#### **GENERAL INFORMATION**

#### ENERAL NOTES

- ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION
- NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID
- THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE. 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY

PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES". THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION O THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME
- IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- DUE TO FEDERAL REGULATIONS TITLE 49. PART 192.171 C.P.S. MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES TO SCHEDULE FOR DENSITY TEST AS REQUIRED
- CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION TO DETERMINE THE LOCATION OF EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE FOLLOWING AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO

SAN ANTONIO WATER SYSTEM (SAWS) BEXAR METROPOLITAN WATER DISTRICT (BEXAR MET) COSA SIGNAL OPERATIONS

TEXAS STATE WIDE ONE CALL LOCATOR CITY PUBLIC SERVICE ENERGY - TIME WARNER - AT&T - MCI

- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR THE MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES EVEN IF THEY ARE NOT SHOWN ON THE PLANS. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING
- ALL WASTE MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE PROJECT. NO WASTE MATE- RIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT
- THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR
- IF THE CONTRACTOR ENCOUNTERS ANY ARCHAEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR MUST STOP EXCAVATION IMMEDIATELY, CONTACT THE CITY INSPECTOR, AND CALL THE CITY HISTORIC PRESERVATION OFFICE AT 207-7306 OR 207-3327 FOR AN ARCHAEOLOGICAL INVESTIGATION. THE CONTRACTOR CANNOT BEGIN EXCAVATION AGAIN WITHOUT WRITTEN PERMISSION FROM THE CITY. IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WOR IN OTHER AREAS. THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR FACH EVENT IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED
- IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.
- CONTRACTOR IS TO INCLUDE A MAILBOX POST BLOCKOUT FOR VACANT LOTS AND ALL RESIDENCES WHICH DO NOT HAVE MAILBOXES AT THE CURB. BLOCKOUTS ARE PROVIDED FOR FUTURE USE BY THE POST OFFICE.
- CONTRACTOR SHALL NOT REMOVE OR ADJUST ANY VIA FACILITIES. THE CONTRACTOR MUST CONTACT VIA FOURTEEN DAYS PRIOR, FOR THE REMOVAL OF BENCHES, STOP POLES OR ANY OTHER VIA FACILITIES THAT MAY BE PRESENT. PLEASE PROVIDE THIRTY DAYS PRIOR NOTICE FOR SHELTER REMOVAL (TELEPHONE NOS. (210) 362-2155 OR (210) 362-2096). THE CONTRACT- OR WILL BE LIABLE FOR ANY DAMAGES TO VIA FACILITIES NOT REMOVED BY VIA. THE CON-TRACTOR IS REQUIRED TO REPLACE ALL FLATWORK REMOVED OR DAMAGED IN THE COURSE OF EXECUTING THE CONTRACT UNLESS OTHERWISE NOTED BY VIA. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING VIA FACILITIES IF ADJACENT TO WORK AREA.

#### REE PROTECTION AND PRESERVATION GENERAL NOTES

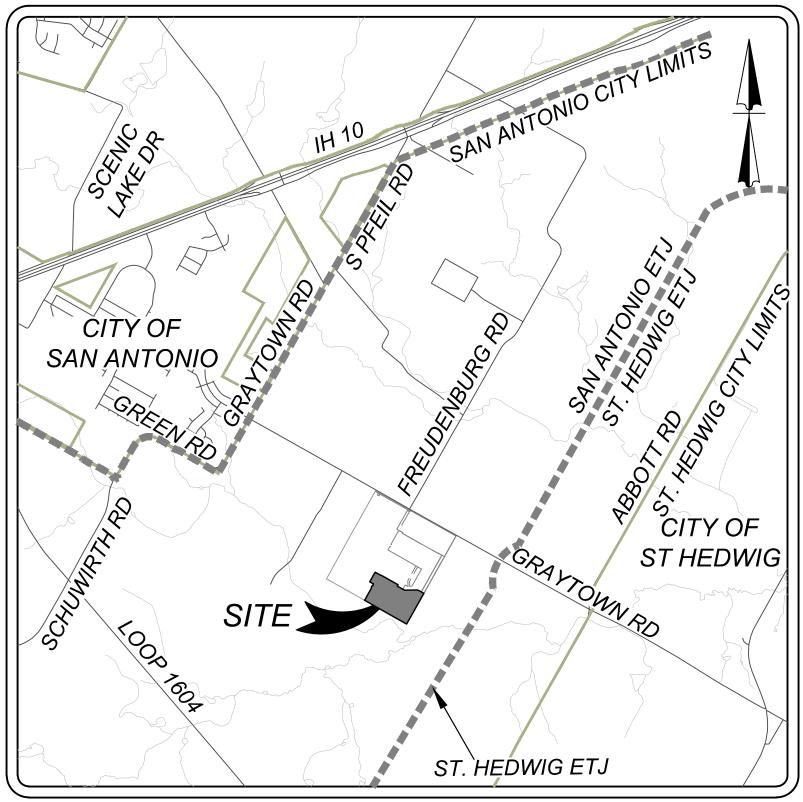
- NO UTILITY OR STREET EXCAVATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND TREATMENT MEASURES HAVE NOT BEEN COMPLETED AND APPROVED
- TREE PROTECTION FENCING SHALL BE REQUIRED. TREE PROTECTION FENCING SHALL BE INSTALLED, MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. DURING CONSTRUCTION ACTIVITY, AT LEAST A SIX-INCH LAYER OF COARSE MULCH SHALL BE PLACED AND MAINTAINED OVER THE ROOT PROTECTION ZONE (NO SEPARATE PAY
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE
- ROOTS WILL BE CUT WITH A ROCK SAW OR BY HAND, NOT BY AN EXCAVATOR OR OTHER ROAD CONSTRUCTION EQUIPMENT.
- ALL CURB AND SIDEWALK WORK SHALL USE ALTERNATIVE CONSTRUCTION METHODS TO MINIMIZE EXTENSIVE ROOT DAMAGE TO TREES (REFER TO DETAILS)
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF THE DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH,
- NO EQUIPMENT. VEHICLES OR MATERIALS SHALL OPERATE OR BE STORED WITHIN THE ROOT PROTECTION ZONE OF ANY TREE NEAR THE PROJECT. ROOT PROTECTION ZONE IS 1 FOOT OF RADIUS PER INCH OF TREE'S DIAMETER. A 10-INCH DIAMETER TREE WOULD HAVE A 10 FOOT RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. OAK WOUNDS SHALL BE PAINTED OVER WITHIN 30 MINUTES TO PREVENT OAK WILT.
- SAPLINGS, SHRUBS OR BUSHES TO BE CLEARED FROM THE PROTECTED ROOT ZONE AREA OF A LARGE TREE SHALL BE REMOVED BY HAND AS DESIGNATED BY THE INSPECTOR.
- NO WIRES, NAILS OR OTHER MATERIAL MAY BE ATTACHED TO PROTECTED TREES.
- TREES, TREE LIMBS, BUSHES AND SHRUBS LOCATED IN THE CITY STREET OR ALLEY RIGHT-OF-WAY OR PERMANENT EASEMENTS WHICH INTERFERE WITH PROPOSED CONSTRUCTION ACTIVITIES SHALL BE PROPERLY PRUNED FOLLOWING THE ANSI A-300 STANDARDS FOR PRUNING. ALL TREE PRUNING SHALL BE COMPLETED BY A CITY OF SAN ANTONIO TREE MAINTENANCE LICENSED CONTRACTOR (ARTICLE 21-171, CITY CODE) ONLY AFTER APPROVAL FROM THE CAPITAL PROJECTS MANAGEMENT THROUGH THE INSPECTOR
- NO EXCESSIVE TREE TRIMMING WILL BE PERMITTED
- ALL DEBRIS GENERATED BY THE PRUNING AND TRIMMING OF THE TREES AND / OR BUSHES SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY (NO SEPARATE PAY ITEM,
- TREES MUST BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE CONSTRUCTION PROCESS. MAINTENANCE MAY INCLUDE. BUT NOT LIMITED TO: WATERING THE ROOT PROTECTION ZONE, WASHING FOLIAGE, FERTILIZATION, PRUNING, ADDITIONAL MULCH APPLICATIONS AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST. (207-0278).
- TREES WHICH ARE DAMAGED OR LOST DUE TO THE CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE
- TREE PLANTING FOR MITIGATION OR ENHANCEMENT: ALL PLANTED TREES SHALL BE MAINTAINED IN A HEALTHY CONDITION AT ALL TIMES. THIS INCLUDES IRRIGATION, FERTILIZING, PRUNING AND OTHER MAINTENANCE AS NEEDED ON THE PROJECT. TREES THAT DIE WITHIN TWELVE (12) MONTHS SHALL BE REPLACED WITH A TREE OF EQUAL SIZE AND

#### CCESSIBILITY REQUIREMENTS

- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN VEHICULAR AND PEDESTRIAN ACCESS AT ALL TIMES TO LOCAL RESIDENCES AND BUSINESSES.
- WHEN THE WORK REQUIRES THE EXCAVATION OF THE STREET AND THE REMOVAL OF THE EXISTING DRIVEWAY APPROACHES AND SIDEWALKS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ALL-WEATHER ACCESS TO THE BUSINESSES AND RESIDENCES. THE TEMPORARY DRIVEWAY APPROACHES SHALL BE CONSTRUCTED WITH FLEXIBLE BASE OR GRAVEL MATERIAL AT NO SEPARATE COST TO THE CITY.
- PRIOR TO INITIATING THE CONSTRUCTION OF NEW DRIVEWAY APPROACHES, THE CONTRACTOR SHALL GIVE ADVANCE WARNING IN PERSON, OR IN WRITING, OF AT LEAST 48 HOURS TO EACH RESIDENCE THAT WILL BE IMMEDIATELY AFFECTED SO THAT ALTERNATE PLANS MAY BE MADE BY THE RESIDENTS.
- FOR BUSINESSES WITH MORE THAN ONE DRIVEWAY. AT LEAST ONE DRIVEWAY SHALL REMAIN OPEN WHILE THE OTHER NEW DRIVEWAY APPROACHES ARE CONSTRUCTED. FOR BUSINESSES WITH ONLY ONE DRIVEWAY, THE NEW DRIVEWAY APPROACH SHALL BE CONSTRUCTED IN HALF WIDTHS, UNLESS A TEMPORARY ASPHALT DRIVEWAY IS FIRST INSTALLED A NO SEPARATE COST TO THE CITY.

## ROSE VALLEY PHASE 3B

BEXAR COUNTY, TEXAS STREET, DRAINAGE, WATER, SANITARY SEWER, AND UTILITY IMPROVEMENTS



LOCATION MAP

N.T.S.

OWNER/DEVELOPER: LENNAR HOMES 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 PHONE: (210) 403-6282

> DECEMBER 2009 CITY OF SAN ANTONIO CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMEN CITY OF SAN ANTONIO GENERAL NOTES

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OVERALL UTILITY PLAN	1.1
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OVERALL GRADING PLAN	3.0
OVERALL GRADING PLAN	3.1
DRAIN A PLAN & PROFILE	4.0
DRAIN B PLAN & PROFILE	4.1
DRAIN C PLAN & PROFILE	4.2
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STORMWATER POLLUTION PREVENTION PLAN	8.0
STORMWATER POLLUTION PREVENTION PLAN	-
STORMWATER POLLUTION PREVENTION PLAN DETAILS	8.2



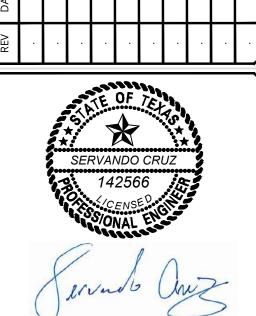
Engineering

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**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

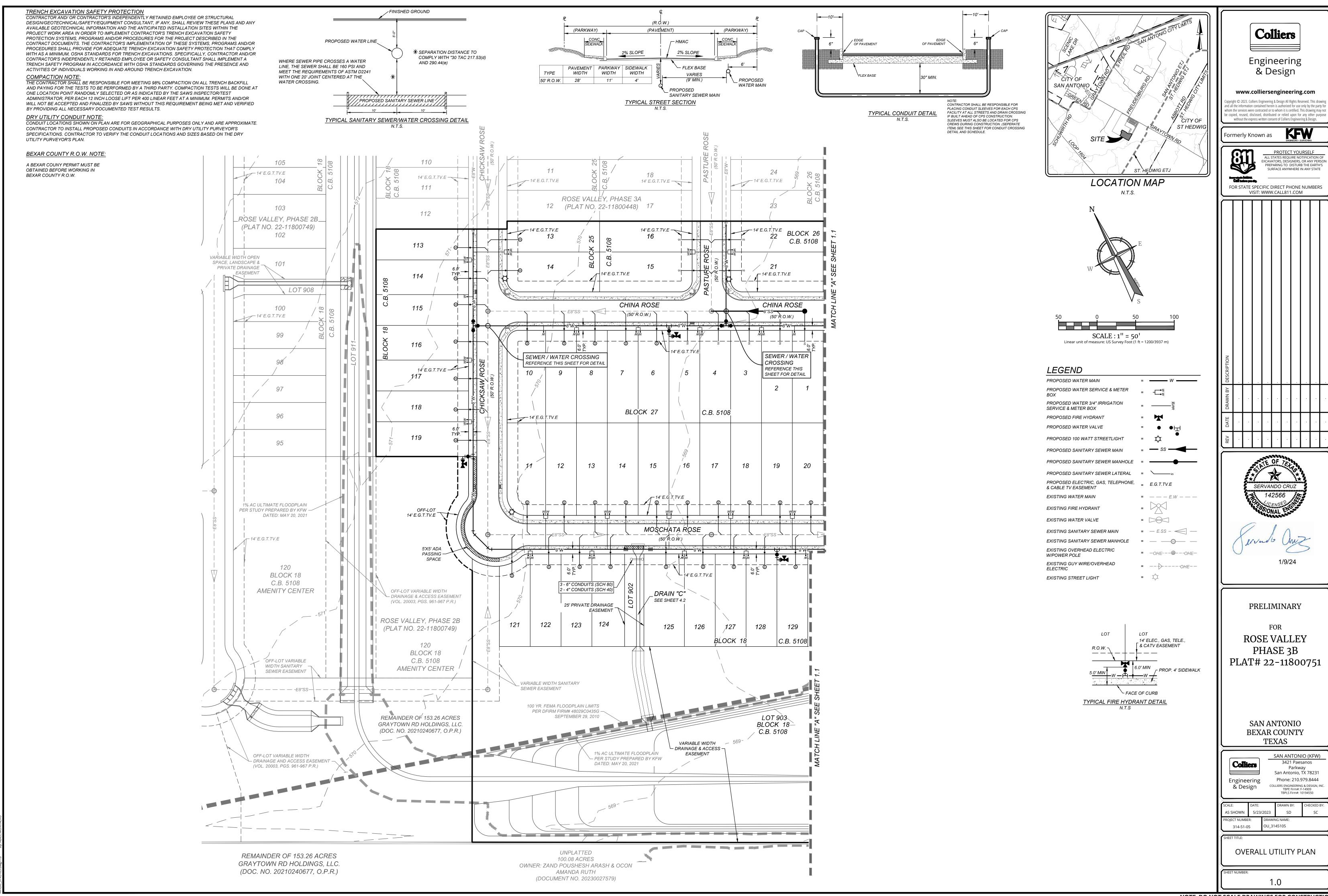
> SAN ANTONIO **BEXAR COUNTY** TEXAS

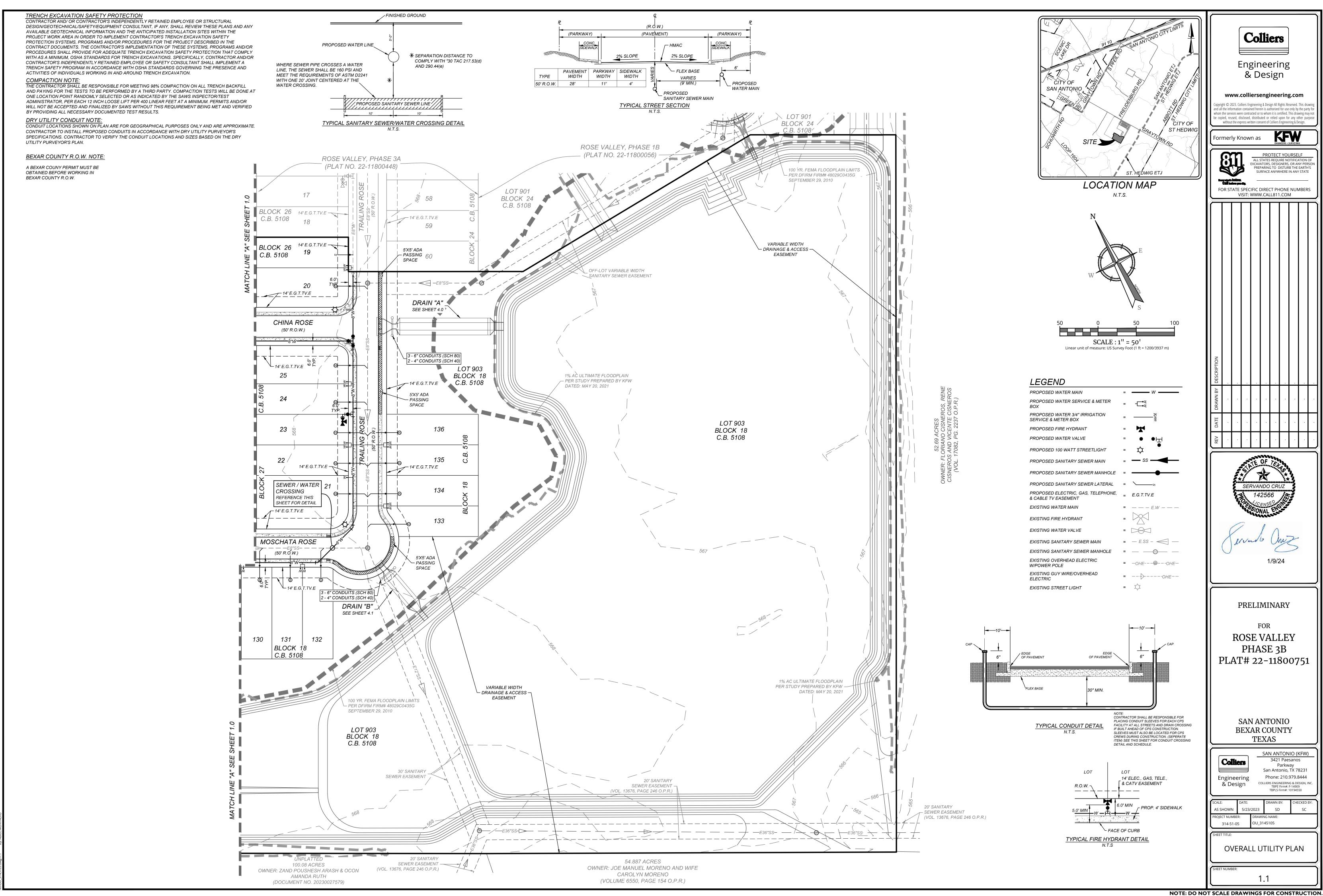
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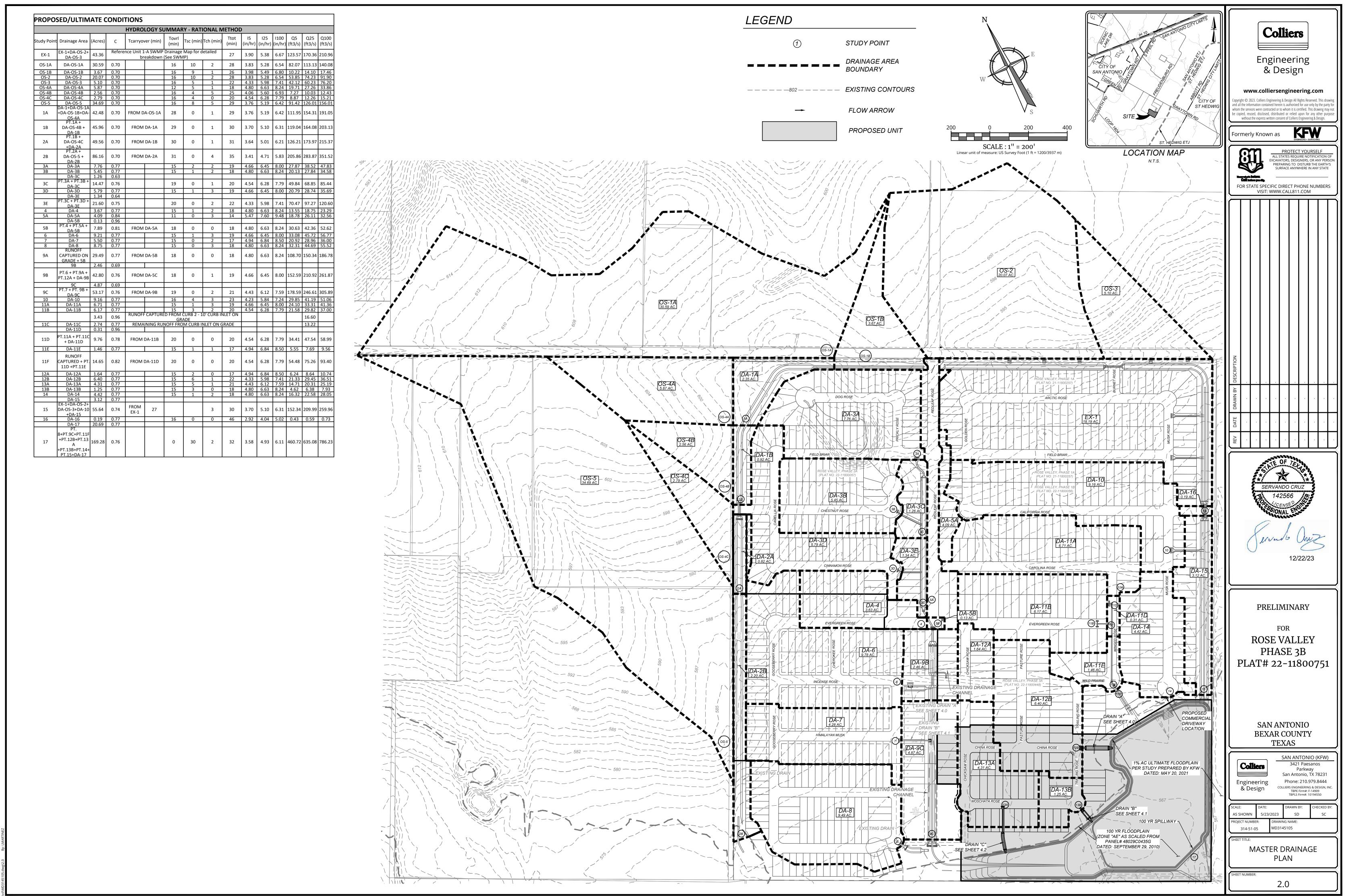
SAN ANTONIO (KFW) San Antonio, TX 78231 Phone: 210.979.8444

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**COVER SHEET** 





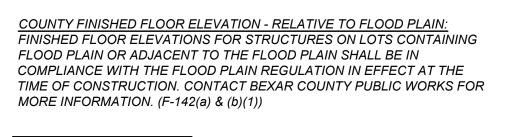


#### GENERAL NOTES:

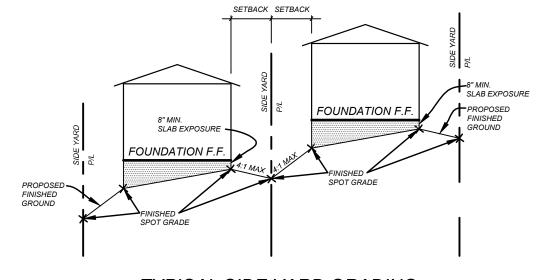
1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR.

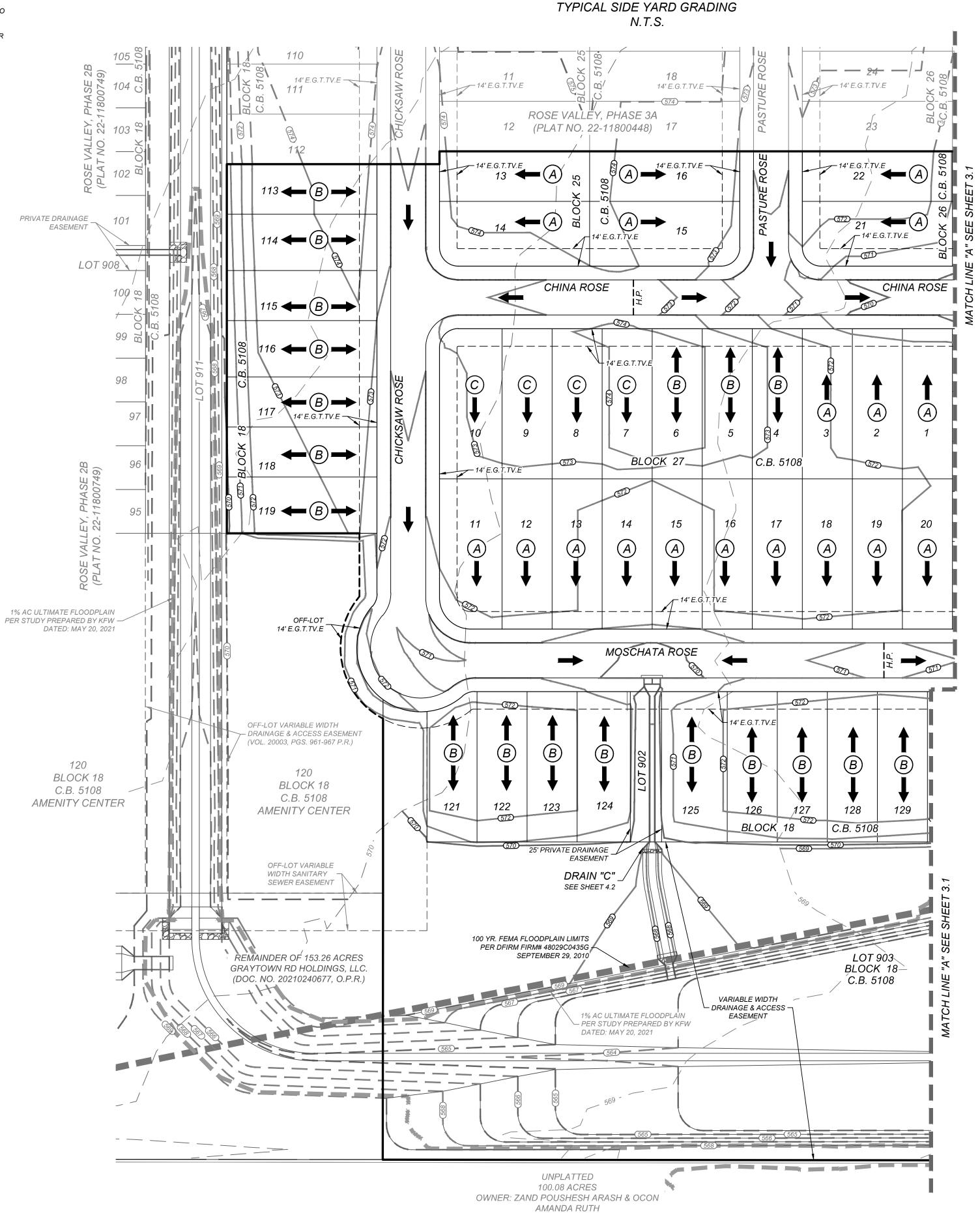
BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK.

- 2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS REQUIRED BY HUD SPECIFICATIONS.
- 3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL
- 4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING.
- 5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF
- 6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW PONDING OF WATER.
- 7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO OBTAIN SUBGRADE ELEVATIONS.
- 8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, CHANNELS, ROADS, AND DETENTION PONDS.
- 9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES.



BEXAR COUNTY R.O.W. NOTE A BEXAR COUNTY PERMIT MUST BE OBTAINED BEFORE **WORKING IN BEXAR COUNTY** 

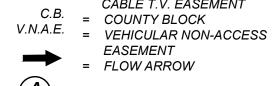




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### LEGEND

E.G.T.TV.E = ELECTRIC, GAS, TELEPHONE. CABLE T.V. EASEMENT



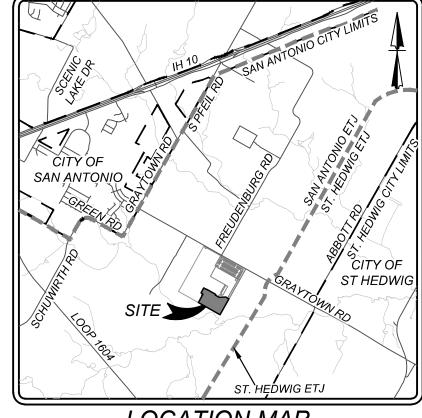
= LOT GRADE TYPE

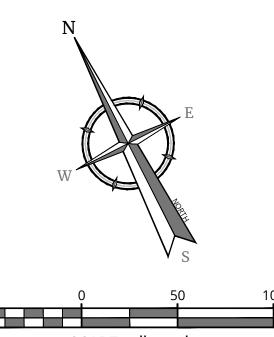
H.P. = HIGH POINT

F.F. MIN= 598.0' = FINISHED FLOOR MINIMUM ELEVATION AS REQUIRED PER FLOODPLAIN (SEE NOTE THIS SHEET)

---- = EXISTING CONTOUR = PROPOSED CONTOUR = 735 = EXISTING CONTOUR

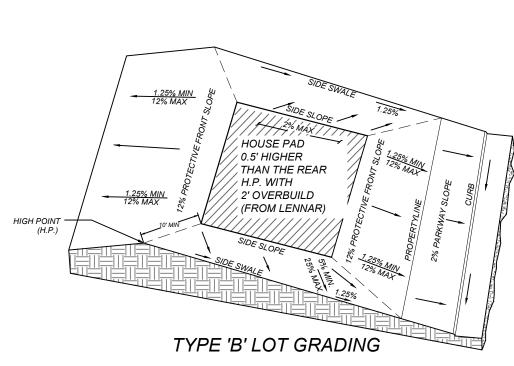
+731.69 = SPOT ELEVATION

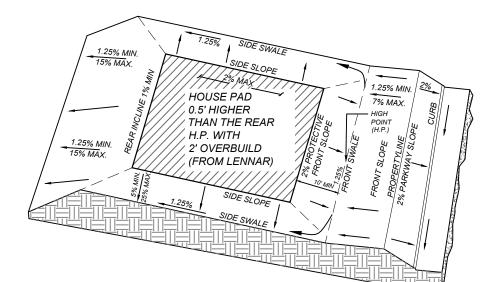




HOUSE PAD 0.5' HIGHER THAN THE REAR H.P. WITH 2' OVERBUILD (FROM LENNAR)

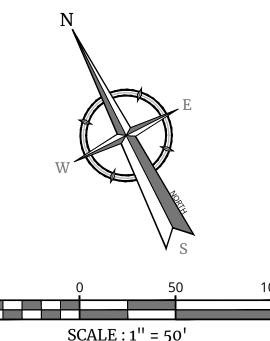
TYPE 'A' LOT GRADING





TYPE 'C' LOT GRADING

LOCATION MAP N.T.S.



Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m)

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**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO BEXAR COUNTY **TEXAS**

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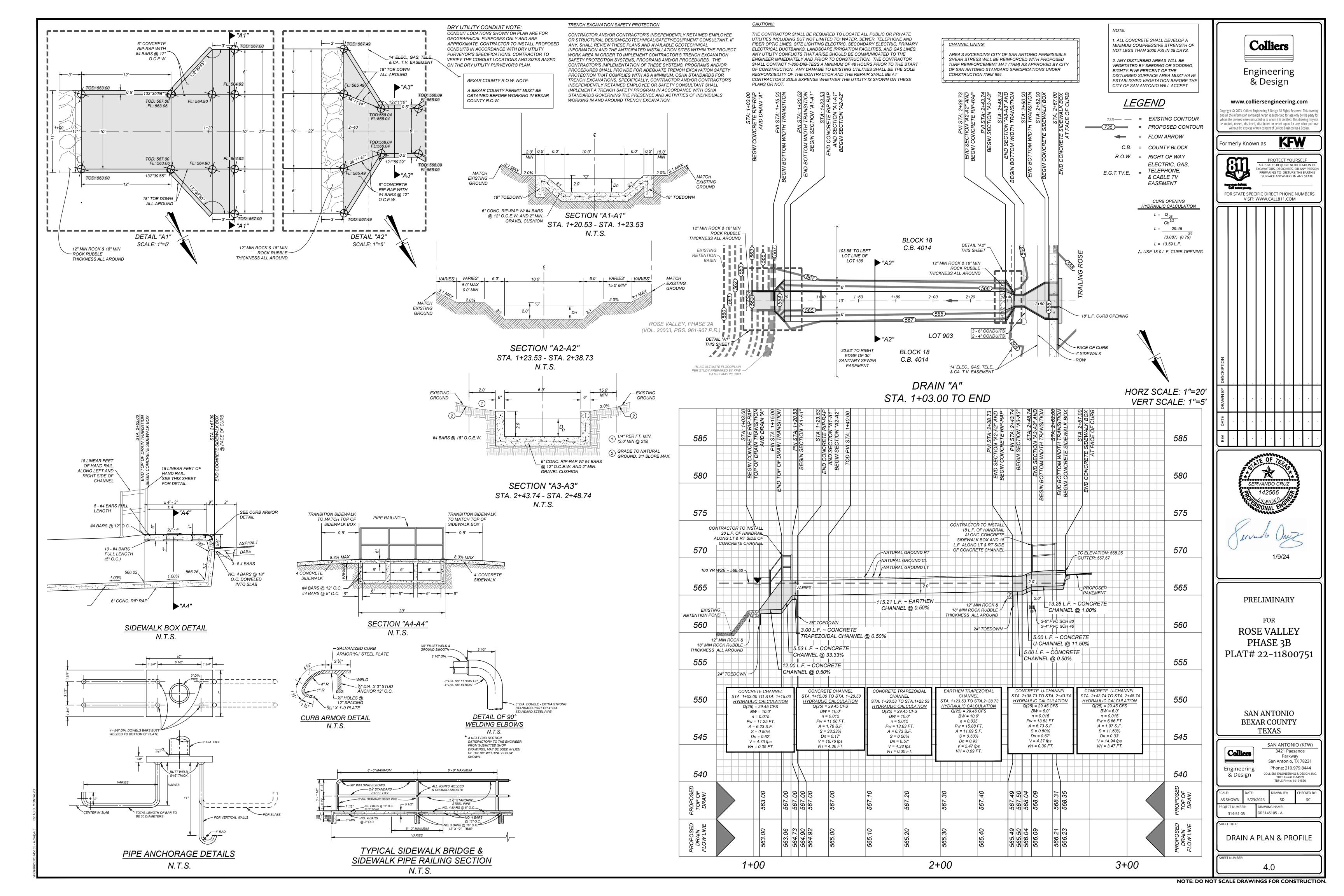
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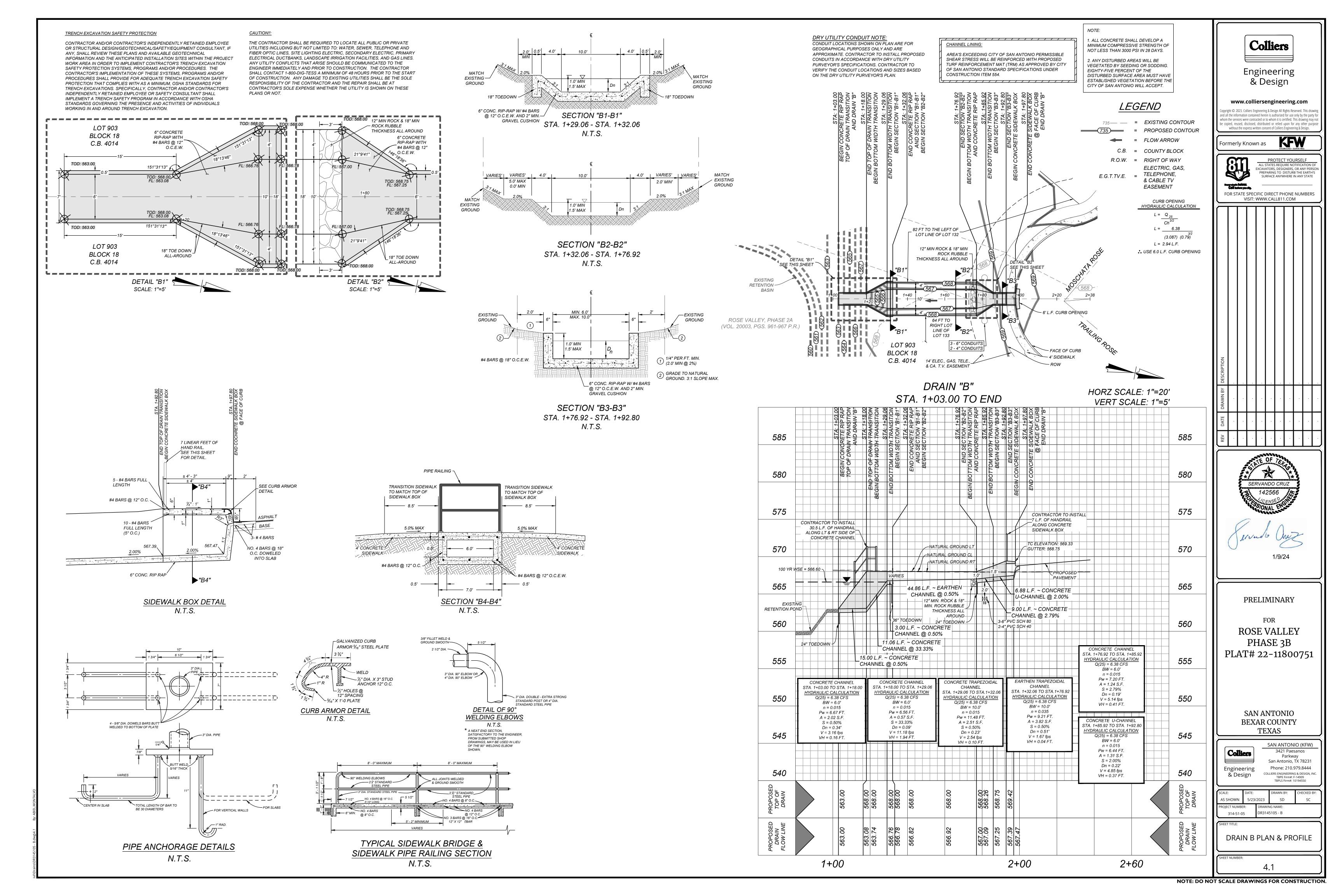
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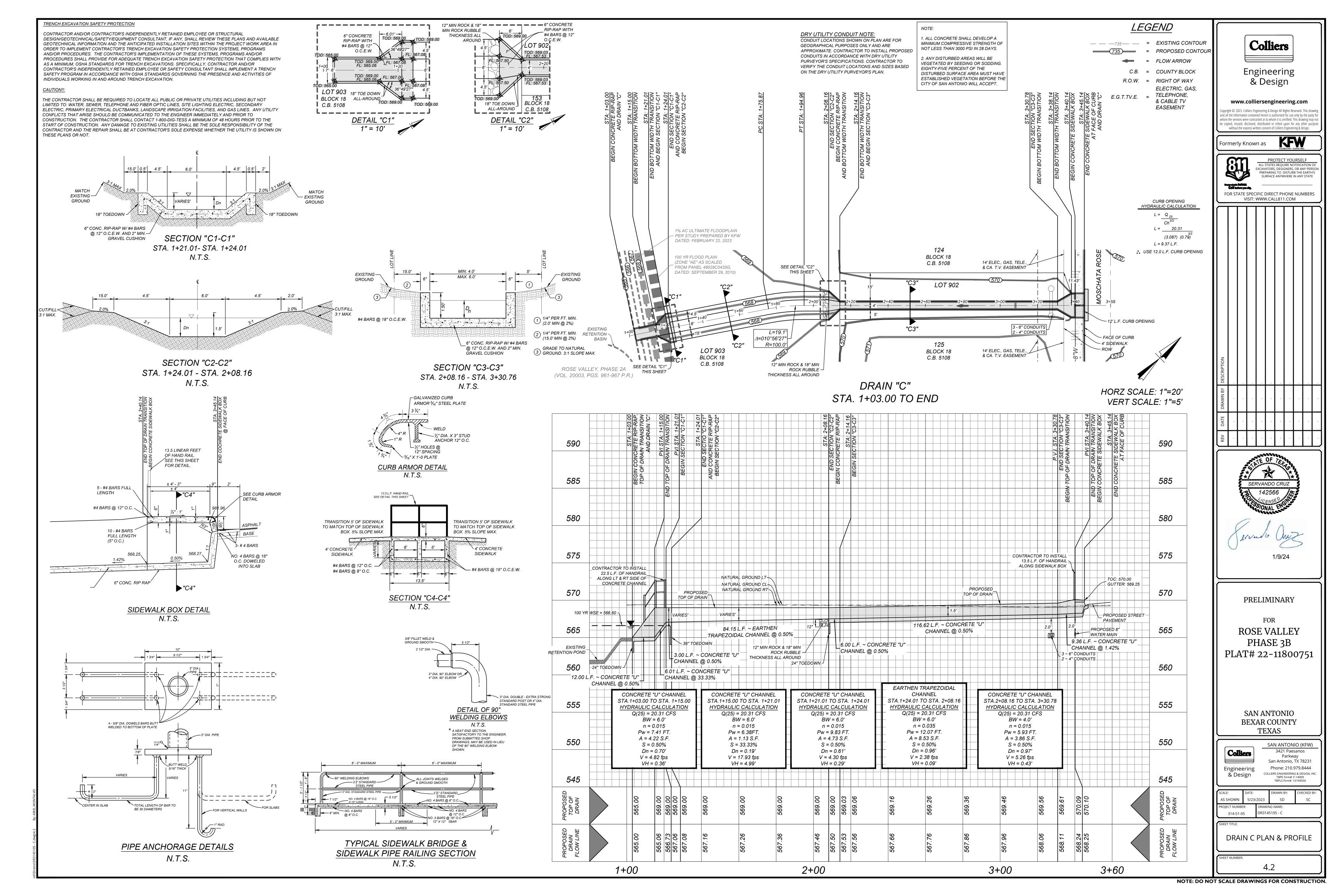
Parkway San Antonio, TX 78231 Phone: 210.979.8444

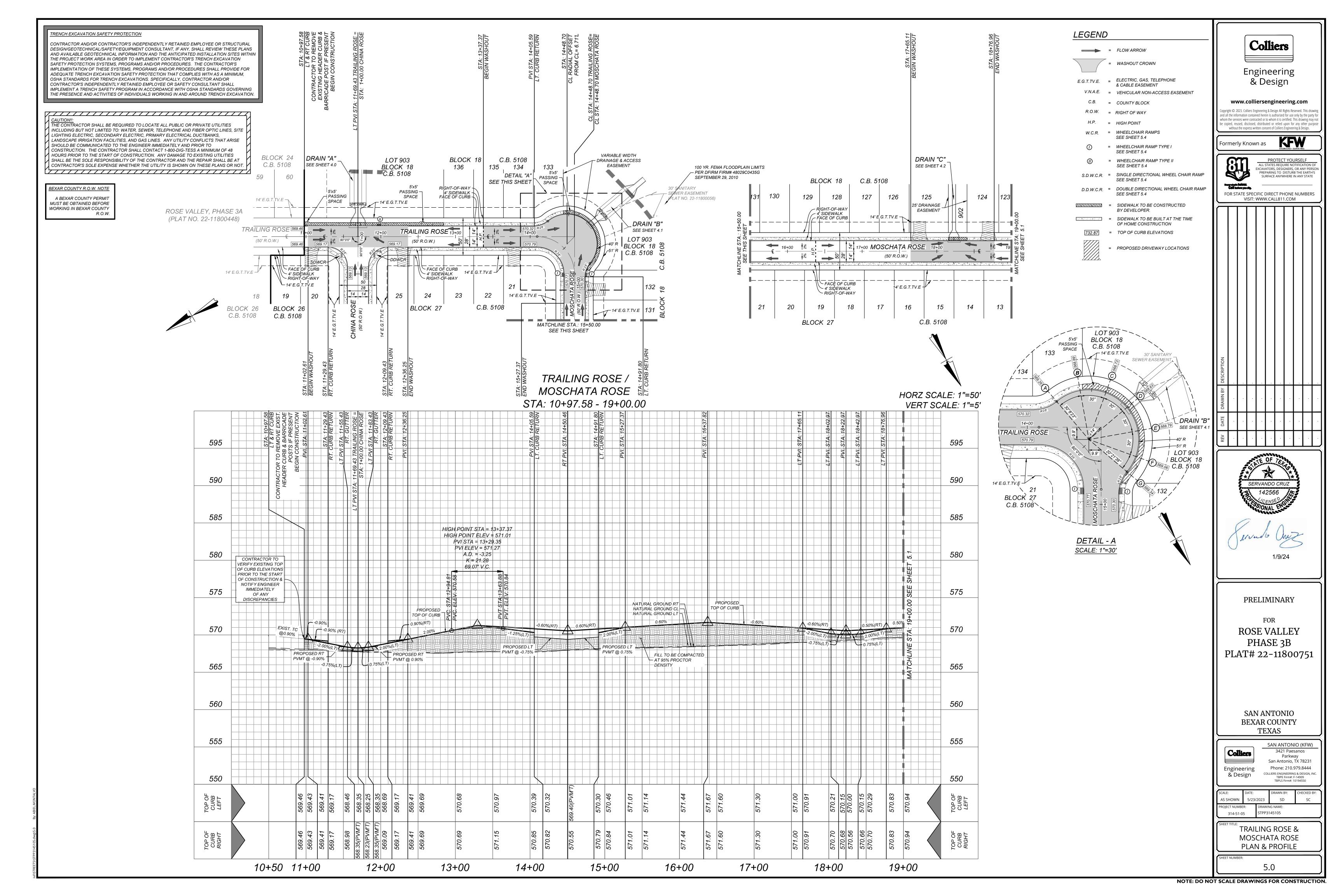
**OVERALL GRADING PLAN** 

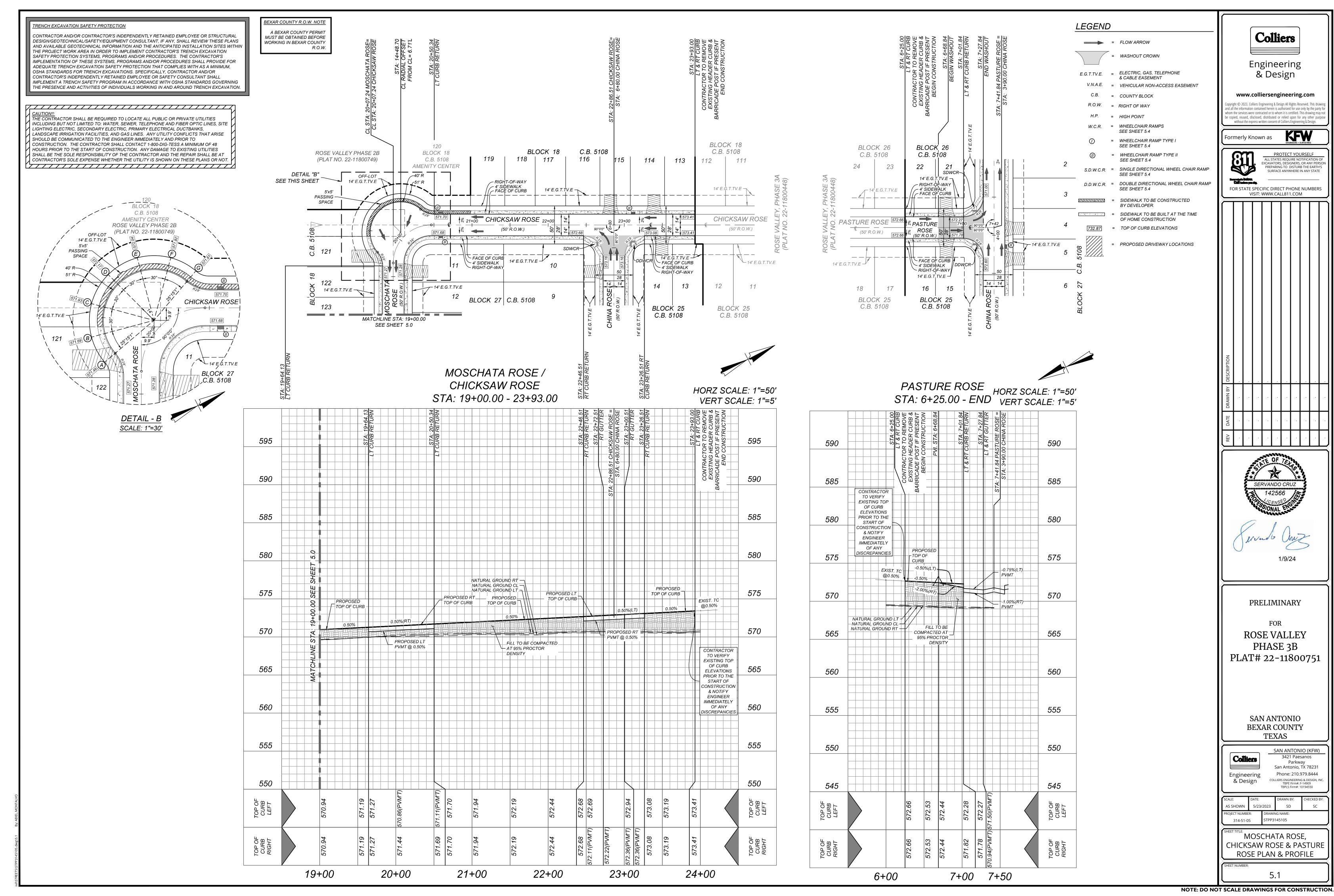
#### GENERAL NOTES: COUNTY FINISHED FLOOR ELEVATION - RELATIVE TO FLOOD PLAIN: 1. ELEVATION SHOWN ON FOUNDATION IS FOR FINISHED FLOOR. FINISHED FLOOR ELEVATIONS FOR STRUCTURES ON LOTS CONTAINING **Colliers** FLOOD PLAIN OR ADJACENT TO THE FLOOD PLAIN SHALL BE IN 2. CONTRACTOR SHALL PROVIDE OWNER ALL NECESSARY DENSITY TESTS FOR FILL LOTS AS COMPLIANCE WITH THE FLOOD PLAIN REGULATION IN EFFECT AT THE REQUIRED BY HUD SPECIFICATIONS. TIME OF CONSTRUCTION. CONTACT BEXAR COUNTY PUBLIC WORKS FOR 3. HOME BUILDER SHALL REFER TO THE APPROVED SUBDIVISION PLAT TO CONFIRM ALL MORE INFORMATION. (F-142(a) & (b)(1)) BUILDING SETBACKS PRIOR TO ANY FOUNDATION WORK. Engineering 4. AS SOON AS PRACTICAL HOME BUILDER SHALL ESTABLISH VEGETATION (HYDROMULCH, & Design BEXAR COUNTY R.O.W. NOTE SEEDING, SODDING, ETC...) TO PREVENT EROSION FROM OCCURRING. A BEXAR COUNTY PERMIT 5. CONTRACTOR SHALL CONTACT ENGINEER REGARDING ANY QUESTIONS ON THE INTENT OF SAN ANTONIO MUST BE OBTAINED BEFORE **WORKING IN BEXAR COUNTY** www.colliersengineering.com 6. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL SURFACE AREAS WITHIN THE SCOPE OF opyright © 2023. Colliers Engineering & Design All Rights Reserved. This drawin THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS AND TOWARDS THE PROPER DRAINAGE EASEMENT OR STREET RIGHT OF WAY ACCORDING TO THE whom the services were contracted or to whom it is certified. This drawing may MASTER DRAINAGE PLAN FOR THE PROJECT. CONTRACTOR SHOULD TAKE PRECAUTIONS be copied, reused, disclosed, distributed or relied upon for any other purpo without the express written consent of Colliers Engineering & Design. NOT TO ALLOW PONDING OF WATER. ST HEDWIG 7. ALL ELEVATIONS AND CONTOURS SHOWN ON THIS GRADING PLAN REFLECT FINISHED GRADES. THE THICKNESS OF PAVEMENT, CURBS, AND SIDEWALKS MUST BE SUBTRACTED TO ormerly Known as OBTAIN SUBGRADE ELEVATIONS. ROSE VALLEY, PHASE 1B 8. GRADING PLAN IS INTENDED FOR USE IN LOT GRADING ONLY. CONTRACTOR SHOULD REFER TO CONSTRUCTION DRAWINGS FOR ALL OTHER GRADES, INCLUDING, BUT NOT LIMITED TO, PROTECT YOURSELF ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSO PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE (PLAT NO. 22-11800056) ROSE VALLEY, PHASE 3A CHANNELS, ROADS, AND DETENTION PONDS. (PLAT NO. 22-11800448) 100 YR. FEMA FLOODPLAIN LIMITS 9. CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE ALL SWALES. - PER DFIRM FIRM# 48029C0435G SEPTEMBER 29, 2010 LOCATION MAP FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM BLOCK 24 C.B. 5108 BLOCK 26 14' E.G.T.TV.E 14' E.G.T.TV.E' ---C.B. 5108 SETBACK SETBACK VARIABLE WIDTH 14' E.G.T.TV.E DRAINAGE & ACCESS -SCALE: 1" = 50' EASEMENT Linear unit of measure: US Survey Foot (1 ft = 1200/3937 m) FOUNDATION F.F. OFF-LOT VARIABLE WIDTH SANITARY SEWER EASEMENT FOUNDATION F.F. 20 (A) >— 14' E.G.T.TV.E LEGEND CHINA ROSE E.G.T.TV.E = ELECTRIC, GAS, TELEPHONE,TYPICAL SIDE YARD GRADING CABLE T.V. EASEMENT = COUNTY BLOCK N.T.S. LOT 903 V.N.A.E. = VEHICULAR NON-ACCESS BLOCK 18 EASEMENT C.B. 5108 = FLOW ARROW DRAIN "A" 1 √ 14' E.G.T.TV.E SEE SHEET 4.0 25 A = LOT GRADE TYPE H.P. = HIGH POINTF.F. MIN= 598.0' = FINISHED FLOOR MINIMUM 24 (A) ZONE "AE" AS SCALED FROM ELEVATION AS REQUIRED PER FLOODPLAIN (SEE DATED: SEPTEMBER 29, 2010) NOTE THIS SHEET) ----735---- **= EXISTING CONTOUR** LOT 903 = PROPOSED CONTOUR BLOCK 18 C.B. 5108 + 731.69 = SPOT ELEVATION SERVANDO CRUZ ₁– 14' E.G.T.TV.E HOUSE PAD 0.5' HIGHER THAN THE REAR H.P. WITH , 2' OVERBUILD MOSCHATA ROSE (FROM LENNAR) \_DRAIN "B" 1% AC ULTIMATE FLOODPLAIN – PER STUDY PREPARED BY KFW — DATED: MAY 20, 2021 1% AC ULTIMATE FLOODPLAIN PER STUDY PREPARED BY KFW TYPE 'A' LOT GRADING PRELIMINARY DATED: MAY 20, 2021 **ROSE VALLEY** PHASE 3B PLAT# 22-11800751 **HOUSE PAD** 0.5' HIGHER THAN THE REAR / H.P. WITH 1% AC ULTIMATÉ FLOODPLAIN PER STUDY PREPARED BY KFW — , 2' OVERBUILD / (FROM LENNAR) VARIABLE WIDTH DATED: MAY 20, 2021 – DRAINAGE & ACCESS – EASEMENT 100 YR. FEMA FLOODPLAIN LIMITS – PER DFIRM FIRM# 48029C0435G SEPTEMBER 29, 2010 SAN ANTONIO **BEXAR COUNTY** LOT 903 BLOCK 18 C.B. 5108 TYPE 'B' LOT GRADING **TEXAS** SAN ANTONIO (KFW) 3421 Paesanos Parkway San Antonio, TX 78231 30' SANITARY SEWER EASEMENT Phone: 210.979.8444 20' SANITARY Engineering SEWER EASEMENT COLLIERS ENGINEERING & DESIGN, IN & Design TBPE Firm#: F-14909 TBPLS Firm#: 10194550 (VOL. 13676, PAGE 246 O.P.R.) **HOUSE PAD** 0.5' HIGHER THAN THE REAR 20' SANITARY /, H.P. WITH – SEWER EASEMENT 2' OVERBUILD (VOL. 13676, PAGE 246 O.P.R.) (FROM LENNAR) GR\_3145105 OVERALL GRADING PLAN 54.887 ACRES 100.08 ACRES OWNER: JOE MANUEL MORENO AND WIFE OWNER: ZAND POUSHESH ARASH & OCON (VOL. 13676, PAGE 246 O.P.R.) TYPE 'C' LOT GRADING AMANDA RUTH CAROLYN MORENO (DOCUMENT NO. 20230027579) (VOLUME 6550, PAGE 154 O.P.R.)





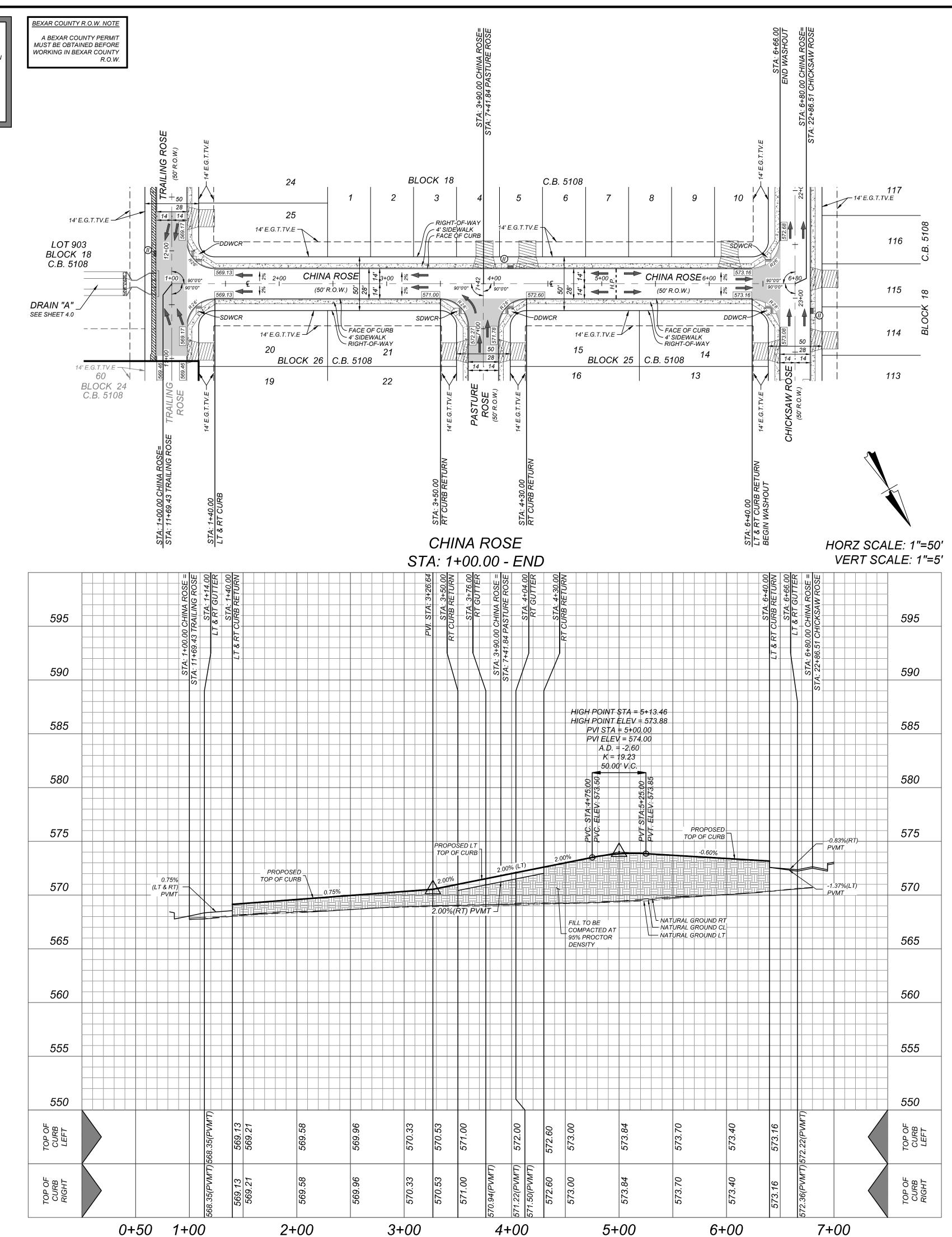






#### TRENCH EXCAVATION SAFETY PROTECTION CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT. 



#### LEGEND

= FLOW ARROW



E.G.T.TV.E. = ELECTRIC, GAS, TELEPHONE & CABLE EASEMENT V.N.A.E. = VEHICULAR NON-ACCESS EASEMENT

C.B. = COUNTY BLOCK R.O.W. = RIGHT OF WAY

W.C.R. = WHEELCHAIR RAMPS

SEE SHEET 5.4 = WHEELCHAIR RAMP TYPE I SEE SHEET 5.4

= WHEELCHAIR RAMP TYPE II SEE SHEET 5.4

S.D.W.C.R. = SINGLE DIRECTIONAL WHEEL CHAIR RAMP

SEE SHEET 5.4 D.D.W.C.R. = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP

[[THITITITI]] = SIDEWALK TO BE CONSTRUCTED

SEE SHEET 5.4

= SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION

732.87 = TOP OF CURB ELEVATIONS

= PROPOSED DRIVEWAY LOCATIONS

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**PRELIMINARY** 

1/9/24

FOR **ROSE VALLEY** PHASE 3B PLAT# 22-11800751

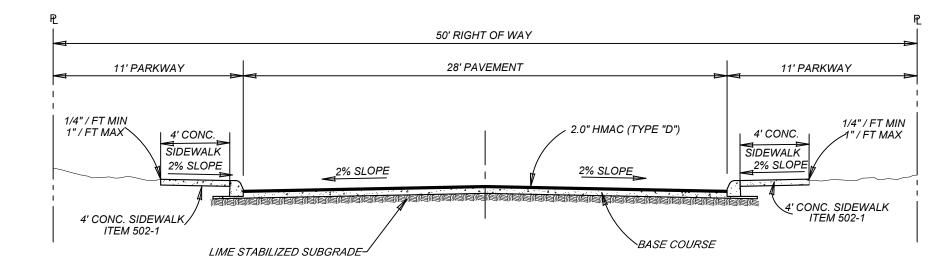
> SAN ANTONIO BEXAR COUNTY **TEXAS**

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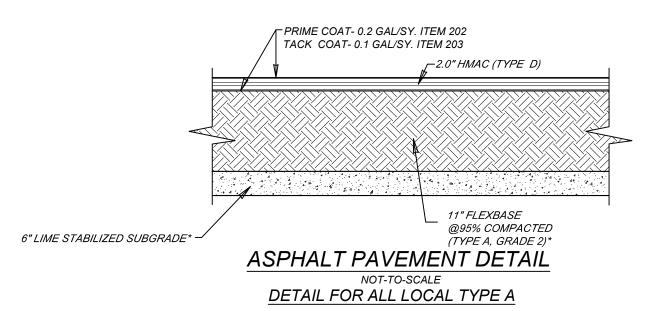
AS SHOWN 314-51-05 ΓΡΡ3145105

> CHINA ROSE PLAN & PROFILE



### TYPICAL LOCAL "A" STREET SECTION

NOT TO SCALE TRAILING ROSE STA. 10+97.58 - 14+48.70 MOSCHATA ROSE STA: 14+48.70 - 20+07.24 CHICKSAW ROSE: STA: 20+07.24 - END PASTURE ROSE: STA: 6+25.00 - END CHINA ROSE: STA. 1+00.00 - END



### FLEXIBLE PAVEMENT SYSTEM (DARK BROWN CLAY SUBGRADE)

Pavement Section 2.0" HMAC (TYPE "D")

11" FLEXBASE COURSE (TYPE "A" GRADE 2) 6.0" LIME STABILIZED SUBGRADE (33 LBS/SY) Total: 19" Structural No: 2.90

C.B.R = 2.0

InTEC PROJECT NO. S211189-1-P JUNE 21, 2021

1. PAVEMENT DESIGN THICKNESS BASED ON GEOTECHNICAL REPORT BY INTEC REPORT NO. S211189-1-P DATED JUNE 21, 2021

2. REFERENCE PROJECT GEOTECHNICAL REPORT AND PROJECT SPECIFICATION FOR ADDITIONAL REQUIREMENTS AND ALTERNATE PAVEMENT SECTIONS.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING MATERIAL TESTING. TESTING TO BE PAID BY OWNER.

4. THERE SHALL BE NO SUBSTITUTION OF LIME.

\*NOTE: CONTRACTOR TO REFERENCE GEOTECH REPORT PREPARED BY INTEC PROJECT NO. S211189-1-P DATED JUNE 21, 2021

SUBGRADE NOTES:

CUT AND FILL DATA ARE NOT AVAILABLE AT THIS TIME. BASED ON THE THICKNESS OF THE CLAYS ENCOUNTERED IN THE BORINGS, WE ANTICIPATE THE FINAL PAVEMENT SUBGRADE PLASTICITY INDEX VALUE TO BE GREATER THAN 20. AS PER BEXAR COUNTY CITY OF SAN ANTONIO REQUIREMENTS, SUBGRADE STABILIZATION IS NEEDED WHEN THE PLASTICITY INDEX VALUES ARE GREATER THAN 20. •• THE SUBGRADE SOILS SHOULD BE TESTED FOR SOIL SULFATE

CONTENT PRIOR TO STABILIZATION. IF THE SOIL SULFATE CONTENT IS HIGHER THAN 3000 PPM, AN ALTERNATE PROCEDURE WILL BE NEEDED. IT IS OUR UNDERSTANDING THAT THE BEXAR COUNTY GUIDELINES REQUIRE SUBGRADE STABILIZATION REGARDLESS OF THE SOIL SULFATE CONTENT. DOUBLE APPLICATION OF LIME MAY BE NEEDED IF HIGH SULFATE CONTENT LEVELS ARE PRESENT IN THE SOILS. •• THE SUBGRADE SHOULD BE STABILIZED TO A DEPTH OF 6 OR 8 INCHES USING 8 PERCENT LIME CONTENT.

••• LIME APPLICATION RATE OF 33.0 LBS PER SQ YARD FOR 6-INCH DEPTH OF STABILIZATION IS RECOMMENDED. ••• LIME APPLICATION RATE OF 44.0 LBS PER SQ YARD FOR 8-INCH

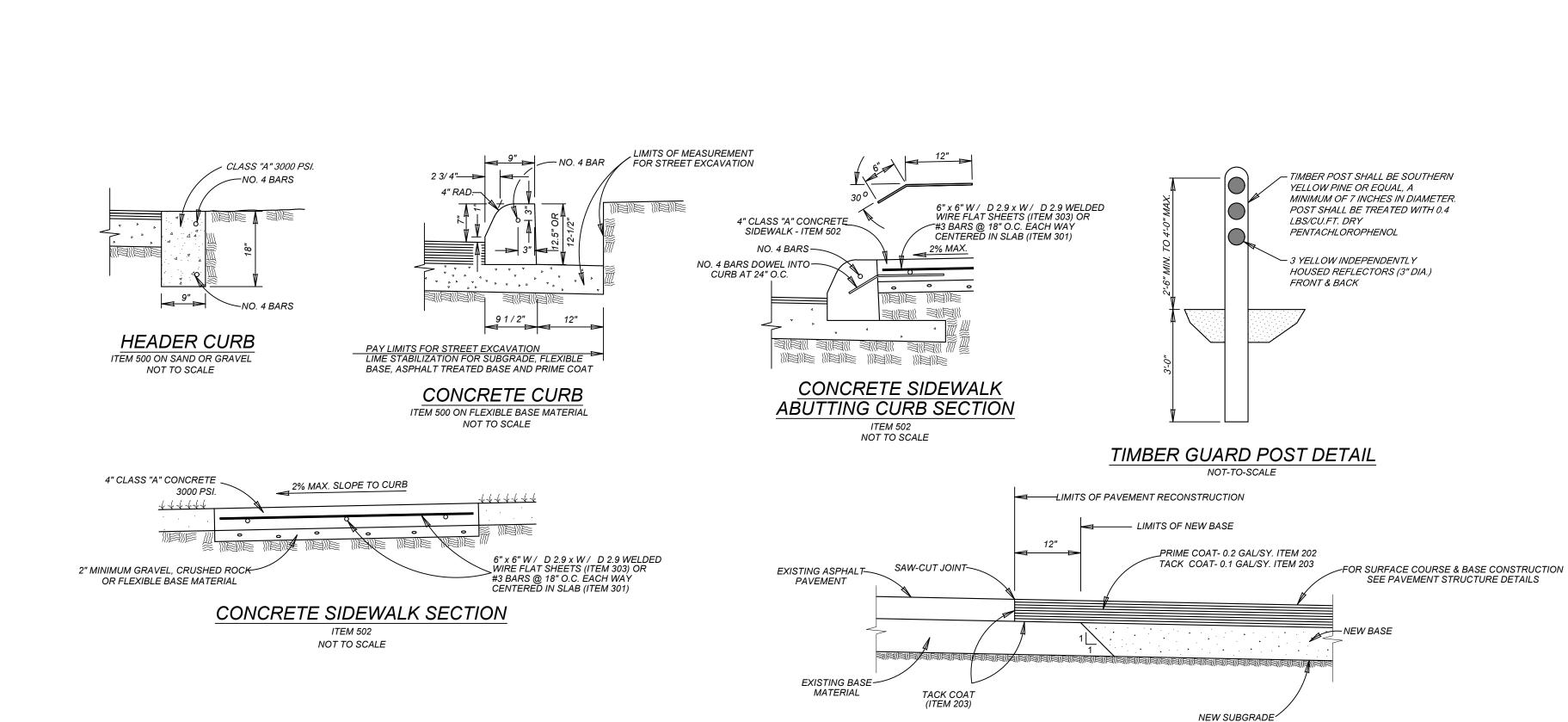
DEPTH OF STABILIZATION IS RECOMMENDED. THE SUBGRADE MAY ALSO BE STABILIZED WITH CEMENT IN LIEU OF LIME. CEMENT APPLICATION RATES SHOULD BE DETERMINED AT THE TIME OF CONSTRUCTION. IF FILL IS USED TO RAISE THE GRADE - APPROVED FILL MATERIAL
SHOULD HAVE A MINIMUM CBR VALUE OF 2.0 AND A MAXIMUM PLASTICITY

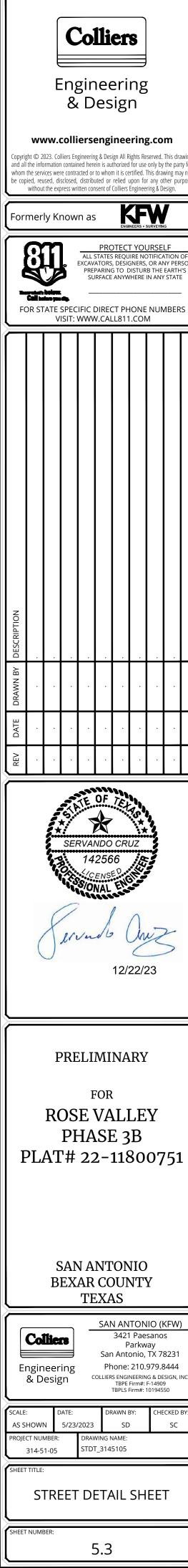
INDEX VALUE OF 70. LIME APPLICATION RATES SHOULD BE RE-EVALUATED AND TESTED FOR SULFATE CONTENT PRIOR TO USE OF THE FILL MATERIAL. • THE FILL MATERIAL SHOULD BE APPROVED BY THE GEOTECHNICAL ENGINEER, FREE OF DELETERIOUS MATERIAL, AND THE GRAVEL SIZE SHOULD NOT EXCEED 3 INCHES IN SIZE. THE MATERIAL SHOULD BE PLACED AND COMPACTED AS PER APPLICABLE CITY / COUNTY GUIDELINES. **GENERAL NOTES:**• INPUT PARAMETERS USED IN PAVEMENT SECTION CALCULATIONS ARE SHOWN IN TABLE NO. 6. PLEASE CALL US TO PROVIDE PAVEMENT RECOMMENDATIONS, IF NEEDED, FOR DIFFERENT INPUT VALUES. IF REPETITIVE TRUCK OR HEAVY TRUCK TRAFFIC IS ANTICIPATED,

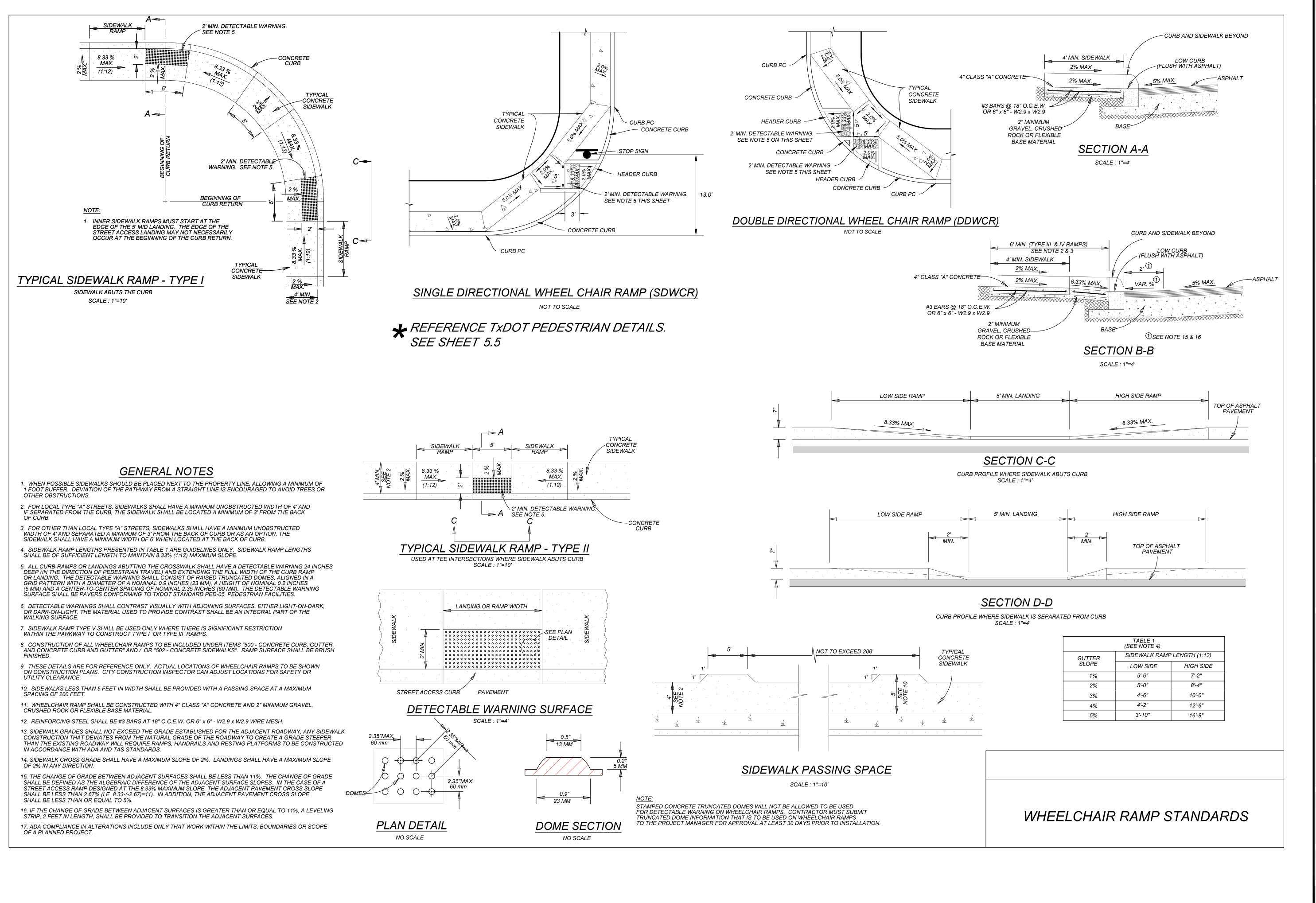
PLEASE CONTACT US FOR REVISED PAVEMENT RECOMMENDATIONS. PAVEMENT SECTION RECOMMENDATIONS ARE BASED ON A SUBGRADE CBR VALUE OF 2.0. THE PAVEMENT RECOMMENDATIONS ARE NOT BASED ON THE SRHINK / SWELL CHARACTERISTICS OF THE UNDERLYING SOILS. THE PAVEMENT CAN EXPERIENCE CRACKING AND DEFORMATION DUE TO SHRINKAGE AND SWELLING CHARACTERISTICS OF THE SOILS AS DESCRIBED IN THE VERTICAL MOVEMENTS SECTION OF THIS REPORT. USE OF GEOGRID HELPS REDUCE THE SHRINK / SWELL RELATED

CRACKING. IF WATER IS ALLOWED TO GET UNDERNEATH THE ASPHALT OR IF MOISTURE CONTENT OF THE BASE OR SUBGRADE SOIL CHANGES SIGNIFICANTLY, THEN PAVEMENT DISTRESS WILL OCCUR. MOISTURE PENETRATION UNDERNEATH THE ASPHALT PAVEMENT SURFACE MAY BE REDUCED BY INSTALLING A VERTICAL MOISTURE BARRIER, SUCH AS DEEPER CURBS; CURBS EXTENDING A MINIMUM OF 6 INCHES INTO SUBGRADE.

SUBGRADE VERIFICATION:
AT THE TIME OF CONSTRUCTION, THE FINAL PAVEMENT SUBGRADE SHOULD BE OBSERVED AND DELINEATED / VERIFIED BY A REPRESENTATIVE OF







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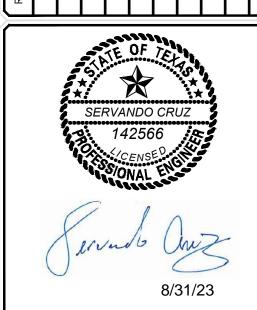
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**PRELIMINARY** 

**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO **BEXAR COUNTY TEXAS**

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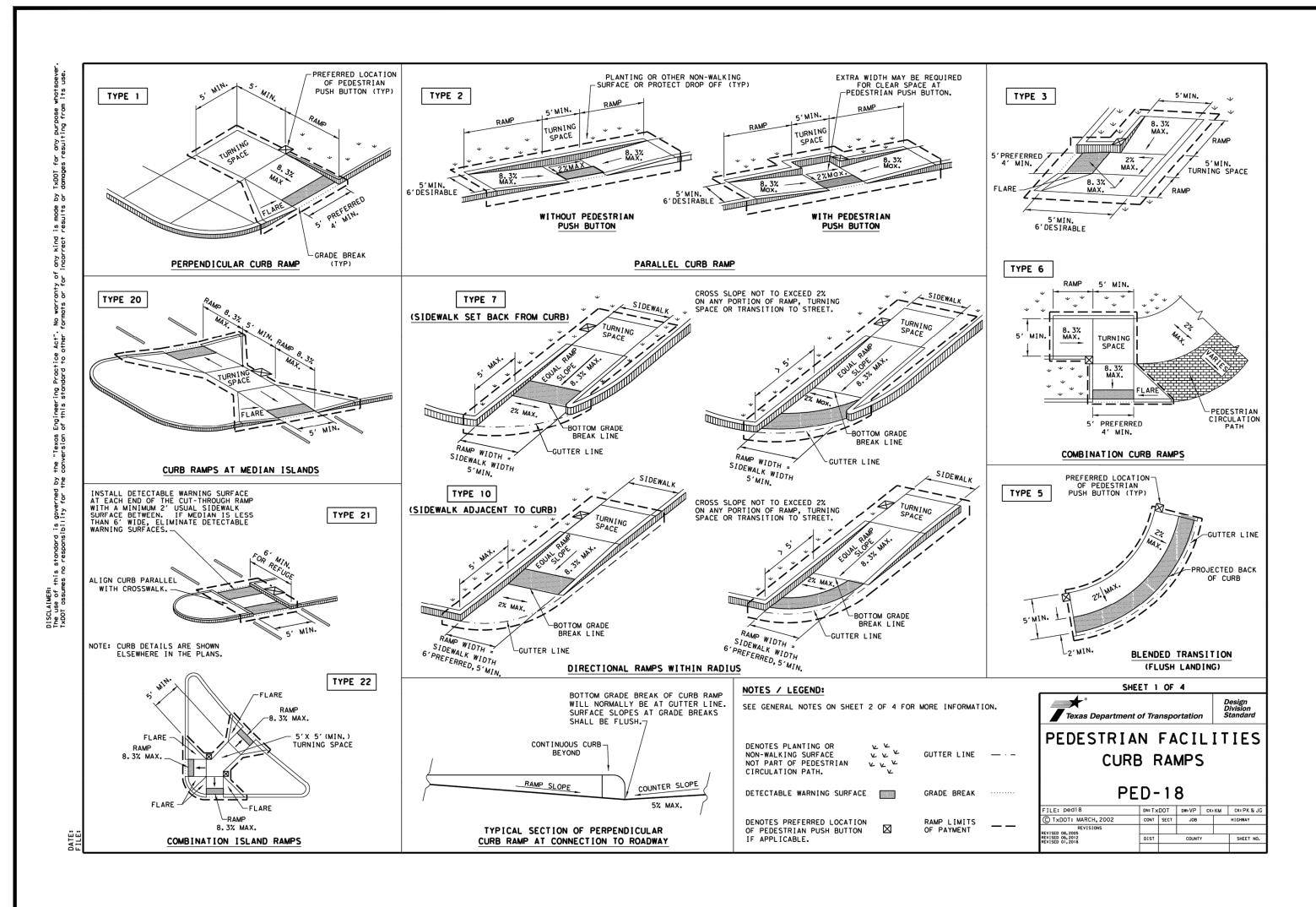
314-51-05

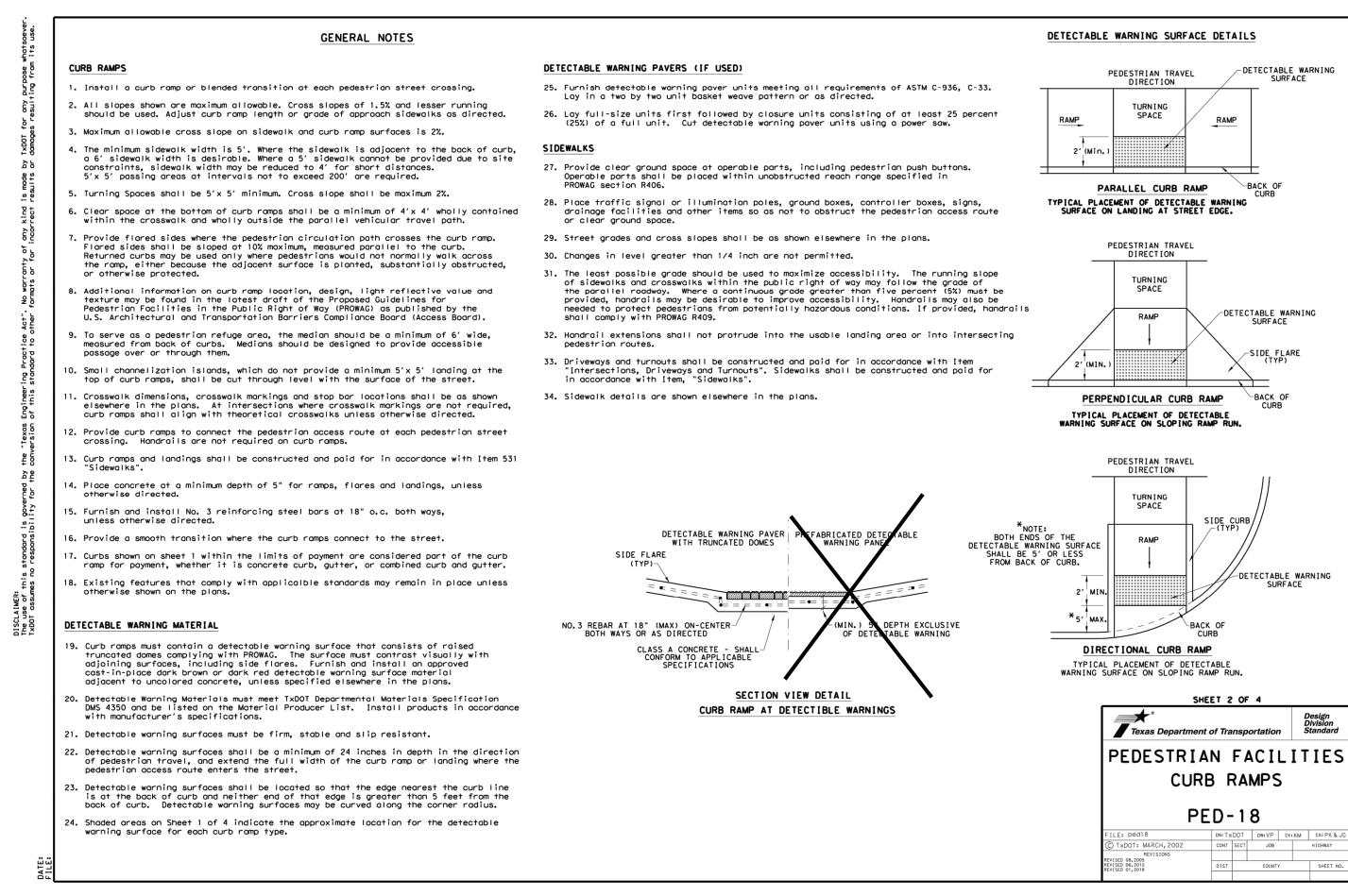
3421 Paesanos Parkway San Antonio, TX 78231 Phone: 210.979.8444 COLLIERS ENGINEERING & DESIGN, IN TBPE Firm#: F-14909 TBPLS Firm#: 10194550

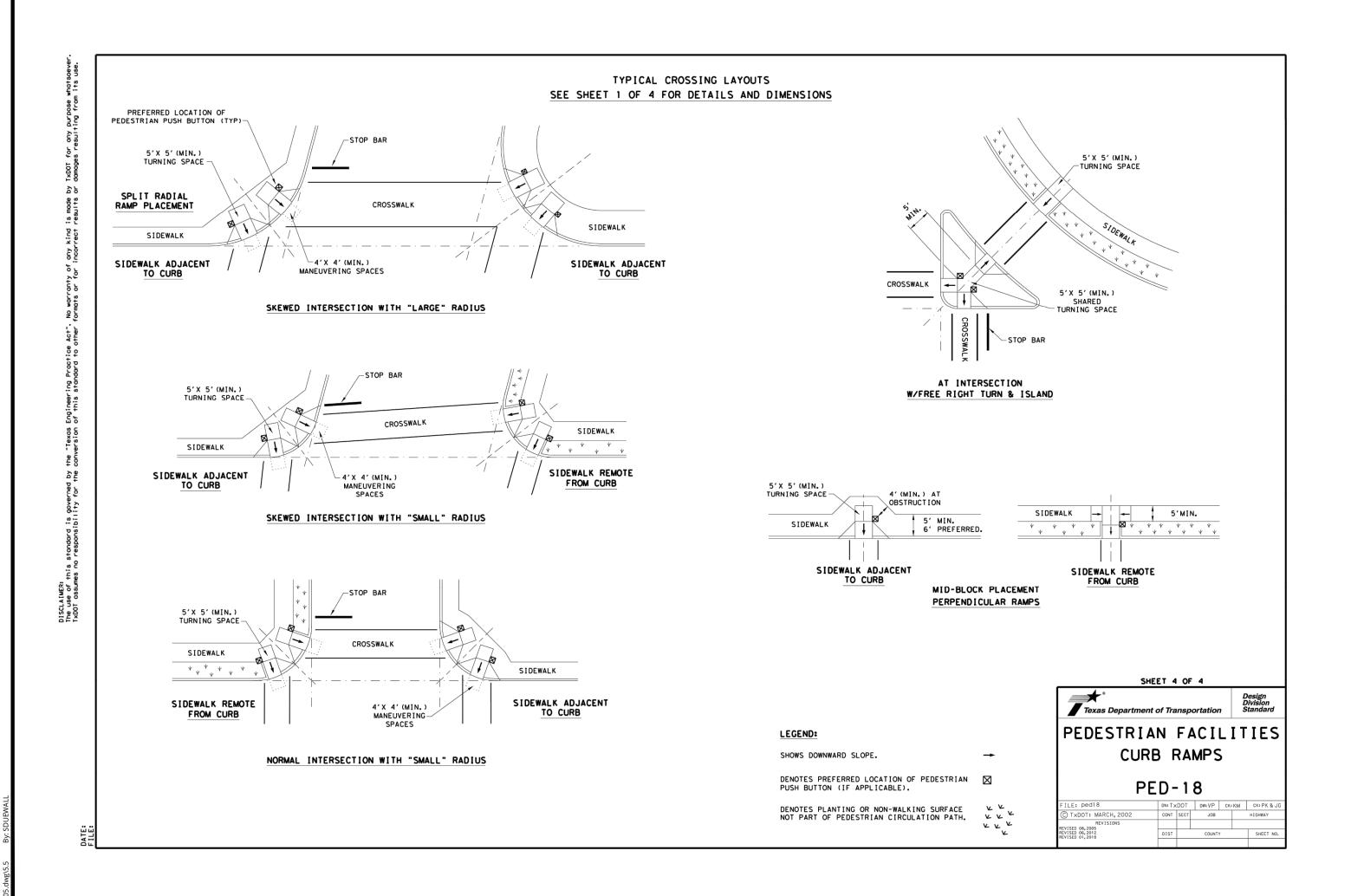
SAN ANTONIO (KFW)

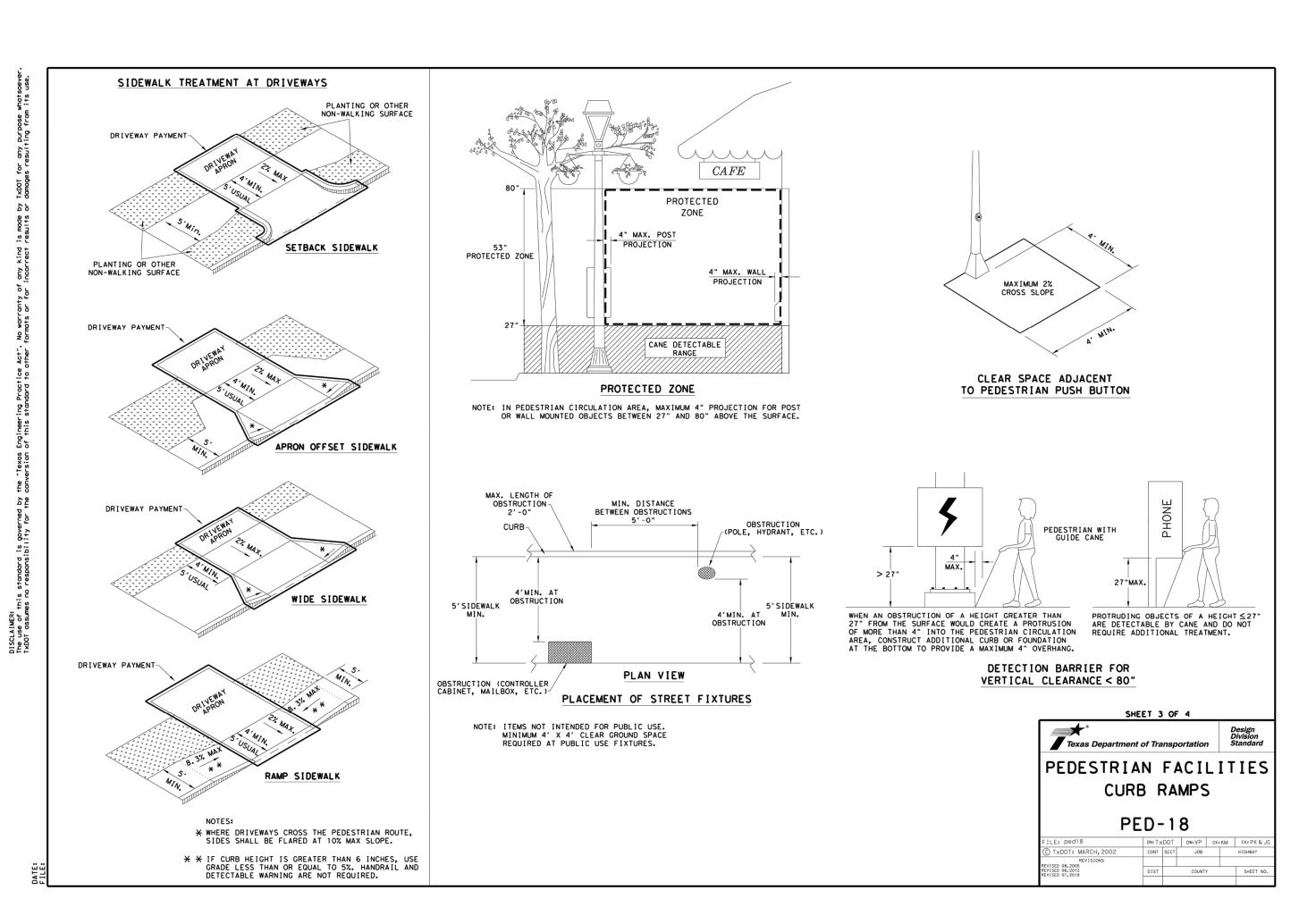
AS SHOWN SD AWING NAME: TDT\_3145105

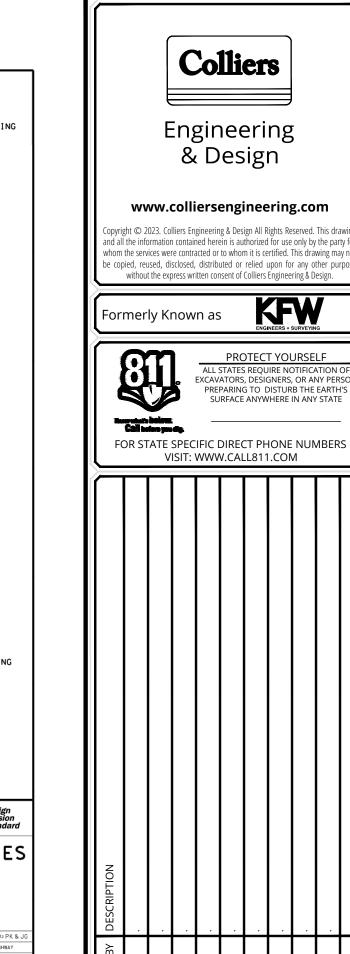
> WHEELCHAIR RAMP DETAIL SHEET

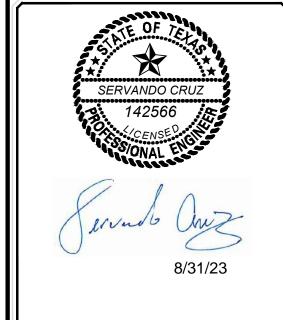












PRELIMINARY

FOR
ROSE VALLEY
PHASE 3B
PLAT# 22-11800751

SAN ANTONIO BEXAR COUNTY TEXAS

	SAN ANTONIO (KFW
Colliers	3421 Paesanos Parkway San Antonio, TX 78231
Engineering & Design	Phone: 210.979.8444 COLLIERS ENGINEERING & DESIGN, TBPE Firm#: F-14909 TBPLS Firm#: 10194550

CALE: DATE: DRAWN BY: CHECKED BY:

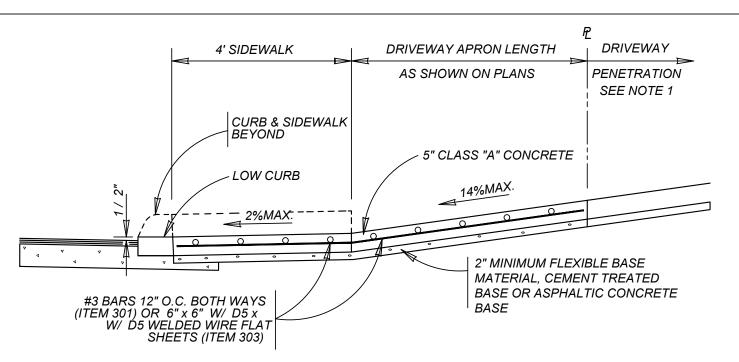
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ROJECT NUMBER: DRAWING NAME:

314-51-05 STDT\_3145105

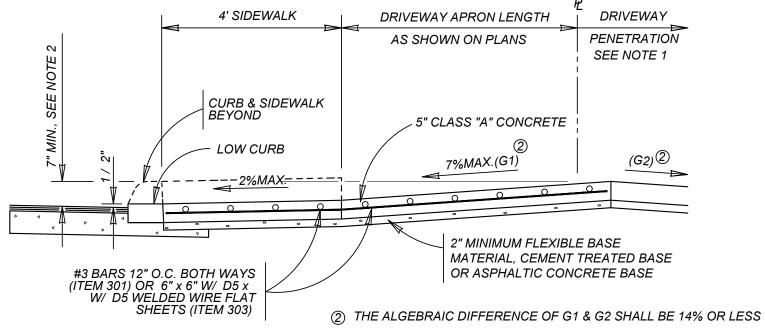
TXDOT PEDESTRIAN
DETAIL SHEET

NUMBER:



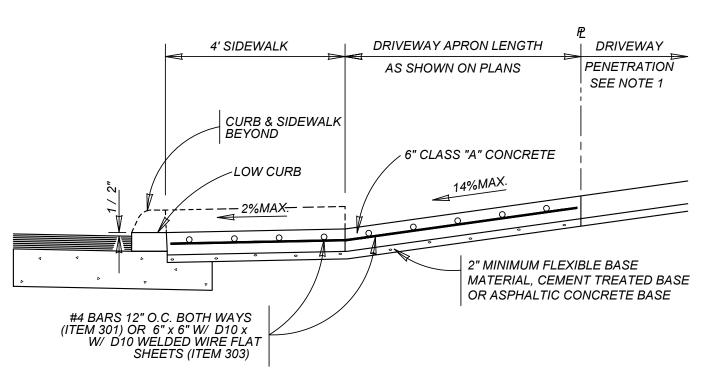
#### TYPICAL RESIDENTIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB ITEM 503.1



### TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS ABUTTING CURB ITEM 503.1



#### TYPICAL COMMERCIAL DRIVEWAY SECTION

WITH SIDEWALK ABUTTING CURB

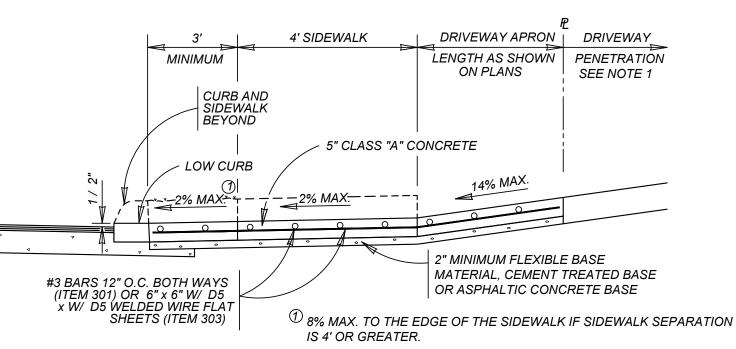
ITEM 503.2

### CONCRETE DRIVEWAY NOTES

- 1. DRIVEWAY PENETRATION REFERS TO A PORTION OF THE DRIVEWAY THAT MAY BE NECESSARY TO RECONSTRUCT WITHIN PRIVATE PROPERTY TO COMPLY WITH A MAXIMUM DRIVEWAY SLOPE. THIS PORTION OF THE DRIVEWAY SHALL BE PAID FOR UNDER THE FOLLOWING ITEMS AS MAY APPLY: A.) CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.1 OR 503.2.
- B.) ASPHALTIC CONCRETE DRIVEWAY PAID FOR UNDER ITEM NO. 503.4 AND SHALL INCLUDE A MINIMUM OF 1" ASPHALT TYPE 'D' & 6" FLEXIBLE BASE C.) GRAVEL DRIVEWAY PAID FOR UNDER ITEM NO. 503.5 AND SHALL INCLUDE A MINIMUM OF 6" FLEXIBLE BASE
- 2. 7" MINIMUM HEIGHT WILL NOT NECESSARILY OCCUR AT THE PROPERTY LINE. IT MAY OCCUR WITHIN THE RIGHT OF WAY OR WITHIN THE DRIVEWAY PENETRATION ON PRIVATE PROPERTY.
- 3. THE PROPOSED DRIVEWAY SHOULD MATCH THE EXISTING WIDTH AT THE PROPERTY LINE BUT UNLESS AUTHORIZED BY THE CITY TRAFFIC ENGINEER, THE WIDTH SHALL BE WITHIN THE FOLLOWING VALUES:

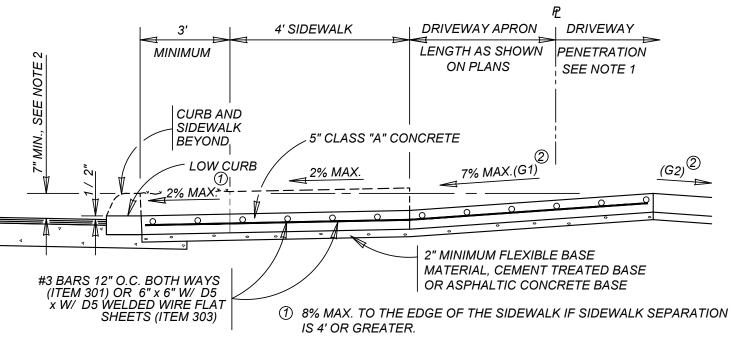
TYPE	мінімим	MAXIMUM
RESIDENTIAL	10'	20'
COMMERCIAL - ONE WAY	12'	20'
COMMERCIAL - TWO WAY	24'	30'

- 4. FOR LOCAL TYPE "A" STREETS, SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND IF SEPARATED FROM THE CURB, THE SIDEWALK SHALL BE LOCATED A MINIMUM OF 3' FROM THE BACK OF CURB.
- 5. FOR OTHER THAN LOCAL TYPE "A" STREETS, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 4' AND SEPARATED A MINIMUM OF 3' FROM THE BACK OF CURB OR, AS AN OPTION, THE SIDEWALK SHALL HAVE A MINIMUM WIDTH OF 6' WHEN LOCATED AT THE BACK OF CURB.
- 6. DUMMY JOINTS PARALLEL TO THE CURB SHALL BE PLACED WHERE THE SIDEWALK MEETS THE DRIVEWAY. DUMMY JOINTS PERPENDICULAR TO THE CURB, AND WITHIN THE BOUNDARIES OF THE PARALLEL DUMMY JOINTS, SHALL BE PLACED AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK.
- 7. A MINIMUM OF TWO ROUND AND SMOOTH DOWEL BARS 3 /8" IN DIAMETER AND 18" IN LENGTH SHALL BE SPACED 18" APART AT EACH EXPANSION JOINT.
- 8. SIDEWALK RAMP LENGTHS SHALL BE OF SUFFICIENT LENGTH TO MAINTAIN 8.33% (1:12) MAXIMUM SLOPE. WHERE SIDEWALKS CROSS DRIVEWAYS, SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.
- 9. SIDEWALK RAMP SURFACE SHALL BE BRUSH FINISHED.



## TYPICAL RESIDENTIAL DRIVEWAY SECTION

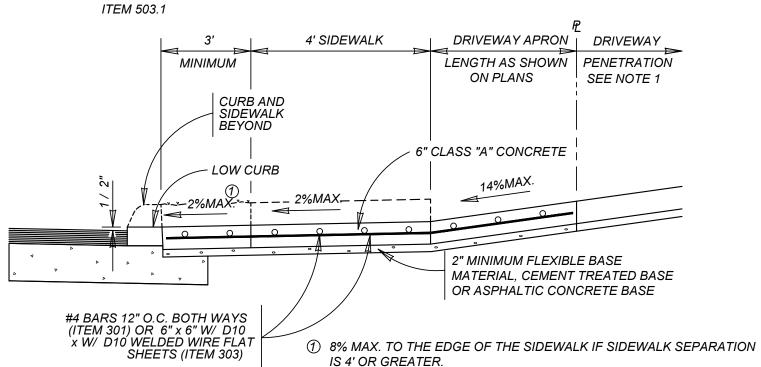
WITH SIDEWALK SEPARATED FROM CURB ITEM 503.1



2) THE ALGEBRAIC DIFFERENCE OF G1 & G2 SHALL BE 14% OR LESS

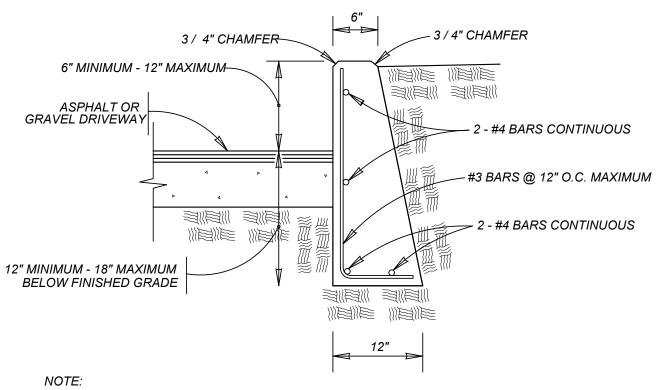
#### TYPICAL RESIDENTIAL DRIVEWAY SECTION

WHERE PROPERTY IS LOWER THAN STREET & SIDEWALK IS SEPARATED FROM CURB



## TYPICAL COMMERCIAL DRIVEWAY SECTION

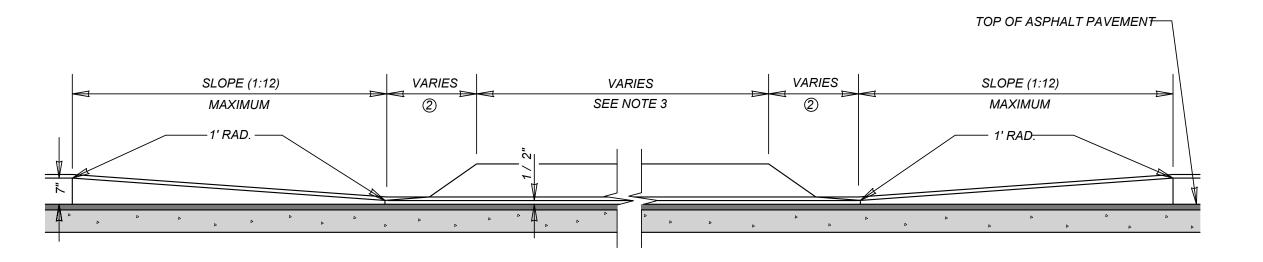
WITH SIDEWALK SEPARATED FROM CURB ITEM 503.2



1. COST OF REINFORCEMENT TO BE INCLUDED IN UNIT COST OF ITEM 307.1. 2. CONCRETE RETAINING WALL COMBINATION TYPE SHALL BE USED FOR CONCRETE DRIVEWAYS.

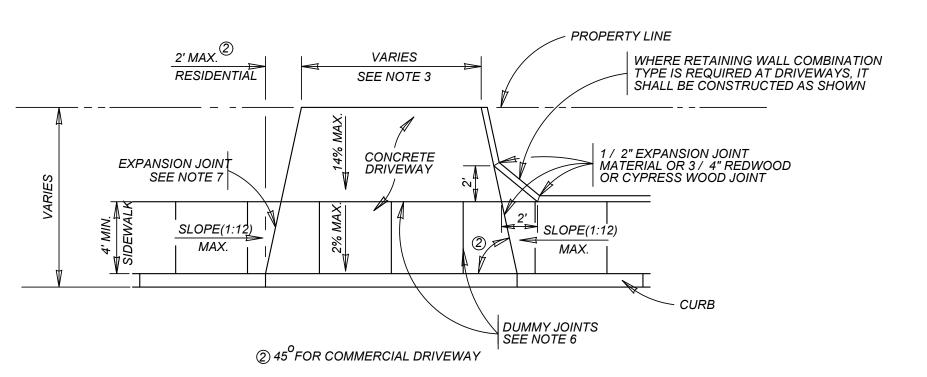
#### DRIVEWAY - CONCRETE RETAINING WALL

ON COMPACTED SUBGRADE ITEM 307.1



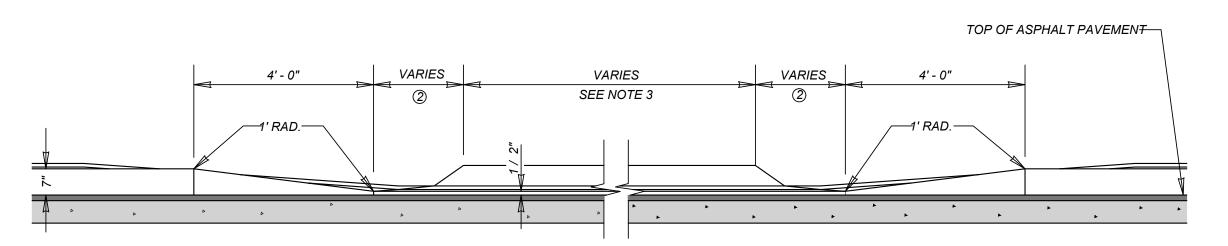
## ② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW CURB PROFILE AT DRIVEWAY

WITH SIDEWALK ABUTTING CURB



### TYPICAL DRIVEWAY PLAN VIEW

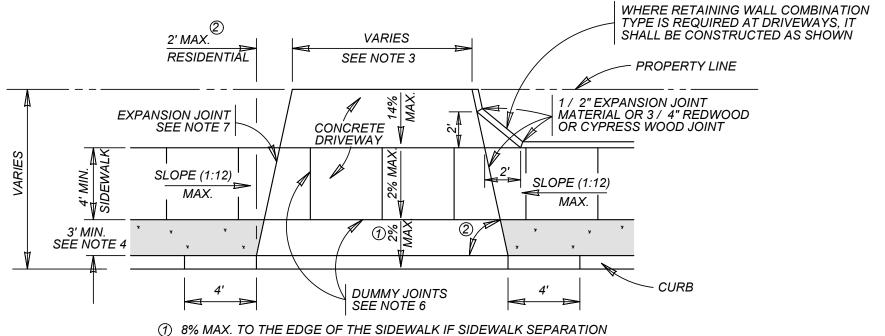
WITH SIDEWALK ABUTTING CURB



② RESIDENTIAL : 2' MAXIMUM; COMMERCIAL: SEE PLAN VIEW

#### CURB PROFILE AT DRIVEWAY

WITH SIDEWALK SEPARATED FROM CURB



IS 4' OR GREATER.

2) 45 FOR COMMERCIAL DRIVEWAY

### TYPICAL DRIVEWAY PLAN VIEW

WITH SIDEWALK SEPARATED FROM CURB

#### MAY 2009

#### CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

### CONCRETE DRIVEWAY STANDARDS

% SUBMITTAL PROJECT NO.: DRWN. BY: V. VASQUEZ DSGN. BY: CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.:\_\_\_\_OF\_\_ Colliers

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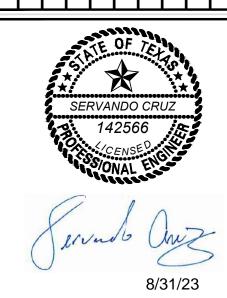
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**PRELIMINARY** 

**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO **BEXAR COUNTY TEXAS**

SAN ANTONIO (KFW) Colliers Engineering

3421 Paesanos Parkway San Antonio, TX 78231 Phone: 210.979.8444 OLLIERS ENGINEERING & DESIGN, IN & Design TBPE Firm#: F-14909 TBPLS Firm#: 1019455

AS SHOWN SD

TDT\_3145105

MISCELLANEOUS

DETAIL SHEET

314-51-05

#### TRENCH EXCAVATION SAFETY PROTECTION CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS. PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND

NOTES: 1) WITHIN THE CITY'S EXTRATERRITORIAL JURISDICTION, STREET NAME SIGNS SHALL BE INSTALLED AT ALL INTERSECTIONS WITHIN AND

ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

ABUTTING THE SUBDIVISION. SUCH SIGNS SHALL BE MANUFACTURED AND INSTALLED BY THE SUBDIVIDER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO PLAN REVIEWS AND INSPECTIONS BY THE COUNTY DEPARTMENT OF PUBLIC WORKS.

2) REGULATORY AND WARNING TRAFFIC SIGNS SHALL BE INSTALLED WITHIN AND ABUTTING THE SUBDIVISION IN ACCORDANCE WITH THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD)," AS REQUIRED BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. SUCH SIGNS SHALL BE MANUFACTURED AND INSTALLED BY THE SUBDIVIDER IN ACCORDANCE TO SPECIFICATIONS OF, AND SUBJECT TO PLAN REVIEWS AND INSPECTIONS BY THE CITY'S DEVELOPMENT SERVICES DEPARTMENT OR COUNTY'S DEPARTMENT OF PUBLIC WORKS. WARNING AND REGULATORY SIGNS SHALL NOT BE ACCEPTED BY THE CITY UNTIL THE STREET HAS BEEN ACCEPTED FOR MAINTENANCE BY THE CITY.

103

102

101

120

BLOCK 18 C.B. 5108 AMENITY CENTER

VARIABLE WIDTH OPEN

SPACE, LANDSCAPE &

PRIVATE DRAINAGE

EASEMENT

	15" OVERHEAD SIGN	9" GROUND MOUNT SIGNS		
HEIGHT	9" (228 mm)	9" (228 mm)		
LENGTH	48" (1200 MM) MIN. 72" (1800 MM) MAX. 1' (300 MM) INCREMENTS OF LENGTH	24" (600 MM) MIN. 48" (1200 MM) MAX. 6" (150 MM) INCREMENTS OF LENGTH		
THICKNESS	0.125"	(3MM)		
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH			
SIGN FACE MATERIALS	BLUE FILM* OVER DIAMOND GRADE - ASTM TYPE XI	BLUE FILM* OVER HIGH INTENSITY PRISMATIC - ASTM TYPE IV		
LEGENDS AND SYMBOLS	SERIES D, B OR C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH			
COLOR	WHITE LEGEND ON E	BLUE BACKGROUND		
LETTER TRACKING	17% (USUAL) 10% (MIN)			

10% (MIN)

TRACKING

CONTRACTOR TO REMOVE

POSTS IF PRESENT

HEADER CURB AND BARRICADE

112

113

114

115

4' SIDEWALK -

14' E.G.T.TV.E →

BI-DIRECTIONAL BLUE RAISED | REFLECTIVE PAVEMENT MARKER L

LOCATED ON ROAD CENTERLINE

PERPENDICULAR TO F.H. LOCATION

119

14' E.G.T.TV.E

PASSING -SPACE

OFF-LOT VARIABLE WIDTH

120

BLOCK 18

C.B. 5108

**AMENITY CENTER** 

OFF-LOT VARIABLE

WIDTH SANITARY

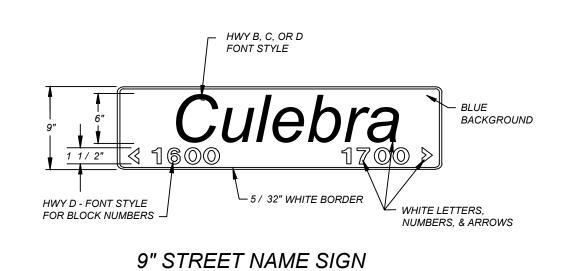
SEWER EASEMENT

REMAINDER OF 153.26 ACRES GRAYTOWN RD HOLDINGS, LLC.

(DOC. NO. 20210240677, O.P.R.)

- DRAINAGE & ACCESS EASEMENT

(VOL. 20003, PGS. 961-967 P.R.)



CONTRACTOR TO REMOVE

POSTS IF PRESENT

4' SIDEWALK

CHINA ROSE

PASTURE ROSE

18

19

HEADER CURB AND BARRICADE

22

14' E.G.T.TV.E

14' E.G.T.TV.E

4' SIDEWALK 🕂

C.B. 5108

MOSCHATA ROSE

(50' R.O.W.)

DRAIN "C"

SEE SHEET 4.2

BLOCK 18

17

BI-DIRECTIONAL BLUE RAISED

4' SIDEWALK -

127

C.B. 5108

128

LOT 903

BLOCK 18

C.B. 5108

129

REFLECTIVE PAVEMENT MARKER LOCATED ON ROAD CENTERLINE

PERPENDICULAR TO F.H. LOCATION

**14'** E.G.T.TV.E

126

VARIABLE WIDTH

└─ DRAINAGE & ACCESS ─ **EASEMENT** 

ROSE VALLEY, PHASE 3A

12 (PLAT NO. 22-11800448) 17

BLOCK 25 | C.B. 5108

BI-DIRECTIONAL BLUE RAISED

14' E.G.T.TV.E

REFLECTIVE PAVEMENT MARKER -

LOCATED ON ROAD CENTERLINE

CHINA ROSE

(50' R.O.W.)

CHICKSAW ROSE 4' SIDEWALK -

BLOCK 27

14

15

CHINA ROSE

 $\begin{vmatrix} 537.3 \\ R1-1 \end{vmatrix}$  STOP

12

CHICKSAW ROSE

MOSCHATA ROSE

4' SİDEWALK →

123

122

25' DRAINAGE

EASEMENT

124

PERPENDICULAR TO F.H. LOCATION

13

DWCR \_\_ <u>4' SIDEWALK ¬</u> 🖊

┼ 4' SIDEWALK

└─ 4' SIDEWALK

14' E.G.T.TV.E

ROSE VALLEY, PHASE 3A

58

14' E.G.T.TV.E

→ 4' SIDEWALK

5'X5'

- PASSING

SPACE

DRAIN "A"

\_\_\_ 14' E.G.T.TV.E

BI-DIRECTIONAL BLUE RAISED REFLECTIVE PAVEMENT MARKER

LOCATED ON ROAD CENTERLINE

PERPENDICULAR TO F.H. LOCATION

135

133

VARIABLE WIDTH

– DRAINAGE & ACCESS –

EASEMENT

5'X5' PASSING

SPACE

4' SIDEWALK

∕ 14' E.G.T.TV.E

PASSING SPACE

30' SANITARY

SEWER EASEMENT

SEE SHEET 4.0

----/

(PLAT NO. 22-11800448)

4' SIDEWALK -

18 14' E.G.T.TV.E

CONTRACTOR TO REMOVE

20 4' SIDEWALK 7,

4' SIDEWALK

DRAIN "B" \_

SEE SHEET 4.1

14' E.G.T.TV.E —

TRAILING ROSE

CHINA ROSE

MOSCHATA ROSE

TRAILING ROSE

131

C.B. 5108

BLOCK 18

132

4' SIDEWALK ₽

130

POSTS IF PRESENT

HEADER CURB AND BARRICADE

BLOCK 26

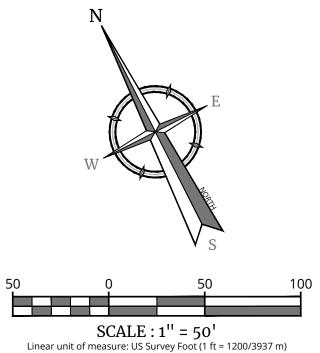
C.B. 5108

14' E.G.T.TV.E BLOCK 26 C.B. 5108 14' E.G.T.TV.E

CHINA ROSE

(50' R.O.W.)

**—** 14' Е.G.Т.ТV.Е



ROSE VALLEY, PHASE 1B

(PLAT NO. 22-11800056)

OFF-LOT VARIABLE WIDTH

SANITARY SEWER EASEMENT

LOT 901

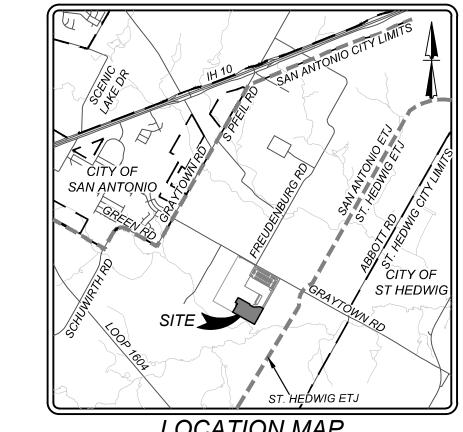
BLOCK 24

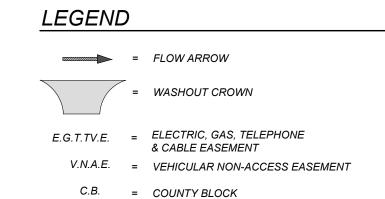
C.B. 5108

LOT 903

BLOCK 18

C.B. 5108





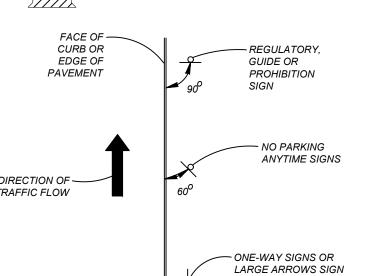
SEE SHEET 5.4 = WHEELCHAIR RAMP TYPE I SEE SHEET 5.4

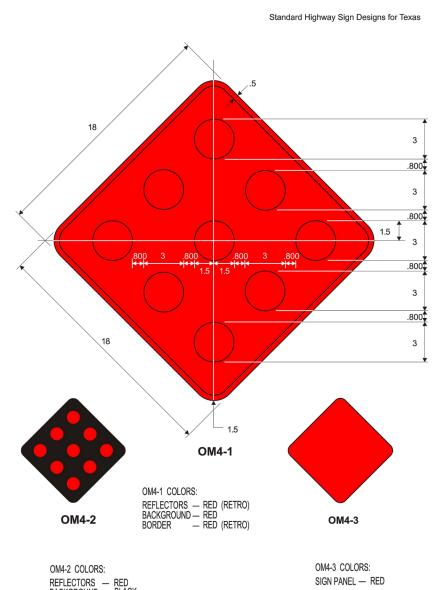
SEE SHEET 5.4 S.D.W.C.R. = SINGLE DIRECTIONAL WHEEL CHAIR RAMP

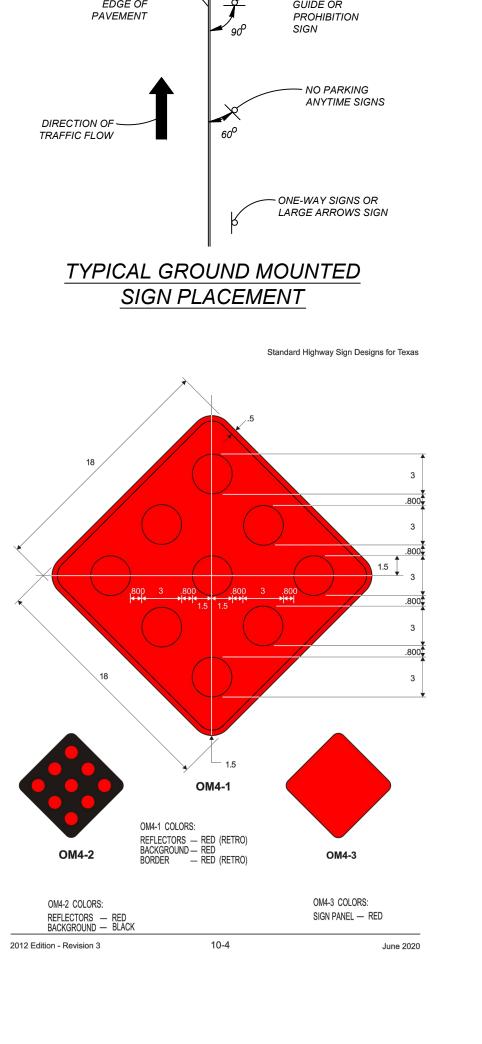
D.D.W.C.R. = DOUBLE DIRECTIONAL WHEEL CHAIR RAMP SEE SHEET 5.4

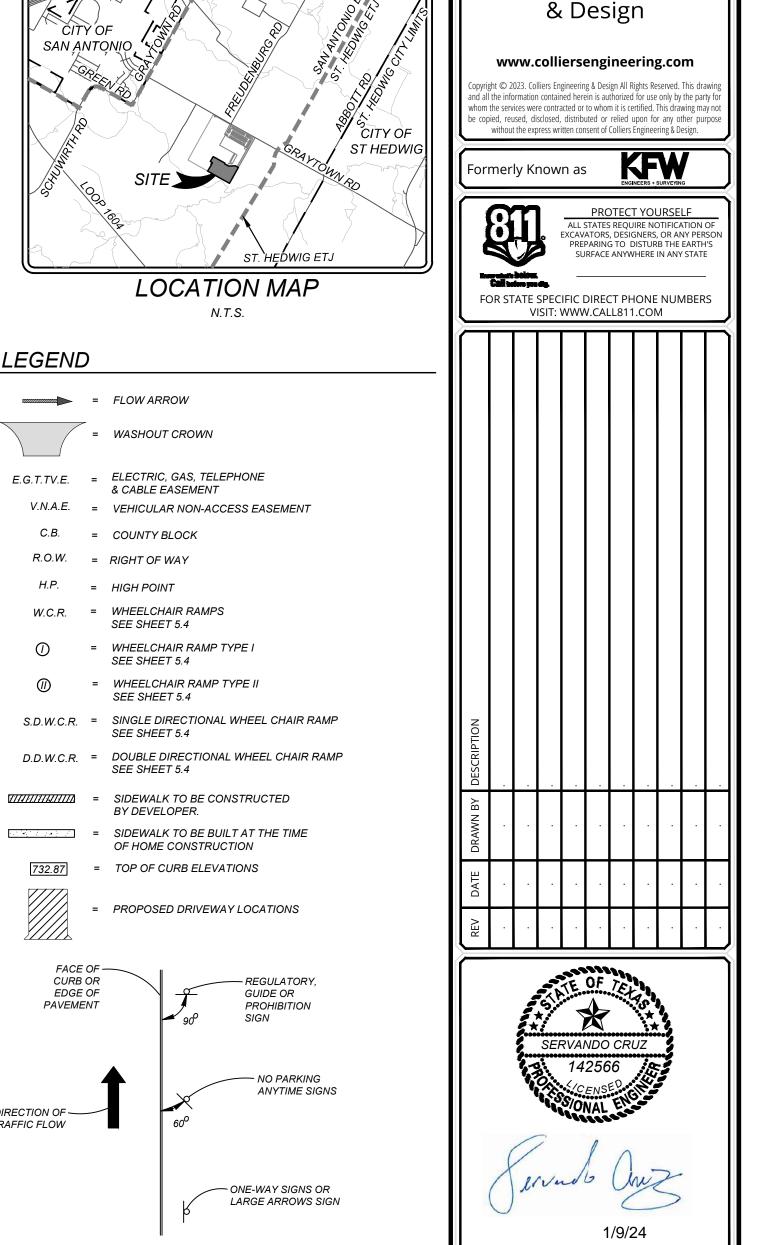
BY DEVELOPER. = SIDEWALK TO BE BUILT AT THE TIME OF HOME CONSTRUCTION

PROPOSED DRIVEWAY LOCATIONS









**Colliers** 

Engineering

**PRELIMINARY** 

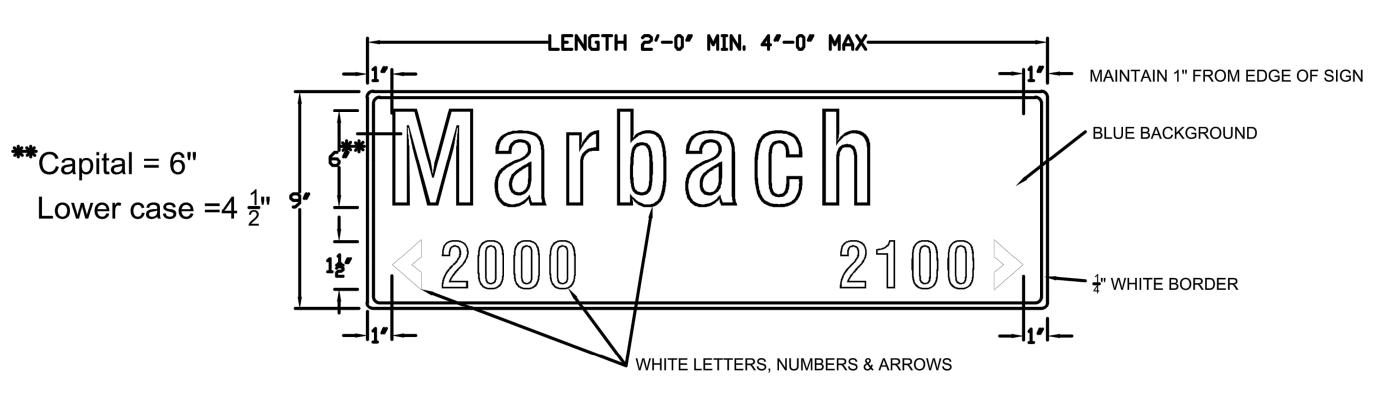
FOR **ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO **BEXAR COUNTY TEXAS**

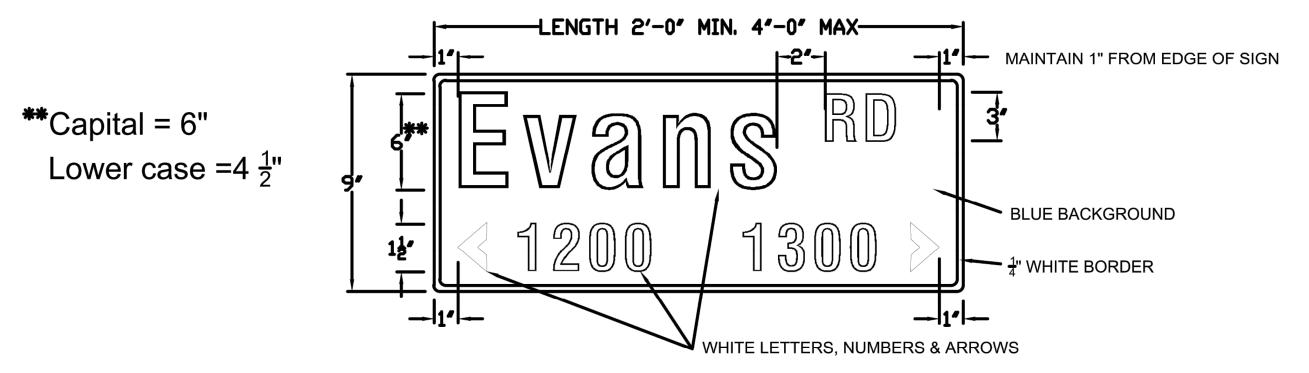
	SAN ANTONIO (KFW)
olliers	3421 Paesanos Parkway
	San Antonio, TX 78231
gineering	Phone: 210.979.8444
Design	COLLIERS ENGINEERING & DESIGN, INC TBPE Firm#: F-14909 TBPLS Firm#: 10194550

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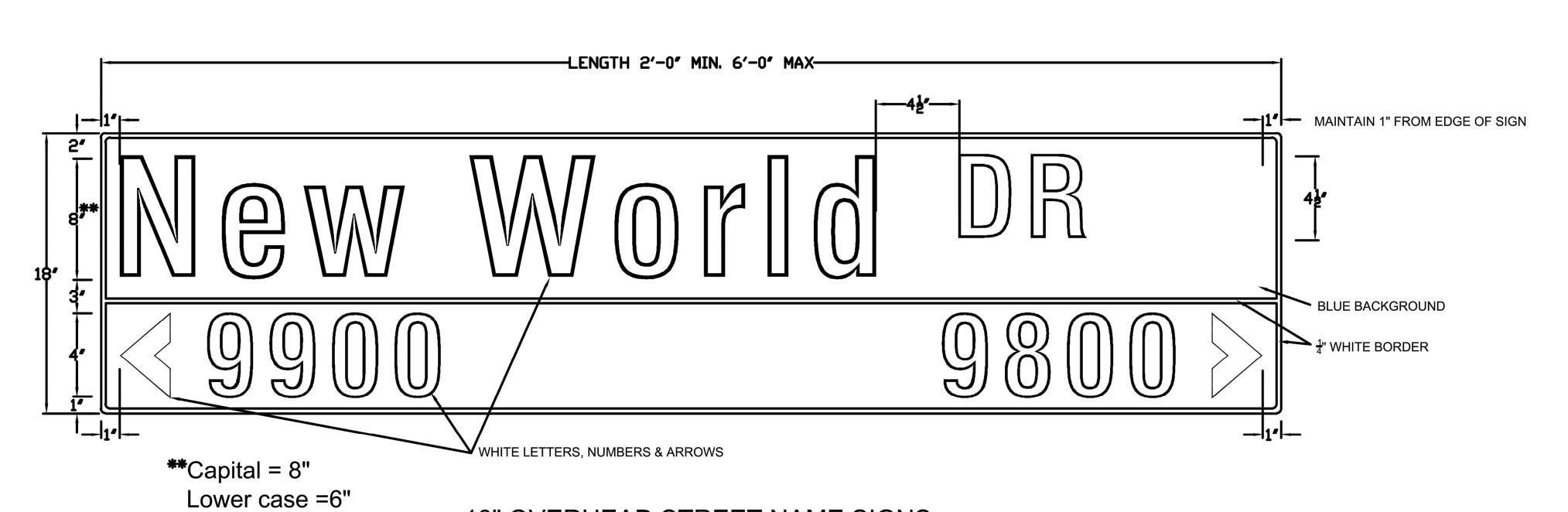
TRAFFIC SIGNAGE & SIDEWALK PLAN



## 9" GROUND MOUNT STREET NAME SIGNS



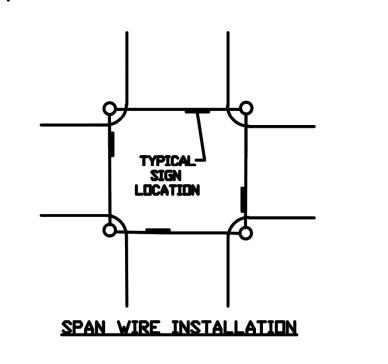
## 9" GROUND MOUNT STREET NAME SIGNS WITH STREET DESIGNATION

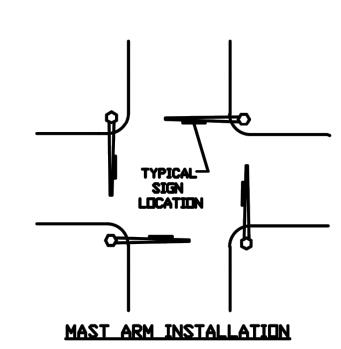


18" OVERHEAD STREET NAME SIGNS

	18" OVERHEAD SIGN	9" GROUND MOUNT SIGNS	
HEIGHT	18" (381 mm)	9" (228 mm)	
48" (1200 mm) MIN. LENGTH 72" (1800 mm) MAX.  1' (300mm) INCREMENTS OF LENGT		24" (600 mm) MIN. 48" (1200 mm) MAX. 6" (150mm) INCREMENTS OF LENGTH	
THICKNESS	0.125" (3 mm)		
SUBSTRATE	ALUMINUM ALLOY, 5052-H38 (ASTM B-209 GOLD CHROMATE FINISH		
SIGN FACE MATERIALS	BLUE FILM ** OVER DIAMOND GRADE - ASTM Type XI Non-Fluorescent	BLUE FILM ** OVER HIGH INTENSITY PRISMATIC- ASTM Type IV	
LEGENDS AND SYMBOLS	SERIES D, B OR C IF NAME OTHERWISE EXCEEDS MAXIMUM SIGN LENGTH		
COLOR	WHITE LEGEND ON BLUE BACKGROUND		
LETTER TRACKING	17% (USUAL) 10% (MIN.)		

#### \* ACRYLIC ELECTRONIC CUTTABLE FILM

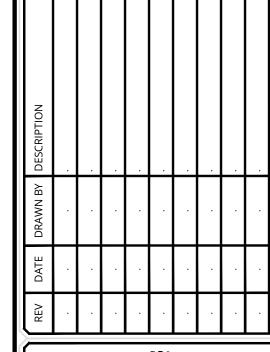




#### SIGN FACE MATERIALS SHALL CONFORM TO:

- 1. STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS & BRIDGES ON FEDERAL HIGHWAY PROJECTS - FP-03 U.S. **CUSTOMARY UNITS SECTION 718**
- 2. GENERAL SERVICES ADMINISTRATION FEDERAL SPECIFICATIONS L-S-300C
- 3. ASTM D 4956 09**8**1





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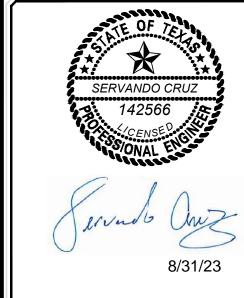
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**PRELIMINARY** 

**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO BEXAR COUNTY **TEXAS**

DESIGN SY:	DRAWN BY:
CHECKED BY:	DATE
FILE	NO.:
SHEET	_1_

Details

Sign

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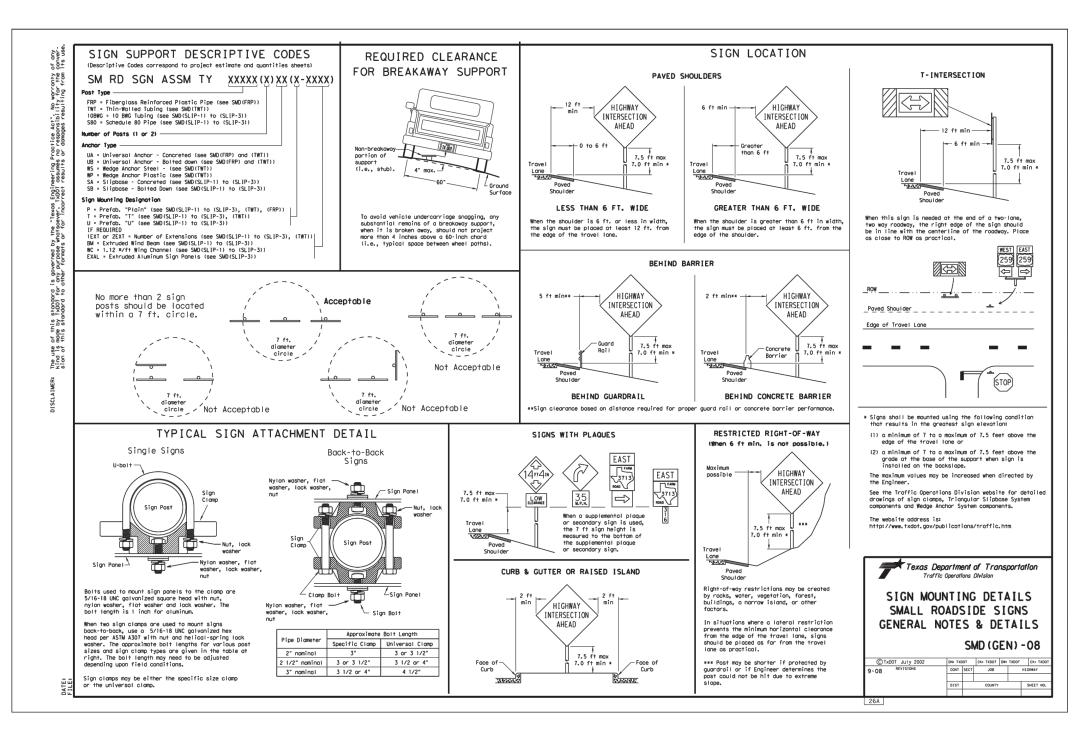
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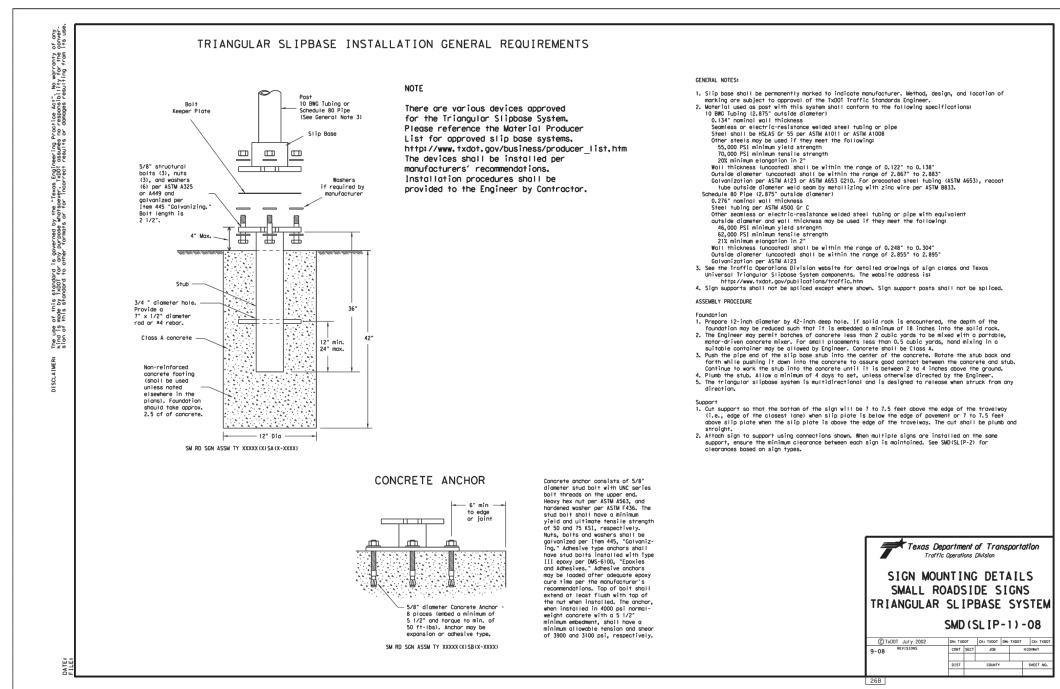
SAN ANTONIO (KFW) 3421 Paesanos

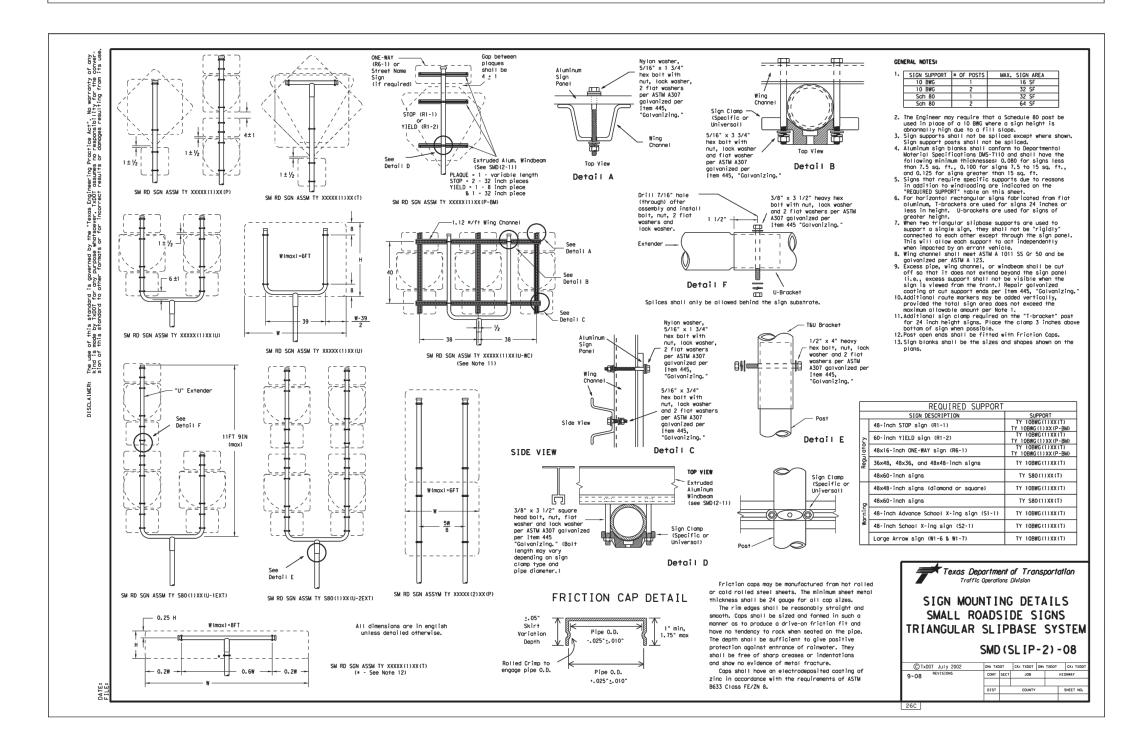
San Antonio, TX 78231

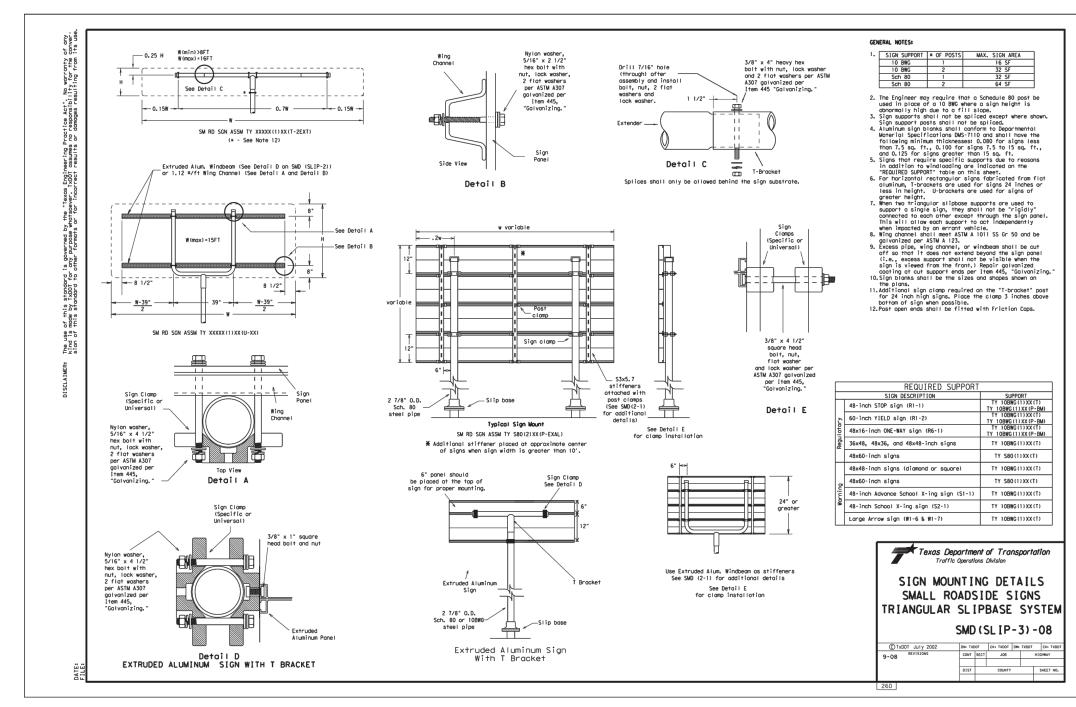
Phone: 210.979.8444

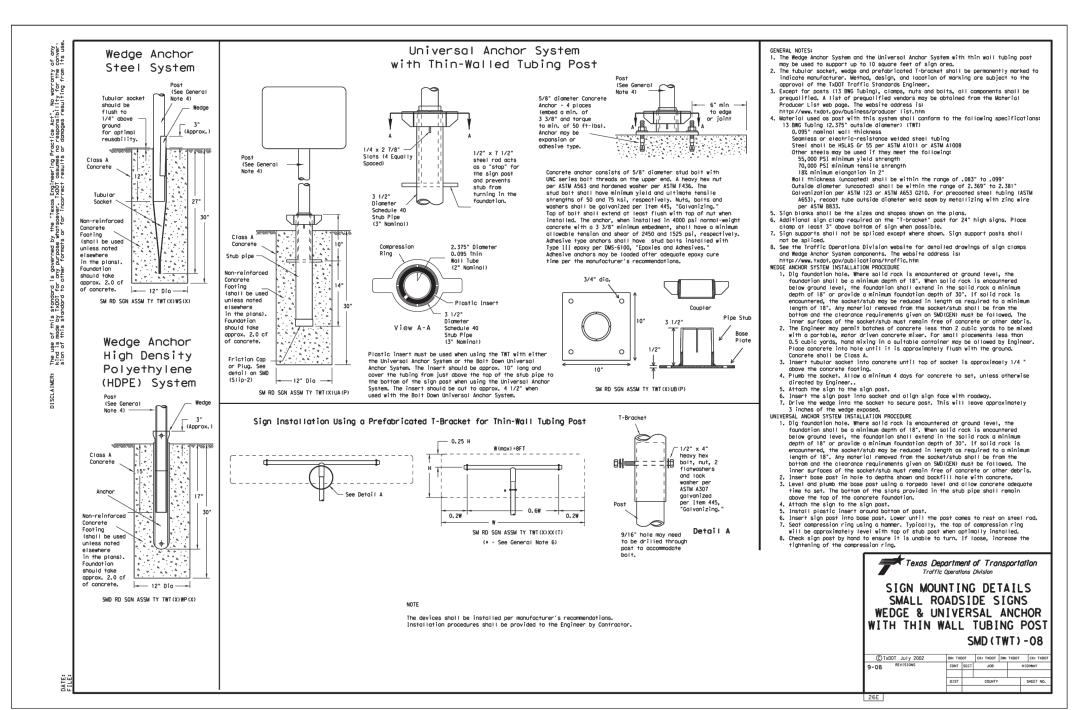
TRAFFIC SIGNAGE **NOTES & DETAIL SHEET** 

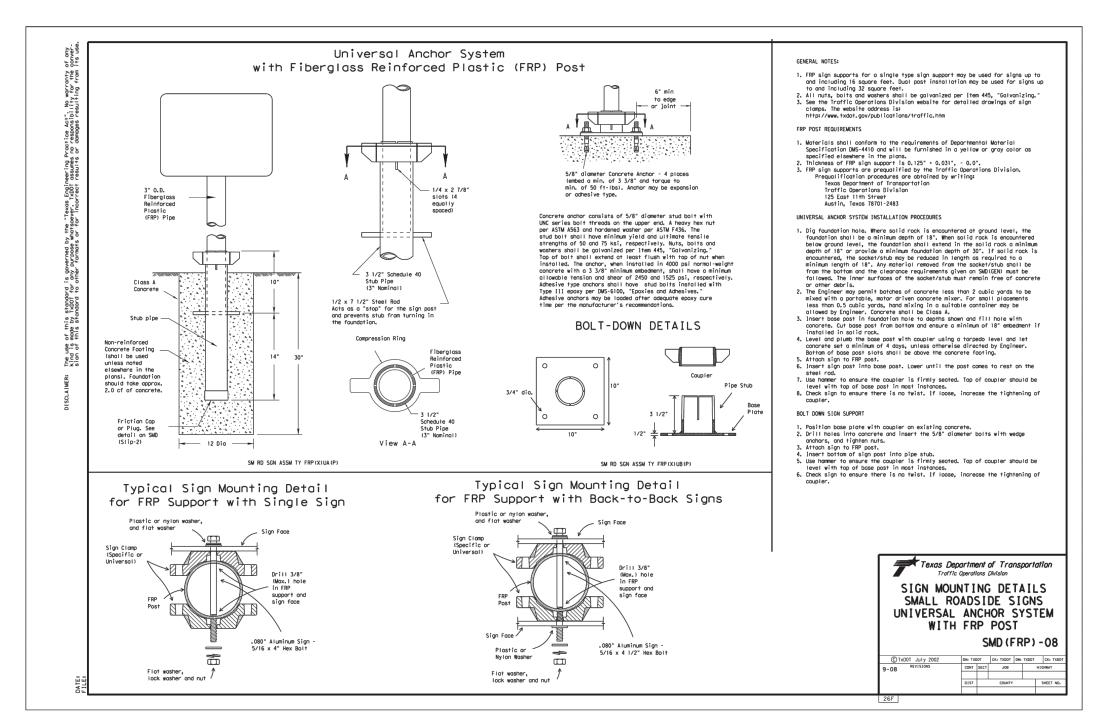


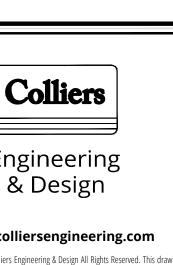












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PROTECT YOURSELF  ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSO PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE										
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		F	PRE	ELI	MI	NA	RY	7		
FOR ROSE VALLEY PHASE 3B										

FOR VALLEY ASE 3B PLAT# 22-11800751

> SAN ANTONIO **BEXAR COUNTY TEXAS**

	SAN ANTONIO (KFW)
Colliers	3421 Paesanos Parkway
	San Antonio, TX 78231
Engineering	Phone: 210.979.8444
& Design	COLLIERS ENGINEERING & DESIGN, INC TBPE Firm#: F-14909 TBPLS Firm#: 10194550

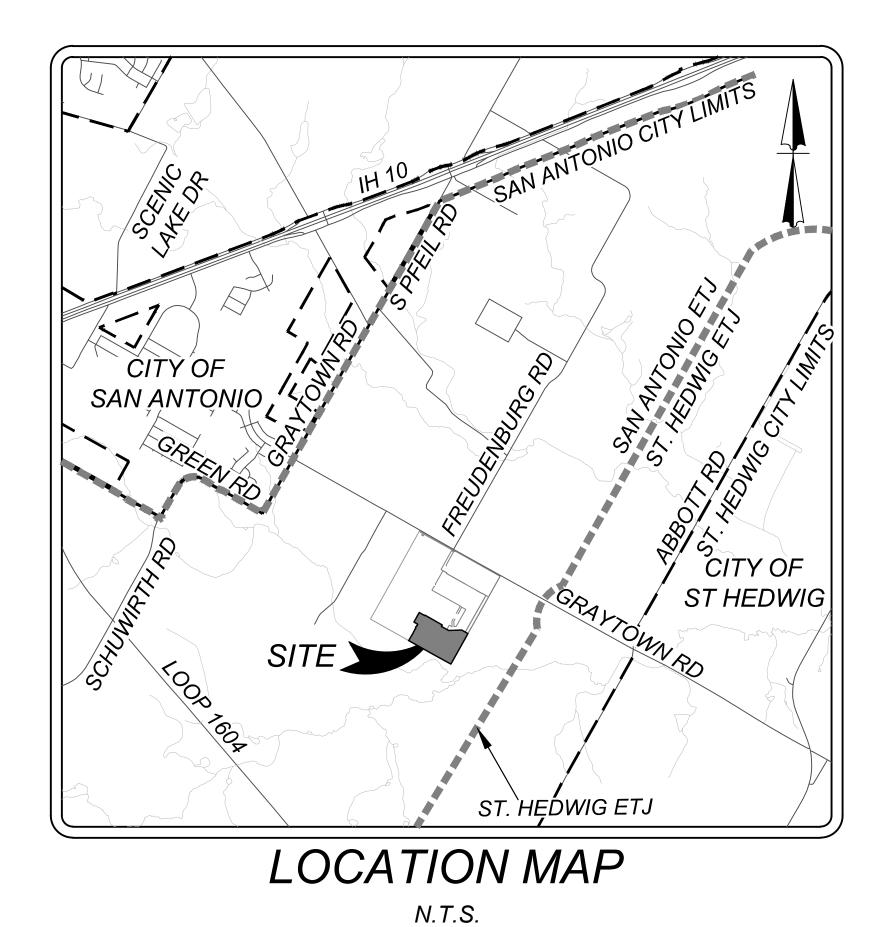
CHECKED BY: AS SHOWN 5/23/2023 SDT\_3145105 314-51-05

TRAFFIC SIGNAGE NOTES & **DETAIL SHEET** 

5.9

## ROSE VALLEY PHASE 3B

## BEXAR COUNTY, TEXAS SEWER IMPROVEMENTS



## INDEX

DESCRIPTION	SHEET NUMBER
SEWER COVER SHEET	6.0
SANITARY SEWER NOTES	6.
OVERALL SANITARY SEWER PLAN	6.2
OVERALL SANITARY SEWER PLAN	6.
SEWER LINE F & EX. LINE E PLAN & PROFILE	6.4
SEWER EX. LINE A & EX. LINE D PLAN & PROFILE	6.5
SEWER EX. LINE B PLAN & PROFILE	6.0
SANITARY SEWER DETAILS	6.

Engineering & Design copied, reused, disclosed, distributed or relied upon for any other pu **PRELIMINARY ROSE VALLEY** PHASE 3B PLAT# 22-11800751 SAN ANTONIO BEXAR COUNTY **TEXAS** SAN ANTONIO (KFW) San Antonio, TX 78231 Phone: 210.979.8444

OWNER/DEVELOPER: LENNAR HOMES 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 PHONE: (210) 403-6200

SEWER COVER SHEET

#### GENERAL NOTES: SAN ANTONIO RIVER AUTHORITY (RIVER AUTHORITY) STANDARD SPECIFICATIONS AND STANDARD DETAILS ARE PROVIDED FO DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS

DIRECTION FROM THE RIVER AUTHORITY.

- MANAGED AND CONTRACTED BY THE RIVER AUTHORITY. 2 AT ANY TIME THESE STANDARD SPECIFICATIONS AND DETAILS MAY BE ALTERED OR SUPERSEDED BY THE GENERAL CONDITIONS, SUPPLEMENTAL CONDITIONS, PLANS OR PROJEC SPECIFICATIONS WITHIN THE CONTRACT DOCUMENT PER
- 3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY RIVER AUTHORITY AND COMPLY WITH THE CONTRACT DOCUMENTS AND THE FOLLOWING AS APPLICABLE:
- 3.1. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCFQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30, PART 1. CHAPTER 217.
- 3.2. CURRENT TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT). "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
- 3.3. CURRENT RIVER AUTHORITY "STANDARD SPECIFICATIONS FOR 10 SANITARY SEWER CONSTRUCTION".
- 3.4. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL".
- 4. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE RIVER AUTHORITY INSPECTIONS DIVISION AT (210) 302-4200 FORTY EIGHT (48) HOURS PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL ALSO PROVIDE PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE ANY EXCAVATION OR START OF PROJECT.
- 5 WORK SHALL NOT BE PERFORMED ON SATURDAYS SUNDAYS FEDERAL HOLIDAYS, RIVER AUTHORITY HOLIDAYS, BEFORE 7: AM. OR AFTER 4:30 PM. UNLESS PRIOR APPROVAL IS GRANTED BY THE RIVER AUTHORITY ENGINEER. REQUEST TO PERFORM WORK DURING THESE TIMES MUST BE EMAILED 48 HOURS IN ADVANCE TO UTILITIESDEVELOPMENT@SARIVERAUTHORITY.ORG
- FOR IN THE PLANS BUT NOT INCLUDED IN THE BID SCHEDULE THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM WHICH IT RELATES TO. 7. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED

6. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED

A WORK ORDER OR THE CONSENT OF RIVER AUTHORITY WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE 8. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE, ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD

VERIFIED BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO

CONSTRUCTION REGARDLESS OF ILLUSTRATION ON THE PLANS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE

UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND

53. UPON REQUEST FROM THE SAN ANTONIO RIVER AUTHORITY

SANITARY SEWER PIPING:

UNDER THIS CONTRACT.

OF COVER.

DIRECTION.

SEWER LINE LOCATION:

FIVE (5) FEET FROM ANY TREE.

EIGHT (8) INCH IN DIAMETER.

SEWER SERVICE LATERALS

CONTRACTOR SHALL PROVIDE SAMPLE VERIFYING PROPER

54. THE TYPE AND DESCRIPTION OF THE PIPE CONDUIT IS SHOWN

55. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED

56. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE

FOR MATERIALS, STIFFNESS, AND TYPE.

ON THE PLANS. REFER TO RIVER AUTHORITY SPECIFICATIONS

CORROSION PROTECTED ON BOTH THE INTERIOR AND EXTERIOR

SURFACES. ALL CORROSION PROTECTION SHALL BE APPLIED

AND INSTALLED IN SUCH A MANNER AS TO MAINTAIN A

CONTINUOUSLY PROTECTED SURFACE AFTER FINAL PIPE

57. SEE SPECIFICATIONS FOR PVC SEWER PIPE WITH OVER 14 FEET

58. ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL

59. SAND MIGRATION PREVENTION COLLAR WHEN CHANGING THE

INITIAL BACKFILL FROM SELECT INITIAL BACKFILL TO OPTIONAL

CONCRETE ENCASEMENT OR FIRMLY COMPACTED, CONSOLIDATED

CLAY ENCASEMENT BETWEEN THE TWO SHALL BE PROVIDED FOR

THE ENTIRE HEIGHT OF THE INITIAL BACKELL, EVERY 180 FEFT

ALONG PIPE AND 20 FEET FROM WALL OF MANHOLE IN EACH

60. SEWER LINES SHALL BE SIZED AND EXTENDED THROUGH THE

WITH MANHOLE AND STUB-OUT AT END OF SEWER LINE.

61. IN PHASED CONSTRUCTION OF THOROUGHFARES, THE SEWER

LIMITS OF A DEVELOPMENT TO SERVE ADJACENT PROPERTY,

LINE SHALL BE EXTENDED THE ENTIRE LENGTH OF PROPOSED

CONSIDERATION SHALL BE GIVEN AS TO POSSIBLE EXTENSIONS

FOR FUTURE DEVELOPMENT, NO SANITARY SEWERS, OTHER

THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN

64. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING

65. REFER TO THE RIVER AUTHORITY APPROVED PRODUCTS LIST

66. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 PVC

WITH RATING OF 115 PSI OR 160 PSI, DETERMINED BY RIVER

FOR ACCEPTABLE FITTINGS AND CONNECTIONS.

PROVIDED, THE CONNECTION MUST BE CONDUCTED PER THE

RIVER AUTHORITY STANDARD DETAILS AND APPROVED PRODUCT

SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER

62. ALL SANITARY SEWER LINES SHALL BE LOCATED A MINIMUM OF

63. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS

REQUIRED BY THE RIVER AUTHORITY ENGINEER AND

SELECT INITIAL BACKFILL. A TWO (2) FOOT LONG CLASS B

INSTALLATION OF FLOWABLE BACKFILL, INCLUDING, BUT NOT

- TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO RIVER AUTHORITY. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES AND REPAIRS WILL BE AT CONTRACTOR'S EXPENSE.
- THE FOLLOWING CONTACT INFORMATION IS SUPPLIED FOR VERIFICATION PURPOSES:
- EAST CENTRAL SPECIAL UTILITY DISTRICT 210-649-2383 210-207-5048 CITY OF SAN ANTONIO DRAINAGE CITY PUBLIC SERVICE (CPS) 210-973-3500 CITY OF CONVERSE (PUBLIC WORKS) 210-659-9513 TIME WARNER 210-352-4872 VALERO ENERGY CO 210 - 349 - 7555RIVER AUTHORITY INSPECTIONS 210-302-4200 800-344-8377 TEXAS 811 SAN ANTONIO WATER SYSTEM (SAWS) 210-233-3500
- . CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES, AND CONTRACTOR IS REQUIRED TO PROTECT THESE UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT HIS WORKERS, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE PROJECT. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES AND REPAIRS WILL BE AT CONTRACTORS EXPENSE.
- O. WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE LESS THAN 9 FEET (I.E. WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES OR WATER LINES NEXT TO MANHOLES) TH INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC 217
- . DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROJECT AREAS.
- 2. AN APPROPRIATELY SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL OVERHEAD EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CPS AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF CPS OVERHEAD LINES. CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
- 3. ALL WORK IN THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) RIGHT-OF-WAY SHALL PROCEED DURING WORKING HOURS AGREED UPON BY RIVER AUTHORITY AND TXDOT INSPECTORS.
- 14. BEFORE THE START OF ANY CONSTRUCTION. THE PROJECT SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO RIVER AUTHORITY. THE PRE-CON SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF EXISTING 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING

EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS,

LANDSCAPING AND STRUCTURES TO ORIGINAL OR BETTER

CONDITION AS A RESULT OF DAMAGE DONE DURING THE

5. ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOT IDENTIFIED ON THE PLANS. MUST BE MAINTAINED AT ALL TIMES. ANY AND ALL DAMAGES DIRECTLY ATTRIBUTED TO THE CONTRACTOR MUST BE REPLACED TO EQUAL OR

#### BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY THE RIVER AUTHORITY INSPECTOR. GAPS IN THE FENCING MUST BE PROVIDED AT ALL LOCATIONS WHERE THE SEWER LINE EASEMENT CROSSES FENCING. FENCING REQUIRED TO MAINTAIN LIVESTOCK MUST BE MAINTAINED AT ALL TIMES.

- 17. CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS. ANY CLAIMS DIRECTLY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM HIS STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF RIVER AUTHORITY AND THE APPROPRIATE LANDOWNER.
- 18. CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AND BUSINESSES AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR MUST REPLACE THE ACCESS TO FOUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE AND AS APPROVED BY RIVER
- 19. CONTRACTOR MUST COMPLY WITH TEXAS GOVERNMENT CODE SECTION 2166.303 UNIFORM TRENCH SAFETY CONDITIONS.
- 20. CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AT THE END OF THE DAY. CONTRACTOR SHALL NOT INSTALL MORE PIPE THAN CAN BE COVERED. NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT. ALL ENDS OF OPEN PIPE SHALL BE PLUGGED OVERNIGHT.
- 21. NO TREES SHALL BE REMOVED AS PART OF THIS PROJECT UNLESS OTHERWISE SPECIFIED IN THE PLANS.
- 22. FOR PORTIONS OF THE CONSTRUCTION THAT ARE WITHIN THE LIMITS OF THE 100-YEAR FLOODPLAIN, THE CONTRACTOR IS REQUIRED TO KEEP THE CHANNEL CLEAR OF POTENTIAL OBSTRUCTIONS TO FLOOD FLOWS. POTENTIAL OBSTRUCTIONS INCLUDE HEAVY CONSTRUCTION EQUIPMENT, TEMPORARY ROADS ACROSS CHANNEL, EXCAVATED MATERIAL, STOCKPILED DEBRIS. AND ALL OTHER ITEMS DEEMED UNACCEPTABLE BY RIVER AUTHORITY, UNDER THREATENING WEATHER CONDITIONS AND WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO RIVER AUTHORITY. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK. NO EQUIPMENT OR MATERIALS SHALL BE STOCKPILED IN THE 100-YEAR FLOODPLAIN.
- 23. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING DRAINAGE LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS, NATURAL DRAINAGE, OR PLACED WITHIN THE LIMITS OF EXISTING
- 24. IF A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES AND/OR CULTURAL/ARCHAEOLOGICAL RESOURCES ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE APPROPRIATE PERSONNEL.

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#### REFERENCE ONLY IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR THE TOPS OF MANHOLES AND INVERTS TO MATCH THE FINISHED GRADE OF THE PROJECT IMPROVEMENTS (NSPI). 28. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. THE CONTRACTOR SHALL PROVIDE A SEQUENCE OF BYPASS PUMPING FOR REVIEW AND APPROVAL BY RIVER AUTHORITY. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED SKETCH SHOWING THE LOCATION OF BYPASS PUMPING SPECIFICATIONS FOR THE PUMPING EQUIPMENT: AND TYPE, SIZE, CAPACITY AND NUMBER OF PUMPS REQUIRED TO HANDLE THE PEAK WET WEATHER FLOW.

SEWER NOTES:

29. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR MILL CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND FIX ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION AT CONTRACTOR'S EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT DAMAGE TO EXISTING OR NEW RINGS, COVERS, OR CONES FROM EQUIPMENT AND MATERIALS USED OR TAKEN THROUGH THE WORK AREA. IF AN EXISTING OR NEW MANHOLE COVER, RING, OR CONE IS DAMAGED BY THE CONTRACTOR. IT SHALL BE REPLACED AS DIRECTED BY THE RIVER AUTHORITY INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH RIVER AUTHORITY APPROVED SEALANT. IF SEAL COATING IS COMPROMISED, CONTRACTOR WILL HAVE MANHOLE RECOATED. CONTRACTOR SHALL RESEAL ALL LEAKS AT CONTRACTOR EXPENSE.

25. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO

SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

FLIMINATE ANY ADDITIONAL SPILLAGE.

25.1. IDENTIFY THE SOURCE OF THE SSO AND ATTEMPT TO

25.2. NOTIFY RIVER AUTHORITY CONSTRUCTION INSPECTIONS

DIVISION AT 210-302-4216 OR 210-219-0130.

25.5. CLEAN UP THE SPILL SITE AND REMOVE CONTAMINATED

25.6. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH

25.7. CLEAN THE AFFECTED SEWER LINE AND REMOVE ANY DEBRIS.

25.8. IDENTIFY AND TRAIN PERSONNEL RESPONSIBLE FOR SPILLAGE

25.9. NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE

GUIDELINES SET BY THE TCEQ AND RIVER AUTHORITY.

26. TIE-INS OR SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE

27. ELEVATIONS OF THE TOP OF MANHOLES AND INVERTS ARE FOR

AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN.

MUST BE COORDINATED WITH THE RIVER AUTHORITY INSPECTOR

FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO

CONTRACTOR SHALL PROVIDE A SEQUENCE OF WORK AS RELATED

O TIE-INS AT NO ADDITIONAL COST TO RIVER AUTHORITY OR

25.3. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.

25.4. CONTAIN SEWAGE FROM THE SSO TO PREVENT

CONTAMINATION OF WATERWAYS

MATERIALS

CHLORINE AND WATER.

PREVENTION AND CONTROL

SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF

HE WORK, ALL PERSONNEL RESPONSIBLE FOR SSO PREVENTION

AND CONTROL SHALL BE TRAINED ON THE PROPER RESPONSE.

30. CONTRACTOR TO ENSURE ALL PLUGS USED TO PLUG SEWER LINES WHILE TESTING THE PROJECT (SUCH AS AIR PLUGS, SCREW TYPE PLUGS, ETC.) ARE LABELED, MARKED OR TAGGED. THE CONTRACTOR SHALL RECORD HOW MANY PLUGS ARE BEING USED, AS WELL AS THE LOCATION AND IDENTIFICATION OF EACH PLUG. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS.

- 31. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGE TO SEWER COLLECTION SYSTEM, STOPPAGES, OVER-FLOWS, OR BACKUPS INTO HOMES CAUSED BY LOST OR RUNAWAY SEWER PLUGS.
- 32. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO WASTEWATER TREATMENT EQUIPMENT CAUSED BY LOST OR RUNAWAY SEWER PLUGS. CONTRACTOR WILL BE HELD LIABLE FOR REPAIRS.
- 33. RIVER AUTHORITY IS NOT RESPONSIBLE FOR ANY ABNORMALITIES ON STUB OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE-IN OR SERVICE LATERAL
- 34. THERE SHALL BE 400 FEET MAXIMUM SPACE BETWEEN MANHOLES TO PROVIDE ACCESS FOR CLEANING. A 16-FOOT WIDE GATE WITH A LOCK SHALL ALSO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR FOR ACCESSING THE SANITARY SEWER LINE IN

MANHOLE NOTES:

- 35. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST FOUR (4) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND IN UNPAVED AREAS. IN PAVED AREAS, THE MANHOLE RING SHALL BE FLUSH WITH THE PAVFMFNT
- 36. EVERY THIRD MANHOLE COVER WILL HAVE A 1"HOLE FOR A VENT. VENTING SHALL COMPLY WITH TAC 217.55.
- 38. ALL MANHOLES SHALL HAVE A 30"OPENING, WATERTIGHT RINGS

37. EACH MANHOLE SHALL HAVE TWO LOCKS INSTALLED TO PREVENT

- AND COVERS, WITH THE RIVER AUTHORITY LOGO AND I/I 39. NEW MANHOLE PROTECTIVE COATING LINER MUST BE APPLIED TO
- ALL MANHOLES, APPLICATION PROCEDURES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND PER THE FOLLOWING SPECIFICATIONS:
- 39.1. CONTRACTOR WILL BE RESPONSIBLE FOR MANHOLE SAFETY AND CONFINED SPACE ENTRY SET BY OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 29 CFR 1910.146 APP. E 39.2. THE CONTRACTOR SHALL NOTIFY THE RIVER AUTHORITY UTILITIES INSPECTIONS DEPARTMENT A MINIMUM OF 48 HOURS
- IN ADVANCE OF THE START OF ANY FIELD SURFACE PREPARATION WORK. 39.3. ALL NEW MANHOLES AND THE EXISTING MANHOLE THAT THE PROPOSED SEWER LINE WILL TIE-IN TO SHALL HAVE THE INTERIOR WALL PREPPED AS PER MANUFACTURER'S RECOMMENDATIONS AND COATED WITH A RIVER AUTHORITY
- APPROVED PRODUCT 39.4. FOR ALL MANHOLES, APPLY THE CEMENTITIOUS COATING FIRST, FOLLOWED BY THE EPOXY COATING. LAFARGE SEWPERCOAT 200 HR PRODUCT IS THE ONLY APPROVED PRODUCT WHICH COMBINES THE CEMENTITIOUS AND EPOXY COATINGS, UNLESS OTHERWISE LISTED IN THE APPROVED PRODUCT LIST
- APPLICATION: SEE RIVER AUTHORITY APPROVED PRODUCT 39.6. EPOXY COATING: WITH SPECIFIED THICKNESS APPLICATION: SEE RIVER AUTHORITY APPROVED PRODUCT SHEET

39.5. CEMENTITIOUS COATING WITH REQUIRED ONE-INCH-THICK

- 39.7. SPRAY WALL POLYURETHANE SYSTEM REQUIRED THICKNESS
- 39.8. CONTRACTOR SHALL SUBMIT WARRANTY LETTER ON MANHOLE PROTECTIVE COATING FOR 10 YEARS AFTER FINAL ACCEPTANCE OF PROTECTIVE COATINGS. 40. ANY CONNECTIONS TO EXISTING MANHOLES WILL REQUIRE A

CRADLE TO SUPPORT THE INCOMING PIPE. A RUBBER GASKET

GROUTING AT INTERIOR AND EXTERIOR PENETRATIONS

WILL ALSO BE REQUIRED (CENTERED AT MANHOLE WALL) WITH

CONTRACTOR'S EXPENSE. IF EXISTING SEWER MANHOLE SEAL COATING IS COMPROMISED, ALL OF THE MANHOLE WILL BE 42. IF ANY EXISTING MANHOLES CONNECTED WITH THIS PROJECT ARE

41. PENETRATION INTO THE MANHOLE WILL BE CORE DRILLED. ANY

DAMAGE TO EXISTING MANHOLE WILL BE REPAIRED AT

- FOUND TO HAVE INFILTRATION, THE MANHOLES SHALL BE SEALED
- 43. MANHOLES WITH STUB-OUTS 8-INCH OR LARGER MUST BE LOCATED AT THE END OF ALL SEWER LINES THAT MAY BE EXTENDED IN THE FUTURE. STUB-OUTS SHALL BE PLUGGED.

AND TESTED AT CONTRACTORS EXPENSE.

- 44. MANHOLE COVER INSERTS ARE SHOWN IN RIVER AUTHORITY APPROVED PRODUCT SHEET. INSERTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING THE NECESSARY FIELD MEASUREMENTS FOR THE MANUFACTURER PRIOR TO PRODUCTION
- 45. BEFORE BACK FILLING/COMPACTION/CONCRETE ENCASEMENT. AL MANHOLE JOINT SECTION RISERS, CONE SECTIONS AND GRADE RING SHALL BE WRAPPED WITH INFI-SHIELD GATOR WRAP SEALING SYSTEMS. BUTYL ADHESIVE SEALANT WITH A MINIMUM THICKNESS OF 30 MILS. JOINT SEALANT MUST MEET ASTM C923 MASTIC MUST MEETS ASTM C 990 OR BE APPROVED BY THE RIVER AUTHORITY ENGINEER
- 46. IF CONCRETE THROAT RINGS ARE TO BE INSTALLED THEY MUST BE USED IN CONJUNCTION WITH A UV STABILIZED POLYETHYLENE LINER AND I/I BARRIER. I/I BARRIER MUST MEET THE FOLLOWING ASTM STANDARDS: ASTM D-790/1505 DENSITY POLYETHYLENE MATERIALS, ASTM D-1238 MELT FLOW INDEX. ASTM 638 TENSILE STRENGTH@ YIELD (50 mm/mm), ASTM 790 FLEXURAL MODULUS, ASTM 648 HEAT DEFLECTION TEMPERATURE @IGEPAL, ASTM 1693 EsCR.100% IGEPAL /10% IGEPAL.
- 47. A MINIMUM OF TWO AND A MAXIMUM OF FOUR THROAT RINGS WILL BE USED AT EACH MANHOLE FOR ADJUSTMENT.
- 48. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN 24 INCHES ABOVE THE OUTFLOW FLEVATION DROP SHALL BE LOCATED OUTSIDE THE MANHOLE WITH THE FLOWLINE ELEVATION LOCATED BETWEEN THE CENTER LINE AND TOP OF SEWER LINE.
- 49. THERE SHALL BE CONCRETE ENCASEMENT 18 INCHES AROUND MANHOLE RING, AND 28 INCHES AROUND THE GATOR WRAP SEALING SYSTEM. CONCRETE ENCASEMENT SHALL BE CIRCULAR, FORMED LEVEL, AND HAVE A SMOOTH OR BROOM FINISH. SEE SPECIFICATIONS.
- 50. SEWER PIPE CONNECTIONS TO PRECAST MANHOLES SHALL BE APPROVED BY RIVER AUTHORITY. REFER TO APPROVED PRODUCT LIST. SEWER PIPE CONNECTIONS TO MONOLITHIC MANHOLES WILL BE AS SHOWN ON THE STANDARD DETAIL SHEET. ANY CHANGES IN THESE METHODS MUST BE APPROVED BY RIVER AUTHORITY
- 51. ALL PIPE TRENCHING, BEDDING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE ASTM/ANSI SPECIFICATIONS [REFERENCE 30 TAC 217.54; ASTM C-12 (ANSI A106.2) OR ASTM D-2321 (ANSI K65.171)]. ALL COMPACTION SHALL BE TO 98% DENSITY. THERE SHALL BE ONE RANDOM DENSITY TEST PER LIFT FOR EVERY 400 FEET. ALL TESTING SHALL BE IN COMPLIANCE WITH CURRENT TXDOT SPECIFICATIONS.
- 52. A SAND MIGRATION PREVENTION COLLAR SHALL BE INSTALLED WHEN TRANSITIONING FROM SELECT INITIAL BACKFILL OPTIONAL SELECT INITIAL BACKFILL. A 2-FOOT LONG CLASS B CONCRETE ENCASEMENT BETWEEN THE TWO SHALL BE PROVIDED FOR THE ENTIRE HEIGHT OF THE INITIAL BACKFILL EVERY 180 FEET ALONG PIPE AND 20 FEET FROM WALL OF MANHOLE IN

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**ROSE VALLEY** PHASE 3B

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- AFTER BEING INSTALLED (PLUG BOTH ENDS AND FILL TO TOP OF INTERCEPTOR). INTERCEPTOR SHALL SHOW NO LEAKAGE FROM SECTION SEAMS, PINHOLES, OR OTHER IMPERFECTIONS ANY LEAKAGE IS CAUSE FOR REJECTION. WHEN I FAKAGE OCCURS. ADDITIONAL WATER TESTING SHALL BE MADE. AFTER CORRECTING MEASURE TEST, REPORTS SHALL SHOW TOTAL NUMBER OF INTERCEPTERS TESTED. WHEN LEAKAGE OCCURS CORRECTIVE MEASURES TAKEN SHALL BE REPORTED BY THE RIVER AUTHORITY INSPECTORS. RIVER AUTHORITY INSPECTORS SHALL RECORD IN DAILY LOG WITH PROJECT NAME, DATE IT WAS TESTED AND COMPLETED.
- 84.1. MANHOLES WILL BE REQUIRED ON SIX (6) INCH AND LARGER LATERALS WHERE THEY CONNECT TO THE MAIN. 84.2. LATERALS WILL NOT BE ATTACHED TO SEWER MAINS THAT ARE DEEPER THAN TWELVE (12) FEET.
- 84.3. FITTINGS ARE NOT PERMITTED ON LATERALS BETWEEN THE WYE AND THE PROPERTY LINE. 84.4. DEEP CUT OR DROP CONNECTIONS SHALL NOT BE
- RESIDENTIAL LOT SHALL BE REQUIRED. DUPLEXES SHALL HAVE TWO (2) LATERALS THAT SHALL BE INDEPENDENTLY ATTACHED TO THE MAIN. 84.6. ALL SEWER LATERAL CROSSING WATER MAINS OR WATER SERVICE LINES SHALL CONFORM TO THE SAME REQUIREMENTS OF TAC CHAPTER 217.53, LATEST REVISION,
- SDR 26 150 PSI, OR DUCT IRON PIPE, CONCRETE FOR FULL WIDTH OF THE TRENCH TO A PLAIN SIX (6) INCHES ABOVE THE TOP OF THE PIPE WITH PAY UNITS AS SHOWN ON
- THE STANDARD DETAIL SHEET. 86. A MINIMUM OF FOUR (4) FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT GRADE.
- ZONES. SEEPAGE RETAINERS ARE REQUIRED AT AN CLASS "D" CONCRETE ENCASEMENT OR FIRMLY COMPACTED. CONSOLIDATED CLAY ENCASEMENT, THE RETAINERS SHALL EXTEND FROM THE BOTTOM OF THE TRENCH TO THE TOP OF
- THE GRANULAR MATERIAL FOR THE ENTIRE TRENCH WIDTH. ENCASEMENT SHALL BE 24 INCHES LONG. NO EXTRA PAY
- 88. BLASTING SHALL NOT BE ACCEPTABLE.
- WITHIN THE VICINITY OF THE SANTIARY SEWER ARE FULLY INSTALLED.

- B. PERFORM AIR TEST C. PULL WIPER (AFTER STREET HAS BEEN ASPHALTED), AS . VACUUM TEST ALL MANHOLES WITHIN THE PROJECT E. CCTV- ALL OF THE NEW LINES AND PAN/TILT ALL SERVICE
- AT END OF PROJECT, CONTRACTOR SHALL SUBMIT FIELD COPY PLAN AND PROFILES SHOWING AS-BUILT WORK, CCTV DVD, AND COMPACTION DENSITY REPORTS FOR MAIN SEWER LINES AND ALL SERVICE LATERALS, CONTRACTOR SHALL ALSO ISSUE WARRANTY LETTERS FOR MATERIAL AND WORKMANSHIP FOR
- A 217.57 DEFLECTION TEST FOR FLEXIBLE AND SEMI-RIGID PIPE CONDUCTED AFTER FINAL BACKFILL HAS BEEN IN PLACED AT
- C. 217.58 OR RIVER AUTHORITY SPECIFICATIONS: ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
- 91. SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE. 92. SANITARY SEWER CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WHICH REQUIRE PENETRATION INTO THE MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPLACED AT CONTRACTOR'S EXPENSE AND WILL REQUIRE SUCCESSFUL TESTING OF THE EXISTING MANHOLE IN ACCORDANCE WITH THE RIVER AUTHORITY SPECIFICATIONS. THEY MUST HAVE A PROTECTIVE COATING SPECIFIED IN THE

- 94. A COPY OF ALL TESTING REPORTS INCLUDING BACKFILL COMPACTION TESTS SHALL BE FORWARDED TO THE RIVER 95. DENSITY TEST WILL BE REQUIRED ON ALL SANITARY SEWER
- 90. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE FOLLOWING:
- OR EXFILTRATION AND OR LOW-PRESSURE AIR TEST.
- LATEST TCEQ DESIGN CRITERIA SHALL BE USED.
- RIVER AUTHORITY APPROVED PRODUCTS LIST, COATING WILL BE MINIMUM OF 200 MILS THICKNESS DEPENDING ON EXISTING CONDITIONS, TO PREVENT INFRASTRUCTURE INFILTRATION
- 93. AFTER CONSTRUCTION, TESTING WILL BE DONE BY PAN/TILT TV CAMERA BY THE CONTRACTOR AND OBSERVED BY THI INSPECTOR, WASTEWATER ENGINEERING PERSONNEL AND CONTRACTOR AS CAMERA IS RUN THROUGH THE LINES. PAN/TILT ALL 6" SERVICE LATERALS TO 6"X6" STUB-OUT. VIDEOS MUST INCLUDE SUBDIVISION NAME, MANHOLE NUMBER, SERVICE LATERAL STATION NUMBER, FLOW DIRECTION, LOCATION ANY ABNORMALITIES, SUCH AS BROKEN PIPE OR MISALIGNED, JOINT, GRAVEL, DIRT, MUST BE CLEANED OUT, REPLACE AT CONTRACTOR'S EXPENSE. NEW SEWER SYSTEM WILL BE FLOODED WITH H20 BEFORE BEING TV. ALL SEWER LINES MUST BE PRESSURE CLEANED TO INCLUDE SERVICE LATERALS 6"INCH O STUB-OUT, ALL VIDEOS SHALL BE SUBMITTED IN DVD FORMAT WITH WRITTEN REPORTS.

TO BE CHOSEN RANDOMLY BY FIFLD INSPECTOR DENSITIES ON SERVICE LATERAL SHALL NOT EXCEED 25% OF TOTAL NUMBER OF SERVICE.

EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND OR

EXCAVATIONS. SPECIALLY, CONTRACTOR AND/OR CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND

AROUND TRENCH EXCAVATION. 97. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT STOCKPILE ANY WASTE MATERIAL IN THE 100 YEAR FLOODPLAIN

8/31/23

PRELIMINARY

PLAT# 22-11800751

SAN ANTONIO **BEXAR COUNTY** 

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6.

AUTHORITY SPECIFICATION. LINE SHALL BE EXTENDED TO THE PROPERTY LINE AT (6 x 6) CAPPED AND SEALED. ATTACH SEWER BURIAL TAPE TO THE END OF ALL SEWER LATERALS AND BRING UP TO THE GROUND LEVEL FOR MARKER (GREEN). (SEE HOUSE LATERALS DETAILS).

67. THE SIZES AND LOCATIONS OF LATERALS SHALL BE DESIGNATED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE 68, IN GENERAL, FOR SINGLE FAMILY DWELLING, THE LATERAL SIZE

- SHALL BE A SIX (6) INCH MINIMUM. HOUSE LATERALS SHALL BE INSTALLED SO THAT CLEANOUTS SHALL HAVE A TWO (2) FOOT SEPARATION FROM DRIVEWAYS, AND SHALL HAVE A NINE (9) FOOT SEPARATION FROM THE WATER SERVICE. THE SERVICE SHALL THEN BE EXTENDED AT A FORTY-FIVE (45) DEGREE ANGLE TO FOUR (4) FFFT ABOVE THE FINISHED GRADE AND CAPPED. USE SEWER BURIAL TAPE TO MARK ALL SEWER SERVICE LATERALS.
- 69. MULTIPLE UNITS, APARTMENTS, LOCAL RETAIL AND COMMERCIAL SIX (6) INCH MINIMUM, MANUFACTURING AND INDUSTRIAL -EIGHT (8) INCH MINIMUM. OR LARGER AS REQUIRED.
- 70. UNIFORM PLUMBING CODE, CITY OF SAN ANTONIO BUILDING INSPECTIONS DEPARTMENT. ALL COMMERCIAL BUILINGS WILL

HAVE TRAPS (FOG - TECO).

TRAPS AND INTERCEPTORS (FOG - TECQ)

OIL SEPARATORS 71. WHICH INCLUDE OIL SEPARATOR- GASOLINE SERVICE STATIONS CAR WASHES, GARAGES, DRY CLEANERS, CHEMICAL PLANTS, GAS PLANTS, HIDE PROCESSORS, TESTING LABORATORIES, OF ANY PLACE WHERE OIL OR SOLVENTS MAY BE INTRODUCED. INTO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR OIL SEPARATORS SHALL BE BASED ON THE G.P.M. RATE OF ALL FIXTURES, APPLIANCE OR APPURTENANCE, DRAINING INTO

- SAND INTERCEPTORS 72. SAND INTERCEPTORS SHALL BE INSTALLED IN THE SEWER SYSTEM OF THE FOLLOWING ESTABLISHMENTS, GARAGES, CAR WASHES, SERVICE STATIONS, OR ANY PLACE OF BUSINESS. WHERE HEAVY SOLIDS MAY BE INTRODUCED INTO THE SANITARY SEWER SYSTEM. THE SIZING CRITERIA FOR A SAND INTERCEPTOR SHALL BE BASED ON THE REQUIRED G.P.M. x 12 MINUTE RETENTION TIMES TO OBTAIN THE TANK SIZE IN
- GALLONS CAPACITY. AUTOMATIC CAR WASHES
- 73. WITH HIGH PRESSURE SPRAYS AND /OR BRUSHES INSTALL A 50 G.P.M. INTERCEPTOR.MINIMUM, FOR A 4-BAY VEHICLE WASH, THE SIZE OF THE INTERCEPTOR SHALL INCREASE 10 G.P.M. FOR EACH ADDITIONAL WASH BAY OVER 4. SINGLE BAY OR PORTABLE WASHER TYPE VEHICLE WASHES SHALL INSTALL A 20 GPM INTERCEPTOR MINIMUM.
- NEUTRALIZING DEVICES
- 74. IN NO CASE SHALL CORROSIVE LIQUIDS, SPENT ACIDS, OR OTHER HARMFUL CHEMICALS WHICH MIGHT DESTROY OR INJURE A DRAIN, SEWER, SOIL, OR WASTE PIPE, OR WHICH MIGHT CREATE NOXIOUS OR TOXIC FUMES, DISCHARGE INTO THE SANITARY SEWER SYSTEM WITHOUT BEING THOROUGHLY NEUTRALIZED BY PASSING THROUGH A PROPERLY CONSTRUCTED AND ACCEPTABLE NEUTRALIZING DEVICE. SUCH DEVICE SHALL BE PROVIDED WITH A SUFFICIENT INTAKE OF NEUTRALIZIN( MEDIUM, CONSISTING OF LIMESTONE OR MARBLE CHIPS, SO AS TO MAKE ITS CONTENTS NON-INJURIOUS BEFORE BEING DISCHARGED INTO THE SANITARY SEWER SYSTEM.

75. PUBLIC AND PRIVATE LAUNDROMATS AND COMMERCIAL LAUNDRIES SHALL INSTALL A LINT TRAP EQUIPPED WITH A CONVENIENTLY LOCATED AND FASILY REMOVABLE WIRE BASKET OR OTHER SIMILAR DEVICE THAT WILL PREVENT THE STRINGS. RAGS, BUTTONS, OR OTHER PROHIBITED MATERIAL FROM ENTERING THE SANITARY SEWER SYSTEM. THE BASKET OR OTHER SIMILAR DEVICE SHALL PREVENT PASSAGE TO THE SANITARY SEWER SYSTEM OF SOLIDS GREATER THAN 1/2"INCH IN DIAMETER. THE LINT TRAP SIZE SHALL BE BASED ON THE TOTAL G.P.M. OF ALL FIXTURES, APPLIANCES AND APPURTENANCES DRAINING TO IT IN LIEU OF A LINT TRAP, A LINT INTERCEPTOR MAY BE INSTALLED. THE INTERCEPTOR SHALL BE SIZED AND DESIGNED BY A TEXAS REGISTERED ENGINEER WITH HIS SEAL AND SIGNATURE ON THE DRAWINGS.

SILVER RECOVERY UNITS 76. SILVER RECOVERY UNITS SHALL BE INSTALLED IN WASTE LINE(S) LEADING FROM X- RAY PROCESSING, PHOTOGRAPHIC PROCESSING, AND /OR ANY PROCEDURES IN ESTABLISHMENT SUCH AS MEDICAL LABS, DENTAL LABS, PHOTO FINISHERS, PRINTERS, GRAPHIC ARTS PRODUCTION FACILITIES, HOSPITAL FACILITIES, VETERINARY HOSPITALS, OR OTHER ESTABLISHMENTS WHERE SILVER MAY BE INTRODUCED INTO THE SANITARY SEWER

SOLIDS INTERCEPTORS 77. SOLIDS INTERCEPTORS SHALL BE INSTALLED WHEN PRE-TREATMENT OF WASTE STREAMS IS NECESSARY TO PREVENT SOLIDS GREATER THAN 1/2" IN DIAMETER, WHICH MAY CAUSE LINE STOPPAGE FROM ENTERING THE SANITARY SEWER

INTERCEPTORS 78. INTERCEPTORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN APPROVED BY THE SAN ANTONIO RIVER AUTHORITY CONSISTING OF A MINIMUM OF TWO COMPARTMENTS WITH FITTINGS DESIGNED FOR GREASE RETENTION AND PROVIDE

FOR A MINIMUM OF TWELVE (12) MINUTES RETENTION. 79. THERE SHALL BE AN ADEQUATE NUMBER OF MANHOLES TO PROVIDE ACCESS FOR CLEANING ALL AREAS OF AN INTERCEPTOR, ONE MANHOLE PER TRAP COMPARTMENT. MANHOLE COVERS SHALL BE GAS TIGHT IN CONSTRUCTION

HAVING A MINIMUM OPENING DIMENSION OF 20 INCH INCHES

81. ALL INTERCEPTORS SHALL HAVE THE SIZE OF THE INTERCEPTOR

AFFIXED TO THE DEVICE.

WASTEWATER.

(IN GALLON PER MINUTE OR GALLON CAPACITY) PERMANENTLY

(0.5 M). 80. IN AREAS WHERE TRAFFIC MAY EXIST THE INTERCEPTOR SHALL BE DESIGNED TO HAVE ADEQUATE REINFORCEMENT AND COVER.

82. ALL CONCRETE UTILIZED IN THE CONSTRUCTION OF INTERCEPTOR SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI. 83. AN EFFLUENT SAMPLING WELL ON ALL INTERCEPTORS SHALL BE REQUIRED. THE SAMPLE WELL SHALL HAVE A RISER A MINIMUM OF 6" INCHES IN DIAMETER AND SHALL BE INSTALLED AFTER THE CONFLUENCE OF ALL WASTE STREAMS FROM THE FACILITY AND PRIOR TO DISCHARGING INTO SANITARY SEWER COLLECTION SYSTEM. THE WELL SHALL BE PERPENDICULAR TO THE FEFLUENT LATERAL TO ALLOW VISUAL OBSERVATION OF

THE FLOW STREAM AND PROVIDE FOR SAMPLING OF

3 OF 5

WATERTIGHT TESTING (24 HOURS):

84. ALL INTERCEPTORS SHALL BE WATER TESTED OUT AT JOB SITE

84.5. A MINIMUM OF ONE (1) LATERAL PER BUILDING SHALL BE REQUIRED. ALSO, A MINIMUM OF ONE (1) LATERAL PER

85. WHERE REQUIRED CONCRETE ENCASEMENT SHALL BE PLACED

OTHERWISE CONCRETE ENCASEMENT IS REQUIRED. 87. WHERE POROUS MATERIAL INCLUDING "SUBGRADE FILLER" IS USED FOR BACKFILL IN THE BEDDING AND INITIAL BACKFILL APPROXIMATE OF 180 FEET. RETAINERS SHALL CONSIST OF

BLASTING

89. TESTING SHALL NOT BE CONDUCTED UNTIL ALL OTHER UTILITIES

THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:

A. PULL MANDREL AFTER 30 DAYS OF INSTALLATION

LATERALS TO 6"X6" CLEAN OUT. CONTRACTOR SHALL FLOOD ALL LINES BEFORE CCTV.

12 MONTHS AFTER FINAL ACCEPTANCE.

B. 217.57, OR RIVER AUTHORITY SPECIFICATIONS INFILTRATION AND

D. IN THE EVENT THAT TESTING REQUIREMENTS CONFLICT, THE

FOLLOW MANUFACTURER'S RECOMMENDATION ON PROTECTIVE

TRENCHES INCLUDING SERVICE LATERALS. SERVICE LATERALS

96. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTORS TRENCH

PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM OSHA STANDARDS FOR TRENCH CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY

4 OF 5

2 OF 5

**AS SHOWN** 

SANITARY SEWER NOTES

#### COMPACTION NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS & SARA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS & SARA WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL

NECESSARY DOCUMENTED TEST RESULTS. TRENCH EXCAVATION SAFETY PROTECTION

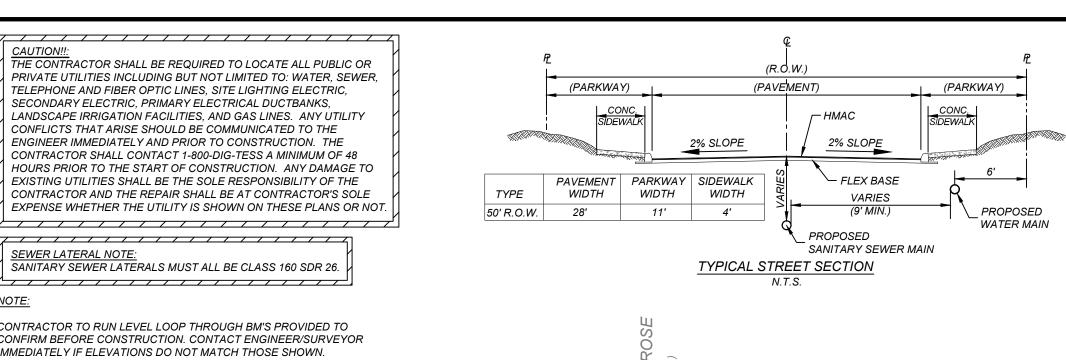
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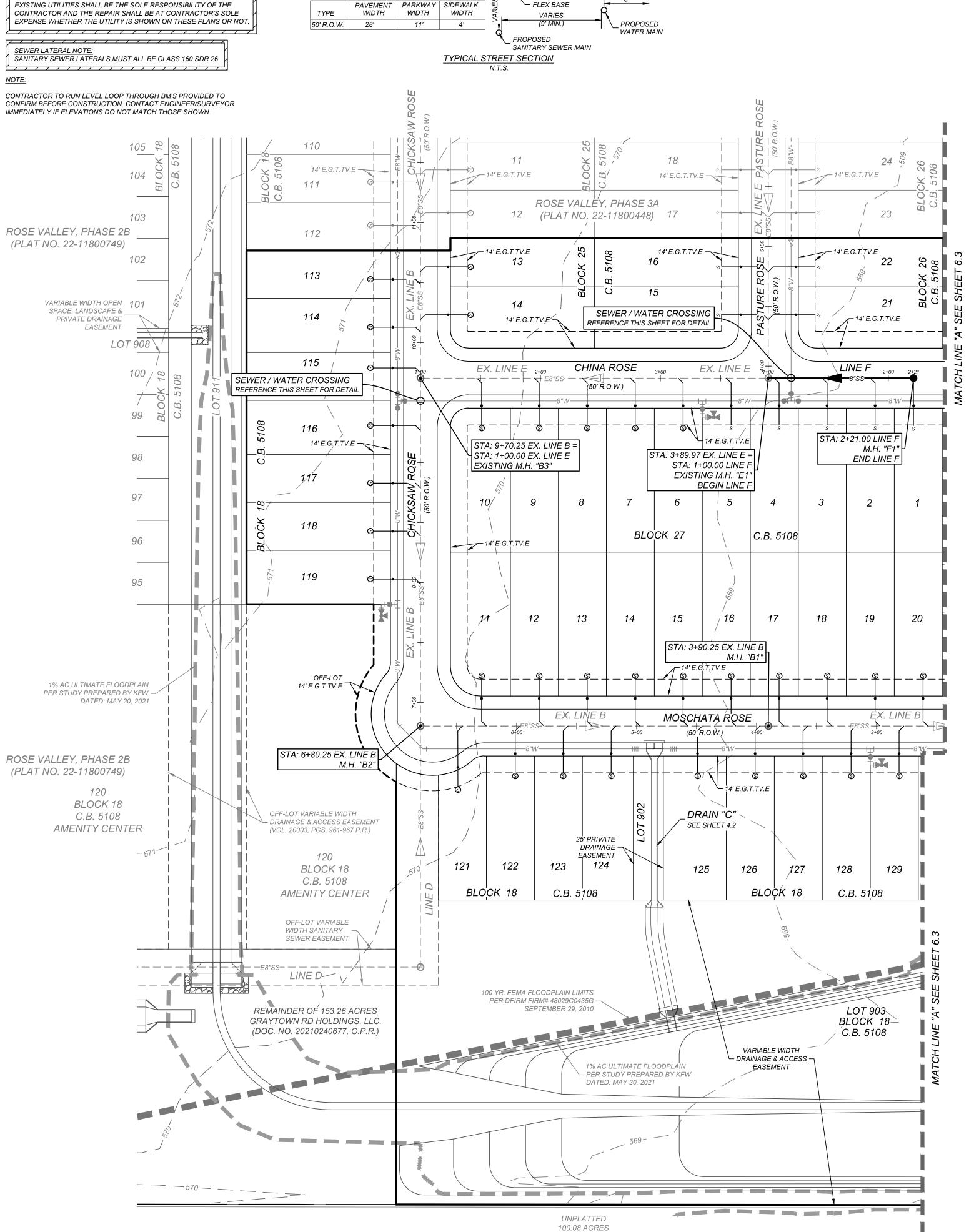
- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM).
- REFERENCE SHEET 6.1-6.2, SANITARY SEWER GENERAL NOTES. PIPE TYPE DESIGNATIONS ARE SDR 26.
- 4. ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING AND COVER. SEE SHEET 6.7 FOR DETAILS.

SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING

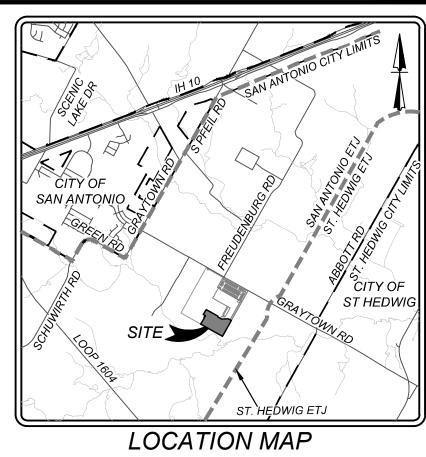
MANHOLES WILL NEED TO BE RESEALED WITH THE SARA APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTOR

MANHOLE NOTE: ALL MANHOLES MUST BE WATERTIGHT, WITH WATERTIGHT RINGS AND COVERS. EVERY 4TH MANHOLE IN SEQUENCE MUST BE VENTED PER S.A.R.A DETAIL SHEET

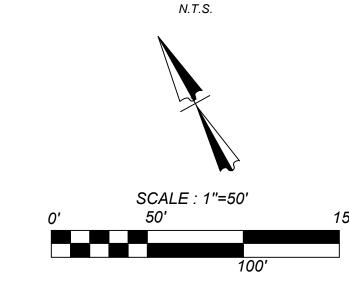




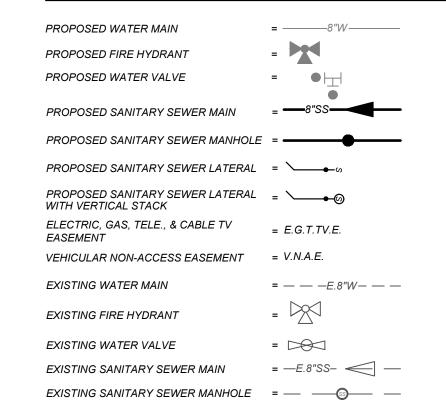
OWNER: ZAND POUSHESH ARASH & OCON AMANDA RUTH (DOCUMENT NO. 20230027579)

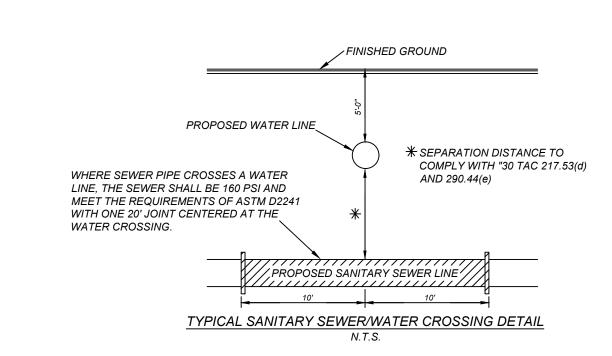




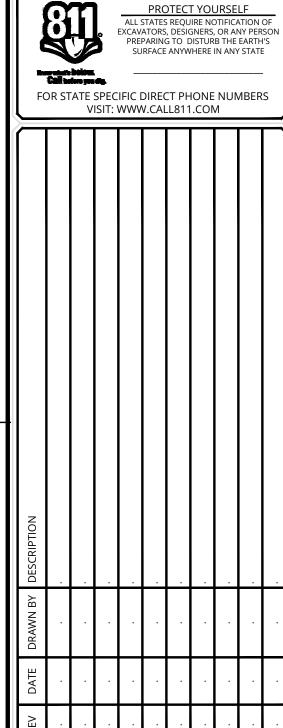


#### LEGEND





EXISTING STREETLIGHT (UG, 250 WATT) =



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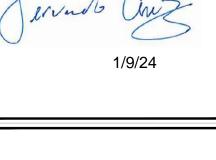
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Formerly Known as



SERVANDO CRUZ

**PRELIMINARY** 

FOR **ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO BEXAR COUNTY **TEXAS**

Colliers
Engineering & Design

SAN ANTONIO (KFW) 3421 Paesanos San Antonio, TX 78231 Phone: 210.979.8444 COLLIERS ENGINEERING & DESIGN, INC TBPE Firm#: F-14909 TBPLS Firm#: 10194550

S\_3145105 314-51-05

OVERALL SANITARY

SEWER PLAN

## COMPACTION NOTE: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS & SARA INSPECTOR/TEST.

PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY THE SAWS & SARA INSPECTOR/TEST ADMINISTRATOR, PER EACH 12 INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. PERMITS AND/OR WILL NOT BE ACCEPTED AND FINALIZED BY SAWS & SARA WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

TRENCH EXCAVATION SAFETY PROTECTION

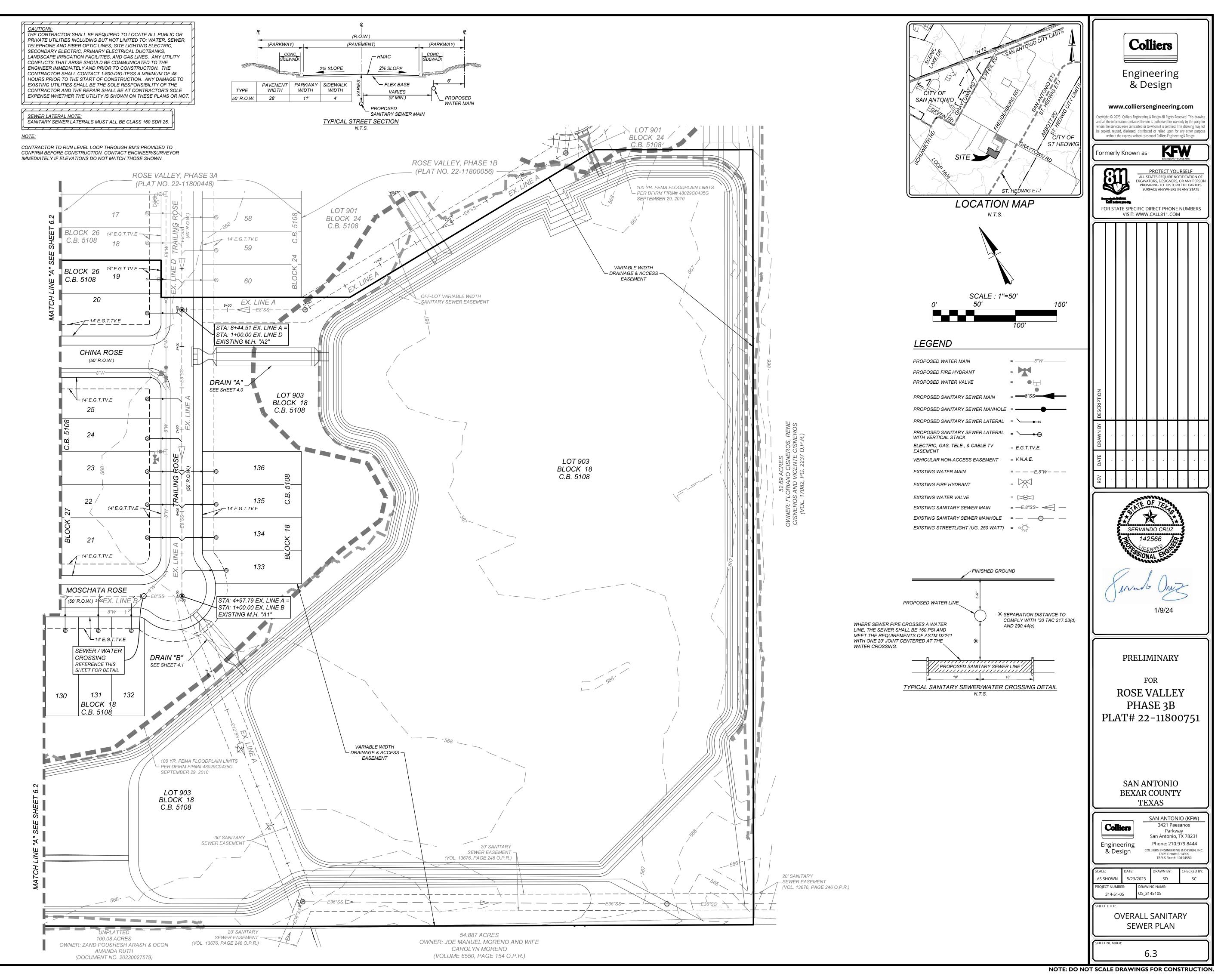
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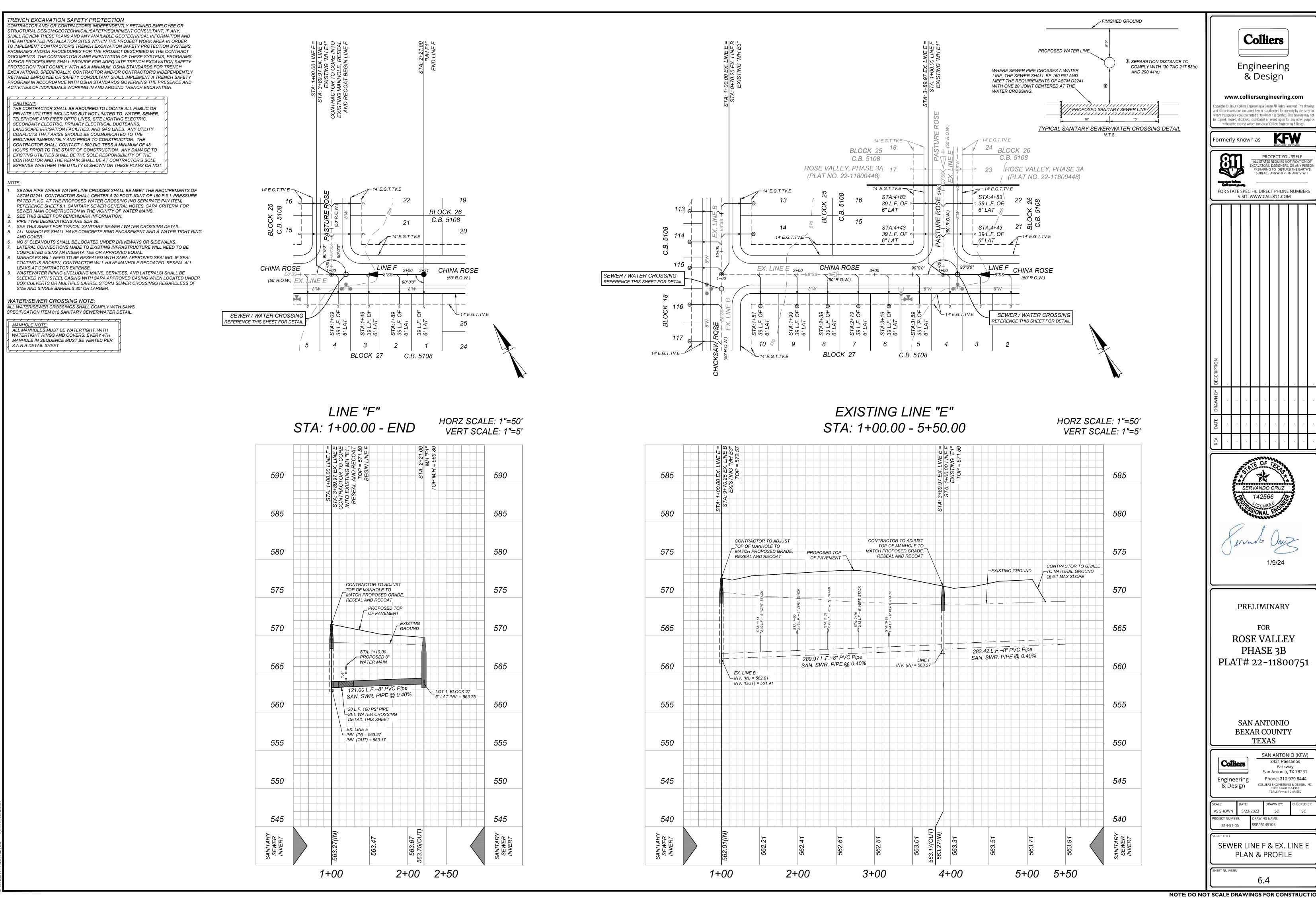
NOTE

- 1. SEWER PIPE WHERE WATER LINE CROSSES SHALL BE MEET THE REQUIREMENTS OF ASTM D2241. CONTRACTOR SHALL CENTER A 20 FOOT JOINT OF 160 P.S.I. PRESSURE RATED P.V.C. AT THE PROPOSED WATER CROSSING (NO SEPARATE PAY ITEM). REFERENCE SHEET 6.1-6.2, SANITARY SEWER GENERAL NOTES.
- PIPE TYPE DESIGNATIONS ARE SDR 26.
   SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING
- ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A
  WATER TIGHT RING AND COVER. SEE SHEET 6.7 FOR DETAILS.
   MANHOLES WILL NEED TO BE RESEALED WITH THE SARA APPROVED
  SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE
  MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTOR

MANHOLE NOTE:
ALL MANHOLES MUST BE WATERTIGHT, WITH
WATERTIGHT RINGS AND COVERS. EVERY 4TH
MANHOLE IN SEQUENCE MUST BE VENTED PER

S.A.R.A DETAIL SHEET





TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/ OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR
STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY,
SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND
THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER
TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS,
PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT
DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS
AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY
PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH
EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY
RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY
PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND
ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION!!:
THE CONTRACTOR SHALL BE REQUIRED TO LOCATE ALL PUBLIC OR
PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER SEWER

PRIVATE UTILITIES INCLUDING BUT NOT LIMITED TO: WATER, SEWER, TELEPHONE AND FIBER OPTIC LINES, SITE LIGHTING ELECTRIC, SECONDARY ELECTRIC, PRIMARY ELECTRICAL DUCTBANKS, LANDSCAPE IRRIGATION FACILITIES, AND GAS LINES. ANY UTILITY CONFLICTS THAT ARISE SHOULD BE COMMUNICATED TO THE ENGINEER IMMEDIATELY AND PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT 1-800-DIG-TESS A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND THE REPAIR SHALL BE AT CONTRACTOR'S SOLE EXPENSE WHETHER THE UTILITY IS SHOWN ON THESE PLANS OR NOT.

#### NOTE:

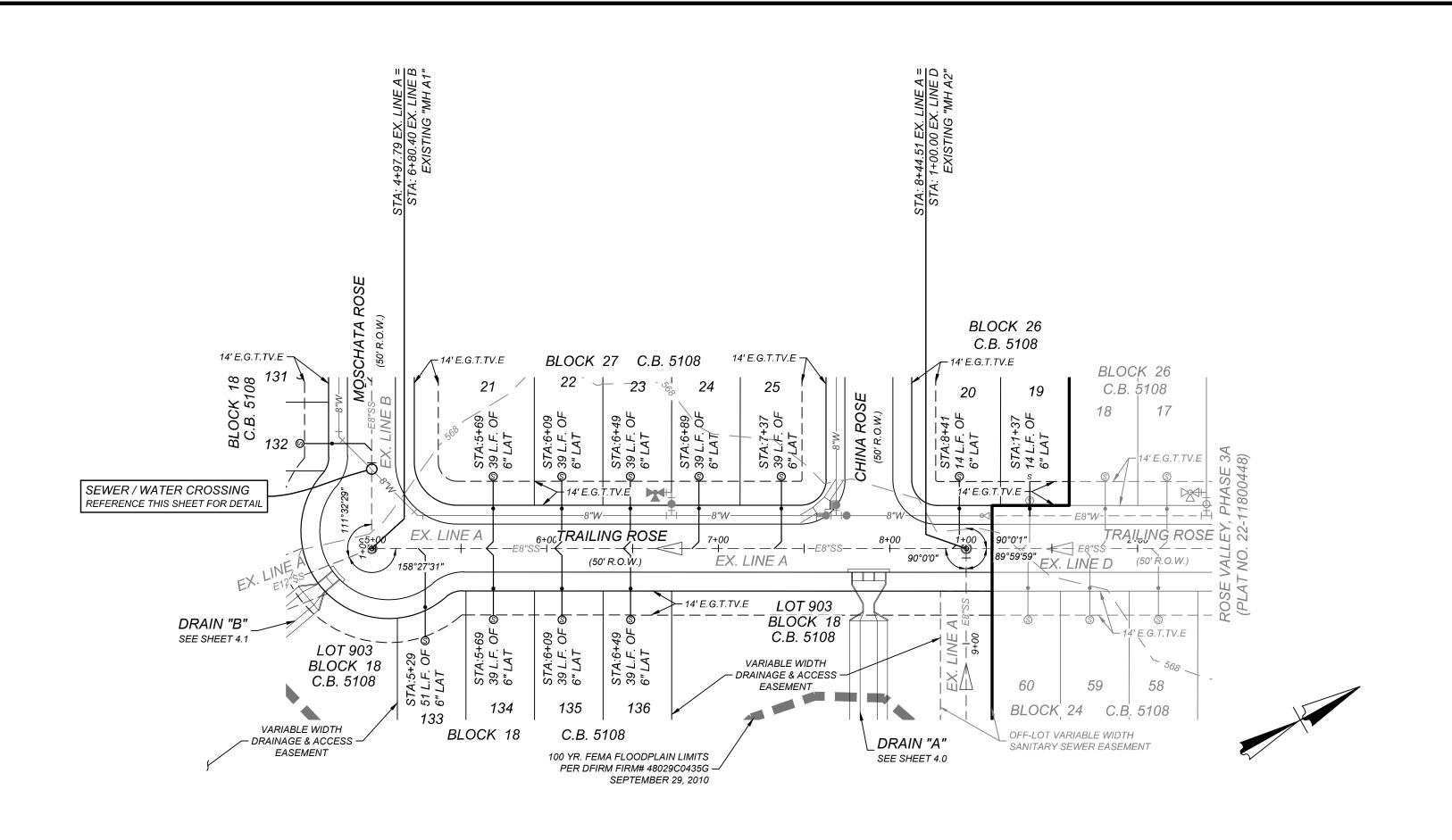
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  2. SEE THIS SHEET FOR BENCHMARK INFORMATION.
  3. PIPE TYPE DESIGNATIONS ARE SDR 26.
- SEE THIS SHEET FOR TYPICAL SANITARY SEWER / WATER CROSSING DETAIL.
   ALL MANHOLES SHALL HAVE CONCRETE RING ENCASEMENT AND A WATER TIGHT RING
- 6. NO 6" CLEANOUTS SHALL BE LOCATED UNDER DRIVEWAYS OR SIDEWALKS.
  7. LATERAL CONNECTIONS MADE TO EXISTING INFRASTRUCTURE WILL NEED TO BE
- COMPLETED USING AN INSERTA TEE OR APPROVED EQUAL.

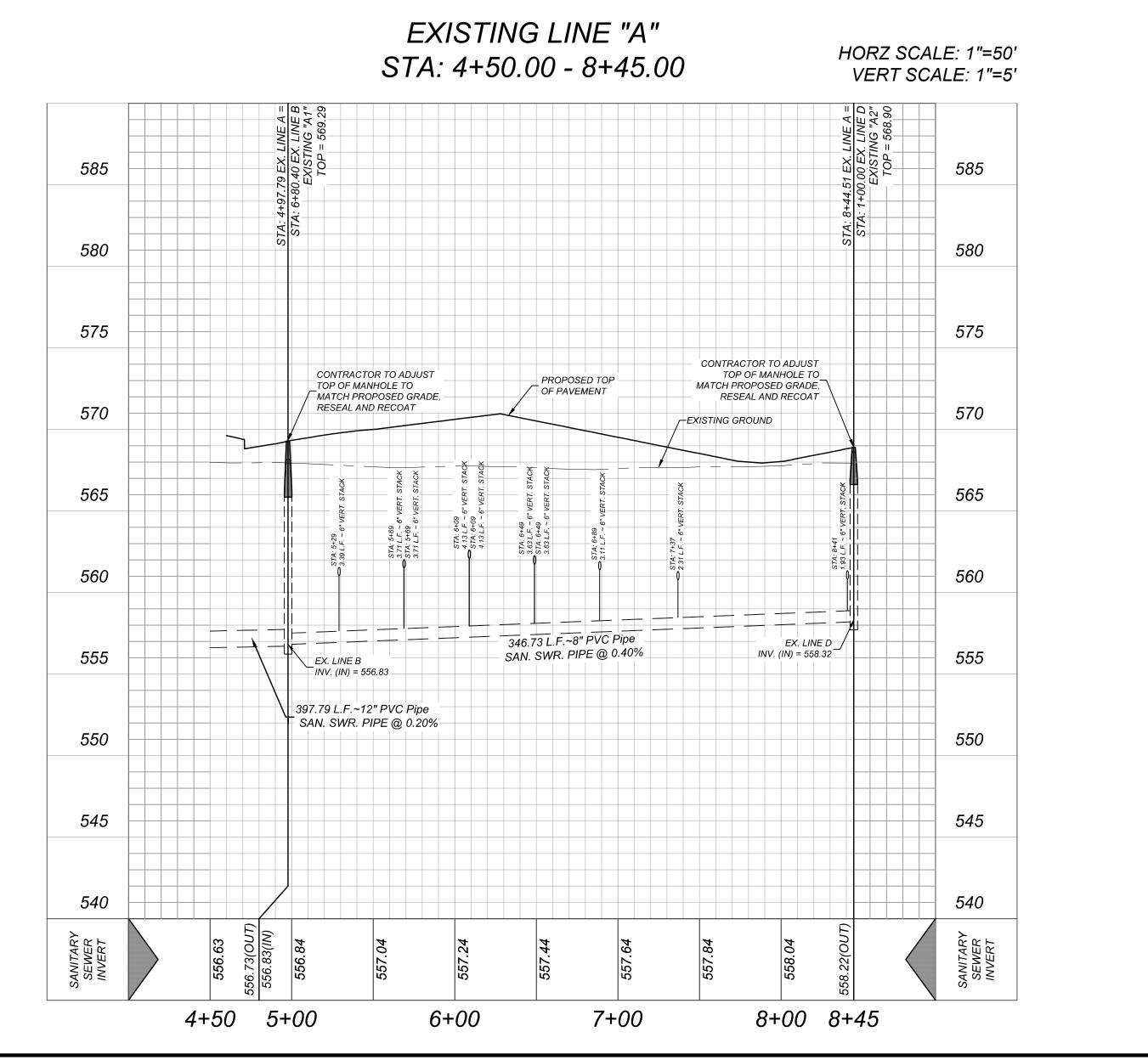
  8. MANHOLES WILL NEED TO BE RESEALED WITH SARA APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTOR EXPENSE.
- WASTEWATER PIPING (INCLUDING MAINS, SERVICES, AND LATERALS) SHALL BE SLEEVED WITH STEEL CASING WITH SARA APPROVED CASING WHEN LOCATED UNDER BOX CULVERTS OR MULTIPLE BARREL STORM SEWER CROSSINGS REGARDLESS OF SIZE AND SINGLE BARRELS 30" OR LARGER.

#### WATER/SEWER CROSSING NOTE:

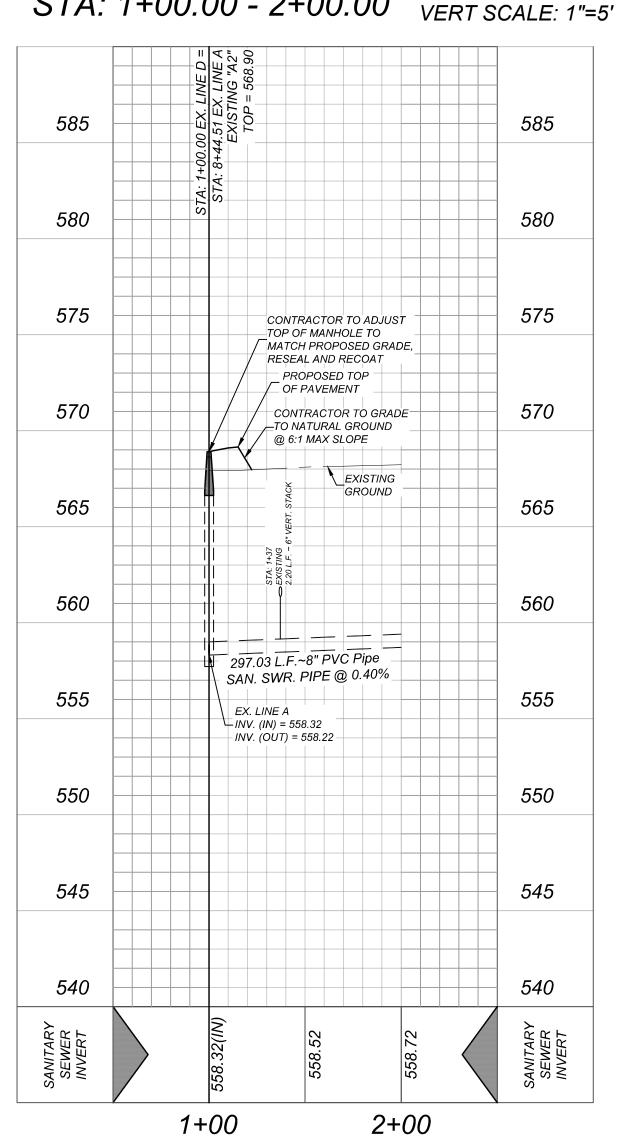
ALL WATER/SEWER CROSSINGS SHALL COMPLY WITH SAWS SPECIFICATION ITEM 812 SANITARY SEWER/WATER DETAIL.

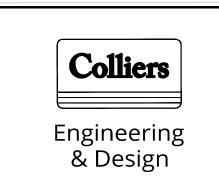
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MANHOLE IN SEQUENCE MUST BE VENTED PER
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## EXISTING LINE "D" STA: 1+00.00 - 2+00.00 HORZ SCALE: 1"=50' VERT SCALE: 1"=5'





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FINISHED GROUND

// PROPOSED SANITARY SEWER LINE

TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

\* SEPARATION DISTANCE TO

AND 290.44(e)

COMPLY WITH "30 TAC 217.53(d)

PROPOSED WATER LINE

WHERE SEWER PIPE CROSSES A WATER

LINE, THE SEWER SHALL BE 160 PSI AND

WITH ONE 20' JOINT CENTERED AT THE

WATER CROSSING.

MEET THE REQUIREMENTS OF ASTM D2241

PROTECT YOURSELF

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PRELIMINARY

FOR ROSE VALLEY PHASE 3B PLAT# 22-11800751

> SAN ANTONIO BEXAR COUNTY TEXAS

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COLLIERS ENGINEERING & DESIGN, INC
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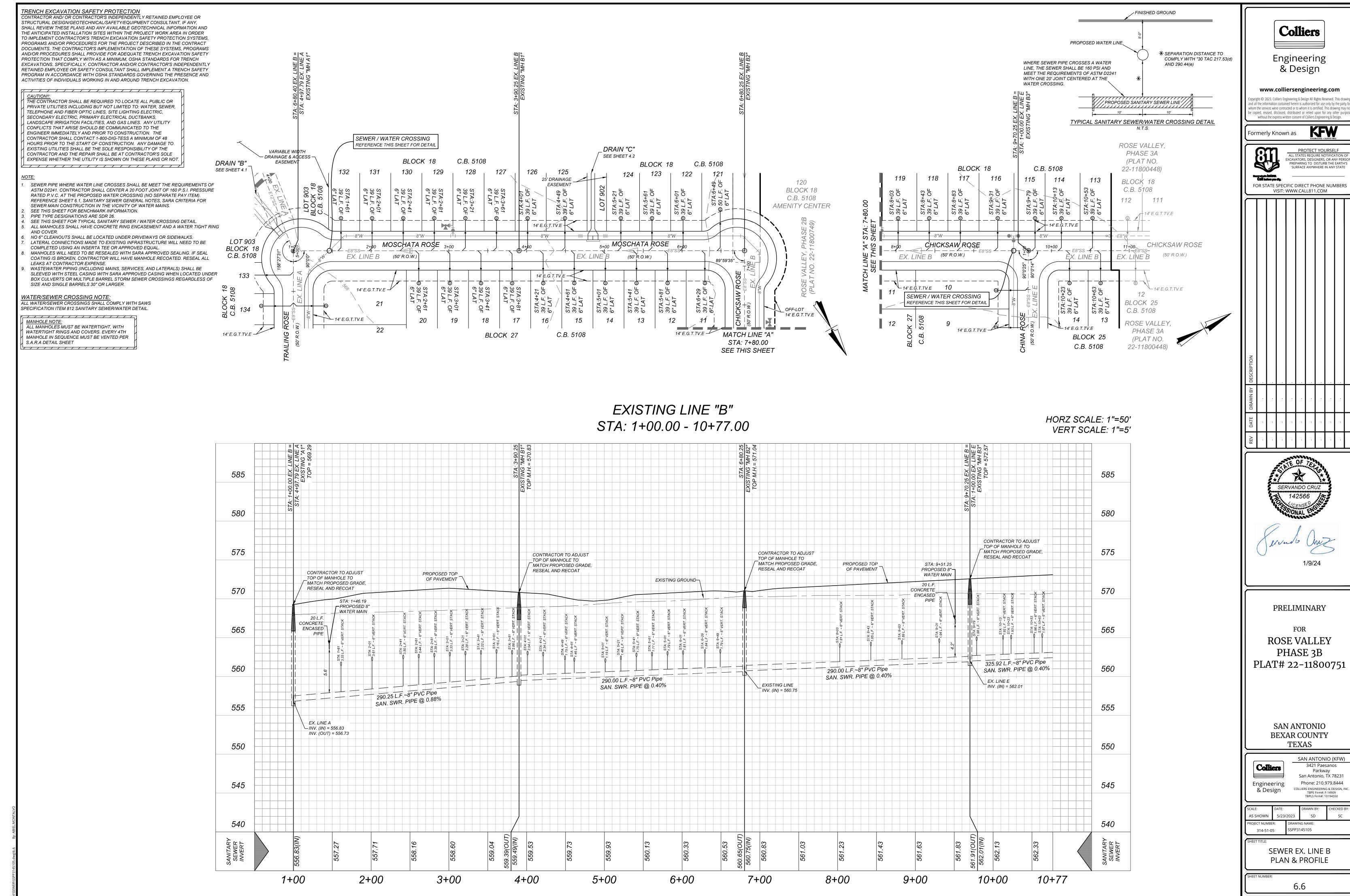
AS SHOWN 5/23/2023 SD SC

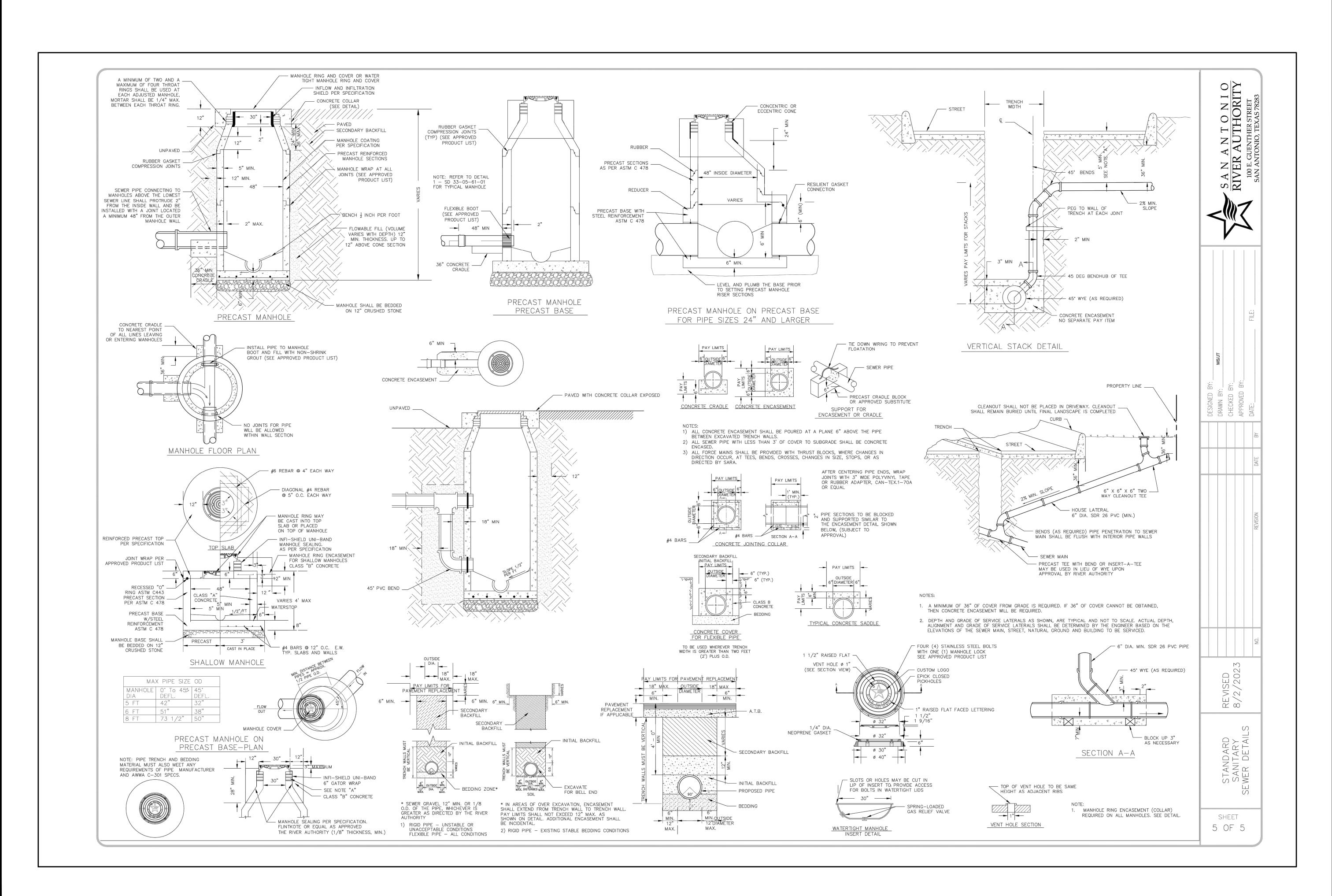
ROJECT NUMBER: DRAWING NAME:

314-51-05 SSPP3145105

SEWER EX. LINE A & EX. LINE DE PLAN & PROFILE

6.5





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FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

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PRELIMINARY

FOR
ROSE VALLEY
PHASE 3B
PLAT# 22-11800751

SAN ANTONIO BEXAR COUNTY TEXAS

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TBPLS Firm#: F-14909
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SCALE: DATE: DRAWN BY: CHECKED

AS SHOWN 5/23/2023 SD SC

PROJECT NUMBER: DRAWING NAME:

314-51-05 SSDT3145105

SANITARY SEWER

DETAILS

SHEET NUMBER:

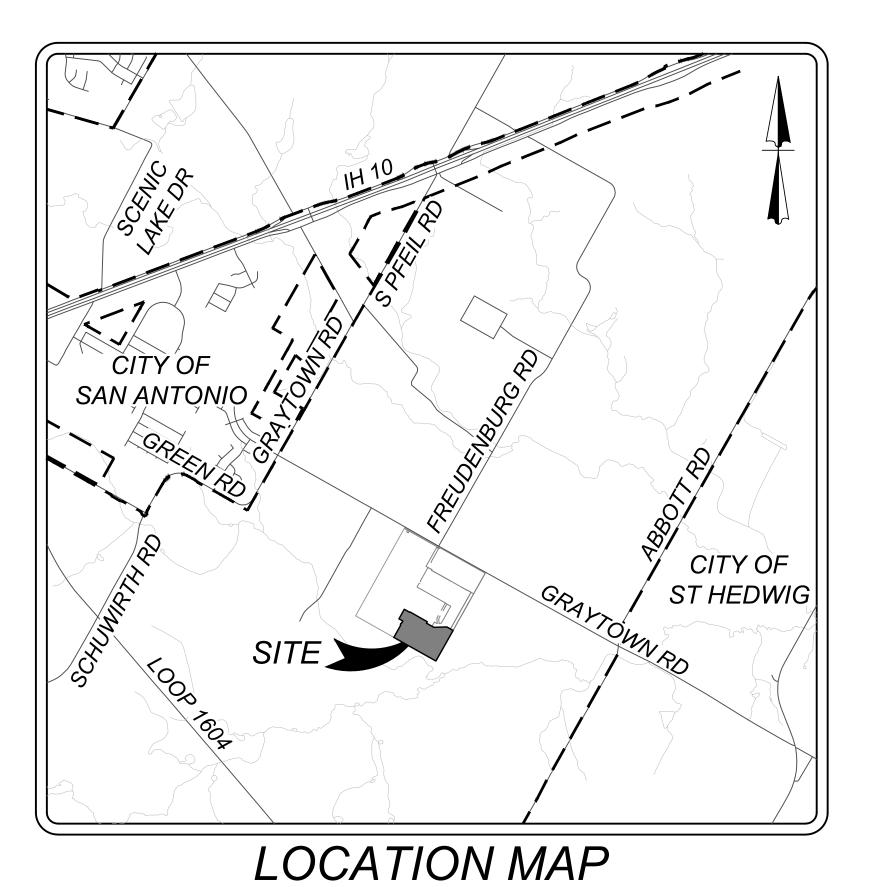
6.7

#### GENERAL NOTES

- 1. ALL VALVES SHALL REMAIN CLOSED UNTIL MAINS HAVE BEEN DISINFECTED, FLUSHED. AND RELEASED FOR PUBLIC USE BY THE ENGINEER.
- 2. EXISTING UTILITIES SHOWN ARE TAKEN FROM VARIOUS UTILITY COMPANY RECORDS. CONTRACTORS SHALL VERIFY THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO BEGINNING CONSTRUCTION. CONTRACTORS SHALL BE RESPONSIBLE FOR THE PROTECTION OF EXISTING UTILITIES AND DRAINAGE STRUCTURES DURING CONSTRUCTION.
- ALL EXCAVATION SHALL BE UNCLASSIFIED REGARDLESS OF MATERIAL ENCOUNTERED.
- 4. BIDDERS ARE NOTIFIED TO MAKE SUBSURFACE INVESTIGATIONS AS THEY DEEM NECESSARY. NO ADDITIONAL PAYMENT WILL BE MADE FOR WATER, SAND, GRAVEL OR OTHER UNSTABLE CONDITIONS ENCOUNTERED IN
- 5. DETOUR OF TRAFFIC AROUND WORK ACTIVITIES, MAINTENANCE OF TRAFFIC CONTROL SIGNS, AND FLAGMEN ARE THE CONTRACTOR'S RESPONSIBILITY. NO SEPARATE PAYMENT WILL BE MADE.
- 6. THE CONTRACTOR SHALL PROTECT ALL OPEN EXCAVATIONS AND EQUIPMENT FROM CHILDREN, PEDESTRIANS, AND VEHICLES IN THE AREA.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL FENCES IN THE WORK AREA TO THEIR ORIGINAL CONDITION PRIOR TO COMPLETION OF THE CONTRACT. THIS SHALL APPLY TO ALL FENCES IN THE WORK AREA WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.
- 8. CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES, MARKS, ETC. ANY CONSTRUCTION STAKES, MARKS, ETC., DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 9. THE CONTRACTOR SHALL CONFER WITH EACH INDIVIDUAL PROPERTY OWNER AS TO THE LOCATION OF EACH INDIVIDUAL METER BOX.
- 10. CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS BEFORE TYING INTO EXISTING WATER MAINS.
- 11. ALL VALVES SHALL BE PERMANENTLY MARKED BY THE USE OF A VALVE MARKER. NO SEPARATE PAY ITEM.
- 12. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 13. CONTRACTOR SHALL MAINTAIN FENCING FOR THE CONTAINMENT OF LIVESTOCK DURING CONSTRUCTION. ALL FENCES REMOVED FOR CONSTRUCTION SHALL BE REPLACED. ALL REQUIRED FENCING SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM.
- 14. ALL DRIVEWAYS, INCLUDING DRAIN PIPES, CULVERTS AND HEADWALLS, DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR TO EQUAL OR BETTER THAN PRECONSTRUCTION CONDITION. ASPHALT DRIVES ARE NOT ALLOWED TO BE CUT WITHOUT OWNERS PERMISSION. INSTALLATION OF WATER MAINS CROSSING CONCRETE DRIVES WILL BE BORED. ALL DRAIN PIPE, CULVERT AND HEADWALL REPAIR SHALL BE INCIDENTAL TO CONSTRUCTION AND NOT A SEPARATE PAY ITEM. DRIVEWAY PAVEMENT REPAIR SHALL BE PAID FOR AS PER ITEM NO. 02950, "CUTTING AND PATCHING ASPHALT PAVEMENT, ASPHALT DRIVES, CONCRETE DRIVES, OR GRAVEL ROADS AND DRIVES". PAYMENT FOR BORES UNDER CONCRETE DRIVES DRIVES SHALL BE PAID FOR AS PER ITEM 02445 "BORING AND CASING PIPE UNDER HIGHWAYS, RAILROADS, OR OTHER AREAS".
- 15. LOCATIONS OF COMBINATION AIR VALVES WHERE SHOWN ON PLANS ARE APPROXIMATE. FINAL LOCATIONS TO BE ADJUSTED IN FIELD AT TIME OF CONSTRUCTION AT THE DIRECTION OF THE ENGINEER.
- 16. ALL WORK SHALL BE SCHEDULED TO TAKE PLACE ON MONDAY THROUGH FRIDAY, DURING NORMAL WORK HOURS. CONTRACTOR SHALL NOTIFY ECSUD 48 HOURS PRIOR TO SERVICE SHUT OFF AFFECTING CUSTOMERS. SERVICE SHALL NOT BE SHUT OFF FOR MORE THAN EIGHT (8) HOURS AT A TIME.
- 17. THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PROPERTY, INCLUDING, BUT NOT LIMITED TO, FENCES, PAVEMENT, DRIVEWAYS, LAWNS, CULVERTS, AND TREES, AT NO COST TO THE OWNER.
- 18. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL AT ALL CULVERT, STREAM AND DRAINAGE SWALE CROSSINGS. EROSION CONTROL MEASURES SHALL INCLUDE AS A MINIMUM SILT FENCES. SILT FENCES SHALL BE INSTALLED PRIOR TO DISTURBANCE OF THE WORK AREAS AND SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION OF THE DISTURBED AREAS UPSTREAM. EROSION CONTROL SHALL BE COORDINATED WITH THE ENGINEER.
- 19. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY MAILBOXES, TRAFFIC OR ROAD SIGNS ENCOUNTERED. NO SEPARATE PAY ITEM.
- 20. CONTRACTOR SHALL SUBMIT TO ENGINEER PROPOSED CONSTRUCTION SEQUENCE PRIOR TO BEGINNING CONSTRUCTION.
- 21. ALL FITTINGS ARE TO BE DUCTILE IRON, MECHANICAL JOINT TYPE, UNLESS OTHERWISE NOTED ON PLANS.
- 22. ALL THRUST BLOCKS SHALL BE INSPECTED BY OWNER AND/OR ENGINEER PRIOR TO BACKFILLING.
- 23. ALL EXISTING VALVES SHOWN ON PLANS TO BE ABANDONED, SHALL HAVE BOXES REMOVED AND SHALL BE BACKFILLED ACCORDING TO SPECIFICATIONS. NO SEPARATE PAY ITEM.
- 24. CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION AND STAGING WITHIN EXISTING UTILITY EASEMENTS, UNLESS OTHER ARRANGEMENTS ARE MADE WITH OWNER AND/OR TxDOT.
- 25. WHERE THE NEW WATER MAIN SHOWN ON THE PLANS REQUIRES CROSSING AN EXISTING WATER MAIN OR OTHER UTILITY, THE CONTRACTOR SHALL VERTICALLY DEFLECT THE PROPOSED WATER MAIN. DEFLECTION SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS. FITTINGS ARE NOT PERMISSIBLE, UNLESS OTHERWISE SHOWN ON THE PLANS. NO SEPARATE PAY ITEM.

## ROSE VALLEY PHASE 3B

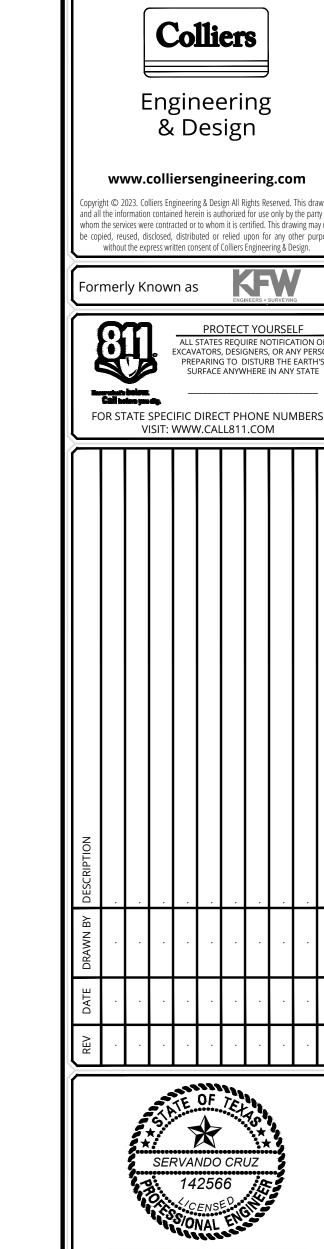
## BEXAR COUNTY, TEXAS WATER IMPROVEMENTS



N.T.S.

# INDEXDESCRIPTIONSHEET NO.WATER COVER SHEET7.0OVERALL WATER PLAN7.1OVERALL WATER PLAN7.2WATER DETAIL SHEET7.3WATER DETAIL SHEET7.4WATER DETAIL SHEET7.5

OWNER/DEVELOPER: LENNAR HOMES 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 PHONE: (210) 403-6200



PRELIMINARY

8/31/23

FOR
ROSE VALLEY
PHASE 3B
PLAT# 22-11800751

SAN ANTONIO BEXAR COUNTY TEXAS

Colliers
Engineerin & Design

3421 Paesanos Parkway San Antonio, TX 78231 Phone: 210.979.8444 COLLIERS ENGINEERING & DESIGN, II TBPE Firm#: F-14909 TBPLS Firm#: 10194550

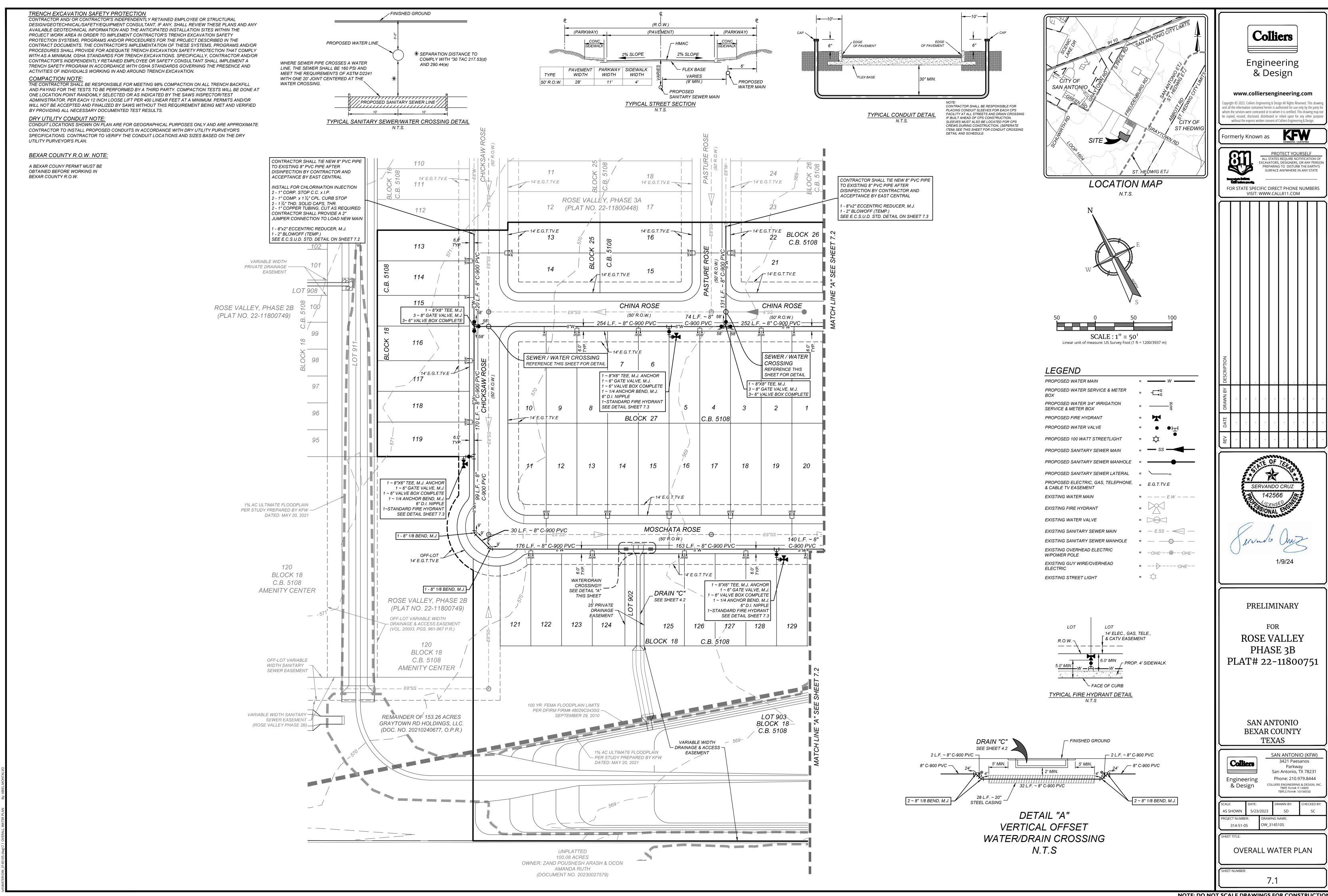
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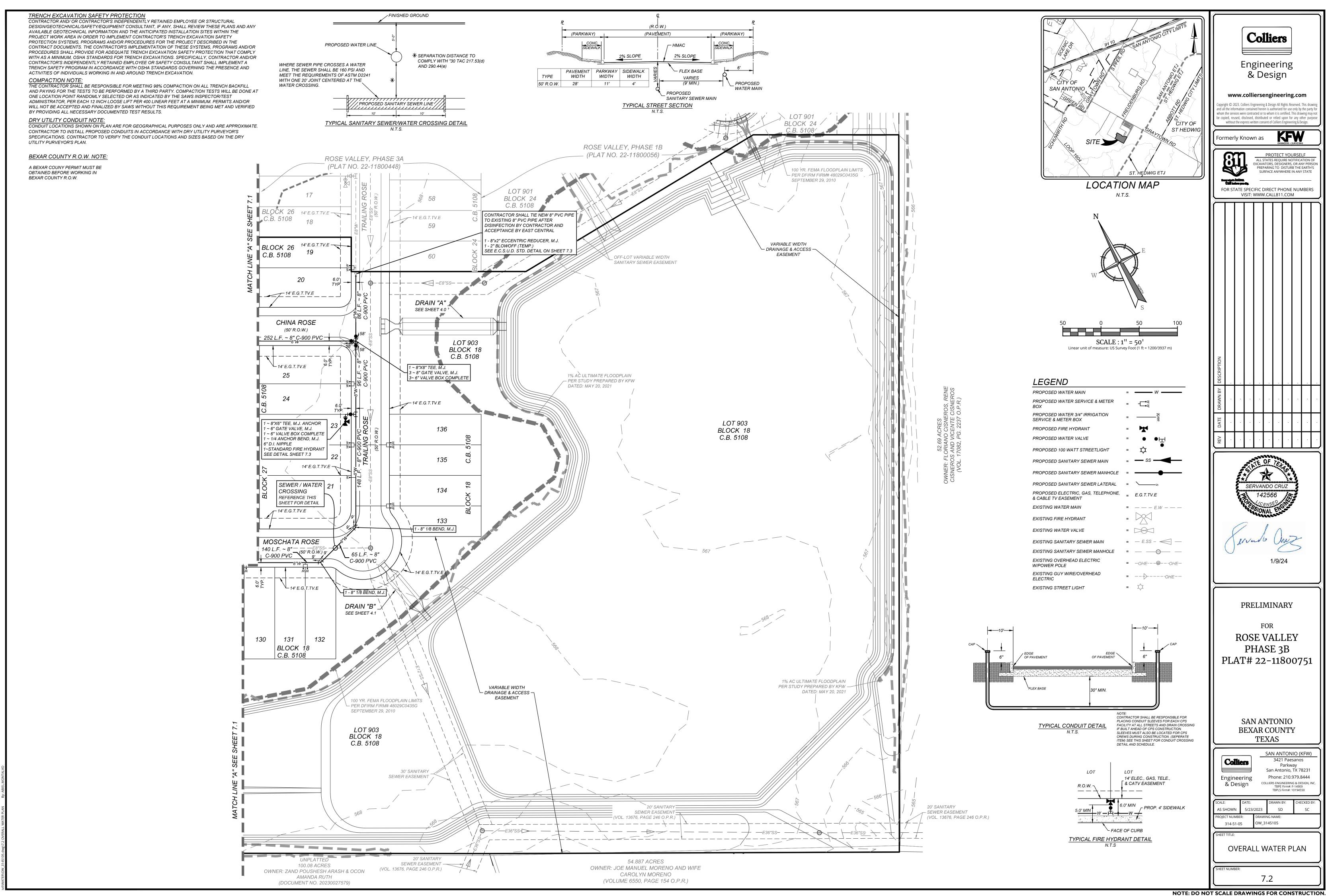
SCALE: DATE: DRAWN BY: CHECKED I
AS SHOWN 5/23/2023 SD SC

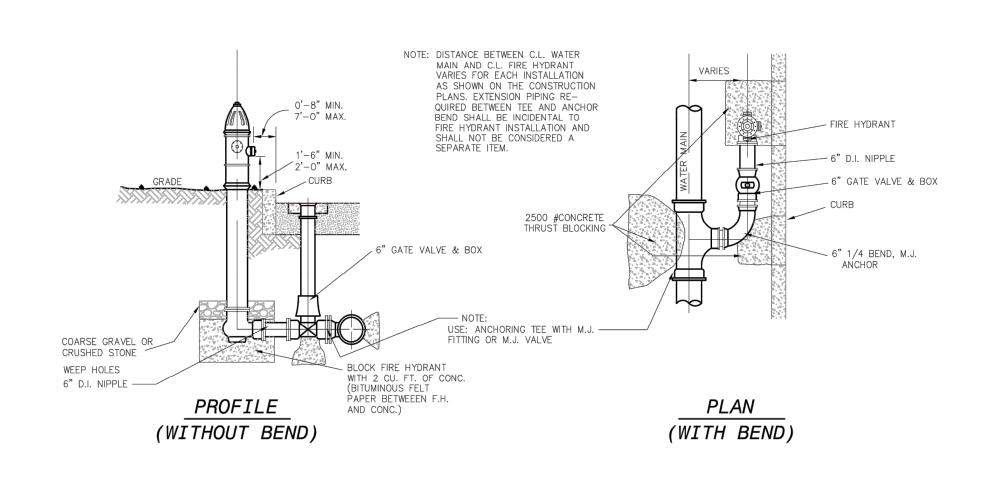
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314-51-05 CV\_3145105

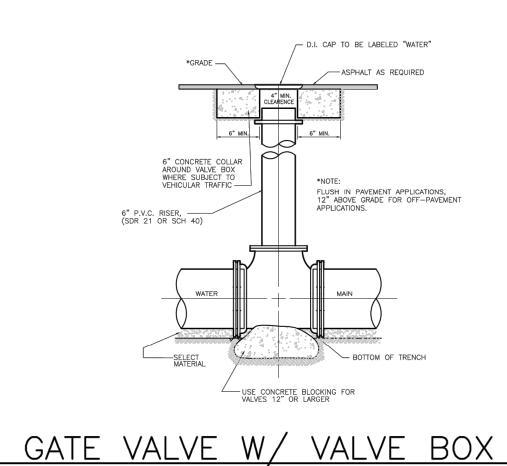
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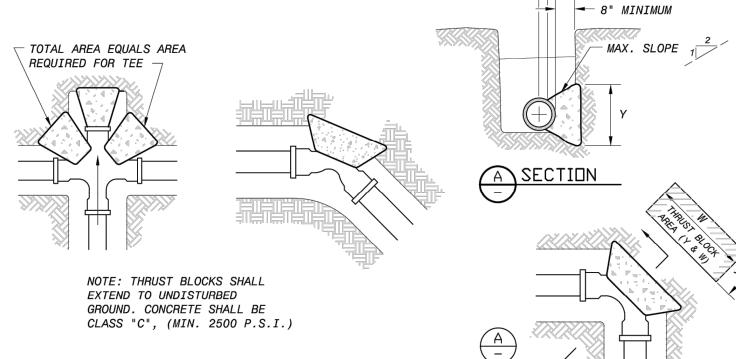
WATER COVER SHEET

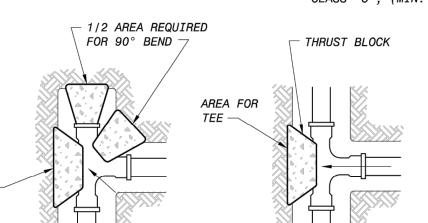






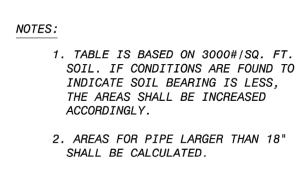






R.C. PIPE CONDUIT

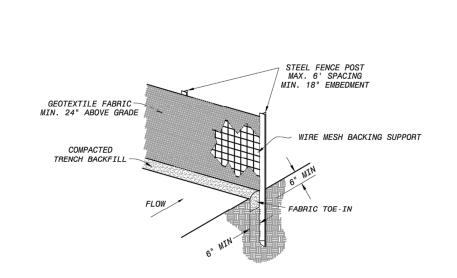
SPECIAL ANTI-CORROSION SAND EMBEDMENT
WHERE REQUIRED.

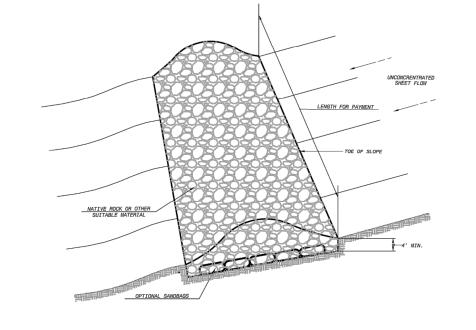


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W) WATER PIPE TEE, DEAD END 45° AND SIZE 90° BEND 22 1/2° BENDS 4" & LESS 3 SQ. FEET 3 SQ. FEET 4 SQ. FEET 3 SQ. FEET 6 SQ. FEET 3 SQ. FEET 9 SQ. FEET 5 SQ. FEET 13 SQ. FEET 7 SQ. FEET 12 SQ. FEET 23 SQ. FEET 29 SQ. FEET

1/4 PIPE DIAMETER

FIRE HYDRANT INSTALLATION





AREA REQUIRED

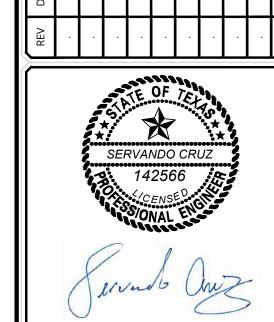
FOR 90° BEND -

AREA FOR TEE

NOTE:

ALINGNMENT AND GRADE OF CONDUIT WILL
BE SPECIFIED ON THE CONSTRUCTION PLANS.

THRUST BLOCK DETAILS N.T.S.



PRELIMINARY

**ROSE VALLEY** 

PHASE 3B

PLAT# 22-11800751

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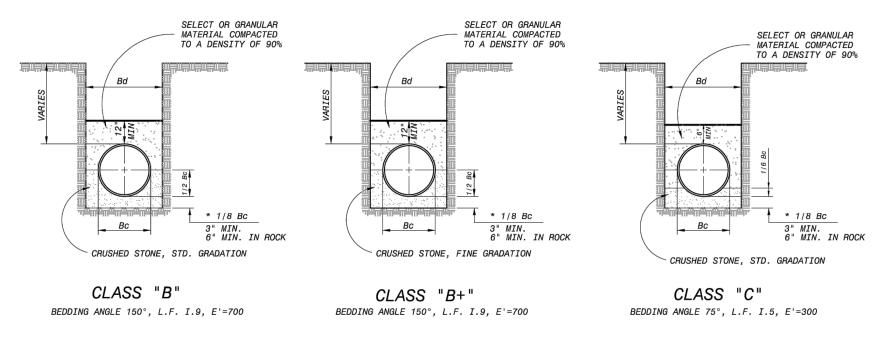
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

PROTECT YOURSELF

ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSO PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

BACKFILL AND PATCH PAVEMENT N.T.S. TEMPORARY SILT FENCE N.T.S.

TEMPORARY ROCK BERM N.T.S.



SELECT OR GRANULAR MATERIAL COMPACTED TO A DENSITY OF 90%  Bd # 1/8 Bc 3" MIN. 6" MIN. IN ROCK  CRUSHED STONE, FINE GRADATION	SELECT OR GRANULAR MATERIAL COMPACTED TO A DENSITY OF 90%  Bd  * 1/8 Bc 3" MIN.
CLASS "C+" BEDDING ANGLE 75°, L.F. I.5, E'=300	CLASS "D+" BEDDING ANGLE 30°, L.F. I.3, E'=200

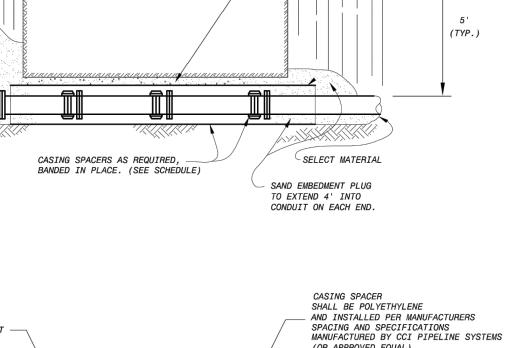
		END SEALS SH INSTALLED ON CASING PIPE BY CCI PIPEL (OR APPROVED SIZE AND SPA		CASING SPACER SHALL BE POLYETHYLENE AND INSTALLED PER MANUFACTURERS SPACING AND SPECIFICATIONS MANUFACTURED BY CCI PIPELINE SYSTEMS (OR APPROVED EQUAL)  BORE  PVC PIPE
CARRIER PIPE SIZE	CASING PIPE SIZE	CASING PIPE THICKNESS	NO. CLEATS	
6"	18"	0.375"	PER MAN.	
8"	20"	0.375"	]	
12"	24"	0.375"		
16"	30"	0.375"		
20"	36"	0.438"	]	CECTION TUROUGU
24"	42"	0.438"		SECTION THROUGH
30"	48"	1/2"	]	DIDE IN CONDUIT
36"	54"	9/16"	1	PIPE IN CONDUIT

EMBEDMENT FOR WATER CONDUITS						
		IN EARTH		IN ROCK		
TYPE OF PIPE	0'-8'	8'-16'	>16'	0'-8'	8'-16'	>16'
ALL PVC WATER PIPE	C+	B+	B+	C+	B+	B+
16" AND SMALLER DUCTILE IRON WATER PIPE	D+	С	В	С	С	В
18" AND LARGER DUCTILE IRON WATER PIPE	В	В	В	В	В	В

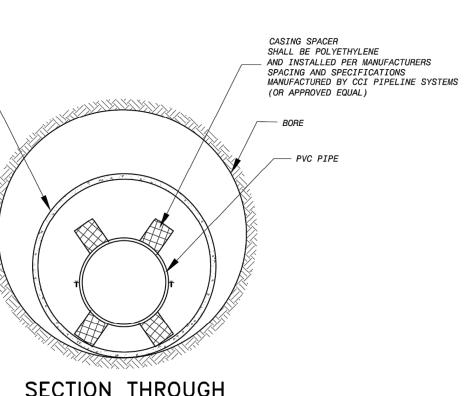
EMBEDMENT DETAILS N.T.S.

EMB	EDMENT D	IMENSIONS	3
PIPE DIAMETER (INCHES)	KIND OF PIPE	EXTERNAL DIAMETER Bc (INCHES)	TRENCH WIDTH Bd (INCHES)
6"	DVO	6.00	0.4
6"	PVC DI	6.90 6.90	24 24
8"	PVC	9.05	25
8"	DI	9.05	25
10"	PVC	11.10	27
10"	DI	11.10	27
12"	PVC	13.20	29
12"	DI	13.20	29
16"	DI	17.40	33
18"	DI	19.50	36
20"	DI	21.60	38

INSTALLATION OF PIPE IN CONDUIT N.T.S.



\_\_\_ SAND-CEMENT SLURRY



SAN ANTONIO BEXAR COUNTY **TEXAS** 

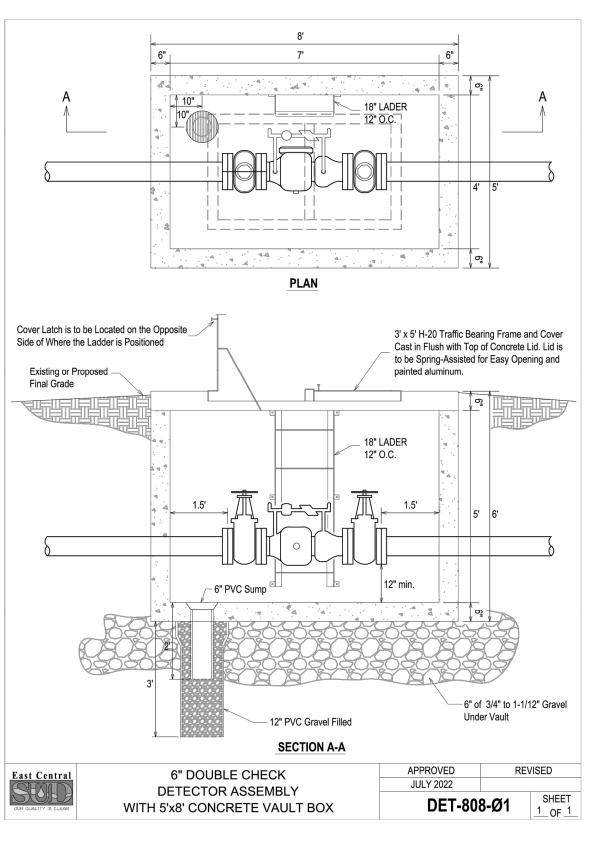
Colliers Engineering & Design

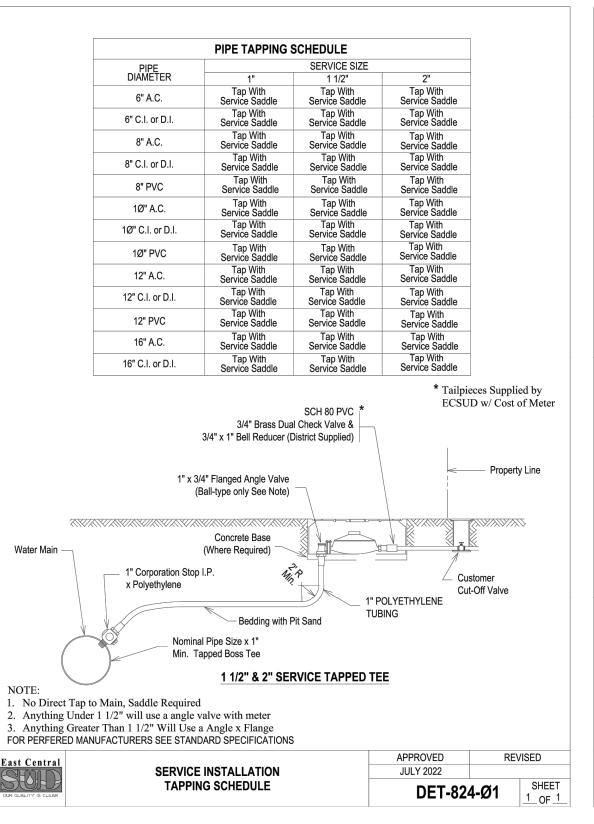
SAN ANTONIO (KFW) 3421 Paesanos San Antonio, TX 78231 Phone: 210.979.8444

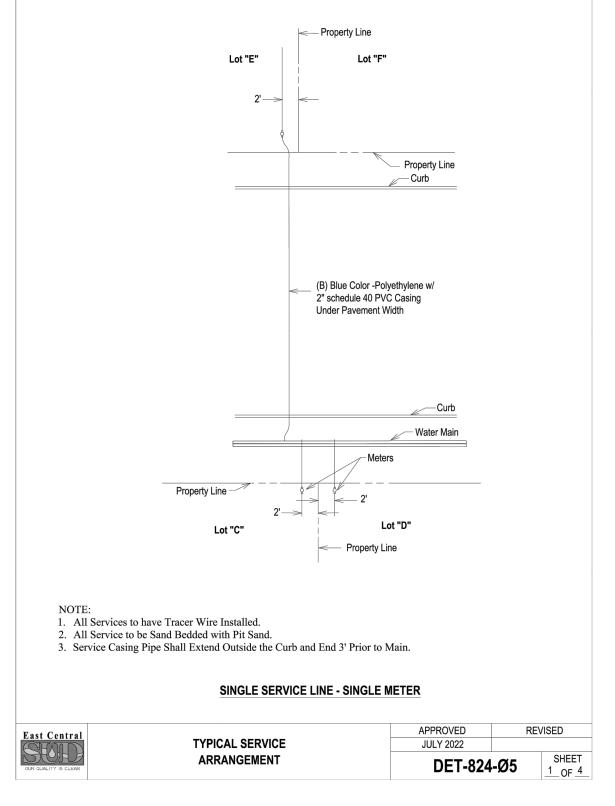
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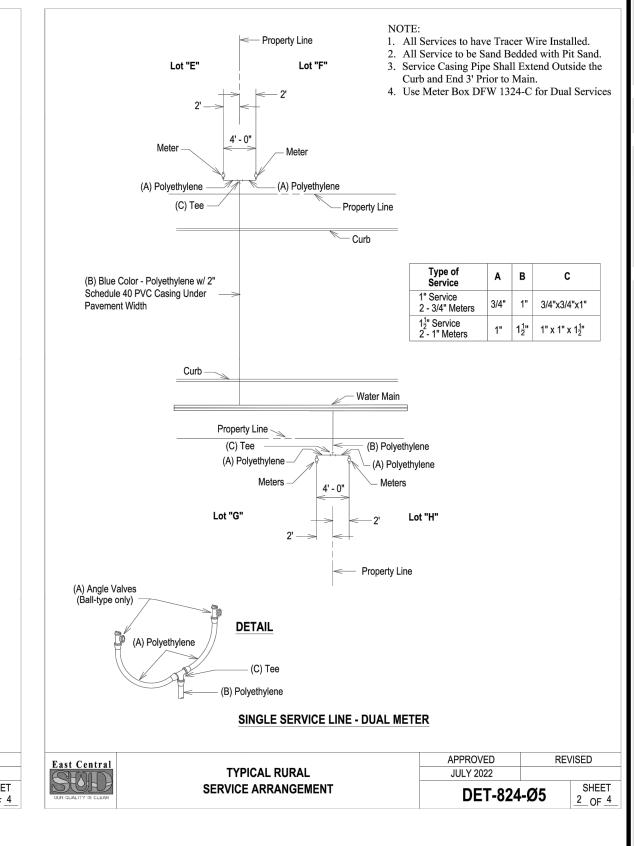
WATER DETAIL SHEET

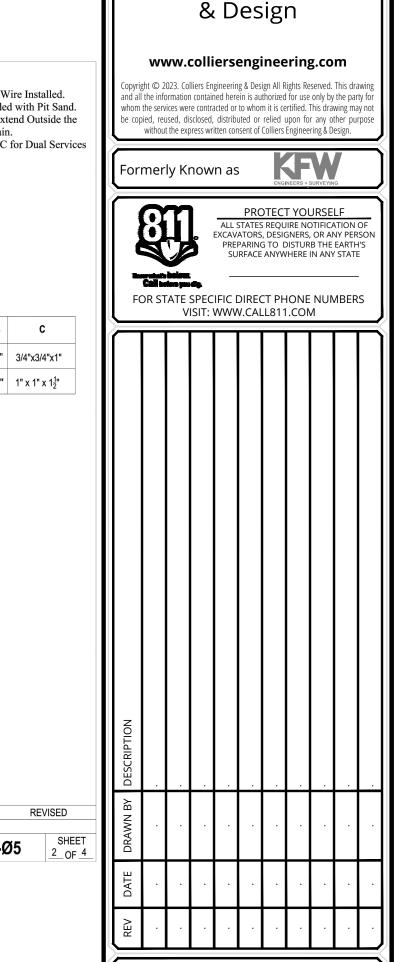






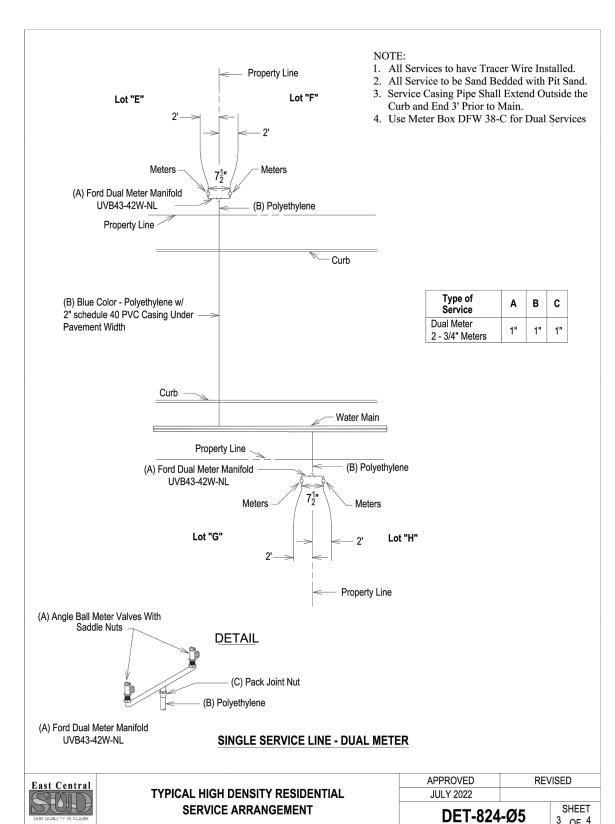


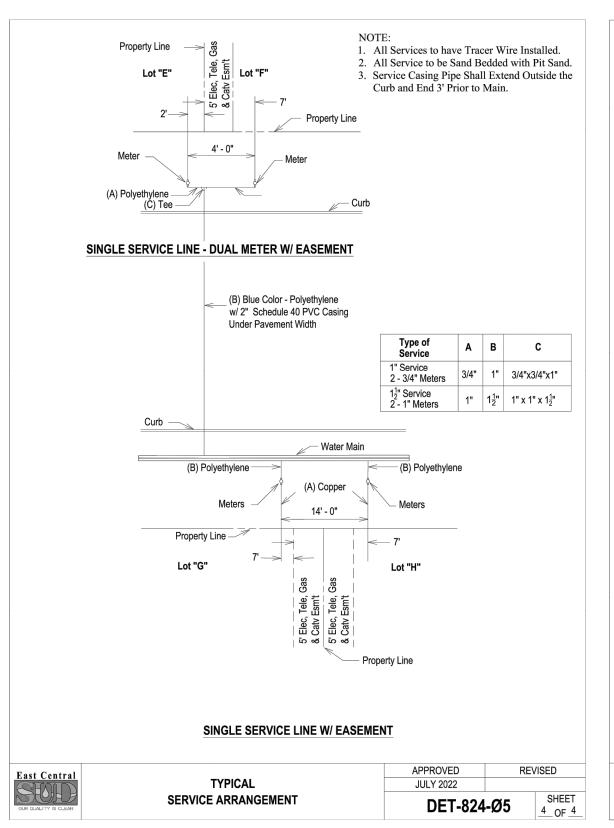


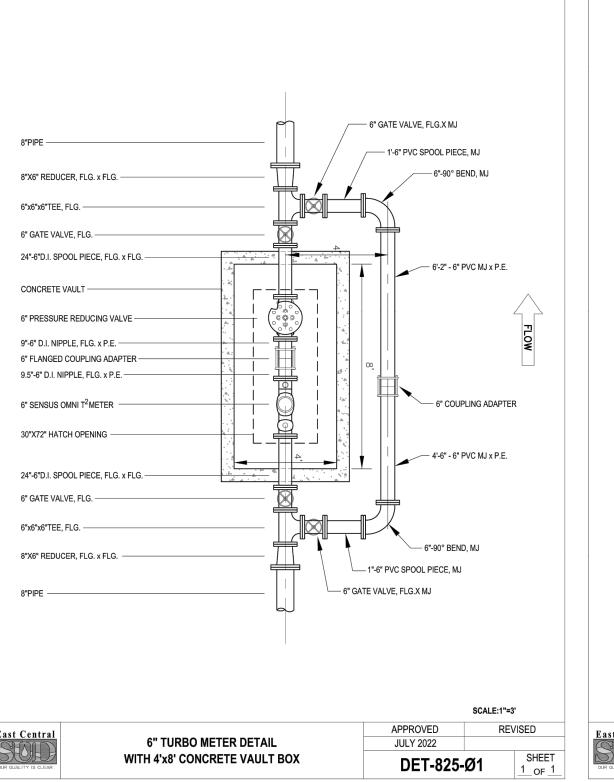


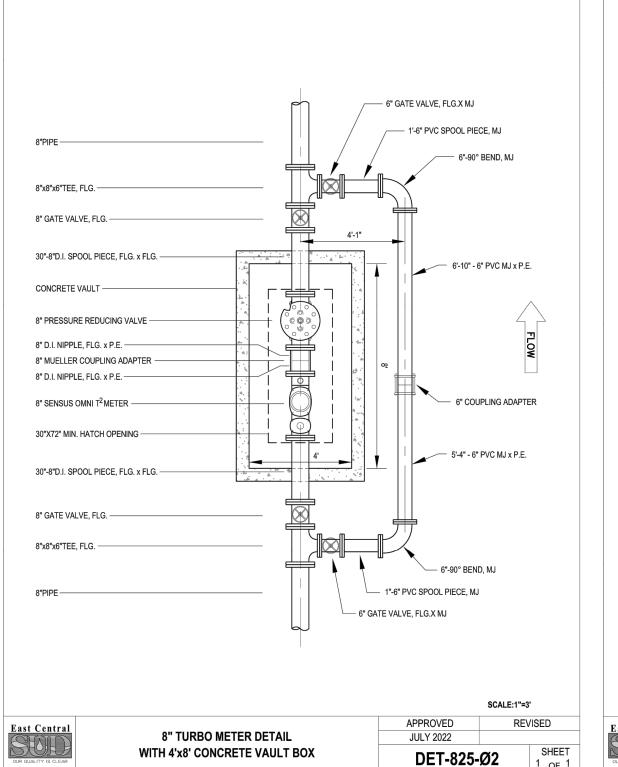
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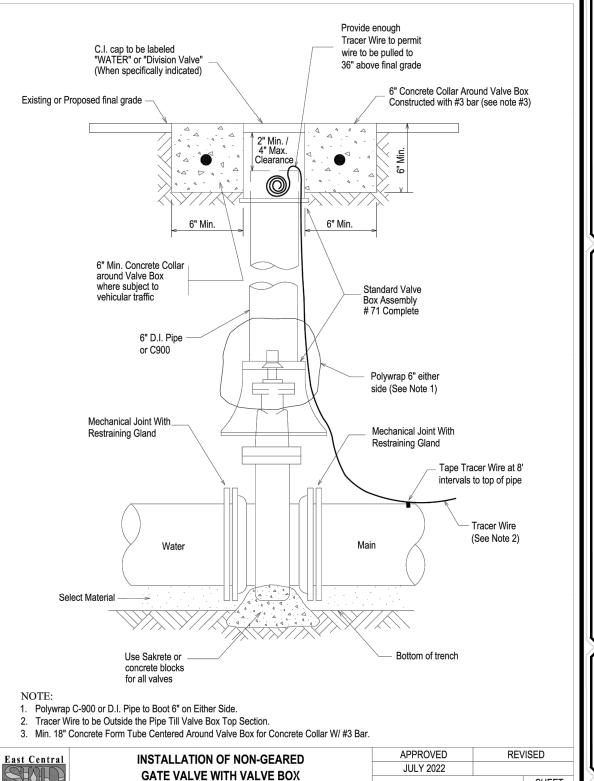
Engineering



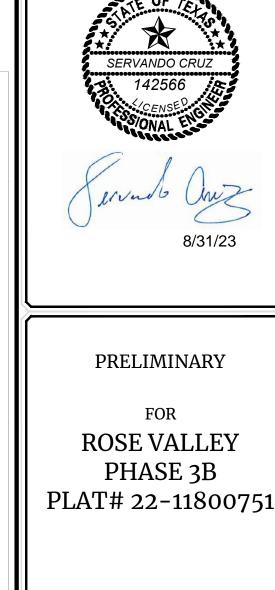








AND EXTENSION



SAN ANTONIO

**BEXAR COUNTY** 

**TEXAS** 

TOW\_3145105

WATER DETAIL SHEET

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& Design

314-51-05

DET-828-Ø1

SAN ANTONIO (KFW)

3421 Paesanos

Parkway

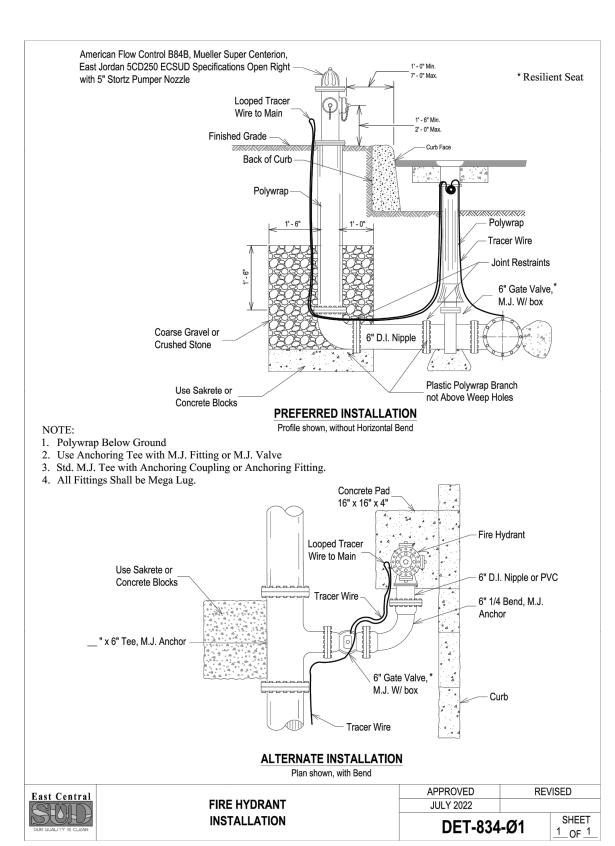
San Antonio, TX 78231

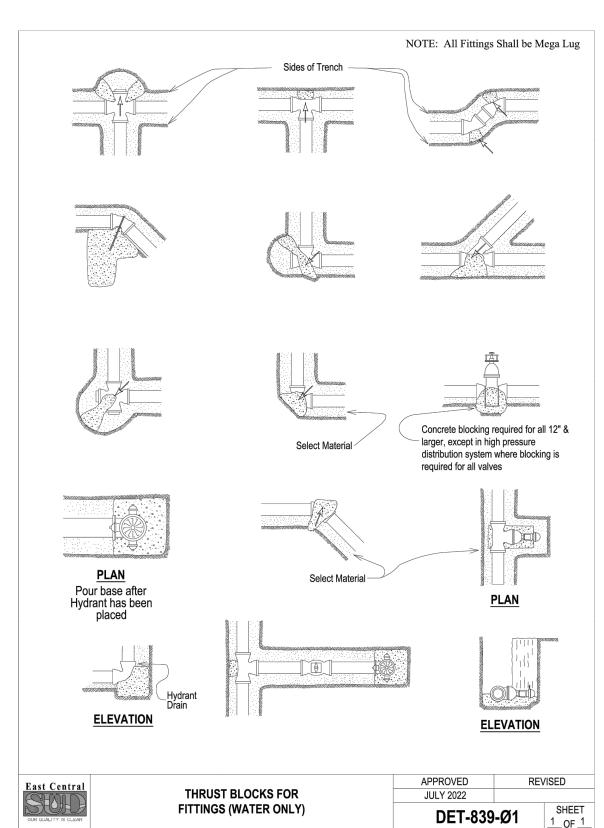
Phone: 210.979.8444

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TBPE Firm#: F-14909

TBPLS Firm#: 10194550





L = Length to be Restrained

PIPE SMALL RESTRAINED LENGTH RESTRAINED LENGTH

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The

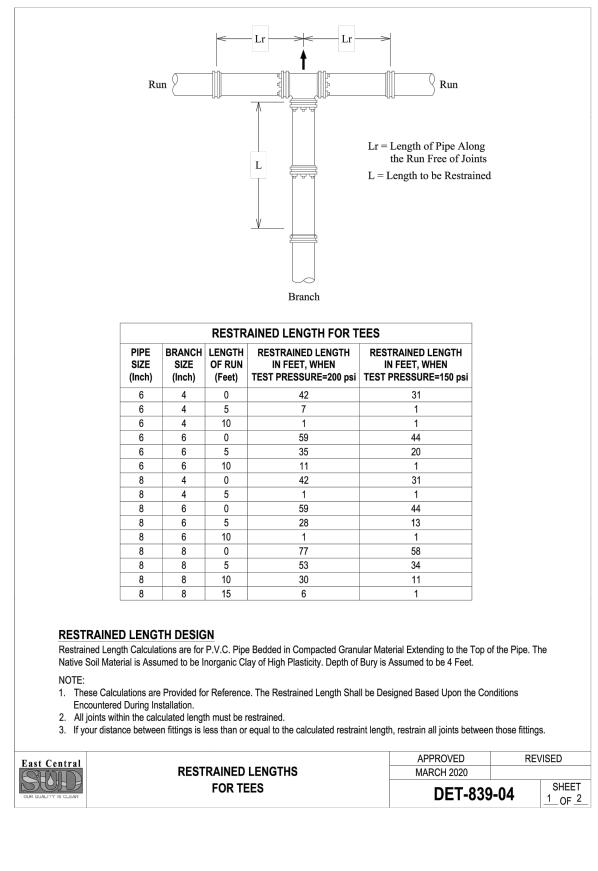
1. These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions

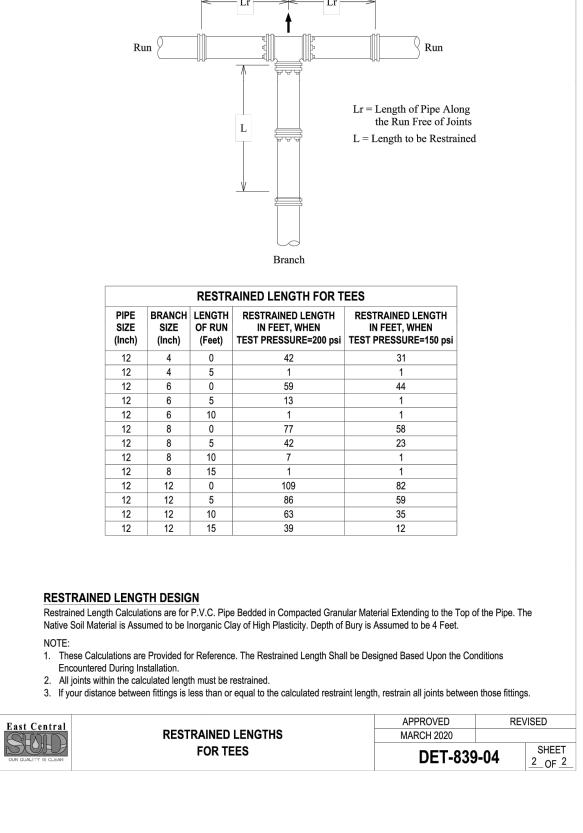
Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

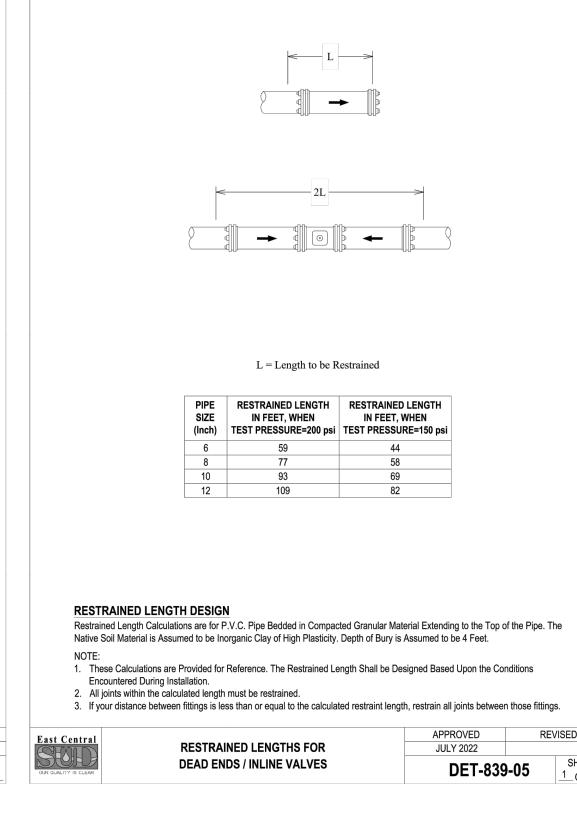
IN FEET, WHEN

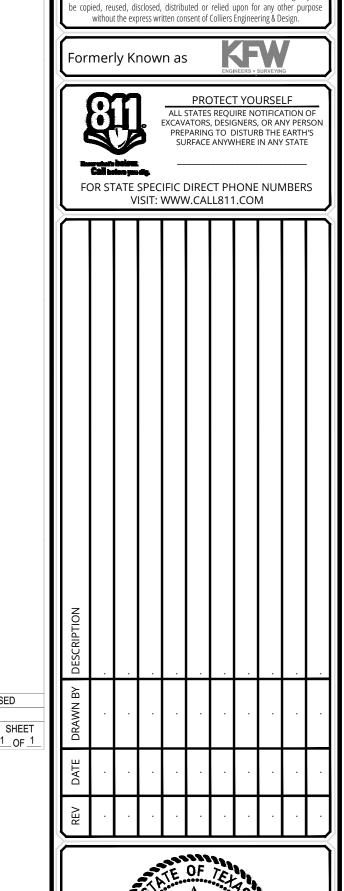
IN FEET, WHEN

TEST PRESSURE=200 psi | TEST PRESSURE=150 psi







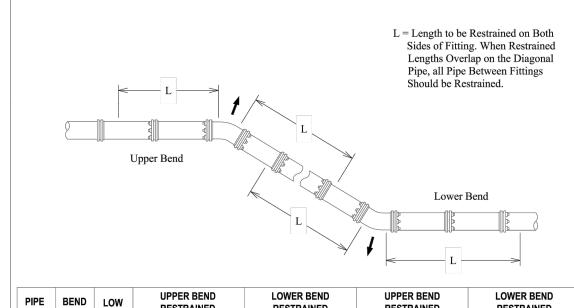


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PIPE SIZE (Inch)	BEND ANGLE (deg.)	LOW SIDE DEPTH	UPPER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	LOWER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=200 psi	UPPER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi	LOWER BEND RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE=150 psi
6	45	5	24	8	18	6
6	22.5	5	12	4	9	3
6	11.25	5	6	2	4	1
6	45	10	24	5	18	4
6	22.5	10	12	2	9	2
6	11.25	10	6	1	4	1
8	45	5	32	11	24	8
8	22.5	5	15	5	11	4
8	11.25	5	8	3	6	2
8	45	10	32	7	24	5
8	22.5	10	15	3	11	2
8	11.25	10	8	2	6	1
12	45	5	45	16	34	12
12	22.5	5	22	7	16	6
12	11.25	5	11	4	8	3
12	45	10	45	10	34	7
12	22.5	10	22	5	16	3
12	11.25	10	11	2	8	2

Restrained Length Calculations are for P.V.C. Pipe Bedded in Compacted Granular Material Extending to the Top of the Pipe. The Native Soil Material is Assumed to be Inorganic Clay of High Plasticity. Depth of Bury is Assumed to be 4 Feet.

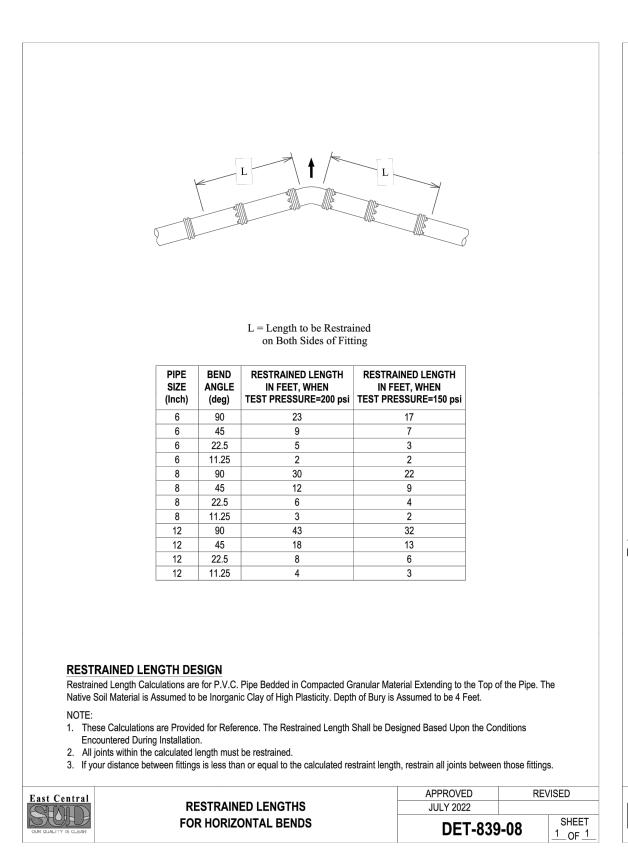
- 1. These Calculations are Provided for Reference. The Restrained Length Shall be Designed Based Upon the Conditions Encountered During Installation.
- 2. All joints within the calculated length must be restrained.
- 3. If your distance between fittings is less than or equal to the calculated restraint length, restrain all joints between those fittings.

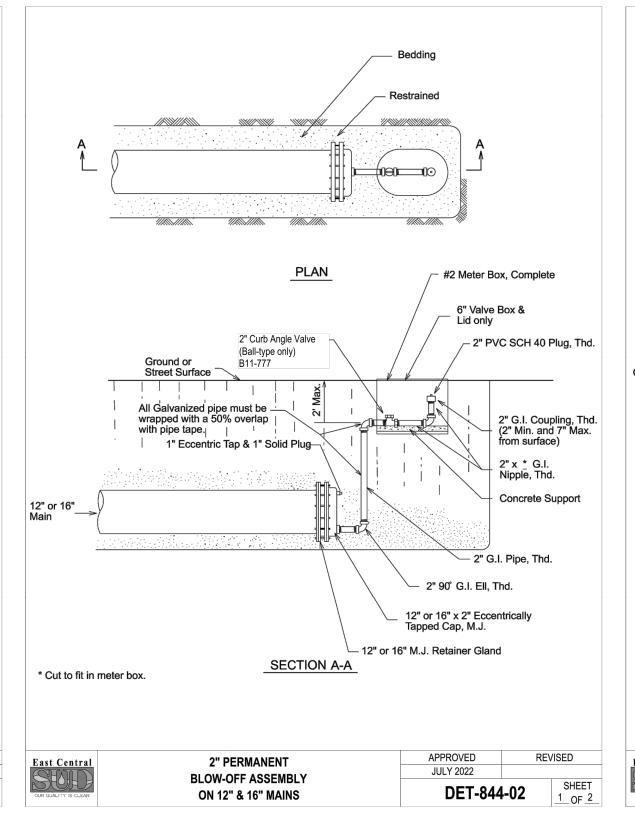
East Central		APPROVED	RE'	VISED
CHAID I	RESTRAINED LENGTHS	JULY 2022		
OUR QUALITY IS CLEAR	VERTICAL OFFSETS	DET-839	-06	SHEET 1 OF 1

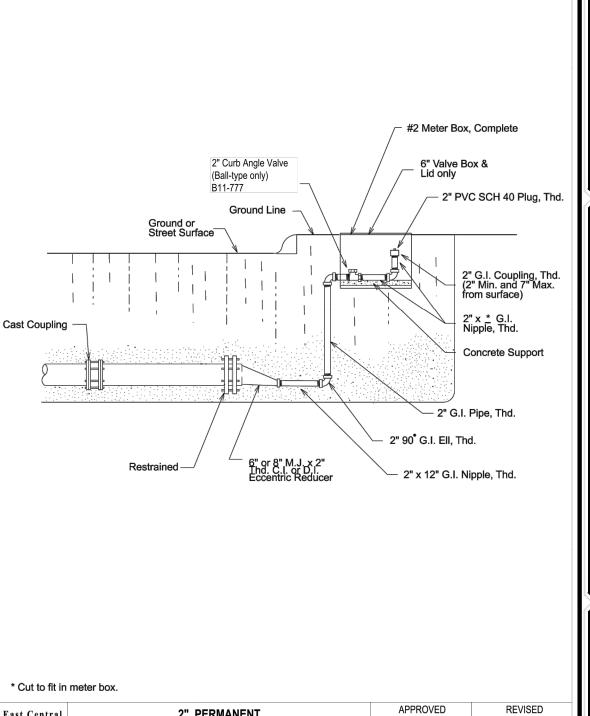
,	r distance between fittings is less than or equal to the calculated restraint leng	th, restrain all joints betwee	en those fittings.	,	nce between fittings is less than or equal to the calculated restrain	nt length, restrain all joints betweer	those fittings.
ntral		APPROVED	REVISED	East Central		APPROVED	REVISED
	RESTRAINED LENGTHS VERTICAL OFFSETS	JULY 2022			RESTRAINED LENGTHS	JULY 2022	
S CLEAR		ERTICAL OFFSETS  DET-839-06  SHEET  1 OF 1		OUR QUALITY IS CLEAR	FOR REDUCERS	DET-839	)-07 s

Encountered During Installation.

2. All joints within the calculated length must be restrained.







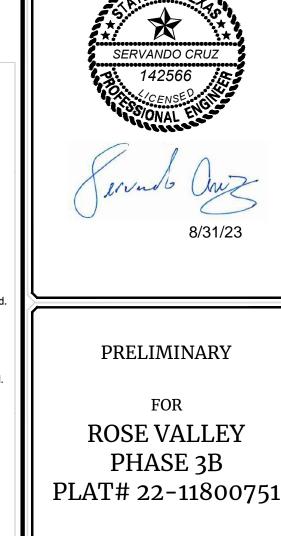
JULY 2022

**DET-844-02** 

2" PERMANENT

**BLOW-OFF ASSEMBLY** 

ON 6" & 8" MAINS



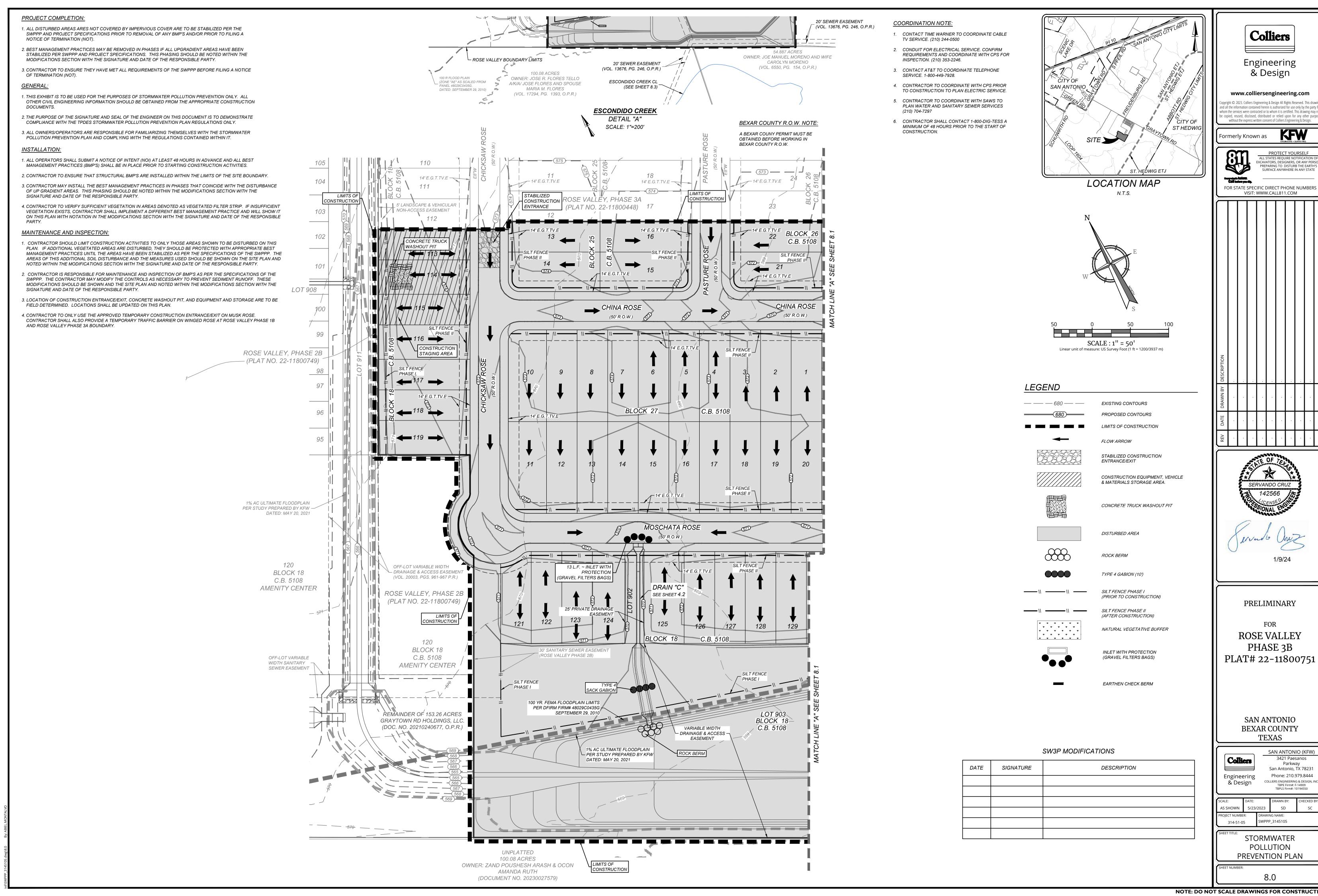
SAN ANTONIO BEXAR COUNTY

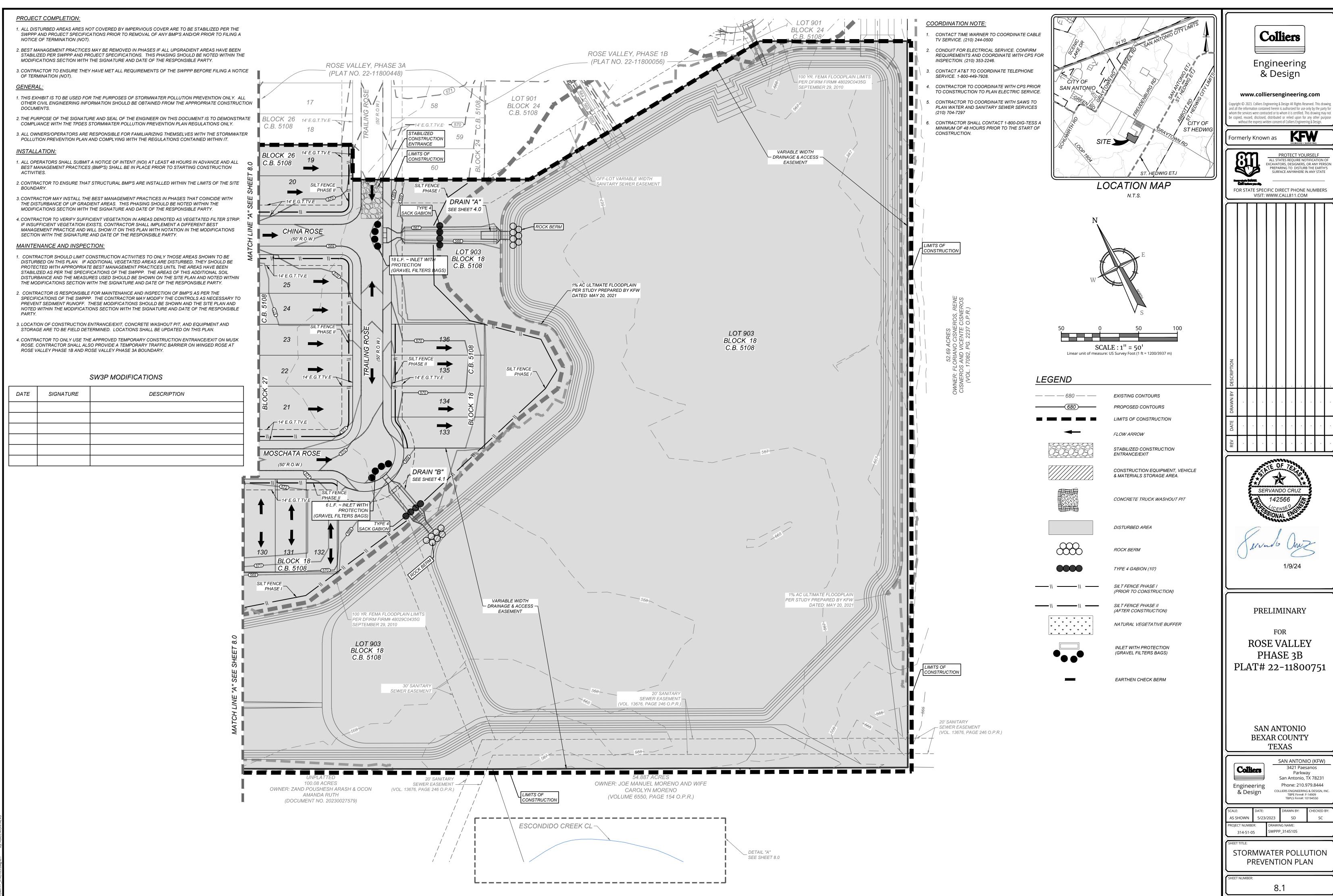
**TEXAS** 

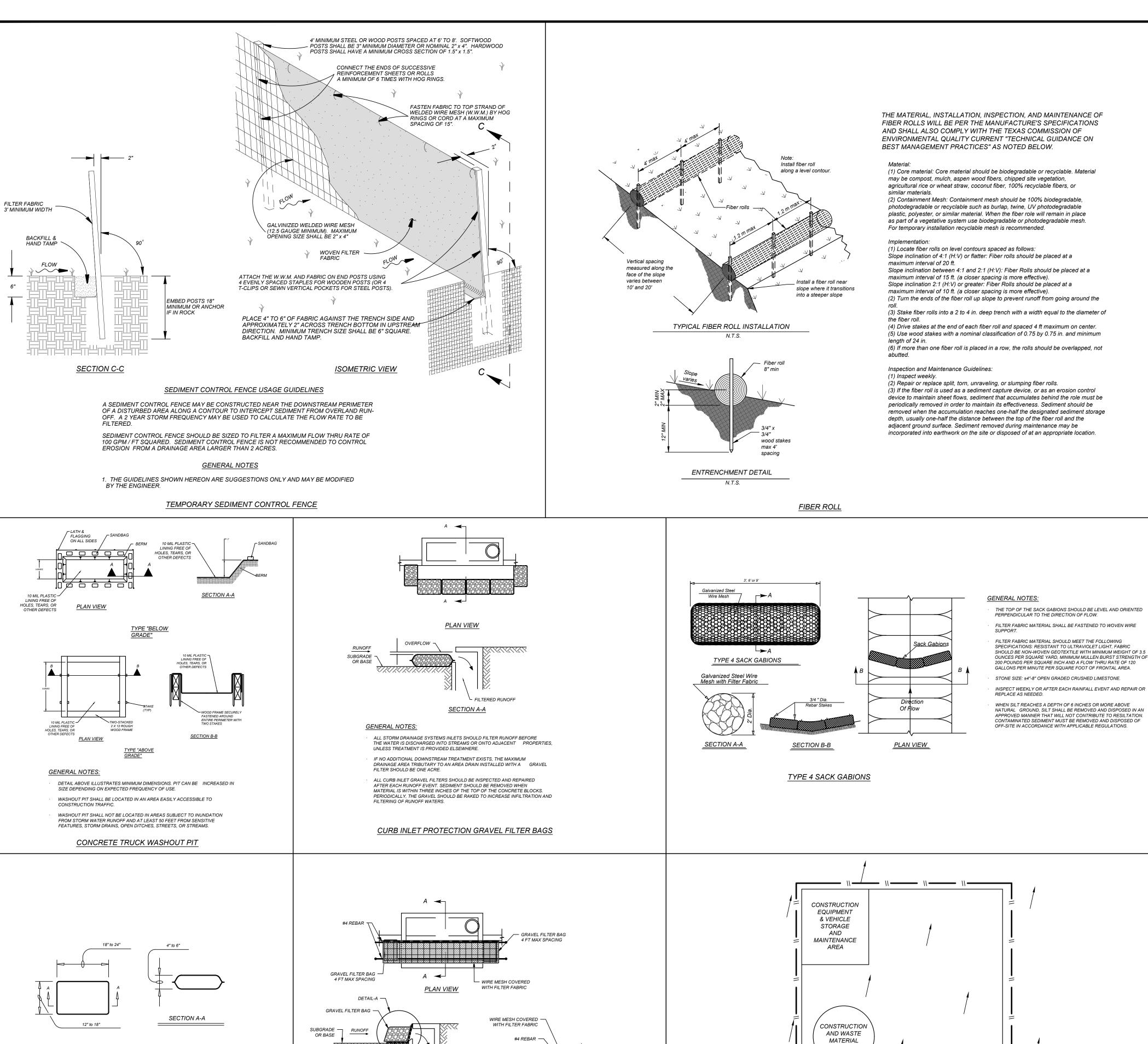
	SAN ANTONIO (KFW)		
Engineering & Design	3421 Paesanos		
	Parkway San Antonio, TX 78231		
	Phone: 210.979.8444		
	COLLIERS ENGINEERING & DESIGN, II TBPE Firm#: F-14909 TBPLS Firm#: 10194550		

LL.	DAIL.		DRAWN DI.	CHECKED DI.	
SHOWN	5/23/2023		SD	SC	
JECT NUMBER:		DRAWING NAME:			
314-51-05		DTOW_3145105			
CT TITLE:					

WATER DETAIL SHEET







**GENERAL NOTES:** 

THE FILTER BAG MATERIAL SHALL BE MADE OF POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN FABRIC, MIN UNIT WEIGHT OF 4

GRAVEL FILTER BAG DETAIL

OUNCES/SY, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET

THE FILTER BAG SHALL BE FILLED WITH CLEAN, MEDIUM TO COARSE GRAVEL (0.31 TO 0.75 INCH DIAMETER).

THE MATERIAL, INSTALLATION, INSPECTION, AND MAINTENANCE OF FIBER ROLLS WILL BE PER THE MANUFACTURE'S SPECIFICATIONS AND SHALL ALSO COMPLY WITH THE TEXAS COMMISSION OF ENVIRONMENTAL QUALITY CURRENT "TECHNICAL GUIDANCE ON BEST MANAGEMENT PRACTICES" AS NOTED BELOW.

(1) Core material: Core material should be biodegradable or recyclable. Material may be compost, mulch, aspen wood fibers, chipped site vegetation, agricultural rice or wheat straw, coconut fiber, 100% recyclable fibers, or

(2) Containment Mesh: Containment mesh should be 100% biodegradable, photodegradable or recyclable such as burlap, twine, UV photodegradable plastic, polyester, or similar material. When the fiber role will remain in place as part of a vegetative system use biodegradable or photodegradable mesh.

Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a

Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a

(3) Stake fiber rolls into a 2 to 4 in. deep trench with a width equal to the diameter of (4) Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.

(5) Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum (6) If more than one fiber roll is placed in a row, the rolls should be overlapped, not

(2) Repair or replace split, torn, unraveling, or slumping fiber rolls. (3) If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates behind the role must be periodically removed in order to maintain its effectiveness. Sediment should be removed when the accumulation reaches one-half the designated sediment storage depth, usually one-half the distance between the top of the fiber roll and the adjacent ground surface. Sediment removed during maintenance may be

FABRIC CROSS-SECTION OF A CONSTRUCTION ENTRANCE/EXIT

Installation: (North Carolina, 1993)

area. Grade crown foundation for positive drainage.

(3) The construction entrance should be at least 50 feet long.

(1) The aggregate should consist of 4 to 8 inch washed stone over a

plans. Divert wastewater to a sediment trap or basin

stable foundation as specified in the plan. PUBLIC ROAD (2) The aggregate should be placed with a minimum thickness of 8 inches (3) The geotextile fabric should be designed specifically for use as a soil filtration media with an approximate weight of 6 oz/yd2, a mullen burst rating of 140 lb/in2, and an equivalent opening size greater than a number (4) If a washing facility is required, a level area with a minimum of 4 inch

diameter washed stone or commercial rack should be included in the www.colliersengineering.com

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The entrance should be maintained in a condition, which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair andlor cleanout of any measures used to trap sediment. (2) All sediment spilled, dropped, washed or tracked onto public rights-of-way should be removed immediately by contractor.

(3) When necessary, wheels should be cleaned to remove sediment prior to entrance onto public right-of-way. (4) When washing is required, it should be done on an area stabilized with crushed stone that drains into an approved sedimen trap or sediment basin.

(1) Avoid curves on public roads and steep slopes. Remove vegetation and other objectionable material from the foundation

(2) The minimum width of the entrance/exit should be 12 feet or the full width of exit roadway, whichever is greater.

(5) Place geotextile fabric and grade foundation to improve stability, especially where wet conditions are anticipated.

(6) Place stone to dimensions and grade shown on plans. Leave surface smooth and slope for drainage.

foundation approximately 15 feet from the entrance to divert runoff away from the public road.

(7) Divert all surface runoff and drainage from the stone pad to a sediment trap or basin.

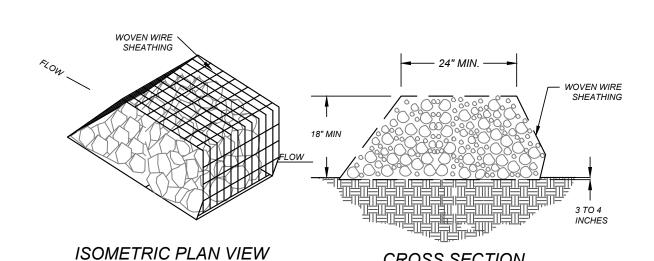
(8) Install pipe under pad as needed to maintain proper public road drainage.

(4) If the slope toward the road exceeds 2%, construct a ridge, 6 to 8 inches high with 3:1 (H:V) side slopes, across the

(5) All sediment should be prevented from entering any storm drain, ditch or water course by using approved methods.

**CROSS SECTION** 

STABILIZED CONSTRUCTION ENTRANCE / EXIT



GEOTEXTILE FABRICA

CONSTRUCTION ENTRANCE/EXIT

TO STABILIZE FOUNDATION

(1) 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- to 5-inch diameter rock should be used, except in areas where high velocities or large volumes of flow are expected, where 5- to 8-inch diameter rocks may be used.

(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 Figure 1-28), to a height not less than

(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, airl 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.

Inspection and Maintenance Guidelines:

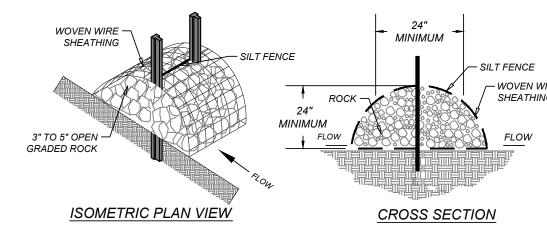
(1) Inspection should be made weekly by the responsible party. For installations in streambeds, additional daily inspections should be made. (2) Remove sediment and other debris when buildup reaches 6 inches and dispose of the accumulated silt in an approved manner that will not cause any additional 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

**ROCK BERM** 



(1) SILT FENCE MATERIAL SHOULD BE POLYPROPYLENE, POLYETHYLENE OR POLYAMIDE WOVEN OR NONWOVEN FABRIC. THE FABRIC WIDTH 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 NO. 30. (2) FENCE POSTS SHOULD BE MADE OF HOT ROLLED STEEL, AT LEAST 4 FEET LONG WITH TEE OR YBAR CROSS SECTION, SURFACE PAINTED OR GALVANIZED, MINIMUM NOMINAL WEIGHT 1.25 LB/FL2, AND BRINDELL HARDNESS EXCEEDING 140. REBAR (EITHER #5 OR #6) MAY ALSO BE USED TO ANCHOR THE BERM.

(3) WOVEN WIRE BACKING TO SUPPORT THE FABRIC SHOULD BE GALVANIZED 2" X 4" WELDED WIRE, 12 GAUGE MINIMUM. (4) 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. (5) CLEAN, OPEN GRADED 3- TO 5-INCH DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE VOLUMES

OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCKS MAY BE USED. <u>INSTALLATION:</u> (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) INSTALL THE SILT FENCE ALONG THE CENTER OF THE PROPOSED BERM PLACEMENT, AS WITH A NORMAL SILT FENCE DESCRIBED IN SECTION 2.4.3. (3) PLACE THE ROCK ALONG THE SHEATHING ON BOTH SIDES OF THE SILT FENCE AS SHOWN IN THE DIAGRAM (FIGURE 1-29), TO A HEIGHT NOT LESS THAN 24 INCHES. CLEAN, OPEN GRADED 3-5" DIAMETER ROCK SHOULD BE USED, EXCEPT IN AREAS WHERE HIGH VELOCITIES OR LARGE

(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) THE HIGH SERVICE ROCK BERM SHOULD BE REMOVED WHEN THE SITE IS REVEGETATED OR OTHERWISE STABILIZED OR IT MAY REMAIN IN PLACE AS A PERMANENT BMP IF DRAINAGE IS ADEQUATE.

INSPECTION AND MAINTENANCE GUIDELINES:
(1) INSPECTION SHOULD BE MADE WEEKLY BY THE RESPONSIBLE PARTY. FOR INSTALLATIONS IN STREAMBEDS, ADDITIONAL DAILY INSPECTIONS SHOULD BE MADE ON ROCK BERM.

(2) REMOVE SEDIMENT AND OTHER DEBRIS WHEN BUILDUP REACHES 6 INCHES AND DISPOSE OF THE ACCUMULATED SILT OF IN AN APPROVED (3) REPAIR ANY LOOSE WIRE SHEATHING. (4) THE BERM SHOULD BE RESHAPED AS NEEDED DURING INSPECTION.

HIGH SERVICE ROCK BERM

(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.

VOLUMES OF FLOW ARE EXPECTED, WHERE 5- TO 8-INCH DIAMETER ROCK MAY BE USED.

**PRELIMINARY** 

SERVANDO CRUZ

**ROSE VALLEY** PHASE 3B PLAT# 22-11800751

> SAN ANTONIO BEXAR COUNTY **TEXAS**

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TBPLS Firm#: 10194550 AS SHOWN

WPPP-DT3145105 HEET TITLE: STORMWATER POLLUTION

PREVENTION PLAN

