

FENCE LENGTHS

THE LENGTHS OF FENCE SHOWN IN THE PLANS ARE HORIZONTAL DIMENSIONS. MEASUREMENTS OF THE FINAL QUANTITIES WILL BE IN ACCORDANCE WITH ITEM 607.

ITEM 607 - FENCE REBUILT, TYPE CL

CAREFULLY RECONDITION AND RE-ERECT FENCE AND COMPONENT PARTS AS DETAILED ON THE PLANS. DO NOT DAMAGE THE FENCE OR COMPONENT PARTS. ANY NEW PARTS WHICH ARE NEEDED, AS DETERMINED BY THE ENGINEER, WILL BE SUPPLIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE.

THE AMOUNT OF REBUILT FENCE TO BE PAID FOR WILL BE THE NUMBER OF FEET REBUILT, COMPLETE IN PLACE, AND MEASURED AS PROVIDED FOR IN SECTION 607.09 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS)

PAYMENT FOR THE ABOVE WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR ITEM 607, FENCE REBUILT, TYPE CL.

ITEM 607 - FENCE, MISC.: WOOD FENCE, WITH 5' RAILS

CONSTRUCT A WOOD BIKEWAY RAILING PER SCD RM-5.2, EXCEPT PROVIDE A MAXIMUM RAIL LENGTH OF 5'-0" TO ALLOW FOR THE CONSTRUCTION OF THE RAILING ALONG THE ADJACENT CURVED SIDEWALK.

BENCHING OF FOUNDATION SLOPES

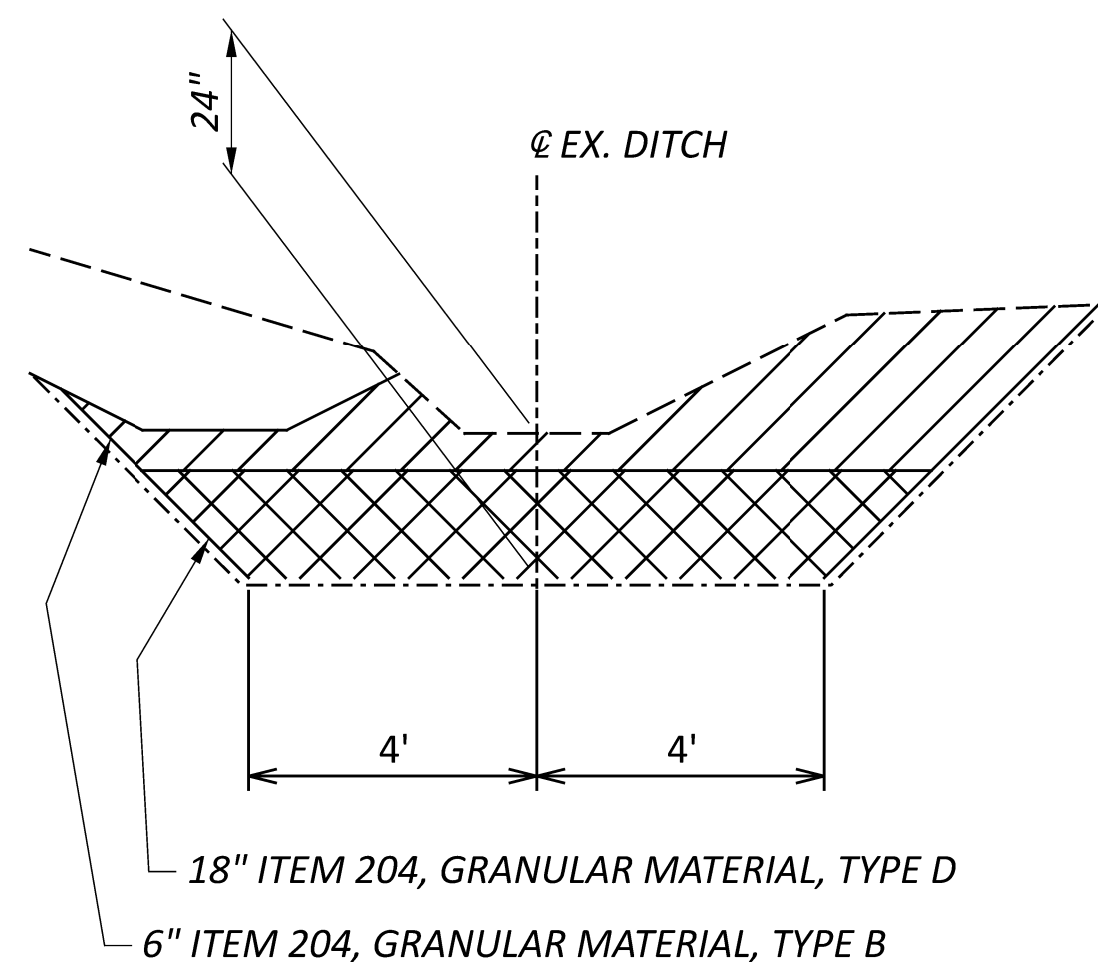
ALTHOUGH CROSS-SECTIONS INDICATE SPECIFIC DIMENSIONS FOR PROPOSED BENCHING OF THE EMBANKMENT FOUNDATIONS IN CERTAIN AREAS, NO WAIVER OF THE SPECIFICATIONS IS INTENDED. BENCH ALL OTHER SLOPED EMBANKMENT AREAS AS SET FORTH IN SECTION 203.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS). NO ADDITIONAL PAYMENT WILL BE MADE FOR BENCHING REQUIRED UNDER THE PROVISIONS OF SECTION 203.05

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO PERFORM THE SPECIAL BENCHING.

ITEM 203 - EXCAVATION	781 CY
ITEM 203 - EMBANKMENT	781 CY

SHALLOW EMBANKMENT OVER EXISTING DITCHES

IN AREAS NOTED IN THE CROSS SECTIONS WHERE SHALLOW EMBANKMENT IS BEING PLACED OVER AN EXISTING DITCH BOTTOM THE SOIL REMEDIATION SHOWN BELOW WILL BE PERFORMED PRIOR TO PLACEMENT OF THE EMBANKMENT:



ITEM 204 - PROOF ROLLING

THE FOLLOWING QUANTITY IS PROVIDED IN THE GENERAL SUMMARY TO ADDRESS LOCATIONS REQUIRING PROOF ROLLING.

ITEM 204 – PROOF ROLLING 20 HOUR.

ITEM 204 - SUBGRADE COMPACTION AND PROOF ROLLING

CONSTRUCT THE SUBGRADE AS FOLLOWS AND IN THE FOLLOWING SEQUENCE:

- SHAPE THE SUBGRADE TO WITHIN 0.2 FEET OF THE PLAN SUBGRADE ELEVATION.
- EXCAVATE AND REPLACE UNSUITABLE SUBGRADE BEFORE PROOF ROLLING. THE EXCAVATION LIMITS ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSUITABLE SUBGRADE. UNSUITABLE SUBGRADE INCLUDES UNSUITABLE SOIL (A-4B, A-2-5, A-5, A-7-5, AND SOIL WITH A LIQUID LIMIT GREATER THAN 65) AND ANY COAL, SHALE, OR ROCK WHICH NEEDS TO BE REMOVED ACCORDING TO SECTION 204.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS).
- IF THERE IS UNSUITABLE SUBGRADE IN A SHALLOW FILL LOCATION, EXCAVATE AND REPLACE THE UNSUITABLE SUBGRADE BEFORE CONSTRUCTING THE SHALLOW FILL AND SHAPING THE SUBGRADE.
- COMPACT THE SUBGRADE ACCORDING TO C&MS 204.03.
- APPROXIMATE LIMITS FOR EXCAVATION OF UNSTABLE SUBGRADE ARE SHOWN AND LABELED ON THE CROSS SECTIONS AS UNSTABLE SUBGRADE. THE ENGINEER WILL IDENTIFY THE ACTUAL LIMITS OF EXCAVATION FOR UNSTABLE SUBGRADE BASED ON THE PROOF ROLLING RESULTS AND VISUAL OBSERVATIONS.

PROOF ROLL THE COMPACTED SUBGRADE ACCORDING TO C&MS 204.06.

5. EXCAVATE UNSTABLE SUBGRADE AS DIRECTED BY THE ENGINEER AND STABILIZE BY REPLACING WITH THE SPECIFIED MATERIALS ACCORDING TO C&MS 204.07. EXCAVATIONS WILL EXTEND 18 INCHES BEYOND THE EDGE OF THE SURFACE OF THE PAVEMENT, PAVED SHOULDERS, OR PAVED MEDIANS.

6. PROOF ROLL THE STABILIZED AREAS ACCORDING TO C&MS 204.06 TO VERIFY STABILITY.

7. FINE GRADE THE SUBGRADE TO THE SPECIFIED GRADE.

THE QUANTITIES FOR EXCAVATING THE UNSUITABLE SUBGRADE AND UNSTABLE SUBGRADE ARE BOTH PAID UNDER ITEM 204, EXCAVATION OF SUBGRADE.

ITEM 202 - REMOVAL MISC.: DECORATIVE WALL

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING DECORATIVE BRICK WALL ALONG THE SOUTH SIDE OF MONROE STREET FROM STA. 171+91 TO STA. 172+37 AS WELL AS THE DECORATIVE CONCRETE WALL IN THE MONROE ST MEDIAN FROM STA. 186+55 TO STA. 187+81. THE CONTRACTOR SHALL REMOVE ALL PORTIONS OF THE WALLS INCLUDING BUT NOT LIMITED TO CONCRETE SLABS, BRICK PILASTERS, BRICK WALL, AND ALL PORTIONS OF THE WALL THAT ARE BELOW GRADE INCLUDING THE FOUNDATION.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202 - REMOVAL MISC.: DECORATIVE WALL, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, DISPOSAL, AND OTHER INCIDENTALS NECESSARY TO REMOVE THE EXISTING DECORATIVE BRICK WALL.

ITEM SPECIAL - GROUND WATER MONITORING WELL ADJUSTED TO GRADE

THIS ITEM SHALL CONSIST OF ADJUSTING TO GRADE AND PROTECTING AN EXISTING ENVIRONMENTAL MONITORING WELL. THE EXISTING MONITORING WELLS LOCATED ON THE SOUTH SIDE OF MONROE STREET AT STA. 171+46 AND STA. 171+74 SHALL NOT BE IMPACTED DURING CONSTRUCTION ACTIVITIES. THE MONITORING WELLS SHALL BE ADJUSTED TO MATCH THE PROPOSED PAVEMENT ELEVATION OF THE DRIVEWAY AND RETAIN ALL FUNCTIONS OF THE WELL THAT WERE PRESENT PRIOR TO THE START OF CONSTRUCTION.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM SPECIAL - GROUND WATER MONITORING WELL ADJUSTED TO GRADE, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, AND MATERIALS AND OTHER INCIDENTALS NECESSARY TO ADJUST AND PROTECT EACH GROUND WATER MONITORING WELL.

ITEM SPECIAL - FILL AND PLUG EXISTING CONDUIT

THIS ITEM CONSISTS OF THE CONSTRUCTION OF BULKHEADS IN AN EXISTING CONDUIT AND FILLING THE AREA SEALED OFF WITH ITEM 613, SAND OR OTHER MATERIAL APPROVED BY THE ENGINEER.

LOCATE THE BULKHEADS AT THE LIMITS OF THE AREA TO BE FILLED, AS INDICATED ON THE PLANS. THE BULKHEADS CONSIST OF BRICK OR CONCRETE MASONRY WITH A MINIMUM THICKNESS OF 12 INCHES.

PUMP THE FILL MATERIAL INTO PLACE OR BY OTHER MEANS APPROVED BY THE ENGINEER, SO THAT AFTER SETTLEMENT, AT LEAST 90 PERCENT OF THE CROSS-SECTIONAL AREA OF THE CONDUIT, FOR ITS ENTIRE LENGTH IS FILLED. THE LENGTH OF FILLED AND PLUGGED CONDUIT TO BE PAID FOR IS THE ACTUAL NUMBER OF FEET (MEASURED ALONG THE CENTERLINE OF EACH CONDUIT FROM OUTER FACE TO OUTER FACE OF BULKHEADS) FILLED AND PLUGGED AS DESCRIBED ABOVE.

IN LIEU OF FILLING AND PLUGGING THE EXISTING CONDUIT, THE PIPE MAY BE CRUSHED AND BACKFILLED PER 203, OR IT MAY BE REMOVED. THE LENGTH, MEASURED AS PROVIDED ABOVE, WILL BE PAID FOR AT THE CONTRACT PRICE PER FOOT FOR, ITEM SPECIAL, FILL AND PLUG EXISTING CONDUIT.

ITEM 202 - REMOVAL MISC.: SPRINKLER HEAD

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING SPRINKLER HEADS WITHIN THE BELOW LOCATIONS:

- MONROE ST STA. 176+68 TO STA. 178+07 LT
- MONROE ST STA. 177+35 TO STA. 178+06 RT
- MONROE ST STA. 187+07 TO STA. 187+48 LT
- ALEXIS RD STA. 38+72 TO STA. 38+98 LT

WITHIN THE SPECIFIED RANGES ABOVE, THE CONTRACTOR SHALL REMOVE ALL PORTIONS OF THE SPRINKLERS INCLUDING BUT NOT LIMITED TO SPRINKLER HEADS, FITTINGS, WATER SUPPLY PIPE, VALVES, VALVE BOX, AND ANY SPRINKLER HEADS NOT SHOWN ON THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 202 - REMOVAL MISC.: SPRINKLER HEAD, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT, MATERIALS, DISPOSAL, AND OTHER INCIDENTALS NECESSARY TO REMOVE THE EXISTING SPRINKLER HEADS.

MORE RESTRICTIVE CHANGES TO THE ALLOWABLE LANE CLOSURE HOURS ARE AT THE DISCRETION OF THE ENGINEER IN ORDER TO COMPLY WITH THE TRAFFIC MANAGEMENT IN WORK ZONES POLICY (21-008(P)) AND STANDARD PROCEDURE (123-001(SP)).

LESS RESTRICTIVE CHANGES TO THE ALLOWABLE LANE CLOSURE HOURS ARE SUBJECT TO THE TRAFFIC MANAGEMENT IN WORK ZONES POLICY (21-008(P)) AND STANDARD PROCEDURE (123-001(SP)) AND SHALL NOT BE IMPLEMENTED UNTIL, AND UNLESS, APPROVED BY THE PROPER ODOT AUTHORITY.

ALLOWABLE LANE CLOSURE HOURS FOR FACILITIES NOT COVERED BY THE PLCS, IF ANY, SHALL BE AS SPECIFIED ELSEWHERE IN THE PLANS.

INSTALLATION AND/OR REMOVAL OF ALL MAINTENANCE OF TRAFFIC OPERATIONS, PHASE SWITCHES, PAVEMENT MARKING INSTALLATION/REMOVAL, INCLUDING TRAFFIC SIGNAL AND SIGN WORK SHALL BE LIMITED TO OVERNIGHT HOURS OF 8 PM TO 6 AM.

EARTHWORK FOR MAINTAINING TRAFFIC

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE PLAN FOR INFORMATION ONLY.

EMBANKMENT FOR MAINTAINING TRAFFIC 237 CY

WHEN UNDERCUTS ARE NECESSARY FOR MAINLINE PAVEMENT OR EMBANKMENT CONSTRUCTION, EVALUATE THE NEED FOR TEMPORARY ROAD UNDERCUTS IF WITHIN A CLOSE PROXIMITY TO THE MAINLINE UNDERCUTS. A GEOTECHNICAL EVALUATION SHOULD BE CONSIDERED TO DETERMINE IF THE EXISTING SOIL CONDITIONS ARE ADEQUATE TO SUPPORT THE TEMPORARY ROAD. ADDITIONAL SOIL BORINGS ALONG THE TEMPORARY ROAD ARE NOT NORMALLY REQUIRED.

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DETERMINED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

ITEM 615, ROADS FOR MAINTAINING TRAFFIC LUMP SUM

WORK ZONE SPEED ZONES (WZSZS)

THE FOLLOWING WORK ZONE SPEED ZONE (WZSZ) SPEED LIMIT REVISIONS HAVE BEEN APPROVED FOR USE ON THIS PROJECT WHEN WORK ZONE CONDITIONS AND FACTORS ARE MET AS DESCRIBED BELOW:

WZSZ REVISION NUMBERS	COUNTY-ROUTE-SECTIONS	DIRECTION
WZ-15246	LUC-23-(10.81-12.20)	NB/SB

POTENTIAL WZSZ LOCATIONS SHALL HAVE AN ORIGINAL (PRE-CONSTRUCTION) POSTED SPEED LIMIT OF 55 MPH OR GREATER, A QUALIFYING WORK ZONE CONDITION OF AT LEAST 0.5 MILE IN LENGTH, AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS, AND A WORK ZONE CONDITION IN PLACE THAT REDUCES THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS (I.E., LANE CLOSURE, LANE SHIFT, CROSSOVER, CONTRAFLOW AND/OR SHOULDER CLOSURE). THE LENGTH OF THE WORK ZONE CONDITION IS MEASURED FROM THE BEGINNING OF THE TAPER FOR THE SUBJECT WORK ZONE CONDITION IMPACTING THE TRAVEL LANES AND/OR SHOULDER TO THE END OF THE DOWNSTREAM TAPER, WHERE DRIVERS ARE RETURNED TO TYPICAL ALIGNMENT. AN EXPECTED WORK DURATION OF AT LEAST THREE HOURS IS REQUIRED TO BALANCE THE ADDITIONAL EXPOSURE CREATED BY INSTALLING AND REMOVING WZSZ SIGNING WITH THE TIME NEEDED TO COMPLETE THE WORK.

IF THE WORK ZONE MEETS THESE MINIMUM CRITERIA, IT SHALL BE ANALYZED FURTHER USING TABLE 1 BELOW TO DETERMINE IF AND WHEN IT QUALIFIES FOR A SPEED LIMIT REDUCTION. DEPENDING ON THE ORIGINAL POSTED SPEED LIMIT, THE TYPE OF TEMPORARY TRAFFIC CONTROL USED, AND WHETHER OR NOT WORKERS ARE PRESENT, A WARRANTED WZSZ WILL VARY IN THE APPROVED SPEED LIMIT TO BE POSTED OVER TIME.

C&MS ITEM 614, PARAGRAPH 614.02(B), INDICATES THAT TWO DIRECTIONS OF A DIVIDED HIGHWAY ARE CONSIDERED SEPARATE HIGHWAY SECTIONS. THEREFORE, IF THE WORK ON A MULTI-LANE DIVIDED HIGHWAY IS LIMITED TO ONLY ONE DIRECTION, A SPEED LIMIT REDUCTION IN THE DIRECTION OF THE WORK DOES NOT AUTOMATICALLY CONSTITUTE A SPEED LIMIT REDUCTION IN THE OPPOSITE DIRECTION. EACH DIRECTION SHALL BE ANALYZED INDEPENDENTLY FROM EACH OTHER.

ALL WZSZS FLUCTUATE BETWEEN TWO APPROVED REDUCED SPEED LIMITS OR BETWEEN AN APPROVED REDUCED SPEED LIMIT AND THE ORIGINAL POSTED SPEED LIMIT. ONLY ONE OF TWO SIGNING STRATEGIES SHALL BE USED TO IMPLEMENT A WZSZ.

WZSZS USING DSL SIGN ASSEMBLIES SHALL BE IN ACCORDANCE WITH THIS NOTE, APPROVED LIST, SUPPLEMENTAL SPECIFICATIONS (SS) 808 AND 908, AND TRAFFIC SCD MT-104.10.

ONLY ONE WARRANTED SPEED LIMIT APPLIES AT ANY ONE TIME; SPEED LIMIT REDUCTIONS ARE NOT CUMULATIVE. WZSZS SHALL NOT BE USED FOR MOVING/MOBILE ACTIVITIES, AS DEFINED IN OMUTCD PART 6.

WHEN LOOKING UP THE WARRANTED WORK ZONE SPEED LIMITS, ALWAYS USE THE ORIGINAL, PRE- CONSTRUCTION, POSTED SPEED LIMIT. DO NOT USE A PRIOR OR CURRENT WORK ZONE SPEED LIMIT AS A LOOK UP VALUE IN THE TABLE. POSITIVE PROTECTION IS GENERALLY REGARDED AS PORTABLE BARRIER OR OTHER RIGID BARRIER IN USE ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WITHOUT POSITIVE PROTECTION IS GENERALLY REGARDED AS USING DRUMS, CONES, SHADOW VEHICLE, ETC., ALONG THE WORK AREA WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WORKERS ARE CONSIDERED AS BEING PRESENT WHEN ON-SITE, WORKING WITHIN THE SUBJECT WARRANTED WORK ZONE CONDITION. WHEN THE WORK ZONE CONDITION REDUCING THE EXISTING FUNCTIONALITY OF THE TRAVEL LANES OR SHOULDERS IS REMOVED, THE SPEED LIMIT DISPLAYED SHALL RETURN TO THE ORIGINAL POSTED SPEED LIMIT.

TABLE 1: WARRANTED WORK ZONE SPEED LIMITS (MPH) FOR WORK ZONES ON HIGH-SPEED (55 MPH OR GREATER) MULTI-LANE HIGHWAYS

ORIGINAL POSTED SPEED LIMIT	WITH POSITIVE PROTECTION		WITHOUT POSITIVE PROTECTION	
	WORKERS PRESENT	WORKERS NOT PRESENT	WORKERS PRESENT	WORKERS NOT PRESENT
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 808, DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY ASSUMING 2 DSL SIGN ASSEMBLIES FOR 24 MONTHS 48 SIGN MNTH

ITEM 614, WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN

WORK ZONE RAISED PAVEMENT MARKERS, AS PER PLAN, AND THEIR INSTALLATION SHALL CONFORM TO C&MS 614 OR C&MS 621 AS SPECIFIED HEREIN.

- RAISED PAVEMENT MARKERS IN USE DURING SNOW-PLOWING SEASON SHALL CONFORM TO 621.
- RAISED PAVEMENT MARKERS IN USED DURING THE NON-SNOW-PLOW SEASON SHALL CONFORM TO EITHER 614 OR 621.

THE SNOW-PLOWING SEASON SHALL RUN FROM OCTOBER 15 THROUGH APRIL 1.

IF PROJECT DELAYS, NOT THE FAULT OF ODOT, CAUSE THE WORK TO EXTEND INTO THE SNOW-PLOWING SEASON, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WORK ZONE RAISED PAVEMENT MARKERS (WZRPMS) CONFORMING TO C&MS 614, WITH RAISED PAVEMENT MARKERS CONFORMING TO 621, AS DETERMINED BY THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

THIS ITEM SHALL INCLUDE PURCHASE, INSTALLATION AND REMOVAL OF ITEM 614 WORK ZONE RAISED PAVEMENT MARKER, AS PER PLAN, INCLUDING FILLING OF ANY DEPRESSIONS CREATED IN THE PAVEMENT AS PER C&MS 621.08.

RESURFACING OF THE TRANSITION AREAS SHALL BE PERFORMED AT THE TIME THAT THE SURFACE COURSE IS BEING APPLIED TO THE ENTIRE PROJECT. PRIOR TO APPLICATION OF THE SURFACE COURSE ON THE PROJECT, THE EXISTING PAVEMENT WITHIN THE TRANSITION AREA SHALL BE REMOVED TO A DEPTH NECESSARY TO REACH THE LEVEL OF THE INTERMEDIATE COURSE OF THE PAVEMENT, AS DETERMINED BY THE ENGINEER.

PAYMENT FOR RESURFACING WITHIN THE TRANSITION AREA SHALL BE PAID FOR WITH THE FOLLOWING BID ITEMS:

ITEM 254 PAVEMENT PLANING, ASPHALT CONCRETE (T=1.5") 8955 SY

ITEM 442 ASPHALT CONCRETE SURFACE COURSE, 12.5MM, TYPE A (446) 373 CY

WORK ZONE INCREASED PENALTIES SIGN (R11-H5a)

R11-H5A-48 SIGNS SHALL BE FURNISHED, ERECTED, AND MAINTAINED IN GOOD CONDITION AND/OR REPLACED AS NECESSARY AND SUBSEQUENTLY REMOVED BY THE CONTRACTOR. SIGNS SHALL BE MOUNTED AT THE APPROPRIATE OFFSETS AND ELEVATIONS AS PRESCRIBED BY THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THEY SHALL BE MAINTAINED ON SUPPORTS MEETING CURRENT SAFETY CRITERIA.

THE SIGNS MAY BE ERECTED OR UNCOVERED NO MORE THAN FOUR HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN FOUR HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS, OR SOONER AS DIRECTED BY THE ENGINEER. TEMPORARY SIGN COVERING AND UNCOVERING DUE TO TEMPORARY LANE RESTORATIONS SHALL BE GUIDED BY THE FOUR-HOUR LIMITATIONS STATED ABOVE. SUCH LANE RESTORATIONS SHOULD BE EXPECTED TO REMAIN IN EFFECT FOR 30 OR MORE CONSECUTIVE CALENDAR DAYS, SUCH AS DURING WINTER SHUT-DOWNS.

THE SIGNS ON THE MAINLINE SHALL BE DUAL MOUNTED UNLESS NOT PHYSICALLY POSSIBLE. THE FIRST SIGN SHALL BE PLACED BETWEEN THE ROAD WORK AHEAD (W20-1) SIGN AND THE NEXT SIGN IN THE SEQUENCE. SIGNS SHALL BE ERECTED ON EACH ENTRANCE RAMP AND EVERY 2 MILES THROUGH THE CONSTRUCTION WORK LIMITS. SIGNS ON THE MAINLINE SHALL BE R11-H5A-48. SIGNS USED ON THE RAMP SHALL BE R11-H5A-24. R11-H5A-24 SIGNS MAY BE USED IN THE MEDIAN IN LIEU OF R11-H5A-48 SIGNS IF IT IS NOT PHYSICALLY POSSIBLE TO PROVIDE R11-H5A-48 SIGNS IN THE MEDIAN.

THE R11-H5A-48 SIGNS SHALL BE MOUNTED ON 2 NO. 3 POSTS WHEN LOCATED WITHIN CLEAR ZONES.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED, BUT GOOD, CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE RETROREFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF C&MS 730.19.

WORK ZONE INCREASED PENALTIES SIGNS AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION AS DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTING, MAINTAINING, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGN AND SUPPORT.

ITEM 614, WORK ZONE INCREASED PENALTIES SIGN 4 EACH

US-23 RUMBLE STRIP REMOVAL

PRIOR TO MAINTENANCE OF TRAFFIC PHASE 5A, WHEN THE INSIDE NORTHBOUND US-23 LANE IS SHIFTED ONTO THE EXISTING SHOULDER, THE EXISTING RUMBLE STRIPS SHALL BE REMOVED AND FILLED IN WITH ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22. THE CONTRACTOR SHALL PLANE OFF 1.5" OF PAVEMENT AND REPLACE WITH ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 THE ENTIRE LENGTH THAT THE LANES ARE SHIFTED TOWARDS THE MEDIAN, INCLUDING THE TAPER AREAS.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, AND REMOVAL, AND REHABILITATION OF THE EXISTING RUMBLE STRIPS.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 254, PAVEMENT PLANING, AS PER PLAN (T=1.5") 529 SY

ITEM 441, ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (449), PG64-22 22 CY

642-32 APPROVED MAINTENANCE OF TRAFFIC (MOT) POLICY EXCEPTION(S)

PORTIONS OF THE MOT PLANS AS DESCRIBED BELOW HAVE APPROVED MOT EXCEPTION(S) PER TRAFFIC MANAGEMENT IN WORK ZONES POLICY (21-008(P)) AND STANDARD PROCEDURE (123-001(SP)).

APPROVED MOT EXCEPTION(S) INCLUDE:

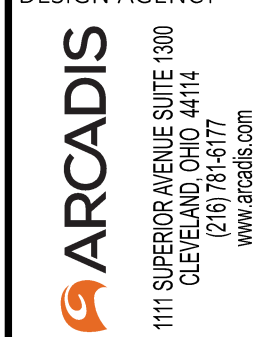
PERMITTED LANE CLOSURE EXCEPTION FOR US-23 SB INSIDE LANE CLOSURE DURING PHASE 1 FOR 1 WEEKEND (9PM FRIDAY TO 5 AM MONDAY)

PERMITTED LANE CLOSURE EXCEPTION FOR US-23 SB INSIDE LANE CLOSURE DURING PHASE 2 FOR 1 WEEKEND (9PM FRIDAY TO 5 AM MONDAY)

A MAINTENANCE OF TRAFFIC MEETING SHALL BE HELD A MINIMUM OF 30 CALENDAR DAYS PRIOR TO IMPLEMENTATION OF EACH APPROVED MOT EXCEPTION. THIS MEETING SHALL INCLUDE THE DISTRICT WORK ZONE TRAFFIC MANAGER AS WELL AS THE CONTRACTOR, WORKSITE TRAFFIC SUPERVISOR (WTS) AND ANY SUBCONTRACTORS INVOLVED WITH TEMPORARY TRAFFIC CONTROL.

IN ADDITION TO ANY NOTIFICATIONS REQUIRED IN OTHER NOTES, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER AT LEAST 3 BUSINESS DAYS IN ADVANCE OF IMPLEMENTATION OF THE APPROVED MOT EXCEPTION(S) REFERENCED ABOVE SO THAT THE PROJECT ENGINEER CAN SEND EMAIL NOTIFICATION TO THE OFFICE OF ROADWAY ENGINEERING, STATEWIDE TMC, DWZTM AND SPECIAL HAULING PERMITS AT LEAST 2 BUSINESS DAYS IN ADVANCE OF THE IMPLEMENTATION OF THE APPROVED MOT EXCEPTION(S) REFERENCED ABOVE. REFERENCE "EXCEPTION REQUEST APPROVAL DATED 07/25/24 FOR PID 105889" IN THE NOTIFICATION AND OTHER CORRESPONDENCE.

ANY CHANGES TO THE MOT THAT IMPACT THE PREVIOUSLY APPROVED MOT EXCEPTION(S) LISTED ABOVE SHALL BE APPROVED IN WRITING BY THE MOT EXCEPTION COMMITTEE (MOTEC). IN THE EVENT THAT SUCH CHANGES ARE PROPOSED, THE REQUEST SHALL BE COORDINATED THROUGH THE DISTRICT WORK ZONE TRAFFIC MANAGER (DWZTM) A MINIMUM OF 30 CALENDAR DAYS PRIOR TO THE DESIRED IMPLEMENTATION DATE. IF THE DISTRICT AGREES WITH THE PROPOSED CHANGES THE DWZTM SHALL SEEK APPROVAL FROM THE MOTEC. IN THE EVENT THE PROPOSED CHANGES ARE APPROVED IN WRITING, THE CLOSURES ARE STILL SUBJECT TO NOTIFICATION REQUIREMENTS WITHIN THIS NOTE PRIOR TO IMPLEMENTATION.



EJT

TJR 09/13/24

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SEQUENCE OF CONSTRUCTION

SEASON 1

PREPHASE

OVER A PERIOD OF ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY, THE CONTRACTOR SHALL CLOSE THE INSIDE LANE OF SOUTHBOUND US-23. THIS LANE CLOSURE WILL ALLOW FOR THE INSTALLATION OF TEMPORARY PAVEMENT THAT IS REQUIRED DURING PHASE 1 AND 2. THE LANE CLOSURE SHALL BE INSTALLED AS PER SCD MT-95.30.

PHASE 1

DURING THE FIRST PHASE OF CONSTRUCTION, US-23 SOUTHBOUND MAINLINE TRAFFIC SHALL BE SHIFTED EAST TOWARDS THE MEDIAN ONTO TEMPORARY PAVEMENT. THE US-23 SOUTHBOUND ON-RAMP SHALL BE CONSTRUCTED, INCLUDING THE PROPOSED STRUCTURE (SFN: 4805137). THE SOUTHBOUND RAMP SHALL BE SHIFTED TO THE NORTH AND EAST ON EXISTING AND TEMPORARY PAVEMENT TO ALLOW SPACE FOR CONSTRUCTION. AS MUCH OF THE NORTHBOUND OFF-RAMP AS POSSIBLE SHALL BE CONSTRUCTED THAT IS OUTSIDE OF THE EXISTING PAVEMENT AREAS. THIS INCLUDES THE PROPOSED NORTHBOUND US-23 OFF-RAMP STRUCTURE (SFN: 4805136). PEDESTRIANS FROM THE RIVER TRAIL SHALL BE DETOURED AS SHOWN ON SHEET 27. NO DAYTIME LANE CLOSURES ARE ALLOWED ALONG MONROE STREET OR ALEXIS ROAD DURING THIS PHASE. SINGLE LANE OVERNIGHT LANE CLOSURES ALLOWED FROM 8 PM TO 6 AM ALONG MONROE STREET AND ALEXIS ROAD. DURING THIS TIME FRAME, THE OUTSIDE WESTBOUND LANE OF ALEXIS ROAD SHALL BE CLOSED IN THE VICINITY OF ELLIOTT DRIVE. CONSTRUCT THE PROPOSED PAVEMENT ON THE NORTH SIDE OF ALEXIS ROAD (ROUGHLY STA. 46+00 TO STA. 47+50). THIS WILL ALLOW FOR U-TURNS IN FUTURE MOT PHASES. CLOSE THE OUTSIDE AND INSIDE SHOULDERS OF US-23 IN THE VICINITY OF THE MONROE STREET BRIDGE. THESE SHOULDER CLOSURES SHALL REMAIN IN PLACE THROUGHOUT THE PROJECT DURATION. THESE SHOULDER CLOSURES WILL ALLOW FOR A MAXIMUM AMOUNT OF SPACE FOR THE CONTRACTOR TO WORK ON THE BRIDGE.

PHASE 2

DURING THE SECOND PHASE OF CONSTRUCTION, US-23 SOUTHBOUND MAINLINE TRAFFIC SHALL BE IN THE SAME LOCATION AS PHASE 1 UNTIL IT CROSSES THE OTTAWA RIVER BRIDGE WHERE IT WILL SHIFT BACK TO THE ORIGINAL LOCATION. THE EASTERN PORTION OF THE US-23 SOUTHBOUND RAMP SHALL BE CONSTRUCTED. WORK ON THE NORTHBOUND RAMP AND PROPOSED NORTHBOUND US-23 OFF-RAMP STRUCTURE (SFN: 4805136) SHALL CONTINUE FROM PHASE 1. THE PEDESTRIAN DETOUR FROM PHASE 1 SHALL REMAIN IN PLACE. NO DAYTIME LANE CLOSURES ARE ALLOWED ALONG MONROE STREET OR ALEXIS ROAD DURING THIS PHASE. SINGLE LANE OVERNIGHT LANE CLOSURES ALLOWED FROM 8 PM TO 6 AM ALONG MONROE STREET AND ALEXIS ROAD. WHEN SOUTHBOUND US-23 WORK IS COMPLETE, THE CONTRACTOR SHALL CLOSE THE INSIDE LANE OVER THE COURSE OF ONE WEEKEND FROM 9 PM FRIDAY TO 5 AM MONDAY TO REMOVE THE TEMPORARY PAVEMENT THAT WAS USED PHASE 1 AND 2. THE LANE CLOSURE SHALL BE AS PER SCD MT-95.30.

SEASON 2

PHASE 3

DURING THE THIRD PHASE OF CONSTRUCTION, MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD SHALL BE SHIFTED TO THE NORTH. THE SOUTHERN HALF OF MONROE STREET INCLUDING ALL ROADWAY LAYERS EXCEPT FOR THE SURFACE COURSE, CURB AND GUTTER, SIDEWALKS, AND DRIVES SHALL BE CONSTRUCTED. PROPOSED WATERLINE WORK ON THE NORTH SIDE OF MONROE STREET BETWEEN GLASGOW ROAD TO THE EAST SIDE OF US-23 SHALL BE INSTALLED. WATERLINE WORK ALONG ACRES ROAD TO THE SOUTHWEST CORNER OF MONROE STREET AND THE EXISTING NORTHBOUND RAMP SHALL ALSO BE INSTALLED. MONROE STREET IS TO BE CLOSED FROM GLASGOW ROAD TO ACRES ROAD. THE PROPOSED STRUCTURE (SFN:4805224) SHALL BE CONSTRUCTED. ALEXIS ROAD IS TO BE CLOSED FROM MONROE STREET TO ACRES ROAD. MONROE STREET TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 31 THE SOUTH HALF OF ALEXIS ROAD, FROM ACRES ROAD TO THE END OF THE PROJECT, SHALL BE CONSTRUCTED DURING THIS PHASE. MONROE STREET AND ALEXIS ROAD PEDESTRIAN TRAFFIC SHALL BE DETOURED AS SHOWN ON SHEET 28. RAMP B SHALL BE CONSTRUCTED.

PHASE 3A

US-23 SOUTHBOUND ON-RAMP TRAFFIC SHALL BE SHIFTED ONTO THE FINISHED PAVEMENT AREA ON MONROE STREET BEGINNING AT STATION 170+00. THE FINISHED RAMP CURVE SHALL BE IMPLEMENTED. ALL OTHER WORK AREAS AND TRAFFIC LANE LOCATIONS REMAIN UNCHANGED FROM PHASE 3. THE CONTRACTOR SHALL MOVE TO PHASE 3A WITHIN 21 DAYS OF ESTABLISHING PHASE 3 MOT WEST OF GLASGOW INTERSECTION.

PHASE 4

DURING THE FOURTH PHASE OF CONSTRUCTION, MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD SHALL BE SHIFTED TO THE SOUTH. THE NORTHERN HALF OF MONROE STREET INCLUDING ALL ROADWAY LAYERS EXCEPT FOR THE SURFACE COURSE, CURB AND GUTTER, SIDEWALKS, AND DRIVES SHALL BE CONSTRUCTED. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN:4805224) SHALL CONTINUE. ALEXIS ROAD IS TO REMAIN CLOSED FROM MONROE STREET TO ACRES ROAD. THE NORTH HALF OF ALEXIS ROAD, FROM ACRES ROAD TO THE END OF THE PROJECT, SHALL BE CONSTRUCTED DURING THIS PHASE. THE NORTH LEG OF THE ACRES ROAD AND ALEXIS ROAD INTERSECTION SHALL BE CLOSED. ACRES ROAD SHALL BE DETOURED AS SHOWN ON SHEET 31. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE NORTHERN-MOST SECTION OF THE US-23 SOUTHBOUND OFF-RAMP SHALL BE CONSTRUCTED. PROPOSED TRAFFIC SIGNAL POLES, HEADS, AND CORRESPONDING SIGNAL ITEMS WILL BE ERECTED AND UTILIZED FOR THIS PHASE OF CONSTRUCTION. THE PHASE 4 MAINTENANCE OF TRAFFIC TEMPORARY SIGNAL MODIFICATIONS FOR GLASGOW ROAD AND MONROE STREET ARE SHOWN ON SHEET 106 THE CONTRACTOR WILL ENSURE THE PROPOSED TRAFFIC SIGNAL INSTALLATION IS CONSTRUCTED AS PER THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS. THE EAST DRIVE TO THE CEMETARY OFF OF MONROE STREET SHALL BE CLOSED. ALL CEMETARY TRAFFIC SHALL ENTER AND EXIT AT THE SIGNAL AT THE INTERSECTION OF MONROE STREET AND HARROUN ROAD.

PHASE 4A

DURING THIS SUBPHASE, TRAFFIC ON MONROE STREET WILL REMAIN UNCHANGED. RAMP C AND RAMP D LANES ARE TO BE SHIFTED TO THE EAST ONCE THE PROPOSED RAMP WORK IS COMPLETE IN PHASE 4. THE TRAFFIC OPERATION TO AND FROM GLASGOW ROAD SHALL BE CHANGED TO A ONE LANE TWO WAY FLOW.

PHASE 5A

PHASE 5A IS A SUBPHASE OF PHASE 4. MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD IS MOSTLY UNCHANGED, HOWEVER THE NORTHERN INTERSECTION AREA OF MONROE STREET AND GLASGOW ROAD SHALL BE CONSTRUCTED WHILE ALLOWING A SINGLE TWO-WAY LANE TO TRAVEL TO AND FROM GLASGOW ROAD. THE TWO-WAY SINGLE LANE OPERATION SHALL BE IN PLACE FOR A MAXIMUM OF 10 DAYS. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN: 4805224) SHALL CONTINUE. PROPOSED RAMP B IS TO BE OPENED TO TRAFFIC. THE NORTHERN HALF OF THE MONROE STREET AND ACRES ROAD INTERSECTION AREA SHALL BE CONSTRUCTED. THE SOUTHERN HALF OF THE ALEXIS ROAD AND ACRES ROAD INTERSECTION AREA SHALL BE CONSTRUCTED. ACRES ROAD BETWEEN ALEXIS ROAD AND MONROE STREET SHALL BE REMOVED. THE PROPOSED US-23 SOUTHBOUND RAMP CONCRETE MEDIAN SEPARATING THE ON AND OFF-RAMP SHALL BE CONSTRUCTED. THE US-23 NORTHBOUND OFF-RAMP IS TO BE CLOSED DURING THIS PHASE AS PER MT-98.29 AND ALL OVERLAPPING PROPOSED PAVEMENT AREAS WITH EXISTING PAVEMENT AREAS ARE TO BE CONSTRUCTED AND COMPLETED BEFORE IMPLEMENTING THE NEXT PHASE. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE PHASE 5A MAINTENANCE OF TRAFFIC TEMPORARY SIGNAL MODIFICATIONS FOR US-23 OFF RAMP AND MONROE STREET ARE SHOWN ON SHEET 106 THE CONTRACTOR WILL ENSURE THE PROPOSED TRAFFIC SIGNAL INSTALLATION IS CONSTRUCTED AS PER THE CURRENT ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PHASE 5B

PHASE 5B IS A SUBPHASE OF PHASE 4. MONROE STREET BETWEEN HARROUN ROAD AND GLASGOW ROAD IS MOSTLY UNCHANGED FROM PHASE 5A, THE ONLY EXCEPTION BEING THAT THE NORTH LEG OF GLASGOW IS ALLOWED TO HAVE TWO LANE TWO WAY TRAFFIC. THE PROPOSED RAISED MEDIAN ON MONROE STREET FROM ROUGHLY STATION 170+42 TO STATION 175+18 SHALL BE INSTALLED DURING THIS PHASE. TRAFFIC SHALL BE MAINTAINED BY LANE CLOSURES AS PER MT-95.32. MONROE STREET IS TO REMAIN CLOSED FROM GLASGOW ROAD TO ACRES ROAD. WORK ON THE PROPOSED STRUCTURE (SFN: 4805224) SHALL CONTINUE. THE SOUTHERN HALF OF MONROE STREET FROM THE EXISTING US-23 NORTHBOUND RAMP INTERSECTION TO THE END OF THE PROJECT SHALL BE CONSTRUCTED. THE RAISED MEDIAN ALONG ALEXIS ROAD SHALL BE CONSTRUCTED. THE US-23 NORTHBOUND MAINLINE SHOULDER SHALL BE RECONSTRUCTED AND TRAFFIC SHALL BE SHIFTED ONTO THE EXISTING SHOULDER. THE PEDESTRIAN DETOUR FROM PHASE 3 SHALL REMAIN IN PLACE. THE WATERLINE WORK STARTED IN PHASE 3 IN THE SOUTHWEST QUADRANT OF MONROE STREET AND THE OLD US-23 NORTHBOUND RAMP SHALL BE FINISHED. THE SECTION THAT IS TO BE COMPLETED CROSSES THROUGH THE AREA OF WHERE THE NOW CLOSED AND DEMOLISHED US-23 NORTHBOUND RAMP WERE PREVIOUSLY LOCATED.

POST PHASE

THE WORK TO BE PERFORMED DURING THIS PHASE WILL INCLUDE THE FOLLOWING: CONSTRUCTION OF THE REMAINING SURFACE COURSE OF PAVEMENT, FINAL PAVEMENT MARKINGS, FINAL SIGNAGE, LIGHTING, AND LANDSCAPING ITEMS. ALL MAINTENANCE OF TRAFFIC ITEMS THAT WERE PREVIOUSLY PLACED SHALL BE REMOVED. AT THE COMPLETION OF THE 180 DAY BRIDGE CLOSURE PERIOD ALL LANES OF TRAFFIC ON MONROE, ALEXIS, US-23, AND ALL RAMP SHALL BE OPEN TO TRAFFIC. ANY REMAINING WORK SHALL BE COMPLETED WITH OVERNIGHT LANE CLOSURES FROM 8 PM TO 6 AM. EXISTING STRUCTURE SFN 4805135 LUC 00184-00.030R CANNOT BE DEMOLISHED UNTIL PEDESTRIAN TRAFFIC CAN SAFELY TRAVERSE ACROSS THE NEWLY CONSTRUCTED MONROE STREET BRIDGE. THE PEDESTRIAN DETOUR FROM PHASES 1 & 2 SHALL BE IN EFFECT WHILE THE EXISTING STRUCTURE IS DEMOLISHED.

CONSTRUCTION COORDINATION KROGER PARCEL


CONTRACTOR IS TO COORDINATE OPERATIONS AND SCHEDULE WITH A KROGER STORE MANAGER (419-885-5027), RELATED TO THE WORK AT THE DRIVEWAY FOR KROGER ON MONROE STREET. CONTRACTOR IS TO PERFORM WORK SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE KROGER PHARMACY DRIVE-THRU. WORK THAT WILL TEMPORARILY IMPACT THE PHARMACY DRIVE-THRU MAY ONLY BE PERFORMED WHEN THE PHARMACY IS CLOSED AND IN COORDINATION WITH KROGER.

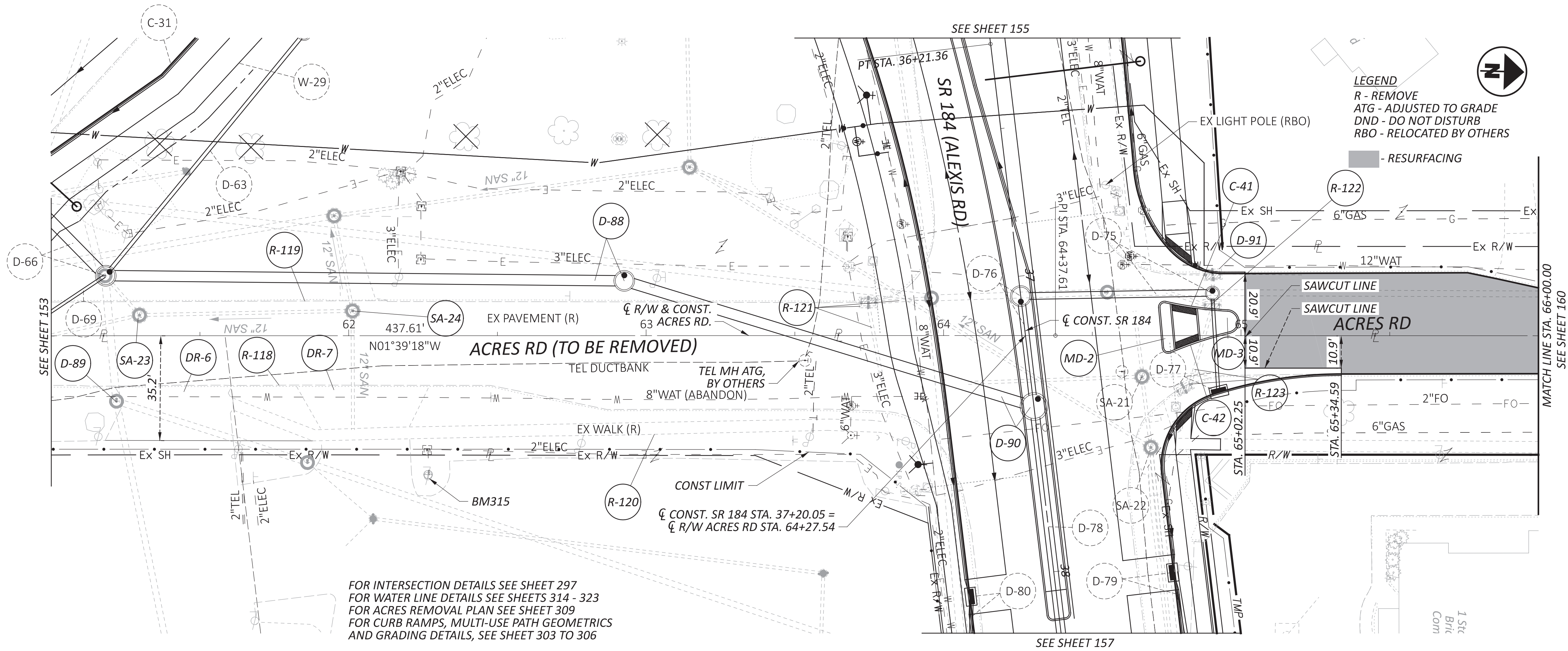
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DESIGN AGENCY: ARCADIS 1111 SUPERIOR AVENUE SUITE 1300 GLENVIEW, IL 60047 www.arcadis.com DESIGNER: EJT REVIEWER: TJR 09/13/24 PROJECT ID: 105889 SHEET: 25 TOTAL: 607

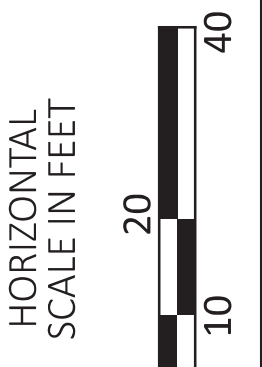
SHEET NO.	REFERENCE NO.	LOCATION	STATION TO STATION	SIDE	SIDE	602	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611	611		
						CONCRETE MASONRY	10" CONDUIT, TYPE F	12" CONDUIT, TYPE B	12" CONDUIT, TYPE C	15" CONDUIT, TYPE C	24" CONDUIT, TYPE B	27" CONDUIT, TYPE B	30" CONDUIT, TYPE B	36" CONDUIT, TYPE B	42" CONDUIT, TYPE B	42" CONDUIT, TYPE C	CATCH BASIN, NO. 3	CATCH BASIN, NO. 3A	CATCH BASIN, NO. 6	CATCH BASIN, NO. 7	CATCH BASIN, NO. 2-2B	CATCH BASIN, NO. 2-4	CATCH BASIN ADJUSTED TO GRADE		
						CY	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
153	SA-18	MONROE ST	191+56.84	LT	01/NHS/21																				
	SA-19	Not Used																							
155	SA-20	ALEXIS RD	34+15.37	RT	02/S>2/04																				
155	SA-21	ALEXIS RD	37+38.42		02/S>2/04																				
157	SA-22	ALEXIS RD	37+62.38	LT	02/S>2/04																				
159	SA-23	ACRES RD	61+29.68	LT	02/S>2/04																				
159	SA-24	ACRES RD	62+01.32	LT	02/S>2/04																				
CUMULATIVE TOTALS FROM PREVIOUS SHEETS						4	40	1449	1023	430	323	66	43	133	219	315	15	14	3	2	3	1	7		
TOTALS THIS SHEET																									
TOTALS CARRIED TO GENERAL SUMMARY						4	40	1449	1023	430	323	66	43	133	219	315	15	14	3	2	3	1	7		

DRAINAGE SUB-SUMMARY

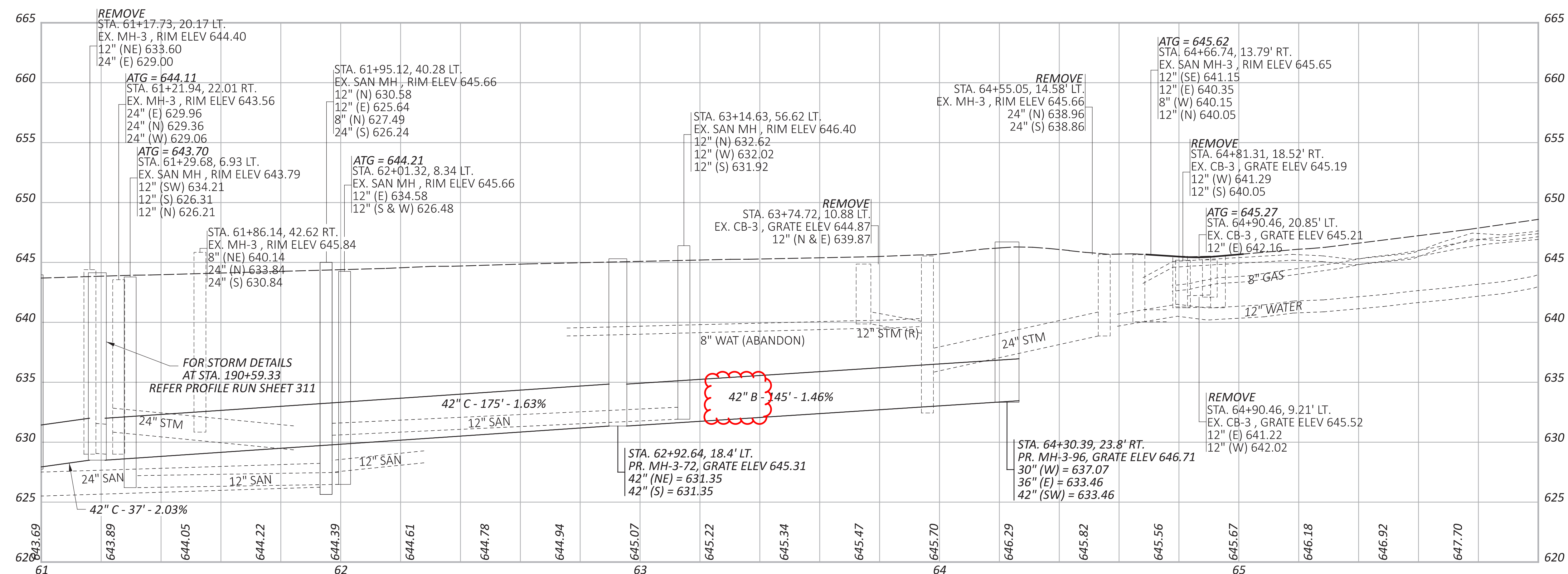
DESIGN AGENCY	
	222 SOUTH MAIN STREET SUITE 200 ARCADIS, OHIO 45606 www.arcadis.com
DESIGNER	CRA
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET	TOTAL
134	607



LEGEND
 R - REMOVE
 ATG - ADJUSTED TO GRADE
 DND - DO NOT DISTURB
 RBO - RELOCATED BY OTHERS
 - RESURFACING



FOR INTERSECTION DETAILS SEE SHEET 297
 FOR WATER LINE DETAILS SEE SHEETS 314 - 323
 FOR ACRES REMOVAL PLAN SEE SHEET 309
 FOR CURB RAMPS, MULTI-USE PATH GEOMETRICS AND GRADING DETAILS, SEE SHEET 303 TO 306



PLAN AND PROFILE - ACRES RD
 STA. 61+00 TO STA. 66+00

DESIGN AGENCY

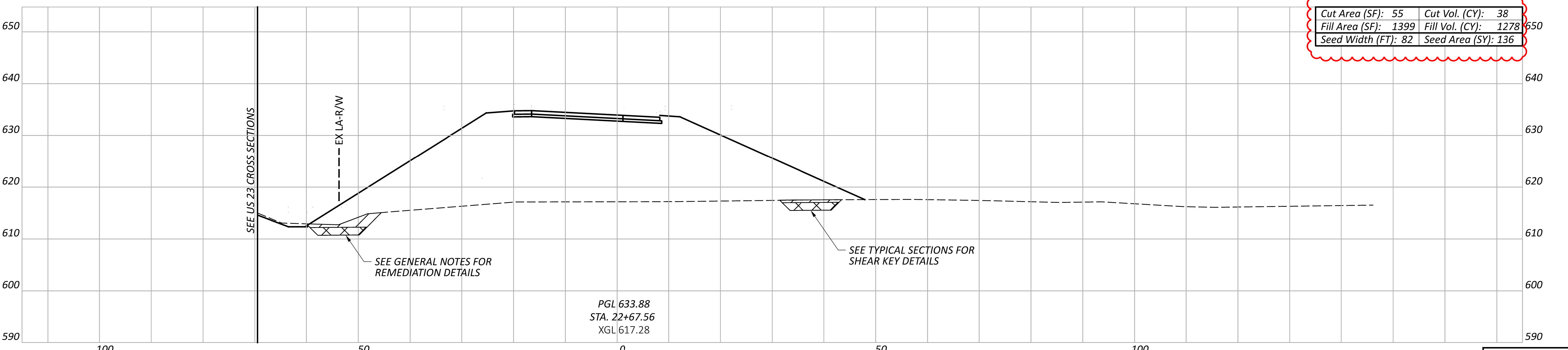
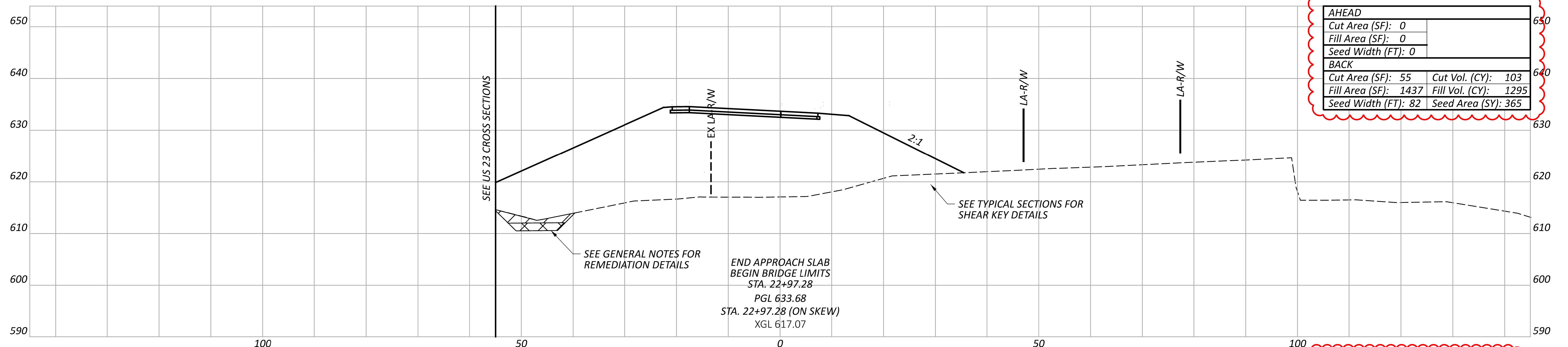
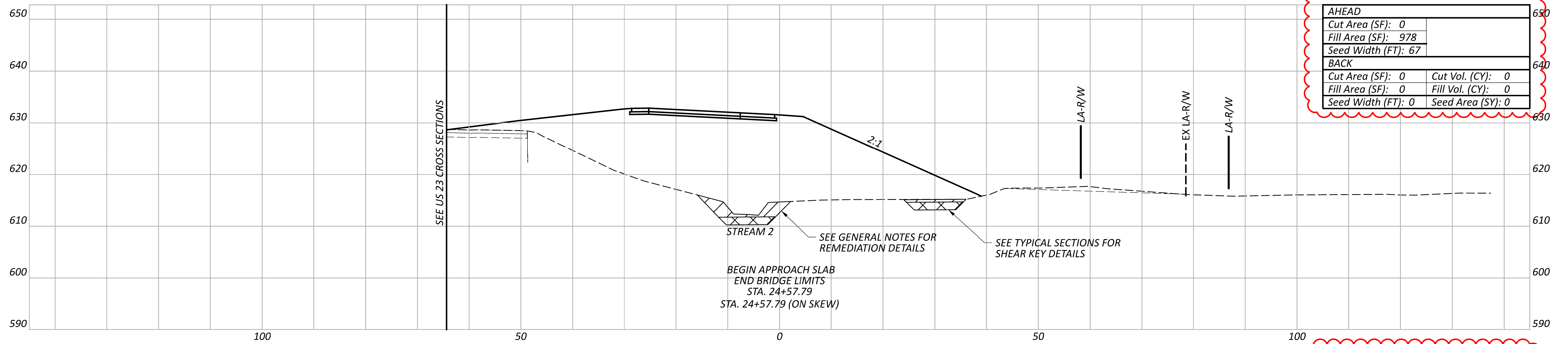
BERGMANN
 ARCHITECTS ENGINEERS PLANNERS
 540 BRIMFIELD BLVD, STE. C, WAMEGO, OH 43087

DESIGNER
 DTB

REVIEWER
 XF 09/13/24

PROJECT ID
 105889

SHEET TOTAL
 159 607



Sheet Totals			105889	
Seeding	Cut	Fill	SHEET	TOTAL
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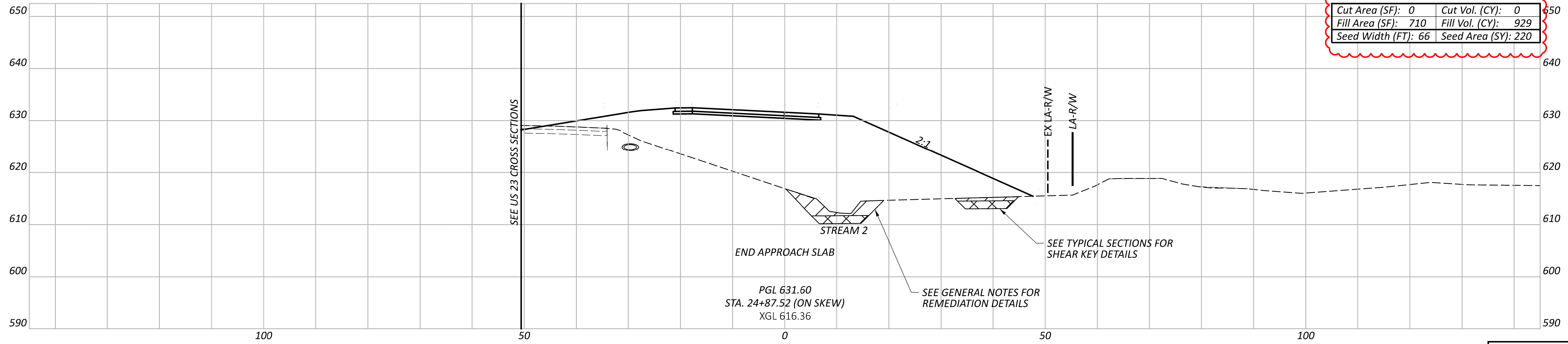
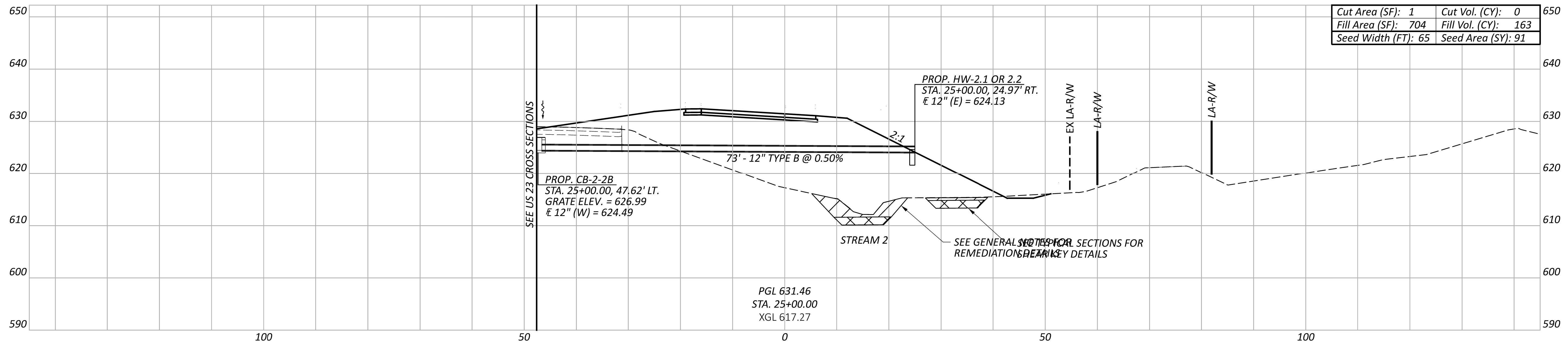
CROSS SECTIONS - RAMP D
 STA. 22+67.56 TO STA. 24+57.79

DESIGN AGENCY
ARCADIS
 1111 SUPERIOR AVENUE SUITE 1300
 CLEVELAND, OH 44114
 (216) 781-6177
 www.arcadis.com

DESIGNER
 TB

REVIEWER
 SMG 09/13/24

PROJECT ID
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CROSS SECTIONS - RAMP D
 STA. 24+87.52 TO STA. 25+00

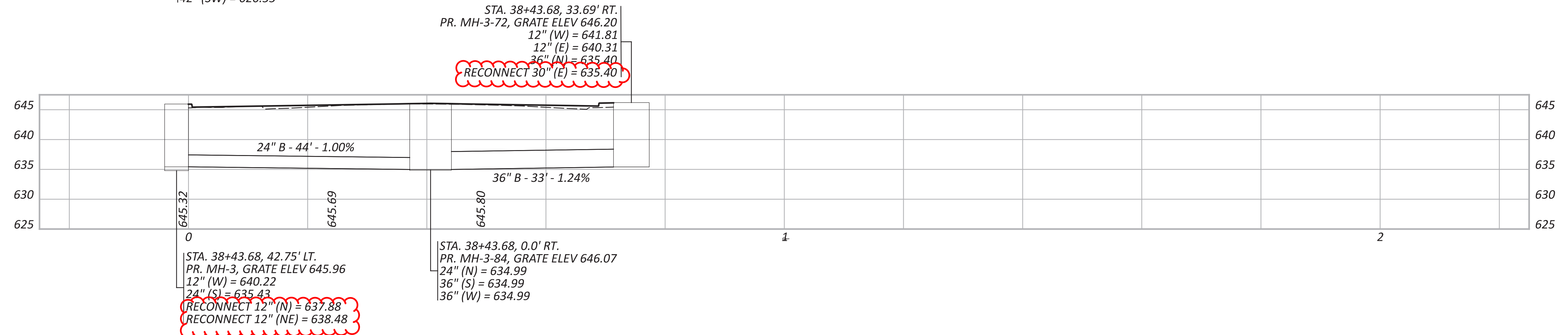
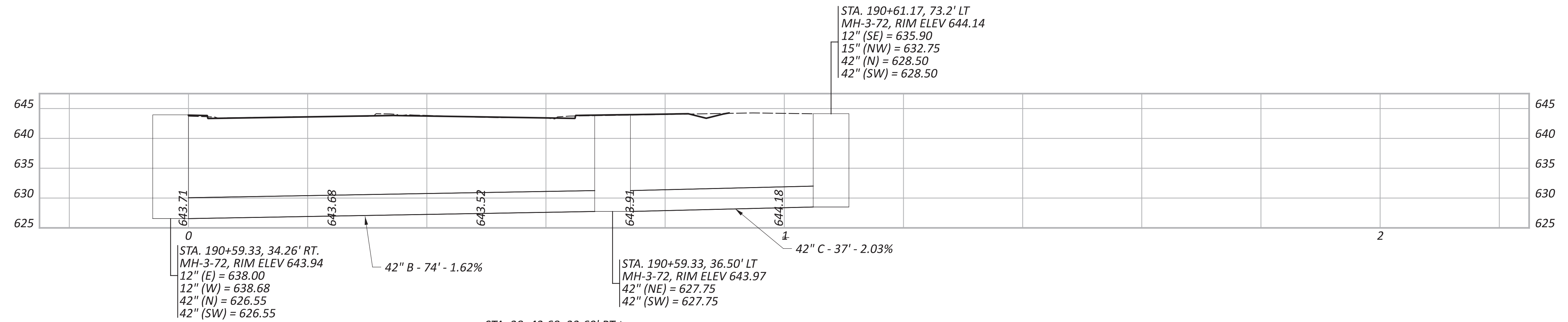
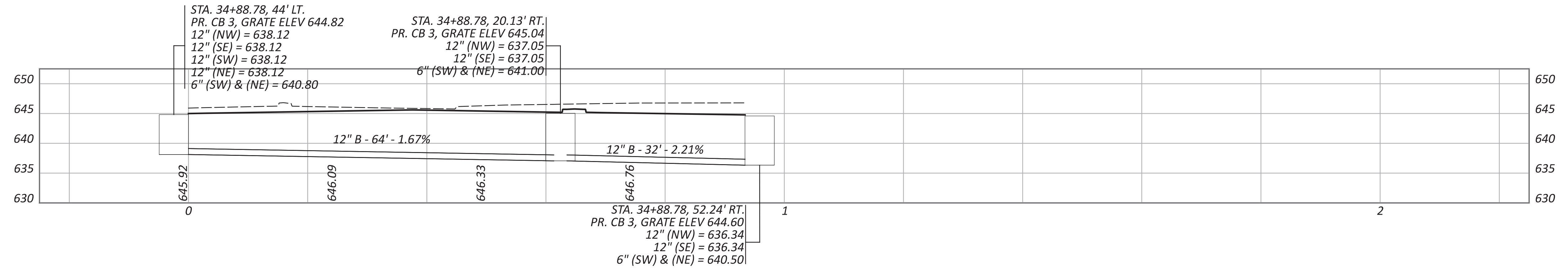
DESIGN AGENCY
ARCADIS
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 (216) 781-6177
 www.arcadis.com

DESIGNER
 TB

REVIEWER
 SMG 09/13/24

PROJECT ID
 105889

Sheet Totals			SHEET TOTAL	
Seeding	Cut	Fill	279	607
311	0	1092		



DRAINAGE PROFILES

DESIGN AGENCY



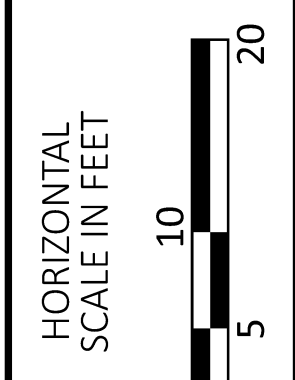
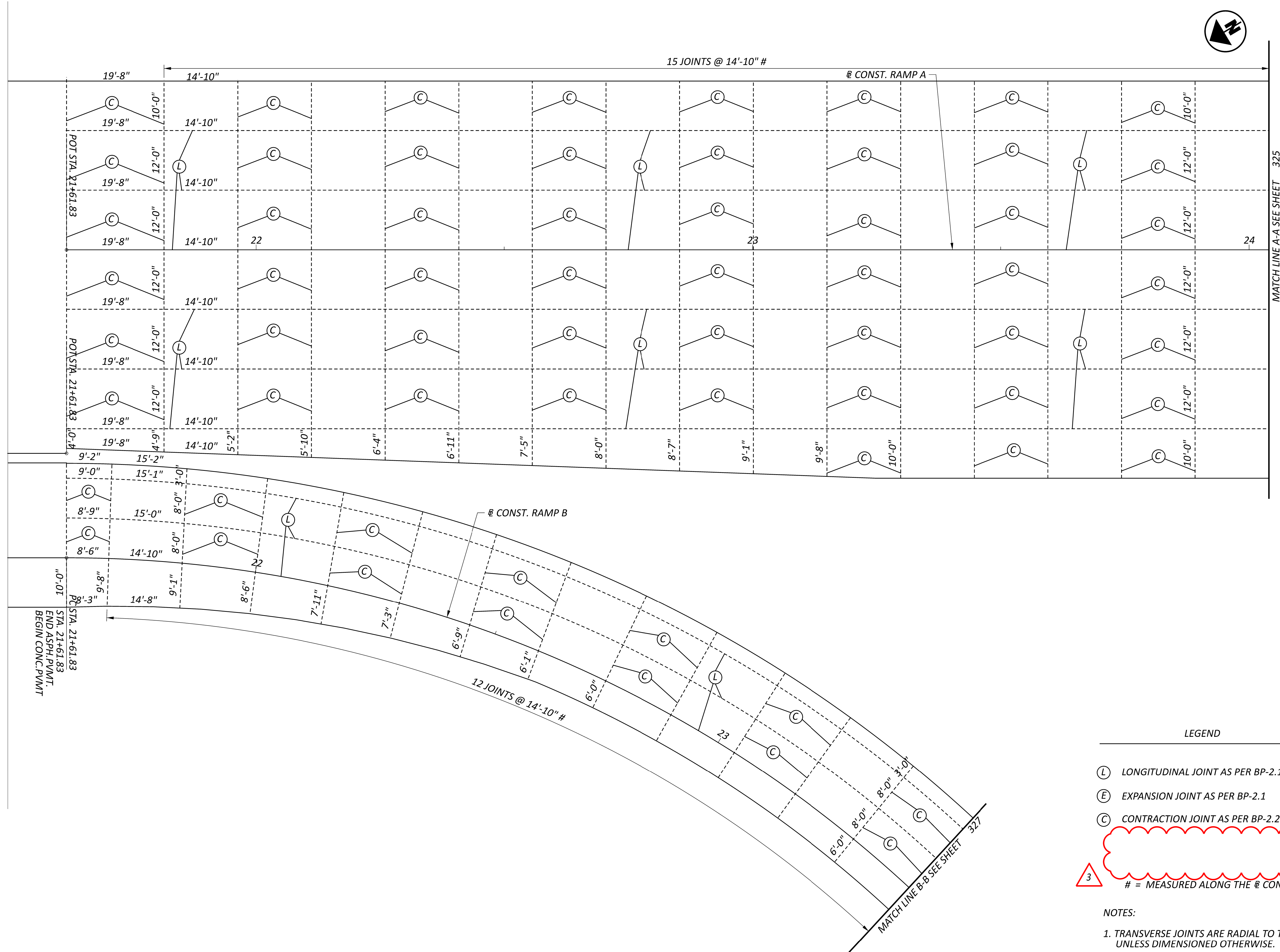
BERGMANN
 ARCHITECTS ENGINEERS PLANNERS

DESIGNER
 SNJ

REVIEWER
 XF 09/13/24

PROJECT ID
 105889

SHEET TOTAL
 311 607



PAVEMENT JOINT DETAILS
 RAMP A AND B

LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
 - (E) EXPANSION JOINT AS PER BP-2.1
 - (C) CONTRACTION JOINT AS PER BP-2.2
- 3 # = MEASURED ALONG THE @ CONSTRUCTION

NOTES:
 1. TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.

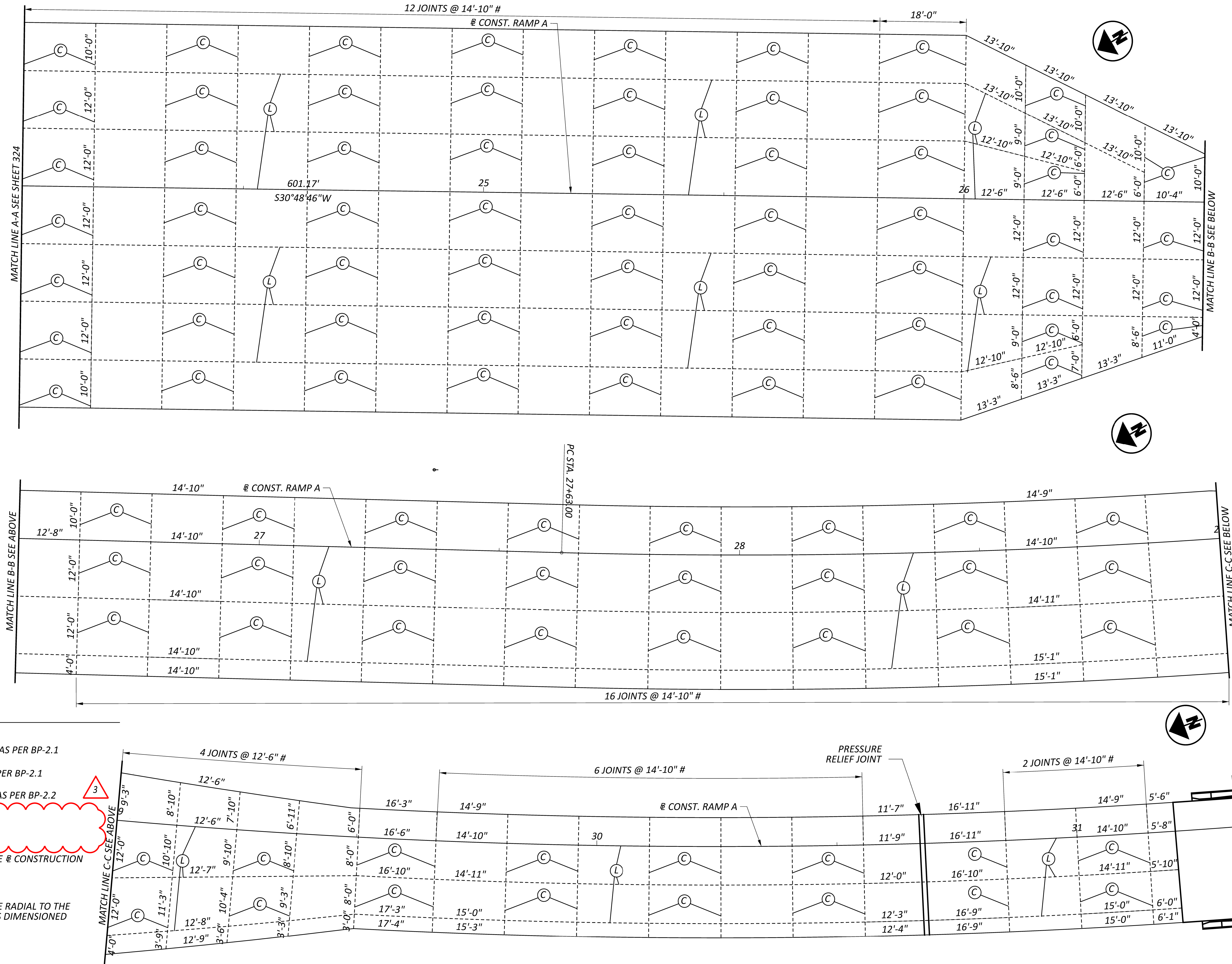
DESIGN AGENCY	
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DESIGNER	TB
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET	TOTAL
324	607

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2

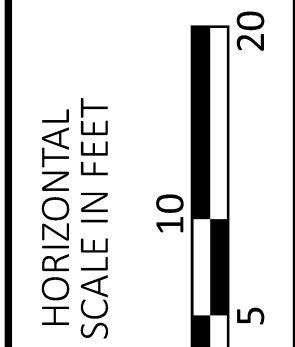
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NOTES:

1. TRANSVERSE JOINTS ARE RADIAL TO THE CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.

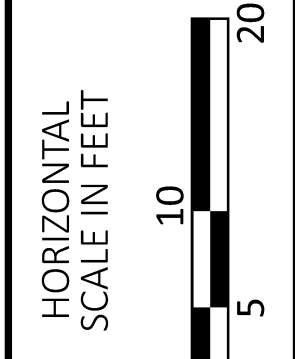
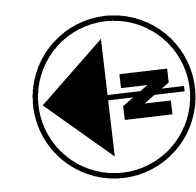
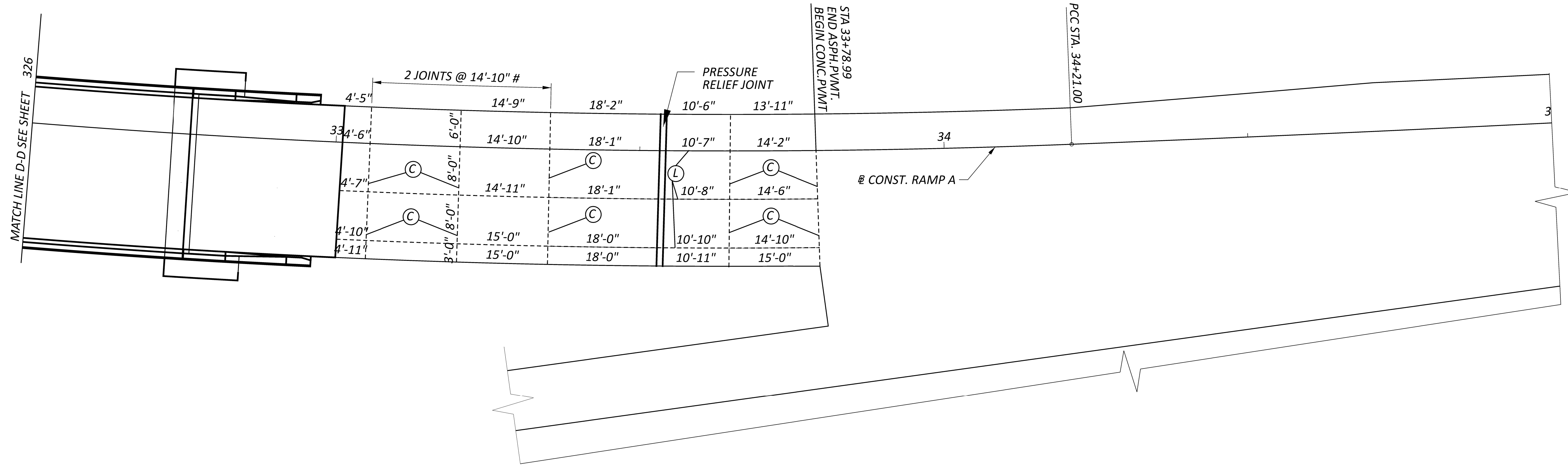


LEGEND



PAVEMENT JOINT DETAILS
RAMP A

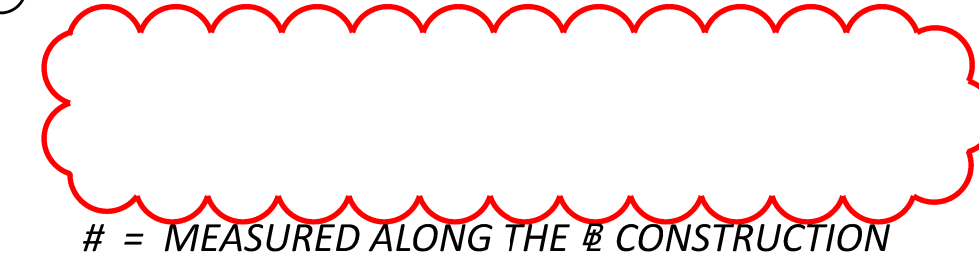
DESIGN AGENCY	
ARCADIS	1111 SUPERIOR AVENUE SUITE 1300 CLEVELAND, OH 44114 TEL: (216) 781-6177 WWW.ARCADIS.COM
DESIGNER	
TB	
REVIEWER	
SMG 09/13/24	
PROJECT ID	
105889	
SHEET	TOTAL
325	607



PAVEMENT JOINT DETAILS
RAMP A

LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2



= MEASURED ALONG THE @ CONSTRUCTION

NOTES:

1. TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.

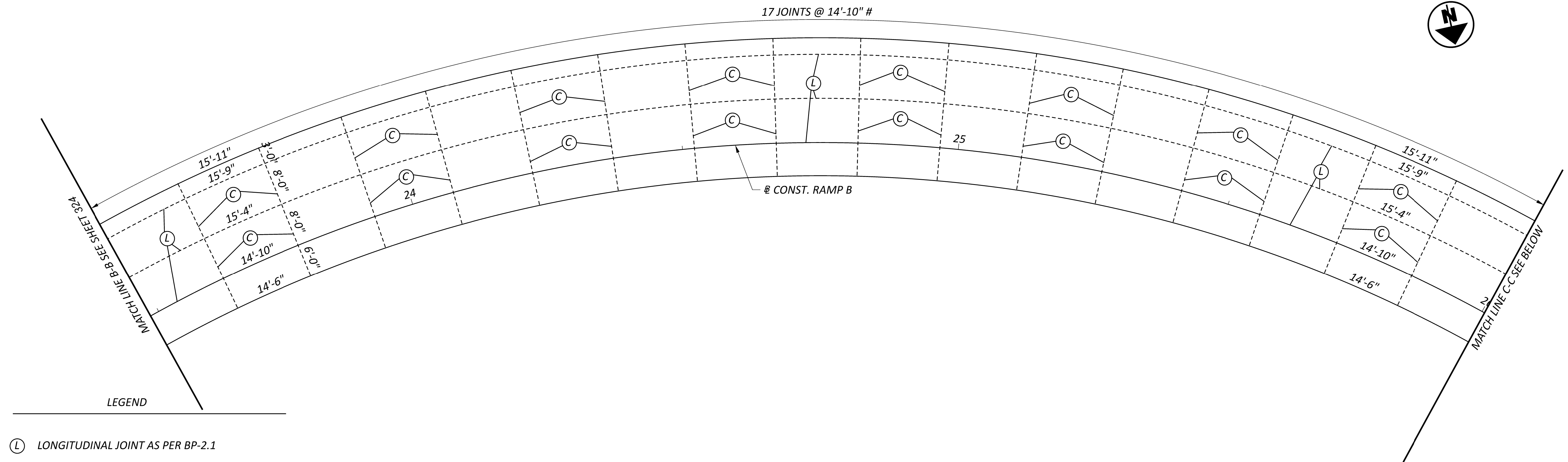
DESIGN AGENCY
ARCADIS
 1111 SUPERIOR AVENUE SUITE 1300
 CLEVELAND, OHIO 44114
 TEL: 216.786.6272
 WWW.ARCADIS.COM

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PROJECT ID
105889

SHEET TOTAL
326 607



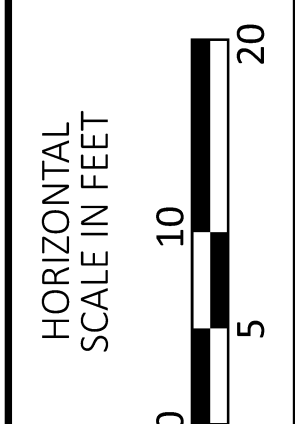
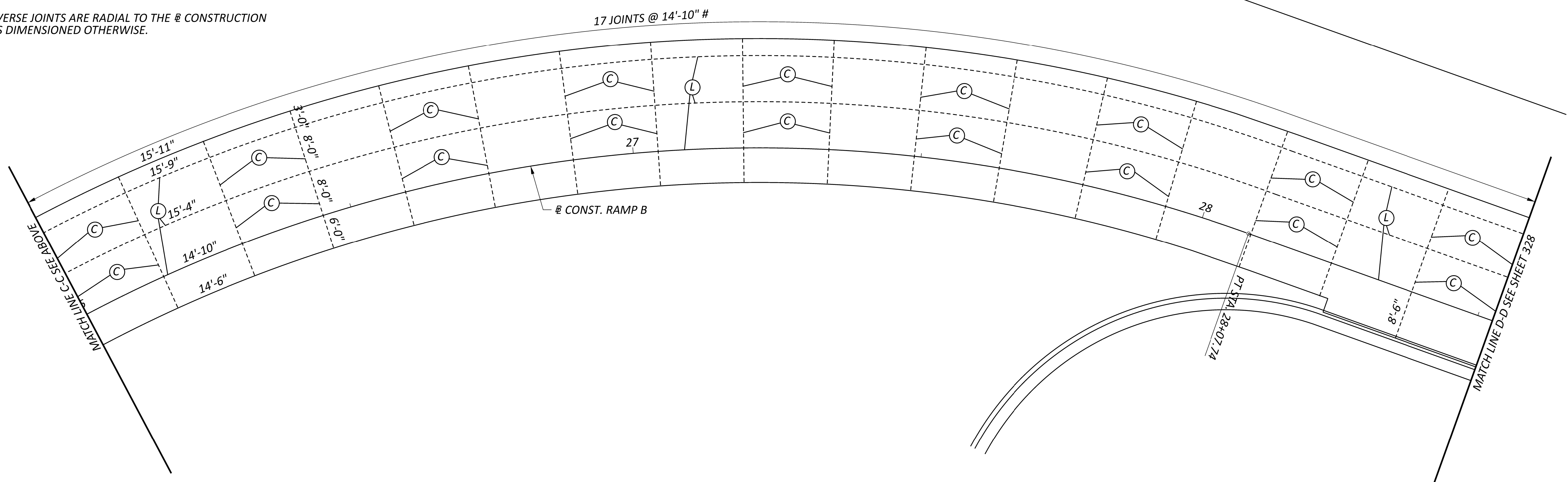
LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2

= MEASURED ALONG THE @ CONSTRUCTION

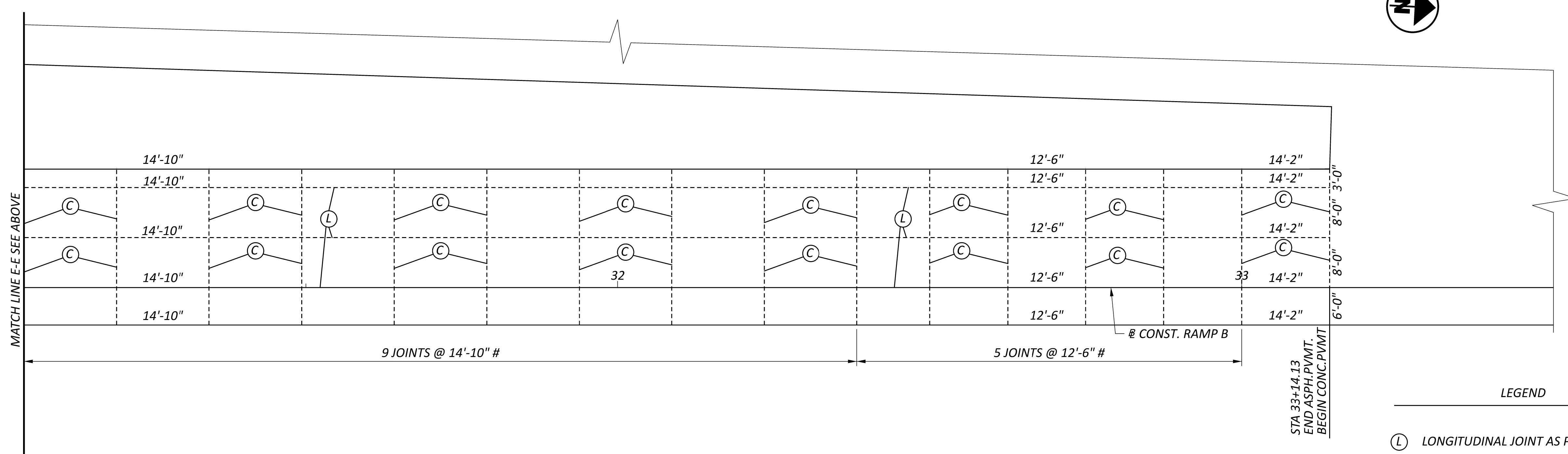
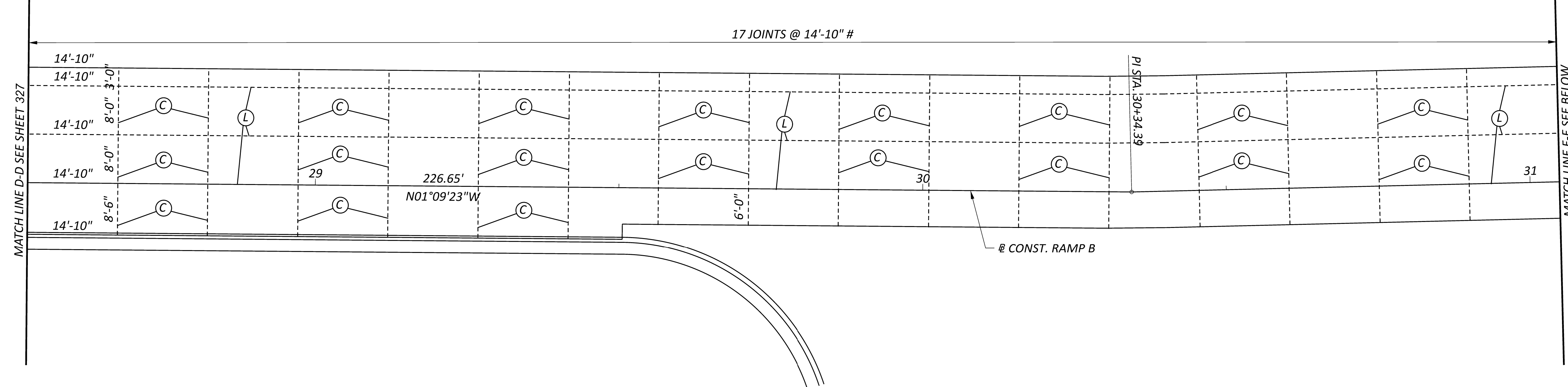
NOTES:

1. TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.



PAVEMENT JOINT DETAILS
RAMP B

DESIGN AGENCY	
ARCADIS 1171 SUPERIOR AVENUE SUITE 1300 CLEVELAND, OH 44114 (216) 781-9177 www.arcadis.com	
DESIGNER	TB
REVIEWER	SMG
PROJECT ID	09/13/24
	105889
SHEET	TOTAL
327	607



LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2

= MEASURED ALONG THE @ CONSTRUCTION

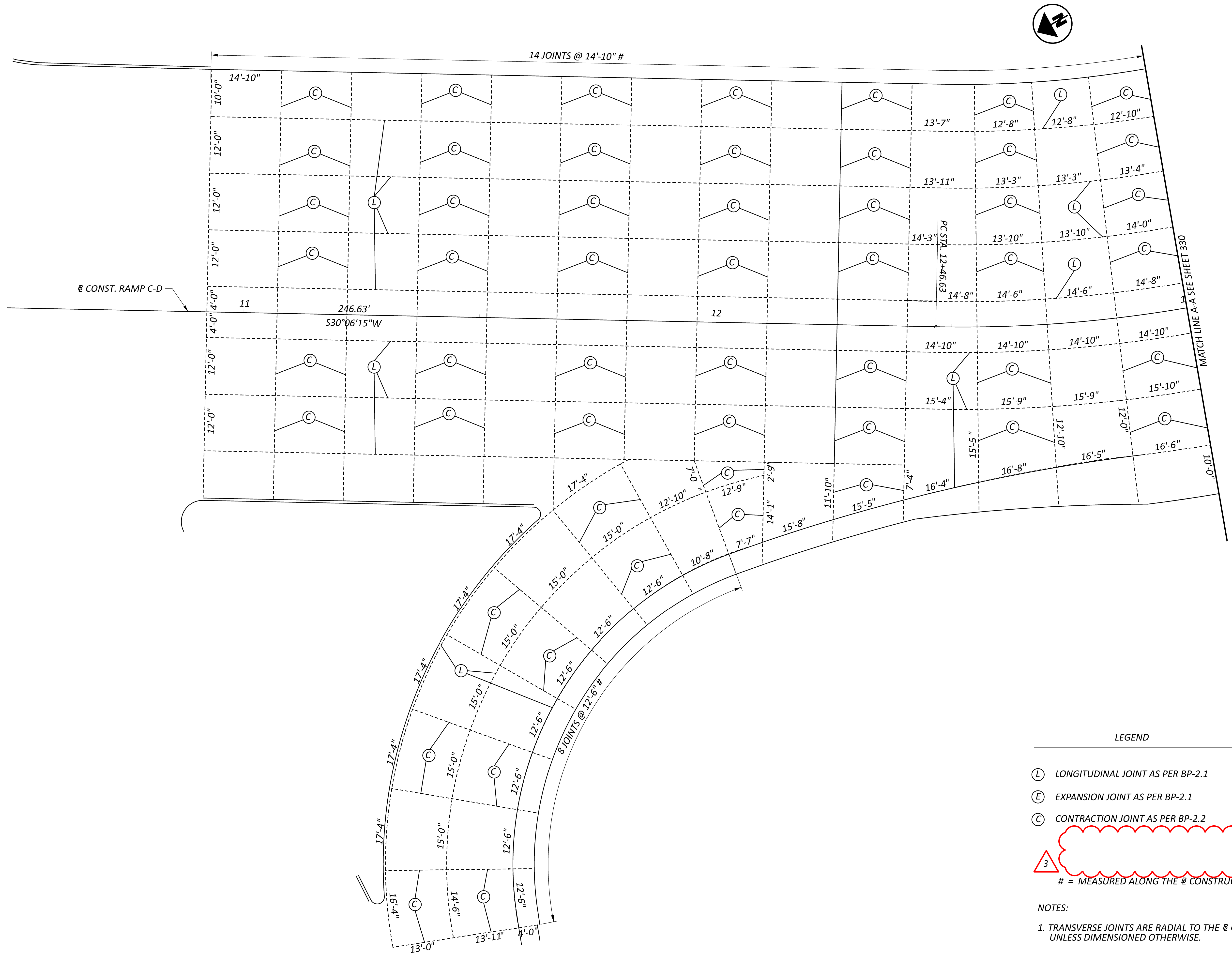
NOTES:

- TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.

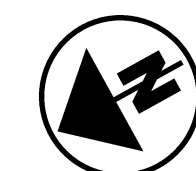


PAVEMENT JOINT DETAILS
RAMP B

DESIGN AGENCY	
1111 SUPERIOR AVENUE SUITE 1300 CLEVELAND, OHIO 44114 (216) 751-8177 www.arcadis.com	
DESIGNER	TB
REVIEWER	SMG
PROJECT ID	09/13/24
	105889
SHEET	TOTAL
328	607



MATCH LINE A-A SEE SHEET 330



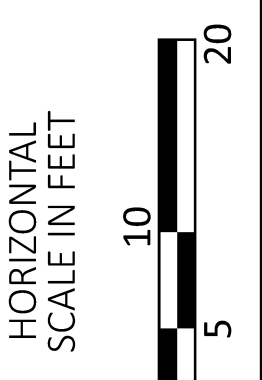
LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2

3 (Symbol in a triangle) # = MEASURED ALONG THE # CONSTRUCTION

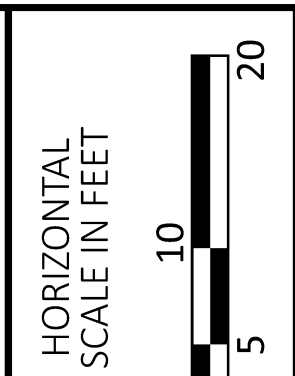
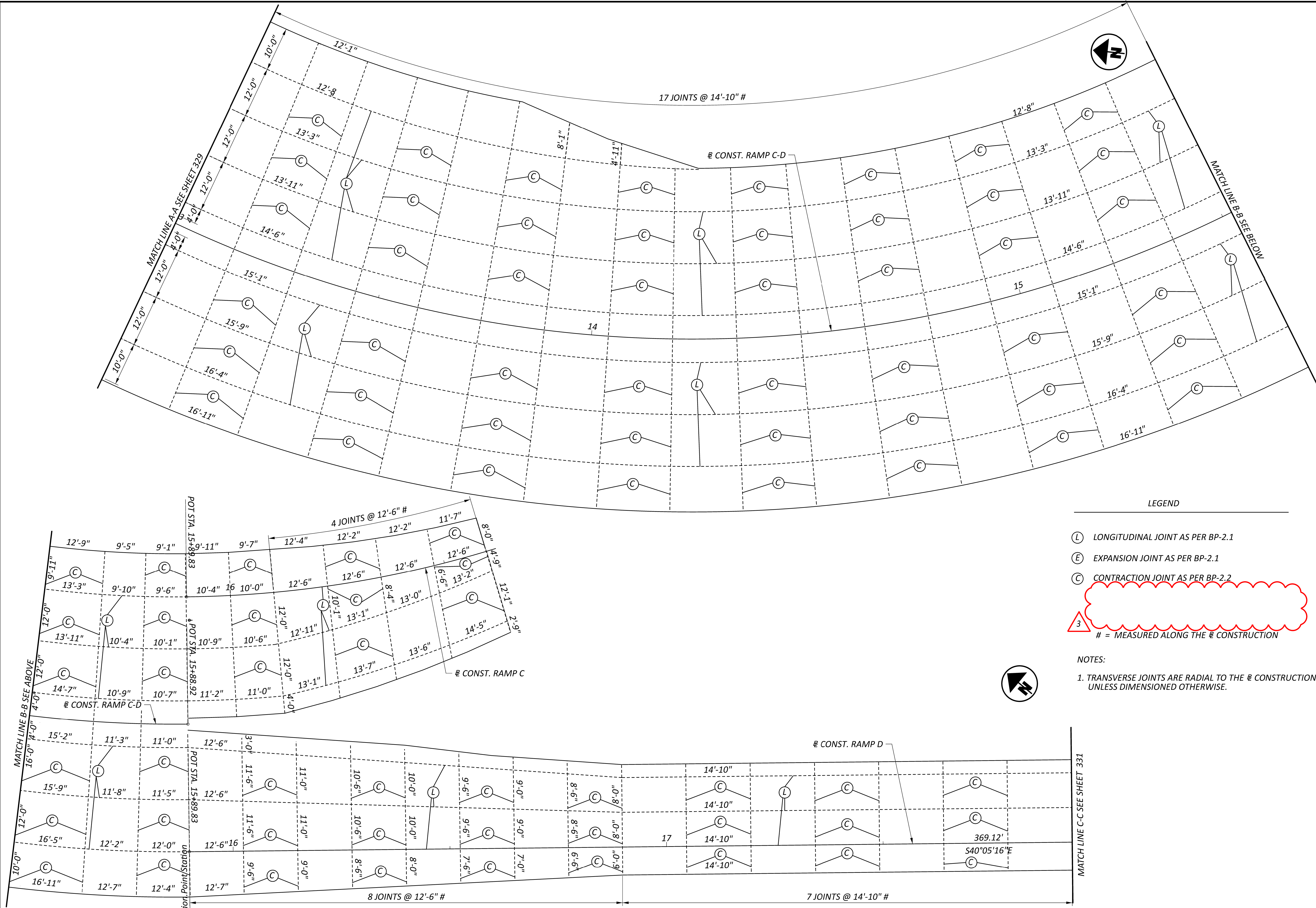
NOTES:

1. TRANSVERSE JOINTS ARE RADIAL TO THE # CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.



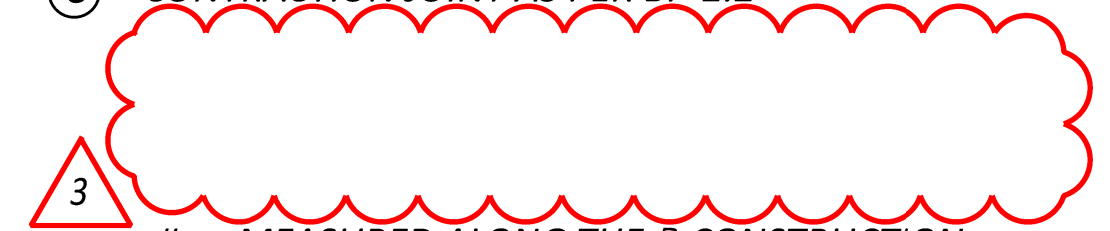
PAVEMENT JOINT DETAILS
RAMP C AND D

DESIGN AGENCY	
ARCADIS	1111 SUPERIOR AVENUE SUITE 800 CLIFTON NJ 07014 TEL: 908.281.8777 WWW.ARCADIS.COM
DESIGNER	TB
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET	TOTAL
329	607

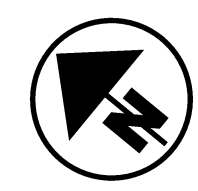


PAVEMENT JOINT DETAILS
RAMP C AND D

LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2
-  # = MEASURED ALONG THE @ CONSTRUCTION

NOTES:
 1. TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENSIONED OTHERWISE.



DESIGN AGENCY	
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DESIGNER	TB
REVIEWER	SMG 09/13/24
PROJECT ID	105889
SHEET	TOTAL
330	607

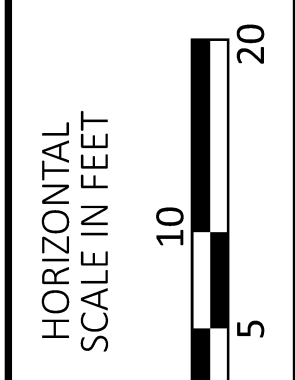


LEGEND

- (L) LONGITUDINAL JOINT AS PER BP-2.1
- (E) EXPANSION JOINT AS PER BP-2.1
- (C) CONTRACTION JOINT AS PER BP-2.2

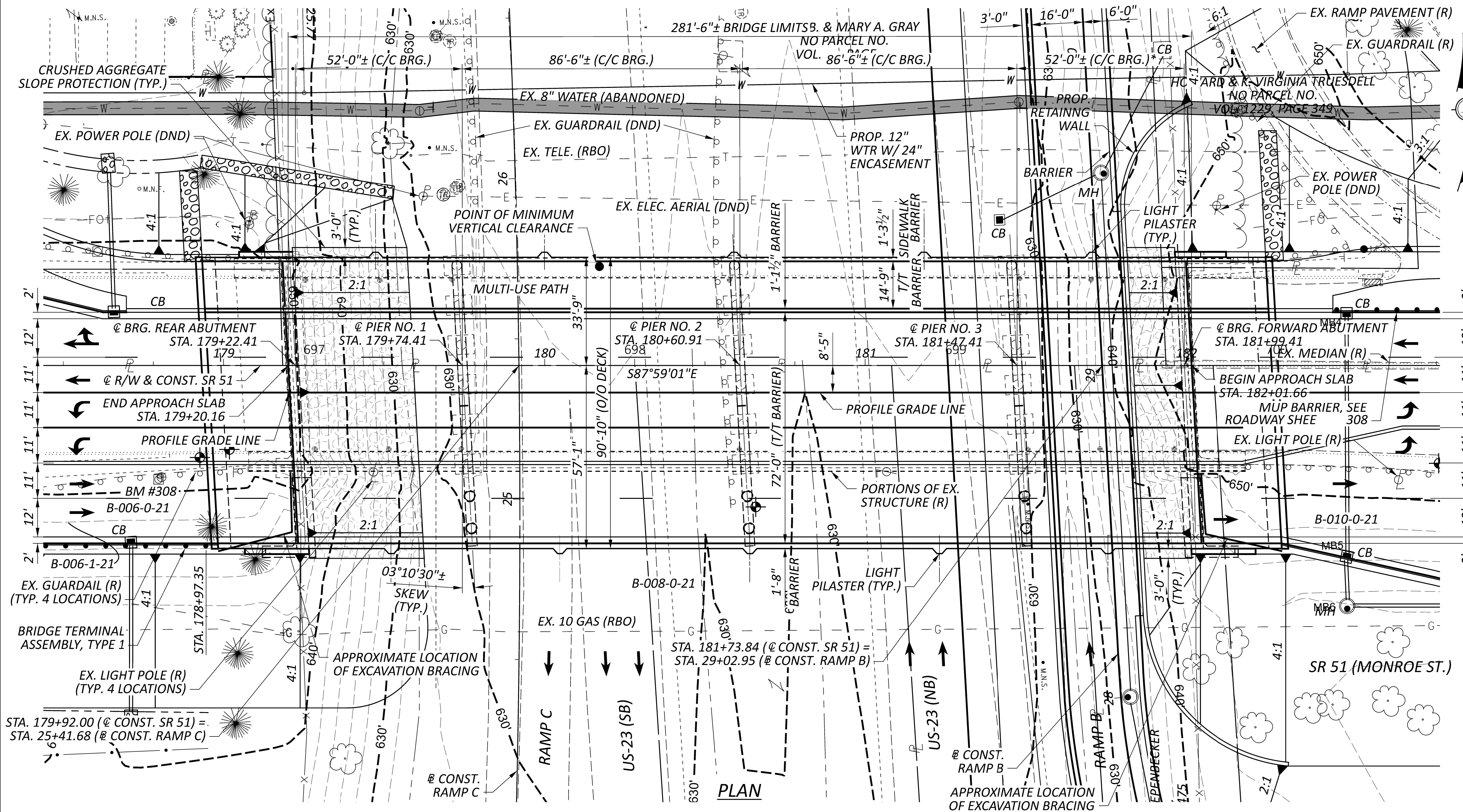
3 (in a red cloud shape) # = MEASURED ALONG THE @ CONSTRUCTION

NOTES:
 1. TRANSVERSE JOINTS ARE RADIAL TO THE @ CONSTRUCTION UNLESS DIMENTIONED OTHERWISE.



PAVEMENT JOINT DETAILS
RAMP D

DESIGN AGENCY	ARCADIS
DESIGNER	TB
REVIEWER	SMG
PROJECT ID	105889
SHEET	331
TOTAL	607



BENCHMARK DATA

@ R/W (SR 51) MONROE ST.
 BM #308 STA. 696+52.6 ELEV. 651.83 OFF. 34.8' RT. NE BOLT LANE DIR SIGN
 BM #309 STA. 701+23.5 ELEV. 650.01 OFF. 52.9' RT. NW COR CONC SIGN FOUNDATION

FOR ADDITIONAL BENCHMARK INFORMATION. SEE ROADWAY PLAN SHEET 21.

SOIL BORING LOCATIONS SET

BORING	STATION	OFF
-006-0-21	179+01.83	26.24' RT
B-006-1-21	178+92.62	28.72' RT
B-008-0-21	180+65.81	44.10' RT
-010-0-21	182+78.79	30.53' RT

NOTES

- EARTHWORK LIMITS SHOWN ARE APPROXIMATE. ACTUAL SLOPES SHALL CONFORM TO PLAN CROSS SECTIONS.
- FOR LIGHT PILASTER/LIGHT POLE STATIONS, SEE DECK PLAN ON SHEETS 38 | 66 AND 39 | 66

DESIGN TRAFFIC: (WEST OF US 23)
 2026 ADT = 45,650
 2046 ADT = 46,920
 2046 ADTT = 150
 DIRECTIONAL DISTRIBUTION = 0.54

DESIGN TRAFFIC: (EAST OF US 23)
 2026 ADT = 27,430
 2046 ADT = 28,460
 2046 ADTT = 100
 DIRECTIONAL DISTRIBUTION = 0.54

LEGEND

- BORING LOCATION
- 14'-11" (EXISTING) / 15'-8 3/4" (ACTUAL MIN.) / 15'-6" (REQUIRED MIN.)
- (DND) - DO NOT DISTURB (R) - REMOVE (RBO) - RELOCATED BY OTHERS

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH NONCOMPOSITE REINFORCED CONCRETE DECK ON REINFORCED CONCRETE CAP AND COLUMN PIERS ON SPREAD FOOTINGS AND STUB ABUTMENTS ON PILES

SPANS: 52'-0"±, 86'-6"±, 86'-6"±, 52'-0"± C/C BRG.

ROADWAY: 54'-0"± F/F SIDEWALKS

LOADING: CF-400

SKEW: 3° 10' 30"± R.F.

WEARING SURFACE: 1.3"± MONOLITHIC CONCRETE

APPROACH SLABS: AS-1-54 (25'-0"± LONG) WITH CURBS (T=13"±)

ALIGNMENT: TANGENT

CROWN: 0.016

STRUCTURE FILE NUMBER: 4805224

DATE BUILT: 1960

DISPOSITION: TO BE REHABILITATED AND WIDENED

PROPOSED STRUCTURE

TYPE: WIDENED CONTINUOUS STEEL BEAM WITH COMPOSITE REINFORCED CONCRETE DECK ON MODIFIED/WIDENED REINFORCED CONCRETE CAP AND COLUMN PIERS AND MODIFIED/WIDENED SEMI-INTEGRAL ABUTMENTS ON PILES

SPANS: 52'-0"±, 86'-6"±, 86'-6"±, 52'-0"± C/C BRG.

ROADWAY: 72'-0" T/T BARRIER (ROADWAY)
 14'-9" T/T BARRIER (MULTI-USE PATH)

LOADING: HL-93 (NEW SUPERSTRUCTURE, WIDENED ABUT. AND PIERS)
 CF 400 (EXIST. SUPERSTRUCTURE AND SUBSTRUCTURE)

SKEW: 3° 10' 30"± R.F.

WEARING SURFACE: 1" MONOLITHIC CONCRETE

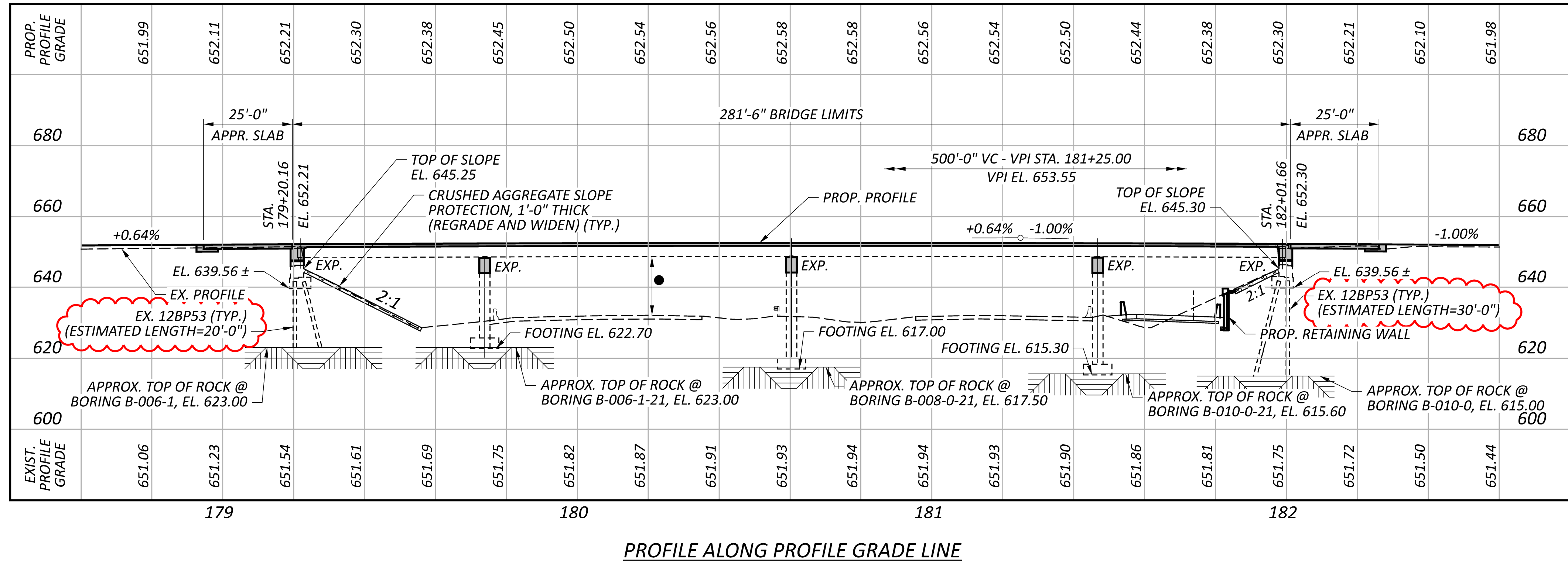
APPROACH SLABS: 25'-0" LONG 15" THICK (AS-1-15, AS-2-15)

ALIGNMENT: TANGENT

CROWN: 0.016 FT/FT

DECK AREA: 25,579 SF

COORDINATES: LATITUDE N 41° 42' 54.91"
 LONGITUDE W 83° 41' 20.03"



SITE PLAN
 BRIDGE NO. LUC-51-1285
 OVER US 23

SFN 4805224

DESIGN AGENCY
ARCADIS
 222 SOUTH MAIN STREET, SUITE 200
 FAYETTEVILLE, AR 72701-4344-6885
 www.arcadis.com

DESIGNER: NES CHECKER: CMD

REVIEWER: FIG 09-13-24

PROJECT ID: 105889

SUBSET	TOTAL
1	66
SHEET	TOTAL
416	607

**ITEM 509 - EPOXY COATED REINFORCING STEEL,
AS PER PLAN**

IN ADDITION TO THE PROVISIONS OF ITEM 509, FIELD BEND AND/OR FIELD CUT THE STEEL REINFORCEMENT DESIGNATED IN THE PLANS, AS NECESSARY, IN ORDER TO MAINTAIN THE REQUIRED CLEARANCES AND BAR SPACING. REPAIR ALL DAMAGE TO THE EPOXY COATINGS AS A RESULT OF THIS WORK, ACCORDING TO CMS 709.00.

**ITEM 510 - DOWEL HOLES WITH NONSHRINK,
NONMETALLIC GROUT, AS PER PLAN**

DOWEL HOLES FOR #5 REINFORCING SHALL BE 7/8" DIAMETER AND A MINIMUM OF 12" DEEP. DOWEL HOLES FOR #8 REINFORCING SHALL BE 1.5" DIAMETER AND A MINIMUM OF 18" DEEP. PRIOR TO DRILLING HOLES, LOCATE ALL EXISTING REINFORCING STEEL BARS IN THE AREA OF THE HOLE WITH THE AIDE OF A REINFORCING STEEL BAR LOCATOR (PACHOMETER). IF AN EXISTING BAR IS ENCOUNTERED AT THE SAME LOCATION AS A PROPOSED DOWEL HOLE, MOVE THE DOWEL HOLE TO EITHER SIDE OF THE EXISTING BAR. THE MATERIAL REQUIREMENTS OF ACI 355.4 INCLUDING TESTING FOR SENSITIVITY TO SUSTAINED LOADING AT STANDARD AND MAXIMUM TEMPERATURE NEED TO BE MET. THE DEPARTMENT WILL PAY FOR DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN.

**ITEM 514, FIELD PAINTING STRUCTURAL STEEL,
FINISH COAT, AS PER PLAN**

ALL STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED IN ACCORDANCE WITH CMS ITEM 514.

THE COLOR OF THE FINISH COAT FOR ALL STRUCTURAL STEEL SHALL BE SHERWIN WILLIAMS TRICORN BLACK OR CLOSELY MATCHED EQUIVALENT. THE COLOR SHALL MATCH THE COLOR USED FOR THE DECORATIVE FENCING AND TWIN STEEL TUBE RAILINGS. THE CONTRACTOR SHALL SUBMIT COLOR SAMPLES FOR APPROVAL PRIOR TO ORDERING MATERIALS AND PERFORMING THIS WORK.

ITEM 514 - FIELD PAINTING, MISC.: COATING OF BEAM ENDS

PRIOR TO ENCASING THE BEAM ENDS, PREPARE THE ENDS PER SSPC SP10 OR SSPC SP11 TO BARE METAL ACHIEVING A 1.5 TO 3.5 MIL PROFILE. PAINT THE BEAM ENDS WITH ORGANIC ZINC PRIME COAT PER C&MS 514. PROVIDE THE PRIME COAT THICKNESS AS PER C&MS 514.20. EXTEND THE LIMITS OF THE BEAM PREPARATION AND PAINTING 1-FT BEYOND THE LIMITS OF THE END DIAPHRAGM CONCRETE.

AFTER THE DIAPHRAGM CONCRETE IS SET, SEAL THE INTERFACE BETWEEN THE BEAM AND CONCRETE WITH CAULK.

THE DEPARTMENT WILL PAY FOR ALL ABOVE LABOR AND AT THE CONTRACT BID PRICE FOR ITEM 514 - FIELD PAINTING, MISC: COATING OF BEAM ENDS.

DECK PLACEMENT DESIGN ASSUMPTIONS:

THE FOLLOWING ASSUMPTIONS OF CONSTRUCTION MEANS AND METHODS WERE MADE FOR THE ANALYSIS AND DESIGN OF THE SUPERSTRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF THE FALSEWORK SUPPORT SYSTEM WITHIN THESE PARAMETERS AND WILL ASSUME RESPONSIBILITY FOR SUPERSTRUCTURE ANALYSIS FOR DEVIATION FROM THESE DESIGN ASSUMPTIONS.

AN EIGHT WHEEL FINISHING MACHINE WITH A MAXIMUM WHEEL LOAD OF 2.86 KIPS.

A MINIMUM OUT-TO-OUT WHEEL SPACING AT EACH END OF THE MACHINE OF 103".

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48".

A MAXIMUM DISTANCE FROM THE CENTERLINE OF THE FASCIA GIRDER TO THE FACE OF THE SAFETY HANDRAIL OF 65".

PILES TO BEDROCK

DRIVE PILES TO REFUSAL ON BEDROCK. THE DEPARTMENT WILL CONSIDER REFUSAL TO BE OBTAINED WHEN THE PILE PENETRATION IS AN INCH OR LESS AFTER RECEIVING AT LEAST 20 BLOWS FROM THE PILE HAMMER. SELECT THE HAMMER SIZE TO ACHIEVE THE REQUIRED DEPTH TO BEDROCK AND REFUSAL. THE TOTAL FACTORED LOAD IS 68.0 KIPS PER PILE FOR THE REAR AND FORWARD ABUTMENT PILES.

REAR ABUTMENT PILES:
HP 12X53 PILES, 25 FEET LONG ORDER LENGTH

FORWARD ABUTMENT PILES:
HP 12X53 PILES, 35 FEET LONG ORDER LENGTH

ROCK SOCKETED DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 435 KIPS AT THE PIERS. THIS LOAD IS RESISTED BY TIP RESISTANCE. AT THE PIERS, THE FACTORED TIP RESISTANCE IS 3,200 KIPS.

SOIL NAIL RETAINING WALL

DESCRIPTION OF WORK:

THIS WORK CONSISTS OF CONSTRUCTING A PERMANENT SOIL NAIL WALL AS SPECIFIED HEREIN, AS SHOWN ON THE CONTRACT DRAWINGS, AND PER THE PROJECT SPECIAL PROVISIONS. FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO COMPLETE THE WORK. DESIGN THE SOIL NAIL WALL TO MEET THE MINIMUM REQUIREMENTS SPECIFIED HEREIN, SHOWN ON THE CONTRACT DRAWINGS, OR SPECIFIED IN THE PROJECT SPECIAL PROVISIONS.

DESIGN:

REFERENCE: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS ARTICLE 11.12, SOIL NAIL WALLS. THE BATTER OF THE DESIGNED WALL IS 0 DEGREES. PROVIDE 159 SOIL NAILS WITH A FACTORED DESIGN LOAD OF 30 KIPS PER NAIL. THE NAILS SHALL CONSIST OF A MINIMUM OF 75 KSI STEEL, WITH A MAXIMUM 3'-0" VERTICAL SPACING AND A MAXIMUM 3'-7" HORIZONTAL SPACING. THE NAILS SHALL BE INSTALLED AT AN INCLINATION OF 15 DEGREES FROM THE HORIZONTAL. HOLLOW BAR SOIL NAILS (HBSN) ARE NOT ALLOWED. THE SHOTCRETE FACING REINFORCEMENT SHALL CONSIST OF WELDED WIRE FABRIC PER ASTM A1060. THE SHOTCRETE WALL FACING SHALL BE PER ITEM 520, WITH A MINIMUM THICKNESS OF 6" AND SHALL BE REINFORCED PER THE WALL DETAILS. THE CAST-IN-PLACE PERMANENT WALL FACING SHALL BE PER ITEM 511, CLASS QC1 CONCRETE, WITH A MINIMUM THICKNESS OF 9", AND SHALL BE REINFORCED PER THE WALL DETAILS. FOR ALL EVALUATIONS OF OVERALL STABILITY, THE DEPARTMENT CONSIDERS THE PROPOSED SOIL NAIL WALL TO BE A "CRITICAL" STRUCTURE AS DEFINED IN FHWA-NHI-14-007.

WALL DRAINAGE SYSTEM:

PROVIDE ALL ELEMENTS OF THE SOIL NAIL WALL DRAINAGE SYSTEM CONSISTING OF GEOCOMPOSITE DRAIN STRIPS, PVC CONNECTION PIPE, AND WEEPHOLES, AS SHOWN IN THE CONTRACT DRAWINGS, THAT WILL PROVIDE A CONTINUOUS PATH FOR WATER FLOW AND PREVENT PORE WATER PRESSURE FROM BUILDING BEHIND THE WALL. PROVIDE GEOCOMPOSITE DRAIN STRIPS, WEEPHOLES, AND OUTLET PIPE PER ITEM 518.

TESTING:

PERFORM A MINIMUM OF 13 SOIL NAIL VERIFICATION TESTS ON SACRIFICIAL PRE-PRODUCTION SOIL NAILS. PERFORM PROOF TESTS ON 5% OF THE SOIL NAILS IN EACH NAIL ROW OR A MINIMUM OF ONE PER ROW; AT LOCATIONS ACCEPTED BY THE ENGINEER.

BASIS OF PAYMENT:

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO COMPLETE THE ABOVE WORK:

ITEM 530, SPECIAL - RETAINING WALL, SOIL NAIL, 159 EACH
ITEM 530, SPECIAL - RETAINING WALL, SOIL NAIL VERIFICATION TEST, 13 EACH
ITEM 530, SPECIAL - RETAINING WALL, SOIL NAIL PROOF TEST, 10 EACH

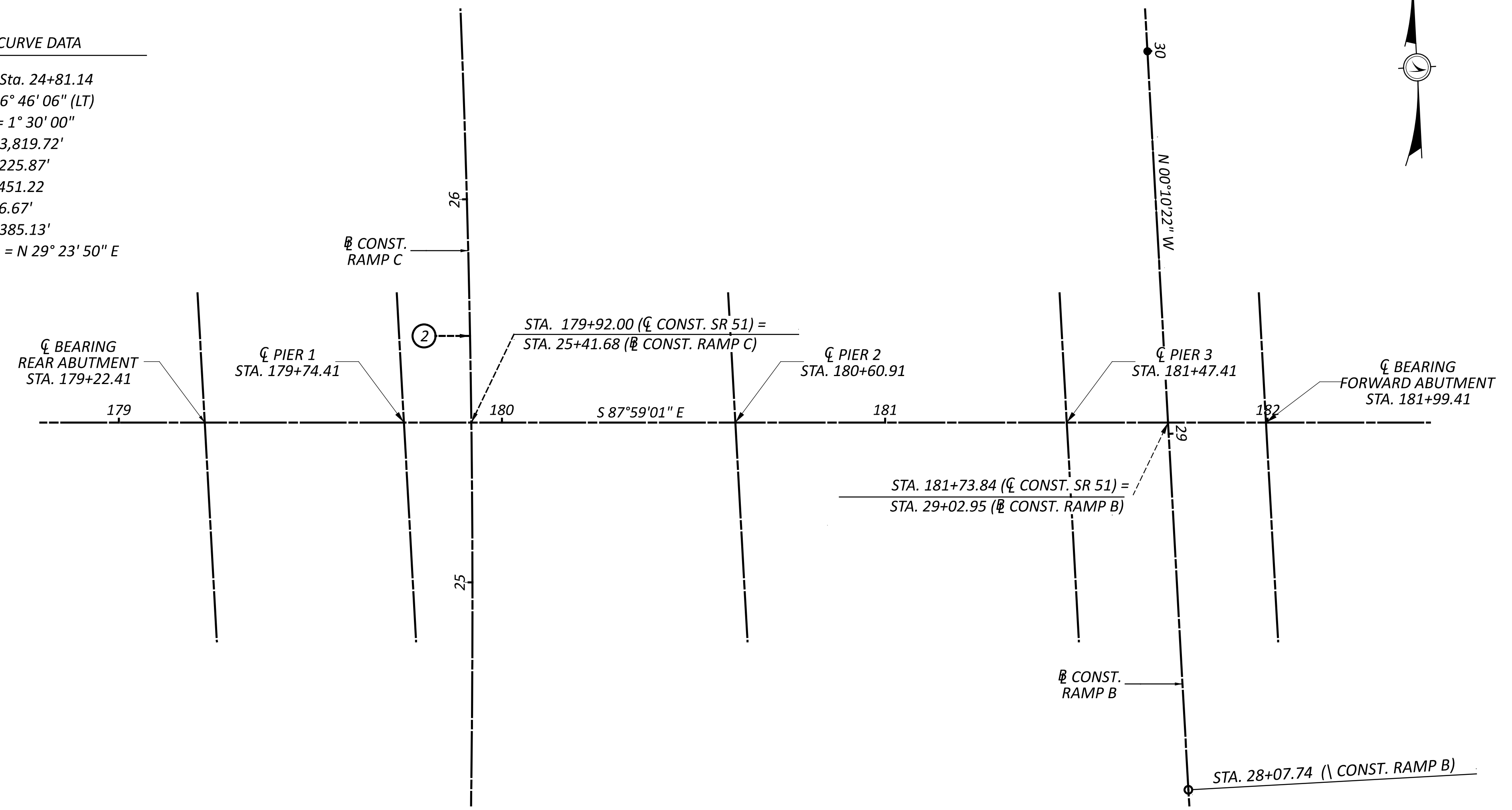
ITEM 509, EPOXY COATED REINFORCING STEEL, AS PER PLAN, 7,875 LB
ITEM 511, CLASS QC1 CONCRETE, RETAINING/WINGWALL NOT INCLUDING FOOTING WITH QC/QA, AS PER PLAN, 73 CY
ITEM 518, PREFABRICATED GEOCOMPOSITE DRAIN, 200 SF
ITEM 518, 6" PERFORATED CORRUGATED PLASTIC PIPE, 240 FT
ITEM 520, PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN, 1,792 SF

ITEM 625 - STRUCTURE GROUNDING SYSTEM

A STRUCTURE GROUNDING SYSTEM SHALL BE PROVIDED IN ACCORDANCE TO CMS 615.16 AND STANDARD DRAWING HL-50.21.

② CURVE DATA

P.I. Sta. 24+81.14
Δ = 6° 46' 06" (LT)
Dc = 1° 30' 00"
R = 3,819.72'
T = 225.87'
L = 451.22'
E = 6.67'
C = 385.13'
C.B. = N 29° 23' 50" E



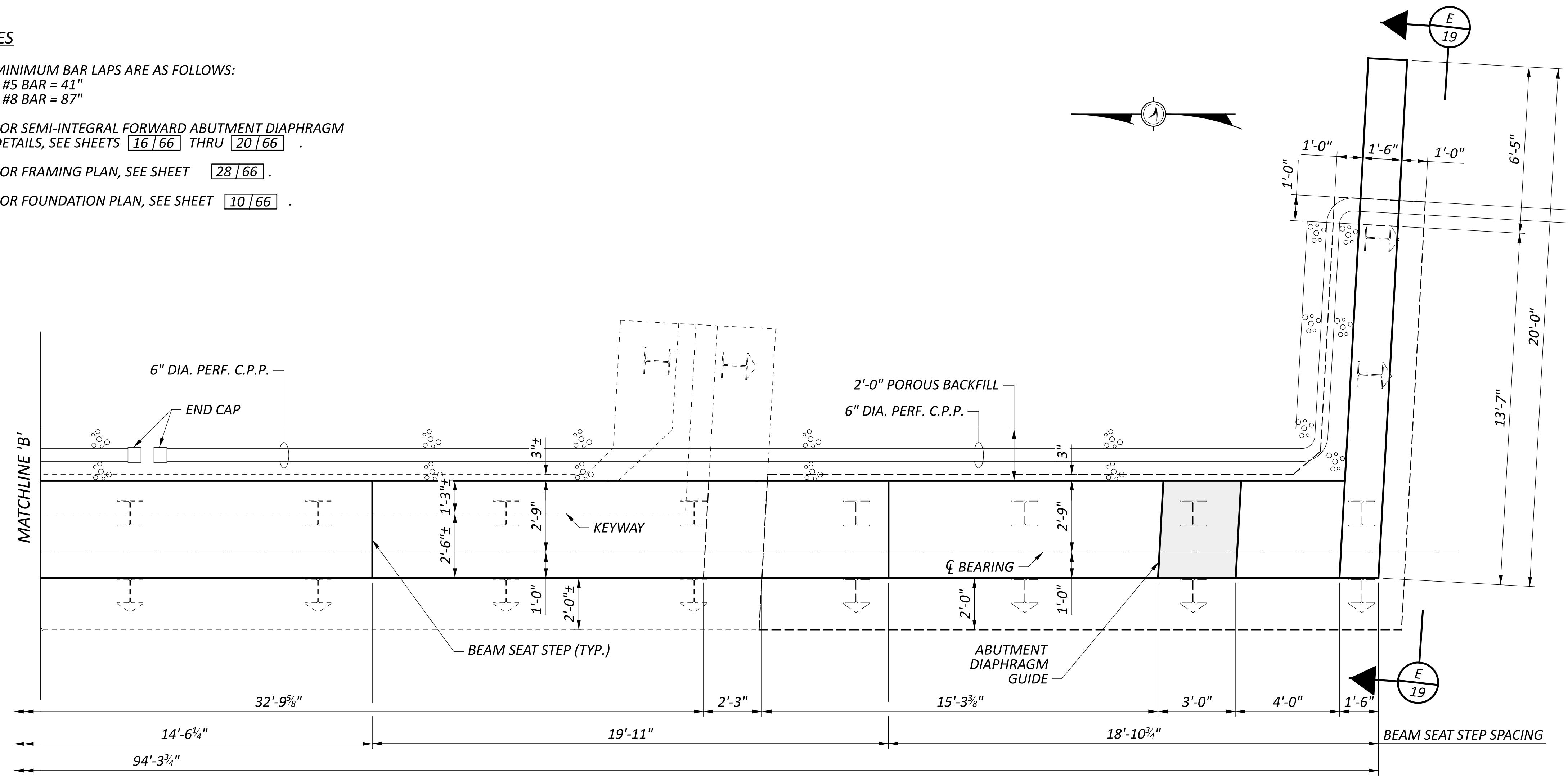
CENTERLINE GEOMETRIC DIAGRAM DETAIL

SFN	4805224
DESIGN AGENCY	ARCADIS 222 SOUTH MAIN STREET, SUITE 201 ARCADIS, MISSOURI 64742 PH: (314) 434-6855 WWW.ARCADIS.COM
DESIGNER	CHECKER
NES	CMD
REVIEWER	
FIG	09-13-24
PROJECT ID	105889
SUBSET	TOTAL
4	66
SHEET	TOTAL
419	607

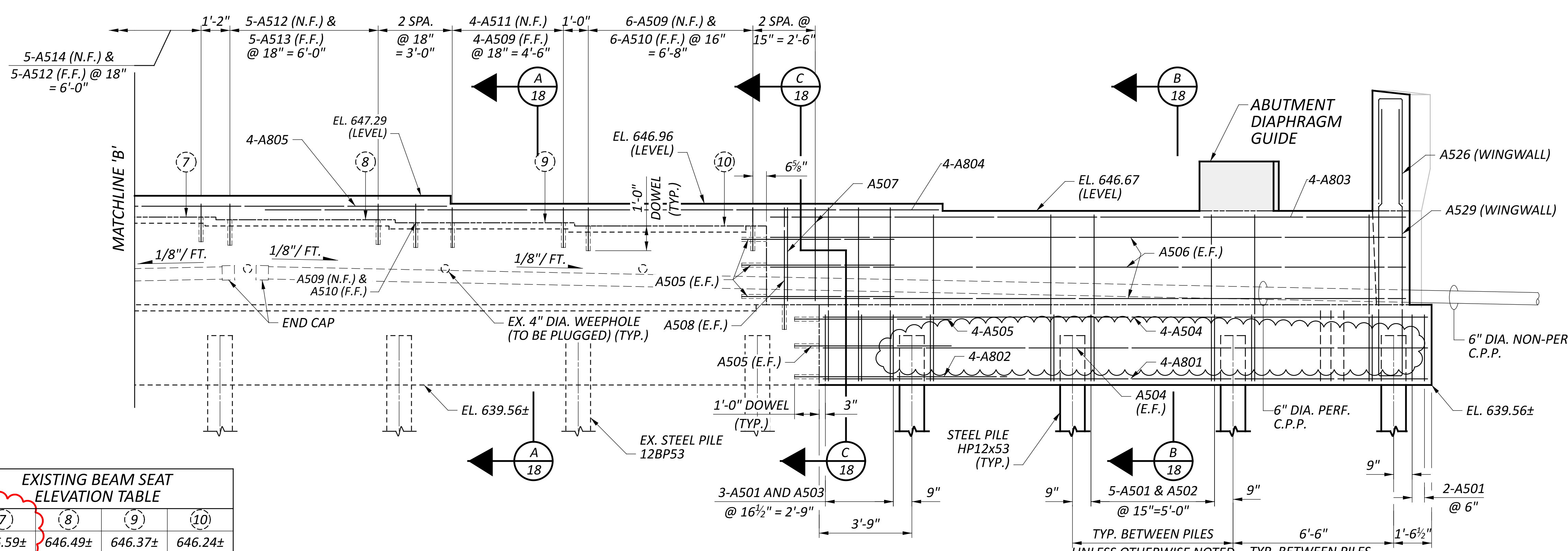
PARTICIPATION			ESTIMATED QUANTITIES											AS PER PLAN
06/NHS/13	07/NHS/31	05/NHS/13	ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT'S	PIERS	GENERAL	STR. SHT. NO.		
		1	202	11203	1	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN				1	3		
		300	202	22900	300	SY	APPROACH SLAB REMOVED	300						
		1	503	11100	1	LS	COFFERDAMS AND EXCAVATION BRACING				1			
		279	503	21100	279	CY	UNCLASSIFIED EXCAVATION				279			
		1	505	11100	1	LS	PILE DRIVING EQUIPMENT MOBILIZATION				1			
		600	507	00200	600	FT	STEEL PILES HP12X53, FURNISHED		600					
		500	507	00250	500	FT	STEEL PILES HP12X53, DRIVEN		500					
		234,148	509	10001	234,148	LB	EPOXY COATED STEEL REINFORCEMENT, AS PER PLAN	185,385	19,935	20,953	7,875	4		
		500	509	20001	500	LB	CONCRETE REINFORCEMENT, REPLACEMENT OF EXISTING CONCRETE REINFORCEMENT, AS PER PLAN				500	5		
		304	510	10001	304	EACH	DOWEL HOLES WITH NONSHRINK, NONMETALLIC GROUT, AS PER PLAN		304			4		
		4	511	33500	4	EACH	SEMI-INTEGRAL DIAPHRAGM GUIDE		4					
		123	511	34413	123	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE, AS PER PLAN	123				5		
		735	511	34446	735	CY	CLASS QC2 CONCRETE WITH QC/QA, BRIDGE DECK	735						
		165	511	42012	165	CY	CLASS QC1 CONCRETE WITH QC/QA, PIER ABOVE FOOTINGS			165				
		119	511	43512	119	CY	CLASS QC1 CONCRETE WITH QC/QA, ABUTMENT INCLUDING FOOTING		119					
		73	511	46013	73	CY	CLASS QC1 CONCRETE WITH QC/QA, RETAINING/WINGWALL NOT INCLUDING FOOTING, AS PER PLAN		73			4, 23		
		3659	511	71200	3,659	SF	CONCRETE, MISC.: MOLDED BRICK SURFACE	3,659				5		
		3659	511	71200	3,659	SF	CONCRETE, MISC.: STAINING CONCRETE SURFACES	3,659				5		
		6	511	81300	6	EACH	CONCRETE, MISC.: MOCKUP, MOLDED BRICK SURFACE	6				5		
		407	512	10051	407	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY), AS PER PLAN	407				5		
		1340	512	10101	1,340	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE), AS PER PLAN	1340				5		
		50	512	10601	50	FT	CONCRETE REPAIR BY EPOXY INJECTION, AS PER PLAN				50	3		
		16	512	33000	16	SY	TYPE 2 WATERPROOFING		16					
		230855	513	10260	230,855	LB	STRUCTURAL STEEL MEMBERS, LEVEL 3	230,855						
		14070	513	20000	14,070	EACH	WELDED STUD SHEAR CONNECTORS	14,070						
		31451	514	00050	31,451	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	31,451						
		31451	514	00056	31,451	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	31,451						
		45773	514	00060	45,773	SF	FIELD PAINTING STRUCTURAL STEEL, INTERMEDIATE COAT	45,773						
		45773	514	00067	45,773	SF	FIELD PAINTING STRUCTURAL STEEL, FINISH COAT, AS PER PLAN	45,773				4		
		69	514	00504	69	MNHR	GRINDING FINS, TEARS, SLIVERS ON EXISTING STRUCTURAL STEEL	69						
		25	514	10000	25	EACH	FINAL INSPECTION REPAIR	25						
		764	514	27700	764	SF	FIELD PAINTING, MISC.: COATING OF BEAM ENDS	764				4		
		182	516	10010	182	FT	ARMORLESS PREFORMED JOINT SEAL	182						
		11	516	13600	11	SF	1" PREFORMED EXPANSION JOINT FILLER	11						
		145	516	13900	145	SF	2" PREFORMED EXPANSION JOINT FILLER		145					
		184	516	14020	184	FT	SEMI-INTEGRAL ABUTMENT EXPANSION JOINT SEAL		184					
		42	516	44100	42	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), (13" x 20" x 2.773" BEARING WITH 14" x 21" x 1.5" LOAD PLATE)	42						
		28	516	44101	28	EACH	ELASTOMERIC BEARING WITH INTERNAL LAMINATES AND LOAD PLATE (NEOPRENE), AS PER PLAN, (12" x 15" x 2.773" BEARING WITH 13" x 16" x 1.5" LOAD PLATES AND HP10x42 PEDESTAL)	28				27		
		1	516	47001	1	LS	JACKING AND TEMPORARY SUPPORT OF SUPERSTRUCTURE, AS PER PLAN	1				3		
996			517	70001	996	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING), AS PER PLAN	996				5		
		200	518	20000	200	SY	PREFABRICATED GEOCOMPOSITE DRAIN		200					
		116	518	21200	116	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC		116					
		440	518	40000	440	FT	6" PERFORATED CORRUGATED PLASTIC PIPE		440					
		55	518	40010	55	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS		55					
		100	519	11101	100	SF	PATCHING CONCRETE STRUCTURE, AS PER PLAN				100	3		
		1792	520	10001	1,792	SF	PNEUMATICALLY PLACED CONCRETE SHOTCRETE, AS PER PLAN		1,792			4, 23		
		75	524	94802	75	FT	DRILLED SHAFTS, 42" DIAMETER, ABOVE BEDROCK			75				
		40	524	94804	40	FT	DRILLED SHAFTS, 36" DIAMETER, INTO BEDROCK			40				
		506	526	25010	506	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15")				506			
		182	526	90030	182	FT	TYPE C INSTALLATION				182			
		159	530	00400	159	EACH	SPECIAL - STRUCTURES - RETAINING WALL, SOIL NAIL		159			4		
		13	530	00400	13	EACH	SPECIAL - STRUCTURES - RETAINING WALL, SOIL NAIL VERIFICATION TEST		13			4		
		10	530	00400	10	EACH	SPECIAL - STRUCTURES - RETAINING WALL, SOIL NAIL PROOF TEST		10			4		

NOTES

1. MINIMUM BAR LAPS ARE AS FOLLOWS:
#5 BAR = 41"
#8 BAR = 87"
2. FOR SEMI-INTEGRAL FORWARD ABUTMENT DIAPHRAGM DETAILS, SEE SHEETS 16/66 THRU 20/66 .
3. FOR FRAMING PLAN, SEE SHEET 28/66 .
4. FOR FOUNDATION PLAN, SEE SHEET 10/66 .



FORWARD ABUTMENT PLAN

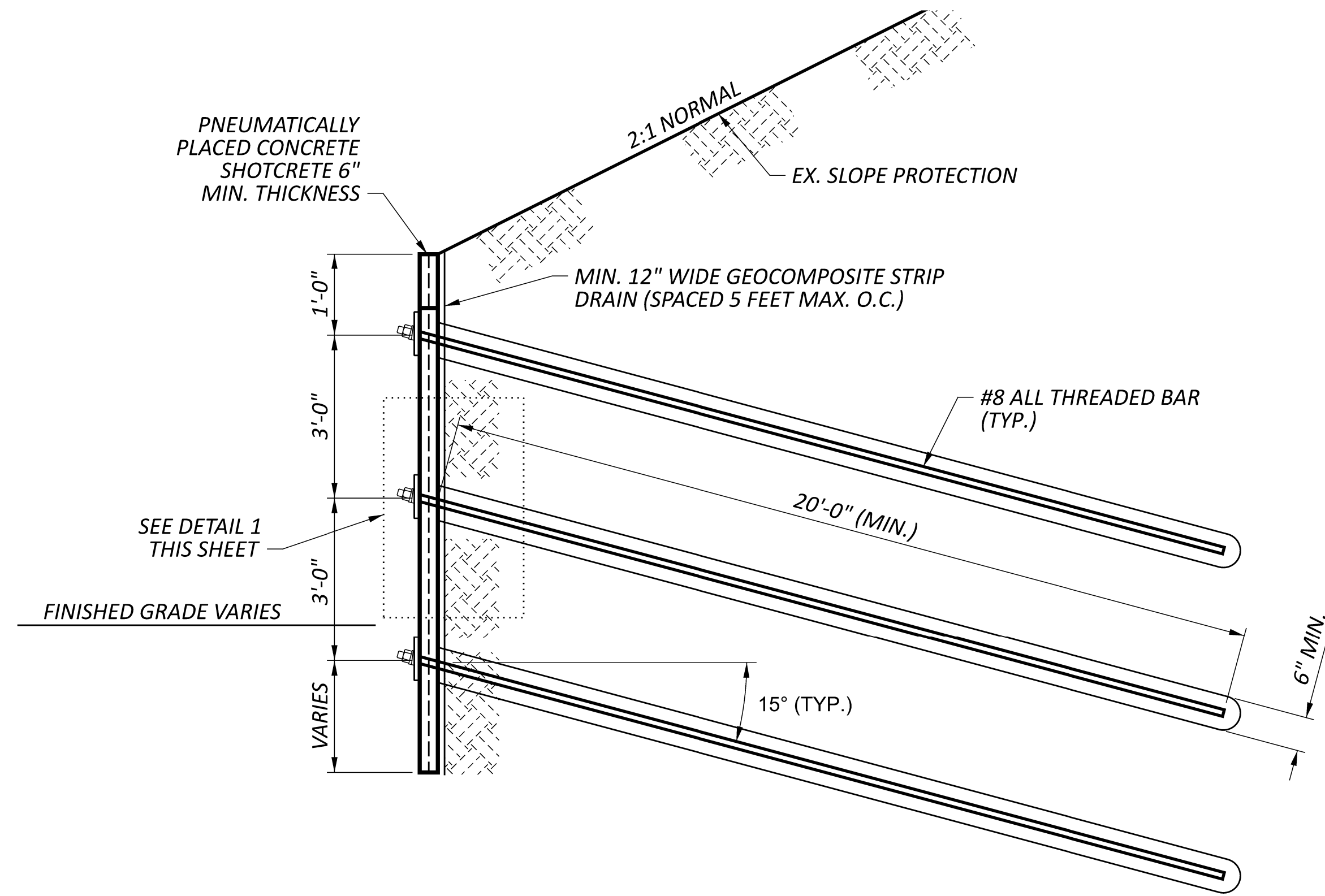


FORWARD ABUTMENT ELEVATION

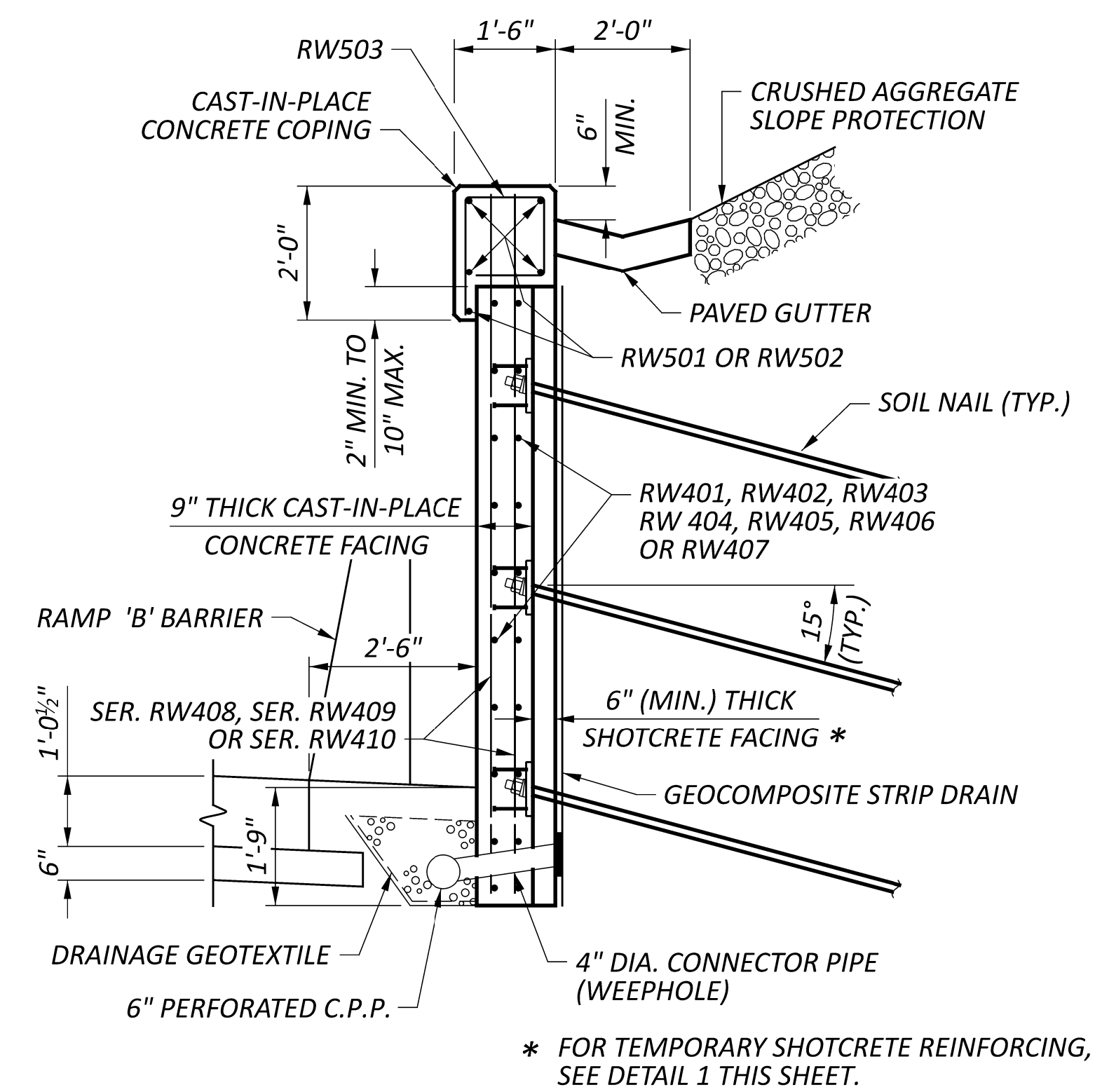
EXISTING BEAM SEAT ELEVATION TABLE			
(7)	(8)	(9)	(10)
646.59±	646.49±	646.37±	646.24±

ELEVATIONS TAKEN AT ϕ BEARING

SFN	4805224
DESIGN AGENCY	ARCADIS
DESIGNER	NES
CHECKER	CMD
REVIEWER	FIG
PROJECT ID	105889
SUBSET	17
TOTAL	66
SHEET	432
TOTAL	607



A SOIL NAIL WALL - TYPICAL CROSS SECTION
20, 22

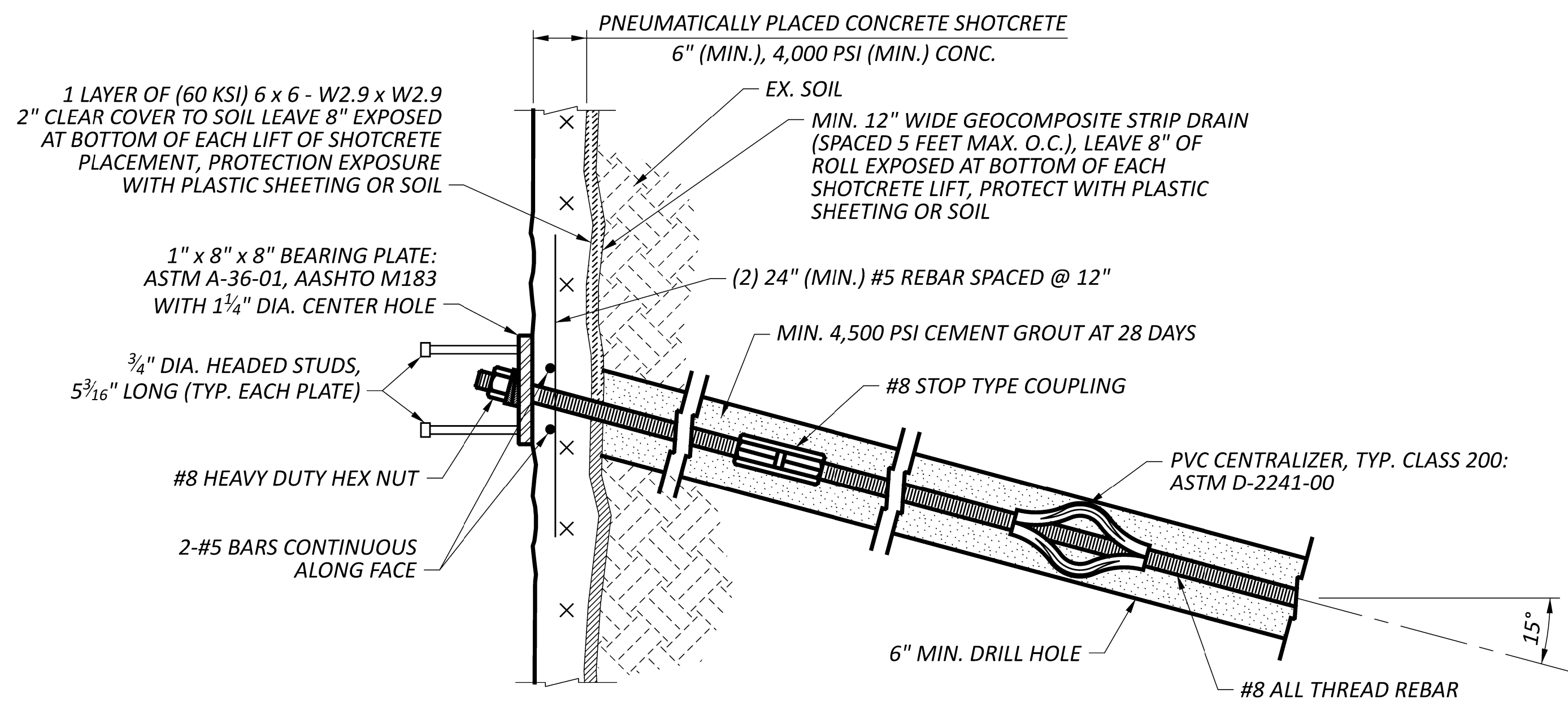


RETAINING WALL SECTION

SOIL NAIL WALL SEQUENCE OF CONSTRUCTION

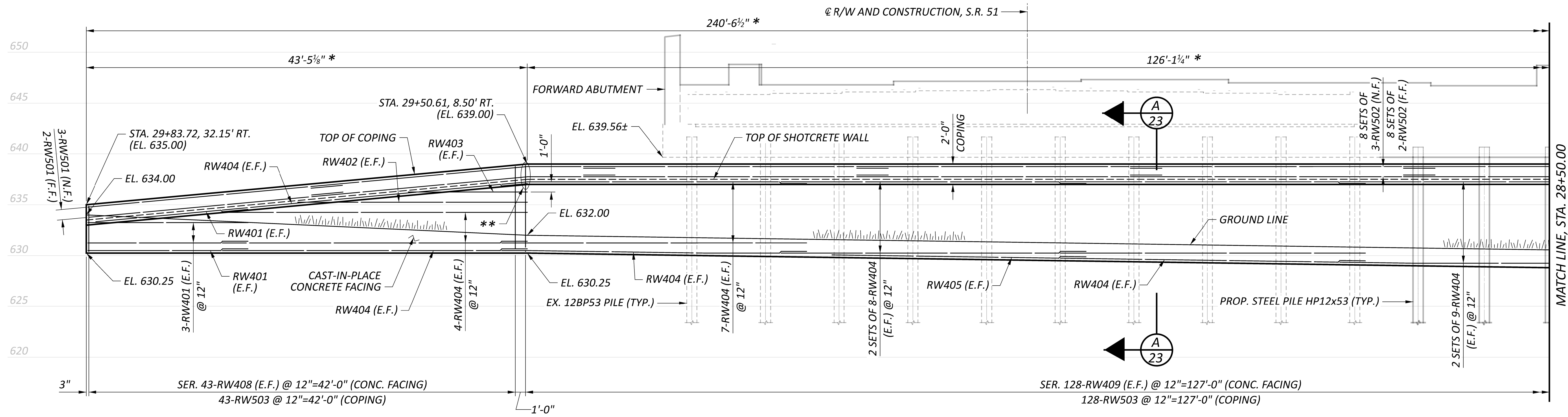
- STEP 1. EXCAVATE INITIAL LIFT (JUST BELOW TOP ROW OF SOIL NAILS)
- STEP 2. DRILL NAIL HOLES
- STEP 3. INSTALL AND GROUT NAIL
- STEP 4. PLACE INITIAL FACING (INCLUDES GEOCOMPOSITE STRIP DRAIN, SHOTCRETE FACING, INSTALL GEOCOMPOSITE STRIP DRAIN, PLACE SHOTCRETE FACING, BEARING PLATE, WASHER, AND HEX NUT).
- STEP 5. REPEAT STEPS 1 THRU 4 FOR SUBSEQUENT LEVELS OF ANCHORS.
- STEP 6. PLACE CAST-IN-PLACE CONCRETE FACING AND COPING.

NOTES:
 1. ALL EXCAVATION REQUIRED TO CONSTRUCT RAMP B INCLUDING THE SOIL NAIL RETAINING WALL HAS BEEN INCLUDED WITH THE ROADWAY QUANTITIES.



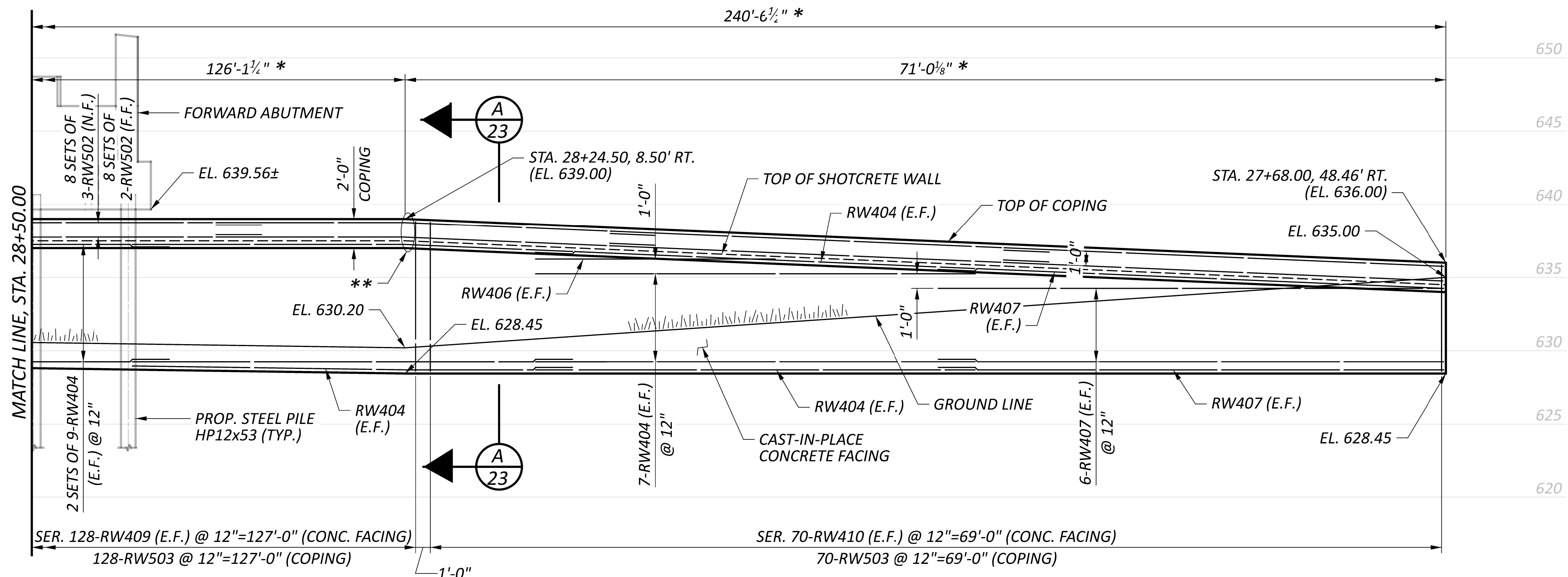
1 TEMPORARY SHOTCRETE CONCRETE FACING DETAIL

SFN	4805224
DESIGN AGENCY	ARCADIS
DESIGNER	NES
CHECKER	CMD
REVIEWER	FIG
PROJECT ID	105889
SUBSET	23
TOTAL	66
SHEET	438
TOTAL	607



ELEVATION - PERMANENT CONCRETE FACING

* - MEASURED ALONG FRONT FACE OF WALL
 ** - FIELD BEND HORIZONTAL REINFORCING AS NECESSARY



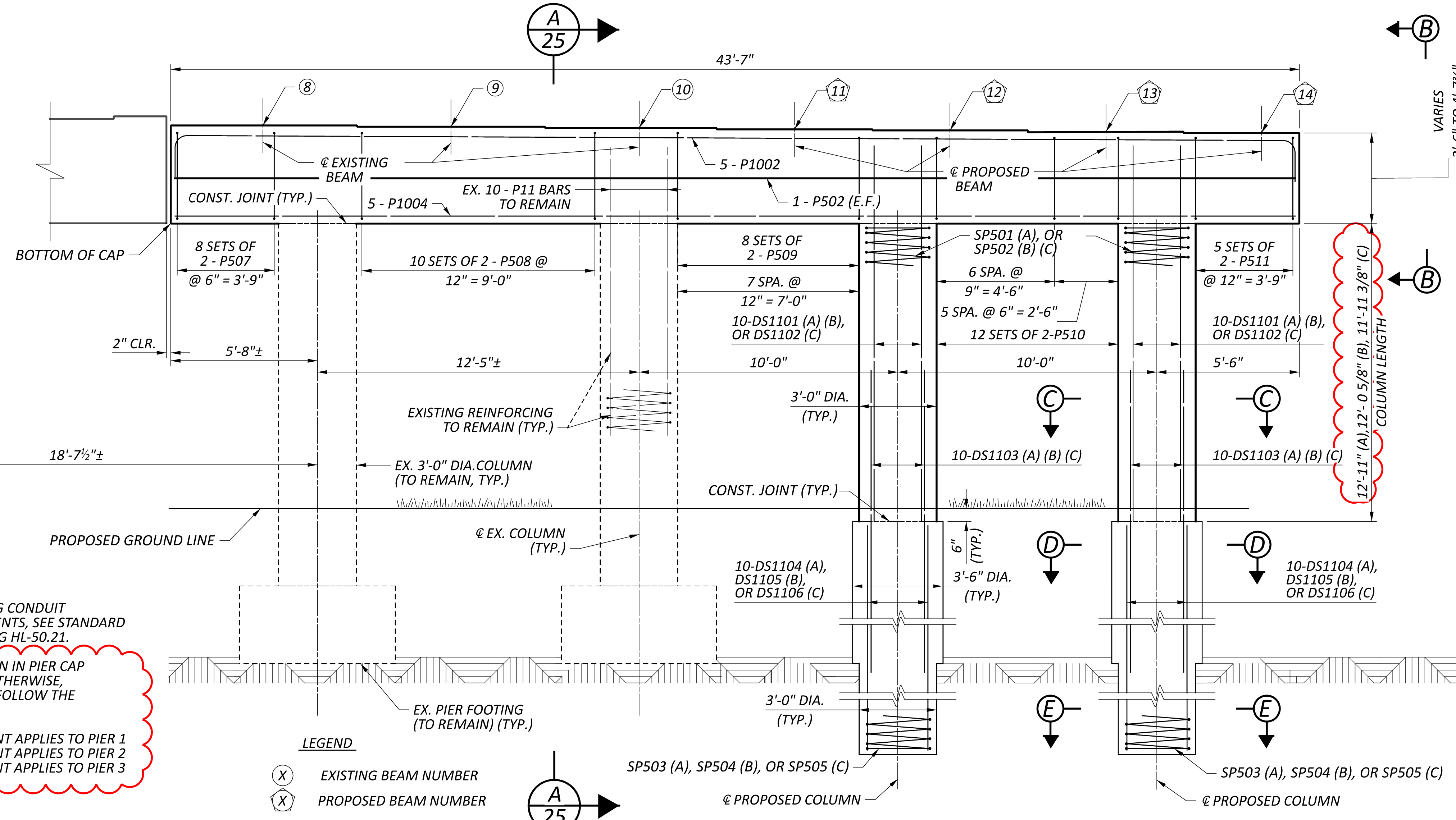
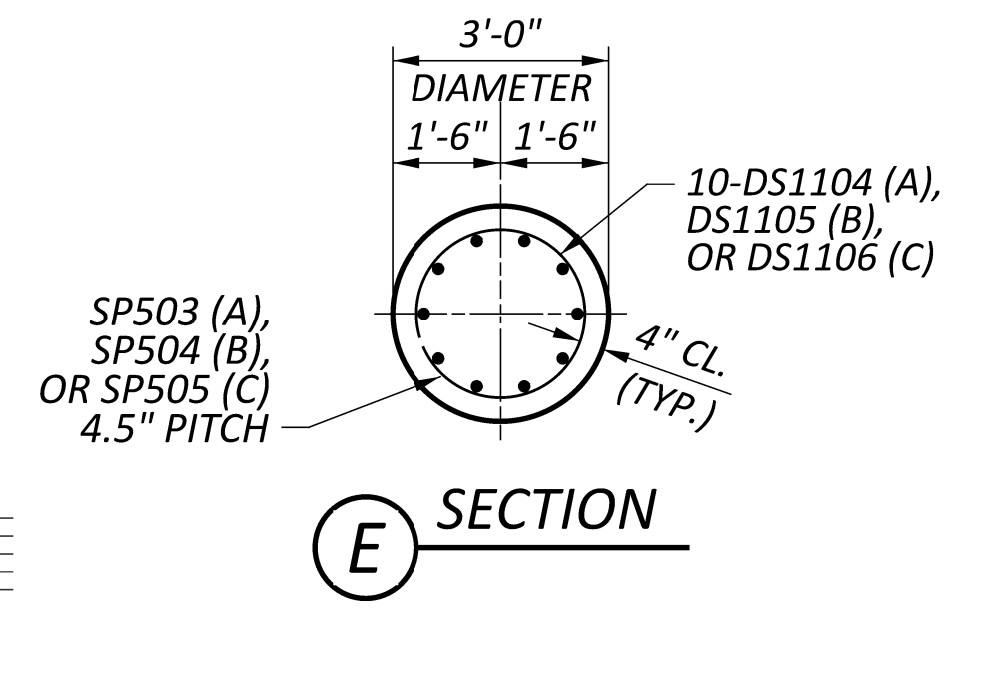
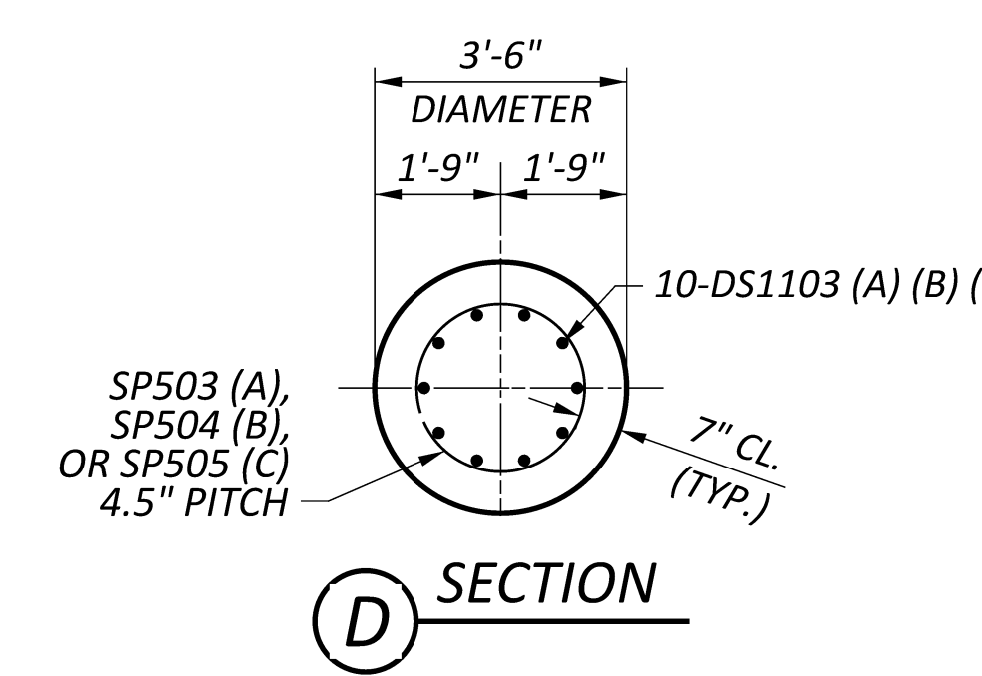
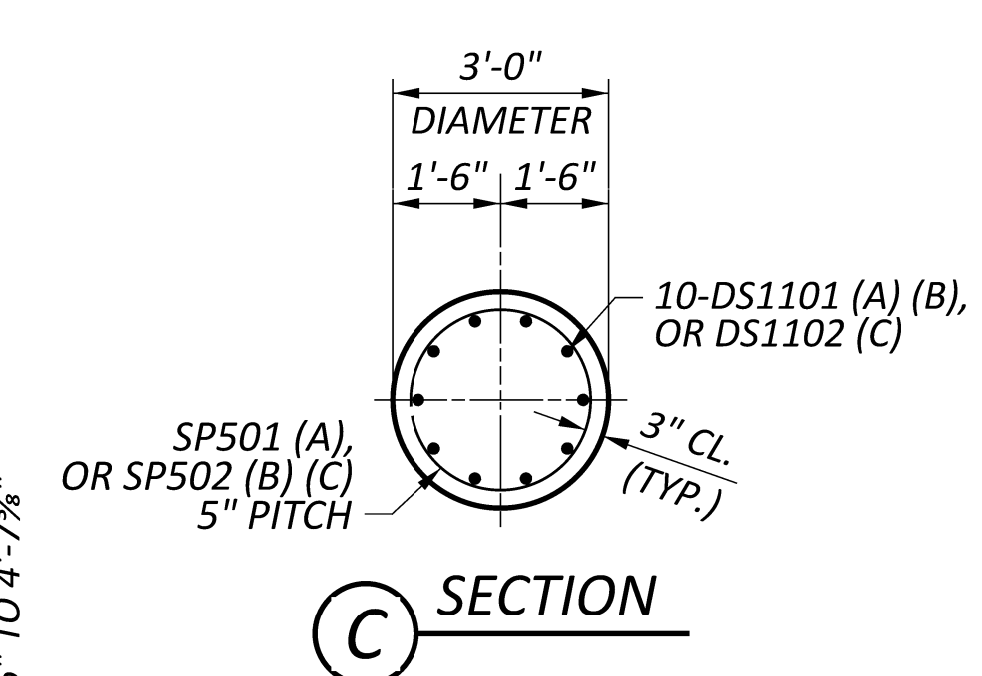
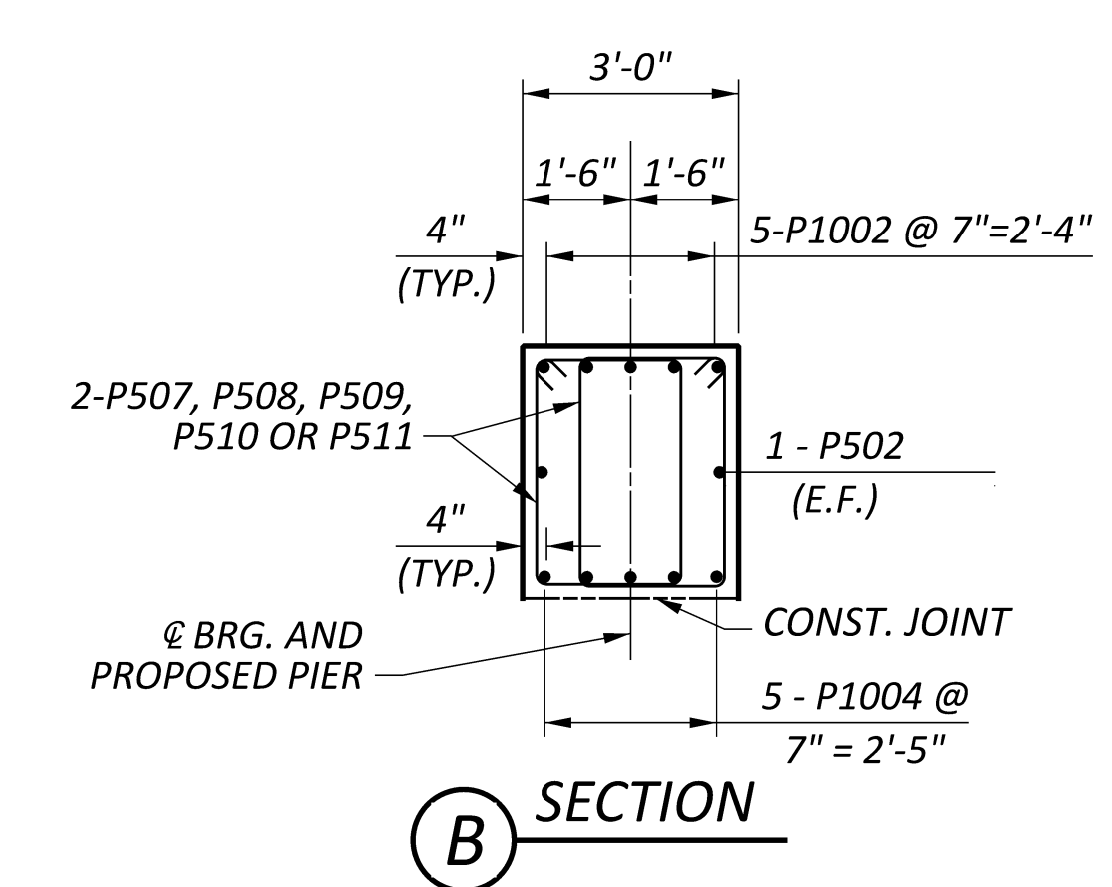
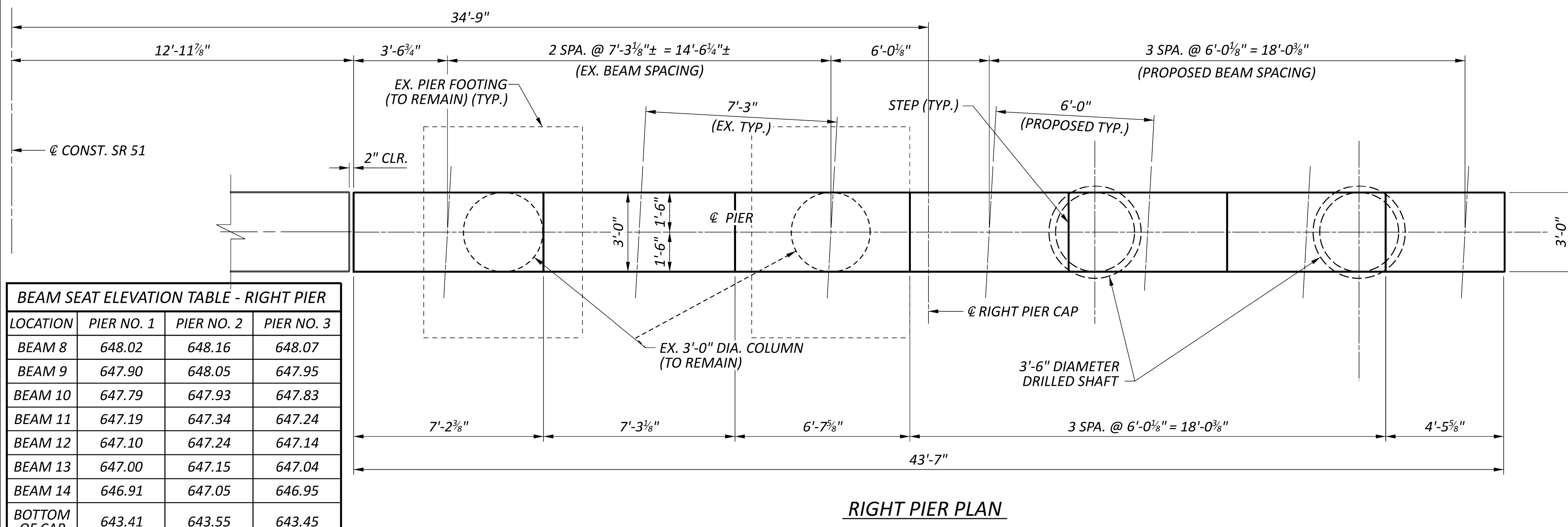
ELEVATION - PERMANENT CONCRETE FACING

* - MEASURED ALONG FRONT FACE OF WALL
 ** - FIELD BEND HORIZONTAL REINFORCING AS NECESSARY

NOTE:
 1. MINIMUM BAR LAPS ARE AS FOLLOWS:
 #4 BAR = 30"
 #5 BAR = 37"

SFN	
4805224	
DESIGN AGENCY	
DESIGNER	CHECKER
NES	CMD
REVIEWER	
FIG 09-13-24	
PROJECT ID	
105889	
SUBSET	TOTAL
24	66
SHEET	TOTAL
439	607

BEAM SEAT ELEVATION TABLE - RIGHT PIER			
LOCATION	PIER NO. 1	PIER NO. 2	PIER NO. 3
BEAM 8	648.02	648.16	648.07
BEAM 9	647.90	648.05	647.95
BEAM 10	647.79	647.93	647.83
BEAM 11	647.19	647.34	647.24
BEAM 12	647.10	647.24	647.14
BEAM 13	647.00	647.15	647.04
BEAM 14	646.91	647.05	646.95
BOTTOM OF CAP	643.41	643.55	643.45



- NOTES**
- FOR FOUNDATION PLAN, SEE SHEET 10166
 - FOR DETAILS REGARDING CONDUIT GROUNDING REQUIREMENTS, SEE STANDARD CONSTRUCTION DRAWING HL-50.21.
 - REINFORCEMENT SHOWN IN PIER CAP SHALL APPLY TO PIERS. OTHERWISE, REINFORCEMENT SHALL FOLLOW THE BELOW SCHEME,
 - (A) = REINFORCEMENT APPLIES TO PIER 1
 - (B) = REINFORCEMENT APPLIES TO PIER 2
 - (C) = REINFORCEMENT APPLIES TO PIER 3

- LEGEND**
- (X) EXISTING BEAM NUMBER
 - (X) PROPOSED BEAM NUMBER

SFN	4805224
DESIGN AGENCY	ARCADIS
DESIGNER	NES
CHECKER	CMD
REVIEWER	FIG
PROJECT ID	105889
SUBSET	26
TOTAL	66
SHEET	441
TOTAL	607

STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS

AS-1-15	REVISED	1/20/2023
AS-2-15	REVISED	7/21/2023
CPA-1-08	DATED	1/19/2024
CS-1-08	REVISED	1/15/2021
HL-20.14	REVISED	4/17/2020
HL-30.31	REVISED	1/19/2024
HL-50.21	REVISED	7/15/2022
SBR-1-20	REVISED	7/21/2023

REFER TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

894	DATED	4/16/2021
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DESIGN SPECIFICATIONS

THIS STRUCTURE CONFORMS TO THE 9th EDITION OF THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 9TH EDITION AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN LOADING

DESIGN LOADING INCLUDES:

- VEHICULAR LIVE LOAD: HL-93
- FUTURE WEARING SURFACE (FWS) OF 0.06KIPS/SQ.FT

DESIGN DATA

CONCRETE CLASS QC2:
 COMPRESSIVE STRENGTH 4.5 KSI (SUPERSTRUCTURE)

CONCRETE CLASS QC1:
 COMPRESSIVE STRENGTH 4.0 KSI (SUBSTRUCTURE)

CONCRETE CLASS QC5, WITH 0.75-INCH MAX AGGREGATE SIZE:
 COMPRESSIVE STRENGTH 4.5 KSI (DRILLED SHAFT)

CONCRETE REINFORCEMENT:
 EPOXY COATED STEEL REINFORCEMENT - MINIMUM YIELD STRENGTH 60-KSI - SLAB, ABUTMENTS, PIERS AND RAILINGS

GFRP REINFORCEMENT - RAILINGS

MONOLITHIC WEARING SURFACE

MONOLITHIC WEARING SURFACE IS ASSUMED, FOR DESIGN PURPOSES, TO BE 1 INCH THICK.

SCOUR ELEVATIONS

THE DESIGN FLOOD AND CHECK FLOOD SCOUR ELEVATIONS ARE PROVIDED BELOW:

	REAR ABUTMENT	PIER 1	PIER 2	FORWARD ABUTMENT
DESIGN FLOOD	607.30	606.85	606.61	604.50
CHECK FLOOD	607.30	606.85	606.52	604.50

ITEM 203 - EMBANKMENT, AS PER PLAN

PLACE AND COMPACT EMBANKMENT MATERIAL IN 6 INCH LIFTS FOR THE CONSTRUCTION OF THE APPROACH EMBANKMENT BETWEEN STATIONS 30+45.50 TO 31+45.50 AND 32+76.50 TO 33+76.50. THIS ITEM IS INCLUDED FOR PAYMENT UNDER THE ROADWAY QUANTITIES.

SHAFT DRILLING CONSTRAINTS

PRIOR TO DRILLING SHAFTS, CONSTRUCT THE SPILL THROUGH SLOPES AND THE BRIDGE APPROACH EMBANKMENT BEHIND THE ABUTMENTS UP TO THE LEVEL OF THE SUBGRADE ELEVATIONS FOR A MINIMUM DISTANCE OF 200-FT BEHIND THE FORWARD ABUTMENT AND FROM THE PROPOSED REAR ABUTMENT TO THE TOE OF SLOPE OF THE EXISTING RAMP B FOR THE REAR ABUTMENT (@ CONSTRUCTION NORTHBOUND RAMP A STA. 30+64). DO NOT BEGIN THE EXCAVATION FOR THE ABUTMENT FOOTINGS AND THE DRILLING OF THE ABUTMENT SHAFTS UNTIL AFTER THE ABOVE REQUIRED EMBANKMENT HAS BEEN CONSTRUCTED AND A 14 CALENDAR DAY WAITING PERIOD HAS ELAPSED.

ROCK-SOCKETED DRILLED SHAFTS

THE MAXIMUM FACTORED LOAD TO BE SUPPORTED BY EACH DRILLED SHAFT IS 294.92 KIPS AT THE REAR ABUTMENT, 480.99 KIPS AT PIER 1, 480.99 KIPS AT PIER 2, AND 287.57 KIPS AT THE FORWARD ABUTMENT. THIS LOAD IS THEORETICALLY RESISTED ENTIRELY BY TIP RESISTANCE.

AT THE REAR ABUTMENT, THE FACTORED TIP RESISTANCE IS 21,735 KIPS.
 AT PIER 1, THE FACTORED TIP RESISTANCE IS 24,705 KIPS.
 AT PIER 2, THE FACTORED TIP RESISTANCE IS 22,405 KIPS.
 AT THE FORWARD ABUTMENT, THE FACTORED TIP RESISTANCE IS 17,600 KIPS.

CONTRACTOR IS REQUIRED TO HAVE ON-HAND DURING DRILLED SHAFT INSTALLATION A STEEL CASING TO PREVENT BOREHOLE COLLAPSE AND FOR GROUNDWATER CONTROL DURING DRILLED SHAFT INSTALLATION THROUGH SOIL.

ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN

INCLUDED WITH THIS ITEM IS THE FOLLOWING:
 COAT PORTIONS OF THE ABUTMENT WALLS AND WINGWALLS THAT ARE ABOVE EXISTING GRADE WITH LOW VISCOSITY BITUMINOUS ASPHALT AND THEN COVER OR WRAP THOSE COMPONENTS WITH A DURABLE THICK PLASTIC VISQUEEN TO AVOID ADDITIONAL DOWNDRAG LOADS ON THESE EXPOSED ELEMENTS. ALTERNATIVE METHODS TO AVOID DOWNDRAG ON THE WALLS AND FOOTINGS MAY BE IMPLEMENTED WITH THE APPROVAL OF THE ENGINEER. ALL LABOR AND MATERIALS TO INSTALL THE BITUMINOUS ASPHALT AND VISQUEEN SHALL BE INCLUDED FOR PAYMENT UNDER ITEM 511 CLASS QC1 CONCRETE, ABUTMENT INCLUDING FOOTING, AS PER PLAN.

ITEM 894 - THERMAL INTEGRITY PROFILER (T.I.P.) TEST

PERFORM INTEGRITY TESTING ON ONE (1) OF THE DRILLED SHAFTS AT EACH SUBSTRUCTURE LOCATION: REAR ABUTMENT, FORWARD ABUTMENT PIER 1 AND PIER 2 BY THERMAL INTEGRITY PROFILING (TIP). PERFORM TIP TESTING PER ASTM D7949, "STANDARD TEST METHODS FOR THERMAL INTEGRITY PROFILING OF CONCRETE DEEP FOUNDATIONS," METHOD B, AND SUPPLEMENTAL SPECIFICATION 894.

SHARE USE PATH PROTECTION DURING CONSTRUCTION:

THE CONTRACTOR SHALL ENSURE PRESERVATION OF EXISTING SHARED-USE PATH FACILITIES, PAVEMENT, RAISED BOARDWALK, LANDSCAPING (INCLUDING BUT NOT LIMITED TO, ORNAMENTAL PLANTS, MULCHING, DECORATIVE STONE, OR FENCING) AND RETAINING WALLS DURING THE CONSTRUCTION OF THE PROPOSED RAMP BRIDGE. ACCESS TO THE CONSTRUCTION AREA VIA THE SHARED-USED PATH IS PERMITTED HOWEVER THE CONTRACTOR MUST LIMIT DAMAGE AS MUCH AS POSSIBLE TO ALL EXISTING SHARED-USE PATH FACILITIES. ANY DAMAGE OCCURRING AS A RESULT OF CONTRACTOR OPERATIONS TO THE AFOREMENTIONED SHARED-USE PATH ITEMS DURING CONSTRUCTION BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.

ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING:

A 1.5" THICK UNREINFORCED ELASTOMERIC BEARING PAD STRIP SHALL BE INSTALLED IN THE ABUTMENT STEM UNDER THE SUPERSTRUCTURE WITHIN THE LOCATION SHOWN IN THESE PLANS.

THE ELASTOMER SHALL HAVE A HARDNESS OF 50 DUROMETER. THE BEARINGS WERE DESIGNED UNDER SECTION 14.6.7 (METHOD A) OF THE AASHTO LRFD DESIGN SPECIFICATION. THE LONG TERM COMPRESSION PROOF LOAD TEST IS NOT REQUIRED.

ALL LABOR, MATERIALS AND INCIDENTALS TO FURNISH AND INSTALL THIS BEARING STRIP ARE INCLUDED WITH PAYMENT FOR ITEM 516 - ELASTOMERIC BEARING PAD, MISC.: 1.5" THICK STRIP BEARING AT THE UNIT COST.

SFN	4805136
DESIGN AGENCY	2LMN
DESIGNER	CHECKER
HHH	JAH
REVIEWER	
AMT 09/09/24	
PROJECT ID	
105889	
SUBSET	TOTAL
3	22
SHEET	TOTAL
P.498	607