

100 SOUTH IMPROVEMENTS

RIGHT-OF-WAY IMPROVEMENTS

PAYSON, UTAH

FINAL PLAN SET

AUGUST 2025

-SHEET INDEX-

SHEET	SHEET NAME
1	COVER
2	UTILITY PLAN
3	GRADING PLAN
4	EXISTING TOPOGRAPHY
PP-01	PLAN & PROFILE – 100 SOUTH – STA. 10+00 TO STA. 14+00
DT-01	DETAIL SHEET
DT-02	DETAIL SHEET
8-15	VERTIBLOCK RETAINING WALL DESIGN – BY OTHERS

LEGEND

(APPLIES TO ALL SHEETS)

	EXISTING POWER POLE
	PROPOSED STREET LIGHT
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING STREET LIGHT
	EXISTING SIGN
	PROPOSED FIRE HYDRANT
	PROPOSED WATER VALVE
	PROPERTY BOUNDARY
	CENTERLINE
	RIGHT-OF-WAY LINE
	LOT LINE
	SECTION LINE
	EASEMENT
	EXISTING DEED LINE
	EDGE OF PAVEMENT
	EXISTING OVER HEAD POWER
	EXISTING FENCE LINE
	EXISTING SANITARY SEWER W/MANHOLE
	EXISTING STORM DRAIN W/MH
	EXISTING WATER
	EXISTING PRESSURIZED IRRIGATION
	PROPOSED SEWER
	PROPOSED STORM DRAIN
	PROPOSED CULINARY WATER
	PROPOSED PRESSURIZED IRRIGATION (PURPLE PVC)
	PROPOSED ASPHALT
	PROPOSED CONCRETE/CURB & GUTTER
	REVERSE LIP CURB
	LANDSCAPE AREA

DATA TABLE

L.F. OF CURB & GUTTER=395.49
 S.F. OF SIDEWALK=1,958
 S.F. OF ASPHALT=8,968
 S.F. OF ASPHALT REMOVAL=7,458

CONTRACTOR NOTE:

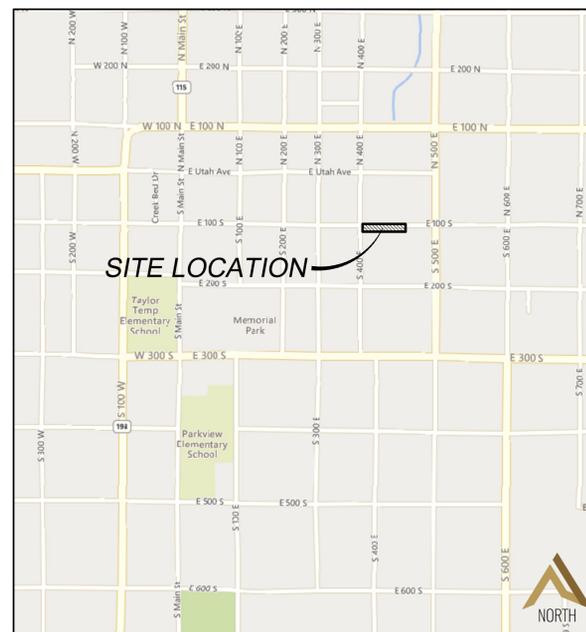
THE SIZE, ELEVATION, & LOCATIONS OF EXISTING IMPROVEMENTS AND UTILITIES SHOWN HEREON ARE ASSUMED AND APPROXIMATELY SHOWN BASED UPON THE FIELD DATA FROM THE SURVEY. ALL SIZES, LOCATIONS & ELEVATIONS ARE TO BE VERIFIED. IF THERE ARE DIFFERENCES OR DISCREPANCIES, ATLAS ENGINEERING, LLC NEEDS TO BE NOTIFIED BEFORE CONSTRUCTION. ATLAS ENGINEERING, LLC WILL NOT BE LIABLE OR RESPONSIBLE FOR REMOVAL, CONSTRUCTION, OR INSTALLATION OF IMPROVEMENTS THAT ARE NOT IN ACCORDANCE WITH THESE PLANS. ANY AND ALL CHANGES OR VARIATIONS IN THE REMOVAL, CONSTRUCTION OR INSTALLATION OF THE IMPROVEMENTS MADE WITHOUT THE APPROVAL OF THE DESIGNER WILL RESULT IN SOLE LIABILITY TO THE CONTRACTOR. IN ADDITION, ATLAS ENGINEERING, LLC ASSUMES NO RESPONSIBILITY FOR ANY AND ALL EXISTING UTILITIES NOT SHOWN ON THIS PLAN AND ASSUMES NO LIABILITY FOR FAILURE TO EXACTLY LOCATE ALL EXISTING UTILITIES, SHOULD THERE BE INCIDENT.

ENGINEER/SURVEYOR CONTACT INFO:

ATLAS ENGINEERING LLC
 (801) 655-0566
 946 E. 800 N. SUITE A
 SPANISH FORK, UT 84660

OWNER/DEVELOPER

PAYSON CITY



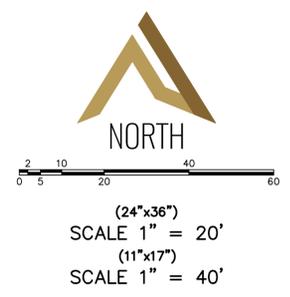
- CONSTRUCTION NOTES:**
- EXISTING MAILBOX TO BE RELOCATED BEHIND SIDEWALK.
 - REPLACE EXISTING PI METER BOX WITH CONCRETE LID AND SET TO SIDEWALK SURFACE.
 - EXISTING CULINARY METER TO REMAIN.
 - EXISTING POWER & TELECOM BOX TO REMAIN.
 - EXISTING STOP SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING STREET SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING POWER POLE TO REMAIN.
 - SAWCUT EXISTING ASPHALT.
 - CONST. ADA RAMP PER PAYSON CITY STANDARDS.
 - CONST. CONCRETE DRIVEWAY ACCESS PER PAYSON CITY STANDARDS.
 - INSTALL 9 SC-800 STORMTECH CHAMBERS OR EQUIVALENT (705 CF).
 - INSTALL 14 SC-800 STORMTECH CHAMBERS OR EQUIVALENT (1,096 CF).
 - CONST. 4 STEPS. (7" RISERS, 12" TREAD").
 - RECONSTRUCT EX. ASPHALT DRIVEWAY AND TIE INTO NEW ROADWAY IMPROVEMENTS.
 - RECONSTRUCT EX. CONCRETE DRIVEWAY AND TIE INTO NEW ROADWAY IMPROVEMENTS.
 - CONST. CONCRETE LANDSCAPE RETAINING WALL.
 - CONST. RETAINING WALL.

LEGEND

	EXISTING POWER POLE		EDGE OF PAVEMENT
	PROPOSED STREET LIGHT		EXISTING OVER HEAD POWER
	EXISTING FIRE HYDRANT		EXISTING FENCE LINE
	EXISTING WATER VALVE		EXISTING SANITARY SEWER W/MANHOLE
	EXISTING STREET LIGHT		EXISTING STORM DRAIN W/MH
	EXISTING SIGN		EXISTING WATER
	PROPOSED FIRE HYDRANT		EXISTING PRESSURIZED IRRIGATION
	PROPOSED WATER VALVE		PROPOSED SEWER
	PROPERTY BOUNDARY		PROPOSED STORM DRAIN
	CENTERLINE		PROPOSED CULINARY WATER
	RIGHT-OF-WAY LINE		PROPOSED PRESSURIZED IRRIGATION (PURPLE PVC)
	LOT LINE		PROPOSED ASPHALT
	SECTION LINE		PROPOSED CONCRETE/CURB & GUTTER
	EASEMENT		REVERSE LIP CURB
	EXISTING DEED LINE		LANDSCAPE AREA



VICINITY MAP
-NTS-



SHEET NO.

2

NO.	DATE	BY	REVISIONS
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

UTILITY PLAN

PAYSON, UTAH

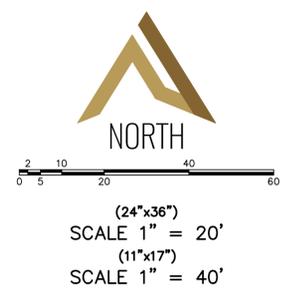
100 SOUTH IMPROVEMENTS

ATLAS ENGINEERING
CIVIL · STRUCTURAL · SURVEY

PHONE: 801-455-6565
946 E. 800 N. SUITE A
SPANISH FORK, UT 84601

- CONSTRUCTION NOTES:**
- EXISTING MAILBOX TO BE RELOCATED BEHIND SIDEWALK.
 - REPLACE EXISTING PI METER BOX WITH CONCRETE LID AND SET TO SIDEWALK SURFACE.
 - EXISTING CULINARY METER TO REMAIN.
 - EXISTING POWER & TELECOM BOX TO REMAIN.
 - EXISTING STOP SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING STREET SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING POWER POLE TO REMAIN.

LEGEND				
	EXISTING POWER POLE		EOP	EDGE OF PAVEMENT
	PROPOSED STREET LIGHT		OHP	EXISTING OVER HEAD POWER
	EXISTING FIRE HYDRANT			EXISTING FENCE LINE
	EXISTING WATER VALVE		SS	EXISTING SANITARY SEWER W/MANHOLE
	EXISTING STREET LIGHT		SS	EXISTING STORM DRAIN W/MH
	EXISTING SIGN		EX.CUL	EXISTING WATER
	PROPOSED FIRE HYDRANT		EX.PI	EXISTING PRESSURIZED IRRIGATION
	PROPOSED WATER VALVE		8"SS	PROPOSED SEWER
	PROPERTY BOUNDARY		15"SD	PROPOSED STORM DRAIN
	CENTERLINE		8"CUL	PROPOSED CULINARY WATER
	RIGHT-OF-WAY LINE		6"PI	PROPOSED PRESSURIZED IRRIGATION (PURPLE PVC)
	LOT LINE			PROPOSED ASPHALT
	SECTION LINE			PROPOSED CONCRETE/CURB & GUTTER
	EASEMENT			REVERSE LIP CURB
	EXISTING DEED LINE			LANDSCAPE AREA



100 SOUTH IMPROVEMENTS

ATLAS ENGINEERING
 CIVIL · STRUCTURAL · SURVEY

G:\USERS\GARRISON\WEST\DRIVE - ATLAS ENGINEERING\1.0 OPERATIONS\1.1 - CIVIL\2025\25-028 100 S PAYSON ROAD DESIGN\CADD\FINAL\03-EXISTING TOPO.DWG

EXISTING TOPOGRAPHY

PAYSON, UTAH

NO.	REVISIONS	BY	DATE
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

SHEET NO.

3



LEGEND

	EXISTING POWER POLE		EDGE OF PAVEMENT
	PROPOSED STREET LIGHT		EXISTING OVER HEAD POWER
	EXISTING FIRE HYDRANT		EXISTING FENCE LINE
	EXISTING WATER VALVE		EXISTING SANITARY SEWER W/MANHOLE
	EXISTING STREET LIGHT		EXISTING STORM DRAIN W/MH
	EXISTING SIGN		EXISTING WATER
	PROPOSED FIRE HYDRANT		EXISTING PRESSURIZED IRRIGATION
	PROPOSED WATER VALVE		PROPOSED SEWER
	PROPERTY BOUNDARY		PROPOSED STORM DRAIN
	CENTERLINE		PROPOSED CULINARY WATER
	RIGHT-OF-WAY LINE		PROPOSED PRESSURIZED IRRIGATION (PURPLE PVC)
	LOT LINE		PROPOSED ASPHALT
	SECTION LINE		PROPOSED CONCRETE/CURB & GUTTER
	EASEMENT		REVERSE LIP CURB
	EXISTING DEED LINE		LANDSCAPE AREA



(24"x36")
 SCALE 1" = 20'
 (11"x17")
 SCALE 1" = 40'

SHEET NO.

4

NO.	REVISIONS	BY	DATE
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

GRADING PLAN

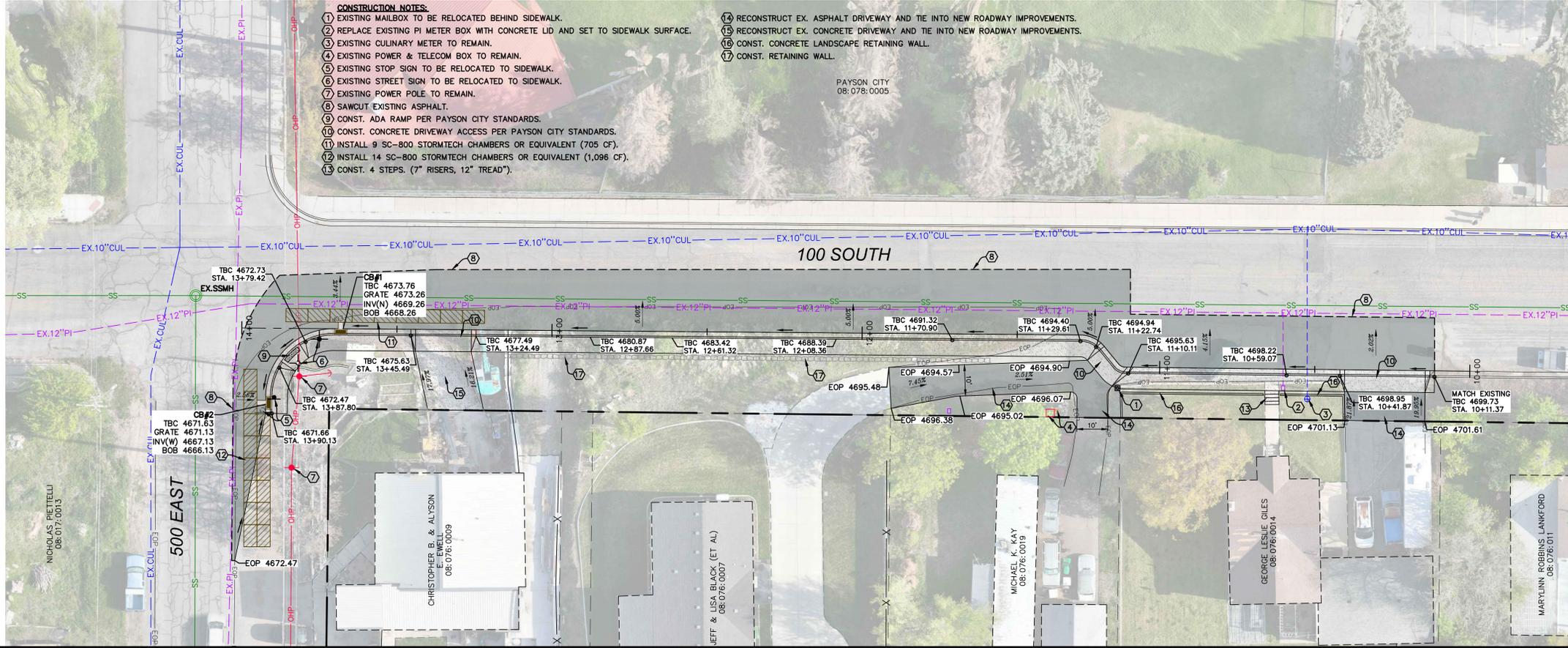
PAYSON, UTAH

100 SOUTH IMPROVEMENTS

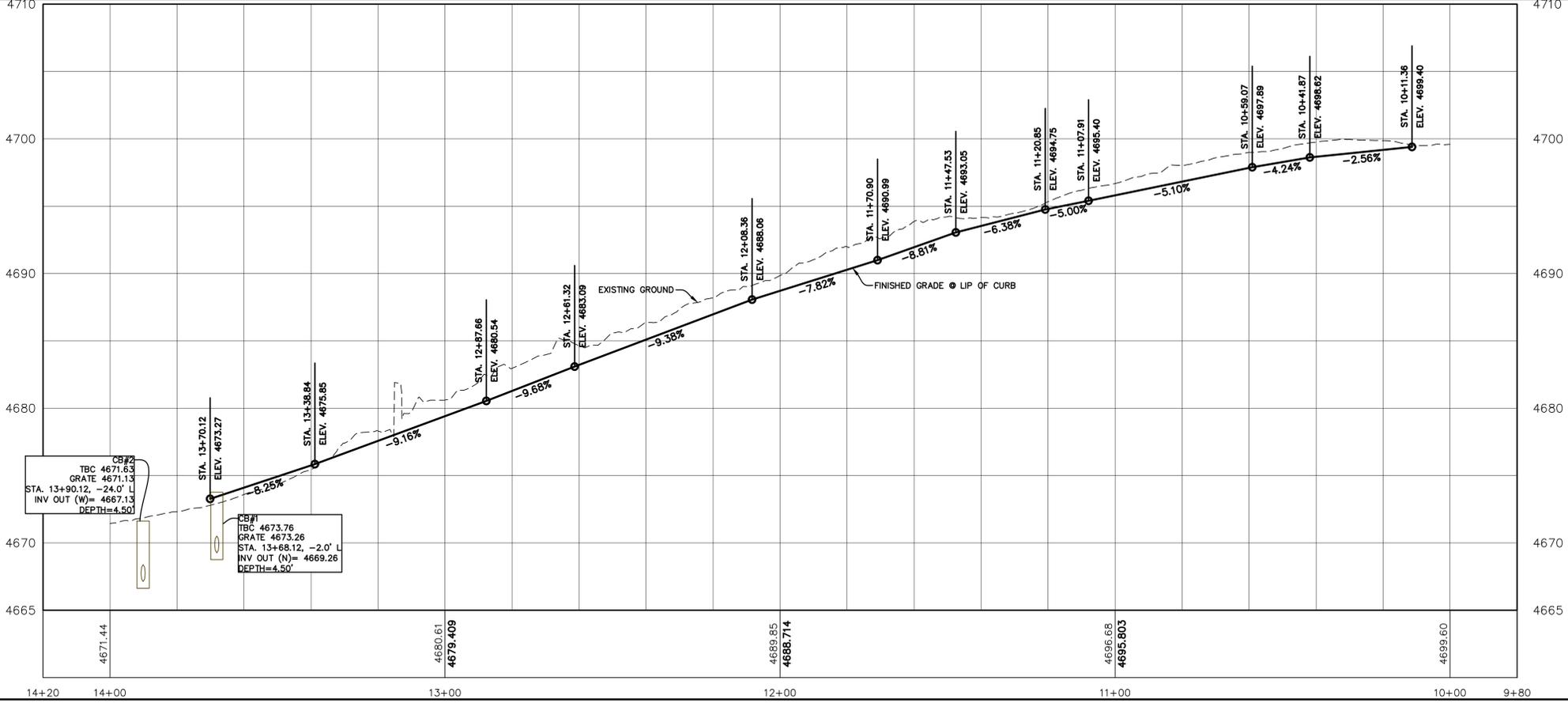
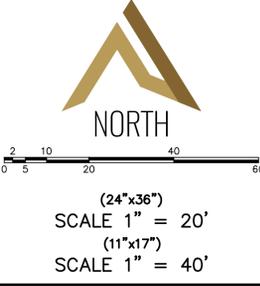
ATLAS ENGINEERING
 CIVIL · STRUCTURAL · SURVEY

PHONE: 801-455-4566
 946 E. 800 N. SUITE A
 SPANISH FORK, UT 84601





- CONSTRUCTION NOTES:**
- EXISTING MAILBOX TO BE RELOCATED BEHIND SIDEWALK.
 - REPLACE EXISTING PI METER BOX WITH CONCRETE LID AND SET TO SIDEWALK SURFACE.
 - EXISTING CULINARY METER TO REMAIN.
 - EXISTING POWER & TELECOM BOX TO REMAIN.
 - EXISTING STOP SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING STREET SIGN TO BE RELOCATED TO SIDEWALK.
 - EXISTING POWER POLE TO REMAIN.
 - SAWCUT EXISTING ASPHALT.
 - CONST. ADA RAMP PER PAYSON CITY STANDARDS.
 - CONST. CONCRETE DRIVEWAY ACCESS PER PAYSON CITY STANDARDS.
 - INSTALL 9 SC-800 STORMTECH CHAMBERS OR EQUIVALENT (705 CF).
 - INSTALL 14 SC-800 STORMTECH CHAMBERS OR EQUIVALENT (1,096 CF).
 - CONST. 4 STEPS. (7" RISERS, 12" TREAD").
 - RECONSTRUCT EX. ASPHALT DRIVEWAY AND TIE INTO NEW ROADWAY IMPROVEMENTS.
 - RECONSTRUCT EX. CONCRETE DRIVEWAY AND TIE INTO NEW ROADWAY IMPROVEMENTS.
 - CONST. CONCRETE LANDSCAPE RETAINING WALL.
 - CONST. RETAINING WALL.



SHEET NO. **PP-01**

NO.	REVISIONS	BY	DATE
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

100 SOUTH
STA. 10+00 TO STA. 14+00

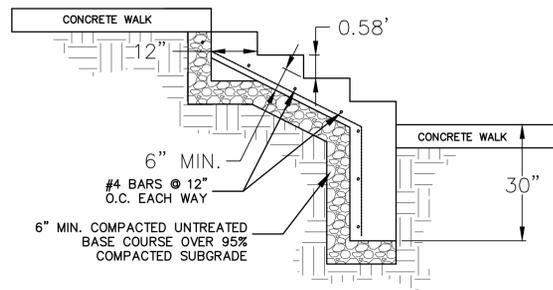
PAYSON, UTAH

100 SOUTH IMPROVEMENTS

ATLAS ENGINEERING
CIVIL · STRUCTURAL · SURVEY

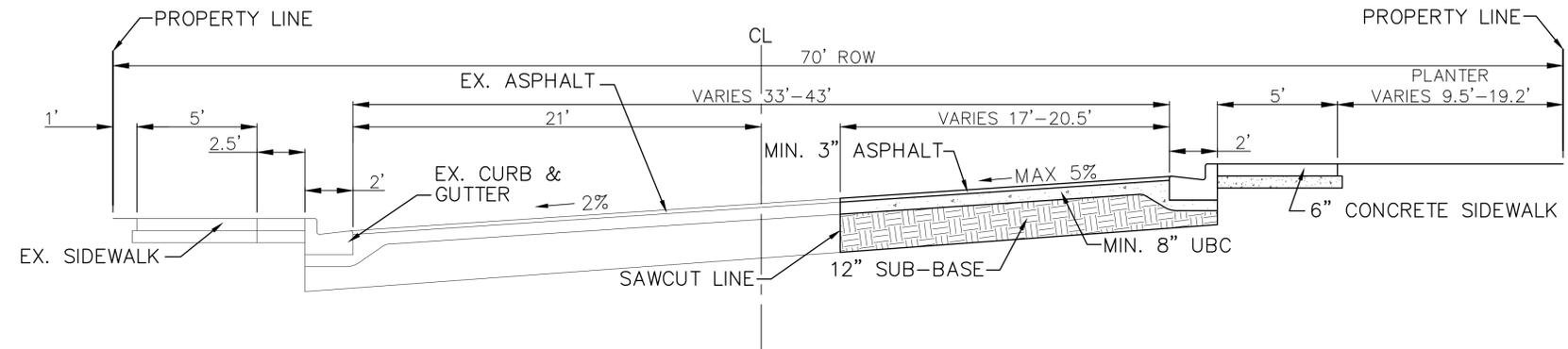
PHONE: 801-455-6565
946 E. BOON SUITE A
SPANISH FORK, UT 84601

C:\USERS\GARRISON\WORK\OPERATIONS\1.1 - CIVIL\2025\25-028-100 S PAYSON ROAD DESIGN\CADD\FINAL\PP-01.DWG



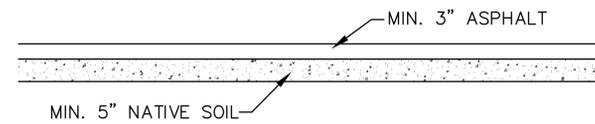
STAIRWAY SECTION DETAIL

-NTS-



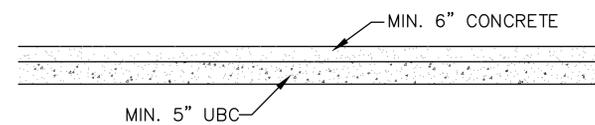
100 SOUTH CROSS SECTION

-NTS-



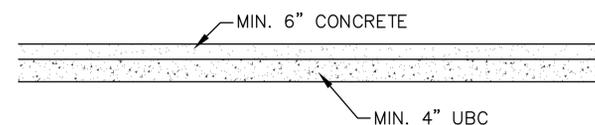
ASPHALT DRIVEWAY CROSS SECTION

-NTS-



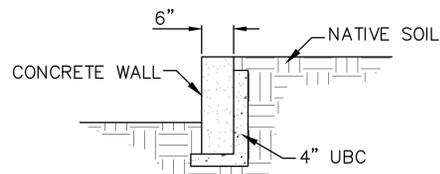
CONCRETE DRIVEWAY CROSS SECTION

-NTS-



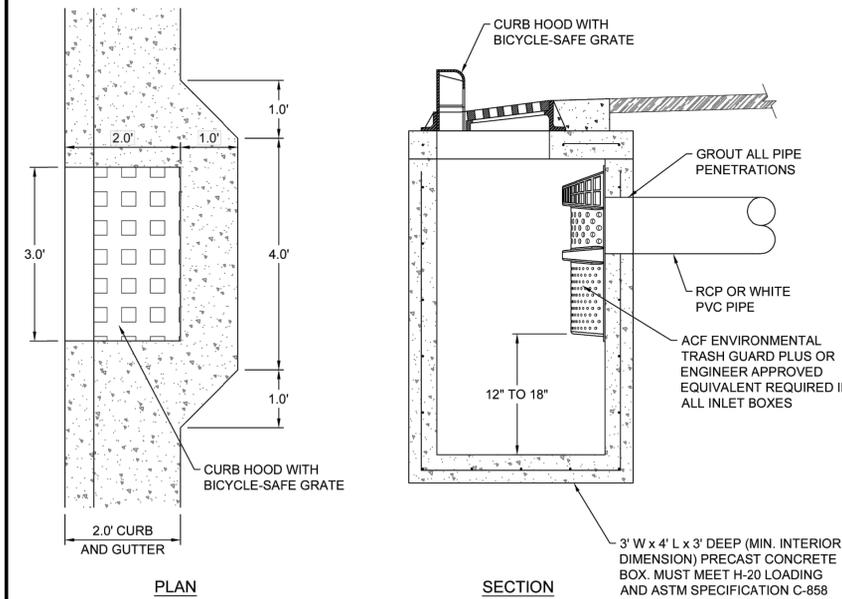
SIDEWALK CROSS SECTION

-NTS-



LANDSCAPE WALL SECTION

-NTS-



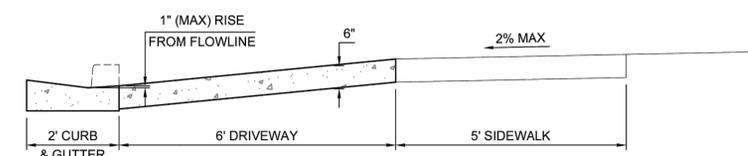
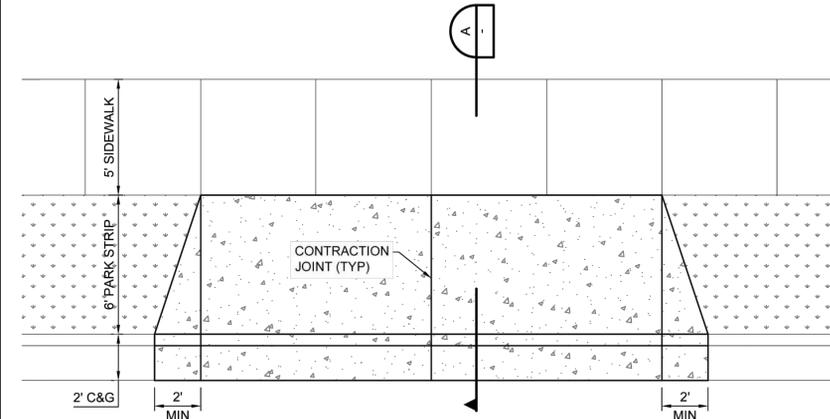
NOTES:

- ALL STORM DRAIN MAIN LINES MUST RUN THROUGH STORM MANHOLES.
- UNLESS OTHERWISE DESIGNED BY A LICENSED PROFESSIONAL ENGINEER, #4 REBAR IS REQUIRED, SPACED AT MINIMUM OF 12" O.C. IN ALL DIRECTIONS IN CONCRETE.
- OVERLAP ALL REBAR A MINIMUM OF 14".
- DO NOT PLACE INLET WITHIN 3'-0" FROM CLOSEST EDGE OF ADA RAMP.

PAYSON
UTAH
DECEMBER 2024

STORM DRAIN CURB INLET DETAIL

STANDARD PLAN SHEET
SD-01 1 OF 1



DRIVEWAY - SECTION

NOT TO SCALE

NOTES:

- UNTREATED BASE COURSE (UTBC)
 - MATERIAL PER APWA SECTION 32 11 23. GRAVEL IS NOT ACCEPTABLE AS A BASE COURSE.
 - INSTALL PER APWA SECTION 32 05 10. 6" MIN THICKNESS.
 - COMPACT TO 95% OR GREATER MODIFIED PROCTOR DENSITY PER APWA SECTION 31 23 26.
- CONCRETE
 - USE ONLY 4000 PSI (MIN) CONCRETE FROM A UTAH STATE APPROVED BATCH PLANT. SUBMIT BATCH TICKET WITH INSTALLATION. SMALL BATCH CONCRETE OR CONCRETE FROM ANY SOURCE OTHER THAN A UTAH STATE APPROVED BATCH PLANT IS NOT ACCEPTABLE AND WILL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
 - INSTALL CONCRETE PER APWA SECTION 03 30 10.
 - CONTRACTION JOINTS TO BE VERTICAL, 1/8" WIDE, 2" DEEP.
 - INSTALL 1/2" THICK TYPE F1 FULL DEPTH EXPANSION JOINT PER APWA SECTION 32 13 73 WHERE REQUIRED.
 - PROVIDE 1/2" RADIUS EDGES UNLESS NOTED OTHERWISE.
 - BROOM FINISH AND APPLY CURING AGENT.
- CONCRETE CURING AGENT TO BE CLEAR MEMBRANE FORMING COMPOUND WITH FUGITIVE DYE (TYPE ID CLASS A) PER APWA SECTION 03 39 00.

PAYSON
UTAH
DECEMBER 2024

DRIVEWAY APPROACH
FLARE APPROACH WITH PARK STRIP

STANDARD PLAN SHEET
ST-05 1 OF 3

SHEET NO.

DT-01

NO.	REVISIONS	DATE
12		
11		
10		
9		
8		
7		
6		
5		
4		
3		
2		
1		

DETAILS SHEET

PAYSON, UTAH

100 SOUTH IMPROVEMENTS

ATLAS ENGINEERING
CIVIL · STRUCTURAL · SURVEY

PHONE: 801-455-6565
946 E. 800 N. SUITE A
SPANISH FORK, UT 84601

C:\USERS\GARRISON\DRAWING - ATLAS ENGINEERING\1.0 OPERATIONS\1.1 - CIVIL\2025\25-028 100 S PAYSON ROAD DESIGN\CADD\FINAL\DT-01.DWG



SC-800 STORMTECH CHAMBER SPECIFICATIONS

- CHAMBERS SHALL BE STORMTECH SC-800.
- CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
- THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
- CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 750 LBS/FT². THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
- ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
 - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
 - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.85 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
 - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
- CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
- MANFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANFOLD COMPONENTS IN THE FIELD.
- ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

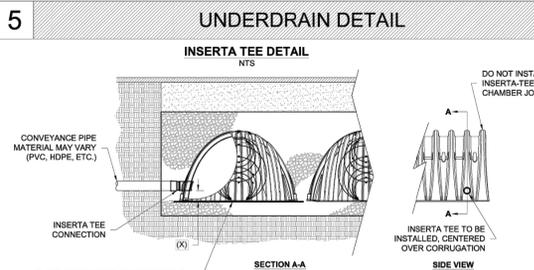
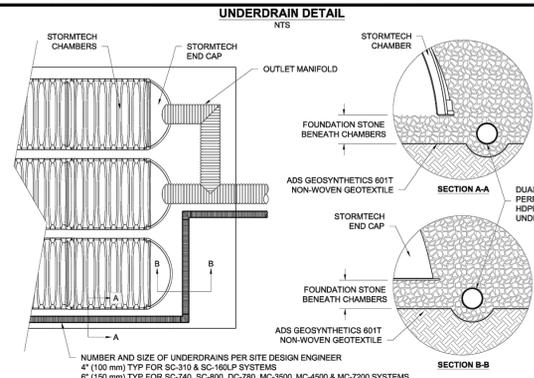
- STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
 - STONES/HOTTER LOCATED OFF THE CHAMBER BED.
 - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
 - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
- THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
- JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
- MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
- EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE, AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
- THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
- ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

- STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
 - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
 - NO RUBBER Tired LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
 - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
- FILL 3" (75 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

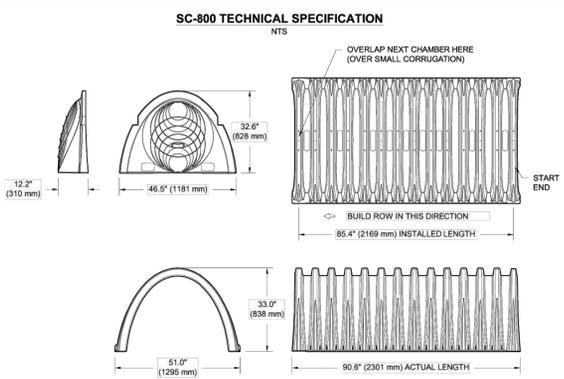
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.



CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)

NOTE: PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
 CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.



NOMINAL CHAMBER SPECIFICATIONS	51.0" X 33.0" X 66.4" (1295 mm X 838 mm X 2169 mm)	(1295 mm X 838 mm X 2169 mm)
SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 66.4"	51.0" X 33.0" X 66.4"
CHAMBER STORAGE	81.0 CUBIC FEET (2.29 m ³)	81.0 CUBIC FEET (2.29 m ³)
MINIMUM INSTALLED STORAGE*	81.0 CUBIC FEET (2.29 m ³)	81.0 CUBIC FEET (2.29 m ³)
WEIGHT	81.0 CUBIC FEET (2.29 m ³)	81.0 CUBIC FEET (2.29 m ³)

PART #	STUB	B	C
SC800PE20PC	6" (150 mm)	21.4" (544 mm)	0.9" (23 mm)
SC800PE26PC	8" (200 mm)	19.2" (488 mm)	1.0" (25 mm)
SC800PE32PC	10" (250 mm)	17.0" (432 mm)	1.2" (30 mm)
SC800PE38PC	12" (300 mm)	14.4" (366 mm)	1.6" (41 mm)
SC800PE44PC	15" (375 mm)	11.3" (287 mm)	1.7" (43 mm)
SC800PE50PC	18" (450 mm)	8.0" (203 mm)	2.0" (51 mm)
SC800PE56PC	24" (600 mm)	—	2.3" (58 mm)
SC800PE	NONE	—	SOLID END CAP

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
 PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

NOTE: ALL DIMENSIONS ARE NOMINAL

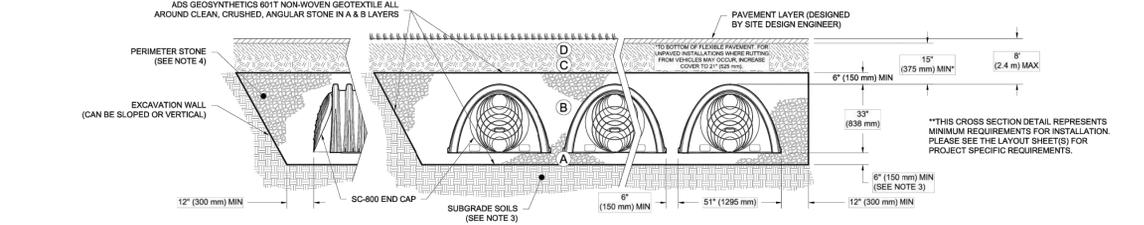
6 INSERTA-TEE SIDE INLET DETAIL

2 SC-800 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 1.5" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'C' LAYER.	AASHTO M145 ¹ A-1, A-2.4, A-3 OR AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 8, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 96% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	AASHTO M43 ² 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE. ^{2,3}

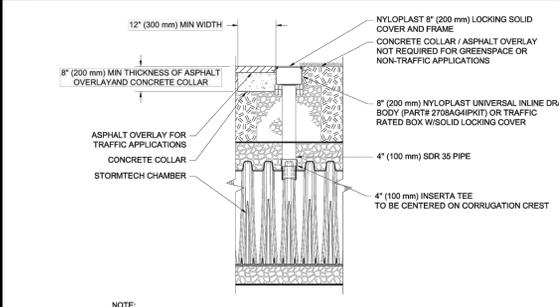
- PLEASE NOTE:
- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "50-BAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
 - STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) MAX LIFTS USING TWO FULL COVERS WITH A VIBRATORY COMPACTOR.
 - WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
 - ONCE LAYER 'C' IS PLACED, ANY SOIL MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
 - WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



- NOTES:
- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
 - THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
 - PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
 - REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 750 LBS/FT². AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-800 CROSS SECTION DETAIL

3 SC-800 ISOLATOR ROW PLUS DETAIL



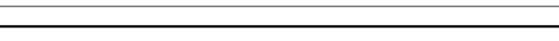
INSPECTION & MAINTENANCE

- STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- INSPECTION PORTS (IF PRESENT)
 - REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
 - REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
 - USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
 - LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROW PLUS ROWS
- REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
 - USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
 - MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
 - FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
 - IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
 - APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKLASH BEHIND ISOLATOR ROW PLUS IS CLEAN
 - VACUUM STRUCTURE SUMP AS REQUIRED
- STEP 3) REPLACE ALL COVERS, GRATINGS, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.
- STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

- INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
- CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)



DRAWN: SMW DATE: 02/17/2025
 REVIEWED: JLM PROJECT NO: 721-890
 REV: NOT TO SCALE

SC-800 STANDARD DETAILS

StormTech Chamber System
 888.888.8888 | www.stormtech.com

4640 TRUEMAN BLVD
 HILLIARD, OH 43026



SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. HAS PREPARED THIS DETAIL BASED ON THE DESIGNER'S DESIGN. DESIGNER'S DESIGN SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF ADVANCED DRAINAGE SYSTEMS, INC. THE DESIGNER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE. ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

SHEET NO. DT-02

NO.	REVISIONS	BY	DATE
12			
11			
10			
9			
8			
7			
6			
5			
4			
3			
2			
1			

DETAILS SHEET
 PAYSON, UTAH

100 SOUTH IMPROVEMENTS

ATLAS ENGINEERING
 CIVIL · STRUCTURAL · SURVEY

PHONE: 801-455-0565
 946 E. 800 N. SUITE A
 SPANGHORN, UT 84660

C. USERS' GARRISON WEST / ONE DRIVE - ATLAS ENGINEERING / I.O. OPERATIONS / I.1 - CIVIL / 2025 / 25-028 / 100 S. PAVESON ROAD, DESIGN CADD / FINAL / DT-01.DWG

VERTI-BLOCK RETAINING WALL DESIGN PACKAGE

100 SOUTH IMPROVEMENTS

PAYSON, UTAH



APPROXIMATE LOCATION
OF VERTI-BLOCK
RETAINING WALL

100 SOUTH

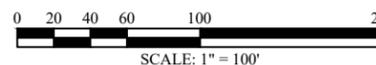
500 EAST

600 EAST

DESIGN PACKAGE CONTENTS		
	SHEET NO.	DESCRIPTION
SHOP DRAWINGS	1	COVER SHEET
	2	PLAN VIEW
	3	ELEVATION VIEW
	4	TYPICAL SECTION VIEW
	5	CONSTRUCTION SPECIFICATIONS & NOTES
	6	VERTI-BLOCK DETAILS
	7	DESIGN CRITERIA
	8	SITE PHOTOS
DESIGN CALCULATION PACKAGE	SECTION 2	STABILITY CALCULATIONS
	SECTION 3	GLOBAL STABILITY RESULTS
	SECTION 4	SEISMIC DESIGN CRITERIA

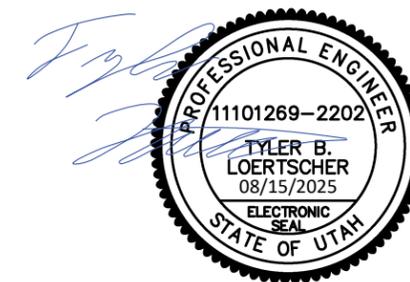
NOTE: THIS PLAN SET HAS BEEN PREPARED WITH COLOR LINE-TYPES TO MAKE SOME DETAILS AND SPECIFICATIONS MORE CLEAR. ANY COPIES OF THESE PLANS SHOULD BE MADE IN COLOR.

PROJECT AERIAL VIEW
REFERENCE AERIAL IMAGE FROM GOOGLE EARTH PRO,
IMAGE TAKEN SEPTEMBER 4, 2024.



PREPARED FOR:
ATLAS ENGINEERING
946 EAST 800 NORTH, SUITE A
SPANISH FORK, UTAH 84660
ATTN: SCOTT PETERSON

PREPARED BY: TYLER B. LOERTSCHER, P.E.



REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			



12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

VERTI-BLOCK RETAINING WALL
100 SOUTH IMPROVEMENTS
PAYSON, UTAH

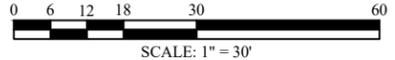
COVER SHEET

DESIGNED BY: TBL	8-13-2025	PLOT SCALE 1=1
DRAWN BY: TBL	8-13-2025	
CHECKED BY: BMJ	8-15-2025	DWG SCALE 1"=100'
APPROVED BY: TBL	8-15-2025	
IGES PROJECT NO: 05090-001	SHEET NO: 1	REV N/A



PLAN VIEW

REFERENCE IMAGE FROM ATLAS ENGINEERING, 100 SOUTH IMPROVEMENTS, GRADING PLAN, SHEET NO. 4.



 APPROXIMATE EXTENT OF BATTER AT FACE OF WALL

 APPROXIMATE TOP BLOCK LOCATION

REV	REVISION DESCRIPTION	DATE	BY	CHK

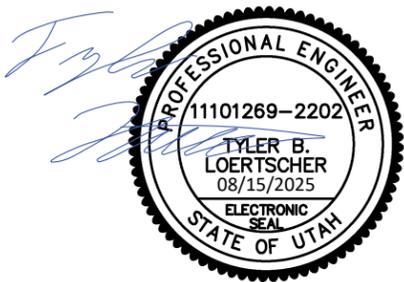


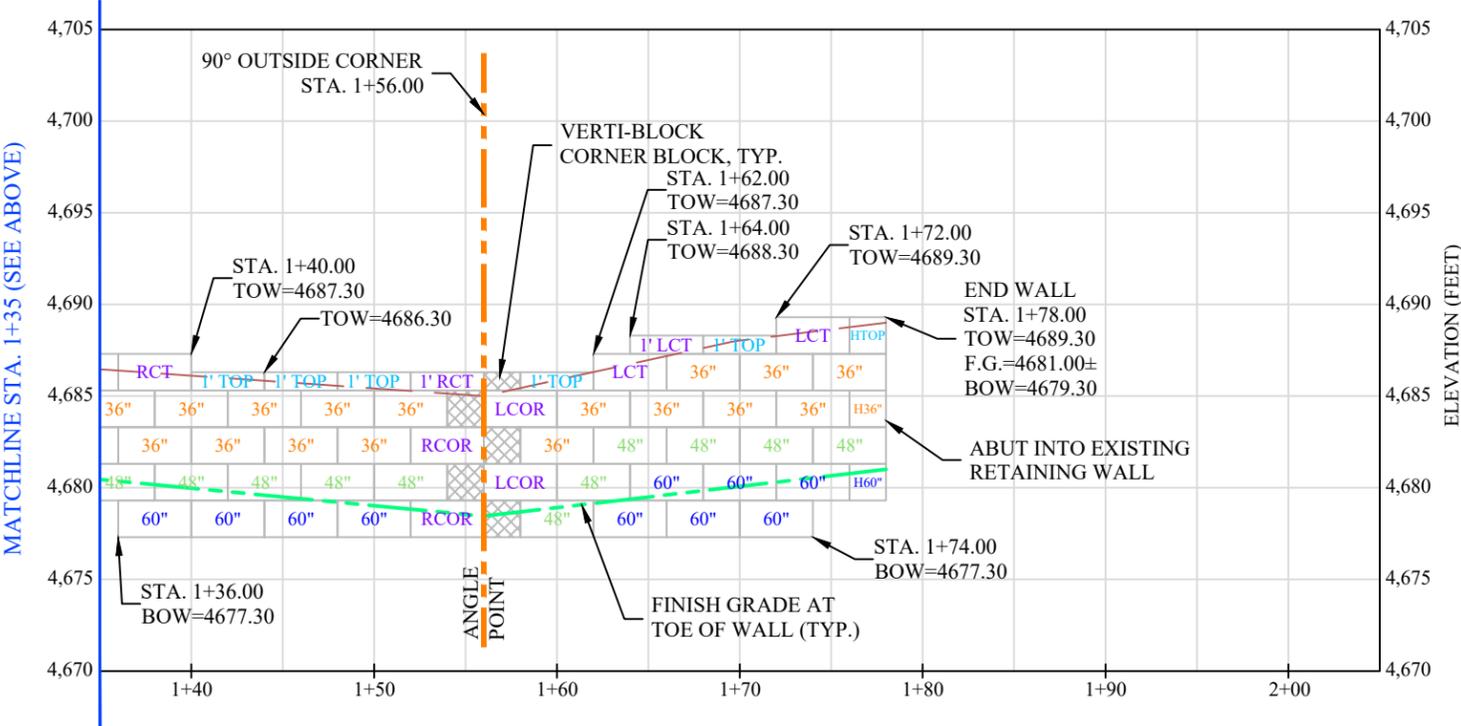
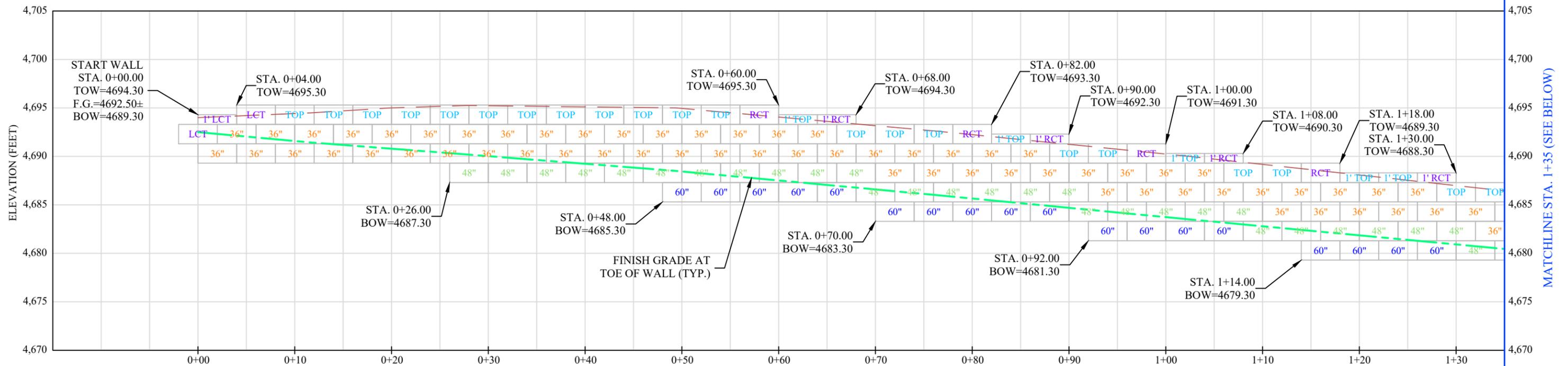
12429 SOUTH 300 EAST
 DRAPER, UTAH 84020
 (801) 748-4044

VERTI-BLOCK RETAINING WALL
 100 SOUTH IMPROVEMENTS
 PAYSON, UTAH

PLAN VIEW

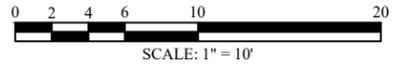
DESIGNED BY: TBL	8-13-2025	PLOT SCALE	1=1
DRAWN BY: TBL	8-13-2025	DWG SCALE	1"=30'
CHECKED BY: BMJ	8-15-2025		
APPROVED BY: TBL	8-15-2025		
IGES PROJECT NO:	05090-001	SHEET NO:	2
		REV	N/A





MATERIAL QUANTITY ESTIMATES	
MATERIAL	WALL
TOTAL WALL AREA (ft ²)	1,552
TOP UNITS	21
36-INCH UNITS	80
48-INCH UNITS	40
60-INCH UNITS	28
LEFT CORNER TOP UNITS	4
RIGHT CORNER TOP UNITS	5
LEFT CORNER UNITS	2
RIGHT CORNER UNITS	2
1-FOOT TALL TOP UNITS	10
1-FOOT TALL LEFT CORNER TOP UNITS	2
1-FOOT TALL RIGHT CORNER TOP UNITS	5
HALF TOP UNITS	1
HALF 36-INCH UNITS	1
HALF 60-INCH UNITS	1
UNIT FILL AND DRAINAGE GRAVEL (yd ³)	125
CRUSHED STONE LEVELING PAD (yd ³)	50
4-INCH PERFORATED DRAINAGE PIPE (ft)	200
NON-WOVEN GEOTEXTILE FABRIC (yd ²)	275

1-FOOT TOP BLOCK	HALF TOP BLOCK	1-FOOT LEFT/RIGHT CORNER TOP BLOCK
TOP BLOCK	HALF 36-INCH BLOCK	LEFT/RIGHT CORNER TOP BLOCK
36-INCH BLOCK	HALF 60-INCH BLOCK	LEFT/RIGHT CORNER BLOCK
48-INCH BLOCK	60-INCH BLOCK	



LEGEND
 TOW = TOP OF RETAINING WALL BLOCK
 BOW = BOTTOM OF RETAINING WALL BLOCK (TOP OF LEVELING PAD)
 FG = FINISHED GRADE AT BOTTOM OF WALL

ELEVATION VIEW
 REFERENCE ELEVATIONS BASED ON DRAWINGS BY ATLAS ENGINEERING, 100 SOUTH IMPROVEMENTS, GRADING PLAN, SHEET NO. 4. FIELD ADJUSTMENTS/CHANGES SHOULD BE EXPECTED ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.

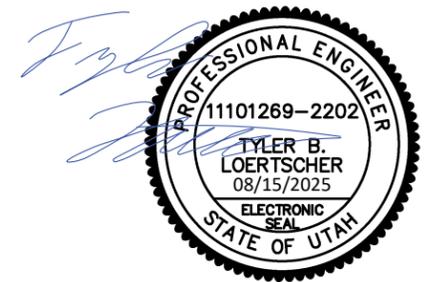
REV	REVISION DESCRIPTION	DATE	BY	CHK
REVISIONS				

12429 SOUTH 300 EAST
 DRAPER, UTAH 84020
 (801) 748-4044

VERTI-BLOCK RETAINING WALL
 100 SOUTH IMPROVEMENTS
 PAYSON, UTAH

ELEVATION VIEW

DESIGNED BY: TBL	8-13-2025	PLOT SCALE	1=1
DRAWN BY: TBL	8-13-2025	DWG SCALE	1"=10'
CHECKED BY: BMJ	8-15-2025	IGES PROJECT NO:	05090-001
APPROVED BY: TBL	8-15-2025	SHEET NO:	3
		REV	N/A

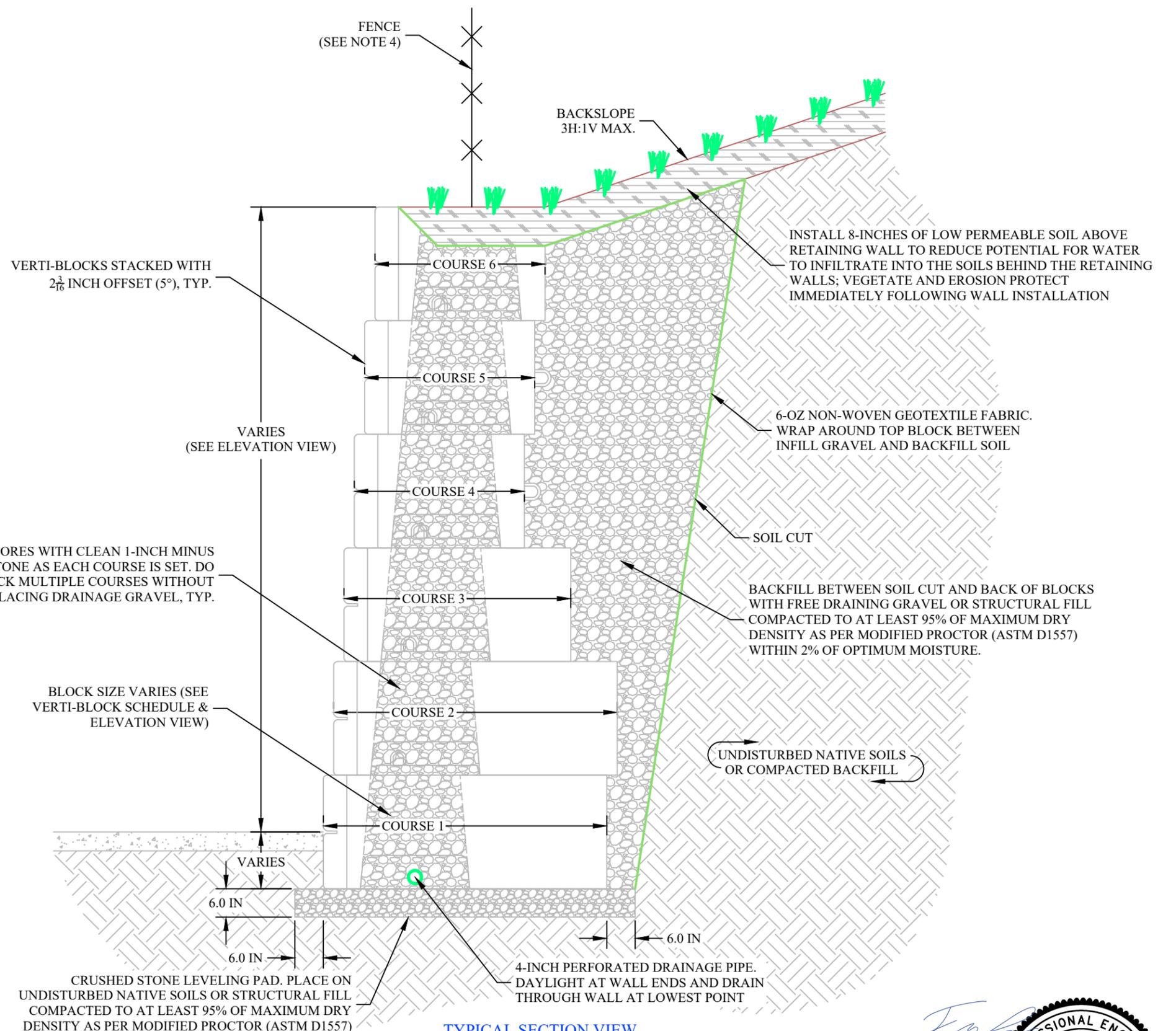
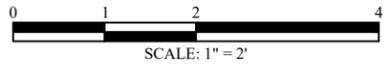


NOTES:

1. MAXIMUM SECTION SHOWN, ALL OTHER SECTIONS TO MEET THESE SAME SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. SOIL CUT SHOULD BE BENCHED AS NEEDED TO PROTECT WORKERS AND TO COMPLY WITH OSHA REQUIREMENTS.
3. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS (E.G., LANDSCAPING, HARDSCAPE, CURB & GUTTER, PAVEMENT, ETC.). TO MINIMIZE THE RISK OF DAMAGE TO THE WALL DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALL. EXCESS WATER DURING HEAVY PRECIPITATION EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT WALL ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING WALL CONSTRUCTION, AND AFTER, UNTIL THE FINAL SITE DRAINAGE, LANDSCAPING AND/OR PAVING ARE COMPLETE.
4. WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE RETAINING WALL.
 - 4.1. IF FENCING SYSTEM WILL BE A CHAIN LINK, WROUGHT IRON FENCE OR RAILING, FOLLOW BLOCK MANUFACTURER'S GUIDELINES.
 - 4.2. IF FENCING SYSTEM WILL BE A PRIVACY FENCE (E.G., VINYL, WOOD, PRECAST) OR ROADWAY BARRIER, IGES SHOULD BE CONTACTED TO PROVIDE CONSTRUCTION RECOMMENDATIONS FOR THE FENCE FOUNDATION SYSTEM.
 - 4.3. WE RECOMMEND THAT ONCE FENCING SYSTEM IS DETERMINED IGES BE CONTACTED TO ASSESS THE IMPACT OF THE FENCE ON THE RETAINING WALL.
5. PLACE WALL BACKFILL MATERIAL IN 8-INCH (MAXIMUM) LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY OF THE MODIFIED PROCTOR (ASTM D1557) WITHIN 2% OF OPTIMUM MOISTURE. THINNER LIFTS MAY BE NECESSARY TO ACHIEVE REQUIRED COMPACTION.
 - 5.1. PERFORM DENSITY TESTING OF THE REINFORCED BACKFILL SOILS AT 50-FOOT INTERVALS ON EVERY LIFT.
 - 5.2. USE ONLY SMALL, WALK-BEHIND TYPE COMPACTION EQUIPMENT WITHIN 3 FEET OF THE BACK OF THE RETAINING WALL BLOCKS. IF ANY LOCATIONS EXISTING WHERE THE RETAINING WALL WILL NOT BE PLACED UPON NATIVE SOILS, COMPACT ALL FILL BENEATH THE BLOCK AND REINFORCED FILL ZONE TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY OF THE MODIFIED PROCTOR (ASTM D1557) WITHIN 2% OF OPTIMUM MOISTURE.

SINGLE WALL VERTI-BLOCK SCHEDULE (BLOCK SIZE FOR EACH COURSE FOR VARIOUS WALL HEIGHTS, WITH COURSE 1 BEING THE BOTTOM COURSE)											
COURSE	WALL HEIGHT (FEET)										
	2'	3'	4'	5'	6'	7'	8'	9'	10'	11'	12'
6	-	-	-	-	-	-	-	-	-	1'TOP	TOP
5	-	-	-	-	-	-	-	1'TOP	TOP	36"	36"
4	-	-	-	-	-	1'TOP	TOP	36"	36"	36"	36"
3	-	-	-	1'TOP	TOP	36"	36"	36"	36"	48"	48"
2	-	1'TOP	TOP	36"	36"	36"	36"	48"	48"	60"	60"
1	TOP	36"	36"	36"	36"	48"	48"	60"	60"	60"	60"

- WHERE:
- TOP = TOP BLOCK
 - 1'TOP = 1-FOOT TALL TOP BLOCK
 - 36" = 36-INCH BLOCK
 - 48" = 48-INCH BLOCK
 - 60" = 60-INCH BLOCK



TYPICAL SECTION VIEW
APPROXIMATE GRAPHICAL SCALE: 1"=2' (11x17 ONLY)



REV	REVISION DESCRIPTION	DATE	BY	CHK

12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

VERTI-BLOCK RETAINING WALL
100 SOUTH IMPROVEMENTS
PAYSON, UTAH

TYPICAL SECTION VIEW

DESIGNED BY: TBL	8-13-2025	PLOT SCALE	1=1
DRAWN BY: TBL	8-13-2025	DWG SCALE	1"=2'
CHECKED BY: BMJ	8-15-2025	IGES PROJECT NO:	05090-001
APPROVED BY: TBL	8-15-2025	SHEET NO:	4
		REV	N/A

CONSTRUCTION SPECIFICATIONS & NOTES

1. INTRODUCTION
 - 1.1. FOLLOW THE GUIDANCE CONTAINED IN THE VERTI-BLOCK CONSTRUCTION MANUAL FOR THE RETAINING WALL UNLESS SPECIFICALLY SUPERSEDED BY MORE STRINGENT SPECIFICATIONS OR MATERIAL PROPERTIES PROVIDED HEREIN OR ON THE DRAWINGS.
 - 1.1.1. IN THE EVENT THERE IS ANY CONFLICT OR AMBIGUITY BETWEEN THE FOLLOWING SPECIFICATIONS AND THE REFERENCED GUIDANCE, BRING ALL SUCH ISSUES IMMEDIATELY TO THE ATTENTION OF IGES, INC. FOR WRITTEN CLARIFICATION.
 - 1.2. DESIGN AND CONSTRUCTION INFORMATION IS BASED ON INFORMATION OBTAINED FROM CIVIL PLANS (ANDERSON WAHLEN & ASSOCIATES), PROJECT GEOTECHNICAL REPORT (KLEINFELDER), DISCUSSIONS WITH THE CLIENT AND THE ENGINEERING ANALYSIS PERFORMED AS PART OF THE SCOPE OF WORK FOR THIS PROJECT BY IGES, INC.
 - 1.3. LOCATE ALL EXISTING UTILITIES PRIOR TO RETAINING WALL CONSTRUCTION.
 - 1.4. IMPLEMENT THE FOLLOWING MEASURES TO REDUCE THE POTENTIAL FOR HYDROSTATIC PRESSURES TO BUILD UP BEHIND THE RETAINING WALL:
 - 1.4.1. ESTABLISH VEGETATION OR EROSION CONTROL MEASURES ABOVE AND BELOW THE RETAINING WALL IMMEDIATELY FOLLOWING CONSTRUCTION.
 - 1.4.2. PLACE A 4-INCH (MINIMUM) PERFORATED DRAIN PIPE AT BOTTOM OF GRAVEL INFILL.
 - 1.5. CONDITIONS SUCH AS LEAKY OR BROKEN IRRIGATION LINES AND/OR UNCONTROLLED RUNOFF FROM IMPROPER SITE GRADING (E.G., ALLOWING WATER TO POND ABOVE THE RETAINING WALL) CAN LEAD TO SLOPE OR WALL MOVEMENT.
 - 1.5.1. HYDROSTATIC CONDITIONS WERE NOT CONSIDERED IN THE ANALYSES AND MUST BE AVOIDED.
 - 1.5.2. RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION OF THE RETAINING WALL BLOCKS, BUT PRIOR TO THE PLACEMENT OF THE LANDSCAPING OR FINISHING ELEMENTS AT THE SITE (E.G., 8 INCHES OF LOW-PERMEABLE SOIL/HARDSCAPE, VEGETATION OF SLOPES, ETC.). AS THESE ARE CRITICAL COMPONENTS TO THE OVERALL STABILITY OF THE RETAINING WALL, THE RETAINING WALL ARE NOT CONSIDERED COMPLETELY INSTALLED UNTIL THE LANDSCAPING/FINISHING ELEMENTS ARE COMPLETED. WE RECOMMEND THAT THESE ELEMENTS BE INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE BLOCKS.
 - 1.5.3. THE OWNER SHALL BE AWARE OF THE RISK IF THESE OR OTHER CONDITIONS OCCUR THAT COULD SATURATE OR ERODE THE SOIL BEHIND THE WALL, OR IF THE FINISHING/LANDSCAPING ELEMENTS ARE NOT INSTALLED IMMEDIATELY FOLLOWING THE INSTALLATION OF THE RETAINING WALL BLOCKS.
 - 1.6. COMPLY WITH ALL ASPECTS OF OSHA 1926 SUBPART P APP B, SLOPING AND BENCHING FOR ALL EXCAVATED SLOPES.
2. VERTI-BLOCK RETAINING WALL MATERIALS
 - 2.1. RETAINED BACKFILL CONSISTING OF NATIVE GRANULAR SOILS OR IMPORT MATERIALS COMPLYING WITH THE FOLLOWING CRITERIA:
 - 2.1.1. GRANULAR MATERIALS CONTAINING LESS THAN 35% FINES AND A MAXIMUM NOMINAL PARTICLE SIZE OF 4 INCHES
 - 2.1.2. PH GREATER THAN 3 BUT LESS THAN 9 AND PI OF 6 OR LESS
 - 2.1.3. REASONABLY FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIALS
 - 2.1.4. MINIMUM EFFECTIVE FRICTION ANGLE OF 36 DEGREES
 - 2.1.5. ANY STRUCTURAL FILL USED BELOW OR BEHIND THE RETAINING WALL SHALL BE TESTED FOR COMPLIANCE WITH THE SPECIFICATIONS ABOVE.
 - 2.2. LEVELING PAD
 - 2.2.1. 6-INCHES (MINIMUM) OF CLEAN 1-INCH MINUS CRUSHED STONE OR CRUSHED GRAVEL.
 - 2.3. USE NEW BLOCK MATERIALS MEETING THE MINIMUM REQUIREMENTS OF VERTI-BLOCK RETAINING WALL SYSTEMS (VERTI-CRETE, LLC).
 - 2.4. FACING FILL AND DRAINAGE GRAVEL FILL
 - 2.4.1. CLEAN CRUSHED STONE OR CRUSHED GRAVEL THAT COMPLIES WITH THE FOLLOWING CRITERIA:

SIEVE SIZE	% PASSING
2"	100
1"	75-100
$\frac{3}{8}$ "	0-15
NO. 4	0-10
NO. 200	0-5
 - 2.5. 4-INCH (MINIMUM) PERFORATED PIPE (NO SOCK IS REQUIRED).
3. VERTI-BLOCK RETAINING WALL INSTALLATION
 - 3.1. FIELD VERIFY PROPOSED FINISHED GRADE AT BOTTOM OF WALL TO PROVIDE THE MINIMUM WALL EMBEDMENT AS SHOWN ON THE SECTION DRAWING.
 - 3.2. GRADE AND COMPACT FOUNDATION SUBGRADE SOILS FOR THE FULL LENGTH OF THE LEVELING PAD AND UP TO THE SOIL CUT PRIOR TO PLACEMENT OF THE LEVELING PAD AND ANY BACKFILL.
 - 3.2.1. REMOVE ANY FOUNDATION SOILS FOUND TO BE UNSUITABLE OR UNSTABLE AND REPLACED WITH APPROVED FILL.
 - 3.3. SET THE LEVELING PAD LEVEL SIDE-TO-SIDE AND FRONT-TO-BACK.
 - 3.3.1. INSTALL LEVELING PAD TO A MINIMUM OF 6 INCHES THICK AND EXTEND Laterally A MINIMUM OF 6 INCHES BEYOND THE ENDS OF THE BLOCKS BOTH FRONT AND BACK AS SHOWN ON THE DRAWINGS.
 - 3.4. SET THE FIRST ROW OF VERTI-BLOCK UNITS AND CHECK FOR LEVEL AND ALIGNMENT.
 - 3.4.1. INSTALL WALL ELEMENTS IN ACCORDANCE WITH VERTI-BLOCK GUIDELINES.

- 3.5. POUR DRAINAGE INFILL GRAVEL INTO THE HOLLOW CORE OF EACH VERTI-BLOCK AND BETWEEN AND WITHIN THE BLOCKS AS EACH ROW OF BLOCKS IS INSTALLED. BEFORE ADDITIONAL COURSES OF BLOCKS ARE ADDED, THE CONTRACTOR MUST ENSURE THAT ALL VOIDS ARE FILLED AND NO AIR POCKETS ARE DETECTED.
 - 3.5.1. SET DRAINAGE PIPE AT THE BASE OF THE GRAVEL INFILL ZONE WHICH SHALL SLOPE TO DAYLIGHT AND DISCHARGE AT THE LOW ENDS OF THE RETAINING WALL.
- 3.6. REMOVE AND SWEEP OFF ALL EXCESS AGGREGATE AND OTHER MATERIALS FROM THE TOP OF THE BLOCKS BEFORE CONTINUING TO THE NEXT COURSE.
- 3.7. PLACE WALL BACKFILL MATERIAL IN 12-INCH MAXIMUM LOOSE LIFTS AND COMPACT TO A MINIMUM OF 95 PERCENT OF ASTM D1557 (MODIFIED PROCTOR) WITHIN 2% OF THE OPTIMUM MOISTURE. THINNER LIFTS MAY BE NECESSARY TO ACHIEVE REQUIRED COMPACTION.
 - 3.7.1. PERFORM DENSITY TESTING OF THE BACKFILL SOILS AT 50-FOOT INTERVALS ON EVERY LIFT.
 - 3.7.2. USE ONLY SMALL, WALK-BEHIND TYPE COMPACTION EQUIPMENT WITHIN 3 FEET OF THE BACK OF THE RETAINING WALL BLOCK.
 - 3.7.3. IF ANY LOCATIONS EXIST WHERE THE RETAINING WALL WILL NOT BE PLACED UPON NATIVE SOILS, COMPACT THE FILL TO A MINIMUM OF 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR) WITHIN 2% OF THE OPTIMUM MOISTURE.
- 3.8. INSTALL EACH SUBSEQUENT COURSE TO BOND ON TOP OF THE BASE ROW. POSITION BLOCKS TO BE OFFSET FROM SEAMS OF BLOCKS ON LOWER COURSE. BLOCKS SHALL BE PLACED AT A $2\frac{1}{16}$ INCH SETBACK AND RECESSED OVER THE ALIGNMENT HOOP.
 - 3.8.1. CHECK EACH BLOCK COURSE FOR PROPER ALIGNMENT AND LEVEL.
 - 3.8.2. CONTINUE TO UNIT FILL AND BACKFILL BEHIND EACH COURSE OF UNITS AS DESCRIBED IN NOTES 3.5 THROUGH 3.7.
- 3.9. PROVIDE A FINAL GRADE ABOVE AND BELOW THE RETAINING WALL THAT WILL ALLOW FOR POSITIVE DRAINAGE AND PREVENT PONDING.
- 3.10. PROTECT FINAL COMPLETED RETAINING WALL FROM ADDITIONAL SITE CONSTRUCTION.
 - 3.10.1. DO NOT OPERATE LARGE EQUIPMENT OR STORE MATERIALS ABOVE THE WALL THAT EXCEED THE DESIGN SURCHARGE LOADS AS SPECIFIED ON THE DESIGN CRITERIA SHEET.
4. CONSTRUCTION OBSERVATION
 - 4.1. TO FULFILL ANY APPLICABLE CITY, COUNTY AND/OR STATE AGENCY REQUIREMENTS, AND TO PROTECT THE CONTRACTOR AND DESIGN ENGINEER, IGES, INC. MUST PERFORM PERIODIC CONSTRUCTION OBSERVATIONS TO PROVIDE A FINAL CONSTRUCTION OBSERVATION LETTER.
 - 4.1.1. IF IGES, INC. DOES NOT OBSERVE THE RETAINING WALLS DURING CONSTRUCTION, A FINAL LETTER REGARDING COMPLIANCE OF THE WALL CONSTRUCTION WITH THE DESIGN CRITERIA AND RECOMMENDATIONS CANNOT BE PROVIDED. IF IGES, INC. DOES NOT PERFORM THE PERIODIC CONSTRUCTION OBSERVATIONS OUTLINED BELOW, THE WALL CONTRACTOR/OWNER ASSUMES ALL RESPONSIBILITY FOR THE RETAINING WALLS.
 - 4.2. WALL OBSERVATIONS SCHEDULE:
 - 4.2.1. OBSERVE THE EXCAVATION OF THE LEVELING PAD FOUNDATION SOILS.
 - 4.2.1.1. ASSESS THE SUITABILITY OF THE FOUNDATIONS SOILS.
 - 4.2.2. OBSERVE THE INSTALLATION OF THE RETAINING WALL BLOCK AT VARIOUS STAGES OF CONSTRUCTION.
 - 4.2.2.1. ASSESS MINIMUM EMBEDMENT REQUIREMENTS.
 - 4.2.2.2. ASSESS DEPTH OF GRAVEL DRAINAGE ZONE AND TYPE, LOCATION AND DIAMETER OF DRAINAGE PIPE.
 - 4.2.2.3. ASSESS BLOCK PLACEMENT AND POSITIONING FOR COMPLIANCE WITH THE REQUIREMENTS IN THE SECTIONS ABOVE.
 - 4.2.3. OBSERVE THE INSTALLATION OF THE BACKFILL MATERIAL.
 - 4.2.3.1. VERIFY THAT THE BACKFILL MATERIALS MEET THE REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE.
 - 4.2.3.1.1. ASSESS LOOSE LIFT THICKNESS, FILL PLACEMENT AND COMPACTION.
 - 4.2.3.1.2. ASSESS COMPACTED BACKFILL MATERIAL FOR COMPLIANCE WITH REQUIREMENTS SET FORTH IN THE SECTIONS ABOVE.
 - 4.2.4. OBSERVE THE COMPLETED RETAINING WALL SYSTEM.
 - 4.2.4.1. ASSESS THE FINISHED RETAINING WALL HEIGHT AND BATTER.
 - 4.2.4.2. OBSERVE THAT BACKSLOPE AND TOESLOPE GRADING CONDITIONS DO NOT EXCEED DESIGN GEOMETRY TOLERANCES.
 - 4.2.4.3. ASSESS SUITABILITY OF EROSION CONTROL MEASURES INSTALLED ABOVE THE RETAINING WALL.

REV	REVISION DESCRIPTION	DATE	BY	CHK



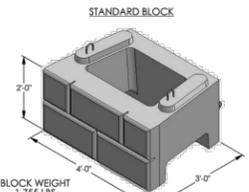
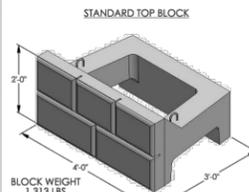
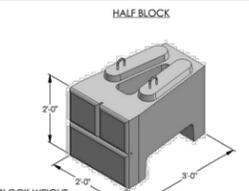
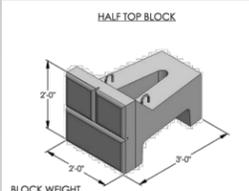
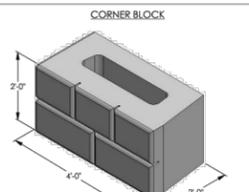
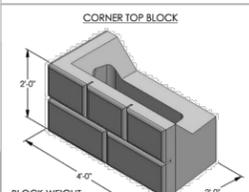
12429 SOUTH 300 EAST
 DRAPER, UTAH 84020
 (801) 748-4044

VERTI-BLOCK RETAINING WALL
 100 SOUTH IMPROVEMENTS
 PAYSON, UTAH
CONSTRUCTION SPECIFICATIONS & NOTES

DESIGNED BY: TBL	8-13-2025	PLOT SCALE
DRAWN BY: TBL	8-13-2025	1=1
CHECKED BY: BMJ	8-15-2025	DWG SCALE
APPROVED BY: TBL	8-15-2025	NTS
IGES PROJECT NO:	SHEET NO:	REV
05090-001	5	N/A



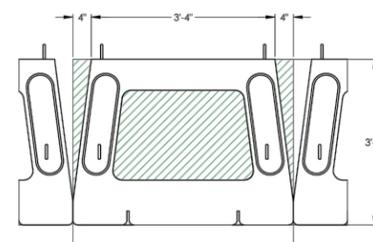
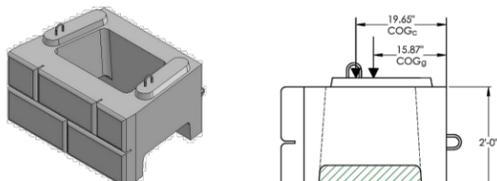
36" BLOCK SERIES

 <p>STANDARD BLOCK BLOCK WEIGHT 1,755 LBS</p>	 <p>STANDARD TOP BLOCK BLOCK WEIGHT 1,313 LBS</p>
 <p>HALF BLOCK BLOCK WEIGHT 1,068 LBS</p>	 <p>HALF TOP BLOCK BLOCK WEIGHT 746 LBS</p>
 <p>CORNER BLOCK BLOCK WEIGHT 1,576 LBS</p>	 <p>CORNER TOP BLOCK BLOCK WEIGHT 1,340 LBS</p>



DRAWN BY	DAN BALLING	DATE	11/25/2013
TITLE	36" BLOCK SERIES		
DWG NO.	BD-01		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

36" STANDARD BLOCK & GRAVEL INFILL

CONCRETE BLOCK DATA
 DESIGN UNIT WEIGHT (T_c) = 142 pcf
 VOLUME (V_c) = 12.36 cft
 BLOCK WEIGHT (W_c) = 1,755 lbs
 CENTER OF GRAVITY (COG_c) = 19.65" (SEE NOTES)

GRAVEL INFILL DATA
 DESIGN UNIT WEIGHT (T_g) = 110 pcf
 VOLUME (V_g) = 11.44 cft
 GRAVEL INFILL WEIGHT (W_g) = 1,258 lbs
 CENTER OF GRAVITY (COG_g) = 15.87" (SEE NOTES)

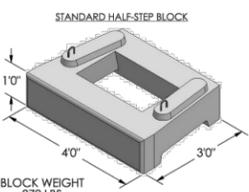
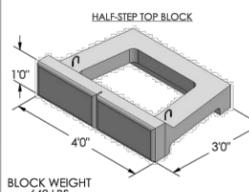
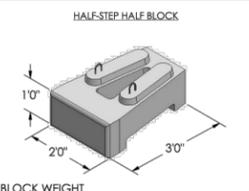
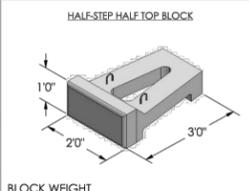
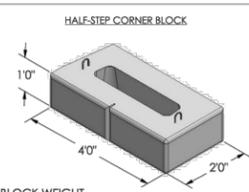
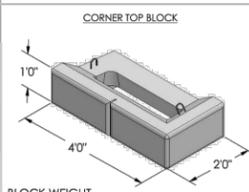
COMBINED UNIT DATA
 DESIGN UNIT WEIGHT (T_t) = (1,755 lbs + 1,258 lbs) / 24 cft = 126 pcf
 VOLUME (V_t) = 23.80 cft
 TOTAL UNIT WEIGHT (W_t) = 3,013 lbs
 CENTER OF GRAVITY (COG_t) = 18.14" (SEE NOTES)

NOTES:
 VOLUME, WEIGHT AND COG CALCULATIONS WERE DONE USING CAD SOFTWARE. COG MEASUREMENTS ARE FROM BACK OF BLOCK



DRAWN BY	DAN BALLING	DATE	11/25/2013
TITLE	STANDARD BLOCK		
DWG NO.	BD-02		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

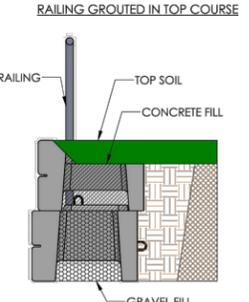
HALF-STEP SERIES

 <p>STANDARD HALF-STEP BLOCK BLOCK WEIGHT 972 LBS</p>	 <p>HALF-STEP TOP BLOCK BLOCK WEIGHT 642 LBS</p>
 <p>HALF-STEP HALF BLOCK BLOCK WEIGHT 574 LBS</p>	 <p>HALF-STEP HALF TOP BLOCK BLOCK WEIGHT 273 LBS</p>
 <p>HALF-STEP CORNER BLOCK BLOCK WEIGHT 824 LBS</p>	 <p>CORNER TOP BLOCK BLOCK WEIGHT 689 LBS</p>

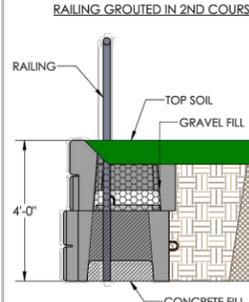


DRAWN BY	R FONTANESI	DATE	6/16/2015
TITLE	HALF-STEP BLOCK SERIES		
DWG NO.	BD-14		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

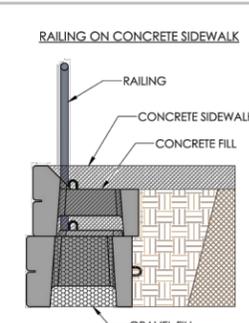
RAILING OPTIONS DETAIL



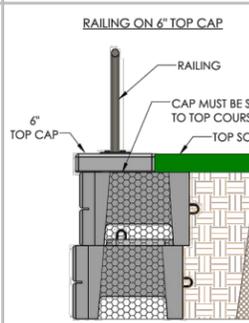
RAILING GROUTED IN TOP COURSE



RAILING GROUTED IN 2ND COURSE



RAILING ON CONCRETE SIDEWALK

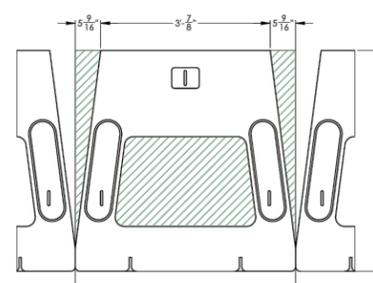
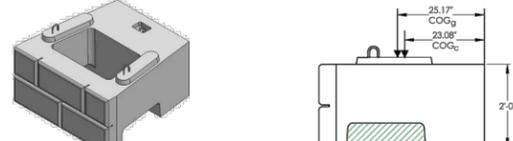


RAILING ON 6" TOP CAP
CAP MUST BE SECURED TO TOP COURSE



DRAWN BY	R FONTANESI	DATE	1/31/2018
TITLE	RAILING OPTIONS DETAIL		
DWG NO.	F-04		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

48" MASS EXTENDER BLOCK & GRAVEL INFILL

CONCRETE BLOCK DATA
 DESIGN UNIT WEIGHT (T_c) = 142 pcf
 VOLUME (V_c) = 18.83 cft
 BLOCK WEIGHT (W_c) = 2,674 lbs
 CENTER OF GRAVITY (COG_c) = 23.08" (SEE NOTES)

GRAVEL INFILL DATA
 DESIGN UNIT WEIGHT (T_g) = 110 pcf
 VOLUME (V_g) = 13.17 cft
 GRAVEL INFILL WEIGHT (W_g) = 1,449 lbs
 CENTER OF GRAVITY (COG_g) = 25.17" (SEE NOTES)

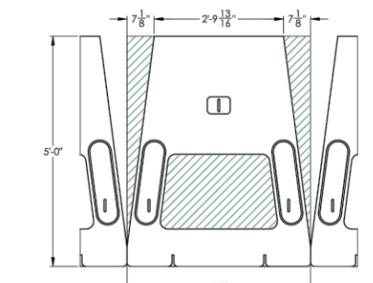
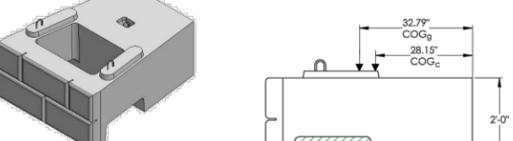
COMBINED UNIT DATA
 DESIGN UNIT WEIGHT (T_t) = (2,674 lbs + 1,449 lbs) / 32 cft = 129 pcf
 VOLUME (V_t) = 32.00 cft
 TOTAL UNIT WEIGHT (W_t) = 4,123 lbs
 CENTER OF GRAVITY (COG_t) = 23.82" (SEE NOTES)

NOTES:
 VOLUME, WEIGHT AND COG CALCULATIONS WERE DONE USING CAD SOFTWARE. COG MEASUREMENTS ARE FROM BACK OF BLOCK



DRAWN BY	DAN BALLING	DATE	11/25/2013
TITLE	48" MASS EXTENDER		
DWG NO.	BD-06		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

60" MASS EXTENDER BLOCK & GRAVEL INFILL

CONCRETE BLOCK DATA
 DESIGN UNIT WEIGHT (T_c) = 142 pcf
 VOLUME (V_c) = 24.71 cft
 BLOCK WEIGHT (W_c) = 3,509 lbs
 CENTER OF GRAVITY (COG_c) = 28.15" (SEE NOTES)

GRAVEL INFILL DATA
 DESIGN UNIT WEIGHT (T_g) = 110 pcf
 VOLUME (V_g) = 15.29 cft
 GRAVEL INFILL WEIGHT (W_g) = 1,682 lbs
 CENTER OF GRAVITY (COG_g) = 32.79" (SEE NOTES)

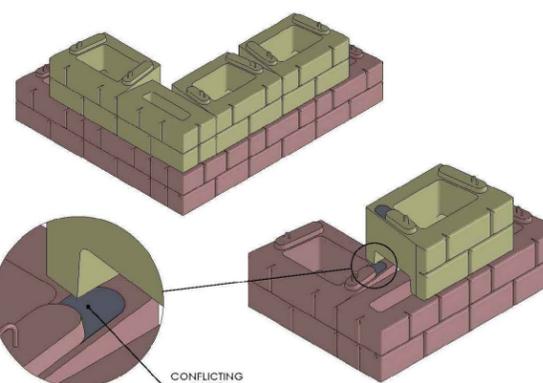
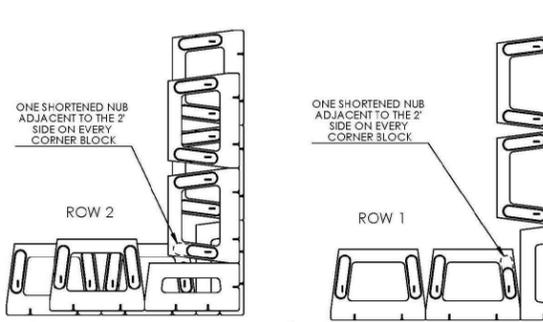
COMBINED UNIT DATA
 DESIGN UNIT WEIGHT (T_t) = (3,509 lbs + 1,682 lbs) / 40 cft = 130 pcf
 VOLUME (V_t) = 40.00 cft
 TOTAL UNIT WEIGHT (W_t) = 5,191 lbs
 CENTER OF GRAVITY (COG_t) = 29.65" (SEE NOTES)

NOTES:
 VOLUME, WEIGHT AND COG CALCULATIONS WERE DONE USING CAD SOFTWARE. COG MEASUREMENTS ARE FROM BACK OF BLOCK



DRAWN BY	DAN BALLING	DATE	11/25/2013
TITLE	60" MASS EXTENDER		
DWG NO.	BD-07		
SCALE	SCALE 1:30		
SHEET	SHEET 1 OF 1		

OUTSIDE CORNER DETAIL

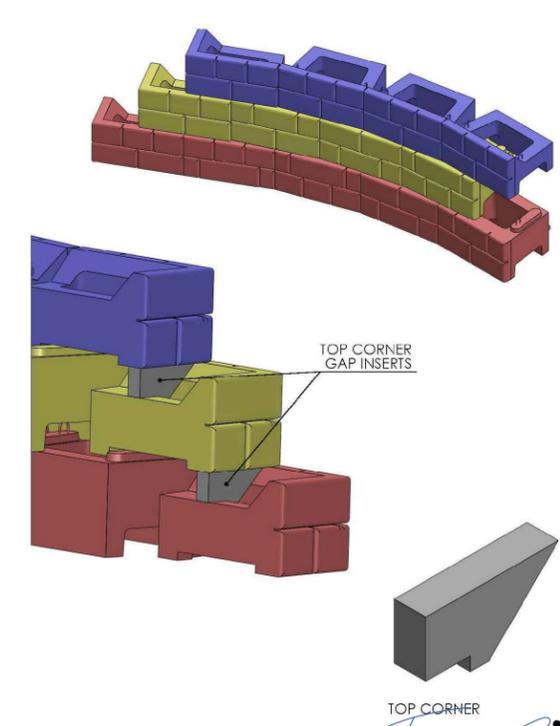
CONFLICTING POINT

ONE SHORTENED NUB ADJACENT TO THE 2' SIDE ON EVERY CORNER BLOCK

ROW 2

ROW 1

2' STEP DOWN WITH TOP CORNER GAP INSERTS



TOP CORNER GAP INSERTS

TOP CORNER

DETAILS PROVIDED BY VERTI-CRETE RETAINING WALL SYSTEMS, INC.

REV	REVISION DESCRIPTION	DATE	BY	CHK
REVISIONS				



12429 SOUTH 300 EAST
 DRAPER, UTAH 84020
 (801) 748-4044

VERTI-BLOCK RETAINING WALL
 100 SOUTH IMPROVEMENTS
 PAYSON, UTAH

VERTI-BLOCK DETAILS

DESIGNED BY:	TBL	8-13-2025	PLOT SCALE	1=1
DRAWN BY:	TBL	8-13-2025	DWG SCALE	NTS
CHECKED BY:	BMJ	8-15-2025	REV	N/A
APPROVED BY:	TBL	8-15-2025	SHEET NO.	6
IGES PROJECT NO:	05090-001			



PROFESSIONAL ENGINEER
 11101269-2202
 TYLER B. LOERTSCHER
 08/15/2025
 ELECTRONIC SEAL
 STATE OF UTAH

RETAINING WALL GEOMETRY AND LOADING CONDITIONS			
LENGTH (FT)	MAXIMUM TOTAL HEIGHT (FT)	BACKSLOPE CONDITIONS	SURCHARGE LOADING
178	12.0	VARIES (3H:1V MAX)	250 PSF (DRIVEWAY)

SOIL CONDITIONS USED IN DESIGN (ASSUMED)			
EARTH MATERIALS	FRICTION ANGLE	COHESION	UNIT WEIGHT
RETAINED SOIL	36°	50 PSF	135 PCF
FOUNDATION SOIL	36°	50 PSF	135 PCF

SOURCES & NOTES:

- IGES, 2025, SITE OBSERVATION MADE OF ONSITE MATERIALS ON AUGUST 13, 2025.
- COHESION USED ONLY IN GLOBAL STABILITY ANALYSES.

GENERAL NOTES:

- THE ENGINEERING PRESENTED IN THIS DESIGN PACKAGE IS BASED ON SPECIFIC PRODUCTS (E.G., VERTI-BLOCK UNITS, THE MATERIAL IDENTIFIED ABOVE, ETC.). ANY SUBSTITUTION OF THE SPECIFIED PRODUCTS WILL INVALIDATE THIS ENGINEERING. ANY CHANGES IN WALL LOCATION AND SOIL PARAMETERS AT THE SITE WILL ALSO INVALIDATE THE ENGINEERING. FIELD ADJUSTMENTS/CHANGES MAY BE NEEDED TO MEET ACTUAL CONDITIONS ONCE CONSTRUCTION COMMENCES. IGES SHOULD BE CONSULTED WHERE FIELD CHANGES ARE REQUIRED.
- THESE DOCUMENTS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE INTELLECTUAL PROPERTY OF IGES, INC. THE DESIGN PACKAGE HAS BEEN FURNISHED FOR THIS SPECIFIC PROJECT ONLY. ANY PARTY ACCEPTING THIS DOCUMENT DOES SO IN CONFIDENCE AND AGREES THAT NO USE OR RE-USE OF THESE DOCUMENTS (EITHER IN WHOLE OR IN PART) SHALL BE PERMITTED UNLESS EXPRESSLY AUTHORIZED IN WRITING BY IGES, INC.
- RETAINING WALLS ARE VULNERABLE TO EROSION AND HYDROSTATIC PRESSURES IMMEDIATELY AFTER INSTALLATION BUT PRIOR TO THE PLACEMENT OF LANDSCAPING/FINISHING ELEMENTS AT THE SITE (E.G., LANDSCAPING, HARDSCAPE, CURB & GUTTER, PAVEMENT, ETC.). TO MINIMIZE THE RISK OF DAMAGE TO THE WALLS DURING ADDITIONAL SITE WORK, ALL SURFACE DRAINAGE SHOULD BE DIRECTED AWAY FROM THE WALL. EXCESS WATER DURING HEAVY RAIN EVENTS, IF NOT DRAINED PROPERLY, CAN CAUSE WASHOUTS AT WALL ENDS AND 'BLOWOUTS' OF INTERIOR SECTIONS. THESE PRECAUTIONS SHOULD BE TAKEN DURING WALL CONSTRUCTION, AND AFTER, UNTIL THE FINAL SITE DRAINAGE, LANDSCAPING AND PAVING ARE COMPLETE.
- MINIMUM EMBEDMENT OF THE WALL VARIES AS SHOWN ON THIS ELEVATION VIEW SHEET. EMBEDMENT AT THE WALL TOE MUST BE MAINTAINED THROUGHOUT THE LIFE OF THE RETAINING WALL.
- WE RECOMMEND THAT AN APPROPRIATE SAFETY FENCE/BARRICADE BE CONSIDERED BY THE OWNER ABOVE THE RETAINING WALL(S). DESIGN OF THE FENCE/BARRICADE IS SPECIFICALLY EXCLUDED FROM THE ENGINEERING OF THIS WALL.

RETAINING WALL ANALYSIS USED IN DESIGN	
ANALYSIS	DESIGN REFERENCES/SOFTWARE
EXTERNAL STABILITY	VERTI-BLOCK RETAINING WALLS, 2023 VERTICRETE WALL DESIGNER SOFTWARE, VERSION 6.0.23313.1325, BUILD DATE NOVEMBER 9, 2023 AUTHOR ROBERT RACE
GLOBAL STABILITY	SLIDE 2 MODELER: ROCSCIENCE, INC., 1998-2024, VERSION 9.036; BUILD DATE OCTOBER 17, 2024

SEISMIC PARAMETERS USED IN DESIGN					
SEISMIC CRITERIA	MCE _G PGA	SITE CLASS	F _{PGA}	PGA _M	HORIZONTAL COEFFICIENT (k _h)
2% IN 50 YEARS	0.776g	D	1.10	0.854g	0.227g (EXTERNAL) 0.274g (GLOBAL)

SOURCES & NOTES:

- SEISMIC PARAMETERS DEVELOPED FOLLOWING THE CRITERIA OUTLINED IN ASCE 7-16. THE *ASCE 7 HAZARD TOOL* WAS USED TO DETERMINE THE MAPPED MCE_G PEAK GROUND ACCELERATION (MCE_G PGA) FOR THE SITE. BASED ON OUR ENGINEERING JUDGEMENT, THE SITE SOIL CLASS IS REPRESENTED BY A SITE CLASS D. THE MCE_G PEAK GROUND ACCELERATION WAS ADJUSTED FOR SITE CLASS EFFECTS (PGA_M).
- HORIZONTAL SEISMIC COEFFICIENT (k_h)
 - EXTERNAL SEISMIC COEFFICIENT (k_{h-ext})
 - THE EXTERNAL COEFFICIENT WAS DETERMINED USING THE METHODOLOGY OUTLINED IN BRAY ET AL (2010) [SEE ALSO AASHTO LRFD BRIDGE DESIGN MANUAL IN CHAPTER 11 APPENDIX]. THE 5% DAMPED RESPONSE SPECTRUM NSHM CONTERMINOUS U.S. 2023 MODEL (2% IN 50 YEARS) WAS UTILIZED FOR THE CALCULATIONS (SEE OUTPUT GIVEN IN SECTION 4) FOUND AT [https://earthquake.usgs.gov/nshmp/hazard/dynamic]. LACKING ANY CRITICAL STRUCTURES OF FACILITIES WITHIN THE INFLUENCE ZONE OF THE WALLS, AN ALLOWABLE DISPLACEMENT OF 15 CENTIMETERS (~6 INCHES) WAS CONSIDERED ACCEPTABLE FOR THE WALLS ON THIS PROJECT.
 - IN ACCORDANCE WITH RECOMMENDATIONS CONTAINED IN BRAY ET AL (2010), THE ESTIMATED DISPLACEMENT FOR THE MAXIMUM SECTION OF THE RETAINING WALLS WAS EVALUATED. TWO METHODS WERE UTILIZED TO ESTIMATE THE SEISMIC DISPLACEMENT: THE NEWMARK DISPLACEMENT METHOD (ANDERSON ET AL, 2008), AND THE SIMPLIFIED PROCEDURE (BRAY AND TRAVASAROU, 2007). BASED ON THESE ANALYSES, THE ANTICIPATED MEAN DISPLACEMENT FOR THE MAXIMUM SECTION OF THE RETAINING WALL WILL BE LESS THAN 1 INCH, WHICH IS WITHIN THE TOLERABLE LIMITS FOR THIS WALL TYPE.
 - GLOBAL SEISMIC COEFFICIENT (k_{h-GLOBAL})
 - SEISMIC GLOBAL STABILITY WAS ASSESSED USING A PSEUDO-STATIC APPROACH. A SEISMIC COEFFICIENT (k_h) WAS SELECTED USING THE GUIDELINES PRESENTED IN BLAKE AND OTHERS (2002) WHICH RECOMMENDS A SEISMIC SCREENING COEFFICIENT BE OBTAINED USING THE STEWART AND OTHERS (2003) METHODOLOGY. LACKING ANY CRITICAL STRUCTURES OF FACILITIES WITHIN THE ASSUMED SLIDE MASS, A THRESHOLD DISPLACEMENT OF 15 CM WAS CONSIDERED ACCEPTABLE.
 - REFERENCES:
 - ANDERSON, D.G., MARTIN, G.R., LAM, I., WANG, J.N., 2008, SEISMIC ANALYSIS AND DESIGN OF RETAINING WALLS, BURIED STRUCTURES, SLOPES, AND EMBANKMENTS, NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 611.
 - BLAKE, T.F., HOLLINGSWORTH, R.A., AND STEWART, J.P. (EDITORS), 2002, "RECOMMENDED PROCEDURES FOR IMPLEMENTATION OF DMG SPECIAL PUBLICATION 117 GUIDELINES FOR ANALYZING AND MITIGATING LANDSLIDE HAZARDS IN CALIFORNIA," PUBLISHED BY SOUTHERN CALIFORNIA EARTHQUAKE CENTER (SCEC), DATED JUNE 2002.
 - BRAY, J.D., TRAVASAROU, T., 2007, SIMPLIFIED PROCEDURE FOR ESTIMATES EARTHQUAKE INDUCED DEVIATORIC SLOPE DISPLACEMENTS, JOURNAL OF GEOTECHNICAL & GEOENVIRONMENTAL ENGINEERING, ASCE, V. 133(4), PP. 381-392, APRIL 2007.
 - BRAY, J.D., TRAVASAROU, T., AND ZUPAN, J., 2010, SEISMIC DISPLACEMENT DESIGN OF EARTH RETAINING STRUCTURES, ASCE EARTH RETENTION CONFERENCE 3, BELLEVUE, WA. AMERICAN SOCIETY OF CIVIL ENGINEERS, RESTON, VA, PP. 638-655.
 - STEWART, J.P., BLAKE, T.F., AND HOLLINGSWORTH, R.A., 2003, A SCREEN ANALYSIS PROCEDURE FOR SEISMIC SLOPE STABILITY, IN EARTHQUAKE SPECTRA, 19(3), 697-712.

REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			



12429 SOUTH 300 EAST
DRAPER, UTAH 84020
(801) 748-4044

VERTI-BLOCK RETAINING WALL
100 SOUTH IMPROVEMENTS
PAYSON, UTAH

DESIGN CRITERIA

DESIGNED BY: TBL	8-13-2025	PLOT SCALE
DRAWN BY: TBL	8-13-2025	1=1
CHECKED BY: BMJ	8-15-2025	DWG SCALE
APPROVED BY: TBL	8-15-2025	NTS
IGES PROJECT NO:	SHEET NO:	REV
05090-001	7	N/A





PHOTOS FROM SITE VISIT ON AUGUST 13, 2025.

REV	REVISION DESCRIPTION	DATE	BY	CHK
	REVISIONS			



12429 SOUTH 300 EAST
 DRAPER, UTAH 84020
 (801) 748-4044

VERTI-BLOCK RETAINING WALL
 100 SOUTH IMPROVEMENTS
 PAYSON, UTAH

SITE PHOTOS

DESIGNED BY: TBL	8-13-2025	PLOT SCALE
DRAWN BY: TBL	8-13-2025	1=1
CHECKED BY: BMJ	8-15-2025	DWG SCALE
APPROVED BY: TBL	8-15-2025	NTS
IGES PROJECT NO: 05090-001	SHEET NO: 8	REV N/A

