MICHIGAN CENTRAL AND THE CITY OF DETROIT

IN COOPERATION WITH

THE MICHIGAN DEPARTMENT OF TRANSPORTATION

14TH STREET STREETSCAPE - PHASE A

SET 1

CITY OF DETROIT, WAYNE COUNTY, MICHIGAN

90% DESIGN 04-05-2023	60% DESIGN 02-23-2023	30% DESIGN 02-06-2023	DRAWING INDEX	
●	●	●	C-001	COVER
●	●	●	C-002	GENERAL NOTES AND LEGEND
●	●	●	C-003	ALIGNMENT
●	●	●	C-004	TYPICAL CROSS SECTIONS
●	●	●	C-005	SOIL BORING LOGS
			C-006	SCHEDULE OF STRUCTURES
●	●	●	C-100	REMOVAL AND IMPROVEMENT PLAN
●	●	●	C-200	PAVEMENT MARKING AND SIGNAGE PLAN
●	●	●	C-300	SESC NOTES AND DETAILS
●	●	●	C-400	DETAILS
●			C-401	DETAILS
●			T-100	MAINTENANCE OF TRAFFIC
●			T-101	MAINTENANCE OF TRAFFIC

WAYNE
COUNTY

LOCATION MAP

NO SCALE

ROAD STANDARD PLANS

CONSTRUCTION OF THE FOLLOWING ITEMS, WHERE CALLED FOR ON THE PLANS, WILL BE CONSTRUCTED ACCORDING TO MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD PLANS AS INDICATED.

ITEM OF WORK	STANDARD PLAN NUMBERS
ROAD	
COVER D	R-9-D
CURB RAMP AND DETECTABLE WARNING DETAILS	R-28-J
DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-I
CONCRETE CURB AND CONCRETE CURB & GUTTER	R-30-G
INTEGRAL CURB AND INTEGRAL CURB & GUTTER	R-31-F
PAVEMENT MARKINGS	
PAVEMENT ARROW & MESSAGE DETAILS	PAVE-900-G
LONGITUDINAL LINE TYPES & PLACEMENT	PAVE-905-E
INTERSECTION, STOP BAR & CROSSWALK MARKINGS	PAVE-945-D
SIGNING	
ROADSIDE SIGN LOCATIONS & SUPPORT SPACING	SIGN-120-E
PLACEMENT OF D3-1 SIGNS ABOVE R1-1	SIGN-140-A
STEEL POSTS	SIGN-200-D
MISCELLANEOUS SIGN CONNECTION DETAILS	SIGN-740-B
TRAFFIC AND SAFETY STANDARD PLANS	
GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS	WZD-100-A
TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E

* SPECIAL DETAIL

UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

(R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.

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

GENERAL PROVISIONS

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS, THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLAN AND AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2018 EDITION.

TRAFFIC DATA

14TH STREET

	2021
A.D.T. (TWO WAY)	700
PERCENT COMMERCIAL	5%
DESIGN SPEED = 30 MPH	
POSTED SPEED = 30 MPH	

DEPARTMENT OF PUBLIC WORKS CITY OF DETROIT

FORDLAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

MILES: 0.10

CONTRACT FOR:

ASPHALT MILLING AND RESURFACING OF 14TH STREET, PAVEMENT REPAIRS, AND INSTALLATION OF DYNAMIC INDUCTIVE IN-ROAD VEHICLE CHARGING SYSTEM.

LOCAL AUTHORITY APPROVAL
CITY OF DETROIT
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS

APPROVED BY _____ CITY ENGINEER _____ DATE

GW PROJECT NO.	SHEET
19563.15D	1 OF 12

PREPARED UNDER THE SUPERVISION OF

RYAN JONES, PE	6201069287	02.06.2023
PROJECT MANAGER	REGISTRATION NO.	DATE

giffels webster
GIFFELS WEBSTER
28 WEST ADAMS, SUITE 1200
DETROIT, MICHIGAN 48226
P: 313.962.4442
F: 313.962.5068
www.giffelswebster.com

GENERAL NOTES

UTILITIES

UNDERGROUND UTILITIES / MISS DIG

FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174, 2013, THE CONTRACTOR SHALL DIAL 1-800-482-7171 A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING EACH EXCAVATION IN AREAS WHERE PUBLIC UTILITIES HAVE NOT BEEN PREVIOUSLY LOCATED. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE A PART OF THE "MISS DIG" ALERT SYSTEM

IF PLAN INFORMATION INDICATES AN EXISTING UNDERGROUND UTILITY IS OR WILL BE OUT OF SERVICE WITHIN THE LIMITS OF THIS CONTRACT. THE CONTRACTOR IS CAUTIONED TO TREAT SUCH A LINE AS IF IT WERE STILL IN SERVICE AND NOTIFY "MISS DIG" WHEN WORKING IN THE AREA OF THE OUT OF SERVICE FACILITY.

EXISTING WATER MAINS AND SEWERS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO PROPERLY IDENTIFIED EXISTING WATER MAINS AND/OR EXISTING SEWERS DURING THE CONSTRUCTION OF THIS PROJECT.

DETAILED GRADES

SIDEWALK AND SIDEWALK RAMP GRADES

ALL SIDEWALK AND SIDEWALK RAMP GRADES SHALL BE STAKED ACCORDING TO STANDARD PLAN R-28 SERIES AND AS SHOWN ON THE PLANS. PRIOR TO CONSTRUCTING THE SIDEWALK AND SIDEWALK RAMPS, THE ENGINEER WILL VERIFY THE GRADES AND AUTHORIZE THE CONSTRUCTION OF THE SIDEWALK AND SIDEWALK RAMPS.

EARTHWORK

EARTH DISTURBANCE LIMITS

THE EARTH DISTURBANCE LIMIT FOR THIS PROJECT WILL BE LIMITED TO 10' BEYOND THE SLOPE STAKE LINE OR TO THE ROW LINE WHICHEVER IS LESS FOR ALL AREAS EXCEPT FOR WETLAND AREAS. RESTORATION MEASURES HAVE BEEN INCLUDED IN THIS SET OF PLANS FOR THE APPROVED AREAS OF DISTURBANCE. THE CONTRACTOR SHALL SUBMIT AN EARTH CHANGE PLAN FOR ANY WORK BEYOND THE APPROVED LIMITS TO THE ENGINEER TO REVIEW FOR APPROVAL PRIOR TO THE DISTURBANCE. ALL COSTS FOR OBTAINING AND EXECUTING AN APPROVED EARTH CHANGE PLAN, INCLUDING RESTORATION, SHALL BE AT THE CONTRACTOR'S EXPENSE.

SOIL EROSION MEASURES

APPROPRIATE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO EARTH-DISTURBING ACTIVITIES. PLACE TURF ESTABLISHMENT ITEMS AS SOON AS POSSIBLE ON POTENTIAL ERODABLE SLOPES AS DIRECTED BY THE ENGINEER.

BASES

AGGREGATE BASE

AGGREGATE BASES SHALL BE 21AA AGGREGATE UNLESS OTHERWISE SPECIFIED.

PROJECT BENCHMARKS

VERTICAL DATUM: CITY OF DETROIT

SITE BENCH MARK NO. 2 (BAGLEY AVENUE)
SET ARROW ON HYDRANT (1977) LOCATED AT THE SOUTH SIDE OF BAGELY AVENUE AT THE 14TH STREET INTERSECTION.
ELEV. = 126.67'

SITE BENCH MARK NO. 4
ARROW ON HYDRANT AT THE NORTHEAST CORNER OF 15TH STREET AND MARANTETTE STREET
ELEVATION = 120.62'

SITE BENCH MARK NO. 5
ARROW ON HYDRANT AT THE SOUTHWEST CORNER OF 14TH STREET AND DALZELLE STREET.
ELEVATION = 122.67'

SITE BENCH MARK NO. 6
SET MAG NAIL IN THE NORTHERLY FACE OF A LIGHT POLE LOCATED AT THE SOUTHWEST CORNER OF 14TH STREET AND MARANTETTE STREET.
ELEVATION = 118.68'

SITE BENCH MARK NO. 13
SET NAIL IN THE NORTH FACE OF A LIGHT POLE AT THE SOUTHWESTERLY CORNER OF WABASH STREET AND DALZELLE STREET.
ELEVATION = 120.46'

SITE BENCH MARK NO. 14
ARROW ON HYDRANT (1979) AT THE SOUTHEASTERLY CORNER OF DALZELLE STREET AND VERMONT STREET.
ELEVATION = 121.50'

SITE BENCH MARK NO. 15
SET NAIL IN THE NORTH FACE OF A UTILITY POLE AT THE SOUTHWESTERLY CORNER OF DALZELLE STREET AND ROSA PARKS BOULEVARD.
ELEVATION = 119.50'

MISCELLANEOUS QUANTITIES

1	LS	MOBILIZATION, $XX,000
XX	CYD	SUBGRADE UNDERCUTTING, TYPE II
1	LS	PROJECT CLEANUP
XX	TON	MAINTENANCE GRAVEL
XX	MO	FIELD OFFICE, CL 3
XX	DLR	FIELD OFFICE, UTILITY FEES
1	LS	CONTRACTOR STAKING
XX	HR	STAKING PLAN ERRORS AND EXTRAS, ONE PERSON
XX	HR	STAKING PLAN ERRORS AND EXTRAS, TWO PERSON
1	LS	MINOR TRAF DEVICES
1	LS	TRAFFIC REGULATOR CONTROL

PUBLIC UTILITIES

NAME OF OWNER	TYPE OF UTILITY
PUBLIC LIGHTING AUTHORITY 65 CADILLAC SQUARE, SUITE 3100 DETROIT, MI 48226 MUKESH PATEL: 313.324.8290 EMAIL: mpatel@pladetroit.org	STREET LIGHTING
CITY OF DETROIT **DETROIT WATER AND SEWERAGE DEPARTMENT** 6425 HUBER DETROIT, MI 48211 EMERGENCY: 313.267.1333 EMAIL: syed.ali@detroitmi.gov SYED: 313.267.8000	WATER MAINS AND SEWERS
CITY OF DETROIT **TRAFFIC ENGINEERING DIVISION - DPW** 2633 MICHIGAN AVENUE DETROIT, MI 48207 PRASAD NANNAPANENI: 313.628.5603 FAX: 313.224.1304 EMAIL: PrasadN@detroitmi.gov MEENA ANTANI: 313.628.5640 EMAIL: antanim@detroitmi.gov	PAVEMENT MARKINGS, TRAFFIC SIGNALS, AND SIGNS
SIGN SHOP 2425 FENKELL DETROIT, MI 48238 PHONE: 313.628.2950 FAX: 313.628.4966	SIGN REMOVALS AND INSTALLATIONS
CITY OF DETROIT **DETROIT FIRE DEPARTMENT** DETROIT PUBLIC SAFETY HEADQUARTERS FIRE MARSHAL'S DIVISION & FIRE PREVENTION 1301 THIRD ST. DETROIT, MI 48226 PLAN REVIEW: 313.224.3233 CHIEF ROBINSON: 313.596.2788 EMAIL: robinsond5405@detroitmi.gov	FIRE CALL BOXES AND FIRE HYDRANTS
CITY OF DETROIT **DETROIT POLICE DEPARTMENT** DEPARTMENT OF PUBLIC SAFETY HEADQUARTERS 1301 THIRD ST. DETROIT, MI 48226 PHONE: 313.596.2520	POLICE
DTE / DETROIT EDISON 1 ENERGY PLAZA IGS GROUP, 518SB DETROIT, MI 48226 ROBIN O'CONNELL: 313.235.5632 FAX: 313.235.9366 EXPOSED OR DAMAGED FACILITIES: 313.237.9567	ELECTRIC POWER
DTE / MICHIGAN CONSOLIDATED GAS COMPANY 500 GRISWOLD ST. DETROIT, MI 48226 TIM STOIAN: 734.660.8716 EMAIL: timothy.stoian@dteenergy.com KEVIN PRICE: 313.600.1884 BARBARA SAUNDERS: 313.577.7435 FAX: 313.577.7498 EXPOSED OR DAMAGED FACILITIES: 1.800.477.4747	GAS MAINS
AT&T METRO EAST 100 S MAIN ST, SUITE 314 MT CLEMENS, MI 48043-2374 JOE SIKOSKI: 586.466.6310 **AT&T METRO WEST** 31100 PLYMOUTH RD, ROOM 301 LIVONIA, MI 48150-2104 JOHN CRISPIN: 734.523.6880 FOR ADJUSTING FRAMES & COVERS	TELEPHONE
DETROIT THERMAL, LLC 3575 E. PALMER ST. DETROIT, MI 48201 ED LAROSA: 313.921.1922 FAX: 313.921.1972 EMERGENCY: 313.963.3707	STEAM LINES
COMCAST 25626 TELEGRAPH RD. SOUTHFIELD, MI 48034 GLEN YOUNGLOVE: 248.809.2712 FAX: 248.809.2721 EMAIL: Glen_Younglove@cable.comcast.com	TV CABLES

GENERAL LEGEND

	EXISTING	PROPOSED
STORM SEWER	STM	
SANITARY SEWER	SAN	
WATER MAIN	W	
GAS MAIN	G	G
UNDERGROUND ELECTRIC LINES	UGE	UGE
UNDERGROUND TELEPHONE LINES	UGT	UGT
UNDERGROUND CABLE TELEVISION LINES	CTV	CTV
OVERHEAD LINES	OH	
PUBLIC LIGHTING LINES	PLD	
STEAM LINES	STEAM	
FENCE LINE	X	X
PROJECT PHASE LIMIT LINE		
CONCRETE CURB AND GUTTER (STANDARD)		
CONCRETE CURB AND GUTTER (REVERSED)		
THICKENED SLAB CURB/WALK		
STORM MANHOLE		
CATCH BASIN		
YARD BASIN		
INLET BASIN		
END SECTION		
ROOF/DOWN SPOUT		
OVERFLOW/OUTLET STRUCTURE		
STORM CLEAN OUT		
SANITARY MANHOLE		
SANITARY CLEAN OUT		
SANITARY RISER		
SANITARY PUMP STATION		

	EXISTING	PROPOSED
GATE VALVE		
FIRE HYDRANT		
STOP BOX AND VALVE		
FDC CONNECTION		
WATER METER		
POST INDICATOR VALVE		
WELL HEAD		
IRRIGATION CONTROL BOX		
LAWN IRRIGATION HEAD		
GAS VALVE		
GAS MANHOLE		
GAS RISER		
GAS METER		
ELECTRIC MANHOLE		
ELECTRIC RISER		
ELECTRIC METER		
ELECTRIC TRANSFORMER		
LIGHT POLE		
TELEPHONE MANHOLE		
TELEPHONE RISER		
TELEPHONE CROSS BOX		
CABLE RISER		
TRAFFIC CONTROL BOX		
AIR CONDITIONER		
PUBLIC LIGHTING MANHOLE		
UTILITY POLE		

	EXISTING	PROPOSED
GUY WIRE ANCHOR		
UTILITY FLAG		
SIGN POST		
GUARD POST/BOLLARD		
FENCE POST		
PAY PHONE		
PARKING METER		
RESIDENTIAL MAILBOX		
U.S. MAILBOX		
BLDG CORNER (FIELD LOCATED)		
TREE		
WETLAND FLAG		
SPOT ELEVATION	x150.23	XXX.XX
SOIL BORING		

ASPH.	ASPHALT
CONC.	CONCRETE
A.C.	AIR CONDITIONER
G.P.	GUARD POST
C.L.F.	CHAIN-LINK FENCE
D.L.	DOOR LEDGE
F.F.	FINISHED FLOOR
O.H.	OVERHANG
F.I.	FOUND IRON
S.I.	SET IRON
F.I.P.	FOUND IRON PIPE
M. R.	MEASURED RECORD
F.M.	FOUND MONUMENT
S.N.	SET NAIL

PRELIMINARY
NOT FOR CONSTRUCTION

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Executive:	MWM
Manager:	RMJ
Designer:	AG/JH
Quality Control:	RMJ

Professional Seal:

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

DATE:	ISSUE:
02-06-2023	30% DESIGN
02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORD LAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

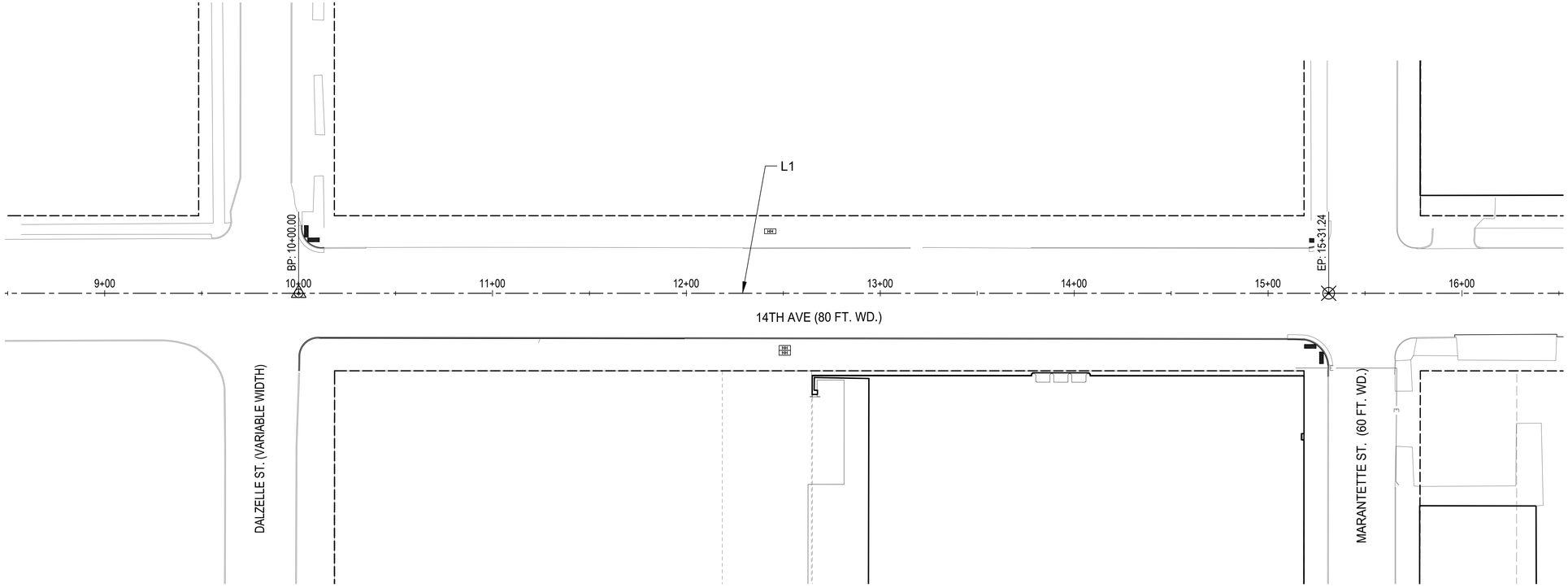
GENERAL NOTES AND LEGEND

14TH STREET STREETSCAPE
PHASE A

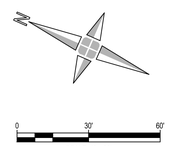
CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	NO SCALE
Sheet:	C-002
Project:	19563.15D

ROADWAY LINE DATA				
LINE #	DIRECTION	LENGTH	START	END
L1	S23°39'58"E	531.24'	N 304981.3107 E 13472489.7657	N 304494.7456 E 13472703.0098



PRELIMINARY
NOT FOR CONSTRUCTION



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Quality Control:	RMJ

Professional Seal:

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02-06-2023	30% DESIGN
02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

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DEARBORN, MI 48126-2738

ALIGNMENT

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=30'
Sheet:	C-003
Project:	19563.15D

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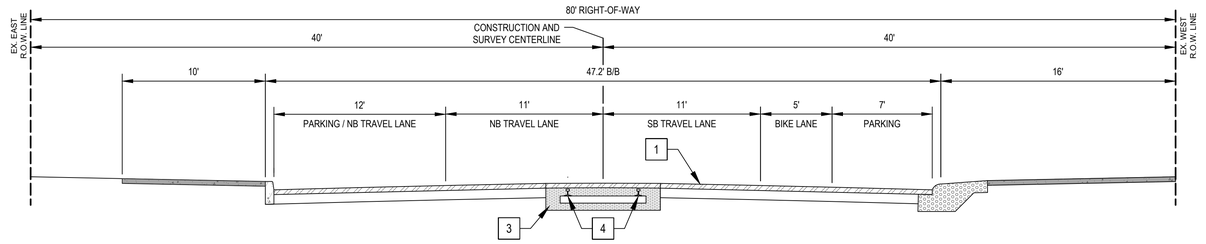
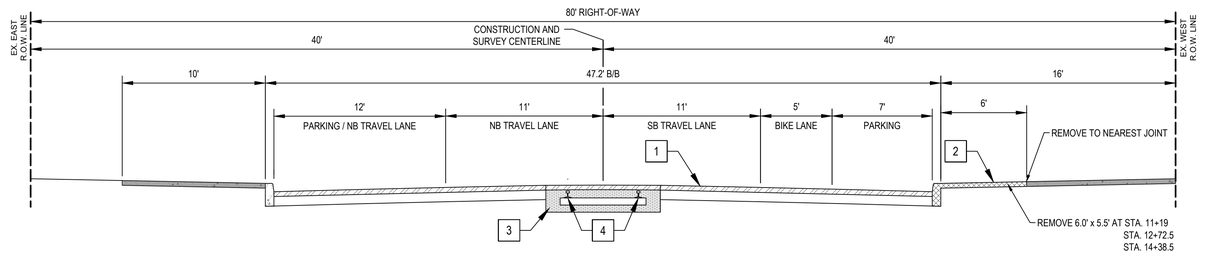
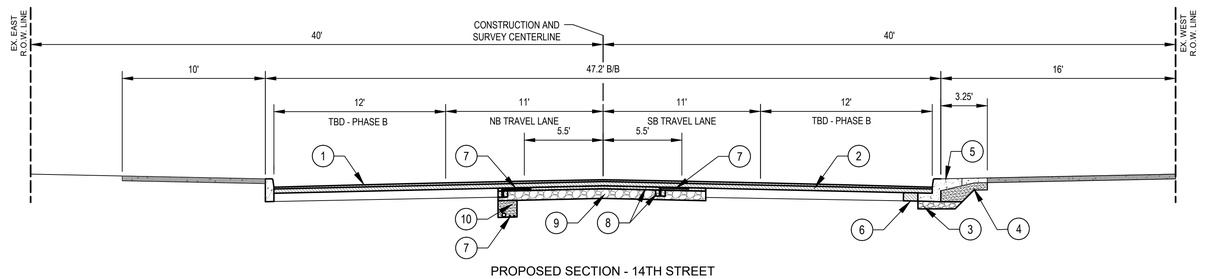


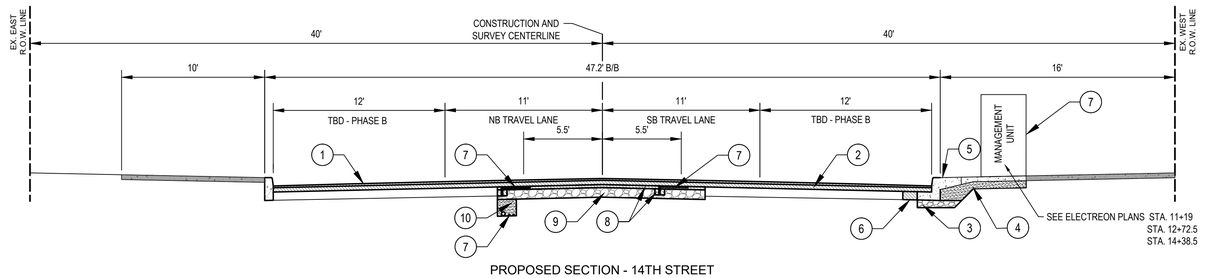
EXISTING SECTION - 14TH STREET
STA 10+15 TO STA 11+99



EXISTING SECTION - 14TH STREET
STA 11+99 TO STA 15+15



PROPOSED SECTION - 14TH STREET
STA 10+15 TO STA 11+99



PROPOSED SECTION - 14TH STREET
STA 11+99 TO STA 15+15

PRELIMINARY
NOT FOR CONSTRUCTION

No.	PAY ITEM
1	COLD MILLING HMA SURFACE
2	SIDEWALK, REM
3	N.I.C PAVT, REM
4	N.I.C TRACK, REM
5	EXCAVATION, EARTH
1	HMA, 4EML
2	HMA, 3EML
3	GRANULAR MATERIAL, CLII
4	AGGREGATE BASE, 6 INCH
5	INTEGRAL CONCRETE CURB AND SIDEWALK
6	HAND PATCHING, 4EML
7	ELECTREON SYSTEM SEE JACOBS PLANS
8	N.I.C HAND PATCHING, 4EML
9	N.I.C AGGREGATE BASE
10	N.I.C GRANULAR MATERIAL

LEGEND

- COLD MILL HMA SURFACE
- EXISTING PAVEMENT AND CURB
- CONCRETE PAVEMENT/SIDEWALK REMOVAL (INCLUDES CURB REMOVAL)
- HMA SURFACE
- CONCRETE PAVEMENT/SIDEWALK
- GRANULAR MATERIAL
- AGGREGATE BASE
- EXCAVATION, EARTH

HMA APPLICATION TABLE

ITEM	APPLICATION RATE (LBS/SYD)	PERFORMANCE GRADE	NOTES	MINIMUM AWI
HMA 4EML	165	PG 64-22	4EML TOP COURSE (1.5-INCH LIFT)	220
HMA 3EML	220	PG 64-22	3EML LEVELING COURSE (2-INCH LIFT)	-
HAND PATCHING	165	PG 64-22	4EML TOP COURSE (1.5-INCH LIFT)	220
	220	PG 64-22	3EML LEVELING COURSE (2-INCH LIFT)	-

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Quality Control:	RMJ

Professional Seal:

Know what's below. Call before you dig.

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02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORD LAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

TYPICAL CROSS SECTIONS

14TH STREET STREETSCAPE
PHASE A

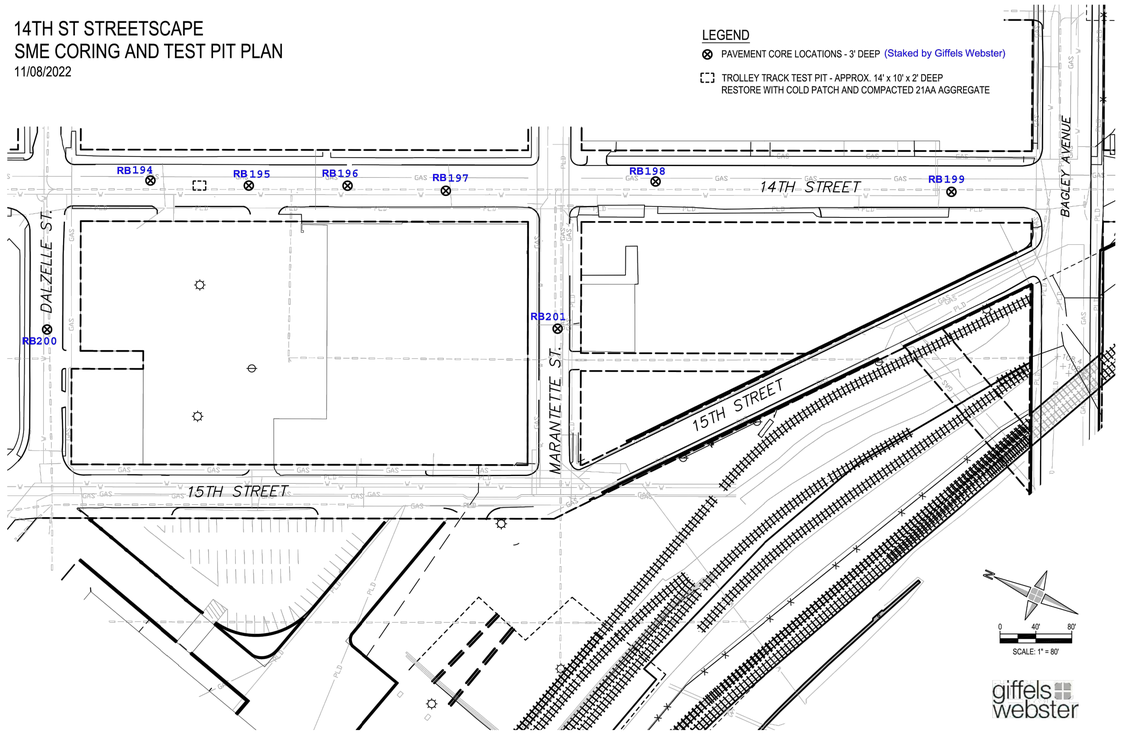
CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=5'
Sheet:	C-004
Project:	19563.15D

V:\19563.12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electreon Only\C-004 Typical Cross Sections.dwg

14TH ST STREETSCAPE
SME CORING AND TEST PIT PLAN
11/08/2022

LEGEND
- ⊗ PAVEMENT CORE LOCATIONS - 3' DEEP (Staked by Giffels Webster)
- ⬚ TROLLEY TRACK TEST PIT - APPROX. 14' x 10' x 2' DEEP RESTORE WITH COLD PATCH AND COMPACTED 21AA AGGREGATE



V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Exhibits\SME Coring Plan.dwg

SME

PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: Michigan Central Depot Streets Evaluation
PROJECT NO.: 085350.05
LOCATION: Detroit, Michigan
CLIENT: Giffels Webster Engineers, Inc.
A/E: GWE
DATE: 11/28/22
BY: ZAALM

PROBE/CORE: RB194
STREET: 14th Street
LANE: Approx. Center of Roadway
STATION:
LATTITUDE:
LONGITUDE:
GROUND ELE:

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in. From	Layer, in. To	Layer Thickness, in.	Description	Comment
0	3	3	Asphalt Concrete Pavement Wearing Course- Slight to Moderate Voids- Intact	
3	6	3	Asphalt Concrete Pavement Leveling Course- Moderate to Severe Voids- Intact	
6	12.5	6.5	Portland Cement Concrete- Slight to Severe Voids- Fractured- Agg. >1.5"	
12.5	22	9.5	FILL- Sandy LEAN CLAY with Sand- Brown- Very Stiff (CL)	@17°-(Qp-3.0 ksf)-(M.C.-18%)
22	34	12	FILL- Fine SAND with Clay- Trace Gravel & Sand- Brown- Moist (SP-SC)	
34	51	17	LEAN CLAY with Sand- Trace Gravel- Brown- Stiff (CL)	@36°-(Qp-2.0 ksf)-(M.C.-17%) @45°-(Tv-1.1 ksf)-(M.C.-18%)

Depth to Groundwater From Ground Surface
Upon Completion: None

NOTES:
1. The indicated stratification layers are approximate. In situ, the transition between materials may be gradual.
2. Refer to Photolog for additional information.
3. Boring performed at location staked by GWE unless noted otherwise.

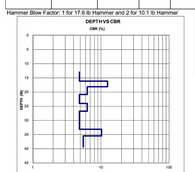
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 13 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	360	0							
3	590	80	27	1	16.1	4.9	Poor	CL	
3	590	50	17	1	18.1	12.5	Good	CL	7.8
3	660	70	23	1	20.9	6.3	Marginal	CL	
3	740	80	27	1	24.0	4.9	Poor	SC	
3	810	70	23	1	26.8	6.3	Marginal	SC	
3	890	80	27	1	29.9	4.9	Poor	SC	
3	970	80	27	1	33.1	4.9	Poor	SC	5.4
3	1030	60	20	1	35.4	10.2	Good	CL	10.2
4	1130	100	25	1	39.4	5.5	Marginal	CL	5.5

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

**Core picture shows approximate thickness

SME

PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: Michigan Central Depot Streets Evaluation
PROJECT NO.: 085350.05
LOCATION: Detroit, Michigan
CLIENT: Giffels Webster Engineers, Inc.
A/E: GWE
DATE: 11/28/22
BY: ZAALM

PROBE/CORE: RB198
STREET: 14th Street
LANE: Approx. Center of Roadway
STATION:
LATTITUDE:
LONGITUDE:
GROUND ELE:

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in. From	Layer, in. To	Layer Thickness, in.	Description	Comment
0	3	3	Asphalt Concrete Pavement Wearing Course- Slight to Moderate Voids- Vertical Cracking Underlain by 1/4-inch Thick Steel	Purpose of Steel Between Ashpalt Layers Unknown
3	8	5	Asphalt Concrete Pavement Leveling Course- Slight to Moderate Voids- Intact	
8	8.5	0.5	1/2-Inch Thick Steel - Possible Rail	
8.5	10.1	1.6	1.6-Inch Thick Timber	
10.1	10.25	0.15	Unknown- DCP Attempted below Timber	Probe Terminated at Refusal

Depth to Groundwater From Ground Surface
Upon Completion: None

NOTES:
1. The indicated stratification layers are approximate. In situ, the transition between materials may be gradual.
2. Refer to Photolog for additional information.
3. Boring performed at location staked by GWE unless noted otherwise.

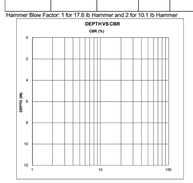
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 10.25 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	360	0		1					
100	360			1				Unknown	0

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

**Core picture shows approximate thickness

SME

PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: Michigan Central Depot Streets Evaluation
PROJECT NO.: 085350.05
LOCATION: Detroit, Michigan
CLIENT: Giffels Webster Engineers, Inc.
A/E: GWE
DATE: 11/28/22
BY: ZAALM

PROBE/CORE: RB196
STREET: 14th Street
LANE: Approx. Center of Roadway
STATION:
LATTITUDE:
LONGITUDE:
GROUND ELE:

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in. From	Layer, in. To	Layer Thickness, in.	Description	Comment
0	2	2	Asphalt Concrete Pavement Wearing Course- Slight to Moderate Voids- Delaminated and Shattered	Photo Not Provided Due to Shattered Section
2	5	3	Asphalt Concrete Pavement Leveling Course- Slight to Severe Voids- Shattered	Photo Not Provided Due to Shattered Section
5	20	15	AGGREGATE BASE- Dense-Graded CRUSHED CONCRETE	
20	30	10	FILL- LEAN CLAY with Sand- Gray- Very Stiff (CL)	@23°-(Qp-2.25 ksf)-(M.C.-17%)
30	34	4	FILL- Sandy SILT- Trace Organics- Gray & Black- Moist (ML)	
34	43	9	FILL- LEAN CLAY with Sand & Organics- Gray & Black- Very Stiff (CL)	@36°-(Qp-2.5 ksf)-(M.C.-19%)

Depth to Groundwater From Ground Surface
Upon Completion: None

NOTES:
1. The indicated stratification layers are approximate. In situ, the transition between materials may be gradual.
2. Refer to Photolog for additional information.
3. Boring performed at location staked by GWE unless noted otherwise.

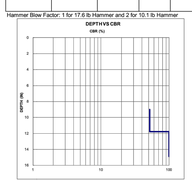
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 9 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
0	310	0		1					
15	380	70	5	1	11.8	52.0	Poor	AGG BASE	
20	410	30	2	1	12.9	100.0	Good	AGG BASE	
10	415	5	1	1	13.1	100.0	Good	AGG BASE	
20	430	15	1	1	13.7	100.0	Good	AGG BASE	
20	450	20	1	1	14.5	100.0	Good	AGG BASE	
100	460	10	0	1	14.9	100.0	Good	AGG BASE	77.6

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

**Core picture shows approximate thickness

SME

PAVEMENT CORE LOG AND USACE DCP DATA

PROJECT NAME: Michigan Central Depot Streets Evaluation
PROJECT NO.: 085350.05
LOCATION: Detroit, Michigan
CLIENT: Giffels Webster Engineers, Inc.
A/E: GWE
DATE: 11/28/22
BY: ZAALM

PROBE/CORE: RB197
STREET: 14th Street
LANE: SB
STATION:
LATTITUDE:
LONGITUDE:
GROUND ELE:

PAVEMENT AND SUBSURFACE CONDITIONS

Layer, in. From	Layer, in. To	Layer Thickness, in.	Description	Comment
0	10	10	Asphalt Concrete Pavement Wearing Course- Shattered	Photo Not Provided Due to Shattered Section
10	15	5	AGGREGATE BASE- CRUSHED LIMESTONE- Gray	
15	56	41	FILL- LEAN CLAY with Sand- Gray- Very Stiff (CL)	@17°-(Qp-3.25 ksf)-(M.C.-20%) @29°-(Qp-2.25 ksf)-(M.C.-19%) @37°-(Qp-2.5 ksf)-(M.C.-21%) @45°-(Qp-2.75 ksf)-(M.C.-18%)

Depth to Groundwater From Ground Surface
Upon Completion: None

NOTES:
1. The indicated stratification layers are approximate. In situ, the transition between materials may be gradual.
2. Refer to Photolog for additional information.
3. Boring performed at location staked by GWE unless noted otherwise.

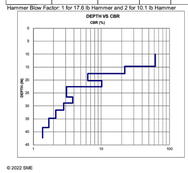
DCP TEST RESULTS

Depth to start of test from ex. ground surface: 10 inches

No. of Blows	Pen. (mm)	Blow Set (mm)	Pen./Blow (mm)	Blow Factor	Depth from Surface (inches)	CBR (%)	Comment	Soil Type	Average CBR (%)
70	350	70							
15	410	80	4	1	12.4	61.8	Marginal	AGG BASE	
15	470	60	4	1	14.7	61.8	Marginal	AGG BASE	
7	540	70	10	1	17.5	22.2	Very Poor	AGG BASE	
3	610	70	23	1	20.2	6.3	Very Poor	AGG BASE	36.2
3	670	60	20	1	22.6	10.2	Good	CL	10.2
2	730	60	30	1	25.0	5.8	Poor	CL	
2	830	60	30	1	28.9	5.8	Poor	CL	
2	900	70	35	1	31.7	2.8	Very Poor	CL	
2	980	80	40	1	34.8	2.2	Very Poor	CL	
2	1070	90	45	1	38.3	1.7	Very Poor	CL	
2	1170	100	50	1	42.3	1.4	Very Poor	CL	2.4

Hammer Blow Factor: 1 for 17.6 lb Hammer and 2 for 10.1 lb Hammer

*CBR breaklines are based on blow counts performed prior to sampling. Depths are approximate.



Support Conditions	CBR Range for Aggregate Base Materials (%)	CBR Range for Subgrade Soils (%)
Good	>80	>10
Marginal	60 to 80	5 to 10
Poor	30 to 60	3 to 5
Very Poor	<30	<3

**Core picture shows approximate thickness

PRELIMINARY
NOT FOR CONSTRUCTION

V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electroon Only\C-004 Typical Cross Sections.dwg

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f (313) 962-5068
www.giffelswebster.com

Executive:	MWM
Manager:	RMJ
Designer:	AG/JH
Quality Control:	RMJ

Professional Seal:

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

DATE:	ISSUE:
02-06-2023	30% DESIGN
02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORDLAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

SOIL BORING LOG

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	NO SCALE
Sheet:	C-005
Project:	19563.15D

DEMOLITION QUANTITIES THIS SHEET

87	SYD	SIDEWALK, REM
2692	SYD	COLD MILLING HMA SURFACE
95	FT	CURB AND GUTTER, REM
51	CYD	EXCAVATION, EARTH

DEMOLITION NOTES

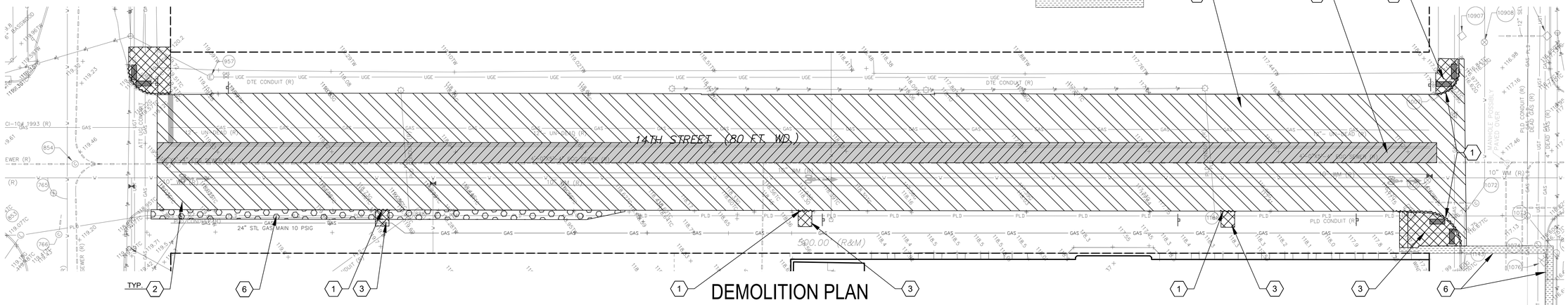
1. CURB AND GUTTER, REM
2. COLD MILLING HMA SUFRACE
3. SIDEWALK, REM
4. N.I.C TRACK, REM
5. SHOWN FOR REFERENCE, WORK DONE BY OTHERS
6. EXCAVATION, EARTH

PROTECT-IN-PLACE NOTES

1. PROTECT-IN-PLACE EXISTING UTILITY POLE
2. PROTECT-IN-PLACE EXISTING HYDRANT
3. PROTECT-IN-PLACE GAS MAIN

DEMOLITION LEGEND

- SIDEWALK, REM
- CURB AND GUTTER, REM
- COLD MILLING HMA SURFACE
- EXCAVATION, EARTH
- COLD MILLING HMA SURFACE OVER EXISTING TRACK
- REMOVALS BY OTHERS



DEMOLITION PLAN

IMPROVEMENT QUANTITIES THIS SHEET

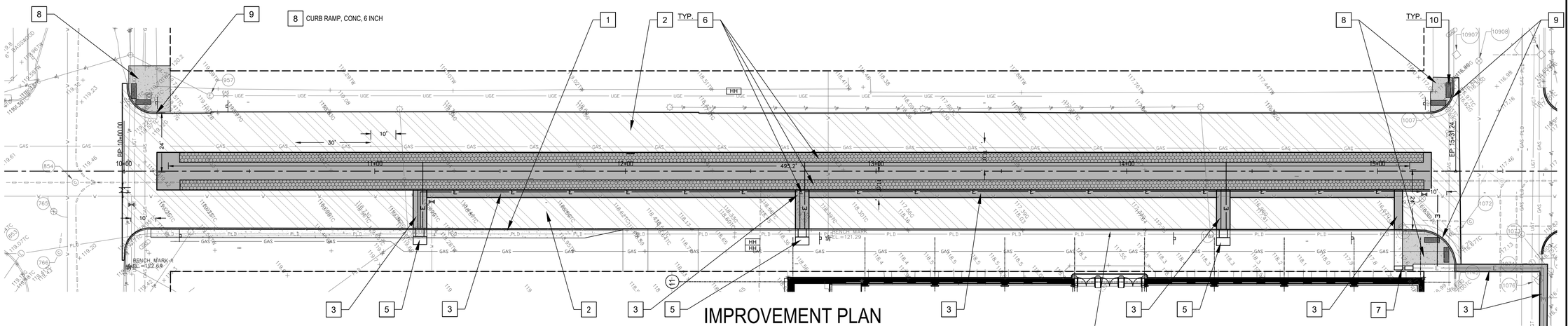
389	TON	HMA, 4EML
234	TON	HMA, 5EML
622	SFT	CURB RAMP, CONC, 6 INCH
48	FT	DETECTABLE WARNING SURFACE
95	FT	CURB RAMP OPENING, CONC
803	SFT	SIDEWALK, CONC, 4 INCH, INTEGRAL CURB

IMPROVEMENT PLAN NOTES

1. SIDEWALK, CONC, 4 INCH, INTEGRAL CURB
2. HMA - 1.5 INCH 5EML, ON 2.5 INCH 4EML.
3. UTILITY TRENCH REMOVAL AND RESTORATION PER CITY OF DETROIT STANDARDS AND SPECIFICATIONS, SEE DETAIL ON SHEET C-500.
4. CAUTION: MULTIPLE GAS MAINS AND POSSIBLE VAULT IN THIS AREA. CONTRACTOR TO FIELD VERIFY LOCATIONS PRIOR TO PAVEMENT REMOVAL AND EXCAVATION.
5. MANAGEMENT UNIT AND ELECTRICAL HANDHOLE.
6. ELECTRICAL SYSTEM IN ROAD AND ASSOCIATED ELECTRICAL CONDUITS.
7. DTE CABINET BY OTHERS.
8. CURB RAMP, CONC, 6 INCH
9. CURB RAMP OPENING, CONC
10. DETECTABLE WARNING SURFACE

IMPROVEMENT PLAN LEGEND

- MILL AND OVERLAY, 5EML 1.5 INCH ON 4EML INCH 3C
- 6" CONCRETE SIDEWALK PAVEMENT
- 4" CONCRETE SIDEWALK PAVEMENT
- ELECTRICAL SYSTEM BY OTHERS
- FULL DEPTH ASPHALT PAVEMENT REPLACEMENT
- ELECTRICAL CONDUITS
- ELECTRICAL CONDUITS BY OTHERS



IMPROVEMENT PLAN

NOTE: CONTRACTOR TO SCORE SIDEWALK 6" FROM FACE OF CURB TO PROVIDE A UNIFORM CURB JOINT

SCALE: 1" = 20'

PRELIMINARY
NOT FOR CONSTRUCTION

V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electreon Only\C-100 Demolition & Improvement Plan.dwg

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Suite 1200
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p (313) 962-4442
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www.giffelswebster.com

Executive:	MWM
Manager:	RMJ
Designer:	AG/JH
Quality Control:	RMJ

Professional Seal:

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

DATE:	ISSUE:
02-06-2023	30% DESIGN
02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORD LAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

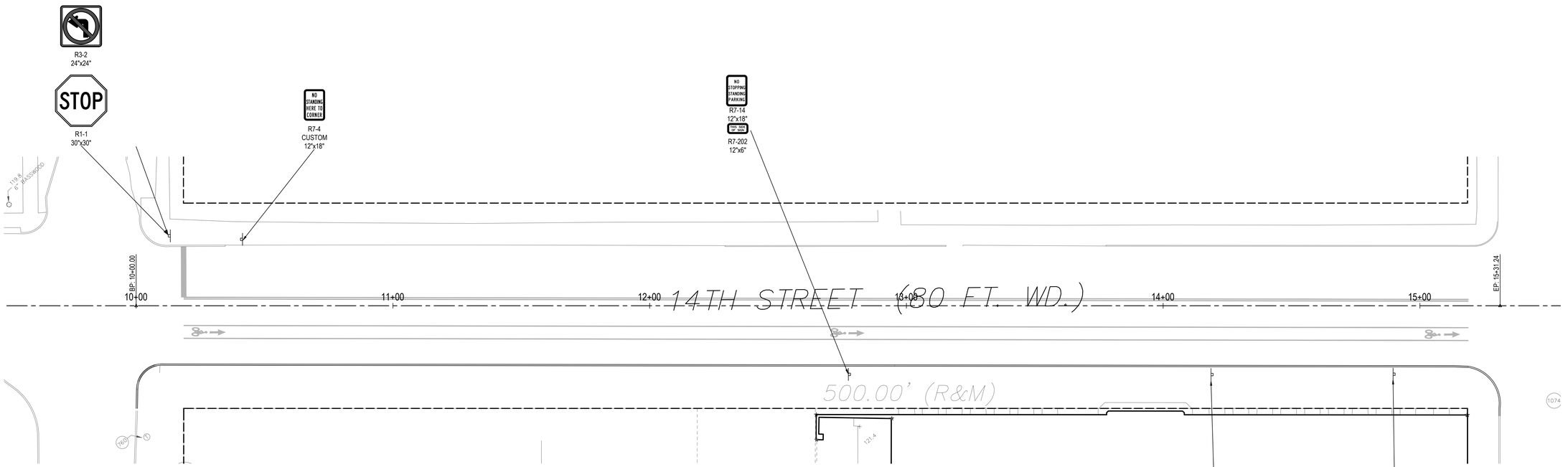
Ford

DEMOLITION & IMPROVEMENT PLAN

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=20'
Sheet:	C-100
Project:	19563.15D



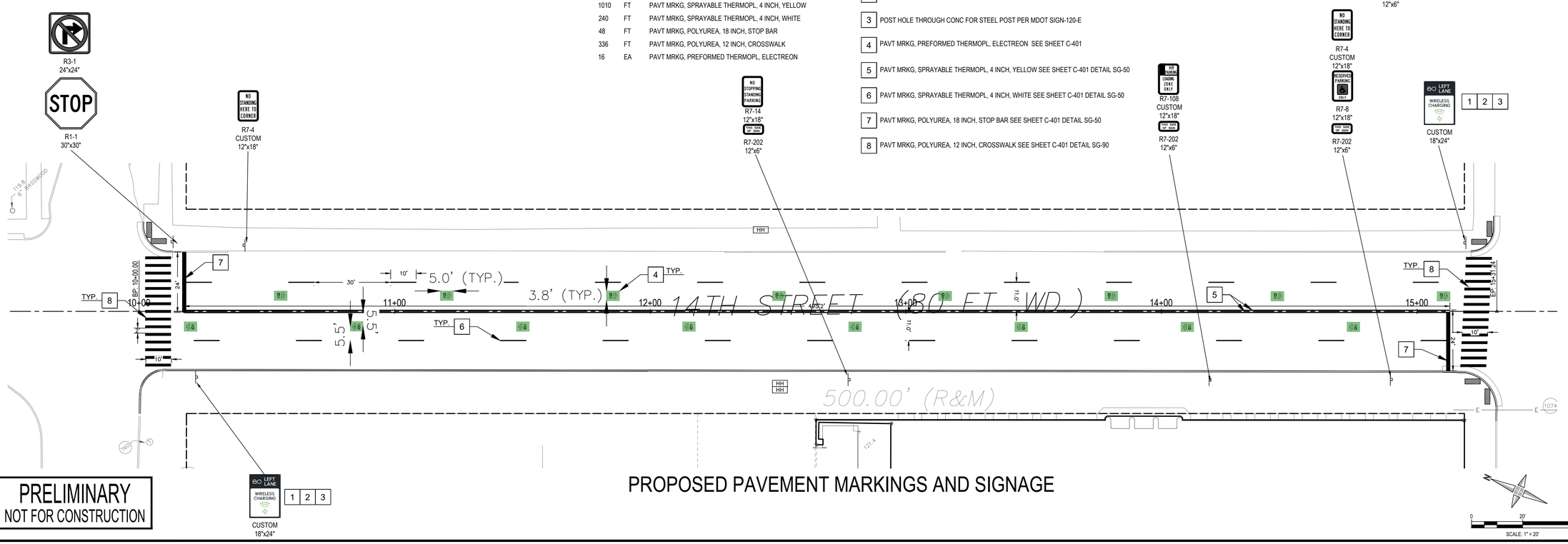
EXISTING PAVEMENT MARKING AND SIGNAGE

PROPOSED QUANTITIES THIS SHEET

6	SFT	SIGN, TYPE IIIB
30	FT	POST, STEEL, 3 LBS SQUARE TUBULAR STEEL
2	EA	POST HOLE THROUGH CONC FOR STEEL POST
1010	FT	PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, YELLOW
240	FT	PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, WHITE
48	FT	PAVT MRKG, POLYUREA, 18 INCH, STOP BAR
336	FT	PAVT MRKG, POLYUREA, 12 INCH, CROSSWALK
16	EA	PAVT MRKG, PREFORMED THERMOPL, ELECTREON

PROPOSED NOTES

1. SIGN, TYPE IIIB PER MDOT SPECIFICATION SECTION 810
2. POST, STEEL, 3 LBS SQUARE TUBULAR STEEL PER MDOT SIGN-200-D
3. POST HOLE THROUGH CONC FOR STEEL POST PER MDOT SIGN-120-E
4. PAVT MRKG, PREFORMED THERMOPL, ELECTREON SEE SHEET C-401
5. PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, YELLOW SEE SHEET C-401 DETAIL SG-50
6. PAVT MRKG, SPRAYABLE THERMOPL, 4 INCH, WHITE SEE SHEET C-401 DETAIL SG-50
7. PAVT MRKG, POLYUREA, 18 INCH, STOP BAR SEE SHEET C-401 DETAIL SG-50
8. PAVT MRKG, POLYUREA, 12 INCH, CROSSWALK SEE SHEET C-401 DETAIL SG-90



PROPOSED PAVEMENT MARKINGS AND SIGNAGE

PRELIMINARY
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SCALE: 1" = 20'

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02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

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DEARBORN, MI 48126-2738

PAVEMENT MARKING AND SIGNAGE PLAN

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=20'
Sheet:	C-200
Project:	19563.15D

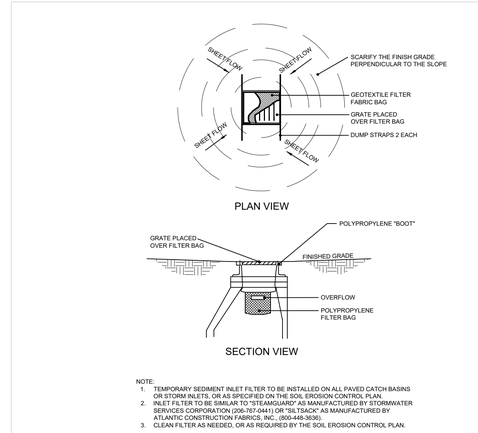
V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electreon Only\C-300 Pavement Marking & Signage Plan.dwg

STREET CLEANING SCHEDULE							
	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY (IF WORKING)
SCRAPE STREETS		X	X	X	X	X	X
SWEEP STREETS				X			

SESC LEGEND AND QUANTITIES		
DESCRIPTION	LEGEND	QUANTITY
SEDIMENT INLET FILTER		2 EACH
LIMITS OF DISTURBANCE		0.56 AC

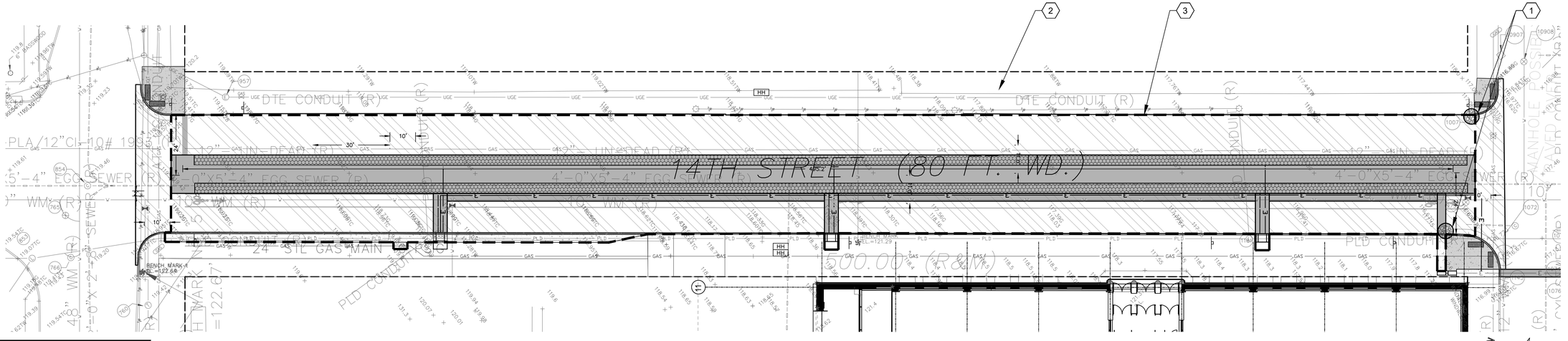
SOIL EROSION CONTROL PLAN KEY NOTES

1. PROVIDE, INSTALL, AND MAINTAIN TEMPORARY SEDIMENT INLET FILTER. SEE DETAIL ON THIS SHEET.
2. PROPOSED LIMITS OF DISTURBANCE



NOTE:
1. TEMPORARY SEDIMENT INLET FILTER TO BE INSTALLED ON ALL PAVED CATCH BASINS OR STORM INLETS, OR AS SPECIFIED ON THE SOIL EROSION CONTROL PLAN.
2. INLET FILTER TO BE SIMILAR TO "STEAMGUARD" AS MANUFACTURED BY STORMWATER SERVICES CORPORATION (206-767-0441) OR "SILTSACK" AS MANUFACTURED BY ATLANTIC CONSTRUCTION FABRICS, INC., (800-448-3636).
3. CLEAN FILTER AS NEEDED, OR AS REQUIRED BY THE SOIL EROSION CONTROL PLAN.

SEDIMENT INLET FILTER
N.T.S.



PRELIMINARY
NOT FOR CONSTRUCTION

SOIL EROSION AND SEDIMENTATION CONTROL PLAN

SCALE: 1" = 20'

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Engineers
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Detroit, MI 48226
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f (313) 962-5068
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Quality Control:	RMJ

Professional Seal:

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02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORD LAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

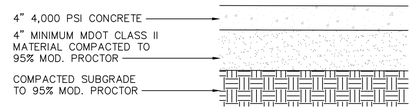
SESC NOTES AND DETAILS

14TH STREET STREETSCAPE PHASE A

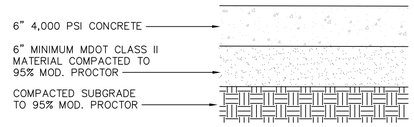
CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=20'
Sheet:	C-300
Project:	19563.15D

V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electreon Only\C-400 SESC Notes and Details.dwg



4" CONCRETE SIDEWALK



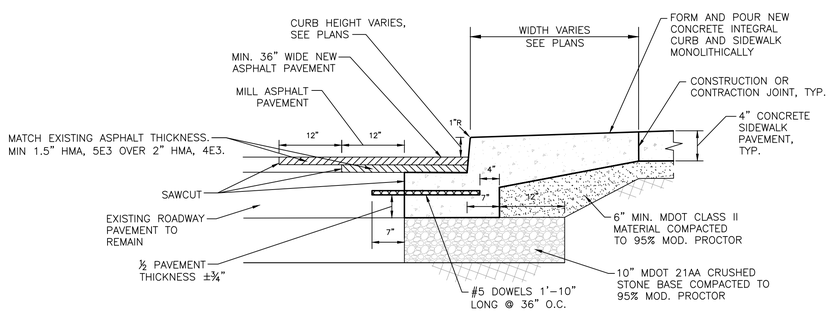
6" CONCRETE SIDEWALK

NOTE:

1. IF ANY OF THE EXISTING BASE CANNOT BE UTILIZED, IT SHALL BE REMOVED AND REPLACED WITH MDOT CLASS II MATERIAL.
2. BROOM FINISH SURFACE.
3. IF NOT INDICATED ON THE PLANS THE CONTRACTOR SHALL SUBMIT A JOINTING PLAN PRIOR TO PLACEMENT OF CONCRETE PAVEMENT.
4. SAWCUT JOINTS AS SOON AS PAVEMENT CAN SUPPORT MACHINE.
5. PLACE EXPANSION JOINT BETWEEN NEW WALKS AND EXISTING PAVEMENT AND/OR BUILDINGS.

CONCRETE SIDEWALK

NOT TO SCALE



NOTE: EPOXY COATED LANE TIES SHALL CONFORM TO SECTIONS 603 AND 914 OF THE MDOT 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

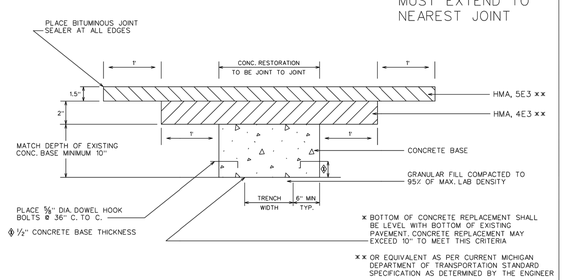
INTEGRAL CONCRETE CURB AND SIDEWALK

N.T.S.

PRELIMINARY
NOT FOR CONSTRUCTION

MAJOR STREETS:

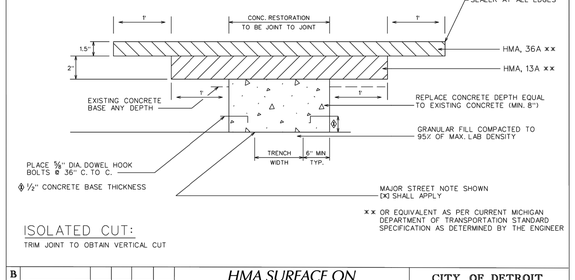
NOTE: PAVEMENT CUTS MUST EXTEND TO NEAREST JOINT



EXCEPTION:

TO ABOVE 3" HMA REPLACEMENT. WHEN PAVEMENT REPLACEMENT IS 100 FEET FROM EITHER SIDE OF UNDERPASS REPLACE 10" MIN CONCRETE BASE WITH TOP OF CONCRETE LEVEL WITH TOP OF EXISTING CONCRETE AND REPLACE HMA SECTION AS EXISTING

RESIDENTIAL STREETS:



ISOLATED CUT:

TRIM JOINT TO OBTAIN VERTICAL CUT

B					
A					
DESCRIPTION		DRWN	CHED	APPD	DATE
REVISIONS					
DRAWN BY	WLW	CHECKED	KSM		
DATE	08/29/18	APPROVED	SRB		

HMA SURFACE ON CONCRETE BASE UTILITY TRENCH CONSTRUCTION PAVEMENT RESTORATION

CITY OF DETROIT
CITY ENGINEERING DIVISION
SURVEY BUREAU

JOB NO.

DRWG. NO. 1 OF 2

CITY OF DETROIT NOTES

1. MILL (REMOVE) HMA PAVEMENT WITHIN AND BEYOND THE AREA OF TRENCH PAVEMENT REMOVAL IN ORDER TO DETERMINE LOCATION OF UNDERLYING CONCRETE BASE PAVEMENT JOINTS. MILL MINIMUM TO 1' BEYOND NEAREST CONCRETE JOINTS.
2. EXTEND UTILITY TRENCH CONCRETE PAVEMENT REMOVAL TO ALL CONCRETE PAVEMENT JOINTS AND / OR CURBS ADJACENT TO THE TRENCH AREA. REMOVAL SHALL BE "JOINT TO JOINT".
3. CONCRETE PAVEMENT CUTS SHALL BE MINIMUM 3' WIDE.
4. ALL PAVEMENT CUTS SHALL BE MINIMUM 1' WIDER THAN TRENCH WIDTH.
5. ALL REMOVALS SHALL BE SAWCUT STRAIGHT AND SQUARE (90 DEGREES).
6. CONCRETE RESTORATION PAVEMENT SHALL BE MDOT P1 MIX (3,500 PSI).
7. RESTORED CONCRETE PAVEMENT SHALL MATCH THICKNESS OF EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARDS DETAIL R-44-F.
8. RESTORED CONCRETE SHALL BE ANCHORED TO EXISTING CONCRETE PAVEMENT IN CONFORMANCE WITH MDOT STANDARD DETAIL R-44-F
9. APPLY HMA TACK COAT PER MDOT STANDARD SPECIFICATIONS SECTION 904.
10. RESTORE HMA PAVEMENT 3½" TO MATCH EXISTING, IN 2 LIFTS:
    1ST LIFT - 2" MDOT HMA 4E3 (13A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND BASE CONCRETE REPAIR.
    2ND LIFT - 1½" MDOT HMA 5E3 (36A RESIDENTIAL), COMPACTED, EXTENDED 1' BEYOND 1ST LIFT..
11. BITUMINOUS JOINT SEALER SHALL BE PLACED AT ALL FINISHED HMA JOINTS.
12. ALL DISTRUBED PAVEMENT MARKINGS AND OTHER ASSETS, INCLUDING BIKE LANE DELINEATORS, WILL HAVE TO BE REPLACED AT THE COST OF THE PERMIT HOLDER, AND SHALL CONFORM TO THE LATEST CED / TED STANDARDS.
13. FOR OTHER RELATED SPECIFICATIONS (BACKFILL COMPACTION, MATERIALS, ETC...), REFER TO DIVISION 15 OF THE STANDARD SPECIFICATIONS FOR PAVING AND RELATED CONSTRUCTION.
14. NOTIFY THE CITY OF DETROIT ENGINEERING DEPARTMENT 24 HOURS PRIOR TO STARTING CONSTRUCTION.
15. ANY OPEN EXCAVATIONS ARE TO BE STEEL PLATED. IF EXCAVATIONS ARE IN THE PAVEMENT, THE PLATES ARE TO BE SPIKED AND RAMPED WITH COLD PATCH. CONTACT THE CITY WITH LOCATION OF THE STEEL PLATE.
16. THE CITY OF DETROIT REQUIRES ALL CONCRETE WORK TO BE STAMPED WITH A CONTRACTORS IDENTIFICATION STAMP.

B					
A					
DESCRIPTION		DRWN	CHED	APPD	DATE
REVISIONS					
DRAWN BY	WLW	CHECKED	KSM		
DATE	08/29/18	APPROVED	SRB		

HMA SURFACE ON CONCRETE BASE UTILITY TRENCH CONSTRUCTION PAVEMENT RESTORATION

CITY OF DETROIT
CITY ENGINEERING DIVISION
SURVEY BUREAU

JOB NO.

DRWG. NO. 2 OF 2

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www.giffelswebster.com

Executive:	MWM
Manager:	RMJ
Designer:	AG/JH
Quality Control:	RMJ

Professional Seal:

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

DATE:	ISSUE:
02-06-2023	30% DESIGN
02-27-2023	60% DESIGN
04-05-2023	90% DESIGN
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Developed For:

FORD LAND
330 TOWN CENTER DR, SUITE 1100
DEARBORN, MI 48126-2738

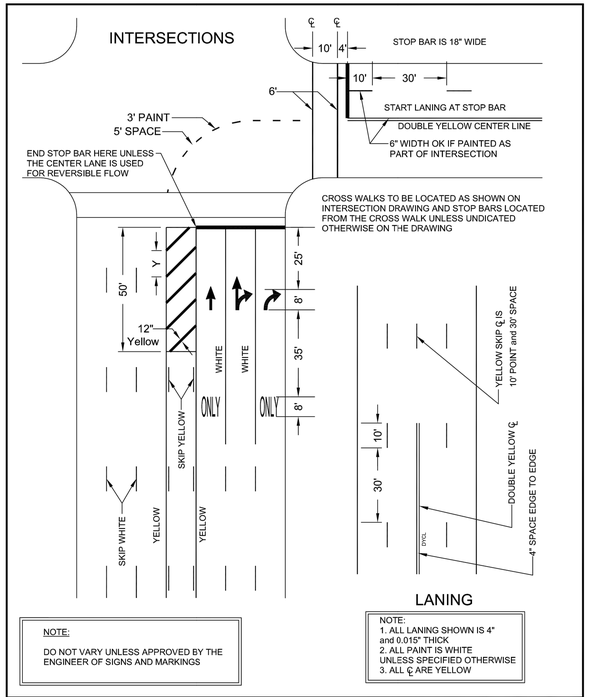
DETAILS

14TH STREET STREETSCAPE PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	NO SCALE
Sheet:	C-400
Project:	19563.15D

V:\19563-12D Michigan Central Site\Design\CAD\14th St Streetscape\Worksheets\Phase A - Electreon Only\C-500 Details.dwg

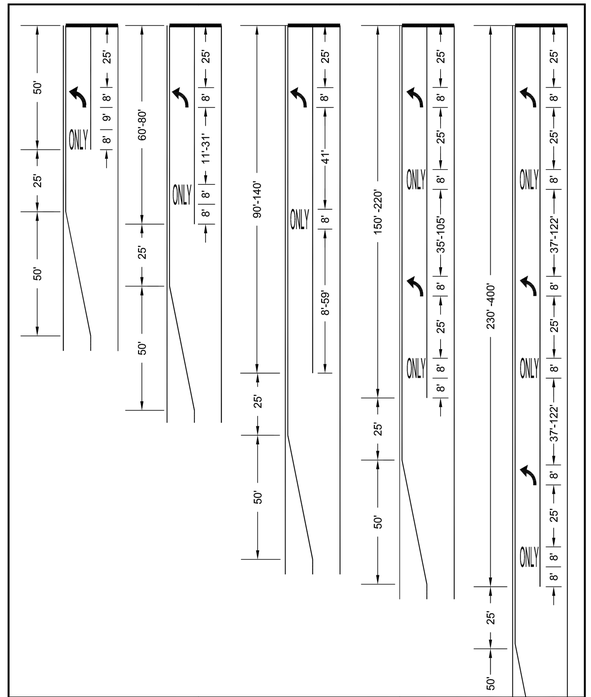


NOTE:

DO NOT VARY UNLESS APPROVED BY THE ENGINEER OF SIGNS AND MARKINGS

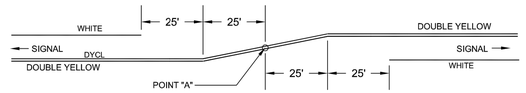
NOTE:
1. ALL LANING SHOWN IS 4" and 0.015" THICK
2. ALL PAINT IS WHITE UNLESS SPECIFIED OTHERWISE
3. ALL ℄ ARE YELLOW

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION	FIELD MARKING STANDARDS 1 of 4	DRAWN : A.D. BOLTON SCALE : 1" = 30' DATE : 04 - 07 - 2017 NO. SG-50

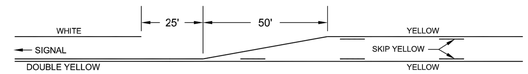


CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION	FIELD MARKING STANDARDS 2 of 4	DRAWN : A.D. BOLTON SCALE : 1" = 30' DATE : 04 - 07 - 2017 NO. SG-50

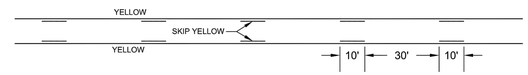
CENTER LEFT TURN LANE CROSSOVER DETAILS



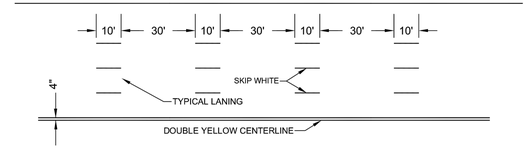
BETWEEN TWO SIGNALIZED INTERSECTIONS



BETWEEN SIGNALIZED AND NON-SIGNALIZED INTERSECTIONS

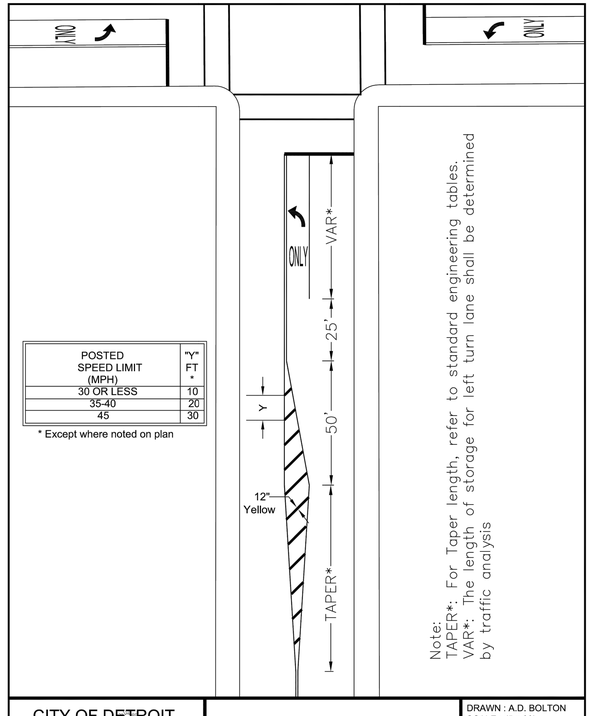


BETWEEN TWO NON-SIGNALIZED INTERSECTIONS



NOTE:
POINT "A" IS LOCATED MID - BLOCK UNLESS OTHERWISE NOTED.
ALL LANE LINES AND CENTERLINES BEGIN OR END AT INTERSECTIONAL STOP BARS UNLESS OTHERWISE NOTED.

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION	FIELD MARKING STANDARDS 3 of 4	DRAWN : A.D. BOLTON SCALE : 1" = 30' DATE : 04 - 07 - 2017 NO. SG-50

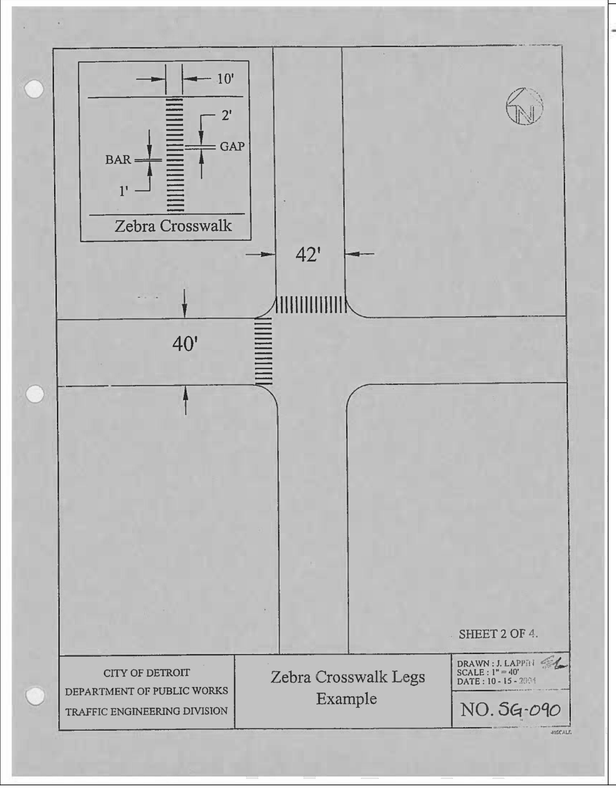


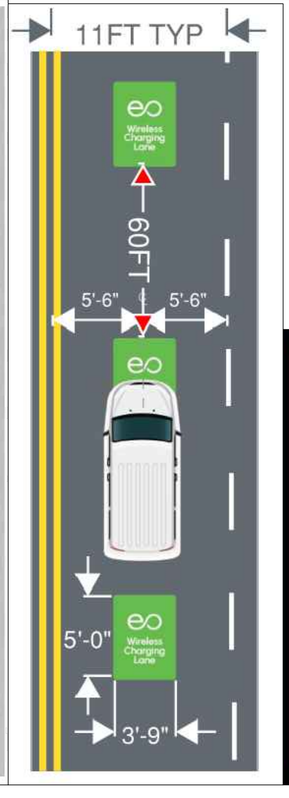
POSTED SPEED LIMIT (MPH)	"Y" FT *
30 OR LESS	10
35-40	20
45	30

* Except where noted on plan

CITY OF DETROIT DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION	FIELD MARKING STANDARDS 4 of 4	DRAWN : A.D. BOLTON SCALE : 1" = 30' DATE : 04 - 07 - 2017 NO. SG-50

PRELIMINARY
NOT FOR CONSTRUCTION





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f (313) 962-5068
www.giffelswebster.com

Executive:	MWM
Manager:	RMJ
Designer:	AG/JH
Quality Control:	RMJ

Professional Seal:

Know what's below. Call before you dig.

DATE:	ISSUE:
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DETAILS

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	NO SCALE
Sheet:	C-401
Project:	19563.15D

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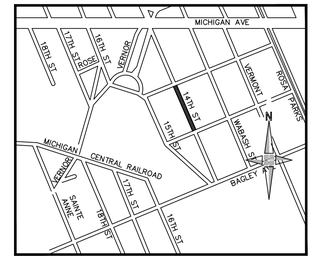


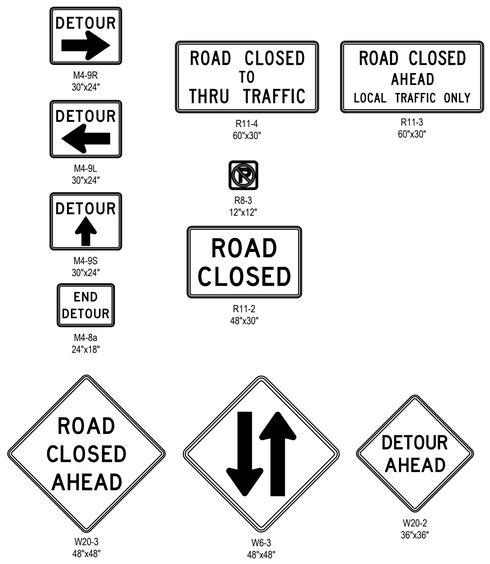
LOCATION MAP / KEY MAP
(NOT TO SCALE)

LEGEND

- DETOUR ROUTE
- BARRICADE
- TEMPORARY SIGN
- LANE CLOSURE AREA
- PLASTIC DRUM

N

0 100' 200'
SCALE: 1" = 100'



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

DATE:	ISSUE:
30% DESIGN	02-06-2023
60% DESIGN	02-27-2023
90% DESIGN	04-05-2023
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14TH ST MOT

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=100'
Sheet:	T-100
Project:	19563.15D

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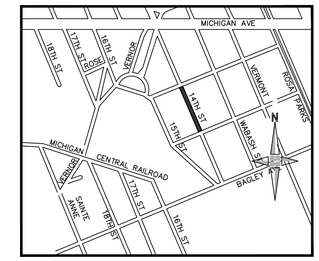
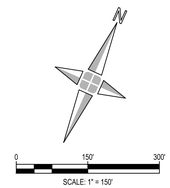
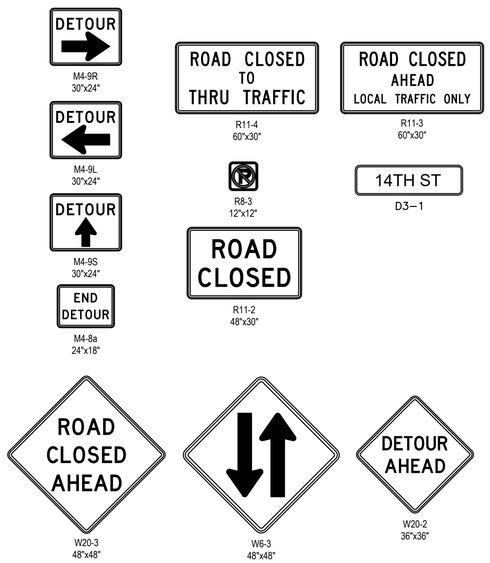


LOCATION MAP / KEY MAP
(NOT TO SCALE)

LEGEND

- DETOUR ROUTE
- BARRICADE
- TEMPORARY SIGN
- LANE CLOSURE AREA
- PLASTIC DRUM





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Professional Seal:

Know what's below. Call before you dig.

DATE:	ISSUE:
30% DESIGN	02-06-2023
60% DESIGN	02-24-2023
90% DESIGN	04-05-2023
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14TH ST MOT

14TH STREET STREETSCAPE
PHASE A

CITY OF DETROIT
WAYNE COUNTY
MICHIGAN

Date:	04.05.2023
Scale:	1"=150'
Sheet:	T-101
Project:	19563.15D

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THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

PHYSICAL ROAD NUMBER (PR#) & MILEPOST (MP) DATA ARE FROM MICHIGAN GEOGRAPHIC FRAMEWORK VERSION # .

MICHIGAN DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH

MICHIGAN CENTRAL AND THE CITY OF DETROIT

INDUCTIVE VEHICLE CHARGING PILOT

14TH STREET STREETSCAPE - PHASE A

PLAN 2

CITY OF DETROIT

WAYNE COUNTY

	TRAFFIC DATA			SPEED DATA	
ROAD	YEAR	ADT	COMM	DESIGN	POSTED
14TH STREET	2021	700	5%	30 MPH	30 MPH

GENERAL PROVISIONS

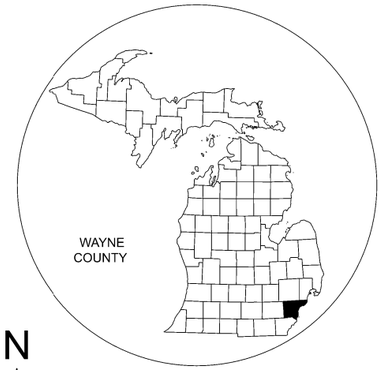
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPROVED PLANS, THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MAINTENANCE OF TRAFFIC PLAN AND AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, 2018 EDITION.

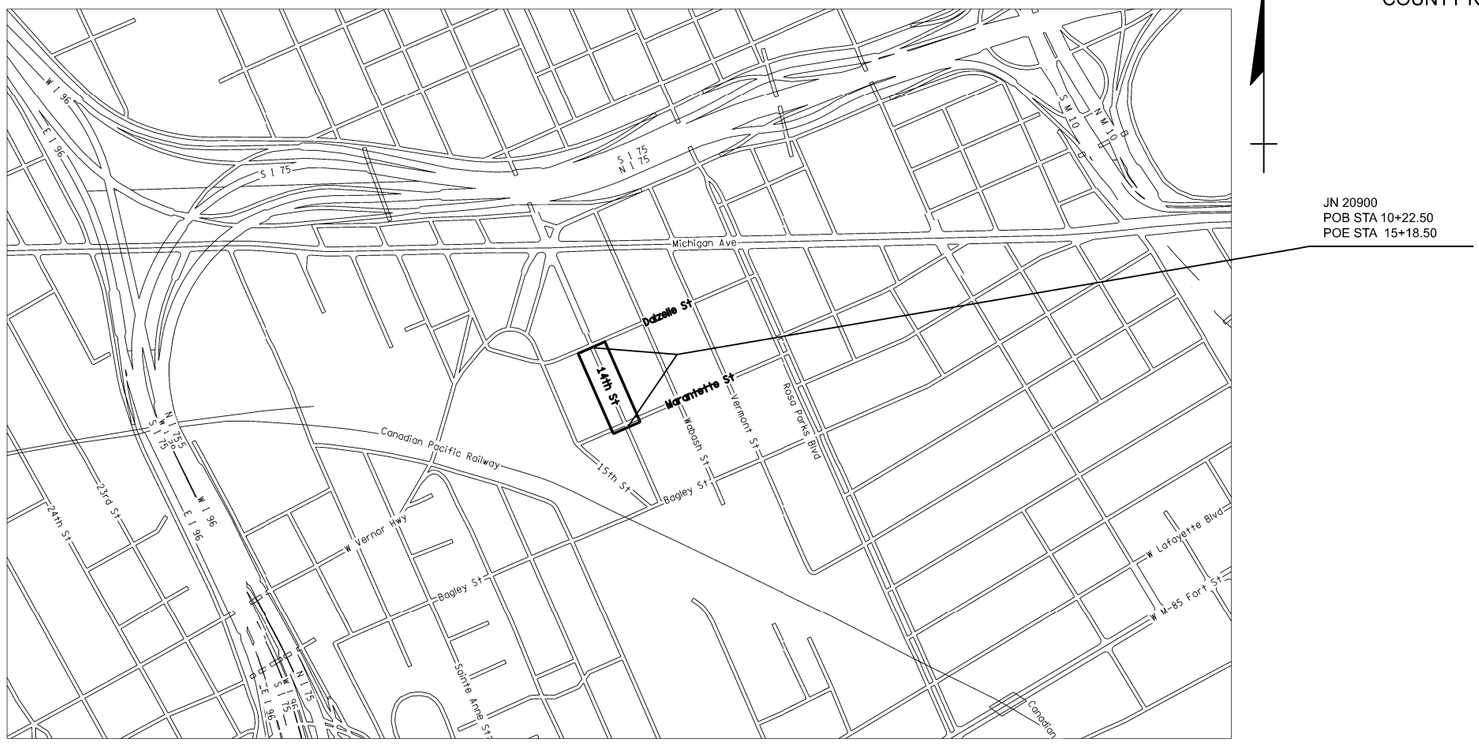
UTILITY STATEMENT

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY, INFORMATION AND EXISTING DRAWINGS. tHE SURVEYOR MAKES NO GUARANTEES THAT TEH UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA. EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURHTER DOE NOT WARRENT THAT THE UNDGERGROUND UTILITIES SHOWN ARE TEH EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE.

(R) = UTILITY SHOWN FROM RECORDS OR PLANS, & FIELD LOCATED WHERE POSSIBLE.



COUNTY KEY



LOCATION MAP

NO SCALE

90% REVIEW SET

MICHIGAN
DEPARTMENT OF TRANSPORTATION

BRAD WIEFERICH, P.E. - ACTING DIRECTOR

MILES:

CONTRACT FOR:

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon

MDOT Michigan Department of Transportation

NO SCALE

	DATE: APRIL 2023	CS:	TITLE SHEET
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT
FILE: 20900_TITLE_001.dgn	TSC: 213305		14TH STREET STREETSCAPE PHASE A - PLAN 2

DRAWING	SHEET
14TH ST TITLE 001	SECT 1 / 1

PUBLIC UTILITIES

The existing utilities listed below and shown on these plans represent the best information available as obtained on our surveys. This information does not relieve the contractor of the responsibility to be satisfied as to it's accuracy and the location of existing utilities.

Name Of Owner	Type Of Utility
Public Lighting Authority of Detroit Attention: Mukesh Patel 65 Cadillac Square, Suite 3100 Detroit, MI 48226 Phone: 313.324.8290 Email: mpatel@pladetroit.org	Street Lighting
City of Detroit Detroit Water & Sewerage Department 6425 Huber Detroit, MI 48211 Syed Ali: 313.267.8309 Email: syed.ali@detroitmi.gov Emergency: 313.267.1333	Water Mains & Sewers
City of Detroit **Traffic Engineering Division – DPW** Attention: Prasad Nannapaneni 2633 Michigan Avenue Detroit, MI 48207 Phone: 313.628.5603 Fax: 313.224.1304 Email: prasadn@detroitmi.gov Meena Antani: 313.628.5640 Email: antanim@detroitmi.gov	Pavement Markings, Signs &Traffic Signals
Sign Shop 2425 Fenkell Detroit, MI 48238 Phone: 313.628.2950 Fax: 313.628.4966	Sign Removals and Installations
City of Detroit **Detroit Fire Department** Detroit Public Safety Headquarters Fire Marshal's Division & Fire Prevention 1301 Third St. Detroit, MI 48226 Plan Review: 313.224.3233 Chief Robinson: 313.596.2788 Fax: 313.224.4128	Fire Call Boxes & Fire Hydrants
City of Detroit **Detroit Police Department** Department of Public Safety Headquarters 1301 Third Street Detroit, MI 48226 Phone: 313.596.2520	Police
DTE / Detroit Edison Attention: Robin O'Connell 1 Energy Plaza IGS Group, 518SB Detroit, MI 48226 Phone: 313.235.5632 Fax: 313.235.9366 Phone: 313.237.9567	Electric power

Name Of Owner	Type Of Utility
DTE / Michigan Consolidated Gas Company Attention: Tim Stoian 500 Griswold Sr Detroit, MI 48226 Phone: 734.660.8716 Email: timothy.stoian@dteenrgy.com Kevin Price: 313.600.1884 Barbara Saunders: 313.577.7435 Fax: 313.577.7498 Phone: 1.800.477.4747	Gas Mains
AT&T Metro East Attention: Joe Sikoski 100 S Main St, Suite 314 Mt. Clemens, MI 48043-2374 Phone: 586.466.6310	Telephone
AT&T Metro West Attention: John Crispin 31100 Plymouth Rd, Room 301 Livonia, MI 48150-2104 Phone: 734.523.6880	For Adjusting Frames and Covers
Detroit Thermal LLC Attention: Ed LaRosa 3575 E Palmer St Detroit, MI 48201 Phone: 313.921.1922 Fax: 313.921.1972 Emergencies: 313.963.3707	Steam Lines
Comcast Cablevision Attention: Glen Younglove 25626 Telegraph Rd Southfield, MI 48034 Phone: 248.809.2712 Fax: 248.809.2721 Email: Glen_Younglove@cable.comcast.com	TV Cables

SHEET INDEX

SURVEY

GENERAL

- ALIGNMENT POINT MONUMENT
- MONUMENT BOX

CONTROL

- CP CONTROL POINT
- BM BENCHMARK
- REFERENCE - GPS
- REFERENCE - NGS
- REFERENCE - USGS

BOUNDARY

- CITY LIMIT - MAP
- CITY LIMIT
- PARCEL-L — PARCEL - LEGAL
- PARCEL-NL — PARCEL - NON-LEGAL
- PLAT-L — PLAT - LEGAL
- PLAT-NL — PLAT - NON-LEGAL
- ROW - FREE ACCESS
- ROW - LIMITED ACCESS
- SEC — SECTION LINE
- SEC 1/4 — SECTION LINE - QUARTER
- SEC 1/8 — SECTION LINE - EIGHTH
- SEC 1/16 — SECTION LINE - SIXTEENTH
- TOWNSHIP LINE (MAP)
- CONCRETE MONUMENT
- CONTIGUOUS PROPERTY SYMBOL
- PC PARCEL CORNER - CAPPED IRON
- PARCEL CORNER - IRON PIN
- PARCEL CORNER - IRON PIPE
- PARCEL CORNER - NO ID
- 123456 PARCEL NUMBER BOX
- PLAT CORNER
- PROPERTY OWNERSHIP ARROW
- PROPERTY OWNERSHIP ARROW - DOUBLE
- ROW ROW MONUMENT
- SECTION CORNER - CENTER
- SECTION CORNER - MEANDER
- SECTION CORNER - QUARTER
- SECTION CORNER - QUARTER-HALF
- SECTION CORNER - SECTION
- SECTION CORNER - SECTION-HALF
- SECTION CORNER - SIXTEENTH
- SECTION CORNER - WITNESS

MONUMENT PRESERVATION

- PRESERVE — PRESERVE MONUMENT
- PROTECT — PROTECT MONUMENT

GENERAL LABELING

GENERAL

- LEFT TURN ARROW
- RIGHT TURN ARROW
- TRAFFIC FLOW ARROW

REMOVAL

- A — ABANDON
- B — BULKHEAD
- C — CLEARING
- R — REMOVE
- SALV — SALVAGE
- S — SAVE

CONSTRUCTION

- ADJ — ADJUST
- ADJ-B — ADJUST - STRUC COVER WITH TYPE
- ADJ-B/O — ADJUST - BY OTHERS

REMOVAL AND CONSTRUCTION

- REL-1 — RELOCATE - WITH CASE NUMBER
- REL-B/O — RELOCATE - BY OTHERS

CONSTRUCTION LIMITS

- SSL — SSL — SLOPE STAKE LINE

BORINGS

- BH# — BORING

STRUCTURES

- BEAM UNDERCLEARANCE
- REFERENCE POINT
- S01 OF 12345 — STRUCTURE NO. + CONTROL SEC. LABEL

VEGETATION

- BRUSH LINE
- HEDGE LINE
- TREE LINE - CANOPY OR TRUNK
- TREE LINE - TRUNK (TRUNK LINE)
- SHRUB
- TREE - CONIFER
- TREE - DECIDUOUS
- TREE - STUMP

ENVIRONMENTAL

- 26 — EROSION CONTROL - SILT FENCE
- WETLAND - LEGAL
- WETLAND - NON-LEGAL
- CONTAMINATION - MONITORING WELL
- 12 — EROSION CONTROL NUMBER
- EROSION CONTROL - RIPRAP
- W.T. 12' — WATER TABLE - PLAN NOTE
- WETLAND - SPOT EL
- POTENTIALLY CONTAMINATED SITE

ROADSIDE / SITE

- ANTENNA
- BIG ROCK
- FLAG POLE
- PICNIC STOVE
- PICNIC TABLE
- SATELLITE DISH

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS ON SITE PLAN.

PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS ON SITE PLAN.

RAILROAD

- TRACK
- CROSSING - GATE
- RR CROSSING - SIGNAL BOX
- CROSSING - SIGNAL FLASHING
- CROSSING - SYMBOL

SIGNS

- POST - DOUBLE
- POST - SINGLE
- STRUCTURE - CANTILEVER (EXISTING)
- STRUCTURE - CANTILEVER
- STRUCTURE - TRUSS (EXISTING)
- STRUCTURE - TRUSS
- SUSPENDED (EXISTING)

ELECTRICAL

- CONTROLLER CABINET - PAD MOUNTED
- HH HANDHOLE
- MH MANHOLE
- POLE UTILITY - EXISTING
- POLE UTILITY
- 7 TRANSFORMER - PAD MOUNTED
- 7 TRANSFORMER - POLE MOUNTED
- E — CABLE
- E — CABLE - TO BE REMOVED
- E-OH — CABLE OVERHEAD
- E-OH — CABLE OVERHEAD - TO BE REMOVED
- E — CABLE IN CONDUIT
- E — CABLE IN CONDUIT - TO BE REMOVED
- CABLE IN CONDUIT - DIRECTIONAL BORE

TYPICAL SECTION

- CONCRETE - PROPOSED
- HMA - PROPOSED

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon

MDOT Michigan Department of Transportation

NO SCALE

FILE: 20900_LEGEND_001.DGN

DATE: APRIL 2023

DESIGN UNIT:

TSC: 213305

CS:

JN:

LEGEND

INDUCTIVE VEHICLE CHARGING PILOT

14TH STREET STREETSCAPE PHASE A - PLAN 2

DRAWING	SHEET
14TH ST. LEGEND 001	SECT 1 3

UTILITIES

COMBINED SEWER

- COMBINED SEWER
- COMBINED SEWER - OUT OF SERVICE
- COMBINED SEWER - TO BE TAKEN OUT OF SERVICE
- COMBINED SEWER - TO BE REMOVED

SANITARY SEWER

- MANHOLE WITH COVER (DIA VARIES)
- SEWER
- SEWER - OUT OF SERVICE
- SEWER - TO BE TAKEN OUT OF SERVICE
- SEWER - TO BE REMOVED

COMMUNICATION

- FIBER OPTIC
- FIBER OPTIC - OUT OF SERVICE
- FIBER OPTIC - OVERHEAD
- FIBER OPTIC MARKER
- CABLE
- CABLE - OUT OF SERVICE
- CABLE - OVERHEAD
- CABLE MARKER
- CABLE PEDESTAL
- TELEPHONE
- TELEPHONE - OUT OF SERVICE
- TELEPHONE - OVERHEAD
- TELEPHONE BOX
- TELEPHONE MANHOLE
- TELEPHONE PEDESTAL

WATER

- FIRE HYDRANT
- GATE VALVE AND BOX
- GATE VALVE IN WELL
- IRRIGATION CONTROL VALVE
- IRRIGATION SPRINKLER HEAD
- SERVICE METER
- SERVICE SHUTOFF
- WATER WELL
- IRRIGATION
- WATER MAIN
- WATER MAIN - OUT OF SERVICE
- WATER MAIN - TO BE TAKEN OUT OF SERVICE
- WATER MAIN - TO BE REMOVED

FUEL / PETROLEUM

- GASOLINE FILLER PIPE
- GASOLINE PUMP
- GASOLINE UNDERGROUND TANK
- PETROLEUM PIPELINE
- PETROLEUM PIPELINE - OUT OF SERVICE
- PETROLEUM PIPELINE MARKER
- PETROLEUM WELL
- PROPANE TANK

STEAM

- STEAM
- STEAM - OUT OF SERVICE

NATURAL GAS

- GAS LINE
- GAS LINE - OUT OF SERVICE
- MARKER
- VALVE
- WELL

GENERIC EXISTING UTILITIES

- CATCH BASIN COVER
- MANHOLE COVER
- MARKER
- PEDESTAL
- SEWER CLEANOUT ACCESS
- STRUCTURE BOTTOM (DIA VARIES)
- UTILITY BOX
- UTILITY

DRAINAGE

- CATCH BASIN W/ COVER (DIA VARIES)
- DRAINAGE STRUCTURE NUMBER (12)
- DRAIN CASTING
- DROP INLET
- END SECTION (SIZE VARIES)
- FLOW DIRECTION ARROW
- HEADWALL (SIZE VARIES)
- MANHOLE W/ COVER (DIA VARIES)
- MANHOLE BASE W/ COVER (SIZE VARIES)
- MANHOLE TEE W/ COVER (SIZE VARIES)
- OUTLET HEADWALL (SIZE VARIES)
- CULVERT - EXISTING
- CULVERT (SIZE VARIES)
- DITCH CENTERLINE
- STORM SEWER - EXISTING
- STORM SEWER
- STORM SEWER - TO BE REMOVED
- UNDERDRAIN
- WATER EDGE

NOTE:

EXISTING ITEMS ARE REPRESENTED BY THIN LINE WEIGHTS ON SITE PLAN.

PROPOSED ITEMS ARE REPRESENTED BY HEAVIER LINE WEIGHTS ON SITE PLAN.

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
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MDOT Michigan Department of Transportation

NO SCALE

	DATE: APRIL 2023	CS:	LEGEND
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT
FILE: 20900_LEGEND_001.DGN	TSC: 213305		14TH STREET STREETSCAPE PHASE A - PLAN 2

DRAWING	SHEET
14TH ST LEGEND 002	SECT 1 4

GENERAL NOTES & SPECIFICATIONS

UTILITIES

MISS DIG/UNDERGROUND UTILITY NOTIFICATION
Contact MISS DIG System, Inc. for the protection of underground utilities and in conformance with MCL 460.721 et seq, by phone at 811 or 800-482-7171 or via the web at missdig811.org, a minimum of 3 working days prior to excavating, excluding weekends and holidays.

SURVEY

PRESERVATION OF BOUNDARY MONUMENTS
Preserve all corners within the project limits, whether shown or not. Adjust monument boxes as required.

PROJECT SPECIFIC NOTES

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

DESCRIPTION
The work consists of mixing and placing Controlled Low Strength Material (CLSM) without slag at the locations shown on the Contract Drawings or where ordered by the Engineer.

MATERIALS

A. General

CLSM shall be a mixture of portland cement, aggregate, fly ash, water, and admixtures that forms a workable, flowable slurry mix that is non-segregating, self-consolidating, and nonshrink with a compressive strength of at least 750 PSI to 1000 PSI at 28 days in accordance with ASTM D4832. Prepare CLSM in accordance with ASTM C94. The use of slag and recycled materials shall not be permitted.

1. Processed Aggregate: ASTM C33/33M, 100 percent passing 3/8inch sieve; 75 percent to 100 percent passing No. 4 sieve; 12 percent to 50 percent passing No. 30 sieve; 5 percent to 20 percent passing No. 100 sieve; and under 10 percent nonplastic fines.
2. Soluble sulfate shall be under 0.3 percent.
3. Up to 300 Pounds per Cubic Yard Fly Ash (Pozzolan): ASTM C618, Class C.
4. Water: Clean, potable, containing less than 500 ppm of chlorides.
5. Submit for approval prior to use, a complete mix design. The minimum submittal contents shall include but is not limited to the following.
   A. Mix summary showing volume and weight per cubic yard for each proposed constituent.
   B. Design 28-day compressive strength, slump, air content, water-cement ratio and density.
   C. Certified test results from an Independent Testing Agency for: Cement, supplementary cementitious materials, and aggregates that document the proposed materials meet the required ASTM standards.
   D. Combined aggregate gradation by sieve.
   E. Manufacturer's datasheets for each proposed admixture.
   F. Letter from the admixture manufacturer that the proposed admixtures are compatible.
   G. Additional documentation and testing materials required by the Engineer.

Batching equipment shall be accurate and demonstrate components remain within plus or minus 2 percent of design mix. Volumetric batching may be used if it provides same weight accuracy. Design and operate mixers so discharged CLSM have same consistency through each batch and so temperature stays between 50 degrees F and 90 degrees F. Do not add water after batching. Batch to placement time shall not exceed 120 minutes.

B. Tests and Control Methods

Contractor shall provide the mix design for review and certification from an approved testing laboratory that the CLSM will have a 28-day compressive strength between 750 PSI and 1000 PSI shall be furnished by the Contractor and provided to the Engineer prior to delivery of any materials.

The CLSM shall have a minimum diameter spread of 8 in. as determined by the following procedure to be performed by the Engineer:

- Fill a hollow plastic or metal cylinder 8 in. in length and 3 in. inside diameter with the CLSM and strike off the surface. Raise the flow cylinder in a continuous motion without rotation.
- Immediately measure the spread of the CLSM along two diameters which are perpendicular to each other.

The Contractor shall cast four (4) specimens (cylinders) for each batch in accordance and deliver them to an approved Material Testing Laboratory within seven days of the pour date for evaluation.

For each 50 Cubic Yard or portion thereof, the following Field Testing shall be performed to confirm the material conformance with the approved design mix:

ASTM D 6023	Unit Weight, Yield Cement Content & Air Content
ASTM D 5971	Sampling Freshly Mixed CLSM
ASTM D 4832	Preparation and Testing of CLSM
ASTM D 6103	Flow Consistency of CLSM

Prior to proceeding with subsequent construction operations, either one of the following Field Tests shall be performed on the surface of the in-place CLSM to estimate its surface bearing value and its suitability for load application.

ASTM D 6024	Ball Drop on CLSM
ASTM D 3441	Cone and Friction Cone Penetration Tests

A minimum of three (3) tests shall be performed for each 200 Square Feet or portion thereof, and evaluated against the following criteria:

ASTM D 6024 — Inspect the indentations for visible water or sheen brought to the surface by the dropping action of the ball.

If the diameter of the indentation is equal or less than 3 inches, than the CLSM is suitable for load application, provided that:

a. The surface looks similar to that before the test with the exception of the indentation, and;
b. There is no visible surface water or sheen visible in the indentation.

ASTM D 3441 — The average value of the three (3) tests shall be not less than Four (4) Tons/Square Foot. The minimum value per individual test shall not be less than Three (3) Tons/Square Foot.

CONSTRUCTION DETAILS

A. General

The Contractor shall provide all equipment for this work subject to approval of the Engineer. Mix the materials at a stationary mixing plant which is either a continuous or a batch type plant, designed to accurately proportion either by volume or by weight, so that when the materials are incorporated in the mix, a thorough and uniform mix will result.

The mix may be transported in open haul units provided the material is placed within 30 minutes of the end of mixing. Use a rotating drum unit capable of 2 - 6 rpm to transport material that cannot be placed within 30 minutes after the end of mixing. In cases where placement cannot take place within 30 minutes from the end of mixing, the material shall be transported in a rotating drum capable of 2 – 6 rpm.

Provide a mixer capable of mixing CLSM that has the specified compressive strength and flow consistency. Mix all components so as to produce a uniform product. For work involving CLSM quantities of less than two (2) cubic yards, the Engineer may permit the Contractor to use a small construction mixer.

Narrower trench widths can be employed when using CLSM due to the self-compacting properties of the material. Construction personnel and equipment are not required to be in the trench for compaction operations.

For installations that require construction personnel to temporarily occupy the trench, the Contractor shall follow all OSHA requirements.

B. Fill and backfill at structures, culverts, pipes, conduits and direct burial cables.

The Contractor shall place the CLSM using a method approved by the Engineer, in accordance with the appropriate MDOT guidance on the

use of CLSM as backfill material.

When placing CLSM for pipe backfill, discharge the material onto the

top of the pipe at the center.

Do not place CLSM in contact with aluminum pipe, including connections, fixtures, etc., unless the aluminum has been coated with an approved primer.

MEASUREMENT

The quantity to be measured for payment shall be the number of cubic yards of satisfactorily placed CLSM computed between the payment lines shown on the Contract Documents or from payment lines

established in writing by the Engineer.

Cross sectioning, for the purpose of determining quantities for payment, shall be employed only where payment lines are not shown on the Contract Drawings, and cannot be reasonably established by the Engineer.

PRICE TO COVER

The unit price bid per cubic yard of CLSM shall include the costs of furnishing all labor, materials, equipment, insurance, and incidentals necessary to complete the work, except where specific costs are designated or included in another pay item of work. The unit price also includes any temporary supports for the exposed utilities which will be encapsulated in the CLSM.

Payment will be made under:

Item	Pay Unit
CONTROLLED LOW STRENGTH MATERIAL	C.Y.

SEQUENCE OF CONSTRUCTION

STEP 1 – SITE PREPARATION
A. Contractor shall remove existing pavement as directed in the plans.
B. Contractor shall install all conduits per plans and as directed by the Engineer.
C. Contractor shall ensure all conduits have a temporary cap on both ends.
D. Contractor shall install Management Unit (MU) and APFC base slabs per drawings and specifications.
E. Contractor shall install aggregate base for pavement section.
F. Contractor shall pave a 2.5in leveling course layer of asphalt as per the specifications. The leveling course shall extend the width of the full depth pavement removal section.

STEP 2 – CABINET INSTALLATION (APFC AND MU)
Electreon will be on site to assist and guide contractor.
A. Contractor shall install cabinets on the base slabs.
   I. MU is lifted from the bottom of the cabinet
   II. APFC is lifted from the top of the cabinet
B. Contractor shall install wiring through the conduits.
C. Contractor shall install the wires in the cabinets.
D. Contractor shall connect the APFC Cabinet to the grid and confirm connection is energized.

STEP 3 – TRENCH EXCAVATION
C. Contractor shall perform a pavement sawcut through the 2.5" leveling course to create a clean edge for the charging segment.
D. Contractor shall remove aggregate and leveling course to create the trench.

Note: Steps 4 through 6 shall be completed within one working day. Weather conditions shall be dry for the entire period.

STEP 4 - INSTALLATION OF WIRING IN TRENCH
A. Contractor shall remove caps on 3" conduits.
B. Contractor shall pull wiring and cables through the 3" conduits per the direction of Electreon.
C. Electreon shall connect the cables to the charging system.
D. Electreon shall complete testing of the system within 2 hours.

STEP 5 - FILLING OF THE TRENCH
A. After testing is complete, the contractor shall immediately backfill the trench with controlled low-strength material (CLSM) as per specifications and allow to cure for a minimum of 2 hours.

STEP 6 – HMA CONSTRUCTION
A. Immediately after CLSM curing period is complete, contractor shall install MDOT 2C HMA. Contractor shall use a tandem steel roller with static drums for the first two compaction passes over the charger coil segments. After the first two passes, the contractor may use a tandem steel roller with vibratory drums to meet MDOT compaction specifications.
B. Contractor shall install and compact MDOT 4C HMA per Construction and Material Specifications.

STEP 7 – POST INSTALLATION TEST
A. Electreon shall perform post-installation testing once the MDOT 4C HMA installation is completed and traffic is permitted to drive on the HMA.

STEP 8 – TRAFFIC CONTROL
A. Contractor shall install pavement markings and signs. Refer to Plan 2 for layout and details.

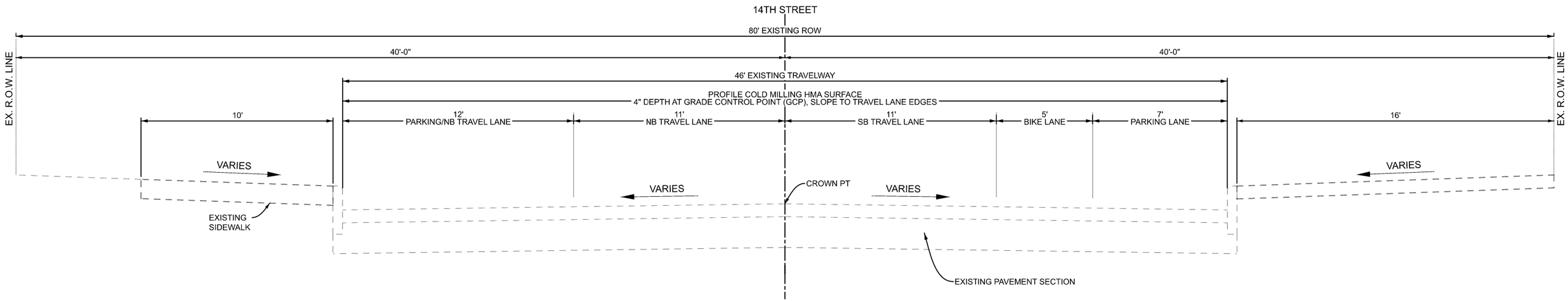
STEP 9 – FINAL TESTING
A. Electreon shall perform system testing after traffic control is installed.

Management Unit, Installed

The contractor shall install the Management Units supplied and delivered to the site by Electreon. The contractor shall be responsible for off-loading and storing the Management Units prior to installation. The contractor shall install the Management Units per the plans and as directed by the engineer. All costs associated with handling, storage and installation shall be included in Item Management Unit, Installed.

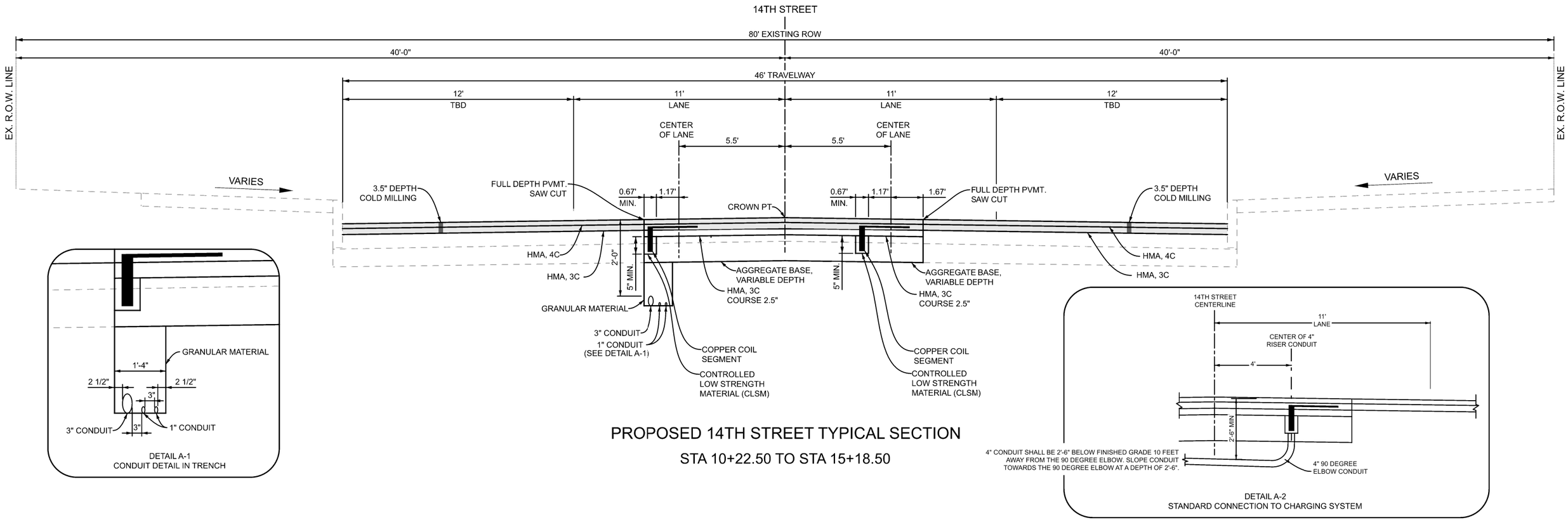
Active APFC Cabinet, Installed

The contractor shall install the Active PFC Cabinet supplied and delivered to the site by Electreon. The contractor shall be responsible for off-loading and storing the Active PFC Cabinet prior to installation. The contractor shall install the Active PFC Cabinet per the plans and as directed by the engineer. All costs associated with handling, storage and installation shall be included in Item Active PFC Cabinet, Installed.



EXISTING 14TH STREET TYPICAL SECTION

STA 10+15 TO STA 15+15



PROPOSED 14TH STREET TYPICAL SECTION

STA 10+22.50 TO STA 15+18.50

DETAIL A-1
CONDUIT DETAIL IN TRENCH

DETAIL A-2
STANDARD CONNECTION TO CHARGING SYSTEM

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FILE: 20900_14TH_TYP_001.DGN

DATE: APRIL 2023

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TSC: 213305

CS:

JN:

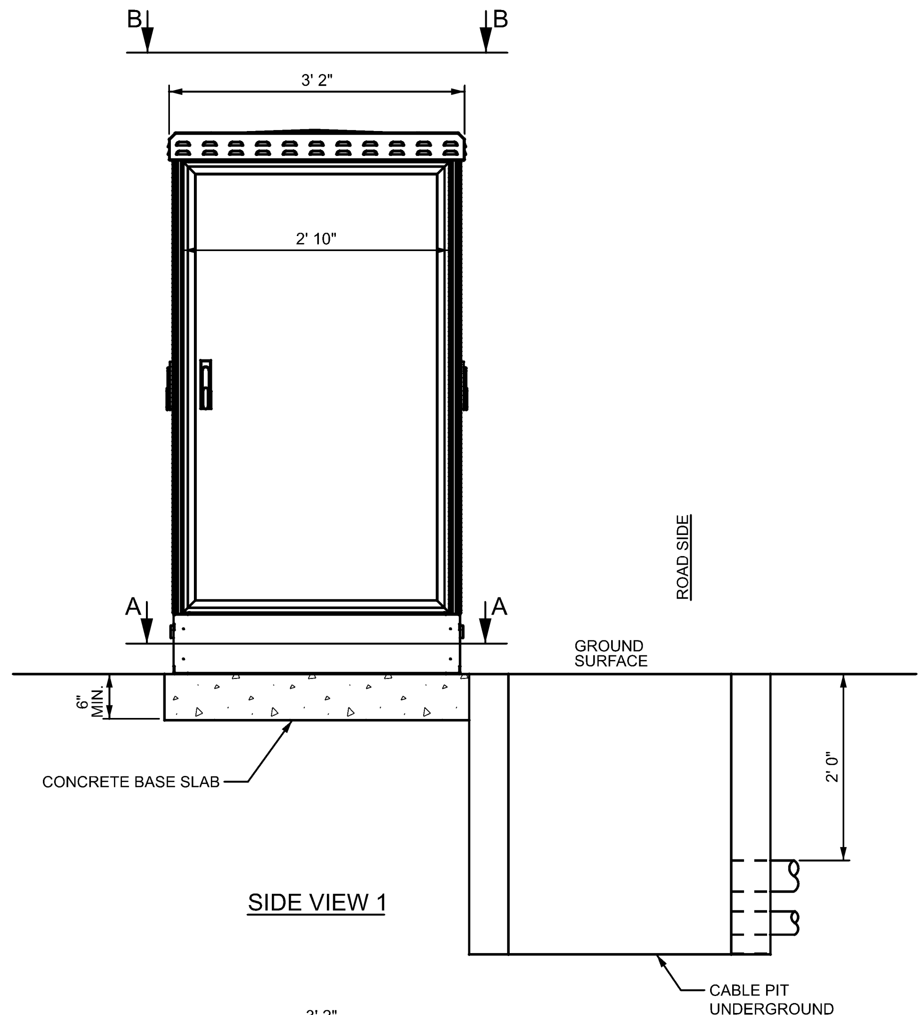
TYPICAL CROSS SECTIONS

INDUCTIVE VEHICLE CHARGING PILOT

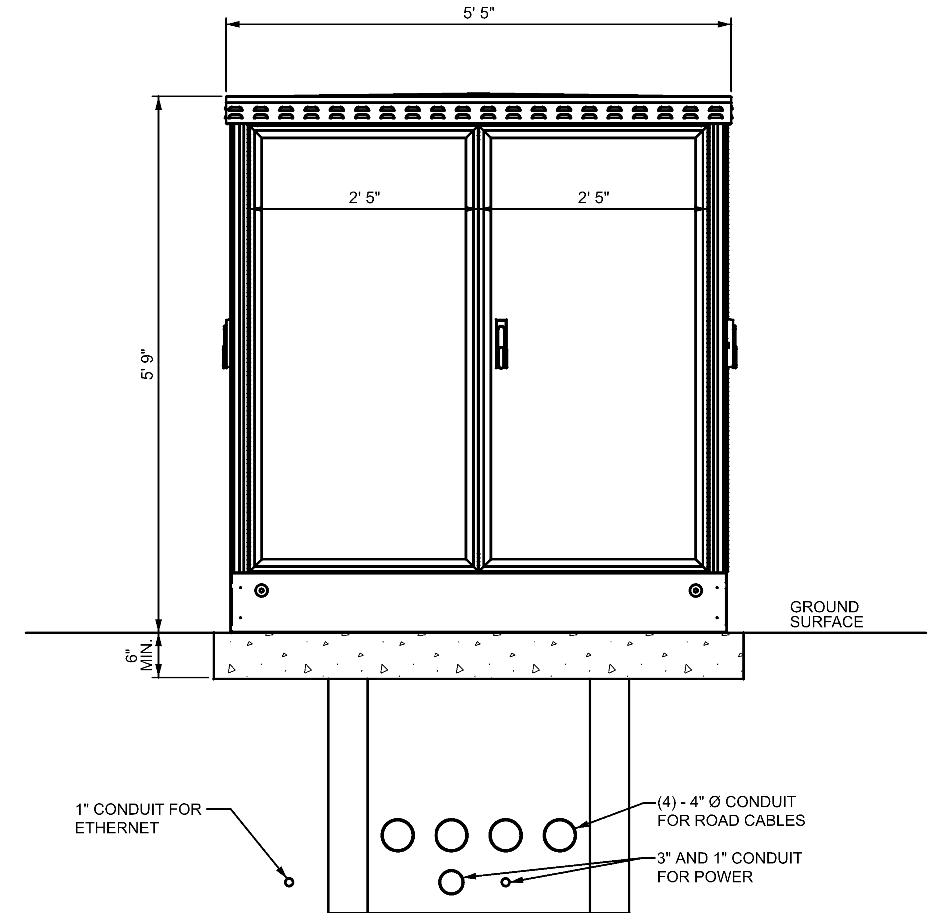
14TH STREET STREETSCAPE PHASE A - PLAN 2

DRAWING	SHEET
14TH ST. TYP 001	SECT 1 6

NOTES:
1. MAINTAIN 36" CLEARANCE FOR ACCESS TO MANAGEMENT UNIT DOORS.

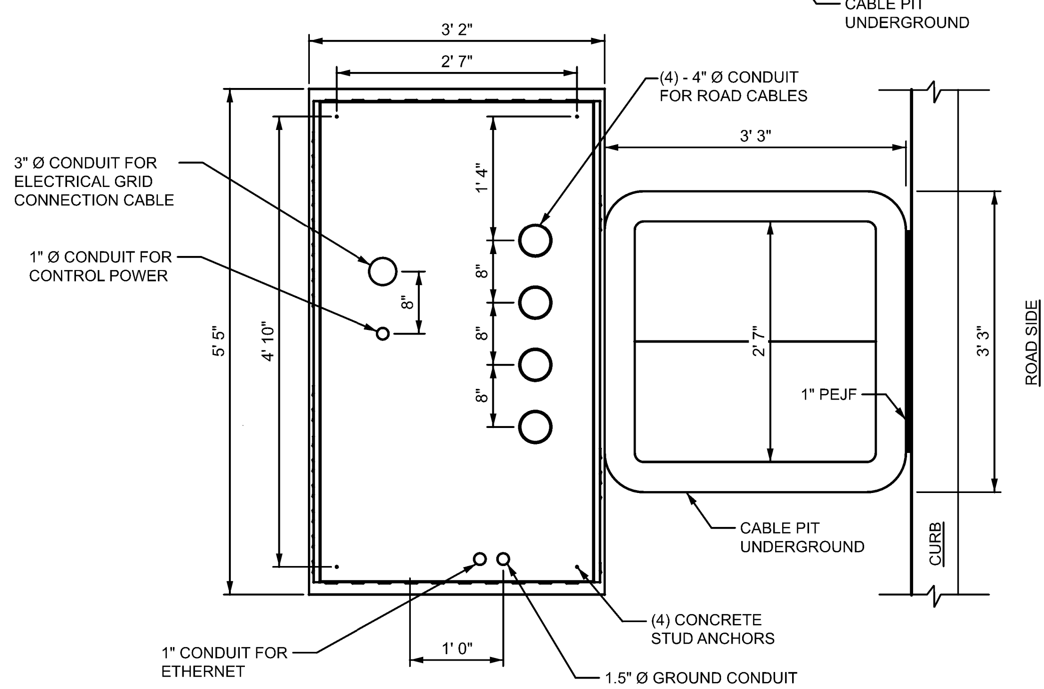


SIDE VIEW 1

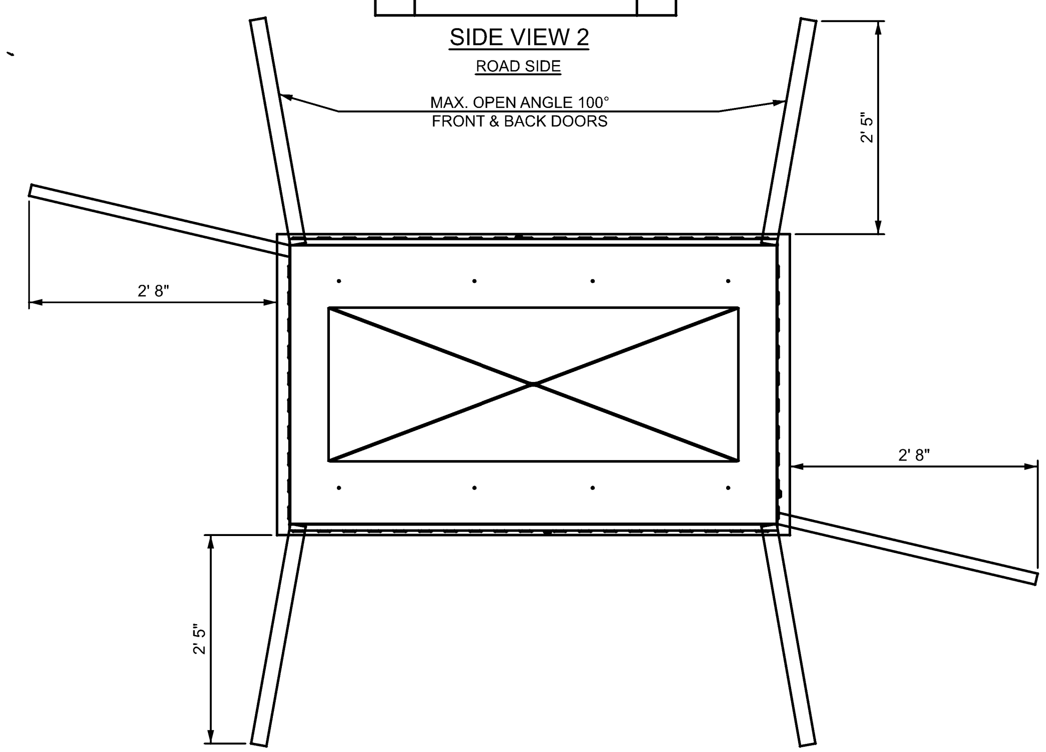


SIDE VIEW 2

ROAD SIDE



PLAN VIEW A-A



PLAN VIEW B-B
(WITH OPEN DOORS)

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NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

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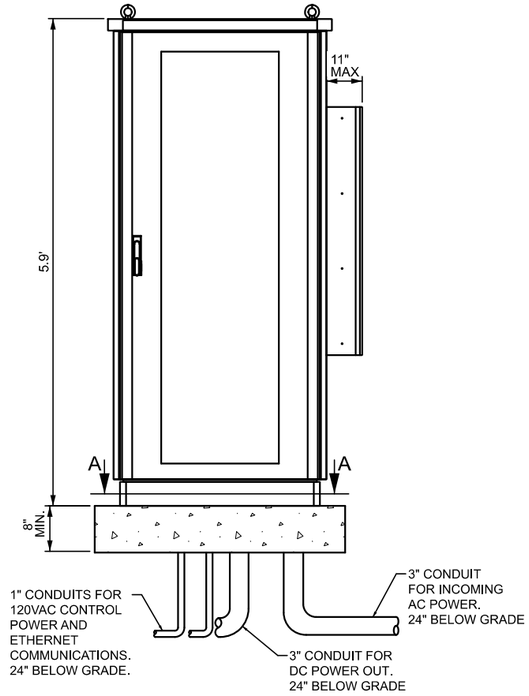
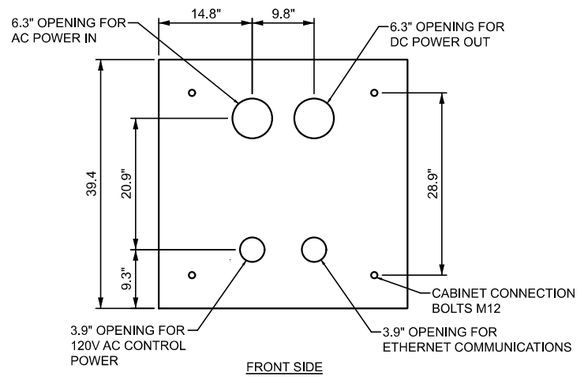
Michigan Department of Transportation

0 HORZ. (FT) 2

	DATE: FEBRUARY 2023	CS:	DYNAMIC MANAGEMENT UNIT SCHEMATICS	DRAWING	SHEET
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. G-3 001	SECT 1 7
FILE: 20900_MSCDET_001.DGN	TSC: 213305		14TH STREET STREETSCAPE PHASE A - PLAN 2		



APFC CABINET
SIDE VIEW 1



FRONT SIDE

APFC CABINET
PLAN VIEW A-A

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
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FILE: 20900_MSCDET_001.DGN

DATE: FEBRUARY 2023

DESIGN UNIT:

TSC: 213305

CS:

JN:

APFC CABINET SCHEMATICS

INDUCTIVE VEHICLE CHARGING PILOT

14TH STREET

DRAWING	SHEET
14TH ST. G-3 002	SECT 1 8

NOTES

COORDINATE SYSTEM:	STATE PLANE GRID
ZONE:	MICHIGAN SOUTH 2113
ELLIPSOID:	GRS 80
HORIZONTAL DATUM:	NAD 83 (2007)
VERTICAL DATUM:	NAVD 88
GEOID:	GEOID 09
UNITS:	INTERNATIONAL FEET

GROUND DISTANCE CONVERSION

THE COMBINED SCALE FACTOR (CSF) FOR EACH CONTROL POINT IS INCLUDED IN THE CONTROL POINT LIST.

AVERAGE COMBINED SCALE FACTOR (ACSF) = (CSF1 + CSF2)/2

GROUND DISTANCE = GRID DISTANCE / ACSF

SEE PLAN SET 1 FOR ADDITIONAL INFORMATION.

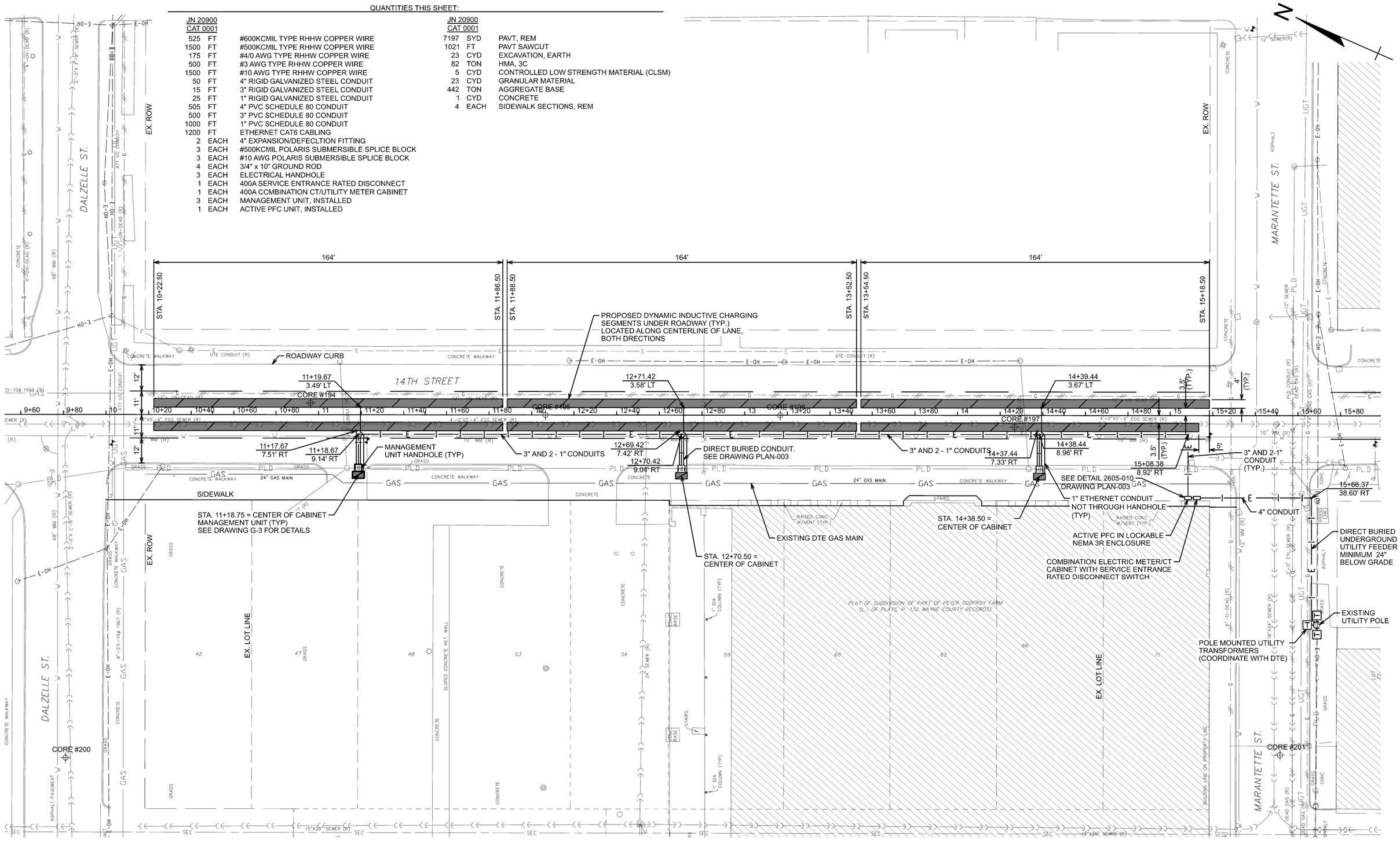
FINAL ROW PLAN REVISIONS (SUBMITTAL DATE:)											
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE	DATE: APRIL 2023
											DESIGN UNIT:
											FILE: 20900_Survey_001.doc
											TSC: 213305

CS:	SURVEY INFORMATION SHEET	DRAWING	SHEET	
JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. SURVEY 001	SECT 1 9	
	14TH STREET STREETSCAPE PHASE A – PLAN 2			

QUANTITIES THIS SHEET:

JN 20900 CAT 0001		
525	FT	#600KCMIL TYPE RHHW COPPER WIRE
1500	FT	#500KCMIL TYPE RHHW COPPER WIRE
175	FT	#4/0 AWG TYPE RHHW COPPER WIRE
500	FT	#3 AWG TYPE RHHW COPPER WIRE
1500	FT	#10 AWG TYPE RHHW COPPER WIRE
50	FT	4" RIGID GALVANIZED STEEL CONDUIT
15	FT	3" RIGID GALVANIZED STEEL CONDUIT
25	FT	1" RIGID GALVANIZED STEEL CONDUIT
505	FT	4" PVC SCHEDULE 80 CONDUIT
500	FT	3" PVC SCHEDULE 80 CONDUIT
1000	FT	1" PVC SCHEDULE 80 CONDUIT
1200	FT	ETHERNET CAT6 CABLING
2	EACH	4" EXPANSION/DEFECLTION FITTING
3	EACH	#500KCMIL POLARIS SUBMERSIBLE SPLICE BLOCK
3	EACH	#10 AWG POLARIS SUBMERSIBLE SPLICE BLOCK
4	EACH	3/4" x 10' GROUND ROD
3	EACH	ELECTRICAL HANDHOLE
1	EACH	400A SERVICE ENTRANCE RATED DISCONNECT
1	EACH	400A CCMBINATION CT/UTILITY METER CABINET
3	EACH	MANAGEMENT UNIT, INSTALLED
1	EACH	ACTIVE PFC UNIT, INSTALLED

JN 20900 CAT 0001		
7197	SYD	PAVT, REM
1021	FT	PAVT SAWCUT
23	CYD	EXCAVATION, EARTH
82	TON	HMA, 3C
5	CYD	CONTROLLED LOW STRENGTH MATERIAL (CLSM)
23	CYD	GRANULAR MATERIAL
442	TON	AGGREGATE BASE
1	CYD	CONCRETE
4	EACH	SIDEWALK SECTIONS, REM



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FILE: 20900_PLANS_001.DGN

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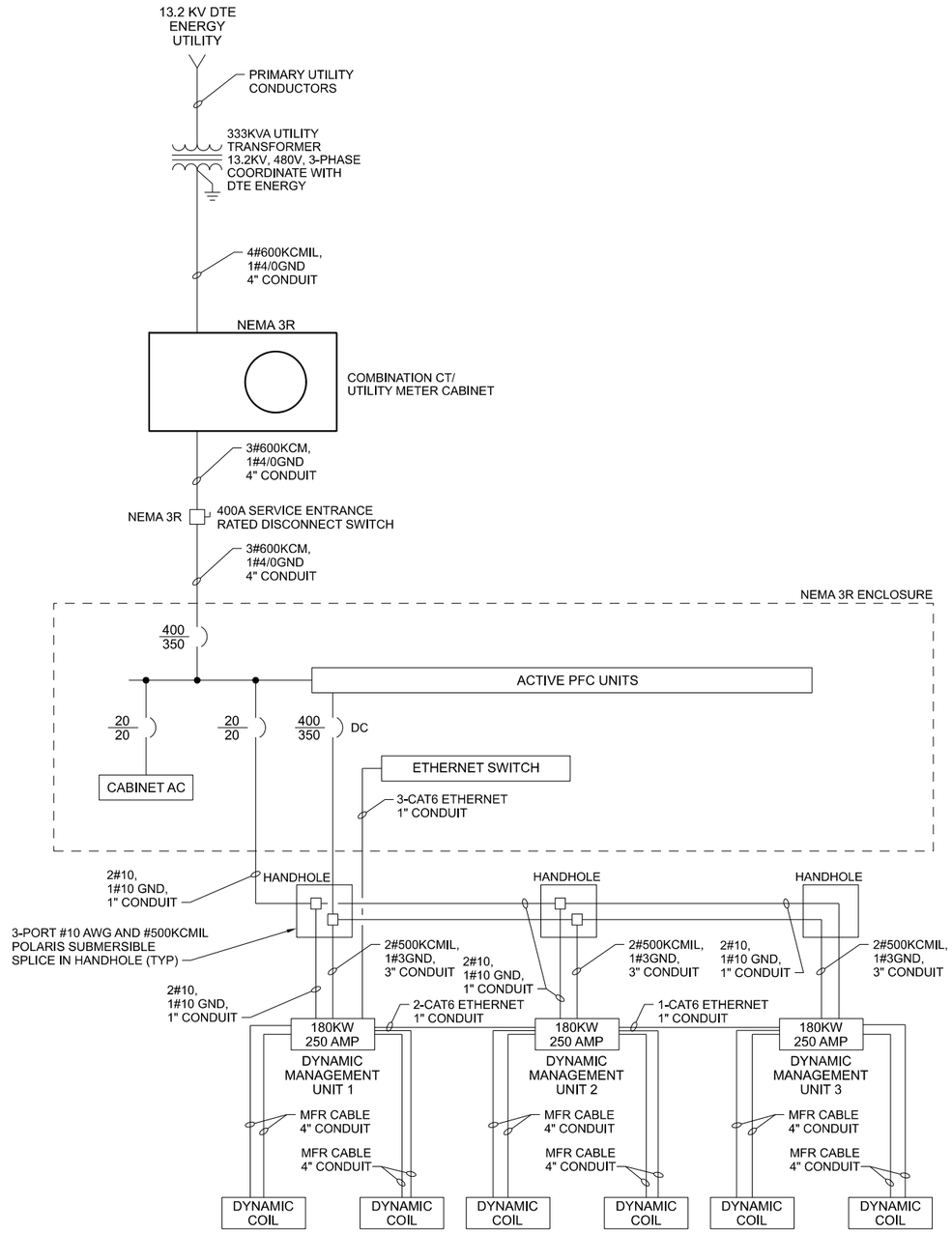
JN:

SITE PLAN

INDUCTIVE VEHICLE CHARGING PILOT

14TH STREET STREETSCAPE PHASE A - PLAN 2

DRAWING	SHEET
14 ST. SITE PLAN 001	SECT 1 10



DYNAMIC UNIT ONE - LINE DIAGRAM

NTS

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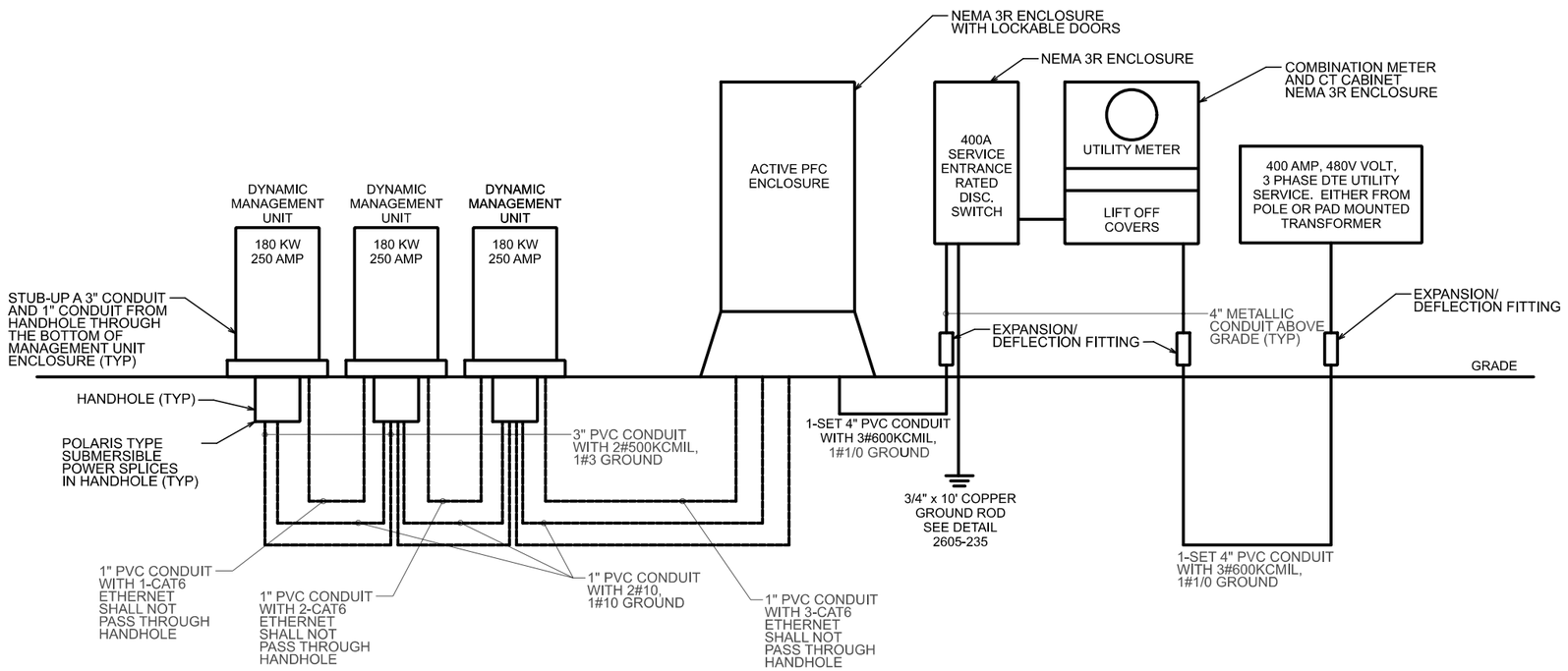
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION	Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: FEBRUARY 2023	CS:
												DESIGN UNIT:	JN:
											FILE: 20900_ELEC_DET_001.DGN	TSC: 213305	

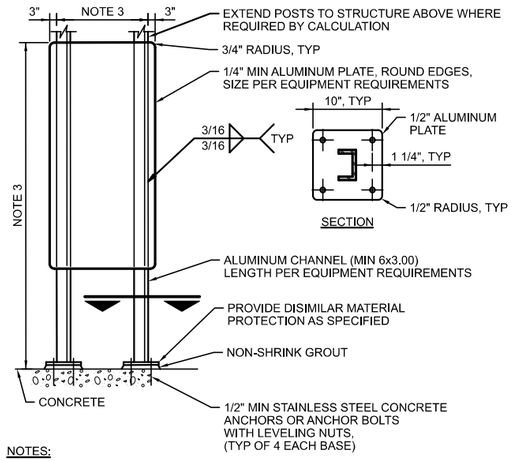
DYNAMIC UNIT ONE - LINE DIAGRAM	DRAWING	SHEET
INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 001	SECT 1
14TH STREET		11



DYNAMIC UNIT ELECTRICAL RISER DIAGRAM

NTS

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:								Jacobs electreon	MDOT Michigan Department of Transportation	NO SCALE		DATE: FEBRUARY 2023	CS:	ELECTRICAL RISER DIAGRAM	DRAWING	SHEET
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION					DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 002	SECT 1
											FILE: 20900_ELEC-DET_002.DGN	TSC: 213305		14TH STREET		12



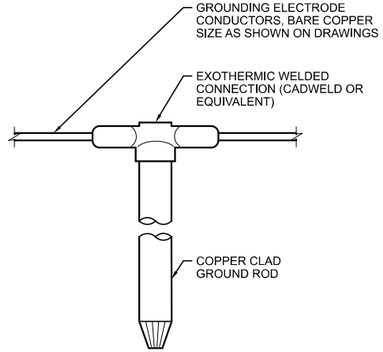
NOTES:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHER AND SPLIT LOCK WASHER UNDER ALL NUTS.
2. MINIMUM COMPONENT AND CONNECTION SIZES SHOWN. FURNISH LARGER SIZES AS REQUIRED BY CALCULATIONS.
3. SUBMIT FINAL DESIGN AND CALCULATIONS FOR SUPPORT AND ANCHORAGE AS SPECIFIED.

DEVICE MOUNTING SIDE MOUNTED PEDESTAL - ALUMINUM

NTS

2605-008b



NOTES:

1. TOP OF GROUND ROD SHALL BE SAND BEDDED 6" MIN BELOW GRADE.
2. CONNECTIONS TO EXISTING GROUNDING ELECTRODE CONDUCTORS SHALL BE CADWELD OR EQUIVALENT.

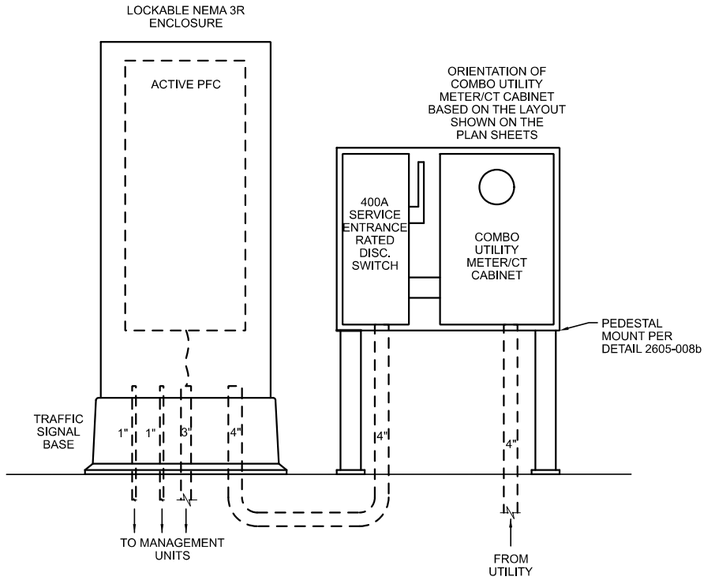
GROUND ROD CONNECTION

NTS

2605-235

ELECTRICAL NOTES:

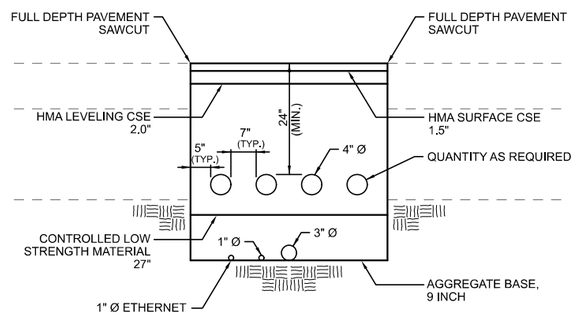
1. PROVIDE THE WORK IN ACCORDANCE WITH NFPA 70. WHERE REQUIRED BY AUTHORITY HAVING JURISDICTION (AHJ), MATERIAL AND EQUIPMENT SHALL BE LABELED OR LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY OR OTHER ORGANIZATION ACCEPTABLE TO THE AHJ, IN ORDER TO PROVIDE UBASIS FOR APPROVAL UNDER THE NEC.
2. ELECTRICAL DRAWINGS SHOW GENERAL LOCATIONS OF EQUIPMENT, DEVICES, AND RACEWAY, UNLESS SPECIFICALLY DIMENSIONED. CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LOCATION OF EQUIPMENT AND YEVICES AND FOR PROPER ROUTING AND SUPPORT OF RACEWAYS, SUBJECT TO APPROVAL OF ENGINEER.
3. SUBMITTALS: PROVIDE PRODUCT DATA FOR WIRE, CONDUIT, AND ALL ACCESSORIES ASSOCIATED WITH THE ELECTRICAL INSTALLATION.
4. CONDUCTORS: SHALL CONFORM TO APPLICABLE REQUIREMENTS OF NEMA WC70. CABLE SHALL BE STRANDED COPPERUND TYPE RHHW. CABLES SHALL BE RATED FOR 600V AC RMS. CABLES SHALL BE BY SOUTHWIRE, OR APPROVED EQUAL.
5. PULLING COMPOUND FOR CABLES SHALL BE NON-TOXIC, NON-CORROSIVE, WATER BASED LUBRICANT AND SHALL BE APPROVED FOR THE INTENDED USE BY THE CABLE MANUFACTURER.
6. CONDUITS: RIGID GALVANIZED STEEL CONDUIT SHALL MEET THE REQUIREMENTS OF NEMA C80.1 AND UL 6. PVC SCHEDULE 80 CONDUIT SHALL MEET THE REQUIREMENTS OF NEMA TC2 AND UL 651. PROVIDE ALL FITTINGS AND ACCESSORIES, AS NECESSARY, TO COMPLETE THE CONDUIT SYSTEM AS SHOWN ON THE DRAWINGS.
7. WHEN TRANSITIONING FROM PVC SCHEDULE 80 TO RIGID GALVANIZED CONDUIT, USE PVC-COATED RIGID GALVANIZED STEEL.
8. PROVIDE A SHORT CIRCUIT STUDY AND ARC FLASH STUDY OF THE ELECTRICAL SYSTEM. STUDIES SHALL BE PREPARED BY PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF MICHIGAN. PROVIDE ARC FLASH LABELING, AS REQUIRED.



DEVICE MOUNTING SIDE MOUNTING ON TRAFFIC SIGNAL BASE

NTS

2605-010



UNDERGROUND CONDUIT IN PAVED AREAS (TRANSVERSE TRENCH)

NTS

FINAL ROW PLAN REVISIONS SUBMITTAL DATE:							
NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION

Jacobs electreon | MDOT Michigan Department of Transportation | NO SCALE

	DATE: FEBRUARY 2023	CS:	ELECTRICAL DETAILS	DRAWING SHEET
	DESIGN UNIT:	JN:	INDUCTIVE VEHICLE CHARGING PILOT	14TH ST. PLAN 003 SECT 1
FILE: 20900_ELEC-DET_003.DGN	TSC: 213305		14TH STREET	13