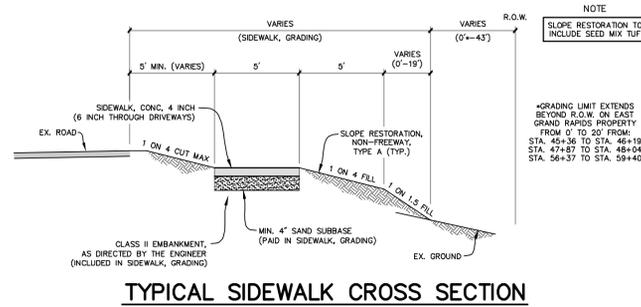
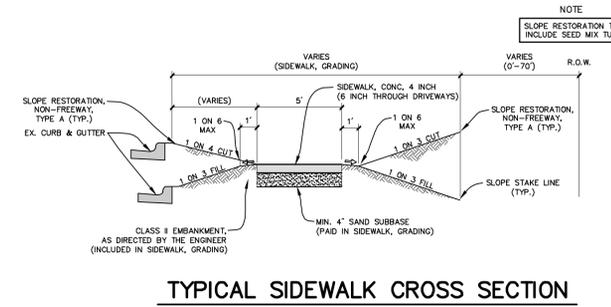


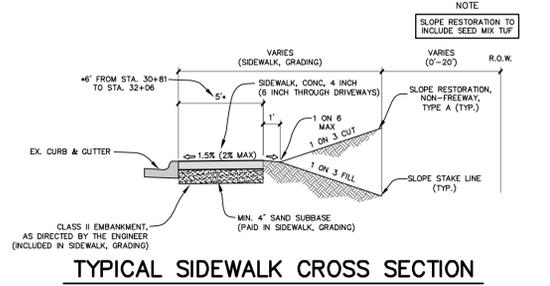
**TYPICAL SIDEWALK CROSS SECTION**  
 STA. 10+12 (P.O.B.) TO 23+39  
 STA. 25+67 TO 30+81  
 STA. 33+83 TO 45+36  
 STA. 51+79 TO 54+50  
 STA. 59+40 TO 61+39  
 SCALE : 1" = 5'



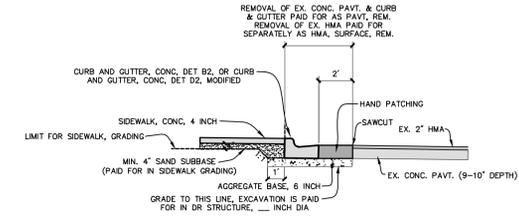
**TYPICAL SIDEWALK CROSS SECTION**  
 STA. 45+36 TO 51+79  
 STA. 54+50 TO 59+40  
 SCALE : 1" = 5'



**TYPICAL SIDEWALK CROSS SECTION**  
 STA. 23+39 TO 25+67  
 STA. 32+06 TO 33+83  
 STA. 61+95 TO 67+81  
 STA. 69+04 TO 69+46  
 STA. 76+95 TO 78+96  
 STA. 90+97 TO 92+86  
 STA. 95+23 TO 96+80  
 STA. 102+46 TO 104+29 (P.O.E.)  
 SCALE : 1" = 5'



**TYPICAL SIDEWALK CROSS SECTION**  
 STA. 30+81 TO 32+06  
 STA. 67+81 TO 69+04  
 STA. 70+09 TO 76+95  
 STA. 78+96 TO 90+97  
 STA. 92+86 TO 95+23  
 STA. 96+80 TO 98+50  
 STA. 99+91 TO 102+46  
 SCALE : 1" = 5'



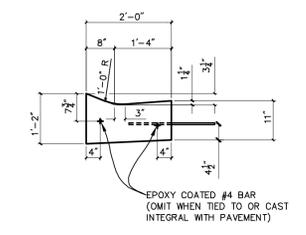
**CASCADE ROAD: CURB & GUTTER REPLACEMENT  
 DETAIL FOR DRAINAGE IMPROVEMENTS**

STA. 73+35 TO 73+65  
 STA. 82+30 TO 82+80  
 STA. 84+79 TO 85+06  
 STA. 89+14 TO 89+37  
 STA. 91+22 TO 91+42  
 STA. 92+41 TO 92+66  
 STA. 102+47 TO 102+62  
 SCALE : 1" = 5'

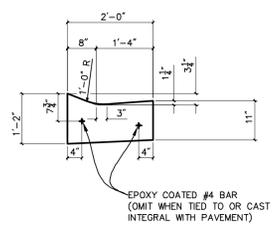
**HMA APPLICATION TABLE**

ITEM	RATE (PER SYD.)	PERFORMANCE GRADE	REMARKS	APPLICATION
HMA APPROACH	165 LB	58-28	13A BASE COURSE	DRIVEWAYS
HMA APPROACH	165 LB	58-28	13A TOP COURSE (AM-220 MN)	DRIVEWAYS
HMA APPROACH	165 LB	58-28	13A BASE COURSE	SIDE STREET APPROACHES
HMA APPROACH	165 LB	58-28	13A TOP COURSE (AM-220 MN)	SIDE STREET APPROACHES
HAND PATCHING	1210 LB	58-28	13A, 275 LBS PER SYD MAX. LIFT	HAND PATCHING

NOTE : BOND COAT MATERIAL SHALL BE APPLIED BETWEEN SUCCESSIVE COURSES OF HMA AT A RATE OF 0.09 GALLONS PER SQUARE YARD.



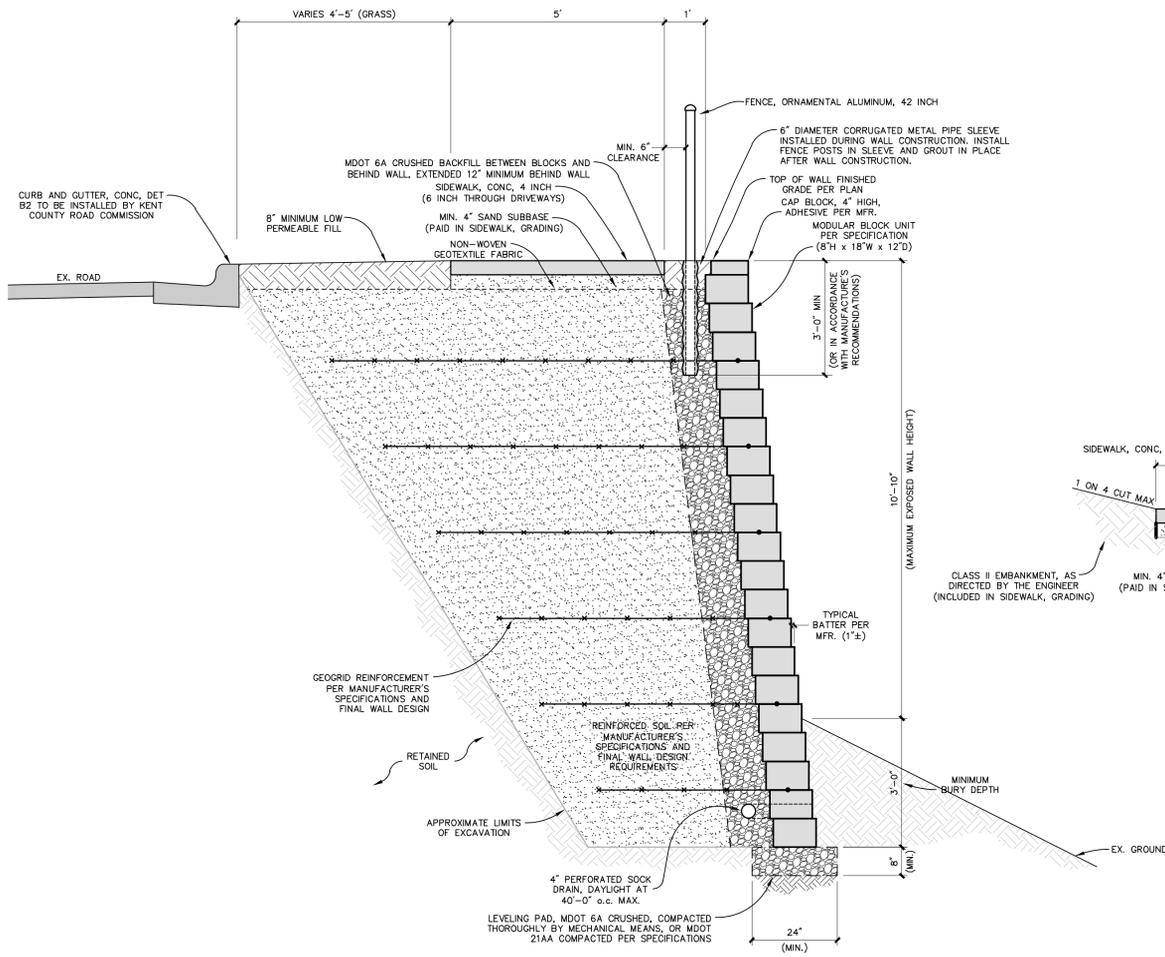
**CURB AND GUTTER, CONC, DET D1,  
 MODIFIED**  
 SCALE : NONE



**CURB AND GUTTER, CONC, DET D2,  
 MODIFIED**  
 SCALE : NONE

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NO.	REVISIONS	BY	DATE	DRAWN	J.D.E.		CITY OF EAST GRAND RAPIDS KENT COUNTY, MICHIGAN  SIDEWALK & PATHWAY IMPROVEMENTS  <b>DETAILS</b>	PROJECT NO. 2220701
				DATE	MARCH '24			SHEET NO.
				CHECKED	S.T.P.			2 OF 15
				DATE	MARCH '24			



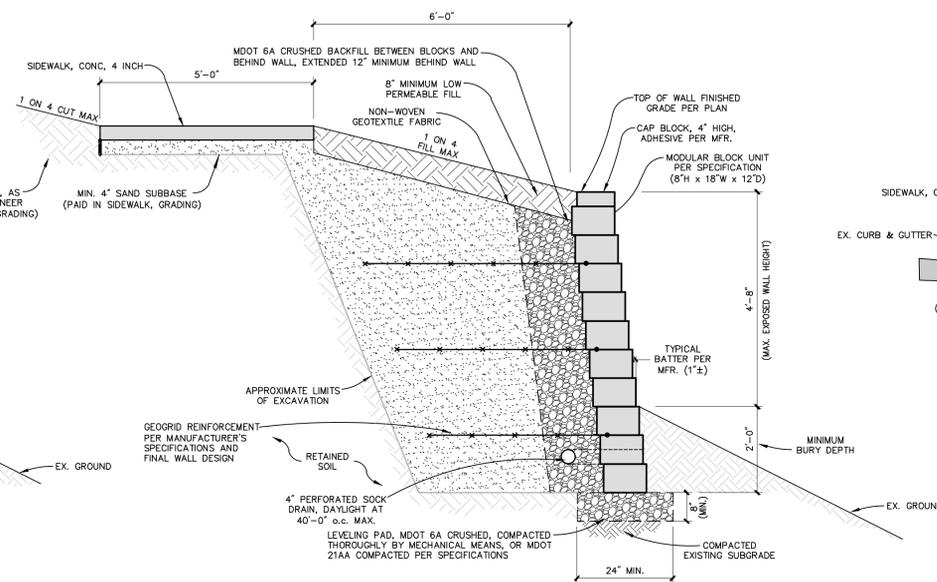
**MODULAR BLOCK RETAINING WALL,  
SMALL BLOCK**

STA. 25+59 TO STA. 27+91

SCALE : NONE

**NOTES**

1. CONTRACTOR SHALL SUBMIT CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALL SYSTEM PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN THAT BEAR HIS OR HER SIGNATURE AND SEAL. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
2. SEE PLANS FOR WALL LOCATIONS, LENGTHS, AND HEIGHTS.
3. INSTALL FENCE/RAILING BEHIND WALL WHERE SHOWN ON PLAN. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION BEHIND WALL.
4. LIMIT STEPS IN BASE AND TOP OF WALL TO EIGHT (8) INCHES. SPACE STEPS PER MANUFACTURER'S RECOMMENDATIONS.
5. WALL DESIGN SHALL INCLUDE TOP AND BOTTOM OF WALL FINISHED GRADE CONDITIONS INCLUDING SURCHARGE OR SLOPING SOIL WHERE OCCURS.



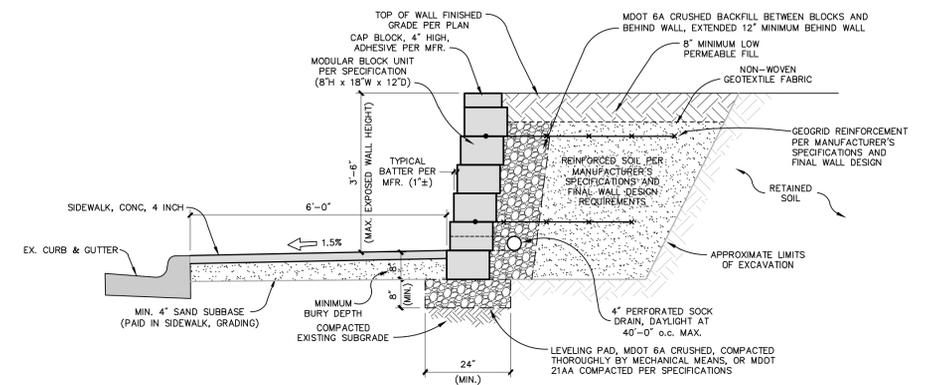
**MODULAR BLOCK RETAINING WALL,  
SMALL BLOCK**

STA. 48+74 TO 49+26

SCALE : NONE

**NOTES**

1. CONTRACTOR SHALL SUBMIT CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALL SYSTEM PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN THAT BEAR HIS OR HER SIGNATURE AND SEAL. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
2. SEE PLANS FOR WALL LOCATIONS, LENGTHS, AND HEIGHTS.
3. LIMIT STEPS IN BASE AND TOP OF WALL TO EIGHT (8) INCHES. SPACE STEPS PER MANUFACTURER'S RECOMMENDATIONS.
4. WALL DESIGN SHALL INCLUDE TOP AND BOTTOM OF WALL FINISHED GRADE CONDITIONS INCLUDING SURCHARGE OR SLOPING SOIL WHERE OCCURS.



**MODULAR BLOCK RETAINING WALL,  
SMALL BLOCK**

STA. 30+59 TO 32+01

SCALE : NONE

**NOTES**

1. CONTRACTOR SHALL SUBMIT CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALL SYSTEM PREPARED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF MICHIGAN THAT BEAR HIS OR HER SIGNATURE AND SEAL. THE CONTRACTOR SHALL SUBMIT THE CONSTRUCTION DRAWINGS AND DESIGN CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
2. SEE PLANS FOR WALL LOCATIONS, LENGTHS, AND HEIGHTS.
3. LIMIT STEPS IN BASE AND TOP OF WALL TO EIGHT (8) INCHES. SPACE STEPS PER MANUFACTURER'S RECOMMENDATIONS.
4. WALL DESIGN SHALL INCLUDE TOP AND BOTTOM OF WALL FINISHED GRADE CONDITIONS INCLUDING SURCHARGE OR SLOPING SOIL WHERE OCCURS.

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NO.	REVISIONS	BY	DATE	DRAWN
				J.D.E.
				DATE MARCH '24
				CHECKED D.A.B.
				DATE MARCH '24

**Prein & Newhof**  
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CITY OF EAST GRAND RAPIDS  
KENT COUNTY, MICHIGAN  
SIDEWALK & PATHWAY IMPROVEMENTS  
**DETAILS**

PROJECT NO.  
**2220701**

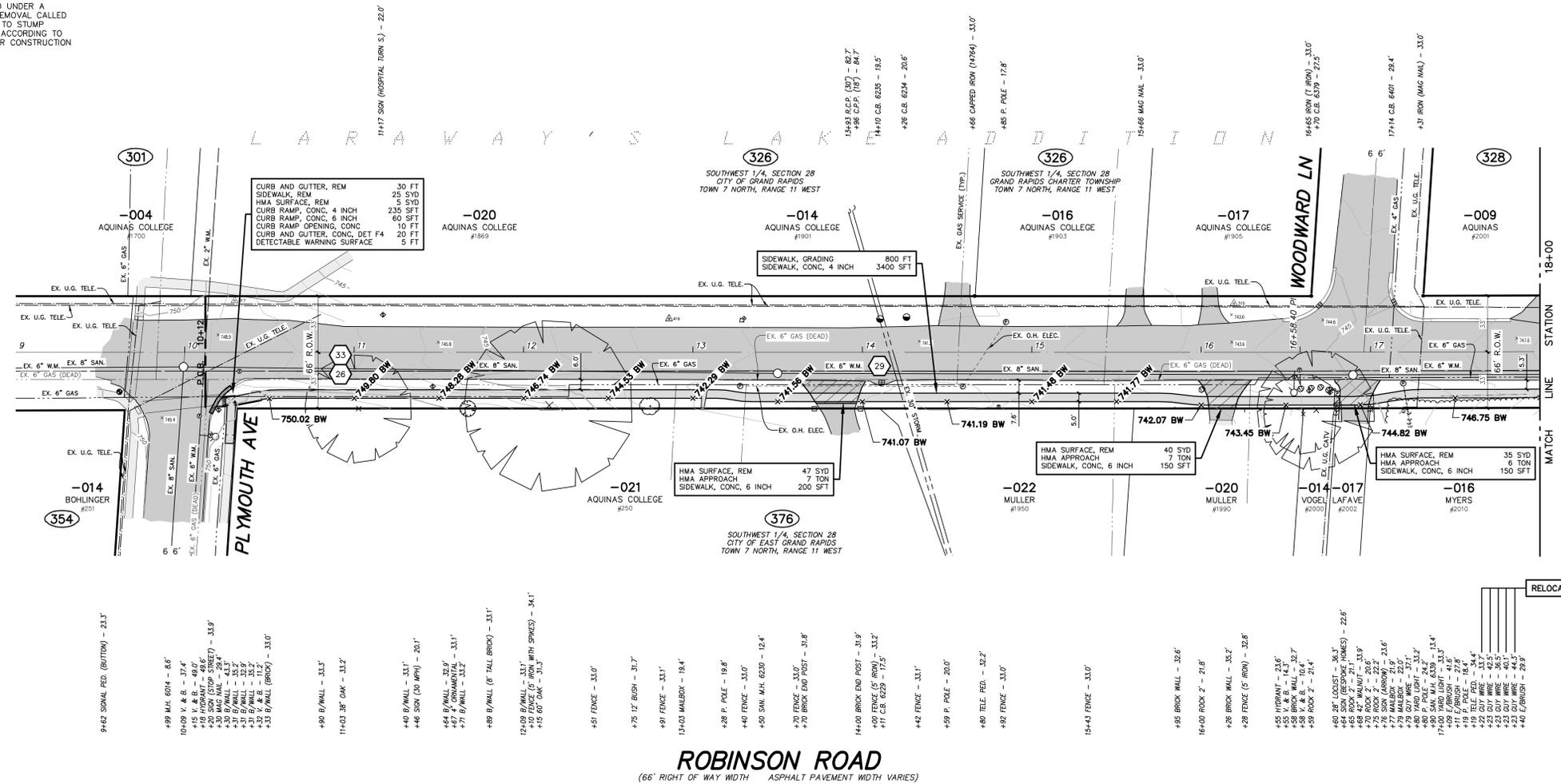
SHEET NO.

**3** OF **15**

B.M. EL. 742.54  
ROBINSON RD. & PLYMOUTH AVE., 204' N  
& 330' E OF C/L "X", R.R. SPIKE S SIDE  
P.W. POLE.

NOTE: TREES HAVE BEEN REMOVED UNDER A SEPARATE CONTRACT. THE TREE REMOVAL CALLED OUT IN THE PLANS CORRESPONDS TO STUMP REMOVAL OF THE SIZE MEASURED ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

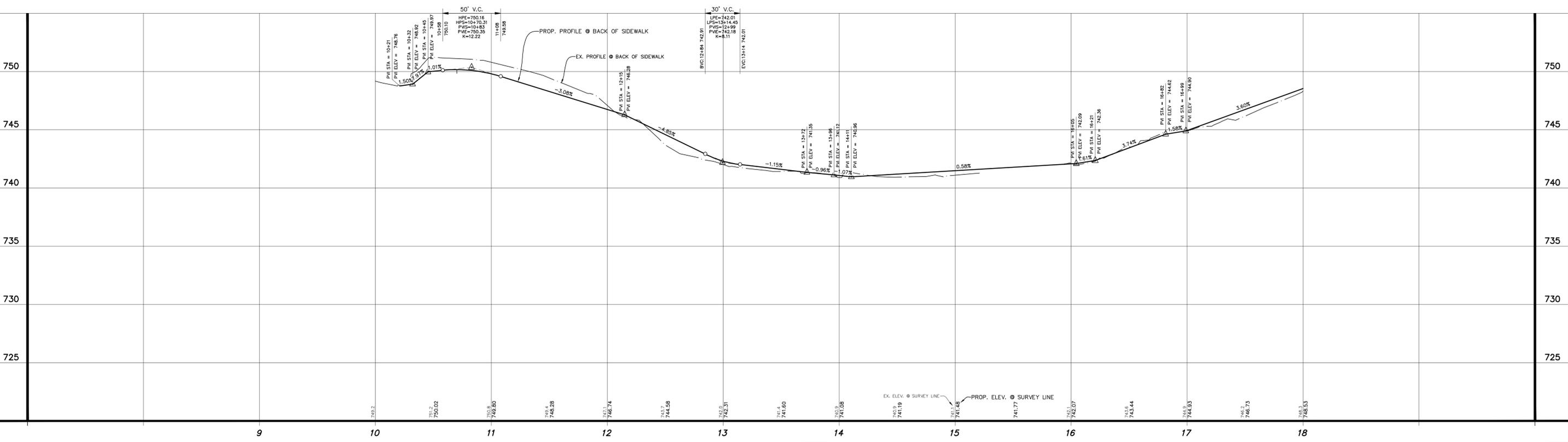
POINT No.	NORTHING	EASTING	ELEVATION
315	534004.864	12789170.520	743.44
317	533967.024	12786586.980	748.56
416	533973.562	12786943.510	741.97



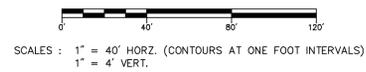
**SOIL EROSION CONTROL LEGEND**

- (26) GEOTEXTILE SILT FENCE (T)
- (29) INLET PROTECTION FABRIC DROP (T)
- (33) MULCH BLANKETS & HIGH VELOCITY MULCH BLANKETS (P)

(T) TEMPORARY CONTROL MEASURE  
(P) PERMANENT CONTROL MEASURE



811  
UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



NO.	REVISIONS	BY	DATE

Drawn by: J.D.E.  
Date: MARCH '24  
Checked by: S.T.P.  
Date: MARCH '24

**Prein & Newhof**  
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CITY OF EAST GRAND RAPIDS  
KENT COUNTY, MICHIGAN

**SIDEWALK & PATHWAY IMPROVEMENTS**

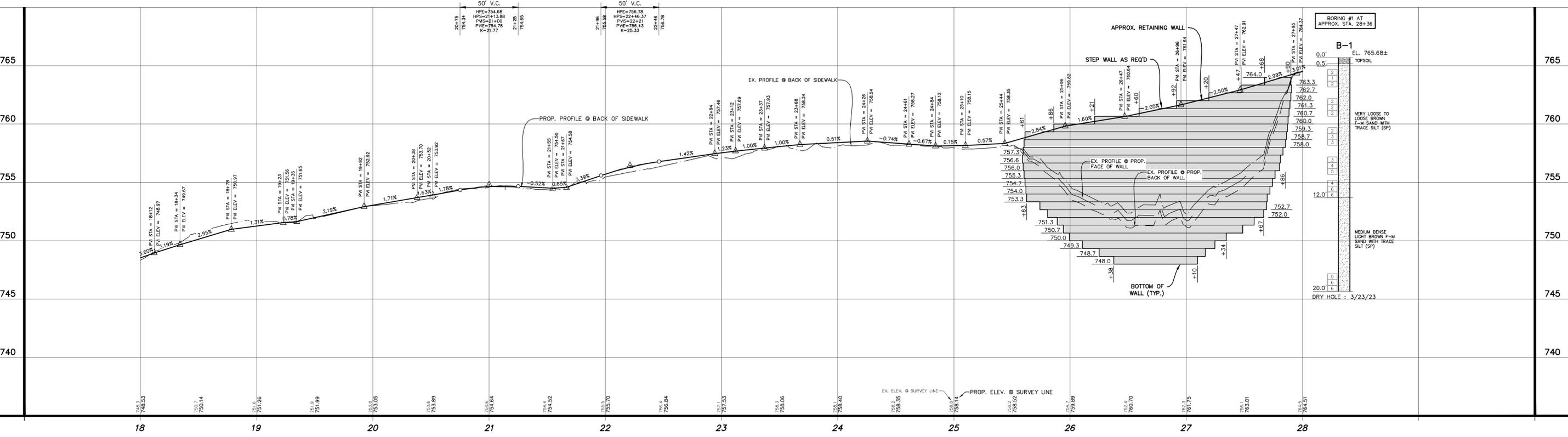
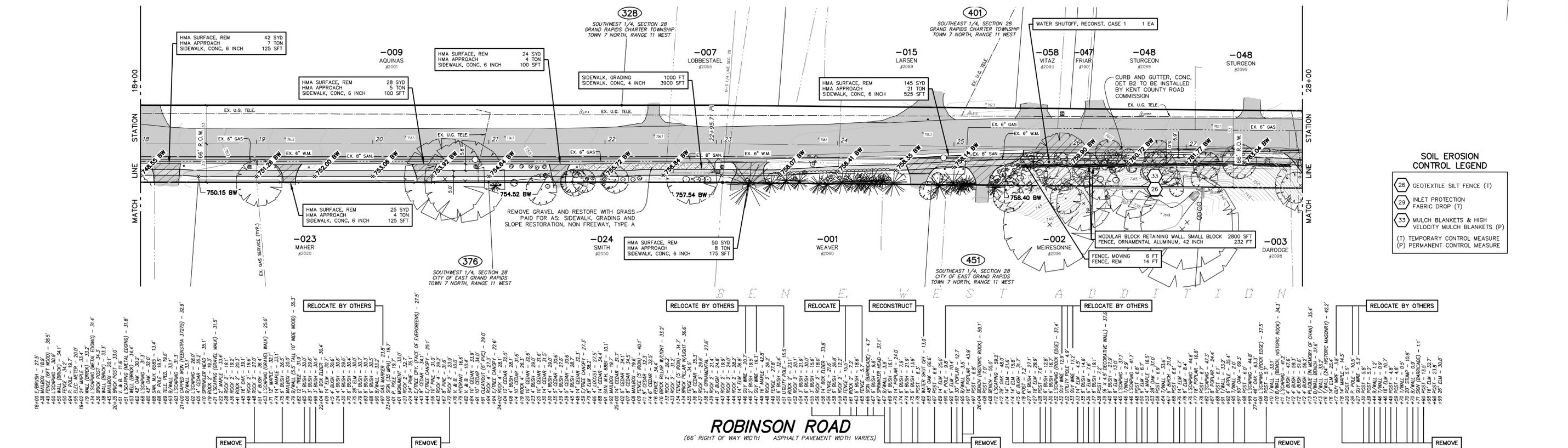
**ROBINSON ROAD**

PROJECT NO. 2220701  
SHEET NO. 4 OF 15

B.M. EL. 759.03  
HOUSE #2060 ROBINSON RD. TOP OF SW  
HYDRANT FLANGE BOLT UNDER "M" IN  
"MADE IN USA."

NOTE: TREES HAVE BEEN REMOVED UNDER A  
SEPARATE CONTRACT. THE TREE REMOVAL CALLED  
OUT IN THE PLANS CORRESPONDS TO STUMP  
REMOVAL OF THE SIZE MEASURED ACCORDING  
TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

POINT No.	NORTHING	EASTING	ELEVATION
313	534063.875	1278906.040	758.18
314	534041.889	12787734.710	756.75
319	533997.946	12788205.300	755.11
6865	534073.650	12788215.580	760.17



811  
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MEASUREMENTS OR AVAILABLE RECORDS. THEY  
SHOULD NOT BE INTERPRETED TO BE EXACT  
LOCATIONS NOR SHOULD IT BE ASSUMED THAT  
THEY ARE THE ONLY UTILITIES IN THIS AREA.

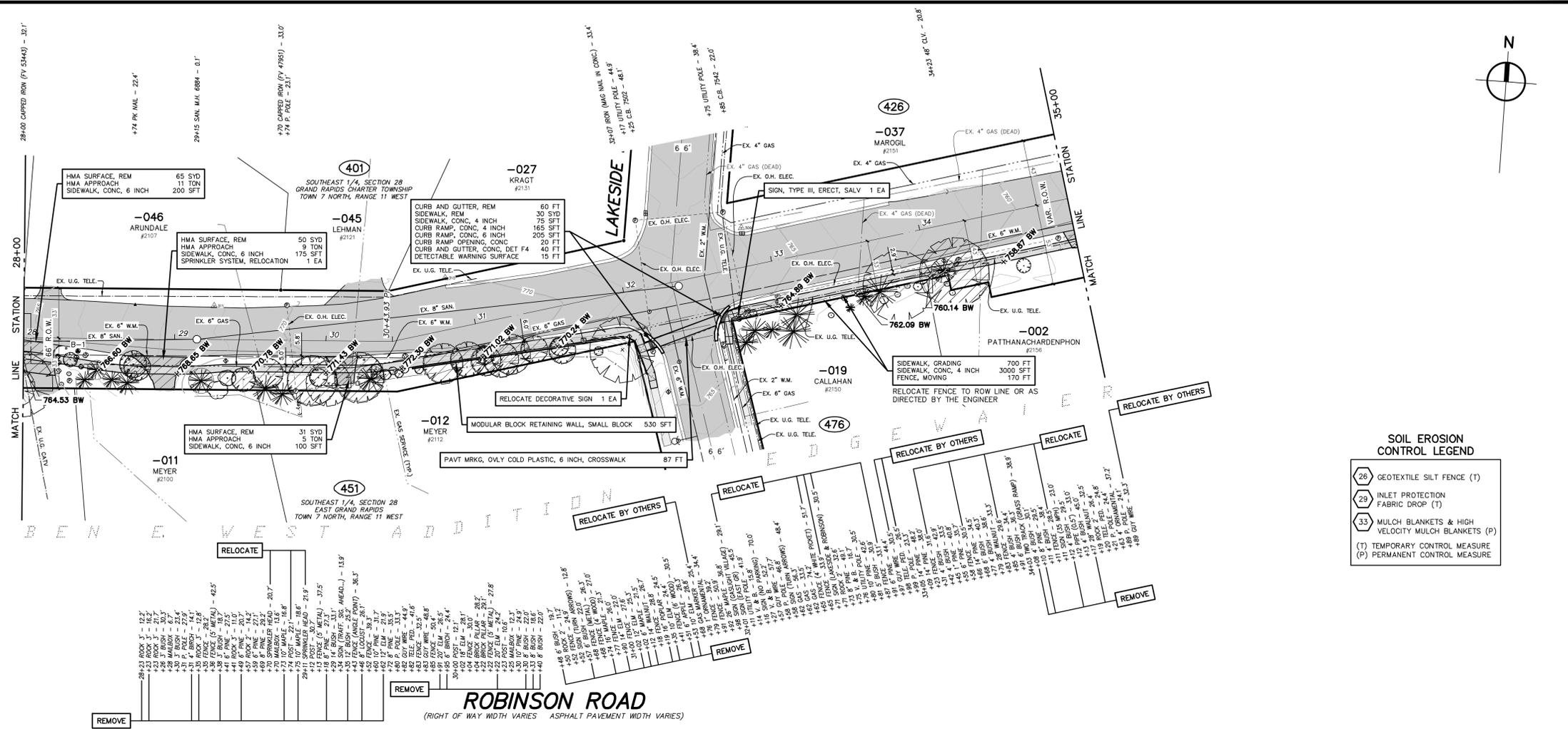


		CITY OF EAST GRAND RAPIDS KENT COUNTY, MICHIGAN SIDEWALK & PATHWAY IMPROVEMENTS ROBINSON ROAD	PROJECT NO. <b>2220701</b> SHEET NO. <b>5 OF 15</b>
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B.M. EL. 766.93  
ROBINSON RD. & LAKESIDE DR. 30' S & 40' E OF C/L 'X'. TOP OF NW BOLT TO 12" SIGNAL POLE. 0.75FT AGL.

NOTE: TREES HAVE BEEN REMOVED UNDER A SEPARATE CONTRACT, THE TREE REMOVAL CALLED OUT IN THE PLANS CORRESPONDS TO STUMP REMOVAL OF THE SIZE MEASURED ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

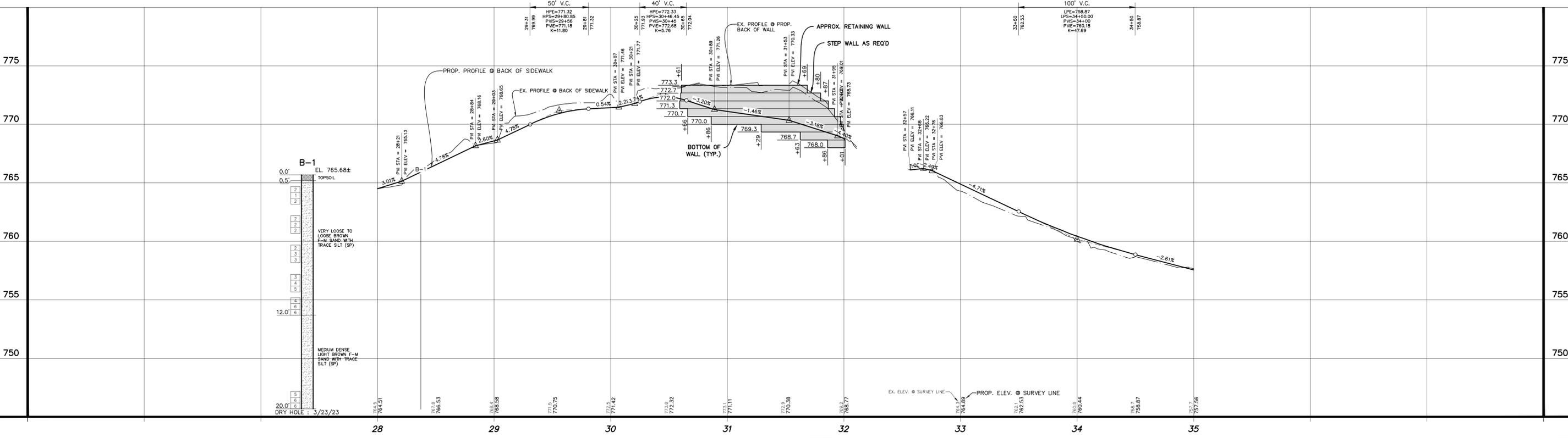
POINT No.	NORTHING	EASTING	ELEVATION
309	534151.801	1278824.070	766.28
310	534111.430	12788631.070	771.89
311	534082.610	12788490.020	768.85
312	534048.092	12788332.580	763.28
318	534010.794	12788280.740	739.38



**SOIL EROSION CONTROL LEGEND**

- (26) GEOTEXTILE SILT FENCE (T)
- (29) INLET PROTECTION FABRIC DROP (T)
- (33) MULCH BLANKETS & HIGH VELOCITY MULCH BLANKETS (P)

(T) TEMPORARY CONTROL MEASURE  
(P) PERMANENT CONTROL MEASURE



	UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETTED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.	<p>SCALES: 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS) 1" = 4' VERT.</p>	NO.	REVISIONS	BY	DATE	DRAWN
	J.D.E. MARCH '24 S.T.P. MARCH '24		<p><b>Prein &amp; Newhof</b> Engineers • Surveyors • Environmental • Laboratory</p>	CITY OF EAST GRAND RAPIDS KENT COUNTY, MICHIGAN  SIDEWALK & PATHWAY IMPROVEMENTS  ROBINSON ROAD	PROJECT NO. 2220701  SHEET NO. <b>6</b> OF 15		

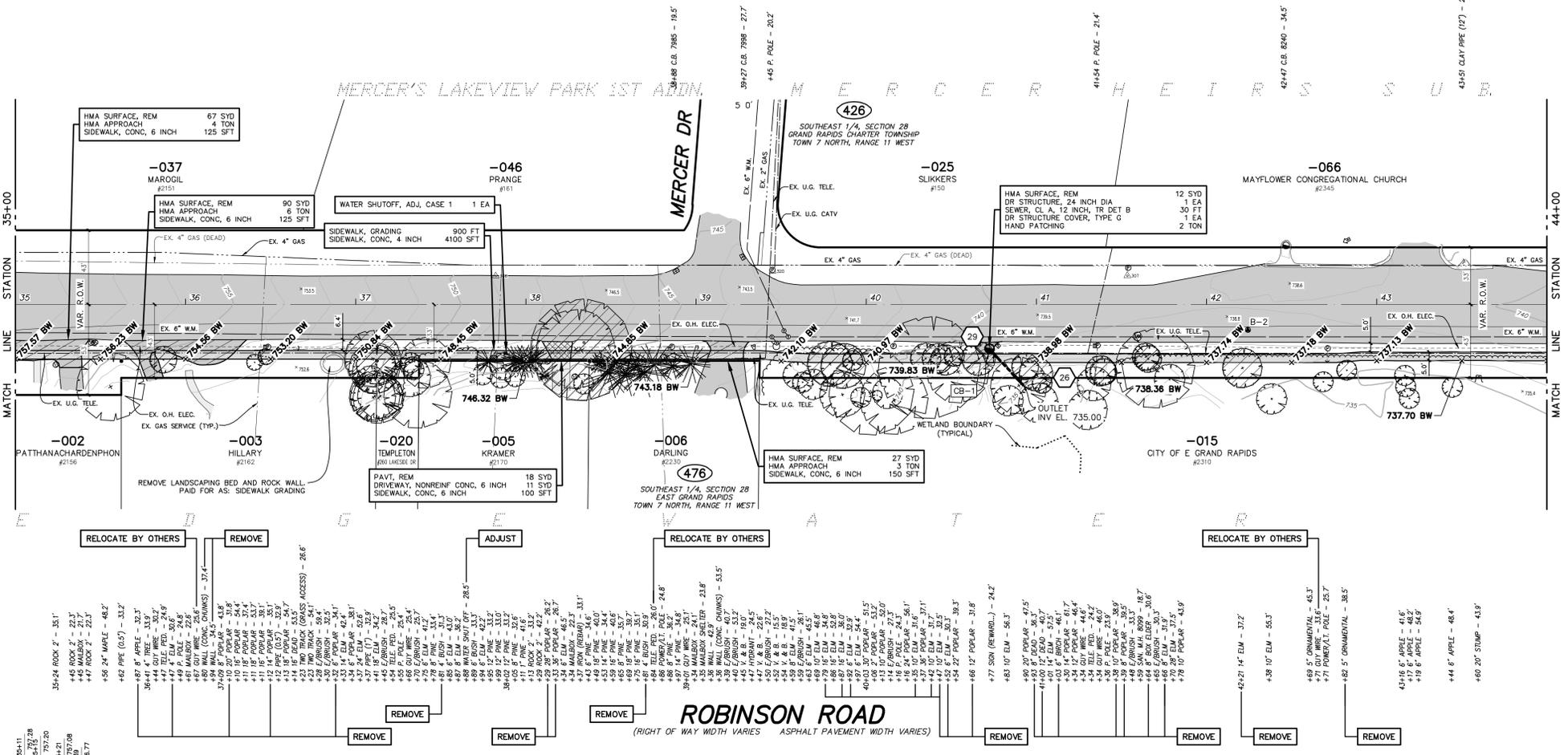
B.M. EL. 741.86  
 ROBINSON RD. & MAYFLOWER CHURCH  
 DRIVE, 40' ± N & 40' ± W OF C/A 'X', TOP  
 OF SE COR. CONC. SIGN BASE, 1.8FT AGL.

NOTE: TREES HAVE BEEN REMOVED UNDER A  
 SEPARATE CONTRACT. THE TREE REMOVAL CALLED  
 OUT IN THE PLANS CORRESPONDS TO STUMP  
 REMOVAL OF THE SIZE MEASURED ACCORDING TO  
 THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

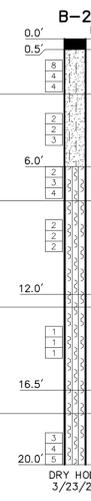
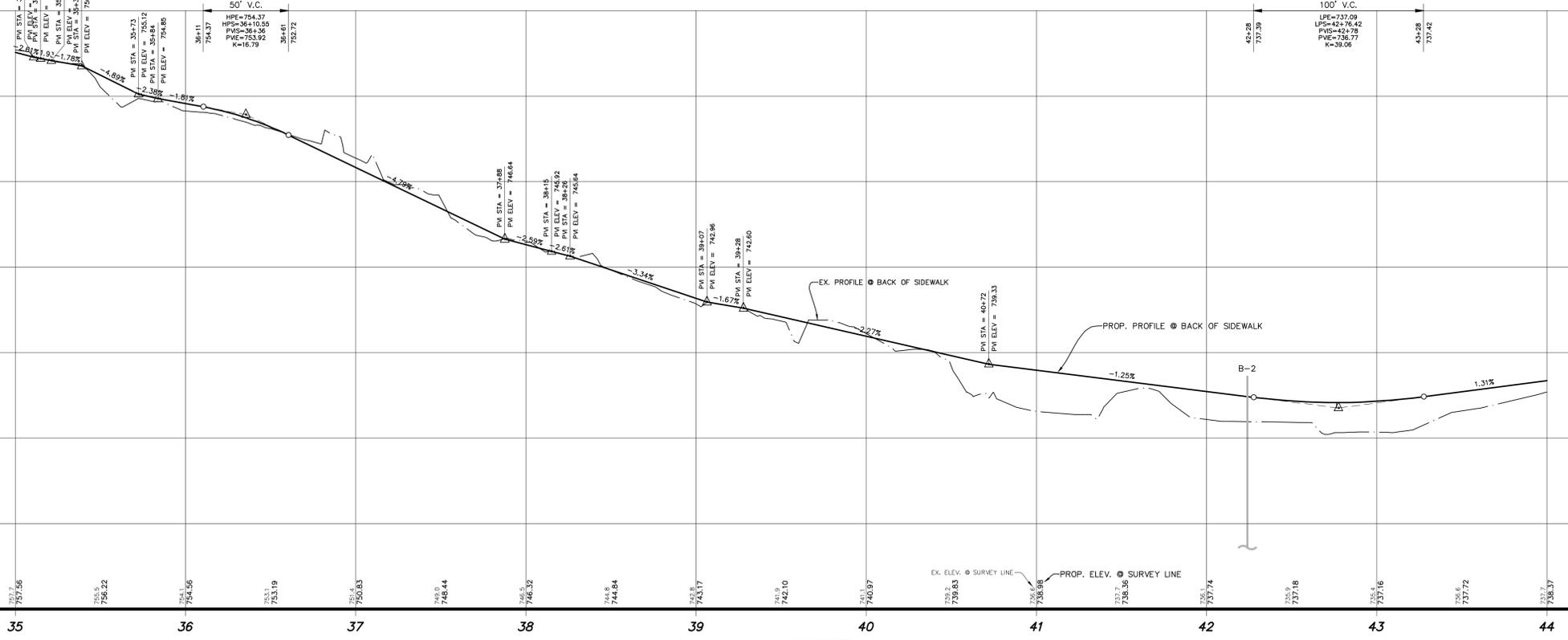
POINT No.	NORTHING	EASTING	ELEVATION
357	534366.384	12789661.970	735.15
358	534285.019	12789304.950	746.03
320	534322.055	12789460.770	742.73



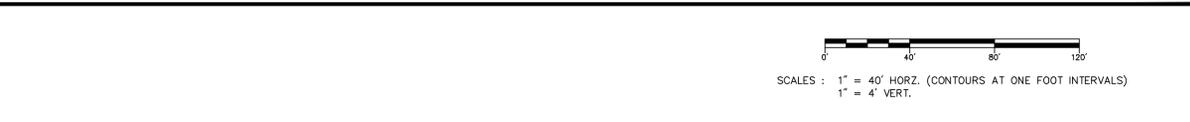
STRUCTURE		PIPE	
PR DIA (IN)	ID (IN)	DIR	PR SLOPE %
24	CB-1	SE	-3.44



- SOIL EROSION CONTROL LEGEND**
- (26) GEOTEXTILE SILT FENCE (T)
  - (29) INLET PROTECTION FABRIC DROP (T)
  - (33) MULCH BLANKETS & HIGH VELOCITY MULCH BLANKETS (P)
- (T) TEMPORARY CONTROL MEASURE  
 (P) PERMANENT CONTROL MEASURE



811  
 UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.  
 Call before you dig.



NO.	REVISIONS	BY	DATE	DRAWN
				J.D.E.
			MARCH '24	
				S.T.P.
			MARCH '24	

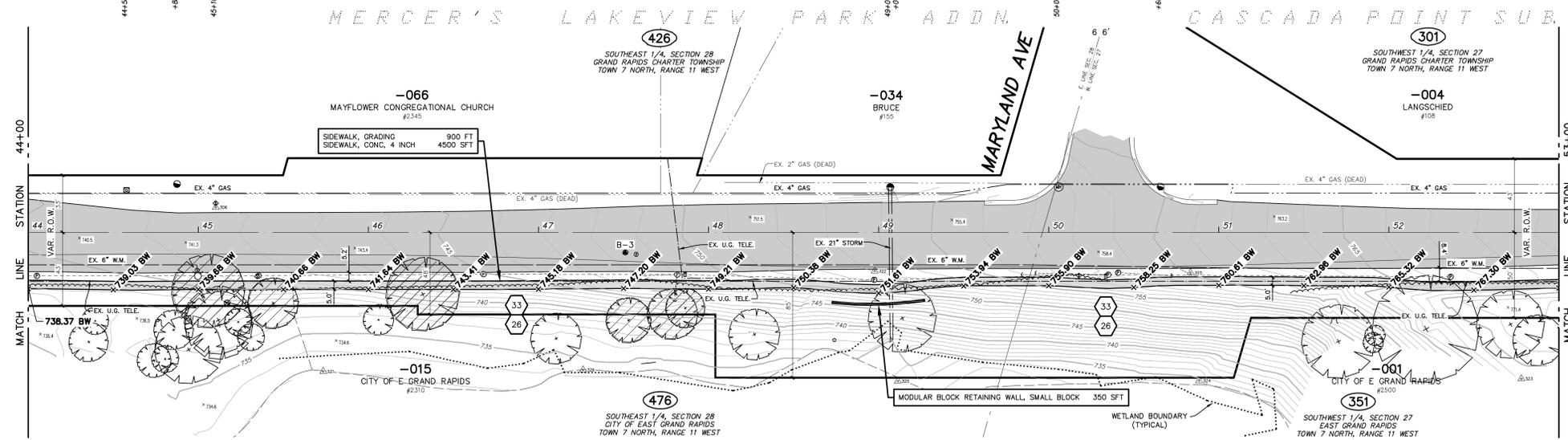
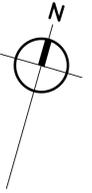
**Prein & Newhof**  
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CITY OF EAST GRAND RAPIDS  
 KENT COUNTY, MICHIGAN  
 SIDEWALK & PATHWAY IMPROVEMENTS  
 ROBINSON ROAD

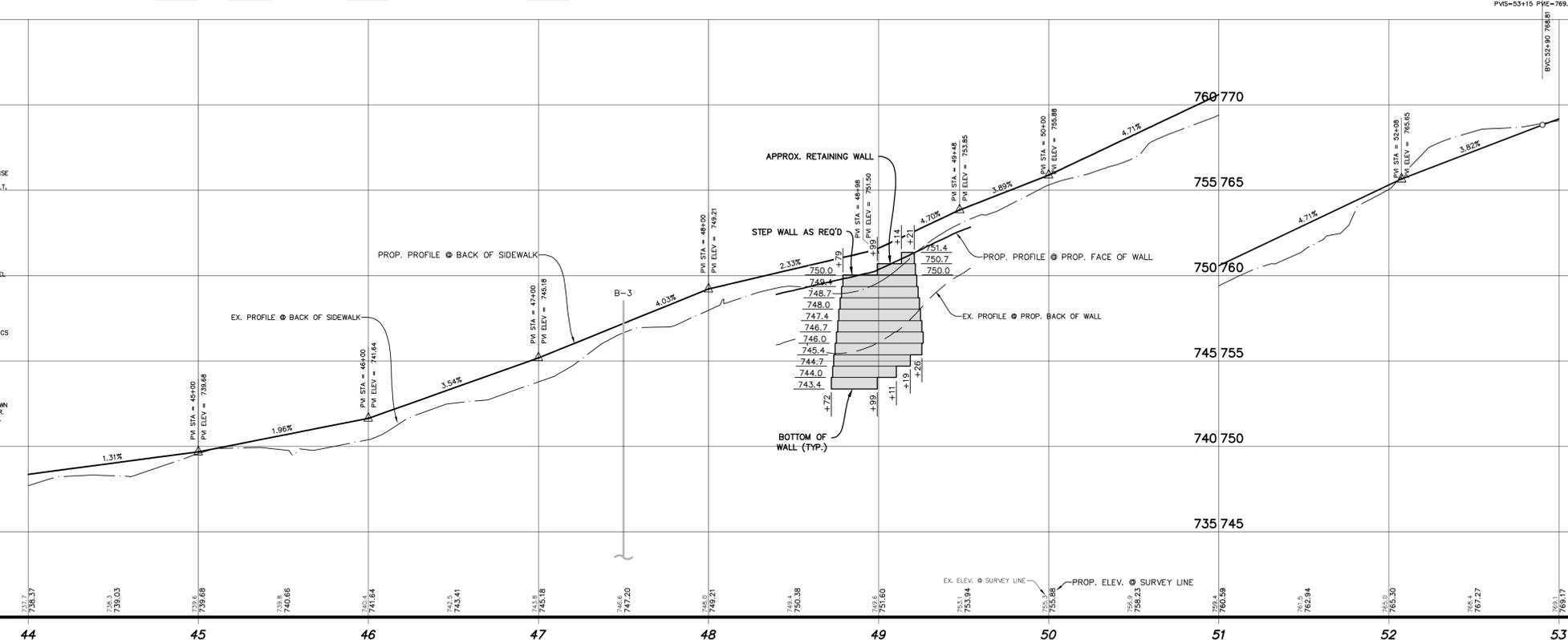
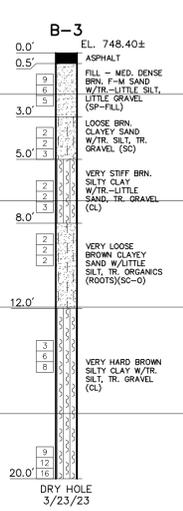
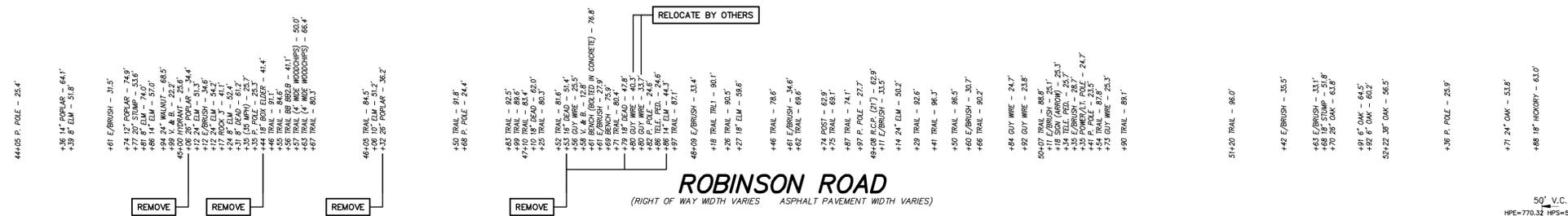
PROJECT NO. 2220701  
 SHEET NO. 7 OF 15

POINT No.	NORTHING	EASTING	ELEVATION
305	534601.478	12790567.586	760.07
306	534481.804	12790005.850	741.81
321	534456.779	12790092.810	732.94
322	534501.756	12790388.720	753.21
323	534584.839	12790771.540	769.17
324	534542.099	12790586.650	735.19
325	534463.508	12790418.290	734.58
326	534449.329	12790230.550	734.56

NOTE: TREES HAVE BEEN REMOVED UNDER A SEPARATE CONTRACT. THE TREE REMOVAL CALLED OUT IN THE PLANS CORRESPONDS TO STUMP REMOVAL OF THE SIZE MEASURED ACCORDING TO THE STANDARD SPECIFICATIONS FOR CONSTRUCTION



- SOIL EROSION CONTROL LEGEND**
- GEOTEXTILE SILT FENCE (T)
  - INLET PROTECTION FABRIC DROP (T)
  - MULCH BLANKETS & HIGH VELOCITY MULCH BLANKETS (P)
  - (T) TEMPORARY CONTROL MEASURE
  - (P) PERMANENT CONTROL MEASURE



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SCALES: 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)  
1" = 4' VERT.

NO.	REVISIONS	BY	DATE

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CITY OF EAST GRAND RAPIDS  
KENT COUNTY, MICHIGAN  
SIDEWALK & PATHWAY IMPROVEMENTS  
ROBINSON ROAD

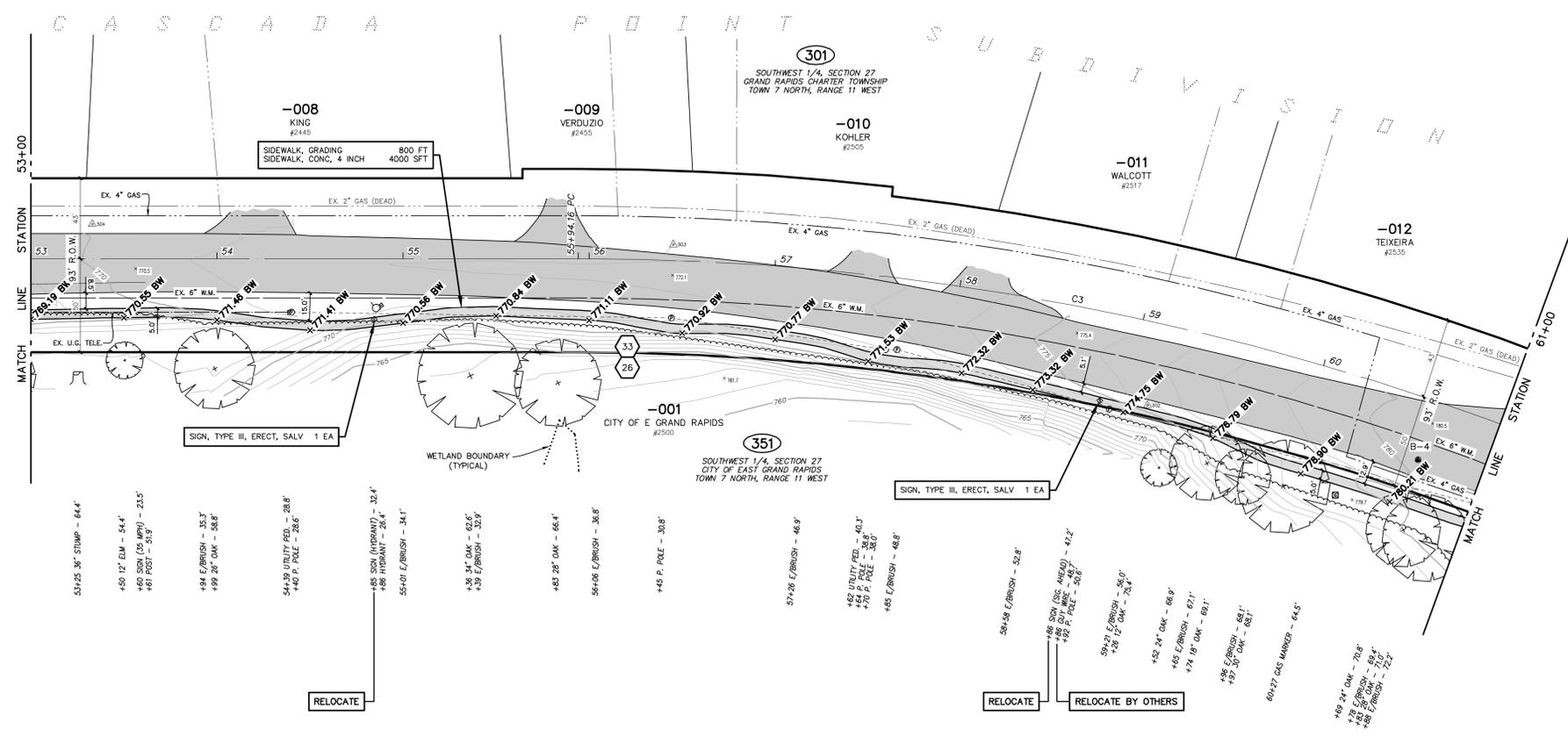
PROJECT NO.  
2220701  
SHEET NO.  
8 OF 15

B.M. EL. 773.32  
 ROBINSON RD. & MARYLAND AVE., 30'± S  
 & 490'± E OF C/L 'X', SW FLANGE BOLT  
 ON HYD. UNDER 'MADE.'

NOTE: TREES HAVE BEEN REMOVED UNDER A  
 SEPARATE CONTRACT. THE TREE REMOVAL CALLED  
 OUT IN THE PLANS CORRESPONDS TO STUMP  
 REMOVAL OF THE SIZE MEASURED ACCORDING TO  
 THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

CONTROL POINT TABLE			
POINT No.	NORTHING	EASTING	ELEVATION
302	534771.634	12791568.120	775.96
303	534784.639	12791099.630	772.05
304	534729.930	12792196.370	769.92

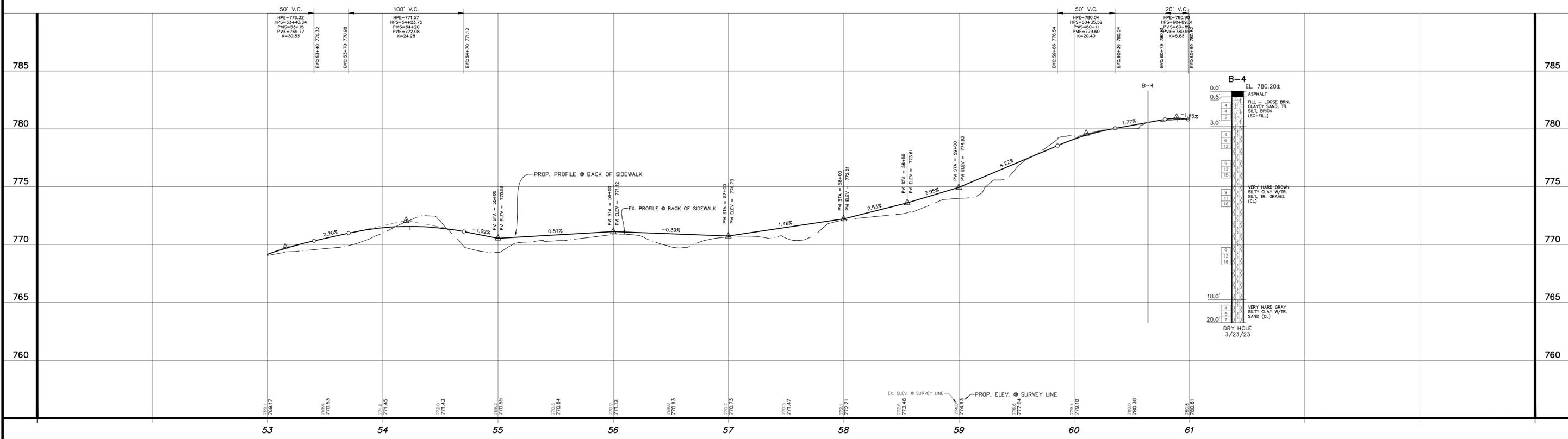
CURVE DATA TABLE			
CURVE #	LENGTH	RADIUS	CHORD
C3	833.39'	1432.69'	587°10'31" 916.97'



**SOIL EROSION CONTROL LEGEND**

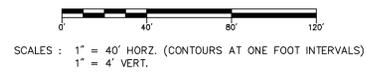
- GEOTEXTILE SILT FENCE (T)
- INLET PROTECTION FABRIC DROP (T)
- MULCH BLANKETS & HIGH VELOCITY MULCH BLANKETS (P)
- (T) TEMPORARY CONTROL MEASURE
- (P) PERMANENT CONTROL MEASURE

**ROBINSON ROAD**  
 (93' RIGHT OF WAY WIDTH ASPHALT PAVEMENT WIDTH VARIES)



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UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.



NO.	REVISIONS	BY	DATE	DRAWN
				J.D.E.
				DATE: MARCH '24
				CHECKED: S.T.P.
				DATE: MARCH '24

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CITY OF EAST GRAND RAPIDS  
 KENT COUNTY, MICHIGAN  
 SIDEWALK & PATHWAY IMPROVEMENTS  
 ROBINSON ROAD

PROJECT NO.  
 2220701  
 SHEET NO.  
 9 OF 15



B.M. EL. 786.84  
 CASCADE RD. & GLENVIEW DR., 30'± W &  
 40'± N OF C/L 'X', NE FLANGE BOLT ON  
 HYDRANT.

CONTROL POINT TABLE		
POINT No.	NORTHING	EASTING ELEVATION
105	534216.354	12793118.400 784.62
106	534567.780	12792443.090 783.59

NOTE: TREES HAVE BEEN REMOVED UNDER A  
 SEPARATE CONTRACT. THE TREE REMOVAL CALLED  
 OUT IN THE PLANS CORRESPONDS TO STUMP  
 REMOVAL OF THE SIZE MEASURED ACCORDING TO  
 THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

DRAINAGE TABLE							
STRUCTURE				PIPE			
PR DIA (IN)	ID	RIM EL.	EX/PR	SIZE (IN)	MATERIAL	DIR	INV EL.
48	MH-2	783.71	EX	12	CONC	WNW	779.31
			EX	2	PVC	SW	780.96
			EX	6	CONC	SE	780.36
24	CB-2	783.52	PR	12	CONC	NE	779.50
			PR	12	CONC	SW	779.60

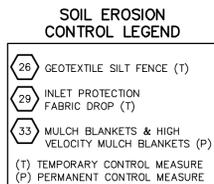
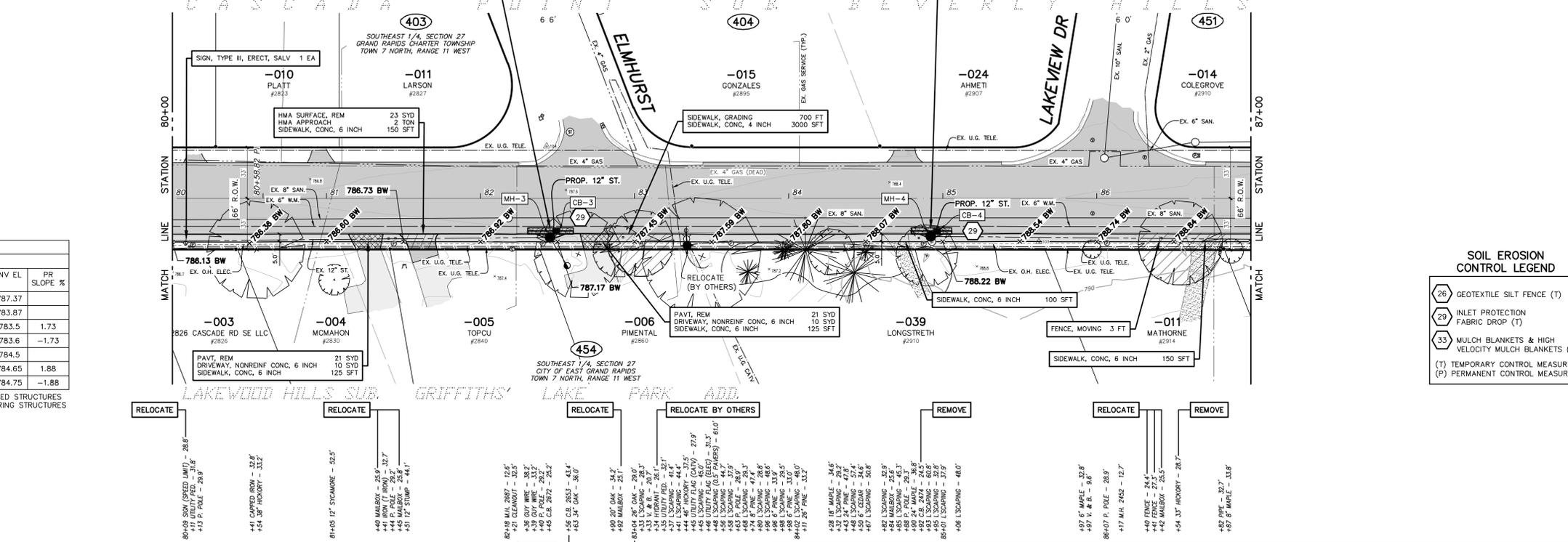
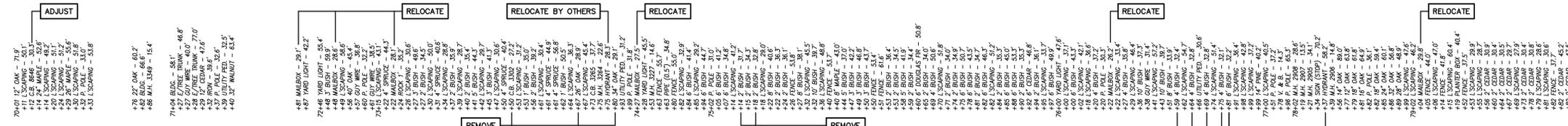
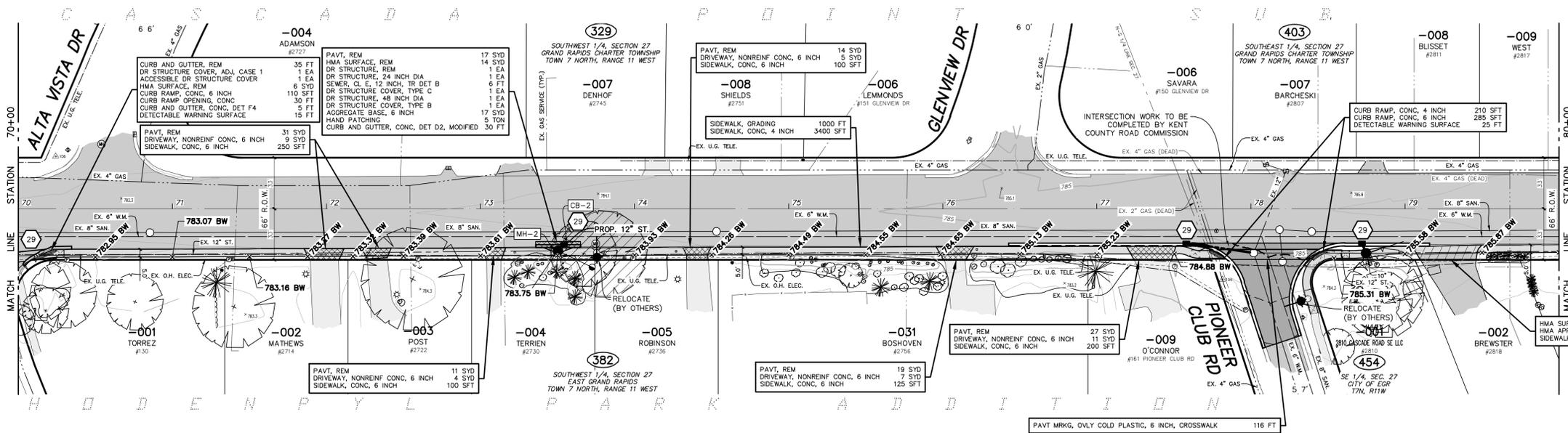
CONNECT ALL EXISTING AND PROPOSED PIPES TO PROPOSED STRUCTURES  
 CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO ORDERING STRUCTURES

B.M. EL. 787.21  
 CASCADE RD. & ELMHURST DR., 30'± W &  
 50'± N OF C/L 'X', NW FLANGE BOLT ON  
 HYDRANT.

CONTROL POINT TABLE		
POINT No.	NORTHING	EASTING ELEVATION
105	534216.354	12793118.400 784.62
106	534567.780	12792443.090 783.59

DRAINAGE TABLE							
STRUCTURE				PIPE			
PR DIA (IN)	ID	RIM EL.	EX/PR	SIZE (IN)	MATERIAL	DIR	INV EL.
48	MH-3	787.07	EX	12	CONC	WNW	787.37
			EX	8	CONC	SSE	783.87
			PR	12	CONC	NE	783.5
24	CB-3	786.94	PR	12	CONC	SW	783.6
			PR	12	CONC	ESE	784.5
48	MH-4	788.17	EX	10	CLAY	ESE	784.5
			PR	12	CONC	NE	784.65
24	CB-4	787.93	PR	12	CONC	SW	784.75
			PR	12	CONC	SW	784.75

CONNECT ALL EXISTING AND PROPOSED PIPES TO PROPOSED STRUCTURES  
 CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO ORDERING STRUCTURES



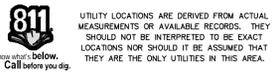
NO.	REVISIONS	BY	DATE	DRAWN
				J.D.E.
				MARCH '24
				S.T.P.
				MARCH '24

**Prein & Newhof**  
 Engineers • Surveyors • Environmental • Laboratory

CITY OF EAST GRAND RAPIDS  
 KENT COUNTY, MICHIGAN

SIDEWALK & PATHWAY IMPROVEMENTS  
 CASCADE ROAD

PROJECT NO. 2220701  
 SHEET NO. 11 OF 15



UTILITY LOCATIONS ARE DERIVED FROM ACTUAL MEASUREMENTS OR AVAILABLE RECORDS. THEY SHOULD NOT BE INTERPRETED TO BE EXACT LOCATIONS NOR SHOULD IT BE ASSUMED THAT THEY ARE THE ONLY UTILITIES IN THIS AREA.

SCALES: 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

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B.M. EL. 791.50  
 CASCADE RD. & PARK HILLS DR. 30' ± N  
 & 250' ± W OF C/L "X", NE FLANGE BOLT  
 ON HYDRANT.

NOTE: TREES HAVE BEEN REMOVED UNDER A  
 SEPARATE CONTRACT. THE TREE REMOVAL CALLED  
 OUT IN THE PLANS CORRESPONDS TO STUMP  
 REMOVAL OF THE SIZE MEASURED ACCORDING TO  
 THE STANDARD SPECIFICATIONS FOR CONSTRUCTION

CONTROL POINT TABLE			
POINT NO.	NORTHING	EASTING	ELEVATION
102	533780.816	1279438.270	793.76

DRAINAGE TABLE									
STRUCTURE	PR DIA (IN)	ID	RIM EL.	EX/PR	SIZE (IN)	MATERIAL	DIR	INV EL.	PR SLOPE %
48	MH-5	788.97	EX 10	CLAY	WNW	783.67	--		
			EX 12	CONC	ESE	783.57	--		
			EX 10	CONC	SSW	783.72	--		
24	CB-5	788.75	PR 12	CONC	SE	785.95	-1.00		
			EX 10	CONC	WNW	784.62	--		
			PR 12	CONC	NNE	785.55	1.40		
48	MH-6	790.85	EX 10	CONC	ESE	784.62	--		
			PR 12	CONC	NNE	785.55	1.40		
			PR 12	CONC	SSW	785.85	-1.40		
24	CB-6	790.08	PR 12	CONC	NW	785.85	1.00		
			EX 10	CLAY	WNW	785.52	--		
			EX 8	CLAY	W	785.57	--		
48	MH-7	791.30	EX 10	CLAY	ESE	785.52	--		
			EX 10	CLAY	NNE	785.62	--		
			EX 12	CONC	NNW	787.4	1.00		
24	CB-7	790.75	PR 12	CONC	SSE	787.5	-1.00		

CONNECT ALL EXISTING AND PROPOSED PIPES TO PROPOSED STRUCTURES  
 CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO ORDERING STRUCTURES

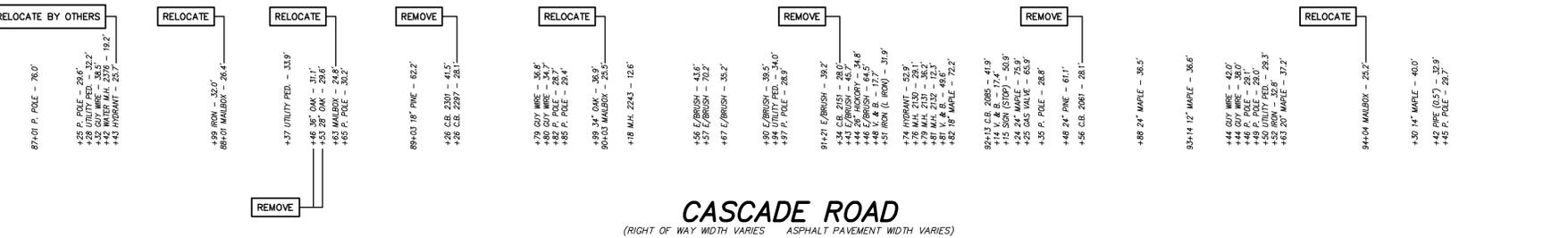
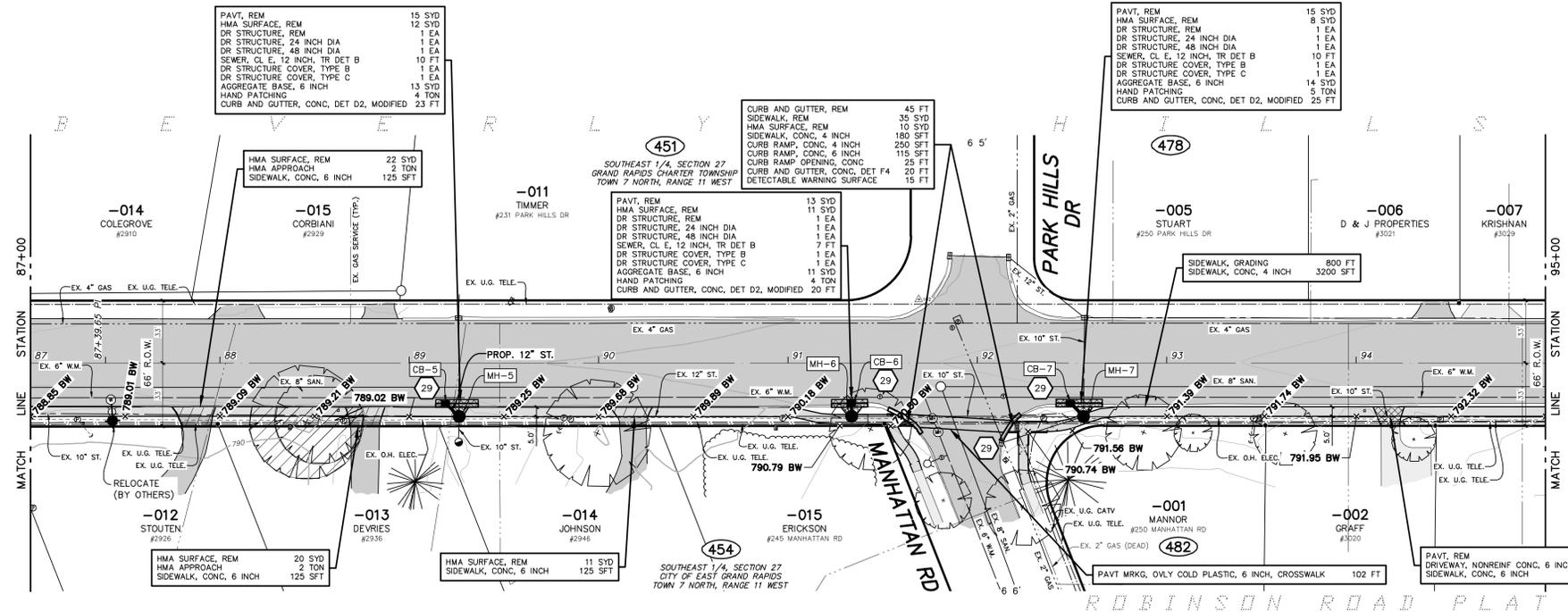
B.M. EL. 792.52  
 CASCADE RD. & KINGWOOD DR. 30' ± N  
 & 190' ± E OF C/L "X", NE FLANGE BOLT  
 ON HYDRANT UNDER "E".

CONTROL POINT TABLE			
No.	NORTHING	EASTING	ELEVATION
101	533531.510	1279506.310	793.96

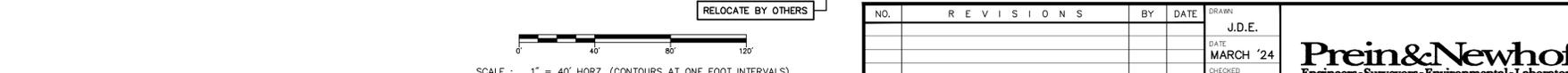
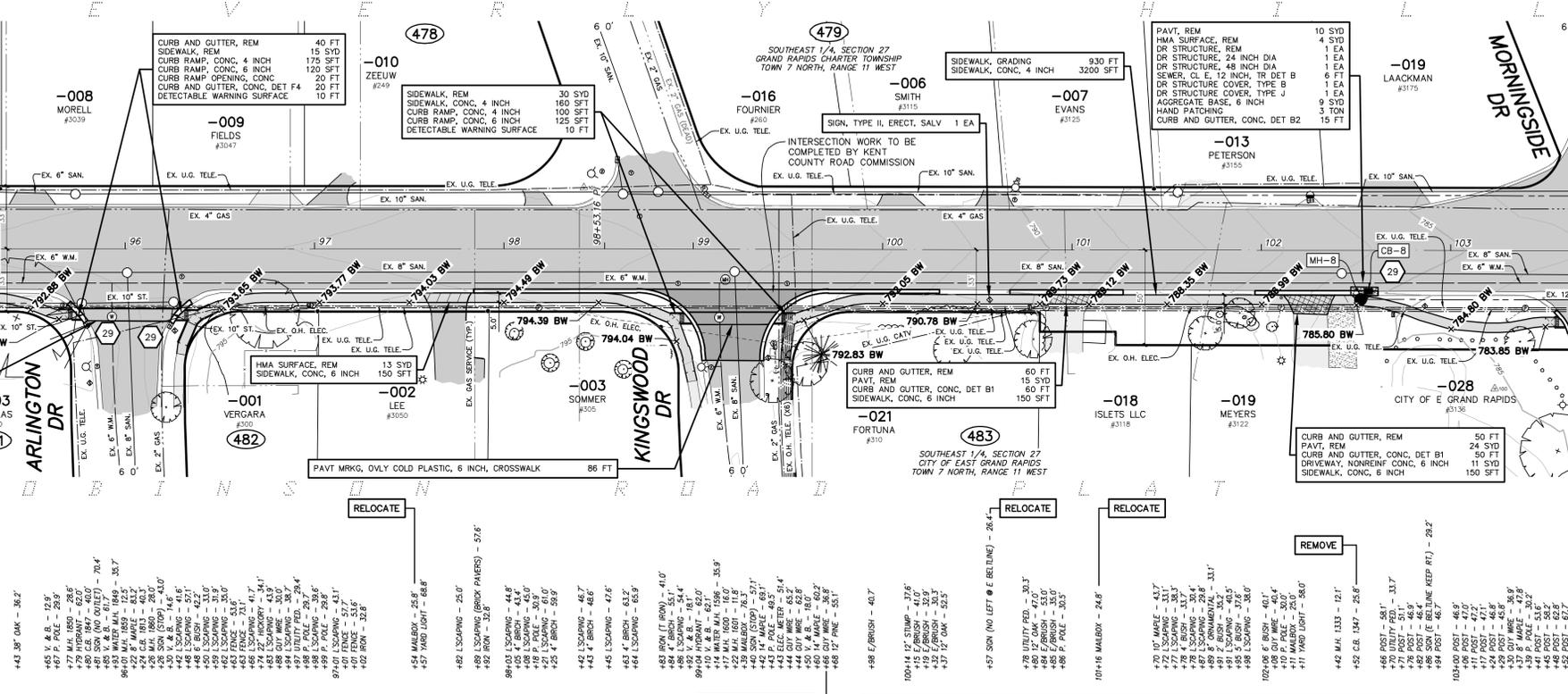
CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO ORDERING STRUCTURES

DRAINAGE TABLE									
STRUCTURE	PR DIA (IN)	ID	RIM EL.	EX/PR	SIZE (IN)	MATERIAL	DIR	INV EL.	PR SLOPE %
48	MH-8	785.71	PR 12	CONC	E	780.78			
			PR 12	CONC	NE	780.90	1.66		
24	CB-8	785.09	PR 12	CONC	SW	781.00	-1.66		

CONNECT ALL EXISTING AND PROPOSED PIPES TO PROPOSED STRUCTURES  
 CONTRACTOR TO VERIFY EXISTING INVERTS PRIOR TO ORDERING STRUCTURES



**CASCADE ROAD**  
 (RIGHT OF WAY WIDTH VARIES ASPHALT PAVEMENT WIDTH VARIES)



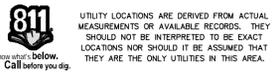
SCALE: 1" = 40' HORZ. (CONTOURS AT ONE FOOT INTERVALS)

NO.	REVISIONS	BY	DATE	DRAWN
		J.D.E.		
		MARCH '24		
		S.T.P.		
		MARCH '24		

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CITY OF EAST GRAND RAPIDS  
 KENT COUNTY, MICHIGAN  
 SIDEWALK & PATHWAY IMPROVEMENTS  
 CASCADE ROAD

PROJECT NO. 2220701  
 SHEET NO. 12 OF 15



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