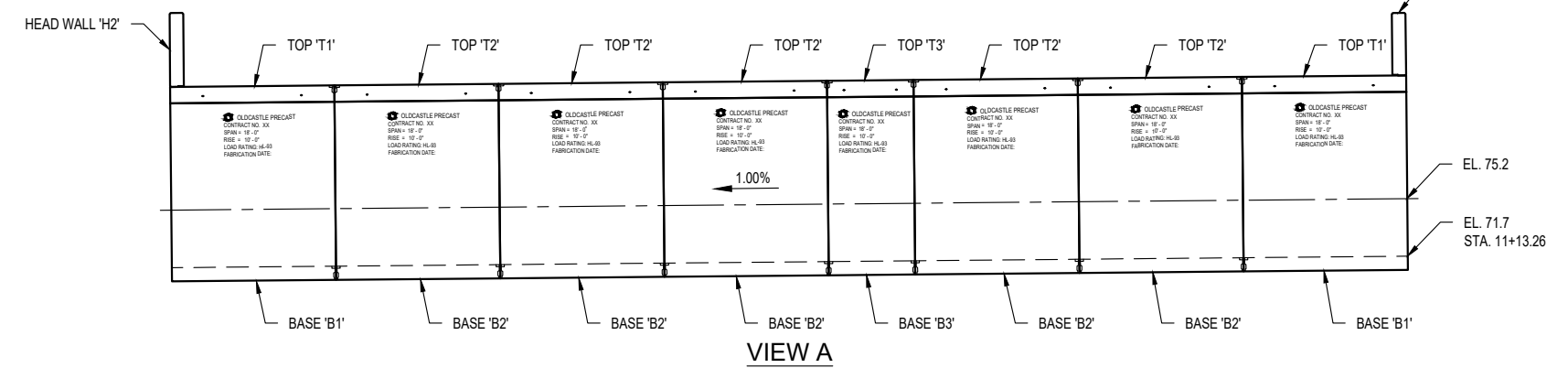
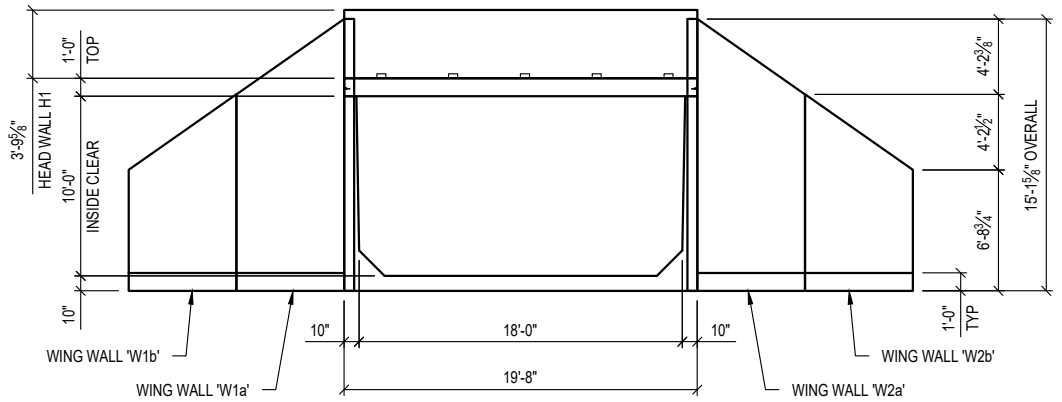


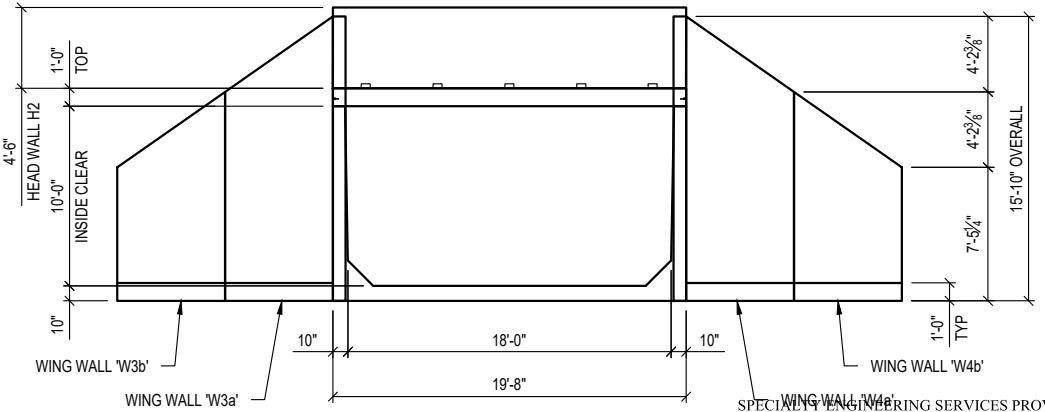
PLAN VIEW



VIEW A



VIEW B



VIEW D

- STRUCTURAL NOTES**
- CONCRETE: 28 DAY COMPRESSIVE STRENGTH $f_c = 6,000$ psi
 - REBAR: ASTM A-615/A-706 GRADE 60
 - WWF: ASTM A-1064 GRADE 65
 - STEEL SHAPES: ASTM A-36
 - DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - NINTH EDITION
 - LOADS: LOAD AND LOAD DISTRIBUTION PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS - NINTH EDITION
DESIGN LOAD HL-93
IMPACT PER AASHTO 3.6.2.2
145 pcf MAX. SOIL/ASPHALT DENSITY - FOR CULVERT
125 pcf SOIL DENSITY - FOR WING WALL
30 pcf MIN. E.F.P. LATERAL SOIL PRESSURE
60 pcf MAX. E.F.P. LATERAL SOIL PRESSURE
LIVE LOAD SURCHARGE PER AASHTO 3.11.6.4
4" WEARING SURFACE
4'-6" MAXIMUM SOIL COVER (INCLUDING WEARING SURFACE)
2'-6" MINIMUM SOIL COVER (INCLUDING WEARING SURFACE)
SOIL BEARING PRESSURE = 2,500 psf ALLOWABLE BEARING
7. TOLERANCES: PCI MNL 116-99 MANUAL FOR QUALITY CONTROL

- GENERAL NOTES**
- CUSTOMER TO:
VERIFY SIZES & FEATURES OF PROPOSED CULVERT
SUPPLY CRANE & CREW TO SET CULVERT
DO ALL GROUTING (GROUT SHALL BE 5,000 psi NON-SHRINK)
SUPPLY FLAT BAR FOR WELD CONNECTIONS
WELDING, PAINTING OF EXPOSED METAL SURFACES, GROUTING OF KEYWAYS & WRAPING OF JOINTS SHALL BE IN COMPLIANCE WITH WSDOT STANDARD SPECIFICATIONS SECTION 6-20.3(8)A
INSTALL GUARD RAIL
SUPPLY PREFORMED JOINT FILLER & FILTER FABRIC FOR CULVERT & WING WALL JOINT
 - BACKFILL IN EQUAL LIFTS OF 18" ON BOTH SIDES OF WALLS
 - OLDCASTLE PRECAST TO:
PROVIDE PRECAST TOPS, BASES & WING WALLS
SUPPLY CONNECTION BRACKETS
MARK THE FOLLOWING ON THE INSIDE WALL OF EACH BASE SECTIONS
6" FROM THE BOTTOM OF THE TOP :

OLDCASTLE PRECAST
CONTRACT NO. XX
SPAN = 18' - 0"
RISE = 10' - 0"
LOAD RATING: HL-93
FABRICATION DATE:

PIECE DETAILS

(8) TOPS:	(2) 'T1' 21,550 lbs (5) 'T2' 29,147 lbs (1) 'T3' 15,196 lbs
(8) BASES:	(2) 'B1' 37,084 lbs (5) 'B2' 50,241 lbs (1) 'B3' 26,319 lbs
(8) WING WALLS:	(1) 'W1a' 21,808 lbs (1) 'W1b' 17,403 lbs (1) 'W2a' 21,808 lbs (1) 'W2b' 17,403 lbs (1) 'W3a' 22,468 lbs (1) 'W3b' 18,032 lbs (1) 'W4a' 22,468 lbs (1) 'W4b' 18,032 lbs
(2) HEAD WALLS:	(1) 'H1' 9,676 lbs (1) 'H2' 11,452 lbs
(26) PIECES TOTAL	



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18'W x 10'T x 70'L SPLIT CULVERT 15 (ID 101SC-07)
3 SIDED CULVERT: 18'W x 10'T x 70'L (INSIDE)
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

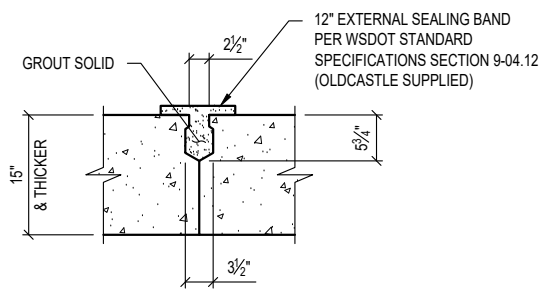
CUSTOMER: SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	1 OF 40

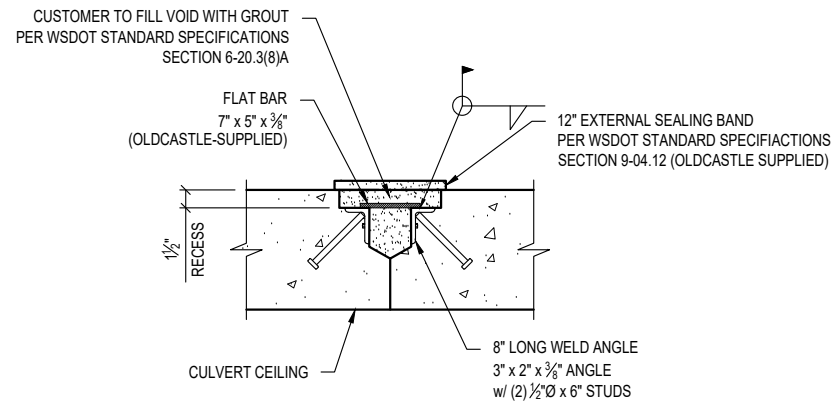


SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES MOUNTAIN TOP, PA 18707
PHONES: 570-368-2081 FAX: 570-368-2082
1/30/24

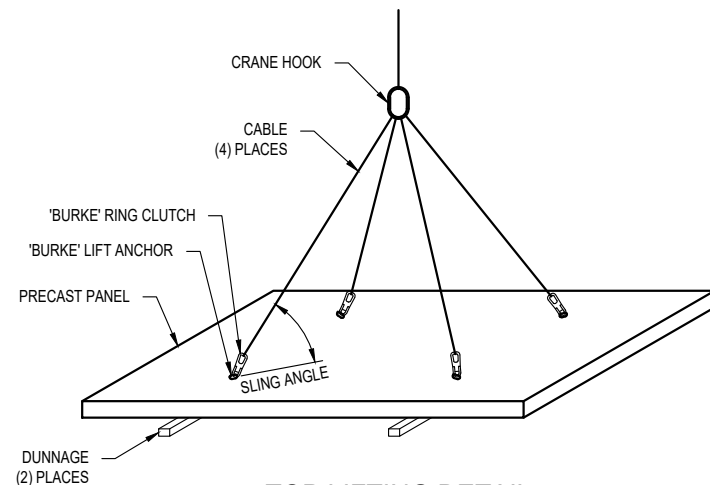
REVISION	DESCRIPTION	BY



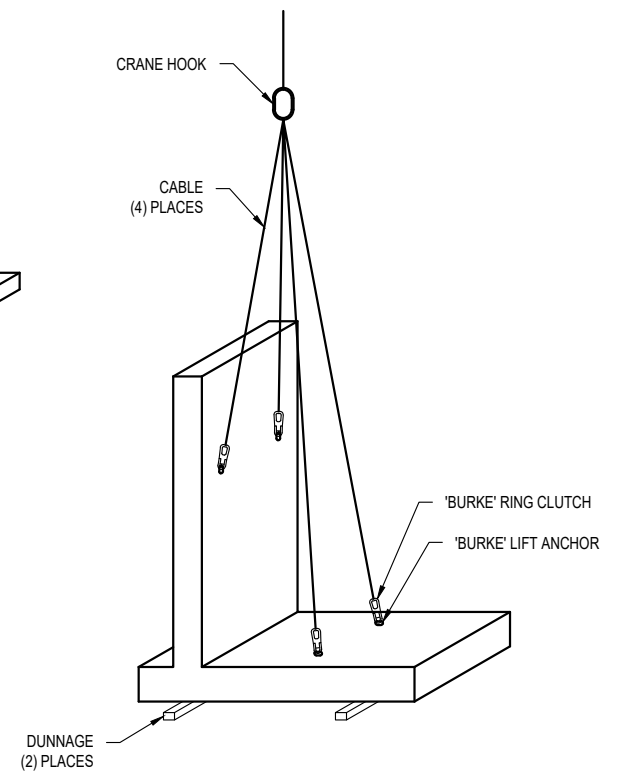
TOP GROUT & SEAL DETAIL



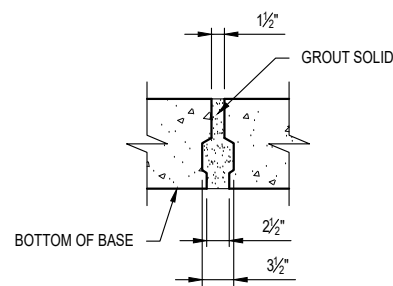
TOP WELD CONNECTION DETAIL



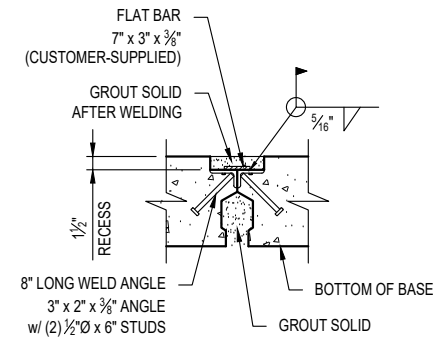
TOP LIFTING DETAIL
SLING ANGLE MUST BE AT LEAST 60°



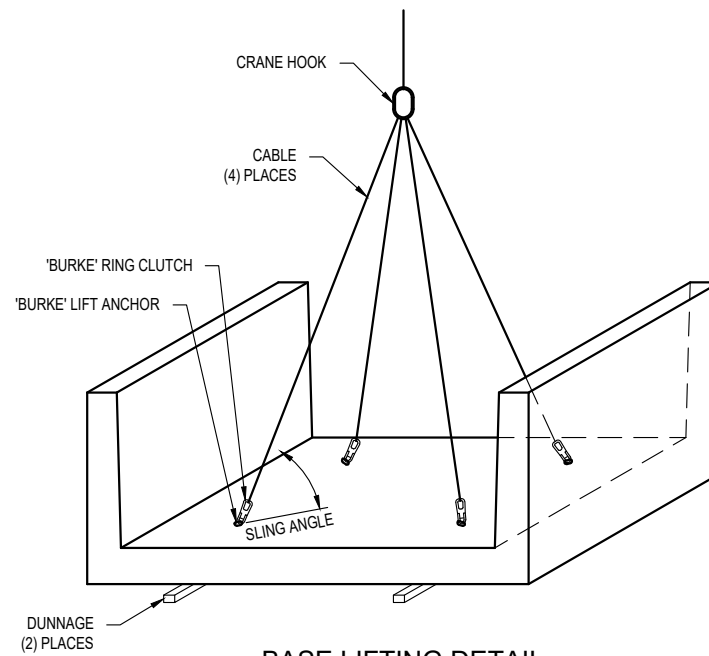
WING WALL LIFTING DETAIL



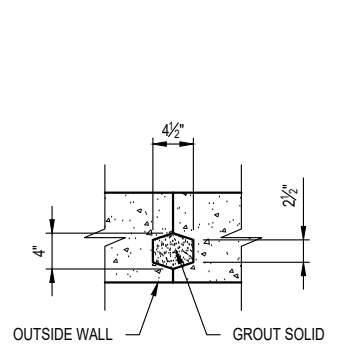
BASE GROUT DETAIL



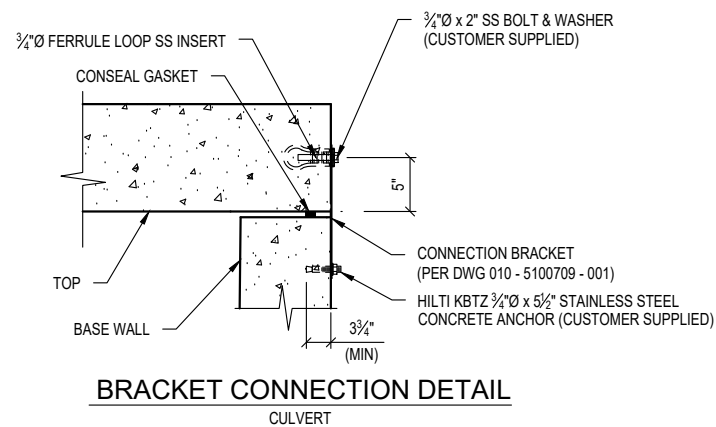
BASE WELD CONNECTION DETAIL



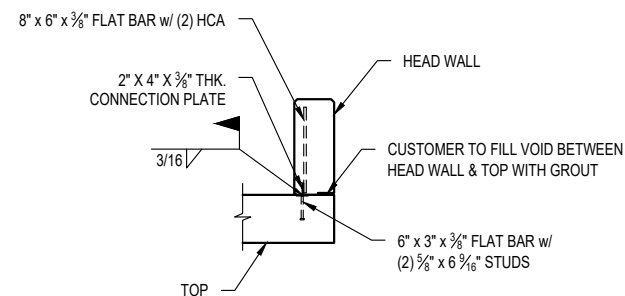
BASE LIFTING DETAIL
SLING ANGLE MUST BE AT LEAST 60°



WALL GROUT DETAIL
APPROX. GROUT VOLUME = 180 cu-in PER LINEAR FOOT



BRACKET CONNECTION DETAIL



HEAD WALL WELD CONNECTION DETAIL

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	CLUTCHES - BURKE 8-TON EACH	8030020
	32 ea	CONNECTION PLATE	5100709
	10 ea	CONSEAL 3/4" x 14.5' (CS-102)	5130008
	28 ea	WELD PLATE-7" x 5" x 3/8"	
	28 ea	WELD PLATE-7" x 3" x 3/8"	
	10 ea	2" X 4" X 3/8" CONNECTION PL. HEAD WALL	
	7 rl	JOINT WRAP	



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18"W x 10'T x 70'L SPLIT CULVERT 15 (ID 101SC-07)
INSTALLATION
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	2 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONES: 570-868-2081
FAX: 570-868-2082

1/30/24



REVISION	DESCRIPTION	BY

PRODUCTION QUANTITY

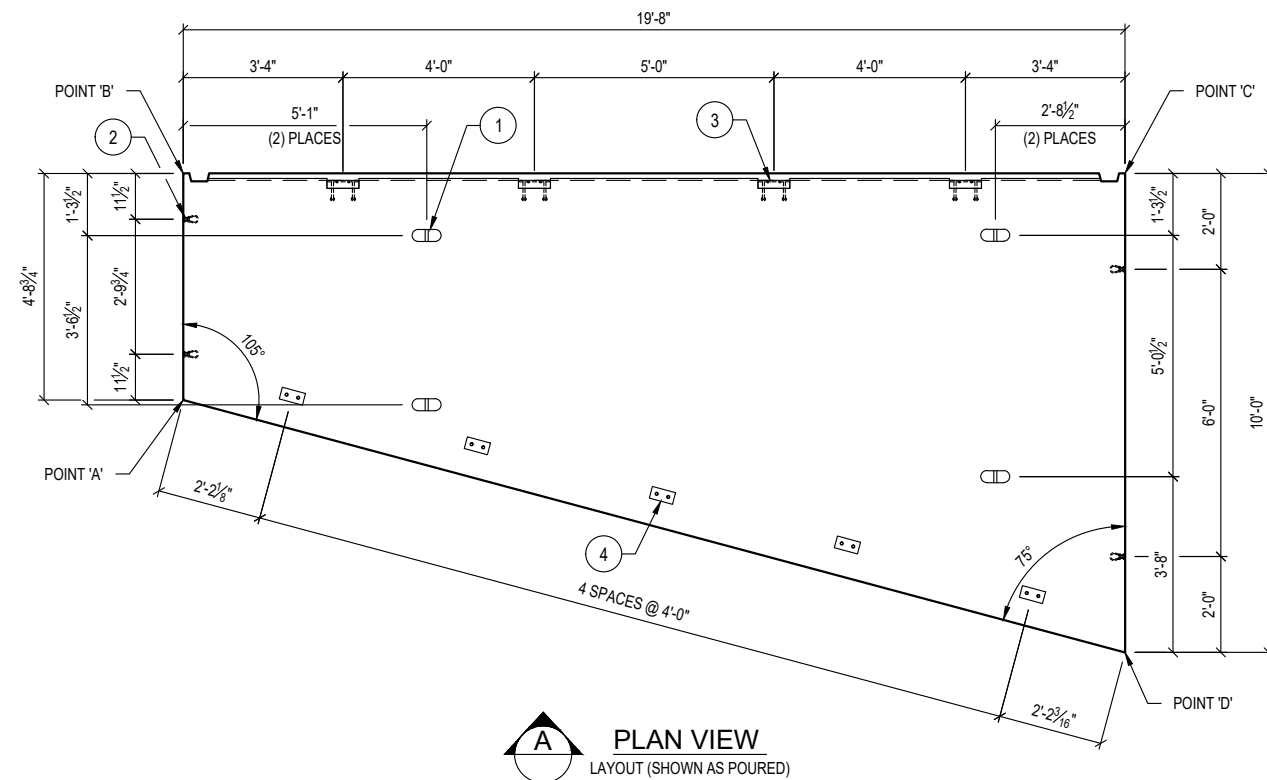
(2) TOP 'T1'

PRODUCT WEIGHT

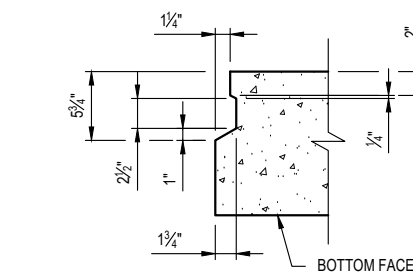
21,550 LBS

SHOP NOTES

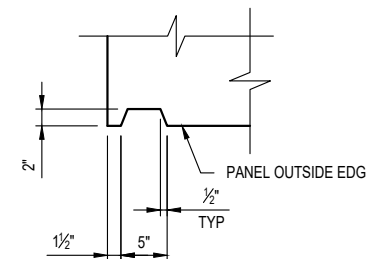
- FORM DIAGONAL DISTANCE: POINT 'A' - 'C' 20'-2 $\frac{3}{4}$ " POINT 'B' - 'D' 22'-0 $\frac{3}{4}$ "
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES



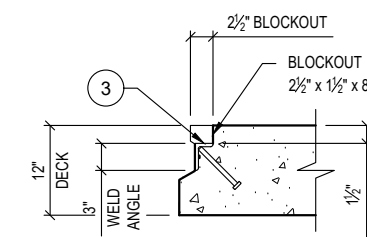
A PLAN VIEW
LAYOUT (SHOWN AS POURED)



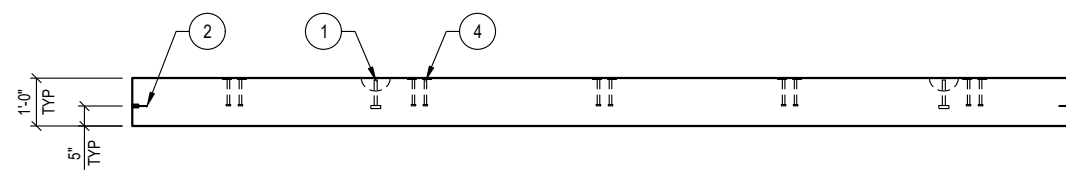
HORIZONTAL GROUT KEYWAY DETAIL



VERTICAL GROUT KEYWAY DETAIL



TOP WELD ANGLE DETAIL



VIEW A

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	4 ea	INSERT LOOP FERR 3/4" - STAINLESS	5100480
3	4 ea	WELD ANGLE 2" x 3" x 8" w/ ANGLED STUD	2290620
4	5 ea	3" X 6" WELD PLATE w/ STUD (SIS)	5700045
	5.32 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	1.20 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.04 cwt	#5 REBAR A615/A706/GR60	725A0075
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	47.88 sqf	MESH CHAIR	5500000

Oldcastle Infrastructure™
P.O. BOX 588 AUBURN, WA 98071-0588
 PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 TOP 'T1': LAYOUT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER
 SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	3 OF 40

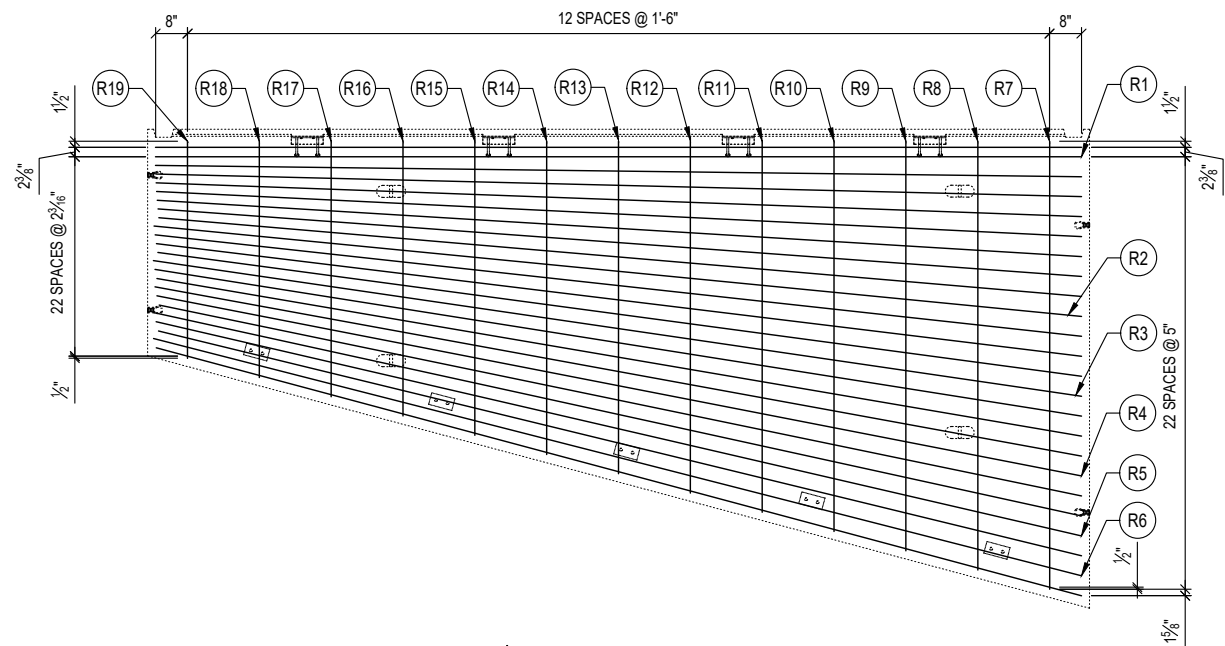
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082

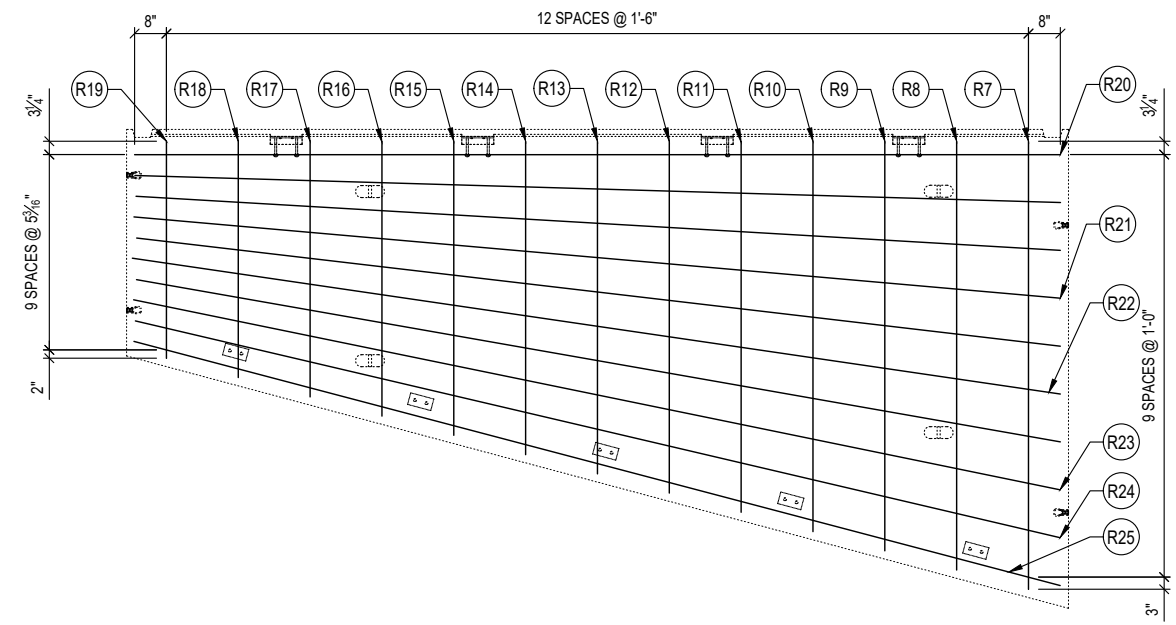
1/30/24



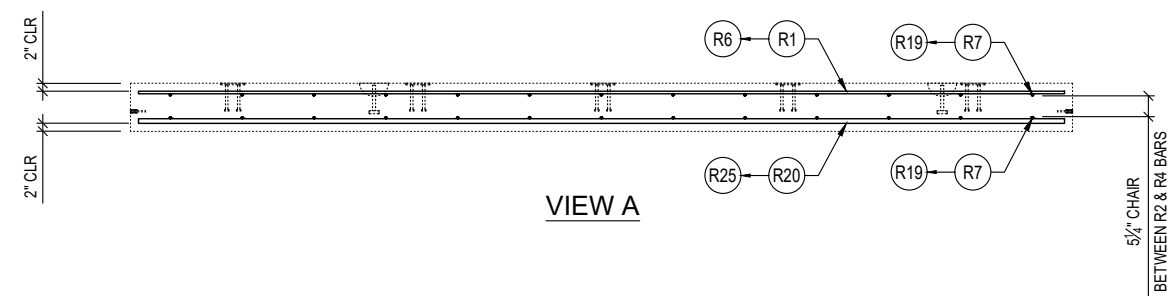
REVISION	DESCRIPTION	BY



A
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 BOTTOM MAT



A
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 TOP MAT



VIEW A

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R7	2	#4 REBAR A615/A706/GR60	9'- 4"	STR
R8	2	#4 REBAR A615/A706/GR60	9'- 0"	STR
R9	2	#4 REBAR A615/A706/GR60	8'- 7"	STR
R10	2	#4 REBAR A615/A706/GR60	8'- 2"	STR
R11	2	#4 REBAR A615/A706/GR60	7'- 9"	STR
R12	2	#4 REBAR A615/A706/GR60	7'- 4"	STR
R13	2	#4 REBAR A615/A706/GR60	7'- 0"	STR
R14	2	#4 REBAR A615/A706/GR60	6'- 7"	STR
R15	2	#4 REBAR A615/A706/GR60	6'- 2"	STR
R16	2	#4 REBAR A615/A706/GR60	5'- 9"	STR
R17	2	#4 REBAR A615/A706/GR60	5'- 4"	STR
R18	2	#4 REBAR A615/A706/GR60	4'- 11"	STR
R19	2	#4 REBAR A615/A706/GR60	4'- 6"	STR
R20	3	#5 REBAR A615/A706/GR60	19'- 4"	STR
R21	2	#5 REBAR A615/A706/GR60	19'- 5"	STR
R22	2	#5 REBAR A615/A706/GR60	19'- 7"	STR
R23	1	#5 REBAR A615/A706/GR60	19'- 9"	STR
R24	1	#5 REBAR A615/A706/GR60	19'- 10"	STR
R25	1	#5 REBAR A615/A706/GR60	20'- 0"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	9	#9 REBAR A615/A706/GR60	19'- 4"	STR
R2	4	#9 REBAR A615/A706/GR60	19'- 6"	STR
R3	3	#9 REBAR A615/A706/GR60	19'- 7"	STR
R4	3	#9 REBAR A615/A706/GR60	19'- 8"	STR
R5	3	#9 REBAR A615/A706/GR60	19'- 10"	STR
R6	2	#9 REBAR A615/A706/GR60	20'- 0"	STR

Oldcastle Infrastructure™
 A CRH COMPANY
 P.O. BOX 588 AUBURN, WA 98071-0588
 PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 TOP 'T1': REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

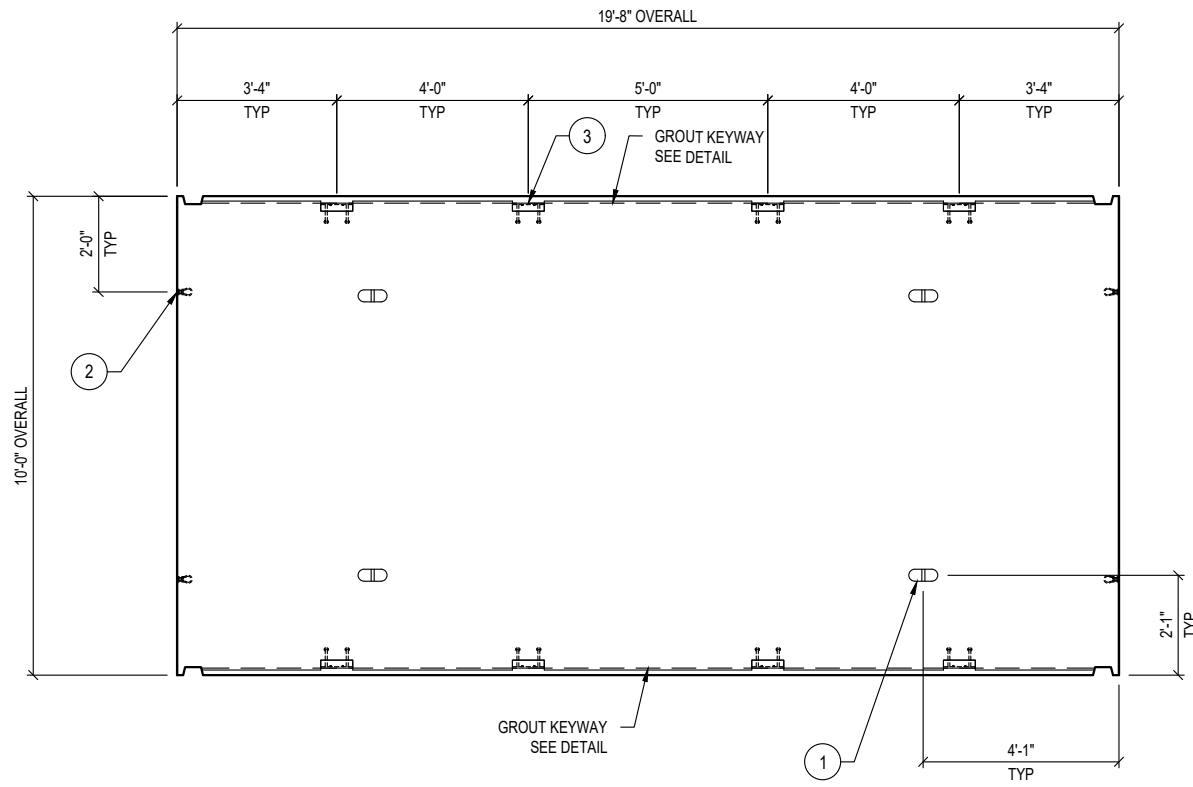
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	4 OF 40

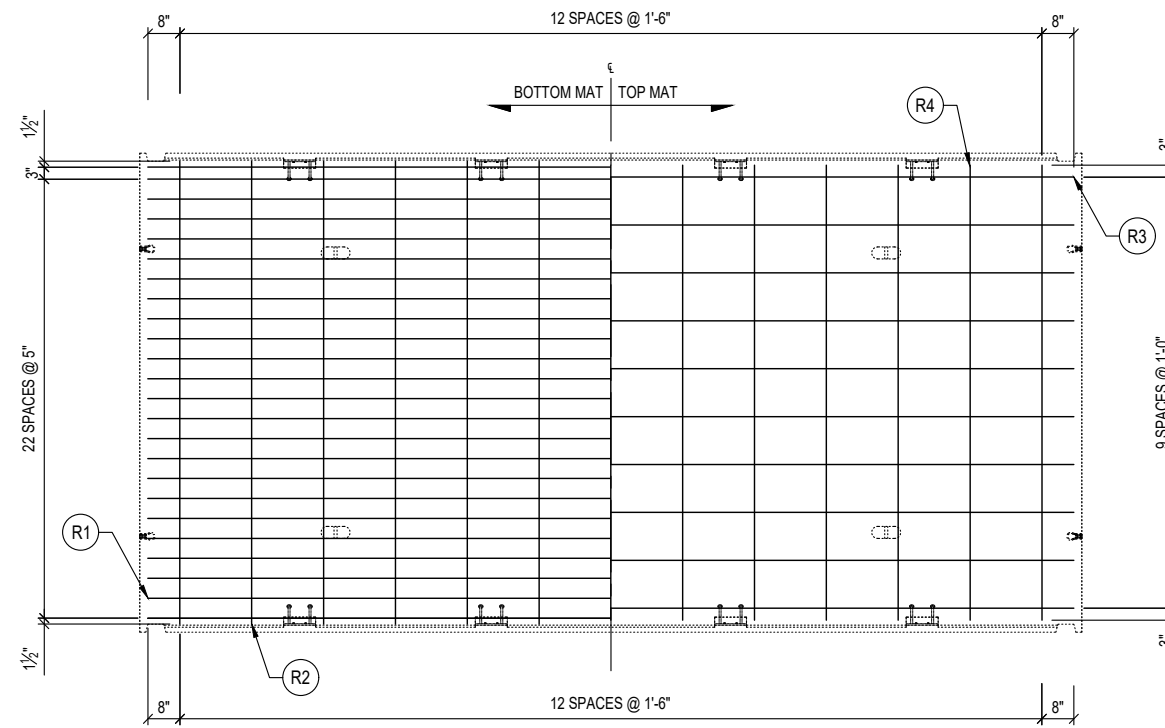


SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
1/30/24

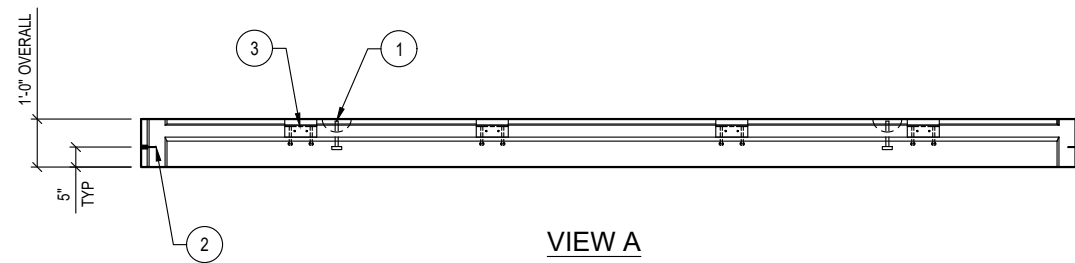
REVISION	DESCRIPTION	BY



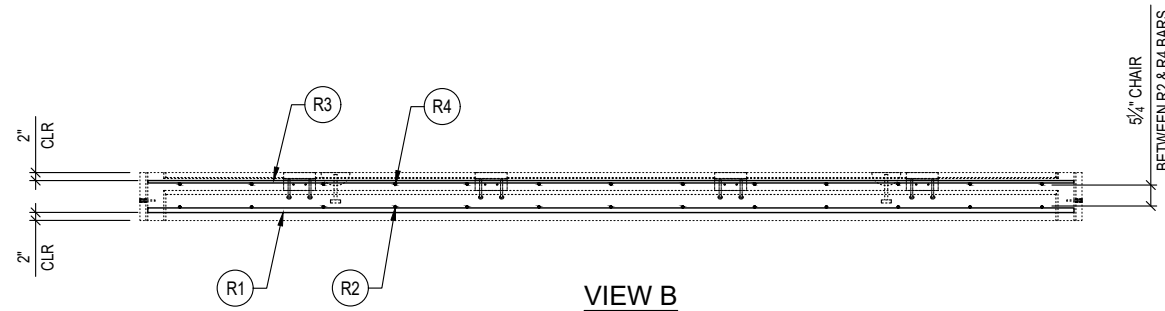
A PLAN VIEW
LAYOUT (SHOWN AS Poured)



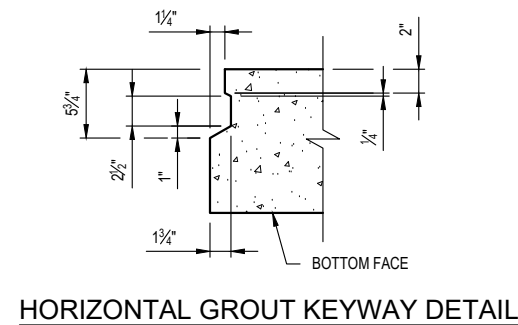
B PLAN VIEW
REINFORCEMENT (SHOWN AS Poured)



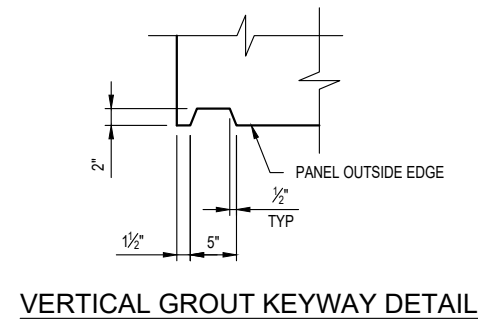
VIEW A



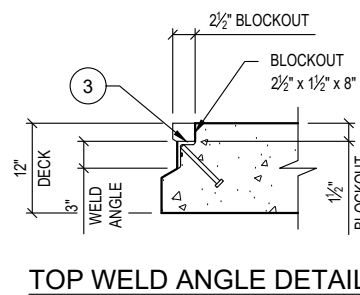
VIEW B



HORIZONTAL GROUT KEYWAY DETAIL



VERTICAL GROUT KEYWAY DETAIL



TOP WELD ANGLE DETAIL

PRODUCTION QUANTITY

(5) TOP 'T2'

PRODUCT WEIGHT

29,147 LBS

SHOP NOTES

- FORM DIAGONAL DISTANCE: 22'-0 3/4"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES

BILL OF MATERIALS

#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	4 ea	INSERT LOOP FERR 3/4" - STAINLESS	5100480
3	8 ea	WELD ANGLE 2" x 3" x 8" w/ANGLED STUD	2290620
	7.19 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	1.66 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.02 cwt	#5 REBAR A615/A706/GR60	725A0075
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	64.71 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R2	13	#4 REBAR A615/A706/GR60	9'- 8"	STR
R3	10	#5 REBAR A615/A706/GR60	19'- 4"	STR
R4	13	#4 REBAR A615/A706/GR60	9'- 6"	STR

SIS REBAR / MESH CUT LIST
(SPECIAL PURCHASED ITEMS)

#	QTY	MATERIAL	LENGTH	SHAPE
R1	24	#9 REBAR A615/A706/GR60	19'- 4"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)

TOP 'T2' : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	5 OF 40

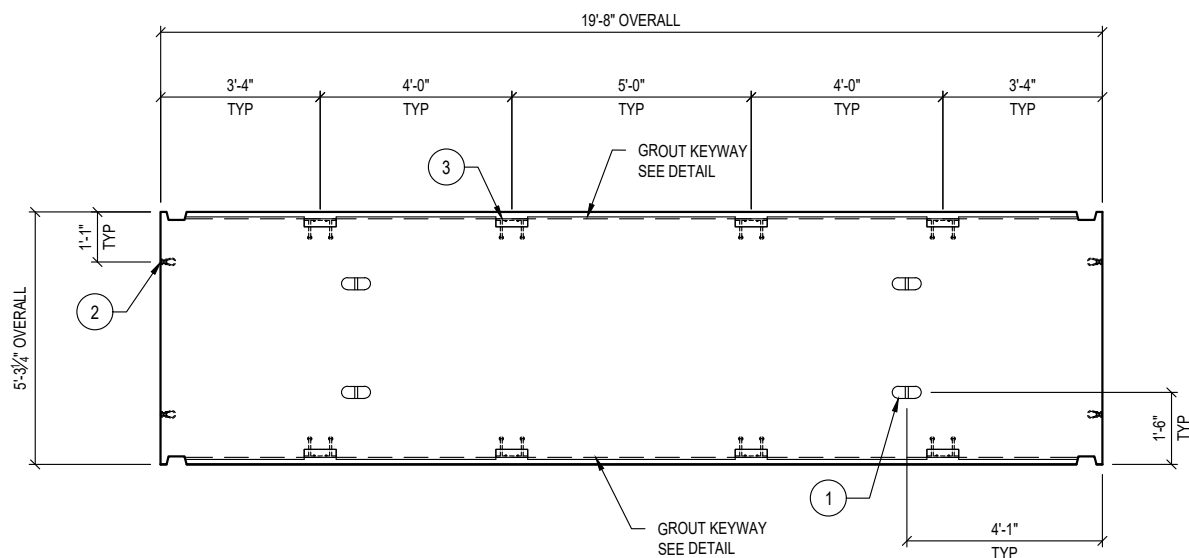
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

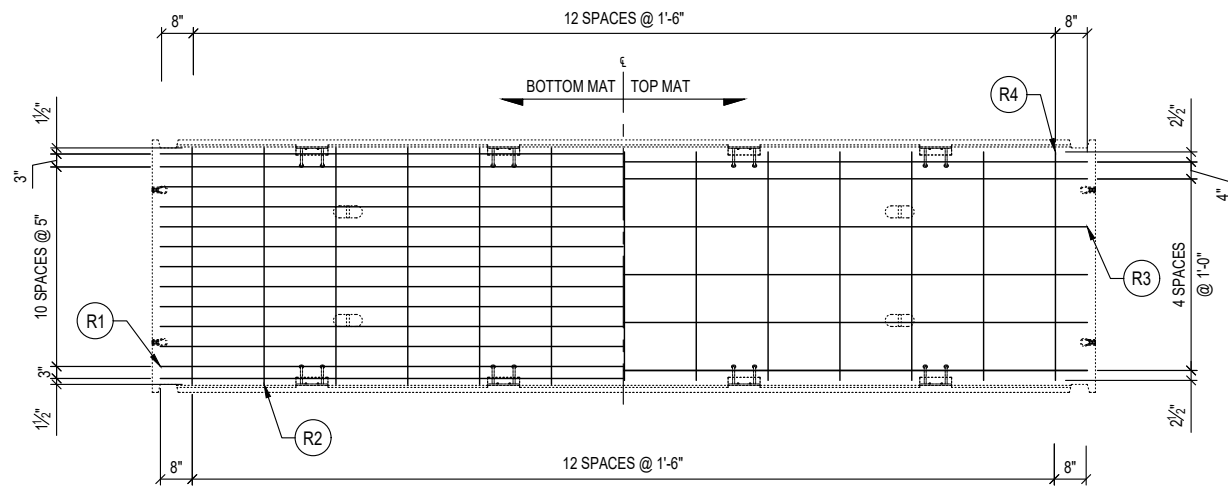
1/30/24



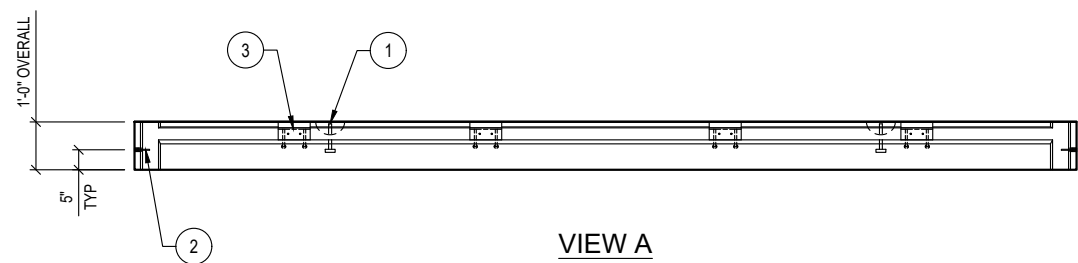
REVISION	DESCRIPTION	BY



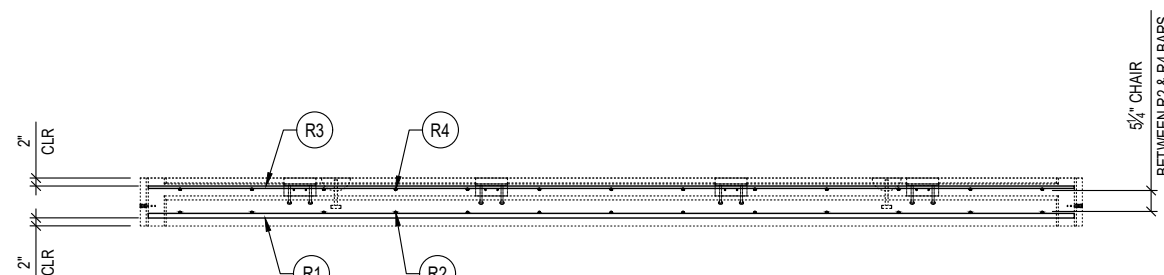
A PLAN VIEW
LAYOUT (SHOWN AS POURED)



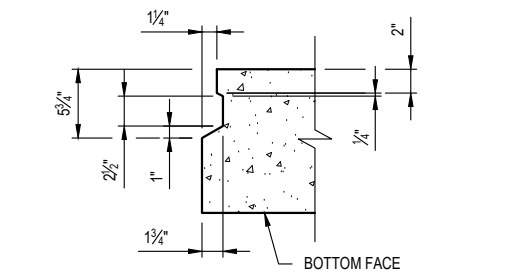
B PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)



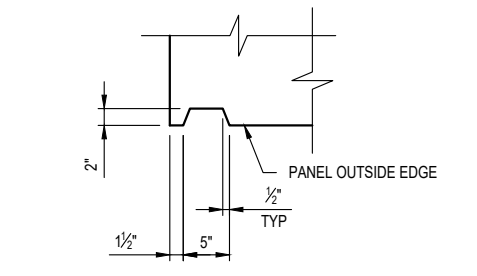
VIEW A



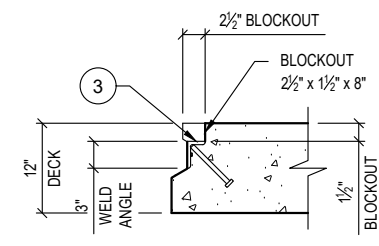
VIEW B



HORIZONTAL GROUT KEYWAY DETAIL



VERTICAL GROUT KEYWAY DETAIL



TOP WELD ANGLE DETAIL

PRODUCTION QUANTITY

(1) TOP 'T3'

PRODUCT WEIGHT

15,196 LBS

SHOP NOTES

- FORM DIAGONAL DISTANCE: 20'-4 5/16"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES

BILL OF MATERIALS

#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	4 ea	INSERT LOOP FERR 3/4" - STAINLESS	5100480
3	8 ea	WELD ANGLE 2" x 3" x 8" w/ANGLED STUD	2290620
	3.75 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.84 cwt	#4 REBAR A615/A706/GR60	725A0074
	1.21 cwt	#5 REBAR A615/A706/GR60	725A0075
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	33.75 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R2	13	#4 REBAR A615/A706/GR60	4'- 11"	STR
R3	6	#5 REBAR A615/A706/GR60	19'- 4"	STR
R4	13	#4 REBAR A615/A706/GR60	4'- 9"	STR

SIS REBAR / MESH CUT LIST
(SPECIAL PURCHASED ITEMS)

#	QTY	MATERIAL	LENGTH	SHAPE
R1	13	#9 REBAR A615/A706/GR60	19'- 4"	STR

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
TOP 'T3': LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	6 OF 40

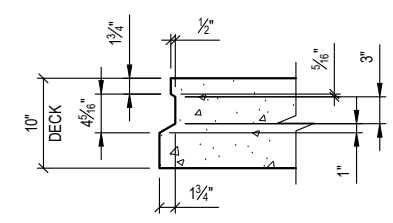
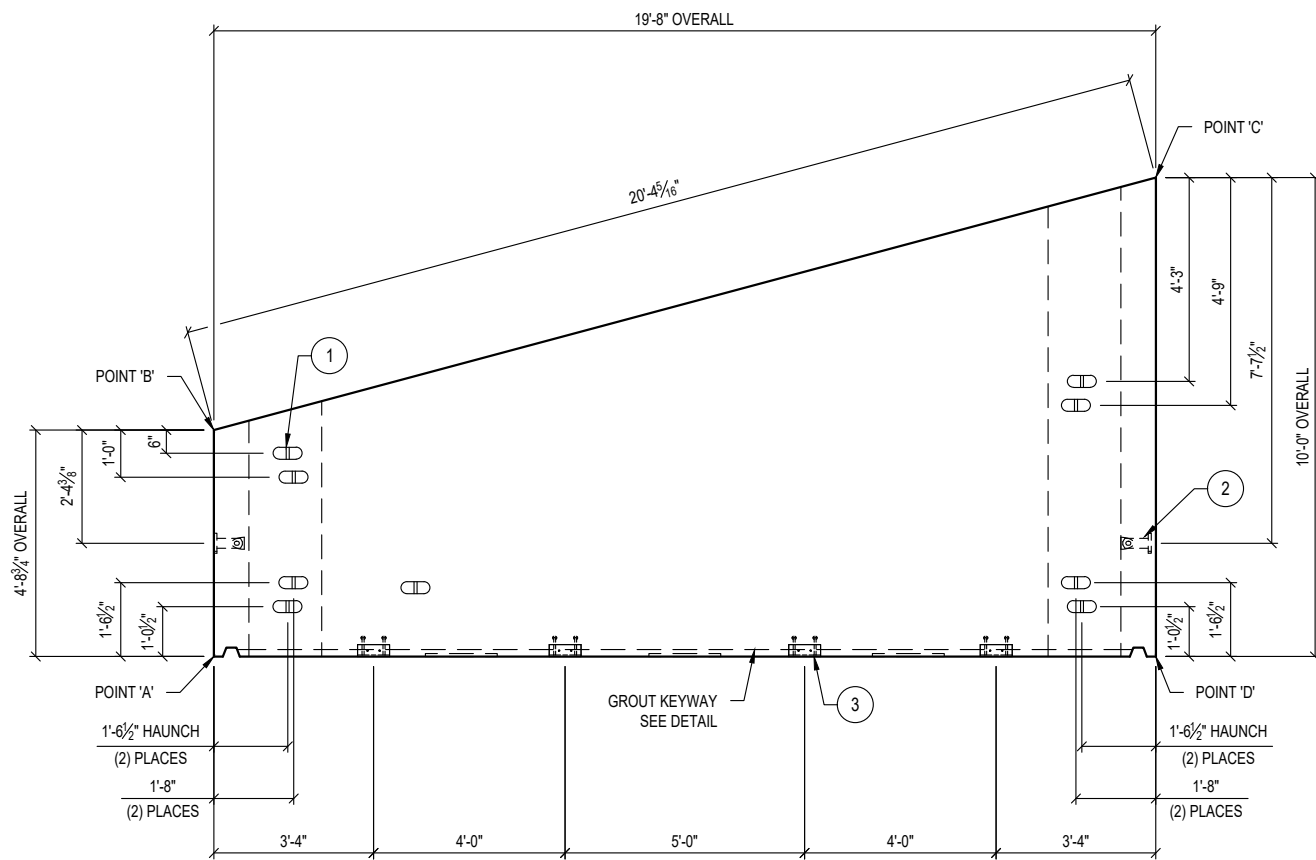
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

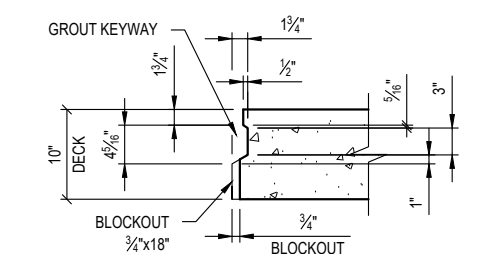
1/30/24



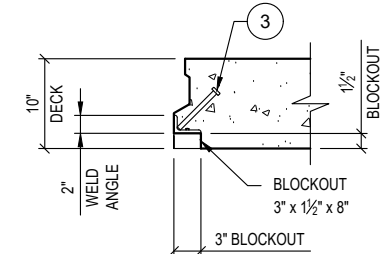
REVISION	DESCRIPTION	BY



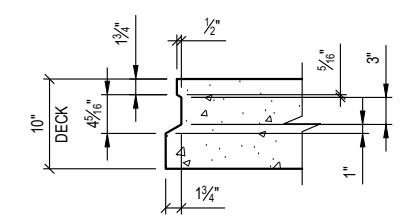
DECK GROUT KEYWAY DETAIL



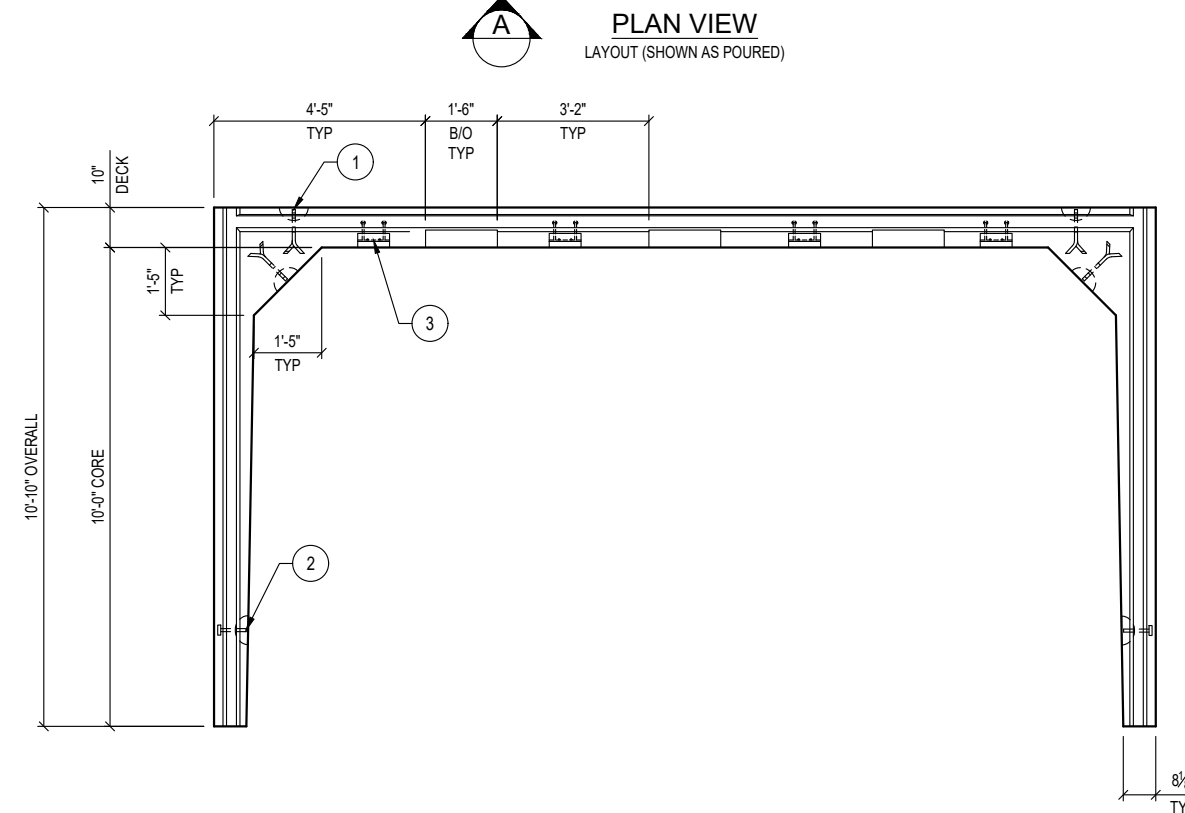
DECK GROUT KEYWAY & BLOCKOUT DETAIL



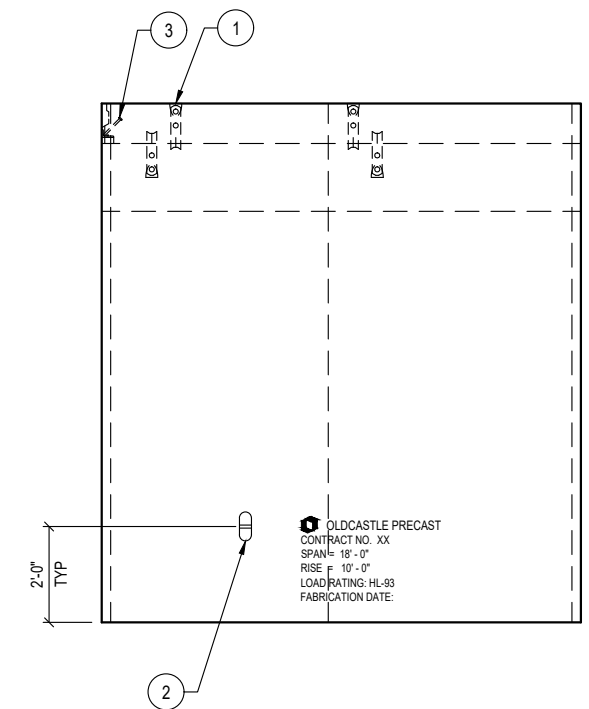
DECK WELD ANGLE DETAIL



DECK GROUT KEYWAY DETAIL



VIEW A



VIEW B

PRODUCTION QUANTITY

(2) BASE 'B1'

PRODUCT WEIGHT

37,084 LBS

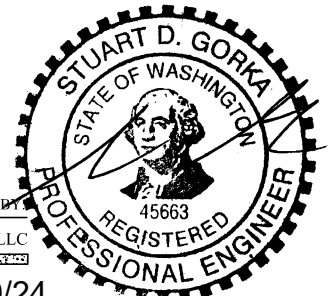
SHOP NOTES

- FORM DIAGONAL DISTANCE: POINT 'A' - 'C' 22'-0 3/4", POINT 'B' - 'D' 20'-2 1/4"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES
- FLIP METHOD: ANCHOR IN WALLS
- MARK (WITH WATER PROOF PAINT) ON THE INSIDE FACE OF WALL 6" FROM THE TOP AFTER FLIPPING AS FOLLOW

OLDCASTLE PRECAST
 CONTRACT NO. XX
 SPAN = 18'-0"
 RISE = 10'-0"
 LOAD RATING: HL-93
 FABRICATION DATE:

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	8 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	2 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
3	4 ea	WELD ANGLE 2" x 3" x 8" w/ANGLED STUD	2290620
	9.15 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.49 cwt	#4 REBAR A615/A706/GR60	725A0074
	1.62 cwt	#5 REBAR A615/A706/GR60	725A0075
	3.53 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	82.35 sqf	MESH CHAIR	5500000

OLDCASTLE PRECAST
 CONTRACT NO. XX
 SPAN = 18'-0"
 RISE = 10'-0"
 LOAD RATING: HL-93
 FABRICATION DATE:



SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082
 1/30/24

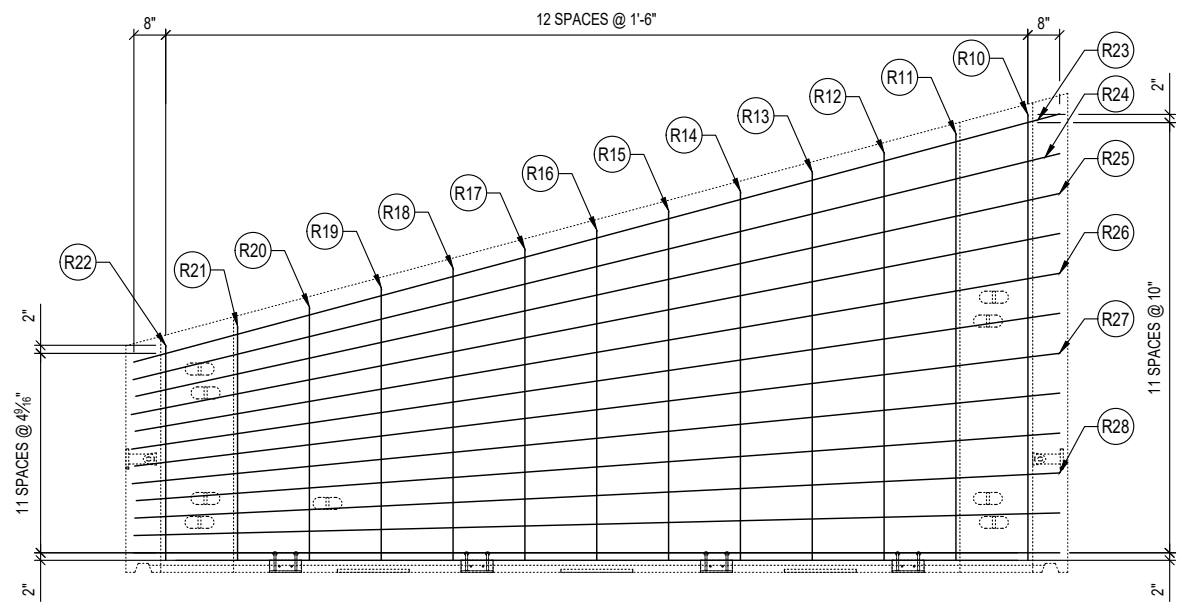


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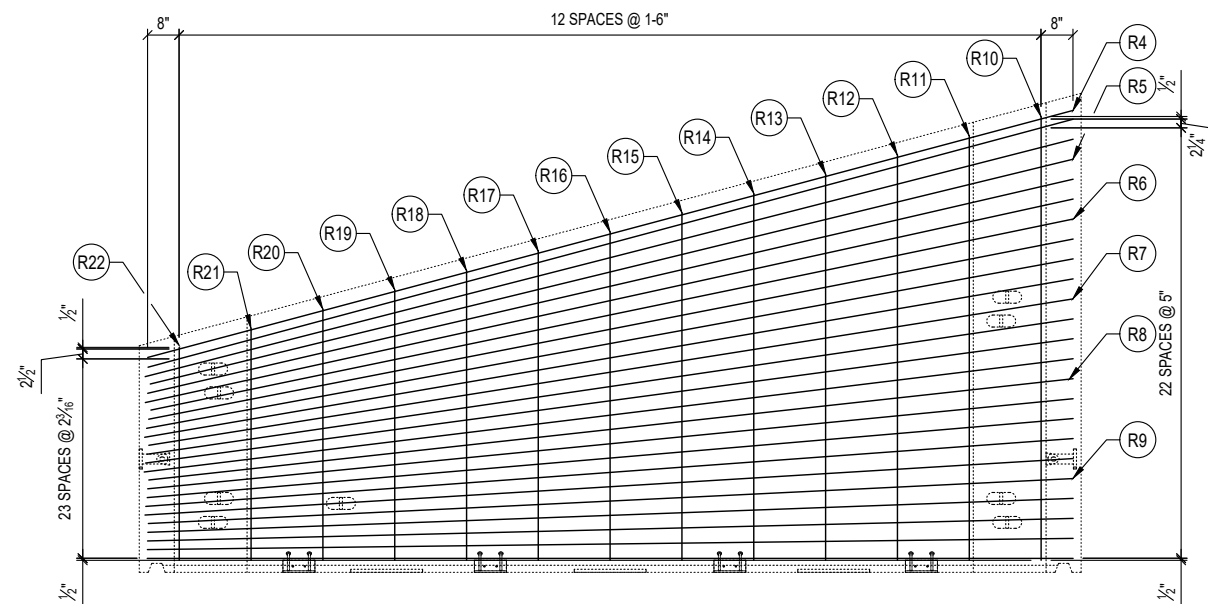
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 BASE 'B1': LAYOUT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER SNOQUALMIE VALLEY WATERSHED IMP. DIST					
DATE 1/30/24	SALES DM	DRAWN FMT	ENGINEER ---	CHECKED	SALES ORDER S202473
DRAWING NUMBER 010-S202473-001				REVISION REV DATE	SHEET 7 OF 40

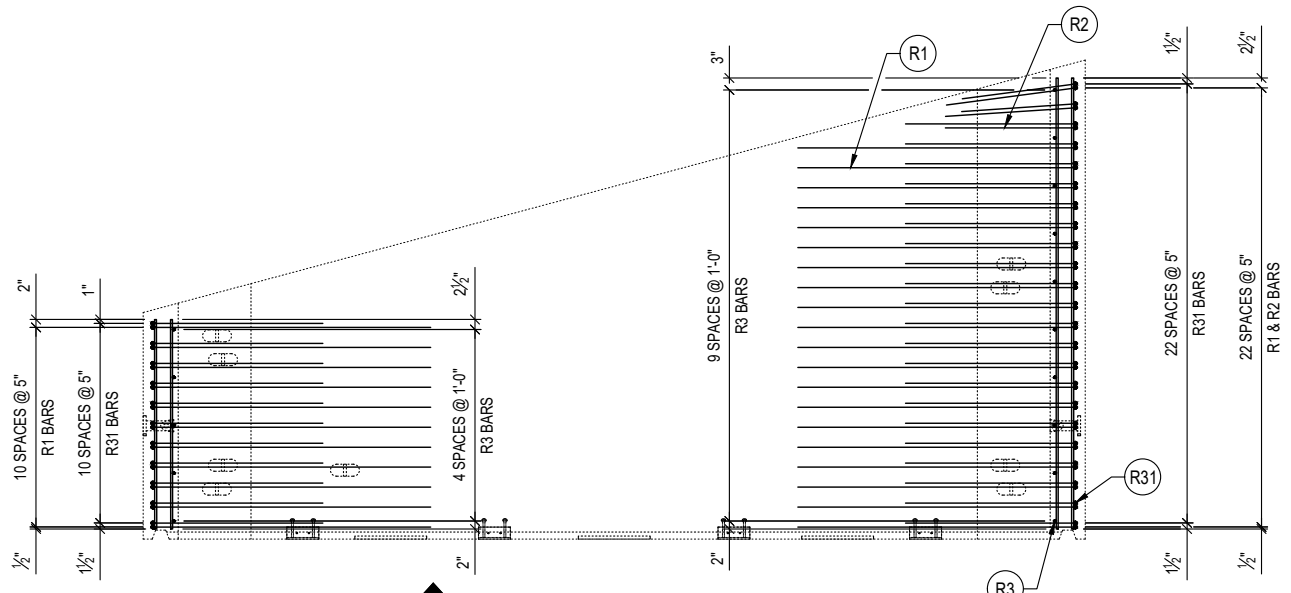
REVISION	DESCRIPTION	BY



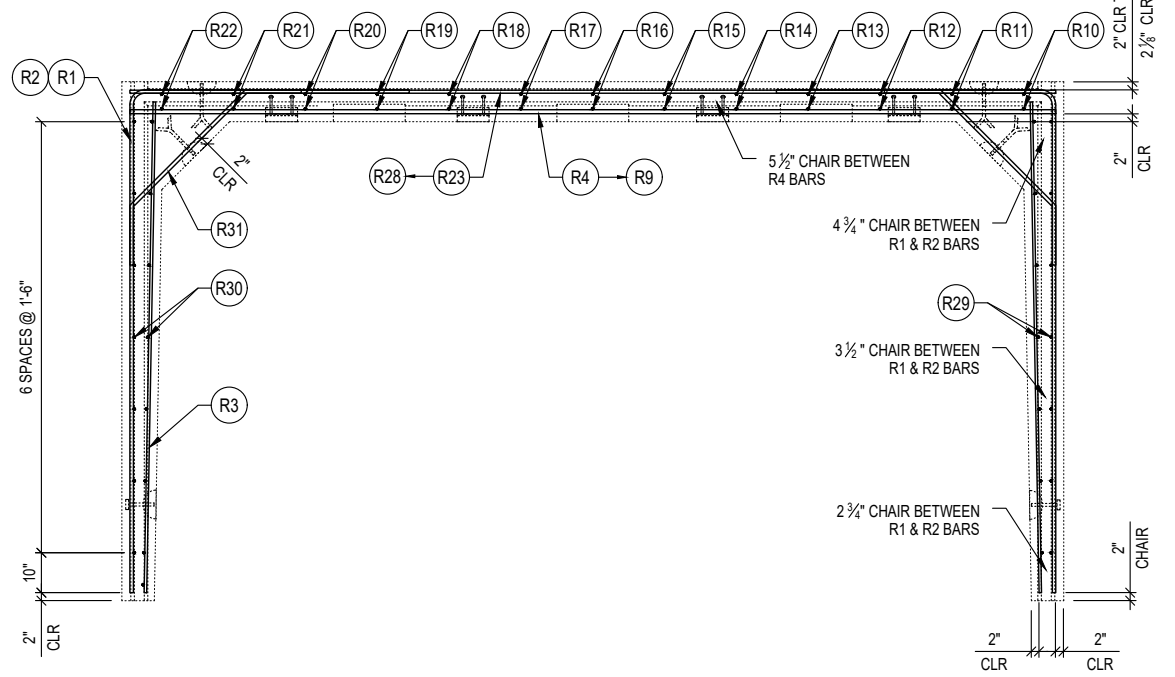
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
SLAB TOP MAT



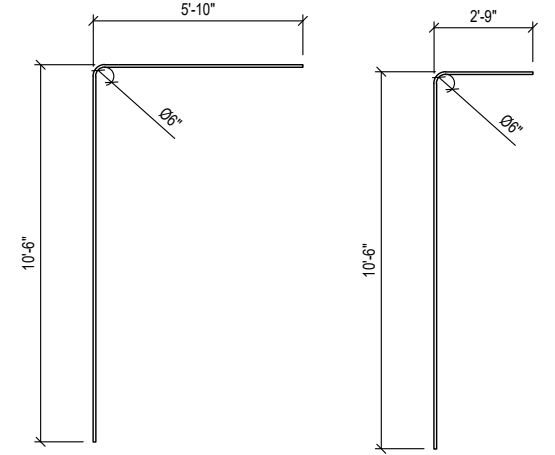
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
SLAB BOTTOM MAT



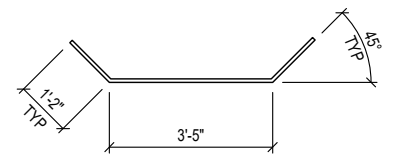
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
WALL REINFORCEMENT



VIEW A



R1 DETAIL **R2 DETAIL**



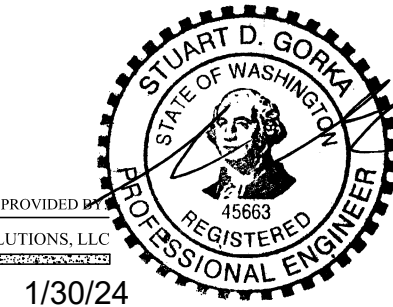
R31 DETAIL

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R3	15	#5 REBAR A615/A706/GR60	10'- 4"	STR
R10	2	#4 REBAR A615/A706/GR60	9'- 3"	STR
R11	2	#4 REBAR A615/A706/GR60	8'- 10"	STR
R12	2	#4 REBAR A615/A706/GR60	8'- 6"	STR
R13	2	#4 REBAR A615/A706/GR60	8'- 1"	STR
R14	2	#4 REBAR A615/A706/GR60	7'- 8"	STR
R15	2	#4 REBAR A615/A706/GR60	7'- 3"	STR
R16	2	#4 REBAR A615/A706/GR60	6'- 10"	STR
R17	2	#4 REBAR A615/A706/GR60	6'- 6"	STR
R18	2	#4 REBAR A615/A706/GR60	6'- 1"	STR
R19	2	#4 REBAR A615/A706/GR60	5'- 8"	STR
R20	2	#4 REBAR A615/A706/GR60	5'- 3"	STR
R21	2	#4 REBAR A615/A706/GR60	4'- 10"	STR
R22	2	#4 REBAR A615/A706/GR60	4'- 5"	STR
R23	1	#6 REBAR A615/A706/GR60	20'- 0"	STR
R24	1	#6 REBAR A615/A706/GR60	19'- 11"	STR
R25	2	#6 REBAR A615/A706/GR60	19'- 9"	STR
R26	2	#6 REBAR A615/A706/GR60	19'- 7"	STR
R27	2	#6 REBAR A615/A706/GR60	19'- 6"	STR
R28	4	#6 REBAR A615/A706/GR60	19'- 4"	STR
R29	14	#4 REBAR A615/A706/GR60	9'- 6"	STR
R30	14	#4 REBAR A615/A706/GR60	4'- 4"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	31	#7 REBAR A615/A706/GR60	16'- 2"	BENT
R2	3	#7 REBAR A615/A706/GR60	13'- 1"	BENT
R4	3	#8 REBAR A615/A706/GR60	20'- 0"	STR
R5	3	#8 REBAR A615/A706/GR60	19'- 10"	STR
R6	4	#8 REBAR A615/A706/GR60	19'- 8"	STR
R7	4	#8 REBAR A615/A706/GR60	19'- 7"	STR
R8	5	#8 REBAR A615/A706/GR60	19'- 5"	STR
R9	5	#8 REBAR A615/A706/GR60	19'- 4"	STR
R31	34	#7 REBAR A615/A706/GR60	5'- 9"	BENT

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082



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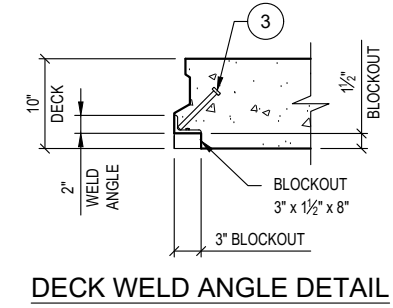
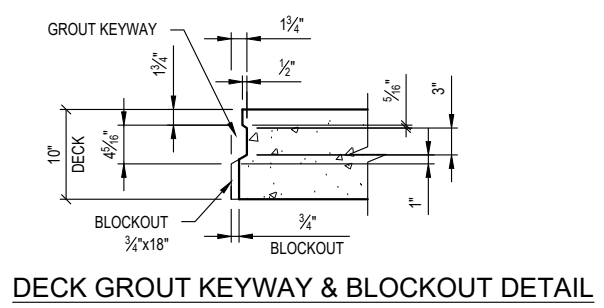
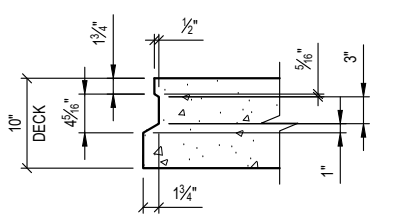
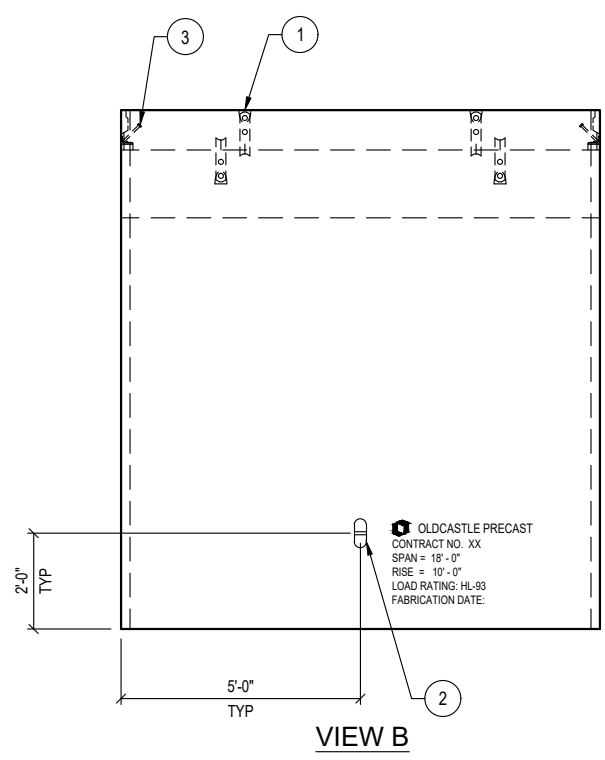
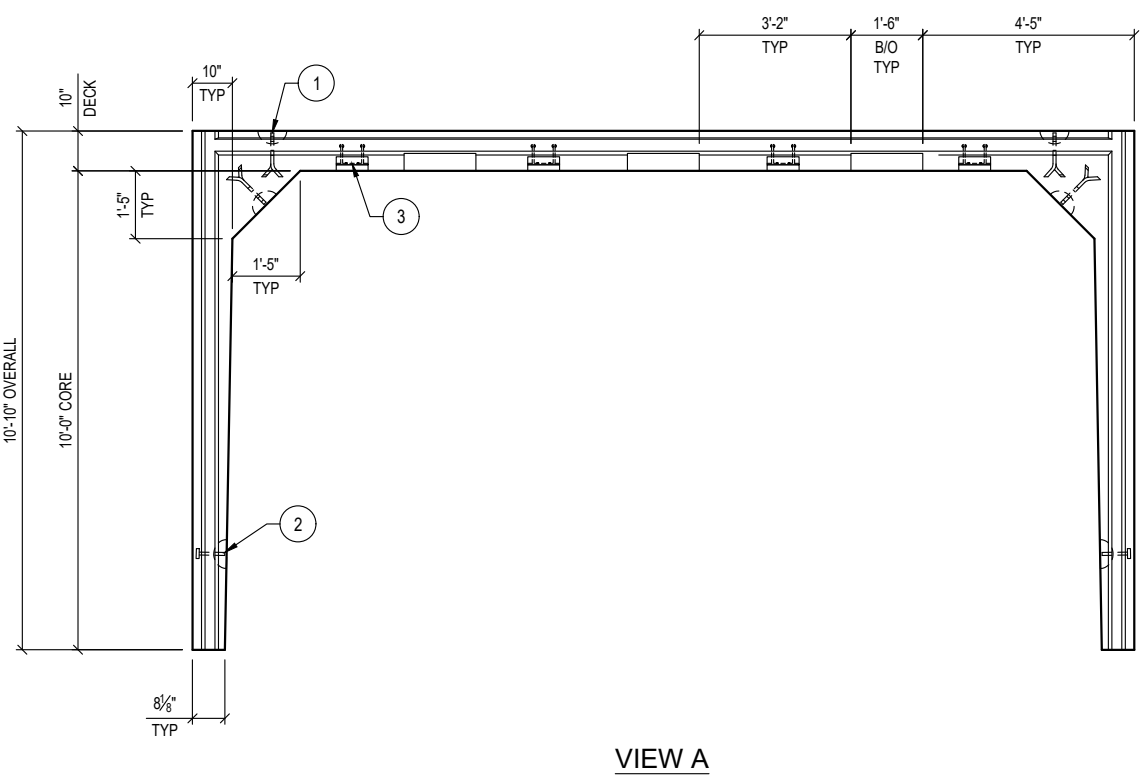
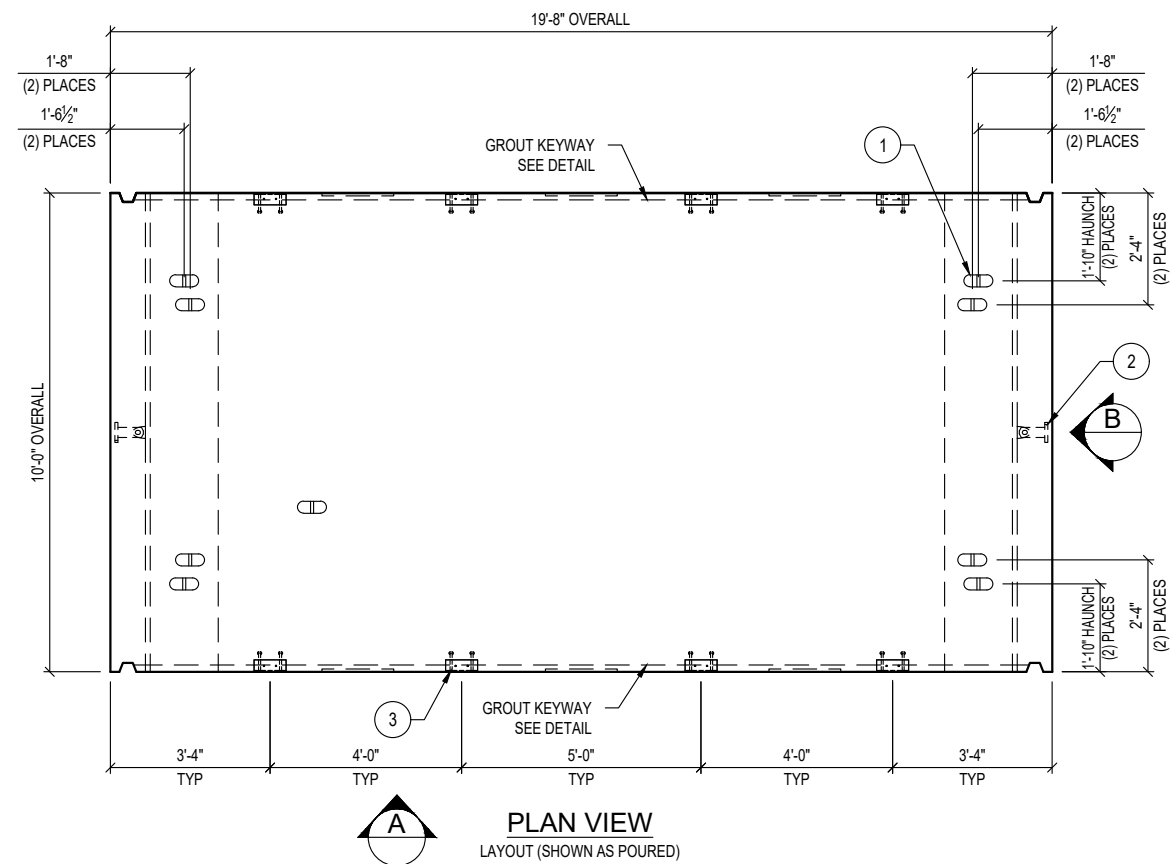
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
BASE 'B1': REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473

DRAWING NUMBER: **010-S202473-001**

REVISION	SHEET
	8 OF 40



PRODUCTION QUANTITY
(2) BASE 'B2'

PRODUCT WEIGHT
50,241 LBS

SHOP NOTES

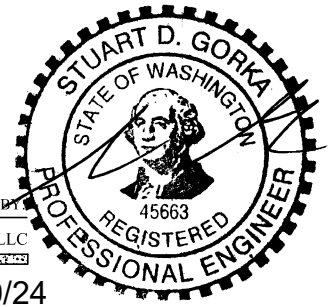
- FORM DIAGONAL DISTANCE: 22'-0 3/4"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES
- FLIP METHOD: ANCHOR IN WALLS
- MARK (WITH WATER PROOF PAINT) ON THE INSIDE FACE OF WALL 6" FROM THE TOP AFTER FLIPPING AS FOLLOW

OLDCASTLE PRECAST
 CONTRACT NO. XX
 SPAN = 18' - 0"
 RISE = 10' - 0"
 LOAD RATING: HL-93
 FABRICATION DATE:

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	8 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	2 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
3	8 ea	WELD ANGLE 2" x 3" x 8" w/ ANGLED STUD	2290620
	12.40 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	3.68 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.16 cwt	#5 REBAR A615/A706/GR60	725A0075
	3.48 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	111.6 sqf	MESH CHAIR	5500000

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082

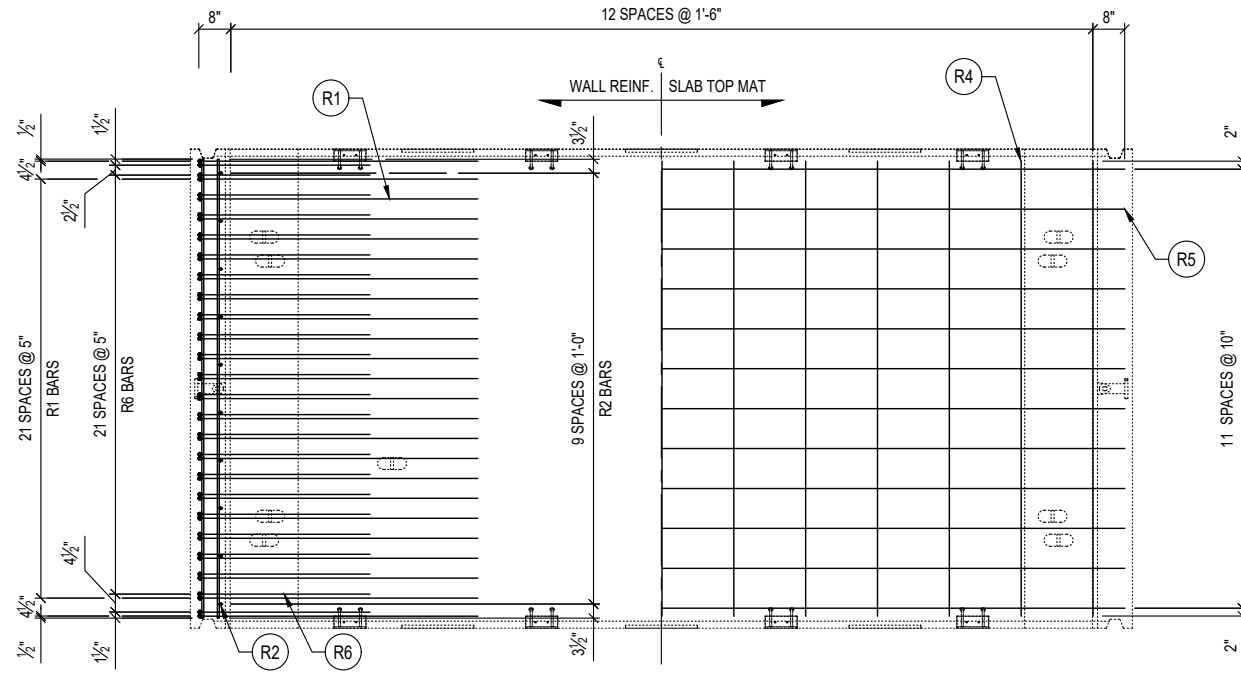


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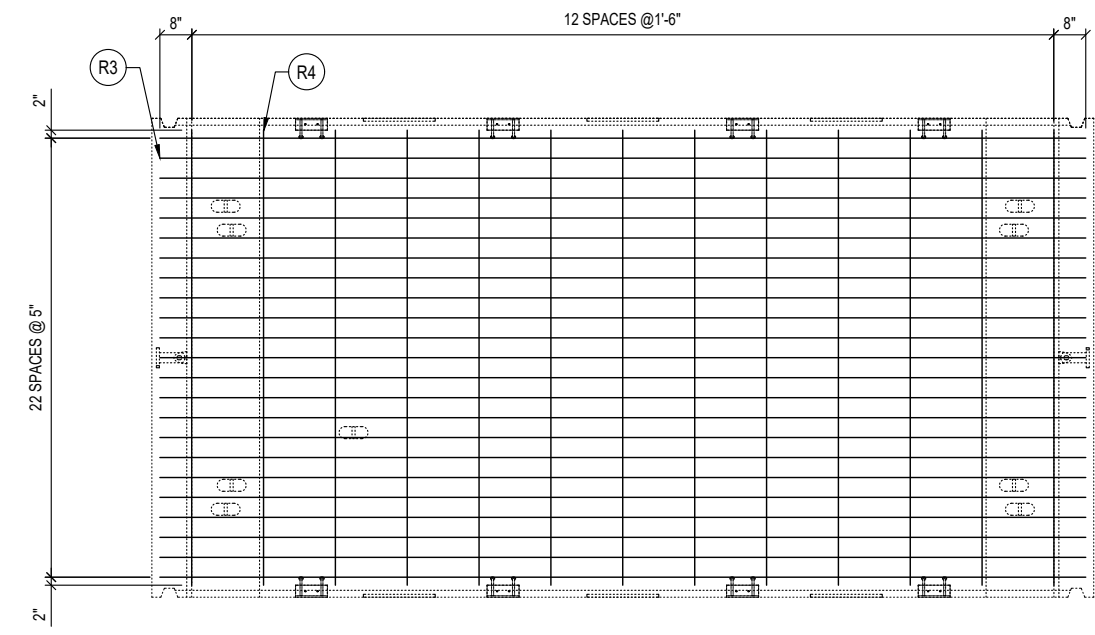
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 BASE 'B2': LAYOUT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	9 OF 40



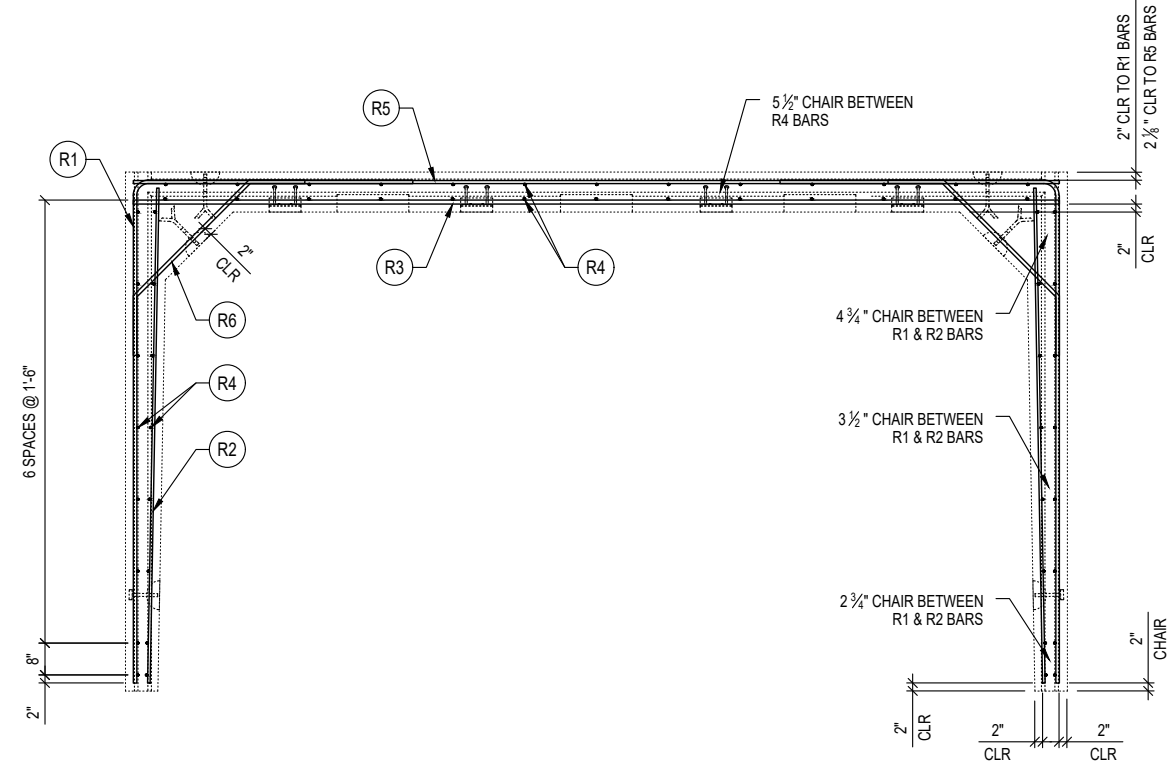
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)



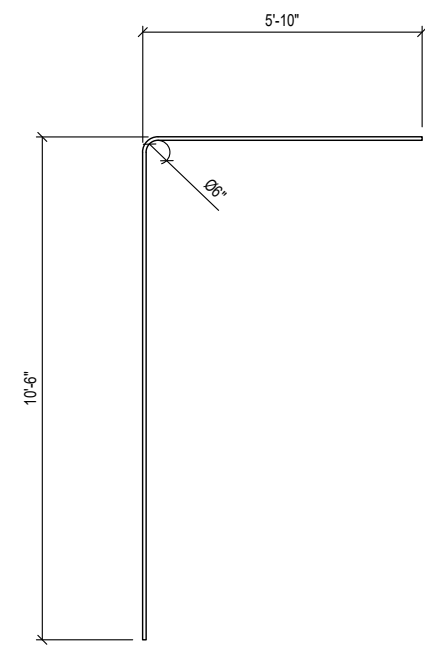
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
SLAB BOTTOM MAT

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R2	20	#5 REBAR A615/A706/GR60	10'- 4"	STR
R4	58	#4 REBAR A615/A706/GR60	9'- 6"	STR
R5	12	#6 REBAR A615/A706/GR60	19'- 4"	STR

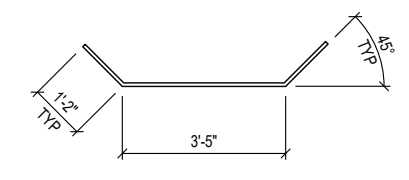
SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	48	#7 REBAR A615/A706/GR60	16'- 2"	BENT
R3	23	#8 REBAR A615/A706/GR60	19'- 4"	STR
R6	48	#7 REBAR A615/A706/GR60	5'- 9"	BENT



VIEW A



R1 DETAIL



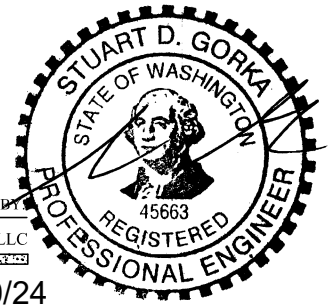
R6 DETAIL

Oldcastle Infrastructure™
A CRH COMPANY
P.O. BOX 588 AUBURN, WA 98071-0588
PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
BASE 'B2': REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	10 OF 40



SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081 FAX: 570-868-2082
1/30/24

REVISION	DESCRIPTION	BY

PRODUCTION QUANTITY

(1) BASE 'B3'

PRODUCT WEIGHT

26,319 LBS

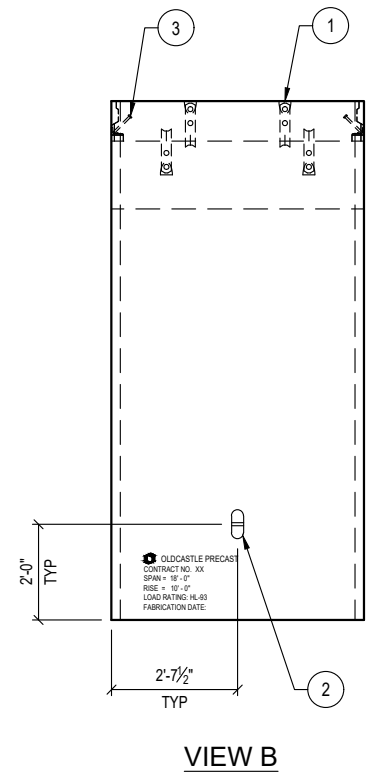
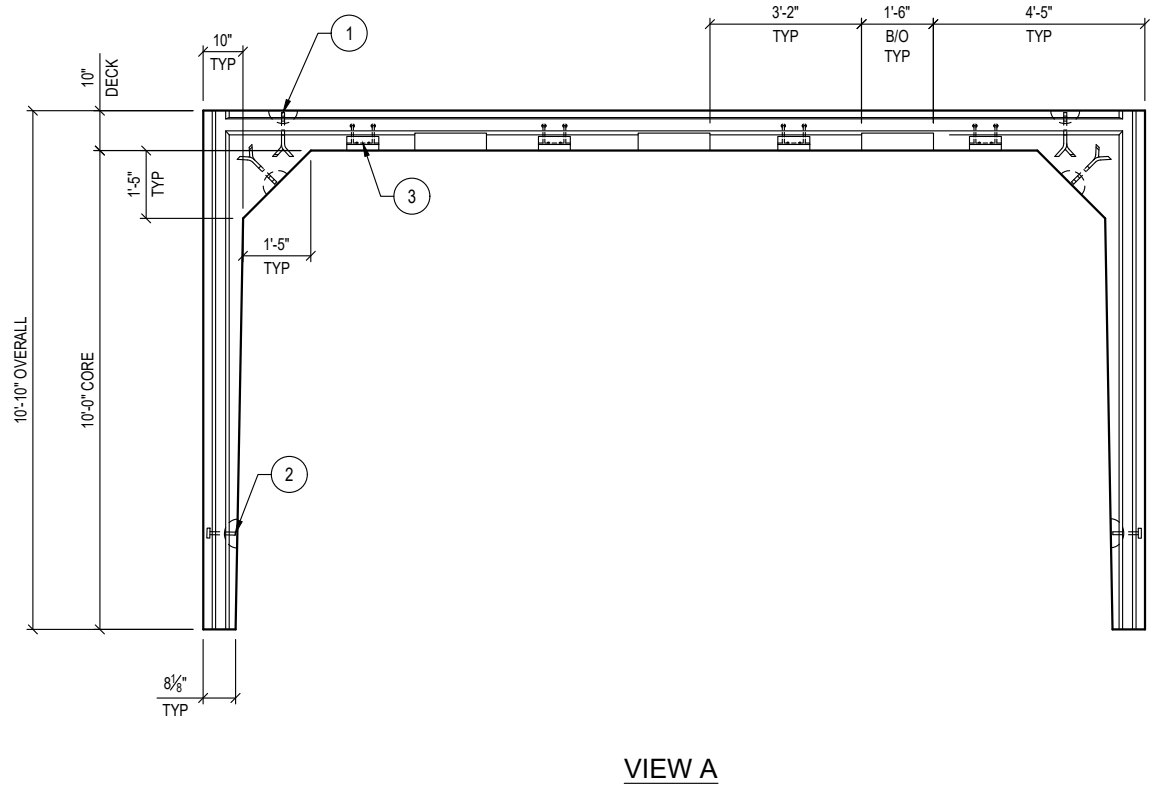
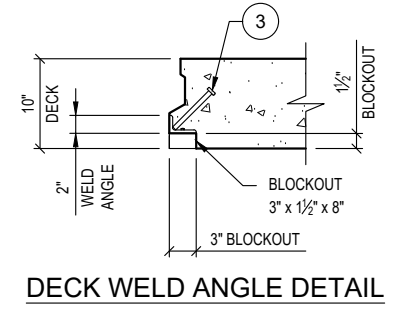
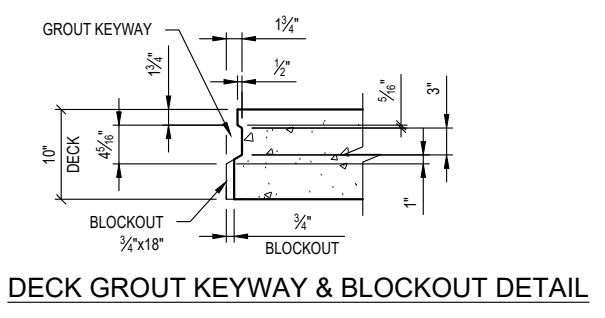
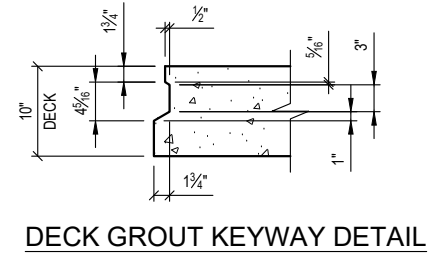
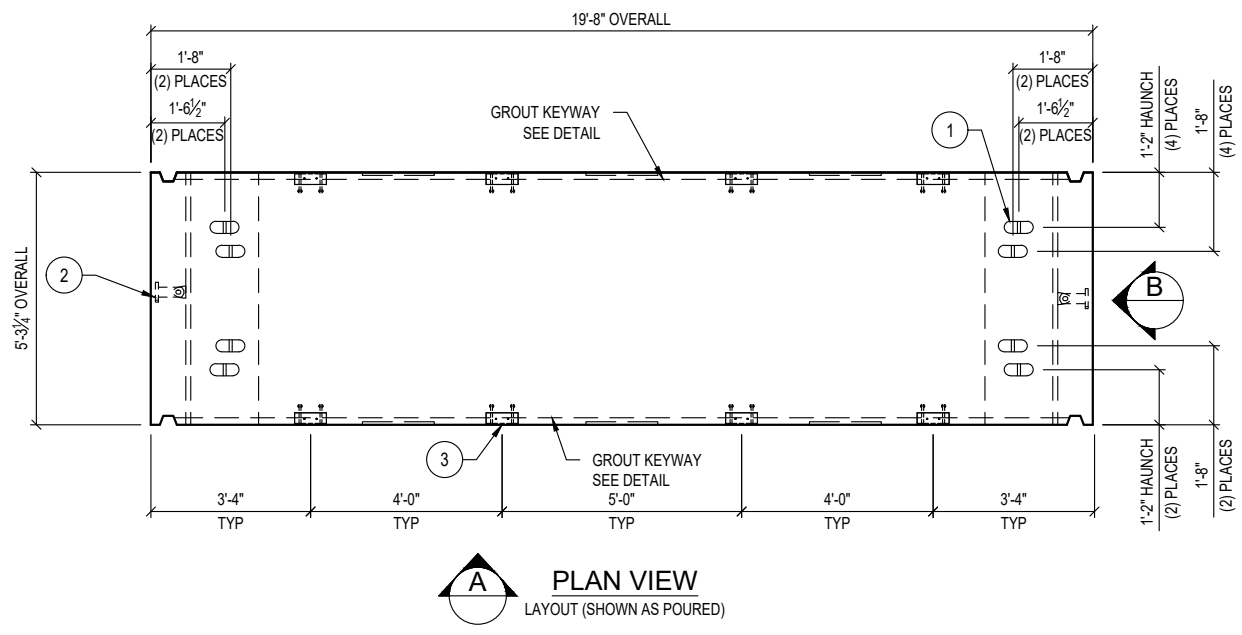
SHOP NOTES

- FORM DIAGONAL DISTANCE: 20'-4 5/16"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH MACHINED EDGES
- FLIP METHOD: ANCHOR IN WALLS
- MARK (WITH WATER PROOF PAINT) ON THE INSIDE FACE OF WALL 6" FROM THE TOP AFTER FLIPPING AS FOLLOWS

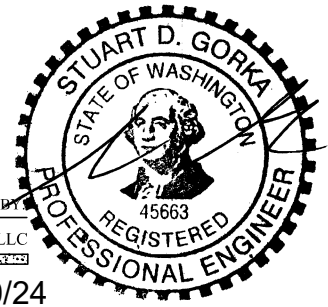
OLDCASTLE PRECAST
 CONTRACT NO. XX
 SPAN = 18' - 0"
 RISE = 10' - 0"
 LOAD RATING: HL-93
 FABRICATION DATE:

BILL OF MATERIALS

#	QUANTITY	DESCRIPTION	ITEM #
1	8 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	2 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
3	8 ea	WELD ANGLE 2" x 3" x 8" w/ ANGLED STUD	2290620
	6.49 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	1.84 cwt	#4 REBAR A615/A706/GR60	725A0074
	1.29 cwt	#5 REBAR A615/A706/GR60	725A0075
	2.03 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	58.41 sqf	MESH CHAIR	5500000



SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082
 1/30/24

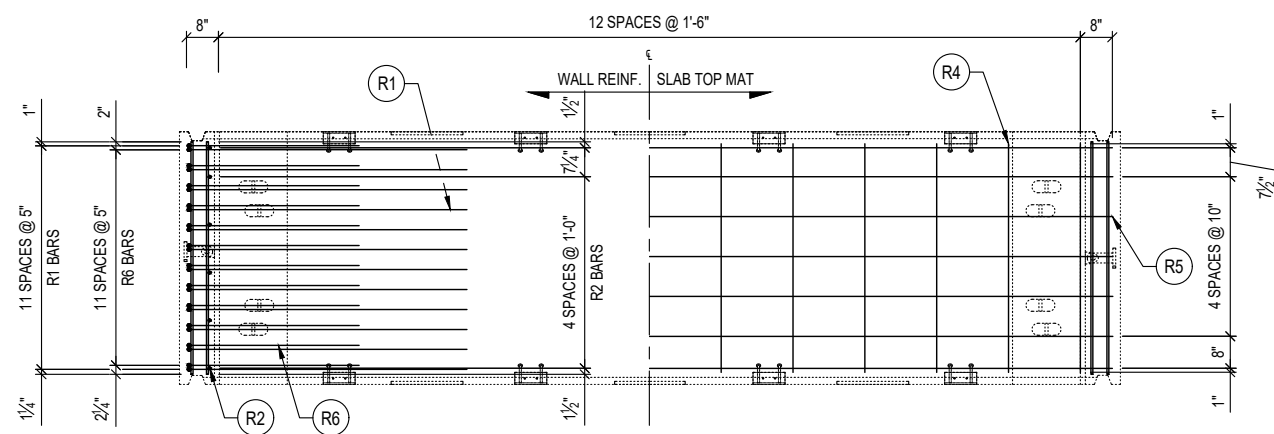


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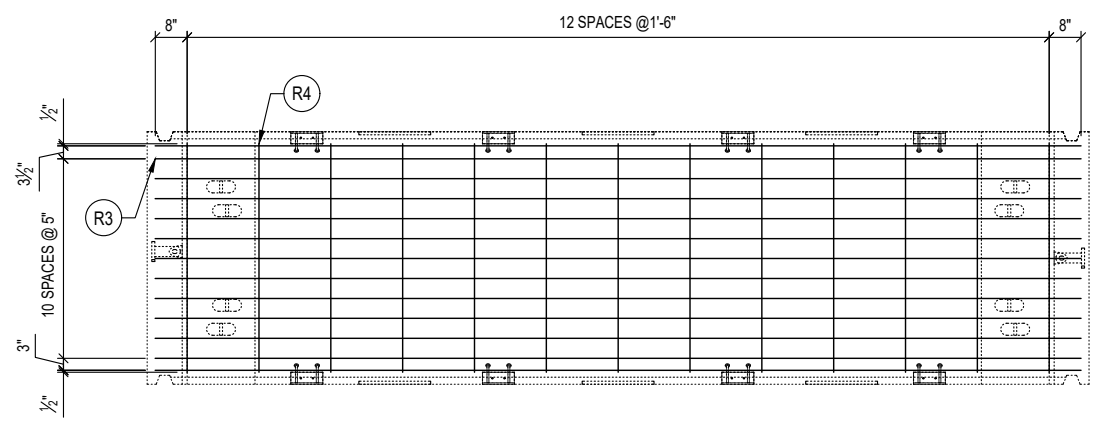
18"W x 10'T x 70'L SPLIT CULVERT 15 (ID 101SC-07)
 BASE 'B3': LAYOUT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER					
SNOQUALMIE VALLEY WATERSHED IMP. DIST					
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	11 OF 40

REVISION	DESCRIPTION	BY



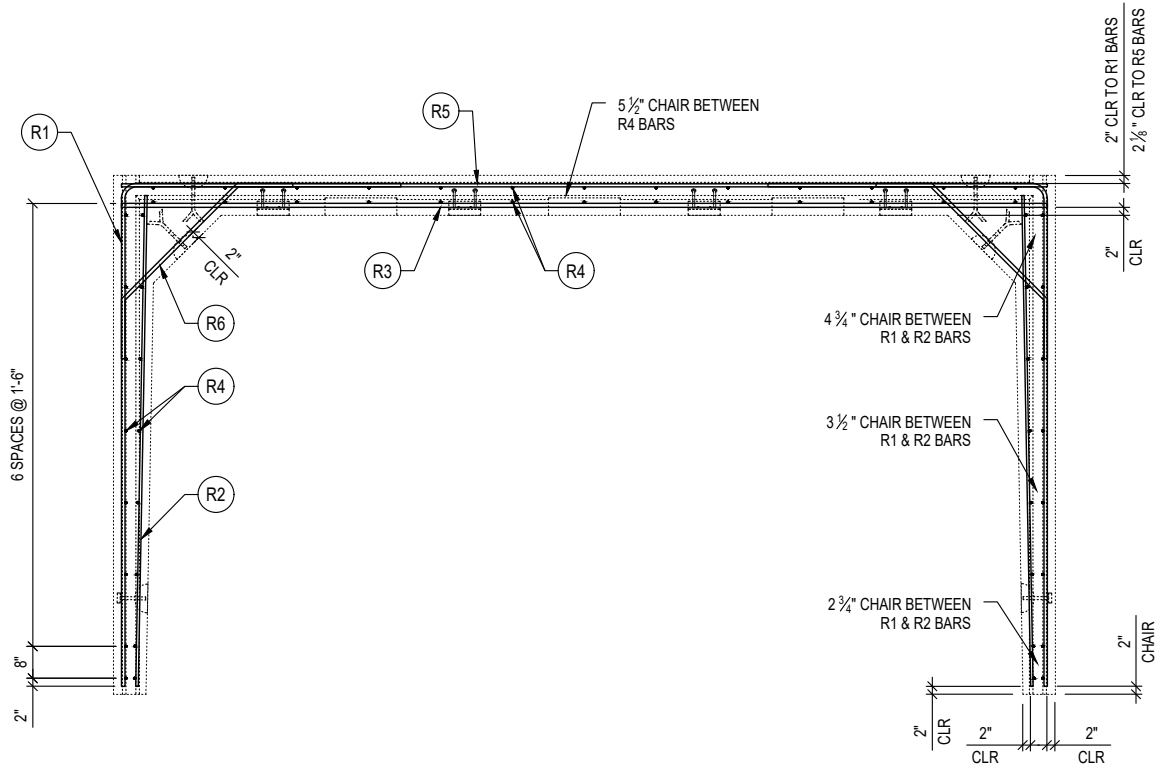
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)



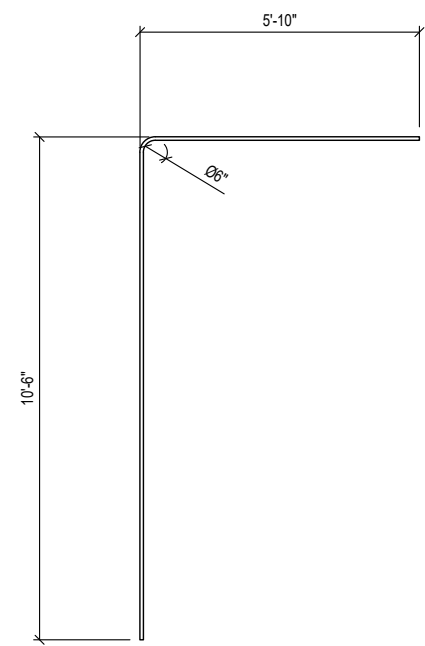
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
SLAB BOTTOM MAT

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R2	12	#5 REBAR A615/A706/GR60	10'- 4"	STR
R4	58	#4 REBAR A615/A706/GR60	4'- 9"	STR
R5	7	#6 REBAR A615/A706/GR60	19'- 4"	STR

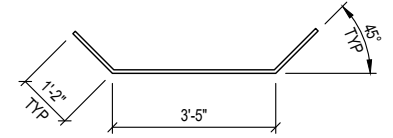
SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	24	#7 REBAR A615/A706/GR60	16'- 2"	BENT
R3	13	#8 REBAR A615/A706/GR60	19'- 4"	STR
R6	24	#7 REBAR A615/A706/GR60	5'- 9"	BENT



VIEW A



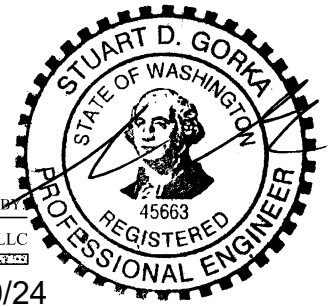
R1 DETAIL



R6 DETAIL

REVISION	DESCRIPTION	BY

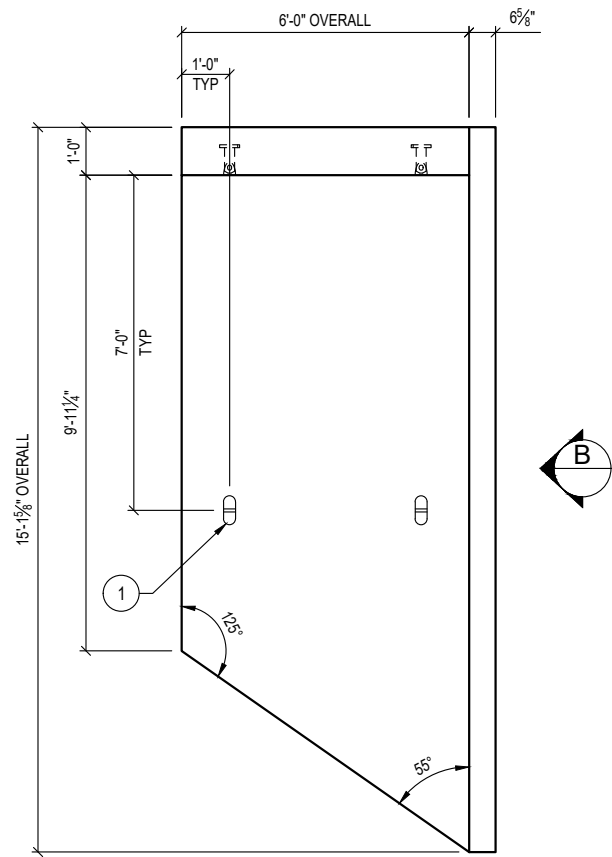
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082
1/30/24



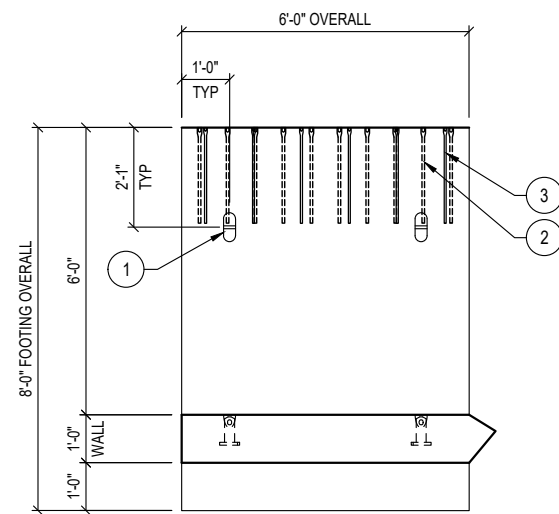
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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
BASE 'B3': REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

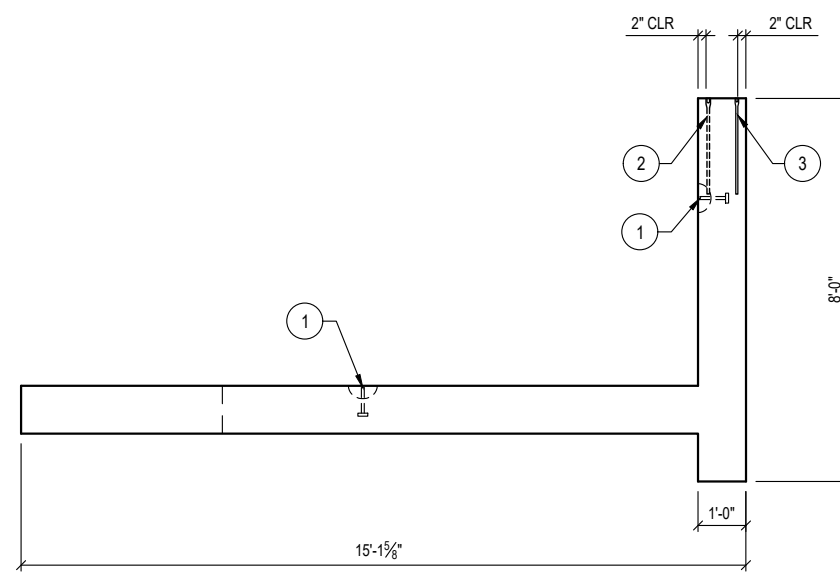
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	12 OF 40



PLAN VIEW
LAYOUT (SHOWN AS POURED)



VIEW A



VIEW B

PRODUCTION QUANTITY
(1) WING WALL 'W1a' 1st POUR

PRODUCT WEIGHT
1st POUR : 18,658 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
 3. SEE SHEET 15 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	4.60 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.63 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.64 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	41.4 sqf	MESH CHAIR	5500000



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W1a' 1st POUR : LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	13 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

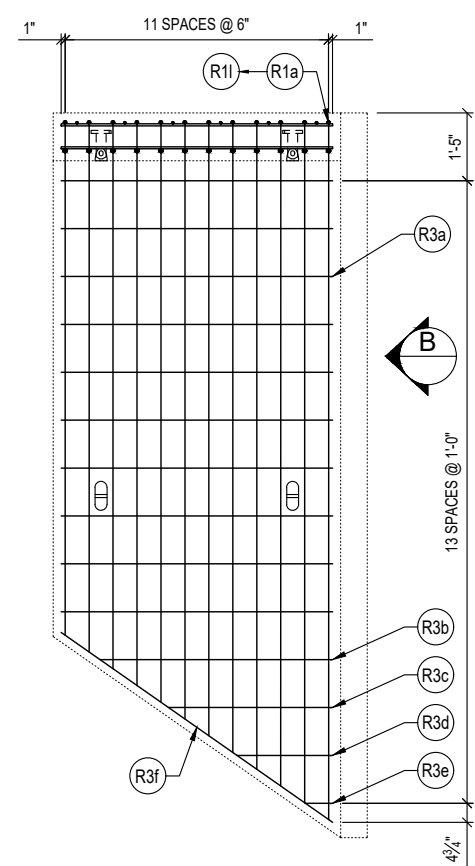
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24

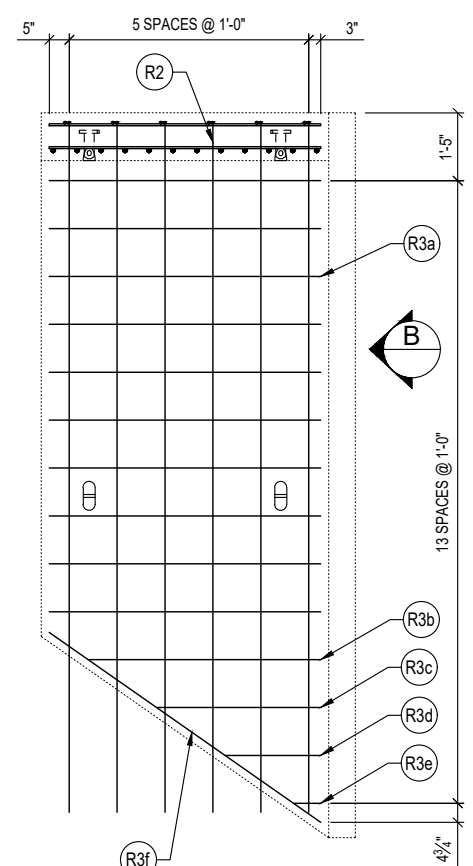


REVISION	DESCRIPTION	BY

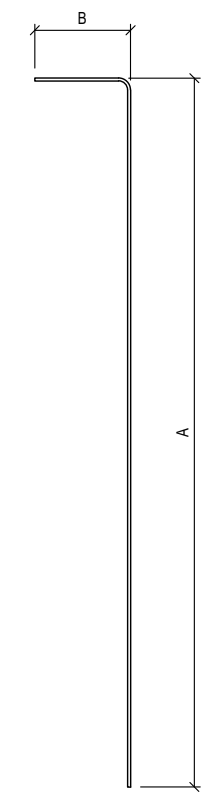
SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



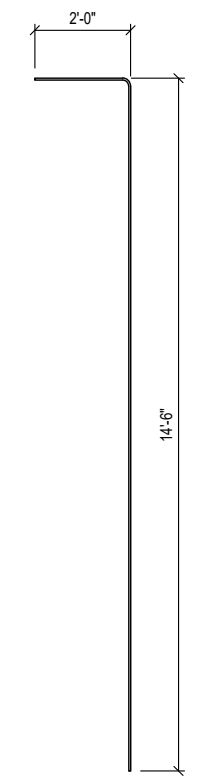
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT



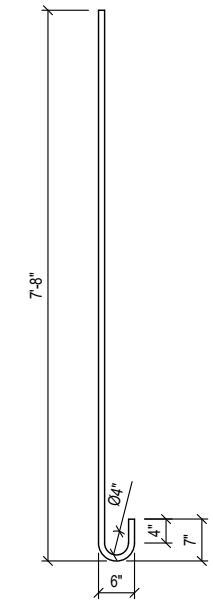
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT



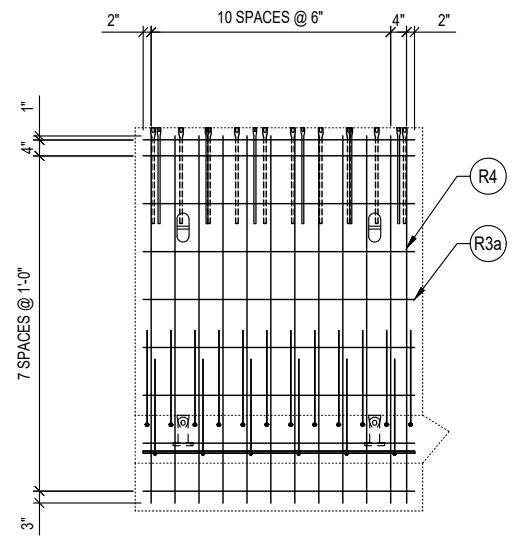
R1 DETAIL



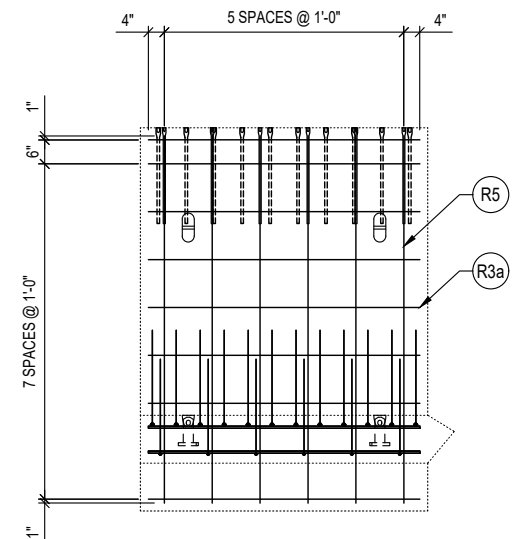
R2 DETAIL



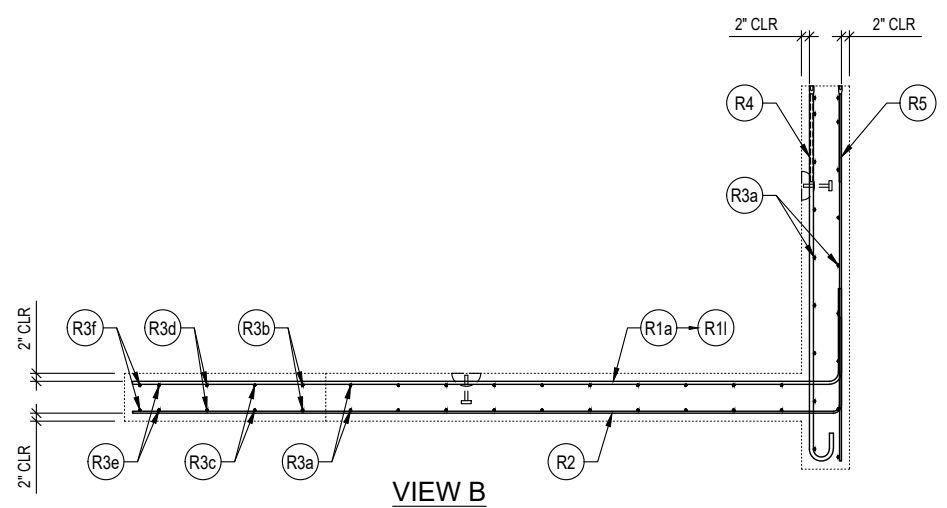
R4 DETAIL



VIEW A
 FOOTING REINF. (NEAR REINF.)



VIEW A
 FOOTING REINF. (FAR REINF.)



VIEW B

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	16'- 7"	BENT
R1b	1	#6 REBAR A615/A706/GR60	16'- 3"	BENT
R1c	1	#6 REBAR A615/A706/GR60	15'- 10"	BENT
R1d	1	#6 REBAR A615/A706/GR60	15'- 7"	BENT
R1e	1	#6 REBAR A615/A706/GR60	15'- 2"	BENT
R1f	1	#6 REBAR A615/A706/GR60	14'- 10"	BENT
R1g	1	#6 REBAR A615/A706/GR60	14'- 6"	BENT
R1h	1	#6 REBAR A615/A706/GR60	14'- 2"	BENT
R1i	1	#6 REBAR A615/A706/GR60	13'- 10"	BENT
R1j	1	#6 REBAR A615/A706/GR60	13'- 5"	BENT
R1k	1	#6 REBAR A615/A706/GR60	13'- 1"	BENT
R1l	1	#6 REBAR A615/A706/GR60	12'- 9"	BENT
R2	6	#4 REBAR A615/A706/GR60	16'- 6"	BENT
R3a	38	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 10"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 5"	STR
R3d	2	#4 REBAR A615/A706/GR60	2'- 0"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 7"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS			
BARS	A	B	LENGTH
R1a	14' - 7"	2'-0"	16' - 7"
R1b	14' - 3"	2'-0"	16' - 3"
R1c	13' - 10"	2'-0"	15' - 10"
R1d	13' - 7"	2'-0"	15' - 7"
R1e	13' - 2"	2'-0"	15' - 2"
R1f	12' - 10"	2'-0"	14' - 10"
R1g	12' - 6"	2'-0"	14' - 6"
R1h	12' - 2"	2'-0"	14' - 2"
R1i	11' - 10"	2'-0"	13' - 10"
R1j	11' - 5"	2'-0"	13' - 5"
R1k	11' - 1"	2'-0"	13' - 1"
R1l	10' - 9"	2'-0"	12' - 9"
TOTAL			176' - 0"

Oldcastle Infrastructure™
 A CRH COMPANY
 P.O. BOX 588 AUBURN, WA 98071-0588
 PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W1a' 1st POUR: REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

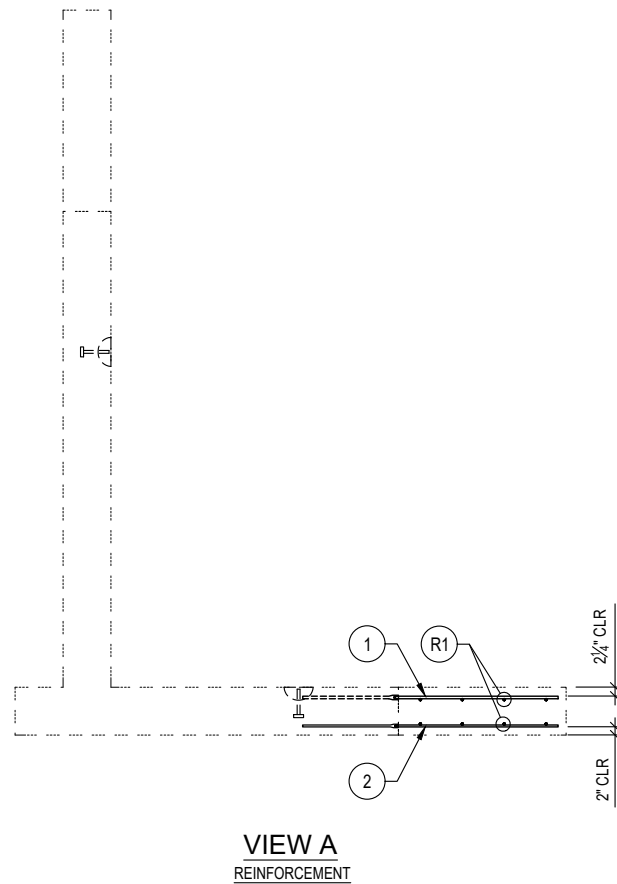
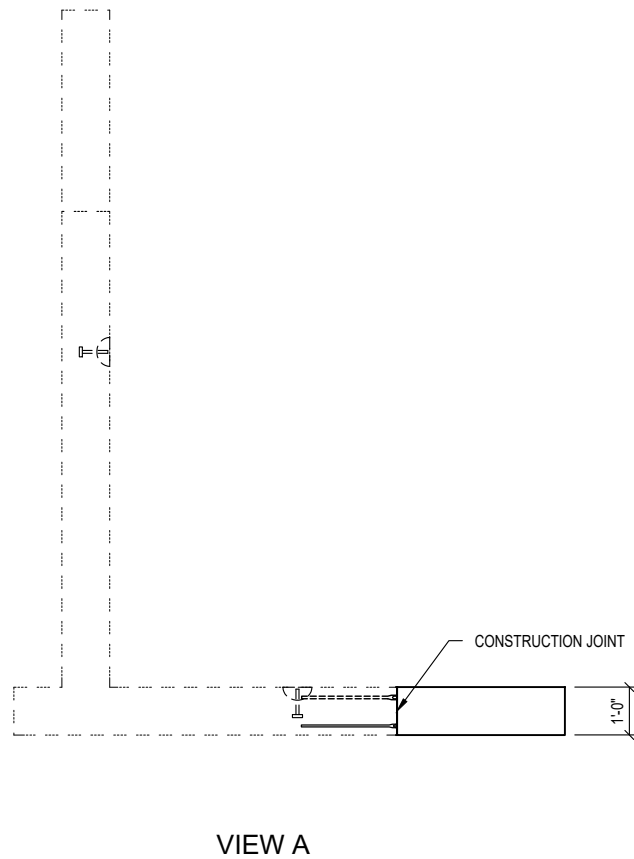
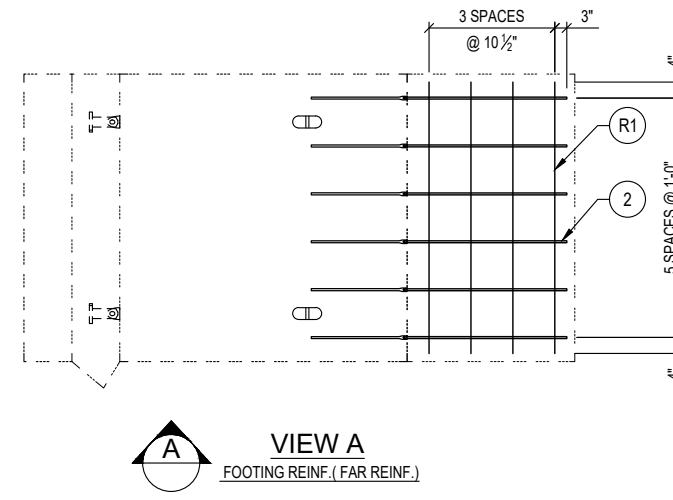
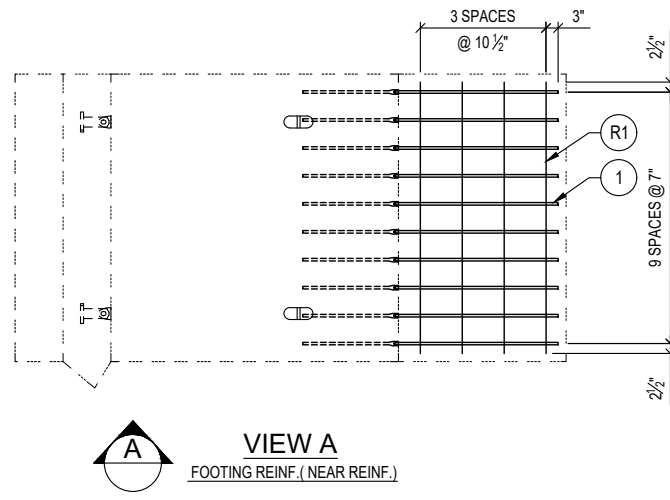
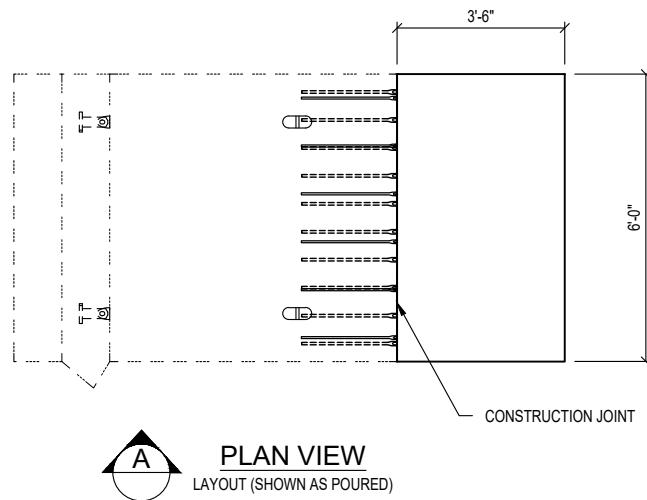
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	14 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
 1/30/24



REVISION	DESCRIPTION	BY



PRODUCTION QUANTITY
(1) WING WALL 'W1a' 2nd POUR

PRODUCT WEIGHT
1st POUR : 18,658 LBS
2nd POUR : 3,150 LBS
TOTAL : 21,808 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W1a' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	15 OF 40

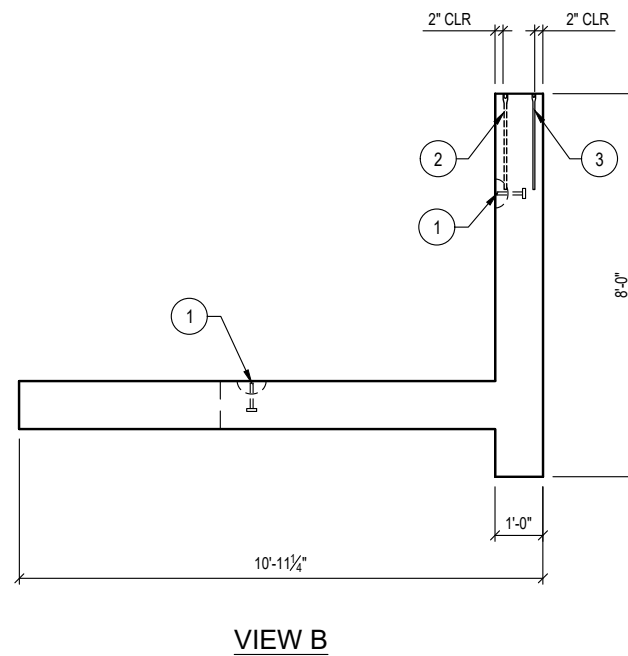
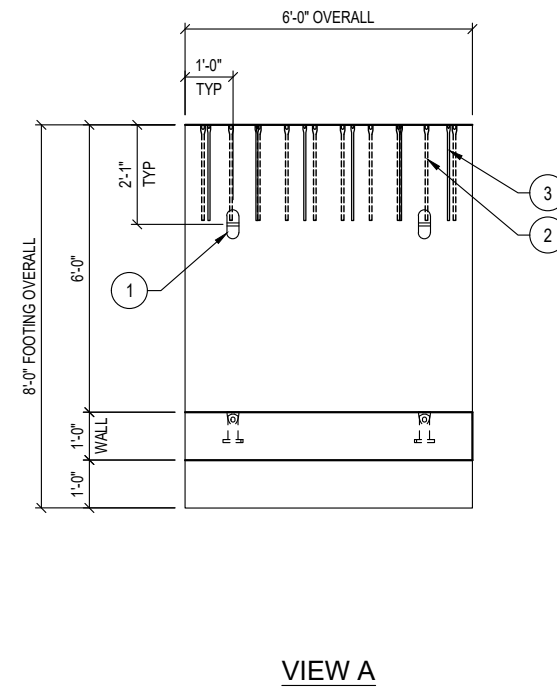
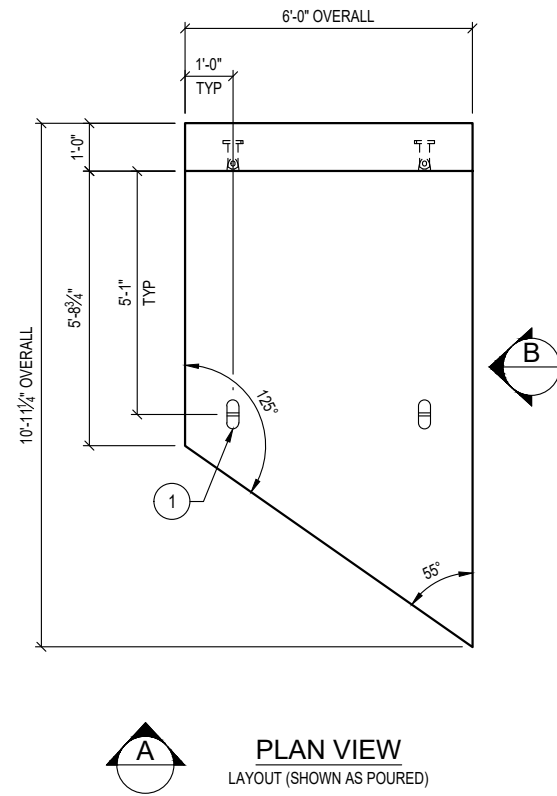
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24



REVISION	DESCRIPTION	BY



PRODUCTION QUANTITY
(1) WING WALL 'W1b' 1st POUR

PRODUCT WEIGHT
1st POUR :14,253 LBS

SHOP NOTES

1. CONCRETE FINISH: FLAT FLOAT FINISH
2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
3. SEE SHEET 18 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	3.51 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.16 cwt	#4 REBAR A615/A706/GR60	725A0074
	1.89 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	31.59 sqf	MESH CHAIR	5500000

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24

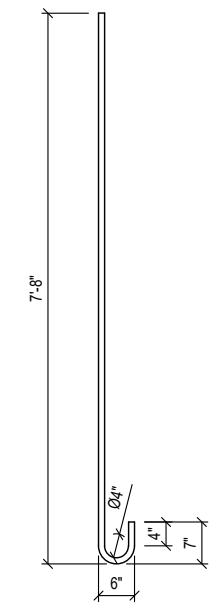
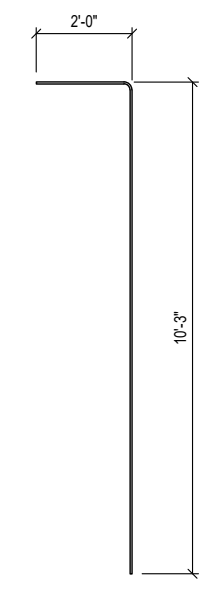
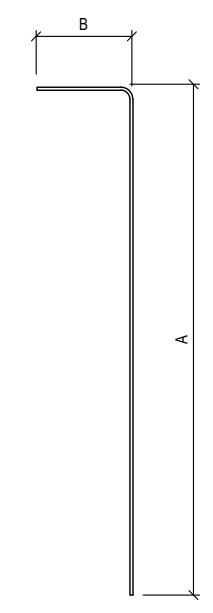
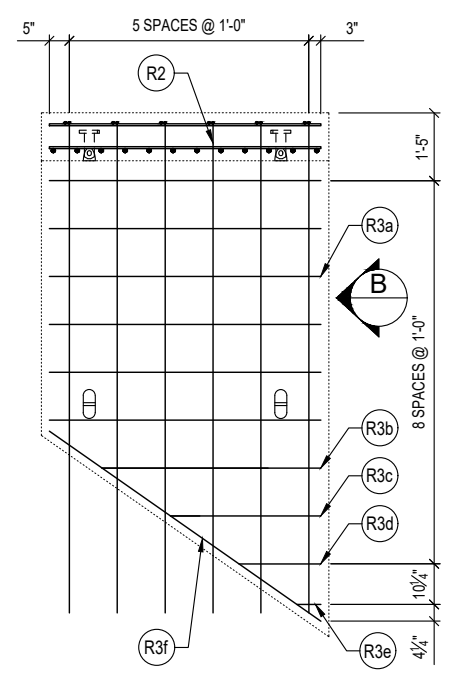
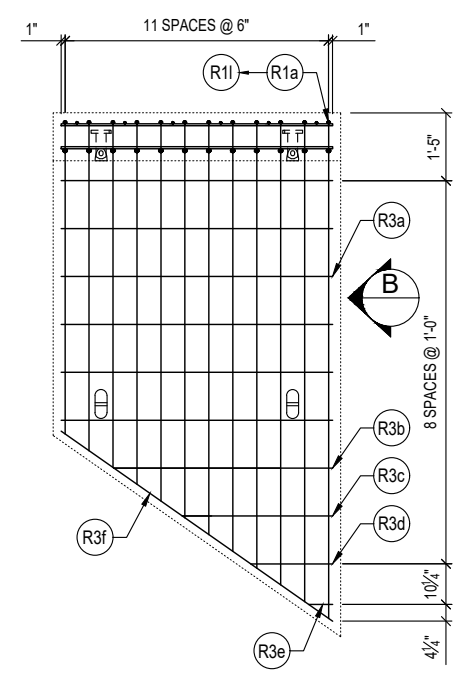


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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W1b' 1st POUR : LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER					
SNOQUALMIE VALLEY WATERSHED IMP. DIST					
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	16 OF 40

SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT

PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT

R1 DETAIL

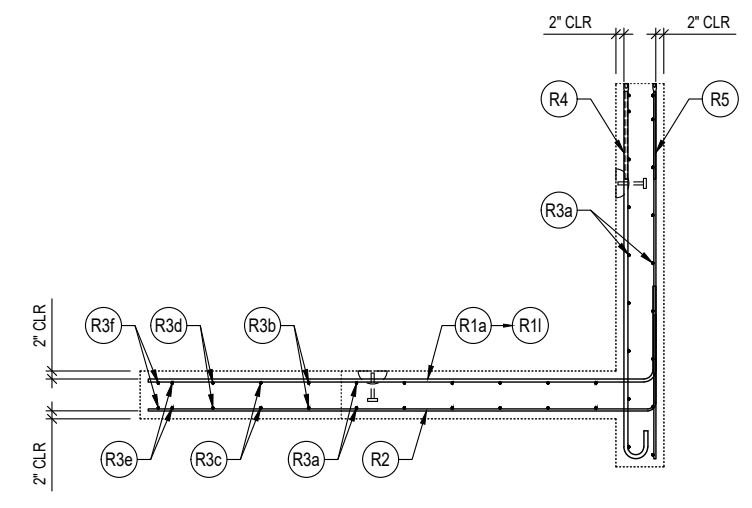
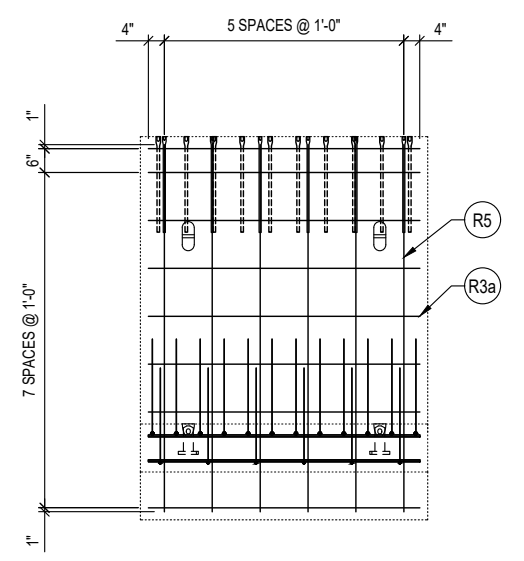
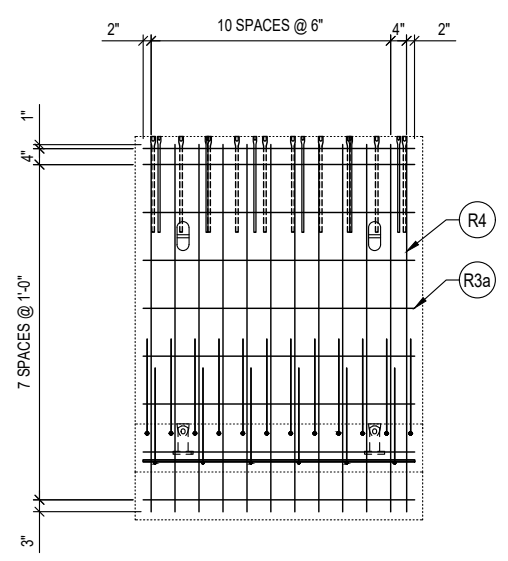
R2 DETAIL

R4 DETAIL

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	12'- 5"	BENT
R1b	1	#6 REBAR A615/A706/GR60	12'- 1"	BENT
R1c	1	#6 REBAR A615/A706/GR60	11'- 8"	BENT
R1d	1	#6 REBAR A615/A706/GR60	11'- 4"	BENT
R1e	1	#6 REBAR A615/A706/GR60	11'- 0"	BENT
R1f	1	#6 REBAR A615/A706/GR60	10'- 8"	BENT
R1g	1	#6 REBAR A615/A706/GR60	10'- 4"	BENT
R1h	1	#6 REBAR A615/A706/GR60	10'- 0"	BENT
R1i	1	#6 REBAR A615/A706/GR60	9'- 7"	BENT
R1j	1	#6 REBAR A615/A706/GR60	9'- 3"	BENT
R1k	1	#6 REBAR A615/A706/GR60	8'- 11"	BENT
R1l	1	#6 REBAR A615/A706/GR60	8'- 7"	BENT
R2	6	#4 REBAR A615/A706/GR60	12'- 3"	BENT
R3a	30	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 7"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 2"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 9"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 6"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS			
BARS	A	B	LENGTH
R1a	10' - 5"	2'-0"	12' - 5"
R1b	10' - 1"	2'-0"	12' - 1"
R1c	9' - 8"	2'-0"	11' - 8"
R1d	9' - 4"	2'-0"	11' - 4"
R1e	9' - 0"	2'-0"	11' - 0"
R1f	8' - 8"	2'-0"	10' - 8"
R1g	8' - 4"	2'-0"	10' - 4"
R1h	8' - 0"	2'-0"	10' - 0"
R1i	7' - 7"	2'-0"	9' - 7"
R1j	7' - 3"	2'-0"	9' - 3"
R1k	6' - 11"	2'-0"	8' - 11"
R1l	6' - 7"	2'-0"	8' - 7"
TOTAL			125' - 10"



VIEW A
 FOOTING REINF. (NEAR REINF.)

VIEW A
 FOOTING REINF. (FAR REINF.)

VIEW B

Oldcastle Infrastructure
 A CRH COMPANY
 P.O. BOX 588 AUBURN, WA 98071-0588
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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W1b' 1st POUR : REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

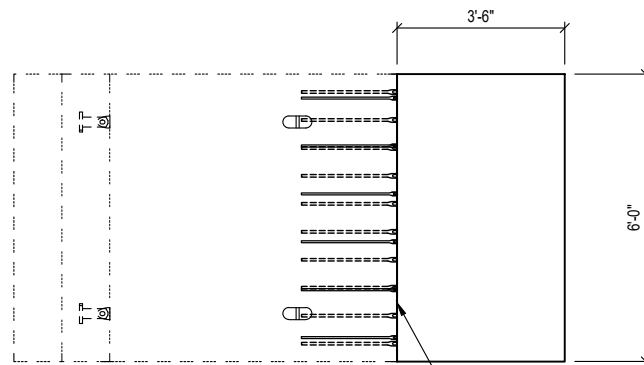
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	17 OF 40

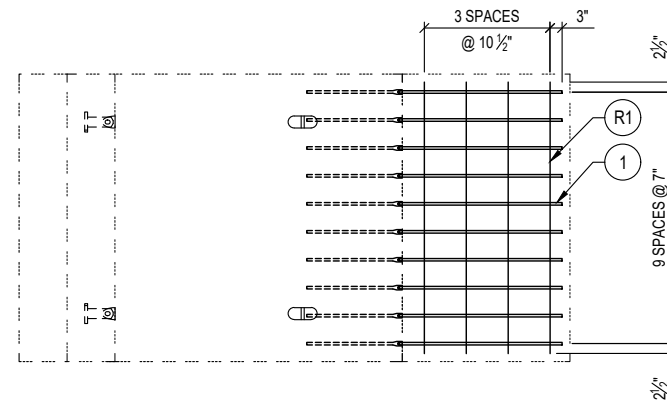
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082
 1/30/24



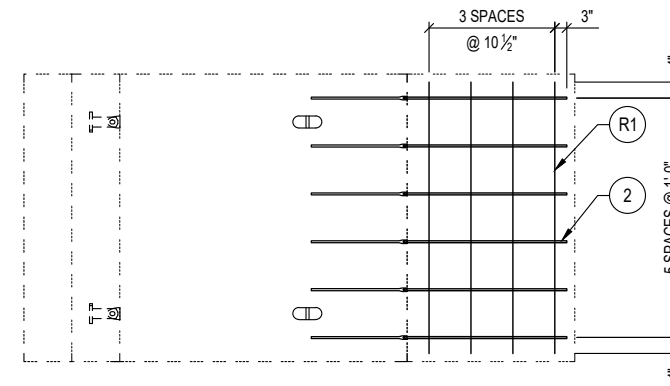
REVISION	DESCRIPTION	BY



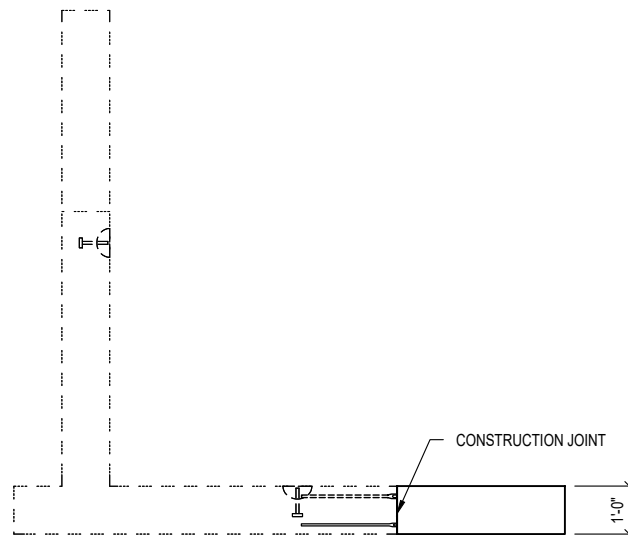
PLAN VIEW
LAYOUT (SHOWN AS POURED)



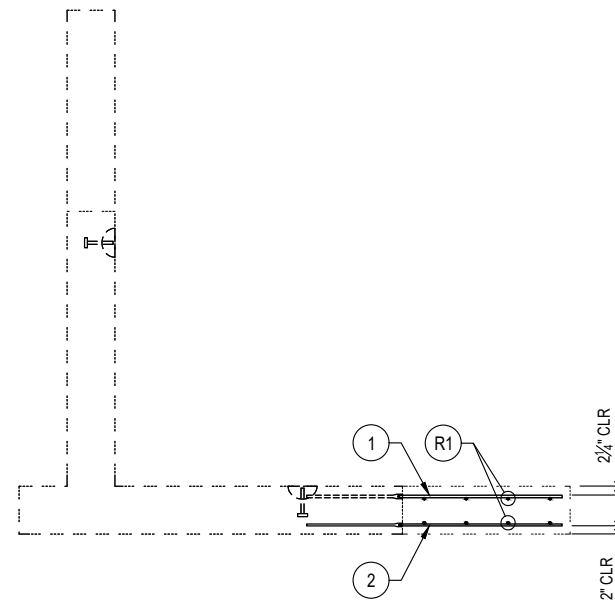
VIEW A
FOOTING REINF. (NEAR REINF.)



VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W1a' 2nd POUR

PRODUCT WEIGHT
1st POUR :14,253 LBS
2nd POUR :3,150 LBS
TOTAL :17,403 LBS

SHOP NOTES

1. CONCRETE FINISH: FLAT FLOAT FINISH
2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS

#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W1b' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	18 OF 40

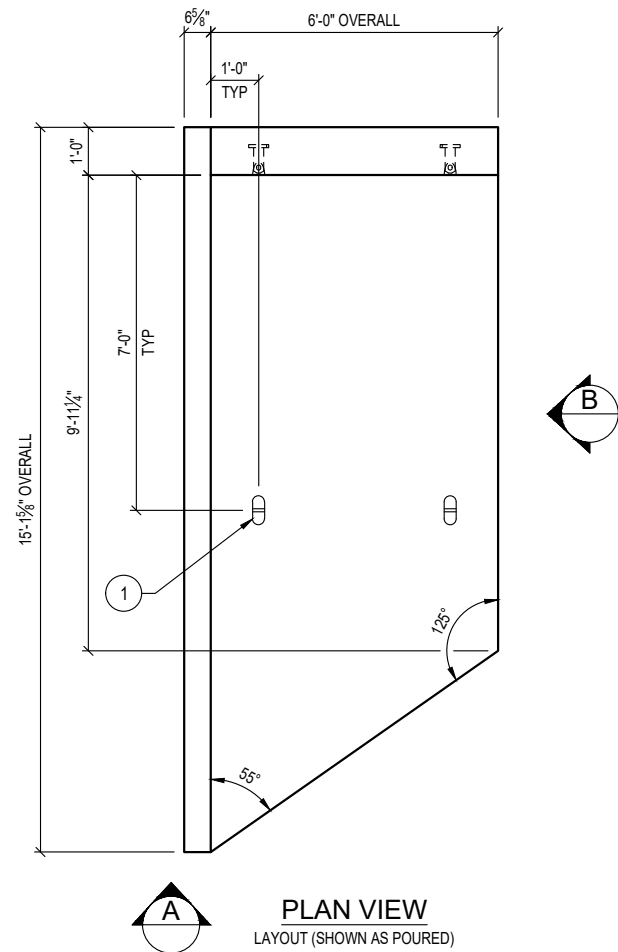
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

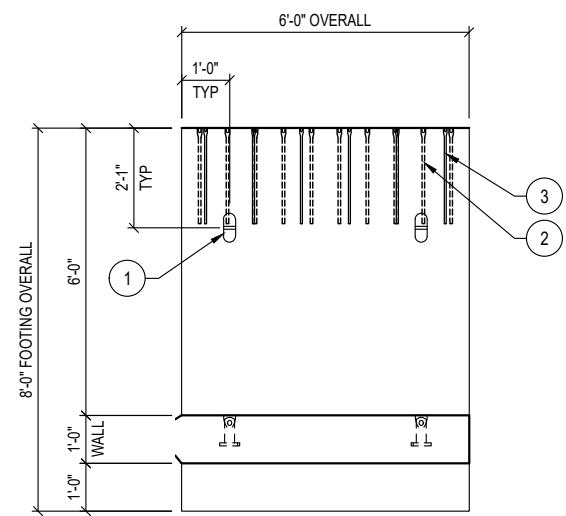
1/30/24



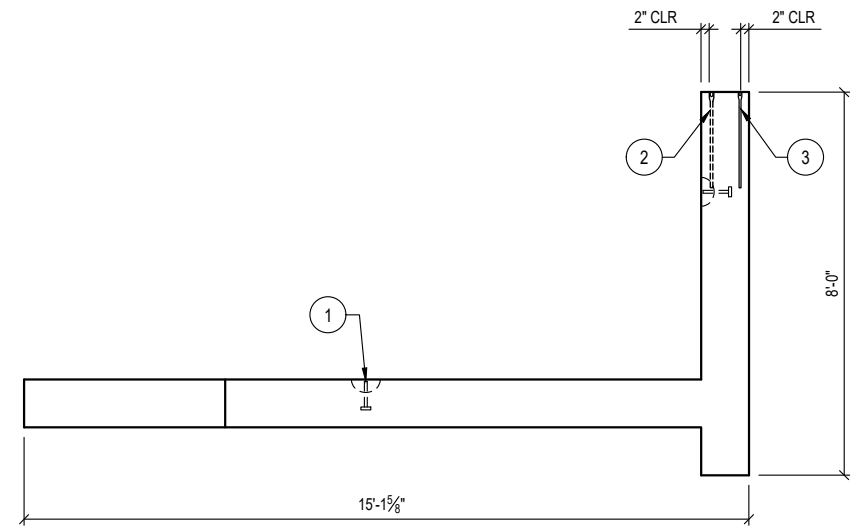
REVISION	DESCRIPTION	BY



PLAN VIEW
LAYOUT (SHOWN AS POURED)



VIEW A



VIEW B

PRODUCTION QUANTITY
(1) WING WALL 'W2a' 1st POUR

PRODUCT WEIGHT
1st POUR : 18,658 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
 3. SEE SHEET 21 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	4.60 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.63 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.64 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	41.4 sqf	MESH CHAIR	5500000



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W2a' 1st POUR : LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	19 OF 40

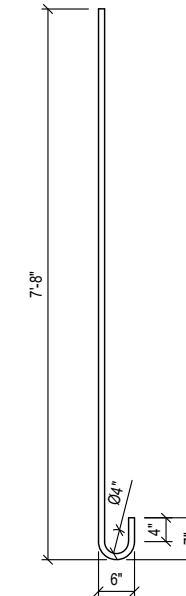
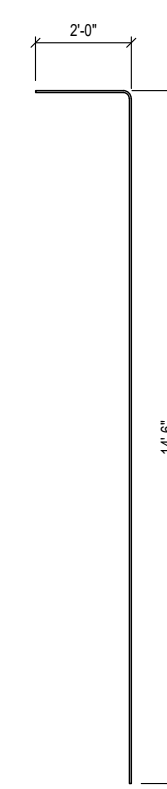
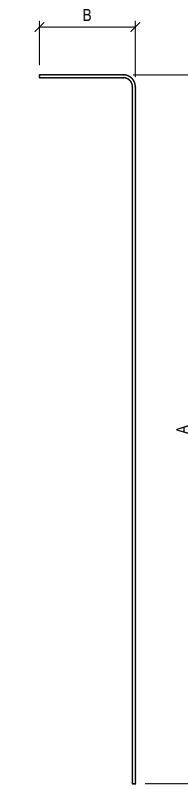
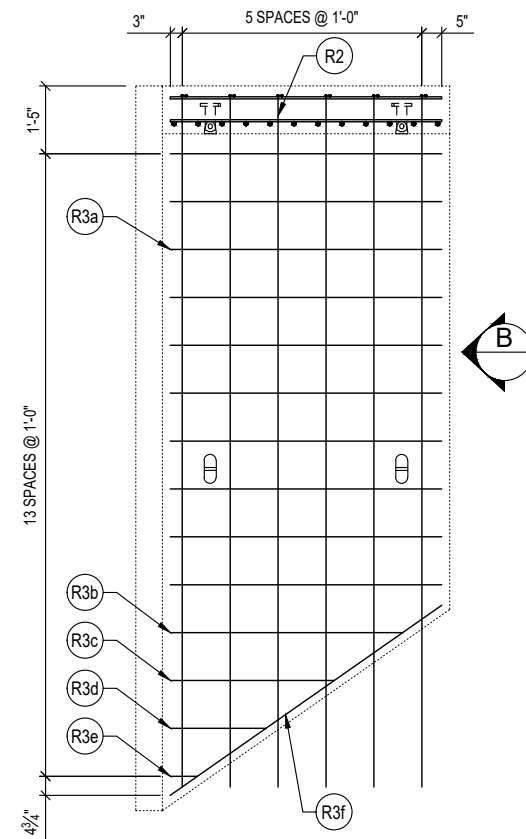
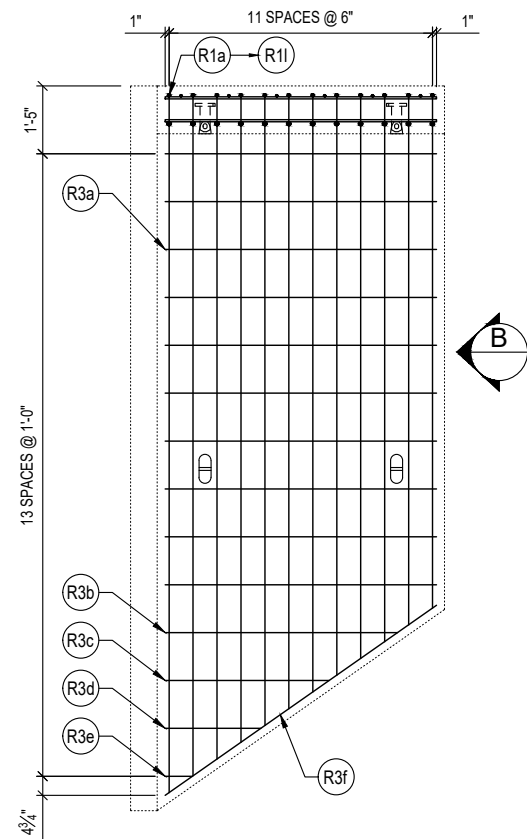


SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082
1/30/24

REVISION	DESCRIPTION	BY

SHOP NOTES

- TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



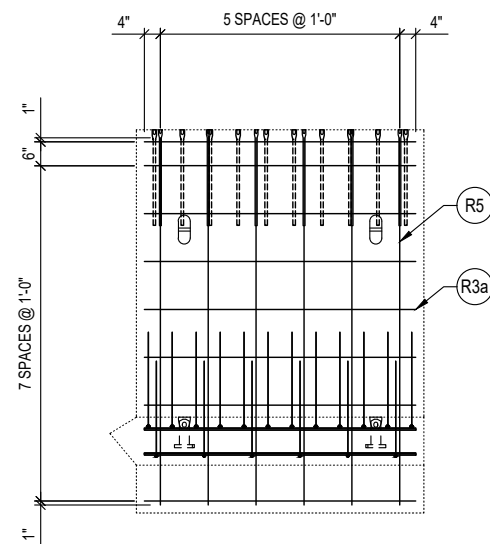
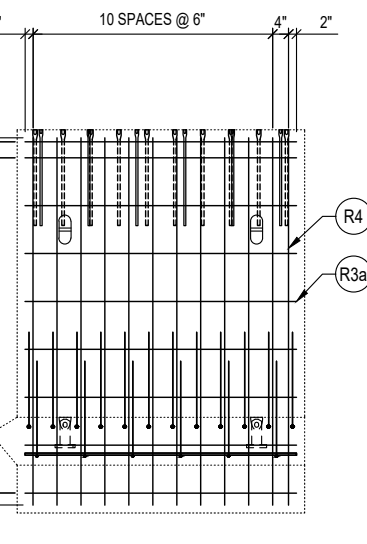
R1 DETAIL

R2 DETAIL

R4 DETAIL

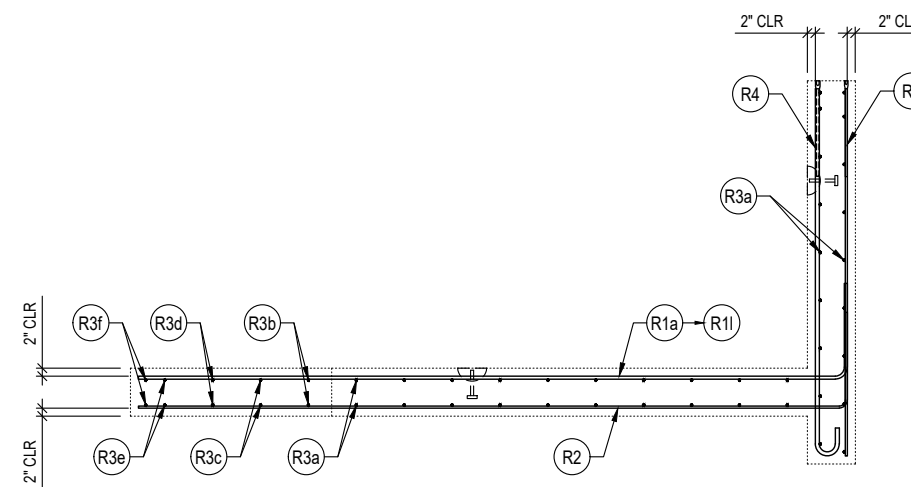
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
WALL TOP MAT

PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)
WALL BOTTOM MAT



VIEW A
FOOTING REINF. (NEAR REINF.)

VIEW A
FOOTING REINF. (FAR REINF.)



VIEW B

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	16'- 7"	BENT
R1b	1	#6 REBAR A615/A706/GR60	16'- 3"	BENT
R1c	1	#6 REBAR A615/A706/GR60	15'- 10"	BENT
R1d	1	#6 REBAR A615/A706/GR60	15'- 7"	BENT
R1e	1	#6 REBAR A615/A706/GR60	15'- 2"	BENT
R1f	1	#6 REBAR A615/A706/GR60	14'- 10"	BENT
R1g	1	#6 REBAR A615/A706/GR60	14'- 6"	BENT
R1h	1	#6 REBAR A615/A706/GR60	14'- 2"	BENT
R1i	1	#6 REBAR A615/A706/GR60	13'- 10"	BENT
R1j	1	#6 REBAR A615/A706/GR60	13'- 5"	BENT
R1k	1	#6 REBAR A615/A706/GR60	13'- 1"	BENT
R1l	1	#6 REBAR A615/A706/GR60	12'- 9"	BENT
R2	6	#4 REBAR A615/A706/GR60	16'- 10"	STR
R3a	38	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 10"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 5"	STR
R3d	2	#4 REBAR A615/A706/GR60	2'- 0"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 7"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST
(SPECIAL PURCHASED ITEMS)

#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS

BARS	A	B	LENGTH
R1a	14' - 7"	2'-0"	16' - 7"
R1b	14' - 3"	2'-0"	16' - 3"
R1c	13' - 10"	2'-0"	15' - 10"
R1d	13' - 7"	2'-0"	15' - 7"
R1e	13' - 2"	2'-0"	15' - 2"
R1f	12' - 10"	2'-0"	14' - 10"
R1g	12' - 6"	2'-0"	14' - 6"
R1h	12' - 2"	2'-0"	14' - 2"
R1i	11' - 10"	2'-0"	13' - 10"
R1j	11' - 5"	2'-0"	13' - 5"
R1k	11' - 1"	2'-0"	13' - 1"
R1l	10' - 9"	2'-0"	12' - 9"
TOTAL			176' - 0"

Oldcastle Infrastructure
A CRH COMPANY
P.O. BOX 588 AUBURN, WA 98071-0588
PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)

WING WALL 'W2a' 1st POUR : REINFORCEMENT DETAILS

SNOQUALMIE VALLEY WATERSHED IMP. DIST

WA

CUSTOMER

SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473

DRAWING NUMBER	REVISION	SHEET
010-S202473-001	REV DATE	20 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY

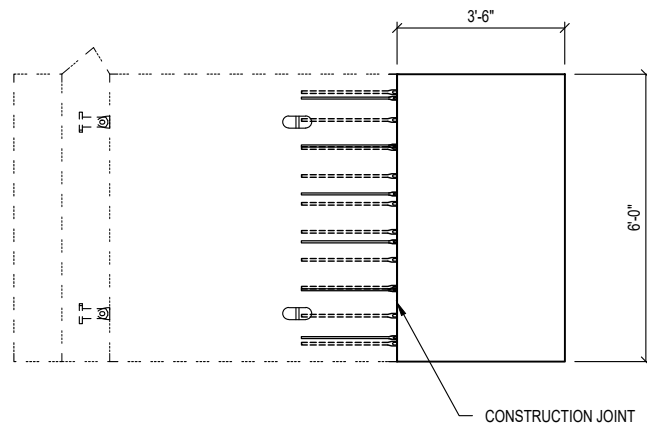
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

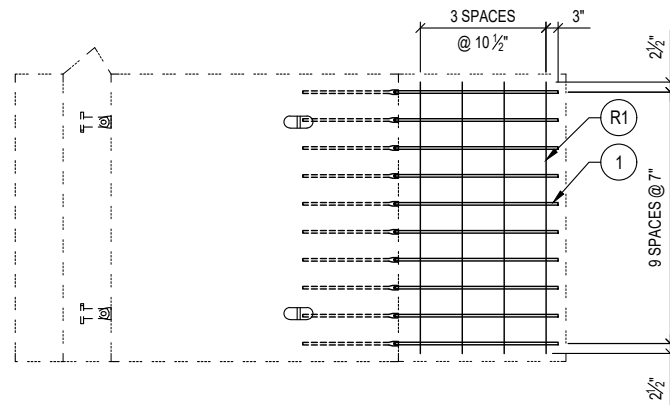
1/30/24



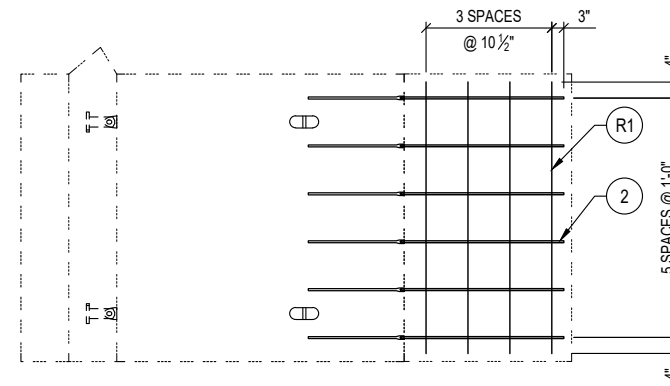
REVISION	DESCRIPTION	BY



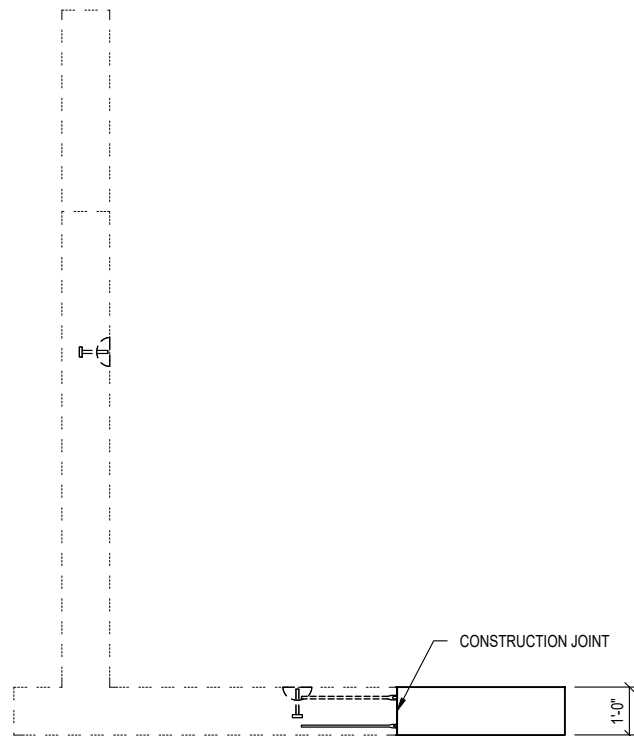
PLAN VIEW
LAYOUT (SHOWN AS POURED)



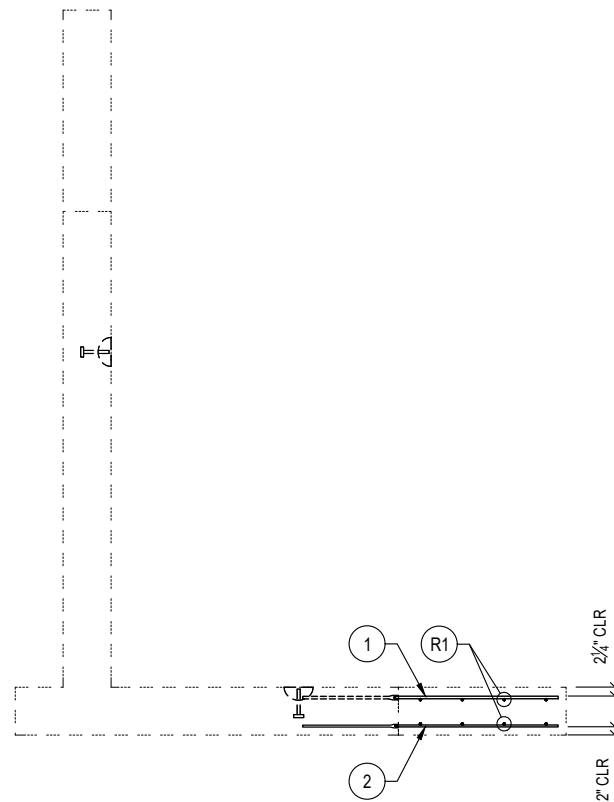
VIEW A
FOOTING REINF. (NEAR REINF.)



VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W2a' 2nd POUR

PRODUCT WEIGHT
1st POUR : 18,658 LBS
2nd POUR : 3,150 LBS
TOTAL : 21,808 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W2a' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	21 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
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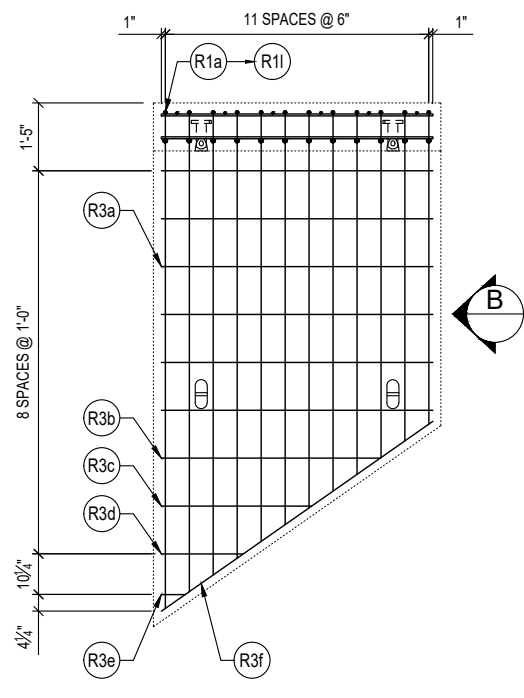
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24

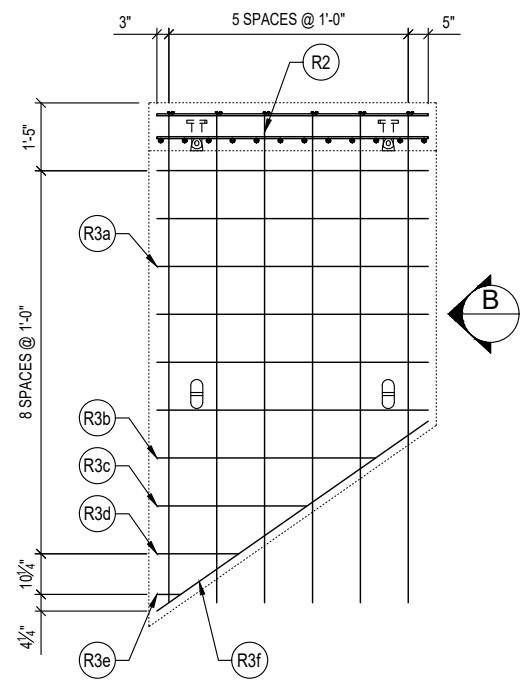


REVISION	DESCRIPTION	BY

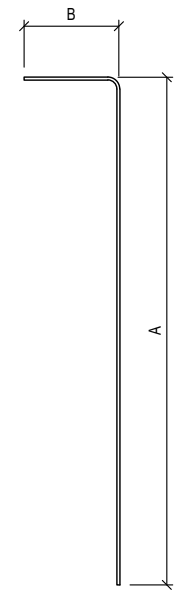
SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



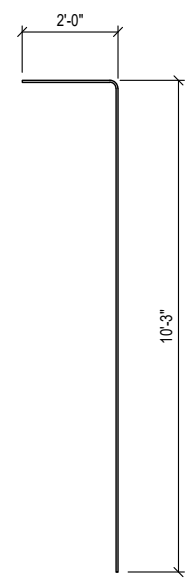
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT



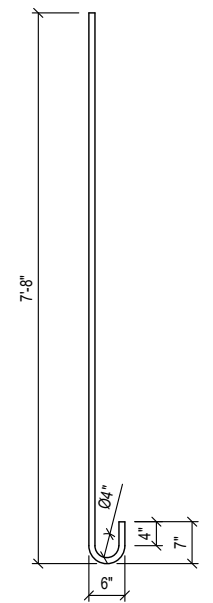
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT



R1 DETAIL



R2 DETAIL

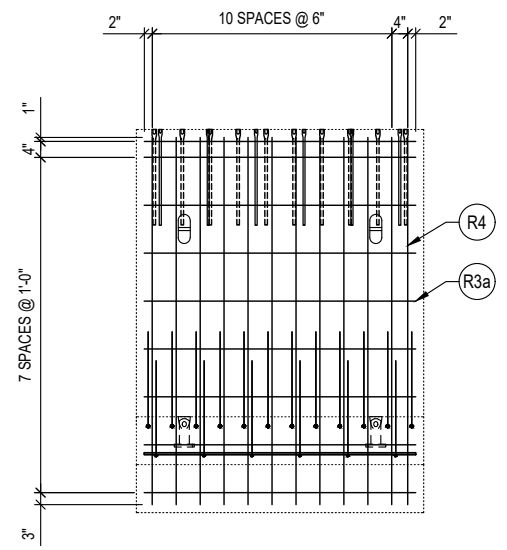


R4 DETAIL

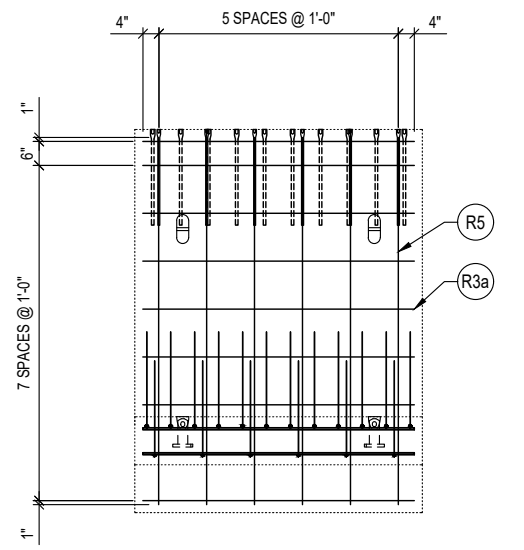
REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	12'- 5"	BENT
R1b	1	#6 REBAR A615/A706/GR60	12'- 1"	BENT
R1c	1	#6 REBAR A615/A706/GR60	11'- 8"	BENT
R1d	1	#6 REBAR A615/A706/GR60	11'- 4"	BENT
R1e	1	#6 REBAR A615/A706/GR60	11'- 0"	BENT
R1f	1	#6 REBAR A615/A706/GR60	10'- 8"	BENT
R1g	1	#6 REBAR A615/A706/GR60	10'- 4"	BENT
R1h	1	#6 REBAR A615/A706/GR60	10'- 0"	BENT
R1i	1	#6 REBAR A615/A706/GR60	9'- 7"	BENT
R1j	1	#6 REBAR A615/A706/GR60	9'- 3"	BENT
R1k	1	#6 REBAR A615/A706/GR60	8'- 11"	BENT
R1l	1	#6 REBAR A615/A706/GR60	8'- 7"	BENT
R2	6	#4 REBAR A615/A706/GR60	12'- 3"	BENT
R3a	30	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 7"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 2"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 9"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 6"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

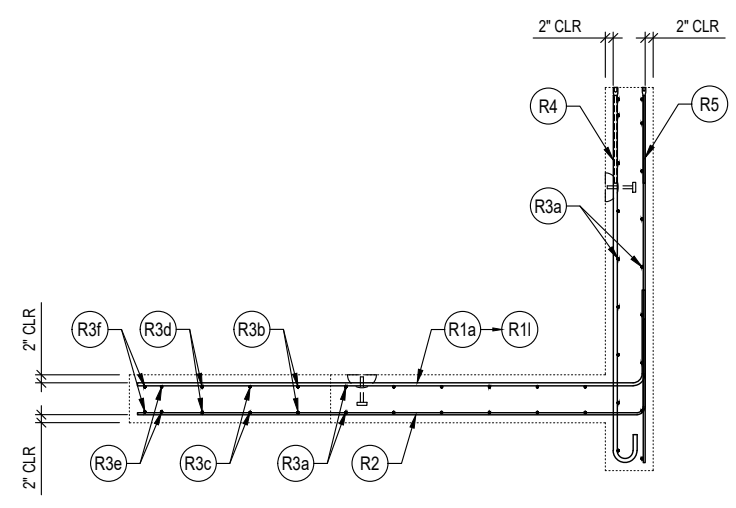
R1 BARS			
BARS	A	B	LENGTH
R1a	10' - 5"	2'-0"	12' - 5"
R1b	10' - 1"	2'-0"	12' - 1"
R1c	9' - 8"	2'-0"	11' - 8"
R1d	9' - 4"	2'-0"	11' - 4"
R1e	9' - 0"	2'-0"	11' - 0"
R1f	8' - 8"	2'-0"	10' - 8"
R1g	8' - 4"	2'-0"	10' - 4"
R1h	8' - 0"	2'-0"	10' - 0"
R1i	7' - 7"	2'-0"	9' - 7"
R1j	7' - 3"	2'-0"	9' - 3"
R1k	6' - 11"	2'-0"	8' - 11"
R1l	6' - 7"	2'-0"	8' - 7"
TOTAL			125' - 10"



VIEW A
 FOOTING REINF. (NEAR REINF.)



VIEW A
 FOOTING REINF. (FAR REINF.)



VIEW B

Oldcastle Infrastructure
 A CRH COMPANY
 P.O. BOX 588 AUBURN, WA 98071-0588
 PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx7'0'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W2b' 1st POUR REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

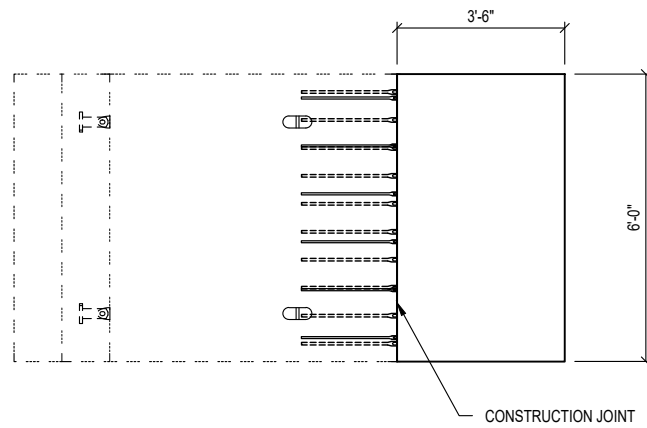
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	23 OF 40

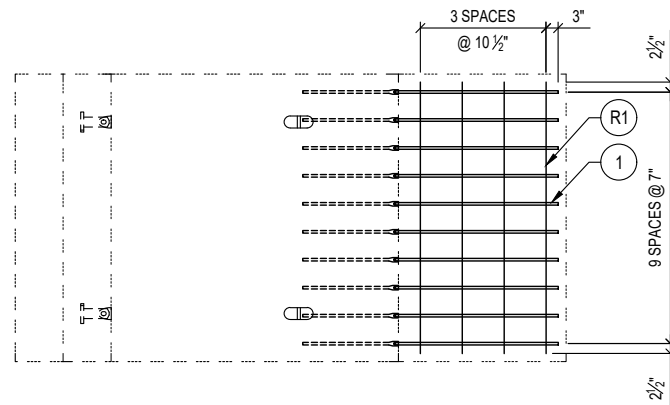
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
 1/30/24



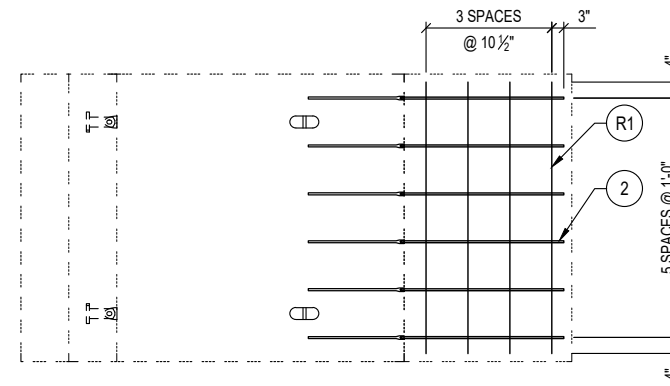
REVISION	DESCRIPTION	BY



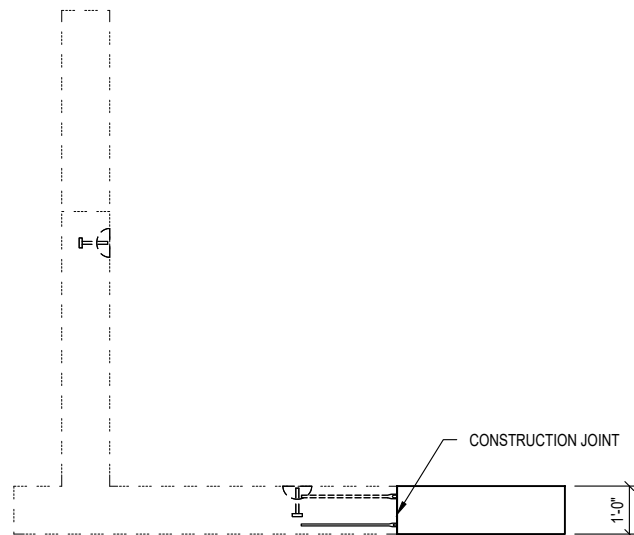
PLAN VIEW
LAYOUT (SHOWN AS POURED)



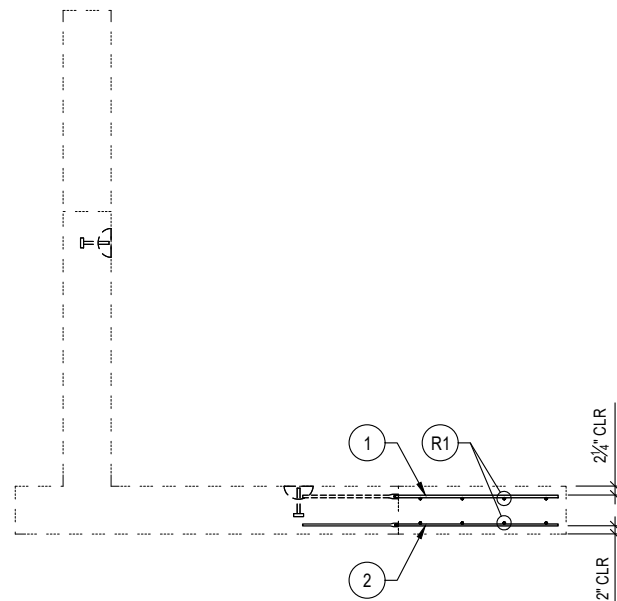
VIEW A
FOOTING REINF. (NEAR REINF.)



VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W2b' 2nd POUR

PRODUCT WEIGHT
1st POUR :14,253 LBS
2nd POUR :3,150 LBS
TOTAL :17,403 LBS

SHOP NOTES

1. CONCRETE FINISH: FLAT FLOAT FINISH
2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS

#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST

#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W2b' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	24 OF 40

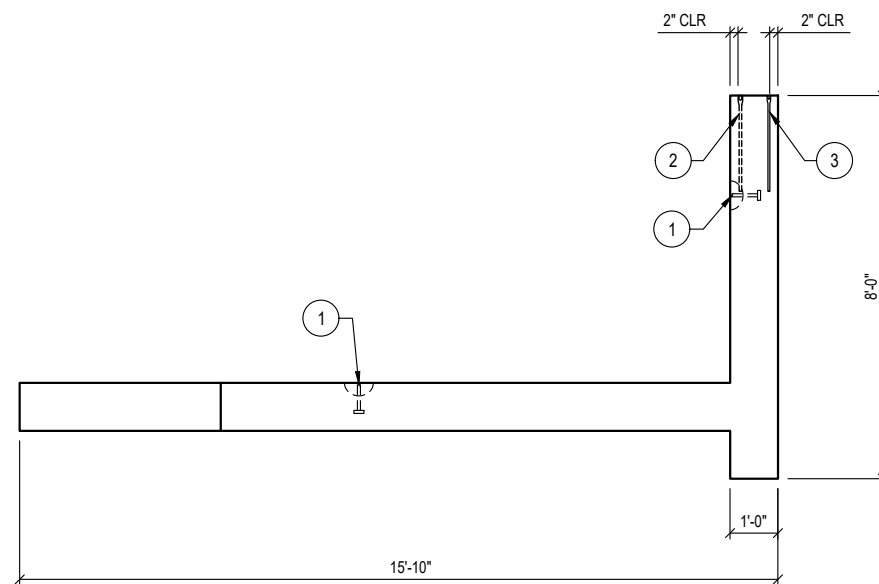
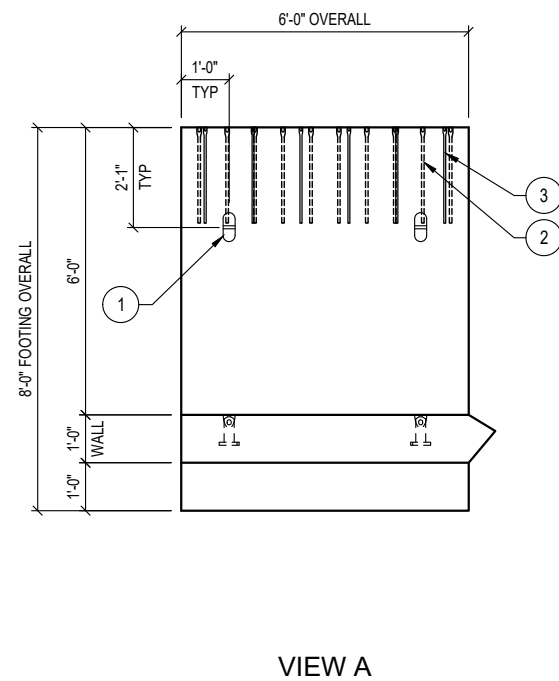
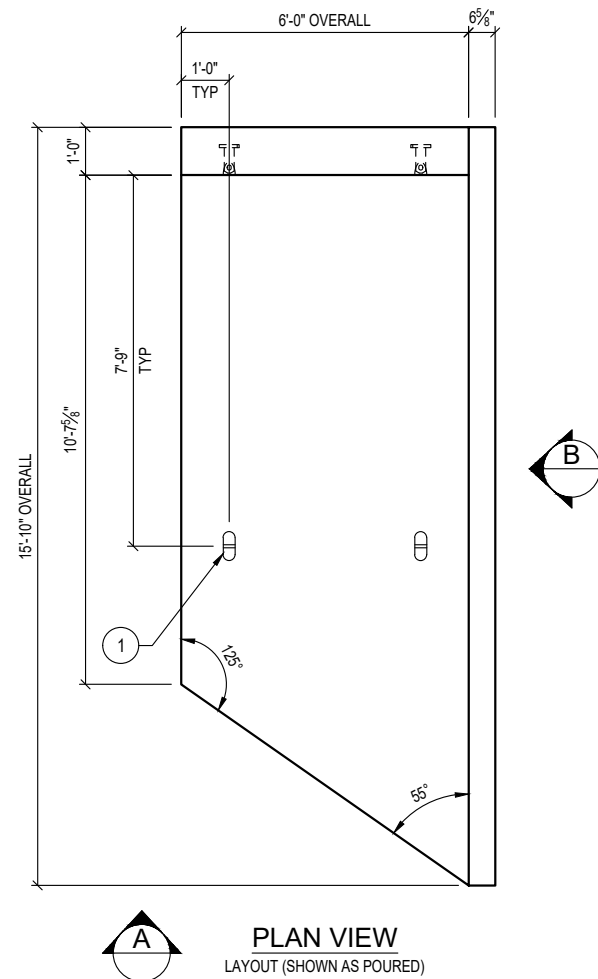
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24



REVISION	DESCRIPTION	BY



PRODUCTION QUANTITY
(1) WING WALL 'W3a' 1st POUR

PRODUCT WEIGHT
1st POUR : 19,318 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
 3. SEE SHEET 27 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	4.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.73 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.77 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	42.93 sqf	MESH CHAIR	5500000

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24



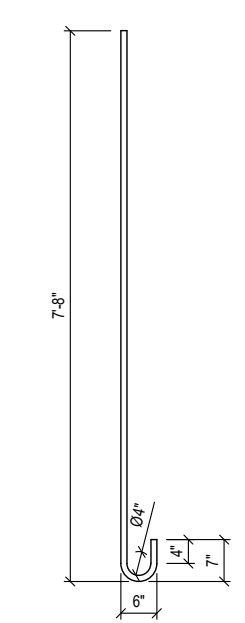
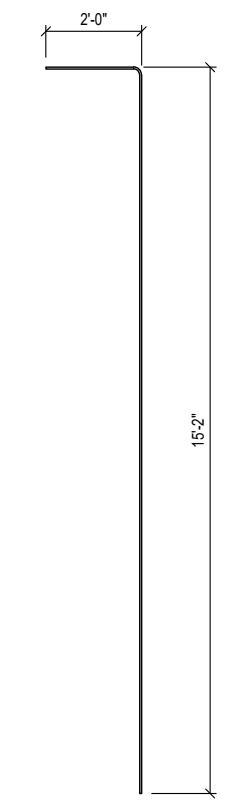
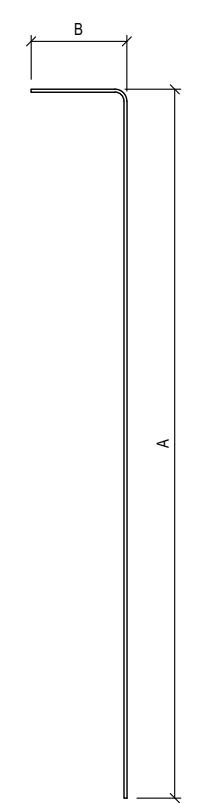
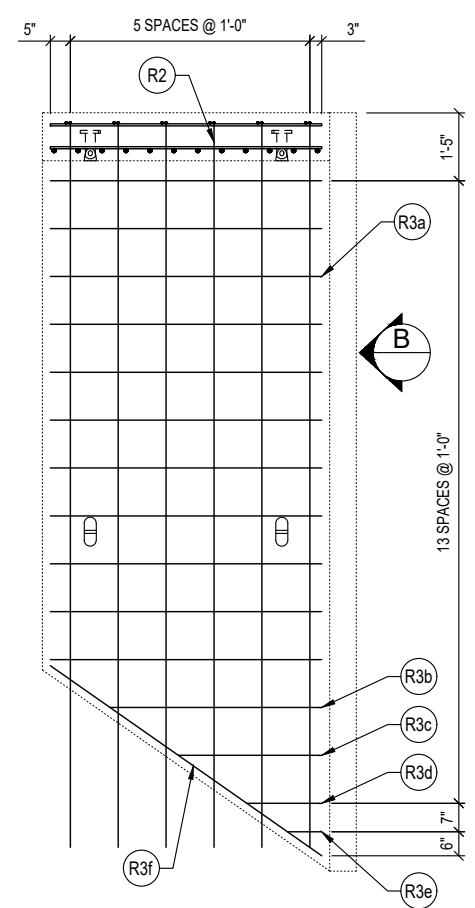
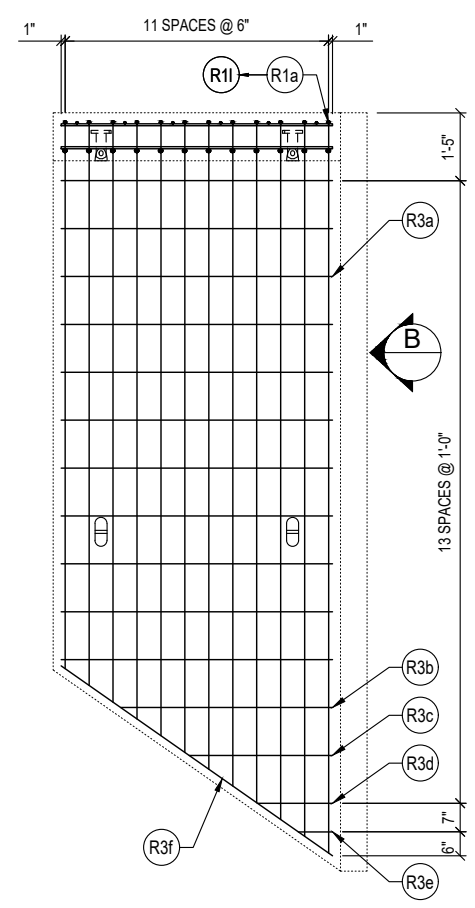
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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W3a' 1st POUR : LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	25 OF 40

SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



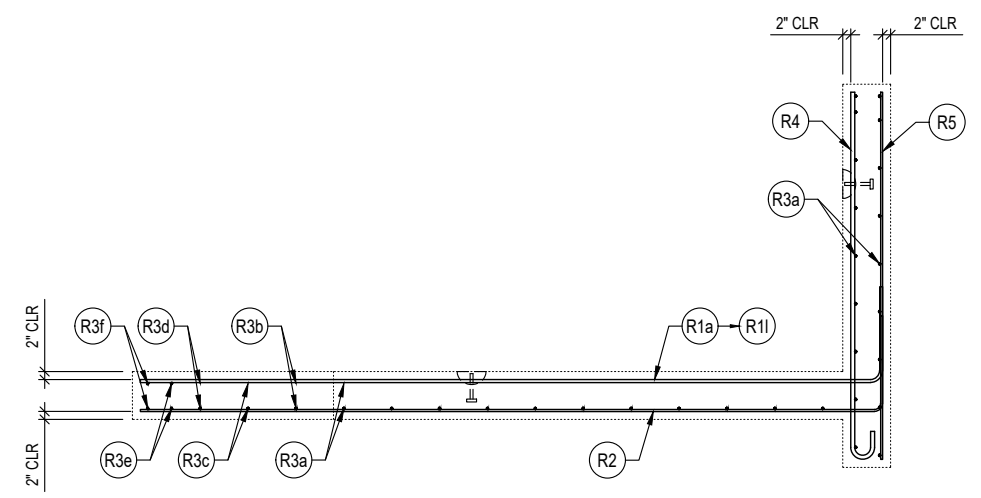
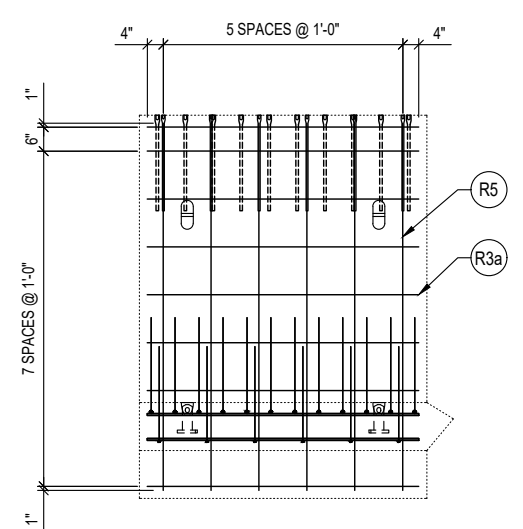
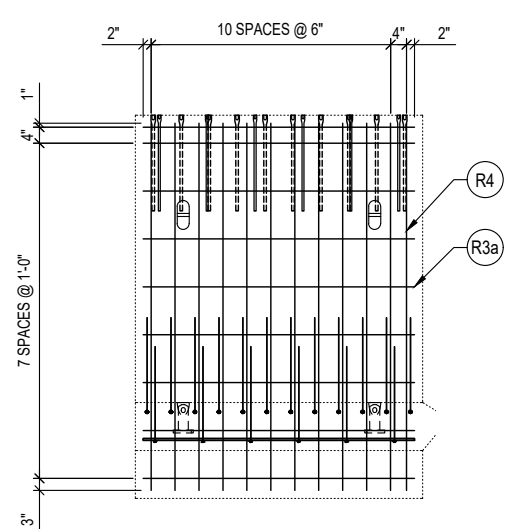
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT

PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT

R1 DETAIL

R2 DETAIL

R4 DETAIL



VIEW A
 FOOTING REINF. (NEAR REINF.)

VIEW A
 FOOTING REINF. (FAR REINF.)

VIEW B

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	17'- 4"	BENT
R1b	1	#6 REBAR A615/A706/GR60	17'- 0"	BENT
R1c	1	#6 REBAR A615/A706/GR60	16'- 7"	BENT
R1d	1	#6 REBAR A615/A706/GR60	16'- 3"	BENT
R1e	1	#6 REBAR A615/A706/GR60	15'- 11"	BENT
R1f	1	#6 REBAR A615/A706/GR60	15'- 7"	BENT
R1g	1	#6 REBAR A615/A706/GR60	15'- 2"	BENT
R1h	1	#6 REBAR A615/A706/GR60	14'- 10"	BENT
R1i	1	#6 REBAR A615/A706/GR60	14'- 6"	BENT
R1j	1	#6 REBAR A615/A706/GR60	14'- 2"	BENT
R1k	1	#6 REBAR A615/A706/GR60	13'- 10"	BENT
R1l	1	#6 REBAR A615/A706/GR60	13'- 5"	BENT
R2	6	#4 REBAR A615/A706/GR60	17'- 2"	BENT
R3a	40	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 5"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 0"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 7"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 9"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS			
BARS	A	B	LENGTH
R1a	15'- 4"	2'-0"	17'- 4"
R1b	15'- 0"	2'-0"	17'- 0"
R1c	14'- 7"	2'-0"	16'- 7"
R1d	14'- 3"	2'-0"	16'- 3"
R1e	13'- 11"	2'-0"	15'- 11"
R1f	13'- 7"	2'-0"	15'- 7"
R1g	13'- 2"	2'-0"	15'- 2"
R1h	12'- 10"	2'-0"	14'- 10"
R1i	12'- 6"	2'-0"	14'- 6"
R1j	12'- 2"	2'-0"	14'- 2"
R1k	11'- 10"	2'-0"	13'- 10"
R1l	11'- 5"	2'-0"	13'- 5"
TOTAL			184'- 6"



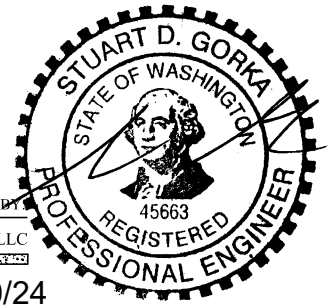
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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W3a' 1st POUR : REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

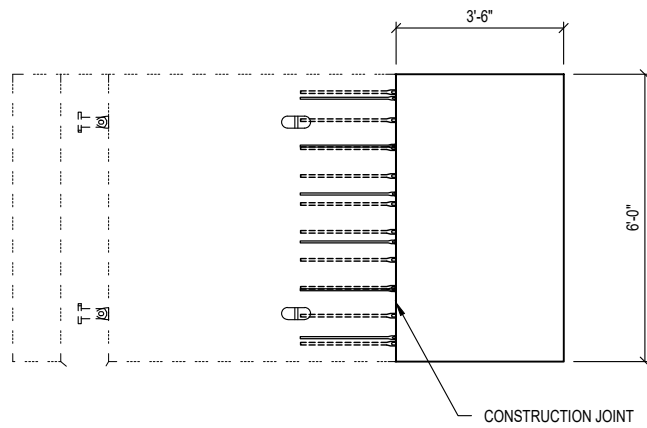
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	26 OF 40

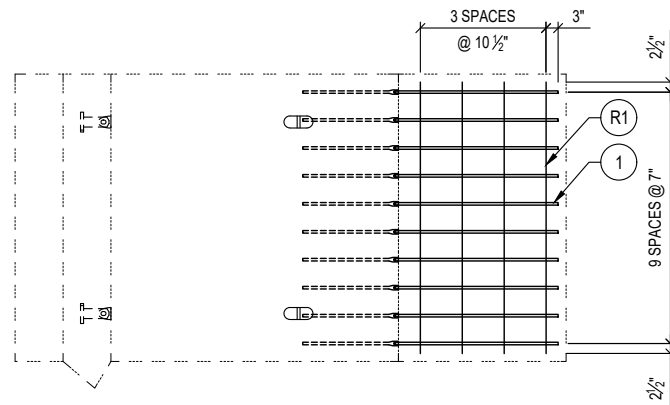
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
 1/30/24



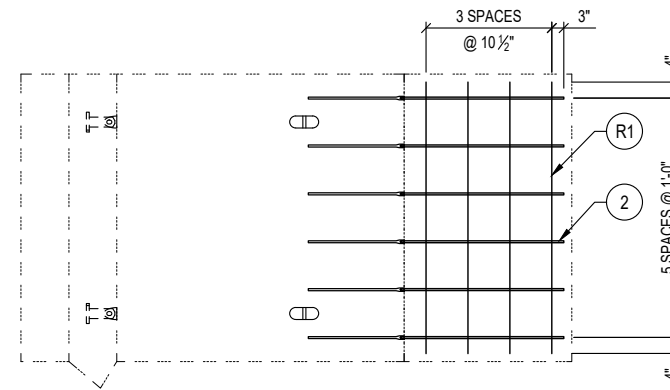
REVISION	DESCRIPTION	BY



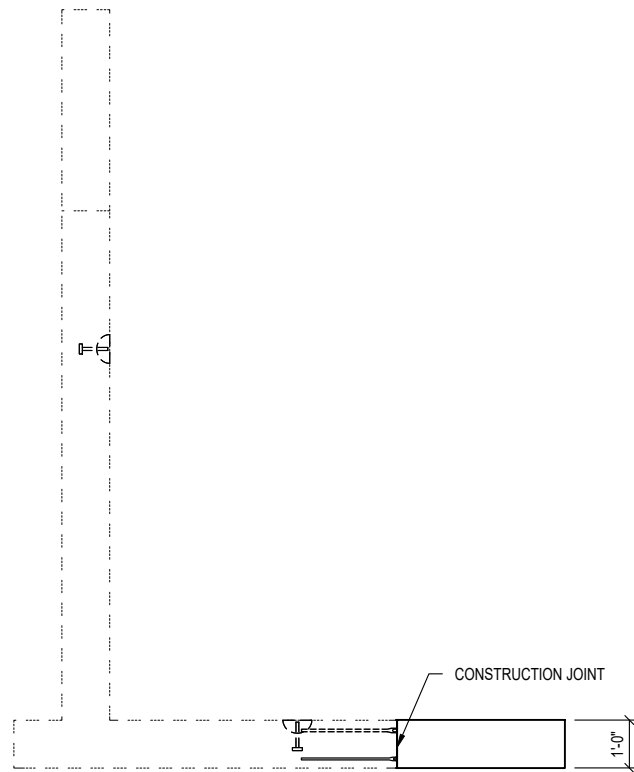
PLAN VIEW
LAYOUT (SHOWN AS POURED)



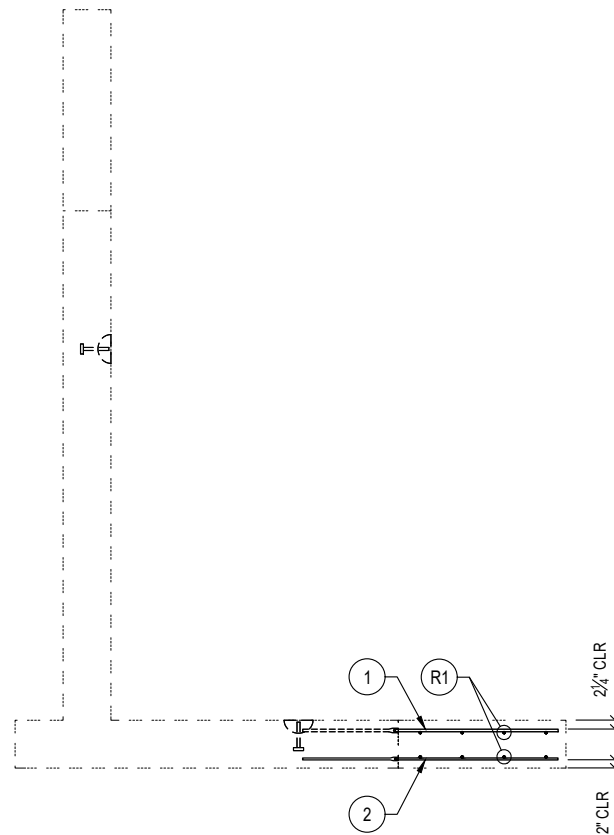
VIEW A
FOOTING REINF. (NEAR REINF.)



VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W3a' 2nd POUR

PRODUCT WEIGHT
1st POUR : 19,318 LBS
2nd POUR : 3,150 LBS
TOTAL : 22,468 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W3a' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	27 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24



REVISION	DESCRIPTION	BY

SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	13'- 1"	BENT
R1b	1	#6 REBAR A615/A706/GR60	12'- 9"	BENT
R1c	1	#6 REBAR A615/A706/GR60	12'- 5"	BENT
R1d	1	#6 REBAR A615/A706/GR60	12'- 1"	BENT
R1e	1	#6 REBAR A615/A706/GR60	11'- 8"	BENT
R1f	1	#6 REBAR A615/A706/GR60	11'- 4"	BENT
R1g	1	#6 REBAR A615/A706/GR60	11'- 0"	BENT
R1h	1	#6 REBAR A615/A706/GR60	10'- 8"	BENT
R1i	1	#6 REBAR A615/A706/GR60	10'- 4"	BENT
R1j	1	#6 REBAR A615/A706/GR60	9'- 11"	BENT
R1k	1	#6 REBAR A615/A706/GR60	9'- 7"	BENT
R1l	1	#6 REBAR A615/A706/GR60	9'- 3"	BENT
R2	6	#4 REBAR A615/A706/GR60	13'- 0"	BENT
R3a	32	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 2"	STR
R3c	2	#4 REBAR A615/A706/GR60	2'- 9"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 3"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 6"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS			
BARS	A	B	LENGTH
R1a	11' - 1"	2'- 0"	13' - 1"
R1b	10' - 9"	2'- 0"	12' - 9"
R1c	10' - 5"	2'- 0"	12' - 5"
R1d	10' - 1"	2'- 0"	12' - 1"
R1e	9' - 8"	2'- 0"	11' - 8"
R1f	9' - 4"	2'- 0"	11' - 4"
R1g	9' - 0"	2'- 0"	11' - 0"
R1h	8' - 8"	2'- 0"	10' - 8"
R1i	8' - 4"	2'- 0"	10' - 4"
R1j	7' - 11"	2'- 0"	9' - 11"
R1k	7' - 7"	2'- 0"	9' - 7"
R1l	7' - 3"	2'- 0"	9' - 3"
TOTAL			134' - 1"



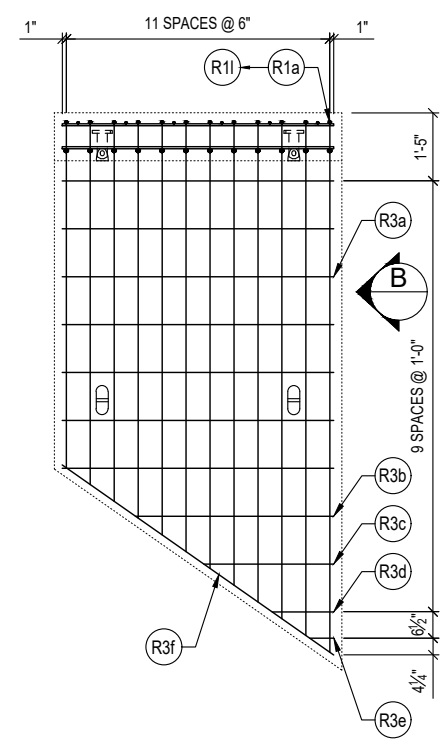
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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W3b' 1st POUR : REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

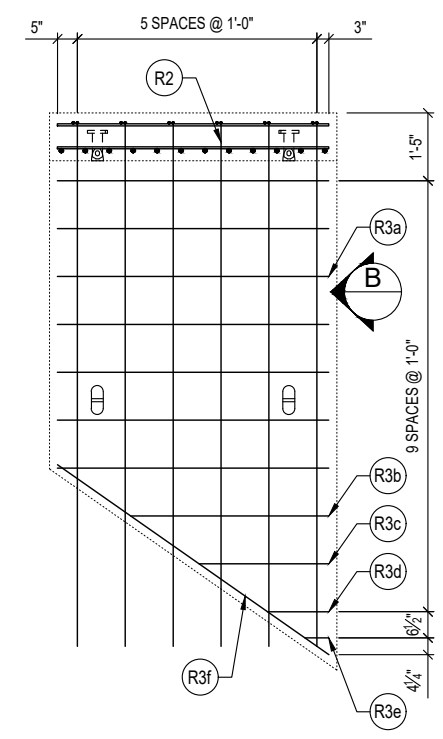
CUSTOMER SNOQUALMIE VALLEY WATERSHED IMP. DIST					
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	29 OF 40



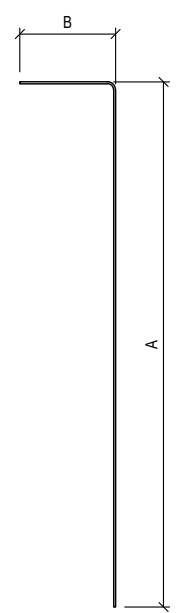
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082
 1/30/24



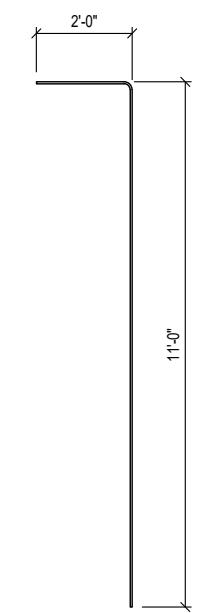
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT



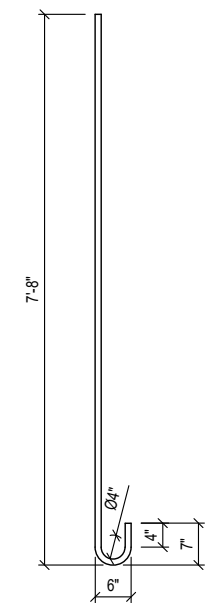
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT



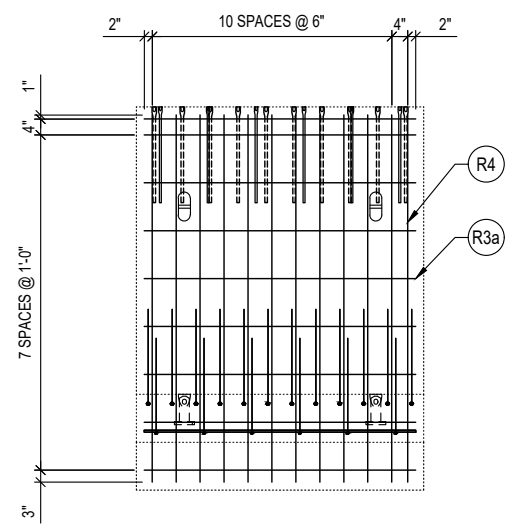
R1 DETAIL



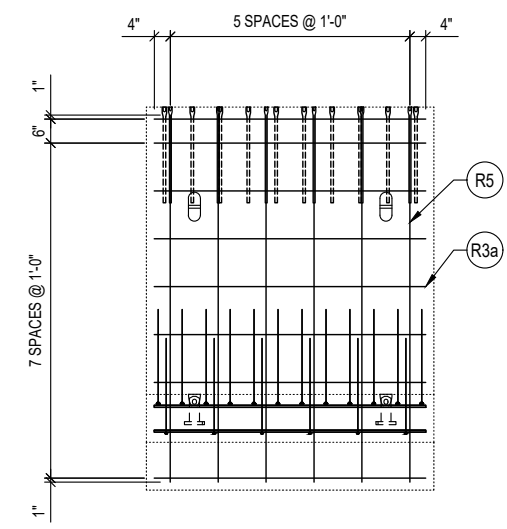
R2 DETAIL



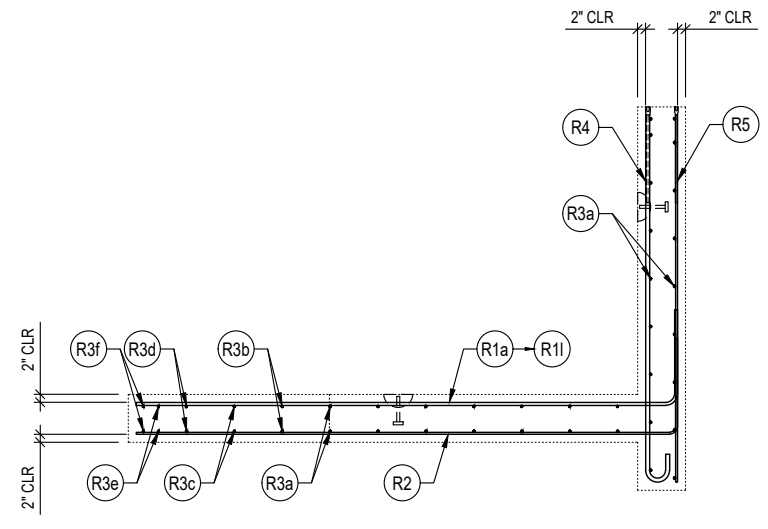
R4 DETAIL



VIEW A
 FOOTING REINF. (NEAR REINF.)

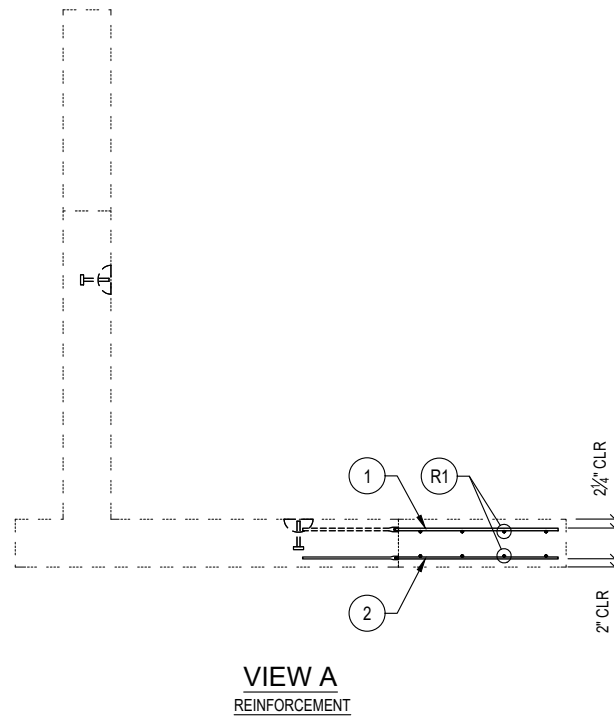
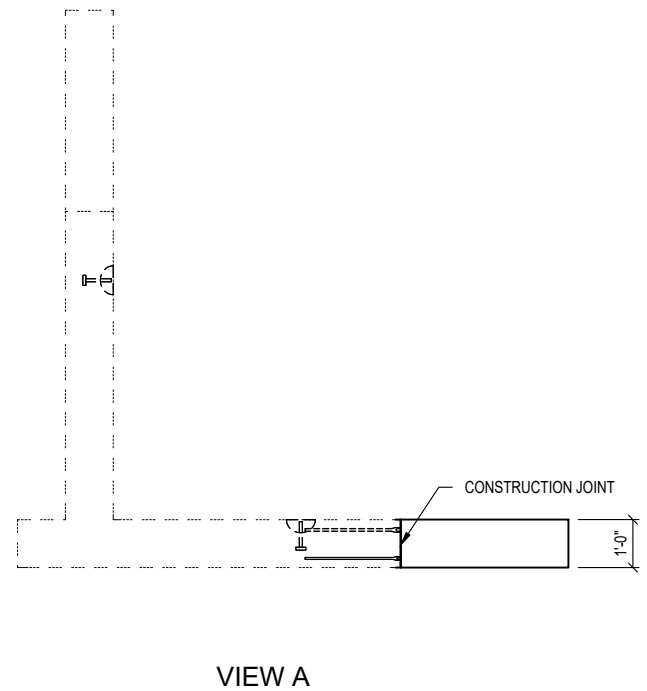
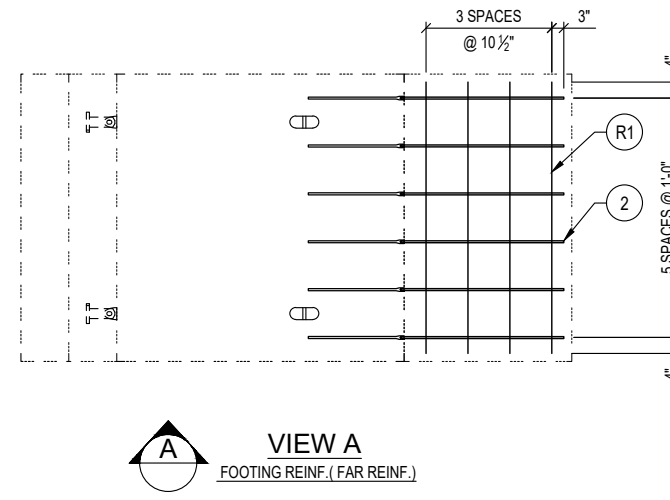
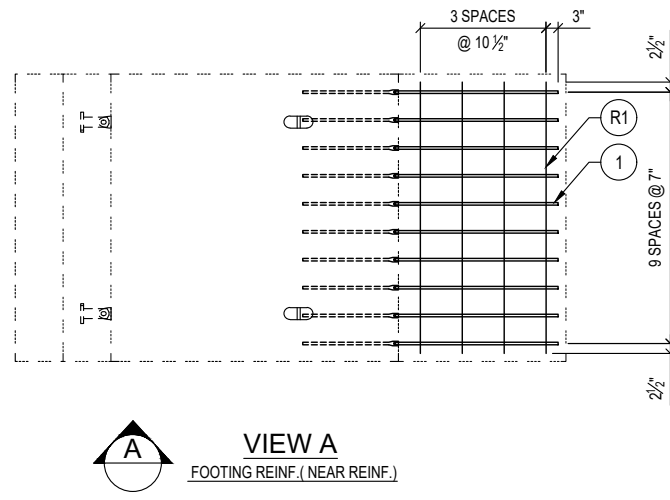
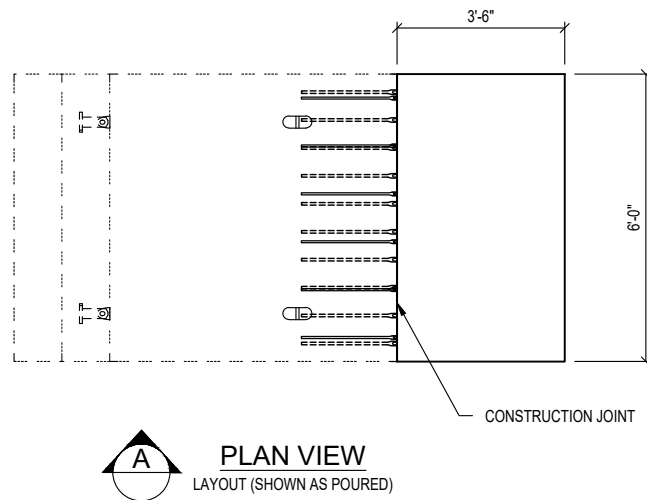


VIEW A
 FOOTING REINF. (FAR REINF.)



VIEW B

REVISION	DESCRIPTION	BY



PRODUCTION QUANTITY
(1) WING WALL 'W3b' 2nd POUR

PRODUCT WEIGHT
1st POUR :14,882 LBS
2nd POUR :3,150 LBS
TOTAL :18,032 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W3b' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	30 OF 40

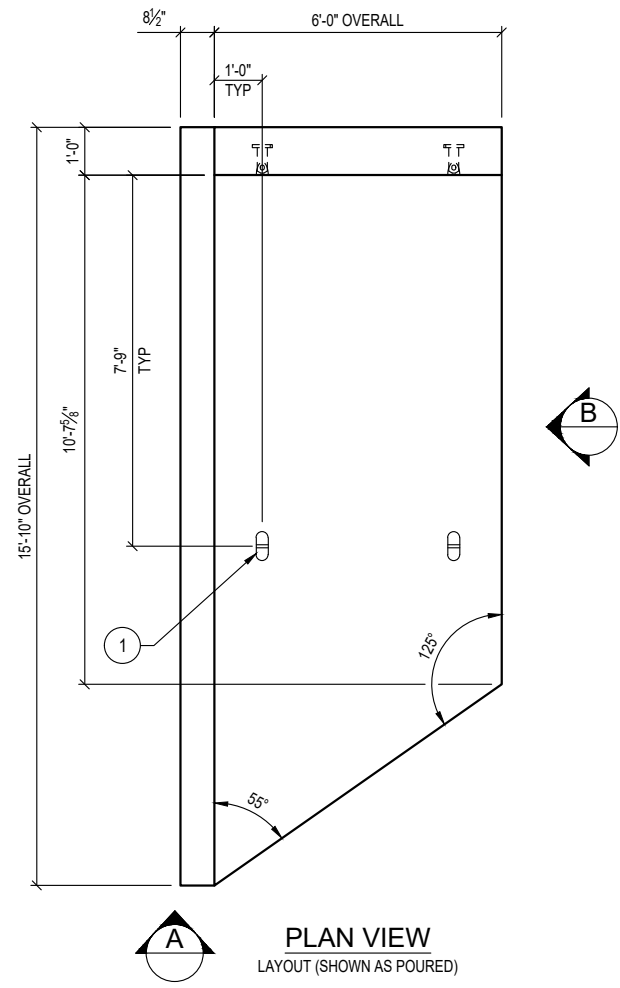
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

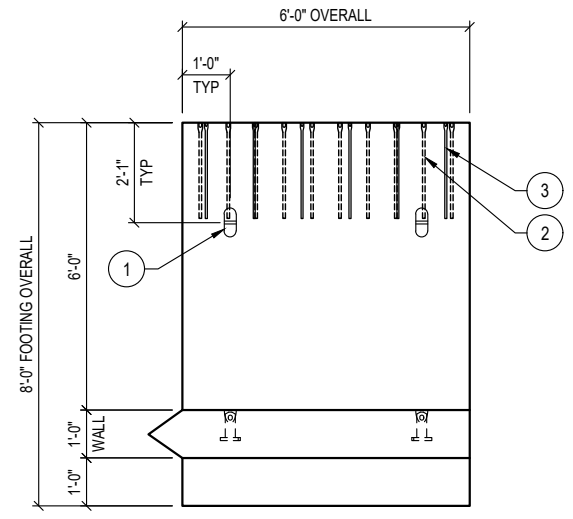
1/30/24



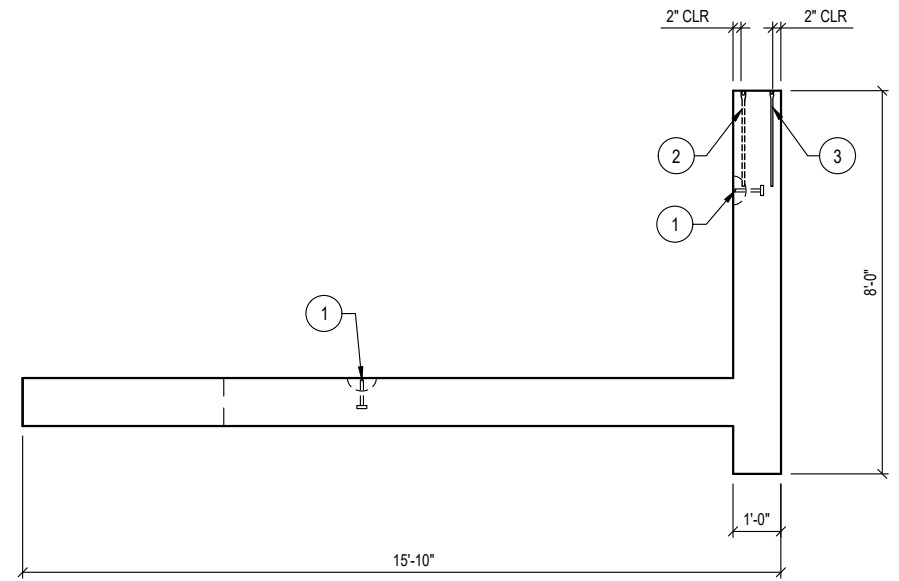
REVISION	DESCRIPTION	BY



PLAN VIEW
LAYOUT (SHOWN AS POURED)



VIEW A



VIEW B

PRODUCTION QUANTITY
(1) WING WALL 'W4a' 1st POUR

PRODUCT WEIGHT
1st POUR : 19,318 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
 3. SEE SHEET 33 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	4.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.73 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.77 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	42.93 sqf	MESH CHAIR	5500000



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W4a' 1st POUR: LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

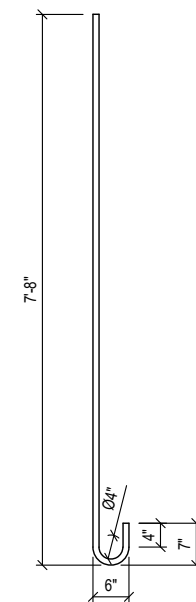
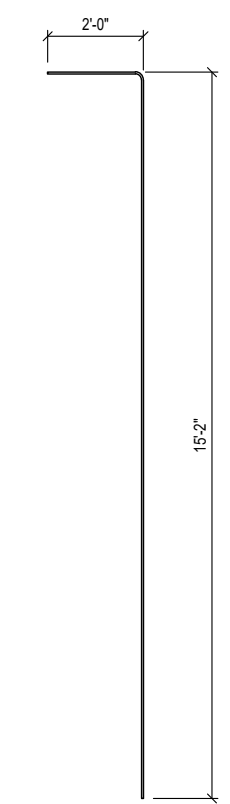
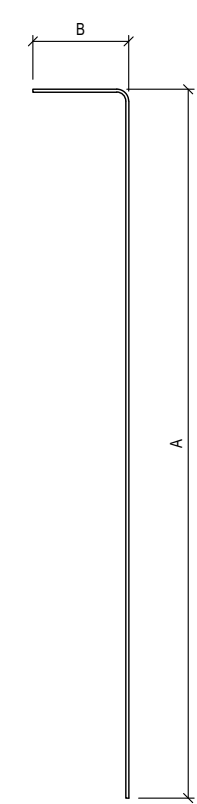
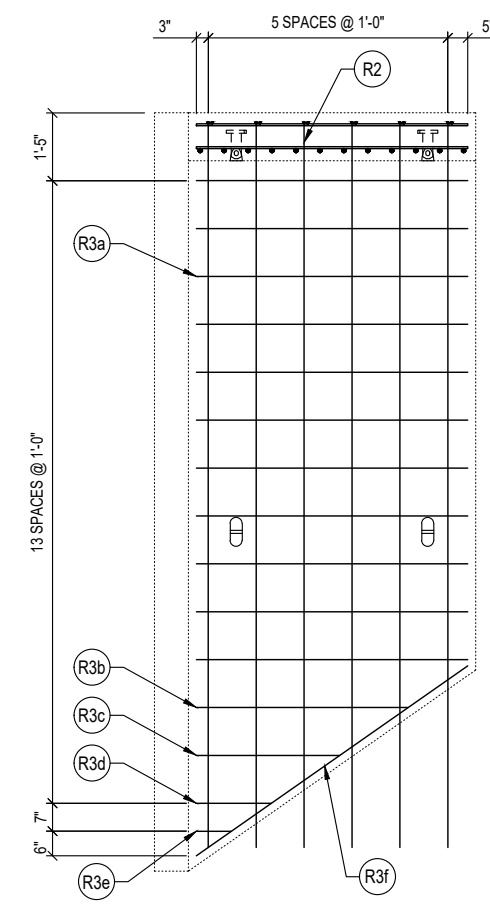
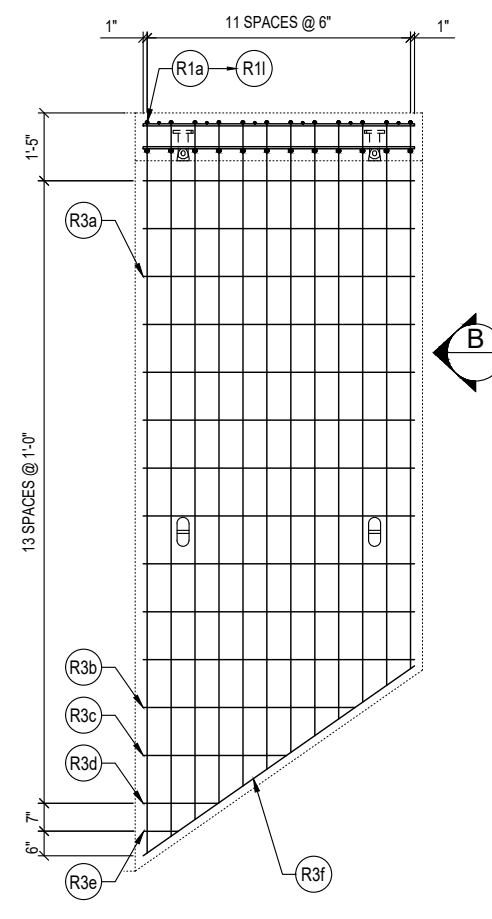
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1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	31 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082
1/30/24



REVISION	DESCRIPTION	BY

SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	17'- 4"	BENT
R1b	1	#6 REBAR A615/A706/GR60	17'- 0"	BENT
R1c	1	#6 REBAR A615/A706/GR60	16'- 7"	BENT
R1d	1	#6 REBAR A615/A706/GR60	16'- 3"	BENT
R1e	1	#6 REBAR A615/A706/GR60	15'- 11"	BENT
R1f	1	#6 REBAR A615/A706/GR60	15'- 7"	BENT
R1g	1	#6 REBAR A615/A706/GR60	15'- 2"	BENT
R1h	1	#6 REBAR A615/A706/GR60	14'- 10"	BENT
R1i	1	#6 REBAR A615/A706/GR60	14'- 6"	BENT
R1j	1	#6 REBAR A615/A706/GR60	14'- 2"	BENT
R1k	1	#6 REBAR A615/A706/GR60	13'- 10"	BENT
R1l	1	#6 REBAR A615/A706/GR60	13'- 5"	BENT
R2	6	#4 REBAR A615/A706/GR60	17'- 2"	BENT
R3a	40	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 5"	STR
R3c	2	#4 REBAR A615/A706/GR60	3'- 0"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 7"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 9"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

R1 BARS			
BARS	A	B	LENGTH
R1a	15'- 4"	2'-0"	17'- 4"
R1b	15'- 0"	2'-0"	17'- 0"
R1c	14'- 7"	2'-0"	16'- 7"
R1d	14'- 3"	2'-0"	16'- 3"
R1e	13'- 11"	2'-0"	15'- 11"
R1f	13'- 7"	2'-0"	15'- 7"
R1g	13'- 2"	2'-0"	15'- 2"
R1h	12'- 10"	2'-0"	14'- 10"
R1i	12'- 6"	2'-0"	14'- 6"
R1j	12'- 2"	2'-0"	14'- 2"
R1k	11'- 10"	2'-0"	13'- 10"
R1l	11'- 5"	2'-0"	13'- 5"
TOTAL			184'- 6"

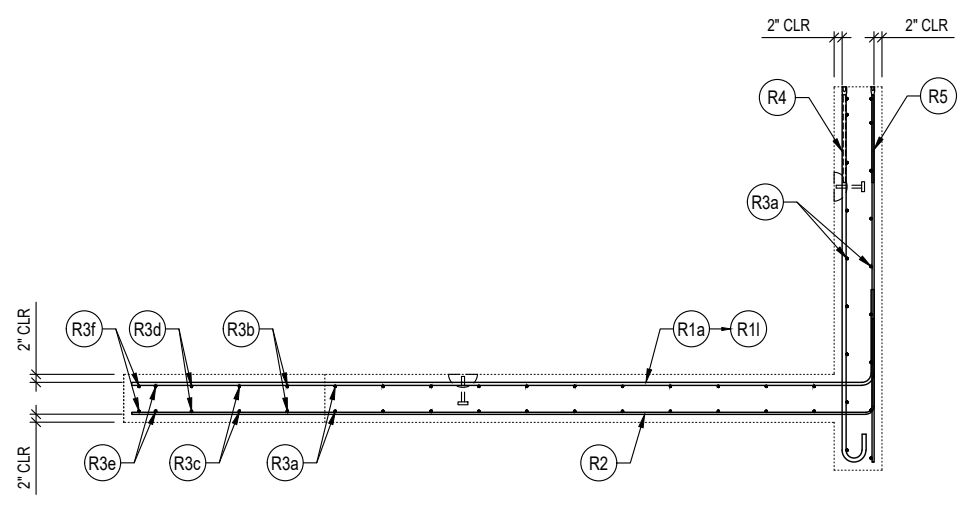
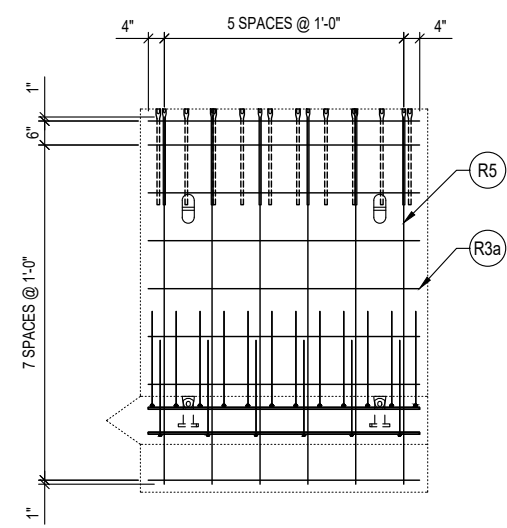
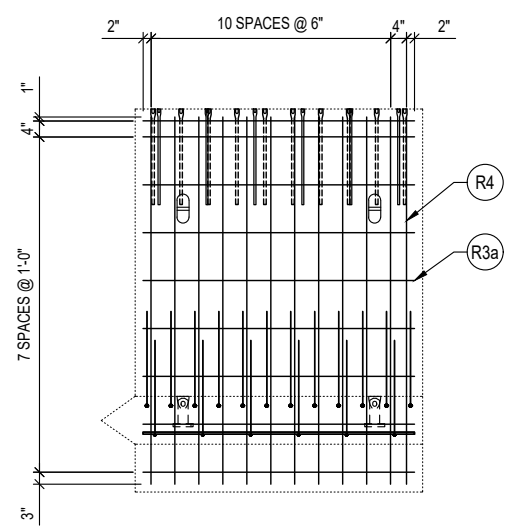
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT

PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT

R1 DETAIL

R2 DETAIL

R4 DETAIL



VIEW A
 FOOTING REINF. (NEAR REINF.)

VIEW A
 FOOTING REINF. (FAR REINF.)

VIEW B

Oldcastle Infrastructure
 A CRH COMPANY
 P.O. BOX 588 AUBURN, WA 98071-0588
 PHONE: 800-892-1538 FAX: 253-735-4201

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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WALL WALL 'W4a' 1st POUR : REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

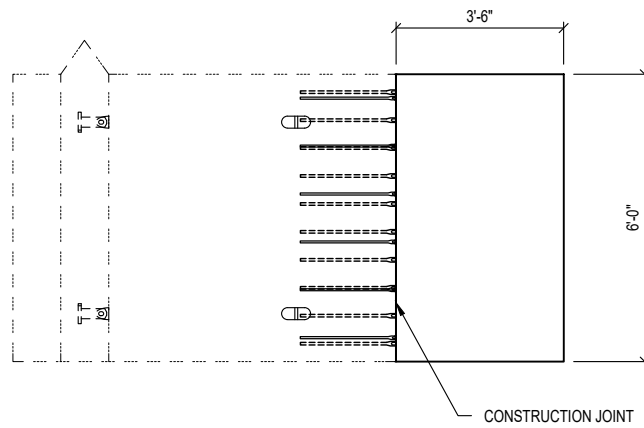
CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	32 OF 40

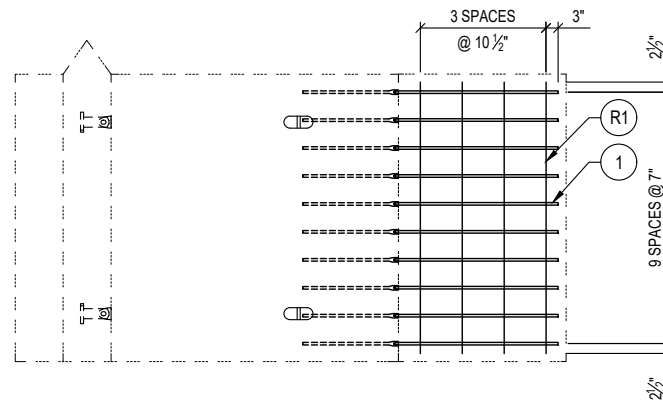
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
 FAX: 570-868-2082
 1/30/24



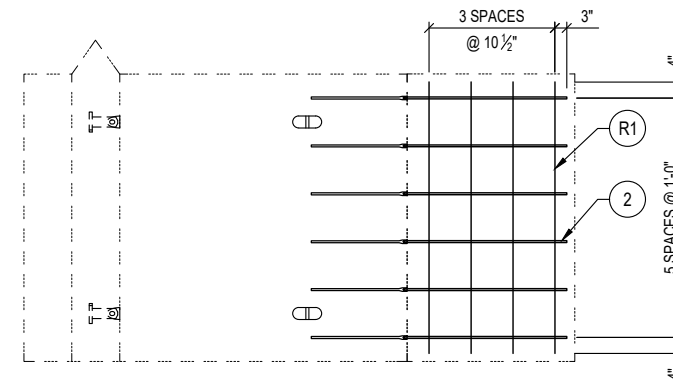
REVISION	DESCRIPTION	BY



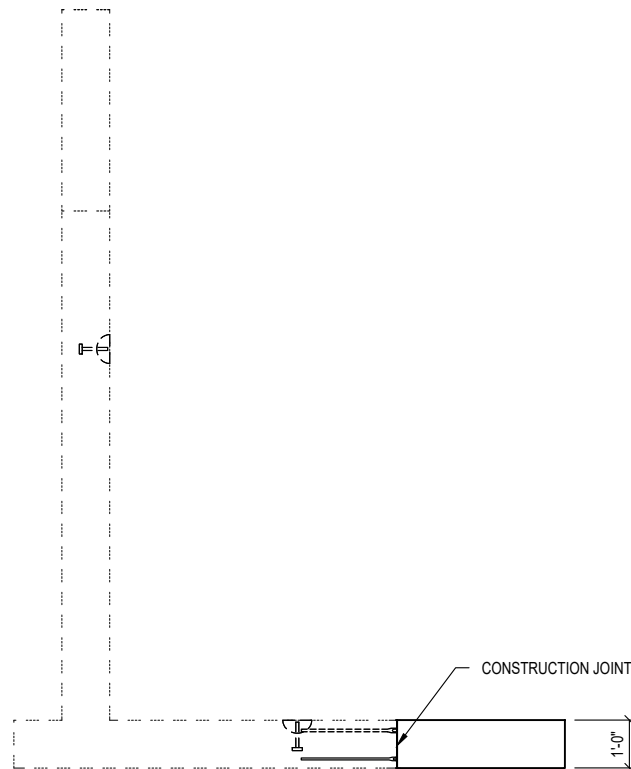
PLAN VIEW
LAYOUT (SHOWN AS POURED)



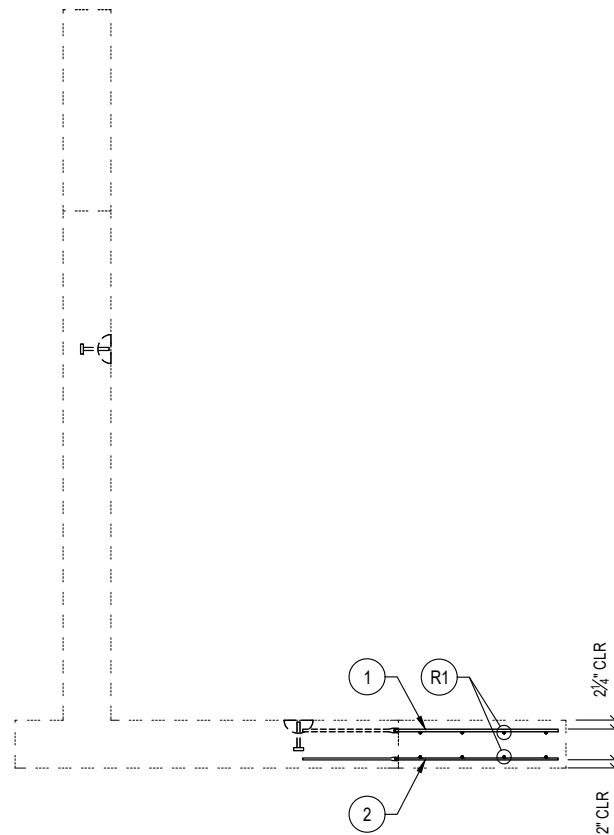
VIEW A
FOOTING REINF. (NEAR REINF.)



VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W4a' 2nd POUR

PRODUCT WEIGHT
1st POUR : 19,318 LBS
2nd POUR : 3,150 LBS
TOTAL : 22,468 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W4a' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	33 OF 40

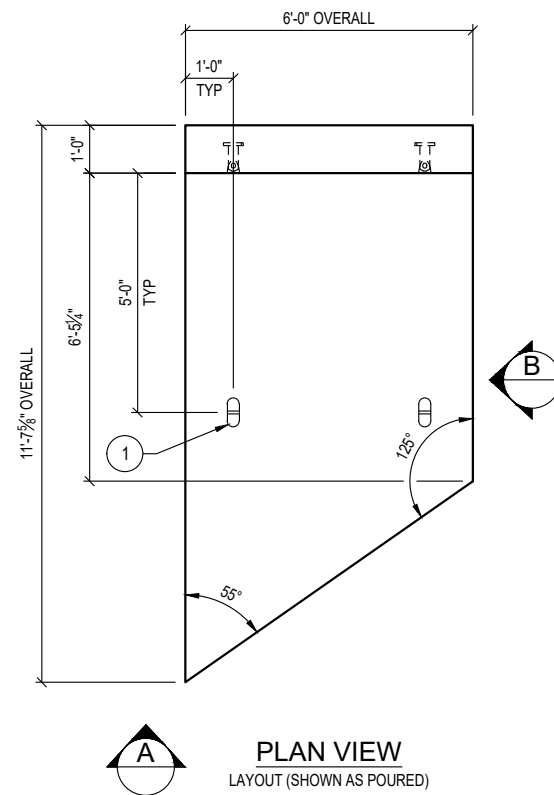
SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

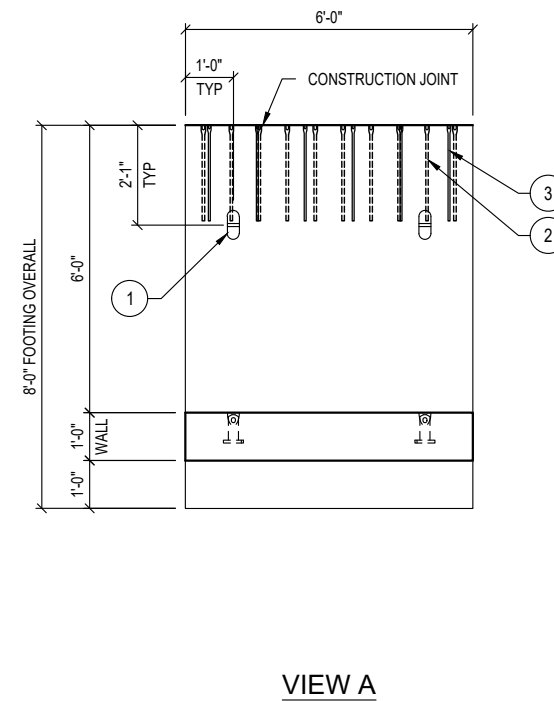
1/30/24



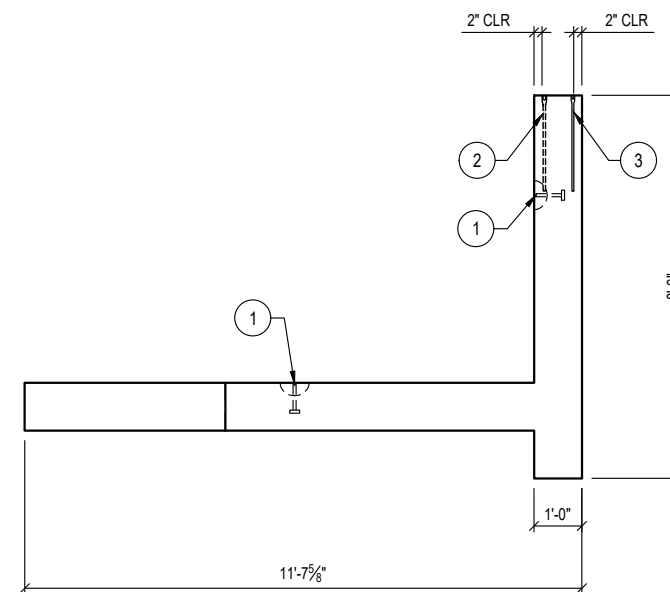
REVISION	DESCRIPTION	BY



PLAN VIEW
LAYOUT (SHOWN AS POURED)



VIEW A



VIEW B

PRODUCTION QUANTITY
(1) WING WALL 'W4b' 1st POUR

PRODUCT WEIGHT
1st POUR :14,882 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)
 3. SEE SHEET 36 FOR 2nd POUR

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	4 ea	ANCHOR 8-TON SPREAD (Galv)	5100530
2	10 ea	#5 SETTING BARS	5700045
3	6 ea	#4 SETTING BARS	5100540
	3.67 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	2.25 cwt	#4 REBAR A615/A706/GR60	725A0074
	2.01 cwt	#6 REBAR A615/A706/GR60	725A0076
	1 ea	SIS REBAR/MESH - (see cut list)	5700030
	33.03 sqf	MESH CHAIR	5500000



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W4b': LAYOUT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	34 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

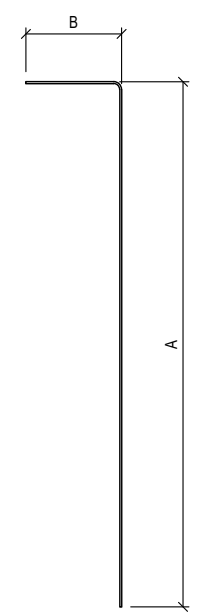
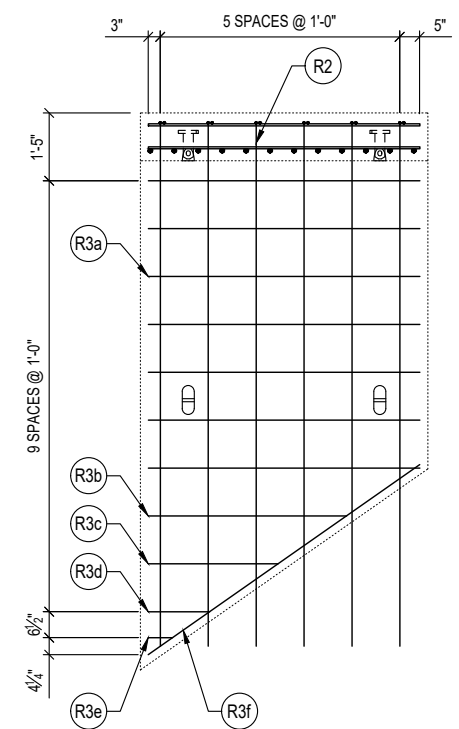
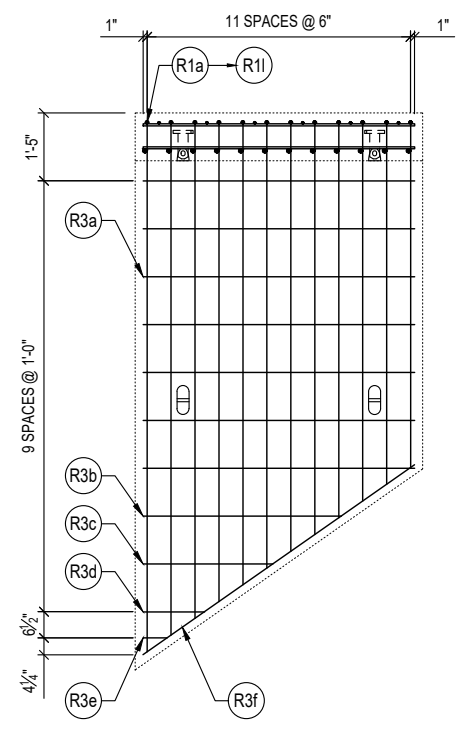
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24

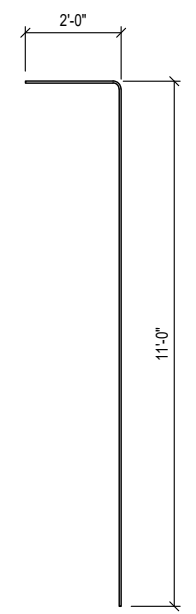


REVISION	DESCRIPTION	BY

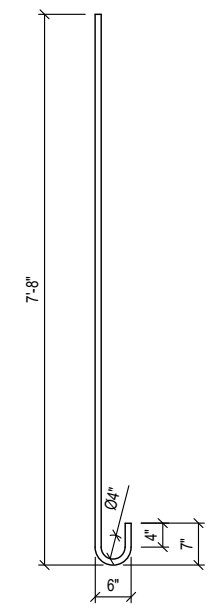
SHOP NOTES
 1. TRIM R2 BARS 2" AWAY FROM THE SLOPE EDGE OF THE WALL



R1 DETAIL



R2 DETAIL



R4 DETAIL

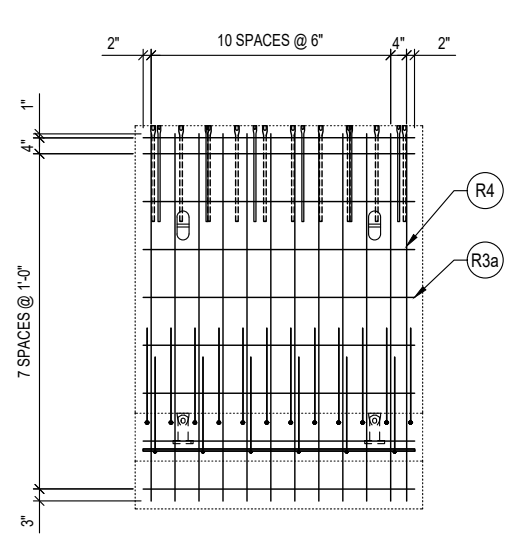
PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL TOP MAT

PLAN VIEW
 REINFORCEMENT (SHOWN AS POURED)
 WALL BOTTOM MAT

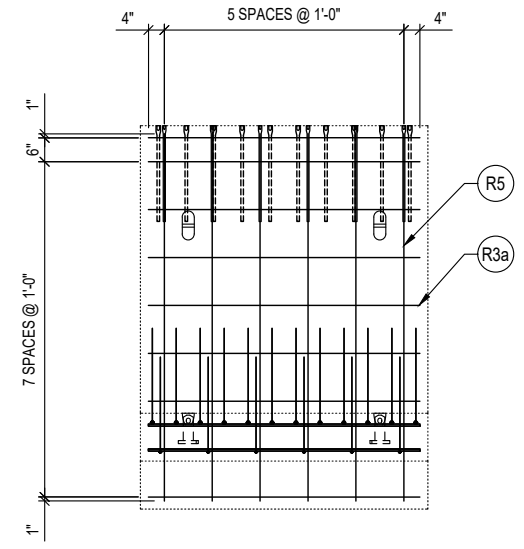
REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1a	1	#6 REBAR A615/A706/GR60	13'- 1"	BENT
R1b	1	#6 REBAR A615/A706/GR60	12'- 9"	BENT
R1c	1	#6 REBAR A615/A706/GR60	12'- 5"	BENT
R1d	1	#6 REBAR A615/A706/GR60	12'- 1"	BENT
R1e	1	#6 REBAR A615/A706/GR60	11'- 8"	BENT
R1f	1	#6 REBAR A615/A706/GR60	11'- 4"	BENT
R1g	1	#6 REBAR A615/A706/GR60	11'- 0"	BENT
R1h	1	#6 REBAR A615/A706/GR60	10'- 8"	BENT
R1i	1	#6 REBAR A615/A706/GR60	10'- 4"	BENT
R1j	1	#6 REBAR A615/A706/GR60	9'- 11"	BENT
R1k	1	#6 REBAR A615/A706/GR60	9'- 7"	BENT
R1l	1	#6 REBAR A615/A706/GR60	9'- 3"	BENT
R2	6	#4 REBAR A615/A706/GR60	13'- 0"	BENT
R3a	32	#4 REBAR A615/A706/GR60	5'- 8"	STR
R3b	2	#4 REBAR A615/A706/GR60	4'- 2"	STR
R3c	2	#4 REBAR A615/A706/GR60	2'- 9"	STR
R3d	2	#4 REBAR A615/A706/GR60	1'- 3"	STR
R3e	2	#4 REBAR A615/A706/GR60	0'- 6"	STR
R3f	2	#4 REBAR A615/A706/GR60	6'- 11"	STR
R5	6	#4 REBAR A615/A706/GR60	7'- 8"	STR

SIS REBAR / MESH CUT LIST (SPECIAL PURCHASED ITEMS)				
#	QTY	MATERIAL	LENGTH	SHAPE
R4	12	#8 REBAR A615/A706/GR60	8'- 3"	BENT

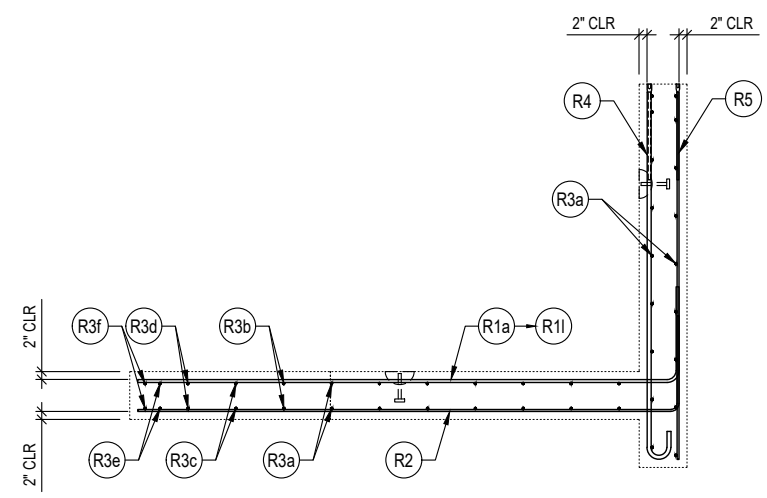
R1 BARS			
BARS	A	B	LENGTH
R1a	11' - 1"	2'-0"	13' - 1"
R1b	10' - 9"	2'-0"	12' - 9"
R1c	10' - 5"	2'-0"	12' - 5"
R1d	10' - 1"	2'-0"	12' - 1"
R1e	9' - 8"	2'-0"	11' - 8"
R1f	9' - 4"	2'-0"	11' - 4"
R1g	9' - 0"	2'-0"	11' - 0"
R1h	8' - 8"	2'-0"	10' - 8"
R1i	8' - 4"	2'-0"	10' - 4"
R1j	7' - 11"	2'-0"	9' - 11"
R1k	7' - 7"	2'-0"	9' - 7"
R1l	7' - 3"	2'-0"	9' - 3"
TOTAL			134' - 1"



VIEW A
 FOOTING REINF. (NEAR REINF.)



VIEW A
 FOOTING REINF. (FAR REINF.)



VIEW B

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
 1/30/24

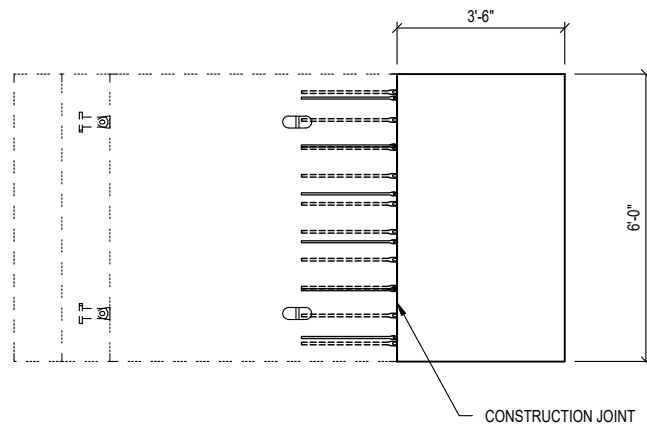


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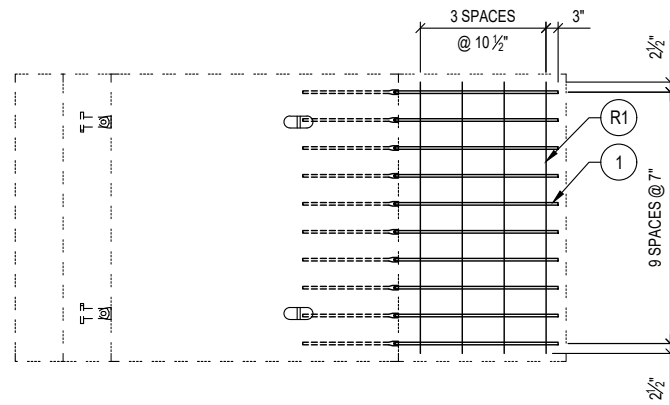
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 WING WALL 'W4b' 1st POUR: REINFORCEMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER SNOQUALMIE VALLEY WATERSHED IMP. DIST				
DATE 1/30/24	SALES DM	DRAWN FMT	ENGINEER ---	CHECKED ---
DRAWING NUMBER 010-S202473-001			REVISION REV DATE	SALES ORDER S202473 SHEET 35 OF 40

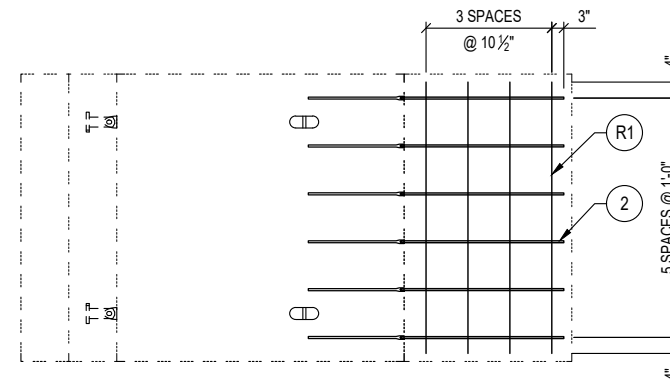
REVISION	DESCRIPTION	BY



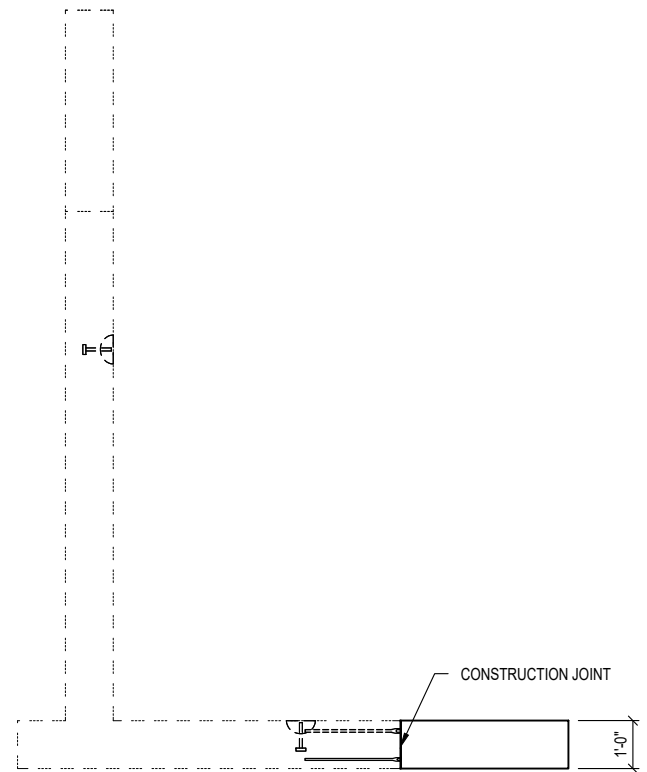
A PLAN VIEW
LAYOUT (SHOWN AS POURED)



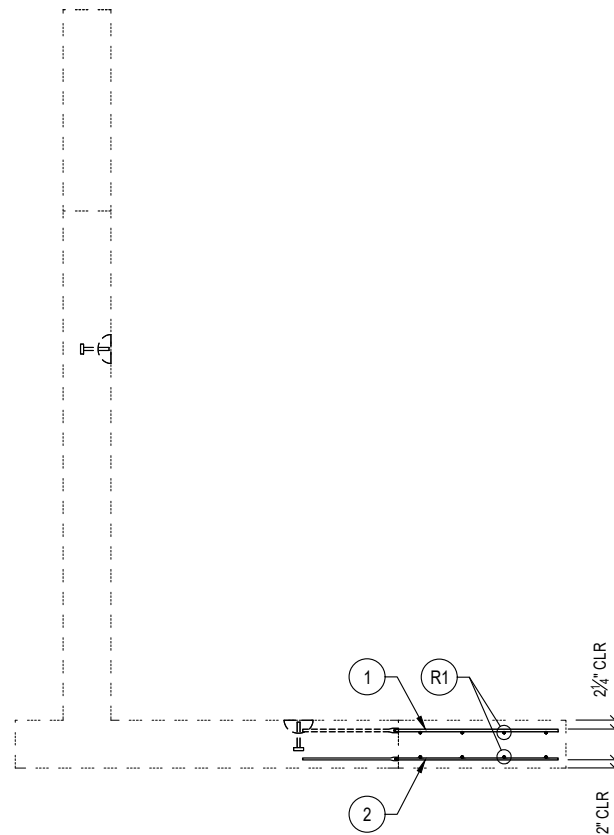
A VIEW A
FOOTING REINF. (NEAR REINF.)



A VIEW A
FOOTING REINF. (FAR REINF.)



VIEW A



VIEW A
REINFORCEMENT

PRODUCTION QUANTITY
(1) WING WALL 'W4b' 2nd POUR

PRODUCT WEIGHT
1st POUR : 14,882 LBS
2nd POUR : 3,150 LBS
TOTAL : 18,032 LBS

- SHOP NOTES
1. CONCRETE FINISH: FLAT FLOAT FINISH
 2. DO NOT ROTATE WING WALL TO UPRIGHT POSITION (IT WILL BE ROTATED AT THE JOBSITE)

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	10 ea	#5 THREADED SPLICE BARS - 35" STR	5100045
2	6 ea	#4 THREADED SPLICE BARS - 35" STR	5100045
	0.77 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	0.38 cwt	#4 REBAR A615/A706/GR60	725A0074
	6.93 sqf	MESH CHAIR	5500000

REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	10	#4 REBAR A615/A706/GR60	5'- 8"	STR



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
WING WALL 'W4b' 2nd POUR : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---		S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	36 OF 40

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC

101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081
FAX: 570-868-2082

1/30/24



REVISION	DESCRIPTION	BY

PRODUCTION QUANTITY
(1) HEAD WALL 'H1'

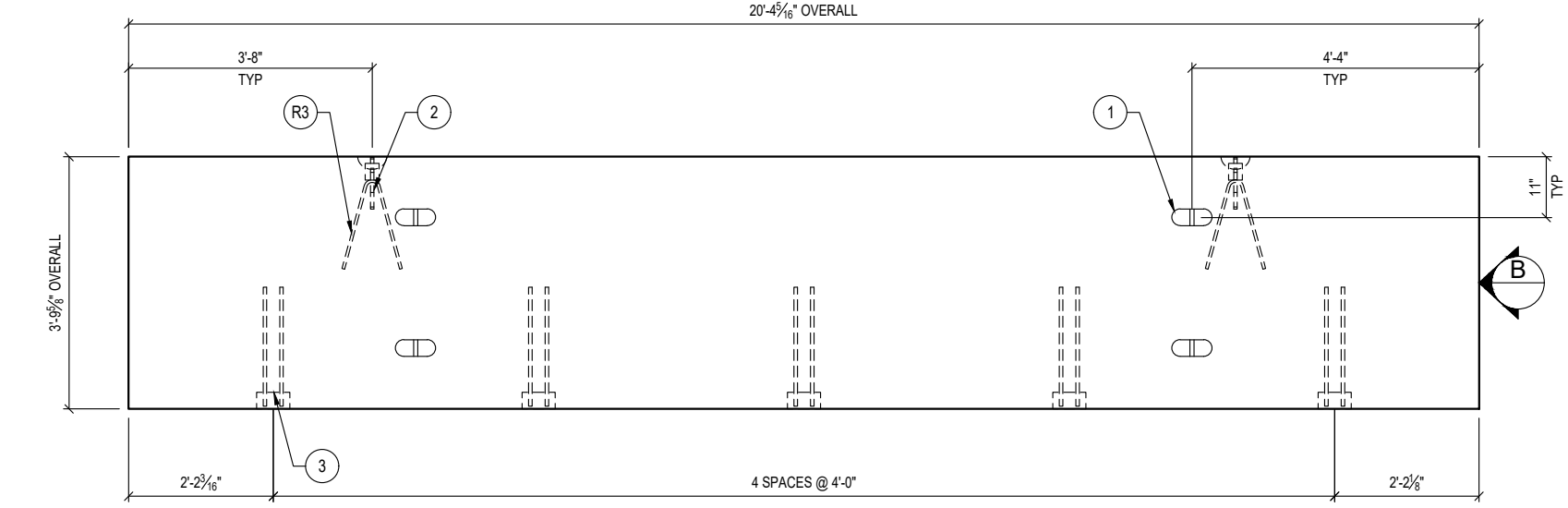
PRODUCT WEIGHT
9,676 LBS

SHOP NOTES

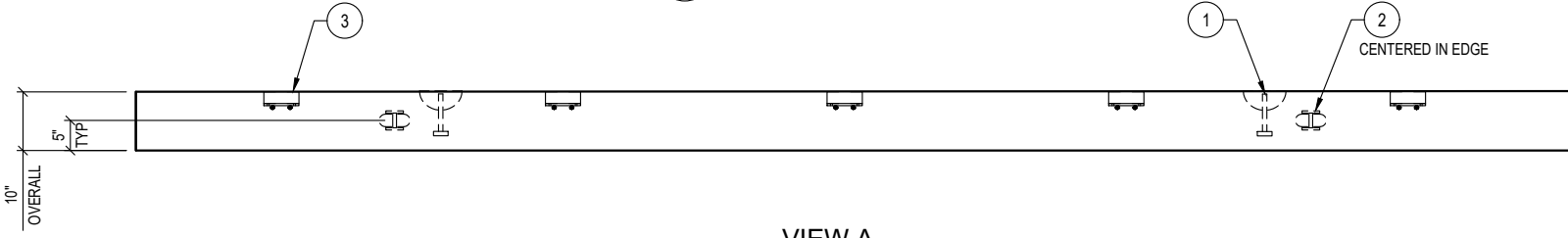
- NO STEEL FORM EXISTS; USE WOOD FORM FOR ALL FEATURES
- FORM DIAGONAL DISTANCE: 20'-8⁵/₁₆"
- CONCRETE FINISH: FLAT FLOAT FINISH WITH 3/4" CHAMFERED EDGES

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
4	4 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	2 ea	ANCHOR 8-TON ERECTION DSP (Galv)	5100535
3	5 ea	HEAD WALL WELD PLATE (SIS)	2300500
	2.38 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	3.11 cwt	#4 REBAR A615/A706/GR60	725A0074
	21.42 sqf	MESH CHAIR	5500000

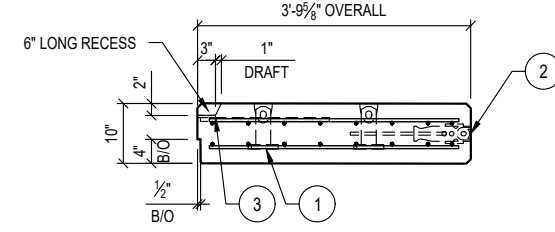
REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	16	#4 REBAR A615/A706/GR60	20'- 0"	STR
R2	40	#4 REBAR A615/A706/GR60	3'- 6"	STR
R3	2	#4 REBAR A615/A706/GR60	3'- 0"	BENT



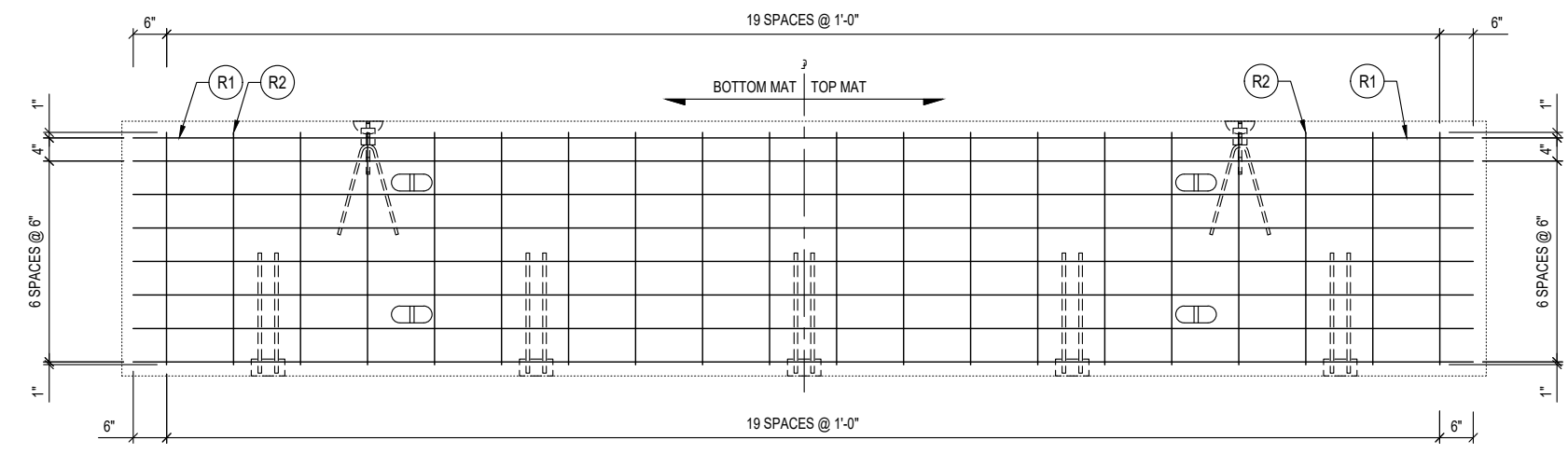
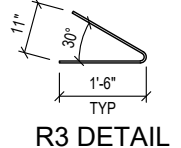
A PLAN VIEW
LAYOUT (SHOWN AS POURED)



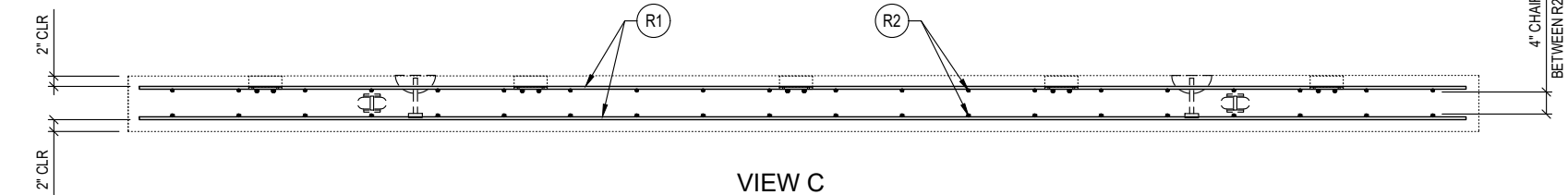
VIEW A



VIEW B



C PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)



VIEW C



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
HEAD WALL 'H1': LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	37 OF 40



SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES MOUNTAIN TOP, PA 18707
PHONE: 570-868-2081 FAX: 570-868-2082
1/30/24

REVISION	DESCRIPTION	BY

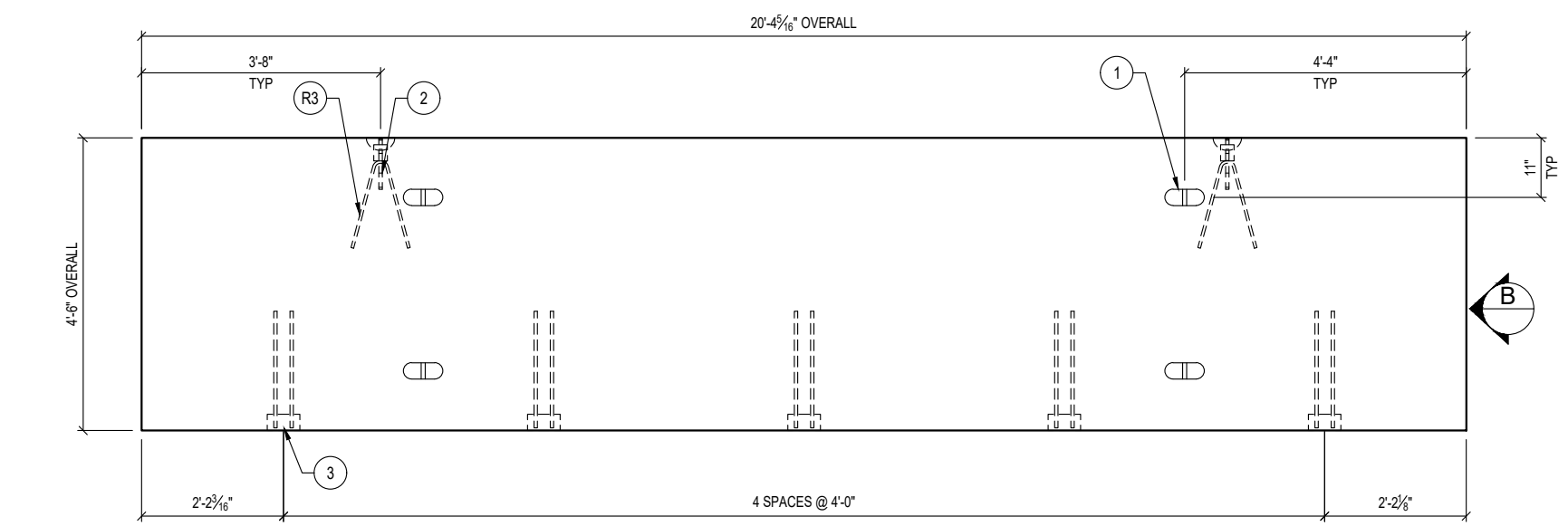
PRODUCTION QUANTITY
(1) HEAD WALL 'H2'

PRODUCT WEIGHT
11,452 LBS

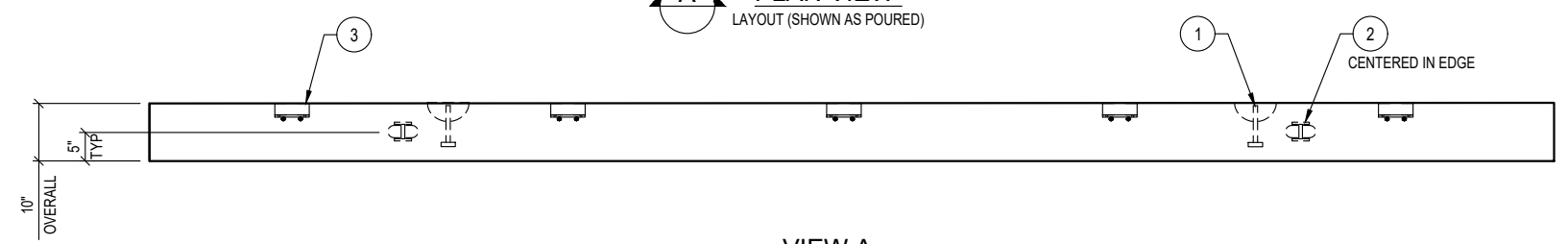
SHOP NOTES
1. NO STEEL FORM EXISTS; USE WOOD FORM FOR ALL FEATURES
2. FORM DIAGONAL DISTANCE: 20'-10³/₁₆"
3. CONCRETE FINISH: FLAT FLOAT FINISH WITH 3/4" CHAMFERED EDGES

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
4	4 ea	ANCHOR 8-TON PLATE (Galv)	5100525
2	2 ea	ANCHOR 8-TON ERECTION DSP (Galv)	5100535
5	5 ea	HEAD WALL WELD PLATE (SIS)	2300500
	2.82 yds	CONCRETE MIX 71 - SCC (WSDOT)	5010075
	3.56 cwt	#4 REBAR A615/A706/GR60	725A0074
	25.38 sqf	MESH CHAIR	5500000

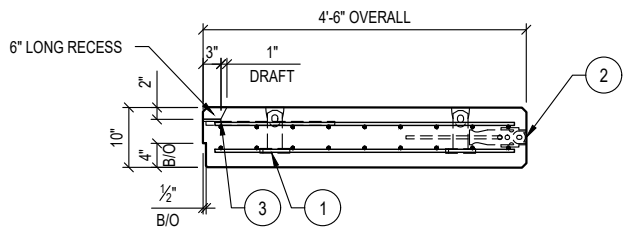
REINFORCEMENT CUT LIST				
#	QTY	MATERIAL	LENGTH	SHAPE
R1	18	#4 REBAR A615/A706/GR60	20'- 0"	STR
R2	40	#4 REBAR A615/A706/GR60	4'- 2"	STR
R3	2	#4 REBAR A615/A706/GR60	3'- 0"	BENT



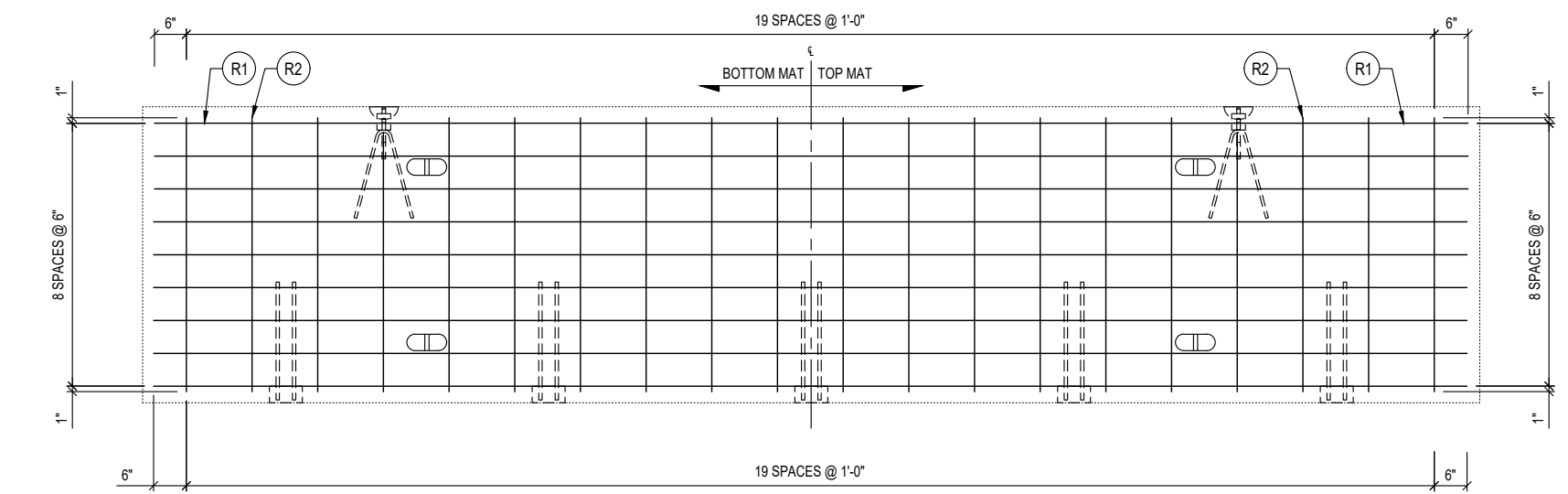
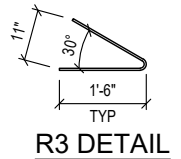
PLAN VIEW
LAYOUT (SHOWN AS POURED)



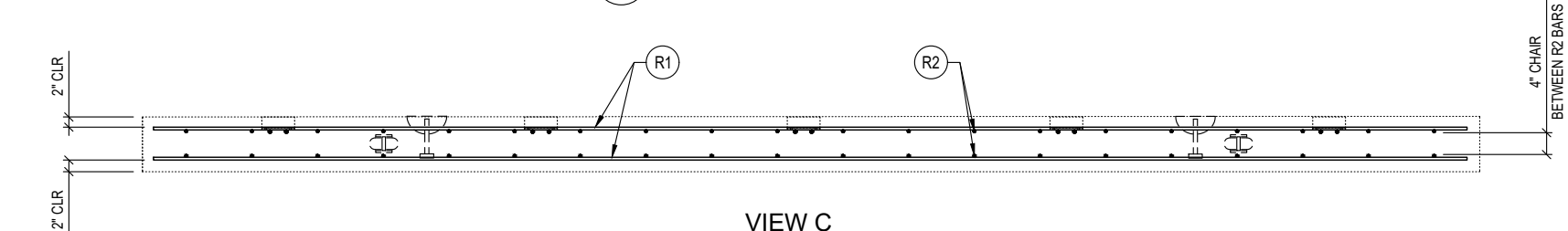
VIEW A



VIEW B



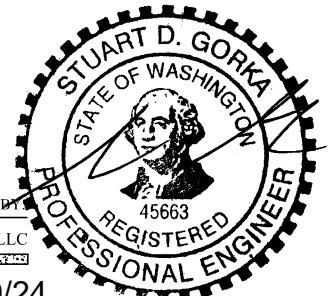
PLAN VIEW
REINFORCEMENT (SHOWN AS POURED)



VIEW C

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
101 PINEVIEW ESTATES
MOUNTAIN TOP, PA 18707
PHONES: 570-868-2081
FAX: 570-868-2082



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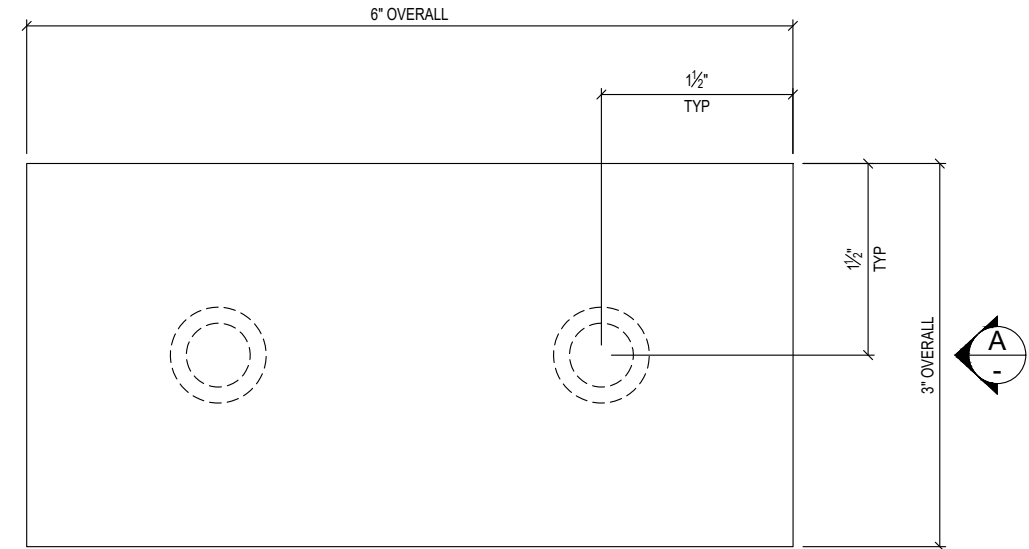
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
HEAD WALL 'H2' : LAYOUT & REINFORCEMENT DETAILS
SNOQUALMIE VALLEY WATERSHED IMP. DIST
WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

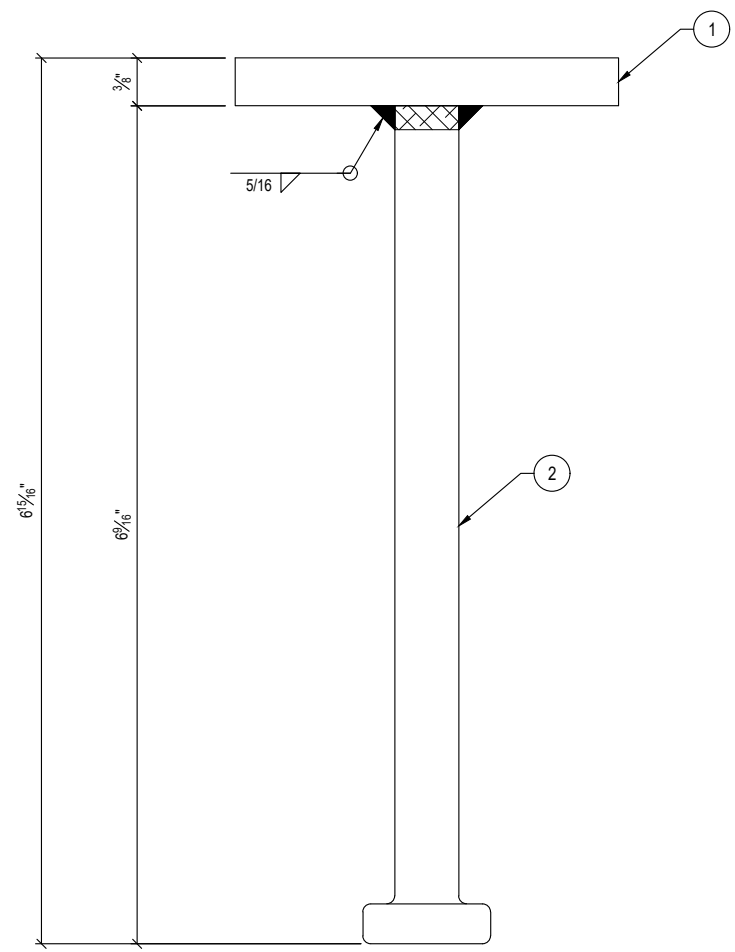
DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER 010-S202473-001				REVISION REV DATE	SHEET 38 OF 40

- SHOP NOTES
- OVERALL DIMENSIONS HAVE A TOLERANCE OF $\pm \frac{1}{16}$ "
 - GRIND ALL SHARP EDGES

PRODUCTION QUANTITY
(10) WELD PLATES



PLAN VIEW



VIEW A

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
1	1.91 lbs	FLATBAR 3/8" x 3"	5520189
2	2 ea	STUD 5/8" X 6-9/16"	5910475

LAYOUT CUT LIST			
#	QUANTITY	DESCRIPTION	SIZE
2	1 ea	FLATBAR 3/8" X 3"	6"

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONE: 570-868-2081
 FAX: 570-868-2082
 1/30/24

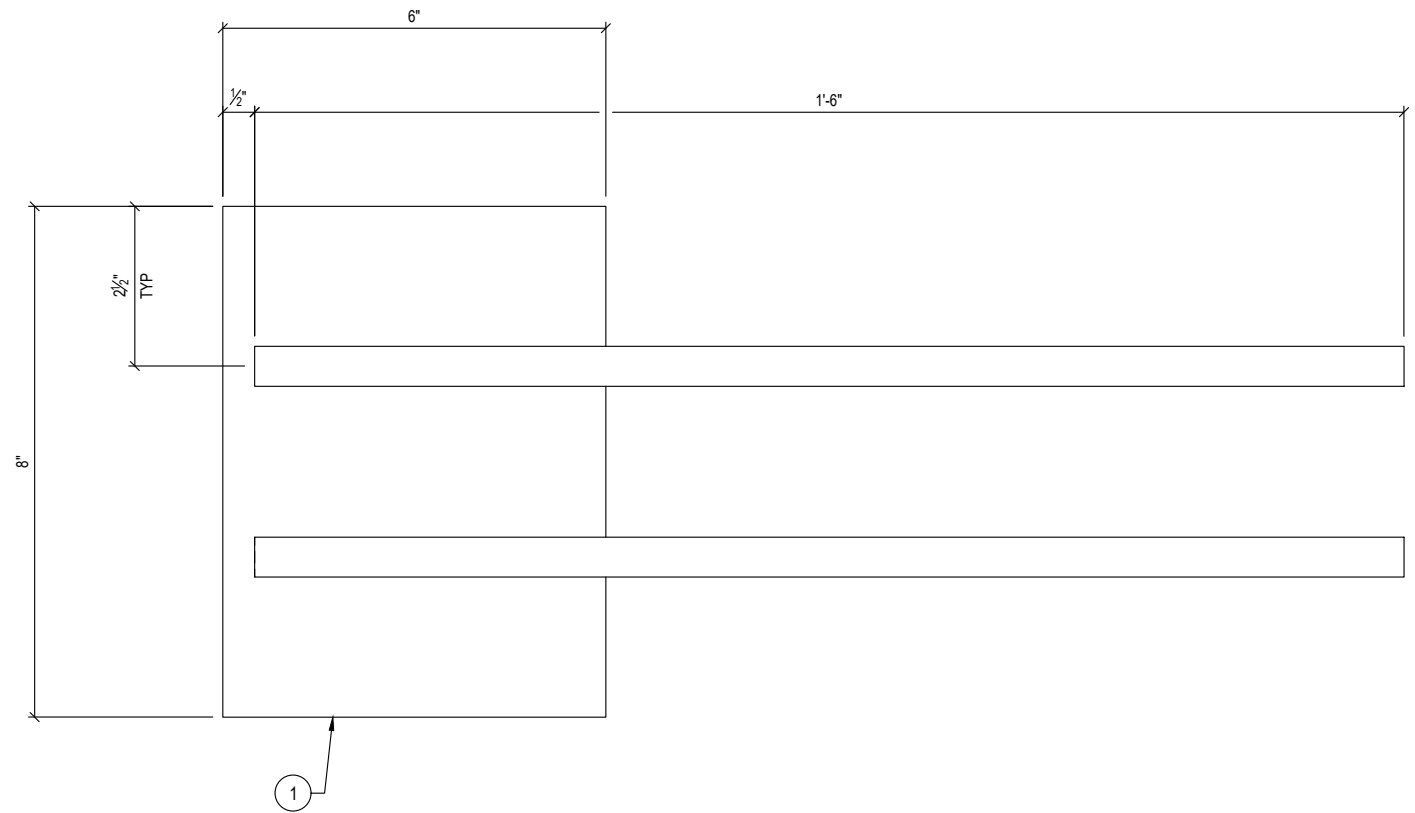


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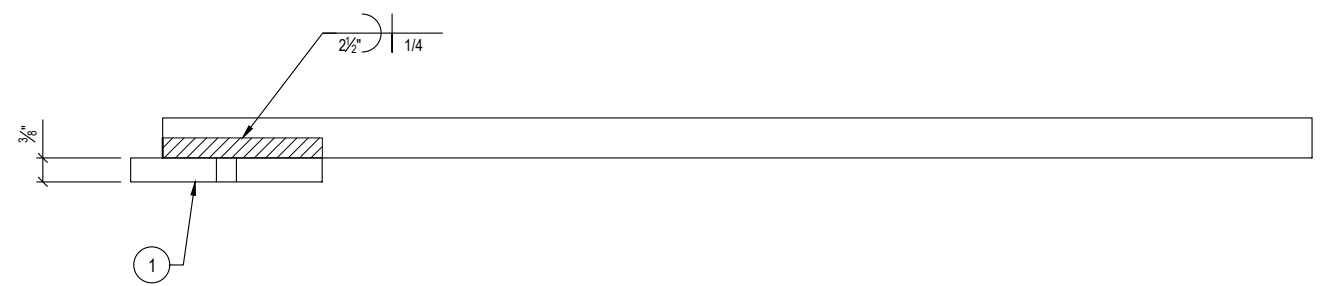
18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 TOP HEADWALL PLATE LAYOUT & WELDMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

CUSTOMER
SNOQUALMIE VALLEY WATERSHED IMP. DIST

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	39 OF 40



A PLAN VIEW



VIEW A

- SHOP NOTES**
1. OVERALL DIMENSIONS HAVE A TOLERANCE OF $\pm \frac{1}{16}$ "
 2. ALL WELDS ARE $\frac{3}{16}$ " FILLET UNLESS OTHERWISE NOTED
 3. GRIND ALL SHARP EDGES

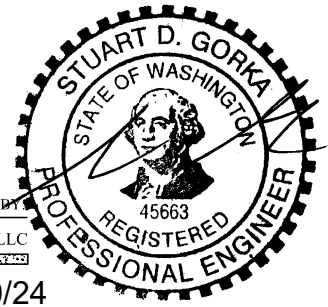
PRODUCTION QUANTITY
(10) WELD PLATES

BILL OF MATERIALS			
#	QUANTITY	DESCRIPTION	ITEM #
	5.08 lbs	FLATBAR $\frac{3}{8}$ " x 3"	5520189

LAYOUT CUT LIST			
#	QUANTITY	DESCRIPTION	SIZE
1	1 ea	FLATBAR $\frac{3}{8}$ " x 3"	6"

REVISION	DESCRIPTION	BY

SPECIALTY ENGINEERING SERVICES PROVIDED BY
CONCRETE ENGINEERING SOLUTIONS, LLC
 101 PINEVIEW ESTATES
 MOUNTAIN TOP, PA 18707
 PHONES: 570-868-2081
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 1/30/24



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18"W x10'Tx70'L SPLIT CULVERT 15 (ID 101SC-07)
 HEADWALL PLATE LAYOUT & WELDMENT DETAILS
 SNOQUALMIE VALLEY WATERSHED IMP. DIST
 WA

DATE	SALES	DRAWN	ENGINEER	CHECKED	SALES ORDER
1/30/24	DM	FMT	---	---	S202473
DRAWING NUMBER				REVISION	SHEET
010-S202473-001				REV DATE	40 OF 40