SHEET INDEX

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CITY OF LATHRUP VILLAGE

IN COOPERATION WITH MICHIGAN DEPARTMENT OF TRANSPORTATION AND FEDERAL HIGHWAY ADMINISTRATION

SOUTHFIELD ROAD TRAFFIC SIGNAL

BETWEEN MARGATE AVENUE AND KILBIRNIE AVENUE

CONTROL SECTION No. MDOT JOB No. HRC JOB No.

220123 20220916

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.

REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
×	CURB RAMP AND DETECTABLE WARNING DETAILS	R-28-K*
х	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS	R-29-J*
×	CONCRETE CURB AND CONCRETE CURB AND GUTTER	R-30-G
х	SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E

^{*} SEE MOOT SPECIAL DETAIL

	TRAFFIC AND SAFETY STANDARD PLANS	
CONSTRUCT	ION OF THE FOLLOWING ITEMS, WHERE CALLED FOR ON THE PLANS, V TO MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD PLANS	VILL BE CONSTRUCTED AS INDICATED.
REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
х	GROUND DRIVEN SIGN SUPPORTS FOR TEMP. SIGNS	WZD-100-A
x	TEMPORARY TRAFFIC CONTROL DEVICES	WZD-125-E

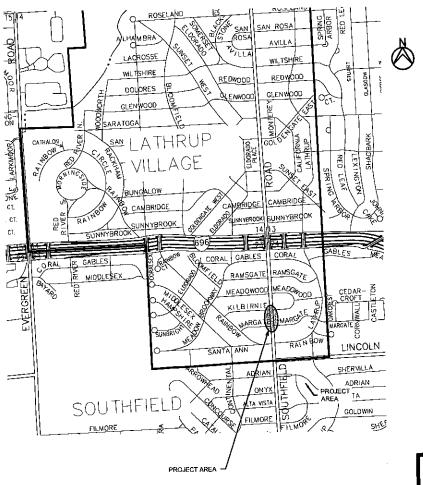
^{*} SEE MOOT SPECIAL DETAIL

	TRAFFIC SIGNAL STANDARD PLANS	
CONSTRUCT MICHIGAN DE	ION OF THE FOLLOWING ITEMS, WHERE CALLED FOR ON THE PLANS, WILL BE CONSTRUCTED ACC EPARTMENT OF TRANSPORTATION STANDARD PLANS AS INDICATED.	ORDING TO
REQUIRED ON THIS PROJECT	ITEMS OF WORK	STANDARD PLAN NUMBERS
×	TRAFFIC SIGNAL MAST ARM POLE AND MAST ARM LOADING TABLE AND DESIGN CRITERIA	SIG-030-A
х	TRAFFIC SIGNAL MAST ARM POLE AND MAST ARM DETAILS - CATEGORY III	SIG-033-A
х	TRAFFIC SIGNAL MAST ARM STANDARD FOUNDATIONS	SIG-040-B
х	GLOBAL POSITIONING SYSTEM (GPS) MODULE	SIG-120-A
×	SECONDARY SERVICE/DISCONNECT FOR STEEL POLES	SIG-201-A
×	COLOR CODE WIRING/EQUIPMENT GROUNDING	\$!G-230-A
×	HANDHOLE PRECAST POLYMER CONCRETE	SIG-240-A
х	CONDUIT (DIRECT BURIAL/ENCASED)	SIG-250-A
x	MAST ARM MOUNTED TS BRACKET ASSEMBLY	SIG-301-A

* SEE MOOT SPECIAL DETAIL

PLAN SHEET HOR, 1" = 20"

CITY OF LATHRUP VILLAGE



KELLY GARRETT

GENERAL PROVISIONS

THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE ACCORDANCE WITH THE PROPOSAL AND ACCOMPANYING SPECIFICATIONS FOR THIS PROJECT INCLUDING THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION AND MICHIGAN DEPARTMENT OF TRANSPORTATION NON-FREEWAY, NON-NHS 3R GUIDELINES.

PIACING OF TRAFFIC CONTROL SIGNS SHALL BE DONE IN ACCORDANCE WITH THE 2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES THIS WORK WILL BE DONE PRIOR TO THE FINAL ACCEPTANCE OF THIS PROJECT.

THE LOCATION OF ALL PUBLIC UTILITIES SHOWN ON THESE PLANS IS TAKEN FROM THE BEST AVAILABLE DATA. THE CITY OF FARMINGTON HILLS AND HUBBELL, ROTH & CLARK, INC. WILL NOT BE RESPONSIBLE FOR ANY OMISSION OR VARIATIONS FROM THE LOCATIONS SHOWN. PURSUANT TO ACT 174 OF THE PA OF 2013 AS A CONDITION OF THIS CONTRACT, NOTICE SHALL BE GIVEN TO MISS DIG PRIOR TO UNDERGROUND WORK TO BE PERFORMED IN ACCORDANCE WITH THIS

CONTRACT, PHONE (800) 452-7171 OR (248) 647-7344 OR 811. HORIZONTAL ALIGNMENT IS BASED ON STATE PLANE COORDINATES. VERTICAL DATUM IS NAVD8B.

> BRUCE KANTOR JALEN C. JENNINGS DALTON BARKSDALE JASON HAMMOND

TRAFFIC DATA

DESIGN POSTED

SOUTHFIELD ROAD

SOUTHFIELD ROAD

39,000

APPROVED BY

CONSTRUCTING A SIGNALIZED, MID-BLOCK PEDESTRIAN CROSSING AT SOUTHFIELD ROAD BETWEEN MARGATE AVENUE AND KILBIRNIE AVENUE IN LATHRUP VILLAGE. THE TRAFFIC SIGNALS WILL BE MAST ARM MOUNTED WITH PUSHBUTTONS FOR CROSSING PEDESTRIAN TRAFFIC. THE PROJECT WILL INCLUDE SIDEWALK WORK, PAVEMENT MARKINGS, AND CULVERTS INSTALLED TO BRING THE SIDEWALKS UP TO GRADE.

CITY OF LATHRUP VILLAGE 27400 SOUTHFIELD ROAD LATHRUP VILLAGE, MI 48076

PREPARED UNDER THE SUPERVISION OF



HUBBELL, ROTH & CLARK, INC **Consulting Engineers**

555 HULET DRIVE BLOOMFIELD HILLS, MICH. P.O. BOX 824 48303 - 0824

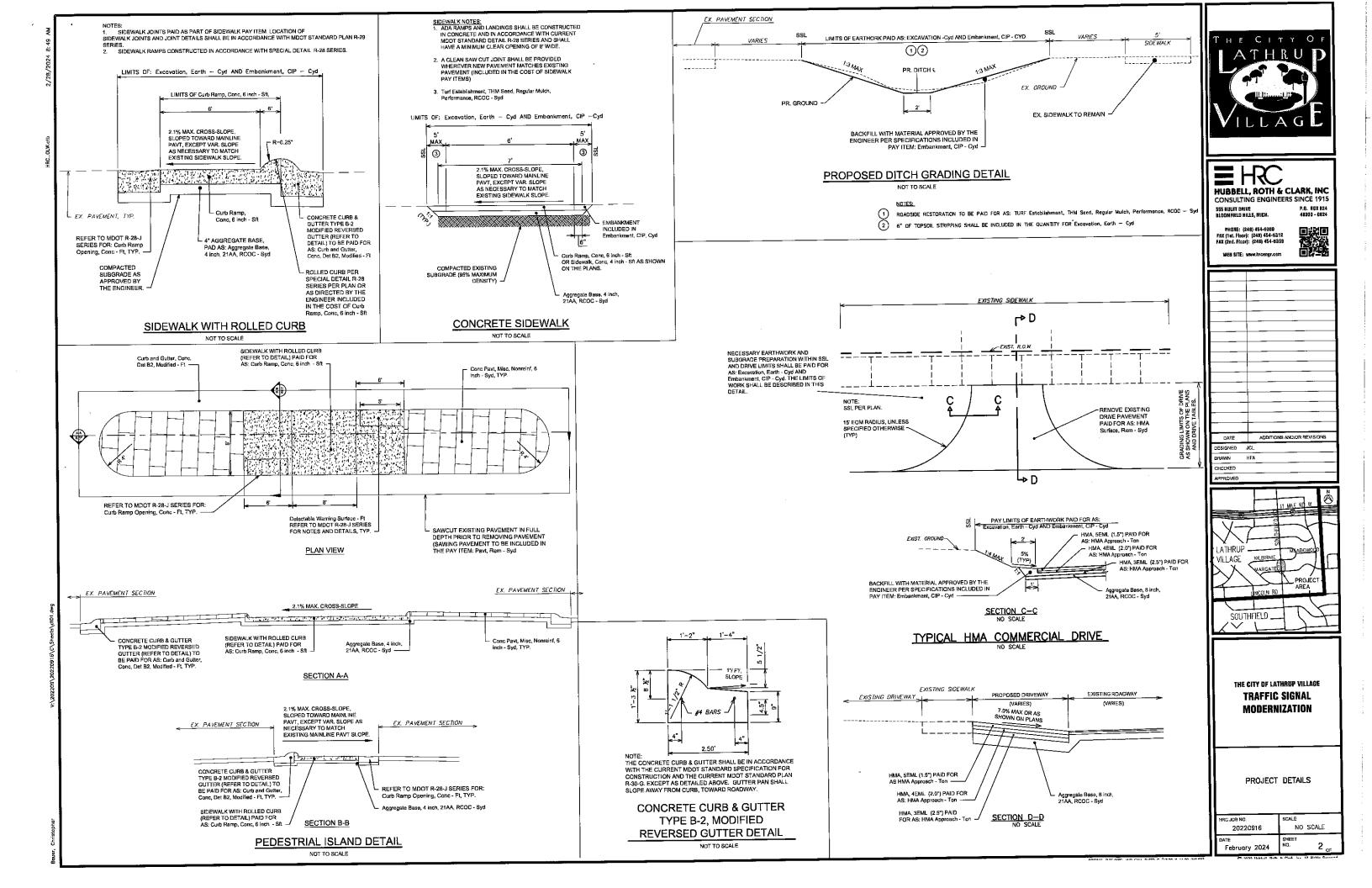
CITY ENGINEER CONTRACT FOR:

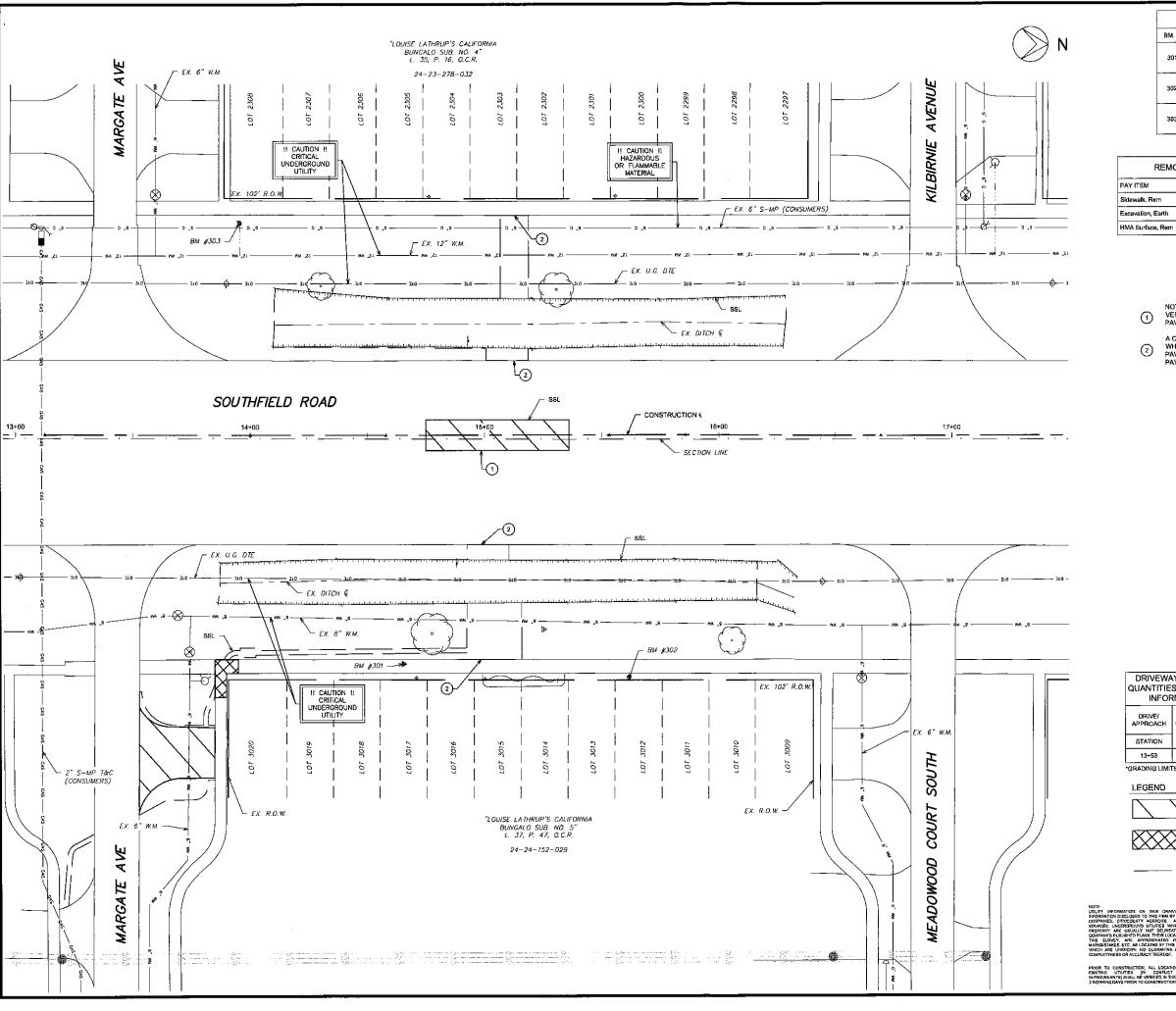
CITY LATHRUP VILLAGE

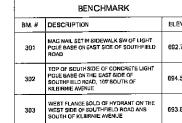
SOUTHFIELD ROAD BETWEEN MARGATE AVENUE AND KILBIRNIE AVENUE

SHEET NUMBER

DATE









REMOVAL QUANTITIES - THIS SHEET 13 256 Cyd

HUBBELL, ROTH & CLARK, INC CONSULTING ENGINEERS SINCE 1915 555 HULET DRIVE BLOOMFIELD HILLS, MICH. P.O. BOX 824 48303 - 0824

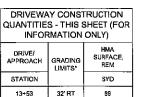
PHDNE: (248) 454-6300 FAX (1st. Floor): (248) 454-6312 FAX (20d. Floor): (248) 454-6359 WEB SITE: www.fircengr.com

VERTICAL SAWCUT FULL DEPTH THROUGH EXISTING PAVMENT INCLUDED IN THE COST OF Pavt, Rem - Syd

177 Syd

A CLEAN SAWCUT JOINT SHALL BE PROVIDED WHERE PROPOSED SIDEWALK MATCHES EXISTING PAVEMENT, INCLUDED IN THE COST OF SIDEWALK PAY ITEMS

DATE ADDITIONS AND/OR REVISIONS DESIGNED JCL DRAWN HFA



*GRADING LIMITS MEASURED FROM EDGE OF MARGATE AVE.



SLOPE STAKE LINE (SSL)



THREE FULL WORKING DAYS BEFORE YOU DIG, CALL THE MISS DIG SYSTEM AT 800-482-7171 OR 811.

THE CITY OF LATHRUP VILLAGE TRAFFIC SIGNAL **MODERNIZATION**

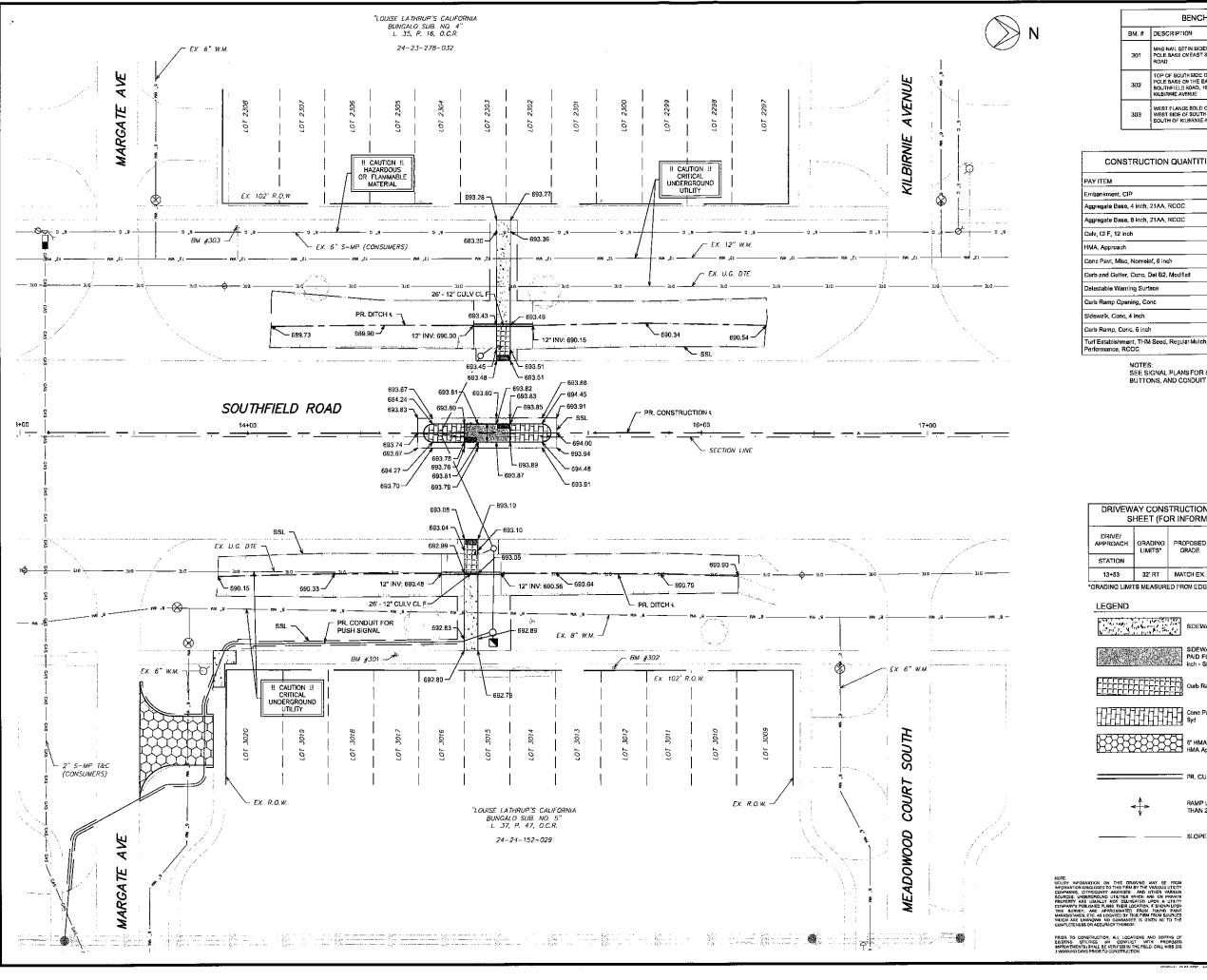
LINCOLN RD

SOUTHFIELD __

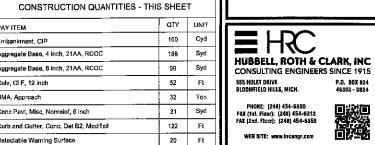
LATHRUP VILLAGE

REMOVAL PLAN SOUTHFIELD ROAD

HRC JOB NO.	SCALE
20220916	1"=20'
DATE February 2024	SHEET NO. 3 or



	BENCHMARK	
BM.#	DESCRIPTION	ELEV
301	MAG NAIL SETIN SIDEWALK SW OF LIGHT POLE BASE ON EAST SIDE OF SOUTHFIELD ROAD	692.7
392	TOP OF SOUTH SIDE OF CONCRETE LIGHT POLE BASE ON THE EAST SIDE OF SOUTHFIELD ROAD, 100' SOUTH OF KILBIRNIE AVENUE	694.5
303	WEST FLANGE BOLD OF HYDRANT ON THE WEST SIDE OF SOUTHFIELD ROAD ANS SOUTH OF KILBIRNIE AVENUE	693.8



SEE SIGNAL PLANS FOR HANDHOLES, PUSH BUTTONS, AND CONDUIT DETAILS AND PAY ITEMS.

340

1106

Sft

Syd

VEWAY CONSTRUCTION QUANTITIES - THIS SHEET (FOR INFORMATION ONLY)					
E/ ACH	GRADING LIMITS*	PROPOSED GRADE	HMA APPROACH	Aggregate Base, 8 inch, 21AA, Special	
ON			TON	SYD	
3	32' RT	MATCH EX.	32	96	
3 LIMIT	S MEASURE	D FROM EDGE	OF MARGATE	AVE.	
ND					
SIDEWALK, CONC, 4 INCH					
SIDEWALK WITH ROLLED CURB PAID FOR AS: Curb Ramp, Conc, 6 inch - Sft					
Curb Ramp, Conc, 6 inch					
Conc Pavt, Misc, Nonreinf, 6 inch -					

6" HMA DRIVEWAY PAID FOR AS:

PR. CURB AND GUTTER

RAMP LANDING. SLOPE IS LESS THAN 2% IN ALL DIRECTIONS

SLOPE STAKE LINE (SSL)

THE CITY OF LATHRUP VILLAGE TRAFFIC SIGNAL **MODERNIZATION**

NCOLN RD

SOUTHFIELD .

DATE ADDITIONS AND/OR REVISIONS

CHECKED

LATHRUP

VILLAGE

CONSTRUCTION PLAN SOUTHFIELD ROAD

HRC JOB NO. 20220916 1"=20' February 2024

BEFORE YOU DIG, CALL THE MISS DIG SYSTEM AT

- THE LOCATIONS OF UNDERGROUND UTILITIES.
- WHERE ABANDONING OF U.G. CABLES IS CALLED FOR ON PLANS OR DIAGRAMS, CONTRACTOR SHALL CUT & REMOVE CABLES WITHIN MANHOLES & HANDHOLES
- WHERE INSTALLATION OF NEW MANHOLES OVER EXISITING CONDUITS (TO ACCOMMODATE NEW & EXISITING CONDUITS) IS CALLED FOR ON PLANS, CONTRACTOR SHALL CAREFULLY & SO AS NOT TO DAMAGE EXISTING CABLES, REMOVE THE EXISTING CONDUITS & ENCASEMENT WITHIN MANHOLES. EXISTING CABLES SHALL BE EXTENDED & PROPERLY TRAINED, RACKED & SUPPORTED.

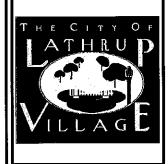
CALL MISS DIG (800-482-7171 OR 811) 3 WORKING DAYS PRIOR TO ANY EXCAVATION FOR

- 4. ALL EXISTING STREET LIGHTING, TRAFFIC SIGNAL, PRIMARY, TRANSMISSION ETC CIRCUITS SHALL ALWAYS BE MAINTED IN AN OPERATIONAL CONDITION (EXCEPT WHERE
- ALL CONDUITS NOT TERMINATING IN STRUCTURES SUCH AS MANHOLES, HANDHOLES OR FOUNDATIONS SHALL EXTEND 2 FEET BEYOND PAVEMENT LIMIT (EXCEPT AS OTHERWISE INDICATED). ALL UNOCCUPIED CONDUITS SHALL BE PLUGGED/CAPPED (TO KEEP MOISTURE AND DEBRIS OUT). FIT THE ENDS OF ALL PVC CONDUIT TERMINATIONS WITH BUSHINGS OR END BELL FITTINGS (TO PREVENT DAMAGE TO THE CABLES AND
- ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET LIGHTING & TRAFFIC SIGNAL STD.'S, O.H. STREET LIGHTING & TRAFFIC SIGNAL UNITS SHALL BE INCLUDED IN OTHER CONTRACT PAY ITEMS AND NOT PAID FOR SEPERATELY.
- EXISTING O.H. & T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.
- ALL OVERHEAD WIRES & UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER SPECIFICATIONS.
- ALL NEW ANCHOR GUYS SHALL BE INSTALLED ON A 1:1 RATIO OR AS NEARLY AS POSSIBLE (EXCEPT WHERE OTHERWISE NOTED). (STRUT GUYS ARE ACCEPTED)
- 10. ALL CABLES SHALL BE TAGGED IN ALL MANHOLES AND HANDHOLES.
- 11. INSTALL WOOD POLES SO AS NOT TO INTERFERE WITH TRAFFIC OR FUTURE
- 12. ALL TRAFFIC SIGNS SUCH AS "NO PARKING", "NO STANDING", "STREET NAME", ETC. SHALL BE TRANSFERRED FROM OLD STD. OR POLE TO NEW STD. OR POLE AT THE SAME LOCATION OR IN CLOSE PROXIMITY BY CONTRACTOR.
- 13. ALL TRAFFIC SIGNALS SHALL BE MOUNTED WITH NEW STANDARD TRAFFIC SIGNAL BRACKETS & FITTINGS.
- ALL TRAFFIC SIGNAL ITEMS, AS CALLED FOR ON PLANS, SHALL HAVE INCLUDED IN THE TRAFFIC SIGNAL ITEM ALL CABLES FROM THE CONTROLLER TO THE TRAFFIC SIGNALS. FOUNDATIONS & PIPE EXTENSIONS NEEDED TO MAINTAIN 17'-0" UNDER CLEARANCE AS NDICATED (18'-0" FOR JOINT USE WOOD POLES).
- 15. WHEN ENTERING PROPOSED CONDUIT INTO EXISITING MANHOLES & HANDHOLES EXERCISE CAUTION NOT TO DISTURB EXISITING CABLES. PROPOSED CONDUIT TAPS INTO EXISTING HANDHOLES ARE NOT PAID FOR SEPARATELY AND INCLUDED IN OTHER ITEMS
- BACKFILL ALL CONDUIT TRENCHES WITHIN THE LIMITS OF THE ROADBED AND SIDEWALK WITH CLASS II GRANULAR MATERIAL IN ACCORDANCE WITH SECTION 204. PLACE AND COMPACT THE GRANULAR MATERIAL IN ACCORDANCE WITH THE CONTROLLED DENSITY METHOD IN SUBSECTION 205 03 H 4 a
- 17. ALL SALVAGED TRAFFIC SIGNALS SHALL BE TRAFFIC SIGNALS PREVIOUSLY INSTALLED NEW ON THIS CONTRACT. (EXCEPT AS OTHERWISE INDICATED)
- 18. ALL O.H. TRAFFIC SIGNAL SPAN WIRE SHALL USE 5/16" EXTRA HIGH STRENGTH STRAND WIRE. TRAFFIC SIGNAL BOTTOM TETHER WIRE SHALL USE 1/4" COMMON GRADE STRAND
- SEAL-END OF CABLE WHERE COILING OF CABLE IS CALLED FOR ON PLANS. (CONTRACTOR SHALL RECEIVE PAYMENT FOR COILED-UP CABLES)
- THE CONTRACTOR SHALL DELIVER TO ROAD COMMISSION FOR OAKLAND COUNTY (RCCC). THE T.S. CONTROLLER FOR TIMING. THE CONTRACTOR WILL PICKUP THE CONTROLLER AND CABINET FROM RCOC WHEN READY FOR INSTALLATION.
- 21. PROPOSED T.S. SHALL BE PUT INTO OPERATION AT THE TIME OF REMOVAL OF EXISITING T.S. FACILITIES, CONTRACTOR SHALL NOTIFY RCOC. IF UNABLE TO MAINTAIN T.S. IN AN OPERABLE CONDITION AT ALL TIMES
- A MINIMUM CLEARANCE OF 3'-6' HORIZONTAL & 1'-0' VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED FACILITEIS & EXISITING U.G. WATER FACILITIES OR AS SPECIFIED

- 23. ALL PROPOSED EQUIPMENT SHALL MAINTAIN 10 FEET OF CLEARANCE FROM PRIMARY, NEUTRAL, OR ABOVE POWER CABLES.
- THE ROAD COMMISSION FOR OAKLAND COUNTY (RCOC) WILL INSPECT THE INSTALLATION OF ALL TRAFFIC SIGNAL EQUIPMENT. THE CONTRACTOR MUST NOTIFY RCOC WHEN WORK IS GOING TO BE PERFORMED. THE CONTRACTOR MUST PROVIDE THREE (3) WORKING DAYS' NOTICE (EXCLUDING SATURDAY, SUNDAY, AND HOLIDAYS) TO RCCC, SIGNAL SYSTEMS DIVISION, TELEPHONE (248) 858-7250, FOR THE INSPECTION TO BE PERFORMED.
- 25. ALL MATERIAL REMOVED ON THIS CONTRACT SHALL BE DISPOSED OF PROPERLY BY THE CONTRACTOR. CONTRACTOR SHALL NOTIFY RCCC PRIOR TO REMOVAL OF THE EQUIPMENT AND ALL MATERIAL IDENTIFIED BY THE RCOC SHALL BE STORED ON SITE AS DIRECTED BY THE ENGINEER FOR PICK UP BY THE RCOC.
- , REM THE UNIT PRICE FOR RELEVANT REMOVAL PAY ITEMS INCLUDE THE COST OF REMOVING AND DISPOSING OF TRAFFIC SIGNALS, PEDESTRIAN SIGNALS, CABLES, AND OTHER MATERIALS.
- FOR TYPICAL PEDESTRIAN T.S. WIRING ON POLES; (RCOC STEEL POLES, WOOD POLES, OR STEEL POLES OWNED BY OTHERS) SEE STANDARD DETAIL SHEET OC-4A, ALL STEEL POLES SHALL BE ASSUMED TO BE OWNED BY RCCC UNLESS OTHERWISE NOTED ON
- ALL TRAFFIC SIGNAL SPANS WITH SOLID STATE CONTROLLERS SHALL BE GROUNDED. THE GROUNDING OF BOTH SHALL HAVE A RESISTANCE NO GREATER THAN 10 OHM WHEN
- CONCRETE PAVEMENT REPAIR SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2020 M.D.O.T STANDARD SPECIFICATIONS FOR CONSTRUCTION AND RCCC A.S.R.
- ALL CONDUIT BENDS SHALL HAVE MINIMUM RADII IN ACCORANCE WITH THE CURRENT
- 31. ALL TRAFFIC SIGNAL FITTINGS (SCREWS, BOLTS, PINNACLES, ETC.) SHALL BE GREASED WITH A NON-OXIDE TYPE GREASE.
- INSTALL STEEL POLE AS HANDHOLE, AS DESCRIBED ON STANDARD DETAIL SHEET OC-2, IN ALL EXISTING STEEL POLES AS DIRECTED BY THE ENGINEER. (INCLUDED IN THE INTALLATION OF TIS ON THIS CONTRACT)
- 33. ALL GROUND WIRE SHALL BE #6 STRANDED COPPER.
- WHEN SPLICING TRAFFIC SIGNAL CABLES (ONLY IF APPROVED BY ENGINEER), USE UN-INSULATED SOLID BARREL COMPRESSION TYPE CONNECTORS. TAPE OVER EACH INDIVIDUAL BARREL AND ANY BARE WIRE WITH PREMIUM GRADE PVC, 7 MIL, SUNLIGHT & COLD RESISTANT TAPE. THEN TAPE OVERALL SPLICE WITH LINERLESS RUBBER SPLICING TAPE OR EQUIVALENT. THEN TAPE OVER THAT WITH A LAYER OF PREMIUM GRADE PVC, 7 MIL, SUNLIGHT & COLD RESISTANT TAPE OVER LAPPING CABLE JACKET BY ONE INCH. ALL TAPE SHOULD COVER SPLICES FROM CABLE JACKET TO CABLE JACKET AND BE ½ LAPPED. THE FINAL LAYER OF TAPE SHOULD BE WRAPPED IN AN UPWARD MOTION SO THAT CUT OFF END DOES NOT ALLOW MOISTURE BACK INTO SPLICE.
- NO CHANGES FROM PLANS IN LOCATION OF SUPPORTING STRUCTURES, SIGNAL HEAD PLACEMENT OR TRAFFIC SIGNAL EQUIPMENT WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ROAD COMMISSION FOR OAKLAND COUNTY. CONTACT ROAD COMMISSION FOR OAKLAND COUNTY-TRAFFIC OPERATIONS CENTER AT (248) 858-7250.
- 36. STEMMING OF SIGNAL HEADS TO MAINTAIN EQUAL UNDER CLEARANCE FOR EACH SPAN WIRE MOUNTED SIGNAL HEAD (AT ALL INTERSECTIONS OF THIS CONTRACT) IS INCLUDED IN THE INSTALLATION OF T.S. IN THIS CONTRACT.
- ALL DIRECTIONAL BORED, OPEN CUT, OR DIRECT BURIAL CONDUIT CALLED FOR ON PLANS IS THE PREFFERED METHOD OF INSTALLATION. IF THE METHOD OF CONDUIT INSTALLATION IS IMPOSSIBLE TO CONSTRUCT OR IF THE CONTRACTOR PREFERES TO USE ANY OTHER METHOD, THE CHANGE OF METHOD MAY BE MADE UPON APPROVAL BY THE
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING OR ANTICIPATING THE NEED OR DESIRE TO INSTALL CONDUIT BY ANY OTHER METHOD AND TO INCLUDE THE COST IN THE
- NO EXTRA PAYMENT WILL BE ALLOWED IF THE CONTRATOR CHOOSES TO CHANGE THE METHOD OF CONDUIT INSTALLATION.
- THE CONTRACTOR SHALL MAKE THE PERMANENT CONNECTION TO LOCAL UTILITY CO. 120V SERVICE USING APPROVED PARALLEL GROOVED CONNECTORS. (INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT)
- ALL OVERHEAD CAMERA CLAMP-ON BRACKET ARMS SHALL BE INSTALLED ON WOOD OR STEEL POLES PERPENDICULAR TO THE CURB UNLESS OTHERWISE DIRECTED BY THE
- 42. CONTACT LOCAL UTILITY COMPANY PRIOR TO INSTALLATION OF TRAFFIC SIGNALS. (INCLUDED IN THE INSTALLATION OF TRAFFIC SIGNALS ON THIS CONTRACT)

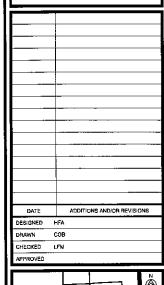
- 43. ALL HEMISPHERICAL CAMERA CABLES SHALL BE CAT5e (SHIELDED, 24 AWG SOLID CORE, GEL FILLED, OUTDOOR RATED). CABLE SHALL HAVE A DRAIN WIRE. MAXIMUM LENGTH OF CABLE WITHOUT A POE (POWER OVER ETHERNET) REPEATER IS 250 FT. GROUND THE DRAIN WIRE TO THE EPM (ETHERNET PROTECTION MODULE) GROUND LUG USING 1-1/C#6 AWG COPPER FROM LUG ON EPM TO CABINET GROUND BUS.
- 44. ALL WEATHERHEADS AND LB'S SHALL BE NEW AND METAL UNLESS OTHERWISE SPECIFIED
- 45. THE "PLOWING IN CONDUIT" METHOD SHALL NOT BE USED ON THIS CONTRACT UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
- 46. WHEN CONTRACTOR IS INSTALLING A NEW STEEL STRAIN POLE FOR INSTALLATION OF A NEW SPAN WIRE BY LOCAL UTILITY COMPANY, A SPAN WIRE ATTACHMENT CLAMP AND BULL RING SHALL BE PROVIDED BY THE CONTRACTOR. (INCLUDED IN THE INSTALLATION OF T.S. ON THIS CONTRACT)
- 47. ALL PEDESTRIAN TRAFFIC SIGNALS NOT IN USE ON THIS PROJECT SHALL BE BAGGED AS DIRECTED BY THE ENGINEER.
- 48. ALL TRAFFIC SIGNALS, CASE SIGNS, AND SPAN MOUNTED STATIC SIGNS THAT ARE NOT BEING USED WILL BE BAGGED, HOODED, TURNED, OR TAKEN DOWN TO CLEARLY INDICATE THAT THEY ARE NOT IN OPERATION. BAGGING MATERIAL WILL BE OF SUCH CONSTRUCTION AS TO NOT ALLOW ANYTHING TO BE VISIBLE THROUGH THE MATERIAL. BAGGING MATERIAL WILL BE OF SUCH CONSTRUCTION AS TO HOLD UP TO WIND AND OTHER ADVERSE WEATHER CONDITIONS. ALL TRAFFIC SIGNALS AND CASE SIGNS WILL BE DISABLED SO THAT NO LIGHTS ARE OPERATIONAL.
- 49. ALL MAST ARM MOUNTED TRAFFIC SIGNALS AND CASE SIGNS SHALL BE MOUNTED SUCH THAT A 17'-0" UNDER CLEARANCE IS MAINTAINED AT ALL TIMES.
- 50. THIS WORK CONSISTS OF THE CONTRACTOR'S RESPONSIBILITY TO TEST THE STRAIN POLE AND MAST ARM ANCHOR BOLTS. PROVIDE MATERIALS AND TESTING BY AN RCOC APPROVED LAB FOR ALL ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SUBSECTIONS 105.10, 820, AND 908.14 OF THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) STANDARD SPECIFICATION FOR CONSTRUCTION AND ALL CONTRACT DOCUMENTS. ANCHOR BOLTS SHALL BE MARKED BY COLOR CODED ENDS AND NON-REMOVABLE CASTING (HEAT) STAMP TO PROVIDE TRACEABILITY DURING TESTING AND INSTALLATION. INCLUDE PICTURES (OR OTHER PROPOSED METHOD) WITH THE TESTING RESULTS OF THE MATERIALS AT THE CONTRACTOR'S YARD AND LAB FOR TRACEABILITY IN THE FIELD. PROVIDE TEST DATA CERTIFICATION TO THE ENGINEER ACCORDING TO THE MOOT MATERIALS SOURCE GUIDE. ANCHOR BOLT TESTING WILL NOT PAID FOR SEPARATELY AND IS INCLUDED IN OTHER ITEMS OF WORK ANCHOR BOLTS SHALL NOT BE HEATED NOR HAMMERED AFTER ACCEPTANCE FOR USE ON THIS PROJECT. MDOT DOES NOT TEST FOR LOCAL AGENCY PROJECTS.
- MAST ARM INSPECTIONS FOR QUALITY ASSURANCE MUST BE COORDINATED WITH ROAD COMMISSION FOR OAKLAND COUNTY
- CUT OVER OF INTERSECTIONS, MODIFICATIONS OF ANY SIGNAL CONFIGURATION, AND TRAFFIC SWITCHES SHALL TAKE PLACE ON MONDAY THURSDAY FROM 9 A.M. 3 P.M. ONLY. CUT OVERS ARE NOT PERMITTED ON HOLIDAYS.
- 53. FOR MATERIAL INSPECTION REQUESTS (HMA, CONCRETE, AGGREGATE, ETC)
 CONTRACTOR SHALL COMPLETE THE ONLINE INSPECTION REQUEST AT: http://www.rocoweb.org/503/Contractor-Inspection-Request REFER TO PROPOSAL FOR ADDITIONAL INFORMALTION
- 54. WHERE REQUIRED BY THE LOCAL UTILITY COMPANY OR APPLICABLE CODE, INSTALL OR HAVE INSTALLED ALL NECESSARY INSULATORS OR ELECTRICAL PROTECTIVE DEVICES AND/OR COORDINATE WITH THE LOCAL UTILITY COMPANY TO HAVE REQUIRED PROTECTIVE DEVICES INSTALLED ON THE UTILITY COMPANY'S FACILITIES. ASSUME ALL LOCATIONS MAY REQUIRE WORK WITHIN 10 FEET OF PRIMARY AND/OR NEUTRAL CONDUCTORS. THE COST OF ANY PROTECTIVE DEVICES OR INSULATORS SHALL BE INCLUDED IN THE COST OF PERFORMING THIS WORK AND WILL NOT PAID FOR SEPARATELY.
- 55. SIGN INSTALLATION DATE STICKER ROOC WILL PROVIDE INSTALLATION DATE STICKERS TO THE CONTRACTOR AT THE PRECONSTRUCTION MEETING. AT THE TIME OF INSTALLATION, PLACE AN INSTALLATION DATE STICKER ON THE BACK LOWER PORTION OF THE CASE AND NON-ILLUMINATED STREET NAME SIGNS.
- RCOC MARCH 2014 TRAFFIC SIGNAL DETAIL BOOK IS AVAILABLE AT RCOC WEBSITE: http://www.rcocweb.org/DocumentCenter/View/190/2014-Treffic-Signal-Detail-Book-PDF
 THIS INFORMATION IS ALSO AVAILABLE UPON REQUEST DIRECTLY FROM RCOC TRAFFIC SAFETY DEPARTMENT BY CONTACTING AHMAD JAWAD, SIGNAL SYSTEMS ENGINEER AT

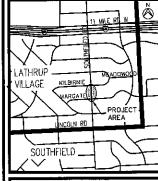
IN CASE OF CONFLICT, UTILIZE RCOC SPECIAL PROVISIONS AND RCOC STANDARD CONSTRUCTION SIGNAL DETAIL BOOK, THEN USE CONTRACT DOCUMENTS AND 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION WHICHEVER ARE MOST RESTRICTIVE AS



HUBBELL, ROTH & CLARK, INC CONSULTING ENGINEERS SINCE 1915

WEB SITE: www.hrcengr.com





THE CITY OF LATHRUP VILLAGE TRAFFIC SIGNAL **MODERNIZATION**

> SIGNAL NOTES SOUTHFIFLD RD

NTS 2022091 February 2023

LEGEND SHEET

TRAFFIC SIGNAL

INSTALL TRAFFIC SIGNAL PEDESTAL ON NEW FOUNDATION (EXCEPT AS OTHERWISE INDICATED).

BAG SIGNALS AS DIRECTED BY ENGINEER, (INCLUDED IN INSTALLATION OF T.S. ON THIS CONTRACT).

REMOVE BAG AS DIRECTED BY ENGINEER, (INCLUDED IN INSTALLATION OF T.S. ON THIS CONTRACT).

INSTALL WARNING SIGN (TYPE AS INDICATED ON PLANS).

POLE CONTACT HEIGHT OF T.S. SPAN WIRE

LOW CONTACT HEIGHT OF SPAN WIRE T.S. TO SPAN WIRE.

INSTALL ANCHOR BASE STEEL STRAIN POLE (SIZE AS INDICATED) ON NEW FOUNDATION. (EXCEPT AS OTHERWISE INDICATED).

EXISTING TRAFFIC SIGNAL CONTROLLER

EXISTING MAST ARM STANDARD

EXISTING STEEL STRAIN POLE

INSTALL 2-WAY CASE SIGN REMOVE 2-WAY CASE SIGN EXISTING 2-WAY CASE SIGN INSTALL 4-WAY CASE SIGN

REMOVE 4-WAY CASE SIGN

EXISTING 4-WAY CASE SIGN

EXISTING PEDESTAL

UNDFRGROUND

Θ	INSTALL 12" VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN)	M.H. 1234	EXISTING MANHOLE	•
Θ	INSTALL VEHICULAR TRAFFIC SIGNAL WITH SALVAGED HEADS (2-WAY SHOWN)	○ EX. H.H. ———————	EXISTING HANDHOLE EXISTING DUCT RUN	• ×
	HEADS (2-WAY SHOWN) EXISTING VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN) REMOVE VEHICULAR TRAFFIC SIGNAL (1-WAY SHOWN) INSTALL PEDESTRIAN (COUNTDOWN TYPE) TRAFFIC SIGNAL (2-WAY SHOWN) INSTALL PEDESTRIAN (COUNTDOWN TYPE) TRAFFIC SIGNAL WITH SALVAGED HEAD (2-WAY SHOWN) REMOVE PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN) EXISTING PEDESTRIAN (WALK-DON'T WALK) TRAFFIC SIGNAL (1-WAY SHOWN) INSTALL JUNCTION BOX INSTALL SALVAGED JUNCTION BOX REMOVE JUNCTION BOX	— X — — — — — — — — — — — — — — — — — —	REMOVE EXISTING DUCT RUN BUILD DIRECT BURIAL CONDUIT (D.B.) OR ENCASED CONDUIT (E.C.) (2—3" D.B. SHOWN) GALVANIZED IRON CONDUIT (2—3" SHOWN) BUILD NEW MANHOLE (2—WAY) BUILD NEW MANHOLE (3—WAY) BUILD NEW MANHOLE (4—WAY) BUILD NEW MANHOLE (CORNER) BUILD ROUND HANDHOLE BUILD SQUARE HANDHOLE BUILD TYPE "D" HANDHOLE EXISTING DIRECT BURIAL OR PARKWAY CABLE ABANDON DIRECT BURIAL OR PARKWAY CABLE	X 0-0 0- 0- 1/2 1/2 3/e 7 P OR A 7/2
222	EXISTING JUNCTION BOX		INSTALL DIRECT BURIAL CABLE (NO. & SIZE AS INDICATED)	IN.
	INSTALL OVERHEAD PLASTIC JACKETED CABLE	☆	EXISTING U.G.—FED ST. LTG. UNIT	RM.
	EXISTING OVERHEAD PLASTIC JACKETED CABLE REMOVE OVERHEAD PLASTIC JACKETED CABLE	፠	REMOVE U.G.—FED ST. LTG. UNIT & FDN. (EXCEPT AS OTHERWISE INDICATED)	MSS C.P.
2	INSTALL TRAFFIC SIGNAL CONTROLLER (NEW OR SALVAGED AS INDICATED). (EXCEPT AS OTHERWISE INDICATED)	*	INSTALL COMB. T.S. & ST. LTG. STD. (SIZE AS SPECIFIED) ON NEW FDN., 6FT. CLAMP ON BRACKET ARM WITH 3'-0" RISE, INSTALL 400W. TYPE LUMINAIRE.	 .
•	INSTALL MAST ARM POLE & MAST ARM (SIZES AS INDICATED) ON NEW FOUNDATION (EXCEPT AS OTHERWISE INDICATED).			

OVERHEAD

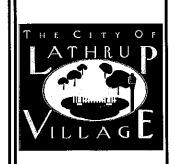
REPLACE WOOD POLE (HEIGHT & CLASS AS INDICATED) INSTALL WOOD POLE (HEIGHT & CLASS AS INDICATED) (USE SALVAGED POLE WHERE INDICATED) EXISTING OVERHEAD ST. LTG. UNIT REMOVE OVERHEAD ST. LTG. UNIT INSTALL OVERHEAD ST. LTG. UNIT EXISTING OVERHEAD LINE REMOVE OVERHEAD LINE INSTALL OVERHEAD LINE INSTALL & LATER REMOVE OVERHEAD LINE INSTALL GUY & ANCHOR (1/2" GUY SHOWN) REMOVE GUY & ANCHOR ROD INSTALL POLE GUY (1/2" GUY SHOWN) INSTALL ARM GUY (3/8" GUY SHOWN) REMOVE GUY (TYPE AS INDICATED) MATERIAL TO BE INSTALLED MATERIAL TO BE REMOVED MAKE WOOD POLE SELF-SUPPORTING IN CONCRETE

EXISTING OR REMOVE WOOD POLE AS INDICATED

DIAGRAMS

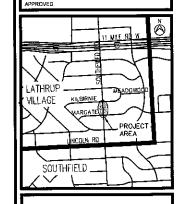
(U.G.—FED ST. LTG. STD. SYMBOLS SAME AS UNDERGROUND LEGEND OF THIS SHEET). M.H. 5878 PROPOSED MANHOLE EXISTING MANHOLE PROPOSED HANDHOLE - EXISTING HANDHOLE PROPOSED HANDHOLE IN SAME LOCATION AS EX. HOLE INSTALL U.G. CABLE (NO. & SIZE AS INDICATED). EXISTING U.G. CABLE U.G. CABLE TO BE ABANDONED ///////// U.G. CABLE TO BE REMOVED # ##-###### DISCONNECT, INSULATE & CAP SPLICE STRAIGHT THRU

SPLICES



HUBBELL, ROTH & CLARK, INC

CONSULTING ENGINEERS SINCE 1915 555 HU1ET DRIVE Bloomfield Hills, Mich. P.O. BOX 824 48303 - 0824 WEB SITE: www.hrcengr.com DESIGNED HFA



CHECKED LFM

THE CITY OF LATHRUP VILLAGE TRAFFIC SIGNAL MODERNIZATION

SIGNAL LEGEND SOUTHFIELD RD

20220916 NTS February 2023

TRAFFIC SIGNAL

INSTALL OVERHEAD DETECTION CAMERA MOUNTED AS

-0.	INDICATED ON THE PLANS.	
⊘	INSTALL SALVAGED OVERHEAD DETECTION CAMERA MOUNTED AS INDICATED ON THE PLANS.	
	EXISTING OVERHEAD DETECTION CAMERA	-(S)S
_	REMOVE OVERHEAD DETECTION CAMERA	-©i
	INSTALL LOOP DETECTION AREA IN PAVT	-(y)
	WIRELESS VEHICLE DETECTION AREA	-@
Ø	INSTALL LOOP DETECTOR & CABINET (EXCEPT AS OTHERWISE INDICATED).	
⊠	EXISTING LOOP DETECTOR & CABINET	
-	INSTALL OPTICAL DETECTOR AS SHOWN ON PLANS	
≘	INSTALL WIRELESS VEHICLE RADIO RECEIVER AS INDICATED	

GENERAL

CABLE POLE

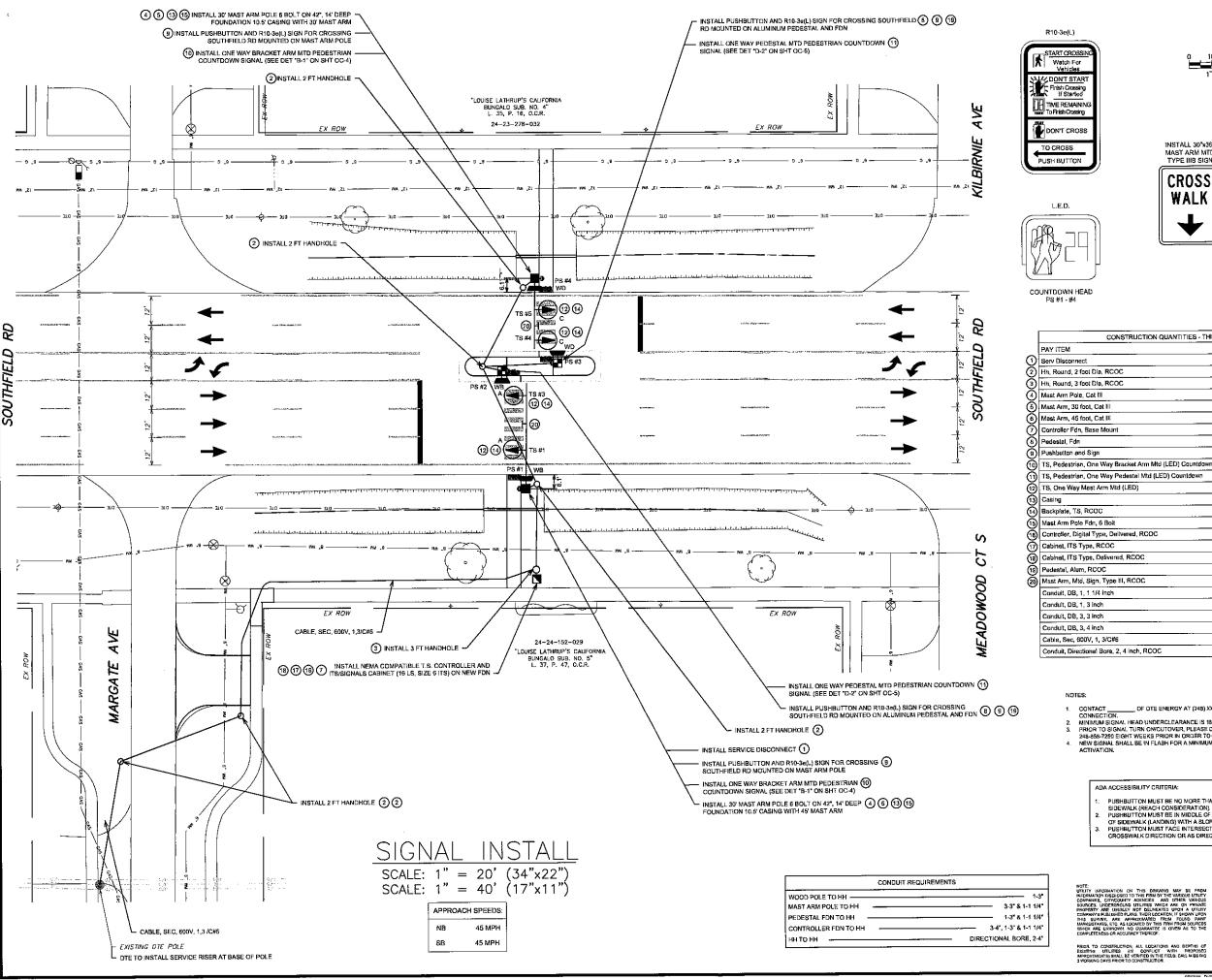
PROPERTY LINE (ROW) PAVEMENT JOINTLINE & CURB FACE PROPOSED PAVEMENT SEWER LINE, MANHOLE & CATCH BASIN DET. ED. CO. U.G. LINE & MANHOLE TELEPHONE U.G. LINE & MANHOLE WATERMAIN & GATEWELL (OTHER UTILITIES SIMILAR) GAS STRUCTURE AND U.G. LINE

Ø

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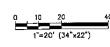
POCH

L.C.H.













CONSTRUCTION QUANTITIES - THIS SHEET



2

2

2

2

21

4

28

1

1

2

2

60

150

20

20

300

275 Ft

Ft

Ft

Ft

Ft



555 HULET DRIVE BLODMFIELD HILLS, MICH. P.O. BOX 824 46303 - 0824 PHONE: (248) 454-6300 FAX (1st. Floor); (248) 454-6312 FAX (2nd. Floor); (248) 454-6359

WEB SITE: www.hrcengr.com

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2 Ea Ea Ea Ea 1 Ea Fa Ea Ea Ea Ea Ea Εa ADDITIONS AND/OR REVISIONS Ft DESIGNED COB Ea HFA Ft CHECKED COB Eа PPROVED LFM Ea Ea Ea Ea Ft

LATHRUP

VILLAGE

KILBIRNI

NCOLN RD



MODERNIZATION

AREA

SIGNAL INSTALL PLAN SOUTHFIELD ROAD

C O #1608

1"=20 20220916 March 2024

- CONTACT OF DTE ENERGY AT (248) XXX-XXXX FOR ELECTRIC SERVICE CONNECTION.

- CONNECTION.

 2. MINIMUM SIGNAL HEAD UNDERCLEARANCE IS 18 FEET.

 3. PRIOR TO SIGNAL TURN ON/CUTOVER, PLEASE CONTACT MR. STEVE WHEELER AT 248-858-7250 EIGHT WEEKS PRIOR IN ORDER TO OBTAIN RCCC BOARD APPROVAL

 4. NEW SIGNAL SHALL BE IN FLASH FOR A MINIMUM OF 7 CALENDAR DAYS PRIOR TO ACTIVATION.

ADA ACCESSIBILITY CRITERIA:

- PUSHBUTTON MUST BE NO MORE THAN 10° FROM EDGE OF SIDEWALK (REACH CONSIDERATION).
 PUSHBUTTON MUST BE IN MIDDLE OF A 4' MINIMUM LONG SECTION OF SIDEWALK (LANDING) WITH A SLOPE OF NO MORE THAN 2%.
 PUSHBUTTON MUST FACE IN TERSECTION AND BE PARALLEL TO CROSSWALK DIRECTION OR AS DIRECTED BY ENGINEER.

THREE FULL WORKING DAYS BEFORE YOU DIG, CALL THE MISS DIG SYSTEM AT 800-482-7171 OR 811.