

**LOCATION MAP**

LATITUDE: 39.4864196, LONGITUDE: -83.636666126°

- PORTION TO BE IMPROVED
- INTERSTATE HIGHWAY
- FEDERAL ROUTES
- STATE ROUTES
- COUNTY & TOWNSHIP ROADS
- OTHER ROADS

**DESIGN DESIGNATION**

SEE SHEET 2

NHS PROJECT ----- NO

**DESIGN EXCEPTIONS**

NONE REQUIRED

**ADA DESIGN WAIVERS**

NONE REQUIRED

**UNDERGROUND UTILITIES**  
Contact Two Working Days Before You Dig

**OHIO811.org**  
Before You Dig

**O H I O 8 1 1 . 8 - 1 - 1 .** or **1-800-362-2764**  
(Non members must be called directly)

PLAN PREPARED BY:  
OHIO DEPARTMENT OF TRANSPORTATION  
DISTRICT 8 ENGINEERING  
505 S. S.R. 741 LEBANON OH 45036

# STATE OF OHIO DEPARTMENT OF TRANSPORTATION

# CLI-729-2.85 AND VARIOUS

## VILLAGE OF SABINA RICHLAND TOWNSHIP WAYNE TOWNSHIP CLINTON COUNTY

**FEDERAL PROJECT NUMBER**

EL70203

**RAILROAD INVOLVEMENT**

INDIANA & OHIO RAILWAY CO.

**PROJECT DESCRIPTION**

RESURFACE AND PERFORM PAVEMENT REPAIR ON A PORTION OF SR 729 IN CLINTON COUNTY. PROJECT INCLUDES REPLACEMENT OF STRUCTURES CLI-729-0295, CLI-729, 0950, CLI-729-1225 WITH PRECAST BOX CULVERTS WITH FULL HEIGHT HEADWALLS. PROJECT ALSO INCLUDES THE REMOVAL AND REPLACEMENT OF CONCRETE SLAB SUPERSTRUCTURES OF BRIDGE CLI-729-1329 & BRIDGE CLI-729-1588.

**EARTH DISTURBED AREAS**

SEE SITE PLANS SHEETS 32, 44, 55, 64, & 82

**2023 SPECIFICATIONS**

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT DETOURS WILL BE PROVIDED, AS INDICATED ON SHEETS 7-11.

*Tammy K Campbell*  
Tammy K. Campbell, P. E.  
District 08 Deputy Director

*Jack Marchbanks*  
Jack Marchbanks, PhD  
Director, Department of Transportation

STANDARD CONSTRUCTION DRAWINGS		SUPPLEMENTAL SPECIFICATIONS	SPECIAL PROVISIONS				
BP-3.1	1/21/22 RM-1.1	1/15/21 TC-41.20	10/18/13 MT-97.10	4/19/19	800-2023	4/21/2023	WATERWAY PERMITS
BP-4.1	7/19/13 RM-4.2	4/17/20 TC-41.30	10/18/13 MT-97.12	1/20/17	832	7/15/22	CONDITIONS
BP-5.1	7/15/22	TC-42.20	10/18/13 MT-99.20	4/19/19	846	4/17/15	SPECIAL PROVISIONS
BP-7.1	1/21/22 AS-1.15	1/20/23 TC-61.30	7/19/19 MT-101.60	1/17/20	878	1/21/22	1/18/22
BP-9.2	1/15/21 AS-2.15	1/20/23 TC-65.10	1/17/14 MT-101.90	7/17/20			
MGS-1.1	7/16/21 CPP-1.08	7/18/08 TC-65.11	7/15/22 MT-105.10	1/17/20			
MGS-2.1	1/19/18 CS-1.08	1/15/21 TC-74.10	7/15/22				
MGS-2.3	7/18/14 HW-1.1	7/18/14 DS-1.92	7/15/22				
MGS-3.1	1/19/18 HW-1.1	7/20/18 CB-3	7/16/21				
MGS-3.3	7/16/21 PCB-91	7/17/20					
MGS-4.2	7/19/13 <del>DM-2.1</del>	<del>DM-1.1</del>	7/17/20				
MGS-4.3	1/18/13 BR-2.15	1/21/22 DM-4.3	1/15/16				
MGS-5.3	7/15/16 DM-4.4	DM-4.4	1/15/16				

**ENGINEER'S SEAL**



#### UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS:

AES OHIO  
1900 DRYDEN RD  
DAYTON, OH 45439  
937-554-9063 (WILLIAM WARD)  
WILLIAM.WARD@AES.COM

FRONTIER COMMUNICATIONS  
241 SOUTH NELSON AVENUE  
WILMINGTON, OH 45177  
937-283-5735 (DAVID LONGWORTH)  
DAVID.M.LONGWORTH@FTR.COM

CLINTON COUNTY (OH) ENGINEER'S OFFICE  
1326 FIFE AVE.  
WILMINGTON, OH 45177  
(937) 382-2078 (ADAM FRICKE)  
AFRICKE@CLINTONCOUNTYENGINEER.ORG

CLINTON COUNTY (OH) ENGINEER'S OFFICE  
1326 FIFE AVE.  
WILMINGTON, OH 45177  
(937) 382-2078 (ADAM FRICKE)  
AFRICKE@CLINTONCOUNTYENGINEER.ORG

CHARTER COMMUNICATIONS  
10920 KENWOOD ROAD  
BLUE ASH, OHIO 45242  
DL-SOUTHERN-OHIO-OUTSIDE-PLANT@CHARTER.COM

CENTERPOINT ENERGY COMPANY  
6500 CLYO ROAD  
CENTERVILLE, OHIO 45459  
PUBLICPROJECT@CENTERPOINTENERGY.COM

VILLAGE OF SABINA  
99 N.HOWARD ST.  
SABINA, OHIO 45169  
937-584-9735 (ROB DEAN)  
VASABINA1@YAHOO.COM

TC ENERGY  
700 LOUISIANA STREET, SUITE 700  
HOUSTON, TX 77002  
US\_CROSSINGS@TCENERGY.COM

VILLAGE OF SABINA  
99 N.HOWARD ST.  
SABINA, OHIO 45169  
937-584-9735 (ROB DEAN)

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUIRED BY SECTION 153.64 O.R.C.

#### CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THE PROJECT, A LUMP SUM QUANTITY IS INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201, CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM ARE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201, CLEARING AND GRUBBING.

#### WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. PROVIDE THE INSTALLATION AND OPERATION OF ALL WORK ZONE TRAFFIC CONTROL AND WORK ZONE TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

#### CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, OPERATE POWER-OPERATED CONSTRUCTION-TYPE DEVICES IN ACCORDANCE WITH THE LOCAL NOISE ORDINANCE(S). IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

#### PERMANENT PAVEMENT MARKINGS

THE CONTRACTOR SHALL REFERENCE ALL PAVEMENT MARKINGS INCLUDING AUXILIARY PAVEMENT MARKINGS BEFORE THE START OF THE RESURFACING OPERATION. THIS WILL BE NECESSARY ASSURE TO CORRECT PLACEMENT OF MARKINGS IN ORIGINAL LOCATIONS. FOR CENTER LINE MARKINGS, THE CONTRACTOR SHALL INSTALL THE PASSING/NO PASSING ZONE MARKINGS ACCORDING TO THE CURRENT CENTER LINE LOGS WEBSITE:

<http://www.dot.state.oh.us/d08/Pages/NoPassingZone.aspx>  
PAYMENT FOR THIS OPERATION SHALL BE INCLUDED WITH EACH RESPECTIVE PAVEMENT MARKING ITEM.

#### SEEDING AND MULCHING

THE FOLLOWING QUANTITIES ARE PROVIDED TO PROMOTE GROWTH AND CARE OF PERMANENT SEEDED AREAS:

659. SEEDING AND MULCHING	3000 SQ. YD.
659. REPAIR SEEDING AND MULCHING	150 SQ. YD.
659. COMMERCIAL FERTILIZER	0.41 TON
659. LIME	0.62 ACRES
659. WATER	16.6 M. GAL.
659. MOWING	6.8 M. SQ.FT.

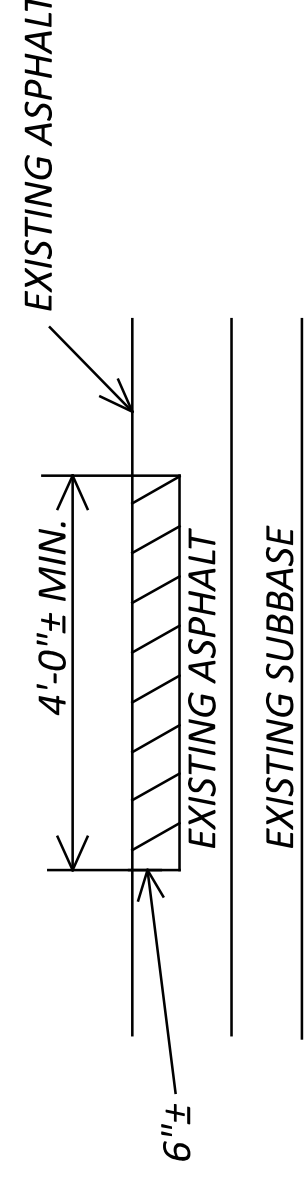
SEEDING AND MULCHING SHALL BE APPLIED TO ALL AREAS OF EXPOSED SOIL BETWEEN THE RIGHT-OF-WAY LINES, AND WITHIN THE CONSTRUCTION LIMITS FOR AREAS OUTSIDE THE RIGHT-OF-WAY LINES COVERED BY WORK AGREEMENT OR SLOPE EASEMENT. QUANTITY CALCULATIONS FOR SEEDING AND MULCHING ARE BASED ON THESE LIMITS.

#### ROUNDING

THE ROUNDING AT SLOPE BREAKPOINTS SHOWN ON THE TYPICAL SECTIONS APPLIES TO ALL CROSS-SECTIONS, EVEN THOUGH OTHERWISE SHOWN.

#### ITEM 253- PAVEMENT REPAIR

AN ESTIMATED QUANTITY OF 2000 CY OF ITEM 253 PAVEMENT REPAIR HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER. THIS OPERATION SHALL BE PERFORMED BEFORE THE RESURFACING OF THE ROADWAY.



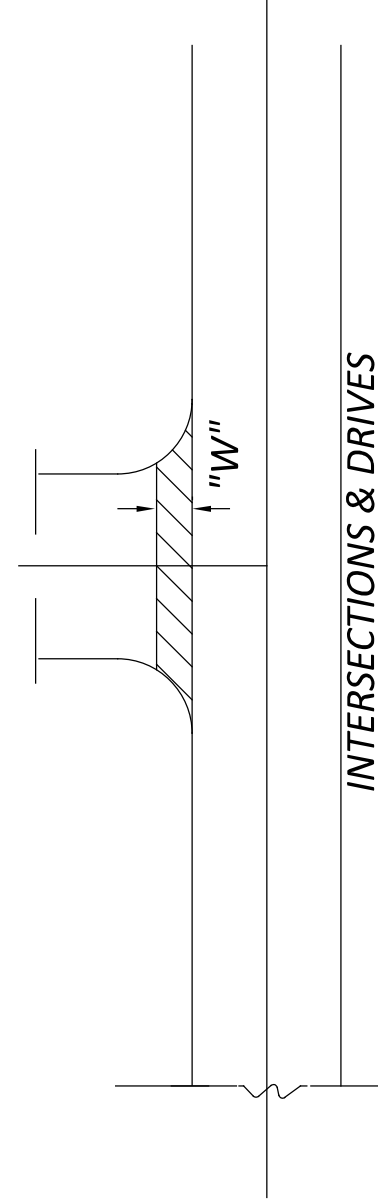
EXISTING DETERIORATED ASPHALT SHALL BE REMOVED TO A DEPTH OF 6" +/-, OR AS DIRECTED BY THE ENGINEER. IT IS INTENDED TO MAINTAIN A 6" MINIMUM THICKNESS OF PAVEMENT REPAIR AFTER THE MILL/FILL IS COMPLETED.

THIS WORK CONSISTS OF PARTIAL DEPTH REMOVAL OF EXISTING PAVEMENT IN AREAS EXHIBITING DETERIORATION AT THE SURFACE, APPLYING TACK COAT FOR EACH LIFT OF 301, AND PLACING AND COMPACTING 301 ASPHALT CONCRETE BASE IN 6" MAX LIFTS. THE LOCATION AND SIZE OF THE REPAIR SHALL BE DETERMINED BY THE ENGINEER.

#### ITEM 254- PAVEMENT PLANING, ASPHALT CONCRETE

THE PLANING SHALL BE SCHEDULED SO AS TO BE COVERED BY THE INTERMEDIATE COURSE PRIOR TO REOPENING THE LANE TO TRAFFIC. THE COST OF THE ABOVE SHALL BE INCLUDED IN THE UNIT BID PRICE FOR THE RESPECTIVE ITEM. A DISINCENTIVE IN THE AMOUNT OF \$400 SHALL BE ASSESSED FOR EACH DAY, OR PORTION THEREOF, A PLANED SURFACE IS OPEN TO TRAFFIC.

#### INTERSECTIONS AND DRIVES



INTERSECTION AND DRIVES QUANTITIES ARE INCLUDED IN THE ASPHALT CONCRETE QUANTITIES. INTERSECTION QUANTITIES HAVE BEEN ESTIMATED AT 15' MEASURED FROM EDGE OF PAVED SHOULDER, DRIVE QUANTITIES HAVE BEEN ESTIMATED AT 3' "W" MEASURED FROM EDGE OF PAVED SHOULDER.

PERFORM WORK PER SPECIFIED OFFSET LIMITS UNLESS THERE IS AN EXISTING JOINT LOCATED CLOSER TO THE EDGE OF PAVED SHOULDER, IN WHICH CASE END WORK AT SAID JOINT.

#### GUARDRAIL INSTALLATION

THIS PROJECT REQUIRES THE INSTALLATION OF NEW GUARDRAIL POSTS. SURVEY WORK HAS NOT BEEN PERFORMED EVERYWHERE ON THIS PROJECT, NOR HAVE THE UTILITY LOCATIONS BEEN CONFIRMED IN THE FIELD. IN ADDITION TO CMS 105.07, IF, DURING THE COURSE OF INSTALLING ANY NEW GUARDRAIL COMPONENT, IT IS DETERMINED THAT A UTILITY CONFLICT MAY RESULT, THE CONTRACTOR IS TO NOTIFY THE PROJECT ENGINEER IMMEDIATELY. UTILITIES ARE NOT TO BE RELOCATED AS A RESULT OF THIS OPERATION. ADJUSTMENTS TO THE PROPOSED GUARDRAIL WILL ACCOMMODATE THE EXISTING UTILITY. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE GUARDRAIL VIA MEANS THAT WOULD BE COMPLIANT WITH THE IMPACTED UTILITY'S SAFETY GUIDELINES AS WELL AS STILL MEETING ODOT'S DESIGN CRITERIA. ANY MINOR ADJUSTMENTS MADE TO THE PROPOSED GUARDRAIL INSTALLATIONS SHALL BE INCIDENTAL TO PAY ITEM 606.

#### GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL THE NEW GUARDRAIL/BARRIER IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL/BARRIER SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL/BARRIER SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

#### ITEM 606 - ANCHOR ASSEMBLY, MGS TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ANY OF THE GUARDRAIL END TERMINALS FOR TYPE MGS GUARDRAIL AS LISTED ON ROADWAY ENGINEERING'S WEB PAGE UNDER ROADSIDE SAFETY DEVICES FOR APPROVED GUARDRAIL END TREATMENTS. INSTALLATION SHALL BE AT THE LOCATIONS SPECIFIED IN THE PLANS, IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE FACE OF THE TYPE E IMPACT HEAD SHALL BE COVERED WITH A SHEET OF TYPE G REFLECTIVE SHEETING, PER CMS 730.191. REFER TO THE MANUFACTURER'S INSTRUCTIONS REGARDING THE INSTALLATION OF, AND THE GRADING AROUND THE FOUNDATION TUBES AND GROUND STRUT. THE TOP OF ANY FOUNDATION TUBE SHOULD BE LESS THAN 4 INCHES ABOVE THE GROUND. THE PLACEMENT OF THE FOUNDATION TUBES SHOULD BE AN APPROPRIATE DEPTH BELOW THE LEVEL LINE IN ORDER TO MAINTAIN THE FINISHED GUARDRAIL HEIGHT OF 31 INCHES FROM THE EDGE OF THE SHOULDER.

ON-SITE GRADING IS REQUIRED IF THE TOP OF THE FOUNDATION TUBES OR TOP OF THE GROUND STRUT DOES PROJECT MORE THAN 4 INCHES ABOVE THE GROUND LINE.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR ITEM 606, ANCHOR ASSEMBLY, MGS TYPE E, EACH, AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED TRANSITIONS, REFLECTIVE SHEETING, HARDWARE, GRADING, EMBANKMENT AND EXCAVATION NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

#### ANCHOR ASSEMBLY REMOVED, TYPE A, AS PER PLAN

WHERE DESIGNATED, EXISTING ANCHOR ASSEMBLIES INCLUDING ALL POSTS AND HARDWARE SHALL BE REMOVED. THIS ITEM SHALL ALSO INCLUDE THE REMOVAL OF THE ENTIRE CONCRETE ANCHOR AND CONCRETE ENCASMENT. ALL HOLES LEFT AFTER REMOVAL OF ASSEMBLIES AND POSTS SHALL BE FILLED WITH GRANULAR MATERIAL AS DIRECTED BY THE ENGINEER. PAYMENT SHALL INCLUDE ALL NECESSARY LABOR AND EQUIPMENT REQUIRED TO PERFORM THE WORK AS INDICATED ABOVE. PAYMENT SHALL BE AT THE UNIT BID PRICE.

GENERAL NOTES

DESIGN AGENCY



DESIGNER  
GTF  
REVIEWER  
JDO 7-7-23  
PROJECT ID  
77922  
SHEET  
9 TOTAL  
105

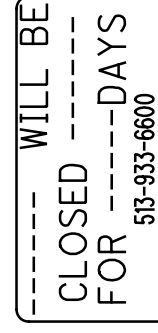
**ITEM 614, MAINTAINING TRAFFIC**

BRIDGES AND CULVERTS:  
A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THE ROAD MAY BE CLOSED AS DETAILED IN THE PROJECT LOCATIONS WITH DETOURS TABLE AND IN ACCORDANCE WITH THE WINDOW CONTRACT TABLE.

**RESURFACING:**

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES, EXCEPT ONE LANE OF TWO-WAY TRAFFIC MAY BE MAINTAINED DURING WORKING HOURS, BY USE OF THE EXISTING PAVEMENT AND THE COMPLETED PAVEMENT.

NOTICE OF CLOSURE SIGNS (W20-H13) SHALL BE ERRECTED BY THE CONTRACTOR PRIOR TO THE SCHEDULED ROAD OR RAMP CLOSURE IN ACCORDANCE WITH THE NOTICE OF CLOSURE TIME TABLE BELOW. (AT THE APPROVAL OF THE ENGINEER, PORTABLE CHANGABLE MESSAGE SIGNS MAY BE USED IN LIEU OF THE STANDARD FLATSHEET SIGN FOR CLOSURE DURATIONS OF LESS THAN 1 WEEK.)



W20-H14

THE SIGNS SHALL BE ERRECTED ON THE RIGHT-HAND SIDE OF THE ROAD FACING TRAFFIC. THEY SHALL BE PLACED SO AS NOT TO INTERFERE WITH THE VISIBILITY OF ANY OTHER TRAFFIC CONTROL SIGNS. ON ROADWAYS, THEY SHOULD BE ERRECTED AT OR NEAR THE POINT OF CLOSURE.

THE SIGN SHALL DISPLAY THE DATE OF THE CLOSURE IN M/M/M-DD FORMAT AND THE NUMBER OF DAYS OF THE CLOSURE. THE LASTLINE OF THE W20-H13 SIGN LISTS A PHONE NUMBER WHICH AMOTORIST MAY CALL FOR ADDITIONAL INFORMATION. THIS IS TOBE A SPECIFIC OFFICE WITHIN THE DISTRIC RATHER THAN THE GENERAL SWITCHBOARD NUMBER.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES, PER SCD MT-101.60 AT THE FOLLOWING LOCATIONS:

FOR MORE DETAILS, SEE DETOURS ON THE SHEETS LISTED IN THE TABLE CALLED PROJECT LOCATIONS WITH DETOURS TABLE ON THIS SHEET.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH CMS 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS, AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR ITEM 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

**PROJECT LOCATIONS WITH DETOURS TABLE**

PROJECT WORK LOCATION	DETOUR PLAN SHEET
CLI-729-0285	12
CLI-729-0950	13
CLI-729-1225	14
CLI-729-1329	15
CLI-729-1588	16

**ITEM 614 - DETOUR SIGNING**

THE CONTRACTOR SHALL PROVIDE, MAINTAIN, AND SUBSEQUENTLY REMOVE ALL DETOUR SIGNING AND SUPPORTS AS SHOWN ON SHEETS -- AND ON STANDARD CONSTRUCTION DRAWING MT-101.60. ALL WORK SHALL BE PAID FOR UNDER ITEM 614, DETOUR SIGNING.

**WORK ZONE MARKINGS**

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AT LOCATIONS IDENTIFIED BY THE ENGINEER FOR WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF C&MS 614.04 AND 614.11.

ITEM 614, WORK ZONE STOP LINE, CLASS III, 642 PAINT	48	FT
ITEM 614, WORK ZONE CROSSWALK LINE, CLASS III, 12", 642 PAINT	568	FT
ITEM 614, WORK ZONE RR SYMBOL MARKING, CLASS III, 642 PAINT	2	EA
ITEM 614, WORK ZONE EDGE LINE, CLASS III, 6", 642 PAINT	20.22	MILE
ITEM 614, WORK ZONE CENTER LINE, CLASS III, 642 PAINT	10.65	MILE
ITEM 614, WORK ZONE EDGE LINE, CLASS I, 6", 642 PAINT	0.32	MILE
ITEM 614, WORK ZONE CENTER LINE, CLASS I, 642 PAINT	0.16	MILE

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS**

USE OF LAW ENFORCEMENT OFFICERS (LEOS) BY CONTRACTORS OTHER THAN THE USES SPECIFIED BELOW WILL NOT BE PERMITTED AT PROJECT COST. LEOS SHOULD NOT BE USED WHERE THE OMTUCD INTENDS THAT FLAGGERS BE USED.

IN ADDITION TO THE REQUIREMENTS OF C&MS 614 AND THE OMTUCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHALL BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS:

DURING THE ENTIRE ADVANCE PREPARATION AND CLOSURE SEQUENCE WHERE COMPLETE BLOCKAGE OF TRAFFIC IS REQUIRED.

IN ADDITION TO THE REQUIREMENT OF C&MS 614 AND THE OMTUCD, A UNIFORMED LEO WITH AN OFFICIAL PATROL CAR (CAR WITH TOP-MOUNTED EMERGENCY FLASHING LIGHTS AND COMPLETE MARKINGS OF THE APPROPRIATE LAW ENFORCEMENT AGENCY) SHOULD BE PROVIDED FOR THE FOLLOWING TRAFFIC CONTROL TASKS AS APPROVED BY THE ENGINEER:

FOR LANE CLOSURES: DURING INITIAL SET-UP PERIODS, TEAR DOWN PERIODS, SUBSTANTIAL SHIFTS OF A CLOSURE POINT OR WHEN NEW LANE CLOSURE ARRANGEMENTS ARE INITIATED FOR LONG-TERM LANE CLOSURES/SHIFTS (FOR THE FIRST AND LAST DAY OF MAJOR CHANGES IN TRAFFIC CONTROL SETUP).

IN GENERAL, LEOS SHOULD BE POSITIONED IN ADVANCE OF AND ON THE SAME SIDE AS THE LANE RESTRICTION (OR AT THE POINT OF ROAD CLOSURE), AND TO MANUALLY CONTROL TRAFFIC MOVEMENTS THROUGH SIGNALIZED INTERSECTIONS IN WORK ZONES.

LEOS SHOULD NOT FORGO THEIR TRAFFIC CONTROL RESPONSIBILITIES TO APPREHEND MOTORISTS FOR ROUTINE TRAFFIC VIOLATIONS. HOWEVER, IF A MOTORIST'S ACTIONS ARE CONSIDERED TO BE RECKLESS, THEN PURSUIT OF THE MOTORIST IS APPROPRIATE.

THE LEOS WORK AT THE DIRECTION OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE SERVICES OF THE LEOS WITH THE APPROPRIATE AGENCIES AND COMMUNICATING THE INTENTIONS OF THE PLANS WITH RESPECT TO DUTIES OF THE LEOS. THE ENGINEER SHALL HAVE FINAL CONTROL OVER THE LEOS' DUTIES AND PLACEMENT, AND WILL RESOLVE ANY ISSUES THAT MAY ARISE BETWEEN THE TWO PARTIES.

ENSURE PROVIDED LEOS HAVE BEEN TRAINED APPROPRIATE TO THE JOB DECISIONS THEY ARE REQUIRED TO MAKE WHILE ON THE PROJECT, IN ACCORDANCE WITH C&MS 614.03.

THE LEO SHALL REPORT IN TO THE CONTRACTOR PRIOR TO THE START OF THE SHIFT, IN ORDER TO RECEIVE INSTRUCTIONS REGARDING SPECIFIC WORK ASSIGNMENTS DURING HIS/HER SHIFT. THE LEO IS EXPECTED TO STAY AT THE PROJECT SITE FOR THE ENTIRE DURATION OF HIS/HER SHIFT. THE LEO SHALL REPORT TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT. SHOULD IT BE NECESSARY TO LEAVE THE PROJECT SITE, THE LEO SHALL NOTIFY THE ENGINEER. THE CONTRACTOR SHALL PROVIDE THE LEO WITH A TWO-WAY COMMUNICATION DEVICE THAT SHALL BE RETURNED TO THE CONTRACTOR AT THE END OF HIS/HER SHIFT.

**ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE DURING CONSTRUCTION OPERATIONS (CONTINUED)**

LEOS (WITH PATROL CAR) REQUIRED BY THE TRAFFIC MAINTENANCE TASKS ABOVE SHALL BE PAID FOR ON A UNIT PRICE (HOURLY) BASIS UNDER ITEM 614, LAW ENFORCEMENT OFFICER (WITH PATROL CAR) FOR ASSISTANCE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE 120 HOURS

THE HOURS PAID SHALL INCLUDE ANY MINIMUM SHOW-UP TIME REQUIRED BY THE LAW ENFORCEMENT AGENCY INVOLVED. ANY ADDITIONAL COSTS (ADMINISTRATIVE OR OTHERWISE) INCURRED BY THE CONTRACTOR TO OBTAIN THE SERVICES OF A LEO ARE INCLUDED WITH THE BID UNIT PRICE FOR ITEM 614, LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE.

**NOTIFICATION OF TRAFFIC RESTRICTIONS**

THROUGHOUT THE DURATION OF THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN WRITING OF ALL TRAFFIC RESTRICTIONS AND UPCOMING MAINTENANCE OF TRAFFIC CHANGES. THE CONTRACTOR SHALL ENSURE THE WRITTEN NOTIFICATION IS SUBMITTED IN A TIMELY MANNER TO ALLOW THE PROJECT ENGINEER TO MEET THE REQUIRED TIME FRAMES SET FORTH IN THE TABLE BELOW TO INFORM THE LISTED CONTACTS.

THIS NOTIFICATION SHALL BE RECEIVED BY THE PROJECT ENGINEER PRIOR TO THE PHYSICAL SETUP OF ANY APPLICABLE SIGNS OR MESSAGE BOARDS. INFORMATION ACTIVITIES THAT IMPACT OR LIMITED TO, ALL CONSTRUCTION ACTIVITIES THAT IMPACT OR INTERFERE WITH TRAFFIC AND SHALL LIST THE SPECIFIC LOCATION, TYPE OF WORK, ROAD STATUS, DATE AND TIME OF RESTRICTION, DURATION OF RESTRICTION, NUMBER OF LANES MAINTAINED, NUMBER OF LANES CLOSED, MINIMUM VERTICAL CLEARANCE, MINIMUM WIDTH OF DRIVABLE PAVEMENT, DETOUR ROUTES, IF APPLICABLE, AND ANY OTHER INFORMATION REQUESTED BY THE PROJECT ENGINEER.

ITEM	DURATION OF CLOSURE	NOTICE DUE TO LISTED CONTACTS
RAMP & ROAD CLOSURES	>= 2 WEEKS	21 CALENDAR DAYS PRIOR TO CLOSURE
	> 12 HOURS & < 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 12 HOURS	4 BUSINESS DAYS PRIOR TO CLOSURE
LANE CLOSURES & RESTRICTIONS	>= 2 WEEKS	14 CALENDAR DAYS PRIOR TO CLOSURE
	< 2 WEEKS	5 BUSINESS DAYS PRIOR TO CLOSURE
START OF CONSTRUCTION & TRAFFIC PATTERN CHANGES	N/A	14 CALENDAR DAYS PRIOR TO IMPLEMENTATION

ANY UNFORESEEN CONDITIONS NOT SPECIFIED IN THE PLANS REQUIRING TRAFFIC RESTRICTIONS SHALL ALSO BE REPORTED TO THE PROJECT ENGINEER USING THE NOTIFICATION TIME TABLE:

CONTACT THE FOLLOWING:

- DISTRICT PUBLIC INFORMATION OFFICER BY EMAIL AT DOT.D08.PIO@DOT.OHIO.GOV
- DISTRICT PERMIT SECTION BY EMAIL AT D08.PERMITS@DOT.OHIO.GOV
- CENTRAL OFFICE SPECIAL HAUL PERMITS SECTION BY EMAIL AT HAULING.PERMITS@DOT.OHIO.GOV
- DISTRICT 6 CONTACTS (PID117955 FAY-435-1.52) ANDREW.HOLLOWAY@DOT.OHIO.GOV GARY.FETHEROLF@DOT.OHIO.GOV
- VILLAGE OF SABINA VASABINA1@YAHOO.COM
- BRUCE.GOTTSCHALK@YAHOO.COM
- BENJAMINFCOLLINGS@GMAIL.COM

**WINDOW CONTRACT TABLE**

COMPLETE ALL WORK AT THESE LOCATIONS WITHIN THE SPECIFIED TIME PERIODS, WHEN THROUGH TRAFFIC MAY BE DETOURED AS SHOWN ON THE SHEETS LISTED IN THE TABLE CALLED PROJECT LOCATIONS WITH DETOURS TABLE ON THIS SHEET. PRIOR TO OPENING ROADWAY TO TRAFFIC, ALL PERMANENT PAVEMENT MARKINGS SHALL BE IN PLACE.

**WINDOW CONTRACT TABLE**

USE THE FOLLOWING TABLE AS REFERRED TO IN THE PROPOSAL:

DESCRIPTION OR LOCATION OF CRITICAL WORK	CALENDER DAYS TO COMPLETE	DISINGENTIVE \$ PER DAY	WORK WINDOW	
			START	END
COMPLETE ALL WORK REQUIRING CLOSURE OF ALL LANES OF TRAFFIC AND DETOUR & RETURN TRAFFIC TO THE ORIGINAL LANE CONFIGURATION AT CLI-729-0285	30	\$310	4/1/2024	8/31/2024
COMPLETE ALL WORK REQUIRING CLOSURE OF ALL LANES OF TRAFFIC AND DETOUR & RETURN TRAFFIC TO THE ORIGINAL LANE CONFIGURATION AT CLI-729-0950	30	\$310	4/1/2024	8/31/2024
COMPLETE ALL WORK REQUIRING CLOSURE OF ALL LANES OF TRAFFIC AND DETOUR & RETURN TRAFFIC TO THE ORIGINAL LANE CONFIGURATION AT CLI-729-1225	30	\$310	4/1/2024	8/31/2024
COMPLETE ALL WORK REQUIRING CLOSURE OF ALL LANES OF TRAFFIC AND DETOUR & RETURN TRAFFIC TO THE ORIGINAL LANE CONFIGURATION AT CLI-729-1329	90	\$2100	3/1/2024	6/30/2024
COMPLETE ALL WORK REQUIRING CLOSURE OF ALL LANES OF TRAFFIC AND DETOUR & RETURN TRAFFIC TO THE ORIGINAL LANE CONFIGURATION AT CLI-729-1588	90	\$475	3/1/2025	7/31/2025
COMPLETE ALL PAVEMENT RESURFACING AND PERMANENT PAVEMENT MARKINGS	90	\$400	4/1/2025	10/1/2025

**NOTES:**

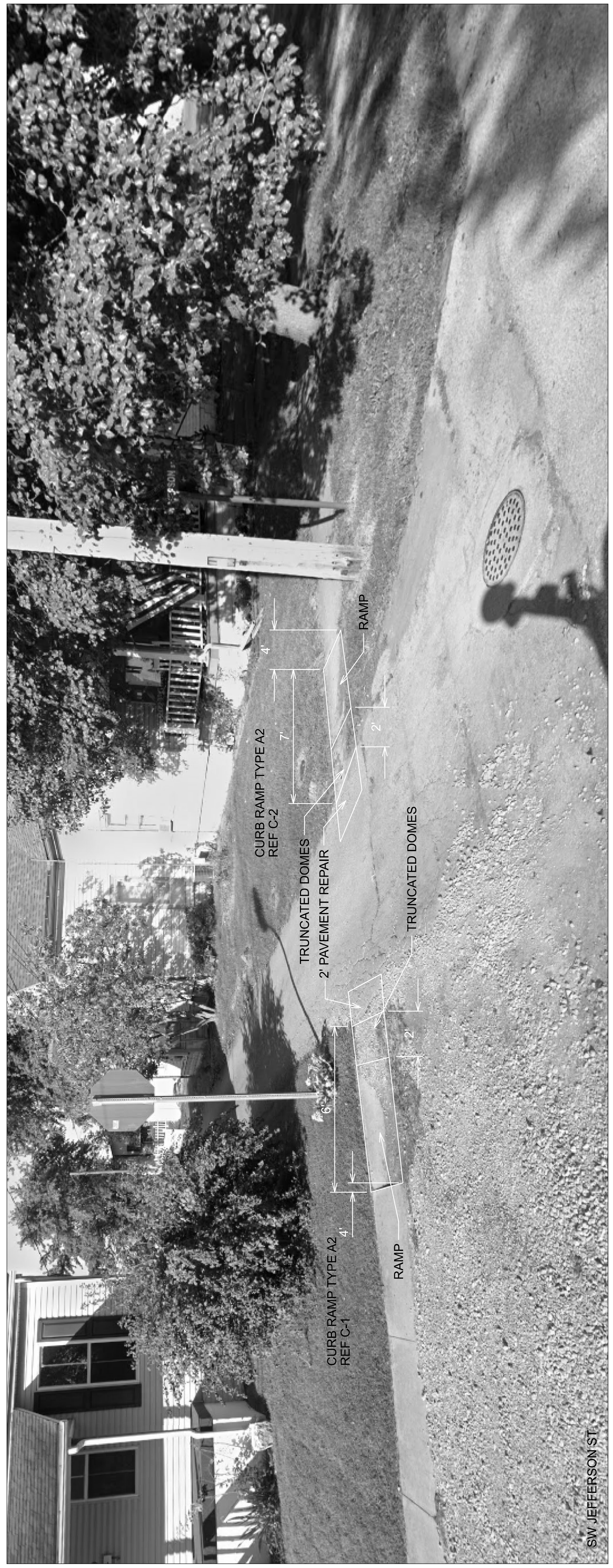
1. ONLY 1 CULVERT CAN BE CLOSED AT A TIME
2. ONLY 1 BRIDGE MAY BE CLOSED AT A TIME
3. IT IS PERMITTED AND EXPECTED THAT 1 CULVERT WILL BE CLOSED AT THE SAME TIME AS 1 BRIDGE





COUNTY	ROUTE	LOGPOINT OR INTERSECTING STREETNAME	FOR INFORMATION ONLY CURB RAMP TYPE PER BP-7.1								202						608		609		ADDITIONAL NOTES
			TYPE A1	TYPE A2	TYPE B1	TYPE B2	TYPE B3	TYPE C1	TYPE C2	TYPE D	BLEND TRANSITION	DETECTABLE WARNING	PAVEMENT REMOVED	WALK REMOVED	CURB AND GUTTER REMOVED	CURB REMOVED	4" CONCRETE WALK	CURB RAMP, AS PER PLAN	DETECTABLE WARNING	CURB AND GUTTER, TYPE 2	
			ONE EACH PER COMPASS DESCRIBED LOCATION								SQ YD	SQ FT	FEET	FEET	SQ FT	SQ FT	SQ FT	SQ FT	SQ FT	FEET	FEET
CLI	729	SW JEFFERSON ST (REF C-1)	1														24.0	8.0			SEE SHEET 20 FOR DETAILS
CLI	729	NW JEFFERSON ST (REF C-2)	1														28.0	8.0			SEE SHEET 20 FOR DETAILS
CLI	729	SW GEORGE ST (REF C-3)					1														SEE SHEET 20 FOR DETAILS
CLI	729	NW GEORGE ST (REF C-4)					1										111.3	8.0	11.7		SEE SHEET 20 FOR DETAILS
CLI	729	NW LEWIS ST (REF C-5)			1												113.3	25.0			SEE SHEET 20 FOR DETAILS
CLI	729	NE LEWIS ST (REF C-6)								1							40.5	13.0			SEE SHEET 21 FOR DETAILS
CLI	729	SW LEWIS ST (REF C-7)	1														66.8	15.0			SEE SHEET 21 FOR DETAILS
CLI	729	SE LEWIS ST (REF C-8)								1							35.8	8.0			SEE SHEET 21 FOR DETAILS
CLI	729	SW ALLEY (REF C-9)								1							36.0	12.0			SEE SHEET 21 FOR DETAILS
CLI	729	NW ALLEY (REF C-10)								1							27.0	12.0			SEE SHEET 21 FOR DETAILS
CLI	729	NW US 22 (REF C-11)																			SEE SHEET 22 FOR DETAILS
CLI	729	NE US 22 (REF C-12)	1														30.7	13.0			SEE SHEET 22 FOR DETAILS
CLI	729	NW ELM ST 1 (REF C-13)	1														112.7	12.0			SEE SHEET 22 FOR DETAILS
CLI	729	NW ELM ST 2 (REF C-14)	1														40.7	8.0			SEE SHEET 22 FOR DETAILS
CLI	729	NE ELM ST 1 (REF C-15)	1														95.6	11.0			SEE SHEET 22 FOR DETAILS
CLI	729	NE ELM ST 2 (REF C-16)	1														60.1	10.0			SEE SHEET 22 FOR DETAILS
CLI	729	SW ELM ST 1 (REF C-17)	1														88.2	10.0			SEE SHEET 22 FOR DETAILS
CLI	729	SW ELM ST 2 (REF C-18)	1														49.8	10.0			SEE SHEET 22 FOR DETAILS
CLI	729	SE ELM ST 1 (REF C-19)	1														94.9	8.0			SEE SHEET 22 FOR DETAILS
CLI	729	SE ELM ST 2 (REF C-20)	1														63.6	8.0			SEE SHEET 22 FOR DETAILS
CLI	729	SW SYCAMORE ST (REF C-21)	1														44.0	8.0			SEE SHEET 23 FOR DETAILS
CLI	729	NW SYCAMORE ST (REF C-22)											1				65.3	16.7			SEE SHEET 23 FOR DETAILS
CLI	729	SE FRONT ST (REF C-23)																			SEE SHEET 23 FOR DETAILS
CLI	729	NE FRONT ST (REF C-24)																			SEE SHEET 23 FOR DETAILS
CLI	729	SE PARK ST (REF C-25)	1														13.0	8.0			SEE SHEET 24 FOR DETAILS
CLI	729	NE PARK ST (REF C-26)	1														61.0	8.0			SEE SHEET 24 FOR DETAILS
CLI	729	NE NORTH ST (REF C-27)	1														60.0	8.0			SEE SHEET 25 FOR DETAILS
CLI	729	SE NORTH ST (REF C-28)															14.5	10.0	5.8		SEE SHEET 25 FOR DETAILS
TOTALS CARRIED TO GENERAL SUMMARY																	1615.0	307.5	22.2	5.8	

CURB RAMP SUBSUMMARY



SW JEFFERSON ST

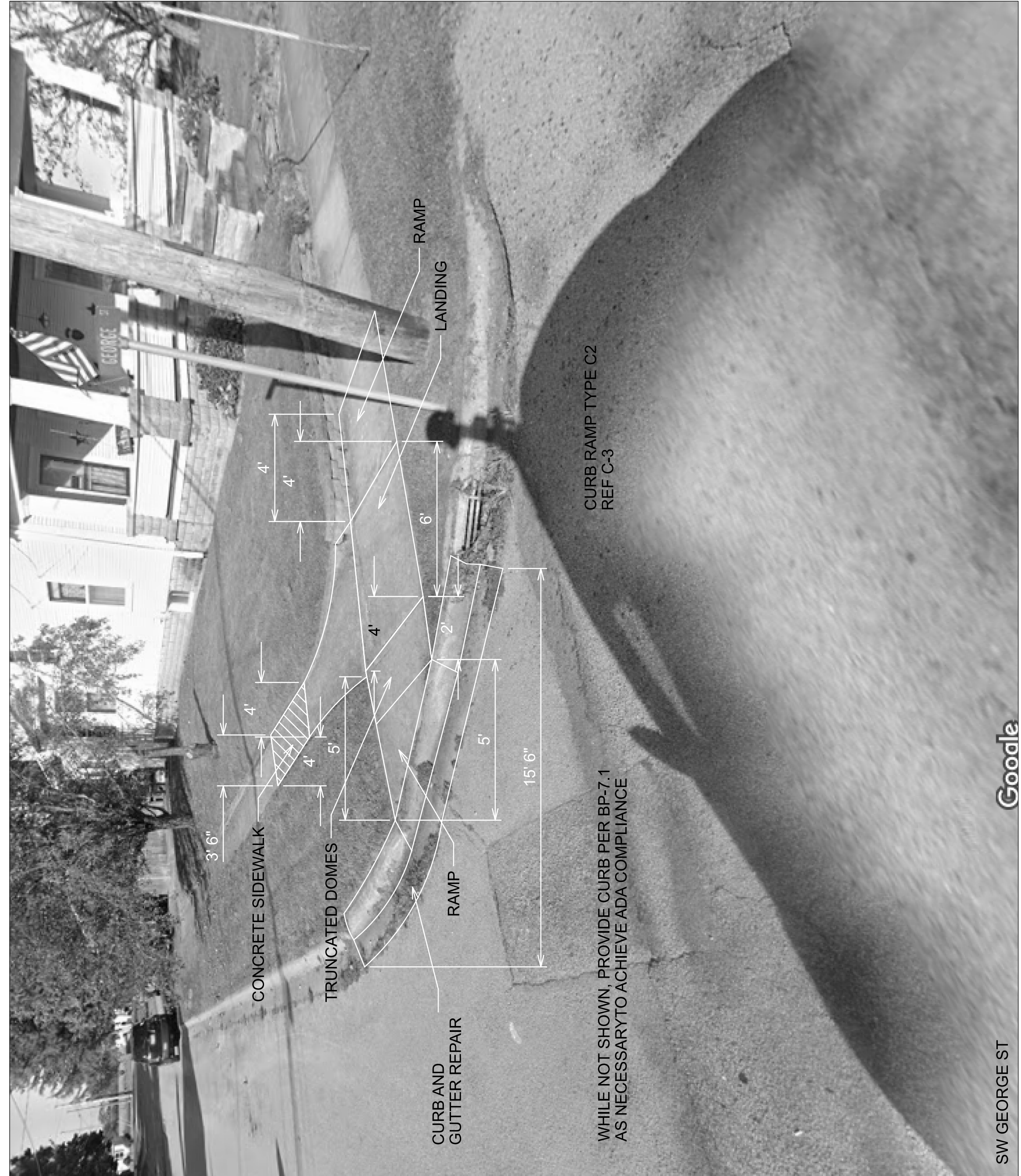


CURB RAMPS  
SR 729 - JEFFERSON ST

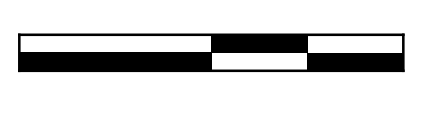
DESIGN AGENCY



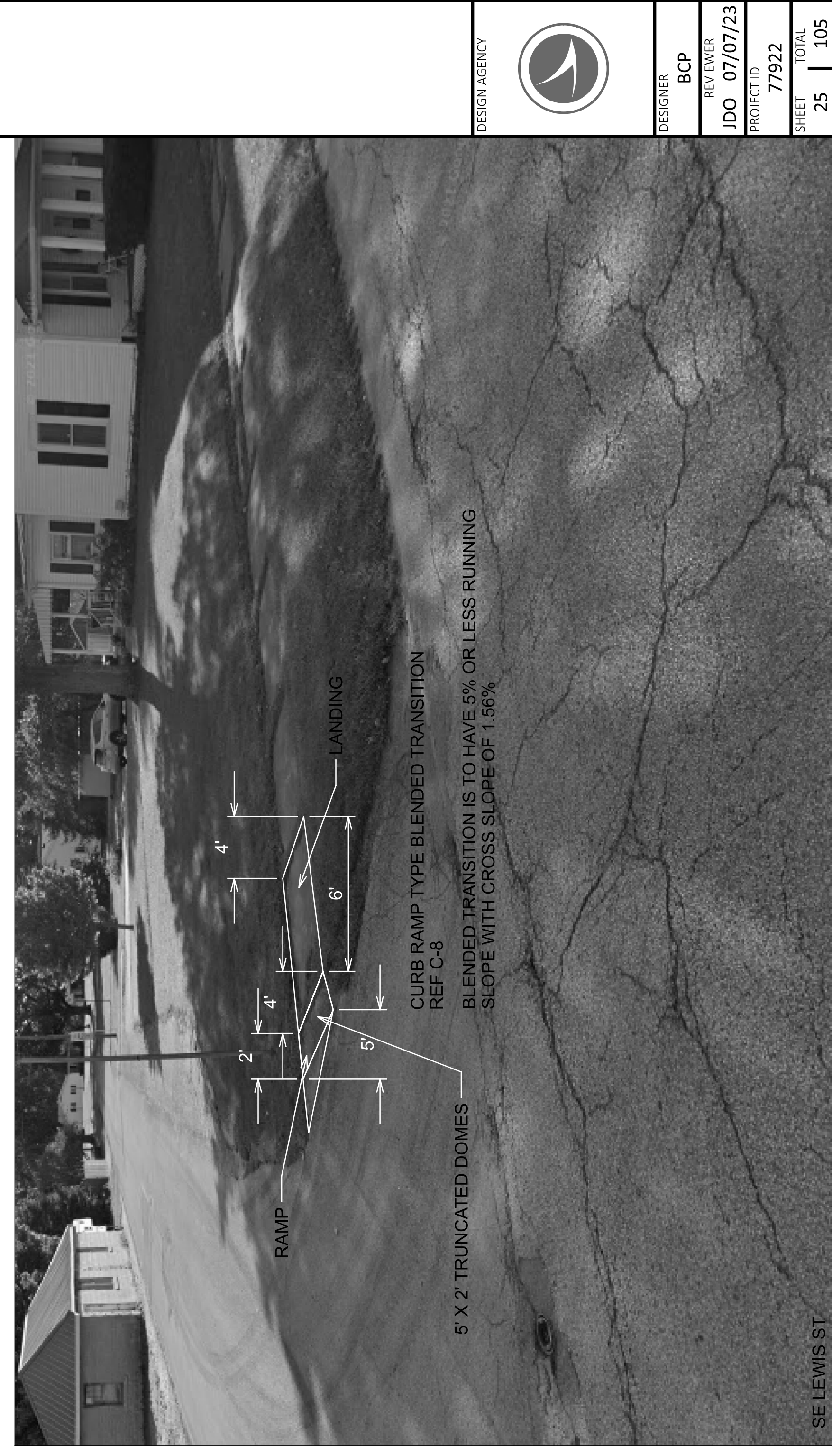
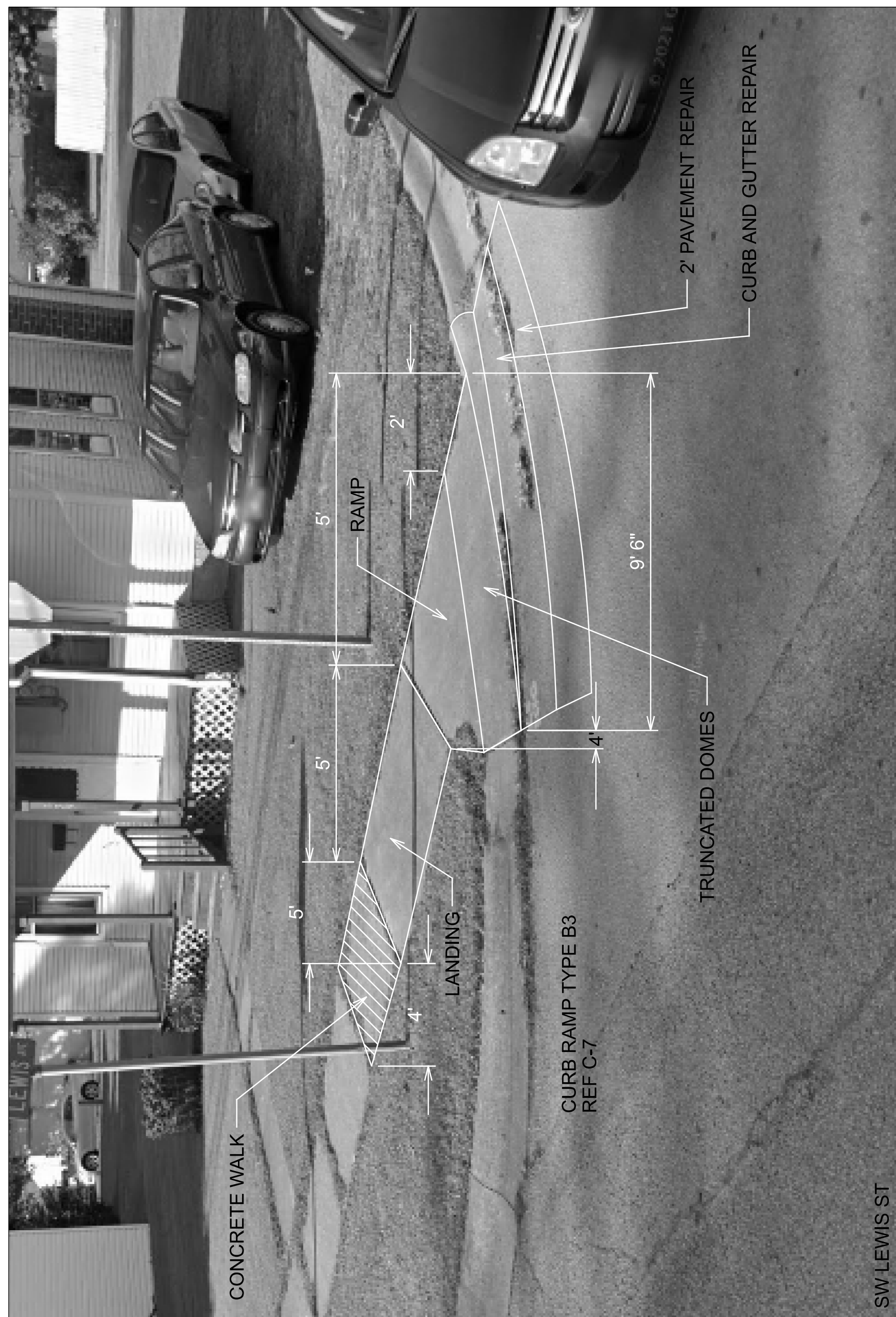
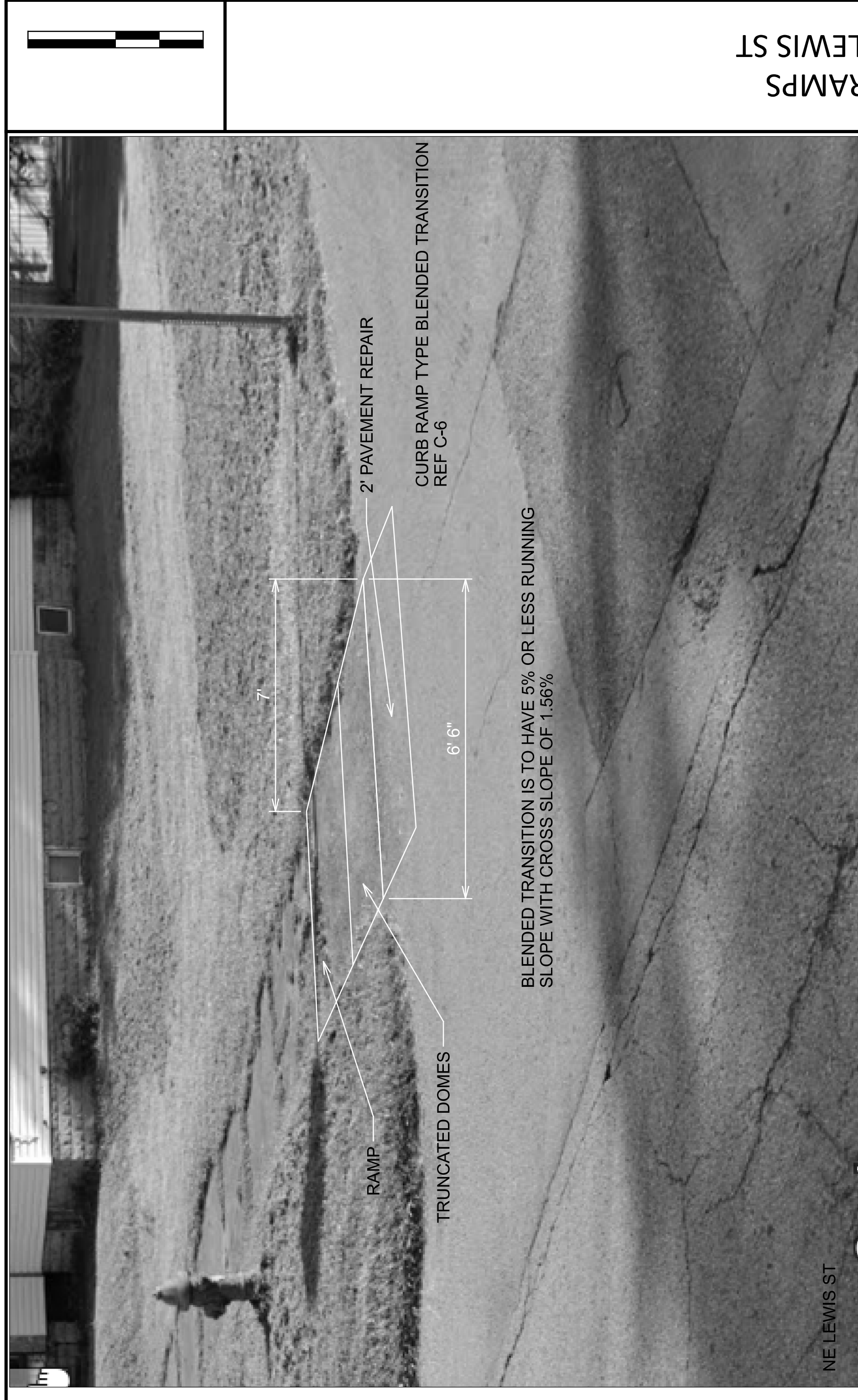
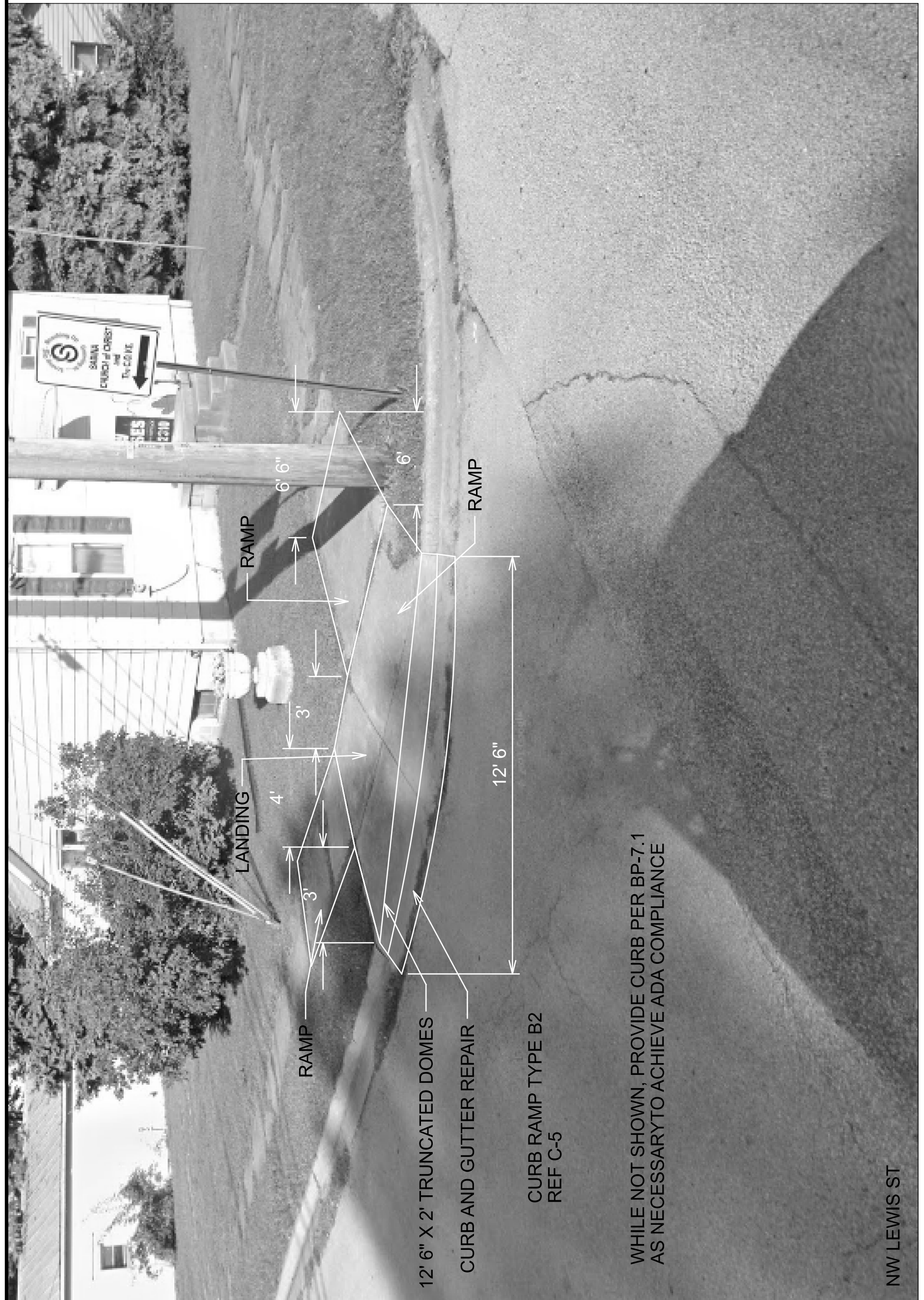
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REVIEWER	JDO
PROJECT ID	07/07/23
SHEET	77922
TOTAL	105
	23



CURB RAMPS  
 SR 729 - GEORGE ST

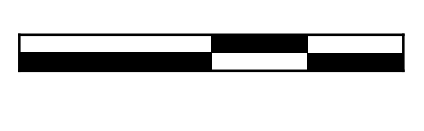


DESIGN AGENCY	
DESIGNER	BCP
REVIEWER	JDO
PROJECT ID	07/07/23
SHEET	77922
TOTAL	24
	105

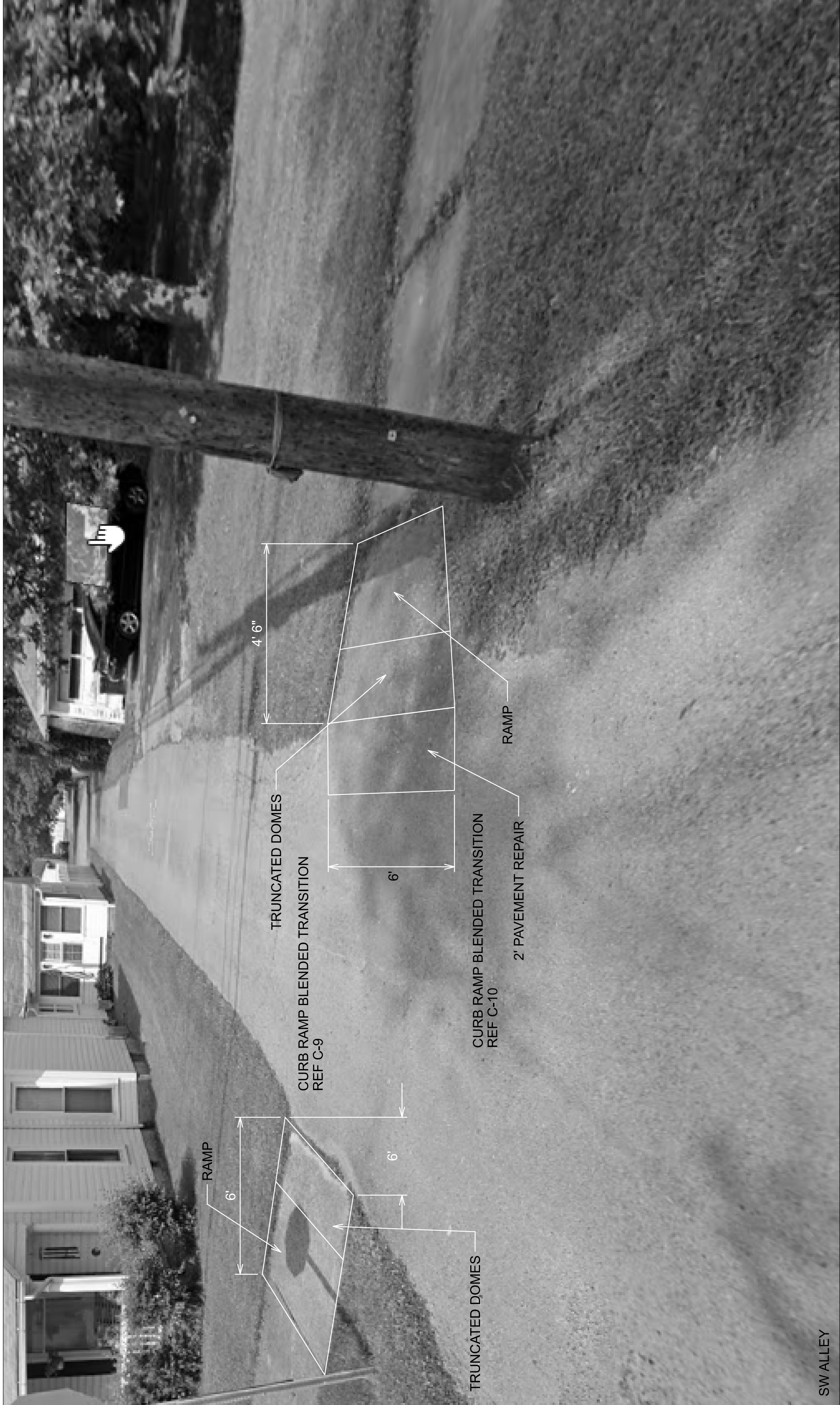


CURB RAMPS  
 SR 729 - LEWIS ST

DESIGN AGENCY	
DESIGNER	BCP
REVIEWER	JDO 07/07/23
PROJECT ID	77922
SHEET	25
TOTAL	105





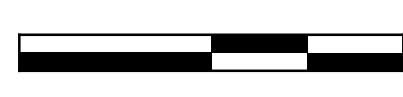
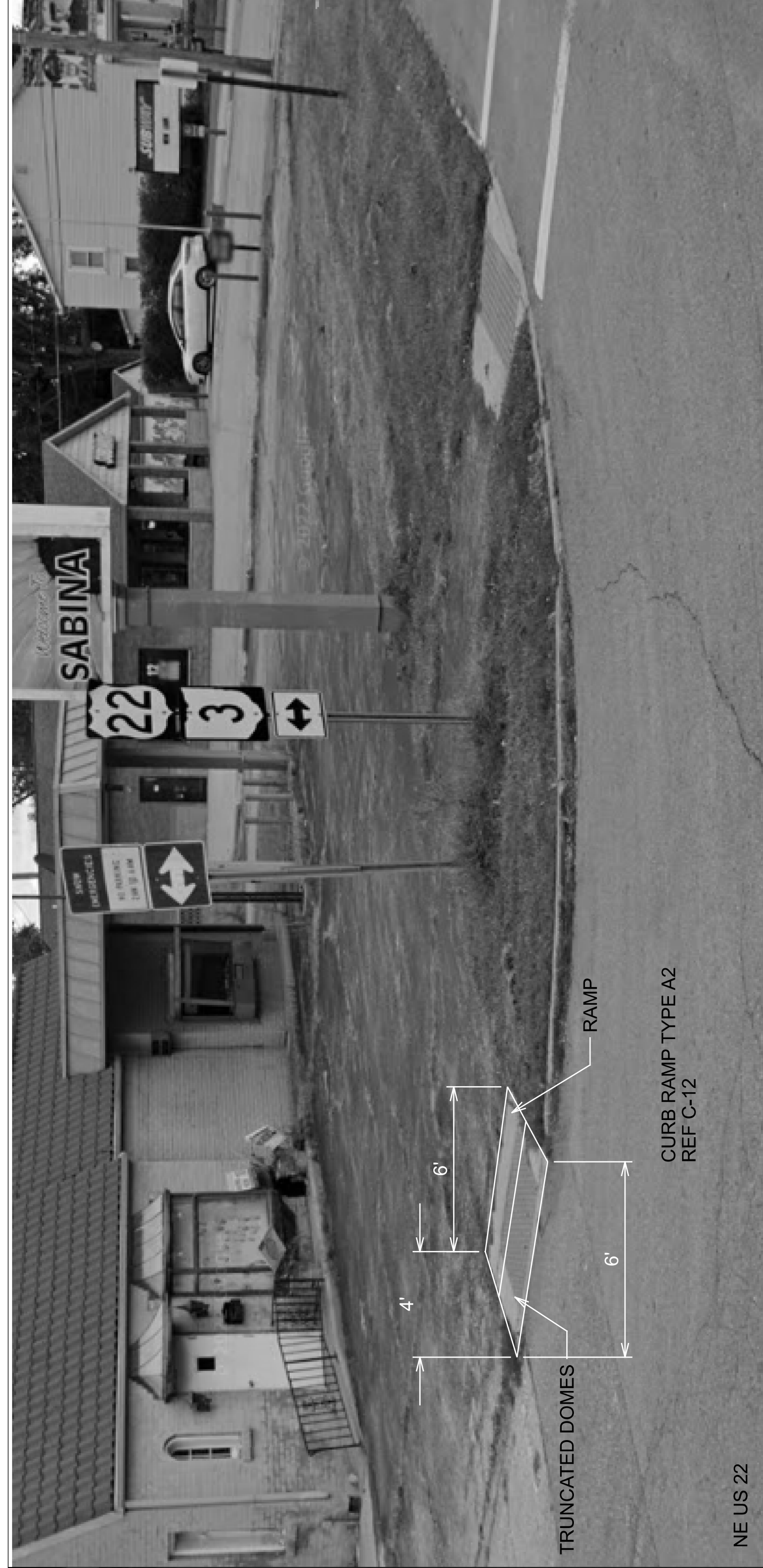
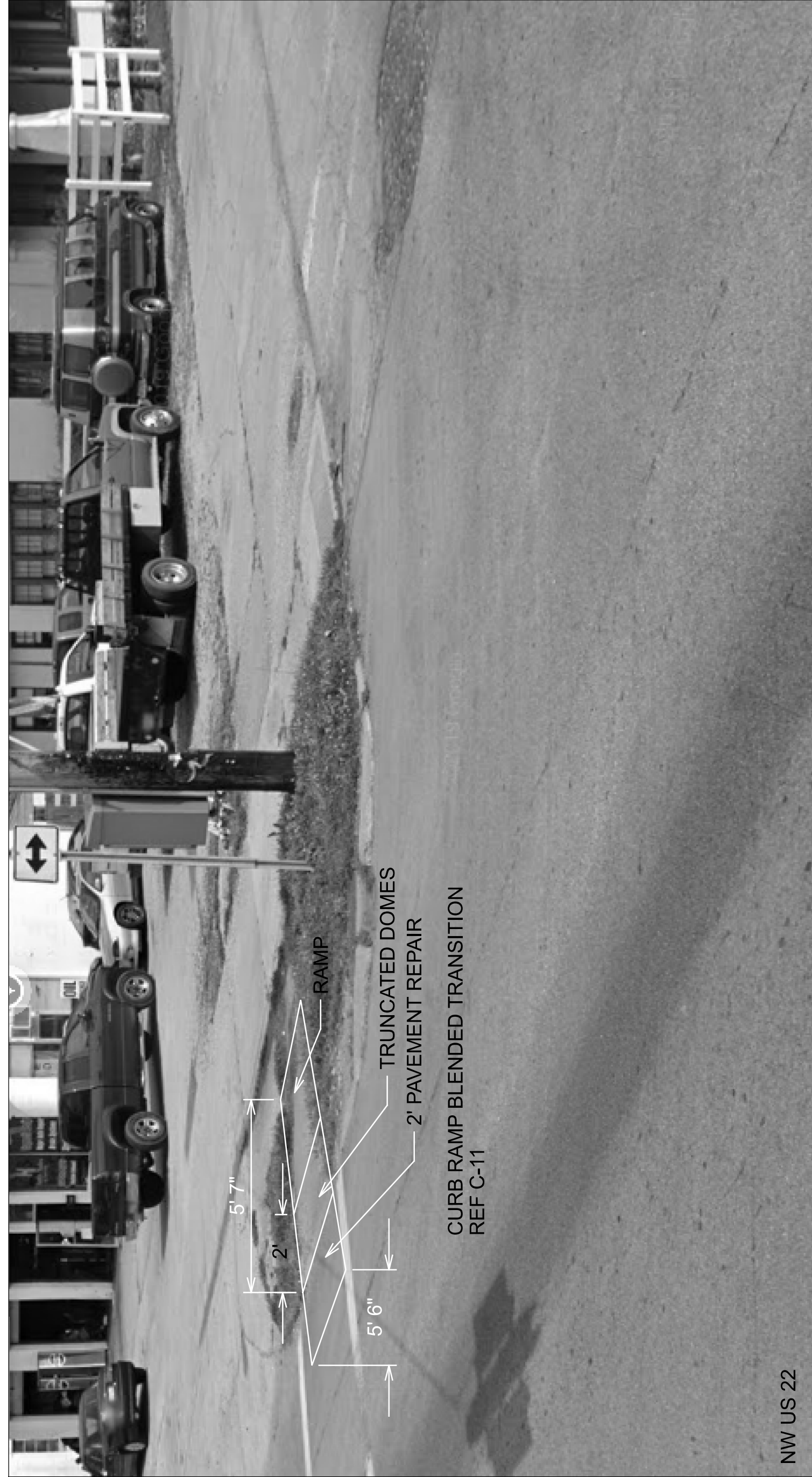


CURB RAMPS  
SR 729 - ALLEY

DESIGN AGENCY



DESIGNER	BCP
REVIEWER	JDO
PROJECT ID	07/07/23
SHEET	77922
TOTAL	26
	105

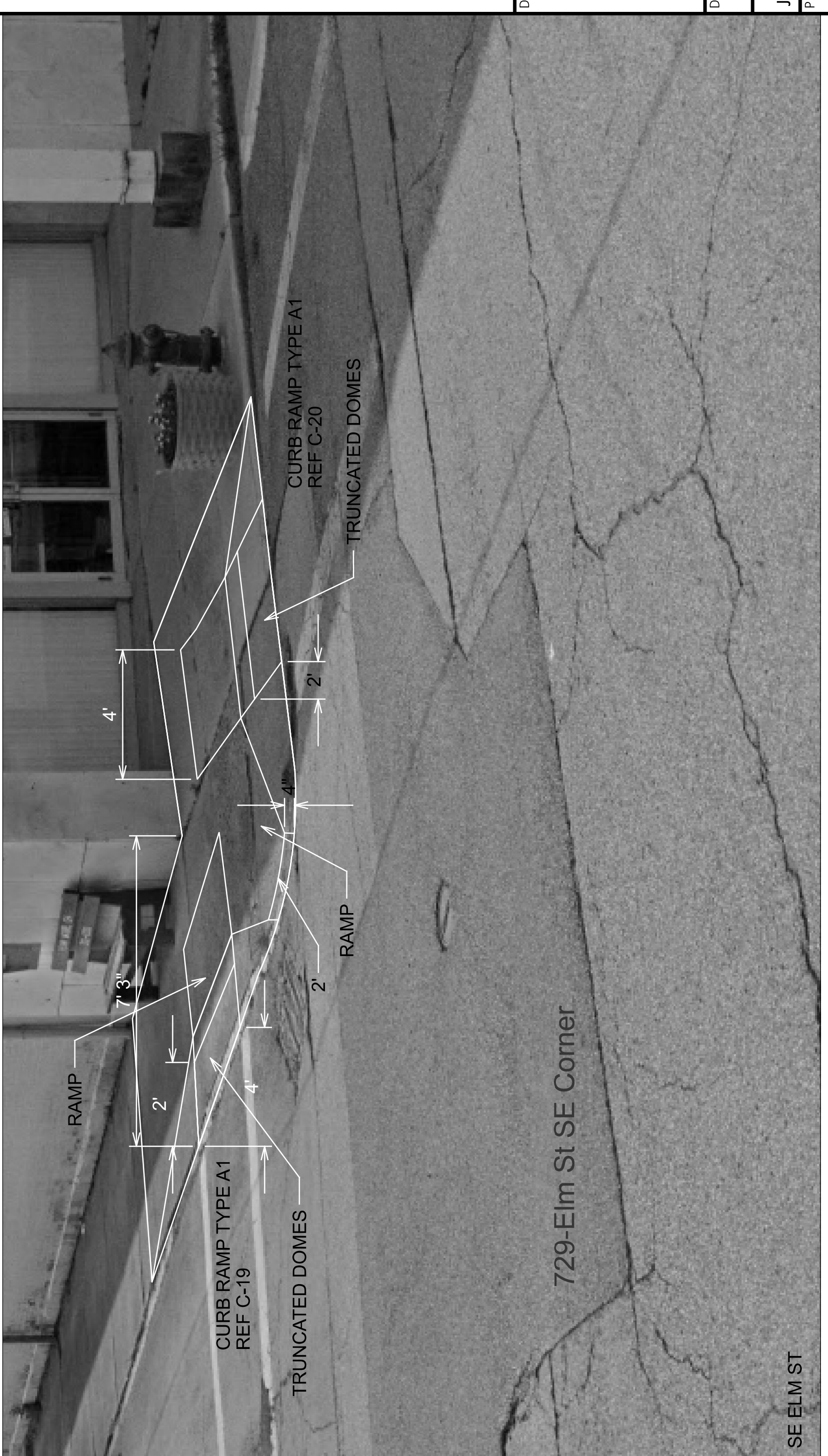
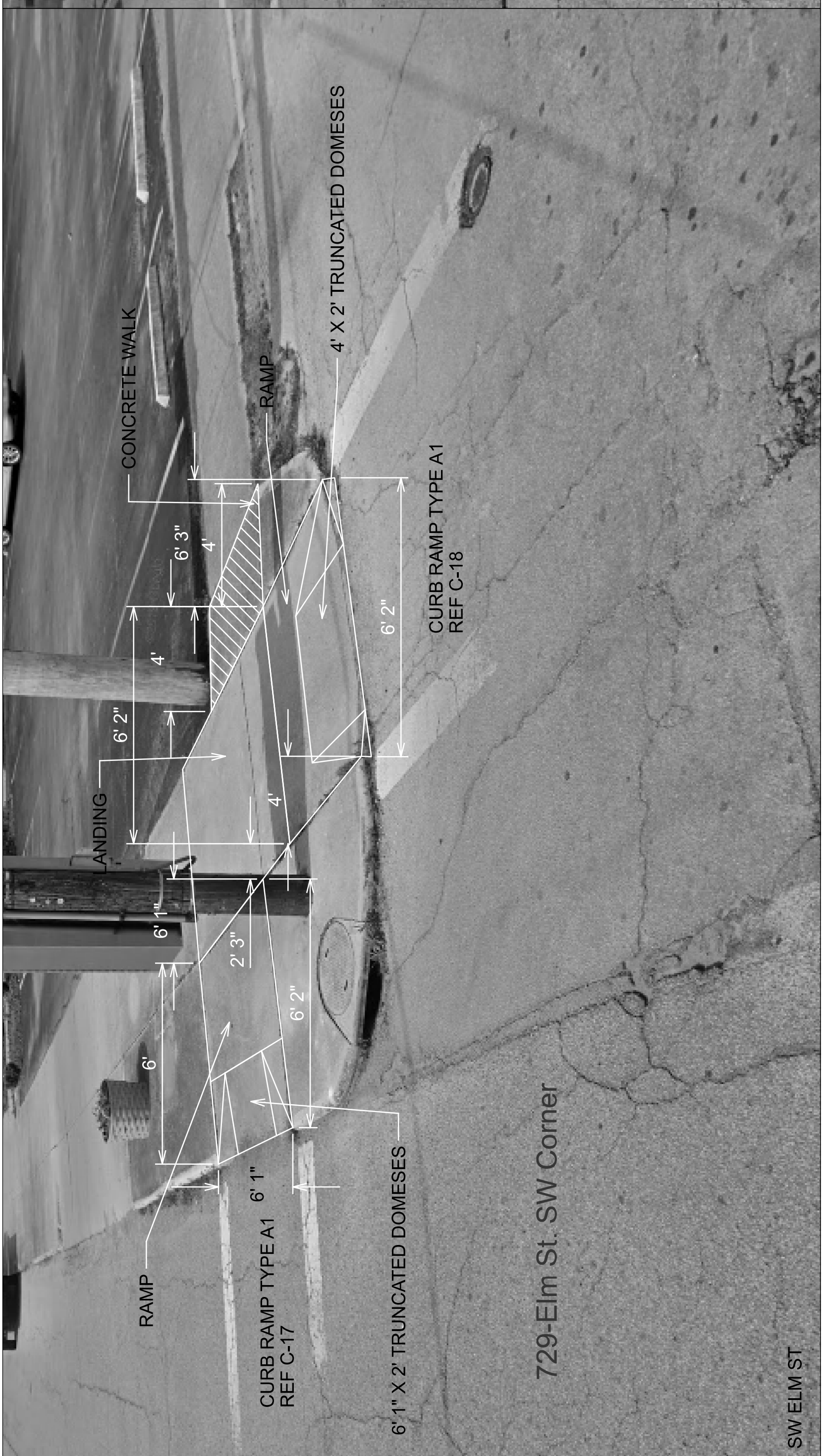
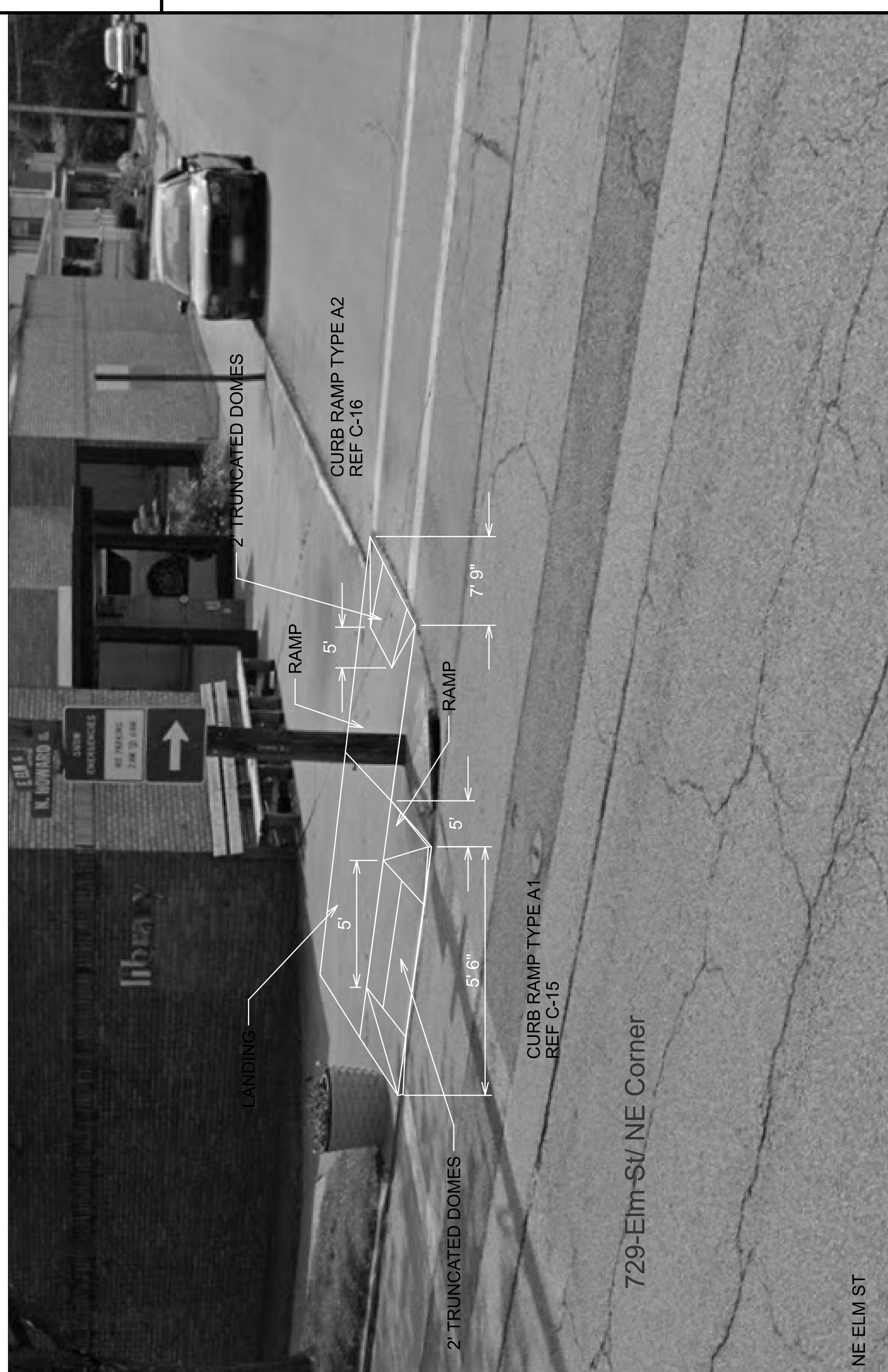
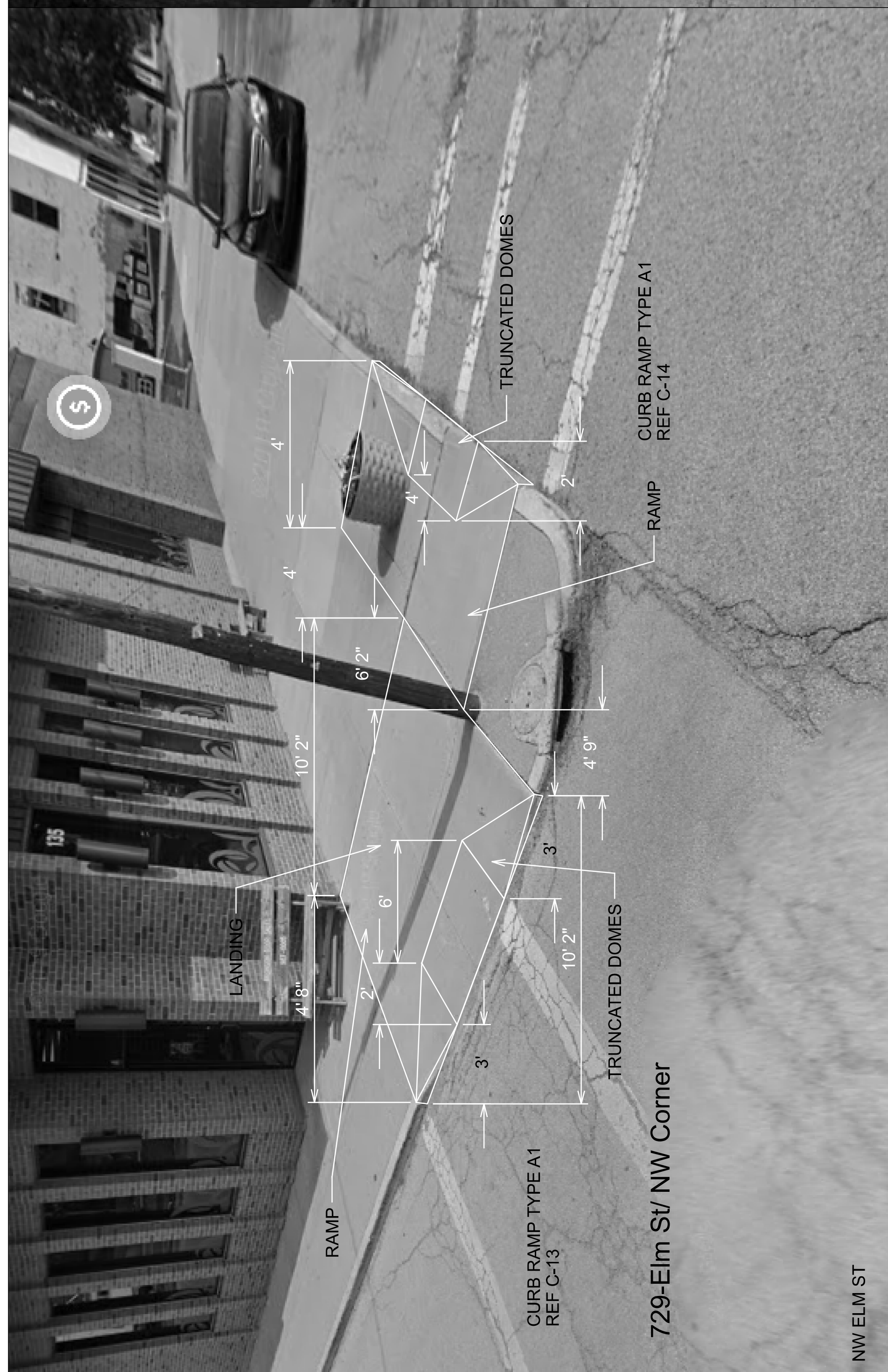


CURB RAMPS  
SR 729 - US 22

DESIGN AGENCY

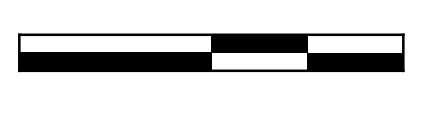


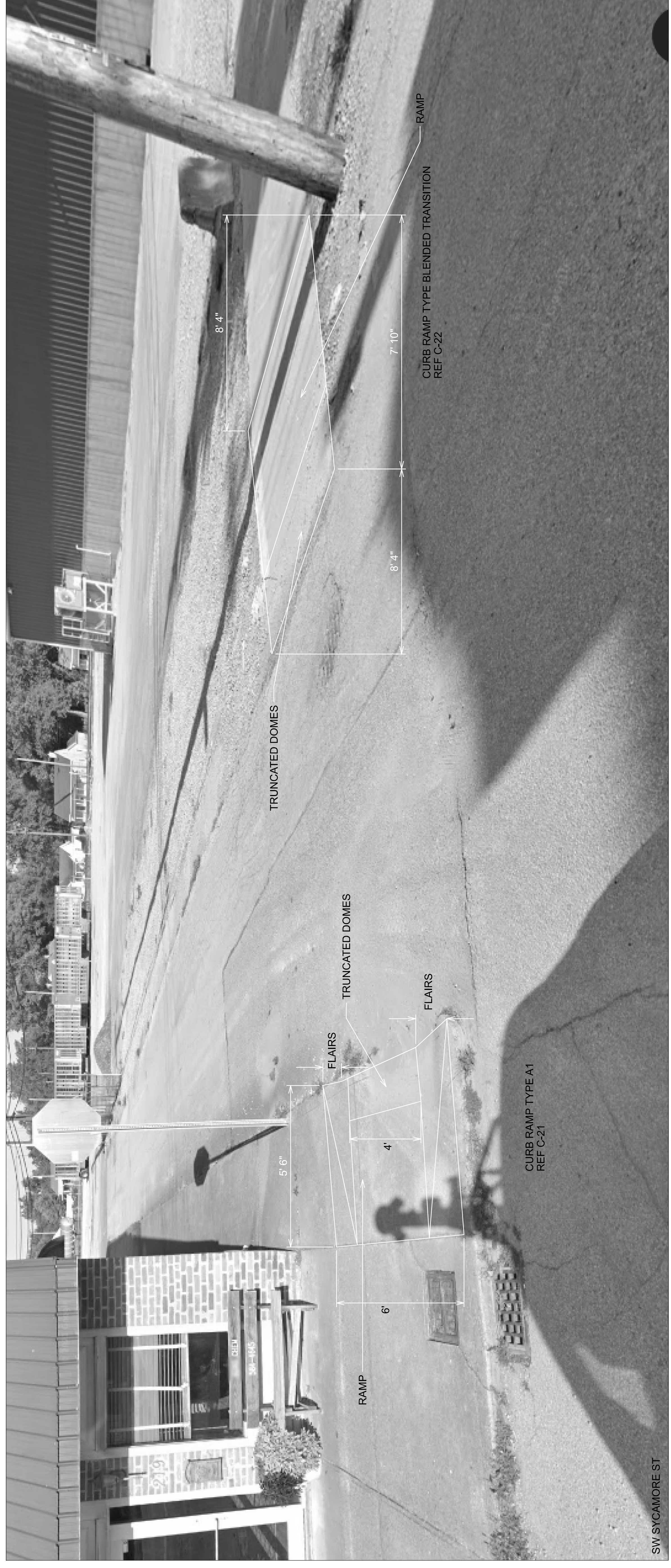
DESIGNER	BCP
REVIEWER	JDO
PROJECT ID	07/07/23
SHEET	77922
TOTAL	27
	105



CURB RAMPS  
 SR 729 - ELM ST

DESIGN AGENCY	
DESIGNER	BCP
REVIEWER	JDO
PROJECT ID	07/07/23
SHEET	77922
TOTAL	105
	28





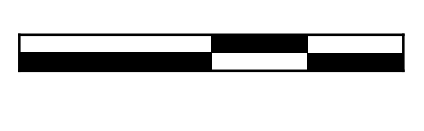
SW SYCAMORE ST

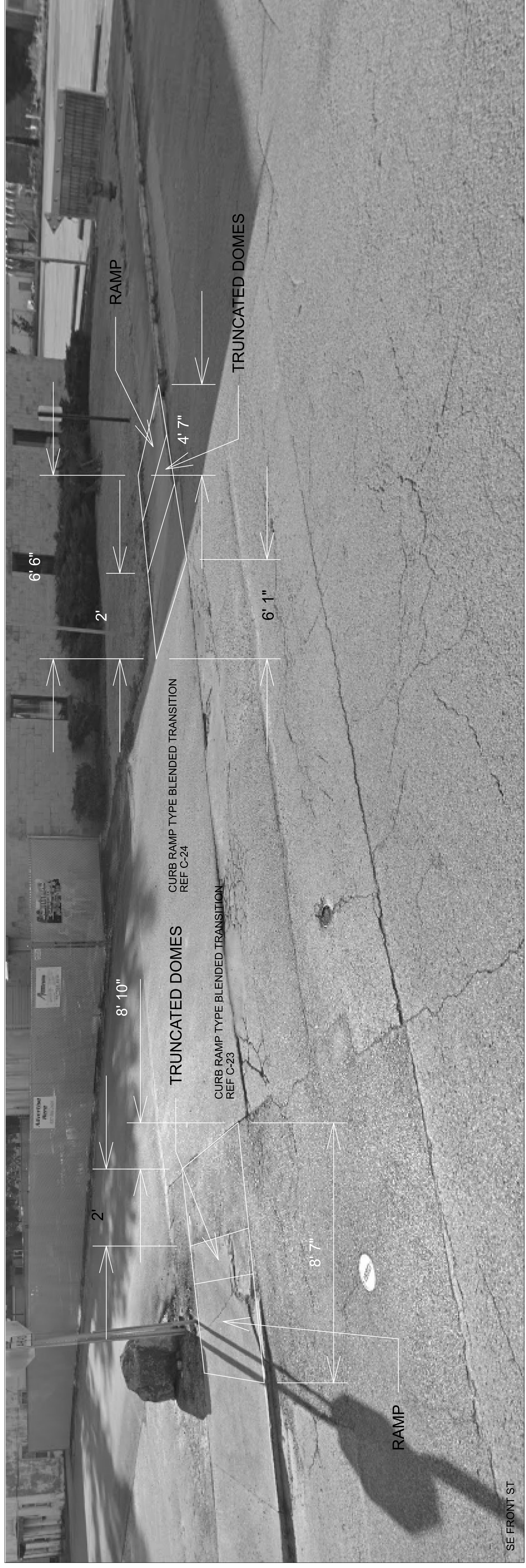
DESIGNER	BCP
REVIEWER	JDO 07/07/23
PROJECT ID	77922
SHEET	29
TOTAL	105



DESIGN AGENCY

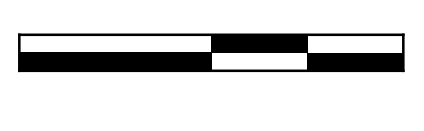
CURB RAMPS  
SR 729 - SYCAMORE ST

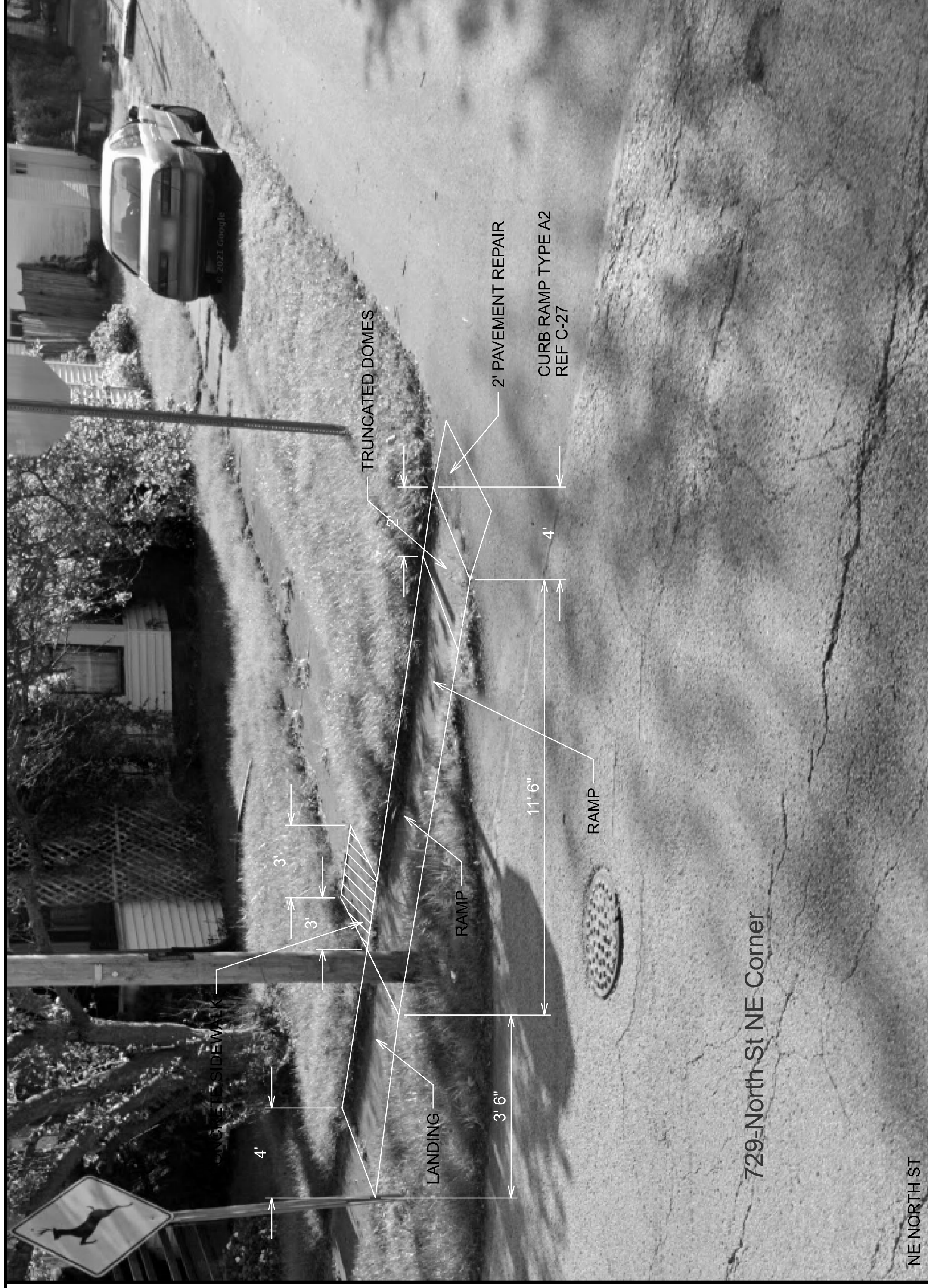




DESIGN AGENCY	DESIGNER	BCP
	REVIEWER	JDO 07/07/23
	PROJECT ID	77922
	SHEET	30
	TOTAL	105

CURB RAMPS  
SR 729 - FRONT ST

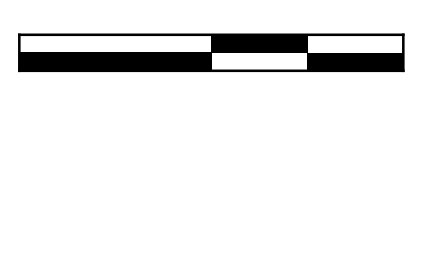




729-North-St SE Corner  
SE NORTH ST

CURB RAMP  
SR 729 - NORTH ST

DESIGN AGENCY	
DESIGNER	BCP
REVIEWER	JDO
PROJECT ID	77922
SHEET	31
TOTAL	105



DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL,  $\phi_{bf} = 30^\circ$   
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF  
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL,  $\phi_f = 28^\circ$   
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL,  $S_{uf} = 1500$  PSF  
 UNIT WEIGHT OF CONCRETE = 150 PCF  
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)  
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)  
 CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)  
 REINFORCING STEEL - ASTM A615, A616, OR A617  
 GRADE 60 MINIMUM YIELD STRENGTH  
 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED; OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

## GENERAL NOTES

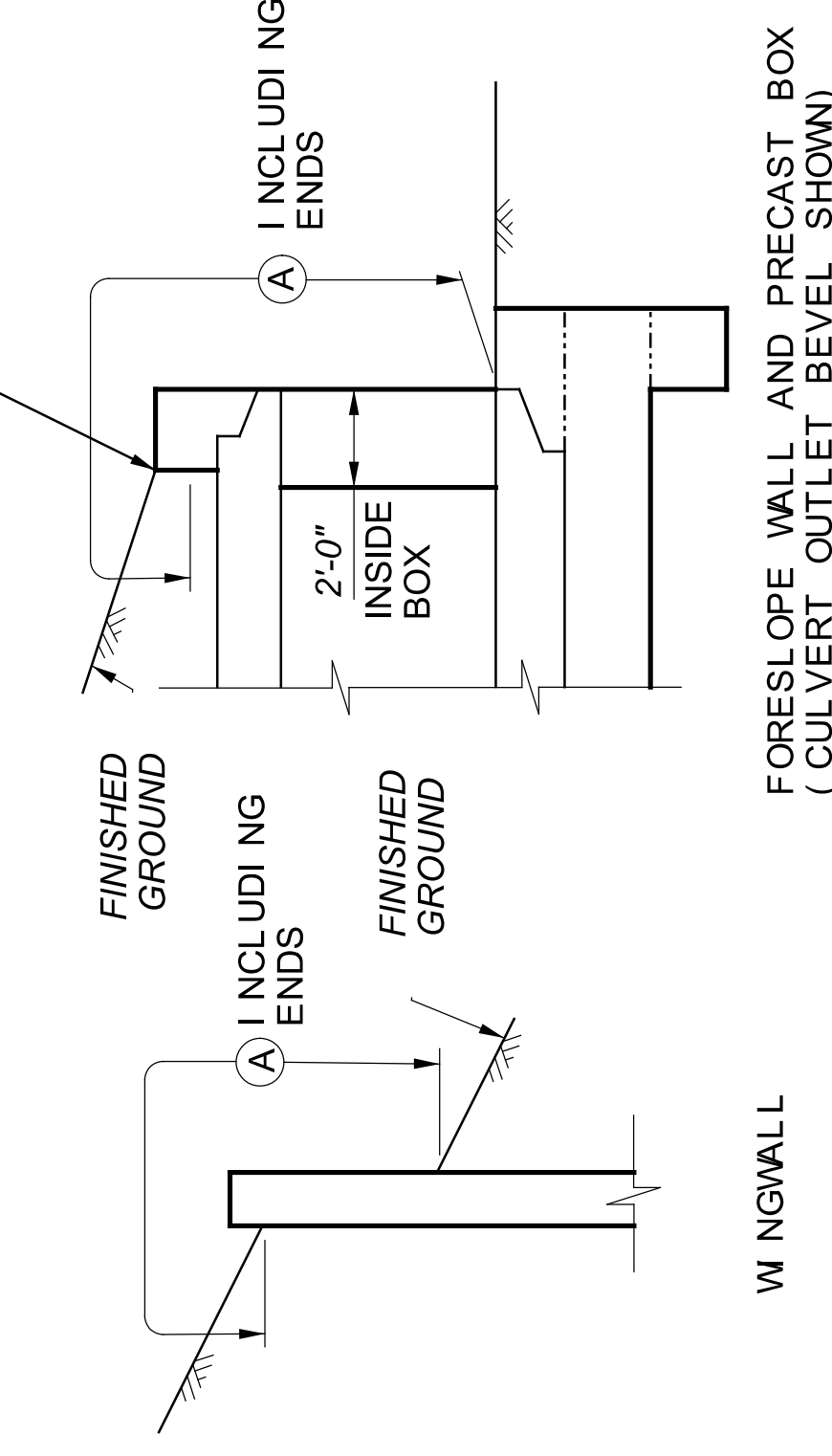
POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOPELEVATION OF THE WEEPHOLE.

WEEPHOLES SHALL BE TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF TWO WEEPHOLES SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER: PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PREFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.

TOP OF HEADWALL FLUSH WITH GRADE. SEE MGS-2.3 FOR GRADING AROUND HEADWALLS AND WINGWALLS



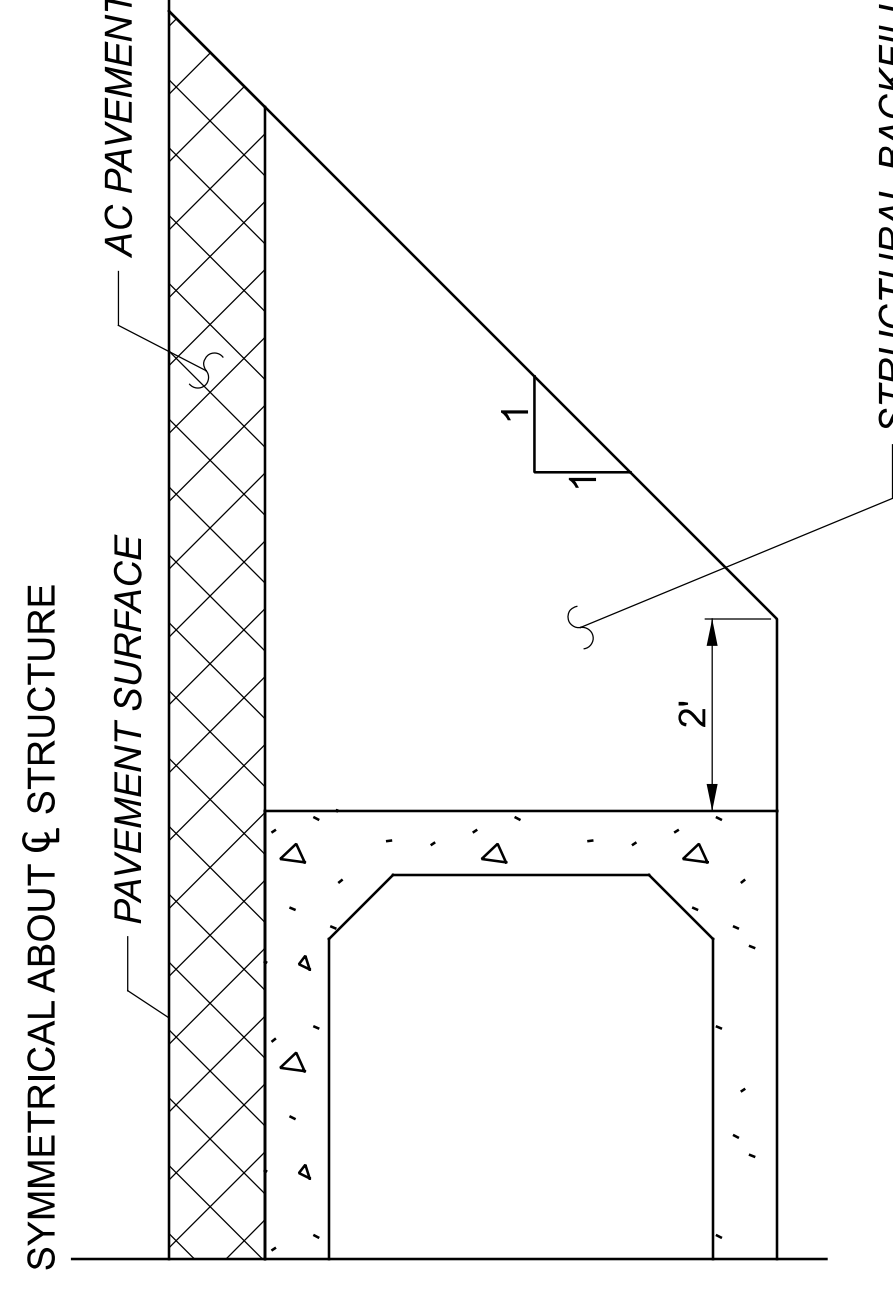
## LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

ITEM 611 - CONDUIT, MISC.: 8'x4' CONDUIT, TYPE A, 706.05, AS PER PLAN

FOLLOW ALL REQUIREMENTS OF CMS 611 AND 706.05.

STRUCTURAL BACKFILL TYPE 1 CONSISTING OF CRUSHED CARBONATE STONE, THAT MEETS THE GRADATIONS OF ITEM 304 SHALL BE PLACED AS SHOWN IN THE DETAIL BELOW. QUANTITY SHALL BE BASED ON A TRENCH LENGTH OF 50 FEET MEASURED ALONG THE CENTERLINE OF THE CULVERT. PAYMENT FOR STRUCTURAL BACKFILL TYPE 1 AND THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE STRUCTURAL BACKFILL SHALL BE INCLUDED IN ITEM 611 FOR PAYMENT.



## ESTIMATED QUANTITIES CLI-729-0285 (PLAN SPLIT 01/STR/04)

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	10000	2817	LB.	EPOXY COATED STEEL REINFORCEMENT
511	46010	6	CU. YD.	CLASS QC1 CONCRETE, RETAINING/ WING WALL NOT INCLUDING FOOTING
511	46510	20	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	10100	34	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	70	SQ. YD.	TYPE 2 WATERPROOFING
512	33010	67	SQ. YD.	TYPE 3 WATERPROOFING
516	13600	26	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	11000	28	SQ. YD.	RIPRAP, TYPE D
611	94800	50	LIN. FT.	8'-0" SPAN x 4'-0" RISE CONDUIT, TYPE A, 706.05, (DESIGN EARTH COVER = 1'), AS PER PLAN

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25 SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.

## STRUCTURE NOTES AND ESTIMATED QUANTITIES

STRUCTURE No.: CLI-729-0285

OVER UNNAMED TRIBUTARY TO COWAN CREEK (U.N.T.#1)

SFN 1992691  
DESIGN AGENCY



DESIGNER	CHECKER
GTF	CAH
REVIEWER	
TRB	06/15/23
PROJECT ID	77922
SUBSET	TOTAL
2	5
SHEET	TOTAL
33	105

COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

COFFERDAMS AND EXCAVATION BRACING INSTALLED FOR THE PROJECT ARE FOR DEWATERING THE WORK AREA AND ARE CONSIDERED FILL. COFFERDAMS AND EXCAVATION BRACING DESIGN, CONSTRUCTION, AND REIMBURSEMENT FOR DAMAGE IS BASED ON CMS 503. THE CONTRACTOR MUST COMPLY WITH ANY IN-STREAM RESTRICTION IN THE SPECIAL PROVISIONS WATERWAY PERMIT. ADDING FILL TO THE STREAM TO DEWATER THE WORK AREA REQUIRES A TEMPORARY ACCESS FILL (TAF) SUBMISSION PER THE SPECIAL PROVISIONS.

IF THE CONTRACTOR CHOOSES TO PERFORM 250 LINEAL FEET OR LESS OF THE REHABILITATION WORK REQUIRED IN THE PLANS PER LOCATION: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO PERFORM MORE THAN 250 LINEAL FEET OF THE REHABILITATION WORK REQUIRED BY THE PLANS PER LOCATION: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL ONLY REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO A MAXIMUM OF 250 LINEAL FEET OF WORK PROTECTED BY THE COFFERDAM. ALL OTHER PROVISIONS OF CMS 503 APPLY.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM DURING THE MONTHS OF APRIL THROUGH OCTOBER: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM AT ANY TIME IN THE MONTHS OF NOVEMBER THROUGH MARCH: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 FEET ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL NOT REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO THE WORK PROTECTED BY THE COFFERDAM. ALL OTHER REQUIREMENTS OF CMS 503 APPLY.

WATERPROOFING DETAILS

PLAN VIEW

SECTION ON VIEW

TYPE 2 WATERPROOFING

TYPE 2 WATERPROOFING

TYPE 3 WATERPROOFING

1'-0"

1" PEJF

1'-0"

1" PEJF

BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL,  $\phi_{bf} = 30^\circ$   
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF  
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL,  $\phi_f = 28^\circ$   
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL,  $S_{uf} = 1500$  PSF  
 UNIT WEIGHT OF CONCRETE = 150 PCF  
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)  
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)  
 CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI (FOOTING, WINGWALL AND FORESLOPE WALL)  
 REINFORCING STEEL - ASTM A615, A616, OR A617  
 GRADE 60 MINIMUM YIELD STRENGTH  
 60,000 PSI (ALL REINFORCING SHALL BE EPOXY COATED)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED; OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

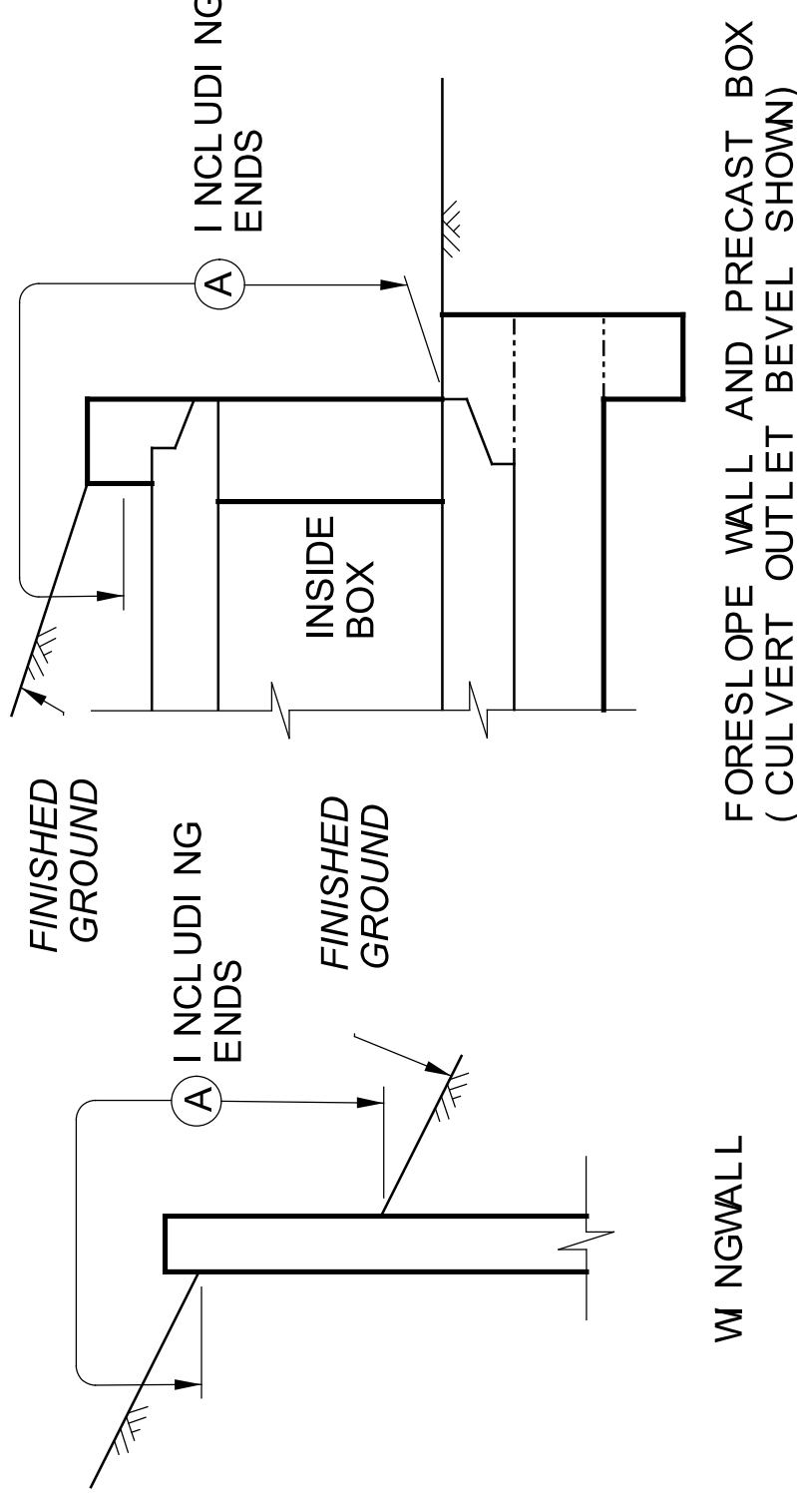
## GENERAL NOTES

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOPELEVATION OF THE WEEP HOLE.

WEEP HOLES SHALL BE 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF TWO WEEP HOLES SHALL BE PROVIDED PER WINGWALL.

PERFORMED EXPANSION JOINT FILLER: PERFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 516 - 1" PERFORMED EXPANSION JOINT FILLER.

SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



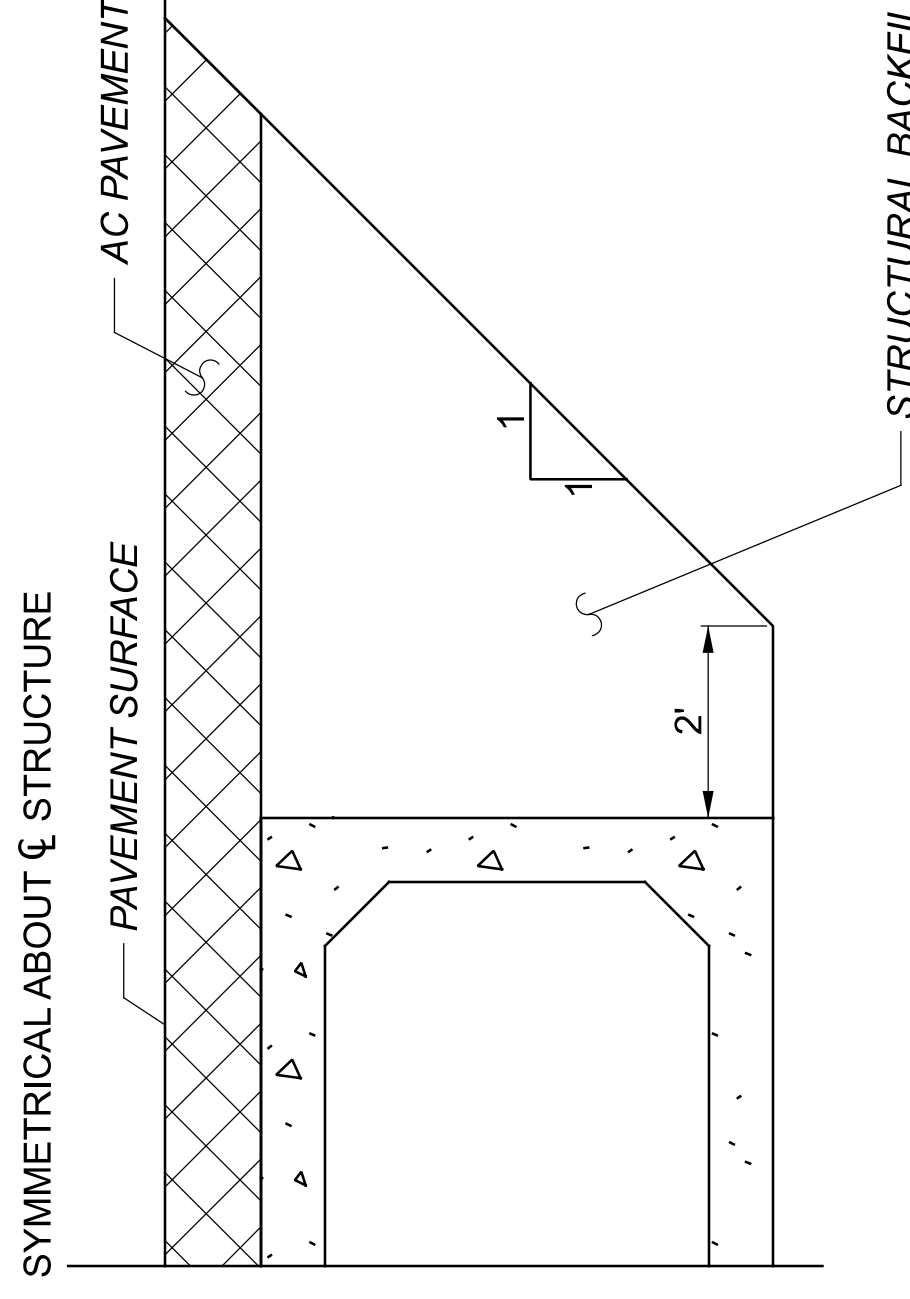
## LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

ITEM 611 - CONDUIT, MISC.: 12x7' CONDUIT, TYPE A, 706.05, AS PER PLAN

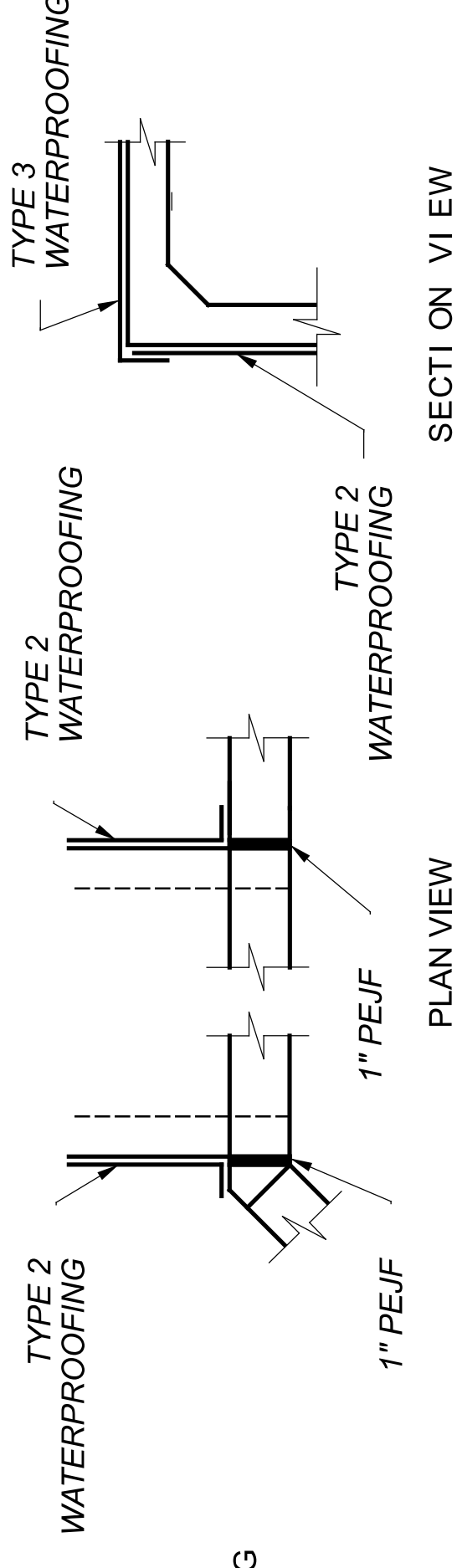
FOLLOW ALL REQUIREMENTS OF CMS 611 AND 706.05.

STRUCTURAL BACKFILL TYPE 1 CONSISTING OF CRUSHED CARBONATE STONE, THAT MEETS THE GRADATIONS OF ITEM 304 SHALL BE PLACED AS SHOWN IN THE DETAIL BELOW. QUANTITY SHALL BE BASED ON A TRENCH LENGTH OF 48 FEET MEASURED ALONG THE CENTERLINE OF THE CULVERT. PAYMENT FOR STRUCTURAL BACKFILL TYPE 1 AND THE EXCAVATION REQUIRED FOR THE PLACEMENT OF THE STRUCTURAL BACKFILL SHALL BE INCLUDED IN ITEM 611 FOR PAYMENT.



WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25 SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.

PAVEMENT IS TO BE USED DIRECTLY ON TOP OF THE CULVERT, TYPE 3 WATERPROOFING, PER CMS 512 AND 711.29 SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE PRECAST CULVERT SECTIONS AND SHALL EXTEND ONE FOOT VERTICALLY DOWN THE SIDES FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 3 WATERPROOFING.



## WATERPROOFING DETAILS

BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

STRUCTURE NOTES AND ESTIMATED QUANTITIES  
 STRUCTURE No.: CLI-729-0950  
 OVER UNNAMED TRIBUTARY TO LEE'S CREEK

SFN 1403830  
 DESIGN AGENCY



DESIGNER	CHECKER
GTF	AP
REVIEWER	
TRB	06/15/23
PROJECT ID	77922
SUBSET	TOTAL
2	5
SHEET	TOTAL
45	105

## ESTIMATED QUANTITIES CLI-729-0950 (PLAN SPLIT 02/STR/10)

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	10000	6328	LB.	EPOXY COATED STEEL REINFORCEMENT
511	46010	18	CU. YD.	CLASS QC1 CONCRETE, RETAINING/ WING WALL NOT INCLUDING FOOTING
511	46510	47	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	10100	74	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	77	SQ. YD.	TYPE 2 WATERPROOFING
512	33010	86	SQ. YD.	TYPE 3 WATERPROOFING
516	13600	53	SQ. FT.	1" PERFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
601	11000	119	SQ. YD.	RIPRAP, TYPE D
611	95901	48	LIN. FT.	12'-0" SPAN x 7'-0" RISE CONDUIT, TYPE A, 706.05, (DESIGN EARTH COVER = 1'), AS PER PLAN

COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

COFFERDAMS AND EXCAVATION BRACING INSTALLED FOR THE PROJECT ARE FOR Dewatering the work area and are considered fill. Cofferdams and excavation bracing design, construction, and reimbursement for damage is based on CMS 503. The contractor must comply with any in-stream restriction in the special provisions. Waterway permit. Adding fill to the stream to dewater the work area requires a temporary access fill (TAF) submission per the special provisions.

IF THE CONTRACTOR CHOOSES TO PERFORM 250 LINEAL FEET OR LESS OF THE REHABILITATION WORK REQUIRED IN THE PLANS PER LOCATION: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO PERFORM MORE THAN 250 LINEAL FEET OF THE REHABILITATION WORK REQUIRED BY THE PLANS PER LOCATION: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL ONLY REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO A MAXIMUM OF 250 LINEAL FEET OF WORK PROTECTED BY THE COFFERDAM. ALL OTHER PROVISIONS OF CMS 503 APPLY.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM DURING THE MONTHS OF APRIL THROUGH OCTOBER: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM AT ANY TIME IN THE MONTHS OF NOVEMBER THROUGH MARCH: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 FEET ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL NOT REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO THE WORK PROTECTED BY THE COFFERDAM. ALL OTHER REQUIREMENTS OF CMS 503 APPLY.

STRUCTURAL BACKFILL TYPE 1 PER CMS 703.11A



DESIGN SPECIFICATIONS: THIS STANDARD DRAWING CONFORMS TO THE "LRFD BRIDGE DESIGN SPECIFICATIONS" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 2014, INCLUDING THE 2015 & 2016 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

DESIGN DATA: THE FOLLOWING DESIGN DATA IS ASSUMED:

INTERNAL ANGLE OF FRICTION OF BACKFILL SOIL,  $\phi_{bf} = 30^\circ$   
 TOTAL UNIT WEIGHT OF BACKFILL SOIL = 120 PCF  
 INTERNAL ANGLE OF FRICTION (DRAINED), FOUNDATION SOIL,  $\phi_f = 28^\circ$   
 UNDRAINED SHEAR STRENGTH (COHESIVE), FOUNDATION SOIL,  $S_{uf} = 1500$  PSF  
 UNIT WEIGHT OF CONCRETE = 150 PCF  
 SLOPE OF BACKFILL = 2:1 (TYPE A & B HEADWALLS)  
 HEIGHT OF LIVE LOAD SURCHARGE = 2 FT (TYPE C HEADWALLS)  
 CONCRETE CLASS QC1 - COMPRESSIVE STRENGTH 4000 PSI  
 (FOOTING, WINGWALL AND FORESLOPE WALL)  
 REINFORCING STEEL - ASTM A615, A616, OR A617  
 GRADE 60 MINIMUM YIELD STRENGTH  
 60,000 PSI (ALL REINFORCING SHALL BE  
 EPOXY COATED)

BASED ON THE ASSUMED DESIGN DATA, THE WINGWALLS ACHIEVE FACTORED BEARING RESISTANCES THAT ARE GREATER THAN THEIR RESPECTIVE BEARING PRESSURES. IF A BACKFILL MATERIAL WITH A HIGHER INTERNAL ANGLE OF FRICTION OR A LIGHTER TOTAL UNIT WEIGHT IS USED; OR IF A FOUNDATION SOIL WITH A HIGHER DRAINED INTERNAL ANGLE OF FRICTION OR A HIGHER UNDRAINED SHEAR STRENGTH IS ENCOUNTERED; THEN THE STABILITY OF THE WINGWALLS IS SATISFACTORY.

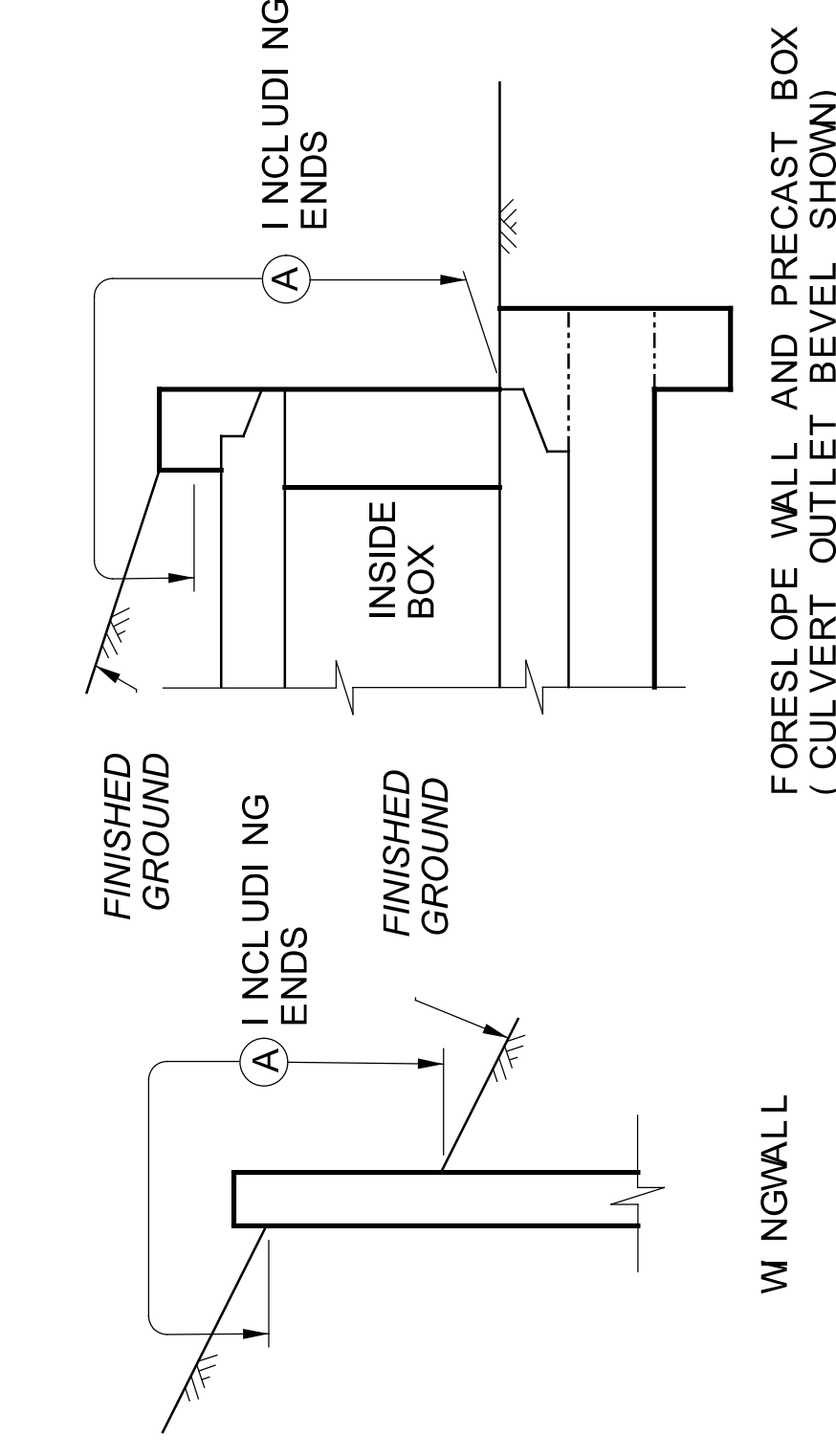
## GENERAL NOTES

POROUS BACKFILL WITH FILTER FABRIC 1'-6" THICK SHALL BE PLACED BEHIND THE WINGWALLS ONLY AND SHALL EXTEND TO 12" BELOW THE EMBANKMENT SURFACE. GEOTEXTILE FABRIC TYPE A SHALL BE PLACED BETWEEN THE POROUS BACKFILL AND REPLACED EXCAVATION ADJACENT TO THE STRUCTURE. IT SHALL TURN UNDER THE BOTTOM OF THE POROUS BACKFILL AND RETURN 6" ABOVE THE TOPELEVATION OF THE WEEP HOLE.

WEEP HOLES SHALL BE PLACED 6" TO 12" ABOVE THE NORMAL WATER ELEVATION OR GROUND LINE AND SHALL HAVE A MAXIMUM SPACING OF 10'-0". A MINIMUM OF TWO WEEP HOLES SHALL BE PROVIDED PER WINGWALL.

PREFORMED EXPANSION JOINT FILLER: PREFORMED EXPANSION JOINT FILLER (PEJF) CONFORMING TO CMS 705.03, 1 INCH THICK, SHALL BE PLACED ABOVE THE FOOTING BETWEEN THE SIDES OF THE BOX CULVERT AND THE ENDS OF THE WINGWALLS. PAYMENT FOR MATERIALS AND INSTALLATION SHALL BE INCLUDED WITH ITEM 512 - 1" PREFORMED EXPANSION JOINT FILLER.

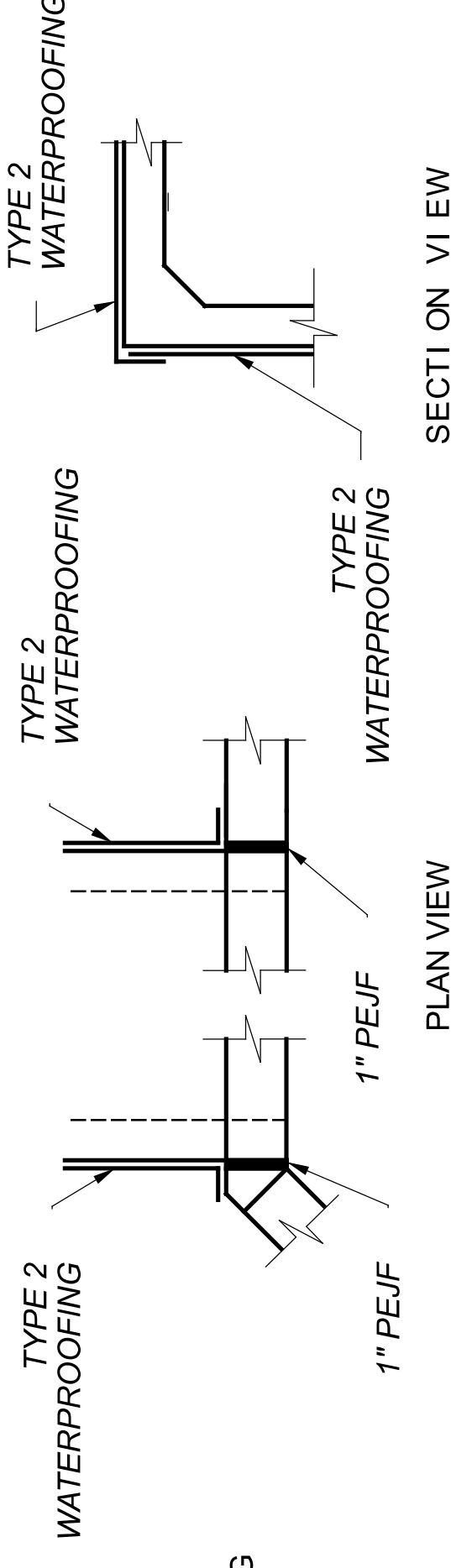
SEALING OF FORESLOPE WALL AND WINGWALLS: ALL EXPOSED FORESLOPE WALL AND WINGWALL CONCRETE SHALL BE SEALED WITH NON-EPOXY SEALER. THE LIMITS SHALL BE AS SHOWN IN THE DIAGRAMS BELOW. PAYMENT FOR THE NON-EPOXY SEALER SHALL BE PER ITEM 512 - SEALING OF CONCRETE SURFACES.



## LIMITS OF ITEM 512-SEALING CONCRETE SURFACES

(A) - SEAL ENTIRE CONCRETE SURFACE AREA

WATERPROOFING: TYPE 2 WATERPROOFING, PER CMS 512 AND 711.25 SHALL EXTEND VERTICALLY DOWN THE ENTIRE SIDES OF THE PRECAST CULVERT SECTIONS FOR ALL PORTIONS OF THE CULVERT WHICH SHALL BE IN CONTACT WITH THE BACKFILL. PAYMENT FOR THE MEMBRANE WATERPROOFING SHALL BE AT THE CONTRACT PRICE BID PER SQUARE YARD FOR ITEM 512 - TYPE 2 WATERPROOFING.



## WATERPROOFING DETAILS

BASIS OF PAYMENT: ALL LABOR, EQUIPMENT AND INCIDENTALS REQUIRED TO CONSTRUCT THE FOOTING, CUTOFF WALL, WINGWALLS AND FORESLOPE WALL SHALL BE INCLUDED WITH ITEM 511 - CLASS QC1 CONCRETE, RETAINING/WINGWALL INCLUDING FOOTING. PAYMENT FOR REINFORCING STEEL SHALL BE INCLUDED WITH ITEM 509 - EPOXY COATED REINFORCING STEEL.

## COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN

COFFERDAMS AND EXCAVATION BRACING INSTALLED FOR THE PROJECT ARE FOR DEWATERING THE WORK AREA AND ARE CONSIDERED FILL, COFFERDAMS AND EXCAVATION BRACING DESIGN, CONSTRUCTION, AND REIMBURSEMENT FOR DAMAGE IS BASED ON CMS 503. THE CONTRACTOR MUST COMPLY WITH ANY IN-STREAM RESTRICTION IN THE SPECIAL PROVISIONS WATERWAY PERMIT. ADDING FILL TO THE STREAM TO DEWATER THE WORK AREA REQUIRES A TEMPORARY ACCESS FILL (TAF) SUBMISSION PER THE SPECIAL PROVISIONS.

IF THE CONTRACTOR CHOOSES TO PERFORM 250 LINEAL FEET OR LESS OF THE REHABILITATION WORK REQUIRED IN THE PLANS PER LOCATION: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

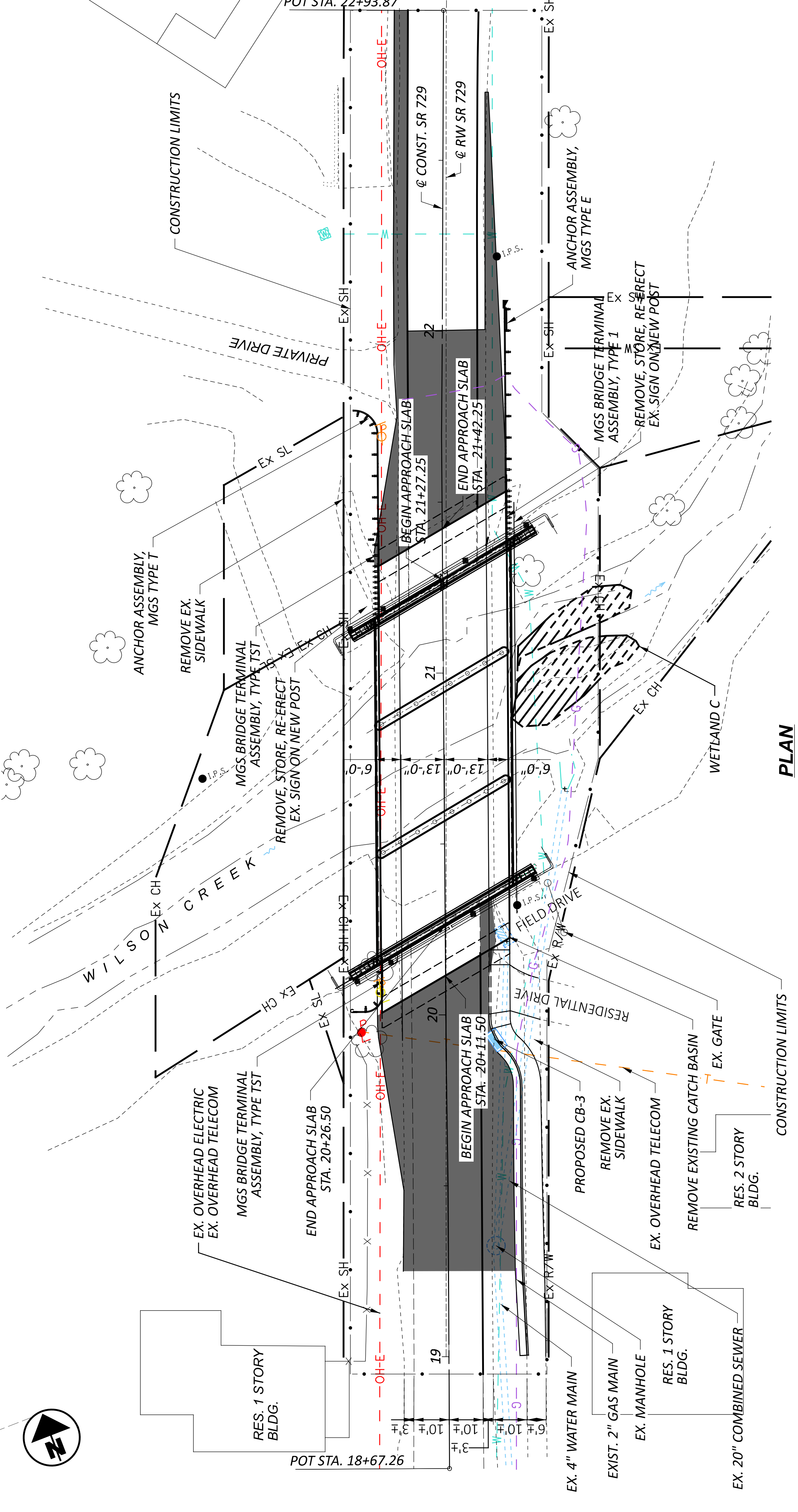
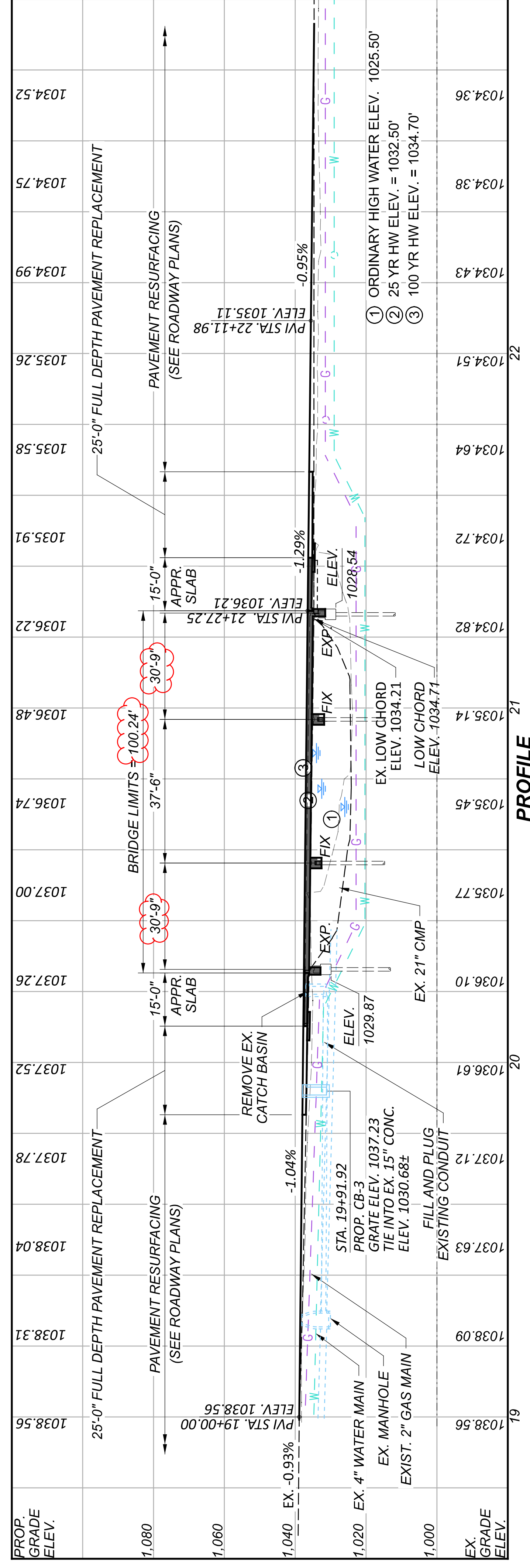
IF THE CONTRACTOR CHOOSES TO PERFORM MORE THAN 250 LINEAL FEET OF THE REHABILITATION WORK REQUIRED BY THE PLANS PER LOCATION: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL ONLY REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO A MAXIMUM OF 250 LINEAL FEET OF WORK PROTECTED BY THE COFFERDAM. ALL OTHER PROVISIONS OF CMS 503 APPLY.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM DURING THE MONTHS OF APRIL THROUGH OCTOBER: ALL REQUIREMENTS OF CMS 503 APPLY, UNLESS STIPULATED ELSEWHERE IN THIS NOTE.

IF THE CONTRACTOR CHOOSES TO IMPACT THE STREAM AT ANY TIME IN THE MONTHS OF NOVEMBER THROUGH MARCH: EVEN IF THE ACTUAL WATER ELEVATION EXCEEDS 3 FEET ABOVE THE STATED ORDINARY HIGH WATER MARK, THE DEPARTMENT WILL NOT REIMBURSE THE CONTRACTOR FOR RESULTING DAMAGE TO THE WORK PROTECTED BY THE COFFERDAM. ALL OTHER REQUIREMENTS OF CMS 503 APPLY.

## ESTIMATED QUANTITIES CLI-729-1225 (PLAN SPLIT 01/STR/04)

ITEM	ITEM EXT	TOTAL	UNIT	DESCRIPTION
202	11000	LUMP		STRUCTURE REMOVED
503	11101	LUMP		COFFERDAMS AND EXCAVATION BRACING, AS PER PLAN
503	21300	LUMP		UNCLASSIFIED EXCAVATION (WINGWALL FOOTING)
509	10000	2859	L.B.	EPOXY COATED STEEL REINFORCEMENT
511	46010	6	CU. YD.	CLASS QC1 CONCRETE, RETAINING WALL NOT INCLUDING FOOTING
511	46510	20	CU. YD.	CLASS QC1 CONCRETE, FOOTING
511	46610	1	CU. YD.	CLASS QC1 CONCRETE, HEADWALL
512	10100	35	SQ. YD.	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)
512	33000	44	SQ. YD.	TYPE 2 WATERPROOFING
516	13600	26	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER
518	21230	LUMP		POROUS BACKFILL WITH GEOTEXTILE FABRIC
611	94800	36	LIN. FT.	8'-0" SPAN x 4'-0" RISE CONDUIT, TYPE A, 706.05, (DESIGN EARTH COVER = 3')



**DESIGN TRAFFIC**  
 2023 ADT = 1,100    2023 ADTT = 176  
 2043 ADT = 1,100    2043 ADTT = 176  
 DIRECTIONAL DISTRIBUTION = 0.51

**HYDRAULIC DATA**  
 DRAINAGE AREA = 17.9 SQ. MILES  
 Q (25) = 1940 CFS    V (25) = 3.74 FT/S  
 Q (100) = 2710 CFS    V (100) = 2.84 FT/S  
 STRUCTURE CLEARS THE 25 YEAR DESIGN HW BY 1.76 FEET.

**PROPOSED WORK**  
 REPLACE EXISTING REINFORCED CONCRETE DECK SLAB WITH NEW CAST-IN-PLACE REINFORCED CONCRETE SLAB SUPERSTRUCTURE. REPLACE APPROACH SLABS AND RECONSTRUCT THE ABUTMENTS DOWN TO THE TOP OF FOOTING TO CONVERT TO INTEGRAL ABUTMENTS. SEAL SUPERSTRUCTURE AND SUBSTRUCTURE CONCRETE WITH EPOXY-URETHANE SEALER.

**LEGEND**  
 - FULL DEPTH FLEXIBLE ASPHALT REPLACEMENT

**EXISTING STRUCTURE**

TYPE: CONTINUOUSLY REINFORCED CONCRETE SLAB ON CAPPED PILE PIERS AND ABUTMENTS

SPANS: 30'±, 37.5'±, 30'± (C/C BRGS.)  
 ROADWAY: 28'-0" TT, 5'-0" SIDEWALK BOTH SIDES  
 VEHICULAR LIVE LOAD: HS-15  
 SKEW: 30° R.F.

WEARING SURFACE: 3" CONCRETE  
 APPROACH SLABS: AS-1-54 (15'-0" LONG)  
 ALIGNMENT: TANGENT  
 CROWN: NORMAL  
 STRUCTURE FILE NUMBER: 1403788  
 DATE BUILT: 1955  
 DISPOSITION: SUPERSTRUCTURE TO BE REPLACED

**PROPOSED STRUCTURE**

TYPE: THREE SPAN CONTINUOUS REINFORCED CONCRETE SLAB ON EXISTING REINFORCED CONCRETE ABUTMENTS AND PIERS ON REINFORCED CONCRETE PILES

SPANS: 30'-9"±, 37.5'±, 30'-9"± (C/C BRGS.)  
 ROADWAY: 26'-0" F/F CURB  
 VEHICULAR LIVE LOAD: HL-93 (SUPERSTRUCTURE)  
 (EXISTING SUBSTRUCTURE PILING); HS-20  
 FUTURE WEARING SURFACE: 0.06 KIP/SF  
 SKEW: 30° R.F.  
 WEARING SURFACE: 1" MONOLITHIC CONCRETE  
 APPROACH SLABS: AS-1-15 (20'-0" LONG)  
 ALIGNMENT: TANGENT  
 CROWN: .016 FT/FT  
 DECK AREA: 4064 SF  
 COORDINATES: LATITUDE 39°29'44.73" N  
 LONGITUDE 83°38'23.82" W



DESIGNER/CHECKER	AS
REVIEWER	CAH
PROJECT ID	77922
SUBSET	TOTAL
1	14
SHEET	TOTAL
64	105

0	10
20	20
40	40

**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:  
 AS-1-15 REVISED 1-20-23  
 AS-2-15 REVISED 1-20-23  
 BR-2-15 REVISED 1-21-22  
 CPA-1-08 REVISED 7-18-08  
 CPP-1-08 REVISED 7-21-17  
 CS-1-08 REVISED 1-15-21  
 DS-1-92 REVISED 7-15-22  
 PCB-91 REVISED 7-17-20  
 TST-2-21 REVISED 7-16-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

800 DATED 4-21-23  
 846 DATED 4-17-15

**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, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE**

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING**

DESIGN LOADING INCLUDES:  
 VEHICULAR LIVE LOAD: HL-93 (SUPERSTRUCTURE)  
 VEHICULAR LIVE LOAD: HS-20 (EXISTING STEEL SUBSTRUCTURE PILING)

**DESIGN DATA**

CONCRETE CLASS QC1  
 COMPRESSIVE STRENGTH 4.0 KSI (ABUTMENT)  
 CHROMIUM STEEL REINFORCEMENT, TYPE CS  
 MIN. YIELD STRENGTH 100 KSI  
 CONCRETE CLASS QC2 WITH QC/QA  
 COMPRESSIVE STRENGTH 4.5 KSI (SLAB, CAPPED PILE PIER)

**DECK PROTECTION METHOD**

CHROMIUM STEEL REINFORCEMENT  
 2 1/2" CONCRETE COVER  
 STEEL DRIP STRIP  
 SEALING OF CONCRETE SURFACES

**MONOLITHIC WEARING SURFACE**

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

**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 2.25 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

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

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN**

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE FOR BRIDGE CL-729-1329. THE EXISTING REINFORCED CONCRETE ABUTMENTS SHALL BE REMOVED DOWN TO THE TOP OF THE EXISTING FOOTINGS. THE REINFORCED CONCRETE PIER CAPS SHALL BE COMPLETELY REMOVED. THE EXISTING ABUTMENT FOOTINGS AND ALL SUBSTRUCTURE PILES SHALL REMAIN IN PLACE AND SHALL BE INCORPORATED INTO THE NEW BRIDGE STRUCTURE. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK AND SUBSTRUCTURE REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEACHACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT

BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED, PRIOR TO CONCRETE PLACEMENT ABRASIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202. PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

**ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION**

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES, CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION. AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CONSTRUCTION AND MATERIAL SPECIFICATIONS 455.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S) AND EQUIPMENT AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIANS SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TESTS AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS, CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS. TESTS, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH TEST OF CONCRETE WORK PERFORMED SEPARATED BY EACH DESIGN SUBSEQUENTLY UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM; THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY-CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR. THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, AND THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL STRUCTURES: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT ..... 20%  
 PROGRESSIVE EQUIVALENT PAYMENTS ..... 50%  
 UPON SUBMISSION OF FINAL REPORT ..... 30%

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 510, DOWEL HOLES, AS PER PLAN:**

INSTALL DOWEL BARS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR BLACK REBAR PUBLISHED IN THE ICC-ES REPORTS LISTED BELOW.

THE HOLES FOR THE ADHESIVE ANCHORS SHALL BE DRILLED WITH A HAMMER DRILL AND CARBIDE BIT. PRIOR TO THE INSTALLATION OF THE ANCHORS, THE HOLES SHALL BE CLEANED AND DRIED IN A MANNER CONSISTENT WITH THE MANUFACTURER'S REQUIREMENTS FOR DRY CONCRETE.

THE EFFECTIVE EMBEDMENT DEPTH (H<sub>e</sub>) FOR #6 DOWEL BARS INSTALLED IN THE TOP OF THE DECK SHALL BE X INCHES.

SELECT FROM ONE OF THE FOLLOWING APPROVED PRODUCTS:

HILTI HIT-HY 200 ADHESIVE ANCHORS  
 ICC-ES REPORT ESR-3187)

DEWALT PURE110+ EPOXY ADHESIVE ANCHOR SYSTEM  
 (ICC-ES REPORT ESR-3298)

SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE ANCHORS  
 ICC-ES REPORT ESR-4057)

ATC ULTRABOND HS-1CC ADHESIVE ANCHOR SYSTEM  
 (ICC-ES REPORT ESR-4094)

THE MANUFACTURER'S INSTALLATION INSTRUCTION PUBLISHED IN THE ICC-ES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:

<https://icc-es.org/evaluation-report-program/>

**PROPOSED WORK**

1. REMOVAL OF EXISTING CONCRETE SLAB, PIER CAP, APPROACH SLABS AND ABUTMENT DOWN TO THE TOP OF THE CONCRETE FOOTINGS.

2. PREPARE SURFACE AND FEILD PAINT TOPS OF PIER PILING

3. CONSTRUCTION OF PROPOSED CONCRETE SLAB, PIER CAP, APPROACH SLABS AND ABUTMENT.

4. SEAL THE ABUTMENTS, SLAB EDGES, AND THE END 3 FEET OF THE PIER CAPS WITH EPOXY URETHANE SEALER.

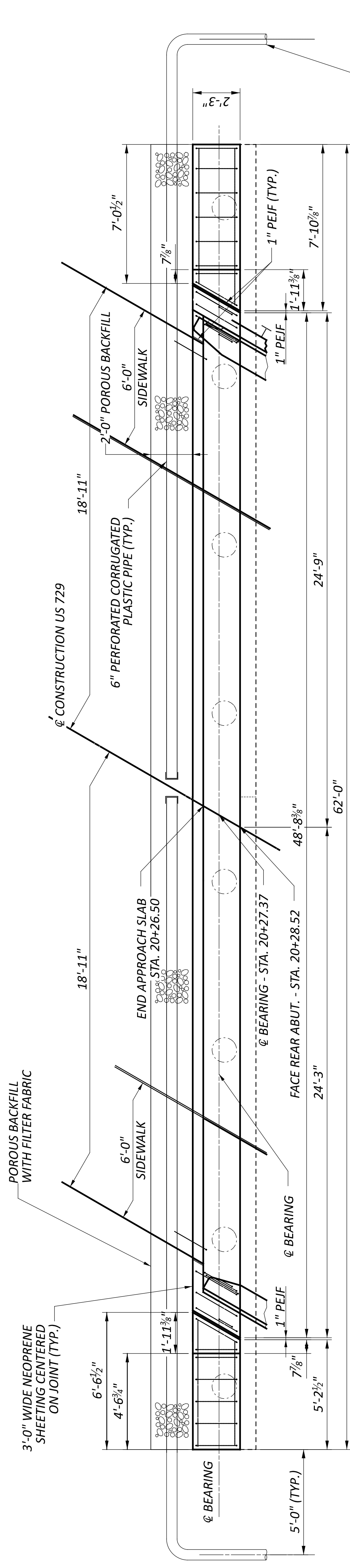
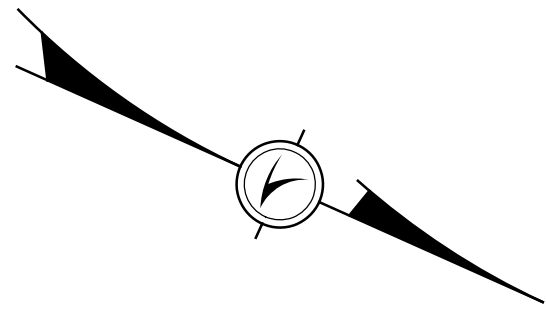
5. INSTALL BRIDGE TERMINAL ASSEMBLIES.



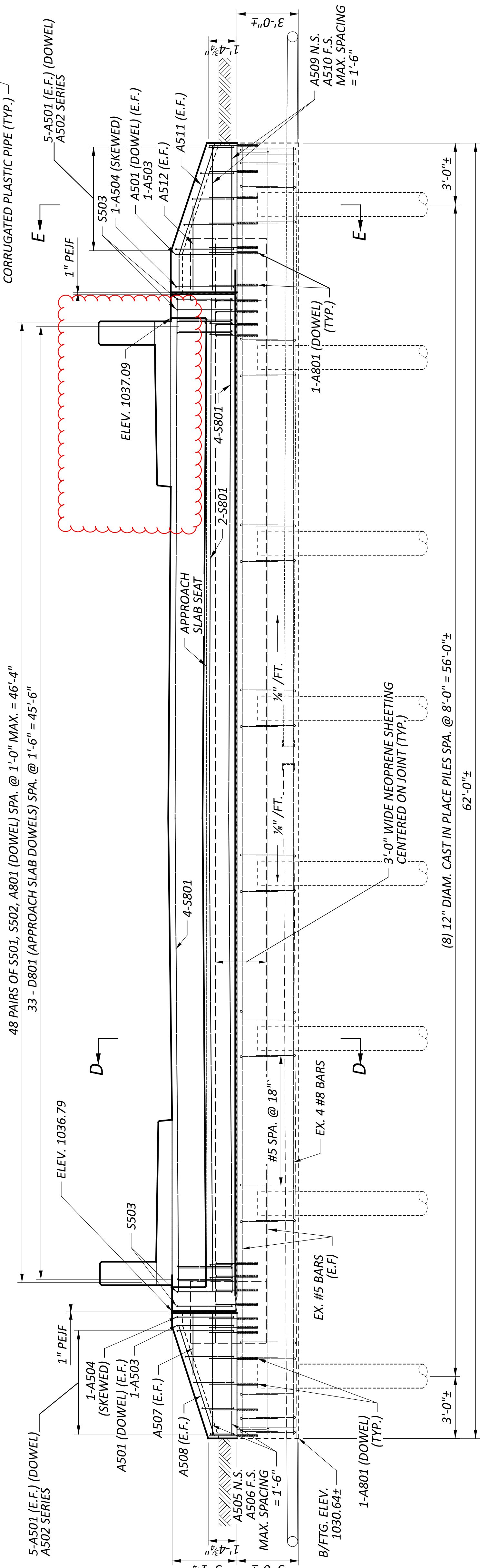
ESTIMATED QUANTITIES - STRUCTURE No.: CLI-729-1329 (03/STR/13 FUNDING SPLIT)						
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS SUPER. GEN.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN		LUMP
202	22900	67	SY	APPROACH SLAB REMOVED		67
202	23500	67	SY	WEARING COURSE REMOVED		67
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING		LUMP
503	21300	LUMP	LS	UNCLASSIFIED EXCAVATION		LUMP
507	00550	24	FT	12" CAST-IN-PLACE REINFORCED CONCRETE PILES, FURNISHED	24	
509	27000	84035	LB	CHROMIUM STEEL REINFORCEMENT	2170	79390
510	10001	152	EACH	DOWEL HOLES, AS PER PLAN	152	
511	32212	238	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE		238
511	43262	17	CY	CLASS QC2 CONCRETE WITH QC/QA, PIER CAP	17	
511	44110	19	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	19	
511	51512	84	CY	CLASS QC2 CONCRETE WITH QC/QA, SIDEWALK		84
511	81200	LUMP	LS	CONCRETE MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION		LUMP
512	10050	150	SY	SEALING OF CONCRETE SURFACES (NON-EPOXY)		150
512	10100	240	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	40	168
512	33000	39	SY	TYPE 2 WATERPROOFING	39	
512	74000	41	SY	REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	41	
514	00050	650	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	355	295
514	00056	650	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	355	295
516	13200	62	SF	½" PREFORMED EXPANSION JOINT FILLER	62	
516	13600	83	SF	1" PREFORMED EXPANSION JOINT FILLER	83	
516	14014	60	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL		60
517	75120	201.5	FT	RAILING (CONCRETE PARAPET WITH TWIN STEEL TUBE RAILING)		201.50
518	21200	41	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	41	
518	40000	124	FT	6" PERFORATED CORRUGATED PLASTIC PIPE	124	
518	40010	100	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	100	
526	10011	127	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12"), AS PER PLAN		127
526	90010	87.37	FT	TYPE A INSTALLATION		87.37
625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM		2
846	00110	36.5	CF	POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM		36.5

REAR ABUTMENT CONSTRUCTION DETAILS  
 BRIDGE No.: CL1-729-1329  
 OVER WILSON CREEK

SFN	1403855	DESIGN AGENCY
DESIGNER	GTF	CHECKER AS
REVIEWER	CAH	DATE 05/12/23
PROJECT ID	77922	
SUBSET	6	TOTAL 14
SHEET	69	TOTAL 105



**REAR ABUTMENT PLAN**



**REAR ABUTMENT ELEVATION**

**LEGEND**

N.S.	- NEAR SIDE
F.S.	- FAR SIDE
E.F.	- EACH FACE
P.E.J.F.	- PREFORMED EXPANSION JOINT FILLER
	- PORTION OF STRUCTURE TO BE REMOVED
	- PROPOSED GROUND LINE

**NOTES:**

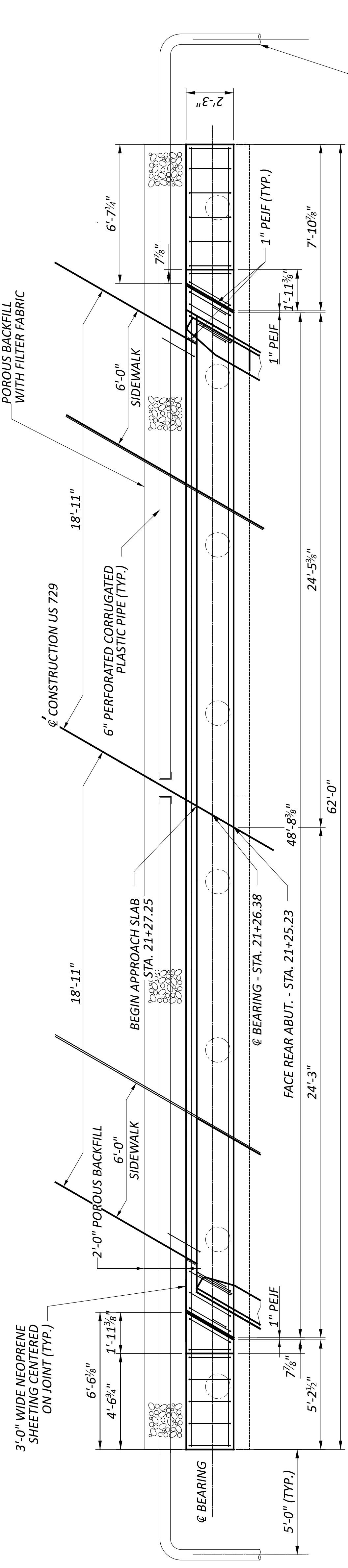
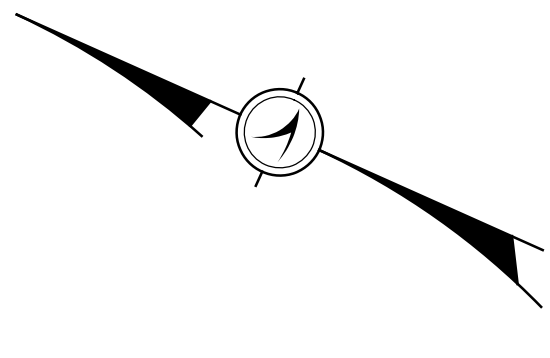
- 3'-0" WIDE NEOPRENE SHEETING CENTERED ALONG TOP OF EXISTING FOOTING OR TYPE 2 WATERPROOFING PLACED AS SHOWN IN THE PLANS.
- SEAL EXPOSED SURFACES OF ABUTMENT, WINGWALLS WITH EPOXY URETHANE SEALER, FEDERAL COLOR 17778.
- SEE STD-DWG CPA-1-08, FOR DETAILS NOT SHOWN.
- DRILL DOWEL HOLES, 12" MINIMUM REBAR EMBEDMENT USING NON-SHRINK, NON-METALLIC GROUT, AS PER CMS 510.03.
- APPLY TYPE 2 WATERPROOFING TO ALL CONSTRUCTION JOINTS BEYOND LIMITS OF NEOPRENE SHEETING

FORWARD ABUTMENT CONSTRUCTION DETAILS  
 OVER WILSON CREEK  
 BRIDGE NO.: CL1-729-1329

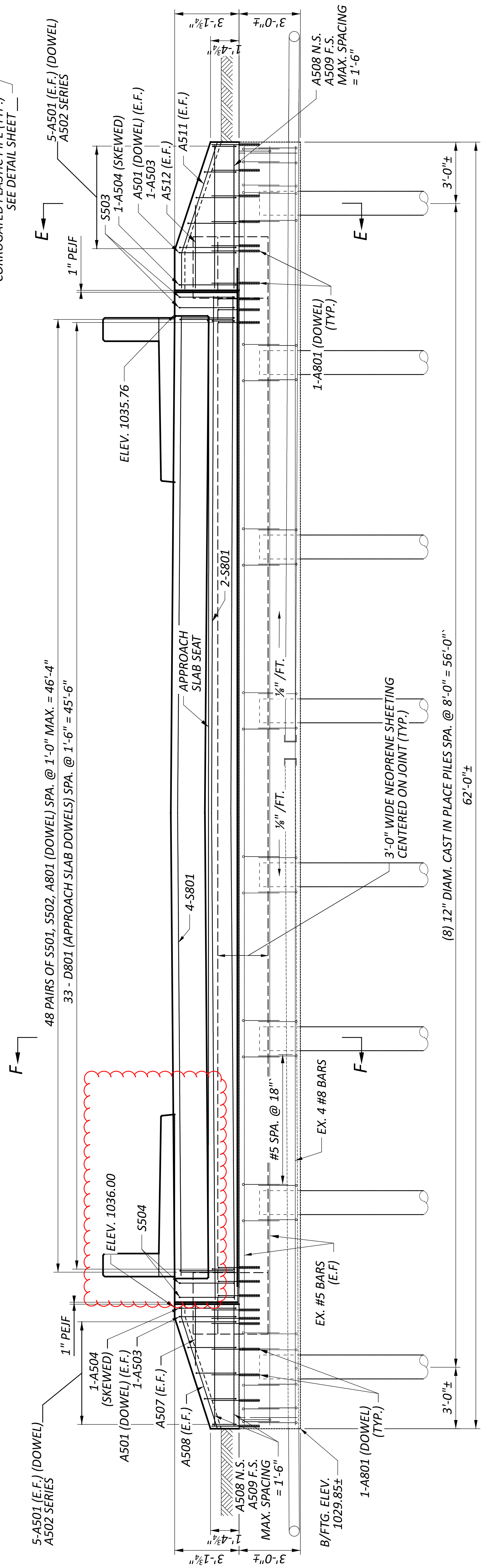
SFN 1403855  
 DESIGN AGENCY



DESIGNER	GTF	CHECKER	AS
REVIEWER	CAH	DATE	05/12/23
PROJECT ID	77922	SUBSET	7
TOTAL SHEET	70	TOTAL SHEET	14
TOTAL SHEET	70	TOTAL SHEET	105

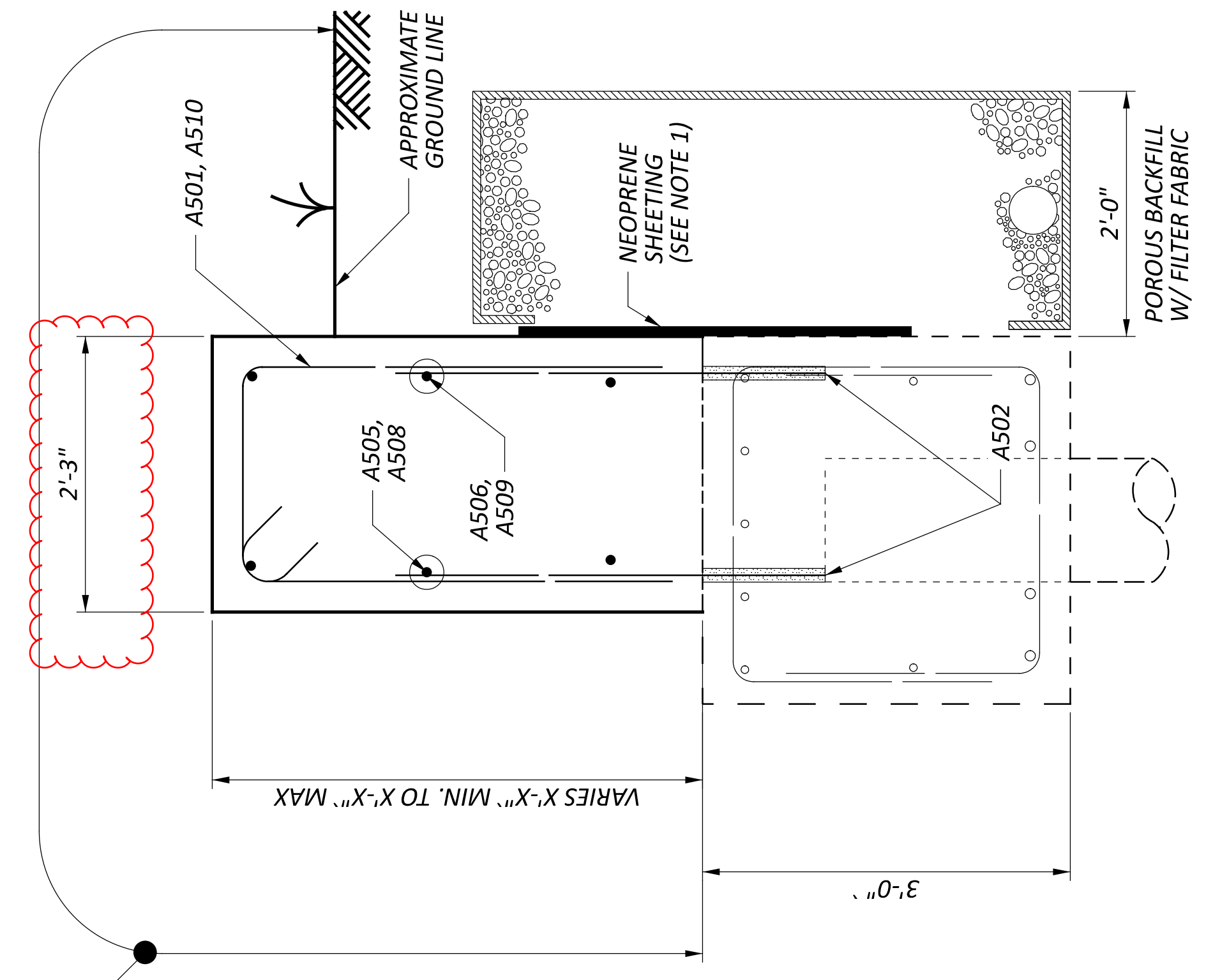
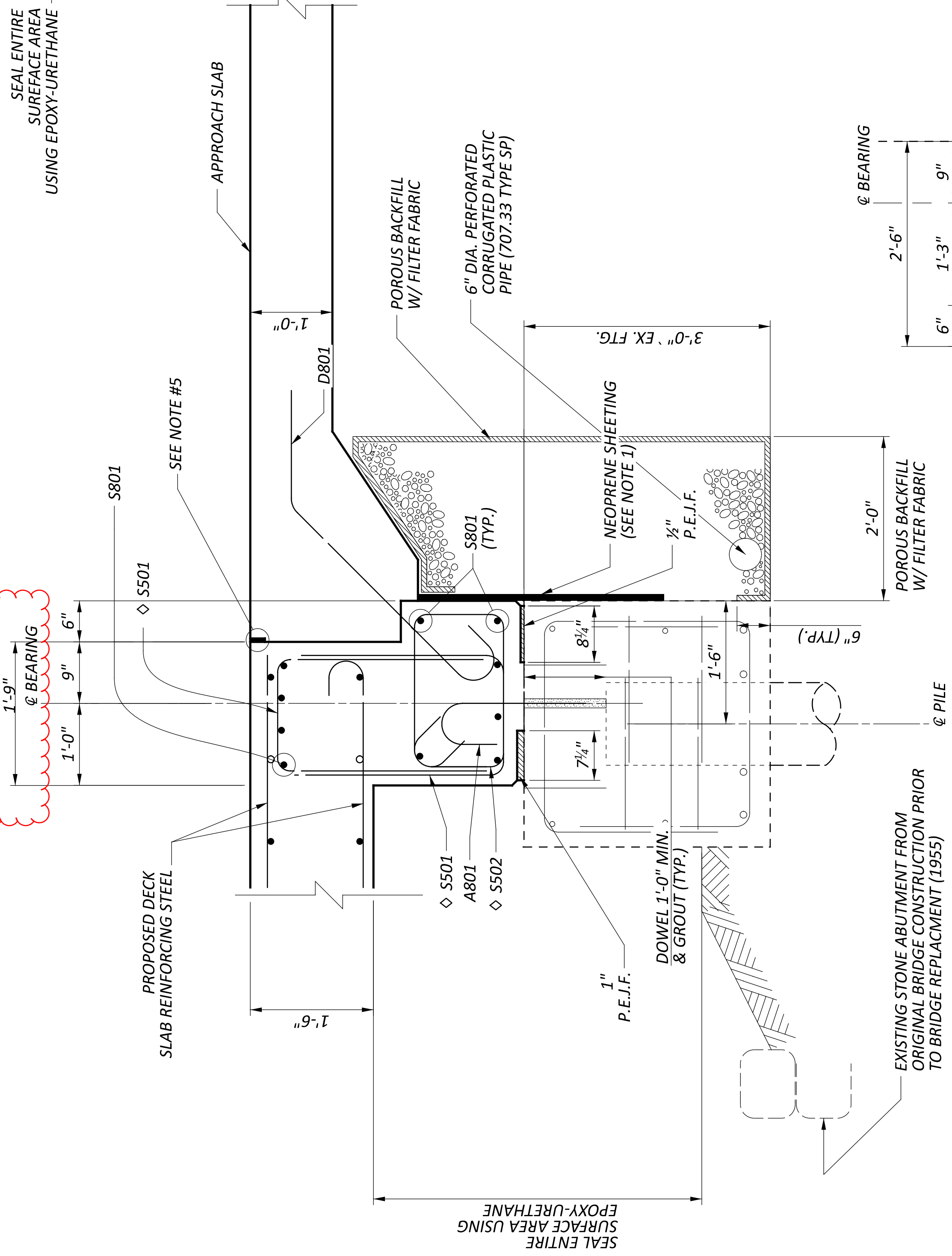


**FORWARD ABUTMENT PLAN**

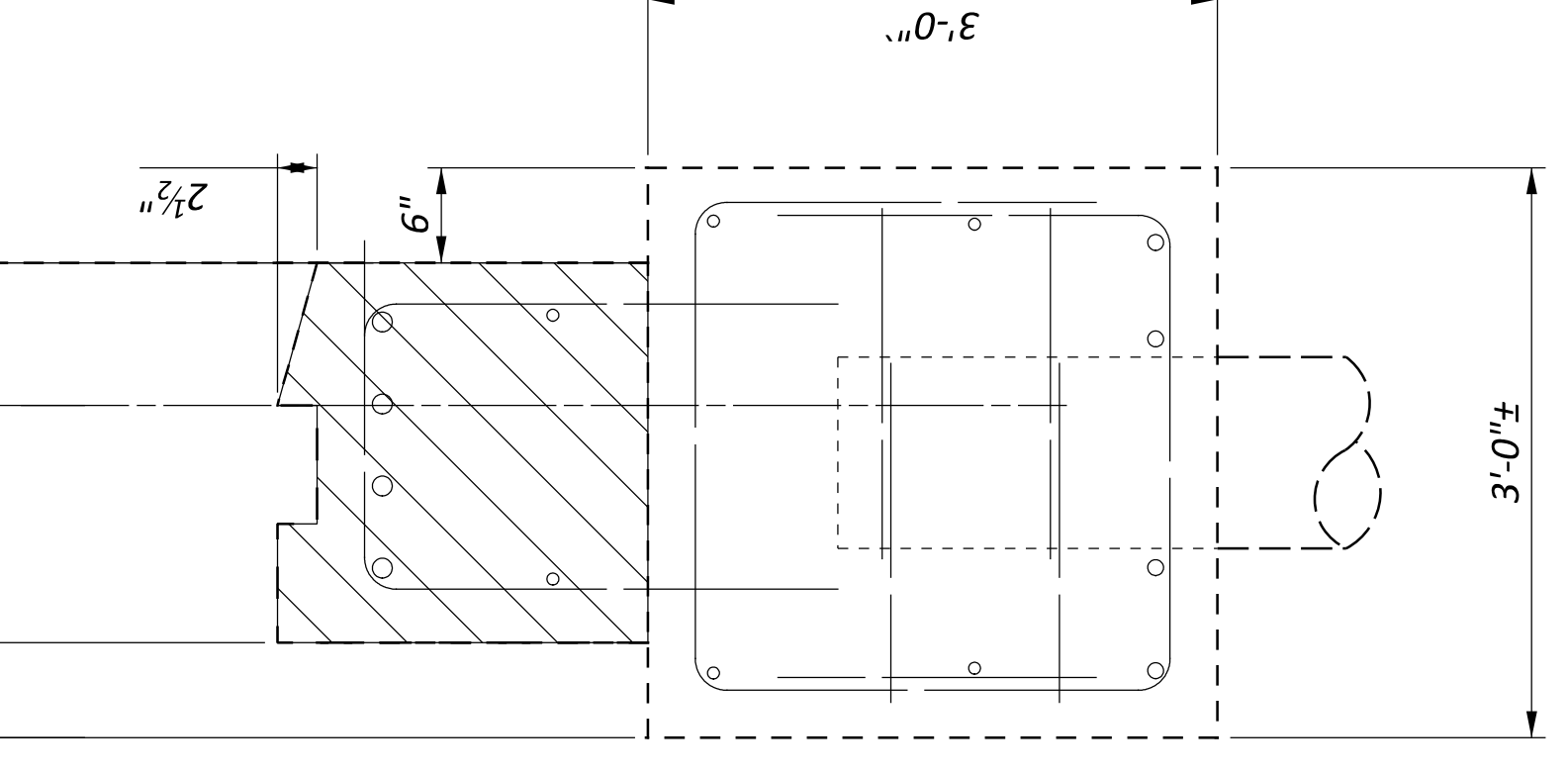


**FORWARD ABUTMENT ELEVATION**

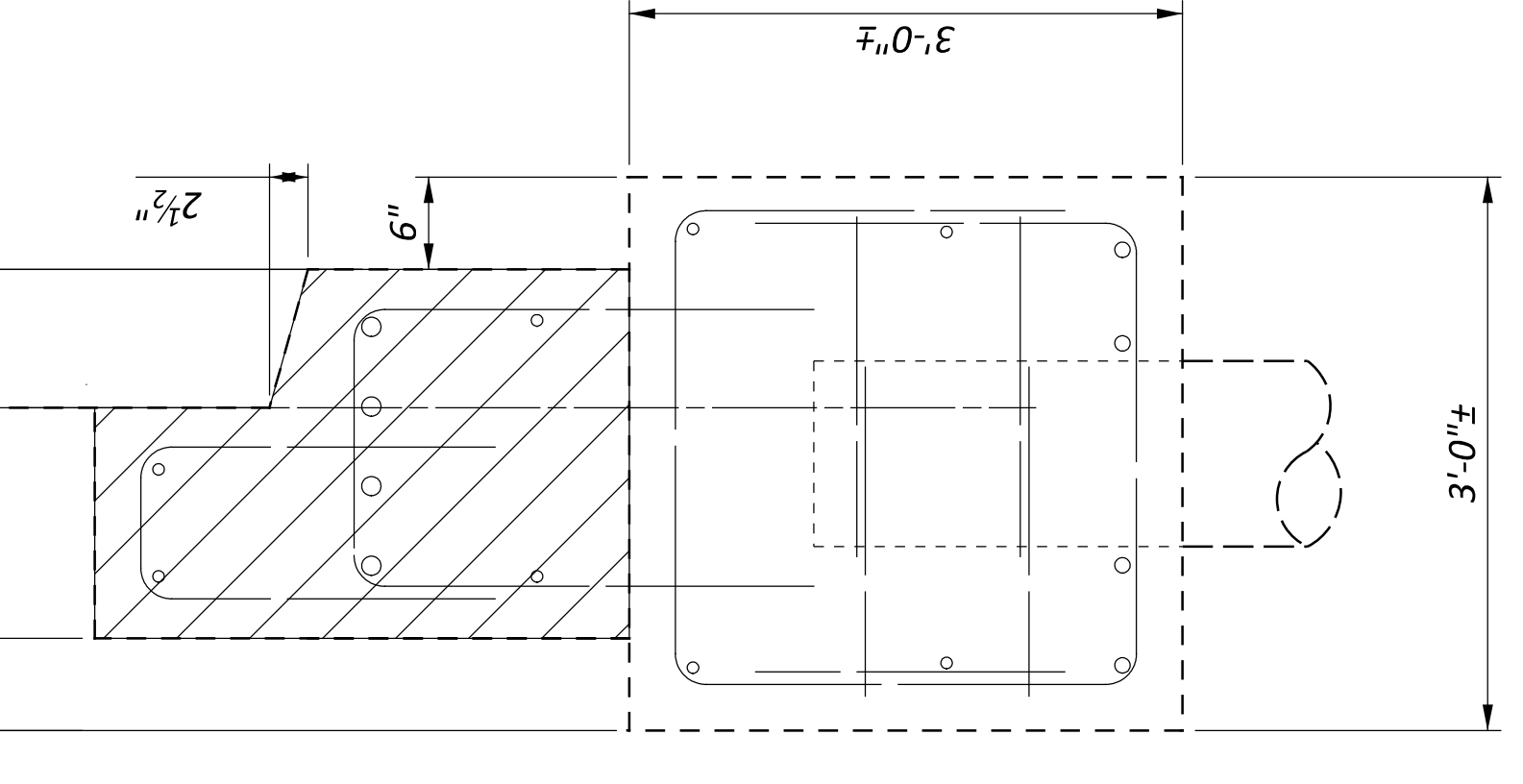
- LEGEND**
- N.S. - NEAR SIDE
  - F.S. - FAR SIDE
  - E.F. - EACH FACE
  - P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
  - PORTION OF STRUCTURE TO BE REMOVED
  - PROPOSED GROUND LINE
- NOTES:**
1. 3'-0" WIDE NEOPRENE SHEETING CENTERED ALONG TOP OF EXISTING FOOTING OR TYPE 2 WATERPROOFING PLACED AS SHOWN IN THE PLANS.
  2. SEAL EXPOSED SURFACES OF ABUTMENT, WINGWALLS WITH EPOXY URETHANE SEALER, FEDERAL COLOR 17778.
  3. SEE STD-DWG CPA-1-08, FOR DETAILS NOT SHOWN.
  4. DRILL DOWEL HOLES, 12" MINIMUM REBAR EMBEDMENT USING NON-SHRINK, NON-METALLIC GROUT, AS PER CMS 510.03.
  5. APPLY TYPE 2 WATERPROOFING TO ALL CONSTRUCTION JOINTS BEYOND LIMITS OF NEOPRENE SHEETING



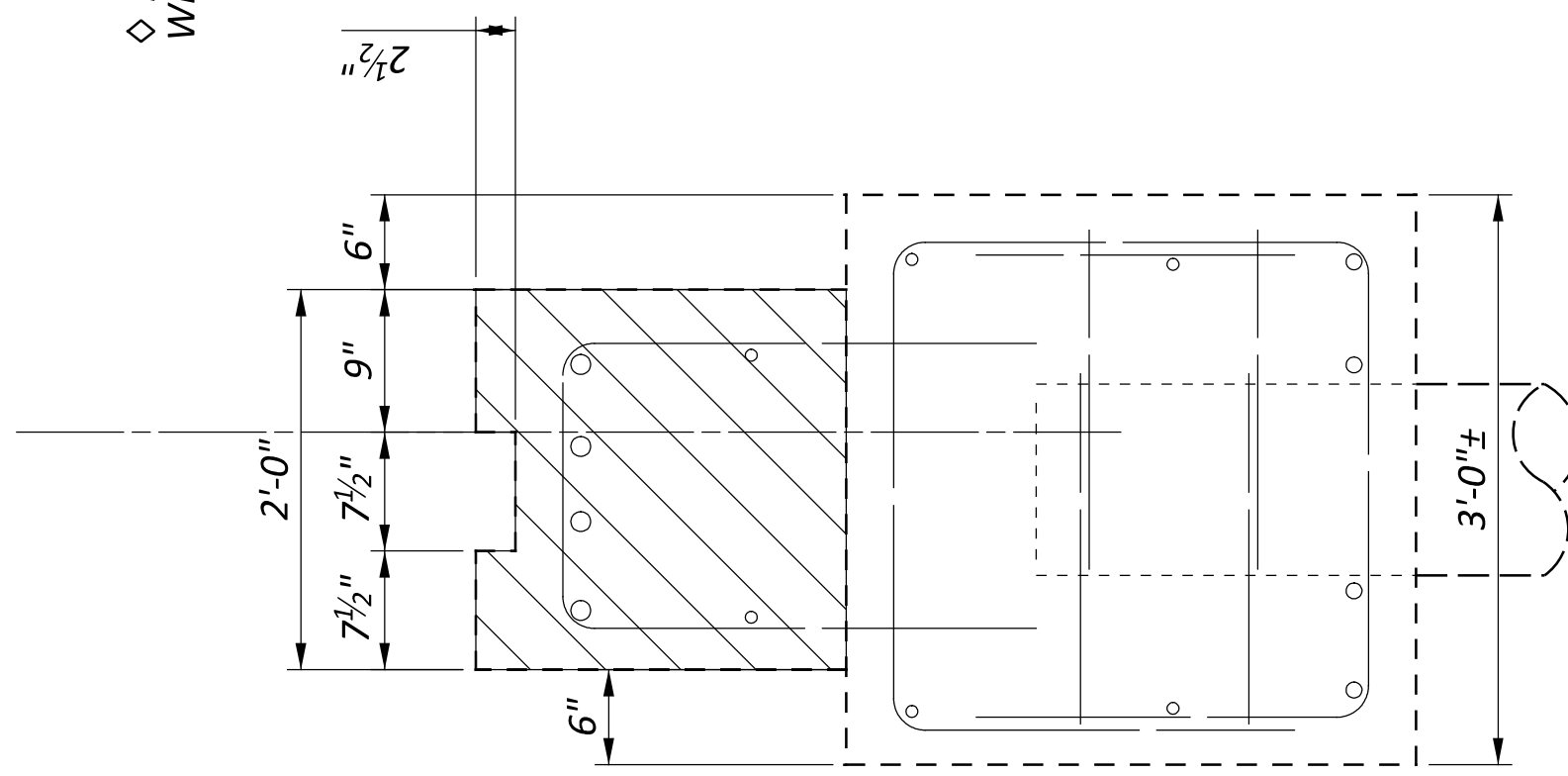
SECTION E-E



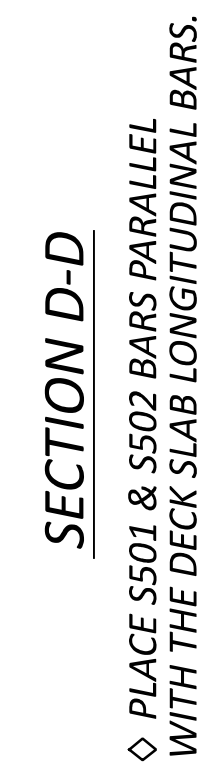
SECTION B-B



SECTION C-C



SECTION A-A

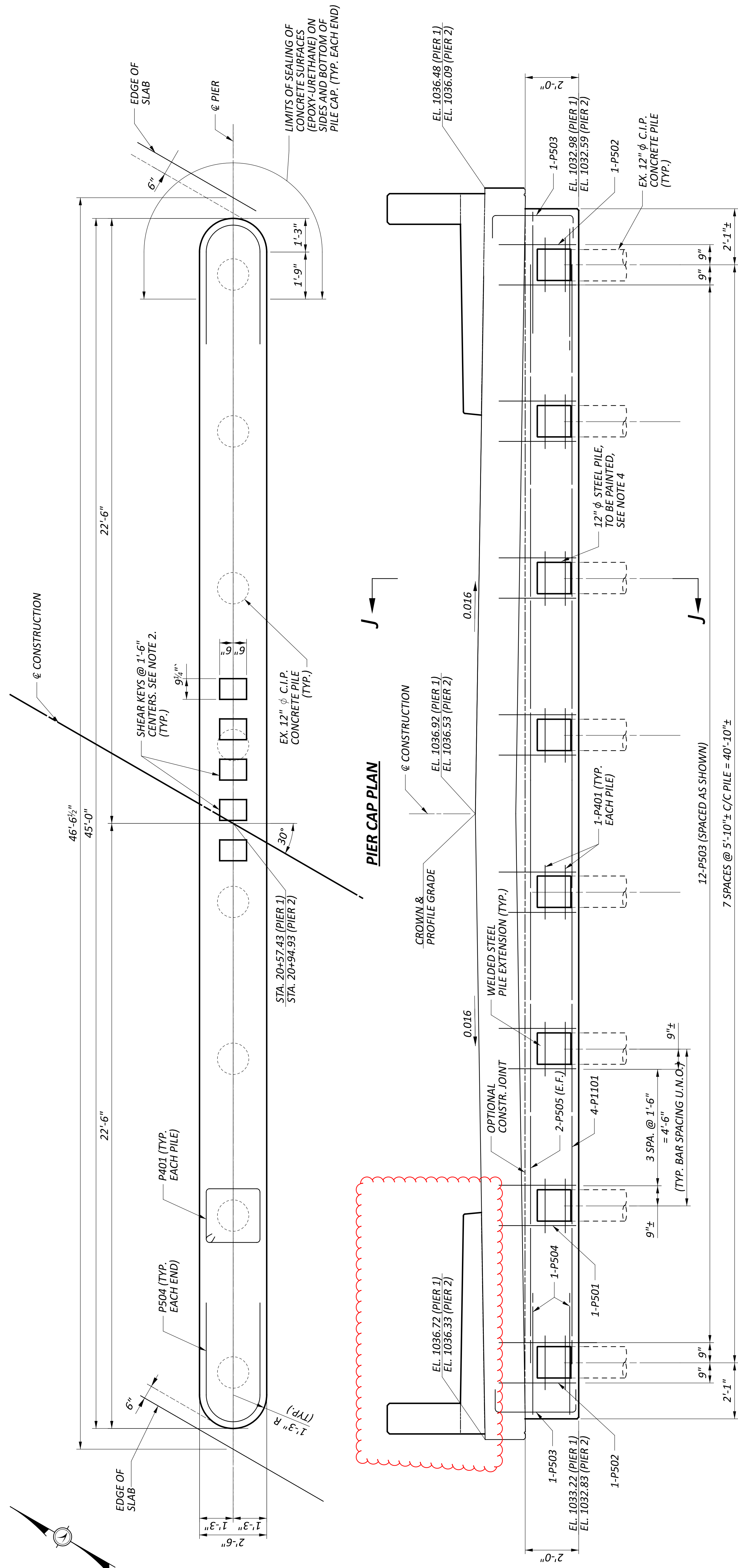


SECTION D-D

- NOTES
- 3'-0" WIDE NEOPRENE SHEETING CENTERED ALONG TOP OF EXISTING FOOTING OR TYPE 2 WATERPROOFING PLACED AS SHOWN IN THE PLANS.
  - SEAL EXPOSED SURFACES OF ABUTMENT, WINGWALLS WITH EPOXY URETHANE SEALER, FEDERAL COLOR 17778.
  - SEE STD-DWG CPA-1-08, FOR DETAILS NOT SHOWN.
  - DRILL DOWEL HOLES, 12" MINIMUM REBAR EMBEDMENT USING NON-SHRINK, NON-METALLIC GROUT, AS PER CMS 510.03.
  - SEAL JOINT BETWEEN DIAPHRAGM & APPROACH SLAB AS PER STD. DWG. AS-1-81. INCLUDED WITH APPROACH SLAB FOR PAYMENT.
  - APPLY TYPE 2 WATERPROOFING TO ALL CONSTRUCTION JOINTS BEYOND LIMITS OF NEOPRENE SHEETING

- LEGEND
- N.S. - NEAR SIDE
  - F.S. - FAR SIDE
  - E.F. - EACH FACE
  - P.E.J.F. - PREFORMED EXPANSION JOINT FILLER
  - [Hatched pattern] - PORTION OF STRUCTURE TO BE REMOVED
  - [Dashed line] - EXISTING GROUND LINE

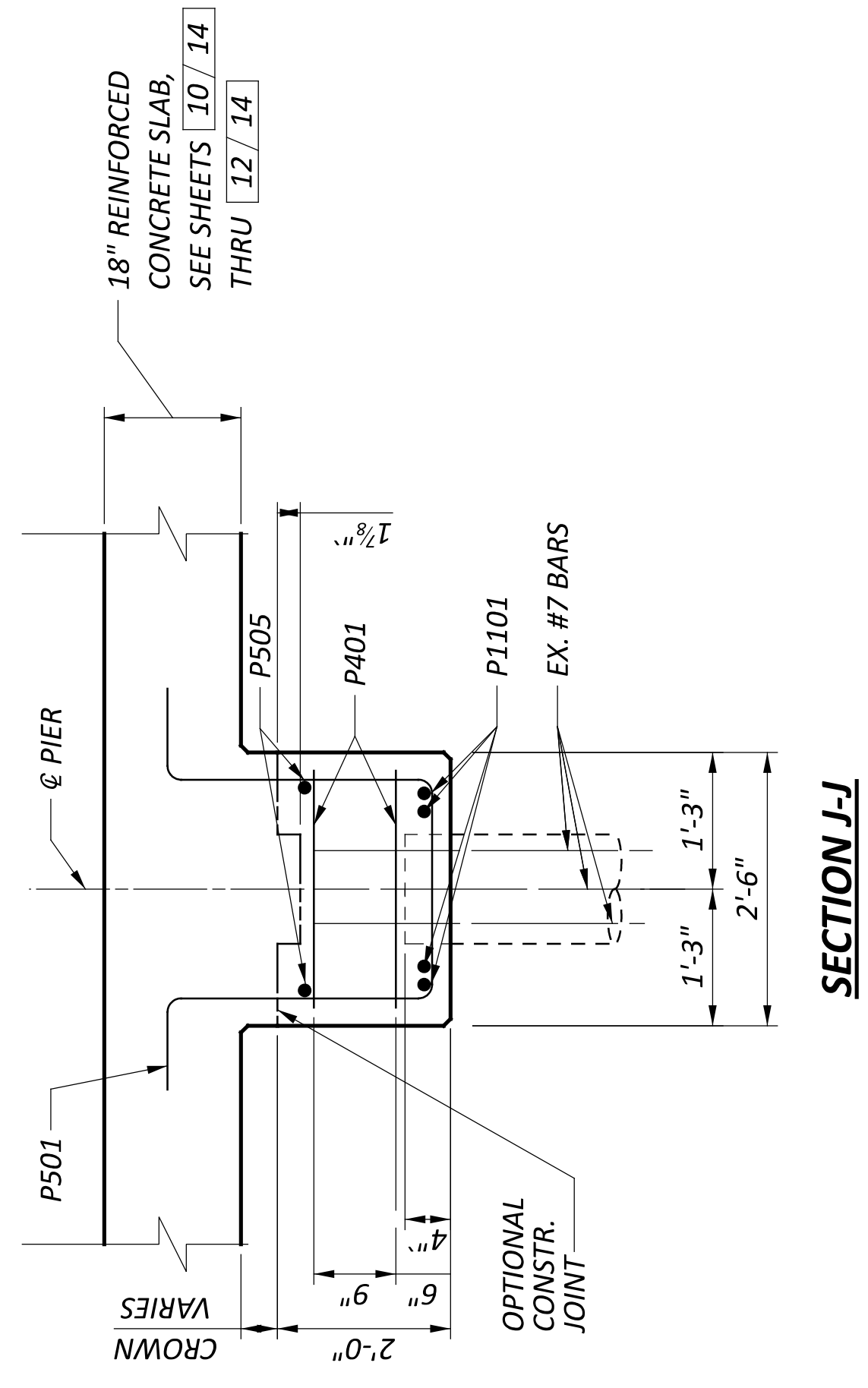
SFN	1403855		
DESIGN AGENCY			
DESIGNER	GTF	CHECKER	AS
		REVIEWER	CAH
PROJECT ID	77922	SUBSET	TOTAL
		SHEET	72
			105



**PIER ELEVATION**

**NOTES:**

- FOR REINFORCING STEEL LIST, SEE SHEET 14 / 14
- SHEAR KEYS MAY BE ELIMINATED IF BRIDGE SLAB AND PIER CAP ARE POURED SIMULTANEOUSLY. SHEAR KEYS MAY BE FORMED WITH 12" LENGTHS OF 3" X 10" PLANK.
- THE PIER CAP SHALL NOT BE USED TO SUPPORT FALSEWORK FOR THE DECK SLAB.
- PREPARE SURFACE AND APPLY ORGANIC ZINC PRIMER TO THE ENCASED PORTION OF THE TOP OF PILES PRIOR TO CONSTRUCTION OF THE PIER CAP.

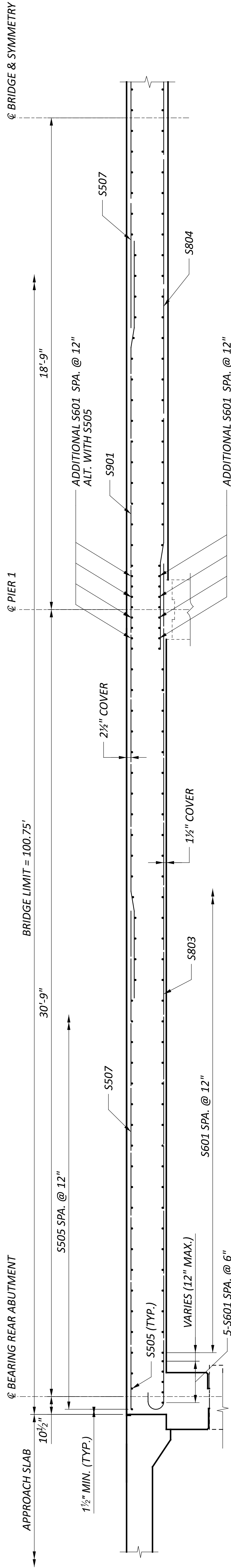
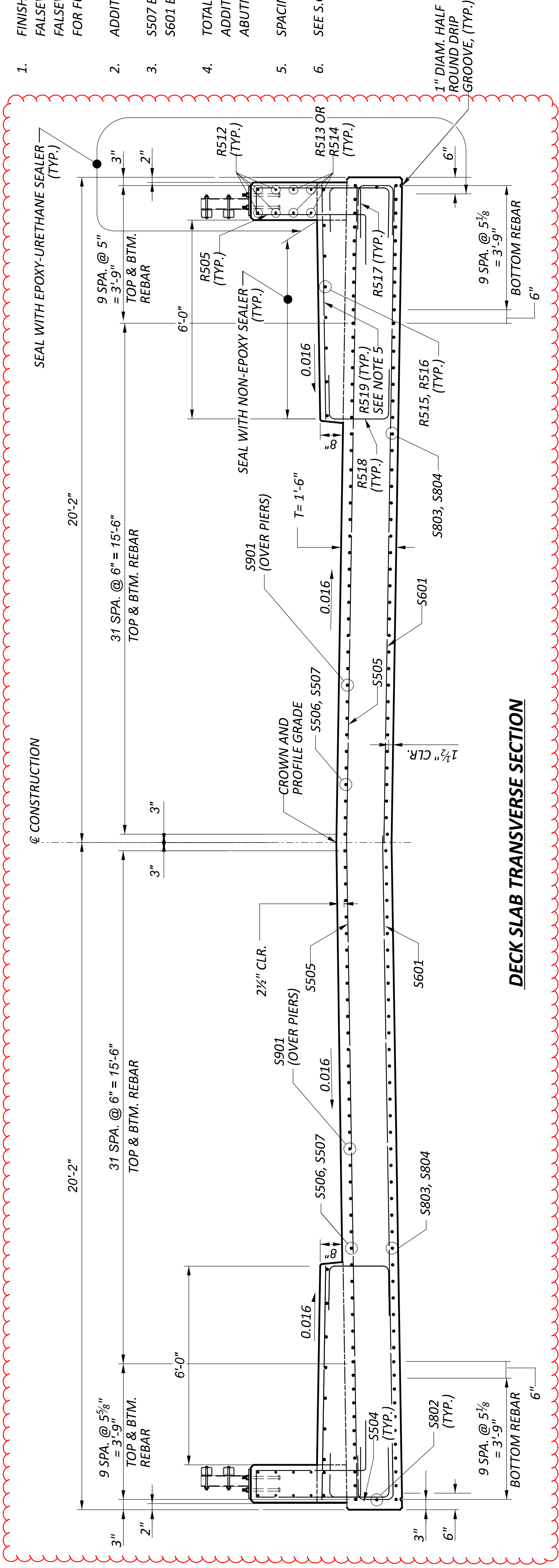


**SECTION J-J**



**NOTES:**

1. FINISHED DECK ELEVATIONS DO NOT COMPENSATE FOR FALSEWORK DEFLECTION OR SLAB DEFLECTION AFTER THE FALSEWORK IS REMOVED. REFER TO CMS, SECTION 508, FOR FURTHER DETAILS.
2. ADDITIONAL S601 BARS SHALL BE PLACED ALONG SKEW
3. S507 EDGE BARS SHALL NOT BE LAPPED WITH THE ADDITIONAL S601 BARS PROVIDED AT THE ABUTMENTS AND PIERS.
4. TOTAL NUMBER OF S601 BARS INCLUDES THE ADDITIONAL S601 BARS PROVIDED AT THE ABUTMENTS AND PIERS.
5. SPACING FOR R517, R518 & R519 BARS TO MATCH SPACING FOR R505.
6. SEE S.C.D. BR-2-15 FOR ADDITIONAL RAILING REINFORCING DETAILS.



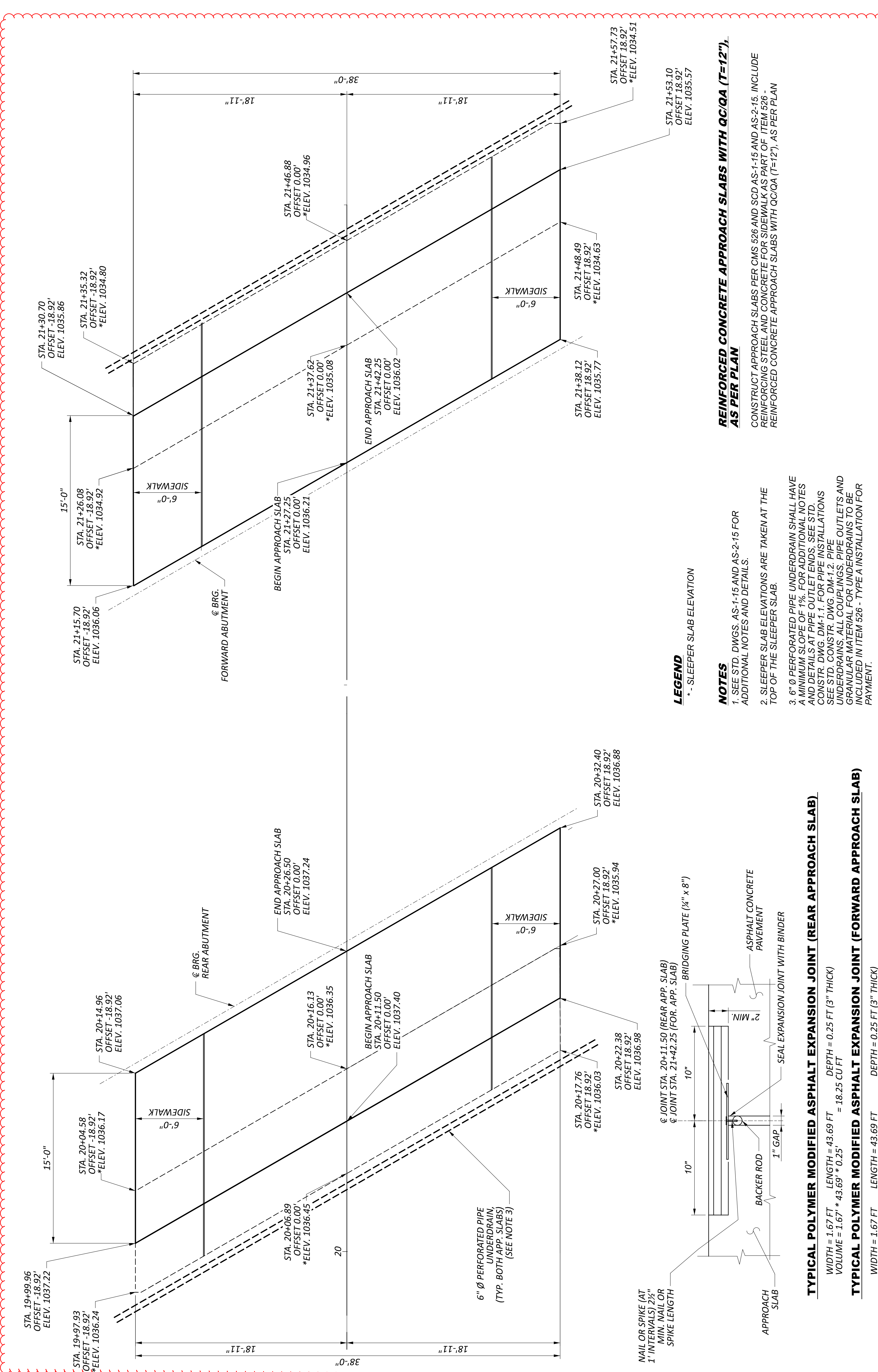
FINISHED DECK ELEVATION TABLE (FT)

CENTERLINE OF BEARING REAR ABUTMENT	1/4 POINT	1/2 POINT	3/4 POINT	CENTERLINE OF BEARING PIER 1	1/4 POINT	1/2 POINT	3/4 POINT	CENTERLINE OF BEARING PIER 2	1/4 POINT	1/2 POINT	3/4 POINT	CENTERLINE OF BEARING FORWARD ABUTMENT
20+15.68	20+34.37	20+42.06	20+49.74	20+45.79	20+66.81	20+76.18	20+85.56	20+83.29	21+02.79	21+10.66	21+18.52	21+14.81
2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017
1037.03	1036.84	1036.76	1036.68	1036.72	1036.50	1036.41	1036.31	1036.33	1036.13	1036.05	1035.96	1036.00
20+26.68	20+34.37	20+42.06	20+49.74	20+57.43	20+66.81	20+76.18	20+85.56	20+94.93	21+02.79	21+10.66	21+18.52	21+26.38
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1037.24	1037.16	1037.08	1037.00	1036.92	1036.83	1036.73	1036.63	1036.53	1036.45	1036.37	1036.29	1036.21
20+38.93	20+34.37	20+42.06	20+49.74	20+69.07	20+66.81	20+76.18	20+85.56	21+06.57	21+02.79	21+10.66	21+18.52	21+37.93
2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017	2017
1036.79	1036.84	1036.76	1036.68	1036.48	1036.50	1036.41	1036.31	1036.09	1036.13	1036.05	1035.96	1035.76

LEFT EDGE OF DECK	STATION	
	OFFSET (FT)	
CENTERLINE OF CONSTRUCTION	FINAL DECK ELEVATION (FT)	
	OFFSET (FT)	
RIGHT EDGE OF DECK	FINAL DECK ELEVATION (FT)	
	OFFSET (FT)	

APPROACH SLAB DETAILS  
 BRIDGE No.: CL1-729-1329  
 OVER WILSON CREEK

SFN	1403855	DESIGN AGENCY	DESIGNER	CHECKER
			GTF	AS
			REVIEWER	
			CAH	05/12/23
PROJECT ID	77922			
SUBSET	TOTAL			
13	14			
SHEET	TOTAL			
76	105			



**LEGEND**

\* - SLEEPER SLAB ELEVATION

**NOTES**

- SEE STD. DWGS. AS-1-15 AND AS-2-15 FOR ADDITIONAL NOTES AND DETAILS.
- SLEEPER SLAB ELEVATIONS ARE TAKEN AT THE TOP OF THE SLEEPER SLAB.
- 6" Ø PERFORATED PIPE UNDERDRAIN SHALL HAVE A MINIMUM SLOPE OF 1% FOR ADDITIONAL NOTES AND DETAILS AT PIPE OUTLET ENDS. SEE STD. CONSTR. DWG. DM-1-1 FOR PIPE INSTALLATIONS. SEE STD. CONSTR. DWG. DM-1-2 FOR PIPE UNDERDRAINS. ALL COUPLINGS, PIPE OUTLETS AND GRANULAR MATERIAL FOR UNDERDRAINS TO BE INCLUDED IN ITEM 526 - TYPE A INSTALLATION FOR PAYMENT.

**REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12"), AS PER PLAN**

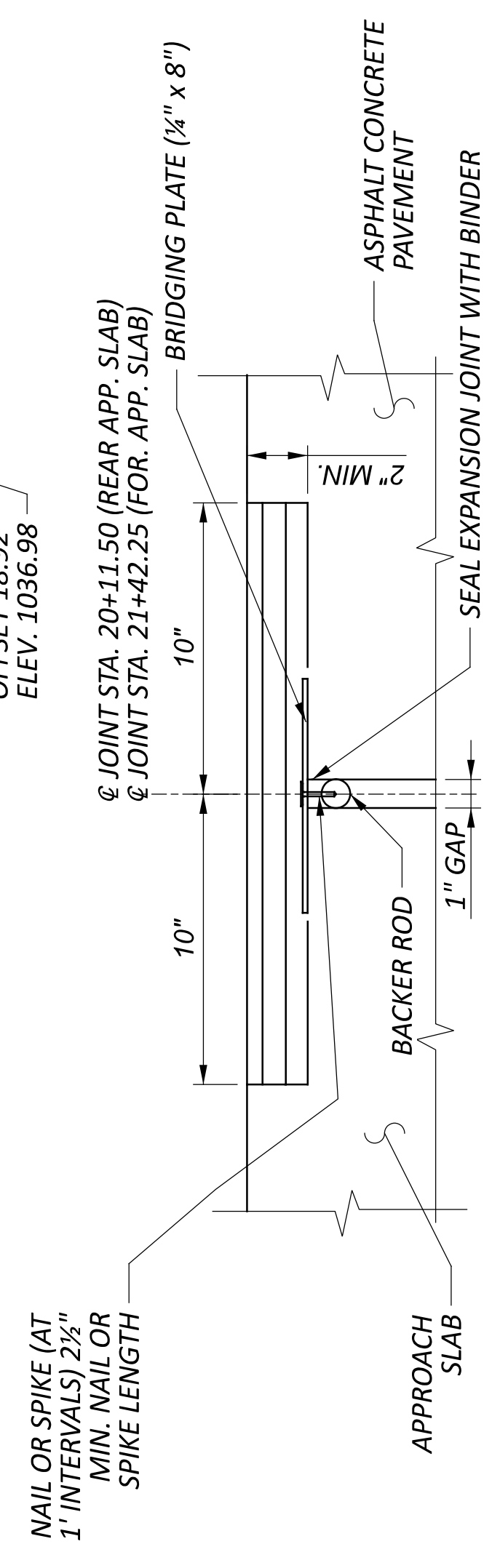
CONSTRUCT APPROACH SLABS PER CMS 526 AND SCD AS-1-15 AND AS-2-15. INCLUDE REINFORCING STEEL AND CONCRETE FOR SIDEWALK AS PART OF ITEM 526 - REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=12"), AS PER PLAN

**TYPICAL POLYMER MODIFIED ASPHALT EXPANSION JOINT (REAR APPROACH SLAB)**

WIDTH = 1.67 FT    LENGTH = 43.69 FT    DEPTH = 0.25 FT (3" THICK)  
 VOLUME = 1.67 \* 43.69 \* 0.25 = 18.25 CU FT

**TYPICAL POLYMER MODIFIED ASPHALT EXPANSION JOINT (FORWARD APPROACH SLAB)**

WIDTH = 1.67 FT    LENGTH = 43.69 FT    DEPTH = 0.25 FT (3" THICK)  
 VOLUME = 1.67 \* 43.69 \* 0.25 = 18.25 CU FT

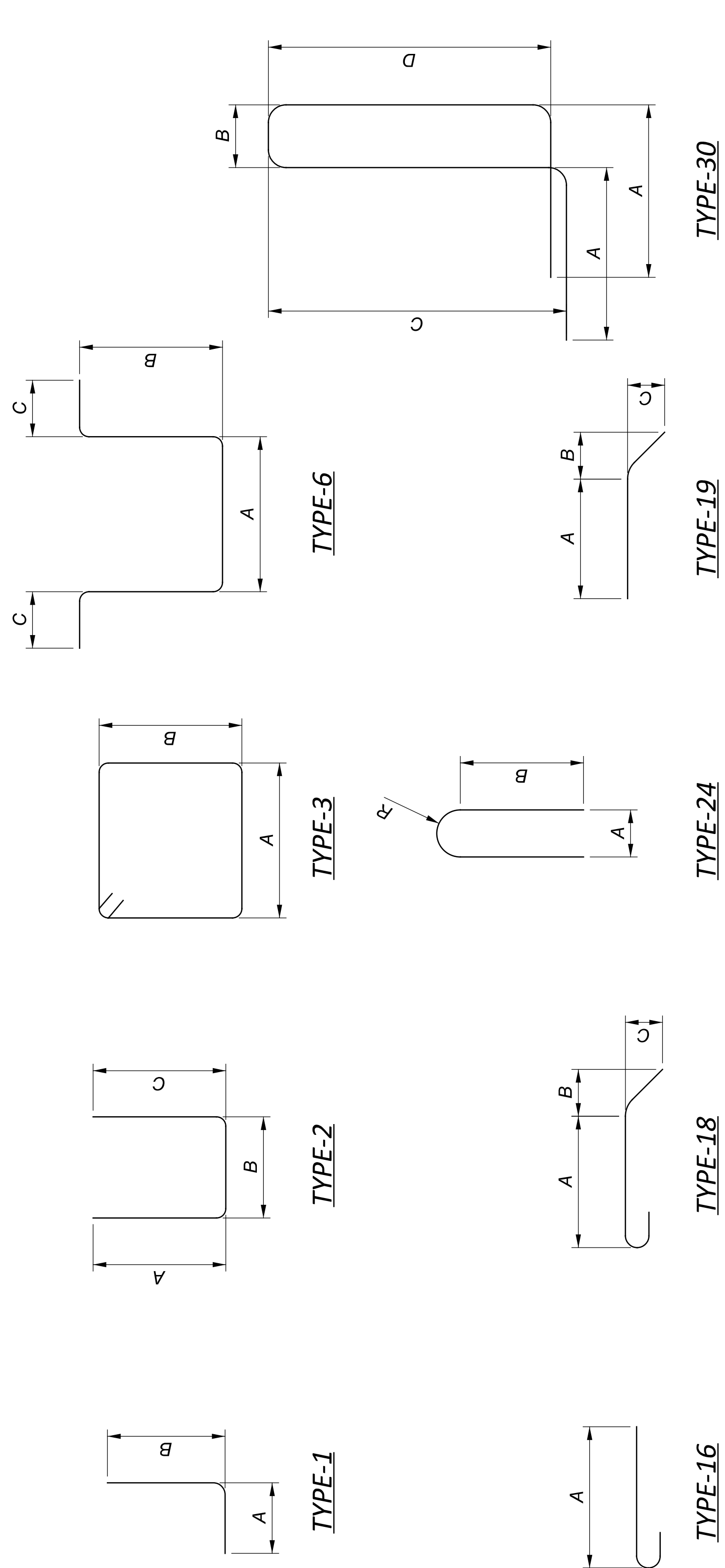




MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>DIAPHRAGM &amp; SLAB REINFORCING STEEL</b>											
S501	192	6'-6"	1302	2	2'-7"	1'-7 1/2"	2'-7"				
S502	96	6'-8"	668	3	1'-11"	1'-1"					
S503	8	10'-5"	87	3	2'-2 1/2"	2'-8"					
S504	158	3'-3"	536	2	1'-3"	1'-0"	1'-3"				
S505	101	46'-2"	4865	STR							
S506	184	18'-0"	3454	STR							
S507	92	13'-6"	1295	STR							
S601	109	46'-2"	7558	STR							
S801	20	46'-1"	2460	STR							
S802	6	35'-7"	570	STR							
S803	184	33'-7"	16499	16	32'-9"						
S804	92	41'-4"	10153	STR							
S901	184	31'-1"	19445	STR							
SUB-TOTAL		68,892									

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>ABUTMENT AND WINGWALLS</b>											
A501	56	2'-4"	136	STR							
4 SR		6'-6"				1'-1"					
A502	OF	TO	58	3	1'-11"	TO	1'-1"				0'-3 3/4"
5		9'-0"				2'-4"					
A503	4	9'-2"	38	3	1'-11"	2'-4"					
A504	4	9'-10"	41	3	2'-3"	2'-4"					
A505	4	4'-11"	21	STR							
A506	4	6'-0"	25	STR							
A507	4	2'-11"	12	STR							
A508	4	5'-7"	23	STR							
A509	4	7'-5"	31	STR							
A510	4	6'-5"	27	STR							
A511	4	7'-5"	31	STR							
A512	4	4'-0"	17	STR							
A801	96	2'-10"	726	16	2'-0"						
D801	66	5'-7"	984	18	3'-4 3/4"	1'-0"	1'-0"				
SUB-TOTAL		2,170									

MARK	NUMBER	LENGTH	WEIGHT	TYPE	DIMENSIONS						
					A	B	C	D	E	R	INC
<b>RAILING AND SIDEWALK</b>											
R501	8	4'-1"	34	1	0'-10"	3'-5"					
R502	8	6'-2"	51	1	2'-11"	3'-5"					0'-7 1/2"
R503	8	4'-7"	38	STR							
R504	44	10'-10"	497	30	1'-6"	0'-8"	3'-11"	3'-9"			
R505	264	7'-10"	2112	30	1'-6"	0'-8"	2'-5"	2'-3"			
R506	4	6'-3"	26	19	4'-10"	1'-4 3/4"	0'-5"				
R507	4	6'-2"	26	STR							
R508	16	10'-6"	175	19	9'-0 3/4"	1'-4 3/4"	0'-5"				
R509	16	10'-5"	174	STR							
R510	20	4'-5"	92	1	1'-6"	3'-1"					
R511	20	4'-3"	89	1	1'-6"	2'-11"					
R512	96	6'-3"	628	STR							
R513	8	30'-0"	250	STR							
R514	8	40'-0"	334	STR							
R515	32	40'-0"	1335	STR							
R516	16	24'-9"	413	STR							
R517	264	3'-8"	1056	2	1'-6"	0'-11"	1'-6"				
R518	264	4'-6"	1320	2	1'-6"	1'-9"	1'-6"				
R519	264	6'-8"	1848	STR							
SUB-TOTAL		10,498									



**STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS**

REFER TO THE FOLLOWING STANDARD BRIDGE DRAWINGS:  
 AS-1-15 REVISED 1-20-23  
 AS-2-15 REVISED 1-20-23  
 CPA-1-08 REVISED 7-18-08  
 CPP-1-08 REVISED 7-21-17  
 CS-1-08 REVISED 1-15-21  
 DS-1-92 REVISED 7-15-22  
 TST-2-21 REVISED 7-16-21

AND TO THE FOLLOWING SUPPLEMENTAL SPECIFICATIONS

800 DATED 4-21-23  
 846 DATED 4-17-15

**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, AND THE ODOT BRIDGE DESIGN MANUAL, 2020.

**OPERATIONAL IMPORTANCE**

A LOAD MODIFIER OF 1.0 HAS BEEN ASSUMED FOR THE DESIGN OF THIS STRUCTURE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, ARTICLE 1.3.5 AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING**

DESIGN LOADING INCLUDES:  
 VEHICULAR LIVE LOAD: HL-93 (SUPERSTRUCTURE)  
 VEHICULAR LIVE LOAD: CF=130(57)(EXISTING STEEL SUBSTRUCTURE PILING)  
 FUTURE WEARING SURFACE: 0.06 KIP/SF

**DESIGN DATA**

CONCRETE CLASS QC1 WITH QC/QA  
 COMPRESSIVE STRENGTH 4.0 KSI (ABUTMENT)  
 REINFORCING STEEL - ASTM A767 OR A1094  
 MIN. YIELD STRENGTH OF 60 KSI  
 CONCRETE CLASS QC2 WITH QC/QA  
 COMPRESSIVE STRENGTH 4.5 KSI (SLAB, CAPPED PILE PIER)

**DECK PROTECTION METHOD**

CHROMIUM REBAR STEEL REINFORCEMENT  
 2 1/2" CONCRETE COVER  
 STEEL DRIP STRIP  
 SEALING OF CONCRETE SURFACES

**MONOLITHIC WEARING SURFACE**

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

**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 2.25 KIPS.

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

A MAXIMUM SPACING OF OVERHANG FALSEWORK BRACKETS OF 48 INCHES.

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

**ITEM 202 - PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN**

THIS WORK CONSISTS OF THE REMOVAL OF THE EXISTING BRIDGE SUPERSTRUCTURE FOR BRIDGE CL-729-1588. THE EXISTING REINFORCED CONCRETE ABUTMENTS SHALL BE REMOVED DOWN TO THE TOP OF THE EXISTING FOOTINGS. THE REINFORCED CONCRETE PIER CAPS SHALL BE COMPLETELY REMOVED. THE EXISTING ABUTMENT FOOTINGS AND ALL SUBSTRUCTURE PILES SHALL REMAIN IN PLACE AND SHALL BE INCORPORATED INTO THE NEW BRIDGE STRUCTURE. THE PROVISIONS OF ITEM 202 APPLY EXCEPT AS SPECIFIED BY THE FOLLOWING NOTES. PERFORM WORK CAREFULLY DURING DECK AND SUBSTRUCTURE REMOVALS TO PROTECT PORTIONS OF SUCH SYSTEMS THAT ARE TO BE SALVAGED AND INCORPORATED INTO THE PROPOSED STRUCTURE. THE USE OF EXPLOSIVES, HEACHACHE BALLS AND/OR HOE RAM TYPE OF EQUIPMENT IS PROHIBITED. SUBMIT CONSTRUCTION PLANS ACCORDING TO CMS 501.05.

THE CONTRACTOR MUST REVIEW THE STRUCTURE WHEN PREPARING HIS BID. THE CONTRACTOR WILL REVIEW THE CONDITION OF THE STRUCTURE TO DETERMINE WHAT DEBRIS WILL FALL FROM THE STRUCTURE DURING REMOVAL. THE CONTRACTOR WILL DETERMINE THE CORRESPONDING COST TO CLEAN UP ANY AND ALL DEBRIS WHICH FALLS FROM THE STRUCTURE DURING ANY REMOVAL OPERATION. THE COST TO CLEAR AND CLEAN UP ALL DEBRIS DURING REMOVAL SHALL BE INCLUDED WITH THE BID FOR THIS ITEM OF WORK. NO ADDITIONAL COST WILL BE RECOGNIZED TO CLEAN DEBRIS RESULTING FROM THE STRUCTURE REMOVAL OPERATION.

CUT LINE CONSTRUCTION JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1 INCH DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. LEAVE THE EXISTING REINFORCING STEEL, IF REQUIRED IN THE PLANS, IN PLACE. INSTALL DOWEL BARS IF SPECIFIED. PRIOR TO CONCRETE PLACEMENT GRABRATIVELY CLEAN JOINT SURFACES AND EXISTING EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THOROUGHLY CLEAN THE JOINT SURFACE AND EXPOSED REINFORCEMENT OF ALL DIRT, DUST, RUST OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. EXISTING REINFORCING STEEL DOES NOT HAVE TO HAVE A BRIGHT STEEL FINISH, BUT REMOVE ALL PACK AND LOOSE RUST. THOROUGHLY DRENCH EXISTING CONCRETE SURFACES WITH CLEAN WATER AND ALLOW TO DRY TO A DAMP CONDITION BEFORE PLACING CONCRETE.

SUBSTRUCTURE CONCRETE REMOVAL: REMOVE CONCRETE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, THE CONTRACTOR MAY USE HAMMERS NOT EXCEEDING 90 POUNDS UPON THE APPROVAL OF THE ENGINEER. DO NOT PLACE PNEUMATIC HAMMERS IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MEASUREMENT AND PAYMENT: THE DEPARTMENT WILL MEASURE THE QUANTITY OF REMOVALS ON A LUMP SUM BASIS. THE DEPARTMENT WILL PAY FOR THE ACCEPTED QUANTITIES OF REMOVALS AT THE CONTRACT PRICE FOR ITEM 202. PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN.

**ITEM 511 - CONCRETE MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION**

ALL CONCRETE SHALL BE TESTED. ALL TESTING, INSPECTION AND QUALITY CONTROL FOR CONCRETE, NOT INCLUDED UNDER QC/QA PAY ITEMS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A CONCRETE TESTING CONSULTANT WITH PREVIOUS EXPERIENCE AND FAMILIARITY IN ODOT PROCEDURES. CONCRETE TESTING REQUIREMENTS AND CONCRETE TESTING DOCUMENTATION, AT LEAST 30 DAYS PRIOR TO CONCRETE PLACEMENT, SUBMIT TO THE ENGINEER FOR APPROVAL. THE PROPOSED CONCRETE TESTING CONSULTANT ALONG WITH THE RESUMES OF THE PROPOSED TESTING PERSONNEL.

TESTING CONCRETE FOR STRUCTURES AND PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE PERFORMED AS OUTLINED IN CONSTRUCTION AND MATERIAL SPECIFICATIONS 455.

THROUGH THE CONTRACTOR, THE CONSULTANT SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONCRETE PLACED IS IN ACCORDANCE WITH THE SPECIFICATIONS. SUCH WORK SHALL BE IN ACCORDANCE WITH THE APPLICABLE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND THE ODOT CONSTRUCTION INSPECTION MANUAL OF PROCEDURES FOR CONCRETE. THE CONCRETE CONSULTANT SHALL PROVIDE THE NECESSARY TRAINED TECHNICIAN(S) AND EQUIPMENT AND SHALL FURNISH THE PROJECT ENGINEER WITH TWO (2) COPIES OF ALL TEST RESULTS WITHIN 24 HOURS AFTER COMPLETION OF CONCRETE PLACEMENT.

THE TECHNICIANS SHALL BE ACI LEVEL 1 CERTIFIED AND WILL BE REQUIRED TO DEMONSTRATE HIS/HER COMPETENCE AND EXPERIENCE LEVELS TO THE ENGINEER PRIOR TO BEGINNING WORK. THE ENGINEER WILL ORDER THE CONTRACTOR TO REPLACE ANY TECHNICIAN THAT IS NOT VERSED IN THE REQUIRED TESTING PROCEDURE.

THE TECHNICIAN SHALL VERBALLY NOTIFY THE ODOT PROJECT ENGINEER OF ANY FAILING TESTS AND SHALL SUBMIT FOLLOW-UP WRITTEN NOTIFICATION TO THE PROJECT ENGINEER OF REMEDIAL ACTION(S) TAKEN. TESTS SHALL BE TAKEN AS SPECIFIED WITHIN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. CONCRETE MANUAL OR APPROPRIATE SUPPLEMENTAL SPECIFICATION AS LISTED IN THE PROPOSAL GOVERNING THE PROJECT IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAKE IMMEDIATE CORRECTIONS OR ADJUSTMENTS TO THE CONCRETE MIX VIA DIRECT COMMUNICATION WITH THE CONCRETE SUPPLIER'S PLANT PERSONNEL TO MAINTAIN UNINTERRUPTED COMPLIANCE WITH THE SPECIFICATIONS UPON NOTIFICATION OF CONCRETE MIX NON-COMPLIANCE BY THE CONSULTANT TECHNICIAN. THE PROJECT ENGINEER MAY REQUIRE MORE FREQUENT TESTING AS CONDITIONS WARRANT.

UPON COMPLETION OF DAILY CONCRETE PLACEMENT(S), THE CONCRETE CONSULTANT SHALL PROVIDE THE PROJECT ENGINEER WITH DAILY TEST REPORTS. TE-48'S, INSPECTORS DAILY REPORT AND SUPPORTING DOCUMENTATION FOR EACH ITEM OF CONCRETE WORK PERFORMED SEPARATED BY MIX DESIGN. SUBSEQUENTLY, UPON COMPLETION OF AN ENTIRE CONCRETE SPECIFICATION ITEM, THE CONCRETE CONSULTANT SHALL ALSO PROVIDE THE PROJECT ENGINEER WITH TWO (2) COPIES OF AN ADDITIONAL INSPECTION REPORT BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, WHICH CONTAINS THE TESTING RESULTS SUMMARY FOR EACH ITEM BY CONTRACT REFERENCE NUMBER AND THE CONSULTANT'S CONCLUSIONS RELATIVE TO SPECIFICATION COMPLIANCE FOR ALL CONCRETE TESTING WORK.

THE ODOT PROJECT ENGINEER RESERVES THE RIGHT TO MAKE UNANNOUNCED QUALITY CONTROL TESTS TO VERIFY PROCEDURES USED AND RESULTS BEING OBTAINED BY THE CONTRACTOR. THE CONCRETE TECHNICIAN SHALL WORK UNDER THE DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO WHO WILL MONITOR THE CONCRETE TEST RESULTS. THE FINAL INSPECTION REPORTS, FOR EACH COMPLETED ITEM SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, CERTIFYING THAT ALL CONCRETE TESTS PROVIDED BY THE CONTRACTOR MET APPLICABLE CONTRACT REQUIREMENTS. A FINAL REPORT ISSUED BY THE CONSULTING FIRM SHALL CONTAIN A CERTIFIED STATEMENT OF COMPLIANCE WITH ODOT SPECIFICATIONS AND ANY OTHER CONCLUSIONS REGARDING THE CONCRETE MATERIALS INCORPORATED INTO THE PROJECT. SUCH STATEMENT SHALL BE SIGNED BY A REGISTERED PROFESSIONAL ENGINEER, STATE OF OHIO, AND THE CONCRETE CONSULTANT SHALL BE REQUIRED TO ATTEND MONTHLY PROGRESS MEETINGS AS REQUIRED BY THE PROJECT ENGINEER.

ADDITIONALLY, THE CONTRACTOR SHALL BE REQUIRED TO KEEP A POSTED LIST OF BEAM AND CYLINDER IDENTIFICATION NUMBERS FOR THE PURPOSE OF IDENTIFYING THE CORRESPONDING PLACEMENT LOCATION AND CONCRETE SPECIFICATION ITEM.

PAYMENT SHALL BE BID AS LUMP SUM FOR ITEM SPECIAL STRUCTURES. CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION. THE ITEM WILL BE PAID FOR AS FOLLOWS:

UPON APPROVAL OF CONSULTANT ..... 20%  
 PROGRESSIVE/EQUIVALENT PAYMENTS ..... 50%  
 UPON SUBMISSION OF FINAL REPORT ..... 30%

THE TECHNICIAN SHALL HAVE THE FULL EFFECT AND AUTHORITY OF AN ODOT PROJECT INSPECTOR IN DETERMINING ACCEPTABILITY OF MATERIAL AND CONCRETE PLACEMENT PRACTICES.

**EXISTING STRUCTURE VERIFICATION**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

BASE CONTRACT BID PRICES UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE. HOWEVER, THE DEPARTMENT WILL PAY FOR ALL PROJECT WORK UPON ACTUAL DETAILS AND DIMENSIONS THAT HAVE BEEN VERIFIED IN THE FIELD.

**ITEM 510, DOWEL HOLES, AS PER PLAN:**

INSTALL GALVANIZED DOWEL BARS ACCORDING TO THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR BLACK REBAR PUBLISHED IN THE ICC-ES REPORTS LISTED BELOW.

THE HOLES FOR THE ADHESIVE ANCHORS SHALL BE DRILLED WITH A HAMMER DRILL AND CARBIDE BIT. PRIOR TO THE INSTALLATION OF THE ANCHORS, THE HOLES SHALL BE CLEANED AND DRIED IN A MANNER CONSISTENT WITH THE MANUFACTURER'S REQUIREMENTS FOR DRY CONCRETE.

SELECT FROM ONE OF THE FOLLOWING APPROVED PRODUCTS:

HILTI HIT-HY 200 ADHESIVE ANCHORS  
 ICC-ES REPORT ESR-31487)

DEWALT PURE110+ EPOXY ADHESIVE ANCHOR SYSTEM  
 (ICC-ES REPORT ESR-3298)

SIMPSON STRONG-TIE SET-3G EPOXY ADHESIVE ANCHORS  
 ICC-ES REPORT ESR-4057)

ATC ULTRABOND HS-1CC ADHESIVE ANCHOR SYSTEM  
 (ICC-ES REPORT ESR-4094)

THE MANUFACTURER'S INSTALLATION INSTRUCTION PUBLISHED IN THE ICC-ES REPORTS FOR ACCEPTABLE PRODUCTS ARE AVAILABLE AT:

<https://icc-es.org/evaluation-report-program/>

**PROPOSED WORK**

1. REMOVAL OF EXISTING CONCRETE SLAB, PIER CAP, APPROACH SLABS AND ABUTMENT DOWN TO THE TOP OF THE CONCRETE FOOTINGS.

2. PREPARE SURFACE AND FEILD PAINT TOPS OF PIER PILING

3. CONSTRUCTION OF PROPOSED CONCRETE SLAB, PIER CAP, APPROACH SLABS AND ABUTMENT.

4. SEAL THE ABUTMENTS, SLAB EDGES, AND THE END 3 FEET OF THE PIER CAPS WITH EPOXY URETHANE SEALER.

5. INSTALL BRIDGE TERMINAL ASSEMBLIES.



ESTIMATED QUANTITIES - STRUCTURE No.: CLI-729-1588 (01/STR/13 FUNDING SPLIT)								
ITEM	EXTENSION	TOTAL	UNIT	DESCRIPTION	ABUT.	PIERS	SUPER.	GEN.
202	11203	LS	LS	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN, AS PER PLAN			LUMP	112
202	22900	112	SY	APPROACH SLAB REMOVED				112
202	23500	112	SY	WEARING COURSE REMOVED				
503	11100	LUMP	LS	COFFERDAMS AND EXCAVATION BRACING				LUMP
503	21300	LUMP	LS	UNCLASSIFIED EXCAVATION				LUMP
507	71200	161	FT	SPECIAL - PILE ENCASEMENT		161		
509	26000	58503	LB	GALVANIZED STEEL REINFORCEMENT	2051	2354	54098	
510	10001	200	EACH	DOWEL HOLES, AS PER PLAN	200			
511	32212	238	CY	CLASS QC2 CONCRETE WITH QC/QA, SUPERSTRUCTURE			238	
511	43262	22	CY	CLASS QC2 CONCRETE WITH QC/QA, PIER CAP		22		
511	43510	21	CY	CLASS QC1 CONCRETE, ABUTMENT NOT INCLUDING FOOTING	21			
511	81200	LUMP	LS	CONCRETE MISC.: CONSULTANT FOR CONCRETE QUALITY CONTROL INCLUDING TESTING AND INSPECTION				LUMP
512	10100	137	SY	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	56	33	48	
512	33000	31	SY	TYPE 3 WATERPROOFING	31			
512	74000	28		REMOVAL OF EXISTING COATINGS FROM CONCRETE SURFACES	28			
514	00050	569	SF	SURFACE PREPARATION OF EXISTING STRUCTURAL STEEL	310	259		
514	00056	569	SF	FIELD PAINTING OF EXISTING STRUCTURAL STEEL, PRIME COAT	310	259		
516	13200	29	SF	1/2" PREFORMED EXPANSION JOINT FILLER	29			
516	13600	95	SF	1" PREFORMED EXPANSION JOINT FILLER	95			
516	14014	72	FT	INTEGRAL ABUTMENT EXPANSION JOINT SEAL				72
517	70100	214	FT	RAILING (THREE STEEL TUBE BRIDGE RAILING)			214.00	
518	21200	77	CY	POROUS BACKFILL WITH GEOTEXTILE FABRIC	77			
SPECIAL	51822300	214	FT	STEEL DRIP STRIP			214	
518	40010	90	EACH	6" PRECAST CONCRETE BRIDGING STRIP	90			
518	40010	20	FT	6" NON-PERFORATED CORRUGATED PLASTIC PIPE, INCLUDING SPECIALS	20			
526	25010	200	SY	REINFORCED CONCRETE APPROACH SLABS WITH QC/QA (T=15')				200
526	90010	72	FT	TYPE A INSTALLATION				72
625	33000	2	EACH	STRUCTURE GROUNDING SYSTEM				2
846	00110	21	CF	POLYMER ASPHALT EXPANSION JOINT SYSTEM				21