

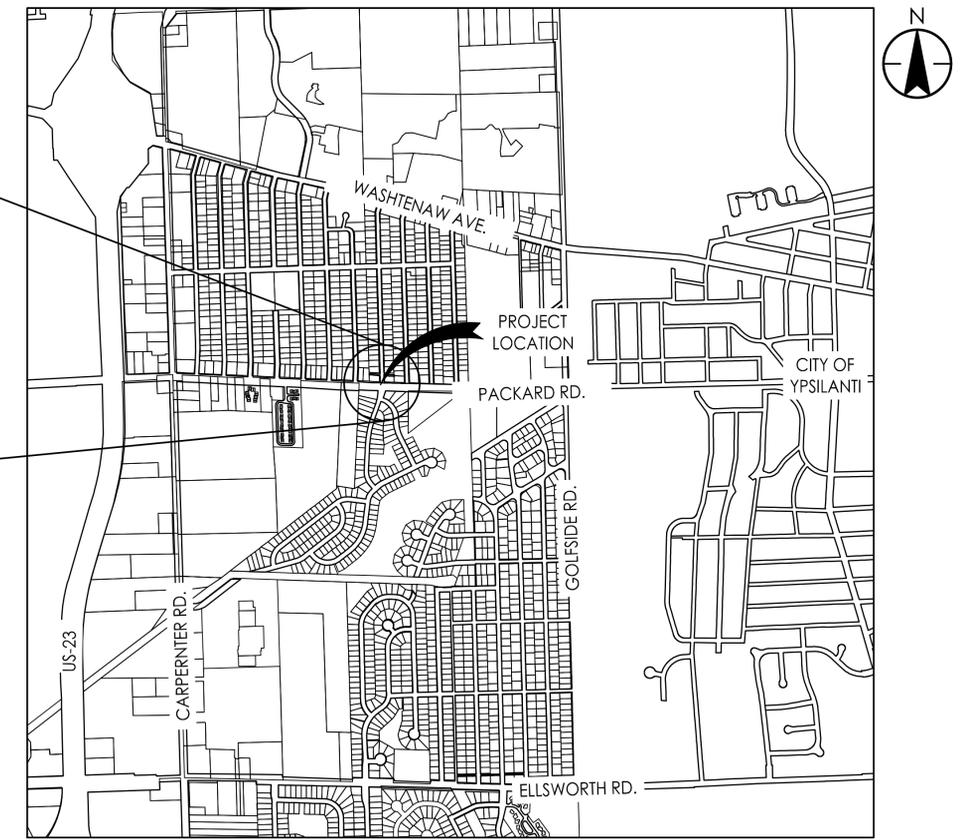
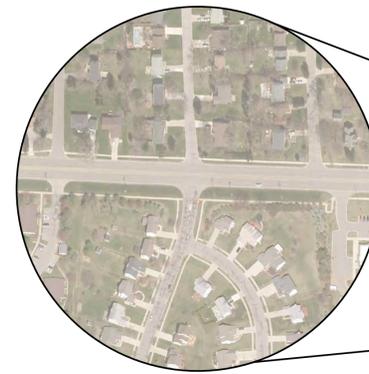


# PITTSFIELD CHARTER TOWNSHIP



# PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECT - 2019 CDBG PACKARD MID-BLOCK CROSSING

BID PLAN  
SEPTEMBER, 2019  
PROJECT NUMBER: 2075149600



PROJECT LOCATION MAP  
NOT TO SCALE

ROAD	YEAR	ADT	POSTED SPEED
PACKARD	2012	16,128	45

UTILITY CONTACTS

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**MAINTENANCE OF TRAFFIC NOTES**

- ACCESS TO ALL RESIDENTIAL AND COMMERCIAL DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES.
- ALL TRAFFIC CONTROL DEVICES AND THEIR USAGE MUST CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MMUTCD), LATEST EDITION.
- ALL EXISTING PAVEMENT MARKINGS THAT ARE REMOVED FOR TRAFFIC CONTROL OR OBLITERATED DURING CONSTRUCTION OPERATIONS MUST BE REPLACED WITH POLYUREA FOR THE LONGITUDINAL, LANE LINES.
- ALL SIGNS MATERIALS AND SUPPORTS MUST MEET NCHRP-350 CRASH WORTHY REQUIREMENTS.
- NO WORK WILL BE ALLOWED, OR SHOULDER CLOSURES PERMITTED ON PACKARD OR LOCAL ROADS DURING LABOR DAY, THANKSGIVING, CHRISTMAS AND NEW YEAR'S HOLIDAY PERIODS AND ANY OTHER DESIGNED STATE HOLIDAY AS DEFINED IN THE PROJECT SPECIFICATIONS.
- THERE MUST BE NO HAULING OF MATERIALS INCLUDING TRUCKS ENTERING AND EXITING IN OR OUT OF THE SITE (WORK ZONE) BETWEEN THE HOURS OF 6:00 A.M. TO 9:00 A.M. AND 2:00 P.M. TO 7:00 P.M., MONDAY THROUGH FRIDAY.
- TWO WAY TRAFFIC MUST BE MAINTAINED AT ALL TIME. ALL TRAFFIC DEVICES MUST BE TAKEN DOWN OR COVERED WHILE WORK IS NOT IN PROGRESS.
- SEE SHEET C-05 FOR TEMPORARY TRAFFIC CONTROL PLAN

**TRAFFIC SIGN AND SIGNAL NOTES**

- CONTACT WASHTENAW COUNTY ROAD COMMISSION AND PITTSFIELD TOWNSHIP SEVEN WORKING DAYS PRIOR TO THE START OF CONSTRUCTION.
- ALL SIGNS SHALL BE INSTALLED, REMOVED AND/OR SALVAGED ACCORDING TO THE CURRENT EDITION OF "MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE CURRENT EDITION OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION".
- ALL SIGNS ON THE PLANS THAT DO NOT HAVE A RECOMMENDATION ARE TO BE RETAINED.
- ANY PERMANENT SIGNS REQUIRING RELOCATION DUE TO CONTRACTOR OPERATIONS SHALL BE SALVAGED AND RESET BY THE CONTRACTOR AT LOCATIONS DESIGNATED BY THE ENGINEER. SIGNS AND POSTS DAMAGED DURING THE REMOVAL AND STORAGE OPERATIONS SHALL BE REPLACED WITH NEW SIGNS AND POSTS. THE COST OF THIS WORK SHALL BE BORNE BY THE CONTRACTOR.
- WHERE PROPOSED ON PLAN SHEETS, SIGNS AND STRUCTURES SHALL BE FABRICATED IN ACCORDANCE TO TYPICAL PLANS, STANDARDS, AND/OR DETAILS AT THE LOCATIONS DESCRIBED, ELSE AS SHOWN ON PLAN SHEETS. WHEN A SIGN IS PROPOSED LESS THAN 50 FEET FROM AN EXISTING SIGN, OR WHEN TWO SIGNS ARE PROPOSED WITHIN 50 FEET OF EACH OTHER, THE LATERAL OFFSET OF THE LEADING SIGN SHALL BE NO LESS THAN THE LATERAL OFFSET OF THE TRAILING SIGN PLUS ONE-HALF THE WIDTH OF THE TRAILING SIGN. THE COST OF RELOCATING AN EXISTING SIGN TO COMPLY WITH THIS STANDARD SHALL BE INCLUDED IN THE COST TO INSTALL THE PROPOSED SIGN.
- SIGN LAYOUTS SHALL BE ACCORDING TO THE CURRENT ENGLISH EDITION OF THE "STANDARD HIGHWAY SIGNS" MANUAL OR AS DETAILED ON THE PLANS.
- HANDLING AND INSTALLATION OF ALL SIGNS SHALL CONFORM WITH THE SHEETING MANUFACTURER'S SPECIFICATIONS AND GUIDELINES. SIGNS THAT HAVE WRINKLED OR TWISTED SHEETING MAY BE REJECTED.
- WHEN ATTACHING SIGNS TO SUPPORTS, TIGHTEN THE NUT, NOT THE BOLT HEAD.
- NYLON WASHERS SHALL BE PLACED BETWEEN THE STEEL WASHER AND THE SIGN FACE SHEETING. THE NYLON WASHERS ARE TO BE CONSIDERED PART OF THE ATTACHING DEVICES AND HARDWARE. NYLON WASHERS SHALL HAVE A 3/8 INCH INNER DIAMETER, A 7/8 OUTER DIAMETER AND A 1/18 INCH THICKNESS.
- ALL ACTUAL HEIGHTS OF NEW OVERHEAD SIGN STRUCTURES MUST BE DETERMINED BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER PRIOR TO END SUPPORT STRUCTURES BEING FABRICATED.
- TURF ESTABLISHMENT/SLOPE RESTORATION SHALL BE APPLIED TO THE GROUND SURFACE AREAS DISTURBED BY SIGNING OPERATIONS AND CONFORM TO NECESSARY TREATMENTS AND WORKMANSHIP SPECIFIED IN THE TURF ESTABLISHMENT SPECIAL PROVISION.
- ALL TREE TRIMMING REQUIRED TO CLEAR NEW OR SALVAGED STREET LIGHTING AND MAST ARM POLES SHALL BE INCLUDED IN THE PAY ITEM AND NO EXTRA PAYMENT SHALL BE MADE.
- EXISTING O.H. AND T.S. FACILITIES ARE NOT NECESSARILY SHOWN ON THE PLANS.
- INSTALL PEDESTALS AND POLES SO AS NOT TO INTERFERE WITH TRAFFIC.
- CONTRACTOR SHALL CONTACT ENGINEER 72 HOURS PRIOR TO POURING FOUNDATIONS IN ORDER TO VERIFY SOIL CONDITION, DEPTH AND DETERMINE IF CASING IS REQUIRED.
- 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.
- A MINIMUM CLEARANCE OF 3'-6" HORIZONTAL AND 1'-0" VERTICAL MUST BE MAINTAINED BETWEEN PROPOSED FACILITIES AND EXISTING U.G. WATER FACILITIES.
- NO CHANGES FROM PLANS IN LOCATION OF SUPPORTING STRUCTURES PLACEMENT OR RRFB ASSEMBLY EQUIPMENT WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER.
- THE CURRENT BASIS OF ACCEPTANCE FOR THIS MATERIAL IS NOW PART OF THE MDOT QPL (QUALIFIED PRODUCTS LIST). THIS CAN BE FOUND IN THE MATERIALS ACCEPTANCE REQUIREMENT TABLE, PUBLISHED IN THE MQAP AND REPEATED FOR CONVENIENCE IN THE MATERIALS SOURCE GUIDE.

**GENERAL NOTES**

- THIS PROJECT MAY NOT UTILIZE ALL SYMBOLS, NOTES, AND ABBREVIATIONS SHOWN ON THIS SHEET.
- ALL ITEMS INCIDENTAL TO AND/OR REQUIRED TO COMPLETE THE INSTALLATION SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND CERTIFICATES OF INSPECTIONS FOR ALL WORK AS REQUIRED.
- ALL MATERIAL AND EQUIPMENT SHALL BE STORED IN SUCH A MANNER TO PREVENT BREAKAGE OR PHYSICAL DAMAGE. STORE EQUIPMENT IN ITS ORIGINAL PACKAGING MATERIALS AND PROVIDE PROTECTIVE COVER TO KEEP OUT RAIN, DIRT, AND FOREIGN OBJECTS.
- ALL WORK ON THIS PROJECT SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND GENERAL SPECIFICATIONS, INCLUDING SOIL EROSION AND SEDIMENTATION CONTROL, OF PITTSFIELD TOWNSHIP.
- ALL CONSTRUCTION AND MATERIALS ARE TO COMPLY WITH PITTSFIELD TOWNSHIP AND/OR WASHTENAW COUNTY STANDARDS AS THEIR JURISDICTION MAY APPLY.
- ALL PAVEMENT CONSTRUCTION SHALL IN GENERAL BE PERFORMED PER THE MDOT 2012 STANDARD SPECIFICATION FOR CONSTRUCTION EARTHWORK AND PAVING AND ALSO CONSTRUCTION DETAILS AS SPECIFIED ON THE APPROVED CONSTRUCTION PLANS. DENSITY FOR AGGREGATE BASE TO BE 98% MAXIMUM UNIT WEIGHT AT OPTIMUM MOISTURE CONTENT.
- ALL YARD AREAS SHALL BE COMPACTED TO A MINIMUM OF 80% OF MODIFIED PROCTOR ASTM D-1557, FOR THAT SOIL. BACKFILL SHALL BE BROWN COMPACTABLE MATERIAL FREE OF BLUE CLAY, MARL, ORGANICS OR ANY OTHER DELETERIOUS MATERIAL.
- ALL DISTURBED AREAS TO BE REPLACED AS REQUIRED IN THE TURF ESTABLISHMENT SPECIAL PROVISION.
- PAVEMENT REMOVALS SHALL EXTEND TO THE LIMITS SHOWN ON THE PLANS, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE REMOVAL OF MORE OR LESS PAVEMENT THAN SHOWN ON THE PLANS IS NOT ACCEPTABLE UNLESS OTHERWISE APPROVED BY THE ENGINEER. TEMPORARY SHEETING AND SHORING MUST BE USED IN AREAS WHERE WORK IS IN CLOSE PROXIMITY TO PAVEMENT OR UTILITIES NOT INDICATED FOR REMOVAL. A PRE-CONSTRUCTION WALKTHROUGH WILL BE NECESSARY WITH OWNER, ENGINEER AND CONTRACTOR PRIOR TO SAWCUTTING.
- PAYMENT FOR SAWCUTTING OF PAVEMENT AND DRIVEWAY REMOVALS IS INCLUDED WITH THE PAVEMENT REMOVAL PAY ITEM.
- REPLACEMENT OF MAILBOXES, SIGNS, FENCES (ALL TYPES), LIGHT POLES, BRICK PAVERS, LANDSCAPE ITEMS, RETAINING WALLS, BUSHES, SHRUBS, TREES UNDER 6" DBH AND ALL OTHER MISCELLANEOUS ITEMS NOT EXPLICITLY NOTED ON THE PLANS, BUT REMOVED BY THE CONTRACTOR DURING WORK OPERATIONS, IS REQUIRED. THIS WORK IS TO BE PAID FOR UNDER THE TURF ESTABLISHMENT PAY ITEM.
- AS NOTED ABOVE, CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS AT A MINIMUM TO THEIR ORIGINAL CONDITION AS DEPICTED IN THE PRE-CONSTRUCTION AUDIO/VIDEO DVD.
- ALL GRADES AND DRAINAGE PATTERNS SHALL BE RESTORED TO THE EXISTING CONDITION OR MODIFIED ONLY TO ALLOW FOR SUPERIOR DRAINAGE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL SILT FENCE, TREE FENCE AND INLET FILTERS AS DIRECTED BY THE ENGINEER AND/OR SPECIFIED ON THE DRAWINGS PRIOR TO THE START OF ANY EXCAVATION. REFER TO DRAWING C-04 FOR SOIL EROSION AND SEDIMENTATION CONTROL NOTES AND DETAILS.
- THE CONTRACTOR SHALL PROTECT ALL TREES NOT INDICATED FOR REMOVAL. NO TREES ARE TO BE REMOVED WITHOUT EXPRESSED APPROVAL OF THE PROPERTY OWNER, OR THE GOVERNMENTAL BODY HAVING JURISDICTION THEREOF, AND OF THE ENGINEER. CONTRACTOR SHALL PERFORM A WALK THROUGH WITH THE ENGINEER TO REVIEW ALL TREES DESIGNATED FOR REMOVAL PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL TAKE CARE WHEN WORKING NEAR EXISTING UTILITY POLES. CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT APPROVED BY THE UTILITY COMPANY HAVING JURISDICTION FOR UTILITY POLES FOUND TO BE INTERFERING WITH CONSTRUCTION. TEMPORARY UTILITY POLE SUPPORTS SHALL BE PAID FOR UNDER POWER COMPANY REIMBURSEMENT PAY ITEM.
- BENCHMARKS AS SHOWN ON THE PLAN SHEETS ARE BASED ON NAVD88 DATUM.
- NO MATERIALS CAN BE STORED IN THE ROAD RIGHTS-OF-WAY.
- ALL ITEMS ARE TO BE CONSTRUCTED ACCORDING TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD PLANS, UNLESS OTHERWISE INDICATED.
- EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP FOR ALL IMPROVEMENTS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION, 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND SUPPLEMENTAL SPECIFICATIONS.
- FOR PROTECTION OF UNDERGROUND UTILITIES AND IN CONFORMANCE WITH PUBLIC ACT 53, THE CONTRACTOR SHALL DIAL 811 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 THIS 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.

#	DESCRIPTION	QNTY	UNIT
1500001	MOBILIZATION, MAX 10%	1	LSUM
2057021	SUBGRADE UNDERCUTTING, MODIFIED	20	CYD
2090001	PROJECT CLEANUP	1	LSUM
2097051	AUDIO VISUAL DVD, SPECIAL	1	LSUM
8120026	PEDESTRIAN TYPE II BARRICADE, TEMP	4	EA
8120035	CHANNELIZING DEVICE, 42 INCH, FLOURESCENT, FURN	100	EA
8120036	CHANNELIZING DEVICE, 42 INCH, FLOURESCENT, OPER	100	EA
8120140	LIGHTED ARROW, TYPE C, FURN	2	EA
8120141	LIGHTED ARROW, TYPE C, OPER	2	EA
8120170	MINOR TRAF DEVICES	1	LSUM
8120350	SIGN, TYPE B, TEMP, PRISMATIC, FURN	250	SFT
8120351	SIGN, TYPE B, TEMP, PRISMATIC, OPER	250	SFT
8120370	TRAF REGULATOR CONTROL	1	LSUM
8167011	TURF ESTABLISHMENT, PERFORMANCE	500	SYD
8240001	CONTRACTOR STAKING	1	LSUM

**LEGEND**

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXIST. CONTOUR		EXIST. CURB AND GUTTER
	PROP. CONTOUR		PROP. CURB AND GUTTER
	EXIST. SPOT ELEVATION		CENTERLINE OF DITCH
	PROP. SPOT ELEVATION		EDGE OF WATER
	TOP OF CURB		EDGE OF WETLAND
	TOP OF PAVEMENT		EXISTING FENCE
	GUTTER		PROPOSED FENCE
	EXIST. STORM SEWER		TREE PROTECTION FENCE
	PROP. STORM SEWER		SILT FENCE
	EXIST. MANHOLE		CLEARING LIMITS
	PROP. MANHOLE		EXIST. GUARDRAIL
	PROP. EDGE DRAIN		PROP. GUARDRAIL
	EXIST. CATCH BASIN/INLET		PROPERTY LINE
	PROP. CATCH BASIN/INLET		CENTERLINE
	CULVERT		EXIST. SIGN
	INLET FILTER		PROP. SIGN
	PROP. AIR RELEASE VALVE		ENCLOSED TRASH AREA
	PROP. BYPASS CONNECTION		DRAINAGE DIRECTION
	PROP. CLEANOUT		SIDEWALK RAMP
	EXIST. SANITARY SEWER		BARRIER FREE PARKING
	PROP. SANITARY SEWER		FINISH FLOOR ELEV.
	EXIST. WATER MAIN		FINISH GRADE ELEV.
	PROP. WATER MAIN		BASEMENT FLOOR ELEV.
	EXIST. HYDRANT		GARAGE FLOOR ELEV.
	PROP. HYDRANT		SECTION CORNER
	EXIST. POST INDICATOR VALVE		CONTROL POINT
	EXIST. GATE VALVE AND BOX/STOP BOX		FOUND IRON PIPE
	PROP. CURB STOP BOX		SET IRON PIPE
	EXIST. GATE VALVE AND WELL		FOUND CONCRETE MONUMENT
	PROP. GATE VALVE AND WELL		SET CONCRETE MONUMENT
	PROP. REDUCER		FOUND PK NAIL
	PROP. END CAP		SET PK NAIL
	EXIST. OVERHEAD ELECTRIC		FOUND LEADED CHISEL HOLE
	PROP. OVERHEAD ELECTRIC		SET LEADED CHISEL HOLE
	EXIST. UNDERGROUND ELECTRIC		FOUND REROD
	PROP. UNDERGROUND ELECTRIC		APPROX. LOCATION OF SOIL BORING
	EXIST. LIGHT POLE		APPROX. LOCATION OF MONITORING WELL
	PROP. LIGHT POLE		APPROX. LOCATION OF PENETRATION TEST
	EXIST. UTILITY POLE		EXIST. DECIDUOUS TREE
	GUY WIRE		EXIST. EVERGREEN TREE
	EXIST. ELECTRIC TRANSFORMER		EXIST. SHRUB
	PROP. ELECTRIC TRANSFORMER		EXIST. TREE OR BRUSH LIMIT
	EXIST. OVERHEAD TELEPHONE		TREE TO BE REMOVED
	PROP. OVERHEAD TELEPHONE		REMOVE AND REPLACE
	EXIST. UNDERGROUND TELEPHONE		BITUMINOUS PAVEMENT
	PROP. UNDERGROUND TELEPHONE		GRAVEL PAVEMENT
	EXIST. GAS		CONCRETE PAVEMENT
	PROP. GAS		BRICK PAVERS
	EXIST. MAILBOX		MAST ARM
	EXIST. GAS RISER		PEDESTAL
	EXIST. TELEPHONE RISER		
	COMPACTED SAND BACKFILL		

NOTE: WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2012 STANDARD PLANS GIVEN BELOW OPPOSITE EACH ITEM UNLESS OTHERWISE INDICATED.

MDOT STANDARD PLANS	
SHEET NO.	TITLE (ROAD)
R-28-J*	SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
R-29-I	DRIVEWAY OPENINGS & APPROACHES, AND CONCRETE SIDEWALKS
R-30-G	CONCRETE CURB AND CONCRETE CURB & GUTTER
R-96-E	SOIL EROSION & SEDIMENTATION CONTROL MEASURES
R-100-H	SEEDING AND TREE PLANTING
MDOT STANDARD PLANS	
SHEET NO.	TITLE (PAVEMENT MARKINGS)
PAVE-P45-C	INTERSECTION, STOP BAR & CROSSWALK MARKINGS
MDOT STANDARD PLANS	
SHEET NO.	TITLE (SIGNING)
SIGN-120-E	ROADSIDE SIGN LOCATIONS & SUPPORT SPACING
SIGN-100-G	STANDARD SIGN INSTALLATIONS
SIGN-200-D	STEEL POSTS
SIGN-740-B	MISCELLANEOUS SIGN CONNECTION DETAILS
MDOT STANDARD PLANS	
SHEET NO.	TITLE (TRAFFIC SIGNAL)
SIG-032-B	TRAFFIC SIGNAL MAST ARM POLE AND MAST ARM DETAILS - CATEGORY III
SIG-040-A	TRAFFIC SIGNAL MAST ARM STANDARD FOUNDATION
SIG-070-A	PEDESTAL FOUNDATIONS
SIG-100-A	CONTROLLER CABINET MOUNTED ON STEEL OR WOOD POLES
SIG-111-A	POLE MOUNTED TRAFFIC SIGNAL CONTROLLER CABINET/FOUNDATIONS
SIG-211-A	UNDERGROUND SERVICE/DISCONNECT WOOD POLES
SIG-240-A	HANDHOLE - PRECAST, POLYMER CONCRETE
SIG-250-A	CONDUIT (DIRECTIONAL BURIAL/ENCASED)
SIG-400-A	PEDESTRIAN PUSH BUTTON DETAILS
MDOT STANDARD PLANS	
SHEET NO.	TITLE
WZD-100-A*	GROUND DRIVEN SIGN SUPPORTS FOR TEMP SIGNS
WZD-125-E*	TEMPORARY TRAFFIC CONTROL DEVICES
*DENOTES SPECIAL DETAIL INCLUDED IN PROPOSAL	
WCRC STANDARD PLANS	
SHEET NO.	TITLE (ROAD)
WASH-19	RECTANGULAR RAPID FLASHING BEACON



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**Notes**

D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19
Issued		By: Acppd YYY.MM.DD		
File Name: 149603C-02		BWA	BWA	CAM
		Dwn.	Dgr.	Chkd.
				YYY.MM.DD

**Permit/Seal**

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**Client/Project Logo**



**Client/Project**

PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD

Pittsfield Township, MI

**Title**

GENERAL NOTES, LEGEND, SYMBOLS AND ABBREVIATIONS

Project No. 2075149600

Scale

Revision Sheet 0

Drawing No. 2 of 14

**C-02**

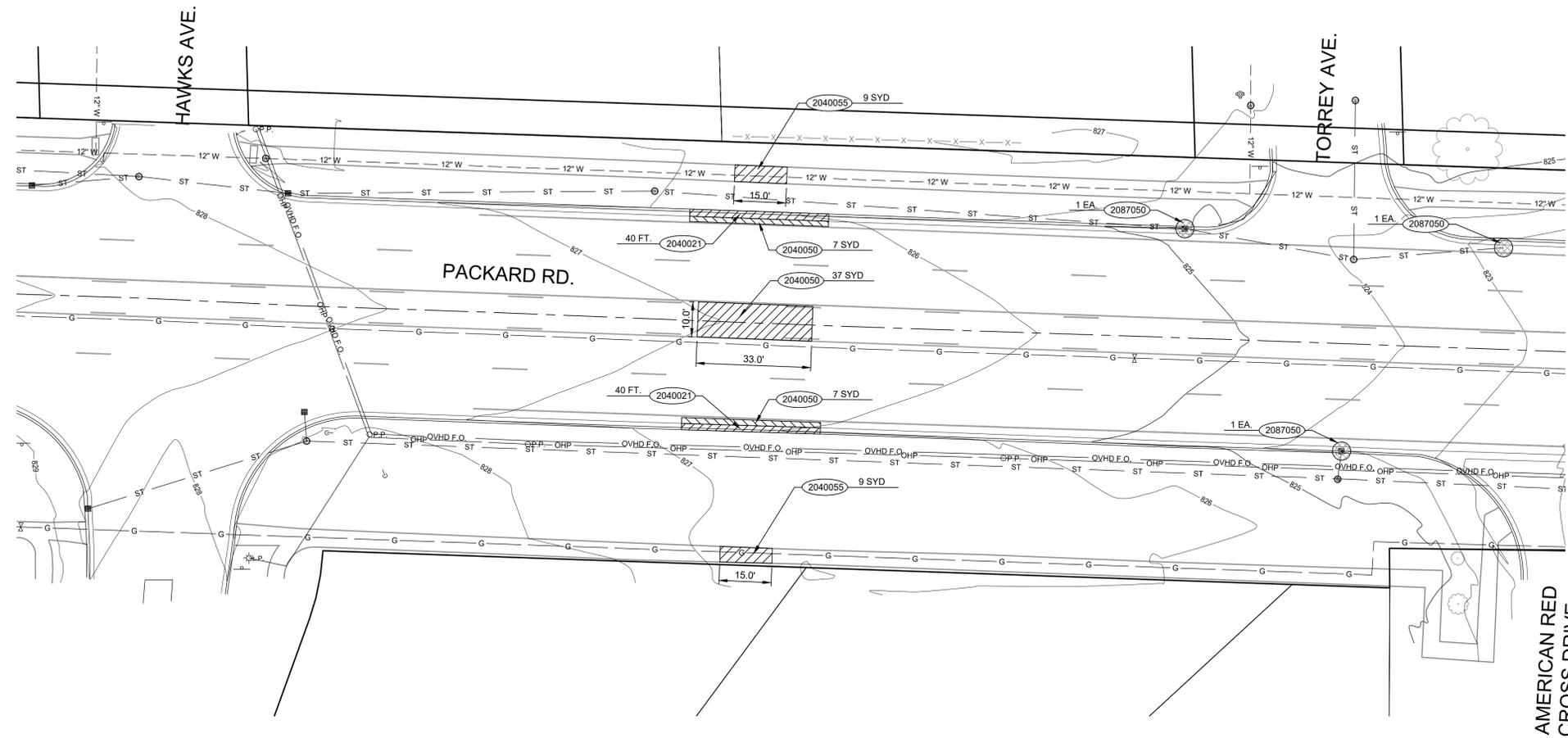
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

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Notes

1. CURB REMOVAL MUST BE FROM JOINT TO JOINT.



**BENCHMARKS:**  
BM 1: BENCHMARK IN NW SIDE OF UTILITY POLE ~240' EAST OF HAWKS AVE AND SOUTH SIDE OF PACKARD ROAD.  
ELEVATION: 827.15' (NAVD88)  
BM 2: MAG NAIL IN SOUTH SIDE OF UTILITY POLE AT SE CORNER OF HAWKS AVE AND PACKARD ROAD.  
ELEVATION: 828.80' (NAVD88)

#	DESCRIPTION	QNTY	UNIT
2040021	CURB, REM	80	FT
2040050	PAVT, REM	51	SYD
2040055	SIDEWALK, REM	18	SYD
2080036	EROSION CONTROL, SILT FENCE	50	FT
2087050	EROSION CONTROL, INLET PROTECTION, FABRIC DROP, MODIFIED	3	EA

Rev	Description	By	Appd	Date
D	BID PLAN			2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19

Issued

File Name: 149603C-04	BWA	BWA	CAM	2019.03.21
	Dwn.	Dgr.	Chkd.	YYYY.MM.DD

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PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT  
PROJECTS - CDBG PACKARD ROAD

Pittsfield Township, MI

Title

EXISTING CONDITIONS, DEMOLITION  
AND SESC PLAN

Project No.  
2075149600

Scale  
0 20' 40'

Revision Sheet

Drawing No.

0 4 of 14

**C-04**



NOTE:

THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

MINIMUM MERGING TAPER LENGTH "L" (FEET)

OFFSET FEET	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)														
	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100
1	10	15	20	27	45	50	55	60	65	70					
2	21	30	41	53	90	100	110	120	130	140					
3	31	45	61	80	135	150	165	180	195	210					
4	42	60	82	107	180	200	220	240	260	280					
5	52	75	102	133	225	250	275	300	325	350					
6	63	90	123	160	270	300	330	360	390	420					
7	73	105	143	187	315	350	385	420	455	490					
8	83	120	163	213	360	400	440	480	520	560					
9	94	135	184	240	405	450	495	540	585	630					
10	104	150	204	267	450	500	550	600	650	700					
11	115	165	225	293	495	550	605	660	715	770					
12	125	180	245	320	540	600	660	720	780	840					
13	135	195	266	347	585	650	715	780	845	910					
14	146	210	286	374	630	700	770	840	910	980					
15	157	225	307	400	675	750	825	900	975	1050					

DISTANCE BETWEEN TRAFFIC CONTROL DEVICES "D" AND LENGTH OF LONGITUDINAL BUFFER SPACE ON "WHERE WORKERS PRESENT" SEQUENCES

"D" DISTANCES	POSTED SPEED LIMIT, MPH (PRIOR TO WORK AREA)									
	25	30	35	40	45	50	55	60	65	70
D (FEET)	250	300	350	400	450	500	550	600	650	700

GUIDELINES FOR LENGTH OF LONGITUDINAL BUFFER SPACE "B"

SPEED MPH	LENGTH FEET
20	33
25	50
30	83
35	132
40	181
45	230
50	279
55	329
60	411
65	476
70	542

THE FORMULAS FOR THE MINIMUM LENGTH OF A MERGING TAPER IN DERIVING THE "L" VALUES SHOWN IN THE ABOVE TABLES ARE AS FOLLOWS:

$L = \frac{W \times S^2}{60}$  WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 40 MPH OR LESS

$L = S \times W$  WHERE POSTED SPEED PRIOR TO THE WORK AREA IS 45 MPH OR GREATER

L = MINIMUM LENGTH OF MERGING TAPER  
S = POSTED SPEED LIMIT IN MPH PRIOR TO WORK AREA  
W = WIDTH OF OFFSET

TYPES OF TAPERS

TAPER TYPE	TAPER LENGTH
UPSTREAM TAPERS	L - MINIMUM
SHIFTING TAPER	1/2 L - MINIMUM
SHOULDER TAPER	1/3 L - MINIMUM
TWO-WAY TRAFFIC TAPER	100' - MAXIMUM
DOWNSTREAM TAPERS (USE IS OPTIONAL)	100' - MINIMUM (PER LANE)

\* POSTED SPEED, OFF PEAK 85TH PERCENTILE SPEED PRIOR TO WORK STARTING, OR THE ANTICIPATED OPERATING SPEED

1. BASED UPON AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) BRAKING DISTANCE PORTION OF STOPPING SIGHT DISTANCE FOR WET AND LEVEL PAVEMENTS (A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS), AASHTO. THIS AASHTO DOCUMENT ALSO RECOMMENDS ADJUSTMENTS FOR THE EFFECT OF GRADE ON STOPPING AND VARIATION FOR TRUCKS.

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0200a.dgn REV: 10/11/2011

JUNE 2006  
PLAN DATE: M0200a  
SHEET 1 OF 2

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TABLES FOR "L", "D" AND "B" VALUES

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0200a.dgn REV: 10/11/2011

JUNE 2006  
PLAN DATE: M0200a  
SHEET 2 OF 2

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0240a.dgn REV: 10/11/2011

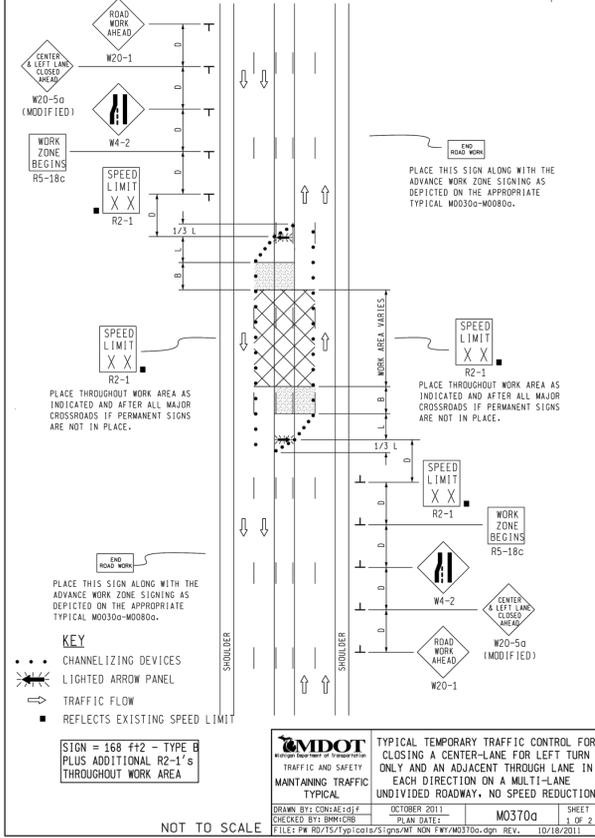
OCTOBER 2011  
PLAN DATE: M0240a  
SHEET 1 OF 2

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR A ONE-LANE CLOSURE ON AN UNDIVIDED MULTI-LANE ROADWAY, NO SPEED REDUCTION

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0240a.dgn REV: 10/11/2011

OCTOBER 2011  
PLAN DATE: M0240a  
SHEET 2 OF 2



NOTES

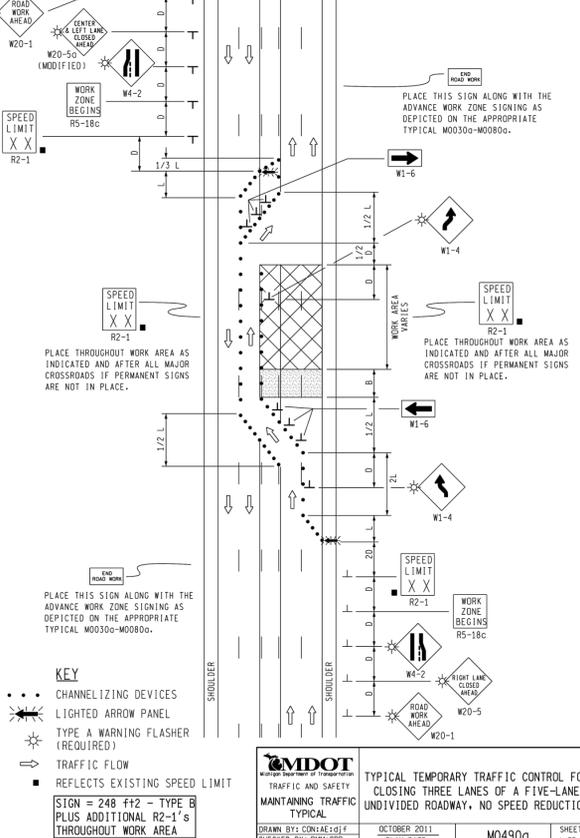
- D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES  
L = 1/2 L = MINIMUM LENGTH OF TAPER  
B = LENGTH OF LONGITUDINAL BUFFER  
SEE M0200a FOR "D", "L", AND "B" VALUES
- ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
- DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
- FOR OVERNIGHT CLOSURES, TYPE 111 BARRICADES SHALL BE LIGHTED.
- WHEN CALLED FOR IN THE FHWA ACCEPTANCE LETTER FOR THE SIGN SYSTEM SELECTED, THE TYPE A WARNING FLASHER, SHOWN ON THE WARNING SIGNS, SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
- ALL TEMPORARY SIGNS, TYPE 111 BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
- WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING A CENTER-LANE FOR LEFT TURN ONLY AND AN ADJACENT THROUGH LANE IN EACH DIRECTION ON A MULTI-LANE UNDIVIDED ROADWAY, NO SPEED REDUCTION

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0370a.dgn REV: 10/18/2011

OCTOBER 2011  
PLAN DATE: M0370a  
SHEET 2 OF 2



NOTES

- D = DISTANCE BETWEEN TRAFFIC CONTROL DEVICES  
L = 1/2 L, AND 1/3 L = MINIMUM LENGTH OF TAPER  
B = LENGTH OF LONGITUDINAL BUFFER  
SEE M0200a FOR "D", "L", AND "B" VALUES
- ALL NON-APPLICABLE SIGNING WITHIN THE CIA SHALL BE MODIFIED TO FIT CONDITIONS, COVERED OR REMOVED.
- DISTANCES BETWEEN SIGNS, THE VALUES FOR WHICH ARE SHOWN IN TABLE D, ARE APPROXIMATE AND MAY NEED ADJUSTING AS DIRECTED BY THE ENGINEER.
- THE "WORK ZONE BEGINS" (R5-18c) SIGN SHALL BE USED ONLY IN THE INITIAL SIGNING SEQUENCE IN THE WORK ZONE. SUBSEQUENT SEQUENCES IN THE SAME WORK ZONE SHALL OMIT THIS SIGN AND THE QUANTITIES SHALL BE ADJUSTED APPROPRIATELY.
- THE MAXIMUM RECOMMENDED DISTANCE(S) BETWEEN CHANNELIZING DEVICES SHOULD BE EQUAL IN FEET TO THE POSTED SPEED IN MILES PER HOUR ON TAPER(S) AND TWICE THE POSTED SPEED IN THE PARALLEL AREA(S).
- FOR OVERNIGHT CLOSURES, TYPE 111 BARRICADES SHALL BE LIGHTED.
- THE TYPE A WARNING FLASHER SHOWN ON THE WARNING SIGNS SHALL BE POSITIONED ON THE SIDE OF THE SIGN NEAREST THE ROADWAY.
- ALL TEMPORARY SIGNS, TYPE 111 BARRICADES, THEIR SUPPORT SYSTEMS AND LIGHTING REQUIREMENTS SHALL MEET NCHRP 350 CRASHWORTHY REQUIREMENTS STIPULATED IN THE CURRENT EDITION OF THE MICHIGAN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION, THE STANDARD PLANS AND APPLICABLE SPECIAL PROVISIONS. ONLY DESIGNS AND MATERIALS APPROVED BY MDT WILL BE ALLOWED.
- WHEN BUFFER AREAS ARE ESTABLISHED, THERE SHALL BE NO EQUIPMENT OR MATERIALS STORED OR WORK CONDUCTED IN THE BUFFER AREA.
- ALL EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH EITHER PROPOSED CHANGES IN TRAFFIC PATTERNS OR PROPOSED TEMPORARY TRAFFIC MARKINGS, SHALL BE REMOVED BEFORE ANY CHANGE IS MADE IN THE TRAFFIC PATTERN. EXCEPTION WILL BE MADE FOR DAYTIME-ONLY TRAFFIC PATTERNS THAT ARE ADEQUATELY DELINEATED BY OTHER TRAFFIC CONTROL DEVICES.
- THE LIGHTED ARROW PANEL SHALL BE LOCATED AT THE BEGINNING OF THE MERGING TAPER AS SHOWN. WHEN PHYSICAL LIMITATIONS RESTRICT ITS PLACEMENT AS INDICATED, THEN IT SHALL BE PLACED AS CLOSE TO THE BEGINNING OF THE MERGING TAPER AS POSSIBLE.

MDOT TRAFFIC AND SAFETY  
MAINTAINING TRAFFIC TYPICAL

TYPICAL TEMPORARY TRAFFIC CONTROL FOR CLOSING THREE LANES OF A FIVE-LANE UNDIVIDED ROADWAY, NO SPEED REDUCTION

DRAWN BY: CONJAE:GJF  
CHECKED BY: BMM:CRB  
FILE: K1-00N-TSR-STDS-ENGL-SH-MNTFR-M0490a.dgn REV: 10/20/2011

OCTOBER 2011  
PLAN DATE: M0490a  
SHEET 1 OF 2

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

NOTE:  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

NO.	DESCRIPTION	DATE	BY
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3	REVISED	10/11/2011	CONJAE:GJF
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100	REVISED	10/11/2011	CONJAE:GJF

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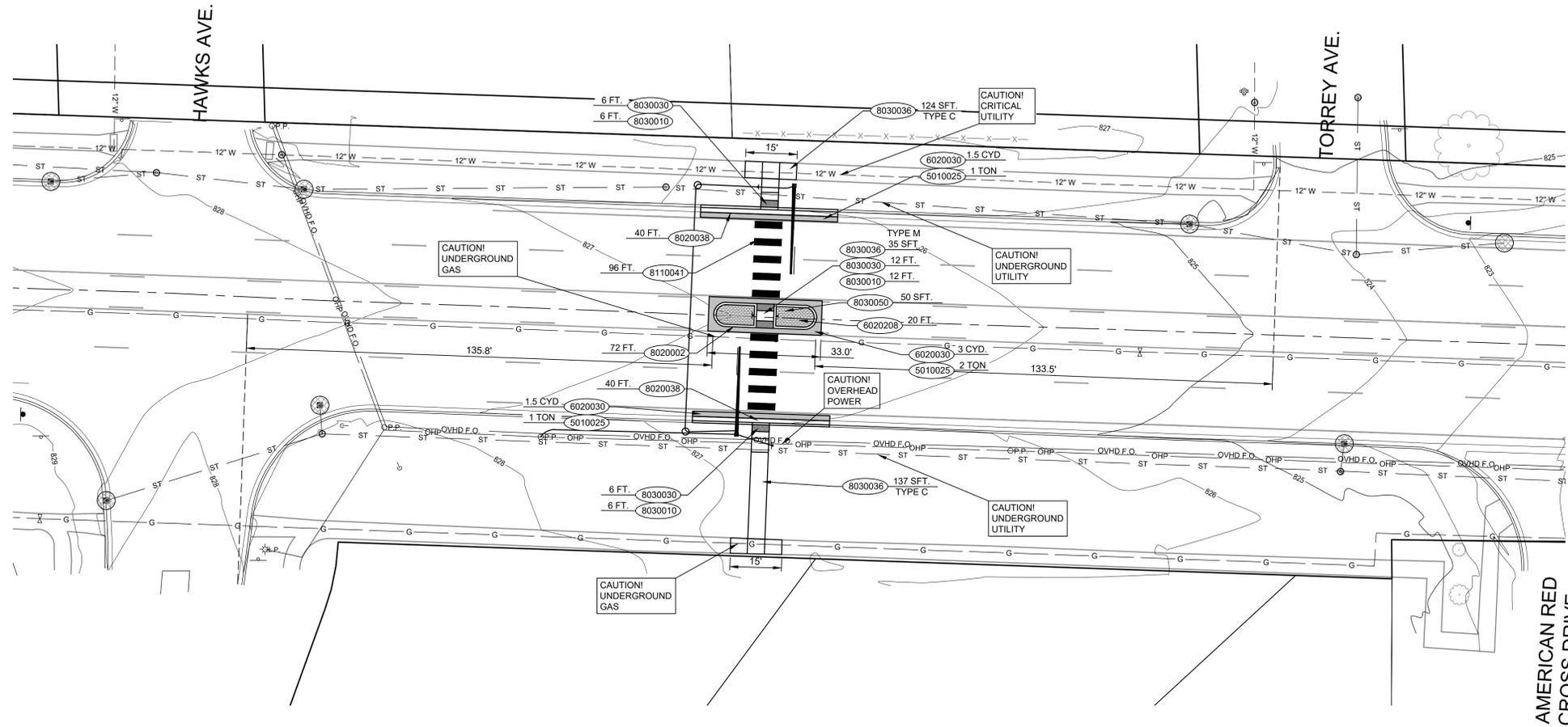
Client/Project  
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD

Pittsfield Township, MI

Title  
TEMPORARY TRAFFIC CONTROL PLAN

Project No. 2075149600  
Revision Sheet 0 5 of 14  
Scale NONE  
Drawing No. C-05



#	DESCRIPTION	QNTY	UNIT
5010025	HAND PATCHING	4	TON
6020030	CONC. GRADE P1	6	CYD
6020208	JOINT, EXPANSION, E3	20	FT
8020002	CURB, CONC, DET E2	72	FT
8020038	CURB AND CUTTER, CONC, DET F4	80	FT
8030010	DETECTABLE WARNING SURFACE	24	FT
8030030	CURB RAMP OPENING, CONC	24	FT
8030036	SIDEWALK RAMP, CONC, 6 INCH	296	SFT
8030050	SIDEWALK, CLAY BRICK PAVERS	50	SFT
8037010	SIDEWALK, GRADING	350	SFT
8110110	PAVT MRKG, POLYUREA, 12 INCH, CROSSWALK	96	FT

D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.12
Issued				By: YYY.MM.DD
File Name: 149603C-06				By: BWA, Dwn: BWA, Dgr: CAM, Chkd: 2019.03.21, YYY.MM.DD

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PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD  
Pittsfield Township, MI

Title  
**ROAD CONSTRUCTION PLAN**

Project No.  
2075149600

Revision Sheet  
0 6 of 14

Scale  
0 20' 40'

Drawing No.  
**C-06**



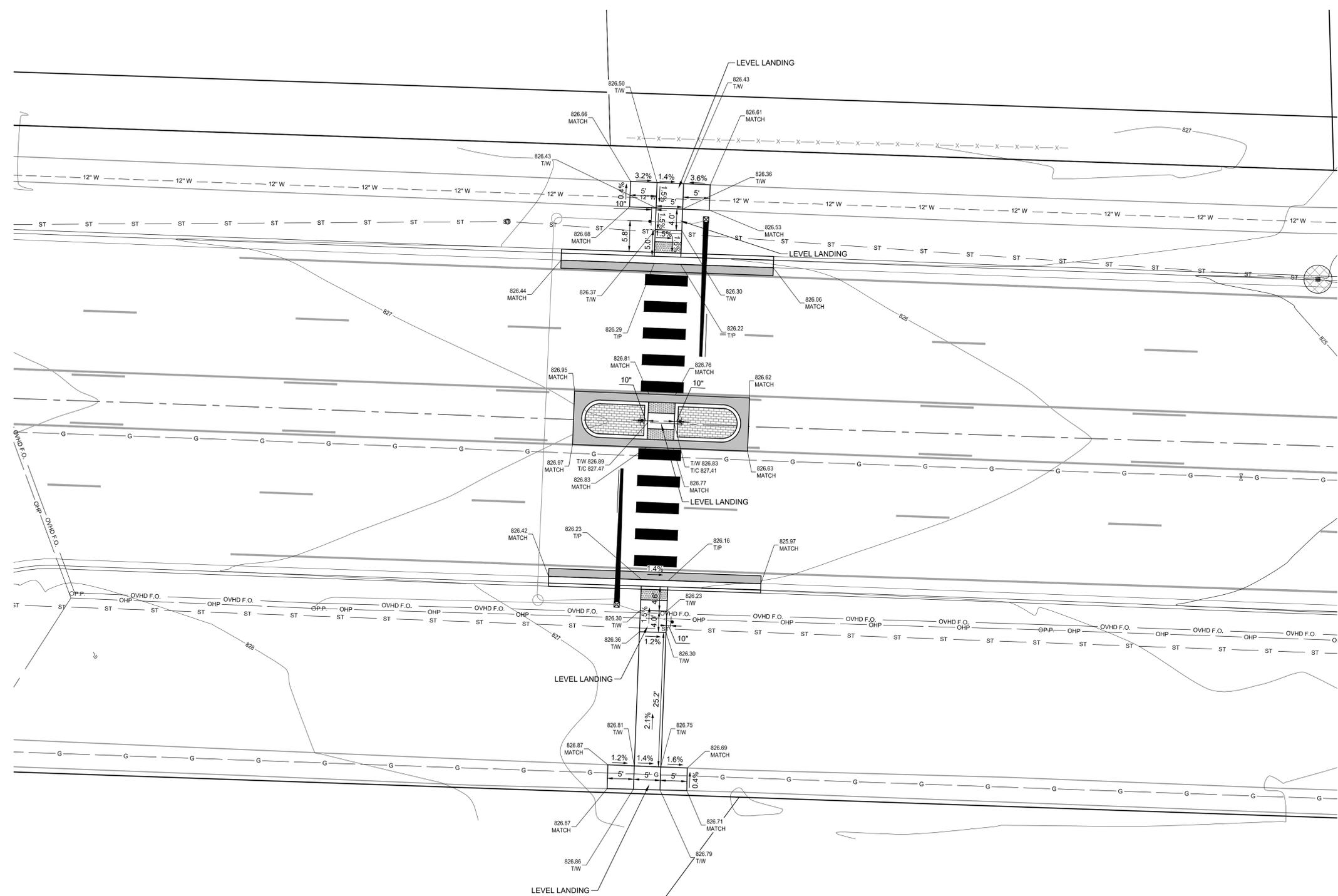
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Notes



D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19
Issued		By: Appd YYY.MM.DD		
File Name: 149403C-07		BWA	BWA	CAM
		Dwn.	Dgrl.	Chkd.
				YYYY.MM.DD

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PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT  
PROJECTS - CDBG PACKARD ROAD  
Pittsfield Township, MI

Title  
DETAIL GRADING PLAN

Project No.  
2075149600

Scale  
0 10' 20'

Revision Sheet  
0 7 of 14

Drawing No.  
**C-07**



**NOTE:**  
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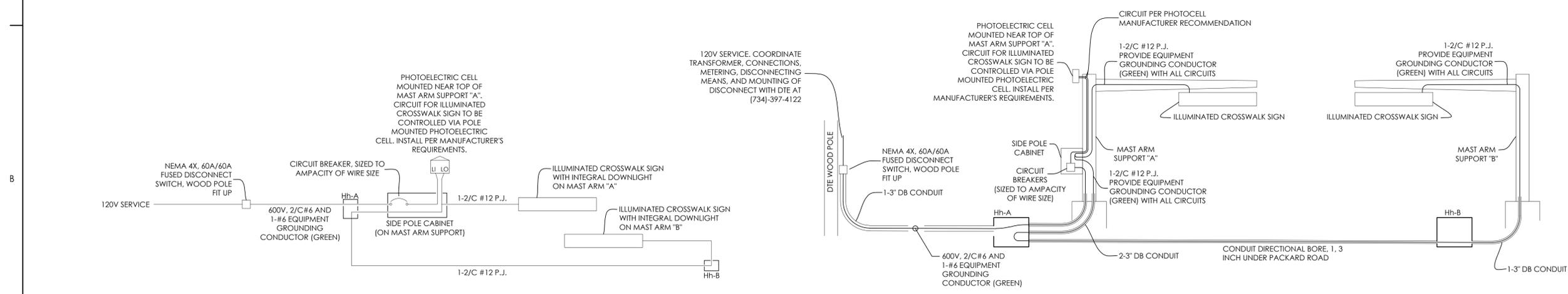
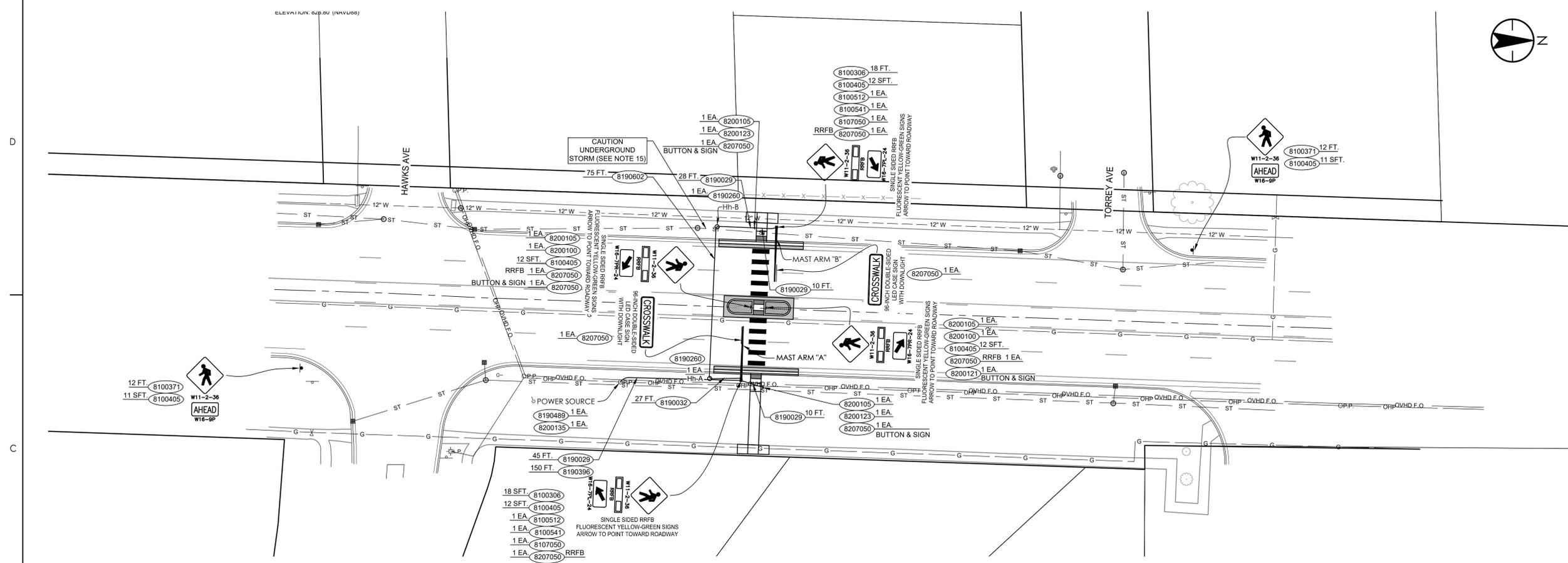
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Notes

- SEE SHEET C-02 FOR TRAFFIC AND SAFETY NOTES.
- COST OF PHOTOCELL IS INCLUDED IN THE COST OF THE CASE SIGN PAY ITEM.
- UNDERGROUND CONDUIT SHALL BE BURIED MINIMUM 24" BELOW GRADE.
- SERVICE DISCONNECT SHALL BE 60A/60A NEMA 4X STAINLESS STEEL PER MDOT STANDARD PLANS SIG-211 SERIES.
- SIDE POLE CABINET SHALL BE SIZED PER STANDARD PLAN SIG-100 SERIES FLASHING BEACON CABINET AND MANUFACTURER'S RECOMMENDATION FOR BRACKETING.
- PEDESTAL BASE SHALL BE ALUMINUM SQUARE BASE PER MDOT STANDARD PLAN SIG-070 SERIES.
- BANDING IS NOT PERMITTED FOR ATTACHING EQUIPMENT TO MAST ARMS. ALL ITEMS ATTACHED TO POLES SHALL BE DONE USING THE BLIND-NUT METHOD. RRFB EQUIPMENT TO BE ATTACHED PER MANUFACTURER'S RECOMMENDATION.
- PUSHBUTTON LOCATIONS SHALL BE MAXIMUM 10' FROM FACE OF BUTTON TO NEAREST LEVEL LANDING EDGE.
- UTILITY OWNERS TO RELOCATE OVERHEAD LINES IF IN CONFLICT WITH SIGNAL EQUIPMENT.
- HAND DIG SIGNAL POLE FOUNDATIONS NEAR UNDERGROUND UTILITIES.
- CONTACT DTE ENERGY FOR ELECTRICAL SERVICE CONNECTION. ESTIMATED COST TO CONTRACTOR \$3,500.
- CONTRACTOR TO COORDINATE INSTALLATION OF TRAFFIC SIGNAL EQUIPMENT WITH WCRC. SIGNAL ASSEMBLIES MUST BE INSPECTED BY WCRC PRIOR TO INSTALLATION.
- RRFB SHALL BE PER WCRC STANDARD DETAIL WASH-19.
- MAST ARM DETAILS SHALL BE PER MDOT STANDARD PLAN SIG-032 AND SIG-040 SERIES. MAST ARM FINISH SHALL BE POWDER COATED BLACK.
- CONTRACTOR TO VERIFY STORM SEWER DEPTH PRIOR TO DIRECTIONAL BORE OF CONDUIT.



WIRING DIAGRAM (N.T.S.)

#	DESCRIPTION	QNTY	UNIT
8100306	MAST ARM STD FDN, CASED	36	FT
8100371	POST, STEEL, 3 LB	24	FT
8100405	SIGN, TYPE IIB	66	SFT
8100512	MAST ARM POLE, CAT III, BLACK	2	EA
8100541	MAST ARM, 25 FOOT, CAT III, BLACK	2	EA
8107050	SIDE POLE CABINET	1	EA
8190029	CONDUIT, DB, 1, 3 INCH	93	FT
8190032	CONDUIT, DB, 2, 3 INCH	27	FT
8190260	Hh, ROUND	2	EA
8190396	CABLE, SEC, 600V, 1, 2/C #6	150	LF
8190489	WOOD POLE, FIT UP, METERED SEC ELEC SERV	1	EA
8190602	CONDUIT, DIRECTIONAL BORE, 1, 3 INCH	75	FT
8200100	PEDESTAL, ALUM	2	EA
8200105	PEDESTAL, FDN	4	EA
8200116	POWER CO. (EST COST TO CONTRACTOR)	3500	DIR
8200123	PUSHBUTTON PEDESTAL, ALUM	2	EA
8200135	SERV DISCONNECT	2	EA
8207050	PUSHBUTTON AND SIGN, MODIFIED	4	EA
8207050	FLSH BEACON, RECTANGULAR RAPID, SOLAR POWERED, SINGLE SIDED	4	EA
8207050	CROSSWALK SIGN, TWO WAY, ILLUMINATED (LED) WITH DOWNLIGHT	2	EA

D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.12
Issued				By: Acppd YYYT.MM.DD
File Name: 14P603C-08				BWA BWA CAM 2019.03.21 Dwn. Dgrl. Chkd. YYYT.MM.DD

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Client/Project  
PITTSFIELD CHARTER TOWNSHIP  
PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD  
Pittsfield Township, MI

Title  
PROPOSED TRAFFIC CONTROL DEVICE PLAN  
Project No. 2075149600  
Revision Sheet 0 8 of 14  
Scale 20' 40'  
Drawing No. C-08

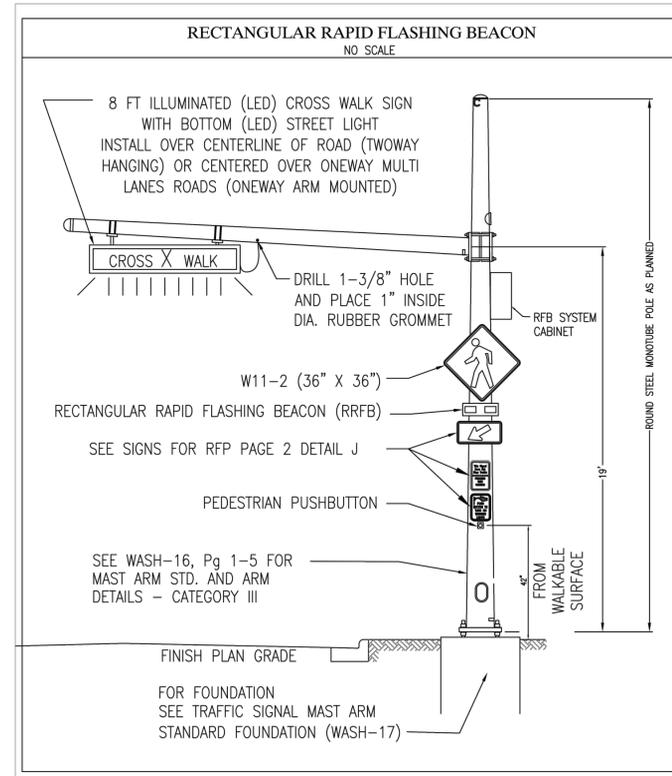
  
NOTE:  
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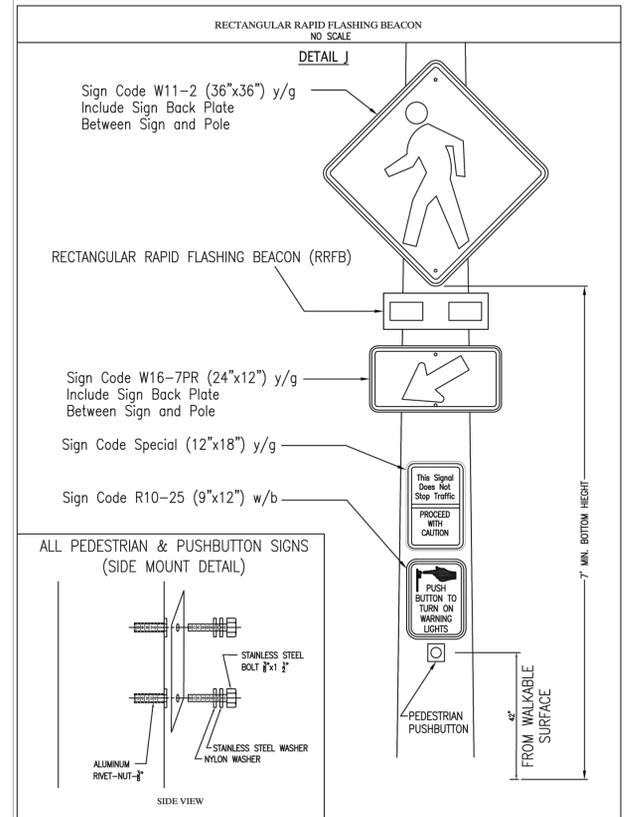
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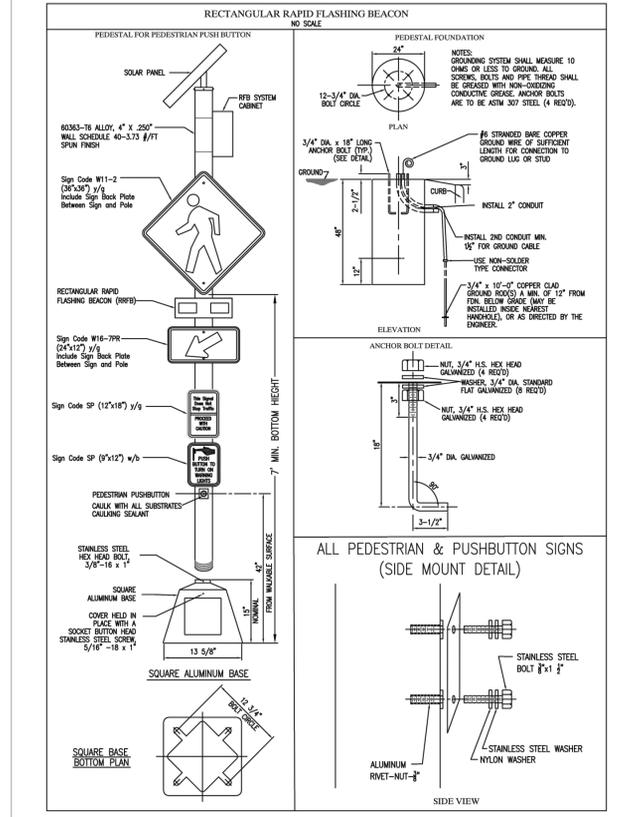
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	555 N. ZEEB RD. ANN ARBOR, MI 48103-1556 734-761-1500 Fax 734-761-3737	INITIALS DRAWN BY J.S.W. REVISED BY J.S.W. CHECKED BY B.M.S. APPROVED BY B.M.S.	DATE FEB '10 MAR '17 MAR '17 MAR '17	RRFB WITH MAST ARM POLE AND MAST ARM STD. - CATEGORY III	PLAN DATE: 03-01-2017	WASH-19	1 OF 3
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	555 N. ZEEB RD. ANN ARBOR, MI 48103-1556 734-761-1500 Fax 734-761-3737	INITIALS DRAWN BY J.S.W. REVISED BY J.S.W. CHECKED BY B.M.S. APPROVED BY B.M.S.	DATE MAR '16 MAR '17 MAR '17 MAR '17	RRFB With Signs on Mast Arm Pole	PLAN DATE: 03-01-2017	WASH-19	2 OF 3
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	555 N. ZEEB RD. ANN ARBOR, MI 48103-1556 734-761-1500 Fax 734-761-3737	INITIALS DRAWN BY J.S.W. REVISED BY J.S.W. CHECKED BY B.M.S. APPROVED BY B.M.S.	DATE FEB '10 MAR '17 MAR '17 MAR '17	RRFB WITH PEDESTRIAN PEDESTAL	PLAN DATE: 03-01-2017	WASH-19	3 OF 3
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C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19

Issued By: Appd YTTY.MM.DD

File Name: 149600C-09  
BWA BWA CAM 2019.03.21  
Dwn. Dsgn. Chkd. YTTY.MM.DD

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Client/Project  
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD  
Pittsfield Township, MI

Title

WCRS STANDARD DETAILS

Project No. 2075149600	Scale NONE
Revision Sheet 0	Drawing No. C-09

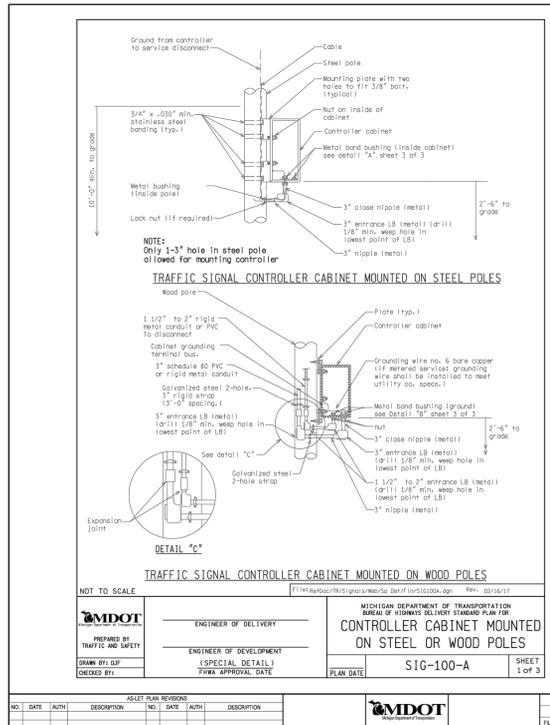
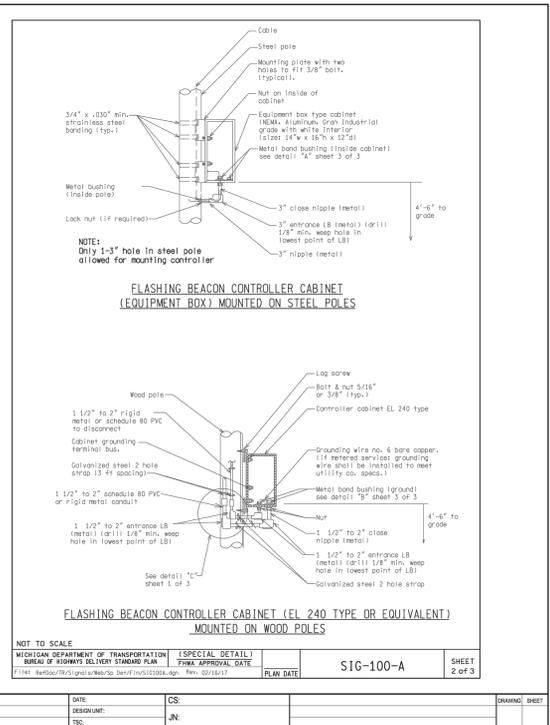
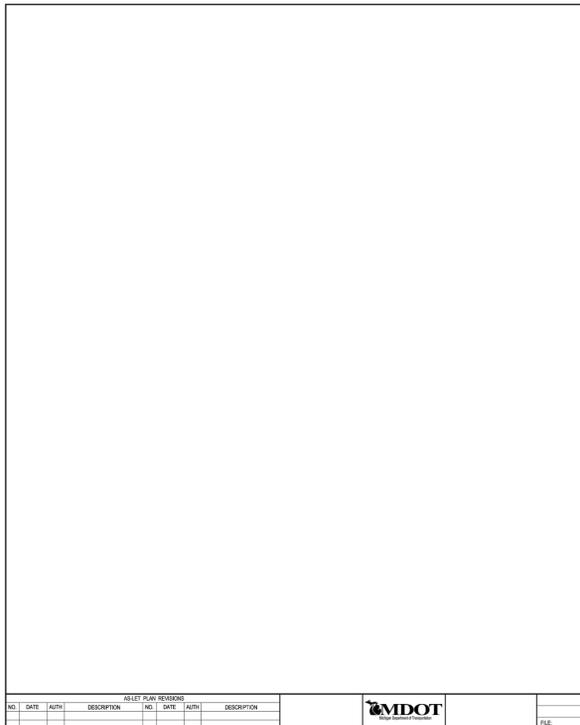
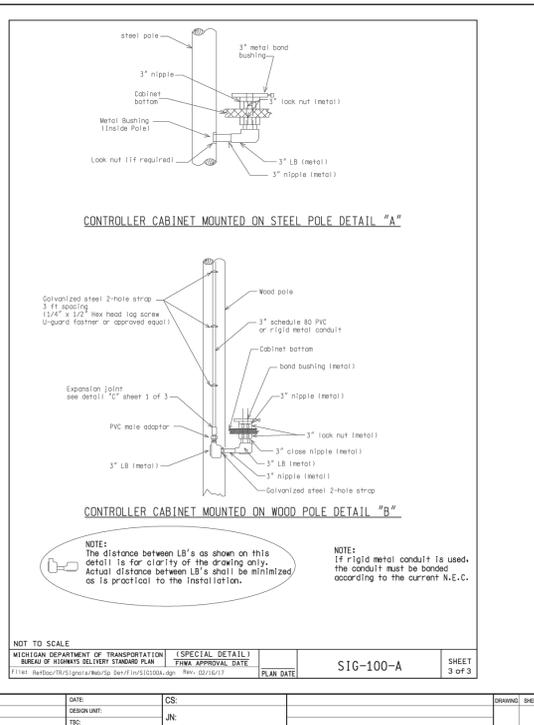
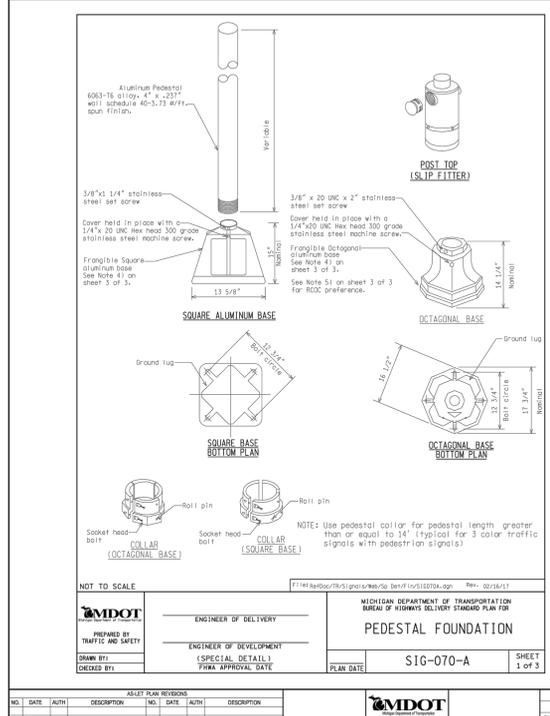
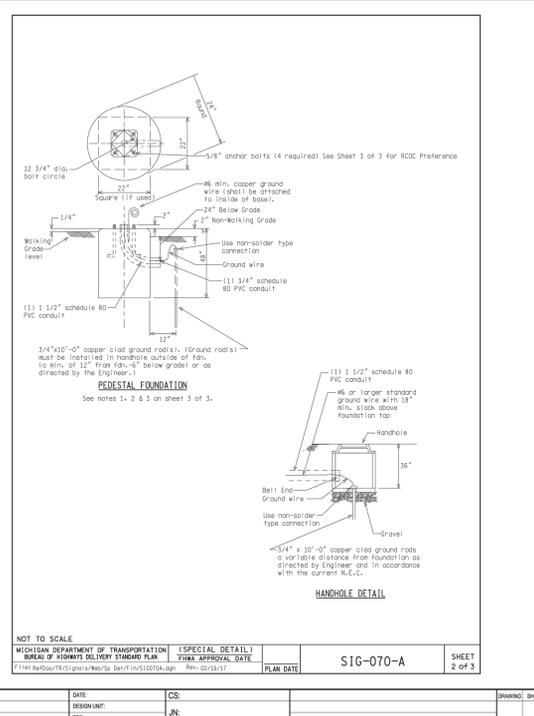
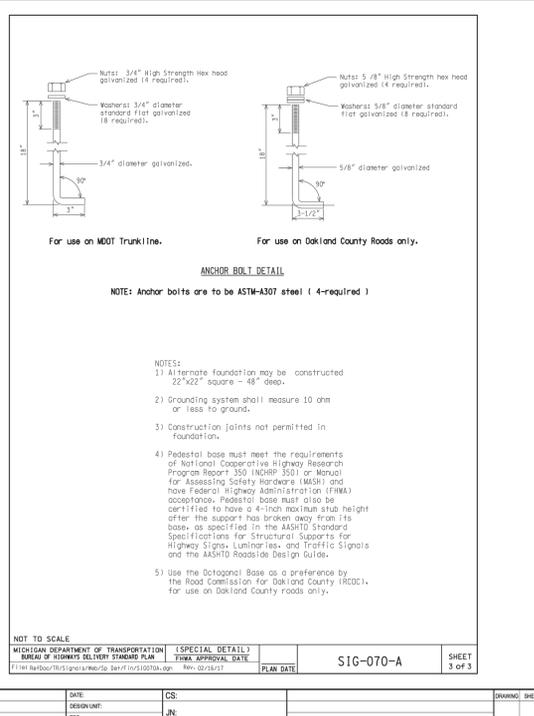
9 of 14

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

NOTE:  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

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D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19

Issued By: Appd YTTY.MM.DD

File Name: 149600C-11

BWA	BWA	CAM	2019.03.21
Dwn.	Dgrn.	Chkg.	YTTY.MM.DD

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Client/Project  
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD  
Pittsfield Township, MI

Title  
MDOT STANDARD DETAILS

Project No. 2075149600	Scale NONE
Revision Sheet 0	Drawing No. C-11

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

NOTE:  
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

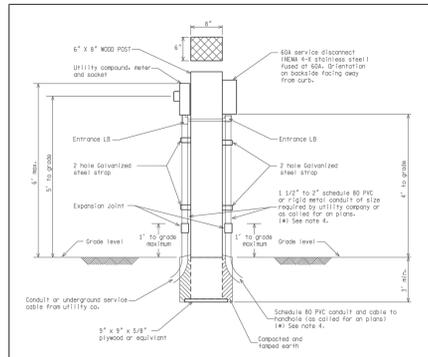
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Notes

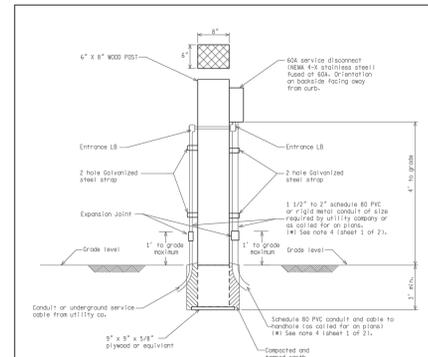
1) The 6" x 8" wood post shall meet the requirement of the current M.D.O.T. Standard Specifications for Construction.  
2) The meter and socket shall be as approved and required by the local power company.  
3) All National Electric Code and local utility requirements for underground metered service shall be met.  
4) For projects maintained by the Wayne Co. Department of Public Services (WOPS), use right hand (for conduits) from grade level to 10' (min.) above grade or as directed by the Engineer.



**UNDERGROUND METERED SERVICE (120/240V 60 HZ)**

NOTES:  
1) The 6" x 8" wood post shall meet the requirement of the current M.D.O.T. Standard Specifications for Construction.  
2) The meter and socket shall be as approved and required by the local power company.  
3) All National Electric Code and local utility requirements for underground metered service shall be met.  
4) For projects maintained by the Wayne Co. Department of Public Services (WOPS), use right hand (for conduits) from grade level to 10' (min.) above grade or as directed by the Engineer.

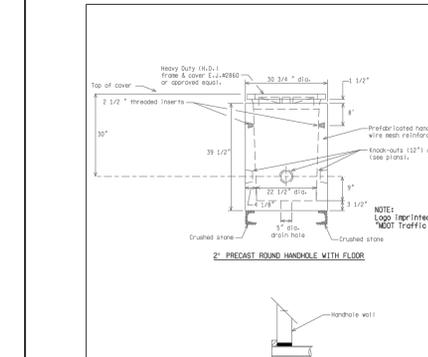
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**UNDERGROUND NON-METERED SERVICE (120/240V 60 HZ)**

NOTES:  
1) The 6" x 8" wood post shall meet the requirement of the current M.D.O.T. Standard Specifications for Construction.  
2) All National Electric Code and local utility requirements for underground non-metered service shall be met.

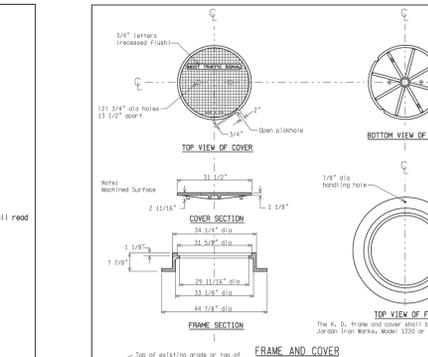
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**2" PRECAST ROUND HANDHOLE WITH FLOOR**

NOTES:  
1) The 6" x 8" wood post shall meet the requirement of the current M.D.O.T. Standard Specifications for Construction.  
2) All National Electric Code and local utility requirements for underground non-metered service shall be met.

NOT TO SCALE	DATE: 02/16/17	CS: JN	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**3" DIAMETER PRECAST ROUND CONCRETE HANDHOLE SECTION DETAIL**

NOTES:  
1) The 6" x 8" wood post shall meet the requirement of the current M.D.O.T. Standard Specifications for Construction.  
2) All National Electric Code and local utility requirements for underground non-metered service shall be met.

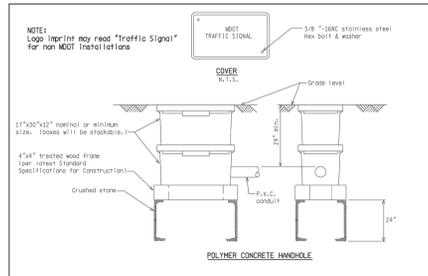
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17

NO. DATE	BY	DESCRIPTION	NO. DATE	BY	DESCRIPTION

NO. DATE	BY	DESCRIPTION	NO. DATE	BY	DESCRIPTION

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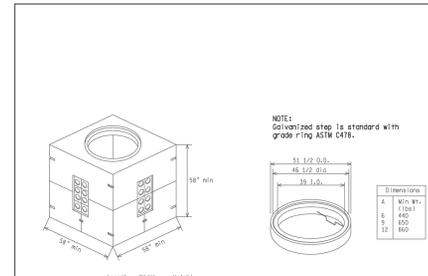
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**POLYMER CONCRETE HANDHOLE**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
7) The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished and shall be coated with tar oil or varnish.  
8) Light duty cover shall be bolted to frame with not less than 2 countersunk hex head bronze bolts.  
9) The heavy duty cover & frame shall be East Jordan Iron Works #8208 Neenah Foundry #8462-48 for square cover on East Jordan Iron Works #8052 Type "A", Neenah Foundry #8-652 D for circular cover or an approved equal.

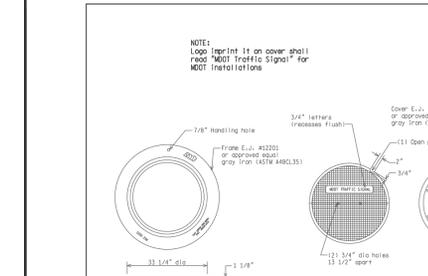
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**4' x 4' x 4' PRECAST CONCRETE HANDHOLE**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
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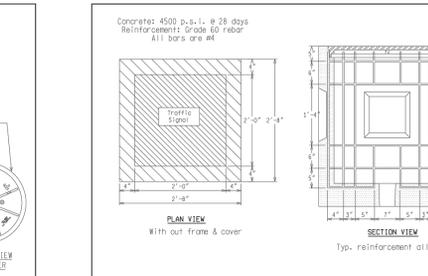
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**4' x 4' x 4' PRECAST CONCRETE HANDHOLE**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
7) The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished and shall be coated with tar oil or varnish.  
8) Light duty cover shall be bolted to frame with not less than 2 countersunk hex head bronze bolts.  
9) The heavy duty cover & frame shall be East Jordan Iron Works #8208 Neenah Foundry #8462-48 for square cover on East Jordan Iron Works #8052 Type "A", Neenah Foundry #8-652 D for circular cover or an approved equal.

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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**2' x 2' SQUARE x 3' HANDHOLE**

For use on Oakland County roads only.

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
7) The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished and shall be coated with tar oil or varnish.  
8) Light duty cover shall be bolted to frame with not less than 2 countersunk hex head bronze bolts.  
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NOT TO SCALE	DATE: 02/16/17	CS: JN	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17
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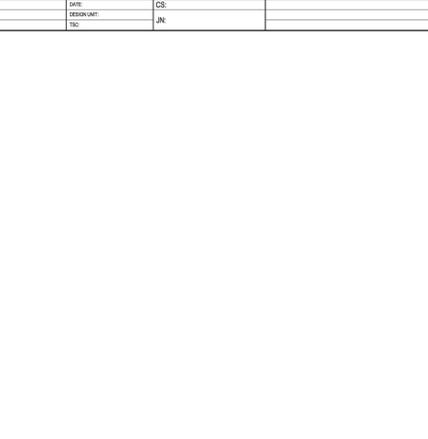
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**TYPICAL SECTION OF TRENCH**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
7) The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished and shall be coated with tar oil or varnish.  
8) Light duty cover shall be bolted to frame with not less than 2 countersunk hex head bronze bolts.  
9) The heavy duty cover & frame shall be East Jordan Iron Works #8208 Neenah Foundry #8462-48 for square cover on East Jordan Iron Works #8052 Type "A", Neenah Foundry #8-652 D for circular cover or an approved equal.

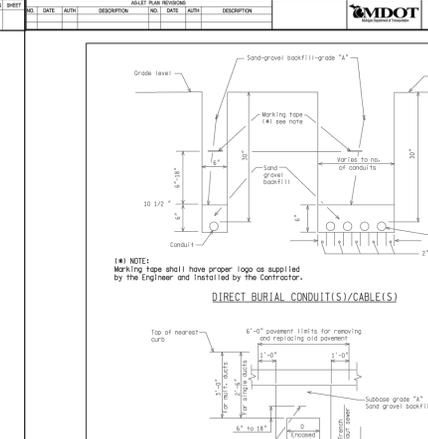
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**ENCASED CONDUIT SECTIONS**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
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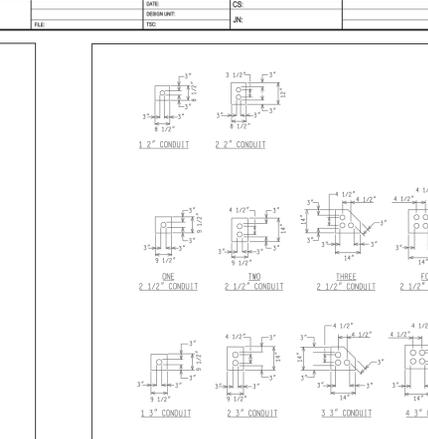
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**DIRECT BURIAL CONDUITS/CABLES**

NOTES:  
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2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
7) The castings shall be free of pouring faults, blow holes, cracks, and other imperfections. They shall be sound, true to form and thickness, clean and neatly finished and shall be coated with tar oil or varnish.  
8) Light duty cover shall be bolted to frame with not less than 2 countersunk hex head bronze bolts.  
9) The heavy duty cover & frame shall be East Jordan Iron Works #8208 Neenah Foundry #8462-48 for square cover on East Jordan Iron Works #8052 Type "A", Neenah Foundry #8-652 D for circular cover or an approved equal.

NOT TO SCALE	DATE: 02/16/17	CS: JN	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17
ENGINEER OF DELIVERY	ENGINEER OF DEVELOPMENT	TRAFFIC AND SAFETY	TRAFFIC AND SAFETY	TRAFFIC AND SAFETY	TRAFFIC AND SAFETY
DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17



**ENCASED CONDUIT SECTIONS**

NOTES:  
1) The material and workmanship shall be in accordance with the current M.D.O.T. Standard Specifications for Construction.  
2) All concrete masonry shall be grade 30M.  
3) The inner surface of the handhole shall be smooth.  
4) Heavy duty covers shall be castings which meet the requirements of the current specifications for gray iron castings ASTM designation A48 and shall have a minimum strength as provided for Class No. 30 gray iron castings.  
5) All castings shall be cleaned by sand blasting.  
6) The seating face of the cover and the seat for the same on the frame if required, shall be ground or machined so that the cover shall have an even bearing on its seat to prevent rocking or tilting.  
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DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17	DATE: 02/16/17

THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING MISS DIG PRIOR TO CONSTRUCTION.

D	BID PLAN	CAM	MDP	2019.09.27
C	PERMIT REV 1	CAM	MDP	2019.09.04
B	PERMIT PLAN	CAM	MDP	2019.08.07
A	PRELIMINARY PLAN	CAM	MDP	2019.04.19

Issued By: Appd YTTY.MM.DD

File Name: 14960C-12	BWA	BWA	CAM	2019.03.21
	Dwn.	Dgrn.	Chkd.	YTTY.MM.DD

Permit/Seal

**PRELIMINARY NOT FOR CONSTRUCTION**

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Client/Project Logo

Client/Project  
PITTSFIELD CHARTER TOWNSHIP

PITTSFIELD PEDESTRIAN SAFETY IMPROVEMENT PROJECTS - CDBG PACKARD ROAD

Pittsfield Township, MI

Title	MDOT STANDARD DETAILS
Project No.	2075149600
Scale	NONE
Revision	Sheet
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