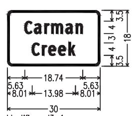


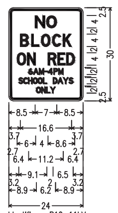
Identifier : I3–1;
1.63" Radius, 0.75" Border, White on, Green;
[Carman] ClearviewHwy–2–W;
[Creek] ClearviewHwy–2–W;
Table of widths and spaces

5.63	C 2.44	0.66	a 2.35	0.97	r 1.40	0.84	m 3.68	0.88	a 2.35	0.98	n 2.19	5.63

8.01	C 2.44	0.81	r 1.40	0.70	e 2.33	0.86	e 2.33	0.97	k 2.14	8.01

SIGN 1

SPECIFICATIONS:
SIGN PANEL: TYPE III
SIGN FACE: TYPE A
COLOR: WHITE LEGEND/BORDER ON GREEN BACKGROUND
NO. OF FABRICATIONS: 1



Identifier : R10–11bV;
1.5" Radius, 0.6" Border, 0.4" Indent, Black on, White;
[NO] E 50} spacing;
[BLOCK] D;
[ON RED] D 50} spacing;
[6AM–4PM] D 50} spacing;
[SCHOOL DAYS] D 50} spacing;
[ONLY] D 50} spacing;
Table of widths and spaces

8.5	N 3.2	0.5	O 3.3	8.5

3.7	B 2.7	0.9	L 2.5	0.7	O 2.8	0.8	C 2.7	0.7	K 2.8	3.7

2.7	O 2.8	0.5	N 2.7	4.0	R 2.6	0.5	E 2.5	0.3	D 2.7	2.7

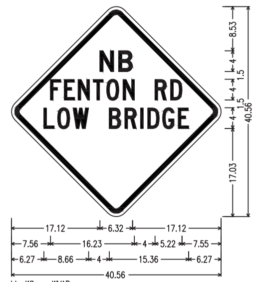
6.4	6 1.3	0.2	A 1.7	0.2	M 1.5	0.3	– 1.0	0.0	4 1.5	0.4	P 1.3	0.3	M 1.5	6.4

3.2	S 1.4	0.1	C 1.4	0.2	H 1.3	0.3	O 1.4	0.1	O 1.5	0.2	L 1.2	2.0	D 1.3	0.2	A 1.7	0.1	Y 1.7	0.1	S 1.4	3.2

8.9	O 1.4	0.2	N 1.4	0.2	L 1.2	0.1	Y 1.7	8.9

SIGN 2

SPECIFICATIONS:
SIGN PANEL: TYPE III
SIGN FACE: TYPE A
COLOR: BLACK LEGEND/BORDER ON WHITE BACKGROUND
NO. OF FABRICATIONS: 8



Identifier : WVAR;
30.00" across sides 2.25" Radius, 0.88" Border, 0.63" Indent, Black on, Fluorescent yellow;
[NB] D; [FENTON RD] C; [LOW BRIDGE] C;
Table of widths and spaces

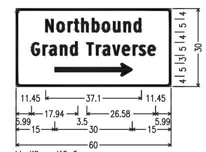
17.12	N 2.69	0.94	B 2.69	17.12

7.56	F 2.00	0.67	E 2.00	0.68	N 2.19	0.67	T 2.00	0.68	O 2.31	0.84	N 2.19	4.00	R 2.19	0.84	D 2.19	7.55

6.27	L 2.00	0.68	O 2.31	0.67	W 3.00	4.00	B 2.19	0.84	R 2.19	0.84	I 0.57	0.84	D 2.19	0.67	G 2.19	0.84	E 2.00	6.27

SIGN 3

SPECIFICATIONS:
SIGN PANEL: TYPE III
SIGN FACE: TYPE B
COLOR: BLACK LEGEND/BORDER ON FLUORESCENT YELLOW BACKGROUND
NO. OF FABRICATIONS: 2



Identifier : I12–2;
1.63" Radius, 0.75" Border, White on, Green;
[Northbound] ClearviewHwy–2–W;
[Grand Traverse] ClearviewHwy–2–W;
Arrow Custom – 30.00" 0°;
Table of widths and spaces

11.45	N 3.20	1.18	o 3.05	1.22	r 1.75	0.68	t 1.81	1.04	h 2.74	1.36	b 2.85	1.07	o 3.05	1.22	u 2.71	1.36	n 2.74	1.21	d 2.86	11.45

5.99	G 3.19	1.22	r 1.75	0.82	a 2.93	1.22	n 2.74	1.21	d 2.86

3.50	T 2.63	1.01	r 1.75	0.82	a 2.94	0.82	v 2.94	0.82	e 2.91	1.21	r 1.75	0.68	s 2.46	0.93	e 2.91	5.99

15.00	→ 30.00	15.00

SIGN 4

SPECIFICATIONS:
SIGN PANEL: TYPE II
SIGN FACE: TYPE A
COLOR: WHITE LEGEND/BORDER ON GREEN BACKGROUND
NO. OF FABRICATIONS: 1

Know what's below.
Call before you dig.

PROJECT MANAGER:– FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0846151\GDT–PLTS–DETAILS–SIGNSPED.DWG – SIGN SPECIAL DETAILS – PLOTTED 4/19/2019 9:56 AM BY WHEELER, THOMAS

REV#	DATE	DESCRIPTION	BY

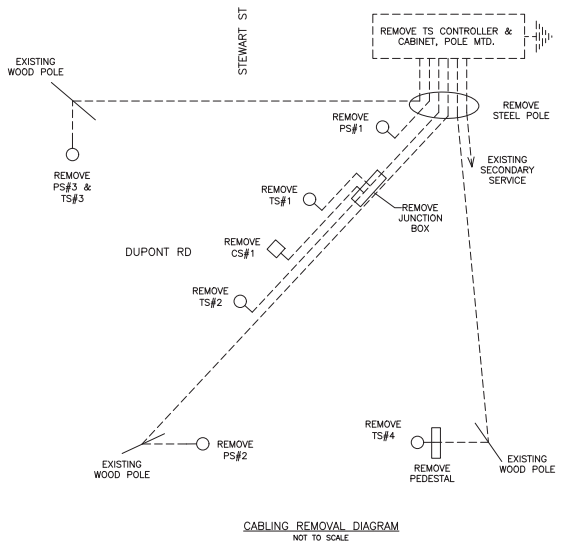
WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SIGN SPECIAL DETAILS

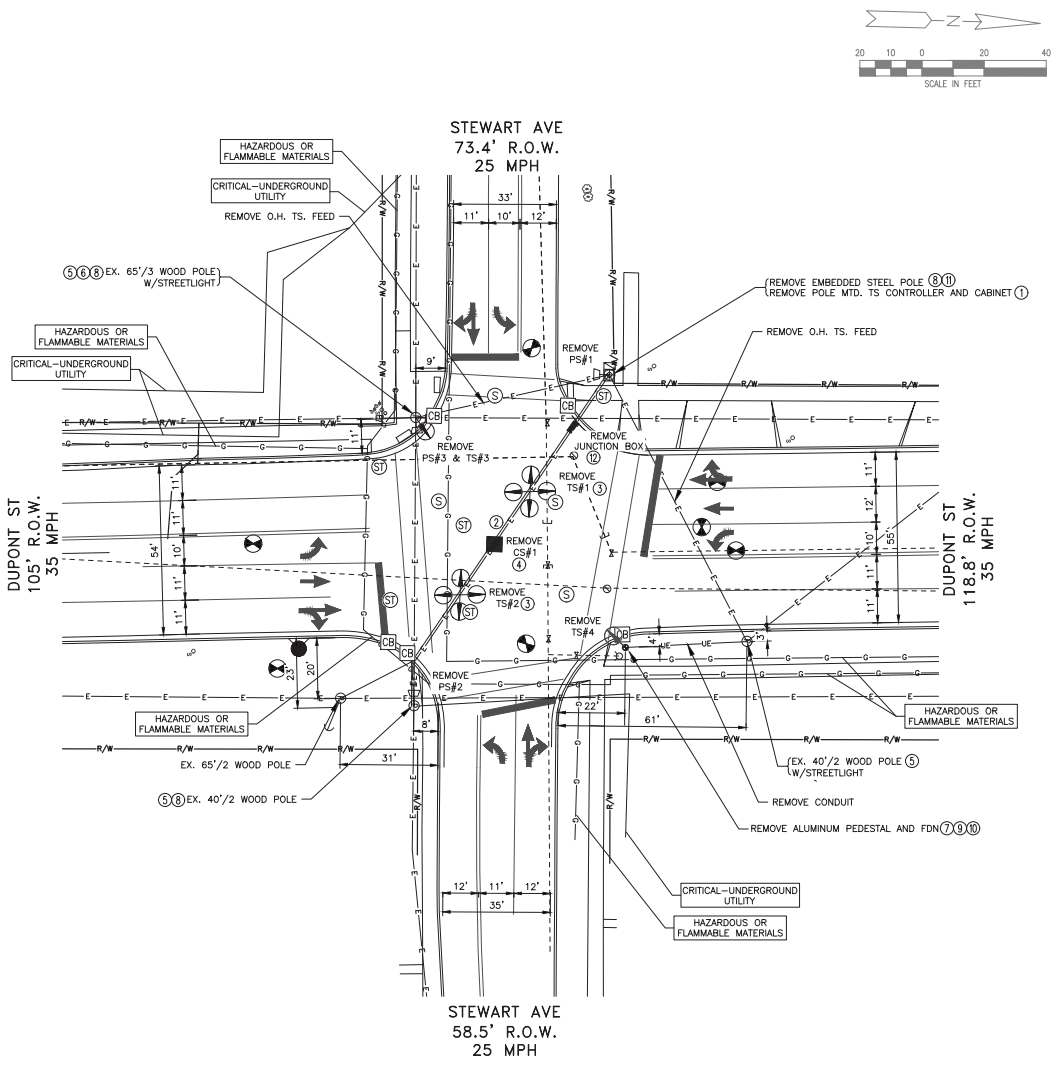
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 204



CABLING REMOVAL DIAGRAM
NOT TO SCALE



NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1045422975

LIST OF MATERIAL - JN130901

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller and Cabinet, Rem	1 Ea	8200030
(2)	Span Wire, Rem	1 Ea	8200141
(3)	TS, Span Wire Mtd, Rem	2 Ea	8200182
(4)	Case Sign, Rem	1 Ea	8200020
(5)	Cable Pole, TS, Disman	3 Ea	8190010
(6)	TS, Bracket Arm Mtd, Rem	1 Ea	8200175
(7)	TS, Pedestal, Mtd, Rem	1 Ea	8200179
(8)	TS, Pedestrian, Bracket Arm Mtd, Rem	3 Ea	8200180
(9)	Pedestal, Rem	1 Ea	8200110
(10)	Pedestal Fdn, Rem	1 Ea	8200106
(11)	Steel Pole, Rem (Embedded)	1 Ea	8200146
(12)	Junction Box, Rem	1 Ea	8200457
◯	Conduit, Rem	40 Ft	8190140

R
Y
G

REMOVE TS#1 & TS#2 FACING ALL DIRECTIONS
REMOVE TS#3 FACING EAST
REMOVE TS#4 FACING WEST

REMOVE CS#1
FOUR-WAY ILLUMINATED
24" X 30" CASE SIGN

ONLY

FACING ALL DIRECTIONS

OPENINGS	42
CYCLIC WATTS	5300
STEADY WATTS	250

811 Know what's below. Call before you dig.

JOB NO. JN130901

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
DUPONT STREET - NORTH
TRAFFIC SIGNAL IMPROVMENTS AT STEWART AVENUE
TRAFFIC SIGNAL REMOVAL SHEET 1

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

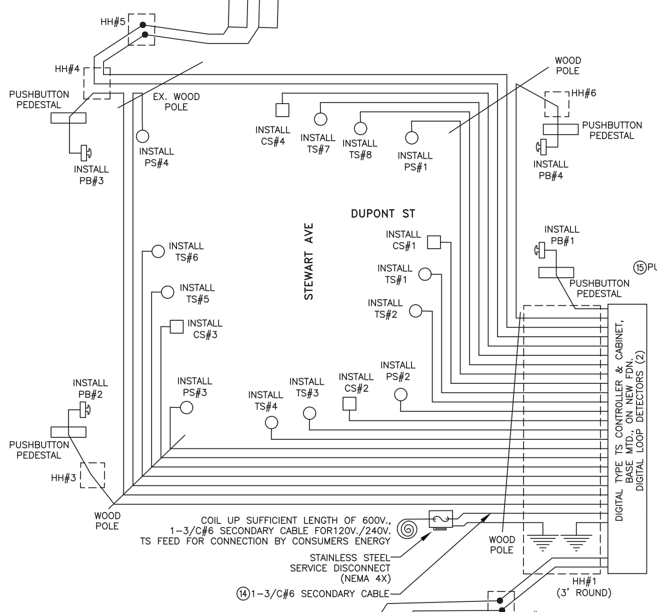
JOB NO.
COF1065.01F

SHEET
205

PROJECT MANAGER:-
C:\PW_WORK\20085291\r\CTS-PLTS-TRAFFIC-SIGNAL.DWG - TS-1 - PLOTTED 4/19/2019 3:10 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 1W–3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.
4. PUSHBUTTON CABLES ARE 2/C#16 SHIELDED PJ.
5. TRAFFIC LOOPS ARE 1/C#14 THHN 3 TURNS.
6. LOOP LEAD–INS ARE 2/C#16 SHIELDED PJ.



6' X 30' TRAFFIC LOOPS (2)
HH#5
HH#4
PUSHBUTTON PEDESTAL
EX. WOOD POLE
INSTALL PB#3
INSTALL PS#4
INSTALL CS#4
INSTALL TS#7
INSTALL TS#8
INSTALL PS#1
WOOD POLE
HH#6
PUSHBUTTON PEDESTAL
INSTALL PB#4
DUPONT ST
STEWART AVE
INSTALL TS#6
INSTALL TS#5
INSTALL CS#3
INSTALL CS#1
INSTALL TS#1
INSTALL TS#2
INSTALL PB#1
PUSHBUTTON PEDESTAL
INSTALL PB#2
INSTALL PS#3
INSTALL TS#4
INSTALL TS#3
INSTALL CS#2
INSTALL PS#2
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN. DIGITAL LOOP DETECTORS (2)
PUSHBUTTON PEDESTAL
HH#3
WOOD POLE
COIL UP SUFFICIENT LENGTH OF 600V., 1–3/C#6 SECONDARY CABLE FOR120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
WOOD POLE
HH#1 (3' ROUND)
(14) 1–3/C#6 SECONDARY CABLE
HH#2

CABLING INSTALLATION DIAGRAM
NOT TO SCALE

6' X 30' TRAFFIC LOOPS (2)

NOTE: INSTALLATION OF POLES/PEDESTALS WITH PUSHBUTTONS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE NEW SIDEWALK RAMPS AND CROSSWALK PAVEMENT MARKINGS. LOCATIONS SHALL MEET CURRENT ADA REQUIREMENTS.

NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG–304–A & SIG–305–A.

NOTE: DIGITAL TYPE TS CONTROLLER SHALL BE ACTUATED WITH A 16 LOAD SWITCH BAY CABINET.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR.
REFERENCE NO. 1045422975

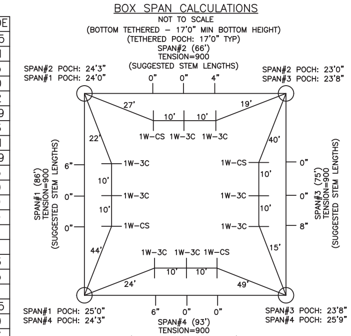
NOTE: PAYMENT FOR GUYING, INCLUDING STRUT GUYS, IS INCLUDED IN THE PAY ITEM "SPAN WIRE" AND WILL NOT BE PAID FOR SEPARATELY.

NOTE: INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF INSTALLATION SHALL BE AS DIRECTED BY THE ENGINEER.

LIST OF MATERIAL - JN130901

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller Fdn, Base Mount	1 Ea	8200045
2	Controller and Cabinet, Digital Type	1 Ea	8200031
3	Serv Disconnect	1 Ea	8200135
4	Span Wire	4 Ea	8200140
5	Span Wire Tether	4 Ea	8200142
6	Case Sign (LED), One Way, 24 inch by 30 inch	4 Ea	8200029
7	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
8	Backplate, TS	8 Ea	8200501
9	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
10	Wood Pole	3 Ea	8190465
11	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
12	Hh, Round, 3 foot Dia	1 Ea	8190259
13	Hh, Round	5 Ea	8190260
14	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
15	Pushbutton and Sign	4 Ea	8200121
16	Pushbutton Pedestal, Alum	4 Ea	8200123
17	Pedestal, Fdn	4 Ea	8200105
18	Wood Pole, Fit Up, TS Cable Pole	3 Ea	8190501
19	Digital Loop Detector	2 Ea	8200055
20	Traf Loop	4 Ea	8200170
	Conduit, DB, 1, 1 1/2 inch	65 Ft	8190027
	Conduit, DB, 1, 3 inch	75 Ft	8190029
	Conduit, DB, 3, 3 inch	10 Ft	8190035
	Conduit, DB, 4, 3 inch	10 Ft	8190038

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED – 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



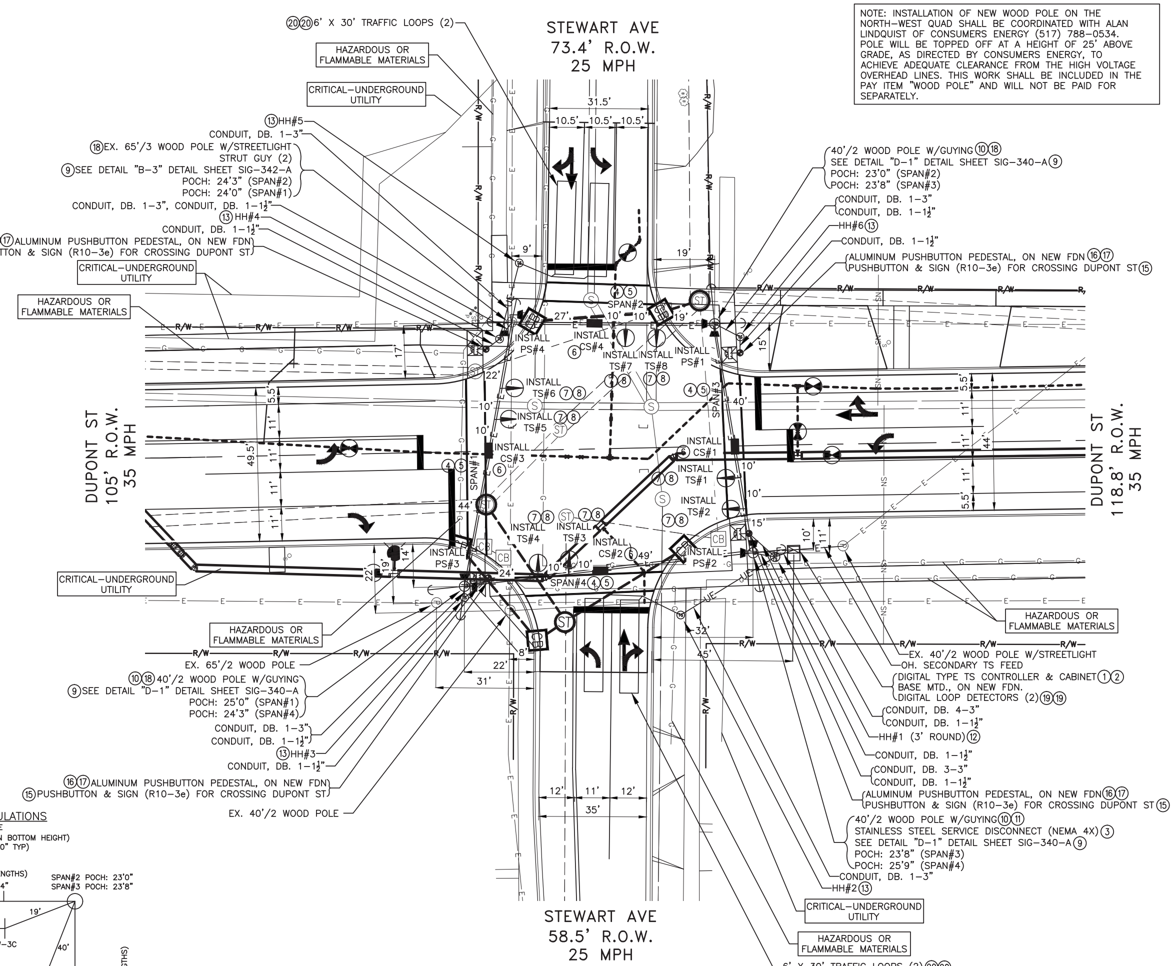
SPAN#2 (66')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#2 POCH: 24'3"
SPAN#1 POCH: 24'0"
SPAN#2 POCH: 23'0"
SPAN#3 POCH: 23'8"
SPAN#1 (86')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 (75')
TENSION=900
(SUGGESTED STEM LENGTHS)
1W–CS 1W–3C 1W–3C
1W–3C
1W–CS
1W–3C 1W–3C 1W–CS
SPAN#1 POCH: 25'0"
SPAN#4 POCH: 24'3"
SPAN#3 POCH: 23'8"
SPAN#4 POCH: 25'9"
SPAN#4 (93')
TENSION=900
(SUGGESTED STEM LENGTHS)

NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

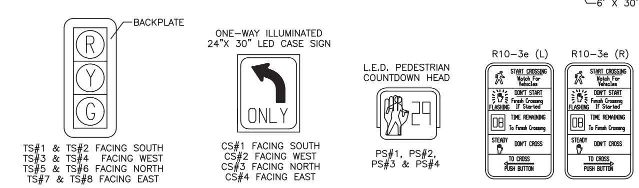
JOB NO. JN130901

SCALE IN FEET

NOTE: INSTALLATION OF NEW WOOD POLE ON THE NORTH–WEST QUAD SHALL BE COORDINATED WITH ALAN LINDQUIST OF CONSUMERS ENERGY (517) 788–0534. POLE WILL BE TOPPED OFF AT A HEIGHT OF 25' ABOVE GRADE, AS DIRECTED BY CONSUMERS ENERGY, TO ACHIEVE ADEQUATE CLEARANCE FROM THE HIGH VOLTAGE OVERHEAD LINES. THIS WORK SHALL BE INCLUDED IN THE PAY ITEM "WOOD POLE" AND WILL NOT BE PAID FOR SEPARATELY.



STEWART AVE
73.4' R.O.W.
25 MPH
(20)(20) 6' X 30' TRAFFIC LOOPS (2)
HAZARDOUS OR FLAMMABLE MATERIALS
CRITICAL–UNDERGROUND UTILITY
CONDUIT, DB. 1–3"
(13) HH#5
(18) EX. 65'/3 WOOD POLE W/STREETLIGHT
STRUT GUY (2)
(9) SEE DETAIL "B–3" DETAIL SHEET SIG–342–A
POCH: 24'3" (SPAN#2)
POCH: 24'0" (SPAN#1)
CONDUIT, DB. 1–3", CONDUIT, DB. 1–1½"
(13) HH#4
CONDUIT, DB. 1–1½"
(16)(17) ALUMINUM PUSHBUTTON PEDESTAL, ON NEW FDN
(15) PUSHBUTTON & SIGN (R10–3e) FOR CROSSING DUPONT ST
40'/2 WOOD POLE W/GUYING (10)(18)
SEE DETAIL "D–1" DETAIL SHEET SIG–340–A (9)
POCH: 23'0" (SPAN#2)
POCH: 23'8" (SPAN#3)
CONDUIT, DB. 1–3"
CONDUIT, DB. 1–1½"
HH#6 (13)
CONDUIT, DB. 1–1½"
ALUMINUM PUSHBUTTON PEDESTAL, ON NEW FDN (16)(17)
PUSHBUTTON & SIGN (R10–3e) FOR CROSSING DUPONT ST (15)
DUPONT ST
105' R.O.W.
35 MPH
DUPONT ST
118.8' R.O.W.
35 MPH
EX. 65'/2 WOOD POLE
(10)(18) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "D–1" DETAIL SHEET SIG–340–A
POCH: 25'0" (SPAN#1)
POCH: 24'3" (SPAN#4)
CONDUIT, DB. 1–3"
CONDUIT, DB. 1–1½"
(13) HH#3
CONDUIT, DB. 1–1½"
(16)(17) ALUMINUM PUSHBUTTON PEDESTAL, ON NEW FDN
(15) PUSHBUTTON & SIGN (R10–3e) FOR CROSSING DUPONT ST
EX. 40'/2 WOOD POLE
EX. 40'/2 WOOD POLE W/STREETLIGHT
OH. SECONDARY TS FEED
DIGITAL TYPE TS CONTROLLER & CABINET (1)(2)
BASE MTD., ON NEW FDN.
DIGITAL LOOP DETECTORS (2)(19)(19)
CONDUIT, DB. 4–3"
CONDUIT, DB. 1–1½"
HH#1 (3' ROUND) (12)
CONDUIT, DB. 1–1½"
CONDUIT, DB. 3–3"
CONDUIT, DB. 1–1½"
ALUMINUM PUSHBUTTON PEDESTAL, ON NEW FDN (16)(17)
PUSHBUTTON & SIGN (R10–3e) FOR CROSSING DUPONT ST (15)
40'/2 WOOD POLE W/GUYING (10)(11)
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X) (3)
SEE DETAIL "D–1" DETAIL SHEET SIG–340–A (9)
POCH: 23'8" (SPAN#3)
POCH: 25'9" (SPAN#4)
CONDUIT, DB. 1–3"
HH#2 (13)
6' X 30' TRAFFIC LOOPS (2) (20)(20)
STEWART AVE
58.5' R.O.W.
25 MPH



BACKPLATE
TS#1 & TS#2 FACING SOUTH
TS#3 & TS#4 FACING WEST
TS#5 & TS#6 FACING NORTH
TS#7 & TS#8 FACING EAST
ONE–WAY ILLUMINATED 24"X 30" LED CASE SIGN
ONLY
CS#1 FACING SOUTH
CS#2 FACING WEST
CS#3 FACING NORTH
CS#4 FACING EAST
L.E.D. PEDESTRIAN COUNTDOWN HEAD
PS#1, PS#2, PS#3 & PS#4
R10–3e (L)
R10–3e (R)

OPENINGS	36
CYCLIC WATTS	432
STEADY WATTS	180

811 Know what's below. Call before you dig.

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

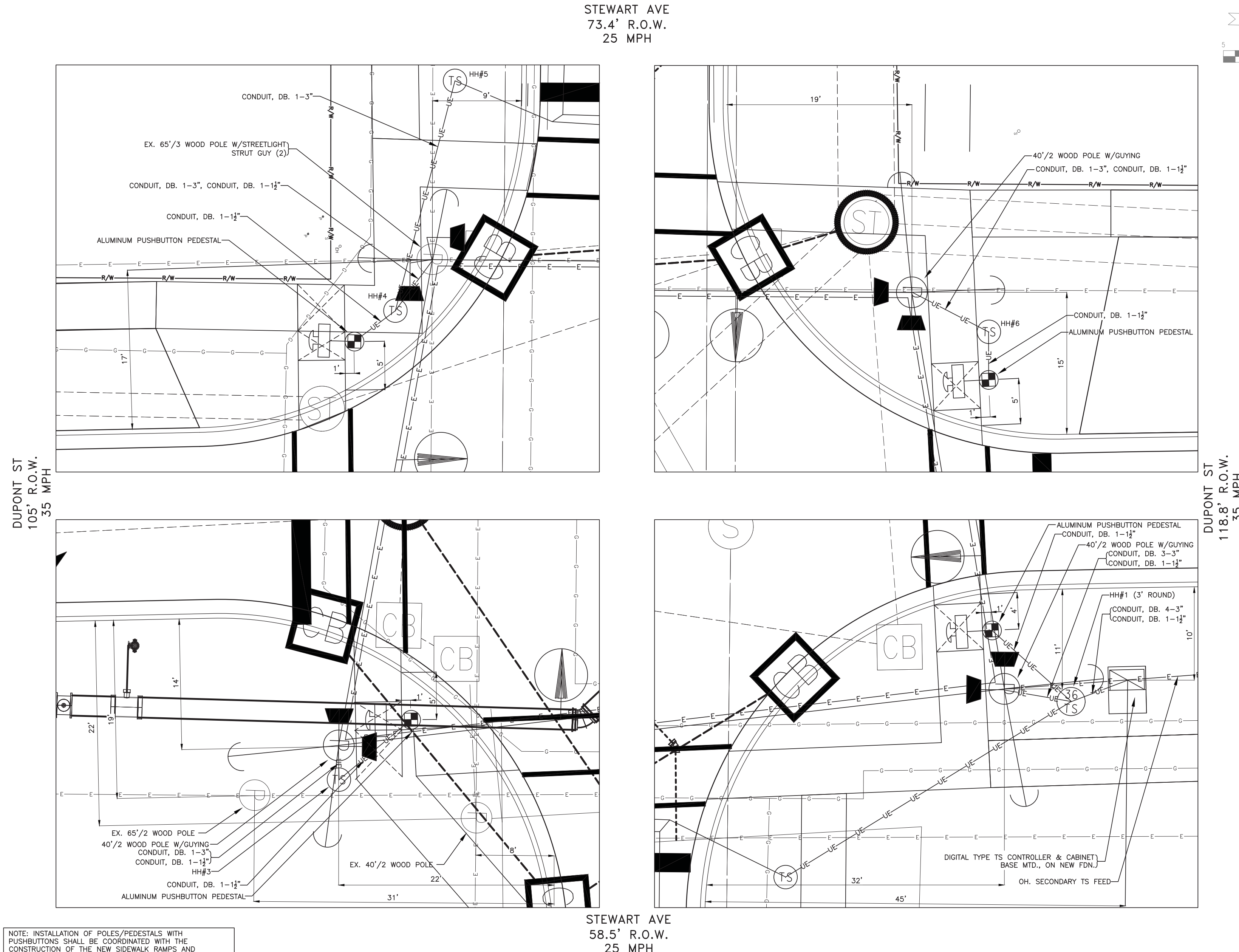
DUPONT STREET – NORTH
TRAFFIC SIGNAL IMPROVMENTS AT STEWART AVEUNE
TRAFFIC SIGNAL INSTALLATION SHEET 1

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 206

PROJECT MANAGER:– FIELD BOOK INFORMATION:– C:\PW_WORK2\D0852519\CTS–PLTS–TRAFFIC–SIGNAL.DWG – TS–2 – PLOTTED 4/19/2019 3:10 AM BY RUGGLES, TIMOTHY


STEWART AVE
73.4' R.O.W.
25 MPH
CONDUIT, DB. 1-3"
EX. 65'/3 WOOD POLE W/STREETLIGHT STRUT GUY (2)
CONDUIT, DB. 1-3", CONDUIT, DB. 1-1½"
CONDUIT, DB. 1-1½"
ALUMINUM PUSHBUTTON PEDESTAL
HH#5
HH#4
9'
17'
1'
5'
19'
40'/2 WOOD POLE W/GUYING
CONDUIT, DB. 1-3", CONDUIT, DB. 1-1½"
CONDUIT, DB. 1-1½"
ALUMINUM PUSHBUTTON PEDESTAL
HH#6
15'
DUPONT ST
105' R.O.W.
35 MPH
DUPONT ST
118.8' R.O.W.
35 MPH
EX. 65'/2 WOOD POLE
40'/2 WOOD POLE W/GUYING
CONDUIT, DB. 1-3"
CONDUIT, DB. 1-1½"
HH#3
CONDUIT, DB. 1-1½"
ALUMINUM PUSHBUTTON PEDESTAL
EX. 40'/2 WOOD POLE
14'
22'
8'
31'
ALUMINUM PUSHBUTTON PEDESTAL
CONDUIT, DB. 1-1½"
40'/2 WOOD POLE W/GUYING
CONDUIT, DB. 3-3"
CONDUIT, DB. 1-1½"
HH#1 (3' ROUND)
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
11'
10'
DIGITAL TYPE TS CONTROLLER & CABINET BASE MTD., ON NEW FDN.
OH. SECONDARY TS FEED
32'
45'
STEWART AVE
58.5' R.O.W.
25 MPH
SCALE IN FEET

NOTE: INSTALLATION OF POLES/PEDESTALS WITH PUSHBUTTONS SHALL BE COORDINATED WITH THE CONSTRUCTION OF THE NEW SIDEWALK RAMPS AND CROSSWALK PAVEMENT MARKINGS. LOCATIONS SHALL MEET CURRENT ADA REQUIREMENTS.

JOB NO. JN130901

Know what's below. Call before you dig.

PROJECT MANAGER:–
FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0852519\CTS-PLTS-TRAFFIC-SIGNAL.DWG – TS-3 – PLOTTED 4/19/2019 3:10 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

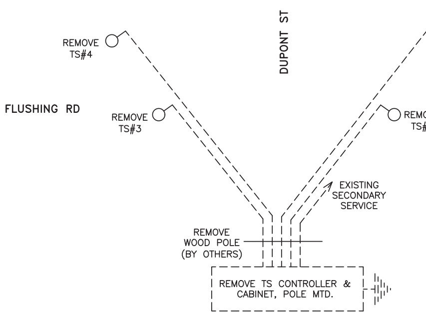
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

DUPONT STREET – NORTH
TRAFFIC SIGNAL IMPROVMENTS AT STEWART AVEUNE
TRAFFIC SIGNAL QUADRANT DETAILS 1

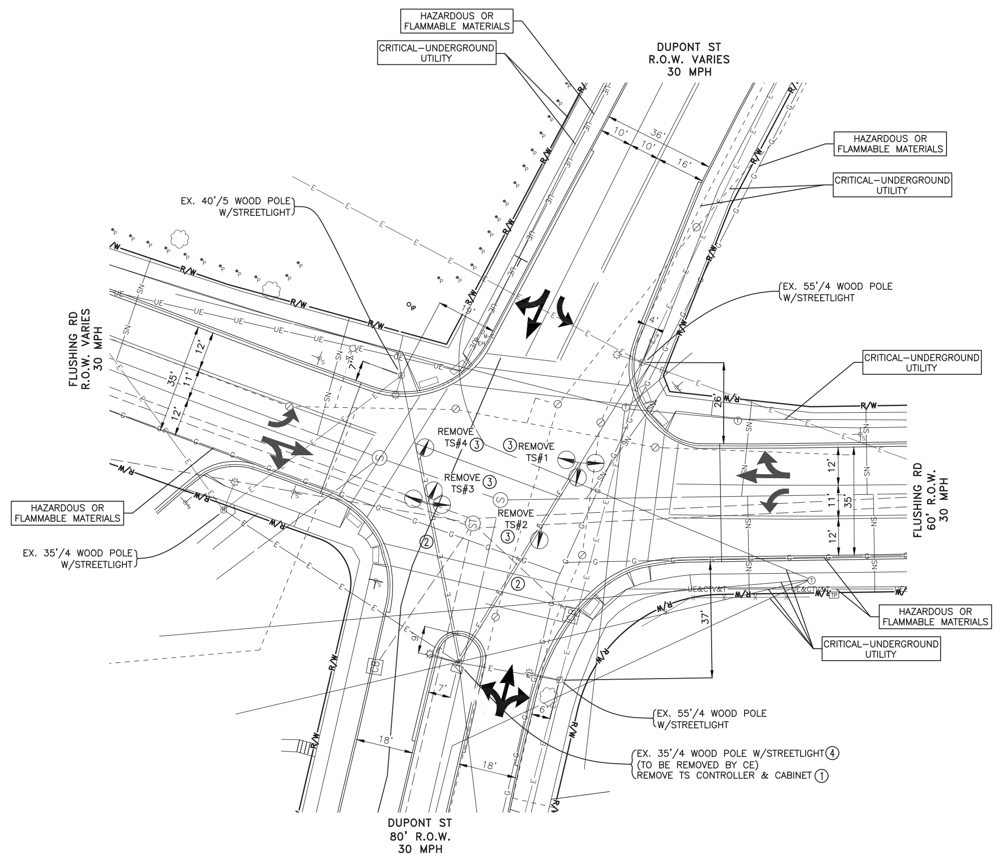
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

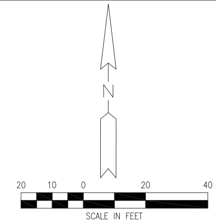
JOB NO. COF1065.01F

SHEET 207



CABLING REMOVAL DIAGRAM
NOT TO SCALE



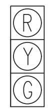


NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR REMOVAL OF WOOD POLE, STREET LIGHT & ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321474

LIST OF MATERIAL – JN200906

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	2 Ea	8200141
3	TS, Span Wire Mtd, Rem	4 Ea	8200182
4	Cable Pole, TS and Sec, Disman	1 Ea	8190009



REMOVE TS#1 FACING EAST, SOUTH & WEST
REMOVE TS#2 FACING SOUTH
REMOVE TS#3 FACING WEST, NORTH & EAST
REMOVE TS#4 FACING NORTH

JOB NO. JN200906

OPENINGS	24
CYCLIC WATTS	3600
STEADY WATTS	0

Know what's below. Call before you dig.

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

DUPONT STREET – SOUTH
TRAFFIC SIGNAL REMOVAL SHEET 2
DUPONT STREET @ FLUSHING ROAD

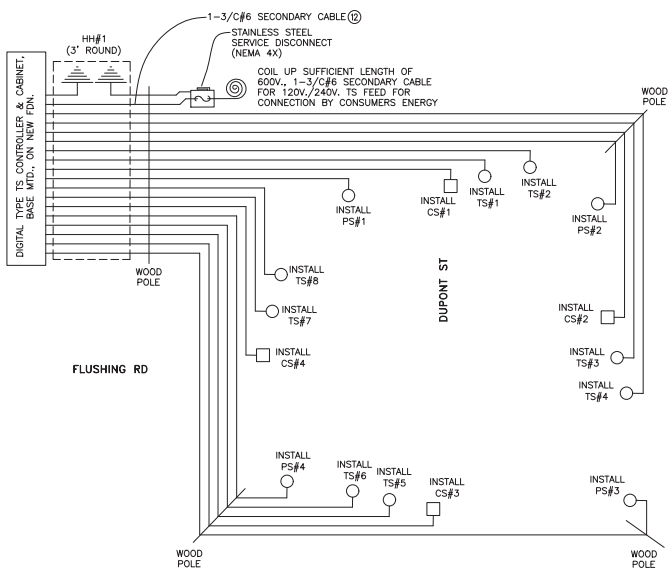
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

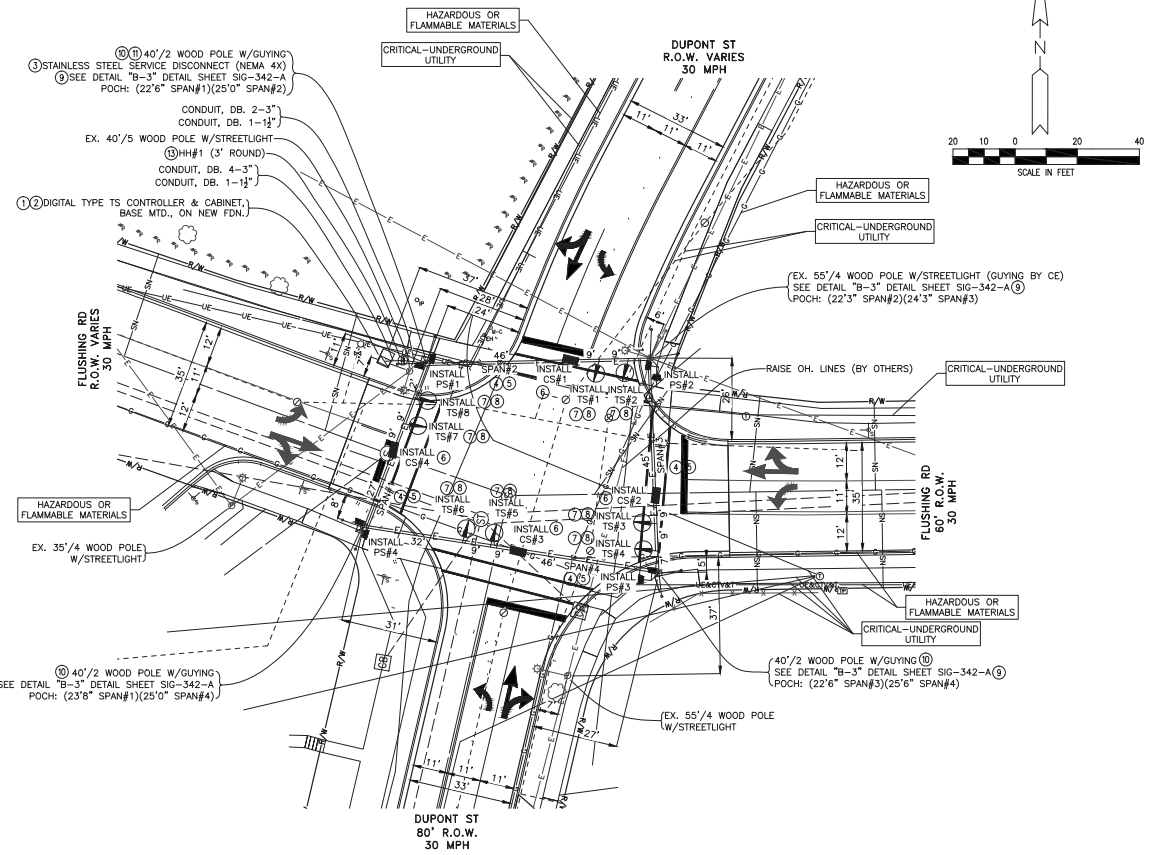
SHEET
208

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0852527\CTS-PLTS-TRAFFIC-SIGNAL.DWG – FLUSHING-REM – PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE

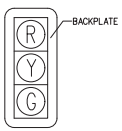


NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION AND GUYING OF EXISTING WOOD POLE.
ESTIMATED COST TO CONTRACTOR: $5000.
REFERENCE NO. 1047321474

LIST OF MATERIAL - JN: 200906

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	4 Ea	8200140
(5)	Span Wire Tether	4 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	4 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
(8)	Backplate, TS	8 Ea	8200501
(9)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
(10)	Wood Pole	3 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
(13)	Hh, Round, 3 foot Dia	1 Ea	8190259
( )	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
( )	Conduit, DB, 2, 3 inch	10 Ft	8190032
( )	Conduit, DB, 4, 3 inch	10 Ft	8190038
( )	Power Co. (Est. Cost to Contractor)	5000 Dlr	8200116



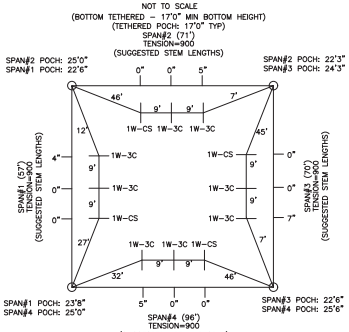
TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

CS*1 FACING SOUTH
CS*2 FACING WEST
CS*3 FACING NORTH
CS*4 FACING EAST


L.E.D. PEDESTRIAN COUNTDOWN HEAD

JOB NO. JN200906

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED - 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	36
CYCLIC WATTS	432
STEADY WATTS	180

811 Know what's below. Call before you dig.

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.7800
www.wadetrim.com

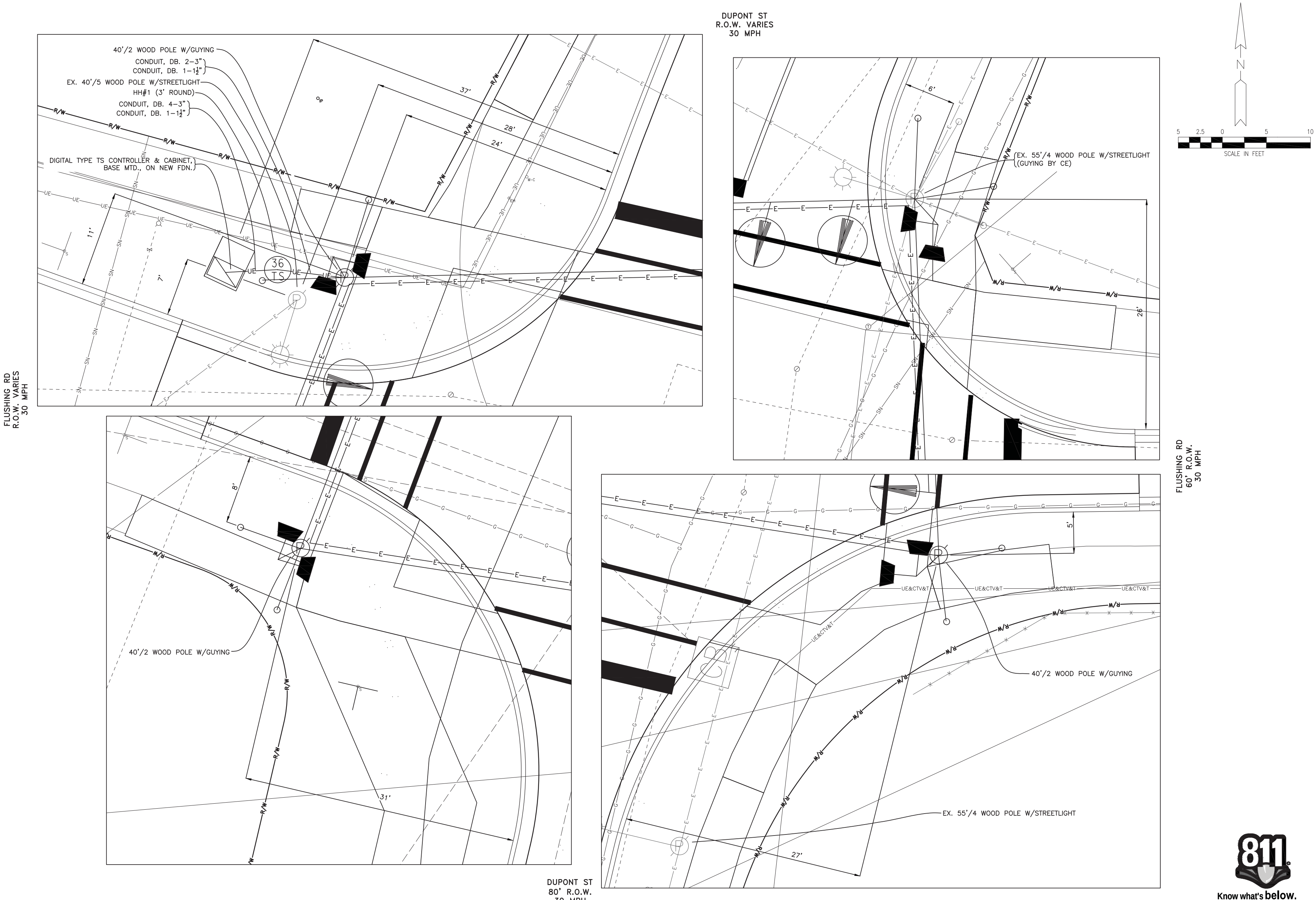
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
DUPONT STREET - SOUTH
TRAFFIC SIGNAL INSTALLATION SHEET 2
DUPONT STREET @ FLUSHING ROAD

ISSUED FOR: DATE: BY:
GI PLANS 10/25/18 JJS
FINAL REVIEW 2/25/19 JJS
FINAL PLANS 4/19/19 JJS

JOB NO. COF1065.01F

SHEET 209

FIELD BOOK INFORMATION:-
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\COBB52527\DSK-PLTS-TRAFFIC-SIGNAL.DWG - FLUSHING-CON - PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY


DUPONT ST
R.O.W. VARIES
30 MPH
40'/2 WOOD POLE W/GUYING
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
EX. 40'/5 WOOD POLE W/STREETLIGHT
HH#1 (3' ROUND)
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
DIGITAL TYPE TS CONTROLLER & CABINET,
BASE MTD., ON NEW FDN.
36
TS
37'
28'
24'
11'
7'
FLUSHING RD
R.O.W. VARIES
30 MPH
6'
EX. 55'/4 WOOD POLE W/STREETLIGHT
(GUYING BY CE)
26'
FLUSHING RD
60' R.O.W.
30 MPH
8'
40'/2 WOOD POLE W/GUYING
31'
5'
40'/2 WOOD POLE W/GUYING
EX. 55'/4 WOOD POLE W/STREETLIGHT
27'
DUPONT ST
80' R.O.W.
30 MPH
N
5 2.5 0 5 10
SCALE IN FEET

JOB NO. JN200906

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852527\CTS-PLTS-TRAFFIC-SIGNAL.DWG -- FLUSHING-QUADS -- PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

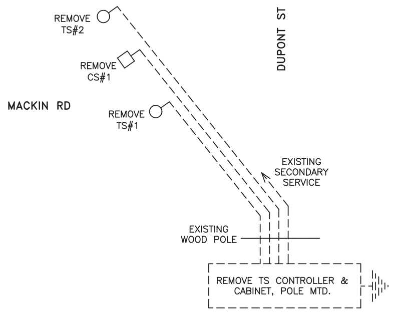
DUPONT STREET - SOUTH
TRAFFIC SIGNAL QUADRANT DETAILS 2
DUPONT STREET @ FLUSHING ROAD

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

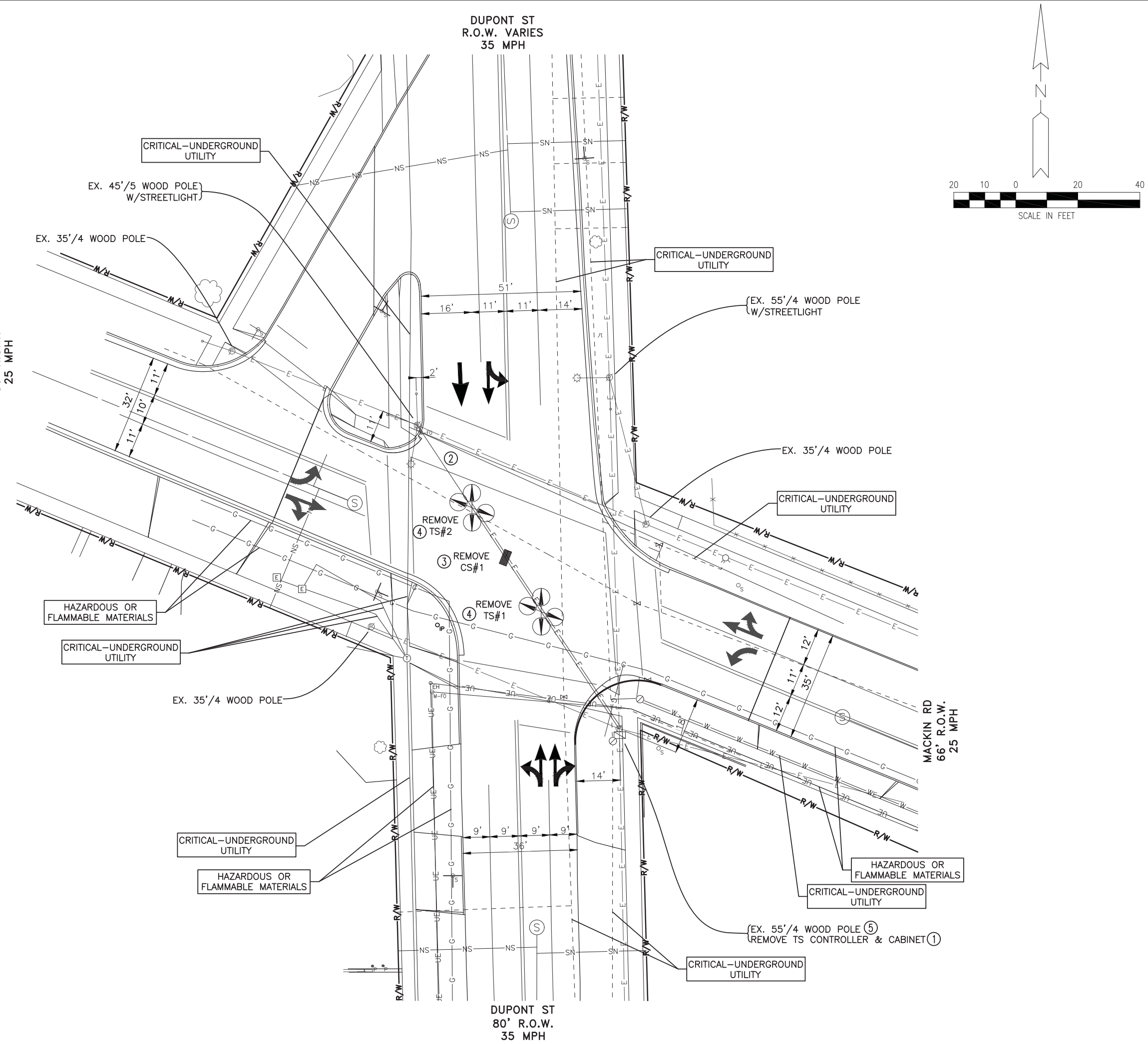
JOB NO.
COF1065.01F

SHEET
210

811 Know what's below. Call before you dig.



CABLING REMOVAL DIAGRAM
NOT TO SCALE

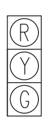


NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321470

LIST OF MATERIAL – JN200906

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	Case Sign, Rem	1 Ea	8200020
4	TS, Span Wire Mtd, Rem	2 Ea	8200182
5	Cable Pole, TS and Sec, Disman	1 Ea	8190009



REMOVE TS#1 & TS#2
FACING ALL DIRECTIONS

REMOVE CS#1
FACING EAST & WEST

JOB NO. JN200906

OPENINGS	26
CYCLIC WATTS	3600
STEADY WATTS	200

Know what's below. Call before you dig.

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

DUPONT STREET – SOUTH
TRAFFIC SIGNAL REMOVAL SHEET 3
DUPONT STREET @ MACKIN ROAD

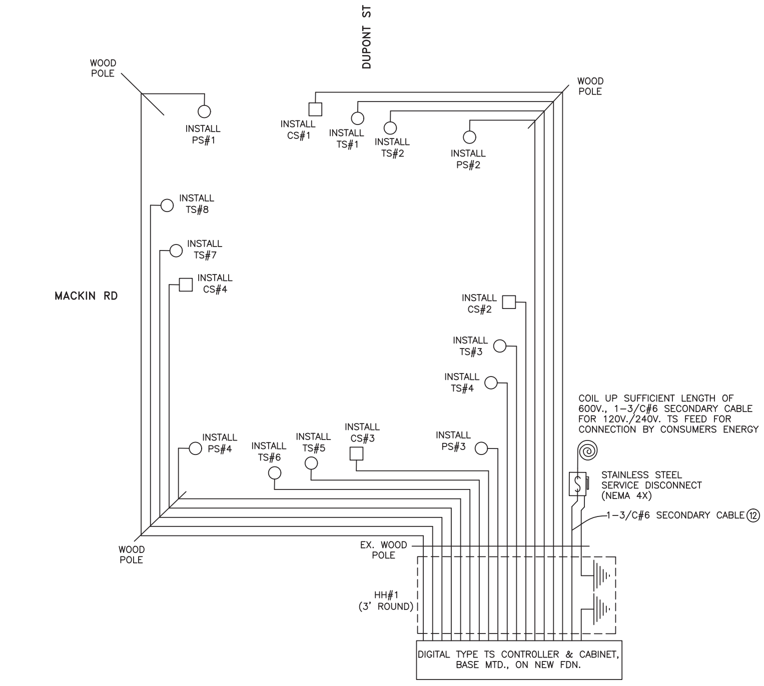
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 211

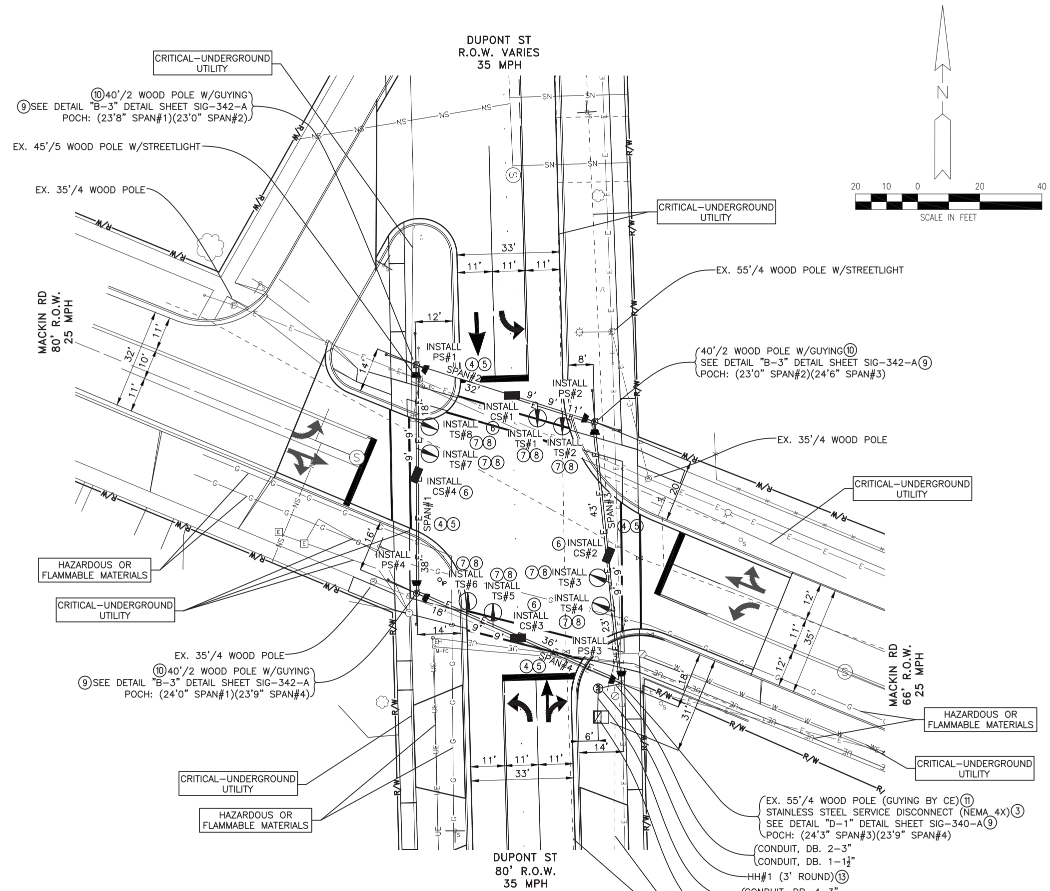
PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0852527\CTS–PLTS–TRAFFIC–SIGNAL.DWG – MACKIN–REM – PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



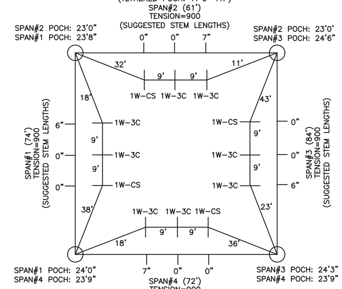
DUPONT ST
MACKIN RD
WOOD POLE
INSTALL PS#1
INSTALL CS#1
INSTALL TS#1
INSTALL TS#2
INSTALL PS#2
INSTALL TS#8
INSTALL TS#7
INSTALL CS#4
INSTALL CS#2
INSTALL TS#3
INSTALL TS#4
INSTALL PS#4
INSTALL TS#6
INSTALL TS#5
INSTALL CS#3
INSTALL PS#3
COIL UP SUFFICIENT LENGTH OF 600V., 1-3/C#6 SECONDARY CABLE FOR 120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
1-3/C#6 SECONDARY CABLE (12)
EX. WOOD POLE
HH#1 (3' ROUND)
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.

CABLING INSTALLATION DIAGRAM
NOT TO SCALE



DUPONT ST
R.O.W. VARIES
35 MPH
CRITICAL-UNDERGROUND UTILITY
(10) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B-3" DETAIL SHEET SIG-342-A
POCH: (23'8" SPAN#1)(23'0" SPAN#2)
EX. 45'/5 WOOD POLE W/STREETLIGHT
EX. 35'/4 WOOD POLE
MACKIN RD
80' R.O.W.
25 MPH
EX. 55'/4 WOOD POLE W/STREETLIGHT
40'/2 WOOD POLE W/GUYING (10)
SEE DETAIL "B-3" DETAIL SHEET SIG-342-A (9)
POCH: (23'0" SPAN#2)(24'6" SPAN#3)
EX. 35'/4 WOOD POLE
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 35'/4 WOOD POLE
(10) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B-3" DETAIL SHEET SIG-342-A
POCH: (24'0" SPAN#1)(23'9" SPAN#4)
MACKIN RD
66' R.O.W.
25 MPH
DUPONT ST
80' R.O.W.
35 MPH
EX. 55'/4 WOOD POLE (GUYING BY CE) (11)
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X) (3)
SEE DETAIL "D-1" DETAIL SHEET SIG-340-A (9)
POCH: (24'3" SPAN#3)(23'9" SPAN#4)
CONDUIT, DB, 2-3"
CONDUIT, DB, 1-1½"
HH#1 (3' ROUND) (13)
CONDUIT, DB, 4-3"
CONDUIT, DB, 1-1½"
DIGITAL TYPE TS CONTROLLER & CABINET, (1)(2)
BASE MTD., ON NEW FDN.
SCALE IN FEET

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED - 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



SPAN#2 (61')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#2 POCH: 23'0"
SPAN#1 POCH: 23'8"
SPAN#2 POCH: 23'0"
SPAN#3 POCH: 24'6"
SPAN#1 (74')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 (84')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#1 POCH: 24'0"
SPAN#4 POCH: 23'9"
SPAN#3 POCH: 24'3"
SPAN#4 POCH: 23'9"
SPAN#4 (72')
TENSION=900
(SUGGESTED STEM LENGTHS)

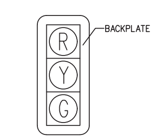
NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION AND GUYING OF EXISTING WOOD POLE.
ESTIMATED COST TO CONTRACTOR: $2500.
REFERENCE NO. 1047321470

LIST OF MATERIAL - JN: 200906

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	4 Ea	8200140
(5)	Span Wire Tether	4 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	4 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
(8)	Backplate, TS	8 Ea	8200501
(9)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
(10)	Wood Pole	3 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
(13)	Hh, Round, 3 foot Dia	1 Ea	8190259
( )	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
( )	Conduit, DB, 2, 3 inch	10 Ft	8190032
( )	Conduit, DB, 4, 3 inch	10 Ft	8190038
( )	Power Co. (Est. Cost to Contractor)	2500 Dlr	8200116



TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN

CS*1 FACING SOUTH
CS*2 FACING WEST
CS*3 FACING NORTH
CS*4 FACING EAST

L.E.D. PEDESTRIAN
COUNTDOWN HEAD

JOB NO. JN200906

OPENINGS	36
CYCLIC WATTS	432
STEADY WATTS	180

811. Know what's below. Call before you dig.

REV#	DATE	DESCRIPTION	BY

WADE TRIM

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

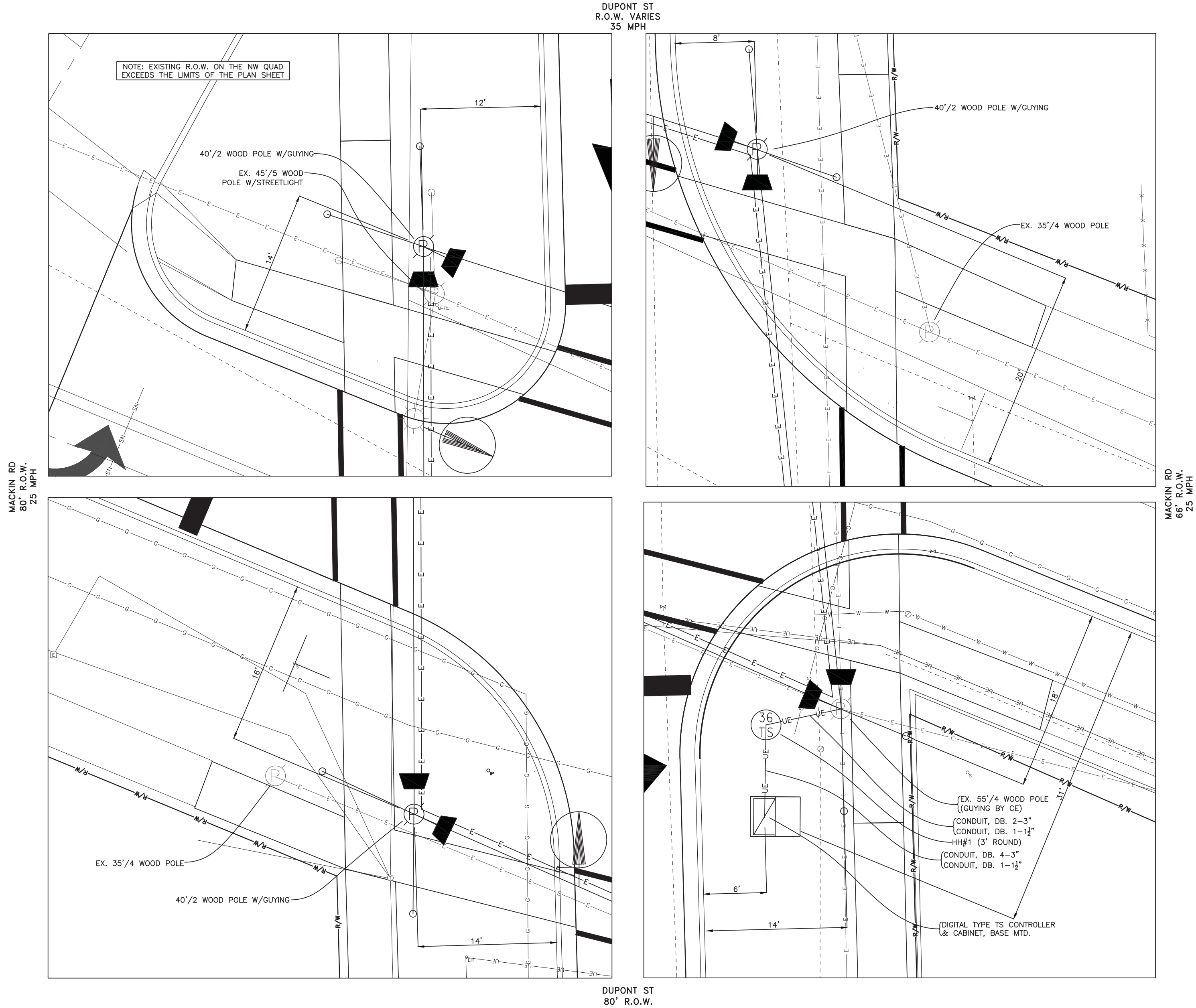
DUPONT STREET - SOUTH
TRAFFIC SIGNAL INSTALLATION SHEET 3
DUPONT STREET @ MACKIN ROAD

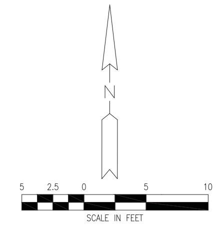
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 212

FIELD BOOK INFORMATION:-
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852527\CTS-PLTS-TRAFFIC-SIGNAL.DWG - MACKIN-CON - PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY


DUPONT ST
R.O.W. VARIES
35 MPH
NOTE: EXISTING R.O.W. ON THE NW QUAD EXCEEDS THE LIMITS OF THE PLAN SHEET
12'
40'/2 WOOD POLE W/GUYING
EX. 45'/5 WOOD POLE W/STREETLIGHT
14'
8'
40'/2 WOOD POLE W/GUYING
EX. 35'/4 WOOD POLE
20'
MACKIN RD
80' R.O.W.
25 MPH
MACKIN RD
66' R.O.W.
25 MPH
16'
EX. 35'/4 WOOD POLE
40'/2 WOOD POLE W/GUYING
14'
36
TS
18'
31'
EX. 55'/4 WOOD POLE (GUYING BY CE)
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
HH#1 (3' ROUND)
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
6'
14'
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD.
DUPONT ST
80' R.O.W.
35 MPH



JOB NO. JN200906

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:—
C:\PW_WORK2\D0852527\CTS—PLTS—TRAFFIC—SIGNAL.DWG — MACKIN—QUADS — PLOTTED 4/19/2019 3:11 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

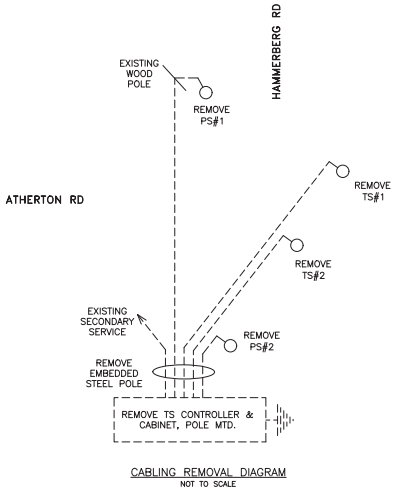
DUPONT STREET – SOUTH
TRAFFIC SIGNAL QUADRANT DETAILS 3
DUPONT STREET @ MACKIN ROAD

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

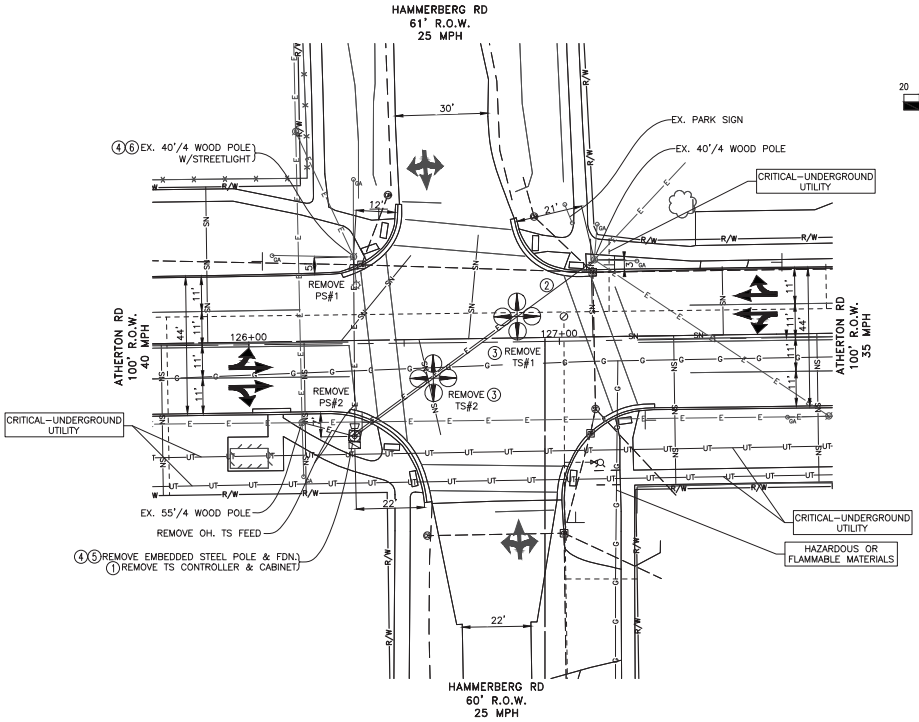
JOB NO. COF1065.01F

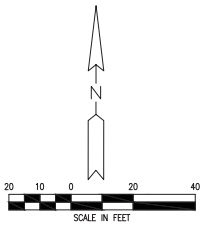
SHEET 213

811 Know what's below. Call before you dig.



CABLING REMOVAL DIAGRAM
NOT TO SCALE





NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION. REFERENCE NO. 1047321480

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	TS, Span Wire Mtd, Rem	2 Ea	8200182
4	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea	8200180
5	Steel Pole, Rem (Embedded)	1 Ea	8200146
6	Cable Pole, TS, Disman	1 Ea	8190010

R Y G
REMOVE TS#1 & TS#2 FACING ALL DIRECTIONS

JOB NO. JN201292

OPENINGS	28
CYCLIC WATTS	4000
STEADY WATTS	0

Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG - HAMMERBERG-REM - PLOTTED 4/19/2019 3:12 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 4
ATHERTON ROAD @ HAMMERBERG ROAD

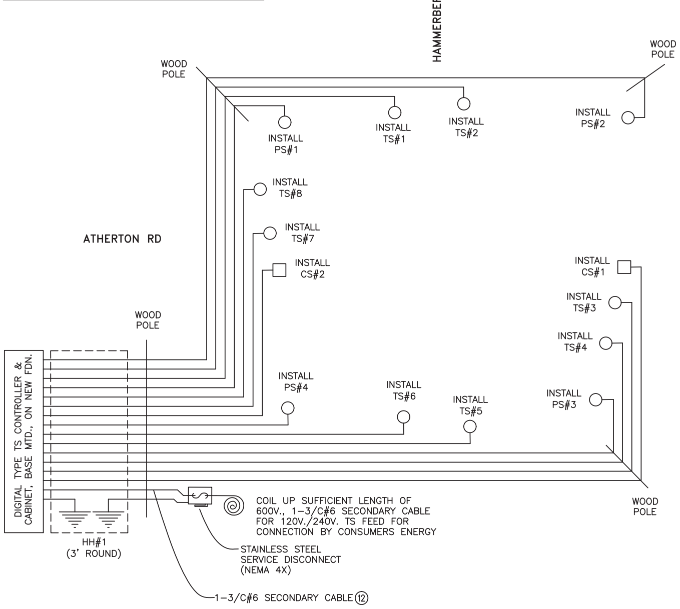
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
214

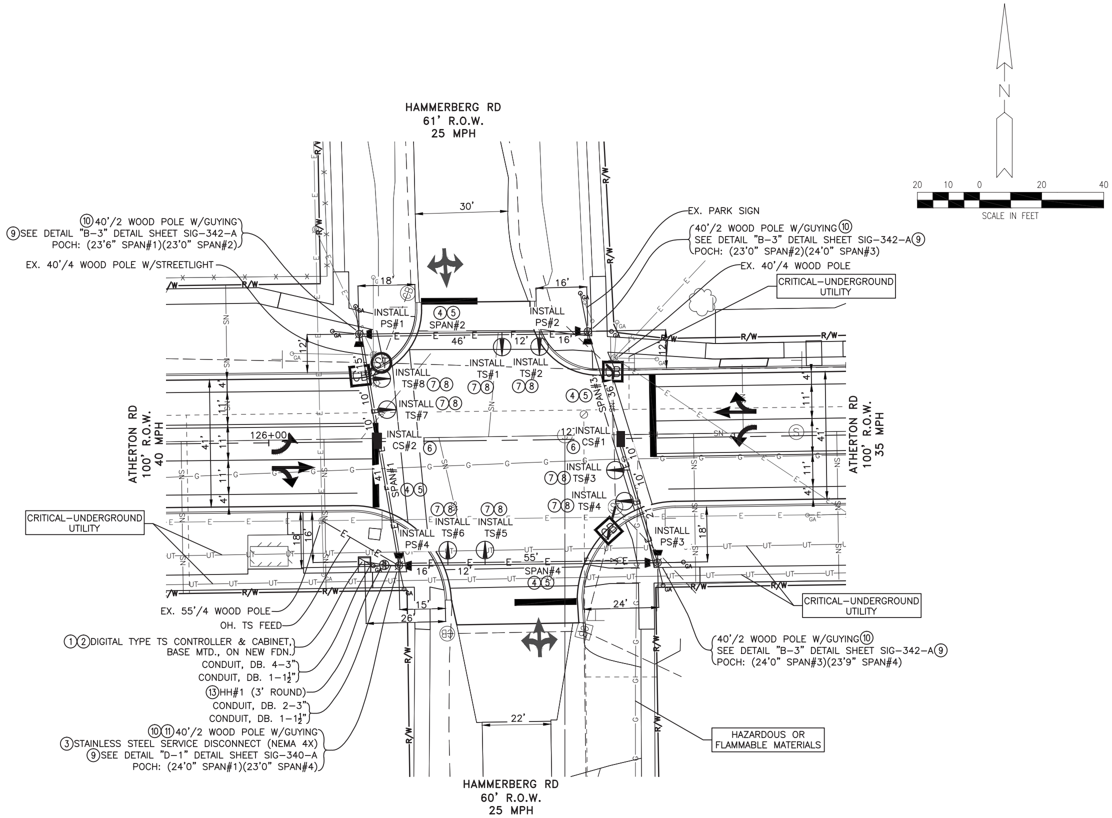
CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



HAMMERBERG RD
WOOD POLE
INSTALL PS#1
INSTALL TS#1
INSTALL TS#2
INSTALL PS#2
INSTALL TS#8
INSTALL TS#7
INSTALL CS#2
ATHERTON RD
INSTALL CS#1
INSTALL TS#3
INSTALL TS#4
INSTALL PS#4
INSTALL TS#6
INSTALL TS#5
INSTALL PS#3
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
HH#1 (3' ROUND)
COIL UP SUFFICIENT LENGTH OF 600V., 1-3/C#6 SECONDARY CABLE FOR 120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
1-3/C#6 SECONDARY CABLE 12

CABLING INSTALLATION DIAGRAM
NOT TO SCALE



HAMMERBERG RD
61' R.O.W.
25 MPH
10 40'/2 WOOD POLE W/GUYING
9 SEE DETAIL "B-3" DETAIL SHEET SIG-342-A
POCH: (23'6" SPAN#1)(23'0" SPAN#2)
EX. 40'/4 WOOD POLE W/STREETLIGHT
EX. PARK SIGN
40'/2 WOOD POLE W/GUYING 10
SEE DETAIL "B-3" DETAIL SHEET SIG-342-A 9
POCH: (23'0" SPAN#2)(24'0" SPAN#3)
EX. 40'/4 WOOD POLE
CRITICAL-UNDERGROUND UTILITY
ATHERTON RD
100' R.O.W.
40 MPH
ATHERTON RD
100' R.O.W.
35 MPH
CRITICAL-UNDERGROUND UTILITY
EX. 55'/4 WOOD POLE
OH. TS FEED
1 2 DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
13 HH#1 (3' ROUND)
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
10 11 40'/2 WOOD POLE W/GUYING
3 STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
9 SEE DETAIL "D-1" DETAIL SHEET SIG-340-A
POCH: (24'0" SPAN#1)(23'0" SPAN#4)
CRITICAL-UNDERGROUND UTILITY
40'/2 WOOD POLE W/GUYING 10
SEE DETAIL "B-3" DETAIL SHEET SIG-342-A 9
POCH: (24'0" SPAN#3)(23'9" SPAN#4)
HAZARDOUS OR FLAMMABLE MATERIALS
HAMMERBERG RD
60' R.O.W.
25 MPH
126+00
SCALE IN FEET
N

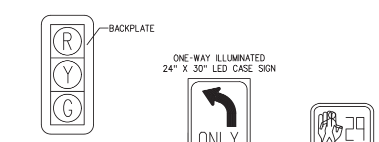
NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR. REFERENCE NO. 1047321480

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller Fdn, Base Mount	1 Ea	8200045
2	Controller and Cabinet, Digital Type	1 Ea	8200031
3	Serv Disconnect	1 Ea	8200135
4	Span Wire	4 Ea	8200140
5	Span Wire Tether	4 Ea	8200142
6	Case Sign (LED), One Way, 24 inch by 30 inch	2 Ea	8200029
7	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
8	Backplate, TS	8 Ea	8200501
9	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
10	Wood Pole	4 Ea	8190465
11	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
12	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
13	Hh, Round, 3 foot Dia	1 Ea	8190259
	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
	Conduit, DB, 2, 3 inch	10 Ft	8190032
	Conduit, DB, 4, 3 inch	10 Ft	8190038

Know what's below. Call before you dig.



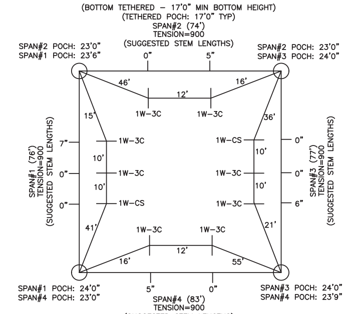
TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

CS*1 FACING WEST
CS*2 FACING EAST

L.E.D. PEDESTRIAN COUNTDOWN HEAD

JOB NO. JN201292

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED - 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



SPAN#2 (74')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#2 POCH: 23'0"
SPAN#1 POCH: 23'6"
SPAN#2 POCH: 23'0"
SPAN#3 POCH: 24'0"
SPAN#1 (76')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 (77')
TENSION=900
(SUGGESTED STEM LENGTHS)
1W-3C
1W-CS
SPAN#1 POCH: 24'0"
SPAN#4 POCH: 23'0"
SPAN#3 POCH: 24'0"
SPAN#4 POCH: 23'9"
SPAN#4 (83')
TENSION=900
(SUGGESTED STEM LENGTHS)

NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	34
CYCLIC WATTS	432
STEADY WATTS	90

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 4
ATHERTON ROAD @ HAMMERBERG ROAD

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 215

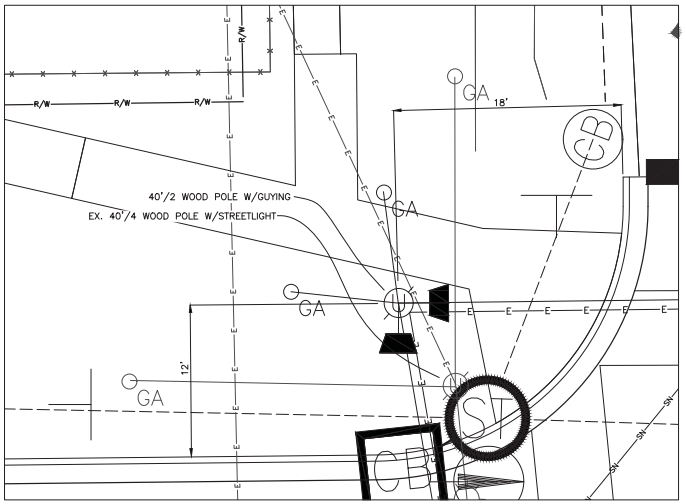
PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG - HAMMERBERG-CON - PLOTTED 4/19/2019 3:12 AM BY RUGGLES, TIMOTHY

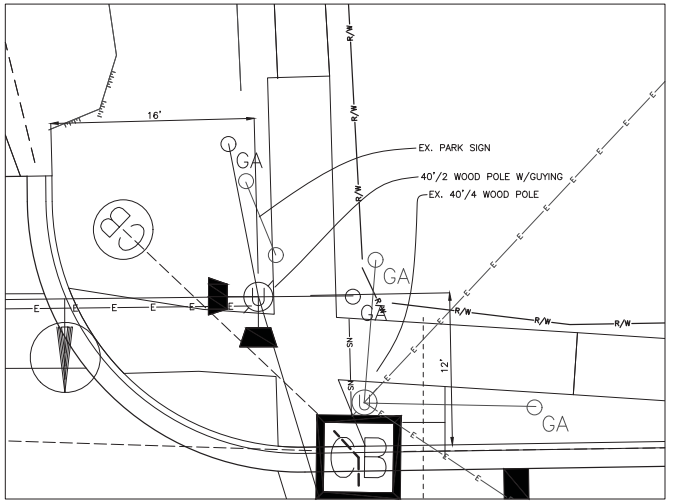
HAMMERBERG RD.
61' R.O.W.
25 MPH

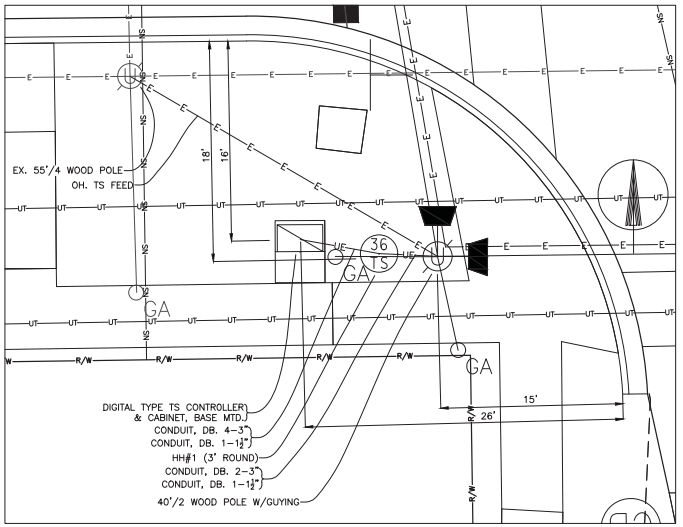
ATHERTON RD
100' R.O.W.
40 MPH

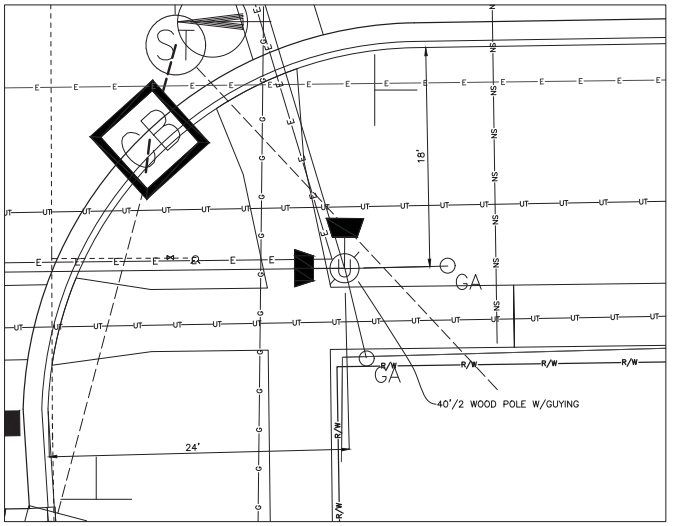
ATHERTON RD
100' R.O.W.
35 MPH

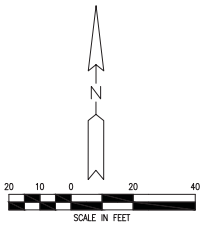
HAMMERBERG RD
60' R.O.W.
25 MPH











REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 4
ATHERTON ROAD @ HAMMERBERG ROAD

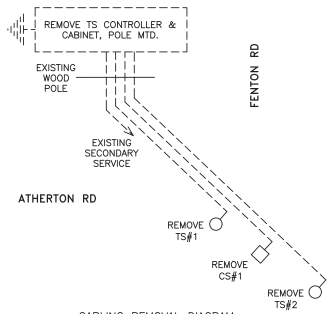
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

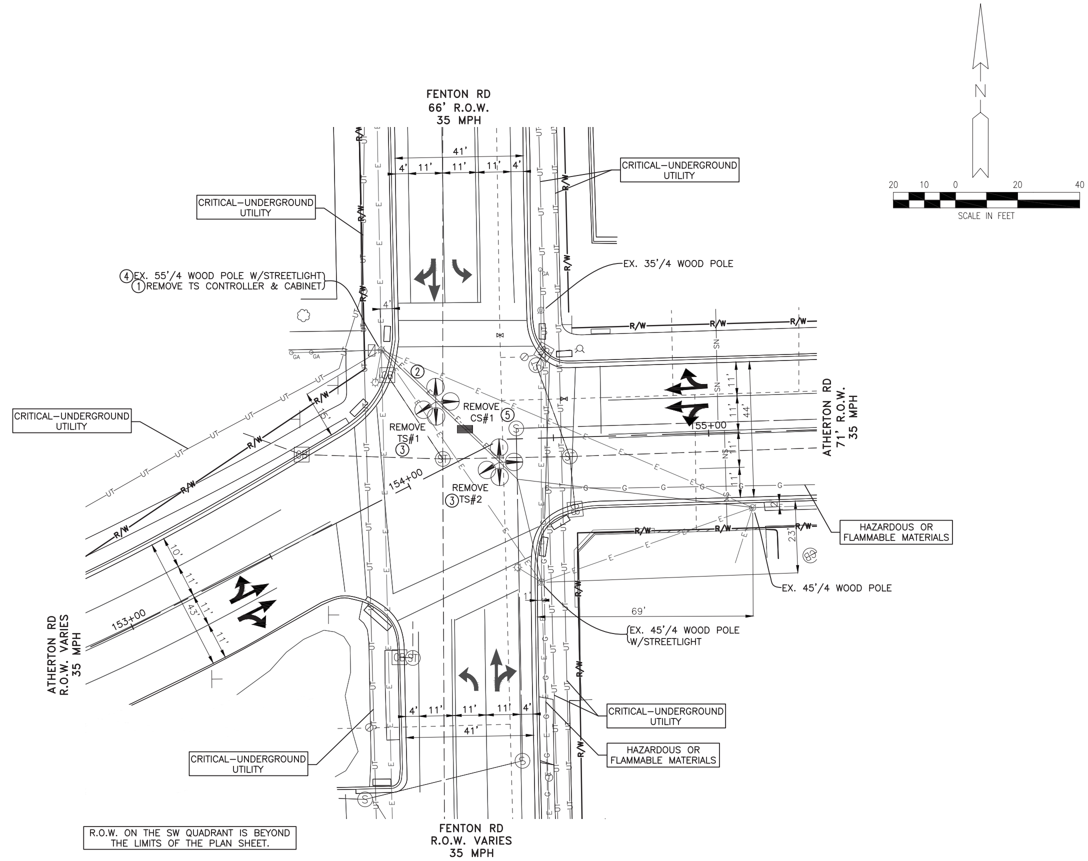
SHEET
216

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG - HAMMERBERG-QUADS - PLOTTED 4/19/2019 3:13 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--



CABLING REMOVAL DIAGRAM
NOT TO SCALE


FENTON RD
66' R.O.W.
35 MPH
41'
4' 11' 11' 11' 4'
CRITICAL–UNDERGROUND UTILITY
CRITICAL–UNDERGROUND UTILITY
④EX. 55'/4 WOOD POLE W/STREETLIGHT
①REMOVE TS CONTROLLER & CABINET
EX. 35'/4 WOOD POLE
CRITICAL–UNDERGROUND UTILITY
REMOVE CS#1 ⑤
REMOVE TS#1 ③
REMOVE ③TS#2
154+00
155+00
153+00
ATHERTON RD
71' R.O.W.
35 MPH
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 45'/4 WOOD POLE
69'
EX. 45'/4 WOOD POLE W/STREETLIGHT
ATHERTON RD
R.O.W. VARIES
35 MPH
CRITICAL–UNDERGROUND UTILITY
HAZARDOUS OR FLAMMABLE MATERIALS
CRITICAL–UNDERGROUND UTILITY
R.O.W. ON THE SW QUADRANT IS BEYOND THE LIMITS OF THE PLAN SHEET.
FENTON RD
R.O.W. VARIES
35 MPH
N
20 10 0 20 40
SCALE IN FEET

NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321531

811 Know what's below. Call before you dig.

LIST OF MATERIAL - JN201292			
NO.	ITEM	QUANTITIES	ITEM CODE
①	Controller and Cabinet, Rem	1 Ea	8200030
②	Span Wire, Rem	1 Ea	8200141
③	TS, Span Wire Mtd, Rem	2 Ea	8200182
④	Cable Pole, TS and Sec, Disman	1 Ea	8190009
⑤	Case Sign, Rem	1 Ea	8200020

REMOVE TS#1 & TS#2
FACING ALL DIRECTION

REMOVE CS#1
FACING NORTH & SOUTH

JOB NO. JN201292

OPENINGS	26
CYCLIC WATTS	3600
STEADY WATTS	90

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS–PLTS–TRAFFIC–SIGNALS–1.DWG -- FENTON–REM -- PLOTTED 4/19/2019 3:13 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:–

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 5
ATHERTON ROAD @ FENTON ROAD

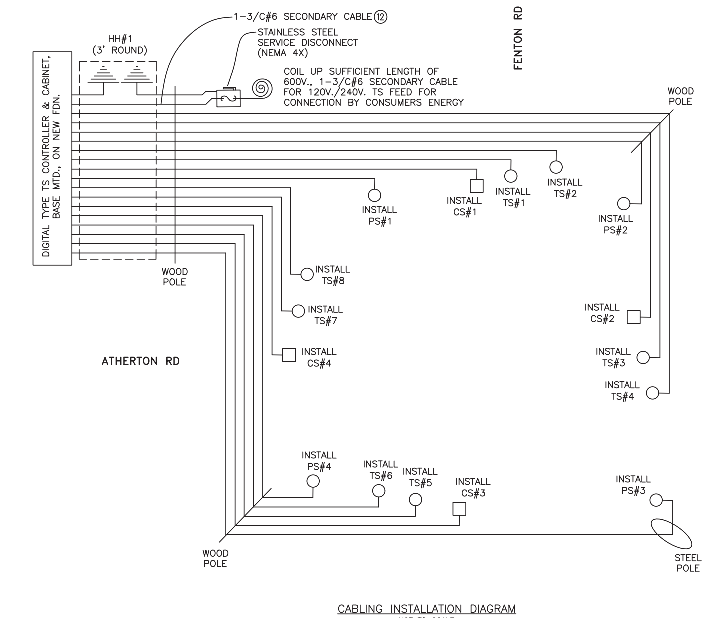
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 217

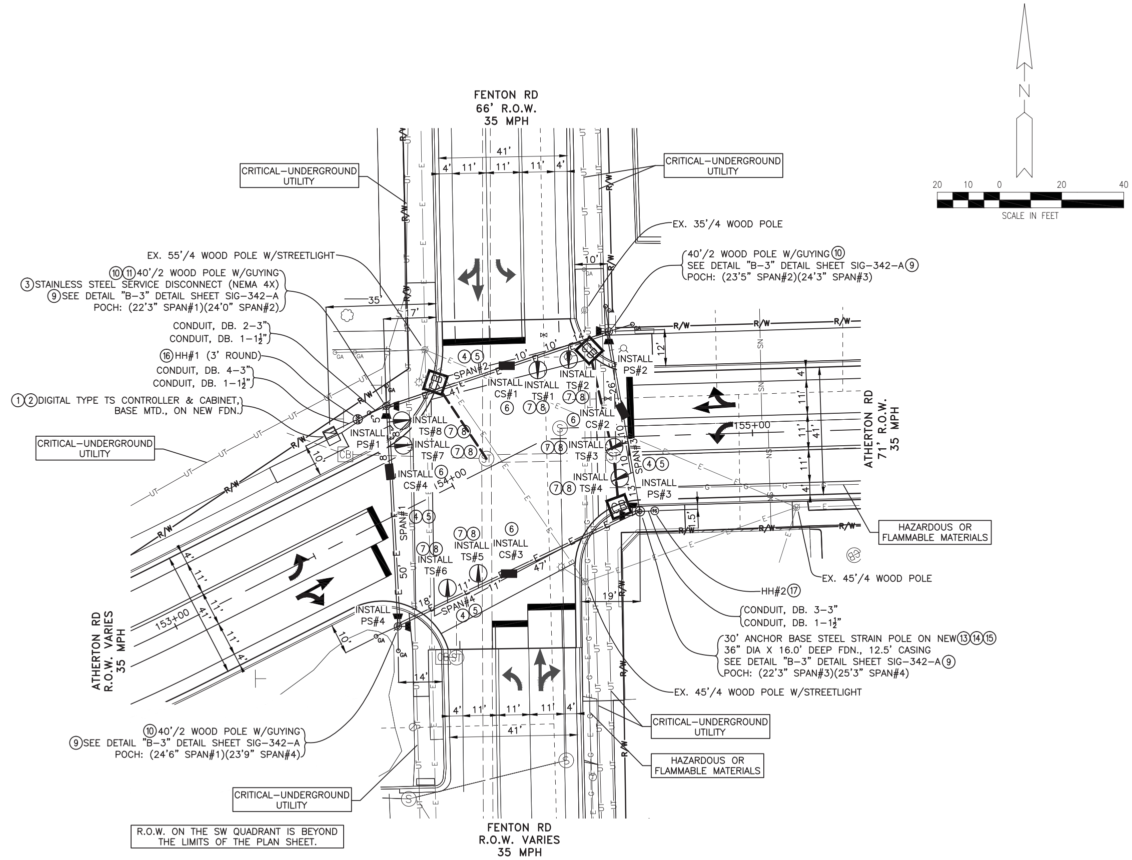
CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 1W–3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



1–3/C#6 SECONDARY CABLE (12)
HH#1 (3' ROUND)
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
COIL UP SUFFICIENT LENGTH OF 600V., 1–3/C#6 SECONDARY CABLE FOR 120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
FENTON RD
WOOD POLE
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
INSTALL PS#1
INSTALL CS#1
INSTALL TS#1
INSTALL TS#2
INSTALL PS#2
INSTALL TS#8
INSTALL TS#7
INSTALL CS#4
INSTALL CS#2
INSTALL TS#3
INSTALL TS#4
ATHERTON RD
INSTALL PS#4
INSTALL TS#6
INSTALL TS#5
INSTALL CS#3
INSTALL PS#3
STEEL POLE

CABLING INSTALLATION DIAGRAM
NOT TO SCALE



FENTON RD
66' R.O.W.
35 MPH
CRITICAL–UNDERGROUND UTILITY
EX. 35'/4 WOOD POLE
EX. 55'/4 WOOD POLE W/STREETLIGHT
(10)(11) 40'/2 WOOD POLE W/GUYING
(3) STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
(9) SEE DETAIL "B–3" DETAIL SHEET SIG–342–A
POCH: (22'3" SPAN#1)(24'0" SPAN#2)
(10) 40'/2 WOOD POLE W/GUYING
SEE DETAIL "B–3" DETAIL SHEET SIG–342–A (9)
POCH: (23'5" SPAN#2)(24'3" SPAN#3)
CONDUIT, DB. 2–3"
CONDUIT, DB. 1–1½"
(16) HH#1 (3' ROUND)
CONDUIT, DB. 4–3"
CONDUIT, DB. 1–1½"
(1)(2) DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
ATHERTON RD
71' R.O.W.
35 MPH
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 45'/4 WOOD POLE
HH#2 (17)
CONDUIT, DB. 3–3"
CONDUIT, DB. 1–1½"
30' ANCHOR BASE STEEL STRAIN POLE ON NEW (13)(14)(15)
36" DIA X 16.0' DEEP FDN., 12.5' CASING
SEE DETAIL "B–3" DETAIL SHEET SIG–342–A (9)
POCH: (22'3" SPAN#3)(25'3" SPAN#4)
EX. 45'/4 WOOD POLE W/STREETLIGHT
ATHERTON RD
R.O.W. VARIES
35 MPH
(10) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B–3" DETAIL SHEET SIG–342–A
POCH: (24'6" SPAN#1)(23'9" SPAN#4)
FENTON RD
R.O.W. VARIES
35 MPH
R.O.W. ON THE SW QUADRANT IS BEYOND THE LIMITS OF THE PLAN SHEET.
SCALE IN FEET

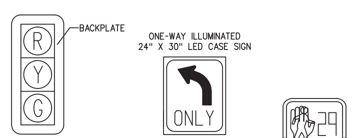
NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG–304–A & SIG–305–B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR.
REFERENCE NO. 1047321531

LIST OF MATERIAL – JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	4 Ea	8200140
(5)	Span Wire Tether	4 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	4 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
(8)	Backplate, TS	8 Ea	8200501
(9)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
(10)	Wood Pole	3 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
(13)	Strain Pole, Steel, Anchor Base, 30 foot	1 Ea	8200155
(14)	Strain Pole Fdn	16 Ft	8200152
(15)	Casing	13 Ft	8200480
(16)	Hh, Round, 3 foot Dia	1 Ea	8190259
(17)	Hh, Round	1 Ea	8190260
( )	Conduit, DB, 1, 1 1/2 inch	30 Ft	8190027
( )	Conduit, DB, 2, 3 inch	10 Ft	8190032
( )	Conduit, DB, 3, 3 inch	10 Ft	8190035
( )	Conduit, DB, 4, 3 inch	10 Ft	8190038

811 Know what's below. Call before you dig.



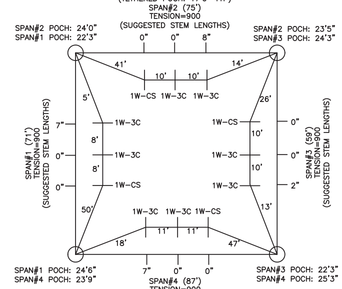
TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

CS*1 FACING SOUTH
CS*2 FACING WEST
CS*3 FACING NORTH
CS*4 FACING EAST

L.E.D. PEDESTRIAN COUNTDOWN HEAD

JOB NO. JN201292

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED – 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



SPAN#2 (75')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#2 POCH: 24'0"
SPAN#1 POCH: 22'3"
SPAN#2 POCH: 23'5"
SPAN#3 POCH: 24'3"
SPAN#1 (71')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 (59')
TENSION=900
(SUGGESTED STEM LENGTHS)
1W–CS 1W–3C 1W–3C
1W–3C 1W–3C 1W–CS
SPAN#1 POCH: 24'6"
SPAN#4 POCH: 23'9"
SPAN#4 (87')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 POCH: 22'3"
SPAN#4 POCH: 25'3"

NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	36
CYCLIC WATTS	432
STEADY WATTS	180

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

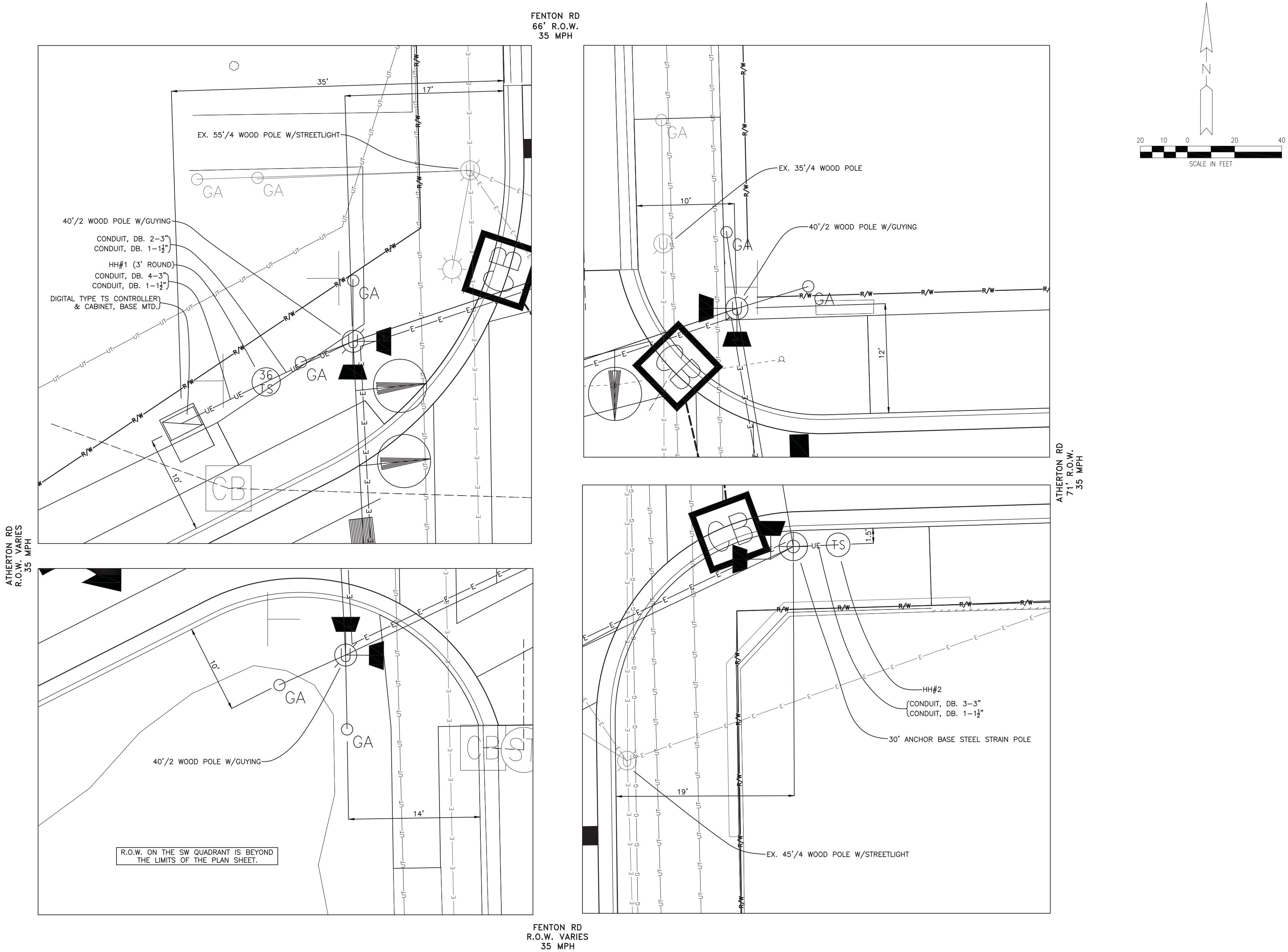
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 5
ATHERTON ROAD @ FENTON STREET

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 218

FIELD BOOK INFORMATION:–
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS–PLTS–TRAFFIC–SIGNALS–1.DWG – FENTON–CON – PLOTTED 4/19/2019 3:13 AM BY RUGGLES, TIMOTHY


FENTON RD
66' R.O.W.
35 MPH
35'
17'
EX. 55'/4 WOOD POLE W/STREETLIGHT
GA
40'/2 WOOD POLE W/GUYING
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
HH#1 (3' ROUND)
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
DIGITAL TYPE TS CONTROLLER
& CABINET, BASE MTD.
36
TS
CB
10'
R/W
EX. 35'/4 WOOD POLE
10'
40'/2 WOOD POLE W/GUYING
12'
ATHERTON RD
R.O.W. VARIES
35 MPH
ATHERTON RD
71' R.O.W.
35 MPH
40'/2 WOOD POLE W/GUYING
14'
R.O.W. ON THE SW QUADRANT IS BEYOND
THE LIMITS OF THE PLAN SHEET.
1.5'
HH#2
CONDUIT, DB. 3-3"
CONDUIT, DB. 1-1½"
30' ANCHOR BASE STEEL STRAIN POLE
19'
EX. 45'/4 WOOD POLE W/STREETLIGHT
FENTON RD
R.O.W. VARIES
35 MPH
N
20 10 0 20 40
SCALE IN FEET

Know what's **below.**
Call before you dig.

JOB NO. JN201292

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

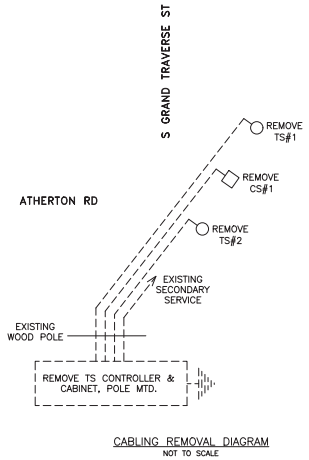
ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 5
ATHERTON ROAD @ FENTON STREET

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

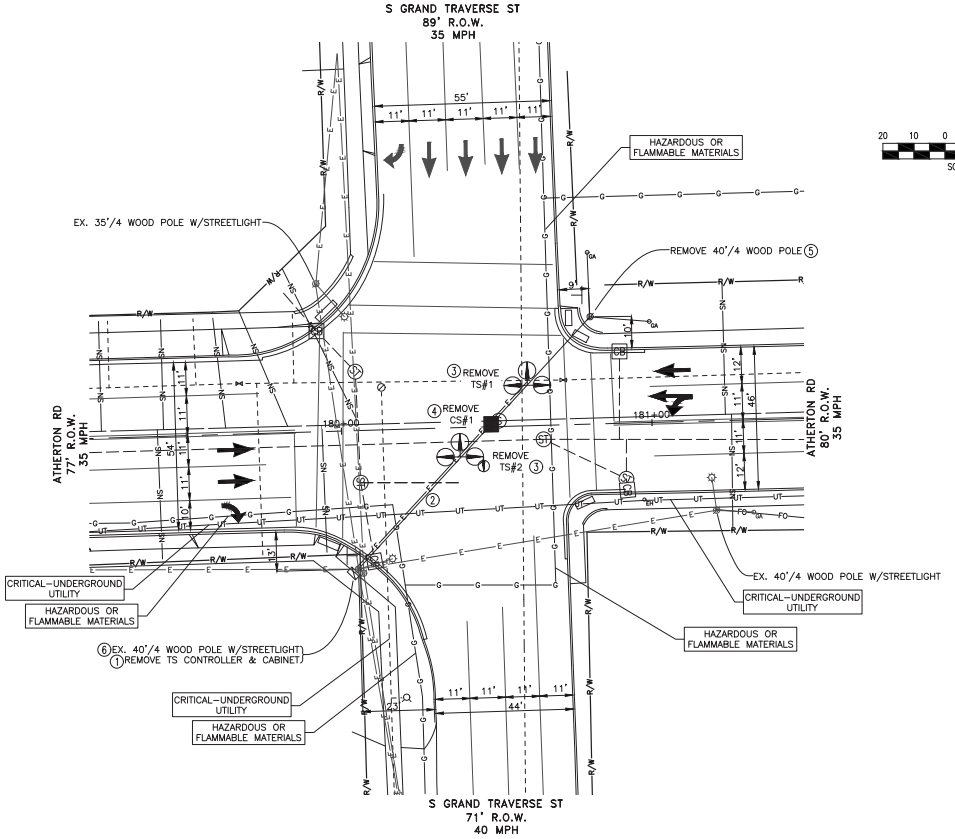
JOB NO.
COF1065.01F

SHEET
219

FIELD BOOK INFORMATION:-
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG - FENTON-QUADS - PLOTTED 4/19/2019 3:14 AM BY RUGGLES, TIMOTHY



CABLING REMOVAL DIAGRAM
NOT TO SCALE



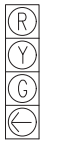
NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION. REFERENCE NO. 1047321535

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller and Cabinet, Rem	1 Ea	8200030
(2)	Span Wire, Rem	1 Ea	8200141
(3)	TS, Span Wire Mtd, Rem	2 Ea	8200182
(4)	Case Sign, Rem	1 Ea	8200020
(5)	Wood Pole, Rem	1 Ea	8190505
(6)	Cable Pole, TS and Sec, Disman	1 Ea	8190009

REMOVE TS#1 FACING NORTH, WEST & EAST
REMOVE TS#2 FACING NORTH & WEST



REMOVE TS#2 FACING EAST

FACING WEST | FACING NORTH | FACING EAST | FACING SOUTH

JOB NO. JN201292

OPENINGS	23
CYCLIC WATTS	2850
STEADY WATTS	250

Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\20085218\DTS-PLTS-TRAFFIC-SIGNALS-1.DWG - S-GRANDTRAVERSE-REM - PLOTTED 4/19/2019 3:14 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 6
ATHERTON ROAD @ S GRAND TRAVERSE STREET

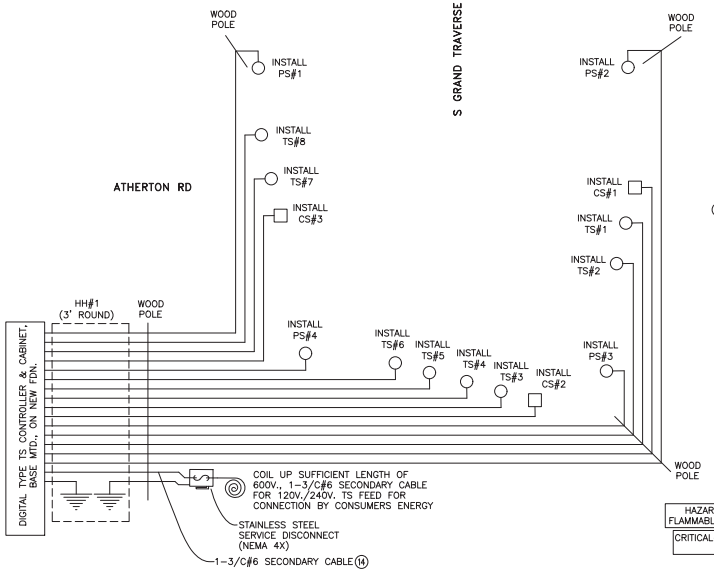
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

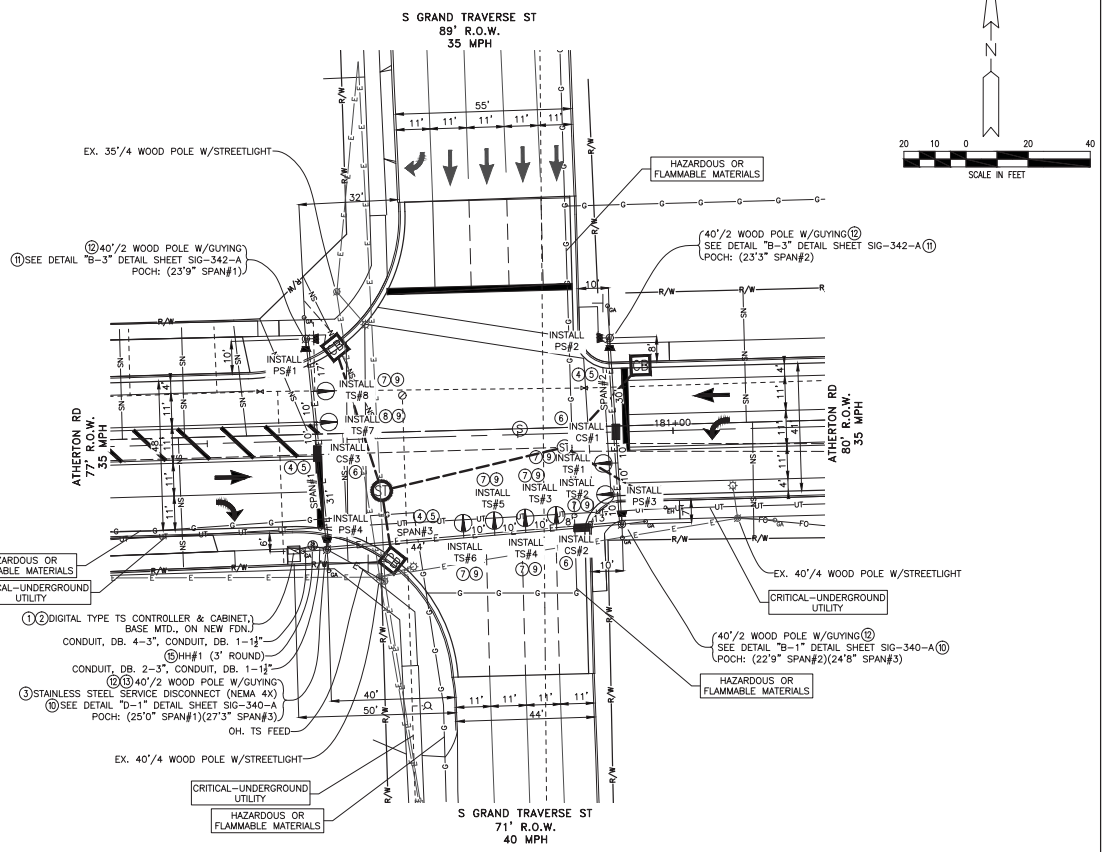
SHEET
220

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE

1. 1W–3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1W–5C TRAFFIC SIGNAL CABLES ARE 7/C#16 PJ.
3. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
4. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE

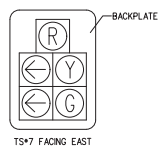


NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG–304–A & SIG–305–B.

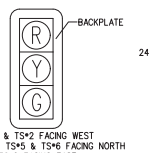
CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR.
REFERENCE NO. 1047321535

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	3 Ea	8200140
(5)	Span Wire Tether	3 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	3 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	7 Ea	8200313
(8)	TS, One Way Span Wire Mtd, Five Sect (LED)	1 Ea	8200315
(9)	Backplate, TS	8 Ea	8200501
(10)	TS, Pedestrian, One Way Bracket Arm Mtd (LED) Countdown	2 Ea	8200336
(11)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	2 Ea	8200339
(12)	Wood Pole	4 Ea	8190465
(13)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(14)	Cable, Sec, 600V, 1, 3/C#6	150 Ft	8190399
(15)	Hh, Round, 3 foot Dia	1 Ea	8190259
( )	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
( )	Conduit, DB, 2, 3 inch	10 Ft	8190032
( )	Conduit, DB, 4, 3 inch	10 Ft	8190038



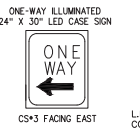
TS*7 FACING EAST



TS*1 & TS*2 FACING WEST
TS*3, TS*4, TS*5 & TS*6 FACING NORTH
TS*8 FACING EAST

CS*1 FACING WEST

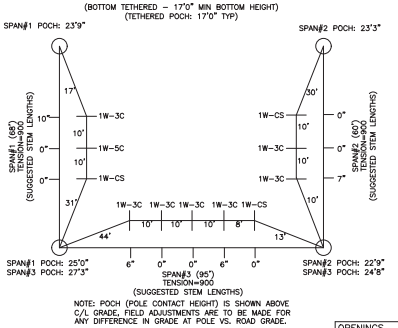
CS*2 FACING NORTH



CS*3 FACING EAST


L.E.D. PEDESTRIAN COUNTDOWN HEAD

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED – 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	35
CYCLIC WATTS	426
STEADY WATTS	135

JOB NO. JN201292

811 Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\W_WORK\2\0085218\DTS-PLTS-TRAFFIC-SIGNALS-12.DWG – S-GRANDTRAVERSE-CON – PLOTTED 4/19/2019 3:15 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:–

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3800
www.wadetrim.com

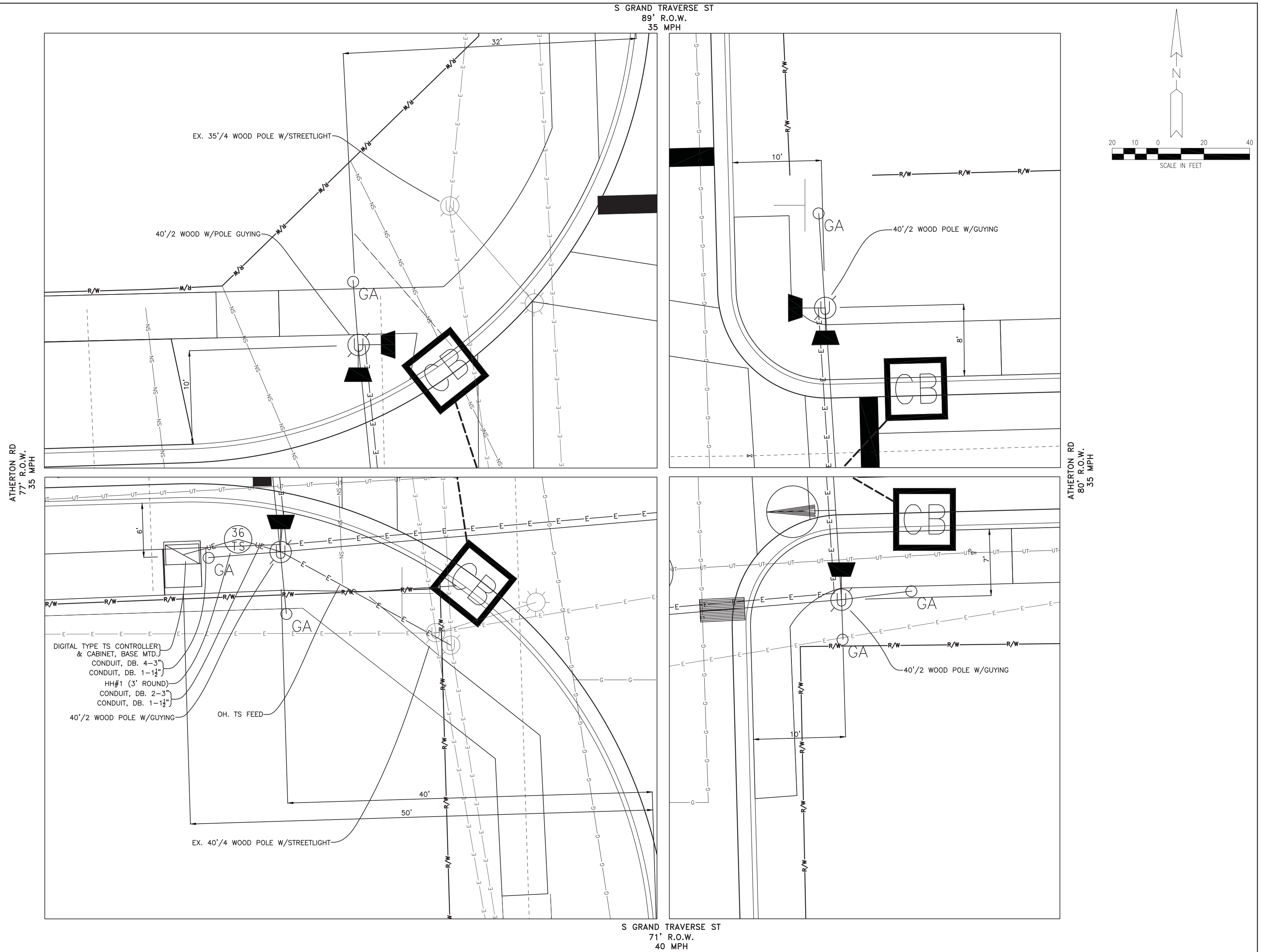
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 6
ATHERTON ROAD @ S GRAND TRAVERSE STREET

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
221


S GRAND TRAVERSE ST
89' R.O.W.
35 MPH
EX. 35'/4 WOOD POLE W/STREETLIGHT
40'/2 WOOD W/POLE GUYING
40'/2 WOOD POLE W/GUYING
ATHERTON RD
77' R.O.W.
35 MPH
ATHERTON RD
80' R.O.W.
35 MPH
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD.
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
HH#1 (3' ROUND)
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
40'/2 WOOD POLE W/GUYING
OH. TS FEED
EX. 40'/4 WOOD POLE W/STREETLIGHT
40'/2 WOOD POLE W/GUYING
S GRAND TRAVERSE ST
71' R.O.W.
40 MPH
CB
GA
36
TS
32'
10'
8'
6'
7'
40'
50'
N
20 10 0 20 40
SCALE IN FEET

JOB NO. JN201292

Know what's below. Call before you dig.

FIELD BOOK INFORMATION:-
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG -- S-GRANDTRAVERSE-QUADS -- PLOTTED 4/19/2019 3:15 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM

555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

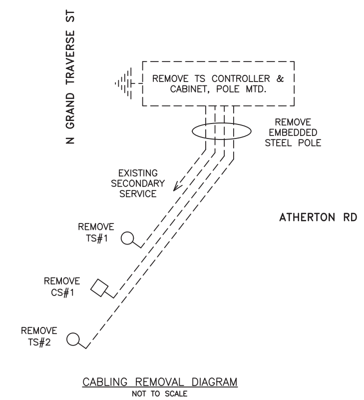
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 6
ATHERTON ROAD @ S GRAND TRAVERSE STREET

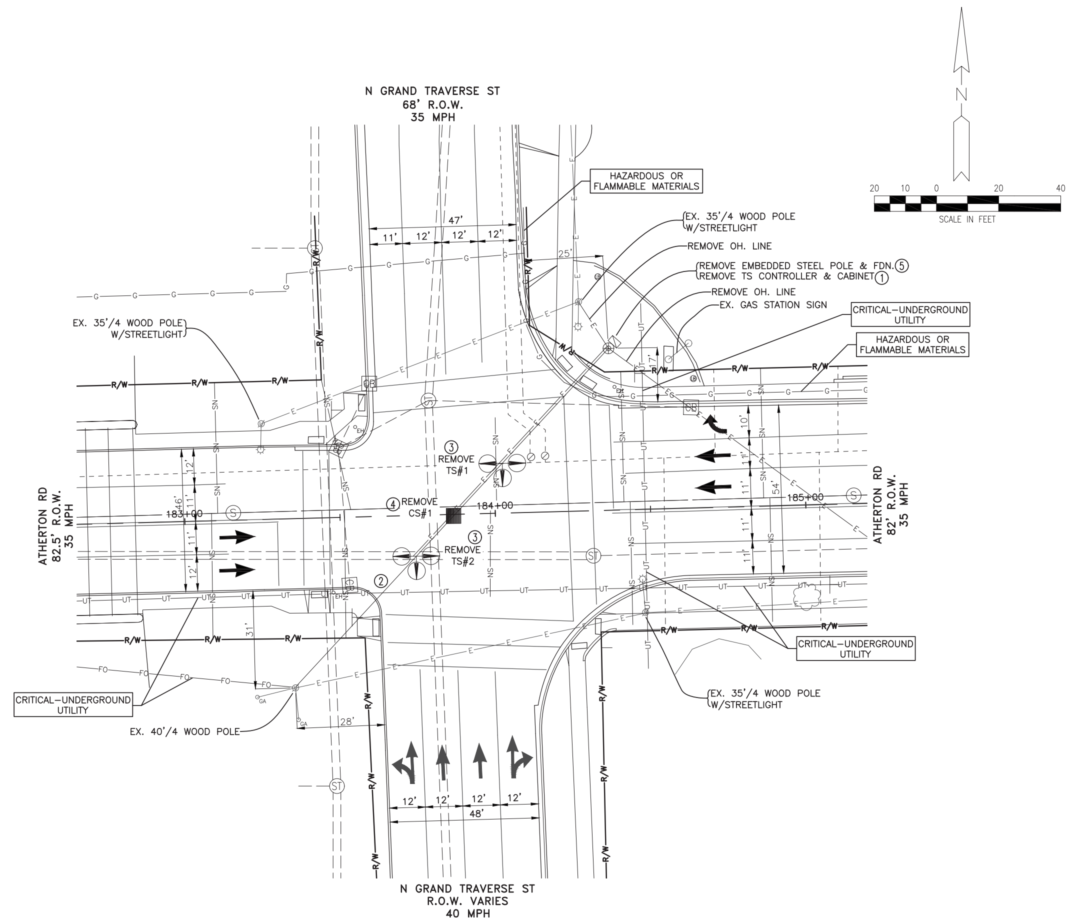
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 222



CABLING REMOVAL DIAGRAM
NOT TO SCALE


N GRAND TRAVERSE ST
68' R.O.W.
35 MPH
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 35'/4 WOOD POLE W/STREETLIGHT
REMOVE OH. LINE
REMOVE EMBEDDED STEEL POLE & FDN. 5
REMOVE TS CONTROLLER & CABINET 1
REMOVE OH. LINE
EX. GAS STATION SIGN
CRITICAL-UNDERGROUND UTILITY
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 35'/4 WOOD POLE W/STREETLIGHT
3 REMOVE TS#1
4 REMOVE CS#1
3 REMOVE TS#2
2
183+00
184+00
185+00
ATHERTON RD
82.5' R.O.W.
35 MPH
ATHERTON RD
82' R.O.W.
35 MPH
CRITICAL-UNDERGROUND UTILITY
EX. 40'/4 WOOD POLE
CRITICAL-UNDERGROUND UTILITY
EX. 35'/4 WOOD POLE W/STREETLIGHT
N GRAND TRAVERSE ST
R.O.W. VARIES
40 MPH
SCALE IN FEET
20 10 0 20 40

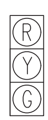
NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321537

LIST OF MATERIAL - JN201292

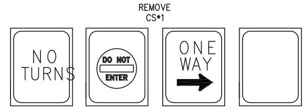
NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	TS, Span Wire Mtd, Rem	2 Ea	8200182
4	Case Sign, Rem	1 Ea	8200020
5	Steel Pole, Rem (Embedded)	1 Ea	8200146

Know what's below. Call before you dig.



REMOVE TS#1 & TS#2
FACING EAST, SOUTH & WEST

REMOVE CS#1



FACING WEST | FACING NORTH | FACING EAST | FACING SOUTH

JOB NO. JN201292

OPENINGS	21
CYCLIC WATTS	2700
STEADY WATTS	250

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 7
ATHERTON ROAD @ N GRAND TRAVERSE STREET

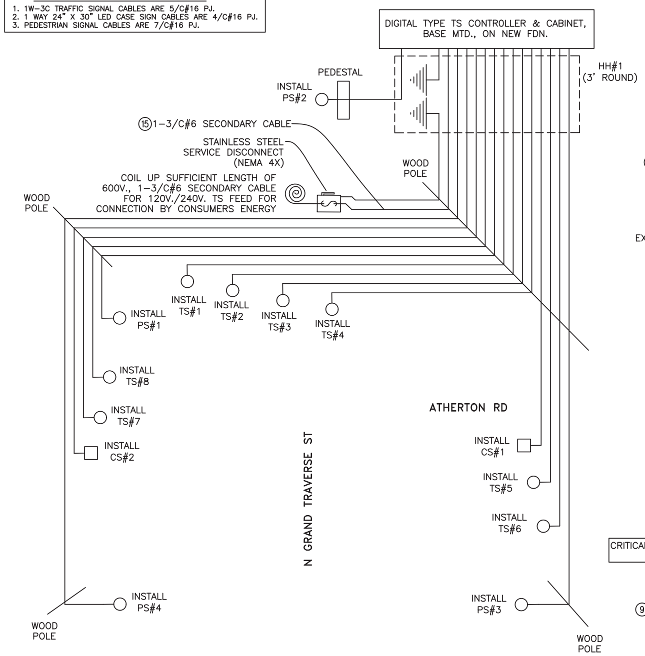
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 223

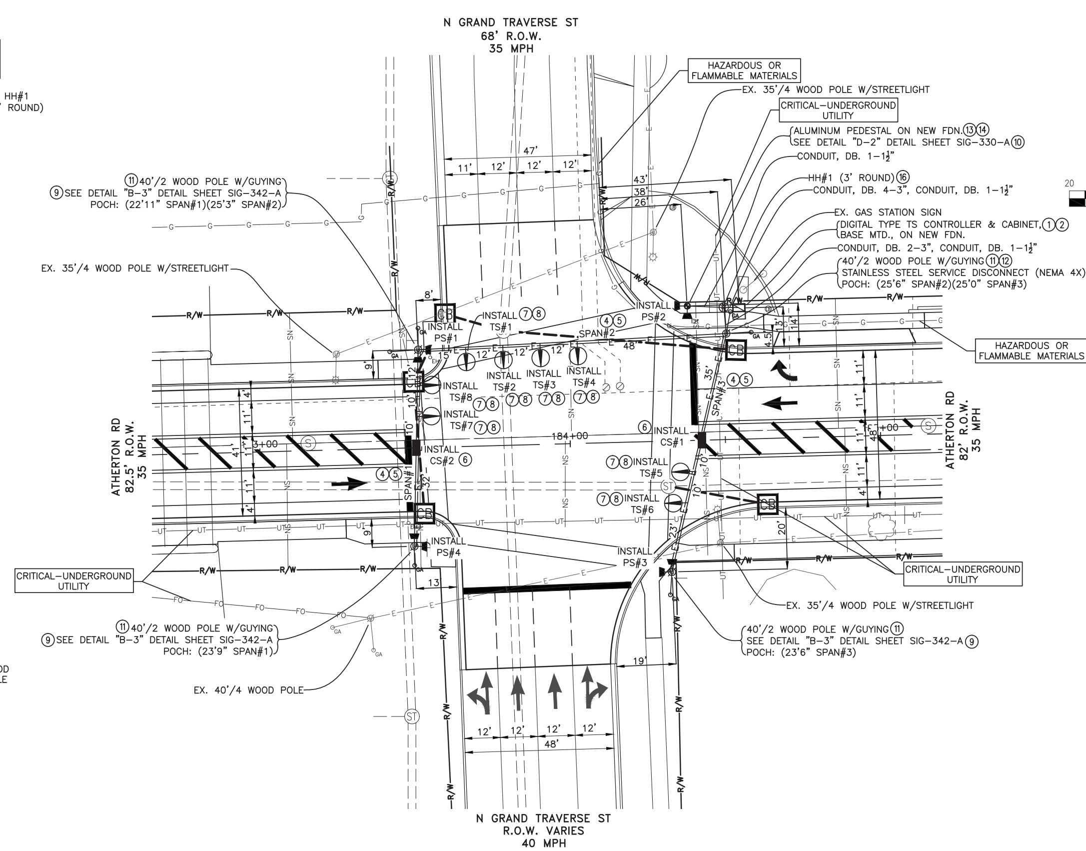
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG -- N-GRANDTRAVERSE-REM -- PLOTTED 4/19/2019 3:15 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W–3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.

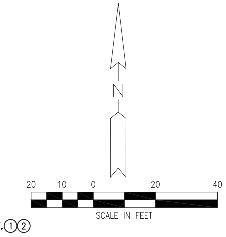


DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
HH#1 (3' ROUND)
PEDESTAL
INSTALL PS#2
(15) 1–3/C#6 SECONDARY CABLE
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
COIL UP SUFFICIENT LENGTH OF 600V., 1–3/C#6 SECONDARY CABLE FOR 120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
WOOD POLE
INSTALL PS#1
INSTALL TS#1
INSTALL TS#2
INSTALL TS#3
INSTALL TS#4
INSTALL TS#8
INSTALL TS#7
INSTALL CS#2
ATHERTON RD
N GRAND TRAVERSE ST
INSTALL CS#1
INSTALL TS#5
INSTALL TS#6
INSTALL PS#4
INSTALL PS#3

CABLING INSTALLATION DIAGRAM
NOT TO SCALE



N GRAND TRAVERSE ST
68' R.O.W.
35 MPH
HAZARDOUS OR FLAMMABLE MATERIALS
EX. 35'/4 WOOD POLE W/STREETLIGHT
CRITICAL–UNDERGROUND UTILITY
ALUMINUM PEDESTAL ON NEW FDN. (13)(14)
SEE DETAIL "D–2" DETAIL SHEET SIG–330–A (10)
CONDUIT, DB. 1–1½"
HH#1 (3' ROUND) (16)
CONDUIT, DB. 4–3", CONDUIT, DB. 1–1½"
EX. GAS STATION SIGN
DIGITAL TYPE TS CONTROLLER & CABINET, (1)(2)
BASE MTD., ON NEW FDN.
CONDUIT, DB. 2–3", CONDUIT, DB. 1–1½"
40'/2 WOOD POLE W/GUYING (11)(12)
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X) (3)
POCH: (25'6" SPAN#2)(25'0" SPAN#3)
(11) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B–3" DETAIL SHEET SIG–342–A
POCH: (22'11" SPAN#1)(25'3" SPAN#2)
EX. 35'/4 WOOD POLE W/STREETLIGHT
ATHERTON RD
82.5' R.O.W.
35 MPH
ATHERTON RD
82' R.O.W.
35 MPH
INSTALL PS#1
INSTALL TS#1 (7)(8)
INSTALL PS#2
SPAN#2
INSTALL TS#2
INSTALL TS#3
INSTALL TS#4
INSTALL TS#8
INSTALL TS#7 (7)(8)
INSTALL CS#2 (6)
INSTALL CS#1
INSTALL TS#5
INSTALL TS#6
INSTALL PS#4
INSTALL PS#3
SPAN#1
SPAN#3
184+00
CRITICAL–UNDERGROUND UTILITY
EX. 35'/4 WOOD POLE W/STREETLIGHT
(11) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B–3" DETAIL SHEET SIG–342–A
POCH: (23'9" SPAN#1)
40'/2 WOOD POLE W/GUYING (11)
SEE DETAIL "B–3" DETAIL SHEET SIG–342–A (9)
POCH: (23'6" SPAN#3)
EX. 40'/4 WOOD POLE
N GRAND TRAVERSE ST
R.O.W. VARIES
40 MPH



NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG–304–A & SIG–305–B.

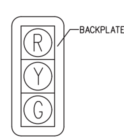
CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729–3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR. REFERENCE NO. 1047321537

LIST OF MATERIAL – JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller Fdn, Base Mount	1 Ea	8200045
2	Controller and Cabinet, Digital Type	1 Ea	8200031
3	Serv Disconnect	1 Ea	8200135
4	Span Wire	3 Ea	8200140
5	Span Wire Tether	3 Ea	8200142
6	Case Sign (LED), One Way, 24 inch by 30 inch	2 Ea	8200029
7	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
8	Backplate, TS	8 Ea	8200501
9	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	3 Ea	8200339
10	TS, Pedestrian, Two Way Pedestal Mtd (LED) Countdown	1 Ea	8200347
11	Wood Pole	4 Ea	8190465
12	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
13	Pedestal, Alum	1 Ea	8200100
14	Pedestal, Fdn	1 Ea	8200105
15	Cable, Sec, 600V, 1, 3/C#6	150 Ft	8190399
16	Hh, Round, 3 foot Dia	1 Ea	8190259
	Conduit, DB, 1, 1 1/2 inch	35 Ft	8190027
	Conduit, DB, 2, 3 inch	10 Ft	8190032
	Conduit, DB, 4, 3 inch	10 Ft	8190038

JOB NO. JN201292

811 Know what's below. Call before you dig.



TS#1, TS#2, TS#3 & TS#4 FACING SOUTH
TS#5 & TS#6 FACING WEST
TS#7 & TS#8 FACING EAST

ONE-WAY ILLUMINATED 24" X 30" LED CASE SIGN

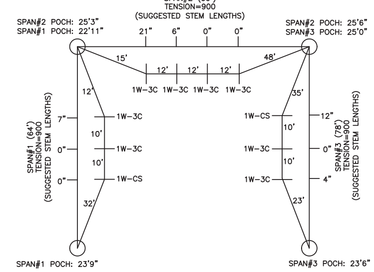
CS#1 FACING WEST

ONE-WAY ILLUMINATED 24" X 30" LED CASE SIGN

CS#2 FACING EAST

L.E.D. PEDESTRIAN COUNTDOWN HEAD

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED – 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)
SPAN#2 (99')
TENSION=900
(SUGGESTED STEM LENGTHS)



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	34
CYCLIC WATTS	432
STEADY WATTS	90

REV# | DATE | DESCRIPTION | BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

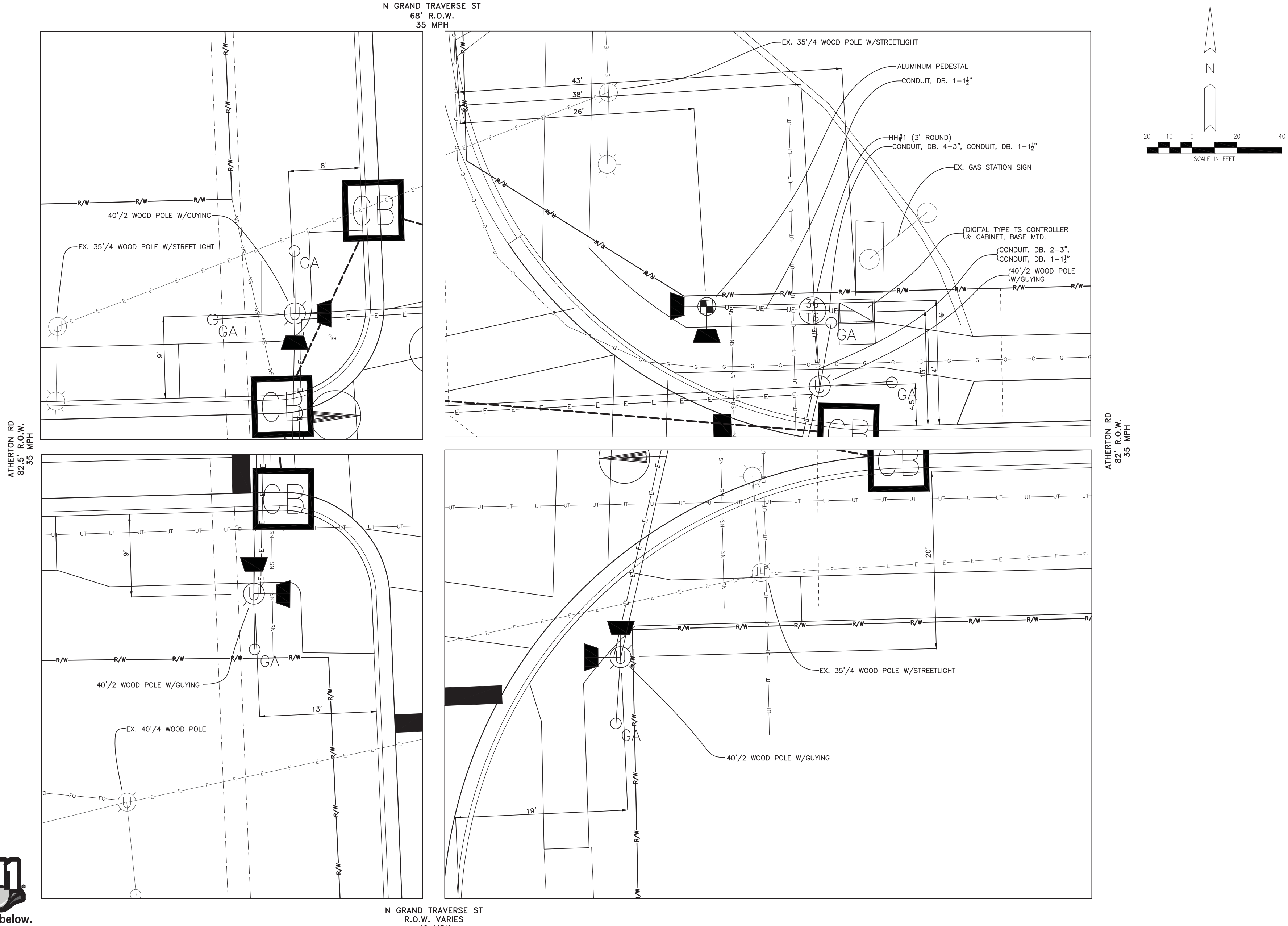
ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 7
ATHERTON ROAD @ N GRAND TRAVERSE STREET

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 224

FIELD BOOK INFORMATION:–
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS–PLTS–TRAFFIC–SIGNALS–1.DWG — N–GRANDTRAVERSE–CON — PLOTTED 4/19/2019 3:16 AM BY RUGGLES, TIMOTHY


N GRAND TRAVERSE ST
68' R.O.W.
35 MPH
EX. 35'/4 WOOD POLE W/STREETLIGHT
ALUMINUM PEDESTAL
CONDUIT, DB. 1-1½"
HH#1 (3' ROUND)
CONDUIT, DB. 4-3", CONDUIT, DB. 1-1½"
EX. GAS STATION SIGN
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD.
CONDUIT, DB. 2-3",
CONDUIT, DB. 1-1½"
40'/2 WOOD POLE W/GUYING
40'/2 WOOD POLE W/GUYING
EX. 35'/4 WOOD POLE W/STREETLIGHT
43'
38'
26'
8'
9'
15'
14'
4.5'
20'
9'
13'
19'
CB
GA
TS
ATHERTON RD
82.5' R.O.W.
35 MPH
ATHERTON RD
82' R.O.W.
35 MPH
40'/2 WOOD POLE W/GUYING
EX. 40'/4 WOOD POLE
EX. 35'/4 WOOD POLE W/STREETLIGHT
40'/2 WOOD POLE W/GUYING
N GRAND TRAVERSE ST
R.O.W. VARIES
40 MPH
N
20 10 0 20 40
SCALE IN FEET

JOB NO. JN201292

Know what's below.
Call before you dig.

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:-
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-1.DWG -- N-GRANDTR-QUADS -- PLOTTED 4/19/2019 3:16 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

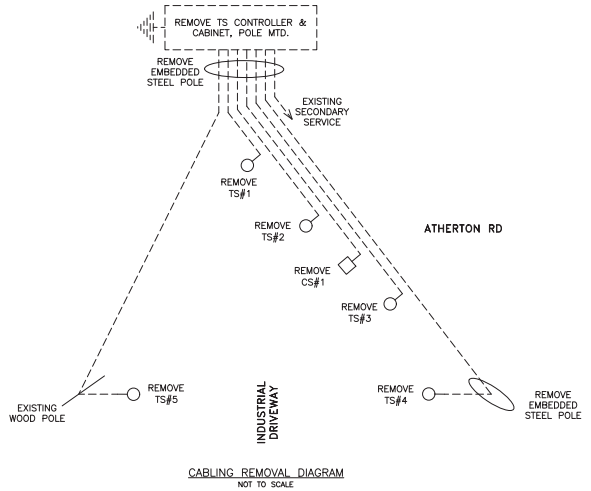
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 7
ATHERTON ROAD @ N GRAND TRAVERSE STREET

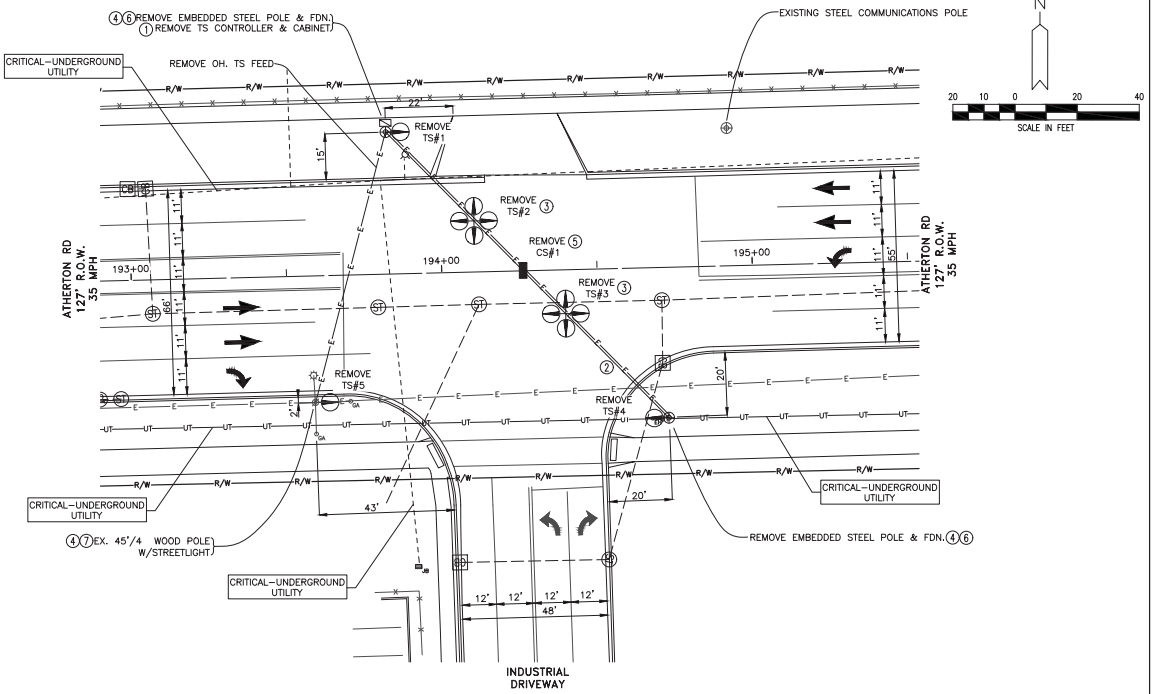
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
225



CABLING REMOVAL DIAGRAM
NOT TO SCALE



NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321553

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	TS, Span Wire Mtd, Rem	2 Ea	8200182
4	TS, Bracket Arm Mtd, Rem	3 Ea	8200175
5	Case Sign, Rem	1 Ea	8200020
6	Steel Pole, Rem (Embedded)	2 Ea	8200146
7	Cable Pole, TS, Disman	1 Ea	8190010

R
Y
G

REMOVE TS#1 & TS#5 FACING EAST
REMOVE TS#2 & TS#3 FACING ALL DIRECTIONS
REMOVE TS#4 FACING WEST

REMOVE CS#1
ONLY
FACING EAST & WEST

OPENINGS	35
CYCLIC WATTS	4950
STEADY WATTS	200

JOB NO. JN201292

Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\20082518\DTS-PLTS-TRAFFIC-SIGNALS-2.DWG - INDUSTRIALDRIVE-REM - PLOTTED 4/19/2019 3:17 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

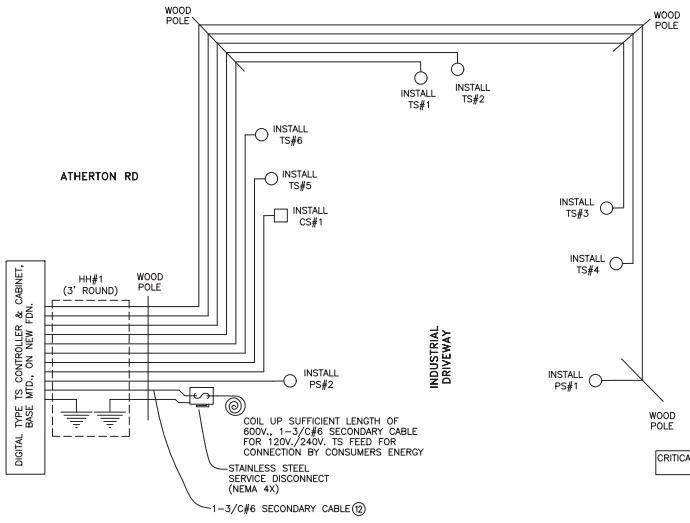
ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 8
ATHERTON ROAD @ INDUSTRIAL DRIVEWAY

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

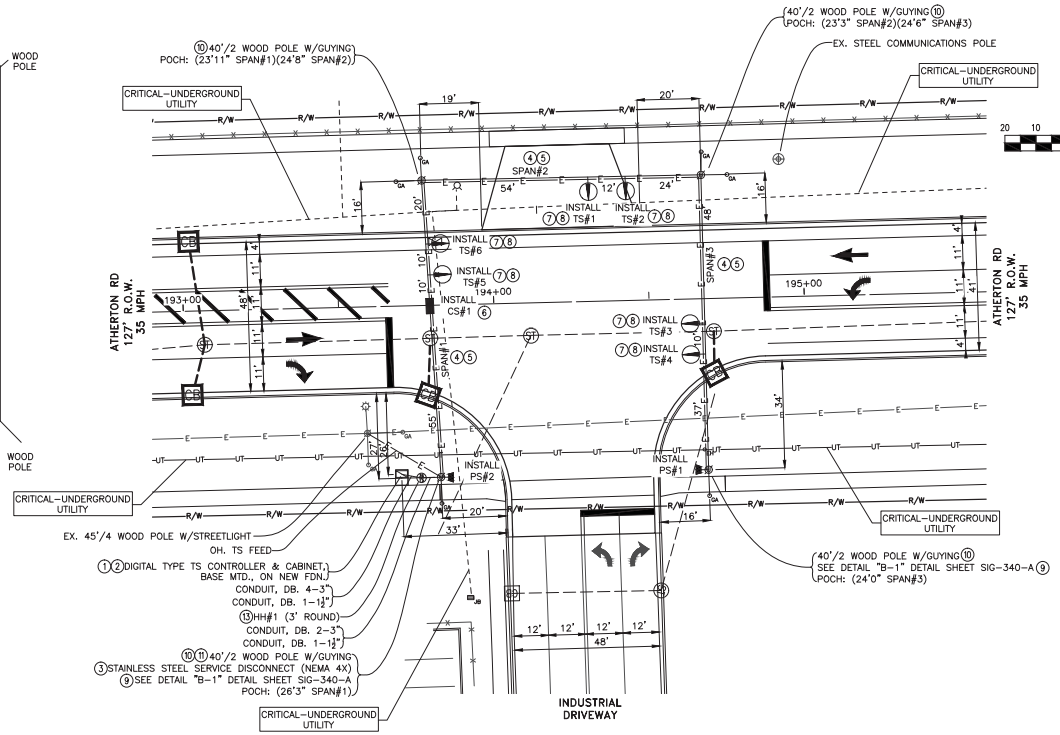
JOB NO.
COF1065.01F

SHEET
226

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE

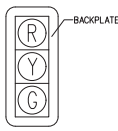


NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION. NO COST TO CONTRACTOR. REFERENCE NO. 1047321553

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	3 Ea	8200140
(5)	Span Wire Tether	3 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	1 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	6 Ea	8200313
(8)	Backplate, TS	6 Ea	8200501
(9)	TS, Pedestrian, One Way Bracket Arm Mtd (LED) Countdown	2 Ea	8200336
(10)	Wood Pole	4 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C#6	150 Ft	8190399
(13)	Hh, Round, 3 foot Dia	1 Ea	8190259
( )	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
( )	Conduit, DB, 2, 3 inch	10 Ft	8190032
( )	Conduit, DB, 4, 3 inch	10 Ft	8190038

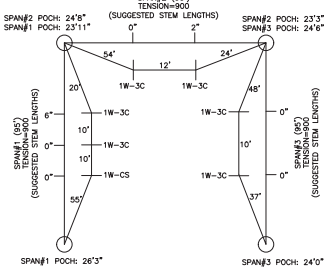


TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING EAST

CS*1 FACING EAST

L.E.D. PEDESTRIAN COUNTDOWN HEAD

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED - 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)
SPAN#2 (90') TENSION=900
(SUGGESTED STEM LENGTHS)



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE. FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	21
CYCLIC WATTS	280
STEADY WATTS	45

JOB NO. JN201292

811 Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\JOB8528\18\DTS-PLTS-TRAFFIC-SIGNALS-2.DWG - INDUSTRIALDRIVE-CON - PLOTTED 4/19/2019 3:17 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3800
www.wadetrim.com

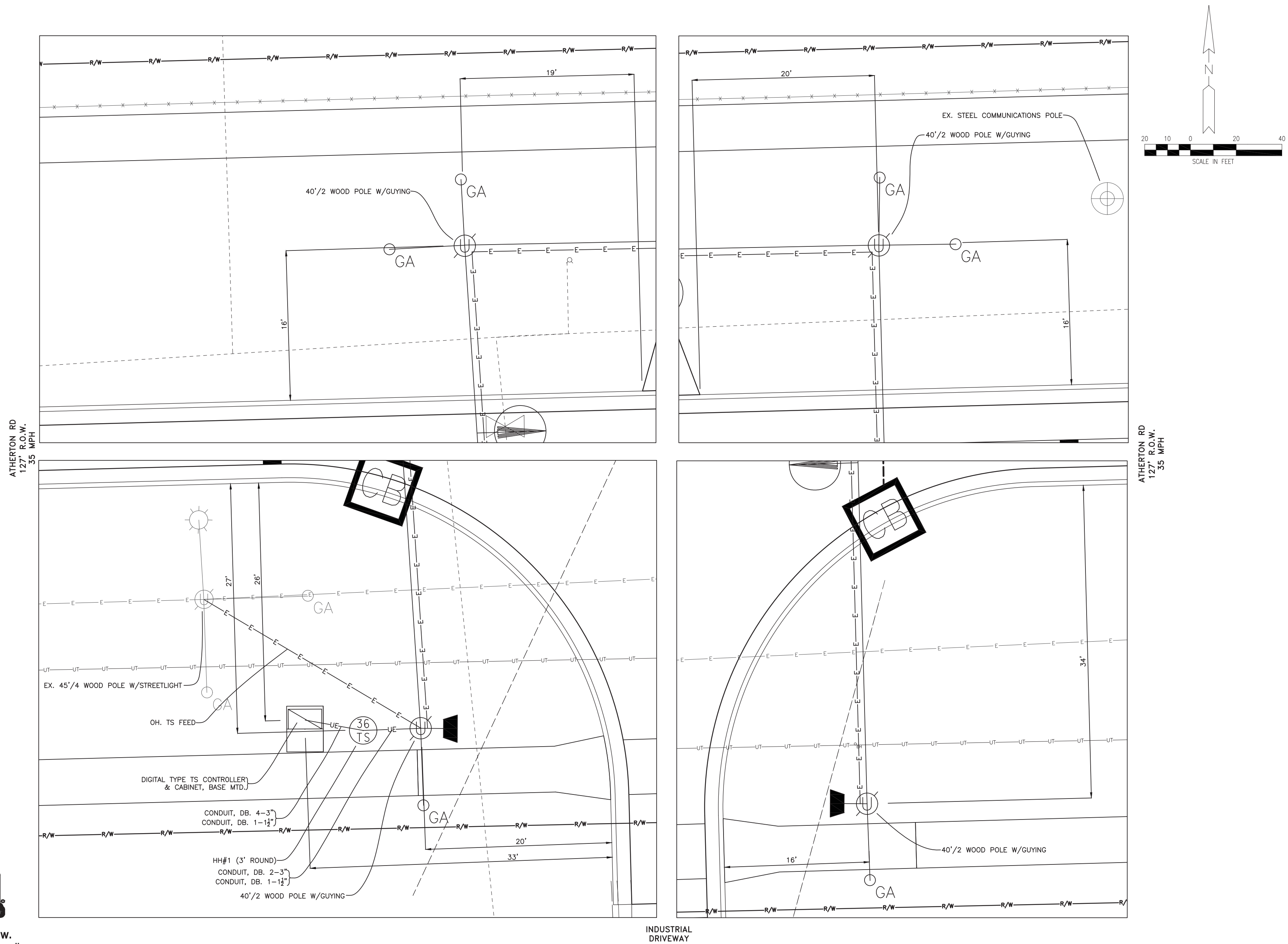
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 8
ATHERTON ROAD @ INDUSTRIAL DRIVEWAY

ISSUED FOR: DATE: BY:
GI PLANS 10/25/18 JJS
FINAL REVIEW 2/25/19 JJS
FINAL PLANS 4/19/19 JJS

JOB NO. COF1065.01F

SHEET 227



Know what's below. Call before you dig.

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-2.DWG -- INDUSTRIALDRIVE-QUADS -- PLOTTED 4/19/2019 3:18 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

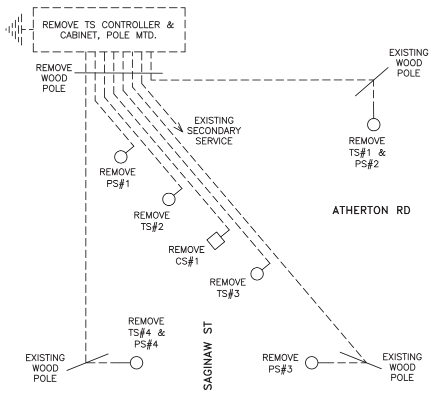
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 8
ATHERTON ROAD @ INDUSTRIAL DRIVEWAY

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

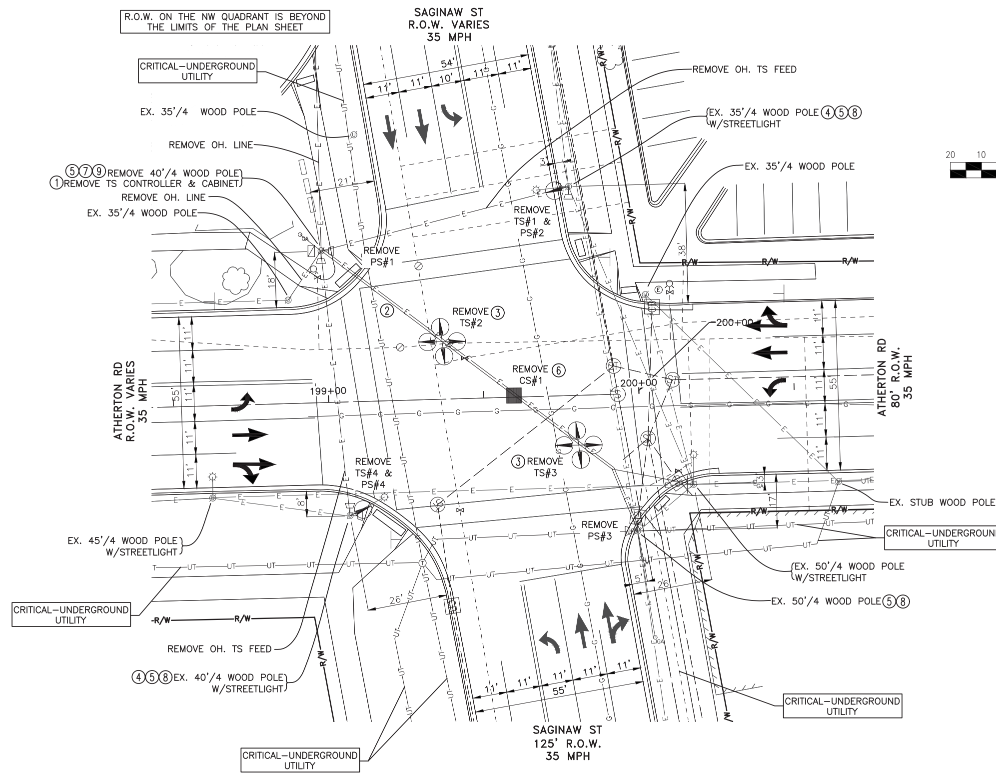
JOB NO. COF1065.01F

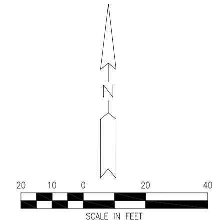
SHEET 228


REMOVE TS CONTROLLER & CABINET, POLE MTD.
REMOVE WOOD POLE
EXISTING WOOD POLE
EXISTING SECONDARY SERVICE
REMOVE PS#1
REMOVE TS#2
REMOVE CS#1
REMOVE TS#3
REMOVE TS#1 & PS#2
ATHERTON RD
REMOVE TS#4 & PS#4
SAGINAW ST
REMOVE PS#3
EXISTING WOOD POLE
EXISTING WOOD POLE

CABLING REMOVAL DIAGRAM

NOT TO SCALE


R.O.W. ON THE NW QUADRANT IS BEYOND THE LIMITS OF THE PLAN SHEET
SAGINAW ST
R.O.W. VARIES
35 MPH
CRITICAL–UNDERGROUND UTILITY
EX. 35'/4 WOOD POLE
REMOVE OH. LINE
⑤⑦⑨REMOVE 40'/4 WOOD POLE
①REMOVE TS CONTROLLER & CABINET
REMOVE OH. LINE
EX. 35'/4 WOOD POLE
REMOVE OH. TS FEED
EX. 35'/4 WOOD POLE ④⑤⑧
W/STREETLIGHT
EX. 35'/4 WOOD POLE
REMOVE TS#1 & PS#2
REMOVE PS#1
REMOVE ③ TS#2
REMOVE ⑥ CS#1
③ REMOVE TS#3
200+00
199+00
ATHERTON RD
R.O.W. VARIES
35 MPH
ATHERTON RD
80' R.O.W.
35 MPH
REMOVE TS#4 & PS#4
REMOVE PS#3
EX. STUB WOOD POLE
CRITICAL–UNDERGROUND UTILITY
EX. 45'/4 WOOD POLE
W/STREETLIGHT
EX. 50'/4 WOOD POLE
W/STREETLIGHT
EX. 50'/4 WOOD POLE ⑤⑧
CRITICAL–UNDERGROUND UTILITY
REMOVE OH. TS FEED
④⑤⑧EX. 40'/4 WOOD POLE
W/STREETLIGHT
CRITICAL–UNDERGROUND UTILITY
CRITICAL–UNDERGROUND UTILITY
SAGINAW ST
125' R.O.W.
35 MPH

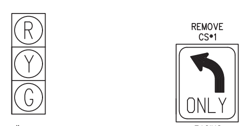


NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321564

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
1	Controller and Cabinet, Rem	1 Ea	8200030
2	Span Wire, Rem	1 Ea	8200141
3	TS, Span Wire Mtd, Rem	2 Ea	8200182
4	TS, Bracket Arm Mtd, Rem	2 Ea	8200175
5	TS, Pedestrian, Bracket Arm Mtd, Rem	4 Ea	8200180
6	Case Sign, Rem	1 Ea	8200020
7	Wood Pole, Rem	1 Ea	8190505
8	Cable Pole, TS, Disman	3 Ea	8190010
9	Cable Pole, TS and Sec, Disman	1 Ea	8190009



REMOVE TS#1 FACING WEST
REMOVE TS#2 & TS#3 FACING ALL DIRECTIONS
REMOVE TS#4 FACING EAST

FACING ALL DIRECTIONS

JOB NO. JN201292

Know what's below. Call before you dig.

OPENINGS	50
CYCLIC WATTS	6100
STEADY WATTS	250

REV# DATE DESCRIPTION BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 9
ATHERTON ROAD @ SAGINAW STREET

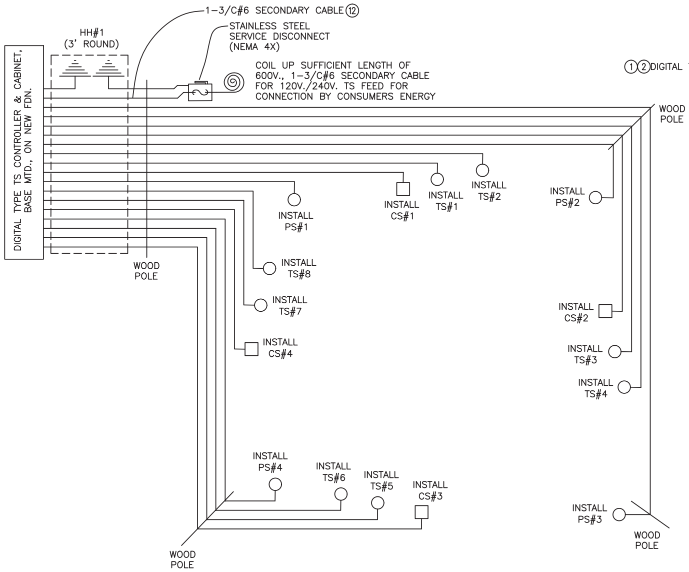
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 229

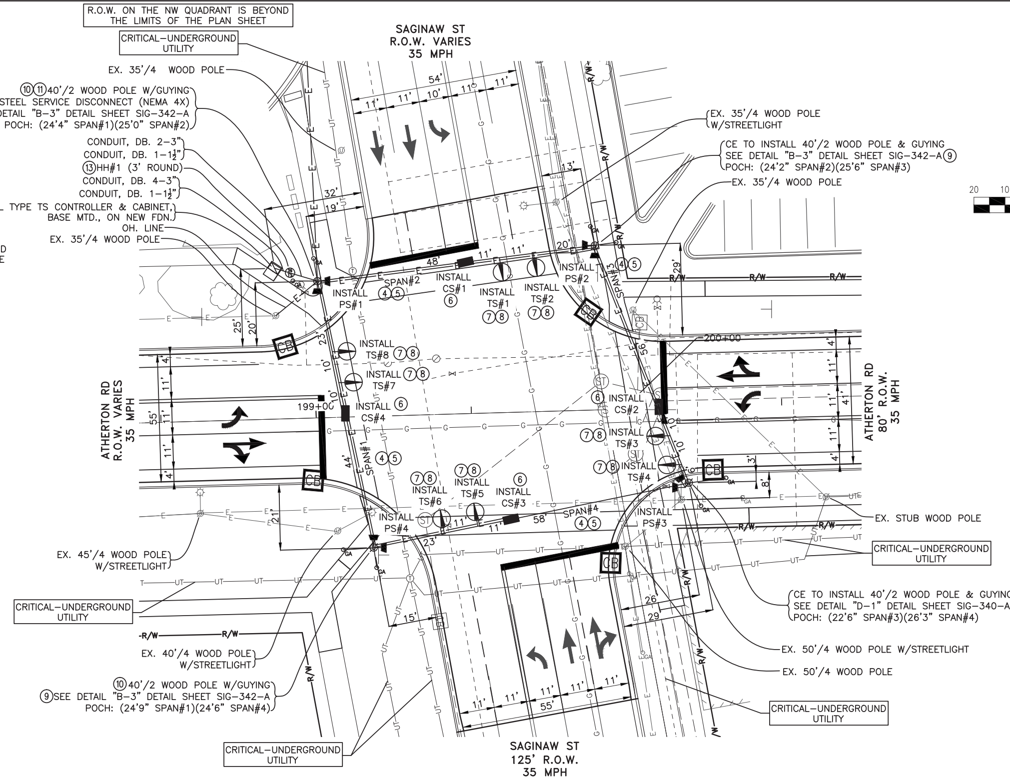
PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-2.DWG -- SAGINAW-REM -- PLOTTED 4/19/2019 3:18 AM BY RUGGLES, TIMOTHY

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.

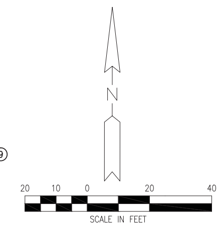


1-3/C#6 SECONDARY CABLE (12)
HH#1 (3' ROUND)
STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
COIL UP SUFFICIENT LENGTH OF 600V., 1-3/C#6 SECONDARY CABLE FOR 120V./240V. TS FEED FOR CONNECTION BY CONSUMERS ENERGY
DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
WOOD POLE
INSTALL PS#1
INSTALL CS#1
INSTALL TS#1
INSTALL TS#2
INSTALL PS#2
INSTALL TS#8
INSTALL TS#7
INSTALL CS#4
INSTALL CS#2
INSTALL TS#3
INSTALL TS#4
INSTALL PS#4
INSTALL TS#6
INSTALL TS#5
INSTALL CS#3
INSTALL PS#3

CABLING INSTALLATION DIAGRAM
NOT TO SCALE



R.O.W. ON THE NW QUADRANT IS BEYOND THE LIMITS OF THE PLAN SHEET
CRITICAL-UNDERGROUND UTILITY
EX. 35'/4 WOOD POLE
(10)(11) 40'/2 WOOD POLE W/GUYING
(3) STAINLESS STEEL SERVICE DISCONNECT (NEMA 4X)
(9) SEE DETAIL "B-3" DETAIL SHEET SIG-342-A
POCH: (24'4" SPAN#1)(25'0" SPAN#2)
CONDUIT, DB. 2-3"
CONDUIT, DB. 1-1½"
(13) HH#1 (3' ROUND)
CONDUIT, DB. 4-3"
CONDUIT, DB. 1-1½"
(1)(2) DIGITAL TYPE TS CONTROLLER & CABINET, BASE MTD., ON NEW FDN.
OH. LINE
EX. 35'/4 WOOD POLE
SAGINAW ST
R.O.W. VARIES
35 MPH
EX. 35'/4 WOOD POLE W/STREETLIGHT
CE TO INSTALL 40'/2 WOOD POLE & GUYING
SEE DETAIL "B-3" DETAIL SHEET SIG-342-A (9)
POCH: (24'2" SPAN#2)(25'6" SPAN#3)
EX. 35'/4 WOOD POLE
ATHERTON RD
R.O.W. VARIES
35 MPH
ATHERTON RD
80' R.O.W.
35 MPH
EX. STUB WOOD POLE
CRITICAL-UNDERGROUND UTILITY
EX. 45'/4 WOOD POLE W/STREETLIGHT
CE TO INSTALL 40'/2 WOOD POLE & GUYING
SEE DETAIL "D-1" DETAIL SHEET SIG-340-A (9)
POCH: (22'6" SPAN#3)(26'3" SPAN#4)
EX. 50'/4 WOOD POLE W/STREETLIGHT
EX. 50'/4 WOOD POLE
EX. 40'/4 WOOD POLE W/STREETLIGHT
(10) 40'/2 WOOD POLE W/GUYING
(9) SEE DETAIL "B-3" DETAIL SHEET SIG-342-A
POCH: (24'9" SPAN#1)(24'6" SPAN#4)
SAGINAW ST
125' R.O.W.
35 MPH



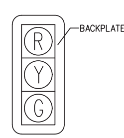
NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION AND INSTALLATION OF WOOD POLES W/GUYING ON THE NE & SE QUADS.
ESTIMATED COST TO CONTRACTOR: $12,500.
REFERENCE NO. 1047321564

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	4 Ea	8200140
(5)	Span Wire Tether	4 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	4 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
(8)	Backplate, TS	8 Ea	8200501
(9)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
(10)	Wood Pole	2 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C*6	150 Ft	8190399
(13)	Hh, Round, 3 foot Dia	1 Ea	8190259
◯	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
◯	Conduit, DB, 2, 3 inch	10 Ft	8190032
◯	Conduit, DB, 4, 3 inch	10 Ft	8190038
◯	Power Co. (Est. Cost to Contractor)	12500 Dlr	8200116

Know what's below.
Call before you dig.



TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

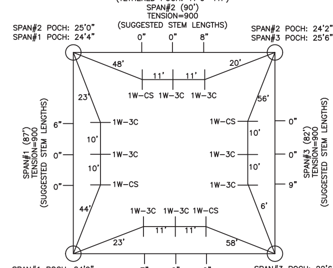
ONE-WAY ILLUMINATED
24" X 30" LED CASE SIGN

CS*1 FACING SOUTH
CS*2 FACING WEST
CS*3 FACING NORTH
CS*4 FACING EAST

L.E.D. PEDESTRIAN
COUNTDOWN HEAD

JOB NO. JN201292

BOX SPAN CALCULATIONS
NOT TO SCALE
(BOTTOM TETHERED - 17'0" MIN BOTTOM HEIGHT)
(TETHERED POCH: 17'0" TYP)



SPAN#2 (90')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#2 POCH: 25'0"
SPAN#1 POCH: 24'4"
SPAN#2 POCH: 24'2"
SPAN#3 POCH: 25'6"
SPAN#1 (87')
TENSION=900
(SUGGESTED STEM LENGTHS)
SPAN#3 (82')
TENSION=900
(SUGGESTED STEM LENGTHS)
1W-CS 1W-3C 1W-3C
1W-3C
1W-CS
SPAN#1 POCH: 24'9"
SPAN#4 POCH: 24'6"
SPAN#3 POCH: 22'6"
SPAN#4 POCH: 26'3"
SPAN#4 (103')
TENSION=900
(SUGGESTED STEM LENGTHS)

NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	36
CYCLIC WATTS	432
STEADY WATTS	180

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 9
ATHERTON ROAD @ SAGINAW STREET

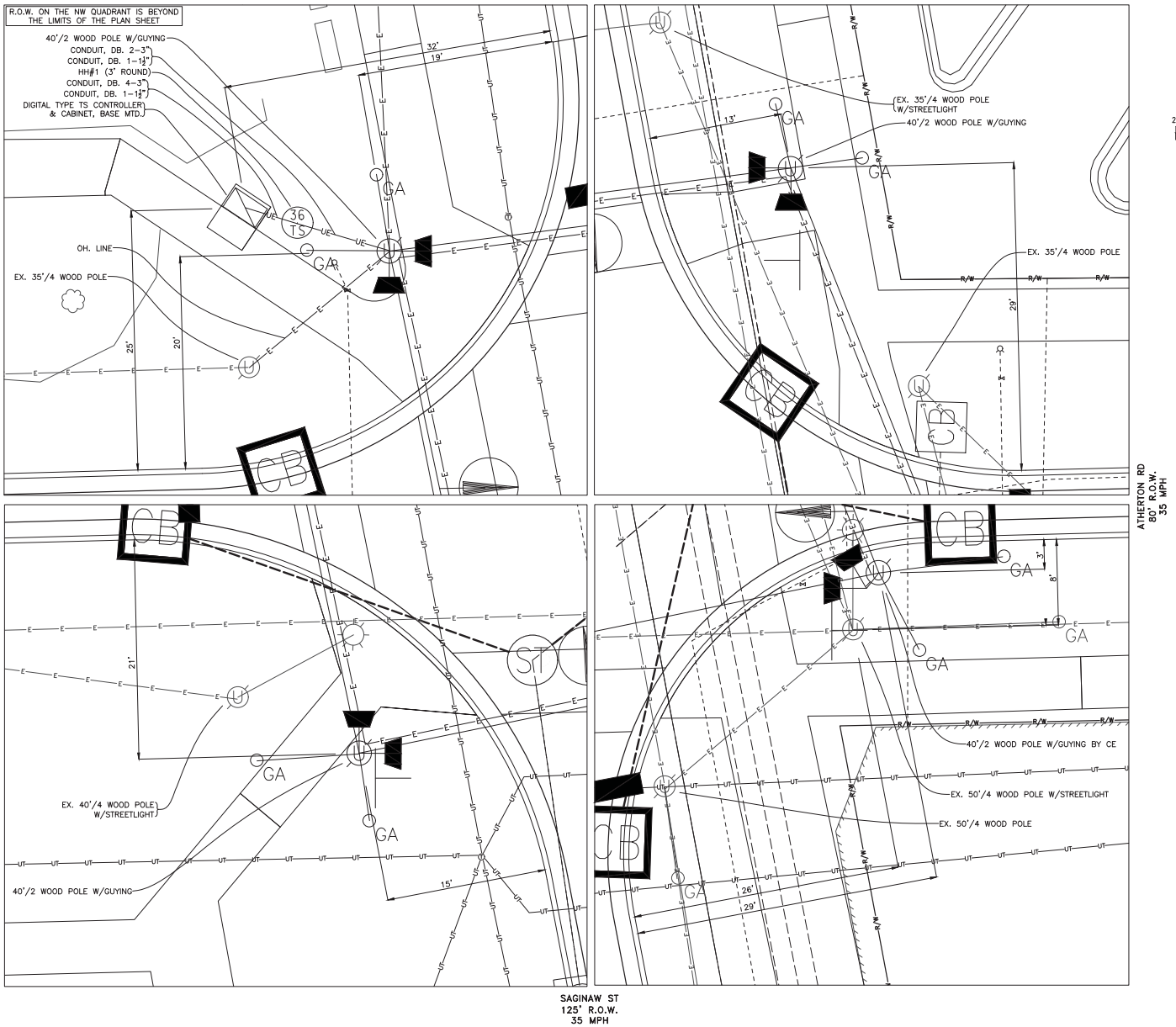
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 230

FIELD BOOK INFORMATION:-
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\CTS-PLTS-TRAFFIC-SIGNALS-2.DWG -- SAGINAW-CON -- PLOTTED 4/19/2019 3:18 AM BY RUGGLES, TIMOTHY

SAGINAW ST
R.O.W. VARIES
35 MPH



SCALE IN FEET

Know what's below. Call before you dig.

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\JOB8253\18\TS-PLTS-TRAFFIC-SIGNALS-2.DWG - SAGINAW-2QUAD FIELD BOOK INFORMATION:-
PLOTTED 4/19/2019 3:19 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

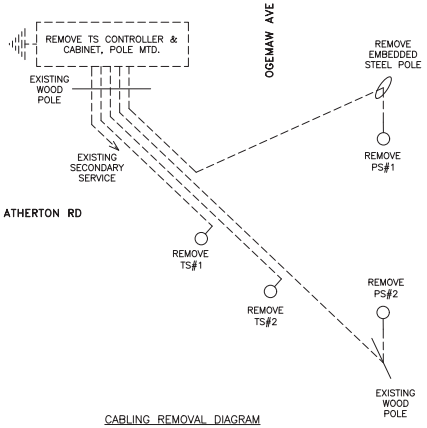
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 9
ATHERTON ROAD @ SAGINAW STREET

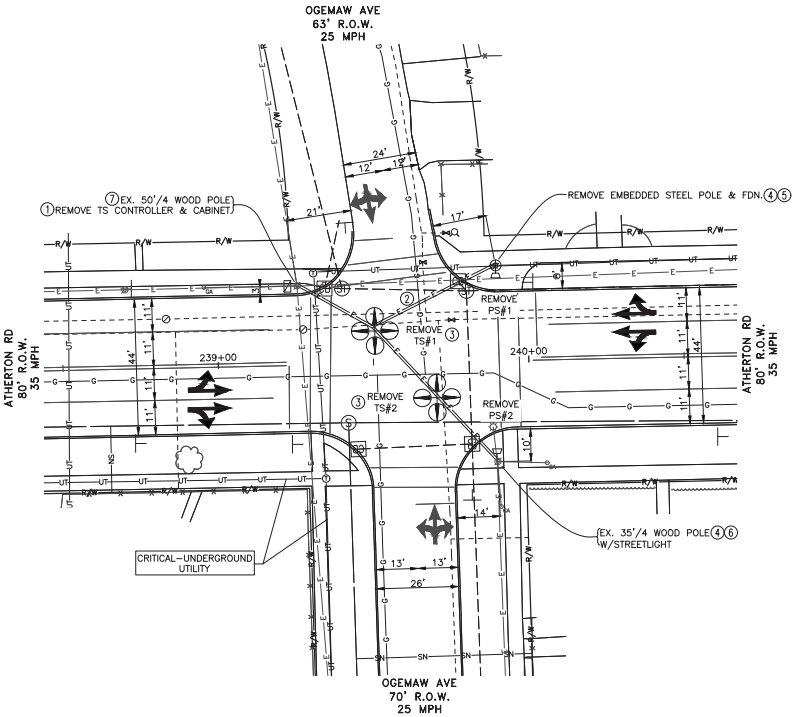
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

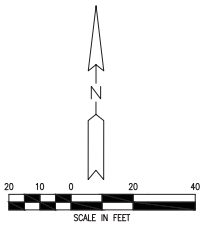
JOB NO.
COF1065.01F

SHEET
231



CABLING REMOVAL DIAGRAM
NOT TO SCALE





NOTE: REMOVAL OF TRAFFIC SIGNAL SHALL BE COORDINATED WITH ROAD CONSTRUCTION. TIME OF REMOVAL SHALL BE AS DIRECTED BY THE ENGINEER.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE DISCONNECTION.
REFERENCE NO. 1047321592

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
①	Controller and Cabinet, Rem	1 Ea	8200030
②	Span Wire, Rem	1 Ea	8200141
③	TS, Span Wire Mtd, Rem	2 Ea	8200182
④	TS, Pedestrian, Bracket Arm Mtd, Rem	2 Ea	8200180
⑤	Steel Pole, Rem (Embedded)	1 Ea	8200146
⑥	Cable Pole, TS, Disman	1 Ea	8190010
⑦	Cable Pole, TS and Sec, Disman	1 Ea	8190009

R
Y
G

REMOVE TS#1 & TS#2
FACING FACING ALL DIRECTIONS

OPENINGS	28
CYCLIC WATTS	4000
STEADY WATTS	0

JOB NO. JN201292

Know what's below. Call before you dig.

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\JOB8528\18\TS-PLTS-TRAFFIC-SIGNALS-2.DWG - OGEMAW-REM - PLOTTED 4/19/2019 3:19 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

REV#	DATE	DESCRIPTION	BY

WADE TRIM
558 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3800
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

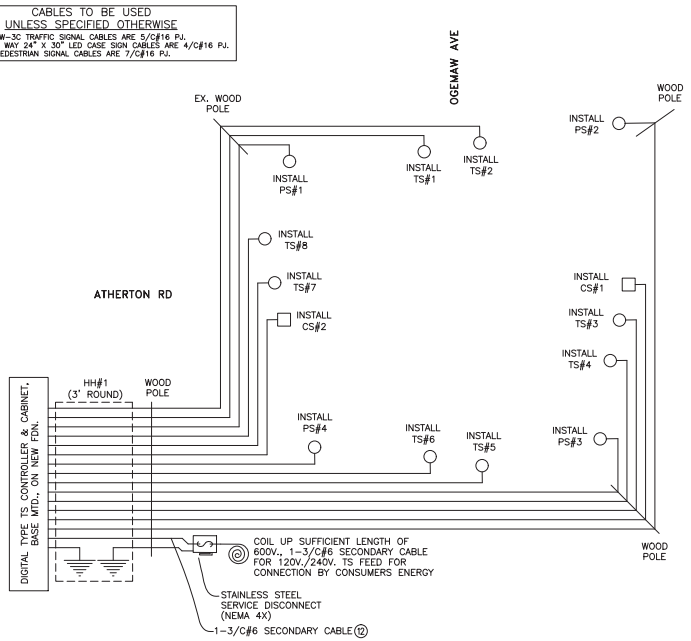
ATHERTON ROAD
TRAFFIC SIGNAL REMOVAL SHEET 10
ATHERTON ROAD @ OGEMAW AVENUE

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

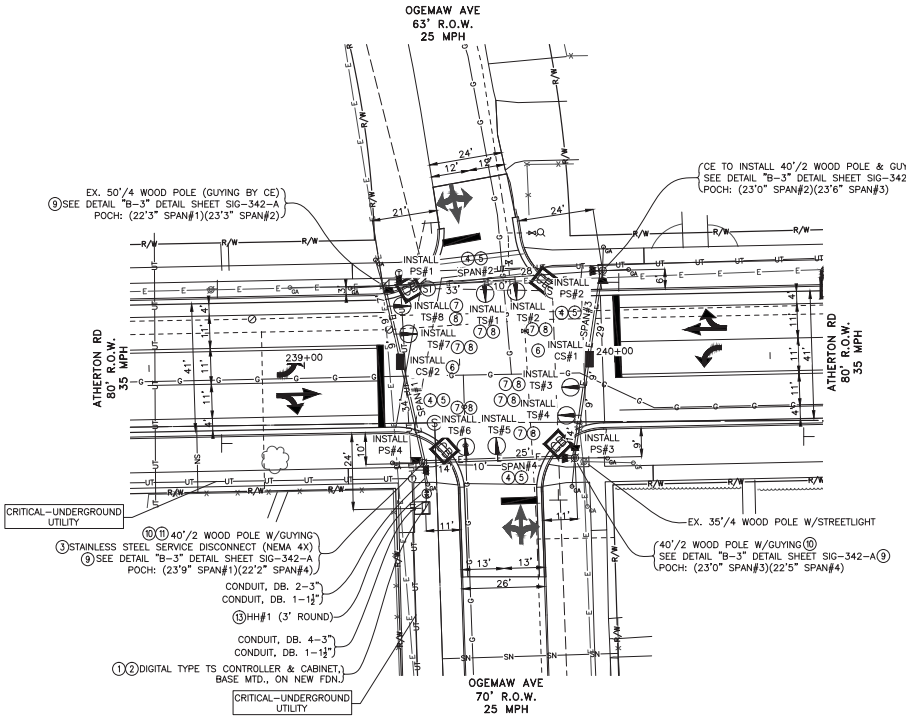
JOB NO.
COF1065.01F

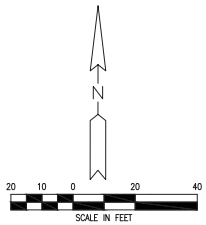
SHEET
232

CABLES TO BE USED
UNLESS SPECIFIED OTHERWISE
1. 1W-3C TRAFFIC SIGNAL CABLES ARE 5/C#16 PJ.
2. 1 WAY 24" X 30" LED CASE SIGN CABLES ARE 4/C#16 PJ.
3. PEDESTRIAN SIGNAL CABLES ARE 7/C#16 PJ.



CABLING INSTALLATION DIAGRAM
NOT TO SCALE



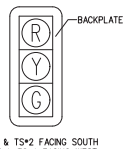


NOTE: ALL VEHICULAR TRAFFIC SIGNAL HEADS SHALL HAVE BLACK BACKPLATES WITH RETROREFLECTIVE BORDERS AND A BOTTOM TETHERED SPAN WIRE INSTALLATION, SEE DETAILS SIG-304-A & SIG-305-B.

CONTACT: TRACY MAHAR OF CONSUMERS ENERGY AT (989) 729-3250 FOR ELECTRICAL SERVICE RECONNECTION INSTALLATION OF WOOD POLE W/GUYING ON THE NE QUAD AND GUYING OF EXISTING WOOD POLE. ESTIMATED COST TO CONTRACTOR: $7500. REFERENCE NO. 1047321592

LIST OF MATERIAL - JN201292

NO.	ITEM	QUANTITIES	ITEM CODE
(1)	Controller Fdn, Base Mount	1 Ea	8200045
(2)	Controller and Cabinet, Digital Type	1 Ea	8200031
(3)	Serv Disconnect	1 Ea	8200135
(4)	Span Wire	4 Ea	8200140
(5)	Span Wire Tether	4 Ea	8200142
(6)	Case Sign (LED), One Way, 24 inch by 30 inch	2 Ea	8200029
(7)	TS, One Way Span Wire Mtd (LED)	8 Ea	8200313
(8)	Backplate, TS	8 Ea	8200501
(9)	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	4 Ea	8200339
(10)	Wood Pole	2 Ea	8190465
(11)	Wood Pole, Fit Up, TS and Sec Cable Pole	1 Ea	8190500
(12)	Cable, Sec, 600V, 1, 3/C#6	150 Ft	8190399
(13)	Hh, Round, 3 foot Dia	1 Ea	8190259
◯	Conduit, DB, 1, 1 1/2 inch	20 Ft	8190027
◯	Conduit, DB, 2, 3 inch	10 Ft	8190032
◯	Conduit, DB, 4, 3 inch	10 Ft	8190038
◯	Power Co. (Est. Cost to Contractor)	7500 Dlr	8200116

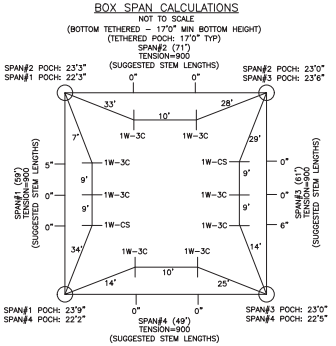


TS*1 & TS*2 FACING SOUTH
TS*3 & TS*4 FACING WEST
TS*5 & TS*6 FACING NORTH
TS*7 & TS*8 FACING EAST

ONE-WAY ILLUMINATED 24" X 30" LED CASE SIGN
CS*1 FACING WEST
CS*2 FACING EAST

L.E.D. PEDESTRIAN COUNTDOWN HEAD

BOX SPAN CALCULATIONS
NOT TO SCALE



NOTE: POCH (POLE CONTACT HEIGHT) IS SHOWN ABOVE C/L GRADE, FIELD ADJUSTMENTS ARE TO BE MADE FOR ANY DIFFERENCE IN GRADE AT POLE VS. ROAD GRADE.

OPENINGS	34
CYCLIC WATTS	432
STEADY WATTS	90

Know what's below. Call before you dig.

JOB NO. JN201292

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

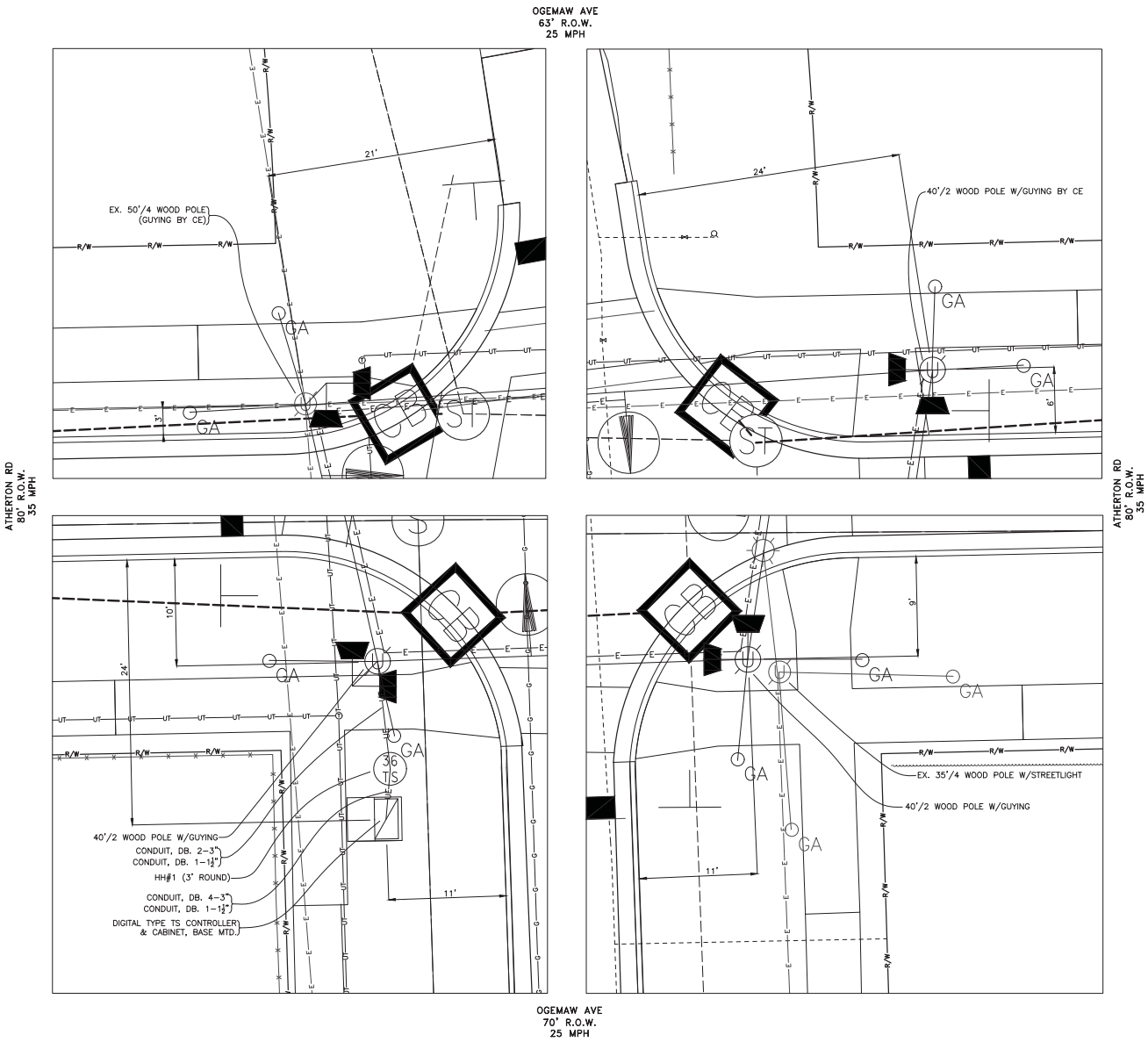
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
ATHERTON ROAD
TRAFFIC SIGNAL INSTALLATION SHEET 10
ATHERTON ROAD @ SAGINAW STREET

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 233

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\COB\25318\DTS-PLTS-TRAFFIC-SIGNALS-2.DWG - OGEMAW-CON - PLOTTED 4/19/2019 3:19 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-



N

20 10 0 20 40

SCALE IN FEET

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\d0852518\DTS-PLTS-TRAFFIC-SIGNALS-2.DWG - OGEMAW-QUADS - PLOTTED 4/19/2019 3:20 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--

Know what's below. Call before you dig.

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.4800
www.wadetrim.com

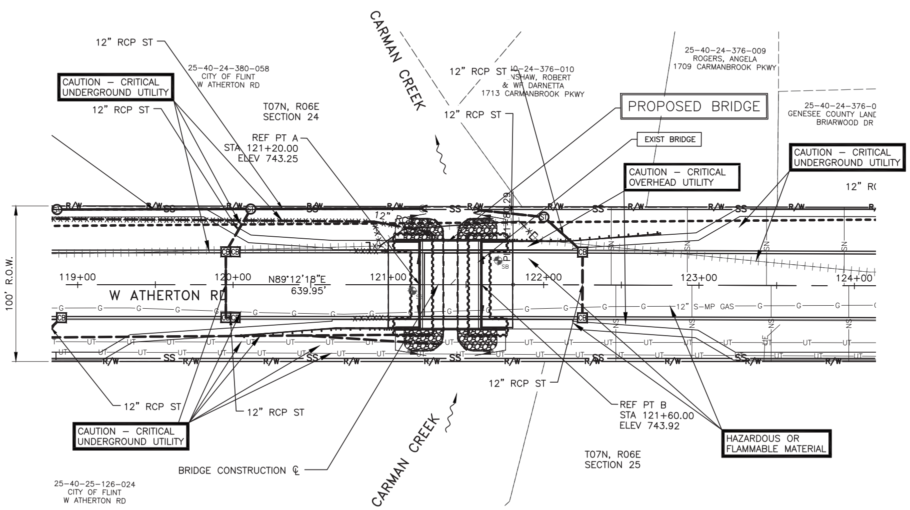
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
TRAFFIC SIGNAL QUADRANT DETAILS 10
ATHERTON ROAD @ SAGINAW STREET

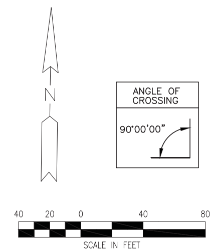
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
234


12" RCP ST
25-40-24-380-058
CITY OF FLINT
W ATHERTON RD
CAUTION – CRITICAL UNDERGROUND UTILITY
CARMAN CREEK
T07N, R06E
SECTION 24
REF PT A
STA 121+20.00
ELEV 743.25
12" RCP ST
10-24-376-010
PROPOSED BRIDGE
EXIST BRIDGE
CAUTION – CRITICAL OVERHEAD UTILITY
25-40-24-376-009
ROGERS, ANGELA
1709 CARMANBROOK PKWY
25-40-24-376-0
GENESEE COUNTY LAND
BRIARWOOD DR
CAUTION – CRITICAL UNDERGROUND UTILITY
100' R.O.W.
119+00
120+00
121+00
122+00
123+00
124+00
W ATHERTON RD
N89°12'18"E
639.95'
12" S-MP GAS
REF PT B
STA 121+60.00
ELEV 743.92
HAZARDOUS OR FLAMMABLE MATERIAL
T07N, R06E
SECTION 25
BRIDGE CONSTRUCTION ℄
25-40-25-126-024
CITY OF FLINT
W ATHERTON RD

SITUATION PLAN



EXISTING STRUCTURE

THE EXISTING STRUCTURE IS A SINGLE-SPAN BRIDGE WITH A MIXED, STEEL W-BEAM AND PRESTRESSED CONCRETE BOX BEAM SUPERSTRUCTURE. THE SUBSTRUCTURE CONSISTS OF CANTILEVER ABUTMENTS ON SPREAD FOOTINGS WITH 90 DEGREE RETURN WALLS AT EACH CORNER. THE OVERALL SPAN IS 36'-5", THE BEARING TO BEARING SPAN IS 34'-5" WITH A CLEAR SPAN OF 32'-5". THERE IS NO SKEW. THE BRIDGE HAS A CLEAR ROADWAY WIDTH OF 44'-0" AND AN OUT-TO-OUT WIDTH OF 58'-0". THE BRIDGE WAS BUILT IN 1900 WITH THE ORIGINAL STEEL W-BEAM SUPERSTRUCTURE, IT WAS THEN WIDENED WITH PRESTRESSED CONCRETE BEAMS AT EACH FASCIA IN 1960 AND REHABILITATED IN 1990 WITH AN OVERLAY AND NEW PAINT. THE EXISTING STRUCTURE WAS DESIGNED FOR H20-S16-44 LIVE LOAD.

SURVEY CONTROL & BENCHMARKS

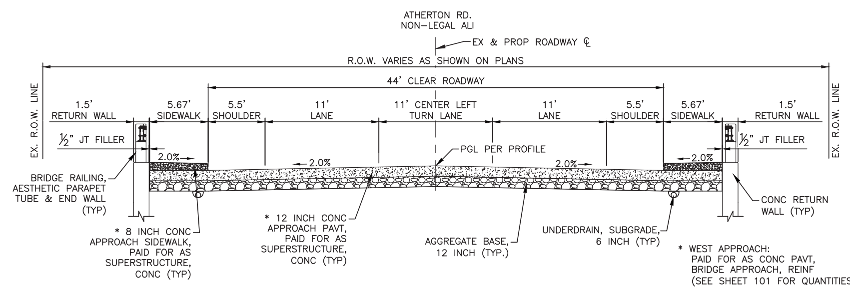
SEE ROADWAY PLANS FOR SURVEY CONTROL & BENCHMARKS ALONG ATHERTON ROAD.

UTILITIES

SEE ROADWAY PLANS FOR UTILITY CONTACT INFORMATION.

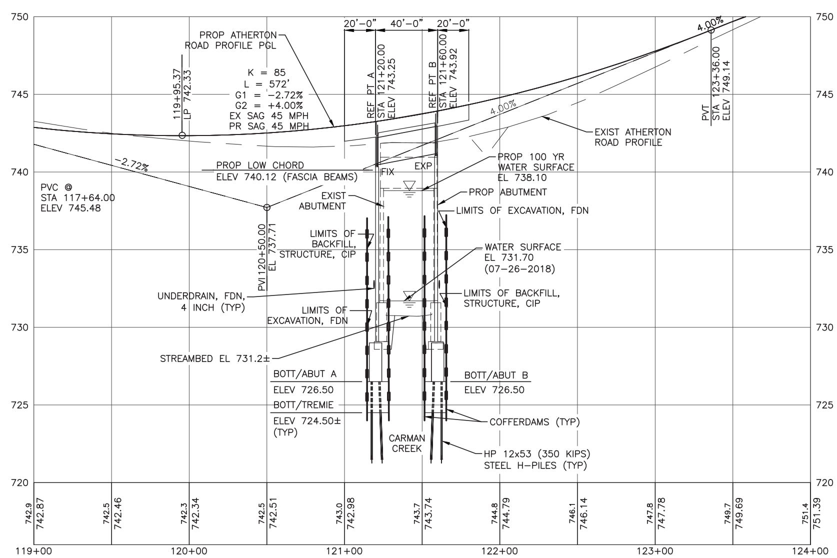
COORDINATES

REF PT	NORTH	EAST	ELEV
PR A	543082.07	13300303.55	743.25
PR B	543082.63	13300343.54	743.92


ATHERTON RD.
NON-LEGAL ALI
EX & PROP ROADWAY ℄
R.O.W. VARIES AS SHOWN ON PLANS
44' CLEAR ROADWAY
EX. R.O.W. LINE
1.5' RETURN WALL
5.67' SIDEWALK
5.5' SHOULDER
11' LANE
11' CENTER LEFT TURN LANE
11' LANE
5.5' SHOULDER
5.67' SIDEWALK
1.5' RETURN WALL
½" JT FILLER
PGL PER PROFILE
2.0%
BRIDGE RAILING, AESTHETIC PARAPET TUBE & END WALL (TYP)
* 8 INCH CONC APPROACH SIDEWALK, PAID FOR AS SUPERSTRUCTURE, CONC (TYP)
* 12 INCH CONC APPROACH PAVT, PAID FOR AS SUPERSTRUCTURE, CONC (TYP)
AGGREGATE BASE, 12 INCH (TYP.)
UNDERDRAIN, SUBGRADE, 6 INCH (TYP)
CONC RETURN WALL (TYP)
* WEST APPROACH: PAID FOR AS CONC PAVT, BRIDGE APPROACH, REINF (SEE SHEET 101 FOR QUANTITIES)

PROPOSED APPROACH CROSS SECTION @ BRIDGE

EAST APPROACH SHOWN, WEST APPROACH SIMILAR
NOT TO SCALE
ATHERTON RD. STA 121+00.00 TO STA 121+20.00
ATHERTON RD. STA 121+60.00 TO STA 121+80.00


750
745
740
735
730
725
720
20'-0" 40'-0" 20'-0"
PROP ATHERTON ROAD PROFILE PGL
119+95.37
LP 742.33
K = 85
L = 572'
G1 = -2.72%
G2 = +4.00%
EX SAG 45 MPH
PR SAG 45 MPH
REF PT A
STA 121+20.00
ELEV 743.25
REF PT B
STA 121+60.00
ELEV 743.92
4.00%
PVT
STA 123+36.00
ELEV 749.14
EXIST ATHERTON ROAD PROFILE
-2.72%
PROP LOW CHORD
ELEV 740.12 (FASCIA BEAMS)
FIX
EXP
PROP 100 YR WATER SURFACE
EL 738.10
PVC
STA 117+64.00
ELEV 745.48
EXIST ABUTMENT
PROP ABUTMENT
LIMITS OF EXCAVATION, FDN
PVI 120+50.00
EL 737.71
LIMITS OF BACKFILL, STRUCTURE, CIP
WATER SURFACE
EL 731.70
(07-26-2018)
UNDERDRAIN, FDN, 4 INCH (TYP)
LIMITS OF BACKFILL, STRUCTURE, CIP
LIMITS OF EXCAVATION, FDN
STREAMBED EL 731.2±
BOTT/ABUT A
ELEV 726.50
BOTT/TREMIE
ELEV 724.50± (TYP)
BOTT/ABUT B
ELEV 726.50
COFFERDAMS (TYP)
CARMAN CREEK
HP 12x53 (350 KIPS) STEEL H-PILES (TYP)
742.9 742.87
742.5 742.46
742.3 742.34
742.5 742.51
743.0 742.98
743.7 743.74
744.8 744.79
746.1 746.14
747.8 747.78
749.7 749.69
751.4 751.39
119+00
120+00
121+00
122+00
123+00
124+00

PROFILE ALONG ATHERTON ROAD NON-LEGAL ALIGNMENT

VERTICAL SCALE: 1" = 4'

NOTES

THE WORK COVERED BY THESE PLANS INCLUDES REMOVAL OF THE EXISTING STRUCTURE, CONSTRUCTION OF THE PROPOSED BRIDGE, PLACING RIPRAP AND RELATED APPROACH WORK TO THE LIMITS SHOWN. ALL OTHER WORK IS INCLUDED IN THE ROAD PLANS THAT ARE A PART OF THIS CONTRACT.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

THE GROUND ADJACENT TO THE STRUCTURE SHALL BE GRADED BY THE CONTRACTOR TO PROVIDE DRAINAGE.

SEE ROADWAY PLANS FOR DETOUR PLAN AS ATHERTON ROAD TRAFFIC IS TO BE DETOURED ALONG EXISTING CITY ROADS.

PLAN ELEVATIONS REFER TO NAVD 88 DATUM.

"BACKFILL, STRUCTURE, CIP" 1,350 CUBIC YARDS.

THE WATER LEVEL IS SUBJECT TO CHANGE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING A DETERMINATION OF WATER LEVELS THAT MAY EXIST DURING CONSTRUCTION.

MEASURES SHALL BE TAKEN TO PREVENT DEBRIS FROM FALLING FROM THE STRUCTURE. IF DEBRIS FALLS INTO THE WATERWAY, IT SHALL BE REMOVED WITHIN 24 HOURS. SINCE DISTURBANCE OF THE WATERWAY BOTTOM MAY BE AS HARMFUL AS THE DEBRIS ITSELF, THE PREVENTIVE MEASURES MUST BE EFFECTIVE.

IMMEDIATELY AFTER CONSTRUCTION OF EACH ABUTMENT IS COMPLETED, SLOPE PROTECTION AND/OR RIPRAP SHALL BE PLACED ON THE ADJACENT SLOPES.

TEMPORARILY STORED EXCAVATED MATERIAL SHALL BE STORED ON AN UPLAND SITE, AND SHALL NOT BE ALLOWED TO ERODE INTO THE WATERCOURSE.

EXCAVATED MATERIAL FROM THE COFFERDAM SHALL NOT BE TEMPORARILY OR PERMANENTLY STORED IN THE 100 YR. FLOOD PLAIN OR ANY PRIVATELY OWNED LAND, WITHOUT WRITTEN PERMISSION OF THE PROPERTY OWNER.

SOIL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL BE UTILIZED ON THIS PROJECT TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND SEDIMENTATION, SEE SHEET 237 FOR DETAILS.

811 Know what's below. Call before you dig.

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\SGP-PLTS-GENPLANSITE-ATHERTON.DWG -- LAYOUT1 -- PLOTTED 4/19/2019 4:10 PM BY WHEELER, THOMAS

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
GENERAL PLAN OF SITE

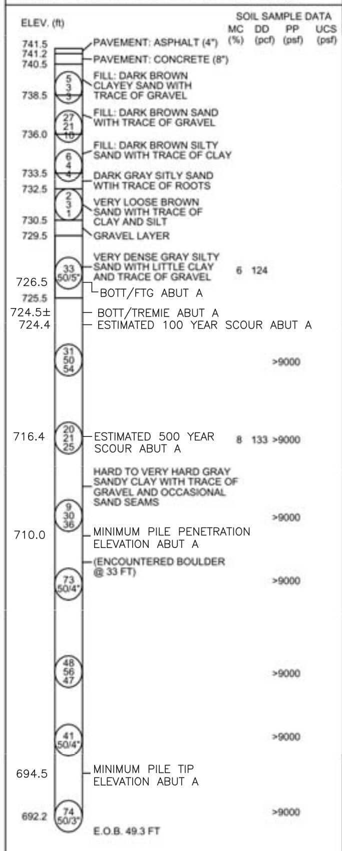
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET

TEST BORING NO. TB-1

PROJECT: W. ATHERTON ROAD OVER CARMAN CREEK BRIDGE
LOCATION: WEST ABUTMENT
APPROXIMATE ROAD STATION: N/A
BORING OFFSET: 5 FT SOUTH OF CETNERLINE
DATE STARTED: 7/26/18, DATE COMPLETED: 7/26/18
INSPECTOR: D. YIP
APPROXIMATE GROUND SURFACE ELEVATION: 741.5 FT
APPROXIMATE COORDINATES: N 543076.38, E 13300292.35

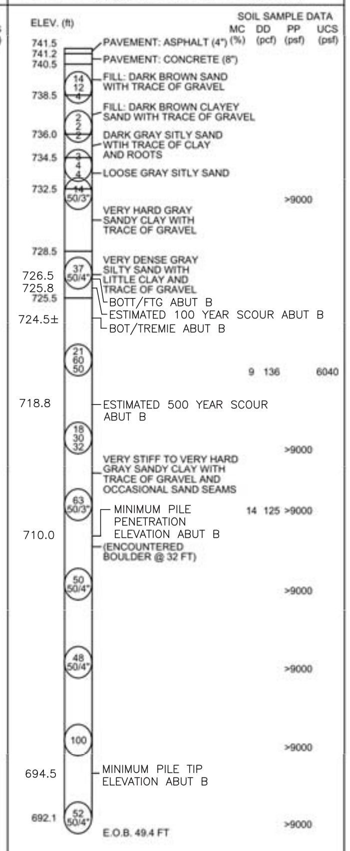


ELEV. (ft)
SOIL SAMPLE DATA
MC (%) DD (pcf) PP (psf) UCS (psf)
741.5 PAVEMENT: ASPHALT (4")
741.2
740.5 PAVEMENT: CONCRETE (8")
5 3 3
738.5 FILL: DARK BROWN CLAYEY SAND WITH TRACE OF GRAVEL
27 21 10
FILL: DARK BROWN SAND WITH TRACE OF GRAVEL
736.0
6 4 4
FILL: DARK BROWN SILTY SAND WITH TRACE OF CLAY
733.5 DARK GRAY SITLY SAND WTIH TRACE OF ROOTS
2 3 1
732.5 VERY LOOSE BROWN SAND WITH TRACE OF CLAY AND SILT
730.5
729.5 GRAVEL LAYER
33 50/5"
VERY DENSE GRAY SILTY SAND WITH LITTLE CLAY AND TRACE OF GRAVEL 6 124
726.5
725.5 BOTT/FTG ABUT A
724.5± BOTT/TREMIE ABUT A
724.4 ESTIMATED 100 YEAR SCOUR ABUT A
31 50 54 >9000
716.4
20 21 25 ESTIMATED 500 YEAR SCOUR ABUT A 8 133 >9000
HARD TO VERY HARD GRAY SANDY CLAY WITH TRACE OF GRAVEL AND OCCASIONAL SAND SEAMS
9 30 36 >9000
710.0 MINIMUM PILE PENETRATION ELEVATION ABUT A
(ENCOUNTERED BOULDER @ 33 FT)
73 50/4" >9000
48 56 47 >9000
41 50/4" >9000
694.5 MINIMUM PILE TIP ELEVATION ABUT A
692.2 74 50/3" >9000
E.O.B. 49.3 FT

GROUNDWATER LEVELS:
AT TIME OF DRILLING: 10 FT
AT END OF DRILLING: 45 FT
24 HRS. AFTER DRILLING: NOT OBTAINED
BACKFILL PROCEDURE: BOREHOLE BACKFILLED WITH EXCAVATED MATERIALS AND PAVEMENT REPAIRED WITH ASPHALT COLD PATCH.

TEST BORING NO. TB-2

PROJECT: W. ATHERTON ROAD OVER CARMAN CREEK BRIDGE
LOCATION: EAST ABUTMENT
APPROXIMATE ROAD STATION: N/A
BORING OFFSET: 16 FT NORTH OF CENTERLINE
DATE STARTED: 7/27/18, DATE COMPLETED: 7/27/18
INSPECTOR: D. YIP
APPROXIMATE GROUND SURFACE ELEVATION: 741.5 FT
APPROXIMATE COORDINATES: N 543098.54, E 13300357.65



ELEV. (ft)
SOIL SAMPLE DATA
MC (%) DD (pcf) PP (psf) UCS (psf)
741.5 PAVEMENT: ASPHALT (4")
741.2
740.5 PAVEMENT: CONCRETE (8")
14 12 4
738.5 FILL: DARK BROWN SAND WITH TRACE OF GRAVEL
2 2 2
FILL: DARK BROWN CLAYEY SAND WITH TRACE OF GRAVEL
736.0 DARK GRAY SITLY SAND WTIH TRACE OF CLAY AND ROOTS
734.5
3 4 4
LOOSE GRAY SILTY SAND
732.5
14 50/3" >9000
VERY HARD GRAY SANDY CLAY WITH TRACE OF GRAVEL
728.5
37 50/4"
VERY DENSE GRAY SILTY SAND WITH LITTLE CLAY AND TRACE OF GRAVEL
726.5
725.8
725.5 BOTT/FTG ABUT B
724.5± ESTIMATED 100 YEAR SCOUR ABUT B
BOT/TREMIE ABUT B
21 60 50 9 136 6040
718.8 ESTIMATED 500 YEAR SCOUR ABUT B
18 30 32 >9000
VERY STIFF TO VERY HARD GRAY SANDY CLAY WITH TRACE OF GRAVEL AND OCCASIONAL SAND SEAMS
63 50/3" MINIMUM PILE PENETRATION ELEVATION ABUT B 14 125 >9000
710.0
(ENCOUNTERED BOULDER @ 32 FT)
50 50/4" >9000
48 50/4" >9000
100 >9000
694.5 MINIMUM PILE TIP ELEVATION ABUT B
692.1 52 50/4" >9000
E.O.B. 49.4 FT

GROUNDWATER LEVELS:
AT TIME OF DRILLING: 7 FT
AT END OF DRILLING: NOT MEASURED
24 HRS. AFTER DRILLING: NOT OBTAINED
BACKFILL PROCEDURE: BOREHOLE BACKFILLED WITH EXCAVATED MATERIALS AND PAVEMENT REPAIRED WITH ASPHALT COLD PATCH.

NOTE:
NO GROUNDWATER MEASUREMENT AT END OF DRILLING DUE TO WASH ROTARY METHOD USED FOR THE BORING.

NOTES:

(3 / 4 / 6) 1st 6 in, 2nd 6 in, 3rd 6 in

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 2" O.D. (1.5" I.D.) SPLIT SPOON SAMPLER 3 SUCCESSIVE 6" INCREMENTS USING A 140 lb HAMMER FALLING 30".

CONSISTENCY WAS DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY SOILS RESISTANCE TO DRILLING TOOLS.

THE TEST BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

GEOTRAN BORING LOCATION AND ELEVATION WAS ESTIMATED FROM THE TOPOGRAPHIC PLAN PROVIDED BY WADE TRIM. AS SUCH, THESE ELEVATIONS AND BORING LOCATIONS ARE CONSIDERED APPROXIMATE.

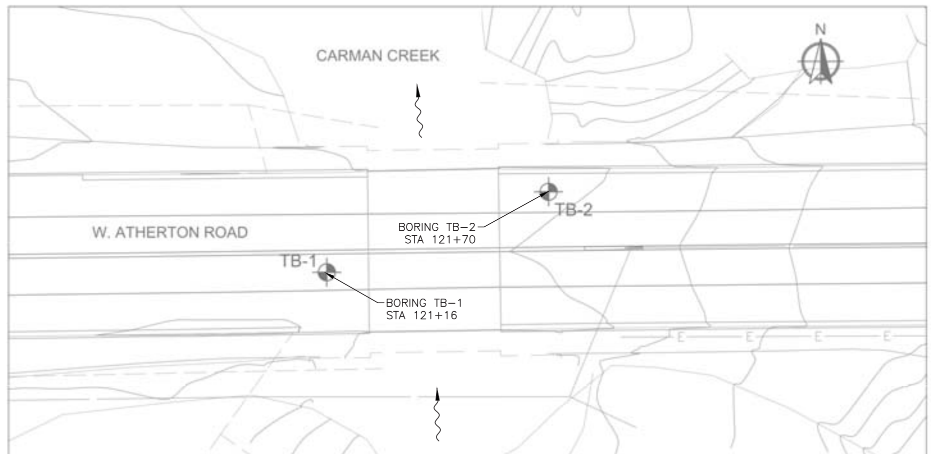
LOCATION OF SOIL BORINGS ARE ALSO SHOWN ON THE GENERAL PLAN OF SITE SHEET.

WATER LEVELS MAY BE INFLUENCED BY RESIDUAL BORING WATER.

GROUNDWATER OR PERCHED WATER WAS ENCOUNTERED DURING DRILLING AT A DEPTH OF APPROXIMATELY 10 FEET BELOW EXISTING GROUND SURFACE.

LEGEND

MC (%) - PERCENT MOISTURE CONTENT
DD (pcf) - DRY DENSITY, POUNDS PER CUBIC FOOT (pcf)
PP (psf) - POCKET PENETROMETER VALUE, POUNDS PER SQUARE FOOT (psf)
USC (psf) - UNCONFINED COMPRESSIVE STRENGTH, POUNDS PER SQUARE FOOT (psf)
EOB - END OF BORING



GeoTran Consultants, LLC
GEOTECHNICAL ENGINEERING AND CONSULTING SERVICES
10315 E. GRAND RIVER, SUITE 201
BRIGHTON, MICHIGAN 48116
PHONE: (810)-229-6805
FAX: (810)-229-6561
WWW.GEOTRANCONSULTANTS.COM

TEST BORING DATA SHEET
W. ATHERTON ROAD OVER CARMAN CREEK BRIDGE REPLACEMENT
FLINT, MICHIGAN

LEGEND:
TB-1 TEST BORING LOCATION

TEST BORINGS WERE PERFORMED BY TRIPLE R DRILLING ON JULY 26 AND 27, 2018 UNDER THE OBSERVATION OF GEOTRAN CONSULTANTS, LLC.

DRAWING REFERENCE: THE BASE PLAN PROVIDED BY WADE TRIM.

PROJECT NO.: 17-08004G-20
DRAWN BY: M. LUCKHAM
DATE: 11-27-2018
REVIEWED BY: D. YIP
DATE: 11-28-2018
FILE: 17-08004G-20_002.dwg
SCALE: 1 IN = 30 FT
FIGURE NO.: 2
SHEET 1 OF 1

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

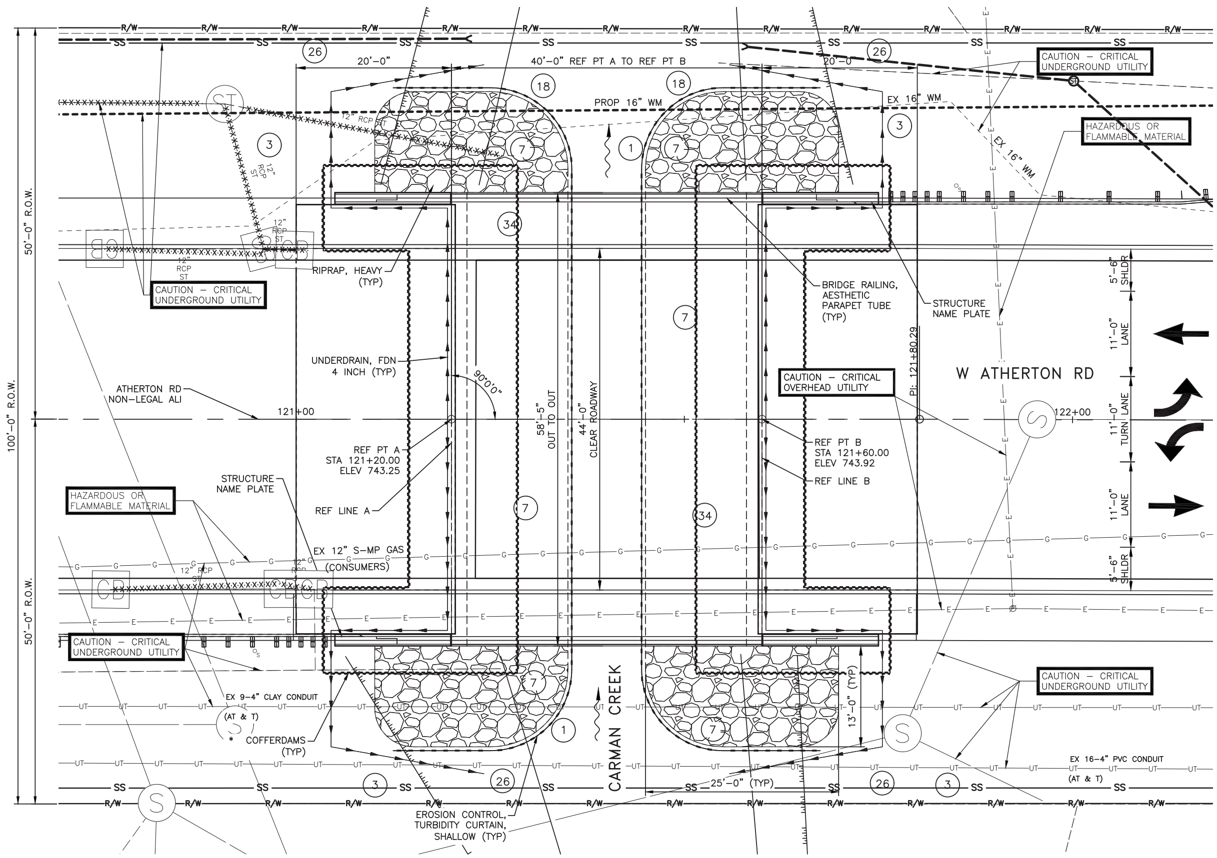
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SOIL BORING DATA

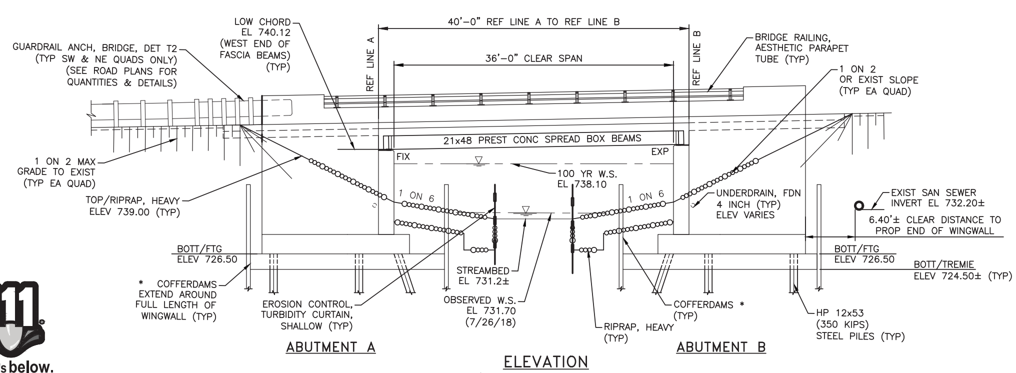
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F
SHEET 236

JOB NO. JN201292



PLAN



ELEVATION

(VIEW LOOKING DOWNSTREAM PERPENDICULAR TO CONSTRUCTION CENTERLINE)

JOB NO. JN201292

811 Know what's below. Call before you dig.

ATHERTON ROAD BRIDGE - SUMMARY OF HYDRAULIC ANALYSIS							
		EXISTING CONDITIONS		PROPOSED CONDITIONS			
FLOOD DATA	DISCHARGE (CFS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE (FT)	VELOCITY IN DOWNSTREAM CHANNEL (FPS)	WATER SURFACE ELEV. AT U/S FACE OF STRUCTURE (FT)	VELOCITY IN DOWNSTREAM CHANNEL (FPS)	WATERWAY AREA AT DOWNSTREAM FACE (SFT)	CHANGE IN W/S ELEV 42 FT U/S OF PROPOSED STRUCTURE (FT)
50-YEAR	1500	738.87	7.35	737.86	6.90	217.28	-1.21
100-YEAR	1600	739.11	7.53	738.10	7.08	225.89	-1.21
500 YEAR	2100	741.12	8.37	740.95	7.85	267.63	-0.29
MAXIMUM BRIDGE AREA BELOW LOW CHORD IS **195** SQUARE FEET EXISTING / **298** SQUARE FEET PROPOSED							

NOTES:

THE DRAINAGE AREA CONTRIBUTORY TO THIS CROSSING IS 12.6 SQUARE MILES.

THE WATER SURFACE AND/OR ENERGY GRADE ELEVATIONS SHOWN ON THE ABOVE HYDRAULIC TABLE ARE TO BE USED FOR COMPARISON PURPOSES ONLY AND ARE NOT TO BE USED FOR ESTABLISHING A REGULATORY FLOODPLAIN.

NOTES:

THE DESIGN OF THIS STRUCTURE IS BASED ON 1.2 TIMES THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION HL–93 LOADING WITH THE EXCEPTION THAT THE DESIGN TANDEM PORTION OF THE HL–93 LOAD DEFINITION SHALL BE REPLACED BY A SINGLE 60 KIP AXLE LOAD BEFORE APPLICATION OF THIS 1.2 FACTOR. THE RESULTING LOAD IS DESIGNATED HL–93 MOD. LIVE LOAD PLUS DYNAMIC LOAD ALLOWANCE DEFLECTION DOES NOT EXCEED 1/1000 OF SPAN LENGTH.

THE DESIGN OF THE DECK SLAB IS BASED UPON THE STRIP METHOD AS DEFINED IN THE CURRENT AASHTO LRFD BRIDGE DESIGN SPECIFICATION.

WITHOUT THE PREVENTIVE MEASURES SHOWN ON THESE PLANS, THERE IS A POSSIBILITY THAT STREAM BED SCOUR MAY OCCUR. THE ESTIMATED TOTAL SCOUR DEPTH IS CALCULATED TO BE 10 FT (EL 724.40) AT WEST ABUTMENT A AND 6 FT (EL 725.80) AT EAST ABUTMENT B. THESE DEPTHS ARE BASED ON A 100 YEAR RUNOFF EVENT.

GEOTEXTILE LINER SHALL BE PLACED ON ALL SLOPES PRIOR TO PLACING RIPRAP. PAYMENT FOR GEOTEXTILE LINER SHALL BE INCLUDED IN PAYMENT FOR RIPRAP, HEAVY.

THE TREMIE SEAL DESIGN WAS BASED ON A WATER SURFACE AT EL. 731.70

THE RIPRAP QUANTITY IS BASED ON THE LATERAL DIMENSIONS OF THE AREA TO BE PROTECTED, REGARDLESS OF THE NUMBER OF LAYERS REQUIRED. THE ESTIMATED WEIGHT OF RIPRAP IS 642 TONS.

WATER FROM DEWATERING OF A COFFERDAM SHALL BE PUMPED INTO A GEOTEXTILE FILTER BAG.

FALSE DECKING SHALL INCLUDE THE AREA BOUNDED BY BRIDGE REFERENCE LINES A & B AND DECK FASCIA. THE ESTIMATED AREA IS 1885 SQUARE FEET DURING REMOVAL, AND 2105 SQUARE FEET DURING PROPOSED CONSTRUCTION.

THIS STRUCTURE HAS BEEN ANALYZED FOR SCOUR AND THE RATING FACTOR FOR NBI ITEM 113 (SCOUR CRITICAL BRIDGES) WILL BE 5 STABLE W/ IN FOOTING (BRIDGE FOUNDATIONS DETERMINED TO BE STABLE FOR ASSESSED OR CALCULATED SCOUR CONDITION. SCOUR IS DETERMINED TO BE WITHIN THE LIMITS OF FOOTING OR PILES BY ASSESSMENT, BY CALCULATIONS OR BY INSTALLATION OF PROPERLY DESIGNED COUNTERMEASURES – SEE HEC 23).

SOIL EROSION & SEDIMENTATION CONTROL MEASURES

- (1) EROSION CONTROL, TURBIDITY CURTAIN, SHALLOW
- (3) SLOPE RESTORATION, TYPE A (SEE ROAD PLANS)
- (7) RIPRAP, HEAVY
- (18) EROSION CONTROL, FILTER BAG
- (26) EROSION CONTROL, SILT FENCE
- (34) COFFERDAMS (SN 2827)

MISCELLANEOUS QUANTITIES

ITEM	QUANTITY	UNIT
Structures, Rem (STR 2827)	1	LSUM
Excavation, Fdn	1639	Cyd
Backfill, Structure, CIP	1350	Cyd
False Decking	3990	Sft
Cofferdams (STR 2827)	1	LSUM
Riprap, Heavy	320	Syd
Conc Surface Coating (STR 2827)	1	LSUM
Elec Grounding System	1	Ea
Underdrain, Fdn, 4 inch	166	Ft
Underdrain Outlet, 4 inch	80	Ft
Underdrain, Outlet Ending, 4 inch	4	Ea
Conc, Low Temperature Protection	473	Cyd
Erosion Control, Turbidity Curtain, Shallow	246	Ft
Erosion Control, Filter Bag	2	Ea
Erosion Control, Silt Fence	350	Ft

* COFFERDAM NOTE:
COFFERDAM FOR ABUTMENTS IS REQUIRED. OTHER MEANS OF WATER CONTROL MAY BE UTILIZED, PROVIDED THEY DO NOT DISTURB THE STREAMBED AND MEET ALL REQUIREMENTS OF THE DEQ PERMIT AND AS APPROVED BY THE ENGINEER. COFFERDAM SIZE MAY VARY, DEPENDING ON CONTRACTORS METHOD OF CONSTRUCTION. MEASURES SHALL BE TAKEN TO NOT DISTURB THE EXISTING UNDERGROUND UTILITIES THAT WILL NOT BE RELOCATED. COFFERDAMS SHALL BE PAID ON A LUMP SUM BASIS REGARDLESS OF ACTUAL SIZE AND TYPE USED BY CONTRACTOR TO MEET CONSTRUCTION REQUIREMENTS. "EXCAVATION, FDN", SHALL BE PAID FOR BASED ON LIMITS SHOWN, REGARDLESS OF ACTUAL SIZE OF COFFERDAM PLACED. COFFERDAM SHALL BE REMOVED AT THE END OF CONSTRUCTION.

REV#	DATE	DESCRIPTION	BY

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

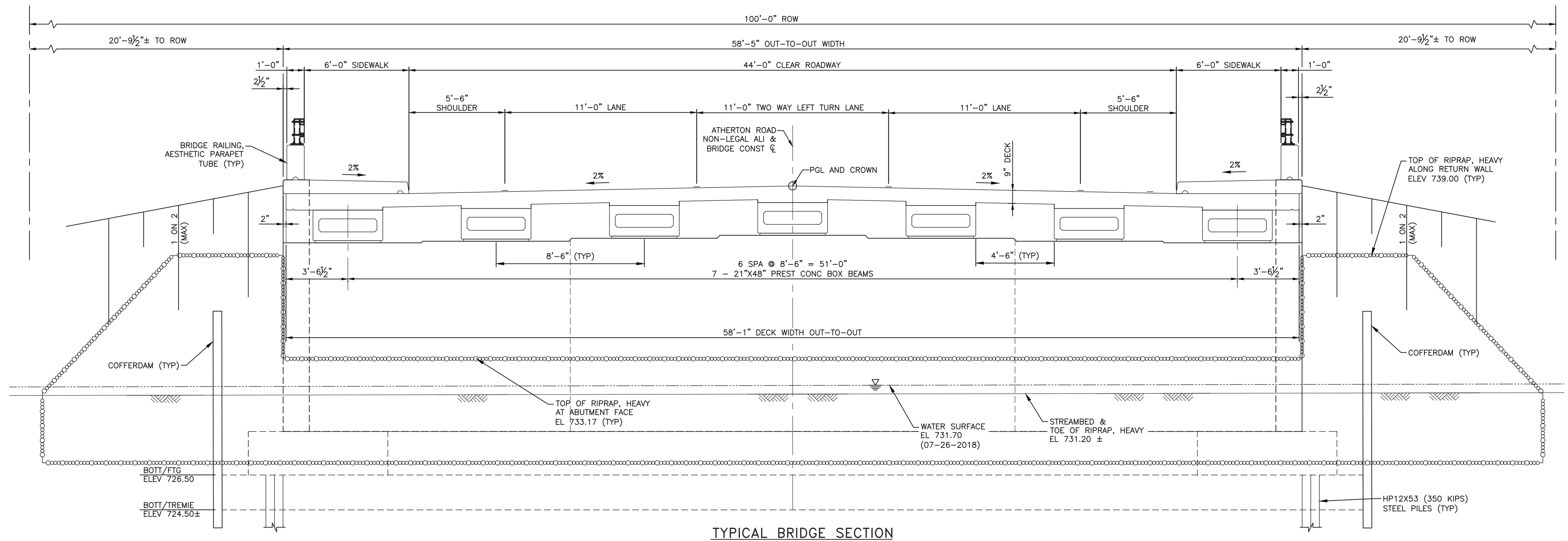
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
GENERAL PLAN OF STRUCTURE

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

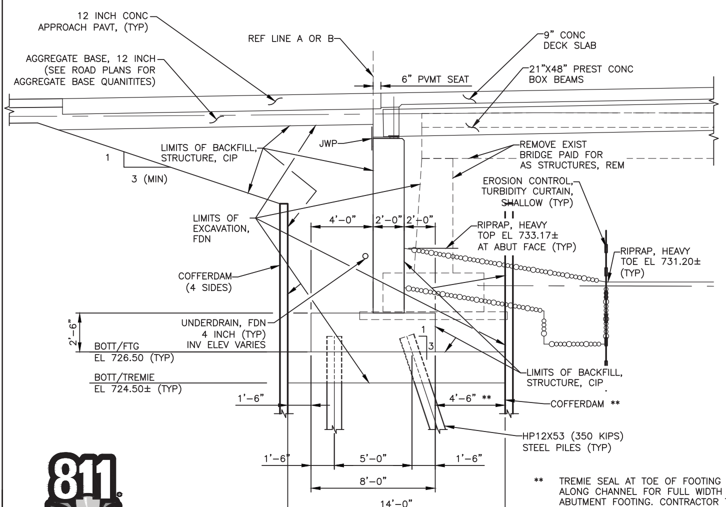
JOB NO. COF1065.01F

SHEET 237

FIELD BOOK INFORMATION:– PLOTTED 4/19/2019 3:25 AM BY RUGGLES, TIMOTHY
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\SSP-PLTS-GENPLANSTRUCT1-ATHERTON.DWG – GPS-1

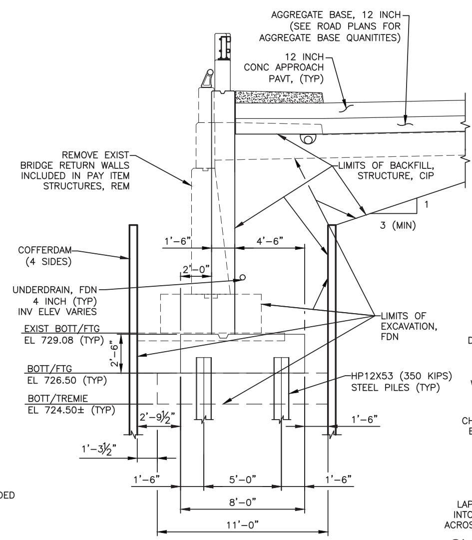

100'–0" ROW
20'–9½"± TO ROW
58'–5" OUT–TO–OUT WIDTH
20'–9½"± TO ROW
1'–0"
6'–0" SIDEWALK
44'–0" CLEAR ROADWAY
6'–0" SIDEWALK
1'–0"
2½"
5'–6" SHOULDER
11'–0" LANE
11'–0" TWO WAY LEFT TURN LANE
11'–0" LANE
5'–6" SHOULDER
2½"
ATHERTON ROAD NON–LEGAL ALI & BRIDGE CONST ℄
BRIDGE RAILING, AESTHETIC PARAPET TUBE (TYP)
PGL AND CROWN
9" DECK
2%
2%
2%
2%
TOP OF RIPRAP, HEAVY ALONG RETURN WALL ELEV 739.00 (TYP)
2"
2"
1 ON 2 (MAX)
1 ON 2 (MAX)
8'–6" (TYP)
4'–6" (TYP)
3'–6½"
6 SPA @ 8'–6" = 51'–0"
7 – 21"X48" PREST CONC BOX BEAMS
3'–6½"
58'–1" DECK WIDTH OUT–TO–OUT
COFFERDAM (TYP)
COFFERDAM (TYP)
TOP OF RIPRAP, HEAVY AT ABUTMENT FACE EL 733.17 (TYP)
WATER SURFACE EL 731.70 (07–26–2018)
STREAMBED & TOE OF RIPRAP, HEAVY EL 731.20 ±
BOTT/FTG ELEV 726.50
BOTT/TREMIE ELEV 724.50±
HP12X53 (350 KIPS) STEEL PILES (TYP)

TYPICAL BRIDGE SECTION
(LOOKING UPSTATION AT ABUTMENT B)


12 INCH CONC APPROACH PAVT, (TYP)
AGGREGATE BASE, 12 INCH (SEE ROAD PLANS FOR AGGREGATE BASE QUANITITES)
REF LINE A OR B
9" CONC DECK SLAB
6" PVMT SEAT
21"X48" PREST CONC BOX BEAMS
LIMITS OF BACKFILL, STRUCTURE, CIP
JWP
REMOVE EXIST BRIDGE PAID FOR AS STRUCTURES, REM
1
3 (MIN)
EROSION CONTROL, TURBIDITY CURTAIN, SHALLOW (TYP)
LIMITS OF EXCAVATION, FDN
4'–0"
2'–0"
2'–0"
RIPRAP, HEAVY TOP EL 733.17± AT ABUT FACE (TYP)
RIPRAP, HEAVY TOE EL 731.20± (TYP)
COFFERDAM (4 SIDES)
2'–6"
UNDERDRAIN, FDN 4 INCH (TYP) INV ELEV VARIES
BOTT/FTG EL 726.50 (TYP)
BOTT/TREMIE EL 724.50± (TYP)
1
3
LIMITS OF BACKFILL, STRUCTURE, CIP
1'–6"
4'–6" **
COFFERDAM **
HP12X53 (350 KIPS) STEEL PILES (TYP)
1'–6"
5'–0"
1'–6"
8'–0"
14'–0"

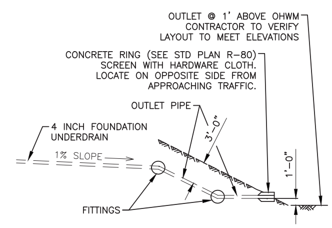
TYPICAL ABUTMENT SECTION

** TREMIE SEAL AT TOE OF FOOTING IS EXTENDED ALONG CHANNEL FOR FULL WIDTH OF EACH ABUTMENT FOOTING. CONTRACTOR TO VERIFY THAT THE METHOD AND PLACEMENT OF COFFERDAM OR OTHER METHOD OF WATER CONTROL WILL NOT IMPACT OR INTERFERE WITH BATTERED PILES ALONG TOE OF FOOTING.

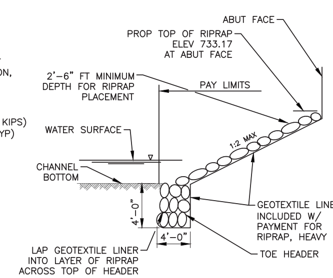

AGGREGATE BASE, 12 INCH (SEE ROAD PLANS FOR AGGREGATE BASE QUANITITES)
12 INCH CONC APPROACH PAVT, (TYP)
REMOVE EXIST BRIDGE RETURN WALLS INCLUDED IN PAY ITEM STRUCTURES, REM
LIMITS OF BACKFILL, STRUCTURE, CIP
1
3 (MIN)
COFFERDAM (4 SIDES)
1'–6"
4'–6"
2'–0"
UNDERDRAIN, FDN 4 INCH (TYP) INV ELEV VARIES
LIMITS OF EXCAVATION, FDN
EXIST BOTT/FTG EL 729.08 (TYP)
2'–6"
BOTT/FTG EL 726.50 (TYP)
BOTT/TREMIE EL 724.50± (TYP)
HP12X53 (350 KIPS) STEEL PILES (TYP)
2'–9½"
1'–6"
1'–3½"
1'–6"
5'–0"
1'–6"
8'–0"
11'–0"

TYPICAL RETURN WALL SECTION

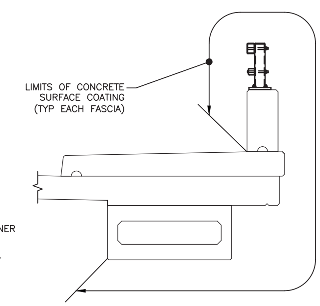
JOB NO. JN201292



UNDERDRAIN OUTLET DETAIL
NO SCALE


ABUT FACE
PROP TOP OF RIPRAP ELEV 733.17 AT ABUT FACE
2'–6" FT MINIMUM DEPTH FOR RIPRAP PLACEMENT
PAY LIMITS
WATER SURFACE
1:2 MAX
CHANNEL BOTTOM
4'–0"
4'–0"
GEOTEXTILE LINER INCLUDED W/ PAYMENT FOR RIPRAP, HEAVY
LAP GEOTEXTILE LINER INTO LAYER OF RIPRAP ACROSS TOP OF HEADER
TOE HEADER

SLOPE PROTECTION RIPRAP DETAIL
NO SCALE
(INCLUDED WITH PAYMENT FOR RIPRAP, HEAVY)



CONCRETE SURFACECOATING LIMITS
NO SCALE

REV#	DATE	DESCRIPTION	BY

WADE TRIM

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
GENERAL PLAN OF STRUCTURE

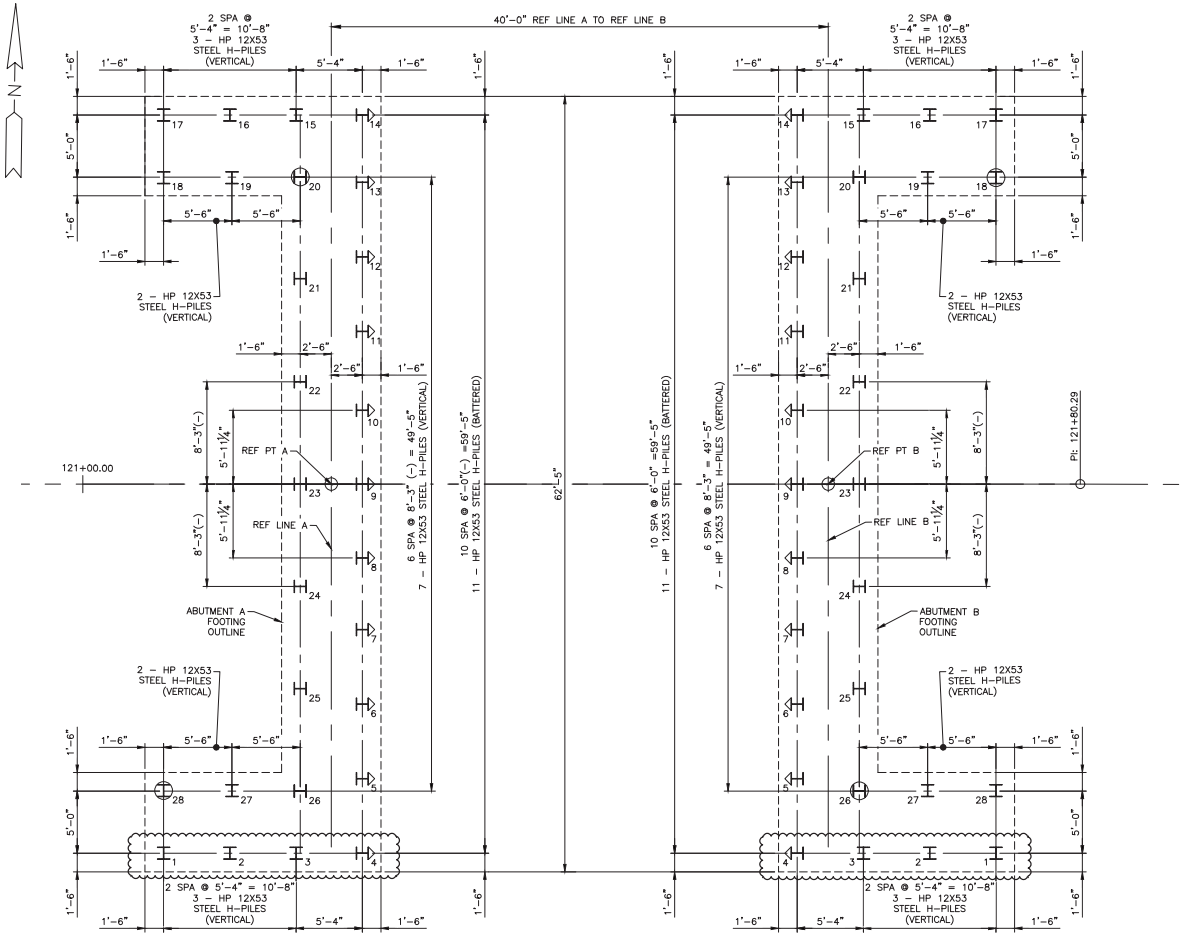
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

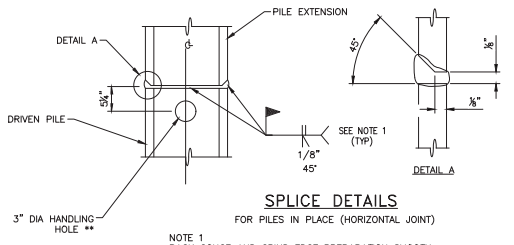
SHEET 238

FIELD BOOK INFORMATION:–
PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK2\D0852518\SSP–PLTS–GENPLANSTRUCT2–ATHERTON.DWG – GPS–2 – PLOTTED 4/19/2019 3:25 AM BY RUGGLES, TIMOTHY

811 Know what's below. Call before you dig.



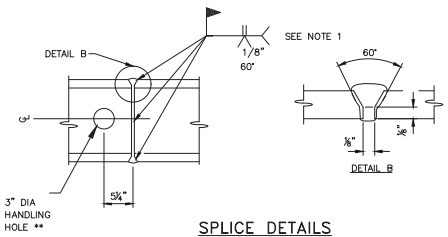
PILE LAYOUT PLAN



SPLICE DETAILS

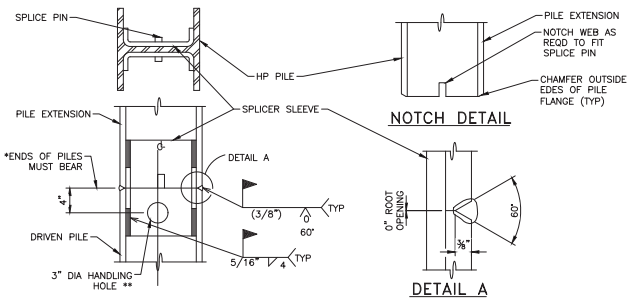
FOR PILES IN PLACE (HORIZONTAL JOINT)

NOTE 1
BACK GOUGE AND GRIND EDGE PREPARATION SMOOTH



SPLICE DETAILS

FOR PILES IN HORIZONTAL POSITION



ALTERNATE SPLICE DETAILS

PILE, STEEL, FURN AND DRIVEN, 12 INCH HP12x53

LOCATION	PILE TYPE	NUMBER OF PILES	ESTIMATED LENGTH FURNISHED & DRIVEN		PILE POINTS (EACH)	SPLICES (EACH)	CUT-OFF ELEV.
			EACH FEET	TOTAL FEET			
Abutment A	TEST-VERT	2	43	86	2	2	727.50
	VERTICAL	15	33	495	15	15	727.50
	BATTERED	11	40	440	11	11	727.50
	TOTAL	28		1021	28	28	
Abutment B	TEST-VERT	2	43	86	2	2	727.50
	VERTICAL	15	33	495	15	15	727.50
	BATTERED	11	40	440	11	11	727.50
	TOTAL	28		1021	28	28	
COMBINED TOTAL		56		2042	56	56	

LEGEND

- DENOTES VERTICAL PILE
- DENOTES VERTICAL TEST PILE
- DENOTES BATTERED PILE

NOTE:
PILES 1, 2, 3 AND 4 TO BE PREBORED TO EL 705.00 (TYP AT EACH ABUT). PREBORING OPERATION MAY REQUIRE TEMPORARY CASING AS INCLUDED IN PAY ITEM "PREBORE, FDN PILING".

QUANTITIES THIS SHEET

ITEM	QUANTITY	UNIT
Pile Driving Equipment, Furn (STR 2827)	1	LSUM
Pile, Steel, Furn and Driven, 12 inch	2042	Ft
Test Pile, Steel, 12 inch	4	Ea
Pile Point, Steel	56	Ea
Pile, Steel, Splice	56	Ea
Prebore, Fdn Piling	172	Ft

NOTES:

DRIVE ALL PILES TO A NOMINAL PILE DRIVING RESISTANCE NOT LESS THAN 350 KIPS. DETERMINE NOMINAL PILE DRIVING RESISTANCE (Rndr) USING THE FHWA MODIFIED GATES DYNAMIC FORMULA.

THE ESTIMATED PILE LENGTH IS BASED ON THE STATIC ANALYSIS.

BATTERED PILES FOR ABUTMENTS A & B SHALL BE DRIVEN TO A 3V:1H BATTER ANGLE.

STEEL PILES SHALL BE HP 12X53 FOR ABUTMENT A AND ABUTMENT B.

USE STEEL FOR H-PILES AND SPLICES THAT HAS A YIELD STRENGTH NOT LESS THAN 50,000 PSI.

THE ESTIMATED LOSS OF NOMINAL PILE RESISTANCE DUE TO SCOUR AFTER DRIVING IS 12 KIPS (FOR INFORMATION ONLY).

THE ESTIMATED FACTORED DOWNDRAG AFTER PILE DRIVING IS 0 KIPS (FOR INFORMATION ONLY).

THE FACTORED PILE RESISTANCE AVAILABLE TO RESIST ALL FACTORED LOADS (INCLUDING THE ESTIMATED FACTORED DOWNDRAG) IS EQUAL TO 50 PERCENT OF NOMINAL PILE DRIVING RESISTANCE (THAT IS REDUCED BY THE LOSS DUE TO SCOUR) (FOR INFORMATION ONLY).

SPLICES FOR PILES ARE INCLUDED IF REQUIRED AT EACH PILE LOCATION, AS APPROVED BY THE ENGINEER.

JOB NO. JN201292

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3800
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

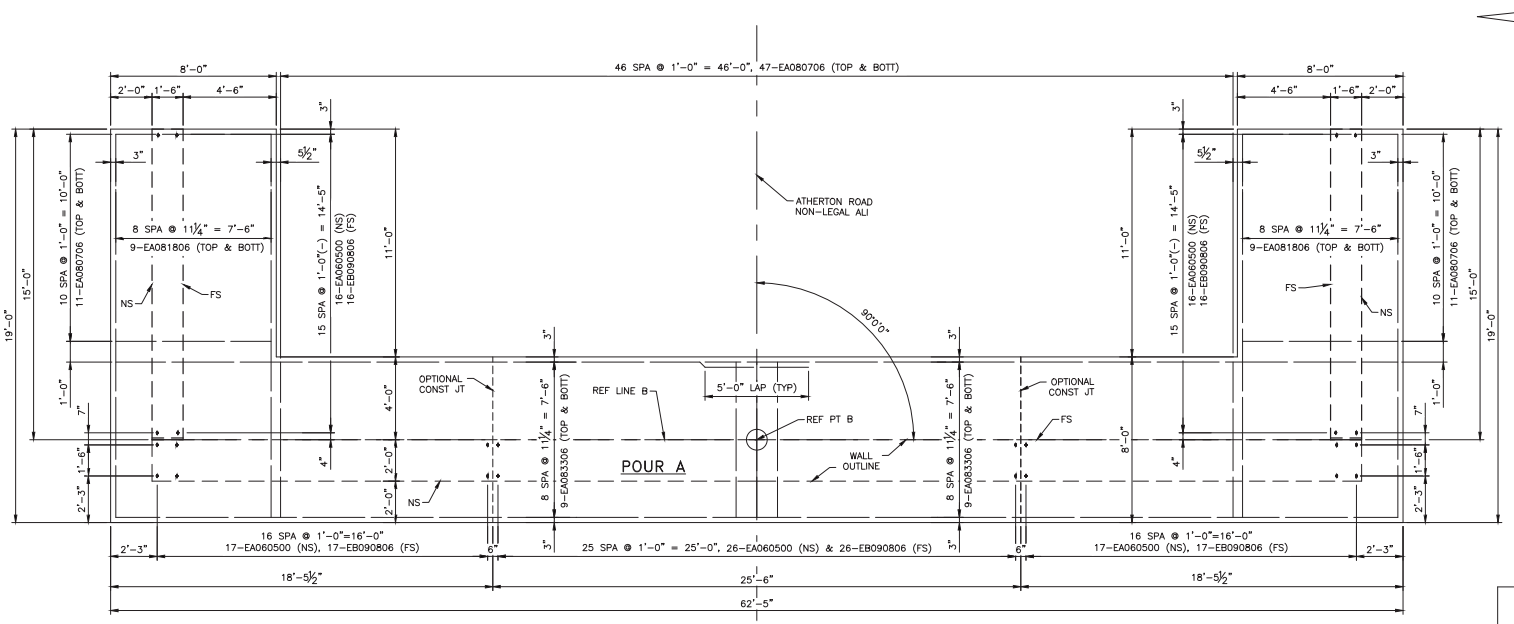
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
PILE DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

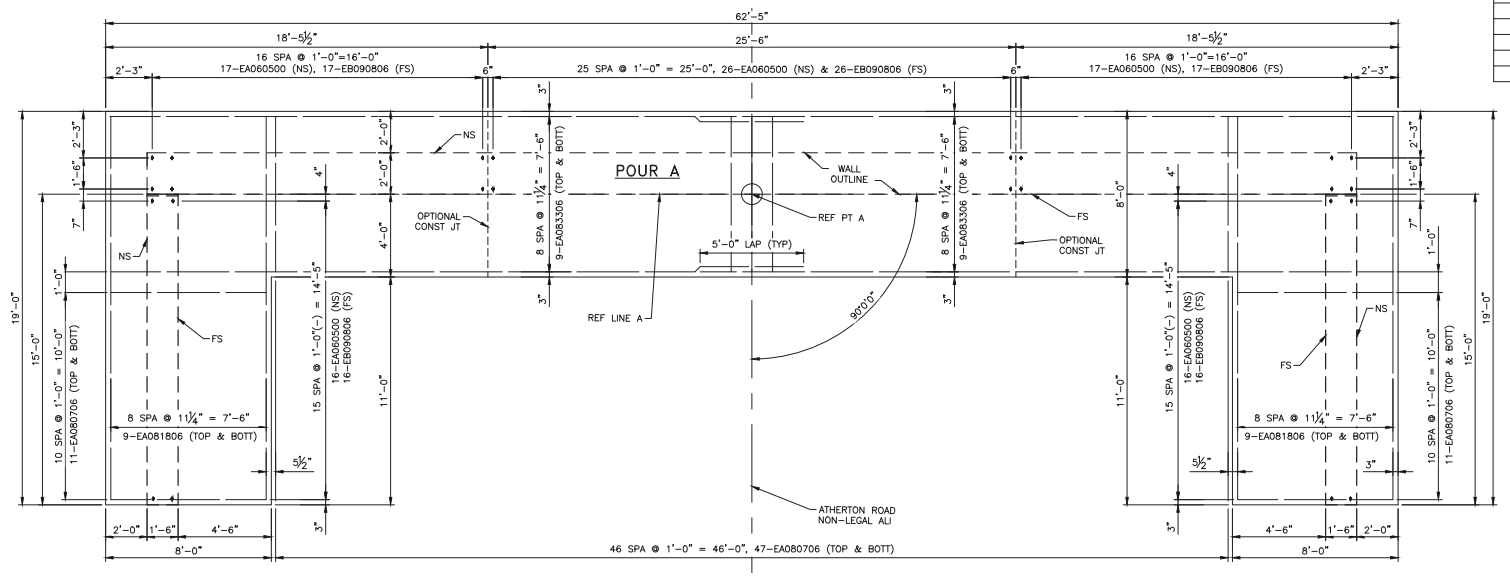
JOB NO. COF1065.01F

SHEET 239

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\COB8528\18\SPP-PLTS-PILELAYOUT-ATHERTON.DWG - PD-1 - PLOTTED 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-



EAST ABUTMENT B FOOTING PLAN



WEST ABUTMENT A FOOTING PLAN

JOB NO. JN201292

SUBSTRUCTURE CONCRETE QUANTITIES

POUR	WEST ABUT A	EAST ABUT B
A	62.6 CYD	62.6 CYD
B	13.5 CYD	14.3 CYD
C	21.4 CYD	22.6 CYD
D	13.5 CYD	14.3 CYD
E	12.1 CYD	12.9 CYD
F	12.1 CYD	12.9 CYD

MISCELLANEOUS QUANTITIES

ITEM	QUANTITY	UNIT
Substructure Conc	275	Cyd
Conc, Grade T	172	Cyd
Joint Waterproofing	311	Sft

NOTES:

ES DENOTES EACH SIDE

NS DENOTES NEAR SIDE

FS DENOTES FAR SIDE

CONSTRUCTION JOINTS IN FOOTINGS ARE OPTIONAL.

FOR BEVEL AND MOLDING DETAILS, SEE MDOT BRIDGE STANDARD PLANS B-103 SERIES.

FOR PILE QUANTITIES, LAYOUT AND NOTES, SEE "PILE DETAILS", SHEET 237.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03 J. OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

REV#	DATE	DESCRIPTION	BY

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CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

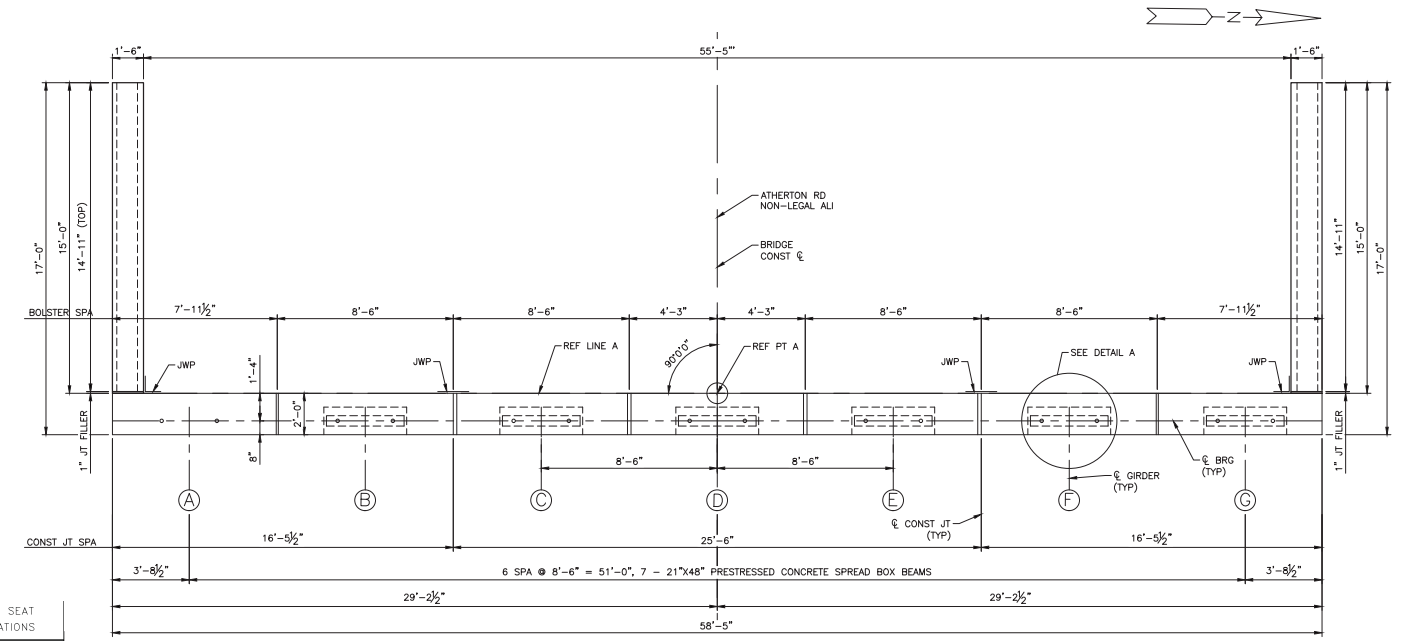
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
FOOTING DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

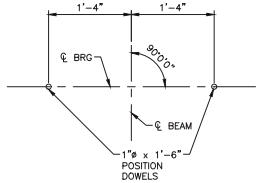
SHEET 240

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\20085218\SSD-PLTS-ABUTFOOTINGSDETAILS-ATHERTON.DWG - AB-1 - PLOTTED 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

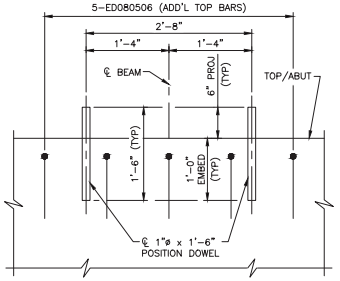


WEST ABUTMENT A WALL PLAN

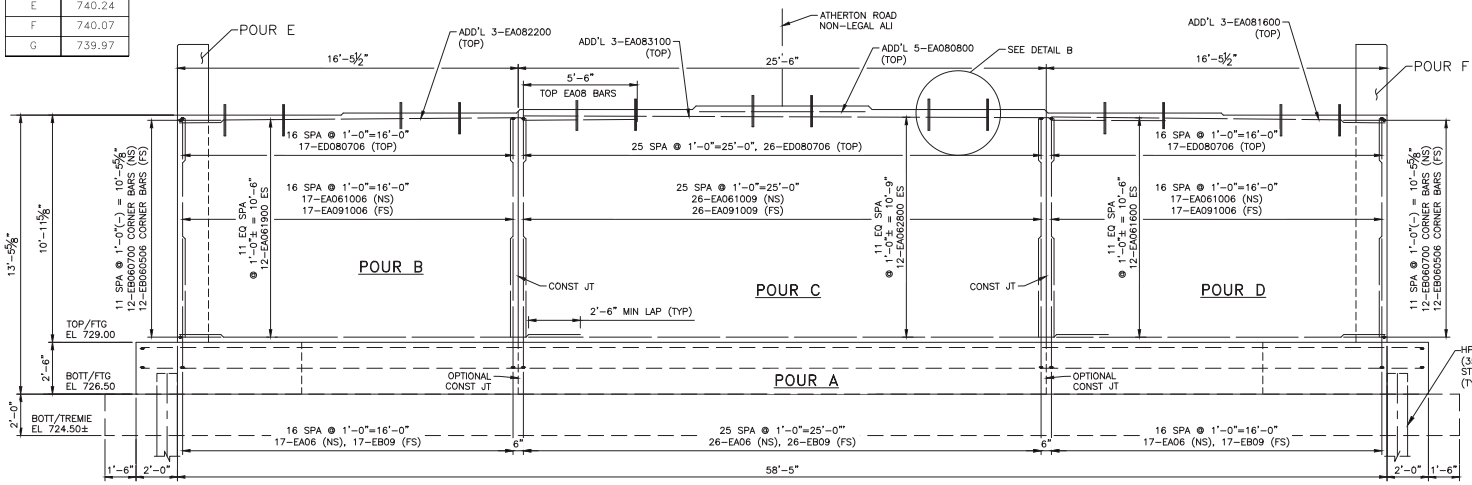
BEAM SEAT ELEVATIONS	
BEAM	ABUT A
A	739.97
B	740.07
C	740.24
D	740.41
E	740.24
F	740.07
G	739.97



DETAIL A
7 BEARING LOCATIONS
AT EACH ABUTMENT



DETAIL B
7 BEARING LOCATIONS
AT EACH ABUTMENT



WEST ABUTMENT A ELEVATION

JOB NO. JN201292

NOTES:

JWP DENOTES JOINT WATERPROOFING.

NS DENOTES NEAR SIDE.

FS DENOTES FAR SIDE.

ES DENOTES EACH SIDE.

FOR BEVEL AND MOLDING DETAILS, SEE MDOT BRIDGE STANDARD PLANS B-103 SERIES.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03 J. OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

CONCRETE SURFACE COATING SHALL BE APPLIED TO THE ENTIRE TOP SURFACE AND THE ENTIRE EXPOSED FRONT (NS) FACE OF ABUTMENTS A AND B AFTER THE NEW ELASTOMERIC BEARINGS HAVE BEEN PLACED IN FINAL POSITION ON THE STRUCTURE. ALONG WITH THE EXPOSED (NS) FACES OF RETURN WALLS, BRIDGE RAILING PARAPET AND END WALLS AND BOTH BEAM FASCIAS, THE ESTIMATED AREA OF COATING IS 573 SYD.

PLACE FILL MATERIAL IN FRONT AND BEHIND ABUTMENT AT THE SAME TIME. UNBALANCED FILL HEIGHTS WILL NOT BE ALLOWED UNTIL THE PRECAST BEAMS AND CONCRETE DECK HAVE BEEN PLACED.

PLACEMENT OF POSITION DOWELS SHALL NOT BE FIELD DRILLED. POSITION DOWELS WILL NOT BE PAID FOR SEPARATELY. PAYMENT FOR THIS WORK WILL BE INCLUDED IN "PREST CONC BOX BEAM, ERECT, 21 INCH".

NO.	REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
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CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

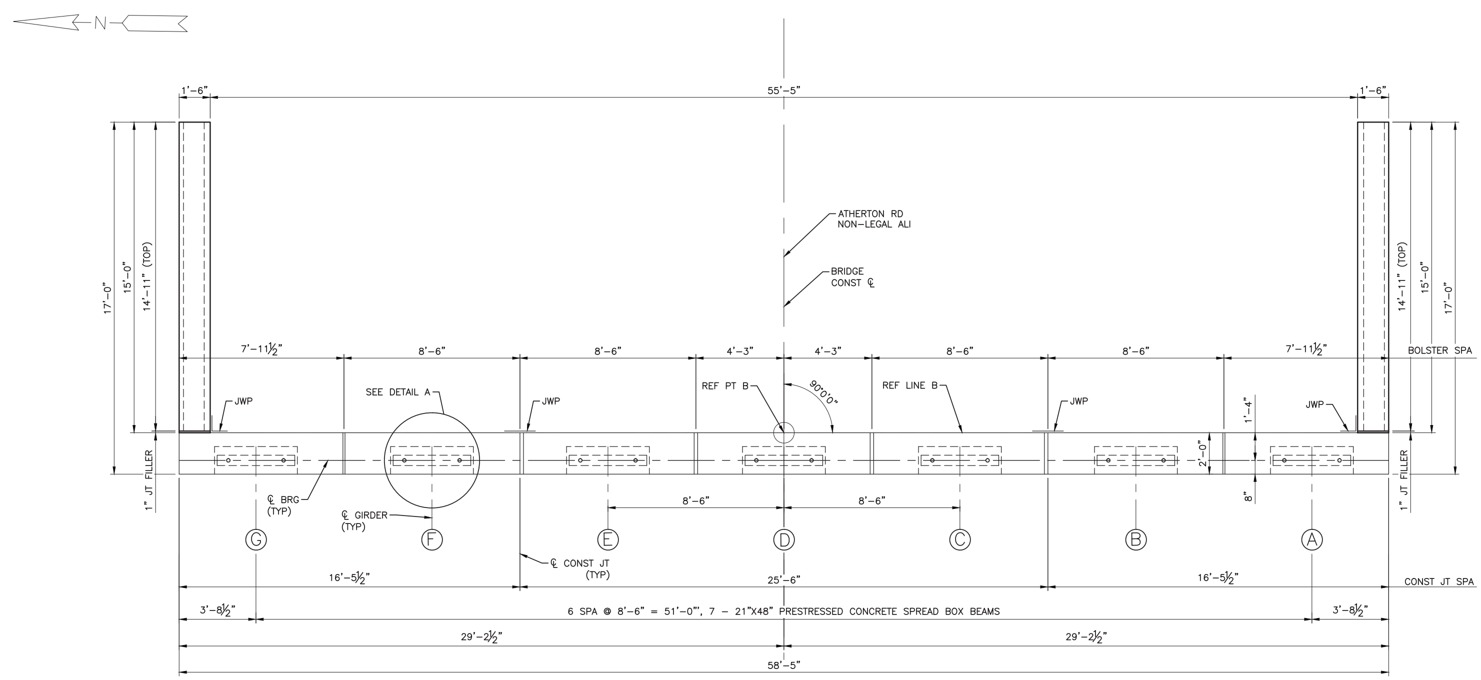
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
ABUTMENT DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

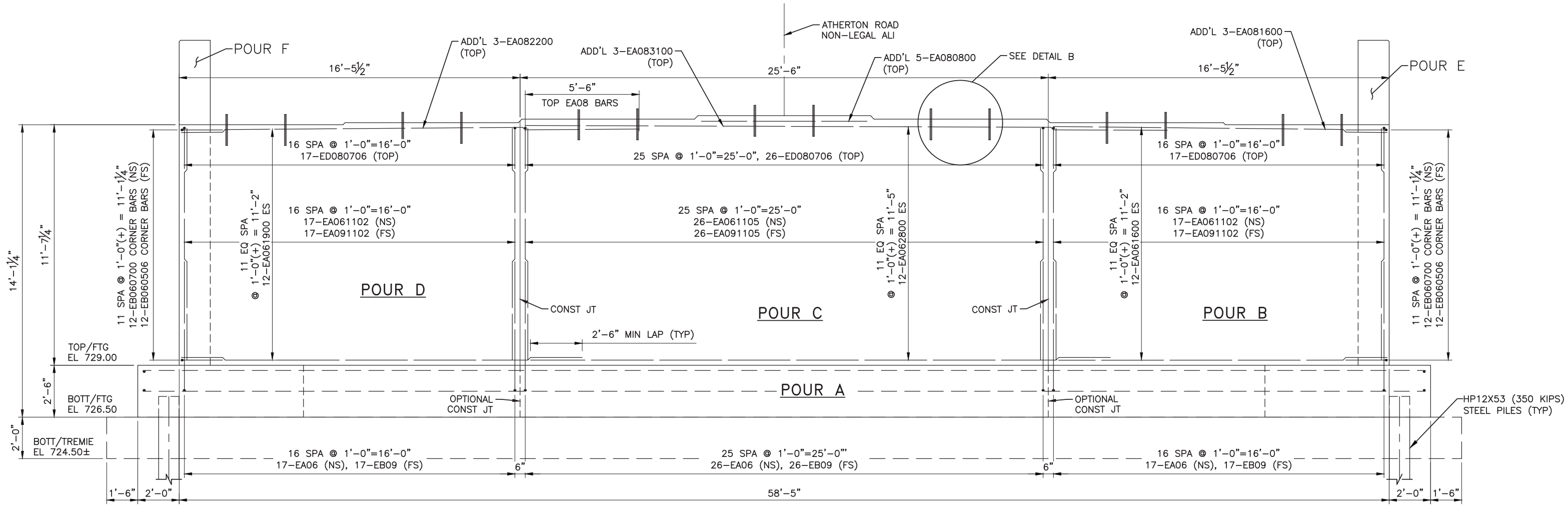
JOB NO.
COF1065.01F

SHEET
241

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\SSD-PLTS-ABUTMENTDETAILSA-ATHERTONLDWG - A8-4 - PLOTTED 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--


N
1'-6"
55'-5"
1'-6"
ATHERTON RD
NON-LEGAL ALI
BRIDGE
CONST ℄
17'-0"
15'-0"
14'-11" (TOP)
7'-11½"
8'-6"
8'-6"
4'-3"
4'-3"
8'-6"
8'-6"
7'-11½"
BOLSTER SPA
SEE DETAIL A
JWP
REF PT B
90°00'00"
REF LINE B
1'-4"
2'-0"
8"
1" JT FILLER
℄ BRG
(TYP)
℄ GIRDER
(TYP)
℄ CONST JT
(TYP)
G
F
E
D
C
B
A
16'-5½"
25'-6"
16'-5½"
CONST JT SPA
3'-8½"
6 SPA @ 8'-6" = 51'-0", 7 - 21"X48" PRESTRESSED CONCRETE SPREAD BOX BEAMS
3'-8½"
29'-2½"
29'-2½"
58'-5"

EAST ABUTMENT B WALL PLAN


ATHERTON ROAD
NON-LEGAL ALI
POUR F
POUR E
ADD'L 3-EA082200
(TOP)
ADD'L 3-EA083100
(TOP)
ADD'L 5-EA080800
(TOP)
SEE DETAIL B
ADD'L 3-EA081600
(TOP)
16'-5½"
25'-6"
16'-5½"
5'-6"
TOP EA08 BARS
16 SPA @ 1'-0"=16'-0"
17-ED080706 (TOP)
25 SPA @ 1'-0"=25'-0", 26-ED080706 (TOP)
16 SPA @ 1'-0"=16'-0"
17-ED080706 (TOP)
14'-1¼"
11'-7¼"
11 SPA @ 1'-0"(+) = 11'-1¼"
12-EB060700 CORNER BARS (NS)
12-EB060506 CORNER BARS (FS)
11 EQ SPA
@ 1'-0"(+) = 11'-2"
12-EA061900 ES
16 SPA @ 1'-0"=16'-0"
17-EA061102 (NS)
17-EA091102 (FS)
25 SPA @ 1'-0"=25'-0"
26-EA061105 (NS)
26-EA091105 (FS)
11 EQ SPA
@ 1'-0"(+) = 11'-5"
12-EA062800 ES
11 EQ SPA
@ 1'-0"(+) = 11'-2"
12-EA061600 ES
16 SPA @ 1'-0"=16'-0"
17-EA061102 (NS)
17-EA091102 (FS)
11 SPA @ 1'-0"(+) = 11'-1¼"
12-EB060700 CORNER BARS (NS)
12-EB060506 CORNER BARS (FS)
POUR D
CONST JT
POUR C
CONST JT
POUR B
2'-6" MIN LAP (TYP)
TOP/FTG
EL 729.00
2'-6"
BOTT/FTG
EL 726.50
2'-0"
BOTT/TREMIE
EL 724.50±
POUR A
OPTIONAL
CONST JT
OPTIONAL
CONST JT
HP12X53 (350 KIPS)
STEEL PILES (TYP)
16 SPA @ 1'-0"=16'-0"
17-EA06 (NS), 17-EB09 (FS)
25 SPA @ 1'-0"=25'-0"
26-EA06 (NS), 26-EB09 (FS)
16 SPA @ 1'-0"=16'-0"
17-EA06 (NS), 17-EB09 (FS)
6"
6"
1'-6"
2'-0"
58'-5"
2'-0"
1'-6"

EAST ABUTMENT B ELEVATION

JOB NO. JN126553

BEAM SEAT ELEVATIONS	
BEAM	ABUT B
A	740.61
B	740.71
C	740.88
D	741.05
E	740.88
F	740.71
G	740.61

REV#	DATE	DESCRIPTION	BY

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Flint, MI 48502
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CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

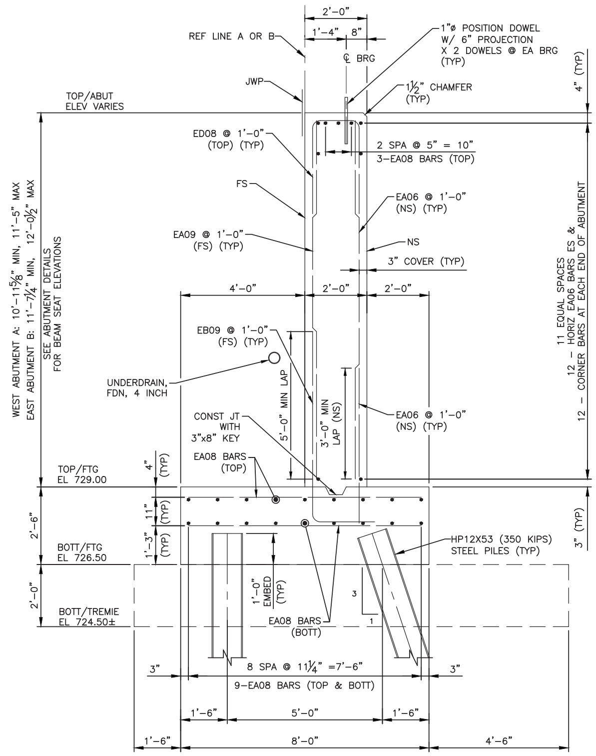
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
ABUTMENT DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

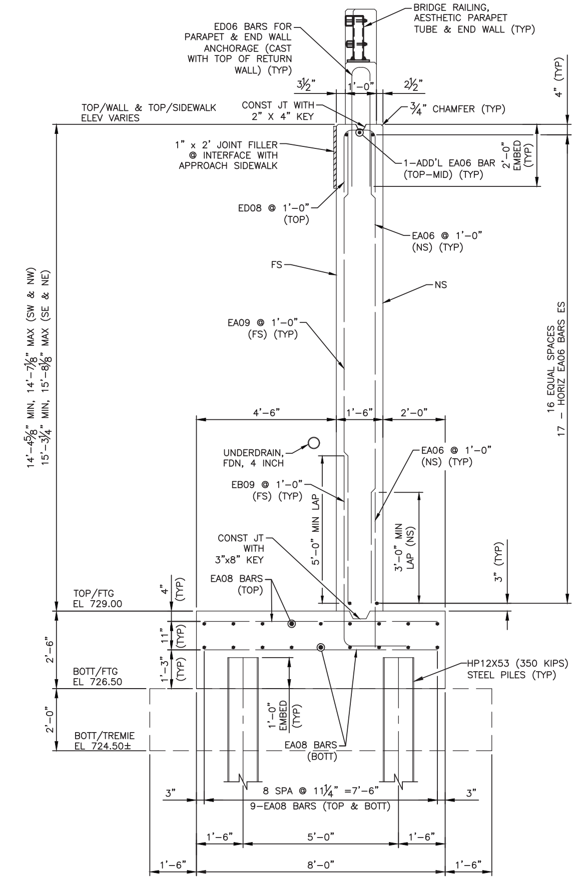
JOB NO.
COF1065.01F

SHEET
242

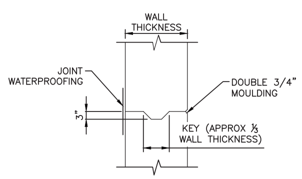
PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\SSD-PLTS-ABUTMENTDETAILSB-ATHERTON.DWG -- AB-4 -- PLOTTED 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY


REF LINE A OR B
2'-0"
1'-4"
8"
℄ BRG
1"ø POSITION DOWEL W/ 6" PROJECTION X 2 DOWELS @ EA BRG (TYP)
JWP
1½" CHAMFER (TYP)
TOP/ABUT ELEV VARIES
4" (TYP)
ED08 @ 1'-0" (TOP) (TYP)
2 SPA @ 5" = 10"
3-EA08 BARS (TOP)
FS
EA06 @ 1'-0" (NS) (TYP)
EA09 @ 1'-0" (FS) (TYP)
NS
3" COVER (TYP)
WEST ABUTMENT A: 10'-11⅝" MIN, 11'-5" MAX
EAST ABUTMENT B: 11'-7¼" MIN, 12'-0½" MAX
SEE ABUTMENT DETAILS FOR BEAM SEAT ELEVATIONS
11 EQUAL SPACES
12 - HORIZ EA06 BARS ES &
12 - CORNER BARS AT EACH END OF ABUTMENT
4'-0"
2'-0"
2'-0"
EB09 @ 1'-0" (FS) (TYP)
UNDERDRAIN, FDN, 4 INCH
5'-0" MIN LAP
3'-0" MIN LAP (NS)
EA06 @ 1'-0" (NS) (TYP)
CONST JT WITH 3"x8" KEY
EA08 BARS (TOP)
TOP/FTG EL 729.00
4" (TYP)
11" (TYP)
1'-3" (TYP)
2'-6"
BOTT/FTG EL 726.50
HP12X53 (350 KIPS) STEEL PILES (TYP)
3" (TYP)
2'-0"
1'-0" EMBED (TYP)
BOTT/TREMIE EL 724.50±
EA08 BARS (BOTT)
3
1
3"
8 SPA @ 11¼" =7'-6"
9-EA08 BARS (TOP & BOTT)
1'-6"
5'-0"
1'-6"
1'-6"
8'-0"
4'-6"

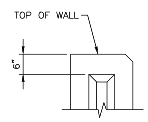
TYPICAL ABUTMENT SECTION


ED06 BARS FOR PARAPET & END WALL ANCHORAGE (CAST WITH TOP OF RETURN WALL) (TYP)
BRIDGE RAILING, AESTHETIC PARAPET TUBE & END WALL (TYP)
3½"
1'-0"
2½"
4" (TYP)
TOP/WALL & TOP/SIDEWALK ELEV VARIES
CONST JT WITH 2" X 4" KEY
¾" CHAMFER (TYP)
1" x 2' JOINT FILLER @ INTERFACE WITH APPROACH SIDEWALK
1-ADD'L EA06 BAR (TOP-MID) (TYP)
2'-0" EMBED (TYP)
ED08 @ 1'-0" (TOP)
EA06 @ 1'-0" (NS) (TYP)
FS
NS
EA09 @ 1'-0" (FS) (TYP)
14'-4⅝" MIN, 14'-7⅞" MAX (SW & NW)
15'-3¾" MIN, 15'-8⅜" MAX (SE & NE)
16 EQUAL SPACES
17 - HORIZ EA06 BARS ES
4'-6"
1'-6"
2'-0"
UNDERDRAIN, FDN, 4 INCH
EA06 @ 1'-0" (NS) (TYP)
EB09 @ 1'-0" (FS) (TYP)
5'-0" MIN LAP
3'-0" MIN LAP (NS)
CONST JT WITH 3"x8" KEY
EA08 BARS (TOP)
3" (TYP)
TOP/FTG EL 729.00
4" (TYP)
11" (TYP)
1'-3" (TYP)
2'-6"
BOTT/FTG EL 726.50
HP12X53 (350 KIPS) STEEL PILES (TYP)
2'-0"
1'-0" EMBED (TYP)
BOTT/TREMIE EL 724.50±
EA08 BARS (BOTT)
3"
8 SPA @ 11¼" =7'-6"
9-EA08 BARS (TOP & BOTT)
1'-6"
5'-0"
1'-6"
1'-6"
8'-0"
1'-6"

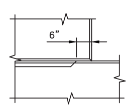
TYPICAL RETURN WALL SECTION



SECTION

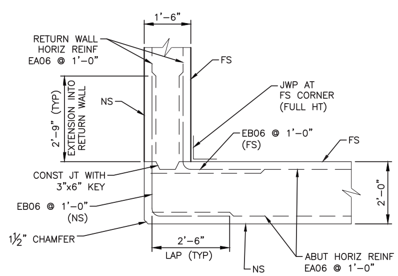


ELEVATION OF VERTICAL JOINT



ELEVATION OF HORIZ JOINT

CONSTRUCTION JOINT DETAILS



TYPICAL CORNER DETAIL

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\SSD-PLTS-ABUTWWSECTIONS-ATHERTON.DWG -- LAYOUT1 -- PLOTTED 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

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810.235.2555
www.wadetrim.com

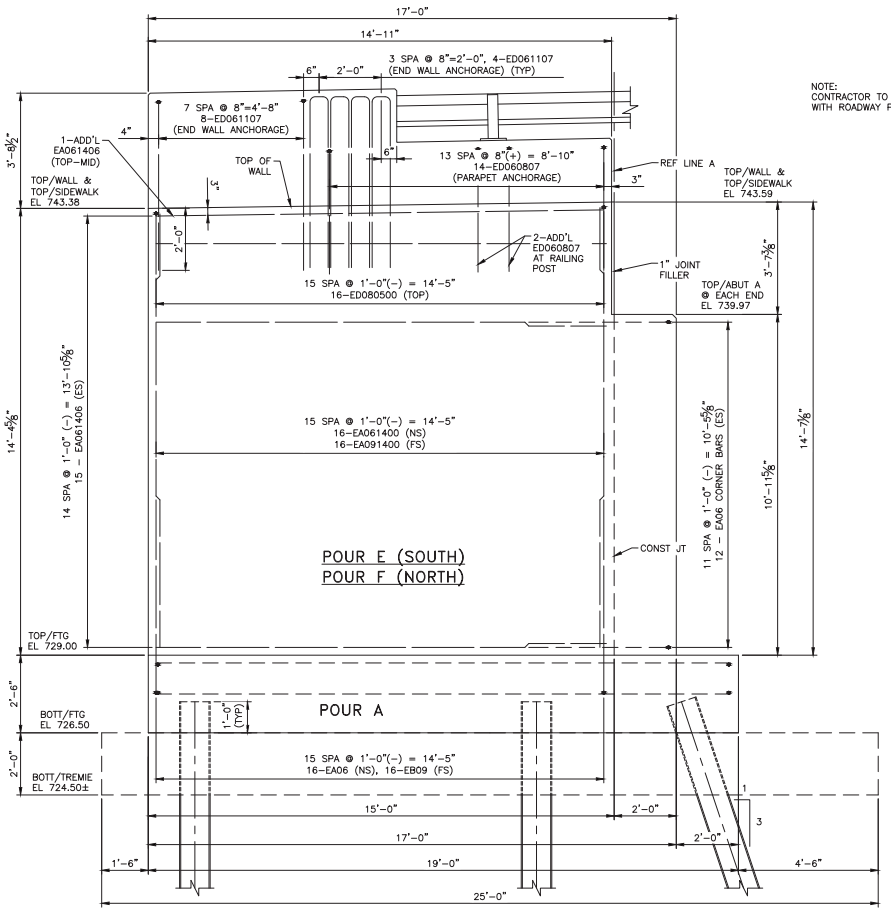
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
ABUTMENT DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

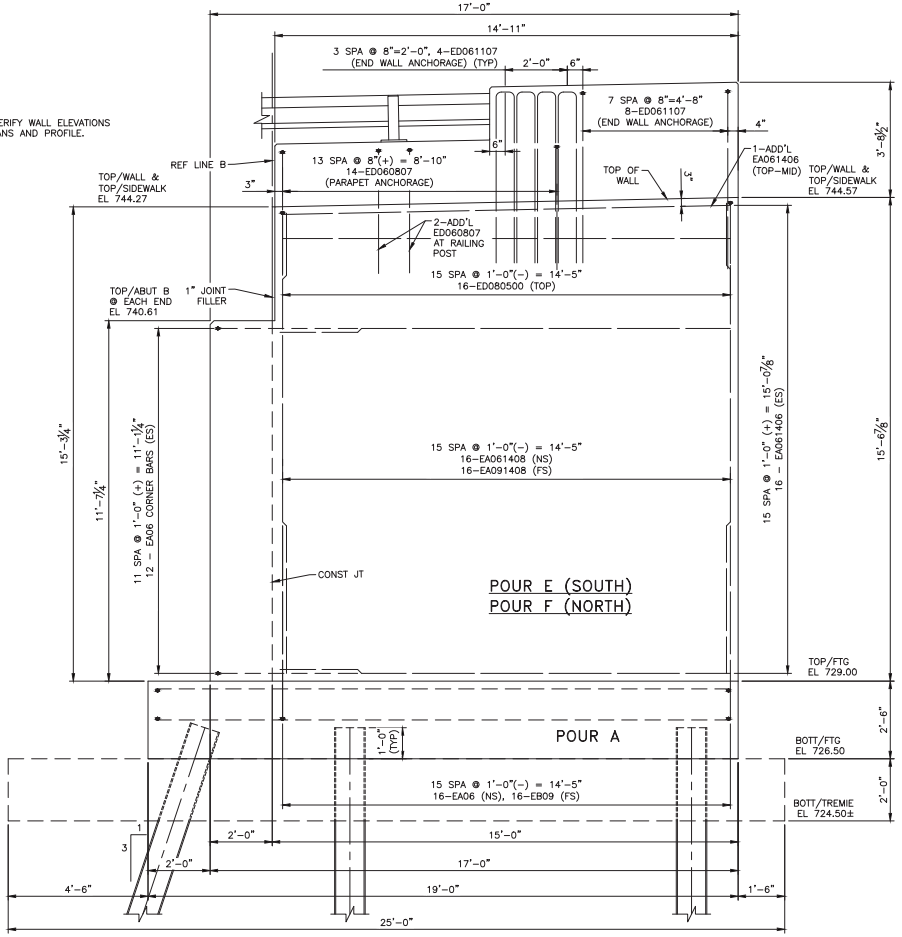
SHEET 243



WEST ABUTMENT A
TYPICAL RETURN WALL ELEVATION

(SOUTHWEST RETURN WALL SHOWN, NORTHWEST SIMILAR)

NOTE:
CONTRACTOR TO VERIFY WALL ELEVATIONS
WITH ROADWAY PLANS AND PROFILE.



EAST ABUTMENT B
TYPICAL RETURN WALL ELEVATION

(SOUTHEAST RETURN WALL SHOWN, NORTHEAST SIMILAR)

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\SSD-PLTS-WHELEY-ATHERTON.DWG - LAYOUT1 - PLOTTED: 4/19/2019 3:26 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

BY	DESCRIPTION	DATE	REV#

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3850
www.wadetrim.com

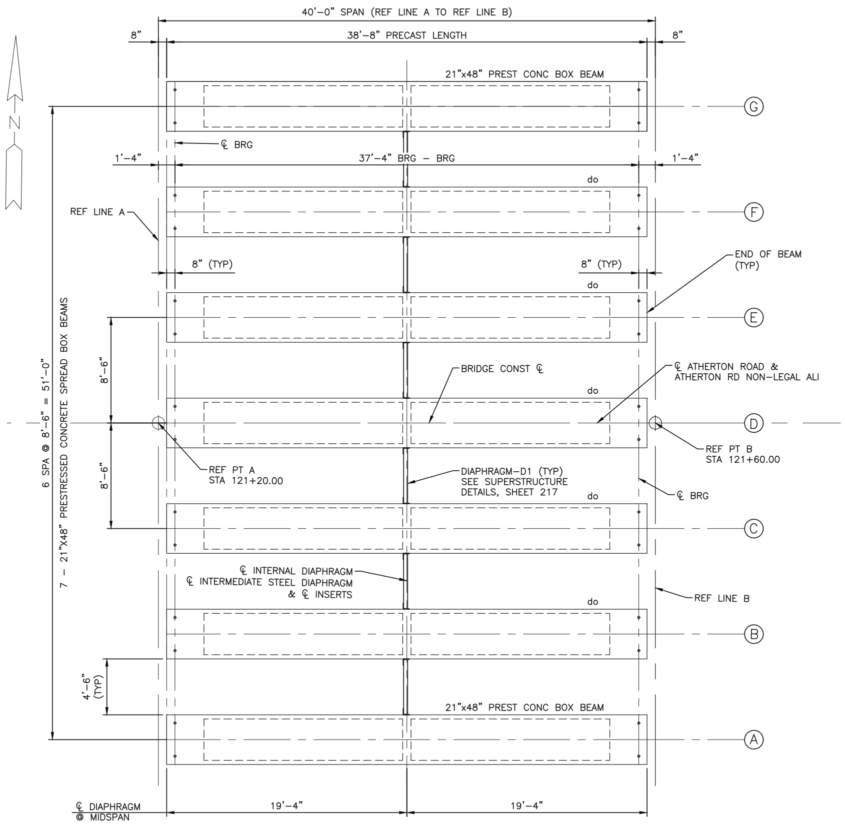
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
ABUTMENT DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

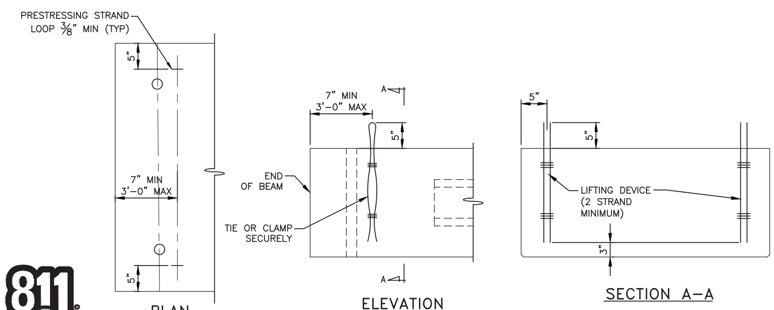
JOB NO.
COF1065.01F

SHEET
244



BEAM ERECTION DIAGRAM

NOTE:
CONTRACTOR SHALL VERIFY OVERALL LENGTH OF BEAMS PRIOR TO ORDERING.



DETAIL OF LIFTING DEVICE

NOTE: LIFTING OF BEAM SHALL BE BY EQUAL LOADS TO EACH PAIR OF LIFTING DEVICES. OTHER TYPES OF LIFTING DEVICES MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.

PRESTRESSING STRAND LIFTING DEVICES

ALLOWABLE BEAM WT.	STRAND SIZE	NO. OF STRANDS
15 TONS	3/8"	2

REQUIRED CONCRETE COMPRESSIVE STRENGTH

28 DAY	AT RELEASE
7000 PSI	6000 PSI

MISCELLANEOUS QUANTITIES

ITEM	QUANTITY	UNIT
Bearing, Elastomeric, 1 3/4 inch	3780	Sin
Prest Conc Box Beam, Furn, 21 inch	271	Ft
Prest Conc Box Beam, Erect, 21 inch	271	Ft
Steel Diaphragm, Prest Conc Beam, Furn and Fab	1222	Lb
Steel Diaphragm, Prest Conc Beam, Erect	1222	Lb

NOTES:

FABRICATION: FOR PRESTRESSED BEAMS SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2012 EDITION.

BEAMS WITH HONEYCOMB OF SUCH EXTENT TO AFFECT STRENGTH OR RESISTANCE TO DETERIORATION SHALL NOT BE ACCEPTED.

POSITION DOWELS SHALL BE HOT DIP GALVANIZED ACCORDING TO AASHTO M232 AND ARE INCLUDED IN PAYMENT FOR "PREST CONC BOX BEAM, ERECT, 21 INCH". POSITION DOWEL HOLES SHALL BE DRILLED INTO ABUTMENTS.

CONCRETE RELEASE STRENGTH fci' = 6,000 psi.

APPROX. WEIGHT OF EACH BEAM IS 15 ton.

JWP DENOTES JOINT WATERPROOFING.

PRESTRESSING STRAND SHALL BE 0.6 INCHES NOMINAL DIAMETER MEETING THE REQUIREMENTS OF ASTM A416, GRADE 270, LOW RELAXATION STRAND.

PRESTRESSING STRANDS SHALL BE GIVEN AN INITIAL PRESTRESS OF 44,000 LBS.

THE ESTIMATED BEAM CAMBER AT RELEASE IS 0.650" (POSITIVE VALUE INDICATES UPWARD DEFLECTION). THIS CAMBER IS DUE TO PRESTRESS AND DEAD LOAD OF THE BEAM ONLY AND IS MEASURED IN THE ERECTED POSITION.

LIFTING DEVICES SHALL BE REMOVED AFTER BEAMS ARE ERECTED. REMOVAL IS INCLUDED IN THE PAY ITEM "PREST CONC BOX BEAM, ERECT, 21 INCH".

THE TOP SURFACE OF THE BEAMS SHALL BE INTENTIONALLY ROUGHENED TO AN AMPLITUDE OF 1/4".

LONGITUDINAL BEAM STEEL REINFORCEMENT (A BARS) SHALL BE GRADE 60 KSI. TRANSVERSE BEAM STEEL REINFORCEMENT, STIRRUPS, AND SLAB TIES (ED & D), SHALL BE GRADE 40 (KSI).

ALL STEEL REINFORCEMENT REQUIRED FOR THE 21" PRESTRESSED BOX BEAMS IS INCLUDED IN THE PAY ITEM "PREST CONC BOX BEAM, FURN, 21 INCH".

THE ITEM "PREST CONC BOX BEAM, FURN, 21 INCH" INCLUDES FURNISHING AND PLACING PRESTRESSED CONCRETE BEAMS, FURNISHING AND INSTALLATION OF POSITION DOWELS, FILLING DOWEL HOLES, GROUTING JOINTS, JOINT FILLER AND PLACING BOLT ASSEMBLIES.

TOTAL ESTIMATED CHANGE IN LENGTH OF BOTTOM FLANGE AT TRANSFER OF PRESTRESS FORCE IS 0.10".

THE COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE NOT LESS THAN 7000 PSI AT 28 DAYS.

THREADING OF REINFORCEMENT AND INSTALLATION INTO CONCRETE INSERTS IS INCLUDED IN THE BID ITEM "PREST CONC BOX BEAM, FURN, 21 INCH".

ITEMS CAST INTO THE BEAMS TO FACILITATE BRIDGE CONSTRUCTION (FORMING, FINISHING, ETC.) SHALL BE GALVANIZED OR EPOXY COATED.

COAT THE ENTIRE OUTSIDE AND BOTTOM OF THE FASCIA BEAM USING A MATERIAL SELECTED FROM THE SPECIAL PROVISION FOR CONCRETE SURFACE COATINGS. APPLY THE COATING ACCORDING TO THE SPECIAL PROVISION.

STEEL FOR SOLE PLATES AND OTHER BEARING COMPONENTS SHALL MEET THE REQUIREMENTS OF AASHTO M 270 GRADE 36.

CONCRETE INSERTS FOR BACKWALL REINFORCEMENT SHALL BE 1" IN DIAMETER (AT EXPANSION EAST ABUTMENT) & 1/2" DIAMETER (AT FIXED WEST ABUTMENT); DAYTON SUPERIOR, TYPE B-1; WILLIAMS FORM, TYPE C12 OR C19; MEADOW BURKE, TYPE CT-2 OR CX-4; OR EQUAL. INSERTS (COIL OR FERRULE) MUST BE ELECTROPLATE GALVANIZED IN ACCORDANCE WITH ASTM B633, SERVICE CONDITION 4. INSERTS SHALL BE CAST WITH THE BEAMS. FIELD INSTALLATION OF INSERTS IS NOT ALLOWED.

IF THE POSITION DOWELS AT EAST ABUTMENT B ARE MISALIGNED, IN RELATIONSHIP TO THE CENTERLINE OF BEARINGS, DUE TO TEMPERATURE EFFECTS ON THE BEAMS, HOLES IN THE ELASTOMERIC BEARINGS SHALL BE CENTERED ON THE DOWELS.

Know what's below. Call before you dig. 811

JOB NO. JN201292

REV#	DATE	DESCRIPTION	BY

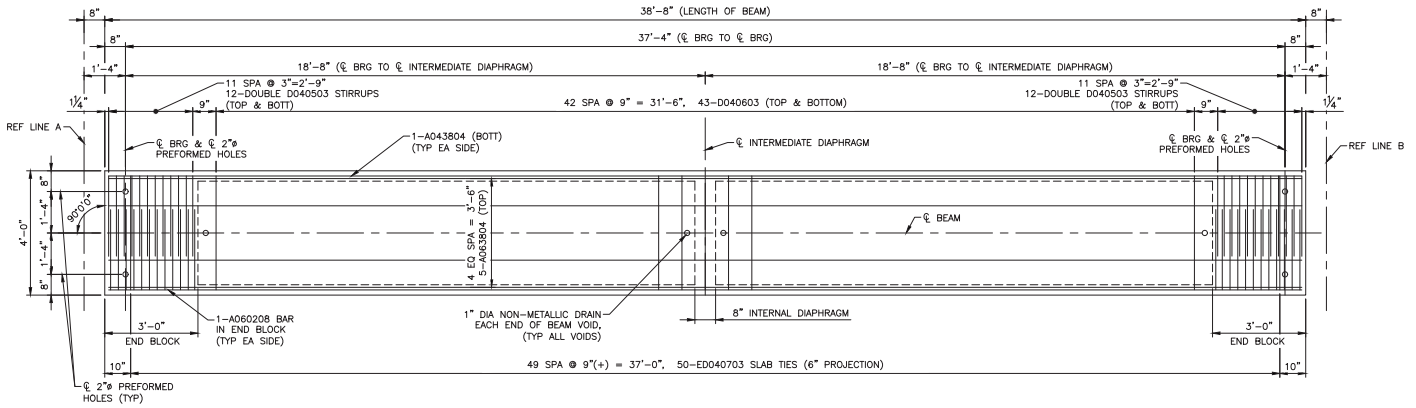
WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
PRESTRESSED CONCRETE BOX BEAM DETAILS

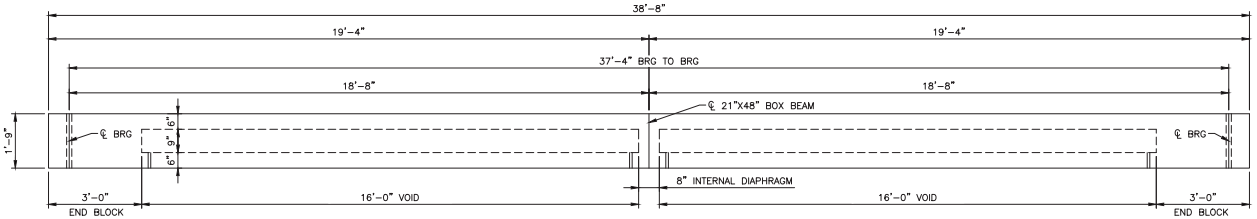
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

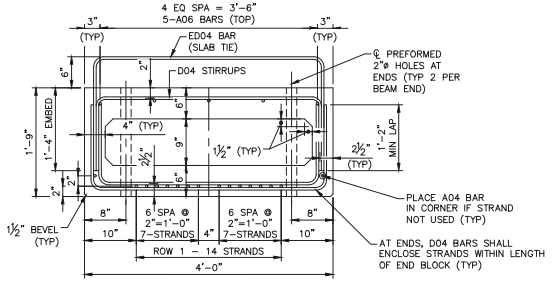
SHEET 245



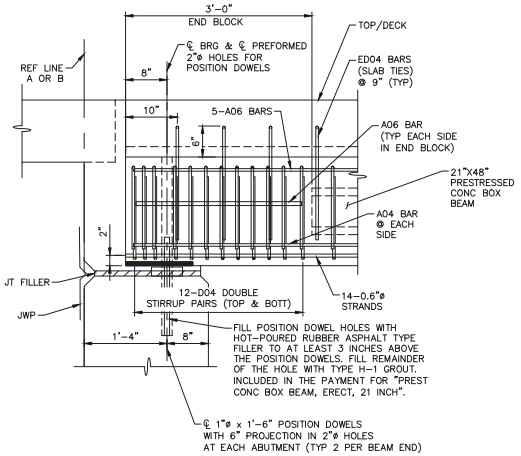
TYPICAL BEAM REINFORCEMENT PLAN



TYPICAL BEAM ELEVATION

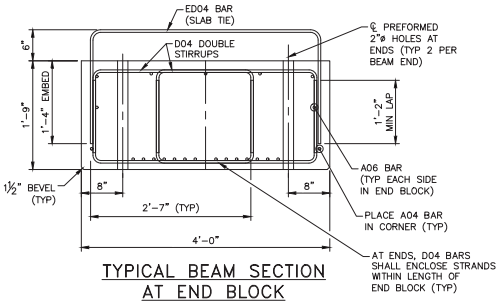


TYPICAL BEAM SECTION 21"X48" BOX BEAM



TYPICAL SECTION THROUGH BEAM END BLOCK AT ABUTMENT

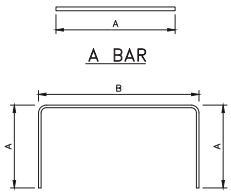
JOB NO. JN201292



TYPICAL BEAM SECTION AT END BLOCK

EPOXY COATED
BAR SIZE
BAR LENGTH (FT)
BAR LENGTH (IN)
EA061006
BAR SHAPE

BAR LEGEND



BOX BEAM BAR DIMENSION

BAR	DIMENSION A	DIMENSION B	QUANTITY PER BEAM
A043804	38'-4"	–	2
A060208	2'-8"	–	4
A063804	38'-4"	–	5
D040503	1'-4"	2'-7"	96
D040603	1'-4"	3'-7"	86
ED040703	1'-10"	3'-7"	50

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FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
PRESTRESSED CONCRETE BOX BEAM DETAILS

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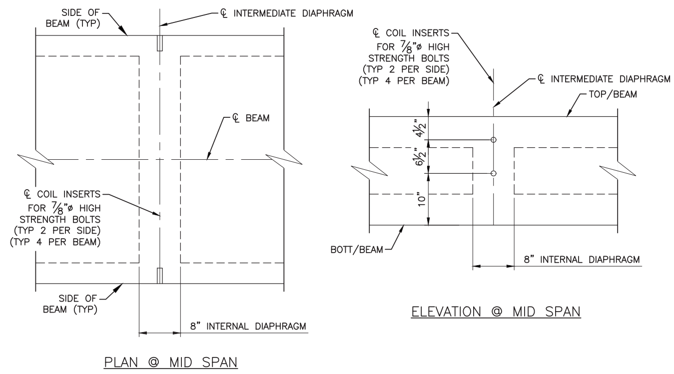
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

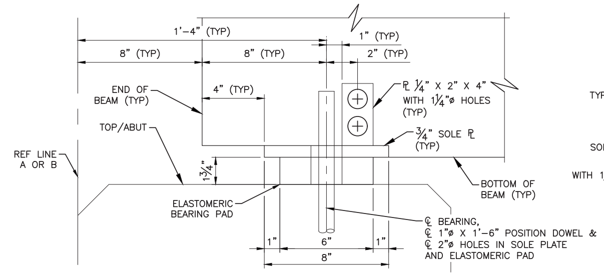
SHEET 246

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\SBD-PLTS-PRESTRESSBEAMDETAILS2-ATHERTON.DWG - LAYOUT1 - PLOTTED 4/19/2019 9:27 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

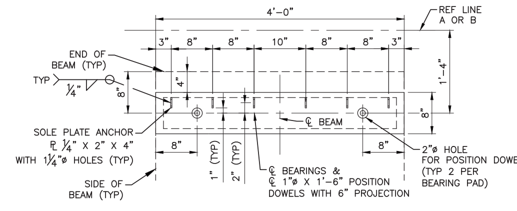


INTERMEDIATE DIAPHRAGM INSERT DETAILS

(OMIT COIL INSERTS ON THE OUTSIDE OF FASCIA BEAMS)
(24 – DIAPHRAGM COIL INSERTS TOTAL)

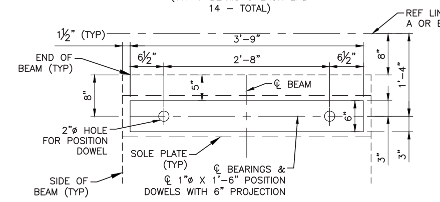


TYPICAL SECTION @ BEAM END



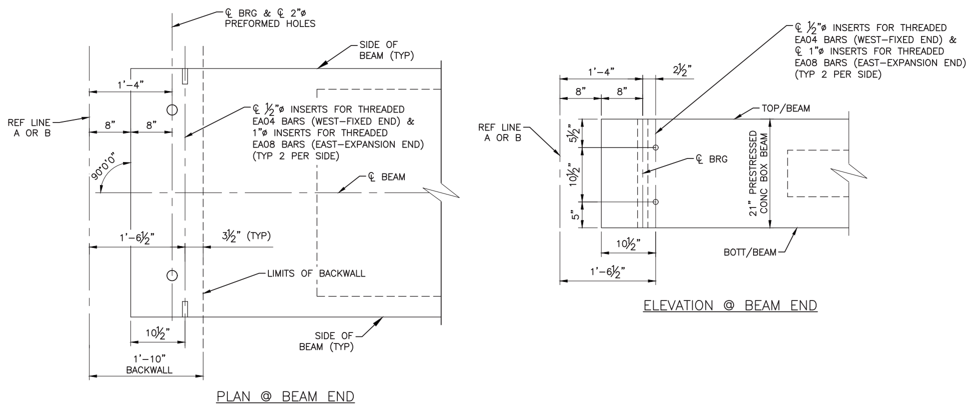
PLAN OF SOLE PLATE

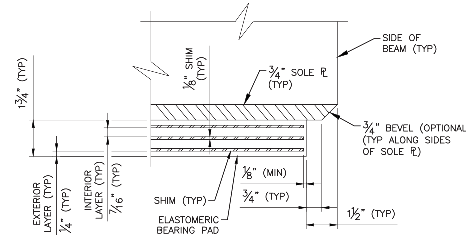
(TYP 7 BEAMS @ EACH END
14 – TOTAL)



PLAN OF ELASTOMERIC PAD

(TYP 7 BEAMS @ EACH END
14 – TOTAL)

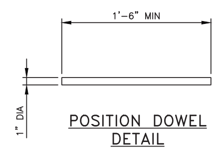

℄ BRG & ℄ 2"ø PREFORMED HOLES
SIDE OF BEAM (TYP)
REF LINE A OR B
℄ 1/2"ø INSERTS FOR THREADED EA04 BARS (WEST-FIXED END) & 1"ø INSERTS FOR THREADED EA08 BARS (EAST-EXPANSION END) (TYP 2 PER SIDE)
℄ BEAM
LIMITS OF BACKWALL
1'-10" BACKWALL
PLAN @ BEAM END
TOP/BEAM
℄ BRG
21" PRESTRESSED CONC BOX BEAM
BOTT/BEAM
ELEVATION @ BEAM END



TYPICAL SECTION ELASTOMERIC BEARING PAD

BACKWALL INSERT DETAILS

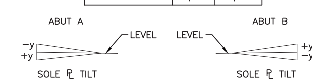
(OMIT INSERTS ON THE OUTSIDE OF FASCIA BEAMS)
(24 – 1/2"ø BACKWALL INSERTS AT WEST–FIXED END)
(24 – 1"ø BACKWALL INSERTS AT EAST–EXPANSION END)

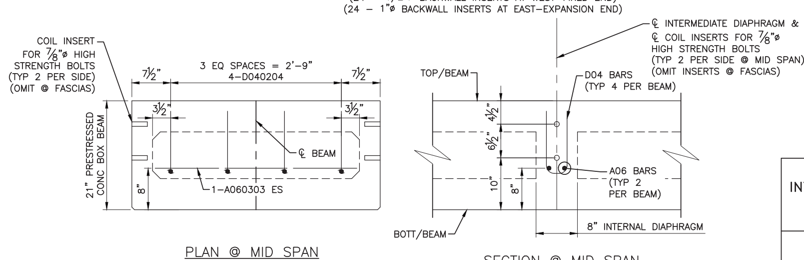


POSITION DOWEL DETAIL

(28 REQUIRED) – DOWEL IS NOT PAID FOR SEPARATELY BUT IS INCLUDED IN THE PAY ITEM "PREST CONC BOX BEAM, ERECT, 21 INCH"

SOLE ℘ TILE TABLE		
BEAM LINE	SPAN 1	
	ABUT A	ABUT B
	y	y'
A–G	–3/16"	–1/16"




COIL INSERT FOR 7/8"ø HIGH STRENGTH BOLTS (TYP 2 PER SIDE) (OMIT @ FASCIAS)
3 EQ SPACES = 2'-9"
4–D040204
℄ BEAM
1–A060303 ES
21" PRESTRESSED CONC BOX BEAM
PLAN @ MID SPAN
℄ INTERMEDIATE DIAPHRAGM & ℄ COIL INSERTS FOR 7/8"ø HIGH STRENGTH BOLTS (TYP 2 PER SIDE @ MID SPAN) (OMIT INSERTS @ FASCIAS)
TOP/BEAM
D04 BARS (TYP 4 PER BEAM)
A06 BARS (TYP 2 PER BEAM)
BOTT/BEAM
8" INTERNAL DIAPHRAGM
SECTION @ MID SPAN

ELEVATION OF INTERNAL DIAPHRAGM

(TYP 7 BEAMS @ MIDSPAN)

INTERNAL DIAPHRAGM BAR DIMENSIONS		
BAR	DIMENSION	
	A	B
A060303	3'-3"	–
D040204	1'-0"	4"

ELASTOMERIC BEARING PAD & SHIM DIMENSIONS		
LOCATION	ABUTMENT A	ABUTMENT B
LENGTH (PARALLEL TO BEAM)	6"	6"
WIDTH (PERPENDICULAR TO BEAM)	3'-9"	3'-9"
TOTAL THICKNESS	1 3/4"	1 3/4"
EXTERNAL LAYERS	2 @ 1/4"	2 @ 1/4"
INTERNAL LAYERS	2 @ 7/16"	2 @ 7/16"
SHIMS	3 @ 1/8"	3 @ 1/8"
SOLE PLATE REQUIRED	YES	YES

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:–
C:\PW_WORK2\D0852518\SBD-PLTS-PRESTBEAMDETAILS3-ATHERTON.DWG – LAYOUT1 – PLOTTED 4/19/2019 3:27 AM BY RUGGLES, TIMOTHY

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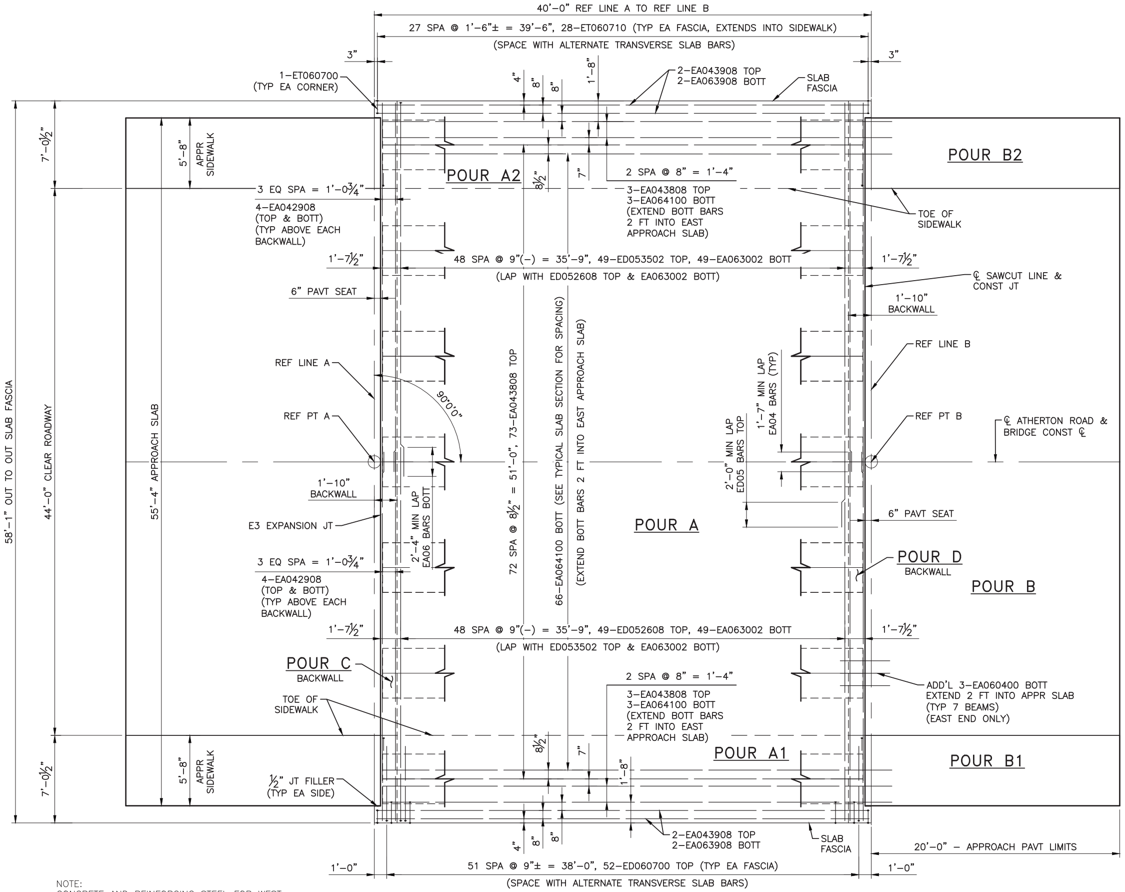
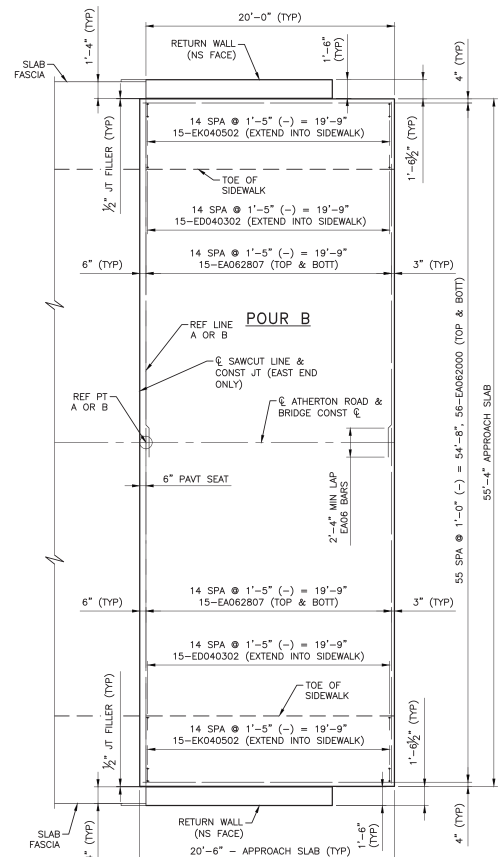
JOB NO. COF1065.01F

SHEET 247


40'-0" REF LINE A TO REF LINE B
27 SPA @ 1'-6"± = 39'-6", 28-ET060710 (TYP EA FASCIA, EXTENDS INTO SIDEWALK)
(SPACE WITH ALTERNATE TRANSVERSE SLAB BARS)
3"
1-ET060700 (TYP EA CORNER)
2-EA043908 TOP
2-EA063908 BOTT
SLAB FASCIA
POUR A2
POUR B2
5'-8" APPR SIDEWALK
7'-0½"
3 EQ SPA = 1'-0¾"
4-EA042908 (TOP & BOTT) (TYP ABOVE EACH BACKWALL)
2 SPA @ 8" = 1'-4"
3-EA043808 TOP
3-EA064100 BOTT (EXTEND BOTT BARS 2 FT INTO EAST APPROACH SLAB)
TOE OF SIDEWALK
1'-7½"
48 SPA @ 9"(-) = 35'-9", 49-ED053502 TOP, 49-EA063002 BOTT
(LAP WITH ED052608 TOP & EA063002 BOTT)
℄ SAWCUT LINE & CONST JT
6" PAVT SEAT
1'-10" BACKWALL
REF LINE A
REF LINE B
REF PT A
REF PT B
90°0'0"
℄ ATHERTON ROAD & BRIDGE CONST ℄
58'-1" OUT TO OUT SLAB FASCIA
44'-0" CLEAR ROADWAY
55'-4" APPROACH SLAB
72 SPA @ 8½" = 51'-0", 73-EA043808 TOP
66-EA064100 BOTT (SEE TYPICAL SLAB SECTION FOR SPACING)
(EXTEND BOTT BARS 2 FT INTO EAST APPROACH SLAB)
2'-0" MIN LAP ED05 BARS TOP
1'-7" MIN LAP EA04 BARS (TYP)
2'-4" MIN LAP EA06 BARS BOTT
E3 EXPANSION JT
POUR A
POUR D BACKWALL
POUR B
48 SPA @ 9"(-) = 35'-9", 49-ED052608 TOP, 49-EA063002 BOTT
(LAP WITH ED053502 TOP & EA063002 BOTT)
POUR C BACKWALL
ADD'L 3-EA060400 BOTT EXTEND 2 FT INTO APPR SLAB (TYP 7 BEAMS) (EAST END ONLY)
TOE OF SIDEWALK
POUR A1
POUR B1
½" JT FILLER (TYP EA SIDE)
2-EA043908 TOP
2-EA063908 BOTT
SLAB FASCIA
20'-0" - APPROACH PAVT LIMITS
1'-0"
51 SPA @ 9"± = 38'-0", 52-ED060700 TOP (TYP EA FASCIA)
(SPACE WITH ALTERNATE TRANSVERSE SLAB BARS)

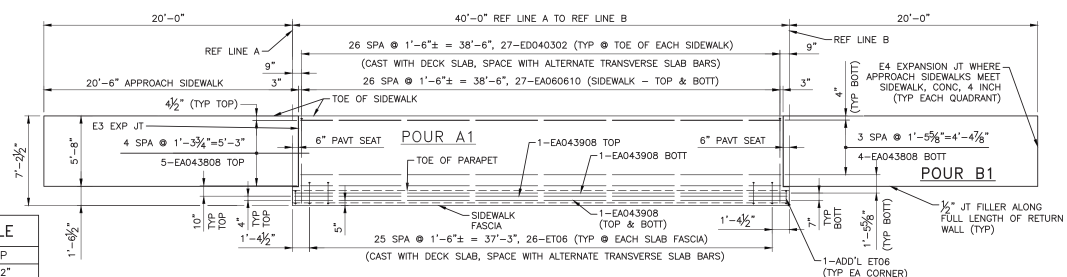
PLAN OF SLAB

NOTE:
CONCRETE AND REINFORCING STEEL FOR WEST APPROACH SLAB, SOUTHWEST SIDEWALK AND NORTHWEST SIDEWALK PAID FOR AS "CONC PAVT, BRIDGE APPROACH, REINF" SEE ROAD SHEETS 18 AND 101 FOR QUANTITIES & DIMENSIONS


20'-0" (TYP)
RETURN WALL (NS FACE)
SLAB FASCIA
1'-4" (TYP)
1'-6" (TYP)
4" (TYP)
14 SPA @ 1'-5" (-) = 19'-9"
15-EK040502 (EXTEND INTO SIDEWALK)
½" JT FILLER (TYP)
1'-6½" (TYP)
TOE OF SIDEWALK
14 SPA @ 1'-5" (-) = 19'-9"
15-ED040302 (EXTEND INTO SIDEWALK)
14 SPA @ 1'-5" (-) = 19'-9"
15-EA062807 (TOP & BOTT)
6" (TYP)
3" (TYP)
REF LINE A OR B
POUR B
℄ SAWCUT LINE & CONST JT (EAST END ONLY)
REF PT A OR B
℄ ATHERTON ROAD & BRIDGE CONST ℄
6" PAVT SEAT
2'-4" MIN LAP EA06 BARS
55 SPA @ 1'-0" (-) = 54'-8", 56-EA062000 (TOP & BOTT)
55'-4" APPROACH SLAB
20'-6" - APPROACH SLAB (TYP)

TYPICAL PLAN OF APPROACH

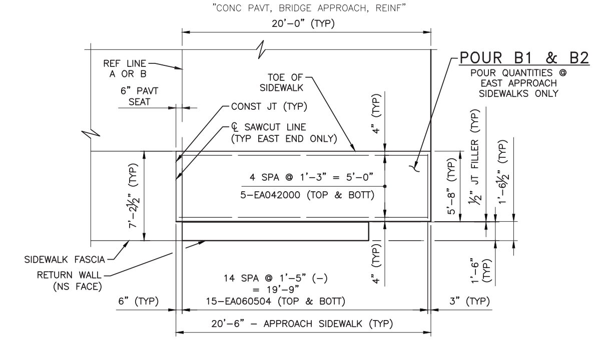
EAST APPROACH SHOWN
WEST APPROACH DIMENSIONS SIMILAR & PAID FOR AS "CONC PAVT, BRIDGE APPROACH, REINF"


20'-0"
40'-0" REF LINE A TO REF LINE B
20'-0"
REF LINE A
REF LINE B
26 SPA @ 1'-6"± = 38'-6", 27-ED040302 (TYP @ TOE OF EACH SIDEWALK)
(CAST WITH DECK SLAB, SPACE WITH ALTERNATE TRANSVERSE SLAB BARS)
26 SPA @ 1'-6"± = 38'-6", 27-EA060610 (SIDEWALK - TOP & BOTT)
20'-6" APPROACH SIDEWALK
4½" (TYP TOP)
TOE OF SIDEWALK
E4 EXPANSION JT WHERE APPROACH SIDEWALKS MEET SIDEWALK, CONC, 4 INCH (TYP EACH QUADRANT)
E3 EXP JT
4 SPA @ 1'-3¾"=5'-3"
5-EA043808 TOP
6" PAVT SEAT
POUR A1
TOE OF PARAPET
1-EA043908 TOP
1-EA043908 BOTT
3 SPA @ 1'-5⅝"=4'-4⅞"
4-EA043808 BOTT
POUR B1
7'-2½"
5'-8"
1'-6½"
SIDEWALK FASCIA
1-EA043908 (TOP & BOTT)
½" JT FILLER ALONG FULL LENGTH OF RETURN WALL (TYP)
25 SPA @ 1'-6"± = 37'-3", 26-ET06 (TYP @ EACH SLAB FASCIA)
(CAST WITH DECK SLAB, SPACE WITH ALTERNATE TRANSVERSE SLAB BARS)
1-ADD'L ET06 (TYP EA CORNER)

SIDEWALK PLAN

SOUTH SIDEWALK SHOWN, NORTH SIDEWALK SIMILAR

MIN LAP TABLE	
BAR	LAP
EA03	1'-2"
EA04	1'-7"
EA05	2'-0"
EA06	2'-4"


20'-0" (TYP)
REF LINE A OR B
6" PAVT SEAT
TOE OF SIDEWALK
CONST JT (TYP)
℄ SAWCUT LINE (TYP EAST END ONLY)
POUR B1 & B2
POUR QUANTITIES @ EAST APPROACH SIDEWALKS ONLY
4 SPA @ 1'-3" = 5'-0"
5-EA042000 (TOP & BOTT)
SIDEWALK FASCIA
RETURN WALL (NS FACE)
14 SPA @ 1'-5" (-) = 19'-9"
15-EA060504 (TOP & BOTT)
6" (TYP)
3" (TYP)
20'-6" - APPROACH SIDEWALK (TYP)

TYPICAL APPROACH SIDEWALK PLAN (4 LOCATIONS)

JOB NO. JN201292

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1101 SOUTH SAGINAW STREET
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ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SUPERSTRUCTURE DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
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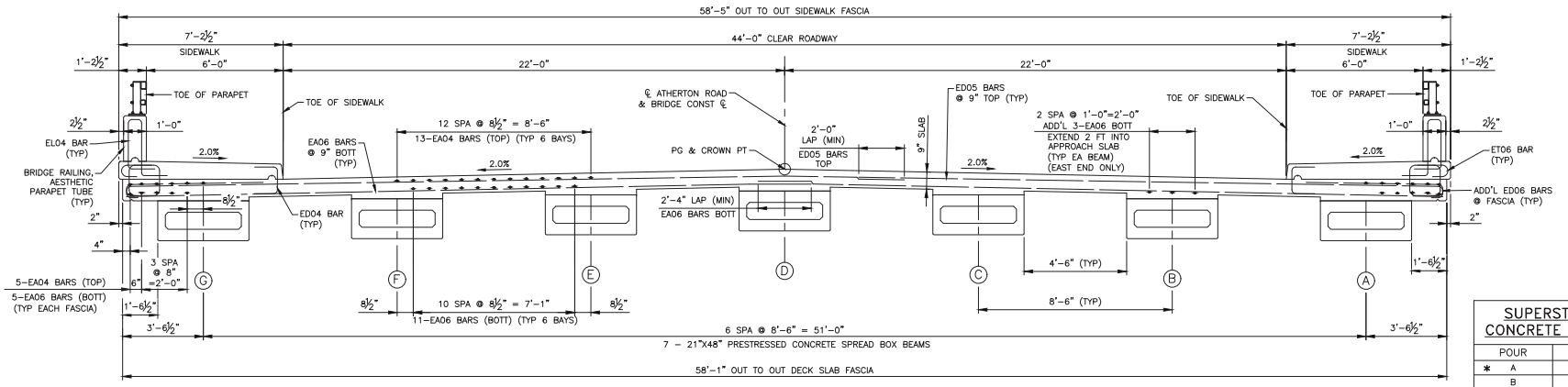
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 248



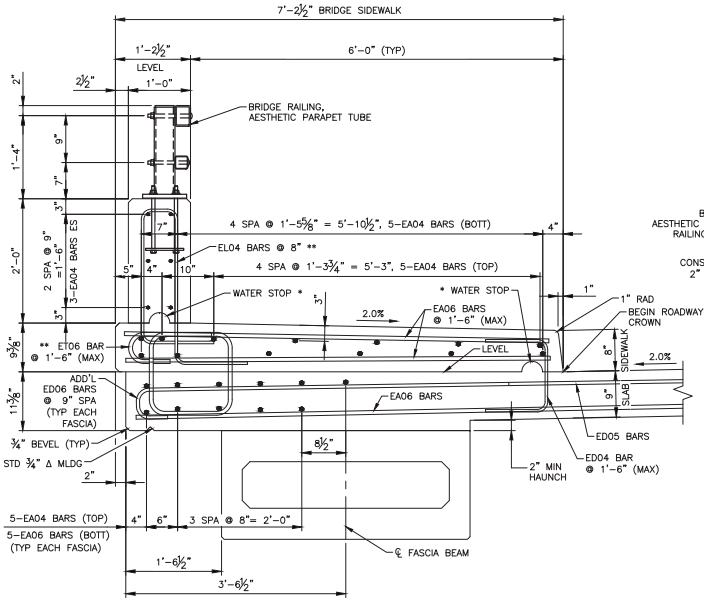
TYPICAL SLAB SECTION

LOOKING EAST-UPSTATION

SUPERSTRUCTURE CONCRETE QUANTITIES

POUR	QUANTITY
* A	72.3 CYD
B	42.1 CYD
C	6.2 CYD
D	6.2 CYD
A1	7.7 CYD
A2	7.7 CYD
B1	3.1 CYD
B2	3.1 CYD

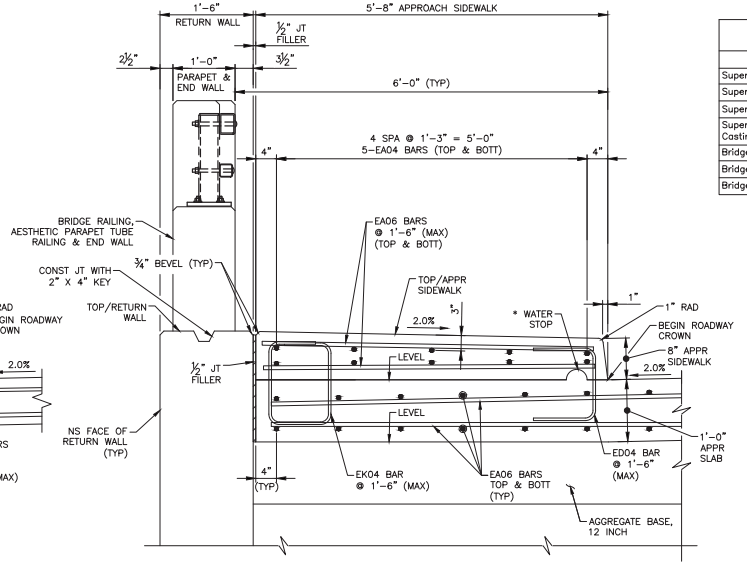
* INDICATES NIGHT CASTING QUANTITY



TYPICAL SIDEWALK & PARAPET SECTION

* 2" HIGH X 4" LONG (±), FORMING NOT REQUIRED

** PLACE ADDITIONAL EL04 BAR & ET06 BAR 6" EACH SIDE OF RAILING POST ℄



TYPICAL APPROACH SIDEWALK SECTION

* 2" HIGH X 4" LONG (±), FORMING NOT REQUIRED

QUANTITIES THIS SHEET

ITEM	QUANTITY	UNIT
Superstructure Conc	77	Cyd
Superstructure Conc, Night Casting	73	Cyd
Superstructure Conc, Form, Finish, and Cure (STR 2827)	1	LSUM
Superstructure Conc, Form, Finish, and Cure, Night Casting (STR 2827)	1	LSUM
Bridge Railing, Aesthetic Parapet Tube	140	Ft
Bridge Ltg, Furn and Rem (STR 2827)	1	LSUM
Bridge Ltg, Oper and Maintain	73	Cyd

NOTES:
JWP DENOTES JOINT WATERPROOFING.

EJWP DENOTES EXPANSION JOINT WATERPROOFING.

NS DENOTES NEAR SIDE.

FS DENOTES FAR SIDE.

ES DENOTES EACH SIDE.

FOR BRIDGE RAILING, ANCHORAGE FOR GUARDRAIL AND NAME PLATE MOUNTING DETAILS, SEE STANDARD PLAN B-25-SERIES. FOR DETAILS OF NAME PLATES, MOLDINGS AND BEVELS, SEE STANDARD PLAN B-103-SERIES.

"EDGE" OR "GROOVE" DENOTES EDGING OR GROOVING WITH AN APPROVED TOOL.

ALPHABETICAL DESIGNATION OF DECK POURS IS NOT TO BE CONSTRUED AS A POUR SEQUENCE.

FOR NAME PLATE LOCATION, SEE GENERAL PLAN OF STRUCTURE SHEET.

LOW TEMPERATURE PROTECTION OF CONCRETE SHALL BE APPLIED ACCORDING TO SECTION 706.03 J. OF THE STANDARD SPECIFICATION FOR CONSTRUCTION. LOW TEMPERATURE PROTECTION OF CONCRETE WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE INCLUDED IN THE CONCRETE BID ITEMS.

THIS DECK POUR IS DESIGNATED A NIGHT POUR, AND THEREFORE SUBJECT TO THE RESTRICTIONS OF SECTION 706.03 I. OF THE STANDARD SPECIFICATIONS.

NO PORTION OF DECK FORMWORK OR SUPPORTS SHALL PROTRUDE ABOVE THE TOP OF PROPOSED HAUNCH (OR TOP IF THE BEAM WHERE THERE IS NO PROPOSED HAUNCH).

THE CONTRACTOR IS TO PROVIDE A SAWED JOINT 3" DEEP BY ¼" WIDE (MINIMUM) IN THE TOP OF SLAB AT TRANSVERSE CONSTRUCTION JOINTS OVER THE BACKWALL. IF AN OPTIONAL CONSTRUCTION JOINT IS NOT USED, THE JOINT IS TO BE SAWED WITHIN 24 HOURS OF PLACING THE CURING AND IS TO BE FILLED WITH HOT-POURED JOINT SEALANT. (INCLUDED IN THE BID ITEM "SUPERSTRUCTURE CONC, FORM, FINISH, AND CURE, NIGHT CASTING (STR 2827)").

A RUBBED SURFACE FINISH ON THE VERTICAL AND TOP CONCRETE SURFACES OF THE PARAPET RAILING IS REQUIRED ON THIS STRUCTURE.

THE CONTRACTOR MAY USE METAL STAY IN PLACE FORMS. IF USED, ELIMINATING THE POLYSTYRENE AND FILLING THE CORRUGATIONS WITH CONCRETE IS PROHIBITED.

JOB NO. JN201292

BY	DESCRIPTION	DATE	REV#

WADE TRIM
558 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3850
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CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

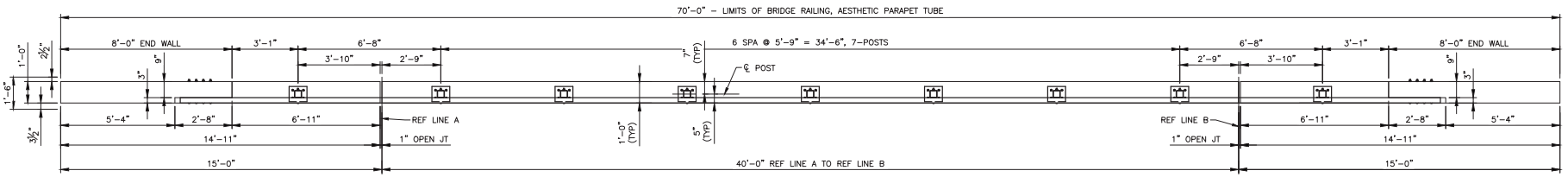
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SUPERSTRUCTURE DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

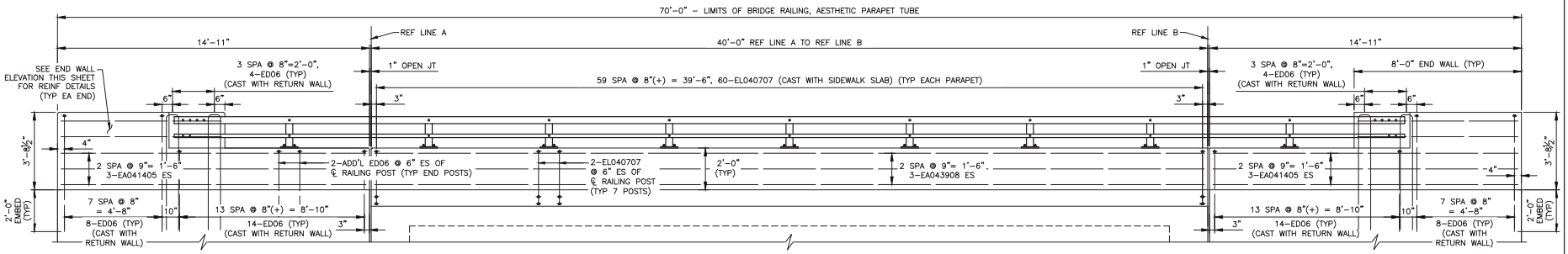
SHEET
249

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\SSD-PLTS-SUPERDETAILS3-ATHERTON.DWG - LAYOUT1 - PLOTTED 4/19/2019 3:27 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--



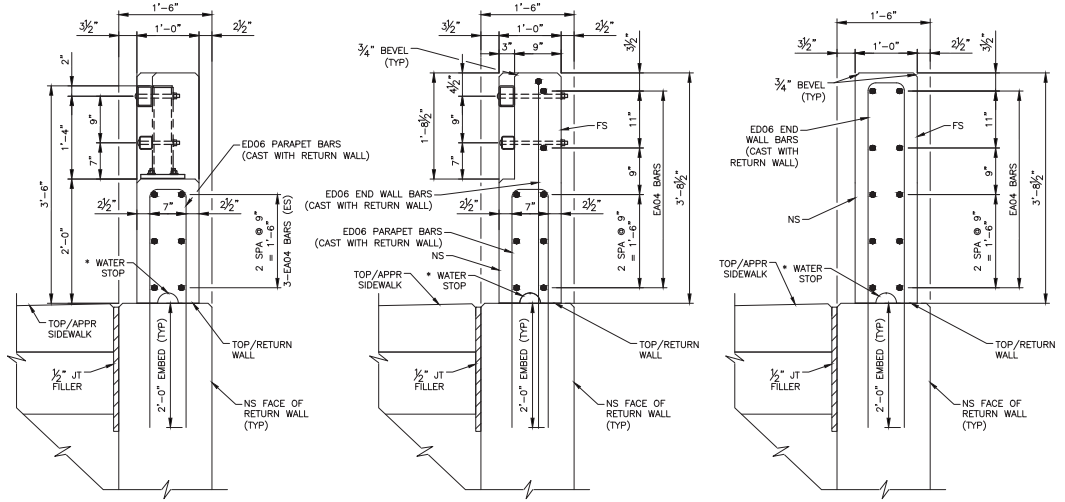
TYPICAL RAILING PLAN

NORTH RAILING SHOWN, SOUTH RAILING SIMILAR



TYPICAL RAILING ELEVATION

NORTH RAILING SHOWN, SOUTH RAILING SIMILAR

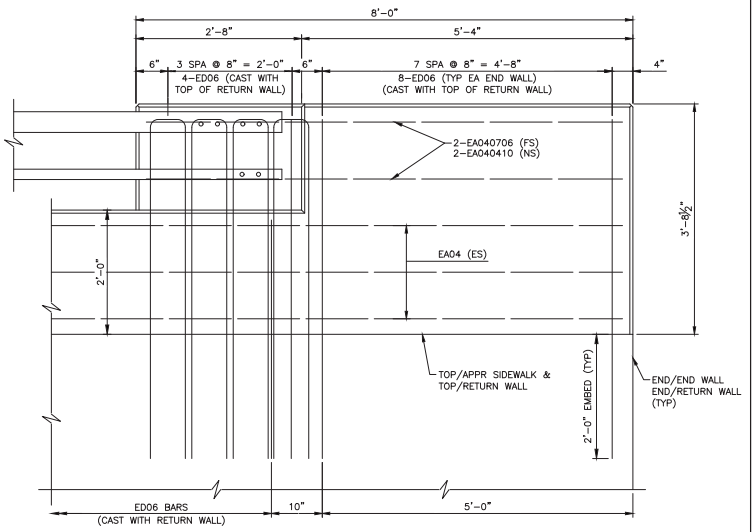


TYPICAL PARAPET SECTION ON RETURN WALL

TYPICAL END WALL SECTION ON RETURN WALL

TYPICAL END WALL SECTION END OF BARRIER

* 2" HIGH X 4" LONG (±) FORMING NOT REQUIRED



BARRIER END WALL AESTHETIC PARAPET TUBE ELEVATION

(TYP 4 LOCATIONS)

JOB NO. JN201292

BY	DESCRIPTION	DATE	REV#

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CITY OF FLINT
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FLINT, MI 48502

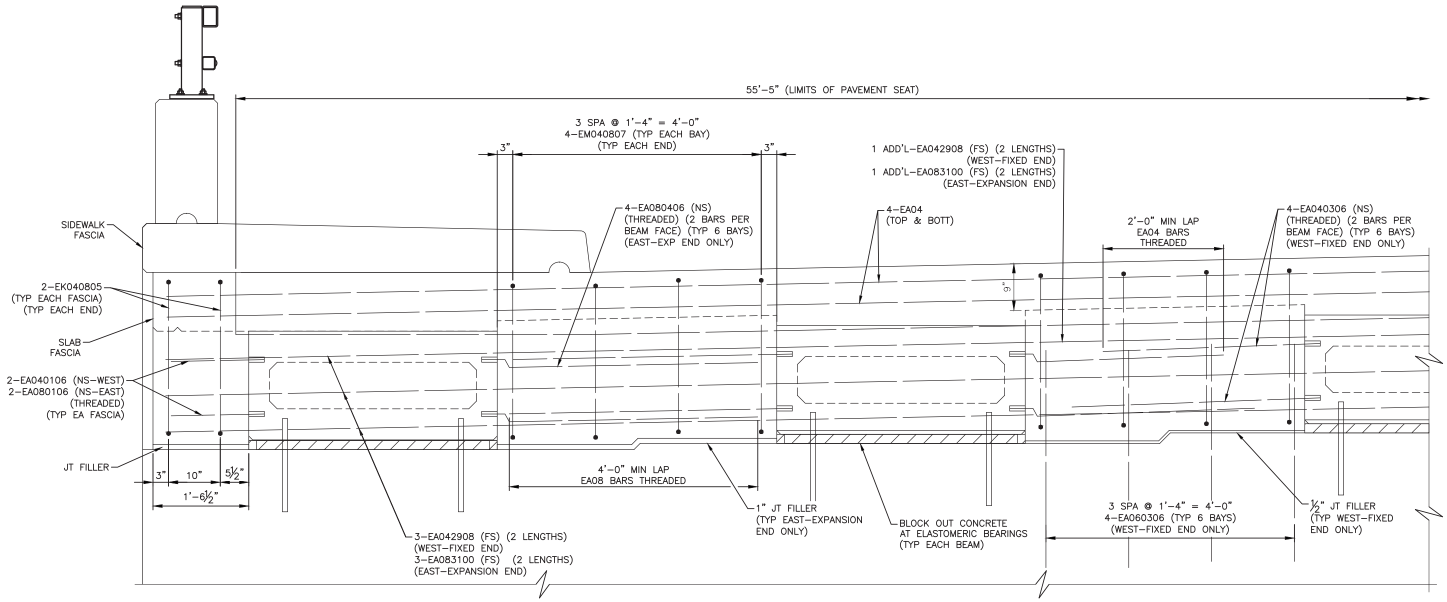
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SUPERSTRUCTURE DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 250

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\COBB5251815\SSD-PLTS-SUPERDETAILS2-ATHERTON.DWG - LAYOUT1 - PLOTTED 4/19/2019 3:27 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--



55'-5" (LIMITS OF PAVEMENT SEAT)
3 SPA @ 1'-4" = 4'-0"
4-EM040807 (TYP EACH BAY)
(TYP EACH END)
3"
3"
1 ADD'L-EA042908 (FS) (2 LENGTHS)
(WEST-FIXED END)
1 ADD'L-EA083100 (FS) (2 LENGTHS)
(EAST-EXPANSION END)
4-EA080406 (NS)
(THREADED) (2 BARS PER
BEAM FACE) (TYP 6 BAYS)
(EAST-EXP END ONLY)
4-EA04
(TOP & BOTT)
2'-0" MIN LAP
EA04 BARS
THREADED
4-EA040306 (NS)
(THREADED) (2 BARS PER
BEAM FACE) (TYP 6 BAYS)
(WEST-FIXED END ONLY)
SIDEWALK
FASCIA
2-EK040805
(TYP EACH FASCIA)
(TYP EACH END)
SLAB
FASCIA
2-EA040106 (NS-WEST)
2-EA080106 (NS-EAST)
(THREADED)
(TYP EA FASCIA)
JT FILLER
9"
3"
10"
5½"
1'-6½"
4'-0" MIN LAP
EA08 BARS THREADED
1" JT FILLER
(TYP EAST-EXPANSION
END ONLY)
BLOCK OUT CONCRETE
AT ELASTOMERIC BEARINGS
(TYP EACH BEAM)
3 SPA @ 1'-4" = 4'-0"
4-EA060306 (TYP 6 BAYS)
(WEST-FIXED END ONLY)
½" JT FILLER
(TYP WEST-FIXED
END ONLY)
3-EA042908 (FS) (2 LENGTHS)
(WEST-FIXED END)
3-EA083100 (FS) (2 LENGTHS)
(EAST-EXPANSION END)

TYPICAL PARTIAL BACKWALL ELEVATION

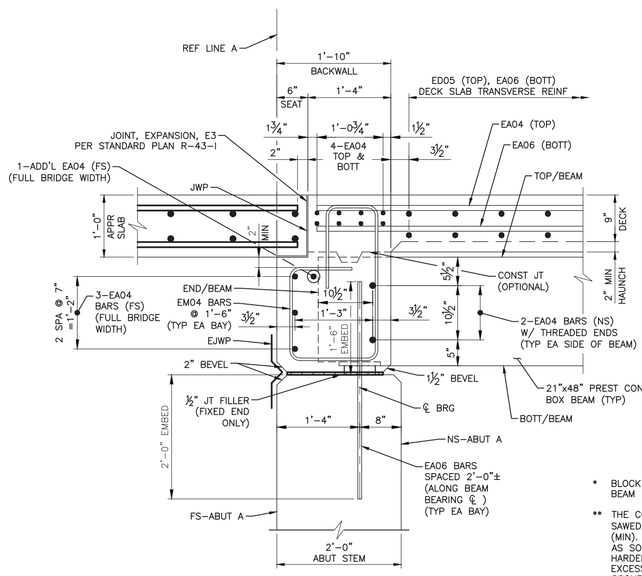
NOTES:

NS DENOTES NEAR SIDE.

FS DENOTES FAR SIDE.

ES DENOTES EACH SIDE.

JWP DENOTES JOINT WATERPROOFING.

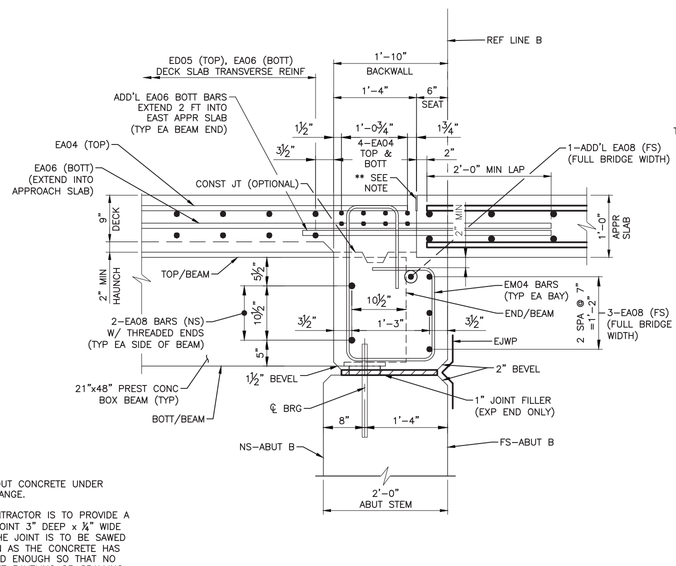


REF LINE A
1'-10"
BACKWALL
6"
SEAT
1'-4"
ED05 (TOP), EA06 (BOTT)
DECK SLAB TRANSVERSE REINF
JOINT, EXPANSION, E3
PER STANDARD PLAN R-43-I
1¾"
1'-0¾"
1½"
EA04 (TOP)
2"
4-EA04
TOP &
BOTT
3½"
EA06 (BOTT)
1-ADD'L EA04 (FS)
(FULL BRIDGE WIDTH)
TOP/BEAM
JWP
1'-0"
APPR
SLAB
2" MIN
9"
DECK
5½"
CONST JT
(OPTIONAL)
2" MIN
HAUNCH
END/BEAM
EM04 BARS
@ 1'-6"
(TYP EA BAY)
10½"
1'-3"
3½"
3½"
10½"
2-EA04 BARS (NS)
W/ THREADED ENDS
(TYP EA SIDE OF BEAM)
2 SPA @ 7"
=1'-2"
3-EA04
BARS (FS)
(FULL BRIDGE
WIDTH)
1'-6"
EMBED
EJWP
5"
2" BEVEL
1½" BEVEL
21"x48" PREST CONC
BOX BEAM (TYP)
½" JT FILLER
(FIXED END
ONLY)
℄ BRG
BOTT/BEAM
1'-4"
8"
NS-ABUT A
2'-0" EMBED
EA06 BARS
SPACED 2'-0"±
(ALONG BEAM
BEARING ℄)
(TYP EA BAY)
FS-ABUT A
2'-0"
ABUT STEM

TYPICAL BACKWALL SECTION
@ WEST-FIXED END

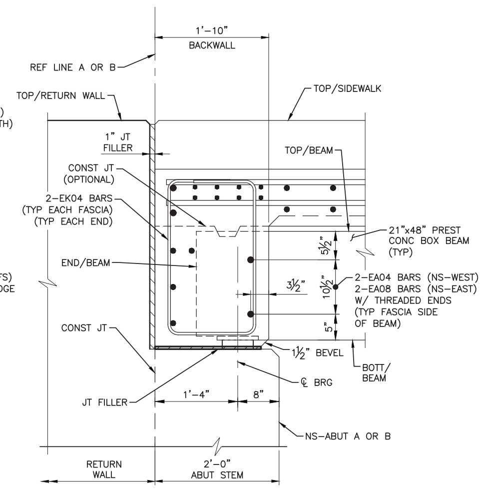
* BLOCK OUT CONCRETE UNDER BEAM FLANGE.

** THE CONTRACTOR IS TO PROVIDE A SAWED JOINT 3" DEEP x ¼" WIDE (MIN). THE JOINT IS TO BE SAWED AS SOON AS THE CONCRETE HAS HARDENED ENOUGH SO THAT NO EXCESSIVE RAVELING OR SPALLING OCCURS BUT BEFORE ANY RANDOM CRACKS DEVELOP (EAST EXPANSION END ONLY).



REF LINE B
ED05 (TOP), EA06 (BOTT)
DECK SLAB TRANSVERSE REINF
1'-10"
BACKWALL
ADD'L EA06 BOTT BARS
EXTEND 2 FT INTO
EAST APPR SLAB
(TYP EA BEAM END)
1'-4"
6"
SEAT
1½"
1'-0¾"
1¾"
EA04 (TOP)
3½"
4-EA04
TOP &
BOTT
2"
1-ADD'L EA08 (FS)
(FULL BRIDGE WIDTH)
EA06 (BOTT)
(EXTEND INTO
APPROACH SLAB)
CONST JT (OPTIONAL)
** SEE
NOTE
2'-0" MIN LAP
9"
DECK
2" MIN
1'-0"
APPR
SLAB
TOP/BEAM
5½"
2" MIN
HAUNCH
EM04 BARS
(TYP EA BAY)
END/BEAM
2-EA08 BARS (NS)
W/ THREADED ENDS
(TYP EA SIDE OF BEAM)
10½"
10½"
3½"
1'-3"
3½"
2 SPA @ 7"
=1'-2"
3-EA08 (FS)
(FULL BRIDGE
WIDTH)
EJWP
5"
2" BEVEL
1½" BEVEL
21"x48" PREST CONC
BOX BEAM (TYP)
℄ BRG
1" JOINT FILLER
(EXP END ONLY)
BOTT/BEAM
8"
1'-4"
NS-ABUT B
FS-ABUT B
2'-0"
ABUT STEM

TYPICAL BACKWALL SECTION
@ EAST-EXPANSION END



1'-10"
BACKWALL
REF LINE A OR B
TOP/RETURN WALL
TOP/SIDEWALK
1" JT
FILLER
TOP/BEAM
CONST JT
(OPTIONAL)
2-EK04 BARS
(TYP EACH FASCIA)
(TYP EACH END)
5½"
21"x48" PREST
CONC BOX BEAM
(TYP)
END/BEAM
3½"
10½"
2-EA04 BARS (NS-WEST)
2-EA08 BARS (NS-EAST)
W/ THREADED ENDS
(TYP FASCIA SIDE
OF BEAM)
CONST JT
5"
1½" BEVEL
BOTT/
BEAM
℄ BRG
JT FILLER
1'-4"
8"
NS-ABUT A OR B
RETURN
WALL
2'-0"
ABUT STEM

TYPICAL BACKWALL SECTION
@ FASCIA

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\SSD-PLTS-SUPERDETAILS4-ATHERTON.DWG -- LAYOUT1 -- PLOTTED 4/19/2019 3:27 AM BY RUGGLES, TIMOTHY

REV#	DATE	DESCRIPTION	BY

WADE TRIM
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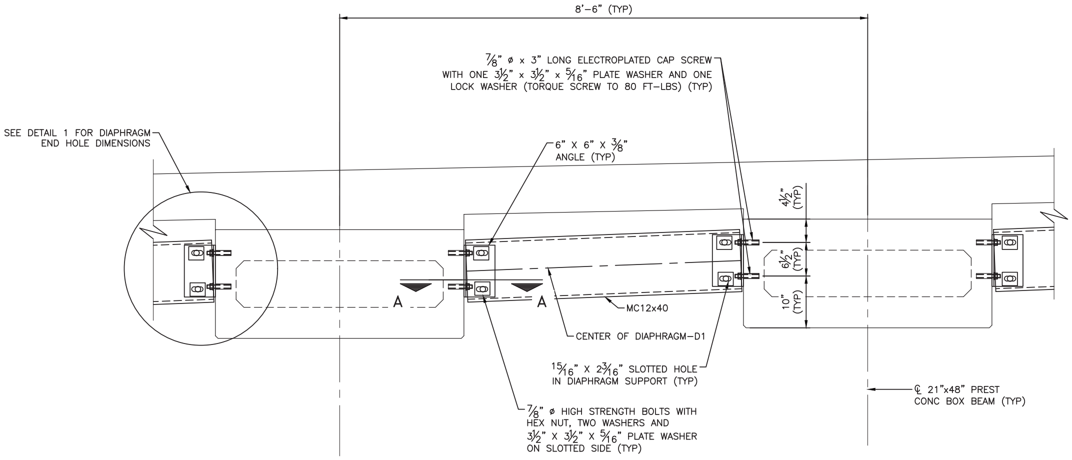
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SUPERSTRUCTURE DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

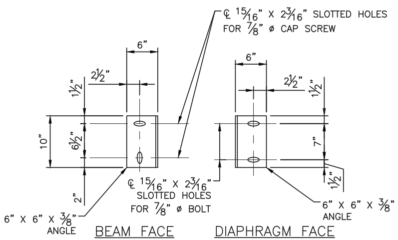
JOB NO.
COF1065.01F

SHEET
251

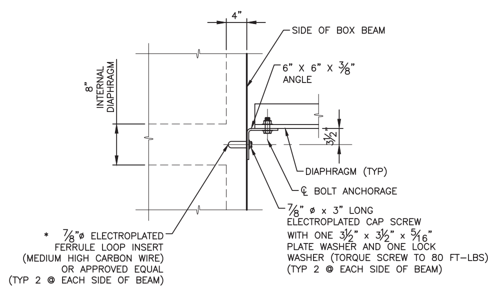


8'-6" (TYP)
7/8" ø x 3" LONG ELECTROPLATED CAP SCREW WITH ONE 3½" x 3½" x 5/16" PLATE WASHER AND ONE LOCK WASHER (TORQUE SCREW TO 80 FT-LBS) (TYP)
SEE DETAIL 1 FOR DIAPHRAGM END HOLE DIMENSIONS
6" X 6" X 3/8" ANGLE (TYP)
4½" (TYP)
6½" (TYP)
10" (TYP)
A
A
MC12x40
CENTER OF DIAPHRAGM-D1
15/16" X 2 3/16" SLOTTED HOLE IN DIAPHRAGM SUPPORT (TYP)
7/8" ø HIGH STRENGTH BOLTS WITH HEX NUT, TWO WASHERS AND 3½" X 3½" X 5/16" PLATE WASHER ON SLOTTED SIDE (TYP)
℄ 21"x48" PREST CONC BOX BEAM (TYP)

PARTIAL TRANSVERSE SECTION OF DIAPHRAGM – D1



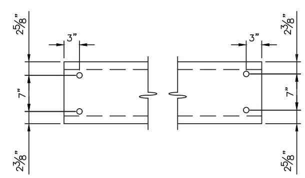
DIAPHRAGM – D1
CONNECTION ANGLE DETAIL



4"
SIDE OF BOX BEAM
8" INTERNAL DIAPHRAGM
6" X 6" X 3/8" ANGLE
3½"
DIAPHRAGM (TYP)
℄ BOLT ANCHORAGE
7/8" ø x 3" LONG ELECTROPLATED CAP SCREW WITH ONE 3½" x 3½" x 5/16" PLATE WASHER AND ONE LOCK WASHER (TORQUE SCREW TO 80 FT-LBS) (TYP 2 @ EACH SIDE OF BEAM)
* 7/8"ø ELECTROPLATED FERRULE LOOP INSERT (MEDIUM HIGH CARBON WIRE) OR APPROVED EQUAL (TYP 2 @ EACH SIDE OF BEAM)

SECTION A–A

* OMIT INSERTS AT EXTERIOR FACE OF FASCIA BEAMS



DETAIL 1

REV#	DATE	DESCRIPTION	BY

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Flint, MI 48502
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1101 SOUTH SAGINAW STREET
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ISSUED FOR:	DATE:	BY:
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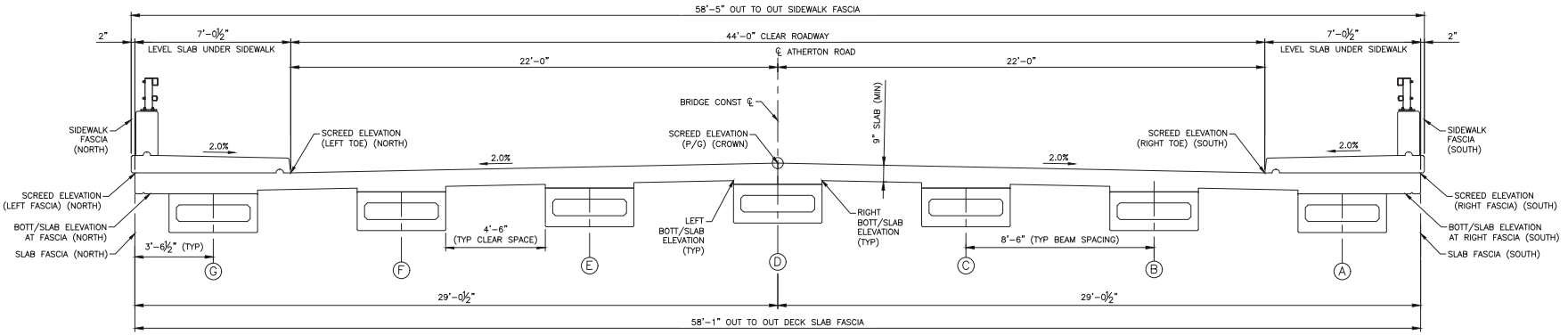
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 252

PROJECT MANAGER: Jeremy Schrot   FIELD BOOK INFORMATION:--
C:\PW_WORK2\D0852518\SSD-PLTS-SUPERDETAILS5-ATHERTON.DWG - LAYOUT1 - PLOTTED 4/19/2019 3:28 AM BY RUGGLES, TIMOTHY



TYPICAL DECK SECTION

LOOKING UPSTATION

BRIDGE LENGTH

		END OF WEST APPROACH SLAB	A1	A2	REF LINE A	℄ BRG A 0	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	℄ BRG B 10.00	REF LINE B	B1	B2	END OF EAST APPROACH SLAB
G	NORTH FASCIA					741.91	741.98	742.06	742.13	742.20	742.26	742.32	742.38	742.44	742.49	742.54				
	RIGHT					742.12	742.19	742.27	742.34	742.41	742.47	742.53	742.59	742.65	742.70	742.75				
F	LEFT					742.14	742.21	742.29	742.36	742.43	742.49	742.55	742.61	742.67	742.72	742.77				
	RIGHT					742.22	742.29	742.37	742.44	742.51	742.57	742.63	742.69	742.75	742.80	742.85				
E	LEFT					742.31	742.38	742.46	742.53	742.60	742.66	742.72	742.78	742.84	742.89	742.94				
	RIGHT					742.39	742.46	742.54	742.61	742.68	742.74	742.80	742.86	742.92	742.97	743.02				
D	LEFT					742.48	742.55	742.63	742.70	742.77	742.83	742.89	742.95	743.01	743.06	743.11				
	RIGHT					742.48	742.55	742.63	742.70	742.77	742.83	742.89	742.95	743.01	743.06	743.11				
C	LEFT					742.39	742.46	742.54	742.61	742.68	742.74	742.80	742.86	742.92	742.97	743.02				
	RIGHT					742.31	742.38	742.46	742.53	742.60	742.66	742.72	742.78	742.84	742.89	742.94				
B	LEFT					742.22	742.29	742.37	742.44	742.51	742.57	742.63	742.69	742.75	742.80	742.85				
	RIGHT					742.14	742.21	742.29	742.36	742.43	742.49	742.55	742.61	742.67	742.72	742.77				
A	LEFT					742.08	742.15	742.23	742.30	742.37	742.43	742.49	742.55	742.61	742.66	742.71				
	SOUTH FASCIA					741.91	741.98	742.06	742.13	742.20	742.26	742.32	742.38	742.44	742.49	742.54				

BOTTOM OF SLAB ELEVATIONS

BEAM / LOCATION	END OF WEST APPROACH	WEST APPR JT @ REF LINE A	EAST CONST JT @ REF LINE B	END OF EAST APPROACH
N Lt Slab Fascia		742.81	743.48	
G		742.81	743.48	
N Lt Sidewalk Toe	742.54	742.81	743.48	743.89
F		742.91	743.58	
E		743.08	743.75	
D		743.25	743.92	
P/G & CROWN	742.98	743.25	743.92	744.33
C		743.08	743.75	
B		742.91	743.58	
S Rt Sidewalk Toe	742.54	742.81	743.48	743.89
A		742.81	743.48	
S Rt Slab Fascia		742.81	743.48	

BULKHEAD ELEVATIONS

NORTH FASCIA			742.83	742.90	742.98	743.05	743.12	743.18	743.24	743.30	743.36	743.41	743.46					
NORTH SIDEWALK TOE	742.54	742.67	742.83	742.90	742.98	743.05	743.12	743.18	743.24	743.30	743.36	743.41	743.46	743.68	743.89			
BRIDGE P/G	742.98	743.11	743.27	743.34	743.42	743.49	743.56	743.62	743.68	743.74	743.80	743.85	743.90	744.12	744.33			
SOUTH SIDEWALK TOE	742.54	742.67	742.83	742.90	742.98	743.05	743.12	743.18	743.24	743.30	743.36	743.41	743.46	743.68	743.89			
SOUTH FASCIA			742.83	742.90	742.98	743.05	743.12	743.18	743.24	743.30	743.36	743.41	743.46					

SCREED ELEVATIONS

NOTES:

BOTTOM OF SLAB ELEVATIONS ARE RIGHT ANGLES TO THE BEAM CENTERLINE AND ARE BASED ON THE CONDITION THAT THE BEAMS AND DIAPHRAGMS ARE COMPLETELY ERECTED WITH NO OTHER LOADS APPLIED. THESE ELEVATIONS INCLUDE ALLOWANCE FOR VERTICAL CURVE AND DEFLECTION DUE TO FORMS, STEEL REINFORCEMENT, CONCRETE SLAB, SIDEWALKS AND RAILINGS.

SCREED ELEVATIONS ARE BASED ON THE CONDITION THAT NO SLAB CONCRETE HAS BEEN CAST AND THAT FORMWORK AND STEEL REINFORCEMENT ARE IN PLACE.

SCREED RAILS FOR FINISHING OF STRUCTURAL CONCRETE SHALL BE LOCATED OVER FASCIA BEAMS.

ELEVATIONS FOR BOTTOM OF SLAB AND/OR SCREED ELEVATIONS ARE GIVEN ALONG BEAM CENTERLINES FROM CENTERLINE OF BEARING TO CENTERLINE OF BEARING AT EQUAL SPACINGS.

JOB NO. JN201292

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\COB8528\18\SSP-PLTS-SLABSCREEDDETAILS-ATHERTON.DWG - LAYOUT1 - PLOTTED 4/19/2019 3:28 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:-

BY	DESCRIPTION	DATE	REV#

WADE TRIM
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1101 SOUTH SAGINAW STREET
FLINT, MI 48502

ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
SLAB AND SCREED DETAILS

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

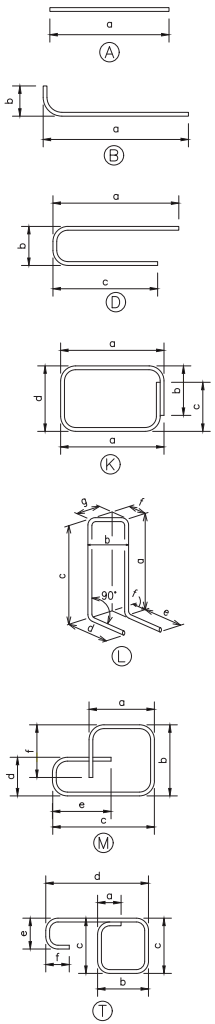
JOB NO.
COF1065.01F

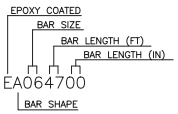
SHEET
253

	BAR	DIMENSIONS a	b	c	d	e	f	g	h	j	k	m	n	p	NO. REQ'D	TOTAL WT.
WEST ABUTMENT A FOOTING	EA060500	5'-0"													92	691
	EA080706	7'-6"													138	2764
	EA081806	18'-6"													36	1779
	EA083306	33'-6"													36	3221
	EB090806	6'-6"	2'-0"												92	2659
														TOTAL =		11114
EAST ABUTMENT B FOOTING	EA060500	5'-0"													92	691
	EA080706	7'-6"													138	2764
	EA081806	18'-6"													36	1779
	EA083306	33'-6"													36	3221
	EB090806	6'-6"	2'-0"												92	2659
														TOTAL =		11114
WEST ABUTMENT A STEM	EA061006	10'-6"													34	537
	EA061009	10'-9"													26	420
	EA061600	16'-0"													24	577
	EA061900	19'-0"													24	685
	EA062800	28'-0"													24	1010
	EA080800	8'-0"													5	107
	EA081600	16'-0"													3	129
	EA082200	22'-0"													3	177
	EA083100	31'-0"													3	249
	EA091006	10'-6"													34	1214
	EA091009	10'-9"													26	951
	EB060506	3'-0"	2'-6"												24	199
	EB060700	4'-6"	2'-6"												24	253
	ED080506	2'-0"	1'-6"	2'-0"											35	514
	ED080706	3'-0"	1'-6"	3'-0"											60	1202
														TOTAL =		8224
EAST ABUTMENT B STEM	EA061102	11'-2"													34	571
	EA061105	11'-5"													26	446
	EA061600	16'-0"													24	577
	EA061900	19'-0"													24	685
	EA062800	28'-0"													24	1010
	EA080800	8'-0"													5	107
	EA081600	16'-0"													3	129
	EA082200	22'-0"													3	177
	EA083100	31'-0"													3	249
	EA091102	11'-2"													34	1291
	EA091105	11'-5"													26	1010
	EB060506	3'-0"	2'-6"												24	199
	EB060700	4'-6"	2'-6"												24	253
	ED080506	2'-0"	1'-6"	2'-0"											35	514
	ED080706	3'-0"	1'-6"	3'-0"											60	1202
														TOTAL =		8420
SOUTHWEST RETURN WALL STEM	EA061400	14'-0"													16	337
	EA061406	14'-6"													31	676
	EA091400	14'-0"													16	762
	ED060807	4'-0"	7"	4'-0"											16	207
	ED061107	5'-6"	7"	5'-6"											12	209
	ED080500	2'-0"	1'-0"	2'-0"											16	214
														TOTAL =		2405
NORTHWEST RETURN WALL STEM	EA061400	14'-0"													16	337
	EA061406	14'-6"													31	676
	EA091400	14'-0"													16	762
	ED060807	4'-0"	7"	4'-0"											16	207
	ED061107	5'-6"	7"	5'-6"											12	209
	ED080500	2'-0"	1'-0"	2'-0"											16	214
														TOTAL =		2405
SOUTHEAST RETURN WALL STEM	EA061406	14'-6"													31	676
	EA061408	14'-8"													16	353
	EA091408	14'-8"													16	798
	ED060807	4'-0"	7"	4'-0"											16	207
	ED061107	5'-6"	7"	5'-6"											12	209
	ED080500	2'-0"	1'-0"	2'-0"											16	214
														TOTAL =		2457
NORTHEAST RETURN WALL STEM	EA061406	14'-6"													31	676
	EA061408	14'-8"													16	353
	EA091408	14'-8"													16	798
	ED060807	4'-0"	7"	4'-0"											16	207
	ED061107	5'-6"	7"	5'-6"											12	209
	ED080500	2'-0"	1'-0"	2'-0"											16	214
														TOTAL =		2457
														SUBSTRUCTURE TOTAL =		48,596 Lb

	BAR	DIMENSIONS a	b	c	d	e	f	g	h	j	k	m	n	p	NO. REQ'D	TOTAL WT.	
WEST BACKWALL	EA040106	1'-6"	3" THREADED END												4	5	*
	EA040306	3'-6"	3" THREADED END												24	57	*
	EA042908	29'-8"													8	159	
	EA060306	3'-6"													24	127	
	EK040805	2'-6"	1'-0"	1'-0"	1'-5"										4	23	
	EM040807	10"	2'-6"	1'-5"	1'-6"	1'-0"	1'-4"								24	138	
														TOTAL =		509	
EAST BACKWALL	EA080106	1'-6"	3" THREADED END												4	17	*
	EA080306	4'-6"	3" THREADED END												24	225	*
	EA083100	31'-0"													8	663	
	EK040805	2'-6"	1'-0"	1'-0"	1'-5"										4	23	
	EM040807	10"	2'-6"	1'-5"	1'-6"	1'-0"	1'-4"								24	138	
														TOTAL =		1066	
DECK SLAB	EA042908	29'-8"													32	635	
	EA043808	38'-8"													79	2041	
	EA043908	39'-8"													4	106	
	EA060400	4'-0"													21	127	
	EA063002	30'-2"													98	4441	
	EA063908	39'-8"													4	239	
	EA064100	41'-0"													72	4434	
	ED040302	1'-0"	1'-2"	1'-0"											54	115	
	ED052608	25'-8"	6"	6"											49	1363	
	ED053502	34'-2"	6"	6"											49	1798	
	ED060700	6'-0"	6"	6"											104	1094	
	ET060700	1'-0"	1'-0"	1'-4"	1'-2"	6"	8"								4	43	
	ET060710	1'-0"	1'-4"	1'-4"	1'-8"	6"	8"								56	659	
														TOTAL =		17095	
EAST APPROACH	EA062000	20'-0"													112	3365	
	EA082807	28'-7"													60	2576	
	ED040302	1'-0"	1'-2"	1'-0"											30	64	
	EK040502	1'-4"	9"	9"	1'-0"										30	104	
														TOTAL =		6109	
NORTH & SOUTH SIDEWALKS	EA060610	6'-10"													108	1109	
	EA043808	38'-8"													18	465	
	EA063908	39'-8"													8	477	
	EL040707	2'-6"	7"	2'-2"	1'-2"	7"	0								148	750	
														TOTAL =		2801	
APPROACH SIDEWALKS	EA042000	20'-0"													20	268	
	EA060504	5'-4"													60	481	
														TOTAL =		749	
RAILING PARAPET & END WALLS	EA040410	4'-10"													8	26	
	EA040706	7'-6"													8	41	
	EA041405	14'-5"													24	232	
	EA043908	39'-8"													12	318	
														TOTAL =		617	
														SUPERSTRUCTURE TOTAL =		28,946 Lb	
														BRIDGE TOTAL =		77,542 Lb	

* DENOTES THREADED BAR





BAR LEGEND

NOTE:
REINFORCEMENT SHALL BE BUNDLED AND TAGGED AS TO THE LOCATION AS SHOWN ON THIS SHEET.

QUANTITIES THIS SHEET

ITEM	QUANTITY	UNIT
Reinforcement, Steel, Epoxy Coated	77542	Lb

JOB NO. JN201292

REV#	DATE	DESCRIPTION	BY

WADE TRIM
550 S. Saginaw Street, Suite 201
Flint, MI 48502
810.767.3800
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502

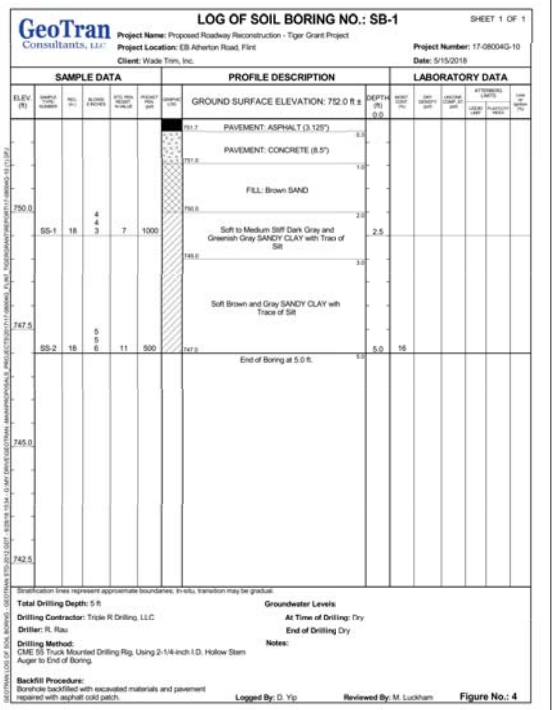
ATHERTON ROAD
BRIDGE OVER CARMAN CREEK
STEEL REINFORCEMENT DETAILS

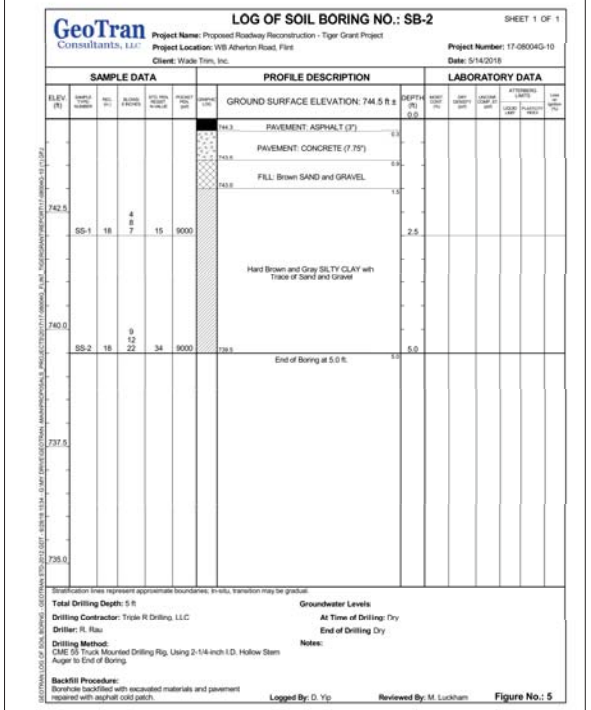
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

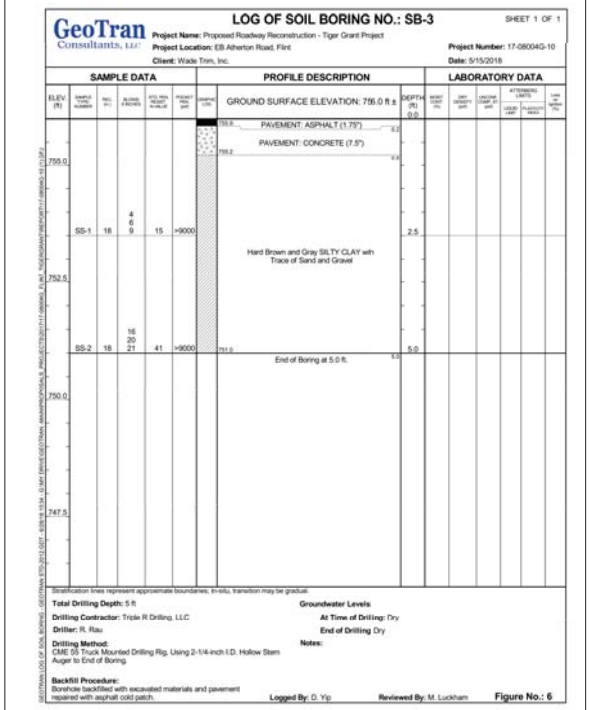
JOB NO. COF1065.01F

SHEET 254

PROJECT MANAGER: Jeremy Schrot
C:\PW_WORK\2\D0852518\Src-PLTS-STEELREINFSCHEDULE-ATHERTONLDWG - LAYOUT1 - PLOTTED 4/19/2019 3:28 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:--







PROJECT MANAGER:=
C:\PW_WORK\JOB\46151\WLB-PLTS-SOILBORINGS.DWG - SB-1 - PLOTTED 4/19/2019 3:40 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:=

Know what's below. Call before you dig.

REV#	DATE	DESCRIPTION	BY

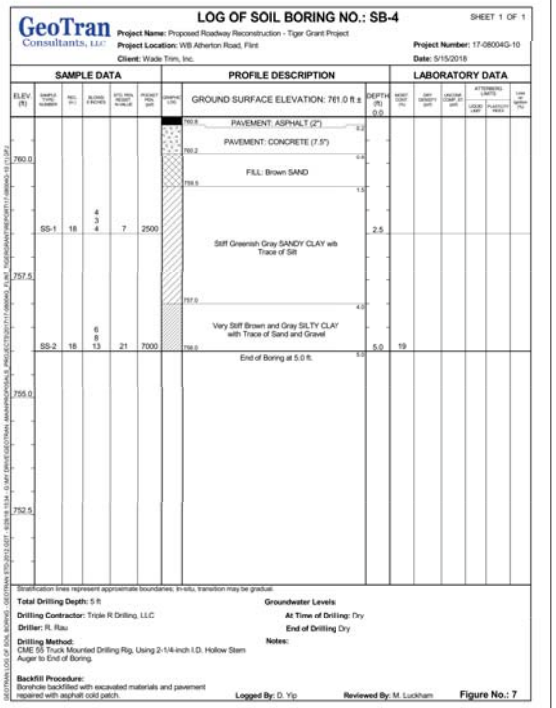
WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.9500
www.wadetrim.com

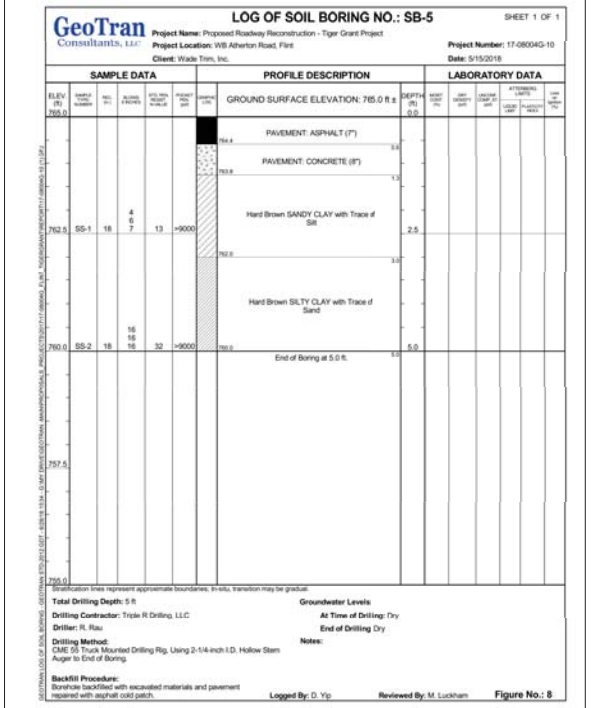
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 1-3

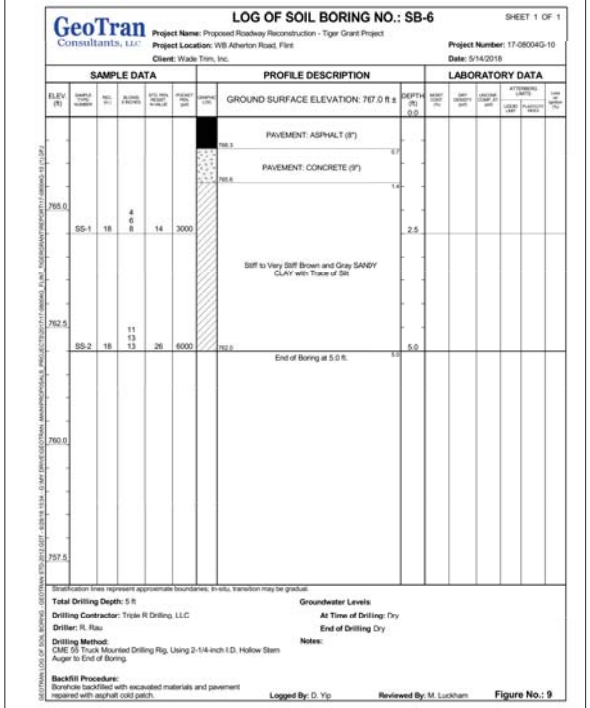
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 255







Know what's below. Call before you dig.

BY	DESCRIPTION	DATE	REV#

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 4-6

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 256

LOG OF SOIL BORING NO.: SB-7

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: EB Atherton Road, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/15/2018

GROUND SURFACE ELEVATION: 768.0 ft ±

PROFILE DESCRIPTION

Elev. at base (ft)	Description	Depth at base (ft)
767.7	PAVEMENT: ASPHALT (3.5")	0.3
767.3	PAVEMENT: CONCRETE (5.5")	0.8
766.5	FILL: Brown SAND	1.5
765.0	Very Stiff Greenish Gray SANDY CLAY with Trace of Silt	3.0
763.0	Medium Stiff Brown SANDY CLAY with Trace of Silt	5.0
	End of Boring at 5.0 ft.	

SAMPLE DATA / LABORATORY DATA

Sample Type Number	Rec. (in)	Blows / 6 Inches	Std. Pen. Resist. N-Value	Pocket Pen. (psf)	Depth (ft)	Moist. Cont. (%)
SS-1	18	3 3 2	5	4500	2.5	20
SS-2	18	4 3 5	8	1500	5.0	

Elev. (ft): 767.5, 765.0, 762.5, 760.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 10**

LOG OF SOIL BORING NO.: SB-8

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: WB Atherton Road, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 759.5 ft ±

PROFILE DESCRIPTION

Elev. at base (ft)	Description	Depth at base (ft)
758.6	PAVEMENT: ASPHALT (11.25")	0.9
758.0	FILL: Black SAND with Slag	1.5
757.5	FILL: Dark Brown SLAG	2.0
754.5	Loose to Medium Dense Brown SILTY SAND	5.0
	End of Boring at 5.0 ft.	

SAMPLE DATA / LABORATORY DATA

Sample Type Number	Rec. (in)	Blows / 6 Inches	Std. Pen. Resist. N-Value	Pocket Pen. (psf)	Depth (ft)	Moist. Cont. (%)
SS-1	18	8 10 8	18		2.5	
SS-2	18	4 4 5	9		5.0	

Elev. (ft): 757.5, 755.0, 752.5, 750.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels:
At Time of Drilling: 4 ft
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 11**

LOG OF SOIL BORING NO.: SB-9

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: EB Atherton Road, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 753.0 ft ±

PROFILE DESCRIPTION

Elev. at base (ft)	Description	Depth at base (ft)
752.9	PAVEMENT: ASPHALT (1.5")	0.1
752.2	PAVEMENT: CONCRETE (8.5")	0.8
751.0	FILL: Dark Brown SILTY SAND with Trace of Gravel	2.0
749.0	FILL: Brown SAND with Trace of Sand and Piece of Wood	4.0
748.0	Stiff Gray SANDY CLAY with Trace of Silt	5.0
	End of Boring at 5.0 ft.	

SAMPLE DATA / LABORATORY DATA

Sample Type Number	Rec. (in)	Blows / 6 Inches	Std. Pen. Resist. N-Value	Pocket Pen. (psf)	Depth (ft)	Moist. Cont. (%)
SS-1	18	4 6 8	14		2.5	
SS-2	18	5 4 3	7	2000	5.0	

Elev. (ft): 752.5, 750.0, 747.5, 745.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 12**

Know what's **below.** **Call** before you dig.

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

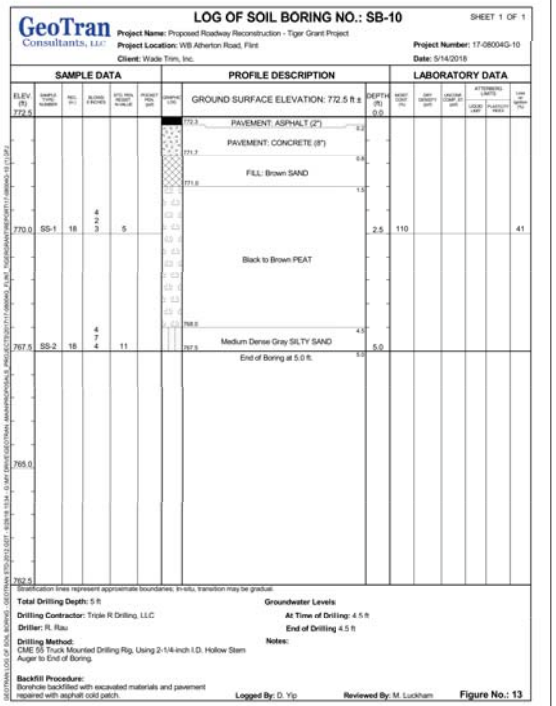
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 7-9

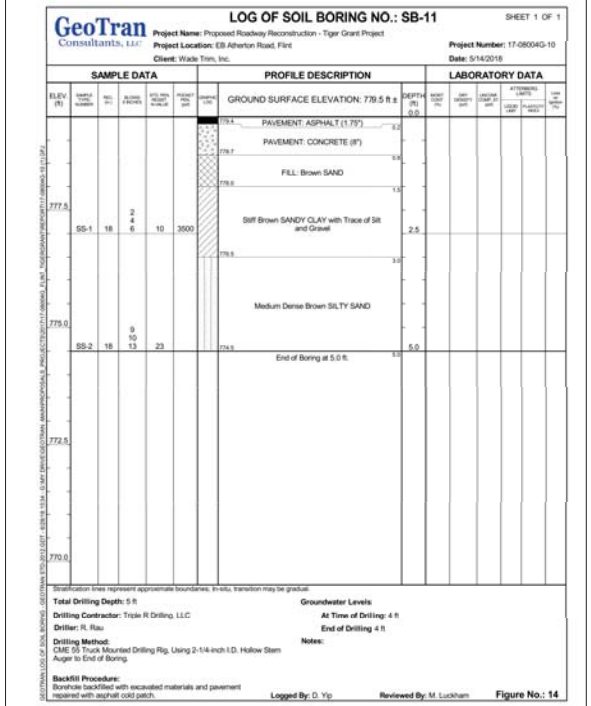
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

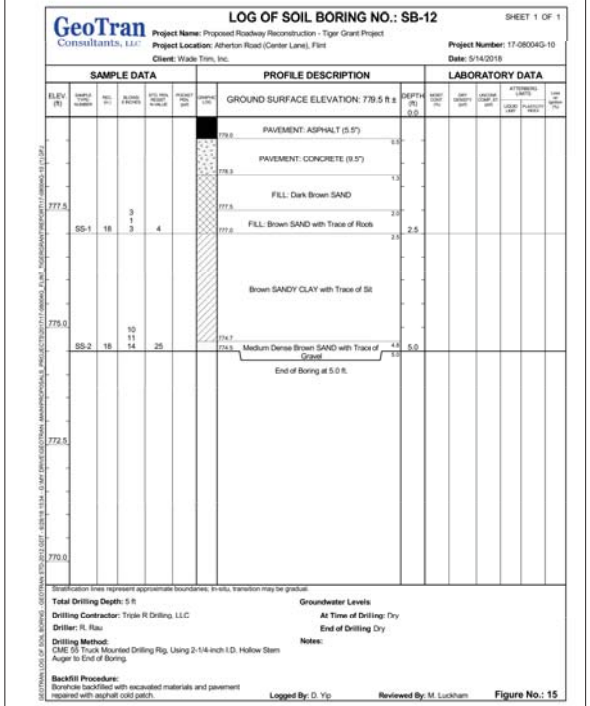
JOB NO. COF1065.01F

SHEET 257

REV# DATE DESCRIPTION BY







PROJECT MANAGER:
C:\PW_WORK\D0846151\A\LB-PLTS-SOILBORINGS.DWG - SB-4 - PLOTTED 4/19/2019 3:40 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:

Know what's below. Call before you dig.

BY	DESCRIPTION	DATE	REV#

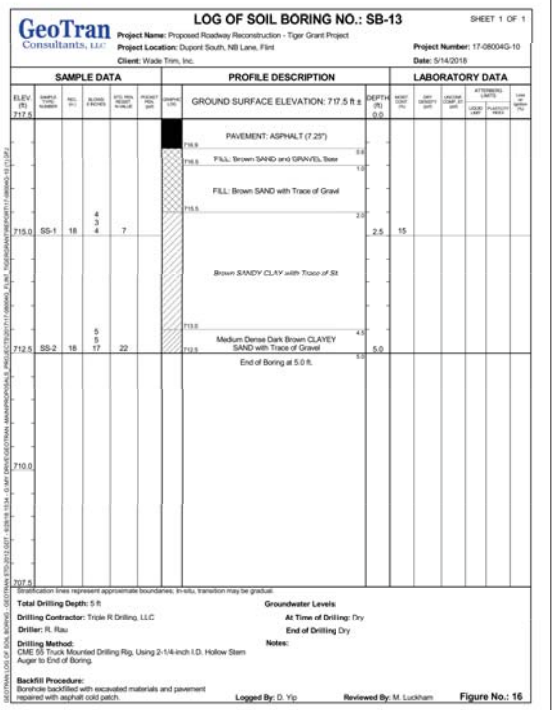
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.9500
www.wadetrim.com
WADE TRIM

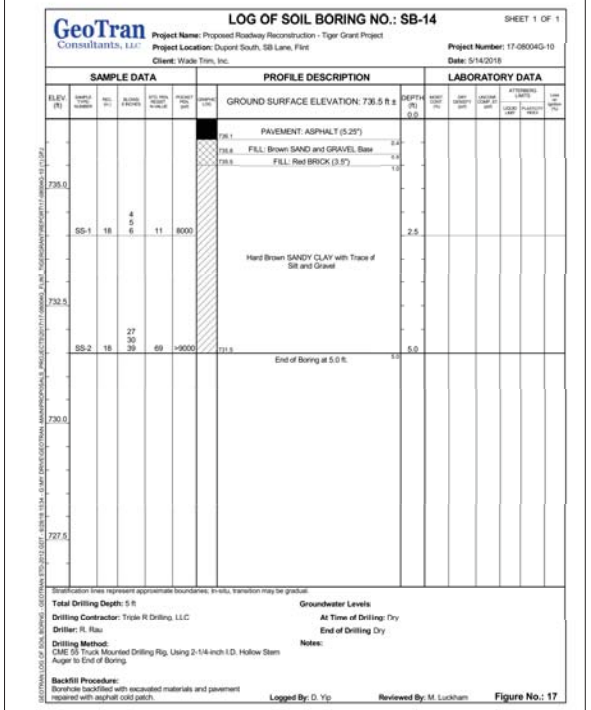
CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 10-12

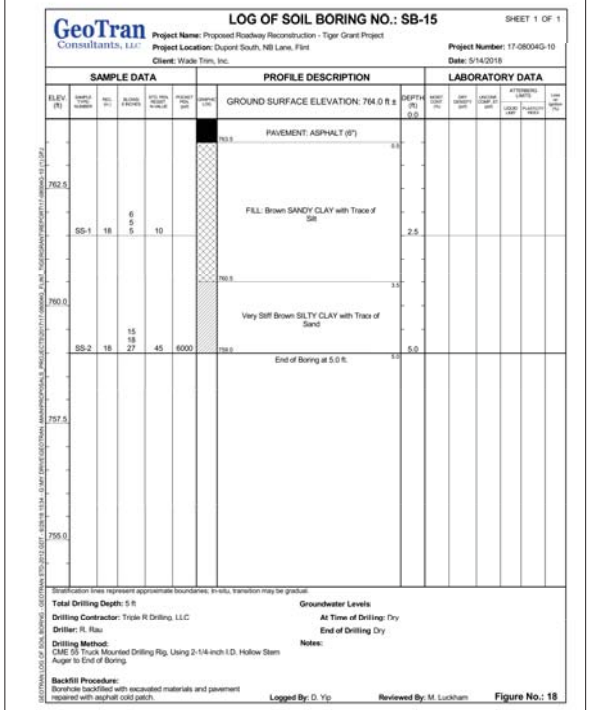
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
258







Know what's below. Call before you dig.

BY	DESCRIPTION	DATE	REV#

WADE TRIM
555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.341.8830
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 13-15

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 259

LOG OF SOIL BORING NO.: SB-16

SHEET 1 OF 1

GeoTran Consultants, LLC

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont South, SB Lane, Flint
Project Number: 17-08004G-10
Client: Wade Trim, Inc.
Date: 5/14/2018

SAMPLE DATA					PROFILE DESCRIPTION	LABORATORY DATA
ELEV (ft)	SAMPLE TYPE NUMBER	REC. (in.)	BLOWS / 6 INCHES	STD. PEN. RESIST. N-VALUE	GROUND SURFACE ELEVATION: 754.5 ft ±	DEPTH (ft)
754.2					PAVEMENT: ASPHALT (3.5") 0.3	0.0
					BASE: SAND and GRAVEL 1.3	
752.5	SS-1	18	3 2 7	10	Very Stiff Brown SILTY CLAY with Traco of Sand and Gravel	2.5
750.0	SS-2	18	12 13 18	31	Medium Dense Brown SILTY SAND 4.5	5.0
749.5					End of Boring at 5.0 ft. 5.0	
747.5						
745.0						

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels
At Time of Drilling: Dry
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 19**

LOG OF SOIL BORING NO.: SB-17

SHEET 1 OF 1

GeoTran Consultants, LLC

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont South, NB Lane, Flint
Project Number: 17-08004G-10
Client: Wade Trim, Inc.
Date: 5/14/2018

SAMPLE DATA					PROFILE DESCRIPTION	LABORATORY DATA
ELEV (ft)	SAMPLE TYPE NUMBER	REC. (in.)	BLOWS / 6 INCHES	STD. PEN. RESIST. N-VALUE	GROUND SURFACE ELEVATION: 749.0 ft ±	DEPTH (ft)
					PAVEMENT: ASPHALT (8.5") 0.7	0.0
747.5	SS-1	18	4 3 4	7	FILL: Brown SAND with Trace of Gravel and Roots 3.0	2.5
745.0	SS-2	18	2 1 2	3	1000 Soft to Medium Stiff Brown SANDY CLAY with Trace of Silt 4.5	5.0
744.0					End of Boring at 5.0 ft. 5.0	
742.5						
740.0						

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels
At Time of Drilling: 1 ft
End of Drilling 1 ft
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 24**

LOG OF SOIL BORING NO.: SB-18

SHEET 1 OF 1

GeoTran Consultants, LLC

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont South, SB Lane, Flint
Project Number: 17-08004G-10
Client: Wade Trim, Inc.
Date: 5/14/2018

SAMPLE DATA					PROFILE DESCRIPTION	LABORATORY DATA
ELEV (ft)	SAMPLE TYPE NUMBER	REC. (in.)	BLOWS / 6 INCHES	STD. PEN. RESIST. N-VALUE	GROUND SURFACE ELEVATION: 762.0 ft ±	DEPTH (ft)
761.3					PAVEMENT: ASPHALT (8.25") 0.7	0.0
761.1					BASE: GRAVEL (3") 0.9	
760.7					FILL: CONCRETE 1.4	
760.0	SS-1	18	3 3 4	7		2.5
757.5	SS-2	18	14 15 17	32	FILL: Greenish Gray SANDY CLAY with Trace of Silt and Gravel	5.0
757.0					End of Boring at 5.0 ft. 5.0	
755.0						
752.5						

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels
At Time of Drilling: Dry
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 21**

Know what's **below.** **Call** before you dig.

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CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 16-18

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO. COF1065.01F

SHEET 260

PROJECT MANAGER:
C:\PW_WORK\JOB\48151\XLB-PLTS-SOILBORINGS.DWG -- SB-6 -- PLOTTED 4/19/2019 3:40 AM BY RUGGLES, TIMOTHY
FIELD BOOK INFORMATION:

LOG OF SOIL BORING NO.: SB-19

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont North, NB Lane, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 780.0 ft ±

ELEV. (ft)	SAMPLE TYPE NUMBER	REC. (in)	BLOWS 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	PROFILE DESCRIPTION	DEPTH (ft)	MOIST. CONT. (%)
780.0						PAVEMENT: ASPHALT (11") (to 779.1, 0.9)	0.0	
779.1						BASE: GRAVEL (3") (to 778.8, 1.2)		
777.5	SS-1	18	12 / 6 / 8	14		FILL: Brown and Gray SANDY CLAY with Trace of Silt and Gravel (to 777.0, 3.0)	2.5	
775.0	SS-2	18	14 / 16 / 18	34	7500	Very Stiff Brown SILTY CLAY with Trace to Little Sand (to 775.0, 5.0)	5.0	15
						End of Boring at 5.0 ft.		

Elevation scale: 780.0, 777.5, 775.0, 772.5, 770.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.
Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:
Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 22**

LOG OF SOIL BORING NO.: SB-20

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont North, SB Lane, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 779.0 ft ±

ELEV. (ft)	SAMPLE TYPE NUMBER	REC. (in)	BLOWS 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	PROFILE DESCRIPTION	DEPTH (ft)	MOIST. CONT. (%)
						PAVEMENT: ASPHALT (11.25") (to 778.1, 0.9)	0.0	
778.1						BASE: GRAVEL (3") (to 777.8, 1.2)		
	SS-1	18	4 / 3 / 3	6	2500	Stiff Brown SANDY CLAY with Trace of Silt and Gravel	2.5	
	SS-2	18	4 / 4 / 5	9	2500	(to 774.0, 5.0)	5.0	
						End of Boring at 5.0 ft.		

Elevation scale: 777.5, 775.0, 772.5, 770.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.
Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:
Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 23**

LOG OF SOIL BORING NO.: SB-21

GeoTran Consultants, LLC — SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont North, NB Lane, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 775.0 ft ±

ELEV. (ft)	SAMPLE TYPE NUMBER	REC. (in)	BLOWS 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	PROFILE DESCRIPTION	DEPTH (ft)	MOIST. CONT. (%)
775.0						PAVEMENT: ASPHALT (6.5") (to 774.5, 0.5)	0.0	
774.5						PAVEMENT: CONCRETE (4") (to 774.1, 0.9)		
774.1						BASE: GRAVEL (2") (to 774.0, 1.0)		
772.5	SS-1	18	22 / 14 / 9	23		FILL: Brown SAND with Trace of Gravel (to 772.0, 3.0)	2.5	
770.0	SS-2	18	6 / 5 / 6	11		FILL: Dark Gray SANDY CLAY with Trace of Wood Fragments (to 770.0, 5.0)	5.0	40
						End of Boring at 5.0 ft.		

Elevation scale: 775.0, 772.5, 770.0, 767.5, 765.0

Stratification lines represent approximate boundaries; in-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method: CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure: Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.
Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:
Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.: 20**

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555 S. Saginaw Street, Suite 201
Flint, MI 48502
810.235.2555
www.wadetrim.com

CITY OF FLINT
1101 SOUTH SAGINAW STREET
FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 19–21

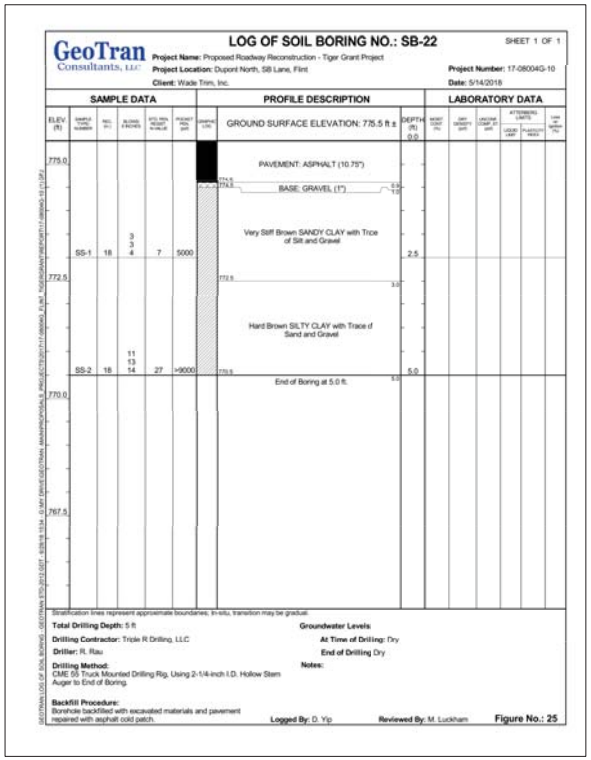
ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

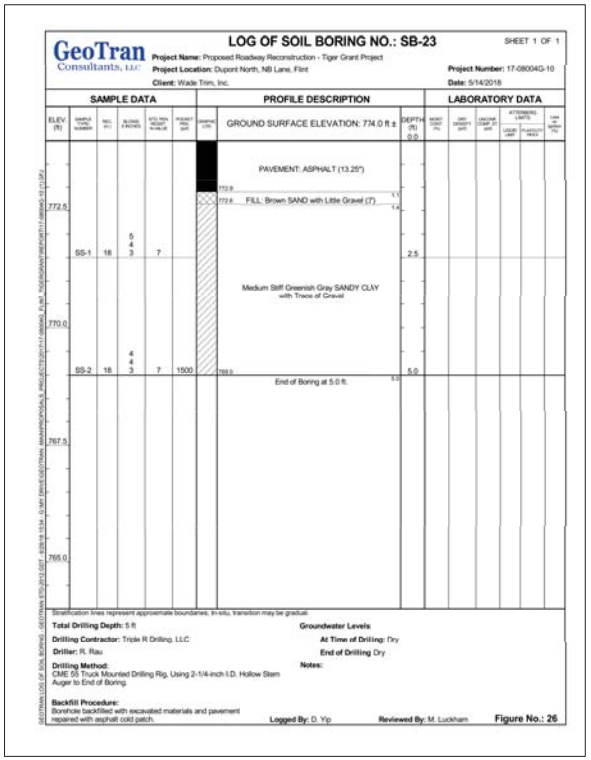
REV# | DATE | DESCRIPTION | BY

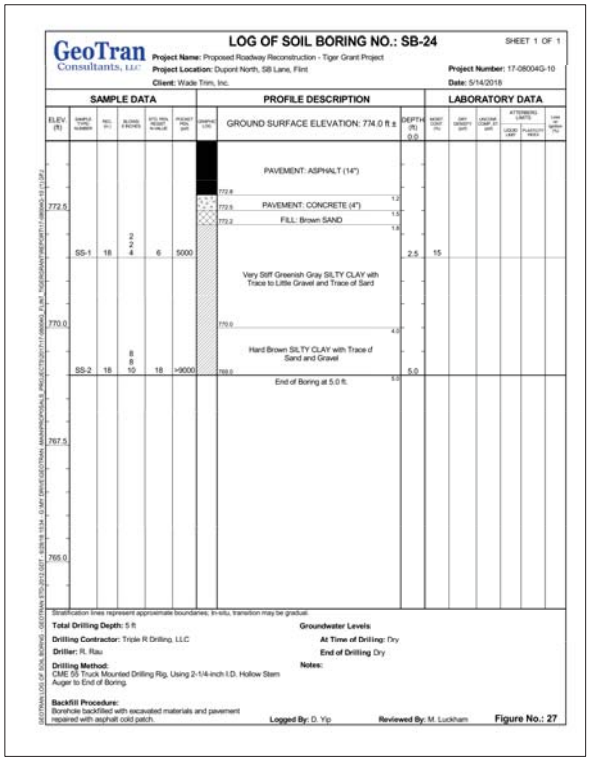
JOB NO. COF1065.01F

SHEET 261

PROJECT MANAGER: – FIELD BOOK INFORMATION: –
C:\PW_WORK2\D0846151\BLB-PLTS-SOILBORINGS.DWG – SB-7 – PLOTTED 4/19/2019 3:40 AM BY RUGGLES, TIMOTHY







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FLINT, MI 48502
FLINT TIGER GRANT
SOIL BORINGS 22-24

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FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

JOB NO.
COF1065.01F

SHEET
262

LOG OF SOIL BORING NO.: SB-25

GeoTran Consultants, LLC

SHEET 1 OF 1

Project Name: Proposed Roadway Reconstruction - Tiger Grant Project
Project Location: Dupont North, SB Lane, Flint
Client: Wade Trim, Inc.
Project Number: 17-08004G-10
Date: 5/14/2018

GROUND SURFACE ELEVATION: 772.0 ft ±

ELEV. (ft)	SAMPLE TYPE NUMBER	REC. (in)	BLOWS 6 INCHES	STD. PEN. RESIST. N-VALUE	POCKET PEN. (psf)	PROFILE DESCRIPTION	DEPTH (ft)	MOIST CONT (%)	DRY DENSITY (pcf)	UNCONF COMP. ST (psf)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	[illegible]
							0.0						
						PAVEMENT: ASPHALT (14")							
770.8							1.2						
770.0						FILL: Brown SANDY CLAY with Trace of Silt and Gravel							
	SS-1	18	9 6 7	13			2.5						
769.0							3.0						
						Hard Brown SILTY CLAY with Trace of Sand and Gravel							
767.5													
767.0	SS-2	18	7 8 7	15	>9000		5.0						
						End of Boring at 5.0 ft.							
765.0													
762.5													

Stratification lines represent approximate boundaries; In-situ, transition may be gradual.

Total Drilling Depth: 5 ft
Drilling Contractor: Triple R Drilling, LLC
Driller: R. Rau
Drilling Method:
CME 55 Truck Mounted Drilling Rig, Using 2-1/4-inch I.D. Hollow Stem Auger to End of Boring.
Backfill Procedure:
Borehole backfilled with excavated materials and pavement repaired with asphalt cold patch.

Groundwater Levels:
At Time of Drilling: Dry
End of Drilling Dry
Notes:

Logged By: D. Yip **Reviewed By:** M. Luckham **Figure No.:** 28

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WADE TRIM
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Flint, MI 48502
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FLINT, MI 48502

FLINT TIGER GRANT
SOIL BORINGS 25

ISSUED FOR:	DATE:	BY:
GI PLANS	10/25/18	JJS
FINAL REVIEW	2/25/19	JJS
FINAL PLANS	4/19/19	JJS

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SHEET 263

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