CITY OF ALLEGAN

2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS

CWSRF PROJECT NO.: 5773-01

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53	FOUNDATION PLANS AND DETAILS

MDOT STANDARD PLAN SERIES

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R–9–D	COVER D
R–15–G*	COVER K
R–18–F	COVER Q
R–28–J*	SIDEWALK RAMP AND DETECTABLE WARNING DETAILS
R–29–I	DRIVEWAY OPENINGS & APPROACHES AND CONCRETE SIDEWALKS
R–30–G	CONCRETE CURB AND CONCRETE CURB & GUTTER
R–83–C	UTILITY TRENCHES
R–96–E	SOIL EROSION & SEDIMENTATION CONTROL MEASURES
R–100–H	SEEDING AND TREE PLANTING

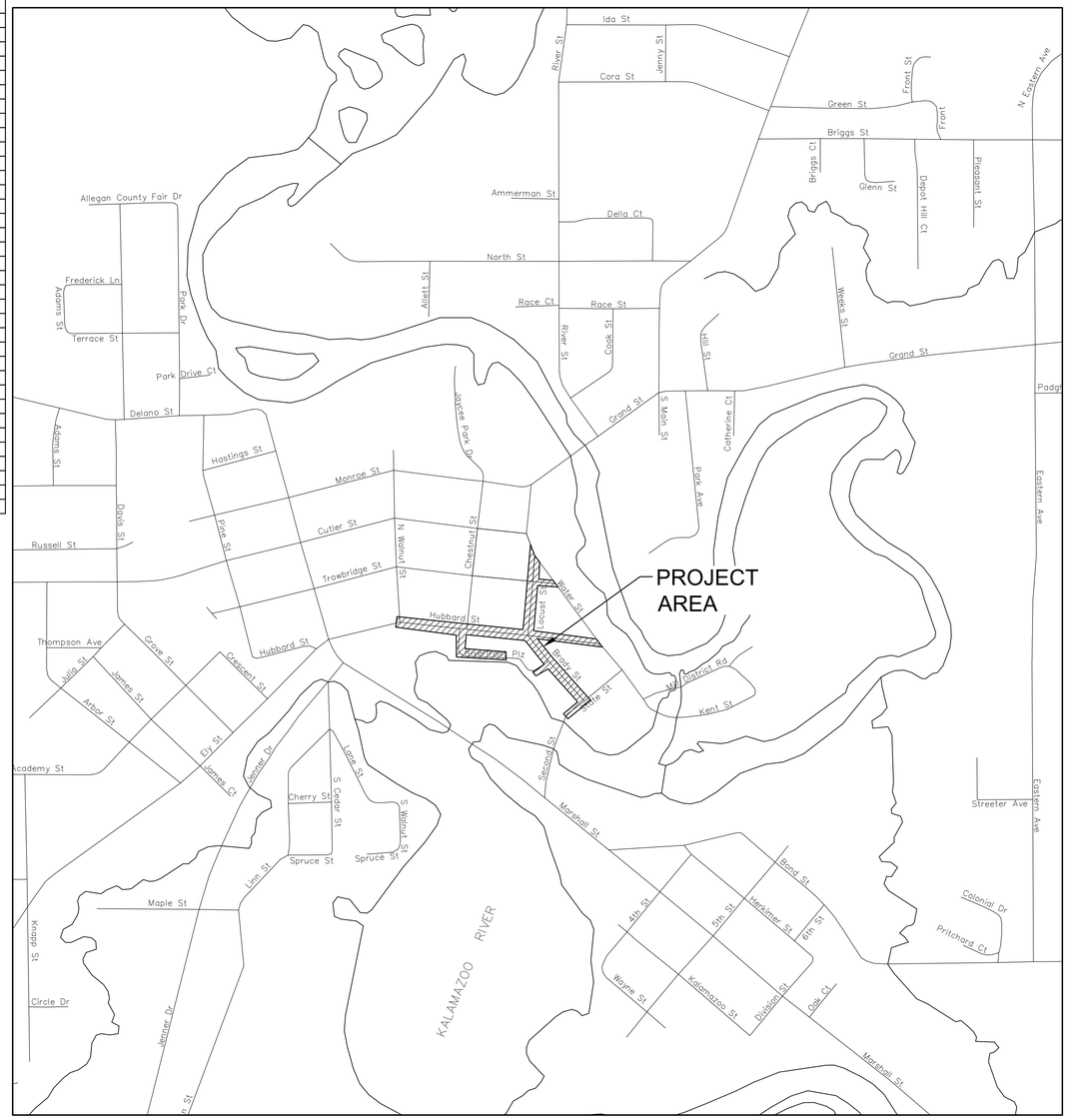


COUNTY KEY

NOT TO SCALE

NOTES:

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2020 MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION.



PROJECT LOCATION MAP

NOT TO SCALE

CITY OF ALLEGAN OFFICIALS

MAYOR	DELORA ANDRUS
MAYOR PRO TEM	TERESA GALLOWAY
CITY COUNCIL MEMBER	ROGER BIRD
CITY COUNCIL MEMBER	BILL MORGAN
CITY COUNCIL MEMBER	PETER HANSE
CITY COUNCIL MEMBER	MIKE ZETER
CITY COUNCIL MEMBER	DAVE REDDING
CITY MANAGER	JOEL DYE

LOCAL UTILITIES

PUBLIC WORKS
CITY OF ALLEGAN
691 AIRWAY DRIVE
ALLEGAN, MI 49010
269–686–1115
DOUG KADZBAN, DIRECTOR OF DPW

ELECTRIC:
CONSUMERS ENERGY
4131 138TH AVENUE
HAMILTON, MI 49419
269–350–6980
JASON VANHOUTEN

NATURAL GAS:
MICHIGAN GAS UTILITIES
742 EAST ALLEGAN ST.
OTSEGO, MI 49078
800–401–6402
SETH PURUCKER

SEWER AND WATER:
CITY OF ALLEGAN
350 NORTH STREET
ALLEGAN, MI 49010
269–686–1117
DOUG SWEERIS, WATER UTILITY DIRECTOR

PHONE/CABLE:
CHARTER
380 OAKS CROSSING
PLAINWELL, MI 49080
888–438–2427
LEO SCOFIELD

PHONE/CABLE:
FRONTIER COMMUNICATIONS
601 NORTH US–131
THREE RIVERS, MI 49093
269–273–0383
LANCE WEBLEY

CALL MISS DIG

1–800–482–7171 OR 811

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

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

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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DATE: **JULY 2022**

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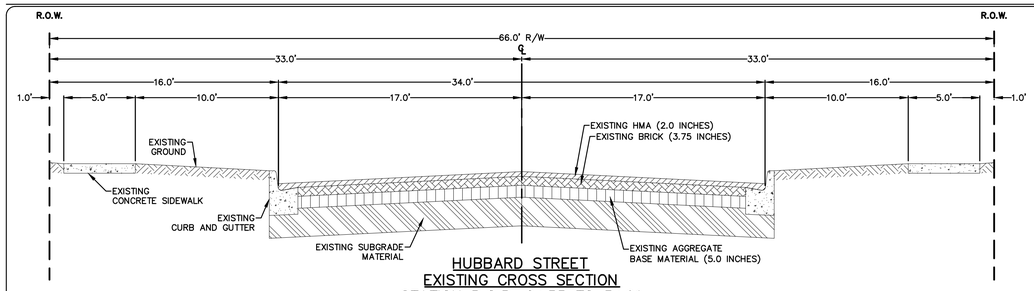
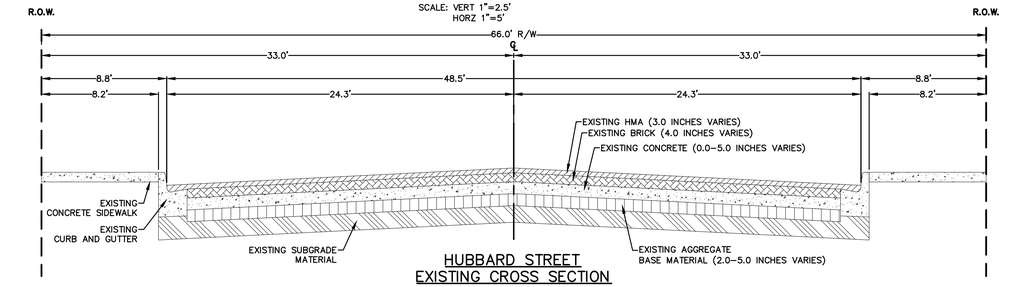
1 OF 53 2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
PROJECT# 21-1648

o:\Projects\2021\21-1648\Study\Issue\Addend\reconstruction\CAD_Civil\Drawings\21-1648 TL.dwg, TL, 8/3/2022 8:45:11 AM, abfisher, 1:1



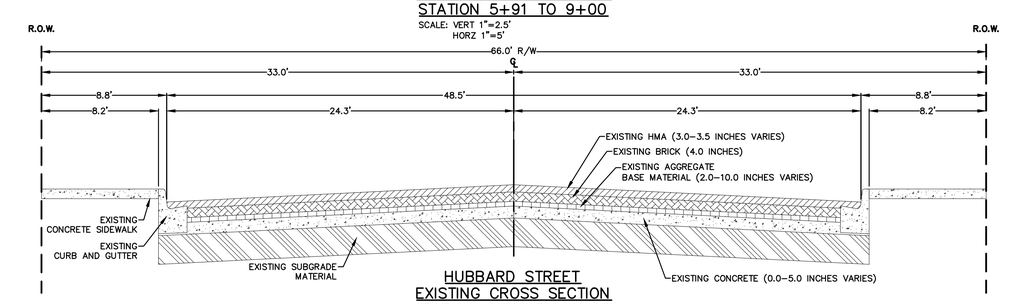
HUBBARD STREET
EXISTING CROSS SECTION
STATION P.O.B. 0+55 TO 5+91

SCALE: VERT 1"=2.5'
HORZ 1"=5'



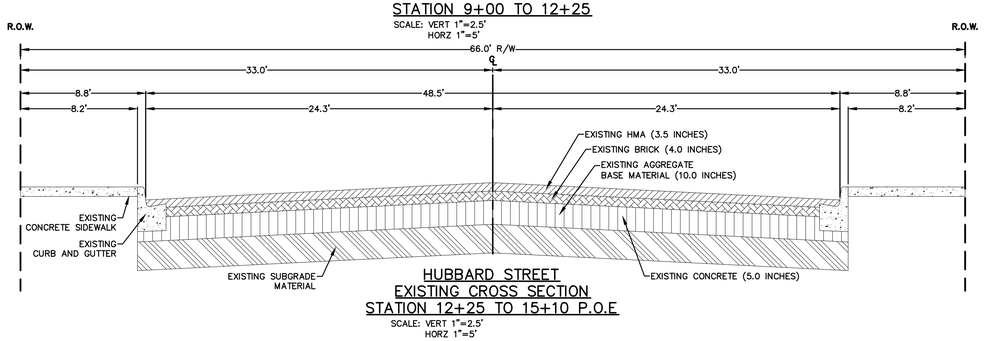
HUBBARD STREET
EXISTING CROSS SECTION
STATION 5+91 TO 9+00

SCALE: VERT 1"=2.5'
HORZ 1"=5'



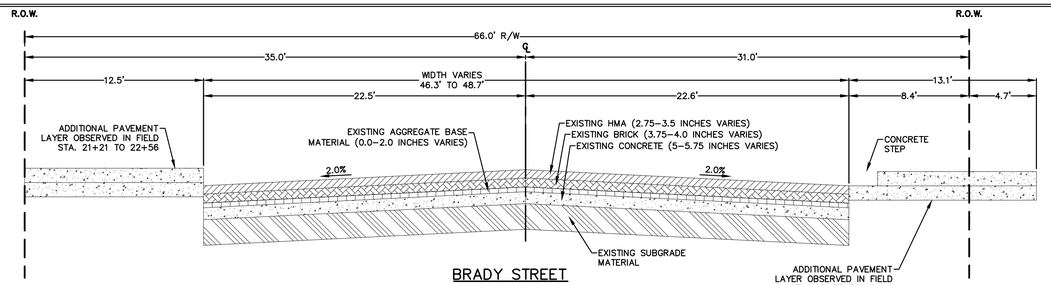
HUBBARD STREET
EXISTING CROSS SECTION
STATION 9+00 TO 12+25

SCALE: VERT 1"=2.5'
HORZ 1"=5'



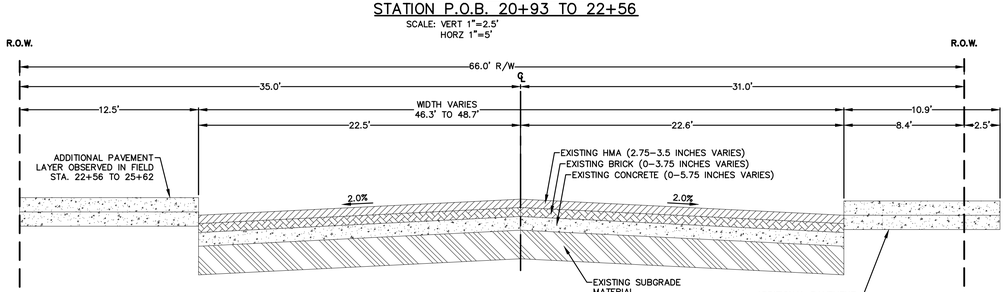
HUBBARD STREET
EXISTING CROSS SECTION
STATION 12+25 TO 15+10 P.O.E

SCALE: VERT 1"=2.5'
HORZ 1"=5'



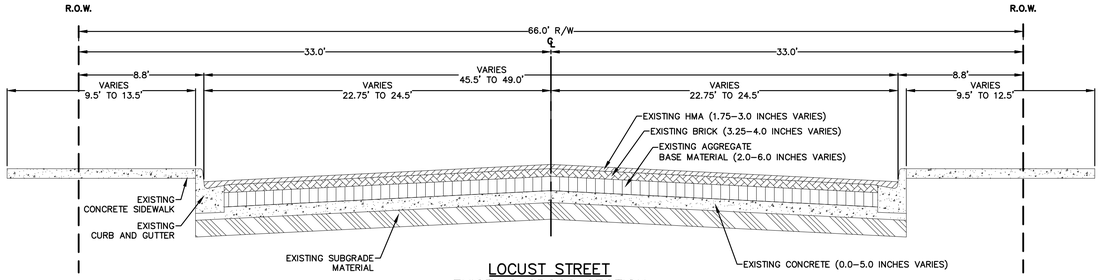
BRADY STREET
EXISTING CROSS SECTION
STATION P.O.B. 20+93 TO 22+56

SCALE: VERT 1"=2.5'
HORZ 1"=5'



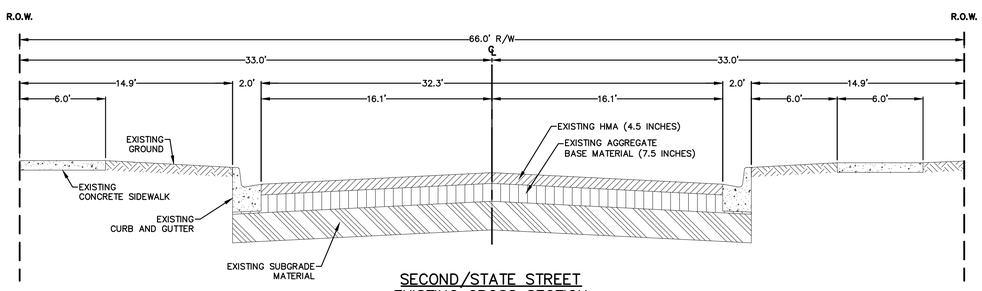
BRADY STREET
EXISTING CROSS SECTION
STATION 22+56 TO 25+62 P.O.E.

SCALE: VERT 1"=2.5'
HORZ 1"=5'



LOCUST STREET
EXISTING CROSS SECTION
STATION P.O.B. 30+93 TO 34+57 P.O.E.

SCALE: VERT 1"=2.5'
HORZ 1"=5'



SECOND/STATE STREET
EXISTING CROSS SECTION
STATION P.O.B. 50+12 TO 52+28 P.O.E.

SCALE: VERT 1"=2.5'
HORZ 1"=5'

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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Engineering Architecture Land Surveying

PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
EXISTING ROADWAY CROSS SECTIONS

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 5'
VERT: 1" = 2.5'

ACI JOB #
21-1648

SHEET NO.
2 of 53

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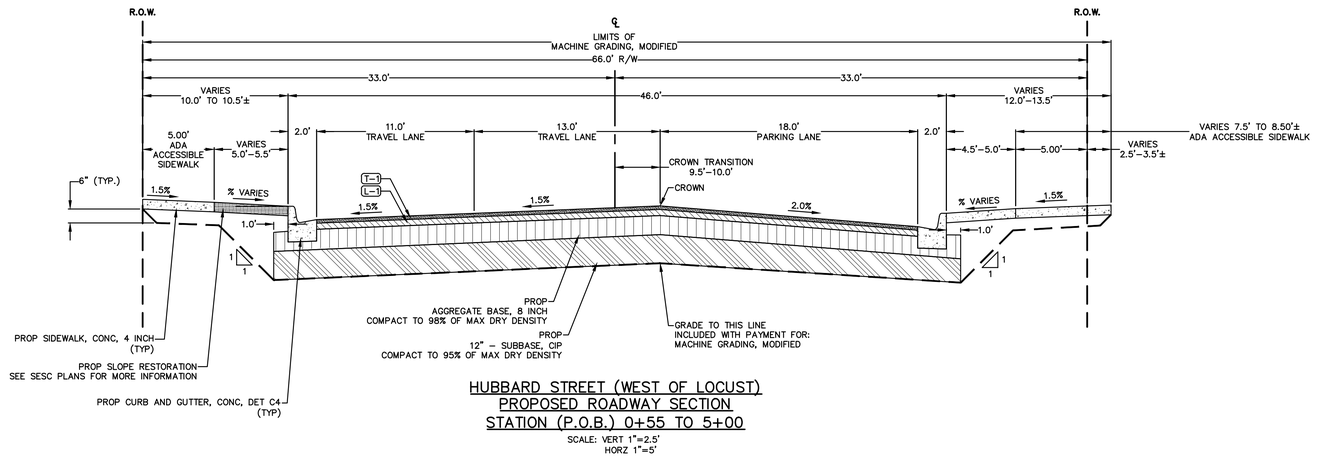
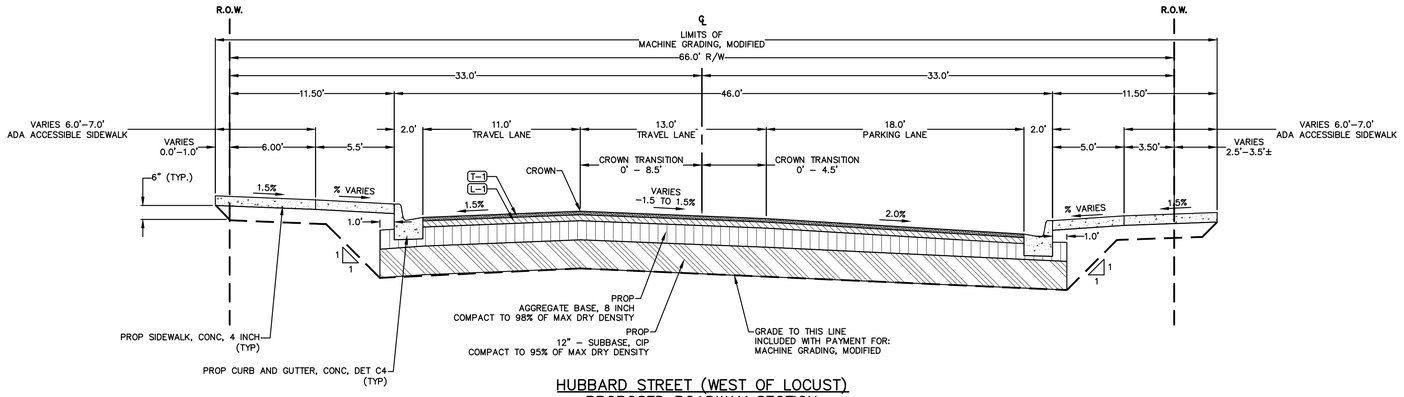


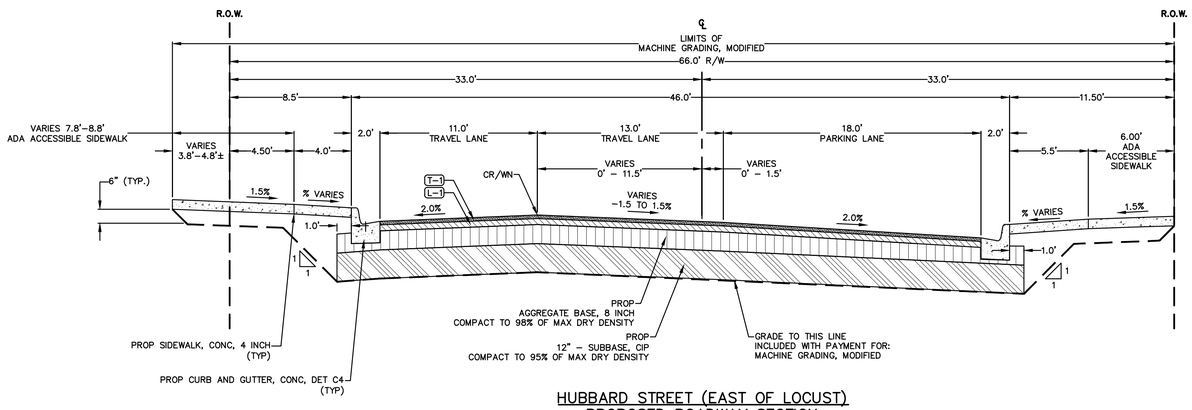
HUBBARD STREET (WEST OF LOCUST)
PROPOSED ROADWAY SECTION
STATION (P.O.B.) 0+55 TO 5+00

SCALE: VERT 1"=2.5'
HORZ 1"=5'



HUBBARD STREET (WEST OF LOCUST)
PROPOSED ROADWAY SECTION
STATION 5+00 TO 10+00

SCALE: VERT 1"=2.5'
HORZ 1"=5'



HUBBARD STREET (EAST OF LOCUST)
PROPOSED ROADWAY SECTION
STATION 10+00 TO 15+10 (P.O.E.)

SCALE: VERT 1"=2.5'
HORZ 1"=5'

HMA APPLICATION TABLE

IDENTIFICATION NO.	MIXTURE	RATE (LBS/SYD)	PERFORMANCE GRADE	TYPE
T-1	HMA, 5EML	220	64 – 28	TOP COURSE (AWI=260)
L-1	HMA, 4EML	275	64 – 28	LEVELING COURSE
HA-1	HMA, 5EML	220	64 – 28	TOP COURSE (AWI=260)
HA-2	HMA, 4EML	275	64 – 28	LEVELING COURSE
HP-1	HMA, 5EML	440	64 – 28	HAND PATCHING (2 EQ. LIFTS)

*HMA BOND COAT 0.05 TO 0.15 GAL/SYD REQUIRED BETWEEN ASPHALT LIFTS. (NOT A PAY ITEM)

HATCH LEGEND

- HMA, 5EML (TOP COURSE)
- HMA, 4EML (LEVELING COURSE)
- DENSE GRADED AGGREGATE MAT'L
- SUBBASE, CIP
- CONCRETE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
PROPOSED ROADWAY CROSS SECTIONS - 1

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 5'
VERT: 1" = 2.5'

ACI JOB #
21-1648

SHEET NO.
3 of 53

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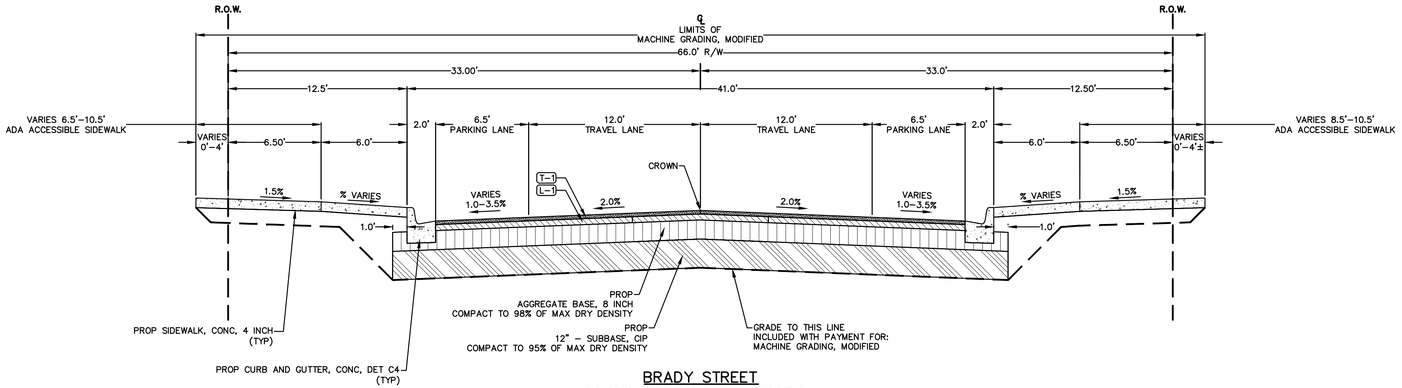
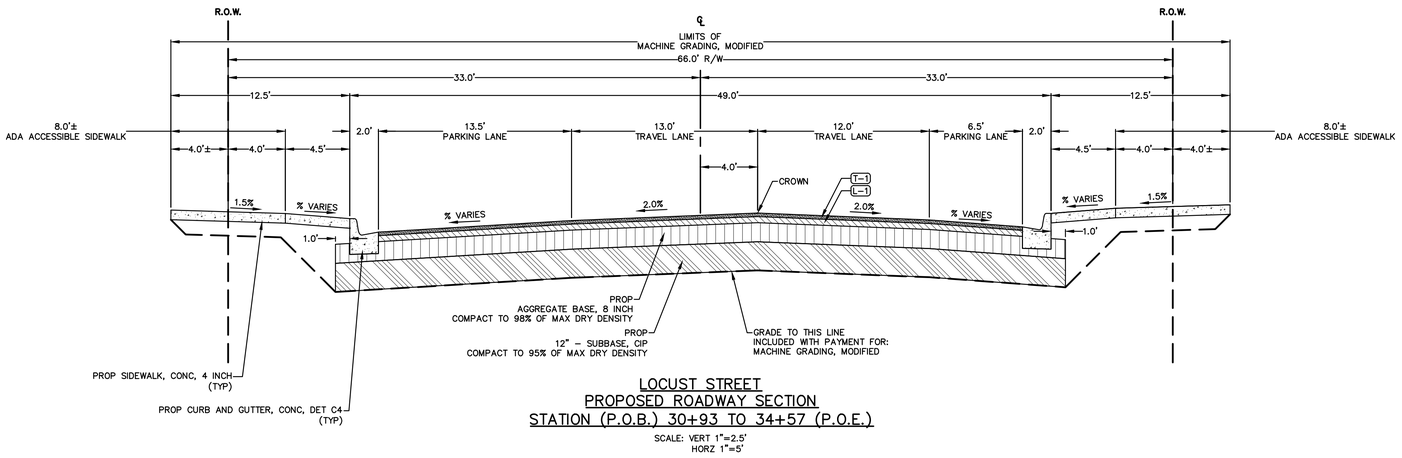


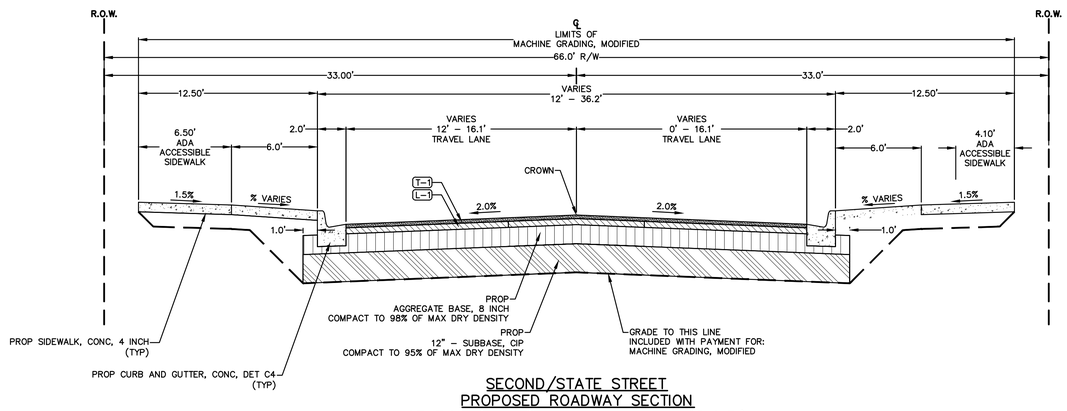
BRADY STREET
PROPOSED ROADWAY SECTION
STATION (P.O.B.) 20+93 TO 25+62 (P.O.E.)

SCALE: VERT 1"=2.5'
HORZ 1"=5'



LOCUST STREET
PROPOSED ROADWAY SECTION
STATION (P.O.B.) 30+93 TO 34+57 (P.O.E.)

SCALE: VERT 1"=2.5'
HORZ 1"=5'



SECOND/STATE STREET
PROPOSED ROADWAY SECTION
STATION (P.O.B.) 50+12 TO 52+28 (P.O.E.)

SCALE: VERT 1"=2.5'
HORZ 1"=5'

HMA APPLICATION TABLE

IDENTIFICATION NO.	MIXTURE	RATE (LBS/SYD)	PERFORMANCE GRADE	TYPE
T–1	HMA, 5EML	220	64 – 28	TOP COURSE (AW=260)
L–1	HMA, 4EML	275	64 – 28	LEVELING COURSE
HA–1	HMA, 5EML	220	64 – 28	TOP COURSE (AW=260)
HA–2	HMA, 4EML	275	64 – 28	LEVELING COURSE
HP–1	HMA, 5EML	440	64 – 28	HAND PATCHING (2 EQ. LIFTS)

*HMA BOND COAT 0.05 TO 0.15 GAL/SYD REQUIRED BETWEEN ASPHALT LIFTS. (NOT A PAY ITEM)

HATCH LEGEND

- HMA, 5EML (TOP COURSE)
- HMA, 4EML (LEVELING COURSE)
- AGGREGATE BASE, 4 INCH OR 8 INCH
- SUBBASE, CIP
- CONCRETE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
PROPOSED ROADWAY CROSS SECTIONS - 2

DRAWN BY: 55
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 5'
VERT: 1" = 2.5'

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SHEET NO.
4 of 53

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BORING LOGS

SOILS & STRUCTURES — Borehole ID: TB-01
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 377582.2	**Easting:** 12724081.6 / **Elevation:** 646.06
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes:			

Material Description:
- ASPHALT - (3.5")
- GRAVEL - brown sandy (10.5")
- SAND - very compact brown fine to medium with gravel with a trace of silt (possible fill)
- SAND - very compact brown fine to coarse gravelly

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	47	8-14-16	30							SP
SPT-B	80	10-10-14	24			3.3				SP
SPT-C	67	6-8-13	21							SP
SPT-D	80	6-13-16	29			3.9				SP
SPT-E	0	18-18-19	37							SP
SPT-F	80	15-22-20	42			3.1				SP

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SOILS & STRUCTURES — Borehole ID: TB-02
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 377808.1	**Easting:** 12723902.2 / **Elevation:** 646.12
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes:			

Material Description:
- ASPHALT - (2.75")
- BRICK - (3.75")
- CONCRETE - (5.75")
- SAND - slightly compact to compact brown fine to coarse with gravel (possible fill)
- SAND - very compact to extremely compact brown fine to coarse gravelly with a trace of silt
- SAND - very compact light brown fine to medium

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	67	5-4-3	7			6.4				SP
SPT-B	13	6-5-6	11							SP
SPT-C	53	10-16-12	28							SP
SPT-D	80	10-21-22	43			3.7				SP
SPT-E	100	50	100							SP
SPT-F	80	6-10-21	31			3.0				SP

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SOILS & STRUCTURES — Borehole ID: TB-03
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 377993.8	**Easting:** 12723749.9 / **Elevation:** 647.84
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-25	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes: Offset 5 feet for refusal at 5.0 feet			

Material Description:
- ASPHALT - (3.0")
- BRICK - (4.0")
- GRAVEL - extremely compact brown crushed concrete (2.0")
- CONCRETE - (5.0")
- SAND - very compact brown fine to medium gravelly (possible fill)
- GRAVEL - extremely compact brown sandy with cobbles (possible fill)
- SAND - slightly compact to compact brown fine to medium with a trace of gravel (possible fill)
- SAND - very compact light brown fine to medium with a trace of silt with a trace of gravel
- SAND - very compact light brown fine to coarse with a trace of silt with a trace of gravel

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	70	5-3-18/0.42'	21							SP
SPT-B	95	50/0.21'	100			0.5				GP
SPT-C	33	5-3-3	6							SP
SPT-D	0	6-6-9	15							SP
SPT-E	100	11-18-20	38			3.0				SP
SPT-F	80	17-15-14	29							SP

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SOILS & STRUCTURES — Borehole ID: TB-04
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 377958.6	**Easting:** 12724085.8 / **Elevation:** 642.87
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes:			

Material Description:
- ASPHALT - (3.5")
- BRICK -(4.0")
- GRAVEL - brown (10.0")
- SAND - brown fine to medium gravelly
- SAND - slightly compact brown fine to medium (possible fill)
- GRAVEL - very compact brown sandy with a trace of silt
- GRAVEL - extremely compact brown sandy with cobbles
- SAND - very compact brown fine to coarse gravelly with a trace of silt

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	100	3-2-3	5							SP
SPT-B	100	3-3-4	7			5.4				SP
SPT-C	53	32-18-25	43							GP
SPT-D	0	50/0.42'	100							GP
SPT-E	80	31-21-25	46			3.0				SP
SPT-F	80	12-18-21	39							SP

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SOILS & STRUCTURES — Borehole ID: TB-05
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 378308.6	**Easting:** 12723788.5 / **Elevation:** 656.73
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes:			

Material Description:
- ASPHALT - (1.75")
- BRICK - (3.25")
- GRAVEL - brown sandy (6.0")
- SAND - slightly compact to compact brown fine to medium gravelly with a trace of silt (possible fill)
- SAND - extremely compact brown fine to medium gravelly with cobbles with a trace of silt
- SAND - compact to very compact light brown fine to medium with a trace of silt

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	100	3-3-3	6			6.7				SP
SPT-B	53	7-3-5	8							SP
SPT-C	47	35-39-12	51							SP
SPT-D	80	5-5-6	11			3.5				SP
SPT-E	80	6-9-12	21							SP
SPT-F	100	4-5-6	11			3.6				SP

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SOILS & STRUCTURES — Borehole ID: TB-06
Sheet 1 of 1

Project Name: Brady Hubbard Locust	**Project Number:** 2021.2004		
Project Location: Allegan, Michigan	**Logged By:** A Hohmeyer	**Reviewed By:** K Martella	
Client: Abonmarche	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Oct 28 2021	**Completed:** Oct 28 2021	**Northing:** 378051.8	**Easting:** 12723378.1 / **Elevation:** 655.03
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	Oct 28 2021 - Water Not Encountered	
Hammer Type: Manual Hammer	End of Drilling	Oct 28 2021 - Water Not Encountered	
Notes: Contaminated odor at 20.0 feet			

Material Description:
- ASPHALT - (2.0")
- BRICK - (3.75")
- GRAVEL - sandy
- SAND - slightly compact to compact brown fine to coarse gravelly with silt (possible fill)
- SAND - very compact brown fine to coarse gravelly with a trace of silt
- SILT - very stiff brown with sand
- SAND - very compact dark gray fine to medium contaminated odor

Number	Recovery % RQD	Blow Counts	N-Value	Pocket Pen (tsf)	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
SPT-A	67	9-6-4	10							SP-SM
SPT-B	0	4-3-4	7							SP-SM
SPT-C	80	5-3-5	8			12.2				SP-SM
SPT-D	0	8-7-7	14							SP-SM
SPT-E	80	11-9-13	22							SP
SPT-F	100	8-9-15	24			27.4				ML

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SOILS & STRUCTURES — Borehole ID: TB-07
Sheet 1 of 1

Project Name: 2nd Street Reconstruction	**Project Number:** 2020.1529		
Project Location: Allegan, Michigan	**Logged By:** C Prell	**Reviewed By:** W. Stambaugh	
Client: Abonmarche Consultants	**Survey Datum:** NAD 1983 StatePlane Michigan South	**Hole Depth:** 20.00	
Date Started: Sep 29 2020	**Completed:** Sep 29 2020	**Northing:** 377501.3	**Easting:** 12724041.9 / **Elevation:** 640.74
Drilling Method: 3-1/4" Hollow Stem Auger	**Ground Water Levels**		
Equipment: Diedrich D-50	At Time of Drilling	19.00 on Sep 29 2020 - Perched Water Encountered.	
Hammer Type: Manual Hammer	End of Drilling	Sep 29 2020 - Water Not Encountered	
Notes:			

Material Description:
- ASPHALT - (4.5")
- SAND - brown medium to coarse gravelly with a trace of silt
- SAND - compact brown fine to coarse gravelly with clay
- SAND - slightly compact brown fine to medium gravelly with silt
- SAND - compact brown fine to coarse with a trace of gravel
- SAND - compact light brown fine with a trace of silt and gravel
- SAND - compact gray fine silty

Cautionary Condition	Number	Recovery % RQD	Blow Counts	N-Value	Shear Strength (tsf)	Moisture Content (%)	Liquid Limit	Plastic Limit	Plasticity Index	USCS
	SPT-A	67	6-7-6	13		5.9				SW-SC
	SPT-B	87	2-2-3	5		8.6				SW-SM
	SPT-C	67	4-6-7	13						SP
	SPT-D	100	3-5-6	11						SP
	SPT-E	87	5-6-7	13						SP
	SPT-F	87	5-4-8	12						SM

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NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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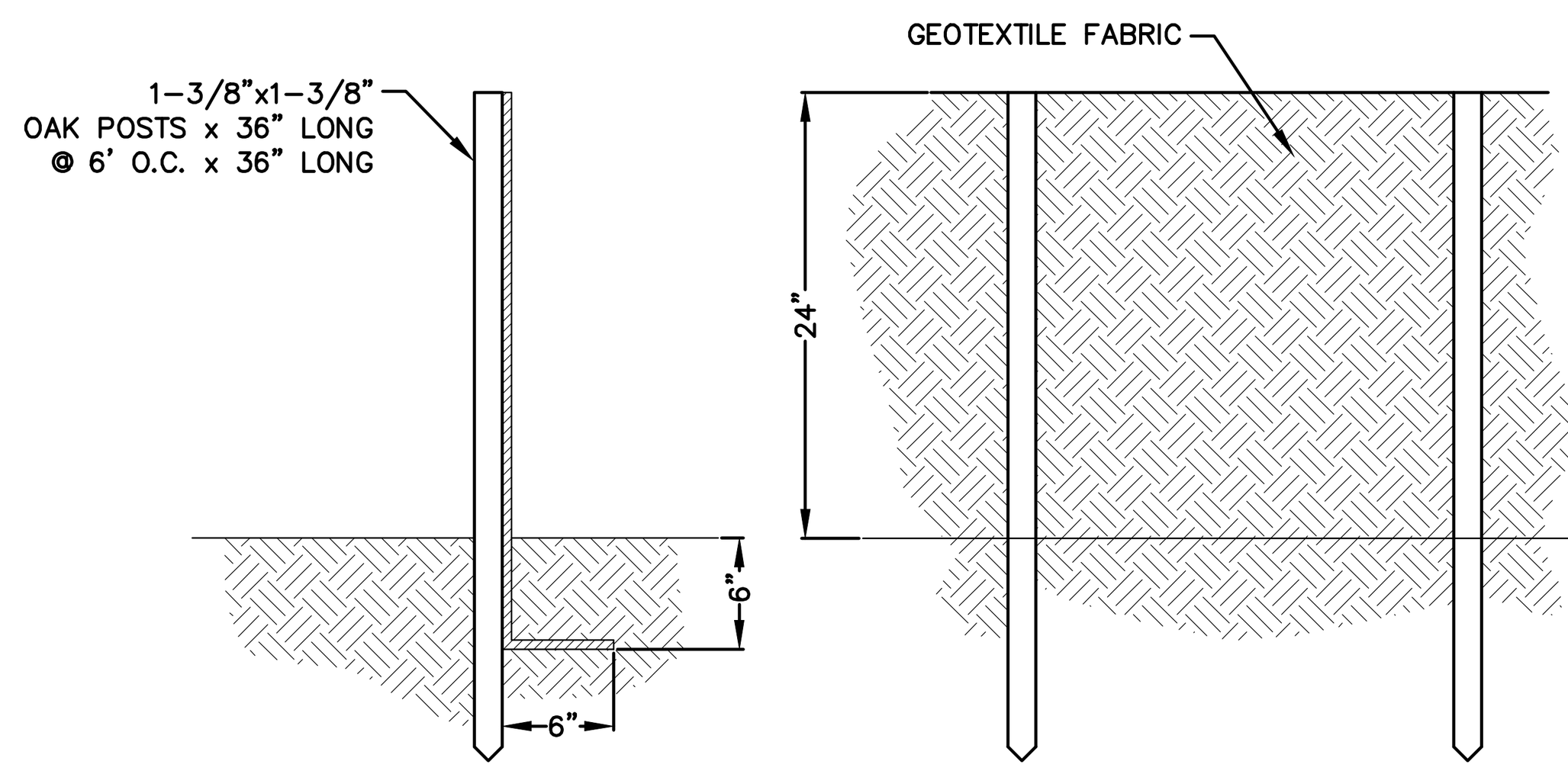
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS CITY OF ALLEGAN CWSRF PROJECT NO.: 5773-01

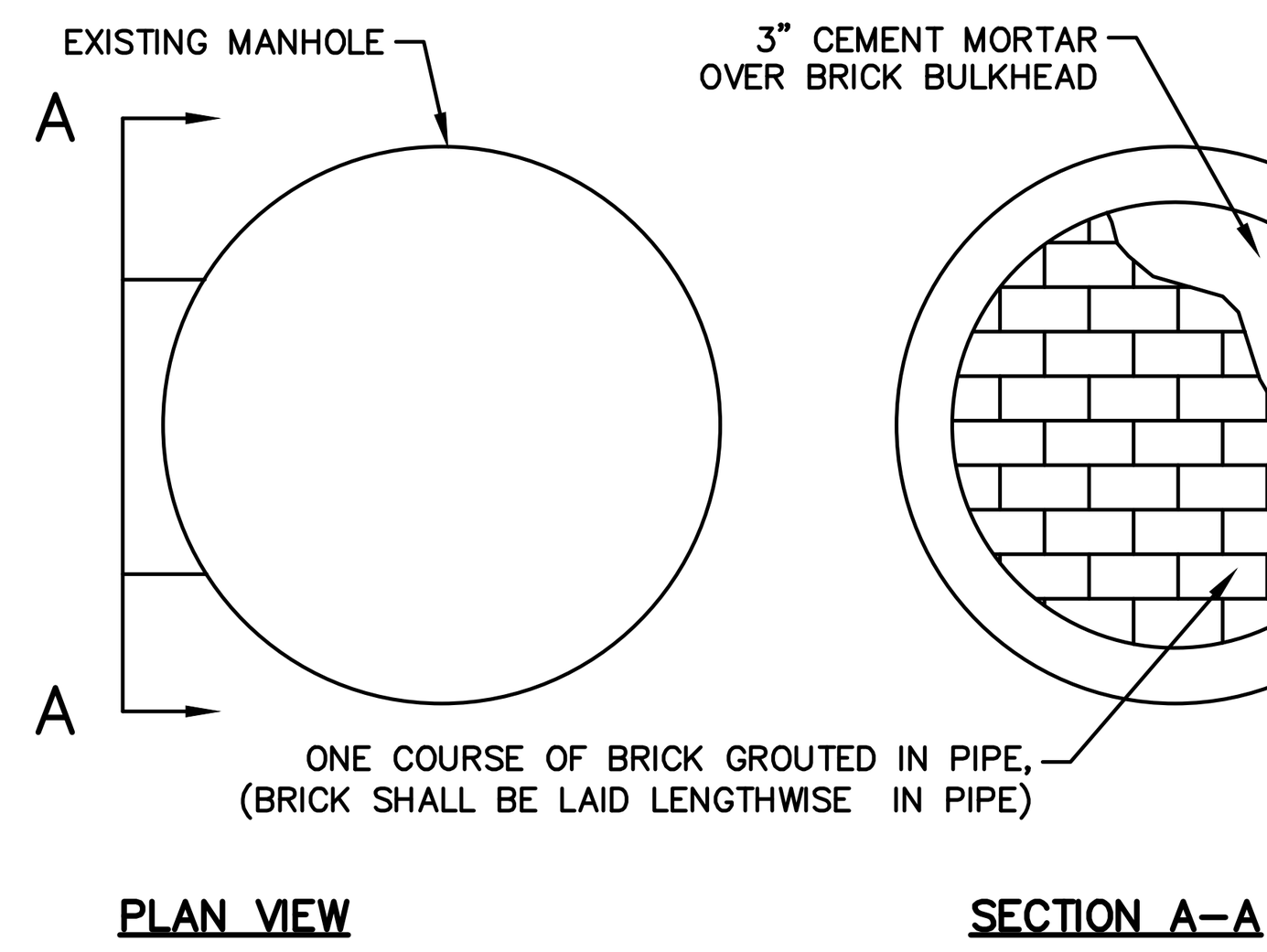
SHEET TITLE: **BORING LOGS**

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: N/A VERT: N/A
ACI JOB # 21-1648

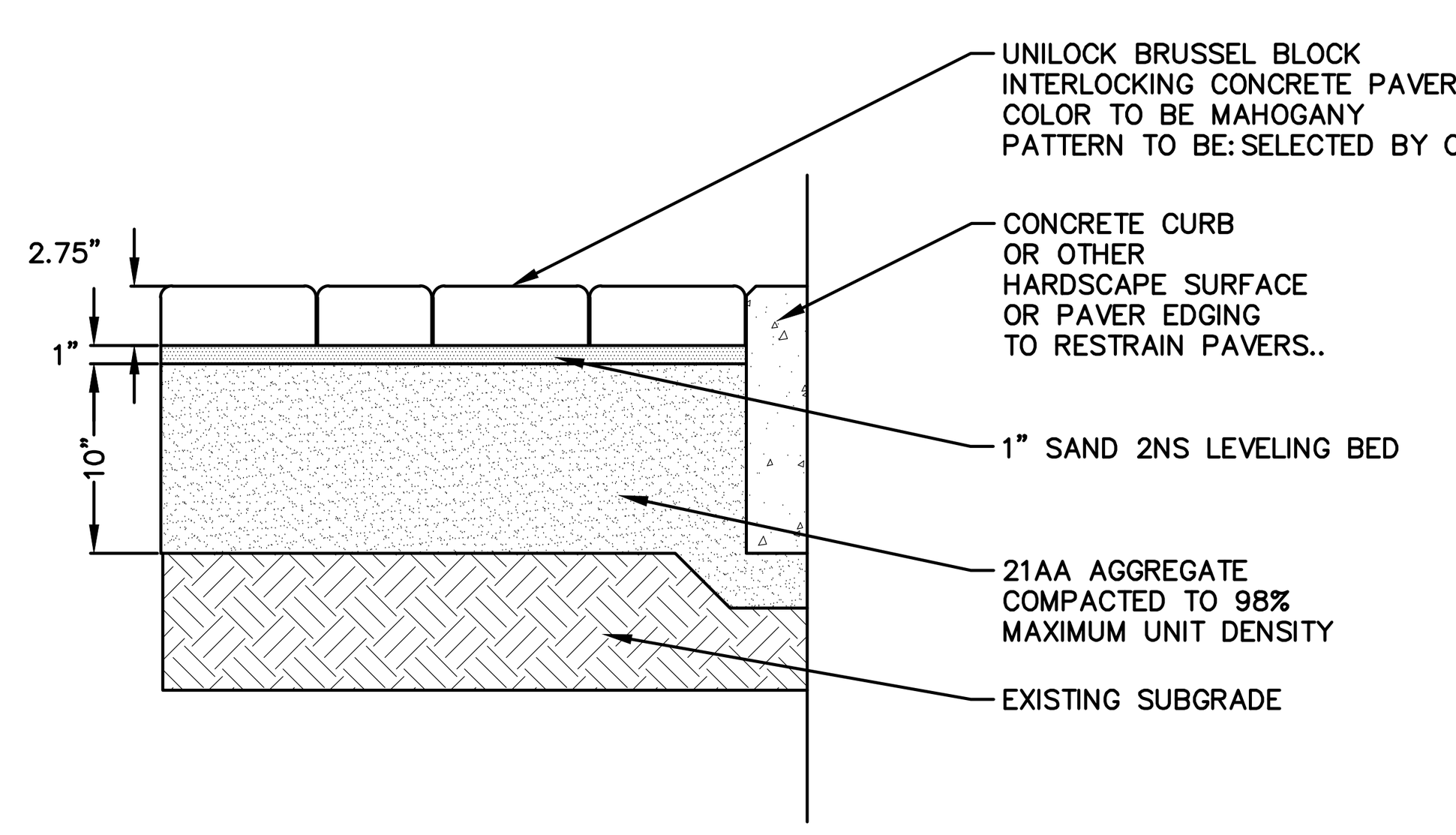
o:\Projects\2021\21-1648 brady-locust-hubbard reconstruction\CAD_Civil\Drawings\21-1648 BORINGS.dwg, BORINGS, 8/3/2022 9:45:31 AM, erfisher, 1:1



SILT FENCE
NOT TO SCALE



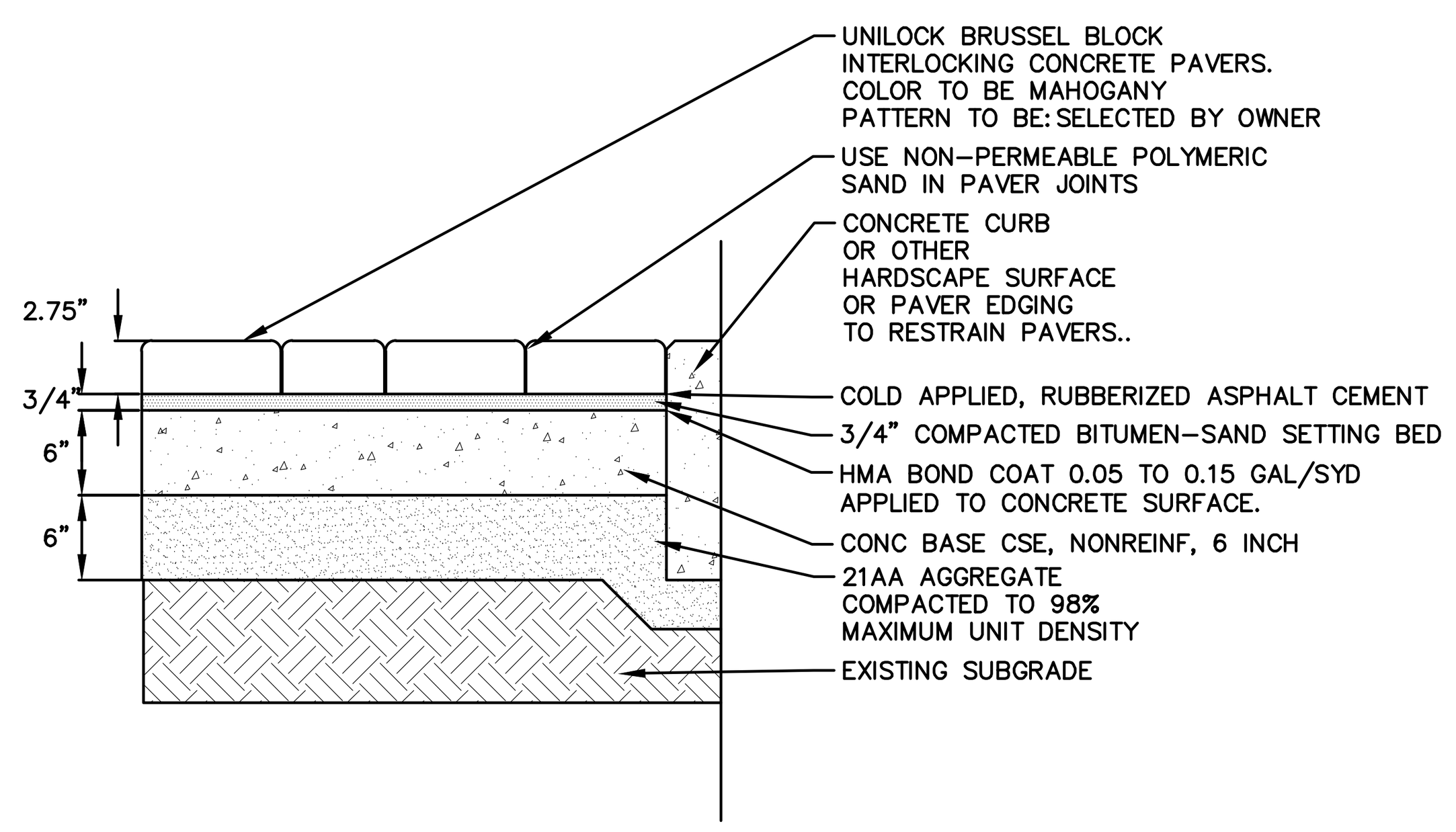
BULKHEAD DETAIL
NOT TO SCALE



NOTE:
1. DETAIL A SHALL BE USED IN AREAS WITH ADJACENT FULL HEIGHT CURBS, THAT ARE NOT SUSCEPTIBLE TO VEHICULAR OFF–TRACKING, AS CALLED ON THE PLANS
2. LEVELING SAND BED, GEOTEXTILE SEPARATOR, AND POLYMERIC JOINTING SAND ARE INCLUDED IN PAYMENT FOR ITEM "CONCRETE PAVER, SAND BED, 2.75 INCH"

CONCRETE PAVER DETAIL, DETAIL A
NOT TO SCALE

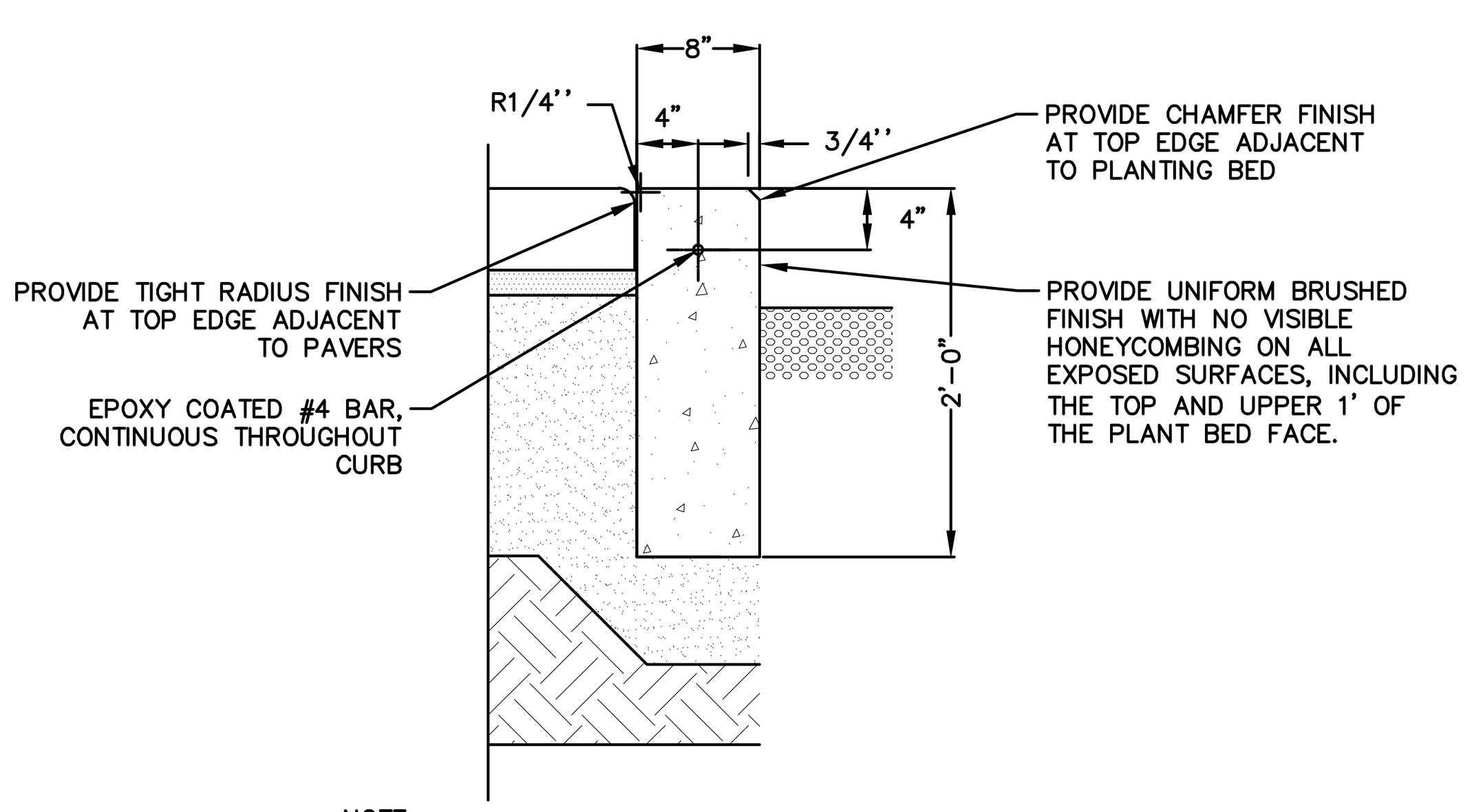
The following quantities are paid per square yard of "Concrete Pavers, Det A" as called on the plans.		
Item Description	Unit	QTY
Aggregate Base, 10 inch	Syd	1
Concrete Paver, Sand Bed, 2.75 Inch	Sft	9



NOTE:
1. DETAIL B SHALL BE USED IN AREAS WITHOUT ADJACENT FULL HEIGHT CURBS, SUSCEPTIBLE TO VEHICULAR OFF–TRACKING, AS CALLED ON THE PLANS
2. BOND COAT, BITUMEN–SAND BED, RUBBERIZED ASPHALT CEMENT, AND POLYMERIC JOINTING SAND ARE INCLUDED IN PAYMENT FOR ITEM "CONCRETE PAVER, ASPHALT BED, 2.75 INCH"

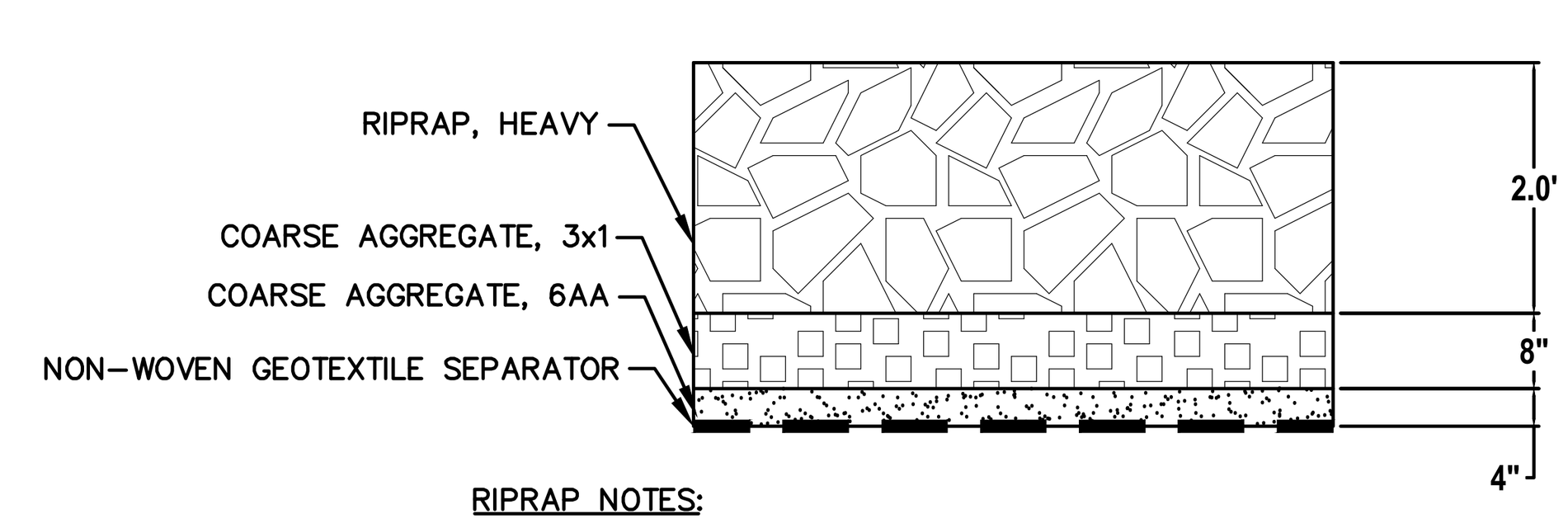
CONCRETE PAVER DETAIL, DETAIL B
NOT TO SCALE

The following quantities are paid per square yard of "Concrete Pavers, Det B" as called on the plans.		
Item Description	Unit	QTY
Aggregate Base, 6 inch	Syd	1
Conc Base Cse, Nonreinf, 6 inch, Modified	Syd	1
Concrete Paver, Asphalt Bed, 2.75 Inch	Sft	9



NOTE:
1. ALL DETAILS AND DIMENSIONS NOT SHOWN SHALL CONFORM TO THE R–30–G SERIES STANDARD PLANS

CURB AND GUTTER, CONC, DET E4, MODIFIED
NOT TO SCALE



RIPRAP NOTES:

1. CRUSHED CONCRETE WILL NOT BE ACCEPTABLE FOR USE IN ANY AGGREGATE APPLICATIONS NEAR BODIES OF WATER.
2. AREAS OF RIPRAP PLACEMENT SHALL BE EXCAVATED TO SUFFICIENT DEPTH TO PREVENT CHANGING THE EXISTING SURFACE PROFILE.
3. ALL EXCAVATION, GEOTEXTILE, FURNISHING, PLACEMENT, AND COMPACTION OF AGGREGATES IS INCLUDED FOR PAYMENT IN THE ITEM RIPRAP, MODIFIED.

RIPRAP, MODIFIED
NOT TO SCALE

STANDARD LEGEND

- CB = CATCH BASIN
- CB = CURB CATCH BASIN
- E = ELECTRIC LOCATION
- EMH = ELECTRIC MANHOLE
- W = ELECTRIC METER
- = FIRE HYDRANT
- FL = FLAG POLE
- FMON = FOUND MONUMENT
- FIP = FOUND IRON PIPE
- FIR = FOUND IRON ROD
- FX = FOUND X
- G = GAS LOCATION
- GMH = GAS MANHOLE
- G = GAS METER
- G = GAS VALVE
- MH = GENERAL MANHOLE
- = GUARD POST
- = GUARDRAIL
- = GUY POLE
- = GUY WIRE
- LP = LIGHT POLE
- = MAIL BOX
- PP = POWER POLE
- PP/D = POWER POLE W/DROP
- CO = SANITARY CLEANOUT
- SMH = SANITARY MANHOLE
- SIR = SET IRON ROD
- = SIGN POST
- SB#XX = SOIL BORING LOCATION
- STMH = STORM MANHOLE
- = STREET SIGN
- T = TELEPHONE LOCATION
- TMH = TELEPHONE MANHOLE
- T = TELEPHONE PEDESTAL
- TP = TELEPHONE POLE
- = TRAFFIC SIGN
- UP = UTILITY POLE
- UP/D = UTILITY POLE W/DROP
- UP/L = UTILITY POLE W/STREET LIGHT
- CS = WATER CURB STOP
- W = WATER LOCATION
- WMH = WATER MANHOLE
- W = WATER METER
- W = WATER VALVE
- W = EXISTING WATER MAIN
- >> = EXISTING SANITARY SEWER
- > = EXISTING STORM SEWER
- = OVERHEAD UTILITIES
- G = GAS MAIN/LINE
- T = BURIED TELEPHONE
- FOC = BURIED FIBER OPTIC
- E = ELECTRICAL
- = BURIED ELECTRICAL
- = CHAINLINK FENCE
- x = WIRE FENCE
- = WOOD FENCE
- PW = PROP WATER MAIN
- WS WS = PROP WATER SERVICE
- SS SS = PROP SANITARY SERVICE
- STS STS = PROP STORM SERVICE
- R/W = RIGHT OF WAY
- x x x = UTILITY REMOVAL

GENERAL NOTES:

1. MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, 2020 EDITION SHALL PREVAIL, UNLESS INDICATED OTHERWISE.
2. THREE WORKING DAYS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL REQUEST THE LOCATIONS OF ALL UTILITIES BY CALLING MISS DIG.
3. A MINIMUM OF 18'' VERTICAL CLEARANCE IS REQUIRED WHERE:
   A. WATER MAIN AND SANITARY SEWER CROSS
   B. WATER MAIN AND STORM SEWER CROSS
   C. STORM AND SANITARY SEWER CROSS
   UNLESS OTHERWISE SPECIFIED.
4. A MINIMUM OF 10' HORIZONTAL SEPARATION SHALL BE MAINTAINED WHERE WATER MAINS AND SEWERS RUN PARALLEL.
5. UNLESS OTHERWISE DESIGNATED ON THE PLANS OR SPECIFICATION, ALL TRENCH AND BEDDING SPECIFIED SHALL BE PER MDOT STANDARD PLAN R–83 SERIES, AND UTILIZE DETAIL B1, B2, OR G FOR THEIR RESPECTIVE PIPE MATERIALS.
6. ANY EXCESS/UNSUITABLE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND THEY SHALL BE RESPONSIBLE FOR THE PROPER DISPOSAL OF THIS MATERIAL.
7. DEWATERING, IF REQUIRED, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND NO EXTRA PAYMENT SHALL BE MADE THEREFORE.
8. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ''AS–RECORDED'' DRAWINGS OF THE SEWERS, WATER MAINS, AND WATER SERVICES UPON COMPLETION OF THE PROJECT.
9. THE ENGINEER SHALL PROVIDE CONSTRUCTION STAKING AS DEFINED IN THE SPECIFICATIONS.
10. ~~WHEN LOWERING OF ROADWAY RESULTS IN INSUFFICIENT COVER (LESS THAN 5') OVER EXISTING WATER MAIN, INSULATION SHALL BE UTILIZED AS DIRECTED BY THE ENGINEER. PAYMENT SHALL BE INCLUDED WITH ASSOCIATED UTILITY WORK.~~
11. TREES NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED BY THE CONTRACTOR. DAMAGED TREES SHALL BE RESTORED TO THE ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE. ALL TREES DAMAGED BEYOND SAVING AS DETERMINED BY THE ENGINEER SHALL BE REMOVED AND REPLACED WITH A NURSERY GROWN TREE AS SPECIFIED BY THE ENGINEER.
12. REMOVED MANHOLE CASTINGS AND FIRE HYDRANTS SHALL BECOME THE PROPERTY OF THE CITY OF ALLEGAN AND SHALL BE DELIVERED TO THE CITY DEPT. OF PUBLIC WORKS, LOCATED AT 691 AIRWAY DRIVE, ALLEGAN, MICHIGAN.
13. REMOVAL OF ABANDONED CONFLICTING UTILITIES SHALL BE CONSIDERED INCLUDED WITH THE ITEM BEING CONSTRUCTED, INCLUDING BULKHEADING ALL PIPES 12'' DIA. OR LESS (PIPES IN EXCESS OF 12'' DIA. SHALL BE PAID FOR AS A SEWER BULKHEAD).
14. FITTINGS, PIPE EXTENSIONS AND APPURTENANCES NECESSARY TO CONNECT EXISTING PIPES TO PROPOSED MANHOLES, SHALL BE INCLUDED IN THE UNIT PRICE FOR THE PROPOSED STRUCTURE.
15. WHERE APPROVED BY THE ENGINEER, PIPES DESIGNATED FOR REMOVAL MAY BE FILLED WITH FLOWABLE FILL AND REMAIN IN PLACE.
16. WHERE CONCRETE SIDEWALK IS ADJACENT TO THE BACK OF CURB, A 1/2'' EXPANSION JOINT SHALL BE PLACED BETWEEN THE CURB AND SIDEWALK. PAYMENT IS INCLUDED IN CONCRETE SIDEWALK.
17. CONCRETE STEPS DESIGNATED FOR REMOVAL AND REPLACEMENT SHALL BE PAID AS ''STEPS, CONC'' BY THE CUBIC YARD OF CONCRETE IN ACCORDANCE WITH 2020 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION, SECTION 803. REPLACE STEPS WITH 7.5'' RISERS AND 12'' TREADS. STEPS SHALL BE REINFORCED WITH #4 REBAR SPACED AT 6'' HORIZONTALLY AND 7.5'' VERTICALLY.

STORM SEWER:

1. MANHOLE CASTINGS SHALL BEAR THE CITY LOGO AND THE LEGEND ''STORM'' OR ''STORM SEWER.'' CATCH BASIN INLETS SHALL BEAR THE TEXT ''DUMP NO WASTE – DRAINS TO WATERWAYS.''
2. STORM MANHOLE COVERS SHALL BE MDOT COVER B, CATCH BASIN COVERS SHALL BE MDOT COVER K UNLESS NOTED OTHERWISE.
3. PROPOSED STORM AND SANITARY MANHOLES SHALL BE 4 FEET IN DIAMETER UNLESS NOTED OTHERWISE.
4. WHERE NEW SEWER IS TO REPLACE EXISTING SEWER IN THE SAME TRENCH REMOVAL OF EXISTING SEWER SHALL BE INCLUDED AS PART OF NEW SEWER ITEM.
5. DIA. CATCH BASINS WITH EJIW 7030/7035 (DOUBLE–WIDE) CASTINGS SHALL BE FABRICATED TO PROVIDED INCREASED INLET AREA AT NO ADDITIONAL COST.

ROADWAY:

1. BACKFILL MATERIAL WITHIN THE ZONE OF INFLUENCE OF A ROADWAY SHALL BE CLASS II SAND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY IN 12'' MAXIMUM LIFTS.
2. DRIVEWAY OPENINGS SHALL BE MDOT TYPE L OR M PER STANDARD PLAN R–29 SERIES.
3. PAVEMENT DESIGNATED FOR REMOVAL SHALL BE SAWCUT FULL DEPTH AT REMOVAL LIMITS PRIOR TO REMOVAL.
4. PAVT, REM, MODIFIED SHALL INCLUDE FULL DEPTH PAVEMENT REMOVAL REGARDLESS OF MATERIAL OR DEPTH. SEE EXISTING SECTIONS FOR EXISTING PAVEMENT INFORMATION.
5. CURB HEAD ON M–TYPE OPENING SHALL BE A UNIFORM SLOPE OVER THE ENTIRE LENGTH. THE ELEVATION OF THE CURB HEAD SHALL NOT EXCEED THE SURFACE OF THE ADJACENT WALK AT ANY POINT.

SESC:

1. THE CONTRACTOR SHALL BE REQUIRED TO APPLY FOR AND OBTAIN ALL REQUIRED SOIL EROSION AND SEDIMENTATION CONTROL PERMITS.

Miscellaneous Quantities Item Description	Unit	Sht 6 Quantity
Mobilization, Max $300,000	LSUM	1
Tree, Rem, 19 inch to 36 inch	Ea	1
Abandon Basement	Ft	200
Non Haz Contaminated Material Handling and Disposal, LM	Cyd	740
Subgrade Undercutting, Type II	Cyd	200
Non Haz Contaminated Material Testing and Classification	Ea	4
Maintenance Gravel, LM	Cyd	225
Hand Patching	Ton	20
Private Water Serv, 1 inch, Trenchless	Ft	100
Private Water Serv, 2 inch, Trenchless	Ft	50
Curb Stop and Box	Ea	5
Private Water Serv, Conn to Ex	Ea	5
Water Serv, Long, 1 inch, Modified	Ea	5
Water Serv, Long, 2 inch, Modified	Ea	5
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	200

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
STANDARD DETAILS AND NOTES

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: AS NOTED
VERT: AS NOTED
ACI JOB # 21-1648
SHEET NO.

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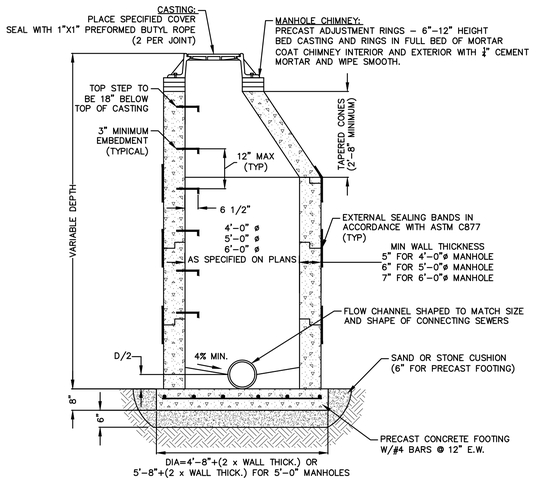
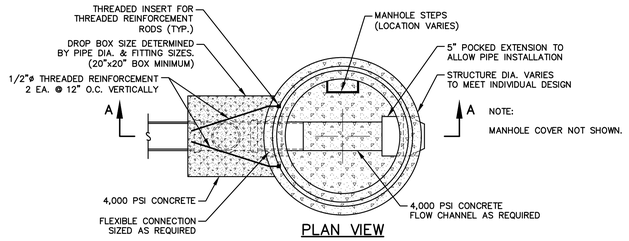


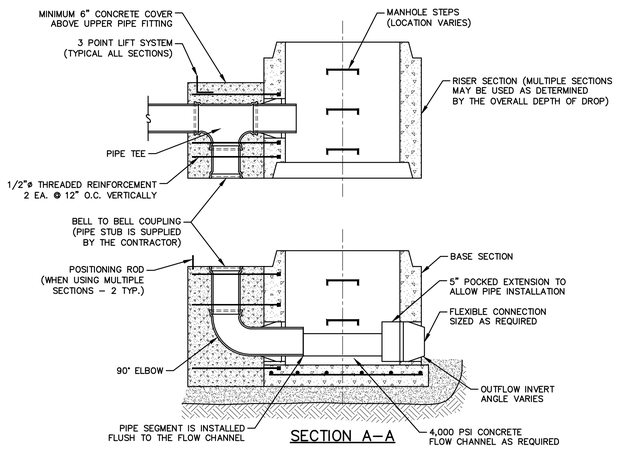
MANHOLE NOTES:

1. STEPS SHALL BE OF AN APPROVED DESIGN, MADE OF CAST IRON, ALUMINUM, OR PLASTIC COATED STEEL. RUNGS SHALL BE A MINIMUM OF 10" CLEAR LENGTH, DESIGNED TO PREVENT THE FOOT FROM SLIPPING OFF THE END AND CAPABLE OF SUPPORTING 300 POUNDS.
2. THE TOP PORTION OF THE PRECAST REINFORCED UNITS SHALL BE ECCENTRIC.
3. RUBBER BOOTS SHALL BE USED FOR ALL PIPE ENTERING/EXITING THE MANHOLE.

STANDARD SANITARY MANHOLE
NOT TO SCALE



PLAN VIEW



SECTION A–A

PRECAST EXTERNAL DROP MANHOLE
NOT TO SCALE

APPROX. BOX WEIGHTS (PER LINEAR FOOT)*					
STRUCTURE DIA.	48"	60"	72"	84"	96"
BOX SIZE **					
20" x 20"	410#	415#	420#	425#	425#
24" x 24"	575#	590#	595#	600#	605#
28" x 28"	770#	790#	805#	810#	820#
32" x 32"	1,020#	1,055#	1,075#	1,090#	1,100#
36" x 36"	N/A	1,260#	1,295#	1,315#	1,330#
40" x 40"	N/A	1,525#	1,575#	1,605#	1,630#

*ADDED TO INITIAL BASE AND/OR RISER WEIGHTS

**DROP BOX SIZE DETERMINED BY PIPE DIA. AND FITTING SIZES

NOTE:

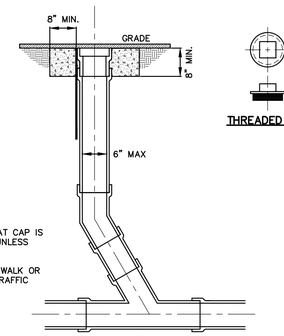
DROP PIPE IS TIED TO REINFORCING RODS TO MAINTAIN PROPER PIPE ALIGNMENT WHEN THE CONCRETE BOX IS POURED.

DO NOT VIBRATE BOX. CONCRETE IS TO BE HAND TAMPED DURING POUR TO INSURE PROPER COMPRESSIVE STRENGTH. HAND TROWEL EXTERNAL SURFACES AFTER BOX FORM IS REMOVED.

FLOW CHANNEL IS NOT INDICATED, AN INTEGRAL BASE BOTTOM SECTION IS NOT REQUIRED FOR A PRECAST DROP CONNECTION; IN THE CASE, THE LOOSE BASE DIA. WOULD NEED TO EXTEND BEYOND THE DROP BOX BY A MINIMUM OF 4".

SANITARY SEWER:

1. THE CONTRACTOR SHALL GIVE 72 HOURS NOTICE TO THE CITY TO PERFORM A SANITARY MANHOLE TAP OR A SEWER TAP.
2. DRAINAGE STRUCTURE AND SANITARY MANHOLE COVERS SHALL BE PAID AS DRAINAGE STRUCTURE COVER. MANHOLE CASTINGS SHALL DENOTE SANITARY SEWER.
3. SANITARY LATERAL CONNECTIONS TO EXISTING OR ABANDONED SEWERS SHALL BE LOCATED BY THE CONTRACTOR AND CONNECTED TO THE SEWER AS DIRECTED BY THE ENGINEER. ANY LATERALS NOT SCHEDULED FOR REPLACEMENT OR RECONNECTION THAT ARE DAMAGED BY THE CONTRACTORS OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
4. SANITARY MANHOLE COVERS SHALL BE MDOT COVER Q, STORM MANHOLE COVERS SHALL BE MDOT COVER B, CATCH BASIN COVERS SHALL BE MDOT COVER K UNLESS NOTED OTHERWISE.
5. EXTERIOR DROP CONNECTION SHALL BE UTILIZED WHEN DIFFERENCE BETWEEN SANITARY SEWER INVERTS IS 2' OR GREATER. THE ABOVE WORK WILL BE INCLUDED WITH SEWER CONSTRUCTION.
6. PROPOSED STORM AND SANITARY MANHOLES SHALL BE 4 FEET IN DIAMETER UNLESS NOTED OTHERWISE.
7. PAYMENT FOR SANITARY SERVICE BULKHEADS AND ALL APPURTENANCES REQUIRED TO CONNECT TO THE PROPOSED MAIN SHALL BE INCLUDED WITH SANITARY SEWER XX'' PAY ITEM.
8. SANITARY SERVICE CLEANOUTS SHALL BE INSTALLED WHERE NEW SERVICE LINES MEET EXISTING SERVICES AND AT BENDS/ GRADE CHANGES AS DIRECTED BY THE ENGINEER.
9. WHERE NEW SEWER IS TO REPLACE EXISTING SEWER IN THE SAME TRENCH REMOVAL OF EXISTING SEWER SHALL BE INCLUDED AS PART OF NEW SEWER ITEM.
10. UNLESS OTHERWISE DESIGNATED ON THE PLANS, PROPOSED SANITARY SEWER SHALL BE SDR 26/PS 115 POLYVINYL CHLORIDE (PVC) TYPE PSM GRAVITY SEWER PIPE FOR ALL PIPES 8'' DIA. AND LARGER: SDR 35 PVC TYPE PSM GRAVITY SEWER PIPE WILL BE USED FOR 6'' SANITARY SERVICE LATERALS. WHERE C-900 PIPE IS CALLED FOR ON THE PLANS, FURNISH PIPE WITH WALL THICKNESS CORRESPONDING TO DR 21.

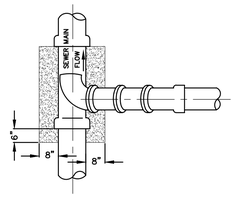


THREADED CAP

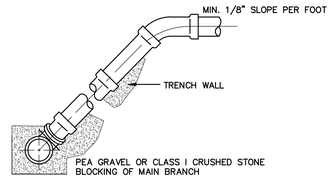
NOTES:

1. LOCATE CLEANOUT SUCH THAT CAP IS NOT LOCATED IN SIDEWALK UNLESS DIRECTED OTHERWISE.
2. CLEANOUTS LOCATED IN SIDEWALK OR DRIVEWAYS SHALL HAVE A TRAFFIC BEARING CAP.

TYPICAL CLEANOUT DETAIL
NOT TO SCALE



PLAN
NOT TO SCALE



SLANT STACK
NOT TO SCALE

NOTE:

SANITARY LATERALS SHALL BE INSTALLED BELOW WATER MAINS OR AT LEAST 8 FEET DEEP AT THE CURB WHEN MAIN DEPTH ALLOWS. WHEN THE MAIN DEPTH IS LESS THAN 8 FEET, THE LATERALS SHALL BE INSTALLED AS DEEP AS POSSIBLE.

SANITARY LATERAL DETAILS
NOT TO SCALE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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Engineering Architecture Land Surveying
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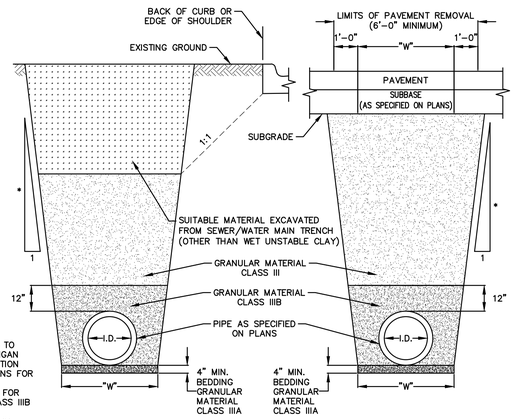
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
WASTEWATER DETAILS

DRAWN BY: **DRAWNBY**
DESIGNED BY: **MJS/KB/ERF**
PM REVIEW: **DAD**
QA/QC REVIEW:
DATE: **JULY 2022**
SEAL:

SIGNATURE:
DATE:
SCALE:
HORZ: **HORZ**
VERT: **VERT**
ACI JOB #
21-1648
SHEET NO.
7 of **53**

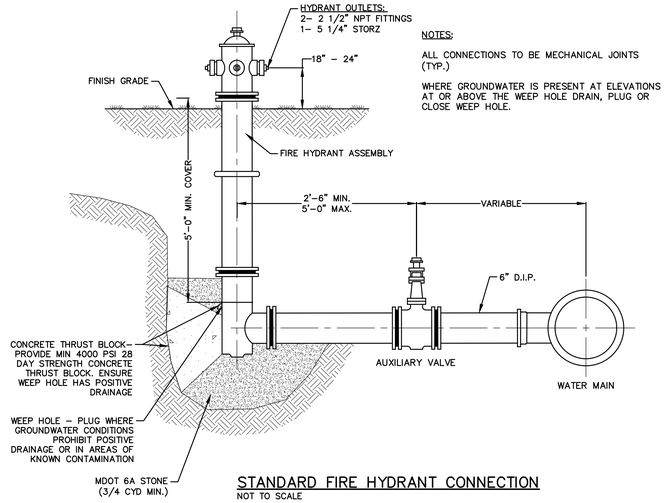
o:\Projects\2021\21-1648\Body\Xdwn\Published\construction\CAD_Civil\Drawings\21-1648 DV.dwg, D1-2, 8/3/2022 9:45:41 AM, cmillan, 1:1



TRENCH DETAIL G, MODIFIED
NOT TO SCALE

TRENCH NOTES:

1. BACKFILL TRENCH ACCORDING TO SECTION 401.03 OF THE MICHIGAN DEPARTMENT OF TRANSPORTATION 2020 STANDARD SPECIFICATIONS FOR CONSTRUCTION.
2. SEE PROJECT SPECIFICATIONS FOR MATERIAL PROPERTIES OF CLASS IIIB GRANULAR MATERIAL.
3. CONSTRUCT SIDE SLOPE "*", IN ACCORDANCE WITH OSHA REQUIREMENTS BASED ON IN SITU SOIL CONDITIONS.



NOTES:

ALL CONNECTIONS TO BE MECHANICAL JOINTS (TYP.)

WHERE GROUNDWATER IS PRESENT AT ELEVATIONS AT OR ABOVE THE WEEP HOLE DRAIN, PLUG OR CLOSE WEEP HOLE.

STANDARD FIRE HYDRANT CONNECTION
NOT TO SCALE

NOTE:

HYDRANT, STANDPIPE, LEAD PIPE, AUXILIARY VALVE & BOX, AS WELL AS ANY OTHER COMPONENTS REQUIRED TO PROVIDE A FUNCTIONAL HYDRANT ASSEMBLY ARE INCLUDED IN PAYMENT FOR THE ITEM "HYDRANT ASSEMBLY, MODIFIED".

WATER MAIN:

ALL WATER MAINS AND SERVICES SHALL HAVE A MINIMUM OF 5'-0" OF COVER OVER TOP OF PIPE. TO ALLOW FOR FUTURE MODIFICATION OF THE GROUND SURFACE, TARGET LAYING DEPTH SHALL BE 5'-6" TO 6'-0".

ENSURE HYDRANT NOZZLE HEIGHT WITHIN THE SPECIFIED RANGE. NOTE DEPTH OF BURY AND MAKE ADJUSTMENTS FOR CURBS OR OTHER CHANGES IN LEVEL. FURNISH HYDRANT EXTENSIONS AS NEEDED, NO ADDITIONAL PAYMENT WILL BE MADE FOR REQUIRED HYDRANT EXTENSIONS.

ORIENT HYDRANTS SUCH THAT PUMPER NOZZLE FACES ROADWAY, PERPENDICULAR TO THE EDGE OF PAVEMENT OR BACK OF CURB.

WATER MAIN SHALL NOT BE PLACED INTO SERVICE UNTIL THE APPROPRIATE TESTING AND DISINFECTION IS COMPLETE AND APPROVED FOR ACCEPTANCE.

THE CONTRACTOR SHALL GIVE 72 HOURS NOTICE TO THE CITY TO REQUEST A WATER SERVICE SHUTOFF. THE CITY SHALL DETERMINE THE TIME & DURATION OF THE SHUTOFF.

NO EXISTING VALVE SHALL BE CLOSED WITHOUT CITY APPROVAL. EXISTING VALVES SHALL BE OPERATED ONLY BY CITY STAFF. CONTRACTOR SHALL PROVIDE A MINIMUM OF 72 HOURS NOTICE TO ENGINEER AND OWNER PRIOR TO REQUESTED SHUTOFF.

ABANDONING OF EXISTING WATER MAIN AND REMOVAL OF EXISTING HYDRANTS/ APPURTENANCES SHALL BE INCLUDED WITH NEW WATER MAIN ITEM. ABANDONING WATER MAIN SHALL INCLUDE REMOVAL OF EXISTING PIPE, CAP OR PLUG ENDS OF PIPE OR FILLING PIPE WITH FLOWABLE FILL.

LENGTH OF WATERMAIN TO BE RESTRAINED IN FEET

HORIZONTAL BEND TABLE

BEND ANGLE (DEGREES)	PIPE DIAMETER					
	4"	6"	8"	10"	12"	16"
11.25	2	2	3	3	4	5
22.5	3	4	5	6	7	9
45.0	6	8	10	12	14	18
90.0	13	18	23	28	33	42

VERTICAL DOWN BEND TABLE

BEND ANGLE (DEGREES)	PIPE DIAMETER					
	4"	6"	8"	10"	12"	16"
11.25	3	4	5	6	7	9
22.5	6	8	10	12	14	18
45.0	11	16	20	25	29	37
90.0	26	37	49	59	69	89

REDUCER CONNECTION TABLE

SIZE	RESTRAINED LENGTH
6"x8"	20'
8"x10"	20'
6"x12"	50'
8"x12"	37'
10"x12"	21'

VERTICAL UP BEND TABLE

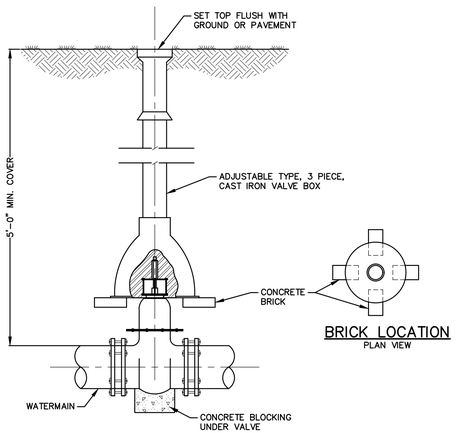
BEND ANGLE (DEGREES)	PIPE DIAMETER					
	4"	6"	8"	10"	12"	16"
11.25	2	2	3	3	4	5
22.5	3	4	5	6	7	9
45.0	6	8	10	12	14	18
90.0	13	18	23	28	33	42

TEE CONNECTION TABLE

BRANCH DIAMETER	RUN DIAMETER					
	4"	6"	8"	10"	12"	16"
4"	18	18	18	18	18	18
6"	X	29	29	29	29	29
8"	X	X	40	40	40	40
10"	X	X	X	50	50	50
12"	X	X	X	X	60	60

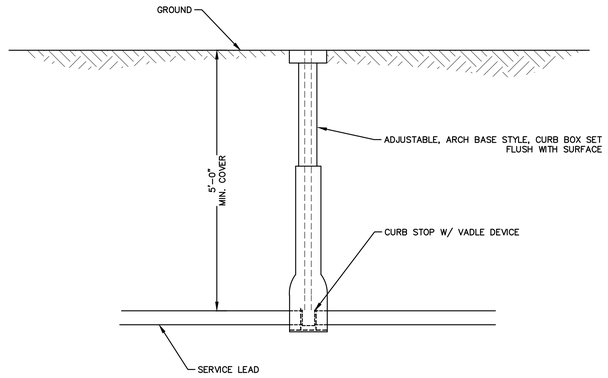
NOTES:

1. **WHERE DISTANCE BETWEEN BENDS IS LESS THAN THE SPECIFIED RESTRAINED LENGTH, ALL PIPES BETWEEN BENDS MUST BE RESTRAINED.**
2. **DEFLECTION OF PIPES AT PUSH ON JOINTS SHALL NOT EXCEED 50% OF THE MANUFACTURERS SPECIFIED MAXIMUM DEFLECTION.**

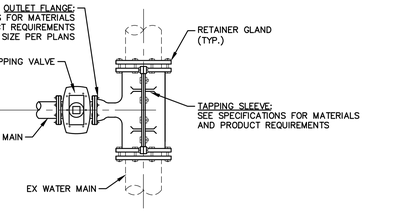


BRICK LOCATION
PLAN VIEW

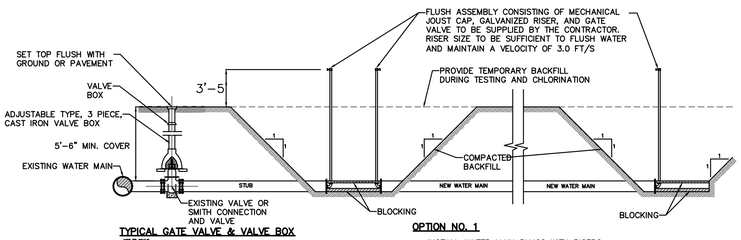
TYPICAL GATE VALVE & VALVE BOX
NOT TO SCALE



CURB STOP DETAIL
NOT TO SCALE

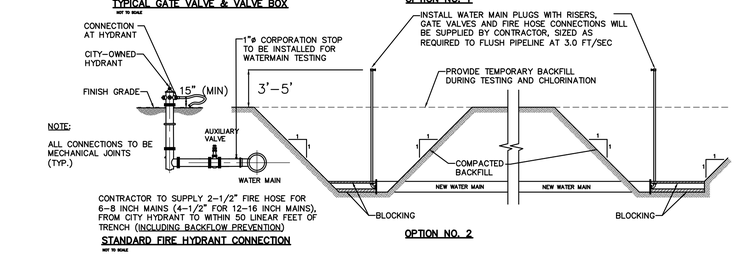


WET TAP METHOD
(UNDER PRESSURE)
CONNECTING NEW MAIN TO EXISTING MAIN
NOT TO SCALE



TYPICAL GATE VALVE & VALVE BOX
NOT TO SCALE

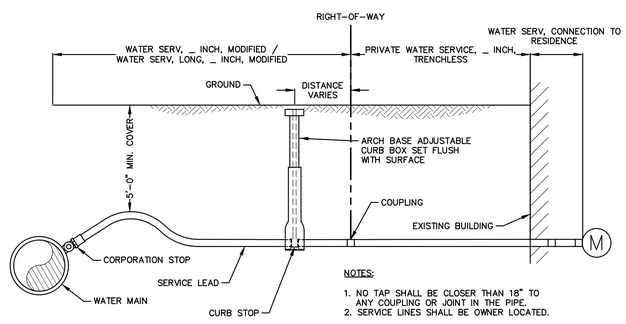
OPTION NO. 1



STANDARD FIRE HYDRANT CONNECTION
NOT TO SCALE

OPTION NO. 2

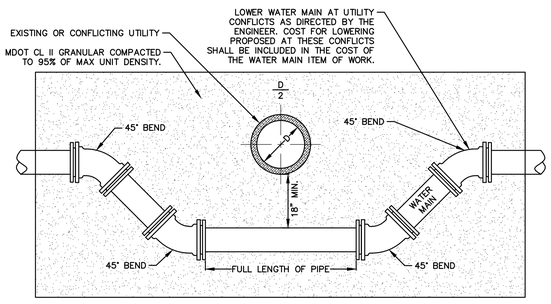
TESTING AND CHLORINATION
NOT TO SCALE



NOTES:

1. NO TAP SHALL BE CLOSER THAN 18" TO ANY COUPLING OR JOINT IN THE PIPE.
2. SERVICE LINES SHALL BE OWNER LOCATED.

SERVICE LINE DETAIL
NOT TO SCALE



UTILITY CROSSING DETAIL
NOT TO SCALE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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Engineering Architecture Land Surveying

PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

WATER DETAILS

SHEET TITLE:

DRAWN BY: **DRAWNBY**
DESIGNED BY: **MJS/KB/ERF**
PM REVIEW: **DAD**
QA/QC REVIEW:
DATE: **JULY 2022**
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: **HORZ**
VERT: **VERT**

ACI JOB #
21-1648

SHEET NO.
8 of **53**

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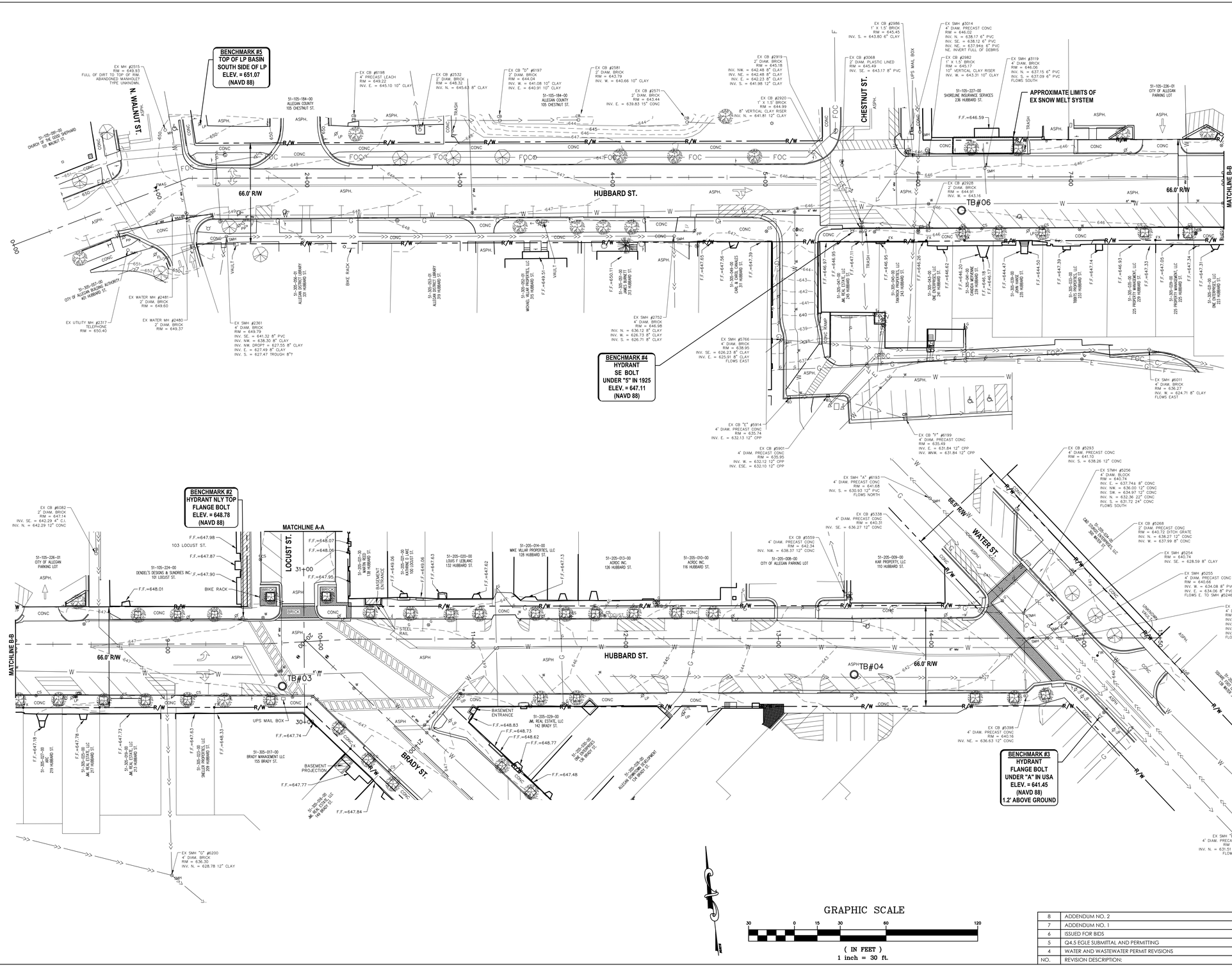
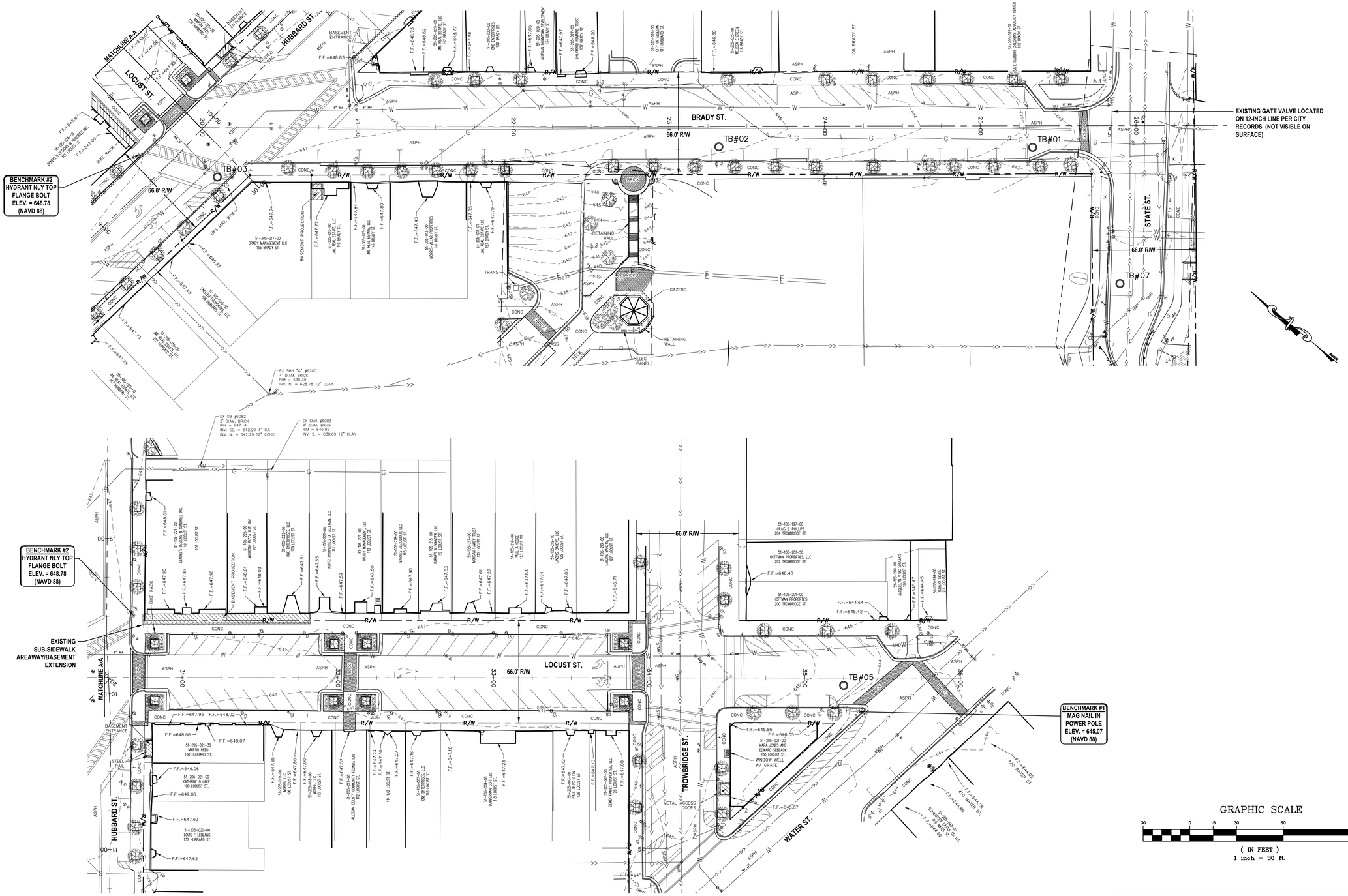

BENCHMARK #5
TOP OF LP BASIN
SOUTH SIDE OF LP
ELEV. = 651.07
(NAVD 88)
BENCHMARK #4
HYDRANT
SE BOLT
UNDER "S" IN 1925
ELEV. = 647.11
(NAVD 88)
BENCHMARK #2
HYDRANT NLY TOP
FLANGE BOLT
ELEV. = 648.78
(NAVD 88)
BENCHMARK #3
HYDRANT
FLANGE BOLT
UNDER "A" IN USA
ELEV. = 641.45
(NAVD 88)
1.2' ABOVE GROUND
N. WALNUT ST.
CHESTNUT ST.
LOCUST ST.
WATER ST.
BRADY ST.
HUBBARD ST.
66.0' R/W
MATCHLINE A-A
MATCHLINE B-B
MATCHLINE B-B
APPROXIMATE LIMITS OF
EX SNOW MELT SYSTEM
TB#03
TB#04
TB#06
EX MH #2515
RIM = 649.93
FULL OF DIRT TO TOP OF RIM.
ABANDONED MANHOLET
TYPE UNKNOWN.
EX WATER MH #2481
2" DIAM. BRICK
RIM = 649.60
EX UTILITY MH #2317
TELEPHONE
RIM = 650.40
EX WATER MH #2480
2" DIAM. BRICK
RIM = 649.37
EX SMH #2361
4' DIAM. BRICK
RIM = 649.79
INV. SE. = 641.32 8" PVC
INV. NW. = 638.30 8" CLAY
INV. NW. DROP" = 627.55 8" CLAY
INV. E. = 627.49 8" CLAY
INV. S. = 627.47 TROUGH 8"?
EX CB #6198
4" PRECAST LEACH
RIM = 649.22
INV. E. = 645.10 10" CLAY
EX CB #2532
2' DIAM. BRICK
RIM = 648.32
INV. N. = 645.63 8" CLAY
EX CB "D" #6197
2' DIAM. BRICK
RIM = 644.04
INV. W. = 641.08 10" CLAY
INV. E. = 640.91 10" CLAY
EX CB #2581
2' DIAM. BRICK
RIM = 643.79
INV. W. = 640.66 10" CLAY
EX CB #2571
2' DIAM. BRICK
RIM = 643.44
INV. E. = 639.83 15" CONC
EX CB #2919
2' DIAM. BRICK
RIM = 645.18
INV. NW. = 642.48 8" CLAY
INV. NE. = 642.48 8" CLAY
INV. E. = 642.23 8" CLAY
INV. S. = 641.98 12" CLAY
EX CB #2920
1' X 1.5' BRICK
RIM = 644.99
INV. N. = 641.81 12" CLAY
8" VERTICAL CLAY RISER
EX CB #3068
2' DIAM. PLASTIC LINED
RIM = 645.49
INV. SE. = 643.17 8" PVC
EX CB #2086
1' X 1.5' BRICK
RIM = 645.45
INV. S. = 643.80 8" CLAY
EX SMH #3014
4' DIAM. PRECAST CONC
RIM = 646.02
INV. N. = 638.17 6" PVC
INV. SE. = 638.12 6" PVC
INV. W. = 637.94 6" PVC
NE. INVERT FULL OF DEBRIS
EX CB #2982
1' X 1.5' BRICK
RIM = 645.17
10" VERTICAL CLAY RISER
INV. W. = 643.31 10" CLAY
EX SMH #3119
4' DIAM. BRICK
RIM = 646.06
INV. N. = 637.15 6" PVC
INV. S. = 637.09 6" PVC
FLOWS SOUTH
51-105-227-00
SHORELINE INSURANCE SERVICES
234 HUBBARD ST.
F.F.=646.59
51-105-226-01
CITY OF ALLEGAN
PARKING LOT
EX CB #2928
2' DIAM. BRICK
RIM = 644.91
INV. W. = 643.16
EX SMH #6011
4' DIAM. BRICK
RIM = 636.27
INV. W. = 624.71 8" CLAY
FLOWS EAST
EX SMH #2752
4' DIAM. BRICK
RIM = 646.98
INV. N. = 636.12 8" CLAY
INV. W. = 626.73 8" CLAY
INV. S. = 626.71 8" CLAY
EX SMH #5766
4' DIAM. BRICK
RIM = 638.95
INV. SE. = 626.23 8" CLAY
INV. E. = 625.91 8" CLAY
FLOWS EAST
EX CB "E" #5914
4' DIAM. PRECAST CONC
RIM = 635.74
INV. E. = 632.13 12" CPP
EX CB #5901
4' DIAM. PRECAST CONC
RIM = 635.95
INV. W. = 632.12 12" CPP
INV. ESE. = 632.10 12" CPP
EX CB "F" #6199
4' DIAM. PRECAST CONC
RIM = 635.49
INV. E. = 631.84 12" CPP
INV. WNW. = 631.84 12" CPP
EX SMH "A" #6193
4' DIAM. PRECAST CONC
RIM = 641.68
INV. S. = 630.93 12" PVC
FLOWS NORTH
EX CB #5338
4' DIAM. PRECAST CONC
RIM = 640.31
INV. SE. = 636.27 12" CONC
EX CB #5559
4' DIAM. PRECAST CONC
RIM = 642.34
INV. NW. = 638.37 12" CONC
51-205-008-00
CITY OF ALLEGAN PARKING LOT
EX CB #5293
4' DIAM. PRECAST CONC
RIM = 641.10
INV. S. = 638.26 12" CONC
EX STMH #5256
4' DIAM. BLOCK
RIM = 640.74
INV. E. = 637.746 8" CONC
INV. NW. = 636.00 12" CONC
INV. NW. = 634.97 12" CONC
INV. N. = 632.56 22" CONC
INV. S. = 631.72 24" CONC
FLOWS SOUTH
EX CB #5268
2' DIAM. PRECAST CONC
RIM = 640.72 DITCH GRATE
INV. N. = 638.27 12" CONC
INV. W. = 637.99 8" CONC
EX SMH #5254
RIM = 640.74
INV. SE. = 628.59 8" CLAY
EX SMH #5255
4' DIAM. PRECAST CONC
RIM = 640.66
INV. W. = 634.08 8" PVC
INV. E. = 634.06 8" PVC
FLOWS E. TO SMH #5246
EX SMH #5246
4' DIAM. PRECAST CONC
RIM = 640.47
INV. NW. = 633.78 8" PVC
INV. S. = 631.13 12" PVC
INV. NW. = 631.05 8" PVC
INV. N. = 631.03 12" PVC
FLOWS NORTH
EX SMH "B" #6194
4' DIAM. PRECAST CONC
RIM = 637.71
INV. N. = 631.51 12" PVC
FLOWS NORTH
EX CB #6082
2' DIAM. BRICK
RIM = 647.14
INV. SE. = 642.29 4" C.I.
INV. N. = 642.29 12" CONC
EX CB #6200
4' DIAM. BRICK
RIM = 636.30
INV. N. = 628.78 12" CLAY
51-105-226-00
CHURCH OF THE LORD SHEPHERD
105 WALNUT ST.
51-105-224-00
DENDEL'S DESIGNS & SUNDRIES INC.
101 LOCUST ST.
51-105-184-00
ALLEGAN COUNTY
105 CHESTNUT ST.
51-205-020-00
LOUIS F. LEBLANC
132 HUBBARD ST.
51-205-014-00
MIKE VILLAR PROPERTIES, LLC
128 HUBBARD ST.
51-205-013-00
ACBDC INC.
126 HUBBARD ST.
51-205-010-00
ACBDC INC.
116 HUBBARD ST.
51-205-009-00
KMI PROPERTY, LLC
110 HUBBARD ST.
51-205-017-00
BRADY MANAGEMENT LLC
155 BRADY ST.
51-205-029-00
JML REAL ESTATE, LLC
142 BRADY ST.
51-205-030-00
SLW LEGENDS LLC
134 BRADY ST.
51-205-031-00
ALLEGAN DOWNTOWN DEVELOPMENT
124 BRADY ST.
51-205-032-00
IMAGINE THAT LLC
118 BRADY ST.
51-205-033-00
GRAND RIVER PROPERTIES, LLC
138 BRADY ST.
51-205-034-00
GRAND RIVER PROPERTIES, LLC
304 BRADY ST.
51-205-035-00
ALLEGAN COUNTY
UNKNOWN USE
51-205-036-00
CITY OF ALLEGAN
PARKING LOT
51-205-037-00
CITY OF ALLEGAN
PARKING LOT
51-205-038-00
CITY OF ALLEGAN
PARKING LOT
51-205-039-00
CITY OF ALLEGAN
PARKING LOT
51-205-040-00
CITY OF ALLEGAN
PARKING LOT
51-205-041-00
CITY OF ALLEGAN
PARKING LOT
51-205-042-00
CITY OF ALLEGAN
PARKING LOT
51-205-043-00
CITY OF ALLEGAN
PARKING LOT
51-205-044-00
CITY OF ALLEGAN
PARKING LOT
51-205-045-00
CITY OF ALLEGAN
PARKING LOT
51-205-046-00
CITY OF ALLEGAN
PARKING LOT
51-205-047-00
CITY OF ALLEGAN
PARKING LOT
51-205-048-00
CITY OF ALLEGAN
PARKING LOT
51-205-049-00
CARL & CAROL CHARLES
209 HUBBARD ST.
51-205-050-00
MICHAEL DAVID HOSTETLER, LLC
215 HUBBARD ST.
51-205-051-00
ALLEGAN DISTRICT LIBRARY
219 HUBBARD ST.
51-205-052-00
ALLEGAN DISTRICT LIBRARY
331 HUBBARD ST.
51-205-053-00
ALLEGAN DISTRICT LIBRARY
373 HUBBARD ST.
51-205-054-00
TAYLOR PROPERTIES, LLC
204 HUBBARD ST.
51-205-055-00
DNE ENTERPRISES, LLC
214 HUBBARD ST.
51-205-056-00
CANOVA HEROINE
230 HUBBARD ST.
51-205-057-00
DNE ENTERPRISES, LLC
224 HUBBARD ST.
51-205-058-00
JOHN LAMB
226 HUBBARD ST.
51-205-059-00
TRISTEN PROPERTIES, LLC
233 HUBBARD ST.
51-205-060-00
225 PROPERTY MANAGEMENT, LLC
225 HUBBARD ST.
51-205-061-00
225 PROPERTY MANAGEMENT, LLC
223 HUBBARD ST.
51-205-062-00
DNE ENTERPRISES, LLC
223 HUBBARD ST.
51-205-063-00
DNE ENTERPRISES, LLC
213 HUBBARD ST.
51-205-064-00
MC REAL ESTATE, LLC
211 HUBBARD ST.
51-205-065-00
MC REAL ESTATE, LLC
209 HUBBARD ST.
51-205-066-00
MC
211 HUBBARD ST.
51-205-067-00
MC
219 HUBBARD ST.
51-205-068-00
MC REAL ESTATE, LLC
229 HUBBARD ST.
51-205-069-00
MC REAL ESTATE, LLC
233 HUBBARD ST.
51-205-070-00
MC REAL ESTATE, LLC
239 HUBBARD ST.
51-205-071-00
MC REAL ESTATE, LLC
243 HUBBARD ST.
51-205-072-00
MC REAL ESTATE, LLC
249 HUBBARD ST.
51-205-073-00
MC REAL ESTATE, LLC
253 HUBBARD ST.



NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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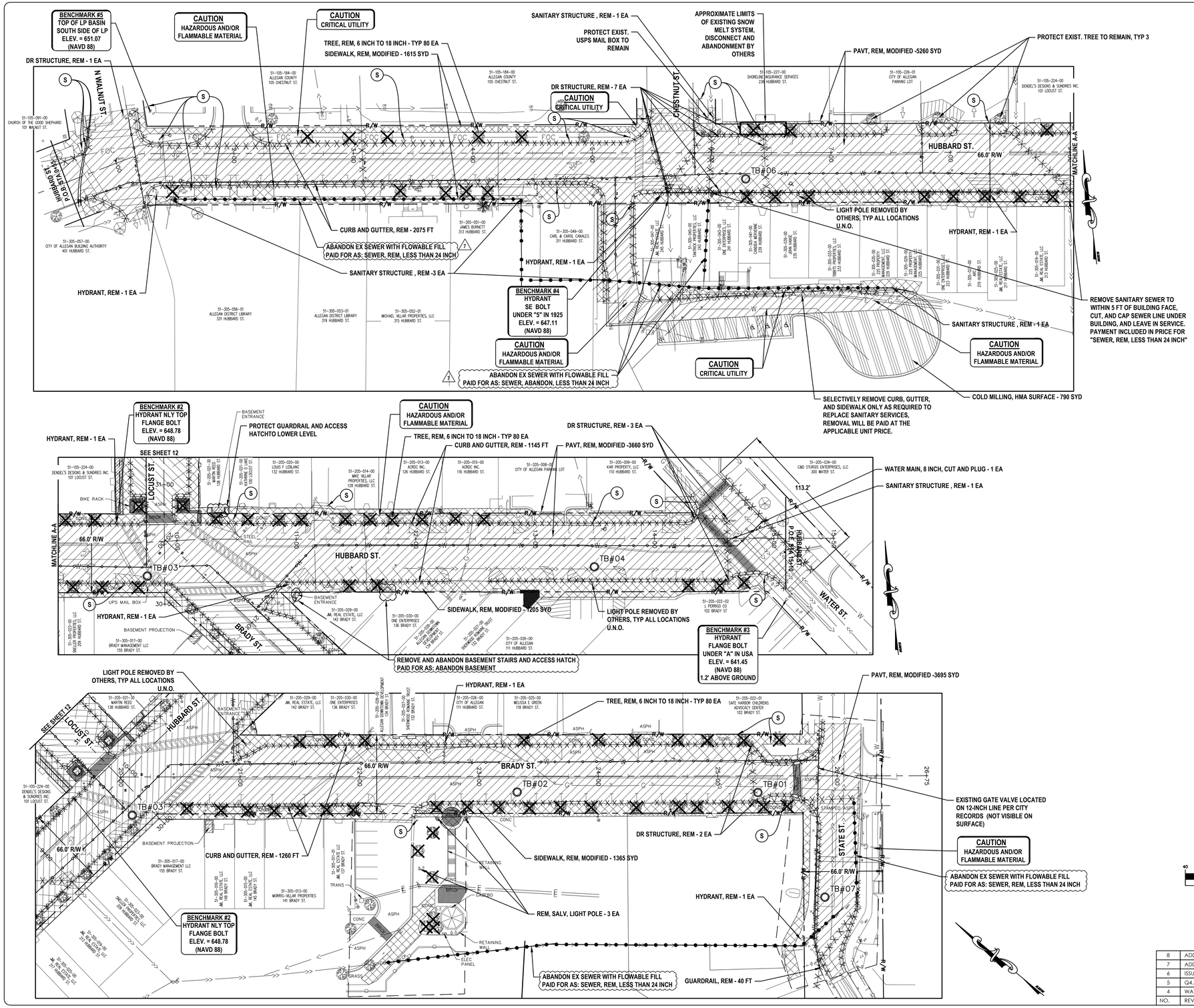
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
EXISTING CONDITIONS 2

DRAWN BY: DRAWNBY/TV
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: HORZ
VERT: VERT
ACI JOB #
21-1648
SHEET NO.
10 of 53



Item Description	Unit	Sht 11 Quantity
Tree, Rem, 6 inch to 18 inch	Ea	80
Dr Structure, Rem	Ea	13
Sewer, Rem, Less than 24 inch	Ft	825
Sewer, Abandon, Less than 24 inch	Ft	1715
Curb and Gutter, Rem	Ft	4680
Guardrail, Rem	Ft	40
Pavt, Rem, Modified	Syd	12615
Sidewalk, Rem, Modified	Syd	4185
Cold Milling HMA Surface	Syd	790
Sign, Type III, Rem	Ea	28
Rem, Salv, Light Pole	Ea	3
Hydrant, Rem	Ea	7
Water Main, 4 inch, Cut and Plug	Ea	2
Water Main, 6 inch, Cut and Plug	Ea	1
Water Main, 8 inch, Cut and Plug	Ea	6
Sanitary Structure, Rem	Ea	7

NOTE:
1. CONTRACTOR SHALL PROVIDE A MINIMUM OF 21-DAYS NOTICE TO THE PROPERTY OWNER AT 236 HUBBARD FOR THE DISCONNECT AND ABANDONMENT OF THE EXISTING SUB SIDEWALK SNOW MELT SYSTEM. PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE DISCONNECT AND ABANDONMENT OF THE EXISTING SYSTEM.

LEGEND

- COLD MILLING HMA SURFACE (2.0 INCH DEPTH)
- SIDEWALK, REM, MODIFIED
- PAVT, REM, MODIFIED
- CURB AND GUTTER, REM
- UTILITY, REM
- ABANDON SEWER
- ABANDON WATER MAIN
- SIGN, TYPE III, REM
- TREE, REM

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
REMOVAL PLAN - 1

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 40'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
11 of 53

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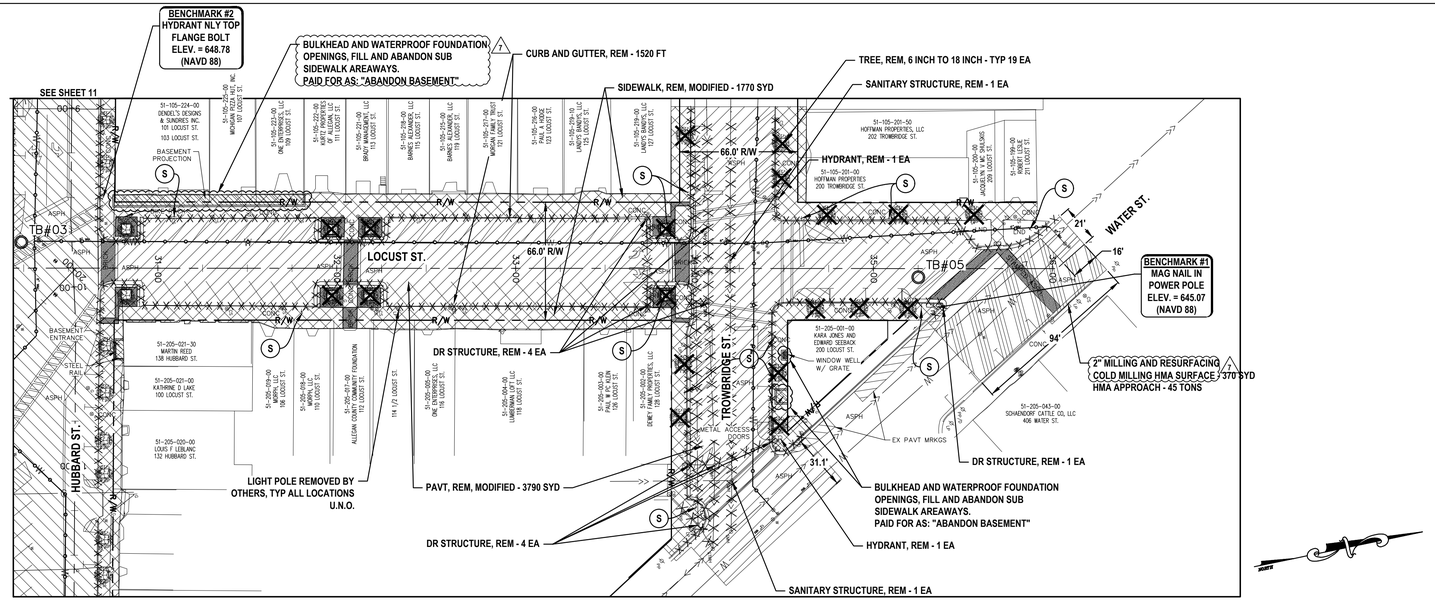

Item Description	Unit	Sht 12 Quantity
Tree, Rem, 6 inch to 18 inch	Ea	19
Dr Structure, Rem	Ea	9
Sewer, Rem, Less than 24 inch	Ft	930
Curb and Gutter, Rem	Ft	1520
Pavt, Rem, Modified	Syd	3790
Sidewalk, Rem, Modified	Syd	1770
Cold Milling HMA Surface	Syd	370
Sign, Type III, Rem	Ea	13
Hydrant, Rem	Ea	2
Water Main, 6 inch, Cut and Plug	Ea	1
Water Main, 8 inch, Cut and Plug	Ea	3
Sanitary Structure, Rem	Ea	2

7

LEGEND

- COLD MILLING HMA SURFACE (2.0 INCH DEPTH)
- SIDEWALK, REM, MODIFIED
- PAVT, REM, MODIFIED
- CURB AND GUTTER, REM
- UTILITY, REM
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SIGN, TYPE III, REM
- TREE, REM

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
REMOVAL PLAN - 2

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 40'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
12 of 53

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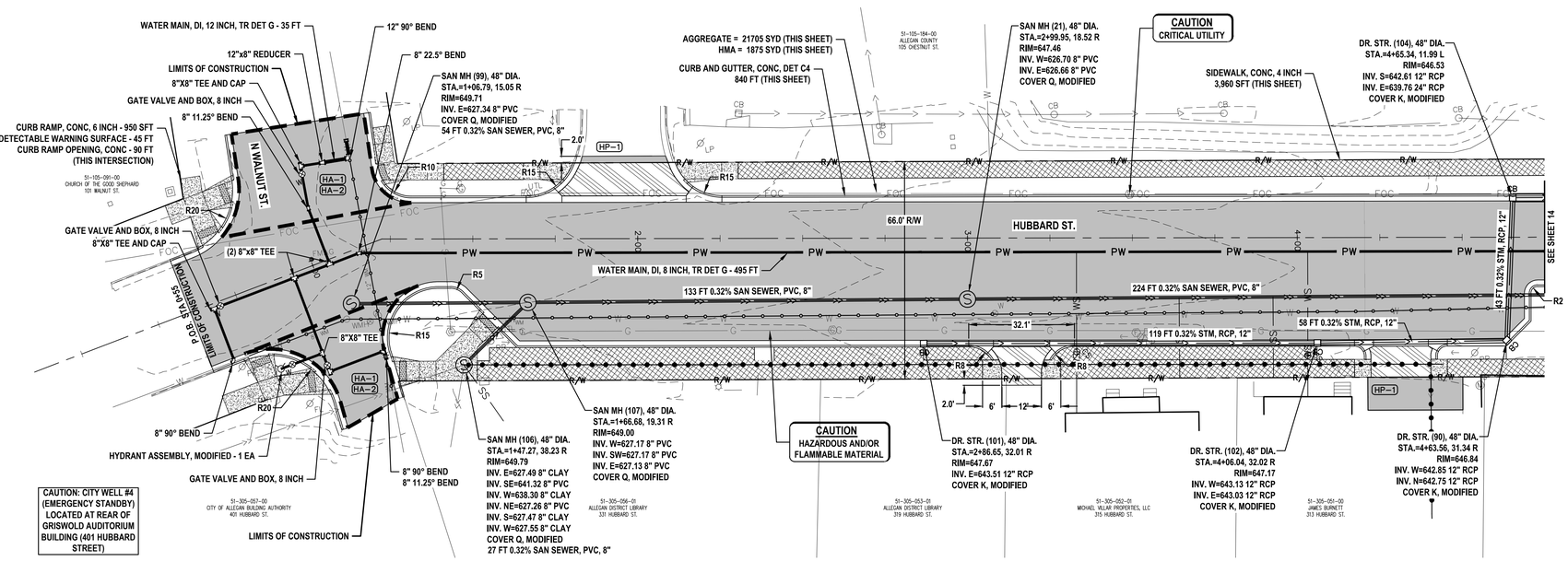

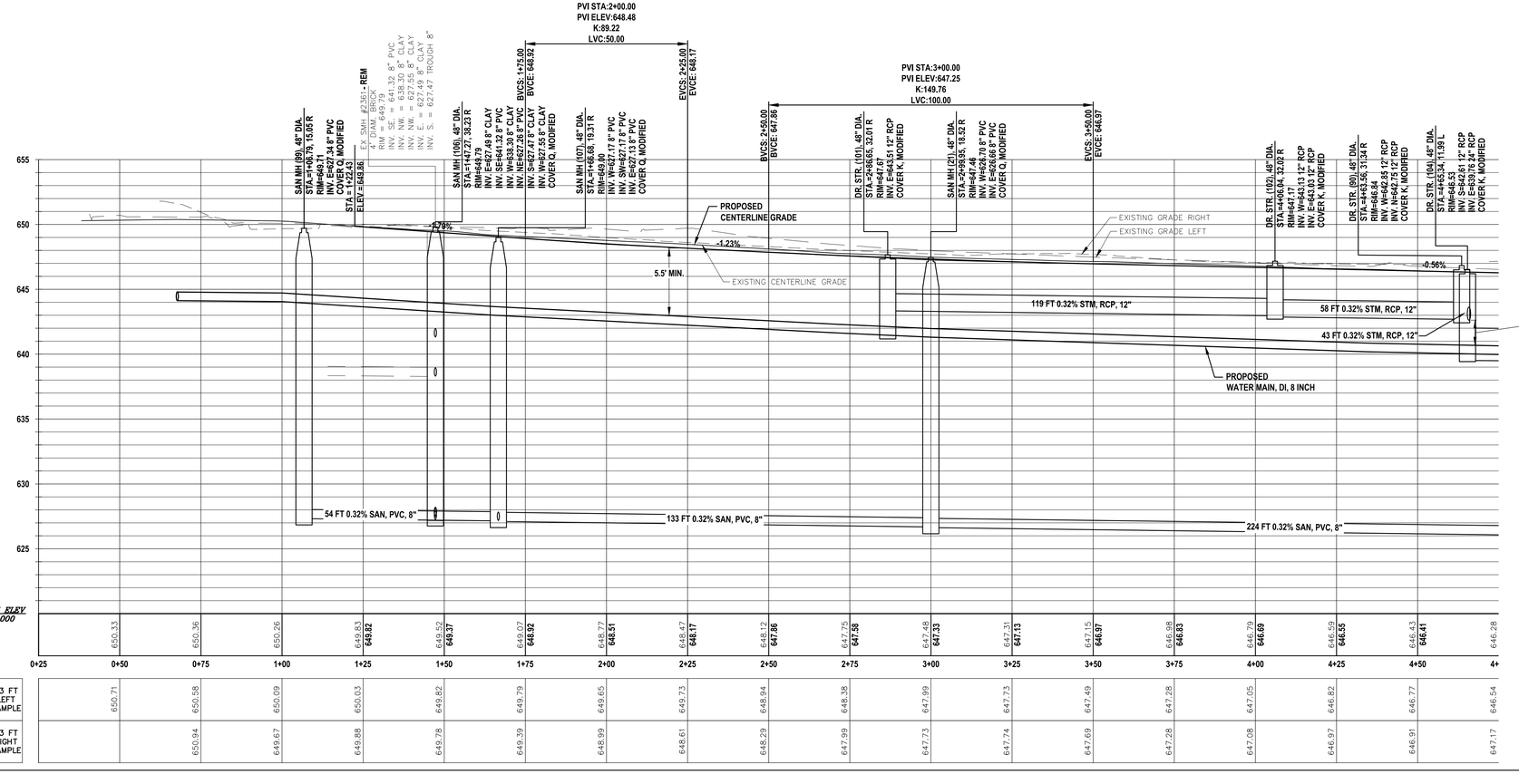

	0+25	0+50	0+75	1+00	1+25	1+50	1+75	2+00	2+25	2+50	2+75	3+00	3+25	3+50	3+75	4+00	4+25	4+50	4+
23 FT LEFT SAMPLE	650.71	650.58	650.09	650.03	649.82	649.79	649.65	649.73	648.94	648.38	647.99	647.73	647.49	647.28	647.05	646.82	646.77		646.54
4.3 FT RIGHT SAMPLE	650.94	649.67	649.88	649.78	649.39	648.99	648.61	648.29	647.99	647.73	647.74	647.69	647.28	647.08	646.97	646.91		647.17	

Item Description	Unit	Sht 13 Quantity
Machine Grading, Modified	Sta	4.25
Subbase, CIP	Cyd	795
Aggregate Base, 8 inch	Syd	2535
Sewer, Cl III, 12 inch, Tr Det B	Ft	220
Dr Structure, 48 inch dia	Ea	4
Dr Structure Cover, Type K, Modified	Ea	4
Hand Patching	Ton	10
HMA Approach	Ton	60
HMA, 4EML	Ton	260
HMA, 5EML	Ton	210
Driveway, Nonreinf Conc, 6 inch	Syd	105
Curb and Gutter, Conc, Det C4	Ft	700
Driveway Opening, Conc, Det M	Ft	120
Curb Ramp Opening, Conc	Ft	110
Sidewalk, Conc, 4 inch	Sft	3960
Curb Ramp, Conc, 6 inch	Sft	1235
Detectable Warning Surface, Cast Iron	Ft	50
Gate Valve and Box, 8 inch	Ea	3
Private Water Serv, 1 inch, Trenchless	Ft	20
Water Main, DI, 12 inch, Tr Det G, Modified	Ft	20
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	540
Curb Stop and Box	Ea	2
Hydrant Assembly, Modified	Ea	1
Inline Water Valve, Temp, 12 inch	Ea	2
Inline Water Valve, Temp, 8 inch	Ea	4
Private Water Serv, Conn to Ex	Ea	1
Water Serv, Long, 1 inch, Modified	Ea	2
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	389
Sanitary Structure, 48 inch dia	Ea	4
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	21
Sanitary Structure, Add Depth of 48 inch dia, more than 15 foot	Ft	21
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	75
Sanitary Structure Cover, Type Q, Modified	Ea	4

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - _ : DR STRUCTURE COVER, ADJ, CASE _
- HP - : HAND PATCHING (MIX DESIGNATION)
- HA - : HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
HUBBARD STREET
PLAN AND PROFILE
STA. 0+55 (P.O.B.) TO 4+75

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
13 of 53

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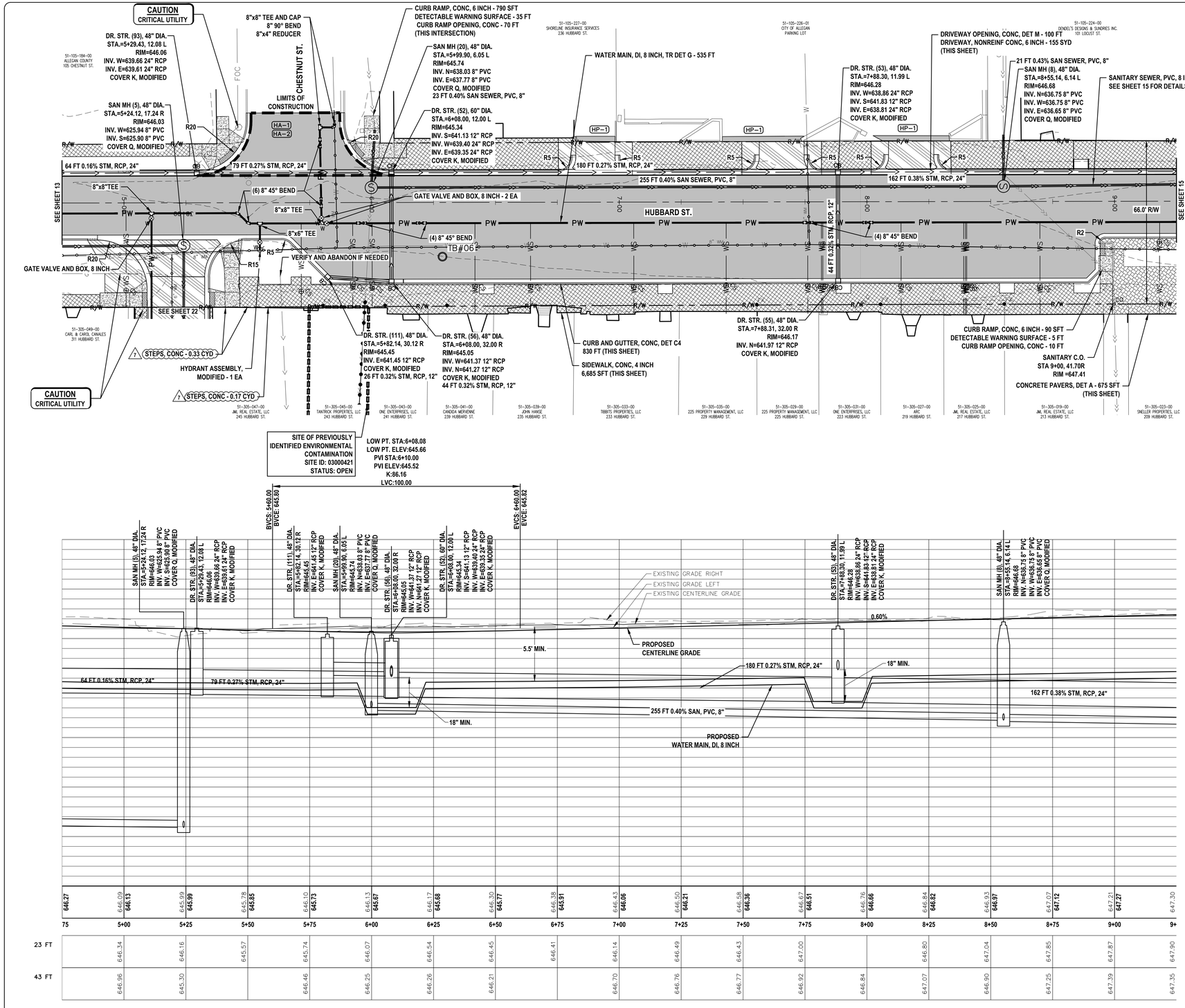

Item Description	Unit	Sht 14 Quantity
Machine Grading, Modified	Sta	4.5
Subbase, CIP	Cyd	825
Aggregate Base, 8 inch	Syd	2470
Aggregate Base, 10 inch	Syd	125
Sewer, Cl III, 12 inch, Tr Det B	Ft	114
Sewer, Cl III, 24 inch, Tr Det B	Ft	484
Dr Structure, 48 inch dia	Ea	6
Dr Structure, 60 inch dia	Ea	2
Dr Structure Cover, Type K, Modified	Ea	8
Hand Patching	Ton	5
? HMA Approach	Ton	35
HMA, 4EML	Ton	315
HMA, 5EML	Ton	255
? Driveway, Nonreinf Conc, 6 inch	Syd	215
Curb and Gutter, Conc, Det C4	Ft	830
? Driveway Opening, Conc, Det M	Ft	185
Curb Ramp Opening, Conc	Ft	80
Sidewalk, Conc, 4 inch	Sft	7150
? Steps, Conc	Cyd	0.5
Curb Ramp, Conc, 6 inch	Sft	880
Detectable Warning Surface, Cast Iron	Ft	40
Concrete Pavers, Sand Bed, 2.75 inch	Sft	675
Gate Valve and Box, 8 inch	Ea	3
Private Water Serv, 1 inch, Trenchless	Ft	55
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	565
Curb Stop and Box	Ea	17
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	9
Water Serv, Long, 1 inch, Modified	Ea	17
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	437
Sanitary Structure, 48 inch dia	Ea	3
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	11
Sanitary Structure, Add Depth of 48 inch dia, more than 15 foot	Ft	6
Sanitary Sewer Cleanout, 8 inch	Ft	8
Sanitary Sewer Cleanout Cover	Ea	1
Sanitary Structure Cover, Type Q, Modified	Ea	3

	75	5+00	5+25	5+50	5+75	6+00	6+25	6+50	6+75	7+00	7+25	7+50	7+75	8+00	8+25	8+50	8+75	9+00	9+
	646.27	646.09	646.13	645.99	645.78	645.85	646.10	645.73	646.13	645.87	646.17	645.88	646.30	645.77	646.38	645.91	646.43	646.06	646.50	646.21	646.58	646.36	646.67	646.51	646.76	646.66	646.84	646.82	646.93	646.97	647.07	647.12	647.21	647.27	647.30
23 FT		646.34	646.16	645.57	645.74	646.07	646.54	646.45	646.41	646.14	646.49	646.43	647.00	646.80	647.04	647.85	647.87	647.90	
43 FT		646.96	645.30	646.46	646.25	646.26	646.21	646.70	646.76	646.77	646.92	646.84	647.07	646.90	647.25	647.39	647.35	

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

HUBBARD STREET PLAN AND PROFILE STA. 4+75 TO 9+25

SHEET TITLE:

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
14 of **53**

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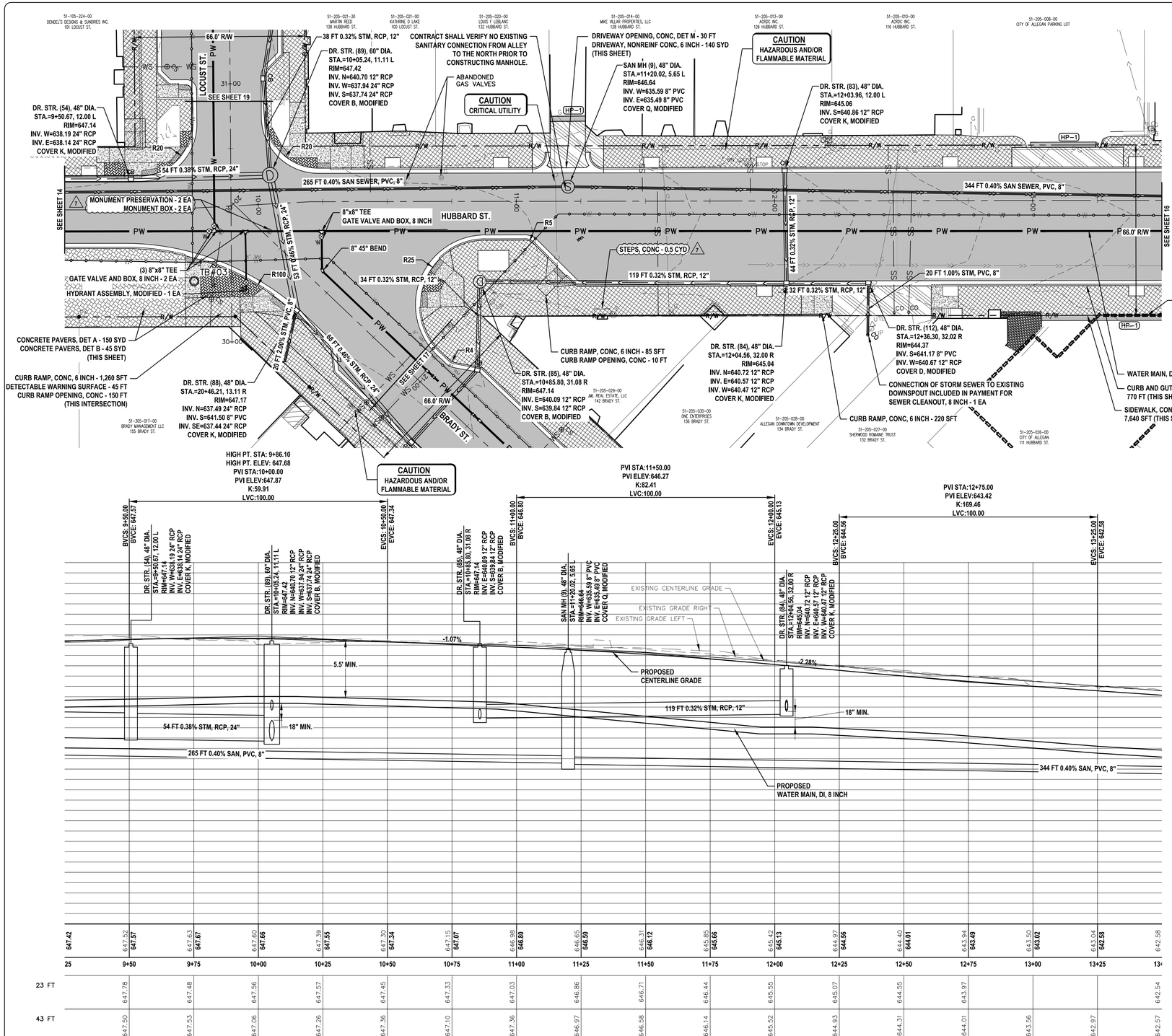

Item Description	Unit	Sht 15 Quantity
Machine Grading, Modified	Sta	4.25
Subbase, CIP	Cyd	770
Aggregate Base, 6 inch	Syd	45
Aggregate Base, 8 inch	Syd	2305
Aggregate Base, 10 inch	Syd	150
Sewer, Cl III, 12 inch, Tr Det B	Ft	267
Sewer, Cl III, 24 inch, Tr Det B	Ft	175
Sewer Cleanout, 8 inch	Ft	16
Sewer, Serv Lead, PVC 8 inch	Ft	50
Sewer Cleanout Cover	Ea	2
Dr Structure, 48 inch dia	Ea	6
Dr Structure, 60 inch dia	Ea	1
Dr Structure Cover, Type B, Modified	Ea	2
Dr Structure Cover, Type K, Modified	Ea	5
Hand Patching	Ton	5
HMA, 4EML	Ton	320
HMA, 5EML	Ton	255
Conc Base Cse, Nonreinf, 6 inch	Syd	45
Driveway, Nonreinf Conc, 6 inch	Syd	140
Curb and Gutter, Conc, Det C4	Ft	770
Driveway Opening, Conc, Det M	Ft	30
Curb Ramp Opening, Conc	Ft	160
Sidewalk, Conc, 4 inch	Sft	8150
7 Steps, Conc	Cyd	0.5
Curb Ramp, Conc, 6 inch	Sft	1565
Detectable Warning Surface, Cast Iron	Ft	45
Concrete Pavers, Asphalt Bed, 2.75 inch	Sft	395
7 Concrete Pavers, Sand Bed, 2.75 inch	Sft	1070
7 Monument Box	Ea	2
Monument Preservation	Ea	2
Gate Valve and Box, 8 inch	Ea	3
Private Water Serv, 1 inch, Trenchless	Ft	35
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	580
Curb Stop and Box	Ea	7
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	4
Water Serv, Long, 1 inch, Modified	Ea	7
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	425
Sanitary Structure, 48 inch dia	Ea	1
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	4
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	230
Sanitary Sewer Cleanout, 6 inch	Ft	16
Sanitary Sewer Cleanout Cover	Ea	2

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - _ : DR STRUCTURE COVER, ADJ, CASE _
- HP - : HAND PATCHING (MIX DESIGNATION)
- HA - : HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

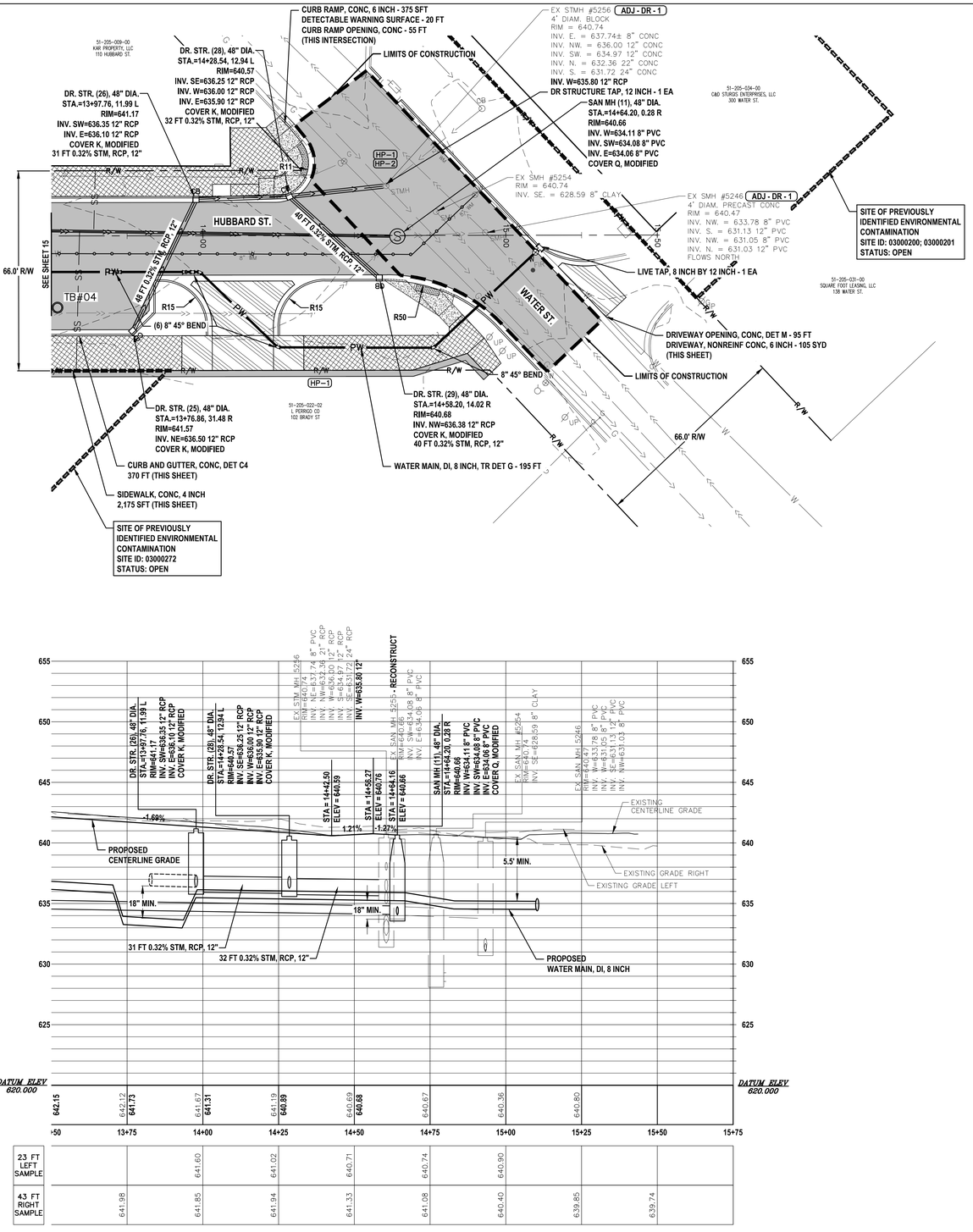
SHEET TITLE:
HUBBARD STREET PLAN AND PROFILE STA. 9+25 TO 13+50

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE: HORZ: 1" = 20' VERT: 1" = 5'
ACI JOB #: 21-1648
SHEET NO.: 15 of 53

o:\Projects\2021\21-1648\Acady-house-hubbard-reconstruction\CADD_Civil\Drawings\21-1648 B1.dwg, B1-HUB-3, 8/3/2022 9:47:45 AM, mfallon, 1:1



	23 FT LEFT SAMPLE	43 FT RIGHT SAMPLE
13+75	641.60	641.85
14+00	641.02	641.94
14+25	640.71	641.33
14+50	640.74	641.08
14+75	640.90	640.40
15+00		639.85
15+25		639.74

	Item Description	Unit	Sht 16 Quantity
	Machine Grading, Modified	Sta	1.8
	Subbase, CIP	Cyd	345
	Aggregate Base, 8 inch	Syd	1025
	Sewer, Cl III, 12 inch, Tr Det B	Ft	151
1	Dr Structure Cover, Adj, Case 1	Ea	2
	Dr Structure, 48 inch dia	Ea	4
	Dr Structure, Tap, 12 inch	Ea	1
	Dr Structure Cover, Type K, Modified	Ea	4
	Hand Patching	Ton	5
1	HMA, 4EML	Ton	85
	HMA, 5EML	Ton	70
	HMA Approach	Ton	105
	Driveway, Nonreinf Conc, 6 inch	Syd	105
	Curb and Gutter, Conc, Det C4	Ft	370
	Driveway Opening, Conc, Det M	Ft	95
	Curb Ramp Opening, Conc	Ft	55
	Sidewalk, Conc, 4 inch	Sft	2190
	Curb Ramp, Conc, 6 inch	Sft	375
	Detectable Warning Surface, Cast Iron	Ft	20
	Live Tap, 8 inch by 12 inch	Ea	1
	Private Water Serv, 1 inch, Trenchless	Ft	10
	Water Main, DI, 8 inch, Tr Det G, Modified	Ft	195
	Curb Stop and Box	Ea	1
	Private Water Serv, Conn to Ex	Ea	1
	Water Serv, Long, 1 inch, Modified	Ea	1
	Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	115
	Sanitary Structure, 48 inch dia	Ea	1
	Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	50
	Sanitary Sewer Cleanout, 6 inch	Ft	16
	Sanitary Sewer Cleanout Cover	Ea	2
	Sanitary Structure Cover, Type Q, Modified	Ea	1

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
HUBBARD STREET
PLAN AND PROFILE
STA. 13+50 TO 15+10 (P.O.E.)

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

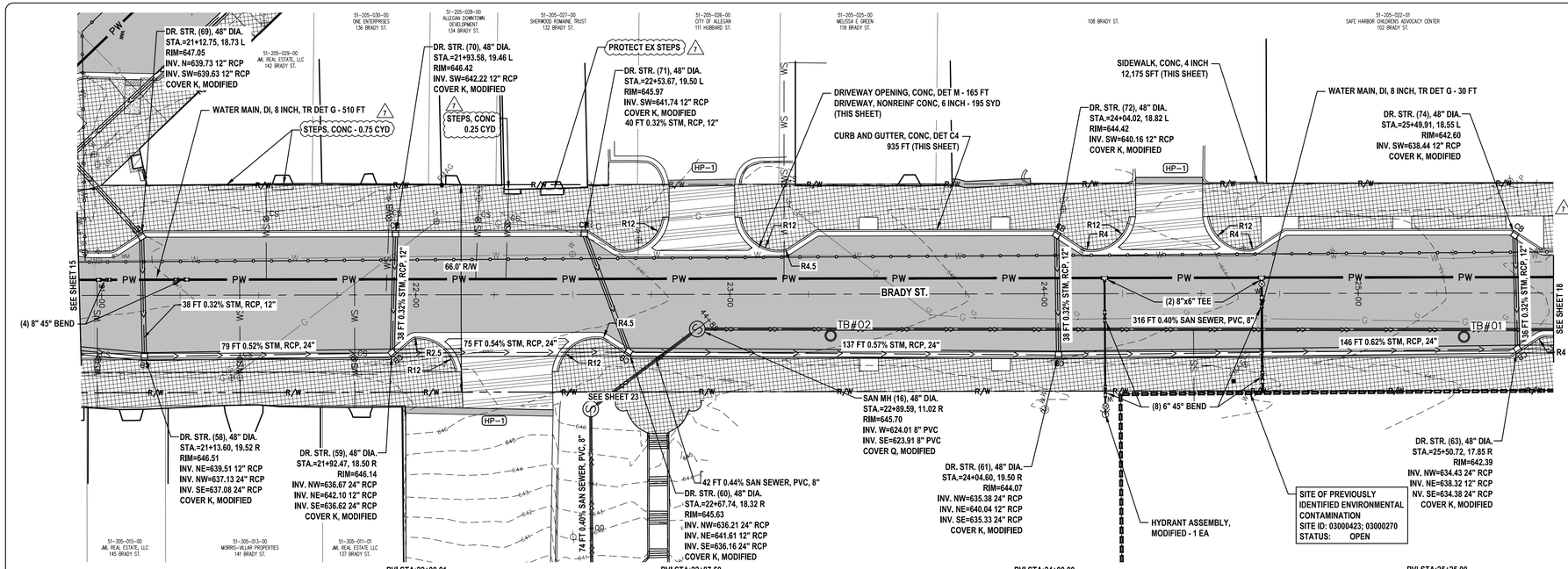
SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
16 of 53

o:\Projects\2021\21-1648\Ready-to-use-hubbard-reconstruction\CAD_Civil\Drawings\21-1648 B1-Reg_B1-HUB04_8/3/2022 8:47:54 AM, cmillett, 1:1



Item Description	Unit	Sht 17 Quantity
Machine Grading, Modified	Sta	4.75
Subbase, CIP	Cyd	730
Aggregate Base, 8 inch	Syd	2185
Sewer, Cl III, 12 inch, Tr Det B	Ft	190
Sewer, Cl III, 24 inch, Tr Det B	Ft	437
Dr Structure, 48 inch dia	Ea	10
Dr Structure Cover, Type K, Modified	Ea	10
Hand Patching	Ton	10
HMA, 4EML	Ton	305
HMA, 5EML	Ton	245
Driveway, Nonreinf Conc, 6 inch	Syd	195
Curb and Gutter, Conc, Det C4	Ft	935
Driveway Opening, Conc, Det M	Ft	165
Sidewalk, Conc, 4 inch	Sft	12305
Gate Valve and Box, 6 inch	Ea	2
Gate Valve and Box, 8 inch	Ea	2
Steps, Conc	Cyd	1
Private Water Serv, 1 inch, Trenchless	Ft	40
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	540
Curb Stop and Box	Ea	8
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	4
Water Serv, Long, 1 inch, Modified	Ea	8
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	316
Sanitary Structure, 48 inch dia	Ea	2
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	14
Sanitary Structure, Add Depth of 48 inch dia, more than 15 foot	Ft	13
Sanitary Structure Cover, Type Q, Modified	Ea	2

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

NOTE:
1. INVERTS FOR STORM PIPES CROSSING BRADY STREET FROM NORTH TO SOUTH ARE SHOWN AT THE ELEVATION ENTERING THE STRUCTURE ON THE SOUTH SIDE OF THE STREET. THE ACTUAL ELEVATION OF THE PIPE CROSSING THE WATER MAIN WILL BE HIGHER THAN SHOWN.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
BRADY STREET
PLAN AND PROFILE
STA. 20+93 TO 25+62

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: 1" = 20' VERT: 1" = 5'
ACI JOB #: 21-1648
SHEET NO.: 17 of 53

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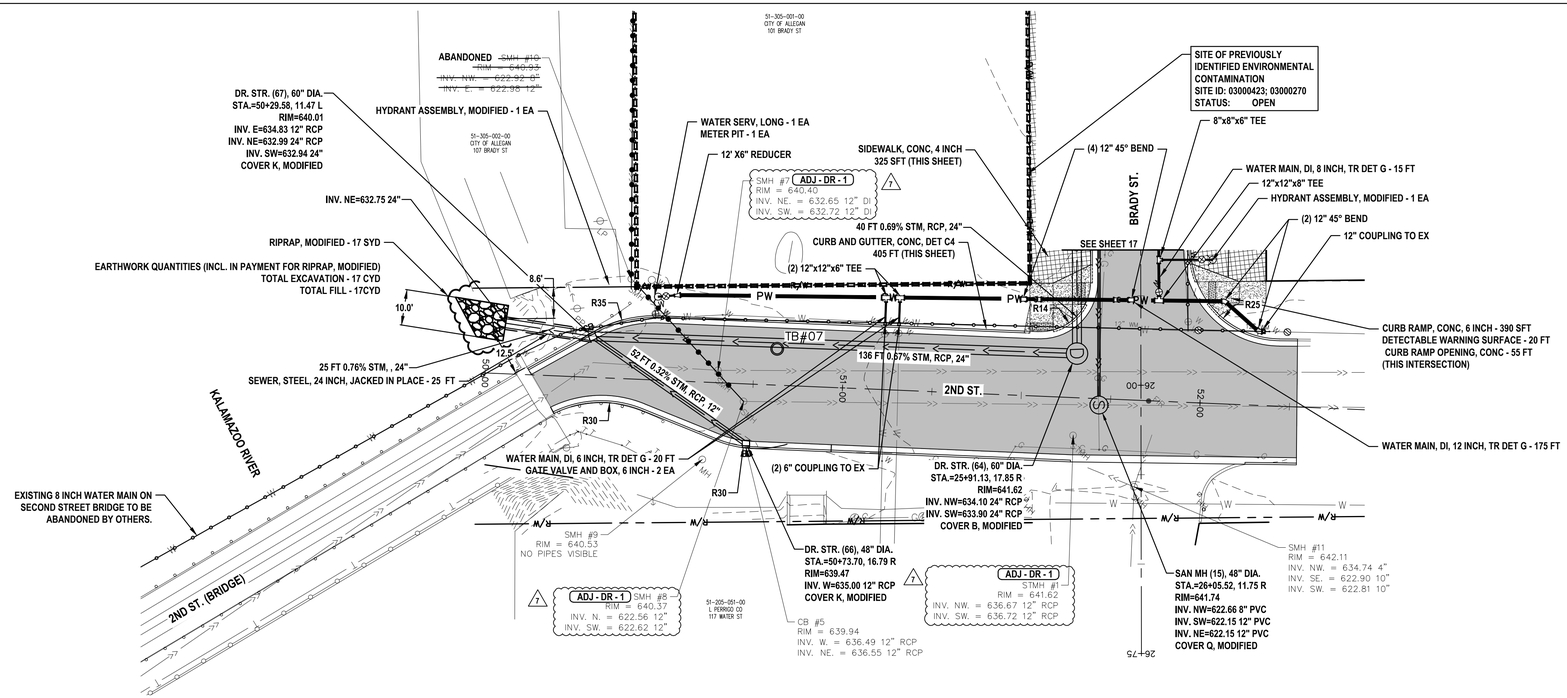

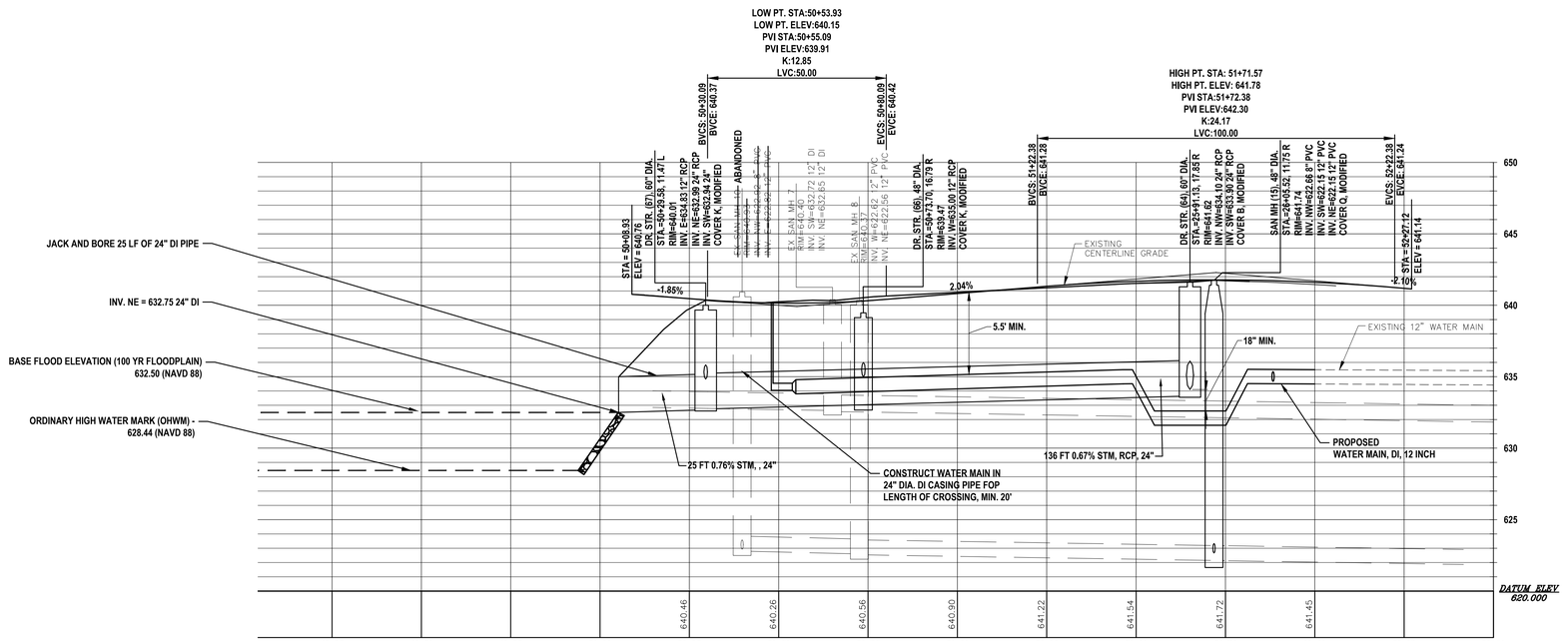

Item Description	Unit	Sht 18 Quantity
Machine Grading, Modified	Sta	2.25
Subbase, CIP	Cyd	325
Aggregate Base, 8 inch	Syd	970
Sewer, Cl III, 12 inch, Tr Det B	Ft	52
Sewer, Cl III, 24 inch, Tr Det B	Ft	176
Sewer, Steel, 24 Inch, Jacked in Place	Ft	25
7 Dr Structure Cover, Adj, Case 1	Ea	3
Dr Structure, 48 inch dia	Ea	1
Dr Structure, 60 inch dia	Ea	2
Dr Structure Cover, Type B, Modified	Ea	1
Dr Structure Cover, Type K, Modified	Ea	2
HMA, 4EML	Ton	135
HMA, 5EML	Ton	110
Curb and Gutter, Conc, Det C4	Ft	405
Curb Ramp Opening, Conc	Ft	55
Sidewalk, Conc, 4 inch	Sft	325
Curb Ramp, Conc, 6 inch	Sft	390
Detectable Warning Surface, Cast Iron	Ft	20
Guardrail, Type B	Ft	13
Guardrail Anch, Bridge, Det T2	Ea	1
Guardrail Departing Terminal, Type B	Ea	1
Riprap, Modified	Syd	20
Gate Valve and Box, 6 inch	Ea	2
Gate Valve and Box, 8 inch	Ea	1
Gate Valve and Box, 12 inch	Ea	1
Water Main, DI, 12 inch, Tr Det G, Modified	Ft	185
Water Main, DI, 6 inch, Tr Det G, Modified	Ft	20
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	15
Hydrant Assembly, Modified	Ea	2
Meter Pit	Ea	1
Water Serv, Long, 1 inch, Modified	Ea	1
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	44
Sanitary Structure, 48 inch dia	Ea	1
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	7
Sanitary Structure, Add Depth of 48 inch dia, more than 15 foot	Ft	5
Sanitary Structure Cover, Type Q, Modified	Ea	1

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
STATE STREET / 2ND STREET
PLAN AND PROFILE
STA. 50+12 TO 52+28

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
18 of 53

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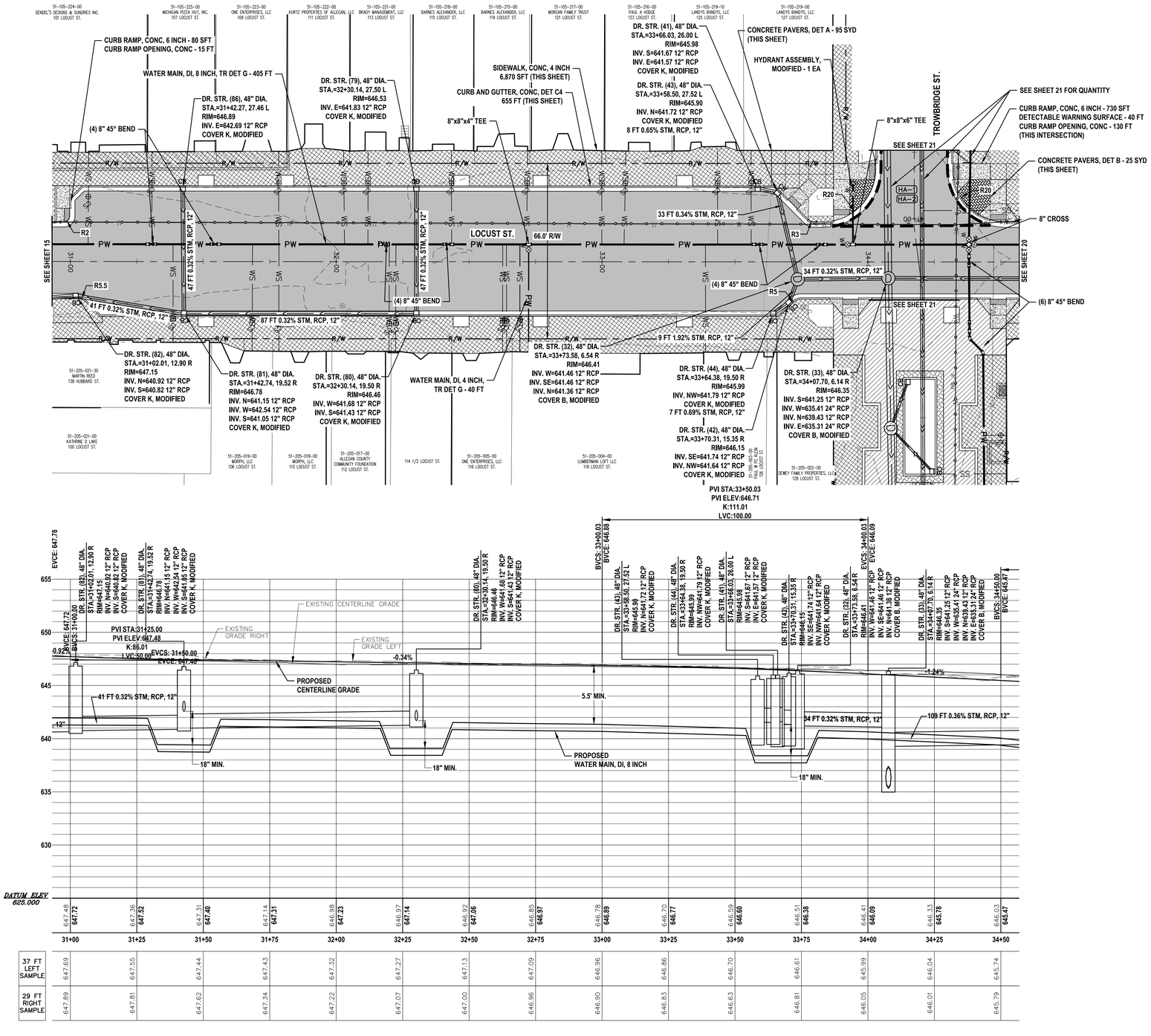

Item Description	Unit	Sht 19 Quantity
Machine Grading, Modified	Sta	3.75
Subbase, CIP	Cyd	690
Aggregate Base, 6 inch	Syd	25
Aggregate Base, 8 inch	Syd	2060
Aggregate Base, 10 inch	Syd	95
Sewer, Cl III, 12 inch, Tr Det B	Ft	362
Dr Structure, 48 inch dia	Ea	11
Dr Structure Cover, Type B, Modified	Ea	2
Dr Structure Cover, Type K, Modified	Ea	9
HMA Approach	Ton	30
HMA, 4EML	Ton	235
HMA, 5EML	Ton	190
Conc Base Cse, Nonreinf, 6 inch	Syd	25
Curb and Gutter, Conc, Det C4	Ft	655
Curb Ramp Opening, Conc	Ft	145
Sidewalk, Conc, 4 inch	Sft	7665
Curb Ramp, Conc, 6 inch	Sft	810
Detectable Warning Surface, Cast Iron	Ft	40
Concrete Pavers, Asphalt Bed, 2.75 inch	Sft	205
Concrete Pavers, Sand Bed, 2.75 inch	Sft	210
Gate Valve and Box, 4 inch	Ea	1
Gate Valve and Box, 8 inch	Ea	4
Private Water Serv, 1 inch, Trenchless	Ft	50
Water Main, DI, 4 inch, Tr Det G, Modified	Ft	40
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	405
Curb Stop and Box	Ea	20
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	10
Water Serv, Long, 1 inch, Modified	Ea	20

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - : DR STRUCTURE COVER, ADJ, CASE _
- HP - : HAND PATCHING (MIX DESIGNATION)
- HA - : HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS CITY OF ALLEGAN CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
LOCUST STREET PLAN AND PROFILE STA. 30+93 TO 34+57

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
19 of **53**

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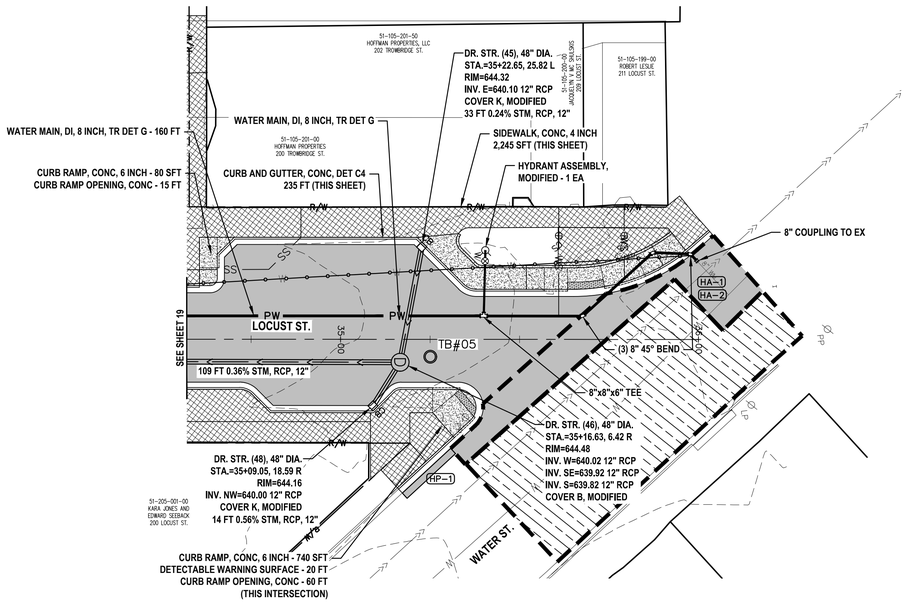

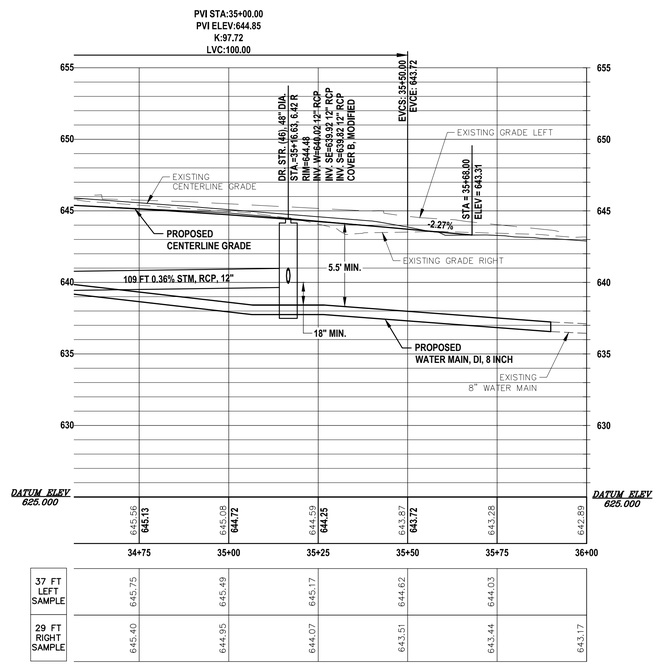

37 FT LEFT SAMPLE	645.75	645.49	645.17	644.62	644.03	
29 FT RIGHT SAMPLE	645.40	644.95	644.07	643.51	643.44	643.17

Item Description	Unit	Sht 20 Quantity
Machine Grading, Modified	Sta	1.5
Subbase, CIP	Cyd	200
Aggregate Base, 8 inch	Syd	600
Aggregate Base, 10 inch	Syd	30
Sewer, Cl III, 12 inch, Tr Det B	Ft	105
Dr Structure, 48 inch dia	Ea	3
Dr Structure Cover, Type B, Modified	Ea	1
Dr Structure Cover, Type K, Modified	Ea	2
Hand Patching	Ton	5
HMA Approach	Ton	30
HMA, 4EML	Ton	75
HMA, 5EML	Ton	60
Curb and Gutter, Conc, Det C4	Ft	235
Curb Ramp Opening, Conc	Ft	75
Sidewalk, Conc, 4 inch	Sft	2510
Curb Ramp, Conc, 6 inch	Sft	740
Detectable Warning Surface, Cast Iron	Ft	20
Private Water Serv, 1 inch, Trenchless	Ft	20
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	160
Curb Stop and Box	Ea	2
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	2
Water Serv, Long, 1 inch, Modified	Ea	2
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	45

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
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- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ-DR-_ : DR STRUCTURE COVER, ADJ, CASE _
- HP-_ : HAND PATCHING (MIX DESIGNATION)
- HA-_ : HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
LOCUST STREET
PLAN AND PROFILE
STA. 34+57 TO 35+75

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

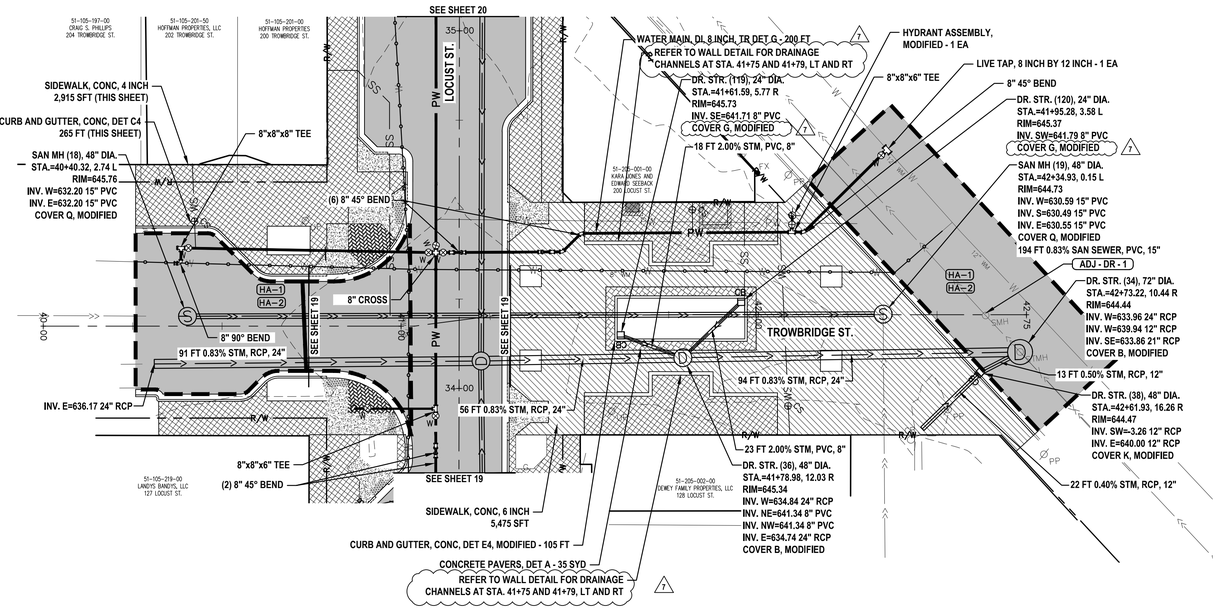
SIGNATURE:
DATE:

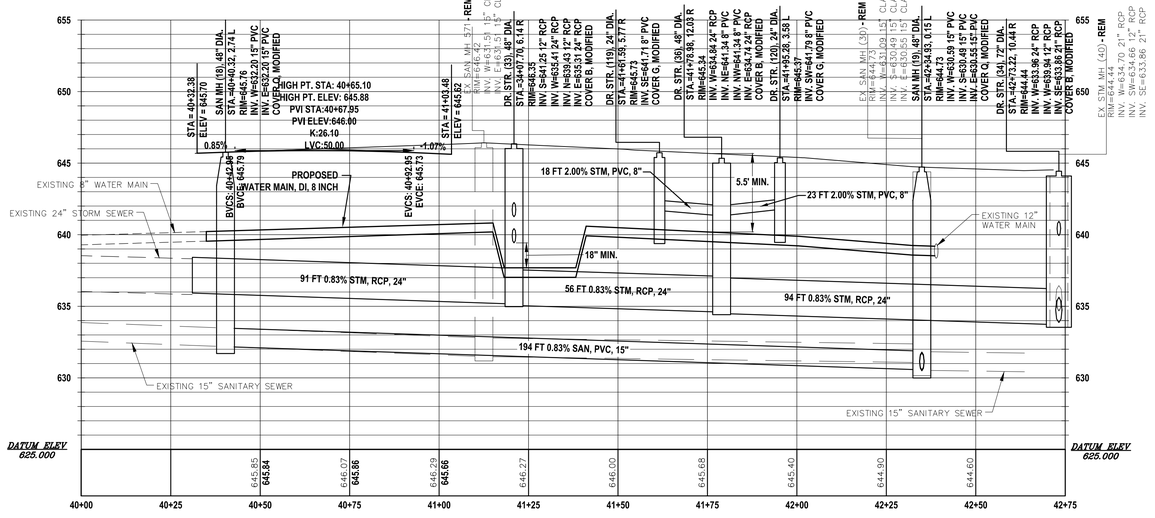
SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
20 of 53

o:\Projects\2021\21-1648\ready-house-bullhead-reconstruction\CAD_Civil\Drawings\21-1648 RI.dwg, RI LOCUST 2, 8/3/2022 8:48:22 AM, cmfisher, 1:1





Item Description	Unit	Sht 21 Quantity
Machine Grading, Modified	Sta	2
Subbase, CIP	Cyd	210
Aggregate Base, 8 inch	Syd	625
Aggregate Base, 10 inch	Syd	35
Sewer, Cl III, 12 inch, Tr Det B	Ft	35
Sewer, Cl III, 24 inch, Tr Det B	Ft	241
Sewer, PVC, 8 inch, Tr Det B	Ft	41
7 Dr Structure Cover, Adj, Case 1	Ea	1
Dr Structure, 48 inch dia	Ea	2
Dr Structure, 72 inch dia	Ea	1
Dr Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	4
Dr Structure, Add Depth of 72 inch dia, 8 foot to 15 foot	Ft	4
Dr Structure, 24 inch dia, Modified	Ea	2
7 Dr Structure Cover, Type G, Modified	Ea	2
Dr Structure Cover, Type B, Modified	Ea	2
Dr Structure Cover, Type K, Modified	Ea	1
HMA Approach	Ton	140
Curb and Gutter, Conc, Det C4	Ft	265
Curb and Gutter, Conc, Det E4, Modified	Ft	105
Sidewalk, Conc, 4 inch	Sft	2915
Sidewalk, Conc, 6 inch	Sft	5475
Concrete Pavers, Sand Bed, 2.75 inch	Sft	290
Gate Valve and Box, 8 inch	Ea	1
Live Tap, 8 inch by 12 inch	Ea	1
Private Water Serv, 1 inch, Trenchless	Ft	30
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	470
Curb Stop and Box	Ea	3
Hydrant Assembly, Modified	Ea	1
Private Water Serv, Conn to Ex	Ea	3
Water Serv, Long, 1 inch, Modified	Ea	3
Sanitary Structure, 48 inch dia	Ea	2
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	13
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	60
Sanitary Sewer, PVC, 15 inch, Tr Det B2	Ft	194
Sanitary Structure Cover, Type Q, Modified	Ea	2

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - _ DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

TROWBRIDGE-PLAZA
PLAN AND PROFILE
STA. 40+25 TO 42+50

SHEET TITLE:

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
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DATE: JULY 2022
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SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
21 of 53

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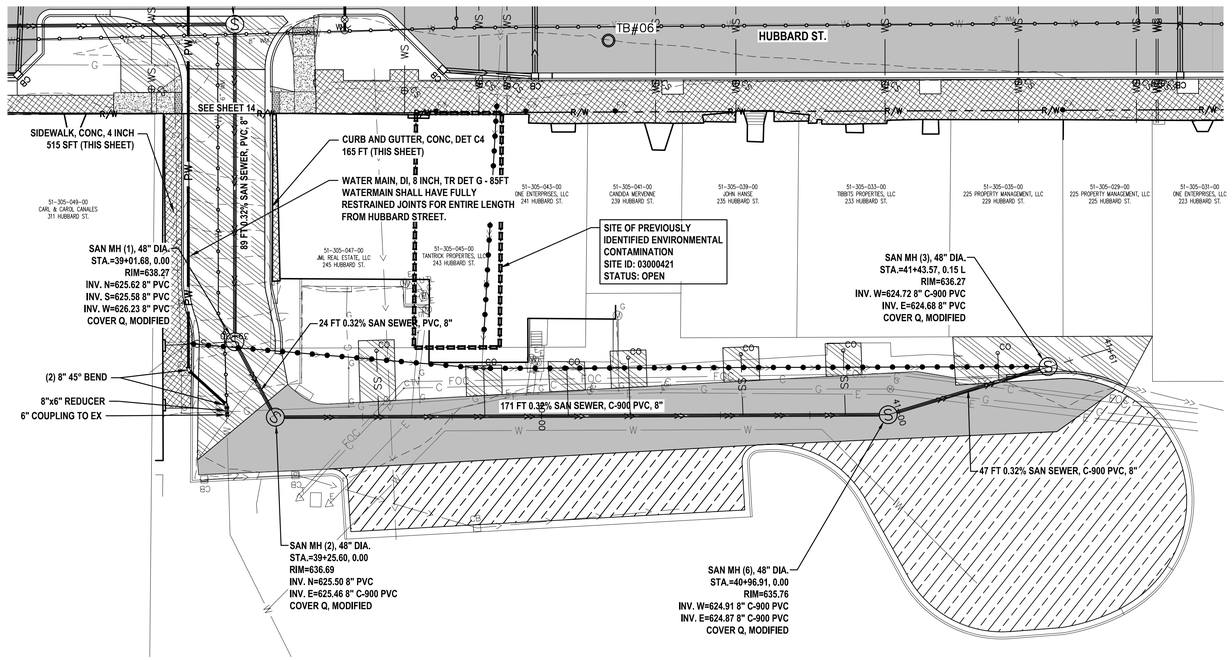

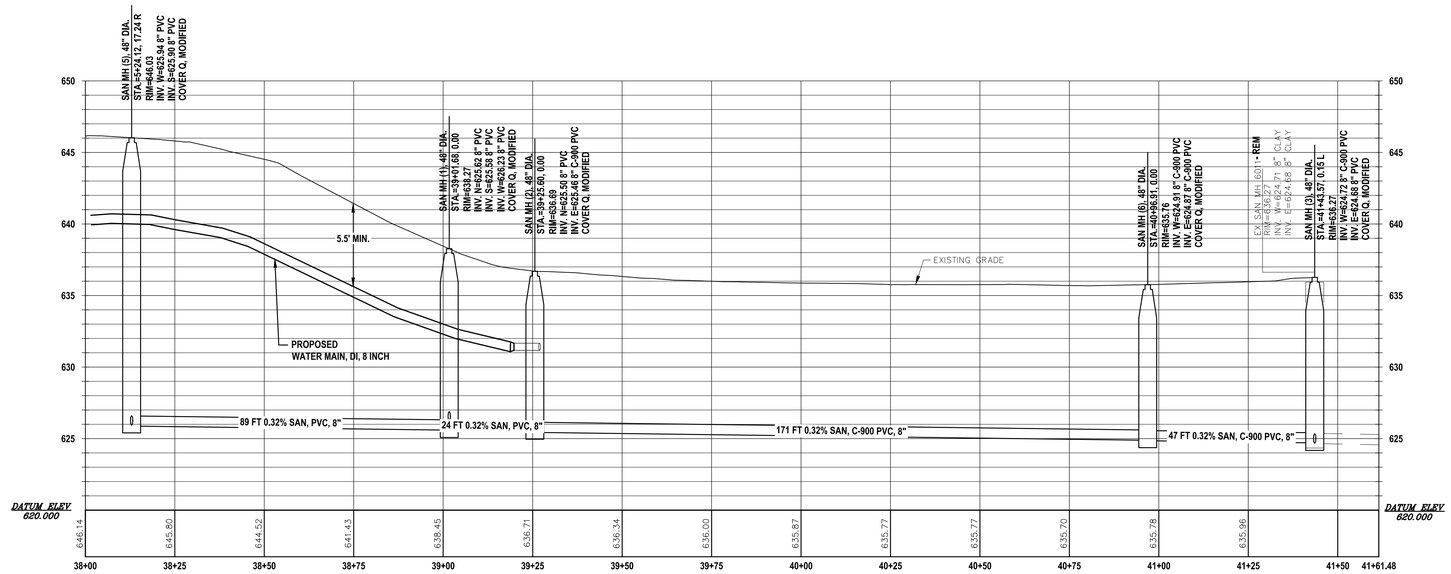

Item Description	Unit	Sht 22 Quantity
Machine Grading, Modified	Sta	3.15
Subbase, CIP	Cyd	260
Aggregate Base, 8 inch	Syd	780
HMA, 4EML	Ton	75
HMA, 5EML	Ton	145
Driveway, Nonreinf Conc, 6 inch	Syd	390
Curb and Gutter, Conc, Det C4	Ft	165
Sidewalk, Conc, 4 inch	Sft	515
Water Main, DI, 8 inch, Tr Det G, Modified	Ft	95
Inline Water Valve, Temp, 6 inch	Ea	2
7 Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	113
Sanitary Structure, 48 inch dia	Ea	4
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	16
Sanitary Sewer, Serv Lead, PVC, 6 inch	Ft	125
Sanitary Sewer Cleanout, 6 inch	Ft	56
7 Sanitary Sewer, C-900, 8 inch, Tr Det B2	Ft	218
Sanitary Sewer Cleanout Cover	Ea	7
Sanitary Structure Cover, Type Q, Modified	Ea	4

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - HMA APPROACH (MIX DESIGNATION)

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

RIVERFRONT PLAZA
PLAN AND PROFILE
STA. 38+40 TO 41+70

SHEET TITLE:

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
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SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
22 of 53

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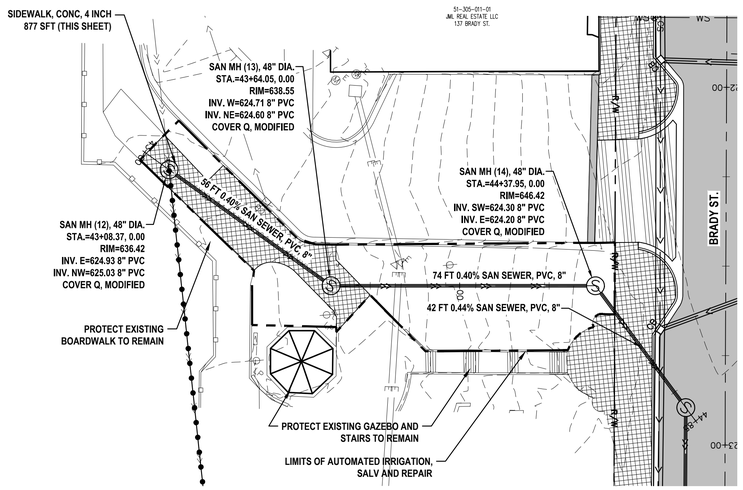

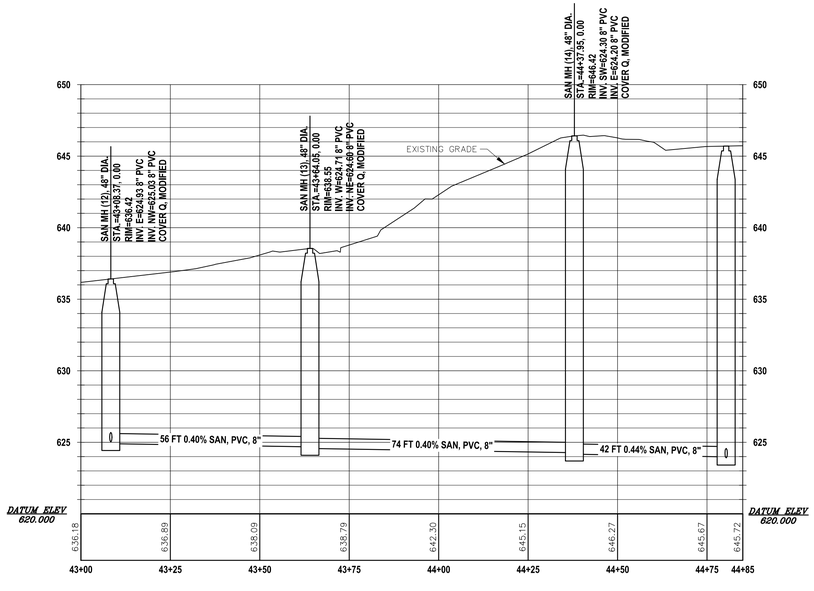

Item Description	Unit	Sht 23 Quantity
Sidewalk, Conc, 4 inch	Sft	1205
Sanitary Sewer, PVC, 8 inch, Tr Det B2	Ft	123
Sanitary Structure, 48 inch dia	Ea	4
Sanitary Structure, Add Depth of 48 inch dia, 8 foot to 15 foot	Ft	17
Sanitary Structure, Add Depth of 48 inch dia, more than 15 foot	Ft	8
Sanitary Structure Cover, Type Q, Modified	Ea	4
1 Automated Irrigation System, Salv and Repair	Dlr	2500

NOTE:
1. AUTOMATED IRRIGATION SYSTEM COMPONENTS WITHIN THE LIMITS SHOWN THAT ARE ENCOUNTERED DURING SEWER INSTALLATION SHALL BE PROTECTED OR SALVAGED TO THE EXTENT FEASIBLE. ANY COMPONENTS THAT ARE DAMAGED OR REQUIRED TO BE REMOVED TO FACILITATE THE WORK SHALL BE REPLACED TO PROPER WORKING ORDER. PAYMENT WILL BE MADE ON AN ALLOWANCE BASIS UNDER THE ITEM "AUTOMATED IRRIGATION SYSTEM, SALV AND REPAIR".

LEGEND

- SIDEWALK, CONC, 6 INCH
- SIDEWALK, CONC, 4 INCH
- SIDEWALK RAMP, ADA
- HMA PAVEMENT
- CONCRETE PAVERS, DET A
- CONCRETE PAVERS, DET B
- PROPOSED ADA TACTILE WARNING AREA
- DRIVEWAY, NONREINF CONC, 6 INCH
- ABANDON SANITARY SEWER
- ABANDON WATER MAIN
- SITE OF PREVIOUSLY IDENTIFIED ENVIRONMENTAL CONTAMINATION
- ADJ - DR - _ DR STRUCTURE COVER, ADJ, CASE _
- HP - HAND PATCHING (MIX DESIGNATION)
- HA - _ HMA APPROACH (MIX DESIGNATION)

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
MAHAN PARK SEWER PLAN AND PROFILE STA. 43+00 TO 44+48

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
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VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
23 of 53

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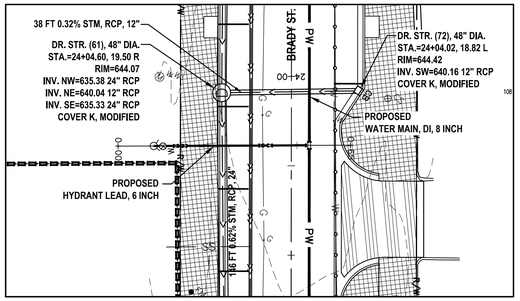

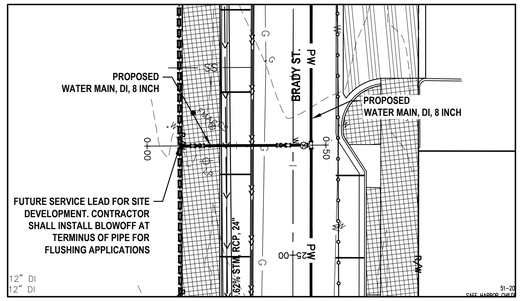

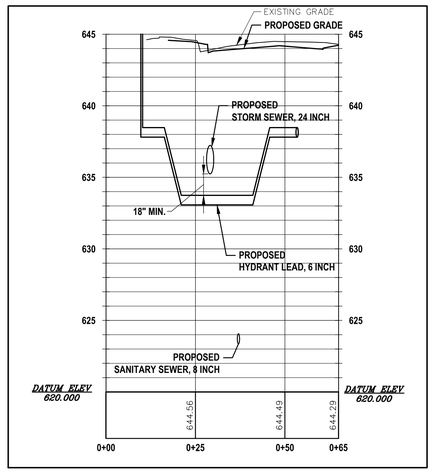

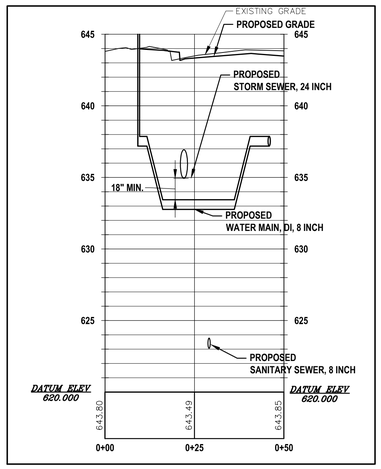

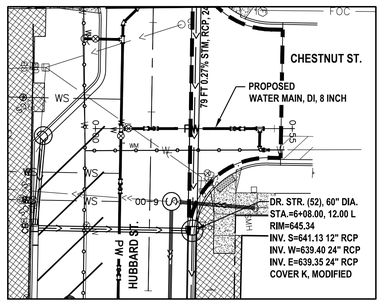

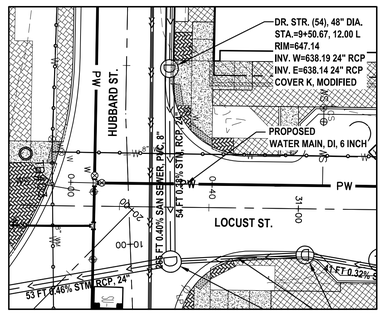

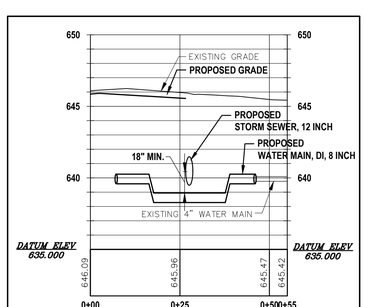

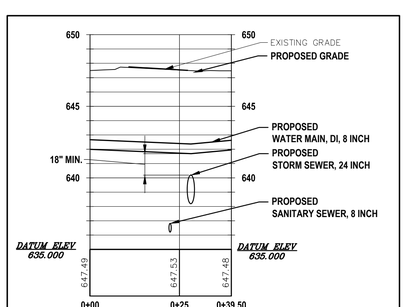



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	G4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
WATER MAIN CROSSING DETAILS

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
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DATE:

SCALE:
HORZ: 1" = 20'
VERT: 1" = 5'

ACI JOB #
21-1648

SHEET NO.
24 of 53

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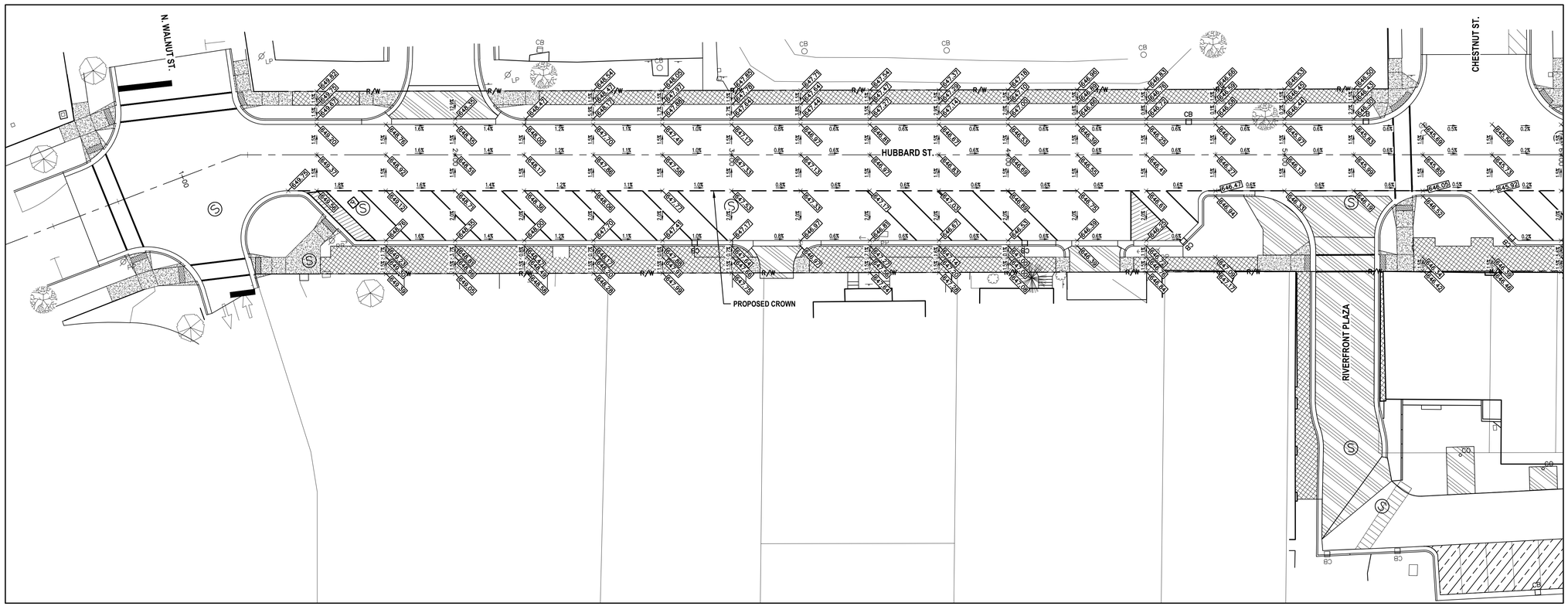

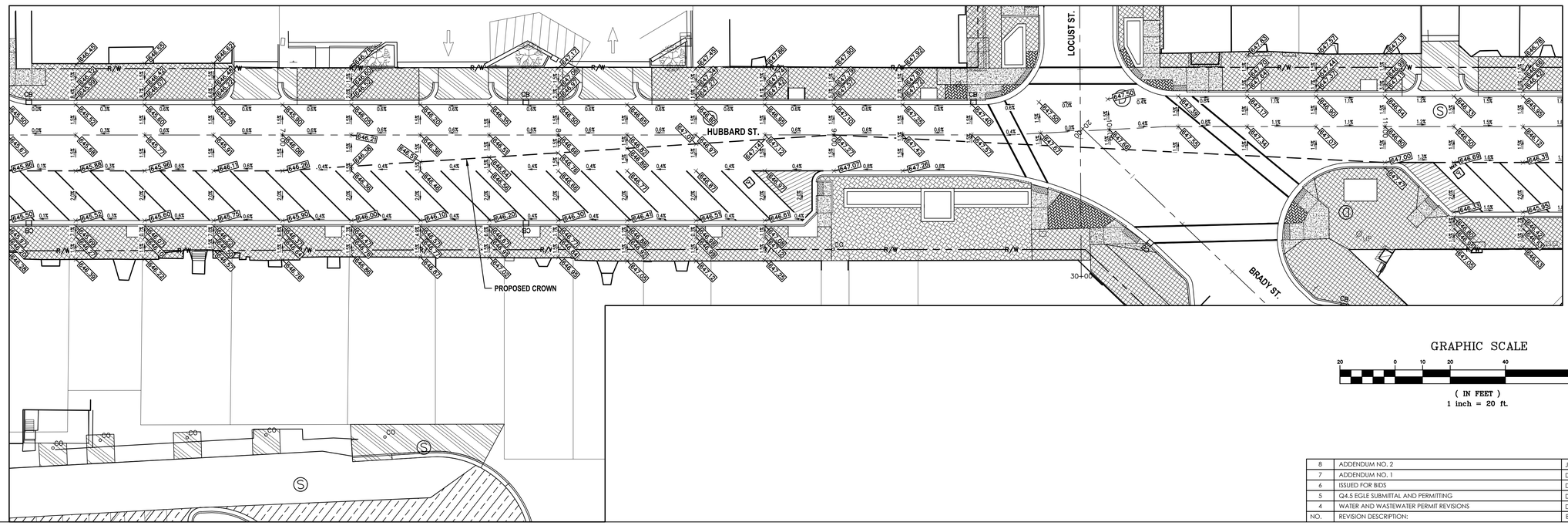

GRAPHIC SCALE

20 0 10 20 40 80

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PROJECT:
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CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
GRADING PLAN - 1

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
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DATE: JULY 2022
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ACI JOB #
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SHEET NO.
25 of **53**

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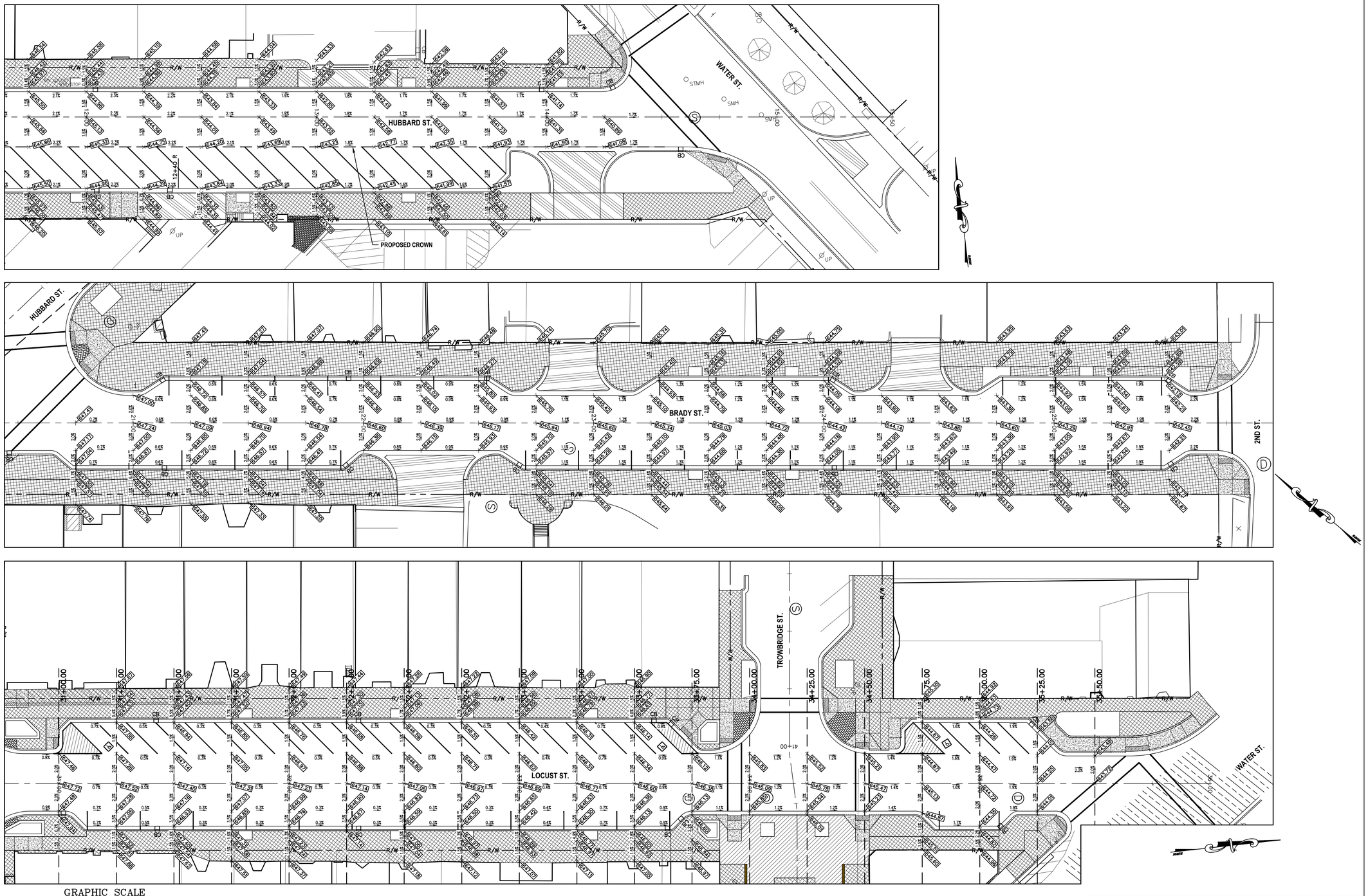

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7	ADDENDUM NO. 1	DAD	07/25/2022
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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
GRADING PLAN - 2

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
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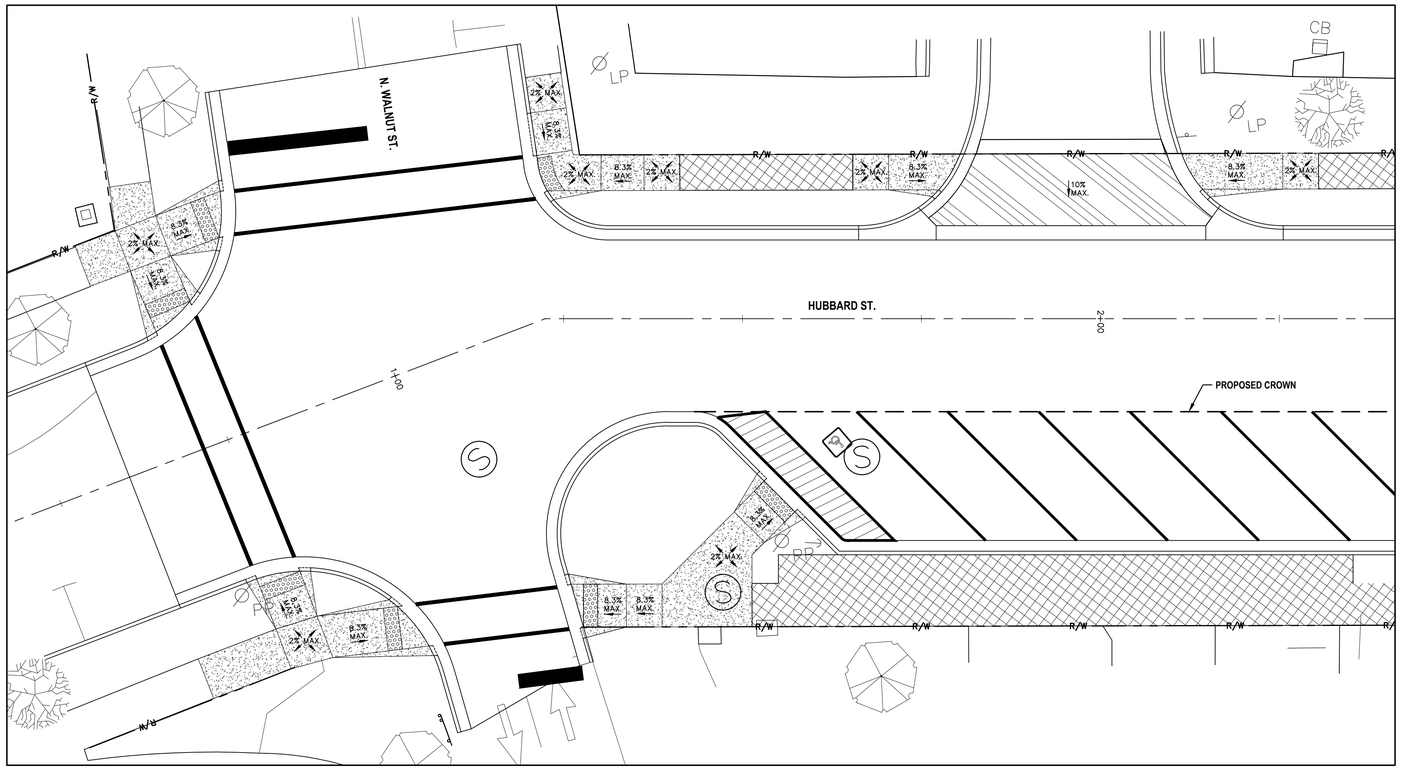
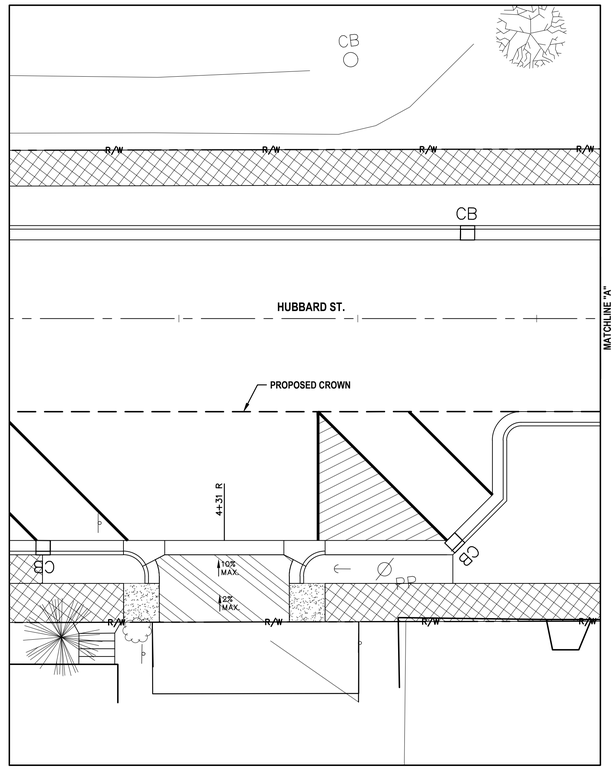
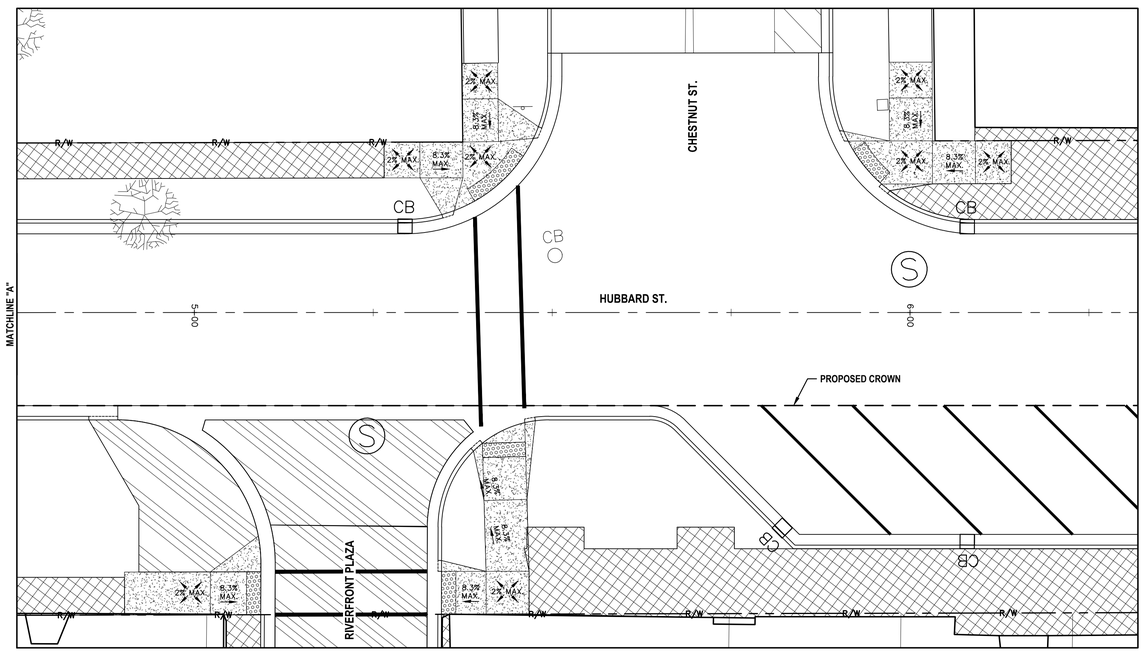
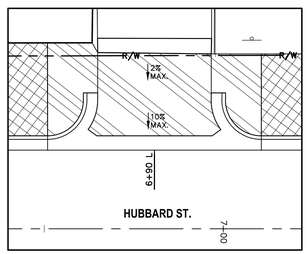
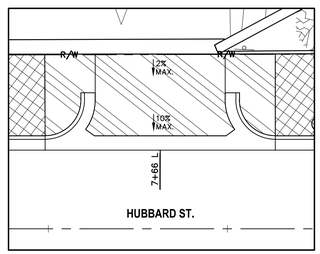
HORZ: 1" = 20'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
26 of 53

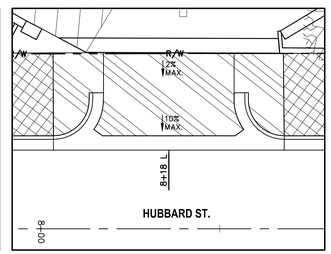


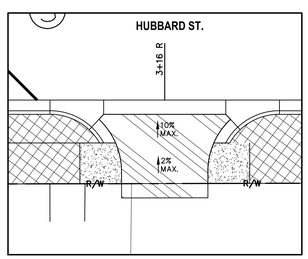












GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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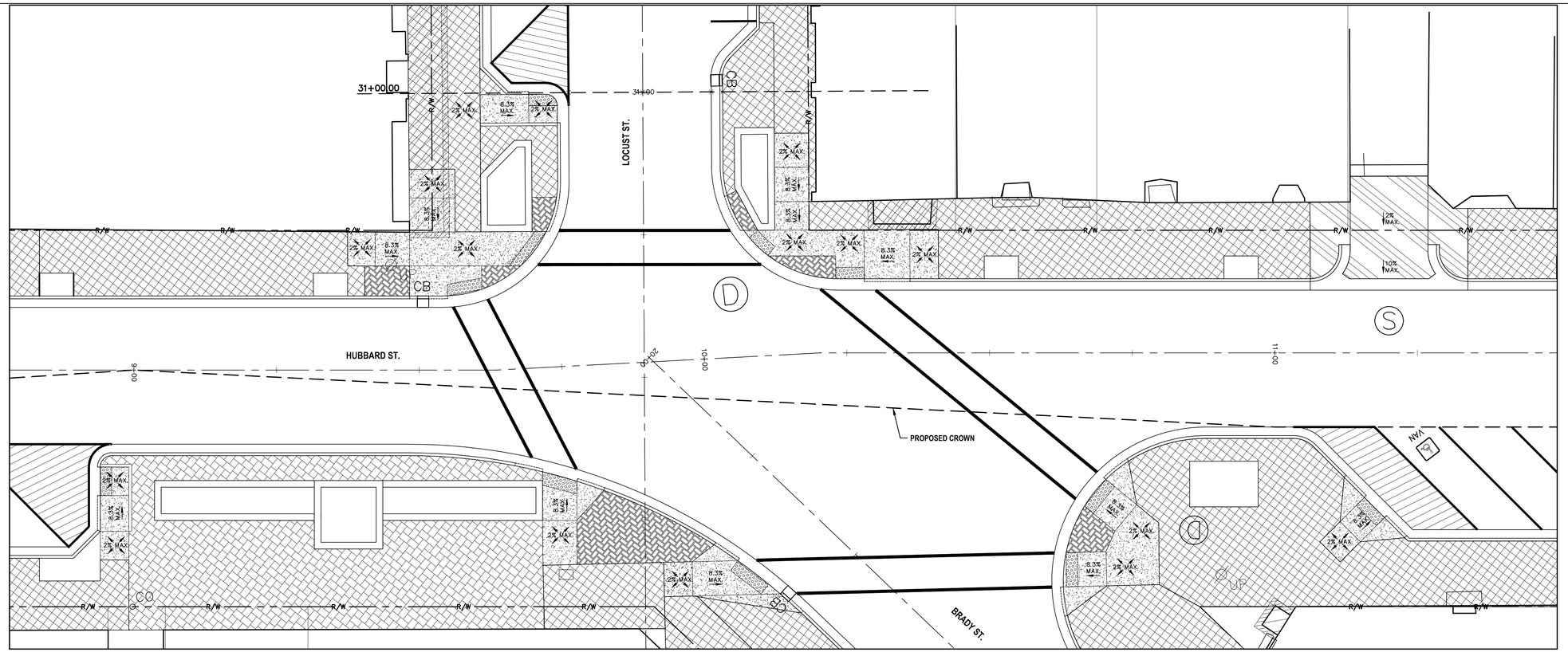
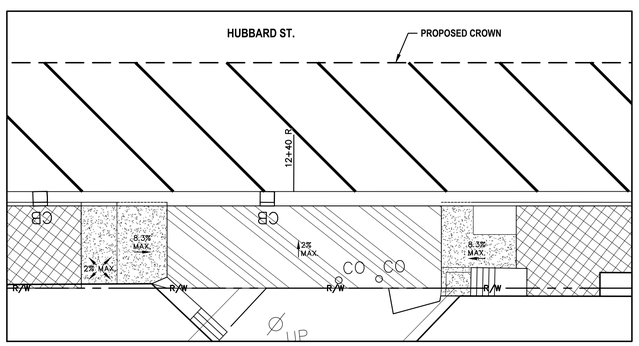
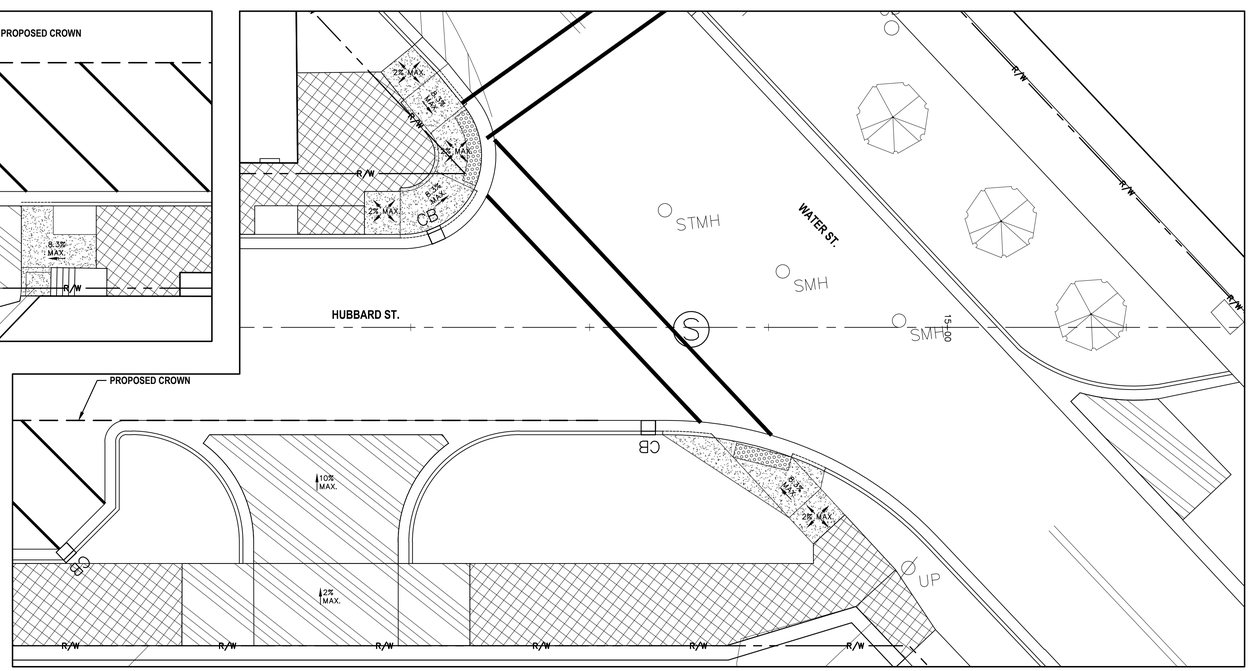
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
GRADING PLAN - 3

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 10'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
27 of 53







GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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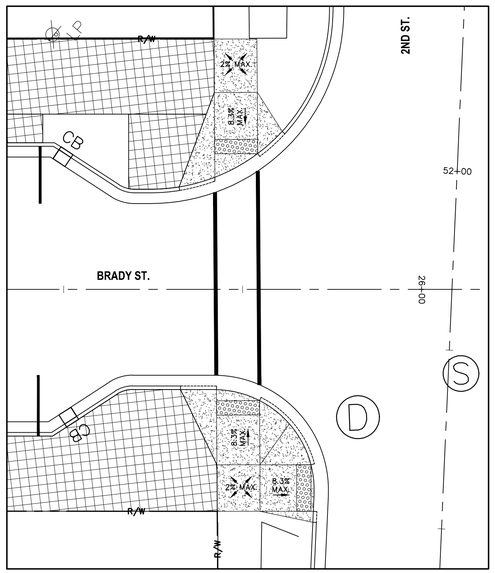
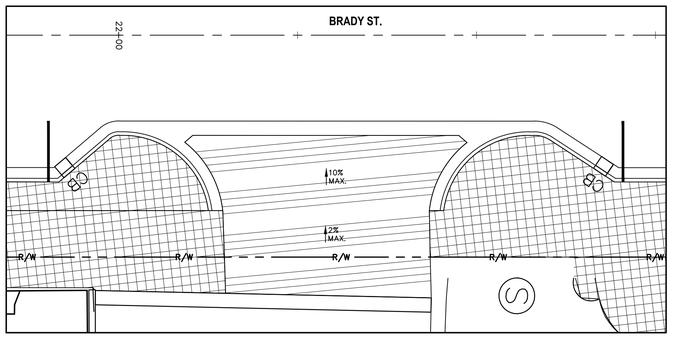
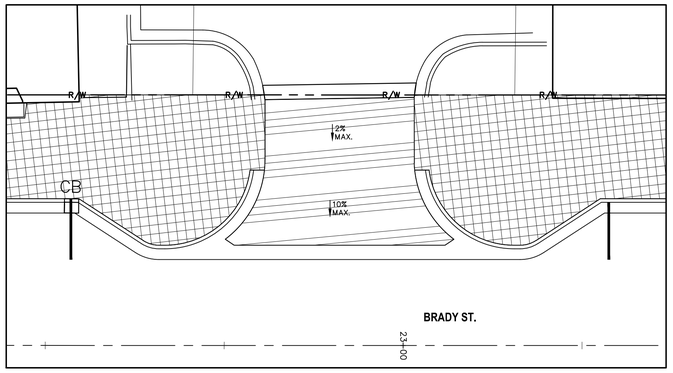
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

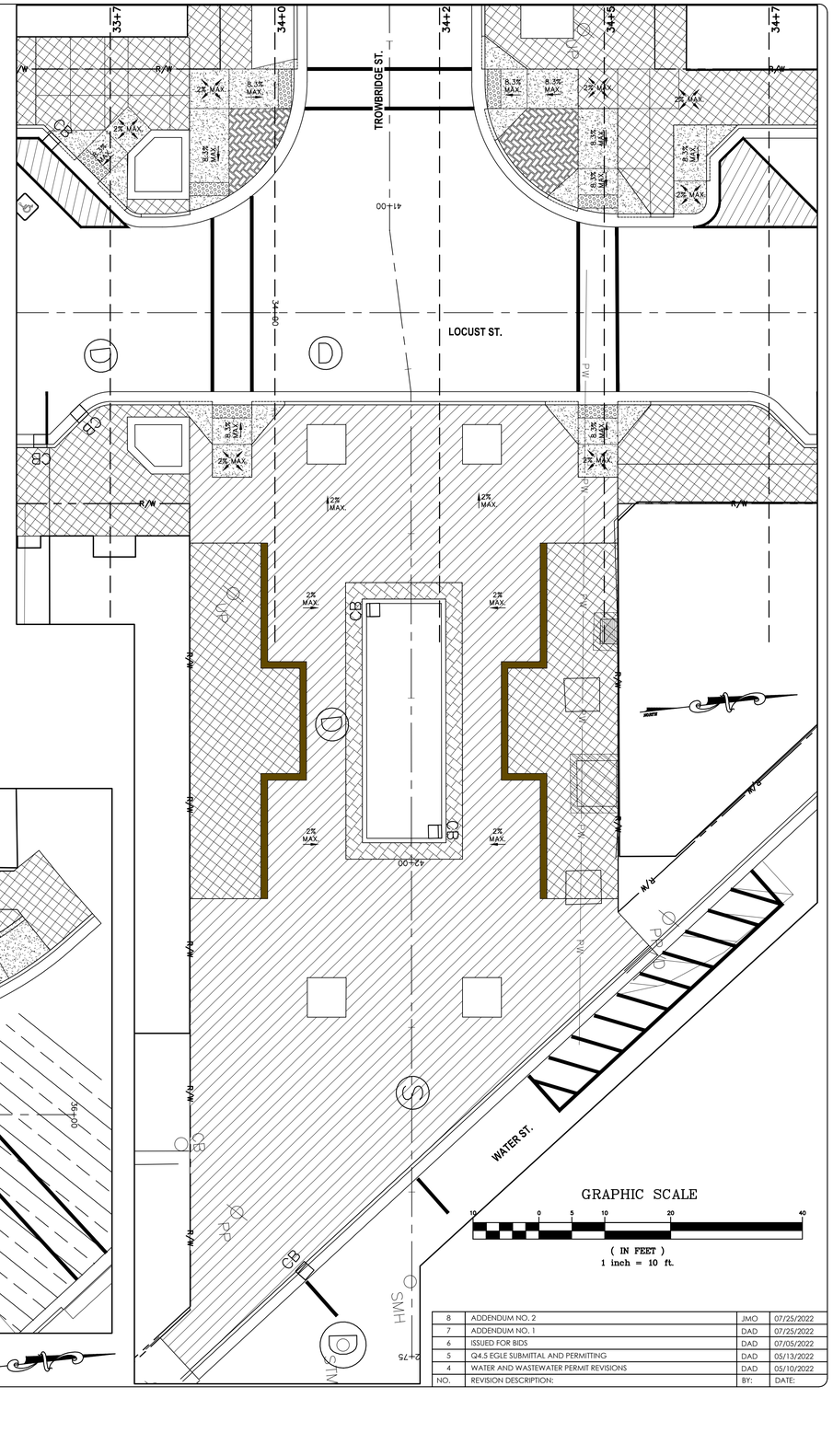
SHEET TITLE:
GRADING PLAN - 4

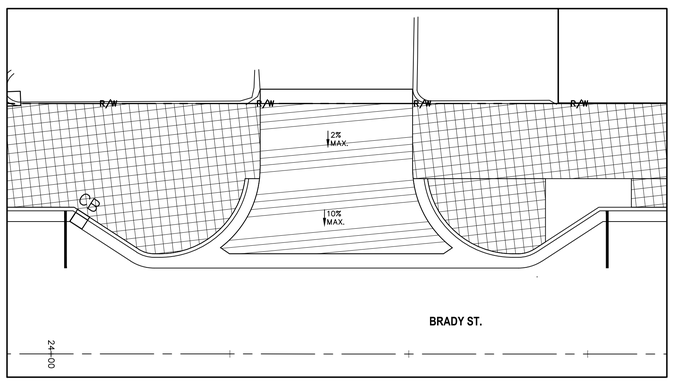
DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 10'
VERT: N/A
ACI JOB # 21-1648
SHEET NO. 28 of 53

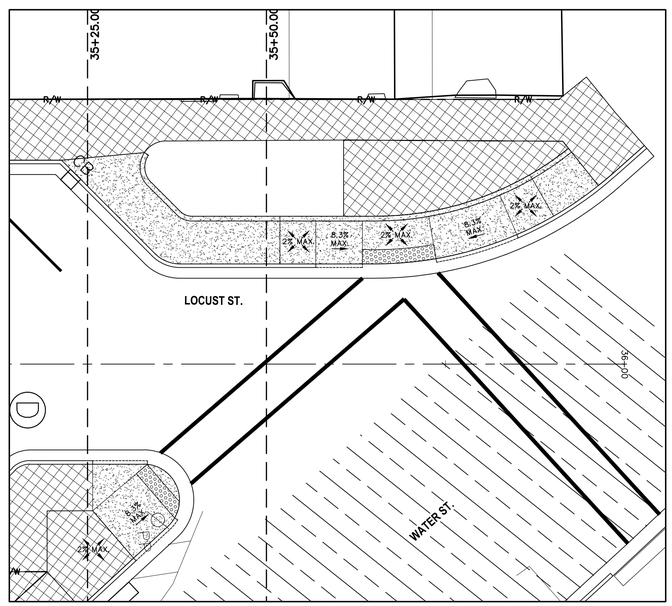












GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
GRADING PLAN - 5

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 10'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
29 of **53**

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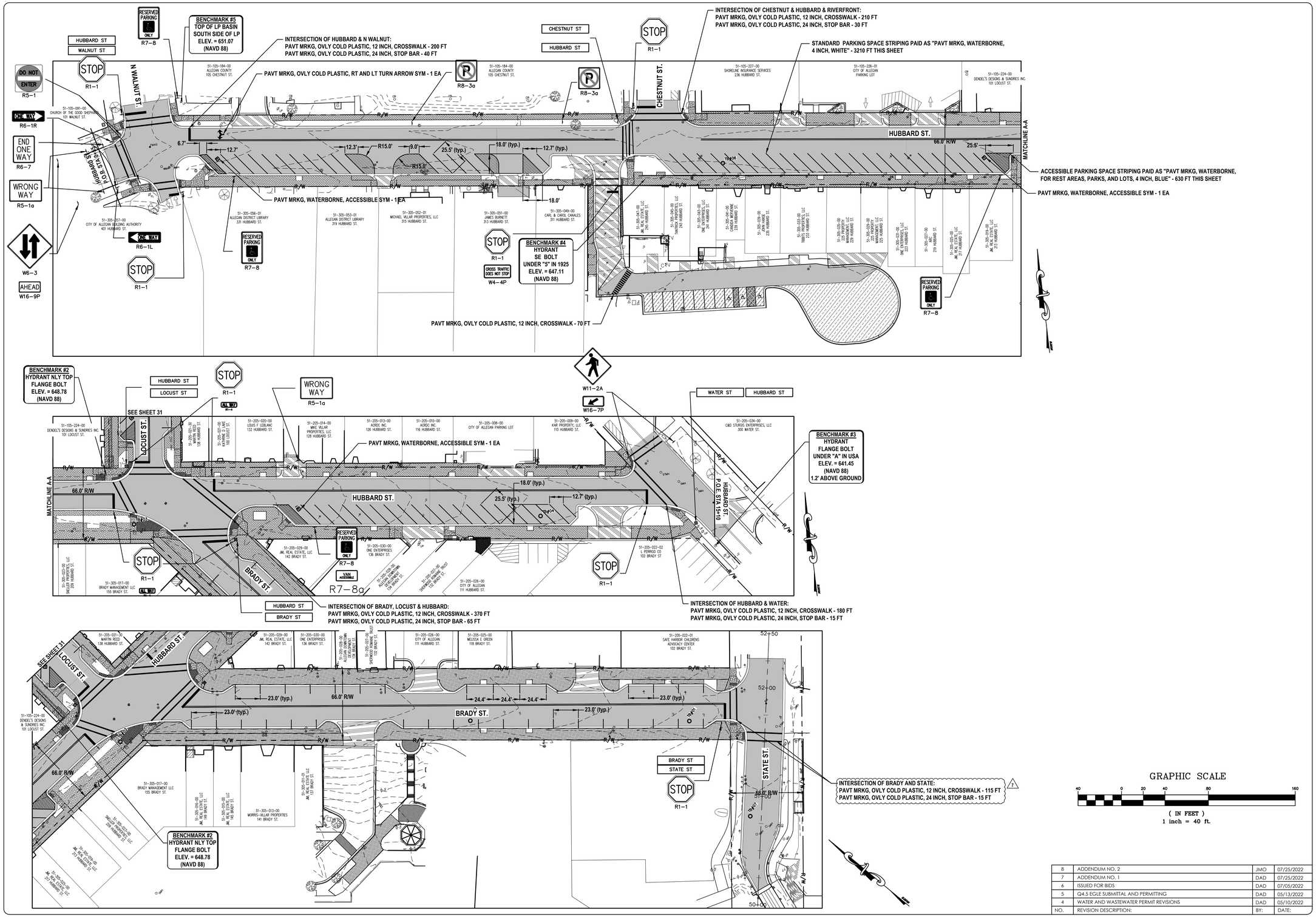

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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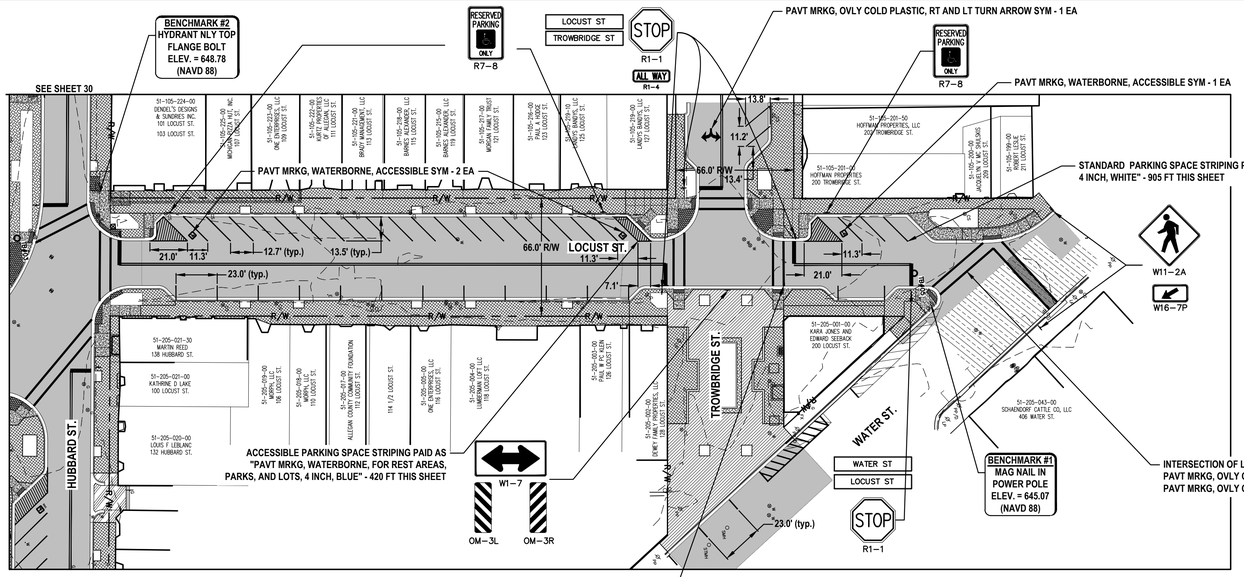
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
PAVEMENT MARKING AND PERMANENT SIGNAGE PLAN -1

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 40'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
30 of 53



PROPOSED SIGN, TYPE IIIA QUANTITIES

SYMBOL	LABEL	DIMENSION (FT)	AREA (SFT)	QUANTITY (EA)	MAXIMUM QUANTITY (SFT)
STOP	R1-1	2.5' X 2.5'	6.25	14	87.50
ALL WAY R1-4	R1-4	1.0' x 0.5'	0.5	7	3.50
			TOTAL SIGNAGE (SFT)		91.00

PROPOSED SIGN, TYPE IC QUANTITIES

BLACK BACKGROUND, WITH WHITE LETTERING TO MATCH EXISTING STREET NAME SIGNS WITHIN THE CITY OF ALLEGAN

SYMBOL	LABEL	DIMENSION (FT)	AREA (SFT)	QUANTITY (EA)	MAXIMUM QUANTITY (SFT)
HUBBARD ST	D3-1*	2.0' x 0.75'	3.00	5	15.00
BRADY ST	D3-1	2.0' x 0.75'	3.00	2	6.00
LOCUST ST	D3-1	2.0' x 0.75'	3.00	5	15.00
STATE ST	D3-1	2.0' x 0.75'	3.00	1	3.00
WATER ST	D3-1	2.0' x 0.75'	3.00	2	6.00
WALNUT ST	D3-1	2.0' x 0.75'	3.00	1	3.00
CHESTNUT ST	D3-1	2.0' x 0.75'	3.00	1	3.00
TROWBRIDGE ST	D3-1	2.0' x 0.75'	3.00	3	9.00
			TOTAL SIGNAGE (SFT)		60.00

Item Description	Unit	Sht 31 Quantity
Post Hole Through Conc for Steel Post	Ea	17
Post, Steel, 3 lb	Ft	620
Sign, Type IC	Sft	60
Sign, Type IIIA	Sft	91
Sign, Type IIIB	Sft	132
7 Pavt Mrkg, Ovly Cold Plastic, 12 Inch, Crosswalk	Ft	1510
Pavt Mrkg, Ovly Cold Plastic, 24 inch, Stop Bar	Ft	225
Pavt Mrkg, Ovly Cold Plastic, Rt and Lt Turn Arrow Sym	Ea	2
Pavt Mrkg, Waterborne, 4 inch, Yellow	Ft	4330
Pavt Mrkg, Waterborne, for Rest Areas, Parks, and Lots, 4 inch, Blue	Ft	1050
Pavt Mrkg, Waterborne, for Rest Areas, Parks, and Lots, 4 inch, White	Ft	4120
Pavt Mrkg, Waterborne, Accessible Sym	Ea	6

NOTE:
1. QUANTITIES SHOWN ARE FOR THE ENTIRE PROJECT. REFER TO PLAN SHEETS FOR PLACEMENT LOCATIONS

PROPOSED SIGN, TYPE IIIB QUANTITIES

SYMBOL	LABEL	DIMENSION (FT)	AREA (SFT)	QUANTITY (EA)	MAXIMUM QUANTITY (SFT)
W1-7	W1-7	4.0' x 2.0'	8	1	8.00
P	R8-3	1' x 1'	1.00	2	2.00
RESERVED PARKING ONLY R7-8	R7-8	1' x 1.5'	1.50	7	10.50
W11-2	W11-2	2.5' x 2.5'	6.25	4	25.00
WRONG WAY R5-1a	R5-1a	3.0' x 2.0'	6.00	3	18.00
W6-3	W6-3	3.0' x 3.0'	9.00	2	18.00
DO NOT ENTER R5-1	R5-1	2.5' x 2.5'	6.25	2	12.50
VAN ACCESSIBLE R7-8a	R7-8a	1.0' x 0.5'	0.50	1	0.50
CROSS TRAFFIC DOES NOT STOP W4-4P	W4-4P	2.5' X 1.25'	3.5	1	3.50
W16-7P	W16-7P	2.0' x 1.0'	2.0	4	8.00
AHEAD W16-9P	W16-9P	2.0' x 1.0'	2.0	2	4.00
END ONE WAY R6-7	R6-7	2.0' x 2.5'	5.00	2	10.00
ONE WAY R6-1L	R6-1L	3.0' x 1.0'	3.00	1	3.00
ONE WAY R6-1R	R6-1R	3.0' x 1.0'	3.00	1	3.00
OM-3L	OM-3L	1.0' x 3.0'	3.00	1	3.00
OM-3R	OM-3R	1.0' x 3.0'	3.00	1	3.00
				TOTAL SIGNAGE (SFT)	132.00

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
PAVEMENT MARKING AND PERMANENT SIGNAGE PLAN -2

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 40'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
31 of 53

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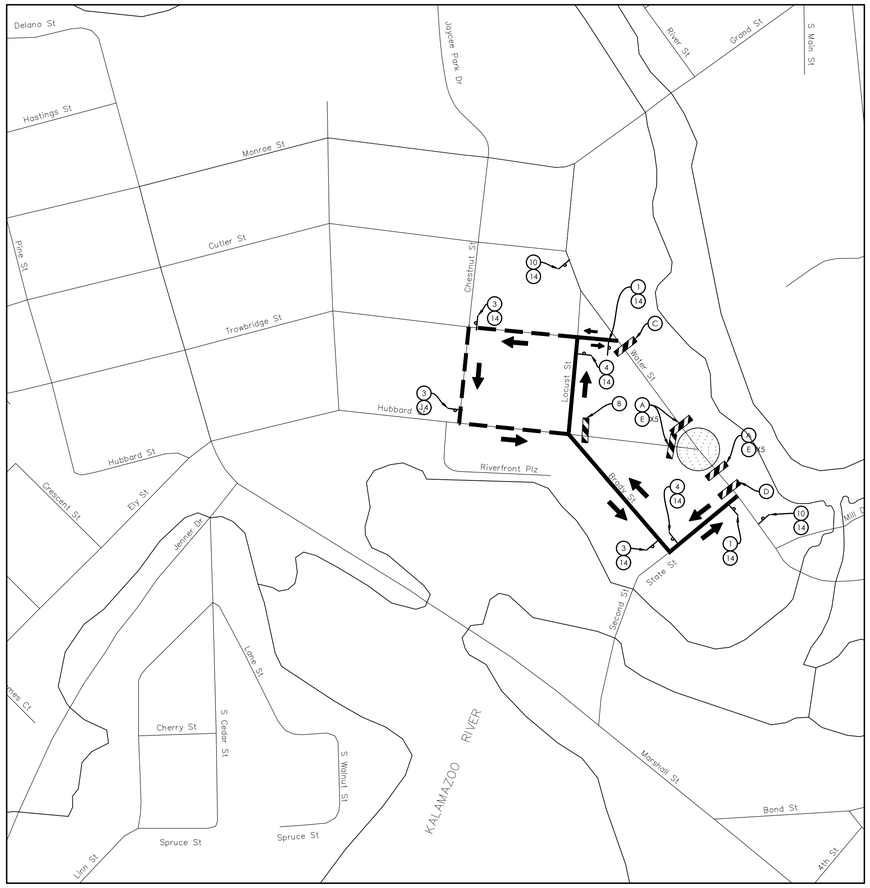


PHASE 1A PLAN
NOT TO SCALE

NOTE:
1. THE INTERSECTIONS OF HUBBARD/WATER & BRADY/STATE STREET CANNOT BE CLOSED SIMULTANEOUSLY. ONE MUST BE OPEN TO TRAFFIC AT ALL TIMES.
2. MAINTENANCE GRAVEL MAY BE USED TO ALLOW A SINGLE PAVING MOBILIZATION.
3. BOTH INTERSECTIONS SHALL BE PAVED AND RESTORED BY NOVEMBER 15, 2022.
4. THE COST FOR "MINOR TRAF DEVICES", AND "TRAF REGULATOR CONTROL" IS INCLUDED IN PAYMENT FOR THE ITEM "MOBILIZATION, MAX $300,000"

LEGEND

- BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED
- SIGN, TYPE B, TEMP
- LOCAL & ONE-WAY DETOUR ROUTE
- PRIMARY DETOUR ROUTE

(A) R11-2* ROAD CLOSED
TYPE III BARRICADE, HIGH INTENSITY — TYPE III BARRICADE, HIGH INTENSITY

(B) ROAD CLOSED TO THRU TRAFFIC R11-4*
TYPE III BARRICADE, HIGH INTENSITY

(C) ROAD CLOSED TO THRU TRAFFIC R11-4*; DETOUR M4-10R*
TYPE III BARRICADE, HIGH INTENSITY

(D) R11-4* ROAD CLOSED TO THRU TRAFFIC; M4-10L* DETOUR
TYPE III BARRICADE, HIGH INTENSITY

(E)
TYPE III BARRICADE, HIGH INTENSITY

*NOTE: MOUNT SIGNS ON SEPARATE SUPPORTS

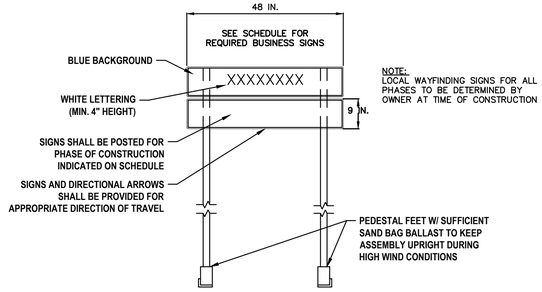
ESTIMATED SIGN, TYPE B, PRISMATIC, BLACK LEGEND ON ORANGE BACKGROUND QUANTITIES

	SYMBOL	LABEL	DIM (FT)	AREA (SFT)	PHASE 1 QTY (EA)	MAXIMUM QTY (SFT)
1	END DETOUR	M4-8	2' x 1.5	3.0	5	15.00
2	DETOUR	M4-9	2.5' x 2'	5.0	1	5.00
3	DETOUR	M4-9L	2.5' x 2'	5.0	3	15.00
4	DETOUR	M4-9R	2.5' x 2'	5.0	5	25.00
5	DETOUR	M4-10L	4.0' x 1.5'	6.0	1	6.00
6	DETOUR	M4-10R	4.0' x 1.5'	6.0	1	6.00
7	ROAD CLOSED	R11-2	4' x 2.5'	10.0	9	90.00
8	ROAD CLOSED TO THRU TRAFFIC	R11-4	5' x 2.5'	12.5	3	37.50
9	ROAD WORK AHEAD	W20-1	4' x 4'	16.0	0	0.00
10	DETOUR AHEAD	W20-2	4' x 4'	16.0	6	96.00
11	ROAD CLOSED AHEAD	W20-3	4' x 4'	16.0	0	0.00
				TOTAL SIGNAGE (SFT):		295.50

ESTIMATED SIGN, TYPE B, PRISMATIC, SPECIAL BLACK LEGEND ON ORANGE BACKGROUND QUANTITIES

	SYMBOL	LABEL	DIM (FT)	AREA (SFT)	PHASE 1 QTY (EA)	MAXIMUM QTY (SFT)
12	STATE STREET	D3-1	2' x 0.5'	1.0	1	1.00
13	BRADY STREET	D3-1	2' x 0.5'	1.0	5	5.00
14	WATER STREET	D3-1	2' x 0.5'	1.0	9	9.00
15	LOCUST STREET	D3-1	2' x 0.5'	1.0	7	7.00
16	HUBBARD STREET	D3-1	2' x 0.5'	1.0	14	14.00
				TOTAL SIGNAGE (SFT):		36.00

Item Description	Unit	Sht 32 Quantity
Barricade, Type III, High Intensity, Double Sided, Lighted, Furn	Ea	37
Barricade, Type III, High Intensity, Double Sided, Lighted, Oper	Ea	37
Pedestrian Type II Barricade, Temp	Ea	18
Pavt Mrkg, Wet Reflective, Type NR, Paint, 4 inch, Yellow, Temp	Ft	3860
Plastic Drum, Fluorescent, Furn	Ea	50
Plastic Drum, Fluorescent, Oper	Ea	50
Sign, Type B, Temp, Prismatic, Furn	Sft	296
Sign, Type B, Temp, Prismatic, Oper	Sft	296
Sign, Type B, Temp, Prismatic, Spec, Furn	Sft	36
Sign, Type B, Temp, Prismatic, Spec, Oper	Sft	36
Pedestrian Path, Temp	Ft	3550
Pedestrian Ramp, Temp	Ea	25
Sign, Type A, Temp, Prismatic, Spec, Furn	Sft	200
Sign, Type A, Temp, Prismatic, Spec, Oper	Sft	200



NOTE:
LOCAL WAYFINDING SIGNS FOR ALL PHASES TO BE DETERMINED BY OWNER AT TIME OF CONSTRUCTION

TEMPORARY BUSINESS SIGNAGE DETAIL
NOT TO SCALE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TRAFFIC MAINTENANCE PLAN PHASE 1A

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: NTS VERT: N/A
ACI JOB #: 21-1648
SHEET NO.: 32 of 53

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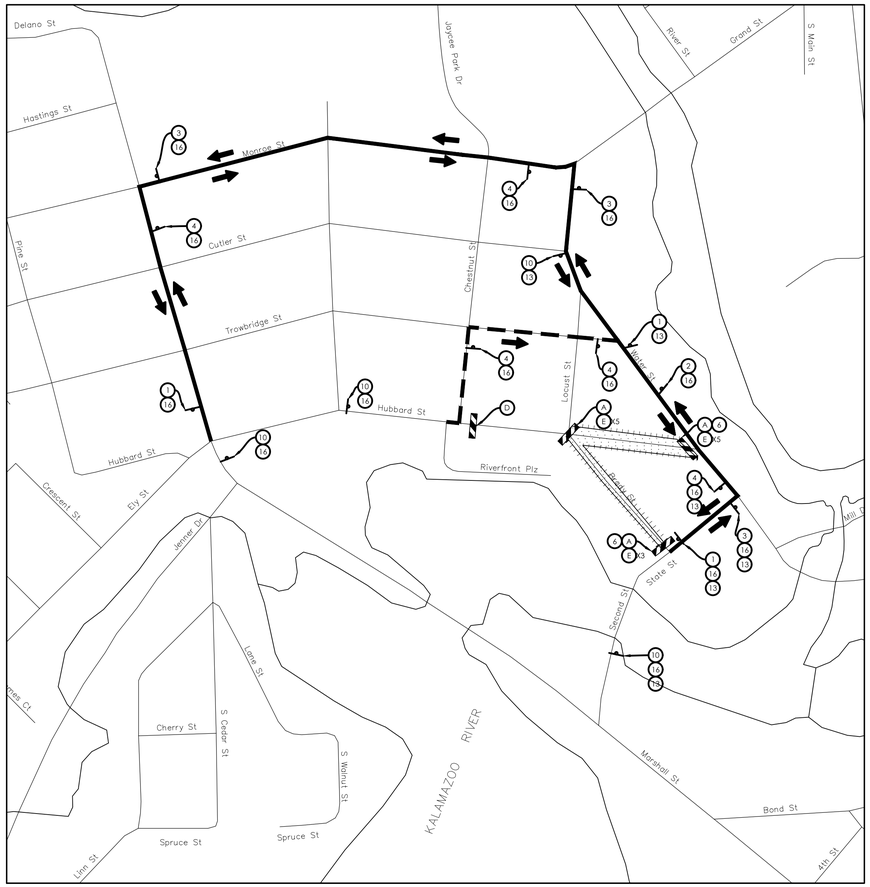
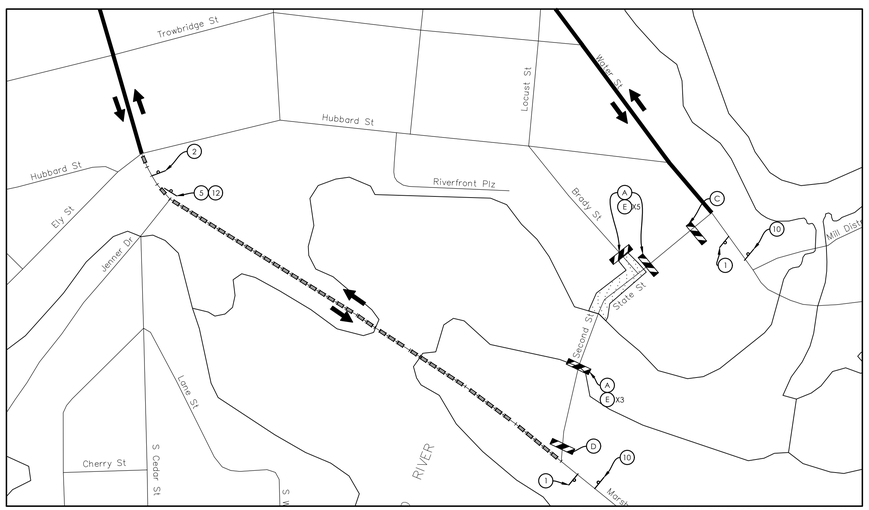


PHASE 1C PLAN
NOT TO SCALE



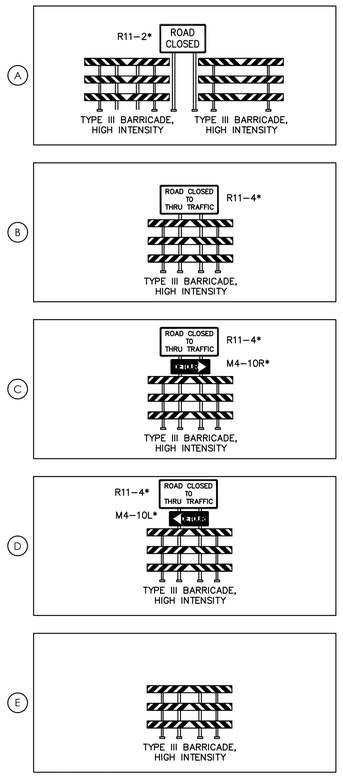
PHASE 1B PLAN
NOT TO SCALE

*NOTE: TRAFFIC CONTROL ITEMS IN PHASE 1B ARE ONLY TO BE IN PLACE FOR BRADY/STATE INTERSECTION WORK. TRAFFIC CONTROL SHALL BE CONFIGURED PER PHASE 1C PLAN AFTER INTERSECTION IS OPEN TO TRAFFIC.

NOTE:
1. THE INTERSECTIONS OF HUBBARD/WATER & BRADY/STATE STREET CANNOT BE CLOSED SIMULTANEOUSLY. ONE MUST BE OPEN TO TRAFFIC AT ALL TIMES.
2. MAINTENANCE GRAVEL MAY BE USED TO ALLOW A SINGLE PAVING MOBILIZATION.
3. BOTH INTERSECTIONS SHALL BE PAVED AND RESTORED BY NOVEMBER 15, 2022.
4. THE COST FOR "MINOR TRAF DEVICES", AND "TRAF REGULATOR CONTROL" IS INCLUDED IN PAYMENT FOR THE ITEM "MOBILIZATION, MAX $300,000"
5. A LEFT TURN FROM HUBBARD ONTO LOCUST SHALL BE MAINTAINED ON PAVEMENT FOR AS LONG AS IT IS FEASIBLE DURING PHASE 1C.
6. TEMPORARY PEDESTRIAN ROUTE INCLUDES INSTALLING AND MAINTAINING TEMPORARY PEDESTRIAN WALKWAYS AND RAMPS, PER THE PROJECT SPECIFICATIONS, AT LOCATIONS DIRECTED BY THE ENGINEER. PAYMENT FOR THESE ITEMS WILL BE MADE FOR "PEDESTRIAN PATH, TEMP" AND "PEDESTRIAN RAMP, TEMP".

LEGEND

- BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED
- SIGN, TYPE B, TEMP
- LOCAL & ONE-WAY DETOUR ROUTE
- PRIMARY DETOUR ROUTE
- PHASE 1B-ONLY ROUTE
- TEMPORARY PEDESTRIAN ROUTE



*NOTE: MOUNT SIGNS ON SEPARATE SUPPORTS

NOTE:
1. SEE FULL TRAFFIC MAINTENANCE QUANTITIES ON TRAFFIC MAINTENANCE PLAN PHASE 1A

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TRAFFIC MAINTENANCE PLAN
PHASE 1B & 1C

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:
SCALE:
HORZ: NTS
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
33 of 53

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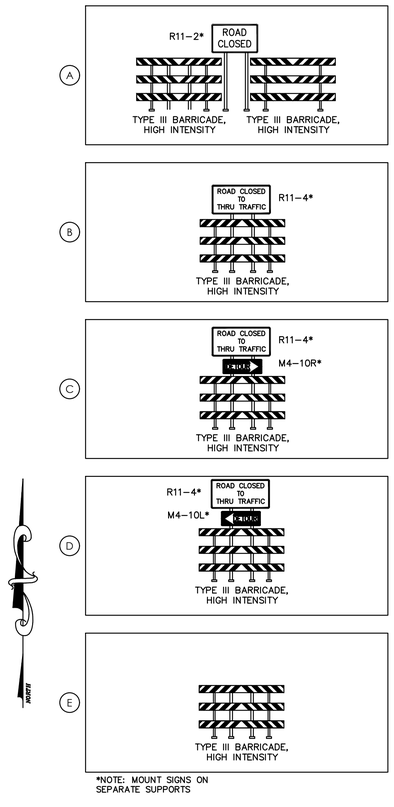
PHASE 2 PLAN
NOT TO SCALE

NOTE:
1. THE INTERSECTIONS OF HUBBARD/WATER & BRADY/STATE STREET CANNOT BE CLOSED SIMULTANEOUSLY. ONE MUST BE OPEN TO TRAFFIC AT ALL TIMES.
2. MAINTENANCE GRAVEL MAY BE USED TO ALLOW A SINGLE PAVING MOBILIZATION.
3. BOTH INTERSECTIONS SHALL BE PAVED AND RESTORED BY NOVEMBER 15, 2022.
4. THE COST FOR "MINOR TRAF DEVICES", AND "TRAF REGULATOR CONTROL" IS INCLUDED IN PAYMENT FOR THE ITEM "MOBILIZATION, MAX $300,000"
5. A LEFT TURN FROM HUBBARD ONTO LOCUST SHALL BE MAINTAINED ON PAVEMENT FOR AS LONG AS IT IS FEASIBLE DURING PHASE 1C.
6. TEMPORARY PEDESTRIAN ROUTE INCLUDES INSTALLING AND MAINTAINING TEMPORARY PEDESTRIAN WALKWAYS AND RAMPS, PER THE PROJECT SPECIFICATIONS, AT LOCATIONS DIRECTED BY THE ENGINEER. PAYMENT FOR THESE ITEMS WILL BE MADE FOR "PEDESTRIAN PATH, TEMP" AND "PEDESTRIAN RAMP, TEMP".

LEGEND

- BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED
- SIGN, TYPE B, TEMP
- LOCAL & ONE-WAY DETOUR ROUTE
- PRIMARY DETOUR ROUTE
- TEMPORARY PEDESTRIAN ROUTE



*NOTE: MOUNT SIGNS ON SEPARATE SUPPORTS

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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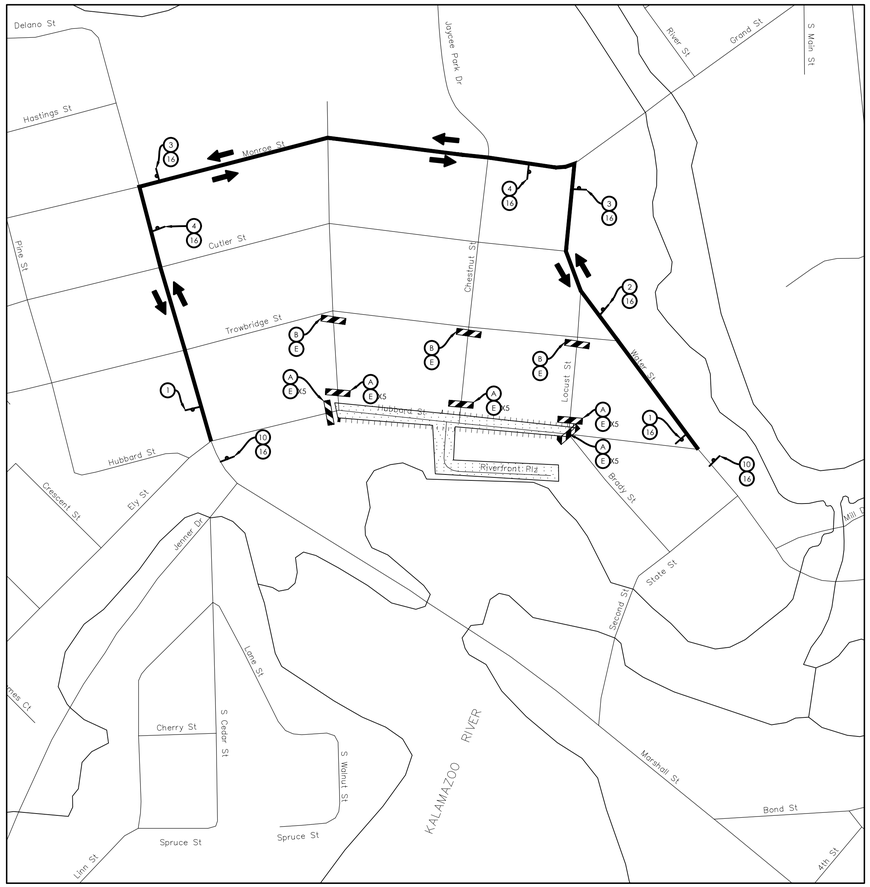
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TRAFFIC MAINTENANCE PLAN
PHASE 2

DRAWN BY: DRAWNBY
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: HORZ
VERT: VERT
ACI JOB # 21-1648
SHEET NO. 34 of 53



PHASE 3 PLAN
NOT TO SCALE

NOTE:
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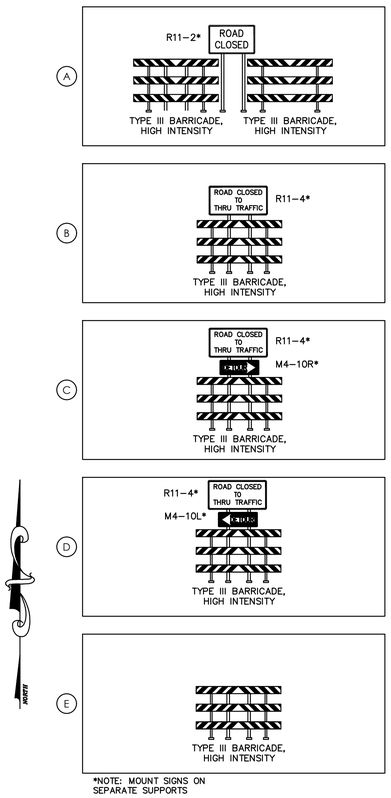
LEGEND

- BARRICADE, TYPE III, HIGH INTENSITY, LIGHTED
- SIGN, TYPE B, TEMP
- LOCAL & ONE-WAY DETOUR ROUTE
- PRIMARY DETOUR ROUTE
- TEMPORARY PEDESTRIAN ROUTE



*NOTE: MOUNT SIGNS ON SEPARATE SUPPORTS

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TRAFFIC MAINTENANCE PLAN
PHASE 3

DRAWN BY: DRAWNBY
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: HORZ
VERT: VERT
ACI JOB #
21-1648
SHEET NO.
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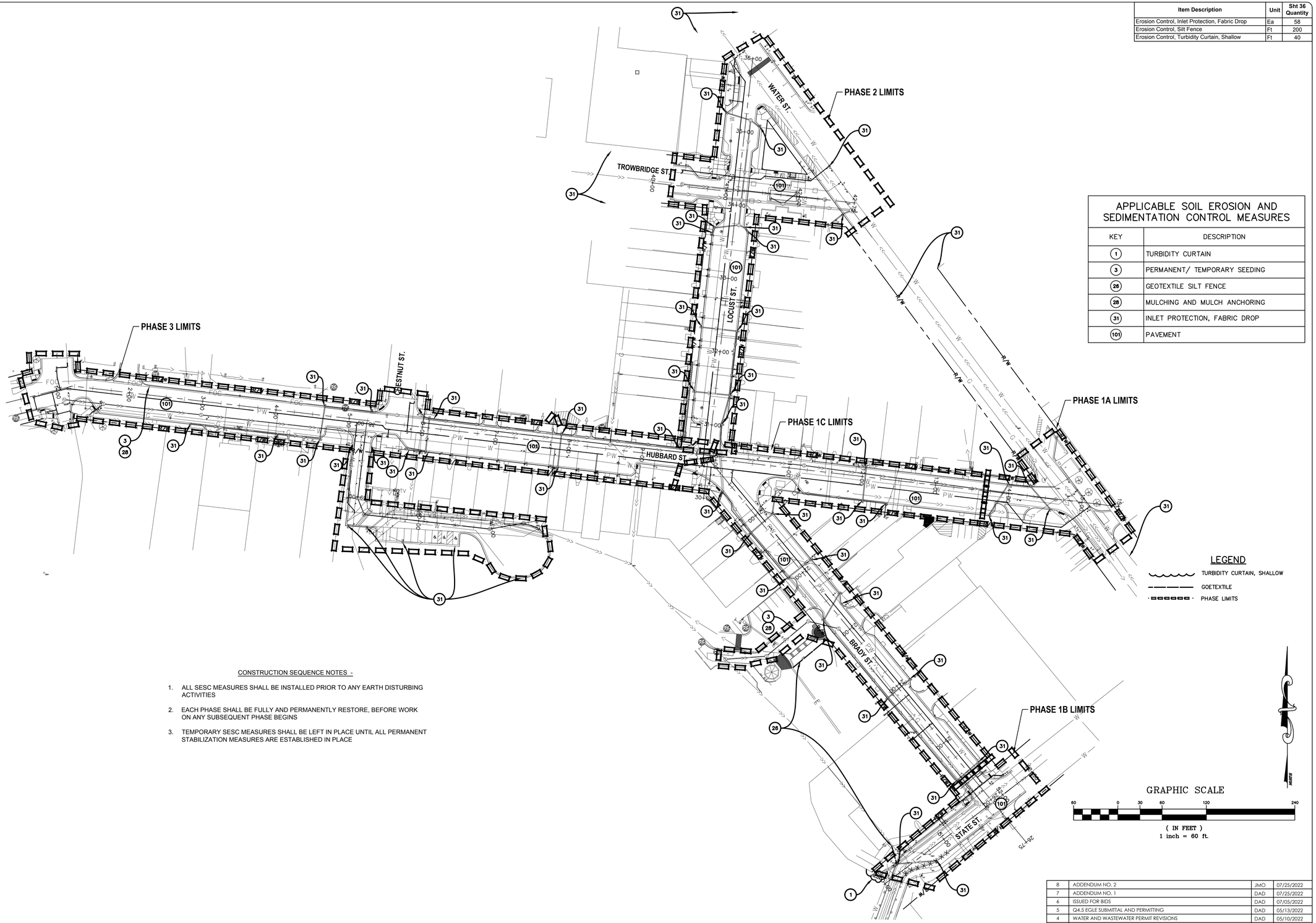
Item Description	Unit	Sht 36 Quantity
Erosion Control, Inlet Protection, Fabric Drop	Ea	58
Erosion Control, Silt Fence	Ft	200
Erosion Control, Turbidity Curtain, Shallow	Ft	40



APPLICABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

KEY	DESCRIPTION
1	TURBIDITY CURTAIN
3	PERMANENT/ TEMPORARY SEEDING
26	GEOTEXTILE SILT FENCE
28	MULCHING AND MULCH ANCHORING
31	INLET PROTECTION, FABRIC DROP
101	PAVEMENT

CONSTRUCTION SEQUENCE NOTES -

1. ALL SESC MEASURES SHALL BE INSTALLED PRIOR TO ANY EARTH DISTURBING ACTIVITIES
2. EACH PHASE SHALL BE FULLY AND PERMANENTLY RESTORE, BEFORE WORK ON ANY SUBSEQUENT PHASE BEGINS
3. TEMPORARY SESC MEASURES SHALL BE LEFT IN PLACE UNTIL ALL PERMANENT STABILIZATION MEASURES ARE ESTABLISHED IN PLACE

NO.	REVISION DESCRIPTION:	BY:	DATE:
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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
SOIL EROSION AND SEDIMENTATION CONTROL PLAN

DRAWN BY: DRAWNBY
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: HORZ
VERT: VERT
ACI JOB #
21-1648
SHEET NO.
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PLANT SCHEDULE

TREES	BOTANICAL NAME	COMMON NAME	SIZE	QTY	REMARKS
AA	Acer rubrum `Armstrong`	Armstrong Red Maple	2.5" BB	12	6` Min. Lowest Branches
AF	Acer rubrum `Franksred` TM	Red Sunset Red Maple	2"BB	5	Lowest limbs min. 6`-0"
AG	Acer rubrum `JFS-KW78` PP 25301	Armstrong Gold Maple	2"BB	8	6` Min. Lowest Branches
AS	Amelanchier x grandiflora `Autumn Brilliance`	Autumn Brilliance Apple Serviceberry	8`-10` HT	2	Specimen 3 - 5 stems
AB	Amelanchier x grandiflora `Autumn Brilliance`	Autumn Brilliance Apple Serviceberry	2"BB	4	5` Min. Lowest Branches
BC	Betula nigra `Cully Improved` TM	Heritage Improved River Birch	2"BB	4	
CB	Carpinus betulus `Frans Fontaine`	Pyramidal European Hornbean	2"BB	4	6` Min. Lowest Branches
GA	Ginkgo biloba `Autumn Gold` TM	Autumn Gold Maidenhair Tree	2"BB	6	Lowest limbs min. 6`-0" Certified male only!
GP	Ginkgo biloba `Princeton Sentry`	Princeton Sentry Gingko	2"BB	6	6` Min. Lowest Branches Certified Male Only!
NE	Nyssa sylvatica `JFS-red` TM	Firestarter Tupelo	2"BB	2	
UE	Ulmus propinqua `JFS-Bieberich` TM	Emerald Sunshine Elm	2"BB	6	
ZC	Zelkova serrata `JFS-KW1` TM	City Sprite Zelkova	2"BB	3	6` Min. Lowest Branches

SHRUBS	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
CA	Cornus sericea `Arctic Fire`	Arctic Fire Dogwood	5 Gal	48" o.c.	8	
HC	Hibiscus x `Cranberry Crush` TM	Summerific Cranberry Crush Hibiscus	3 Gal	48" o.c.	4	
HE	Hydrangea serrata `SMNHSDD` TM	Tuff Stuff Ah-ha Hydrangea	3 Gal	36" o.c.	16	
SK	Spiraea media `SMSMBK` TM	Blue Kazoo Double Play Spirea	3 Gal	36" o.c.	7	

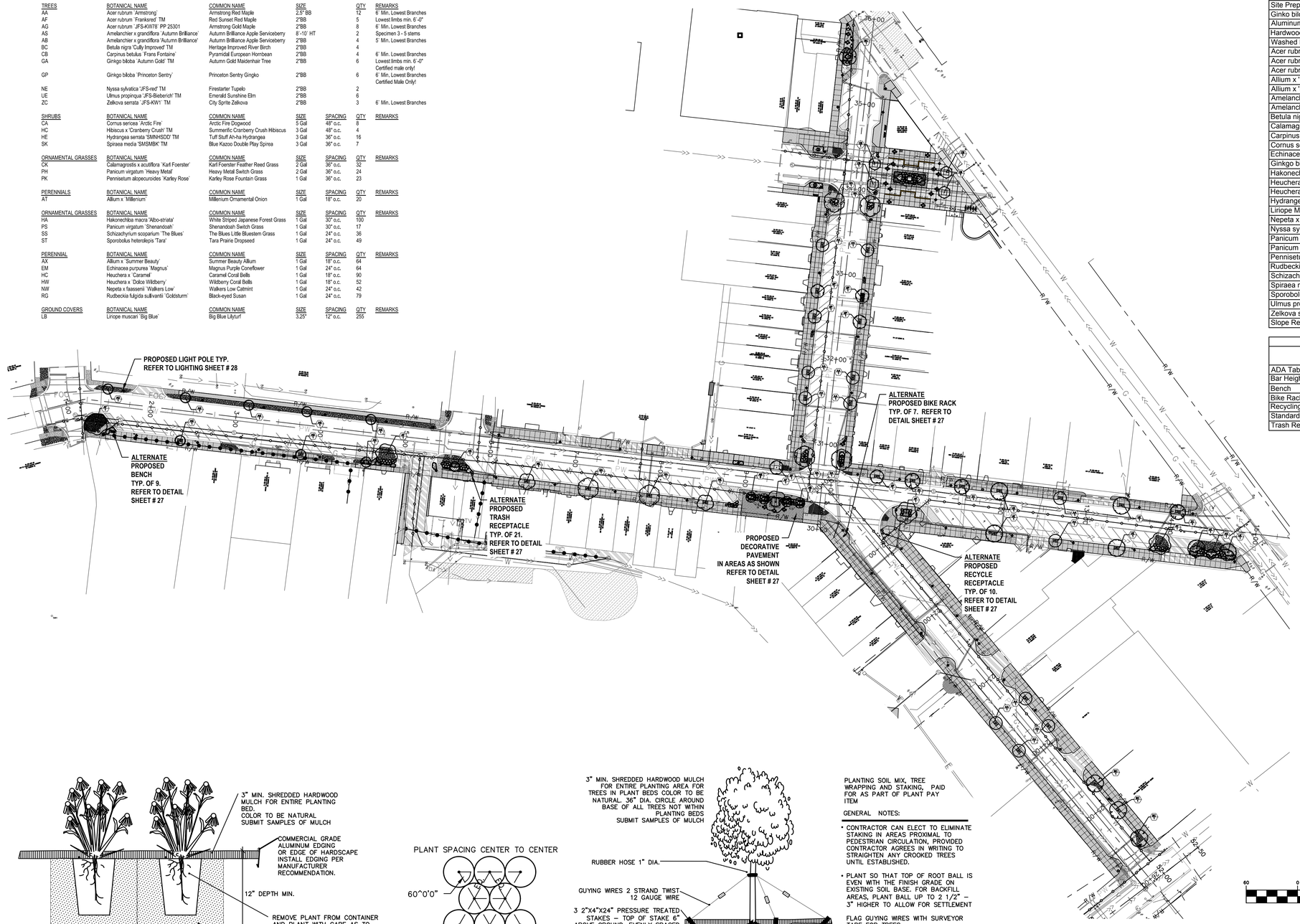
ORNAMENTAL GRASSES	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
CK	Calamagrostis x acutiflora `Karl Foerster`	Karl Foerster Feather Reed Grass	2 Gal	36" o.c.	32	
PH	Panicum virgatum `Heavy Metal`	Heavy Metal Switch Grass	2 Gal	36" o.c.	24	
PK	Pennisetum alopecuroides `Karley Rose`	Karley Rose Fountain Grass	1 Gal	36" o.c.	23	

PERENNIALS	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
AT	Allium x `Millenium`	Millenium Ornamental Onion	1 Gal	18" o.c.	20	

ORNAMENTAL GRASSES	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
HA	Hakonechloa macra `Albo-striata`	White Striped Japanese Forest Grass	1 Gal	30" o.c.	100	
PS	Panicum virgatum `Shenandoah`	Shenandoah Switch Grass	1 Gal	30" o.c.	17	
SS	Schizachyrium scoparium `The Blues`	The Blues Little Bluestem Grass	1 Gal	24" o.c.	36	
ST	Sporobolus heterolepis `Tara`	Tara Prairie Dropseed	1 Gal	24" o.c.	49	

PERENNIAL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
AX	Allium x `Summer Beauty`	Summer Beauty Allium	1 Gal	18" o.c.	64	
EM	Echinacea purpurea `Magnus`	Magnus Purple Coneflower	1 Gal	24" o.c.	64	
HC	Heuchera x `Caramel`	Caramel Coral Bells	1 Gal	18" o.c.	90	
HW	Heuchera x `Dolce Wildberry`	Wildberry Coral Bells	1 Gal	18" o.c.	52	
NW	Nepeta x faassenii `Walkers Low`	Walkers Low Calmint	1 Gal	24" o.c.	42	
RG	Rudbeckia fulgida sullivantii `Goldsturm`	Black-eyed Susan	1 Gal	24" o.c.	79	

GROUND COVERS	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY	REMARKS
LB	Liriope muscari `Big Blue`	Big Blue Lilyturf	3.25"	12" o.c.	255	



Item Description	Unit	Sht 37 Quantity
1 Decorative HMA Crosswalk	Syd	175
Retaining Wall, Poured Conc, Veneer, Double	Syd	85
Retaining Wall, Poured Conc, Veneer, Single	Syd	285
Site Preparation, Max $29,400	LSUM	1
Ginko biloba 'Autumn Gold', 2 inch	Ea	6
Aluminum Edging	Ft	160
Hardwood Mulch, 3 inch	Syd	645
Washed River Stone Mulch, 3 inch	Syd	50
Acer rubrum 'Armstrong', 2.5 inch	Ea	12
Acer rubrum 'Franksred' TM, 2 inch	Ea	7
Acer rubrum 'JFS-KW78' PP25301, 2 inch	Ea	8
Allium x 'Millenium', 1 Gal	Ea	6
Allium x 'Summer Beauty', 1 Gal	Ea	64
Amelanchier x grandiflora 'Autumn Brilliance', 2 inch	Ea	4
Amelanchier x grandiflora 'Autumn Brilliance', 8-10 Ft Ht.	Ea	2
Betula nigra 'Cully Improved' TM, 2 inch	Ea	4
Calamagrostis x acutiflora 'Karl Foerster', 2 Gal	Ea	27
Carpinus betulus 'Frans Fontaine', 2 inch	Ea	4
Cornus sericea 'Arctic Fire', 5 Gal	Ea	6
Echinacea purpurea 'Magnus', 1 Gal	Ea	43
Ginkgo biloba 'Princeton Sentry', 2 inch	Ea	6
Hakonechola macra 'Albo-striata', 1 Gal	Ea	88
Heuchera x 'Caramel', 1 Gal	Ea	112
Heuchera x 'Dolce Wildberry', 1 Gal	Ea	61
Hydrangea serrata 'SMNHSDD' TM, 3 Gal	Ea	17
Liriope Muscai 'Big Blue', 3.25 inch	Ea	255
Nepeta x faassenii 'Walkers Low', 1 Gal	Ea	42
Nyssa sylvatica 'JFS-Red' TM, 2 inch	Ea	2
Panicum virgatum 'Heavy Metal', 2 Gal	Ea	24
Panicum virgatum 'Shenandoah', 1 Gal	Ea	35
Pennisetum alopecuroides 'Karley Rose', 1 Gal	Ea	14
Rudbeckia fulgia sullivantii 'Goldstrum', 1 Gal	Ea	79
Schizachyrium scoparium 'The Blues', 1 Gal	Ea	8
Spiraea media 'SMSMBK' TM, 3 Gal	Ea	6
Sporobolus heterolepis 'Tara', 1 Gal	Ea	49
Ulmus propinqua 'JFS-Bieberich' TM, 2 inch	Ea	6
Zelkova serrata 'JFS-KW1' TM, 2 inch	Ea	3
Slope Restoration, Type B, Modified	Syd	1250

Alternate Bid #1		
Item Description	Unit	Sht 37 Quantity
ADA Table Set	Ea	3
Bar Height Table Set	Ea	8
Bench	Ea	9
Bike Rack	Ea	7
Recycling Receptacle	Ea	10
Standard Height Table Set	Ea	7
Trash Receptacle	Ea	21

LANDSCAPE NOTES:

1. ALL LANDSCAPE BED AREAS NOT ADJACENT TO HARDSCAPE SURFACE TO INCLUDE COMMERCIAL GRADE ALUMINUM EDGING 3/16" MIN. FOR MOWING STRIP. EDGING TO BE INSTALLED PER MANUFACTURER RECOMMENDATIONS.
2. ALL DISTURBED NON-HARDSCAPE AREAS AND NON PLANT BED AREAS TO BE FINE GRADED. PLACE SOD AS DIRECTED.
3. ALL PLANT BED AREAS TO CONTAIN A MINIMUM DEPTH OF 2/3 TOPSOIL 1/3 PEAT MOSS. SHRUB AND TREE PLANTING AREAS TO CONTAIN DEPTHS AS SHOWN ON DETAILS.
4. ALL PLANT BED AREAS TO CONTAIN A MINIMUM DEPTH OF 3" SHREDDED HARDWOOD MULCH. COLOR TO BE NATURAL. SUBMIT SAMPLE FOR APPROVAL.

CONTAINER GROWN PLANTING SECTION
NOT TO SCALE

STAGGERED PLANT SPACING DIAGRAM
NOT TO SCALE

SHADE/ORNAMENTAL TREE PLANTING DETAIL
NOT TO SCALE

PLANTING SOIL MIX, TREE WRAPPING AND STAKING, PAID FOR AS PART OF PLANT PAY ITEM

GENERAL NOTES:

- CONTRACTOR CAN ELECT TO ELIMINATE STAKING IN AREAS PROXIMAL TO PEDESTRIAN CIRCULATION, PROVIDED CONTRACTOR AGREES IN WRITING TO STRAIGHTEN ANY CROOKED TREES UNTIL ESTABLISHED.
- PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISH GRADE ON EXISTING SOIL BASE. FOR BACKFILL AREAS, PLANT BALL UP TO 2 1/2" – 3" HIGHER TO ALLOW FOR SETTLEMENT
- FLAG GUYING WIRES WITH SURVEYOR TAPE FOR TREES

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
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PROJECT:
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CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
OVERALL LANDSCAPE PLAN

DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: 1" = 60' VERT: N/A
ACI JOB #: 21-1648
SHEET NO.: 37 of 53

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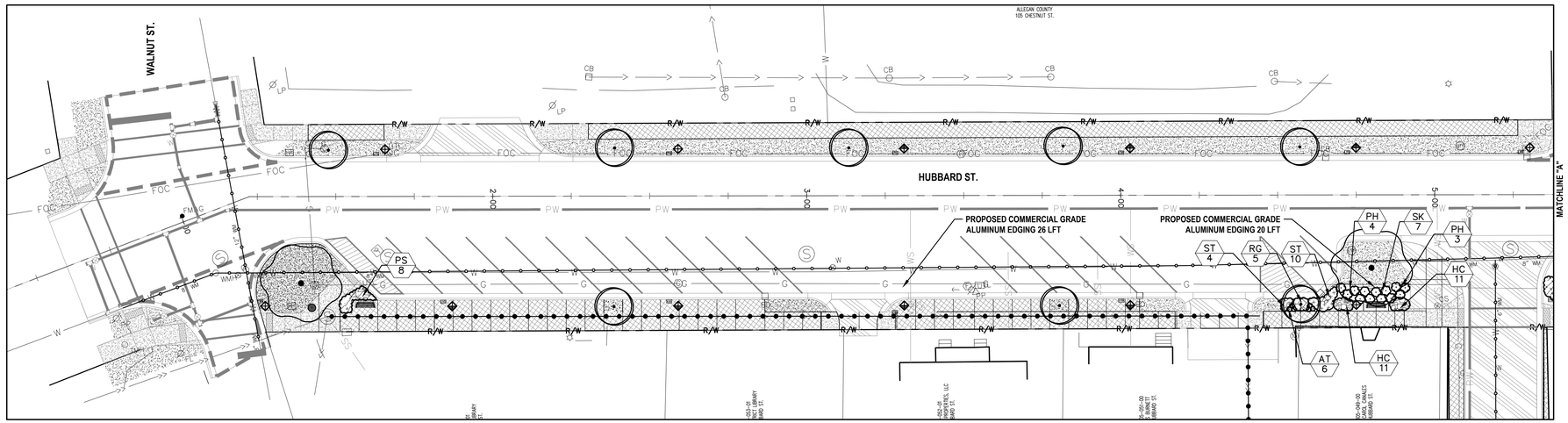

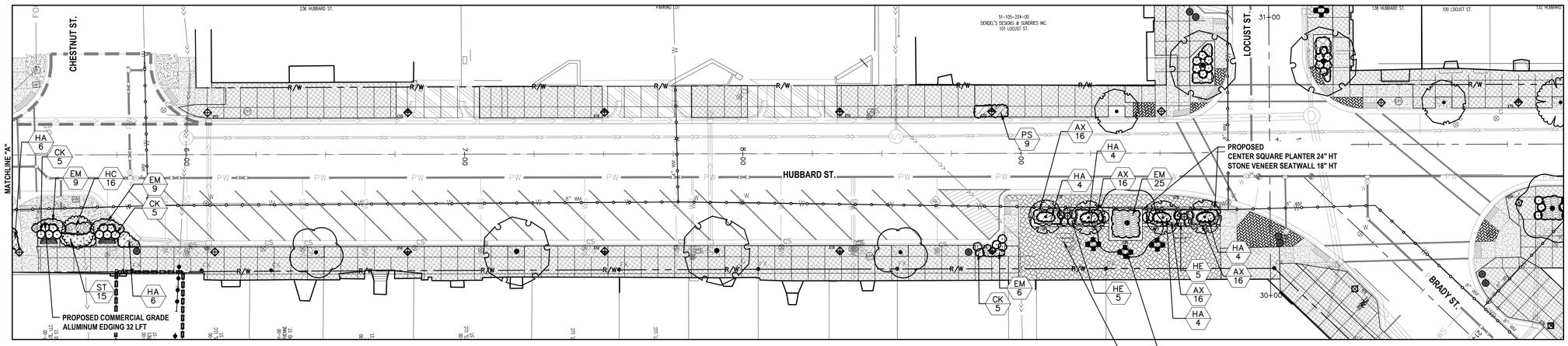

ALTERNATE
PROPOSED STANDARD
HEIGHT TABLE AND CHAIRS
TYPICAL OF 3 LOCATIONS THIS
SHEET - 3 TABLES, 12 CHAIRS
(6 WITH ARMS, 6 WITHOUT)
REFER TO DETAIL SHEET # 27

ALTERNATE
PROPOSED ACCESSIBLE TABLE
TAKE-OUT TRIPLE UNIT, RT AND LT
EXTENSION TYPICAL OF 1 EACH THIS SHEET.
REFER TO DETAIL SHEET # 27

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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F 269.927.1017
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Engineering Architecture Land Surveying

PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
HUBBARD STREET
LANDSCAPE PLAN - 1

DRAWN BY: **DRAWNBY**
DESIGNED BY: **MJS/KB/ERF**
PM REVIEW: **DAD**
QA/QC REVIEW:
DATE: **JULY 2022**
SEAL:

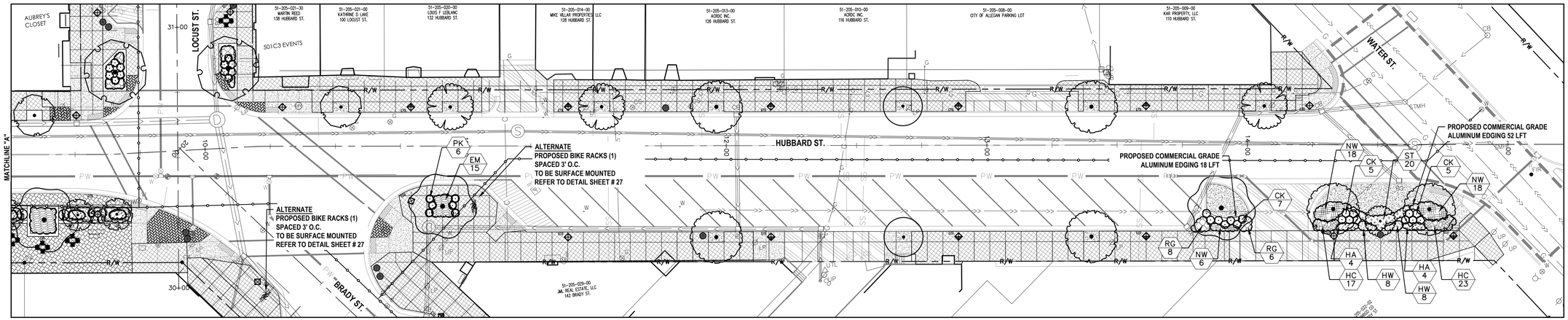
SIGNATURE:
DATE:

SCALE:
HORZ: **HORZ**
VERT: **VERT**

ACI JOB #
21-1648

SHEET NO.
38 of **53**

o:\Projects\2021\21-1648\Ready-to-use\hubbard reconstruction\CAD_Civil\Drawings\21-1648 L1.dwg, L1-A, 8/3/2022 9:54:43 AM, stellan, 1:1



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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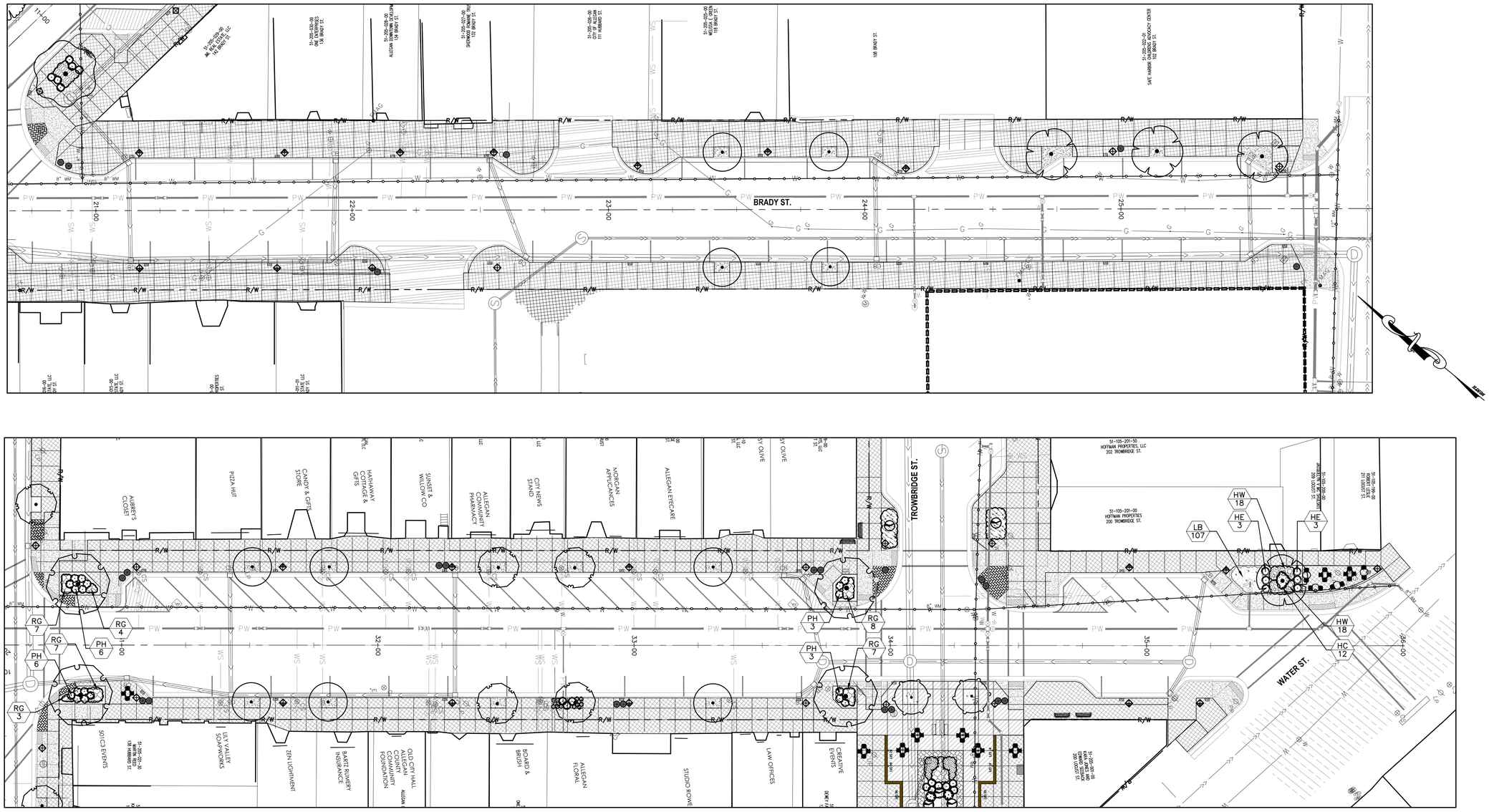
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
HUBBARD STREET LANDSCAPE PLAN - 2

DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 20'
VERT: N/A
ACI JOB # 21-1648
SHEET NO. 39 of 53



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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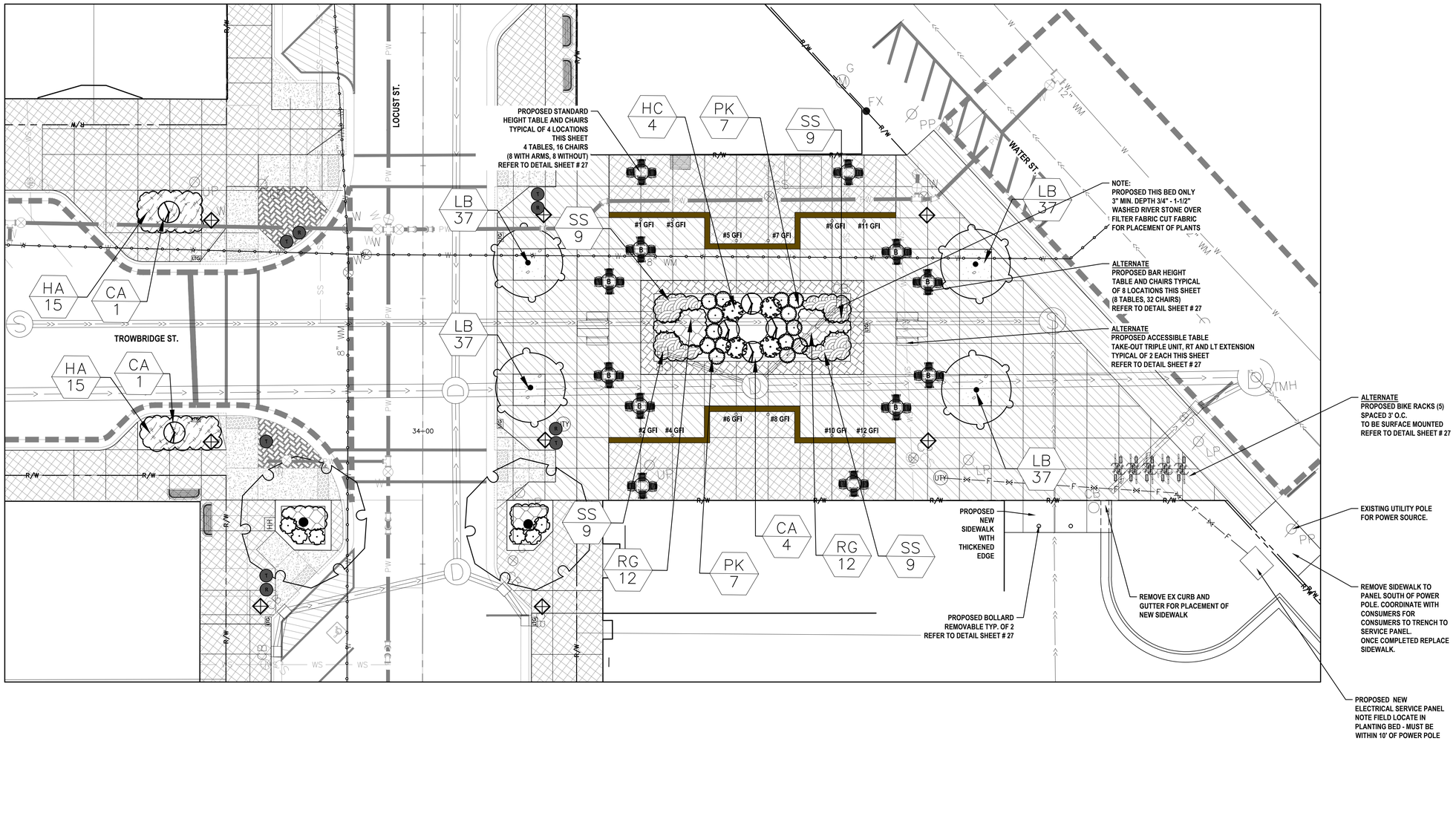
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
BRADY STREET AND LOCUST STREET LANDSCAPE PLAN

DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 20'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
40 of 53



NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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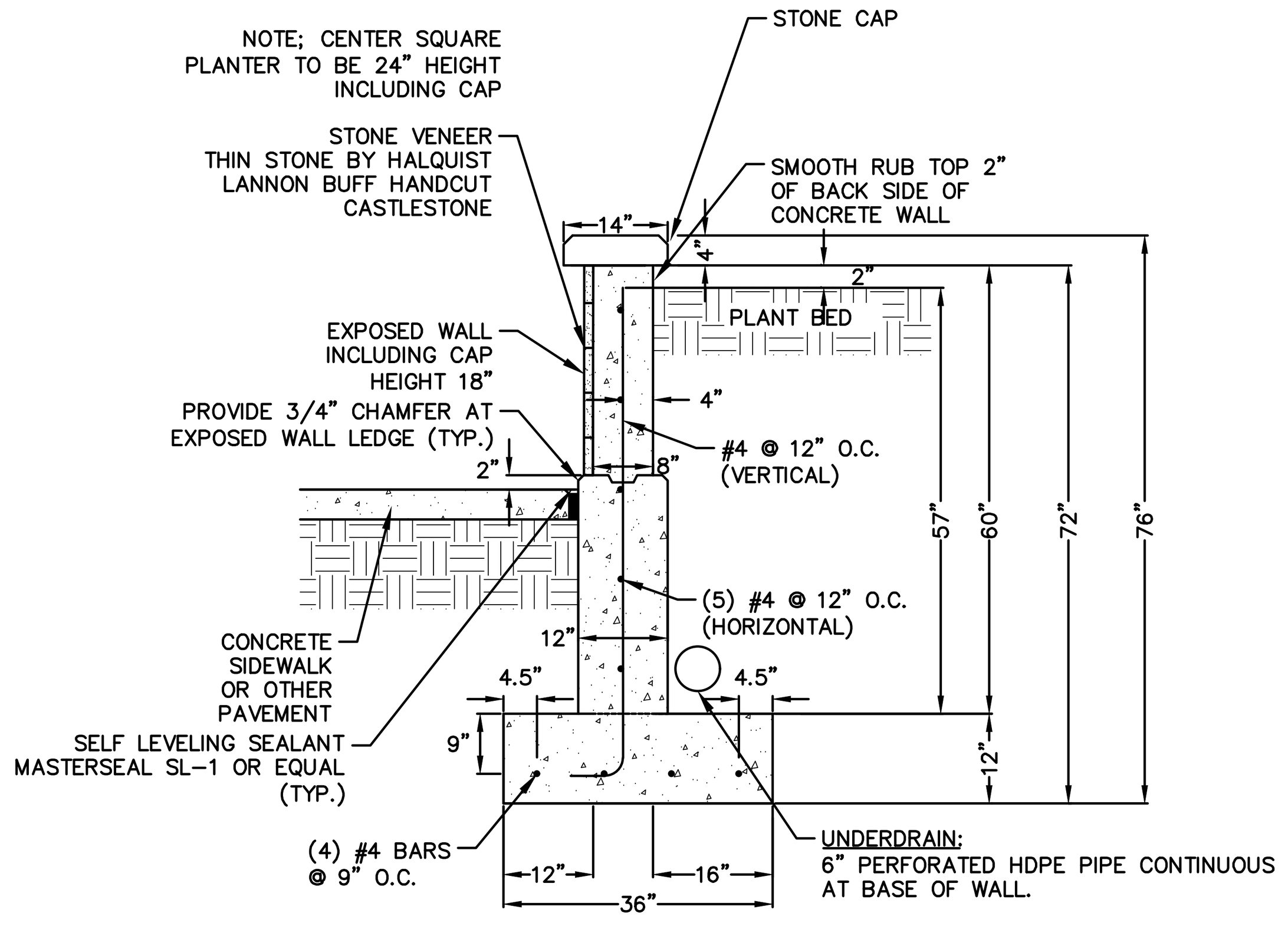
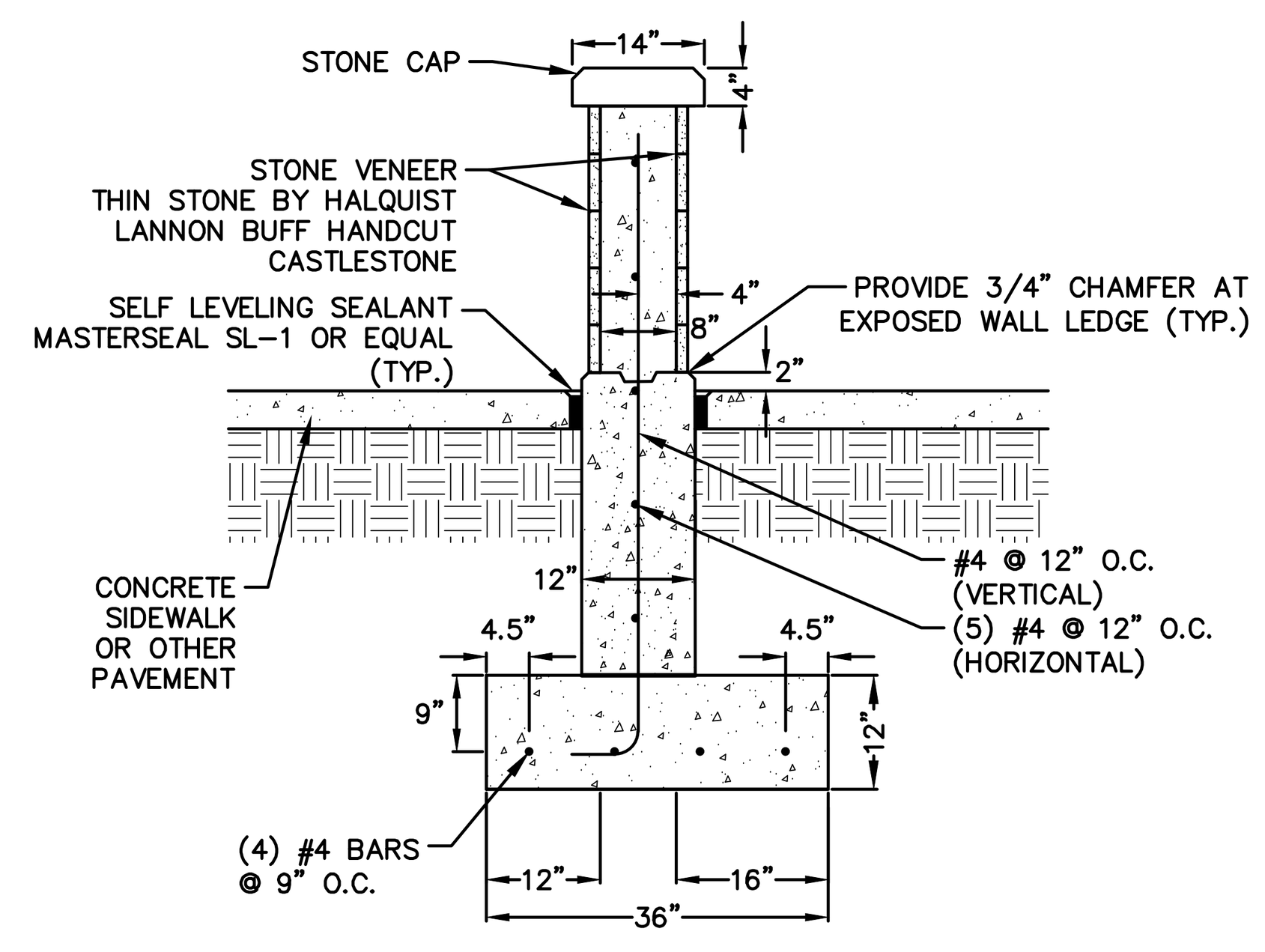
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TROWBRIDGE STREET LANDSCAPE PLAN

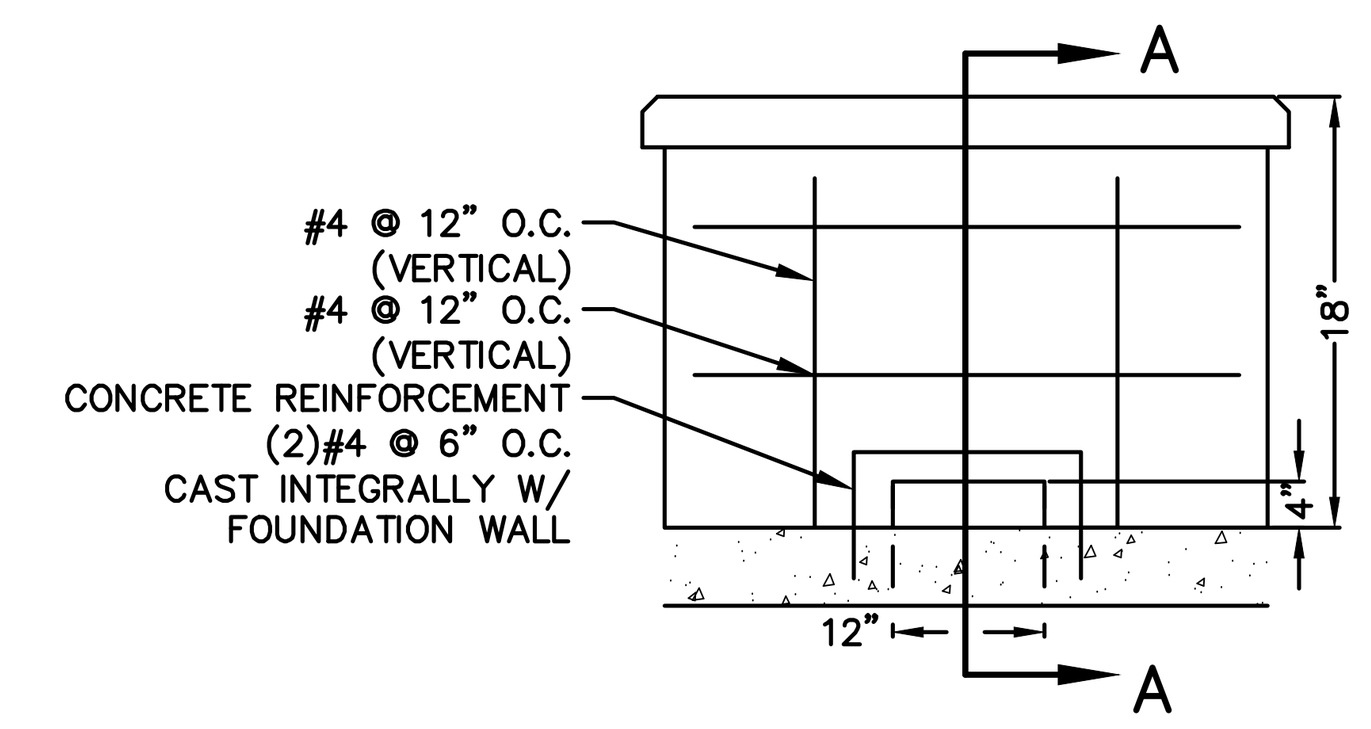
DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 10'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
41 of 53



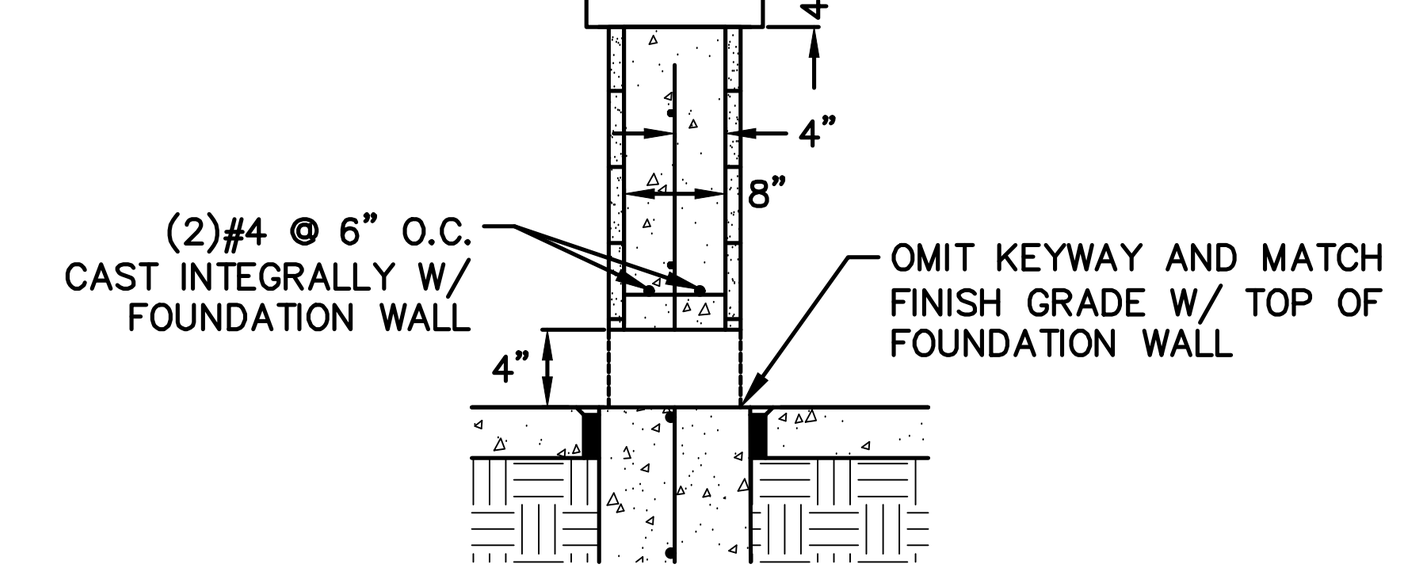
SEATWALL RETAINING WALL (ONE SIDED)
NOT TO SCALE



FREESTANDING SEATWALL (DOUBLE SIDED)
NOT TO SCALE



ELEVATION



SECTION A-A

NOTE:
1. CONSTRUCT DRAINAGE CHANNELS AT LOCATIONS NOTED ON SHEET 29. DRAINAGE CHANNEL IS INCLUDED WITH PAYMENT FOR SEATWALL ITEM OF WORK.

FREESTANDING SEATWALL W/ DRAINAGE CHANNEL (DOUBLE SIDED)
NOT TO SCALE

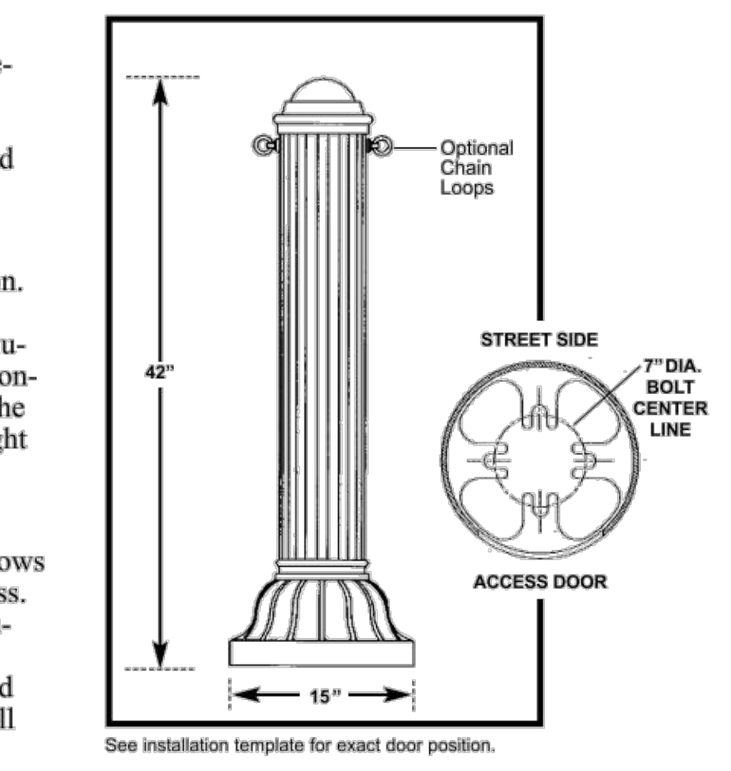
STERNBERG — Ornamental Bollards — 12-605

650B MILFORD UNLIT BOLLARD — SPECIFICATIONS

GENERAL
The Model 650B decorative unlit bollard shall be aluminum, one-piece construction. The 15" diameter cast aluminum fluted base shall be constructed with a 7" diameter straight fluted aluminum shaft. The Model shall be Sternberg Lighting **#650B** unlit bollard or **#650B-QR** quick release unlit bollard.

CONSTRUCTION
The base shall be designed with a fluted bell shaped lower section. The upper base shall have an extruded fluted shaft with 12 flat flutes. It shall have a 3/16" wall thickness and be made of cast aluminum 356 alloy and ASTM 6061 aluminum tempered to a T6 condition. It shall have a 7/8" thick floor cast as an integral part of the base. The bollard cap shall be welded in place. The overall height of the bollard shall be 42". (For other heights, consult factory).*

QUICK RELEASE MOUNTING (Optional)
The Model 650B-QR shall have a quick release option which allows quick removal of the bollard for convenience or emergency access. The burial portion shall be made of ASTM 6061 aluminum extrusion and shall have a keyway and flexible connection system for securing to bollard. The bollard shall have a mated extension and anti-rotation key and padlock slot. The quick release system shall allow for a flush pavement installation after temporary bollard removal.



See installation template for exact door position.

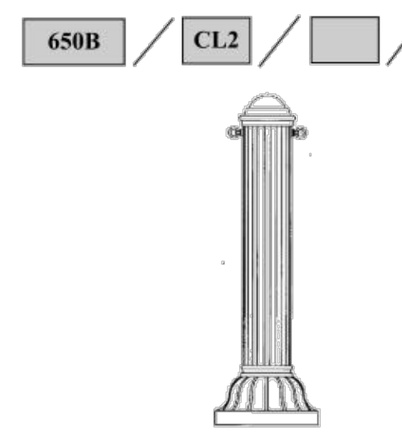
FINISH
Prior to coating, each assembly shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse osmosis water rinsing, and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coating. The finish coating shall be electrostatically applied semi-gloss, super durable polyester powder baked at 400 degrees for a durable and superior, color retentive finish. Our optional antique Verde Green finish and Swedish Iron finish are hand brushed using a 3-step process. The total assembly shall be wrapped in shockproof wrapping or fully enclosed in corrugated cartons.

INSTALLATION
Four, hot dipped galvanized "L" type anchor bolts shall be provided with the post for non-quick release bollard anchorage. Quick release anchorage requires no anchor bolts. A door shall be provided for anchor bolt access. It shall be secured with tamper proof, stainless steel hardware.

WARRANTY
Five-year limited warranty. See product and finish warranty guide for details

BUILDING A PART NUMBER

BOLLARD MODEL	OPTIONAL CHAIN LOOP	OPTIONS	FINISH
650B	CL2		VG



PART NUMBER SELECTIONS

MODELS*
- 650B
- 650B-QR

OPTIONAL CHAIN LOOP**
- CL1 Chain Loop
- CL2 Chain Loops 180º

* NOTE: For custom heights, designate height after bollard model. Example: 650B-40"

** TO ORDER CHAIN: Specify total length of chain required for project.

FINISHES STANDARD
- BK Black
- VG Verde Green
- PG Park Green
- ABZ Arch Med Bronze
- SI Swedish Iron
- DB Dark Bronze

FINISHES CUSTOM
- WH White
- RT Rust
- CM Custom Match
- OI Old Iron
- TT Two Tone

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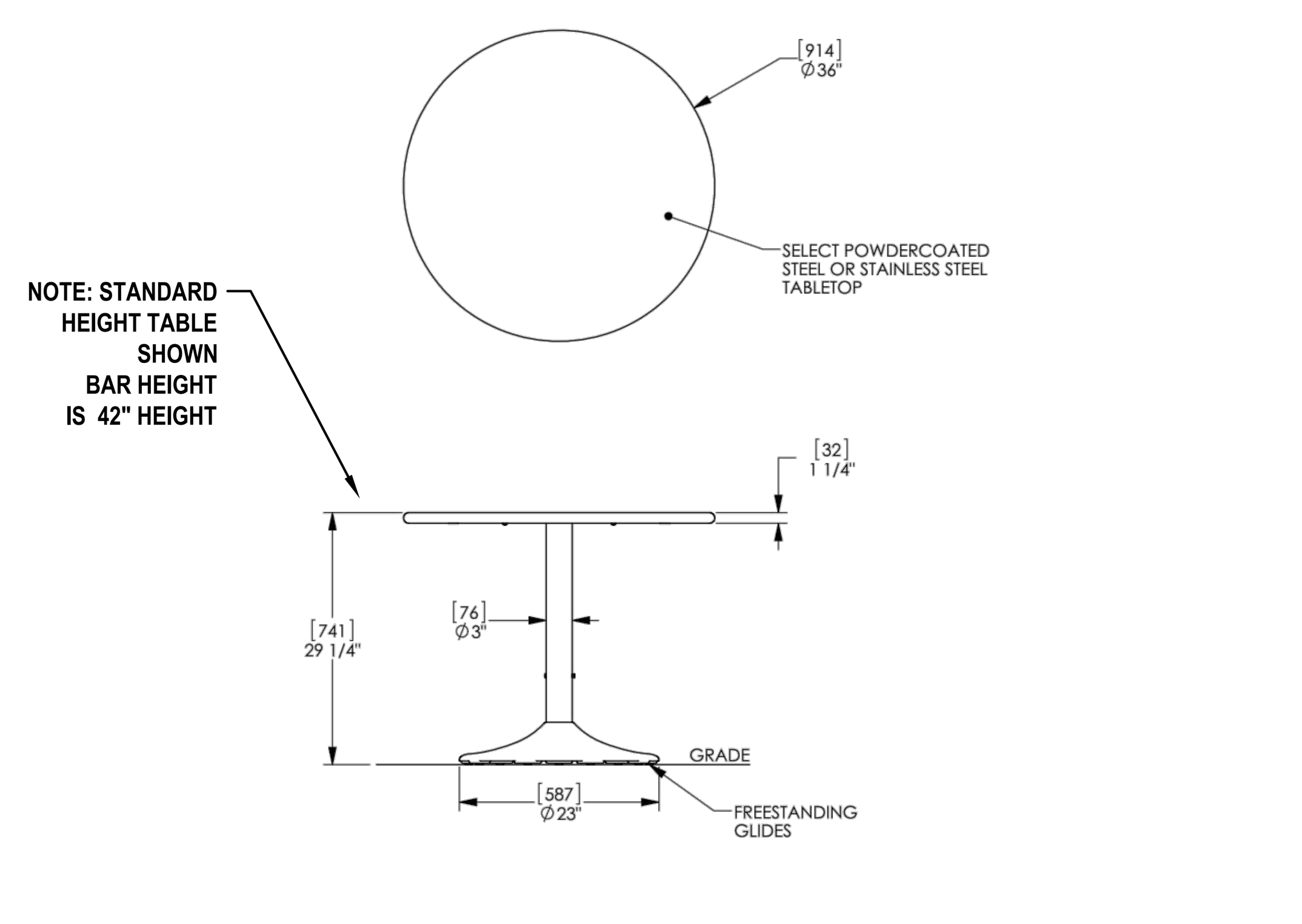
www. sternberglighting.com Email: info@sternberglighting.com

NOTE:
1. PAYMENT FOR "ADA TABLE SET" INCLUDES FURNISHING AND INSTALLING 1 EA "TAKE-OUT TRIPLE UNITS" IN BOTH RIGHT AND LEFT EXTENSIONS AS SHOWN ON THIS SHEET.
2. PAYMENT FOR "BAR HEIGHT TABLE SET" INCLUDES FURNISHING AND INSTALLING 1 EA "CATENA 36 IN ROUND TOP TABLE" AT 42" HEIGHT OPTION, AND 4 EA "CHIPMAN STOOLS, BAR HEIGHT" AS SHOWN ON THIS SHEET.
3. PAYMENT FOR "BENCH" INCLUDES FURNISHING AND INSTALLING 1 EA "MELVILLE BACKED BENCH, 72 IN, ALUMINUM" AS SHOWN ON THIS SHEET.
4. PAYMENT FOR "RECYCLING RECEPTACLE" INCLUDES FURNISHING AND INSTALLING 1 EA "POE SIDE OPENING RECEPTACLE, 34 GALLON, STANDARD OPENING, WITH LOCK" AS SHOWN ON THIS SHEET.
5. PAYMENT FOR "TRASH RECEPTACLE" INCLUDES FURNISHING AND INSTALLING 1 EA "POE SIDE OPENING RECEPTACLE, 34 GALLON, STANDARD OPENING, WITH LOCK" AS SHOWN ON THIS SHEET.
6. PAYMENT FOR "STANDARD HEIGHT TABLE SET" INCLUDES FURNISHING AND INSTALLING 1 EA "CATENA 36 IN ROUND TOP TABLE", 2 EA "CHIPMAN CHAIRS, WITH ARMS", AND 2 EA "CHIPMAN CHAIRS, WITHOUT ARMS" AS SHOWN ON THIS SHEET
7. PAYMENT FOR "BIKE RACK" INCLUDES FURNISHING AND INSTALLING 1 EA "EMERSON BIKE RACK, EMBEDDED" AS SHOWN ON THIS SHEET.

Tables Catena 36in Round Top, No Umbrella Hole, Catena Freestanding Support
Product Drawing — Date: 7/29/2011 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: CT5205 — Dimensions are in inches [mm]

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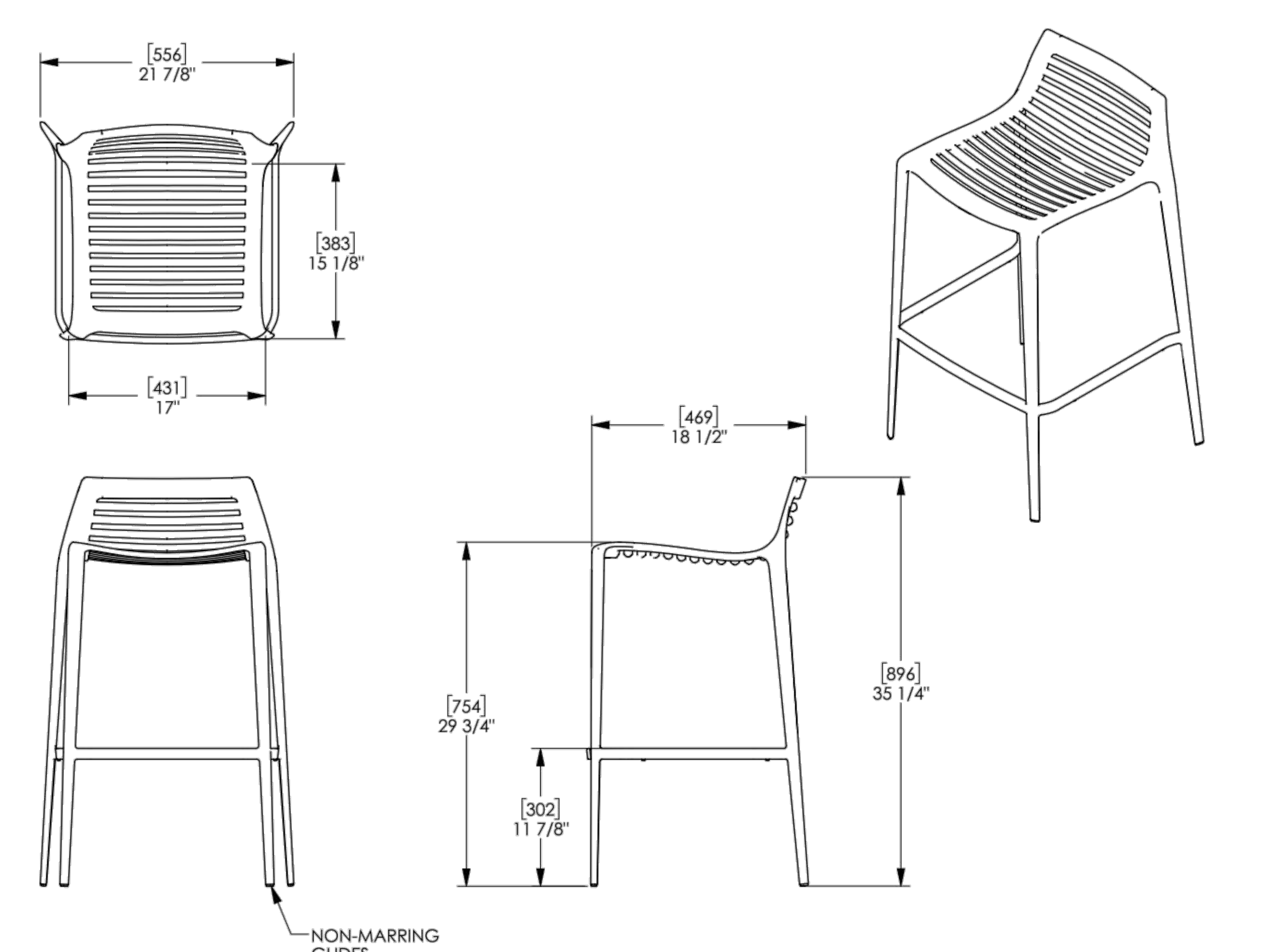
Chipman stool, bar height
Product Drawing — Date: 4/12/2016 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: CA101-01 — Dimensions are in inches [mm] — U.S. Patent No. D746,074

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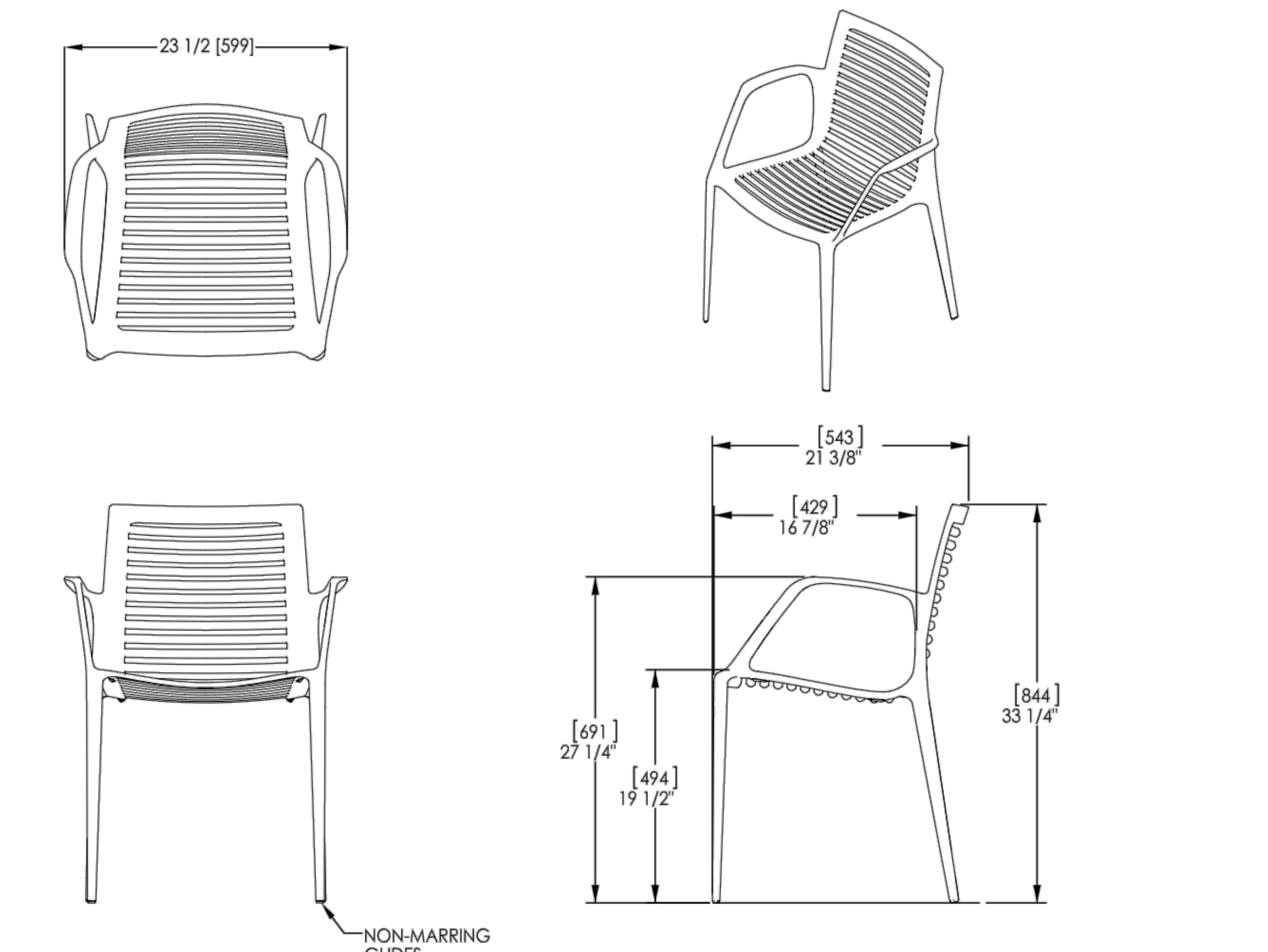
Chipman Chair, with arms
Product Drawing — Date: 04/12/2016 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: CA100-02 — Dimensions are in inches [mm] — U.S. Patent No. D694,544

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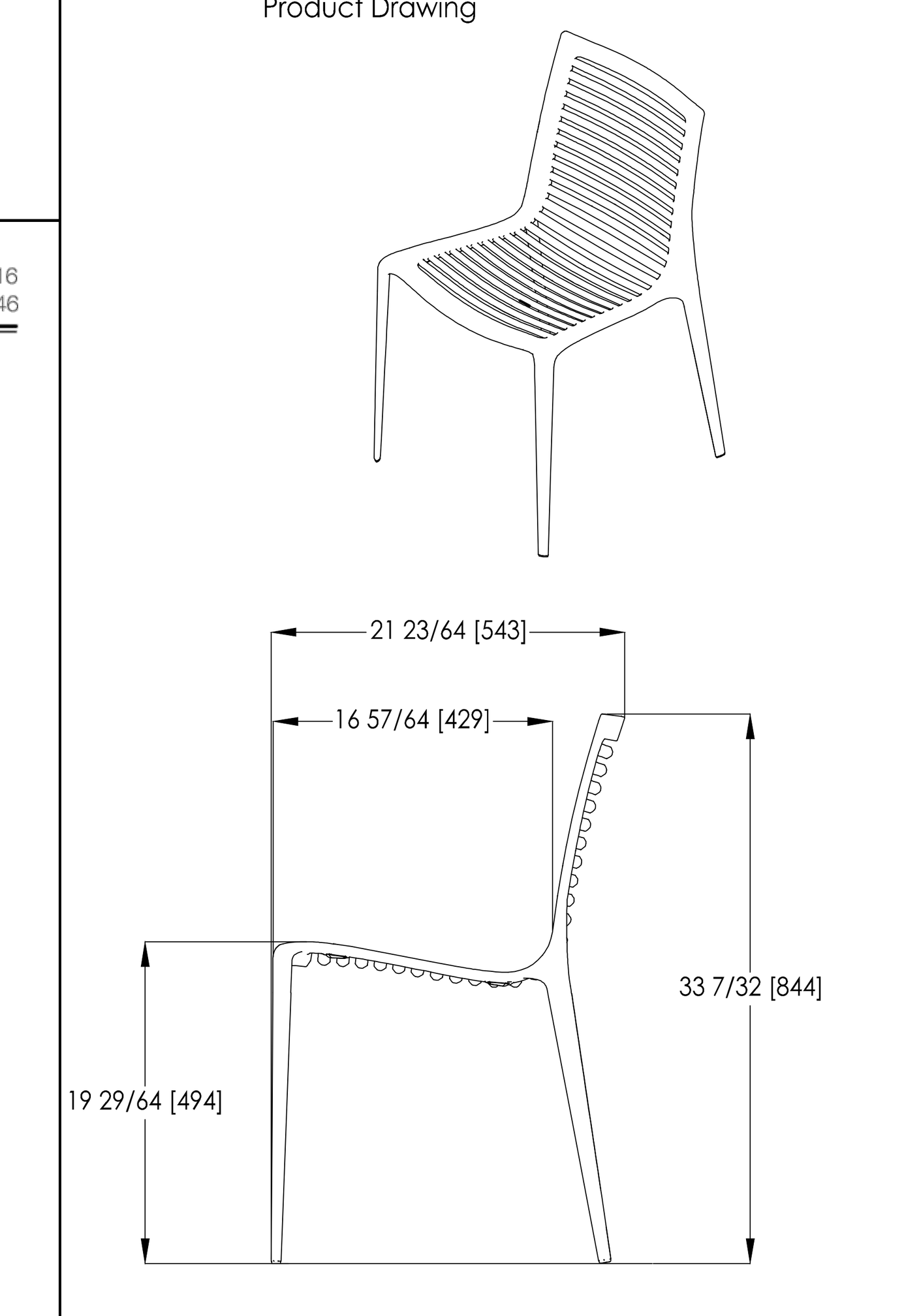
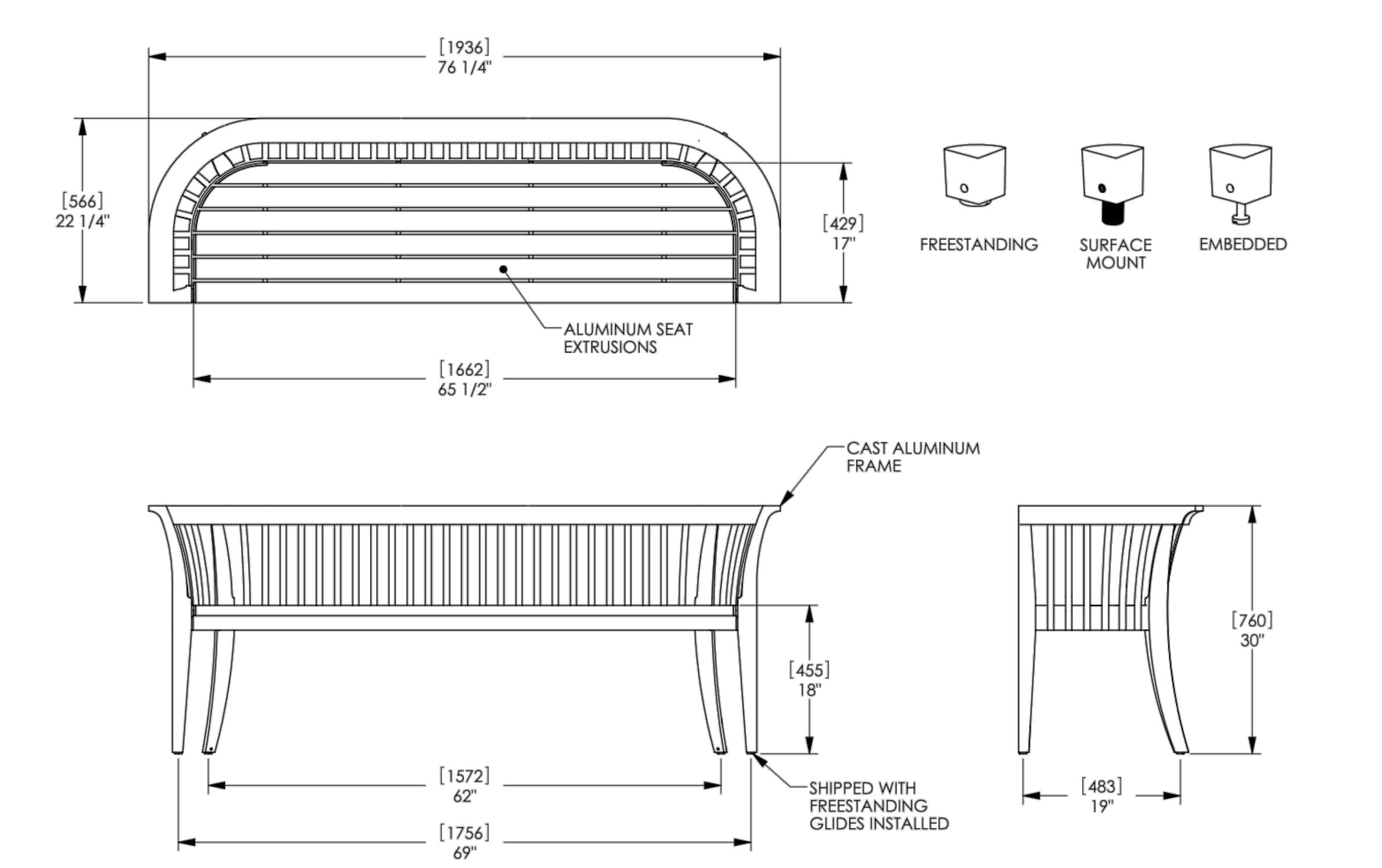
Chipman Chair, no arms
Product Drawing



Melville Backed Bench, 72in, Aluminum
Product Drawing — Date: 7/30/2012 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: ML146-01 — Dimensions are in inches [mm] — U.S. Patent No. D659,422

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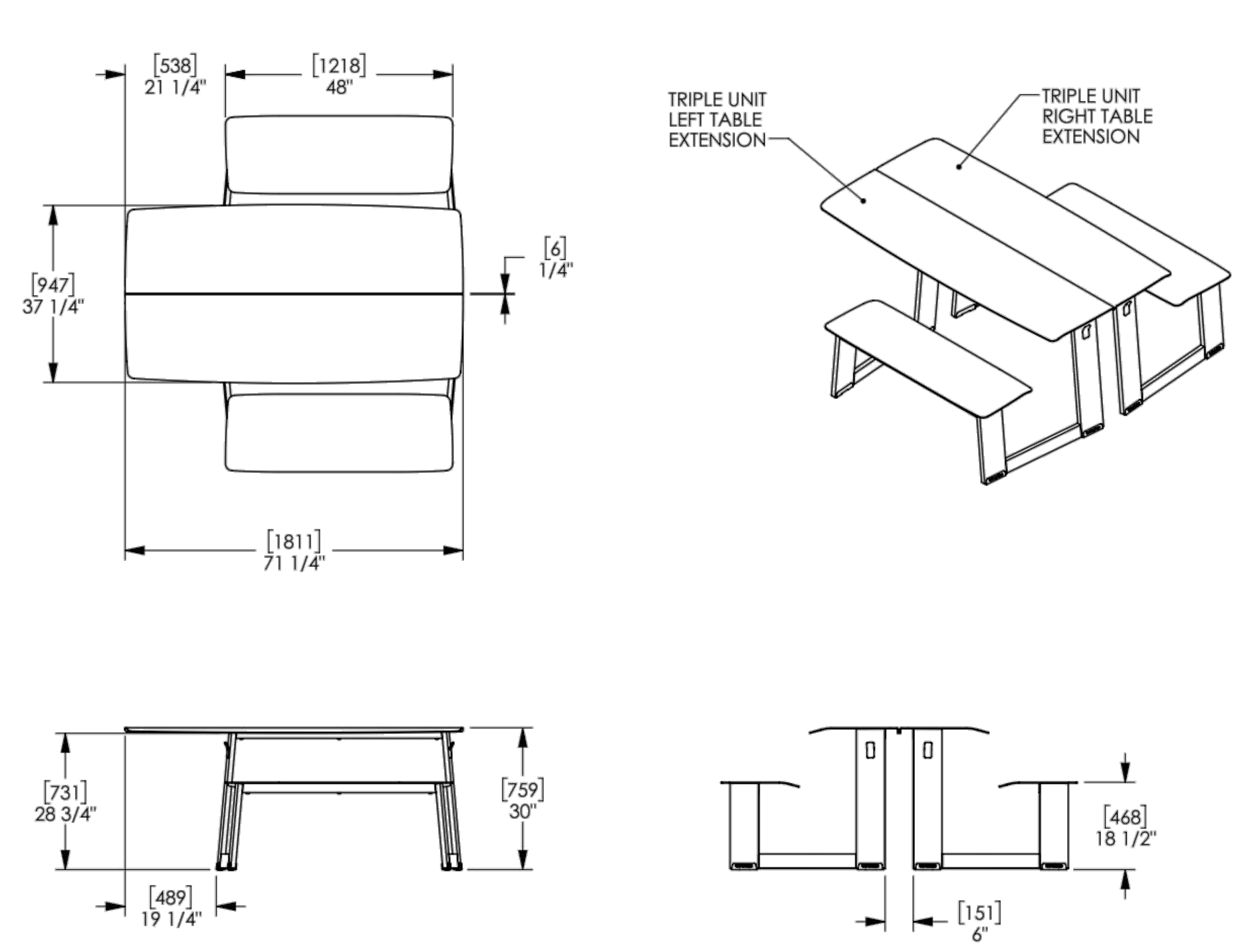
Take-Out Triple units, left and right table extension, back to back
Product Drawing — Date: 08/20/2021 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: DB0001 — Dimensions are in inches [mm]

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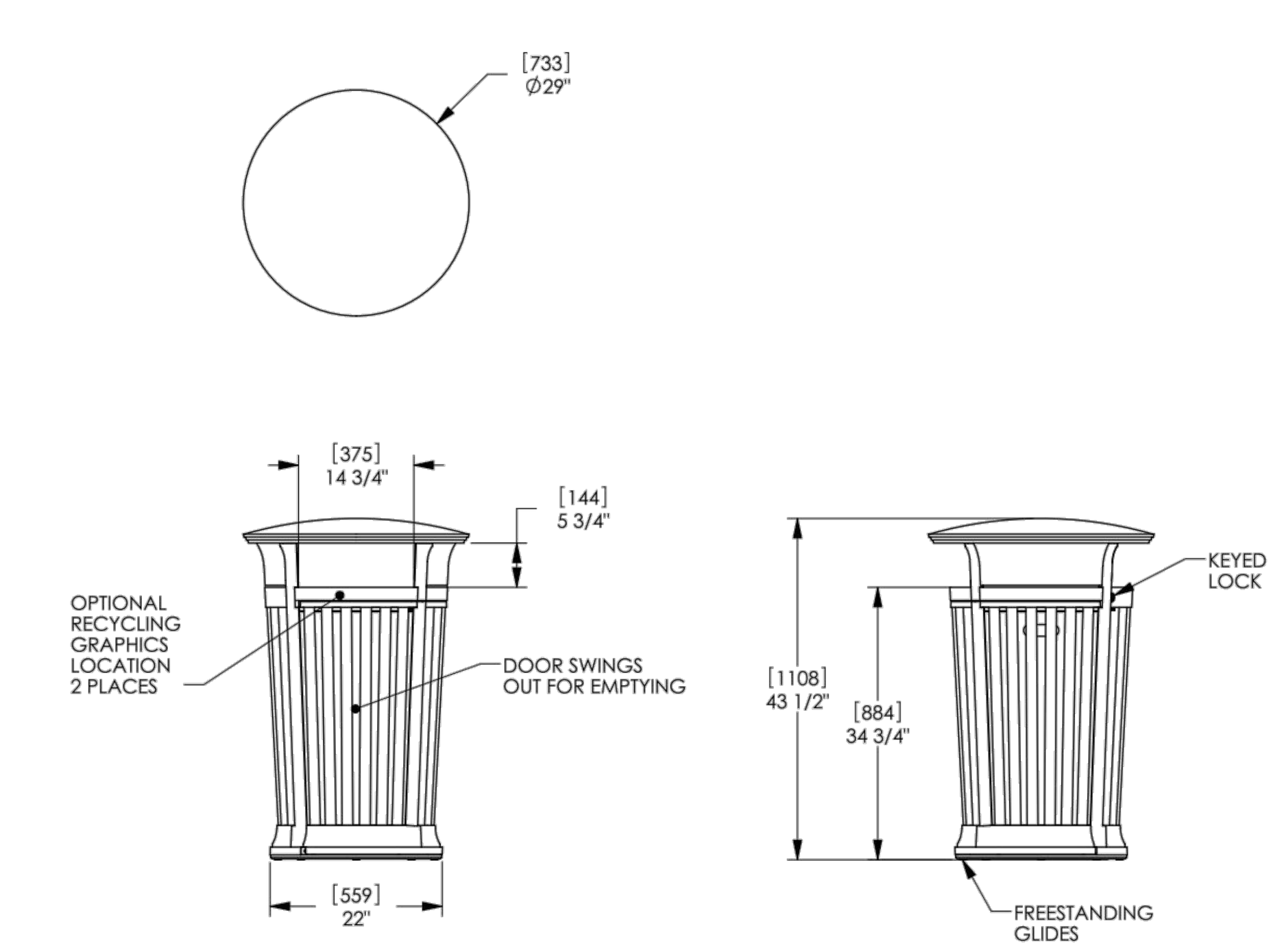
Poe Side Opening Receptacle, 34 Gallon, standard opening, with lock
Product Drawing — Date: 8/31/2011 — www.landscapeforms.com Ph: 800.521.2546



landscapeforms — Drawing: PO257-04 — Dimensions are in inches [mm] — U.S. Patent No. D643,987

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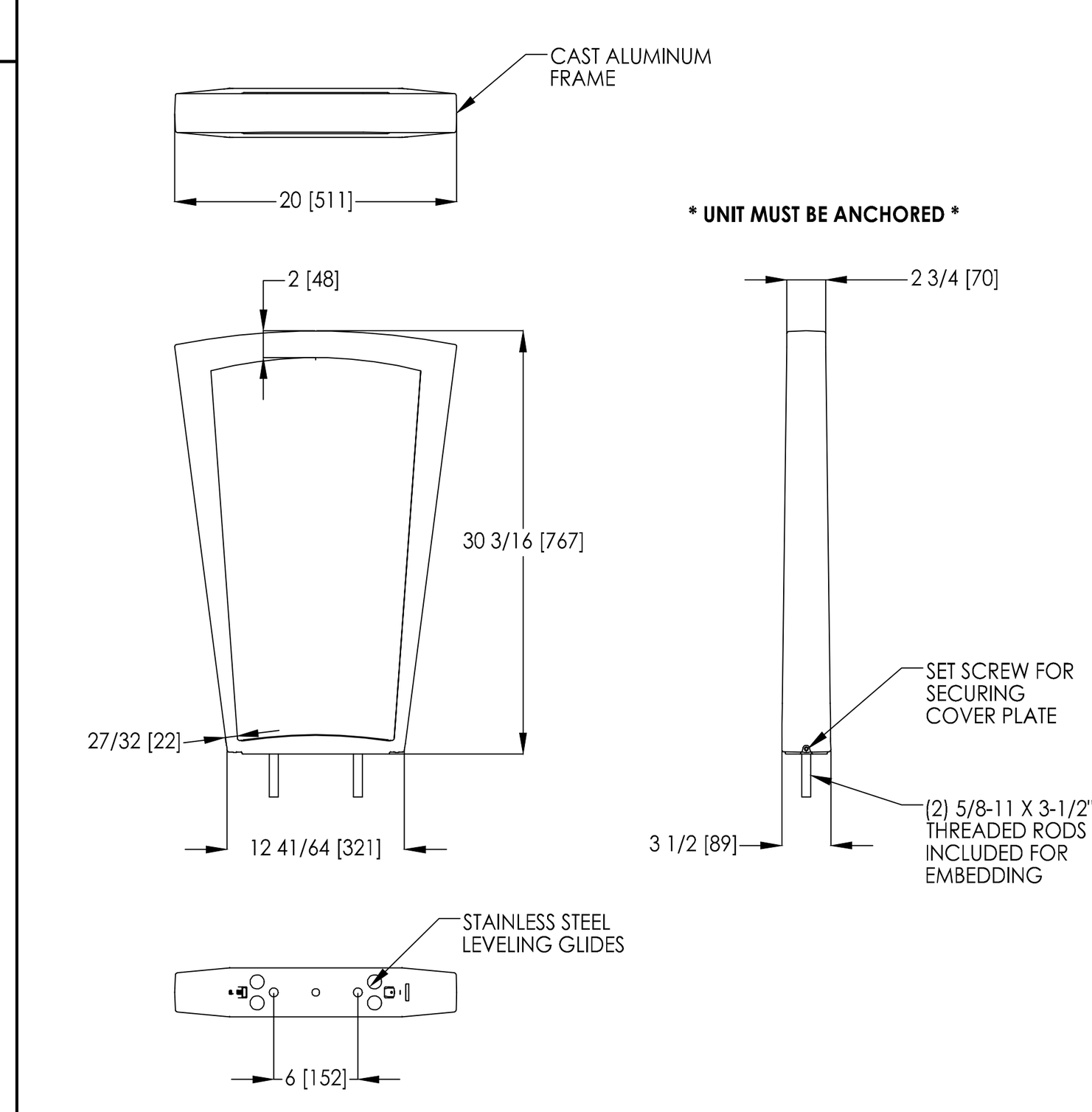
Emerson Bike Rack, Embedded
Product Drawing



NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
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4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

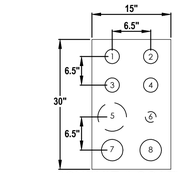
SHEET TITLE:
LANDSCAPE DETAILS

DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: AS NOTED VERT: AS NOTED
ACI JOB #: 21-1648
SHEET NO.

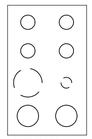
o:\Projects\2021\21-1648 brady-locust-hubbard reconstruction\CAD_Civil\Drawings\21-1648 L1.dwg, DETAILS, 8/3/2022 9:55:30 AM, erfisher, 1:1

ELECTRICAL AND TELECOMM

CONDUIT LOCATION	CLASS	DIAMETER (IN.)	CSR
1	PVC SCH. 80 PE DR 11	2"	ELECTRICAL DISTRIBUTION
2	PVC SCH. 80 PE DR 11	2"	ELECTRICAL TRANSMISSION
3	PVC SCH. 80 PE DR 11	2"	ELECTRICAL TRANSMISSION
4	PVC SCH. 80 PE DR 11	2"	ELECTRICAL TRANSMISSION
5	PVC SCH. 80 PE DR 11	4"	IRRIGATION
6	PVC SCH. 80 PE DR 11	1.5"	AUDIO
7	PVC SCH. 80 PE DR 11	3"	TELECOMMS
8	PVC SCH. 80 PE DR 11	3"	TELECOMMS



CONDUIT LOCATION
TYP. SPACING, NOT TO SCALE



DETAIL A
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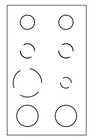

DETAIL B
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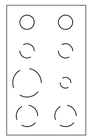

DETAIL C
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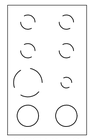
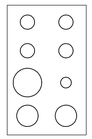
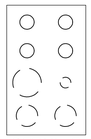


DETAIL D
NOT TO SCALE



DETAIL E
NOT TO SCALE



DETAIL F
NOT TO SCALE

Item Description	Unit	Sht 43 Quantity
Hh, Polymer Conc	Ea	17
Conduit, Duct Bank, Unencased, Detail A	Ft	890
Conduit, Duct Bank, Unencased, Detail B	Ft	3670
Conduit, Duct Bank, Unencased, Detail C	Ft	830
Conduit, Duct Bank, Unencased, Detail D	Ft	170
Conduit, Duct Bank, Unencased, Detail E	Ft	375
Conduit, Duct Bank, Unencased, Detail F	Ft	70
Conduit Vault, 4 foot, Square	Ea	11
Hh, Lighting, Modified	Ea	78
Light Std Fdn	Ea	75
Light Pole and Luminaire, Decorative Type 1	Ea	44
Light Pole and Luminaire, Decorative Type 2	Ea	31
Street Lighting Controls, Modified	LSUM	1
Power Co. (Est. Cost to Contractor)	Dlr	17500

NOTE:
1. QUANTITIES SHOWN ARE FOR THE ENTIRE PROJECT. REFER TO PLAN SHEETS FOR PLACEMENT LOCATIONS

LEGEND

- A — CONDUIT CLASS A
- B — CONDUIT CLASS B
- C — CONDUIT CLASS C
- D — CONDUIT CLASS D
- E — CONDUIT CLASS E
- F — CONDUIT CLASS F

OVERALL LIGHTING PLAN
1"=60'-0"

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Brady St	Illuminance	Fc	1.35	3.2	0.4	3.38	8.00
Hubbard St	Illuminance	Fc	0.87	3.0	0.2	4.35	15.00
Locust St	Illuminance	Fc	0.95	3.0	0.2	4.75	15.00
Trowbridge St	Illuminance	Fc	1.28	3.2	0.2	6.40	16.00

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

Luminaire Schedule							
Symbol	Qty	Label	Manufacturer	Description	Lum. Lumens	Lum. Watts	LLF
	44	AP1	Landscape Forms	Ashbery Area Light (AP-206L3-100F-40K-UV1-20K-P2) -- Ashbery Pole: AP999 (18ft lens height, Single Tenon)	2068	46.86	0.950
	37	AP2	Landscape Forms	Ashbery Area Light (AP-212L5-100F-40K-UV1-20K-P2) -- Ashbery Pole: AP999 (18ft lens height, Single Tenon)	3920	82.45	0.950

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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Engineering Architecture Land Surveying

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
LIGHTING PLAN - OVERALL

DRAWN BY: KB
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 60'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
43 of **53**

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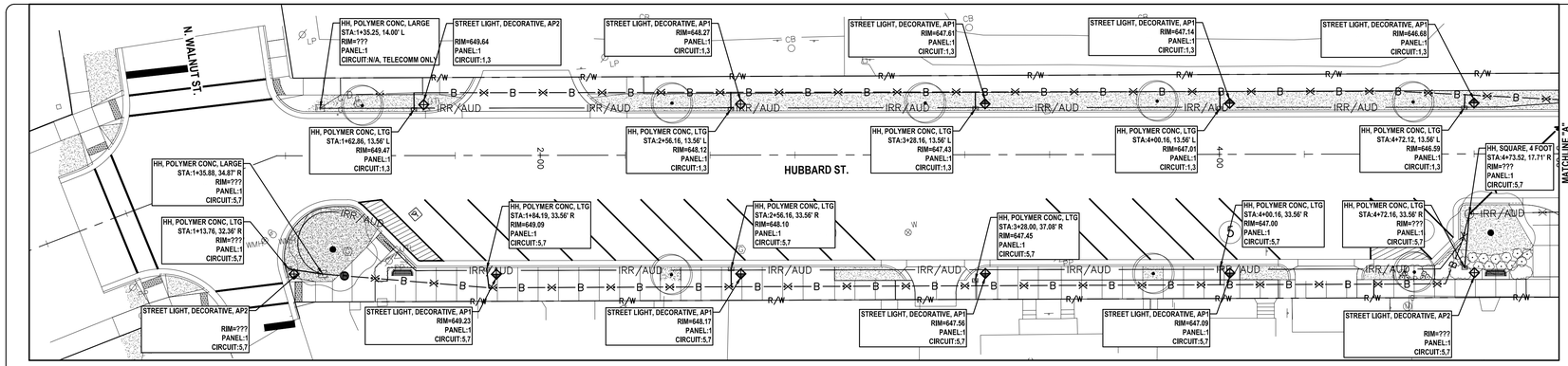
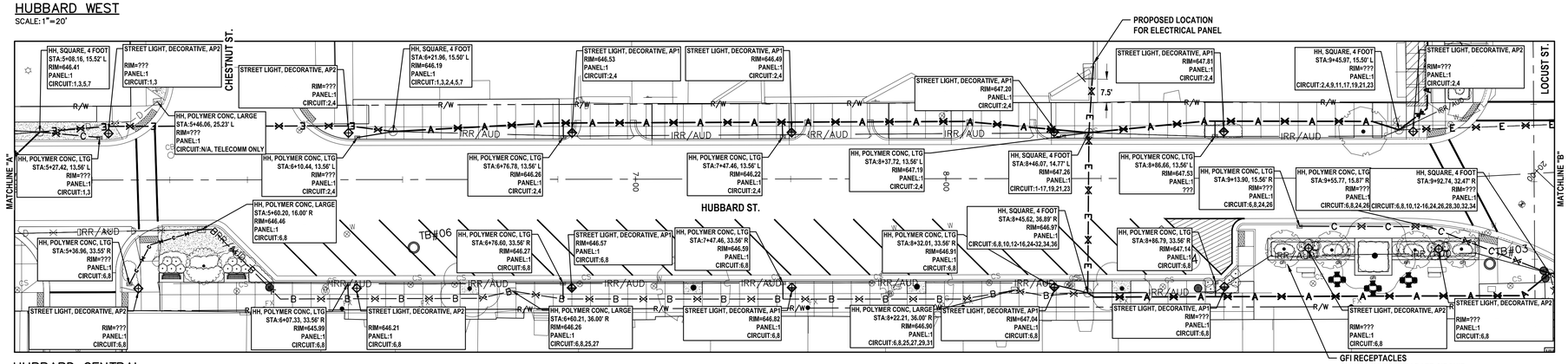
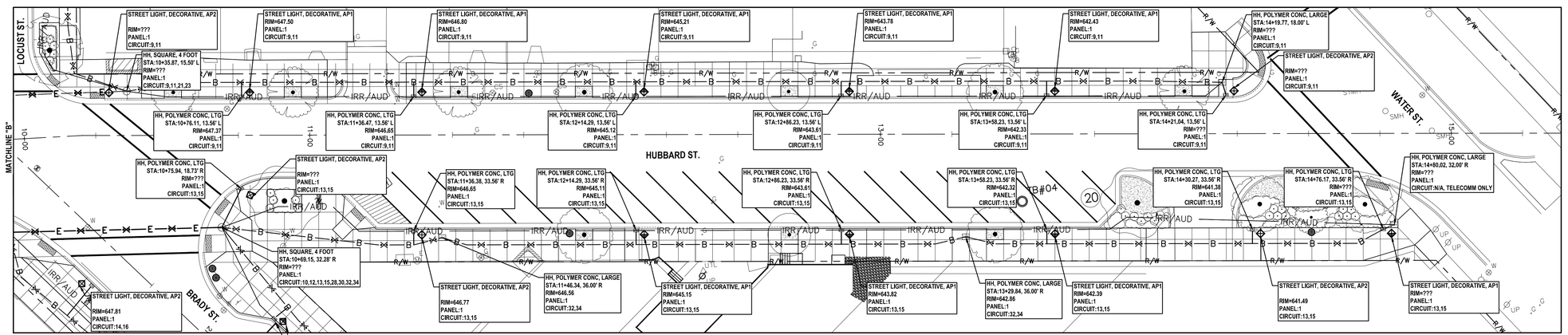


HUBBARD WEST
SCALE: 1"=20'



HUBBARD CENTRAL
SCALE: 1"=20'



HUBBARD EAST
SCALE: 1"=20'

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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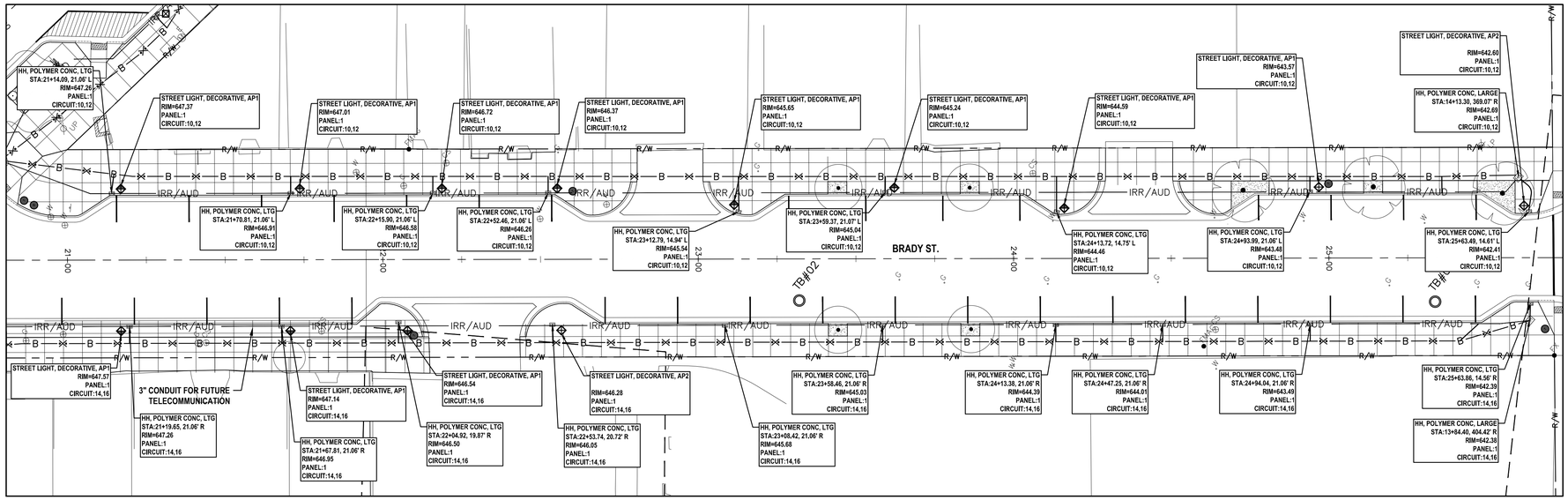
PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
HUBBARD STREET LIGHTING PLAN

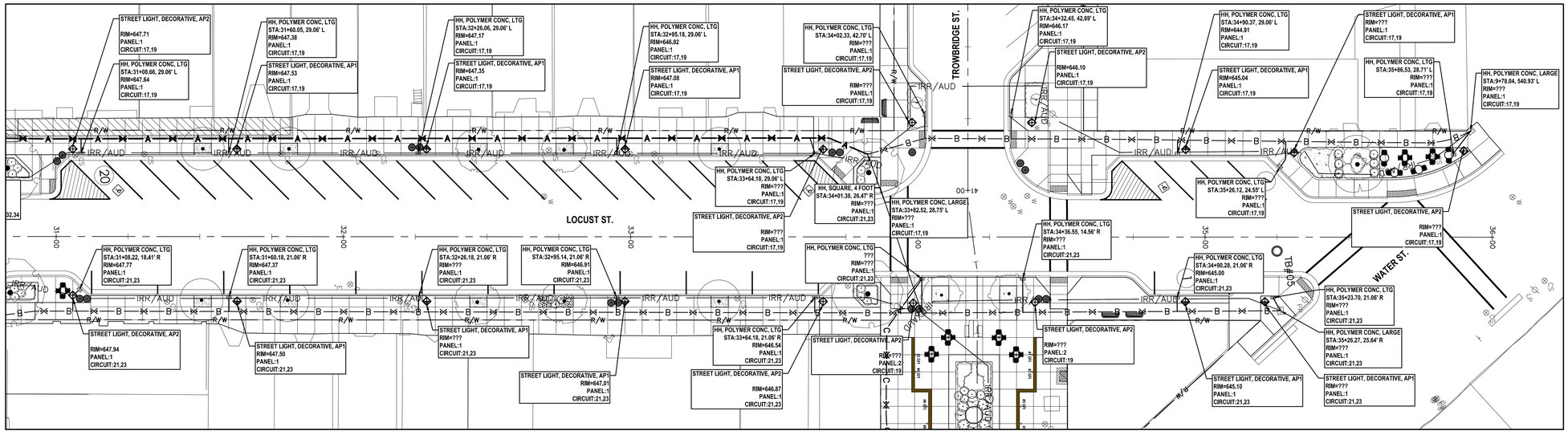
DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE: HORZ: 1" = 20' VERT: N/A
ACI JOB #: 21-1648
SHEET NO.: 44 of 53

o:\Projects\2021\21-1648\ready-to-use\hubbard-reconstruction\CAD_Civil\Drawings\21-1648 LIGHTING.dwg, LIGHT 1, 8/1/2022 9:56:08 AM, erfisher, 1:1



BRADY STREET

SCALE: 1"=20'



LOCUST STREET

SCALE: 1"=20'

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)

1 inch = 20 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

BRADY STREET AND LOCUST STREET LIGHTING PLAN

SHEET TITLE:

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

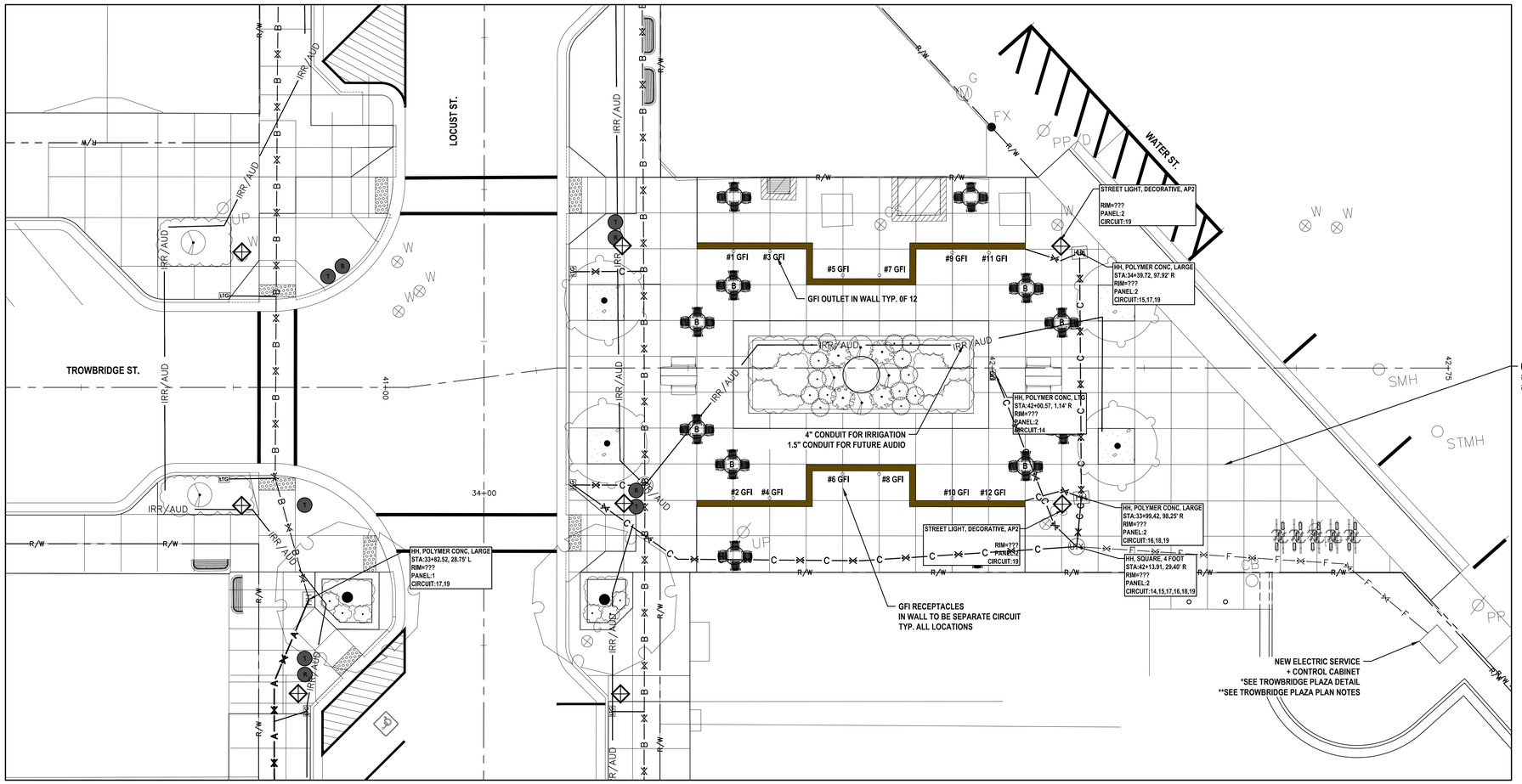
SIGNATURE:
DATE:

SCALE:
HORZ: 1" = 20'
VERT: N/A

ACI JOB #
21-1648

SHEET NO.
45 of 53

o:\Projects\2021\21-1648\Anjo-Locust-Sidehead-reconstruction\CAD_Civil\Drawings\21-1648 LIGHTING.dwg, LIGHT 2, 8/3/2022 8:56:58 AM, erfisher, 1:1



GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
TROWBRIDGE STREET LIGHTING PLAN

DRAWN BY: DJL
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: 1" = 10'
VERT: N/A
ACI JOB #
21-1648
SHEET NO.
46 of 53

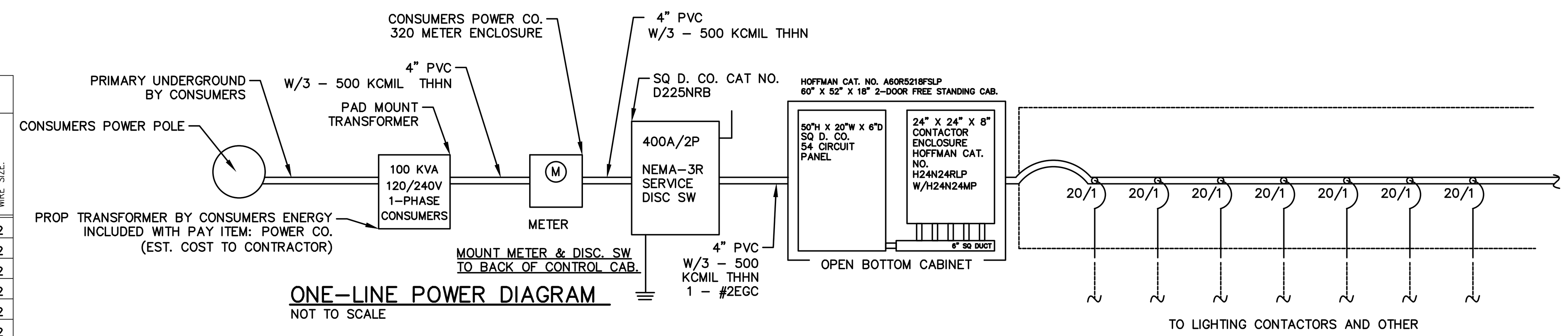
PANEL: HS-MLP									LOCATION: PARKING LOT NORTH SIDE OF HUBBARD STREET		
WIRE SIZE. BRANCH CIRCUIT	NOTES	LOAD DESCRIPTION	CIRCUIT BREAKER	LOAD (VA)	BRANCH CIRCUIT No.	BRANCH CIRCUIT No.	LOAD (VA)	CIRCUIT BREAKER	LOAD DESCRIPTION	NOTES	BRANCH CIRCUIT WIRE SIZE.
12		HUBBARD ST. WEST N. SIDE FIXTURES	20/1	450	1	2	400	20/1	HUBBARD ST. CENTER N. SIDE FIXTURES	2	12
12		HUBBARD ST. WEST N. SIDE OUTLETS	20/1	1080	3	4	1080	20/1	HUBBARD ST. CENTER N. SIDE POLE OUTLETS	2	12
12		HUBBARD ST. WEST S. SIDE OUTLETS	20/1	1080	5	6	1440	20/1	HUBBARD ST. CENTER S. SIDE POLE OUTLETS	2	12
12		HUBBARD ST. WEST S. SIDE FIXTURES	20/1	400	7	8	600	20/1	HUBBARD ST. CENTER S SIDE FIXTURES	2	12
12		HUBBARD ST. EAST N. SIDE FIXTURES	20/1	700	9	10	1620	20/1	BRADY ST. NE SIDE FIXTURES		12
12		HUBBARD ST. EAST N. SIDE OUTLETS	20/1	1260	11	12	800	20/1	BRADY ST. NE SIDE OUTLETS		12
12		HUBBARD ST. EAST S. SIDE OUTLETS	20/1	1260	13	14	1980	20/1	BRADY ST. SW SIDE OUTLETS		12
12		HUBBARD ST. EAST S. SIDE FIXTURES	20/1	500	15	16	1000	20/1	BRADY ST. SW SIDE FIXTURES		12
12		LOCUST ST. W. SIDE FIXTURES	20/1	700	17	18	180	20/1	PHOTO ELECTRIC CELL (P.E.C.)		12
12		LOCUST ST. W. SIDE OUTLETS	20/1	1800	19	20	180	20/1	CONTROL CABINET SERVICE GFI		12
12		LOCUST ST. E. SIDE OUTLETS	20/1	1980	21	22	200	20/1	IRRIGATION SYSTEM CONTROLLER		12
12		LOCUST ST. E. SIDE FIXTURES	20/1	850	23	24	500	20/1	HUBBARD ST. CENTRAL PLAZA GFI		12
6		FESTIVAL POWER HH HUBBARD ST. WEST S. SIDE	2P/60	7200	25	26	500	20/1	HUBBARD ST. CENTRAL PLAZA GFI		12
					27	28	7200	2P/60	FESTIVAL POWER HH HUBBARD ST. EAST S. SIDE		6
6		FESTIVAL POWER HH HUBBARD ST. CENTER S. SIDE	2P/60	7200	29	30					
					31	32	7200	2P/60	FESTIVAL POWER HH BRADY ST. SW. SIDE		6
		SPACE			33	34					
					35	36	180	20/1	HUBBARD ST. CENTRAL PLAZA GFI		8
					37	38			SPACE		
					39	40					
					41	42					
					43	44					
					45	46					
					47	48					
					49	50					
					51	52					
					53	54					
				24,200	VA		24,660				

MOUNTING	SURFACE	TOTAL CONNECTED (VA)	48,880
LUGS OR CIRCUIT BREAKER	M.L.O.	TOTAL CONNECTED (AMPS)	204
BUS RATING (AMPERES) & TYPE	400A	FEEDER: (3) 500KCMIL, (1) #2EGC	
VOLTAGE	120/240 V SINGLE PHASE	OPTIONS:	

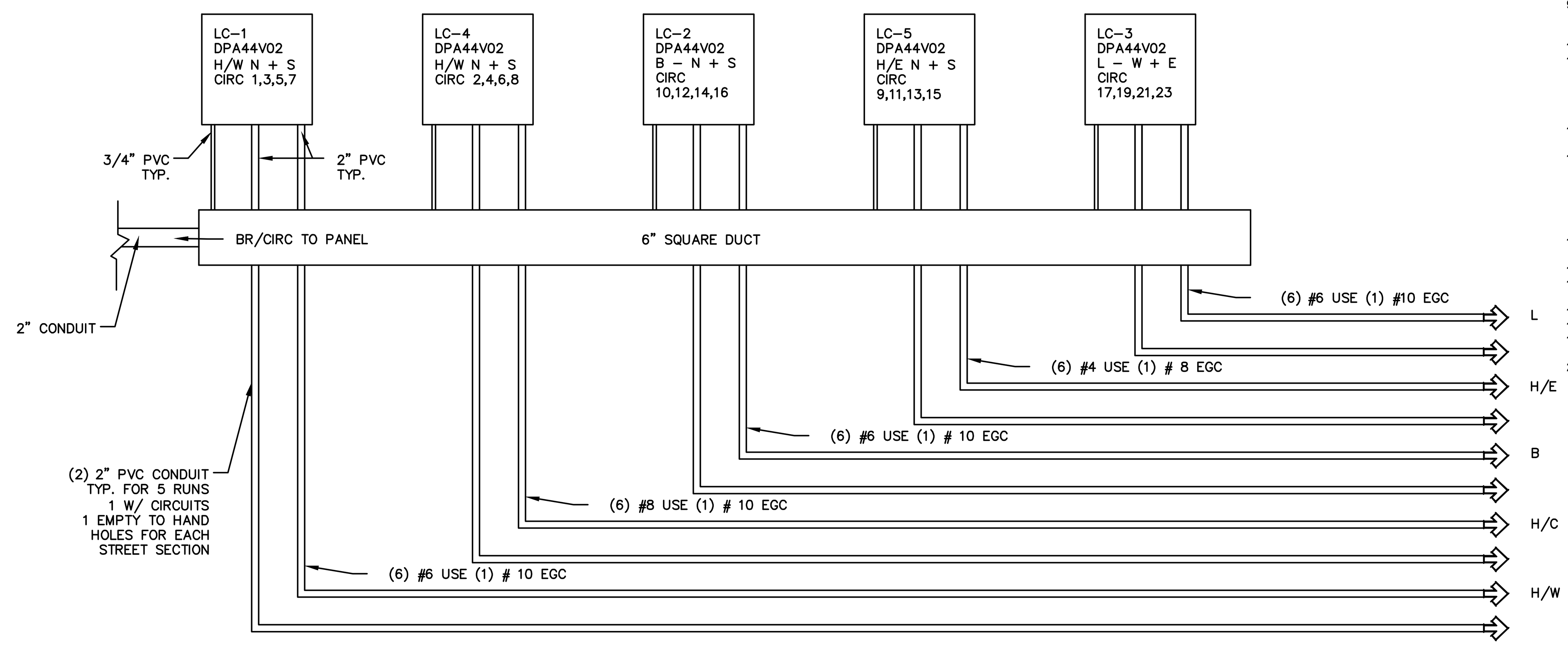
SQ. D CO. CAT NO NQ54L4, MH-50/WP
OR EQUAL BY CUTLER HAMMER OR GENERAL ELECTRIC

NOTES:

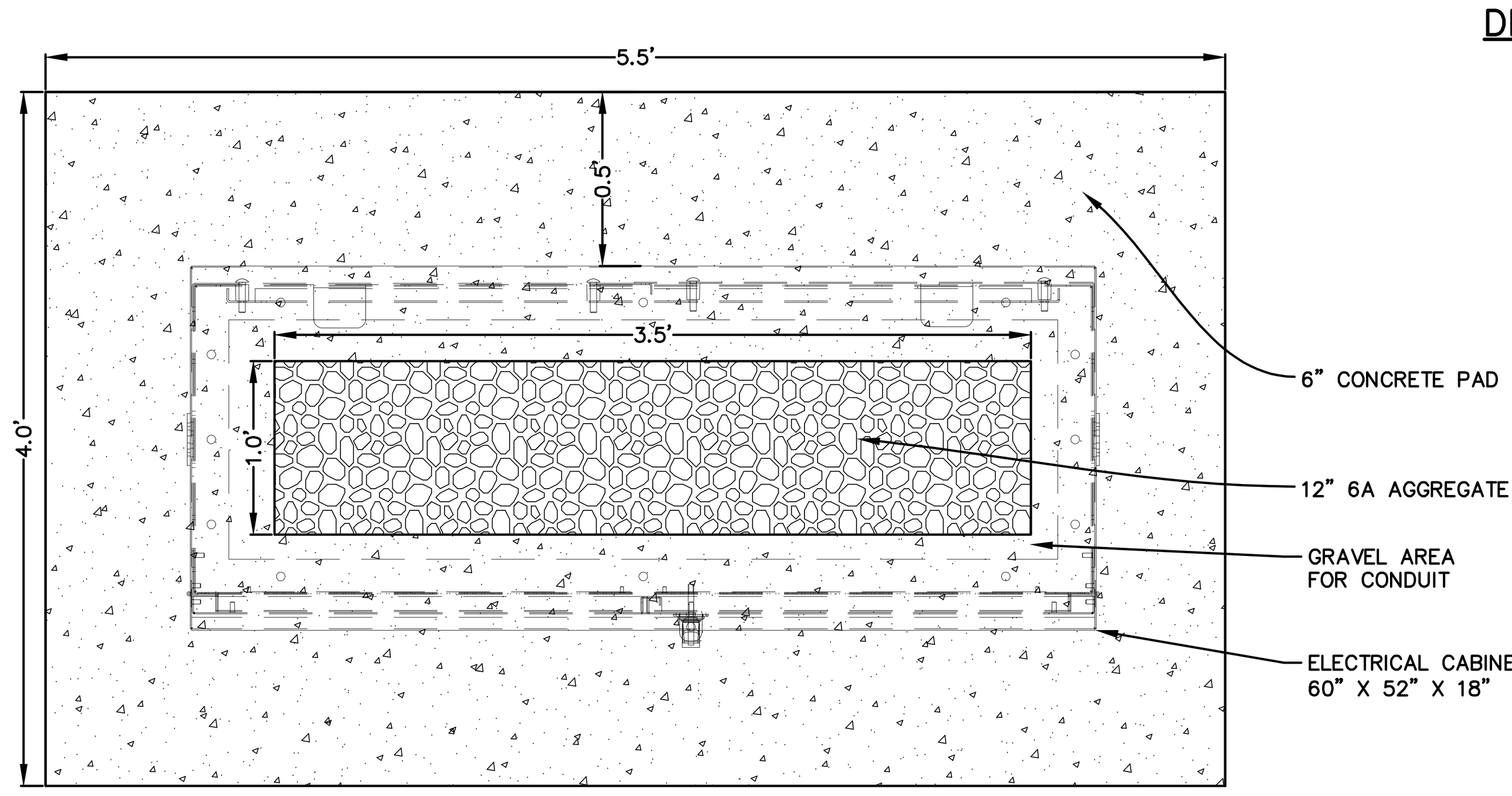
1. E.C. CAN USE 33% TAP RULE TO REDUCE WIRE SIZE TO FIT CIRCUIT BREAKER LOAD LUG/SCREW.
2. HUBBARD ST. IS DIVIDED INTO (3) SEPARATE LIGHTING AREAS: WEST, CENTRAL AND EAST. EACH AREA WILL HAVE A SEPARATE LIGHTING CONTACTOR WITH CIRCUITS FOR BOTH LIGHTS AND GFI'S ON THE NORTH AND SOUTH SIDES.



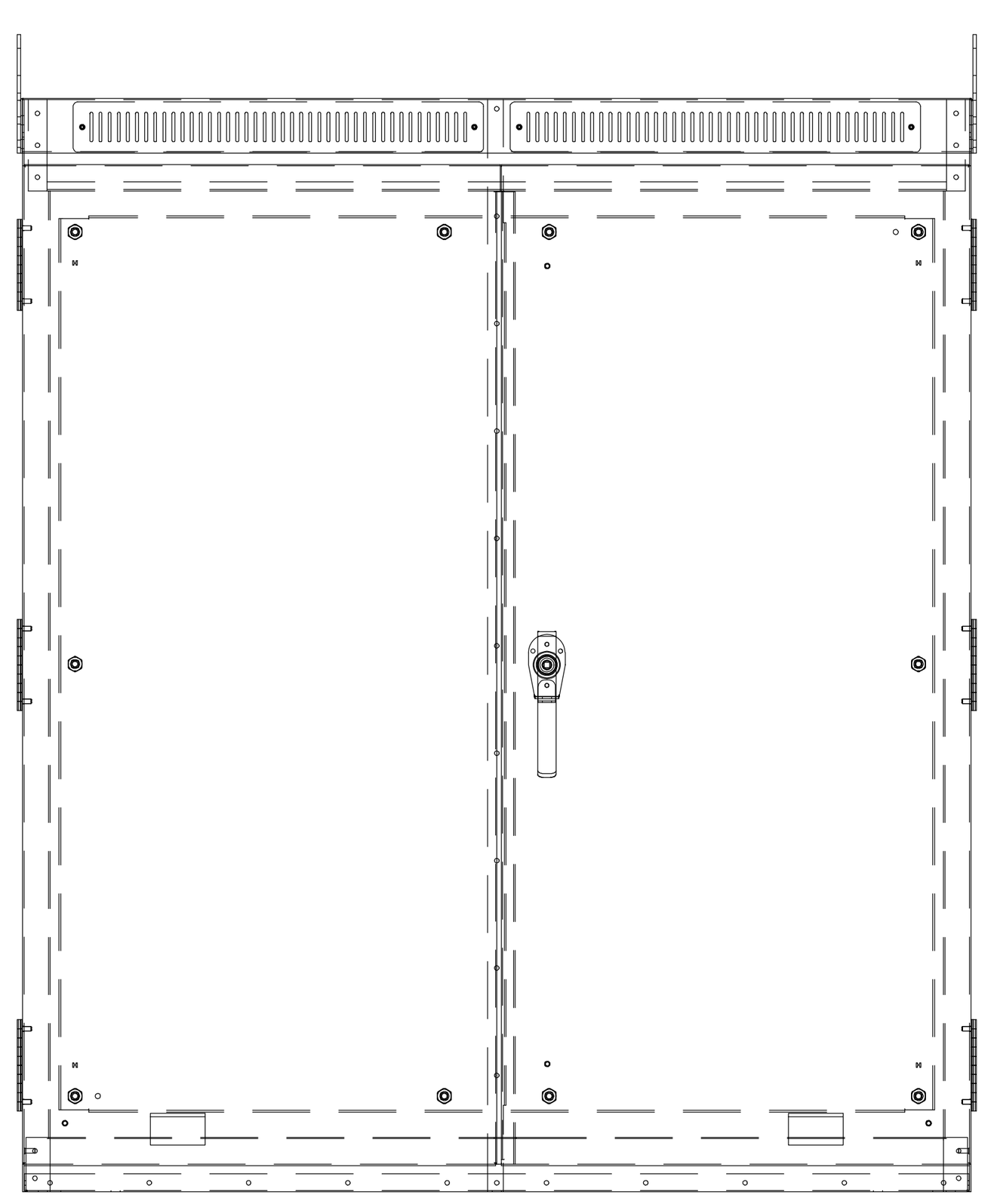
ONE-LINE POWER DIAGRAM
NOT TO SCALE



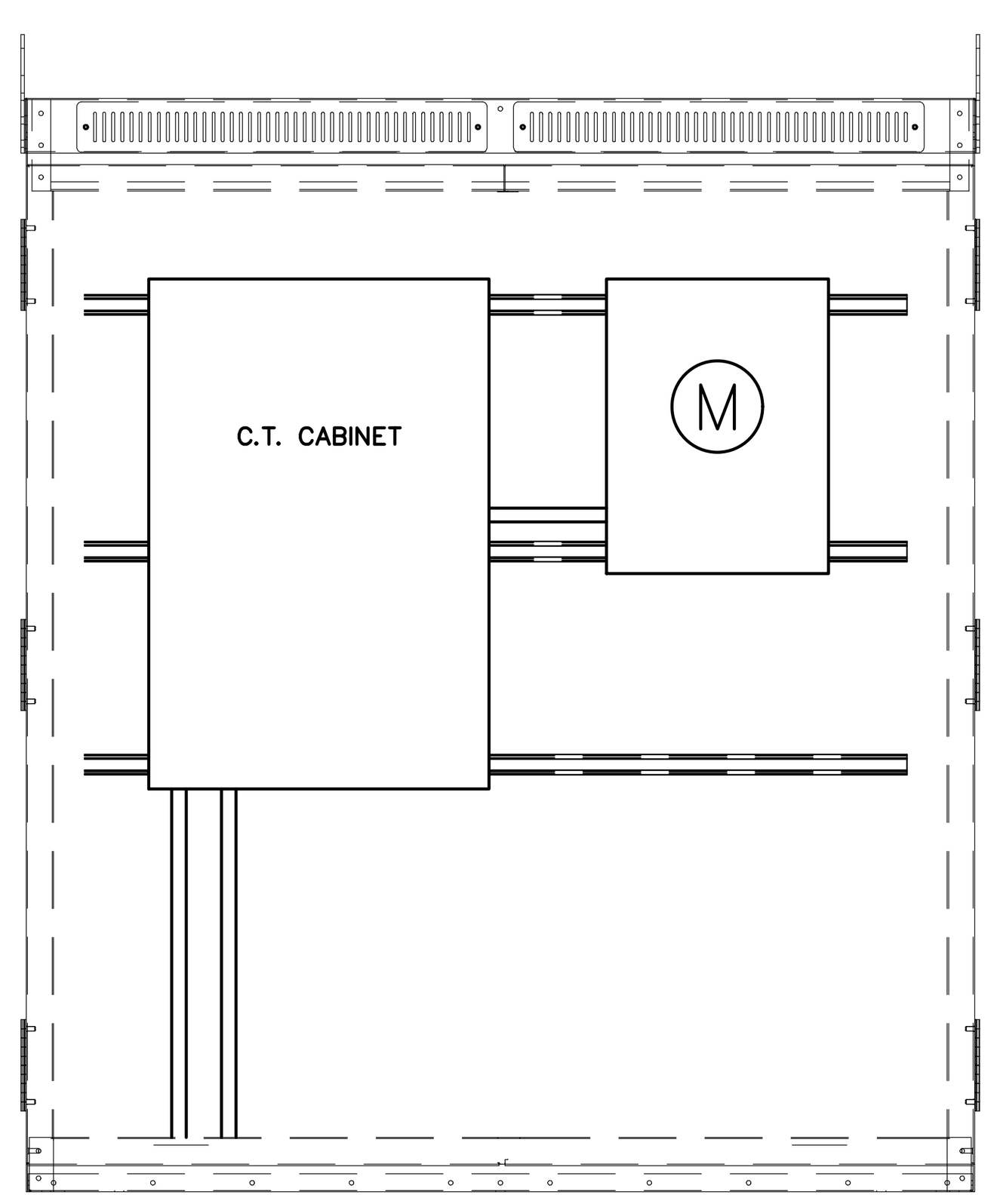
DP LIGHTING CONTACTORS DETAIL
NOT TO SCALE



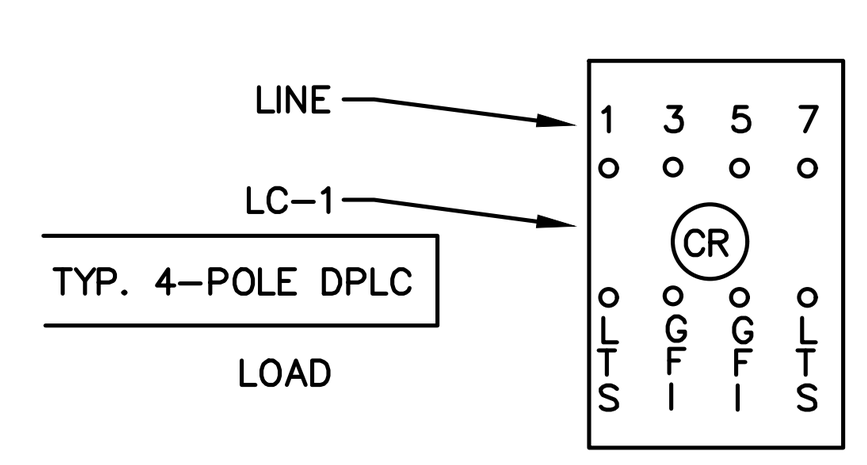
CONCRETE BASE DETAIL
NOT TO SCALE



ENCLOSURE DETAIL (FRONT)
NOT TO SCALE

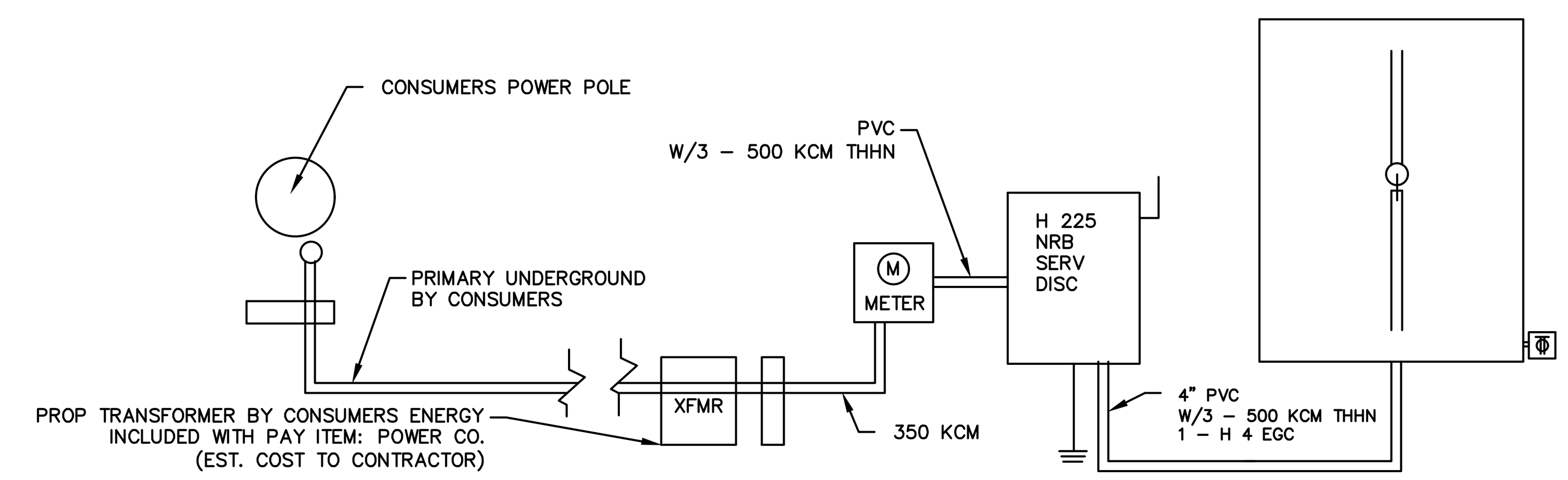


ENCLOSURE DETAIL (BACK)
NOT TO SCALE

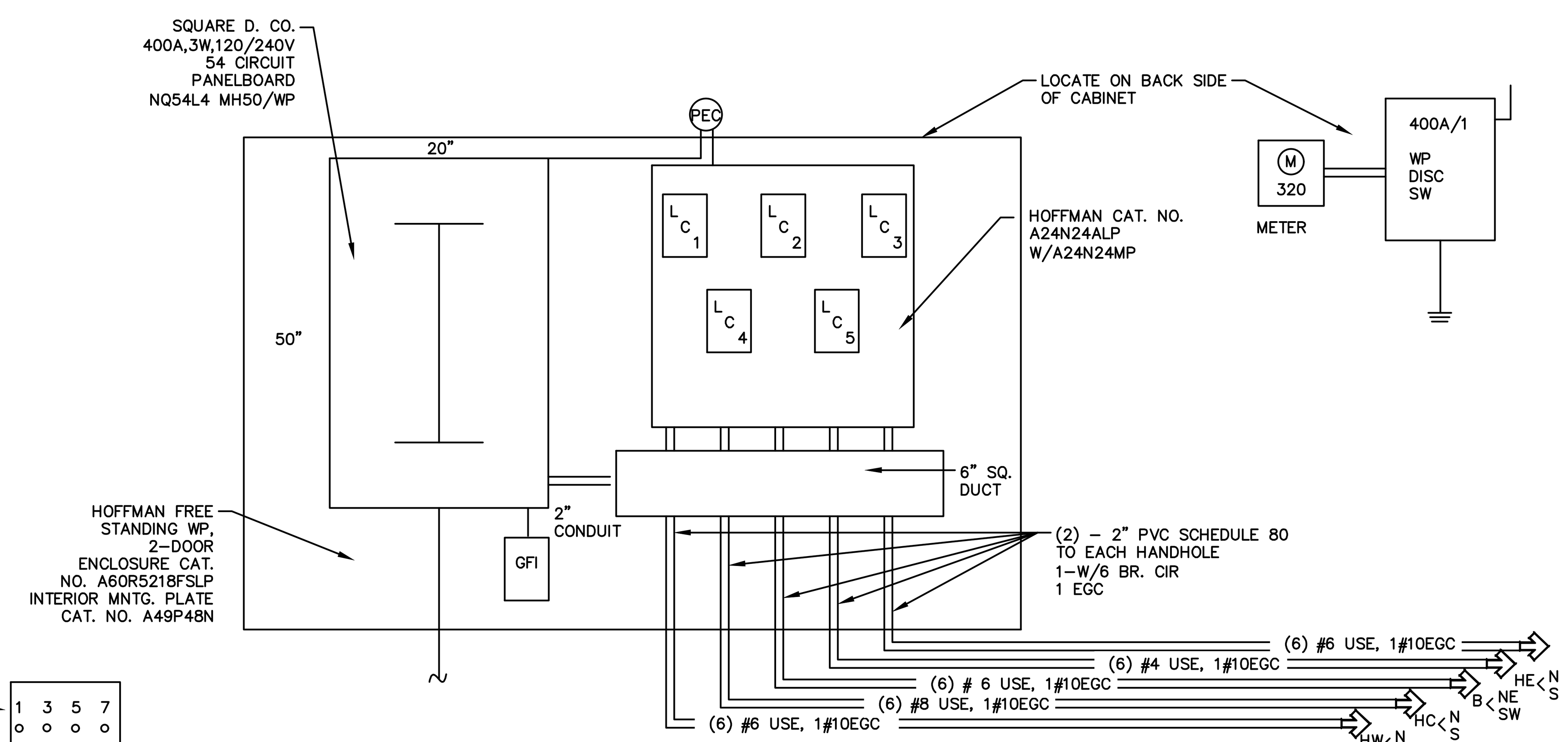


LIGHTING ELECTRICAL PLAN NOTES

1. ALL WORK BY THE ELECTRICAL CONTRACTOR (EC) SHALL BE PERFORMED PER THE CURRENT (ADOPTED) NATIONAL ELECTRICAL CODE (2017), PER SECTION110-3(A) AND (B). THE WIRING METHODS USED SHALL BE SUITABLE FOR THE INSTALLATION AND USE IN CONFORMITY WITH PROVISIONS OF THE NEC AND LISTED OR LABELED EQUIPMENT SHALL BE USED OR INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING.
2. THE ELECTRICAL CONTRACTOR/CITY OF ALLEGAN SHALL REQUEST A NEW 400AMP, 120/240V, SINGLE PHASE SERVICE FROM CONSUMERS POWER CO. IN THE LOCATION SHOWN ON THE ELECTRICAL PLANS.
3. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND PAY FOR THE CITY OF ALLEGAN OR STATE OF MICHIGAN ELECTRICAL PERMIT AND PROVIDE A FINAL CERTIFICATE OF APPROVAL UPON JOB COMPLETION.
4. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS AS SPECIFIED ON THE ELECTRICAL DRAWINGS.
5. ALL PVC CONDUITS1" THROUGH 3" SHALL BE SCHEDULE 80. ALL PVC HOME RUNS SHALL UTILIZE LONG SWEEPS, WHILE RUNS 100' AND LESS BETWEEN HAND HOLES CAN USE STANDARD SWEEPS. E.C. MAY USE ¾" PVC SCHEDULE 40 FROM HAND HOLES TO AND UP EACH POLE BASE. THE E.C. SHALL INSTALL A PULL LINE IN ALL PVC CONDUITS.
6. THE ELECTRICAL CONTRACTOR SHALL PROVIDE AN EMPTY 4" PVC SCHEDULE 80 CONDUIT FROM THE CONSUMERS POWER 320 METER ENCLOSURE DOWN TO 24' BELOW GRADE FOR CONSUMERS ENERGY'S #350AL SERVICE FEEDER. THE NEW ELECTRIC SERVICE 320 METER ENCLOSURE (FURNISHED BY CONSUMERS POWER CO.), AND A SQ D CO. NEW 400A, SINGLE PHASE, FUSIBLE, WEATHER PROOF DISCONNECT SWITCH, CAT. NO.H225NRB WITH 400 FRN FUSES, TO BE MOUNTED ON GALVANIZED UNISTRUT ATTACHED TO THE BACK OF THE CONTROL CABINET. E.C. TO PROVIDE CONDUITS AND WIRE PER ELECTRICAL PLAN DETAILS. E.C. TO GROUND NEW SERVICE PER NEC.
7. E.C. SHALL PROVIDE AND INSTALL 6" CONCRETE FILLED PIPES AS BUMPER TYPE PROTECTION IN FRONT OF ALL ELECTRICAL EQUIPMENT AT NEW ELECTRIC SERVICE LOCATION MAINTAINING 4' OF CLEAR WORKING SPACE IN FRONT OF ELECTRICAL EQUIPMENT ITEMS.
8. E.C. SHALL FURNISH AND PROVIDE A 6" DEEP X 5'X 4' CONCRETE SUPPORT PAD WITH FIELD SIZED BOXOUT FOR A NEW HOFFMAN CONTROL CABINET WITH BACK MOUNTING PLATE AS CALLED FOR ON THE DRAWINGS. O.E. BY ETN CO. OR MIDWEST CO. PROVIDE THE NEW CONCRETE PAD ADJACENT TO THE LOW PROFILE SUPPORT IN NOTE #6.
9. E.C. SHALL PROVIDE AND INSTALL INSIDE THE NEW CONTROL CABINET A NEW SQ D CO. 54 CIRCUIT BREAKER PANELBOARD, 240/120V, SINGLE PHASE, CATALOG NO. NQ54L2, MH50WP. ALL CIRCUIT BREAKERS TO BE QOB BOLT ON TYPE. O.E. BY CUTLER HAMMER OR G.E. CO.
10. E.C. SHALL FURNISH AND INSTALL A 20A, 120V GFI DUPLEX DIRECTLY BELOW NEW CB PANEL FOR SERVICE USE.
11. E.C. SHALL PROVIDE AND INSTALL A HOFFMAN ENCLOSURE WITH MOUNTING BACK PLATE AND SIZED PER DETAIL ON THE ELECTRICAL DRAWINGS. THIS ENCLOSURE WILL HAVE ALL *DEFINITE PURPOSE LIGHTING CONTACTORS FOR ALL NEW STREET LIGHTING. *DPLCS SHALL BE SQ D CO. OR EQUAL BY COOPER CO. OR CURLER HAMMER. *DPLC SHALL HAVE DIFFERENT AMPERAGE RATINGS TO ALLOW FOR LARGER SIZE LOAD WIRES BECAUSE OF VOLTAGE DROP ALLOWANCE, (1-20A4-POLE AND 4-40A 4-POLE). ALL *DPLC LINE SIDE WIRING SHALL BE #12THHN FROM 20A/1P CIRCUIT BREAKERS.
12. E.C. SHALL FURNISH AND INSTALL ON THE NEW HOFFMAN CONTROL CABINET (1) INTERMATIC CO. PHOTO ELECTRIC CELL, CAT. NO. K4123C FOR CONTROL OF EACH DPLC COIL.
13. E.C. SHALL FURNISH AND INSTALL (2) 2" SCHEDULE 80 PVC CONDUITS FROM THE 6" SQ. DUCT WITHIN THE ELECTRICAL CONTROL CABINET TO EACH AND EVERY (HH) HAND HOLE, (SEE PLANS FOR QUAZITE CATALOG NUMBERS). ONE 2" CONDUIT SHALL CONTAIN THE BRANCH CIRCUITS FOR NEW LIGHTING FIXTURES AND POLE OUTLETS FROM A DESIGNATED DPLC FOR THAT PARTICULAR STREET AREA, THE OTHER 2" PVC TO REMAIN EMPTY. E.C. SHALL FURNISH AND INSTALL BRANCH CIRCUIT WIRING FROM EACH *DPLC AS DESIGNATED ON THE PLANS. ALL BRANCH WIRING TO HAVE TYPE USE INSULATION EXCEPT UP EACH POLE CAN BE TYPE THWN. E.C. SHALL FURNISH AND INSTALL A "RED" CAUTION TAPE 12' ABOVE EACH BURIED PVC CONDUIT.
14. E.C. SHALL USE ILSCO 'STREET WISE' SLSS STREET LIGHTING CONNECTORS FOR ALL WIRING TAP AND CONNECTIONS IN HAND HOLE.
15. E.C. SHALL FURNISH AND INSTALL CONCRETE POLE BASES AS CALLED FOR ON THE LIGHTING PLANS.
16. E.C. SHALL FURNISH AND INSTALL A 20A, 120V BRANCH CIRCUIT TO POWER THE IRRIGATION CONTROL TIMER, INSTALLED ADJACENT TO THE LARGE CONTROL CABINET.
17. E.C. SHALL FURNISH SEPARATE BRANCH CIRCUITS, NUMBERS 24 & 26 FOR GFI OUTLETS IN HUBBARD ST. CENTER PLAZA.
18. ALL EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH IN-USE COVERS.
19. ALL CIRCUITS SERVING EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH GROUND FAULT CIRCUIT INTERRUPTING TYPE CIRCUIT BREAKERS.
20. PANEL SCHEDULE SHOWS (4) 60A/2P BRANCH CIRCUIT BREAKERS, THESE ARE FOR FUTURE POWER TO FESTIVAL HAND HOLES, IF IDENTIFIED AT TIME OF BIDDING, THE E.C. SHALL PROVIDE (3)#6 USE WIRES PLUS A #8 EGC TERMINATING IN A 60A, 3P+G POWER OUTLET IN THE HH.



ELECTRICAL CONTROL CABINET DIAGRAM
NOT TO SCALE



ELECTRICAL CONTROL CABINET INTERIOR DIAGRAM
NOT TO SCALE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
LIGHTING DETAILS - 1

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:
SIGNATURE:
DATE:
SCALE:
HORZ: AS NOTED
VERT: N/A
ACI JOB # 21-1648
SHEET NO.

o:\Projects\2021\21-1648 brady-locust-hubbard reconstruction\CAD_Civil\Drawings\21-1648 LIGHTING.dwg, LIGHT-DET1, 8/3/2022 9:57:06 AM, erfisher, 1:1

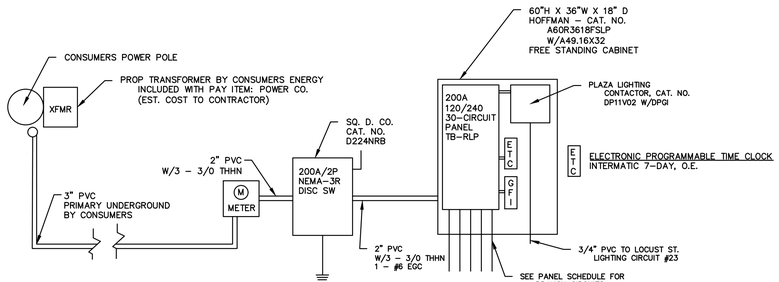
PANEL: TB-RLP						LOCATION: TROWBRIDGE PLAZA CONTROL CABINET					
WIRE SIZE BRANCH CIRCUIT	NOTES	LOAD DESCRIPTION	CIRCUIT BREAKER	LOAD (VA)	BRANCH CIRCUIT No.	BRANCH CIRCUIT No.	LOAD (VA)	CIRCUIT BREAKER	LOAD DESCRIPTION	NOTES	BRANCH CIRCUIT WIRE SIZE
10		CONCRETE BENCH NO. 1 – NORTH	1P20	180	1	2	180	1P20	CONCRETE BENCH NO. 1 – SOUTH		10
10		CONCRETE BENCH NO. 1 – NORTH	1P20	180	3	4	180		CONCRETE BENCH NO. 1 – SOUTH		10
10		CONCRETE BENCH NO. 2 – NORTH	1P20	180	5	6	180		CONCRETE BENCH NO. 2 – SOUTH		10
10		CONCRETE BENCH NO. 2 – NORTH	1P20	180	7	8	180		CONCRETE BENCH NO. 2 – SOUTH		10
10		CONCRETE BENCH NO. 3 – NORTH	1P20	180	9	10	180		CONCRETE BENCH NO. 3 – SOUTH		10
10		CONCRETE BENCH NO. 3 – NORTH	1P20	180	11	12	180		CONCRETE BENCH NO. 3 – SOUTH		10
12		CONTROL CAB SERVICE GFI		180	13	14	180		FUTURE SCULPTURE HH		10
10		PLAZA POLE NO. (NE) STRING–O–LIGHTS		900	15	16	450		PLAZA POLE NO. (SE) STRING–O–LIGHTS		10
10		PLAZA POLE NO. (NW) STRING–O–LIGHTS		900	17	18	450		PLAZA POLE NO. (SW) STRING–O–LIGHTS		10
10		(4) TROWBRIDGE PLAZA DECORATIVE POLE FIXTURES		400	19	20	180		ELECTRONIC PROG. TIME CLOCK		12
6		SPACE (FUTURE)		7,200	21	22	7,200		SPACE (FUTURE)		6
					23	24					
					25	26					
					27	28					
					29	30					
					31	32					
					33	34					
					35	36					
					37	38					
					39	40					
					41	42					
					29	30					
			30,660	VA 9,540							

MOUNTING	SURFACE	TOTAL CONNECTED (VA)	20,200
LUGS OR CIRCUIT BREAKER	M.L.O.	TOTAL CONNECTED (AMPS)	84
BUS RATING (AMPERES) & TYPE	200A	FEEDER:	(3) 3/0 THHN, (1) #6EGC
VOLTAGE	120/240 V SINGLE PHASE	OPTIONS:	

SQ. D CO. CAT NO NQ30L2, MH–32/WP
OR EQUAL BY CUTLER HAMMER OR GENERAL ELECTRIC

NOTES:

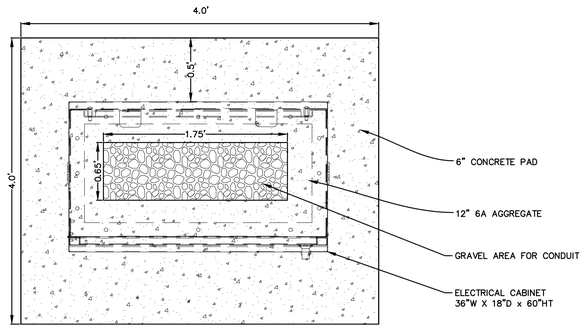
1. E.C. CAN USE 33% TAP RULE TO REDUCE WIRE SIZE TO FIT CIRCUIT BREAKER LOAD LUG/SCREW.
2. ALLOWANCE MADE FOR TWO (2) FUTURE FESTIVAL ELECTRIC CIRCUITS AT 7,200 VA/EA.



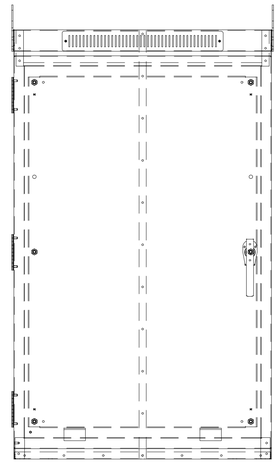
TROWBRIDGE PLAZA NEW ELECTRIC SERVICE
NOT TO SCALE
NOTE: MOUNT METER ENCLOSURE & DISC. SW. TO BACK OF CONTROL CABINET

TROWBRIDGE PLAZA PLAN NOTES

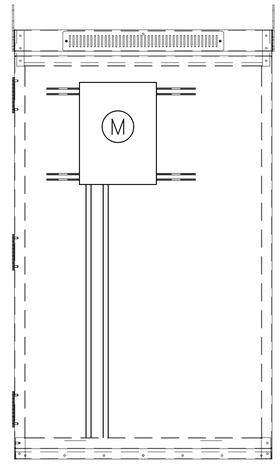
1. ALL WORK BY THE ELECTRICAL CONTRACTOR (EC) SHALL BE PERFORMED PER THE CURRENT (ADOPTED) NATIONAL ELECTRICAL CODE (2017), PER SECTION110-3(A) AND (B). THE WIRING METHODS USED SHALL BE SUITABLE FOR THE INSTALLATION AND USE IN CONFORMITY WITH PROVISIONS OF THE NEC AND LISTED OR LABELED EQUIPMENT SHALL BE USED OR INSTALLED IN ACCORDANCE WITH ANY INSTRUCTIONS INCLUDED IN THE LISTING OR LABELING.
2. E.C. SHALL PROVIDE A NEW 200A, 120/240V ELECTRICAL SERVICE AT THE WATER ST. LOCATION AS SHOWN ON THE PLAN SHEET NO. 37. THIS NEW SERVICE 'SEE DETAIL, SHALL BE INSTALLED WITHIN 10' OF THE CONSUMER ENERGY POWER POLE ON WATER ST.
3. E.C. SHALL PROVIDE A CITY OF ALLEGAN ELECTRICAL PERMIT AND CALL FOR INSPECTION AND APPROVAL FOR FINAL SERVICE CONNECTION AND PROJECT WIRING.
4. THE NEW ELECTRICAL SERVICE FROM CONSUMERS ENERGY SHALL BE IN ACCORDANCE WITH THEIR SPECIFICATIONS AND APPROVAL. THE 200A, SINGLE PHASE, 120/240V METER ENCLOSURE FURNISHED BY CONSUMERS ENERGY SHALL BE INSTALLED ON GALVANIZED UNISTRUT, ALONG WITH THE SERVICE DISCONNECT SWITCH (BY THE E.C.) ON THE BACK SIDE OF THE NEW SERVICE CONTROL CABINET *(SEE DETAIL), WHILE THE SERVICE BREAKER PANEL AND CONTROL ITEMS WILL BE MOUNTED INSIDE THE CONTROL CABINET.
5. THE PLANS CALL FOR A SERIES OF EMPTY PVC CONDUITS PER DETAIL C FROM THE CONTROL CABINET TO SPECIFIC HAND HOLES HH. THE E.C. SHALL SEE THE PANEL SCHEDULE TO IDENTIFY ALL THE BRANCH CIRCUITS THAT WILL BE REQUIRED IN THE PLAZA AREA. BRANCH CIRCUITS ARE IDENTIFIED ON THE PLAN SHEET NO. 37 AT EACH DECORATIVE POLE FIXTURE, STRING-O-LIGHTS AND GFI OUTLET.
6. THE CONTROL OF THE (4) DECORATIVE LIGHT POLE FIXTURES SHALL BE VIA A SEPARATE DEFINITE PURPOSE (DP) LIGHTING CONTACTOR MOUNTED WITHIN THE CONTROL CABINET AND THE COIL SHALL BE WIRED OVER TO THE CLOSEST LOCUST ST DECORATIVE LIGHT POLE AND CONNECTED TO IT'S LIGHTING CIRCUIT #23. THIS BRINGS THE STREET LIGHTING DECORATIVE POLE LIGHT FIXTURES AND PLAZA LIGHT FIXTURES ON AT THE SAME TIME. *(E.C. SHALL LABEL THE DP WITH A CAUTION NOTE STATING THE COIL ELECTRICAL SOURCE IS FROM PANEL 1 CIRCUIT #23 AT THE STREET LIGHTING POLE).
7. THE E.C. SHALL FURNISH AND INSTALL A (4) POLE ELECTRONIC PROGRAMMABLE TIME CLOCK, (BY INTERMATIC TIMERS, O.E.) MOUNTED INSIDE OF THE CONTROL CABINET. THIS T.C. IS FOR CONTROL OF THE (4) STRING-O-LIGHTS BRANCH CIRCUITS. ON/OFF TIMES PER DIRECTION OF PUBLIC WORKS.
8. STRING-O-LIGHTS SHALL BE CONNECTED BY PLUGIN AT DESIGNATED DECORATIVE POLES (NE), (NW), (SE) AND (SW), THAT EACH HAS A DUPLEX OUTLET MOUNTED HIGH ON THE POLE. THE E.C. SHALL INSTALL A SUPPORT CABLE FOR THE STRING-O-LIGHTS BETWEEN POLES AND SECURE ON POLE INSTALLED EYE BOLTS.
9. PANEL SCHEDULE SHOWS (2) 60A/2P BRANCH CIRCUIT BREAKERS, THESE ARE FOR FUTURE POWER TO FESTIVAL HAND HOLES, IF IDENTIFIED AT TIME OF BIDDING, THE E.C. SHALL PROVIDE (3)#6 USE WIRES PLUS A #8 EGC TERMINATING IN A 60A, 3P+G POWER OUTLET IN THE HH.



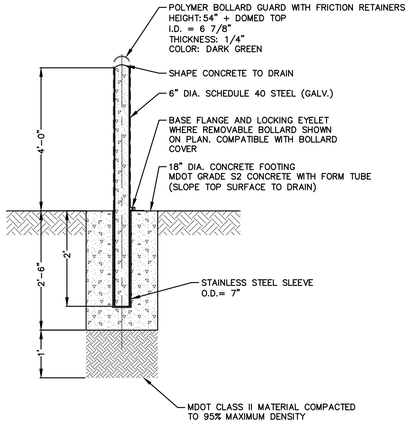
CONCRETE BASE DETAIL
NOT TO SCALE



ENCLOSURE DETAIL (FRONT)
NOT TO SCALE



ENCLOSURE DETAIL (BACK)
NOT TO SCALE



PIPE BOLLARD DETAIL W/ COVER
NOT TO SCALE

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
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5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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SHEET TITLE:
LIGHTING DETAILS - 2

DRAWN BY: MJS
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
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21-1648

SHEET NO.
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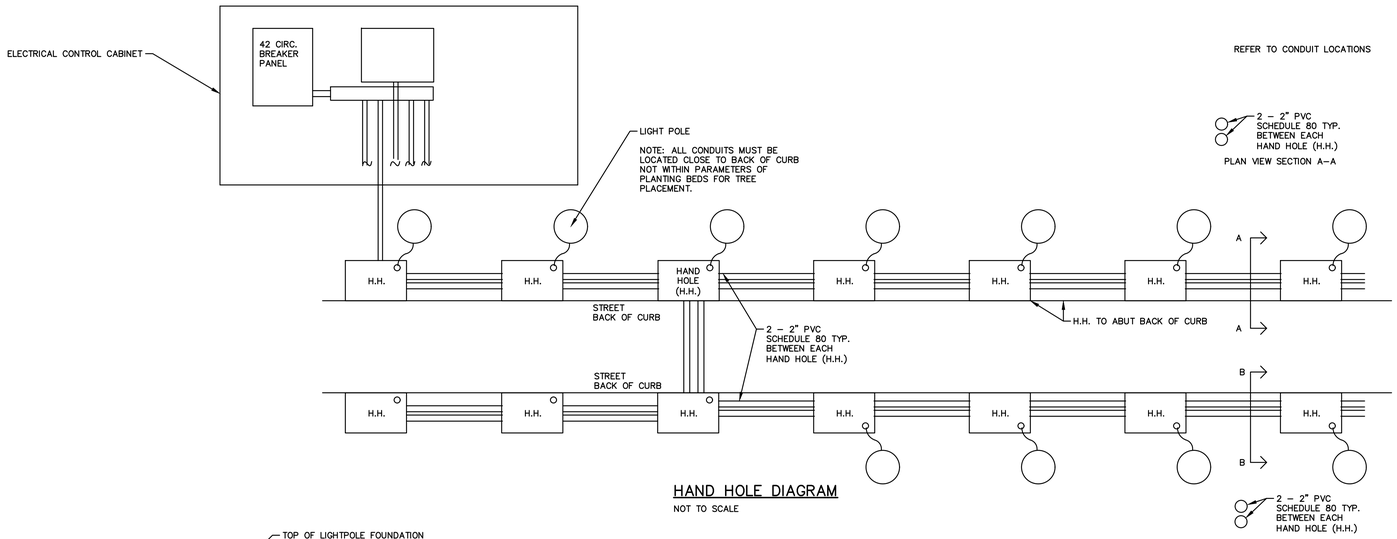
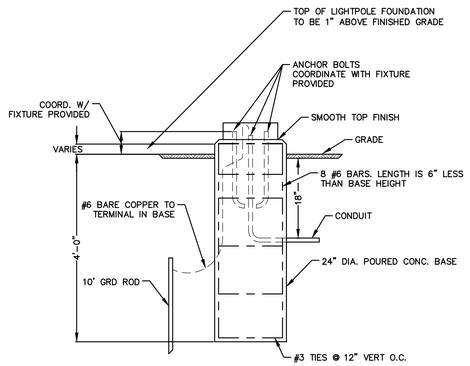


HAND HOLE DIAGRAM
NOT TO SCALE



LIGHT BASE DETAIL
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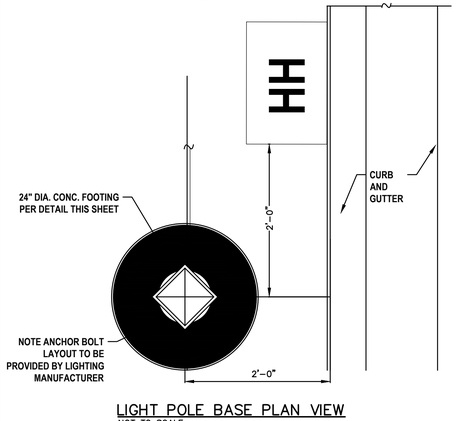
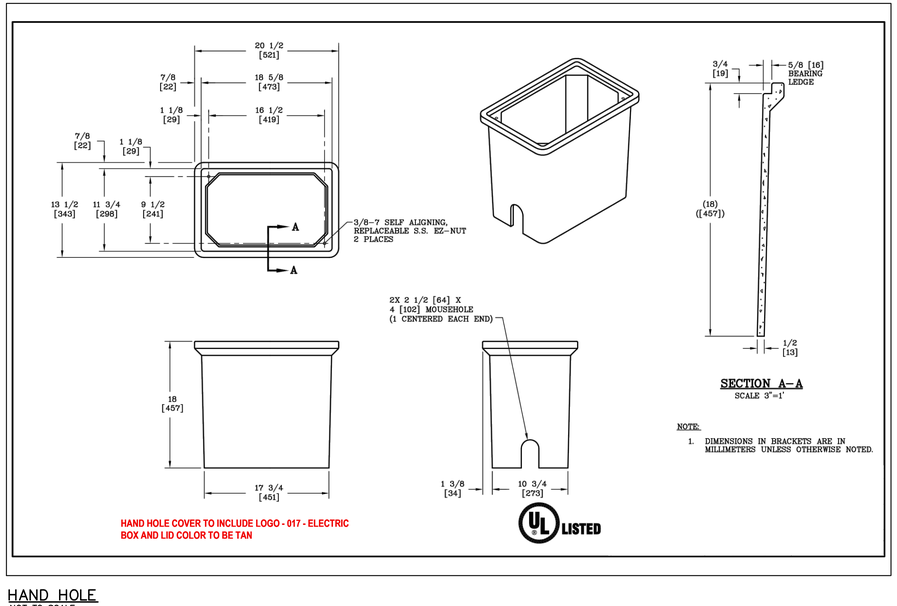


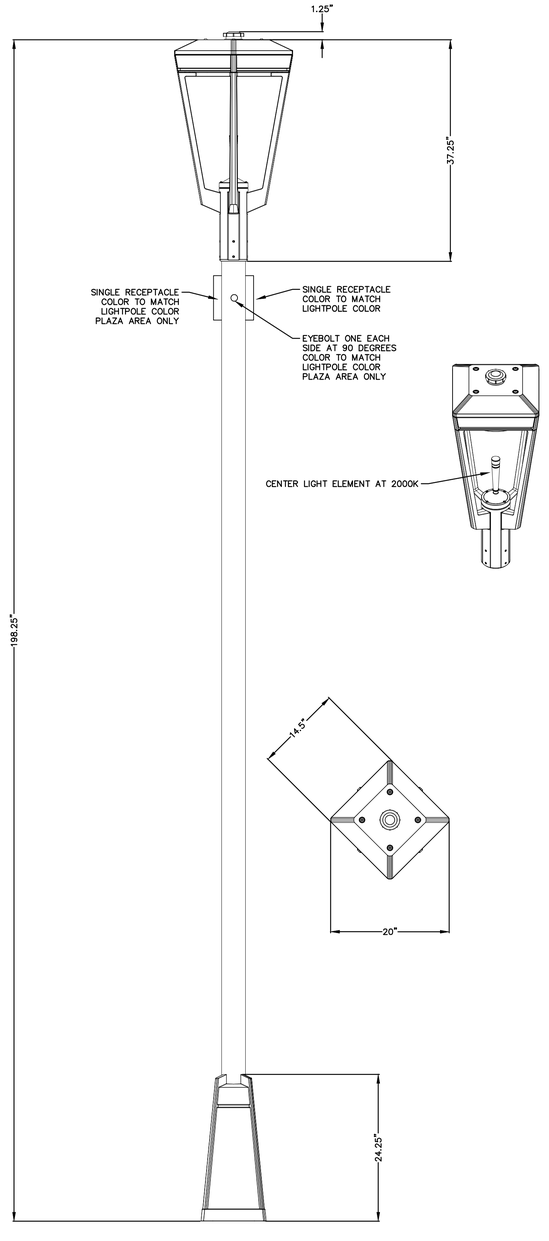
LIGHT POLE BASE PLAN VIEW
NOT TO SCALE



SECTION A–A
SCALE 3"=1'

NOTE:
1. DIMENSIONS IN BRACKETS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED.

HAND HOLE
NOT TO SCALE



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LIGHTING DETAILS - 3

DRAWN BY: MJS
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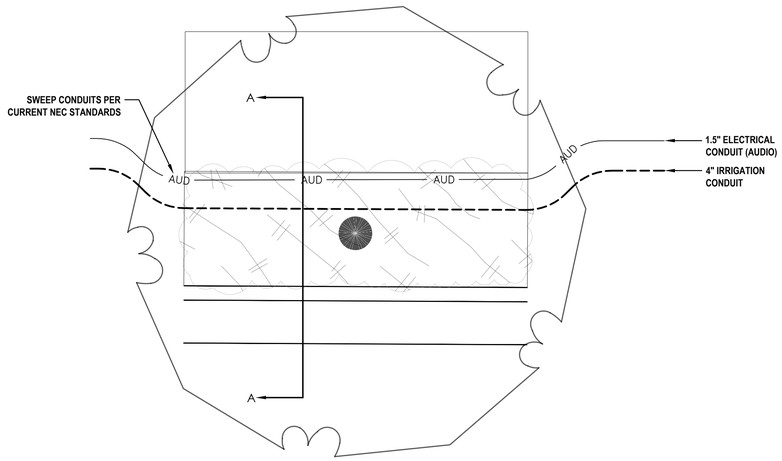
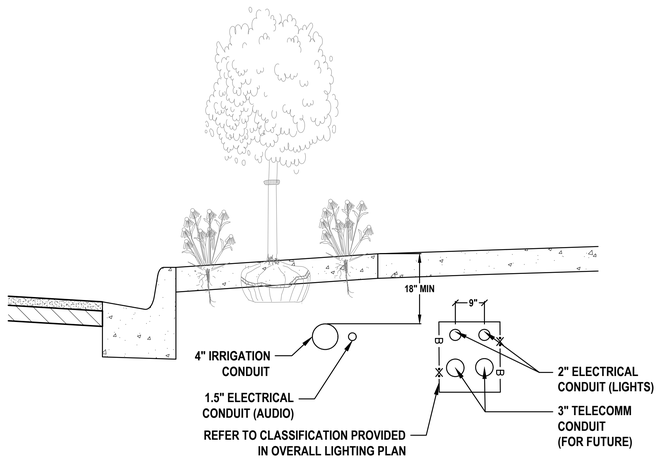


ENLARGED CONDUIT PLAN AT PLANTING BEDS

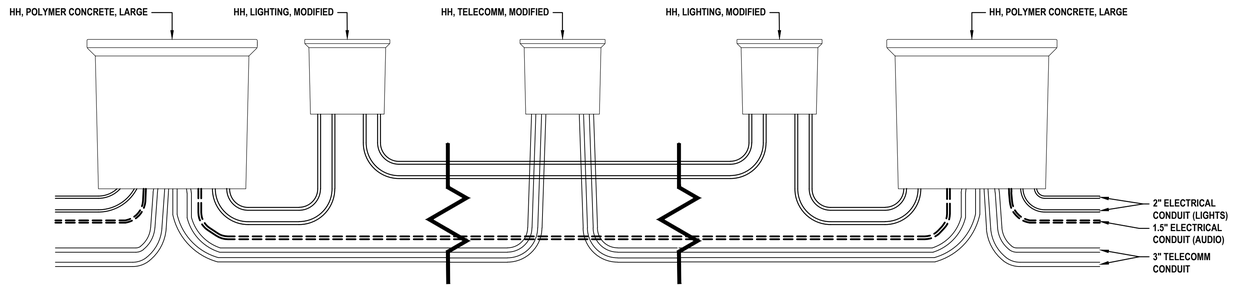
NOT TO SCALE



CONDUIT SECTION DETAIL A–A

NOT TO SCALE

NOTE: CONDUIT SPACING & LOCATION IS TYPICAL FOR LENGTH OF STREETSCAPE UNLESS OTHERWISE NOTED.



TYPICAL CONDUIT PROFILE

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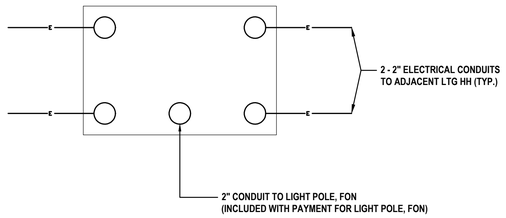
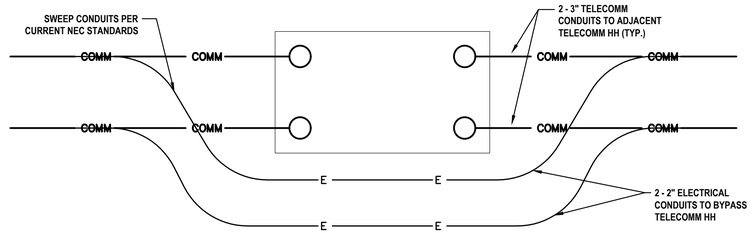


LTG HANDHOLE DETAIL

NOT TO SCALE

NOTE: TELECOMMUNICATIONS CONDUIT NOT SHOWN AND BOX SHOULD BE APPROXIMATELY 12" X 18" IN SIZE



TELECOMM HANDHOLE DETAIL

NOT TO SCALE

NOTE: BOX SHOULD BE APPROXIMATELY 5' X 5' IN SIZE

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8	ADDENDUM NO. 2	JMO	07/25/2022
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SHEET TITLE:
LIGHTING DETAILS - 4

DRAWN BY: MJS
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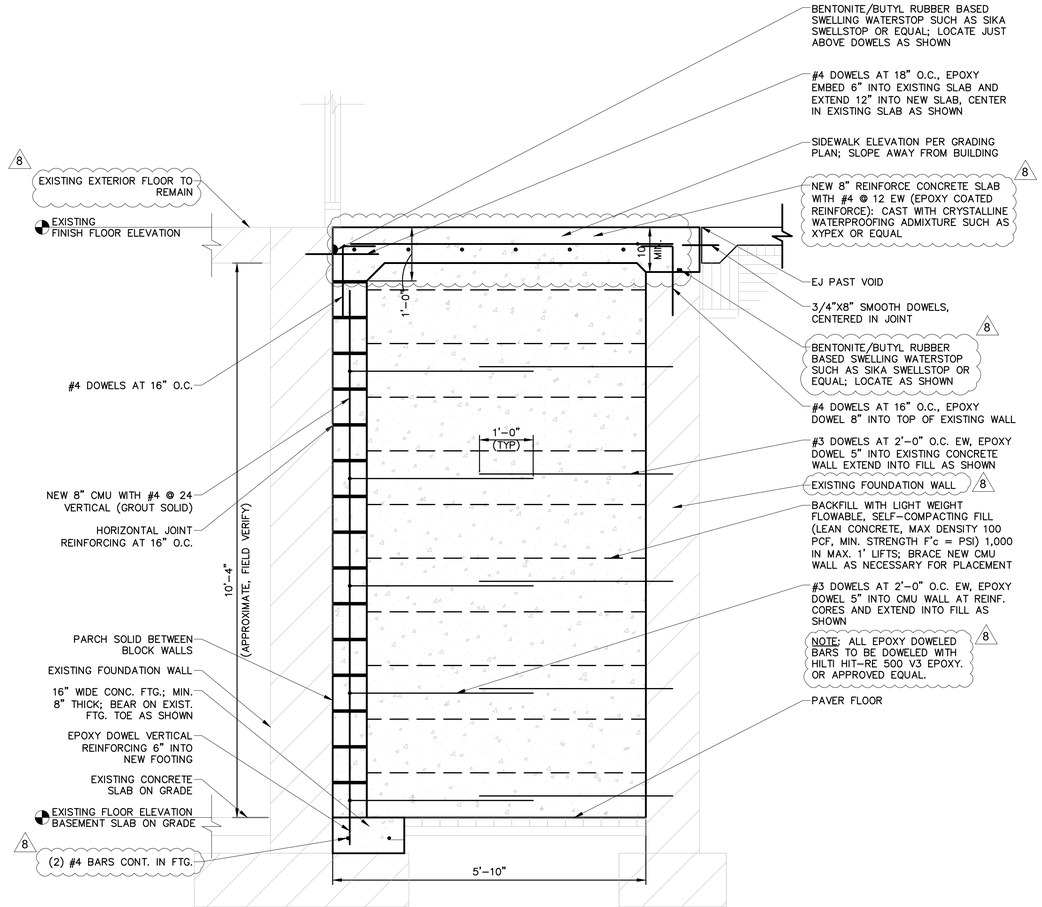
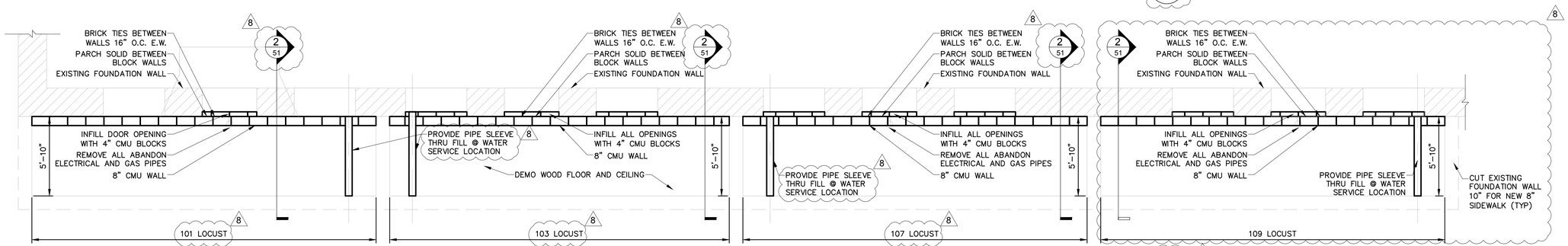


SIDEWALK VOID IN-FILL SECTION - AT IN-SET ENTRY

Scale: 3/4" = 1'-0"



103 LOCUST STREET

Scale: 1/4" = 1'-0"

NOTE: SEE CIVIL PLANS FOR ALL GRADING AND LOCATIONS

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
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SHEET TITLE:
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51 of 53

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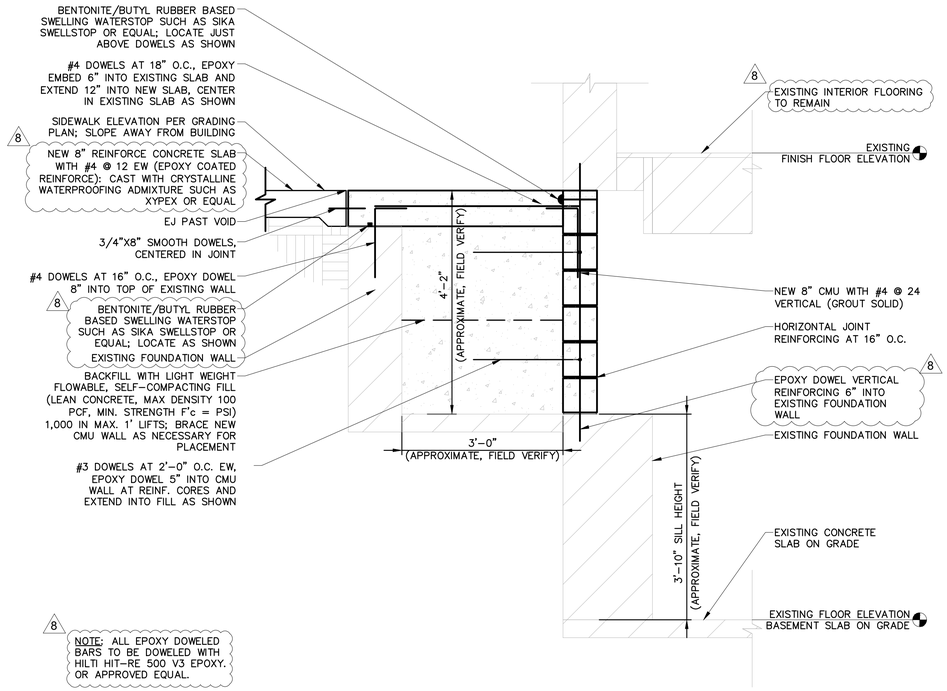

SIDEWALK VOID IN-FILL SECTION - WINDOW WELL 4

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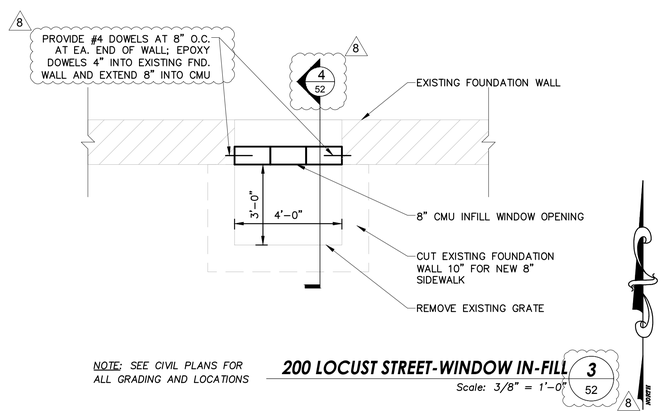
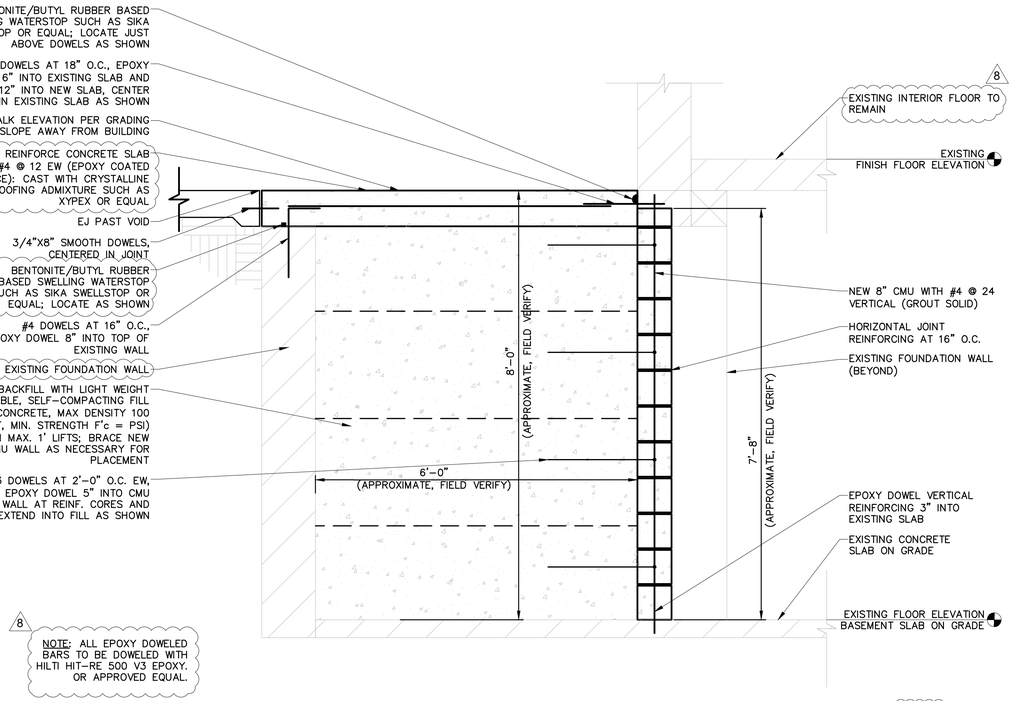


NOTE: SEE CIVIL PLANS FOR ALL GRADING AND LOCATIONS

200 LOCUST STREET-WINDOW IN-FILL 3

Scale: 3/8" = 1'-0"



SIDEWALK VOID IN-FILL SECTION - HATCH 2

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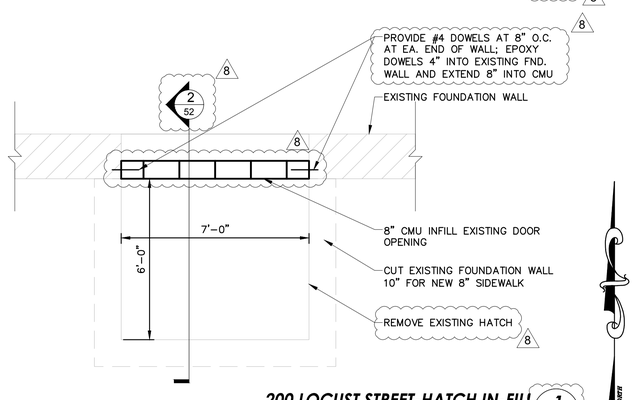

NOTE: SEE CIVIL PLANS FOR ALL GRADING AND LOCATIONS

200 LOCUST STREET-HATCH IN-FILL 1

Scale: 3/8" = 1'-0"

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VERT: AS SHOWN

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52 of **53**

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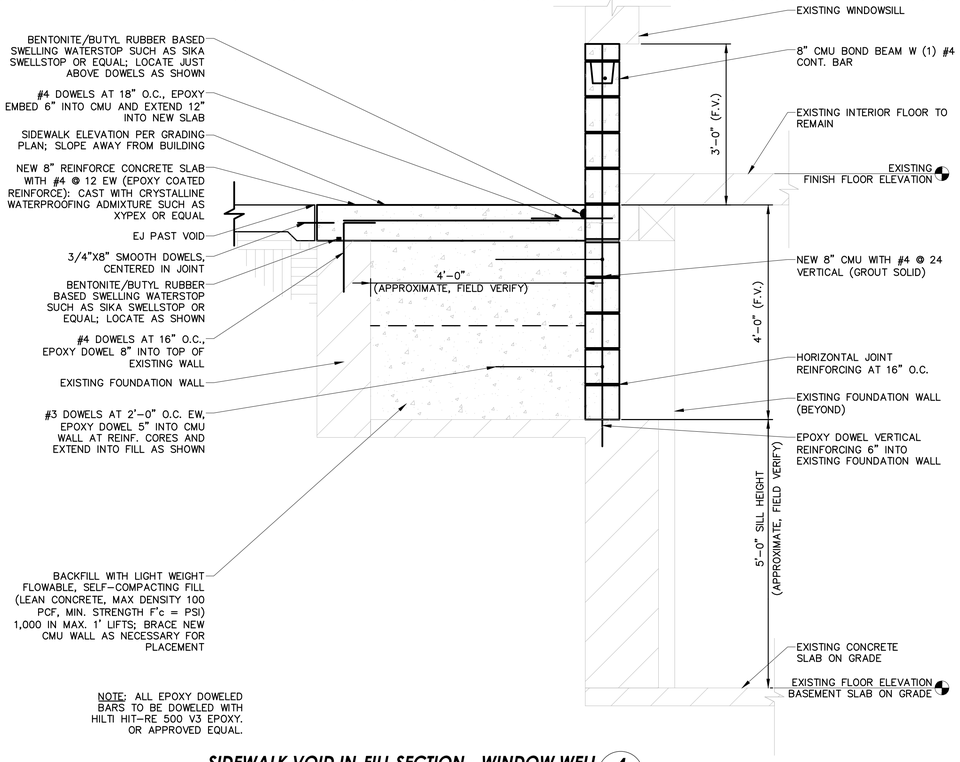
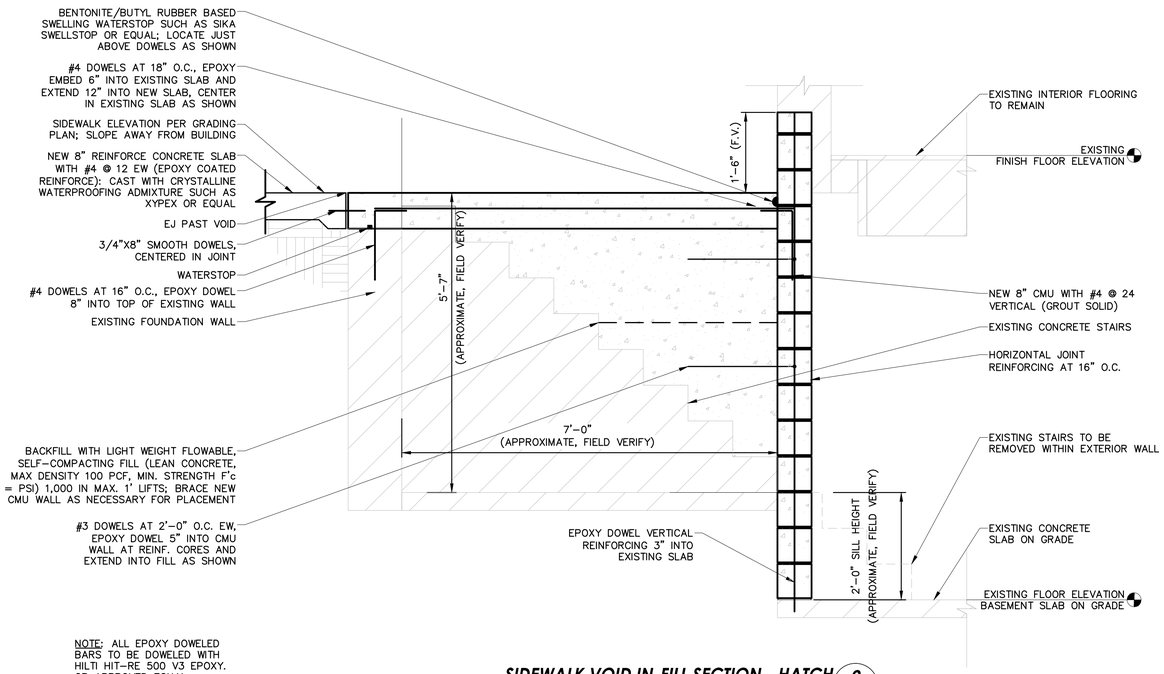


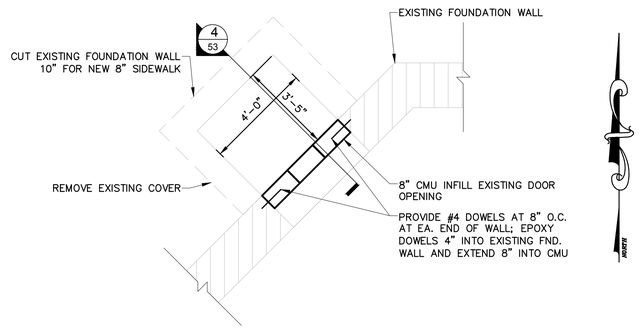
NOTE: ALL EPOXY DOWELED BARS TO BE DOWELED WITH HILTI HIT-RE 500 V3 EPOXY. OR APPROVED EQUAL.

SIDEWALK VOID IN-FILL SECTION - WINDOW WELL 4
Scale: 3/4" = 1'-0" (53)



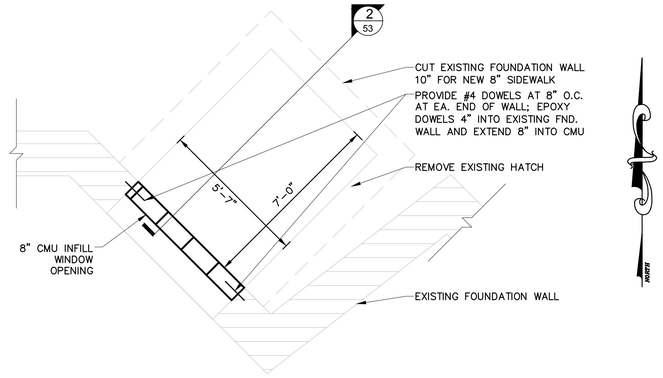
NOTE: ALL EPOXY DOWELED BARS TO BE DOWELED WITH HILTI HIT-RE 500 V3 EPOXY. OR APPROVED EQUAL.

SIDEWALK VOID IN-FILL SECTION - HATCH 2
Scale: 3/4" = 1'-0" (53)



NOTE: SEE CIVIL PLANS FOR ALL GRADING AND LOCATIONS

142 BRADY STREET-FRONT STAIR IN-FILL 3
Scale: 3/8" = 1'-0" (53)



NOTE: SEE CIVIL PLANS FOR ALL GRADING AND LOCATIONS

142 BRADY STREET-NORTH STAIR IN-FILL 1
Scale: 3/8" = 1'-0" (53)

NO.	REVISION DESCRIPTION:	BY:	DATE:
8	ADDENDUM NO. 2	JMO	07/25/2022
7	ADDENDUM NO. 1	DAD	07/25/2022
6	ISSUED FOR BIDS	DAD	07/05/2022
5	Q4.5 EGLE SUBMITTAL AND PERMITTING	DAD	05/13/2022
4	WATER AND WASTEWATER PERMIT REVISIONS	DAD	05/10/2022

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PROJECT:
2023 DOWNTOWN INFRASTRUCTURE AND STREETSCAPE IMPROVEMENTSS
CITY OF ALLEGAN
CWSRF PROJECT NO.: 5773-01

SHEET TITLE:
FOUNDATION PLANS AND DETAILS

DRAWN BY: KRV/JMO
DESIGNED BY: MJS/KB/ERF
PM REVIEW: DAD
QA/QC REVIEW:
DATE: JULY 2022
SEAL:

SIGNATURE:
DATE:

SCALE:
HORZ: AS SHOWN
VERT: AS SHOWN

ACI JOB #
21-1648

SHEET NO.
53 of **53**

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