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MDOT STANDARD PLANS

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SIG-341-A	POLE MOUNTING DETAILS FOR SIGNALS
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SIG-400-A	PEDESTRIAN PUSH BUTTON DETAILS
SIG-420-A	WIRELESS VEHICLE DETECTION SYSTEM
SIG-430-A	VIDEO DETECTION CAMERA
SIG-432-A	SPAN WIRE MOUNTED VIDEO DETECTION CAMERA

TRAFFIC AND SAFETY STANDARD PLANS

WZD-100-A	GROUND DRIVEN SIGN SUPPORTS FOR TEMPORARY SIGNS *
WZD-125-E	TEMPORARY TRAFFIC CONTROL DEVICES*

* DENOTES SPECIAL DETAIL



COUNTY KEY

VILLAGE OF PAW PAW OFFICIALS

PRESIDENT	ROMAN PLASZCZAK
TRUSTEE	NADINE JARVIS
TRUSTEE	ERIC LARCINESE
TRUSTEE	MARY HOUPPERT-MOINTOSH
PRESIDENT PRO-TEAM	DOUGLAS CRADDOCK
TRUSTEE	DONNE ROHR
TRUSTEE	MARCOS FLORES
VILLAGE MANAGER	LARRY NIELSEN

THE IMPROVEMENTS COVERED BY THESE PLANS ARE DESIGNED IN ACCORDANCE WITH:

MICHIGAN DEPARTMENT OF TRANSPORTATION, LOCAL AGENCY PROGRAMS GUIDELINES FOR GEOMETRICS FOR RESURFACING, RESTORATION, AND REHABILITATION (3R) 08/28/2008.

2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND SUPPLEMENTAL SPECIFICATIONS.

2011 MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD) AS AMENDED.

VILLAGE OF PAW PAW

IN CO-OPERATION WITH

MICHIGAN DEPARTMENT OF TRANSPORTATION AND
FEDERAL HIGHWAY ADMINISTRATION

PLAN OF PROPOSED

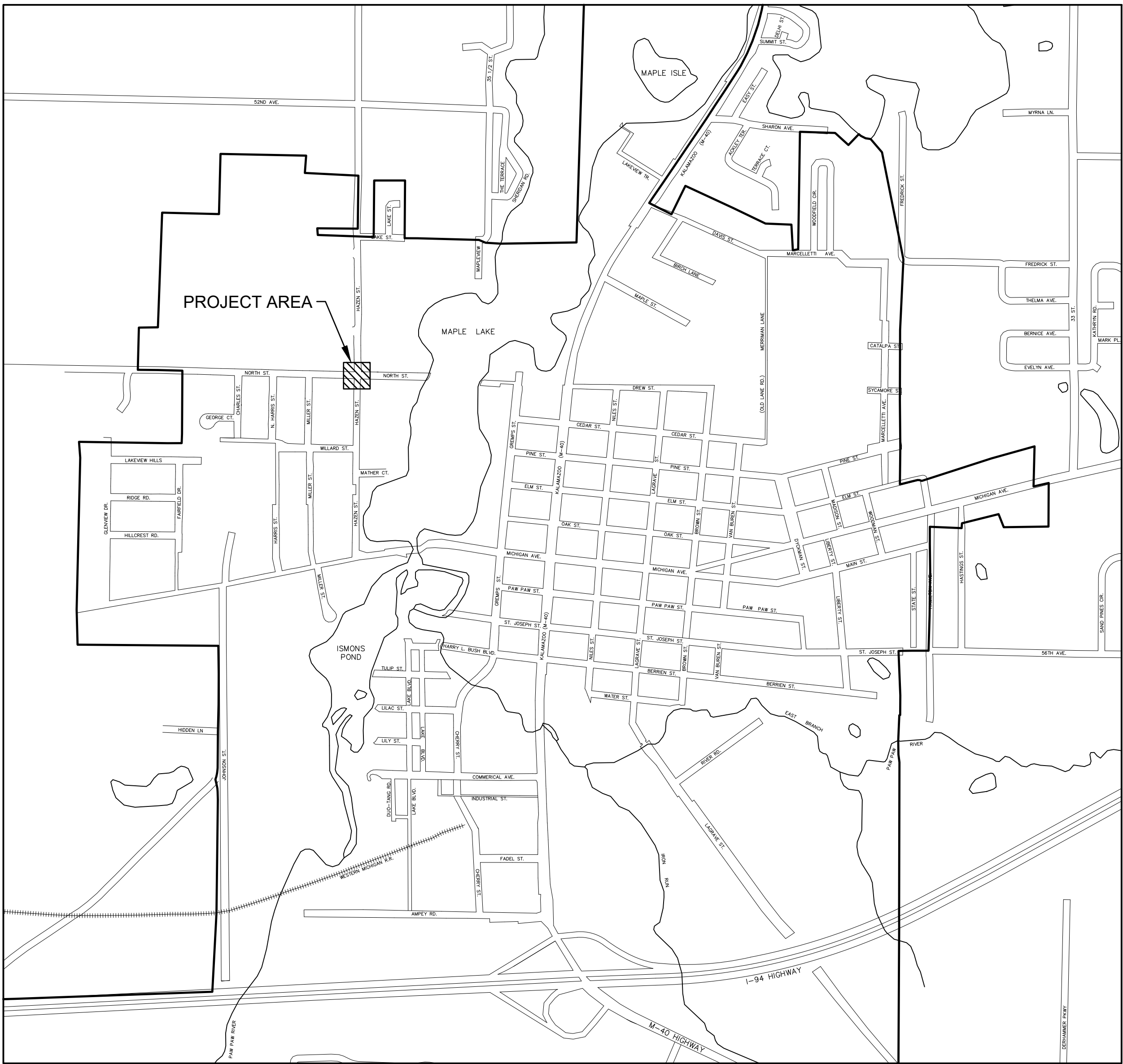
NORTH STREET AT HAZEN STREET TRAFFIC SIGNAL IMPROVEMENTS VAN BUREN COUNTY

CONTROL SECTION: STUL XXXXX

JOB #: XXXXXX

FEDERAL PROJECT#: STP-XXXX (XXX)

FEDERAL ITEM#: XXXXXX



PROJECT LOCATION MAP

NOT TO SCALE

FEDERAL JOB NO.	COUNTY	VILLAGE	SHEET NUMBER	TOTAL SHEETS
X	VAN BUREN	PAW PAW	1	5

TRAFFIC DATA

XXXXXXXX STREET	YEAR 20XX	YEAR 20XX
ADT =	XX,XXX	XX,XXX
DHV =	X,XXX	X,XXX
% COMMERCIAL =	X%	X%
DESIGN SPEED =	XX MPH	
POSTED SPEED =	XX MPH	

LOCAL UTILITIES

GAS:	WATER/SANITARY/ELECTRIC:	INTERNET:
CONSUMERS ENERGY - GAS	VILLAGE PAW PAW PUBLIC WORKS	MICHAEL DIEDERICH
KYLE OAK	JOHN SMALL	2919 MILLCORK ST, ROOM 101
2500 E. CORK STREET	110 HARRY L. BUSH BLVD.	KALAMAZOO, MI 49001
KALAMAZOO, MI 49001	PAW PAW, MI 49079	MD4145@ATT.COM
KYLE.OAK@CMSENERGY.COM	269-657-3169	216-587-6267
269-337-2366		

TELEPHONE:	CABLE:
FRONTIER	COMCAST
JEFFREY MCCORD	JOE SCHOPF
601 N. US-131	11921 EAST M-89
THREE RIVERS, MI 49093	RICHLAND, MI 49083
JEFFREY.L.MCCORD@TR.COM	JOSEPH_SCHOPF@CABLE.COMCAST.COM
269-273-0371	269-703-7199

CALL MISS DIG

1-800-482-7171 OR 811

FOR PROTECTION OF THE UNDERGROUND UTILITIES, THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF THREE FULL WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND HOLIDAYS PRIOR TO BEGINNING CONSTRUCTION OPERATIONS. MEMBERS WILL THUS BE ROUTINELY NOTIFIED. THIS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF NOTIFYING UTILITY OWNERS WHO MAY NOT BE PART OF THE "MISS DIG" ALERT SYSTEM.



Know what's below.
Call before you dig.

PROJECT LENGTH: X.XX MILES

CONTRACT FOR X.XX MILES ROADWAY RECONSTRUCTION WATERMAIN AND SEWER REPLACEMENT

CITY APPROVAL

CITY MANAGER	DATE
CITY ENGINEER	DATE

PREPARED UNDER SUPERVISION OF

XXXXXXXXXX REGISTERED PROFESSIONAL ENGINEER	XXXXXX REGISTRATION NO.
ABONMARCHÉ	
ORGANIZATION	

95 WEST MAIN STREET, BENTON HARBOR, MI 49022
ADDRESS

NO.	REVISION DESCRIPTION:	BY:	DATE:
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GENERAL NOTES

UTILITIES

MISS DIG/UNDERGROUND UTILITY NOTIFICATION
FOR THE PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 174 OF 2013, THE CONTRACTOR SHALL CONTACT MISS DIG SYSTEM, INC. BY PHONE AT 811 OR 800-482-7171 OR VIA THE WEB AT EITHER ELOCATE.MISSDIG.ORG FOR SINGLE ADDRESS OR RTE.MISSDIG.ORG, A MINIMUM OF 3 BUSINESS DAYS PRIOR TO EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.

OUT OF SERVICE UTILITIES
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.

ROW / REAL ESTATE

PROPERTY OWNERS
PROPERTY OWNER'S NAMES, WHERE SHOWN, ARE FOR INFORMATION ONLY, AND THEIR ACCURACY IS NOT GUARANTEED.

MARKETABLE TIMBER
MARKETABLE TIMBER SHALL BE MADE AVAILABLE TO THE PROPERTY OWNER IN ACCORDANCE WITH SECTION 201.03 OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

LAWN SPRINKLER SYSTEMS AND LANDSCAPING
OWNERS OF EXISTING LAWN SPRINKLER SYSTEMS AND/OR LANDSCAPING SHALL BE NOTIFIED (IN WRITING WITH A COPY SENT TO THE ENGINEER) BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF ANY WORK TO BE DONE THAT WILL AFFECT THOSE SYSTEMS AND/OR LANDSCAPING. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LAWN SPRINKLER SYSTEM PRIOR TO THE CONTRACTOR BEGINNING WORK, AND IF THE CONTRACTOR CUTS THE SYSTEM DURING THE CONSTRUCTION, THE CONTRACTOR SHALL CAP THE SYSTEM PIPE AND WITNESS THE LOCATION OF THE CAP WITH A WOODEN STAKE FOR THE PROPERTY OWNER'S USE. THE CONTRACTOR SHALL PLACE THE SALVAGED SPRINKLER HEADS ON THE PROPERTY OWNER'S PROPERTY. IF THE PROPERTY OWNER FAILS TO RELOCATE THE LANDSCAPING PRIOR TO THE CONTRACTOR BEGINNING WORK, THE CONTRACTOR SHALL CAREFULLY SALVAGE THE LANDSCAPING ITEMS AND STOCKPILE THEM ON THE PROPERTY OWNER'S PROPERTY FOR THE PROPERTY OWNER. ANY OTHER MODIFICATION TO THE LAWN SPRINKLER SYSTEMS AND/OR LANDSCAPING IS THE RESPONSIBILITY OF THE OWNER AND IS NOT PART OF THIS CONTRACT. THIS WORK IS INCLUDED IN OTHER ITEMS OF THE PROJECT.

DETAILED GRADES

GRADES FOR INTERSECTIONS
ALL INTERSECTIONS ARE TO BE CONSIDERED AS COMPLETE UNITS AND THEIR GRADES DETERMINED BEFORE CONSTRUCTION IS STARTED.

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

EARTHWORK - TRAFFIC SIGNALS
EARTHWORK QUANTITIES FOR STAND ALONE TRAFFIC SIGNALS AND RELATED RAMP IMPROVEMENT PROJECTS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT ITEMS BEING CONSTRUCTED. NO EXTRA PAYMENT WILL BE MADE THEREFORE.

SLOPES
CLASS A SLOPES SHALL BE CONSTRUCTED ON THIS PROJECT.

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. FOR AREAS ADJACENT TO WETLANDS, THE EARTH DISTURBANCE LIMIT WILL BE LIMITED TO THE SLOPE STAKE LINE. 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. CRITICAL DITCH GRADES SHALL BE PROTECTED WITH EITHER SOD OR SEED/MULCH OR MULCH BLANKET AS DIRECTED BY THE ENGINEER.

PAVEMENT

PAVEMENT AND HMA SURFACE REMOVAL QUANTITIES
PAVEMENT AND HMA SURFACE REMOVAL AS SHOWN ON THE PLANS WILL BE AT THE DISCRETION OF THE ENGINEER. IF IN HIS/HER JUDGMENT, AREAS OF PAVEMENT MAY BE LEFT IN PLACE, OR ADDITIONAL AREAS ADDED TO PROVIDE THE PROPER CROSS-SECTION AND BASE. CHANGES WILL BE MADE IN THE QUANTITIES.

CONCRETE
THE TYPE OF CONCRETE TO BE USED ON THIS PROJECT FOR THE PAVEMENT REPAIRS IS TYPE S2.

TURF ESTABLISHMENT

SEED MIXTURE
THE PERMANENT TURF SEED MIXTURE ON THIS PROJECT IS MIXTURE TDS IN ACCORDANCE WITH THE SECTION 917 OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION.

EXISTING VEGETATION SHALL NOT BE DAMAGED DURING CONSTRUCTION OPERATIONS, PER THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

ALL RAW FILL OR CUT SLOPES WILL BE COVERED WITH SLOPE RESTORATION ACCORDING TO THE SPECIAL PROVISION AND TIME LIMITATIONS SPECIFIED IN SECTION 816.03 OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

ALL EXCAVATED MATERIAL WILL BECOME THE PROPERTY OF THE CONTRACTOR. ANY EXCAVATED MATERIAL NOT USED ON THE PROJECT WILL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH SECTION 205.03.P. OF THE 2012 STANDARD SPECIFICATION FOR CONSTRUCTION AND ANY APPLICABLE STATE AND/OR LOCAL ORDINANCES.

NO CEREAL RYE SEEDING SHALL BE USED ON THIS PROJECT.

PROTECT EXISTING SIDEWALKS FROM DAMAGE.

ENVIRONMENTAL

RECREATIONAL PROPERTIES
THE CONTRACTOR SHALL NOT PARK ANY VEHICLES OR STORE ANY EQUIPMENT ON PUBLIC RECREATIONAL PROPERTY. ACCESS TO THE RECREATIONAL PROPERTIES MUST ALSO BE MAINTAINED AT ALL TIMES. NON COMPLIANCE, EVEN WITHOUT THE KNOWLEDGE AND APPROVAL OF MDOT PERSONNEL, CAN RESULT IN PENALTIES UP TO AND INCLUDING TERMINATION OF THE CONSTRUCTION CONTRACT AND LOSS OF FEDERAL FUNDING FOR THE PROJECT. SHOULD THERE BE ANY QUESTIONS REGARDING THIS REQUIREMENT, CONTACT THE MDOT ENVIRONMENTAL SERVICES SECTION AT (517) 373_8350.

SIGNALS

PREVIOUS GENERAL NOTES
SOME NOTES PREVIOUSLY INCLUDED IN "GENERAL NOTES" ARE NOW LOCATED WITHIN THE FREQUENTLY USED SPECIAL PROVISION TITLED "TRAFFIC SIGNAL WORK - CONSTRUCTION METHODS".

NOTIFICATIONS TO MAINTAINING AGENCIES
CONTACT THE MAINTAINING AGENCY SEVEN WORKING DAYS PRIOR TO START OF CONSTRUCTION AND SEVEN WORKING DAYS PRIOR TO SIGNAL ACTIVATION.

CABINET SET UP AND CONTROLLER TIMING
SEE PROJECT SPECIFIC NOTES

TREE TRIMMING
ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET LIGHTING & TRAFFIC SIGNAL POLES AND OVERHEAD STREET LIGHTS & TRAFFIC SIGNAL UNITS SHALL BE INCLUDED IN THE PAY ITEM & NO EXTRA PAYMENT SHALL BE MADE.

FACILITIES NOT ON PLANS
EXISTING O.H. & T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON PLANS.

EXISTING STREET SIGNS
ALL TRAFFIC STREET SIGNS SUCH AS "NO PARKING", "NO STANDING", ETC. SHALL BE TRANSFERRED FROM OLD STD. OR POLE TO NEW STD. OR POLE AT SAME LOCATION OR IN CLOSE PROXIMITY BY THE CONTRACTOR.

CONTINUOUS TRAFFIC SIGNAL OPERATION
PROPOSED T.S. SHALL BE PUT INTO OPERATION AT TIME OF REMOVAL OF EXISTING T.S. FACILITIES. CONTRACTOR SHALL NOTIFY THE MAINTAINING AGENCY. IF UNABLE TO MAINTAIN T.S. IN AN OPERABLE CONDITION AT ALL TIMES.

UNDERGROUND UTILITY SEPARATION
A MINIMUM CLEARANCE OF 3'-6" HORIZONTAL & 1'-0" VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED FACILITIES & EXISTING U.G. WATER FACILITIES.

SIGNAL EQUIPMENT DISPOSAL
DISPOSAL OF ALL TRAFFIC SIGNAL EQUIPMENT IS INCLUDED IN THE REMOVAL PAY ITEMS AND SHALL ALSO INCLUDE THE FOLLOWING:
• NOTIFICATION TO THER MAINTAINING AGENCY THAT TRAFFIC SIGNAL EQUIPMENT IS BEING REMOVED.
• TEMPORARY STORAGE OF EQUIPMENT AS DIRECTED BY THE ENGINEER ALLOWING THE MAINTAINING AGENCY 48 HOURS TO SALVAGE ANY

EQUIPMENT.
• PROPER DISPOSAL OF ANY EQUIPMENT CONTAINING ENVIRONMENTALLY SENSITIVE MATERIALS (MERCURY RELAY SWITCHES FOR EXAMPLE)
• DISABLING OR DESTRUCTION OF ALL REMAINING EQUIPMENT TO THE SATISFACTION OF THE ENGINEER SUCH THAT IT CANNOT BE REUSED OR RESOLD.
• PROPER DISPOSAL OF ALL REMAINING EQUIPMENT.

PLAN DEVIATIONS DURING CONSTRUCTION
NO CHANGES FROM PLANS IN LOCATION OF SUPPORTING STRUCTURES SIGNAL HEAD PLACEMENT OR TRAFFIC SIGNAL EQUIPMENT WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE MAINTAINING AGENCY. CONTACT MR. JOHN SMALL AT (269) 657-3169.

HAND PATCHING
UNLESS OTHERWISE DESIGNATED IN THE PLANS AND SPECIFICATIONS, THE MIX USED FOR HAND PATCHING WILL BE HMA, 13A WITH BINDER TYPE PG 58-28. APPLICATION RATE IS VARIABLE. BOND COAT TO BE APPLIED AT 0.05-0.15 GALLONS PER SQUARE YARD.

THE CURRENT BASIS OF ACCEPTANCE FOR THIS MATERIAL IS NOW PART OF THE QPL (QUALIFIED PRODUCT LIST). THIS CAN BE FOUND IN THE MATERIALS ACCEPTANCE REQUIREMENTS TABLE, PUBLISHED IN THE MQAP AND REPEATED FOR CONVENIENCE IN THE MATERIALS SOURCE GUIDE.

INNERDUCT
CONTRACTOR MUST INSTALL A CONTINUOUS FLEXIBLE NON-METALLIC TUBING (INNERDUCT) FOR LOW VOLTAGE COMMUNICATION TYPE CABLE FROM THE DEVICE TO THE CONTROLLER CABINET. INNERDUCT IS NOT REQUIRED IF COMMUNICATION CABLE IS 600V RATED.

SIGNAL HEAD LANDING POINT
ENSURE EACH TRAFFIC SIGNAL HEAD ASSEMBLY HAS ITS OWN LANDING POINT WITH ALL NEUTRALS CONNECTED TOGETHER WITH A METAL TYPE JUMPER.

PROJECT SPECIFIC NOTES

MAINTAINING AGENCY CONTACT INFORMATION
• VILLAGE OF PAW PAW: JOHN SMALL (269) 657-3169

ELECTRICAL SERVICE INSPECTION
FOR ELECTRICAL SERVICE INSPECTION, CONTACT THE MICHIGAN DEPARTMENT OF CONSUMER AND INDUSTRY SERVICES . COST FOR THE INSPECTION IS NOT A SEPARATE PAY ITEM BY IS INCLUDED IN THE PAY ITEM: Controller and Cabinet, Digital Type

UTILITIES
INSTALL NEW GUY WIRES AT A 1:1 RATIO OR AS NEAR AS POSSIBLE.

WHERE SPACE CONSTRAINTS DO NO PERMIT ANCHORING WITHIN THE RIGHT-OF-WAY/EASEMENT OR WHERE A MINIMUM OF 10'-0" VERTICAL CLEARANCE CANNOT BE MAINTAINED OVER A PEDESTRIAN OR NON-MOTORIZED PATH, INSTALL A STRUT-TYPE GUY WIRE OF SUFFICIENT LENGTH TO MAINTAIN PROPER CLEARANCES.

THE CONTRACTOR SHALL HAND DIG TO LOCATED UNDERGROUND UTILITIES PRIOR TO USE OF POWER TOOLS OR EQUIPMENT.

CABLING/WIRING
ALL OVERHEAD WIRES & UNDERGROUND CABLES SHALL CONSIST OF COPPER CONDUCTORS AS PER THE SPECIFICATIONS.

WHERE EXISTING SIGNALS OR EQUIPMENT ARE SALVAGED OR RELOCATED, INSTALL NEW WIRING FROM THE CONTROL CABINET TO THE LOCATION OF THE SIGNAL EQUIPMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL AN ADDITIONAL 20 FEET OF SIGNAL CABLE FOR EACH PEDESTRIAN AND VEHICLE SIGNAL AS DIRECTED BY THE ENGINEER.

ALL WIRES & CABLES SHALL BE TAGGED IN A PERMANENT MANNER INDICATING THE SOURCE & USE OF EACH THIS SHALL BE DONE IN ALL MANHOLES, HANDHOLES & CABINETS WHERE THESE CABLES OR WIRES ENTER, EXIT, ARE SPLICED AND ARE TERMINATED.

NO SPLICING OF CABLES IS ALLOWED ON THIS PROJECT.

FOUNDATIONS
UNLESS OTHERWISE DESIGNATED ON THE PLANS, ALL NEW FOUNDATIONS FOR STRAIN POLES SHALL BE 6-BOLT TYPE, 42 INCHES IN DIAMETER IN ACCORDANCE WITH STATEWIDE TRAFFIC SIGNAL DETAIL SIG-020 SERIES.

CABINET SET UP AND CONTROLLER TIMING
TRAFFIC SIGNAL CONTROLLERS SHALL BE SET UP AND PROGRAMMED BY A FACTORY AUTHORIZED DEALER WITH TIMING PLANS FURNISHED BY THE ENGINEER OR MAINTAINING AGENCY. TRAFFIC SIGNAL CONTROLLERS SHALL BE FURNISHED WITH A COMPLETE SET OF INSTALLATION PLANS AND OWNERS MANUALS.

VIDEO DETECTION
THE CONTRACTOR SHALL SET UP VIDEO DETECTION ZONES AS DIRECTED BY THE ENGINEER OR MAINTAINING AGENCY

CONSTRUCTION PHASING
BAG ALL CONFLICTING OR UNUSED TRAFFIC SIGNAL HEADS (VEHICULAR OR PEDESTRIAN AS DIRECTED BY THE ENGINEER.

BAGGING OF TEMPORARY OR FINAL TRAFFIC SIGNAL HEADS REQUIRED BY THE ENGINEER SHALL BE INCLUDED IN THE INSTALLATION OF THE TRAFFIC SIGNAL ITEM AS PART OF THIS CONTRACT.

TRAFFIC SIGNAL MOUNTING
ALL TRAFFIC SIGNALS SHALL BE MOUNTED SUCH THAT 17'-0" UNDERCLEARANCE IS MAINTAINED AT ALL TIMES.

FIELD ADJUSTMENT OF TRAFFIC SIGNAL EQUIPMENT MAY BE REQUIRED AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.

ALL TRAFFIC SIGNAL FITTINGS (SCREWS, NUTS, BOLTS, PINNACLES, ETC.) SHALL BE GREASED WITH NON-OXIDE TYPE GREASE.

CONDUITS
ALL CONDUIT BENDS SHALL HAVE MINIMUM RADII IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (N.E.C.)

ALL JACKED-BORED, OPEN CUT OR DIRECT BURIAL CONDUIT CALLED FOR ON PLANS IS THE PREFERRED METHOD OF INSTALLATION. IF THE METHOD OF CONDUIT INSTALLATION IS IMPOSSIBLE TO CONSTRUCT OR IF THE CONTRACTOR PREFERENCES TO USE ANY OTHER METHOD, THE CHANGE OF METHOD MAY BE MADE UPON APPROVAL BY THE PROJECT ENGINEER.

THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING OR ANTICIPATING THE NEED OR DESIRE TO INSTALL THE CONDUIT BY ANY OTHER METHOD AND INCLUDE THE COST IN HIS CONTRACT BID.

NO ADDITIONAL PAYMENT WILL BE ALLOWED FOR ANY CHANGE IN THE METHOD OF CONDUIT INSTALLATION.

THE CONTRACTOR SHALL LOCATE, PROTECT, AND (WHERE APPROPRIATE) UTILIZE PREVIOUSLY INSTALLED TRAFFIC SIGNAL CONDUIT FOR USE AS PART OF THIS PROJECT.

INSTALLATION OF ENCASED CONDUIT CALLED FOR ON THE PLANS SHALL BE CONCRETE ENCASED UNLESS OTHERWISE SPECIFIED IN THE PLANS OR DIRECTED BY THE ENGINEER.

WHEN PLACING NEW HANDHOLE ON EXISTING CONDUIT, INSTALL SWEEPS, BREAK OUT CONDUIT, AND ADAPT HANDHOLE AS NEEDED. INCLUDED WITH PAYMENT FOR NEW HANDHOLE.



25 Main North Street
Benton Harbor, MI 49023
T 269.927.2295
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abonmarche@ic.com

Engineering - Architecture - Land Surveying

PROJECT: NORTH STREET AT HAZEN STREET
TRAFFIC SIGNAL IMPROVEMENTS
PAW PAW, MI

TRAFFIC SIGNAL
GENERAL INFORMATION SHEET

SHEET TITLE:

DRAWN BY: DJL
DESIGNED BY: SPJ
PM REVIEW: TRD
QA/QC REVIEW:
DATE: AUGUST 2019
SEAL:

SIGNATURE:

DATE:

SCALE:
HORZ: N/A
VERT: N/A

ACI JOB #

19-0911

SHEET NO.

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NO.

REVISION DESCRIPTION:

BY:

DATE:

TRAFFIC SIGNAL HEAD SYMBOLS

-
- 12" LED VEHICLE TRAFFIC SIGNAL (ONE WAY)
-
- BAGGED OR COVERED 12" LED VEHICLE TRAFFIC SIGNAL (ONE WAY)
-
- 12" LED VEHICLE TRAFFIC SIGNAL (ONE WAY) WITH SPECIAL TURNING MOVEMENT (LEFT TURN SHOWN)
-
- 12" LED VEHICLE TRAFFIC SIGNAL (TWO WAY BACK TO BACK)
-
- 12" LED VEHICLE TRAFFIC SIGNAL (THREE WAY)
-
- 12" LED VEHICLE TRAFFIC SIGNAL (FOUR WAY)
-
- 12" LED PROGRAMMABLE VEHICLE TRAFFIC SIGNAL (ONE WAY)

PEDESTRIAN RELATED SYMBOLS

-
- 12" LED PEDESTRIAN TRAFFIC SIGNAL (ONE WAY)
-
- 12" LED PEDESTRIAN TRAFFIC SIGNAL (TWO WAY AT ANGLE TO EACH OTHER)
-
- PEDESTRIAN PUSHBUTTON

IN GROUND TRAFFIC SIGNAL EQUIPMENT

-
- 30 INCH ROUND PRECAST TRAFFIC SIGNAL HANDHOLE
-
- 36 INCH ROUND PRECAST TRAFFIC SIGNAL HANDHOLE
-
- OTHER TRAFFIC SIGNAL HANDHOLE
-
- ALUMINUM PEDESTRIAN PEDESTAL
-
- ANCHOR BASE STEEL STRAIN POLE AND FOUNDATION (POLE LENGTH & FOUNDATION SIZE AS CALLED OUT)

TRAFFIC CONTROLLER SYMBOLS

-
- BASE MOUNTED TRAFFIC CONTROLLER
-
- POLE MOUNTED TRAFFIC CONTROLLER

CASE SIGN SYMBOLS

-
- CASE SIGN (1 WAY OR 2 WAY)
-
- CASE SIGN (3 WAY OR 4 WAY)

VEHICLE DETECTION SYMBOLS

-
- VEHICLE DETECTION CAMERA
-
- OMNI-DIRECTIONAL ANTENNA
-
- RADIO RECIEVER FOR WIRELESS VEHICLE DETECTION
-
- UNI-DIRECTIONAL ANTENNA
-
- WIRELESS VEHICLE DETECTION SENSOR
-
- TRAFFIC VEHICLE DETECTION LOOP
-
- OPTICOM PRE-EMPTION

MISCELLANEOUS (PLAN VIEW)

-
- ROAD SIGN WITH FLASHING SIGN OPTICAL (ONE WAY)
-
- SIDEWALK TURNING SPACE PROPOSED (2% MAX GRADE WITH 2% MAX CROSS SLOPE)
-
- PUSHBUTTON LANDING PROPOSED (2% MAX GRADE WITH 2% MAX CROSS SLOPE) POSITION WITH SIDEWALK DIRECTION

RAILROAD SYMBOLS

-
- RAILROAD CONTROL BOX
-
- RAIL ROAD SIGNAL ON POLE
-
- RAIL ROAD SIGNAL ON CANTILEVER

CABLE DIAGRAM SYMBOLS

-
- COILED UP WIRE (FOR CONNECTION BY OTHERS)
-
- STAINLESS STEEL SERVICE DISCONNECT
-
- METERED ELECTRIC SERVICE
-
- ELECTRIC GROUND
-
- SIGNAL HEAD
-
- ILLUMINATED CASE SIGN

ELECTRICAL LINE STYLES

-
- CABLE OVERHEAD
-
- CABLE DIRECT BURIAL
-
- CABLE EXISTING TO BE REMOVED
-
- CABLE EXISTING TO BE ABANDONED
-
- CABLE TWISTED PAIR
-
- CONDUIT EXISTING
-
- CONDUIT EXISTING UNDER GROUND
-
- CONDUIT EXISTING TO BE ABANDONED
-
- CONDUIT EXISTING SUSPENDED
-
- CONDUIT PROPOSED DIRECT BURIAL
-
- CONDUIT PROPOSED ENCASED
-
- CONDUIT PROPOSED DIRECTIONAL BORED
-
- CONDUIT IN BRIDGE

HATCH LEGEND

-
- SIDEWALK, REM
-
- SIDEWALK RAMP, CONC, 6 INCH
-
- CURB AND GUTTER, REM
-
- STAMPED CONCRETE, 6 INCH
-
- DETECTABLE WARNING SURFACE, CAST IRON

SHEET TITLE:

DRAWN BY:

DJL

DESIGNED BY:

SPJ

PM REVIEW:

TRD

QA/QC REVIEW:

DATE:

AUGUST 2019

SEAL:

SIGNATURE:

DATE:

SCALE:

HORZ: NTS

VERT: NTS

ACI JOB #

19-0911

SHEET NO.

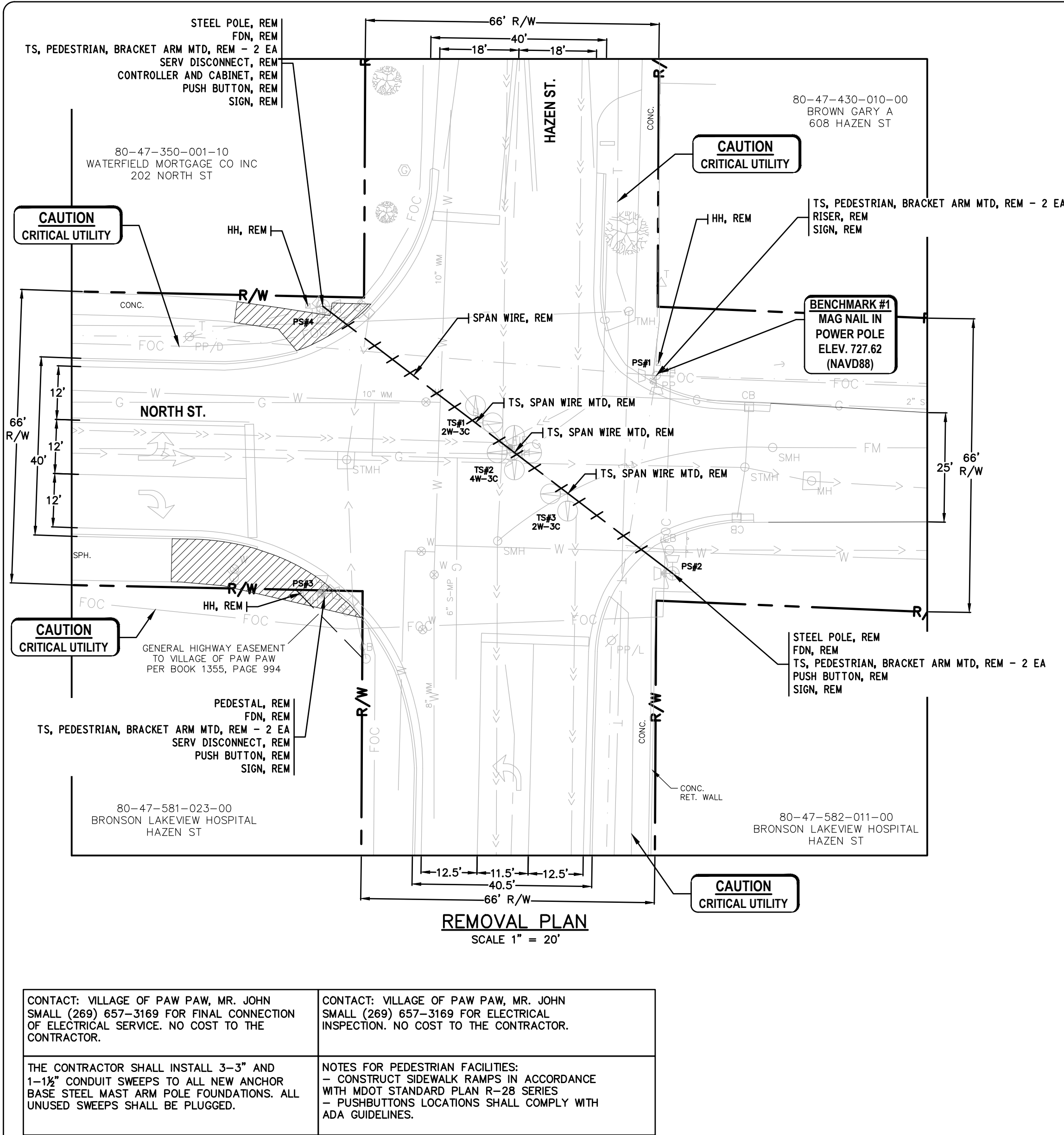
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NO.

REVISION DESCRIPTION:

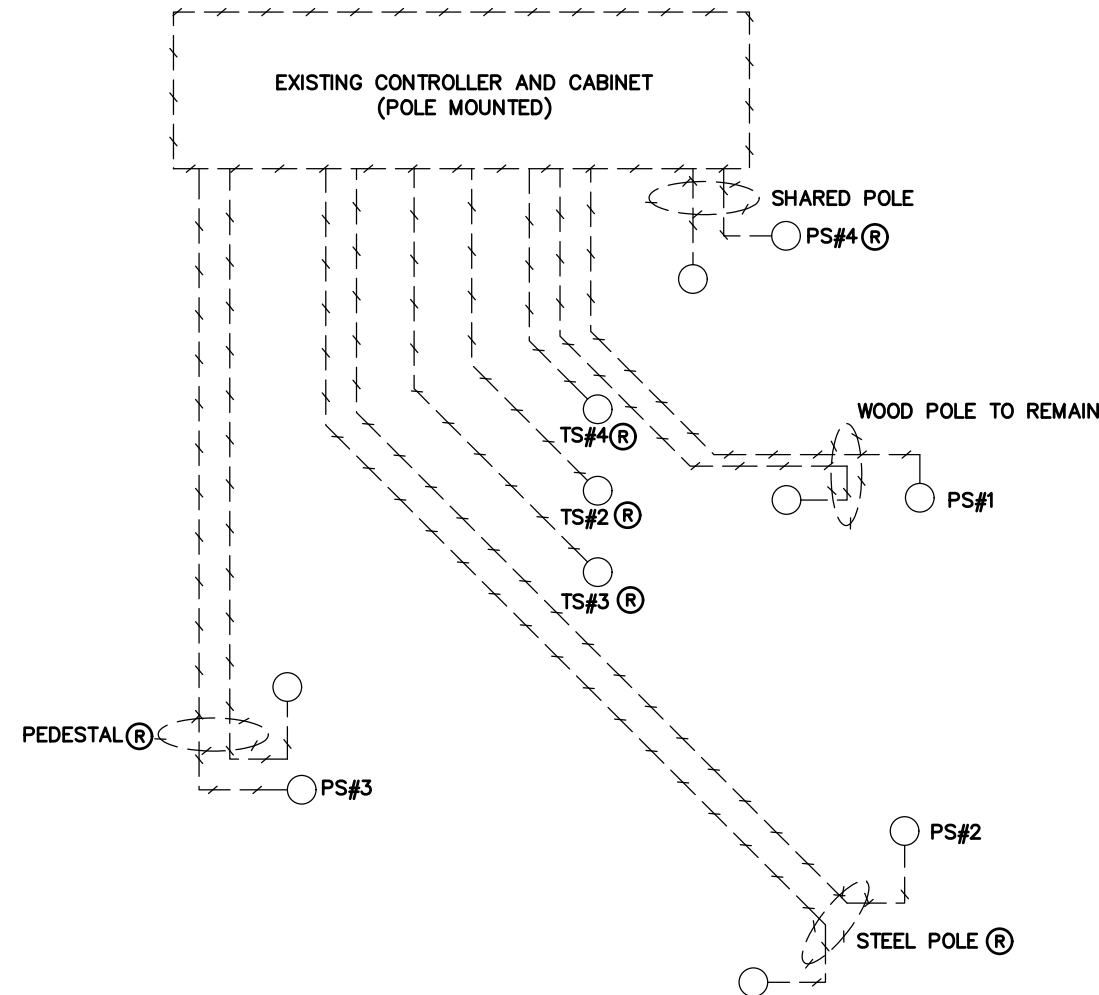
BY:

DATE:

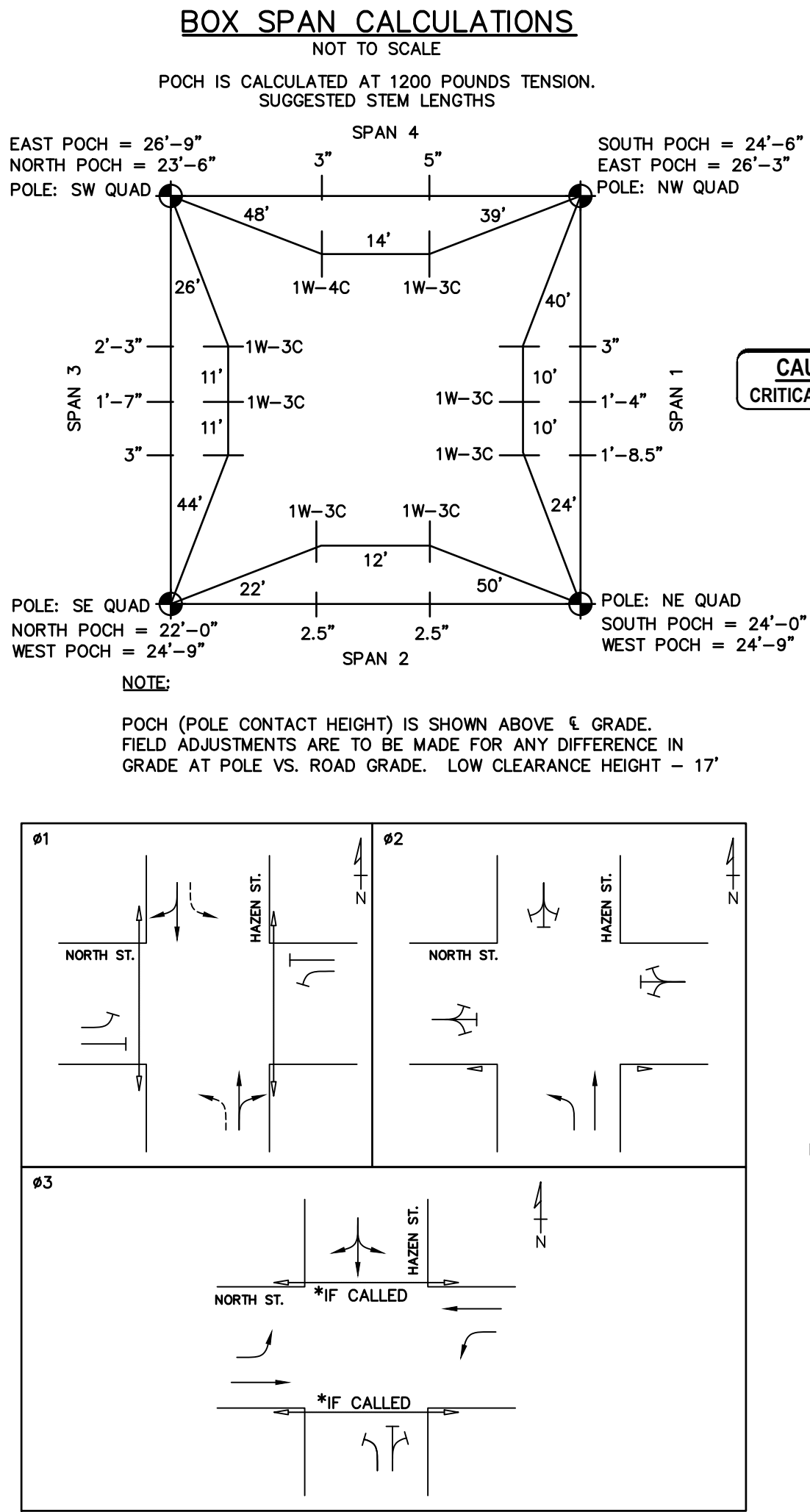


CONTACT: VILLAGE OF PAW PAW, MR. JOHN SMALL (269) 657-3169 FOR FINAL CONNECTION OF ELECTRICAL SERVICE. NO COST TO THE CONTRACTOR.	CONTACT: VILLAGE OF PAW PAW, MR. JOHN SMALL (269) 657-3169 FOR ELECTRICAL INSPECTION. NO COST TO THE CONTRACTOR.
THE CONTRACTOR SHALL INSTALL 3-3" AND 1-1/2" CONDUIT SWEEPS TO ALL NEW ANCHOR BASE STEEL. MUST ARM POLE FOUNDATIONS. ALL UNUSED SWEEPS SHALL BE PLUGGED.	NOTES FOR PEDESTRIAN FACILITIES: - CONSTRUCT SIDEWALK RAMPS IN ACCORDANCE WITH MDOT STANDARD PLAN R-28 SERIES - PUSHBUTTON LOCATIONS SHALL COMPLY WITH ADA GUIDELINES.

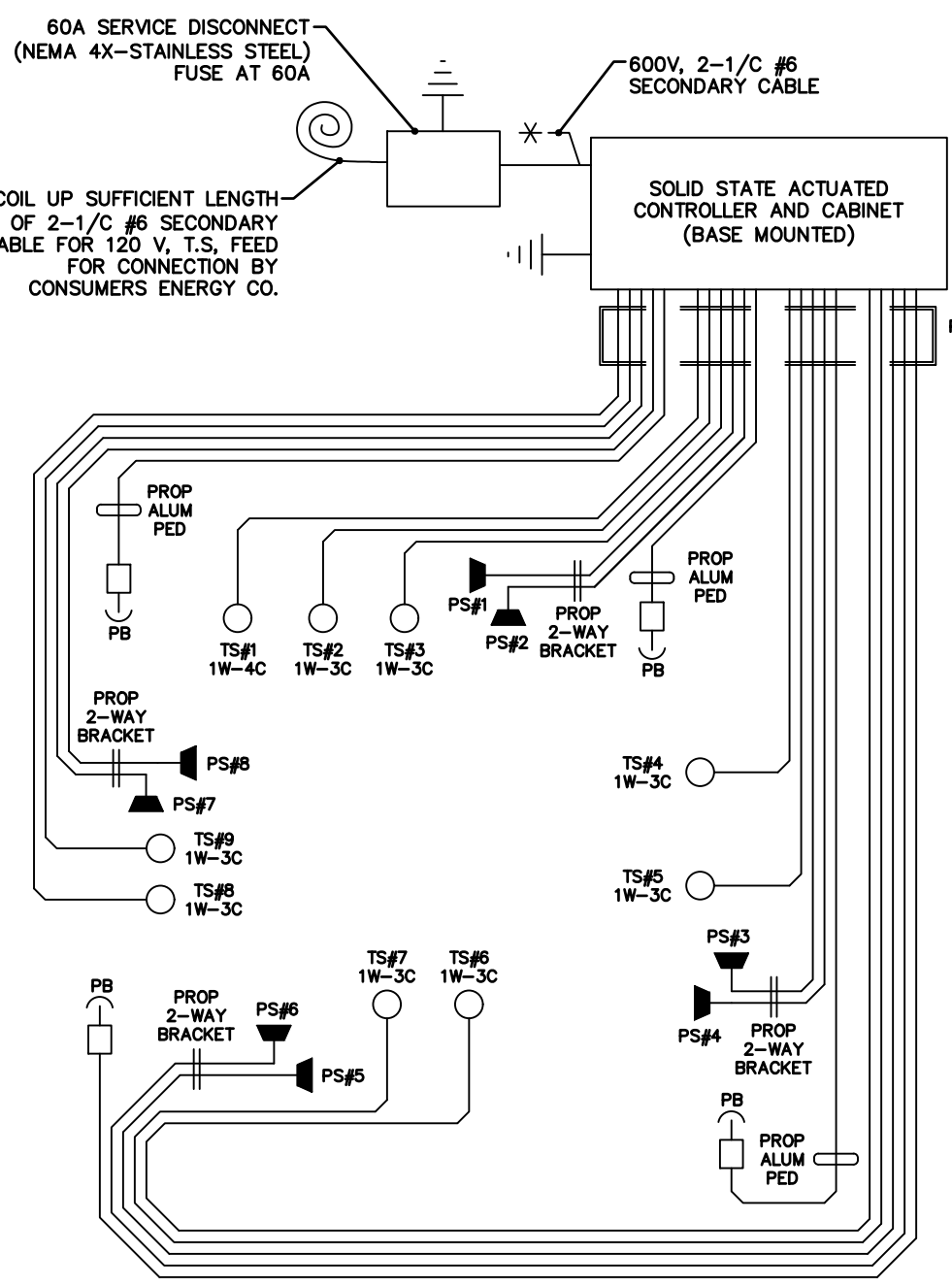
LIST OF MATERIAL			
NO.	ITEM	QUANTITIES	ITEM CODE
⊗	Excavation, Earth	xxx Cyd	2050016
⊗	Sign, Type IIIA	xxx Sft	8100404
⊗	Conduit, DB, 1, 1/2 inch	xxx Ft	8190025
⊗	Conduit, DB, 3, 3 inch	xxx Ft	8190035
⊗	Conduit, DB, 4, 3 inch	xxx Ft	8190038
⊗	Hh, Rem	xxx Ea	8190254
⊗	Hh, Round, 3 foot Dia.	xxx Ea	8190259
⊗	Cable, Sec, 600V, 1, 3/C#6	xxx Ft	8190399
⊗	Controller and Cabinet, Rem	xxx Ea	8200030
⊗	Controller and Cabinet, Digital Type	xxx Ea	8200031
⊗	Controller Fdn, Base Mount	xxx Ea	8200045
⊗	Metered Serv	xxx Ea	8200090
⊗	Metered Serv, Rem	xxx Ea	8200095
⊗	Pedestal, Fdn	xxx Ea	8200105
⊗	Pushbutton and Sign	xxx Ea	8200121
⊗	Serv Disconnect	xxx Ea	8200135
⊗	Serv Disconnect, Rem	xxx Ea	8200136
⊗	Span Wire	xxx Ea	8200140
⊗	Span Wire, Rem	xxx Ea	8200141
⊗	TS, Span Wire Mtd, Rem	xxx Ea	8200182
⊗	TS, One Way Span Wire Mtd (LED)	xxx Ea	8200313
⊗	TS, One Way Span Wire Mtd, FYA (LED)	xxx Ea	8200314
⊗	TS, Pedestrian, One Way Bracket Arm Mtd (LED) Countdown	xxx Ea	8200336
⊗	TS, Pedestrian, Two Way Bracket Arm Mtd (LED) Countdown	xxx Ea	8200339
⊗	Bracket, Truss, With 18 Foot Arm	xxx Ea	8200378
⊗	Video Traf Detection System	xxx Ea	8200380
⊗	Video Traf Detection Camera	xxx Ea	8200381
⊗	Strain Pole Fdn, 6 Bolt	xxx Ft	8200470
⊗	Casing	xxx Ft	8200480
⊗	TS Uninterruptible Power System	xxx Ea	8200500
⊗	Backplate, TS	xxx Ea	8200501
⊗	Span Wire Tether, Modified	xxx Ea	8207050
⊗	Pushbutton Pedestal, Alum, Modified	xxx Ea	8207050
⊗	Strain Pole, Steel, 6 Bolt, 30 Foot, Modified	xxx Ea	8207050



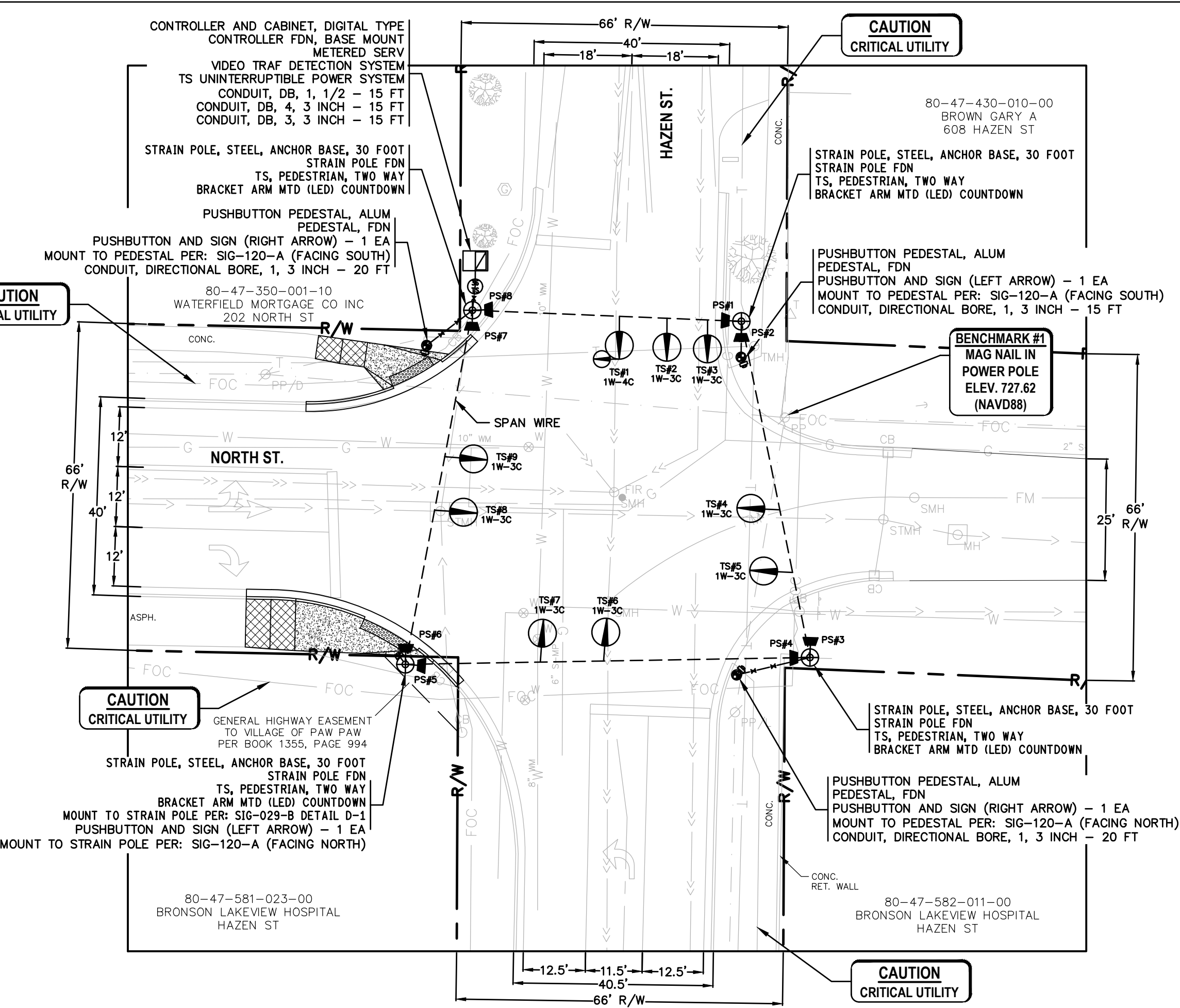
REMOVAL WIRING DIAGRAM
NOT TO SCALE



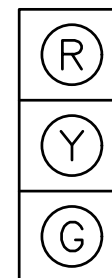
PHASING DIAGRAM
NOT TO SCALE



PROPOSED WIRING DIAGRAM
NOT TO SCALE

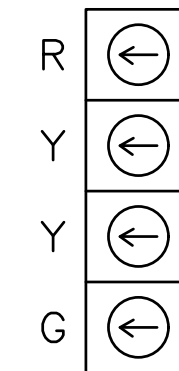


1-WAY THREE SECTION
TRAFFIC SIGNAL DETAIL



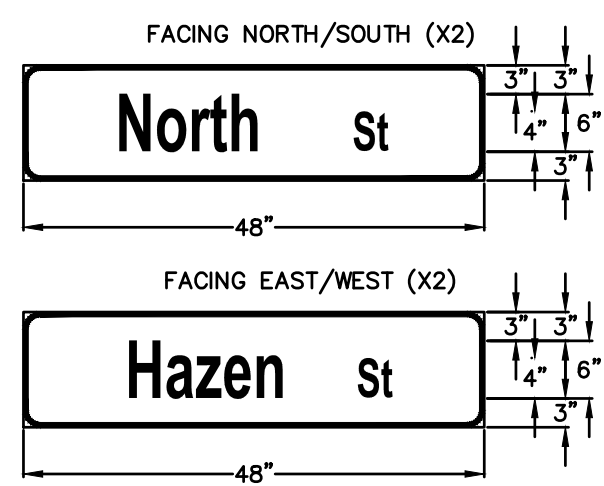
FACING EAST TS #1, 2
FACING SOUTH TS #5, 6
FACING WEST TS #9, 10
FACING NORTH TS #14, 15

1-WAY FOUR SECTION
TRAFFIC SIGNAL DETAIL



FACING SOUTH TS #4

PROPOSED PLAN
SCALE 1" = 20'



SIGN DETAILS

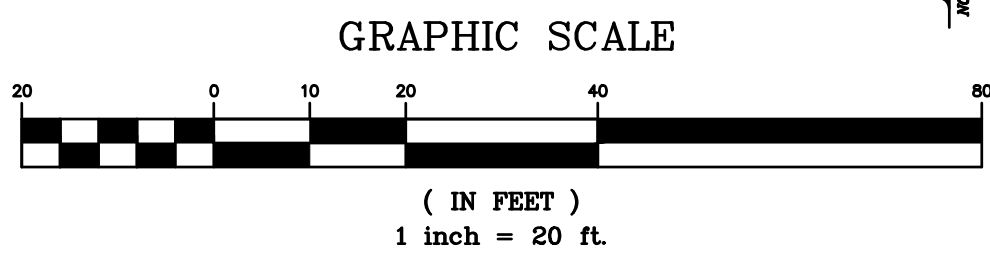
NOTE:

D3-1 STREET SIGNS - WHITE LEGEND ON GREEN BACKGROUND, 1.5" RADIUS, 0.50" WHITE BORDER. LEGEND SHALL BE TYPE C AT 50% SPACING.

STREET NAME SIGN DETAILS
NOT TO SCALE

LEGEND

- SIDWALK, REM
- SIDWALK, CONC, 4 INCH
- SIDWALK RAMP, ADA
- PROPOSED ADA TACTILE WARNING AREA



ELECTRICAL WIRING NOTES:

UTILIZE THE FOLLOWING CABLES FOR TRAFFIC SIGNAL EQUIPMENT. CABLE TYPE IS TYPICAL FOR ALL SIMILAR APPLICATIONS UNLESS OTHERWISE NOTED.

PEDESTRIAN TRAFFIC SIGNAL (1W-2C & 2W-2C): 1-7/C#16AWG P.J.

PEDESTRIAN PUSHBUTTON: 1-2/C #14 SHIELDED P.J. (MSA 50-2)

TRAFFIC SIGNAL (1W-3C): 1-5/C#16AWG P.J.

TRAFFIC SIGNAL (1W-4C): 1-7/C#16AWG P.J.

ELECTRICAL REQUIREMENTS	
OPENINGS	= 42
CYCLIC WATTAGE	= 474
STEADY WATTAGE	= 0

NO.	REVISION DESCRIPTION:	BY:	DATE:
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