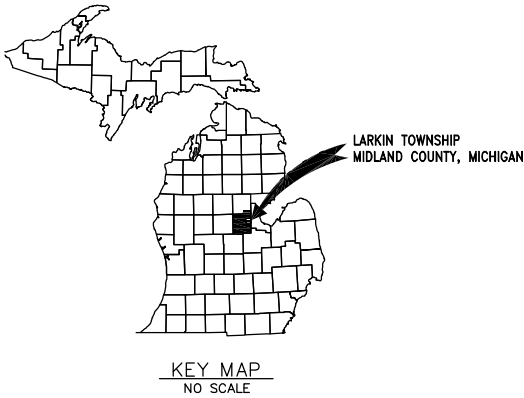


MIDLAND COUNTY ROAD COMMISSION
IN COOPERATION WITH
MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

EASTMAN ROAD SCRAP TIRE GRANT

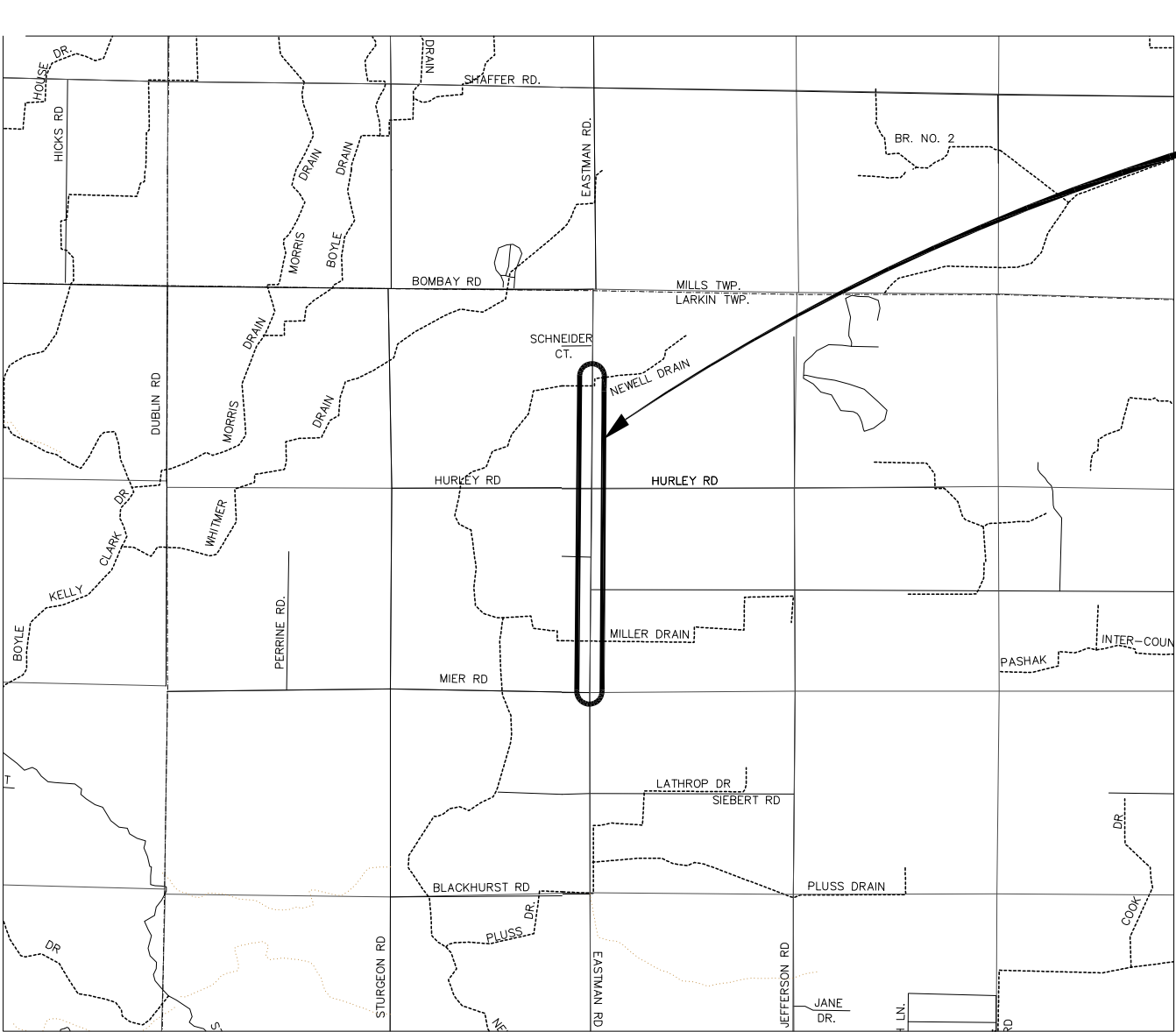
PR NUMBER: 885901
MDEQ PROJECT NUMBER: CO-1756056
FEDERAL PROJECT NUMBER: N/A



INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	LEGEND SHEET
3	NOTE SHEET
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5	MISCELLANEOUS DETAILS
6	ALIGNMENT SHEET
7-39	REMOVAL, CONSTRUCTION, & PROFILE SHEETS
40	DETAIL GRADE SHEET - MIER RD
41	DETAIL GRADE SHEET - HUBBARD RD
42	DETAIL GRADE SHEET - HURLEY RD
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47-57	CROSS SECTION SHEETS

M.D.O.T. STANDARD PLANS	
TITLE	PLAN NO.
DRAINAGE STRUCTURES	R-1-G*
MONUMENT BOXES	R-11-E
COVER G	R-12-E
GRANULAR BLANKET, UNDERDRAINS, OUTLET ENDINGS FOR UNDERDRAINS, AND SEWER BULKHEADS	R-80-E
UTILITY TRENCHES	R-83-C
PRECAST CONCRETE END SECTION FOR PIPE CULVERT	R-86-F*
STEEL END SECTION	R-88-D
STEEL GRATES FOR END SECTIONS	R-92-C
SOIL EROSION & SEDIMENTATION CONTROL MEASURES	R-96-E
PAVEMENT MARKINGS	
LONGITUDINAL LINE TYPES AND PLACEMENT	PAVE-905-C
PAVEMENT MARKINGS FOR INTERSECTIONS	PAVE-930-C
SIGNING	
STANDARD SIGN INSTALLATIONS	SIGN-100-G
ROADSIDE SIGN LOCATIONS & SUPPORT SPACING	SIGN-120-E
SIGN SUPPORT SELECTION CHARTS	SIGN-150-D
STEEL POSTS	SIGN-200-D
MISCELLANEOUS SIGN CONNECTION DETAILS	SIGN-740-B

*DENOTES SPECIAL DETAIL



LOCATION MAP
N.T.S.

PROJECT LOCATION
POB: STA 10+65
POE: STA 95+42

TRAFFIC DATA						
	TOTAL A.D.T.		% COMMERCIAL		DESIGN SPEED	POSTED SPEED
	2017	2037	2017	2037		
EASTMAN ROAD	5678	7067	5.3	5.3	60	55

CONTRACT FOR: 1.61 MILES MILL & RESURFACE EXISTING HMA PAVEMENT, WIDENING TO PROVIDE PAVED SHOULDERS, TIRE DERIVED AGGREGATE (TDA) SUBBASE DRAINAGE COURSE, DRAINAGE IMPROVEMENTS, PERMANENT SIGNING AND PAVEMENT MARKINGS.

MIDLAND COUNTY
ROAD COMMISSION APPROVAL

TERENCE W. PALMER, P.E. - MANAGING DIRECTOR DATE





OHM ADVISORS
415 E. MAIN ST
MIDLAND, MI 48640
(989) 956-2020



PREPARED UNDER THE SUPERVISION OF:
JOHN V. KELLEY
ENGINEER
No. 63203
DATE 12/21/18

REVISIONS	
PROJECT NO. 5025-17-0120	SHEET NO. 1 OF 57

EXISTING

PROPOSED

	STORM MANHOLE
	INLET/CATCH BASIN
	CULVERT END SECTION
	SANITARY MANHOLE
	GATE VALVE & WELL
	GATE VALVE & BOX
	TAPPING SLEEVE VALVE & WELL
	TAPPING SLEEVE VALVE & BOX
	FIRE HYDRANT

	CONTIGUOUS PROPERTY SYMBOL
	PARCEL NUMBER BOX
	NO ROW IMPACTS

EXISTING

	GUY WIRE
	GUY POLE
	UTILITY POLE
	UTILITY POLE W/LIGHT
	LIGHT/DECOR LAMP POLE
	FLOOD LIGHT
	GAS VALVE
	GAS VENT
	GAS METER
	GAS RISER
	TRAFFIC SIGNAL
	PEDESTRIAN RISER
	TRANSFORMER PAD
	PRIVATE UTILITY MANHOLE
	RAILROAD CROSSING
	ELECTRIC METER
	PHONE BOOTH
	TRAFFIC SIGNAL CONTROLLER
	HAND HOLE
	ELECTRIC RISER
	TELEPHONE RISER
	CABLE TV RISER
	MONITORING WELL
	UNDERGROUND MARKER

EXISTING

	RIPRAP	
	SIGN	
	FLOW DIRECTION	
	STUMP	
	WETLAND	
	CONIFEROUS TREE	CL 1 1" TO 5" CL 2 6" TO 17" CL 3 18" TO 35" CL 4 36" AND UP
	DECIDUOUS TREE	
	CONIFEROUS SHRUB	
	DECIDUOUS SHRUB	
	SOIL BORING	
	SECTION CORNER	
	MONUMENT	
	IRON ROD/PIPE	
	PK NAIL	
	BENCHMARK	
	TRAVERSE POINT	
	ARIEL TRAVERSE POINT	
	MAIL/NEWSPAPER BOX	
	FLAG POLE	
	POST	

CAUTION - CRITICAL
UNDERGROUND UTILITY

 RIPRAP
 SIGN
 FLOW DIRECTION
 STRUCTURE NUMBER
WM SAN STM
 ADA SIDEWALK RAMP

EXISTING

_____ ELEC _____	ELECTRICAL *
_____ 6" (COMPANY) GAS _____	GAS\OIL
_____ (COMPANY) CABLE/TEL _____	CABLE/TELEPHONE *
_____ FIBER OPTIC _____	FIBER OPTIC *
_____ 12" WM _____	WATER
_____ 12" SAN _____	SANITARY
_____ 12" STM _____	STORM
 <u>PROPOSED</u> 	
_____ 12" ~> _____	STORM/SANITARY/WATER
_____ 12" _____	PRIMARY UTILITY WILL HAVE A CONTINUOUS LIFESTYLE, WITH THE SECONDARY UTILITY MATCHING ITS RESPECTIVE EXISTING UTILITY LIFESTYLE

*OH = OVERHEAD , UG = UNDERGROUND

EXISTING

ROW	
	SECTION
	PROPERTY/PARCEL
<u>PROPOSED</u>	
ROW	ROW

EXISTING

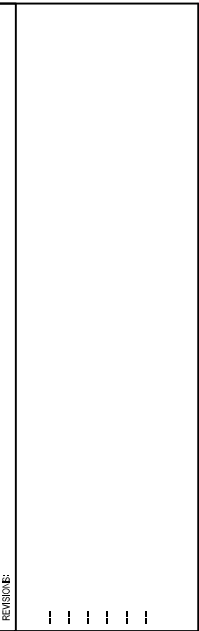
The diagram illustrates the proposed road layout with the following features labeled on the right side:

- HEDGE/TREE
- FENCE
- GUARDRAIL
- CENTERLINE OF DITCH
- RAILROAD
- WETLAND/EDGE OF WATER
- PROPOSED
- GRADING LIMIT (SLOPE STAKE)
- CENTERLINE OF DITCH
- GUARDRAIL
- FENCE

	SIDEWALK REMOVAL
	HMA SURFACE REMOVAL
	PAVEMENT REMOVAL
	COLD MILLING HMA SURFACE
	HMA BASE CRUSHING AND SHAPING
	TRENCHING/MACHINE GRADING MODIFIED
	CURB AND GUTTER, REM
	TREE, REM
S-	SALVAGE
B-	BULKHEAD
A-	ABANDON
R-	REMOVE
ADJ-	ADJUST
REL-	RELOCATE
REC-	RECONSTRUCT
B/O-	REMOVE BY OTHERS
B/O-	ADJUST BY OTHERS
B/O-	RELOCATE BY OTHERS

(S)	SALVAGE
(B)	BULKHEAD
(A)	ABANDON
(C)	CLEARING
(R)	REMOVE
(REL)	RELOCATE
(REC)	RECONSTRUCT
(REL B/O)	RELOCATE BY OTHERS
(ADJ B/O)	ADJUST BY OTHERS

SPECIAL LEGEND



SHEET
2
OF 57

DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\CHM\Misc\170120MCT.dwg Dec 20, 2018 - 5:53 pm

GENERAL PROVISIONS

THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) 2012 STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION EXCEPT AS NOTED HEREIN AND IN THE PROPOSAL BOOK.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES FOR NOISE LEVELS, VIBRATIONS, OR ANY OTHER RESTRICTIONS WHILE REMOVING PAVEMENT OR FOR ANY OTHER CONSTRUCTION OPERATIONS WITHIN THIS CONTRACT TO BE INCLUDED IN THE RESPECTIVE ITEM OF WORK.

THE CONTRACTOR SHALL NOT ENTER UPON PRIVATE PROPERTY FOR ANY PURPOSE WITHOUT OBTAINING WRITTEN PERMISSION, AND HE/SHE SHALL BE RESPONSIBLE FOR PRESERVATION OF ALL PUBLIC PROPERTY, TREES, MONUMENTS, ETC. ALONG AND ADJACENT TO THE STREET AND/OR RIGHT OF WAY, AND SHALL USE EVERY PRECAUTION NECESSARY TO PREVENT DAMAGE OR INJURY THERETO. HE/SHE SHALL USE SUITABLE PRECAUTIONS TO PREVENT DAMAGE TO PIPES, CONDUITS, AND OTHER UNDERGROUND STRUCTURES AND SHALL PROTECT CAREFULLY FROM DISTURBANCE OR DAMAGE ALL MONUMENTS AND PROPERTY MARKERS UNTIL THE ENGINEER OR AUTHORIZED AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION AND SHALL NOT REMOVE THEM UNTIL DIRECTED.

THE CONTRACTOR SHALL BE REQUIRED TO NOTIFY SCHOOL TRANSPORTATION, TOWNSHIP HALL, AND LOCAL FIRE AND POLICE DEPARTMENTS 24 HOURS IN ADVANCE OF PROPOSED ROAD CLOSURES.

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.

UTILITIES

THE FOLLOWING UTILITY COMPANIES HAVE FACILITIES WITHIN THE PROJECT LIMITS:

WATER CITY OF MIDLAND CONTACT: ANDREW PARROTT 333 W. ELLSWORTH ST. MIDLAND, MI 48640 PHONE: (989) 837-6958	COMMUNICATIONS AT&T CONTACT: ROBERT AUGUSTINE 309 S. WASHINGTON AVENUE, ROOM 438A SAGINAW, MI 48607 PHONE: (989) 771-5404
DRAIN MIDLAND COUNTY DRAIN COMMISSION CONTACT: DOUGLAS ENOS 220 W ELLSWORTH STREET MIDLAND, MI 48640 PHONE: (989) 832-6770	CENTURYLINK CONTACT: BILL MARCHAND PHONE: (989) 879-8709
ELECTRIC CONSUMERS ENERGY – ELECTRIC CONTACT: MATT DUNCAN 1929 WRIGHT AVENUE ALMA, MI 48801 PHONE: (989) 466-4271	CHARTER COMMUNICATIONS CONTACT: MARK KELLY 1480 SOUTH VALLEY CENTER DRIVE BAY CITY, MI 48706 PHONE: (989) 233-9404
NATURAL GAS CONSUMERS ENERGY – GAS CONTACT: KYLE SKRABUT 2400 WEISS STREET SAGINAW, MI 48602 PHONE: (989) 751-1284	

THE UTILITY LOCATIONS AS HEREON SHOWN ARE BASED ON FIELD OBSERVATIONS AND A CAREFUL REVIEW OF UTILITY RECORDS. HOWEVER, IT IS NOT POSSIBLE TO DETERMINE THE PRECISE SIZE, LOCATION, DEPTH, PRESSURE, OR ANY OTHER CHARACTERISTICS OF UNDERGROUND UTILITIES, TANKS OR SEPTIC FIELDS WITHOUT EXCAVATION. THEREFORE, WE CANNOT GUARANTEE THE ACCURACY OF COMPLETENESS OF THE BURIED UTILITY INFORMATION HEREON SHOWN. THE CONTRACTOR SHALL CALL MISS DIG (1-800-482-7171) A MINIMUM OF THREE WORKING DAYS PRIOR TO ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THESE UTILITY LOCATIONS PRIOR TO CONSTRUCTION AND MAKE EVERY EFFORT TO PROTECT AND/OR RELOCATE THEM AS REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/SURVEYOR AS SOON AS POSSIBLE IN THE EVENT A DISCREPANCY IS FOUND.

GAS FACILITIES SHALL BE PROTECTED AND SUPPORTED PER THE FACILITIES OWNER STANDARDS.

THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.

THE CONTRACTOR SHALL BE AWARE OF AND USE CAUTION WHEN WORKING NEAR UNDERGROUND OR OVERHEAD LINES OF ALL UTILITIES WITHIN THE PROJECT AREA.

MAINTAINING TRAFFIC/TRAFFIC CONTROL

THE CONSTRUCTION INFLUENCE AREA (CIA) SHALL CONSIST OF THE WIDTH OF THE PROPOSED RIGHT-OF-WAY FROM THE PROJECT POINT OF BEGINNING TO THE POINT OF ENDING AND A SUFFICIENT DISTANCE BEFORE AND AFTER THE PROJECT TO WARN MOTORISTS OF THE CONSTRUCTION AHEAD.

LOCAL TRAFFIC WILL BE MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "MAINTAINING TRAFFIC" IN THE PROPOSAL.

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS IN SUCH A MANNER THAT LOCAL TRAFFIC AND EMERGENCY VEHICLES SHALL HAVE ACCESS WITHIN THE PROJECT AT ALL TIMES IN A MANNER APPROVED BY THE ENGINEER. THIS SHALL BE INCLUDED IN THE COST OF THE PROJECT.

REPLACING AND ADJUSTING MONUMENT BOXES

ALL GOVERNMENT CORNERS ON THIS PROJECT SHALL BE PRESERVED WHETHER SHOWN OR NOT. IT MAY BE NECESSARY TO PLACE OR ADJUST MONUMENT BOXES AS REQUIRED. WORK FOR ADJUSTING, REPLACING AND/OR PLACING NEW MONUMENTS SHALL BE COMPLETED IN ACCORDANCE WITH MDOT STANDARDS AND WILL BE PAID FOR BY THE ASSOCIATED CONTRACT PAY ITEM.

SOIL BORINGS AND/OR PAVEMENT CORES

THE SOIL BORING LOGS AND/OR PAVEMENT CORES REPRESENT POINT INFORMATION. NO INFERENCE SHOULD BE MADE THAT SUBSURFACE OR PAVEMENT CONDITIONS ARE THE SAME AT OTHER LOCATIONS. THE SOIL BORINGS ARE INCLUDED IN THE PROPOSAL.

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. PERMIT MUST BE ACQUIRED BY THE CONTRACTOR THROUGH THE COUNTY.

ALL SOIL EROSION AND SEDIMENTATION MUST BE CONTROLLED AND CONTAINED ON SITE.

SOIL EROSION AND SEDIMENTATION CONTROL: IN ADDITION TO THE GENERAL SOIL EROSION AND SEDIMENTATION CONTROL REQUIREMENTS IN THE PROPOSAL, THE FOLLOWING MEASURES SHALL BE INCORPORATED INTO THIS PROJECT:

- THE CONTRACTOR SHALL CONDUCT HIS OR HER OPERATIONS IN SUCH A MANNER AS TO MINIMIZE THE AREAS LEFT BARREN DURING CONSTRUCTION AND TO DISTURB ONLY THOSE AREAS ABSOLUTELY REQUIRED FOR THE CONSTRUCTION OF THE PROJECT.
- EROSION CONTROL ITEMS SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE MDOT STANDARD PLANS AND SHALL BE REMOVED WHEN THEY ARE NO LONGER EFFECTIVE AS DETERMINED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE ALLOWED FOR EITHER MAINTENANCE OR REMOVAL OF THE EROSION CONTROL ITEMS.

ALL AREAS DISTURBED BY THE CONTRACTOR AND/OR HIS OR HER SUBCONTRACTOR BEYOND THE GRADING LIMITS OF THIS PROJECT SHALL BE RESTORED WITH THE USE OF SOD OR HYDROSEED AS DIRECTED BY THE ENGINEER. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ACTIVITY.

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 CONSTRUCTION, THE CONTRACTOR SHALL CAP THE SYSTEM PIPE AND WITNESS THE LOCATION OF THE CAP WITH A WOODEN STAKE FOR THE PROPERTY OWNERS USE. THE CONTRACTOR SHALL PLACE THE SALVAGED SPRINKLER HEADS ON THE PROPERTY OWNERS 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 OWNERS 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 AND ALL REQUIRED COMMUNICATION AND COORDINATION WITH THE RESIDENT IS INCLUDED IN THE "HMA Base Crushing and Shaping" PAY ITEM AND WILL NOT BE PAID FOR SEPARATELY.

PAVING

CONSTRUCTION JOINTS AT EXISTING SURFACES SHALL BE BUTT JOINTS. FEATHERED JOINTS WILL NOT BE ALLOWED. COST FOR PERFORMING THIS WORK IS INCLUDED IN THE ASSOCIATED HMA PAY ITEM.

MISCELLANEOUS

RUBBISH COLLECTION SHALL NOT BE INTERFERED WITH BY CONTRACTOR'S OPERATIONS. IF ACCESS TO CERTAIN AREAS IS BLOCKED BY CONTRACTOR OPERATIONS, HE/SHE SHALL TRANSPORT THE RUBBISH THEMSELVES TO A LOCATION ACCESSIBLE TO COLLECTION CREWS.

ALL EXISTING MAILBOXES AFFECTED BY THE PROJECT SHALL BE TEMPORARILY RESET ALONG THE OWNER'S DRIVEWAY OR ALONG AN INTERSECTING STREET, BEYOND THE LIMITS OF CONSTRUCTION, AS DIRECTED BY THE ENGINEER. WHEN THE PROJECT IS COMPLETE, THE MAILBOXES SHALL BE RESET BY THE CONTRACTOR IN ACCORDANCE WITH LOCAL POSTAL REGULATIONS. THE REMOVAL OF EXISTING MAILBOXES, TEMPORARY RESETTING OF EXISTING MAILBOXES, AND FINAL PLACEMENT OF MAILBOXES ON NEW POSTS SHALL BE PAID UNDER THE "POST, MAILBOX" PAY ITEM.

AS DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REPAIR OR REPLACE ANY MAILBOXES OR THEIR SUPPORTS DAMAGED BY THE CONTRACTOR OR THEIR SUBCONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE FOR THIS ACTIVITY.

SAWCUTTING

PAYMENT FOR SAWCUTTING REQUIRED THROUGHOUT THIS PROJECT SHALL BE INCLUDED IN REMOVAL ITEMS AND WILL NOT BE PAID FOR SEPARATELY.

MISCELLANEOUS QUANTITIES

TOTAL	UNIT	DESCRIPTION
1	LSUM	Mobilization, Max
3000	Cyd	Embankment, CIP
85	Sta	Machine Grading, Modified
500	Ft	Erosion Control, Silt Fence
100	Ton	Maintenance Gravel
2	Ea	Sewer Tap, 4 inch
2	Ea	Sewer Tap, 6 inch
2	Ea	Sewer Tap, 12 inch
1	LSUM	Minor Traf Devices
1	LSUM	Traf Regulator Control
24542	Syd	Slope Restoration, Modified



ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
P (989) 956-2020

OHM-ADVISORS.COM

REVISIONS:

NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	ELE	PROJ INGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
12/1/18	5025-17-0230	CHM ADVISORS	JTK	SDH	MIDLAND	CITY OF MIDLAND	1"=40'	1"=40'	Value

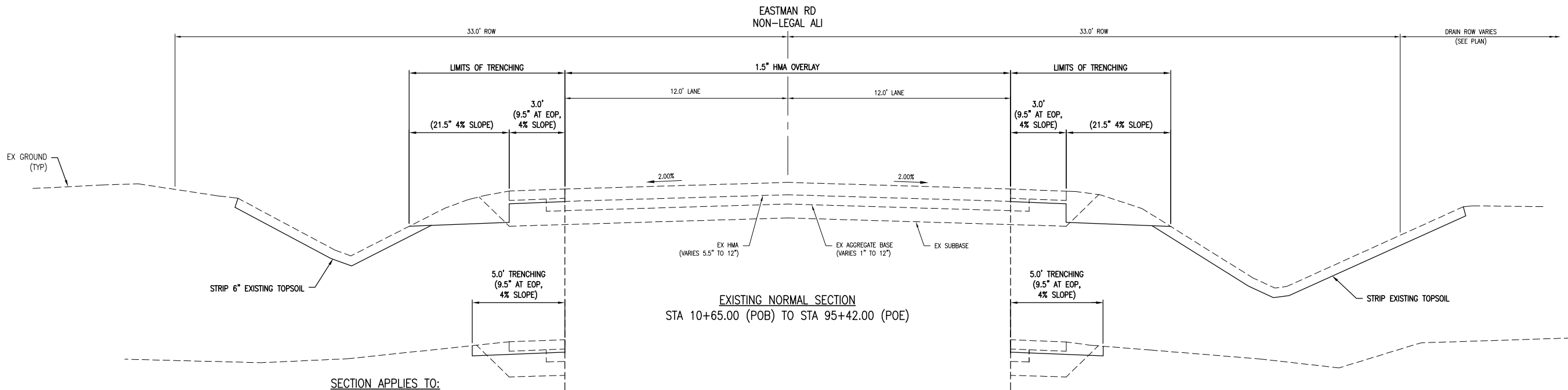
MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

NOTE SHEET

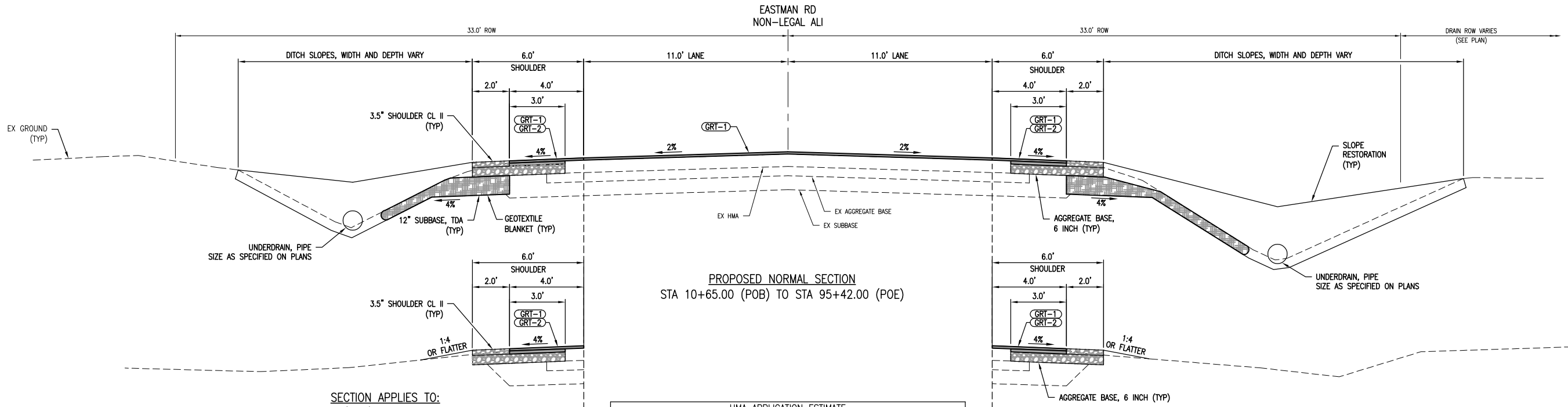
COPYRIGHT 2017 OHM ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF OHM AND THE SAME MAY NOT BE DUPLICATED, DISTRIBUTED, OR DISCLOSED WITHOUT PRIOR WRITTEN CONSENT OF OHM

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SECTION APPLIES TO:
STA 10+65.00 (POB) TO STA 13+65.00
STA 13+90.00 TO STA 14+60.00
STA 16+25.00 TO STA 17+43.00
STA 19+50.00 TO STA 21+50.00
STA 31+10.00 TO STA 35+97.00
STA 45+00.00 TO STA 48+00.00
STA 59+20.00 TO STA 61+17.00
STA 62+00.00 TO STA 68+10.00
STA 92+50.00 TO STA 93+83.00

SECTION APPLIES TO:
STA 19+50.00 TO STA 23+90.00
STA 43+00.00 TO STA 56+62.00
STA 91+00.00 TO STA 95+42.00 (POE)



SECTION APPLIES TO:
STA 10+65.00 (POB) TO STA 13+65.00
STA 13+90.00 TO STA 14+60.00
STA 16+25.00 TO STA 17+43.00
STA 19+50.00 TO STA 21+50.00
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STA 59+20.00 TO STA 61+17.00
STA 62+00.00 TO STA 68+10.00
STA 92+50.00 TO STA 93+83.00

SECTION APPLIES TO:
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STA 43+00.00 TO STA 56+62.00
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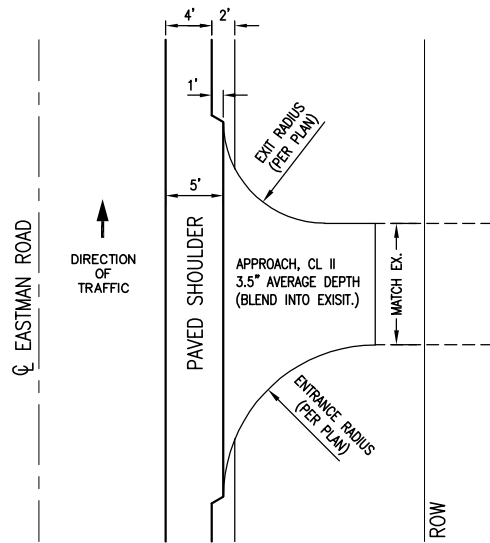
HMA APPLICATION ESTIMATE				
IDENT NO.	ITEM	RATE (LBS/SYD)	PERFORMANCE GRADE	REMARKS
GRT-1	HMA, 5E1, GRT	165	64-28	TOP COURSE AWI = 260
GRT-2	HMA, 4E1, GRT	220	64-28	4E1, BASE COURSE
APP-1	HMA, APPROACH, GRT	165	64-28	5E1, HMA SIDE STREET APPROACH
APP-2	HMA, APPROACH, GRT	385	64-28	4E1, HMA DRIVEWAY (PLACE IN TWO LIFTS)
	*BOND COAT	0.05 - 0.15 GAL		

*FOR INFORMATION ONLY

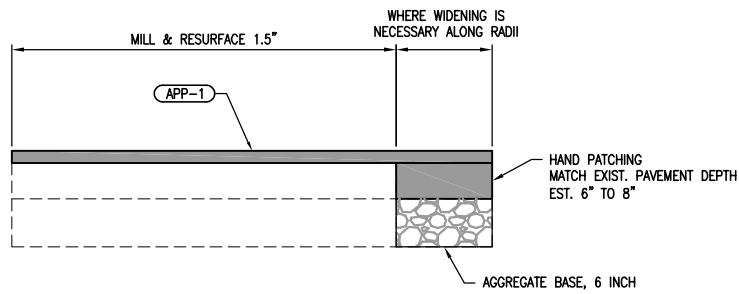


Know what's below.
Call before you dig.

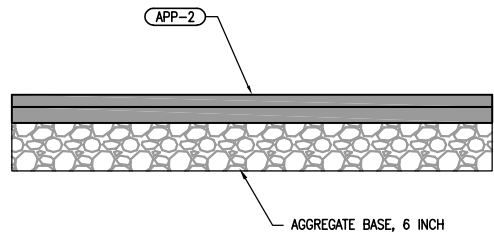
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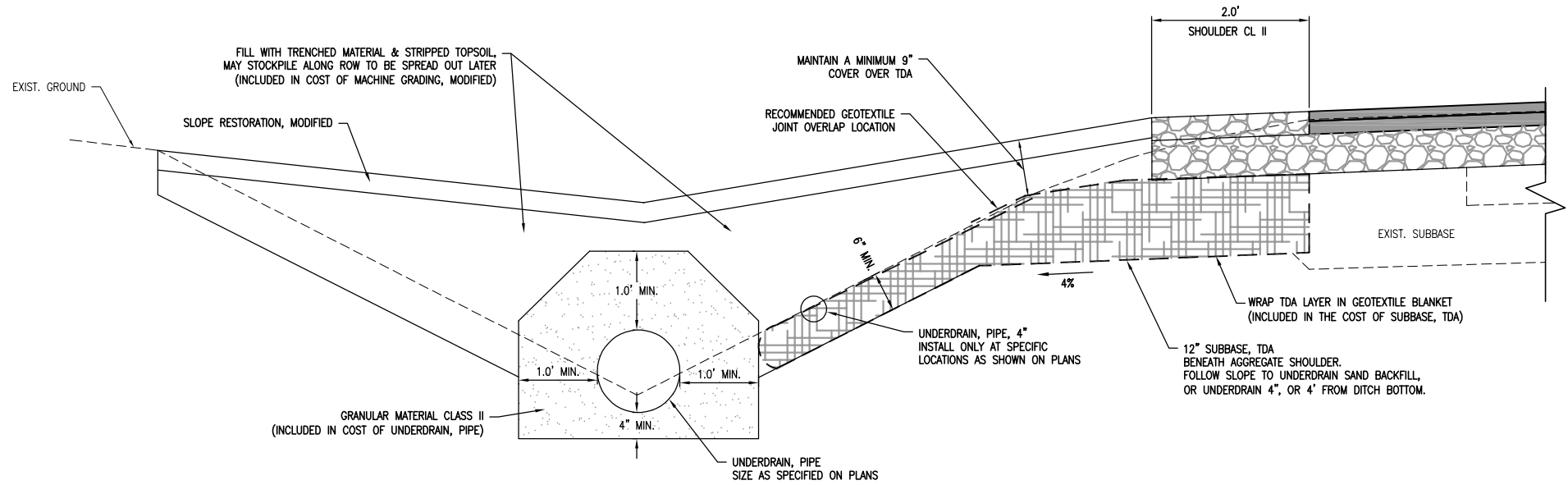
GRAVEL DRIVEWAY DETAIL
NOT TO SCALE



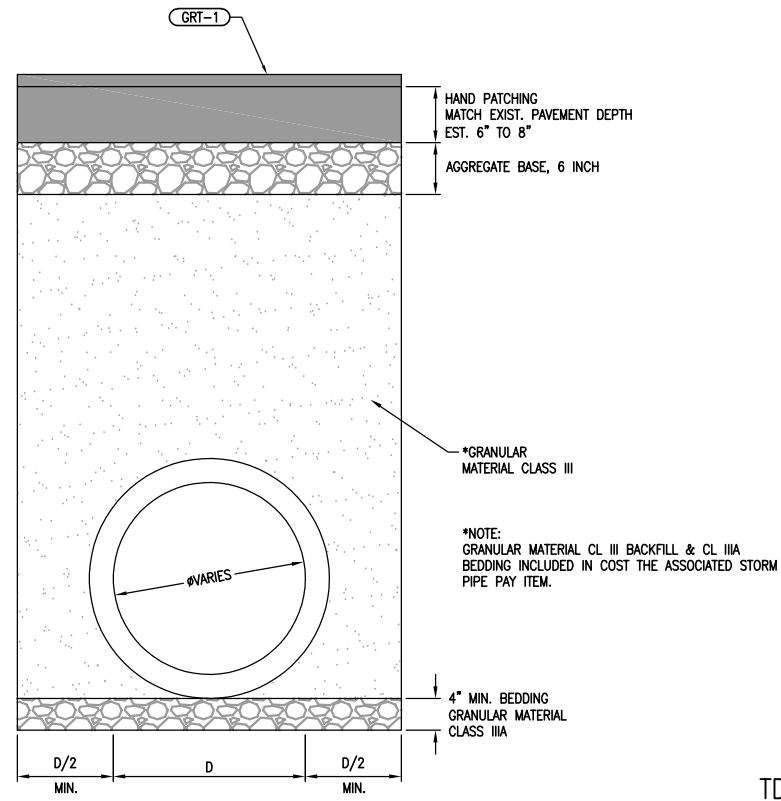
PROPOSED HMA SIDESTREET APPROACH
CROSS SECTION
SCALE: 1" = 1'



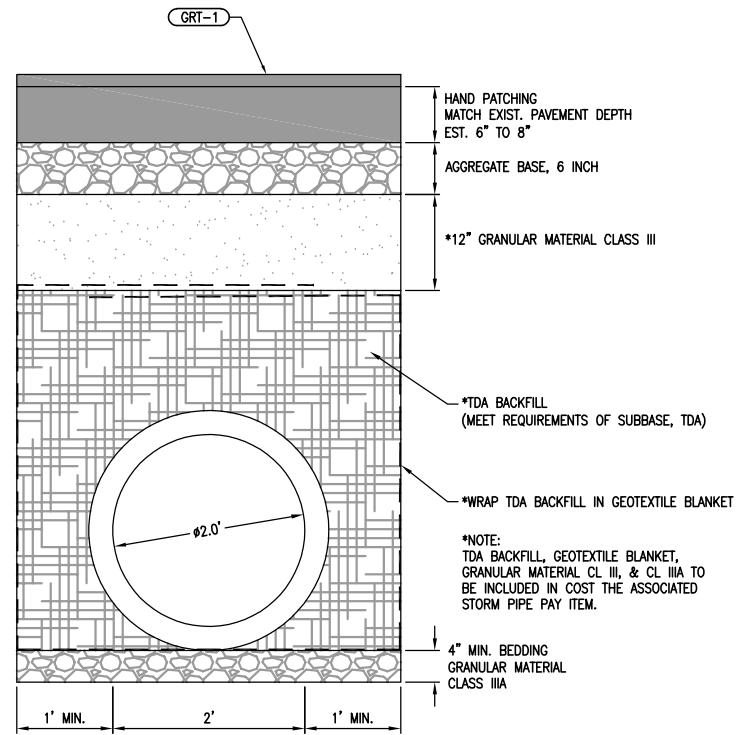
PROPOSED HMA DRIVEWAY
CROSS SECTION
SCALE: 1" = 1'



SUBBASE, TDA W/ UNDERDRAIN
TYPICAL CROSS SECTION
SCALE: 1" = 1'



STORM PIPE BENEATH PAVEMENT
TYPICAL CROSS SECTION
SCALE: 1" = 1'



TDA BACKFILL FOR STORM PIPE BENEATH PAVEMENT
AT E HURLEY ROAD
SCALE: 1" = 1'

THIS DETAIL SHALL BE USED FOR THE INSTALLATION OF THE 24" STORM
SEWER CROSSING AT HURLEY ROAD. THIS IS A TEST SECTION TO
EVALUATE THE PERFORMANCE OF TDA BACKFILL BENEATH A ROADWAY.

REVISIONS:

DATE

VALUE

DATE

VALUE

DATE

VALUE

DATE

VALUE

DATE

VALUE

DATE

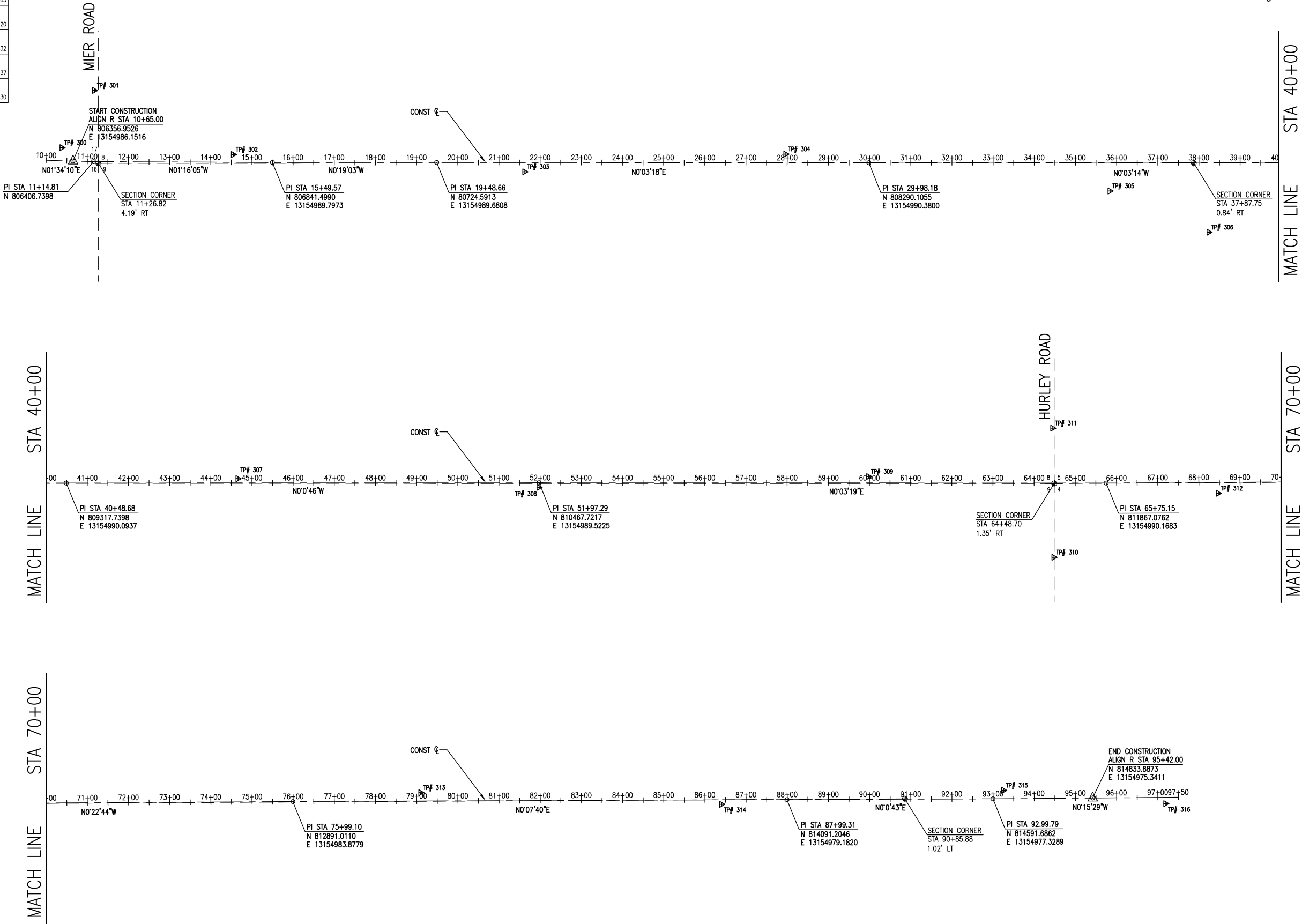
VALUE

DATE

VALUE

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TRAVERSE POINT # 301 N 806409.76 E 13154814.75 ELEV 655.60	TRAVERSE POINT # 310 N 811739.97 E 13155170.60 ELEV 669.35
TRAVERSE POINT # 302 N 806747.00 E 13154970.28 ELEV 655.29	TRAVERSE POINT # 311 N 811737.18 E 13154856.81 ELEV 667.77
TRAVERSE POINT # 303 N 807454.84 E 13155012.23 ELEV 658.69	TRAVERSE POINT # 312 N 812139.31 E 13155014.99 ELEV 669.83
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TRAVERSE POINT # 305 N 808876.21 E 13155058.95 ELEV 661.94	TRAVERSE POINT # 314 N 813932.81 E 13154990.75 ELEV 673.32
TRAVERSE POINT # 306 N 809116.62 E 13155159.01 ELEV 662.84	TRAVERSE POINT # 315 N 814617.71 E 13154956.70 ELEV 674.37
TRAVERSE POINT # 307 N 809758.18 E 13154979.53 ELEV 666.77	TRAVERSE POINT # 316 N 815011.71 E 13154989.06 ELEV 680.30
TRAVERSE POINT # 308 N 810489.24 E 13155000.60 ELEV 667.27	





ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
P (989) 956-2020

OHM-ADVISORS.COM

REVISIONS:

NO.	DATE	DESCRIPTION
1		
2		
3		
4		
5		
6		

DATE	PROJ NUMBER	END	PROJ INGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
11/16/16	5025-17-0230	OHM ADVISORS	JTK	SCH	MIDLAND	LAWRENCEVILLE TWP	1"=40'	1"=40'	1"=40'

MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

ALIGNMENT SHEET

SHEET

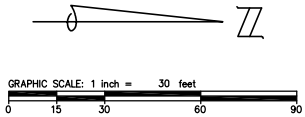
6

OF 57

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DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire_GrantDrawings\CH\Removal\170120REM.dwg Dec 20, 2018 - 2:04pm

EASTMAN ROAD
(66' R.O.W.)

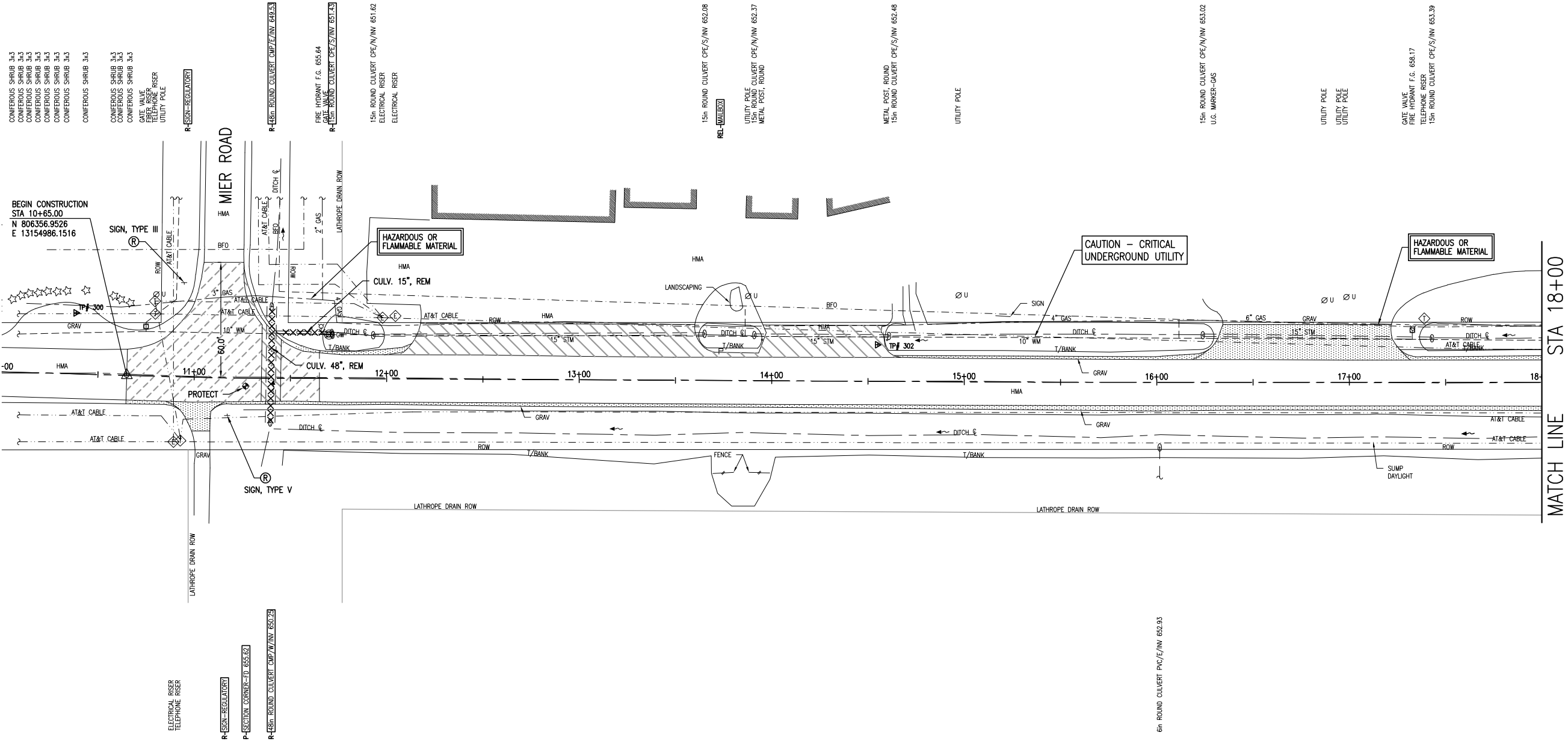




ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
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QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
1	Ea	Culv, Rem, Less than 24 inch
1	Ea	Culv, Rem, 24 inch to 48 inch
15	Sta	Trenching
454	Syd	Cold Milling HMA Surface
399	Syd	HMA Surface, Rem
1	Ea	Sign, Type III, Rem
1	Ea	Sign, Type V, Rem



REVISIONS:

NO.	DATE	DESCRIPTION

DATE	PROJ NUMBER	EIR	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	SCALE	VERT DATUM
11/16/18	5025170120	CHM ADVISORS	JTK	LAMON CHARTER TWP.	MIDLAND	1"=40'	Value

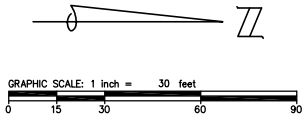
MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 10+00 - STA 18+00)

SHEET
7
OF 57

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DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire_GrantDrawings\Ch4\Plans_Corner\170120CON.01.dwg Dec-21, 2018 - 10:37am

EASTMAN ROAD
(66' R.O.W.)

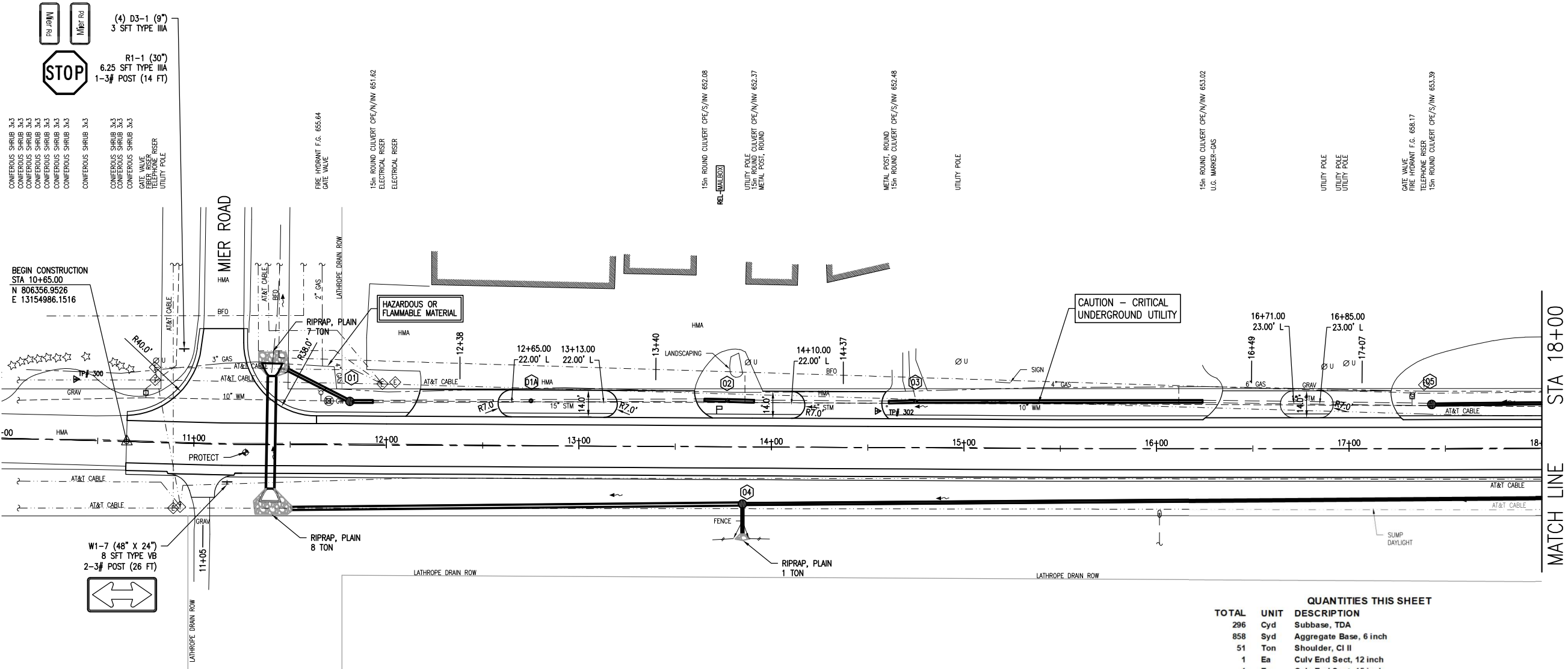




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415 E Main St
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W1-7 (48" X 24")
8 SFT TYPE VB
2-3# POST (26 FT)

STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
		FT	FT	%	FT	FT	Ton	Syd	Ton
11+05	RT	28.0	35.0	0.8%	12	10	-	-	4
12+38	LT	29.0	55.0	-6.6%	7	25	13	58	-
13+40	LT	29.0	55.0	-3.1%	15	7	13	57	-
14+37	LT	29.0	51.0	-4.8%	10	7	13	56	-
16+49	LT	30.0	47.0	-0.3%	20	7	-	-	10
17+07	LT	30.0	43.0	-8.3%	7	20	-	-	9
TOTALS							39	171	23

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
296	Cyd	Subbase, TDA
858	Syd	Aggregate Base, 6 inch
51	Ton	Shoulder, CI II
1	Ea	Culv End Sect, 12 inch
1	Ea	Culv End Sect, 15 inch
1	Ea	Culv End Sect, 18 inch
2	Ea	Culv End Sect, Conc, 48 inch
58	Ft	Culv, CI E, 48 inch
15	Ft	Sewer, CI A, 12 inch, Tr Det A
1	Ea	Sewer Tap, 4 inch
1	Ea	Sewer Tap, 6 inch
3	Ea	Dr Structure Cover, Type G
3	Ea	Dr Structure, 48 inch dia
3	Ea	Dr Structure, 15 inch Tee Riser
472	Ft	Underdrain, Pipe, 12 inch
223	Ft	Underdrain, Pipe, 15 inch
234	Ft	Underdrain, Pipe, 18 inch
16	Ton	Hand Patching, GRT
18	Ton	HMA Approach, GRT
54	Ton	HMA, 4E1, GRT
205	Ton	HMA, 5E1, GRT
1	Ea	Post, Mailbox
40	Ft	Post, Steel, 3 lb
10	Sft	Sign, Type IIIA
8	Sft	Sign, Type VB
1395	Ft	Pavt Mrkg, Waterborne, 4 inch, White
197	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1395	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
197	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
16	Ton	Riprap, Plain
1	Ea	Monument Box
1	Ea	Monument Preservation



REVISIONS:

NO.	DATE	DESCRIPTION	BY	CHKD

CITY/VILLAGE/TOWNSHIP: LANSING/CHARTER TWP.

COUNTY: MIDLAND

CADD: SDH

PROJ. INGR: JTK

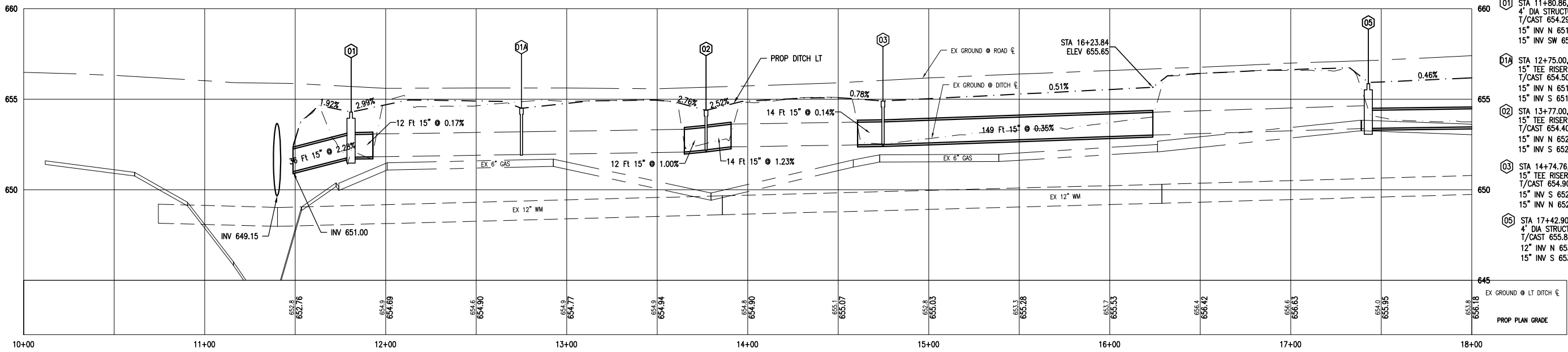
PROJ. NUMBER: 502517-020

DATE: 12/1/18

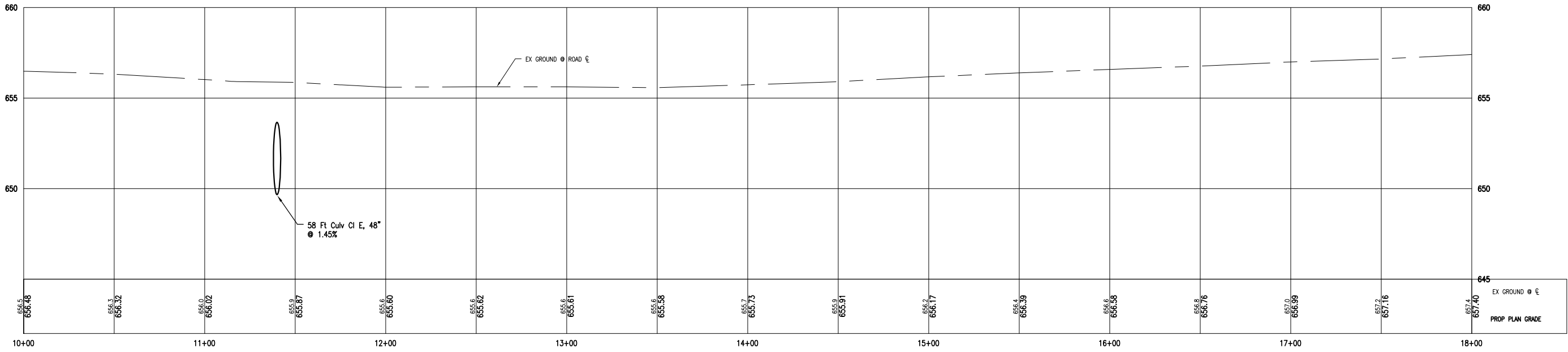
MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
CONSTRUCTION SHEET (STA 10+00 - STA 18+00)

SHEET 8 OF 57

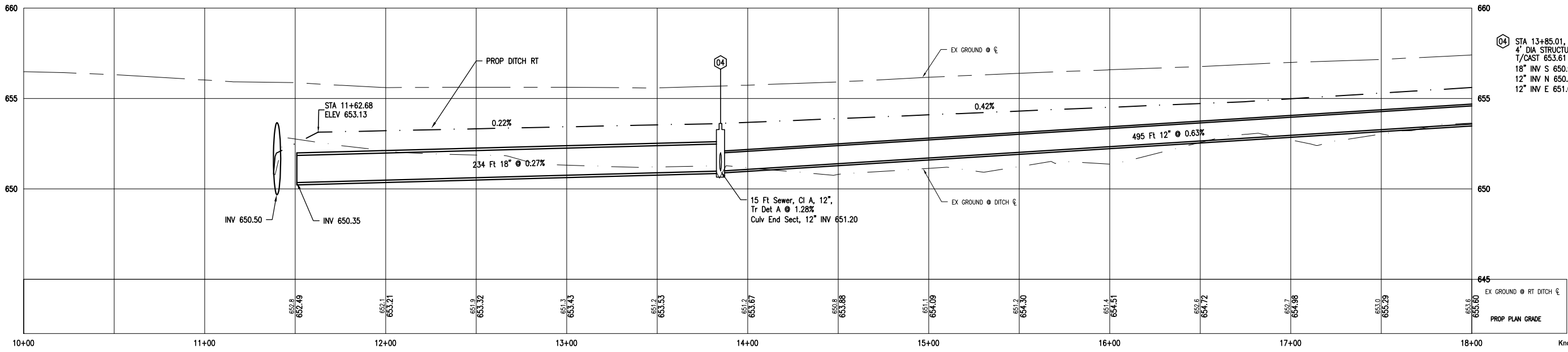
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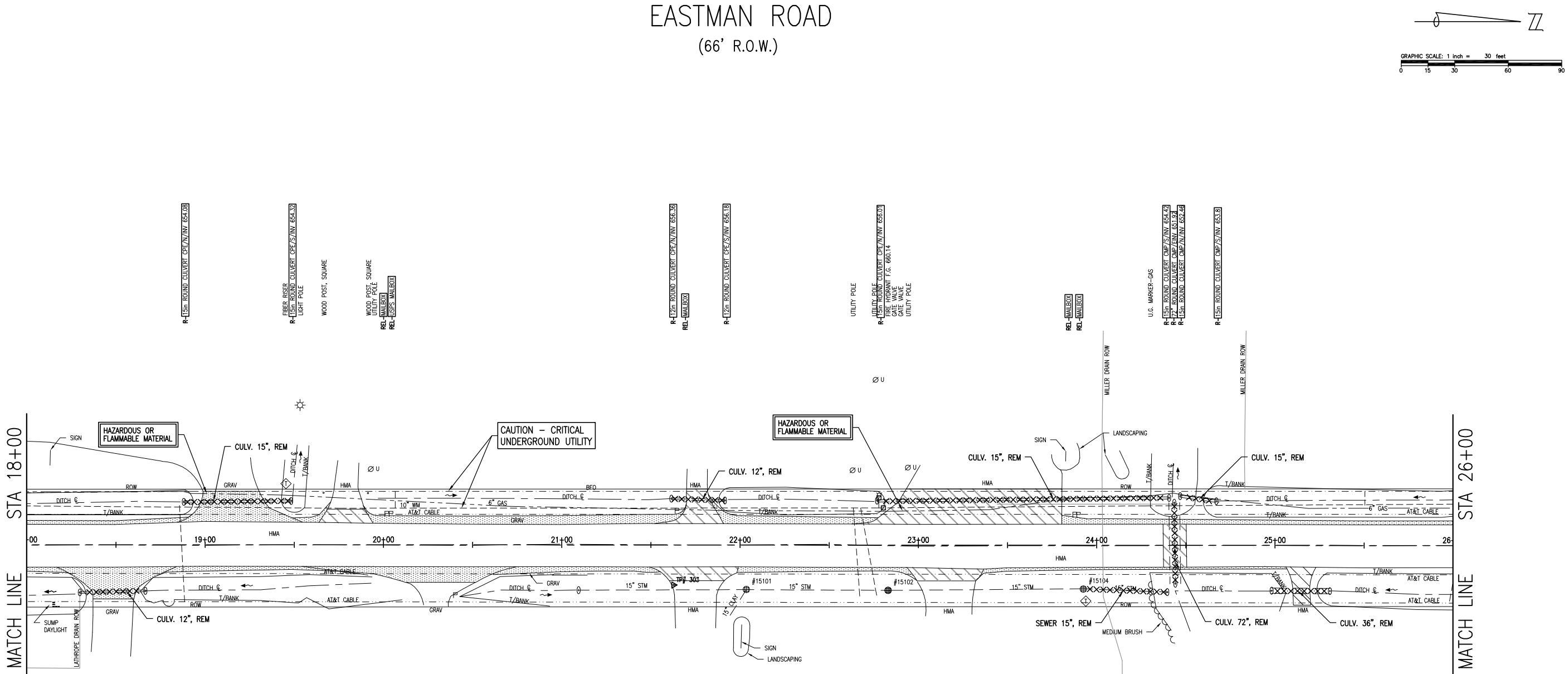


- 01 STA 11+80.86, 22.5' L
4" DIA STRUCTURE, "G" COVER
T/CAST 654.29
15" INV N 651.80
15" INV SW 651.82
- 01A STA 12+75.00, 23.4' L
15" TEE RISER
T/CAST 654.50
15" INV N 651.94
15" INV S 651.94
- 02 STA 13+77.00, 24.1' L
15" TEE RISER
T/CAST 654.40
15" INV N 652.20
15" INV S 652.20
- 03 STA 14+74.76, 24.0' L
15" TEE RISER
T/CAST 654.90
15" INV S 652.50
15" INV N 652.50
- 05 STA 17+42.90, 22.8' L
4" DIA STRUCTURE, "G" COVER
T/CAST 655.85
12" INV N 653.39
15" INV S 653.39

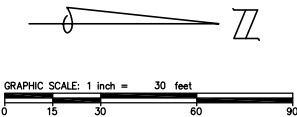


- 04 STA 13+85.01, 29.6' R
4" DIA STRUCTURE, "G" COVER
T/CAST 653.61
18" INV S 650.98
12" INV N 650.98
12" INV E 651.00





EASTMAN ROAD
(66' R.O.W.)





ARCHITECTS ENGINEERS PLANNERS

415 E Main St
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P (989) 956-2020

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TOTAL		QUANTITIES THIS SHEET	
DESCRIPTION	UNIT	DESCRIPTION	UNIT
Culv, Rem, Less than 24 inch	Ea	Culv, Rem, Less than 24 inch	Ea
Culv, Rem, 24 inch to 48 inch	Ea	Culv, Rem, 24 inch to 48 inch	Ea
Culv, Rem, Over 48 inch	Ea	Culv, Rem, Over 48 inch	Ea
Sewer, Rem, Less than 24 inch	Ft	Sewer, Rem, Less than 24 inch	Ft
Trenching	Sta	Trenching	Sta
HMA Surface, Rem	Syd	HMA Surface, Rem	Syd



REVISIONS:

NO.	DATE	DESCRIPTION

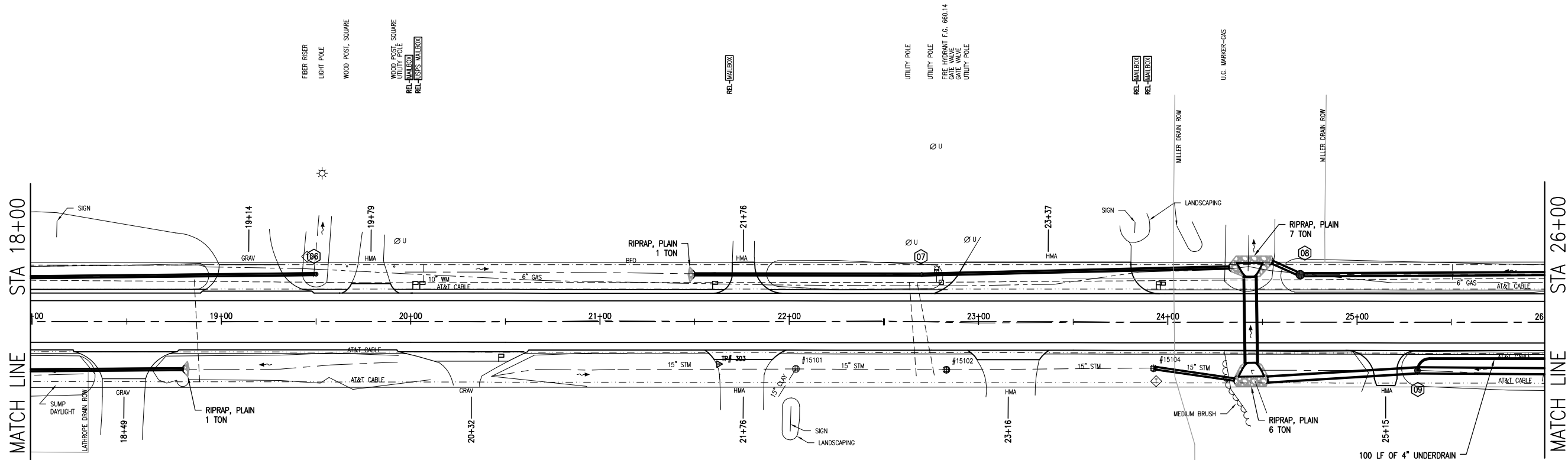
DATE	PROJ NUMBER	DATE	PROJ INGR	DATE	PROJ INGR	DATE	PROJ INGR	DATE	PROJ INGR
11/18/18	5025170120	CHM ADVISORS	JTK						

CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE	SCALE
LAMON CHARTER TWP.	MIDLAND		1"=40'	1"=40'	1"=40'	1"=40'	1"=40'	1"=40'	1"=40'

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 18+00 - STA 26+00)

10
OF 57

DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire_GrantDrawings\Ch4Plans_Constr\170120CON.01.dwg Dec 21, 2018 - 10:37am



STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
					FT	FT			
18+49	RT	30.0	56.0	-1.8%	20	20	-	-	9
19+14	LT	30.0	60.0	-6.3%	20	15	-	-	11
19+79	LT	20.0	30.0	1.2%	10	10	3	7	-
20+32	RT	21.0	70.0	7.8%	200	200	-	-	5
21+76	RT	20.0	43.0	3.8%	20	20	4	11	-
21+76	LT	31.0	37.0	-1.1%	15	10	6	23	-
23+16	RT	20.0	43.0	-2.0%	15	15	4	12	-
23+37	LT	31.5	119.0	1.9%	15	25	34	152	-
25+15	RT	33.5	37.0	-0.9%	15	10	6	26	-
TOTALS							56	232	26

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
252	Cyd	Subbase, TDA
970	Syd	Aggregate Base, 6 inch
49	Ton	Shoulder, CI II
3	Ea	Culv End Sect, 12 inch
1	Ea	Culv End Sect, 15 inch
1	Ea	Culv End Sect, 18 inch
1	Ea	Culv End Sect, 36 inch
2	Ea	Culv End Sect, Conc, 72 inch
46	Ft	Culv, CI E, 72 inch
147	Ft	Sewer, CI A, 36 inch, Tr Det A
1	Ea	Sewer Tap, 4 inch
1	Ea	Dr Structure Cover, Type G
1	Ea	Dr Structure, 48 inch dia
1	Ea	Dr Structure, Tap, 15 inch
2	Ea	Dr Structure, 12 inch Tee Riser
1	Ea	Dr Structure, 36 inch Tee Riser
511	Ft	Underdrain, Pipe, 12 inch
42	Ft	Underdrain, Pipe, 15 inch
147	Ft	Underdrain, Pipe, 18 inch
68	Ft	Underdrain, Pipe, 4 inch
14	Ton	Hand Patching, GRT
6	Ea	Post, Mailbox
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
15	Ton	Riprap, Plain





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415 E Main St
Midland, MI 48640
P (989) 956-2020

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REVISIONS:

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DATE	PROJ NUMBER	EIR	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	VERT DATUM	HORIZ DATUM
12/21/18	502517-020	OHM-ADVISORS	JTK	LAWRENCEVILLE	MIDLAND	SDH	1"=40'	N/A	N/A

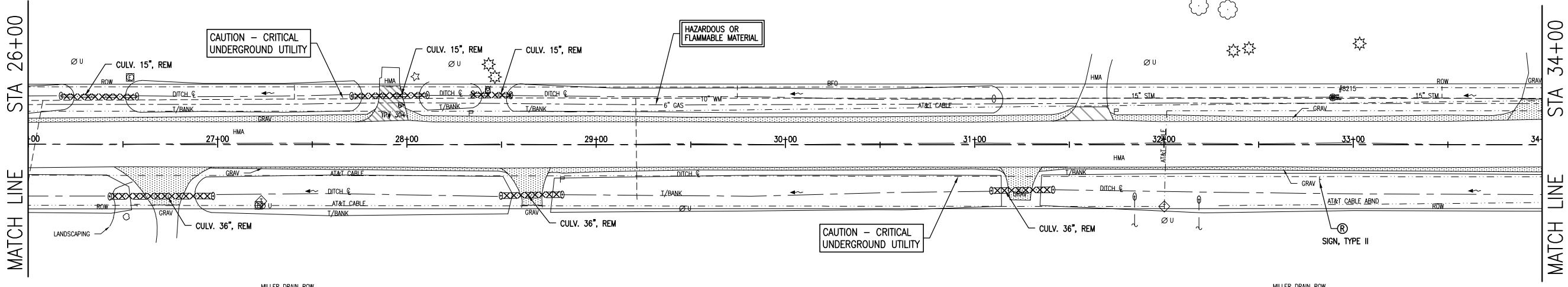
MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

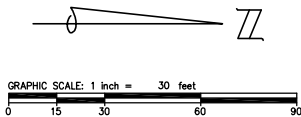
CONSTRUCTION SHEET (STA 18+00 - STA 26+00)

SHEET 11 OF 57

DRAWING PATH: P:\5000_5409\5025170120_Eastman_Road_Scrap_Tire GrantDrawings\Ch\Removal\170120REM.dwg Dec 20, 2018 - 2:28pm



EASTMAN ROAD
(66' R.O.W.)





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415 E. Main St
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- R-15in ROUND CULVERT CPE/N/NV 654.13

UTILITY POLE
- R-15in ROUND CULVERT CPE/S/NV 654.57

ELEC TRANS PAD

ROCK

R-SEN-GUDE
- R-15in ROUND CULVERT CPE/N/NV 654.96

CONCRETE SURF. *

15in ROUND CULVERT CPE/S/NV 655.27

UTILITY POLE

R-15in ROUND CULVERT CPE/N/NV 655.4

REL-MANHOLE

FIRE HYDRANT F.G. 658.92

GATE VALVE

CL1 CONF TREE

CL2 CONF TREE

15in ROUND CULVERT CPE/S/NV 655.61
- R-15in ROUND CULVERT CPE/N/NV 654.71

UTILITY POLE
- R-15in ROUND CULVERT CPE/S/NV 653.74

REL-MANHOLE

- R-15in ROUND CULVERT CPE/N/NV 654.71

15in ROUND CULVERT CPE/E

TELEPHONE RISER

UTILITY POLE
- R-8in ROUND CULVERT CPE/E/NV 656.73

R-SEN-REGULATORY

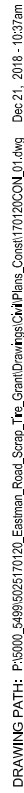
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
3	Ea	Culv, Rem, Less than 24 inch
3	Ea	Culv, Rem, 24 inch to 48 inch
16	Sta	Trenching
66	Syd	HMA Surface, Rem
1	Ea	Sign, Type II, Rem



DATE	PROJ NUMBER	DATE	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CAD	SCALE	VERT DATUM	Value
11/18/18	5025170120	CHM ADVISORS	JTK	LAMON CHARTER TWP.	MIDLAND	SDH	1"=30'	N/A	

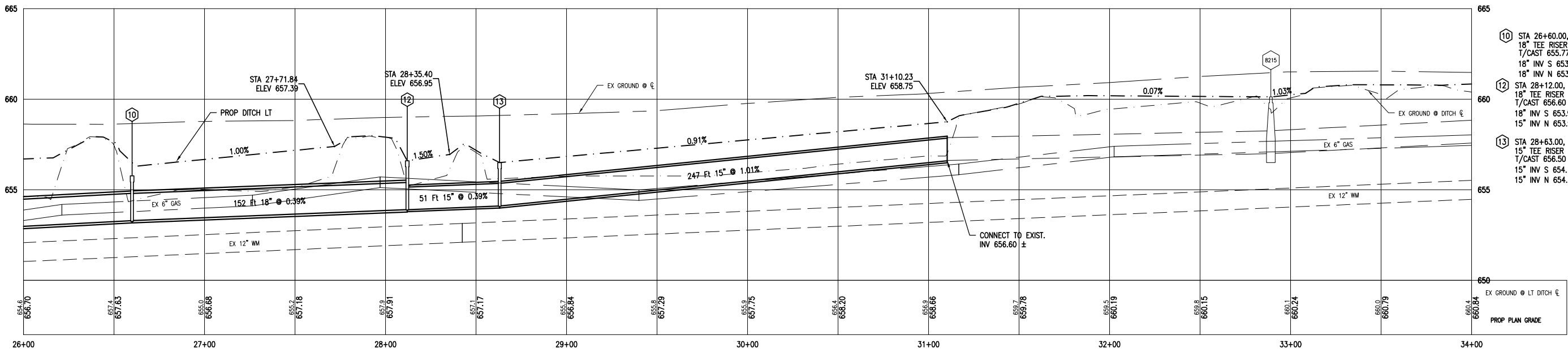
MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 26+00 - STA 34+00)

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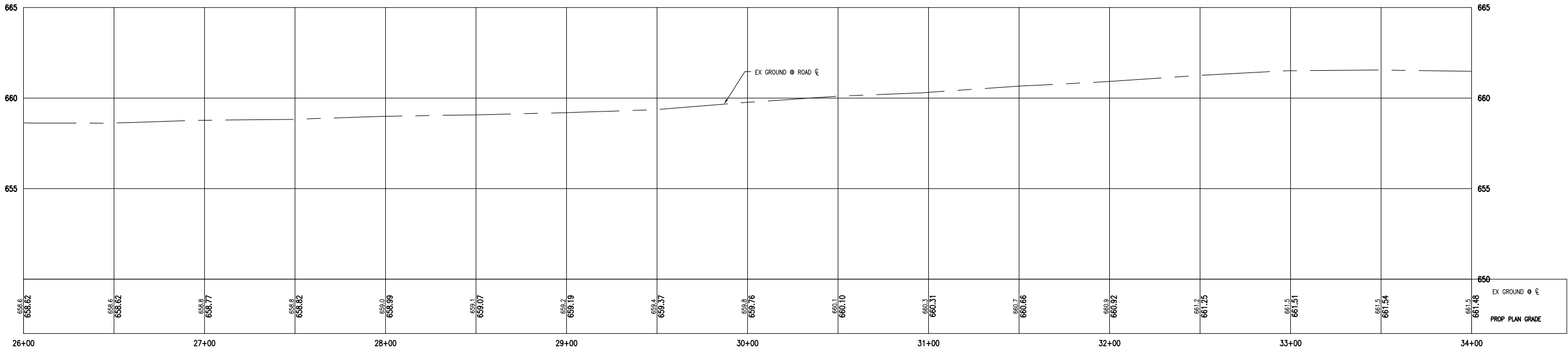


QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
310	Cyd	Subbase, TDA
934	Syd	Aggregate Base, 6 inch
59	Ton	Shoulder, Cl II
801	Ft	Sewer, Cl A, 36 inch, Tr Det A
1	Ea	Dr Structure, 15 inch Tee Riser
2	Ea	Dr Structure, 18 inch Tee Riser
3	Ea	Dr Structure, 36 inch Tee Riser
298	Ft	Underdrain, Pipe, 15 inch
210	Ft	Underdrain, Pipe, 18 inch
332	Ft	Underdrain, Pipe, 4 inch
3	Ea	Post, Mailbox
26	Ft	Post, Steel, 3 lb
7	Sft	Sign, Type IIA
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow

DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantsDrawings\ChdProfiles\70120PRE_01.dwg Dec 20, 2018 - 2:10pm



- 10 STA 26+60.00, 26.0' L
18\"/>
- 12 STA 28+12.00, 26.0' L
18\"/>
- 13 STA 28+63.00, 26.0' L
15\"/>



- 11 STA 26+99.58, 26.5' R
36\"/>
- 14 STA 28+83.21, 26.4' R
36\"/>
- 15 STA 31+41.47, 23.9' R
36\"/>



ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
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OHM-ADVISORS.COM

REVISIONS:

NO.	DATE	DESCRIPTION	BY	CHKD
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DATE	PROJ. NUMBER	FILE	PROJ. NAME	JTK	CD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	VERT. DATUM	HORIZ. DATUM	VERT. DATUM
11/19/18	5025-74230	OHM-ADVISORS			SDH	MIDLAND	LAWRENCEVILLE TWP.	1"=40'	1"=40'	1"=40'	1"=40'

MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

PROFILE SHEET (STA 26+00 - STA 34+00)

SHEET

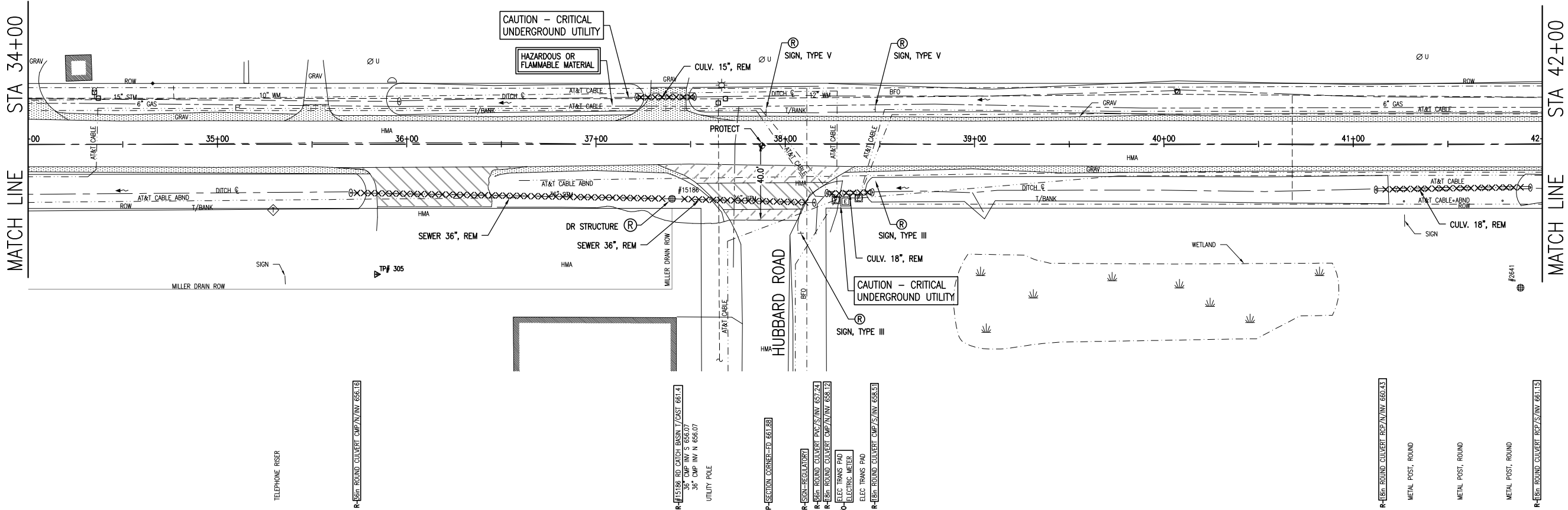
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OF 57

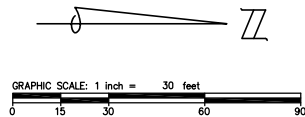


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DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire Grant\Drawings\CH\Removal\170120REM.dwg Dec 20, 2018 - 2:10pm



EASTMAN ROAD
(66' R.O.W.)





ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
P (989) 956-2020

OHM-ADVISORS.COM

DATE	PROJ NUMBER	DATE	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	VERT DATUM	HORIZ DATUM	VERT DATUM
11/16/16	5025170120	11/16/16	CHM ADVISORS	LAMON/CHARTER TWP.	MIDLAND	SEA	1"=40'	N/A	N/A	Value

MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

REMOVAL SHEET (STA 34+00 - STA 42+00)

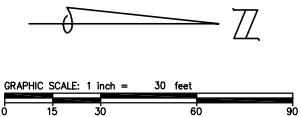
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
3	Ea	Culv, Rem, Less than 24 inch
1	Ea	Dr Structure, Rem
245	Ft	Sewer, Rem, 24 inch to 48 inch
16	Sta	Trenching
114	Syd	Cold Milling HMA Surface
229	Syd	HMA Surface, Rem
2	Ea	Sign, Type III, Rem
2	Ea	Sign, Type V, Rem



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DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\CH\Plans_Consist\70120CON.01.dwg Dec 21, 2018 - 10:37am

EASTMAN ROAD
(66' R.O.W.)

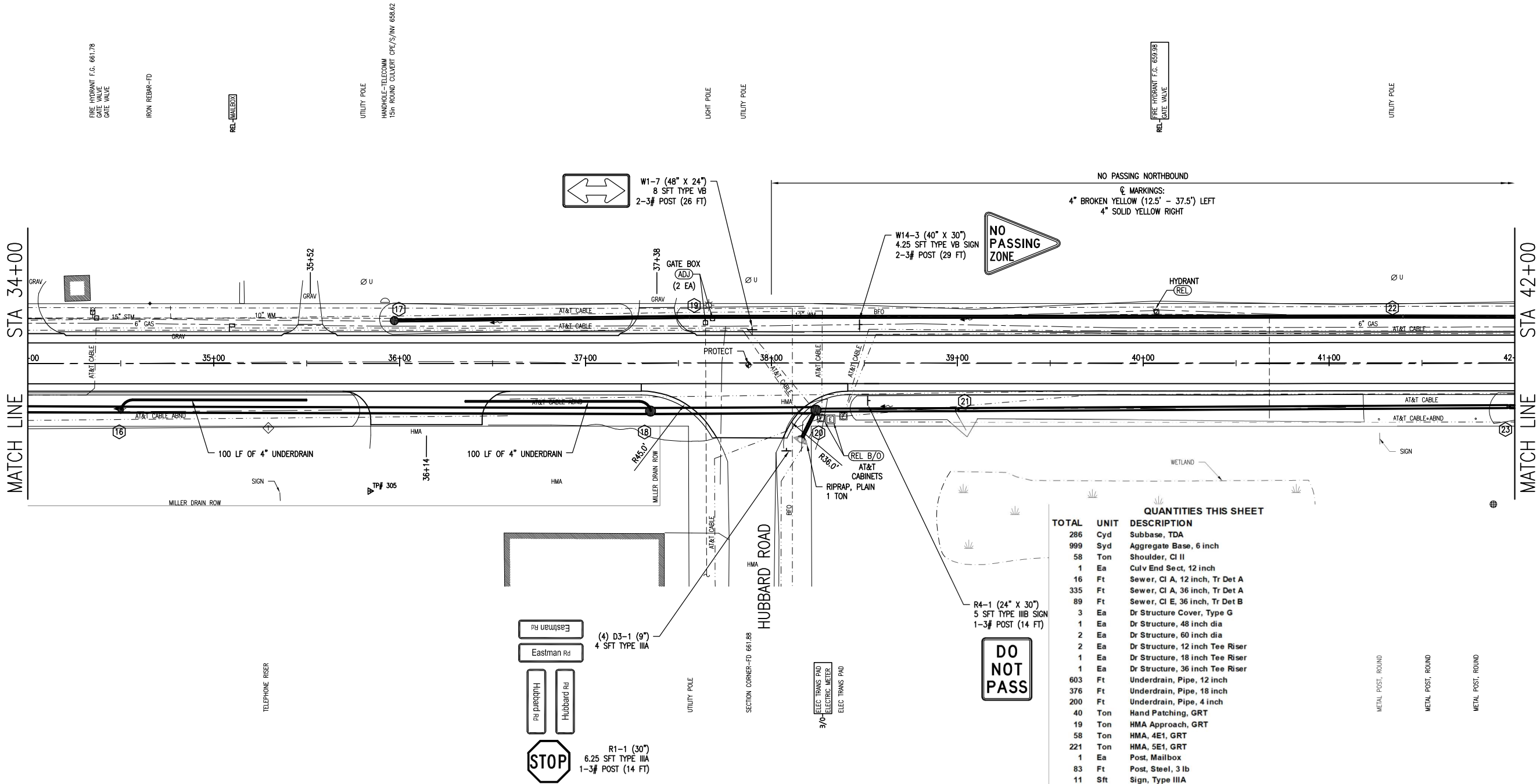




ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
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STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
35+52	LT	21.0	30.0	-6.4%	10	10	Ton	Syd	Ton
36+14	RT	33.0	90.0	0.6%	15	15	-	113	-
37+38	LT	30.0	42.0	-10.6%	15	15	-	-	7
TOTALS							25	113	9

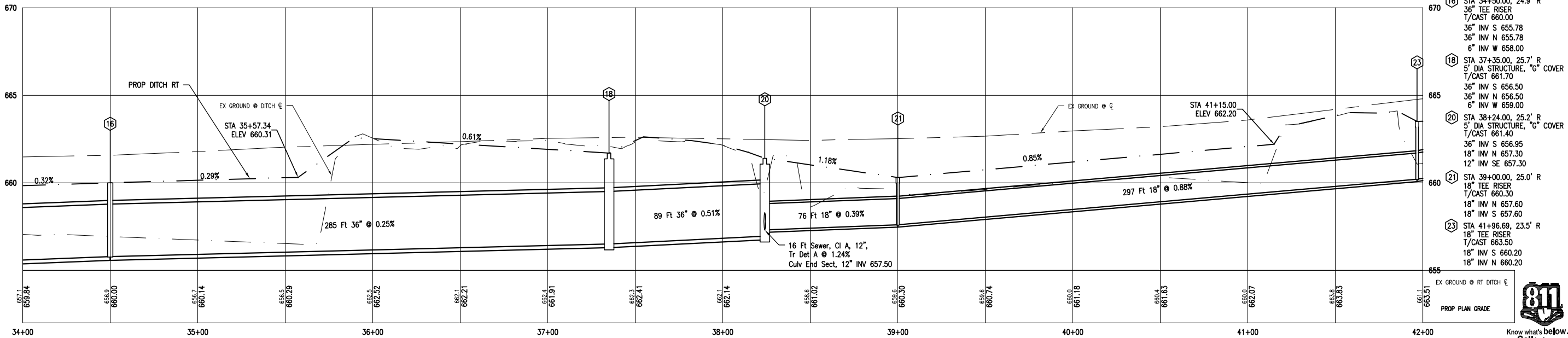
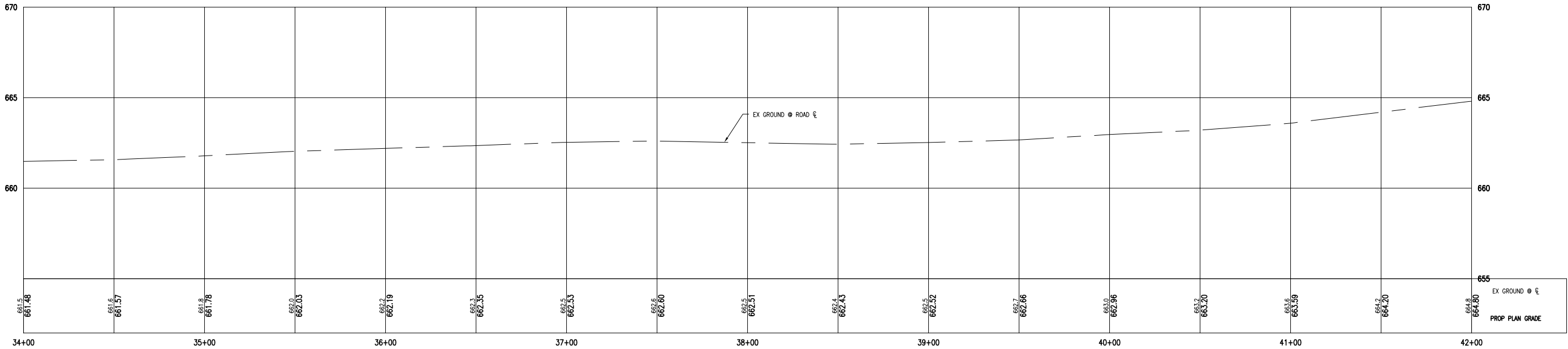
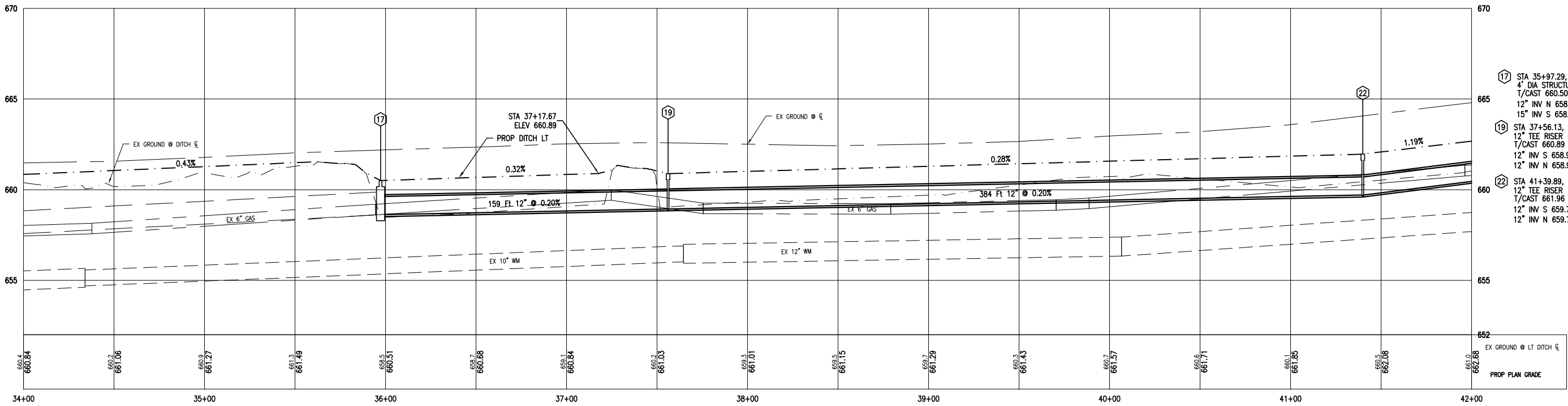
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
286	Cyd	Subbase, TDA
999	Syd	Aggregate Base, 6 inch
58	Ton	Shoulder, CI II
1	Ea	Culv End Sect, 12 inch
16	Ft	Sewer, CI A, 12 inch, Tr Det A
335	Ft	Sewer, CI A, 36 inch, Tr Det A
89	Ft	Sewer, CI E, 36 inch, Tr Det B
3	Ea	Dr Structure Cover, Type G
1	Ea	Dr Structure, 48 inch dia
2	Ea	Dr Structure, 60 inch dia
2	Ea	Dr Structure, 12 inch Tee Riser
1	Ea	Dr Structure, 18 inch Tee Riser
1	Ea	Dr Structure, 36 inch Tee Riser
603	Ft	Underdrain, Pipe, 12 inch
376	Ft	Underdrain, Pipe, 18 inch
200	Ft	Underdrain, Pipe, 4 inch
40	Ton	Hand Patching, GRT
19	Ton	HMA Approach, GRT
58	Ton	HMA, 4E1, GRT
221	Ton	HMA, 5E1, GRT
1	Ea	Post, Mailbox
83	Ft	Post, Steel, 3 lb
11	Sft	Sign, Type IIIA
5	Sft	Sign, Type IIIB
13	Sft	Sign, Type VB
1485	Ft	Pavt Mrkg, Waterborne, 4 inch, White
600	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1485	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
1	Ton	Riprap, Plain
1	Ea	Monument Box
1	Ea	Monument Preservation
1	Ea	Hydrant, Relocate, Case 2
2	Ea	Gate Box, Adj, Case 2



DATE	PROJ NUMBER	EIR	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	VERT DATUM
12/21/18	5025-17-0230	OHM-ADVISORS	JTK	MIDLAND	MIDLAND	SDH	1"=40'	NA

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
CONSTRUCTION SHEET (STA 34+00 - STA 42+00)

DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire_Grant\Drawings\Civil\Profiles\170120PRF_01.dwg Dec 20, 2018 - 2:12pm



Know what's below.
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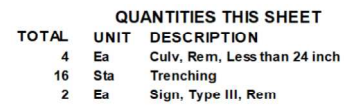
MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
PROFILE SHEET (STA 34+00 - STA 42+00)

EASTMAN ROAD SCRAP TIRE GRANT

18
OF 57



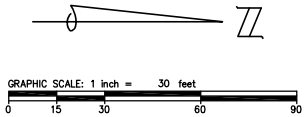
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MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 42+00 - STA 50+00)

DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\Chp\Plans_Constr\70120CON.01.dwg Dec-21, 2018 - 10:38am

EASTMAN ROAD
(66' R.O.W.)

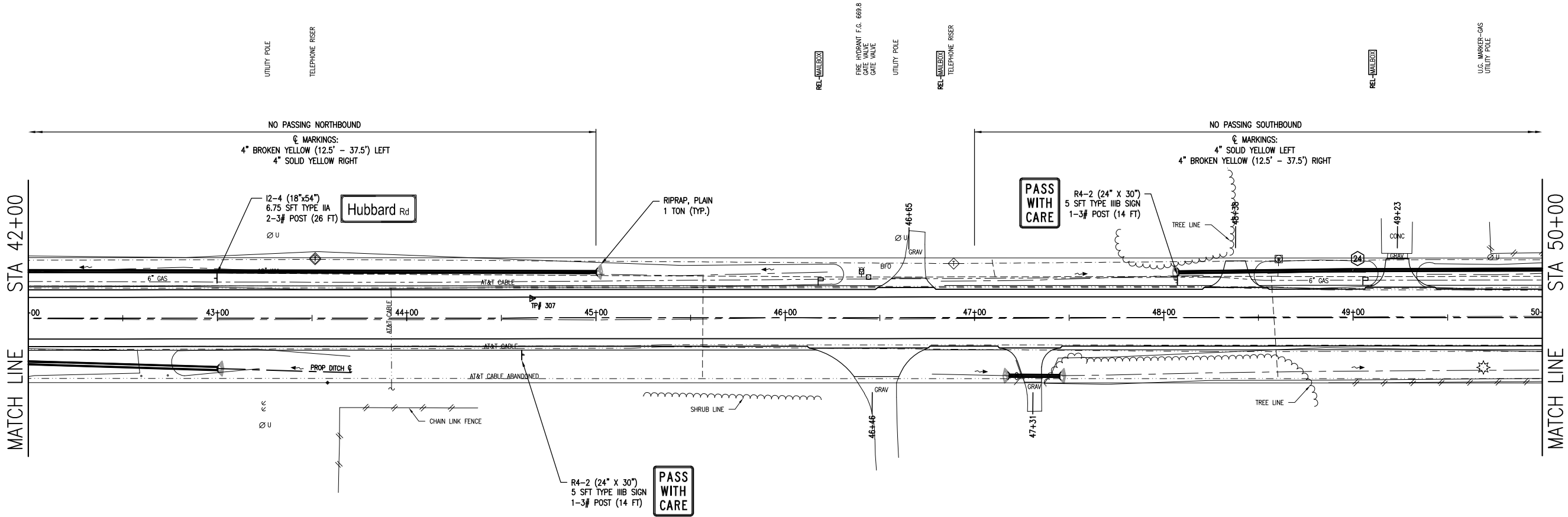




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STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
		FT	FT	%	FT	FT	Ton	Syd	Ton
46+46	RT	31.0	65.0	9.3%	40	25	-	-	12
46+65	LT	21.0	32.0	2.4%	15	25	-	-	2
47+31	RT	34.0	34.0	2.3%	10	10	-	-	5
48+38	LT	30.0	36.0	0.3%	10	10	-	-	5
49+23	LT	31.0	38.0	-4.7%	15	10	-	-	5
TOTALS							0	0	29

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
134	Cyd	Subbase, TDA
980	Syd	Aggregate Base, 6 inch
60	Ton	Shoulder, CI II
4	Ea	Culv End Sect, 12 inch
1	Ea	Culv End Sect, 18 inch
26	Ft	Culv, CI A, 12 inch
1	Ea	Dr Structure, 12 inch Tee Riser
492	Ft	Underdrain, Pipe, 12 inch
100	Ft	Underdrain, Pipe, 18 inch
68	Ton	HMA, 4E1, GRT
227	Ton	HMA, 5E1, GRT
2	Ea	Post, Mailbox
54	Ft	Post, Steel, 3 lb
7	Sft	Sign, Type IIA
10	Sft	Sign, Type IIIB
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
800	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
800	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
5	Ton	Riprap, Plain

REVISIONS:

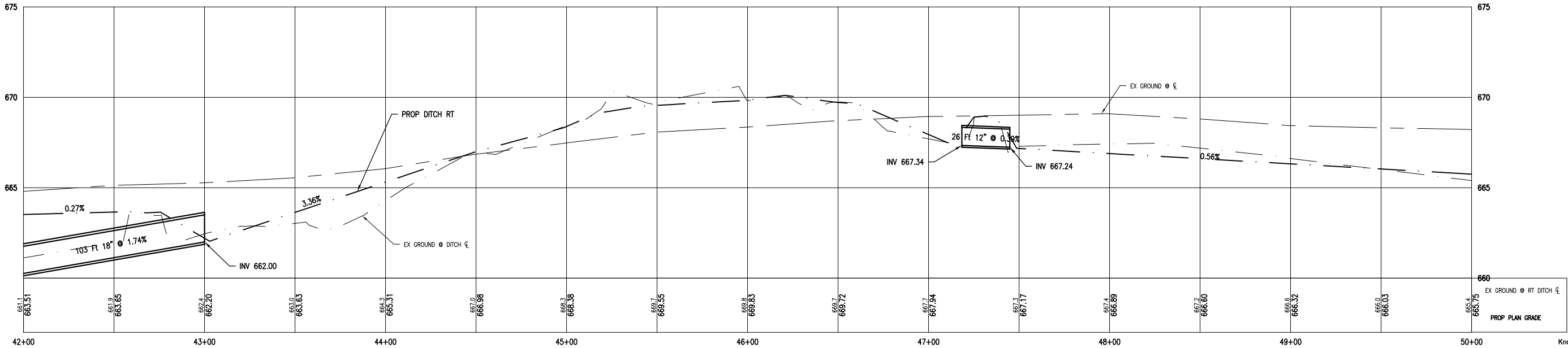
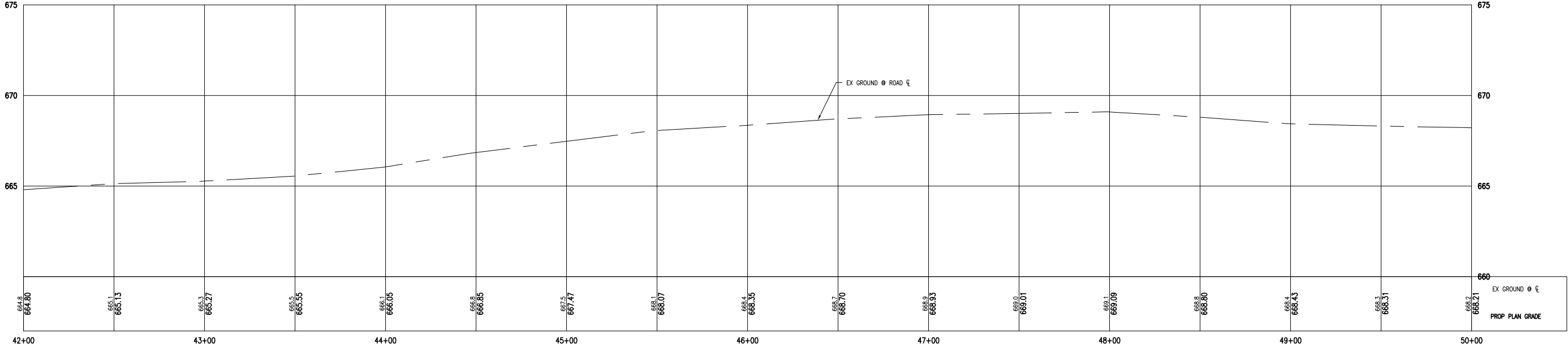
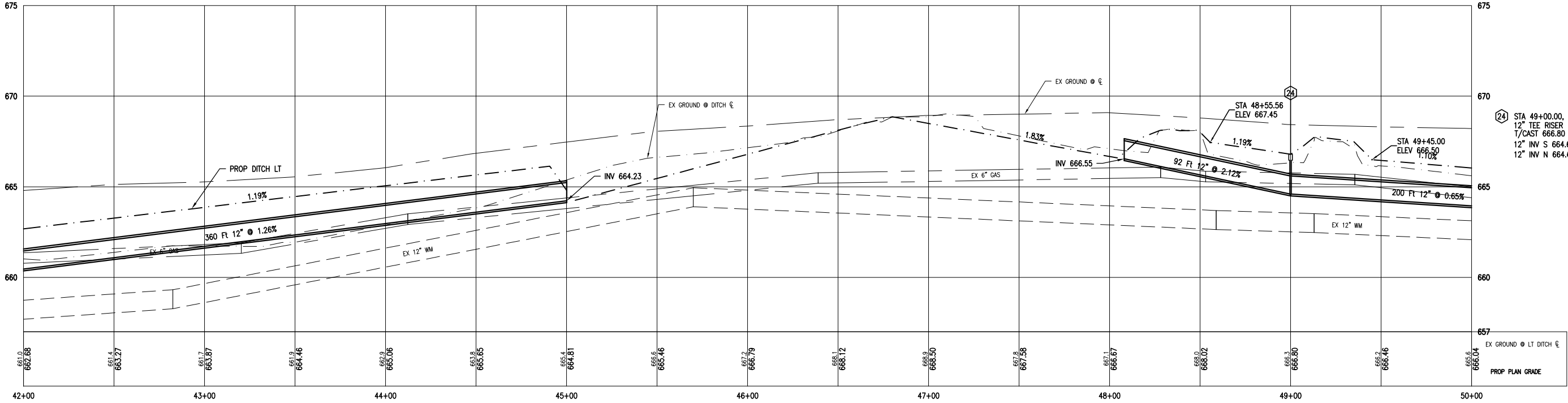
DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTRY	CITY/VILLAGE/TOWNSHIP	SCALE	VERT DATUM	Value
12/2/18	5025-742030	OHM ADVISORS	JTK	SDH	MIDLAND	LAWRENCE TWP.	1"=30'	N/A	

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
CONSTRUCTION SHEET (STA 42+00 - STA 50+00)



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DRAWING PATH: P:\5000_5409\5025\70120_Eastman_Road_Scrap_Tire_GrantsDrawings\Ch4\Profiles\70120PRE_01.dwg Dec 20, 2018 - 2:14pm

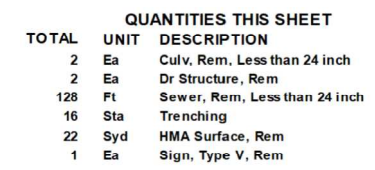


24 STA 49+00.00, 25.0' L
12" TEE RISER
1/CAST 666.80
12" INV S 664.60
12" INV N 664.60

REVISIONS:
1
2
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DATE: 11/19/18 PROJECT NUMBER: 5025/74230 CITY/VILLAGE/TOWNSHIP: LAMING CHARTER TWP. COUNTY: MIDLAND CAD: SDH PROJ. INGR: JTK EIR: OHM ADVISORS SCALE: 1"=40' V: 1"=5' HORIZ. DATUM: VERT. DATUM: Value

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
PROFILE SHEET (STA 42+00 - STA 50+00)

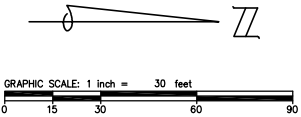


DATE	PROJ NUMBER	END	PROJ MGR	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
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MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 50+00 - STA 58+00)

DRAWING PATH: P:\5000_5409\5025170120_Eastman_Road_Scrap_Tire_GrantDrawings\CH\Plans_Constr\170120CON.01.dwg Dec 21, 2018 - 10:38am

EASTMAN ROAD
(66' R.O.W.)

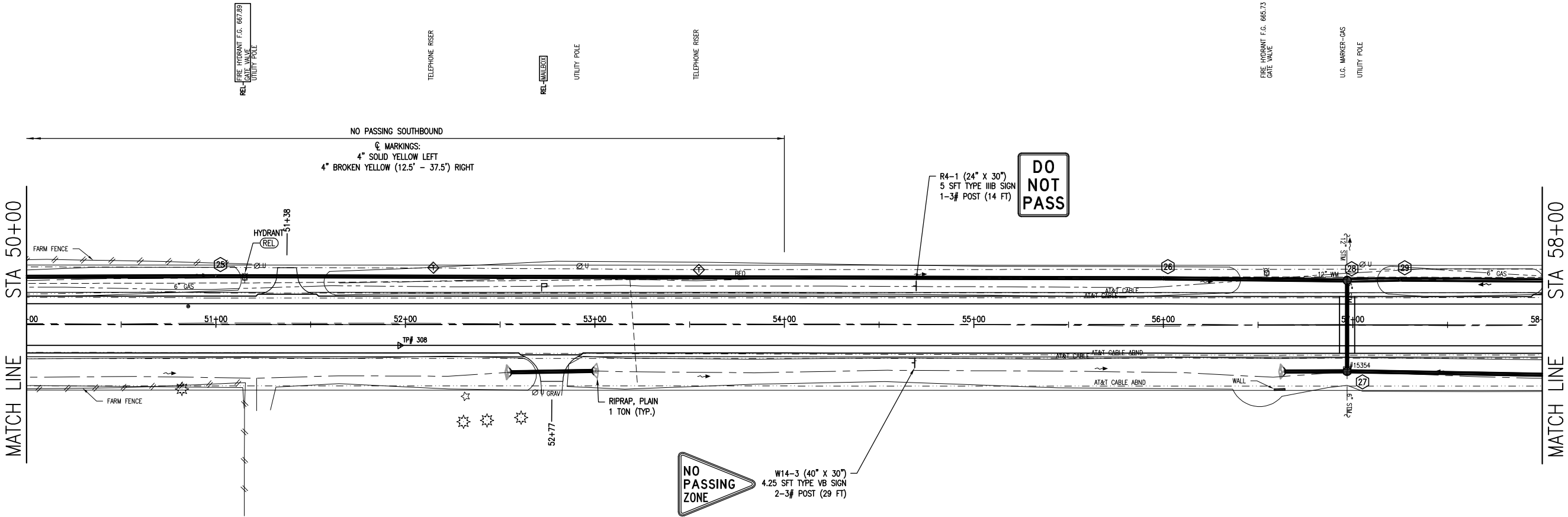




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STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
51+38	LT	30.0	33.0	1.2%	10	10	-	-	4
52+77	RT	30.0	34.0	3.4%	15	15	-	-	5
TOTALS							0	0	9

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
225	Cyd	Subbase, TDA
1049	Syd	Aggregate Base, 6 inch
63	Ton	Shoulder, CI II
3	Ea	Culv End Sect, 12 inch
43	Ft	Culv, CI A, 12 inch
48	Ft	Sewer, CI A, 12 inch, Tr Det B
2	Ea	Dr Structure Cover, Type G
2	Ea	Dr Structure, 48 inch dia
2	Ea	Dr Structure, 12 inch Tee Riser
1	Ea	Dr Structure, 18 inch Tee Riser
833	Ft	Underdrain, Pipe, 12 inch
8	Ton	Hand Patching, GRT
71	Ton	HMA, 4E1, GRT
226	Ton	HMA, 5E1, GRT
1	Ea	Post, Mailbox
43	Ft	Post, Steel, 3 lb
5	Sft	Sign, Type III B
5	Sft	Sign, Type VB
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
600	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
3	Ton	Riprap, Plain
1	Ea	Hydrant, Relocate, Case 2



DATE: 12/21/18 PROJ. NUMBER: 502517-020 EIR: OHM ADVISORS

CITY/VILLAGE/TOWNSHIP: LANSING COUNTY: MIDLAND CAD: SDH PROJ. INGR: JTK

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
CONSTRUCTION SHEET (STA 50+00 - STA 58+00)

REVISIONS:

Value	VERT DATUM	HORIZ DATUM
Value		

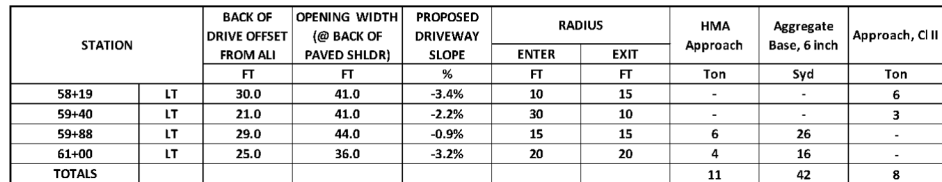
GRAPHIC SCALE: 1 inch = 30 feet

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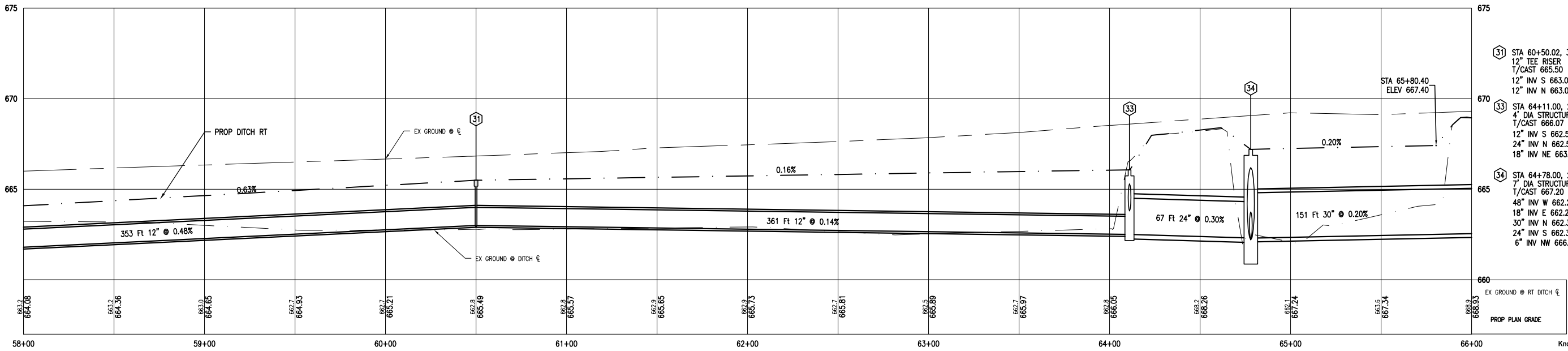
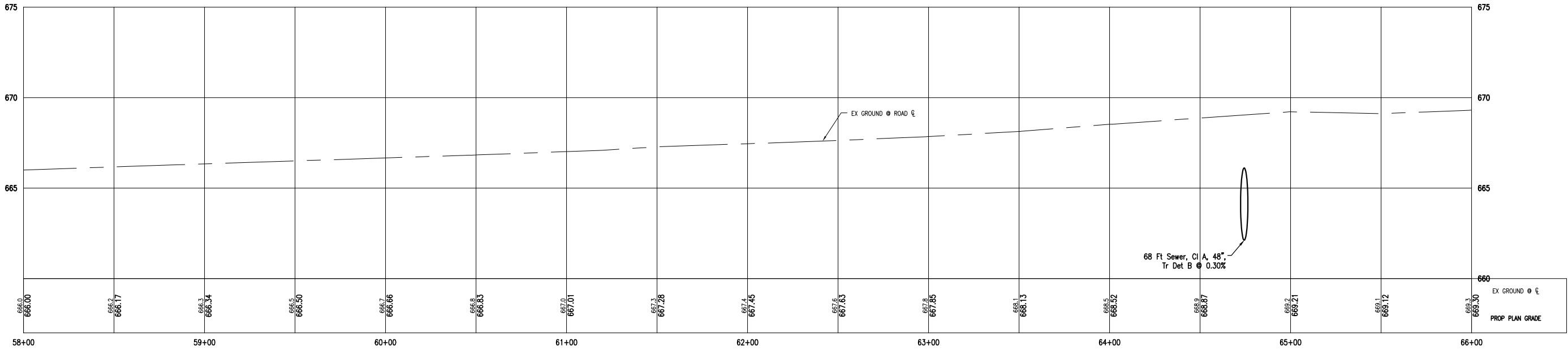
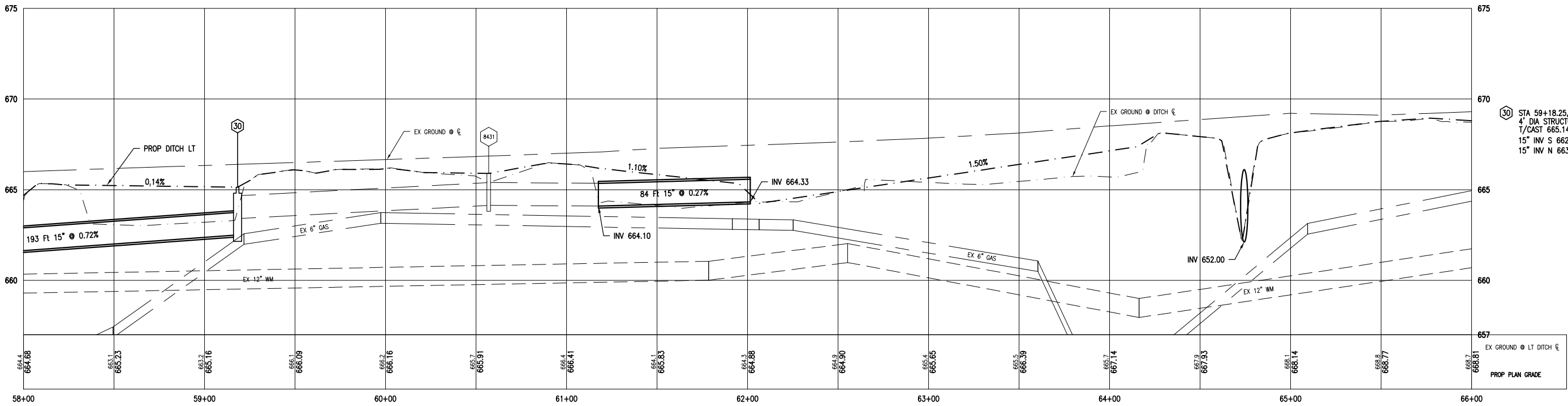
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Know what's below.
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DRAWING PATH: P:\5000 5499\5025\70120 Eastman Road Scrap Tire Grants\Drawings\Civil\Plans Const\170120CON_01.dwg Dec 21, 2018 - 10:38am

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REVISIONS:

NO.	DATE	DESCRIPTION
1		
2		
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DATE	PROJ. NUMBER	ELEV.	PROJ. INCHES	JTK	CADD	COUNTRY	CITY/VILLAGE/TOWNSHIP	SCALE	VERT. DATUM	HORIZ. DATUM	VERT. DATUM	VALUE
11/19/18	5025-74230	OHM ADVISORS			SETH	MIDLAND	LAWRENCE TWP.	1"=40'	1"=40'	1"=40'	1"=40'	Value

MIDLAND COUNTY ROAD COMMISSION

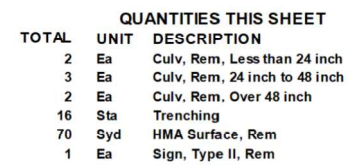
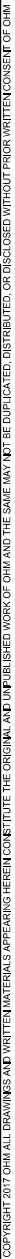
EASTMAN ROAD SCRAP TIRE GRANT

PROFILE SHEET (STA 58+00 - STA 66+00)

27

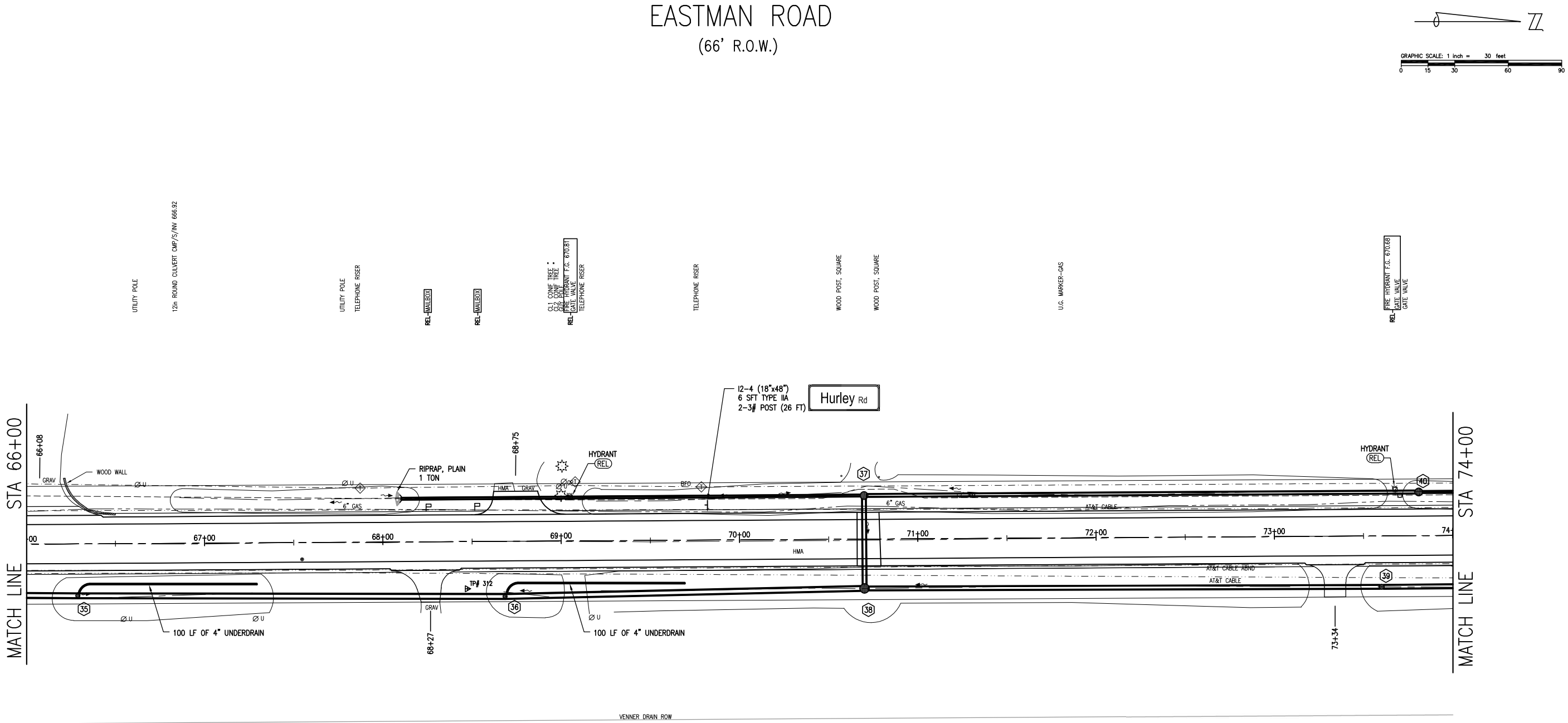
OF 57

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STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
		FT	FT	%	FT	FT	Ton	Syd	Ton
66+08	LT	21.0	68.0	-4.2%	30	30	-	-	5
68+27	RT	33.8	40.0	4.1%	15	10	-	-	6
68+75	LT	28.0	50.0	-10.2%	15	10	8	26	-
73+34	RT	34.0	34.0	3.8%	10	10	-	-	5
TOTALS							8	26	17

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
311	Cyd	Subbase, TDA
1016	Syd	Aggregate Base, 6 inch
61	Ton	Shoulder, CI II
1	Ea	Culv End Sect, 12 inch
471	Ft	Sewer, CI A, 30 inch, Tr Det A
52	Ft	Sewer, CI A, 24 inch, Tr Det B
3	Ea	Dr Structure Cover, Type G
2	Ea	Dr Structure, 48 inch dia
1	Ea	Dr Structure, 60 inch dia
1	Ea	Dr Structure, 24 inch Tee Riser
2	Ea	Dr Structure, 30 inch Tee Riser
278	Ft	Underdrain, Pipe, 12 inch
311	Ft	Underdrain, Pipe, 18 inch
330	Ft	Underdrain, Pipe, 24 inch
200	Ft	Underdrain, Pipe, 4 inch
13	Ton	Hand Patching, GRT
2	Ea	Post, Mailbox
26	Ft	Post, Steel, 3 lb
6	Sft	Sign, Type IIA
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow
1	Ton	Riprap, Plain
2	Ea	Hydrant, Relocate, Case 2





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REVISIONS:

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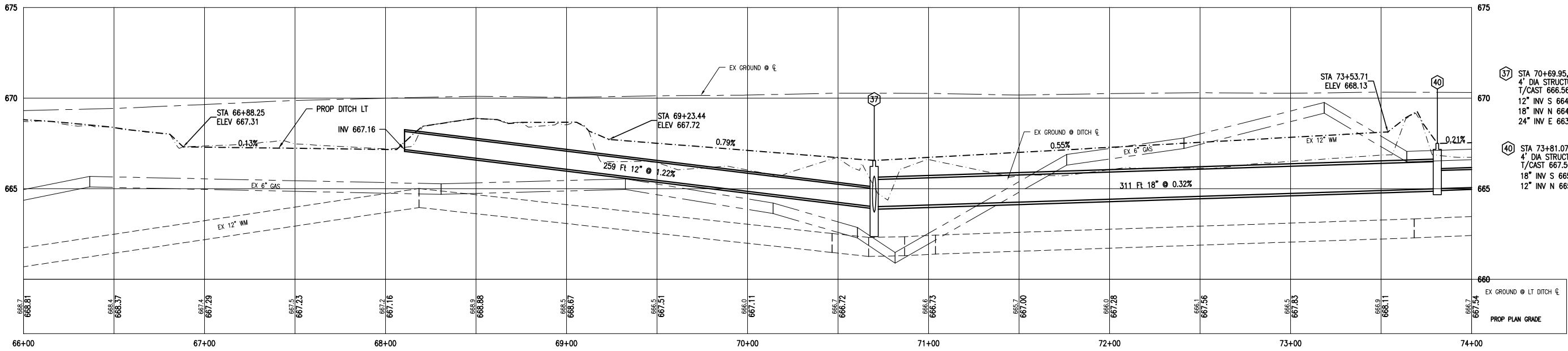
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12/21/18	5025170120	OHM ADVISORS	JTK	MIDLAND	MIDLAND	SCH	1"=40'	Value	Value

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
CONSTRUCTION SHEET (STA 66+00 - STA 74+00)

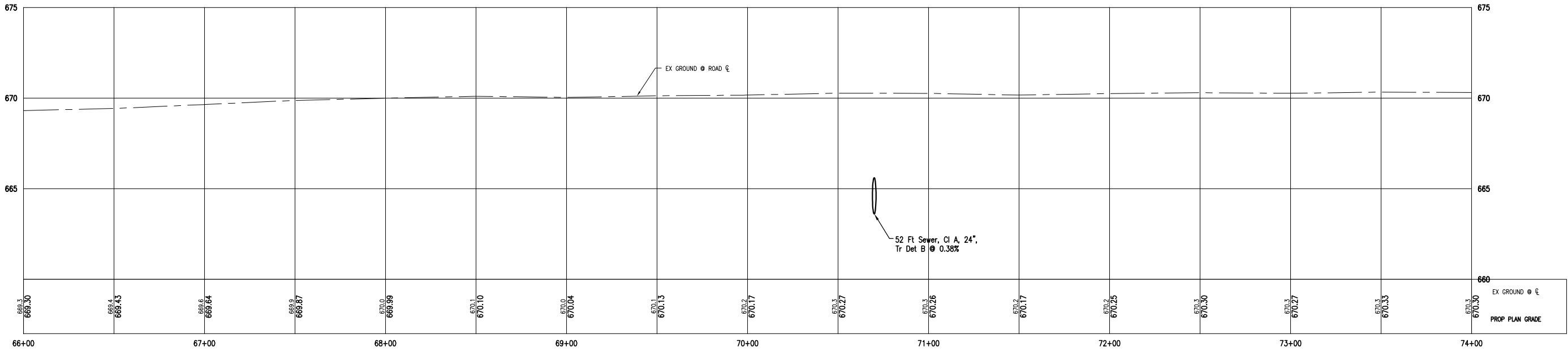
SHEET
29
OF 57

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- 37 STA 70+69.95, 24.5' L
4" DIA STRUCTURE, "G" COVER
T/CAST 666.56
12" INV S 664.00
18" INV N 664.00
24" INV E 663.70
- 40 STA 73+81.07, 24.5' L
4" DIA STRUCTURE, "G" COVER
T/CAST 667.50
18" INV S 665.00
12" INV N 665.00



- 35 STA 66+28.72, 29.1' R
30" TEE RISER
T/CAST 666.59
30" INV S 662.60
30" INV N 662.60
6" INV W 665.00
- 36 STA 68+68.34, 30.9' R
30" TEE RISER
T/CAST 668.00
30" INV N 663.10
30" INV S 663.10
6" INV W 666.00
- 38 STA 70+70.01, 27.7' R
5" DIA STRUCTURE, "G" COVER
T/CAST 667.00
30" INV S 663.50
24" INV W 663.50
24" INV N 663.50
- 39 STA 73+60.00, 28.6' R
24" TEE RISER
T/CAST 667.70
24" INV S 664.40
24" INV N 664.40

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REVISIONS:

NO.	DATE	DESCRIPTION	BY	CHKD
1	11/16/18	11/16/18		

CITY/VILLAGE/TOWNSHIP: LAMING/CHARTER TWP.
COUNTY: MIDLAND
ROAD: EASTMAN ROAD
PROJECT: EASTMAN ROAD SCRAP TIRE GRANT
DATE: 11/16/18
PROJ NUMBER: 5025-17-0230
EIR: CHM ADVISORS

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
PROFILE SHEET (STA 66+00 - STA 74+00)

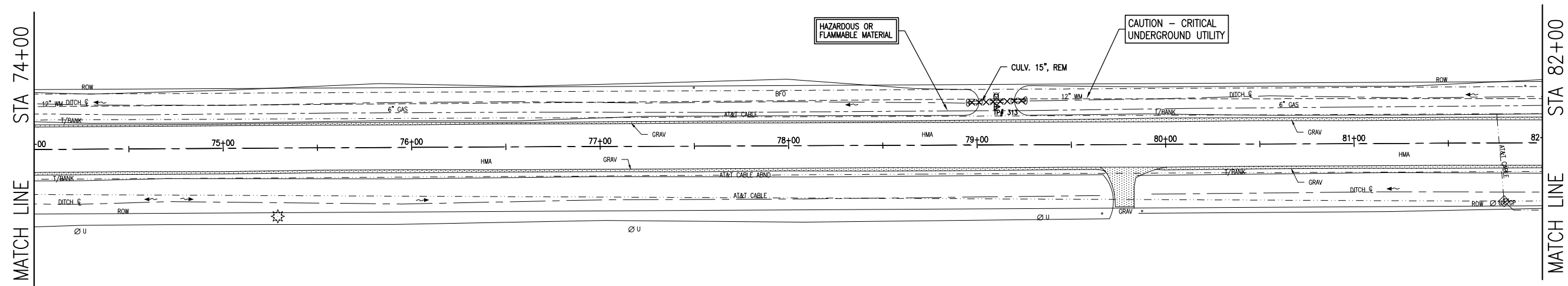
30
OF 57

811
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GRAPHIC SCALE: 1 inch = 30 feet

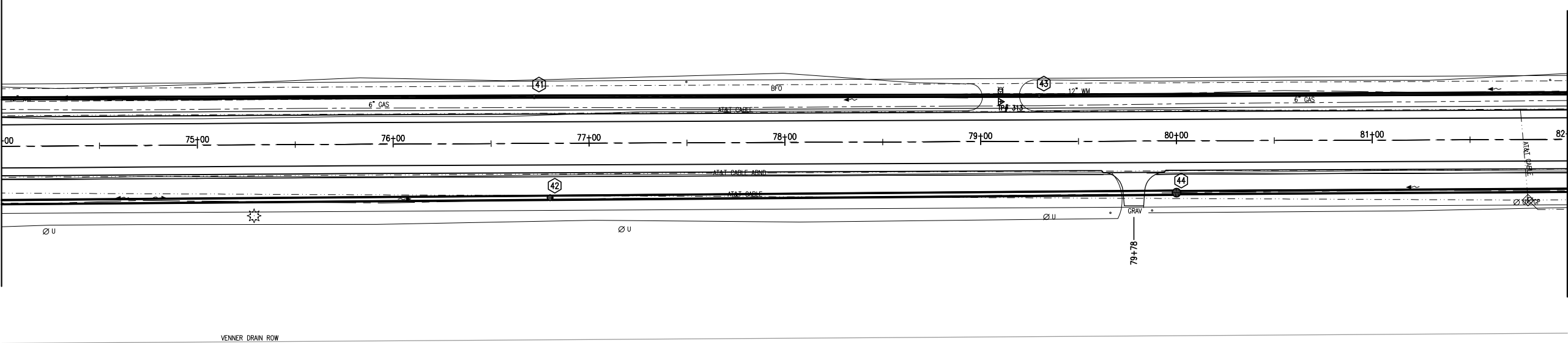
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Know what's below.
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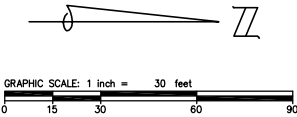
MATCH LINE STA 74+00



STATION		BACK OF DRIVE OFFSET FROM ALI	OPENING WIDTH (@ BACK OF PAVED SHLDR)	PROPOSED DRIVEWAY SLOPE	RADIUS		HMA Approach	Aggregate Base, 6 inch	Approach, CI II
					ENTER	EXIT			
79+78	RT	FT 33.0	FT 33.0	% -2.3%	FT 10	FT 10	Ton -	Syd -	Ton 5
TOTALS							0	0	5

QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
395	Cyd	Subbase, TDA
934	Syd	Aggregate Base, 6 inch
65	Ton	Shoulder, CI II
1	Ea	Dr Structure Cover, Type G
1	Ea	Dr Structure, 48 inch dia
2	Ea	Dr Structure, 12 inch Tee Riser
1	Ea	Dr Structure, 24 inch Tee Riser
800	Ft	Underdrain, Pipe, 12 inch
200	Ft	Underdrain, Pipe, 18 inch
600	Ft	Underdrain, Pipe, 24 inch
60	Ton	HMA, 4E1, GRT
225	Ton	HMA, 5E1, GRT
1600	Ft	Pavt Mrkg, Waterborne, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, White
200	Ft	Pavt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow

EASTMAN ROAD
(66' R.O.W.)





ARCHITECTS ENGINEERS PLANNERS

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Midland, MI 48640
P (989) 956-2020

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REVISIONS:	

DATE

12/1/18

PROJ NUMBER

5025-74-020

PROJ INGR

OHM ADVISORS

EXT

JTK

CADD

SCN

COUNTY

MIDLAND

CITY/VILLAGE/TOWNSHIP

LAMAR CHARTER TWP.

SCALE

1"=40'

HORIZ DATUM

Value

VERT DATUM

Value

MIDLAND COUNTY ROAD COMMISSION

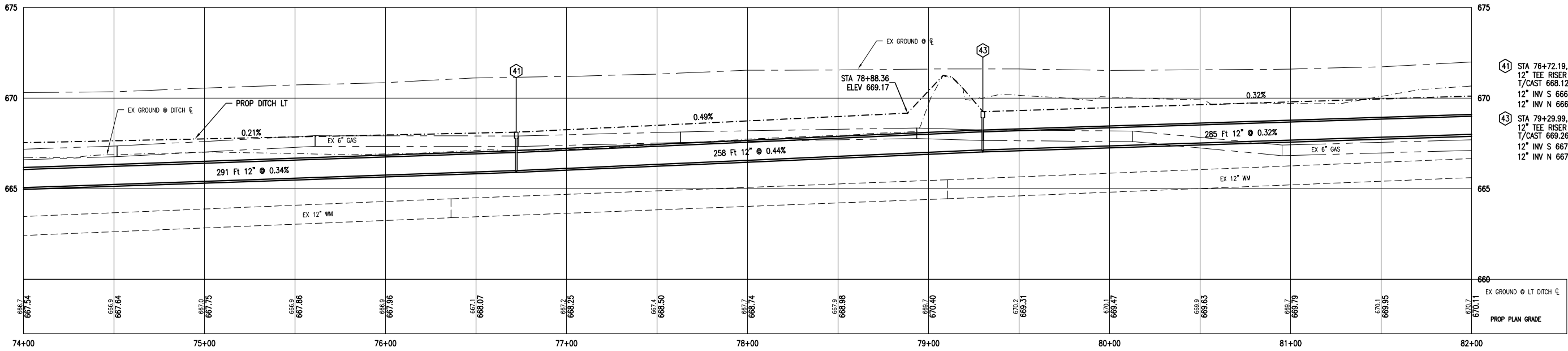
EASTMAN ROAD SCRAP TIRE GRANT

CONSTRUCTION SHEET (STA 74+00 - STA 82+00)



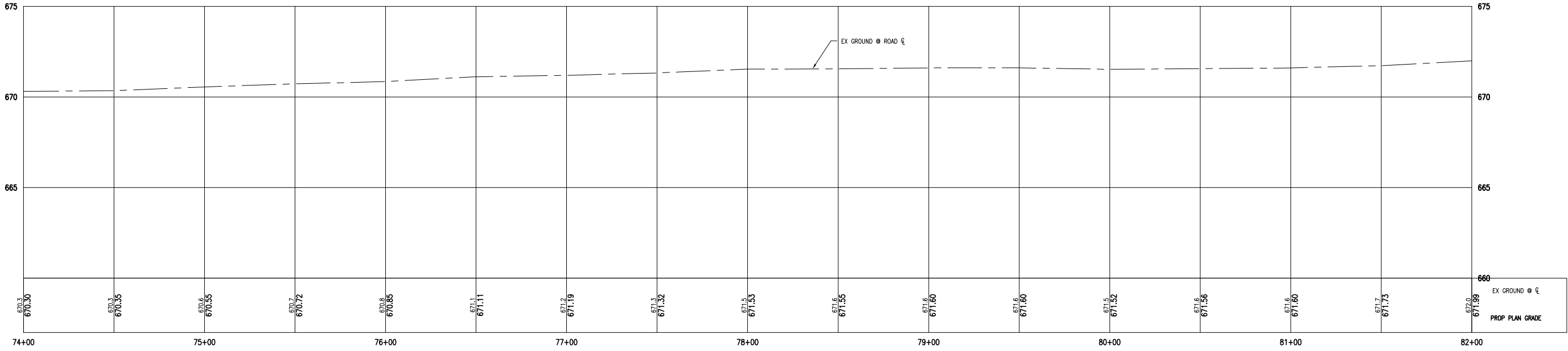
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DRAWING PATH: P:\5000_5409\5025\70120_Eastman_Road_Scrap_Tire_GrantsDrawings\CityProfiles\70120PRE_02.dwg Dec 20, 2018 - 2:24pm



- 41 STA 76+72.19, 23.8' L
12" TEE RISER
T/CAST 668.12
12" INV S 666.00
12" INV N 666.00
- 43 STA 79+29.99, 23.3' L
12" TEE RISER
T/CAST 669.26
12" INV S 667.14
12" INV N 667.14

660 EX GROUND @ LT DITCH CL
670.11 PROP PLAN GRADE



- 42 STA 76+80.00, 27.8' R
24" Tee Riser
T/CAST 668.40
24" INV S 665.10
24" INV N 665.10
- 44 STA 79+99.98, 26.4' R
4" DIA. STRUCTURE, "G" COVER
T/CAST 668.55
24" INV S 665.90
18" INV N 665.90

660 EX GROUND @ RT DITCH CL
669.42 PROP PLAN GRADE





ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
P (989) 956-2020

OHM-ADVISORS.COM

REVISION:	DATE	BY	APP	DESCRIPTION

DATE	PROJ NUMBER	EIR	PROJ INGR	CADD	COUNTRY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
11/19/18	5025-74-00	OHM ADVISORS	JTK	SDH	MIDLAND	LAWN/CHARTER TWP.	1"=40'	1"=40'	1"=40'

MIDLAND COUNTY ROAD COMMISSION

EASTMAN ROAD SCRAP TIRE GRANT

PROFILE SHEET (STA 74+00 - STA 82+00)

33

OF 57

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R-15in ROUND CULVERT CPE/N/INV 669.13

FIRE HYDRANT F.G. 674.8

GATE VALVE

GATE VALVE

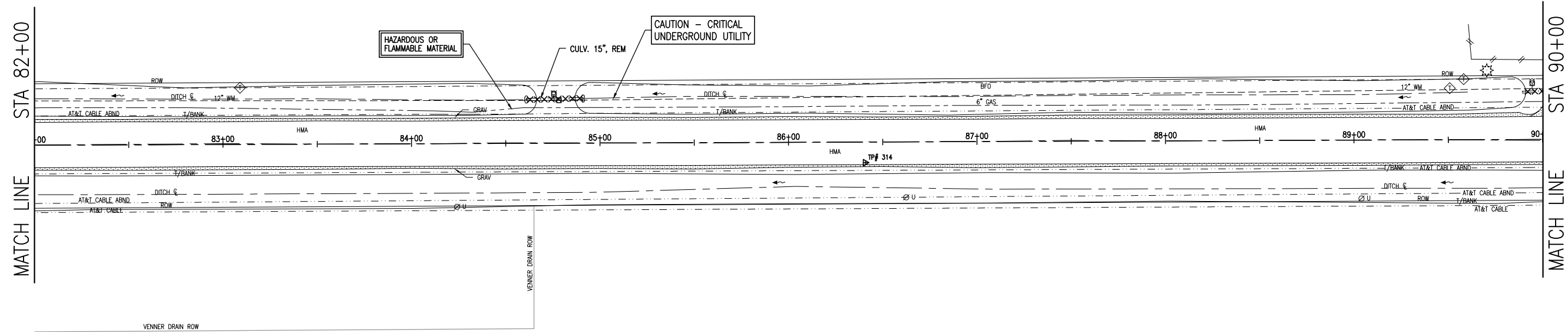
R-15in ROUND CULVERT CPE/S/INV 669.17

R-15in ROUND CULVERT CPE/S/INV 669.17

U.G. MARKER-GAS

TELEPHONE RISER

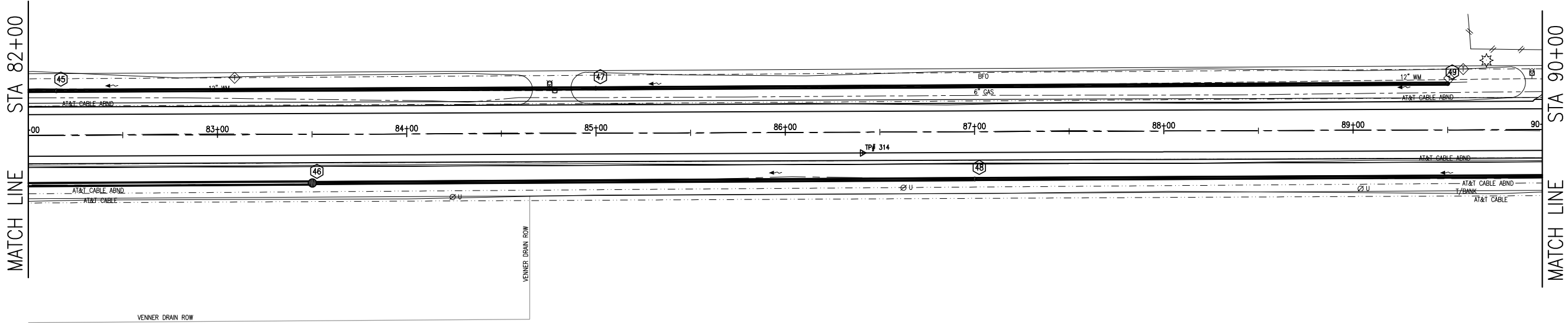
FIRE HYDRANT F.G. 673.53
GATE VALVE



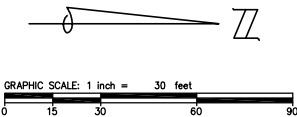
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
1	Ea	Culv, Rem, Less than 24 inch
16	Sta	Trenching



DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tra_GrantDrawings\CityPlans_Constr\70120CON.02.dwg Dec-21, 2018 - 10:41am



EASTMAN ROAD
(66' R.O.W.)





ARCHITECTS ENGINEERS PLANNERS

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REVISIONS:	

DATE	PROJ NUMBER	EXT	PROJ INGR	CADD	COUNTRY	CITY/VILLAGE/TOWNSHIP	SCALE	HORIZ DATUM	VERT DATUM
12/21/18	502517-020	OHM ADVISORS	JTK	SCH	MIDLAND	LAWRENCE TWP.	H: 1"=40' V: 1"=4'	Value	Value
MIDLAND COUNTY ROAD COMMISSION									
EASTMAN ROAD SCRAP TIRE GRANT									
CONSTRUCTION SHEET (STA 82+00 - STA 90+00)									

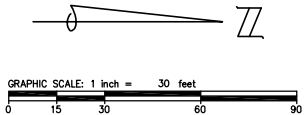
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
353	Cyd	Subbase, TDA
934	Syd	Aggregate Base, 6 inch
66	Ton	Shoulder, CI II
1	Ea	Dr Structure Cover, Type G
1	Ea	Dr Structure, 48 inch dia
4	Ea	Dr Structure, 12 inch Tee Riser
1400	Ft	Underdrain, Pipe, 12 inch
150	Ft	Underdrain, Pipe, 18 inch
80	Ton	HMA, 4E1, GRT
225	Ton	HMA, 5E1, GRT
1600	Ft	Pa vt Mrkg, Waterborne, 4 inch, White
200	Ft	Pa vt Mrkg, Waterborne, 4 inch, Yellow
1600	Ft	Pa vt Mrkg, Waterborne, 2nd Application, 4 inch, White
200	Ft	Pa vt Mrkg, Waterborne, 2nd Application, 4 inch, Yellow



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DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\Ch\Removal\70120REM.dwg Dec 20, 2018 - 2:27pm

EASTMAN ROAD
(66' R.O.W.)

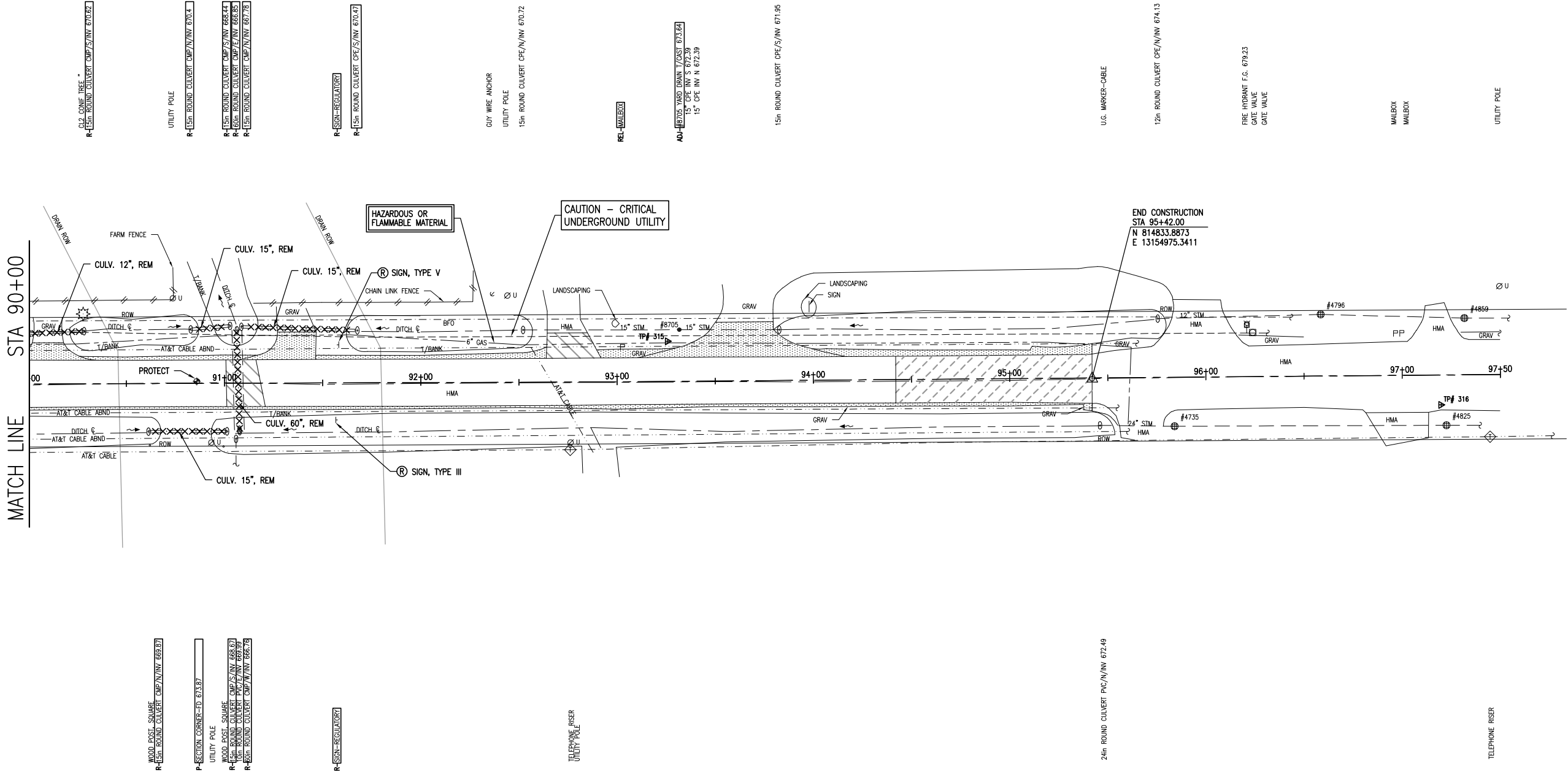




ARCHITECTS ENGINEERS PLANNERS

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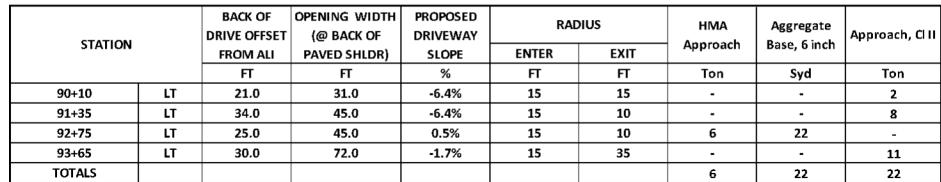
QUANTITIES THIS SHEET		
TOTAL	UNIT	DESCRIPTION
4	Ea	Culv, Rem, Less than 24 inch
1	Ea	Culv, Rem, Over 48 inch
11	Sta	Trenching
270	Syd	Cold Milling HMA Surface
95	Syd	HMA Surface, Rem
1	Ea	Sign, Type III, Rem
1	Ea	Sign, Type V, Rem



DATE	PROJ NUMBER	DATE	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	VERT DATUM	VERT DATUM
11/15/18	5025-17-030	CHM ADVISORS	JTK	LANSING CHARACTER TWP.	MIDLAND	SCH	1"=30'	N/A	Value

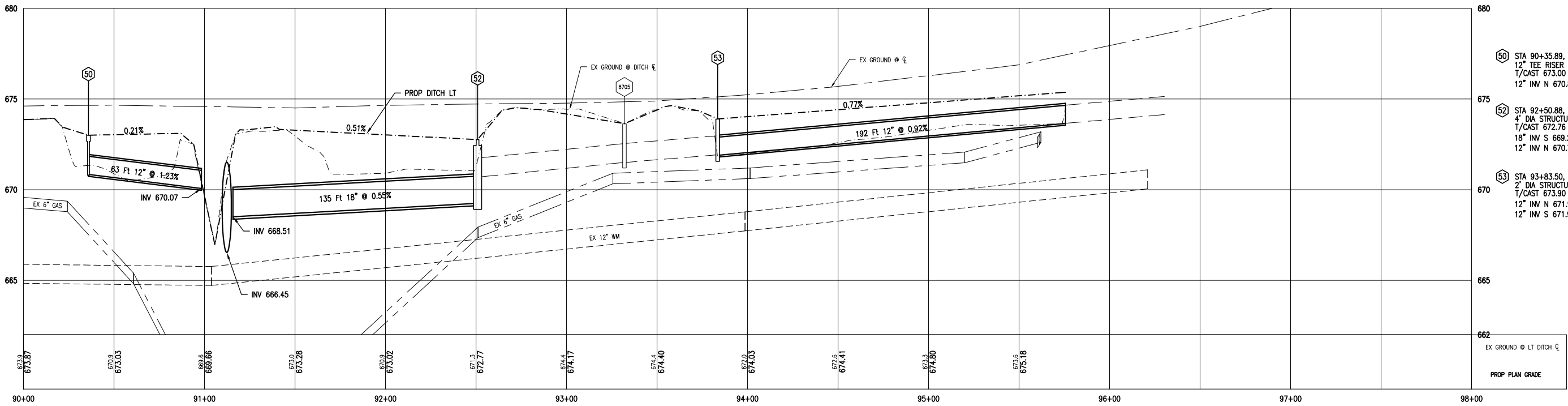
MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
REMOVAL SHEET (STA 90+00 - P.O.E.)

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Now what's below
Call before you dig

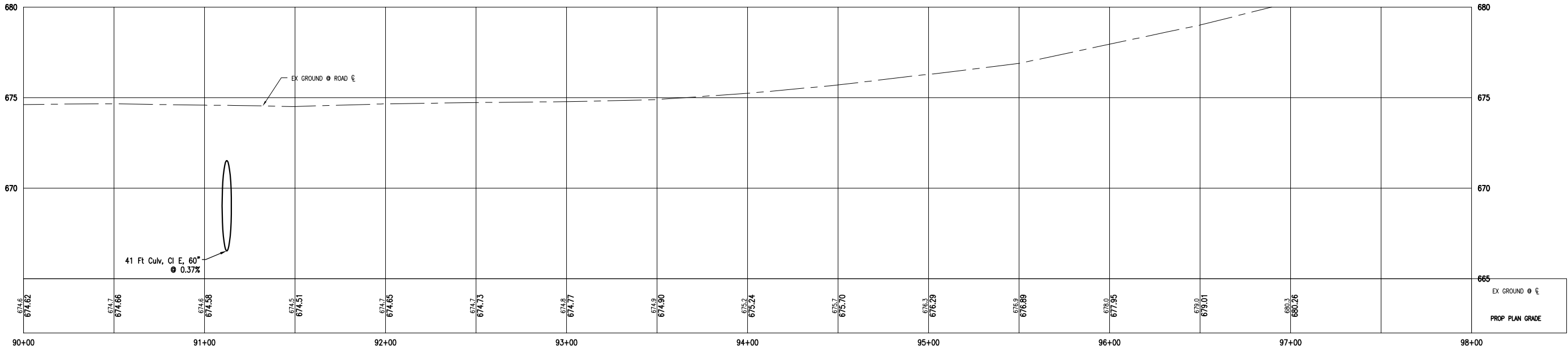
DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantsDrawings\CityProfiles\70120PRE_02.dwg Dec 21, 2018 - 10:41am



- 50 STA 90+35.89, 25.4' L
12" TEE RISER
T/CAST 673.00
12" INV N 670.84
- 52 STA 92+50.88, 26.6' L
4" DIA STRUCTURE, "G" COVER
T/CAST 672.76
18" INV S 669.25
12" INV N 670.72 (EXISTING)
- 53 STA 93+83.50, 25.8' L
2" DIA STRUCTURE, "G" COVER
T/CAST 673.90
12" INV N 671.90
12" INV S 671.95 (EXISTING)

662
EX GROUND @ LT DITCH

PROP PLAN GRADE



30.00, 24.5' R
RISER
372.50
S 670.00

665
EX GROUND @ RT DITCH

PROP PLAN GRADE

REVISIONS:

Value

Value

Value

Value

Value

Value

Value

Value

Value

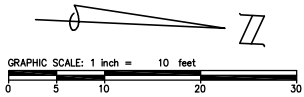
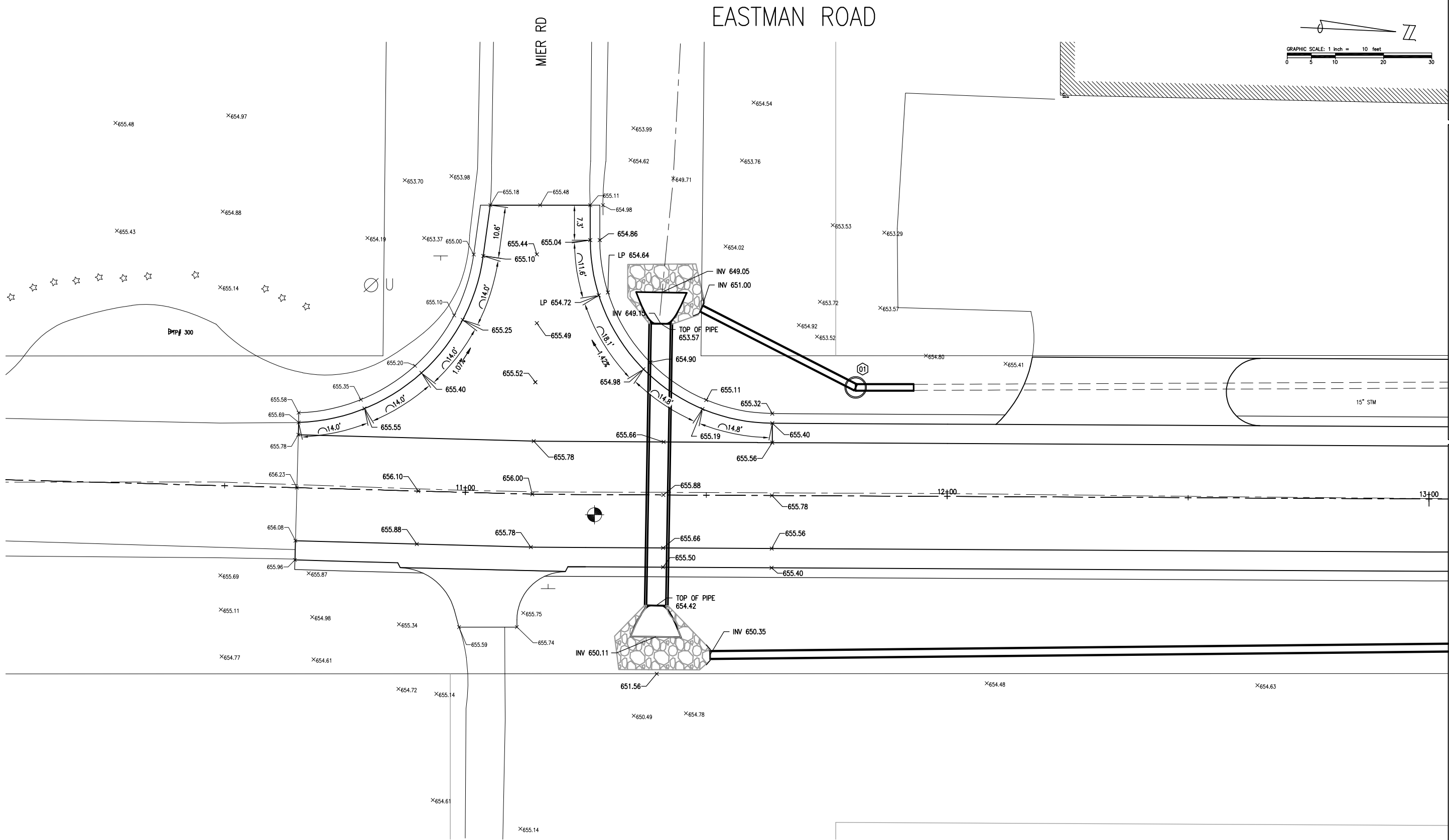
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DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_Grading\1701205RD.dwg Dec 20, 2018 - 2:29pm





ARCHITECTS ENGINEERS PLANNERS

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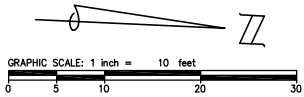
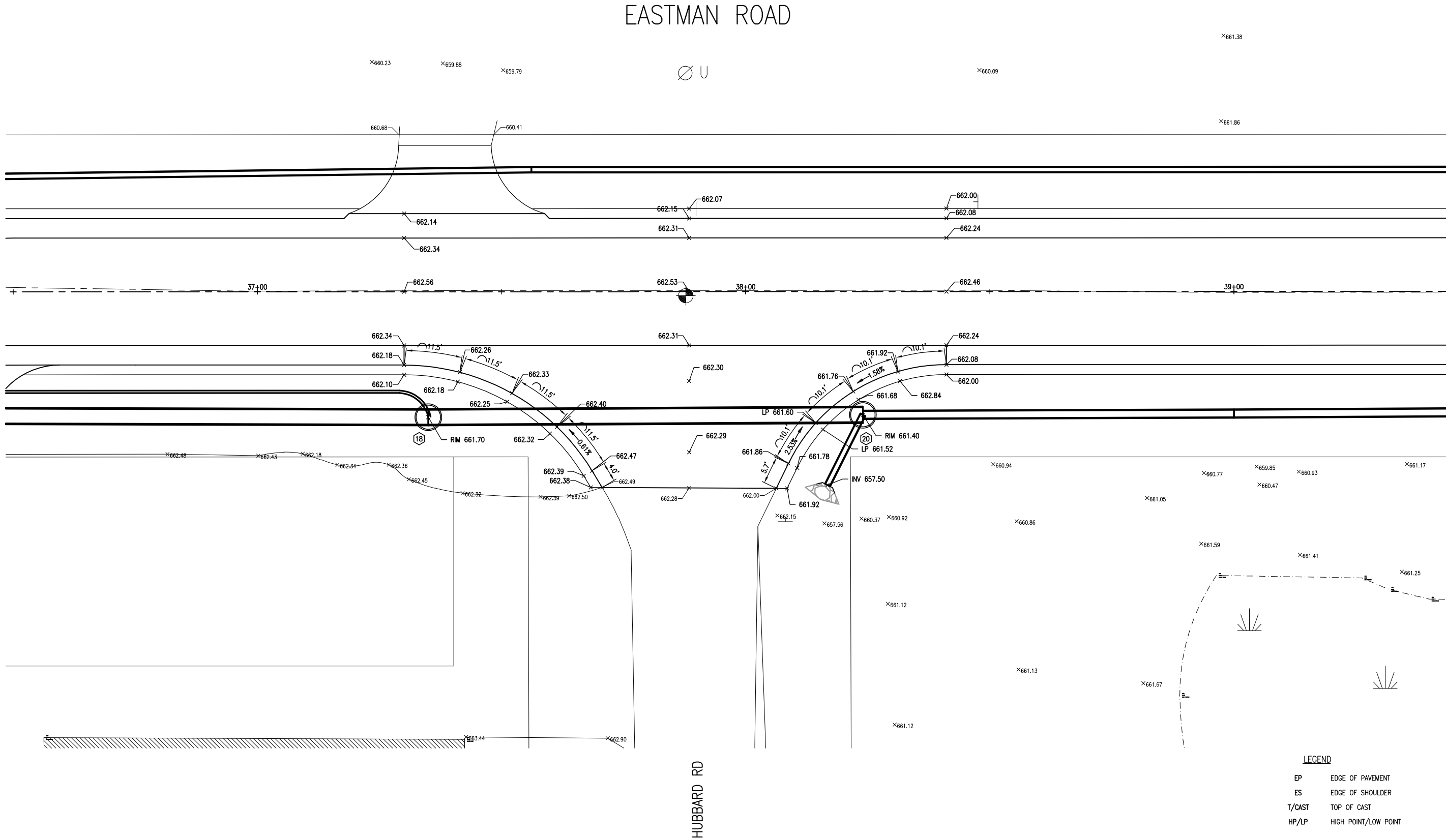
OHM-ADVISORS.COM

DATE	PROJ NUMBER	EIR	PROJ INGR	JTK	CADD	COUNTY	CITY/VILLAGE/TOWNSHIP	LAND CHARTER TWP.	SCALE	VERT DATUM	Value
11/16/16	5025-17-020	OHM-ADVISORS			SDH	MIDLAND			1"=10'		Value
MIDLAND COUNTY ROAD COMMISSION EASTMAN ROAD SCRAP TIRE GRANT DETAIL GRADE SHEET - MIER RD											

- LEGEND
- EP EDGE OF PAVEMENT
 - ES EDGE OF SHOULDER
 - T/CAST TOP OF CAST
 - HP/LP HIGH POINT/LOW POINT

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DRAWING PATH: P:\5000_5499\5025170120_Eastman_Road_Scrap_Tire_Grant\Drawings\Chd\Grading\1701205RD.dwg Dec 20, 2018 - 2:29pm





ARCHITECTS ENGINEERS PLANNERS

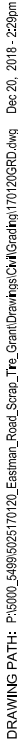
415 E Main St
Midland, MI 48640
P (989) 956-2020

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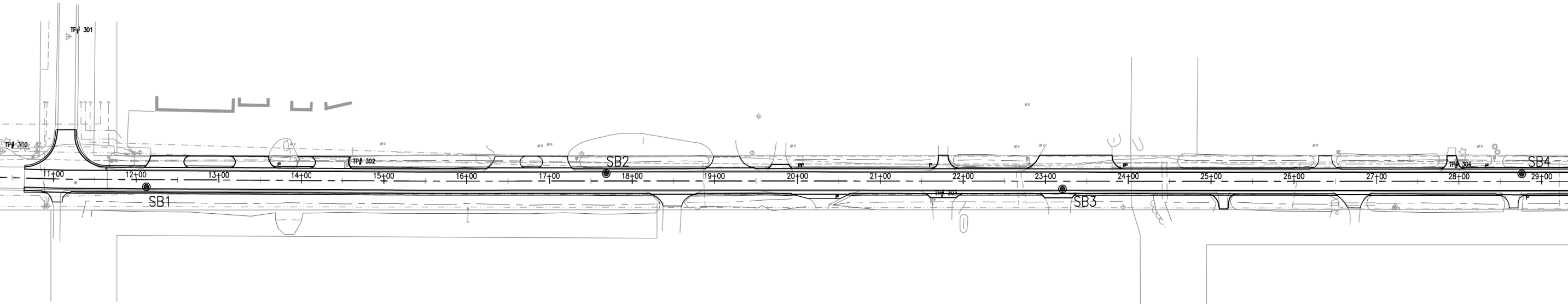
REVISIONS:	

DATE	PROJ NUMBER	DATE	PROJ INGR	CITY/VILLAGE/TOWNSHIP	COUNTY	CADD	SCALE	HORIZ DATUM	VERT DATUM
11/15/16	5025170120	CHM ADVISORS	JTK	LAMON CHARTER TWP.	MIDLAND	SEH	1"=10'	Value	Value
MIDLAND COUNTY ROAD COMMISSION									
EASTMAN ROAD SCRAP TIRE GRANT									
DETAIL GRADE SHEET - HUBBARD RD									

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DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\ChallMec\70120BOR.dwg Dec 20, 2018 - 2:30pm



MA McDOWELL & ASSOCIATES Geotechnical, Environmental, & Hydrogeologic Services 3730 James Savage Road • Midland, MI 48642 Phone: (989) 496-3610 • Fax: (989) 496-3190		LOG OF SOIL BORING NO. 1	
JOB NO. 17-63344		LOCATION MCRB - Eastman Road Eastman Road - East Mer Road to East Schneider Court, Midland, Michigan North Bound Lane, ~9' East of Centerline ~100' North of East Mer Road	
SURFACE ELEV. DATE 10-10-17			
Sample & Type	Depth	Legend	SOIL DESCRIPTION
	0'3"		ASPHALT
	0'6"		
	0'9"		GRAVEL
	1'0"		
	1'3"		
	1'6"		
	1'9"		
	2'0"		
	2'3"		
	2'6"		
	2'9"		
	3'0"		
	3'3"		
	3'6"		
	3'9"		
	4'0"		
	4'3"		
	4'6"		
	4'9"		
	5'0"		
			Note: 4" solid flight auger backfilled with auger cuttings and cold patch.
TYPE OF SAMPLE D - DISTURBED UL - UNDIST. LNER S.T. - SHALLOW TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE () - PENETROMETER		REMARKS Standard Penetration Test - Driving 2" OD Sampler 1" With 140# Hammer Falling 30" Count Made at 6" Intervals	
		GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. AFTER COMPLETION FT. INS. G.W. AFTER HRS. FT. INS. G.W. VOLUMES None	

MA McDOWELL & ASSOCIATES Geotechnical, Environmental, & Hydrogeologic Services 3730 James Savage Road • Midland, MI 48642 Phone: (989) 496-3610 • Fax: (989) 496-3190		LOG OF SOIL BORING NO. 2	
JOB NO. 17-63344		LOCATION MCRB - Eastman Road Eastman Road - East Mer Road to East Schneider Court, Midland, Michigan South Bound Lane, ~9'6" West of Centerline ~55' North of SB 1	
SURFACE ELEV. DATE 11-7-17			
Sample & Type	Depth	Legend	SOIL DESCRIPTION
	0'3"		ASPHALT
	0'6"		
	0'9"		GRAVEL
	1'0"		
	1'3"		
	1'6"		Moist brown CLAY with occasional pebbles
	1'9"		
	2'0"		
	2'3"		Moist dark brown sandy CLAY
	2'6"		
	2'9"		
	3'0"		
	3'3"		
	3'6"		
	3'9"		
	4'0"		
	4'3"		
	4'6"		
	4'9"		
	5'0"		
			Note: 4" solid flight auger backfilled with auger cuttings and cold patch.
TYPE OF SAMPLE D - DISTURBED UL - UNDIST. LNER S.T. - SHALLOW TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE () - PENETROMETER		REMARKS Standard Penetration Test - Driving 2" OD Sampler 1" With 140# Hammer Falling 30" Count Made at 6" Intervals	
		GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. AFTER COMPLETION FT. INS. G.W. AFTER HRS. FT. INS. G.W. VOLUMES None	

MA McDOWELL & ASSOCIATES Geotechnical, Environmental, & Hydrogeologic Services 3730 James Savage Road • Midland, MI 48642 Phone: (989) 496-3610 • Fax: (989) 496-3190		LOG OF SOIL BORING NO. 3	
JOB NO. 17-63344		LOCATION MCRB - Eastman Road Eastman Road - East Mer Road to East Schneider Court, Midland, Michigan North Bound Lane, ~10' East of Centerline ~55' North of SB 2	
SURFACE ELEV. DATE 11-7-17			
Sample & Type	Depth	Legend	SOIL DESCRIPTION
	0'3"		ASPHALT
	0'6"		
	0'9"		GRAVEL
	1'0"		
	1'3"		
	1'6"		Moist brown SAND
	1'9"		
	2'0"		
	2'3"		
	2'6"		
	2'9"		
	3'0"		
	3'3"		
	3'6"		
	3'9"		
	4'0"		
	4'3"		
	4'6"		
	4'9"		
	5'0"		
			Note: 4" solid flight auger backfilled with auger cuttings and cold patch.
TYPE OF SAMPLE D - DISTURBED UL - UNDIST. LNER S.T. - SHALLOW TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE () - PENETROMETER		REMARKS Standard Penetration Test - Driving 2" OD Sampler 1" With 140# Hammer Falling 30" Count Made at 6" Intervals	
		GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. AFTER COMPLETION FT. INS. G.W. AFTER HRS. FT. INS. G.W. VOLUMES None	

MA McDOWELL & ASSOCIATES Geotechnical, Environmental, & Hydrogeologic Services 3730 James Savage Road • Midland, MI 48642 Phone: (989) 496-3610 • Fax: (989) 496-3190		LOG OF SOIL BORING NO. 4	
JOB NO. 17-63344		LOCATION MCRB - Eastman Road Eastman Road - East Mer Road to East Schneider Court, Midland, Michigan South Bound Lane, ~9'6" West of Centerline ~55' North of SB 3	
SURFACE ELEV. DATE 11-7-17			
Sample & Type	Depth	Legend	SOIL DESCRIPTION
	0'3"		ASPHALT
	0'6"		
	0'9"		GRAVEL
	1'0"		
	1'3"		
	1'6"		
	1'9"		
	2'0"		
	2'3"		
	2'6"		
	2'9"		
	3'0"		
	3'3"		
	3'6"		
	3'9"		
	4'0"		
	4'3"		
	4'6"		
	4'9"		
	5'0"		
			Note: 4" solid flight auger backfilled with auger cuttings and cold patch.
TYPE OF SAMPLE D - DISTURBED UL - UNDIST. LNER S.T. - SHALLOW TUBE S.S. - SPLIT SPOON R.C. - ROCK CORE () - PENETROMETER		REMARKS Standard Penetration Test - Driving 2" OD Sampler 1" With 140# Hammer Falling 30" Count Made at 6" Intervals	
		GROUND WATER OBSERVATIONS G.W. ENCOUNTERED AT FT. INS. G.W. ENCOUNTERED AT FT. INS. G.W. AFTER COMPLETION FT. INS. G.W. AFTER HRS. FT. INS. G.W. VOLUMES None	

OHM

ARCHITECTS ENGINEERS PLANNERS

415 E Main St
Midland, MI 48640
P (989) 956-2020

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REVISIONS:
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DATE
PROJ NUMBER
5025-17-630

END
OHM ADVISORS

PROJ MGR
JTK

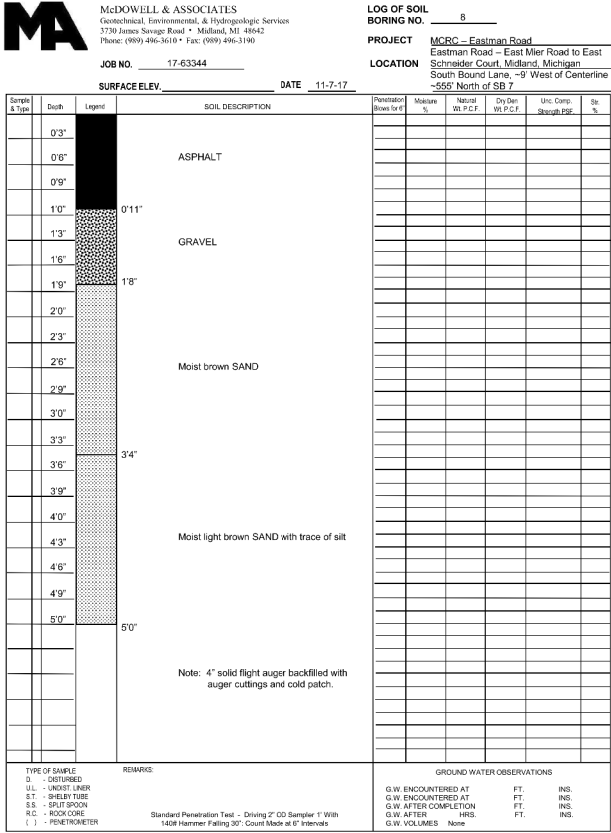
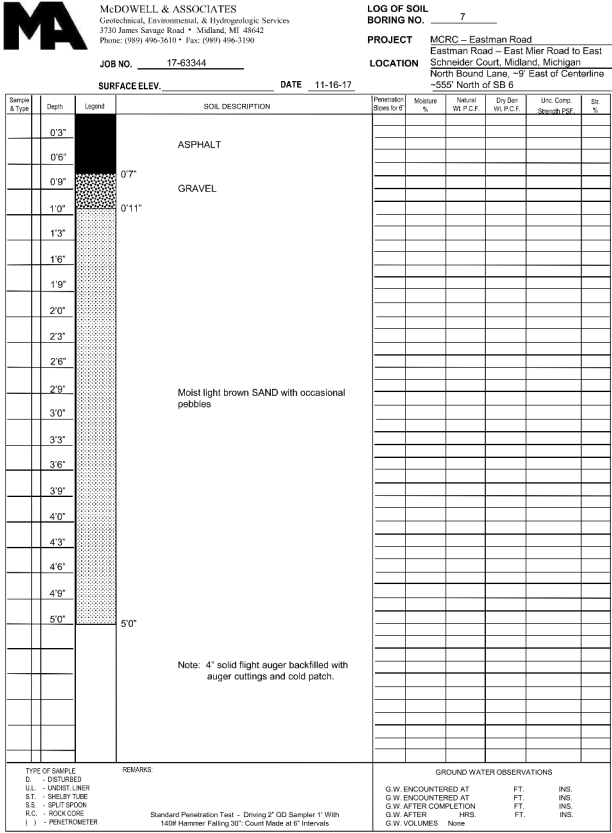
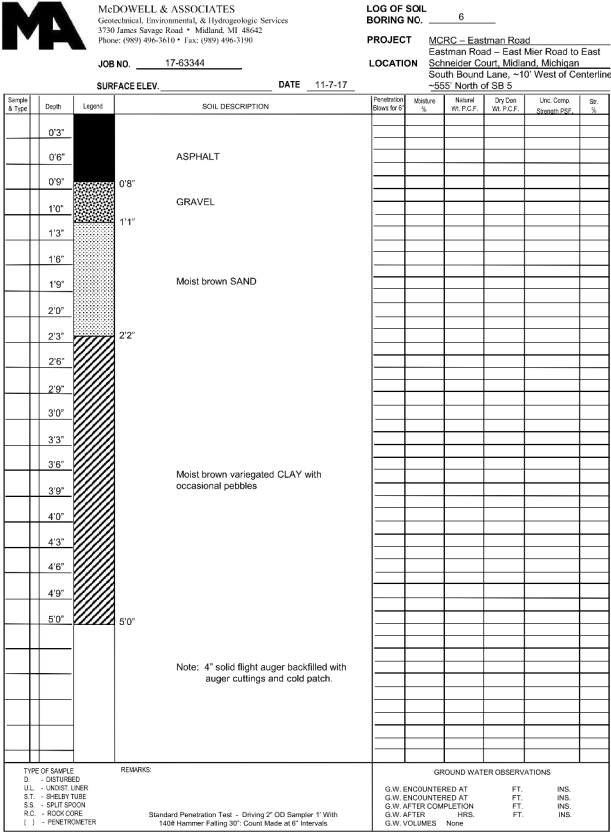
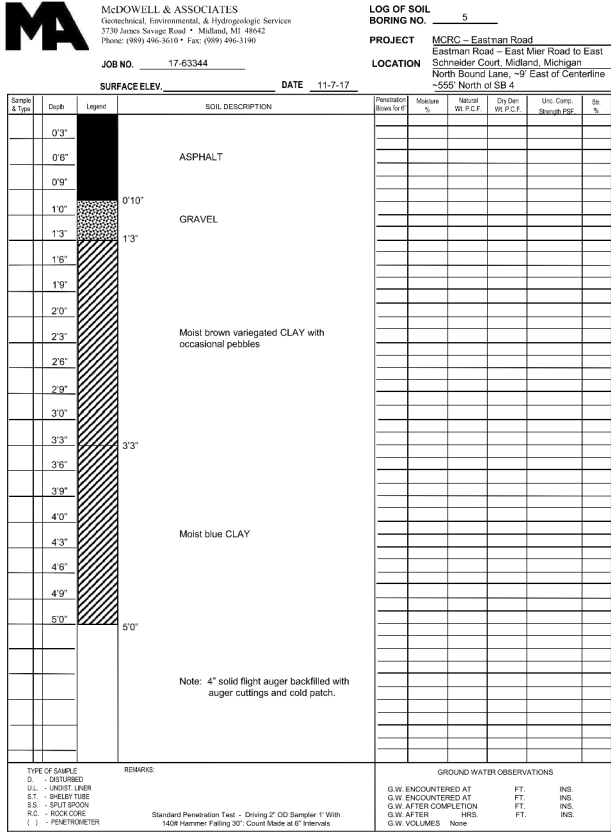
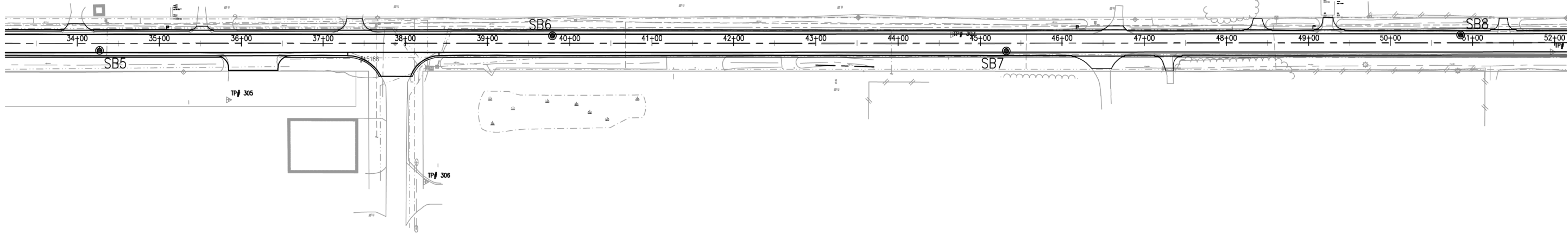
COUNTRY
MIDLAND

CADD
SCH

MUNICIPALITY
LAWRENCE TWP

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
LOG OF BORINGS 1-4

DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\Chillicott\70120BOR.dwg Dec 20, 2018 - 2:30pm

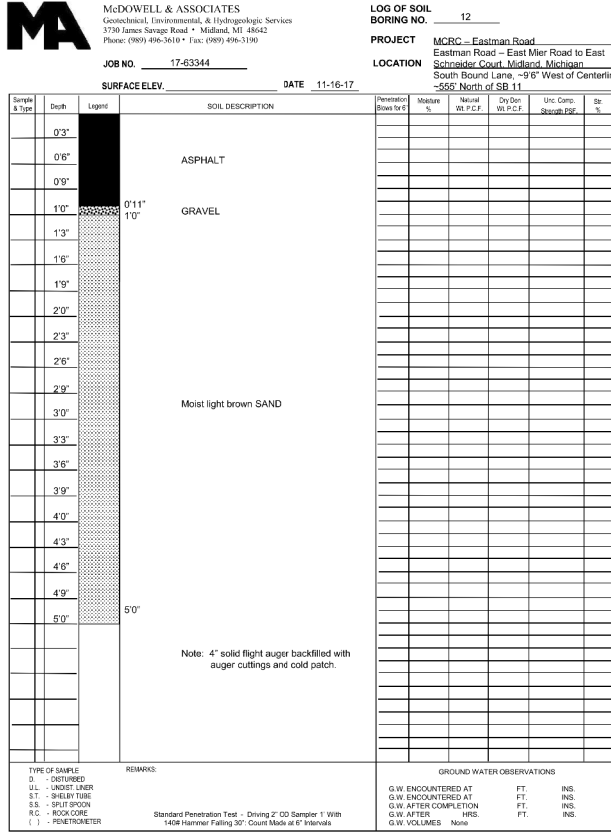
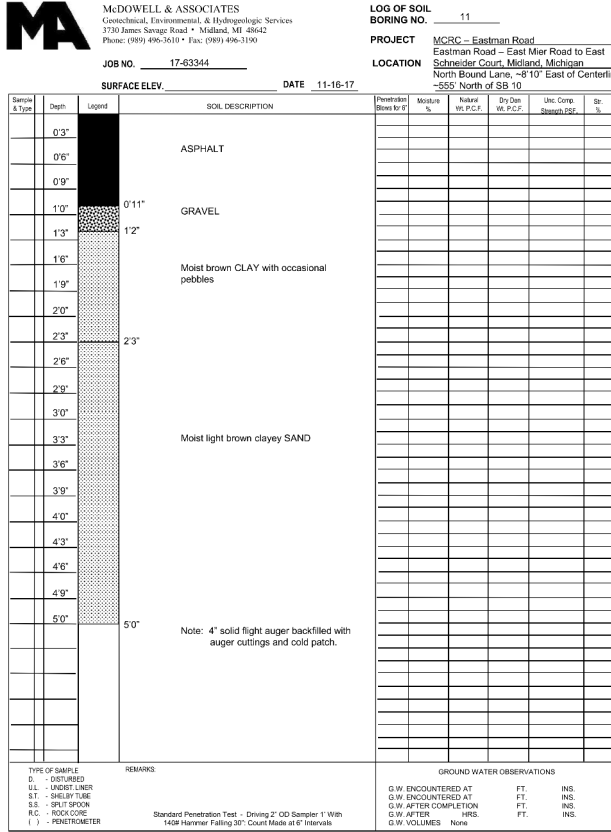
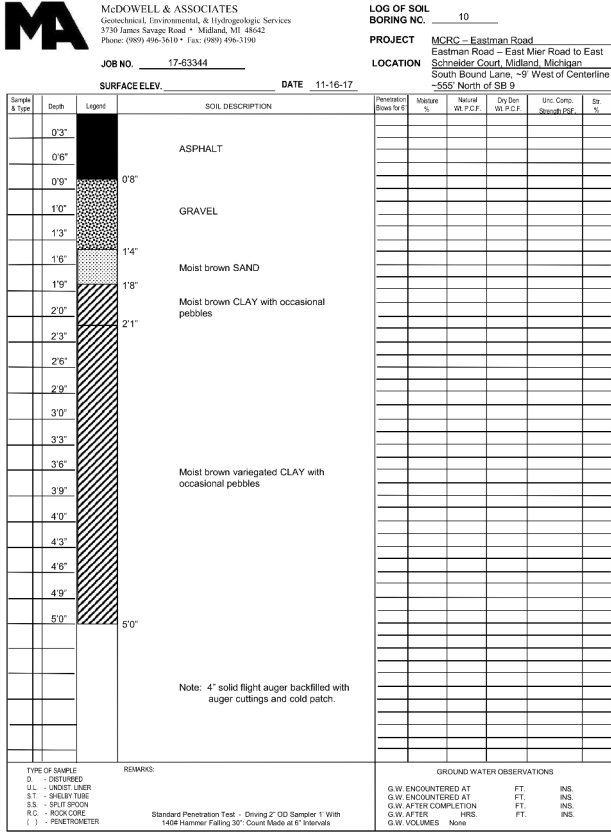
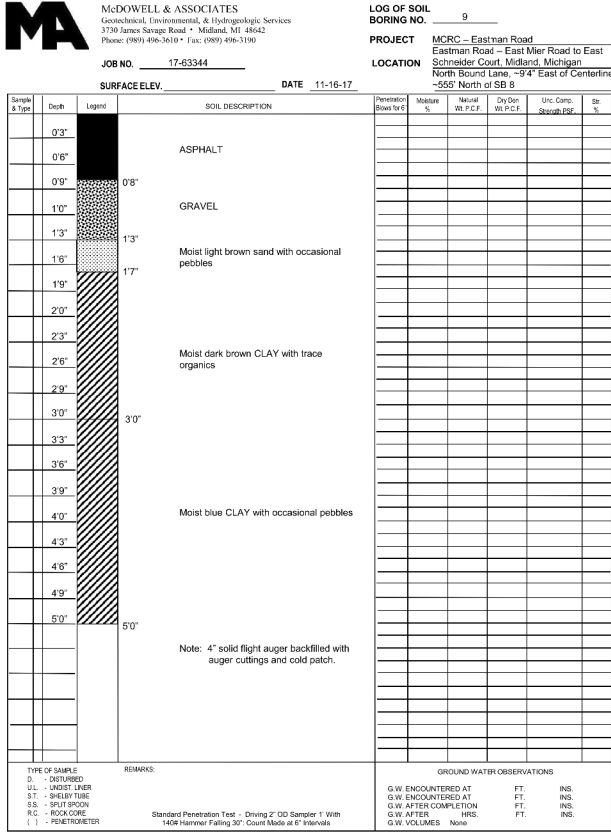
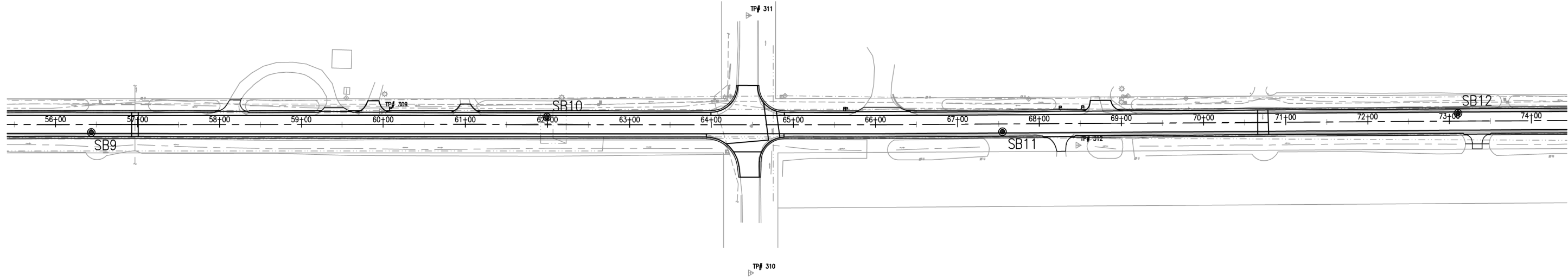


REVISIONS:

DATE PROJECT NUMBER 5025-17-020 CHW ADVISORS
PROJ. MGR. JTK
CADD SBH
COUNTRY MIDLAND
MUNICIPALITY LARWIN CHARTER TWP.

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
LOG OF BORINGS 5-8

DRAWING PATH: P:\5000_5499\5025\70120_Eastman_Road_Scrap_Tire_GrantDrawings\ChallMec\170120BOR.dwg Dec 20, 2018 - 2:30pm

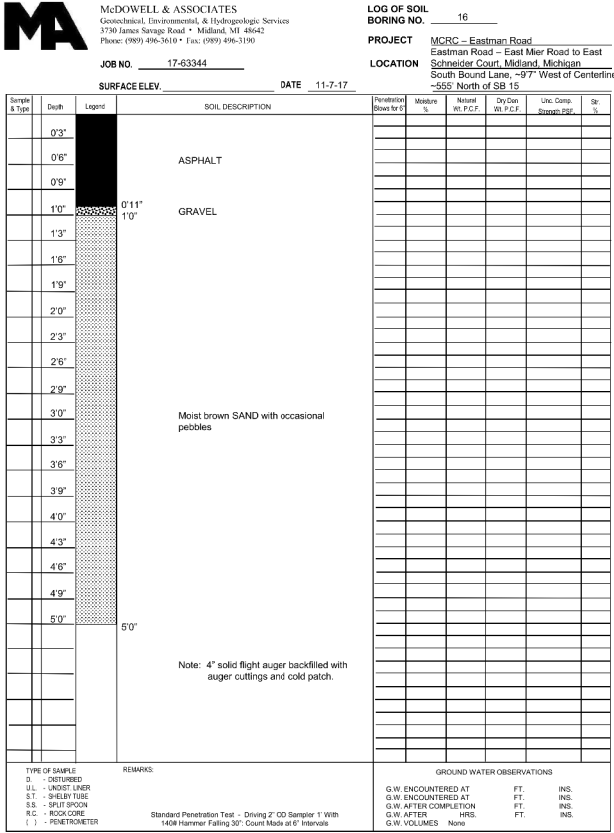
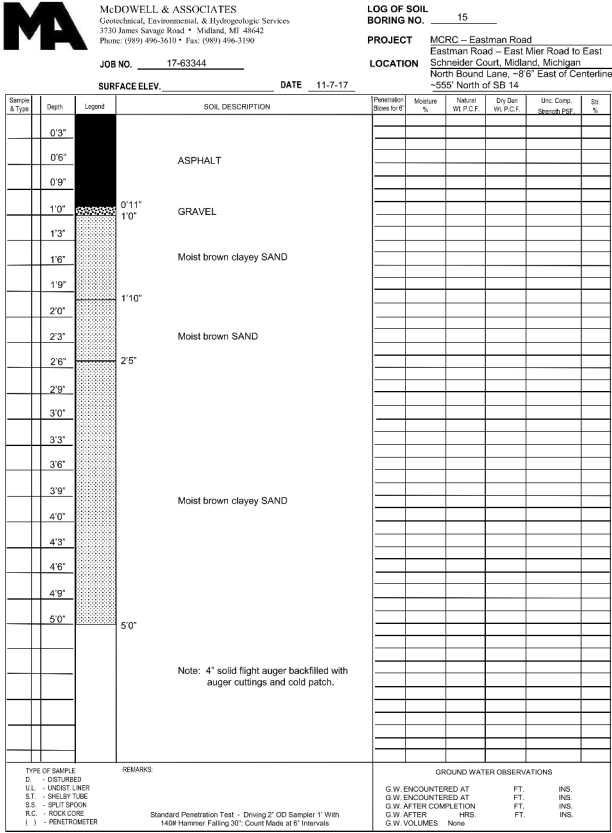
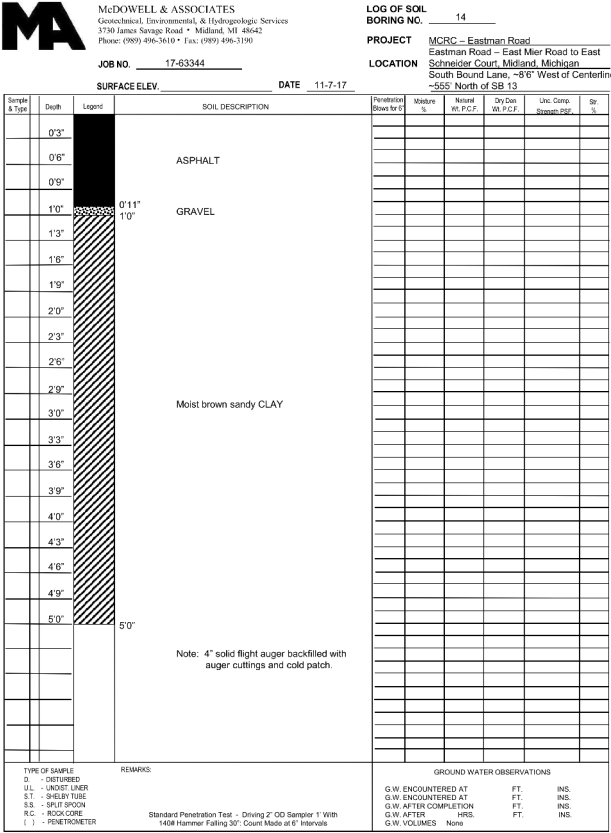
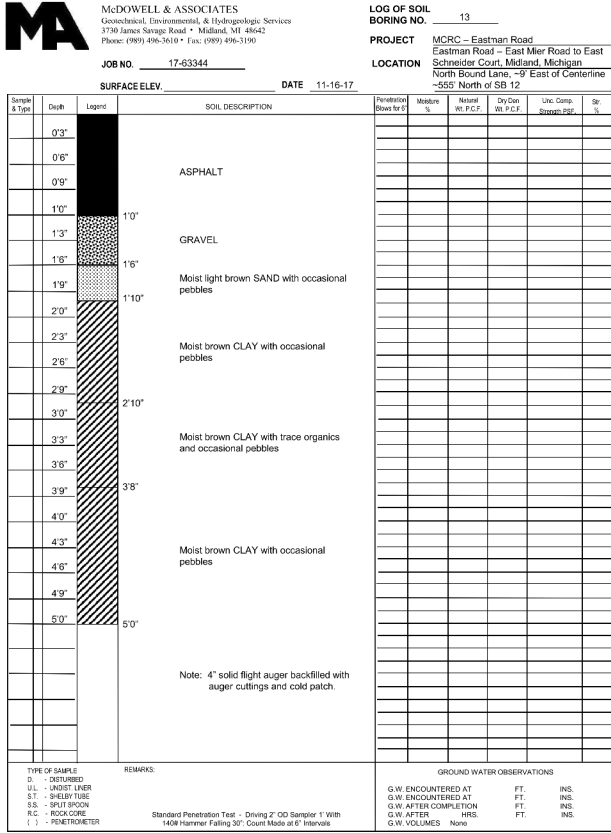
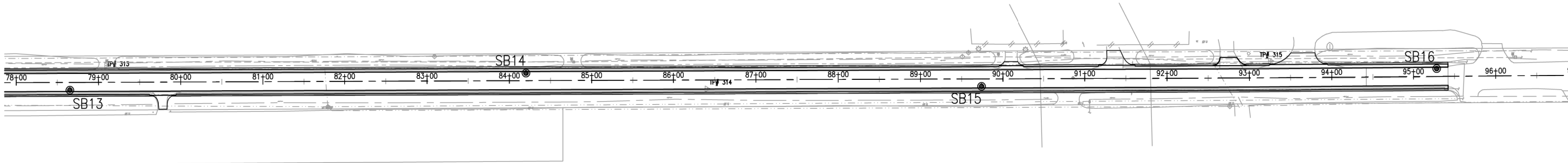


REVISIONS:
.....

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
LOG OF BORINGS 9-12

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REVISIONS:

MUNICIPALITY
LAWRENCE TWP.

COUNTY
MIDLAND

CADD
SCH

PROJ. MGR.
JTK

END
5/25/17/2/20

PROJ. NUMBER
5025-17-2/20

DATE

SHEET

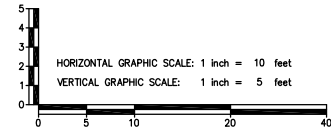
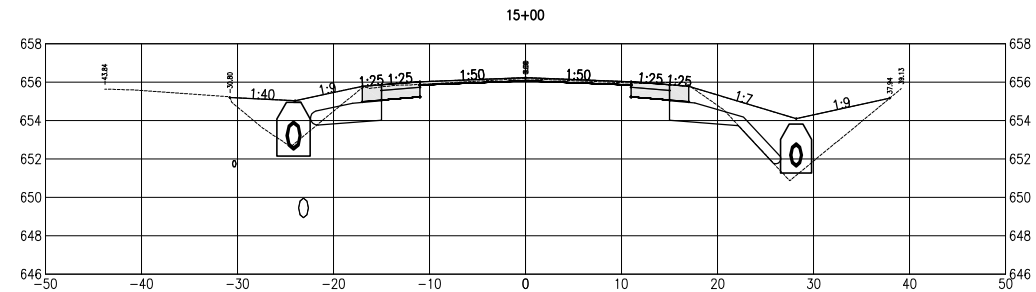
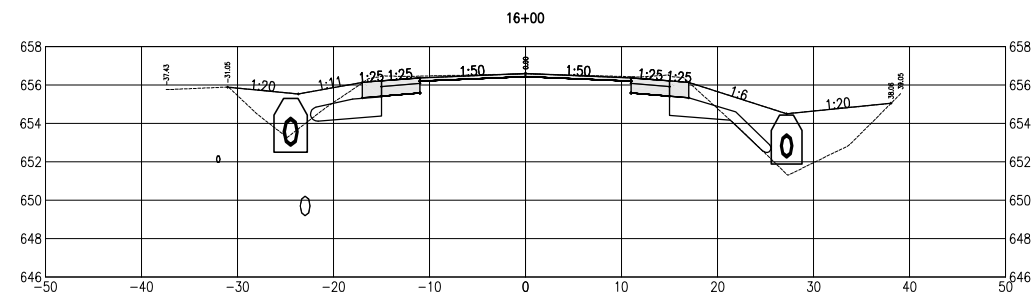
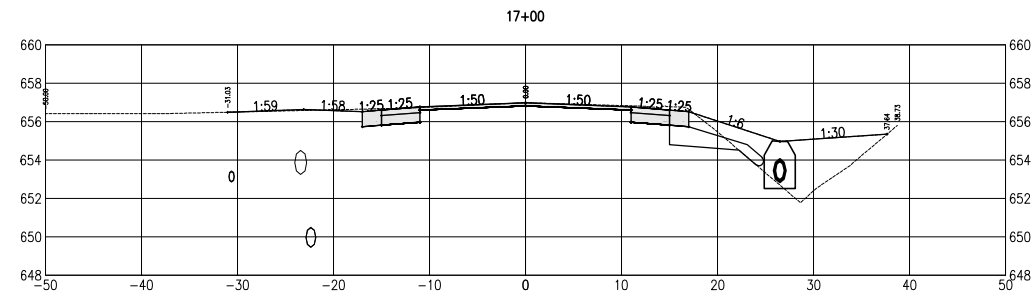
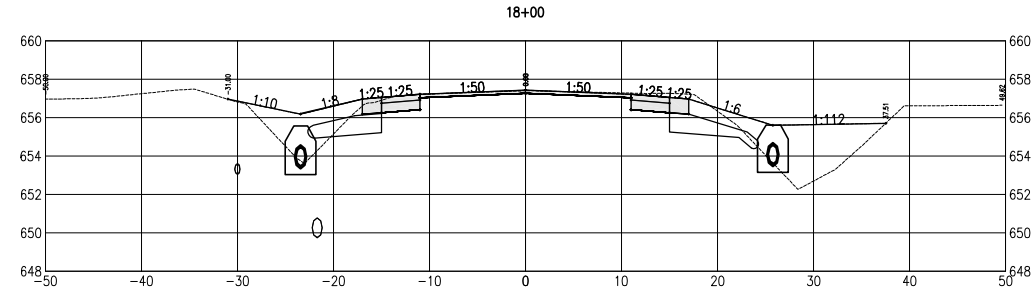
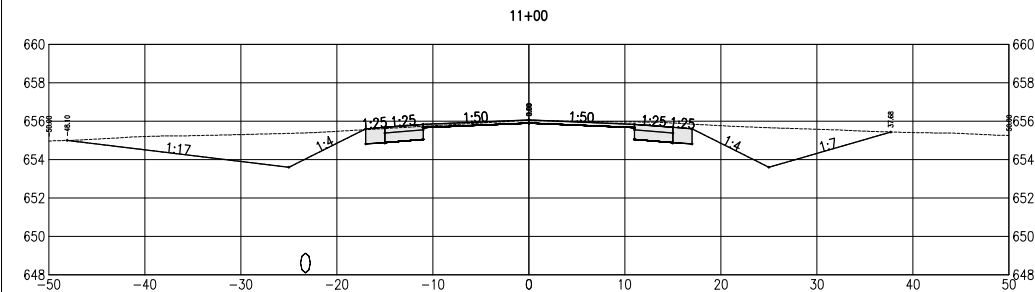
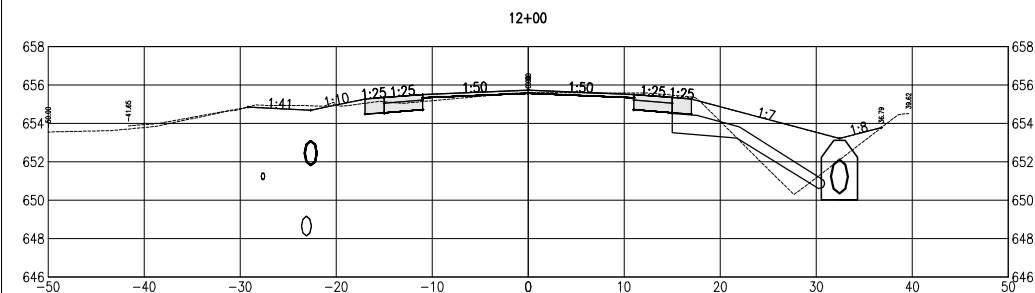
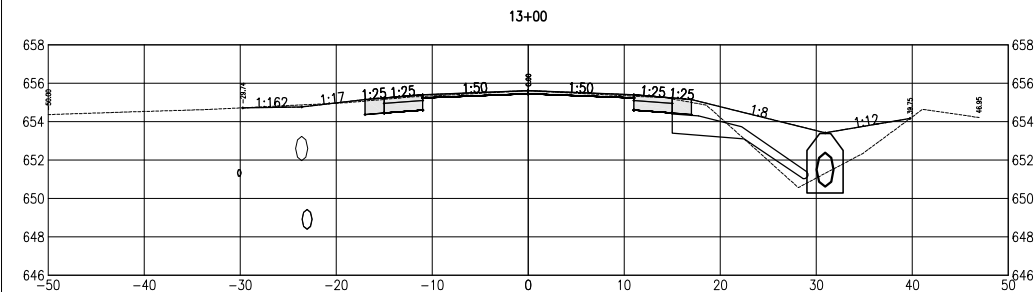
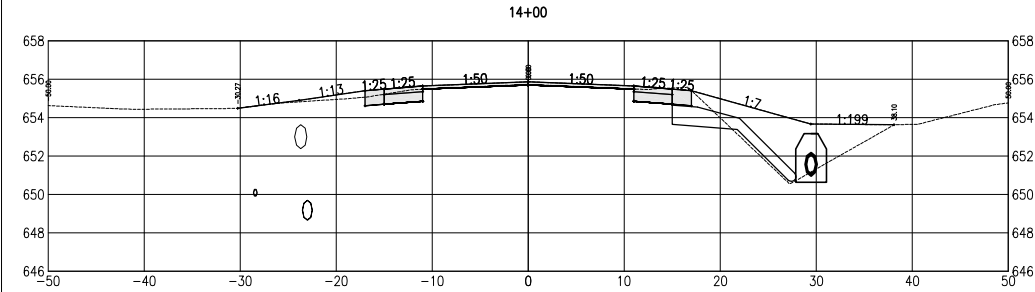
46

OF 57

MIDLAND COUNTY ROAD COMMISSION
EASTMAN ROAD SCRAP TIRE GRANT
LOG OF BORINGS 13-16

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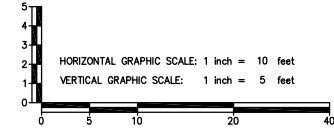
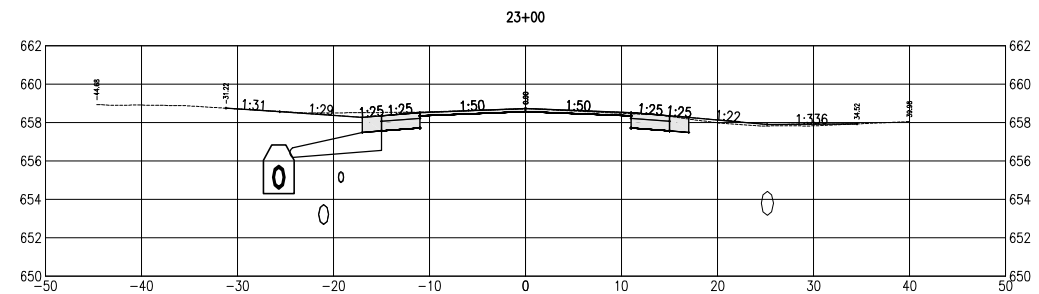
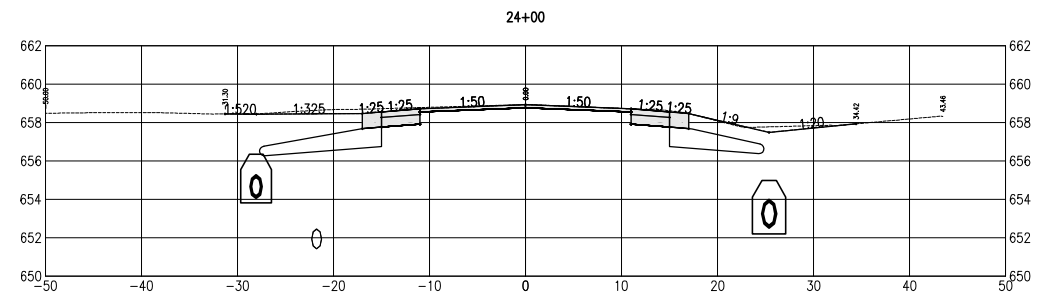
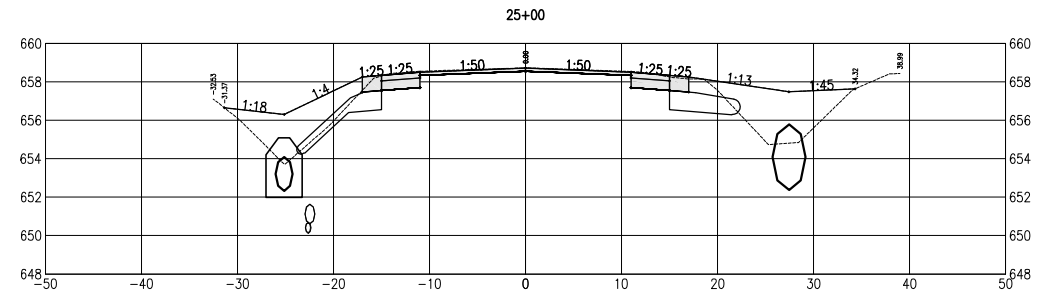
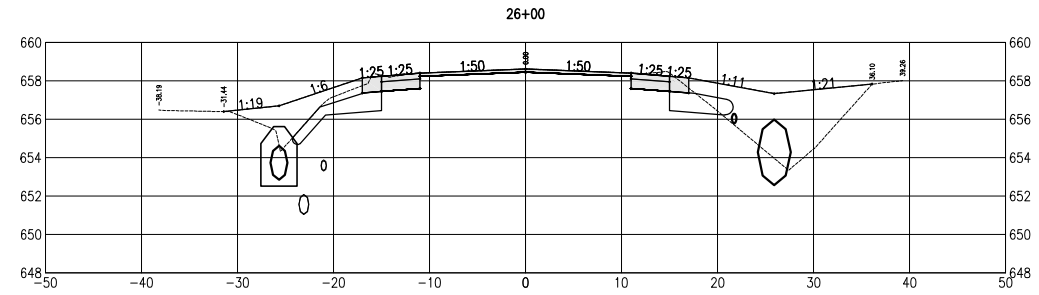
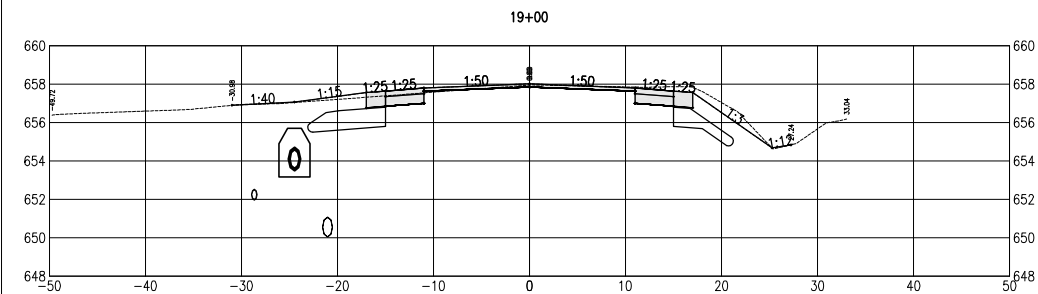
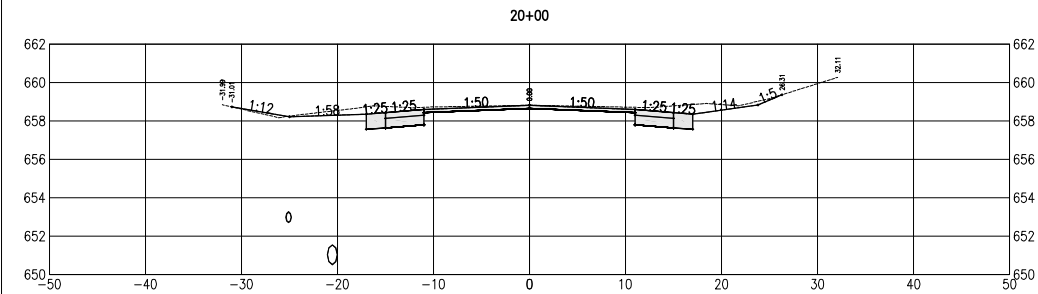
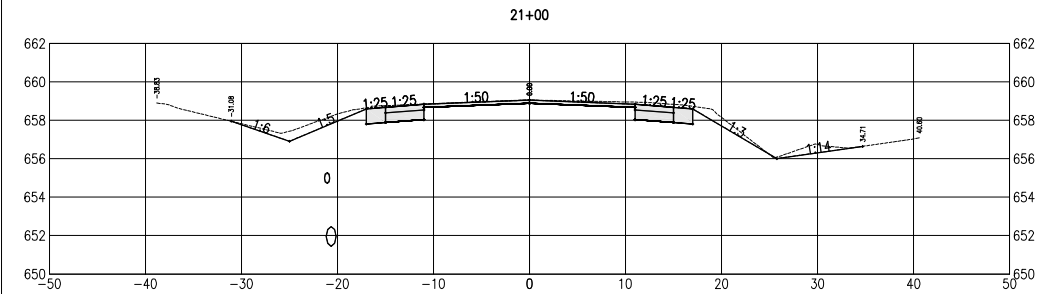
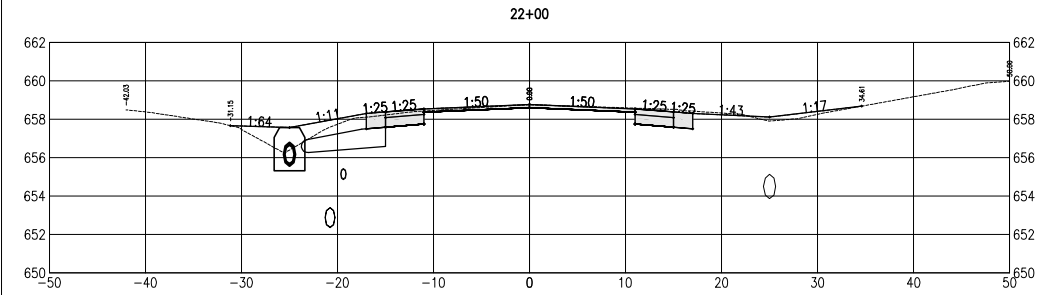
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
5/25/17	5025170120	CHM ADVISORS	JTK	SEH	MIDLAND	LARWIN CHARTER TWP.
MIDLAND COUNTY ROAD COMMISSION						
EASTMAN ROAD SCRAP TIRE GRANT						
CROSS SECTIONS (STA 11+00 - STA 18+00)						

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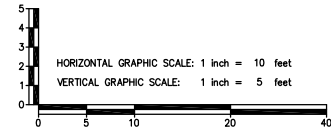
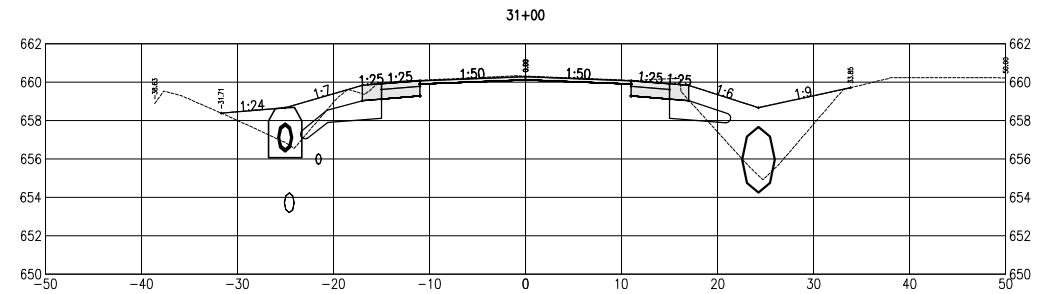
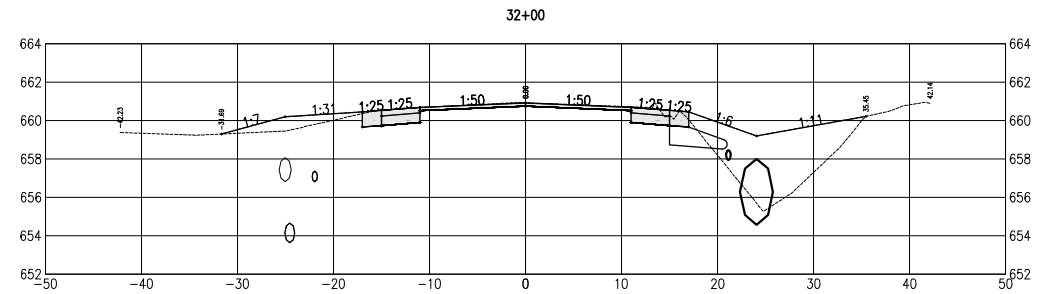
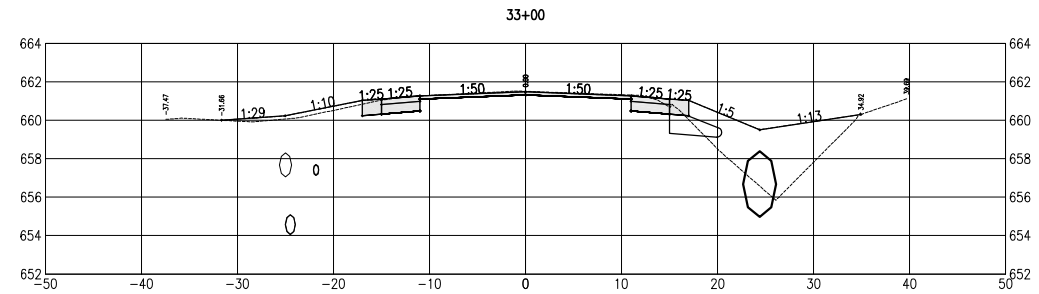
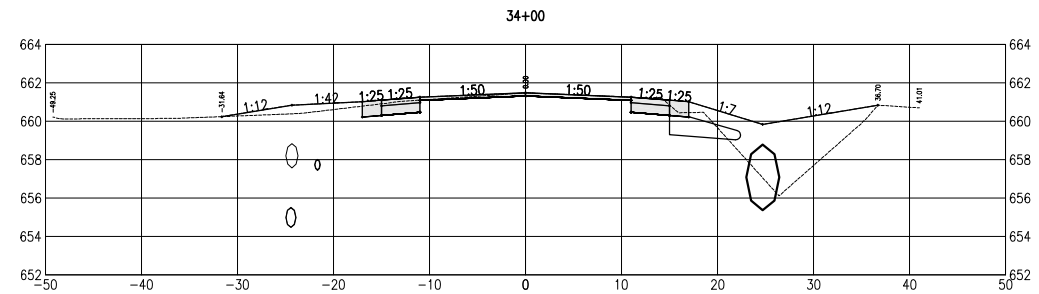
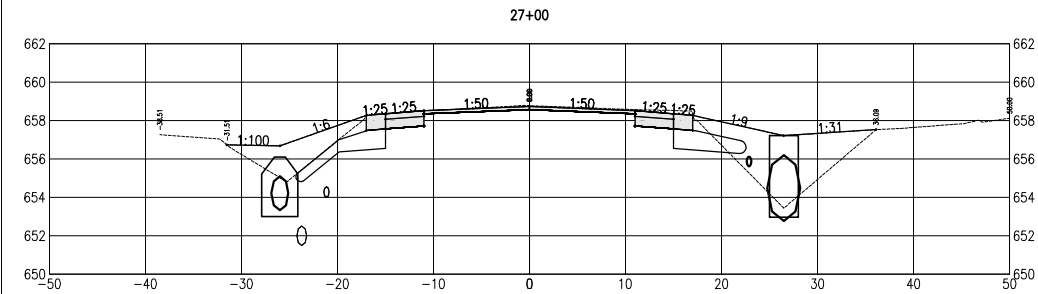
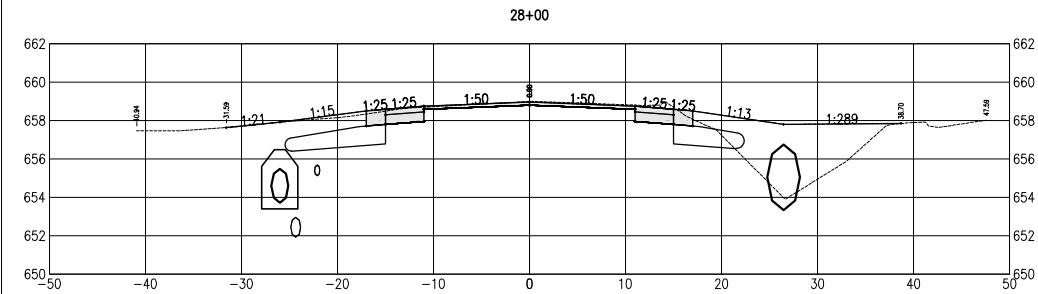
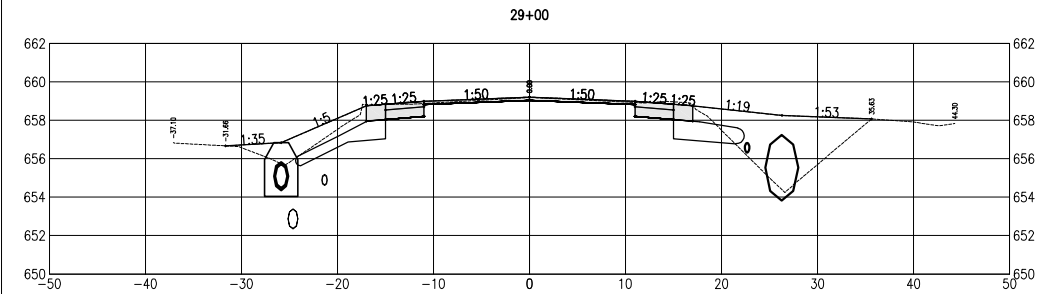
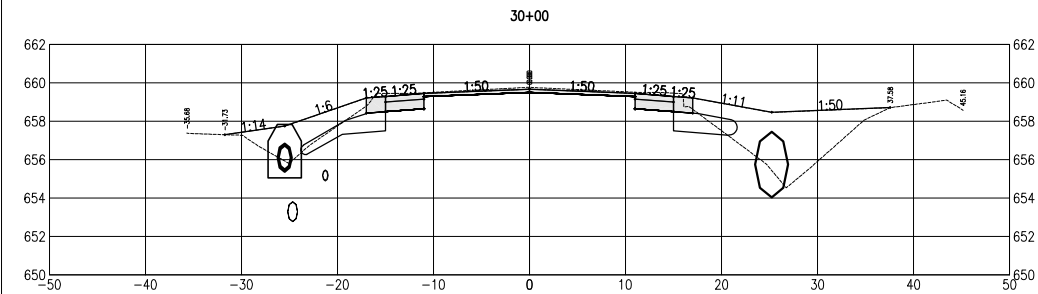
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3	12/21/2018	JTK	Final Design
4	12/21/2018	JTK	Final Design
5	12/21/2018	JTK	Final Design
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
5/25/17	5025170120	CHM	ADVISORS	JTK	MIDLAND	LARWIN CHARTER TWP.
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EASTMAN ROAD SCRAP TIRE GRANT						
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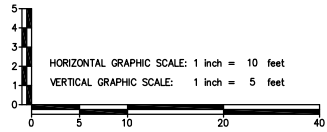
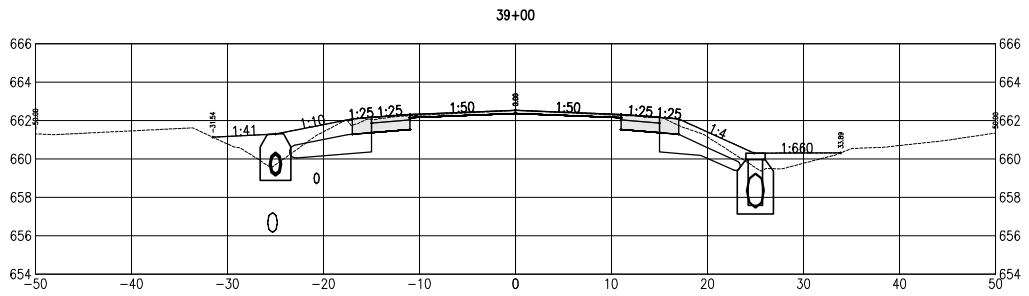
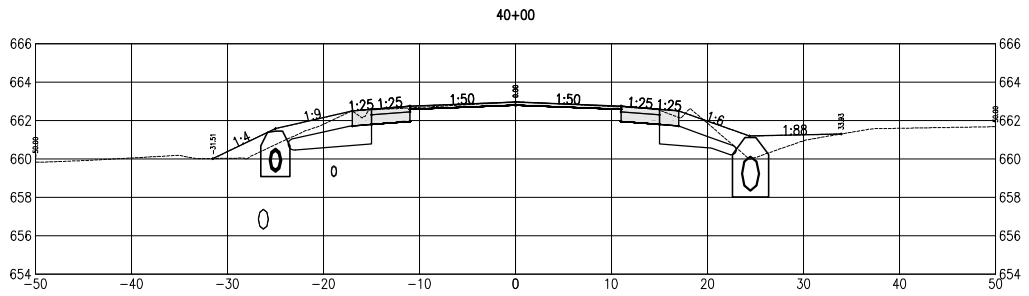
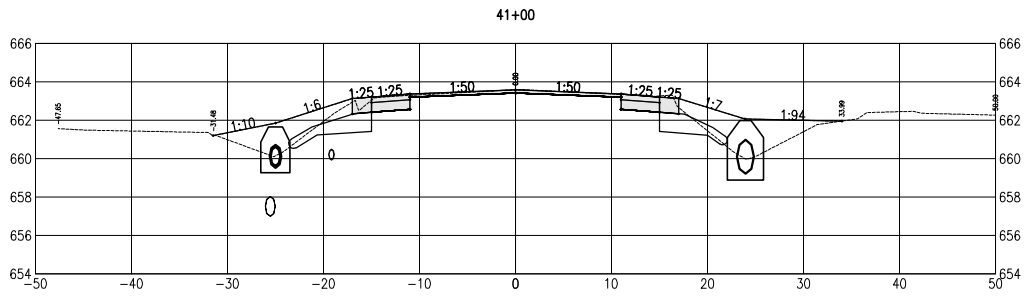
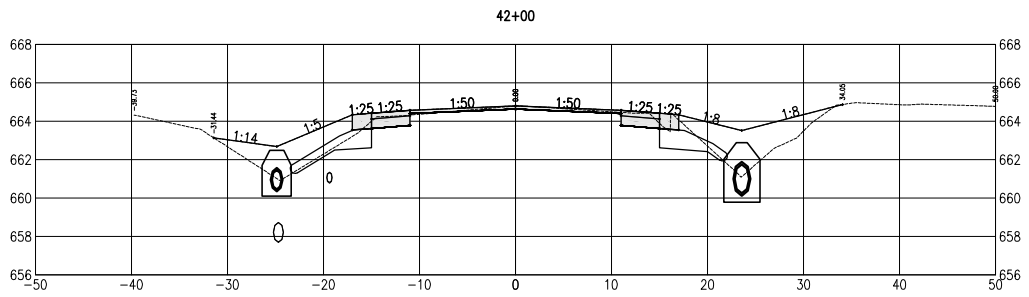
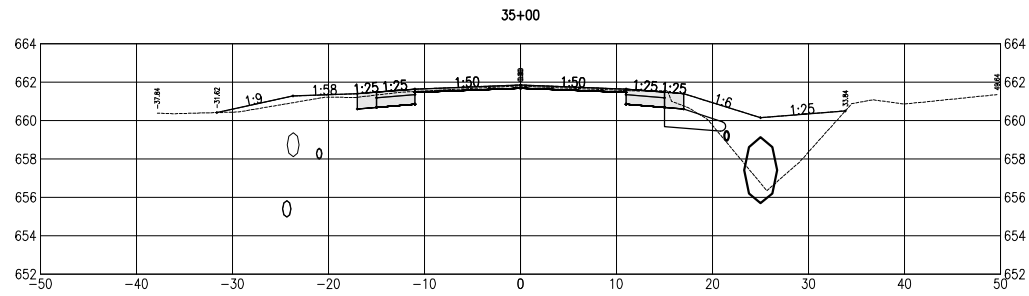
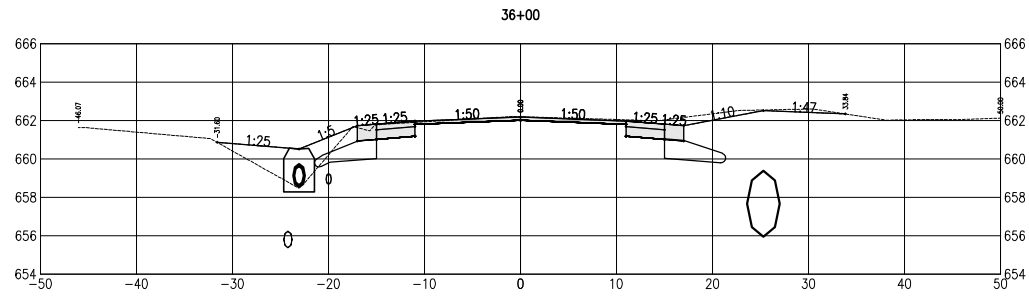
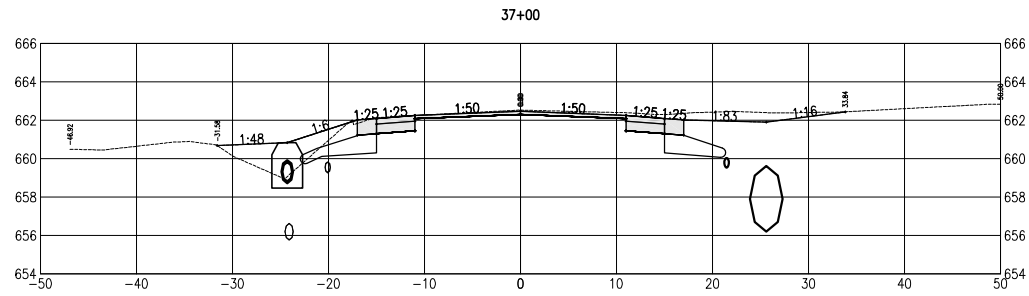
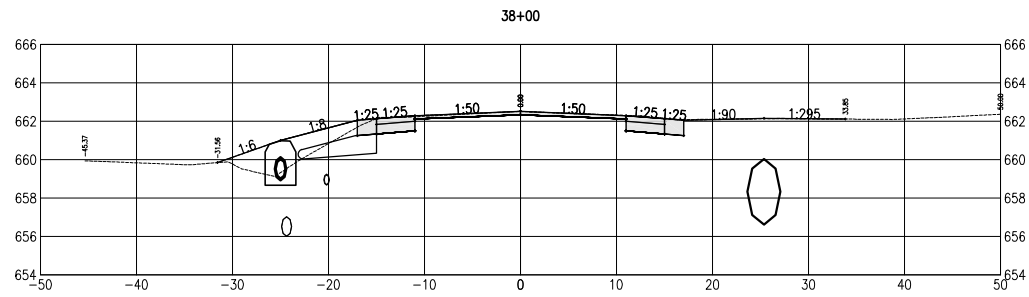
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3	12/21/2018	ISSUED FOR BIDDING
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8	12/21/2018	ISSUED FOR BIDDING
9	12/21/2018	ISSUED FOR BIDDING
10	12/21/2018	ISSUED FOR BIDDING

DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
5/25/17	5025170120	CHX	ADVISORS	JTK	MIDLAND	LARWIN CHARTER TWP.
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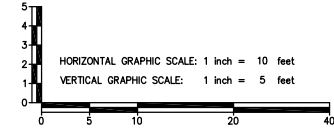
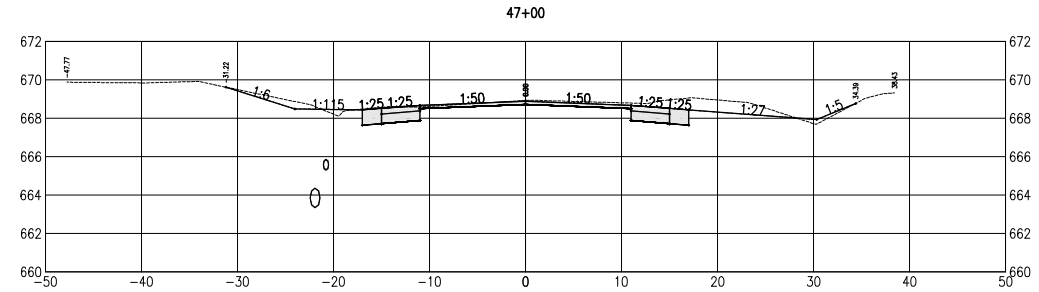
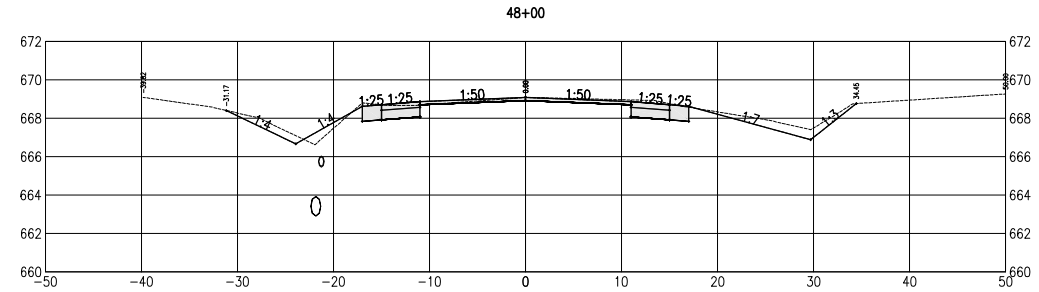
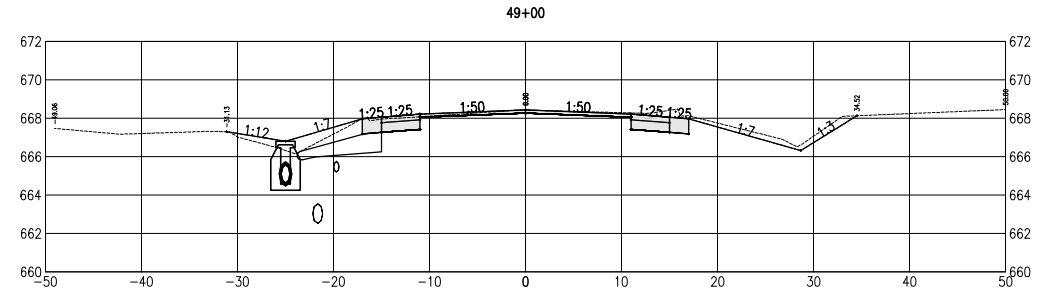
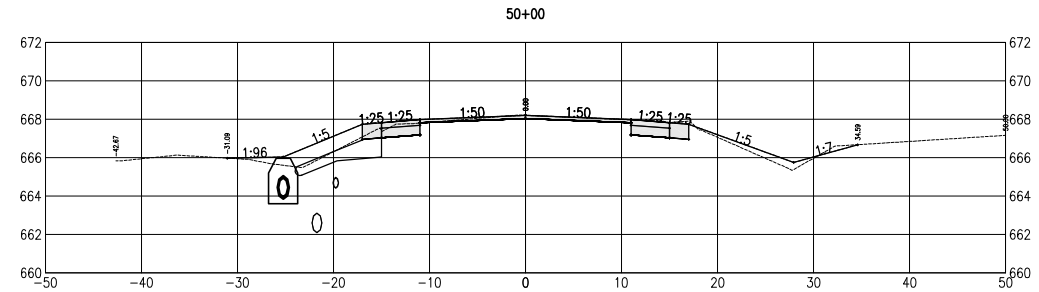
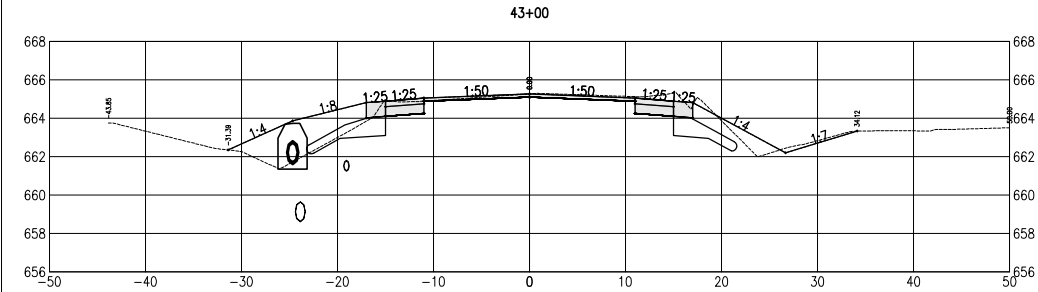
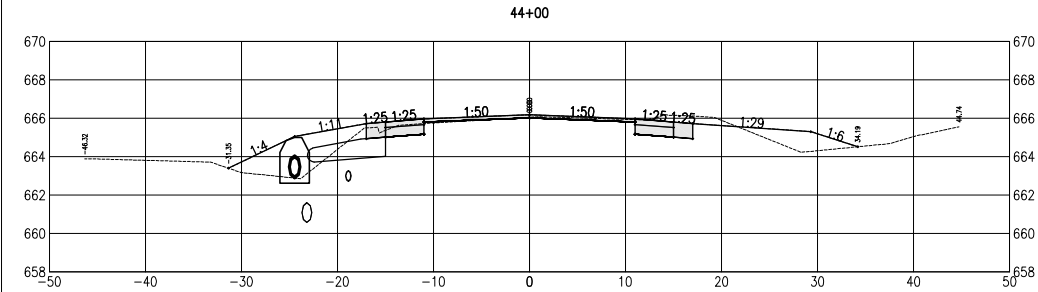
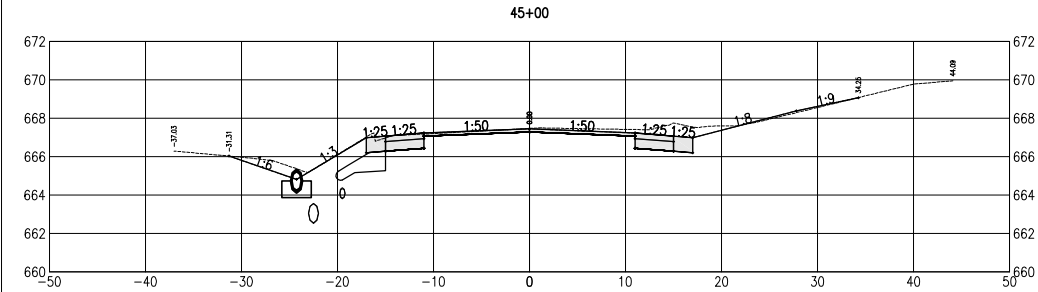
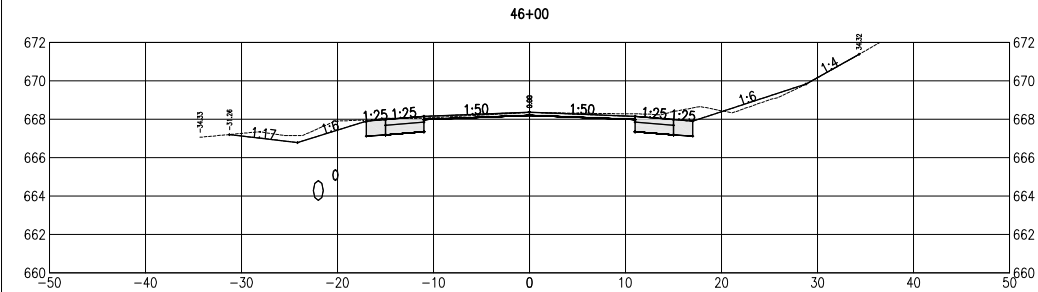


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CITY	COUNTY	CITY	COUNTY
JFK	SEH	JFK	SEH
MIDLAND COUNTY ROAD COMMISSION			
EASTMAN ROAD SCRAP TIRE GRANT			
CROSS SECTIONS (STA 35+00 - STA 42+00)			
LAWN CHARTER TWP.			
MUNICIPALITY			
REVISIONS:			
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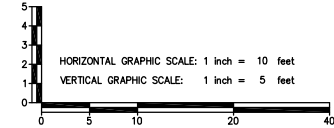
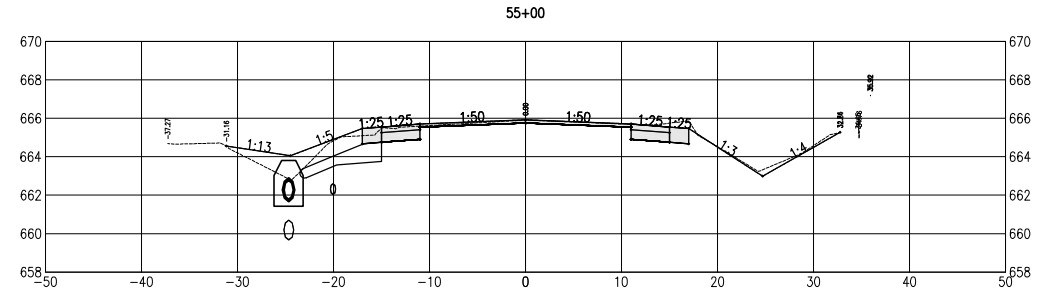
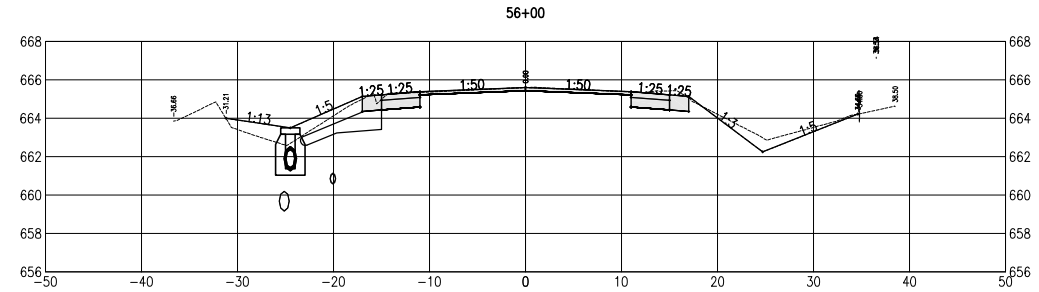
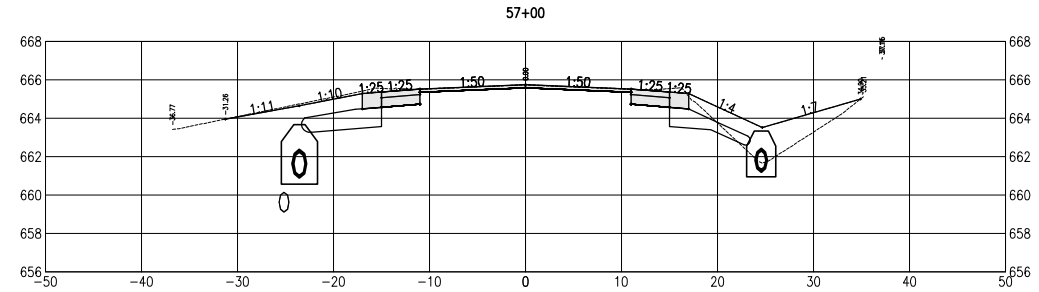
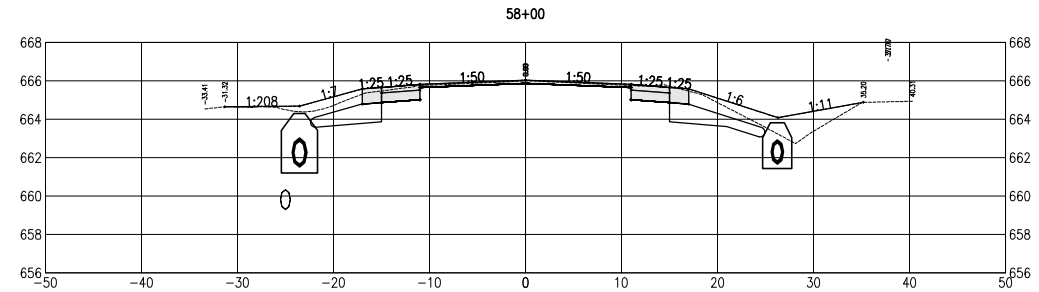
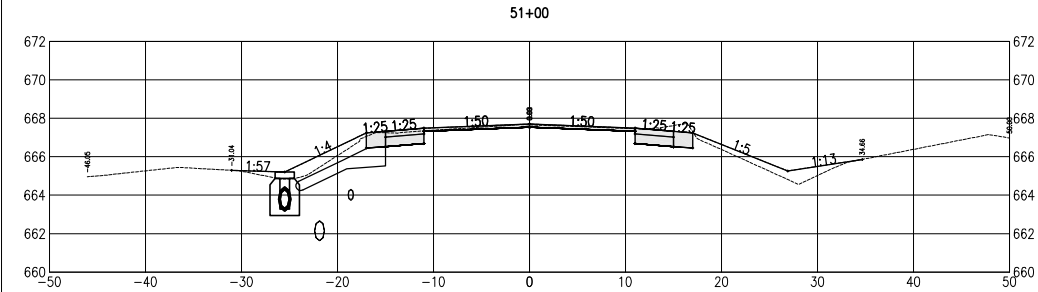
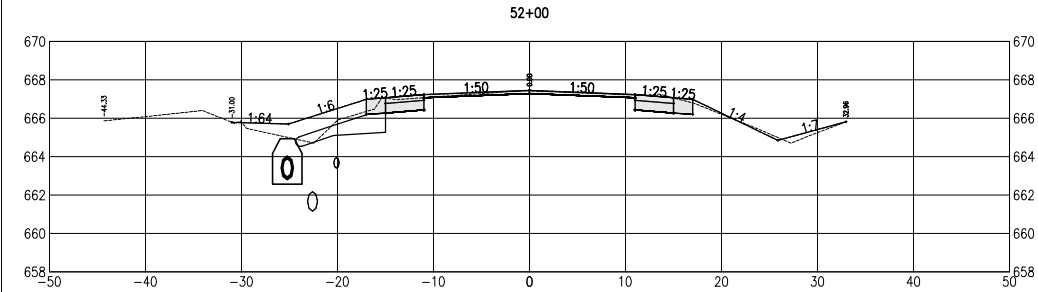
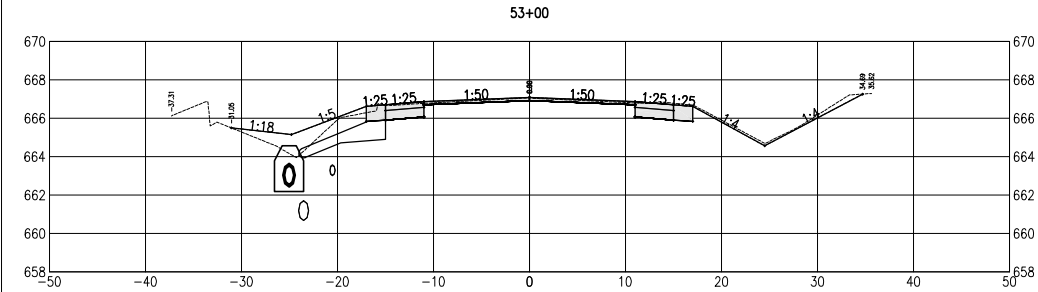
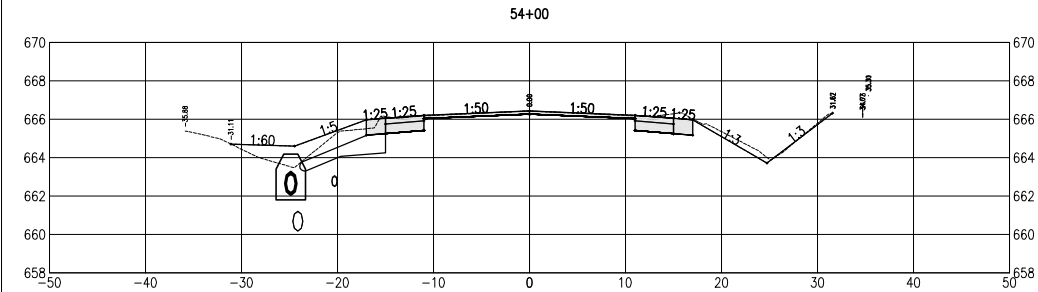
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2	12/21/2018	ISSUED FOR BIDDING
3	12/21/2018	ISSUED FOR BIDDING
4	12/21/2018	ISSUED FOR BIDDING
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9	12/21/2018	ISSUED FOR BIDDING
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
5/25/17	5025170120	CHM ADVISORS	JTK	SEH	MIDLAND	LARWIN CHARTER TWP.
MIDLAND COUNTY ROAD COMMISSION						
EASTMAN ROAD SCRAP TIRE GRANT						
CROSS SECTIONS (STA 43+00 - STA 50+00)						

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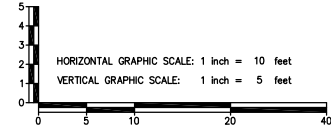
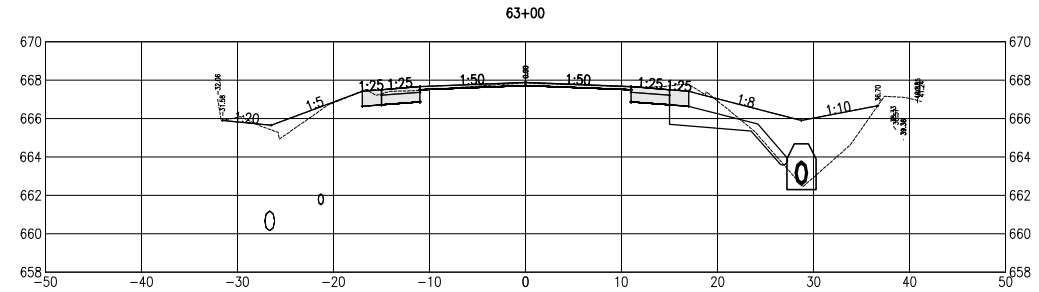
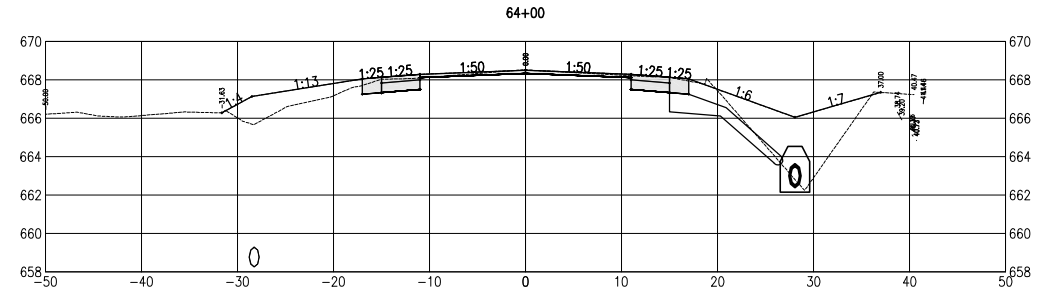
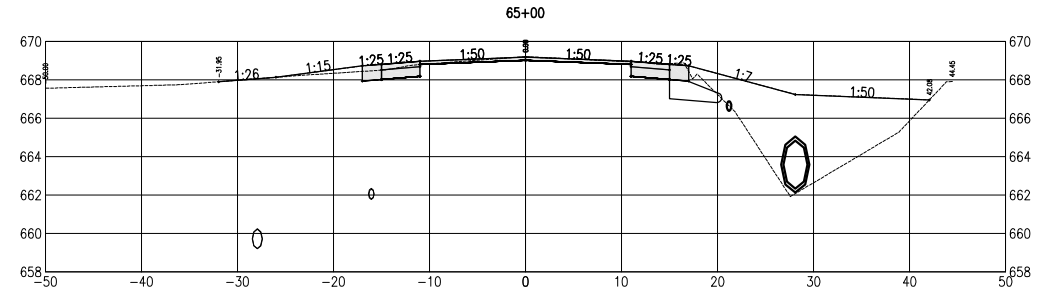
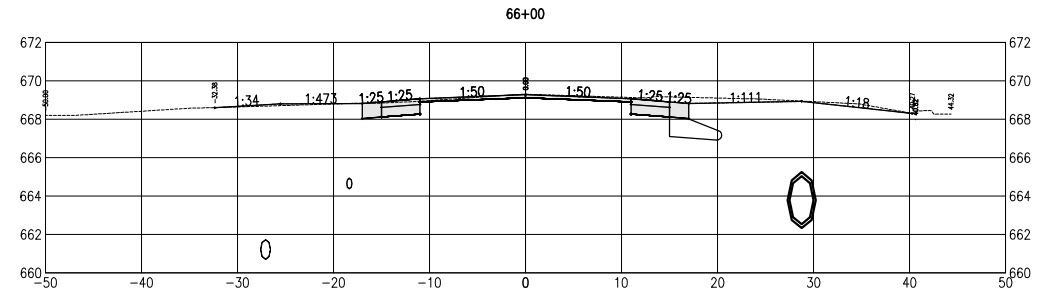
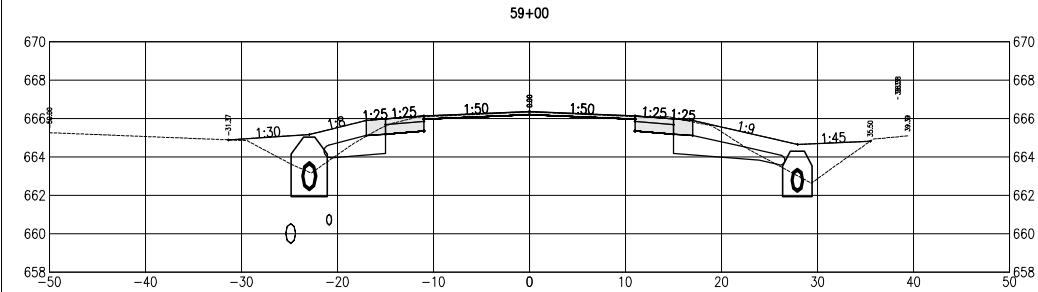
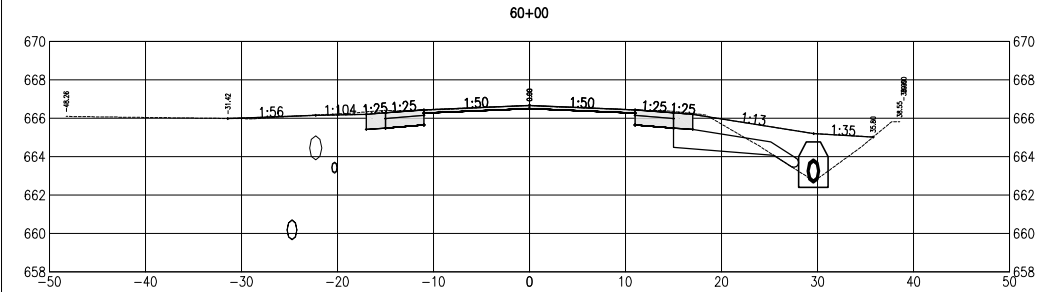
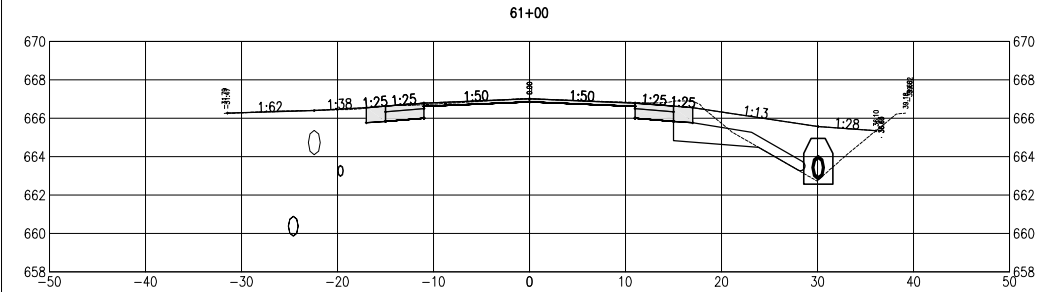
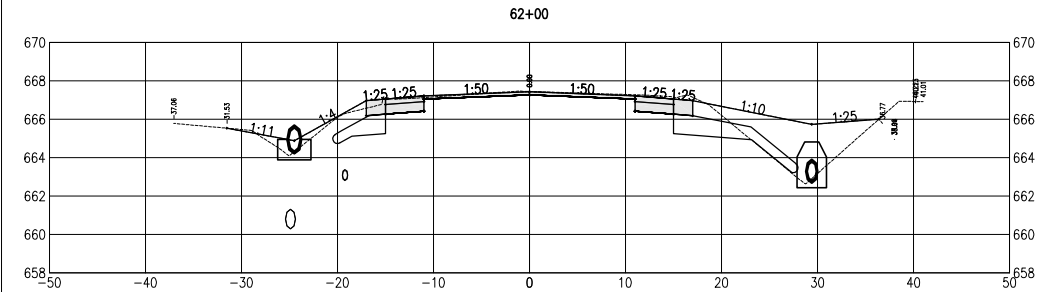
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DATE	PROJ NUMBER	ENG	PROJ MGR	CADD	COUNTY	MUNICIPALITY
5/25/17	5025170120	CHX	ADVISORS	JTK	MIDLAND	LARWIN CHARTER TWP.
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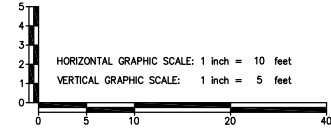
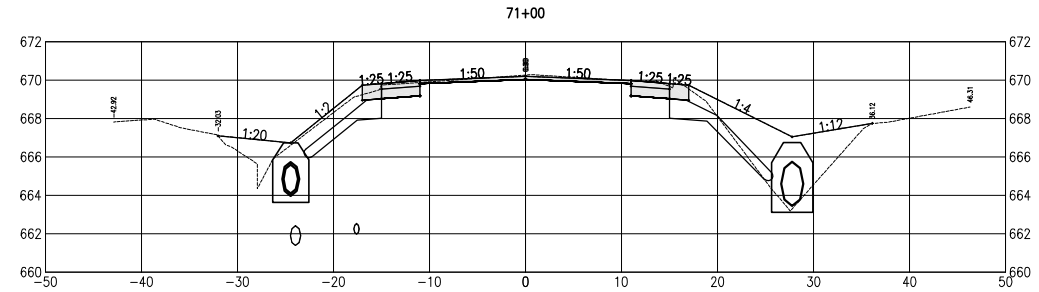
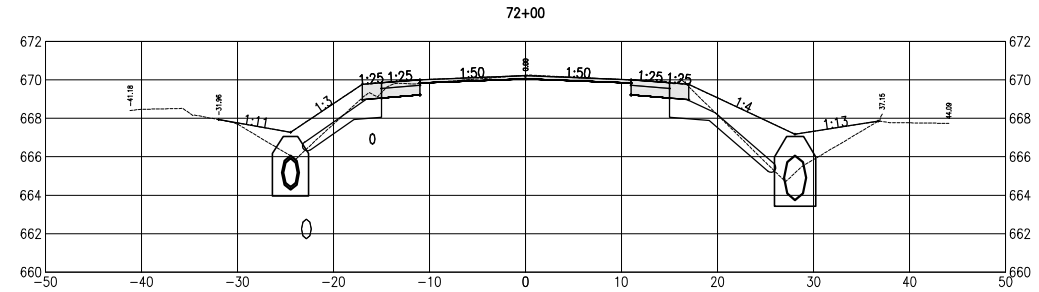
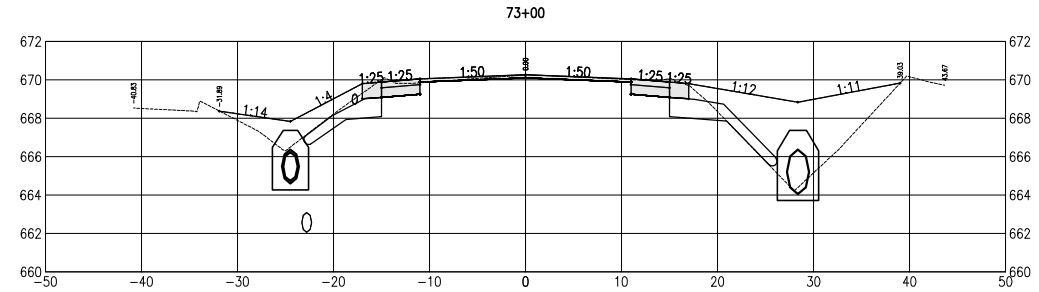
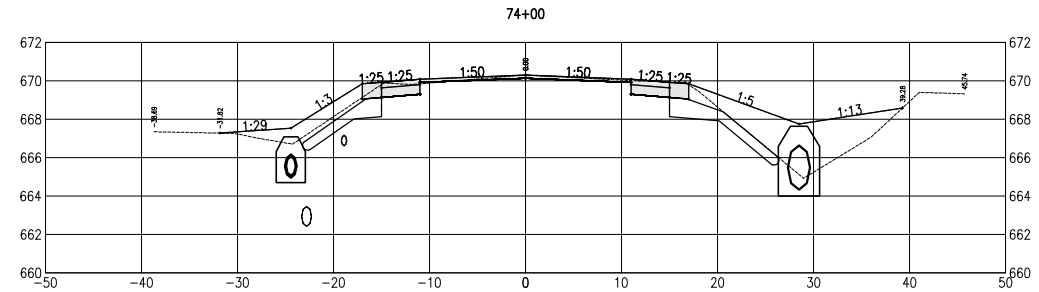
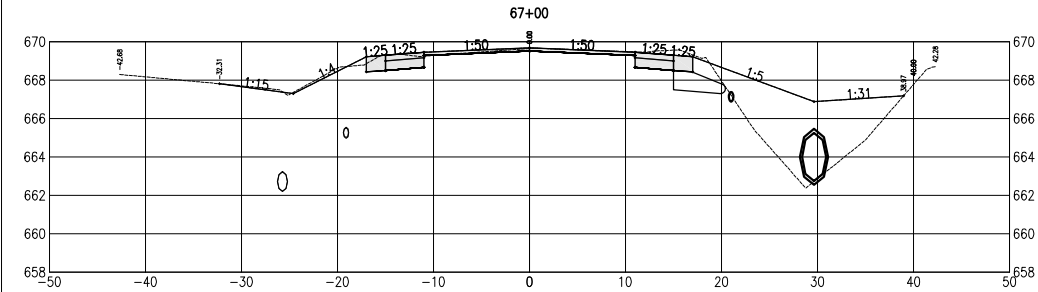
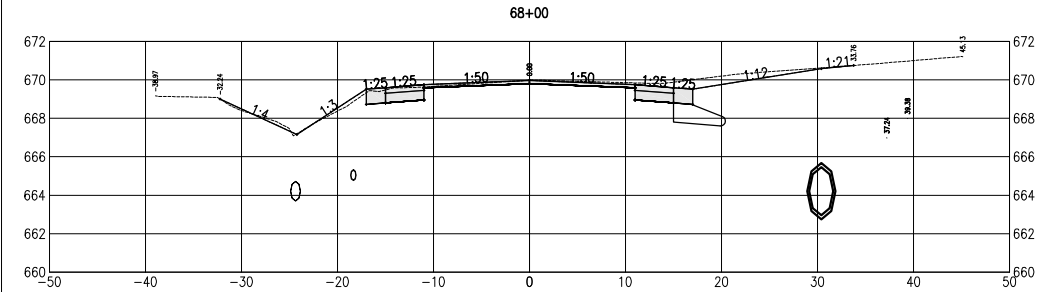
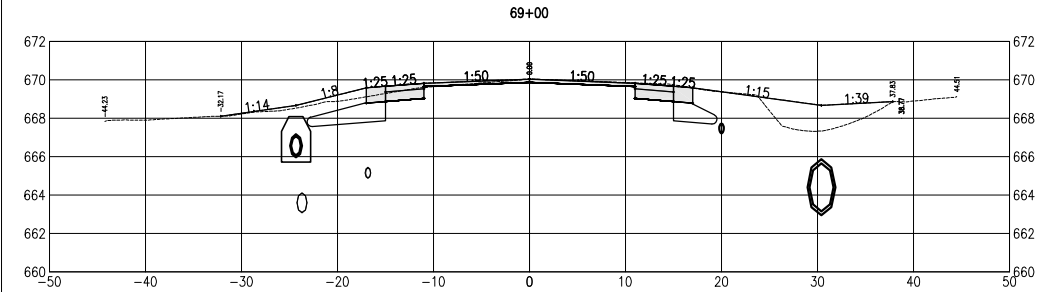
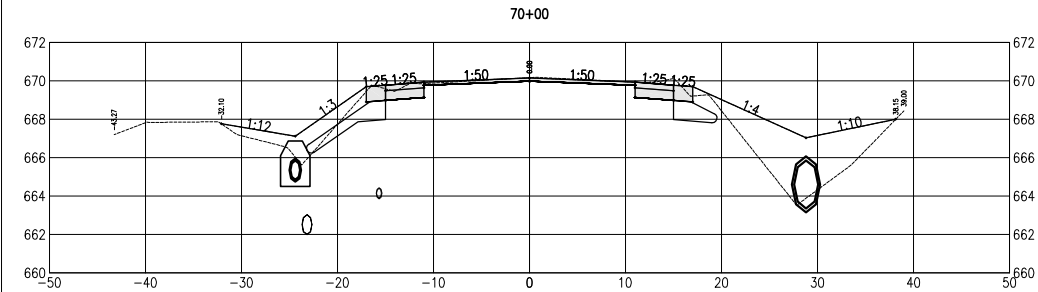
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10	12/21/2018	170120XSEC

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5/25/17	5025	JTK	JTK	SEH	MIDLAND	LARWIN CHARTER TWP.
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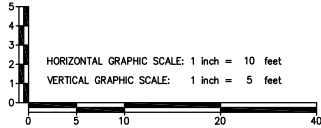
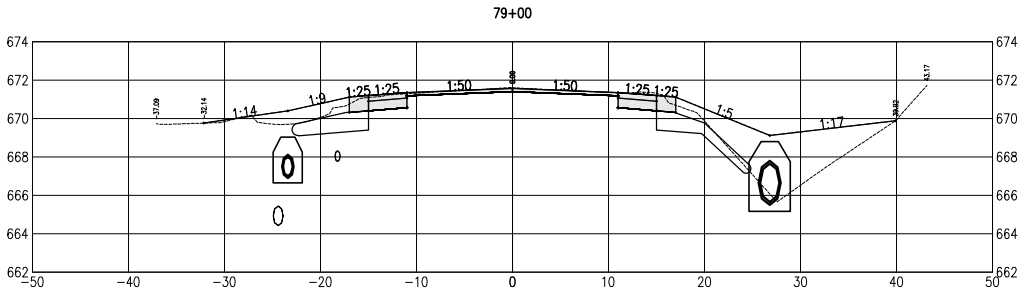
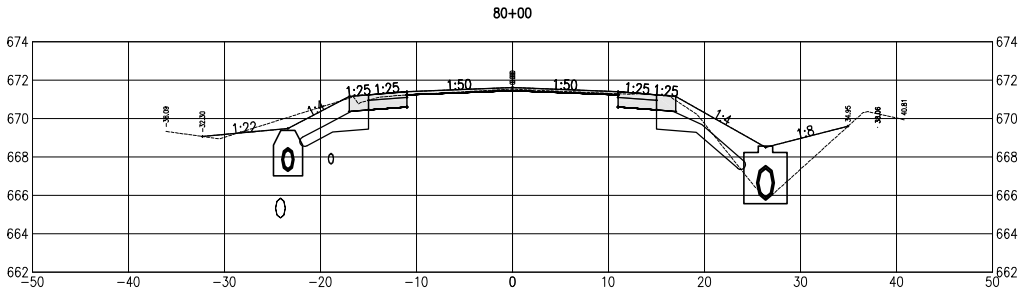
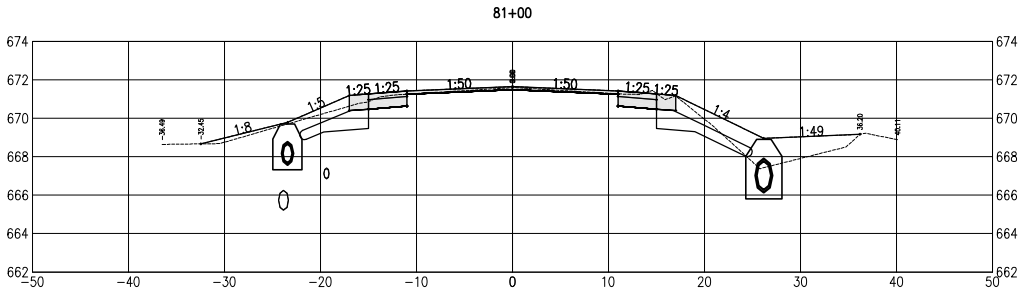
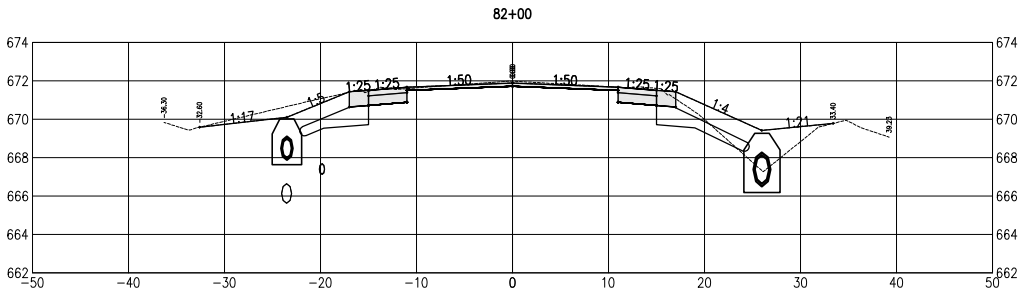
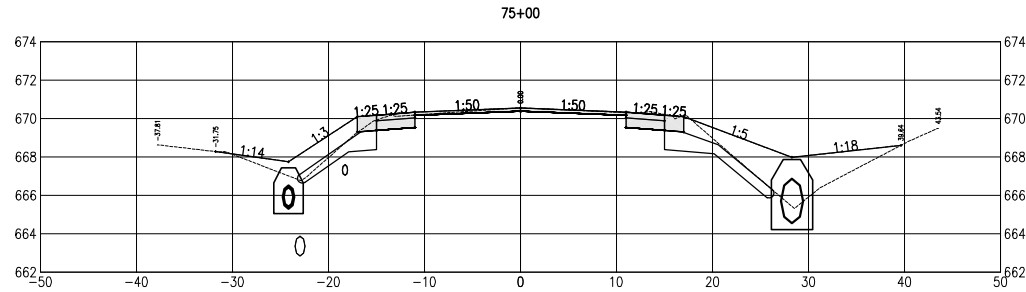
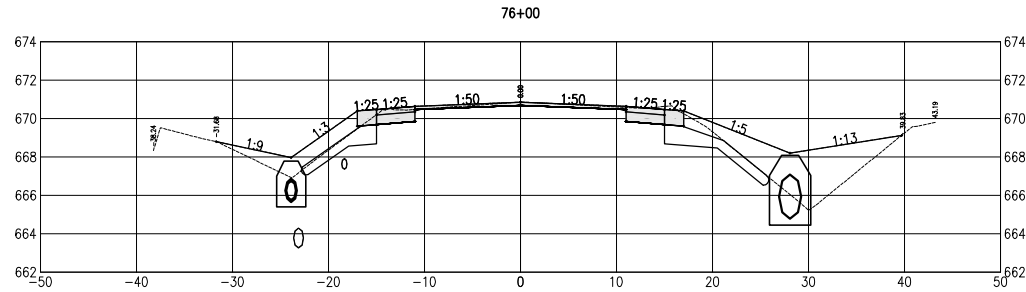
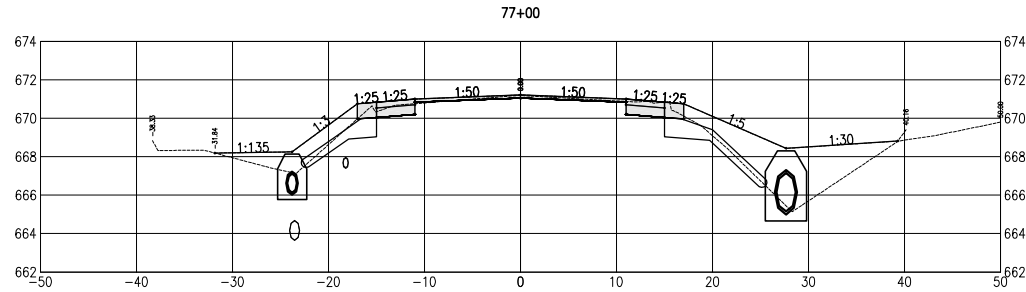
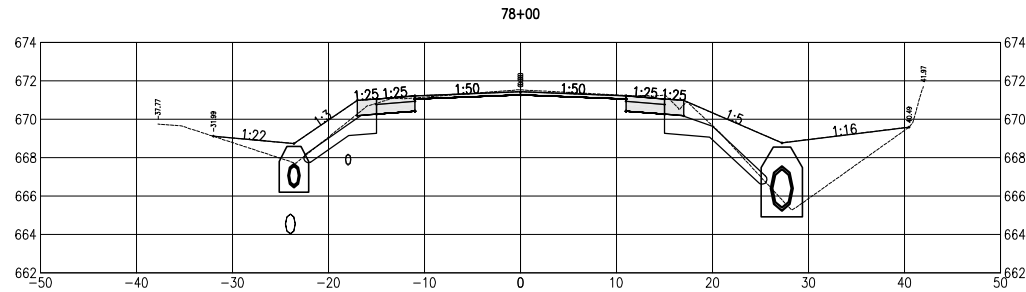
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5/25/17	5025170120	CHX	ADVISORS	SEH	MIDLAND	LARWIN CHARTER TWP.
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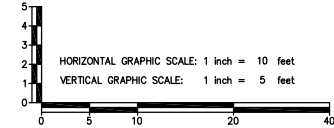
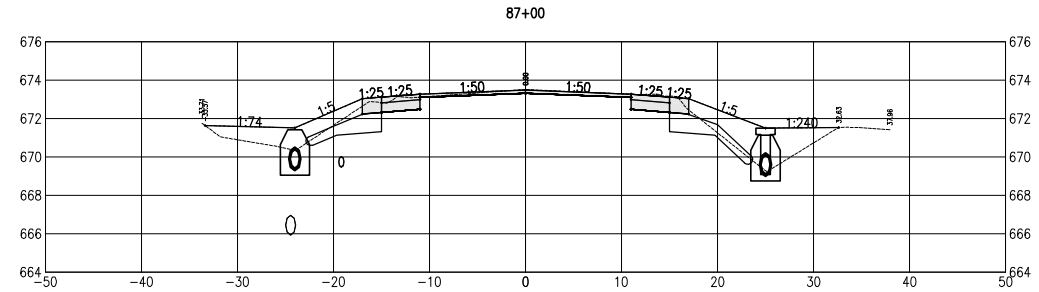
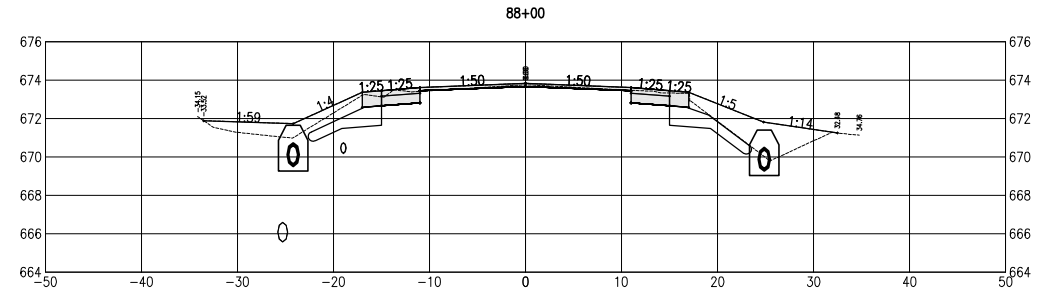
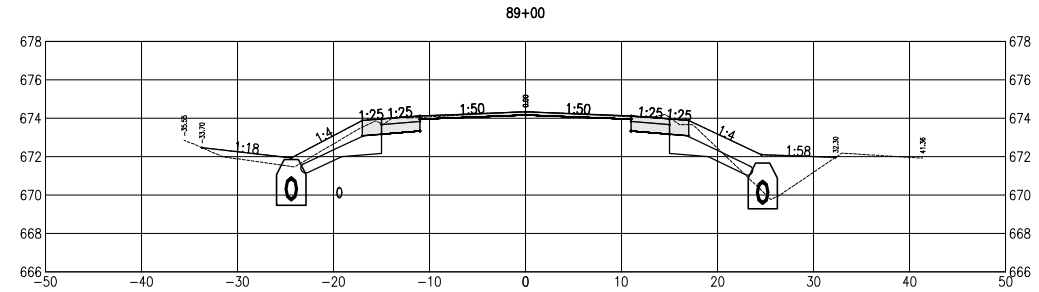
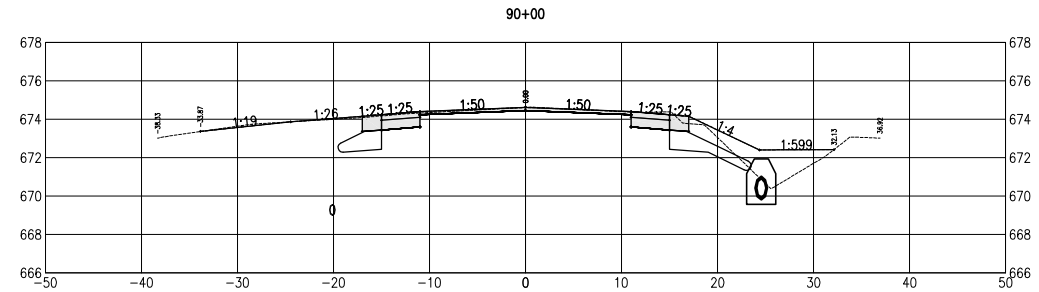
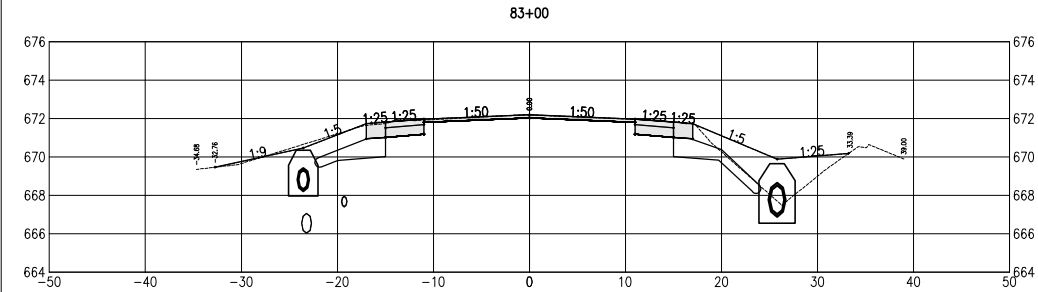
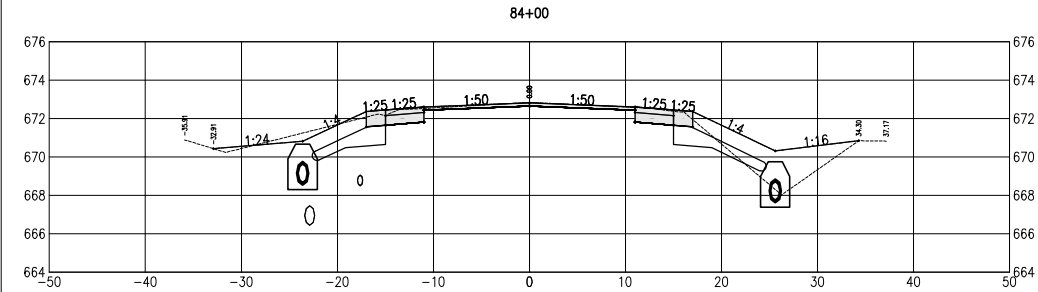
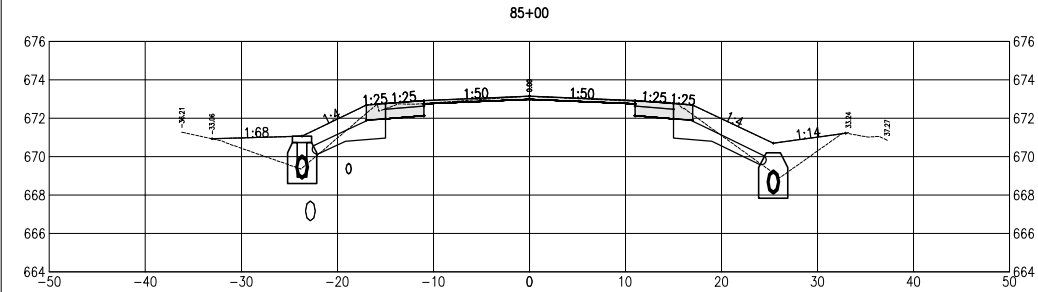
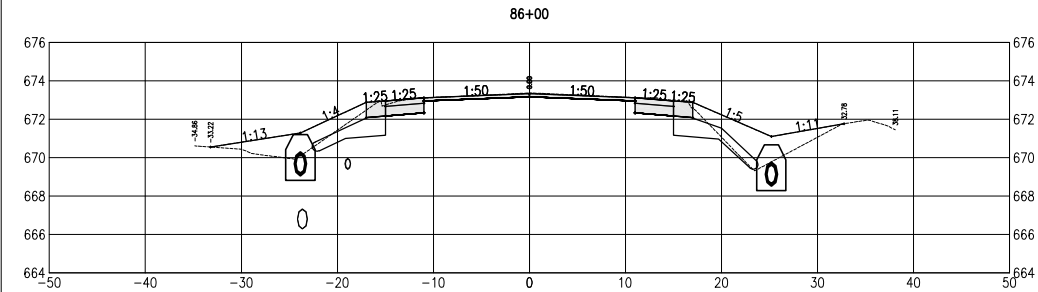
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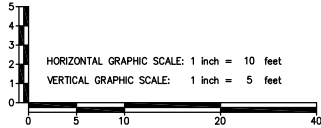
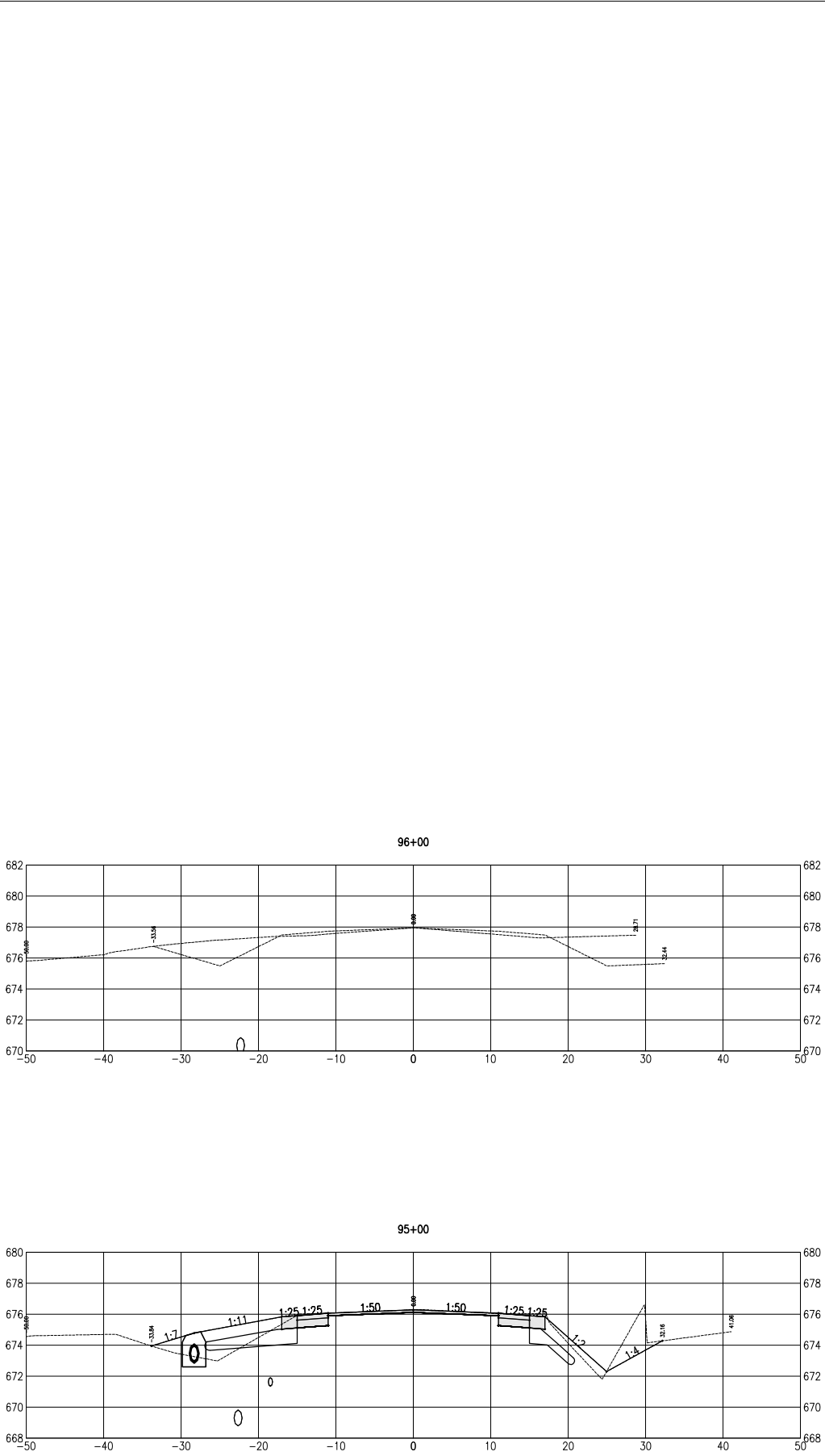
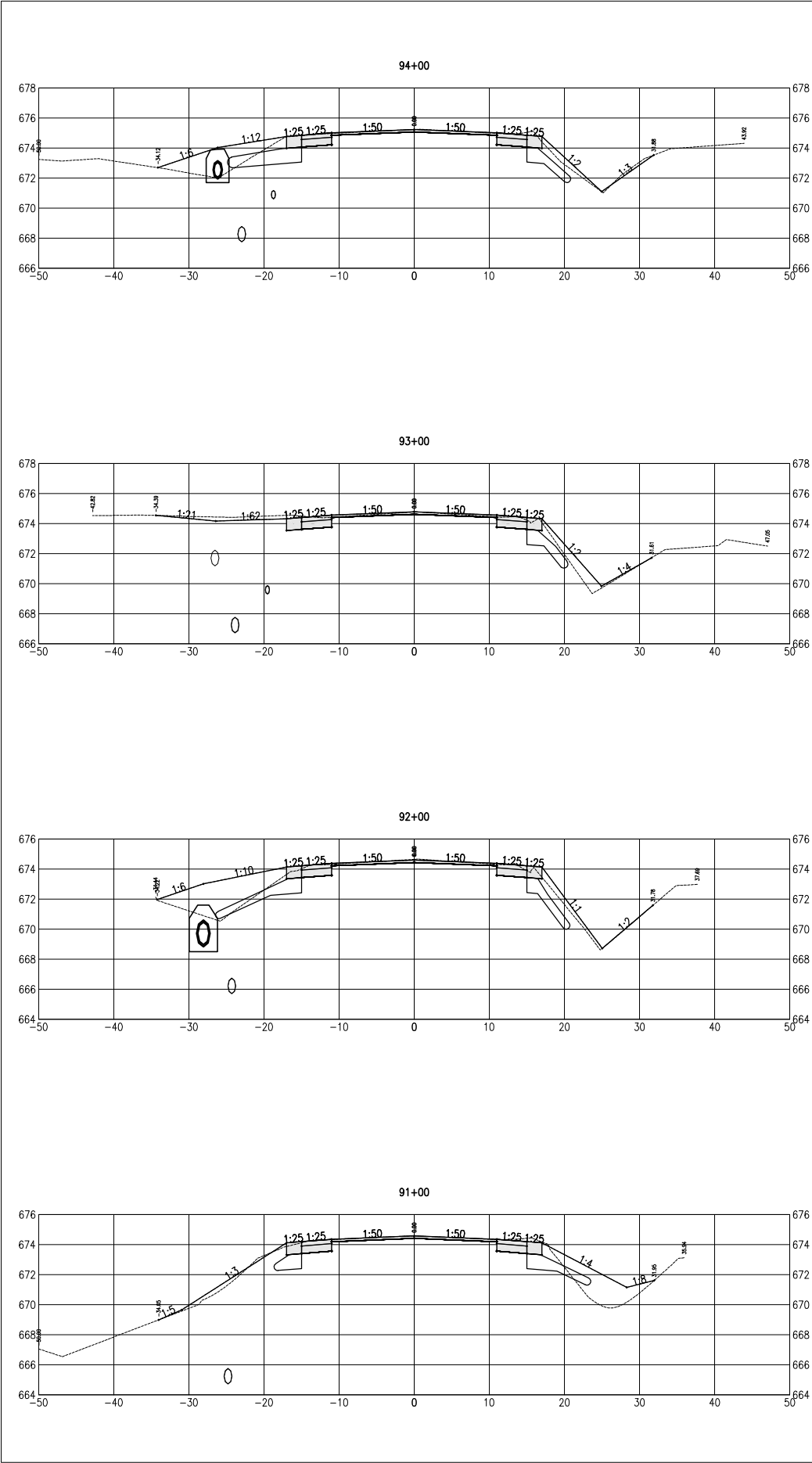
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