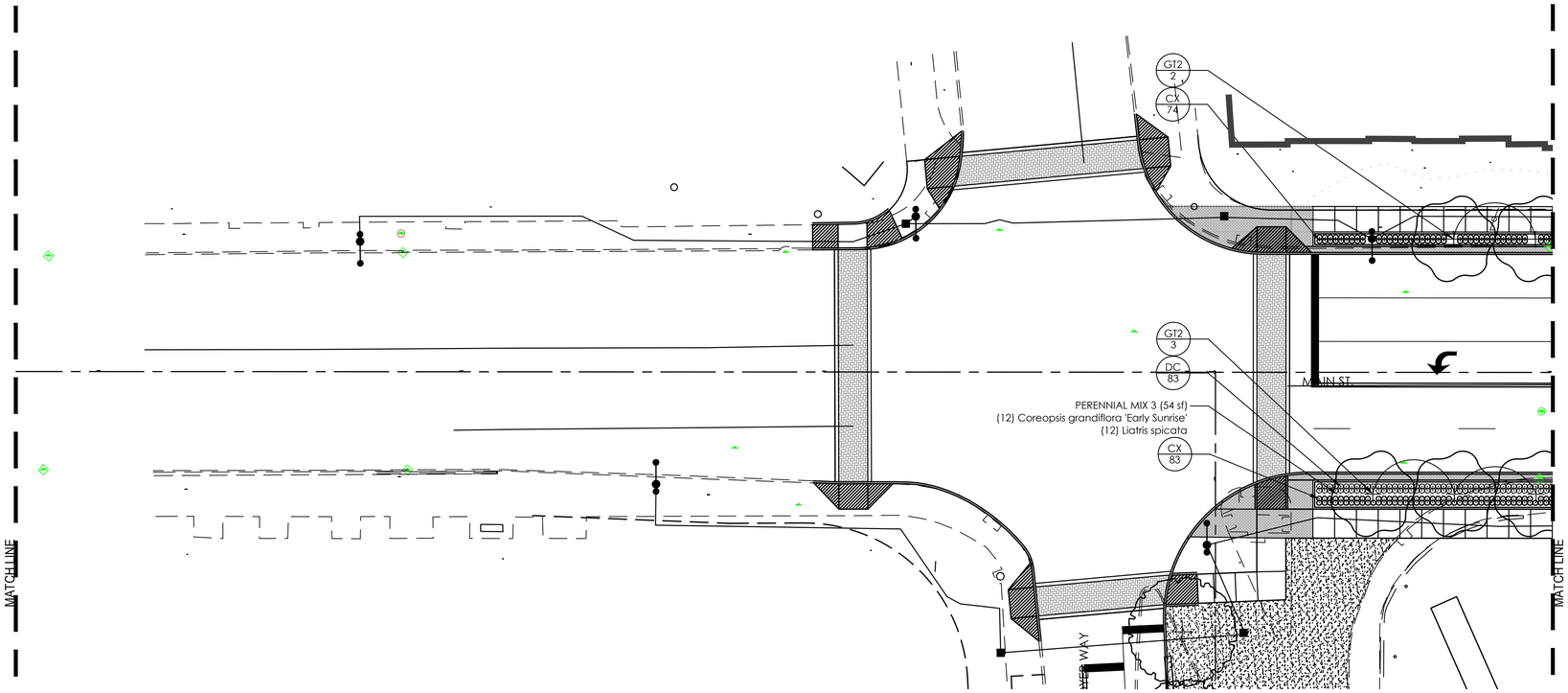
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 299 | TOTAL 345

L14
60

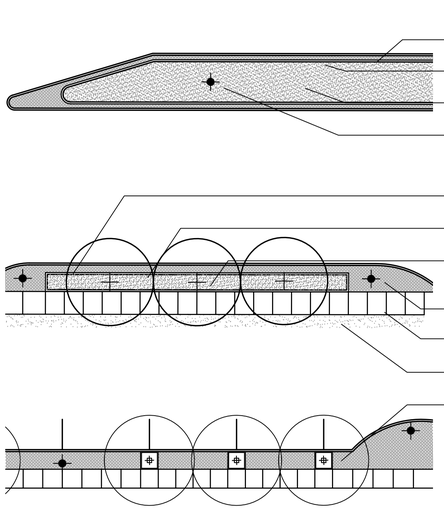


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
N MAIN ST. STA. 102+00 TO STA. 106+00

LANDSCAPE GRAPHIC LEGEND



MEDIAN
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE MAIN 102+00 TO 106+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
GT2	5	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.			
DECIDUOUS TREES							
PX2	1	PLATANUS X ACERIFOLIA	LONDON PLANETREE	3" CAL.	30' O.C.	B&B	
GRASSES AND PERENNIALS							
CX	157	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.			
DC	83	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	54 SF	PERENNIAL MIX 3					
	12	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---			
	12	LIATRIS SPICATA	BLAZING STAR	---			
	7,060 SF	LAWN					

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

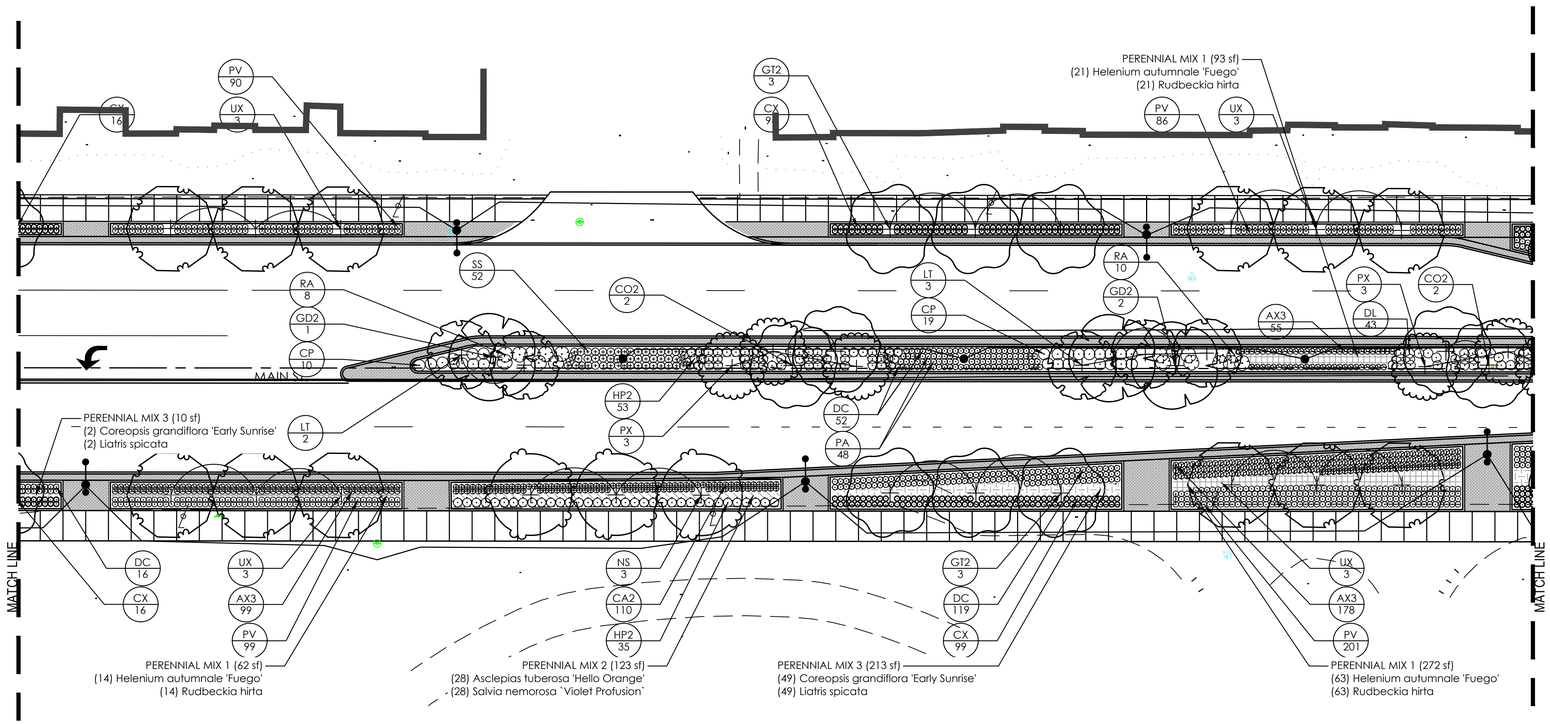
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 300 | TOTAL 345

L15
60



NORTH

0 10 20 40
Horizontal
Scale In Feet

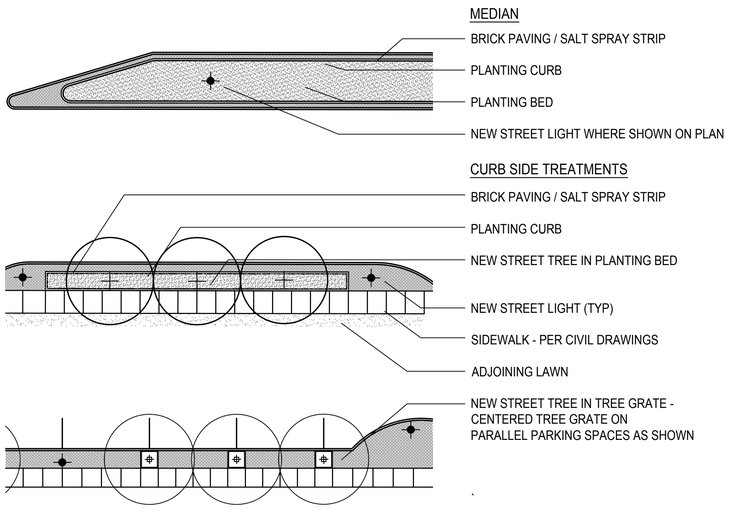
LANDSCAPE PLAN
N MAIN ST. STA. 106+00 TO STA. 110+00

PLANT SCHEDULE MAIN 106+00 TO 110+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
CO2	4	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	PRAIRIE PRIDE HACKBERRY	3" CAL.		
GT2	6	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.		
GD2	3	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.		
LT	5	LIRIODENDRON TULIPIFERA	TULIP POPLAR	3" CAL.	B&B	
NS	3	NYSSA SYLVATICA	TUPELO	3" CAL.		
PX	5	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.		
UX	12	ULMUS X 'FRONTIER'	FRONTIER ELM	3" CAL.		
SHRUBS						
CP	29	COTONEASTER PROCUMBENS LITTLE DIPPER	LITTLE DIPPER COTONEASTER	3 GAL.		
DL	31	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.		
HP2	88	HYDRANGEA PANICULATA 'SMHPLQF'	LITTLE QUICK FIRE® PANICLE HYDRANGEA	3 GAL.		
RA	18	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	5 GAL.		
GRASSES AND PERENNIALS						
AX3	332	ALLIUM X 'SERENDIPITY'	SERENDIPITY ORNAMENTAL ONION	1 GAL.		
CX	243	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.		
CA2	110	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		
DC	205	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		
PV	476	PANICUM VIRGATUM	SWITCH GRASS	1 GAL.		
PA	48	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	1 GAL.		
SS	52	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	427 SF	PERENNIAL MIX 1				
	98	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	98	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	123 SF	PERENNIAL MIX 2				
	28	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	28	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		
	223 SF	PERENNIAL MIX 3				
	51	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---		
	51	LIATRIS SPICATA	BLAZING STAR	---		

LANDSCAPE GRAPHIC LEGEND



FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

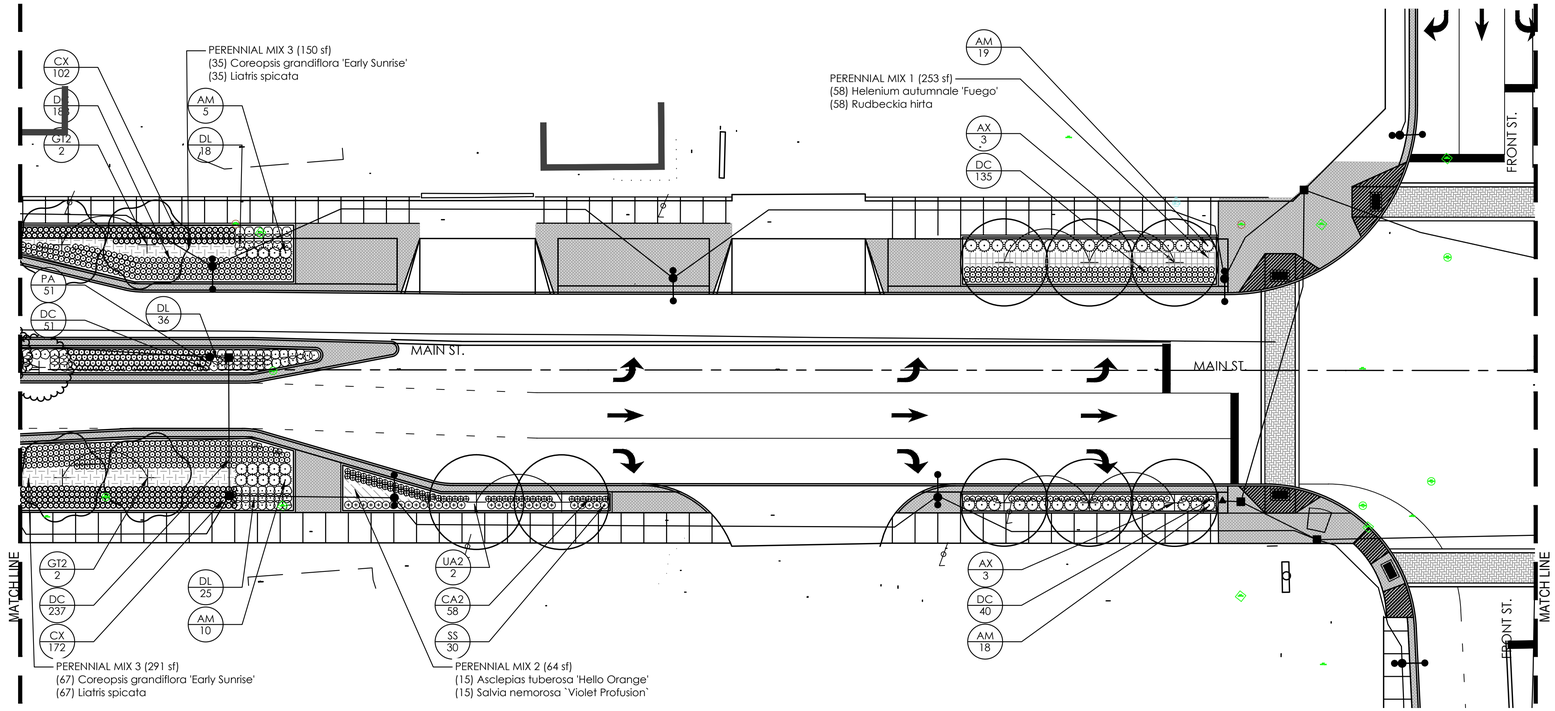
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

L16
60

SHEET 301 | TOTAL 345

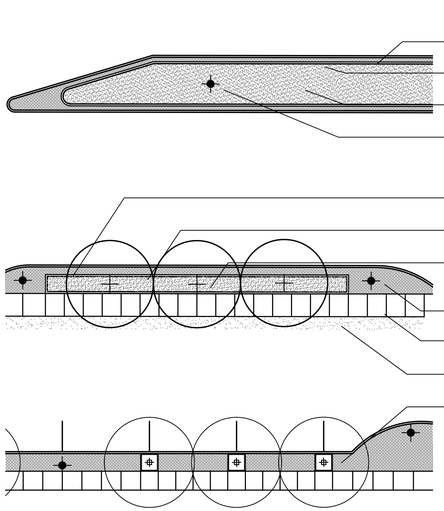


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
N MAIN ST. STA. 110+00 TO STA. 114+00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE MAIN 110+00 TO 114+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
AX	6	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.			
GT2	4	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.			
PX	1	PLATANUS X ACERIFOLIA 'EXCLAMATION'	EXCLAMATION LONDON PLANE TREE	3" CAL.			
DECIDUOUS TREES							
UA2	2	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
SHRUBS							
AM	52	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.			
DL	91	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.			
GRASSES AND PERENNIALS							
CX	256	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.			
CA2	58	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.			
DC	633	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.			
PA	51	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	1 GAL.			
SS	30	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	1 GAL.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	253 SF	PERENNIAL MIX 1					
	58	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.		18" O.C.	
	58	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.		18" O.C.	
	64 SF	PERENNIAL MIX 2					
	15	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.			
	15	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.			
	441 SF	PERENNIAL MIX 3					
	102	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---			
	102	LIATRIS SPICATA	BLAZING STAR	---			

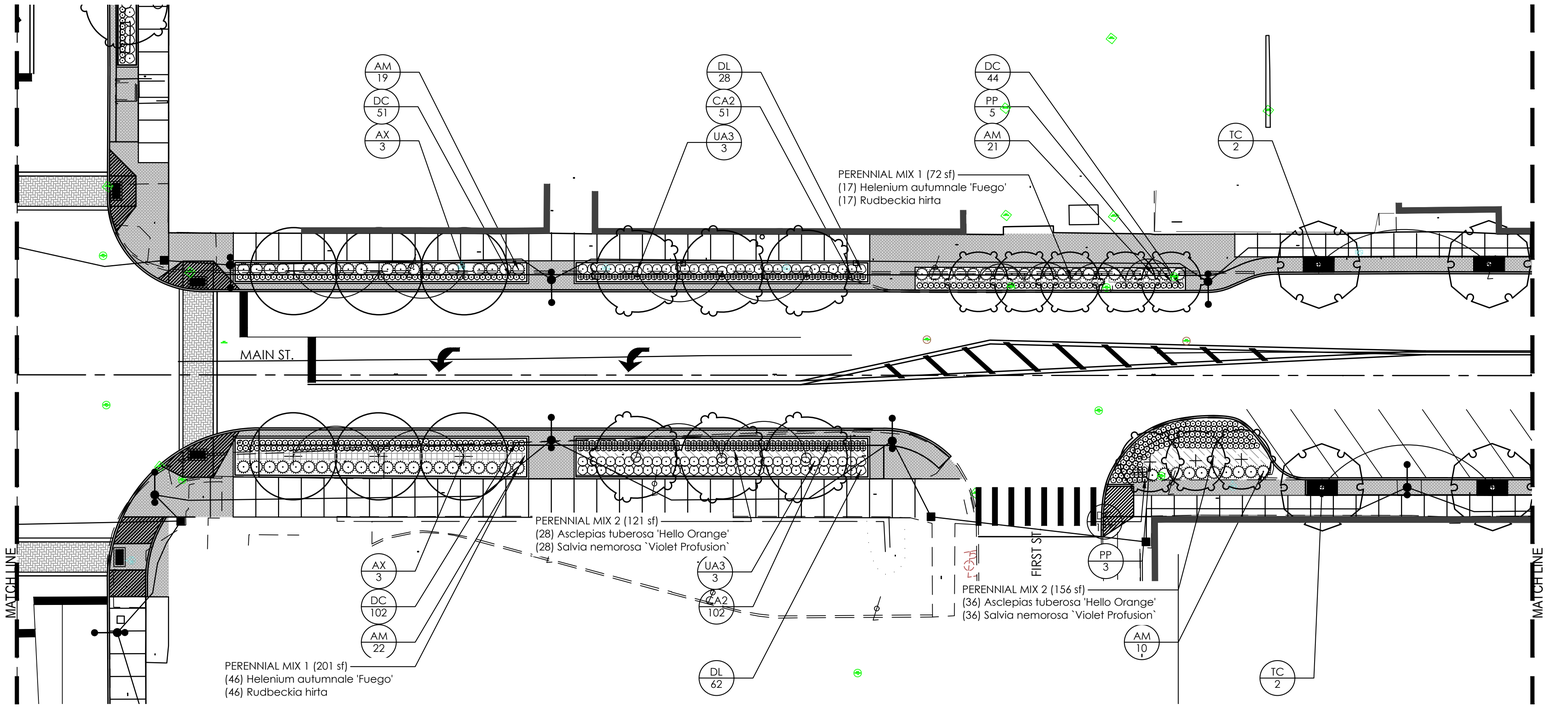
FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L17
60

SHEET 302 TOTAL 345

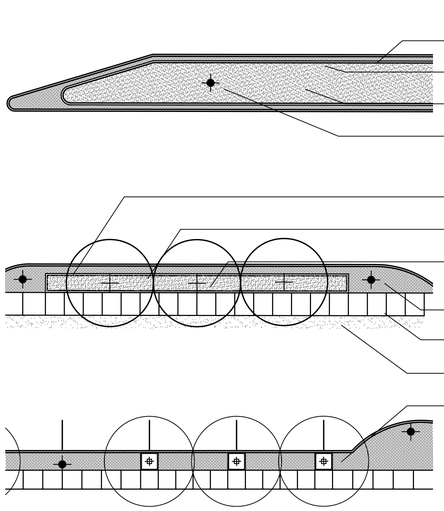


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 200+00 TO STA. 204+00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE MAIN 200+00 TO 204+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
AX	6	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.		
PP	8	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.		
TC	4	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.		
UA3	6	ULMUS X 'MORTON'	ACCOLADE™ ELM	3" CAL.		
SHRUBS						
AM	72	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.		
DL	90	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.		
GRASSES AND PERENNIALS						
CA2	153	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		
DC	334	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		

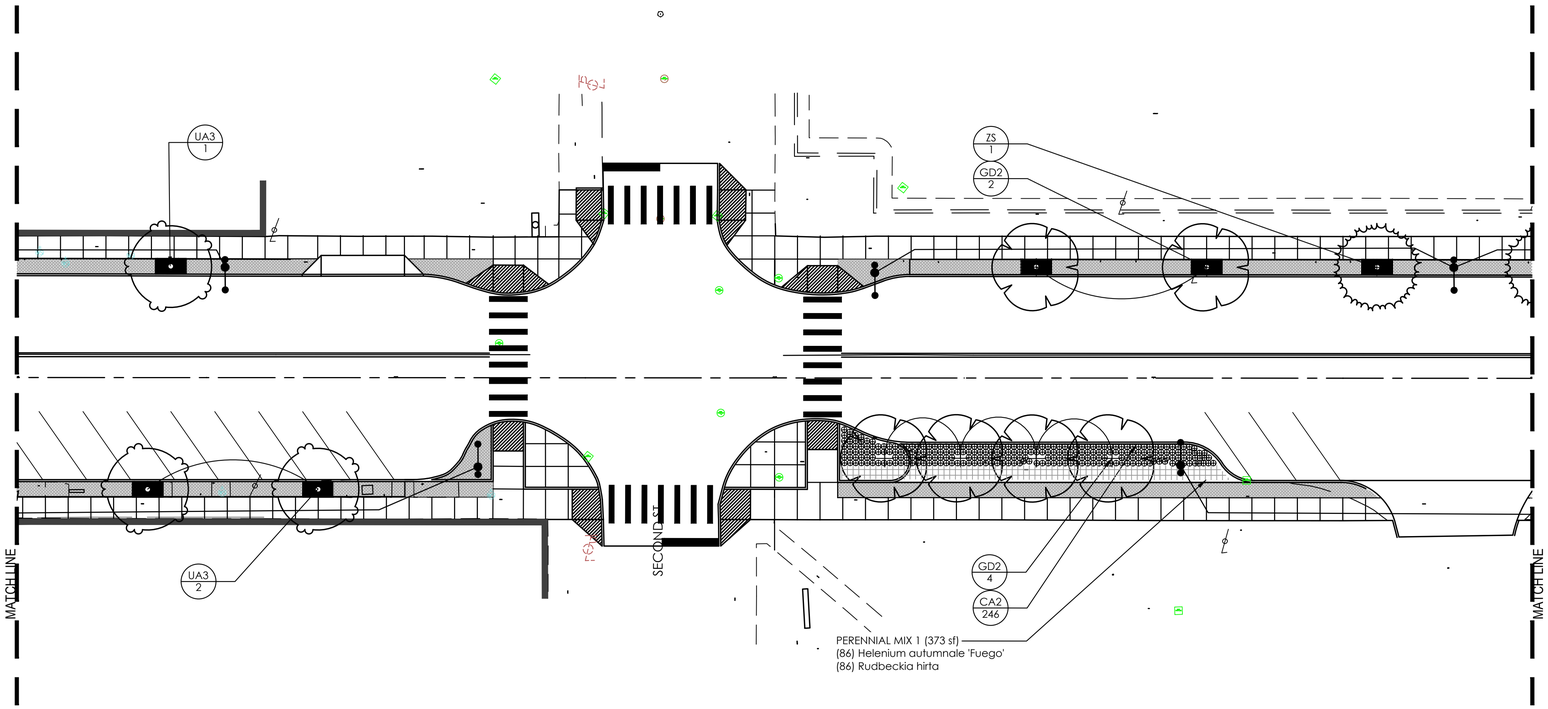
SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	273 SF	PERENNIAL MIX 1				
	63	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	63	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	277 SF	PERENNIAL MIX 2				
	64	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	64	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	303
TOTAL	345

L18
60

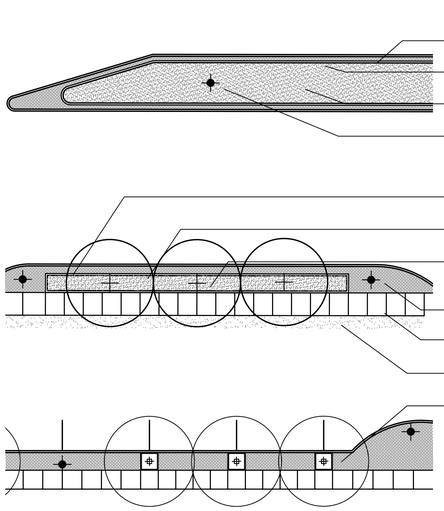


NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 204+00 TO STA. 208+00

LANDSCAPE GRAPHIC LEGEND



MEDIAN
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE MAIN 204+00 TO 208+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
GD2	6	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.		
UA3	3	ULMUS X 'MORTON'	ACCOLADE™ ELM	3" CAL.		
ZS	1	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.		
GRASSES AND PERENNIALS						
CA2	263	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	373 SF	PERENNIAL MIX 1				
	86	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	86	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

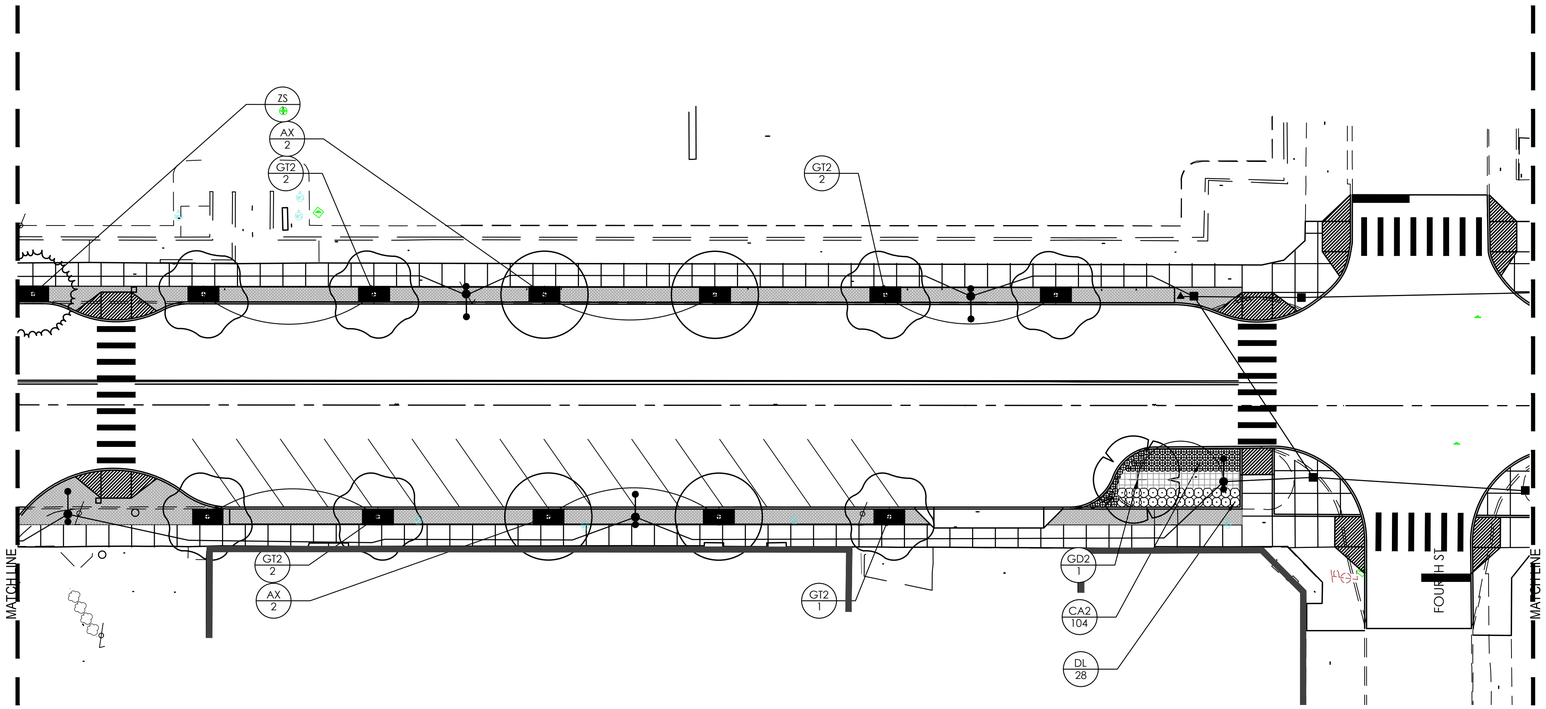
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 304 | TOTAL 345

L19
60



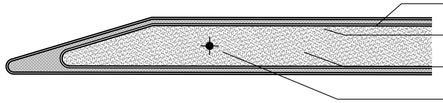
NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 208+00 TO STA. 212+00

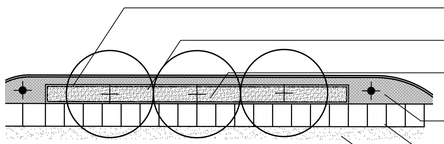
LANDSCAPE GRAPHIC LEGEND

MEDIAN

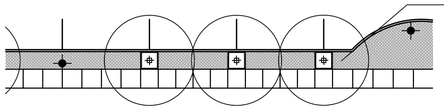


BRICK PAVING / SALT SPRAY STRIP
PLANTING CURB
PLANTING BED
NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



BRICK PAVING / SALT SPRAY STRIP
PLANTING CURB
NEW STREET TREE IN PLANTING BED
NEW STREET LIGHT (TYP)
SIDEWALK - PER CIVIL DRAWINGS
ADJOINING LAWN



NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE MAIN 208+00 TO 212+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
AX	4	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.		
GT2	7	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.		
GD2	1	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.		
ZS	1	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.		
SHRUBS						
DL	28	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.		
GRASSES AND PERENNIALS						
CA2	104	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	141 SF	PERENNIAL MIX 1				
	33	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	33	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

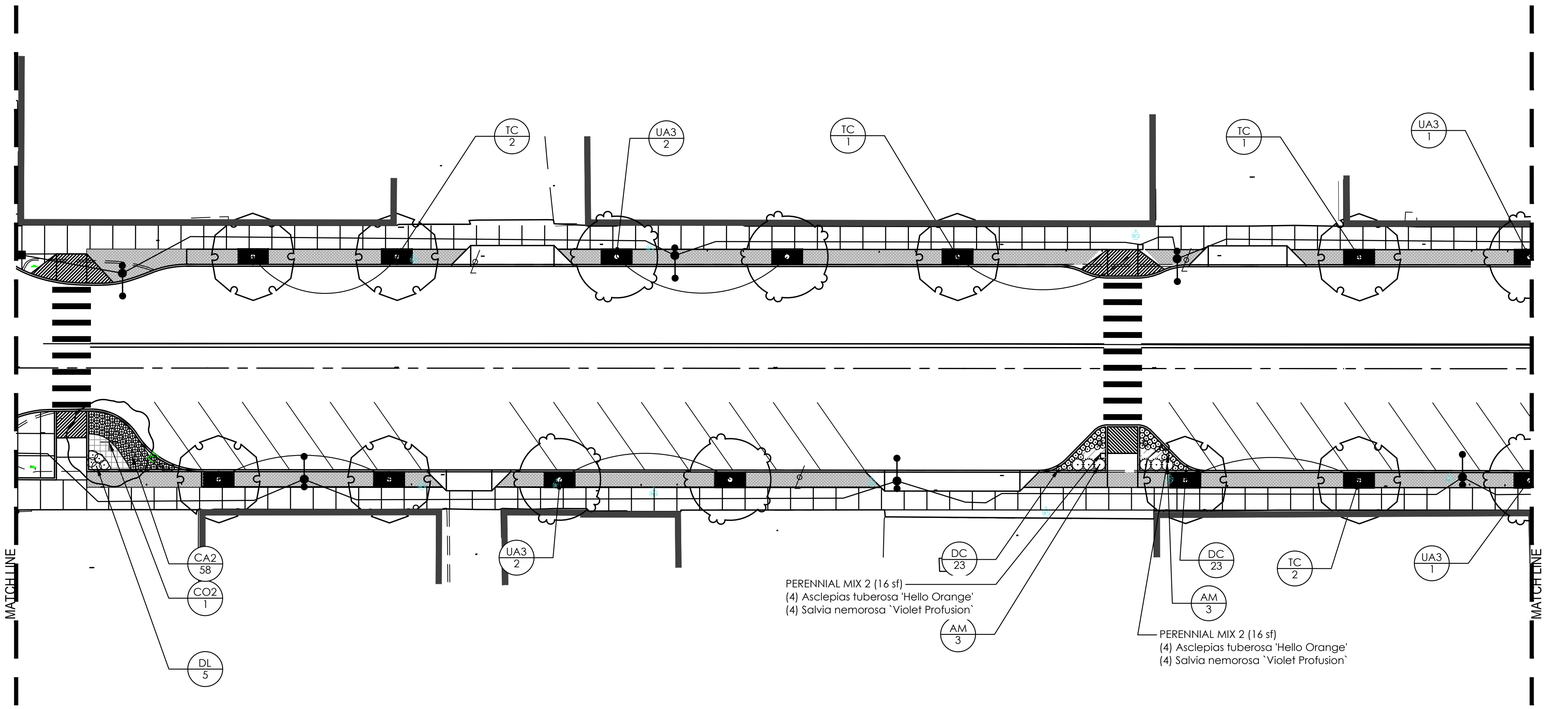
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 305 | TOTAL 345

L20
60

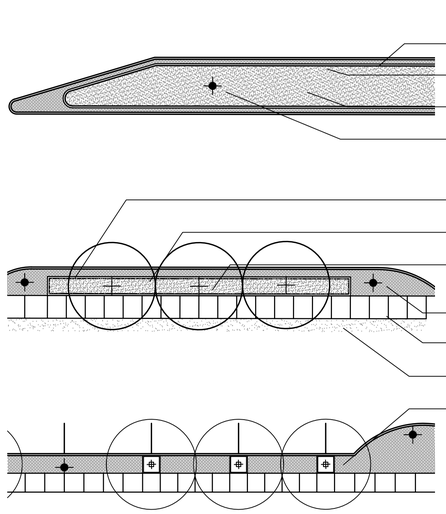


NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 212+00 TO STA. 216+00

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE MAIN 212+00 TO 216+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
TREES						
CO2	1	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	PRAIRIE PRIDE HACKBERRY	3" CAL.		
TC	8	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.		
UA3	6	ULMUS X 'MORTON'	ACCOLADE™ ELM	3" CAL.		
SHRUBS						
AM	6	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.		
DL	5	DIERVILLA LONICERA	BUSH HONEYSUCKLE	3 GAL.		
GRASSES AND PERENNIALS						
CA2	64	CENCHRUS ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.		
DC	46	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.		

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
GROUND COVERS						
	51 SF	PERENNIAL MIX 1				
	12	HELENIUM AUTUMNALE 'FUEGO'	MARIACHI™ FUEGO SNEEZEWEED	1 GAL.	18" O.C.	
	12	RUDBECKIA HIRTA	BLACK-EYED SUSAN	1 GAL.	18" O.C.	
	32 SF	PERENNIAL MIX 2				
	8	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.		
	8	SALVIA NEMOROSA `VIOLET PROFUSION`	VIOLET PROFUSION MEADOW SAGE	1 GAL.		

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

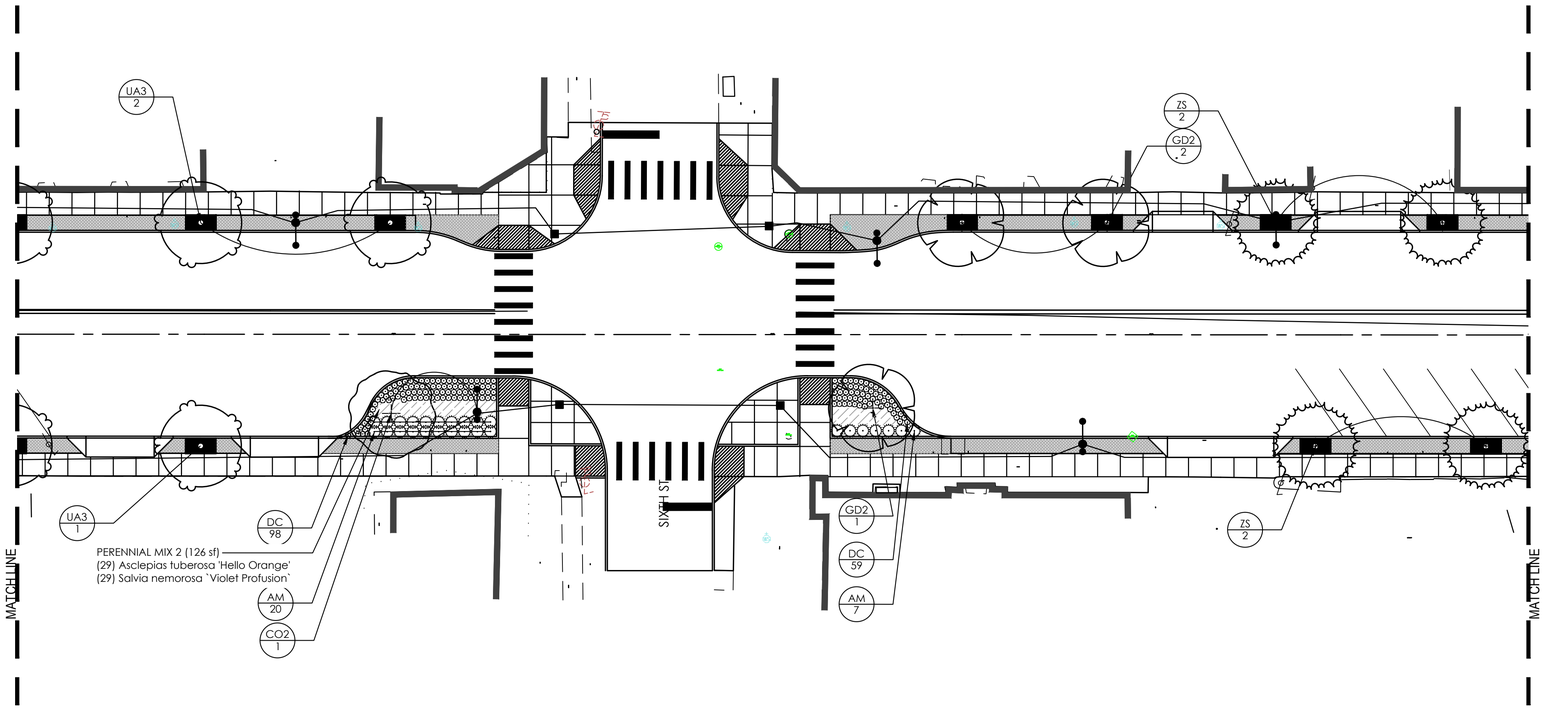
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 306 | TOTAL 345

L21
60

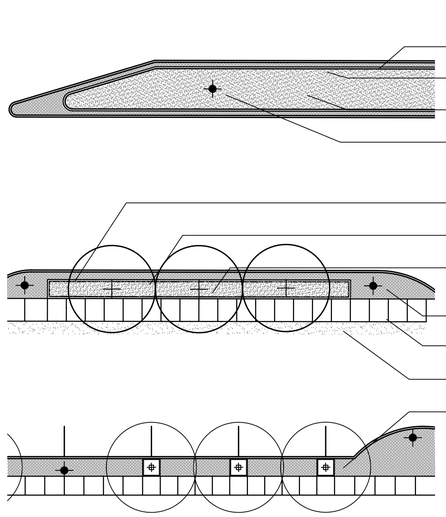


NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 216+00 TO STA. 220+00

LANDSCAPE GRAPHIC LEGEND



MEDIAN
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS
- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANTING NOTES

PLANT SCHEDULE MAIN 216+00 TO 220+00

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
CO2	1	CELTIS OCCIDENTALIS 'PRAIRIE PRIDE'	PRAIRIE PRIDE HACKBERRY	3" CAL.	
GD2	3	GYMNOCLADUS DIOICUS 'ESPRESSO'	KENTUCKY COFFEETREE	3" CAL.	
UA3	3	ULMUS X 'MORTON'	ACCOLADE™ ELM	3" CAL.	
ZS	4	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE JAPANESE ZELKOVA	3" CAL.	
SHRUBS					
AM	27	ARONIA MELANOCARPA 'MORTON'	IROQUOIS BEAUTY™ BLACK CHOKEBERRY	3 GAL.	
GRASSES AND PERENNIALS					
DC	157	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	197 SF	PERENNIAL MIX 2			
	45	ASCLEPIAS TUBEROSA 'HELLO ORANGE'	HELLO ORANGE BUTTERFLY MILKWEED	1 GAL.	
	45	SALVIA NEMOROSA `VIOLET PROFUSION'	VIOLET PROFUSION MEADOW SAGE	1 GAL.	

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

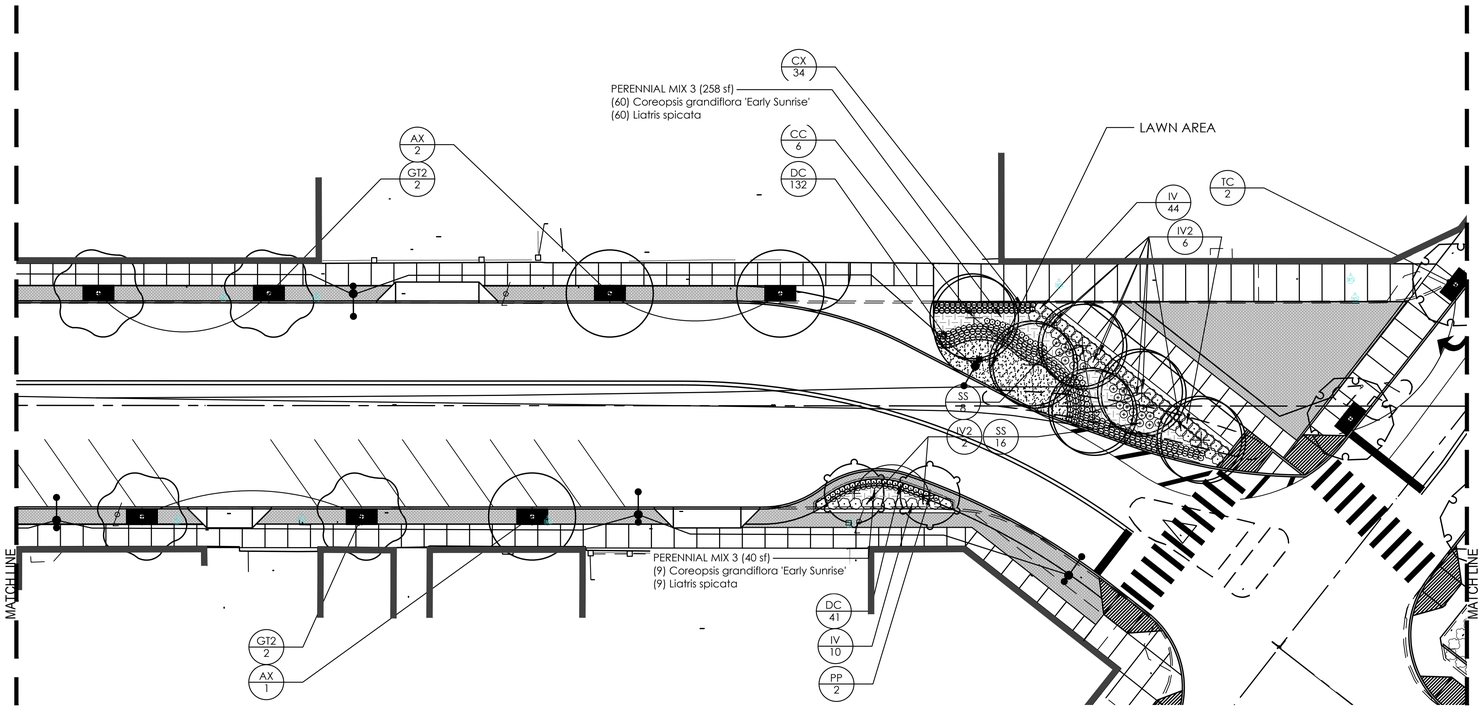
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 307 | TOTAL 345

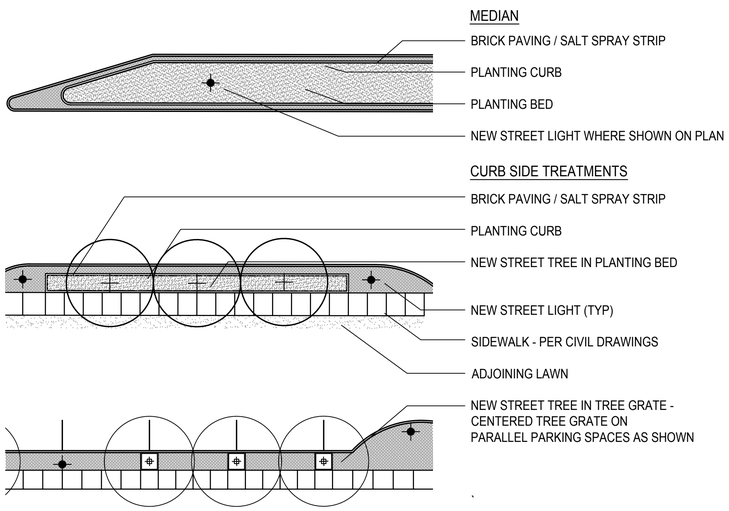
L22
60



NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE MAIN 220+00 TO 223+84

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
AX	3	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.	
CC	6	CARPINUS CAROLINIANA 'J.N. STRAIN'	J.N. STRAIN AMERICAN HORNBEAM	3" CAL.	
GT2	4	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.	
PP	2	PARROTIA PERSICA 'VANESSA'	VANESSA PERSIAN PARROTIA	3" CAL.	
TC	2	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.	
SHRUBS					
IV	54	ILEX VERTICILLATA 'FARROWBPOP'	BERRY POPPINS® WINTERBERRY	3 GAL.	
IV2	8	ILEX VERTICILLATA 'FARROWMRP'	MR. POPPINS® WINTERBERRY	3 GAL.	
GRASSES AND PERENNIALS					
CX	38	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER'	KARL FOERSTER FEATHER REED GRASS	3 GAL.	
DC	228	DESCHAMPSIA CESPITOSA	TUFTED HAIR GRASS	1 GAL.	
SS	24	SCHIZACHYRIUM SCOPARIUM 'THE BLUES'	THE BLUES LITTLE BLUESTEM	1 GAL.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	298 SF	PERENNIAL MIX 3			
	69	COREOPSIS GRANDIFLORA 'EARLY SUNRISE'	EARLY SUNRISE TICKSEED	---	
	69	LIATRIS SPICATA	BLAZING STAR	---	
	338 SF	LAWN			

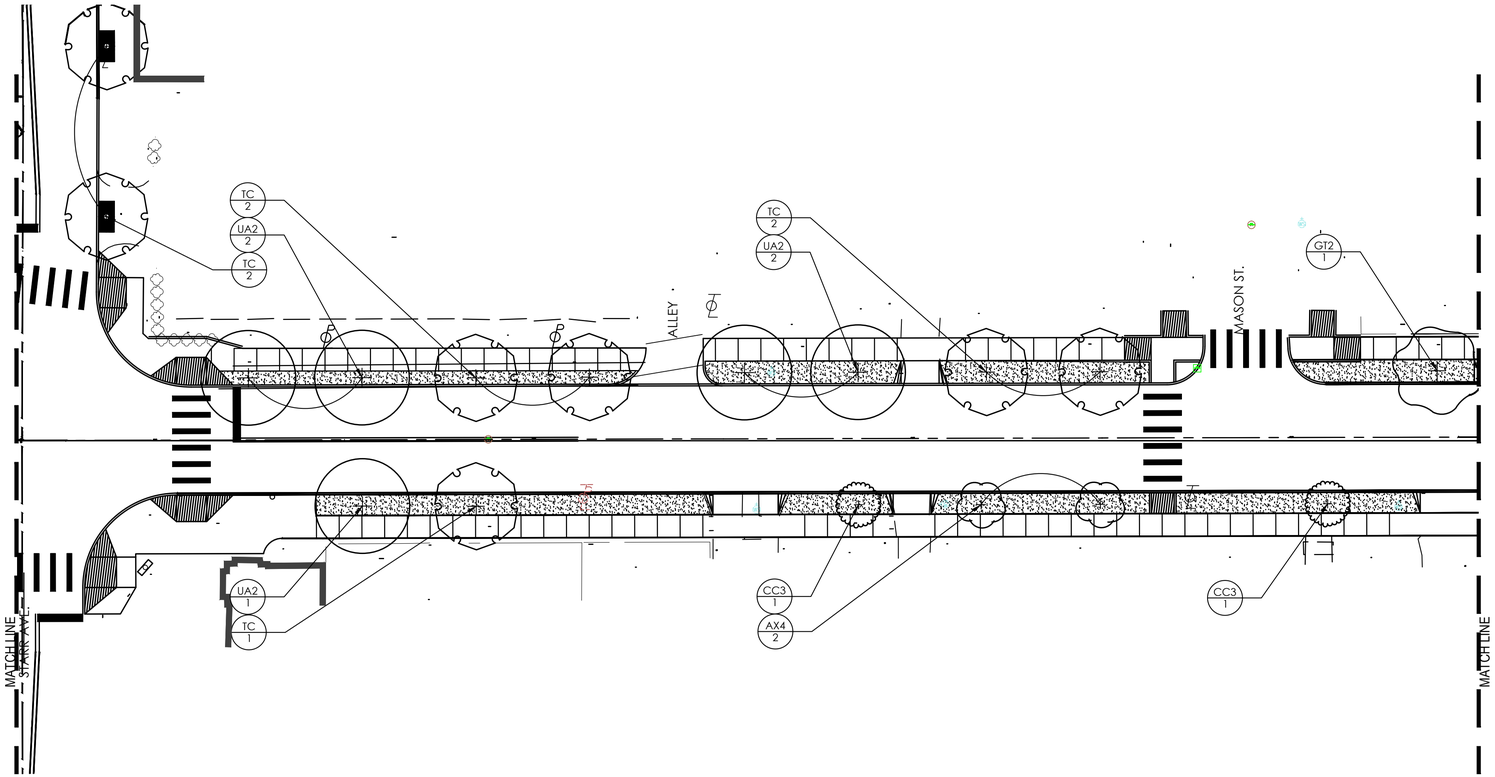
LANDSCAPE PLAN
S MAIN ST. STA. 220+00 TO STA. 223+84

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 308 TOTAL 345

L23
60

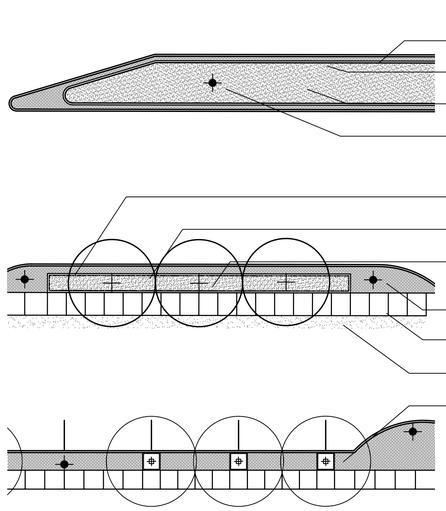


NORTH

0 10 20 40
Horizontal
Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 224+65 TO STA. 228+50

LANDSCAPE GRAPHIC LEGEND



PLANT SCHEDULE MAIN 224+65 TO 228+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
GT2	1	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.			
TC	7	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.			
DECIDUOUS TREES							
UA2	5	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
ORNAMENTAL TREES							
AX4	2	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	8` HGT.			
CC3	2	CERCIS CANADENSIS	EASTERN REDBUD	8` HGT.			

SYMBOL	QTY	BOTANICAL NAME
GROUND COVERS		
	2,849 SF	LAWN

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

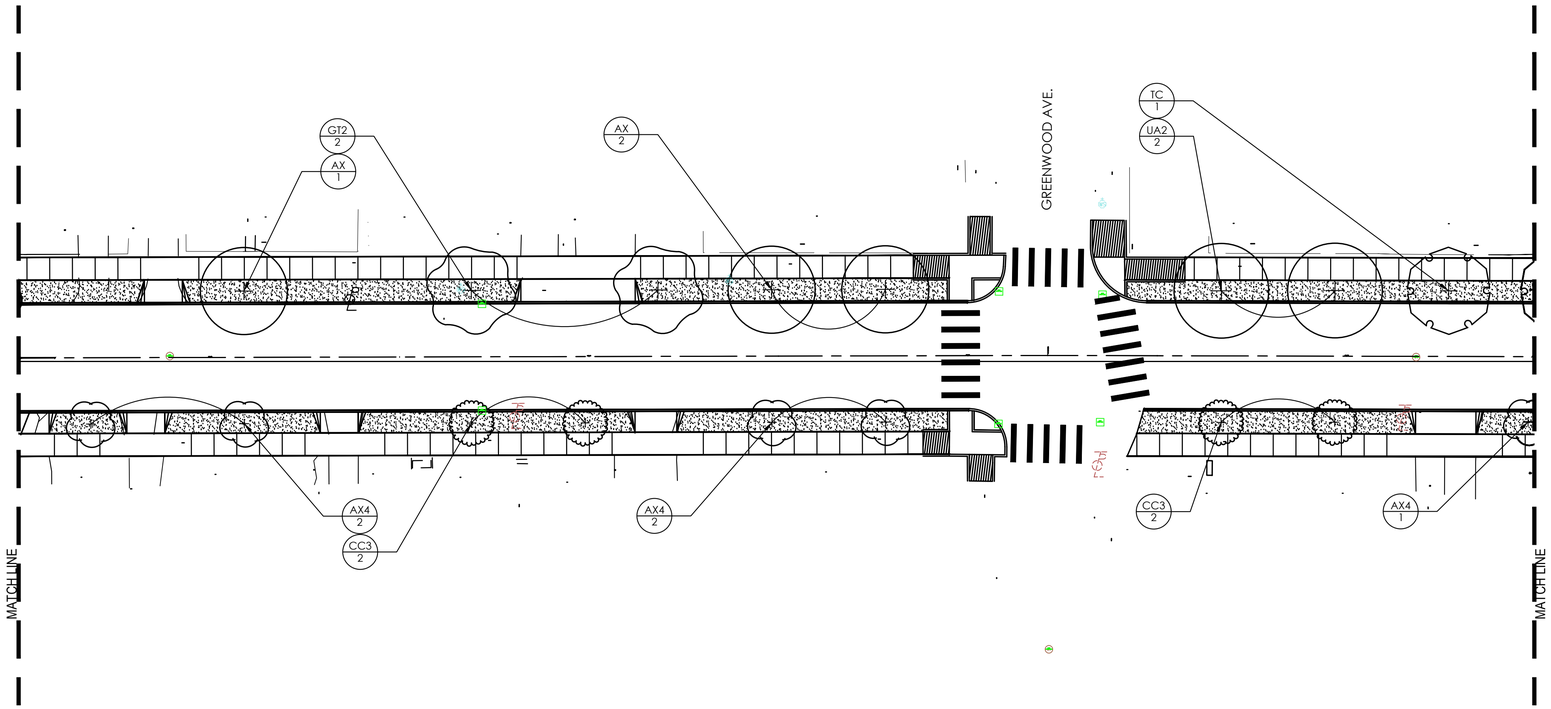
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

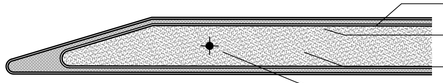
SHEET 309 | TOTAL 345

L24
60



LANDSCAPE GRAPHIC LEGEND

MEDIAN



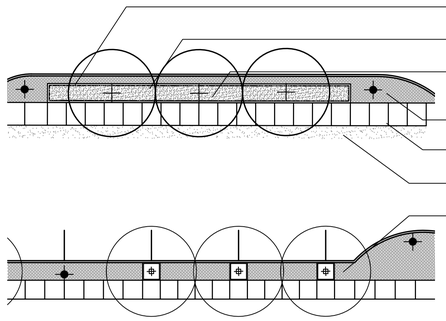
BRICK PAVING / SALT SPRAY STRIP

PLANTING CURB

PLANTING BED

NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



BRICK PAVING / SALT SPRAY STRIP

PLANTING CURB

NEW STREET TREE IN PLANTING BED

NEW STREET LIGHT (TYP)

SIDEWALK - PER CIVIL DRAWINGS

ADJOINING LAWN

NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 228+50 TO STA. 232+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID
121938

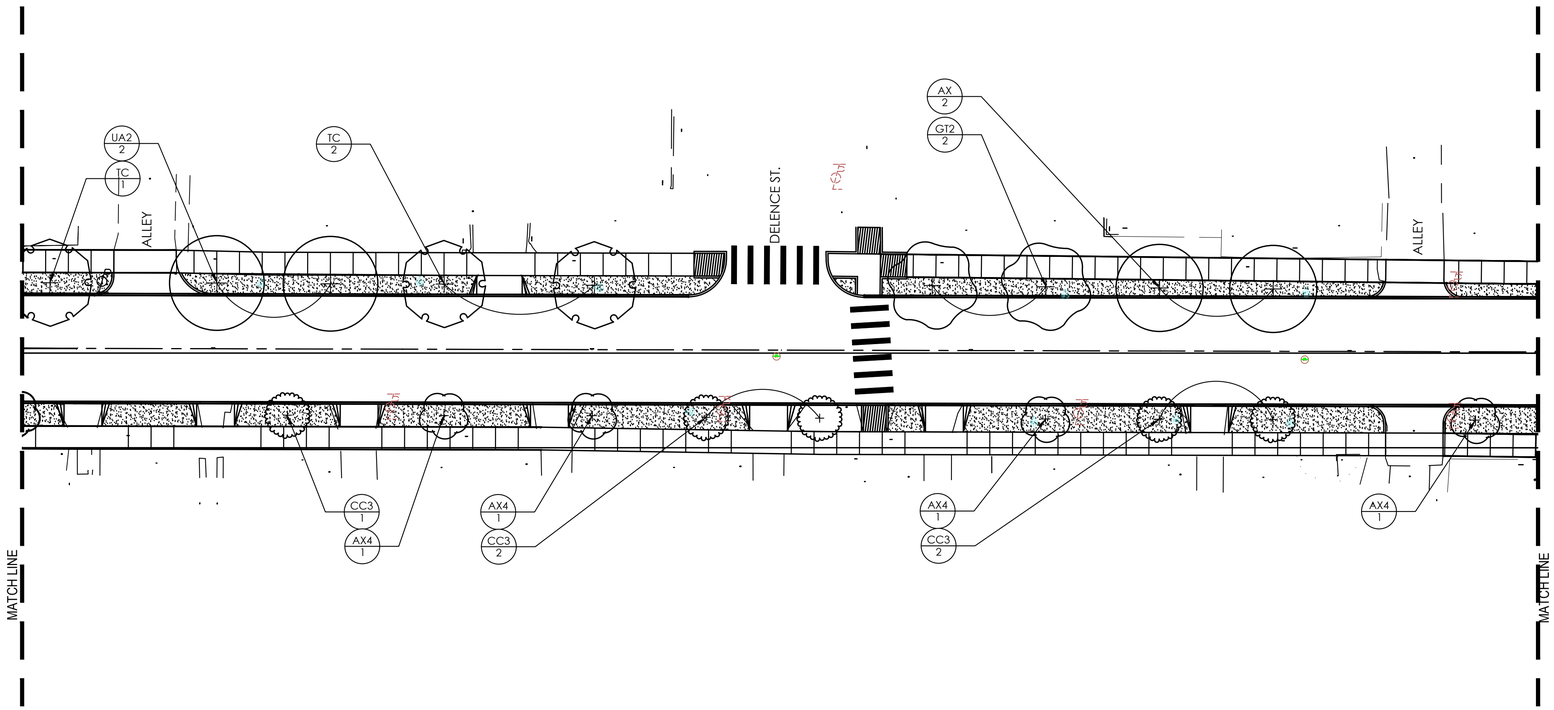
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 310 | TOTAL 345

L25
60



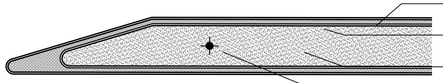
NORTH

0 10 20 40
Horizontal Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 232+50 TO STA. 236+50

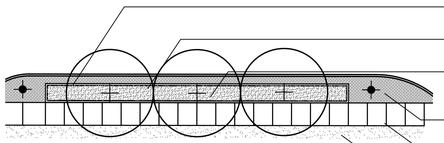
LANDSCAPE GRAPHIC LEGEND

MEDIAN

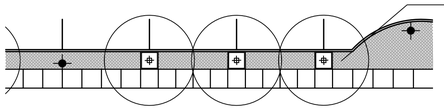


- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN



- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE MAIN 232+50 TO 236+50

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
TREES							
AX	2	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.			
GT2	2	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.			
TC	3	TILIA CORDATA 'GREENSPIRE'	GREENSPIRE LITTLELEAF LINDEN	3" CAL.			
DECIDUOUS TREES							
UA2	2	ULMUS AMERICANA 'PRINCETON'	PRINCETON AMERICAN ELM	3" CAL.	25' O.C.	B&B	
ORNAMENTAL TREES							
AX4	4	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	8` HGT.			
CC3	5	CERCIS CANADENSIS	EASTERN REDBUD	8` HGT.			

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	2,920 SF	LAWN					

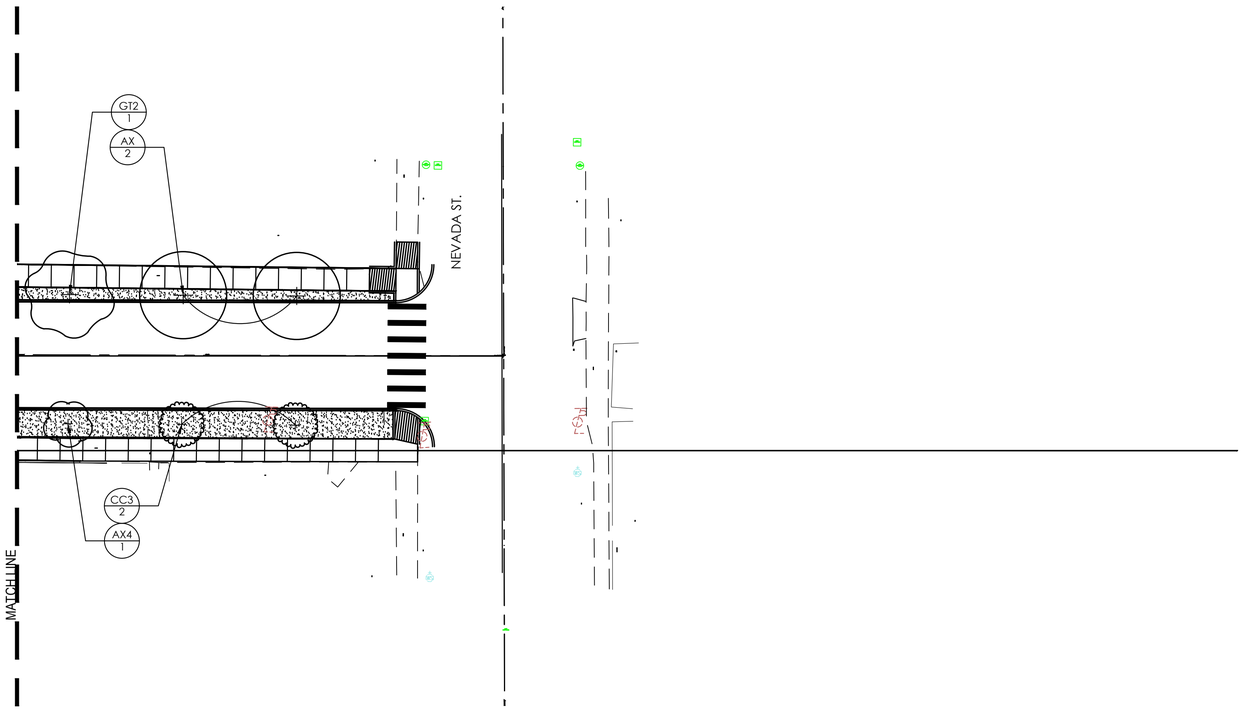
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

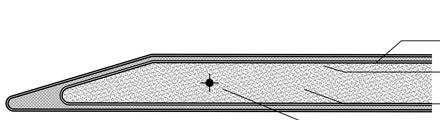
EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	311
TOTAL	345

L26
60



LANDSCAPE GRAPHIC LEGEND



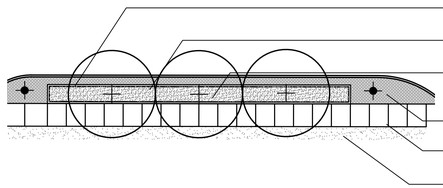
MEDIAN

BRICK PAVING / SALT SPRAY STRIP

PLANTING CURB

PLANTING BED

NEW STREET LIGHT WHERE SHOWN ON PLAN



CURB SIDE TREATMENTS

BRICK PAVING / SALT SPRAY STRIP

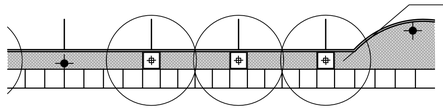
PLANTING CURB

NEW STREET TREE IN PLANTING BED

NEW STREET LIGHT (TYP)

SIDEWALK - PER CIVIL DRAWINGS

ADJOINING LAWN



NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE MAIN 236+50 TO 237+78

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
TREES					
AX	2	ACER X FREEMANII 'ARMSTRONG'	ARMSTRONG FREEMAN MAPLE	3" CAL.	
GT2	1	GLEDITSIA TRIACANTHOS INERMIS 'DRAVES'	STREET KEEPER® HONEY LOCUST	3" CAL.	
ORNAMENTAL TREES					
AX4	1	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	8` HGT.	
CC3	2	CERCIS CANADENSIS	EASTERN REDBUD	8` HGT.	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
GROUND COVERS					
	1,266 SF	LAWN			

NORTH

0 10 20 40

Horizontal Scale In Feet

LANDSCAPE PLAN
S MAIN ST. STA. 236+50 TO STA. 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

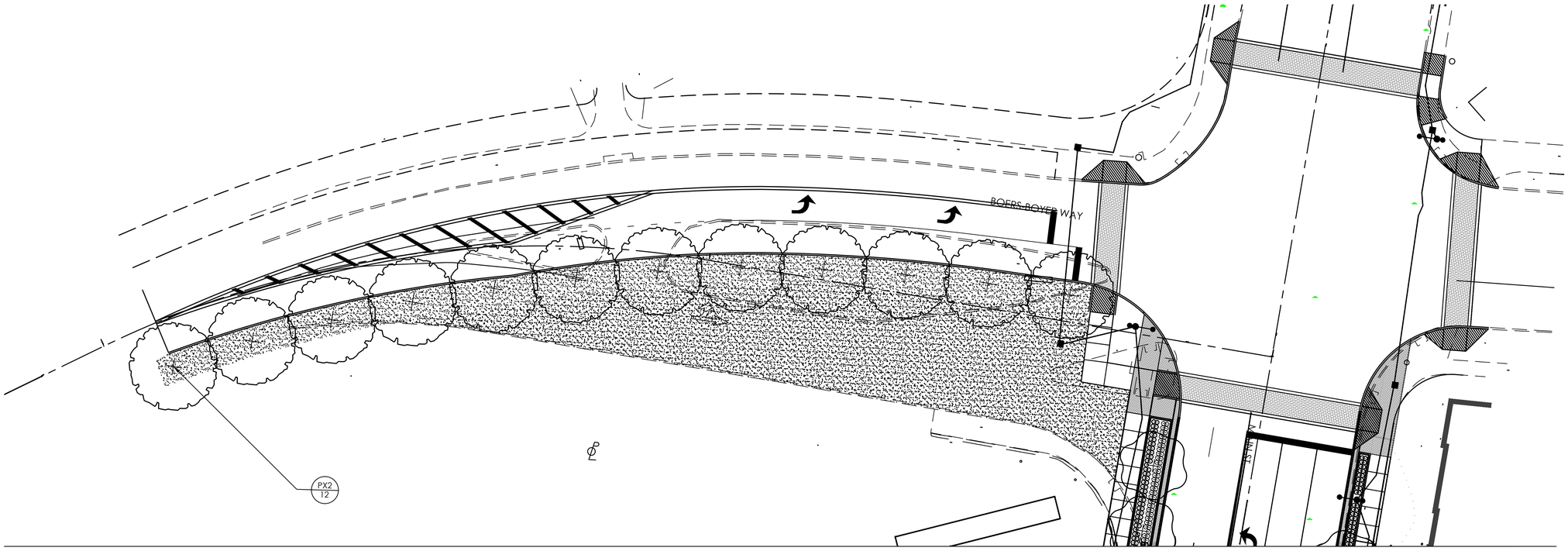
DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

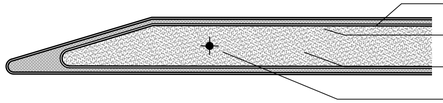
SHEET 312 | TOTAL 345

L27
60



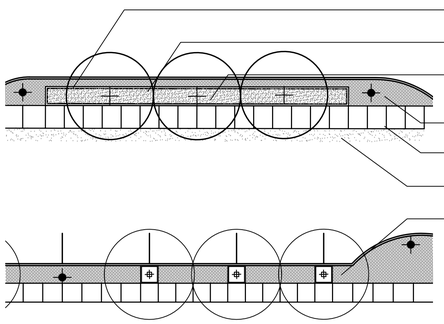
LANDSCAPE GRAPHIC LEGEND

MEDIAN



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- PLANTING BED
- NEW STREET LIGHT WHERE SHOWN ON PLAN

CURB SIDE TREATMENTS



- BRICK PAVING / SALT SPRAY STRIP
- PLANTING CURB
- NEW STREET TREE IN PLANTING BED
- NEW STREET LIGHT (TYP)
- SIDEWALK - PER CIVIL DRAWINGS
- ADJOINING LAWN
- NEW STREET TREE IN TREE GRATE - CENTERED TREE GRATE ON PARALLEL PARKING SPACES AS SHOWN

PLANT SCHEDULE BOYER

CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
DECIDUOUS TREES							
PX2	12	PLATANUS X ACERIFOLIA	LONDON PLANETREE	3" CAL.	30' O.C.	B&B	

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	SPACING	REMARKS
GROUND COVERS							
	16,725 SF	LAWN					

LANDSCAPE PLAN
N MAIN ST. STA. 102+00 TO STA. 106+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

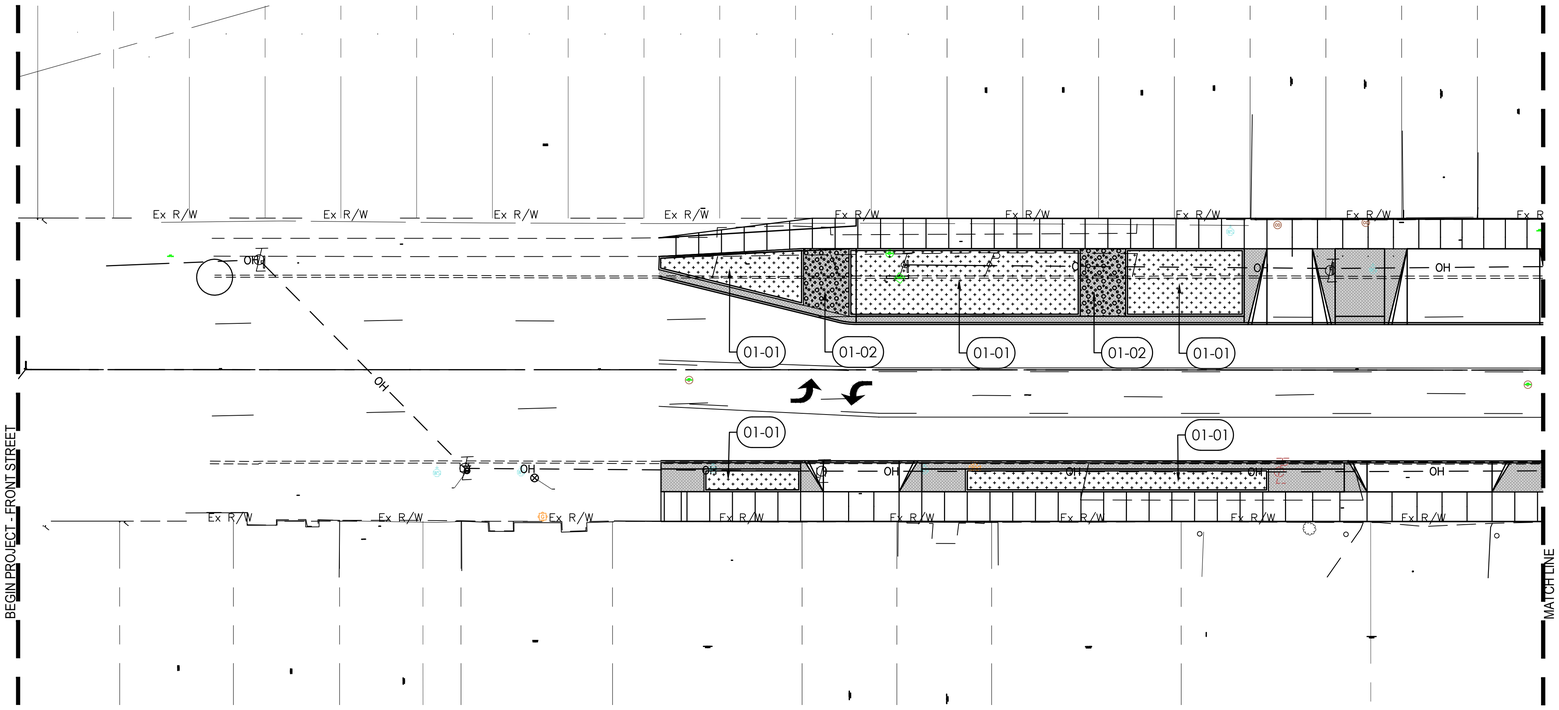
DESIGNER
JTM

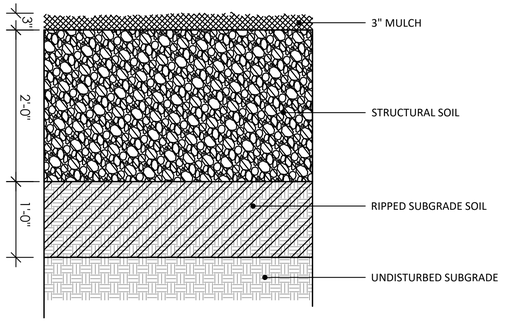
REVIEWER
TJB

COT PROJ. ID
####

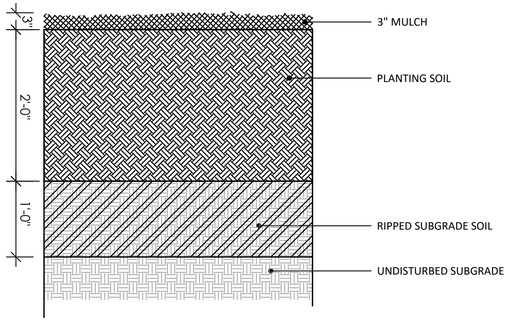
SHEET 313 | TOTAL 345

L28
60

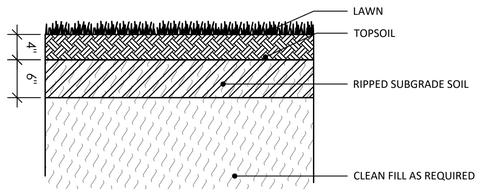




1 STRUCTURAL SOIL PROFILE
SCALE 1" = 1'-0"



2 PLANTING SOIL PROFILE
SCALE 1" = 1'-0"



3 SOIL PROFILE AT LAWN
SCALE 1" = 1'-0"

GENERAL NOTES:

1. ALL DIMENSIONS USING CURBS, WALLS OR PAVEMENT AS A REFERENCE ARE FROM FACE OF CURB, FINISHED FACE OF WALL OR EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS RESPONSIBLE FOR LOCATING & PROTECTING ALL EXISTING UTILITIES.
3. LOCATION OF THE EXISTING UNDERGROUND UTILITIES IS APPROXIMATE & HAS NOT BEEN VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK & IS RESPONSIBLE FOR DAMAGES OCCASIONED DUE TO NEGLIGENCE IN LOCATING & PRESERVING UNDERGROUND UTILITIES.
4. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY IS FOUND BETWEEN THE DIMENSION GIVEN & DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION.
5. ALL LAYOUT TO BE BY A REGISTERED SURVEYOR OR ENGINEER. THE OWNER'S REPRESENTATIVE WILL REVIEW THE LAYOUT FOR GENERAL CONFORMANCE PRIOR TO CONSTRUCTION.

REFERENCE NOTES SCHEDULE FRONT 2+48.5 TO 6+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	173 CY
	01-02	STRUCTURAL SOIL	30.4 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

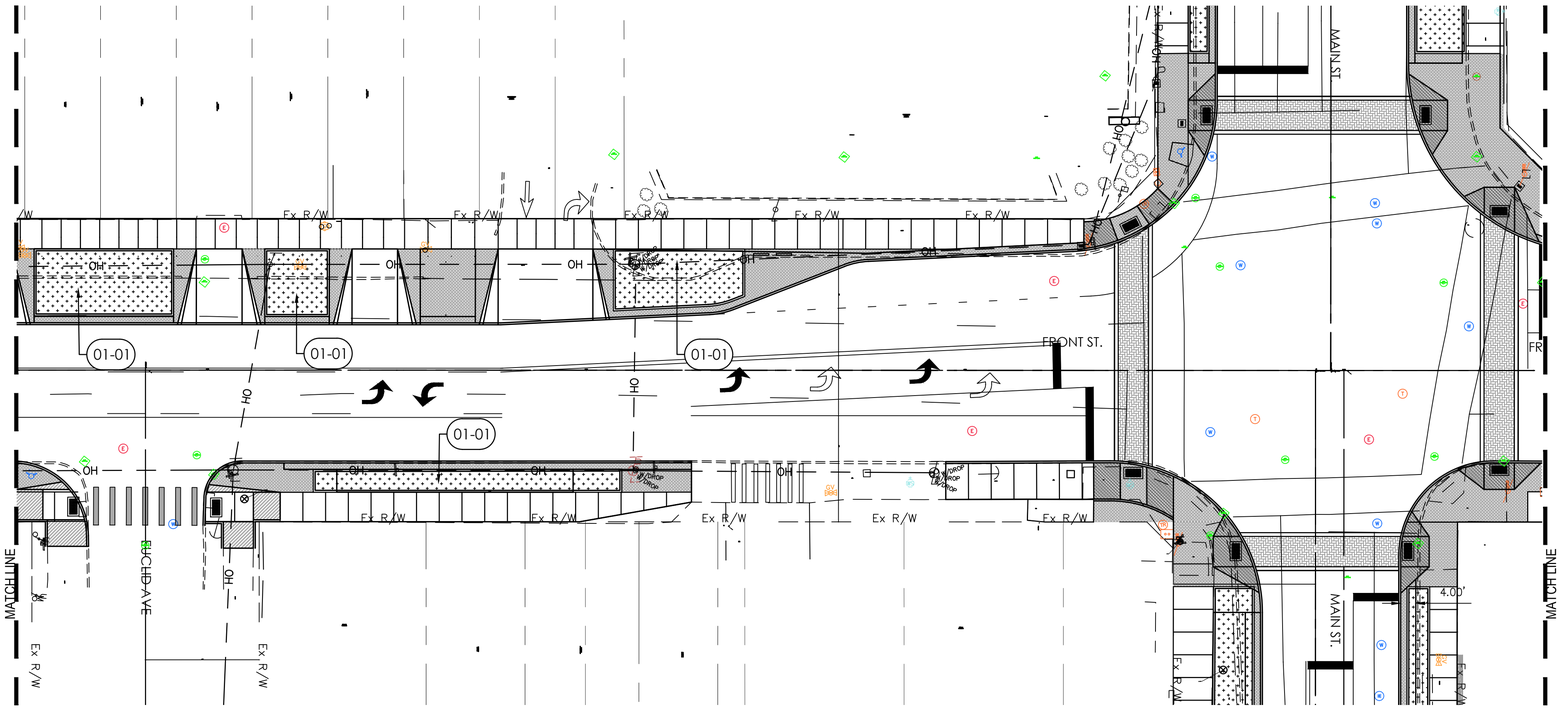
SOILS PLAN
FRONT STREET STA. 2+48.5 TO STA. 6+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 314 TOTAL 345

L29
60



GENERAL NOTES:

1. ALL DIMENSIONS USING CURBS, WALLS OR PAVEMENT AS A REFERENCE ARE FROM FACE OF CURB, FINISHED FACE OF WALL OR EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS RESPONSIBLE FOR LOCATING & PROTECTING ALL EXISTING UTILITIES.
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4. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY IS FOUND BETWEEN THE DIMENSION GIVEN & DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION.
5. ALL LAYOUT TO BE BY A REGISTERED SURVEYOR OR ENGINEER. THE OWNER'S REPRESENTATIVE WILL REVIEW THE LAYOUT FOR GENERAL CONFORMANCE PRIOR TO CONSTRUCTION.

REFERENCE NOTES SCHEDULE FRONT 6+50 TO 10+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	130 CY

SOILS PLAN
FRONT STREET STA. 6+50.00 TO STA. 10+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

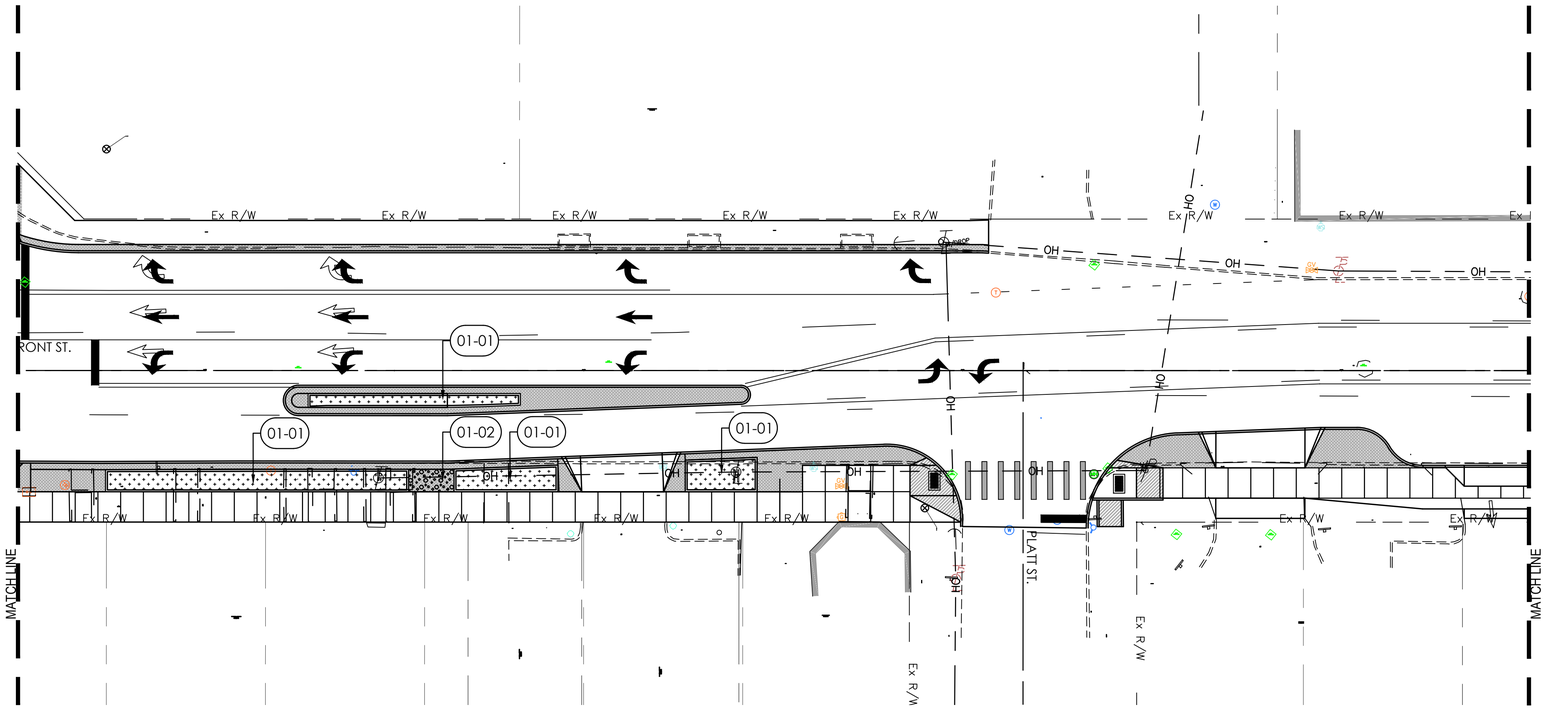
DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 315 | TOTAL 345

L30
60



NORTH

0 10 20 40
Horizontal Scale In Feet

GENERAL NOTES:

1. ALL DIMENSIONS USING CURBS, WALLS OR PAVEMENT AS A REFERENCE ARE FROM FACE OF CURB, FINISHED FACE OF WALL OR EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS RESPONSIBLE FOR LOCATING & PROTECTING ALL EXISTING UTILITIES.
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4. CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY IF A DISCREPANCY IS FOUND BETWEEN THE DIMENSION GIVEN & DIMENSIONS IN THE FIELD PRIOR TO CONSTRUCTION.
5. ALL LAYOUT TO BE BY A REGISTERED SURVEYOR OR ENGINEER. THE OWNER'S REPRESENTATIVE WILL REVIEW THE LAYOUT FOR GENERAL CONFORMANCE PRIOR TO CONSTRUCTION.

REFERENCE NOTES SCHEDULE FRONT 10+50 TO 14+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	60.2 CY
	01-02	STRUCTURAL SOIL	5.3 CY

SOILS PLAN
FRONT STREET STA. 10+50.00 TO STA. 14+50.00

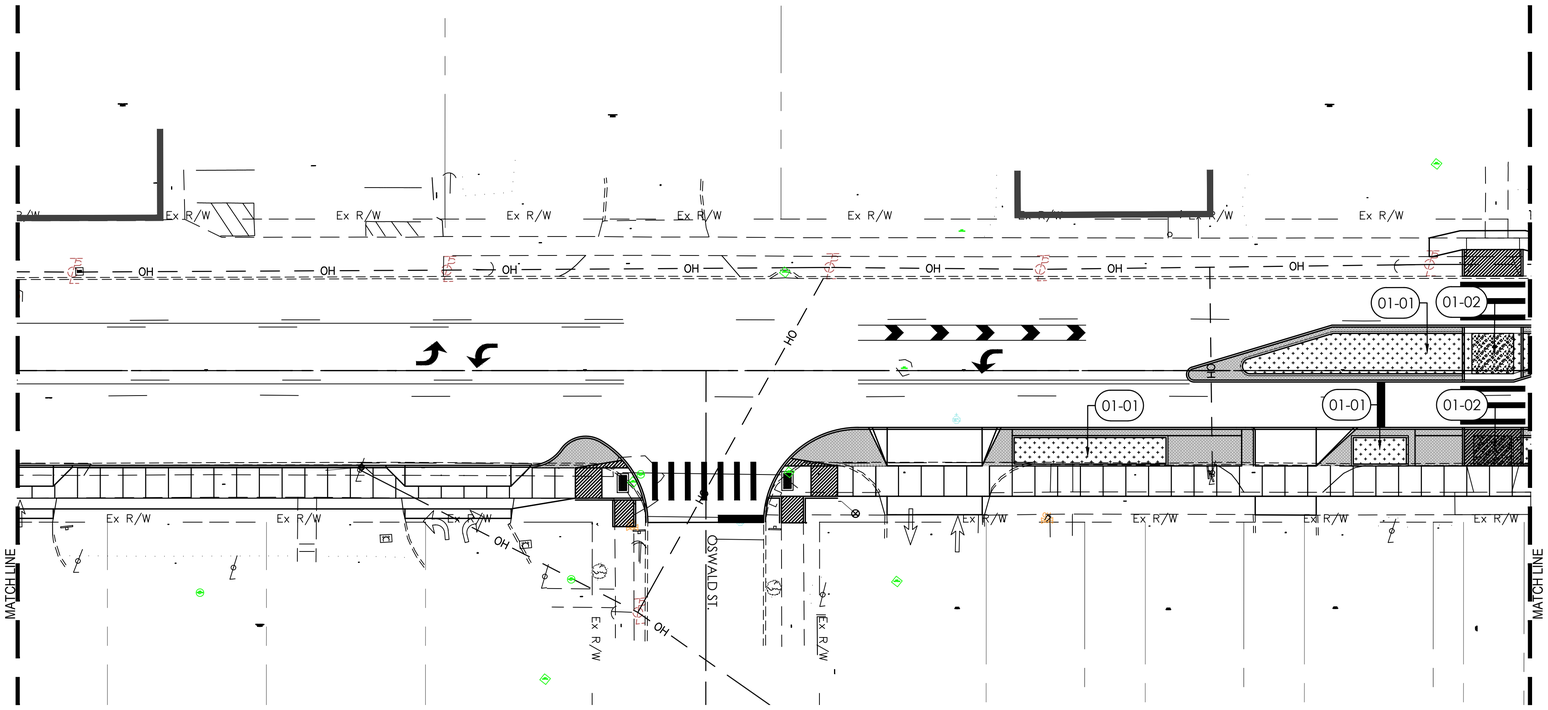
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	316
TOTAL	345

L31
60



NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 14+50.00 TO STA. 18+50.00

GENERAL NOTES:

1. ALL DIMENSIONS USING CURBS, WALLS OR PAVEMENT AS A REFERENCE ARE FROM FACE OF CURB, FINISHED FACE OF WALL OR EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.
2. CONTRACTOR IS RESPONSIBLE FOR LOCATING & PROTECTING ALL EXISTING UTILITIES.
3. LOCATION OF THE EXISTING UNDERGROUND UTILITIES IS APPROXIMATE & HAS NOT BEEN VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCING WORK & IS RESPONSIBLE FOR DAMAGES OCCASIONED DUE TO NEGLIGENCE IN LOCATING & PRESERVING UNDERGROUND UTILITIES.
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REFERENCE NOTES SCHEDULE FRONT 14+50 TO 18+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	112 CY
	01-02	STRUCTURAL SOIL	14.6 CY

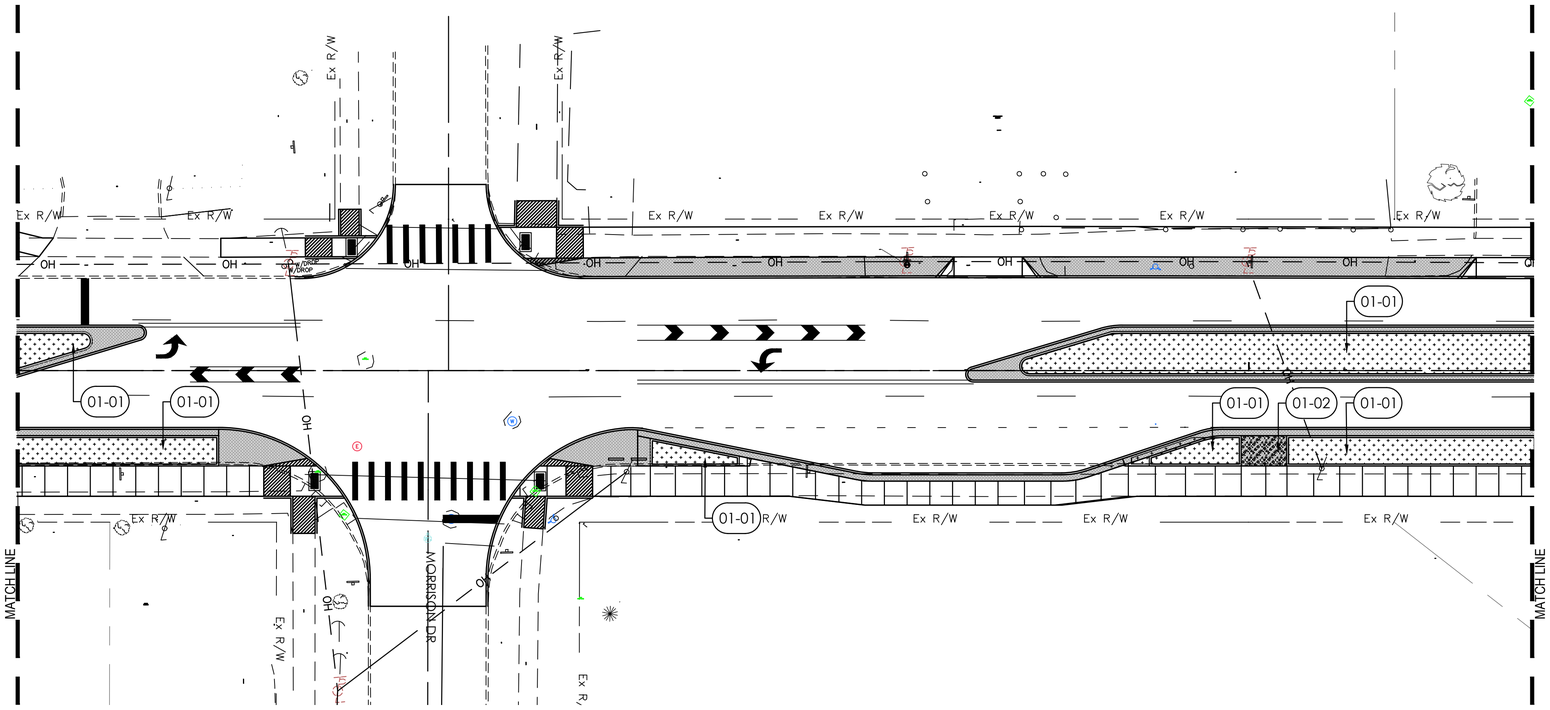
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L32
60

SHEET 317 | TOTAL 345



NORTH

0 10 20 40
Horizontal Scale In Feet

GENERAL NOTES:

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REFERENCE NOTES SCHEDULE FRONT 18+50 TO 22+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	152 CY
	01-02	STRUCTURAL SOIL	7.11 CY

SOILS PLAN
FRONT STREET STA. 18+50.00 TO STA. 22+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 318 | TOTAL 345

L33
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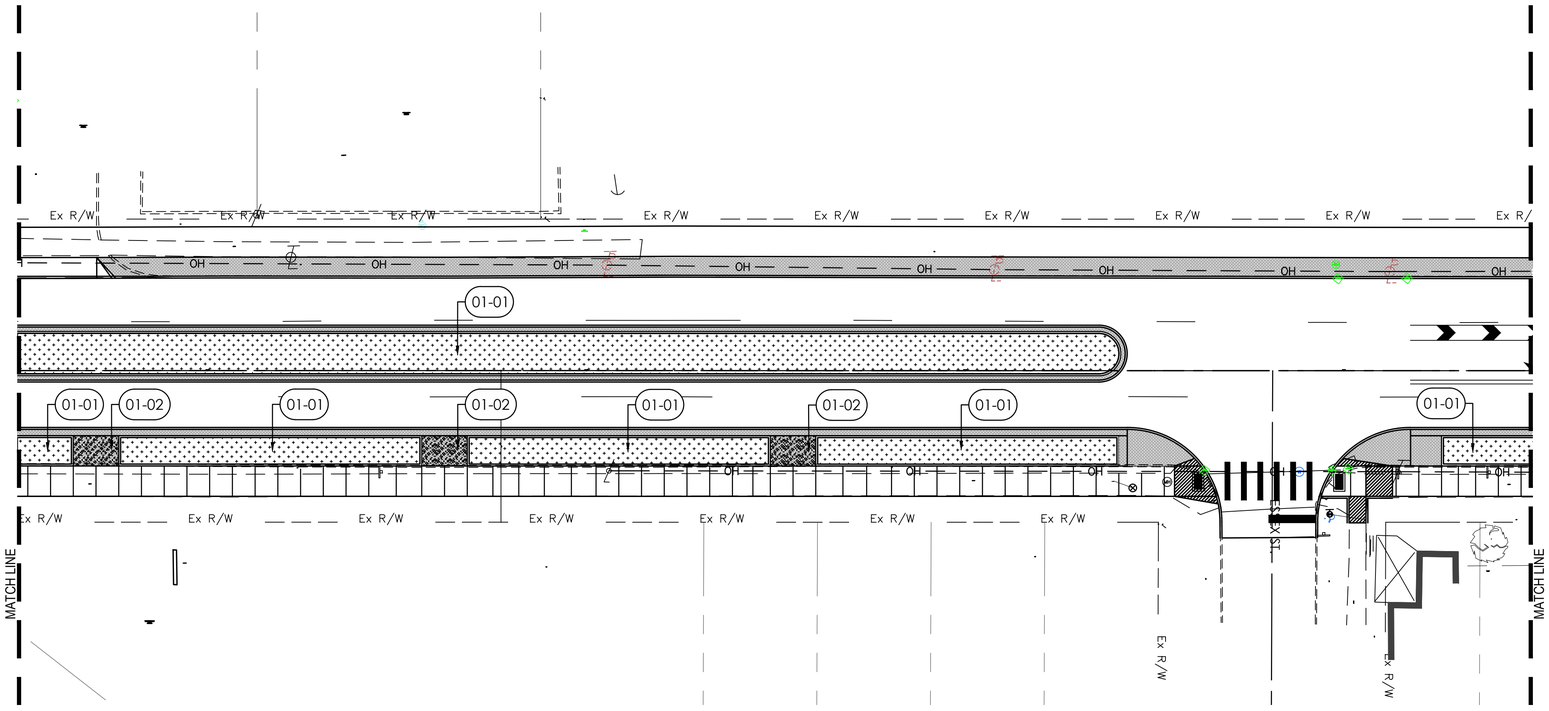

NORTH

0 10 20 40
Horizontal
Scale In Feet

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REFERENCE NOTES SCHEDULE FRONT 22+50 T0 26+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	371 CY
	01-02	STRUCTURAL SOIL	21.3 CY

SOILS PLAN
FRONT STREET STA. 22+50.00 TO STA. 26+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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SHEET 319 | TOTAL 345

L34
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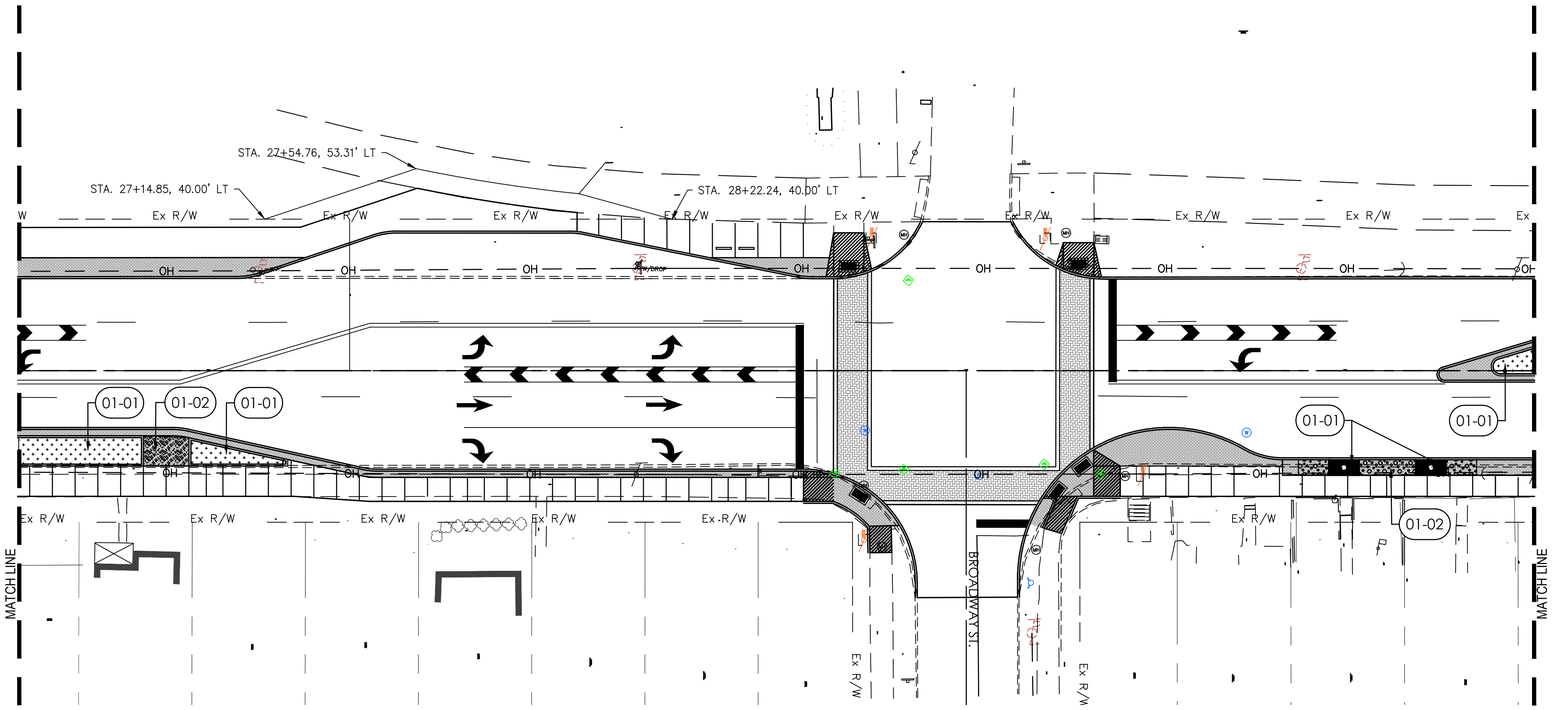

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PLANTING NOTES

REFERENCE NOTES SCHEDULE FRONT 26+50 TO 30+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	32.4 CY
	01-02	STRUCTURAL SOIL	16.3 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 26+50.00 TO STA. 30+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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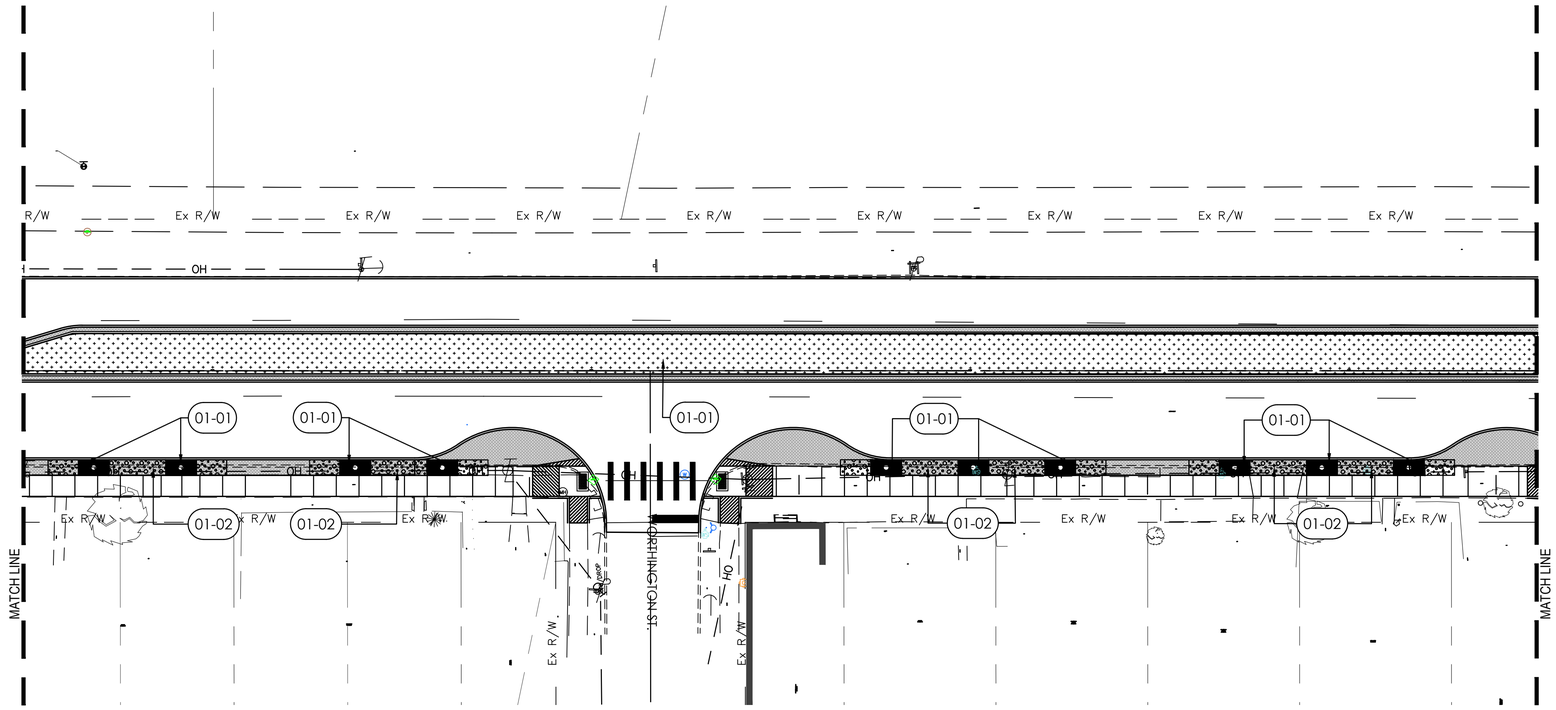
SHEET 320 | TOTAL 345

L35
60



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REFERENCE NOTES SCHEDULE FRONT 30+50 TO 34+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	339 CY
	01-02	STRUCTURAL SOIL	46.7 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 30+50.00 TO STA. 34+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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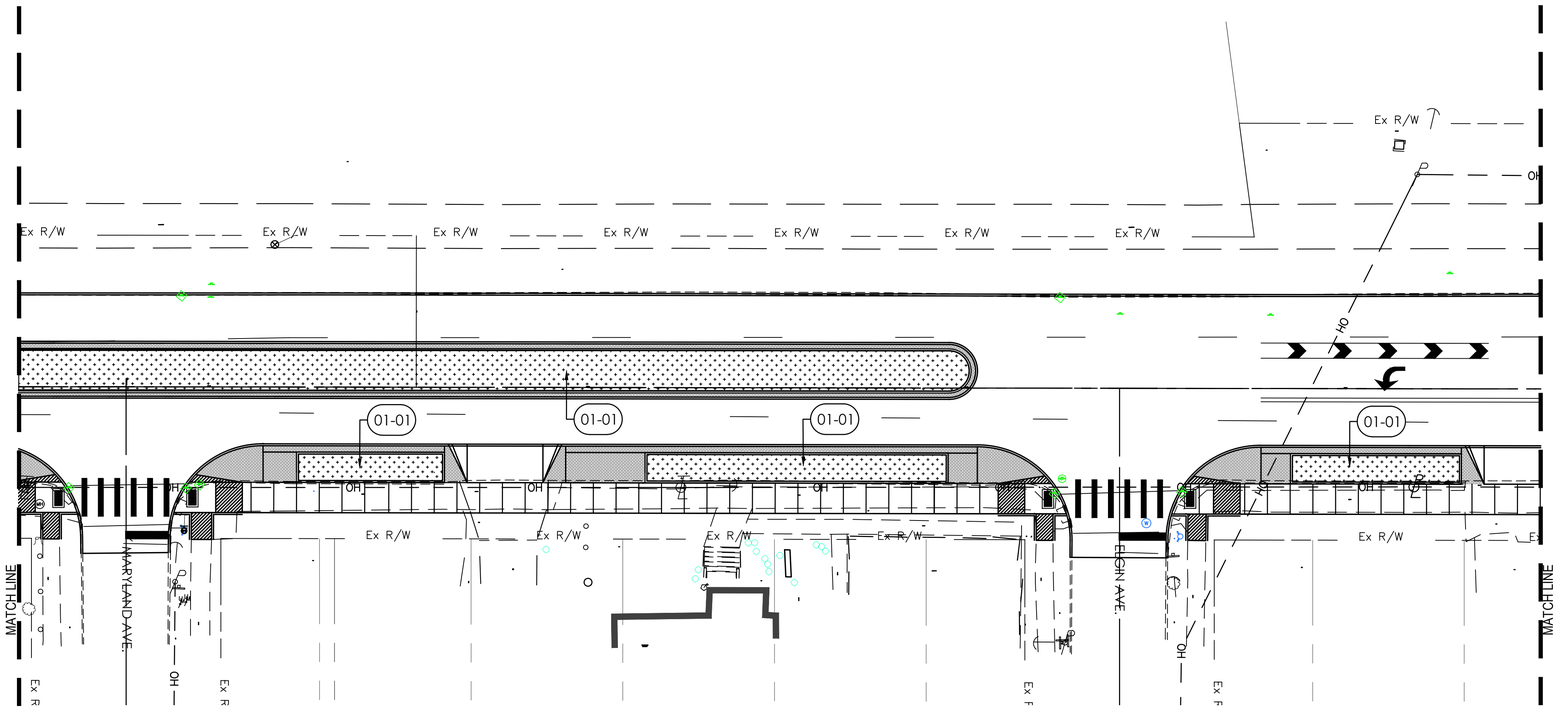
SHEET 321 | TOTAL 345

L36
60



NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE FRONT 34+50 TO 38+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	281 CY

SOILS PLAN
FRONT STREET STA. 34+50.00 TO STA. 38+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

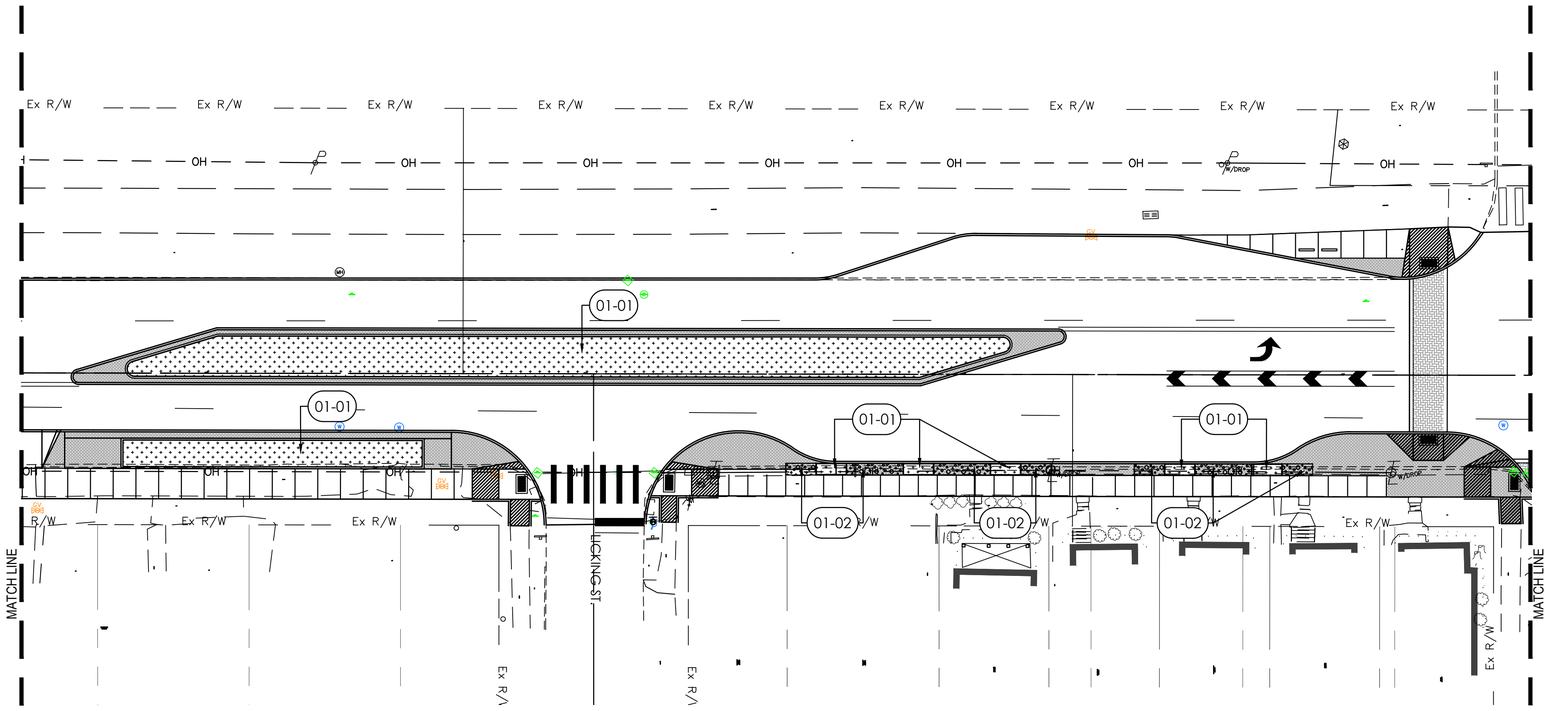
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 322 | TOTAL 345

L37
60



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REFERENCE NOTES SCHEDULE FRONT 38+50 TO 42+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	221 CY
	01-02	STRUCTURAL SOIL	17.6 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 38+50.00 TO STA.42+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 323 | TOTAL 345

L38
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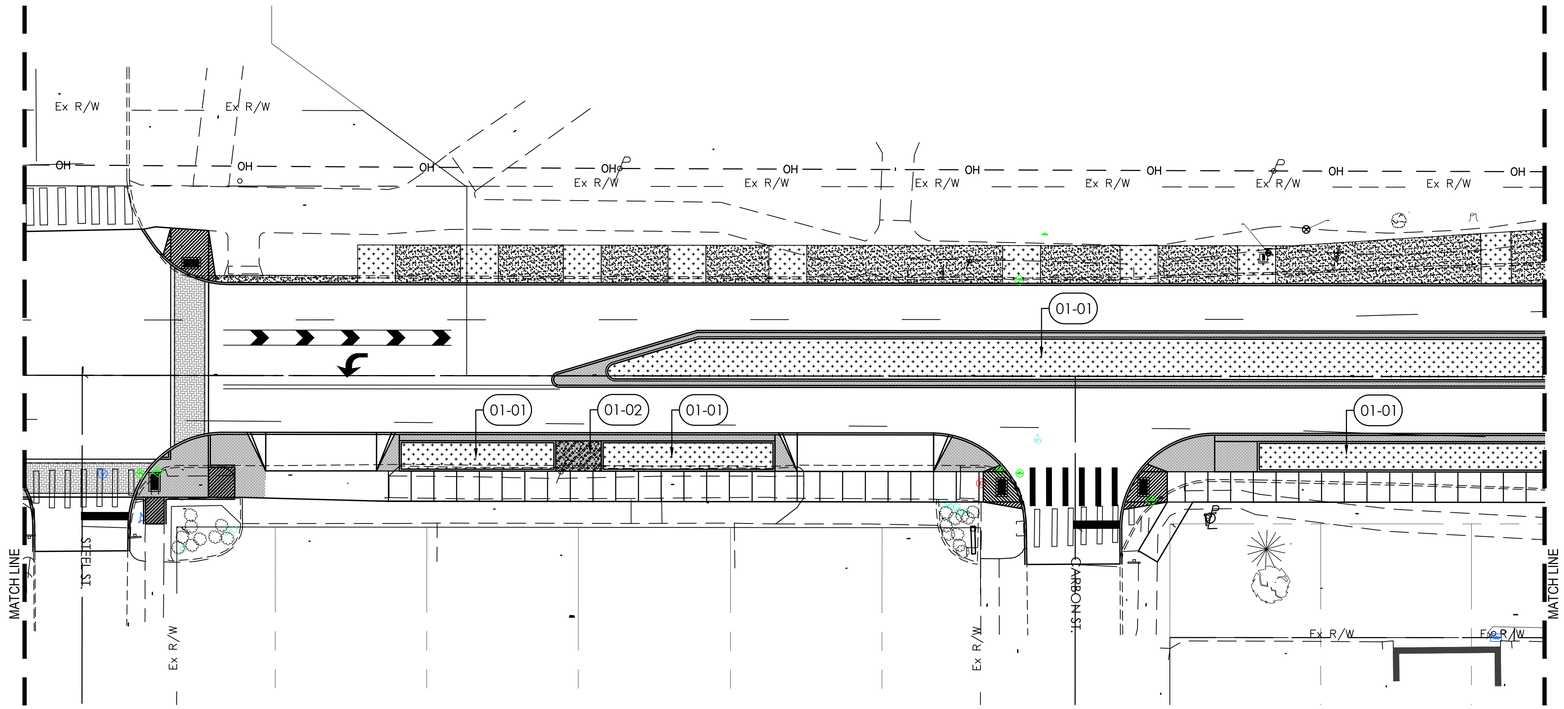

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REFERENCE NOTES SCHEDULE FRONT 42+50 TO 46+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	341 CY
	01-02	STRUCTURAL SOIL	7.11 CY
	01-03	LAWN TOPSOIL	28.6 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 42+50.00 TO STA. 46+50.00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

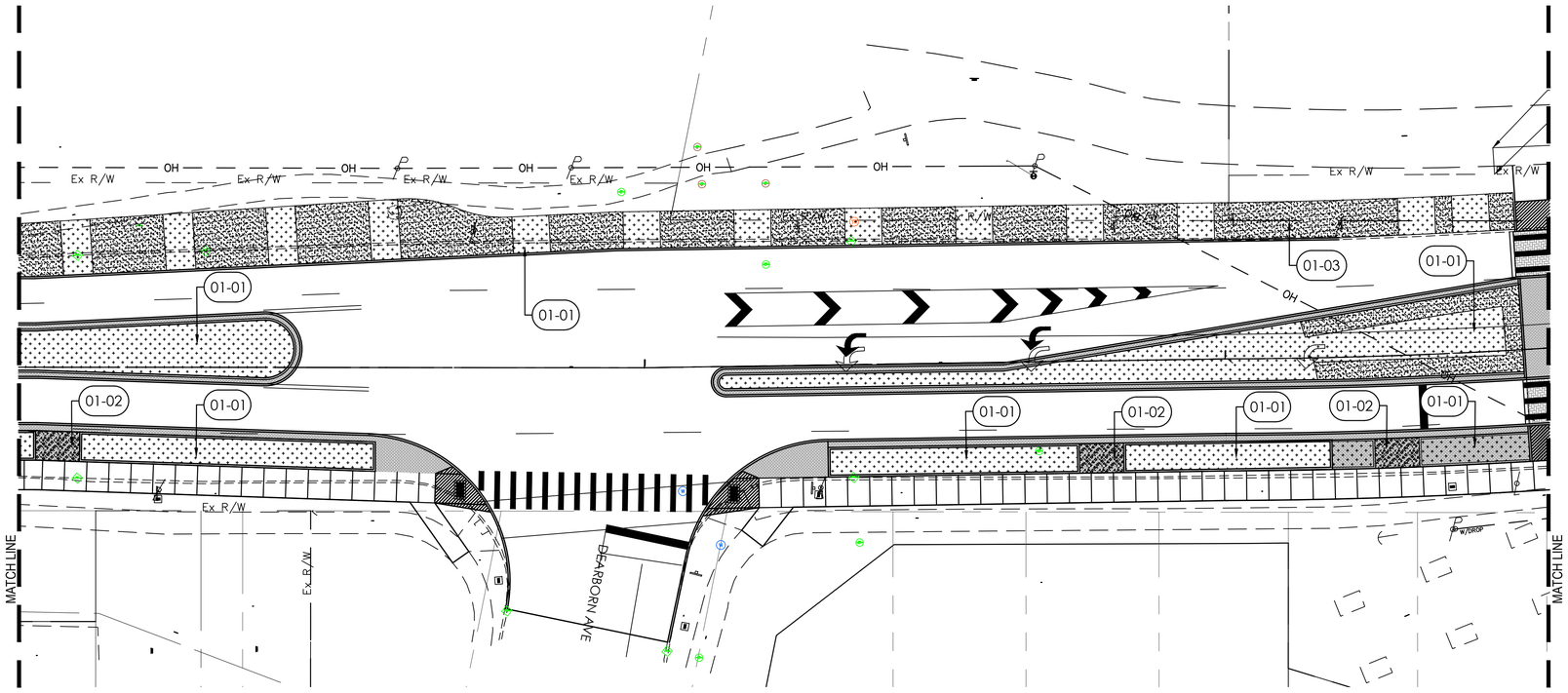
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 324 | TOTAL 345

L39
60



NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
FRONT STREET STA. 46+50.00 TO STA. 50+50.00

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REFERENCE NOTES SCHEDULE FRONT 46+50 TO 50+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	423 CY
	01-02	STRUCTURAL SOIL	21.3 CY
	01-03	LAWN TOPSOIL	49.9 CY

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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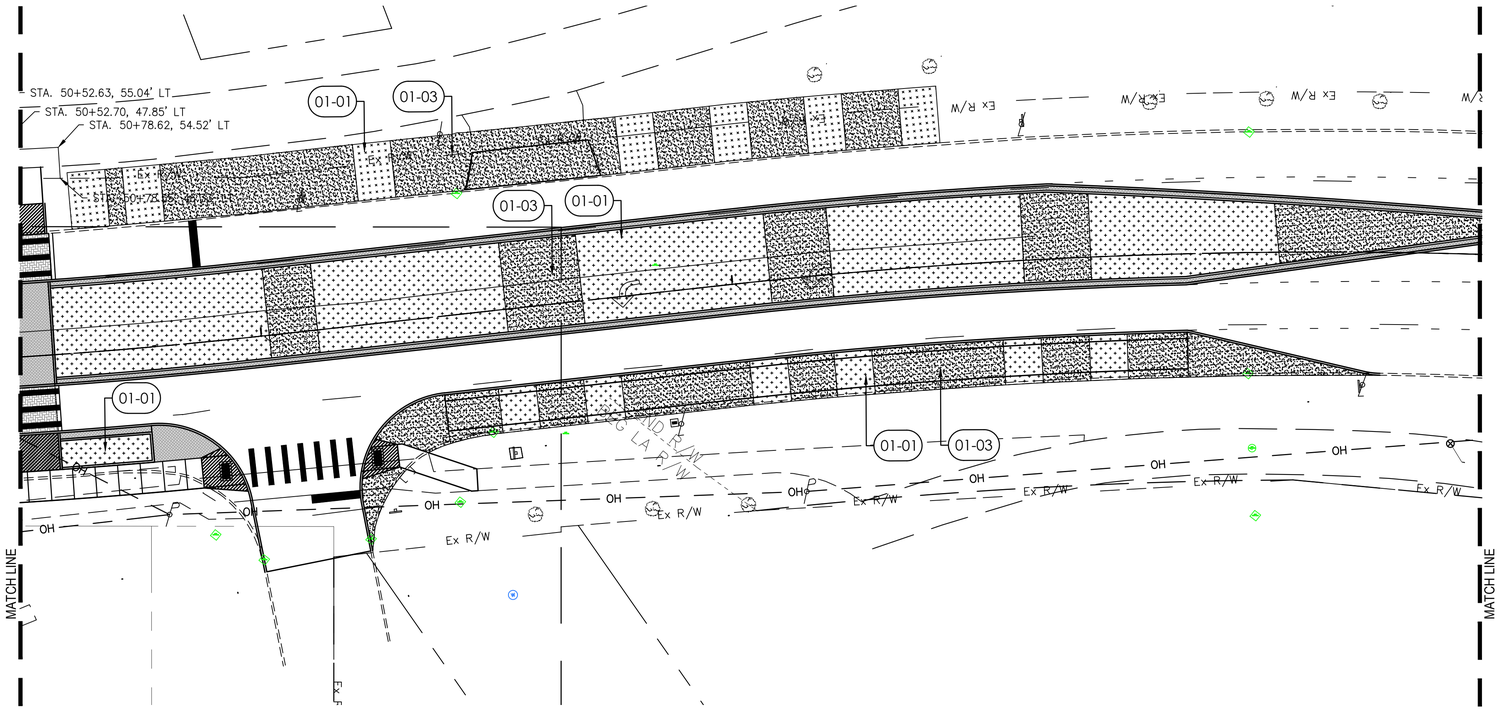
SHEET 325 | TOTAL 345

L40
60



NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE FRONT 50+50 TO 54+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	579 CY
	01-03	LAWN TOPSOIL	83.4 CY

SOILS PLAN
FRONT STREET STA. 50+50.00 TO STA. 54+50.00

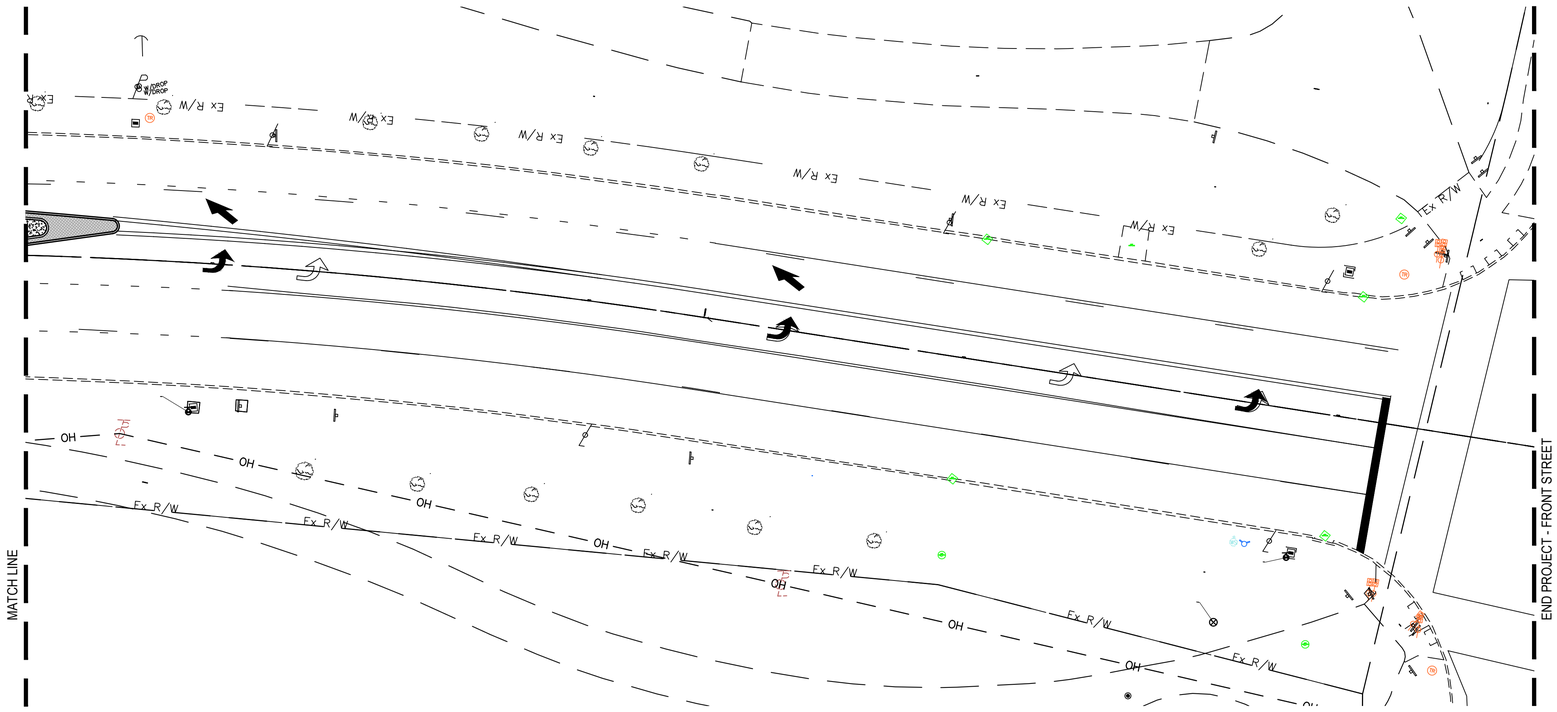
FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID	121938
DESIGNER	JTM
REVIEWER	TJB
COT PROJ. ID	####
SHEET	326
TOTAL	345

L41
60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END PROJECT - FRONT STREET
Ex R/W
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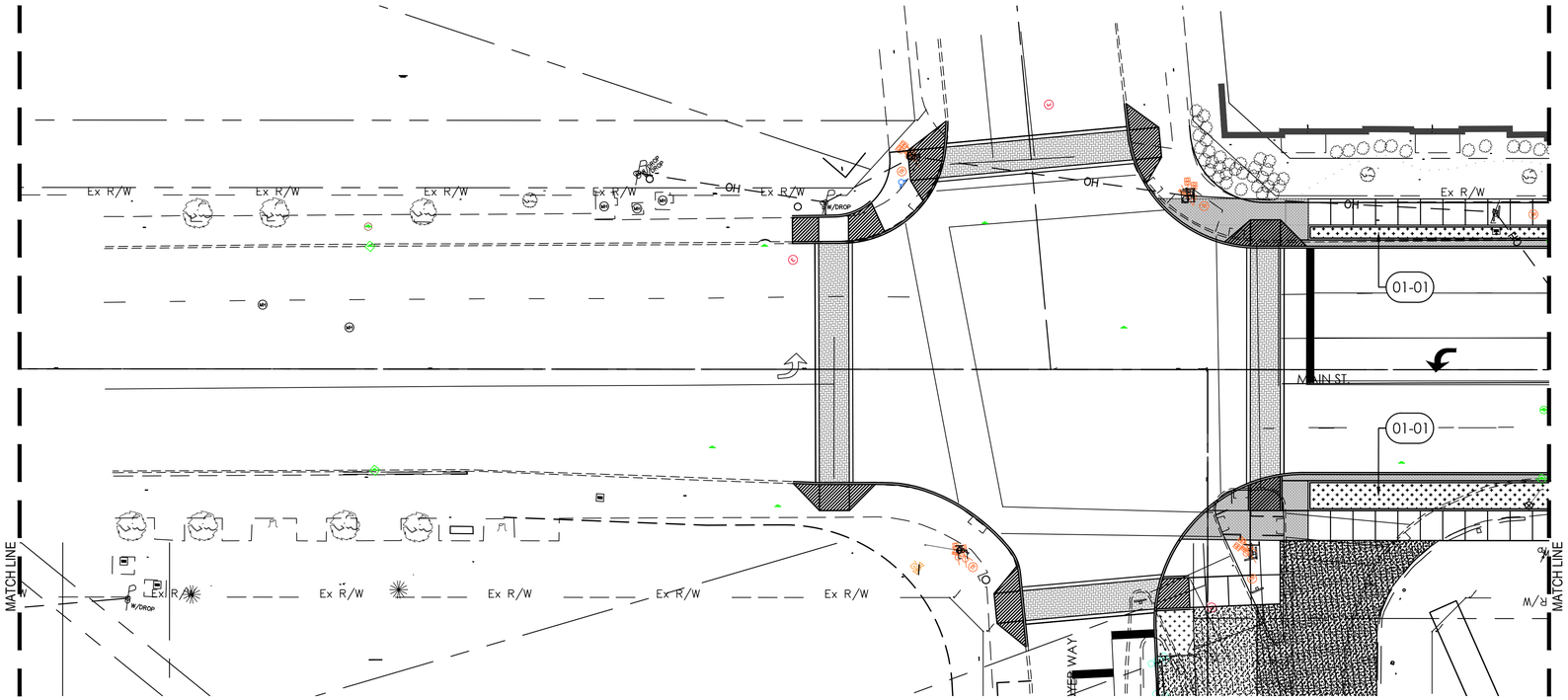
Ex R/W
OH
Ex R/W
OH



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REFERENCE NOTES SCHEDULE MAIN 102+00 TO 106+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	8.96 CY
	01-03	LAWN TOPSOIL	18.2 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
N MAIN ST. STA. 102+00 TO STA. 106+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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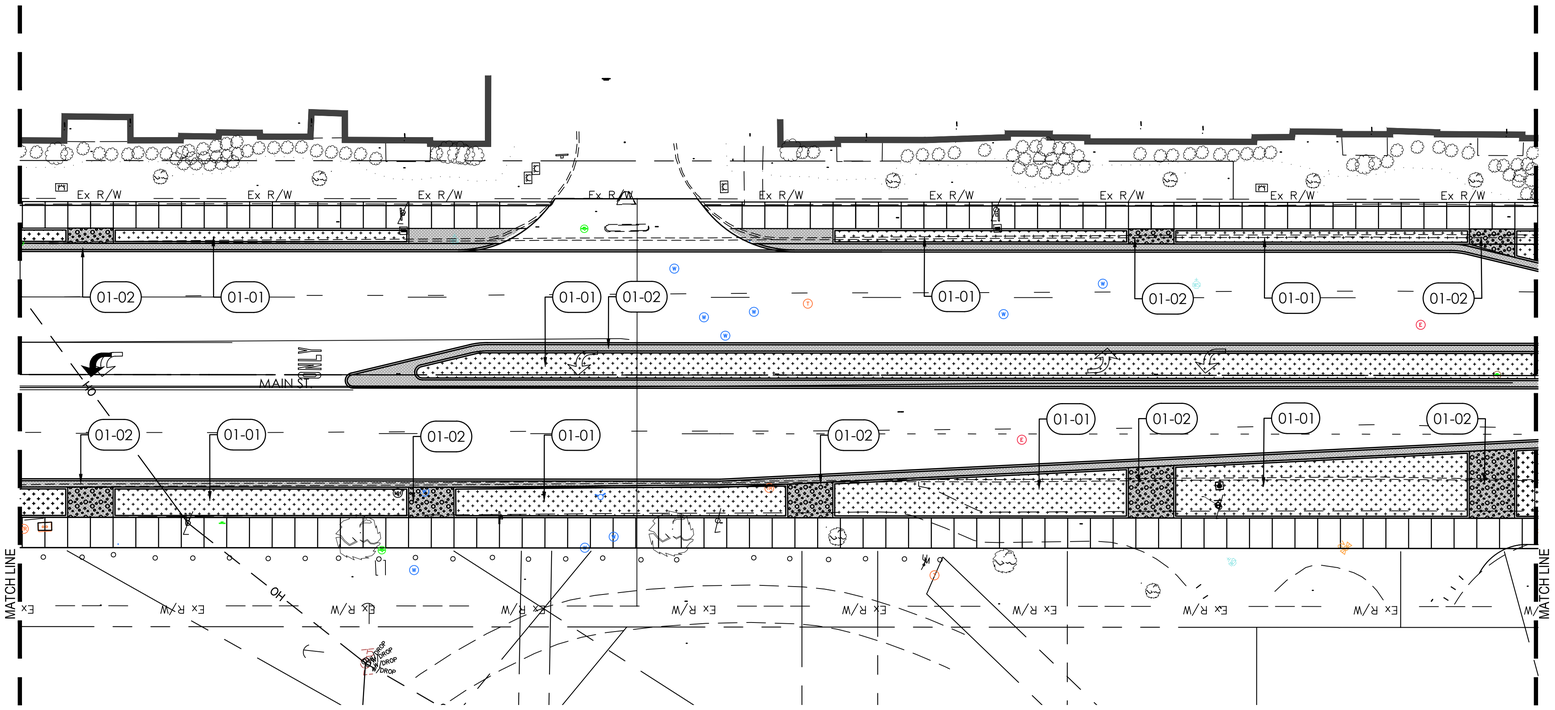
SHEET 328 | TOTAL 345

L43
60



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REFERENCE NOTES SCHEDULE MAIN 106+00 TO 110+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	474 CY
	01-02	STRUCTURAL SOIL	62.6 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
N MAIN ST. STA. 106+00 TO STA. 110+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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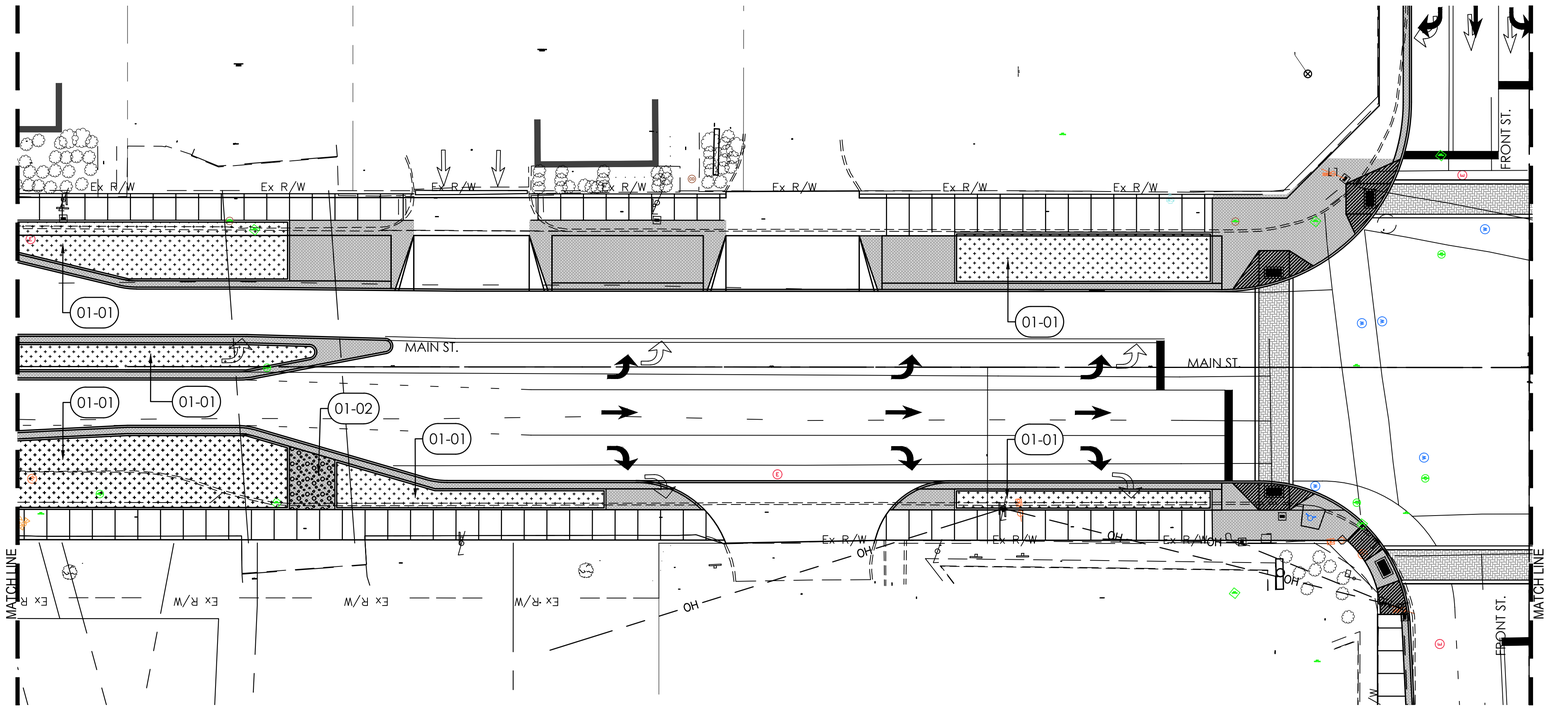
SHEET 329 | TOTAL 345

L44
60



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REFERENCE NOTES SCHEDULE MAIN 110+00 TO 114+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	331 CY
	01-02	STRUCTURAL SOIL	13.3 CY

SOILS PLAN
N MAIN ST. STA. 110+00 TO STA. 114+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

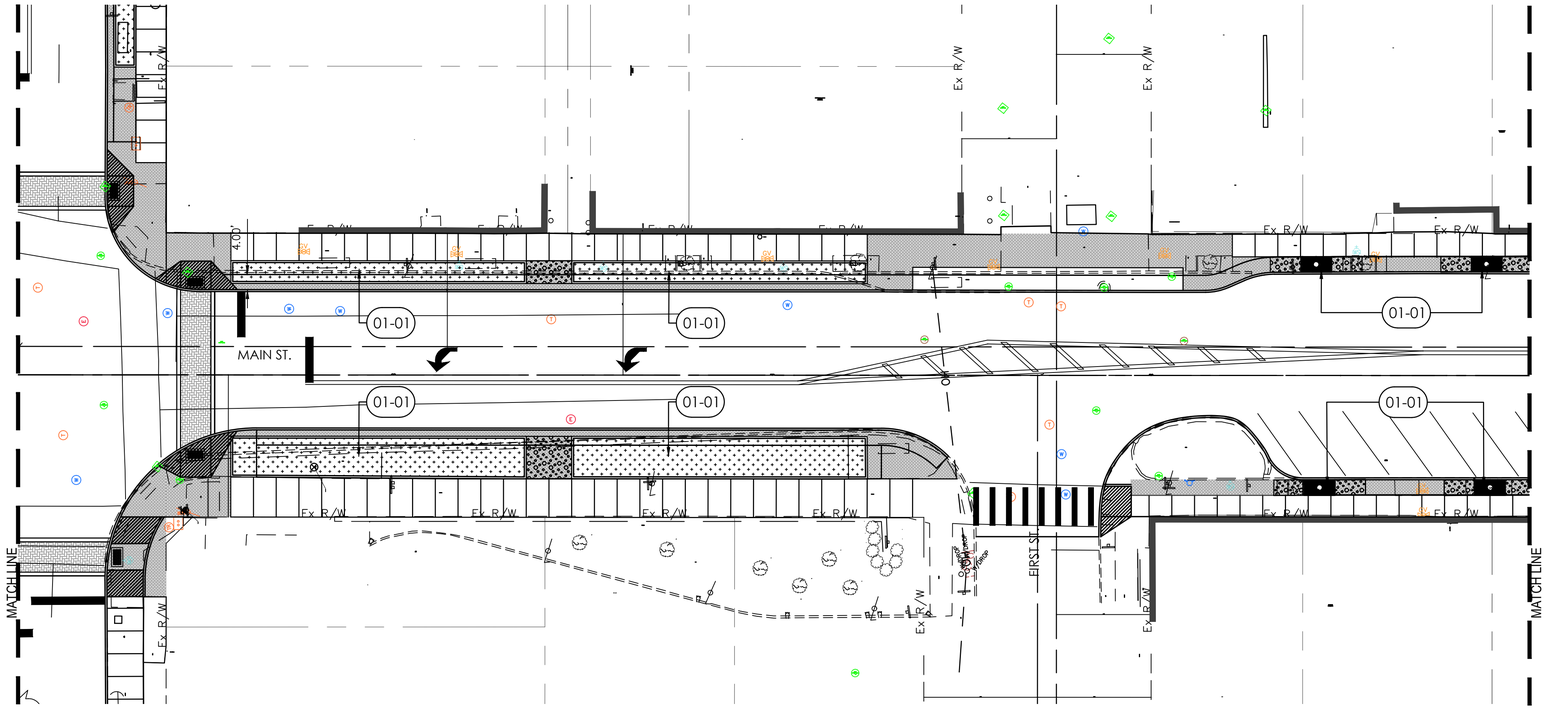
DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 330 | TOTAL 345

L45
60



NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE MAIN 200+00 TO 204+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	182 CY
	01-02	STRUCTURAL SOIL	30.0 CY

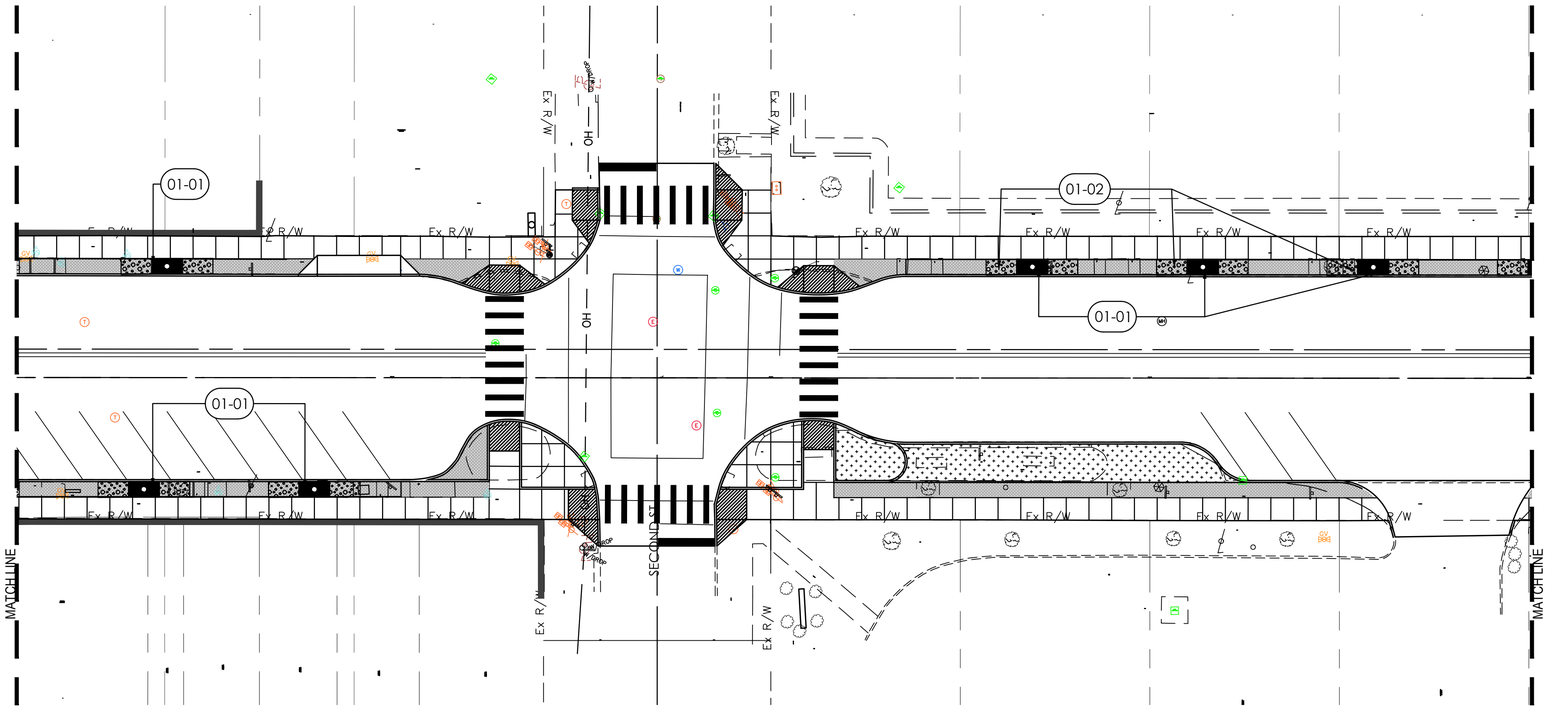
SOILS PLAN
S MAIN ST. STA. 200+00 TO STA. 204+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 331 TOTAL 345

L46
60



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REFERENCE NOTES SCHEDULE MAIN 204+00 TO 208+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	89.7 CY
	01-02	STRUCTURAL SOIL	36.7 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
S MAIN ST. STA. 204+00 TO STA. 208+00

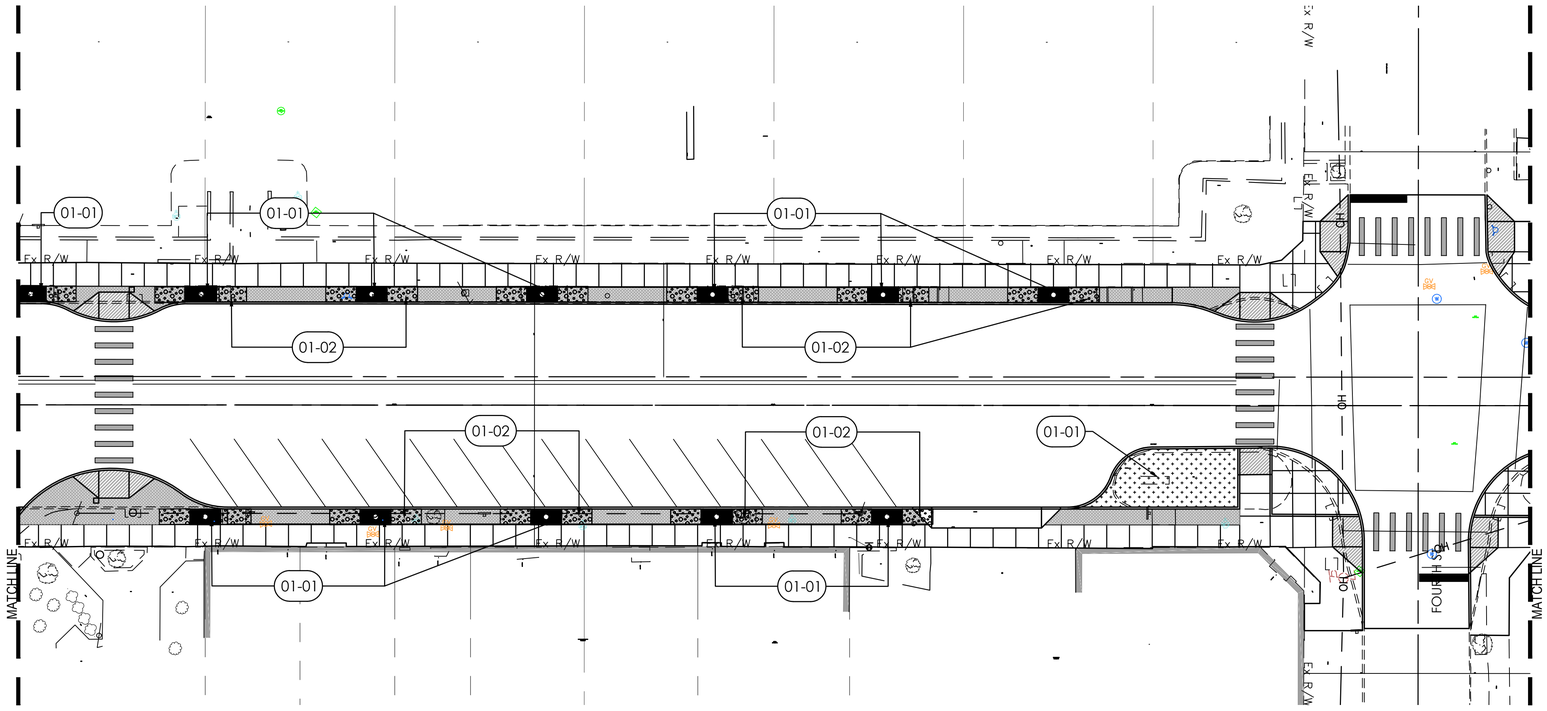
FRONT ST & MAIN ST IMPROVEMENT PLANS

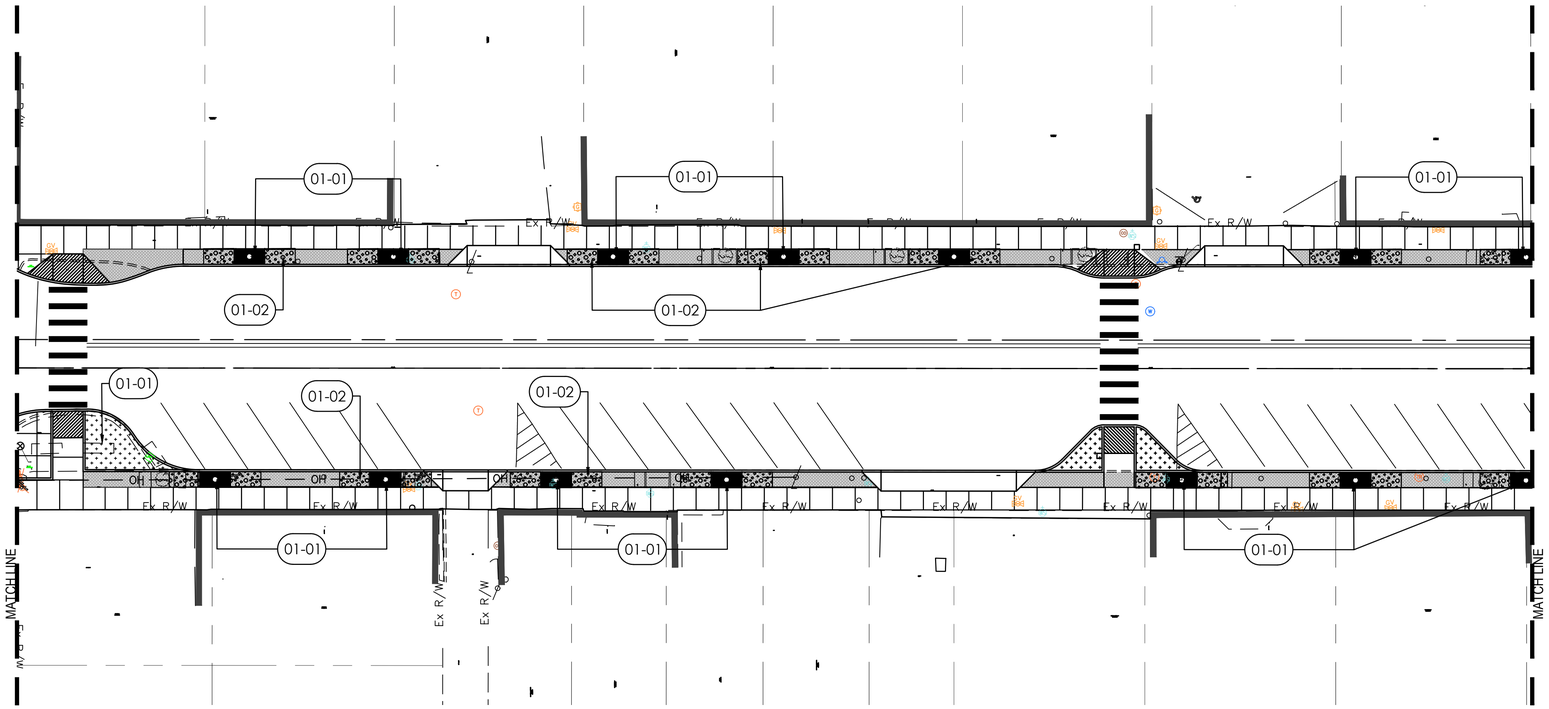
DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####

L47
60

SHEET 332 | TOTAL 345


01-01
01-02
Ex R/W
MATCH LINE
MATCH LINE
FOURTH ST
OHD
OHD
GAS
GAS
GAS



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REFERENCE NOTES SCHEDULE MAIN 212+00 TO 216+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	62.5 CY
	01-02	STRUCTURAL SOIL	63.7 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

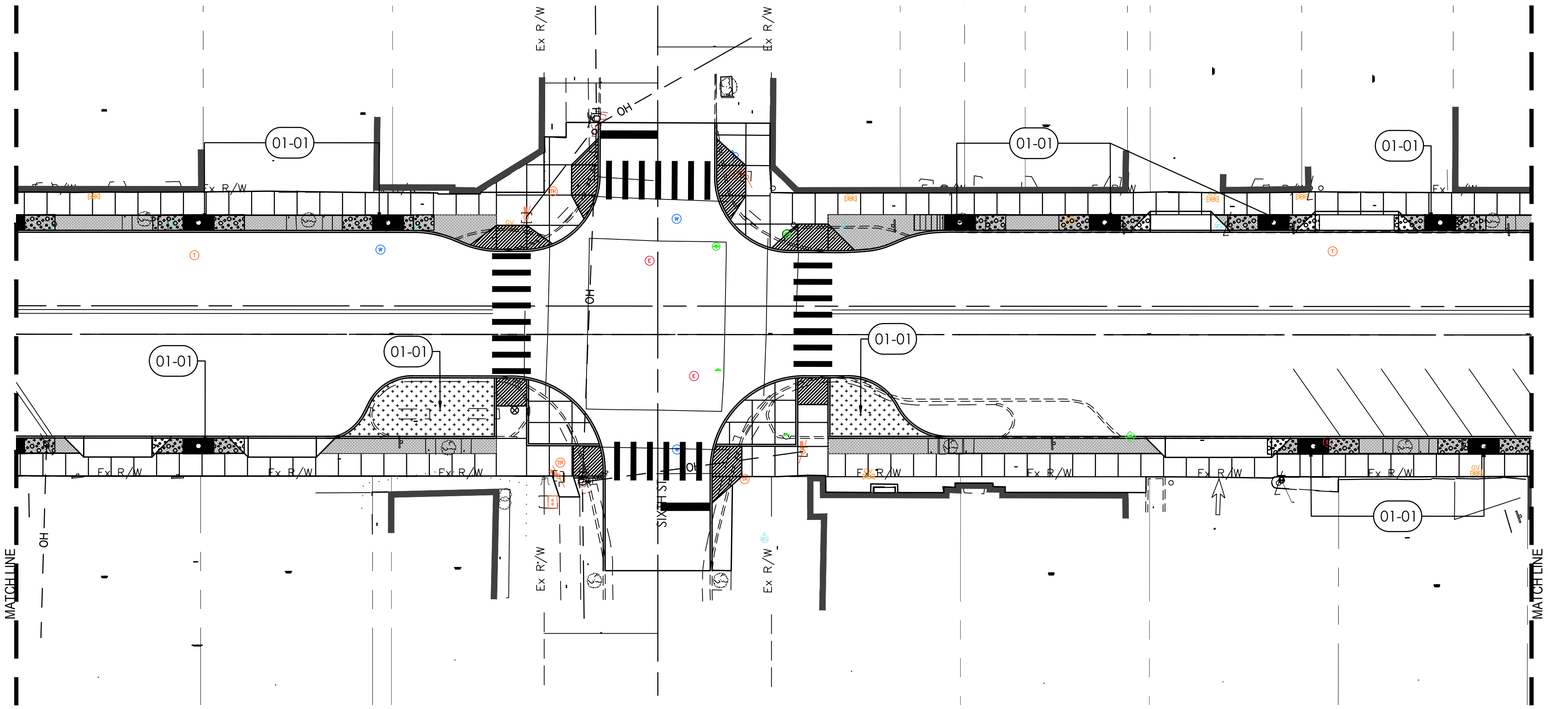
SOILS PLAN
S MAIN ST. STA. 212+00 TO STA. 216+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 334 TOTAL 345

L49
60



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REFERENCE NOTES SCHEDULE MAIN 216+00 TO 220+00

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	82.7 CY
	01-02	STRUCTURAL SOIL	49.0 CY

NORTH

0 10 20 40
Horizontal Scale In Feet

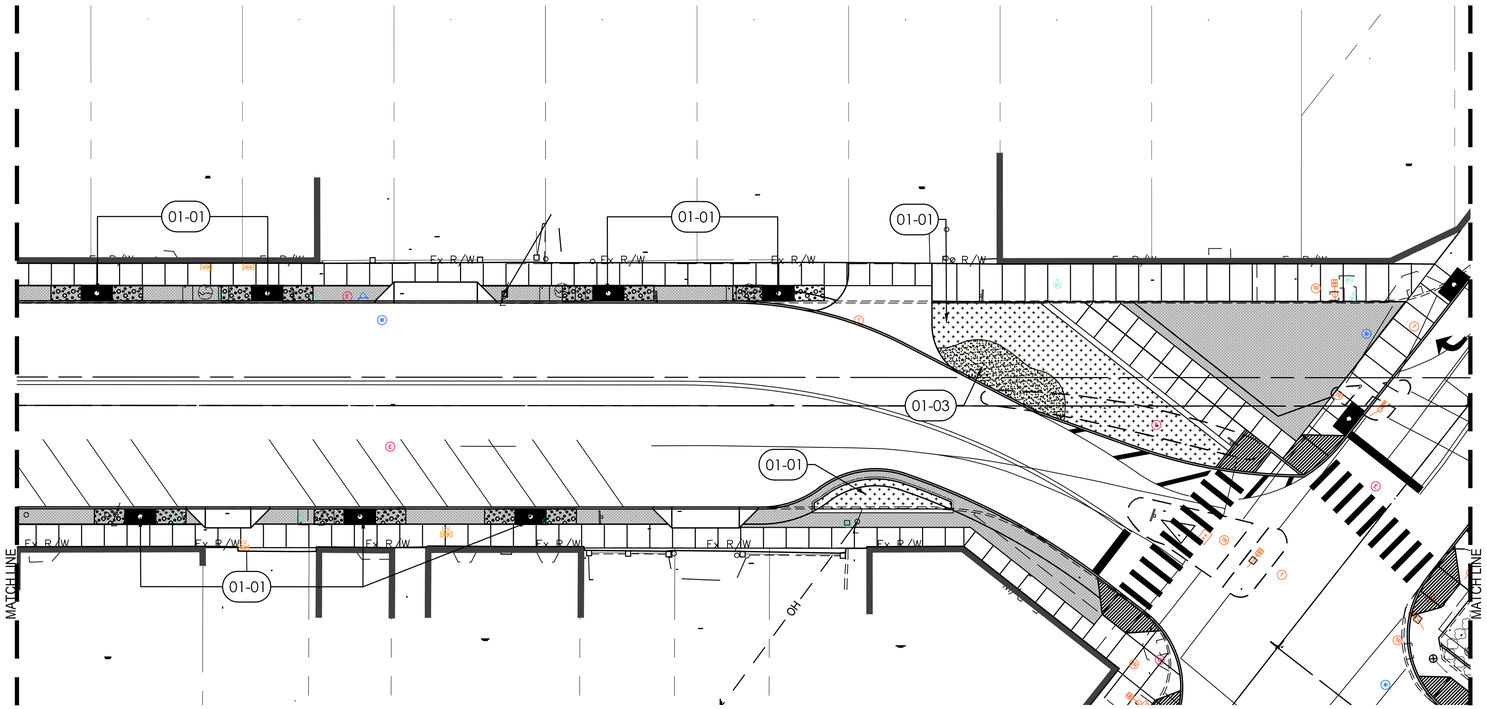
SOILS PLAN
S MAIN ST. STA. 216+00 TO STA. 220+00

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 335 TOTAL 345

L50
60



NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE MAIN 220+00 TO 223+84

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	123 CY
	01-02	STRUCTURAL SOIL	34.3 CY
	01-03	LAWN TOPSOIL	4.03 CY

SOILS PLAN
S MAIN ST. STA. 220+00 TO STA. 223+84

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

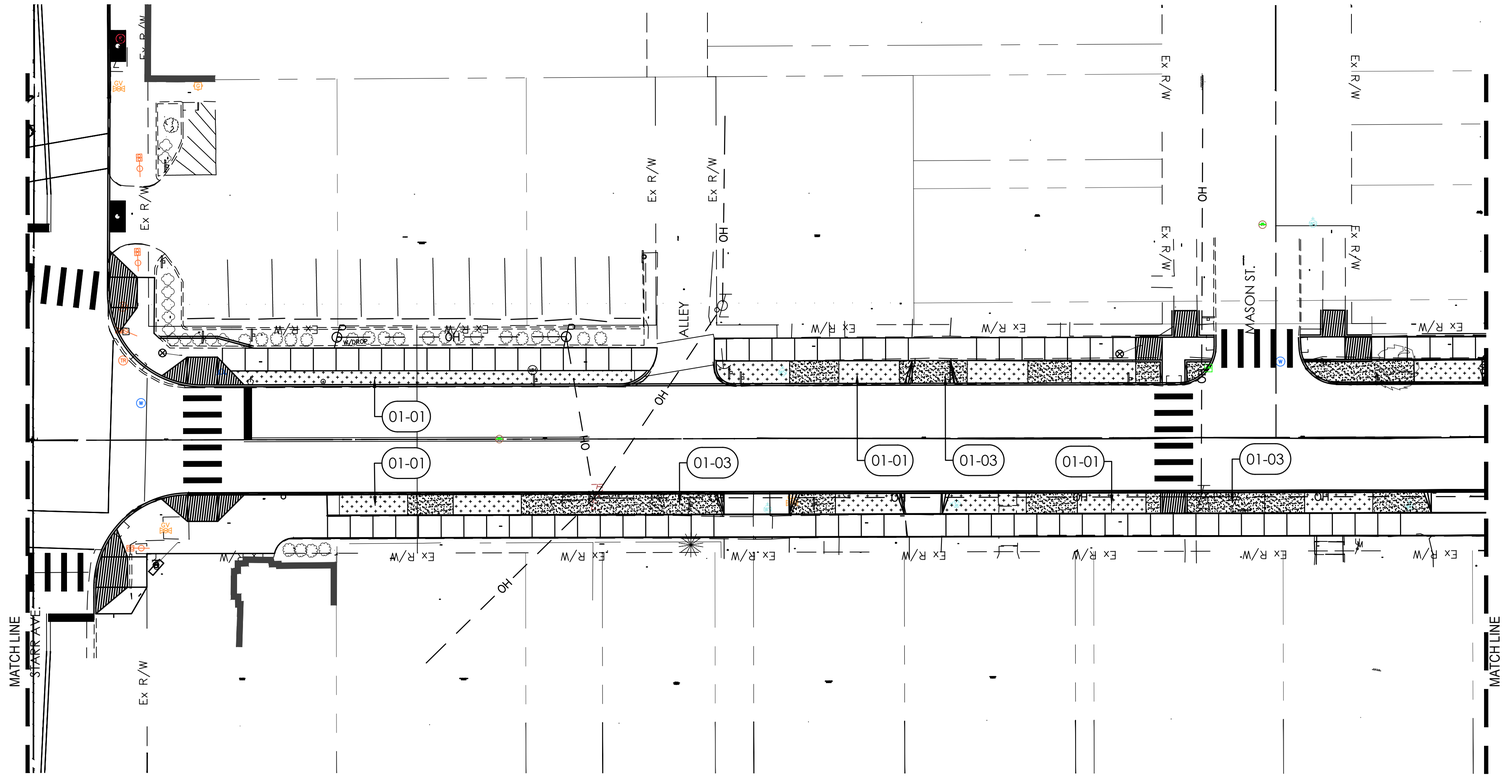
DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 336 | TOTAL 345

L51
60



NORTH

0 10 20 40
Horizontal
Scale In Feet

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REFERENCE NOTES SCHEDULE MAIN 224+65 TO 228+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	116 CY
	01-03	LAWN TOPSOIL	15.1 CY

SOILS PLAN
S MAIN ST. STA. 224+65 TO STA. 228+50

FRONT ST & MAIN ST
IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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SHEET 337 | TOTAL 345

L52
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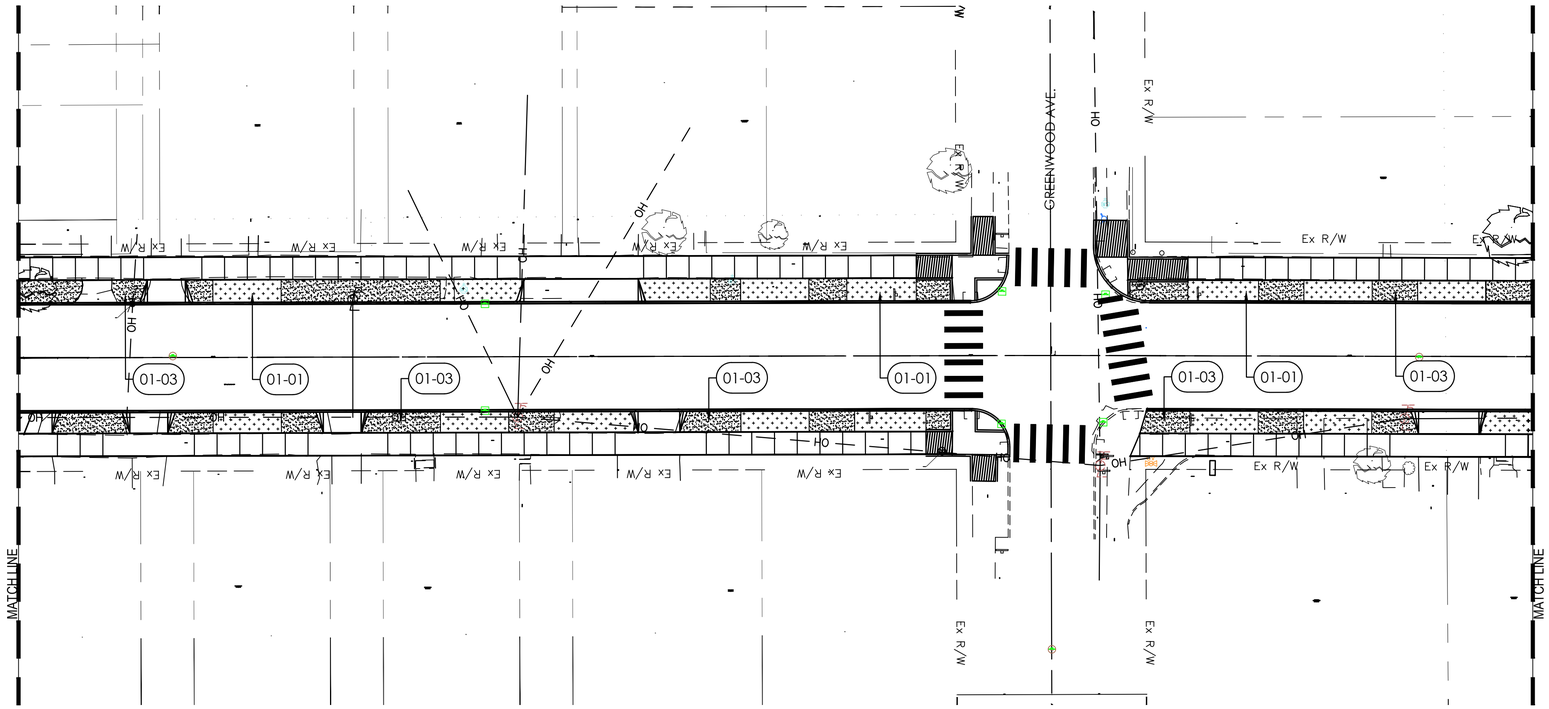

NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE MAIN 228+50 TO 232+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	129 CY
	01-03	LAWN TOPSOIL	20.5 CY

SOILS PLAN
S MAIN ST. STA. 228+50 TO STA. 232+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 338 TOTAL 345

L53
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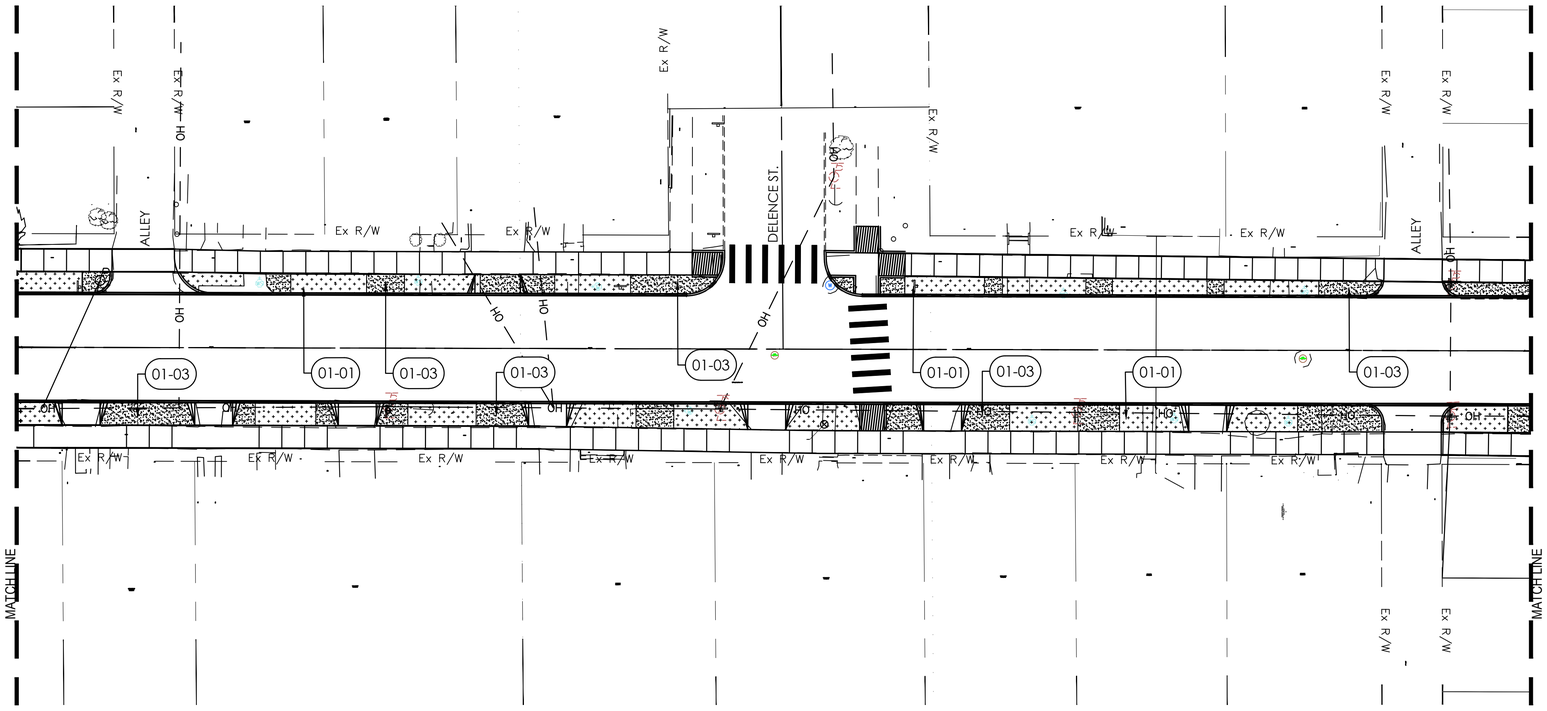

NORTH

0 10 20 40
Horizontal Scale In Feet

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REFERENCE NOTES SCHEDULE MAIN 232+50 TO 236+50

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	142 CY
	01-03	LAWN TOPSOIL	16.6 CY

SOILS PLAN
S MAIN ST. STA. 232+50 TO STA. 236+50

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID 121938

DESIGNER JTM

REVIEWER TJB

COT PROJ. ID ####

SHEET 339 TOTAL 345

L54
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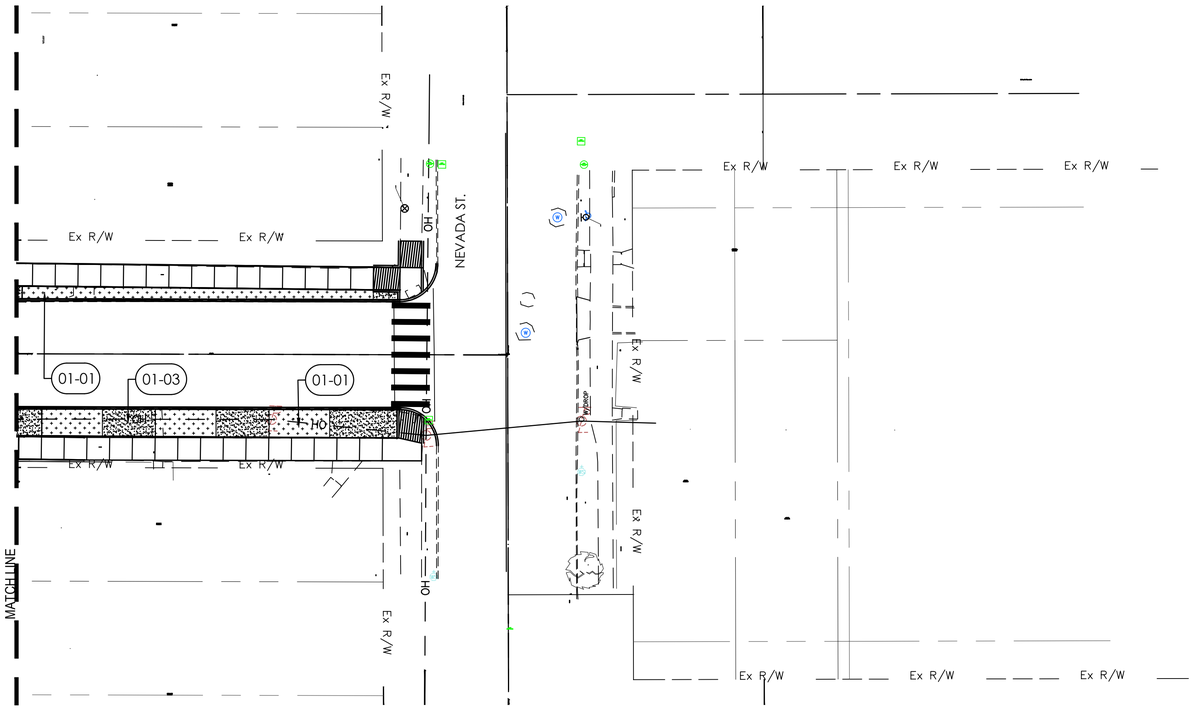

NORTH

0 10 20 40
Horizontal Scale In Feet

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2025-11-13 09:23

REFERENCE NOTES SCHEDULE MAIN 236+50 TO 237+78

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	47.1 CY
	01-03	LAWN TOPSOIL	5.42 CY

SOILS PLAN
S MAIN ST. STA. 236+50 TO STA. 237+78

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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SHEET 340 | TOTAL 345

L55
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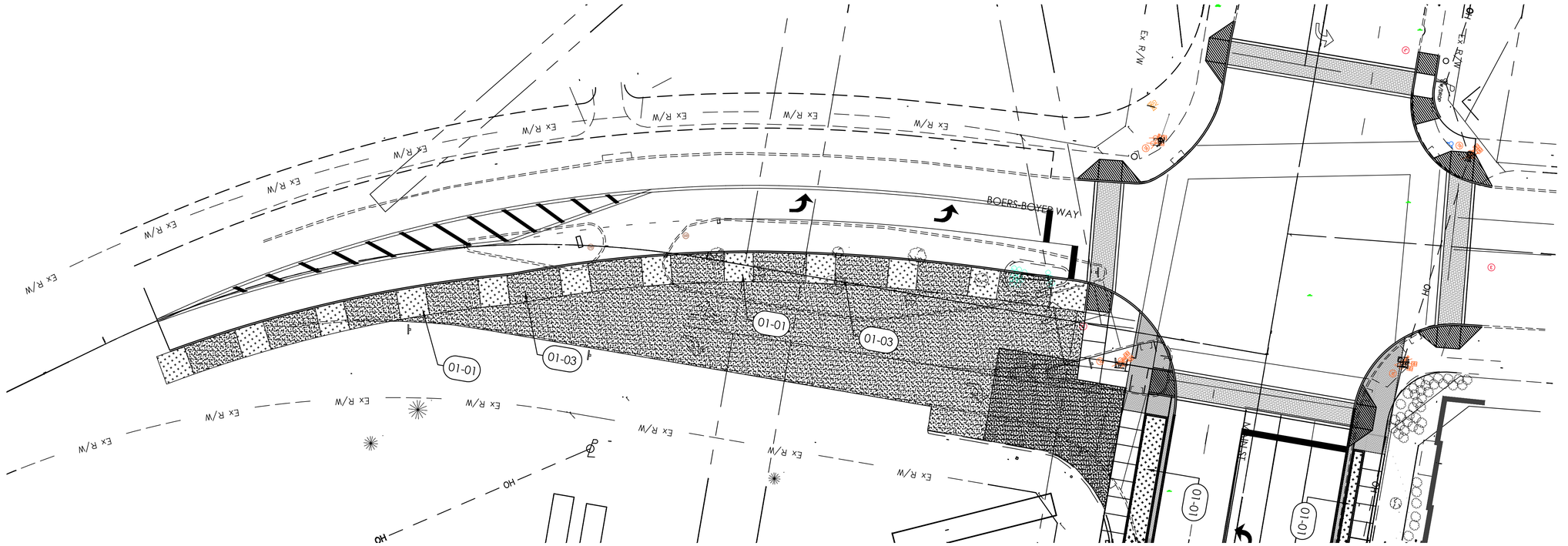


2025-11-13 09:23

REFERENCE NOTES SCHEDULE BOERS-BOYER WAY STA. 405+50 TO STA. 408+29

SYMBOL	CODE	DESCRIPTION	QTY
01 General			
	01-01	PLANTING SOIL	90.5 CY
	01-03	LAWN TOPSOIL	108 CY

N

0 10 20 40
Horizontal Scale In Feet

SOILS PLAN
BOERS-BOYER WAY STA. 404+50 TO STA. 408+29

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

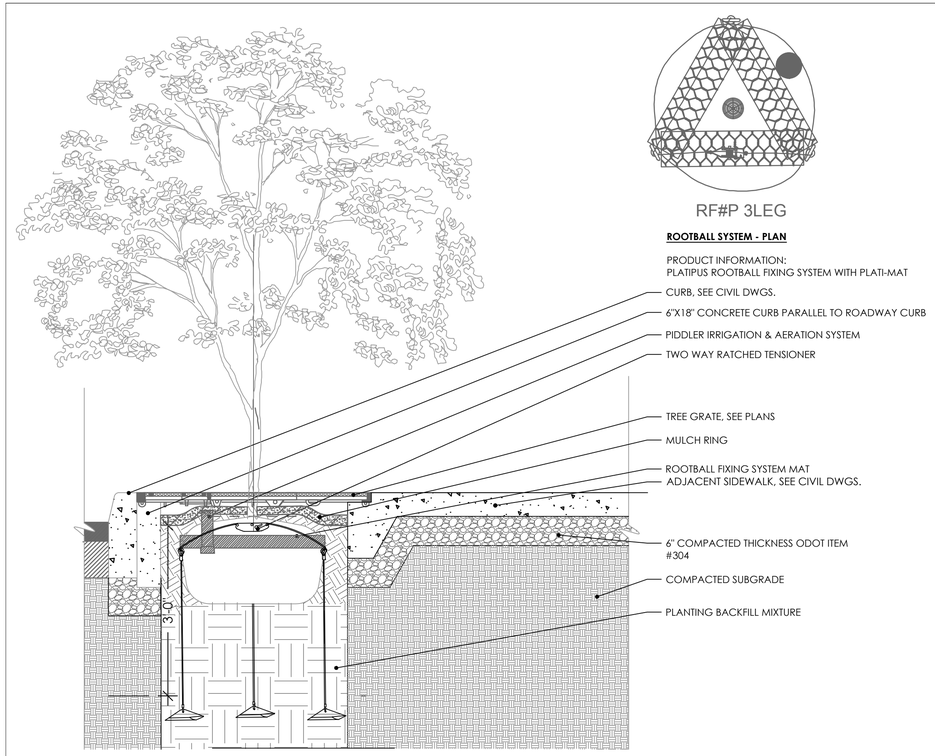
DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

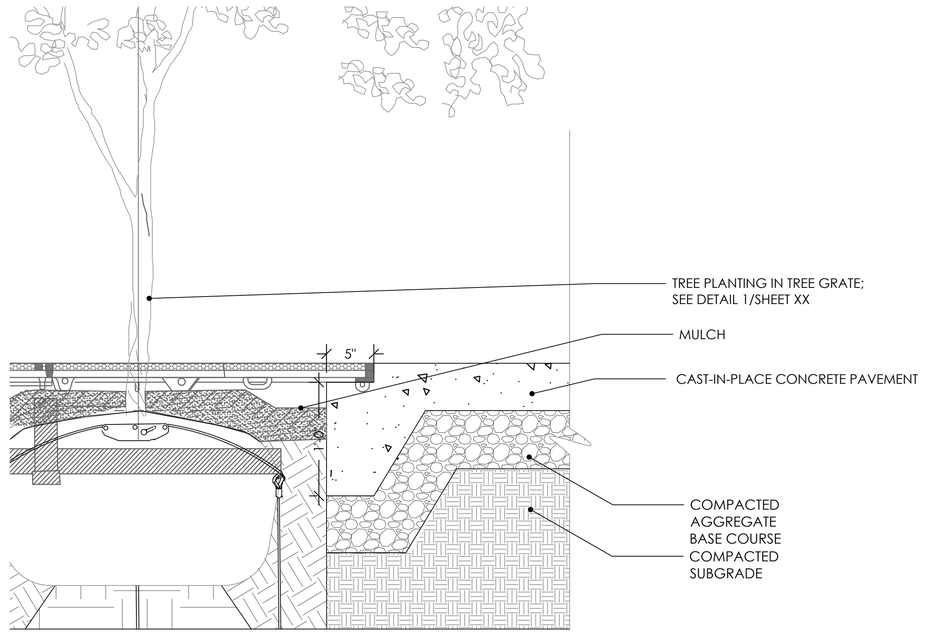
SHEET 341 | TOTAL 345

L56
60



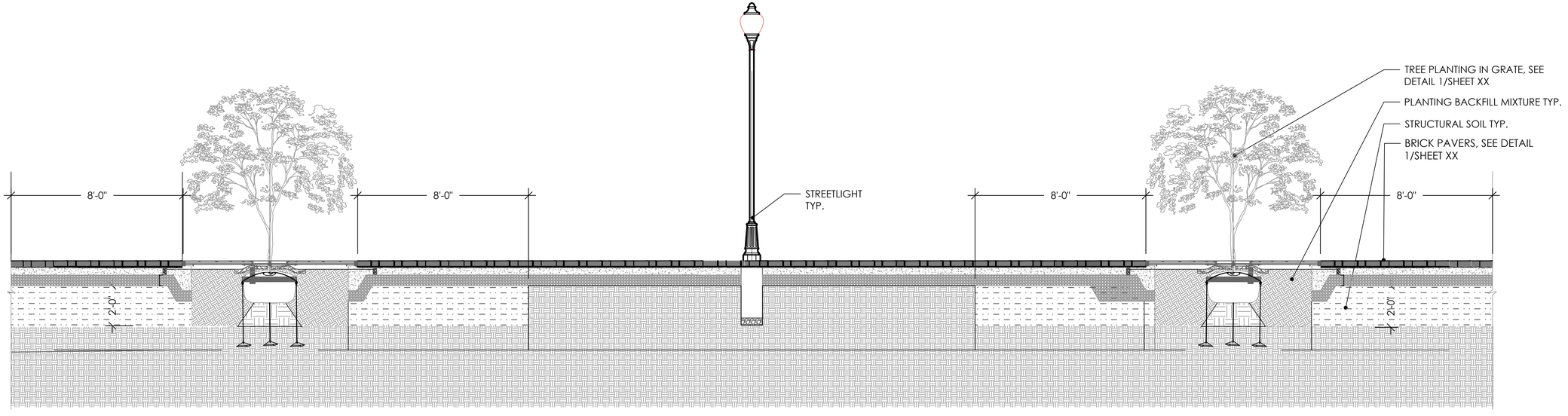
1 TREE PLANTING IN TREE GRATE

SCALE: 3/4" = 1'-0"



3 TREE GRATE TO SIDEWALK - ENLARGEMENT

SCALE: 1 1/2" = 1'-0"



2 SECTION - TREE GRATE

SCALE: 3/8" = 1'-0"

0 10 20 40
Horizontal Scale In Feet

DETAILS

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
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SHEET 342 | TOTAL 345

L57
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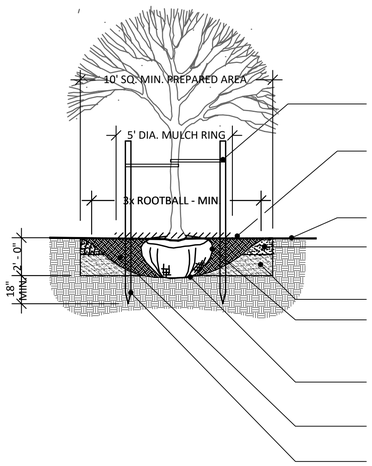


NOTES:
1. REMOVE EXCESS SOIL FROM ROOTBALL TO EXPOSE ROOT FLAIR AND TRIM ANY SECONDARY/ADVENTITIOUS, GIRDLING AND POTENTIAL GIRDLING ROOTS WITH CLEAN, SHARP PRUNING TOOLS.
2. 100' S.F. RIPPED AREA MIN. (10'X10' OR EQUILIVANT)

USE 2 HARDWOOD STAKE AND OPPOSING FLEXIBLE TIES WHEN STAKING IS NECESSARY

MULCH RING, KEEP MULCH 3" BACK FROM TRUNK WITH 1" OF TOP-DRESSING OF EPA RATER CLASS IV COMPOST FOR ENTIRE MULCH RING AREA

EXISTING GRADE

RIPPED NATIVE SOIL AMENDED WITH 2" DEPTH OF COMPOST AND TILLED TO A DEPTH OF 10" - MIX THOROUGHLY

24" DEPTH OF RIPPED NATIVE SOIL

REMOVE ALL METAL TIES. ROPES, BURLAP ENTIRELY FROM ROOTBALL, AS WELL AS, THE TOP TWO-THIRDS OF THE WIRE BASKET (IF ANY)

SET BALL ON FIRMLY PACKED SOIL BASE TO PREVENT SETTLING - TOP OF ROOTBALL TO BE 2" ABOVE FINISHED GRADE

BACKFILL TREE EXCAVATION WITH EXCAVATED SOIL FROM HOLE

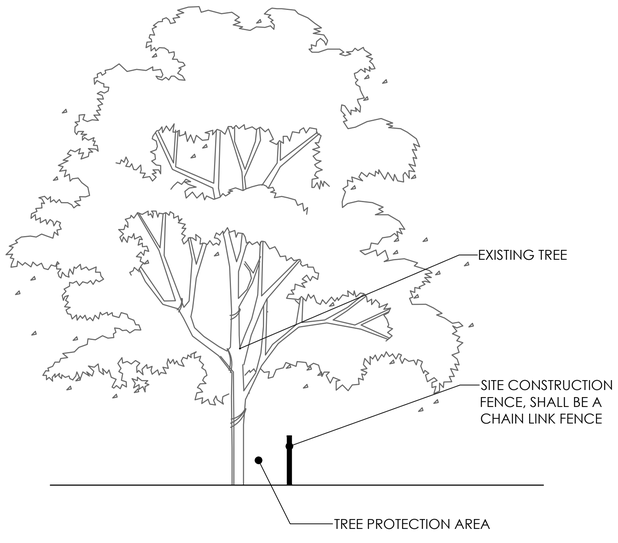
EXISTING UNDISTURBED NATIVE SOIL - DRIVE STAKES 18" MIN. INTO UNDISTURBED SOIL

1 TREE PLANTING DETAIL IN EXISTING TREE LAWN

SCALE 1/4" = 1' -0"

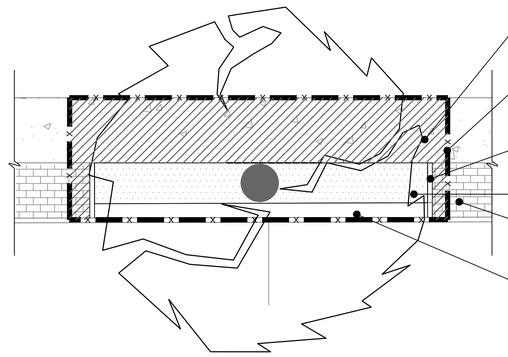
TREE PROTECTION FENCE NOTES:

1. PROTECT EXISTING TREES INDICATED TO REMAIN IN PLACE AGAINST UNNECESSARY CUTTING, BREAKING, OR SKINNING OF ROOTS, SKINNING OR BRUISING OF BARK, SMOTHERING OF TREES BY STOCKILING CONSTRUCTION MATERIAL, OR EXCAVATION MATERIALS WITHIN DRIP LINE, EXCESS FOOT OR VEHICULAR TRAFFIC, OR PARKING OF VEHICLES WITHIN DRIP LINE. PROVIDE TEMPORARY GUARDS TO PROTECT TREES AND VEGETATION TO LEFT STANDING.
2. TREE PRESERVATION AREA SHALL BE FENCED PRIOR TO BEGINNING CLEARING OPERATIONS.
3. FENCE MATERIALS SHALL BE METAL FENCE POSTS WITH CHAIN LINK FENCE AND A HEIGHT OF 6'-0" ABOVE FINISH GRADE.
4. IF ANY CLEARING IS DONE AROUND TREES, IT SHALL BE DONE BY CUTTING AT GROUND LEVEL WITH HAND HELD TOOLS AND SHALL NOT BE GRUBBED OR PULLED OUT. NO CLEARING SHALL BE DONE IN THE BUFFER STRIPS WITHOUT THE EXPRESS PERMISSION OF THE OWNER.
5. NO FILLING OR OR STOCKPILING OF MATERIAL SHALL OCCUR WITHIN THE TREE PROTECTION AREA, INCLUDING DEPOSITING OF SEDIMENT.
6. WHERE UTILITIES MUST RUN THROUGH A TREE'S DRIP LINE, TUNNELING SHOULD BE USED TO MINIMIZE ROOT DAMAGE. TUNNELING SHOULD BE A MINIMUM DEPTH OF 24" FOR TREES LARGER THAN 12" DIA. OR AT A MINIMUM DEPTH OF 36" FOR LARGER DIAMETER TREES.
7. WHERE TUNNELING WILL BE PERFORMED WITHIN THE DRIP LINE OF A TREE, THE TUNNEL SHALL BE PLACED A MINIMUM OF 24" AWAY FROM THE TREE TRUNK TO AVOID TAP ROOTS.
8. MINIMIZE EXCAVATION OR TRENCHING WITHIN THE DRIP LINE OF THE TREE. ROUTE TRENCHES AROUND THE DRIP LINE OF THE TREES.
9. ROOTS 2" OR LARGER THAT ARE SERVED BY TRENCHING SHOULD BE SWAN OFF NEATLY IN ORDER TO ENCOURAGE NEW GROUTH AND DISCOURAGE DECAY.
10. SOIL EXCAVATED DURING TRENCHING SHALL BE PILED ON THE OUTSIDE OF THE TREE PROTECTION FENCE.
11. ROOTS SHALL BE KEPT MOIST WHILE TRENCHES ARE OPEN AND REFILLED IMMEDIATELY AFTER UTILITIES ARE INSTALLED OR REPAIRED.
12. IF TRENCHING UNDER THE DRIP LINE OF THE TREE, CONTRACTOR SHALL USE AN AIR SPADE TO LIMIT DAMAGE TO EXISTING TREE ROOTS.
13. MAINTAIN ADEQUATE IRRIGATION DURING CONSTRUCTION AND DURING TIMES OF DROUGHT.



2 EXISTING TREE PROTECTION FENCE

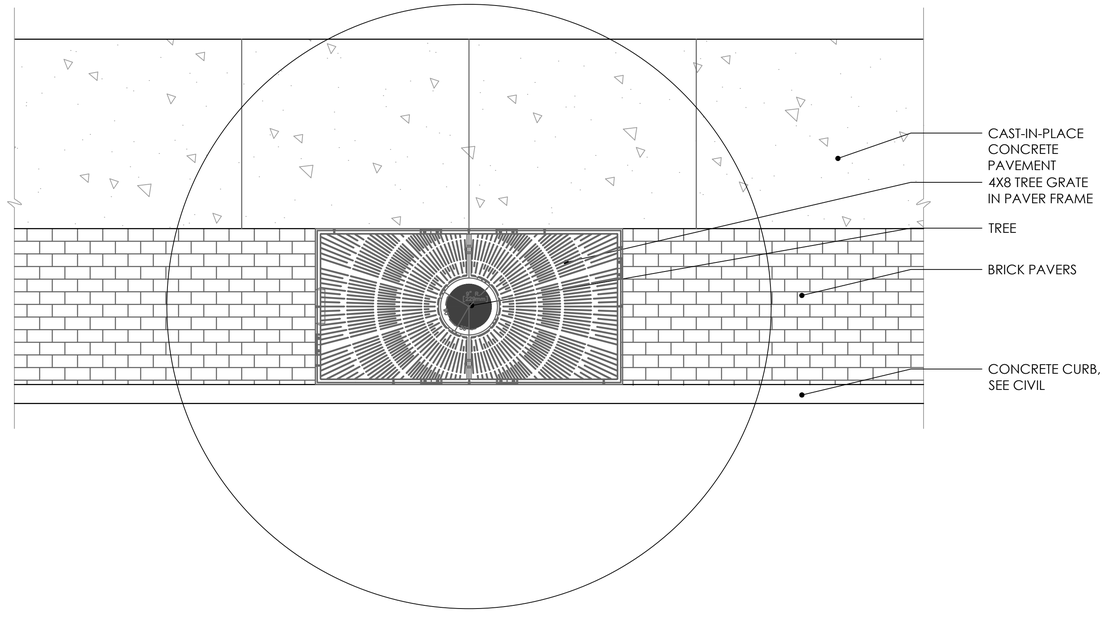
SCALE: 1/4" = 1'-0"



3 TREE PROTECTION - PLAN VIEW

SCALE: 1" = 1'-0"

NOTES:
1. ALL DEMOLITION AND CONSTRUCTION ACTIVITIES OCCURRING WITHIN THE TREE PROTECTION FENCE SHALL BE CONDUCTED BY HAND OR WITH SMALL, LOW IMPACT EQUIPMENT AS APPROVED BY THE LANDSCAPE ARCHITECT OR ARBORIST.
2. PROJECT ARBORIST REQUIRED
3. AVOID CUTTING SURFACE ROOTS GREATER THAN 1" IN DIAMETER UNLESS APPROVED BY THE PROJECT ARBORIST.
4. USE HAND TOOLS ONLY. (E.G. SHOVELS, PRY BARS, WHEELBARROWS) FOR REMOVAL OF PAVEMENT, CURBS, OR SOIL WITHIN TREE PROTECTION FENCE.
5. DO NOT STOCKPILE MATERIALS, PARK VEHICLES, OR STAGE EQUIPMENT WITHIN TREE PROTECTION FENCE AT ANY TIME.
6. IF UNEXPECTED ROOTS OR TREE DAMAGE ARE ENCOUNTERED, STOP WORK IMMEDIATELY AND CONSULT THE PROJECT ARBORIST.



4 TREE PLANTING IN TREE GRATE - PLAN VIEW

SCALE: 1" = 1'-0"

0 10 20 40
Horizontal Scale In Feet

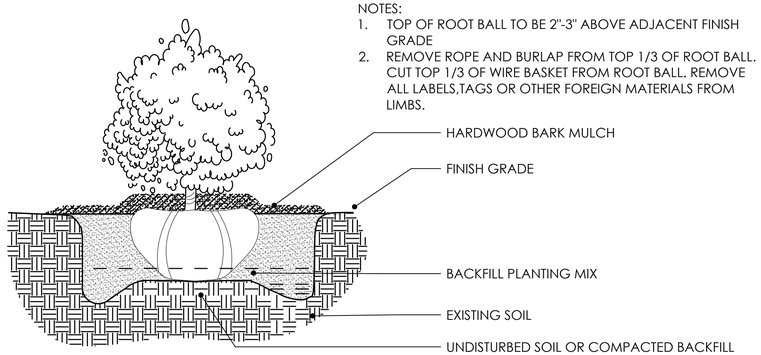
DETAILS

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY
EDGE

ODOT PID 121938
DESIGNER JTM
REVIEWER TJB
COT PROJ. ID ####
SHEET 343 TOTAL 345

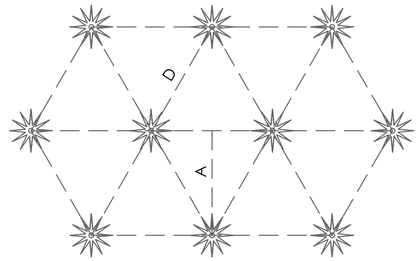
L58
60



NOTES:
1. TOP OF ROOT BALL TO BE 2"-3" ABOVE ADJACENT FINISH GRADE
2. REMOVE ROPE AND BURLAP FROM TOP 1/3 OF ROOT BALL. CUT TOP 1/3 OF WIRE BASKET FROM ROOT BALL. REMOVE ALL LABELS,TAGS OR OTHER FOREIGN MATERIALS FROM LIMBS.

1 SHRUB PLANTING

SCALE: 1" = 1'-0"



PERENNIAL SPACING CHART		
SPACING OF "D"	ROW WIDTH OF "A"	NUMBER OF PLANTS PER SQUARE FEET
6" O.C.	5"	4.61
8" O.C.	7"	2.60
10" O.C.	9"	1.66
12" O.C.	10"	1.15
15" O.C.	13"	0.738
18" O.C.	16"	0.512
24" O.C.	21"	0.290
36" O.C.	31"	0.128
4' O.C.	42"	0.073
5' O.C.	52"	0.046

2 PERENNIAL PLANTING

SCALE: NTS

0 10 20 40
Horizontal Scale In Feet

DETAILS

FRONT ST & MAIN ST IMPROVEMENT PLANS

DESIGN AGENCY

EDGE

ODOT PID
121938

DESIGNER
JTM

REVIEWER
TJB

COT PROJ. ID
####

SHEET 344 | TOTAL 345

L59
60

653 - MISC.: STRUCTURAL SOIL MIX

THIS WORK CONSISTS OF FURNISHING, MIXING, STORING AND PLACEMENT OF STRUCTURAL SOIL MIX. THE STRUCTURAL SOIL MIX SHALL HAVE THE FOLLOWING COMPOSITION, BY VOLUME:

SAND	78% - 85%
SILT	5% - 17%
CLAY	5% - 10%

THE SOIL MIX SHALL HAVE THE FOLLOWING: Ph 5.5 TO 8.3

THE RATIO OF COMPONENTS SHOULD BE ADJUSTED TO ACHIEVE A WATER INFILTRATION RATE BETWEEN 2 AND 6 INCHES PER HOUR.

MIXING SHALL OCCUR OFF-SITE. DO NOT SCREEN OR OVER MIX. SOIL CLUMPS 3/4 INCHES OR LESS IN DIAMETER ARE ACCEPTABLE. WHEN MIXING IS COMPLETE, COVER STOCK PILES WITH TARPS OR HEAVY PLASTIC TO PROTECT SOIL MIX FROM DRYING, SATURATION AND/OR EROSION.

THE SOIL MIX SHALL BE TESTED BY AN INDEPENDENT LAB CERTIFIED TO PERFORM SOIL TESTING. THE TESTING SHALL CONFIRM THE COMPOSITION, Ph, NITROGEN, PHOSPHORUS, AND POTASSIUM LEVELS. THE CERTIFICATION AND RESULTS SHALL INCLUDE ANY RECOMMENDATIONS REGARDING THE LEVEL OF MICRONUTRIENTS. CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO DELIVERY OR USE OF THE SOIL MIX. A SEPARATE CERTIFICATION IS REQUIRED FOR EVERY 250 CUBIC YARDS, OR FRACTION THEREOF, USED ON THE PROJECT.

WHERE INDICATED BY SOILS TESTING AND AS APPROVED BY THE ENGINEER, FERTILIZER OR OTHER ADMIXTURES MAY BE INCORPORATED INTO THE SOIL MIX AT THE TIME OF PLACEMENT.

THE STRUCTURAL SOIL MIX SHALL BE PLACED IN LOCATIONS INDICATED ON THE SOILS PLANS.

PAYMENTS WILL BE MADE AT THE UNIT PRICE BID FOR "MISC.: STRUCTURAL SOIL MIX" WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A SATISFACTORY AND WORKMANLIKE MANNER.

653 - TOPSOIL FURNISHED AND PLACED, AS PER PLAN

THIS WORK CONSISTS OF FURNISHING, STORING AND PLACEMENT OF TOPSOIL. TOPSOIL TO MEET FOLLOWING SPECIFICATIONS:
ASTM D 5268, PH RANGE OF 5.5 TO 7, A MINIMUM OF 6 PERCENT ORGANIC MATERIAL CONTENT; FREE OF STONES 1 INCH OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.

TOPSOIL SHALL BE PLACED BY AMENDING EXISTING IN-PLACE SURFACE SOIL TO PRODUCE TOPSOIL. VERIFY SUITABILITY OF SURFACE SOIL TO PRODUCE TOPSOIL. CLEAN SURFACE SOIL OF ROOTS, PLANTS, SOD, STONES, CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.

SURFACE SOIL MAY BE SUPPLEMENTED WITH IMPORTED OR MANUFACTURED TOPSOIL FROM OFF-SITE SOURCES. OBTAIN TOPSOIL DISPLACED FROM NATURALLY WELL-DRAINED CONSTRUCTION OR MINING SITES WHERE TOPSOIL OCCURS AT LEAST 4 INCHES DEEP; DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS OR MARSHES.

PAYMENTS WILL BE MADE AT THE UNIT PRICE BID FOR "TOPSOIL FURNISHED AND PLACED, AS PER PLAN - BASE BID" WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 661.11 - MULCH, AS PER PLAN:

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, MULCH, AS PER PLAN SHALL CONFORM TO THE FOLLOWING REQUIREMENTS.

MULCH SHALL CONSIST OF SHREDDED HARDWOOD BARK ONLY. NO SHREDDED WOOD IS PERMITTED. MULCH ENTIRE PLANTING TO 3" DEPTH, HOLDING MULCH BACK 3" FROM TRUNK OF TREES AND SHRUBS.

PAYMENTS WILL BE MADE AT THE UNIT PRICE BID FOR "MULCH, AS PER PLAN - BASE BID" WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A SATISFACTORY AND WORKMANLIKE MANNER.

COMPLETE THIS ITEM OF WORK AS DETAILED IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL - TREE GRATE AND FRAME

GENERAL:
THIS WORK CONSISTS OF FURNISHING, AND INSTALLATION OF 4'x8' and 3'x8' TREE GRATE AND FRAME FOLLOWING MANUFACTURER'S SPECIFICATIONS:

MODEL:
4'X8' TREE GRATE R-8815-A
4'X8' TREE GRATE FRAME
FOR USE W/ PAVERS
CAST GRAY IRON

3'X8' TREE GRATE R-8836
3'X8' TREE GRATE FRAME
FOR USE W/ PAVERS
CAST GRAY IRON

AS MANUFACUTERED BY:
NEENAH FOUNDRY
NEENAH WISCONSIN 54956
800-558-5075

PAYMENT MADE AT THE UNIT PRICE FOR "SPECIAL - TREE GRATE AND FRAME" AND SHALL CONSTITUTE FULL PAYMENT, INCLUDING PURCHASING, SHIPPING AND DELIVERY, INSTALLATION, ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM OF WORK AS DETAILED IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL - IRRIGATION:

PROVIDE COMPLETE IRRIGATION SYSTEM AS SHOWN ON IRRIGATION PLAN, DETAILS, AND SPECIFICATIONS IN THESE DOCUMENTS. SYSTEM SHALL INCLUDE ALL HEADS, VALVES, CONDUITS, SLEEVES UNDER PAVEMENTS, WIRING, AND RELATED ITEMS TO PROVIDE A COMPLETE, WORKING SYSTEM.

PAYMENTS WILL BE MADE AT THE UNIT PRICE BID FOR "ITEM SPECIAL - IRRIGATION" WHICH SHALL CONSTITUTE FULL PAYMENT FOR ALL LABOR, MATERIAL AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM OF WORK IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL - RING BIKE RACK

THIS WORK CONSISTS OF FURNISHING, AND INSTALLATION OF RING BIKE RACK FOLLOWING MANUFACTURER'S SPECIFICATIONS:

MODEL:
RING BIKE RACK
STAINLESS STEEL, EMBEDDED.

AS MANUFACUTERED BY:
LANDSCAPE FORMS, INC.
7800 E. MICHIGAN AVENUE
KALAMAZOO, MI 49048
800-521-2546

NO FURNITURE EQUIVALENTS WILL BE ACCEPTED.

PAYMENT MADE AT THE UNIT PRICE FOR "SPECIAL - RING BIKE RACK" AND SHALL CONSTITUTE FULL PAYMENT, INCLUDING PURCHASING, SHIPPING AND DELIVERY, INSTALLATION, ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM OF WORK AS DETAILED IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL - LEANING RAIL

THIS WORK CONSISTS OF FURNISHING, AND INSTALLATION OF RING BIKE RACK FOLLOWING MANUFACTURER'S SPECIFICATIONS:

MODEL:
CONNECT LEANING RAIL
ALUMINUM, SILVER COLOR

AS MANUFACUTERED BY:
LANDSCAPE FORMS, INC.
7800 E. MICHIGAN AVENUE
KALAMAZOO, MI 49048
800-521-2546

NO FURNITURE EQUIVALENTS WILL BE ACCEPTED.

PAYMENT MADE AT THE UNIT PRICE FOR "SPECIAL - LEANING RAIL" AND SHALL CONSTITUTE FULL PAYMENT, INCLUDING PURCHASING, SHIPPING AND DELIVERY, INSTALLATION, ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM OF WORK AS DETAILED IN A SATISFACTORY AND WORKMANLIKE MANNER.

SPECIAL - LITTER RECEPTACLE

THIS WORK CONSISTS OF FURNISHING, AND INSTALLATION OF LITTER BIN FOLLOWING MANUFACTURER'S SPECIFICATIONS:

MODEL:
CHASE LITTER BIN
SIDE OPENING, WITHOUT SAND PAN, W/ LOCKING MECHANISM, NO LOGO
COLOR:
SILVER

AS MANUFACUTERED BY:
LANDSCAPE FORMS, INC.
7800 E. MICHIGAN AVENUE
KALAMAZOO, MI 49048
800-521-2546

NO FURNITURE EQUIVALENTS WILL BE ACCEPTED.

PAYMENT MADE AT THE UNIT PRICE FOR "SPECIAL - LITTER RECEPTACLE" AND SHALL CONSTITUTE FULL PAYMENT, INCLUDING PURCHASING, SHIPPING AND DELIVERY, INSTALLATION, ALL LABOR, MATERIAL AND INCIDENTALS TO COMPLETE THIS ITEM OF WORK AS DETAILED IN A SATISFACTORY AND WORKMANLIKE MANNER.

0 10 20 40
Horizontal Scale In Feet

GENERAL NOTES

FRONT ST & MAIN ST IMPROVEMENT PLANS

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EDGE

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SHEET 345 TOTAL 345

L60
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