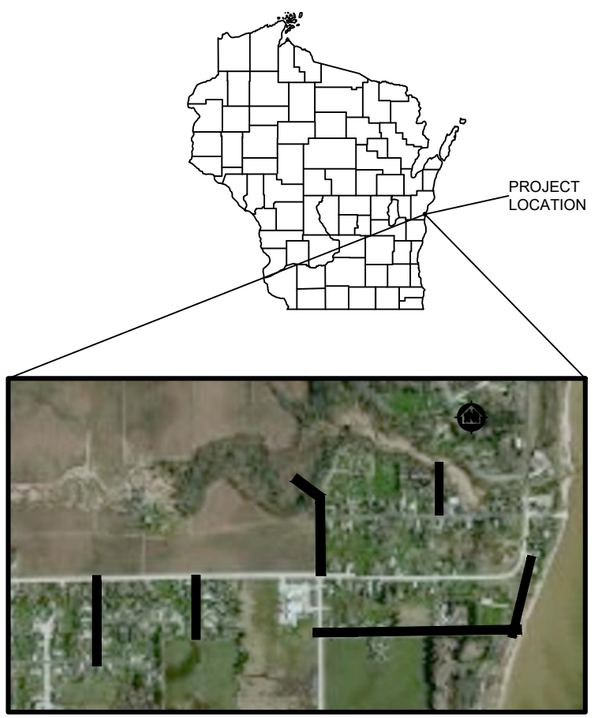
2022 STREET & UTILITY IMPROVEMENTS

(CITRUS LANE, CHERRY HILL DRIVE, BIRCH ST, BEECH ST, E JEFFERSON AVE, LAKESHORE DR STORM SEWER AND BIRCH ST OUTFALL)

VILLAGE OF CLEVELAND, MANITOWOC COUNTY, WI

WISCONSIN
DANIEL W. RAMMER
E-46066
NEENAH
WI
PROFESSIONAL ENGINEER

3/2/2022



LOCATION MAP

NOT TO SCALE

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- SILT FENCE
- RIGHT-OF-WAY
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- PEDESTAL
- STREET SIGN
- MAILBOX
- FLAGPOLE
- TREE - DECIDUOUS
- TREE - CONIFEROUS
- TREE TO BE REMOVED

UTILITIES

GAS:
WISCONSIN PUBLIC SERVICE (WPS)
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DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

NOTE:
UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CONTRACTOR SHALL HAVE APPROPRIATE UTILITY MARK EXACT LOCATIONS PRIOR TO CONSTRUCTION.

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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
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2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

TITLE SHEET

FILE NO. 08002031
SHEET G 1

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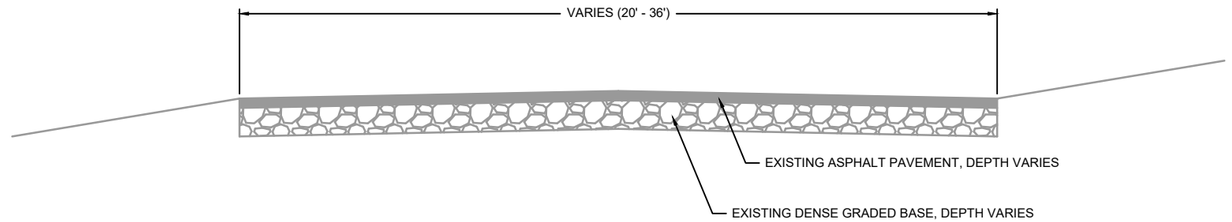
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

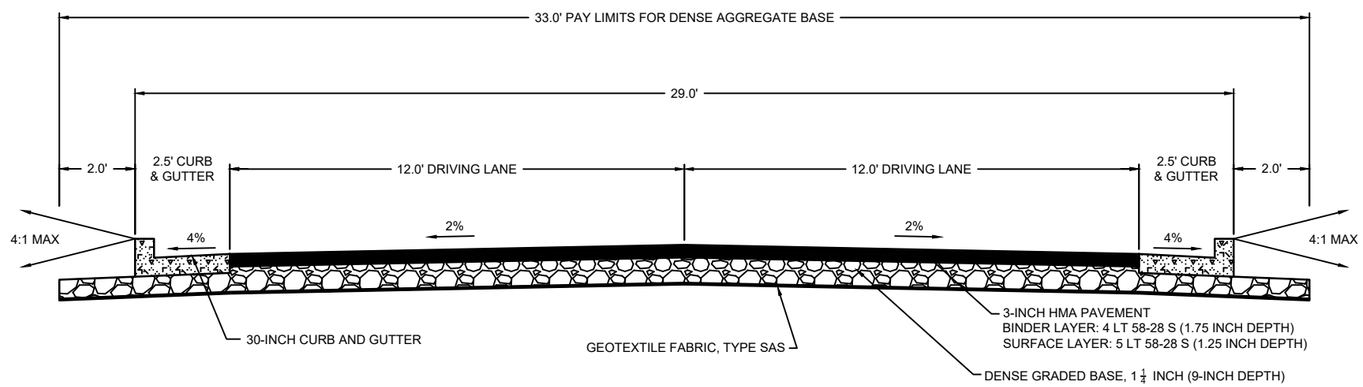
OVERALL LAYOUT SHEET

FILE NO. 08002031

SHEET G 2



EXISTING CITRUS LANE, CHERRY HILL DRIVE, BIRCH ST, BEECH ST & E JEFFERSON AVE TYPICAL SECTION
NOT TO SCALE



PROPOSED CITRUS LANE, BIRCH ST, BEECH ST & E JEFFERSON AVE TYPICAL SECTION
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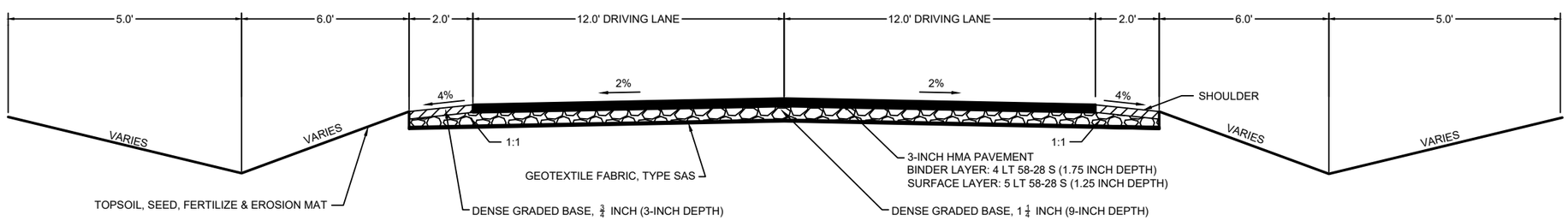

PROPOSED CHERRY HILL DR TYPICAL SECTION
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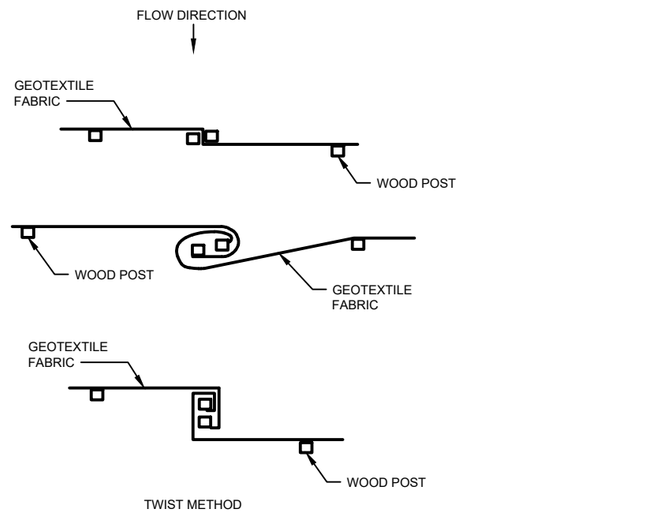
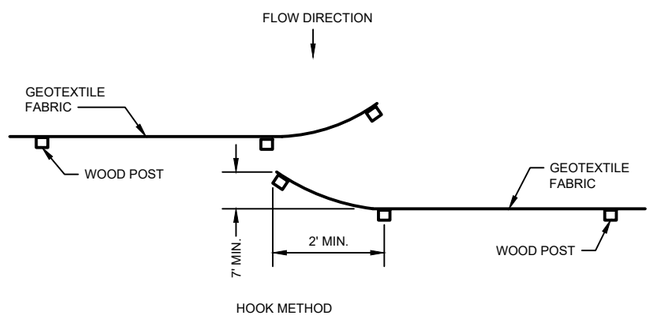
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

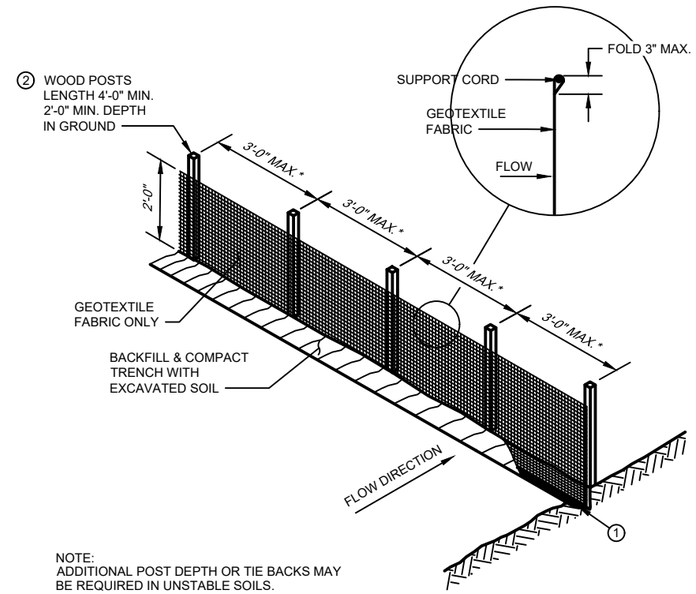
TYPICAL CROSS SECTIONS

FILE NO. 08002031
SHEET G 3





JOINING TWO LENGTHS OF SILT FENCE (3)



NOTE:
ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS.

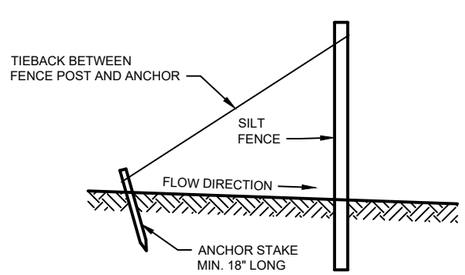
* 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED, OR IF THE SILT FENCE IS FACTORY ASSEMBLED.

ATTACH THE FABRIC TO THE POSTS WITH WIRE STAPLES OR WOODEN LATH AND NAILS.

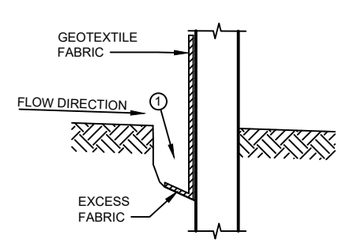
SILT FENCE

GENERAL NOTES

1. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
2. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 $\frac{1}{8}$" x 1 $\frac{1}{8}$" OF OAK OR HICKORY.
3. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS: A) TWIST METHOD -- OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK METHOD -- HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)



TRENCH DETAIL

CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. SECTION NR216.46 OF WISCONSIN STATE ADMINISTRATIVE CODE IDENTIFIES REQUIREMENTS FOR CONSTRUCTION SITE AND POST-CONSTRUCTION EROSION CONTROL. IT IS THE INTENT OF THESE PLANS TO SATISFY THESE REQUIREMENTS. THE METHODS AND STRUCTURES USED TO CONTROL EROSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL IMPLEMENT AN APPROPRIATE MEANS OF CONTROLLING EROSION DURING SITE OPERATION AND UNTIL THE VEGETATION IS RE-ESTABLISHED. ADJUSTMENTS TO THE CONTROL SYSTEM SHALL BE MADE AS REQUIRED.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WISCONSIN DNR'S CONSERVATION PRACTICE STANDARDS. THESE STANDARDS ARE PERIODICALLY UPDATED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REFERENCE THE MOST RECENTLY RELEASED STANDARD.
3. THIS INFORMATION IS ONLY ONE PART OF THE OVERALL EROSION CONTROL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY ALSO BE SHOWN ON THE CONTRACT DRAWINGS AND IN THE ACCOMPANYING SPECIFICATIONS.
4. ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE OWNER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
5. THE AREA OF EROSIVE LAND EXPOSED TO THE ELEMENTS BY GRUBBING, EXCAVATION, TRENCHING, BORROW AND FILL OPERATIONS AT ANY ONE TIME SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE. FOR ANY DISTURBED AREA THAT REMAINS INACTIVE FOR GREATER THAN 7 WORKING DAYS, OR WHERE GRADING WORK EXTENDS BEYOND THE PERMANENT SEEDING DEADLINES, THE SITE MUST BE TREATED WITH TEMPORARY STABILIZATION MEASURES SUCH AS SOIL TREATMENT, TEMPORARY SEEDING AND/OR MULCHING. ALL DISTURBED AREAS SHALL BE TREATED WITH PERMANENT STABILIZATION MEASURES WITHIN 3 WORKING DAYS OF FINAL GRADING.
6. ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF THE TIME 0.5 INCHES OF RAIN HAS OCCURRED. ALL NECESSARY REPAIR AND MAINTENANCE WILL BE DONE AT THIS INSPECTION TIME.
7. ALL EROSION CONTROL DEVICES AND/OR STRUCTURES SHALL BE PROPERLY INSTALLED PRIOR TO CLEARING AND GRUBBING OPERATIONS WITHIN THEIR RESPECTIVE DRAINAGE AREAS. THESE SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS RE-ESTABLISHED.
8. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY INSTALLED PRIOR TO ANY SOIL DISTURBANCE.
9. ANY SLOPES STEEPER THAN 3H:1V SHALL BE STAKED WITH EROSION CONTROL FABRIC UNLESS INDICATED ON THE PLAN.
10. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
11. WIND EROSION SHALL BE KEPT TO A MINIMUM DURING CONSTRUCTION. WATERING, MULCH, OR A TACKING AGENT MAY BE REQUIRED TO PROTECT NEARBY RESIDENCES AND WATER RESOURCES.
12. CHANNELIZED RUNOFF ENTERING THE PROJECT SITE FROM ADJOINING LANDS SHALL BE DIVERTED THROUGH NATURALLY OR ARTIFICIALLY EROSION-RESISTANT CONVEYANCES. IF CHANNELIZED RUNOFF CANNOT BE DIVERTED, SITE BEST MANAGEMENT PRACTICES MUST ACCOUNT FOR THE ADDITIONAL FLOW RATES AND EROSION POTENTIAL THAT SUCH RUNOFF PRESENTS.
13. THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT SOILS FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEPT AND/OR SCRAPED (NOT FLUSHED) PERIODICALLY TO REMOVE SOIL, DIRT, AND/OR DUST.
14. EROSION CONTROLS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF TEMPORARY STOCKPILES. ANY SOIL STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING. ALL STOCK PILES SHALL BE PLACED AT LEAST 75 FEET FROM STREAMS OR WETLANDS.
15. ADDITIONAL EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.) SHALL INCLUDE THE FOLLOWING:
    a. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
    b. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
    c. DISCHARGE OF TRENCH WATER OR DEWATERING EFFLUENT MUST BE PROPERLY TREATED TO REMOVE SEDIMENT IN ACCORDANCE WITH THE WDNR CONSERVATION PRACTICE STANDARD 1061 - DEWATERING OR A SUBSEQUENT WDNR DEWATERING STANDARD PRIOR TO DISCHARGE INTO A STORM SEWER, DITCH, DRAINAGEWAY, OR WETLAND OR LAKE.
16. ALL DRAINAGE CULVERTS, STORM DRAIN INLETS, MANHOLES, OR ANY OTHER EXISTING STRUCTURES THAT COULD BE DAMAGED BY SEDIMENTATION SHALL BE PROTECTED ACCORDING TO THE VARIOUS METHODS PROVIDED IN THE PRINTED CONSERVATION PRACTICE STANDARDS.
17. ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
18. THE FIRST SIX WEEKS AFTER INITIAL STABILIZATION, ALL NEWLY SEEDED AND MULCHED AREAS SHALL WATERED WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
19. WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY BMP'S SUCH AS SILT FENCES, STRAW BALES, AND SEDIMENT TRAPS SHALL BE REMOVED AND THESE AREAS STABILIZED.
20. ALL TEMPORARY BEST MANAGEMENT PRACTICES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED.
21. ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH SEED AND MULCH UNLESS OTHERWISE SPECIFIED. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE APPLIED TO ALL AREAS TO BE SEEDED OR SODDED.

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2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

EROSION CONTROL DETAILS

FILE NO. 08002031
SHEET G 4

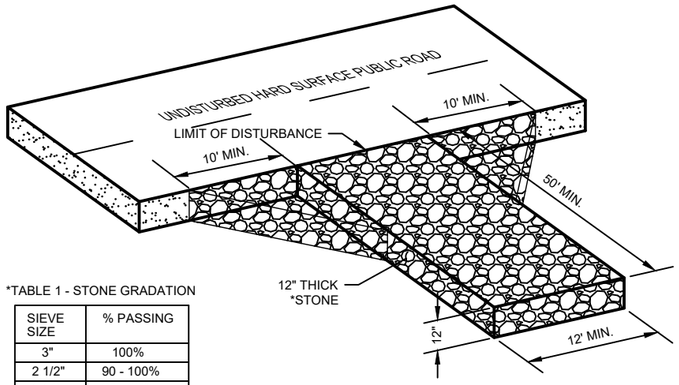


*TABLE 1 - STONE GRADATION

SIEVE SIZE	% PASSING
3"	100%
2 1/2"	90 - 100%
1 1/2"	25 - 60%
3/4"	0 - 20%
3/8"	0 - 5%

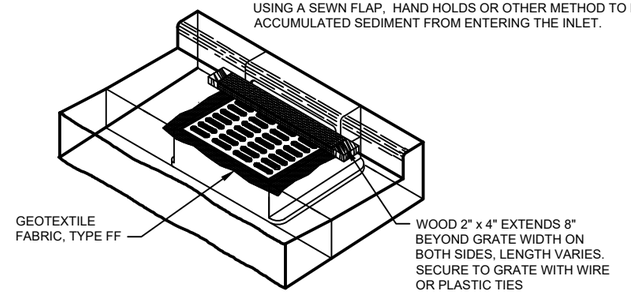
NOTES:
1. TRACKING PAD WIDTH SHALL BE AT LEAST THE FULL WIDTH OF HTE EGRESS POINT OR 12' WIDE MINIMUM.
2. TRACKING PAD LENGTH SHALL BE 50' FOR CONSTRUCTION SITES, 30' FOR SINGLE FAMILY RESIDENTIAL, OR AS SPECIFIED IN THE CONTRACT DOCUMENTS. LENGTH OF TRACKING PAD MAY NEED TO BE INCREASE OR ADDITIONAL SEDIMENT CONTROL PRACTICES SHALL BE INSTALLED BY THE CONTRACTOR IS SEDIMENT TRACK-OUT OCCURS.
3. GEOTEXTILE FABRIC TYPE R SHALL BE INSTALLED BETWEEN THE STONE AND SUBGRADE ON SITES WHERE HIGH GROUND WATER IS OBSERVED.
4. CONTRACTOR SHALL CLEAN STREET/ROADWAY ADJACENT TO ALL CONSTRUCTION ACCESS POINTS AT THE END OF EACH WORKDAY OR MORE FREQUENTLY IF REQUESTED.

VEHICLE TRACKING PAD

NO SCALE

INSTALLATION NOTES:

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.



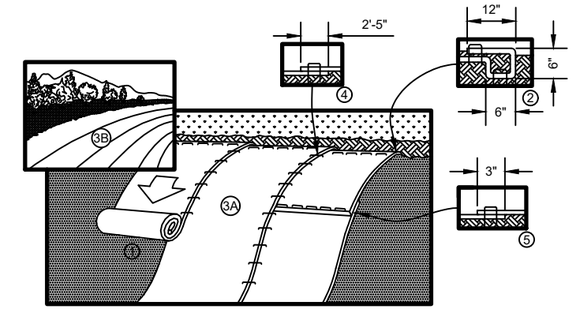
INLET PROTECTION, TYPE C

NO SCALE

GENERAL NOTES - INLET PROTECTION

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

1. FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
3. FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

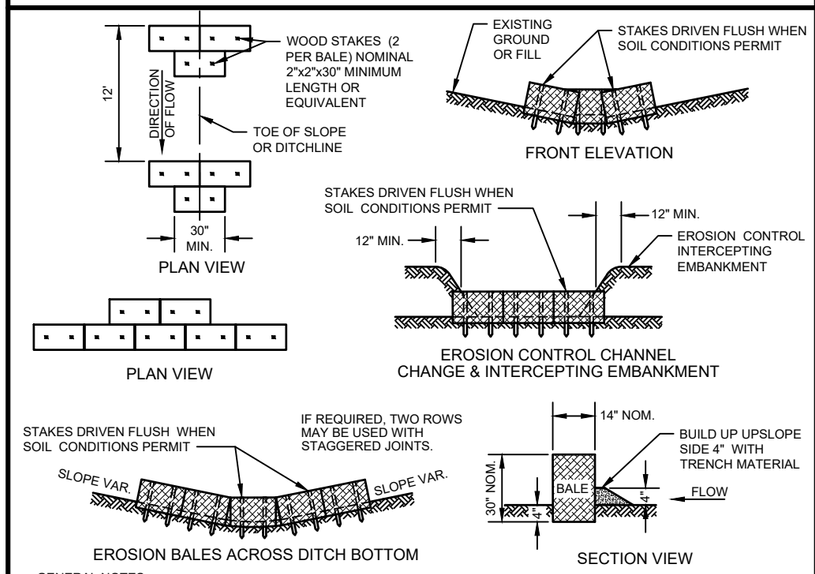


1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5 CM-12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.

NOTE:
*IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

EROSION CONTROL BLANKET DETAIL

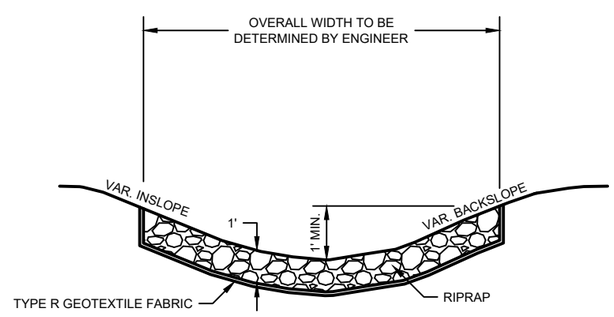
NO SCALE



GENERAL NOTES:
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. BALES SHALL BE PLACED END TO END OR OVERLAPPING AT RIGHT ANGLES TO THE DIRECTION OF FLOW. BALES SHALL EXTEND FAR ENOUGH UP THE SLOPES TO PREVENT ERODING AROUND ENDS.
3. BALES SHALL BE PLACED WITH TWINE OR TIE WIRES PARALLEL TO THE GROUND.
4. STAKES TO BE BATTERED IN OPPOSITE DIRECTIONS.
5. BALES SHALL BE EMBEDDED 4 INCHES MINIMUM.

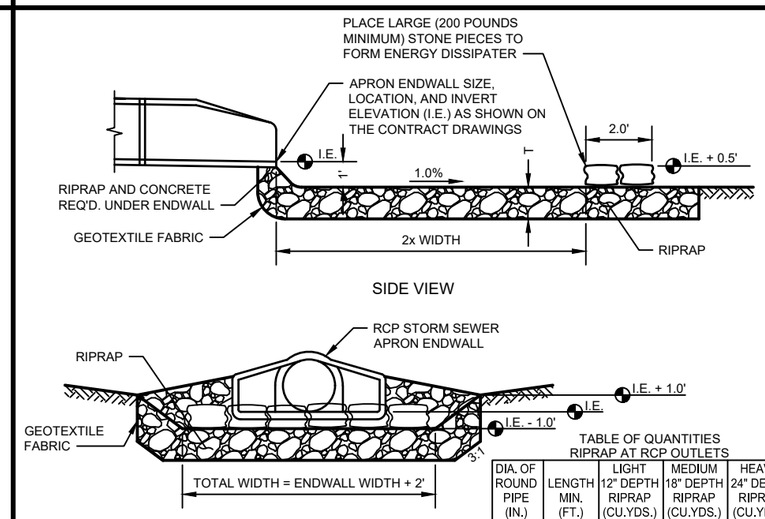
EROSION BALES IN DRAINAGE WAY DETAIL

NO SCALE



TYPICAL RIPRAP INSTALLATION

NO SCALE



GENERAL NOTES:
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. THE RIPRAP CLASS AND GEOTEXTILE FABRIC TYPE SHALL BE AS SHOWN ON THE PLANS AND REQUIRED IN THE SPECIFICATIONS.

TABLE OF QUANTITIES
RIPRAP AT RCP OUTLETS

DIA. OF ROUND PIPE (IN.)	LENGTH MIN. (FT.)	LIGHT 12" DEPTH RIPRAP (CU.YDS.)	MEDIUM 18" DEPTH RIPRAP (CU.YDS.)	HEAVY 24" DEPTH RIPRAP (CU.YDS.)
12	8	2.8	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.9	5.9	7.8
21	10	4.2	6.3	8.4
24	12	5.5	8.3	11.0
27	12	5.8	8.7	11.6
30	14	7.3	10.9	14.5
36	16	9.2	13.8	18.3
42	18	10.9	16.3	21.7
48	20	12.9	19.4	25.8

STORM SEWER OUTFALL DETAIL

NO SCALE

			NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY:	EE	.	.	.	.
	DESIGNED BY:	DWR	.	.	.	.
	CHECKED BY:	DWR	.	.	.	.

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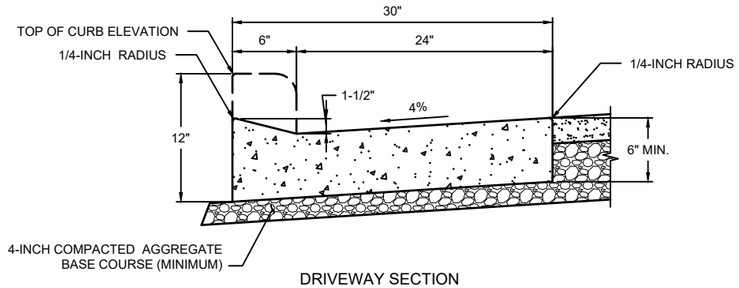
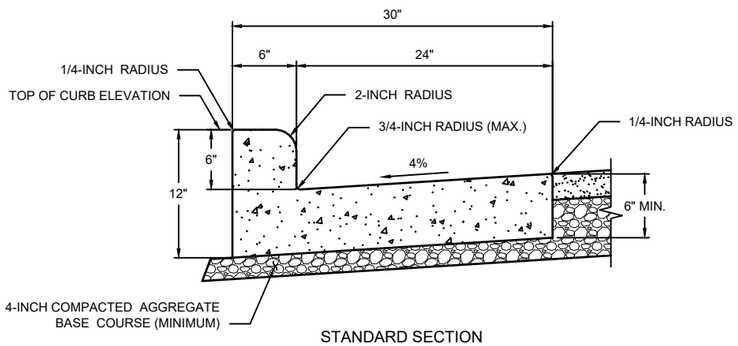
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

EROSION CONTROL DETAILS

FILE NO. 08002031
SHEET G 5



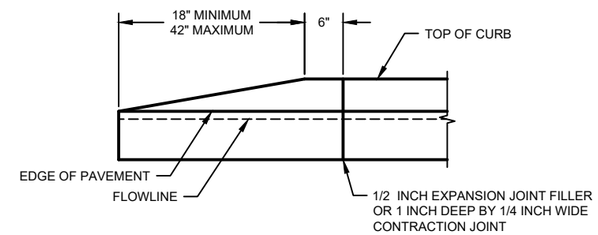
DRIVEWAY SECTION



STANDARD SECTION

TYPE D CURB AND GUTTER DETAIL

NO SCALE



CURB END DETAIL

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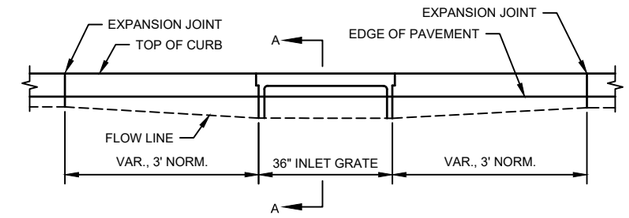
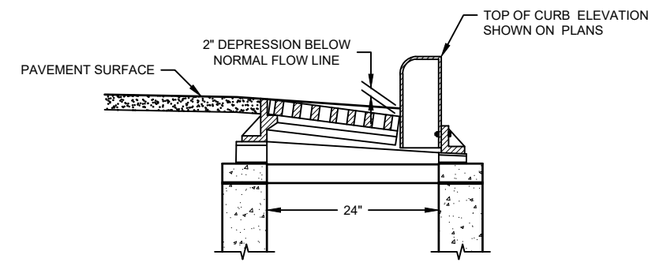
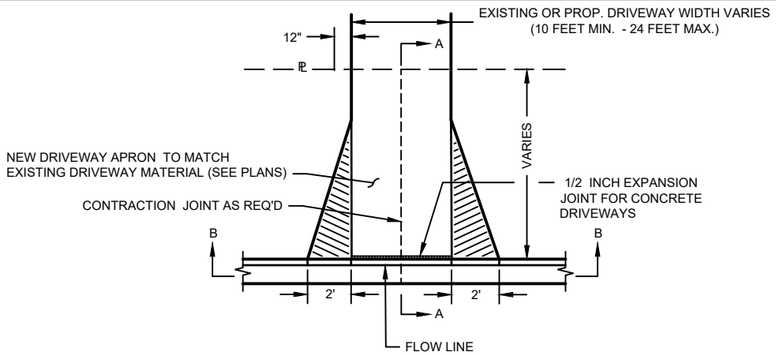


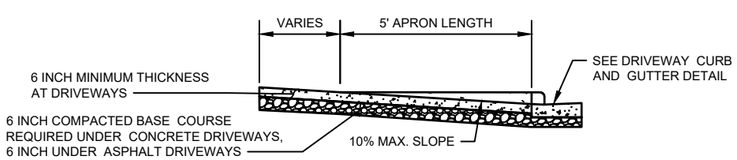


SECTION A-A

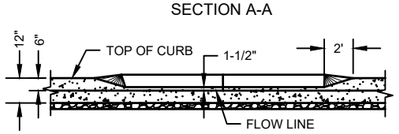
CURB AND GUTTER AT INLETS DETAIL

NO SCALE





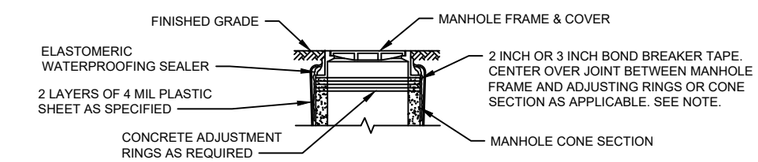
SECTION A-A



SECTION B-B

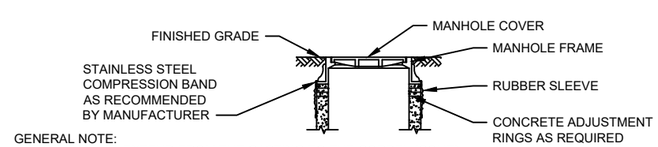
DRIVEWAY DETAIL

NO SCALE



THE BOND BREAKER TAPE IS TO PREVENT THE SEALER FROM BONDING TO THE EDGE OF THE FLANGE OF THE MH FRAME AND THE UPPER 1-1/2 INCHES OF ADJUSTING RING OR CONE. IF THE EDGE OF FLANGE IS NOT FLUSH WITH ADJUSTING RING OR CONE, APPLY ADDITIONAL TAPE AS REQUIRED TO PREVENT SUCH BONDING.

ELASTOMERIC FRAME/CHIMNEY SEAL

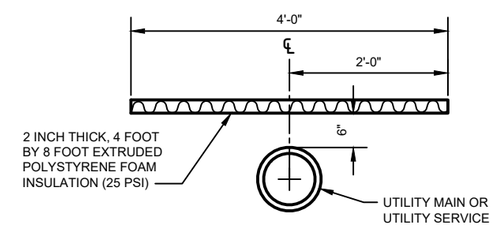


GENERAL NOTE:
THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE).
SEAL EXTENSIONS SHALL BE USED AS REQUIRED.

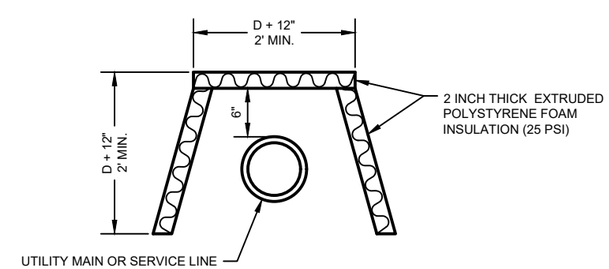
EXTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL

MANHOLE WATERPROOFING DETAIL

NO SCALE



STANDARD INSTALLATION



SIDE PROTECTION INSTALLATION

GENERAL NOTES:
1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.

PIPE INSULATION DETAIL

NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
	CHECKED BY: DWR	.	.	.	.

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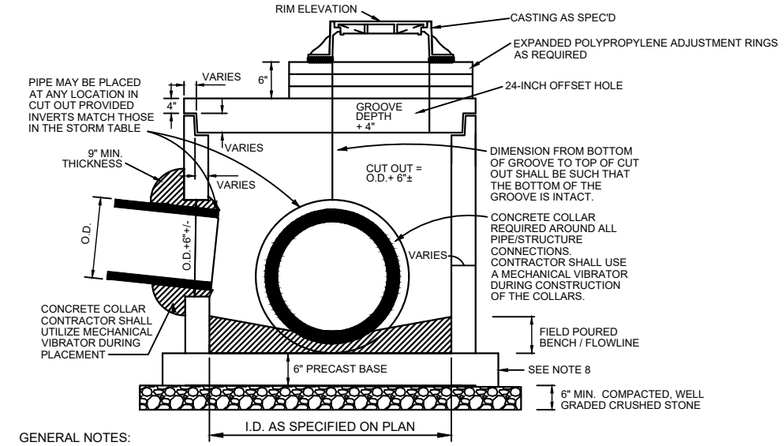
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

ROADWAY DETAILS

FILE NO. 08002031
SHEET G 6

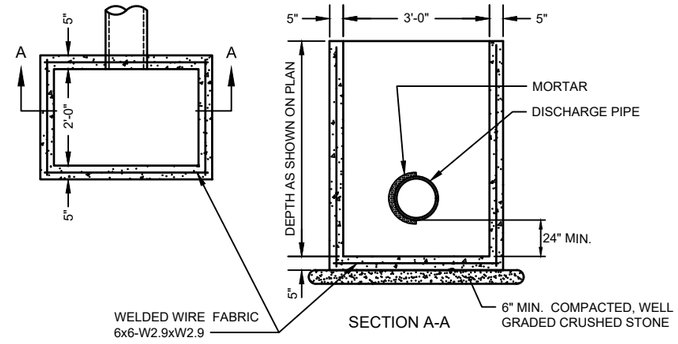


GENERAL NOTES:

1. SEE PLANS FOR SIZE, NUMBER, AND LOCATION OF PIPES.
2. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
3. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
4. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
5. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR WELL GRADED CRUSHED STONE. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
6. ALL BAR STEEL AND WELDED WIRE FABRIC REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
7. PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.
8. OVERHANGING BASE NOT REQUIRED WHERE INTEGRAL BASE IS ALLOWED. SEE SPECIAL PROCEDURES OR CONTACT ENGINEER TO VERIFY.

STORM MANHOLE DETAIL

NO SCALE

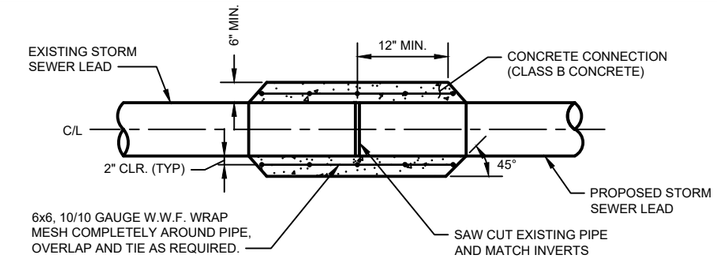


GENERAL NOTES:

1. SEE PLANS FOR SIZE, NUMBER, AND LOCATION OF PIPES.
2. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
3. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
4. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
5. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR WELL GRADED CRUSHED STONE. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
6. PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON THE STRUCTURES. THE TOPS SHALL BE INSTALLED ON A BED OF MORTAR.
7. ALL BAR STEEL AND WELDED WIRE FABRIC REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
8. PRECAST REINFORCED CONCRETE RISERS SHALL BE PLACED WITH TONGUE DOWN.

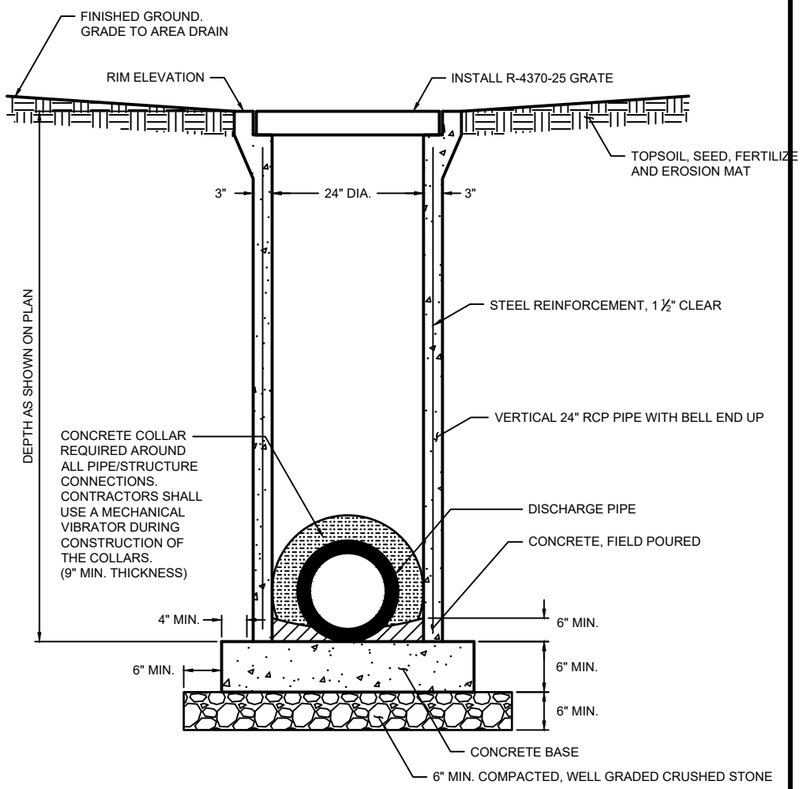
2' x 3' INLET WITH SUMP DETAIL

NO SCALE



STORM SEWER CONNECTION DETAIL

NO SCALE

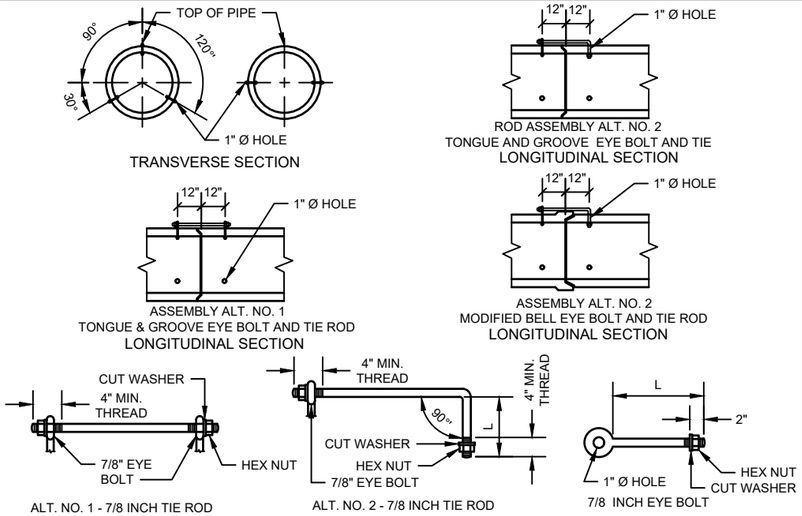


GENERAL NOTES

1. SEE PLANS FOR SIZE, NUMBER, AND LOCATION OF PIPES.
2. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
3. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
4. REINFORCED CONCRETE PIPE SHALL MEET REQUIREMENTS OF ASTM C76, CLASS III MIN.
5. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR WELL GRADED CRUSHED STONE. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
6. ALL BAR STEEL AND WELDED WIRE FABRIC REINFORCEMENT SHALL BE EMBEDDED 1 ½ INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.
7. TOTAL DEPTH SHALL NOT EXCEED A STANDARD PIPE LENGTH, 7'-6" MAX.

24" DIAMETER AREA DRAIN WITH IN BELL GRATE DETAIL

NO SCALE



EYE BOLT DIMENSION TABLE

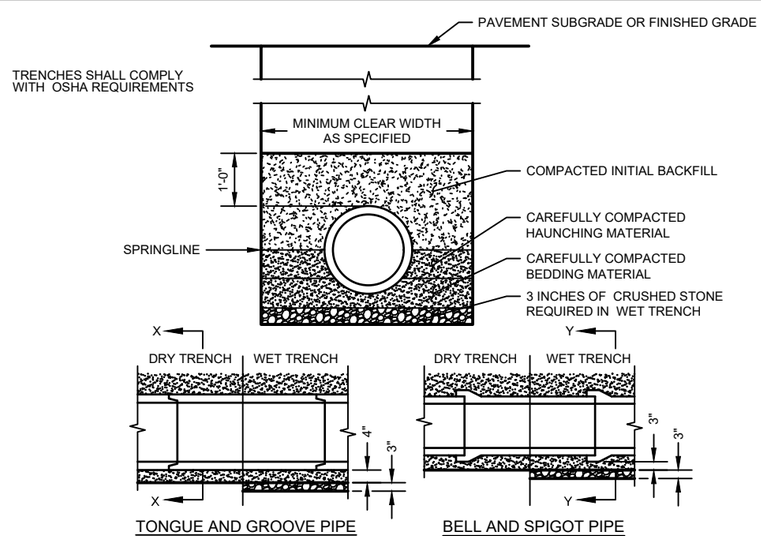
PIPE SIZE (INCHES)	LENGTH, L (INCHES)	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18 TO 24	4 1/2	5 1/2
30	5	7
36	5 1/2	7
42	5	
48	6 1/2	
60	7 1/2	
72	8 1/2	

GENERAL NOTES:

1. CONCRETE CULVERT PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
2. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
3. HOLES SHALL BE FILLED WITH A NON-SHRINK GROUT OR A NON-SHRINK EPOXY GROUT AS DIRECTED BY THE ENGINEER
4. BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

CONCRETE PIPE JOINT TIE DETAIL

NO SCALE



TONGUE AND GROOVE PIPE

BELL AND SPIGOT PIPE

GENERAL NOTES:

1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NON-COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.
3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
4. IN ROCK OR OTHER UNCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL

NO SCALE

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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
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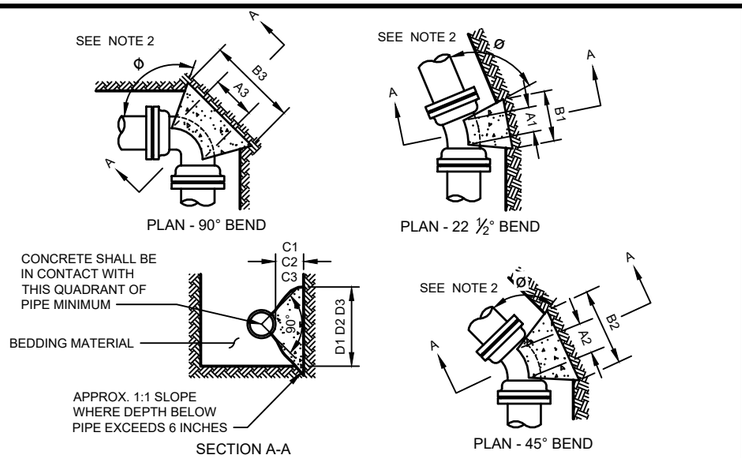
STORM SEWER DETAILS

FILE NO. 08002031

SHEET G 7



NOTES:

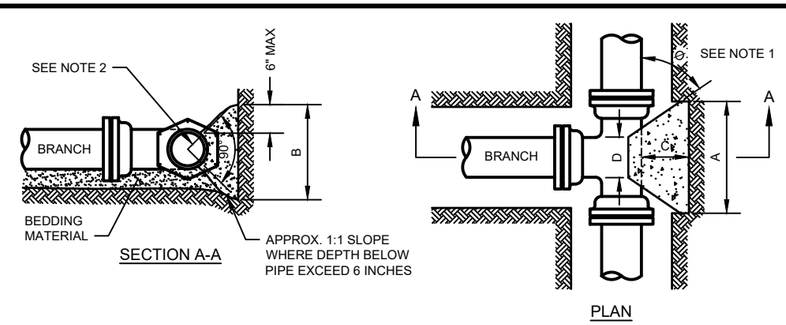
1. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND AN EARTH RESISTANCE OF 2 TONS PER SQ. FT. INFORM THE ENGINEER IF PRESSURES EXCEED 150 PSI, OR ON-SITE SOIL DOES NOT MEET THIS CONDITION.
2. DIMENSION C1 C2 C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1 A2 A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH THE MECHANICAL JOINT.
4. BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
5. ALL BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.
6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
7. IN ADDITION TO BUTTRESS, ALL JOINTS SURROUNDING BENDS SHALL BE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS.

BUTTRESS DIMENSIONS

PIPE SIZE	22 ½° BENDS		45° BENDS		90° BENDS	
	B1	D1	B2	D2	B3	D3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

BUTTRESS FOR BENDS DETAIL

NO SCALE



NOTES:

1. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø GREATER THAN OR EQUAL TO 45°.
2. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.
3. DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
4. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.
5. BUTTRESS TO BE PLACED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95%%% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
6. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
7. ALL POURED BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.
8. IN ADDITION TO BUTTRESSES, ALL JOINTS SURROUNDING TEES SHALL BE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS.

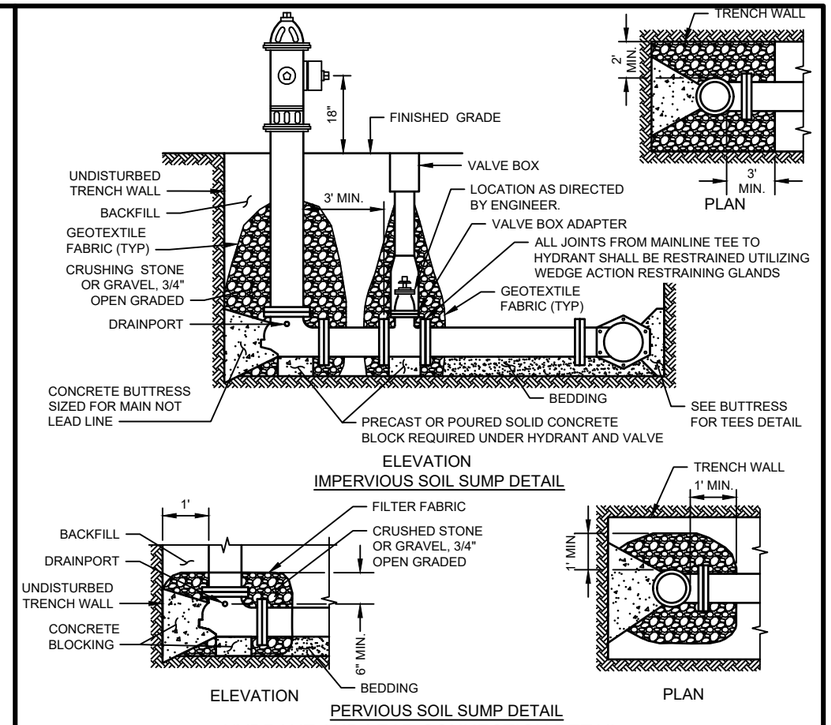
BUTTRESS DIMENSIONS

DIA.	A	B	C	D
6"	1'-3"	1'-0"	SEE NOTE NO. 1	SEE NOTE NO. 3
8"	1'-6"	1'-4"		
10"	1'-10"	1'-8"		
12"	2'-3"	2'-0"		
16"	3'-2"	2'-6"		
20"	4'-0"	3'-0"		
24"	5'-3"	3'-4"		

DIA. = BRANCH DIAMETER

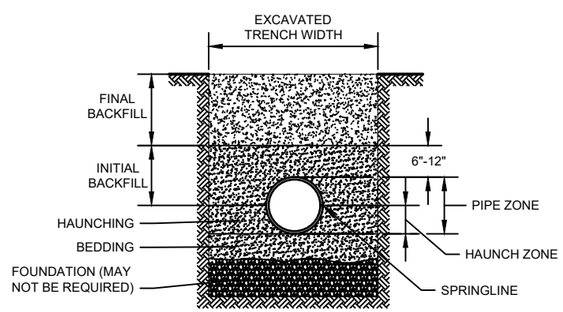
BUTTRESS FOR TEES DETAIL

NO SCALE



HYDRANT AND LEAD CONNECTION DETAIL

NO SCALE



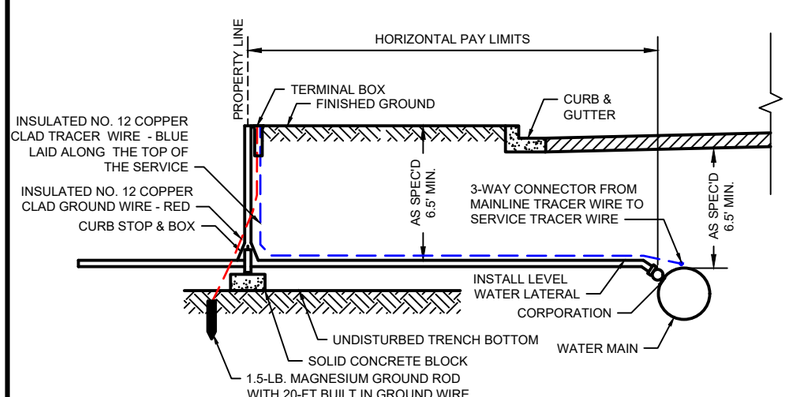
GENERAL NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO ASTM D2321.
2. CLASS II EMBEDMENT MATERIAL SHALL BE CLEAN, COARSE-GRAINED SOILS WITH LITTLE TO NO FINES. NO PARTICLES LARGER THAN 1 1/2 -INCHES SHALL BE USED IN THE PIPE EMBEDMENT.
3. WHERE HYDRAULIC GRADIENT EXISTS USE A WELL-GRADED MIXTURE TO MINIMIZE MIGRATION OF FINES FROM ADJACENT SOIL.
4. CLASS II MATERIAL IS SUITABLE AS A FOUNDATION AND FOR REPLACING OVER- EXCAVATED AND UNSTABLE TRENCH BOTTOM. INSTALL AND COMPACT IN 6-INCH MAXIMUM LAYERS.
5. INSTALL AND COMPACT BEDDING IN 6-INCH MAXIMUM LAYERS. LEVEL FINAL GRADE BY HAND. MINIMUM DEPTH 4 INCH (6 INCH IN ROCK CUTS.)
6. INSTALL AND COMPACT HAUNCHING IN 6-INCH MAXIMUM LAYERS. WORK IN AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT.
7. INSTALL AND COMPACT INITIAL BACKFILL TO A MINIMUM OF 6 INCH ABOVE PIPE CROWN.
8. EMBEDMENT COMPACTION:

   MINIMUM DENSITY 85% STANDARD PROCTOR. USE HAND TAMPERS OR VIBRATORY COMPACTORS.

CLASS II - FLEXIBLE PIPE EMBEDMENT DETAIL

NO SCALE



GENERAL NOTES:

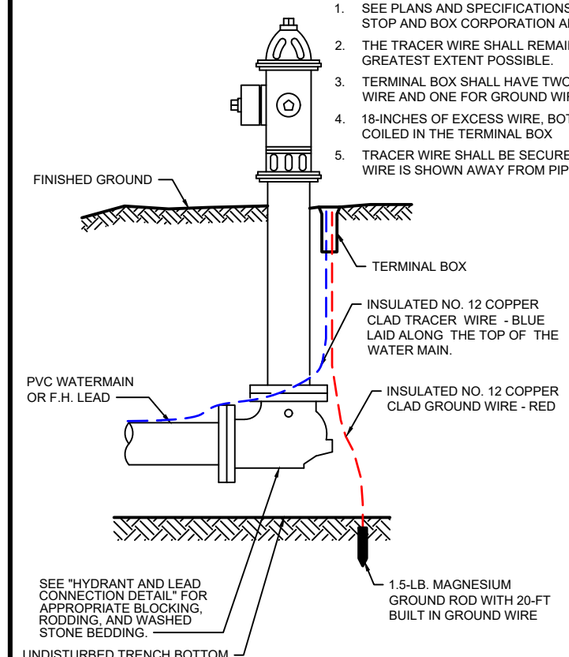
1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
2. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.
3. TERMINAL BOX SHALL HAVE TWO TERMINALS, ONE FOR TRACER WIRE AND ONE FOR GROUND WIRE.
4. 18-INCHES OF EXCESS WIRE, BOTH RED AND BLUE, SHALL BE COILED IN THE TERMINAL BOX
5. TRACER WIRE SHALL BE SECURED EVERY 5' ALONG THE PIPE. WIRE IS SHOWN AWAY FROM PIPE FOR CLARITY PURPOSES ONLY.

WATER SERVICE WITH TRACER WIRE

NO SCALE

GENERAL NOTES:

1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
2. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.
3. TERMINAL BOX SHALL HAVE TWO TERMINALS, ONE FOR TRACER WIRE AND ONE FOR GROUND WIRE.
4. 18-INCHES OF EXCESS WIRE, BOTH RED AND BLUE, SHALL BE COILED IN THE TERMINAL BOX
5. TRACER WIRE SHALL BE SECURED EVERY 5' ALONG THE PIPE. WIRE IS SHOWN AWAY FROM PIPE FOR CLARITY PURPOSES ONLY.



TRACER WIRE INSTALLATION AT HYDRANT FOR PVC WATER MAIN DETAIL

NO SCALE

		NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
	CHECKED BY: DWR	.	.	.	.

PLOT DATE: 3/2/2022 9:05 AM, G:\08\08002\08002031\CADD\Construction Documents\General Sheets.dwg

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2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

WATER MAIN DETAILS

FILE NO. 08002031
SHEET G 8

0 100 200

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC BARREL
- SIGN ON TEMPORARY SUPPORT

TYPE III BARRICADE

GENERAL NOTES:

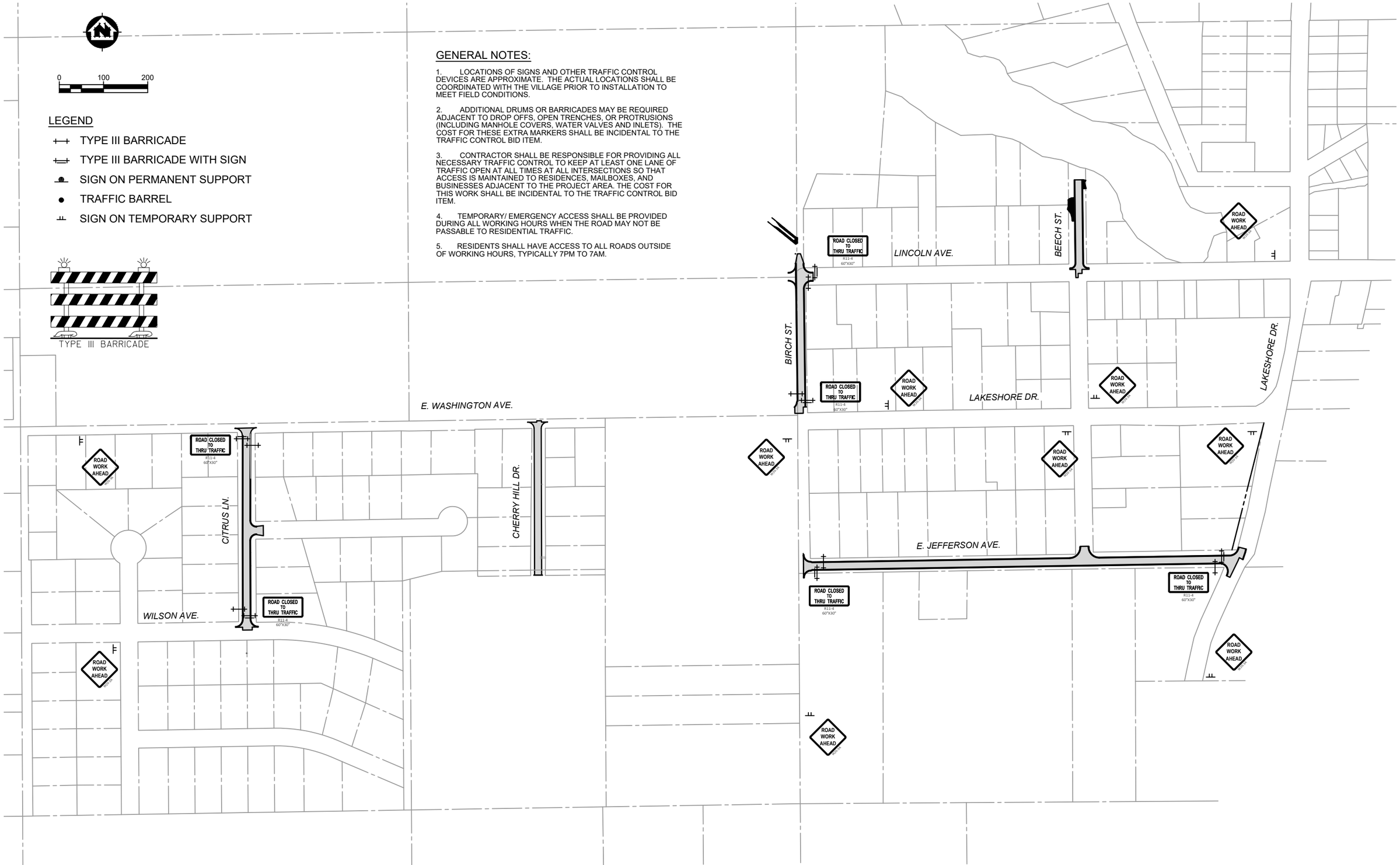
1. LOCATIONS OF SIGNS AND OTHER TRAFFIC CONTROL DEVICES ARE APPROXIMATE. THE ACTUAL LOCATIONS SHALL BE COORDINATED WITH THE VILLAGE PRIOR TO INSTALLATION TO MEET FIELD CONDITIONS.

2. ADDITIONAL DRUMS OR BARRICADES MAY BE REQUIRED ADJACENT TO DROP OFFS, OPEN TRENCHES, OR PROTRUSIONS (INCLUDING MANHOLE COVERS, WATER VALVES AND INLETS). THE COST FOR THESE EXTRA MARKERS SHALL BE INCIDENTAL TO THE TRAFFIC CONTROL BID ITEM.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY TRAFFIC CONTROL TO KEEP AT LEAST ONE LANE OF TRAFFIC OPEN AT ALL TIMES AT ALL INTERSECTIONS SO THAT ACCESS IS MAINTAINED TO RESIDENCES, MAILBOXES, AND BUSINESSES ADJACENT TO THE PROJECT AREA. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE TRAFFIC CONTROL BID ITEM.

4. TEMPORARY/ EMERGENCY ACCESS SHALL BE PROVIDED DURING ALL WORKING HOURS WHEN THE ROAD MAY NOT BE PASSABLE TO RESIDENTIAL TRAFFIC.

5. RESIDENTS SHALL HAVE ACCESS TO ALL ROADS OUTSIDE OF WORKING HOURS, TYPICALLY 7PM TO 7AM.



PROJECT DATE: February 24, 2022		NO.	DATE	REVISION	BY
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	DESIGNED BY: DWR	.	.	.	.
	CHECKED BY: DWR	.	.	.	.

PLOT DATE: 3/2/2022 9:06 AM, G:\08\08002\08002031\CADD\Construction Documents\Traffic Control Plans.dwg

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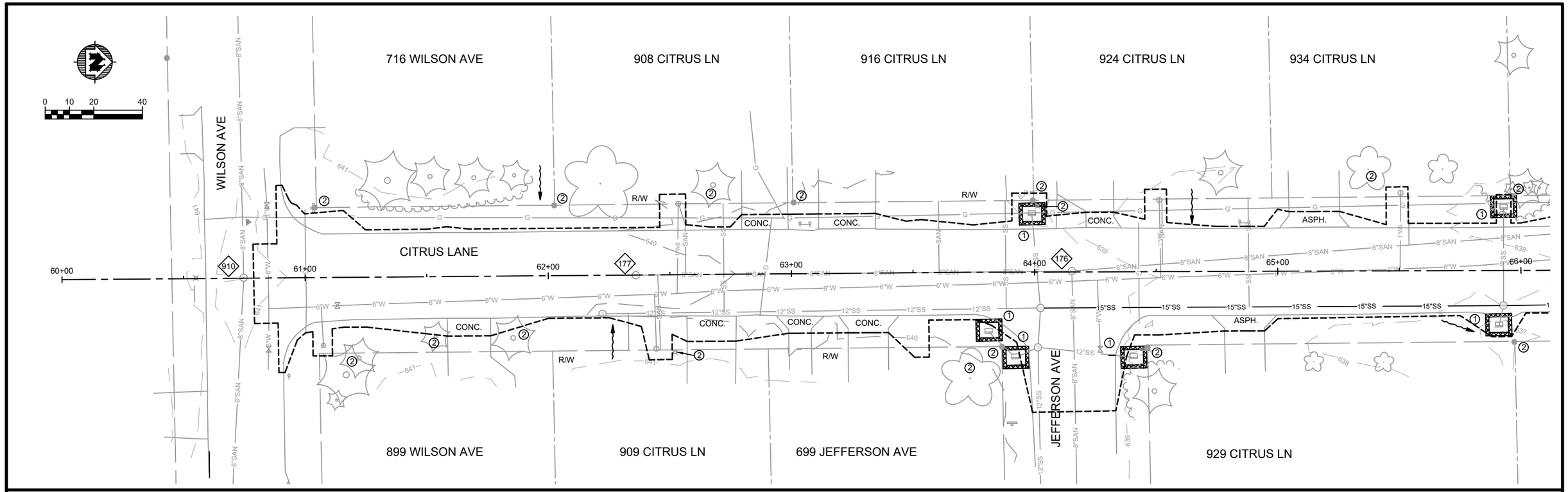
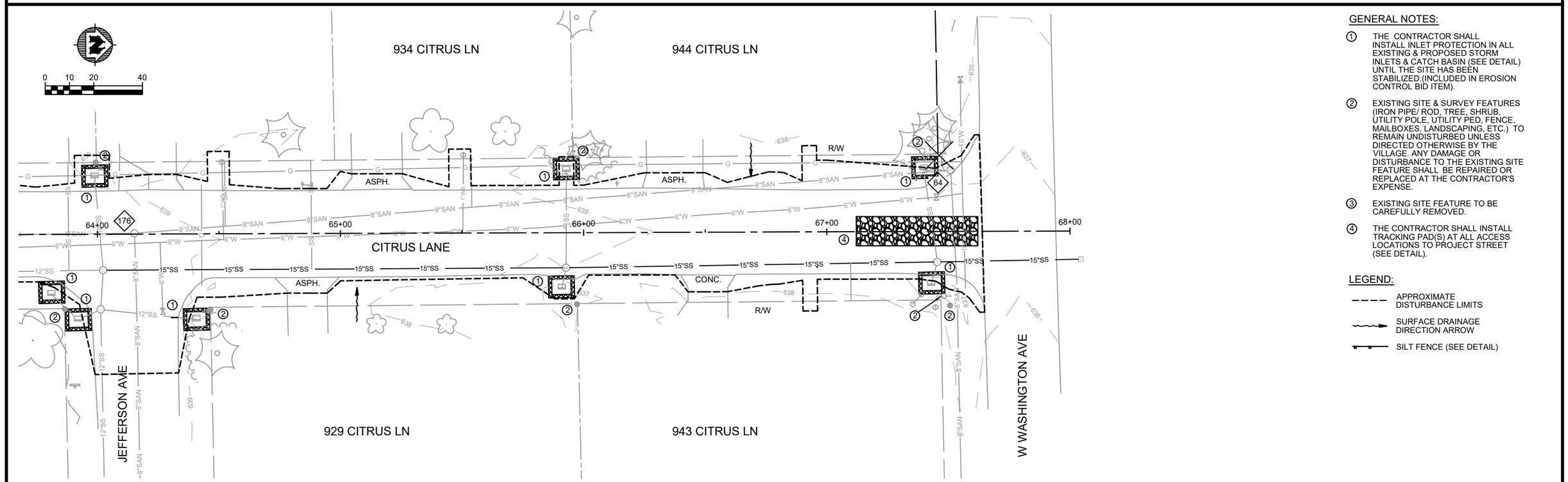
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

TRAFFIC CONTROL PLAN

FILE NO. 08002031
SHEET ST 1





GENERAL NOTES:

1. THE CONTRACTOR SHALL INSTALL INLET PROTECTION IN ALL EXISTING & PROPOSED STORM INLETS & CATCH BASIN (SEE DETAIL) UNTIL THE SITE HAS BEEN STABILIZED.(INCLUDED IN EROSION CONTROL BID ITEM).
2. EXISTING SITE & SURVEY FEATURES (IRON PIPE/ ROD, TREE, SHRUB, UTILITY POLE, UTILITY PED, FENCE, MAILBOXES, LANDSCAPING, ETC.) TO REMAIN UNDISTURBED UNLESS DIRECTED OTHERWISE BY THE VILLAGE. ANY DAMAGE OR DISTURBANCE TO THE EXISTING SITE FEATURE SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
3. EXISTING SITE FEATURE TO BE CAREFULLY REMOVED.
4. THE CONTRACTOR SHALL INSTALL TRACKING PAD(S) AT ALL ACCESS LOCATIONS TO PROJECT STREET (SEE DETAIL).

LEGEND:

- APPROXIMATE DISTURBANCE LIMITS
- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)

		NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
	CHECKED BY: DWR	.	.	.	.

PLOT DATE: Wednesday, March 2, 2022 12:40:14 PM, G:\08\08002\08002031\CADD\Construction Documents\Erosion Control Plans.dwg

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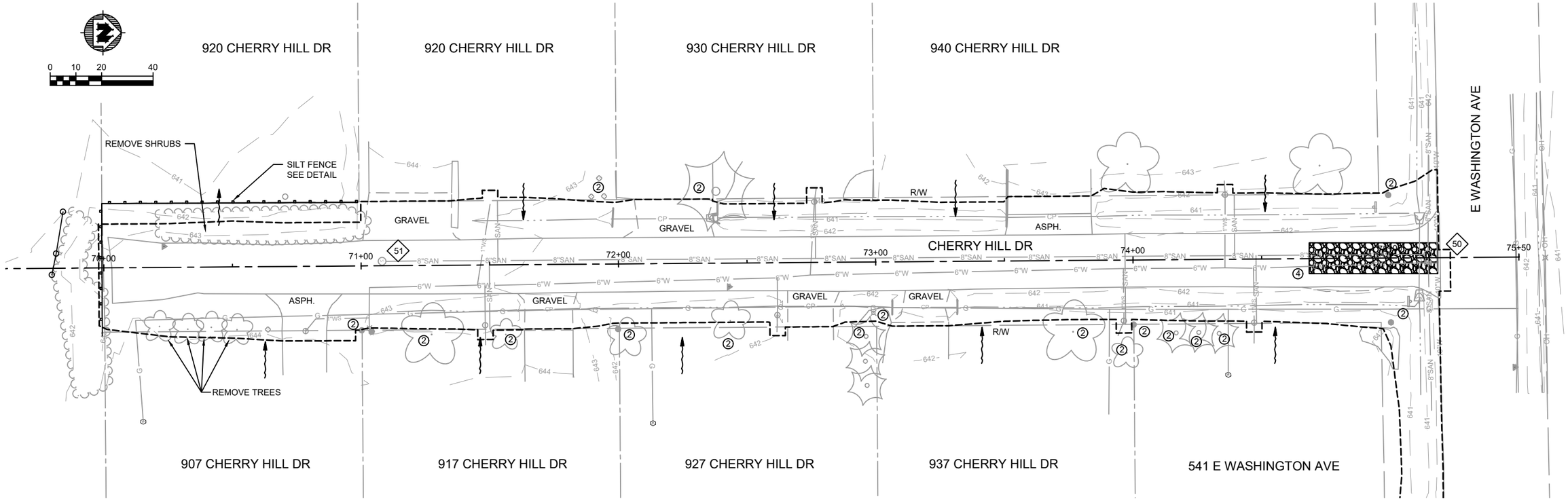
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

CITRUS LANE EROSION CONTROL PLAN

PROJECT NO. 08002031

SHEET ST 2



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LEGEND:

- APPROXIMATE DISTURBANCE LIMITS
- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)

		NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
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PLOT DATE: Wednesday, March 2, 2022 12:41:17 PM, G:\08\08002\08002031\CADD\Construction Documents\Erosion Control Plans.dwg

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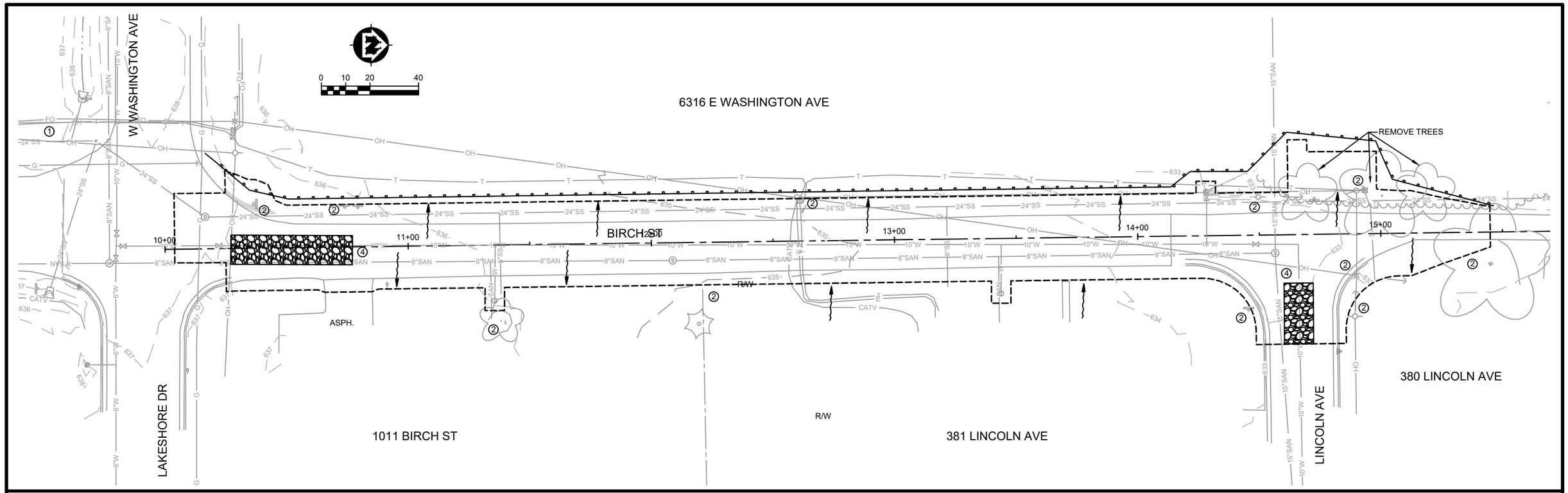
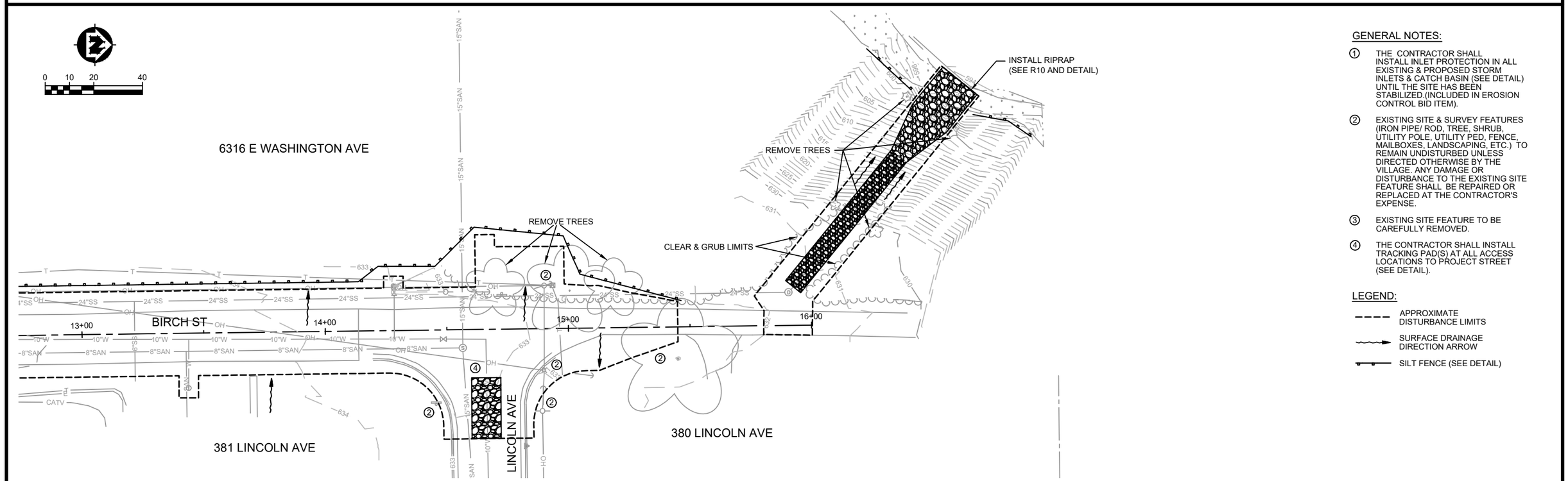
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

CHERRY HILL DRIVE EROSION CONTROL PLAN

PROJECT NO. 08002031

SHEET ST 3





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- APPROXIMATE DISTURBANCE LIMITS
- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)

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PROJECT DATE: February 24, 2022.	DRAWN BY: EE	.	.	.	.
	DESIGNED BY: DWR	.	.	.	.
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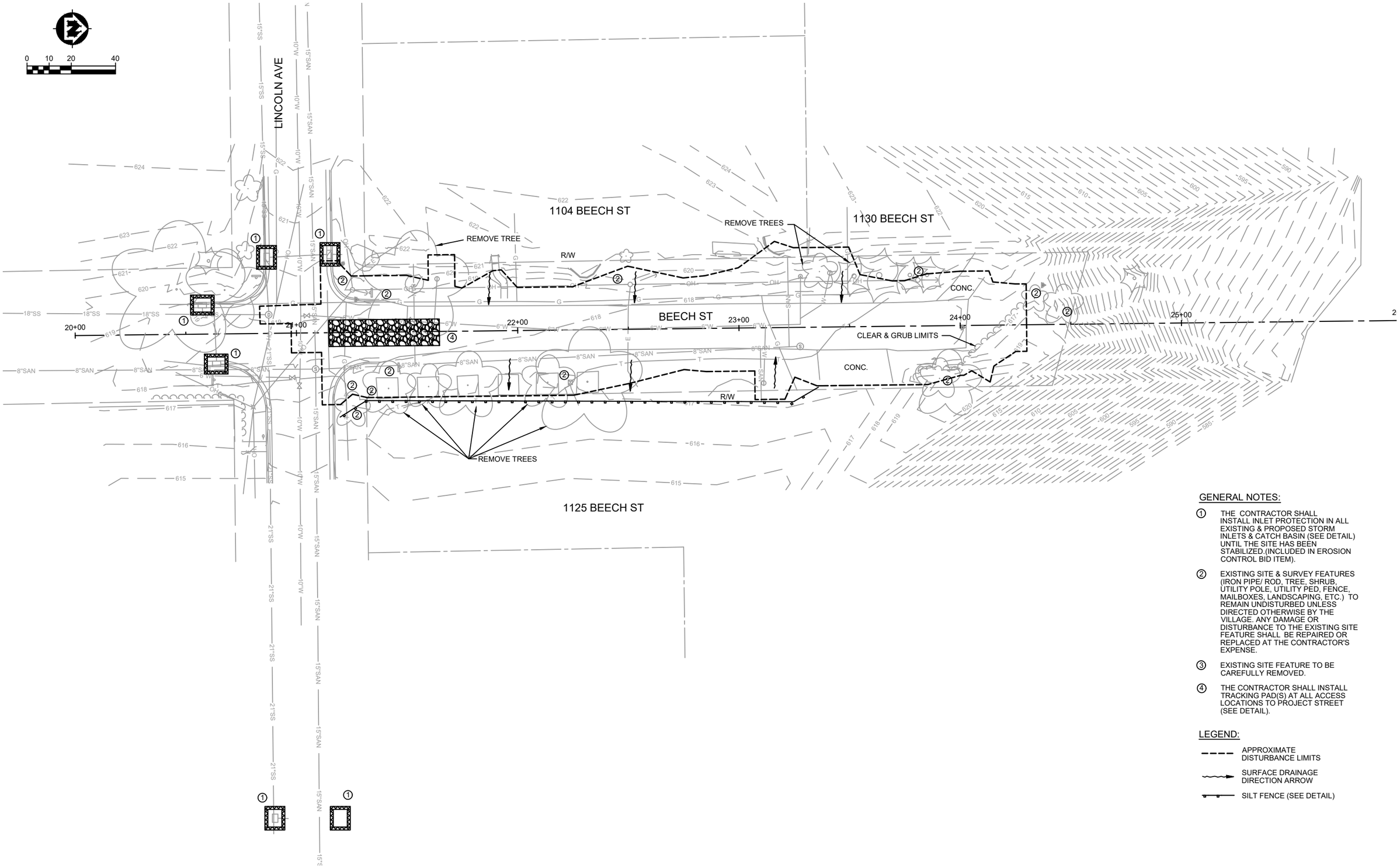
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

BIRCH ST EROSION CONTROL PLAN

FILE NO. 08002029

SHEET ST 4



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- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)

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	DESIGNED BY:	DWR	.	.	.	.
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VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

BEECH ST EROSION CONTROL PLAN

FILE NO. 08002029
SHEET ST 5

GENERAL NOTES:

1. THE CONTRACTOR SHALL INSTALL INLET PROTECTION IN ALL EXISTING & PROPOSED STORM INLETS & CATCH BASIN (SEE DETAIL) UNTIL THE SITE HAS BEEN STABILIZED.(INCLUDED IN EROSION CONTROL BID ITEM).
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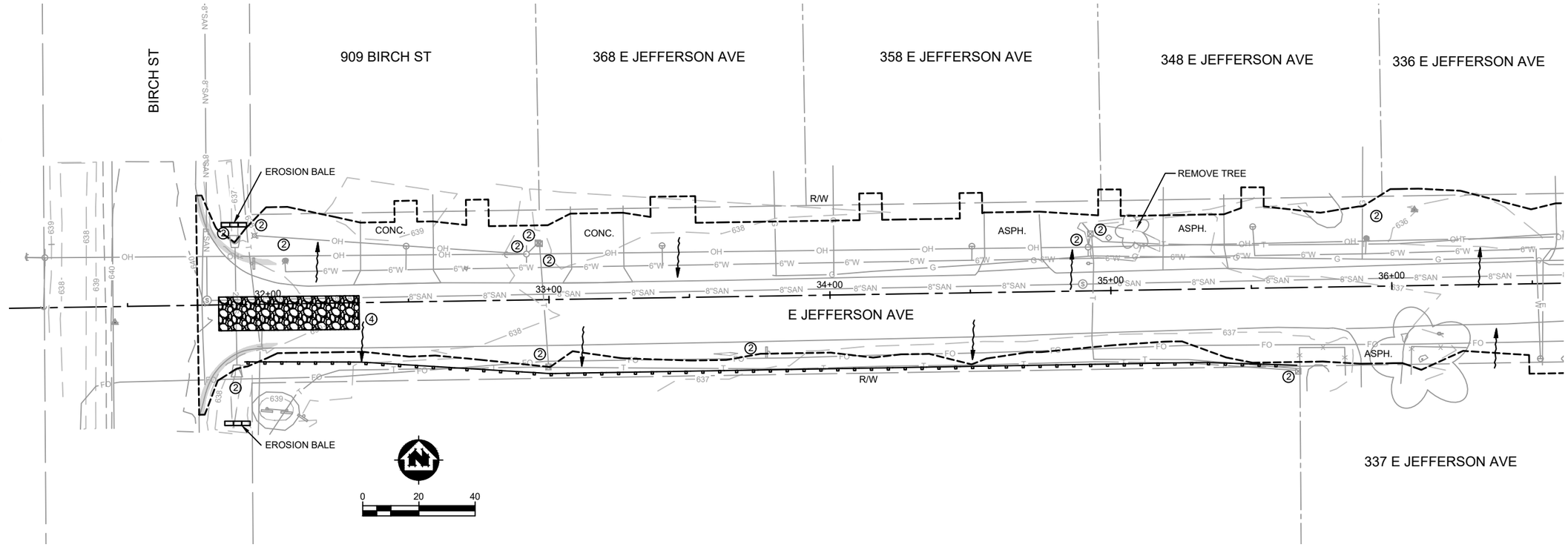
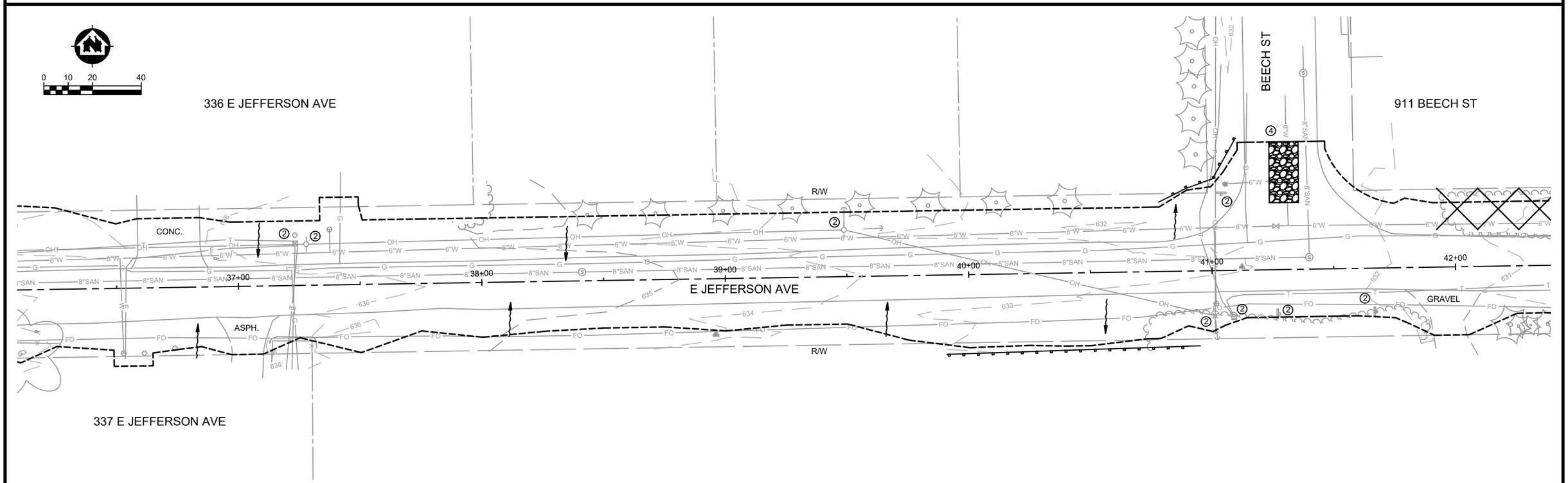
- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)





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2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

E JEFFERSON AVE EROSION CONTROL PLAN

FILE NO. 08002029

SHEET ST 6

936 LAKESHORE DR

911 BEECH ST

BEECH ST

LAKESHORE DR

E JEFFERSON AVE

870 LAKESHORE DR

REMOVE TREES

REMOVE TREES

R/W

R/W

R/W

R/W

CONC.

EROSION BALE

GRAVEL

GRAVEL

REMOVE TREE

41+00

42+00

43+00

44+00

45+00

46+00

47+00

48+00

0 30 60

GENERAL NOTES:

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LEGEND:

- APPROXIMATE DISTURBANCE LIMITS
- SURFACE DRAINAGE DIRECTION ARROW
- SILT FENCE (SEE DETAIL)

		NO.	DATE	REVISION	BY
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	CHECKED BY: DWR	.	.	.	.

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VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

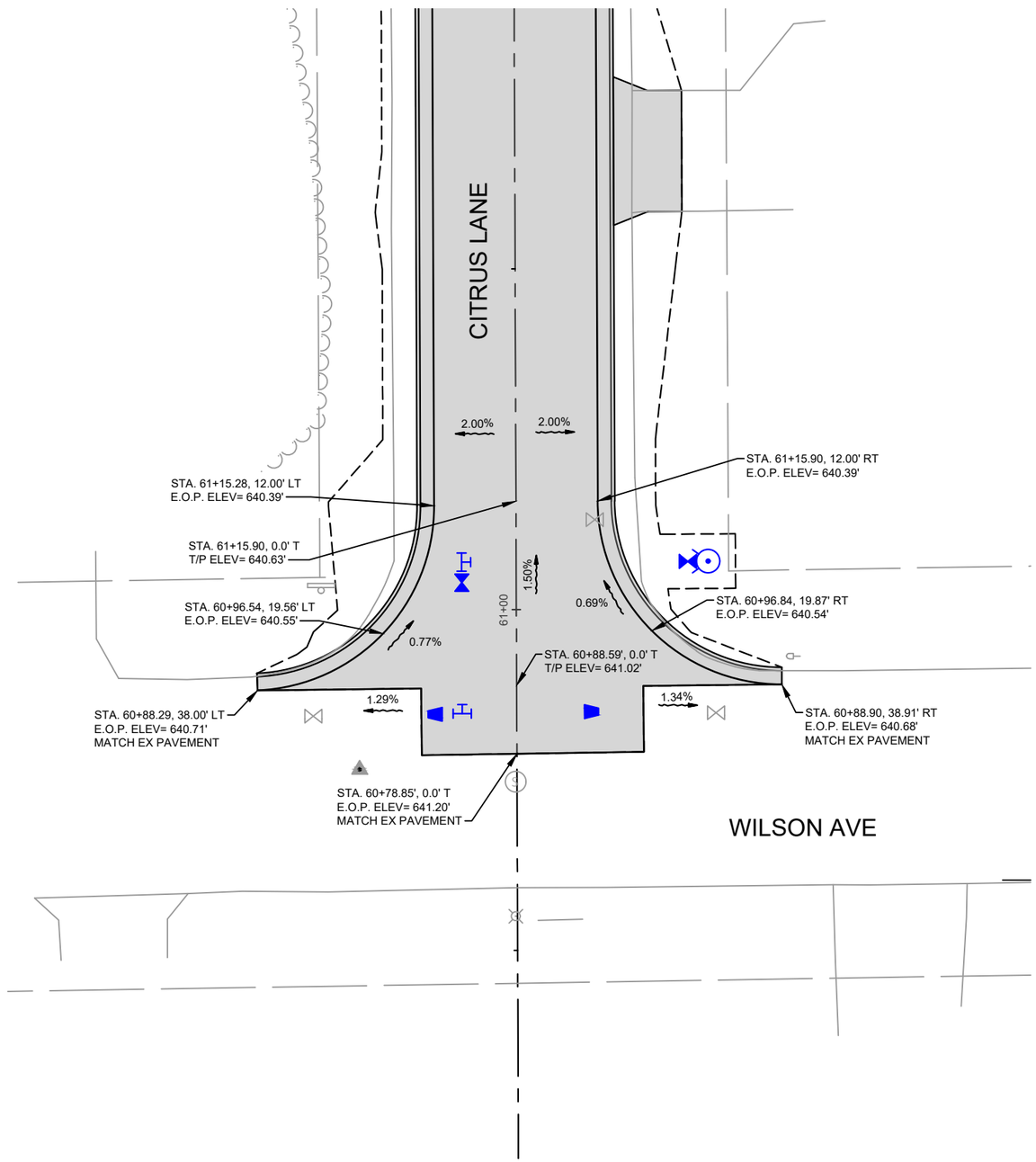
E JEFFERSON AVE & LAKESHORE AVE EROSION CONTROL PLAN

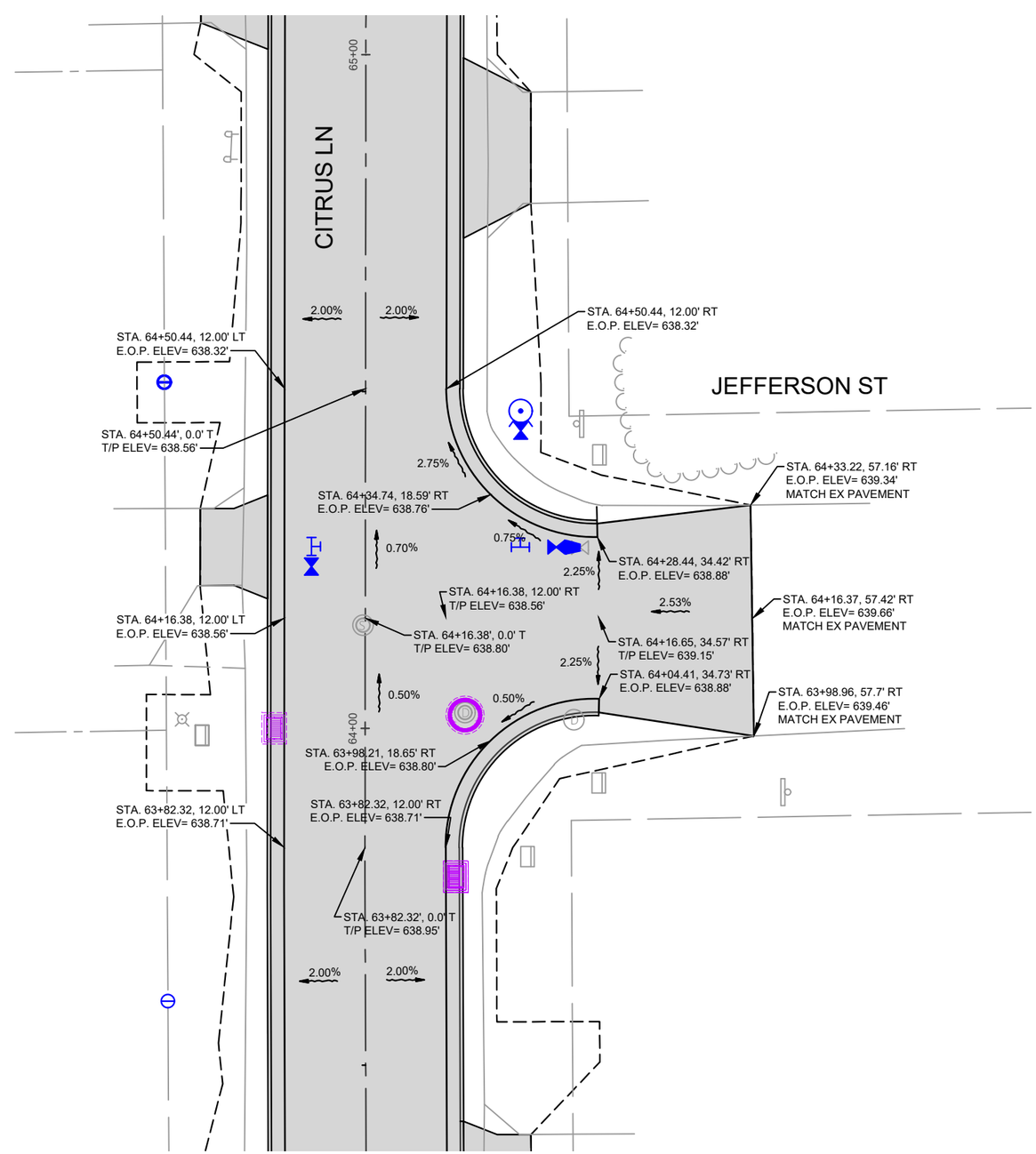
FILE NO. 08002029

SHEET ST 7

LEGEND:

T/P ELEV= TOP OF PAVEMENT ELEVATION
E.O.P. ELEV= EDGE OF PAVEMENT





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PLOT DATE: Wednesday, March 2, 2022 12:47:44 PM, G:\08\08002\08002031\CADD\Construction Documents\Intersection Plans.dwg

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2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

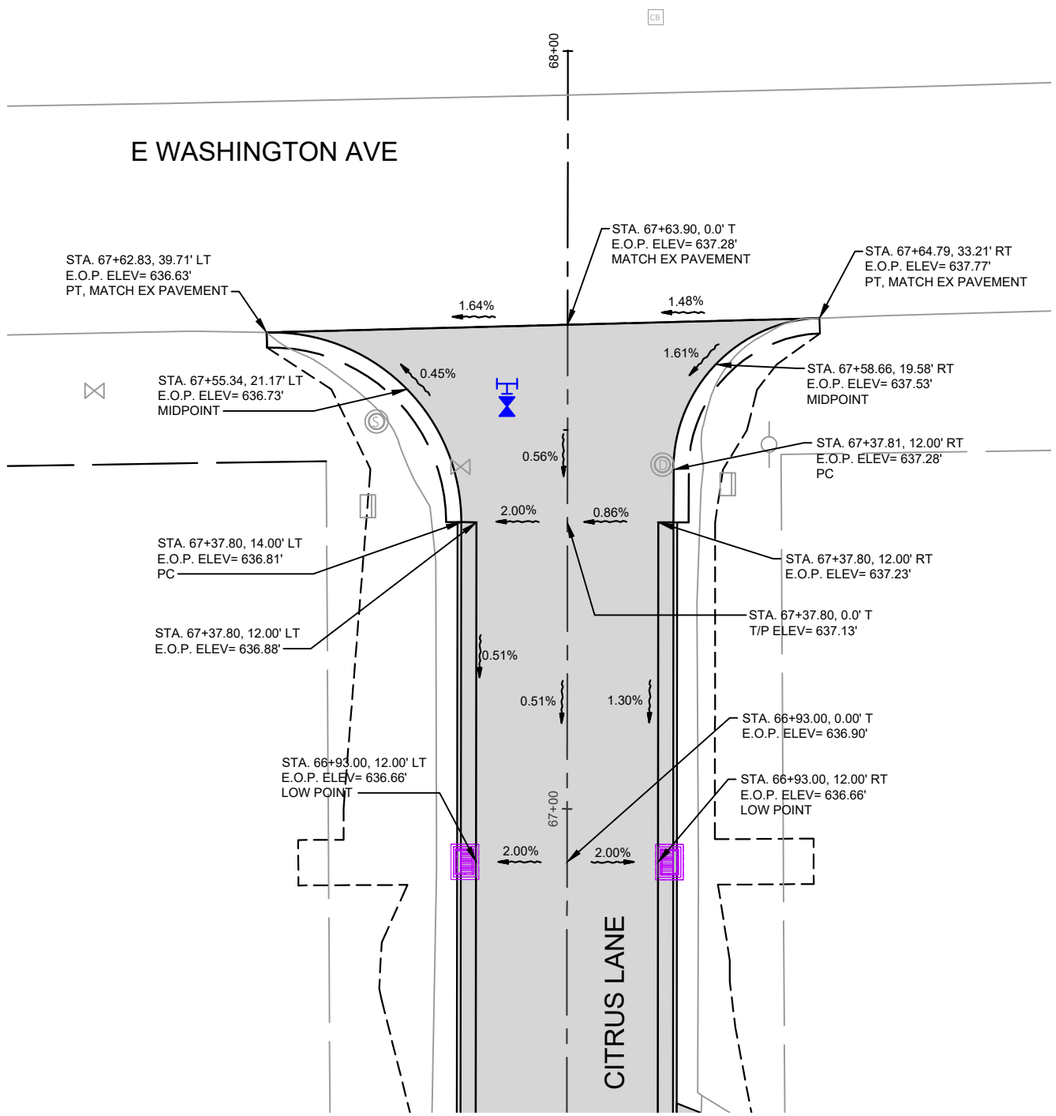
CITRUS LANE INTERSECTION PLANS

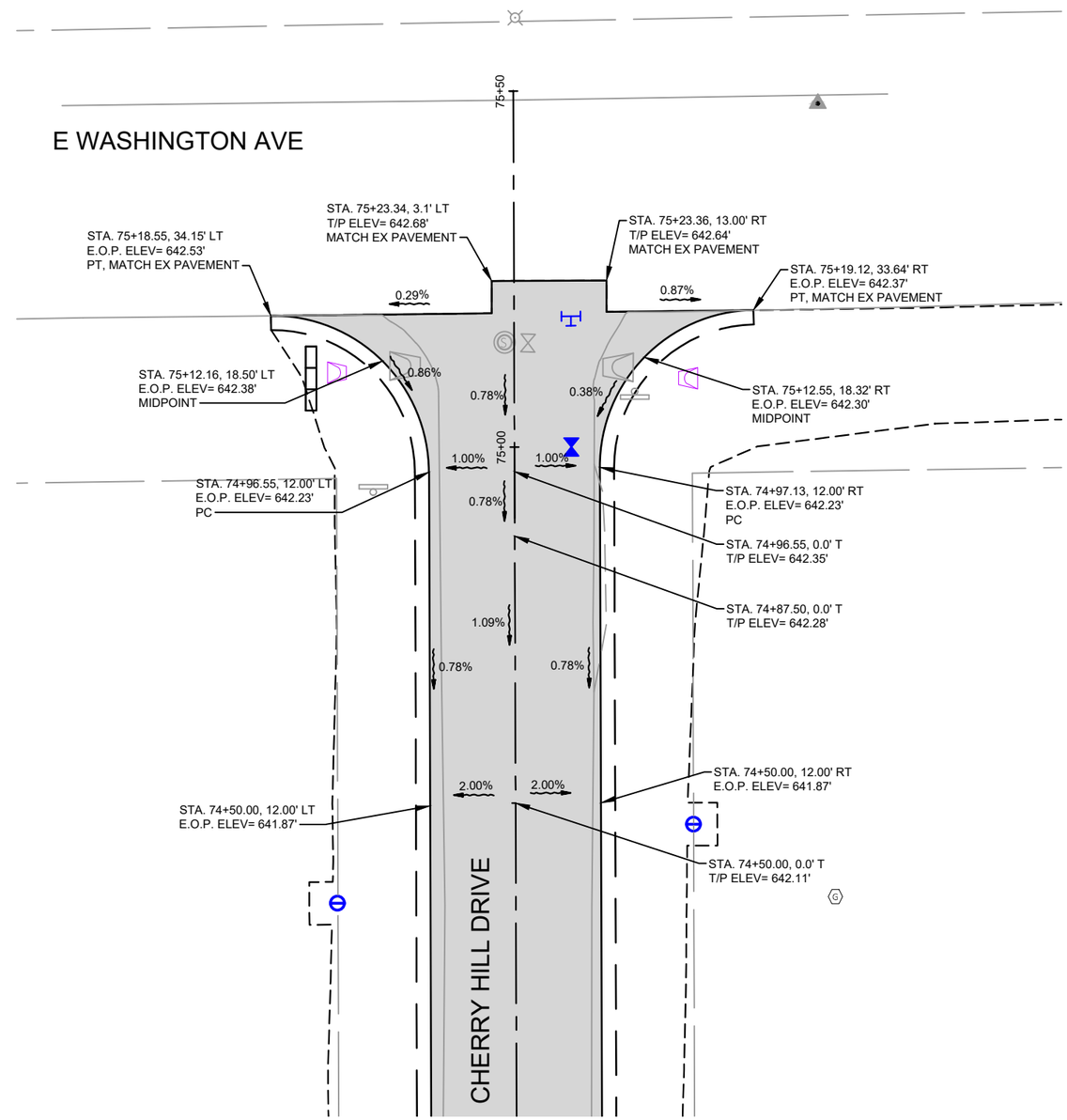
PROJECT NO. 08002031

SHEET ST 8

LEGEND:

T/P ELEV= TOP OF PAVEMENT ELEVATION
E.O.P. ELEV= EDGE OF PAVEMENT





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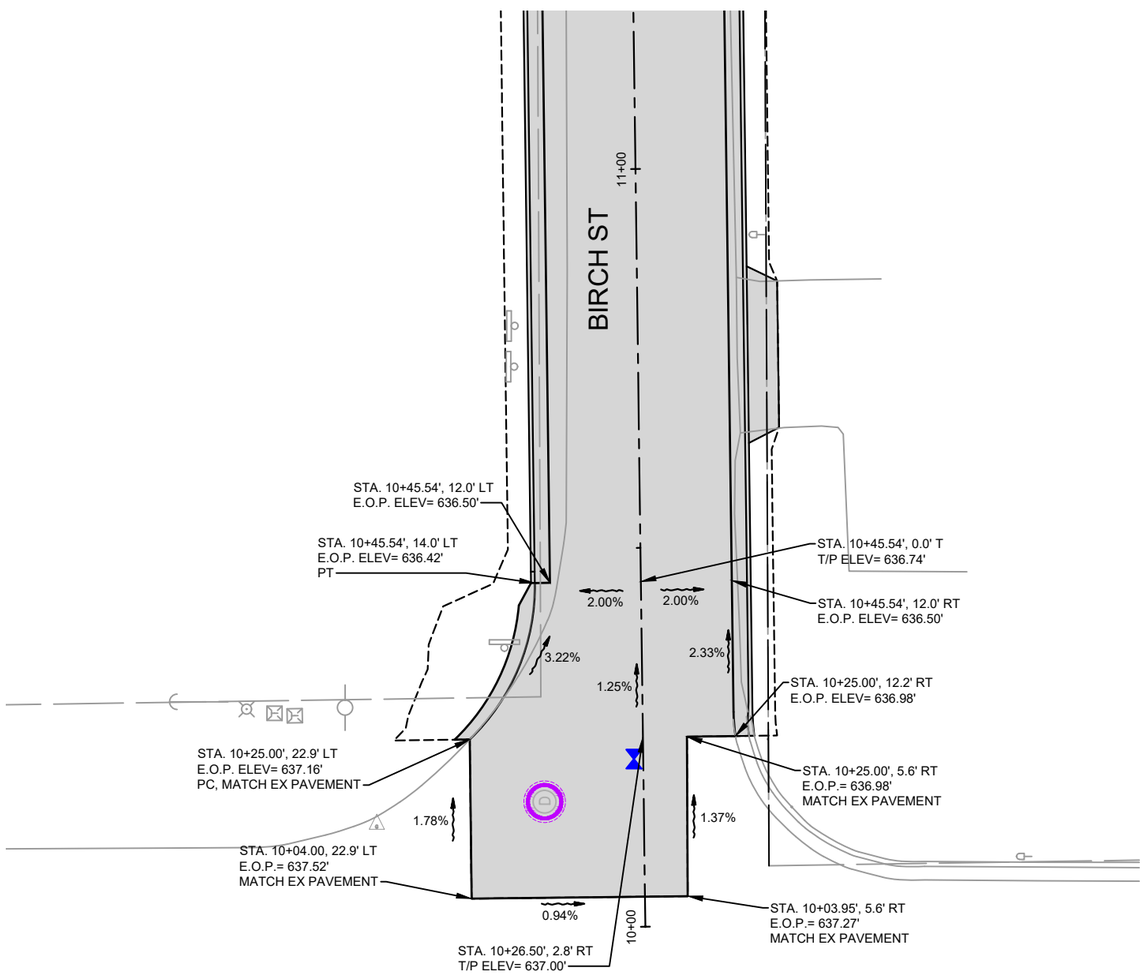
2022 STREET AND UTILITY IMPROVEMENTS
VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

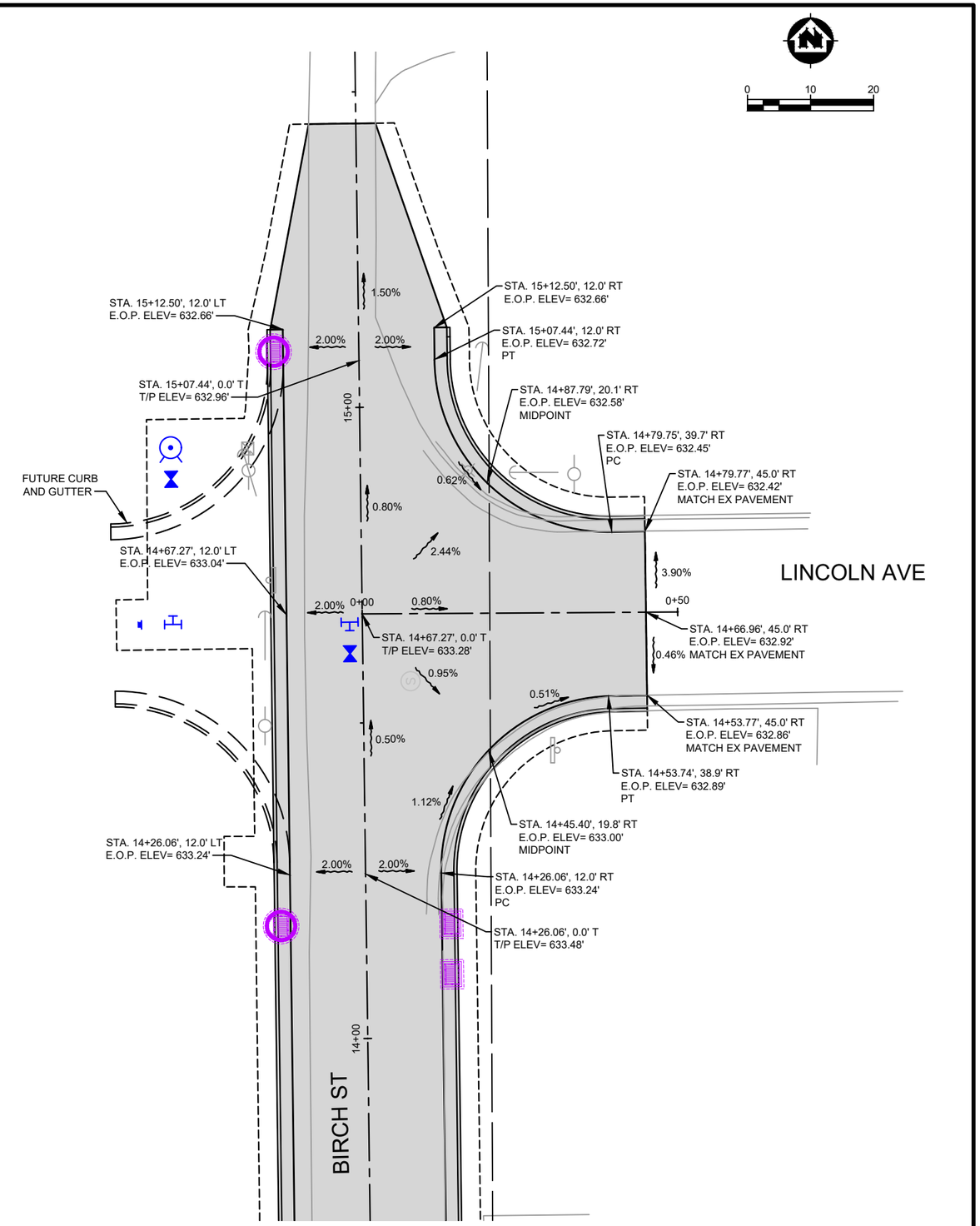
CITRUS LANE AND CHERRY HILL DR
INTERSECTION PLANS

PROJECT NO. 08002031
SHEET ST 9

LEGEND:

T/P ELEV= TOP OF PAVEMENT ELEVATION
E.O.P. ELEV= EDGE OF PAVEMENT





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	DESIGNED BY: DWR	.	.	.	.
	CHECKED BY: DWR	.	.	.	.

PLOT DATE: 3/2/2022 9:08 AM, G:\08\08002\08002029\CADD\Construction Documents\Intersection Plans.dwg

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VILLAGE OF CLEVELAND
MANITOWOC COUNTY, WI

BIRCH ST INTERSECTION PLANS

FILE NO.
08002029

SHEET
ST 10

LEGEND:

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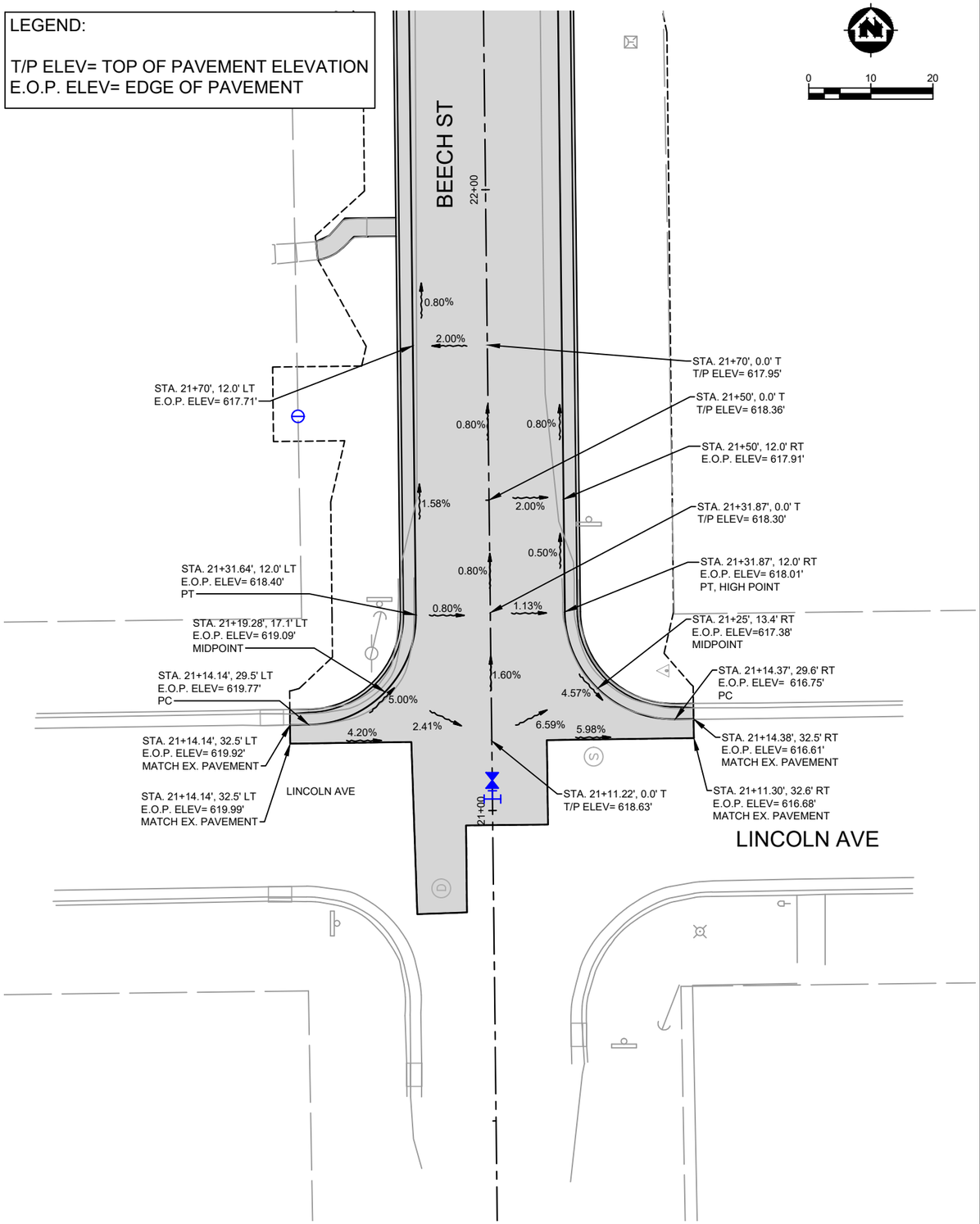
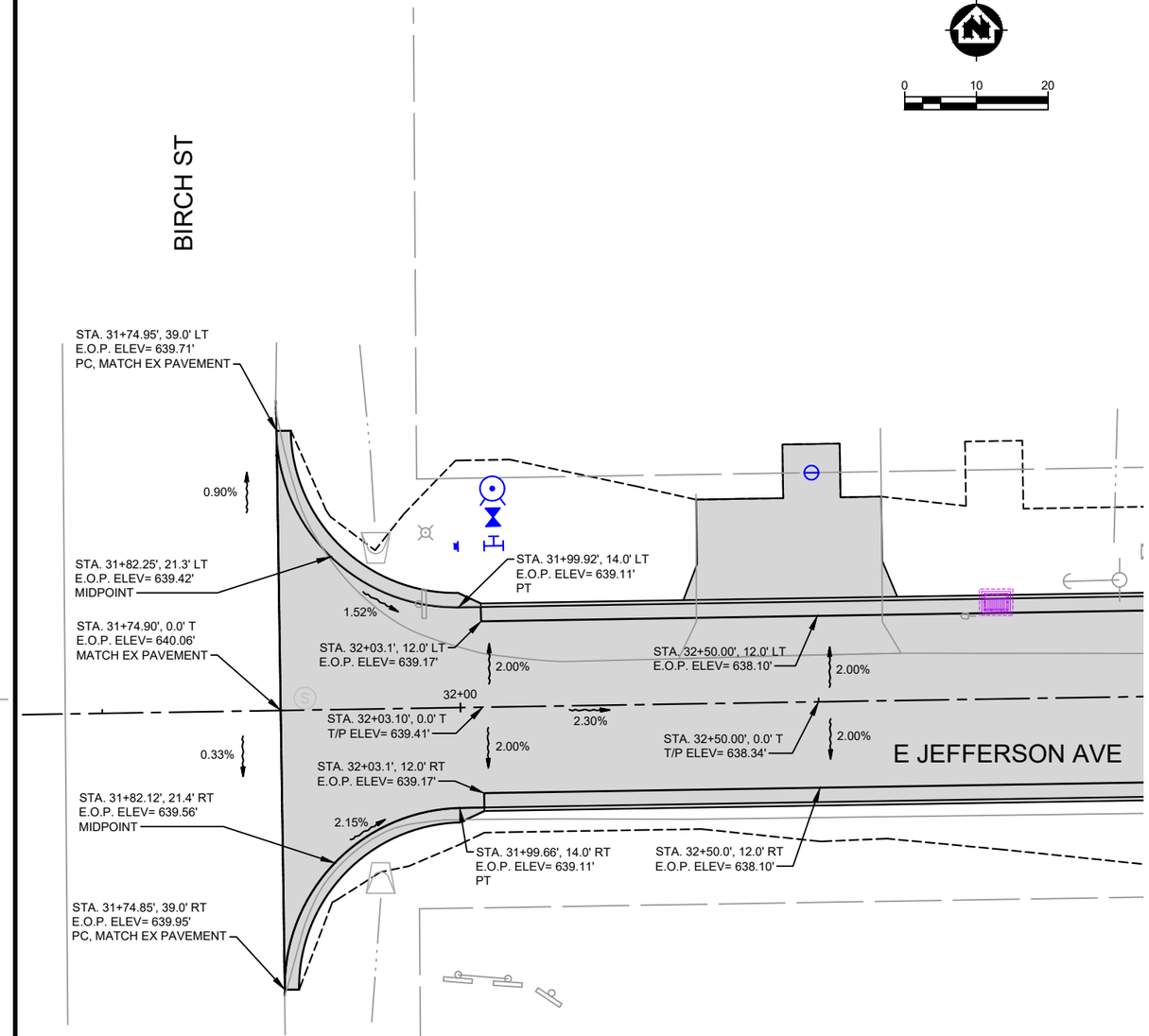
E.O.P. ELEV= EDGE OF PAVEMENT





LEGEND:

T/P ELEV= TOP OF PAVEMENT ELEVATION
E.O.P. ELEV= EDGE OF PAVEMENT

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	DESIGNED BY:	DWR	.	.	.	.
	CHECKED BY:	DWR	.	.	.	.

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MANITOWOC COUNTY, WI

BEECH ST & E JEFFERSON AVE INTERSECTION PLANS

FILE NO.
08002029

SHEET
ST 11

LEGEND:

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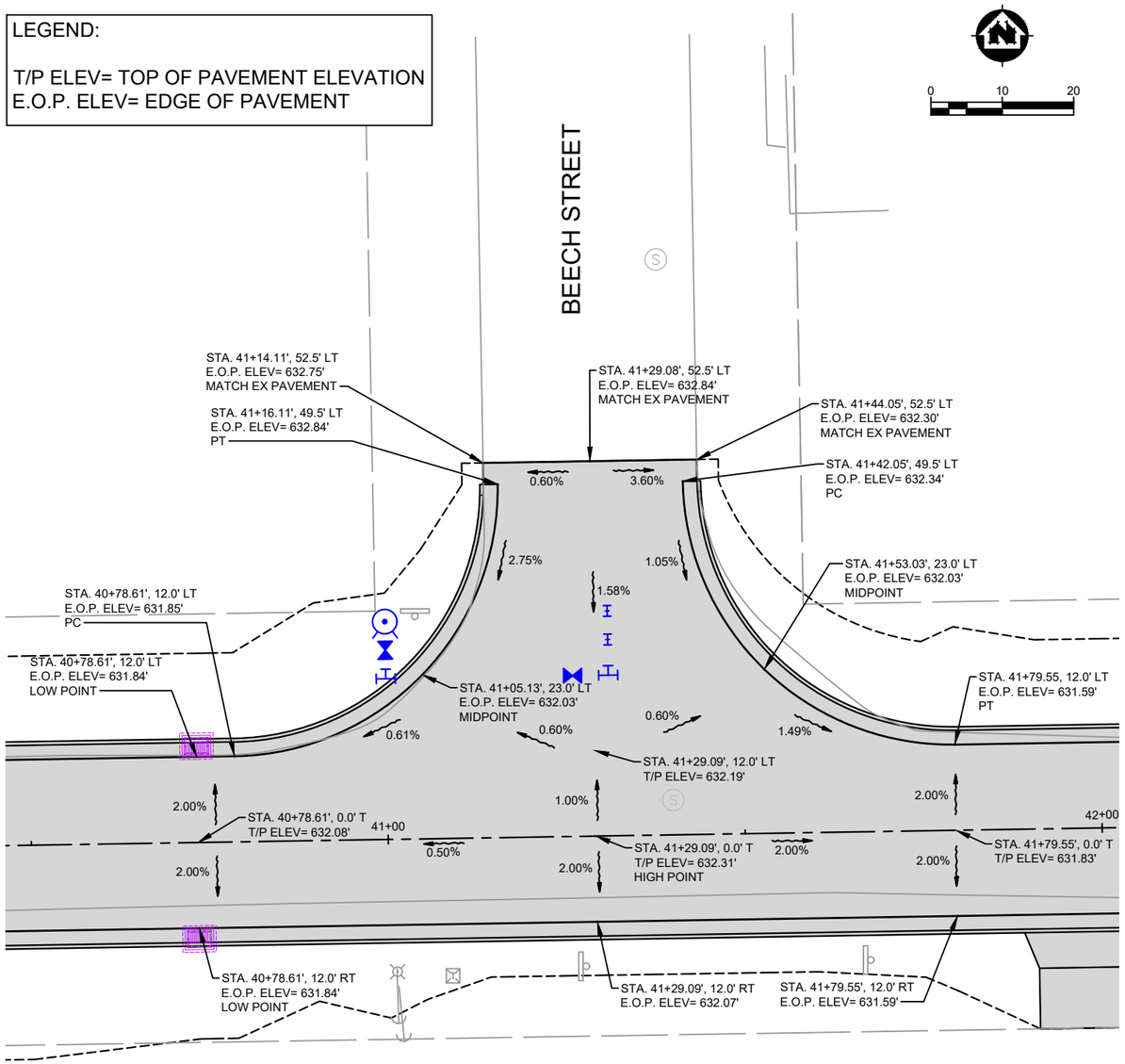
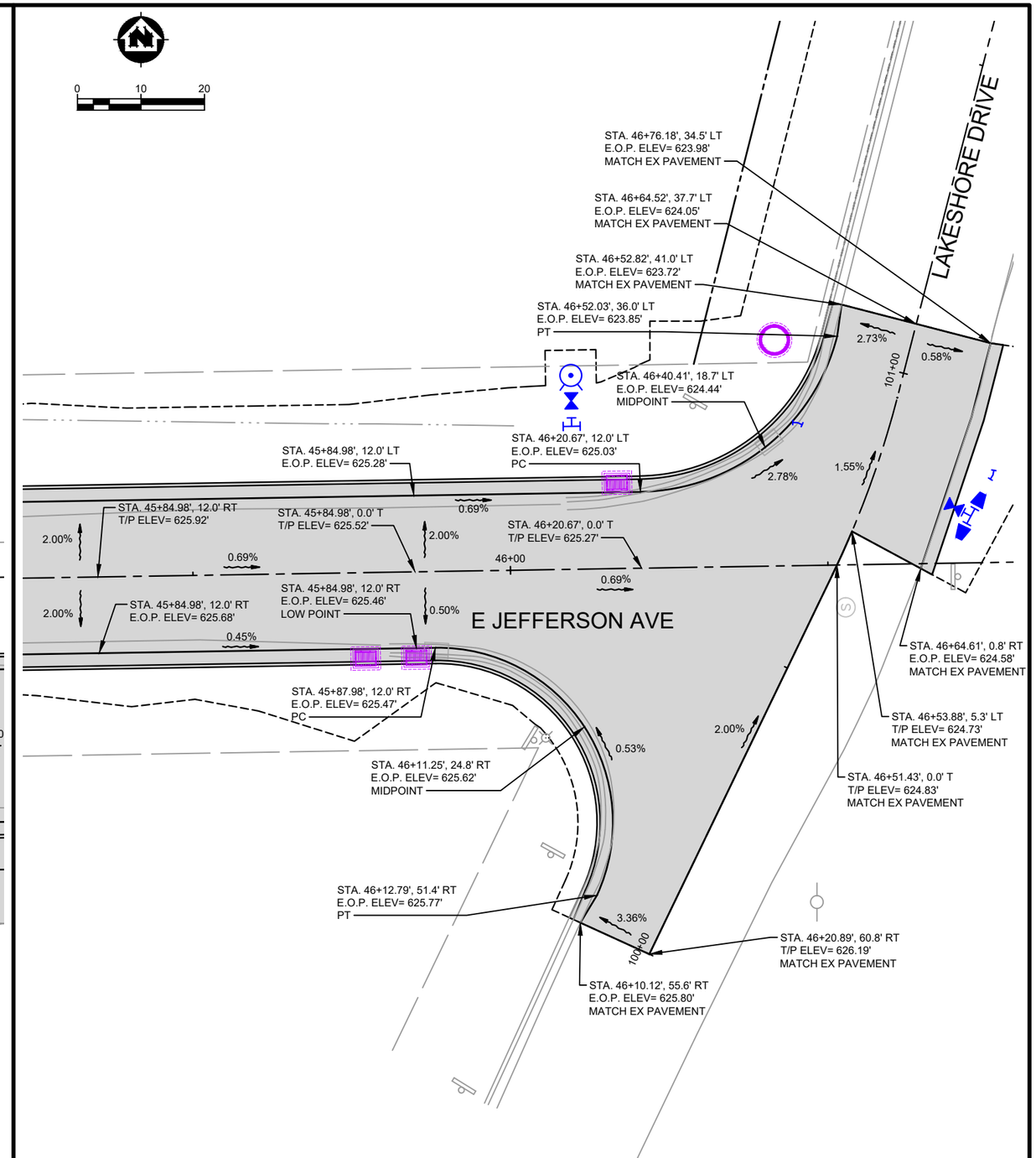
E.O.P. ELEV= EDGE OF PAVEMENT



E JEFFERSON AVE



LEGEND:

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E JEFFERSON AVE INTERSECTION PLANS

FILE NO. 08002029

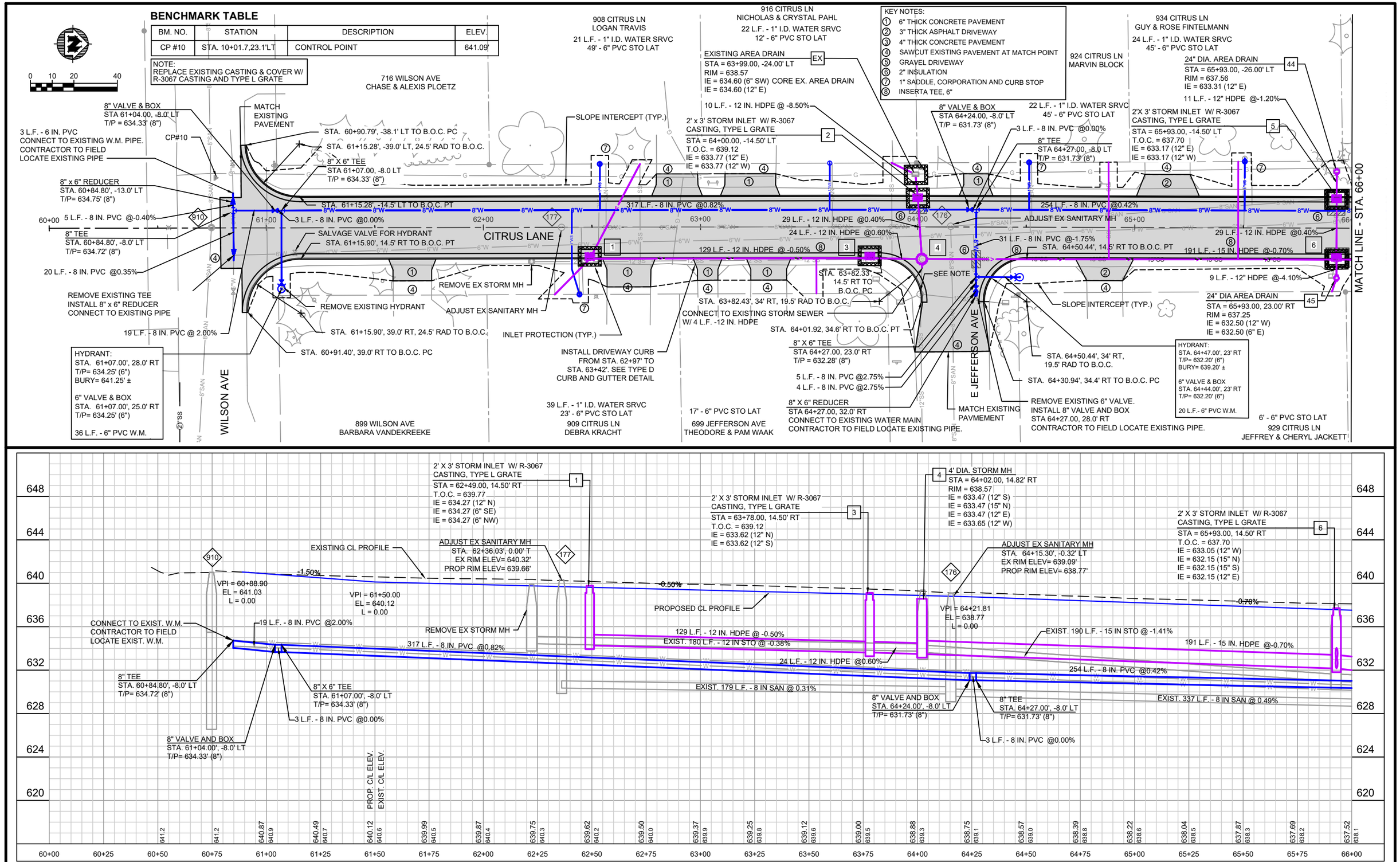
SHEET ST 12

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
CP #10	STA. 10+01.7,23.1'LT	CONTROL POINT	641.09'

NOTE:
REPLACE EXISTING CASTING & COVER W/ R-3067 CASTING AND TYPE L GRATE

KEY NOTES:
1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"



		NO.	DATE	REVISION	BY
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	CHECKED BY: DWR	.	.	. .	.

PLOT DATE: 3/2/2022 2:57 PM, G:\08\08002\08002031\CADD\Construction Documents\Citrus Lane.dwg

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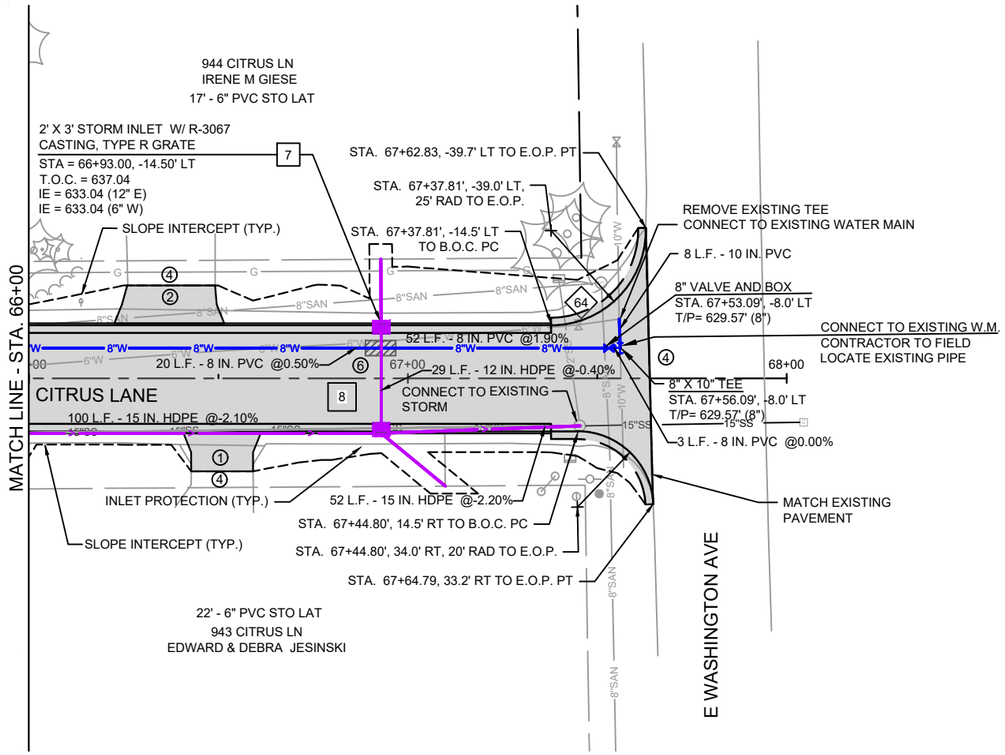
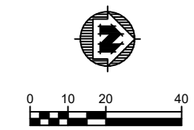
CITRUS LANE PLAN & PROFILE

PROJECT NO. 08002031

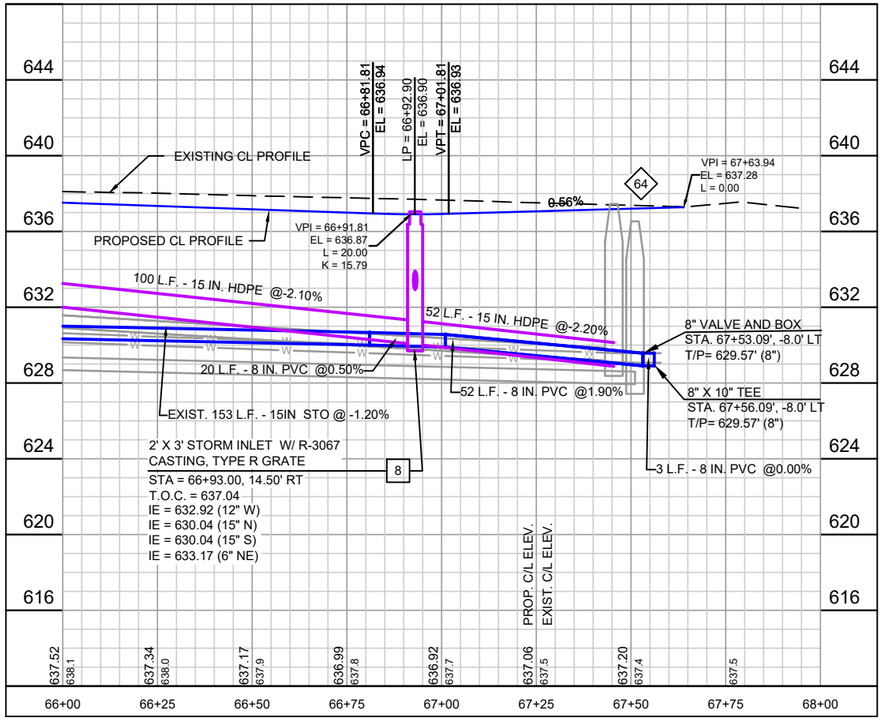
SHEET R 1





KEY NOTES:

1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"



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PROJECT DATE: March 24, 2022	DRAWN BY:	EE	.	.	. .	.
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CITRUS LANE PLAN & PROFILE

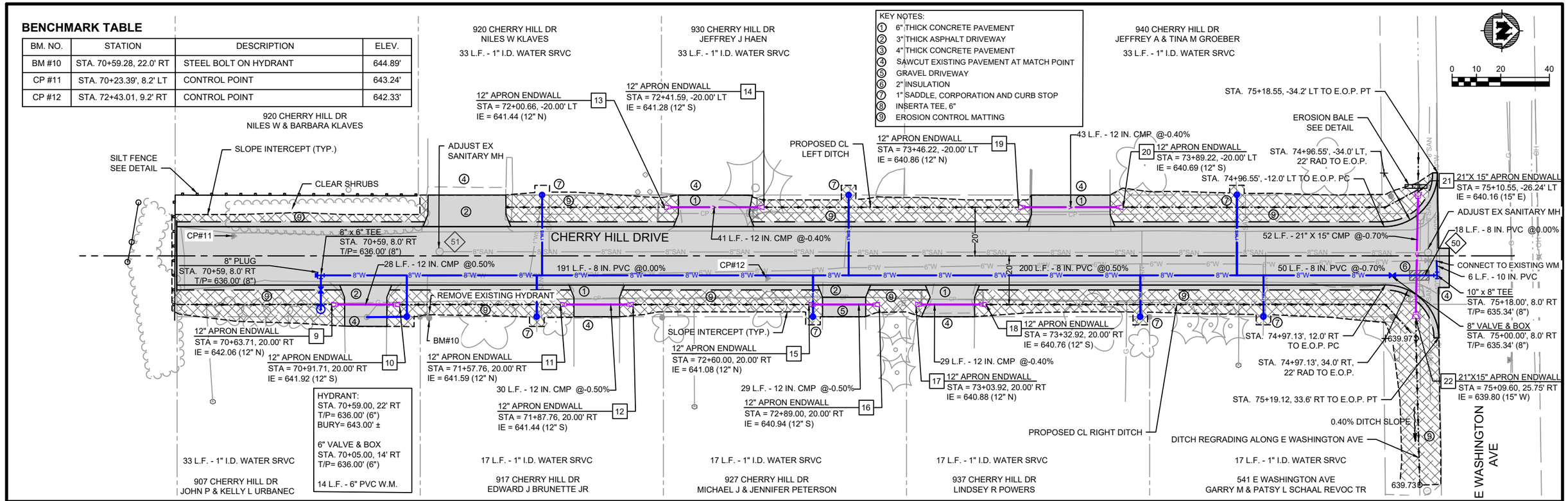
PROJECT NO. 08002031

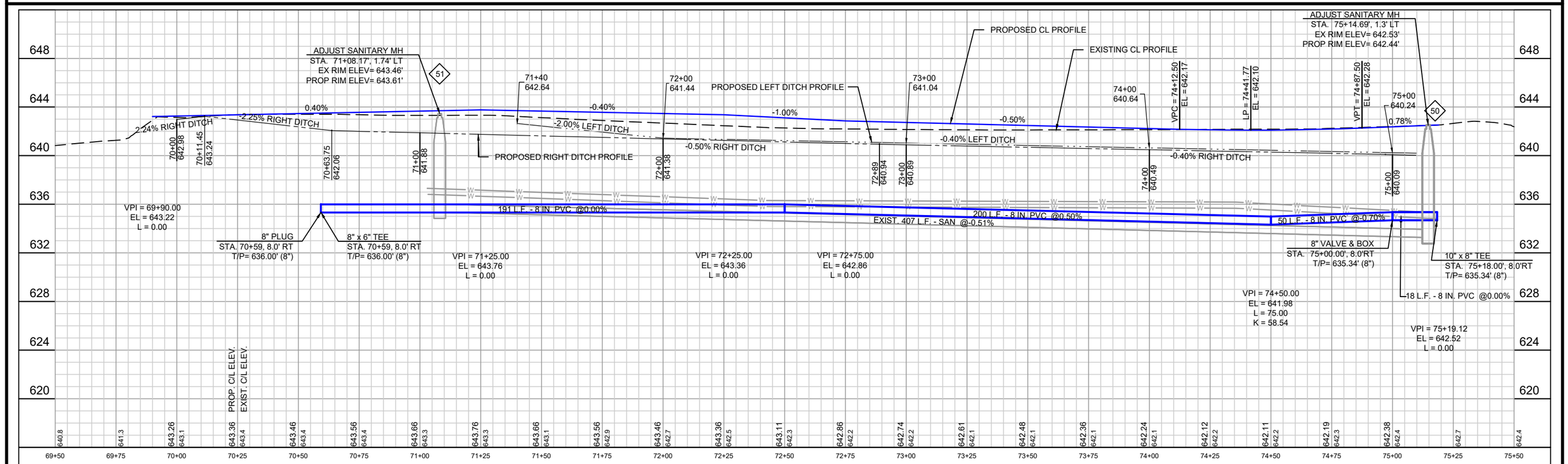
SHEET R 2

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #10	STA. 70+59.28, 22.0' RT	STEEL BOLT ON HYDRANT	644.89'
CP #11	STA. 70+23.39', 8.2' LT	CONTROL POINT	643.24'
CP #12	STA. 72+43.01, 9.2' RT	CONTROL POINT	642.33'

KEY NOTES:
1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"
9. EROSION CONTROL MATTING





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	CHECKED BY: DWR	.	.	. .	.

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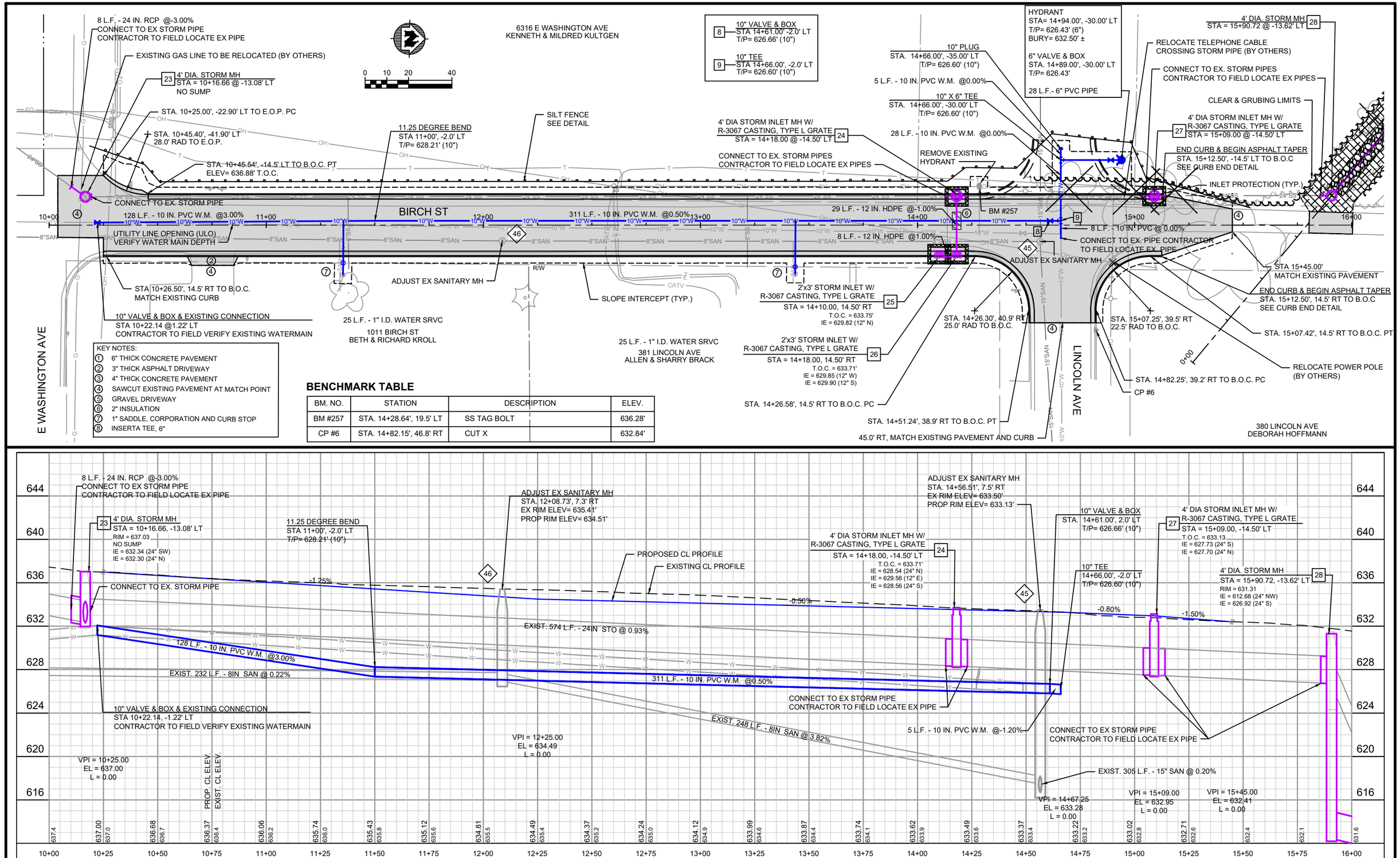
MANITOWOC COUNTY, WI

CHERRY HILL DRIVE PLAN & PROFILE

PROJECT NO. 08002031

SHEET R 3



BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #257	STA. 14+28.64', 19.5' LT	SS TAG BOLT	636.28'
CP #6	STA. 14+82.15', 46.8' RT	CUT X	632.84'

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	DESIGNED BY: DWR	.	.	. .	.
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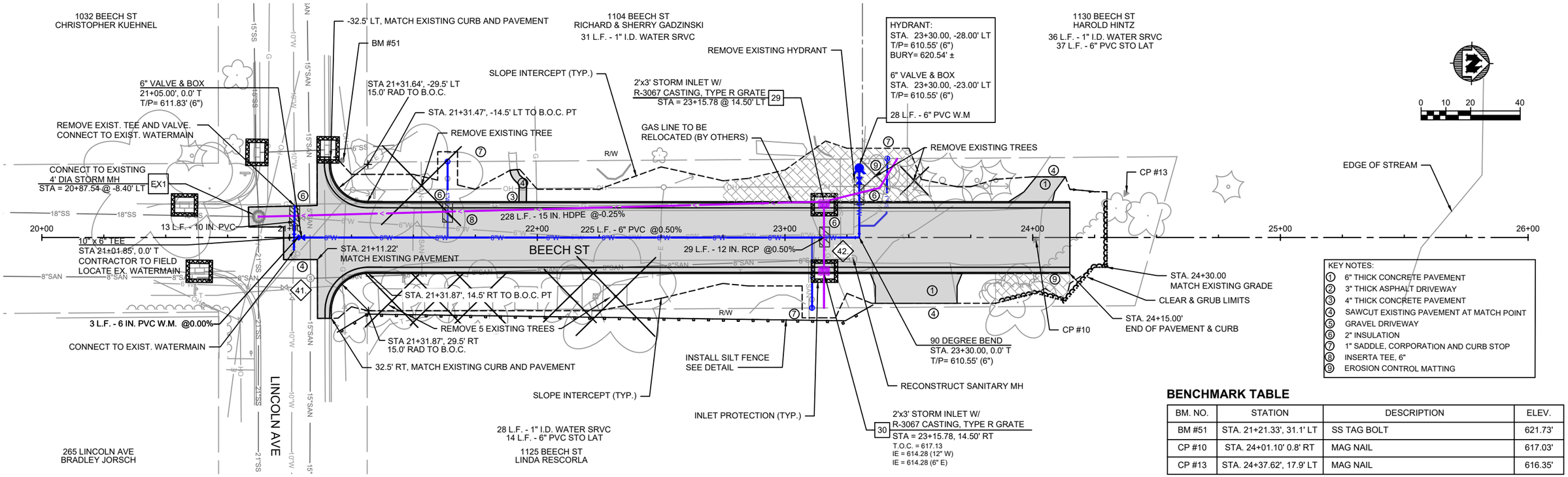
BIRCH STREET PLAN & PROFILE

PROJECT NO. 08002029

SHEET R 4

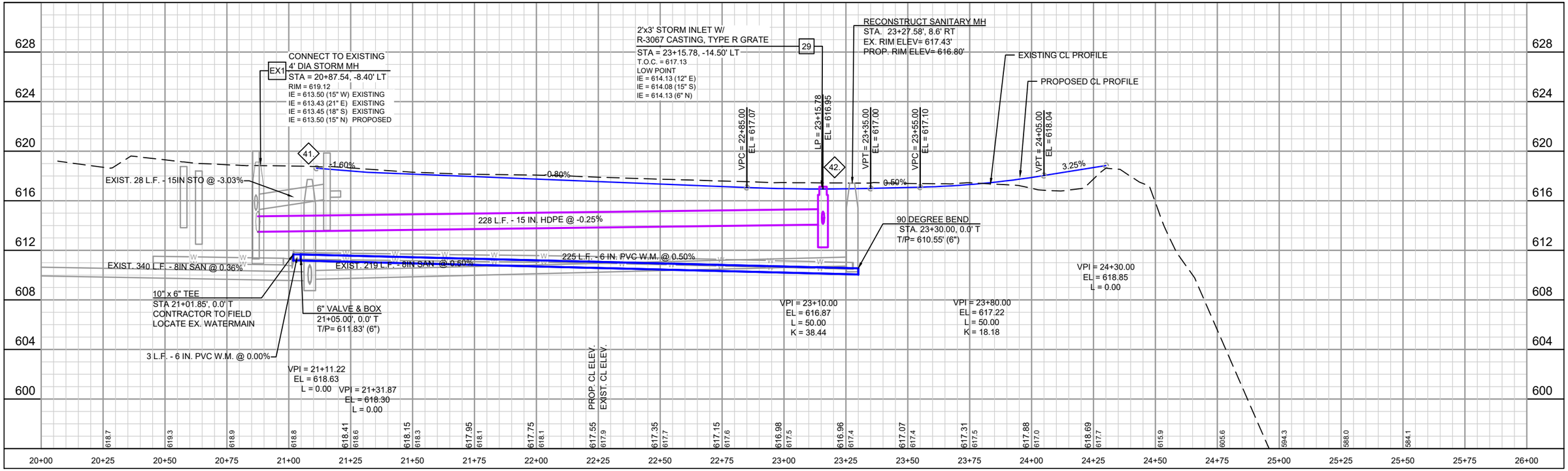


KEY NOTES:

1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"
9. EROSION CONTROL MATTING

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #51	STA. 21+21.33', 31.1' LT	SS TAG BOLT	621.73'
CP #10	STA. 24+01.10' 0.8' RT	MAG NAIL	617.03'
CP #13	STA. 24+37.62', 17.9' LT	MAG NAIL	616.35'



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BEECH STREET PLAN & PROFILE

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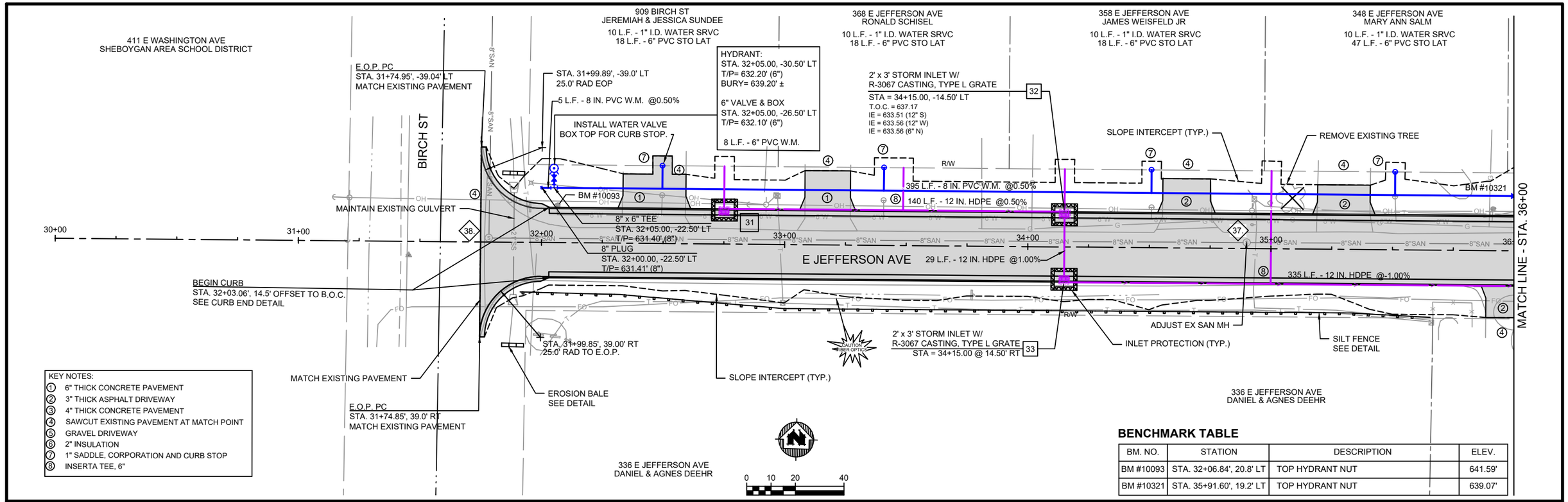
SHEET R 5

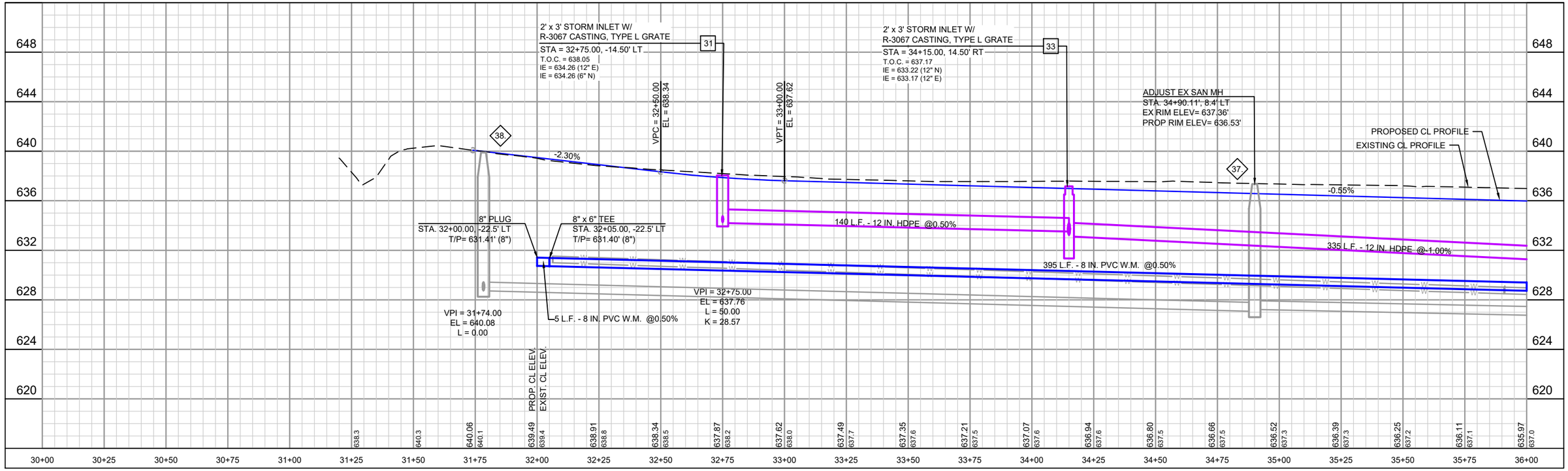


KEY NOTES:

1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #10093	STA. 32+06.84', 20.8' LT	TOP HYDRANT NUT	641.59'
BM #10321	STA. 35+91.60', 19.2' LT	TOP HYDRANT NUT	639.07'



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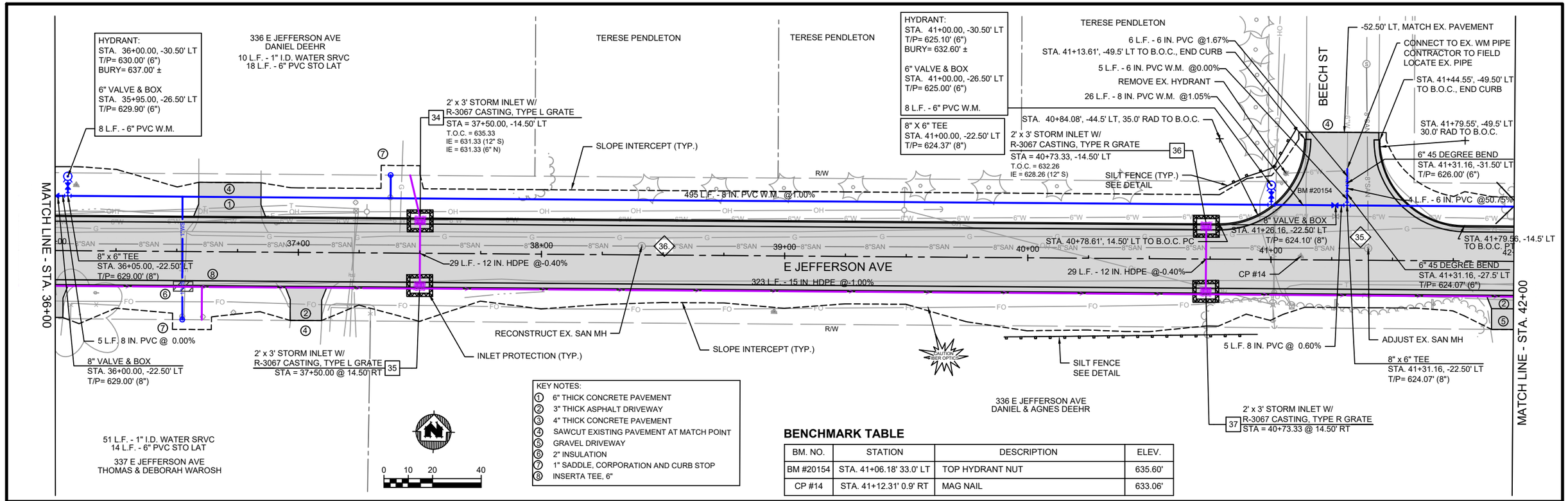
E JEFFERSON AVENUE PLAN & PROFILE

PROJECT NO. 08002029

SHEET R 6

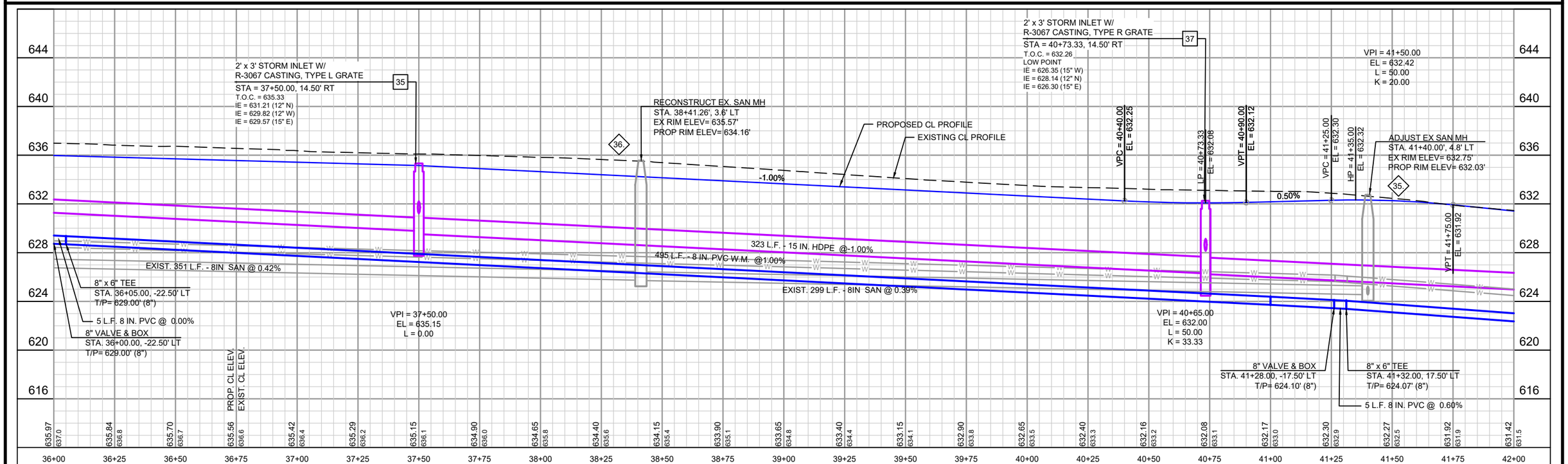


KEY NOTES:

1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #20154	STA. 41+06.18' 33.0' LT	TOP HYDRANT NUT	635.60'
CP #14	STA. 41+12.31' 0.9' RT	MAG NAIL	633.06'



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E JEFFERSON AVENUE PLAN & PROFILE

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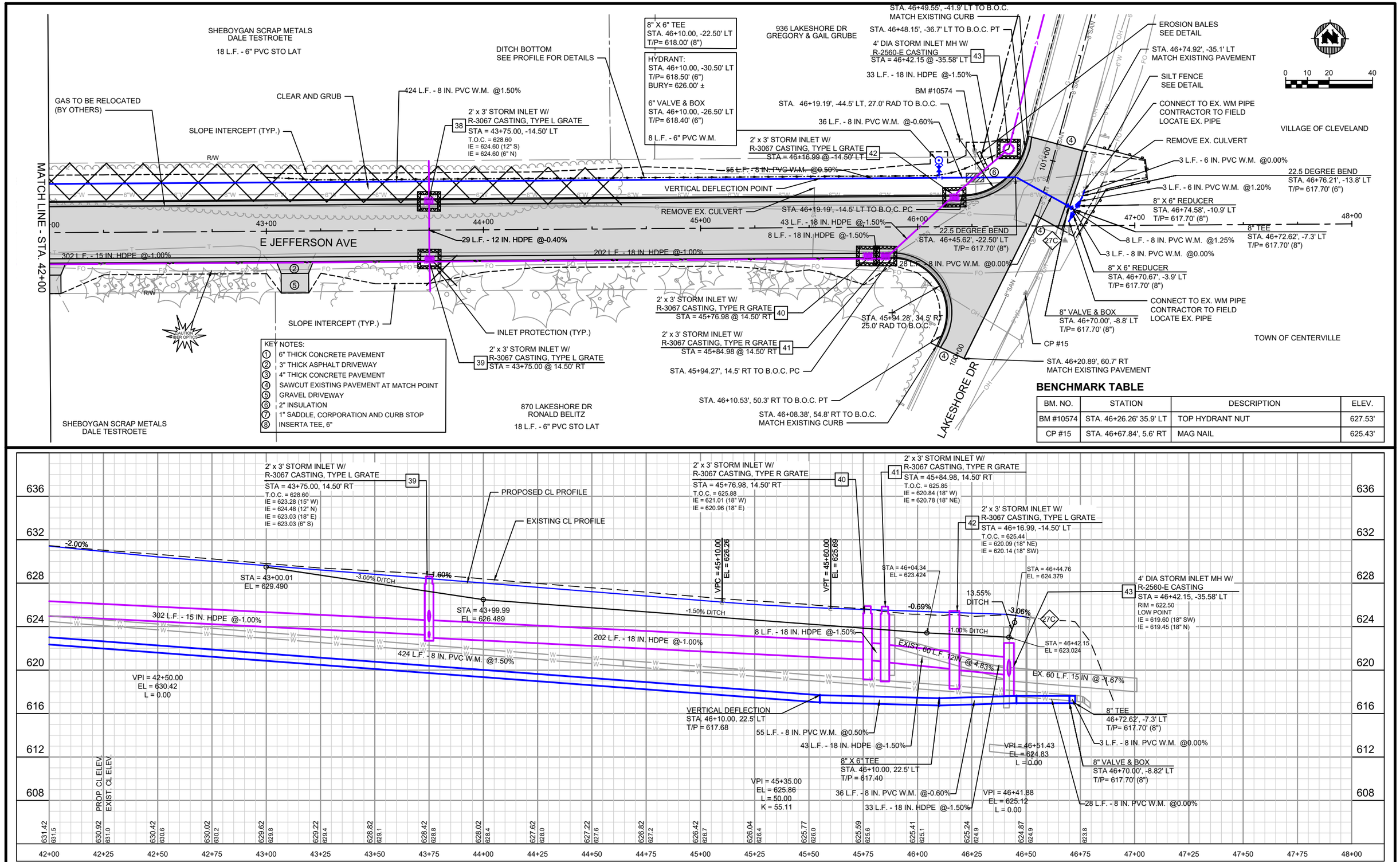
SHEET R 7



BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #10574	STA. 46+26.26' 35.9' LT	TOP HYDRANT NUT	627.53'
CP #15	STA. 46+67.84', 5.6' RT	MAG NAIL	625.43'

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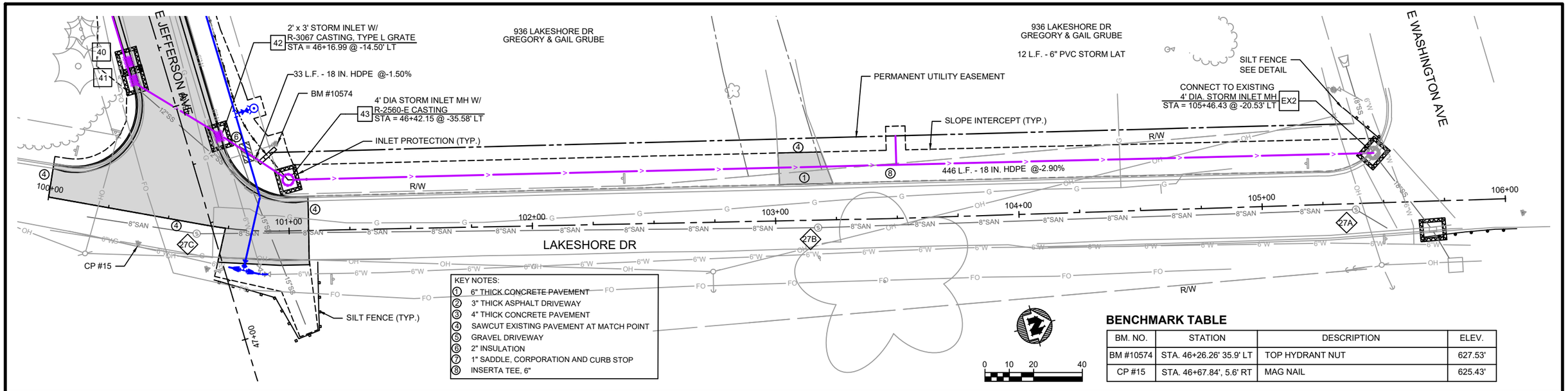
E JEFFERSON AVENUE PLAN & PROFILE

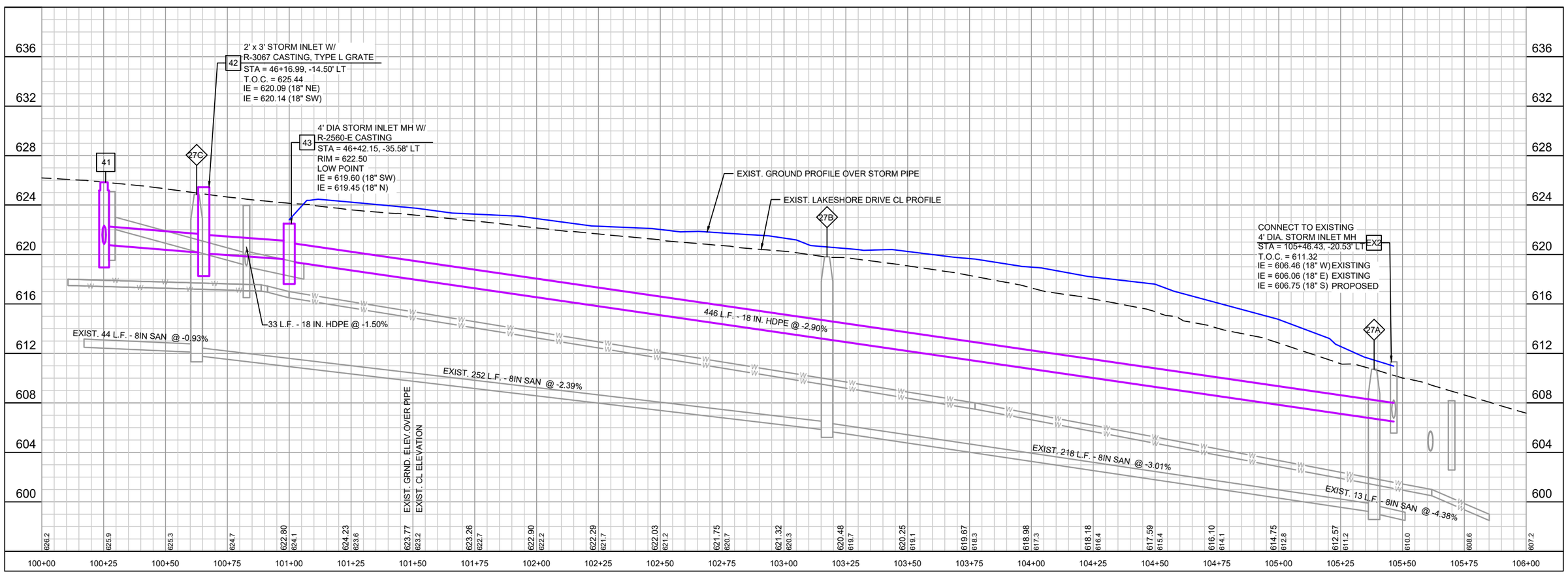
PROJECT NO. 08002029

SHEET R 8



BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
BM #10574	STA. 46+26.26' 35.9' LT	TOP HYDRANT NUT	627.53'
CP #15	STA. 46+67.84', 5.6' RT	MAG NAIL	625.43'



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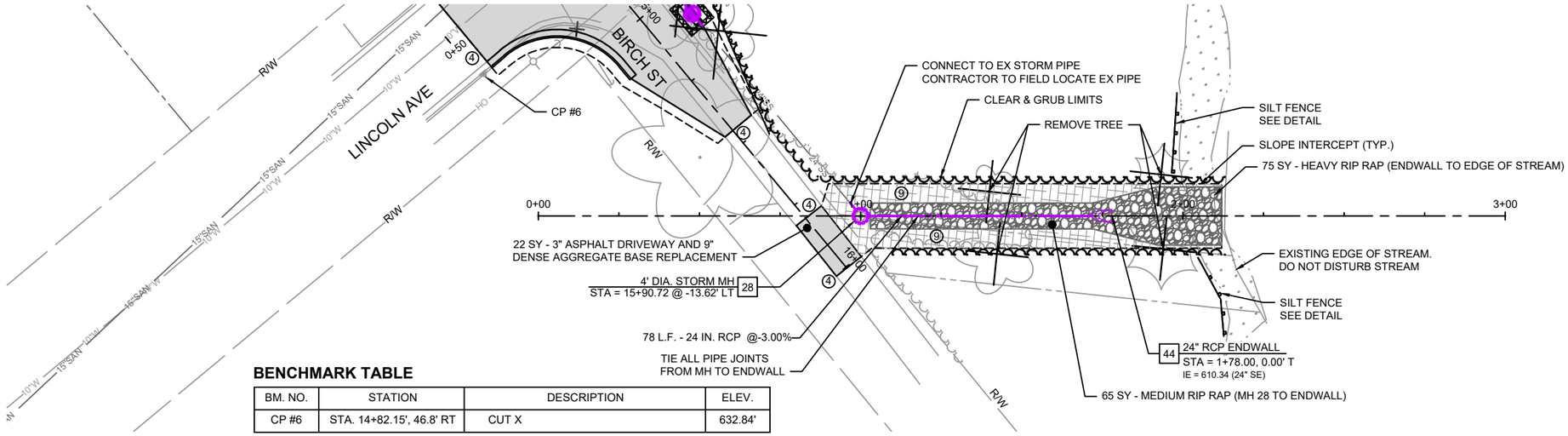
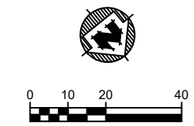
LAKESHORE DRIVE PLAN & PROFILE

PROJECT NO. 08002029

SHEET R 9



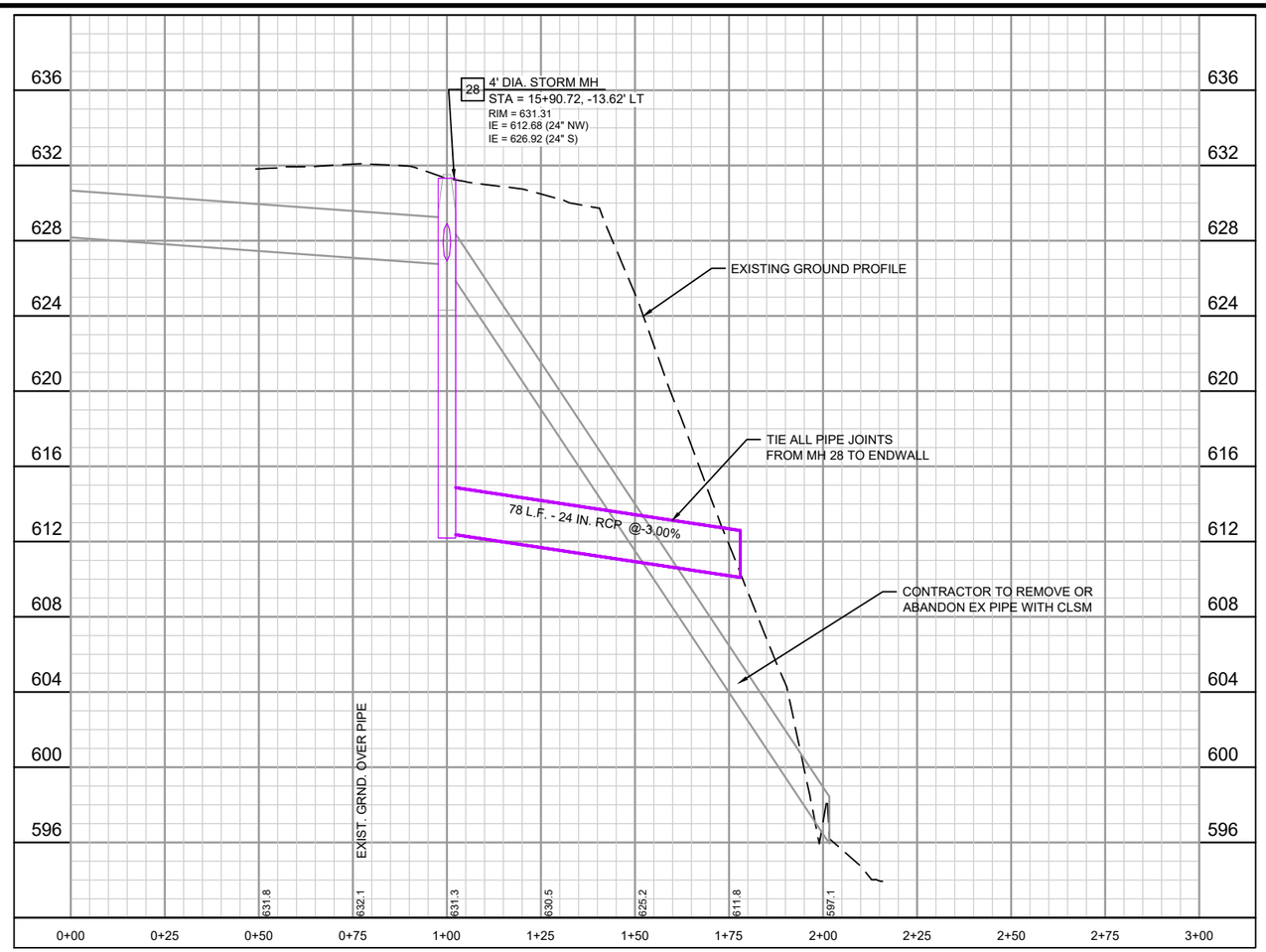


KEY NOTES:

1. 6" THICK CONCRETE PAVEMENT
2. 3" THICK ASPHALT DRIVEWAY
3. 4" THICK CONCRETE PAVEMENT
4. SAWCUT EXISTING PAVEMENT AT MATCH POINT
5. GRAVEL DRIVEWAY
6. 2" INSULATION
7. 1" SADDLE, CORPORATION AND CURB STOP
8. INSERTA TEE, 6"
9. EROSION CONTROL MATTING

BENCHMARK TABLE

BM. NO.	STATION	DESCRIPTION	ELEV.
CP #6	STA. 14+82.15', 46.8' RT	CUT X	632.84'



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PLOT DATE: Wednesday, March 2, 2022 11:27:22 AM, G:\08\08002\08002029\CADD\Construction Documents\Birch Storm Outlet P&P.dwg

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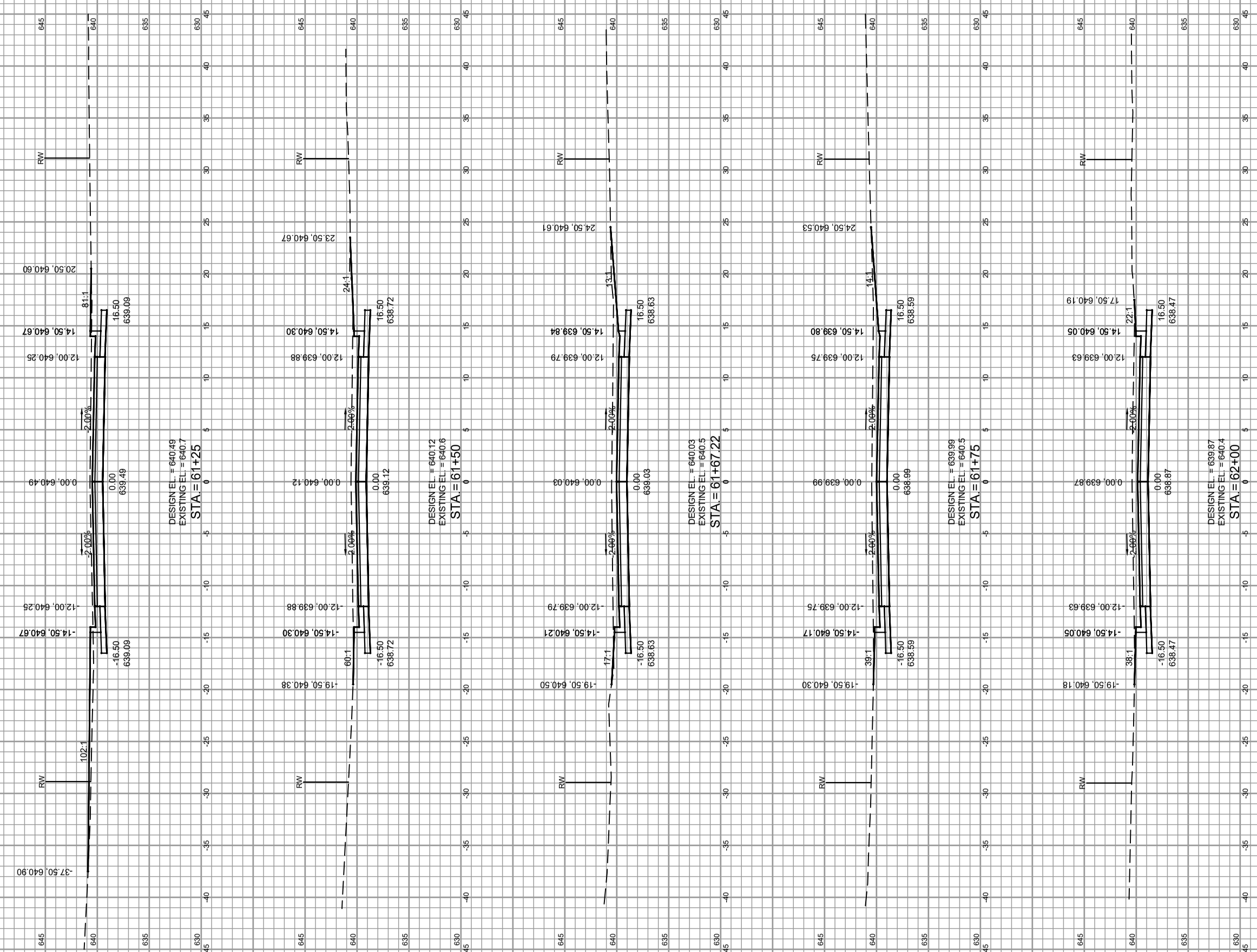
BIRCH ST STORM OUTLET PLAN & PROFILE - ADD ALT #1

PROJECT NO. 08002029

SHEET R 10

SEE SHEET ST8 FOR CITRUS LANE AND WILSON AVE INTERSECTION DETAILS



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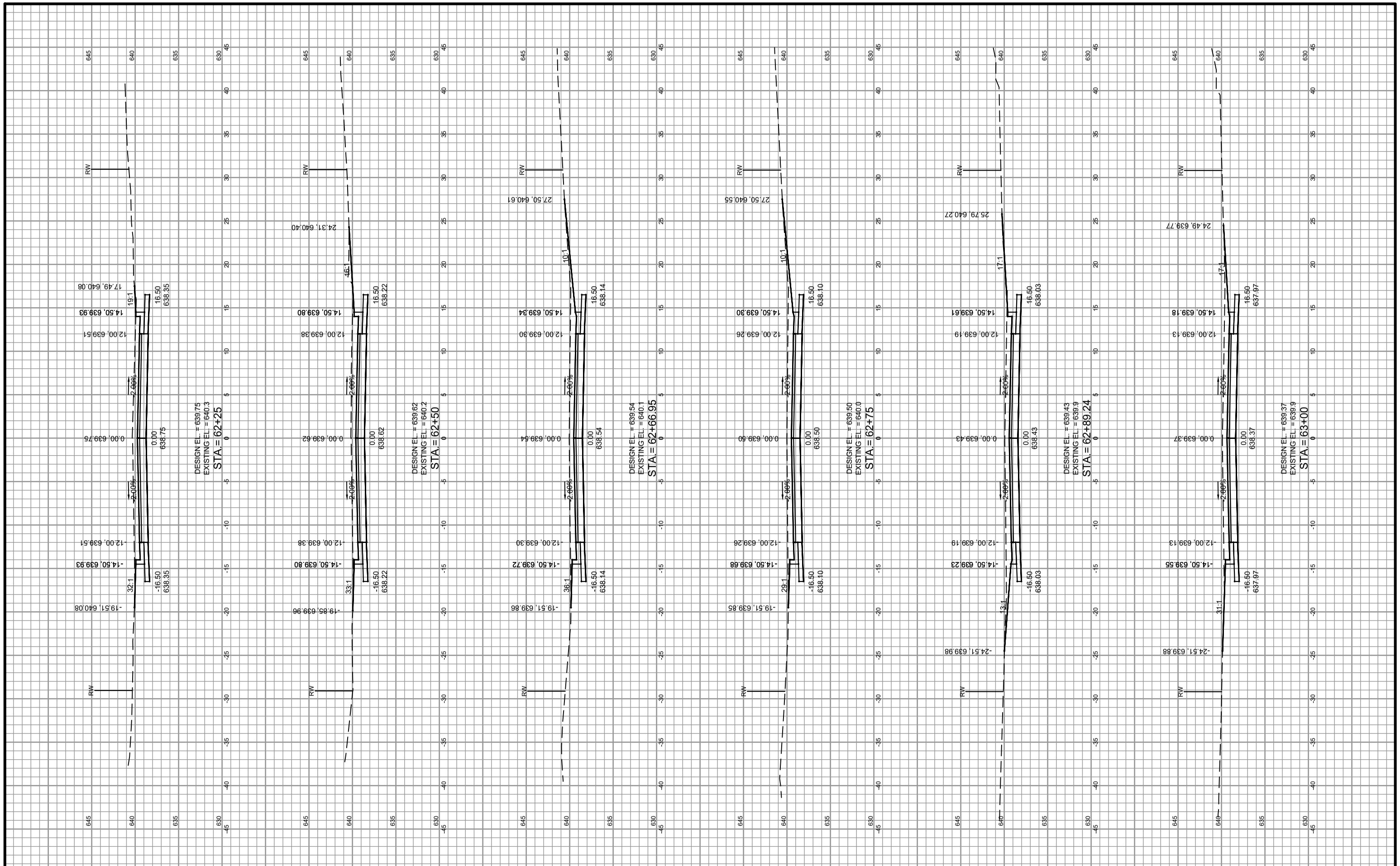
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 1



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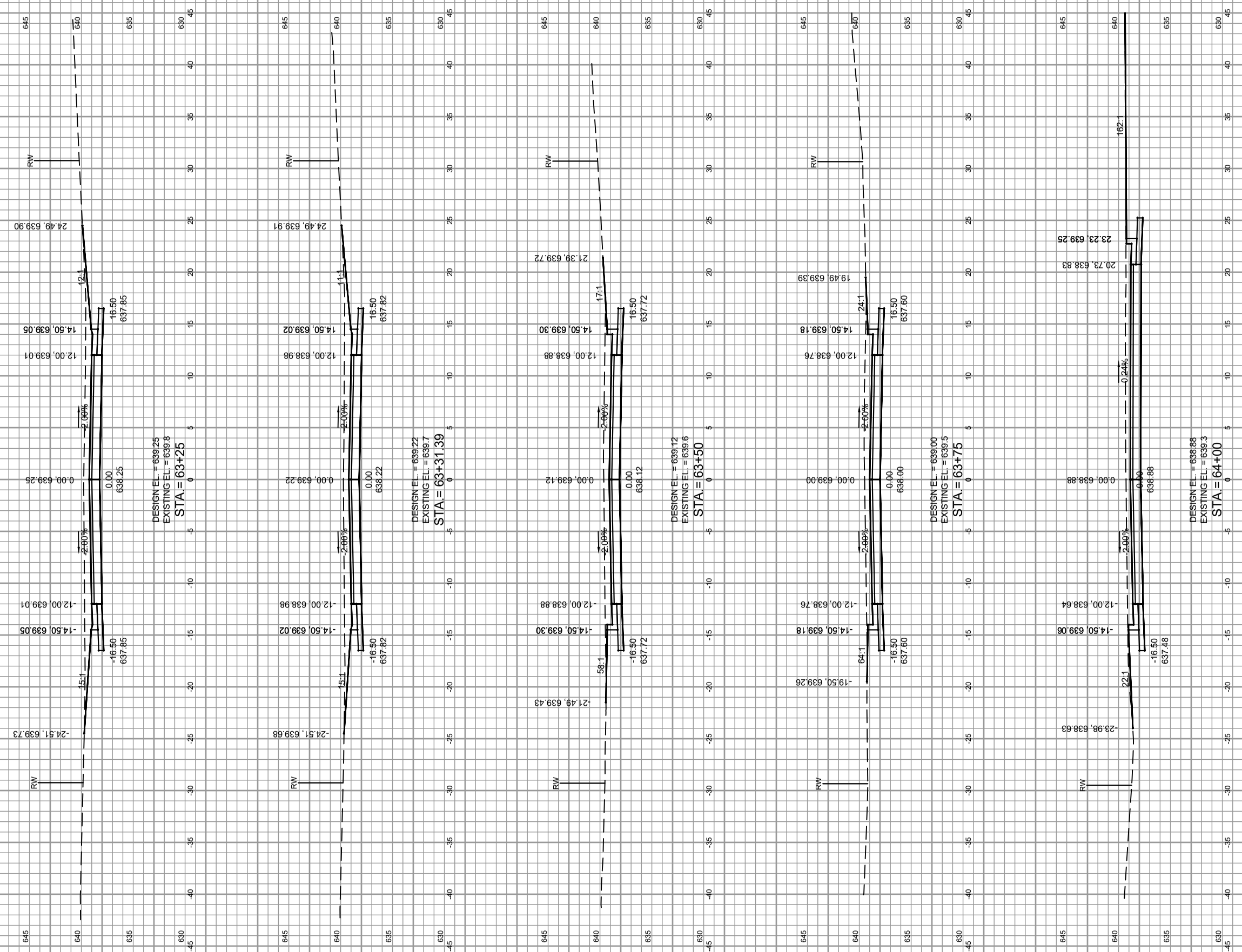
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 2



SEE SHEET ST8 FOR CITRUS LANE AND W JEFFERSON ST INTERSECTION DETAILS

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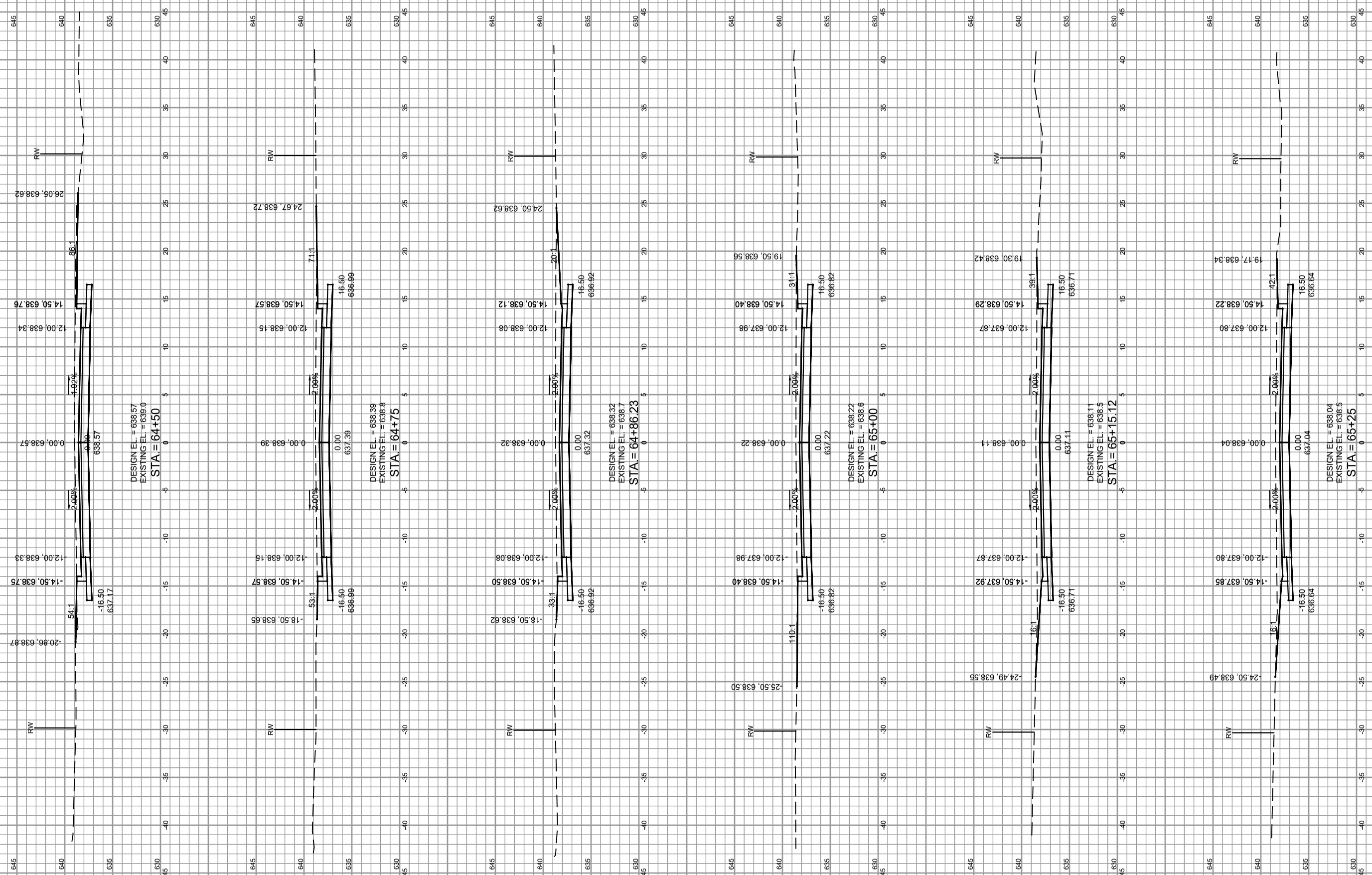
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 3



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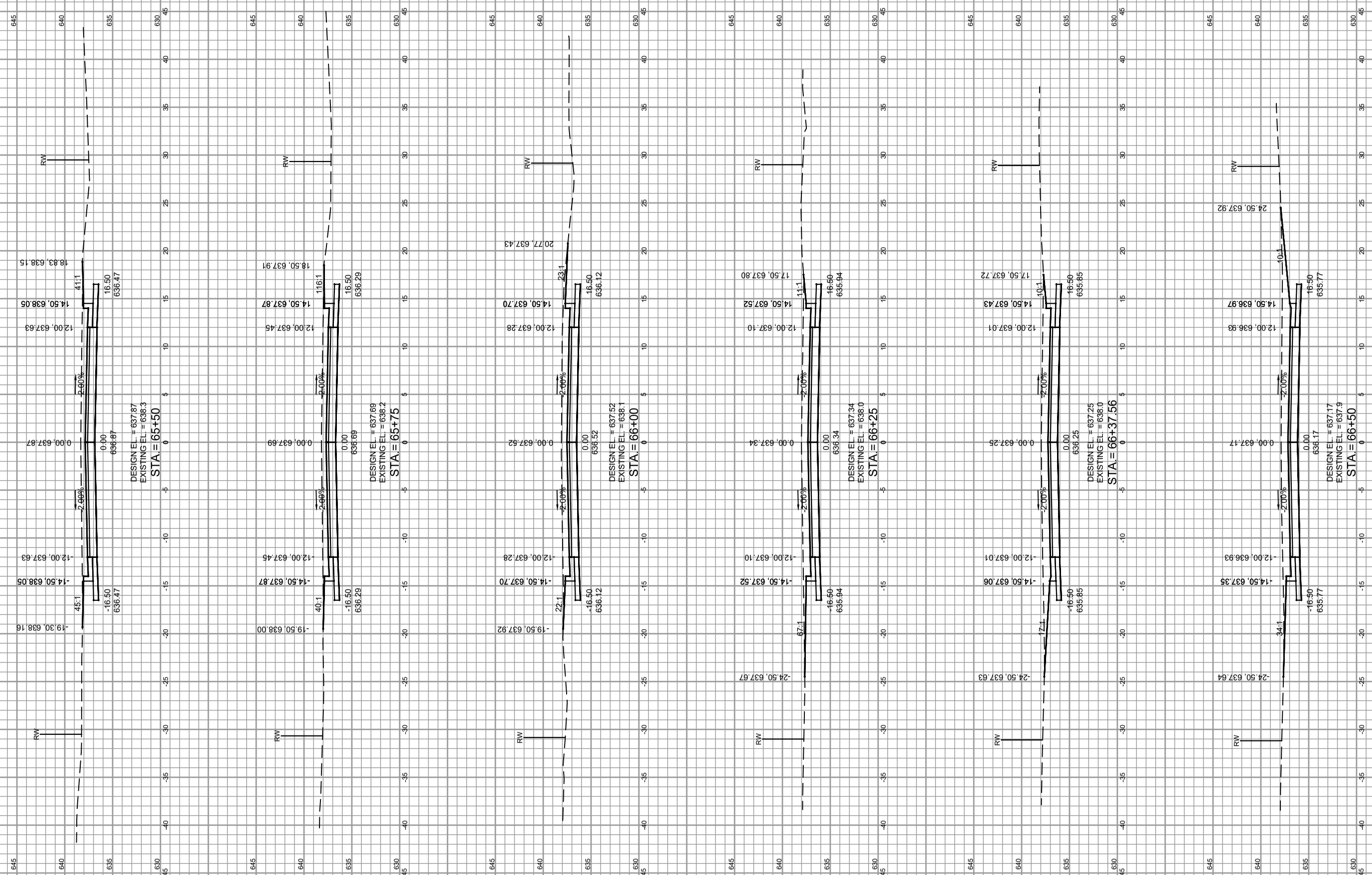
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 4



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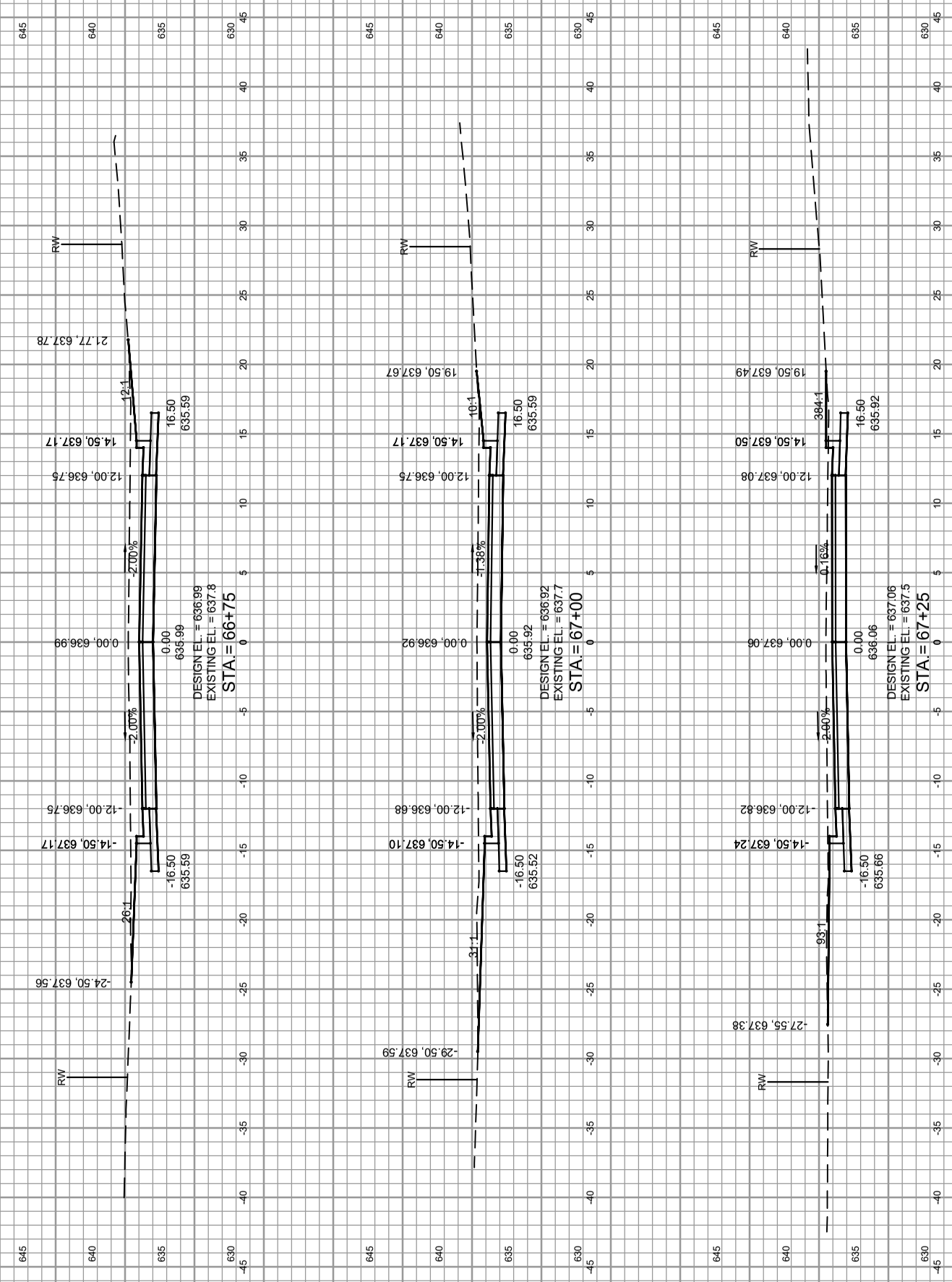
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 5



SEE SHEET ST9 FOR CITRUS LANE AND E WASHINGTON AVE INTERSECTION DETAILS

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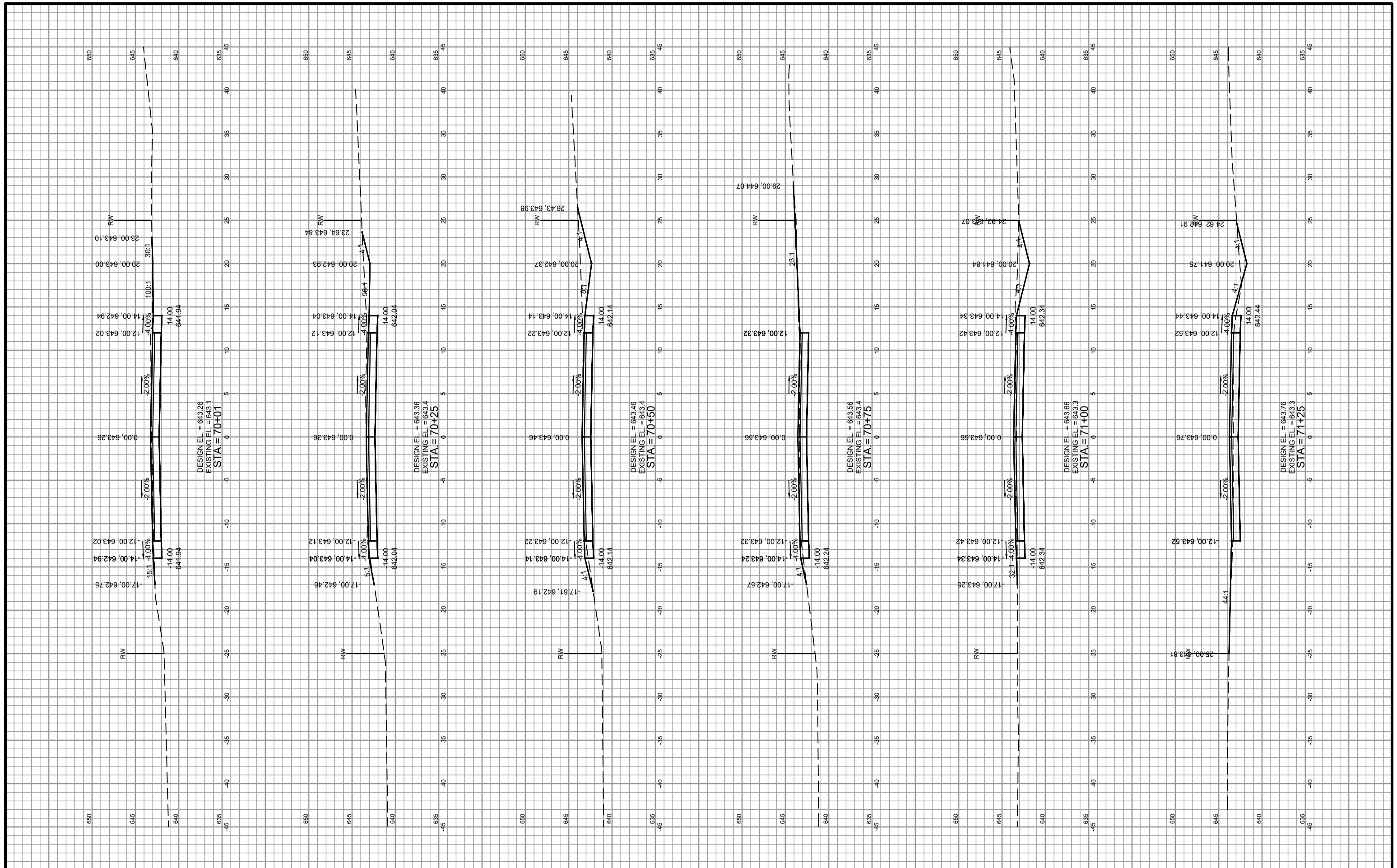
CITRUS LANE CROSS SECTIONS

PROJECT NO. 8002031

SHEET CS 6



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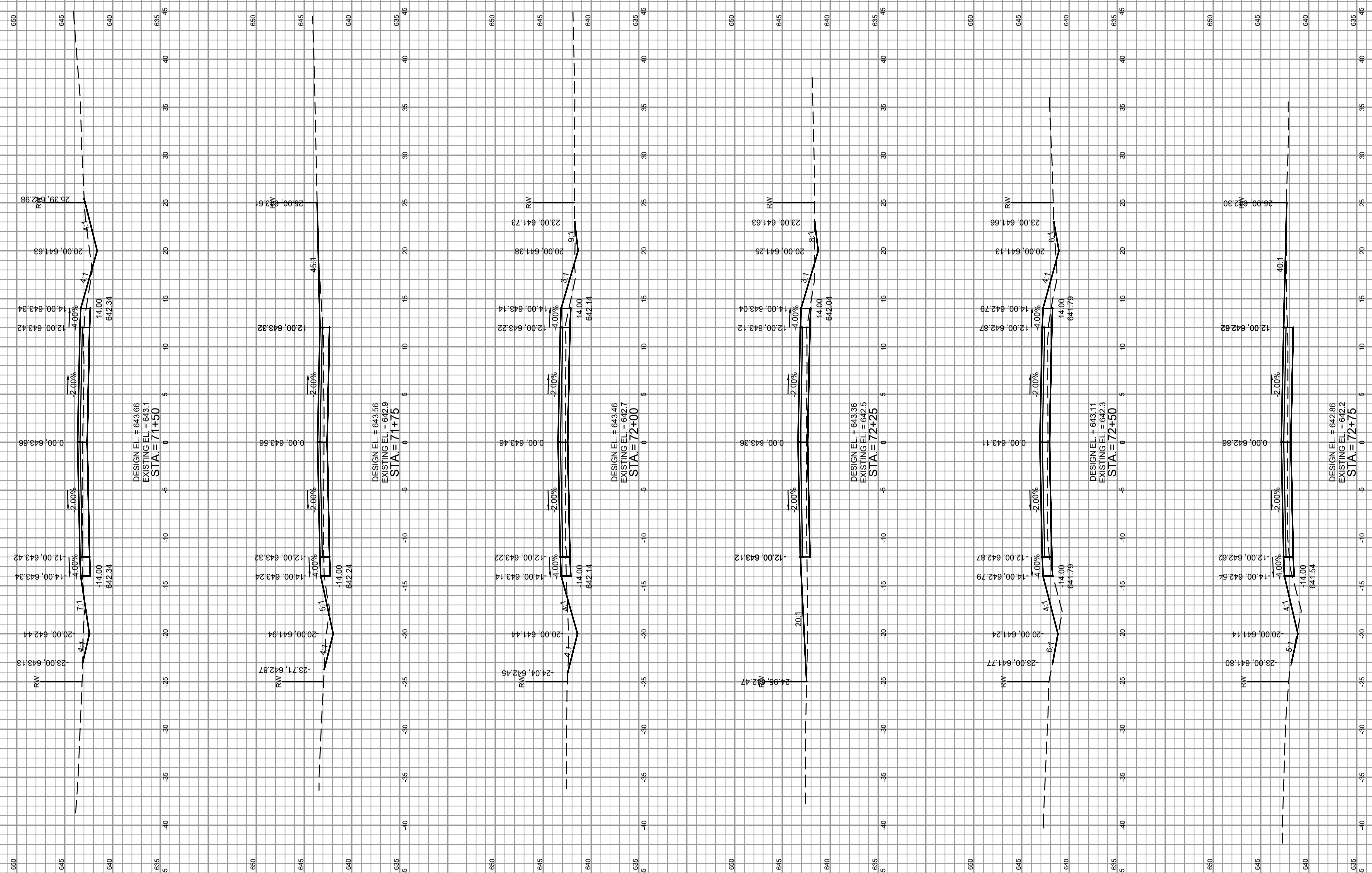
CHERRY HILL DRIVE CROSS SECTIONS

PROJECT NO.
08002031

SHEET
CS 7



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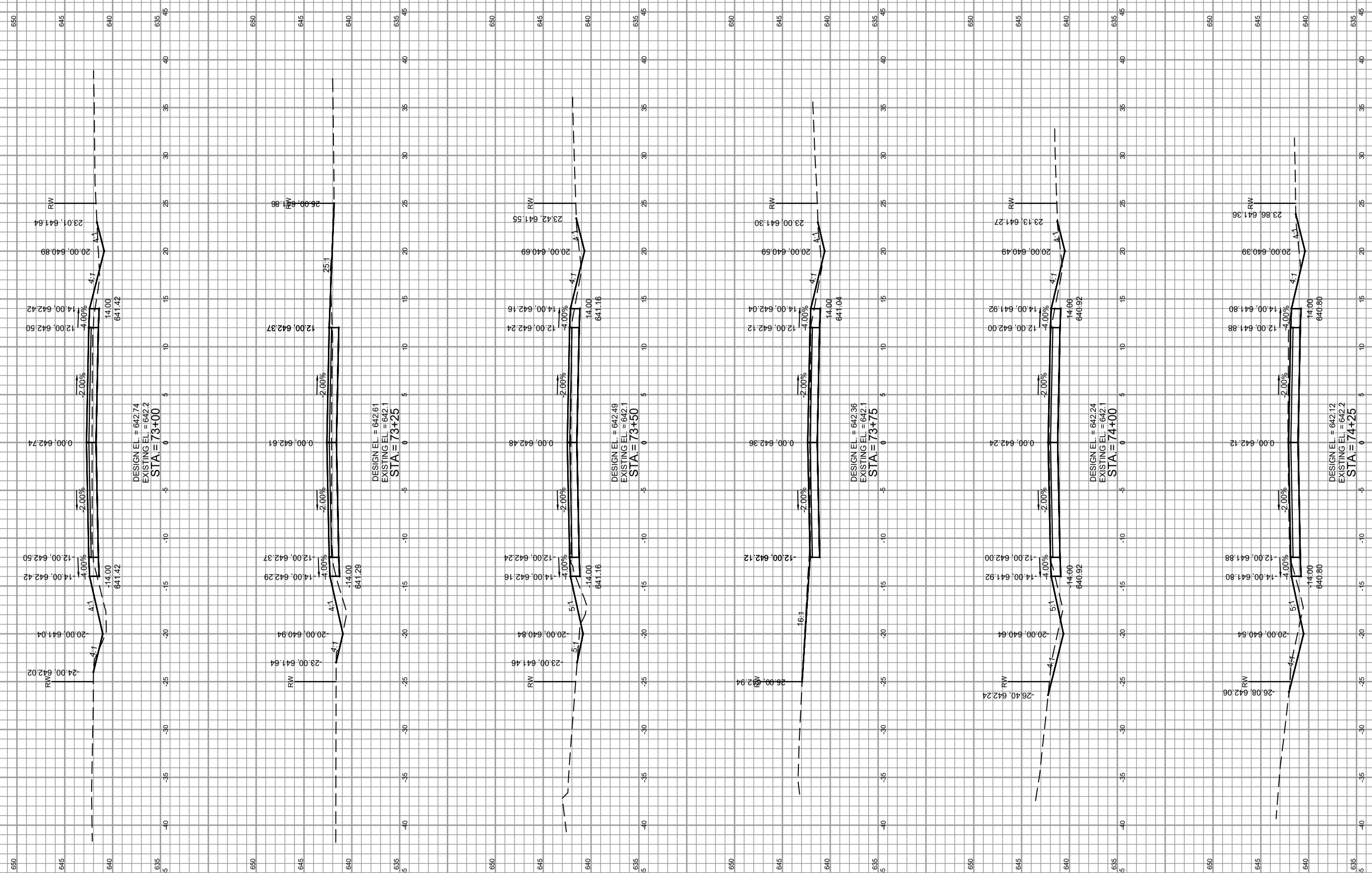
CHERRY HILL DRIVE CROSS SECTIONS

PROJECT NO. 08002031

SHEET CS 8



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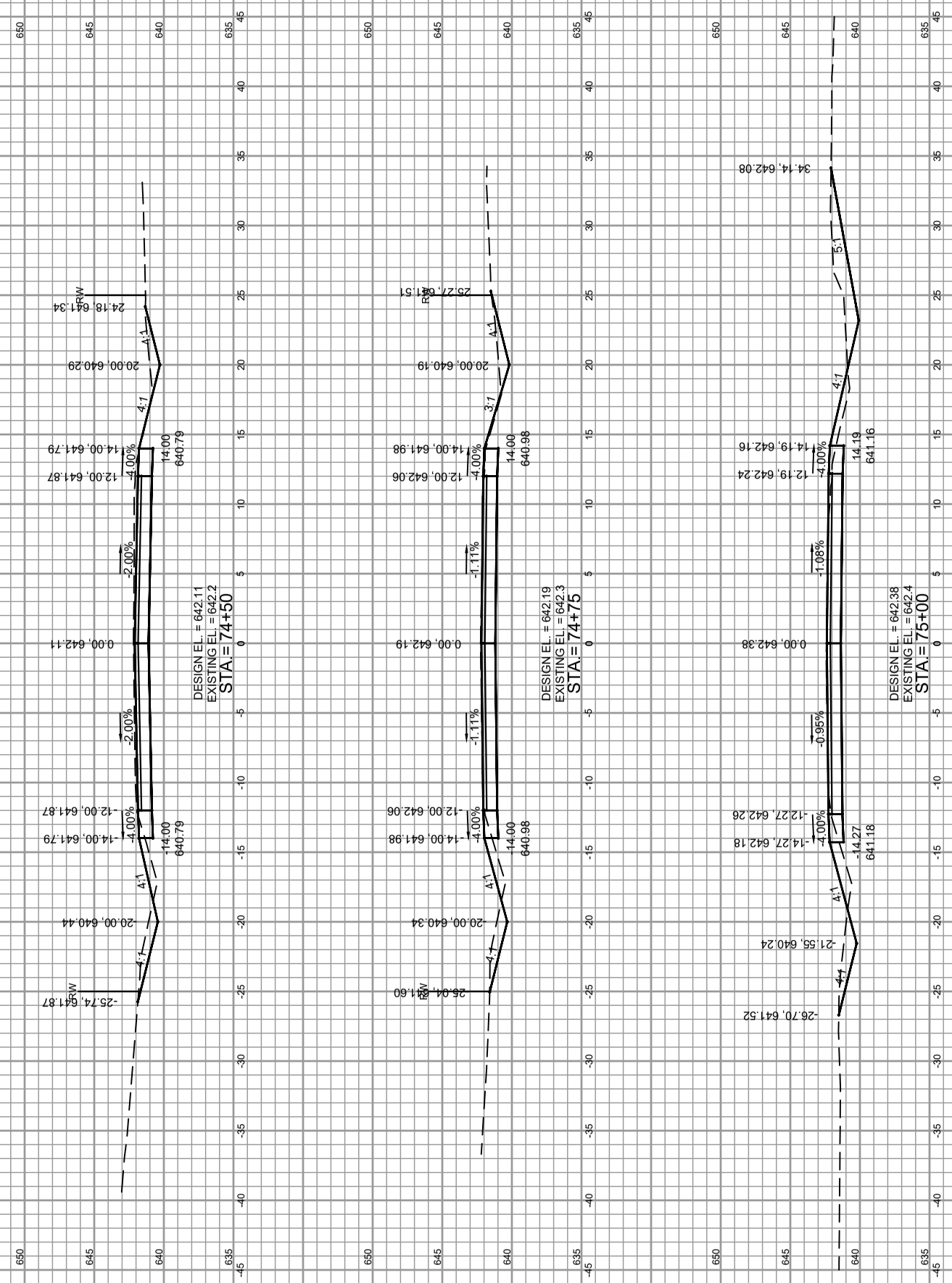
CHERRY HILL DRIVE CROSS SECTIONS

PROJECT NO. 08002031

SHEET CS 9



SEE SHEET ST9 FOR CHERRY HILL DR AND E WASHINGTON AVE INTERSECTION DETAILS

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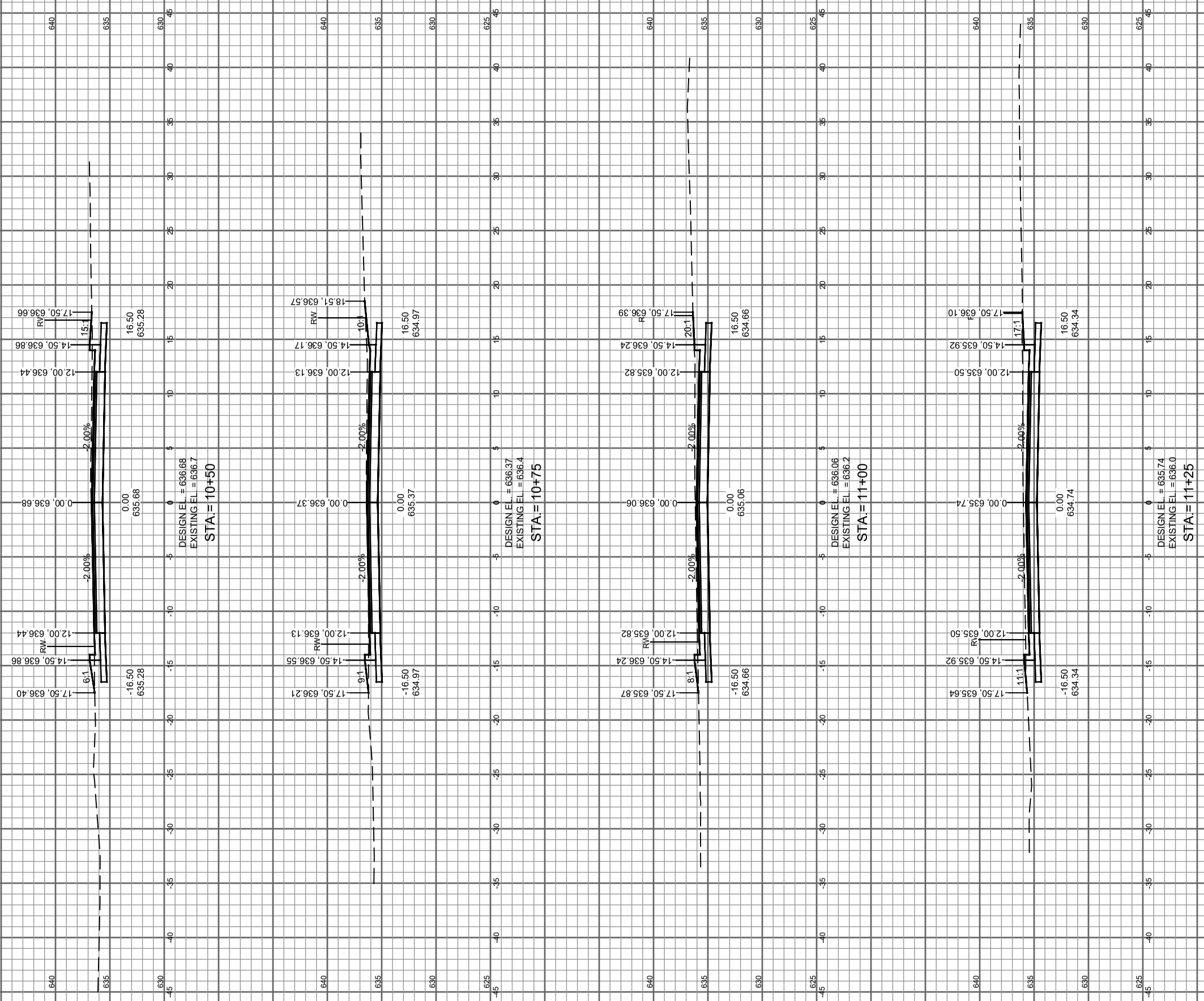
CHERRY HILL DRIVE CROSS SECTIONS

PROJECT NO. 08002031

SHEET CS 10

SEE SHEET ST10 FOR BIRCH ST AND E WASHINGTON AVE INTERSECTION DETAILS



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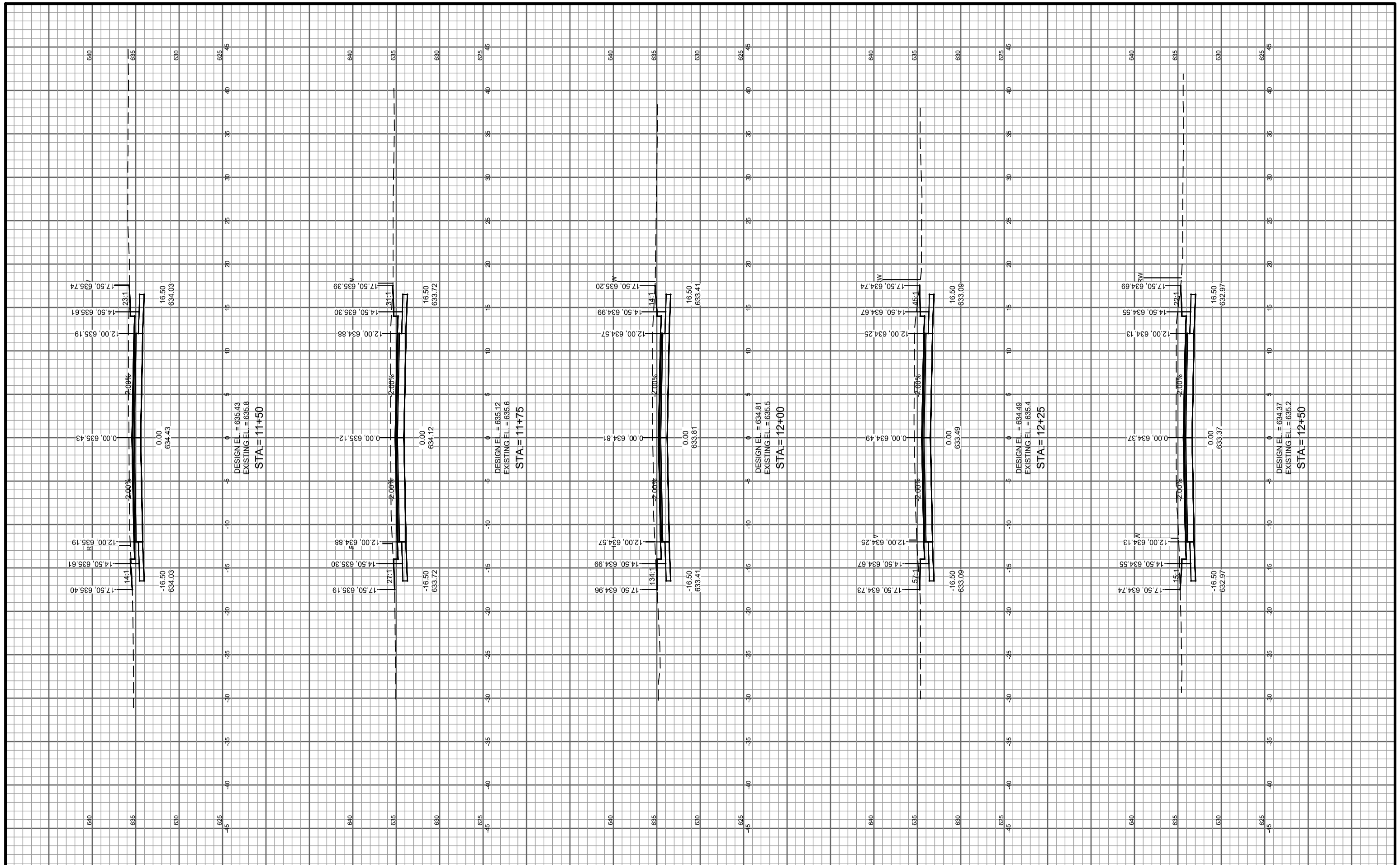
BIRCH STREET CROSS SECTIONS

FILE NO. 8002029
SHEET CS 11



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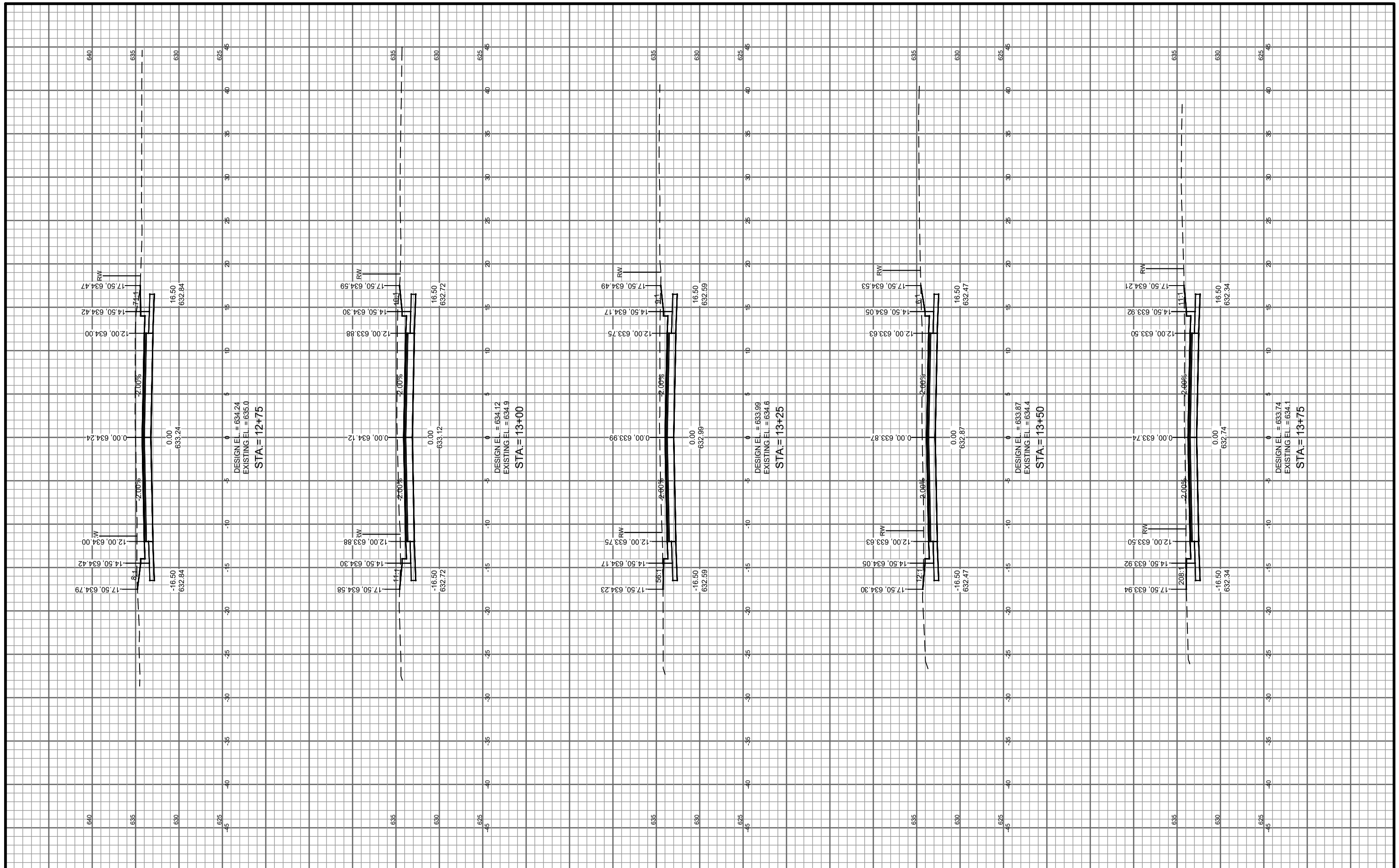
MANITOWOC COUNTY, WI

BIRCH STREET CROSS SECTIONS

FILE NO.
8002029
SHEET
CS 12



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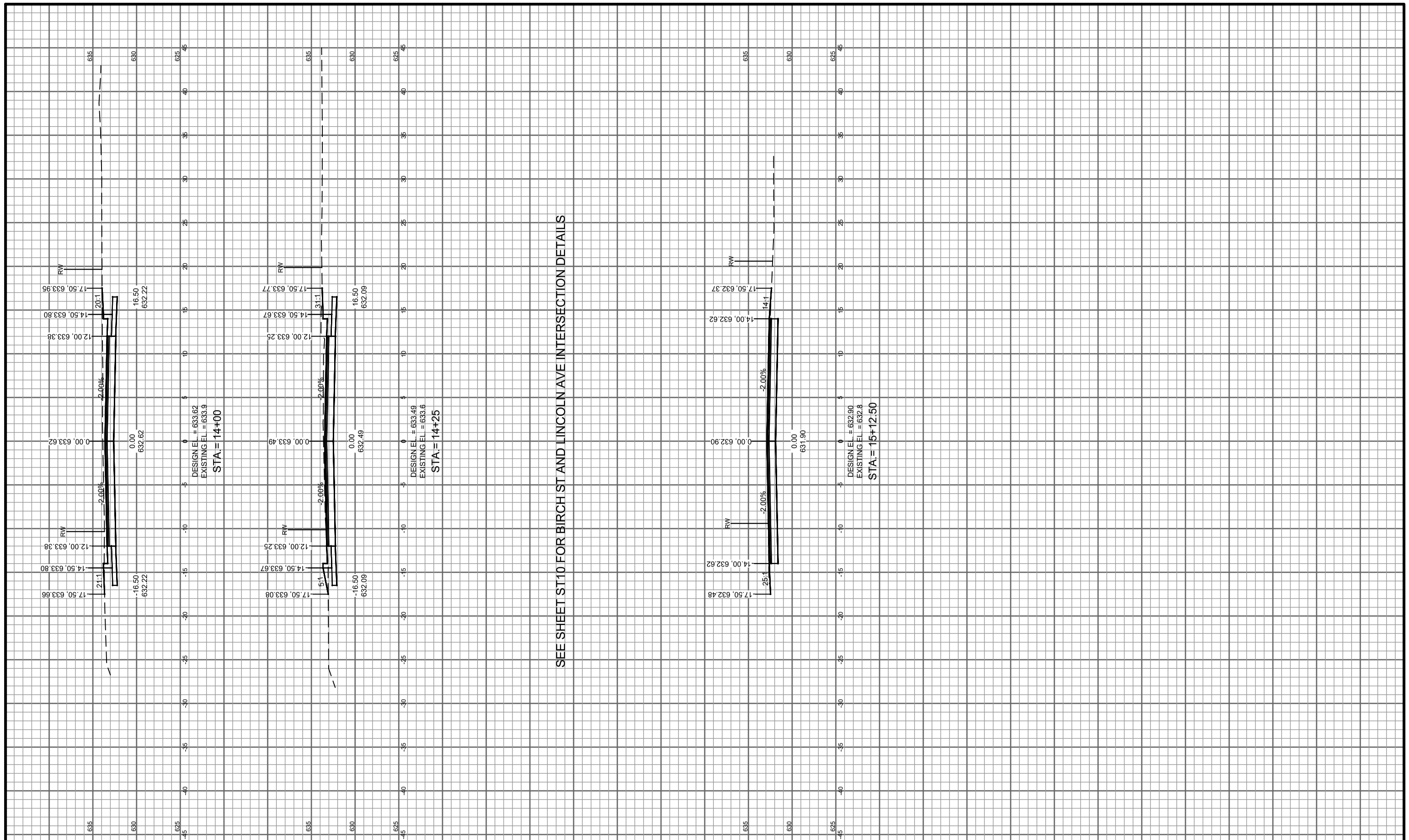
BIRCH STREET CROSS SECTIONS

FILE NO.
8002029

SHEET
CS 13



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BIRCH STREET CROSS SECTIONS

FILE NO.
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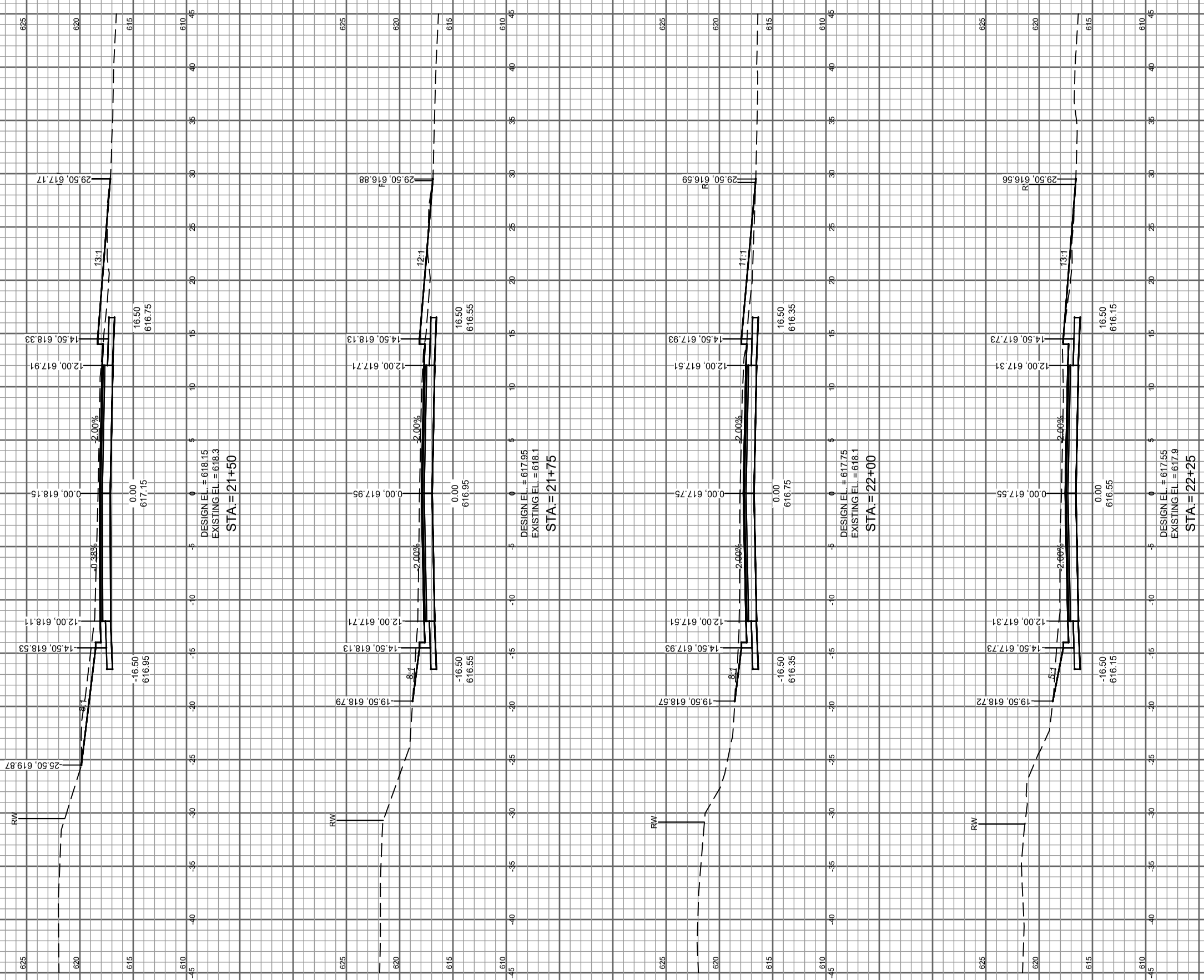
SHEET
CS 14

SEE SHEET ST11 FOR BEECH ST AND LINCOLN ST INTERSECTION DETAILS



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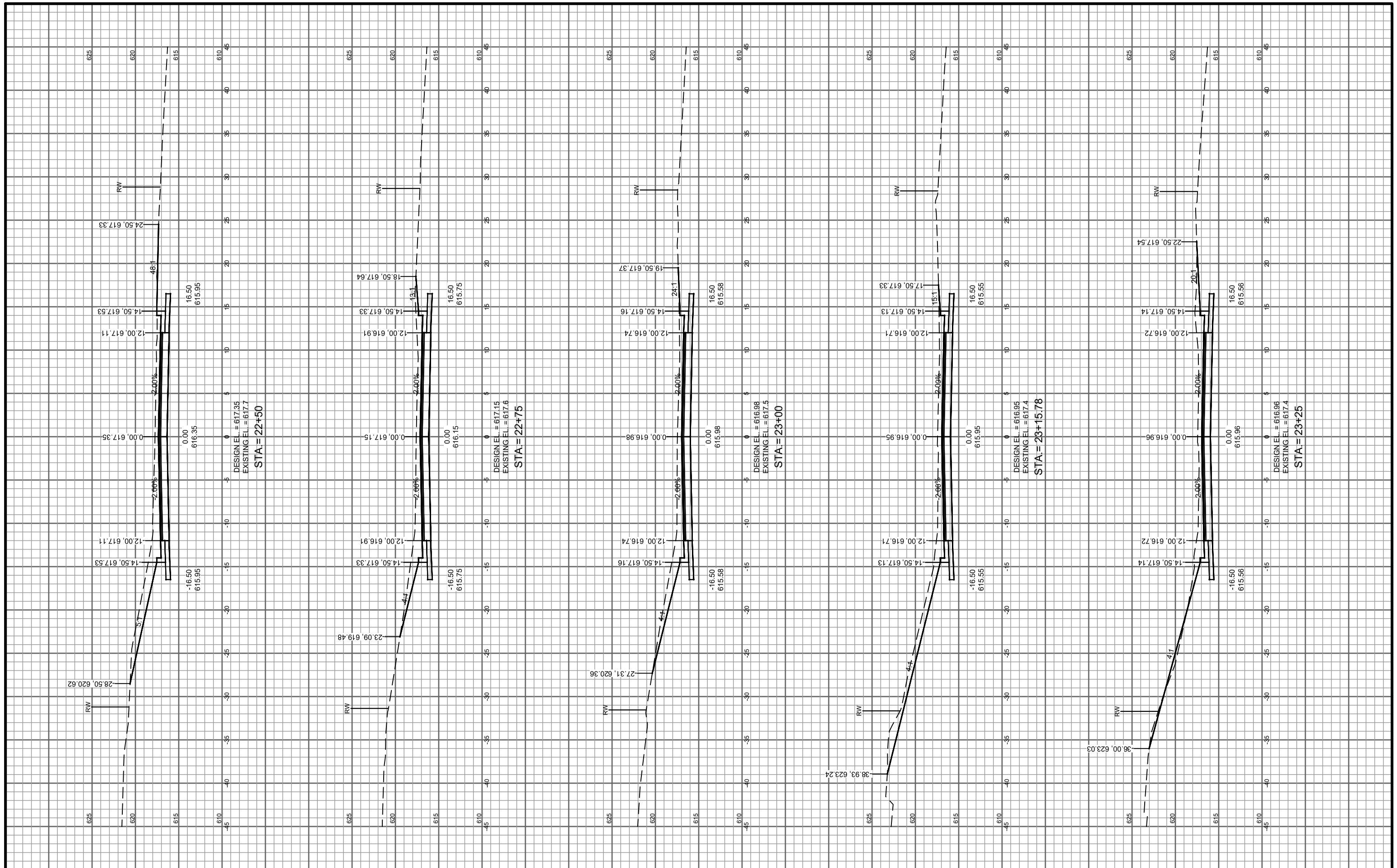
MANITOWOC COUNTY, WI

BEECH STREET CROSS SECTIONS

FILE NO.
8002029
SHEET
CS 15



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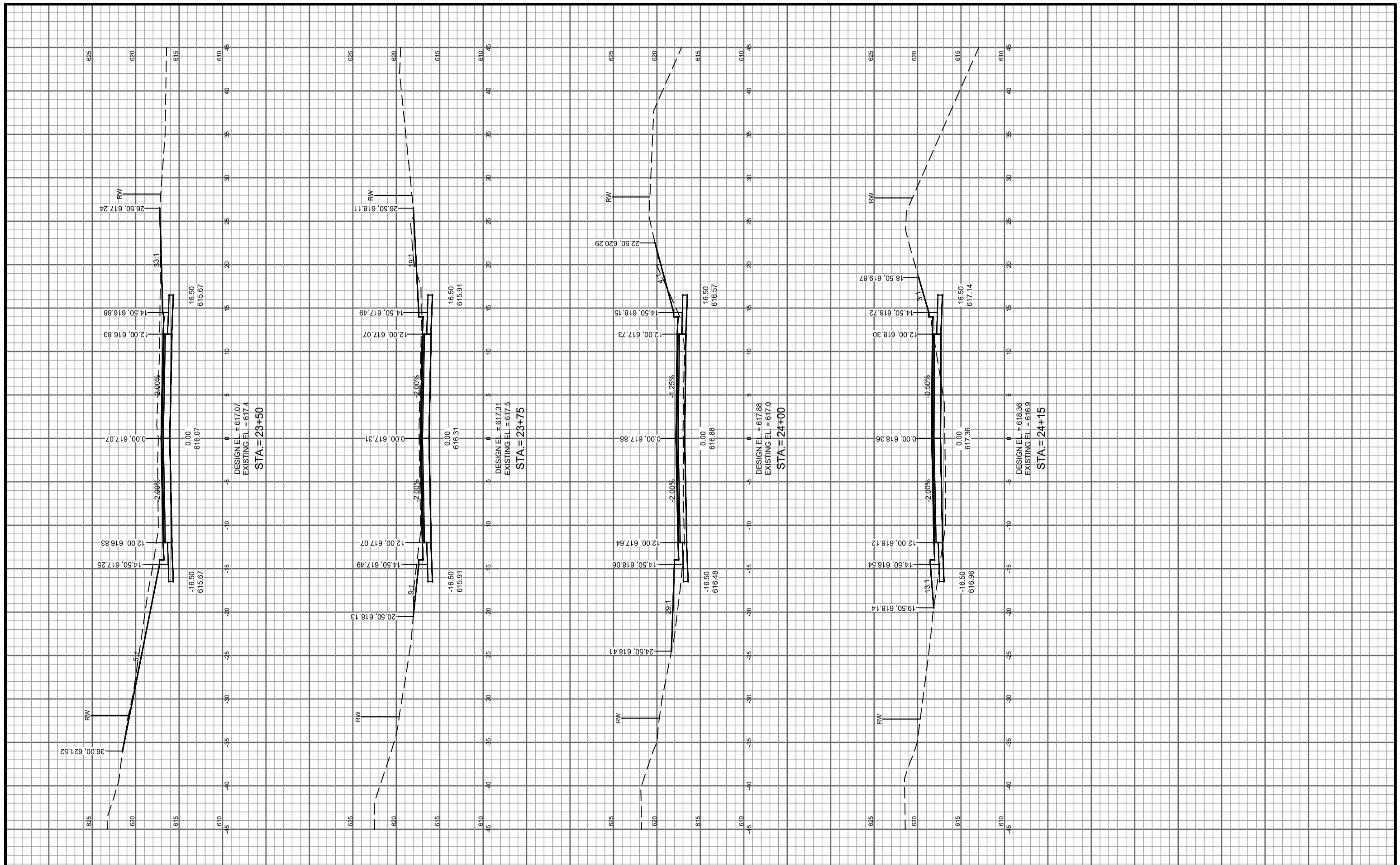
BEECH STREET CROSS SECTIONS

FILE NO.
8002029

SHEET
CS 16



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BEECH STREET CROSS SECTIONS

FILE NO.
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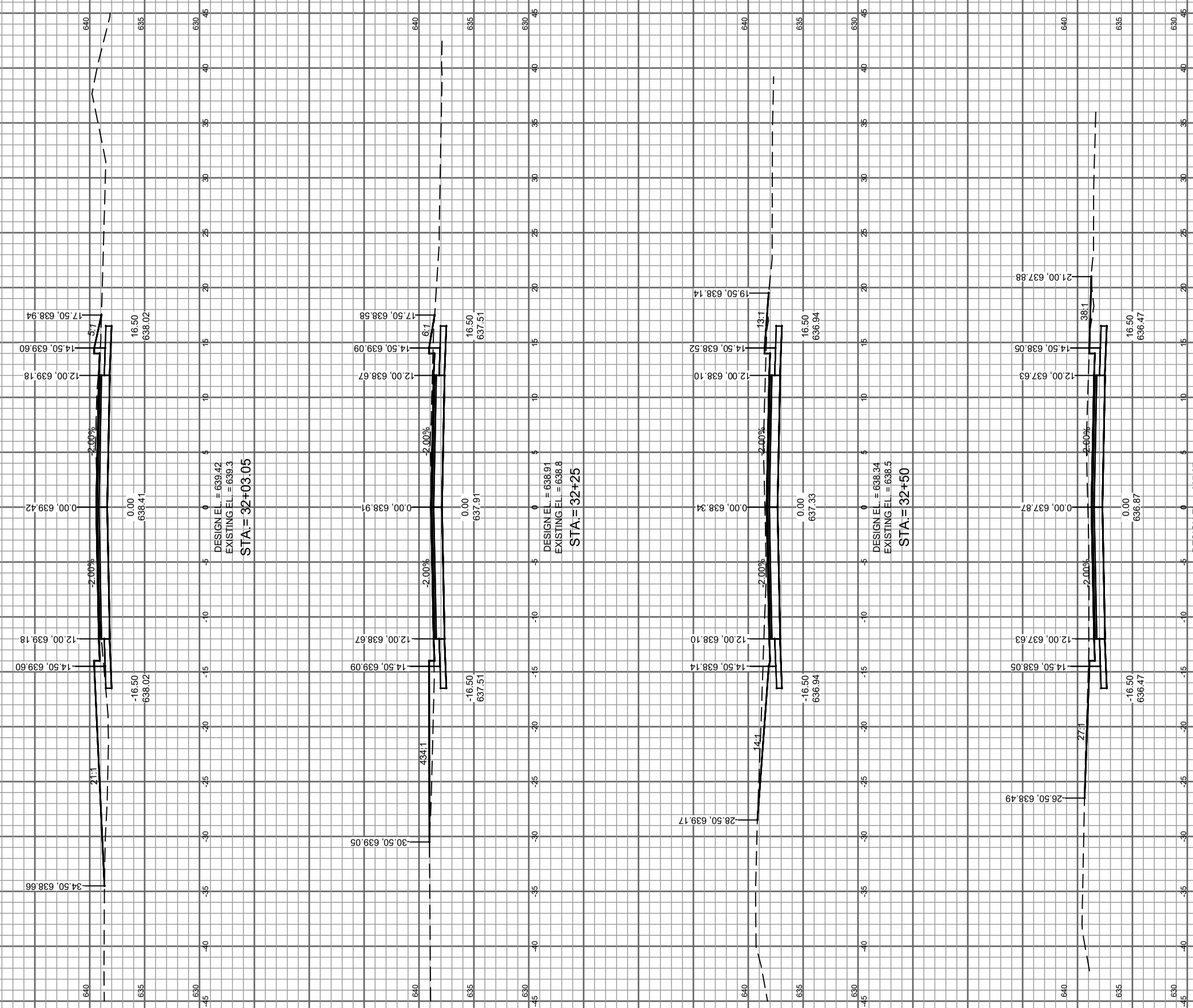
SHEET
CS 17

SEE SHEET ST11 FOR BIRCH ST AND E JEFFERSON ST INTERSECTION DETAILS



PROJECT NO.: 08002031	SCALE: AS SHOWN	NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
F.B.: .	DESIGNED BY: DWR	.	.	. .	.
.	CHECKED BY: DWR	.	.	. .	.

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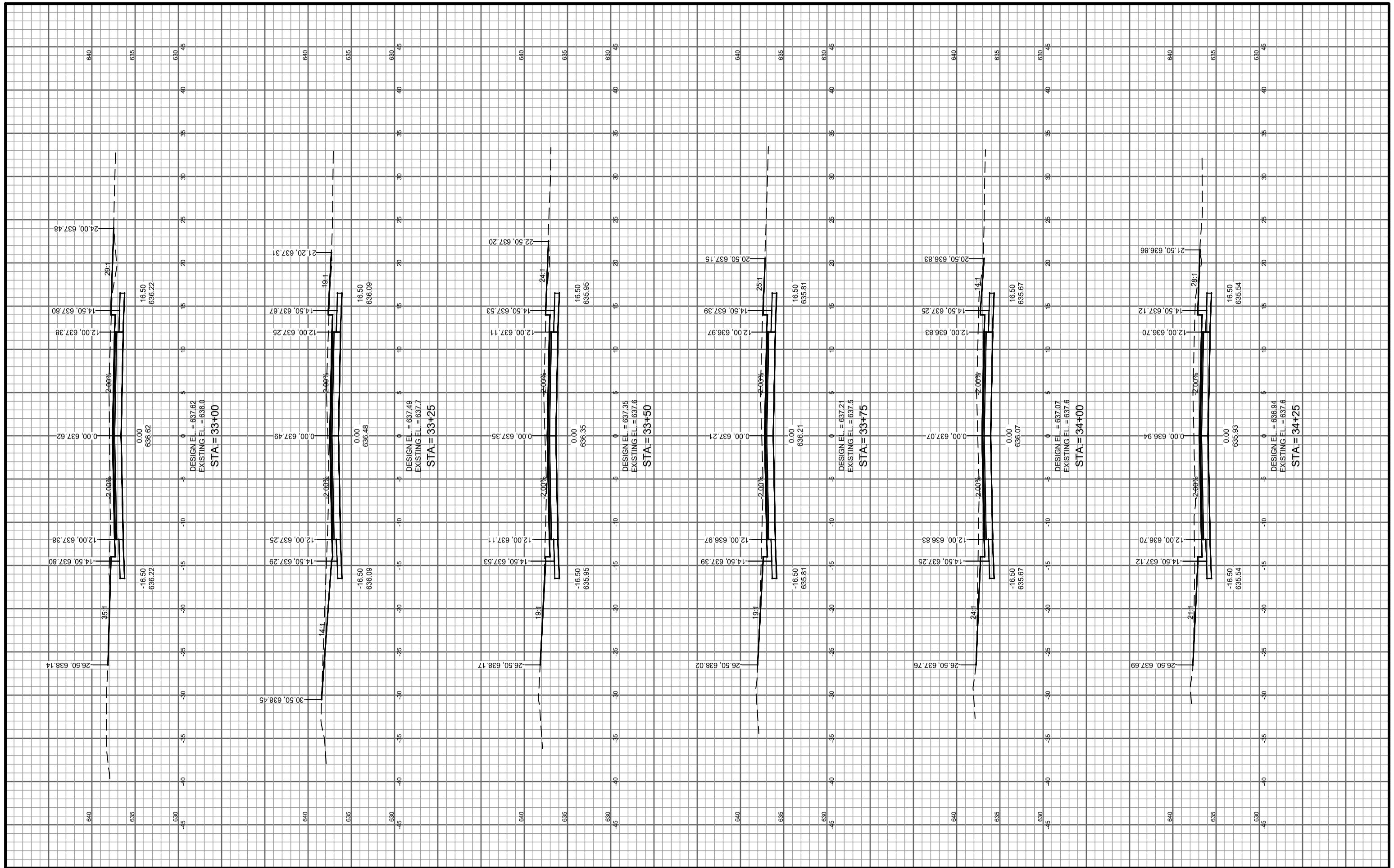
MANITOWOC COUNTY, WI

E JEFFERSON AVENUE CROSS SECTIONS

FILE NO.
8002029

SHEET
CS 18



PROJECT NO.: 08002031	SCALE: AS SHOWN	NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
F.B.: .	DESIGNED BY: DWR	.	.	. .	.
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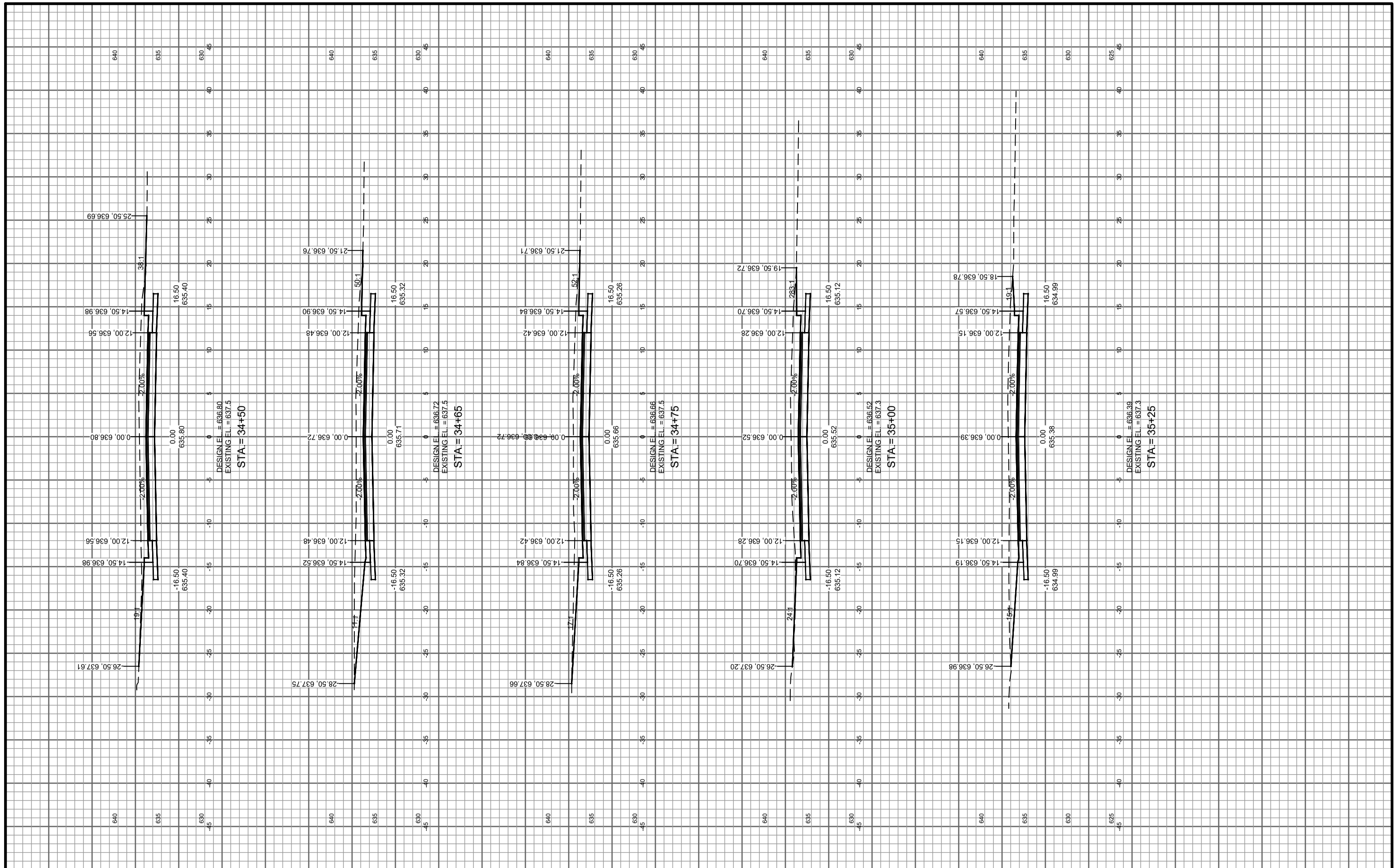
FILE NO.
8002029

SHEET
CS 19



PROJECT NO.: 08002031	SCALE: AS SHOWN	NO.	DATE	REVISION	BY
PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
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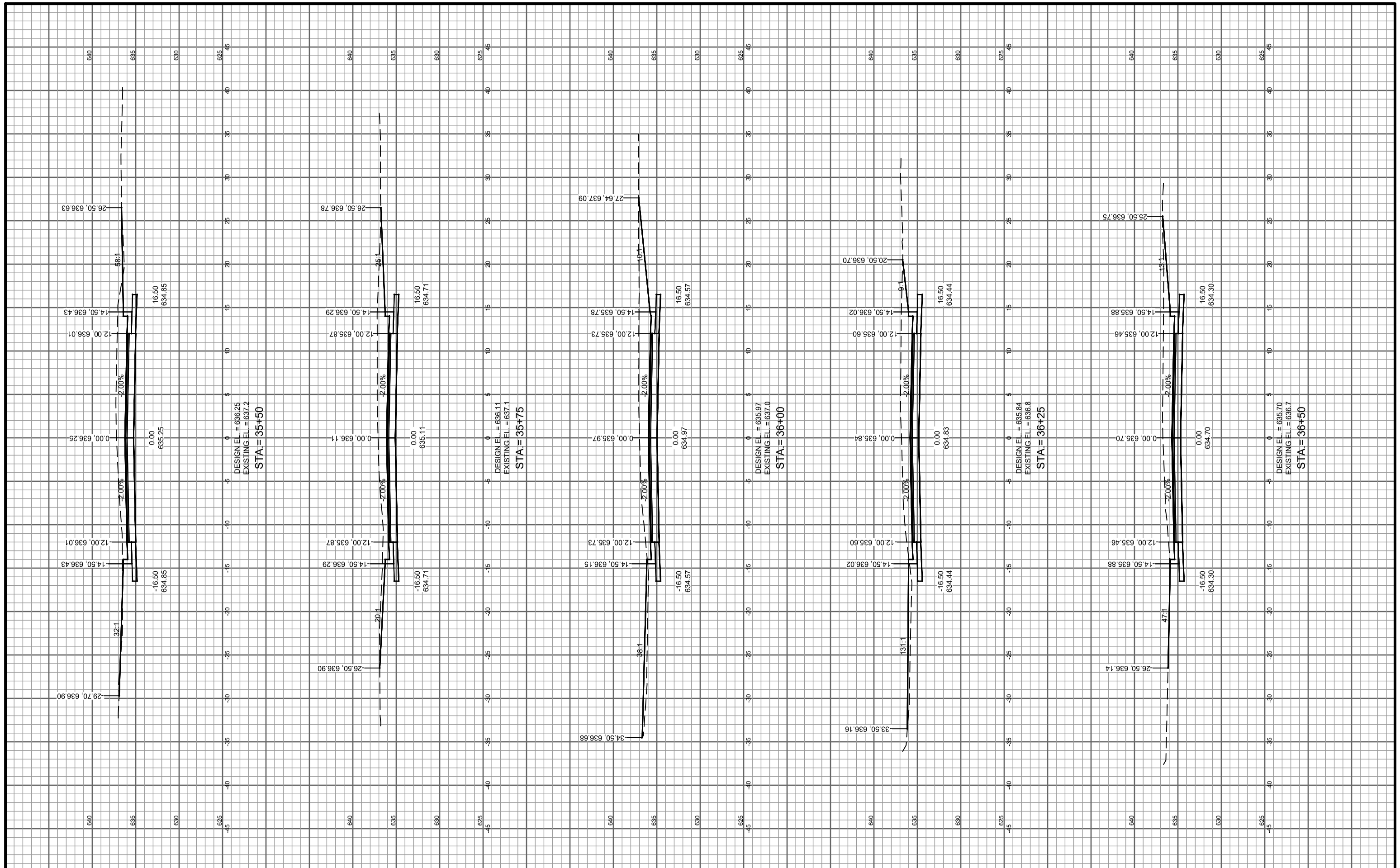
FILE NO.
8002029

SHEET
CS 20



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
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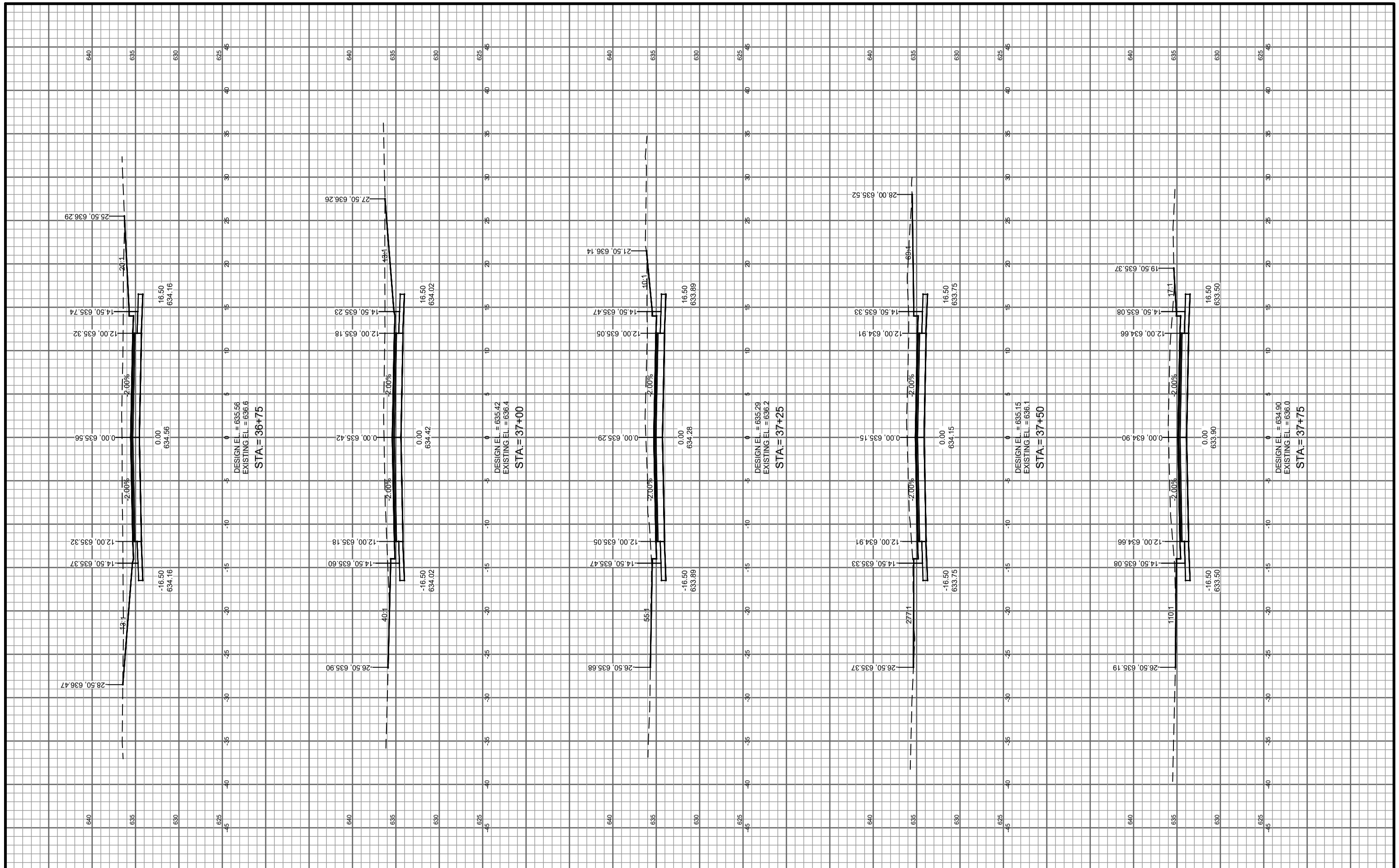
FILE NO.
8002029
SHEET
CS 21



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
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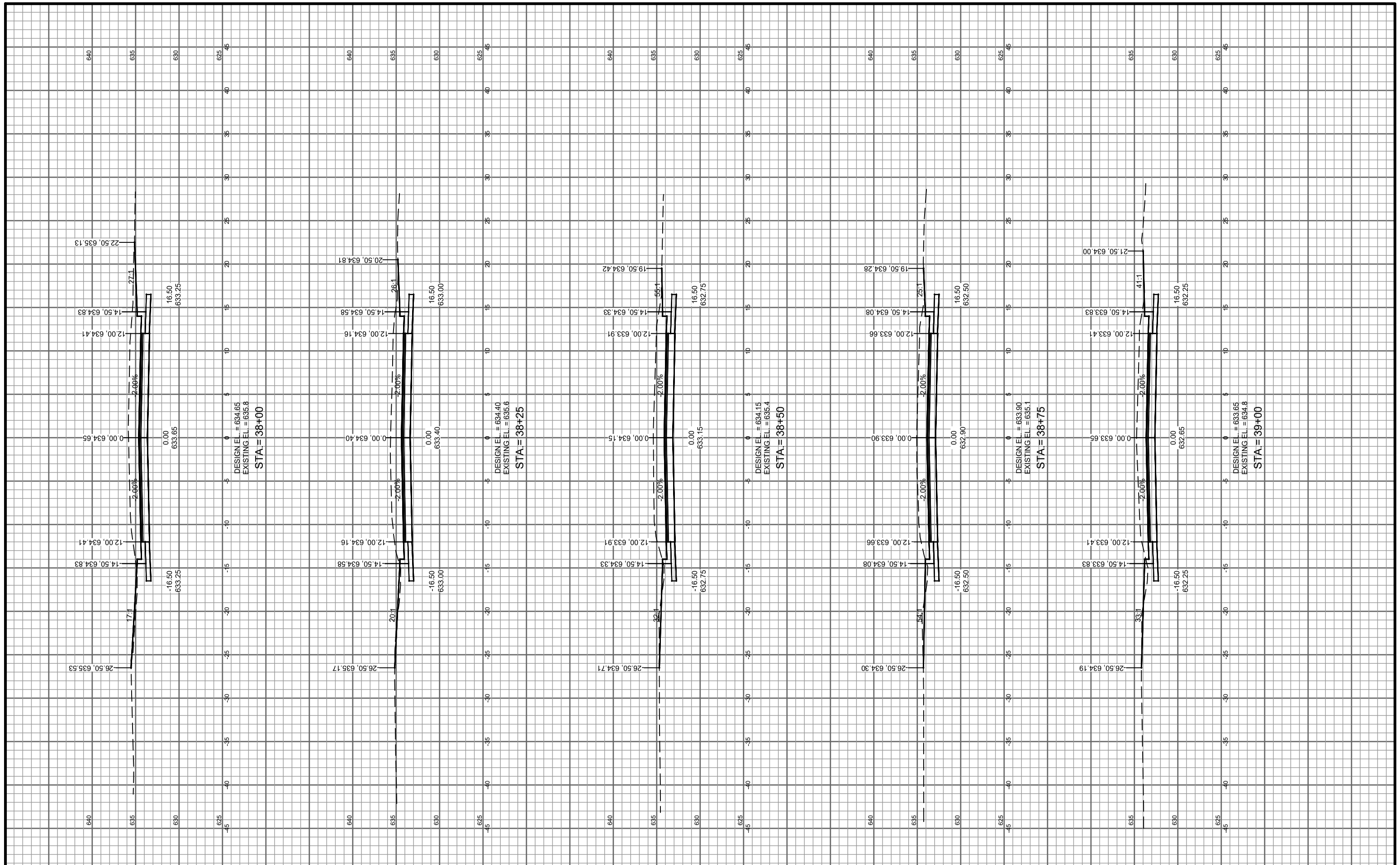
FILE NO.
8002029

SHEET
CS 22



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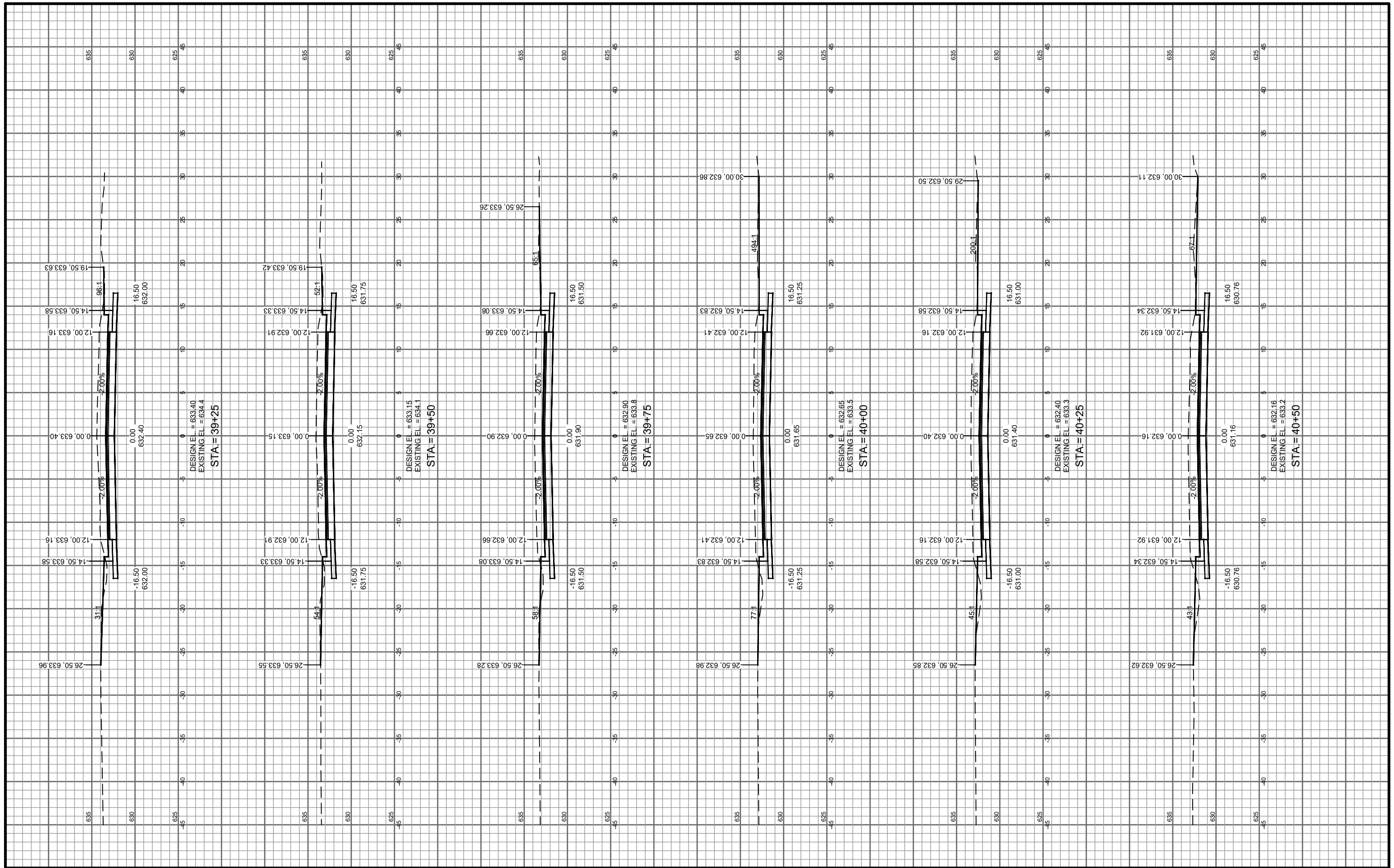
FILE NO.
8002029
SHEET
CS 23



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
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FILE NO.
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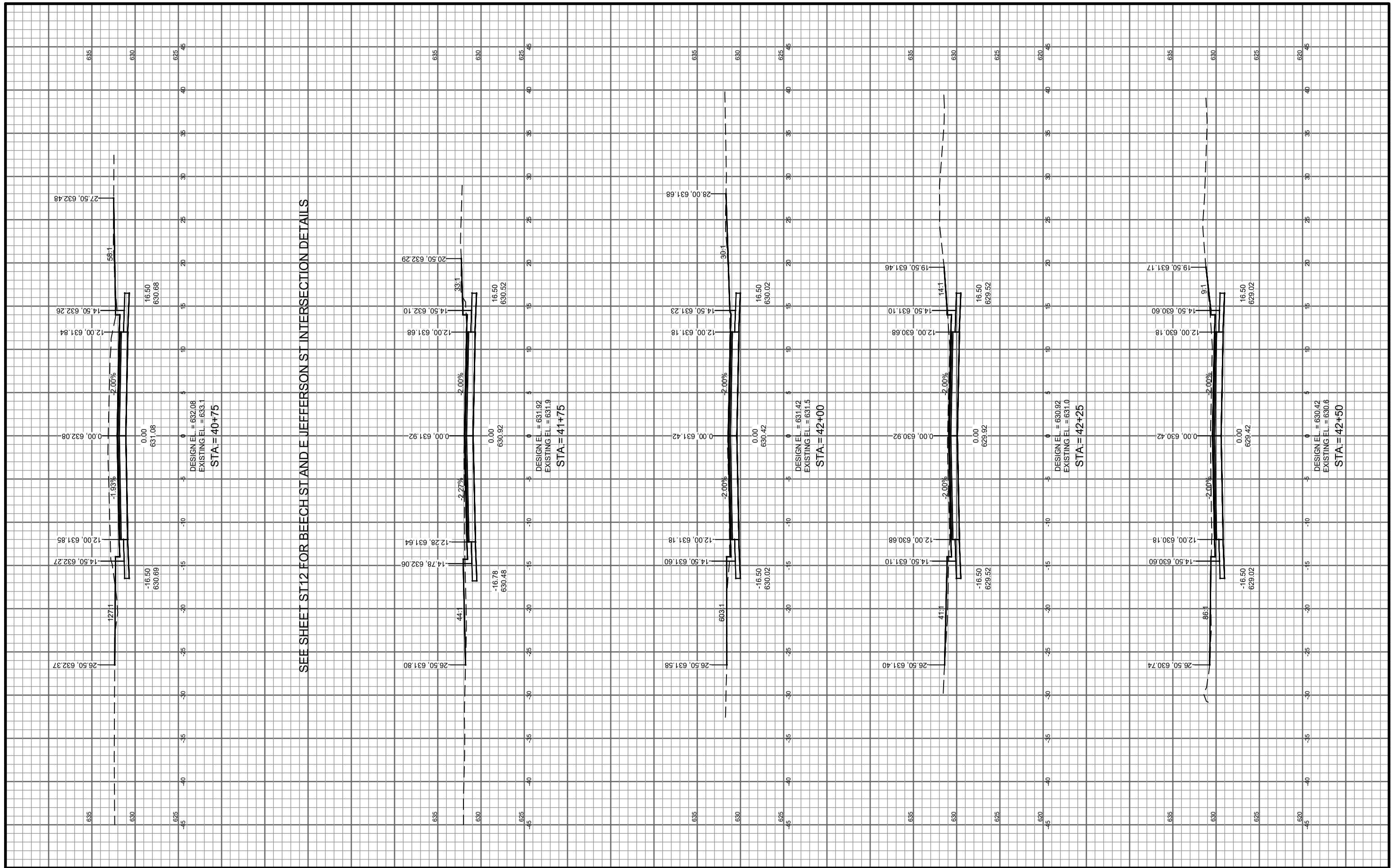
SHEET
CS 24



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
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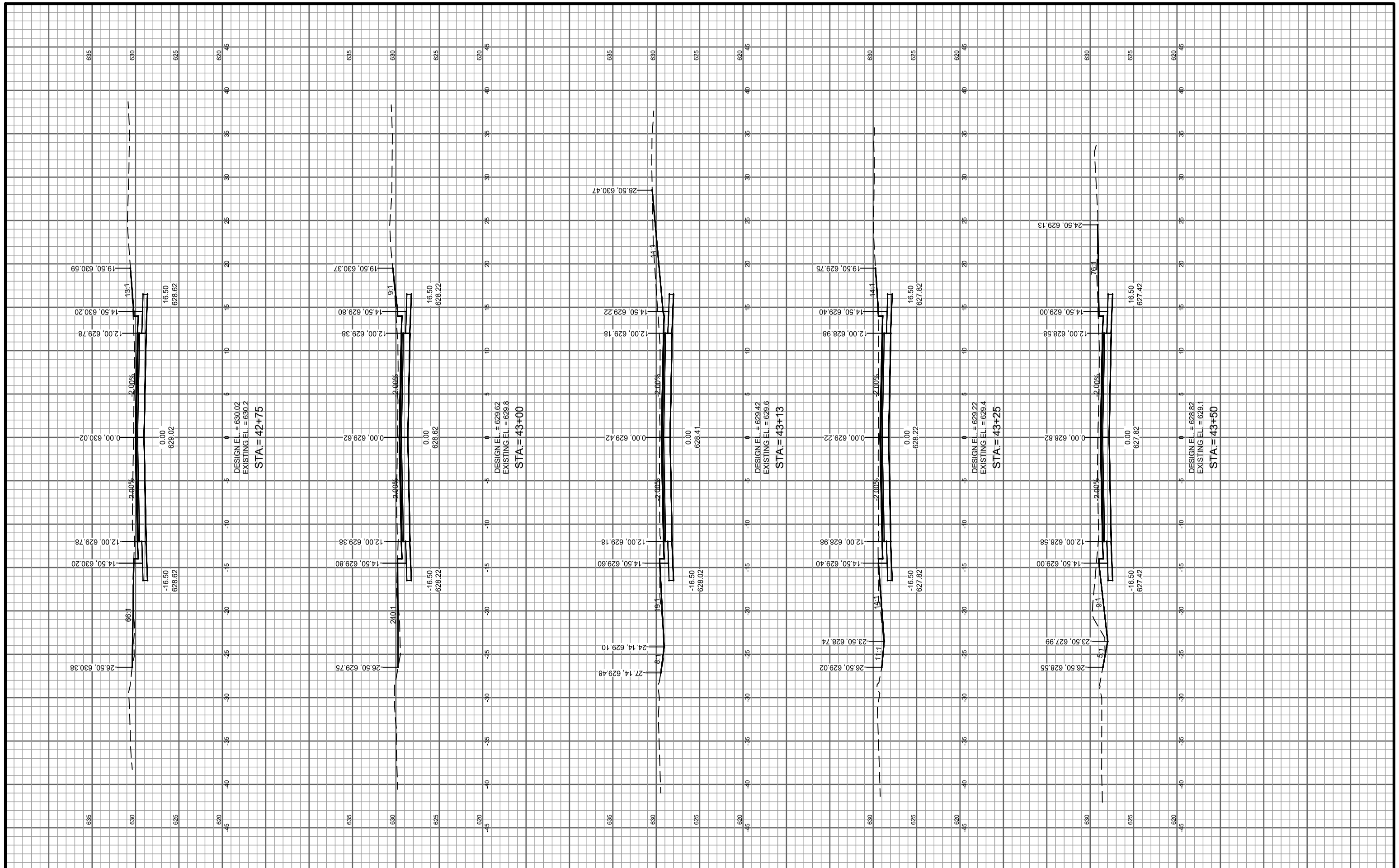
FILE NO.
8002029

SHEET
CS 25



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	.	.
F.B.: .	DESIGNED BY: DWR	.	.	.	.
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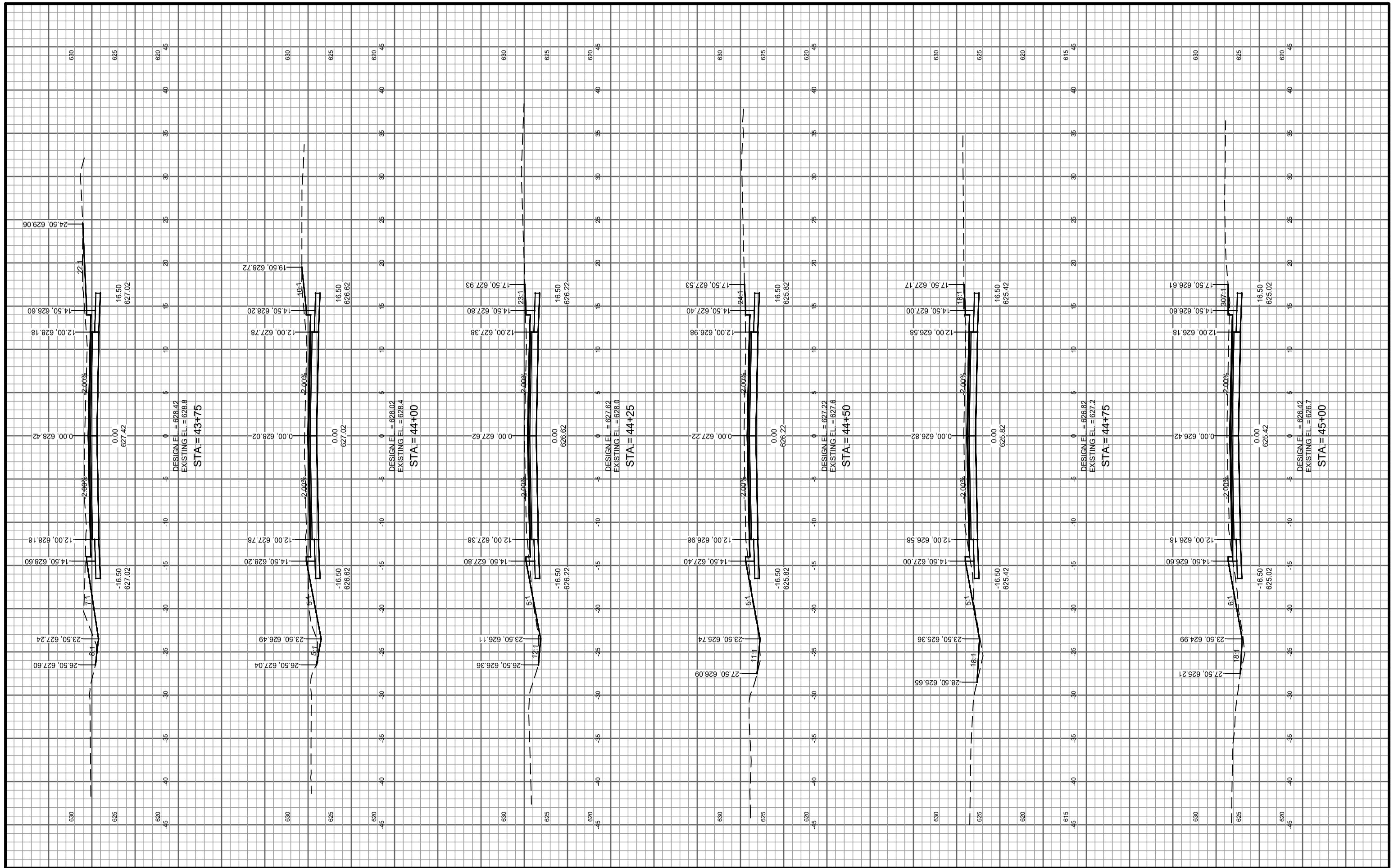
FILE NO.
8002029

SHEET
CS 26



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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
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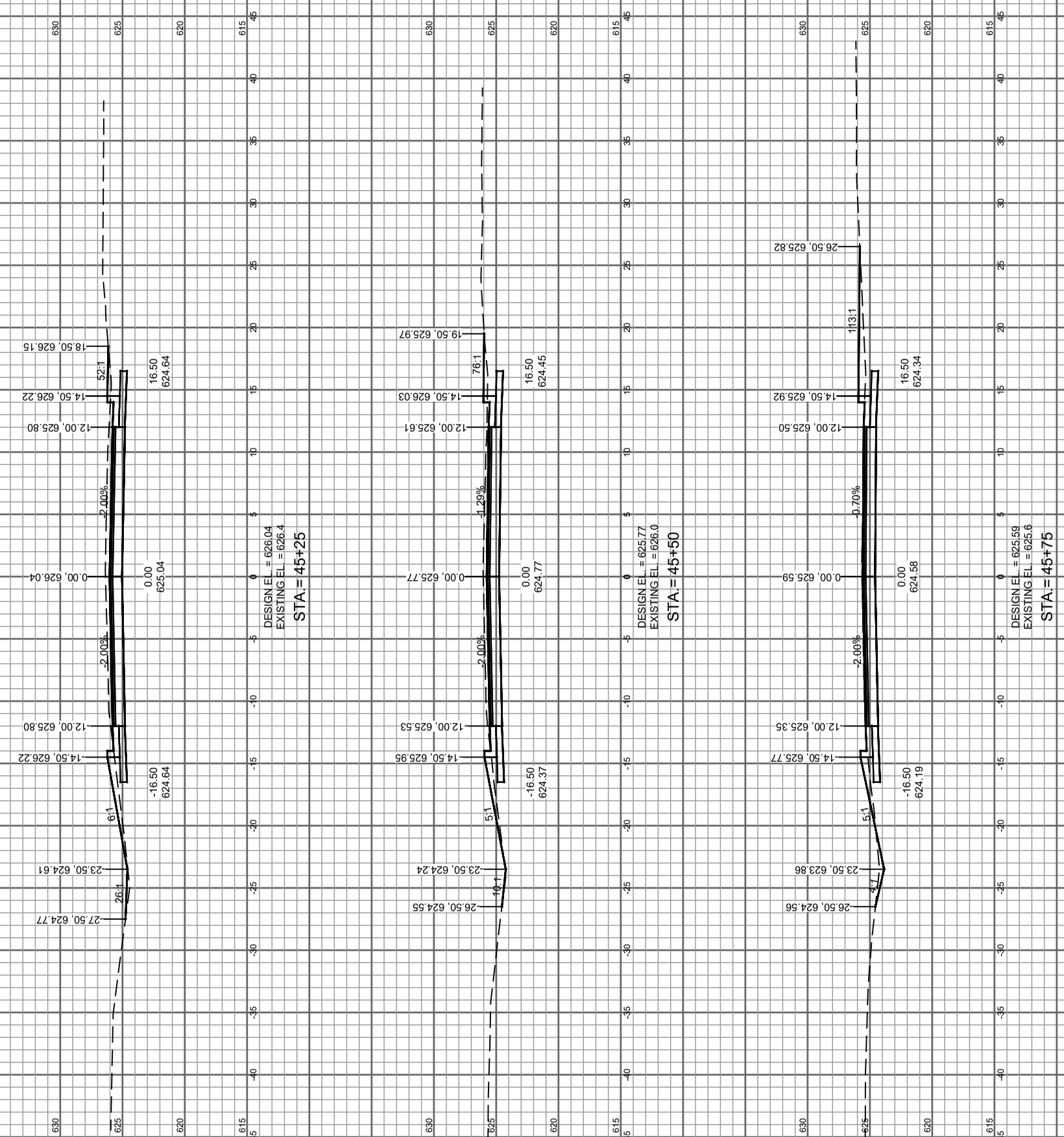
SHEET
CS 27



SEE SHEET ST12 FOR LAKESHORE DR AND E JEFFERSON ST INTERSECTION DETAILS

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PROJECT DATE: February 24, 2022	DRAWN BY: EE	.	.	. .	.
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SHEET
CS 28