GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF MARION AND/OR GUADALUPE COUNTY SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- MARION AND/OR GUADALUPE COUNTY PUBLIC WORKS.
- NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS. BUT

SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.

REPLACED AT THE CONTRACTOR'S EXPENSE.

- 4. THE CONTRACTOR IS 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 EXTRA PAY ITEM).
- 5. 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.
- 6. 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
- 8. 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 EXCAVATION OPERATION.

GREEN VALLEY SPECIAL UTILITY DISTRICT GUADALUPE VALLEY ELECTRIC COOPERATIVE 800-427-7142 TEXAS STATE WIDE ON CALL LOCATOR 800-545-6005 OR 811

- 9. 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. THI 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 TH CONTRACTOR PRIOR TO CONSTRUCTION AND HE SHALL BE RESPONSIBLE FOR PROTECTION OF SAME DURING CONSTRUCTION.
- 10. 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 MATERIAL 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 FLOODPLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOODPLAIN DEVELOPMENT
- 12. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND/ OR TRACKED CONSTRUCTION MATERIALS AND/ OR DEBRIS.
- CONCRETE / CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS OTHERWISE
- REINFORCING STEEL CONFORM TO A.S.T.M. A-615, GRADE 60
- 2" COVER UNLESS OTHERWISE NOTED ON PLANS) PIPE RAILING: CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501STRUCTURAL STEEL:
- 14. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER (NO SEPARATE PAY ITEM).
- 15. TRANSITION FROM NORMAL CROWN TO WASHOUT CROWN IN TWENTY-FIVE FEET (25')
- 16. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING EIGHTY—FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO 35-504 OF THE CITY OF SAN ANTONIO UDC. NO EXTRA PAY

GUADALUPE COUNTY NOTES

- PRIOR TO THE COMMENCEMENT OF ANY WORK, THE COUNTY SHALL ATTEND A PRECONSTRUCTION MEETING INCLUDING (BUT NOT LIMITED TO) THE CITY, ENGINEER, CONTRACTOR, DEVELOPER'S INSPECTION REPRESENTATIVE, AND DEVELOPER'S CONSTRUCTION MATERIAL TESTING REPRESENTATIVE.
- . DURING CONSTRUCTION, NOTIFY THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AT LEAST 48 HOURS IN ADVANCE OF ANY WORK TO BE PERFORMED AFFECTING SUBGRADE, BASE, OR PAVEMENT INCLUDING BACKFILL OF ANY PROPOSED UTILITIES UNDERNEATH THE PAVEMENT AND FILL AREAS UPON WHICH PAVEMENT IS PROPOSED TO BE PLACED. SUCH NOTIFICATION IS ALSO REQUIRED BEFORE IMPLEMENTING ANY APPROVED TRAFFIC CONTROL PLANS ON EXISTING COUNTY—MAINTAINED ROADS. FULL CLOSURE OF COUNTY ROADS REQUIRES AT LEAST ONE MONTH ADVANCE NOTICE AND IS SUBJECT TO THE DISCRETION OF THE COUNTY ENGINEER AND POSSIBLE APPROVAL BY GUADALUPE COUNTY COMMISSIONERS COURT PER TRANSPORTATION CODE, CHAPTER
- 3. DURING CONSTRUCTION, PROVIDE ALL INSPECTION AND TESTING REPORTS TO THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AS SOON AS AVAILABLE FOR IDENTIFICATION AND CORRECTION OF ANY EMERGING DEFICIENCIES.
- 4. AT THE COMPLETION OF CONSTRUCTION, PROVIDE AS-BUILT DRAWINGS AND A LETTER SIGNED AND SEALED BY THE ENGINEER OF RECORD CERTIFYING THAT: ALL IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS AND COUNTY REGULATIONS.
 - ANY CHANGED IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE COUNTY'S
 - THE ELEVATIONS AND GRADES WERE TAKEN BY AN ON-SITE SURVEY ON A DATE SPECIFIED TO ENSURE THAT ALL PAVEMENT, INLETS, MANHOLES AND APPURTENANCES ARE CONSTRUCTED TO GRADE AS SHOWN ON THE RECORD. DRAWINGS AND ARE IN COMPLIANCE WITH THE APPROVED PLANS AND
 - ALL TRUNK STORM SEWERS AND LEADS ARE OF THE PROPER SIZE AND THAT ALL IMPROVEMENTS ARE CAPABLE OF PERFORMANCE AS DESIGNED AND

CONSTRUCTION MATERIALS TESTING NOTES (CITY OF MARION)

TESTING SHALL BE PERFORMED BY AN APPROVED, INDEPENDENT TESTING LABORATORY. THE FOLLOWING TEST SCHEDULE SHALL BE ADHERED TO:

- . ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF 1. STREETS: SUBGRADE MOISTURE, DENSITY TEST AS OUTLINED IN THE TESTING SCHEDULE TABLE UNDER SECTION 42(G) OF THE CITY OF MARION SUBDIVISION ORDINANCE. FLEXIBLE BASE: FL, LL, PI, AND GRADATION OF MATERIAL USED; MOISTURE, DENSITY TEST ON SAME SPACING AS SUBGRADE.
- NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND 3. CONCRETE STRUCTURES: CONCRETE CYLINDERS, ONE/50 CY OR FOR EACH POUR IF LESS THAN 50 CY SHALL BE TAKEN FOR CURBS, DRAINAGE STRUCTURES AND ALL TESTING IS THE RESPONSIBILITY OF THE DEVELOPER. COPIES OF ALL TEST RESULTS SHALL BE FURNISHED TO THE CITY BEFORE FINAL APPROVAL OF THE

TESTING REQUIREMENTS:

SUBDIVISION IS GIVEN.

- ALL MATERIALS TO BE USED IN SUBDIVISION CONSTRUCTION SHALL BE SUBJECT TO ESTING IF WARRANTED. THE PREPONDERANCE OF TESTING TO BE PERFORMED IN SUBDIVISIONS IS DIRECTLY RELATED TO STREET CONSTRUCTION AND A SERIES OF LABORATORY TESTS NORMALLY ASSOCIATED WITH ROAD AND STREET CONSTRUCTION WILL BE REQUIRED IN SUBDIVISIONS, SAID TESTS BEING PERFORMED BY AN INDEPENDENT TESTING LABORATORY USING QUALIFIED PERSONNEL. THE DESIGN (OR CONSULTING) ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL BE PRESENT AT
- THE SUBDIVIDER SHALL NOTIFY THE CITY AT LEAST FIVE BUSINESS DAYS PRIOR TO THE CONTRACTOR BEGINNING CONSTRUCTION. CONTRACTOR SHALL BE REQUIRED TO NOTIFY THE CITY A MINIMUM OF AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF ALL TESTING BEING PERFORMED. IT IS ASSUMED THAT THE PREPONDERANCE OF TESTING REQUIRED IN THE SUBDIVISION IS THAT TESTING RELATED DIRECTLY TO STREET
- . SUBGRADE MATERIALS SHALL BE COMPACTED BY APPROVED MECHANICAL TAMPING EQUIPMENT TO AN APPARENT DRY DENSITY OF THE TOTAL MATERIAL OF NOT LESS THAN NINETY (90%) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE TEX-113-E COMPACTION TEST MADE IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE TEXAS HIGHWAY DEPARTMENT TESTING MANUAL. TESTS FOR DENSITY WILL BE MADE WITHIN TWENTY-FOUR (24) HOURS AFTER COMPACTION OPERATIONS ARE
- COMPLETED. IF THE MATERIAL FAILS TO MEET THE DENSITY SPECIFIED, IT SHALL BE REWORKED AS NECESSARY TO OBTAIN THE DENSITY REQUIRED.
 WHEN A FILL OR EMBANKMENT IS REQUIRED TO ACHIEVE THE PRESCRIBED SUBGRADE,
 OR STRUCTURAL ELEVATION, SUCH FILL SHALL BE PLACED IN UNIFORM LIFTS COVERING THE ENTIRE WIDTH OF THE CROSS-SECTION. PRIOR TO COMPACTION, THE LAYERS SHALL NOT EXCEED A SIX (6) INCH DEPTH WHERE PNEUMATIC TIRE ROLLING IS TO BE USED AND SHALL NOT EXCEED EIGHT (8) INCHES IN DEPTH FOR ROLLING WITH OTHER TYPES OF ROLLERS. EACH LIFT SHALL BE COMPACTED TO THE REQUIRED DENSITY BEFORE SUCCEEDING LIFTS ARE PLACED. LIFTS SHALL BE COMPACTED TO NOT LESS
- THAN NINETY (90%) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE TEX-113-E COMPACTION TEST MADE IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE TEXAS HIGHWAY DEPARTMENT TESTING MANUAL. SWELLING SOILS (SOILS WITH PLASTICITY INDEX OF 20 OR MORE) SHALL BE TREATED AS REQUIRED BY ADDITION OF GRADE A, HYDRATED LIME AND COMPACTED. DEVELOPER
- MUST PROVIDE THE CITY WITH LAB REPORTS ON SOIL CONDITIONS, INCLUDING SULFATE TESTING. AND RECOMMENDATIONS. FLEXIBLE BASE MATERIALS SHALL BE COMPACTED BY APPROVED MECHANICAL TAMPING EQUIPMENT TO AN APPARENT DRY DENSITY OF THE TOTAL MATERIAL OF NOT LESS THAN NINETY- FIVE (95%) PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE TEX-113-E COMPACTION TEST MADE IN ACCORDANCE WITH THE PROCEDURE OUTLINED IN THE TEXAS HIGHWAY DEPARTMENT TESTING MANUAL. TESTS FOR DENSITY WILL BE MADE WITHIN TWENTY-FOUR (24) HOURS AFTER COMPACTION OPERATIONS ARE COMPLETED. IF THE MATERIAL FAILS TO MEET THE DENSITY SPECIFIED, IT SHALL
- . EACH COURSE OF FIVE (5) INCHES OR LESS SHALL BE COMPACTED TO FULL REQUIRED DENSITY BEFORE SUCCEÈDÍNG LAYERS ARE PLACED. 8. IN THE EVENT OF FAILURES, ADDITIONAL TESTS WILL BE TAKEN. IF EXCESSIVE RAIN

BE REWORKED AS NECESSARY TO OBTAIN THE DENSITY REQUIRED.

NECESSARY AT THE CITY'S EXPENSE.

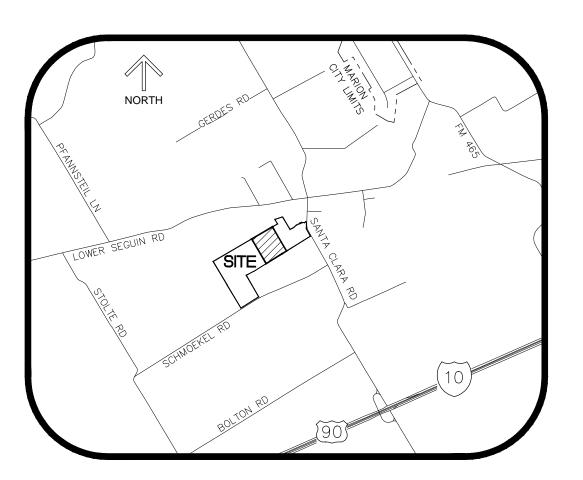
- OCCURS ON A PREVIOUSLY TESTED SECTION, THE CITY SHALL HAVE THE RIGHT TO ORDER RETESTS AS NECESSARY. THE CONTRACTOR SHALL NOTIFY THE TESTING LAB WHEN TESTS ARE TO BE TAKEN. IF IT IS NECESSARY TO RETEST, SUCH RETESTING SHALL BE AT THE CONTRACTOR'S EXPENSE. THE SCOPE OF TESTING OF MATERIALS INCORPORATED IN SUBDIVISION CONSTRUCTION IS NOT NECESSARILY LIMITED TO THOSE TESTS OUTLINED ABOVE. IN THE EVENT OF UNUSUAL CONDITIONS OR FACTORS WHICH MAY GIVE THE CITY REASON TO QUESTION THE QUALITY OF THE MATERIALS IN ANY PORTION OF THE SUBDIVISION, THE CITY WILL HAVE THE RIGHT TO ORDER SUCH ADDITIONAL TESTS AS ARE
- O. ALL TESTING WITHIN THESE REQUIREMENTS WILL BE PERFORMED IN ACCORDANCE WITH THE AMERICAN SOCIETY OF TESTING MATERIALS (ASTM) LATEST REVISION, AND/OR AS ELSEWHERE PROVIDED IN APPROVED PLANS AND SPECIFICATIONS FOR THE SUBDIVISION. THE CITY WILL REQUIRE ALL SUBDIVISION TEST REPORTS TO BE CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER (TEXAS REGISTRATION) AND WILL FURTHER REQUIRE THAT THE CITY BE FURNISHED A MINIMUM OF TWO (2) COPIES OF TESTING

CIVIL CONSTRUCTION PLANS

KAYDEN SPRINGS UNIT 2

MARION, TX

GUADALUPE COUNTY MUNICIPAL UTILITY DISTRICT NO. 10



LOCATION MAP

NO.	DATE	REVISIONS	BY

Westwood

(210) 265-8300 211 North Loop 1604 East, Suite 205 (888) 937-5150 San Antonio, TX 78232 westwoodps.com

Westwood Professional Services, Inc. TBPELS FIRM REGISTRATION NO. F-11756 TBPELS FIRM REGISTRATION NO. 10074301



ENGINEER / SURVEYOR:

WESTWOOD PROFESSIONAL SERVICES 211 N LOOP 1604 E, SUITE 205 SAN ANTONIO, TEXAS 78232 TEL: (210) 265-8300

OWNER / DEVELOPER:

LENNAR HOMES OF TEXAS 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 TEL: (210) 403-6200

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CIVIL PLANS COVER SHEET PLAT (1 OF 2) PLAT (2 OF 2) STORM WATER POLLUTION PREVENTION PLAN STORM WATER POLLUTION PREVENTION PLAN DETAILS EROSION CONTROL STANDARDS GRADING PLAN GRADING DETAILS OVERALL UTILITY PLAN STREETS STREET COVER SHEET SIGNAGE AND PAVEMENT MARKING PLAN STREET PLAN AND PROFILE - RIVER GAIL WAY STREET PLAN AND PROFILE - LAYNES FALLS C2.4 STREET PLAN AND PROFILE - KOLBE CREEK STREET PLAN AND PROFILE - KNOB CREEK WAY STREET PLAN AND PROFILE - LAURIE CREEK STREET DETAILS (1 OF 2) STREET DETAILS (2 OF 2) TRAFFIC SIGNAGE DETAILS DRAINAGE DRAINAGE COVER SHEET DRAIN PLAN AND PROFILE - DRAIN B DRAIN B DETAILS DRAIN PLAN AND PROFILE - DRAIN G DRAIN PLAN AND PROFILE - DRAIN H DRAIN PLAN AND PROFILE - DRAIN I DRAIN PLAN AND PROFILE - DRAIN J DRAINAGE DETAILS (1 OF 2) C3.8 WATER WATER COVER SHEET WATER DISTRIBUTION PLAN WATER DETAILS (1 OF 5) WATER DETAILS (2 OF 5) WATER DETAILS (3 OF 5) WATER DETAILS (4 OF 5)

WATER DETAILS (5 OF 5)

SANITARY SEWER COVER SHEET

OVERALL SANITARY SEWER LAYOUT

SANITARY SEWER DETAILS (1 OF 4)

SANITARY SEWER DETAILS (2 OF 4)

SANITARY SEWER DETAILS (3 OF 4)

C5.10 SANITARY SEWER DETAILS (4 OF 4)

SANITARY SEWER PLAN AND PROFILE - LINE F SANITARY SEWER PLAN AND PROFILE - LINE G

SANITARY SEWER PLAN AND PROFILE - LINE J

SANITARY SEWER PLAN AND PROFILE - LINE K

SANITARY SEWER PLAN AND PROFILE - LINE L

SANITARY SEWER

LEGAL DESCRIPTION

A 25.72 ACRE TRACT OF LAND SITUATED WITHIN THE WILLIAM BRACKEN SURVEY NO. 230, ABSTRACT NO. 71, GUADALUPE COUNTY, TEXAS, BEING OUT OF THE REMAINDER OF A CALLED 141.823 ACRE TRACT RECORDED IN DOCUMENT NO. 202299016819, GUADALUPE COUNTY OFFICIAL PUBLIC RECORDS

BENCHMARK LIST:

ELEVATION = 623.48'

BENCHMARK #1 - 5/8IN IR W/ PINK WESTWOOD CAP N = 13745774.11 / E = 2239314.16

BENCHMARK #2 - 5/8IN IR W/ PINK WESTWOOD CAP N = 13745303.47 / E = 2239344.38*FLEVATION* = 626.12'

BENCHMARK #3 - 5/8IN IR W/ PINK WESTWOOD CAP N = 13744921.74 / E = 2239395.02ELEVATION = 627.07'

— 900 — EXISTING CONTOUR

——900 — PROPOSED CONTOUR NTS ELECTRIC, GAS, TELEPHONE, & CABLE TELEVISION ESM'T EGTTVE BUILDING SETBACK LINE COUNTY BLOCK

CENTERLINE ESM'T

DEED AND PLAT RECORDS OF GUADALUPE COUNTY, TEXAS OFFICIAL PUBLIC RECORDS OF GUADALUPE COUNTY, TEXAS VOLUME

PROPERTY LINE VARIABLE WIDTH SIGHT CLEARANCE ESM'T UTILITY UTIL

1/2" IRON ROD SET WITH ORANGE PLASTIC CAP
"WESTWOOD"

RIGHT OF WAY FOUND 1/2" IRON ROD UNLESS OTHERWISE NOTED

NOTES:

MARION INDEPENDENT SCHOOL DISTRICT.

2. BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE 4204, NORTH AMERICAN DATUM

 DIMENSIONS AND COORDINATES SHOWN HEREON ARE SURFACE, UTILIZING A COMBINED SCALE FACTOR OF 1.0001557884 APPLIED AT N=13,743,325.32*, 4. 1/2" IRON RODS WITH "WESTWOOD" CAP AT ALL LOT CORNERS, UNLESS

OTHERWISE NOTED. 5. WITHIN E.T.J.-CITY OF MARION.

AS SCALED FROM THE FOLLOWING REFERENCED MAP, THIS PROPERTY IS LOCATED IN ZONE "X" ACCORDING TO THE FEMA FIRM MAP NO. 48187C0245F, DATED NOVEMBER

CURVE TABLE

CURVE NO. ARC LENGTH RADIUS DELTA BEARING DISTANCE

10.00' 090°00'00" N14°49'16"E 14.14'

| 10.00' | 090°00'00" | N75°10'44"W | 14.14'

10.00' | 090°00'00" | S14°49'16"W | 14.14'

10.00' 090°00'00" N75°10'44"W 14.14'

| 10.00' | 090°00'00" | S14°49'16"W | 14.14'

10.00' 090°00'00" N75°10'44"W 14.14'

| 10.00' | 090°00'00" | S14°49'16"W | 14.14'

10.00' 090°00'00" S75°10'44"E 14.14'

15.71' | 10.00' | 090°00'00" | N14°49'16"E | 14.14'

15.71' | 10.00' | 090°00'00" | N14°49'16"E | 14.14'

C12 | 15.71' | 10.00' | 090°00'00" | S75°10'44"E | 14.14'

| 10.00' | 090°00'00" | S75°10'44"E |

OWNER AND DEVELOPER:

THE BOARD OF TRUSTEES OF THE MARION INDEPENDENT SCHOOL DISTRICT P.O. BOX 189 MOSAIC LAND DEVELOPMENT, LLC 6812 WEST AVE, SUITE 100 SAN ANTONIO, TEXAS 78213 MARION, TEXAS 78124

UTILITIES:

C2

C3

C4

C5

C6

C11

WATER GREEN VALLEY S.U.D. ELECTRIC GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC.

SEWAGE GREEN VALLEY S.U.D..

15.71'

15.71'

15.71

15.71

15.71

15.71'

15.71

EASEMENT CERTIFICATE

THE OWNER OF THE LAND SHOWN ON THIS PLAT AND WHOSE NAME IS SUBSCRIBED HERETO, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE GREEN VALLEY SPECIAL UTILITY DISTRICT OF MARION, TEXAS, ITS SUCCESSORS AND ASSIGNS, A PERPETUAL EASEMENT MARKED AS "GVSUD WATERLINE EASEMENT", "GVSUD SEWER EASEMENT" OR "GVSUD REUSE WATER EASEMENT" AS APPLICABLE WITH THE RIGHT TO ERECT, CONSTRUCT, INSTALL, AND LAY AND THEREAFTER ACCESS AND USE, OPERATE, INSPECT, REPAIR, MAINTAIN, REPLACE, UPGRADE, PARALLEL AND REMOVE WATER OR WASTE—WATER TRANSMISSION, COLLECTION AND/OR DISTRIBUTION LINES AND APPURTENANCES AND ANY OTHER FACILITIES NECESSARY TO SERVE GRANTORS' PROPERTY, AS WELL AS THE GRANTEE'S CURRENT AND FUTURE SYSTEM-WIDE CUSTOMERS, TOGETHER WITH THE RIGHT OF INGRESS AND FOTORE STSTEM—WIDE COSTOMERS, TOGETHER WITH THE RIGHT OF INGRESS
AND EGRESS UNDER, OVER AND ACROSS GRANTOR'S ADJACENT LANDS AND IN ALL
STREETS AND BYWAYS FOR THE PURPOSE FOR WHICH THE ABOVE MENTIONED
RIGHTS ARE GRANTED, INCLUDING THE RIGHT TO REMOVE FROM SAID LANDS ALL
TREES, SHRUBS, GRASSES, PAVEMENTS, FENCES, STRUCTURES, IMPROVEMENTS, OR
OTHER OBSTRUCTIONS WHICH MAY INTERFERE WITH THE FACILITY OR THE ACCESS
THERETO

IT IS AGREED AND UNDERSTOOD THAT NO OTHER UTILITIES SHALL BE INSTALLED WITHIN OUR EASEMENT TO INCLUDE BUT NOT LIMITED TO PERMANENT STRUCTURES AND/OR BUILDINGS, CONCRETE SLABS, SIDEWALKS, WALLS, AND PAVEMENTS. ANY MONETARY LOSS TO GREEN VALLEY SUD RESULTING FROM MODIFICATIONS REQUIRED ONE TARY LOSS TO GREEN VALLEY SUD RESULTING FROM MODIFICATIONS REQUIRED OF UTILITY EQUIPMENT LOCATED WITHIN SAID EASEMENTS DUE TO GRADE CHANGE OR GROUND ELEVATION ALTERATIONS SHALL BE CHARGED TO THE PERSON OR PERSONS DEEMED RESPONSIBLE FOR SAID GRADE CHANGES OR GROUND ELEVATION ALTERATIONS. UPON ENTERING IN AND UPON SAID EASEMENT, THE DISTRICT WILL ENDEAVOR TO RESTORE THE LAND SURFACE TO A USEABLE CONDITION BUT IS NOT OBLIGATED TO RESTORE IT TO A PRE—EXISTING CONDITION.

THE EASEMENT CONVEYED HEREIN WAS OBTAINED OR IMPROVED THROUGH FEDERAL FINANCIAL ASSISTANCE. THIS EASEMENT IS SUBJECT TO THE PROVISION OF TITLE VIOF THE CIVIL RIGHTS ACT OF 1964, AND THE REGULATIONS ISSUED PURSUANT THERETO FOR SO LONG AS THE EASEMENT CONTINUES TO BE USED FOR THE SAME OR SIMILAR PURPOSE FOR WHICH FINANCIAL ASSISTANCE WAS EXTENDED OR FOR SO LONG AS THE GRANTEE OWNS IT, WHICHEVER IS LONGER.

UNDERGROUND SUBDIVISION PLAT NOTES

1. TYPICAL FOR METER LOCATIONS. SEE TYPICAL EASEMENT ON INTERIOR PROPERTY LINE DETAIL (SHEET 2). 2. WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING

3. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA. 4. ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A

5. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE. 6. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT

REAR LOT LINES. 7. ALL ELECTRIC EASEMENTS. FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.

OF WAY ARE SUBJECT TO A 5'X 30' GUY WIRE EASEMENT ALONG SIDE AND

8. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.

9. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE. 10. THIS SUBDIVISION PLAT OF KAYDEN SPRINGS UNIT 1 HAS BEEN SUBMITTED TO

10. THIS SUBDIVISION PLAT OF KAYDEN SPRINGS UNIT 1 HAS BEEN SUBMITTED TO

SAN ANTONIO, TEXAS 78213 AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR

AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

1. ALL EXISTING OVERHEAD LINE SHALL BE DISPLAYED ON THE PLAT AND A 30' CENTERLINE UTILITY EASEMENT WILL NEED TO BE SHOWN (15' ON EITHER SIDE OF THE LINE), OR A NOTE SHALL BE ADDED STATING THERE SHALL BE A 30' CENTERLINE UTILITY EASEMENT (15' ON EACH SIDE OF LINE) ON ALL EXISTING

ELECTRIC AND COMMUNICATION LINES. 20' FRONT LOT UTILITY EASEMENT SHALL BE GRANTED ACROSS ALL RESIDENTIAL, OPEN SPACE, DRAINAGE, OR OTHER LOTS FOR UTILITY

EASEMENT REQUIREMENTS FOR UNDERGROUND SUBDIVISIONS

3. MINIMUM 10' SIDE LOT UTILITY EASEMENT SHALL BE GRANTED ON ALL RESIDENTIAL, OPEN SPACE, DRAINAGE, OR OTHER LOTS ALONG INTERNAL

ROADWAYS FOR UTILITY PLACEMENT. 4. MINIMUM 15' UTILITY EASEMENT OR UTILITY LOT SHALL BE GRANTED ALONG ANY RIGHT OF WAY DEDICATION/RESERVATION OR BOUNDARIES WITH PRIVATE, CITY, COUNTY, OR STATE ROAD RIGHT OF WAYS. (ACCESSIBILITY OF THIS

UTILITY EASEMENT/LOT BY GVEC CREWS MUST NOT BE HINDERED BY DRAINAGE,

FENCING, LANDSCAPING, ETC.) 5. FURTHER EASEMENT FOR RISER POLE PLACEMENT MAY BE REQUIRED DEPENDENT UPON DESIGN, AND SHALL BE SHOWN ON PLAT AS UTILITY

6. FURTHER EASEMENT FOR SWITCH GEAR PLACEMENT MAY BE REQUIRED, DEPENDENT UPON DESIGN, AND SHALL BE SHOWN ON PLAT AS GVEC

7. FURTHER EASEMENT FOR OVERHEAD LINE OR ANCHOR PLACEMENT MAY BE REQUIRED, DEPENDENT ON DESIGN, AND SHALL BE SHOWN ON PLAT AS UTILITY DATE THIS ____ DAY OF ____, 20__

8. ANY GVEC UNDERGROUND ELECTRIC OR COMMUNICATIONS LINE TO BE RUN OUTSIDE OF STANDARD FRONT OR SIDE LOT UTILITY EASEMENT (PER DESIGN) WILL REQUIRE MINIMUM 10' CENTERLINE UTILITY EASEMENT.

9. ANY AREA ON PLAT NOTED AS DRAINAGE AND UTILITY EASEMENT MUST

THIS PLAT OF KAYDEN SPRINGS UNIT 2 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY COUNCIL BY THE CITY OF MARION, TEXAS AND IS HEREBY APPROVED BY SUCH CITY COUNCIL.

THIS PLAT OF KAYDEN SPRINGS UNIT 2 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY OF MARION, TEXAS AND IS HEREBY APPROVED BY SUCH CITY COUNCIL.

THIS PLAT OF KAYDEN SPRINGS UNIT 2 HAS BEEN SUBMITTED TO AND CONSIDERED BY THE CITY OF MARION, TEXAS AND IS HEREBY APPROVED BY SUCH CITY COUNCIL.

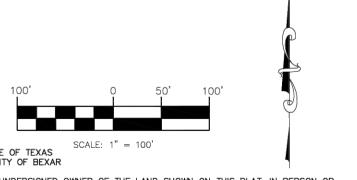
11. EASEMENT REQUIRED FOR GVEC FACILITY PLACEMENT THAT IS NOT REPRESENTED ON SUBDIVISION PLAT SHALL BE DEVELOPED BY METES AND BOUNDS AT DEVELOPER EXPENSE AND RECORDED BEFORE INSTALLATION MAY 12. GVEC WILL NOT INCUR ANY COSTS ASSOCIATED WITH OBTAINING EASEMENT

FROM ADJOINING OR AFFECTED LANDOWNERS FOR A DEVELOPMENT PROJECT.

SUBDIVISION PLAT ESTABLISHING

KAYDEN SPRINGS UNIT 2

A 25.72 ACRE TRACT OF LAND SITUATED WITHIN THE WILLIAM BRACKEN SURVEY NO. 230, ABSTRACT NO. 71, GUADALUPE COUNTY, TEXAS, BEING OUT OF THE REMAINDER OF A CALLED 141.823 ACRE TRACT RECORDED IN DOCUMENT NO. 202299016819, GUADALUPE COUNTY OFFICIAL PUBLIC RECORDS



THE UNDERSIGNED OWNER OF THE LAND SHOWN ON THIS PLAT, IN PERSON OR THROUGH A DULY AUTHORIZED AGENT, DEDICATES TO THE USE OF THE PUBLIC FOREVER ALL STREETS, WATERCOURSES, DRAINS, EASEMENTS AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSE AND CONSIDERATION THEREON EXPRESSED.

MOSAIC LAND DEVELOPMENT, LLC

SWORN TO AND SUBSCRIBED BEFORE ME THIS___ DAY OF _____, 20__

NOTARY PUBLIC,

STATE OF TEXAS

STATE OF TEXAS COUNTY OF GUADALUPE

GREEN VALLEY SPECIAL UTILITY DISTRICT CERTIFICATE

THIS LAND DEVELOPMENT PLAT HAS BEEN SUBMITTED TO AND APPROVED BY GREEN VALLEY SPECIAL UTILITY DISTRICT FOR EASEMENTS. UPON REQUEST OF THE CUSTOMER AND PAYMENT OF THE REQUIRED FEES, THE DISTRICT WILL PROVIDE DOMESTIC WATER SERVICE TO EACH LOT IN THIS SUBDIVISION, BY AGREEMENT WITH THE DEVELOPER.

AGENT, GREEN VALLEY SPECIAL UTILITY DISTRICT

MAYOR

I ______, BUILDING INSPECTOR OF THE CITY OF MARION, TEXAS, HEREBY CERTIFY THAT THIS SUBDIVISION PLAT CONFORMS TO ALL REQUIREMENTS OF THE SUBDIVISION REGULATIONS OF THE CITY TO WHICH MY APPROVAL IS REQUIRED.

PUBLIC WORKS DIRECTOR STATE OF TEXAS

DATE THIS ____ DAY OF ____, 20__

ATTESTS:

CITY SECRETARY

JOB NO.:	0046599.0
DATE:	08/08/202
DESIGN:	TB
DRAWN:	S
CHECKED:	DA

SPRING

YD

X

0

X

Westwood Professional Services, Inc. PROJECT NUMBER: R0046599.02

ETHAN C. OELKE REGISTERED PROFESSIONAL LAND SURVEYOR

SWORN TO AND SUBSCRIBED BEFORE ME THIS THE ____ DAY OF _____, 20__.

I, ETHAN C. OELKE, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT AND WAS PREPARED FROM AN ACTUAL SURVEY OF THE PROPERTY MADE ON THE GROUND

NOTARY PUBLIC, STATE OF TEXAS

Westwood

STATE OF TEXAS COUNTY OF GUADALUPE

UNDER MY SUPERVISION.

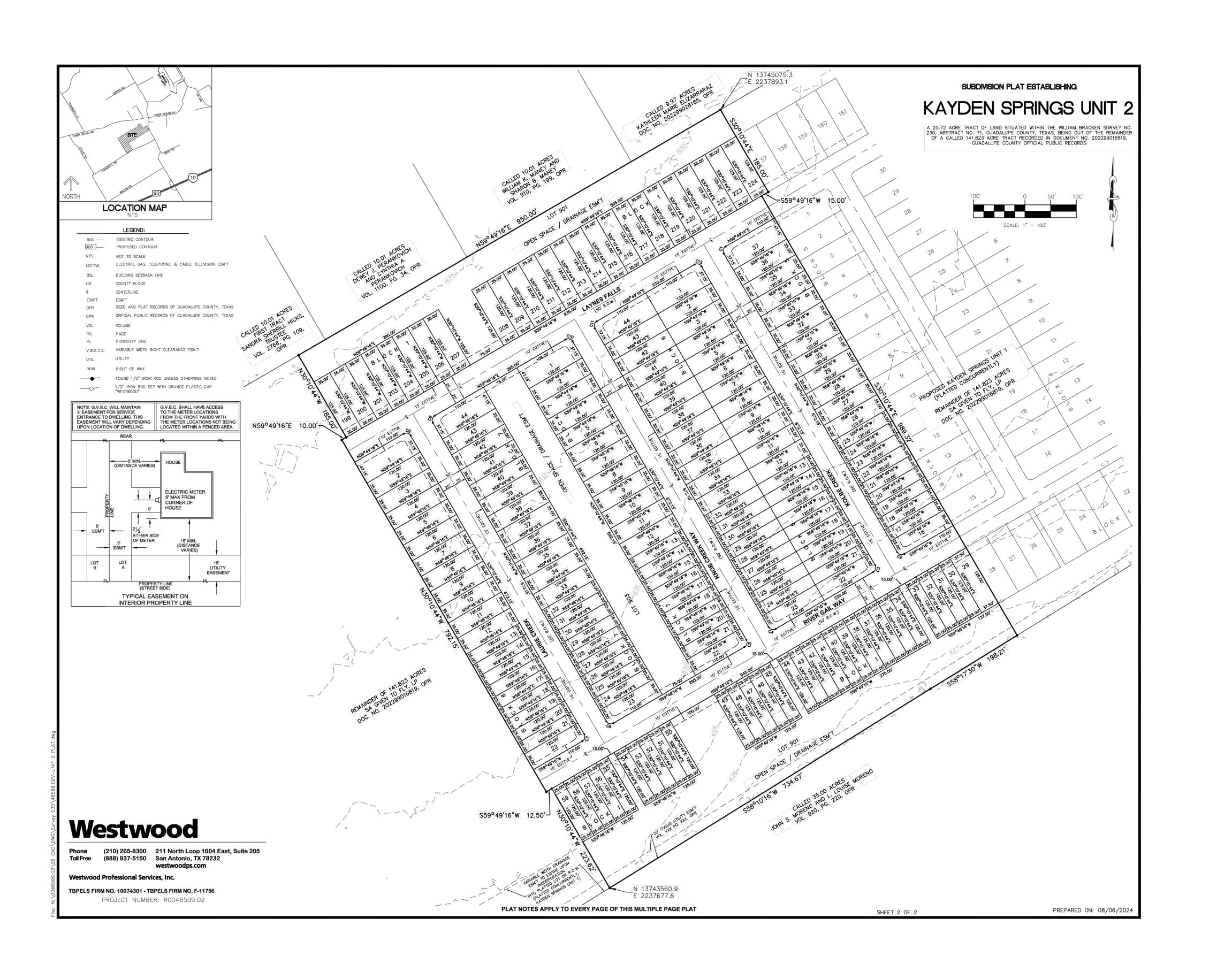
(210) 265-8300 211 North Loop 1604 East, Suite 205 Toll Free (888) 937-5150 San Antonio, TX 78232 westwoodps.com

TBPELS FIRM NO. 10074301 - TBPELS FIRM NO. F-11756

PLAT NOTES APPLY TO EVERY PAGE OF THIS MULTIPLE PAGE PLAT

SHEET 1 OF 2

PREPARED ON: 08/06/2024



NO. DATE REVISIONS BY

Mestra (210) 265-8300 211 North Loop 1604 East Toll Free (888) 937-5150 San Antonio, TX 78232



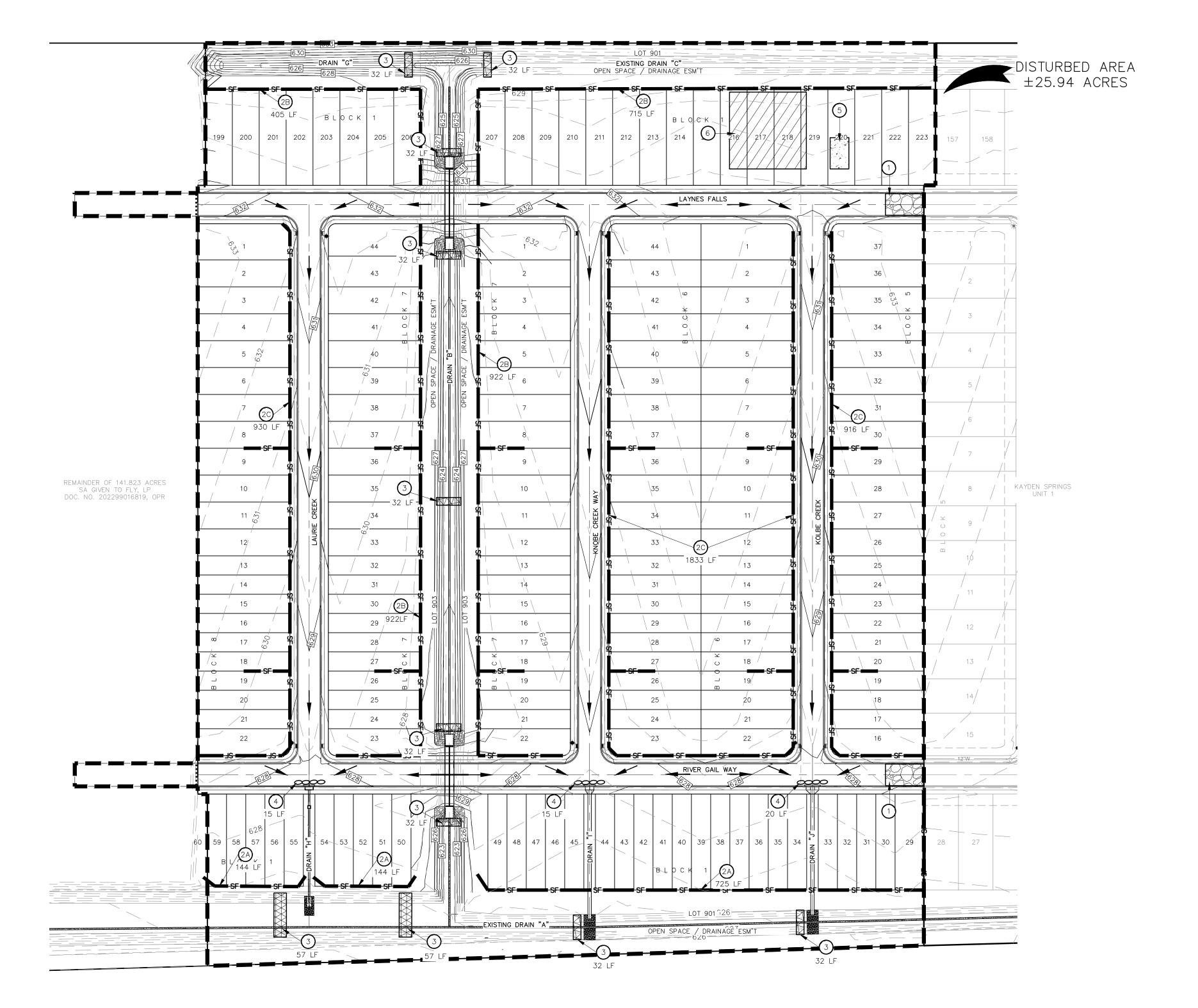
JOB NO.:	0046599.02
DATE:	08/08/2024
DESIGN:	TBW
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CHECKED:	DAD

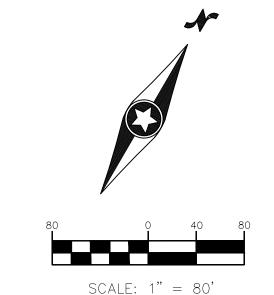
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S 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 LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

ESTIMATED SEDIMENTATION AND EROSION CONTROL QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANT
1	CTADILIZED CONCIDITOTION FAITDANCE /EVIT	Γ.	-
1	STABILIZED CONSTRUCTION ENTRANCE/EXIT	EA	2
2A	SILT FENCE (PHASE 1)	LF	1013
2B	SILT FENCE (PHASE 2)	LF	2964
2C	SILT FENCE (PHASE 3)	LF	3679
3	ROCK BERM	LF	402
4	INLET PROTECTION	LF	50
5	CONCRETE WASH OUT PIT	EA	1
6	EQUIPMENT STAGING AREA	EA	1





LEGEND

	EXISTING CONTOURS
1200	PROPOSED CONTOURS
	FLOW ARROWS
	SWALE
	AREA OF SOIL DISTURBANCE
<u> </u>	APPROXIMATE 100YR WATER SURFACE
	STABILIZED CONSTRUCTION ENTRANCE/EXIT

SILT FENCE AND/OR APPROPRIATE SÚBSTITUTE (PHASE 1) SILT FENCE AND/OR APPROPRIATE SÚBSTITUTE (PHASE 2)

SILT FENCE AND/OR APPROPRIATE SÚBSTITUTE (PHASE 3)

ROCK BERM OR GABION

BAGGED GRAVEL INLET FILTER AND/OR APPROPRIATE SUBSTITUTE

*CONCRETE WASH OUT PIT

*EQUIPMENT STAGING AREA

* ACTUAL LAYOUT DETERMINED IN FIELD, SHOULD BE

PLACED IN THE PROXIMITY OF THE CONSTRUCTION

ENTRANCE/EXIT AND NOT LOCATED NEAR A WELL, FLOODPLAIN, OR OTHER POTENTIAL SOURCES OF CONTAMINATION. SILT FENCE NOTES:

- 1. SILT FENCE SHALL BE INSTALLED IN THREE
- 2. THE FIRST PHASE SHALL BE INSTALLED PRIOR TO CONSTRUCTION COMMENCING.
- 3. THE SECOND PHASE SHALL BE INSTALLED
 AFTER DRAINS ARE CUT TO FINAL GRADE.

 4. THE THIRD PHASE SHALL BE INSTALLED AFTER
 STREETS HAVE BEEN PAVED.

1. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

GENERAL NOTES:

- 1. CONSTRUCTION ENTRANCE/EXIT LOCATION, CONCRETE WASHOUT PIT AND CONSTRUCTION EQUIPMENT AND STORAGE AREA ARE TO BE DETERMINED IN THE FIELD. THEY ARE SHOWN ON THIS PLAN FOR ILLUSTRATION PURPOSES ONLY.
- 2. IF NECESSARY, CONTRACTOR MAY MODIFY STORMWATER CONTROLS TO ACHIEVE THE DESIRED INTENT. ANY CHANGES ARE TO BE NOTED, SIGNED AND DATED BY THE RESPONSIBLE PARTY IN THE TPDES BOOK.
- 3. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL STORMWATER CONTROLS.
- 4. REFER TO TPDES BOOK FOR THIS PROJECT FOR MORE INFORMATION/DETAILS.
- 5. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY QUESTIONS REGARDING THE INTENT OF THIS PLAN.
- 6. CONTRACTOR IS REQUIRED TO FILE NOI'S (NOTICE OF INTENT) AND NOT'S (NOTICE OF TERMINATION) FOR THIS PROJECT.
 REFER TO TPDES FOR PROPER POSTING REQUIREMENTS AND
- 7. A COPY OF THIS PLAN AND THE TPDES BOOK MUST REMAIN AT THE CONSTRUCTION SITE AT ALL TIMES.
- 8. BARE SOILS SHOULD BE STABILIZED (e.g., HYDRO MULCH), WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR WHERE CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED FOR MORE
- ALL DISTURBED OR EXPOSED AREAS SUBJECT TO EROSION SHALL BE STABILIZED FOR TEMPORARY VEGETATIVE COVER. NO AREA SUBJECT TO EROSION SHALL BE LEFT DISTURBED AND UNSUITABLE FOR PERIODS LONGER THAN IS ABSOLUTELY NECESSARY TO CARRY OUT THAT PORTION OF THE CONSTRUCTION WORK, OR 1 WEEK AFTER SOIL HAS BEEN DISTURBED, WHICHEVER IS LESS.
- 10. CONTRACTOR TO PROVIDE A COPY OF THE SIGNED AND CERTIFIED CONSTRUCTION SITE NOTICE TO THE OPERATOR OF THE MUNICIPAL SEPARATE STORM SEWER SYSTEM RECEIVING THE DISCHARGE AT LEAST TWO DAYS PRIOR TO COMMENCING CONSTRUCTION. OF CONSTRUCTION ACTIVITY.
- 11. AN INSPECTION WILL BE PERFORMED BY THE CONTRACTOR EVERY 2 WEEKS AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAIN (AS RECORDED ON A NON-FREEZING RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE.) THE CONTROLS WILL BE REVISED AS NECESSARY.
- 12. CONTRACTOR TO PLACE TRENCH EXCAVATION MATERIAL ON THE UPGRADIENT (HIGH) SIDE OF THE TRENCH.
- 13. ALL SOIL, SAND, GRAVEL, AND EXCAVATED MATERIALS STOCKPILED ON—SITE WILL HAVE APPROPRIATELY SIZED SILT
- 14. CONTRACTOR TO INDICATE AND UTILIZE APPROPRIATE CONTROL METHODS AS NECESSARY.

SEDIMENTATION AND EROSION CONTROLS SHOWN ARE SCHEMATIC ONLY, CONTROLS MAY BE FIELD LOCATED FOR BEST USE AND REPORTED TO ENGINEER. ADJUSTMENTS SHALL BE INDICATED ON PLAN BY CONTRACTOR.

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JOB NO.: 0046599.02 08/08/2024 DRAWN: CHECKED:

SHEET

SIGNATURE (OWNER)

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION PLAN.

SIGNATURE (CONTRACTOR)

SPRING ¥

2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL.

ROCK FILTER DAM USAGE GUIDELINES

TYPE 1 (18" HIGH WITH NO WIRE MESH) :

TYPE 2 (18" HIGH WITH WIRE MESH) :

TYPE 3 (36" HIGH WITH WIRE MESH) :

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLOAD RUNOFF AND / OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 60 GPM / FT SQUARED OF CROSS SECTIONAL AREA.. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROXIMATELY 8 FT. / SEC. OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

GENERAL NOTES

I. IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND / OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.

TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

LENGTH FOR PAYMENT -

A "V" SHAPE MAY BE USED FOR HIGHER VELOCITY FLOWS. SEE "V" SHAPE PLAN BELOW.

GALVANIZED WOVEN WIRE MESH (FOR TYPES 2 & 3) OVER ENTIRE DAM

TYPE 1 & 2 FILTER DAM AT

SEDIMENT TRAP

SCALE: 1" = 10"

TYPE 1, 2 & 3 FILTER DAM

AT CHANNEL SECTIONS

PLAN VIEW

LATH & FLAGGING . ON ALL SIDES

PLAN VIEW

-SAND BAG

SECTION A-A

LINING

NOTE: ACTUAL LAYOUT DETERMINED IN FIELD, SHOULD BE PLACED IN THE PROXIMITY OF THE CONSTRUCTION ENTRANCE/ EXIT AND NOT LOCATED NEAR WELL, FLOODPLAIN, OR OTHER POTENTIAL SOURCES OF CONTAMINATION.

2X12 ROUGH WOOD FRAME

PLAN VIEW

FASTENED AROUND ENTIRE

SECTION B-B

CONCRETE WASH OUT PIT

PERIMETER WITH TWO STAKES

POST MAX. 6' SPACING

SILT FENCE NOTES

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

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

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

4. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT

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

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

9. REPLACE ANY TORN FABRIC OR INSTALL A SECOND LINE OF FENCING PARALLEL TO THE TORN

10. REPLACE OR REPAIR ANY SECTION CRUSHED OR COLLAPSED IN THE COURSE OF CONSTRUCTION ACTIVITY. IF A SECTION OF FENCE IS OBSTRUCTING VEHICULAR ACCESS, CONSIDER RELOCATING IT TO A SPOT WHERE IT WILL PROVIDE EQUAL PROTECTION, BUT WILL NOT OBSTRUCT VEHICLE ACCESS

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

REVEGETATED. THE FENCE ITSELF SHOULD BE DISPOSED OF IN AN APPROVED LANDFILL.

FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.

MAX. 6' SPACING

- FABRIC TOE-IN

SECURELY FASTENED WHERE ENDS OF FABRIC MEET.

7. INSPECT ALL FENCING WEEKLY, AND AFTER ANY RAINFALL.

8. REMOVE SEDIMENT WHEN BUILDUP REACHES 6 INCHES.

SPACING SHOULD BE 6 FEET.

CURB INLET

CURB INLET FILTER NOTES:

1. GRAVEL FILTERS CAN BE USED ON PAVEMENT OR BARE GROUND

2. REMOVE SEDIMENT WHEN BUILDUP REACHES A DEPTH OF 3 INCHES. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA AND

3. CHECK PLACEMENT OF DEVICE TO PREVENT GAPS BETWEEN DEVICE

4. INSPECT FILTER FABRIC AND PATCH OR REPLACE IF TORN OR

5. Z-TYPE CURB INLET FILTER IS NOT AN APPROVED TYPE OF BMP.

BAGGED GRAVEL INLET FILTER

WOVEN WIRE FABRIC-

(HOG WIRE) 12.5 GA.

RADIUS AS REQUIRED

STABILIZED CONSTRUCTION ENTRANCE\EXIT NOTES:

1. AVOID CURVES ON PUBLIC ROADS AND STEEP SLOPES. REMOVE VEGETATION AND OTHER OBJECTIONABLE MATERIAL FROM THE

2. THE MINIMUM WIDTH OF THE ENTRANCE/EXIT SHOULD BE 12

3. THE CONSTRUCTION ENTRANCE SHOULD BE AT LEAST 50 FEET

4. IF THE SLOPE TOWARD THE ROAD EXCEEDS 2%, CONSTRUCT A

5. PLACE GEOTEXTILE FABRIC AND GRADE FOUNDATION TO IMPROVE

6. PLACE STONE TO DIMENSIONS AND GRADE SHOWN ON PLANS. LEAVE

8. INSTALL PIPE UNDER PAD AS NEEDED TO MAINTAIN PROPER

> STABILIZED CONSTRUCTION

ENTRANCE \ EXIT

7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE

RIDGE, 6 TO 8 INCHES HIGH WITH 3:1 (H:V) SIDE SLOPES, ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE ENTRANCE TO DIVERT RUNOFF AWAY FROM THE PUBLIC ROAD.

STABILITY, ESPECIALLY WHERE WET CONDITIONS ARE

SURFACE SMOOTH AND SLOPE FOR DRAINAGE.

TO A SEDIMENT TRAP OR BASIN.

ANTICIPATED.

PUBLIC ROAD DRAINAGE.

FOUNDATION AREA. GRADE CROWN FOUNDATION FOR POSITIVE

OR THE FULL WIDTH OF EXIT ROADWAY, WHICHEVER IS GREATER.

(MIN 8" DEEP)

— GEOTEXTÍ E FABRIC TO STABILIZE FOUNDATION WOVEN WIRE FABRIC

(HOG WIRE) 12.5 GA.

ROCK BACKFILI

SECTION DETAIL

TYPE 1 FILTER DAM AT TOE OF SLOPE

SCALE: 1" = 10'

"V" SHAPE

PLAN VIEW

SECTION E-E

TYPE 4 FILTER DAM AT DITCHES

& SMALLER CHANNELS PLAN VIEW

(3) ROCK FILTER DAMS

CONCRETE WASH OUT PIT NOTES:

1. DETAIL ILLUSTRATES MINIMUM DIMENSIONS. PIT CAN BE INCREASED IN SIZE DEPENDING

PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT

3. WASHOUT PIT SHALL BE LOCATED IN AN AREA EASILY ACCESSIBLE TO CONSTRUCTION TRAFFIC.

STORM WATER RUNOFF.

COMPROMISE THE IMPERMEABILITY OF THE

. WASHOUT PIT SHALL NOT BE LOCATED IN AREAS SUBJECT TO INUNDATION FROM

5. DO NOT WASHOUT CONCRETE TRUCKS INTO

STORM DRAINS, OPEN DITCHES, STREETS,

ON EXPECTED FREQUENCY OF USE.

WEIR LENGTH

PROFILE OF TYPE 1 & 2 FILTER

DAM AT SEDIMENT TRAP

GALVANIZED WOVEN WIRE MESH (FOR TYPES 2 & 3) OVER ENTIRE DAM

SEE NOTE 4

4' MINIMUM WEIR WIDTH FOR ROCK FILTER DAM

SECTION D-D

3', 6' OR 9'

& VEHICLE
STORAGE
AND
MAINTENANCE
AREA

LEGEND

SILT FENCE

FLOW ARROWS

AND WASTE MATERIAL STORAGE AREA

FIELD OFFICE

LEQUIPMENT STAGING AREA

TYPE 4 SACK GABION DETAIL

3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE STORM WATER POLLUTION PREVENTION PLANS.

4. SIDE SLOPES SHOULD BE 2 : 1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDE SLOPES OF 6 : 1 OR FLATTER.

MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.

6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO THE EXISTING GROUND. 7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.

8. ROCK FILTER DAM TYPES 2 & 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE, THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.

9. SACK GABIONS SHOULD BE STAKED DOWN WITH 3 / 4" DIA. REBAR STAKES. 10. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).

11. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

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	KAYDEN SPRINGS UNIT 2
	A PROPOSED SINGLE—FAMILY RESIDENTIAL DEVELOPMENT LOCATED IN THE ETJ OF THE CITY OF MARION, COUNTY OF GUADALUPE, TEXAS LOCATED ON SANTA CLARA RD APPROX. 0.2 MI SOUTH OF LOWER SEGUIN RD
CT DE	SCRIPTION:
	THE CONSTRUCTION OF ALL STREETS, DRAINAGE, WATER, STORM SEWER, SANITARY SEWER, AND UTILITY FACILITIES NECESSARY FOR THE DEVELOPMENT OF A SINGLE—FAMILY RESIDENTIAL SUBDIVISION
SOIL	DISTURBING ACTIVITIES:
	ACTIVITIES ASSOCIATED WITH STREET, DRAIN & UTILITY CONSTRUCTION—TRENCHING, FILL AND EXCAVATION
PROJ	ECT AREA: 25.78 AC
AREA	TO BE DISTURBED: 25.94 AC
	JNOFF COEFFICIENT CONSTRUCTION): 0.44
	JNOFF COEFFICIENT T CONSTRUCTION): 0.72
AND	NDITION OF SOIL & VEGETATIVE % OF EXISTING VEGETATIVE COVER:
	THE SOIL TYPE(S) ON SITE ARE AS FOLLOWS: BRANYON CLAY (BrA & BrB) TINN CLAY (Tw)
	THE SITE IS 80% — 90% COVERED WITH NATIVE GRASSES AND BRUSH WITH SMALL TREE CLUSTERS
OF RE	CEIVING WATERS:
	THE SUBDIVISION GENERALLY DRAINS SOUTH-EAST TOWARDS SANTA CLARA TRIBUTARY 6

	TEMPORARY SEEDING
	PERMANENT PLANTING, SODDING, OR SEEDING MULCHING
	SOIL RETENTION BLANKET
	BUFFER ZONES PRESERVATIVE OF NATURAL RESOURCES
	TRESERVATIVE OF NATORAL RESOURCES
THER:	
	PRACTICES:
	SILT FENCES / SEDIMENT CONTROL ROLLS
	HAY BALES
	ROCK BERMS DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
	DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
	DIVERSION DIKE AND SWALE COMBINATIONS
	PIPE SLOPE DRAINS PAVED FLUMES
	ROCK BEDDING AT CONSTRUCTION EXIT
	TIMBER MATTING AT CONSTRUCTION EXIT CHANNEL LINERS
	SEDIMENT TRAPS
	SEDIMENT BASINS
	STORM INLET SEDIMENT TRAP STONE OUTLET STRUCTURES
	CURBS AND GUTTERS
	STORM SEWERS VELOCITY CONTROL DEVICES
	LESSIII SSIIINSE DEVISES
THER:	
TIVE -	SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES: STRUCTURAL PRACTICES, AS APPLICABLE, WILL BE INSTALLED PRIOR TO EACH PHASE OF THE PROJECT AND WILL BE MAINTAINED THROUGHOUT. SOIL STABILIZATION PRACTICES WILL CLOSELY
ΠVE -	STRUCTURAL PRACTICES, AS APPLICABLE, WILL BE INSTALLED PRIOR TO EACH PHASE OF THE
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	NANCE:
	ALL EROSION AND SEDIMENT CONTROLS WILL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR
	IS NECESSARY, IT WILL BE DONE AT THE EARLIEST DATE POSSIBLE, BUT NO LATER THAN 7
	CALENDAR DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT
	FURTHER DAMAGE FROM HEAVY EQUIPMENT
ivicbE(TION:
	AN INSPECTION WILL BE PERFORMED BY THE CONTRACTOR:
	A. EVERY 7 DAYS B. EVERY 14 DAYS AS WELL AS AFTER EVERY HALF INCH OR MORE
	B. EVERY 14 DAYS AS WELL AS AFTER EVERY HALF INCH OR MORE OF RAIN (AS RECORDED ON A NON-FREEZING RAIN GAUGE TO BE
	LOCATED AT THE PROJECT SITE).
	CONTROLS WILL BE REPAIRED, REPLACED, AND/OR REVISED AS NECESSARY.
· • • • • • • • • • • • • • • • • • • •	
WASIE	MATERIALS:
	ALL WASTE MATERIAL WILL BE COLLECTED AND STORED IN A METAL DUMPSTER.
	THE DUMPSTER WILL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT
	REGULATIONS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE WILL BE
	DEPOSITED IN THE DUMPSTER. THE DUMPSTER WILL BE EMPTIED AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION, AND THE TRASH WILL BE HALLED TO A
	OR AS REQUIRED BY LOCAL REGULATION, AND THE TRASH WILL BE HAULED TO A LOCAL DUMP. NO CONSTRUCTION WASTE MATERIAL WILL BE BURIED ON SITE
HAZAR	DOUS WASTE (INCLUDING SPILL REPORTING): AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED
	AT A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS, ACIDS FOR CLEANING MASONRY SUPPLIES, CLEANING SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION, OR
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OWNER'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY SUPERVISION IN ACCORDANCE WITH SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

SIGNATURE (OWNER)

DATE

CONTRACTOR'S CERTIFICATION

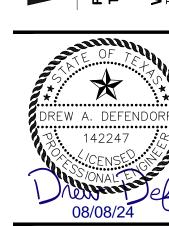
I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION PLAN.

SIGNATURE (CONTRACTOR)

DATE

NO. DATE REVISIONS

55-8300 211 North Loop 1604 East, Suite 20 san Antonio, TX 78232 westwoodps.com



KAYDEN SPRINGS UNIT 2

JOB NO.: 0046599.02

DATE: 08/08/2024

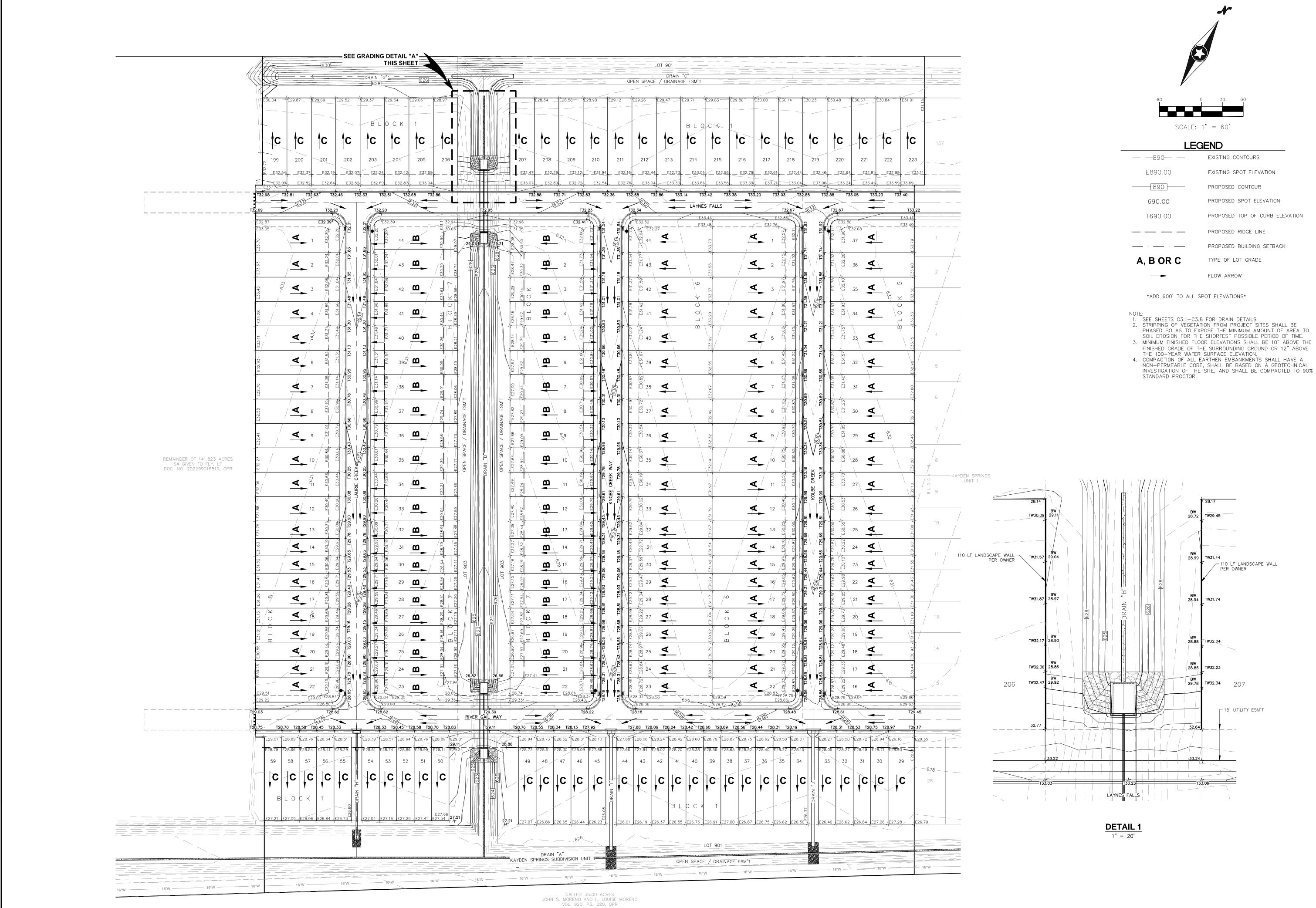
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* DREW A. DEFENDOR

KAYDEN SPRINGS UNIT 2

0046599.02 JOB NO.: 08/08/2024 DRAWN: CHECKED:

- . <u>GENERAL DESCRIPTION</u>
 THIS ITEM SHALL CONSIST OF ALL CLEARING AND GRUBBING, DEMOLITION, PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED
- 2. <u>CLEARING THE AREA TO BE FILLED</u>
 ALL TIMBER, LOGS, TREES, BRUSH, AND RUBBISH SHALL BE REMOVED FROM THE SITE.
- 3. <u>Scarifying the area to be filled</u>
 All organic matter shall be removed form the surface upon which the fill is to be placed, and the surface shall then be disked or scarified to a minimum depth of six INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING. WHERE FILLS ARE MADE ON HILLSIDES OR SLOPES, THE SLOPE OF THE ORIGINAL GROUND UPON WHICH THE FILL IS TO BE PLACED SHALL BE DISKED OR SCARIFIED. WHERE THE SLOPE RATIO OF THE ORIGINAL GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, THE BANK SHALL BE STEPPED OR BENCHED. GROUND SLOPES WHICH ARE FLATTER THAN 5 TO 1 SHALL BE BENCHED WHEN CONSIDERED NECESSARY BY THE GEOTECHNICAL
- 4. <u>COMPACTING THE AREA TO BE FILLED</u> FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FORM LARGE CLODS. THE AREA SHALL BE BROUGHT TO THE ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT THD--TEX--113--E COMPACTION PROCEDURE.
- 5. <u>FILL MATERIALS</u>
 THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCE, SUCH AS TREES, BRUSH, AND RUBBISH.
- 6. <u>DEPTH AND MIXING OF FILL LAYERS</u>
 THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THAT STIPULATED ABOVE. EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS NORMALLY WILL BE SIX INCHES (6"), HOWEVER IT MAY VARY DEPENDING ON THE DEMONSTRATED CAPABILITY OF COMPACTION EQUIPMENT. THE MAXIMUM LOOSE DEPTH FOR ANY MATERIAL SHALL NOT EXCEED TWELVE INCHES (12"). FOR TESTING REQUIREMENTS OF FILL MATERIAL, SEE DENSITY TESTING.
- WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGER ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED. NO LARGE ROCKS WILL BE PERMITTED WITHIN EIGHTEEN INCHES (18") OF THE FINISHED GRADE.
- 8. <u>COMPACTION OF FILL LAYER</u>

 COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).
- 9. <u>COMPACTION OF SLOPES</u>
 THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE
 CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TOO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACES MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.
- 10. <u>MOISTURE CONTENT</u>
 THE FILL MATERIAL SHALL BE COMPACTED AT THE APPROPRIATE MOISTURE CONTENT SPECIFIED FOR THE SOILS BEING USED. APPROPRIATE MOISTURE CONTENT IS DEFINED, TYPICALLY, AS OPTIMUM MOISTURE CONTENT; HOWEVER, FOR EXPANSIVE SOILS IT MAY BE GREATER THAN OPTIMUM MOISTURE CONTENT, AND OTHER MOISTURE CONTENTS MAY BE NECESSARY TO PRODUCE THE DESIRED RESULTS WITH CERTAIN SOILS.
- 11. <u>DENSITY TEST</u>

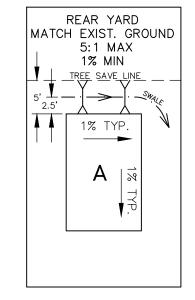
 FIELD DENSITY TESTS SHALL BE PERFORMED ON LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE EIGHTEEN INCHES (18"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION, THE LIFT OR HEIGHT OF FILL AND APPROXIMATE DESIRED TIME OF TESTING. WHEN THESE TESTS INDICATE DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIED TESTING WILL BE AS FOLLOWS AND CONDUCTED BY GEOTECHNICAL ENGINEER.
- 1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
- 2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8" TO 12") SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
- 3. FILLS SHALL BE TESTED A MAXIMUM OF EACH EIGHTEEN INCHES (18") OF FILL. 4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE; HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE OTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

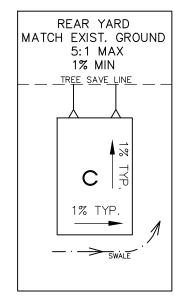
GRADING NOTES

- 1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR
- 2. VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENT TO FINISH GRADE TO ACCOMPLISH SPOT DRAINAGE IS ACCEPTABLE, IF NECESSARY, UPON PRIOR APPROVAL OF THE
- 3. REFER TO THE DIMENSION PLAN FOR HORIZONTAL DIMENSIONS.

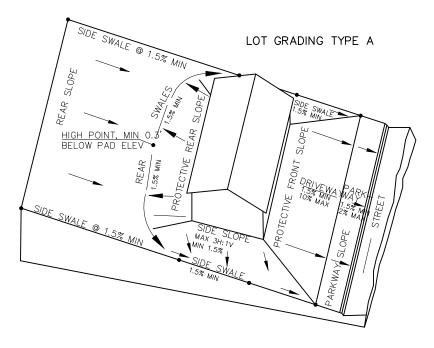
AREAS OF FILL/EXCAVATION CAN BE SAVED.

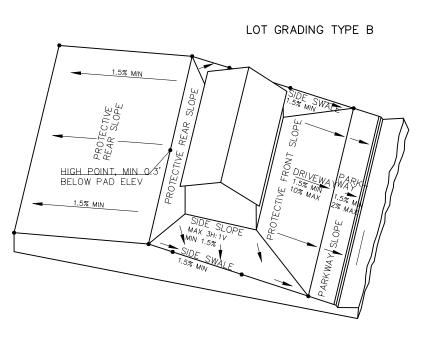
- 4. SITE PREPARATION/GRADING, STRUCTURAL EXCAVATION, AND FILL SHALL BE PERFORMED AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- 5. ALL FILL MATERIAL SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS
- SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH. THE MATERIALS SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING AND COMPACTING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE GRADING ELEVATIONS ACCORDING TO THE
- PAVEMENT CURBS, GUTTERS & ALL DRAINAGE FACILITIES . . . ±0.02 FOOT
- SHOULD ANY ELEVATION BE FOUND TO BE BEYOND THE STATED TOLERANCE AFTER CONTRACTOR'S OPERATIONS, THE CONTRACTOR SHALL RETURN AND CORRECT THE GRADING AT NO COST TO THE OWNER. ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE
- AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE. 7. PRIOR TO ANY GRADING, CONTRACTOR WILL CONTACT OWNER TO DETERMINE IF ANY TREES IN

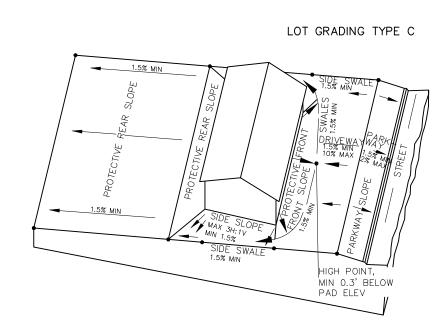


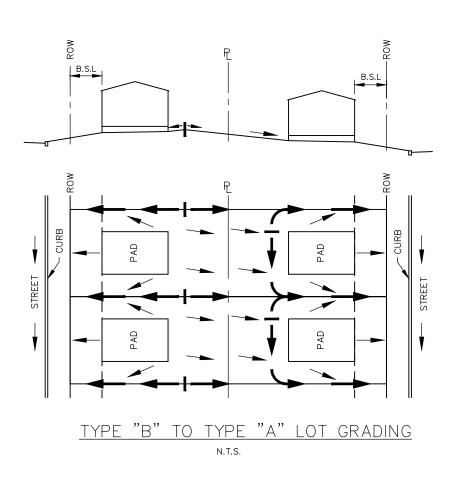


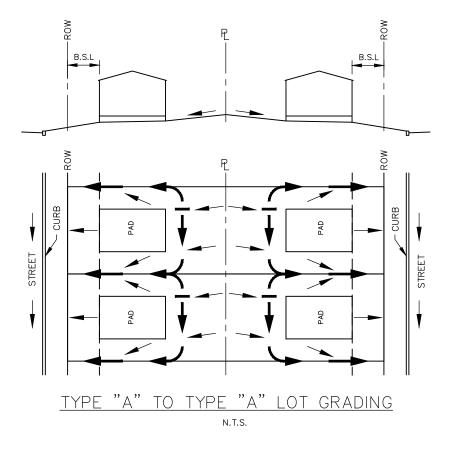
TYPICAL LOT GRADING N.T.S.

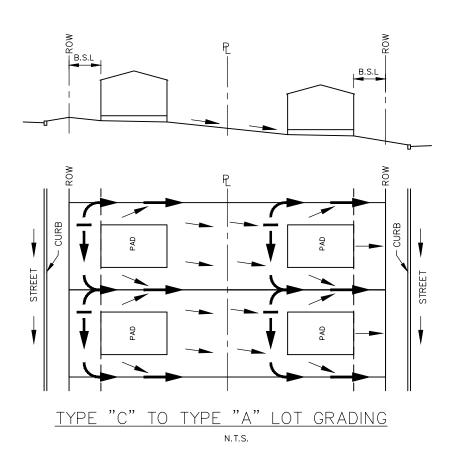


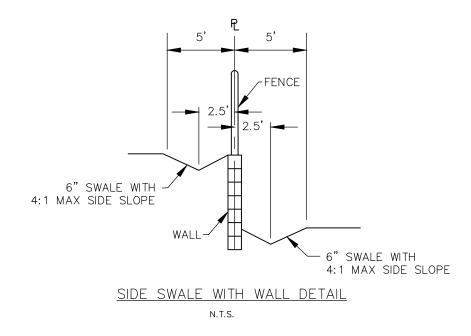


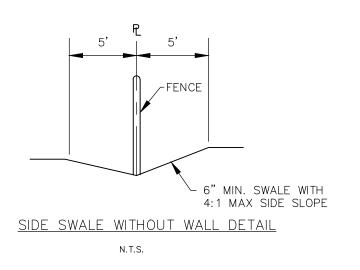


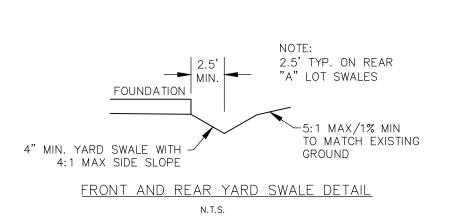


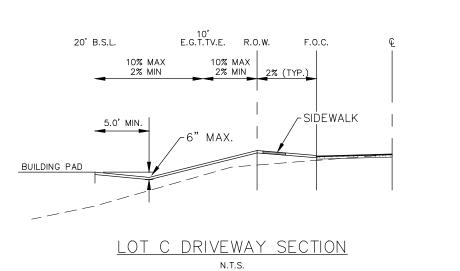


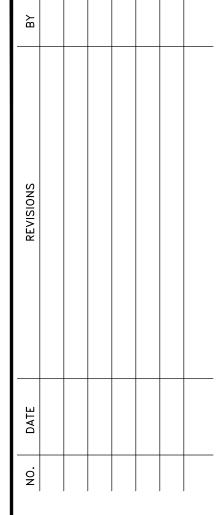












265-937-



KAYDEN SPRING UNIT 2

JOB NO.:	0046599.02
DATE:	08/08/2024
DESIGN:	TBW
DRAWN:	SG
CHECKED:	DAD

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 GEOTÉCHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(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.

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINE BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING

DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

OVERALL UTILITY PLAN IS PROVIDED AS A LOCATION REFERENCE FOR THE PURPOSE OF DRY UTILITY TRENCHING, CONDUIT PLACEMENT, AND TRANSFORMER / ENCLOSURE PAD INSTALLATION. CONTRACTOR SHALL REFER TO APPROPRIATE UTILITY PROVIDER CONSTRUCTION PLANS FOR DRY UTILITY CONSTRUCTION.

TELEPHONE AND CABLE LINES TO GO IN JOINT TRENCH WITH GVEC.

DRY UTILITY NOTES:

1. GVEC TO SUPPLY ALL ELECTRIC CONDUITS FOR TRENCH AS FOLLOWS: PRIMARY - 2 1/2" HDPE SCHEDULE 40 SECONDARY - 3" PVC SCHEDULE 40 SERVICE STUBS - 2 1/2" PVC SCHEDULE 40

2. CONDUITS WILL BE REQUIRED FOR GVEC UTILITY CROSSINGS WHEN STREET OR DRAIN CONSTRUCTION PRECEDES UTILITY INSTALLATION. CONDUIT FOR CROSSINGS AS FOLLOWS:

ELECTRIC CROSSINGS — SCHEDULE 80 GAS CROSSINGS - SCHEDULE 40

3. CONDUITS WILL BE REQUIRED FOR UNDERGROUND TELEPHONE AND CABLE T.V. IF ABOVE APPLIES. CONDUIT FOR CROSSINGS AS FOLLOWS: PRIMARY - 4" SCHEDULE 40 SECONDARY — 2" SCHEDULE 40

4. TELEPHONE/CABLE SERVICE PROVIDER TO SUPPLY ALL CONDUIT FOR TRENCH. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

5. DRY UTILITY CONDUIT TO EXTEND 2' OUTSIDE OF R.O.W.

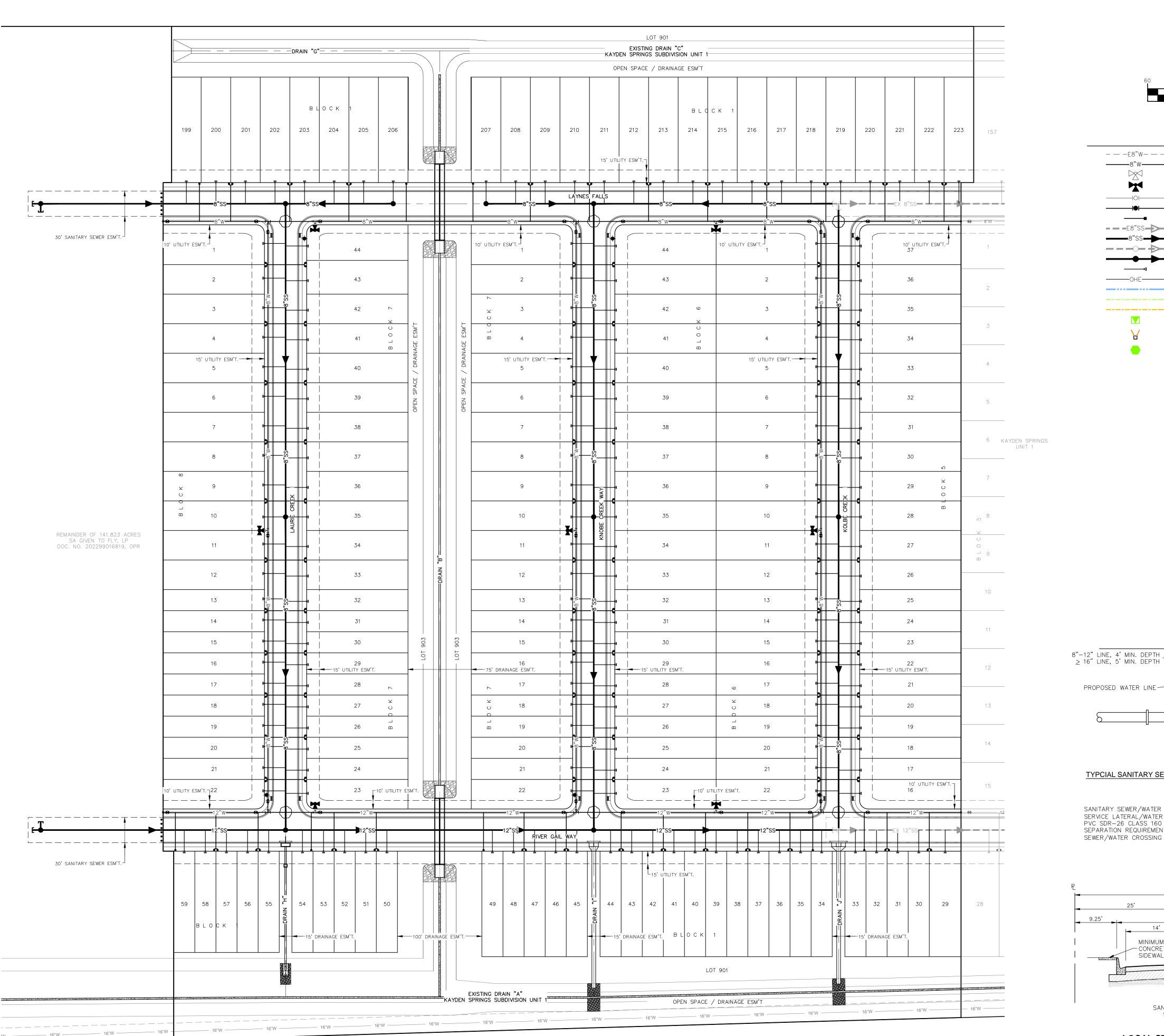
PRIVATE CONDUIT NOTES:

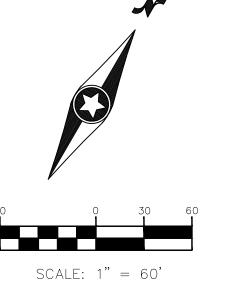
TO 6" ABOVE GRADE WITH CAP PIPE

1. CONTRACTOR TO COORDINATE WITH OWNER PRIOR TO CONSTRUCTION. 2. PRIVATE CONDUIT SHALL BE "GRAY" SCHEDULE 80 PVC CONDUIT WITH 90° SWEEPS

DRIVEWAY NOTE:

DRIVEWAY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR TO COORDINATE WITH OWNER REGARDING ACTUAL LOCATIONS OF DRIVEWAYS





LEGEND

— — —E8"W— — — ----8"W---------IOI------ - -E8"SS-____ ----OHE----

EXISTING FIRE HYDRANT PROPOSED FIRE HYDRANT EXISTING GATE VALVE PROPOSED GATE VALVE PROPOSED WATER SERVICE EXISTING SANITARY SEWER MAIN PROPOSED SANITARY SEWER MAIN EXISTING SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER MANHOLE PROPOSED SANITARY SEWER LATERAL OVERHEAD ELECTRIC PRIMARY ELECTRIC CIRCUIT SECONDARY ELECTRIC CIRCUIT SECONDARY ELECTRIC SERVICE

EXISTING WATER MAIN

PROPOSED WATER MAIN

PROPOSED TRANSFORMER PROPOSED SECONDARY ENCLOSURE PROPOSED STREET LIGHT

X

PRIN

DESIGN:

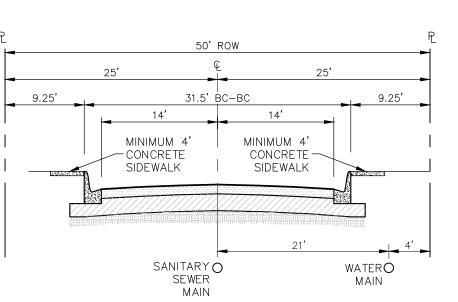
DRAWN:

* SEPARATION DISTANCE AND PROTECTION REQUIREMENTS MUST COMPLY WITH 30 TAC \$217.53(D) (SEPARATION DISTANCES BETWEEN PUBLIC WATER SUPPLY PIPES AND WASTEWATER COLLECTION SYSTEM PROPOSED WATER LINE PIPES OR MANHOLES) AND 30 TAC §290.44(E) (LOCATION OF WATER LINES). → PVC SDR-26 CLASS 160 PROTECTIVE PIPE FOR SEPARATION DISTANCES < 9'

AS REQUIRED

TYPCIAL SANITARY SEWER/WATER CROSSING DETAIL

SANITARY SEWER/WATER CROSSING SERVICE LATERAL/WATER CROSSING PVC SDR-26 CLASS 160 PROTECTIVE PIPE PER TCEQ SEPARATION REQUIREMENTS REFER TO TYPICAL SANITARY SEWER/WATER CROSSING DETAIL: THIS SHEET



LOCAL STREET - 50' SECTION NOT TO SCALE

KAYD JOB NO.: 0046599.02

CHECKED: SHEET

08/08/2024

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF MARION AND/OR GUADALUPE COUNTY SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF MARION AND/OR GUADALUPE COUNTY PUBLIC WORKS.
- . NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET

TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND

- PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO EXTRA PAY ITEM). 5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.171 C.P.S. MUST MAINTAIN ACCESS
- ANY GAS VALVES THAT ARE IN THE PROJECT AREA. 6. 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.
- 8. 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 EXCAVATION OPERATION.

GREEN VALLEY SPECIAL UTILITY DISTRICT GUADALUPE VALLEY ELECTRIC COOPERATIVE TEXAS STATE WIDE ON CALL LOCATOR

800-427-7142 800-545-6005 OR 811

- 9. 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 CONSTRUCTION.
- 10. 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 MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- 11. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOODPLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOODPLAIN DEVELOPMENT
- 12. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND/ OR TRACKED CONSTRUCTION MATERIALS AND/ OR DEBRIS.
- CONCRETE / CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED ON PLANS.
- REINFORCING STEEL: CONFORM TO A.S.T.M. A-615, GRADE 60
- (2" COVER UNLESS OTHERWISE NOTED ON PLANS) CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501 PIPE RAILING: CONFORM TO A.S.T.M. A-36 STRUCTURAL STEEL:
- 14. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER
- 15. TRANSITION FROM NORMAL CROWN TO WASHOUT CROWN IN TWENTY-FIVE FEET (25')
- 16. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING EIGHTY-FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO 35-504 OF THE CITY OF SAN ANTONIO UDC. NO EXTRA PAY

GUADALUPE COUNTY NOTES

- I. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE COUNTY SHALL ATTEND A PRECONSTRUCTION MEETING INCLUDING (BUT NOT LIMITED TO) THE CITY, ENGINEER, CONTRACTOR, DEVELOPER'S INSPECTION REPRESENTATIVE, AND DEVELOPER'S CONSTRUCTION MATERIAL TESTING REPRESENTATIVE.
- 2. DURING CONSTRUCTION, NOTIFY THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AT LEAST 48 HOURS IN ADVANCE OF ANY WORK TO BE PERFORMED AFFECTING SUBGRADE, BASE, OR PAVEMENT INCLUDING BACKFILL OF ANY PROPOSED UTILITIES UNDERNEATH THE PAVEMENT AND FILL AREAS UPON WHICH PAVEMENT IS PROPOSED TO BE PLACED. SUCH NOTIFICATION IS ALSO REQUIRED BEFORE IMPLEMENTING ANY APPROVED TRAFFIC CONTROL PLANS ON EXISTING COUNTY-MAINTAINED ROADS. FULL CLOSURE OF COUNTY ROADS REQUIRES AT LEAST ONE MONTH ADVANCE NOTICE AND IS SUBJECT TO THE DISCRETION OF THE COUNTY ENGINEER AND POSSIBLE APPROVAL BY GUADALUPE COUNTY COMMISSIONERS COURT PER TRANSPORTATION CODE, CHAPTER
- 3. DURING CONSTRUCTION, PROVIDE ALL INSPECTION AND TESTING REPORTS TO THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AS SOON AS AVAILABLE FOR IDENTIFICATION AND CORRECTION OF ANY EMERGING DEFICIENCIES.
- 4. AT THE COMPLETION OF CONSTRUCTION, PROVIDE AS-BUILT DRAWINGS AND A LETTER SIGNED AND SEALED BY THE ENGINEER OF RECORD CERTIFYING THAT:
 - ALL IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS AND COUNTY REGULATIONS. ANY CHANGED IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE
 - COUNTY'S REGULATIONS. THE ELEVATIONS AND GRADES WERE TAKEN BY AN ON-SITE SURVEY ON A DATE SPECIFIED TO ENSURE THAT ALL PAVEMENT, INLETS, MANHOLES AND APPURTENANCES ARE CONSTRUCTED TO GRADE AS SHOWN ON THE RECORD.
 - · ALL TRUNK STORM SEWERS AND LEADS ARE OF THE PROPER SIZE AND THAT ALL IMPROVEMENTS ARE CAPABLE OF PERFORMANCE AS DESIGNED AND

DRAWINGS AND ARE IN COMPLIANCE WITH THE APPROVED PLANS AND

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

NOTE TO CONTRACTOR

AROUND TRENCH EXCAVATION.

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOB SITE AND THE JOB SITE CONDITIONS DURING CONSTRUCTION. THE RESPONSIBILITY IS NOT LIMITED TO NORMAL WORKING HOURS AND INCLUDES THE SAFETY OF ALL PERSONS AND PROPERTY. THE ENGINEER AND OWNER HAVE NO LIABILITY IN CONNECTION WITH THE CONSTRUCTION OF THIS PROJECT, EXCEPT FOR LIABILITY DIRECTLY CAUSED BY THE SOLE NEGLIGENCE OF THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER AND/OR OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE EXECUTION OF ALL WORK RELATED TO THIS PROJECT, EXCEPT FOR NEGLIGENCE ON THE PART OF THE ENGINEER AND/OR OWNER.

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 SITE(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

STREET CONSTRUCTION PLANS

FOR

KAYDEN SPRINGS UNIT 2

MARION, TX **GUADALUPE COUNTY MUNICIPAL UTILITY** DISTRICT NO. 10



LOCATION MAP

NO.	DATE	REVISIONS	BY



REW A. DEFENDOF

142247

OWNER / DEVELOPER:

LENNAR HOMES OF TEXAS 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 TEL: (210) 403-6200

TEL: (210) 265-8300

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C2.1	SIGNAGE AND PAVEMENT MARKING PLAN
C2.2	STREET PLAN AND PROFILE - RIVER GAIL WAY
C2.3	STREET PLAN AND PROFILE - LAYNES FALLS
C2.4	STREET PLAN AND PROFILE - KOLBE CREEK
C2.5	STREET PLAN AND PROFILE - KNOB CREEK WAY
C2.6	STREET PLAN AND PROFILE - LAURIE CREEK
C2.7	STREET DETAILS (1 OF 2)

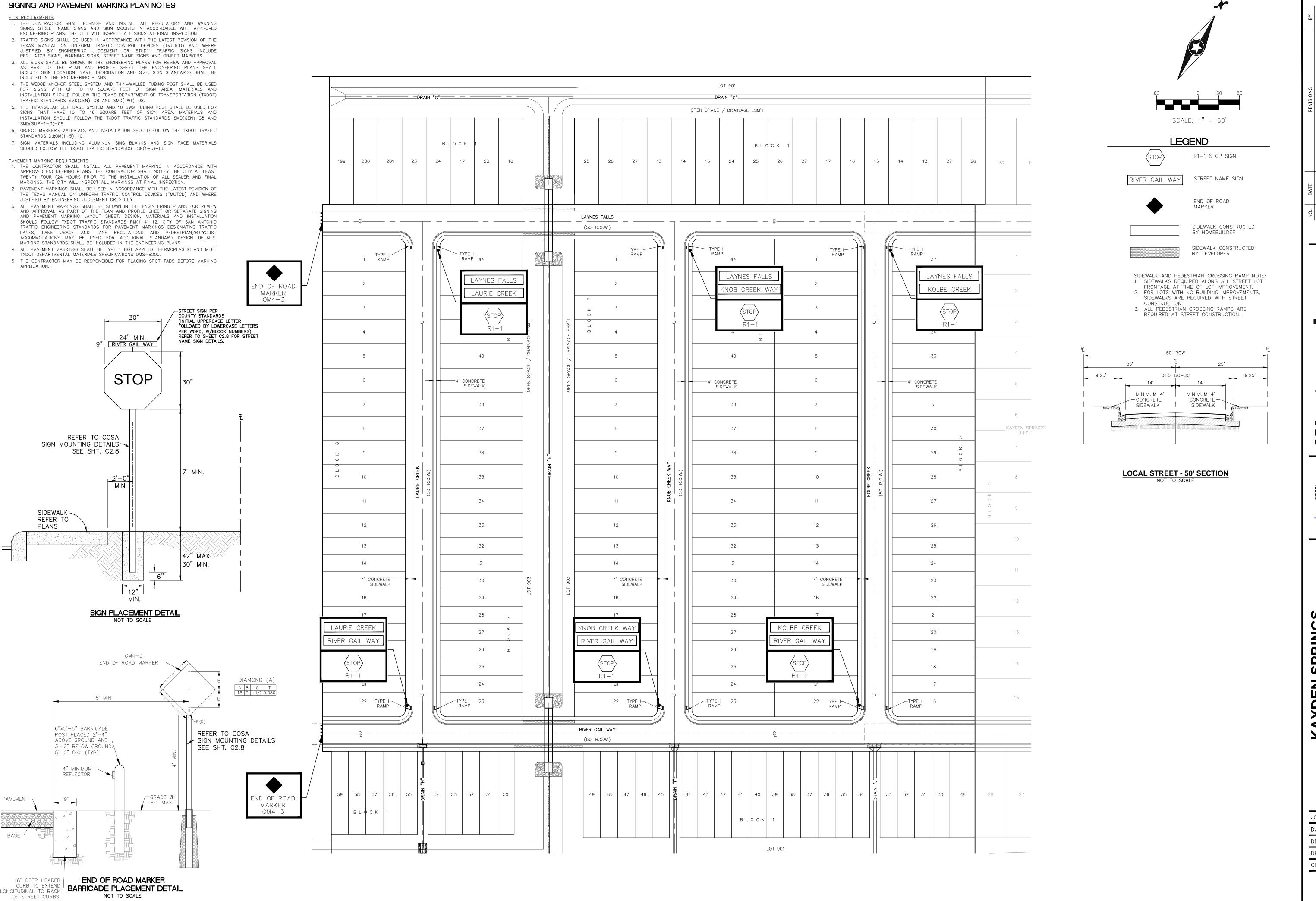
STREET DETAILS (2 OF 2)

C2.9 TRAFFIC SIGNAGE DETAILS

Westwood

(210) 265-8300 211 North Loop 1604 East, Suite 205 (888) 937-5150 San Antonio, TX 78232 westwoodps.com

Westwood Professional Services, Inc. TBPELS FIRM REGISTRATION NO. F-11756 TBPELS FIRM REGISTRATION NO. 10074301



NO. DATE REVISIONS

(210) 265-8300 211 North Loop 1604 East, Suite 205 (888) 937-5150 San Antonio, TX 78232 westwoodps.com

DREW A. DEFENDORF

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08/08/24

KAYDEN SPRINGS UNIT 2

JOB NO.: 0046599.02

DATE: 08/08/2024

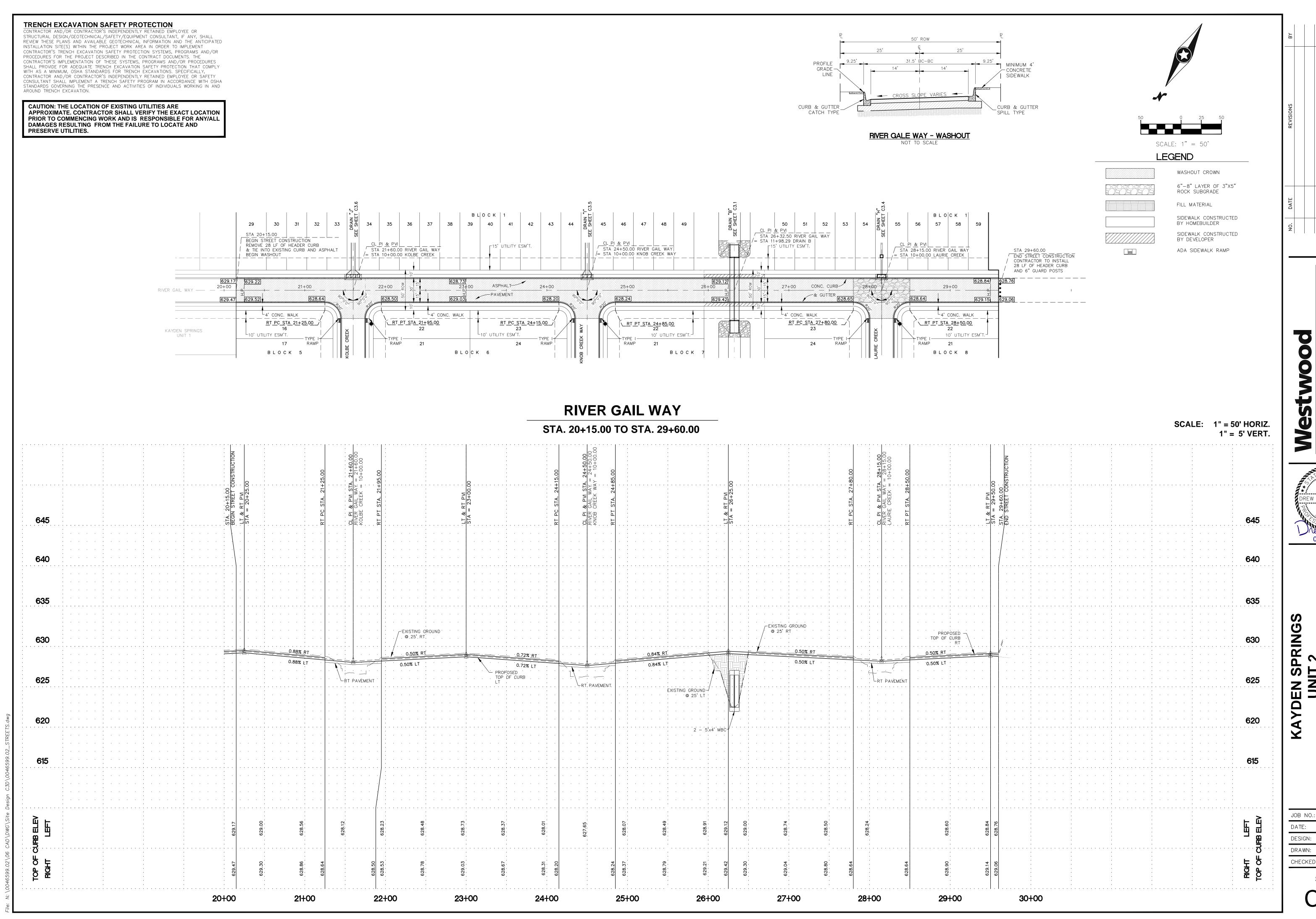
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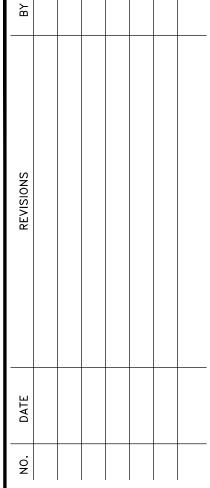
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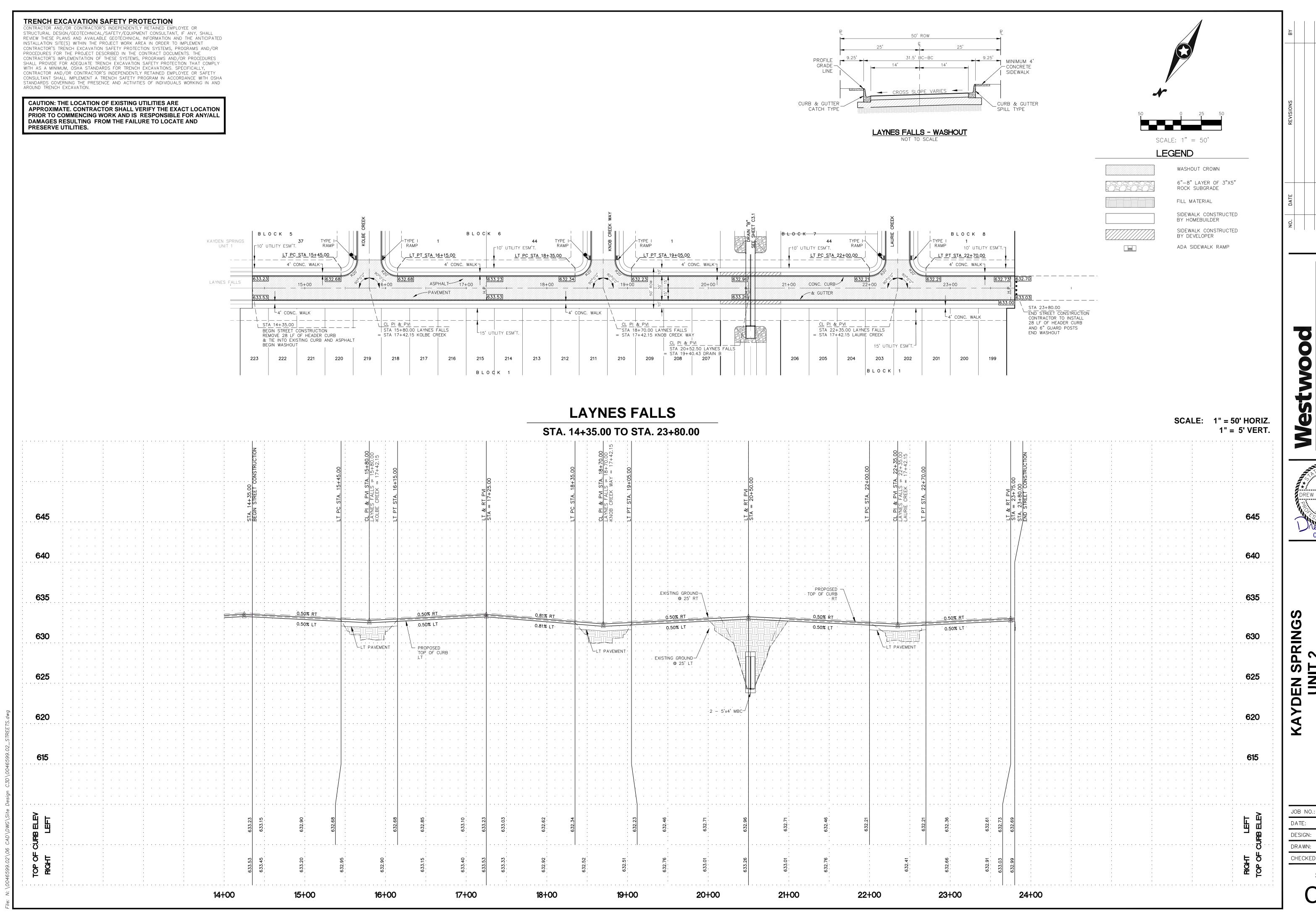
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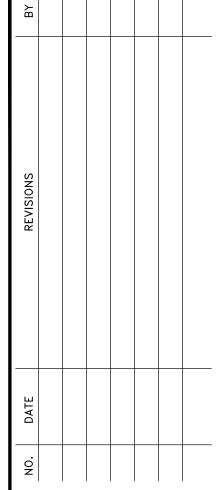
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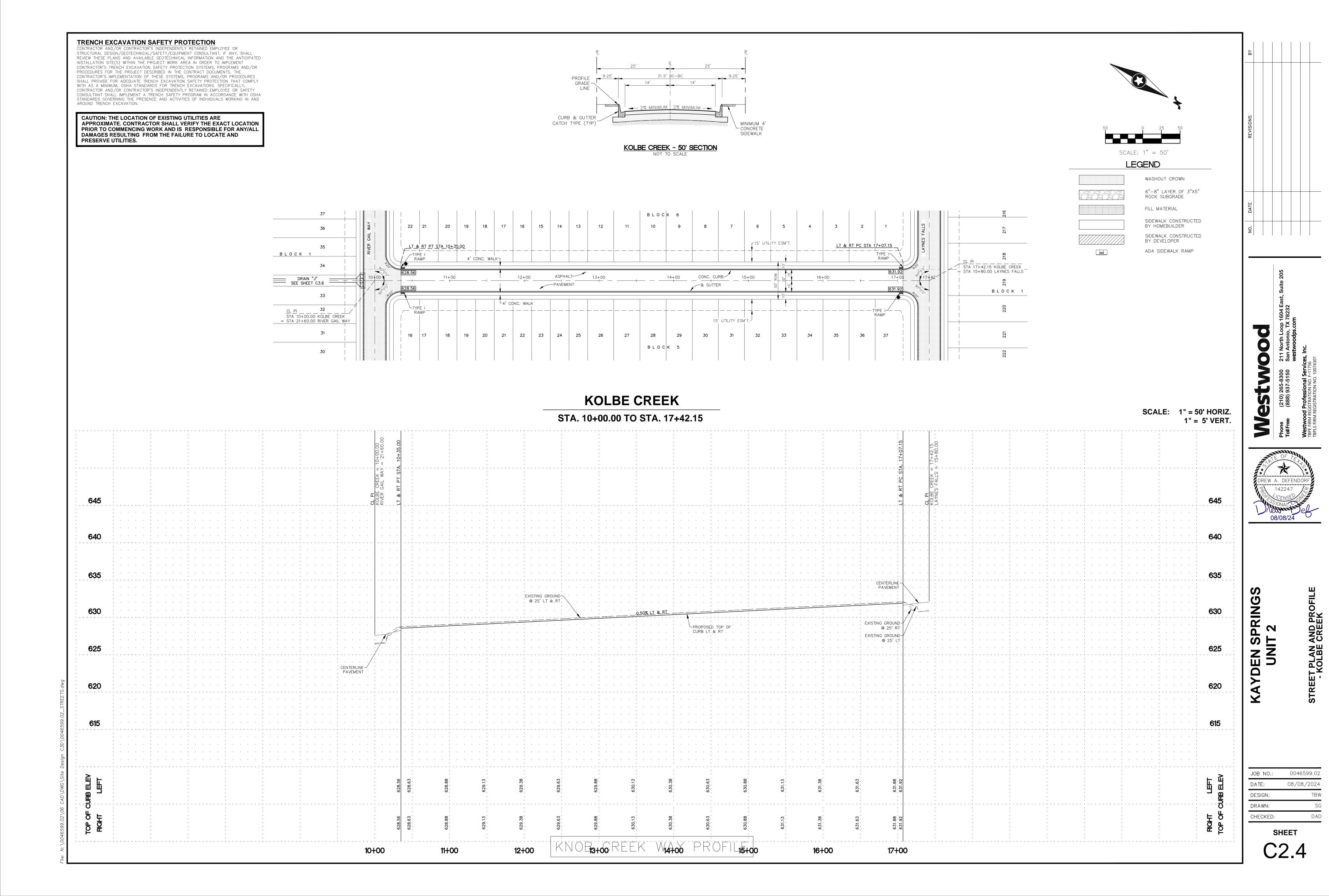


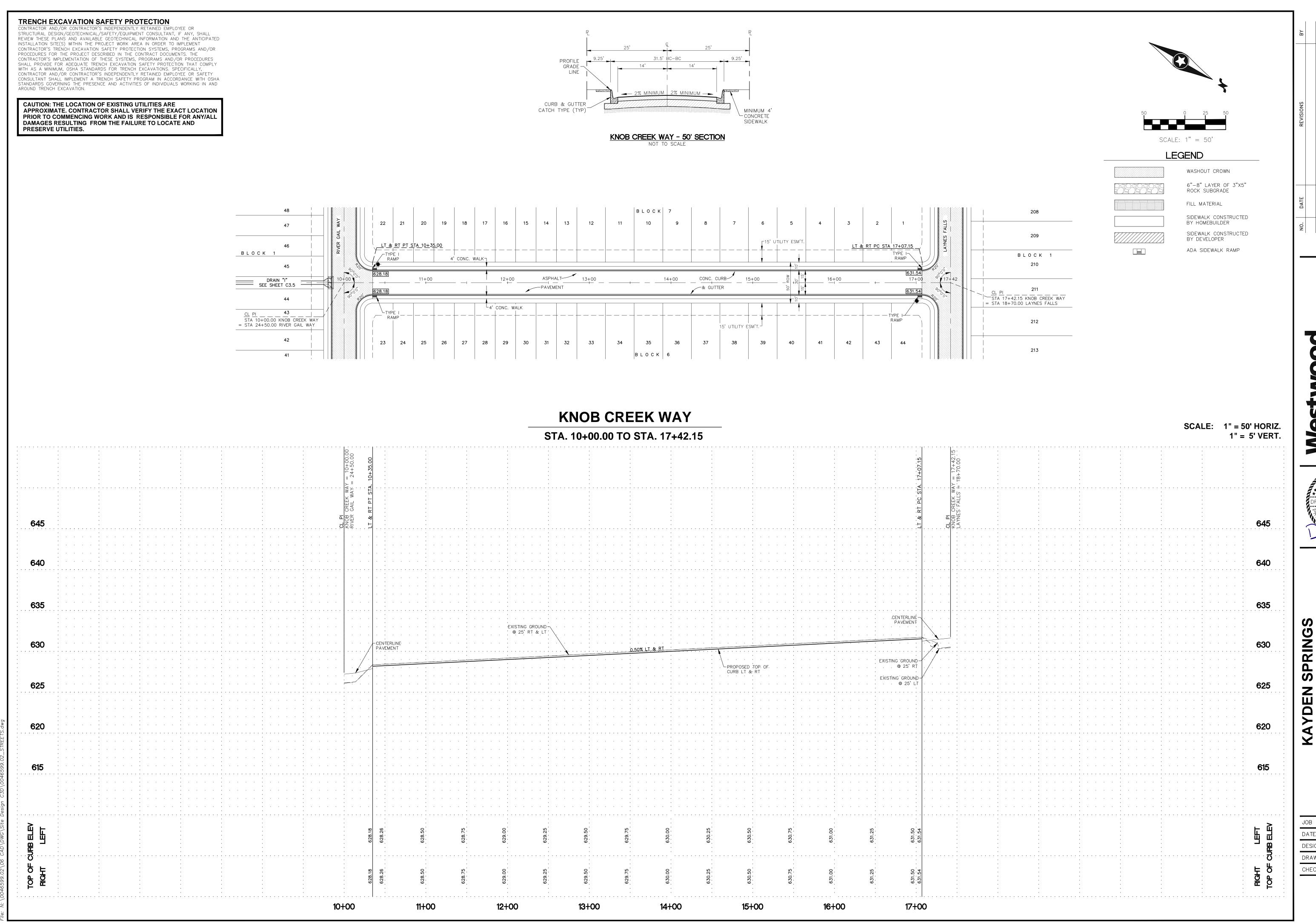






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NO. DATE REVISIONS BY

MESTWOOD

ne (210) 265-8300 211 North Loop 1604 East, Step (888) 937-6450 San Applie 13 78932

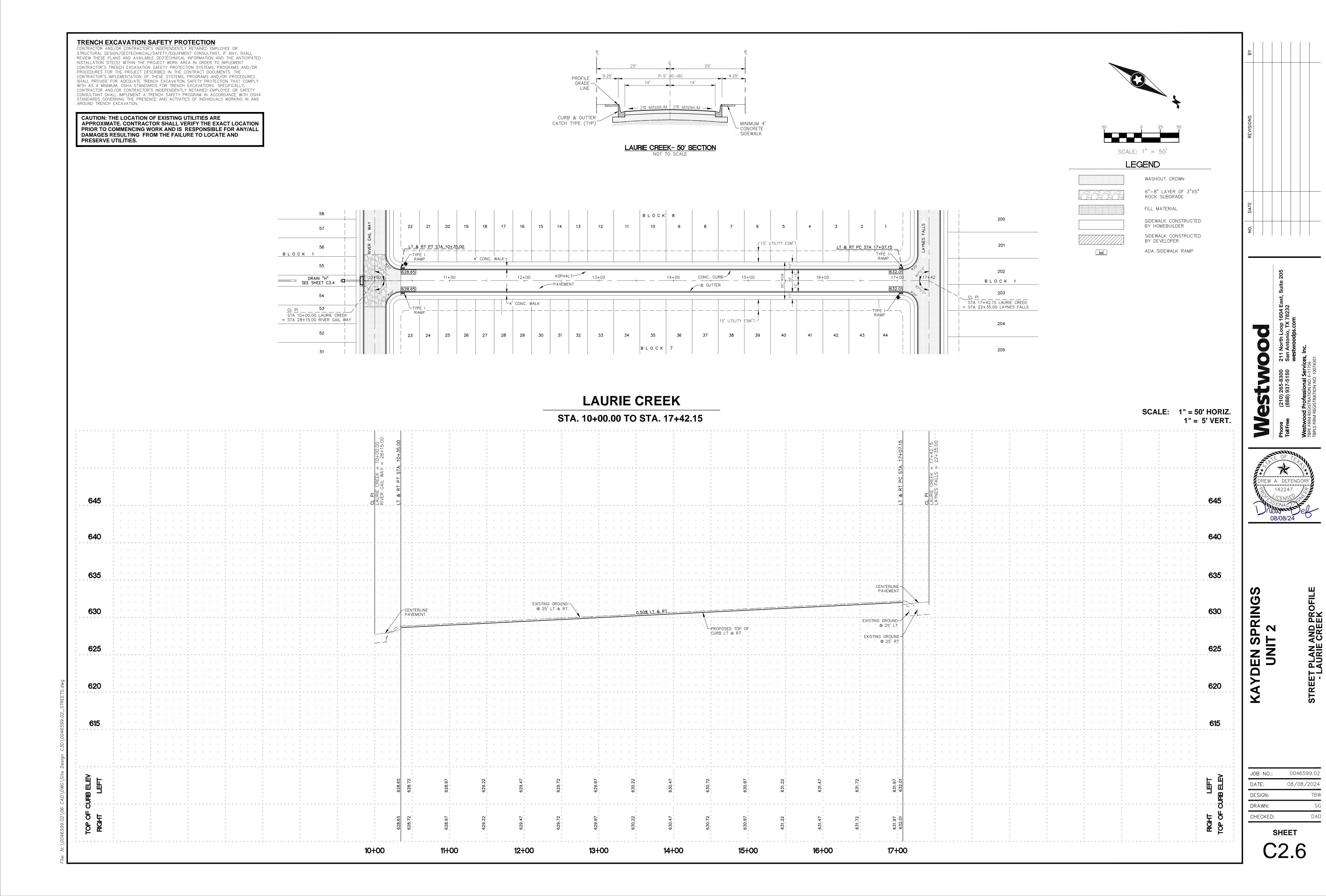
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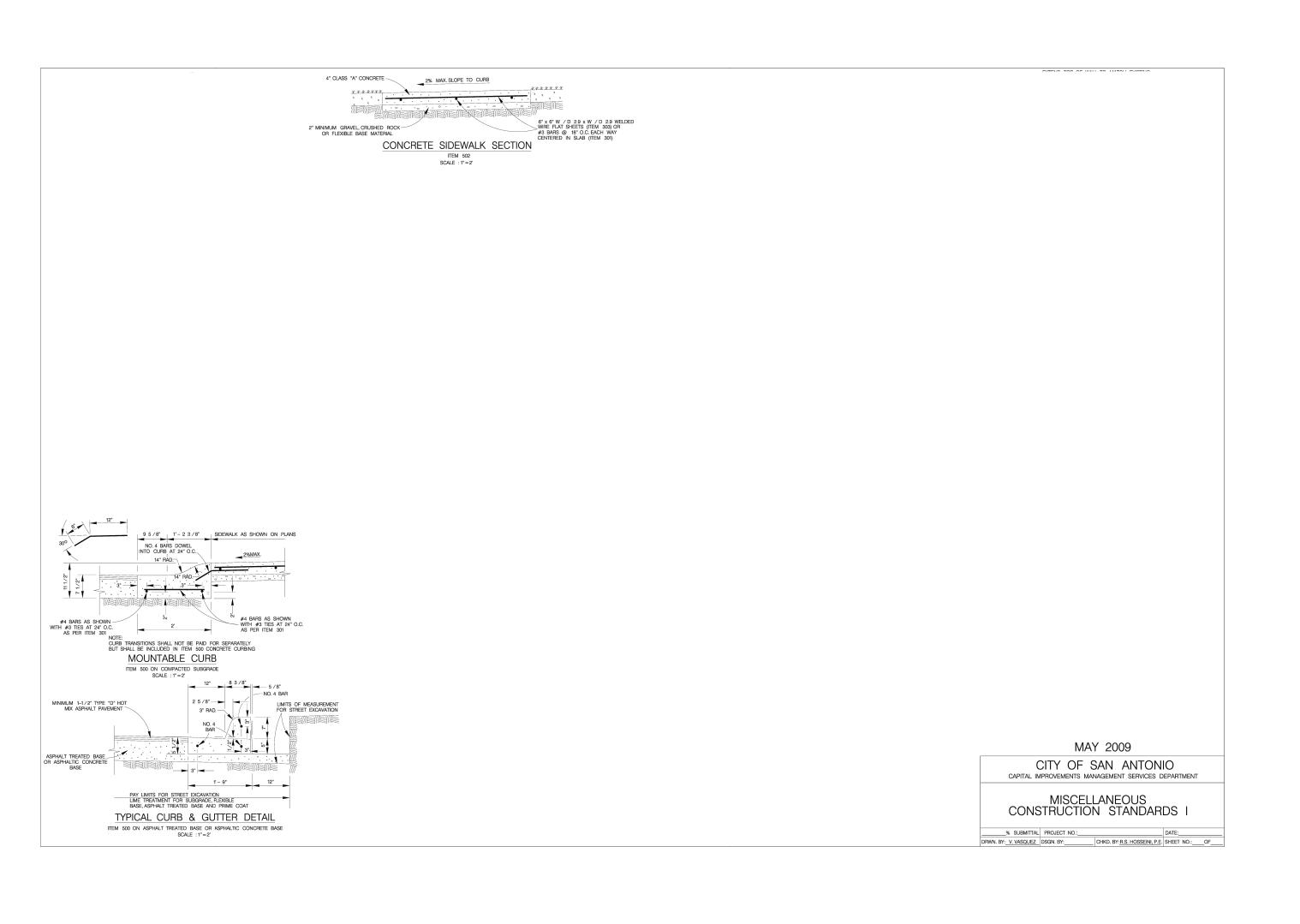
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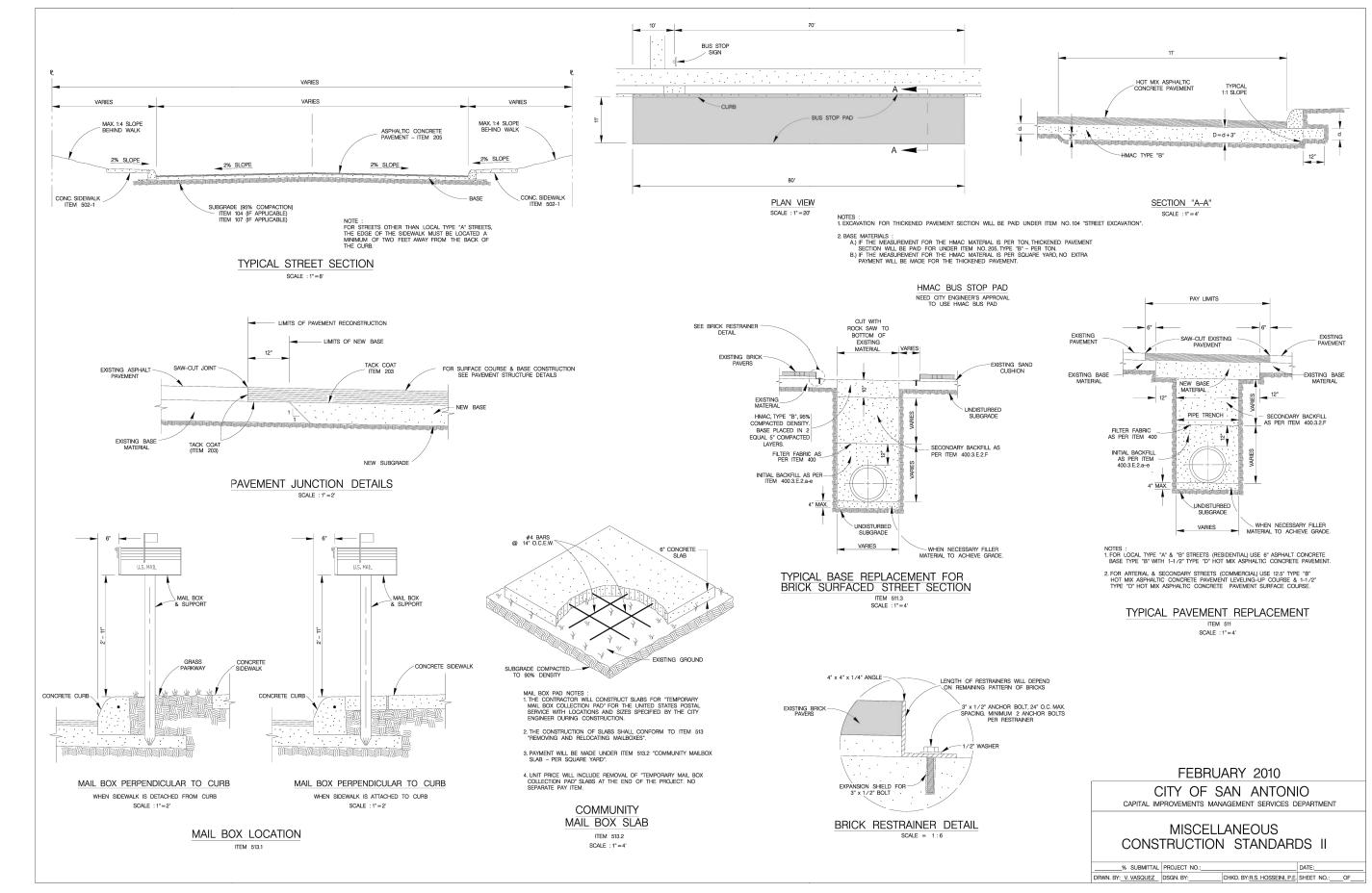
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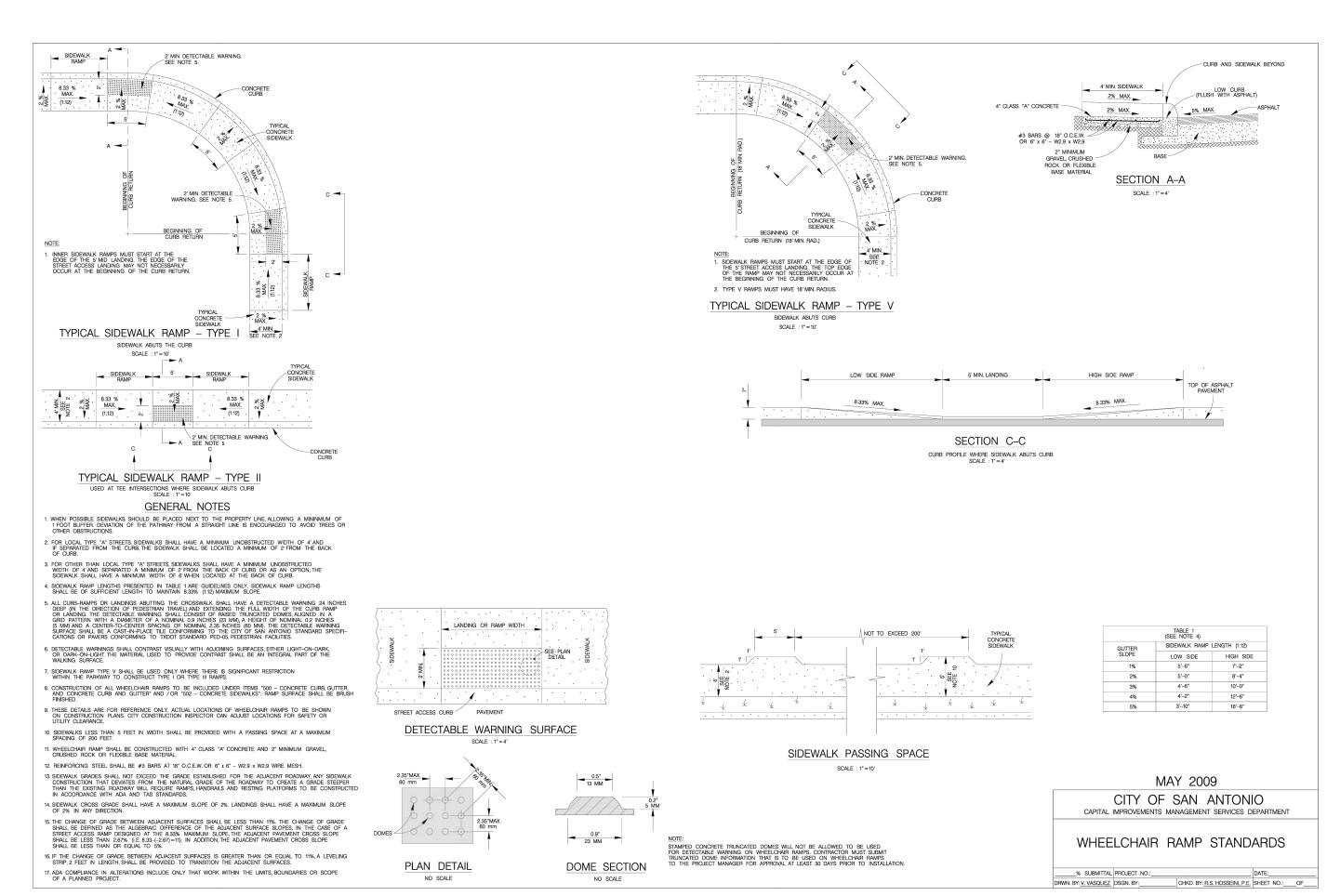
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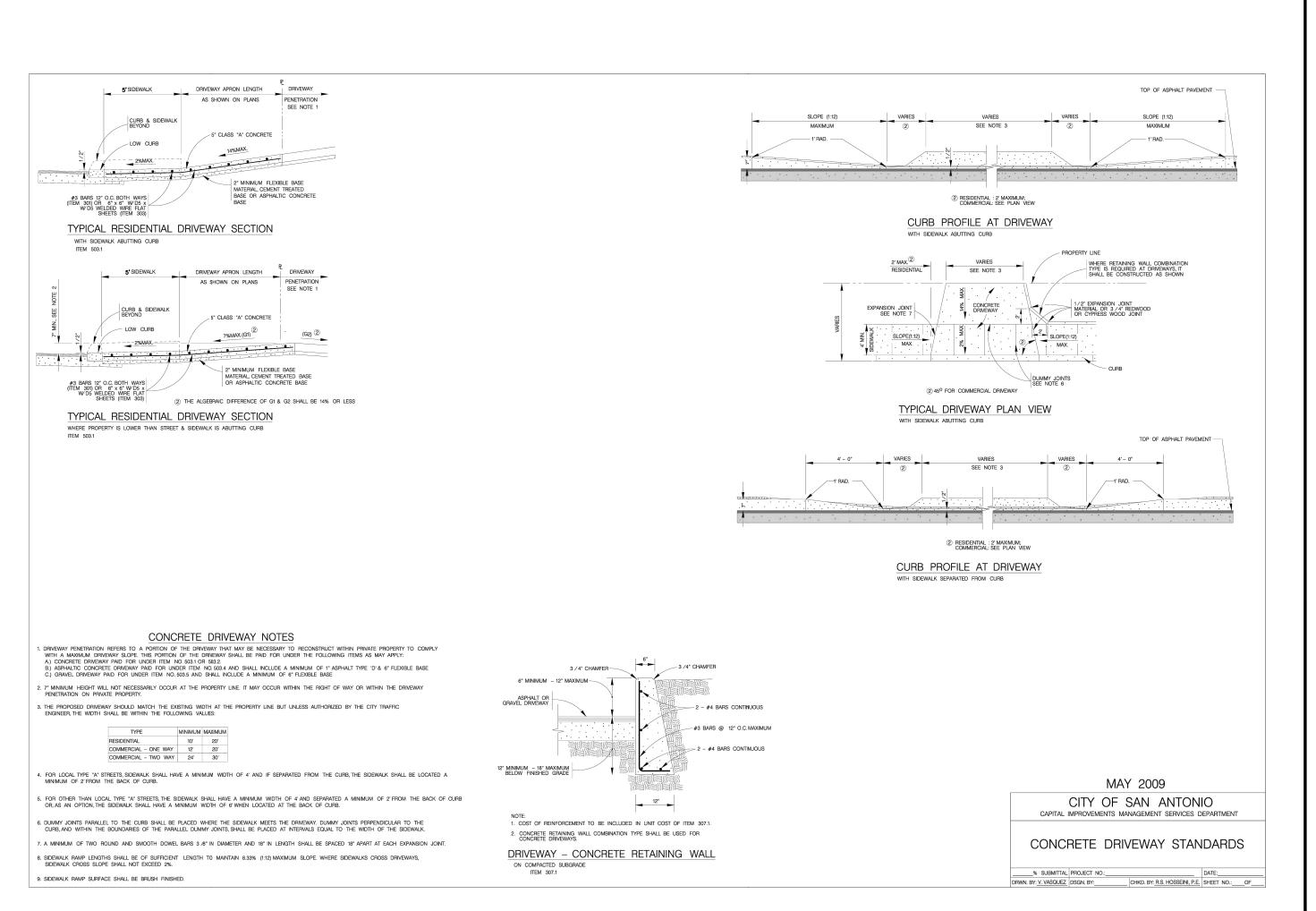
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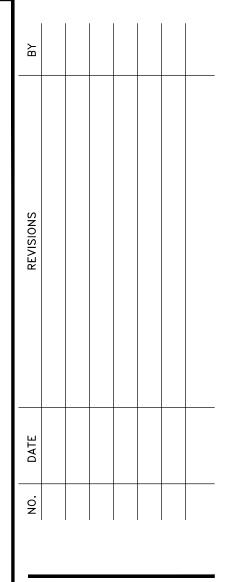




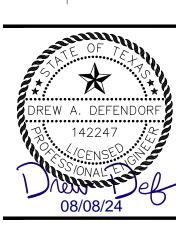






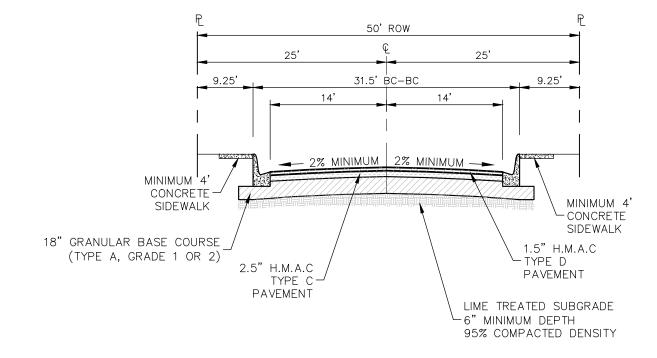


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PRING X

JOB NO.:	0046599.02
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DESIGN:	TBW
DRAWN:	SG
CHECKED:	DAD



Hot Mixed Asphaltic Concrete – Type D	1½ inches	1½ inches
Hot Mixed Asphaltic Concrete – Type C	2½ inches	2½ inches
Prime Coat	Yes	Yes
Granular Base Course (Type A, Grade 1 or 2)	18 inches	15½ inches
Tensar TX Type-3 Geogrid		Yes
Lime Treated Subgrade ¹	6 inches	6 inches

Component

Flexible Pavement System

Local Street

Pavement Material Thickness, inches

TYPICAL LOCAL STREET - 50' SECTION

NOT TO SCALE

LAYNES FALLS FULL LENGTH

LAURIE CREEK FULL LENGTH

KNOB CREEK WAY FULL LENGTH

KOLBE CREEK FULL LENGTH

RIVER GAIL WAY FULL LENGTH

PAVEMENT DESIGN NOTE:

REFER TO KAYDEN SPRINGS UNIT 2 & 3 TTL GEOTECHNICAL REPORT (PROJECT NO. 00230902923.00) DATED 01/10/2024 FOR PAVEMENT DESIGN, MATERIAL SPECIFICATIONS AND SUBGRADE PREPARATION.

THE ASPHALTIC CONCRETE SURFACE COURSE MATERIAL AND INSTALLATION SHOULD CONFORM TO CITY OF CIBOLO CONSTRUCTION GUIDELINES.

THE BASE COURSE SHOULD CONFORM TO TXDOT STANDARD SPECIFICATION ITEM 247, TYPE A, GRADE 1 OR 2. NO MORE THAN 15 PERCENT MATERIAL, BY WEIGHT, SHOULD PASS THE NO. 200 SIEVE.

AT A MINIMUM THE BASE COURSE SHOULD BE BROUGHT TO NEAR OPTIMUM MOISTURE CONDITIONS AND COMPACTED IN LIFTS TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY TEST METHOD TXDOT 113E.

SUBGRADE STABILIZATION IS NEEDED WHEN THE PLASTICITY INDEX VALUES ARE GREATER THAN 20. BASED ON THE THICKNESS OF THE CLAYED ENCOUNTERED IN THE BORINGS, THE FINAL PAVEMENT SUBGRADE PLASTICITY INDEX VALUE IS ANTICIPATED TO BE GREATER THAN 20.

THE SUBGRADE SHOULD BE STABILIZED TO A DEPTH OF 6 OR 8 INCHES USING 8 PERCENT LIME CONTENT.

LIME APPLICATION RATE OF 43 LBS PER SQ YARD FOR 6—INCH & 8—INCH DEPTH OF STABILIZATION IS RECOMMENDED.

THE FINAL CUT SUBGRADE SOILS SHOULD BE TESTED FOR SOLUBLE SULFATE CONTENT PRIOR TO TREATMENT.

DOUBLE APPLICATION OF SUBGRADE STABILIZATION MAY BE NEEDED, IF HIGHER LEVELS OF SOIL SULFATE ARE ENCOUNTERED. IN ADDITION, LIME MAY BE USED FOR THE FIRST APPLICATION AND CEMENT FOR THE SECOND APPLICATION (IF ALLOWED BY THE CITY/COUNTY)

THE SUBGRADE SHOULD BE PROOF ROLLED TO IDENTIFY SOFT AREAS BEFORE STABILIZATION.

IF FILL IS USED TO RAISE THE GRADE, APPROVED FILL MATERIAL UNDERNEATH THE PAVEMENT SHOULD BE USED. THE FILL SHOULD BE FREE OF DELETERIOUS MATERIAL WITH A MINIMUM CBR VALUE OF 2.0. LIME APPLICATION RATES SHOULD BE RE—EVALUATED AND SULFATE CONTENT TESTED FOR THE FILL MATERIAL. THE MATERIAL SHOULD BE PLACED AS PER APPLICABLE CITY OF COUNTY GUIDELINES.

GEOGRID, SUCH AS TENSAR TRIAX TX130 OR BETTER, SHOULD BE INSTALLED AS PER MANUFACTURER'S GUIDELINES ON TOP OF MOISTURE CONDITIONED SUBGRADE OR STABILIZED SUBGRADE.

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Phone (210) 265-8300 211 North Loop 1604 Eas Toll Free (888) 937-5150 San Antonio, TX 78232

DREW A. DEFENDORF

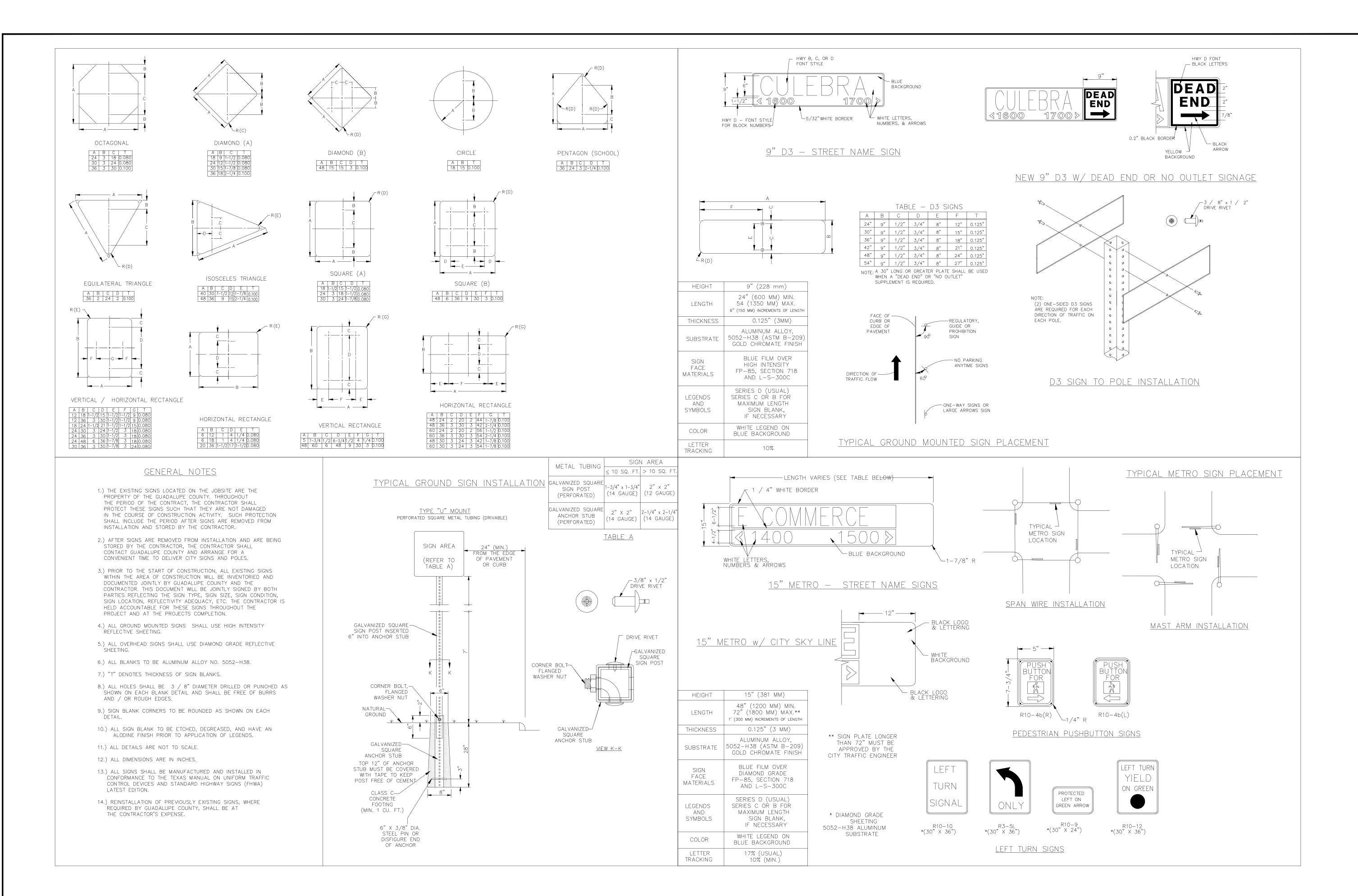
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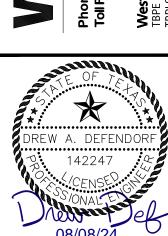
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UNIT 2

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KAYDEN SPRINGS UNIT 2

JOB NO.:	0046599.02
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GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE TO THE CITY OF MARION AND/OR GUADALUPE COUNTY SPECIFICATIONS FOR
- 2. ALL CONSTRUCTION IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY OF MARION AND/OR GUADALUPE COUNTY PUBLIC
- 3. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS, BUT NOT INCLUDED IN THE BID PROPOSAL. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED IN THE PAY ITEM TO WHICH IT RELATES.
- 4. THE CONTRACTOR IS 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 EXTRA PAY ITEM).
- 5. 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.
- 6. CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR TWENTY FOUR (24) HOURS PRIOR TO BACKFILL OF ANY UTILITY TRENCHES
- 7. 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.
- 8. 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 EXCAVATION OPERATION.

GUADALUPE VALLEY ELECTRIC COOPERATIVE CENTERPOINT ENERGY

TEXAS STATE WIDE ON CALL LOCATOR

830-379-2114 800-545-6005 OR 811

- 9. 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 CONSTRUCTION.
- 10. 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 MATERIAL SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER FLOW LIMITS OF EXISTING ARTIFICIAL OR NATURAL DRAINAGE.
- 11. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOODPLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOODPLAIN DEVELOPMENT PERMIT.
- 12. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND/ OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.
- 13. MATERIAL SPECIFICATIONS: CONCRETE / CONCRETE RIPRAP: CLASS A 3000 PSI IN 28 DAYS UNLESS OTHERWISE NOTED ON PLANS.

PIPE RAILING: STRUCTURAL STEEL:

(2" COVER UNLESS OTHERWISE NOTED ON PLANS) CONFORM TO A.S.T.M. A-53, GRADE B, OR A-501 CONFORM TO A.S.T.M. A-36

- 14. CONTRACTOR TO COORDINATE CONCRETE CURB DEPRESSIONS WITH THE DEVELOPER (NO SEPARATE PAY ITEM).
- 15. TRANSITION FROM NORMAL CROWN TO WASHOUT CROWN IN TWENTY-FIVE FEET (25') MINIMUM.
- 16. IMPROVED EARTHEN CHANNELS WILL BE VEGETATED BY SEEDING OR SODDING EIGHTY-FIVE PERCENT OF THE CHANNEL SUBGRADE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE. REFER TO 35-504 OF THE CITY OF SAN ANTONIO UDC. NO EXTRA PAY ITEM.

GUADALUPE COUNTY NOTES

- 1. PRIOR TO THE COMMENCEMENT OF ANY WORK, THE COUNTY SHALL ATTEND A PRECONSTRUCTION MEETING INCLUDING (BUT NOT LIMITED TO) THE CITY, ENGINEER, CONTRACTOR, DEVELOPER'S INSPECTION REPRESENTATIVE, AND DEVELOPER'S CONSTRUCTION
- 2. DURING CONSTRUCTION, NOTIFY THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AT LEAST 48 HOURS IN ADVANCE OF ANY WORK TO BE PERFORMED AFFECTING SUBGRADE, BASE, OR PAVEMENT INCLUDING BACKFILL OF ANY PROPOSED UTILITIES UNDERNEATH THE PAVEMENT AND FILL AREAS UPON WHICH PAVEMENT IS PROPOSED TO BE PLACED. SUCH NOTIFICATION IS ALSO REQUIRED BEFORE IMPLEMENTING ANY APPROVED TRAFFIC CONTROL PLANS ON EXISTING COUNTY—MAINTAINED ROADS. FULL CLOSURE OF COUNTY ROADS REQUIRES AT LEAST ONE MONTH ADVANCE NOTICE AND IS SUBJECT TO THE DISCRETION OF THE COUNTY ENGINEER AND POSSIBLE APPROVAL BY GUADALUPE COUNTY COMMISSIONERS COURT PER TRANSPORTATION CODE,
- 3. DURING CONSTRUCTION, PROVIDE ALL INSPECTION AND TESTING REPORTS TO THE COUNTY AT CONSTRUCTION@CO.GUADALUPE.TX.US AS SOON AS AVAILABLE FOR IDENTIFICATION AND CORRECTION OF ANY EMERGING
- 4. AT THE COMPLETION OF CONSTRUCTION, PROVIDE AS-BUILT DRAWINGS AND A LETTER SIGNED AND SEALED BY THE ENGINEER
- ALL IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE APPROVED IMPROVEMENT PLANS AND COUNTY REGULATIONS.
- ANY CHANGED IMPROVEMENTS WERE MADE IN ACCORDANCE WITH THE COUNTY'S REGULATIONS. THE ELEVATIONS AND GRADES WERE TAKEN BY AN ON-SITE SURVEY ON A DATE SPECIFIED TO ENSURE THAT ALL
- DRAWINGS AND ARE IN COMPLIANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
- ALL TRUNK STORM SEWERS AND LEADS ARE OF THE PROPER SIZE AND THAT ALL IMPROVEMENTS ARE CAPABLE OF PERFORMANCE AS DESIGNED AND APPROVED.

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

NOTE TO CONTRACTOR

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOB SITE AND THE JOB SITE CONDITIONS DURING CONSTRUCTION. THE RESPONSIBILITY IS NOT LIMITED TO NORMAL WORKING HOURS AND INCLUDES THE SAFETY OF ALL PERSONS AND PROPERTY. THE ENGINEER AND OWNER HAVE NO LIABILITY IN CONNECTION WITH THE CONSTRUCTION OF THIS PROJECT, EXCEPT FOR LIABILITY DIRECTLY CAUSED BY THE SOLE NEGLIGENCE OF THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER AND/OR OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE EXECUTION OF ALL WORK RELATED TO THIS PROJECT, EXCEPT FOR NEGLIGENCE ON THE PART OF THE ENGINEER AND/OR OWNER.

TRENCH EXCAVATION SAFETY PROTECTION

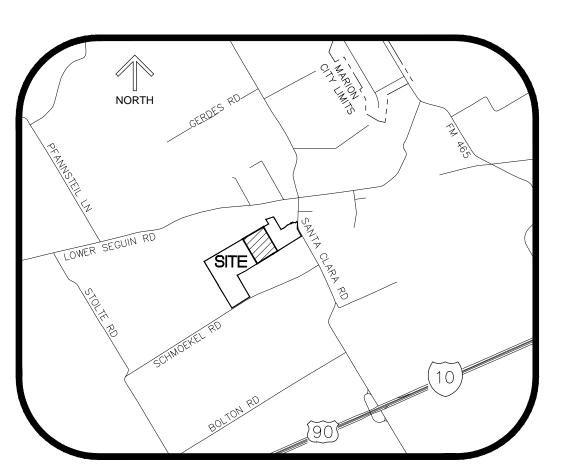
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S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

DRAINAGE CONSTRUCTION PLANS

KAYDEN SPRINGS UNIT 2

MARION, TX

GUADALUPE COUNTY MUNICIPAL UTILITY DISTRICT NO. 10



LOCATION MAP

NO.	DATE	REVISIONS	BY

TABLE OF CONTENTS

CIVIL PLANS

DRAINAGE

DRAINAGE COVER SHEET

DRAIN PLAN AND PROFILE - DRAIN B

DRAIN B DETAILS

DRAIN PLAN AND PROFILE - DRAIN G

DRAIN PLAN AND PROFILE - DRAIN H

DRAIN PLAN AND PROFILE - DRAIN I

DRAIN PLAN AND PROFILE - DRAIN J DRAINAGE DETAILS (1 OF 2)

DRAINAGE DETAILS (2 OF 2)

DRAINAGE INFRASTRUCTURE MAINTENANCE SCHEDULE

REW A. DEFENDOF 142247

ENGINEER / SURVEYOR:

OWNER / DEVELOPER:

WESTWOOD PROFESSIONAL SERVICES

211 N LOOP 1604 E, SUITE 205

SAN ANTONIO, TEXAS 78232

LENNAR HOMES OF TEXAS

SAN ANTONIO, TEXAS 78216

100 NE LOOP 410, SUITE 1155

TEL: (210) 265-8300

TEL: (210) 403-6200

EARTHEN CHANNELS, DRAINAGE LOTS/EASEMENTS, AND STORM DRAIN INFRASTRUCTURE SHALL BE INSPECTED AND MAINTAINED BY THE COMMUNITY ASSOCIATION OR PROPERTY OWNERS. THE CHANNELS ARE TO BE INSPECTED ON A BI-ANNUAL BASIS TO ENSURE PROPER OPERATION. AT A MINIMUM, ONE OF BI-ANNUAL INSPECTIONS SHALL BE PERFORMED DURING OR IMMEDIATELY AFTER A STORM EVENT. DAMAGE TO RETAINING WALLS, PIPES, CULVERTS, INLET/OUTLET STRUCTURES ETC. IDENTIFIED UPON INSPECTION SHALL BE REPAIRED IMMEDIATELY STANDING WATER, WEEDS/BRUSH AND DEBRIS/LITTER ARE PERCEIVED ISSUES THAT GENERALLY POINT TOWARDS A FAILURE TO PERFORM REGULAR INSPECTIONS AND MAINTENANCE. GUADALUPE COUNTY DEPARTMENT HAS THE RIGHT TO DO PERIODIC INSPECTIONS OF DRAINAGE INFRASTRUCTURE TO ENSURE MAINTENANCE IS BEING

EROSION
CHANNELS AND STORM DRAIN OUTFALL STRUCTURES MAY BE SUBJECT TO EROSION AND REGRADING, ADDITIONAL COMPACTION AND/OR REVEGETATION MAY BE

CHANNELS AND DRAINAGE LOTS/EASEMENTS ARE TO BE MOWED REGULARLY TO CONTROL WEEDS/BRUSH. A MULCHING MOWER SHOULD BE USED OR GRASS CLIPPINGS SHALL BE CAUGHT AND DISPOSED OF PROPERLY.

<u>DEBRIS/LITTER</u>
AT PERIODIC INSPECTIONS, DEBRIS/LITTER SHALL BE REMOVED TO HELP ENSURE CHANNELS AND STORM DRAINAGE INFRASTRUCTURE ARE PERFORMING AS DESIGNED. ATTENTION SHALL BE SPECIFICALLY GIVEN TO THE TABLETOP INLETS LOCATED AT

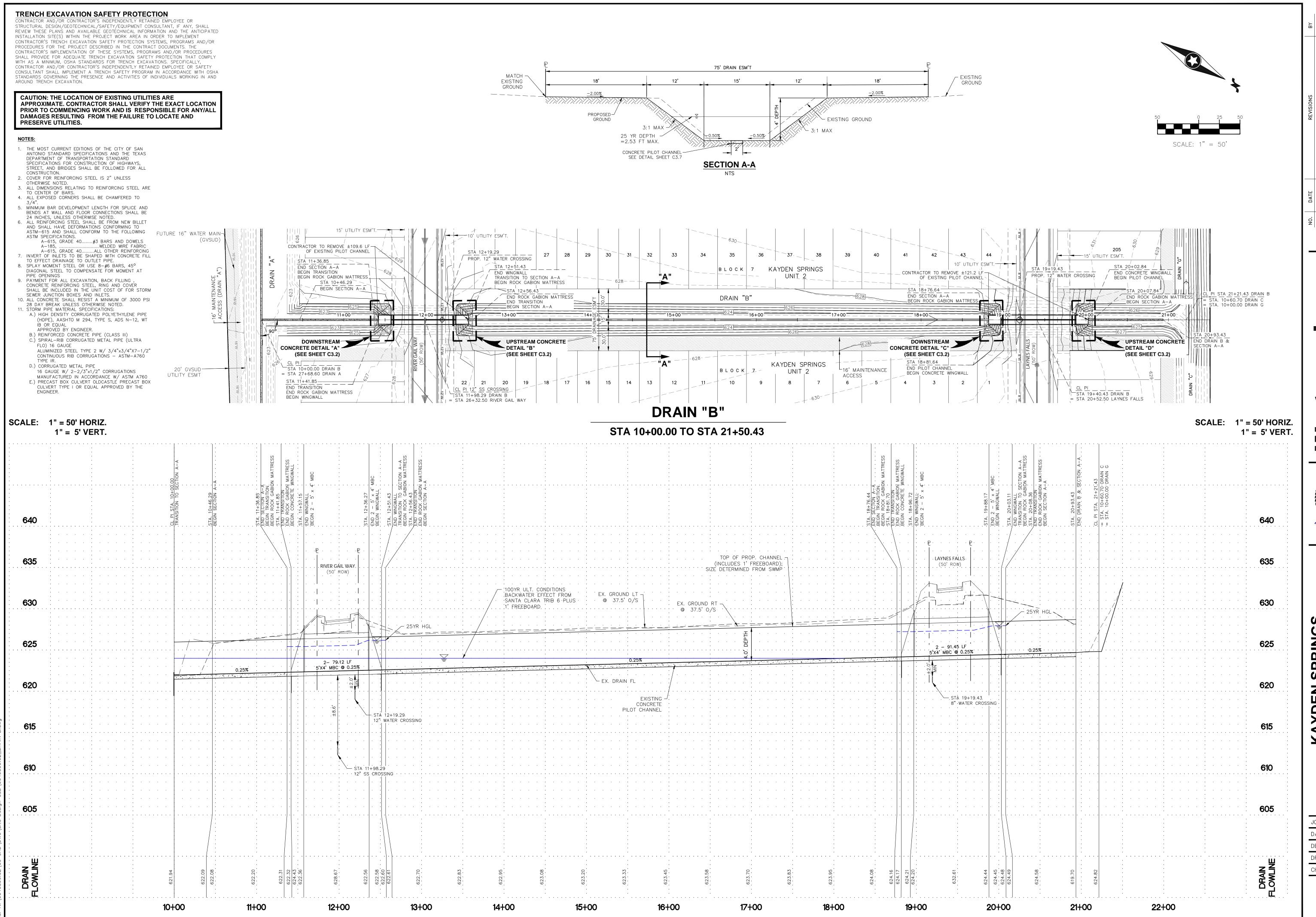
<u>SEDIMENTATION</u>
THE COLLECTION OF SEDIMENTATION HAS THE POTENTIAL TO ADVERSELY IMPACT CHANNELS. SEDIMENTATION BUILDUP NEAR WATER QUALITY CONTROL DEVICES MAY REDUCE THE EFFECTIVENESS OR ENTIRELY CLOG THE CONTROL DEVICES. SEDIMENT ACCUMULATION WITHIN CHANNELS OR STORM DRAINAGE INFRASTRUCTURE SHALL BE ADDRESSED IMMEDIATELY.

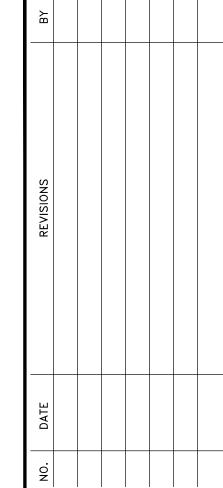
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DREW A. DEFENDORF

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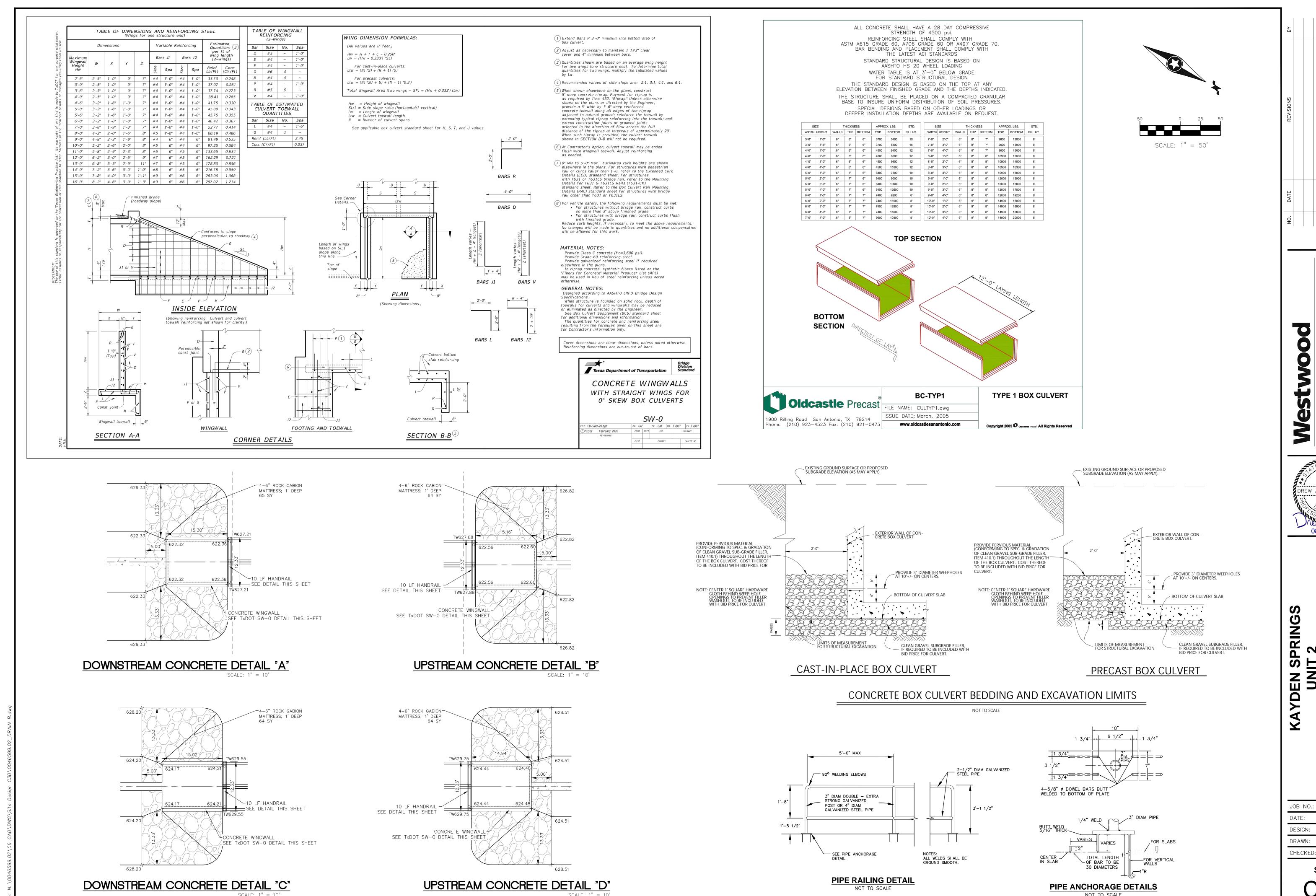
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TRENCH EXCAVATION SAFETY PROTECTION

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 SITE(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

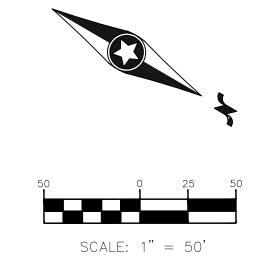
CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

EXISTING DRAIN '

KAYDEN SPRINGS UNIT 1 SUBDIVISION

207



NOTES:

- 1. THE MOST CURRENT EDITIONS OF THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS AND THE TEXAS
 DEPARTMENT OF TRANSPORTATION STANDARD
 SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS,
 STREET, AND BRIDGES SHALL BE FOLLOWED FOR ALL
- 2. COVER FOR REINFORCING STEEL IS 2" UNLESS OTHERWISE NOTED.

 3. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE
- TO CENTER OF BARS.

 4. ALL EXPOSED CORNERS SHALL BE CHAMFERED TO 3/4".
- 5. MINIMUM BAR DEVELOPMENT LENGTH FOR SPLICE AND BENDS AT WALL AND FLOOR CONNECTIONS SHALL BE 24 INCHES, UNLESS OTHERWISE NOTED. 6. ALL REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL HAVE DEFORMATIONS CONFORMING TO ASTM—615 AND SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS. A-615, GRADE 40.....#3 BARS AND DOWELS
- TO EFFECT DRAINAGE TO OUTLET PIPE.

 8. SPLAY MOMENT STEEL OR USE 8-#6 BARS, 45°
 DIAGONAL STEEL TO COMPENSATE FOR MOMENT AT PIPE OPENINGS

 9. PAYMENT FOR ALL EXCAVATION, BACK FILLING, CONCRETE REINFORCING STEEL, RING AND COVER SHALL BE INCLUDED IN THE UNIT COST OF FOR STORM SEWER JUNCTION BOXES AND INLETS.
- 10. ALL CONCRETE SHALL RESIST A MINIMUM OF 3000 PSI 28 DAY BREAK UNLESS OTHERWISE NOTED.
 11. STORM PIPE MATERIAL SPECIFICATIONS:
 A.) HIGH DENSITY CORRUGATED POLYETHYLENE PIPE (HDPE), AASHTO M 294, TYPE S, ADS N-12, WT
- IB OR EQUAL APPROVED BY ENGINEER. B.) REINFORCED CONCRETE PIPE (CLASS III) C.) SPIRAL-RIB CORRUGATED METAL PIPE (ULTRA FLO) 16 GAUGE
- ALUMINIZED STEEL TYPE 2 W/ 3/4"x3/4"X7-1/2"
 CONTINUOUS RIB CORRUGATIONS ASTM-A760 D.) CORRUGATED METAL PIPE
- 16 GAUGE W/ 2-2/3"x1/2" CORRUGATIONS MANUFACTURED IN ACCORDANCE W/ ASTM A760 E.) PRECAST BOX CULVERT OLDCASTLE PRECAST BOX CULVERT TYPE I OR EQUAL APPROVED BY THE

ENGINEER.



MATCH EXISTING-

EXISTING -GROUND

15.5'

3:1 MAX-

PROPOSED-GROUND

DRAIN "G"

KAYDEN SPRINGS UNIT 2

203

202

-630 -

BLOCK 1

204

DRAIN

205

DETAIL 1;

THIS SHEET

ACCESS

-STA 10+34.00

STA 10+00.00 BEGIN DRAIN G = STA. 21.21.43 DRAIN B

BEGIN SECTION A-A

6' MAINTENANCE

-631-

200

6:1 MAINTENANCE

STA 12+94.20—

END SECTION A-A

ACCESS RAMP

PL STA 13+17.50-

199

STA 13+39.86-

END DRAIN G

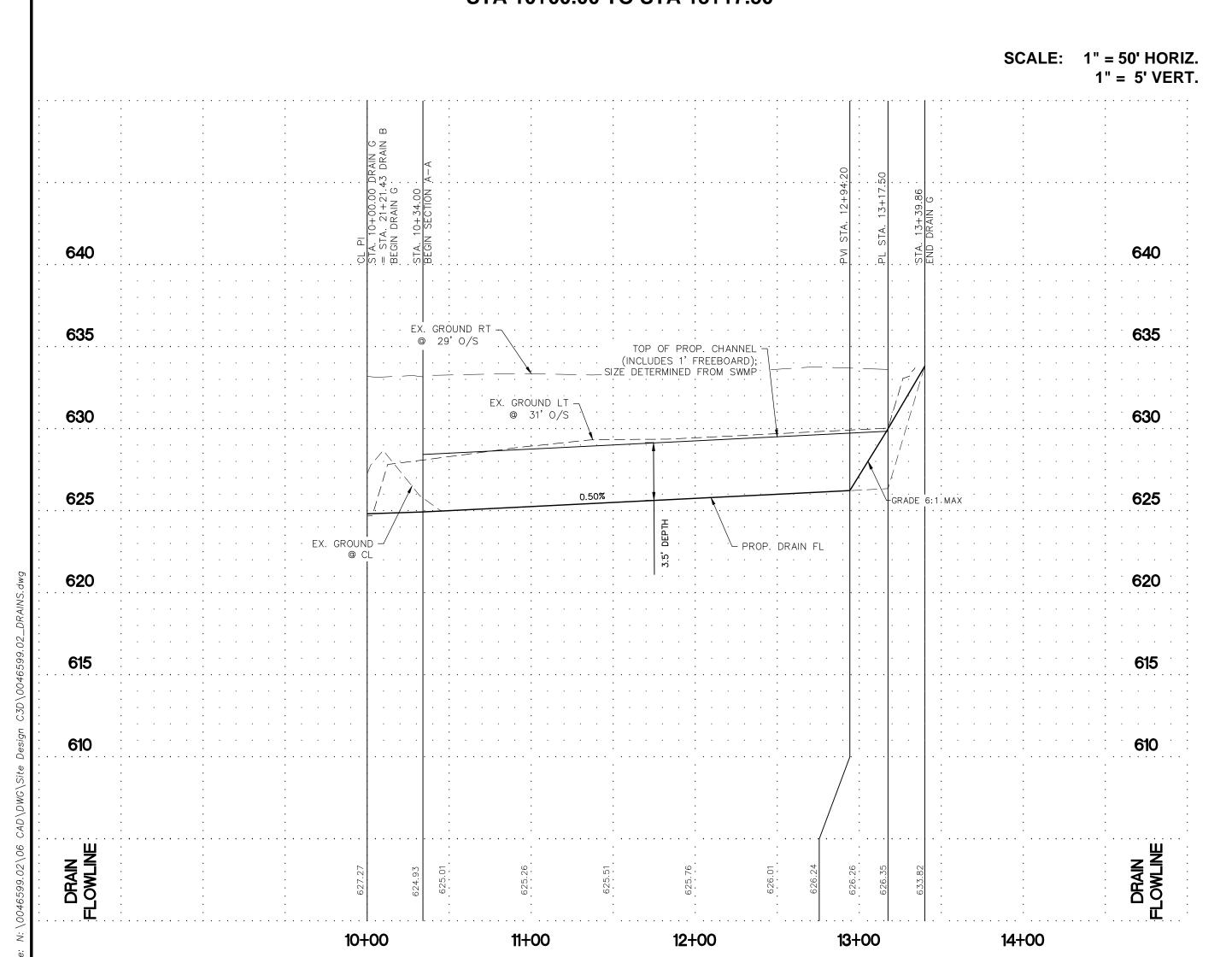
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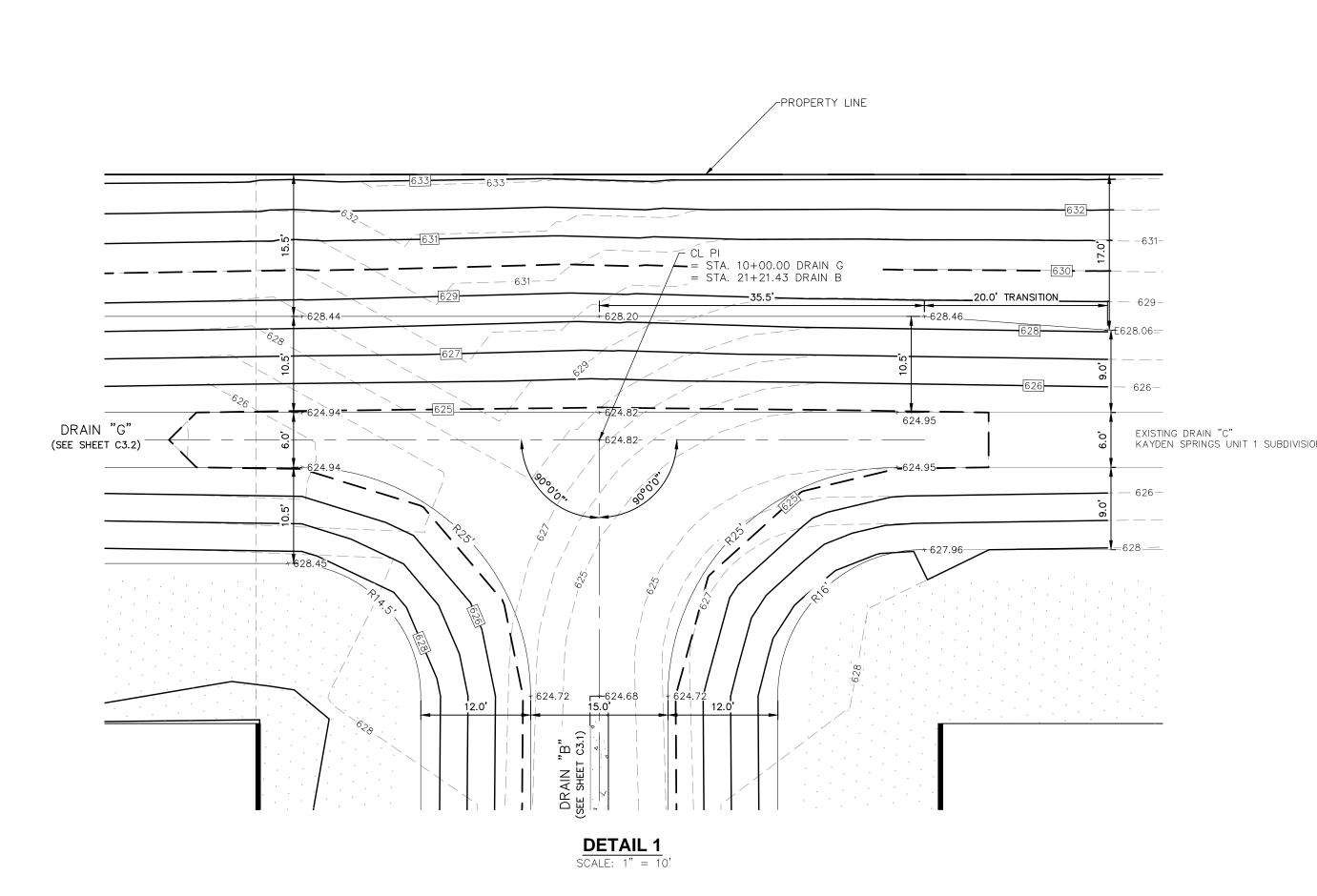
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STA 10+00.00 TO STA 13+17.50





VARIABLE WIDTH DRAIN ESM'T

SECTION A-A

17.5'

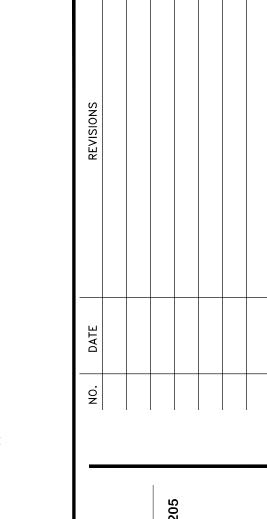
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└25 YR DEPTH

=**2.19** FT MAX.

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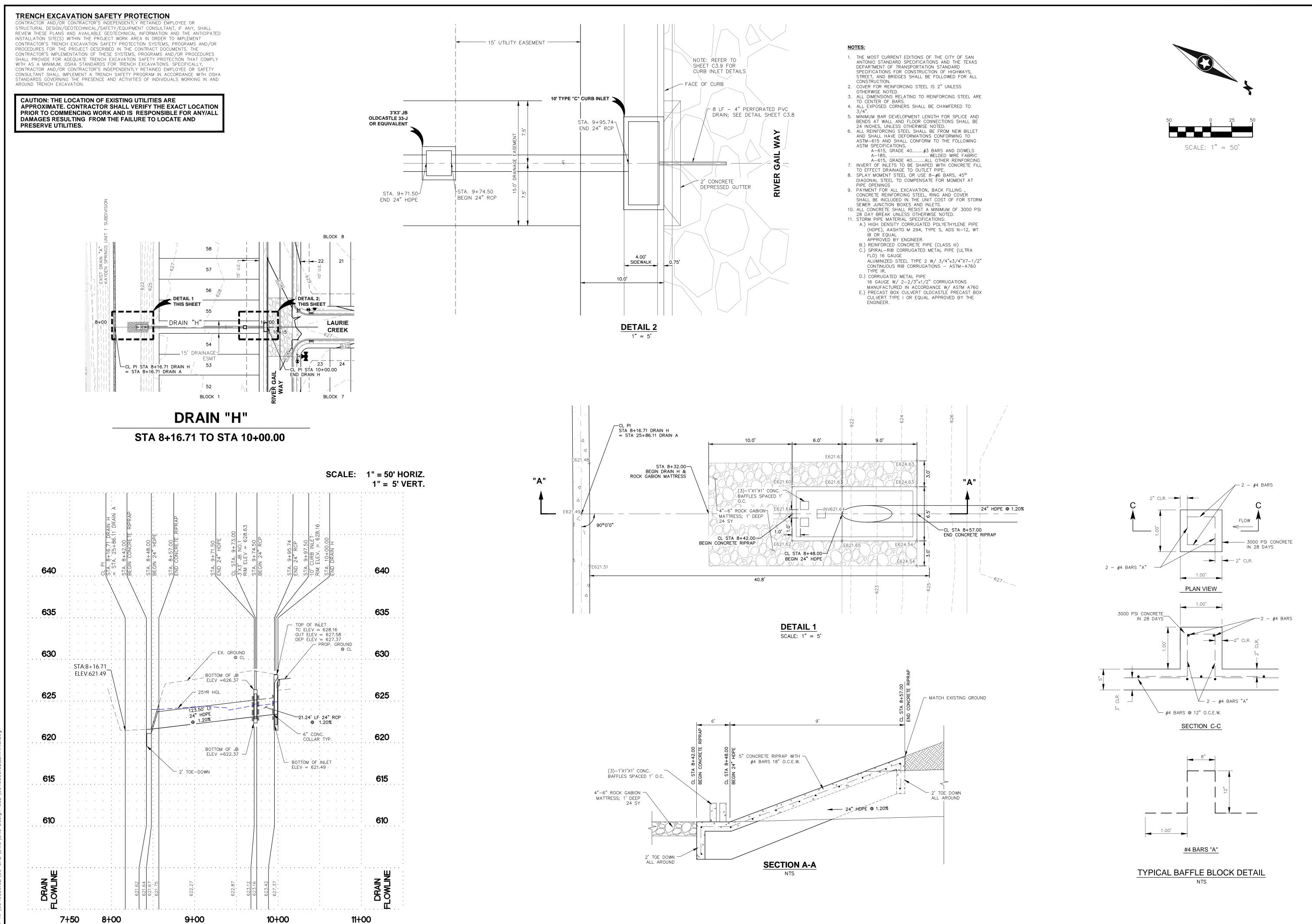
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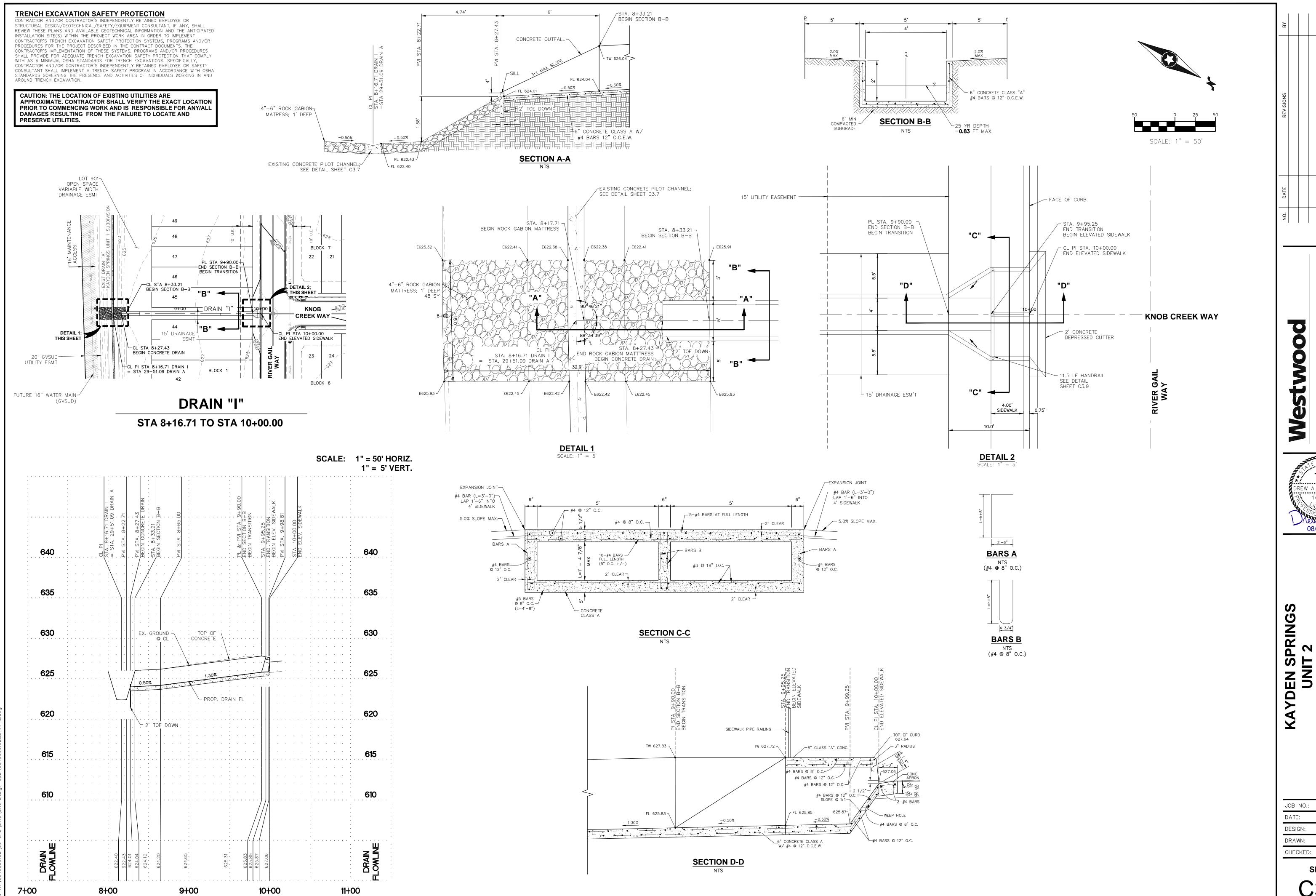


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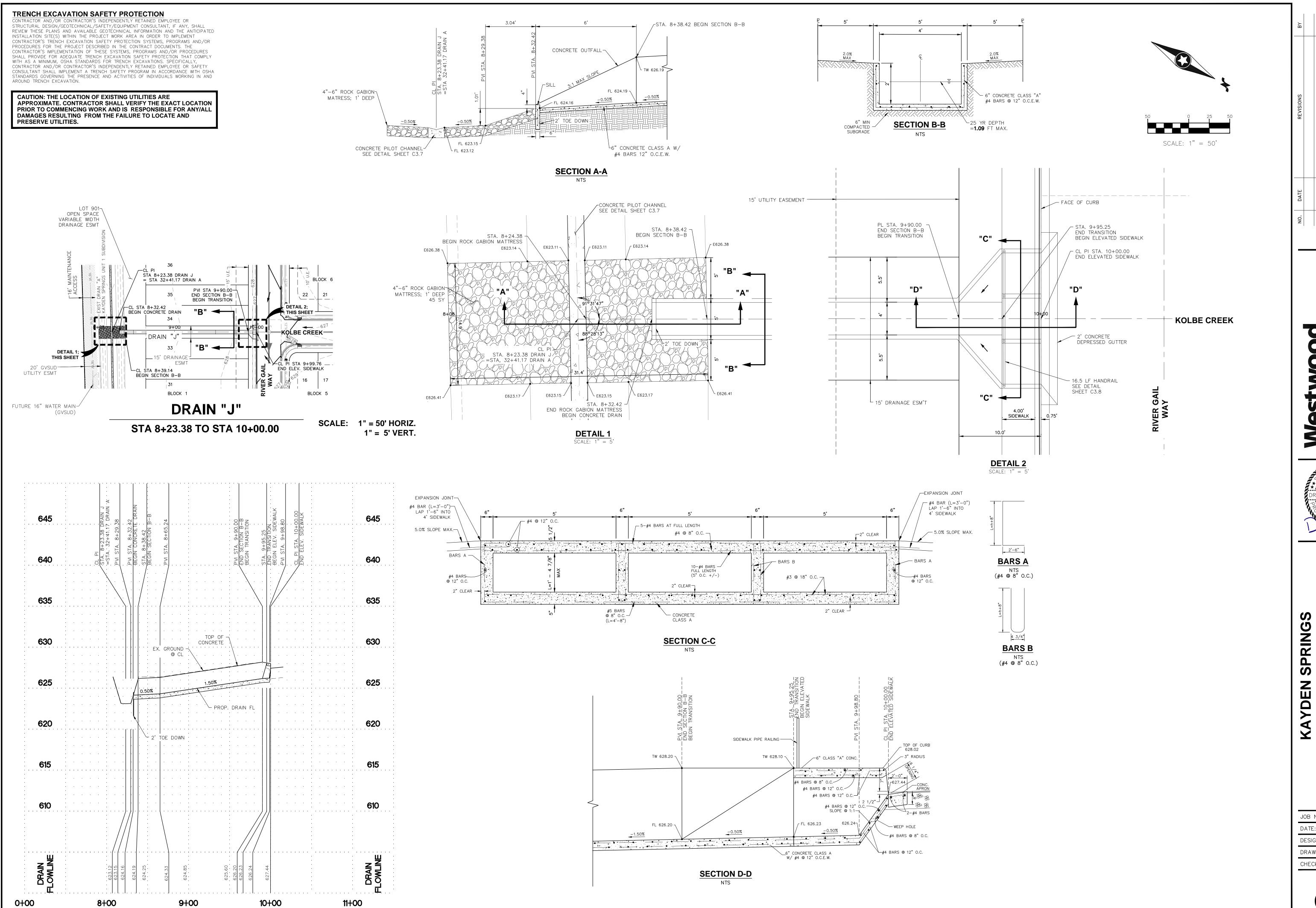
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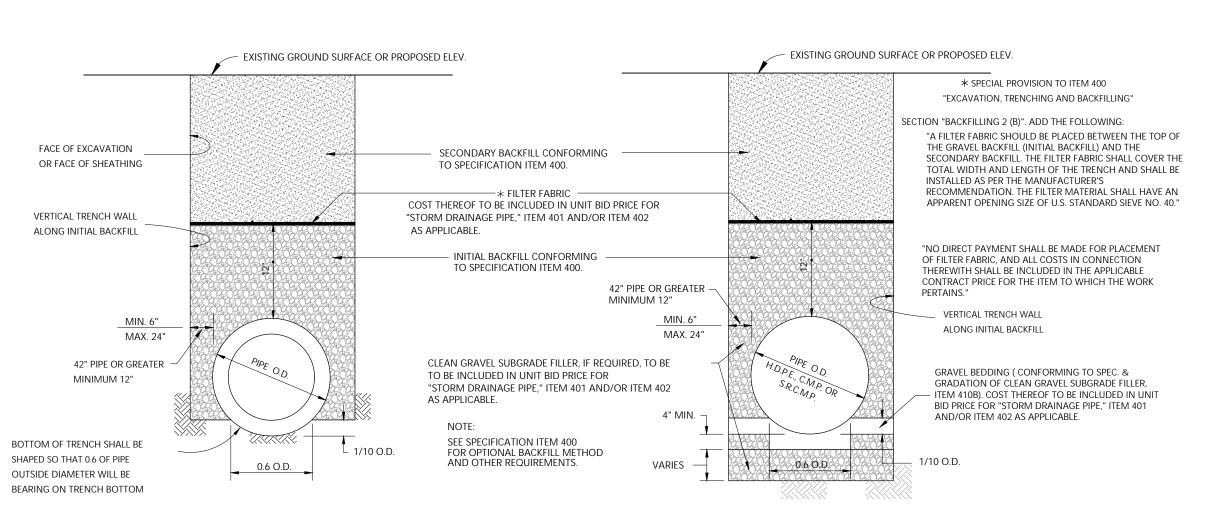
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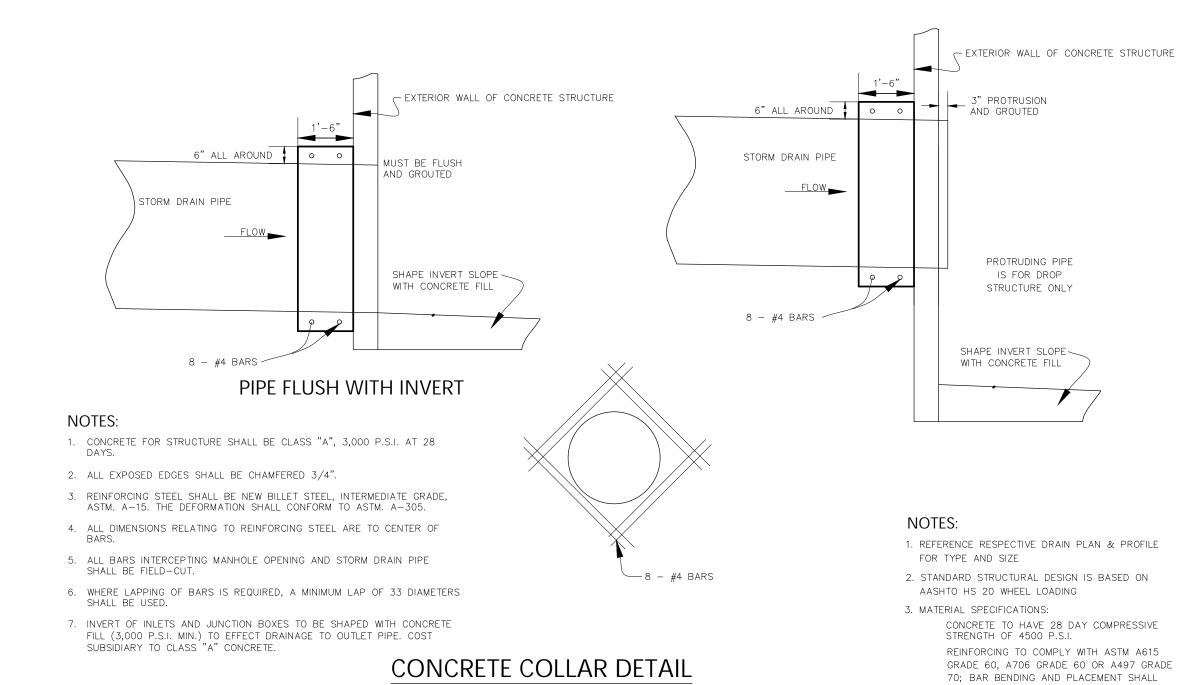


TYPICAL DETAIL

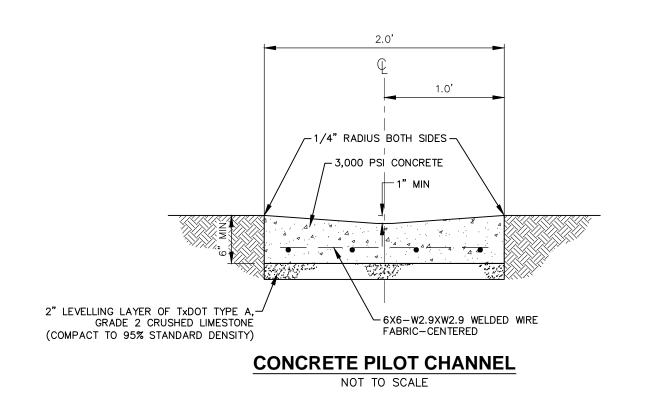
TYPICAL DETAIL FOR H.D.P.E., C.M.P. & S.R.C.M.P.

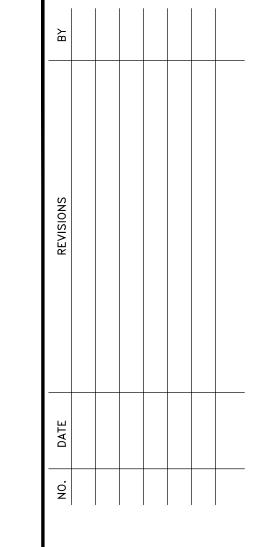
PIPE BEDDING & BACKFILL DETAILS

NOT TO SCALE



NOT TO SCALE





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COMPLY WITH THE LATEST ACI STANDARDS

4. STRUCTURE TO LIE ON COMPACTED GRANULAR BASE TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURES

6. COORDINATE PIPE OPENINGS WITH MANUFACTURER

5. SHAPE INVERT WITH 2500 P.S.I. CONCRETE FILL AS REQUIRED (NO EXTRA PAY ITEM)

DREW A. DEFENDORF

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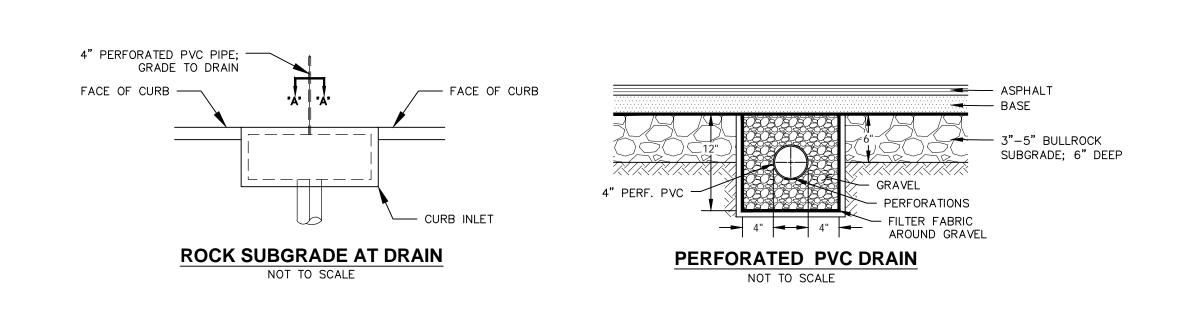
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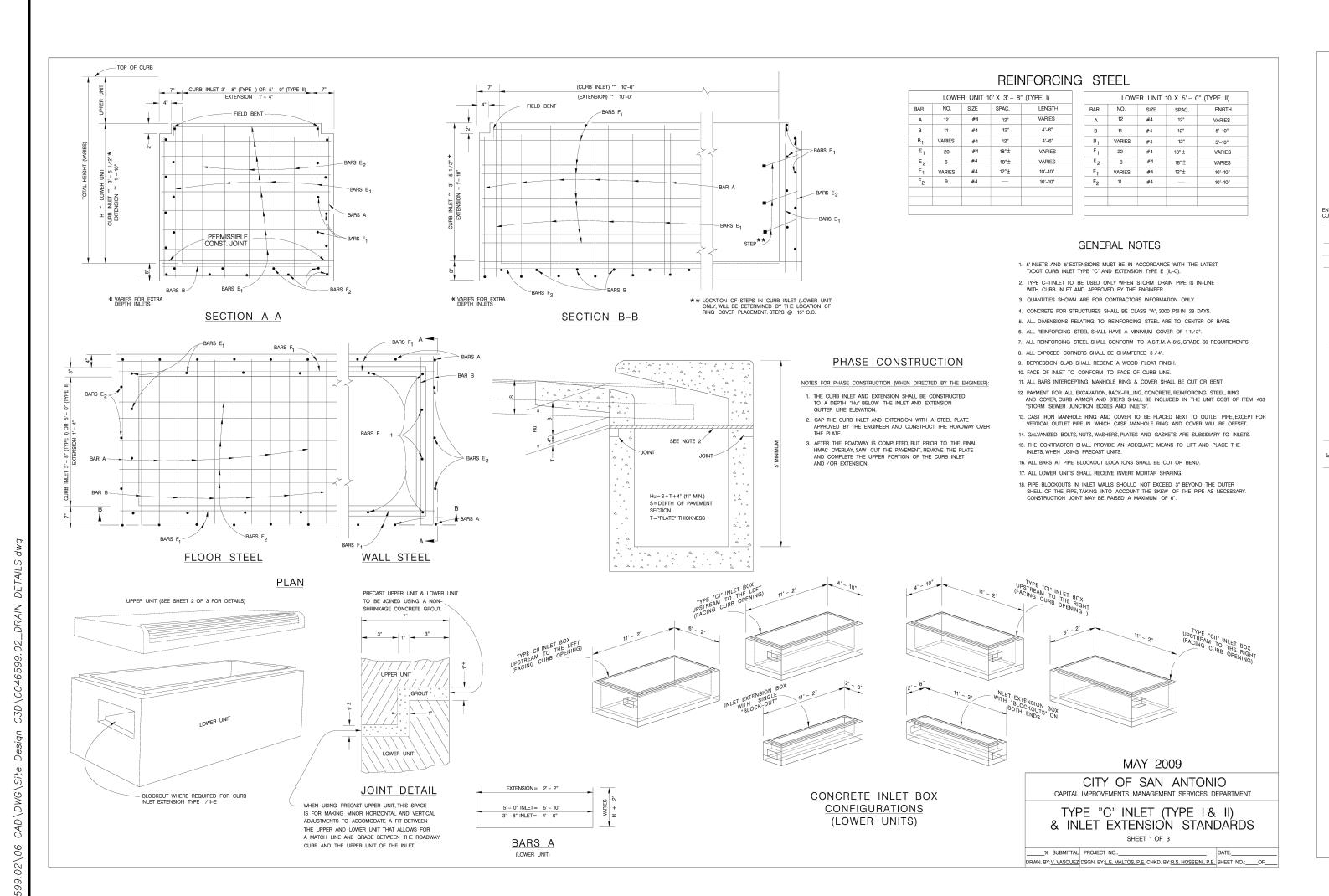
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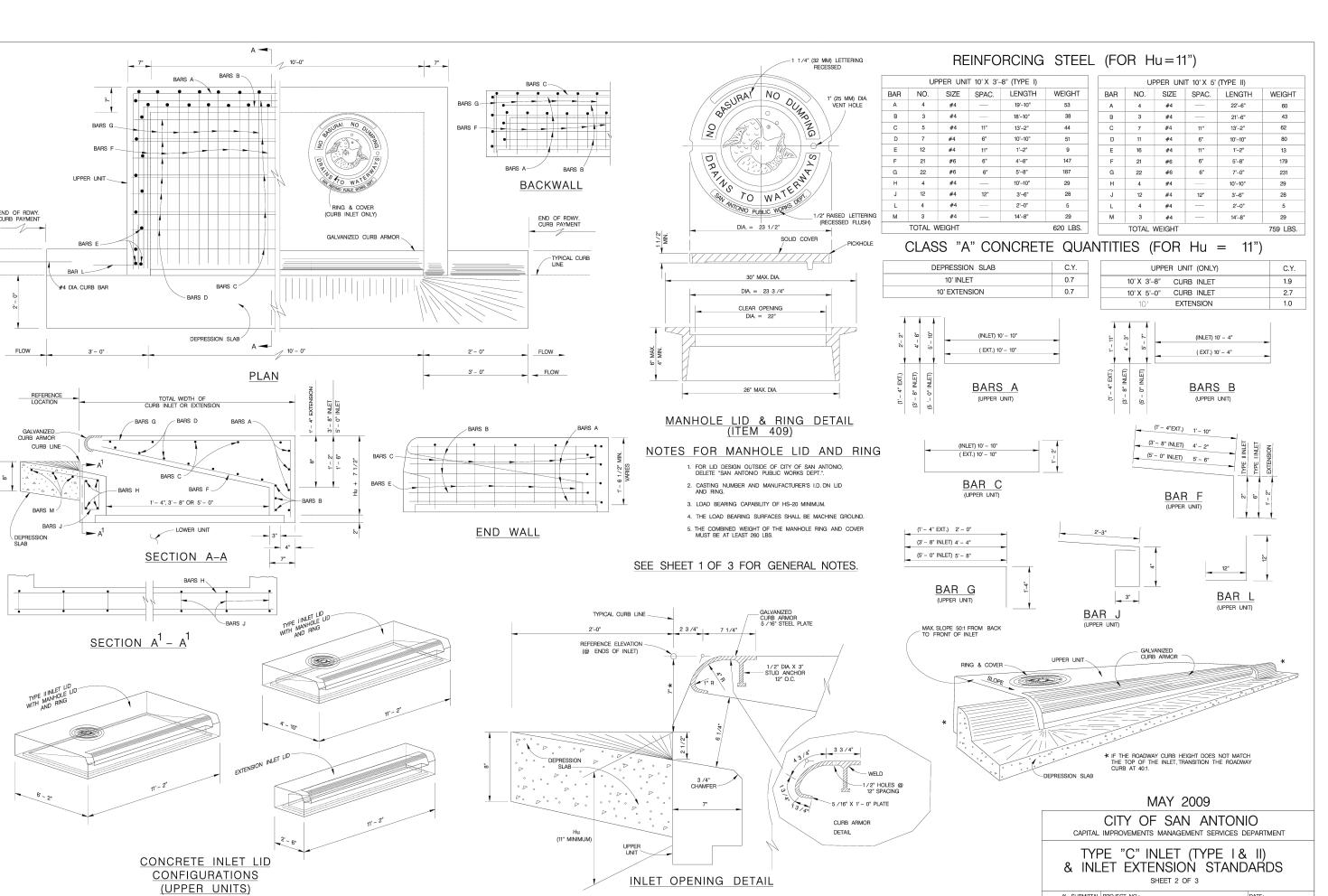
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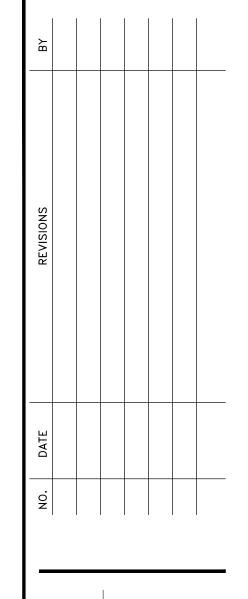
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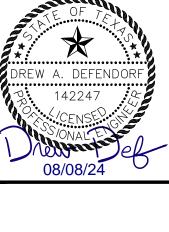








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DREW A. DEFENDORF
08/08/24



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% SUBMITTAL PROJECT NO.:____

DRWN. BY: V, VASQUEZ DSGN. BY: L.E. MALTOS, P.E. CHKD. BY: R.S. HOSSEINI, P.E. SHEET NO.: OF

GREEN VALLEY SPECIAL UTILITY DISTRICT -CONSTRUCTION PLAN GENERAL NOTES (JULY 2022)

- 1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM SHALL CONFORM TO 19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN AND THE CONSTRUCTION STANDARDS OF GREEN VALLEY SPECIAL UTILITY DISTRICT
- 2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL OTHER
- S. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL ANTISEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER. ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.
- TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE
- 5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELL-SPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELL SHOULD BE BRACED TO ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS. CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS. . OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS, OVERBELLING, AND
- PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE 7. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. ONLY MUELLER HYDRANTS AND FJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION. HYDRANT UPPER BARREL SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A

STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY

- RESTRAINED AND TIED TO VALVE 8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN.
- 9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW BRAUNFELS.
- 10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS. 11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS T BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE
- 12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE
- PVC SCHEDULE 40 OR APPROVED EQUAL. 13. SINGLE 5/8" & 3/4" METER BOXES SHALL BE DFW36C 16" X11". DUAL 5/8" & 3/4" METER BOXES SHALL BE DFW38C 17" X15". 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8". ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING REBAR, ARM, AND KNOCKOUT.
- 14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8"X 3/4"FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL' TYPE MINIMUM 200 PSI PRESSURE RATING. "CC" THREADED CORPORATION STOPS PROHIBITED.
- 15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.
- 16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND VALVES, BY A MINIMUM OF 12-INCHES, ALL FITTINGS AND VALVES ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS, AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE DISTRICT'S ENGINEER.
- 18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE ELEVATION.

17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR METERS.

- APPURTENANCES. 20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED
- CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE SHOWN ON THE PLANS OR NOT. 21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS.
- PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS, AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE 22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER
- 23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING. 24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION
- BEGINS AND MATERIAL SHALL BE AVAILABLE ON-SITE FOR INSPECTION. 25. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO
- 26. OPERATION OF EXISTING VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL ONLY BE AS APPROVED BY GVSUD AND IN THE PRESENCE OF GVSUD PERSONNEL. THE CONTRACTOR SHALL NOTIFY GVSUD WHEN A VALVE NEEDS TO BE OPERATED AND MAY ONLY OPERATE A VALVE IN THE PRESENCE OF THE
- 27. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND ANSI/AWWA.
- 28. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 200 LF (MAX) OF LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE.
- SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH AND CONFINED SPACE ENTRY SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION AND ALL RELATED WORK. ANY TRENCH PROTECTION SAFETY VIOLATION WILL BE DOCUMENTED AND WILL RESULT IN AN IMMEDIATE WORK STOPPAGE BY THE GVSUD INSPECTOR AT MINIMUM UNTIL THE NEXT WORKDAY.

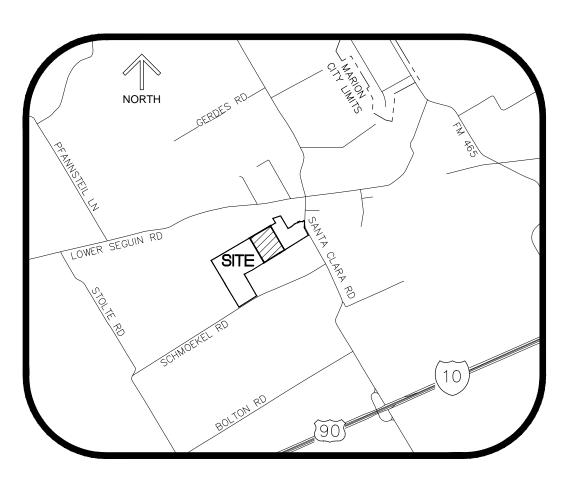
29. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYFF OR

- 30. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH
- 31. NO TREES MAY BE PLANTED IN THE AREAS DESIGNATED AS WATER OR UTILITY EASEMENTS, OR AREAS WHERE WATER MAINS AND WATER SERVICE CROSSINGS EXIST OR ARE PLANNED TO BE CONSTRUCTED. 32. ALL GARBAGE OR SPOIL MATERIAL FROM THE WORK SHALL BE REMOVED FROM
- THE SITE BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE. 33. CONTRACTOR SHALL PROVIDE "AS-BUILT" WATER LINE PLANS AT THE PRELIMINARY WALK THRU FOR THE GVSUD INSPECTOR AND ENGINEER. THE PLANS SHALL LIST MATERIAL MANUFACTURERS, LINE LENGTH FROM FITTING TO FITTING, AND TAP
- 34. GPS FILES SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER AND GVSUD INSPECTOR FOR THE PLAN OF RECORD. CONTRACTOR SHALL PROVIDE AN ASCII COMMA DELIMITED OR EXCEL FILE CONTAINING THREE-DIMENSIONAL GPS SURVEY POINTS WITH FOUR (4) DECIMAL PLACES OF PRECISION, LESS THAN FOUR (4) INCHES OF HORIZONTAL POSITION ACCURACY, AND LESS THAN EIGHT (8) INCHES OF VERTICAL POSITION ACCURACY. POINTS SHALL BE PROVIDED FOR A MINIMUM OF THREE (3) CONTROL POINTS AND ALL FITTINGS, APPURTENANCES, ENCASEMENTS, VAULTS, AND TANKS. THE ENGINEER SHALL FURNISH PLAN OF RECORD DRAWINGS TO GVSUD FOR APPROVAL HAVING FINAL MEASUREMENTS AND THAT MATCH THE GPS 'X', Y', AND 'Z'COORDINATES.
- 35. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL THE INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY GVSUD THE GIS PACKAGE FOR
- 36. A FINAL WALK THRU FOR FINAL FIELD ACCPETANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK THRU PUNCH LIST ITEMS HAVE BEEN COMPLETED AND AFTER THE GIS PACKAGE IS APPROVED AND ACCEPTED BY
- 37. GVSUD CONTACT NUMBER: 830-914-2330

WATER CONSTRUCTION PLANS

KAYDEN SPRINGS UNIT 2

MARION, TX GUADALUPE COUNTY MUNICIPAL UTILITY DISTRICT NO. 10



LOCATION MAP

NO.	DATE	REVISIONS	BY

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CIVIL PLANS

WATER		
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C4.3	WATER	DETAILS (2 OF 5)
C4.4	WATER	DETAILS (3 OF 5)
C4.5	WATER	DETAILS (4 OF 5)
C4.6	WATER	DETAILS (5 OF 5)

ESTIMATED WATER QUANTITIES

142247

ENGINEER / SURVEYOR:

OWNER / DEVELOPER:

WESTWOOD PROFESSIONAL SERVICES

211 N LOOP 1604 E, SUITE 205

SAN ANTONIO, TEXAS 78232

LENNAR HOMES OF TEXAS

100 NE LOOP 410, SUITE 1155

SAN ANTONIO, TEXAS 78216

TEL: (210) 265-8300

TEL: (210) 403-6200

ITEM	DESCRIPTION	UNIT	QUANTITY
1	12" PIPE PVC, C-900 CLASS 235 (DR18)	LF	771
2	8" PIPE PVC, C-900 CLASS 235 (DR18)	LF	2,872
3	12" PIPE DI, C-151	LF	174
4	8" PIPE DI, C-151	LF	174
5	12" GATE VALVE, M.J. W/BOX	EA	8
6	8" GATE VALVE, M.J. W/BOX	EA	17
7	6" GATE VALVE, M.J. W/BOX	EA	7
8	STANDARD FIRE HYDRANT	EA	7
9	1" IRRIGATION SERVICE	EA	0
10	3/4" SINGLE SERVICE: LONG	EA	8
11	1" DUAL SERVICE: LONG	EA	57
12	1" DUAL SERVICE: SHORT	EA	33
13	2" TEMPORARY BLOW-OFF	EA	2
14	REMOVE 2" TEMPORARY BLOW-OFF	EA	2
15	METER BOX	EA	188
16	DUCTILE IRON FITTING	TON	1.5
17	TRENCH PROTECTION	LF	3991
18	HYDROSTATIC TEST	EA	1
19	JOINT RESTRAINTS	LS	1
20	TIE-IN TO EX. 12" MAIN	EA	1
21	TIE-IN TO EX. 8" MAIN	EA	1
22	CHLORINATION BY CONTRACTOR	LS	1

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

NOTE TO CONTRACTOR

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOB SITE AND THE JOB SITE CONDITIONS DURING CONSTRUCTION. THE RESPONSIBILITY IS NOT LIMITED TO NORMAL WORKING HOURS AND INCLUDES THE SAFETY OF ALL PERSONS AND PROPERTY. THE FNGINEER AND OWNER HAVE NO LIABILITY IN CONNECTION WITH THE CONSTRUCTION OF THIS PROJECT, EXCEPT FOR LIABILITY DIRECTLY CAUSED BY THE SOLE NEGLIGENCE OF THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER AND/OR OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE EXECUTION OF ALL WORK RELATED TO THIS PROJECT, EXCEPT FOR NEGLIGENCE ON THE PART OF THE ENGINEER AND/OR OWNER.

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 SITE(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

Westwood

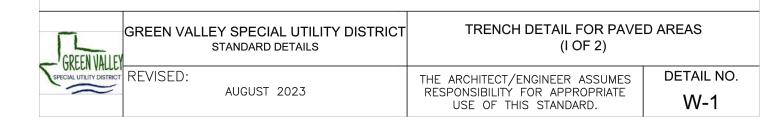
(210) 265-8300 211 North Loop 1604 East, Suite 205 (888) 937-5150 San Antonio, TX 78232 westwoodps.com

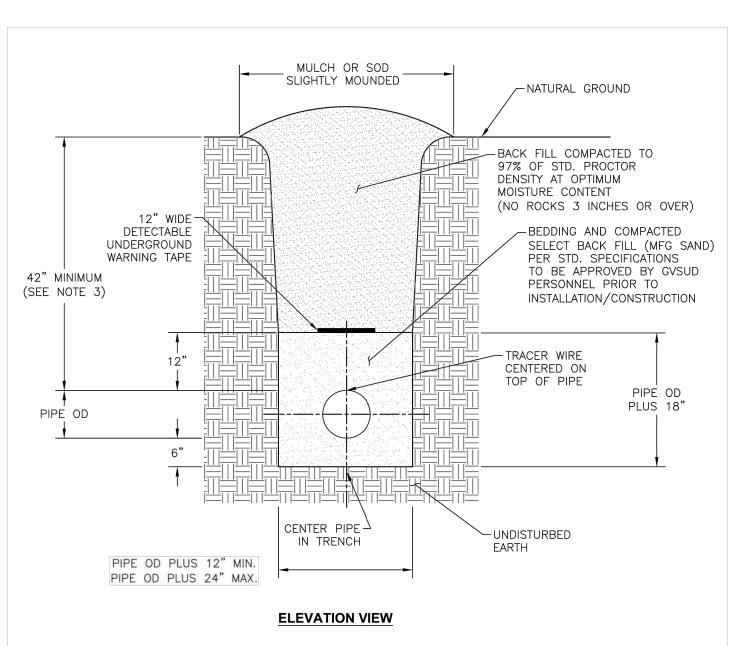
Westwood Professional Services, Inc. TBPELS FIRM REGISTRATION NO. F-11756 TBPELS FIRM REGISTRATION NO. 10074301





JOB NO.: 0046599.02 08/08/2024 DESIGN: DRAWN: CHECKED:





- 1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER. 2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE COLOR CODED BLUE.
- 3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER. 4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
- 5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
- 6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% AASHTO DENSITY.
- 7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
- 8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

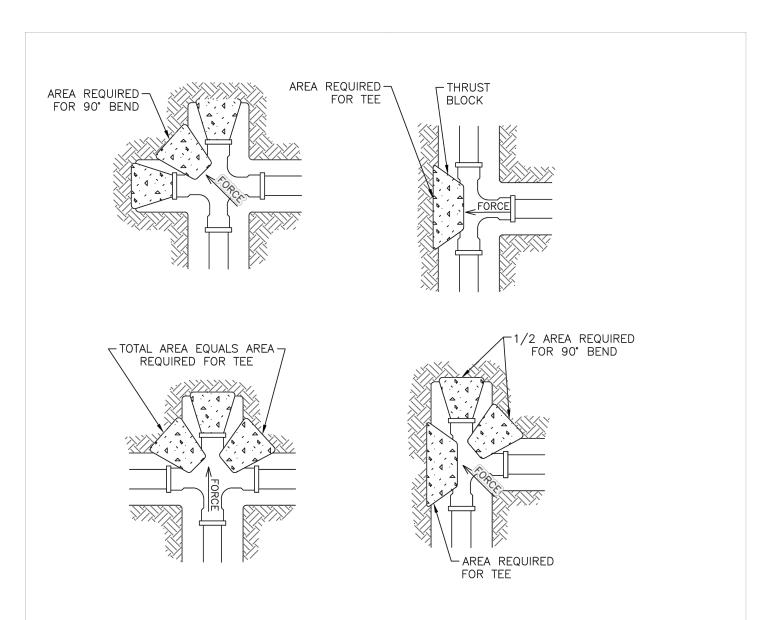
GREEN VALLE	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR NON-PA	VED AREAS
SPECIAL UTILITY DISTRIC	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-3

- 1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE SHALL BE USED IN WASTEWATER WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI WATER PVC PIPING SHALL BE BLUE IN
- 3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCH MINIMUM COVER AND 72 INCH MAXIMUM
- COVER. WASTEWATER GRAVITY LINES SHALL HAVE 42 INCH MINIMUM COVER AND 15 FOOT MAXIMUM COVER. 4. GENERAL CONTRACTOR SHALL CONTACT THE APPROPRIATE STREET OWNER AND PROCESS, POST FISCAL
- SURETY, AND HAVE STREET CUT PERMIT ISSUED IN THEIR NAME. 5. CONTRACTOR TO REPAIR PAVED AREA TO STREET OWNER'S ROAD STANDARDS FOR ALL DISTURBED AREA.
- GREEN VALLEY SPECIAL UTILITY DISTRICT PAYS FOR QUANTITY OF REPAIR SHOWN IN DETAIL. 6. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS.
- 7. THE EXISTING PAVED SURFACE SHALL BE SAW CUT IN A STRAIGHT LINE, A MINIMUM OF 12 INCHES WIDER THAN UNDISTURBED SIDES OF THE TRENCH AND SYMMETRICAL ABOUT THE CENTER LINE OF THE EXCAVATION.
- ANY CONCRETE PAVING SHALL BE CUT 6 INCHES WIDER THAN UNDISTURBED SIDES OF EXCAVATION. 9. IF EXCAVATION AREA IS OPEN FOR TEMPORARY PUBLIC USE, THE SURFACE SHALL BE MAINTAINED LEVEL WITH ADJACENT RIDING SURFACE WITH TEMPORARY COLD MIX ASPHALT CONCRETE OR TEMPORARY HOT MIXED
- ASPHALT CONCRETE. TEMPORARY MIX SHALL BE PLACED OVER FLEXIBLE BASE.
- 10. FLEXIBLE BASE SHALL BE REPLACED IN KIND WITH BASE AND PAVEMENT THICKNESS WITH BASE EQUAL TO EXISTING BASE THICKNESS PLUS 3 INCHES, BUT IN NO CASE LESS THAN 10 INCHES. 11. DAMAGED PAVEMENT OUTSIDE THE TRENCH CUT SHALL BE REMOVED AND REPLACED WITH A MINIMUM OF 2

INCHES HOT MIXED ASPHALT CONCRETE AND A BASE OF 10 INCHES OR A THICKNESS MATCHING EXISTING,

- WHICHEVER IS GREATER. 12. TACK COAT ALL EXPOSED EDGES AND SURFACES.
- 13. TYPE AND THICKNESS OF PROPOSED PAVING SURFACE SHALL BE AS FOLLOWS:
- TWO COURSE SURFACE TREATMENT: SHALL MATCH EXISTING SURFACE AND SHALL BE IN ACCORDANCE WITH SPECIFICATION 02770.
- ASPHALT PAVING: SHALL BE IN ACCORDANCE WITH SPECIFICATION 02740. HOT MIXED ASPHALT CONCRETE TYPE 'D' SHALL BE USED FOR LIFT THICKNESS UP TO 2 INCHES, AND TYPE 'C' FOR LIFT THICKNESS OVER 2 INCHES AND UP TO 3 INCHES. LIFT THICKNESS SHALL NOT BE MORE THAN 3 INCHES.
- 14. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE DETECTABLE UNDERGROUND WARNING TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN
- ACCORDANCE WITH THE AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE. 15. PIPE BEDDING SHALL BE PLACED BEFORE PIPING IS LAID, UP TO BOTTOM OF PIPE, AND COMPACTED TO 97% STANDARD PROCTOR DENSITY.
- 16. PLACE PIPE BEDDING IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE.
- 17. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GDEENVALLE	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR PAVE (2 OF 2)	D AREAS
SPECIAL UTILITY DISTRICT	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-1

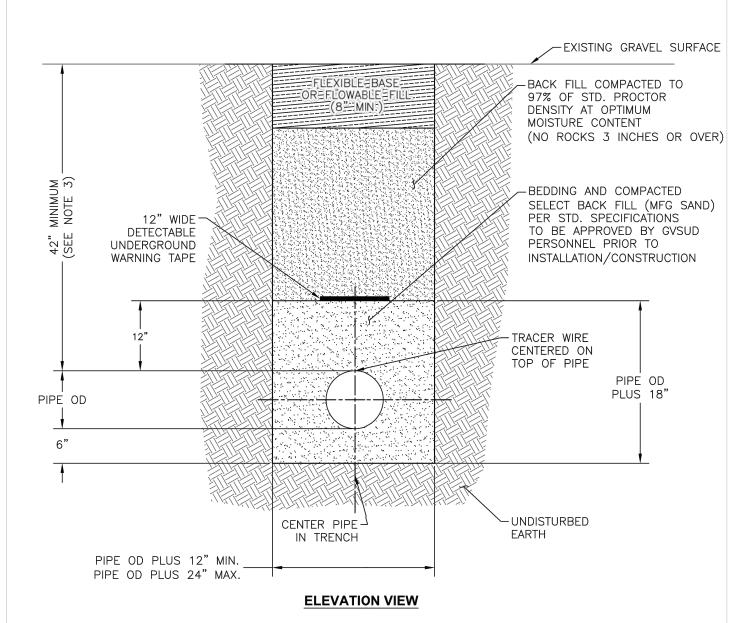


MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)

	,			
	WATER PIPE			
PIPE SIZE	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS		
4" & LESS	3 SQ. FEET	3 SQ. FEET		
6"	4 SQ. FEET	3 SQ. FEET		
8"	6 SQ. FEET	3 SQ. FEET		
10"	9 SQ. FEET	5 SQ. FEET		
12"	13 SQ. FEET	7 SQ. FEET		
16"	23 SQ. FEET	12 SQ. FEET		
18"	29 SQ. FEET	15 SQ. FEET		

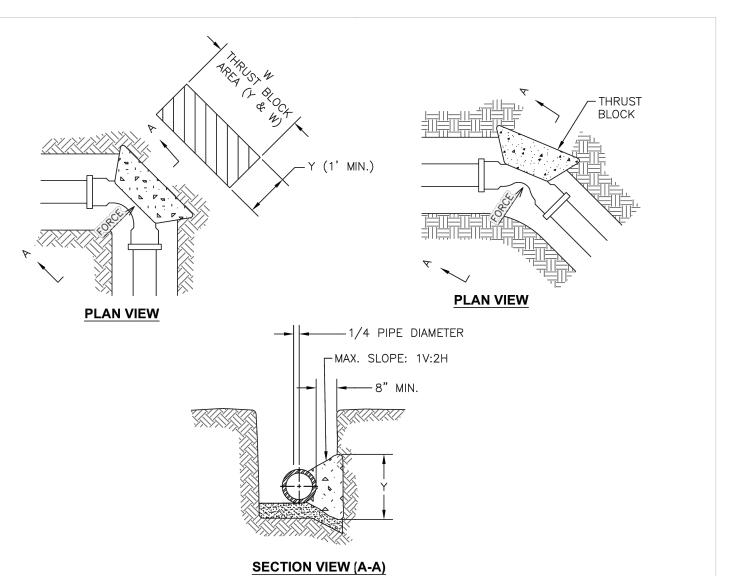
- 1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
- 2. AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE
- 3. THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500
- 4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLE	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLO (1 OF 2)	CKING
SPECIAL UTILITY DISTRICT	REVISED:	THE ARCHITECT/ENGINEER ASSUMES	DETAIL NO.
\sim	AUGUST 2023	RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	W-4



- 1. ALL WASTEWATER PVC PIPING SHALL BE GREEN IN COLOR. NO WATER DESIGNATED PIPE WILL BE USED IN WASTEWATER.
- 2. ALL WATER PIPING SHALL HAVE A MINIMUM PRESSURE CLASS OF 235 PSI. WATER PVC PIPING SHALL BE COLOR CODED BLUE. 3. ALL WATER LINES AND WASTEWATER FORCEMAIN SHALL HAVE 42 INCHES MINIMUM COVER AND 72 INCHES MAXIMUM COVER.
- WASTEWATER GRAVITY LINES SHALL HAVE 42 INCHES MINIMUM COVER AND 15 FEET MAXIMUM COVER.
- 4. CONTRACTOR SHALL NOT EXCEED THE MAXIMUM TRENCH ALLOWED AS INDICATED IN THE PLANS AND SPECIFICATIONS. 5. DETECTABLE UNDERGROUND WARNING TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE AND ABOVE
- BEDDING, IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. THE TAPE SHALL CONFORM TO THE SPECIFICATIONS AND COLOR CODED IN ACCORDANCE WITH APWA UNIFORM COLOR CODE.
- 6. PIPE BEDDING PLACED BEFORE PIPING IS LAID UP TO BOTTOM OF PIPE COMPACTED TO 95% ASHTO DENSITY.
- 7. PLACE IN 12 INCH LIFTS AFTER PIPE IS LAID TO 12 INCHES ABOVE THE PIPE
- 8. SELECT BACKFILL MATERIAL PLACED TO REQUIRED HEIGHT IN 6 INCH LIFTS.

GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TRENCH DETAIL FOR GRAVEL SU	RFACED AREAS
SPECIAL UTILITY DISTRICT	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-2



MINIMUM THRUST BLOCK AREA REQUIRED (Y AND W)				
	WATER PIPE			
PIPE SIZE	TEE, DEAD END, 90° BEND	45° AND 22.5° BENDS		
4" & LESS	3 SQ. FEET	3 SQ. FEET		
6"	4 SQ. FEET	3 SQ. FEET		
8"	6 SQ. FEET	3 SQ. FEET		
10"	9 SQ. FEET	5 SQ. FEET		
12"	13 SQ. FEET	7 SQ. FEET		
16"	23 SQ. FEET	12 SQ. FEET		
18"	29 SO FEFT	15 SO FEET		

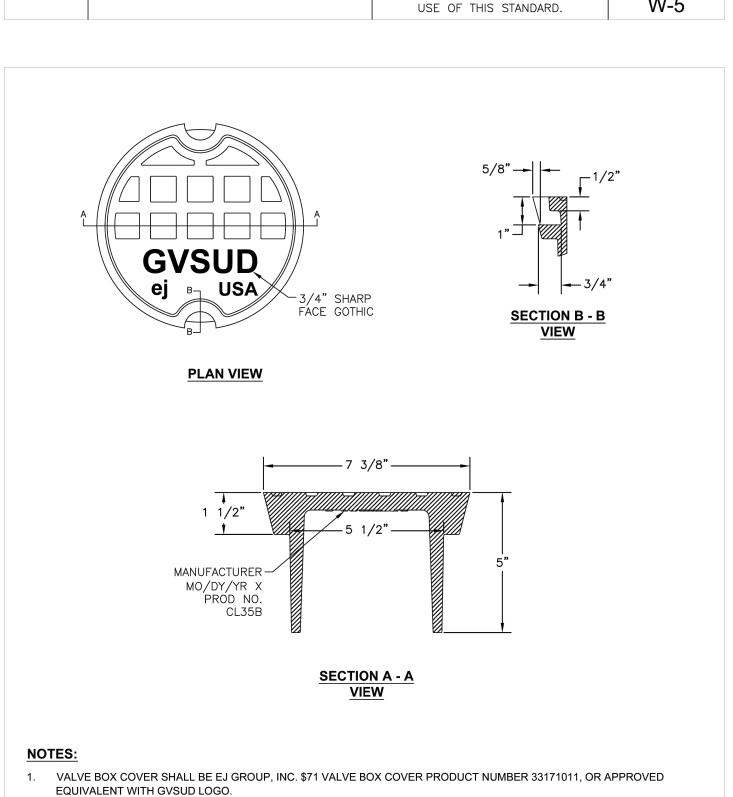
- 1. TABLE IS BASED ON SOILS WITH A MINIMUM BEARING CAPACITY OF 3,000 PSF. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
- AREAS FOR PIPE LARGER THAN 18 INCHES SHALL BE RESTRAINED.
- THRUST BLOCKS SHALL EXTEND TO UNDISTURBED GROUND. CONCRETE SHALL BE CLASS "C" (MIN. 2,500
- 4. FITTINGS SHALL BE DUCTILE IRON MECHANICAL JOINT WITH A MINIMUM PRESSURE RATING OF 250 PSI AND SHALL CONFORM TO THE REQUIREMENTS OF ANSI/AWWA A21.10/C110 OR A21.53/C153.

GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	CONCRETE THRUST BLO (2 OF 2)	CKING
SPECIAL UTILITY DISTRICT	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-4

REVISIONS				
DATE				
NO.				
_				



	JOB NO.:	0046599.02
	DATE:	08/08/2024
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5. THE MANUFACTURER'S IDENTIFICATION, CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST

VALVE BOX CASTING LID

THE ARCHITECT/ENGINEER ASSUMES

RESPONSIBILITY FOR APPROPRIATE

USE OF THIS STANDARD.

DETAIL NO.

W-12

6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.

2. TYPICAL FILLET IS 3/16 INCH RADIUS.

4. LID REQUIRES TWO (2) PICK SLOTS.

- GREEN VALLEY

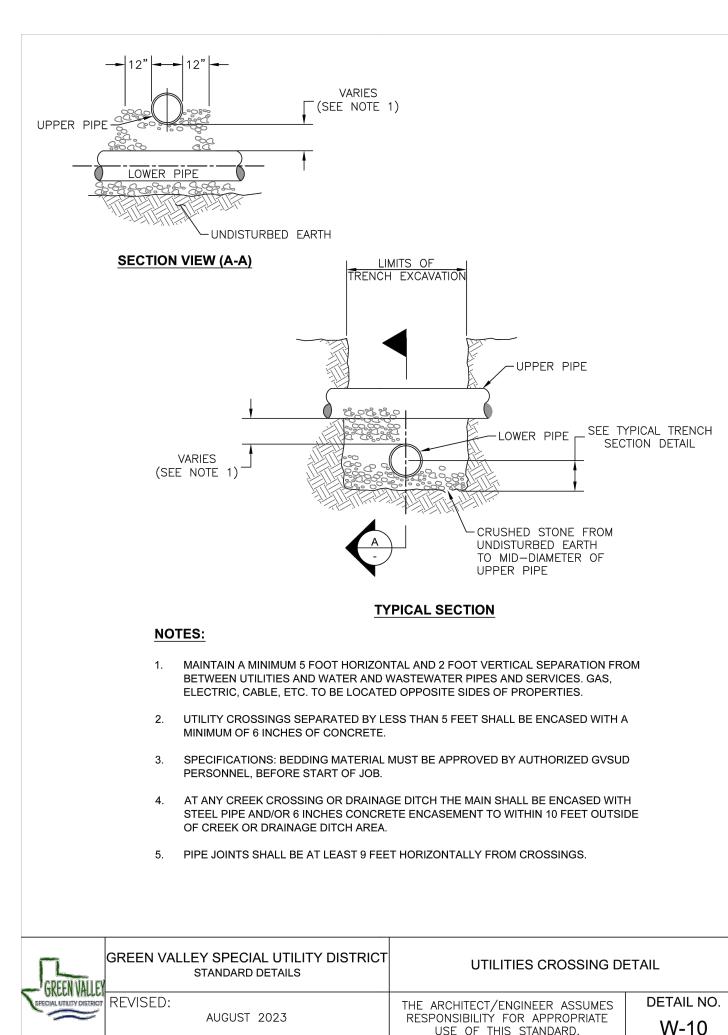
3. LETTERING SHALL BE 3/4 INCH SHARP FACE GOTHIC AND LOCATED AS SHOWN.

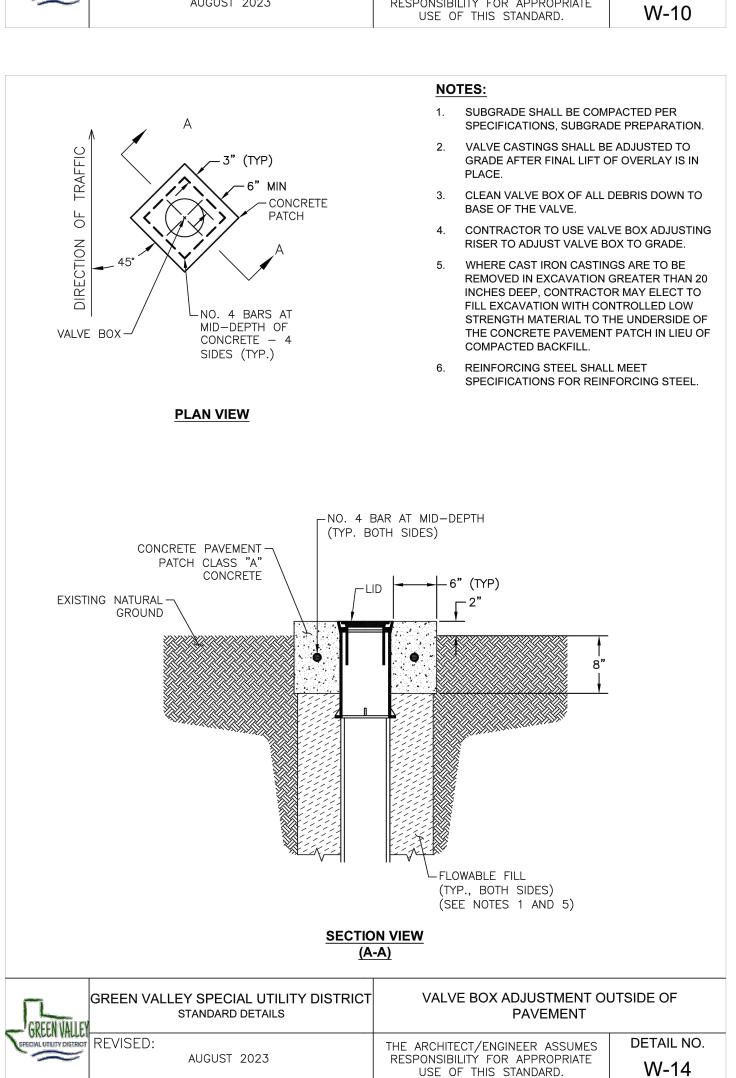
7. FINISH BY REMOVING FINS AND FLASHING AND PAINT WITH BLACK ASPHALT COATING.

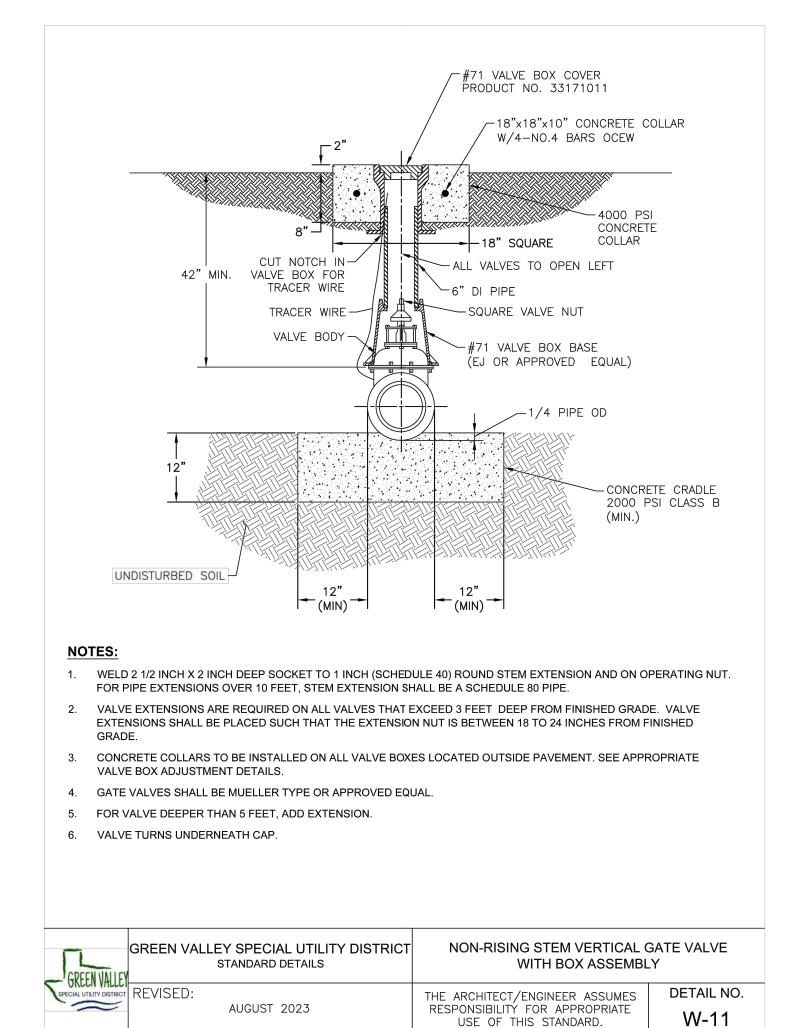
GREEN VALLEY SPECIAL UTILITY DISTRICT

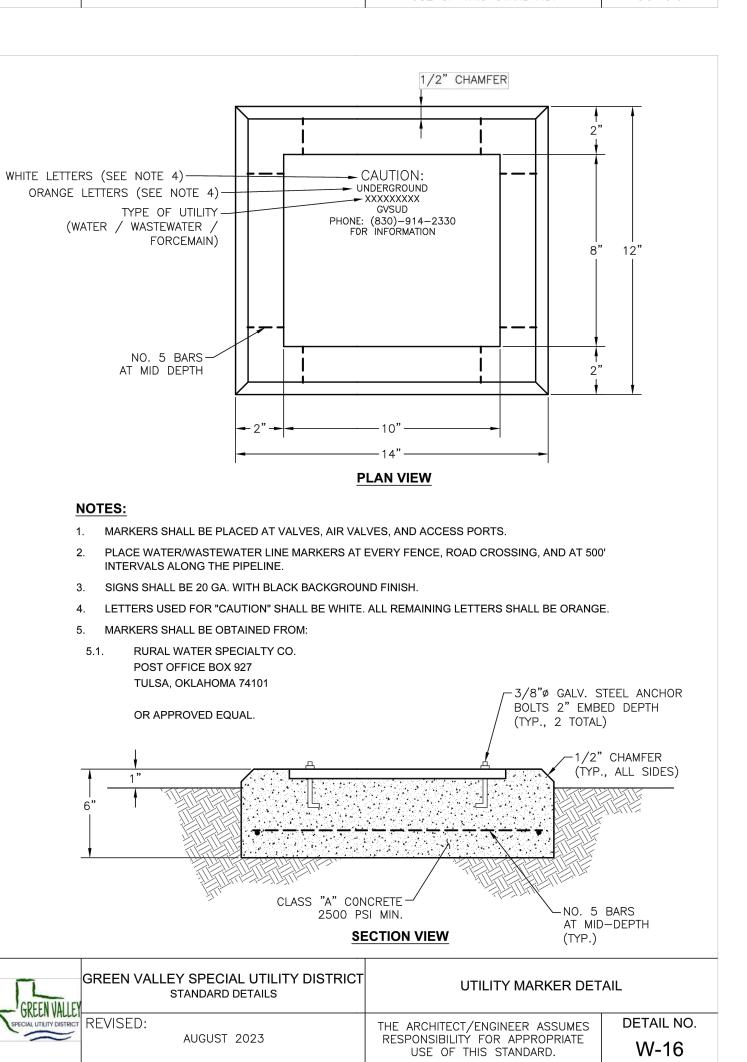
STANDARD DETAILS

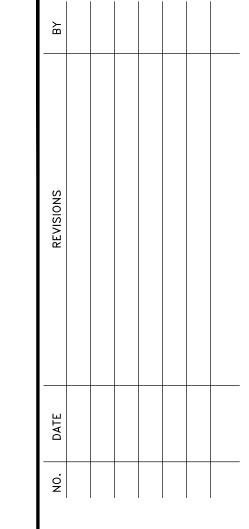
AUGUST 2023













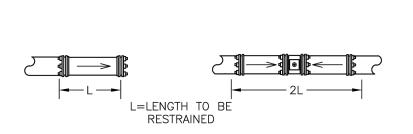
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JOB NO.: 0046599.02 08/08/2024 DRAWN: CHECKED:

NOTES:

- 1. MAINTAIN 24 INCH (MIN.) SEPARATION FROM STORM SEWER LINE.
- 2. 45° BENDS MUST BE THRUST BLOCKED AND RESTRAINED AT BOTTOM BENDS. SEE STANDARD DETAIL.

CDCCNI	GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STORM SEWER CROSS	SING
	SPECIAL UTILITY DISTRICT	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE	DETAIL
		A00031 2023	USE OF THIS STANDARD.	W-1

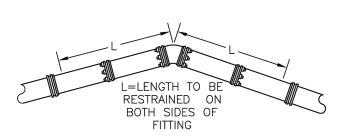


RESTRAINED LENGTH FOR DEAD ENDS/INLINE VALVES

PIPE SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
4	42
6	59
8	77
12	109
16	142

- RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
- THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
- CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLES	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	VALVE AND DEAD END RESTRAINED LENGTH DESIGN	
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE	DETAIL NO.
		USE OF THIS STANDARD.	W-20

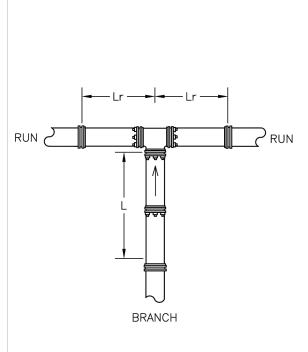


RESTRAINED LENGTH FOR BENDS

PIPE SIZE (INCHES)	BEND ANGLE (DEG)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	90	23
6	45	9
6	22.5	5
6	11.25	2
8	90	30
8	45	12
8	22.5	6
8	11.25	3
12	90	43
12	45	18
12	22.5	8
12	11.25	4
16	90	63
16	45	26
16	22.5	13
16	11.25	7
24	90	85
24	45	35
24	22.5	17
24	11.25	9

- RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
- 2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
- 3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREEN VALLEY SPECIAL UTILITY DISTRIGT	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	BEND RESTRAINED LENGTH DESIGN	
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-18



Lr=LENGT	H OF	PIPE	ALONG
THE RUN	FREE	OF	JOINTS.
=LENGTH	то в	E RES	STRAINED

- RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS
- 2. THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.

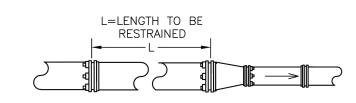
ASSUMED TO BE 4 FEET.

3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

PIPE SIZE (INCHES)	BRANCH SIZE (INCHES)	LENGTH OF RUN (FEET)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PSI
6	4	0	42
6	4	5	7
6	4	10	1
6	6	0	59
6	6	5	35
6	6	10	11
8	4	0	42
8	4	5	1
8	6	0	59
8	6	5	28
8	6	10	1
8	8	0	77
8	8	5	53
8	8	10	30
8	8	15	6
12	4	0	42
12	4	5	1
12	6	0	59
12	6	5	13
12	6	10	1
12	8	0	77
12	8	5	42
12	8	10	7
12	8	15	1
12	12	0	109
12	12	5	86
12	12	10	63
12	12	15	39
16	4	0	42
16	4	5	1
16	6	0	59
			1
16	6	5	
16	8	0	78
16	8	5	39
16	8	10	1
16	12	0	110
16	12	5	84
16	12	10	59
16	12	15	33
16	12	20	7
16	16	0	142
16	16	5	123
16	16	10	104
16	16	15	85
16	16	20	65
24	24	5	169
24	24	10	136
24	24	15	103
24	24	20	70

RESTRAINED LENGTH FOR TEES

GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	TEE RESTRAINED LENGTH DESIGN	
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-21

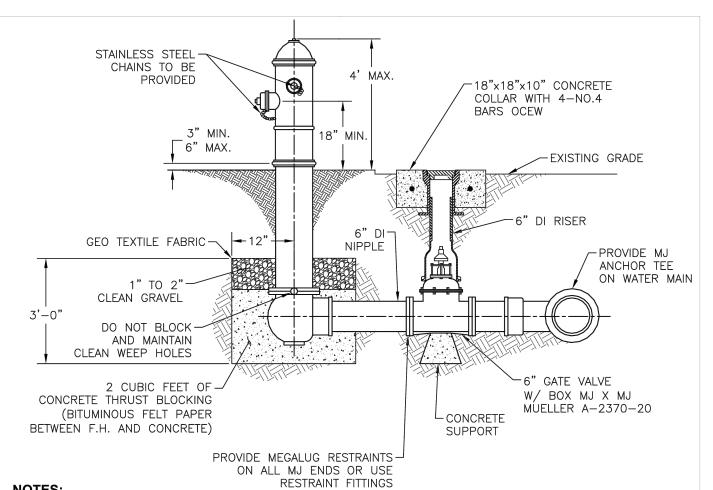


RESTRAINED LENGTH FOR REDUCERS

PIPE SIZE (INCHES)	SMALL SIZE (INCHES)	RESTRAINED LENGTH IN FEET, WHEN TEST PRESSURE = 200 PS
6	4	30
8	4	55
8	6	32
12	4	95
12	6	80
12	8	58
16	4	131
16	6	120
16	8	104
16	12	60
24	16	110

- RESTRAINED LENGTH CALCULATIONS FOR P.V.C PIPE BEDDED IN COMPACTED GRANULAR MATERIAL EXTENDING TO THE TOP OF THE PIPE. NATIVE SOIL MATERIAL IS ASSUMED TO BE INORGANIC CLAY OF HIGH PLASTICITY. DEPTH OF BURY IS ASSUMED TO BE 4 FEET.
- THESE CALCULATIONS ARE PROVIDED FOR REFERENCE. THE RESTRAINED LENGTH SHALL BE DESIGNED BASED UPON THE CONDITIONS ENCOUNTERED DURING INSTALLATION.
- 3. CONTRACTOR SHALL RESTRAIN ALL JOINTS WITHIN THE REQUIRED RESTRAINT DISTANCE PLUS THE NEXT JOINT OUTSIDE THE REQUIRED RESTRAINT DISTANCE.

GREENVALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	REDUCER RESTRAINED LENG	STH DESIGN
SPECIAL UTILITY DISTRICT	REVISED:	THE ARCHITECT/ENGINEER ASSUMES	DETAIL NO.
	AUGUST 2023	RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	W-19

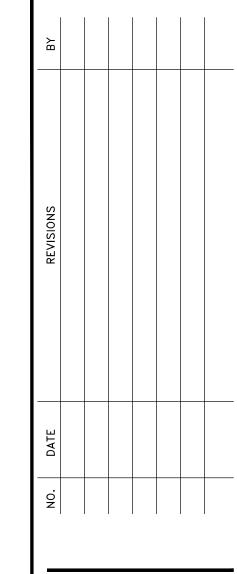


- 1. HYDRANT ASSEMBLY INCLUDES FIRE HYDRANT, VALVE, DIP, DI FITTINGS, ANCHOR RESTRAINERS, AND PIPE TO DISTRIBUTION SYSTEM.
- 2. FIRE HYDRANTS SHALL HAVE A MINIMUM OF 3 FEET OF CLEARANCE SURROUNDING HYDRANT.
- 3. HYDRANTS SHALL BE A MINIMUM DISTANCE OF 3 FEET BEHIND THE CURB OR 3 FEET FROM THE R.O.W. UNDER NO CIRCUMSTANCES SHALL VALVES OR HYDRANTS BE PLACED IN A CURB OR SIDEWALK. IN AREAS WITHOUT CURBS OR SIDEWALKS, HYDRANT SHALL BE PLACED 3-6 FEET FROM THE DISTRIBUTION SYSTEM.
- 4. FOR BURY DEPTHS GREATER THAN 5 FEET, ONE BARREL EXTENSION NOT EXCEEDING 3 FEET IN LENGTH SHALL BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT.
- 5. 1 CU FOOT (MIN) OF CRUSHED STONE OR GRAVEL SHALL BE PLACED AROUND WEEP HOLE FOR A RADIUS OF 12
- 6. VALVE, DUCTILE IRON PIPE, AND STANDARD FIRE HYDRANT SYSTEM SHALL BE RESTRAINT JOINT CONTINUOUSLY
- 7. FIRE HYDRANT SHALL BE 6 INCH (3) WAY HYDRANT WITH BREAK AWAY BOLTS (SHOE TYPES) PROVIDED WITH STORZ CONNECTION. DEPTH OF BURY SHALL BE 42 INCHES MINIMUM. FIRE HYDRANTS MUST BE SET PLUMB. HOSE CONNECTION MUST FACE ROADWAY.
- 8. HYDRANT ASSEMBLY SHALL BE RESTRAINED FROM TEE TO HYDRANT.

INCHES AND EXTEND 12 INCHES ABOVE THE OUTLET.

- 9. IN THE CITY OF CIBOLO'S CITY LIMITS, FIRE HYDRANTS SHALL BE MUELLER TYPE AND SHALL BE 1 FOOT MINIMUM AND 7 FEET MAXIMUM FROM THE BACK OF CURB.
- 10. HYDRANTS UPPER BARREL SHALL BE FACTORY PAINTED RED WITH BONNET AND CAPS COATED PER CURRENT NFPA 291 STANDARDS.
- 11. HYDRANTS LOCATED IN RURAL AREAS SHALL HAVE 6' TALL POLLARD WATER FLEXIFLAG #PP68802.

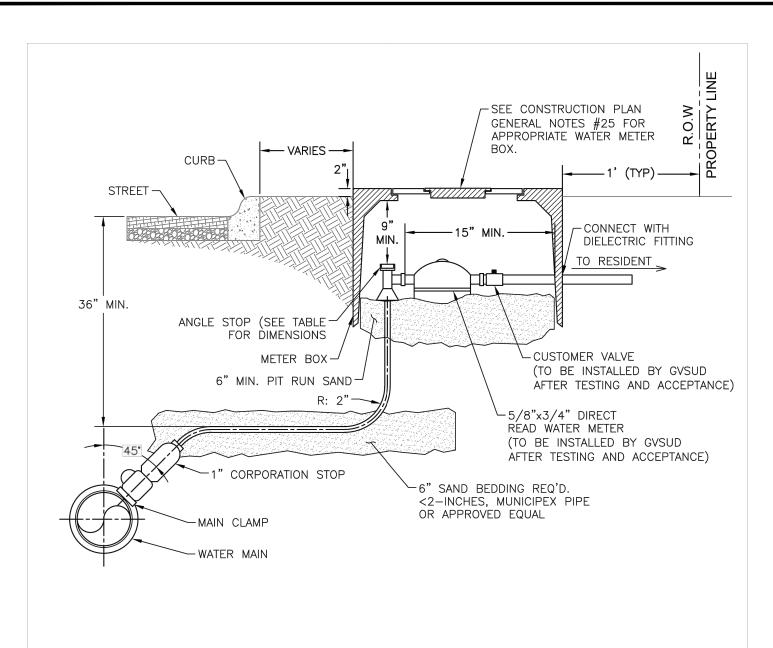
GREENVALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD HYDRANT ASSEMBLY INSTALLATION	
SPECIAL UTILITY DISTRICT	REVISED:	THE ARCHITECT/ENGINEER ASSUMES	DETAIL NO.
	AUGUST 2023	RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	W-22



stwood	(210) 265-8300 211 North Loop 1604 East, Sui (888) 937-5150 San Antonio. TX 78232
Wei	Phone (2)

0046599.02 DRAWN:

CHECKED:



MAIN SIZE	METER SIZE	MAIN SADDLE	CORPORATION	ANGLE STOP
<12"	5/8" OR 3/4"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"x 3/4"
<12"	1"	S-91804 IP	H-15028 IP 1"	B-24258N: 1"X1"

NOTES:

TYPICAL TEE CONDITION

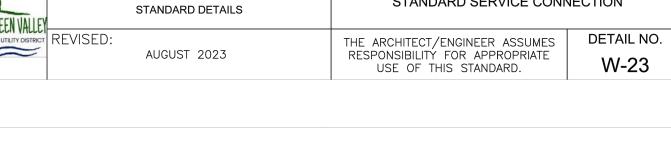
TYPICAL CROSS CONDITION

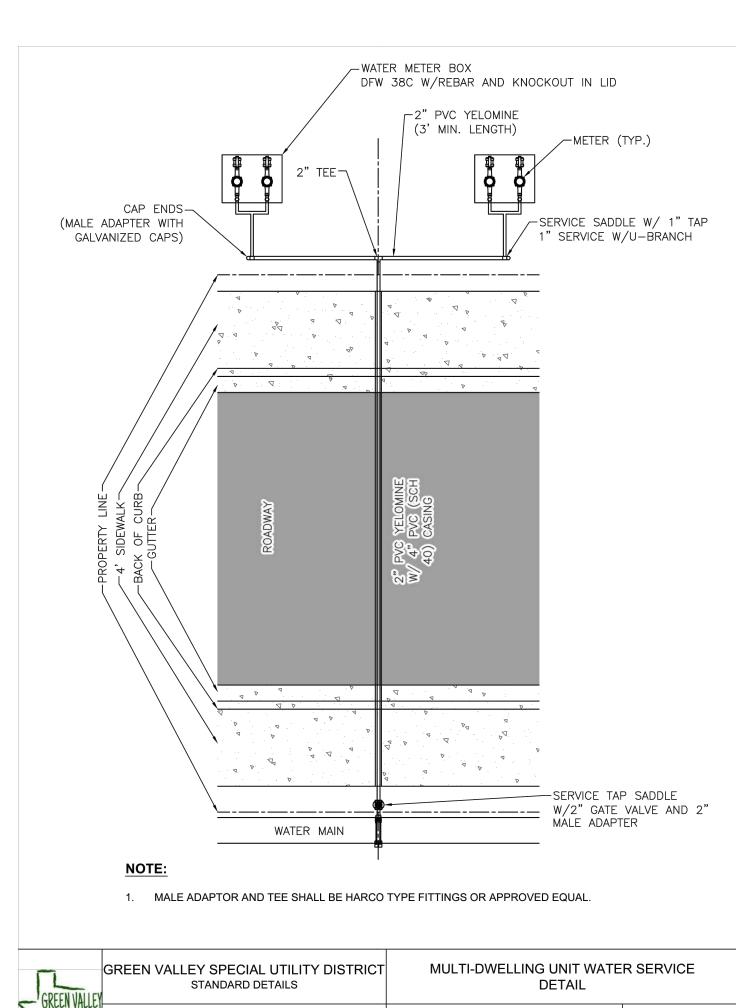
1. FITTINGS SHALL BE MUELLER OR APPROVED EQUAL. 2. A TRACER WIRE SHALL BE INSTALLED ON THE SERVICE LINE TAPED AT 10-INCH INCREMENTS.

N VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD SERVICE CONNECTION

GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	STANDARD SERVICE CONNECTION		
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-23	

✓ FOSTER ADAPTOR





/-- METER BOX

-INSERT BENDS TO

PREVENT STRESS

RESULTING FROM MOVEMENT OF SOIL

> FOR MAINS ON-OPPOSITE SITE

> > TYPICAL SERVICE LOCATION DETAIL

W-24

THE ARCHITECT/ENGINEER ASSUMES

RESPONSIBILITÝ FOR APPROPRIATE

USE OF THIS STANDARD.

✓ VARIES —

▼ TO RESIDENT

CORPORATION ¬

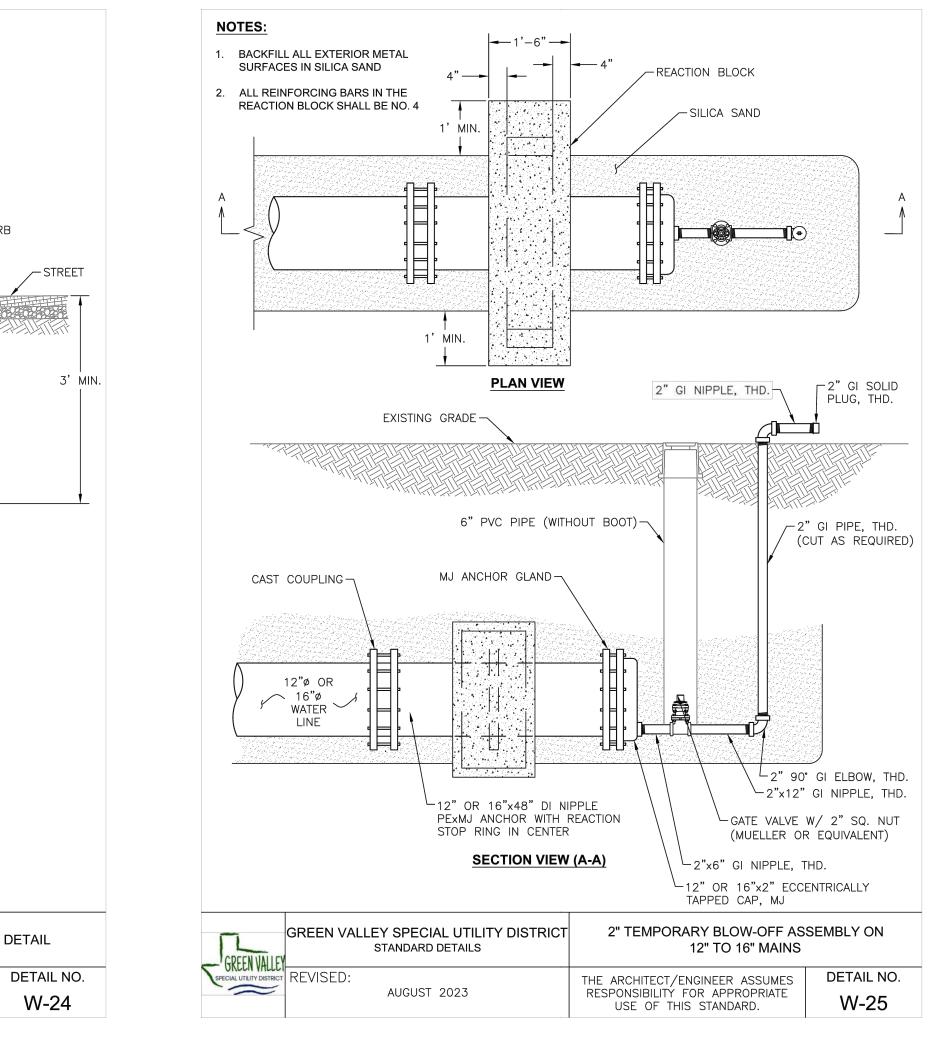
STOP

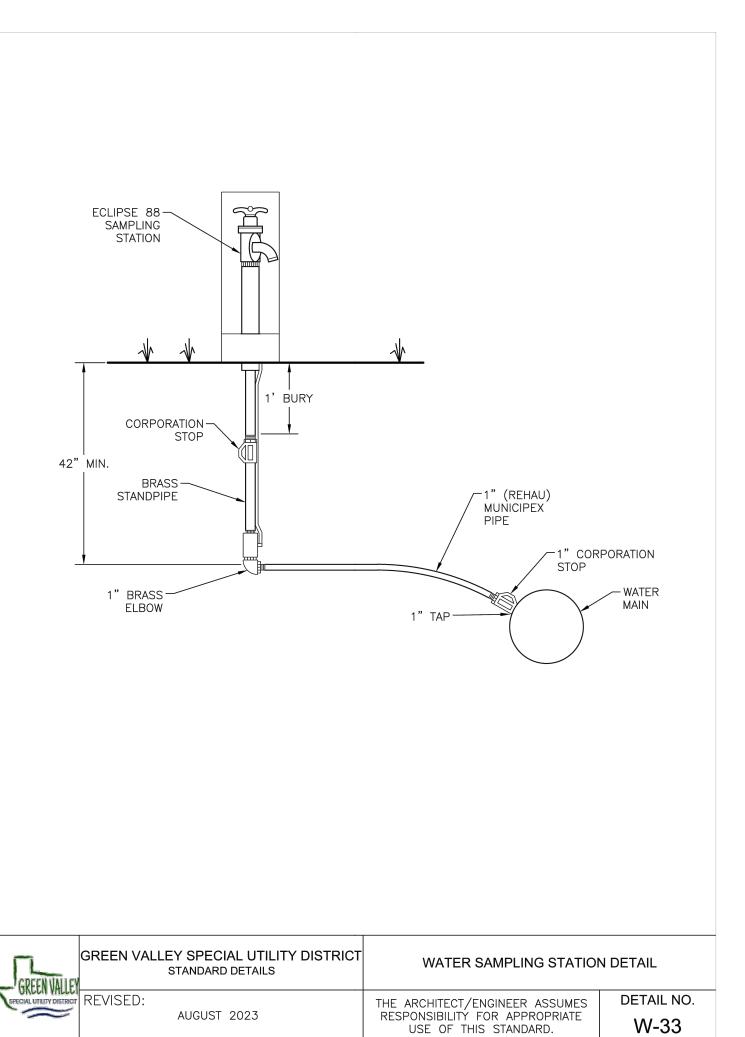
─ WATER MAIN

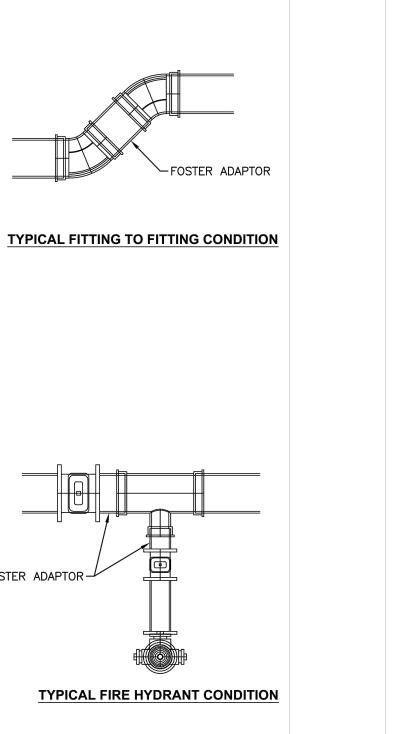
GREEN VALLEY SPECIAL UTILITY DISTRICT

STANDARD DETAILS

AUGUST 2023









FOSTER ADAPTOR —

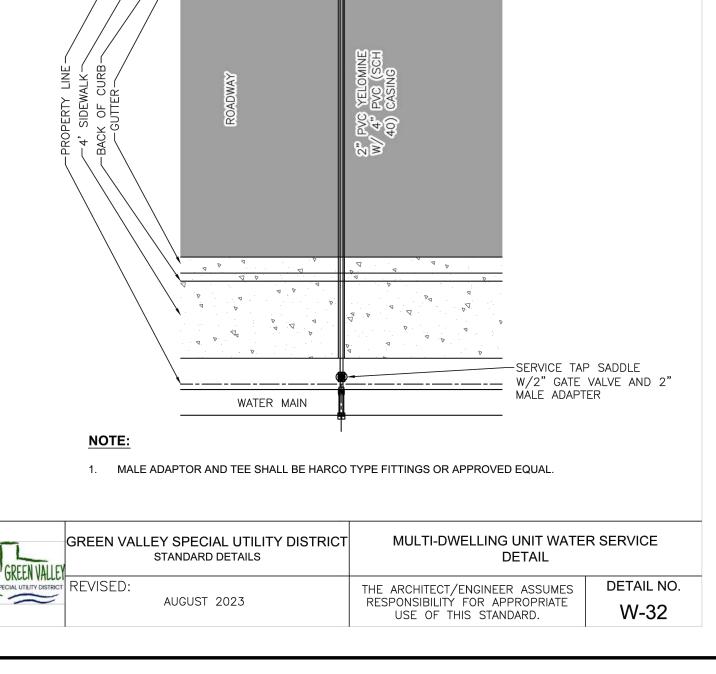
FOSTER ADAPTOR -

1. FOSTER ADAPTORS, OR APPROVED EQUAL, REQUIRED AT ALL FITTING TO FITTING CONNECTIONS AND FITTING TO VALVE CONNECTIONS. 2. ANCHOR COUPLINGS MAY BE SUBSTITUTED FOR FOSTER ADAPTORS AT GVSUD'S DISCRETION.

-FOSTER ADAPTOR

FOSTER ADAPTOR —

GREEN VALLEY SPECIAL UTILITY DISTRICT	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	MECHANICAL JOINT ADAPTOR DETAIL		
	REVISED: AUGUST 2023	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	DETAIL NO. W-31	



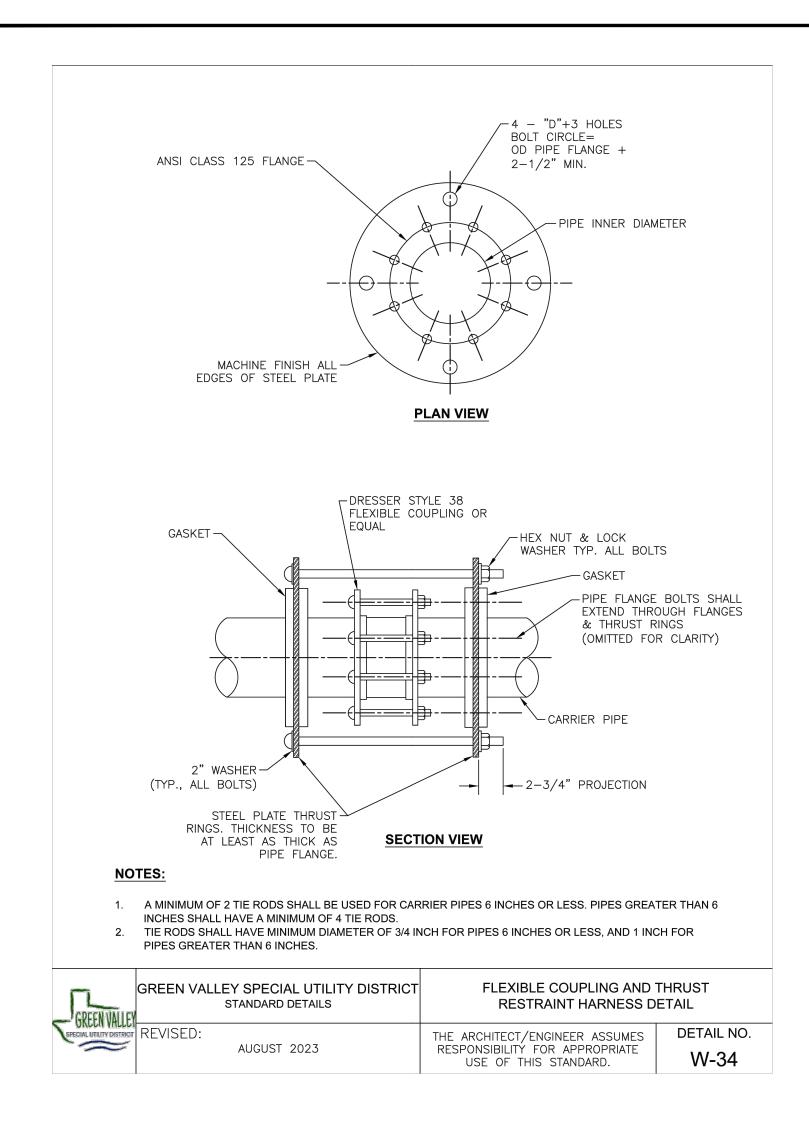


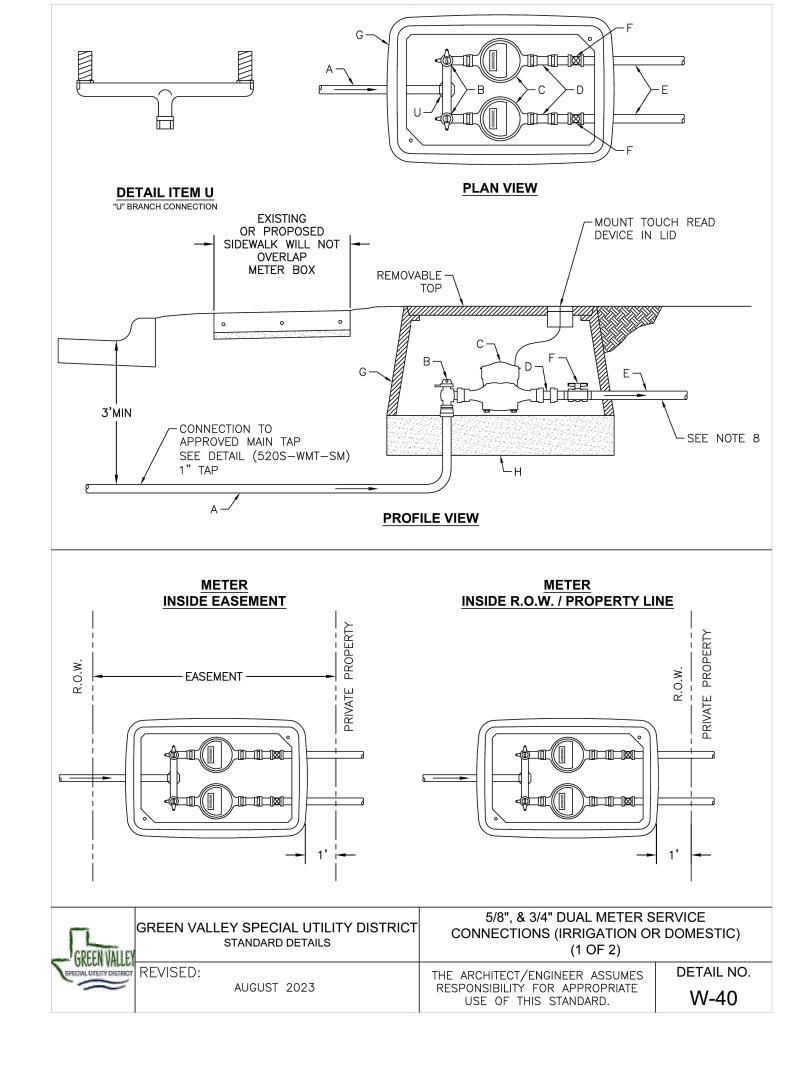
KAYDEN SPRING UNIT 2

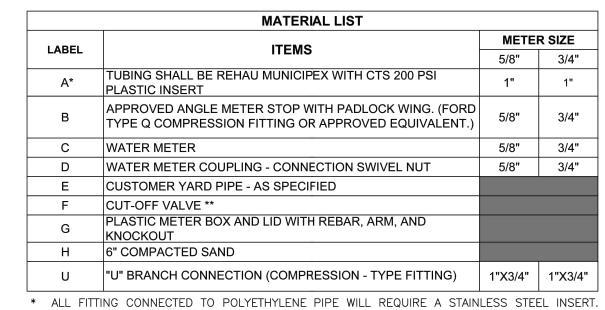
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DATE:	08/08/2024
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DRAWN:	SG

SHEET

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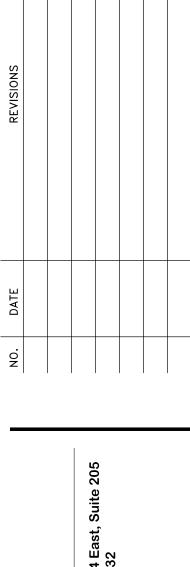


** TO BE INSTALLED BY GVSUD AFTER TESTING AND ACCEPTANCE

- 1. REFERENCE GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAIL W-23 FOR METER
- AND METER BOX DIMENSIONS.
- 2. TOP OF METER BOX SHALL BE 1" ABOVE GRADE AFTER REVEGETATION OR FLUSH WITH PAVEMENT SURFACE. METER BOX ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR
- 3. FOR PIPES AND FITTINGS OUTSIDE THE METER BOX SHALL BE EMBEDDED AND BACKFILLED, 6"
- SAND BEDDING MINIMUM, WITHIN THE R.O.W. OR EASEMENT.
- WATER METER WILL BE HORIZONTALLY CENTERED WITH THE METER BOX. TAP TO CITY WATER LINE SHALL HAVE A 1" CORPORATION STOP AND A 1" TAP TO THE MAIN.
- 6. CUT-OFF VALVE AND CONNECTION TO YARD PIPING TO BE SUBMITTED FOR APPROVAL.
- 7. METERS TO BE SUPPLIED BY CONTRACTOR FOR COMMERCIAL ACCOUNTS.

8. ALL PARTS WILL BE PER THE CURRENT GREEN VALLEY SPECIAL UTILITY DIST	TRICT WATER	
STANDARDS AND DESIGN CRITERIA.		

GREENVALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	5/8", & 3/4" DUAL METER S CONNECTIONS (IRRIGATION OF (2 OF 2)	
SPECIAL UTILITY DISTRICT	REVISED:	THE ARCHITECT/ENGINEER ASSUMES	DETAIL NO.
	AUGUST 2023	RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	W-40



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	alless.	**************************************
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08/08/24

KAYDEN SPRINGS UNIT 2

JOB NO.:	0046599.02
DATE:	08/08/2024
DESIGN:	TBW
DRAWN:	SG
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GREEN VALLEY SPECIAL UTILITY DISTRICT -CONSTRUCTION PLAN GENERAL NOTES (JULY

- 1. ALL WORKMANSHIP AND MATERIALS FOR THE WATER SYSTEM 19. SURVEY STAKING OFFSETS ARE REQUIRED FOR ALL WATER MAIN SHALL CONFORM TO THE CONSTRUCTION STANDARDS OF GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD).
- 2. PVC MAINS 12-INCHES AND BELOW SHALL CONFORM TO AWWA C-909 PRESSURE CLASS 235 OR ABOVE DEPENDING ON SYSTEM PRESSURES. PVC MAIN GREATER THAN 12 INCHES SHALL CONFORM TO AWWA C-900 DR 18 OR ABOVE DEPENDING ON SYSTEM PRESSURES. WATER MAINS SHALL HAVE AN ABSOLUTE MINIMUM DEPTH OF 5-FEET BELOW ROADWAY LEVEL AND 42-INCHES IN ALL
- 3. ALL WATER MAIN DUCTILE IRON FITTINGS SHALL BE MECHANICAL JOINT AND CONFORM TO ANSI/AWWA C-153 OR C-110. ALL BOLTS SHALL HAVE KOPR KOTE OR APPROVED EQUAL ANTISEIZE CORROSION RESISTANT COATING. VALVES SHALL BE ATTACHED TO TEES BY FOSTER ADAPTOR OR ANCHOR NIPPLE. FOSTER ADAPTER, ANCHOR NIPPLE, OR FORD UNI-FLANGE RETAINER GLANDS AND THRUST BLOCKS SHALL BE USED ON ALL FITTINGS AND VALVES.
- TRACER WIRE SHALL BE INSTALLED ON ALL PIPELINES INCLUDING SERVICE LINES AND BROUGHT INTO VALVE AND METER BOXES FOR LOCATING PURPOSES. INSULATED WATER PROOF CONNECTORS SHALL BE USED TO SPLICE WIRES TOGETHER. A 12-INCH-WIDE DETECTABLE METAL TAPE SHALL BE PLACED ABOVE BEDDING
- 5. EXCEEDING MAXIMUM DEFLECTION IS PROHIBITED. THE ANGULAR DEFLECTION AT BELL-SPIGOT JOINTS SHOULD NOT EXCEED ONE (1) DEGREE. THIS WILL PRODUCE A 4-INCH OFFSET FOR EVERY 20-FOOT SECTION OF PIPE. JOINT DEFLECTION IS ACHIEVED AFTER THE JOINT IS ASSEMBLED IN STRAIGHT ALIGNMENT AND DEFLECTED TO THE REFERENCE MARK. THE BELL SHOULD BE BRACED ALLOW THE FREE END TO MOVE LATERALLY UNDER STEADY PRESSURE USING A PRY BAR OR OTHER SUITABLE MEANS CARE SHOULD BE TAKEN NOT TO EXCEED THE MAXIMUM DEFLECTION ALLOWED OR TO DAMAGE THE PIPE WITH MACHINERY. ABRUPT
- CHANGES IN DIRECTION SHALL BE ACCOMPLISHED WITH FITTINGS. 6. OVER STRESSING THE BELL BY OVER INSERTING THE JOINTS,
- OVERBELLING, AND PASSING THE INSERTION REFERENCE MARK IS PROHIBITED AND WILL REQUIRE REMOVAL AND REINSTALLATION. STANDARD FIRE HYDRANT SHALL INCLUDE HYDRANT, 6-INCH RESILIENT GATE VALVE AND BOX, ANCHOR FITTINGS, DUCTILE IRON PIPE, AND ALL APPURTENANCES. HYDRANTS SHALL BE LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK. AMERICAN FLOW, CLOW, OR FAST JORDAN. ONLY MUFILER HYDRANTS AND FJ SHALL BE USED IN CITY OF CIBOLO'S JURISDICTION HYDRANT UPPER BARREL
- SHALL BE FACTORY PAINTED RED. HYDRANTS SHALL HAVE A STORTZ CONNECTION ON STEAMER NOZZLE. FITTINGS FOR PLUG SHALL BE FULLY RESTRAINED AND TIED TO VALVE. 8. VALVES SHALL BE AWWA APPROVED RESILIENT WEDGE SEATED
- GATE VALVE, OPEN LEFT, AND LIMITED TO THOSE MANUFACTURED BY MUELLER, AVK, AMERICAN FLOW, CLOW, OR EAST JORDAN. 9. VALVES ARE PROHIBITED IN ADA RAMPS, CURBS, AND ROADWAYS. VALVES ARE PROHIBITED IN SIDEWALKS IN CITY OF NEW
- BRAUNFELS. 10. METER BOXES ARE PROHIBITED IN ANY SIDEWALKS, DRIVEWAYS, OR ROADWAYS.
- 11. SMALL SERVICE TAPS SHALL BE EITHER 1-INCH OR 2 INCH AND SHALL BE REHAU MUNICIPEX WITH CTS 200 PSI PLASTIC INSERT. SMALL SERVICE TAPS TO BE MADE WITH SINGLE BRASS STRAP TAPPING SADDLE WITH IRON PIPE THREADS. EXCEPTION: IF LOCATED WITHIN CITY OF CIBOLO- SERVICE TAPS TO BE MADE WITH DOUBLE STAINLESS STRAP EPOXY COATING SADDLES WITH IRON PIPE THREADS.
- 12. CASING REQUIRED FOR ALL LONG SMALL SERVICES. 1 INCH SERVICE REQUIRES 3 INCH CASING AND 2 INCH SERVICE REQUIRES 4 INCH CASING. CASING SHALL BE PVC SCHEDULE 40 OR APPROVED
- 13. SINGLE 5/8" & 3/4" METER BOXES SHALL BE DFW36C 16" X 11". DUAL 5/8" & 3/4" METER BOXES SHALL BE DFW38C 17" X 15". 1-INCH METER BOXES SHALL BE DFW65C-14-1A 15 1/4" X 30 3/8". ALL METER BOXES SHALL BE PLASTIC WITH LIDS HAVING 34. GPS FILES SHALL BE PROVIDED BY THE CONTRACTOR TO THE REBAR, ARM, AND KNOCKOUT.
- 14. THE FORD U BRANCH IS TO BE USED ON ALL DUAL SERVICES (U48-43Q) WITH THE 5/8" X 3/4" FEMALE THREAD ANGLE HEAD. ALL OTHER ANGLE HEADS WILL BE THE FORD Q NUT. ALL CORPORATION STOPS WILL BE IPS X Q NUT. ALL BRASS VALVES TO BE 'BALL' TYPE MINIMUM 200 PSI PRESSURE RATING. "CC' THREADED CORPORATION STOPS PROHIBITED.
- 15. TAPPING MACHINES UTILIZED FOR INSTALLING ANY TYPE OF TAP 1-INCH TO 2-INCHES WILL BE OF THE PURGE TYPE, WHICH AT THE TIME OF TAPPING SHALL EXPEL ALL CHIPS AND RESIDUE TO ATMOSPHERE THROUGH AN APPROPRIATE OUTLET AND/OR BE ABLE TO RETAIN THE COUPON.
- 16. ALL WATER MAIN, PIPE, CASINGS, FITTINGS, AND VALVES SHALL BE LAID IN MANUFACTURED SAND EMBEDMENT PER DETAILS. THE SAND SHALL FULLY ENCASE ALL PIPES, INCLUDING FITTINGS AND ARE TO RECEIVE THRUST BLOCKING, FOSTER ADAPTER, ANCHOR NIPPLE, FORD UNI-FLANGE RETAINER GLAND JOINT RESTRAINTS,
- DISTRICT'S ENGINEER. 17. CONTRACTOR TO CURB CUT V'S FOR VALVES AND X'S FOR

AND BELL JOINT RESTRAINTS WHEN SPECIFIED BY GVSUD OR THE

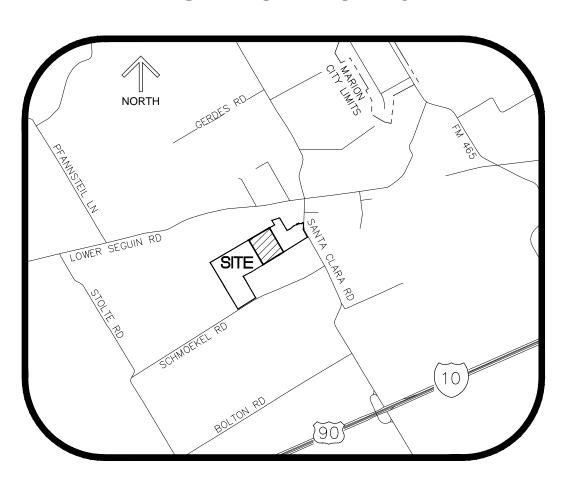
18. PRIOR TO CONSTRUCTION OF THE SEWER AND WATER MAINS, ALL R.O.W. ROADWAYS AND PARKWAY SHALL HAVE REFERENCE SURVEY STAKING AND BE EXCAVATED OR PROPERLY FILLED TO SUB-GRADE

- AND APPURTENANCES. 20. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES
- INDICATED ON THE PLANS ARE TAKEN FROM AVAILABLE RECORDS AND ARE NOT GUARANTEED. CONTRACTOR SHALL INVESTIGATE AND FIELD VERIFY UTILITY LOCATIONS A MINIMUM OF 300 LF AHEAD OF CROSSING AND TIE-IN LOCATIONS. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO AND FOR MAINTENANCE PROTECTION OF THE EXISTING UTILITIES, WHETHER THEY ARE
- 21. ALL WASTEWATER PIPES CROSSING THE POTABLE WATER DISTRIBUTION SYSTEM WILL BE HELD IN STRICT ACCORDANCE WITH TCEQ RULES AND REGULATIONS, PROPOSED SUB-GRADE LIMITS AND DIMENSIONS MUST BE SHOWN ON THE PLANS. AND CONSTRUCTION PROCEDURES WILL BE INSPECTED TO VERIFY COMPLIANCE WITH TCEQ 290.44(E).
- 22. OTHER UTILITIES SHALL NOT BE LOCATED CLOSER THAN 3-FEET TO WATER MAINS. 23. THE GREEN VALLEY INSPECTOR SHALL BE NOTIFIED AT LEAST
- FORTY-EIGHT HOURS PRIOR TO BACK FILLING OR TESTING. 24. A FIELD PRE-CONSTRUCTION MEETING SHALL BE HELD BEFORE CONSTRUCTION BEGINS AND MATERIAL SHALL BE AVAILABLE
- 25. CONTRACTOR SHALL CHLORINATE NEW MAINS PER TCEQ AND ANSI/AWWA C651 AND DECHLORINATE DURING FLUSHING PER ANSI/AWWA C655; THE CONTRACTOR SHALL COORDINATE WITH THE GVSUD INSPECTOR TO WITNESS CHLORINATING AND PRESSURE TESTING OF NEW MAINS. ALL TEST RESULTS MUST BE PROVIDED TO
- 26. OPERATION OF EXISTING VALVES IN THE GVSUD WATER DISTRIBUTION SYSTEM SHALL ONLY BE AS APPROVED BY GVSUD AND IN THE PRESENCE OF GVSUD PERSONNEL. THE CONTRACTOR SHALL NOTIFY GVSUD WHEN A VALVE NEEDS TO BE OPERATED AND MAY ONLY OPERATE A VALVE IN THE PRESENCE OF THE GVSUD INSPECTOR.
- 27. NEW WATER MAINS AND APPURTENANCES SHALL PASS PRESSURE TESTING AND PASS THE MINIMUM PUBLIC HEALTH STANDARDS FOR BACTERIOLOGICAL QUALITY TESTING PRIOR TO ANY TIE IN TO THE EXISTING GVSUD WATER SYSTEM AS REQUIRED BY TCEQ AND
- 28. HYDROSTATIC PRESSURE TESTING SHALL BE EVERY 200 LF (MAX) OF LINE OR AS APPROVED BY THE ENGINEER. ALL ERRORS OF WORKMANSHIP SHALL BE CORRECTED IMMEDIATELY. ALL PARTS OF THE PIPELINE SHALL BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE
- 29. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH AND CONFINED SPACE ENTRY SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION AND ALL RELATED WORK. ANY TRENCH PROTECTION SAFETY VIOLATION WILL BE DOCUMENTED AND WILL RESULT IN AN IMMEDIATE WORK STOPPAGE BY THE GVSUD INSPECTOR AT MINIMUM UNTIL THE NEXT WORKDAY.
- 30. CONTRACTOR MUST PROTECT ALL UNATTENDED TRENCHES AND EXCAVATIONS WITH TEMPORARY FENCING. 31. NO TREES MAY BE PLANTED IN THE AREAS DESIGNATED AS WATER OR UTILITY EASEMENTS, OR AREAS WHERE WATER MAINS AND WATER SERVICE CROSSINGS EXIST OR ARE PLANNED TO BE
- 32. ALL GARBAGE OR SPOIL MATERIAL FROM THE WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AT CONTRACTOR'S
- 33. CONTRACTOR SHALL PROVIDE "AS-BUILT" WATER LINE PLANS AT THE PRELIMINARY WALK THRU FOR THE GVSUD INSPECTOR AND ENGINEER. THE PLANS SHALL LIST MATERIAL MANUFACTURERS, LINE LENGTH FROM FITTING TO FITTING, AND TAP LOCATIONS.
- ENGINEER AND GVSUD INSPECTOR FOR THE PLAN OF RECORD. CONTRACTOR SHALL PROVIDE AN ASCII COMMA DELIMITED OF FXCFI FILE CONTAINING THREE-DIMENSIONAL GPS SURVEY POINTS WITH FOUR (4) DECIMAL PLACES OF PRECISION, LESS THAN FOUR (4) INCHES OF HORIZONTAL POSITION ACCURACY, AND LESS THAN EIGHT (8) INCHES OF VERTICAL POSITION ACCURACY. POINTS SHALL BE PROVIDED FOR A MINIMUM OF THREE (3) CONTROL POINTS AND ALL FITTINGS, APPURTENANCES, ENCASEMENTS, VAULTS, AND TANKS. THE ENGINEER SHALL FURNISH PLAN OF RECORD DRAWINGS TO GVSUD FOR APPROVAL HAVING FINAL MEASUREMENTS AND THAT MATCH THE GPS 'X', Y', AND Z
- 35. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH ALL INFORMATION AS REQUIRED SO THAT THE ENGINEER CAN SUPPLY
- GVSUD THE GIS PACKAGE FOR APPROVAL. VALVES, BY A MINIMUM OF 12-INCHES. ALL FITTINGS AND VALVES 36. A FINAL WALK THRU FOR FINAL FIELD ACCPETANCE WILL BE SCHEDULED WITH THE CONTRACTOR AFTER THE PRELIMINARY WALK THRU PUNCH LIST ITEMS HAVE BEEN COMPLETED AND AFTER THE GIS PACKAGE IS APPROVED AND ACCEPTED BY GVSUD. 37. GVSUD CONTACT NUMBER: 830-914-2330

SANITARY SEWER CONSTRUCTION PLANS

KAYDEN SPRINGS UNIT 2

MARION, TX **GUADALUPE COUNTY MUNICIPAL UTILITY** DISTRICT NO. 10



LOCATION MAP

NO.	DATE	REVISIONS	BY



ENGINEER / SURVEYOR:

WESTWOOD PROFESSIONAL SERVICES 211 N LOOP 1604 E, SUITE 205 SAN ANTONIO, TEXAS 78232 TEL: (210) 265-8300

OWNER / DEVELOPER:

LENNAR HOMES OF TEXAS 100 NE LOOP 410, SUITE 1155 SAN ANTONIO, TEXAS 78216 TEL: (210) 403-6200

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SANITARY SEWER PLAN AND PROFILE - LINE L

SANITARY SEWER DETAILS (1 OF 4) SANITARY SEWER DETAILS (2 OF 4)

SANITARY SEWER DETAILS (3 OF 4) SANITARY SEWER DETAILS (4 OF 4)

ESTIMATED SANITARY SEWER QUANTITIES

ITEM	DESCRIPTION	UNIT	QUANTITY
1	8" SANITARY SEWER, SDR 26 (6'-10')	LF	2,944
2	8" SANITARY SEWER PIPE, SDR 26 CLASS 160	LF	120
3	12" SANITARY SEWER, SDR 26 (14'-18')	LF	635
4	SEWER MAIN TELEVISION INSPECTION	LF	4,011
5	TRENCH EXCAVATION PROTECTION	LF	4,011
6	6" SANITARY SEWER LATERALS	LF	5,076
7	SANITARY SEWER MANHOLE	EΑ	15
8	EXTRA DEPTH MANHOLE	VF	89
9	VERTICAL STACK	VF	217
10	8" SANITARY SEWER PLUG	EA	3
11	12" SANITARY SEWER PLUG	EΑ	1
12	DENSITY TESTING	LS	1

CAUTION: THE LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHALL VERIFY THE EXACT LOCATION PRIOR TO COMMENCING WORK AND IS RESPONSIBLE FOR ANY/ALL DAMAGES RESULTING FROM THE FAILURE TO LOCATE AND PRESERVE UTILITIES.

NOTE TO CONTRACTOR

AROUND TRENCH EXCAVATION.

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH INDIVIDUAL UTILITY, FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOB SITE AND THE JOB SITE CONDITIONS DURING CONSTRUCTION. THE RESPONSIBILITY IS NOT LIMITED TO NORMAL WORKING HOURS AND INCLUDES THE SAFETY OF ALL PERSONS AND PROPERTY. THE ENGINEER AND OWNER HAVE NO LIABILITY IN CONNECTION WITH THE CONSTRUCTION OF THIS PROJECT, EXCEPT FOR LIABILITY DIRECTLY CAUSED BY THE SOLE NEGLIGENCE OF THE ENGINEER AND/OR OWNER. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER AND/OR OWNER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED. IN CONNECTION WITH THE EXECUTION OF ALL WORK RELATED TO THIS PROJECT, EXCEPT FOR NEGLIGENCE ON THE PART OF THE ENGINEER AND/OR OWNER.

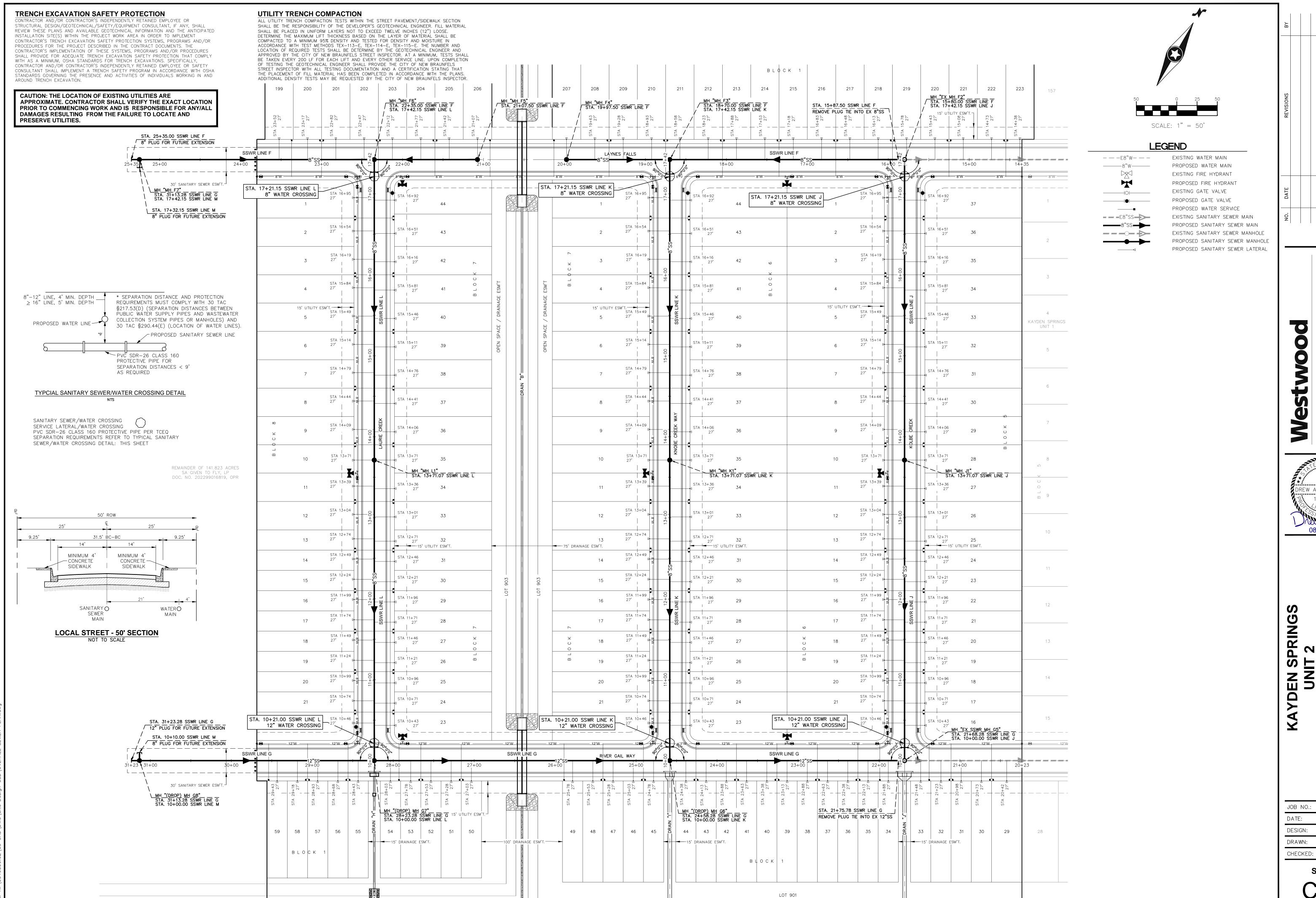
TRENCH EXCAVATION SAFETY PROTECTION

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 SITE(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 SAFFTY CONSULTANT SHALL IMPLEMENT A TRENCH SAFFTY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND

Westwood

(210) 265-8300 211 North Loop 1604 East, Suite 205 (888) 937-5150 San Antonio, TX 78232 westwoodps.com

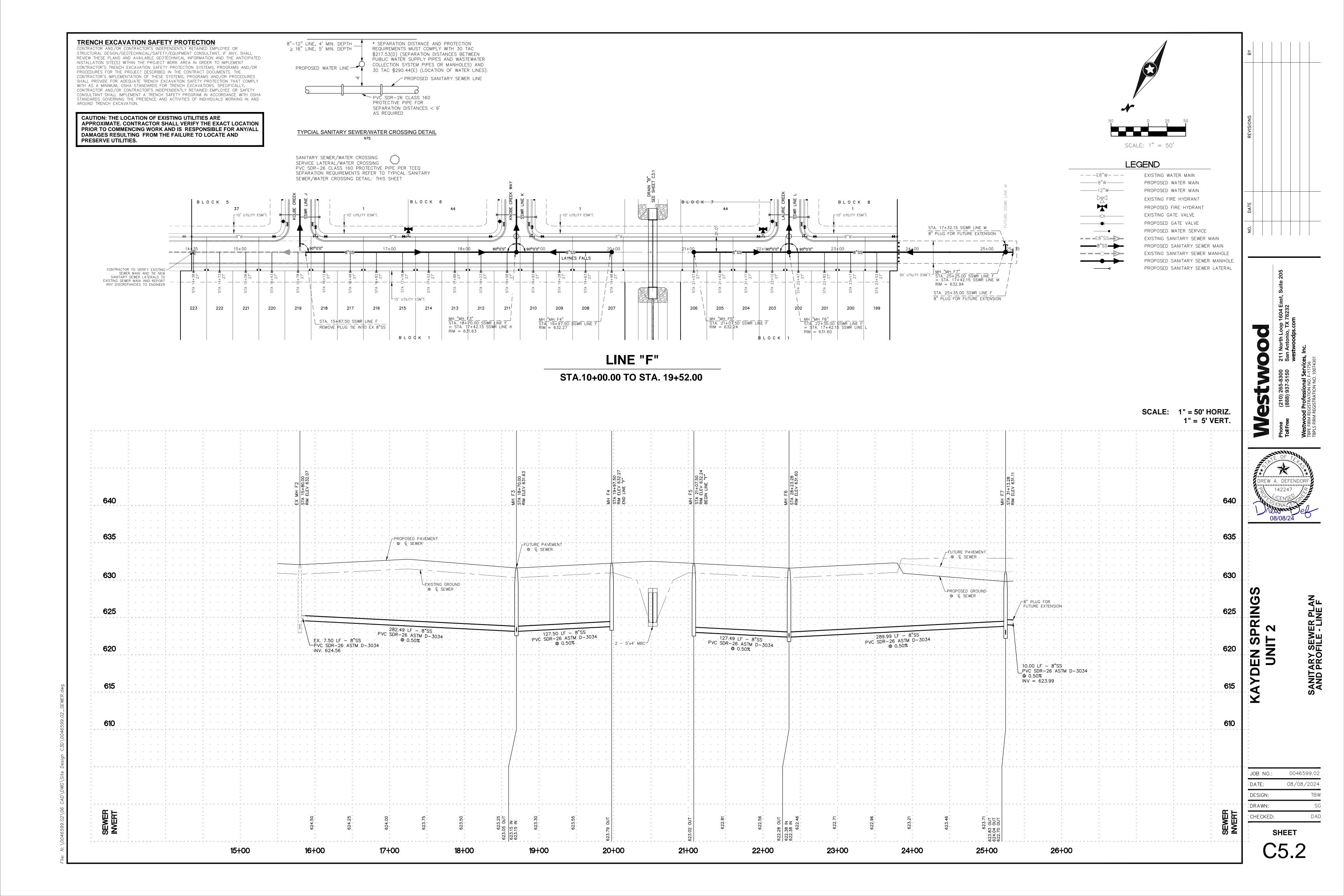
Westwood Professional Services, Inc. TBPELS FIRM REGISTRATION NO. F-11756 TBPELS FIRM REGISTRATION NO. 10074301

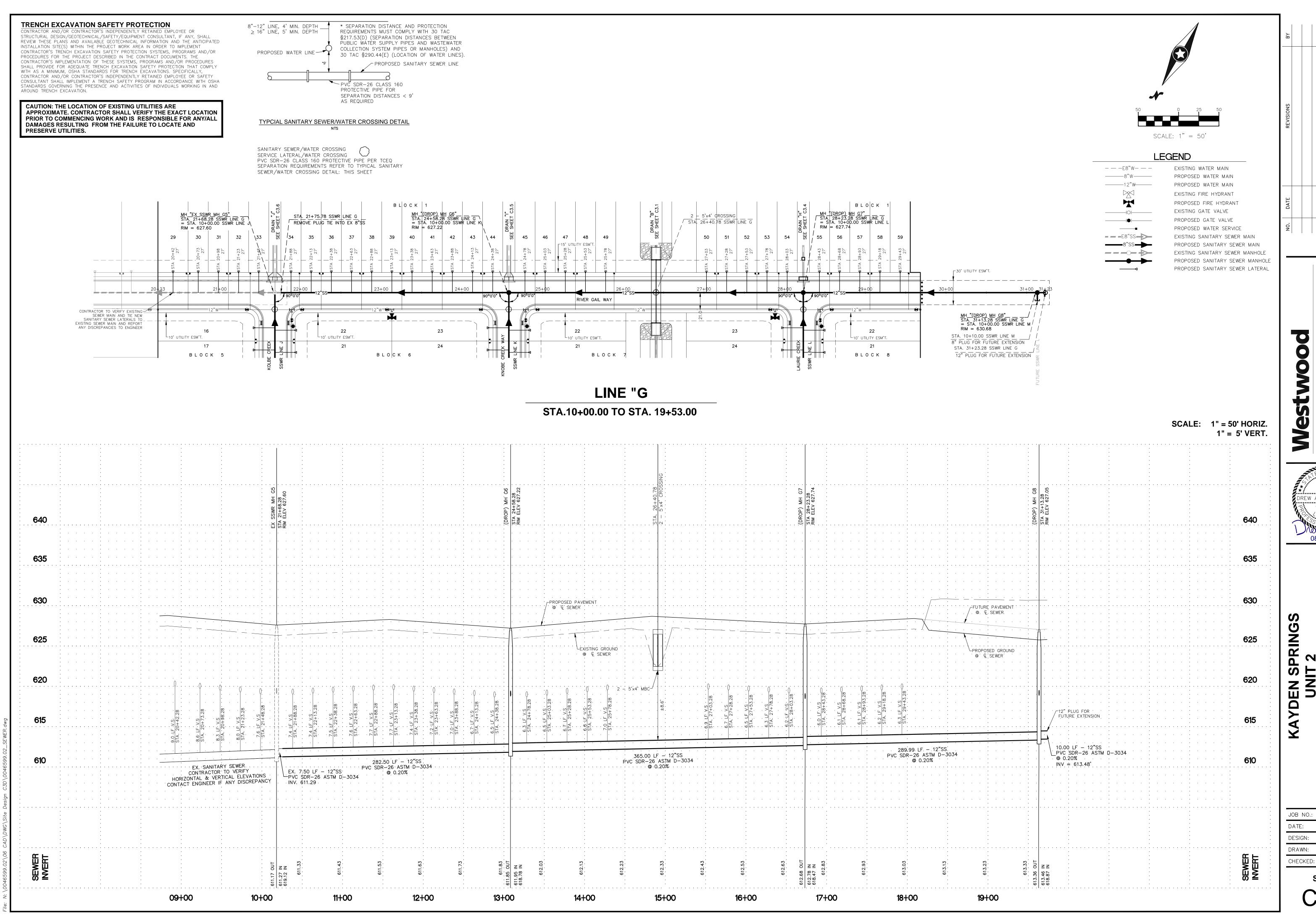


* DREW A. DEFENDOR

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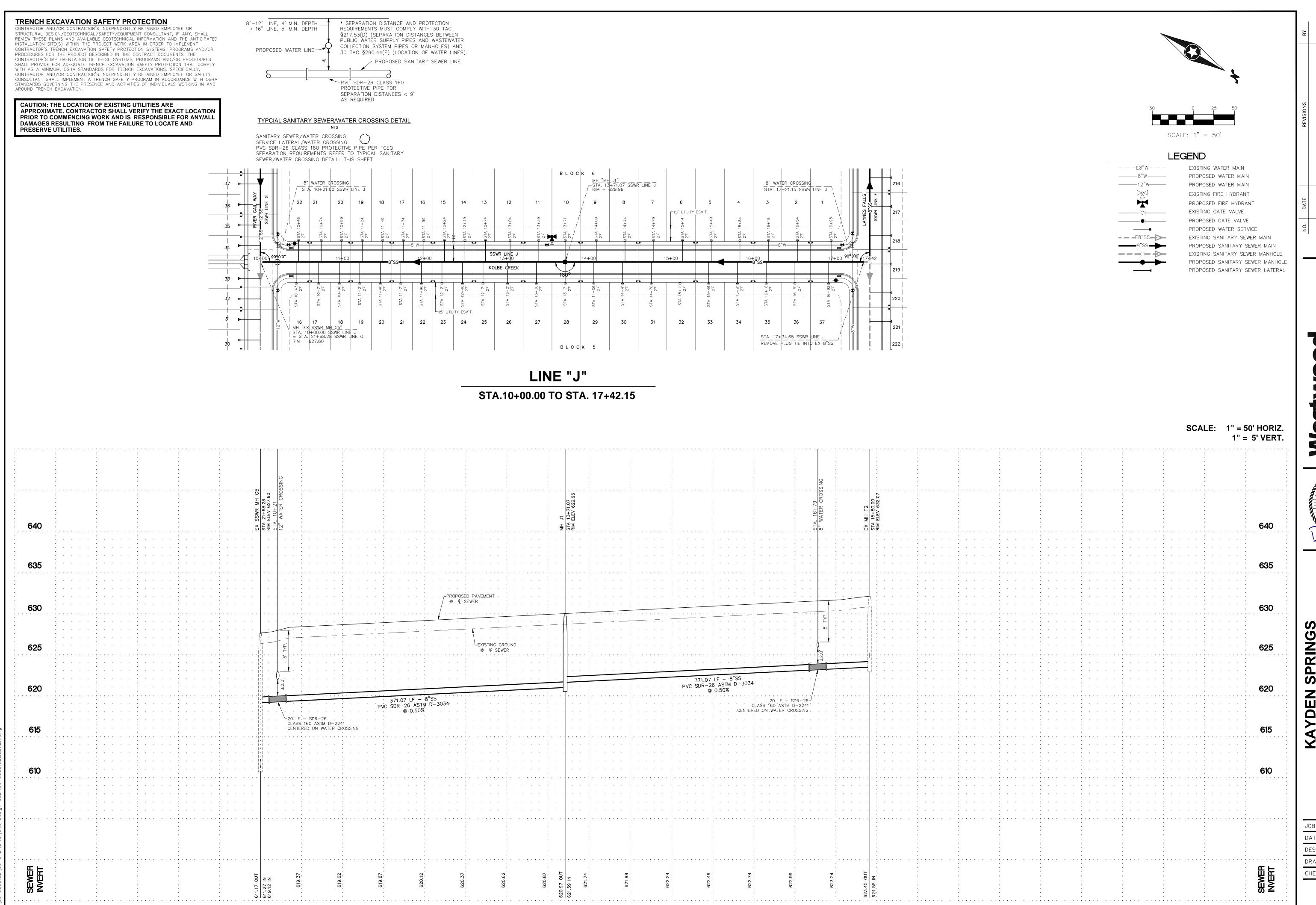




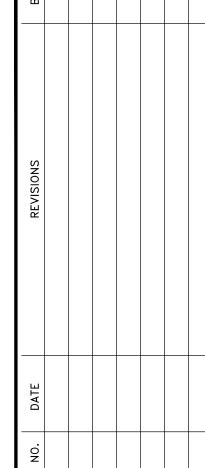
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West (210) 265-8300 211 North Loop 1604 Toll Free (888) 937-5150 San Antonio TX 7823

DREW A. DEFENDORI

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08/08/24

ANITARY SEWER PLAN AND PROFILE - LINE J

JOB NO.: 0046599.02

DATE: 08/08/2024

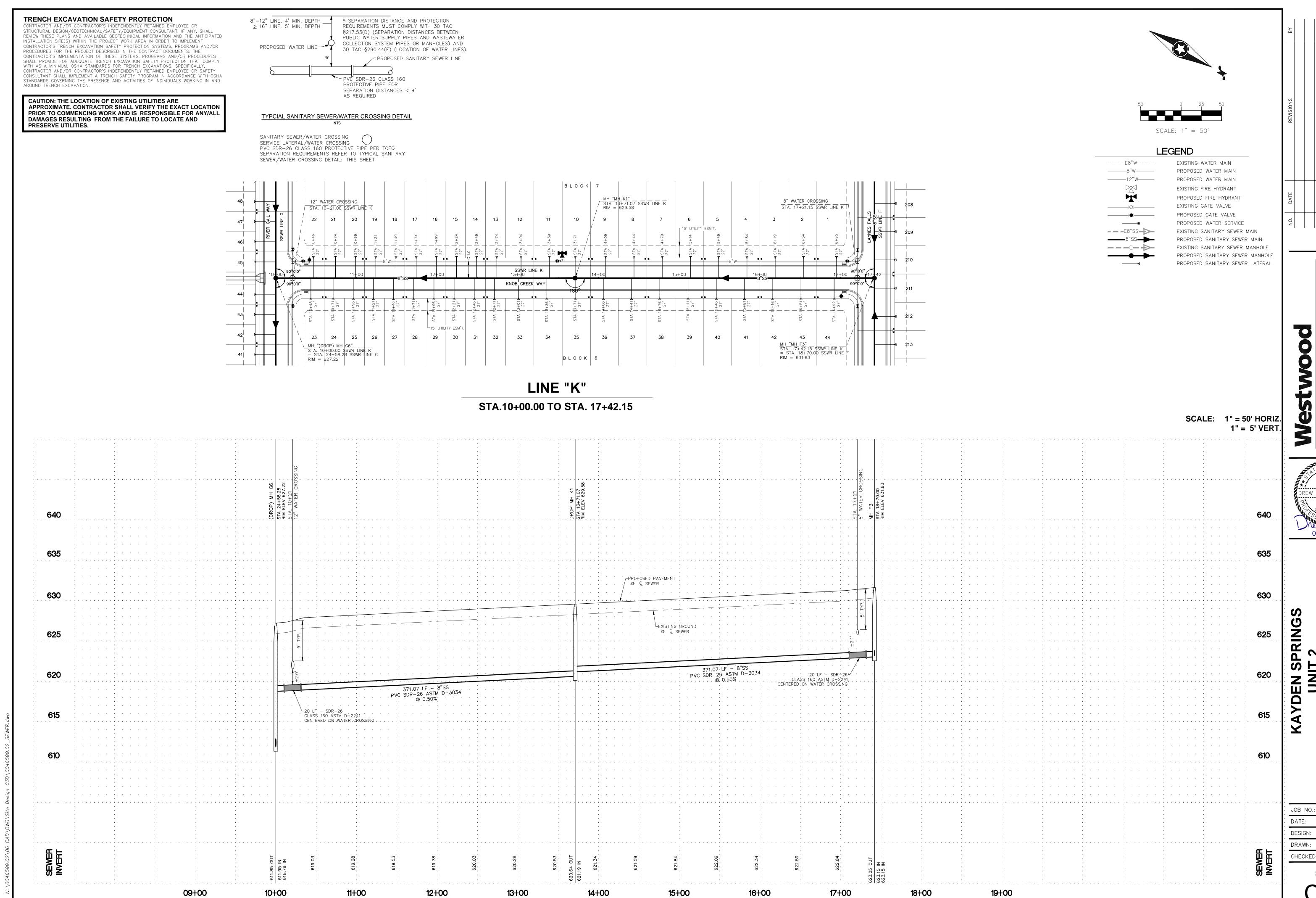
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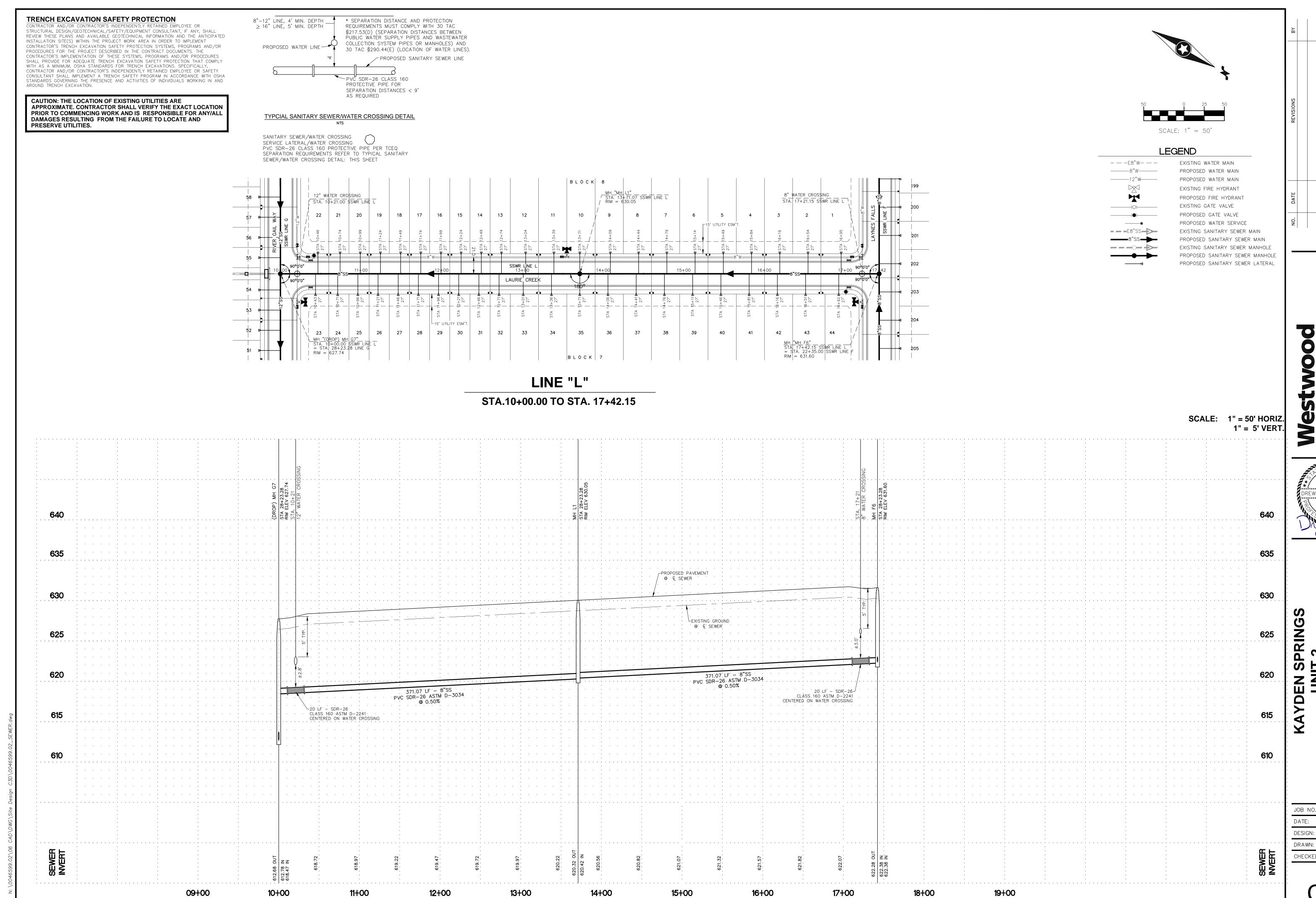
DESIGN: TBW

DRAWN: SG

CHECKED: DAD

SHEET

C5.5



THE STANDARD SPECIFICATIONS AND DRAWING (DD) ARE PROVIDED AS A TECHNICAL RESOURCE FOR ENGINEERING PROFESSIONALS FOR USE IN DESIGN AND CONSTRUCTION OF SEWER COLLECTION SYSTEMS PROJECTS MANAGED AND CONTRACTED BY THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD) GENERAL: THE OWNER, DEVELOPER, ENGINEERING FIRM SHALL SUBMIT TO THE GREEN VALLEY SPECIAL UTILITY DISTRICT (GVSUD) ENGINEER, FOR APPROVAL, TWO (2) COPIES OF ALL PLATES, PLANS AND PROFILES, PLUMBING LAYOUT, WHICH HAVE BEEN DESIGNED AND THE DRAWINGS SEALED BY A REGISTERED PROFESSIONAL ENGINEER. WHEN APPROVED, ONE (1) COPY WILL BE RETURNED TO THE OWNER, DEVELOPER, ENGINEERING FIRM, SO MARKED. THE OWNER WILL BE REQUIRED TO MAKE ALL CHANGES INDICATED BY THE GVSUD ENGINEER, AND RETURN WITH ALL CHANGES, CORRECTIONS, BACK TO GVSUD FOR APPROVAL.

- 1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE GVSUD AND COMPLY WITH:
 - A. CURRENT GVSUD TECHNICAL SPECIFICATIONS FOR UTILITIES CONSTRUCTION.
 - B. TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), FORMERLY TEXAS NATURAL RESOURCE CONSERVATION COMMISSION (TNRCC), DESIGN CRITERIA FOR SEWAGE SYSTEMS 31 TAC 317.1, 31 TAC 317.2 AND 31 TAC 317.3, 30 TAC & 213 40 TAC &217.
- 2. THE CONTRACTOR IS TO NOTIFY AND MAKE ARRANGEMENTS WITH THE GVSUD INSPECTIONS DIVISION AT (830)914-2330 OR (210)372-2228 - 48 HOURS PRIOR TO ANY EXCAVATION. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD BEFORE ANY EXCAVATION OR START OF PROJECT
- WORK SHALL NOT BE PERFORMED ON SATURDAYS, SUNDAYS OR HOLIDAYS BEFORE 7:30 A.M. OR AFTER 4:30 P.M., UNLESS PRIOR APPROVAL IS GRANTED BY THE GVSUD ENGINEER
 - A. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES TO INCLUDE SURFACE LATERALS, SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO LOCATION (POT HOLE, VERIFY LOCATION, ELEVATIONS OF ALL) UTILITY SERVICE LINES 48 HOURS PRIOR TO EXCAVATION AND TO PROTECT THE SAME DURING CONSTRUCTION. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES OF EXISTING UTILITIES AND REPAIRS WILL BE AT THE CONTRACTORS EXPENSE.

EXISTING MANHOLES/SEWER

- 4. CONTRACTOR WILL MAINTAIN SERVICE TO ALL EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR WILL MARK, CLEAN ALL DEBRIS, GRAVEL, DIRT, ETC. OUT OF MANHOLES AND ANY STOPPAGES CAUSED BY DEBRIS DURING CONSTRUCTION. CONTRACTOR WILL UNPLUG STOPPAGE AT CONTRACTORS EXPENSE. ANY DAMAGE TO EXISTING MANHOLES OR SEWER MAIN WILL BE CORRECTED AT THE CONTRACTORS 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 GVSUD INSPECTOR. MANHOLES WILL NEED TO BE RESEALED WITH THE GVSUD APPROVED SEALING. IF SEAL COATING IS BROKEN, CONTRACTOR WILL HAVE MANHOLE RECOATED. RESEAL ALL LEAKS AT CONTRACTORS EXPENSE.
 - A. 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. PROJECT INSPECTOR WILL RECORD HOW MANY PLUGS ARE BEING USED, LOCATION AND I.D., WITHIN COLLECTION SYSTEM. CONTRACTOR WILL REPORT TO PROJECT INSPECTOR OF ANY LOST OR UNRESTRAINED PLUGS INTO SEWER COLLECTION SYSTEM.
 - B. CONTRACTOR WILL BE HELD LIABLE FOR ANY DAMAGES TO SEWER COLLECTION SYSTEM STOPPAGES, OVER-FLOWS, BACKUP INTO HOMES CAUSED BY LOST RUN-AWAY SEWER PLUGS THAT WERE USED ON THAT PROJECT OR OUTFALL LINE WASTEWATER TREATMENT PLANTS
 - C. CONTRACTOR WILL ALSO BE RESPONSIBLE FOR ANY DAMAGE TO WASTEWATER TREATMENT APPARATUS, SUCH AS SCREW PUMPS, ETC. CAUSED BY LOST OF RUN-AWAY SEWER PLUGS. CONTRACTOR WILL BE HELD LIABLE FOR DAMAGES, AS WELL AS COST OF REPAIRS.
- 5. ALL WORK IN THE TEXAS HIGHWAY DEPARTMENT, BEXAR COUNTY, GUADALUPE COUNTY, AND CITY OF CIBOLO RIGHT OF WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- 6. ALL WORK IN PUBLIC STREETS SHALL BE COORDINATED WITH AND APPROVED BY THE BEXAR COUNTY OR GUADALUPE COUNTY PUBLIC WORKS DEPARTMENT TRAFFIC DIVISION AND STREET ENGINEER.
- 7. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.161, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND VALVES THAT ARE IN THE PROTECTED AREAS.
- 8. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM THE COMPLETE INSTALLATION OF THE SANITARY SEWER LINES.

THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:

- A. PULL MANDREL AFTER 30 DAYS OF INSTALLATION
- B. PERFORM AIR TEST
- C. PULL WIPER (AFTER STREET HAS BE ASPHALTED IN NEW SUBDIVISIONS)
- D. VACUUM TEST ALL MANHOLES WITHIN THE PROJECT
- E. CCTV-ALL NEW LINE-PAN (TILL ALL SERVICE LATERALS TO 6"X6" CLEAN OUT. FLOOD ALL LINES BEFORE CCTV, SUMMIT DVD)
- 9. CONTRACTOR SHALL SUBMIT FIELD COPY PLANS AND PROFILES SHOWING AS-BUILT WORK AT END OF PROJECT, CCTV DVD AND COMPACTION DENSITY REPORTS FOR MAIN SEWER LINE AND ALL SERVICE LATERALS TRENCHES. WARRANTY LETTERS ON MATERIALS, WORKMANSHIP FOR 24 MONTHS AFTER FINAL ACCEPTANCE.
- 10. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST TWELVE (12) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREAS. IN PAVED AREAS THE MANHOLE RING SHALL BE FLUSH WITH THE PAVEMENT. ALL NEW INSTALLED MANHOLES WILL BE WITH A 30" INCH OPENING, MINIMUM, WITH THE GVSUD LOGO ON THE COVER. EVERY THIRD MANHOLE COVER WILL HAVE A 1" HOLE FOR A VENT.
- 11. ALL MANHOLES SHALL BE WITH A 30" INCH OPENING, HAVE WATERTIGHT RING AND COVERS, WITH THE GVSUD LOGO. ON PRIVATE PROPERTY, MANHOLE RING AND COVER SHALL BE TYPICAL MANHOLE COVER WATER TIGHT.
 - A. BEFORE BACK FILLING/COMPACTION/CONCRETE ENCASEMENT
 - ALL MANHOLE JOINT SECTION RISERS, CONE SECTIONS AND GRADE RING SHALL BE WRAPPED WITH GATOR WRAP SEALING SYSTEMS, BUTYL ADHESIVE SEALANT WITH A MINIMUM THICKNESS OF 30 MILS. INFI-SHIELD WRAPPED WITH RISER-WRAP SEALING SYSTEM, GATOR WRAP
 - MATERIAL: RUBBER MEETS ASTM C923/MASTIC MEETS ASTM C 990 OR APPROVE BY THE GVSUD ENGINEER SUBSTITUTION ON OUTSIDE FOR I/I. GROUND WATER TABLE.

- 12. IF CONCRETE THROAT RINGS ARE TO BE INSTALLED, A MINIMUM OF TWO AND A MAXIMUM OF FOUR THROAT RINGS WILL BE USED AT EACH MANHOLE FOR ADJUSTMENT.
- 13. INFILTRATION DISHES WILL BE REQUIRED IN MANHOLES WHERE APPLICABLE (I.E., SUCH AS LOW DRAINAGE AREAS) AND EVERY THIRD MANHOLE SHALL BE VENTED. 30" INCH MANHOLE COVER WITH 1" INCH HOLE CENTER OF COVER WHERE APPLICABLE.

Note: Manhole cover inserts shall be FRW Industries, inc., "Inflow Protector-Cover" "Preco Industries Ltd.", "Sewer Guard", or approved equal, and 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 construction.

- A. ALL MANHOLES MUST HAVE 350-400 FEET SPACING BETWEEN MANHOLES TO PROVIDE ACCESS TO SEWER LINES FOR CLEANING, ON THE GVSUD PUBLIC SEWER EASEMENT. A 16 FOOT GATE WITH LOCK WILL BE PROVIDED BY THE CONTRACTOR FOR ACCESS TO CLEANING AND MAINTAINING
- B. DROP MANHOLES SHALL BE REQUIRED WHEN THE INFLOW ELEVATION IS MORE THAN TWENTY-FOUR (24) INCHES ABOVE THE OUTFLOW ELEVATION. DROP SHALL BE LOCATED OUTSIDE THE MANHOLE WITH ITS FLOW LINE ELEVATION LOCATED BETWEEN THE CENTER LINE AND TOP OF SEWER LINE.
- 14. ALL MANHOLES WILL BE CONCRETE ENCASEMENT 1 FOOT AROUND RING, 28-INCH DEEP AFTER GATOR WRAP SEALING SYSTEM HAS BEEN APPLIED.
- 15. NEW MANHOLE PROTECTIVE COATING, LINER IS FOR THE PURPOSE OF INFILTRATION BECAUSE OF HIGH WATER TABLE. APPLICATION PROCEDURES ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION AND PER THE FOLLOWING SPECIFICATIONS:
 - A. MANHOLE PROTECTIVE COATING: CONTRACTOR WILL BE RESPONSIBLE FOR MANHOLES ON PROJECT SAFETY ASSESSMENT; CONFINED SPACE ENTRY SET BY OCCUPATIONAL SAFETY AND HEALTH STANDARDS, 29 CFR 1910.146 APP E.
- B. THE CONTRACTOR, SHALL NOTIFY THE GVSUD UTILITIES INSPECTIONS DEPARTMENT WITH A MINIMUM OF 2 DAYS ADVANCE NOTICE OF THE START OF ANY FIELD SURFACE PREPARATION WORK OF COATING APPLICATION WORK OF MANHOLES.
- C. ALL NEW MANHOLES IN NEW DEVELOPMENTS SHALL BE 30" INCH OPENING, WATERTIGHT AND THE INTERIOR WALL COATED WITH A GVSUD APPROVED SEWER STRUCTURE FOR ALL MANHOLES, SEWPERCOAT 2000 HR REGULAR, WITH THE REQUIRED ONE-INCH THICK APPLICATION.

APPROVED MATERIALS ARE AS FOLLOWS:

CEMENTITIOUS COATING WITH REQUIRED HALF-INCH THICK APPLICATION

- SEWPERCOAT 2000 HR REGULAR
- REFRATTA HAC 100
- MAXIMUM CA PLUS

EPOXY COATING: WITH SPECIFIED THICKNESS APPLICATION

AROMATIC POLYUREA SCP DROPLINER REQUIRED THICKNESS 125 MILS

MATERIALS AND ONE-INCH THICKNESS.

- D. WARRANTY LETTER ON MANHOLE PROTECTIVE COATING FOR 10 YEARS AFTER FINAL ACCEPTANCE OF PROTECTIVE COATINGS CONTRACTOR IS NOT RELIEVED OF ITS RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.
 - i. ANY CONNECTIONS TO EXISTING MANHOLES WILL REQUIRE A 36-INCH CRADLE TO SUPPORT INCOMING PIPE. A RUBBER GASKET WILL ALSO BE REQUIRED (CENTERED AT MANHOLE WALL) WITH GROUTING AT INTERIOR AND EXTERIOR PENETRATIONS. PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE EXITING THE MANHOLE WILL BE REPLACED AT CONTRACTOR'S EXPENSE. IF COATING SEAL IS BROKEN, THE MANHOLE WILL BE RECOATED WITH THE SAME MATERIALS. IF EXISTING SEWER
 - ii. ANY AND ALL EXISTING MANHOLES WITHIN CONSTRUCTION PROJECT THAT TIE IN, ARE DONE BY CONTRACTOR TO STUB-OUT ADJUSTMENT, RECONSTRUCTION, OR LEAKING. MANHOLE WILL BE COAT SEALED AT CONTRACTOR'S EXPENSE.
 - iii. 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. MANHOLES PLACED AT THE END OF THE WASTEWATER COLLECTION SYSTEM PIPES THAT MAY BE EXTENDED IN THE FUTURE MUST INCLUDE STUB-OUTS WITH PLUGS.

MANHOLE SEAL COATING IS BROKEN, ALL OF MANHOLE WILL BE RELEASED WITH SAME

- THE KIND AND DESCRIPTION OF THE PIPE CONDUIT IS SHOWN ON THE PLANS (IF PVC, SDR AND ASTM/ANSI DESIGNATION CLASS). AS SDR 26 PVC, ASTM D-3034 WITH A MINIMUM STIFFNESS OF 115 PSI TEXAS ADMINISTRATIVE CODE (TAC) RULES TO INCLUDE30 TAC & 213, OR ANY REVISIONS THERE TO APPLICABLE TECQ, 30 TAC 7 217, FOR ALL NEW DEVELOPMENT.
- 17. THE USE OF ASBESTOS CEMENT PIPE WILL BE PROHIBITED UNDER THIS CONTRACT. ALL DUCTILE IRON PIPE USED IN THIS SYSTEM SHALL BE 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 INSTALLATION.
- 18. ALL PVC SEWER PIPE WITH OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH: MINIMUM PIPE STIFFNESS OF 150 PSI.
- 19. ALL SEWER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS.
- 20. SEWER PIPE CONNECTIONS TO PRECAST MANHOLES SHALL BE APPROVED BY THE GVSUD. THIS CONNECTION SHALL USE FLEXIBLE "BOOT" TYPE CONNECTOR SUCH AS THE PSX POSITIVE SEAL SYSTEM OR ENGINEER APPROVED EQUAL AND COMPLY WITH ASTM C-923. SEWER PIPE CONNECTIONS TO MONOLITHIC MANHOLES WILL BE AS SHOWN ON THE STANDARD DETAIL SHEET. ANY CHANGES IN THESE METHODS MUST BE APPROVED BY GVSUD ENGINEER.
- 21. ALL PIPE TRENCHING, BEDDING AND BACKFILL SHALL BE DONE IN ACCORDANCE WITH APPROPRIATE ASTM/ANSI SPECIFICATIONS [REFERENCE 31 TAC 317.2(A)(5)(A); ASTMC-12 (ANSI A106.2) OR ASTM D-2321 (ANSI K65.171)]. ALL COMPACTION @ 98% DENSITY TESTS ACROSS THE BOARD, 1 RANDOM DENSITY TEST PER LIFT FOR EVERY 400 FEET.
 - A. SAND MIGRATION, SEEPAGE PREVENTION COLLAR WHEN CHANGING THE INITIAL BACKFILL FROM SELECT INITIAL BACKFILL TO OPTIONAL SELECT INITIAL BACKFILL. A TWO (2) FOOT LONG CLASS D CONCRETE ENCASEMENT, EVERY 180 FEET ALONG PIPE AND 20 FEET FROM WALL OF MANHOLE IN EACH DIRECTION, NO EXTRA PAY ITEM.

- B. BEDDING SHALL CONSIST OF TXDOT-GRADE 4 (1 1/2"-1 5/8") COMMONLY KNOWN AS SEWER GRAVEL.
 - THE BEDDING SHALL MEET THE FOLLOWING GRADATION:

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	a.	2"	100.0%
	b.	1 3/4"	100.0%
	C.	1 ½"	100.0%
	d.	1"	52.6%
	e.	3/4"	10.7%

C. SEWER LINE LOCATION

f. ¾"

- SEWER LINES SHALL BE SIZED AND EXTENDED THROUGH THE LIMITS OF A DEVELOPMENT TO SERVE ADJACENT PROPERTY, WITH MANHOLE AND STUB-OUT AT END OF SEWER LINE
- a. IN PHASED CONSTRUCTION OF THOROUGHFARES, THE SEWER LINE SHALL BE
- EXTENDED THE ENTIRE LENGTH OF THE THOROUGHFARE BEING CONSTRUCTED.
- ii. NO PUBLIC SEWER LINE SHALL BE LOCATED NEARER THAN FIVE (5) FEET FROM ANY TREE.
- iii. SIZES AND GRADES FOR SANITARY SEWER SHALL BE AS REQUIRED BY THE GVSUD ENGINEER AND CONSIDERATION SHALL BE GIVE AS TO POSSIBLE EXTENSIONS FOR FUTURE DEVELOPMENT. NO SANITARY SEWERS, OTHER THAN LATERALS AND FORCE MAINS, SHALL BE LESS THAN EIGHT (8) INCH IN DIAMETER.
- 22. WHEN SEWER LATERALS ARE TO BE CONNECTED TO EXISTING SEWER MAINS AND NO STUB-OUT HAS BEEN EARLIER PROVIDED, THE CONNECTION MUST BE MADE WITH AN APPROVED SERVICE SADDLE AS PER 31 TAC 313.5(C) (7). NEW INVERT TO BE BUILT, SMOOTH CHANNEL FOR NEW PIPE/SLOPE AT 2% FLOW.
- 23. ALL RESIDENTIAL SERVICE LATERALS SHALL BE SDR 26 WITH RATING OF 115 PSI, 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
 - AA. SEWER SERVICE LATERALS. THE SIZES AND LOCATIONS OF LATERALS SHALL BE DESIGNATED AS FOLLOWS UNLESS OTHERWISE DIRECTED BY THE GVSUD ENGINEER:
 - i. IN GENERAL FOR SINGLE FAMILY DWELLING, THE LATERAL SIZE SHALL BE FOUR (4) INCH MINIMUM. HOUSE LATERALS SHALL BE IN STALL CENTER OF THE LOT AND SHALL HAVE A TEN(10) FOOT SEPARATION FROM THE WATER SERVICE. THE SERVICE SHALL THEN BE EXTENDED AT A FORTY-FIVE (45) DEGREE ANGLE TO FOUR (4) FEET ABOVE THE FINISHED GRADE AND CAPPED. USE SEWER BURIAL TAPE TO MARK ALL SEWER SERVICE LATERALS.
 - MULTIPLE UNITS, APARTMENTS, LOCAL RETAIL AND COMMERCIAL SIX (6) INCH MINIMUM, MANUFACTURING AND INDUSTRIAL - EIGHT (8) INCH MINIMUM, OR LARGER AS REQUIRED.

TRAPS AND INTERCEPTORS (FOG - TECQ)

UNIFORM PLUMBING CODE, CITY OF SAN ANTONIO BUILDING INSPECTIONS DEPARTMENT. ALL COMMERCIAL BUILDINGS WILL HAVE TRAPS (FOG-TECQ).

OIL SEPARATORS

WHICH INCLUDE OIL SEPARATOR-GASOLINE SERVICE STATIONS, CAR WASHES, GARAGES, DRY CLEANERS, CHEMICAL PLANTS, GAS PLANTS, HIDE PROCESSORS, TESTING LABORATORIES, OR ANY PLACE WHERE OIL OR SOLVENTS MAY BE INTRODUCED IN TO 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 SEWER SYSTEM.

SAND INTERCEPTORS

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

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 G.P.M. INTERCEPTOR MINIMUM.

NEUTRALIZING DEVICES

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 WITH OUT BEING THOROUGHLY NEUTRALIZED BY PASSING THOROUGHLY CONSTRUCTED AND ACCEPTABLE NEUTRALIZING DEVICE. SUCH DEVICE SHALL BE PROVIDED WITH A SUFFICIENT INTAKE OF NEUTRALIZING MEDIUM, CONSISTING OF LIMESTONE OR MARBLE CHIPS, SO AS THE MAKE ITS CONTENTS NON-INJURIOUS BEFORE BEING DISCHARGED INTO THE SANITARY SEWER SYSTEM.

LINT TRAPS

PUBLIC AND PRIVATE WASHATERIAS AND COMMERCIAL LAUNDRIES SHALL INSTALL A LINT TRAP EQUIPPED WITH A CONVENIENTLY LOCATED AND EASILY 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 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 INSTALL. THE INTERCEPTOR SHALL BE SIZED AND DESIGNED BY A TEXAS REGISTERED ENGINEER WITH HIS SEAL AND SIGNATURE ON THE DRAWINGS.

CDEENINIEV	GREEN VAL	LEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYS GENERAL NOTES (1 O	
SPECIAL UTILITY DISTRICT	REVISED:		THE ARCHITECT/ENGINEER ASSUMES	DETAIL NO.
		OCTOBER 2021	RESPONSIBILITY FOR APPROPRIATE	G-1



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SILVER RECOVERY UNITS SHALL BE INSTALLED IN WASTE LINES(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 SYSTEM.

SOLID INTERCEPTORS

SOLIDS INTERCEPTORS SHALL BE INSTALLED WHEN PRE-TREATMENT OF WASTE STREAMS IS NECESSARY TO PREVENT SOLIDS GREATER THAN $\frac{1}{2}\!\!^{"}$ IN DIAMETER, WHICH MAY CAUSE LINE STOPPAGE FROM ENTERING THE SANITARY SEWER SYSTEM.

INTERCEPTORS

- a. INTERCEPTORS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN APPROVED BY THE GVSUD CONSISTING OF A MINIMUM OF TWO COMPARTMENTS WITH FITTINGS DESIGNED FOR GREASE RETENTION AND PROVIDE FOR A MINIMUM OF TWELVE (12) MINUTES RETENTION
- b. 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 INCHES (0.5 M).
- c. IN AREAS WHERE TRAFFIC MAY EXIST THE INTERCEPTOR SHALL BE DESIGNED TO HAVE ADEQUATE REINFORCEMENT AND COVER.
- d. ALL INTERCEPTORS SHALL HAVE THE SIZE OF THE INTERCEPTOR (IN GALLON PER MINUTE OR GALLON CAPACITY) PERMANENTLY AFFIXED TO THE DEVICE.
- e. ALL CONCRETE UTILIZED IN THE CONSTRUCTION OF INTERCEPTOR SHALL HAVE A MINIMUM STRENGTH OF 3000 PSI.
- f. 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 EFFLUENT LATERAL TO ALLOW VISUAL OBSERVATION OF THE FLOW STREAM AND PROVIDE FOR SAMPLING

WATERTIGHT TESTING (24 HOURS)

OF WASTEWATER.

- g. ALL INTERCEPTORS SHALL BE WATER TESTED OUT AT JOB SITE 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 LEAKAGE OCCURS, ADDITIONAL WATER TESTING SHALL BE MADE. AFTER CORRECTING MEASURE TEST, REPORTS SHALL SHOW TOTAL NUMBER OF INTERCEPTORS TESTED. WHEN LEAKAGE OCCURS, CORRECTIVE MEASURES TAKEN SHALL BE REPORTED BY GVSUD INSPECTORS. GVSUD INSPECTORS SHALL RECORD IN DAILY LOG WITH PROJECT NAME, DATE IT WAS TESTED AND COMPLETED.
- B. MANHOLES WILL BE REQUIRED ON SIX (6) INCH AND LARGER LATERALS WHERE THEY CONNECT TO
 - LATERALS WILL NOT BE ATTACHED TO SEWER MAINS THAT ARE DEEPER THAN TWELVE (12) FEET.
 - b. FITTINGS ARE NOT PERMITTED ON LATERALS BETWEEN THE WYE AND THE PROPERTY LINE.
 - c. DEEP CUT OR DROP CONNECTIONS SHALL NOT BE PERMITTED.
 - d. A MINIMUM OF ONE (1) LATERAL PER BUILDING SHALL BE REQUIRED. ALSO, A MINIMUM OF ONE (1) LATERAL PER RESIDENTIAL LOT SHALL BE REQUIRED. DUPLEXES SHALL HAVE TWO (2) LATERALS THAT SHALL BE INDEPENDENTLY ATTACHED TO THE MAIN.
 - e. ALL SEWER LATERAL CROSSING WATER MAINS SHALL CONFORM TO THE REQUIREMENTS OF THE TCEQ CHAPTER 317 (DESIGN CRITERIA FOR SEWERAGE SYSTEMS) LATEST REVISION, SDR 26 150 PSI, OR DUCTILE IRON PIPE, CONCRETE ENCASEMENT.
- 24. WHERE REQUIRED CONCRETE ENCASEMENT SHALL BE PLACED 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 DETAILS SHEET.
- 25. A MINIMUM OF FOUR (4) FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT GRADE, OTHERWISE CONCRETE ENCASEMENT IS REQUIRED.
- 26. WHERE POROUS MATERIAL, INCLUDING "SUBGRADE FILLER" IS USED FOR BACKFILL IN THE BEDDING AND INITIAL BACKFILL ZONES, SEEPAGE RETAINERS ARE REQUIRED AT AN APPROXIMATE OF 180 FEET. RETAINERS SHALL CONSIST OF CLASS "D" CONCRETE 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 ITEM

BLASTING

- 27. WHEN ALLOWABLE, BLASTING SHALL BE PREFORMED IN ACCORDANCE WITH THE ABOVE CRITERIA ESTABLISHED BY THE NATIONAL FIRE PROTECTION ASSOCIATION 312 TAC 313.5(C) (6).
- 28. BLASTING SEWER LINE EXCAVATION MUST BE DONE IN SUCH A MANNER AS TO MINIMIZE THE FRACTURING OF ROCK BEYOND THE REQUIRED EXCAVATION. THE CONTRACTOR SHALL CONSIDER THE ELEVATION OF THE EXISTING SANITARY SEWER MAIN IN RELATION TO THE BLASTING CHARGE AND RELATIVE DIRECTION OF EXISTING AND PROPOSED TRENCHES. BLASTING WITHIN SUCH AREAS SHALL BE ACCOMPLISHED ONLY BY QUALIFIED BLASTING CONTRACTORS WHO HOLD BLASTING LICENSES FROM A QUALIFIED AGENCY SUCH AS THE SAN ANTONIO FIRE DEPARTMENT IN BEXAR COUNTY. ANY DAMAGE TO EXISTING SANITARY SEWERS RESULTING FROM BLASTING SHALL BE REPAIRED AND RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- 29. NO BLASTING SHALL BE PERFORMED WITHIN 75 FEET OF EXISTING UTILITIES.

TESTING

- 30. ALL SEWER LINES MUST BE TESTED IN ACCORDANCE WITH THE FOLLOWING:
 - A. 317.2(A)(5)(B); DEFLECTION TEST FOR FLEXIBLE AND SEMI-RIGID PIPE CONDUCTED AFTER FINAL BACKFILL AS BEEN IN PLACE AT LEAST 30 DAYS.
 - B. 317.2(A)(4)(A) & (B) OR GVSUD SPECIFICATIONS INFILTRATION AND OR EXFILTRATION AND OR LOW-PRESSURE AIR TEST.
 - C. 313.5(C)(10)(C) OR GVSUD SPECIFICATIONS: ALL MANHOLES AND WET WELLS MUST BE TESTED SEPARATELY AND INDEPENDENTLY OF THE COLLECTION LINES.
 - D. IN THE EVENT THAT TESTING REQUIREMENTS CONFLICT, THE LATEST TCEQ DESIGN CRITERIA SHALL
- 31. SEWER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
- 32. SANITARY SEWER CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WHICH REQUIRE PENETRATION INTO MANHOLE WILL BE CORE DRILLED. ANY DAMAGE TO EXISTING MANHOLE WILL BE REPLACED AT CONTRACTORS EXPENSE AND WILL REQUIRE SUCCESSFUL TESTING OF THE EXISTING MANHOLE IN ACCORDANCE WITH THE GVSUD SPECIFICATIONS. HANG A GOLF BALL IN FRONT OF CAMERA, PIPE GRADE IS OUT OF TOLERANCE IF GOLF BALL BECOMES 50% SUBMERGED.
- 33. AFTER CONSTRUCTION, TESTING WILL BE DONE BY PAN/TILT TV CAMERA BY THE CONTRACTOR AND OBSERVED BY 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 TO STUB-OUT. ALL VIDEOS SHALL BE SUBMITTED IN DVD FORMAT WITH WRITTEN REPORTS.
- 34. A COPY OF ALL TESTING REPORTS INCLUDING BACKFILL COMPACTION TESTS SHALL BE FORWARDED TO GVSUD.
 - A. DENSITY TEST WILL BE REQUIRED ON ALL SANITARY SEWER TRENCHES INCLUDING SERVICE LATERALS. SERVICE LATERALS TO BE CHOSEN RANDOMLY BY FIELD INSPECTOR. DENSITIES ON SERVICE LATERAL SHALL NOT EXCEED 25% OF TOTAL NUMBER OF SERVICES.

EXCAVATION

- 35. 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 EXCAVATION SAFETY SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS 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 EXCAVATIONS. SPECIALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITHIN OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 36. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100 YEAR FLOODPLAIN WITHOUT AN APPROVED FLOODPLAIN PERMIT.
- 37. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO GVSUD SPECIFICATIONS.

WATERLINE CROSSING

38. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATERLINES CANNOT BE MAINTAINED, THE INSTALLATION OF SEWER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ RULES (31 TAC 317.3 APPENDIX E), SDR 26 ASTM 150 PSI OR CONCRETE ENCASEMENT DUCT IRON.

EROSION AND SEDIMENTATION

- 39. THE TCEQ AND THE ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTED ON THE PROJECT PLAN AND PROFILE SHEETS.
- 40. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY GVSUD.

SUPPLEMENTING

- 41. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE. THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER PAY ITEM 10 WHICH IT RELATES TO.
- 42. UNLESS THE DEVELOPMENT IS PRIVATELY OWNED, THE DEVELOPERS DEDICATES THE SANITARY SEWER MAIN AND MANHOLES TO THE GVSUD. UPON COMPLETION BY THE DEVELOPER AND FINAL ACCEPTANCE BY THE GVSUD. GVSUD WILL OWN AND MAINTAIN THE SANITARY SEWER MAINS AND MANHOLES WHICH ARE LOCATED WITHIN THIS PARTICULAR SUBDIVISION.
- 43. WORK COMPLETED BY CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR THE CONSENT OF THE GVSUD CONSTRUCTION INSPECTION DIVISION WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.
- 44. GVSUD IS NOT TO BE RESPONSIBLE FOR ANY ABNORMALITIES ON STUB-OUT, INVERT, GRADE OR SLOPE FOR ANY EXISTING MANHOLE TIE IN OR SERVICE LATERAL TIE IN.
- 45. ENGINEER, DEVELOPER, AND BUILDER, WILL HAVE PLUMBER AND CONTRACTOR WITH BID PRICE ON NEW INSTALLATION OF ALL 4" INCH SEWER SERVICE LATERALS TO COMPLY WITH TRENCH SAFETY (OSHA) SHORING PROTECTION ON ALL NEW INSTALLATION OF 4" INCH SEWER SERVICE LATERALS. GVSUD WILL NOT BE HELD RESPONSIBLE FOR ANY INJURIES OR DEATH CAUSED BY TRENCH FAILURE OR A WRONG OR DAMAGE DONE TO A PERSON OR TO HIS PROPERTY, OSHA GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 46. ALL 4" INCH SEWER SERVICE LATERALS WILL BE HYDRAULIC TESTED AND OR LOW AIR PRESSURE TESTED. ALL 4" INCH SEWER SERVICE LATERALS WILL BE TELEVISED (TV) FROM 4" INCH CLEAN OUT AT OUTSIDE EACH RESIDENCE TO 6"X6" CLEAN OUT. CONTRACTOR AND PLUMBER WILL SUBMIT REPORTS AND/OR VIDEOS TO GVSUD, WITH THE FOLLOWING INFORMATION: SUBDIVISION NAME, LOT NUMBER, BLOCK

NUMBER, STATION NUMBER, STREET NAME AND ADDRESS OF EACH SEWER SERVICE LATERAL.

PLUMBER WILL BE PROVIDED PLAN/PROFILE BY ENGINEER/BUILDER. PLUMBER WILL WORK CLOSELY WITH THE GVSUD INSPECTOR ON DAILY TESTING AND TELEVISION BY MAKING ARRANGEMENTS 48 HOURS IN ADVANCE. SEWER SERVICE LATERALS THAT HAVE NOT BEEN INSPECTED OR APPROVED AND/OR COVERED UP, WILL HAVE TO BE RE-DUG AT CONTRACTOR/PLUMBER EXPENSE AND RE-INSPECTED.

- A. A PROPERTY LINE CLEAN OUT (6"X6") SHALL BE INSTALLED FOR RESIDENTIAL SERVICES. CLEAN OUTS IN THE SIDEWALK OR DRIVEWAY SHALL HAVE A CAST IRON BOOT. CLEAN OUT NOT LOCATED IN A SIDEWALK OR DRIVEWAY SHALL BE LOCATED ON REINFORCED CONCRETE PAD A MINIMUM OF TWELVE (12") INCHES BY TWELVE (12") INCHES BY SIX (6") INCHES THICK. ALL PROPERTY LINE CLEAN OUTS SHALL INCLUDE A LID WITH SEWER IN GREEN COLOR.
- 47. N1 FENCING: ANY AND ALL FENCING, INCLUDING ELECTRIC FENCE, WHETHER OR NOTE 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 PROJECT MANAGER. 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.
- 48. N2 DAMAGE TO ADJACENT LAND: THE CONTRACTOR MUST AVOID DAMAGE TO ADJACENT LAND OUTSIDE THE IDENTIFIED CONSTRUCTION LIMITS. ANY AND ALL CLAIMS DIRECTORY ATTRIBUTED TO THE CONTRACTOR RESULTING FROM HIS STRAYING BEYOND THE CONSTRUCTION LIMITS MUST BE SETTLED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE APPROPRIATE LANDOWNER.
- 49. N3 PROPERTY OWNER ACCESS: THE CONTRACTOR MUST MAINTAIN ACCESS FOR PRIVATE INDIVIDUALS AT ALL TIMES. IF NORMAL ACCESS IS DAMAGED DURING CONSTRUCTION THE CONTRACTOR MUST REPLACE THE ACCESS TO EQUAL OR BETTER CONDITIONS AT THE CONTRACTOR'S EXPENSE, AS APPROVED BY THE ENGINEER.
- 50. N4 CONTRACTOR IS RESPONSIBLE FOR LOCATION AND PROTECTION ALL UTILITIES WHETHER OR NOT SHOWN ON THE PLANS. SHOULD THE CONTRACTOR DAMAGE ANY UTILITIES THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION. CONTRACTOR IS SOLELY RESPONSIBLE FOR LOST REVENUE, LOSSES, ETC CLAIMED BY UTILITY COMPANIES DUE TO CONTRACTORS WORK. CONTRACTOR SHALL NOTIFY GVSUD AND IMPACTED UTILITY COMPANIES 48 HRS. PRIOR TO BEGINNING WORK. CONTRACTOR SHALL VERIFY THE LOCATION OF UTILITIES AND REPORT ANY DISCREPANCIES TO THE ENGINEER.
- 51. N5 CLEARING PERMANENT EASEMENTS: THE LIMITS OF BOTH THE EXISTING AND PARALLEL SEWER LINES PERMANENT EASEMENTS, AS DELINEATED IN THESE PLANS, MUST BE CLEARED IN ACCORDANCE WITH THE SPECIFICATION. THE CONTRACTOR MAY BE DIRECTED BY THE ENGINEER TO PROTECT AND AVOID CERTAIN TRESS WITHIN THE LIMITS OF THE PERMANENT CONSTRUCTION EASEMENTS. ALL BRUSH MUST BE REMOVED FROM SITE. NO BRUSH PILES TO REMAIN AFTER CONSTRUCTION. BURNING OF BRUSH OR TRASH WILL NOT BE ACCEPTABLE.
- 52. N7 CONTRACTOR SHALL PROVIDE APPROPRIATE SAFE ACCESS AND BARRICADE WORK AT ALL TIMES TO PROTECT THE PUBLIC. THIS INCLUDES SUBSTANTIAL BARRICADES AROUND ALL TRENCHES, BORE PITS, OPEN EXCAVATIONS, EQUIPMENT, ETC. THE SITE MUST BE LEFT IN SECURE SAFE CONDITION AT NIGHT. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE NECESSARY PRECAUTIONS TO PROTECT THE PUBLIC THROUGHOUT THE DURATION OF THE PROJECT.
- 53. N14 SHOULD CONTRACTOR SELECT A TRENCH EXCAVATION PROCEDURE THAT EXTENDS THE LIMITS OF SEEDING OR PAVING AND FINAL SITE PREPARATION (I.E. SLOPE BACK PROTECTION SYSTEM) HE WILL BE RESPONSIBLE FOR MEETING PLAN AND SPECIFICATION REQUIREMENTS TO THE NEW LIMITS AT NO ADDITIONAL COST TO GVSUD.
- 54. N16 WARNING: NOTE THAT CERTAIN PORTIONS OF THE PROJECT MAY PARALLEL AND/OR CROSS EXISTING UTILITIES. THE CONTRACTORS WILL BE REQUIRED TO PROTECT EXISTING UTILITIES. ADDITIONAL SUPPORTIVE SHORING MAY BE REQUIRED. IT IS SPECIFICALLY THE CONTRACTORS RESPONSIBILITY TO PROTECT HIS WORKERS, EXISTING UTILITIES, AND FINISHED WORK THROUGHOUT THE JOB.
- 55. N17 OVERHEAD ELECTRIC, CITY PUBLIC SERVICE (CPS) AN APPROPRIATELY SAFE OVERHEAD CLEARANCE MUST BE MAINTAINED BETWEEN ALL EQUIPMENT AND PERSONNEL. THE CONTRACTOR SHALL NOTIFY CITY PUBLIC SERVICE AT 353-2700 AT LEAST 48 HOURS PRIOR TO ANY CONSTRUCTION IN THE VICINITY OF THE CPS OVERHEAD ELECTRIC LINE CONTRACTOR SHALL MAINTAIN CPS RECOMMENDED CLEARANCE REQUIREMENTS.
- 56. N23 BYPASS PUMPING: THE CONTRACTOR IS RESPONSIBLE FOR ALL BYPASS PUMPING REQUIRED TO COMPLETE THE WORK. BYPASS PUMPS SHALL BE ADEQUATE TO HANDLE PEAK FLOW EVENTS DURING STORM EVENTS. CONTRACTOR SHALL HAVE STANDBY PUMPS AVAILABLE TO BYPASS FLOW IN CASE PRIMARY PUMP FAILS. CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL COSTS FOR CLEANUP OF AN UNAUTHORIZED DISCHARGE AND ANY ASSOCIATED FINES.
- 57. N26 CONTRACTOR SHALL BACKFILL ALL OPEN TRENCHES AT THE END OF THE DAY. CONTRACTOR SHALL NO INSTALL MORE PIPE THAN CAN BE COVERED. NO OPEN TRENCHES WILL BE PERMITTED OVERNIGHT ALL END OF OPEN PIPE WILL BE PLUGGED OVERNIGHT.
- 58. N33 THE PROJECT AREA MAY BE SUBJECT TO ARCHEOLOGICAL MONITORING, SHOULD THE CONTRACTOR ENCOUNTER ANY ARCHEOLOGICAL DEPOSITS DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL STOP ALL WORK IN THE AREA OF THE DEPOSITS AND IMMEDIATELY CALL THE PROJECT MANAGER.
- 59. N37 CONTRACTOR TO NOTE THAT PORTIONS OF THE CONSTRUCTION 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, ETC. UNDER THREATENING WEATHER CONDITIONS WHERE FLOODING IS LIKELY, OBSTRUCTIONS SHALL BE IMMEDIATELY REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO GVSUD. THE CONTRACTOR ASSUMES ALL RISK FOR UNFINISHED WORK.

←'GREEN VALLEY

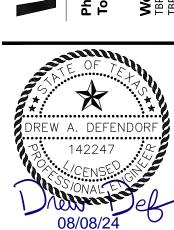
GREEN VALLEY SPECIAL UTILITY DISTRICT

STANDARD DETAILS

OCTOBER 2021

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(210) 265-8300 211 North Loop 16 (888) 937-5150 San Antonio, TX 78 westwoodps.com



KAYDEN SPRINGS UNIT 2

JOB NO.: 0046599.02

DATE: 08/08/2024

DESIGN: TBW

DRAWN: SC

CHECKED: DAE

SANITARY SEWER SYSTEM

THE ARCHITECT/ENGINEER ASSUMES

RESPONSIBILITY FOR APPROPRIATE

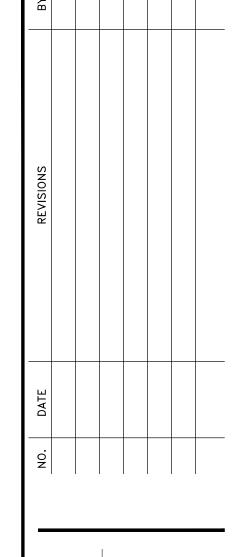
USE OF THIS STANDARD.

GENERAL NOTES (2 OF 2)

DETAIL NO.

G-2

SHEET C S A



X

00

SPRING

X

SANITARY SEWER SYSTEM

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE

USE OF THIS STANDARD.

STANDARD DETAILS (1 OF 2)

DETAIL NO.

S-1

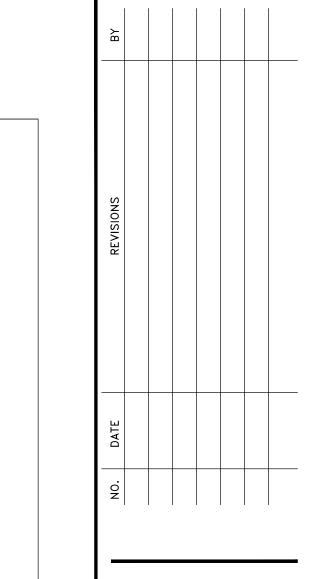
GREEN VALLEY SPECIAL UTILITY DISTRICT

OCTOBER 2021

GREEN VALLEY
SPECIAL UTILITY DISTRICT

REVISED:

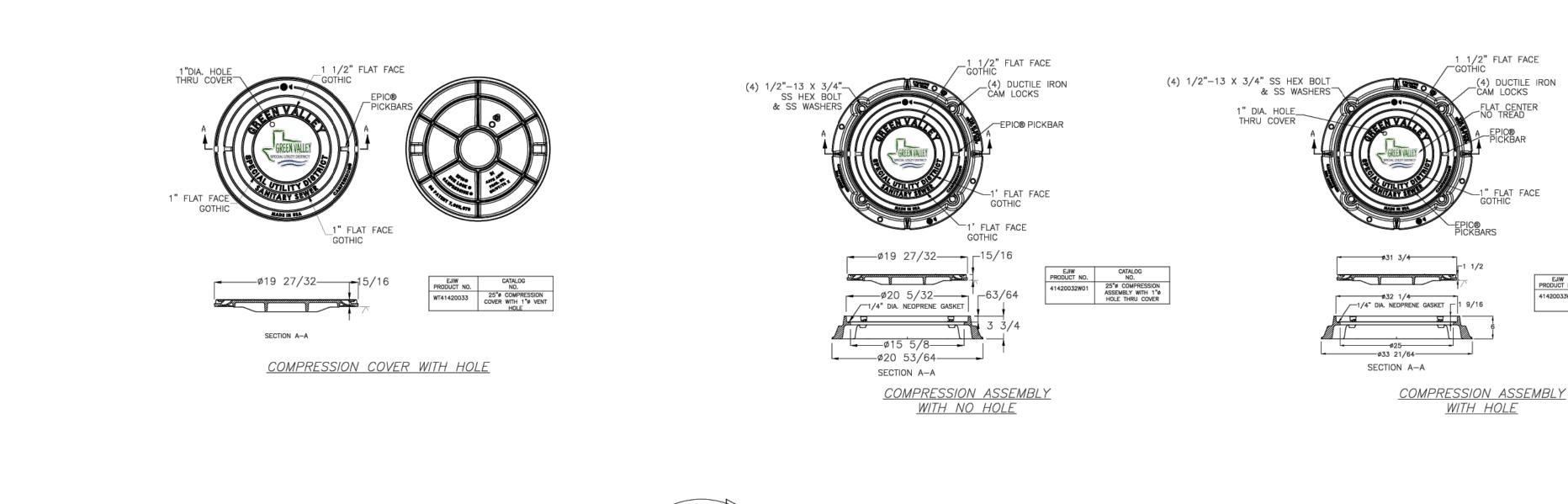
0046599.02 JOB NO.: 08/08/2024 DESIGN: DRAWN: CHECKED:

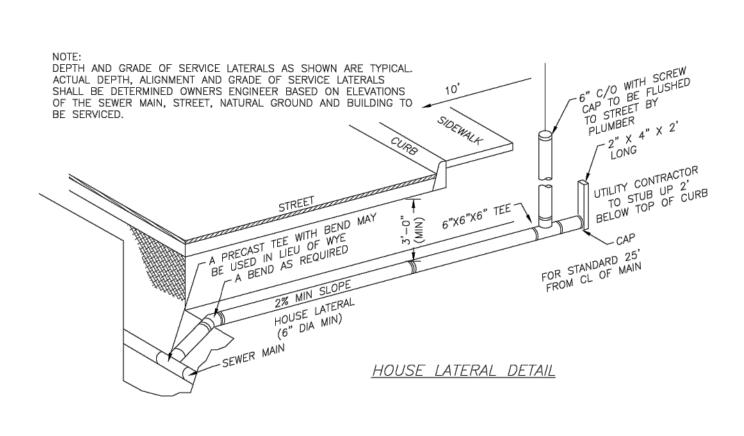


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0046599.02 JOB NO.: 08/08/2024 DESIGN: DRAWN: CHECKED:

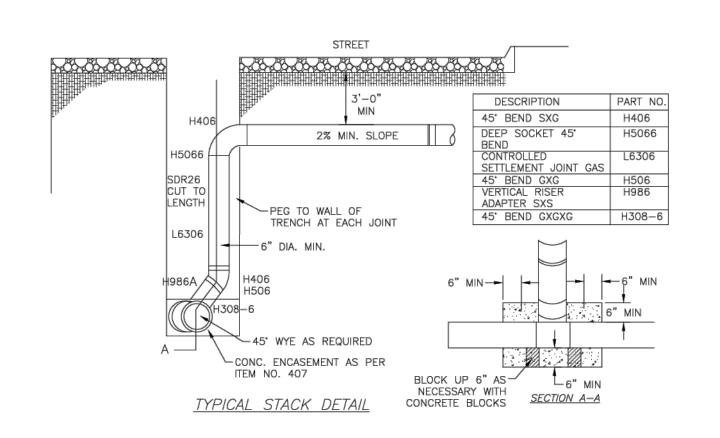
SHEET

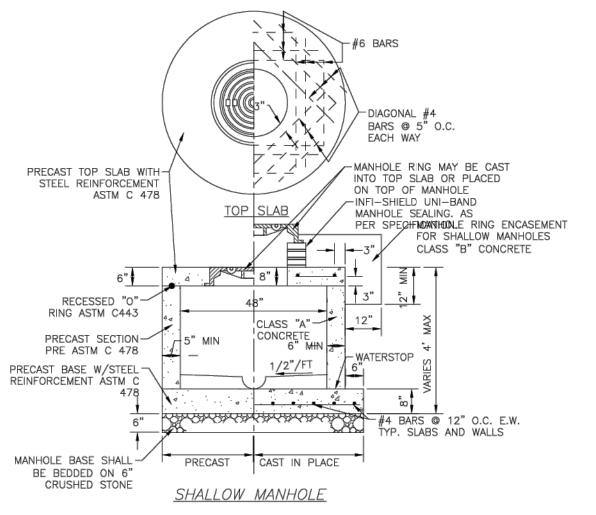


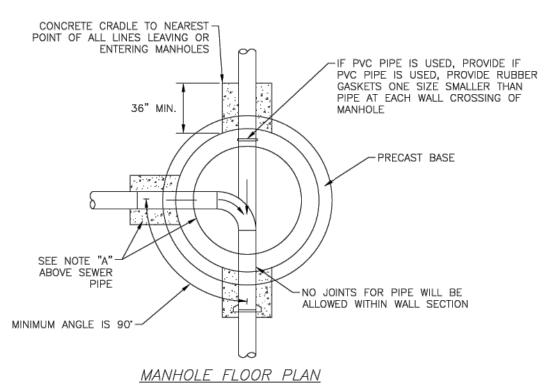


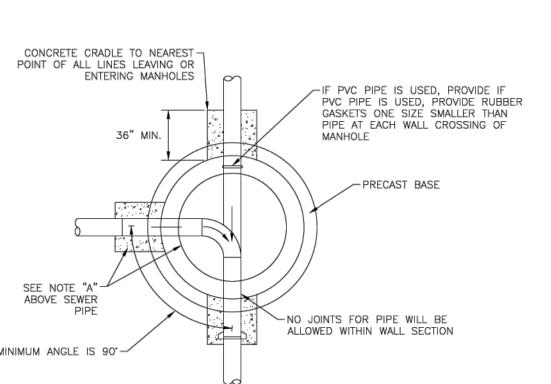
SECTION A-A

COMPRESSION COVER WITH NO HOLE









SANITARY SEWER GENERAL NOTES

ALL NEW EXISTING SANITARY SEWER MAINS AND MANHOLES IN THIS PROJECT ARE TO REMAIN ACTIVE AND SHALL BE PROTECTED BY THE CONTRACTOR. ALL LINES AND MANHOLES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR RECONSTRUCTED BY THE CONTRACTOR AT NO ADDITIONAL COST. NOTIFY GVSUD'S UTILITY INSPECTORS AT (210)372-2223 PRIOR TO ENCASING.

1 1/2" FLAT FACE

<u>WITH HOLE</u>

TIE DOWN TO WIRING TO

PRECAST CRADLE BLOCK OR APPROVED EQUAL

6" MIN O.D. MIN 6" CLASS "B" CONC. COVER

-BEDDING ZONE

CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLAR DETAILS

CONCRETE COVER FOR FLEXIBLE BASE TO BE USED WHEREVER TRENCH WIDTH

IS GREATER THAN 2' PLUS O.D.

(4) DUCTILE IRON

THE EXISTING CONDITIONS OF SEWER MAINS AND MANHOLES HAVE BEEN DOCUMENTED BY GVSUD. A PRE-PRECONSTRUCTION VIDEO OF THE LINES AND PHYSICAL SURVEY OF THE MANHOLES WILL BE USED TO DETERMINE THE PRE-EXISTING CONDITION OF THE SEWER SYSTEM. IF POST CONSTRUCTION INSPECTION WORK SHOWS PORTIONS OF SANITARY SEWER MAINS OR MANHOLES DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR OR REPLACE THE SEWER MAIN AT THEIR EXPENSE, TO THE APPROVAL OF GVSUD'S INSPECTORS OR ENGINEER.

GREEN VALLEY	GREEN VALLEY SPECIAL UTILITY DISTRICT STANDARD DETAILS	SANITARY SEWER SYSTEM STANDARD DETAILS (2 OF 2) THE ARCHITECT/ENGINEER ASSUMES DETAIL NO.		
SPECIAL UTILITY CISTRICT	REVISED:		DETAIL NO.	
	OCTOBER 2021	RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	S-2	