RIVERSTONE OFFSITE SEWER SAN ANTONIO, TEXAS **CIVIL CONSTRUCTION PLANS**





NOT-TO-SCALE

PREPARED FOR:

CONTINENTAL HOMES OF TEXAS, L.P. 5419 N LOOP 1604 E SAN ANTONIO, TX 78247

DECEMBER 2023



LOOP 410 | SAN ANTONIO. TX 78213 | 210.375.9000 TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800

Sheet List Table

Sheet Description	Sheet No.
COVER SHEET	C0.00
TEMPORARY ROAD	C2.00
TEMPORARY ROAD	C2.01
TEMPORARY ROAD	C2.02
OVERALL SANITARY SEWER PLAN	C5.00
OVERALL SANITARY SEWER PLAN	C5.01
SANITARY SEWER LINE A (STA. 1+00.00 TO STA. 12+50.00)	C5.02
SANITARY SEWER LINE A (STA. 12+50.00 TO STA. 24+00.00)	C5.03
SANITARY SEWER LINE A (STA. 24+00.00 TO STA. 35+50.00)	C5.04
SANITARY SEWER LINE A (STA. 35+50.00 TO END)	C5.05
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SANITARY SEWER PLAN NOTES	C5.11

SEWER

DEVELOPER'S NAME: CONTINENTIAL HOMES OF TEXAS, L.P.	•
ADDRESS: 5419 N LOOP 1604 E	
CITY: <u>SAN ANTONIO</u> STATE: <u>TX</u> ZIF	?: <u>78247</u>
PHONE# (210) 496-2668 FAX#	
072602 SAWS BLOCK MAP <u># 070604</u> _TOTAL_EDU <u>'S0</u> TOTAL_A	
12 [°] - 3,372.37 LF TOTAL LINEAR FOOTAGE OF PIPE: <u>18[°] 993.01 LF</u> PLAT NO.	
NUMBER OF LOTS O SAWS JOB NO XX-XXX	:x



IS DOCUMENT HAS BEEN PRODUCED FROM MATERIAL THAT WAS STORED AND/OR TRANSMITTED ELECTRONICALLY AND MAY HAVE BEEN INADVERTENTLY ALTERED. RELY ONLY ON FINAL HARDCOPY MATERIALS BEARING THE CONSULTANT'S ORIGINAL SIGNATURE AND SEAL. AERIAL IMAGERY PROVIDED BY GOOGLE® UNLESS OTHERWISE NOTED. Imagery © 2016,CAPCOG,Digital Globe,Texas Orthoimagery Program, USDA Farm Service Agency.

: Mar 06, 2024, 1:43pm User ID: Richardgarcit P:\116\80\74\Desian\Civil\SSOA1168074.dwa









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ADDRESS: 5419 N LOOP	9 1604 E			
CITY: SAN ANTONIO	STATE:	ТХ	ZIP:	78247
PHONE# (210) 496-2668	-	_ FAX#		
072602 SAWS BLOCK MAP#_070602	2 4TOTAL_EDU	<u>1'S 0</u>	TOTAL_ACR	EAGE_0
TOTAL LINEAR FOOTAGE OF	12 – 3, PIPE: <u>18"99</u>	372.37 I 03.01 LF	_F _ PLAT NO	
NUMBER OF LOTS 0	SAWS	JOB NO). <u>XX-XXXX</u>	

RG

C5.10

HECKED BL DRAWN RG

DESIGNER

SHEET

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SAWS CONSTRUC
SAWS GENERAL SECTION
 ALL MATERIALS AND CONSTRUCTION PROC CONTRACT SHALL BE APPROVED BY THE SAI COMPLY WITH THE PLANS, SPECIFICATIONS, FOLLOWING AS APPLICABLE:
 A. CURRENT TEXAS COMMISSION ON ENVIR CRITERIA FOR DOMESTIC WASTEWATER CODE (TAC) TITLE 30 PART 1 CHAF WATER", TAC TITLE 30 PART 1 CHAPTER B. CURRENT TXDOT "STANDARD SPECIFI HIGHWAYS, STREETS AND DRAINAGE". C. CURRENT "SAN ANTONIO WATER SYSTE WATER AND SANITARY SEWER CONSTRUCT D. CURRENT CITY OF SAN ANTONIO "STAN WORKS CONSTRUCTION". E. CURRENT CITY OF SAN ANTONIO "UTILI (UECM).
2. THE CONTRACTOR SHALL NOT PROCEED WITH THEY OBTAIN A COPY OF THE APPRO CONSTRUCTION PERMIT (GCP) FROM THE CO SAWS CONSTRUCTION INSPECTION DIVISION T ARRANGED A MEETING WITH THE INSPECTO REQUIREMENTS. WORK COMPLETED BY THE COUNTER PERMIT AND/OR A GCP WIL REPLACEMENT AT THE EXPENSE OF THE CON
 THE CONTRACTOR SHALL OBTAIN THE SAWS WEBSITE, HTTP: //WWW.SAWS.ORG/BUSINESS_ NOTED WITHIN THE DESIGN PLANS.
 THE CONTRACTOR IS TO MAKE ARRANGEM INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCED AFFECTED HOME RESIDENTS AND/OR PROF BEGINNING ANY WORK.
5. LOCATION AND DEPTH OF EXISTING UTILITIE THE PLANS ARE UNDERSTOOD TO BE AF DEPTHS MUST BE FIELD VERIFIED BY THE CO CONSTRUCTION. IT SHALL BE THE CONTF UTILITY SERVICE LINES AS REQUIRED FOR O DURING CONSTRUCTION AT NO COST TO SAW
6. THE CONTRACTOR SHALL VERIFY THE EXACT AND DRAINAGE STRUCTURES AT LEAST 1 WHETHER SHOWN ON PLANS OR NOT. PLEAS LOCATES REQUESTING PIPE LOCATION M FOLLOWING CONTACT INFORMATION ARE SUPP
 SAWS UTILITY LOCATES: HTTP://WWW.SA COSA DRAINAGE (210) 207-0724 OR (2 COSA TRAFFIC SIGNAL OPERATIONS (210) COSA TRAFFIC SIGNAL DAMAGES (210) 2 TEXAS STATE WIDE ONE CALL LOCATOR
 THE CONTRACTOR SHALL BE RESPONSIBL CURBS, STREETS, DRIVEWAYS, SIDEWALKS, L ORIGINAL OR BETTER CONDITION IF DAMAG PROJECT'S CONSTRUCTION.
8. ALL WORK IN TEXAS DEPARTMENT OF TRA COUNTY RIGHT-OF-WAY SHALL BE DONE CONSTRUCTION SPECIFICATIONS AND PERMIT
9. THE CONTRACTOR SHALL COMPLY WITH GOVERNING MUNICIPALITY'S TREE ORDINANCES
10. THE CONTRACTOR SHALL NOT PLACE ANY FLOOD PLAIN WITHOUT FIRST OBTAINING AN /
 HOLIDAY WORK: CONTRACTORS WILL NOT BE SAWS RECOGNIZED HOLIDAYS. REQUEST SHOL CONSTWORKREQ@SAWS.ORG.
WEEKEND WORK: CONTRACTORS ARE REQUI CONSTRUCTION DEPARTMENT 48 HOURS IN A REQUEST SHOULD BE SENT TO CONSTWORKE
ANY AND ALL SAWS UTILITY WORK INSTALLED APPROVAL WILL BE SUBJECT TO BE UNCOVER
12. COMPACTION NOTE (ITEM 804): THE CONT MEETING THE COMPACTION REQUIREMENTS PAYING FOR THE TESTS PERFORMED BY A BE DONE AT ONE LOCATION POINT RANDOML SAWS INSPECTOR AND/OR THE TEST ADMIN LIFT PER 400 LINEAR FEET AT A MINIMUM. AND FINALIZED BY SAWS WITHOUT THIS REQ PROVIDING ALL NECESSARY DOCUMENTED TES
13. A COPY OF ALL TESTING REPORTS SHALL B INSPECTION DIVISION.

CTION NOTES UARY 2022)

CEDURES WITHIN THE SCOPE OF THIS SAN ANTONIO WATER SYSTEM (SAWS) AND IS, GENERAL CONDITIONS AND WITH THE

RONMENTAL QUALITY (TCEQ) 'DESIGN SYSTEM", TEXAS ADMINISTRATIVE APTER 217 AND 'PUBLIC DRINKING FICATIONS FOR CONSTRUCTION OF TEM STANDARD SPECIFICATIONS FOR ANDARD SPECIFICATIONS FOR PUBLIC

LITY EXCAVATION CRITERIA MANUAL"

ITH ANY PIPE INSTALLATION WORK UNTIL OVED COUNTER PERMIT OR GENERAL ONSULTANT AND HAS BEEN NOTIFIED BY TO PROCEED WITH THE WORK AND HAS OR AND CONSULTANT FOR THE WORK CONTRACTOR WITHOUT AN APPROVED BE SUBJECT TO REMOVAL AND NTRACTORS AND/OR THE DEVELOPER.

S STANDARD DETAILS FROM THE SAWS S_CENTER/SPECS. UNLESS OTHERWISE

URES THAT WILL BE USED TO NOTIFY OPERTY OWNERS 48 HOURS PRIOR TO

TIES AND SERVICE LATERALS SHOWN ON APPROXIMATE. ACTUAL LOCATIONS AND CONTRACTOR AT LEAST 1 WEEK PRIOR TO TRACTOR'S RESPONSIBILITY TO LOCATE CONSTRUCTION AND TO PROTECT THEM

LOCATION OF UNDERGROUND UTILITIES -2 WEEKS PRIOR TO CONSTRUCTION E ALLOW UP TO 7 BUSINESS DAYS FOR MARKERS ON SAWS FACILITIES. THE PLIED FOR VERIFICATION PURPOSES:

SAWS.ORG/SERVICE/LOCATES

(210) 207-6026 10) 206–8480

207-3951 1-800-545-6005 OR 811

_E FOR RESTORING EXISTING FENCES, LANDSCAPING AND STRUCTURES TO ITS GES ARE MADE AS A RESULT OF THE

ANSPORTATION (TXDOT) AND/OR BEXAR IN ACCORDANCE WITH RESPECTIVE REQUIREMENTS.

CITY OF SAN ANTONIO OR OTHER S WHEN EXCAVATING NEAR TREES. WASTE MATERIALS IN THE 100-YEAR APPROVED FLOOD PLAIN PERMIT.

OULD BE SENT TO

UIRED TO NOTIFY THE SAWS INSPECTION ADVANCE TO REQUEST WEEKEND WORK. EQ@SAWS.ORG.

D WITHOUT HOLIDAY/WEEKEND ERED FOR PROPER INSPECTION.

NTRACTOR SHALL BE RESPONSIBLE FOR ON ALL TRENCH BACKFILL AND FOR THIRD PARTY. COMPACTION TESTS WILL ILY SELECTED, OR AS INDICATED BY THE INISTRATOR, PER EACH 12-INCH LOOSE THIS PROJECT WILL NOT BE ACCEPTED QUIREMENT BEING MET AND VERIFIED BY EST RESULTS.

BE FORWARDED TO SAWS CONSTRUCTION

SAWS SEWER NOTES

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW. B.ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.

- C.CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS. D.CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE
- COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
- E.CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS. F.MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

- EMENTS WITH THE SAWS CONSTRUCTION 2. IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".
 - PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233–2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
 - SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.44(E)(4)(B). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
 - ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
 - 6. SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER: ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.
 - MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
 - 8. ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

ALLOWED TO PERFORM SAWS WORK ON | PROJECT SEWER NOTES

- WHEN HORIZONTAL DISTANCE BETWEEN SEWER PIPES AND WATER MAIN IS LESS THAN 9 FOOT OF SEPARATION, SEWER MAIN SHALL BE INSTALLED WITH 150 PSI (MIN) PRESSURE PIPE A SAWS CONSTRUCTION CRITERIA FOR CONSTRUCTION OF SEWER MAINS IN THE VICINITY OF WATER MAINS.
- . CONTRACTOR SHALL ENSURE THAT MANHOLES OUTSIDE OF PAVED AREAS ARE SET WITH TOP ELEVATIONS 6" ABOVE FINISHED GRADE WITH CONCRETE RING ENCASEMENT.
- ALL SEWER PIPES SHALL BE 8" PVC (SDR 26), UNLESS OTHERWISE NOTED.
- . CONTRACTOR IS TO VERIFY EXISTING INVERT OF EXISTING SANITARY SEWER MAINS AND ALERT ENGINEER IMMEDIATELY OF ANY DIFFERENCE FROM INVERT SHOWN ON PLANS.
- 5. CONTRACTOR SHALL PROTECT ALL EXISTING FENCES. ANY FENCE DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THEIR EXPENSE.
- 6. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLANS OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
- CONCRETE RING ENCASEMENT TO BE INSTALLED ON ALL MANHOLES AND, WITHIN LIMITS OF PAVEMENT, BE INSTALLED TO THE TOP OF THE BASE LAYER WITH A MINIMUM OF 2" OF ASPHALT ON TOP OF THE RING ENCASEMENT.

8. MANHOLE OPENING INCREASED TO 30" AS PER TAC CHAPTER 217.55.

DEVER DEVELOPER'S NAME: CONTINENTIAL HOMES OF TEXAS, L.P.	
ADDRESS: 5419 N LOOP 1604 E CITY: SAN ANTONIO STATE: TX ZIP: 78247	JOB NO
PHONE# (210) 496-2668 FAX# 072602 SAWS BLOCK MAP# 070604 TOTAL EDU'S 0 TOTAL ACREAGE 0	DATE NOVEMBER 2023 DESIGNER RG
TOTAL LINEAR FOOTAGE OF PIPE: 12, -3, 5/2, 3/2 12 NUMBER OF LOTS 0 993.01 15 NUMBER OF LOTS 0 SAWS JOB NO. XX-XXXX	CHECKED BL DRAWN RG

AWSON NO. REVISION DATE		I FORT WORTH I DALLAS TX 78213 I 210.375.9000 S SURVEYING FIRM #10028800
I PAPE-DAWSON	ENGINEERS	SAN ANTONIO I AUSTIN I HOUSTON I FORT WORTH I DALLAS 2000 NW LOOP 410 I SAN ANTONIO, TX 78213 I 210.375.9000 TEXAS ENGINEERING FIRM #470 I TEXAS SURVEYING FIRM #10028800
RIVERSTONE OFFSITE SEWER	SAN ANTONIO, TX	SANITARY SEWER NOTES

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te: Aug 02, 2024, 2:39pm User ID: Richardgarcia - C:VIsersVIOCAL ~1VTemn\AcPublish 8872\SW3P dwa

SWP3 MODIFICATIONS

DATE	SIGNATURE	DESCRIPTION

SWPPP LEGEND

PREVENTION PLAN.

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1. DO NOT DISTURB VEGETATED AREAS (TREES, GRASS, WEEDS, BRUSI ETC.) ANY MORE THAN NECESSARY FOR CONSTRUCTION.

2. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASH-OUT PIT, AND CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD TO BE DETERMINED IN THE FIELD.

3. STORM WATER POLLUTION PREVENTION CONTROLS MAY NEED TO BE MODIFIED IN THE FIELD TO ACCOMPLISH THE DESIRED EFFECT. ALL MODIFICATIONS ARE TO BE NOTED ON THIS EXHIBIT AND SIGNED AND DATED BY THE RESPONSIBLE PARTY.

4. RESTRICT ENTRY/EXIT TO THE PROJECT SITE TO DESIGNATED LOCATIONS BY USE OF ADEQUATE FENCING, IF NECESSARY.

5. ALL STORM WATER POLLUTION PREVENTION CONTROLS ARE TO BE MAINTAINED AND IN WORKING CONDITIONS AT ALL TIMES.6. FOR A COMPLETE LISTING OF TEMPORARY STORM WATER POLLUTION PREVENTION CONTROLS REFER TO THE TPDES STORM WATER POLLUTION

7. STORM WATER POLLUTION PREVENTION STRUCTURES SHOULD BE CONSTRUCTED WITHIN THE SITE BOUNDARIES. SOME OF THESE FEATURES MAY BE SHOWN OUTSIDE THE SITE BOUNDARIES ON THIS PLAN FOR VISUAL CLARITY.

8. AS SOON AS PRACTICAL, ALL DISTURBED SOIL THAT WILL NOT BE COVERED BY IMPERVIOUS COVER SUCH AS PARKWAY AREAS, EASEMENT AREAS, EMBANKMENT SLOPES, ETC. WILL BE STABILIZED PER APPLICABLE PROJECT SPECIFICATIONS.

9. BEST MANAGEMENT PRACTICES MAY BE INSTALLED IN STAGES TO COINCIDE WITH THE DISTURBANCE OF UPGRADIENT AREAS.

10. BEST MANAGEMENT PRACTICES MAY BE REMOVED IN STAGES ONCE THE WATERSHED FOR THAT PORTION CONTROLLED BY THE BEST MANAGEMENT PRACTICES HAS BEEN STABILIZED IN ACCORDANCE WITH TPDES REQUIREMENTS.

11. UPON COMPLETION OF THE PROJECT, INCLUDING SITE STABILIZATION, AND BEFORE FINAL PAYMENT IS ISSUED, CONTRACTOR SHALL REMOVE ALL SEDIMENT AND EROSION CONTROL MEASURES, PAYING SPECIAL ATTENTION TO ROCK BERMS IN DRAINAGE FEATURES.

12. WHERE VEGETATED FILTER STRIPS ARE INDICATED, CONTRACTOR SHALL VERIFY THAT SUFFICIENT VEGETATION EXISTS, OTHERWISE CONTRACTOR SHALL PLACE SILT FENCING IN LIEU OF VEGETATED FILTER STRIP.

13. SHADED AREA DENOTES LIMITS OF DISTURBED AREAS. OTHER AREAS WITHIN THE PROJECT LIMITS, WITH THE EXCEPTION OF A CONSTRUCTION EQUIPMENT AND MATERIAL STORAGE YARD, ARE NOT A PART OF THIS TPDES STORM WATER POLLUTION PREVENTION PLAN (SWP3) AND WILL NOT BE DISTURBED BY CIVIL CONSTRUCTION ACTIVITIES. HOUSE CONSTRUCTION ACTIVITIES WILL REQUIRE A SEPARATE STORM WATER POLLUTION PREVENTION PLAN.

14. PRIOR TO BEGINNING CONSTRUCTION, CONTRACTOR SHALL COORDINATE PLACEMENT OF TEMPORARY BEST MANAGEMENT PRACTICES WITHIN TXDOT RIGHT-OF-WAY WITH TXDOT.

15. CPS ENERGY WILL FUNCTION AS A SECONDARY OPERATOR ON THIS PROJECT AND WILL BE INSTALLING ELECTRIC UTILITIES FOR ON-SITE CONSTRUCTION AND OFF-SITE FEED TO THE PROJECT.16. A BEXAR COUNTY ROW PERMIT MUST BE OBTAINED BEFORE WORKING IN ANY BEXAR COUNTY ROW.

THE ENGINEERING SEAL HAS BEEN AFFIXED TO THIS SHEET ONLY FOR THE PURPOSE OF DEMONSTRATING COMPLIANCE WITH THE TPDES—STORM WATER POLLUTION PREVENTION PLAN (SWP3) REGULATIONS.

EXHIBIT 2

THIS SHEET HAS BEEN PREPARED FOR PURPOSES OF THE SWP3 ONLY. ALL OTHER CIVIL ENGINEERING RELATED INFORMATION SHOULD BE ACQUIRED FROM THE APPROPRIATE SHEET IN THE CIVIL IMPROVEMENT PLANS.

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RIVERSTONE OFFSITE SEWER	SAN ANTONIO. TEXAS			STORM WATER POLITION PREVENTION PLAN		

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PLAT NO.	
JOB NO.	11680-74
DATE	NOVEMBER 2023
DESIGNER	RG
CHECKED	BL DRAWN RG
SHEET	C8.00

SWP3 MODIFICATIONS		
DATE	SIGNATURE	DESCRIPTION

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RIVERSTONE UNIT - B7

(PLAT # 21-11800028)

(VOL.20002, PG.1811 DPR)

SOD STRIPS IN WATERWAYS SHOULD BE LAID PERPENDICULAR TO THE DIRECTION OF FLOW. CARE SHOULD BE TAKEN TO BUTT ENDS OF STRIPS TIGHTLY (SEE FIGURE ABOVE).

2. AFTER ROLLING OR TAMPING, SOD SHOULD BE PEGGED OR STAPLED TO RESIST WASHOUT DURING THE ESTABLISHMENT PERIOD. MESH OR OTHER NETTING MAY BE PEGGED OVER THE SOD FOR EXTRA PROTECTION IN CRITICAL AREAS.

NSPECTION AND MAINTENANCE GUIDELINES SOD SHOULD BE INSPECTED WEEKLY AND AFTER EACH RAIN EVENT TO LOCATE AND REPAIR ANY DAMAGE.

. DAMAGE FROM STORMS OR NORMAL CONSTRUCTION ACTIVITIES SUCH AS TIRE RUTS OR DISTURBANCE OF SWALE STABILIZATION SHOULD BE REPAIRED AS SOON AS PRACTICAL.

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NOT-TO-SCALE

ISOMETRIC PLAN VIEW

ROCK BERMS

THE PURPOSE OF A ROCK BERM IS TO SERVE AS A CHECK DAM IN AREAS OF CONCENTRATED FLOW, TO INTERCEPT SEDIMENT-LADEN RUNOFF, DETAIN THE SEDIMENT AND RELEASE THE WATER IN SHEET FLOW. THE ROCK BERM SHOULD BE USED WHEN THE CONTRIBUTING DRAINAGE AREA IS LESS THAN 5 ACRES. ROCK BERMS ARE USED IN AREAS WHERE THE VOLUME OF RUNOFF IS TOO GREAT FOR A SILT FENCE TO CONTAIN. THEY ARE LESS EFFECTIVE FOR SEDIMENT REMOVAL THAN SILT FENCES, PARTICULARLY FOR FINE PARTICLES, BUT ARE ABLE TO WITHSTAND HIGHER FLOWS THAN A SILT FENCE. AS SUCH, ROCK BERMS ARE OFTEN USED IN AREAS OF CHANNEL FLOWS (DITCHES, GULLIES, ETC.). ROCK BERMS ARE MOST EFFECTIVE AT REDUCING BED LOAD IN CHANNELS AND SHOULD NOT BE SUBSTITUTED FOR OTHER EROSION AND SEDIMENT CONTROL MEASURES FARTHER UP THE WATERSHED.

INSPECTION AND MAINTENANCE GUIDELINES

INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE.

. REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT IN AN APPROVED MANNER THAT WILL NOT CAUSE ANY ADDITIONAL SILTATION. 3. REPAIR ANY LOOSE WIRE SHEATHING.

4. THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION

5. THE BERM SHOULD BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.

6. THE ROCK BERM SHOULD BE LEFT IN PLACE UNTIL ALL UPSTREAM AREAS ARE STABILIZED AND ACCUMULATED SILT REMOVED.

SECTION "A-A'

MATERIALS

THE BERM STRUCTURE SHOULD BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE DIAMETER OF 20 GAUGE GALVANIZED AND SHOULD BE SECURED WITH SHOAT RINGS.

2. CLEAN, OPEN GRADED 3-INCH TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES OF FLOW ARE EXPECTED, WHERE 5-INCH TO 8-INCH DIAMETER ROCKS MAY BE USED.

INSTALLATION

1. LAY OUT THE WOVEN WIRE SHEATHING PERPENDICULAR TO THE FLOW LINE THE SHEATHING SHOULD BE 20 GAUGE WOVEN WIRE MESH WITH 1 INCH OPENINGS.

2. BERM SHOULD HAVE A TOP WIDTH OF 2 FEET MINIMUM WITH SIDE SLOPES BEING 2:1 (H: V) OR FLATTER.

3. PLACE THE ROCK ALONG THE SHEATHING AS SHOWN IN THE DIAGRAM TO A HEIGHT NOT LESS THAN 18"

4. WRAP THE WIRE SHEATHING AROUND THE ROCK AND SECURE WITH TIE WIRE SO THAT THE ENDS OF THE SHEATHING OVERLAP AT LEAST 2 INCHES, AND THE BERM RETAINS ITS SHAPE WHEN WALKED UPON.

5. BERM SHOULD BE BUILT ALONG THE CONTOUR AT ZERO PERCENT GRADE OR AS NEAR AS POSSIBLE

6. THE ENDS OF THE BERM SHOULD BE TIED INTO EXISTING UPSLOPE GRADE AND THE BERM SHOULD BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP TO PREVENT FAILURE OF THE CONTROL.

COMMON TROUBLE POINTS

. INSUFFICIENT BERM HEIGHT OR LENGTH (RUNOFF QUICKLY ESCAPES OVER THE TOP OR AROUND THE SIDES OF BERM).

2. BERM NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND ONE SIDE).

ROCK BERM DETAIL

NOT-TO-SCALE

SILT FENCE

A SILT FENCE IS A BARRIER CONSISTING OF GEOTEXTILE FABRIC SUPPORTED BY METAL POSTS TO PREVENT SOIL AND SEDIMENT LOSS FROM A SITE. WHEN PROPERLY USED, SILT FENCES CAN BE HIGHLY EFFECTIVE AT CONTROLLING SEDIMENT FROM DISTURBED AREAS. THEY CAUSE RUNOFF TO POND, ALLOWING HEAVIER SOLIDS TO SETTLE OUT. IF NOT PROPERLY INSTALLED, SILT FENCES ARE NOT LIKELY TO BE EFFECTIVE.

THE PURPOSE OF A SILT FENCE IS TO INTERCEPT AND DETAIN WATER-BORN SEDIMENT FROM UNPROTECTED AREAS OF A LIMITED EXTENT. SILT FENCE IS USED DURING THE PERIOD OF CONSTRUCTION NEAR THE PERIMETER OF A DISTURBED AREA TO INTERCEPT SEDIMENT WHILE ALLOWING WATER TO PERCOLATE THROUGH. THIS FENCE SHOULD REMAIN IN PLACE UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. SILT FENCE SHOULD NOT BE USED WHERE THERE IS A CONCENTRATION OF WATER IN A CHANNEL OF DRAINAGE WAY. IF CONCENTRATED FLOW OCCURS AFTER INSTALLATION, CORRECTIVE ACTION MUST BE TAKEN SUCH AS PLACING A ROCK BERM IN THE AREAS OF CONCENTRATED FLOW.

SILT FENCING WITHIN THE SITE MAY BE TEMPORARILY MOVED DURING THE DAY TO ALLOW CONSTRUCTION ACTIVITY PROVIDED IT IS REPLACED AND PROPERLY ANCHORED TO THE GROUND AT THE END OF THE DAY. SILT FENCES ON THE PERIMETER OF THE SITE OR AROUND DRAINAGE WAYS SHOULD NOT BE MOVED AT ANY TIME.

MATERIALS

. SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE, OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC SHOULD BE 36 INCHES, WITH A MINIMUM UNIT WEIGHT OF 4.5 OZ/YD, MULLEN BURST STRENGTH EXCEEDING 190 LB/IN2, ULTRAVIOLET STABILITY EXCEEDING 70%, AND MINIMUM APPARENT OPENING SIZE OF U.S. SIEVE NUMBER 30.

FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR Y-BAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM WEIGHT 1.25 LB/FT, AND BRINDELL HARDNESS EXCEEDING 140.

3. WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM.

INSTALLATION

1. STEEL POSTS, WHICH SUPPORT THE SILT FENCE, SHOULD BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF 1-FOOT DEEP AND SPACED NOT MORE THAN 8 FEET ON CENTER. WHERE WATER CONCENTRATES, THE MAXIMUM SPACING SHOULD BE 6 FEET.

. LAY OUT FENCING DOWN-SLOPE OF DISTURBED AREA, FOLLOWING THE CONTOUR AS CLOSELY AS POSSIBLE. THE FENCE SHOULD BE SITED SO THAT THE MAXIMUM DRAINAGE AREA IS 1/4 ACRE/100 FEET OF FENCE.

3. THE TOE OF THE SILT FENCE SHOULD BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWN-SLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G., PAVEMENT OR ROCK OUTCROP). WEIGHT FABRIC FLAP WITH 3 INCHES OF PEA GRAVEL ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

5. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. THERE SHOULD BE A 3-FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

6. SILT FENCE SHOULD BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

COMMON TROUBLE POINTS

FENCE NOT INSTALLED ALONG THE CONTOUR CAUSING WATER TO CONCENTRATE AND FLOW OVER THE FENCE.

2. FABRIC NOT SEATED SECURELY TO GROUND (RUNOFF PASSING UNDER FENCE).

3. FENCE NOT INSTALLED PERPENDICULAR TO FLOW LINE (RUNOFF ESCAPING AROUND SIDES)

4. FENCE TREATING TOO LARGE AN AREA, OR EXCESSIVE CHANNEL FLOW (RUNOFF OVERTOPS OR COLLAPSES FENCE).

INSPECTION AND MAINTENANCE GUIDELINES

1. INSPECT ALL FENCING WEEKLY, AND AFTER RAINFALL 2. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

3. REPLACE TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN SECTION.

4. REPLACE OR REPAIR SECTIONS CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLES. A TRIANGULAR FILTER DIKE MAY BE PREFERABLE TO A SILT FENCE AT COMMON VEHICLE ACCESS POINTS.

WHEN CONSTRUCTION IS COMPLETE, THE SEDIMENT SHOULD BE DISPOSED OF IN A MANNER THAT WILL NOT CAUSE ADDITIONAL SILTATION AND THE PRIOR LOCATION OF THE SILT FENCE SHOULD BE REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

CURB.

SAND BAGS (TYP.)

FROM STORM WATER RUNOFF.

MAINTENANCE

AND DISPOSED OF.

BACKFILLED AND REPAIRED.

SILT FENCE DETAIL

NOT-TO-SCALE