

COM-PRJ-APP22-39803463

7810 SOUTHLAKE PASS Active#, City of San Antonio TX 78235

5/8/2023 10:16:06 AM



General Notes

TECHNICAL REVIEW - ELECTRIC

Electrical Reviewer Contact Information

Please contact Tyrone Farias at (210) 210-207-0022 or tyrone.farias@sanantonio.gov, if you have any questions regarding issues or comments on your Electrical Review. All responses and resubmittal to review issues are required to be submitted through the Accela Citizen Access (ACA) portal. All revised drawings uploaded to BuildSA, shall be in Plan Room as 'Construction Plan' for "Document Type".

GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF SAN ANTONIO STANDARD SPECIFICATIONS FOR CONSTRUCTION JUNE 2008, OR LATEST.
2. 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.
3. THE CONTRACTOR SHALL PROVIDE ACCESS FOR THE DELIVERY OF MAIL BY THE U.S. POSTAL SERVICE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE 'TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'...

Table with 2 columns: Utility Name and Contact Information. Includes SAN ANTONIO WATER SYSTEM (SAWS), WATER & SEWER EMERGENCIES, STORM DRAINAGE (CITY OF SAN ANTONIO), SIGNAL OPERATIONS (CITY OF SAN ANTONIO), TEXAS STATE WIDE ONE CALL LOCATOR, CPS ENERGY (GAS & ELECTRIC), CPS ELECTRIC/GAS ISSUES OR EMERGENCIES, TIME WARNER, and AT&T.

- 11. 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.
12. 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.
13. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
14. THE CONTRACTOR SHALL MAINTAIN ALL ADJOINING STREETS AND TRAVELED ROUTES FREE FROM SPILLED AND / OR TRACKED CONSTRUCTION MATERIALS AND / OR DEBRIS.

IF MORE THAN THREE (3) DAYS ARE REQUIRED FOR INVESTIGATION (NOT INCLUDING HOLIDAY AND WEEKENDS) AND IF THE CONTRACTOR IS UNABLE TO WORK IN OTHER AREAS, THEN THE CONTRACTOR WILL BE ALLOWED TO NEGOTIATE FOR ADDITIONAL CONSTRUCTION TIME UPON WRITTEN REQUEST WITHIN TEN (10) DAYS AFTER THE FIRST NOTICE TO THE CITY OF ARCHAEOLOGICAL INVESTIGATION FOR EACH EVENT.

IF THE TIME REQUIRED FOR INVESTIGATION IS LESS THAN OR EQUAL TO THREE (3) DAYS FOR EACH EVENT, CONTRACT DURATION WILL NOT BE EXTENDED.

- 16. IF SUSPECTED CONTAMINATION IS ENCOUNTERED DURING CONSTRUCTION OPERATIONS, C.O.S.A. SHALL BE NOTIFIED IMMEDIATELY WHEN CONTAMINATED SOILS AND / OR GROUNDWATER ARE ENCOUNTERED AT LOCATIONS NOT IDENTIFIED IN THE PLANS. THE NOTIFICATION SHOULD INCLUDE THE STATION NUMBER, TYPE OF CONTAMINATED MEDIA, EVIDENCE OF CONTAMINATION AND MEASURES TAKEN TO CONTAIN THE CONTAMINATED MEDIA AND PREVENT PUBLIC ACCESS. THE CONTAMINATED SOIL AND / OR GROUNDWATER SHALL NOT BE REMOVED FROM THE LOCATION WITHOUT PRIOR C.O.S.A. APPROVAL. THE CONTRACTOR MUST STOP THE EXCAVATION IMMEDIATELY AND CONTACT THE C.O.S.A. INSPECTOR. THE CONTRACTOR CANNOT BEGIN EXCAVATION ACTIVITIES WITHOUT WRITTEN PERMISSION FROM THE CITY.

UTILITY GENERAL NOTES

- 1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY TO ALL APPLICABLE CITY OF SAN ANTONIO RULES AND REQUIREMENTS FOR STREETS, SIDEWALKS, ALLEYS AND ROADWAY DESIGN (LATEST EDITIONS), THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITIONS), THE SAN ANTONIO WATER SYSTEM (SAWS) SPECIFICATIONS FOR WATER WORKS CONSTRUCTION (LATEST EDITION).
2. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
4. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
5. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
6. ALL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE MECHANICAL AND ELECTRICAL PLANS. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL INSTALL ANY BENDS, FITTINGS, ETC. IN THE WATER & SEWER MAIN AS REQUIRED TO AVOID CONFLICTS WITH OTHER UTILITIES. (NO SEPARATE PAY).
8. NO WATER JETTING TO BACKFILL TRENCHES WILL BE ALLOWED ON THIS PROJECT.
9. POLYVINYL CHLORIDE (PVC) SEWER PIPE SHALL BE SDR 26. FITTINGS AND JOINTS SHALL CONFORM TO COMPATIBLE SDR 26 PIPE. SOLVENT CEMENTS JOINTS SHALL NOT BE USED.
10. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ).
11. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
12. ALL SERVICES ARE BROUGHT TO WITHIN 5 FEET OF THE BUILDING UNLESS OTHERWISE NOTED. REFERENCE MEP PLANS FOR UTILITY CONNECTIONS AT THE BUILDING.
13. WHETHER SHOWN ON THE PLANS OR NOT ALL CLEANOUT AND MANHOLES SHALL BE INSTALLED AT LEAST 3" ABOVE FINISHED GRADE OUTSIDE PAVEMENT AND FLUSH WITH FINISHED GRADE WITHIN THE PAVEMENT AREAS. TOPS WITHIN PAVEMENT SHALL BE TRAFFIC RATED.
14. SANITARY SEWER SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND THE SAN ANTONIO WATER SYSTEM PLUMBING SPECIFICATIONS, AND AS DIRECTED BY THE PLUMBING INSPECTOR.
15. THRUST BLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SAN ANTONIO WATER SYSTEM SPECIFICATIONS.
16. UTILITY CONTRACTOR SHALL COORDINATE WITH CPS ENERGY FOR THE GAS AND ELECTRICAL SERVICE.
17. FIRE LINE SHALL BE INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR.
18. DOMESTIC WATER SHALL BE PVC C900 FOR PIPES < 12" OR C905 FOR PIPES > 12" OR COPPER TUBING AS SPECIFIED IN THE SAWS STANDARD SPECIFICATIONS - ITEM #824.
19. CLEANOUTS SHALL BE TWO-WAYS AND INSTALLED IN ACCORDANCE WITH COSA PLUMBING CODE (EVERY 100') & AS DIRECTED BY PLUMBING INSPECTOR.
20. FIRE LINE SHALL BE PVC C900, CLASS 200 AND SHALL COMPLY WITH AWWA STANDARDS AND SHALL WITHSTAND A WORKING PRESSURE OF NOT LESS THAN 200 P.S.I.
21. CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGHOUT THE COURSE OF CONSTRUCTION & SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE BY OWNER.

GRADING AND DRAINAGE NOTES

- 1. CONTRACTOR TO VERIFY ELEVATIONS PRIOR TO CONSTRUCTION. EXISTING CONTOURS BASED ON SURVEY TOPOGRAPHIC DATA.
2. ALL GRADES AND CONTOURS SHOWN ARE FINAL. TOP OF FINISHED SURFACE ELEVATIONS, CONTRACTOR SHALL SUBTRACT PAVEMENT, BASE, TOPSOIL, MULCH, .ETC. TO OBTAIN PROPER SUBGRADE ELEVATIONS.
3. POSITIVE DRAINAGE SHALL BE MAINTAINED ON ALL AREAS WITHIN THE SCOPE OF THIS PROJECT. DRAINAGE SHALL BE DIRECTED AWAY FROM ALL BUILDING FOUNDATIONS. CONTRACTOR SHOULD TAKE PRECAUTIONS NOT TO ALLOW ANY PONDING OF WATER. MINIMUM SLOPE 0.50%.
4. NO ABRUPT CHANGE OF GRADE SHALL OCCUR.
5. ALL DISTURBED AREAS SHALL BE REVEGETATED, BY THE CONTRACTOR, IN ACCORDANCE WITH PROJECT SPECIFICATIONS, AND ARCHITECTURAL LANDSCAPING PLANS.
6. THE CONTRACTOR WILL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL UTILITIES AND DRAINAGE STRUCTURES WHETHER SHOWN ON THE PLAN OR NOT. THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES PRIOR TO CONSTRUCTION TO VERIFY SIZE, GRADE, AND LOCATION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS FROM PLANS PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.
7. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE PROJECT SPECIFICATIONS SHALL CONFORM TO ALL APPLICABLE CITY OF SAN ANTONIO SPECIFICATIONS FOR CONSTRUCTION, TxDOT STANDARD SPECIFICATIONS, AND BEXAR COUNTY PUBLIC WORKS STANDARD SPECIFICATIONS.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ORIGINAL, OR BETTER CONDITION ANY DAMAGES DONE TO EXISTING SIGNS, UTILITIES, PAVEMENT, CURBS, SIDEWALKS OR DRIVEWAYS (NO SEPARATE ITEM).
9. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS ENERGY MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVE THAT ARE IN THE PROJECT AREA.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH NECESSARY UTILITY COMPANIES FOR PROVIDING TEMPORARY UTILITY SERVICES DURING CONSTRUCTION.
11. CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS FOR UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
12. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS, OF DIMENSIONS OR GRADES NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
13. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT AT NEW PAVEMENT AND CURB JUNCTURES. NO JAGGED OR IRREGULAR CUTS IN PAVEMENT WILL BE ACCEPTED.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
15. ALL EXCAVATION IN UNCLASSIFIED.
16. ALL ON-SITE CURBS ARE 7" HIGH UNLESS OTHERWISE SPECIFIED.
17. SEE CIVIL COVER SHEET FOR PROJECT BENCHMARK.
18. CONTRACTOR TO RAISE/LOWER ALL UTILITY BOXES, COVERS, GRATES, VALVES BOXES, MANHOLES, CLEANOUTS, ETC., TO MATCH PROPOSED FINISHED GRADE ELEVATIONS.
19. ALL DISTURBED AREAS WHICH ARE NOT TO BE PAVED SHALL BE COVERED WITH 6" MIN. CLEAN TOPSOIL UNLESS OTHERWISE NOTED. CUT OR FILL SHALL BE ADJUSTED TO ALLOW FOR TOPSOIL IN ORDER TO MAINTAIN PROPOSED ELEVATIONS. AREAS FOR LANDSCAPING SHOULD BE IN ACCORDANCE WITH THE LANDSCAPE ARCHITECTS PLANS.
20. PROVIDE THE REQUIRED MINIMUM DENSITY AND MOISTURE CONTENT OF COMPACTED FILL IN ACCORDANCE WITH THE SOILS REPORT AND THE REQUIREMENTS OF THE PROFESSIONAL ENGINEER (GEOTECH AND CIVIL).
21. A TESTING LABORATORY SHALL BE EMPLOYED BY THE OWNER TO CHECK THE SUITABILITY OF MATERIAL SELECTED FOR CONTROLLED FILLS, TO TEST AND DETERMINE IF THE REQUIRED IS BEING OBTAINED, AND TO TEST COMPACTION OF EXPOSED SUBGRADES, WHEN COMPACTION TESTS DOES NOT MEET GEOTECH REQUIREMENTS, FILL AND BACKFILL SHALL BE DRIED OUT OR MOISTENED AS NECESSARY, SCARIFIED, AND RECOMPACTED AT NO ADDITIONAL COSTS TO 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 INSTALLATIONS 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 EXCAVATIONS 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.

SAN ANTONIO WATER SYSTEM CRITERIA FOR SEWER MAIN CONSTRUCTION IN THE VICINITY OF WATER MAINS

- 1. WHERE A SEWER MAIN CROSSES OVER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN 9 FEET, ALL PORTIONS OF THE SEWER MAIN WITHIN NINE FEET OF THE WATER LINE SHALL BE CONSTRUCTED USING 150 PSI PRESSURE RATED DUCTILE IRON, CAST IRON OR PVC PIPE AND JOINED WITH EQUALLY PRESSURE RATED PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 PSI PRESSURE RATED PIPE AT LEAST EIGHTEEN (18) FEET IN LENGTH MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM).
2. WHERE A SEMI-RIGID OR RIGID SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET BUT GREATER THAN TWO FEET, THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF THE SEWER WITHIN NINE FEET OF THE WATER MAIN.
3. WHERE A SEWER MAIN CROSSES UNDER A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN TWO FEET, THE SEWER MAIN SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI WITHIN NINE FEET OF THE WATER MAIN. SHALL HAVE A SEGMENT OF SEWER PIPE CENTERED ON THE WATER MAIN, SHALL BE PLACED NO CLOSER THAN SIX INCHES BETWEEN OUTER DIAMETERS, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL. A SECTION OF 150 PSI PRESSURE RATED PIPE OF A LENGTH GREATER THAN EIGHTEEN (18) FEET MAY BE CENTERED ON THE WATER MAIN IN LIEU OF PIPE CONNECTION REQUIREMENTS. (NO SEPARATE PAY ITEM).
4. WHERE A SEWER MAIN PARALLELS A WATER MAIN AND THE SEPARATION DISTANCE IS LESS THAN NINE FEET, THE SEWER MAIN SHALL BE BELOW THE WATER MAIN, SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI FOR BOTH PIPE AND JOINTS FOR A DISTANCE OF NINE FEET BEYOND THE POINT OF CONFLICT, SHALL MAINTAIN A MINIMUM SEPARATION DISTANCE BETWEEN OUTER DIAMETERS OF TWO FEET VERTICALLY AND FOUR FEET HORIZONTALLY, AND SHALL BE JOINED WITH PRESSURE RING GASKET CONNECTIONS OR CORROSION PROTECTED MECHANICAL COUPLING DEVICES OF A CAST IRON OR DUCTILE IRON MATERIAL.
5. SANITARY SEWER MANHOLES SHALL NOT BE INSTALLED ANY CLOSER THAN NINE FEET TO WATER MAINS.
6. CORROSION PROTECTED MECHANICAL COUPLING DEVICES SHALL BE OF A CAST IRON MATERIAL.
7. PLAN & PROFILE MUST SHOW TYPE OF CROSSING AND MATERIAL TO USE.

DEMOLITION NOTES

- 1. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF SAN ANTONIO STANDARDS AND SPECIFICATIONS.
2. ALL FILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PROCTOR METHOD (ASTM D-698).
3. CURB RAMP ARE TO BE CONSTRUCTED ON ALL PERMANENT CURB RETURNS AT THE INTERSECTION OF ALL STREETS OR AS DIRECTED BY THE CITY OF SAN ANTONIO INSPECTOR.
4. ALL CONSTRUCTION BARRICADING TO BE IN ACCORDANCE WITH CURRENT 'TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES'.
5. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND 'DIG TEST' AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLAN PER THE APPROPRIATE REMEDIAL ACTION AGREED UPON BY THE ENGINEER.
6. DISPOSAL OF ALL DEMOLISHED MATERIAL IS THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE OFF-SITE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL MUNICIPAL REQUIREMENTS.
7. WHERE A STATE OR LOCAL MUNICIPAL STANDARD DETAIL DUPLICATES A DETAIL SHOWN IN THE PLANS, THE MORE STRINGENT DETAIL, AS DETERMINED BY THE REVIEWING AGENCY, SHALL APPLY.
8. ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN. ANY ITEM TO REMAIN WHICH IS REMOVED SHALL BE REPLACED AT THE CONTRACTORS EXPENSE. (NO SEPARATE PAY).
9. CONTRACTOR WILL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY DEMOLITION PERMITS FOR THE PROJECT AND COORDINATION WITH THE RESPECTIVE UTILITY COMPANIES FOR REMOVAL OF THEIR INDIVIDUAL SERVICES.
10. CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER REGARDING QUESTIONS ON THE DEMOLITION PLAN.
11. DEMOLITION CONTRACTOR SHALL CLEARLY MARK ALL EXISTING UTILITY SERVICES WHERE THEY CROSS PROPERTY LINES. THIS INFORMATION WILL BE USED BY UTILITY COMPANIES AND CONTRACTORS TO TIE INTO FOR THE PROPOSED UTILITY SERVICES.
12. CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED & PROTECTED PRIOR TO COMMENCING CONSTRUCTION, DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREES TRUNKS. (IF APPLICABLE)
13. CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED. (IF APPLICABLE)
14. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE OF TREES THAT WERE TO REMAIN. (IF APPLICABLE)

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FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408 SOUTHLAKE - PHASE 2 & 3

GENERAL NOTES

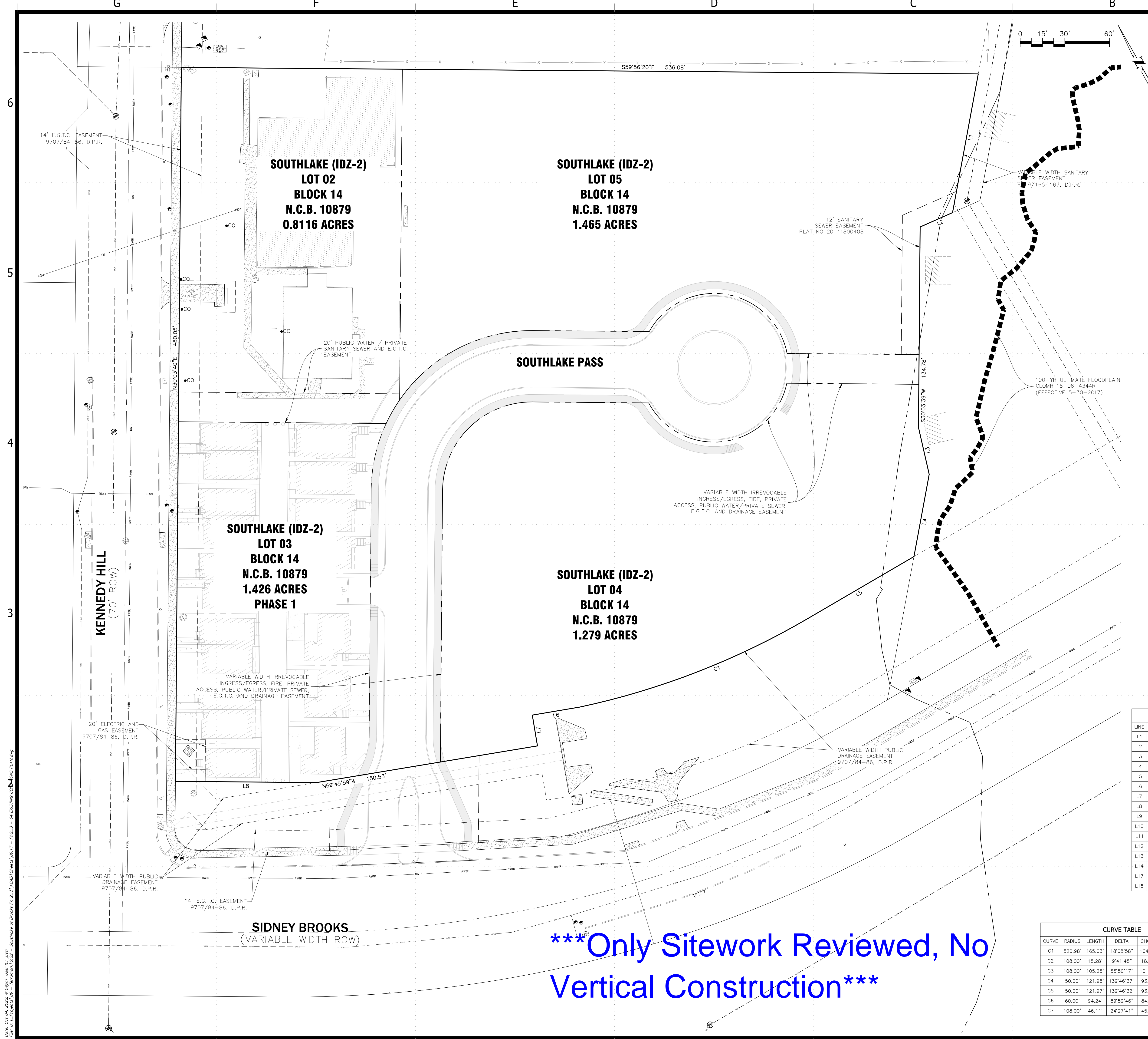
Table with 3 columns: REV, DATE, DESCRIPTION. Includes rows for DESIGNED BY, DRAFTED BY, CHECKED BY.

DESIGNED BY: DRAFTED BY: CHECKED BY: SHEET C002 OF 25

UP ENGINEERING + SURVEYING logo and contact information: 11903 JONES MALTSBERGER, SUITE 102, SAN ANTONIO, TX 78216, TEL. 210-774-5604, WWW.UPENGINEERING.COM, TIBBELS F-10194606



TERRAMARK BROOKS LAND I, LTD, 905 N. PINE STREET, SAN ANTONIO, TEXAS 78202



LEGEND

---	BOUNDARY / RIGHT OF WAY LINE
---	EASEMENT
---	SETBACK LINE
— OE —	EXISTING OVERHEAD UTILITIES
— UT —	EXISTING UNDERGROUND TELEPHONE
— WW E —	EXISTING SANITARY SEWER LINE
— WTR E —	EXISTING WATER LINE
— RWTR —	EXISTING RECYCLED WATER LINE
---	EXISTING EDGE OF PAVEMENT
x	EXISTING BARBED WIRE FENCE
O.P.R.B.C.T.	OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
D.P.R.	DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
E.G.T.C.	ELECTRIC, GAS, TELEPHONE AND CABLE T.V. EASEMENT
V.N.A.E.	VEHICULAR NON-ACCESS EASEMENT
B.S.L.	BUILDING SETBACK LINE
ROW	RIGHT OF WAY
C.B.	COUNTY BLOCK
20001/2266	VOLUME/PAGE
DOC.	DOCUMENT
EX. INV.	EXISTING INVERT
☆	EXISTING LIGHT POLES
⊕	EXISTING UTILITY POLE
⊕	EXISTING FIRE HYDRANT
⊕	EXISTING WATER VALVE
⊕	EXISTING TELEPHONE PEDESTAL
⊕	EXISTING WATER METER
⊕	EXISTING SANITARY SEWER MANHOLE
⊕	EXISTING SANITARY SEWER CLEANOUT
⊕	EXISTING STORM DRAIN MANHOLE
⊕	EXISTING ELECTRIC MANHOLE
⊕	EXISTING TELEPHONE MANHOLE
⊕	EXISTING WATER MANHOLE
⊕	EXISTING HIGH VOLTAGE BOX
⊕	EXISTING UTILITY BOX

NOTE: REFERENCE TREE PRESERVATION PLAN FOR TREES TO BE SAVED OR REMOVED.

LEGAL DESCRIPTION:
 LOTS 02-05, BLOCK 14, N.C.B. 10879,
 SOUTHLAKE (IDZ-2) SUBDIVISION
 PLAT NO. 20-11800408
 VOL. 20002, PAGE 383, D.P.R.
 IN THE CITY OF SAN ANTONIO, TEXAS

LINE TABLE

LINE	BEARING	LENGTH
L1	S47°06'13"W	94.84'
L2	N84°16'10"W	23.84'
L3	S16°43'30"W	32.32'
L4	S47°06'13"W	56.28'
L5	S89°18'36"W	62.67'
L6	N69°57'39"W	32.36'
L7	S2°02'21"W	20.99'
L8	N59°56'20"W	95.00'
L9	S59°56'20"E	78.13'
L10	S59°56'20"E	88.79'
L11	N59°56'20"W	88.79'
L12	N59°56'20"W	78.13'
L13	S3°03'39"W	20.00'
L14	S89°18'36"W	27.06'
L17	S84°16'10"E	12.97'
L18	N54°24'59"E	36.29'

CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	CHORD	CHORD BEARING
C1	520.98'	165.03'	18°08'58"	164.34'	S81°35'54"E
C2	108.00'	18.28'	94°1'48"	18.26'	S59°22'21"W
C3	108.00'	105.25'	55°50'17"	101.14'	N87°51'37"W
C4	50.00'	121.98'	139°46'37"	93.90'	N51°21'53"W
C5	50.00'	121.97'	139°46'32"	93.90'	S68°30'49"E
C6	60.00'	94.24'	89°59'46"	84.85'	S75°03'38"W
C7	108.00'	46.11'	24°27'41"	45.76'	S42°17'36"W

*****Only Sitework Reviewed, No Vertical Construction*****

FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 EXISTING CONDITIONS

DESIGNED BY:
 DRAFTED BY:
 CHECKED BY:

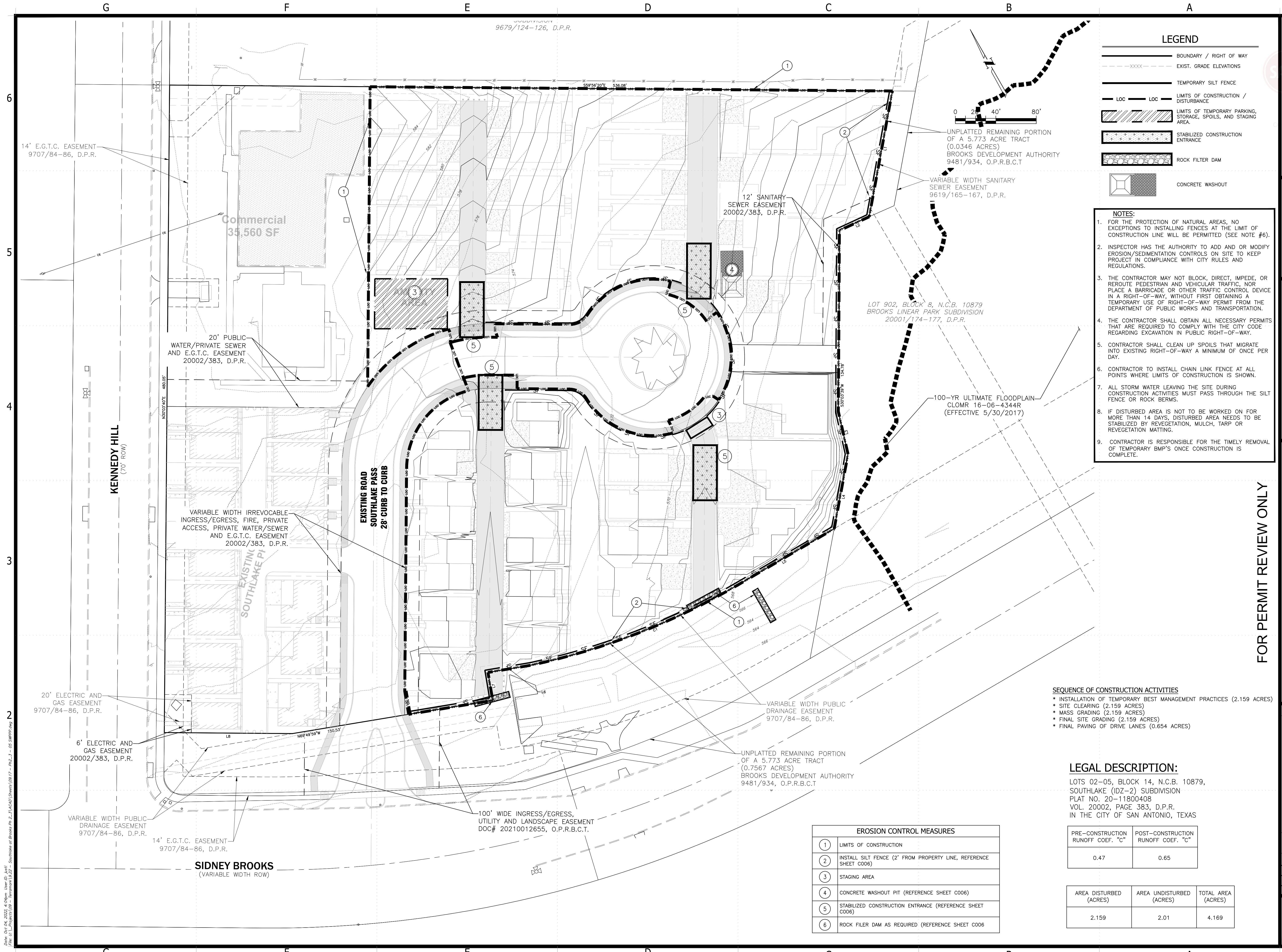
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UP ENGINEERING + SURVEYING
 11903 JONES MALMBERGER, SUITE 102
 SAN ANTONIO, TX 78216 TEL. 210-774-5504
 WWW.UPENGINEERING.COM FAX 210-774-1792



TERRAMARK BROOKS LAND I, LTD.
 905 N. PINE STREET
 SAN ANTONIO, TEXAS 78202

Date: 01/04/2025 8:00am User: R. Plagens
 Plot: 20-11800408-Phase 2 & 3 - Southlake at Brooks Ph. 2 - J. Plagens
 Path: \\server\projects\20-11800408-Phase 2 & 3 - Southlake at Brooks Ph. 2 - J. Plagens\DWG\20-11800408-Phase 2 & 3 - Southlake at Brooks Ph. 2 - J. Plagens.dwg



LEGEND

- BOUNDARY / RIGHT OF WAY
- - - - - EXIST. GRADE ELEVATIONS
- TEMPORARY SILT FENCE
- LOC — LOC — LIMITS OF CONSTRUCTION / DISTURBANCE
- [Hatched Box] LIMITS OF TEMPORARY PARKING, STORAGE, SPOILS, AND STAGING AREA
- [Stippled Box] STABILIZED CONSTRUCTION ENTRANCE
- [Cross-hatched Box] ROCK FILTER DAM
- [Square with X] CONCRETE WASHOUT

NOTES:

1. FOR THE PROTECTION OF NATURAL AREAS, NO EXCEPTIONS TO INSTALLING FENCES AT THE LIMIT OF CONSTRUCTION LINE WILL BE PERMITTED (SEE NOTE #6).
2. INSPECTOR HAS THE AUTHORITY TO ADD AND OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH CITY RULES AND REGULATIONS.
3. THE CONTRACTOR MAY NOT BLOCK, DIRECT, IMPEDE, OR REROUTE PEDESTRIAN AND VEHICULAR TRAFFIC, NOR PLACE A BARRICADE OR OTHER TRAFFIC CONTROL DEVICE IN A RIGHT-OF-WAY, WITHOUT FIRST OBTAINING A TEMPORARY USE OF RIGHT-OF-WAY PERMIT FROM THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS THAT ARE REQUIRED TO COMPLY WITH THE CITY CODE REGARDING EXCAVATION IN PUBLIC RIGHT-OF-WAY.
5. CONTRACTOR SHALL CLEAN UP SPOILS THAT MIGRATE INTO EXISTING RIGHT-OF-WAY A MINIMUM OF ONCE PER DAY.
6. CONTRACTOR TO INSTALL CHAIN LINK FENCE AT ALL POINTS WHERE LIMITS OF CONSTRUCTION IS SHOWN.
7. ALL STORM WATER LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES MUST PASS THROUGH THE SILT FENCE OR ROCK BERMS.
8. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION MATTING.
9. CONTRACTOR IS RESPONSIBLE FOR THE TIMELY REMOVAL OF TEMPORARY BMP'S ONCE CONSTRUCTION IS COMPLETE.

- SEQUENCE OF CONSTRUCTION ACTIVITIES**
- * INSTALLATION OF TEMPORARY BEST MANAGEMENT PRACTICES (2.159 ACRES)
 - * SITE CLEARING (2.159 ACRES)
 - * MASS GRADING (2.159 ACRES)
 - * FINAL SITE GRADING (2.159 ACRES)
 - * FINAL PAVING OF DRIVE LANES (0.654 ACRES)

LEGAL DESCRIPTION:

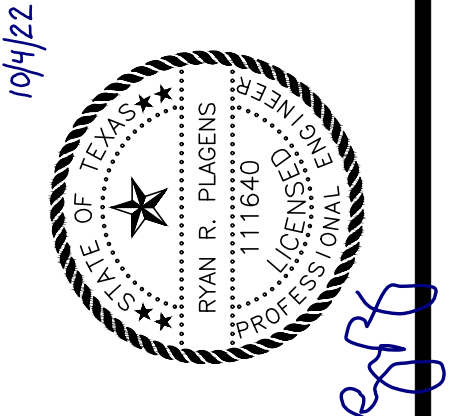
LOTS 02-05, BLOCK 14, N.C.B. 10879, SOUTHLAKE (IDZ-2) SUBDIVISION PLAT NO. 20-11800408 VOL. 20002, PAGE 383, D.P.R. IN THE CITY OF SAN ANTONIO, TEXAS

EROSION CONTROL MEASURES	
①	LIMITS OF CONSTRUCTION
②	INSTALL SILT FENCE (2' FROM PROPERTY LINE, REFERENCE SHEET C006)
③	STAGING AREA
④	CONCRETE WASHOUT PIT (REFERENCE SHEET C006)
⑤	STABILIZED CONSTRUCTION ENTRANCE (REFERENCE SHEET C006)
⑥	ROCK FILTER DAM AS REQUIRED (REFERENCE SHEET C006)

PRE-CONSTRUCTION RUNOFF COEF. "C"	POST-CONSTRUCTION RUNOFF COEF. "C"
0.47	0.65

AREA DISTURBED (ACRES)	AREA UNDISTURBED (ACRES)	TOTAL AREA (ACRES)
2.159	2.01	4.169

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 SAN ANTONIO, TX 78216 TEL. 210-774-5504
 WWW.UPENGINEERING.COM E-MAIL: F-17592



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 SAN ANTONIO, TEXAS 78202

FOR PERMIT REVIEW ONLY
 PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 STORM WATER POLLUTION PREVENTION PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
 DRAFTED BY:
 CHECKED BY:
SHEET C005
 OF 25

Date: 01/04/2023 8:01am User: R. Plagens
 Path: \\server\projects\20-11800408\Drawings\20-11800408-01-Stormwater\20-11800408-01-Stormwater.dwg
 Sheet: 2 of 2

SEDIMENTATION AND EROSION CONTROLS

A. DESIGN CRITERIA

- Fences are to be constructed along level contours.
- The ends of the fence shall be turned upstream to prevent bypass of stormwater.
- 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.
- The toe of the silt fence shall be trenched in with a spade or mechanical trencher, so that the downslope face of the trench is flat and perpendicular to the line of flow. Where fence cannot be trenched in (e.g. pavement), weight fabric flap with washed gravel on uphill side to prevent flow under fence.
- The trench must be a minimum of 6 inches deep and 6 inches wide to allow for the silt fence fabric to be laid in the ground and backfilled with compacted material.
- 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 shall be a 6" double overlap, securely fastened where ends of fabric meet.
- Inspection shall be made weekly or after each rainfall. Repair or replacement shall be made promptly as needed.
- Accumulated silt shall be removed when it reaches a depth of 6 inches. The silt shall be disposed of in an approved site and in such a manner as to not contribute to the additional siltation.

B. TEMPORARY DIVERSION DIKE

- Maximum depth of flow at the dike shall be 1 foot.
- Side slopes of the diversion dike shall be 3:1 or flatter.
- Minimum width of the embankment at the top shall be 2 feet.
- Minimum embankment height shall be 18 inches as measured from the toe of slope on the upgrade side of the berm.
- The dikes shall remain in place until all disturbed areas which are protected by the dike are permanently stabilized unless other controls are put into place to protect the site.
- Compacted earth dikes require stabilization immediately upon placement so as not to contribute to the erosion problem they are addressing.
- All diversion dikes shall have positive drainage to an outlet.
- Dikes must be inspected on a regular basis to determine if silt is building up behind the dike, or if erosion is occurring on the face of the dike. Silt shall be removed in a timely manner. If erosion is occurring on the face of the dike, the slopes of the face shall be stabilized.

C. INTERCEPTOR SWALE

- Maximum depth of flow in the swale shall be 1 foot.
- The minimum bottom width of the swale shall be 2 feet.
- Side slopes of the swale shall be 3:1 or flatter.
- Minimum design channel freeboard shall be 6 inches.
- Swales must maintain positive grade to an acceptable outlet.
- Interceptor swales must be stabilized immediately upon excavation so as not to contribute to the erosion problem they are addressing.
- All trees, brush, stumps, obstructions and other material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- All earth removed and not needed in construction shall be disposed of in an approved spoils site.
- Inspection must be made after each rain event to locate and repair any damage to the channel or to clear debris or other obstructions so as not to diminish flow capacity. Damages which result from normal construction activities shall be repaired at the end of each work day.

D. HAY BALE DIKE

- Each hay bale shall be placed into an excavated trench having a depth of 4 inches and a width just wide enough to accommodate the bales themselves.
- Hay bales shall be installed in such a way that there is no space between to allow for any kind of seepage.
- Individual bales shall be held in place by no less than two wood or steel stakes driven a minimum distance of 6 inches into undisturbed ground, with the first stake driven at an angle toward the previously installed bale.
- The ends of the dike shall be turned upgrade to prevent bypass of stormwater.
- Inspection shall be weekly or after each rainfall event and repair or replacement shall be made promptly as needed by the contractor.
- When silt reaches a depth of 6 inches, it shall be removed and disposed of in an approved site.
- Hay bales shall be replaced if there are signs of degradation such as straw located downstream from the bales, structural deficiencies due to rotting straw in the bale or other signs of deterioration. Sediment should be removed from behind the bales when it reaches a depth of approximately 6 inches. If the bales become clogged, they should be replaced immediately.

E. SANDBAG BERM

- Minimum height shall be 18 inches.
- Minimum width of the berm shall be 18 inches at the top and 48 inches measured at the bottom.
- Maximum side slopes shall be 2:1.
- The ends of the berm shall be turned upgrade or shall tie into natural grades to prevent bypass of stormwater.
- Sandbags should be stacked in at least three rows abutting each other, and in staggered arrangement.
- Inspections should be made on a daily basis and after each rain event. The sandbags shall be reshaped or replaced as needed during the inspection. Silt should be removed when it reaches a depth of six (6) inches.

F. STONE OUTLET SEDIMENT TRAP

- Minimum width of the embankment at the top shall be 3 feet perpendicular to the flow.
- Minimum embankment slope shall be 3:1.
- Maximum embankment height shall be 2 feet as measured from the toe of slope to the crest of the stone outlet. The height of the compacted earth embankment shall be one foot higher than the crest of the outlet.
- Sediment shall be removed and the area directly behind the berm shall be graded to its original dimensions at such point when the capacity of impoundment has been reduced to one-half of its original storage capacity.
- The stone outlet structure should be inspected frequently and after each major rain event to check for clogging of the void spaces between stones. If the aggregate appears to be silted in such that efficiency is diminished, the stone should be replaced.

G. SEDIMENT BASIN

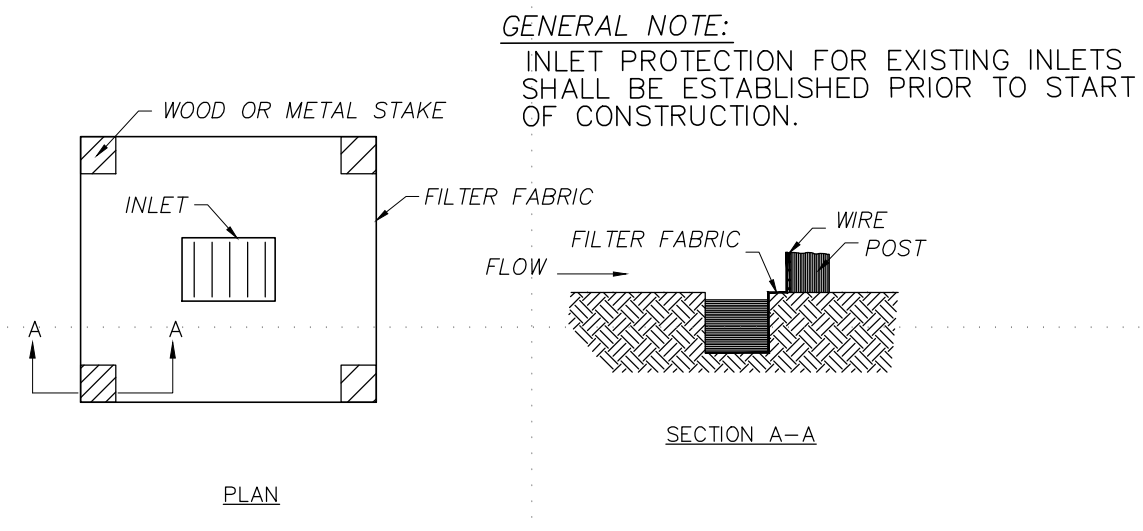
- Maximum drainage area contributing to the basin shall be 100 acres.
- Deposited sediment shall be removed when the storage capacity of the basin has been depleted by one-half.
- Minimum width of the embankment at the top shall be 8 feet.
- Minimum embankment slope shall be 3:1.
- Sediment shall be removed and the basin shall be regraded to its original dimensions. The removed sediment shall be stockpiled or redistributed in areas which are protected from erosion.
- The basin outlet structure and emergency spillway (if present) should be checked frequently and after each major rain event to check for damage.

H. STABILIZED CONSTRUCTION EXIT

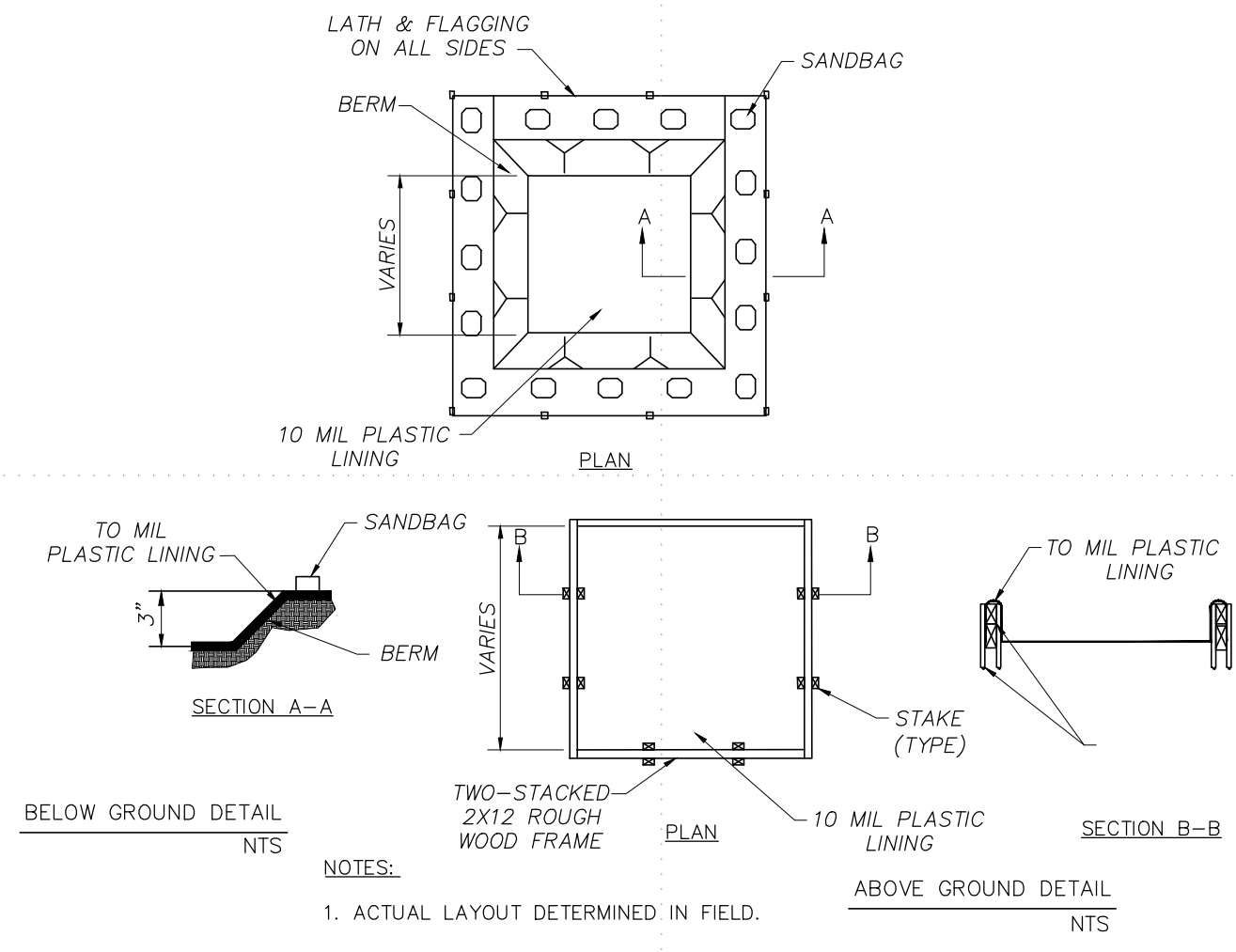
- Stone size - 3 to 5 inches crushed rock.
- Length - as effective, but not less than 50 feet, unless depth of lot is less than 150 feet from edge of pavement where length must only be 30 feet.
- Thickness - not less than 8 inches.
- Width - not less than full width of all points of ingress or egress.
- Washing - when necessary, wheels shall be cleaned to remove sediment prior to entrance onto public roadway. When washing is required, it shall be done on an area stabilized with crushed stone which drains into an approved trap or sediment basin. All sediment shall be prevented from entering any storm drain, ditch or watercourse using approved methods.
- Maintenance - the entrance shall be maintained in condition which will prevent tracking or flowing of sediment onto public roadways. This may require periodic top dressing with additional stone as conditions demand, and repair and/or cleanup of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public roadway, must be removed immediately.
- Drainage - entrance must be properly graded or incorporate a drainage swale to prevent runoff from leaving the construction site.

ADDITIONAL NOTES:

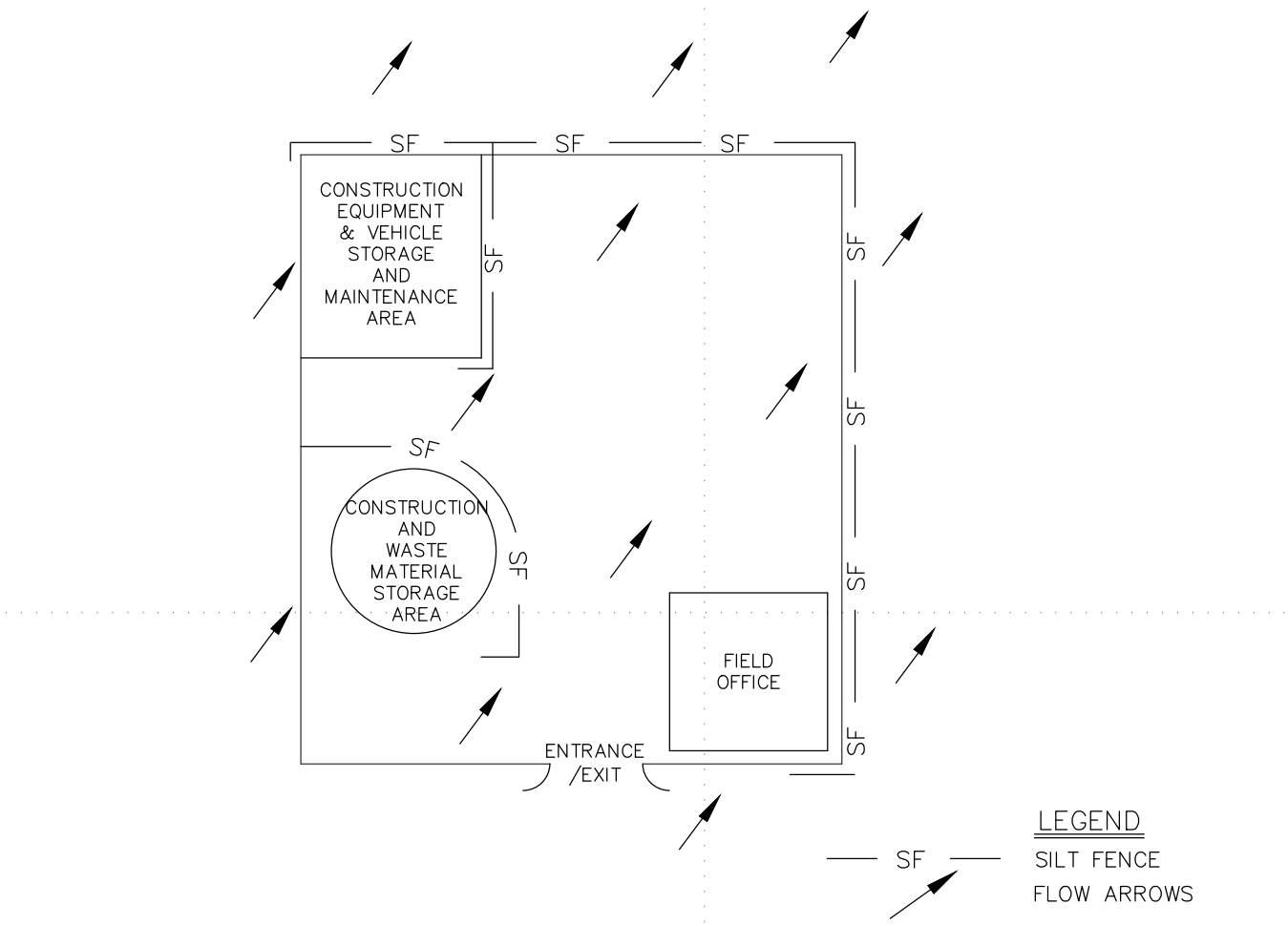
- Upon completion of construction all disturbed areas shall be revegetated to 70% of existing conditions in accordance with the SWPPP and TDES requirements.
- This project will not use any off-site material, waste/borrow/fill, or equipment storage areas.
- This site is not located adjacent to any surface waters.
- This site will not have any locations where storm water discharges directly to a surface water body.



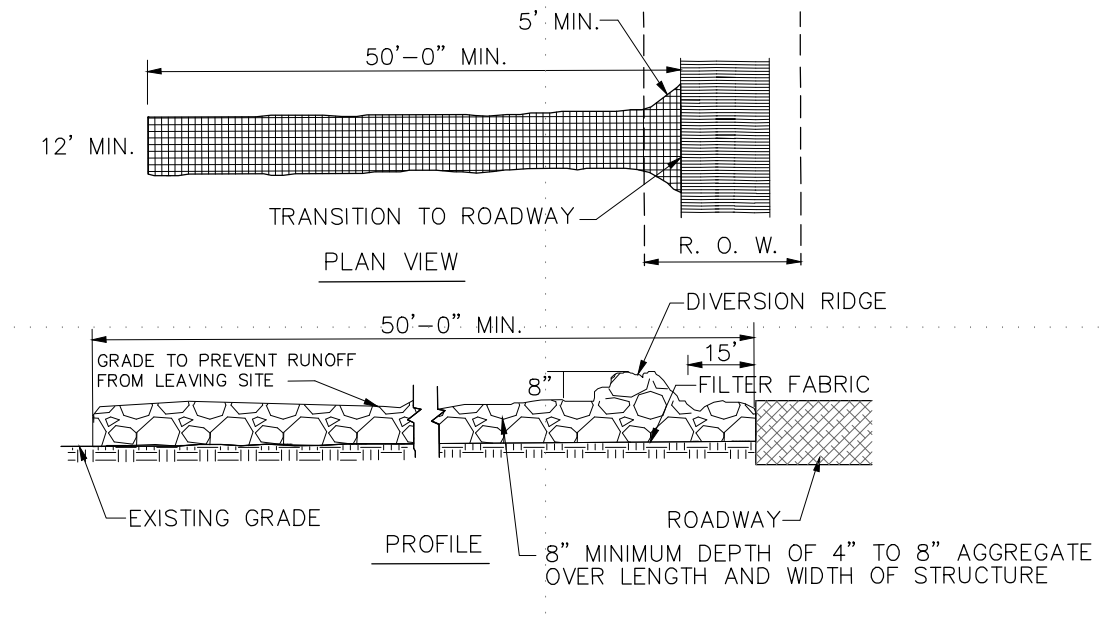
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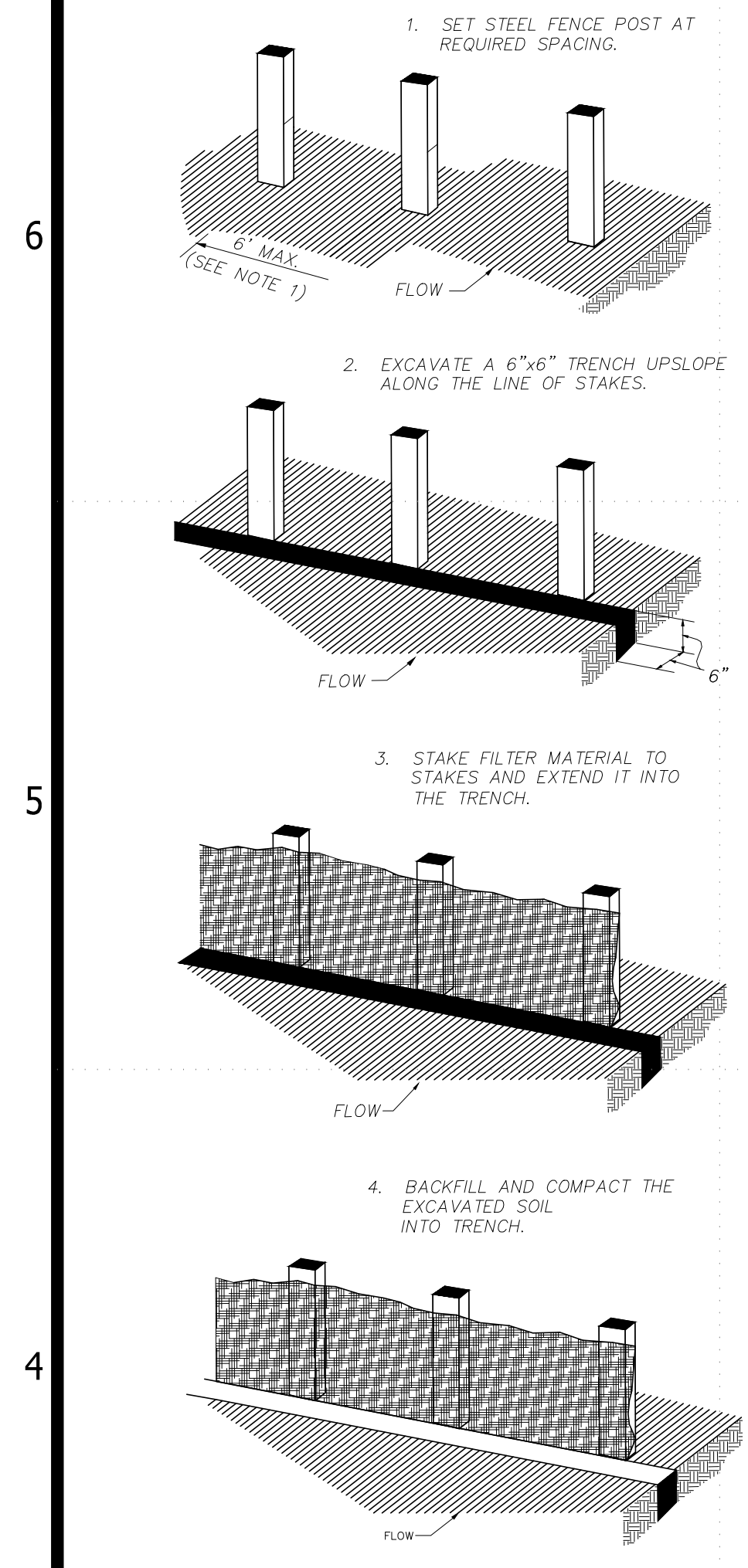
4 CONCRETE WASHOUT AREA
SCALE: N.T.S.



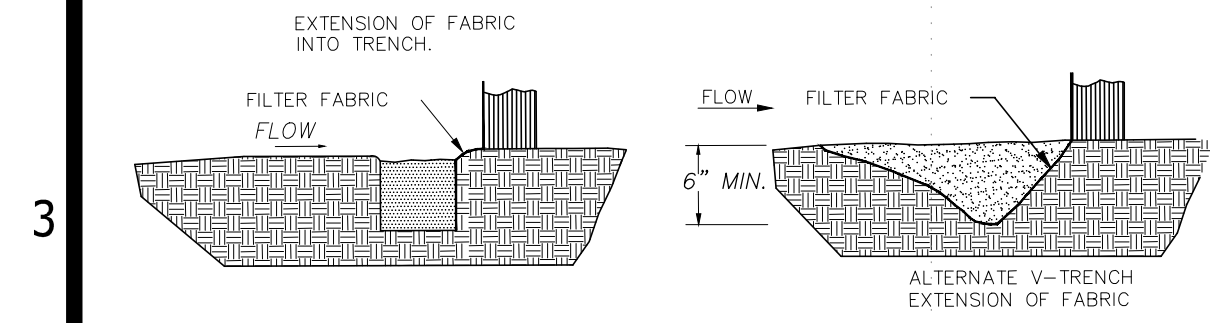
6 CONSTRUCTION STAGING AREA DETAIL
SCALE: N.T.S.



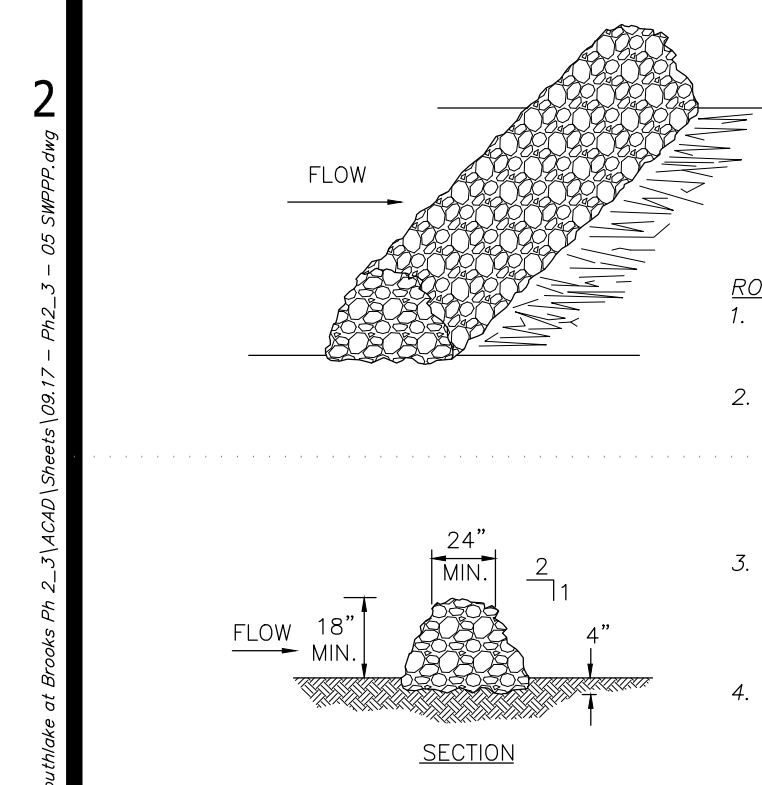
2 STABILIZED CONSTRUCTION EXIT
SCALE: N.T.S.



5 SILT FENCE
SCALE: N.T.S.



3 GENERAL NOTES



5 ROCK FILTER DAM
SCALE: N.T.S.

- ROCK BERM NOTES:
- USE ONLY OPEN GRADED ROCK 100 to 200 mm (4 to 8") DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR OTHER CONDITIONS.
 - THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE). ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 150 mm (6 ") WITH T-POSTS OR WITH 15M OR 20M (#5 OR #6) REBAR, WITH MAXIMUM SPACING APART OF 1.2 m (48") ON CENTER.
 - THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
 - WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
 - DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 150 mm (6").
 - WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

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WWW.UPENGINEERING.COM TBEELS F-10194606

10/4/22
STATE OF TEXAS
REGISTERED PROFESSIONAL ENGINEER
RYAN R. PLAGENS
111640
EXPIRES 09/01/2025

TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
STORM WATER POLLUTION
PREVENTION PLAN DETAILS

REV	DATE	DESCRIPTION	BY

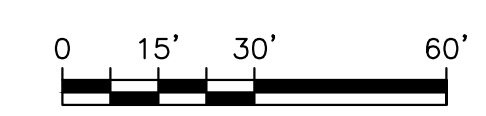
DESIGNED BY:
DRAFTED BY:
CHECKED BY:

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OF 25

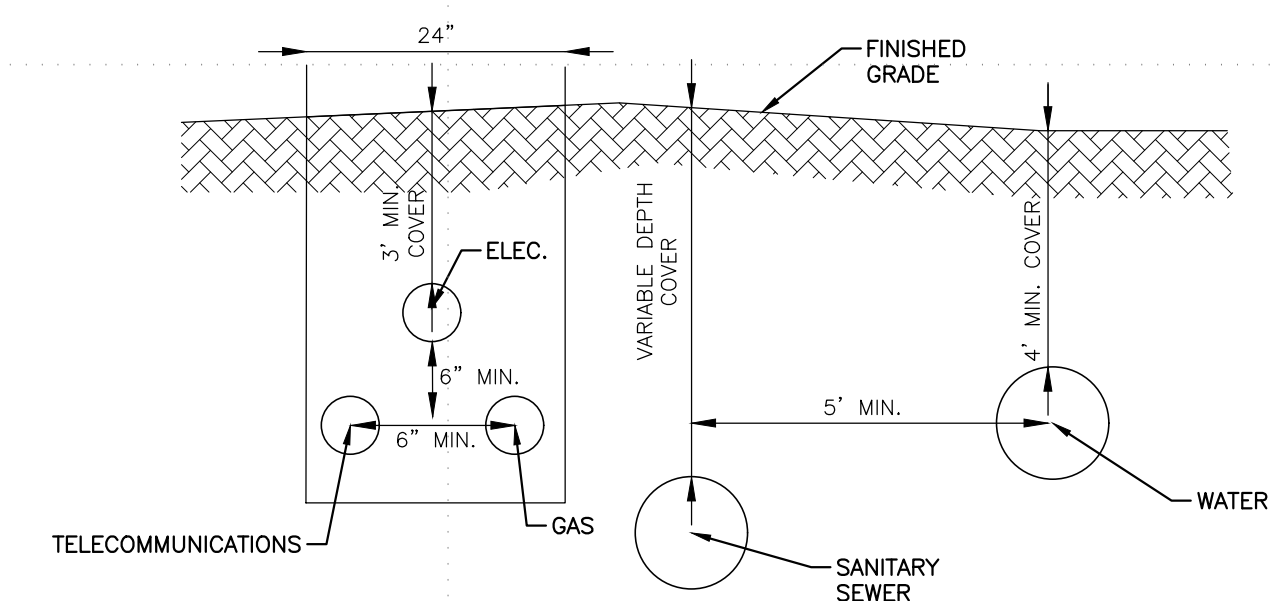
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LEGEND

- FIRE HYDRANT
- EXISTING FIRE HYDRANT
- WATER MAIN
- EXISTING WATER MAIN
- EXISTING RECYCLED WATER MAIN
- DUAL WATER SERVICE
- SINGLE WATER SERVICE
- SANITARY SEWER PIPE
- EXISTING SANITARY SEWER PIPE
- PROPOSED SANITARY SEWER MANHOLE
- FLOW DIRECTION
- SANITARY SEWER LATERAL
- EXIST. SANITARY SEWER LATERAL
- GAS, ELECTRIC, TELEPHONE AND CABLE TV
- VEHICLE NON-ACCESS EASEMENT
- BUILDING SETBACK LINE
- EASEMENT
- VOLUME/PAGE
- OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
- DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
- POWER POLE
- EXISTING POWER POLE
- ELECTRIC TRANSFORMER
- TELEPHONE PEDESTAL
- CABLE T.V. PEDESTAL
- ELECTRIC RISER POLE
- EXISTING STREET LIGHT
- PROPOSED STREET LIGHT (100 WATT UG)
- RIGHT-OF-WAY
- BLOWOFF
- CLEANOUT



LEGAL DESCRIPTION:
 LOTS 02-05, BLOCK 14, N.C.B. 10879,
 SOUTHLAKE (IDZ-2) SUBDIVISION
 PLAT NO. 20-11800408
 VOL. 20002, PAGE 383, D.P.R.
 IN THE CITY OF SAN ANTONIO, TEXAS



FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 PHASE 2 & 3 UTILITY
 LAYOUT

REV	DATE	DESCRIPTION	BY
1	4/22/21	STORM DRAIN	
2	6/29/21	ADDED 5" EXTENSION TO WATER EASEMENT FOR IRRIGATION SERVICE; UPDATED LAYOUT AND	

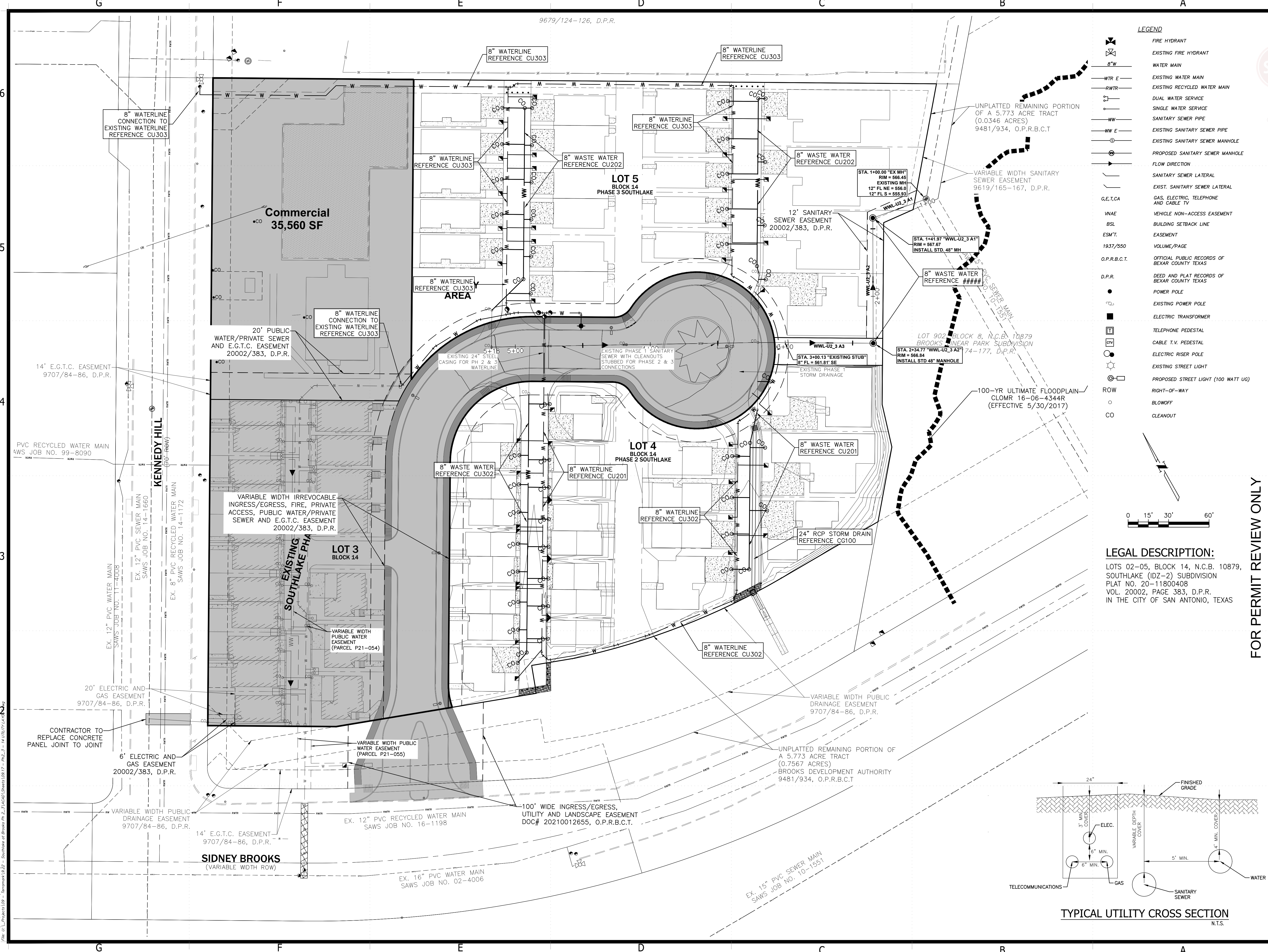
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4/19/23

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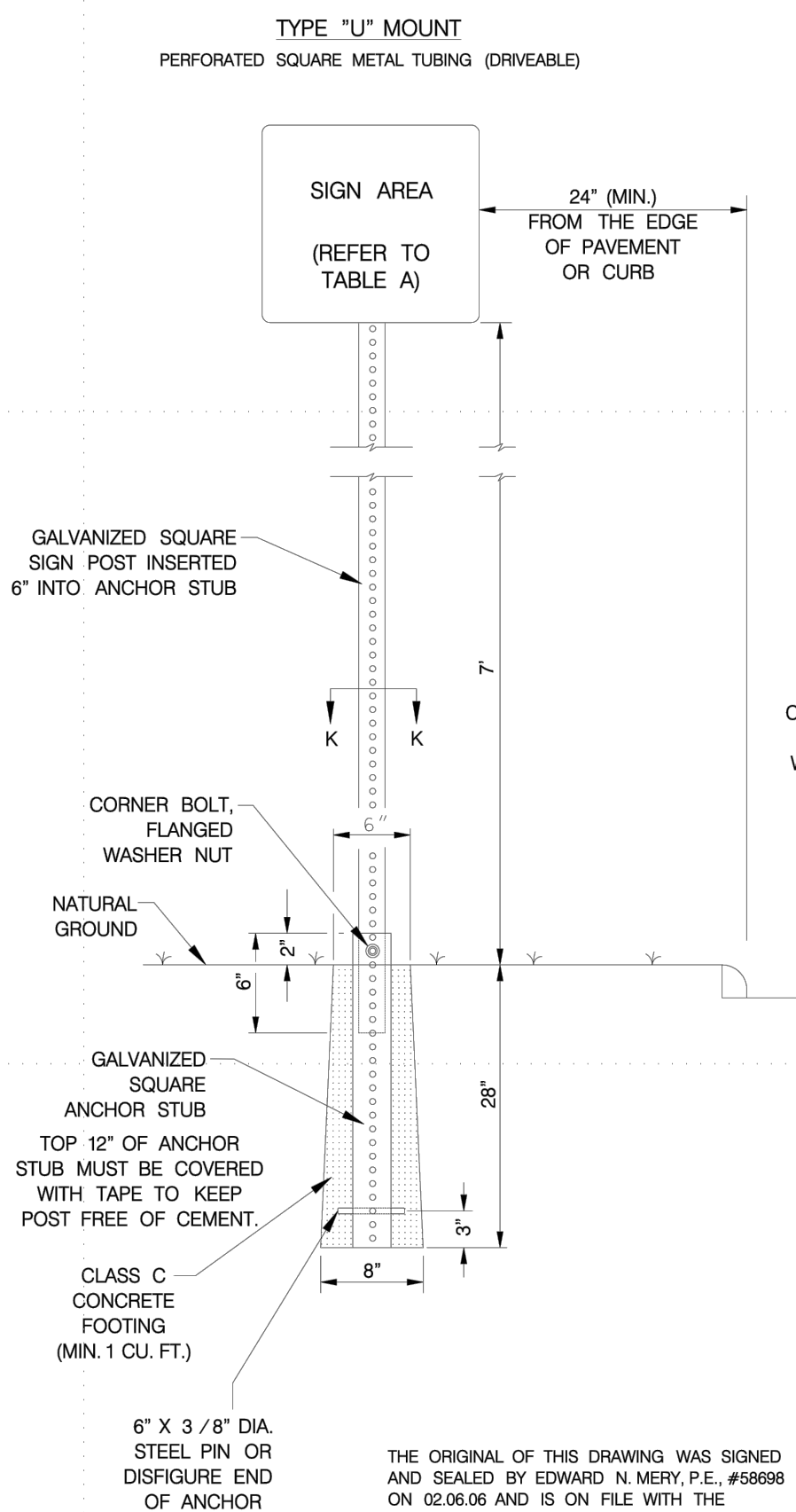


Date: Apr 19, 2023, 9:43am User: R. Plagens
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 Sheet: 10 of 10

GENERAL NOTES

- 1.) THE EXISTING SIGNS LOCATED ON THE JOBSITE ARE THE PROPERTY OF THE CITY OF SAN ANTONIO. THROUGHOUT THE PERIOD OF THE CONTRACT, THE CONTRACTOR SHALL PROTECT THESE SIGNS SUCH THAT THEY ARE NOT DAMAGED IN THE COURSE OF CONSTRUCTION ACTIVITY. SUCH PROTECTION SHALL INCLUDE THE PERIOD AFTER SIGNS ARE REMOVED FROM INSTALLATION AND STORED BY THE CONTRACTOR OR DELIVERED TO TRAFFIC OPERATIONS. THE ASSISTANT TRAFFIC SUPERINTENDENT (207-7765) MUST BE NOTIFIED 48 HOURS IN ADVANCE PRIOR TO DELIVERY.
- 2.) AFTER SIGNS ARE REMOVED FROM INSTALLATION AND ARE BEING STORED BY THE CONTRACTOR, THE CONTRACTOR SHALL CONTACT THE TRAFFIC OPERATIONS SECTION OF THE PUBLIC WORKS DEPARTMENT (207-7765) AND ARRANGE FOR A CONVENIENT TIME TO DELIVER CITY SIGNS AND POLES.
- 3.) PRIOR TO THE START OF CONSTRUCTION, ALL EXISTING SIGNS WITHIN THE AREA OF CONSTRUCTION WILL BE INVENTORIED AND DOCUMENTED JOINTLY BY THE TRAFFIC ENGINEERING (207-7720) CONSTRUCTION INSPECTION AND THE CONTRACTOR. THIS DOCUMENT WILL BE JOINTLY SIGNED BY BOTH PARTIES REFLECTING THE SIGN TYPE, SIGN SIZE, SIGN CONDITION, SIGN LOCATION, REFLECTIVITY ADEQUACY, ETC. THE CONTRACTOR IS HELD ACCOUNTABLE FOR THESE SIGNS THROUGHOUT THE PROJECT AND AT THE PROJECTS COMPLETION.
- 4.) ALL GROUND MOUNTED SIGNS SHALL USE HIGH INTENSITY REFLECTIVE SHEETING.
- 5.) ALL OVERHEAD SIGNS SHALL USE DIAMOND GRADE REFLECTIVE SHEETING.
- 6.) ALL BLANKS TO BE ALUMINUM ALLOY NO. 5052-H38.
- 7.) "T" DENOTES THICKNESS OF SIGN BLANKS.
- 8.) ALL HOLES SHALL BE 3/8" DIAMETER DRILLED OR PUNCHED AS SHOWN ON EACH BLANK DETAIL AND SHALL BE FREE OF BURRS AND /OR ROUGH EDGES.
- 9.) SIGN BLANK CORNERS TO BE ROUNDED AS SHOWN ON EACH DETAIL.
- 10.) ALL SIGN BLANK TO BE ETCHED, DEGREASED, AND HAVE AN ALODINE FINISH PRIOR TO APPLICATION OF LEGENDS.
- 11.) ALL DETAILS ARE NOT TO SCALE.
- 12.) ALL DIMENSIONS ARE IN INCHES.
- 13.) ALL SIGNS SHALL BE MANUFACTURED AND INSTALLED IN CONFORMANCE TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND STANDARD HIGHWAY SIGNS (FHWA) LATEST EDITION.
- 14.) REINSTALLATION OF PREVIOUSLY EXISTING SIGNS, WHERE REQUIRED BY THE CITY TRAFFIC ENGINEER, SHALL BE AT THE CONTRACTOR'S EXPENSE.

TYPICAL GROUND SIGN INSTALLATION



METAL TUBING	SIGN AREA	
	≤ 10 SQ. FT.	> 10 SQ. FT.
GALVANIZED SQUARE SIGN POST (PERFORATED)	1-3/4" x 1-3/4" (14 GAUGE)	2" x 2" (12 GAUGE)
GALVANIZED SQUARE ANCHOR STUB (PERFORATED)	2" x 2" (14 GAUGE)	2-1/4" x 2-1/4" (14 GAUGE)

TABLE A

FEBRUARY 2006
 CITY OF SAN ANTONIO
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC SIGN STANDARDS
 GENERAL NOTES AND GROUND SIGN MOUNTING
 SHEET 1 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E., #58698 ON 02/06/06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

DATE: _____
 DRAWN BY: A.F.S. CHECKED BY: E.N.M. DESIGNED BY: J.D.E./E.N.M. SHEET NO. OF _____

FEBRUARY 2006
 CITY OF SAN ANTONIO
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC SIGN STANDARDS
 GROUND MOUNTED SIGN SIZES
 SHEET 3 OF 4

THE ORIGINAL OF THIS DRAWING WAS SIGNED AND SEALED BY EDWARD N. MERY, P.E., #58698 ON 02/06/06 AND IS ON FILE WITH THE TRAFFIC ENGINEERING DIVISION OF THE PUBLIC WORKS DEPARTMENT, CITY OF SAN ANTONIO.

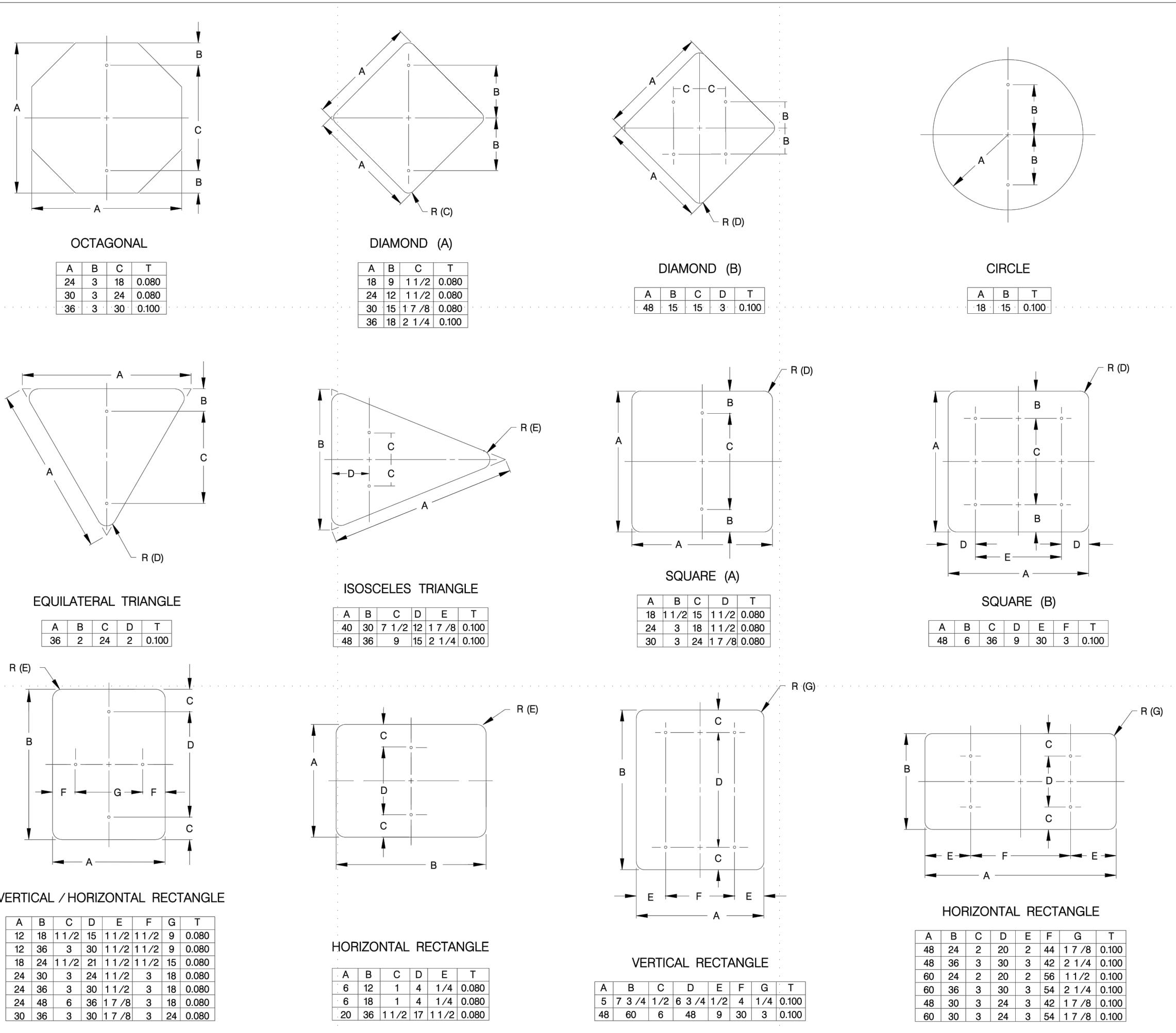
DATE: _____
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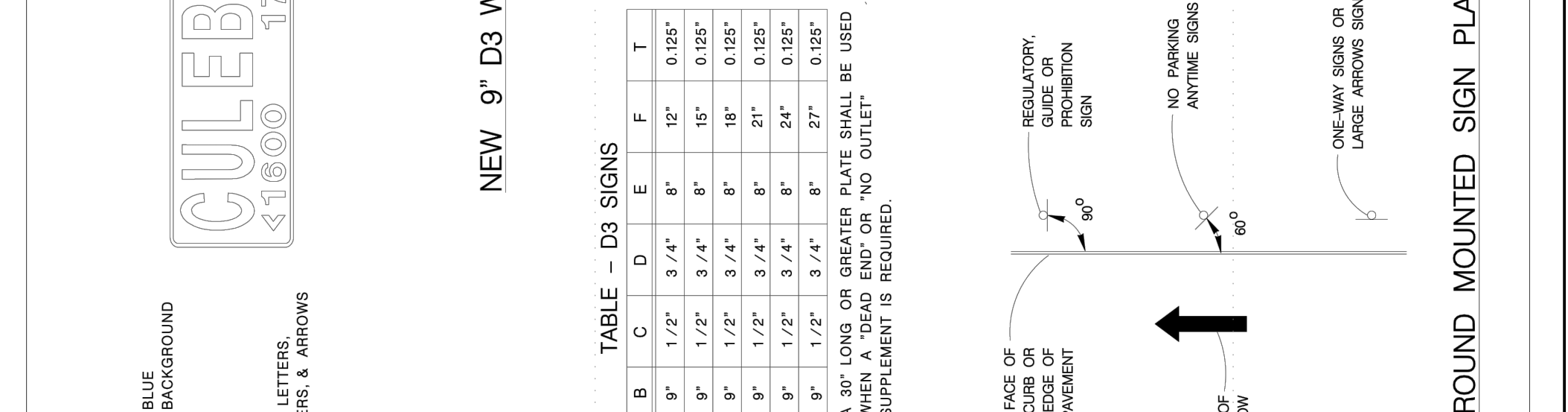
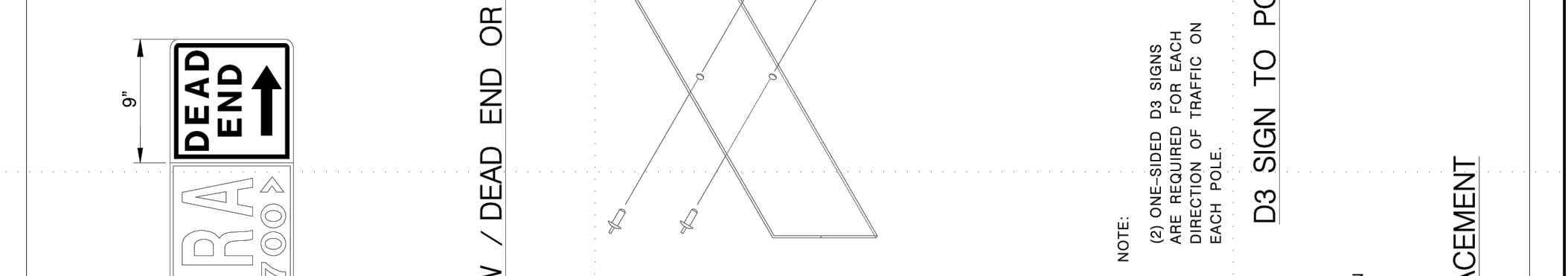
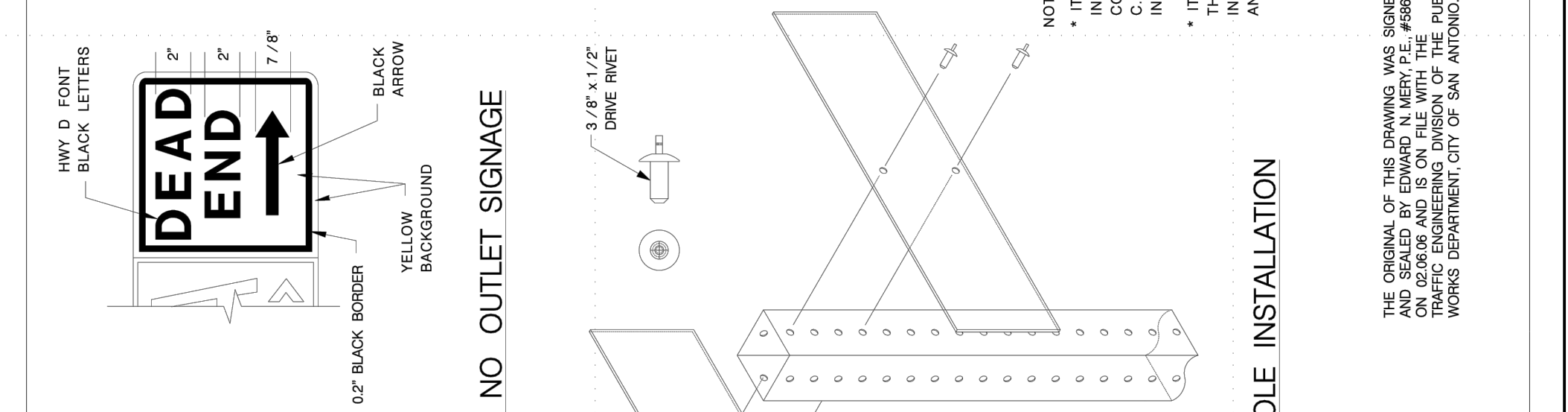
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FEBRUARY 2006
 CITY OF SAN ANTONIO
 DEPARTMENT OF PUBLIC WORKS
 TRAFFIC SIGN STANDARDS
 GROUND MOUNTED SIGN SIZES
 SHEET 3 OF 4

DATE: _____
 DRAWN BY: A.F.S. CHECKED BY: E.N.M. DESIGNED BY: J.D.E./E.N.M. SHEET NO. OF _____

STREET SIGN ASSEMBLY COMPLETES	STOP SIGN WITH 2 STREET NAMES	YIELD SIGN WITH 1 STREET NAME	2 STREET SIGNS	2 STREET NAME PLATE (2 PLATES)
PAY ITEMS	ITEM 5313 EA	ITEM 53137-P EA	ITEM 5314 EA	ITEM 53157-P EA
DESCRIPTION	RI-1 STOP	RI-1 STREET NAME SIGN (4 PLATES)	RI-2 YIELD	RI-1 STREET NAME PLATE (2 PLATES)
QUANTITY	1	2	1	1



HEIGHT	LENGTH	THICKNESS	SUBSTRATE	SIGN FACE MATERIALS	LEGENDS AND SYMBOLS	COLOR	LETTER TRACKING
9" (228 mm)	24" (600 MM) MIN. 54" (1380 MM) MAX. 6" (152 MM) INCREMENTS ON LENGTH	0.125" (3MM)	ALUMINUM ALLOY 5052-H38 (ASTM B-209) GOLD CHROMATE FINISH	BLUE FILM OVER HIGH INTENSITY FF-85, SECTION 718 AND L-S-300C	SERIES D (USUAL) SERIES C OR B FOR MAXIMUM LENGTH SIGN BLANK, IF NECESSARY	WHITE LEGEND ON BLUE BACKGROUND	10%

TABLE - D3 SIGNS	A	B	C	D	E	F	T
24"	9"	1/2"	3/4"	9"	12"	0.125"	
30"	9"	1/2"	3/4"	9"	15"	0.125"	
36"	9"	1/2"	3/4"	9"	18"	0.125"	
42"	9"	1/2"	3/4"	9"	21"	0.125"	
48"	9"	1/2"	3/4"	9"	24"	0.125"	
54"	9"	1/2"	3/4"	9"	27"	0.125"	

NOTE: A 30" LONG OR GREATER PLATE SHALL BE USED WHEN A "DEAD END" OR "NO OUTLET" SUPPLEMENT IS REQUIRED.

CITY OF SAN ANTONIO
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 SAN ANTONIO, TX 78216 TEL 210-774-5504
 WWW.UPENGINEERING.COM TBEFELS F-10194606

10/4/22
 RYAN R. PLAGENS
 1111640
 PROFESSIONAL ENGINEER
 STATE OF TEXAS

TERRAMARK BROOKS LAND I, LTD.
 905 N. PINE STREET
 SAN ANTONIO, TEXAS 78202

PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 TRAFFIC SIGN STANDARDS

FOR PERMIT REVIEW ONLY

REV	DATE	DESCRIPTION	BY

DESIGNED BY: _____
 DRAFTED BY: _____
 CHECKED BY: _____

SHEET
CS102
 OF 25

SANITARY SEWER CONSTRUCTION DOCUMENTS FOR SOUTHLAKE - PHASE 1

San Antonio, Texas

SAWS CONSTRUCTION NOTES

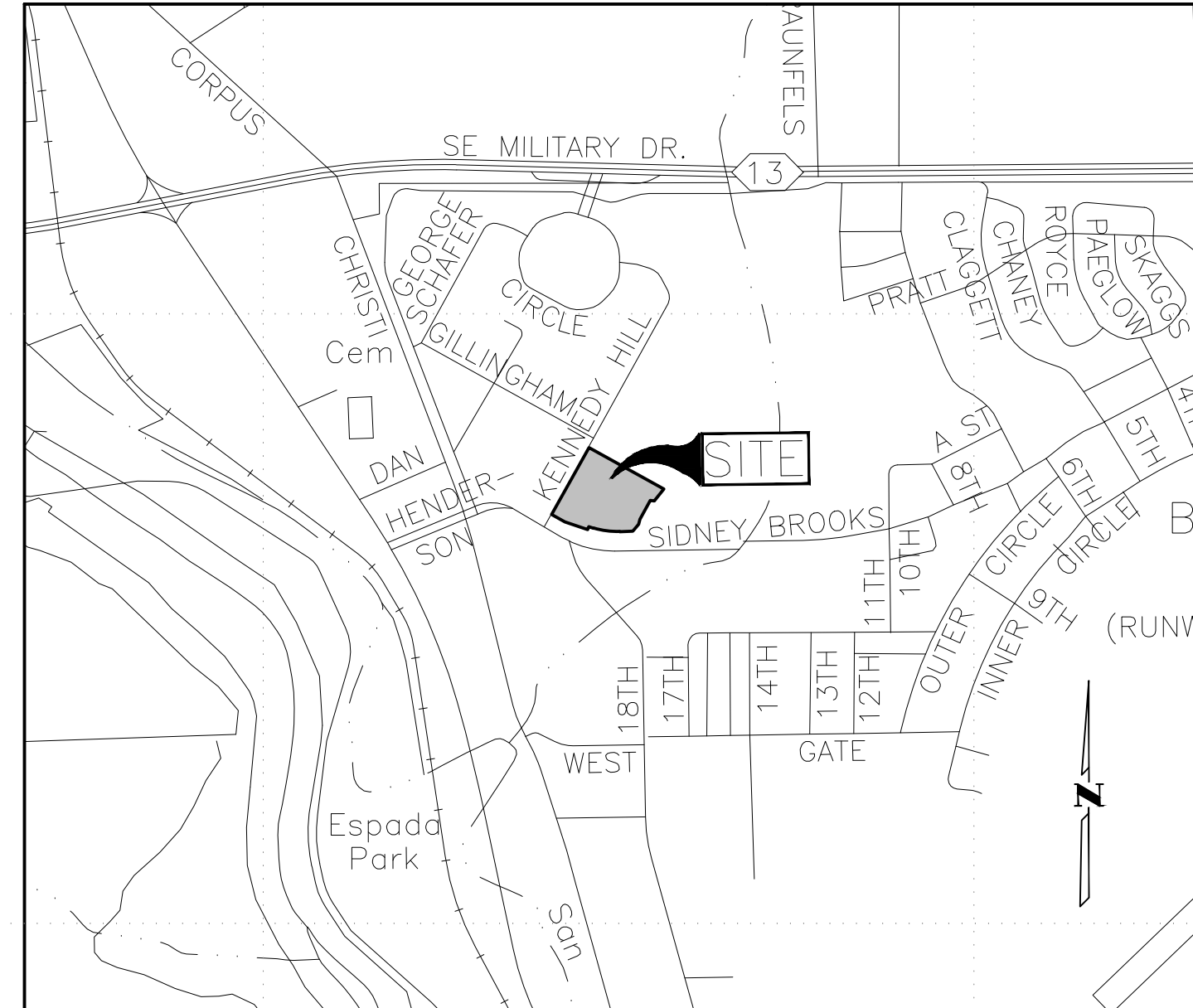
- All materials and construction procedures within the scope of this project shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
 - Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
 - Current TxDOT "Standard Specification for Construction of Highways, Streets and Drainage".
 - Current "San Antonio Water System Standard Specifications for Water and Sanitary Sewer Construction".
 - Current City of San Antonio "Standard Specifications for Public Works Construction".
 - Current City of San Antonio "Utility Excavation Criteria Manual" (UECM).
- The Contractor shall not proceed with any pipe installation work until they obtain a copy of the approved Counter Permit or General Construction Permit (GCP) from the Consultant and has been notified by SAWS Construction Inspection Division to proceed with the work and has arranged a meeting with the inspector and consultant for the work requirements. Work completed by the contractor without an approved Counter Permit and/or a GCP will be subject to removal and replacement at the expense of the contractor and/or the developer.
- The contractor shall obtain the SAWS Standard Details from the SAWS website, http://www.saws.org/business_center/specs. Unless otherwise noted within the design plans.
- The contractor is to make arrangements with the SAWS Construction Inspection Division at (210) 233-2973, on notification procedures that will be used to notify affected home residents and/or property owners 48 hours prior to beginning any work.
- Location and depth of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the contractor at least 1 week prior to construction. It shall be the contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
- The contractor shall verify the exact location of the underground utilities and drainage structures at least 1-2 weeks prior to construction whether shown on plans or not. Please allow up to 7 business days for locates requesting pipe location markers on SAWS facilities. The following contact information are supplied for verification purposes:
SAWS Utility Locates: <http://www.saws.org/Service/Locates>
COSEA Drainage 210-207-0724 or (210) 207-6026
COSEA Traffic Signal Operations (210)-208-8480
COSEA Traffic Signal Damages (210)-207-3951
Texas State Wide One Call Locator 1-800-545-6005 or 811
- The Contractor shall be responsible for restoring existing fences, curbs, streets, driveways, sidewalks, landscaping and structures to its original or better condition if damages are made as a result of the project's construction.
- All work in Texas Department of Transportation (TxDOT) and/or Bexar County right-of-way shall be done in accordance with respective construction specifications and permit requirements.
- The contractor shall comply with City of San Antonio or other governing municipality's tree ordinances when excavating near trees.
- The contractor shall not place any waste material in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
- Holiday work: Contractors will not be allowed to perform SAWS work on SAWS recognized holidays. Requests should be sent to constworkreq@saws.org.
- Weekend work: Contractors are required to notify the SAWS Inspection Construction Department 48 hours in advance to request weekend work. Request should be sent to constworkreq@saws.org.
- Any and all SAWS utility work installed without holiday/weekend approval will be subject to be uncovered for proper inspection.
- Compaction note (Item 804): The contractor shall be responsible for meeting the compaction requirements on all trench backfill and paying for the tests performed by a third party. Compaction tests will be done at one location point randomly selected, or as indicated by the SAWS Inspector and/or the test administrator, per each 12-inch loose lift per 400 linear feet at a minimum. This project will not be accepted and finalized by SAWS without this requirement being met and verified by providing all necessary documented test results.
- A copy of all testing reports shall be forwarded to SAWS Construction Inspection Division.

SEWER NOTES

- The contractor is responsible for ensuring that no Sanitary Sewer Overflow (SSO) occurs as a result of their work. All contractor personnel responsible for SSO prevention and control shall be trained on proper response. Should an SSO occur, the contractor shall:
 - Identify the source of the SSO and notify SAWS Emergency Operations Center (EOC) immediately at (210) 233-2014. Provide the address of the spill and estimated volume or flow.
 - Attempt to eliminate the source of the SSO.
 - Contain sewage from the SSO to the extent of preventing a possible contamination of waterways.
 - Clean up spill site (return contained sewage to the collection system if possible) and properly dispose of contaminated soil/materials.
 - Clean the affected sewer mains and remove any debris.
 - Meet all post-SSO requirements as per the EPA Consent Decree, including line clearing and televising the affected sewer mains (at SAWS direction) within 24 hours.

Should the contractor fail to address an SSO immediately and to SAWS satisfaction, they will be responsible for all costs incurred by SAWS, including any fines from EPA, TCEQ and/or any other Federal, State or Local Agencies.

No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and SAWS.
- If bypass pumping is required, the contractor shall perform such work in accordance with SAWS Standard Specifications for Water and Sanitary Sewer Construction, Item No. 864, "Bypass Pumping".
- Prior to tie-ins, any shutdowns of existing force mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-2973 at least one week in advance of the shutdown. The contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the contractor to sequence the work accordingly.
- Sewer pipe where water lines cross shall be 160 psi and meet the requirements of ASTM D2241, TAC 217.53 and TCEQ 290.44(e)(4)(B). Contractor shall center a 20" joint of 160 psi pressure rated PVC at the proposed water crossing.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: It shall be the responsibility of the contractor to make allowances and adjustments for top of manholes to match the finished grade of the project's improvements. (RSP)
- Spills, Overflows or Discharges of Wastewater: All spills, overflows or discharges of wastewater, recycled water, petroleum products or chemicals must be reported immediately to the SAWS Inspector assigned to the Counter Permit or General Construction Permit (GCP). This requirement applies to every spill, overflow or discharge regardless of size.
- Manhole and deflection (mandrel) testing and the TV inspection must be performed and passed prior to Final Field Acceptance by SAWS Construction Inspection Division.
- All PVC pipe over 14 feet of cover shall be extra strength with minimum pipe stiffness of 115 psi.



VICINITY MAP
NOT TO SCALE

SUBMITTAL DATE:
January 21, 2021

Please note construction hours have now been set to the following:
7:00 AM – 8:00 PM Monday – Friday
8:00 AM – 8:00 PM Saturday
9:00 AM – 5:00 PM Sundays
Hours of construction must comply with IB 244 – Construction Noise Ordinance.
Concrete pours may occur outside construction hours provided the notification process in IB 244 is followed.

INDEX OF SHEETS

1	SANITARY SEWER COVER SHEET
CU201	SANITARY SEWER LAYOUT
CU202	SANITARY SEWER LAYOUT
CU203	SANITARY SEWER PLAN AND PROFILES
CU204-CU205	SANITARY SEWER DETAILS

FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3

WATER COVER SHEET

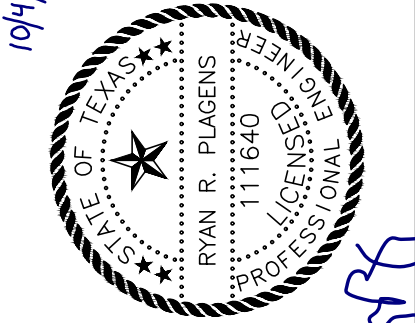
TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

SEWER: EAST SEWERSHED - SALADO CREEK W.R.C.
Developer: SA Urban Homes, LLC
Address: 905 N. Pine Street
City: San Antonio State: Texas Zip: 78202
Phone: (757) 528-3734 Fax:
SAWS Block Map: 174-550 Total EDUs: 18 Total Acreage: 1.376
Total Linear Footage of Pipe: 8" 595 Plot No.: 20-11800408
Number of Lots: 18 SINGLE FAMILY SAWS Job No.:

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
1
OF 25



10/4/22

UP
ENGINEERING
+ SURVEYING
11903 JONES MALSERBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL 210-774-5504
WWW.UPENGINEERING.COM TBEFLS F-10194606

Date: 01/04/2021 0:00pm User: 01/21/21
Path: C:\Users\jplagens\OneDrive\Documents\2021 - Southlake at Brook Ph 2 - J\CAD\Sheet\0817 - Ph2_1 - SS SANITARY SEWER COVER SHEET.dwg

LOT 1, BLOCK 14, N.C.B. 10879
BCB-UNIT 20A & 20D
SUBDIVISION
9679/124-126, D.P.R.

LEGEND

- BOUNDARY / RIGHT OF WAY
- ▭ PROPOSED BUILDING
- ▭ FIRE LANE
- HOSE LAY (TRUCK PULL) 550 LF MAX.
- HOSE LAY (HAND PULL) 200 LF MAX.
- OU — OU — EXISTING OVERHEAD ELECTRIC
- WTR — EXISTING WATER LINE
- ⊕ EXISTING FIRE HYDRANT
- PROPOSED FENCE
- ➔ DIRECTION OF TRAVEL

LEGAL DESCRIPTION:

LOTS 02-05, BLOCK 14, N.C.B. 10879,
SOUTHLAKE (IDZ-2) SUBDIVISION
PLAT NO. 20-11800408
VOL. 20002, PAGE 383, D.P.R.
IN THE CITY OF SAN ANTONIO, TEXAS

PROPOSED FIRE PROTECTION NOTES:

- PROPOSED BUILDING UNIT A = 1,734 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT B = 2,357 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT C = 2,072 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT D = 3,001 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT E = 1,950 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT F = 2,850 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT G = 3,500 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT H = 2,500 SQ. FT. (TOTAL STRUCTURE)
 - PROPOSED BUILDING UNIT I = 1,900 SQ. FT. (TOTAL STRUCTURE)
- BUILDING TYPE = TOWNHOMES (INTERNATIONAL RESIDENTIAL CODE - TYPE V)
REQUIRED FIRE FLOW = MINIMUM OF 1,500 GALLONS/MINUTE @ 20 PSI
BUILDINGS ARE NOT SPRINKLERED, 3 STORY (33" TALL)
AVAILABLE HYDRANTS = 2
NON-SPRINKLERED BUILDINGS:
ALLOWABLE TOTAL DISTANCE TO HYDRANT BY TRUCK = 350 FT
ALLOWABLE HAND PULL = 150 FT

FIRE PROTECTION NOTE:

- THE SURFACE SHALL BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 75,000 POUNDS.

FIRE LINE NOTES:

- THERE ARE NO PROPOSED FIRE LINES FOR THIS PROJECT.
- THERE ARE NO PROPOSED FIRE BACKFLOW PREVENTION DEVICES FOR THIS PROJECT.

CAUTION:
CONTRACTOR TO VERIFY ALL EXISTING UTILITIES VERTICALLY AND HORIZONTALLY PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

UP ENGINEERING + SURVEYING
11903 JONES MALMBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL. 210-774-5504
WWW.UPENGINEERING.COM E-MAIL: INFO@UPENGINEERING.COM
CITY OF SAN ANTONIO
19/4/22
RYAN R. PLAGENS
111640
PROFESSIONAL ENGINEER
CITY OF SAN ANTONIO

TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

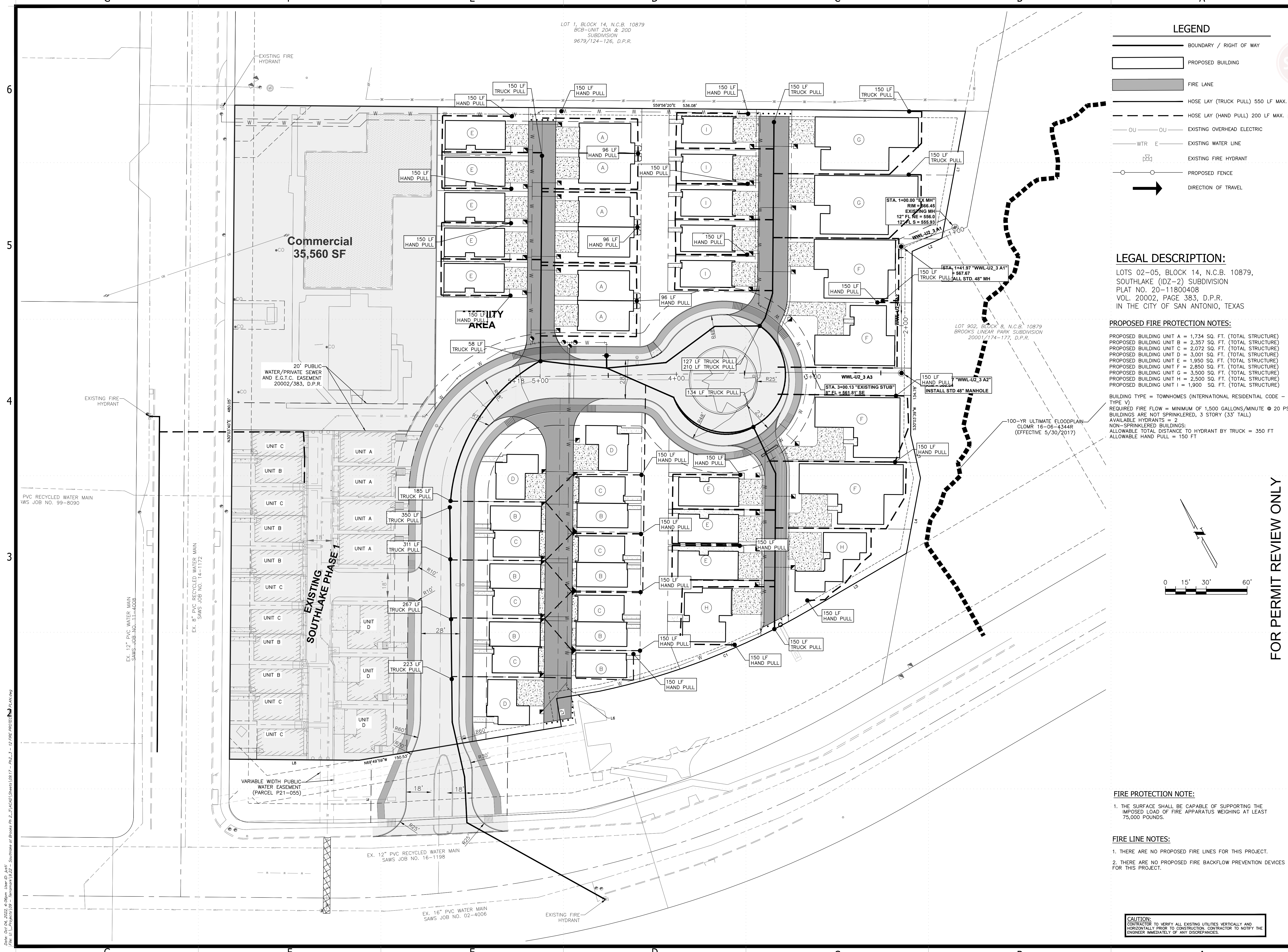
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PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
FIRE PROTECTION PLAN

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
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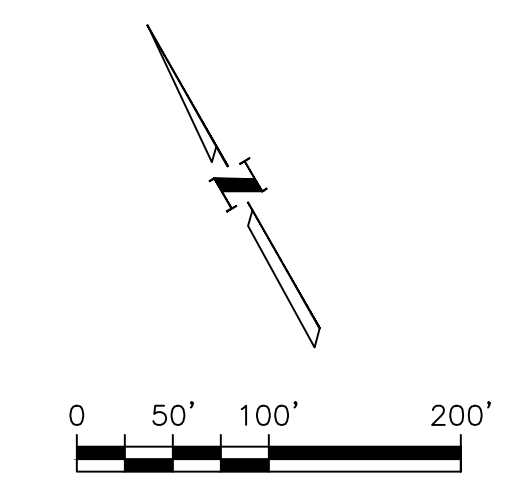
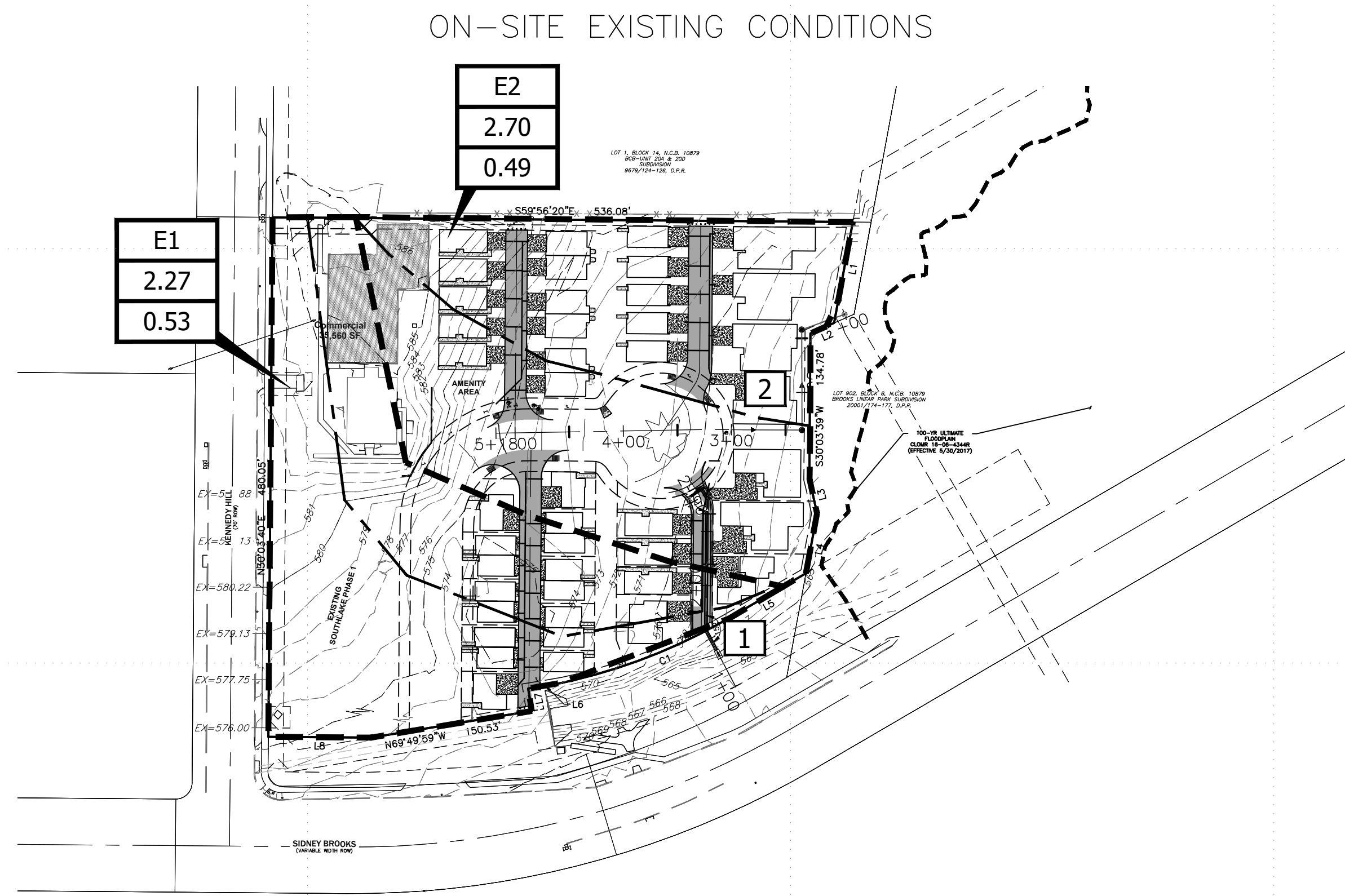
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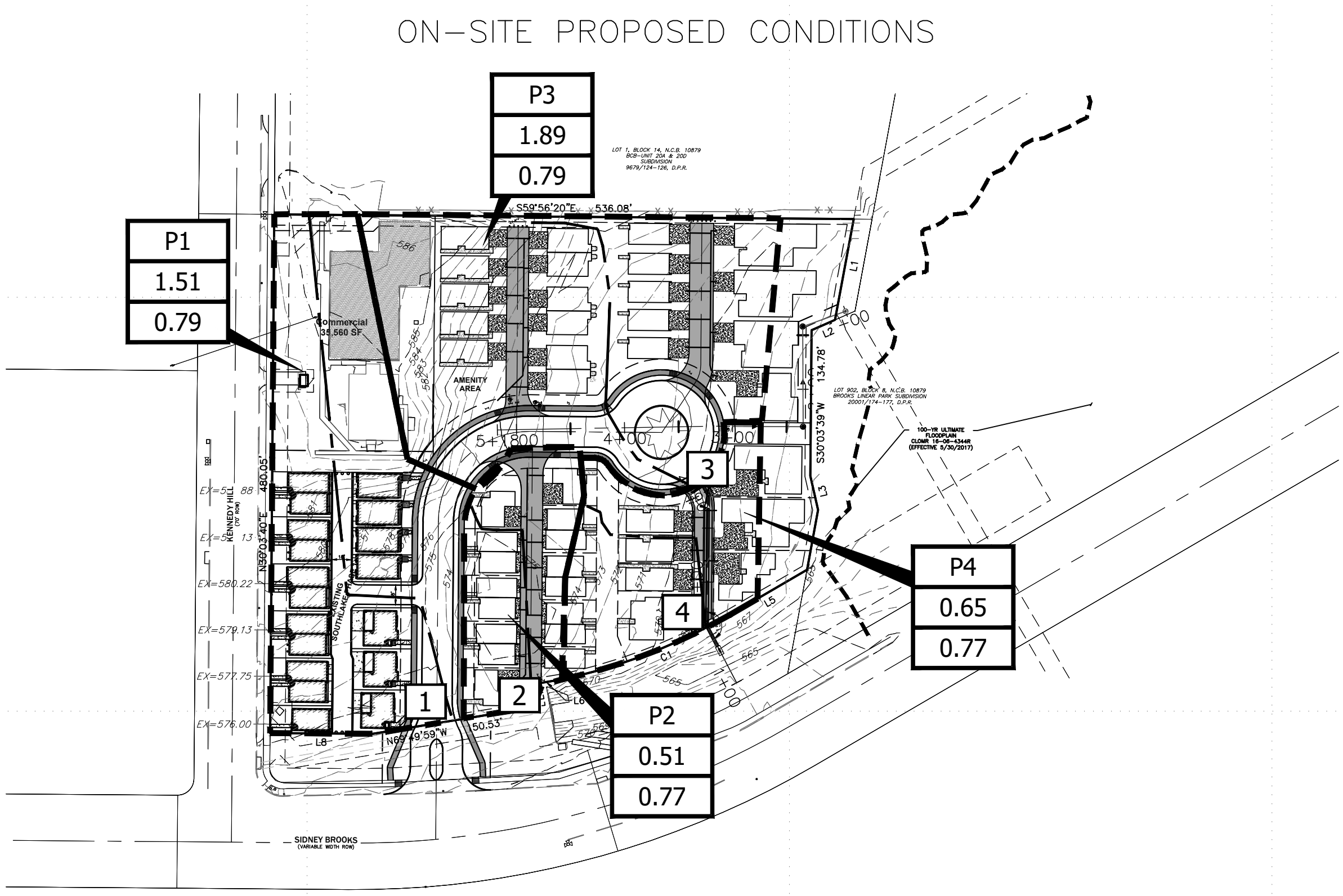
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- 1 DRAINAGE POINT
- 1 DRAINAGE AREA
- 5.2 ACREAGE
- 0.47 ULTIMATE C-VALUE
- 920 EXIST. CONTOUR
- - - Tc PATH

Existing Runoff Flow Rates										
Ref Point	Drainage Areas	C	Drainage Area (ac)	Tc (min)	I(5) (in/hr)	I(25) (in/hr)	I(100) (in/hr)	Q(5) (cfs)	Q(25) (cfs)	Q(100) (cfs)
1	E1	0.53	2.27	18.5	4.73	6.54	8.12	5.7	7.9	9.8
2	E2	0.49	2.70	25.0	4.06	5.60	6.93	5.4	7.4	9.2



Proposed/Ultimate Runoff Flow Rates										
Ref Point	Drainage Areas	C	Drainage Area (ac)	Tc (min)	I ₅ (in/hr)	I ₂₅ (in/hr)	I ₁₀₀ (in/hr)	Q ₅ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
1	P1	0.79	1.51	13.1	5.64	7.86	9.81	6.7	9.4	11.7
2	P2	0.77	0.51	18.6	4.72	6.52	8.10	1.9	2.6	3.2
3	P3	0.79	1.89	21.5	4.38	6.05	7.50	6.5	9.0	11.2
4	P4	0.77	0.65	20.7	4.46	6.17	7.65	2.2	3.1	3.8

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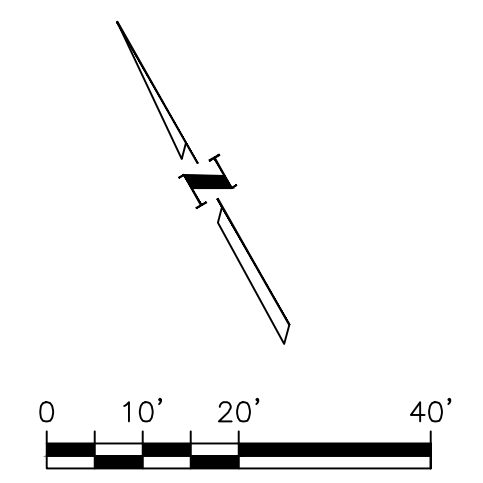
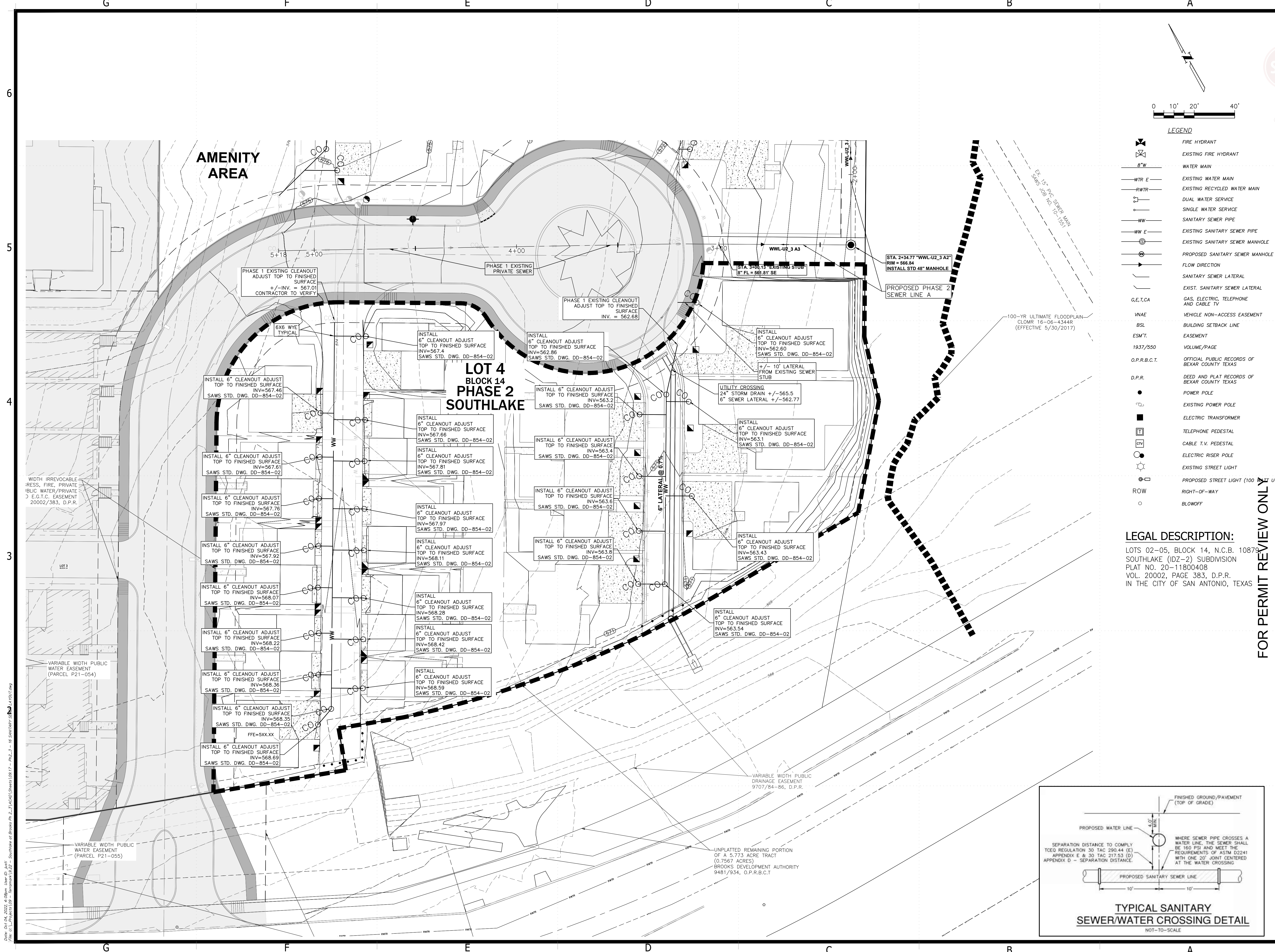
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PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 DRAINAGE AREA MAP

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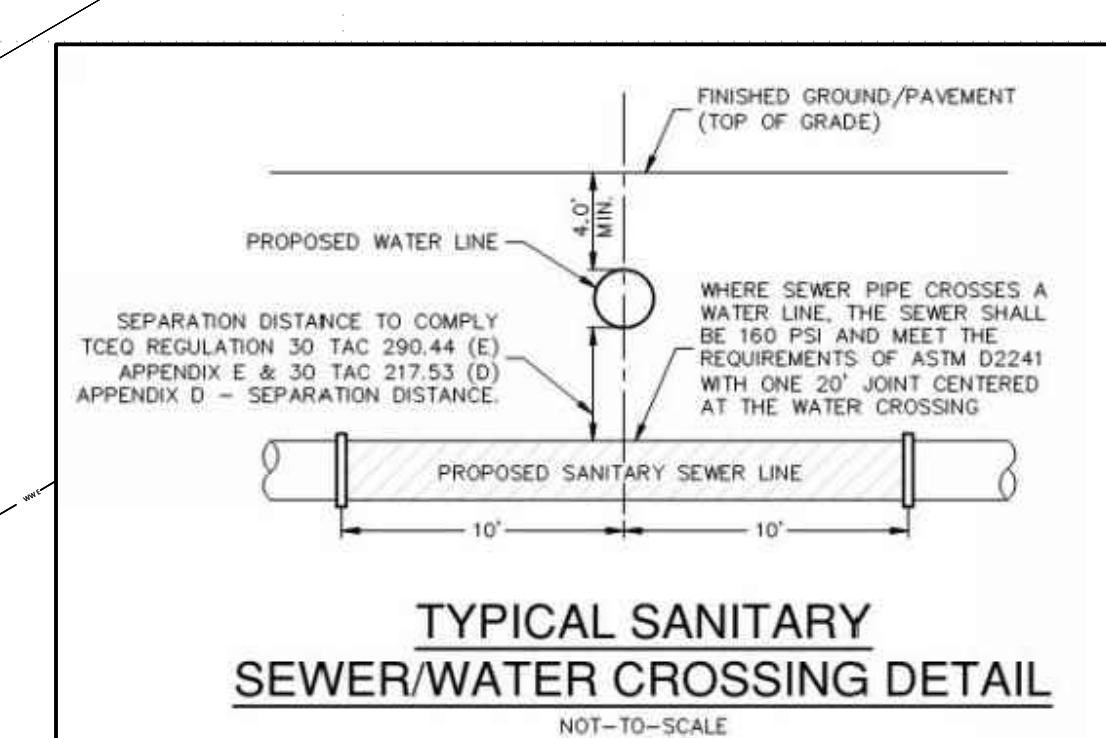
LEGAL DESCRIPTION:
 LOTS 02-05, BLOCK 14, N.C.B. 10879,
 SOUTHLAKE (IDZ-2) SUBDIVISION
 PLAT NO. 20-11800408
 VOL. 20002, PAGE 383, D.P.R.
 IN THE CITY OF SAN ANTONIO, TEXAS

Date: 01/04/2023 8:00am User: 01/04/2023
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- LEGEND**
- FIRE HYDRANT
 - EXISTING FIRE HYDRANT
 - 8" W WATER MAIN
 - EXISTING WATER MAIN
 - EXISTING RECYCLED WATER MAIN
 - DUAL WATER SERVICE
 - SINGLE WATER SERVICE
 - SANITARY SEWER PIPE
 - EXISTING SANITARY SEWER PIPE
 - PROPOSED SANITARY SEWER MANHOLE
 - FLOW DIRECTION
 - SANITARY SEWER LATERAL
 - EXIST. SANITARY SEWER LATERAL
 - G.E.T.C.A. GAS, ELECTRIC, TELEPHONE AND CABLE TV
 - V.N.A.E. VEHICLE NON-ACCESS EASEMENT
 - B.S.L. BUILDING SETBACK LINE
 - E.S.M.T. EASEMENT
 - 19.37/550 VOLUME/PAGE
 - O.P.R.B.C.T. OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
 - D.P.R. DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
 - POWER POLE
 - EXISTING POWER POLE
 - ELECTRIC TRANSFORMER
 - TELEPHONE PEDESTAL
 - CABLE T.V. PEDESTAL
 - ELECTRIC RISER POLE
 - EXISTING STREET LIGHT
 - PROPOSED STREET LIGHT (100' W OF ROW)
 - ROW RIGHT-OF-WAY
 - BLOWOFF

LEGAL DESCRIPTION:
 LOTS 02-05, BLOCK 14, N.C.B. 10879
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10/4/22

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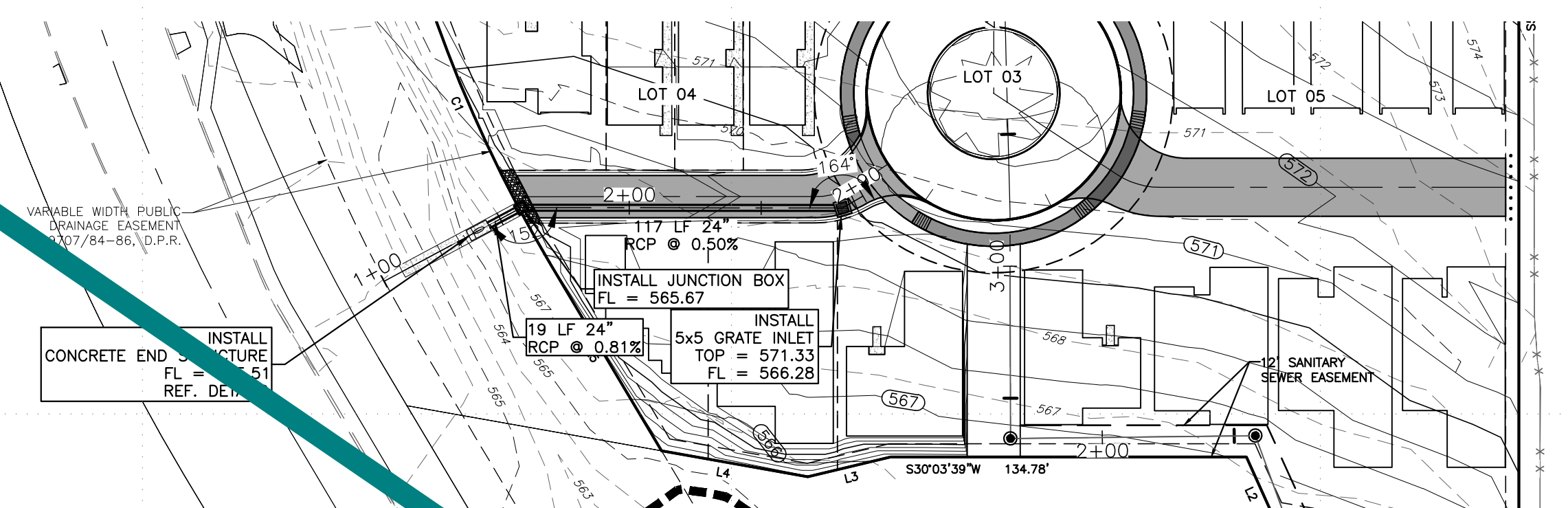
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PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 PHASE 2 SANITARY
 SEWER LAYOUT

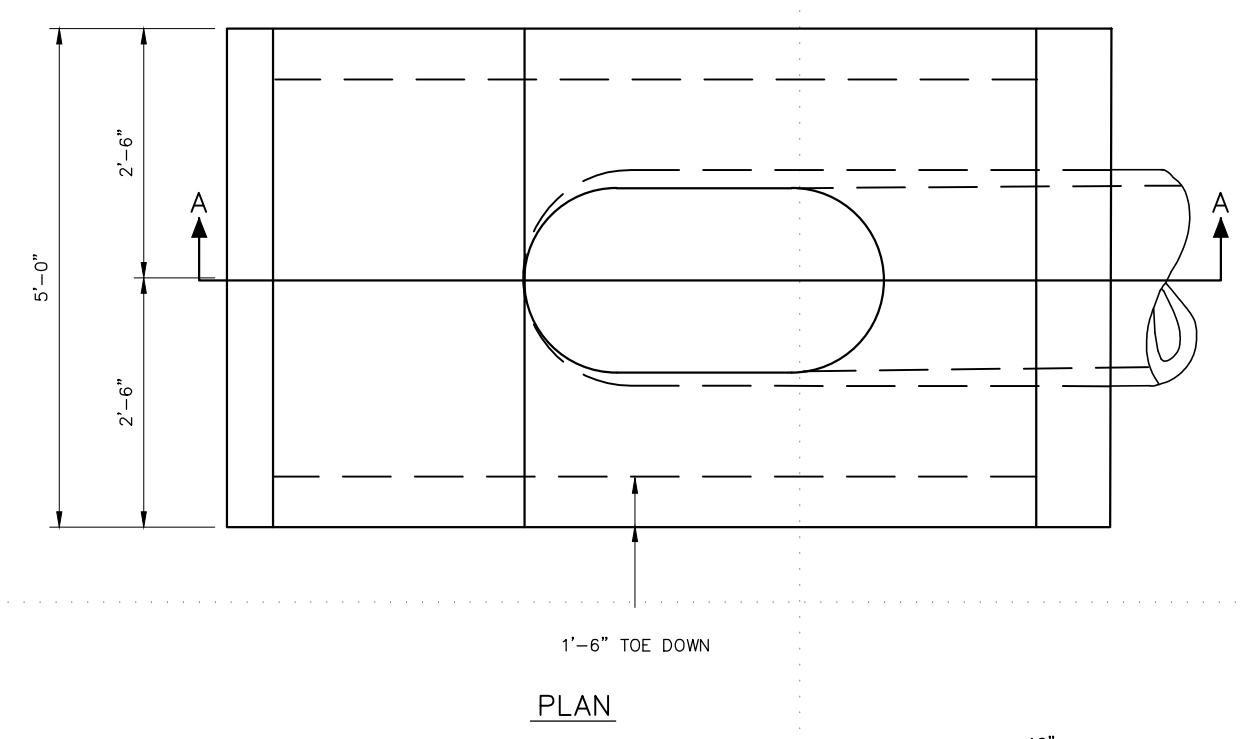
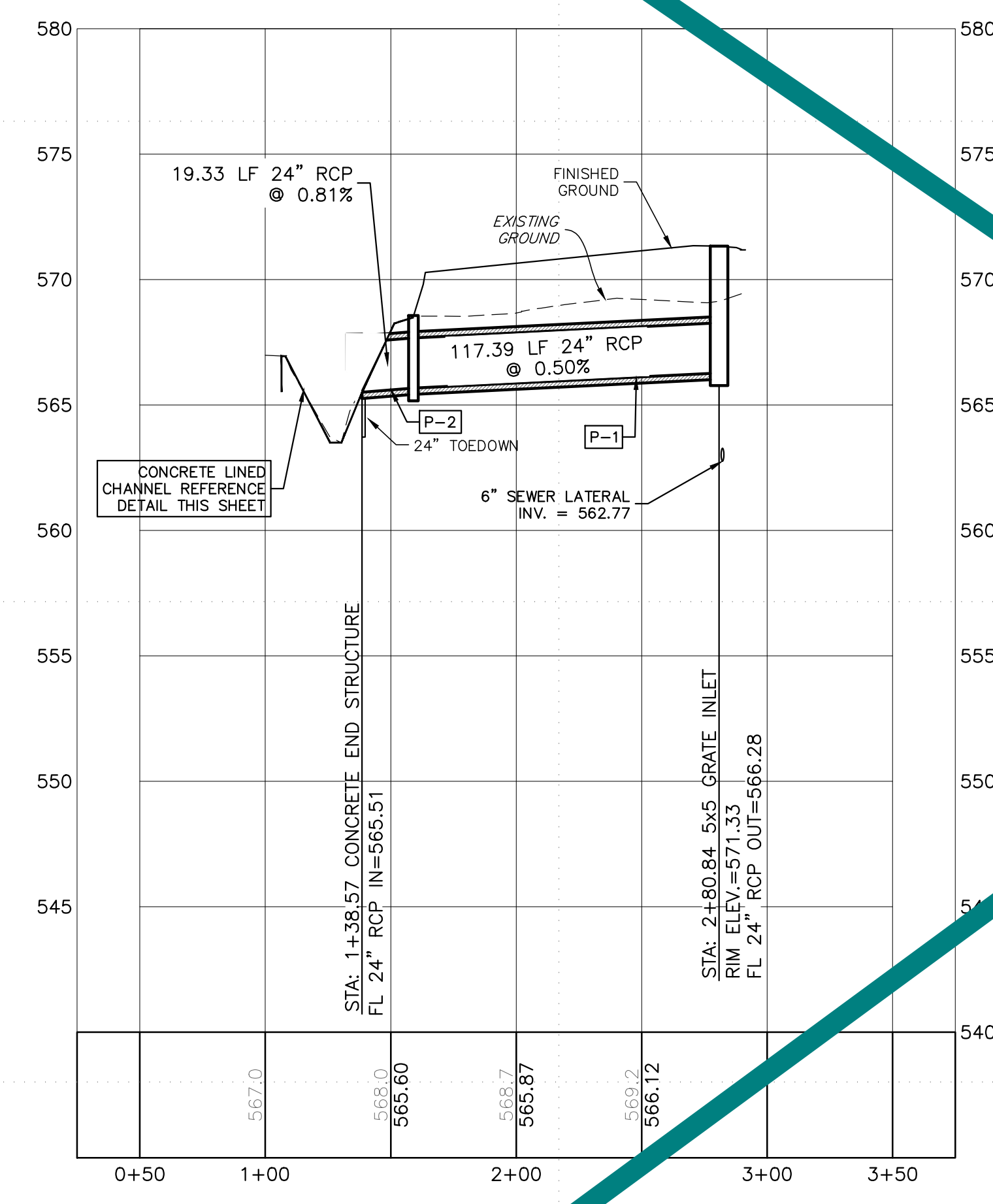
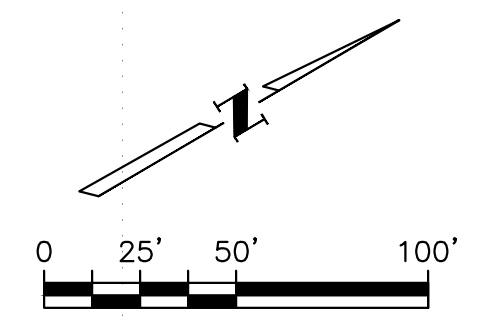
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1	4/22/21	ADDED FINISHED FLOOR ELEVATIONS	

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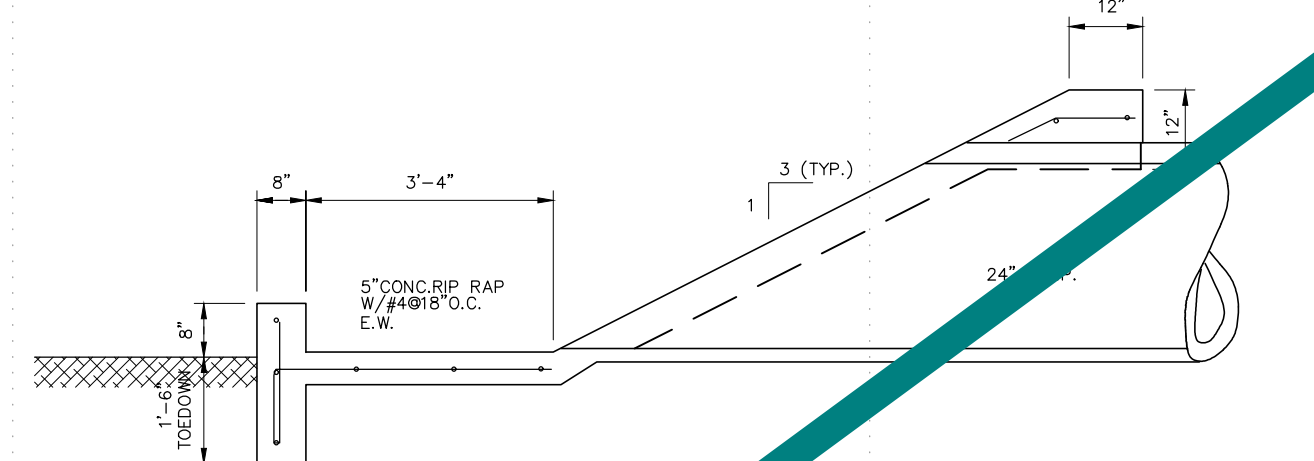
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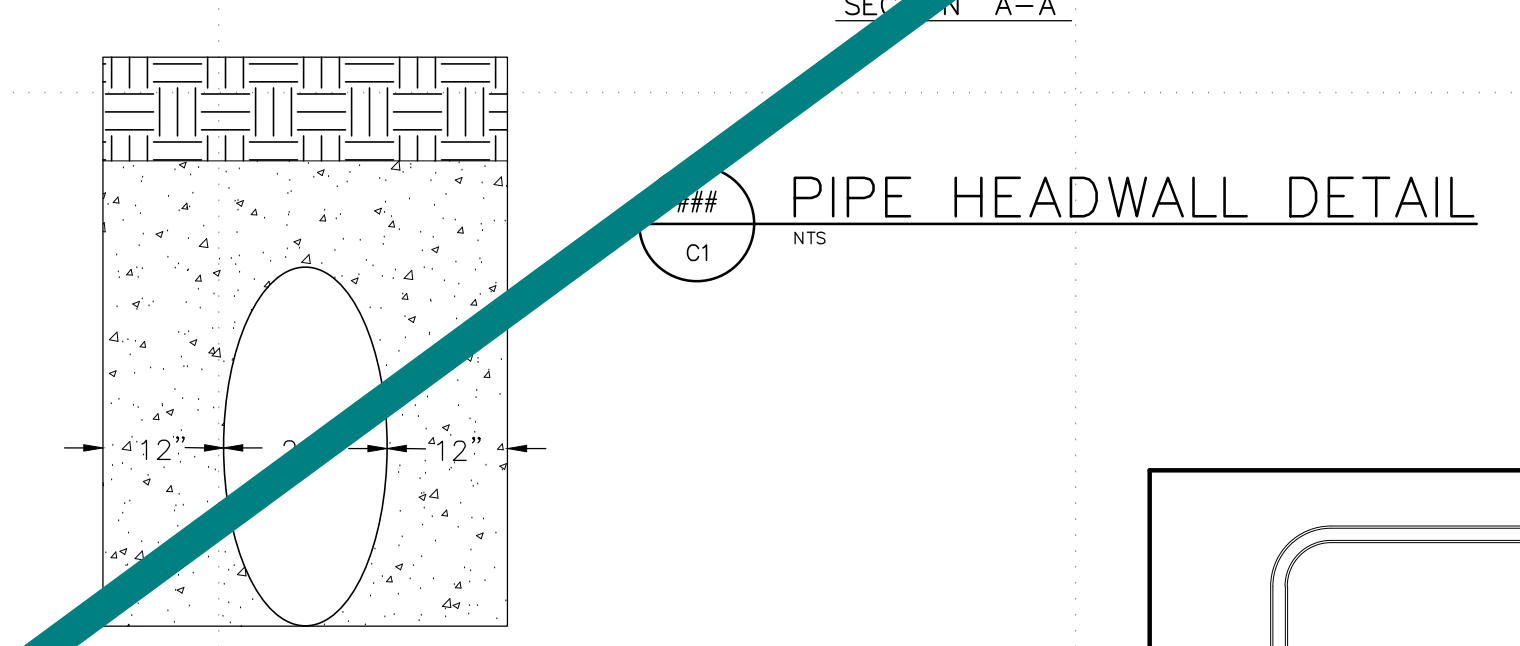
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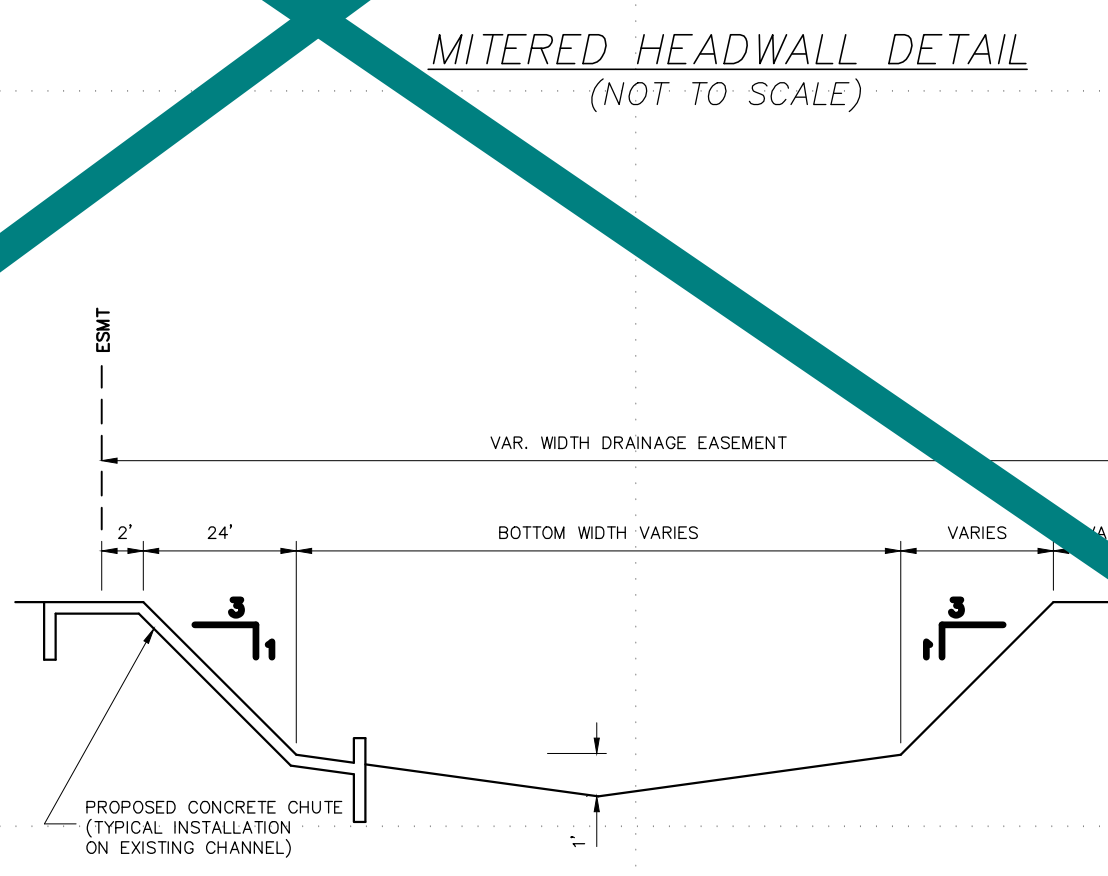
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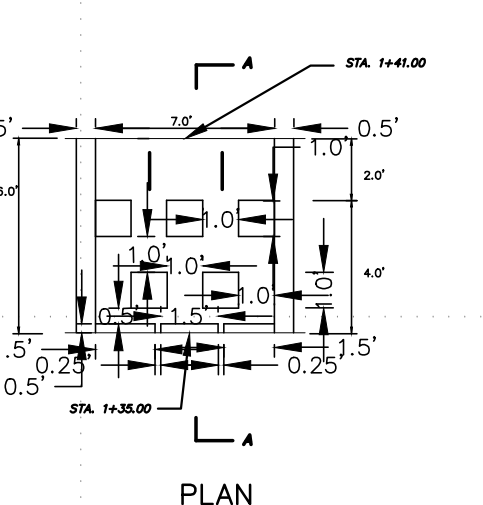
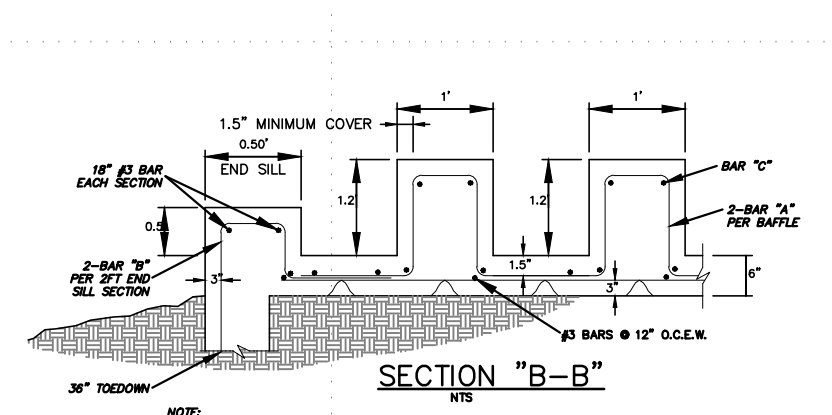
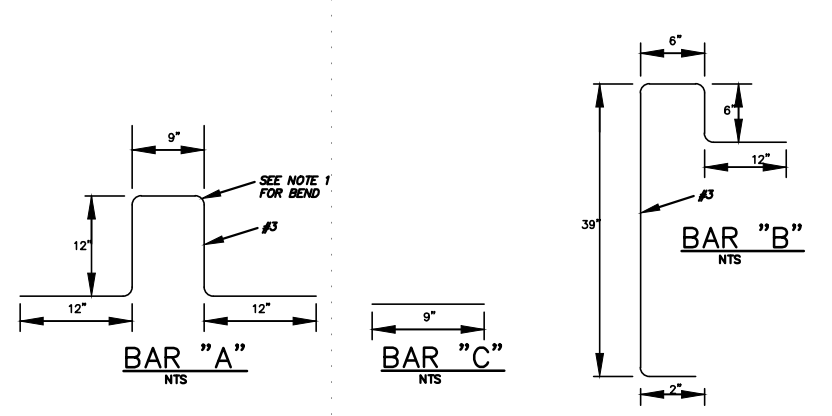
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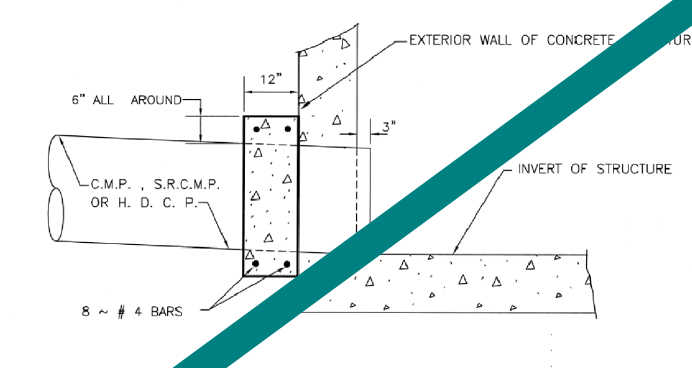
PIPE HEADWALL DETAIL



MITERED HEADWALL DETAIL (NOT TO SCALE)



BAFFLE BLOCK DETAIL



CONCRETE COLLAR DETAIL

LEGEND

- BOUNDARY / RIGHT OF WAY
- EASEMENT / SETBACK
- CURB / EDGE OF PAVEMENT
- EXIST. GRADE ELEVATIONS
- PROP. GRADE ELEVATIONS
- DIRECTION OF FLOW
- TOP OF CURB ELEVATION
- GUTTER ELEVATION
- FL FLOW LINE ELEVATION
- HP HIGH POINT ELEVATION
- LP LOW POINT ELEVATION
- ME MATCH EXISTING ELEVATION
- ROW RIGHT OF WAY
- FC FACE OF CURB
- LT LEFT
- RT RIGHT
- WASHOUT CROWN
- HANDICAP RAMP
- SIDEWALK (HOME BUILDER'S RESPONSIBILITY)

- NOTE:**
- CONCRETE SHALL BE A MINIMUM 3000 PSI IN 28 DAYS WITH #4 BARS @ 12" O.C.E.W. UNLESS OTHERWISE SPECIFIED.
 - CONTRACTOR SHALL INCORPORATE WEEP HOLES AS NEEDED.
 - IMPROVED EARTHEN CHANNELS AND DETENTION PONDS SHALL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL OR POND SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CONSTRUCTION OF THE POND.
 - ELEVATIONS OF EXISTING STREETS AT TIE-IN LOCATIONS TO BE FIELD VERIFIED BY CONTRACTOR. NOTIFY ENGINEER OF ANY DISCREPANCIES.

THE QUIKSET ORGANIZATION

ALL CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4000 psi.

REINFORCING STEEL SHALL COMPLY WITH ASTM A615 GRADE 60, ATOR GRADE 60 OR A617 GRADE 70. BAR BENDING AND PLACEMENT SHALL COMPLY WITH THE LATEST ACI STANDARDS.

STANDARD STRUCTURAL DESIGN IS BASED ON AASHTO HS 20 WHEEL LOADING.

WATER TABLE IS AT 3'-0" BELOW GRADE FOR STANDARD STRUCTURAL DESIGN.

THE STANDARD DESIGN IS BASED ON THE TOP AT GRADE AND THE BASE AT 8'-0" MAX. BELOW GRADE.

THE STRUCTURE SHALL BE PLACED ON A COMPACTED GRANULAR BASE TO INSURE UNIFORM DISTRIBUTION OF SOIL PRESSURES.

SPECIAL DESIGNS BASED ON OTHER LOADINGS OR DEEPER INSTALLATION DEPTHS ARE AVAILABLE ON REQUEST. KNOCKOUTS, OR PIPE OPENINGS CAN BE PROVIDED IN THE SIZE AND LOCATIONS REQUIRED.

APPROXIMATE CENTER SECTION WEIGHTS

- 2'-0" INSIDE 2900 LBS.
- 3'-0" INSIDE 3400 LBS.
- 4'-0" INSIDE 4100 LBS.
- 5'-0" INSIDE 4800 LBS.
- 6'-0" INSIDE 5500 LBS.

APPROXIMATE BOTTOM WEIGHTS

- 2'-0" INSIDE 4600 LBS.
- 3'-0" INSIDE 5300 LBS.
- 4'-0" INSIDE 6000 LBS.
- 5'-0" INSIDE 6700 LBS.
- 6'-0" INSIDE 7300 LBS.

MINIMUM EXCAVATION 7'-0"x7'-0"

PIPE OPENING SIZE AND LOCATION AS REQUIRED

MAXIMUM WIDTH OPENING IS 48" WITH MAXIMUM WIDTH IN ADJACENT WALL.

4'-0"x4'-0" QUIKSET® GRATE INLET

DALWORTH CONCRETE PRODUCTS

Pipe	Invert (Start) (ft)	Invert (Stop) (ft)	Length (ft)	Slope (ft/ft)	Velocity (In) (ft/s)	Diameter (in)	Manning's n	Flow (cfs)	Capacity (cfs)	Velocity (ft/s)	Capacity (Full Flow) (cfs)	HGL (In) (ft)	HGL (Out) (ft)	EGL (In) (ft)	EGL (Out) (ft)
P-1	566.28	565.67	117.4	0.005	5.28	24	0.013	9.1	16.31	5.33	16.31	567.36	567.26	567.79	567.44
P-2	565.57	565.51	19.3	0.003	4.68	24	0.013	9.1	12.6	4.37	12.6	566.76	566.59	567.1	567.02

FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
DRAINAGE PLAN & PROFILE

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:
DATE:
CG202
OF 25

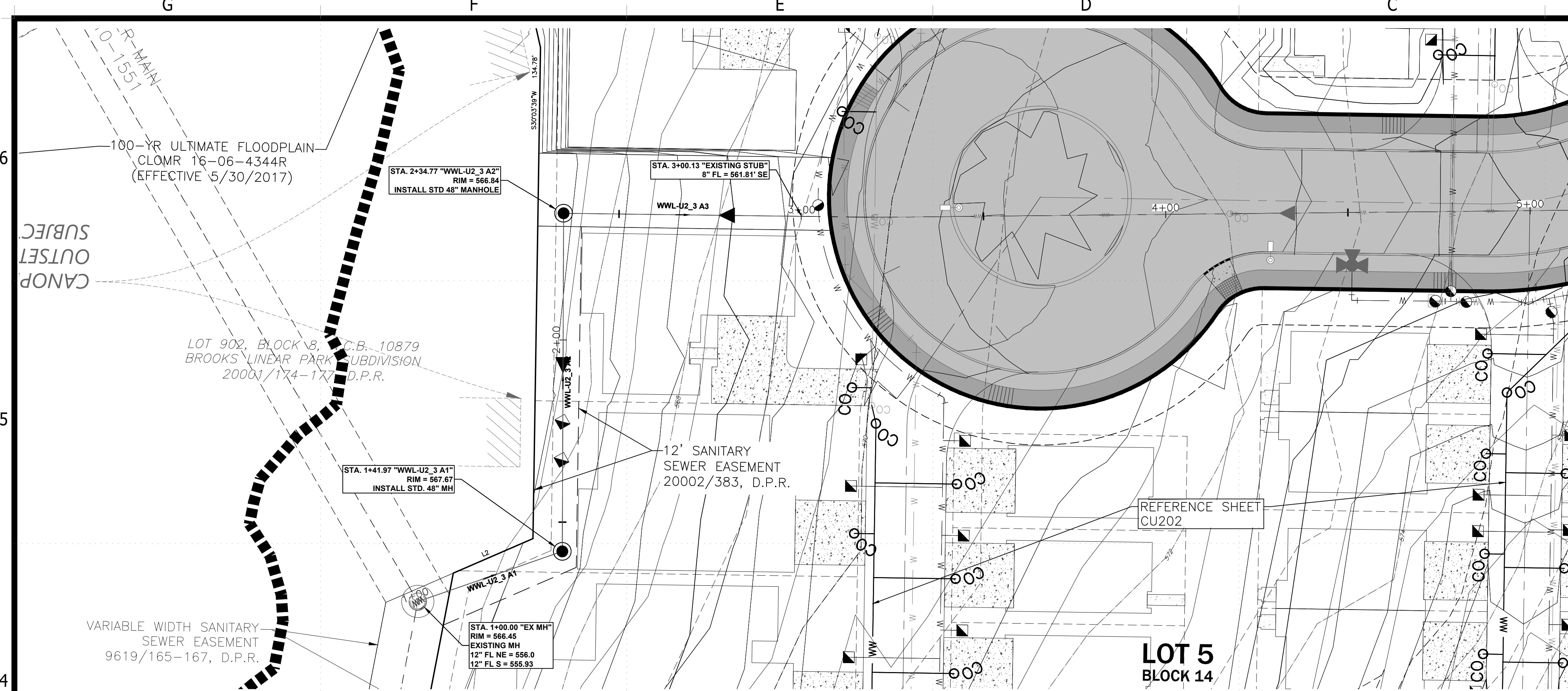
LEGAL DESCRIPTION:
LOTS 02-05, BLOCK 14, N.C.B. 10879, SOUTHLAKE (IDZ-2) SUBDIVISION PLAT NO. 20-11800408 IN THE CITY OF SAN ANTONIO, TEXAS

UP ENGINEERING + SURVEYING
11903 JONES MALIBERGEER, SUITE 102
SAN ANTONIO, TX 78216 TEL. 210-774-5504
WWW.UPENGINEERING.COM TIBELFS E-10194606

4/19/23

TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

Date: Apr 19, 2023 10:30am User: GJ Date: Apr 19, 2023 10:30am User: GJ Southlake at Grade Ph. 2 - 3 (VAD) Sheet 10817 - Ph. 2 - 3 - 3A DRAINAGE & PROFILE.dwg



LEGEND

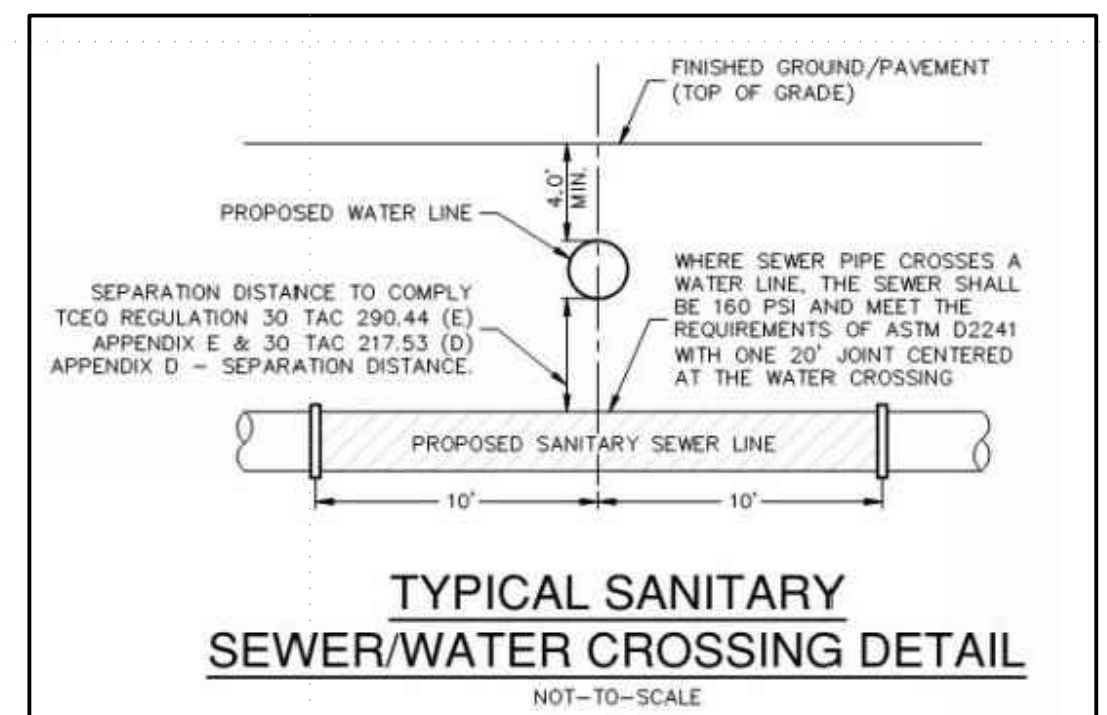
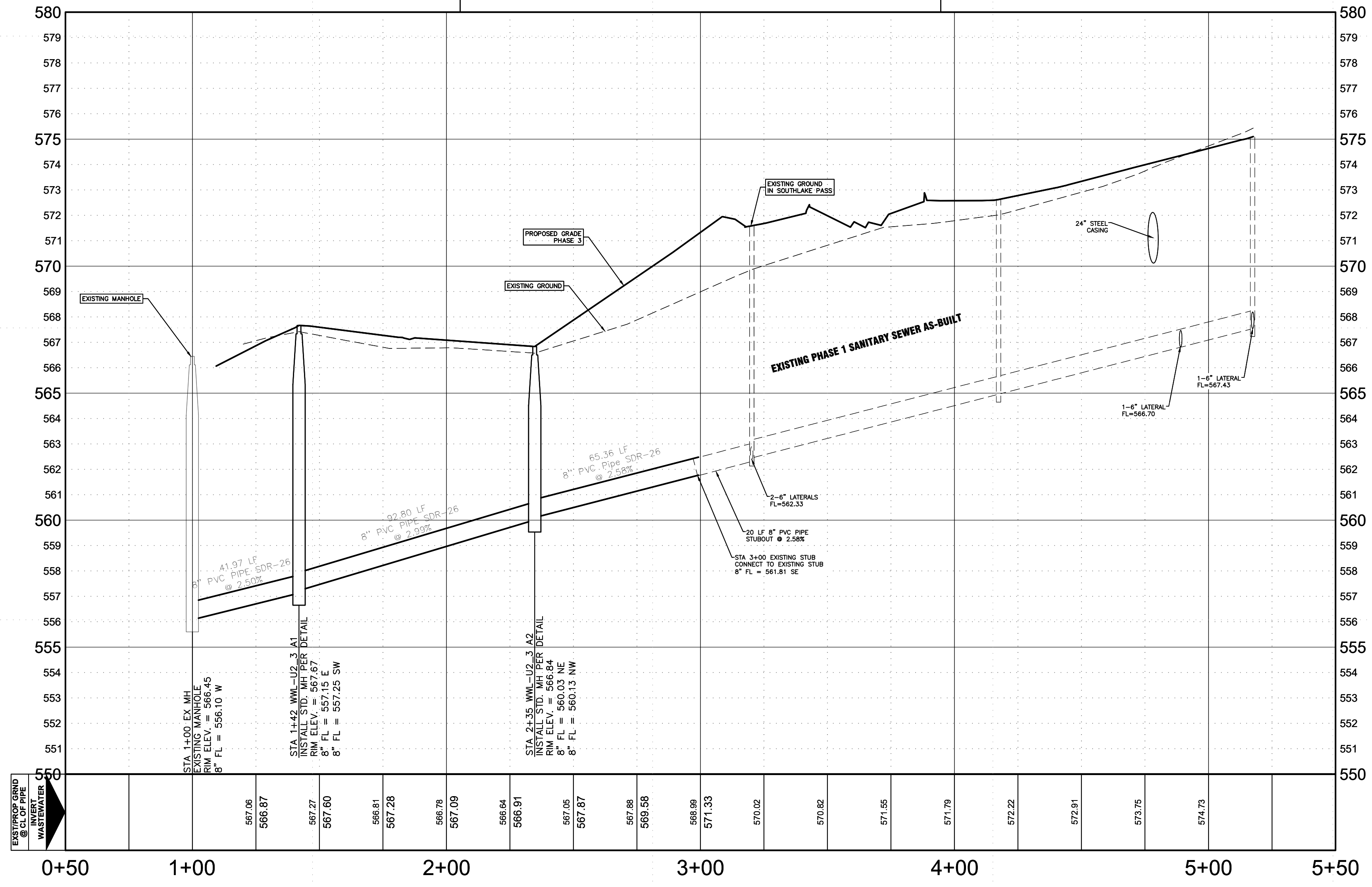
---	BOUNDARY / RIGHT OF WAY
---	EASEMENT / SETBACK
---	CURB / EDGE OF PAVEMENT
-02-	EXIST. GRADE ELEVATIONS
-102-	PROP. GRADE ELEVATIONS
W	EXISTING WATER LINE
W	PROPOSED WATER LINE
OE	EXISTING OVERHEAD UTILITIES
UE	EXISTING UNDERGROUND ELECTRIC
G	EXISTING GAS LINE
+	EXISTING UTILITY POLE
+	EXISTING SIGN
+	EXISTING FIRE HYDRANT
+	PROPOSED FIRE HYDRANT
+	PROPOSED WATER VALVE
+	PROPOSED WATER METER
+	EXISTING GUY WIRE
○	EXISTING WASTEWATER MANHOLE
○	PROPOSED WASTEWATER MANHOLE
○	PROPOSED WASTEWATER LATERAL
---	PROPOSED WASTEWATER LINE

- NOTES:**
- SANITARY SEWER PIPES ARE ANGLED 180 DEGREES AROUND MANHOLE UNLESS OTHERWISE NOTED.
 - SANITARY SEWER CLEANOUTS LOCATED IN THE DRIVE AREAS SHALL HAVE AN APPROVED HEAVY DUTY FRAME AND TRAFFIC-RATED LID.

WASTEWATER LINE U2_3 A STA. 1+00 TO 3+00

WWL-U2_3 A STA 0+50 TO STA 5+50

SCALE:
1" = 5' VERT.
1" = 30' HORIZ.



LEGAL DESCRIPTION:

LOTS 02-05, BLOCK 14, N.C.B. 10879, SOUTHLAKE (IDZ-2) SUBDIVISION PLAT NO. 20-11800408 VOL. 20002, PAGE 383, D.P.R. IN THE CITY OF SAN ANTONIO, TEXAS

FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
PHASE 2 & 3 SANITARY SEWER
P & P

REV	DATE	DESCRIPTION	BY
1	4/22/21	ADDED VARIOUS LABELS	

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

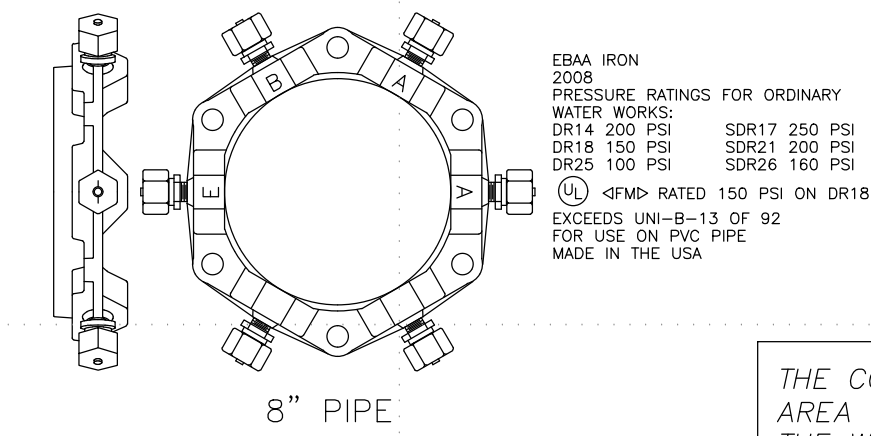
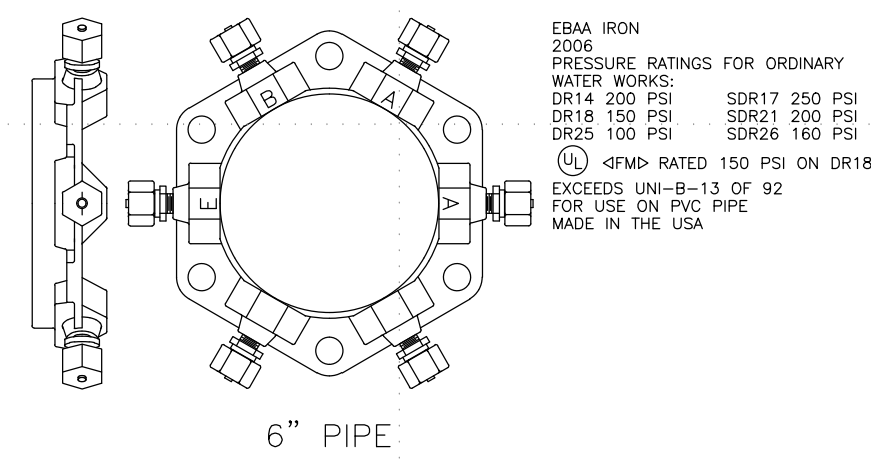
SHEET
CU203
OF 25

UP ENGINEERING + SURVEYING
11903 JONES MALIBERGEER, SUITE 102
SAN ANTONIO, TX 78216 TEL. 210-774-5504
WWW.UPENGINEERING.COM TDFELS F-10194606



TERRAMARK BROOKS LAND I, LTD
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

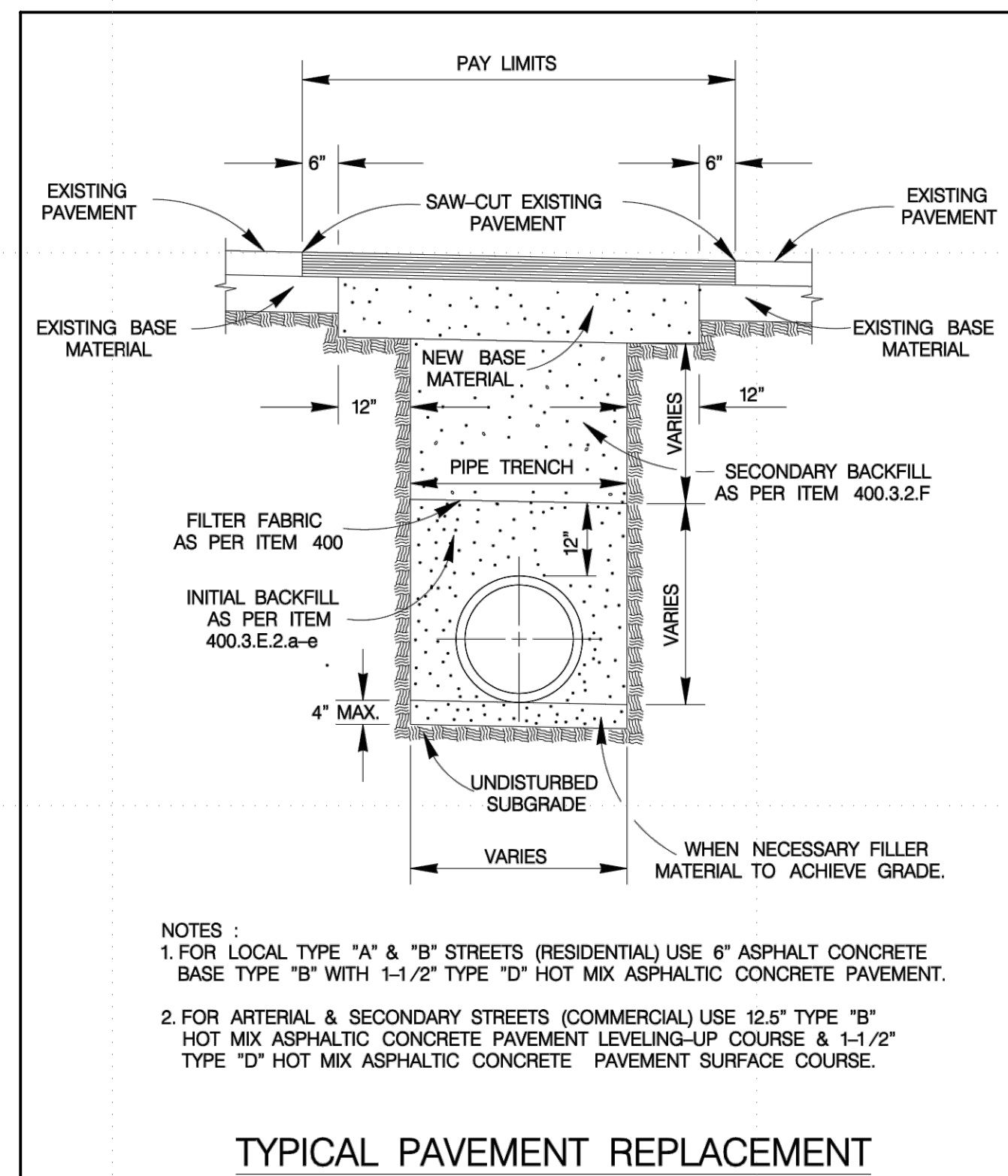
Drawn: 04/04/2021 0:00pm User: 01/21/21
Title: 20-11800408 - Southlake at Brook Ph. 2 - 3 (WWD) Sheet 10817 - Ph. 2 - 3 - 17 SANITARY - P & P.dwg
Scale: as shown



MEGALUG JOINT RESTRAINTS
NTS

THE CONTRACTOR WILL KEEP THE AREA ON TOP OF AND AROUND THE WATER METER BOX FREE OF ALL OBJECTS AND DEBRIS.

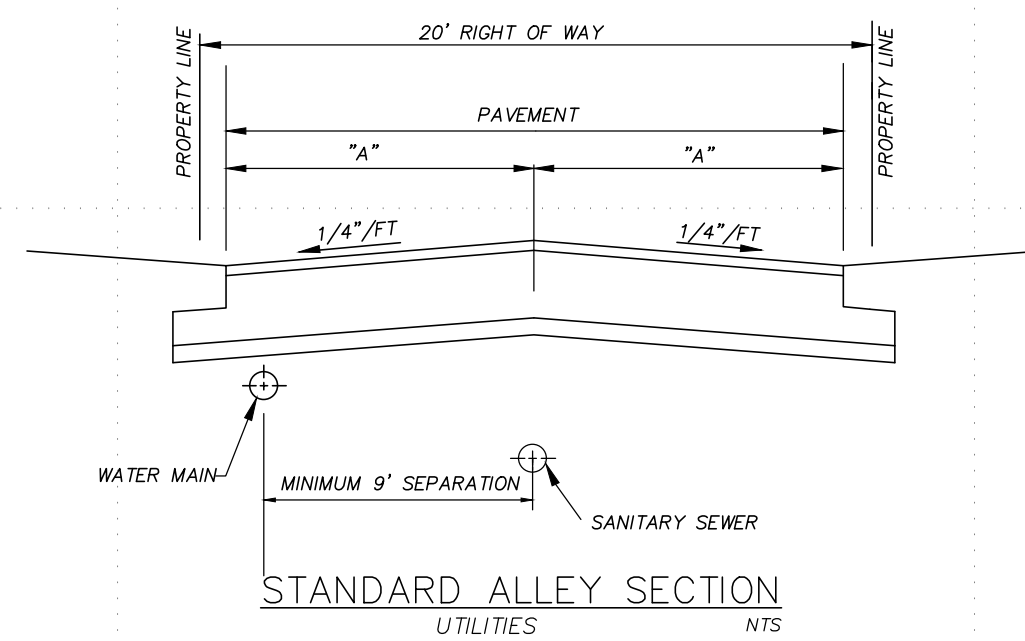
NO METER BOXES TO BE SET IN DRIVEWAYS. ANY METER BOXES SET IN DRIVEWAYS WILL BE RELOCATED AT CONTRACTOR'S EXPENSE.



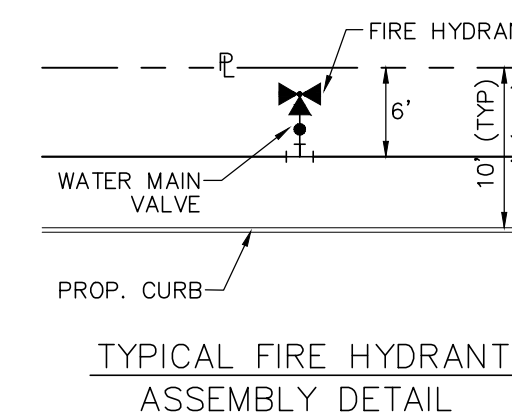
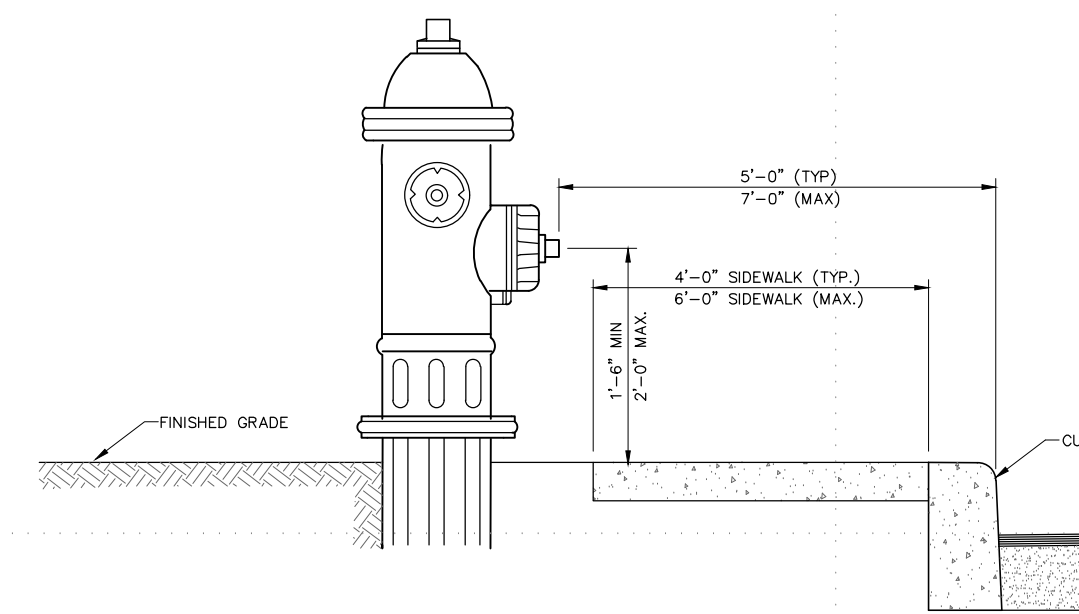
WATER SECTION
1. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with SAWS Construction Inspection Division at least one week in advance of the shutdown. The contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the contractor to sequence the work accordingly.

For water mains 12" or higher: SAWS Emergency Operation Center (210) 233-2014.

- Asbestos Cement (AC) Pipe, also known as transit pipe which is known to contain asbestos-containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Such work is to be made under Special Specification Item No. 3000, "Special Specification for Handling Asbestos Cement Pipe".
- Valve removal: Where the contractor is to abandon a water main, the control valve located on the abandoning branch will be removed and replaced with a cap/plug. (NSPI)
- Suitable anchorage/thrust blocking or joint restraint shall be provided at all of the following main locations: dead ends, plugs, caps, tees, crosses, valves and bends, in accordance with the Standard Drawings DD-839 series and Item No. 839, in the SAWS Standard Specifications for Construction.
- All valves shall read "open right"
- PRVs Required: Contractor to verify that no portion of the tract is below ground elevation of 643 feet where the static pressure will normally exceed 80 PSI. At all such locations where the ground level is below 643 feet, the Developer or Builder shall install at each lot, on the customer's side of the meter, an approved type pressure regulator in conformance with the Plumbing Code of the City of San Antonio. No dual services allowed for any lot(s) if PRV is/are required for such lot(s), only single service connections shall be allowed. *Note: A pressure regulator is also known as a pressure reducing valve (PRV).
- Pipe Disinfection with Dry HTH for Projects less than 800 linear feet. (Item #847.3): Mains shall be disinfected with dry HTH where shown in the contract documents or as directed by the Inspector, and shall not exceed a total length of 800 feet. This method of disinfection will also be followed for main repairs. The Contractor shall utilize all appropriate safety measure to protect his personnel during disinfection operations.
- Backflow Prevention Devices:
All irrigation services within residential areas are required to have backflow prevention devices.
All commercial backflow prevention devices must be approved by SAWS prior to installation.
- Final connection to the existing water main shall not be made until the water main has been pressure tested, chlorinated and SAWS has released the main for tie-in and use.



STREET SECTION TABLE	
DESCRIPTION	LOCAL A
RIGHT OF WAY WIDTH	20'
PAVEMENT WIDTH	18'
LENGTH - "A"	9'



FOR PERMIT REVIEW ONLY

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3

WATER NOTES AND DETAILS

TERRAMARK BROOKS LAND I, LTD
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202



10/4/22



SAWS PRESSURE ZONE 828

Developer: Terramark Brooks Land I, LTD
Address: 905 N. Pine Street
City: San Antonio State: Texas Zip: 78202
Phone: (757) 528-3734 Fax:
SAWS Block Map: 174-550 Total EDUs: 19.5 Total Acreage: 1.376
Total Linear Footage of Pipe: 8"; 436 Plat No.: 20-11800408
Number of Lots: 18 SINGLE FAMILY SAWS Job No.: 21-1036

REV	DATE	DESCRIPTION	BY
2	8/20/21	REVISES SAWS DETAILS	
1	9/16/20	ADDED 12" WATER MAIN PER SAWS USA	

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
CU301
OF 25

Date: 01/04/2022 08:00am User: 01/04/2022 08:00am
Path: \\sawsonline\planning\2021\20-11800408\Southlake at Brook Ph 2 - J1 (CAD) Sheets\08.17 - Ph 2 - J1 - 20 (W) (2) (N) (D) DETAILS.dwg

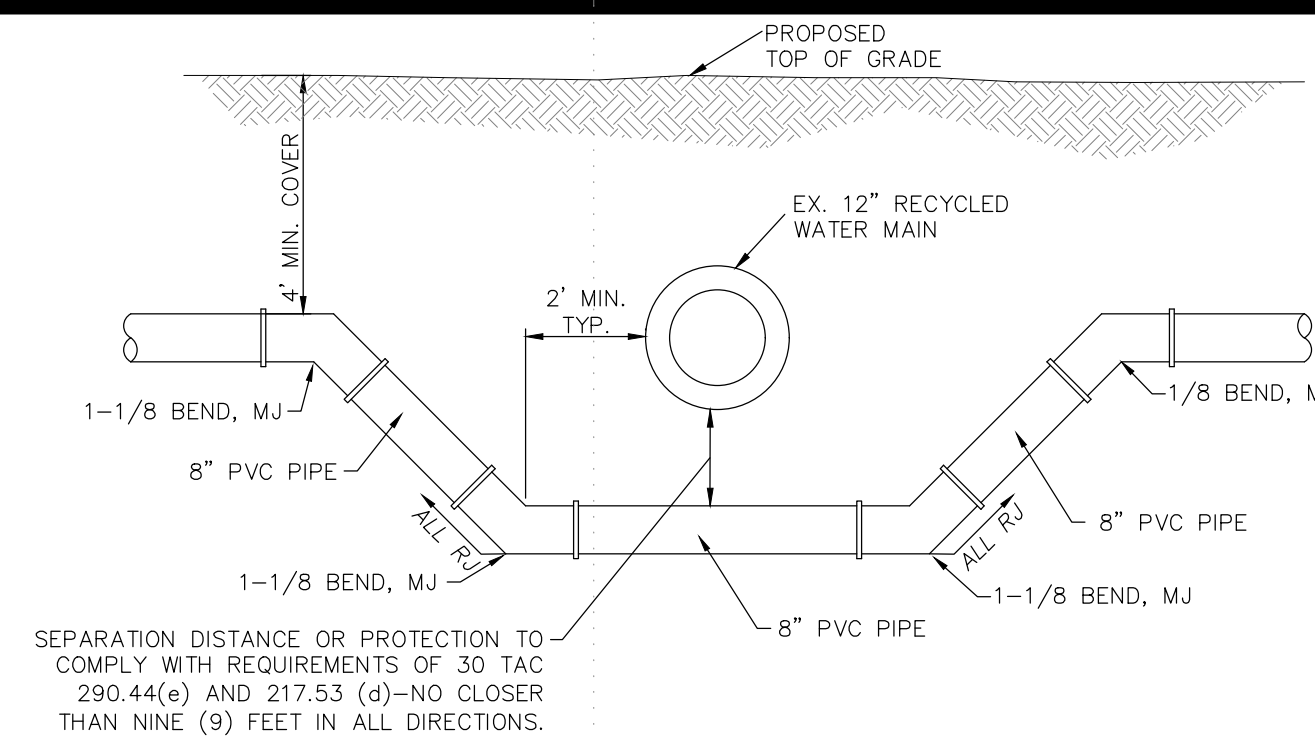
TRENCH EXCAVATION SAFETY PROTECTION

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 ANTICIPATE 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.

JOINT RESTRAINT NOTE:

CONTRACTOR SHALL INSTALL RETAINER GLANDS OR MEGALUGS AT ALL FITTINGS AND PROVIDE JOINT RESTRAINING HARNESS OR FIELD LOK GASKETS AT ALL JOINTS WITHIN THE LENGTH SHOWN. CONTRACTOR SHALL INSURE THAT ALL TEES, BENDS, VALVES, ETC. HAVE A MINIMUM OF 5 FT OF PIPE WITH NO JOINTS ON EACH SIDE OF THE FITTING. JOINT RESTRAINTS AND RETAINER GLANDS OR MEGALUGS SHALL BE CALCULATED BY SAWS APPROVED PROGRAMS AND VERIFIED BY SAWS INSPECTOR. CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKING IN ACCORDANCE WITH SAWS STD. DRAWING 839 IN ADDITION TO JOINT RESTRAINTS UNLESS OTHERWISE DIRECTED BY THE SAWS INSPECTOR. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE JOINT RESTRAINTS AND THRUST BLOCKING WITH THE SAWS INSPECTOR.

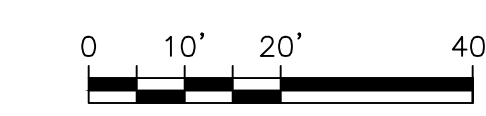
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 6. CONTRACTOR TO REFER TO SAWS STANDARD DETAILS FOR ALL SAWS APPURTENANCES AND STRUCTURES.



WATER/RECYCLED WATER CROSSING DETAIL
NTS

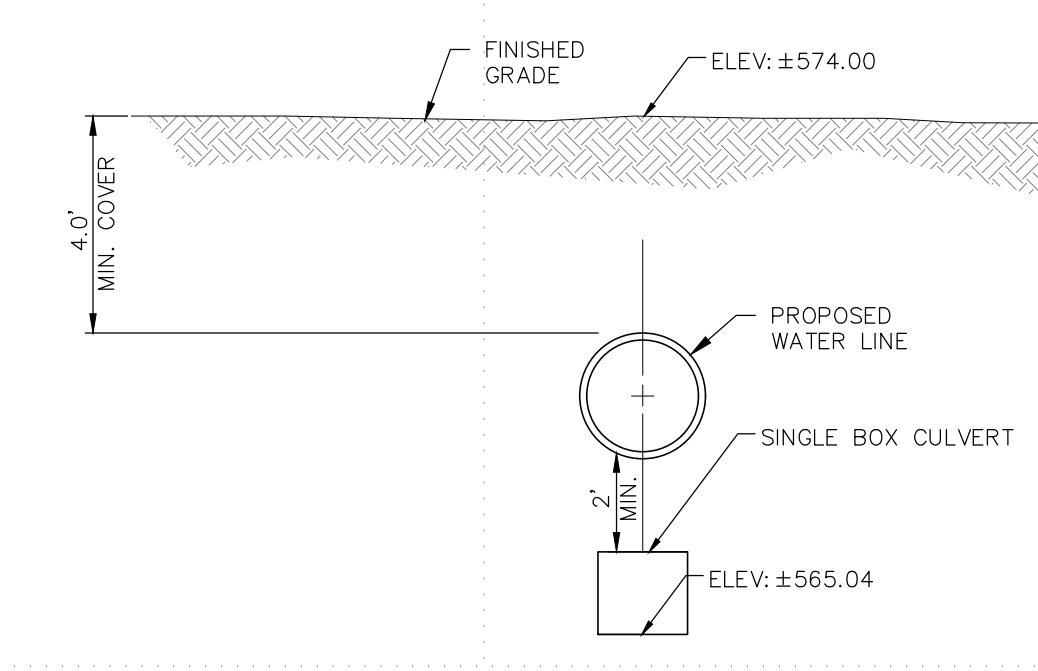
LEGEND

	FIRE HYDRANT
	EXISTING FIRE HYDRANT
	WATER MAIN
	EXISTING WATER MAIN
	EXISTING RECYCLED WATER MAIN
	DUAL WATER SERVICE
	SINGLE WATER SERVICE
	SANITARY SEWER PIPE
	EXISTING SANITARY SEWER PIPE
	EXISTING SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	FLOW DIRECTION
	SANITARY SEWER LATERAL
	EXIST. SANITARY SEWER LATERAL
	GAS, ELECTRIC, TELEPHONE AND CABLE TV
	VEHICLE NON-ACCESS EASEMENT
	BUILDING SETBACK LINE
	EASEMENT
	1937/550
	O.P.R.B.C.T.
	D.P.R.
	POWER POLE
	EXISTING POWER POLE
	ELECTRIC TRANSFORMER
	TELEPHONE PEDESTAL
	CABLE T.V. PEDESTAL
	ELECTRIC RISER POLE
	EXISTING STREET LIGHT
	PROPOSED STREET LIGHT (100 WATT UG)
	ROW
	RLEW

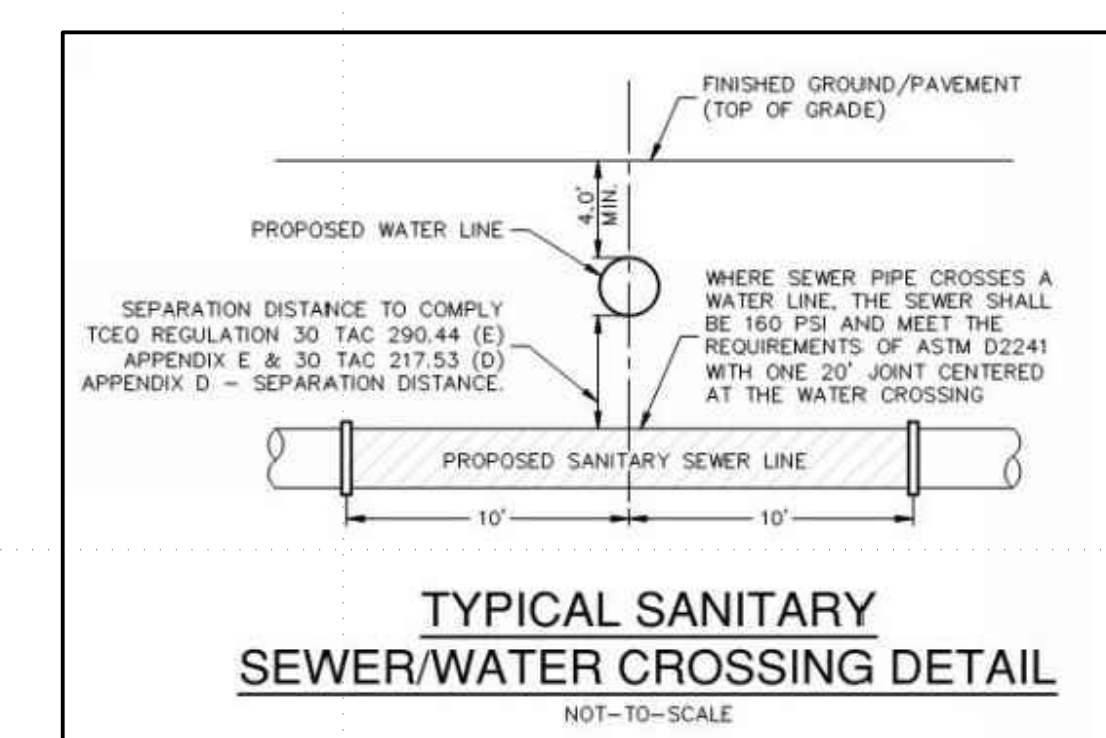


LEGAL DESCRIPTION:

LOTS 02-05, BLOCK 14, N.C.B. 10879, SOUTHLAKE (IDZ-2) SUBDIVISION PLAT NO. 20-11800408 VOL. 20002, PAGE 383, D.P.R. IN THE CITY OF SAN ANTONIO, TEXAS



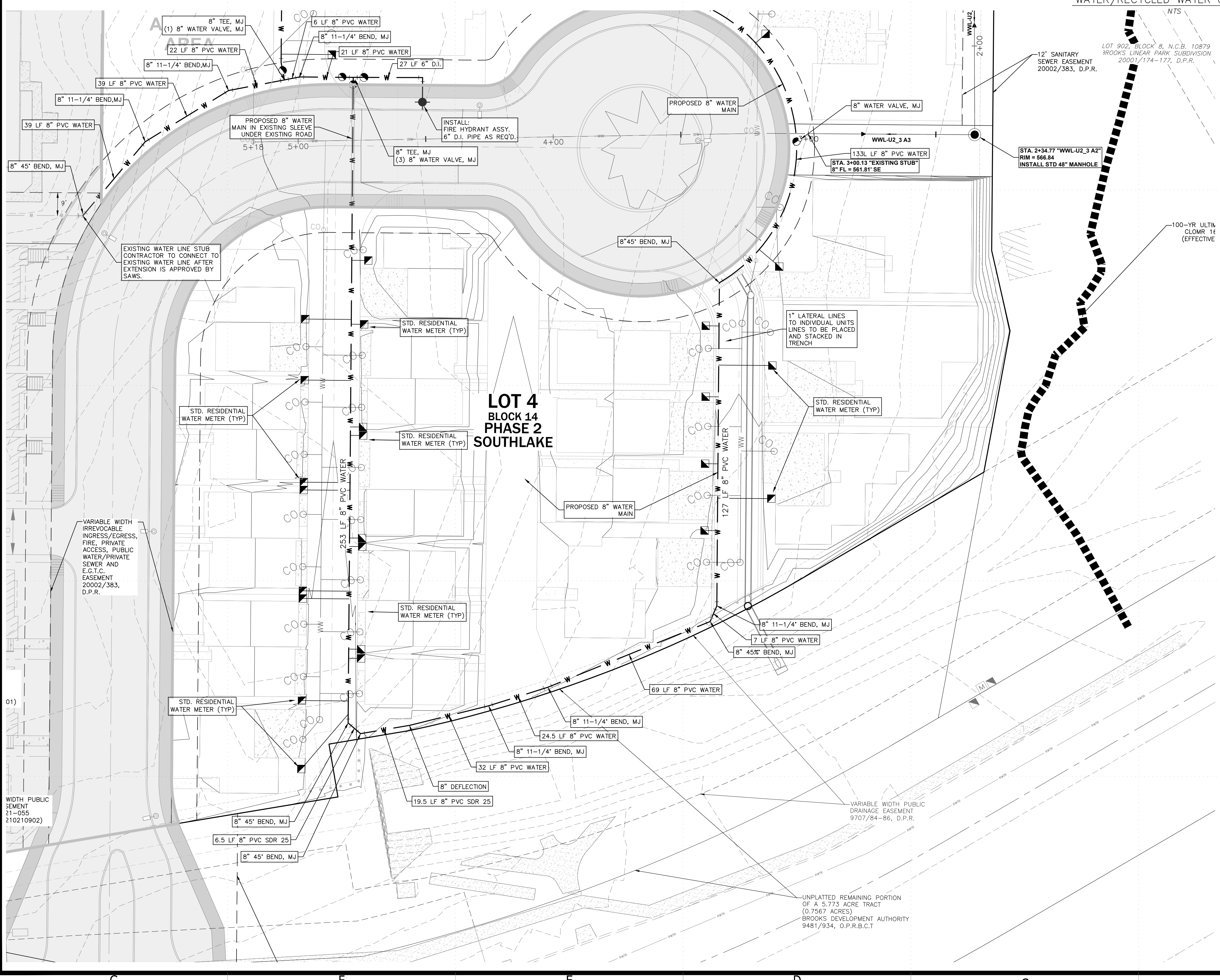
WATER/STORM DRAIN CROSSING DETAIL
NTS



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE

SAWS PRESSURE ZONE 828

Developer: Terramark Brooks Land I, LTD
 Address: 905 N. Pine Street
 City: San Antonio State: Texas Zip: 78202
 Phone: (757) 528-3734 Fax:
 SAWS Block Map: 174-550 Total EDUs: 19.5 Total Acreage: 1.376
 Total Linear Footage of Pipe: 8": 436 Plat No.: 20-11800408
 Number of Lots: 18 SINGLE FAMILY SAWS Job No.: 21-1036



FOR PERMIT REVIEW ONLY

ENGINEERING + SURVEYING
 11903 JONES MALSERBERGER, SUITE 102
 SAN ANTONIO, TX 78216 TEL: 210-771-5504
 WWW.UPENGINEERING.COM FAX: 210-771-1792

10/4/22

TERRAMARK BROOKS LAND I, LTD
 905 N. PINE STREET
 SAN ANTONIO, TEXAS 78202

PLAT NO. 20-11800408
 SOUTHLAKE - PHASE 2 & 3
 PHASE 2 WATER
 SYSTEM LAYOUT

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
 DRAFTED BY:
 CHECKED BY:

SHEET
CU302
 OF 25

TRENCH EXCAVATION SAFETY PROTECTION

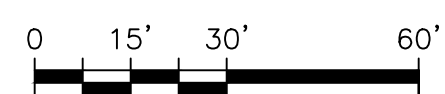
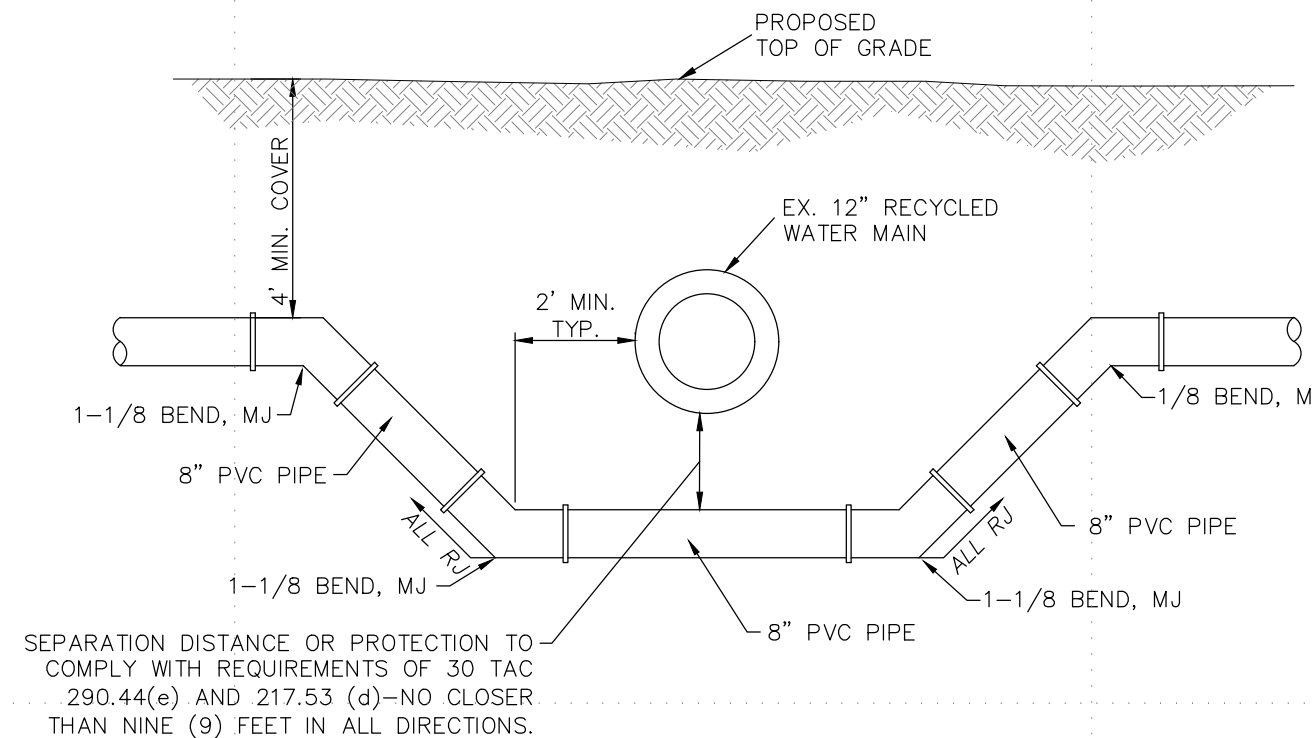
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NOTES:

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LEGEND

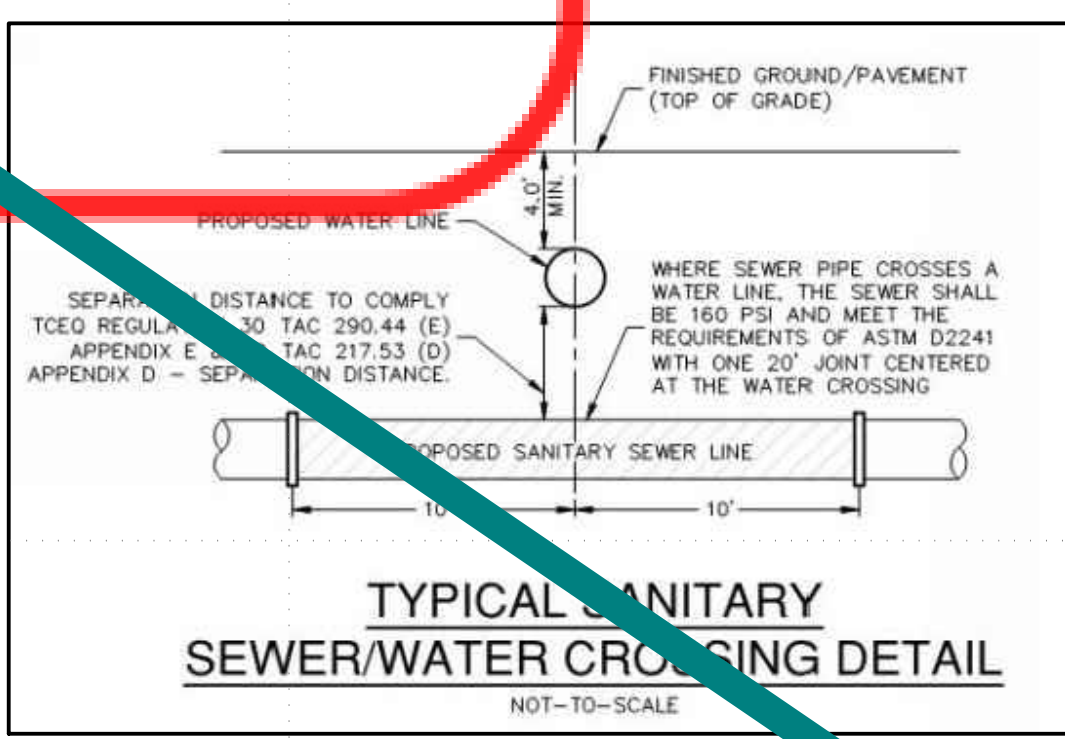
- ⊗ FIRE HYDRANT
- ⊗ EXISTING FIRE HYDRANT
- W — WATER MAIN
- WTR — EXISTING WATER MAIN
- RWTR — EXISTING RECYCLED WATER MAIN
- DW — DUAL WATER SERVICE
- SW — SINGLE WATER SERVICE
- WW — SANITARY SEWER PIPE
- HWL — EXISTING SANITARY SEWER PIPE
- SWMH — EXISTING SANITARY SEWER MANHOLE
- PSWMH — PROPOSED SANITARY SEWER MANHOLE
- FLOW DIRECTION
- SANITARY SEWER LATERAL
- EXIST. SANITARY SEWER LATERAL
- G, E, T, CA — GAS, ELECTRIC, TELEPHONE AND CABLE TV
- WAE — VEHICLE NON-ACCESS EASEMENT
- BSL — BUILDING SETBACK LINE
- ESM/T — EASEMENT
- 1937/550 — VOLUME/PAGE
- O.P.R.B.C.T. — OFFICIAL PUBLIC RECORDS OF BEXAR COUNTY TEXAS
- D.P.R. — DEED AND PLAT RECORDS OF BEXAR COUNTY TEXAS
- POWER POLE
- ⊙ EXISTING POWER POLE
- ELECTRIC TRANSFORMER
- ⊞ TELEPHONE PEDESTAL
- ⊞ CABLE T.V. PEDESTAL
- ⊙ ELECTRIC RISER POLE
- ⊙ EXISTING STREET LIGHT
- ⊙ PROPOSED STREET LIGHT (100 WATT UG)
- ROW — RIGHT-OF-WAY
- RLEW — RESTRAINED LENGTH EACH WAY

LEGAL DESCRIPTION:

LOTS 02-05, BLOCK 14, N.C.B. 10879, SOUTHLAKE (IDZ-2) SUBDIVISION PLAT NO. 20-11800408 VOL. 20002, PAGE 383, D.P.R. IN THE CITY OF SAN ANTONIO, TEXAS

WATER/STORM DRAIN CROSSING DETAIL

NTS



SAWS PRESSURE ZONE 828

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WWW.UPENGINEERING.COM E-MAIL: F-171992

10/4/22
STATE OF TEXAS
SEAL OF THE PROFESSION
RYAN R. PLAGENS
111640
REGISTERED PROFESSIONAL ENGINEER
CIVIL ENGINEERING

TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

FOR PERMIT REVIEW ONLY
PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
PHASE 3 WATER
SYSTEM LAYOUT

REV	DATE	DESCRIPTION	BY

DESIGNED BY:
DRAFTED BY:
CHECKED BY:

SHEET
CU303
OF 25

NOT A PART OF AN APPROVED PLAN SET

LOT 5
BLOCK 14
PHASE 2
SOUTHLAKE

AREA

Drawn: 01/04/2022 8:10am User: 01/04/2022 8:10am
Title: 20-11800408 - Southlake - Phase 2 & 3 - Water System Layout
Sheet: 20-11800408 - Southlake - Phase 2 & 3 - Water System Layout

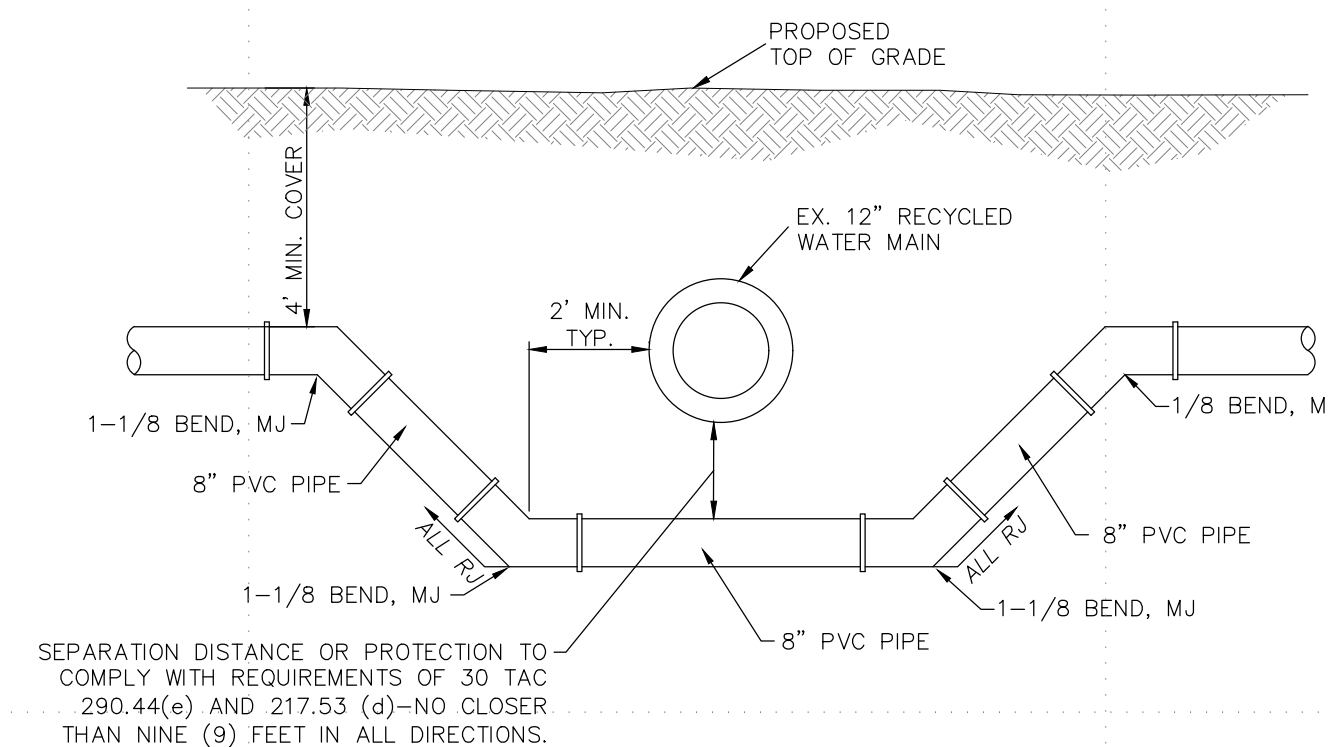
TRENCH EXCAVATION SAFETY PROTECTION

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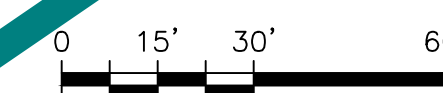
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WATER/RECYCLED WATER CROSSING DETAIL
NTS

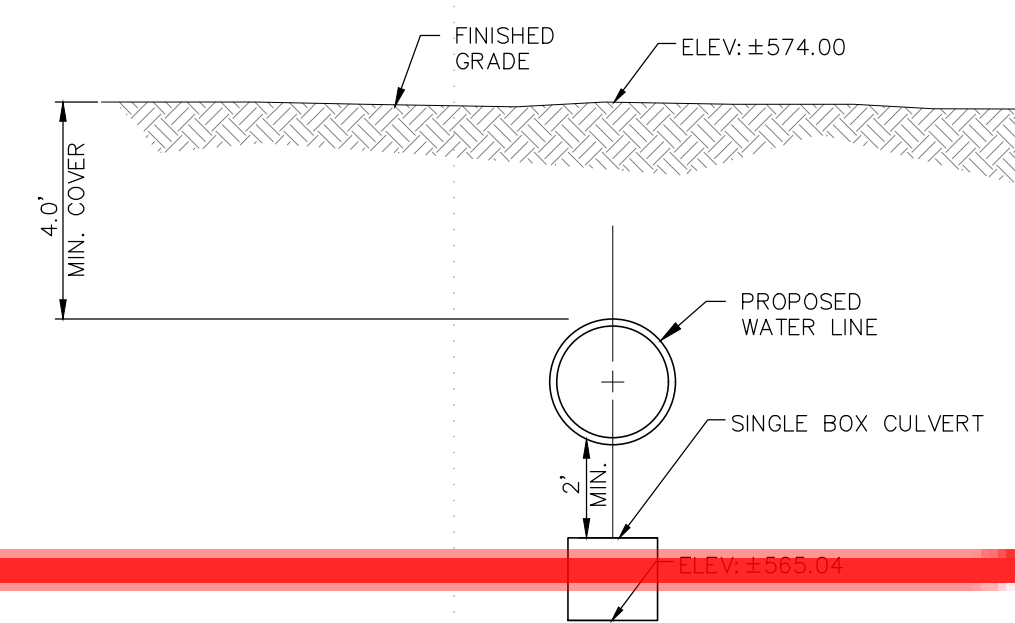
LEGEND

	FIRE HYDRANT
	EXISTING FIRE HYDRANT
	WATER MAIN
	EXISTING WATER MAIN
	EXISTING RECYCLED WATER MAIN
	DUAL WATER SERVICE
	SINGLE WATER SERVICE
	SANITARY SEWER PIPE
	EXISTING SANITARY SEWER PIPE
	EXISTING SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER MANHOLE
	FLOW DIRECTION
	SANITARY SEWER LATERAL
	EXIST. SANITARY SEWER LATERAL
	GAS, ELECTRIC, TELEPHONE AND CABLE TV
	VEHICLE NON-ACCESS EASEMENT
	BUILDING SETBACK LINE
	EASEMENT
	1937/550
	O.P.R.B.C.T.
	D.P.R.
	POWER POLE
	EXISTING POWER POLE
	ELECTRIC TRANSFORMER
	TELEPHONE PEDESTAL
	CABLE T.V. PEDESTAL
	ELECTRIC RISER POLE
	EXISTING STREET LIGHT
	PROPOSED STREET LIGHT (100 WATT)
	ROW
	RLEW

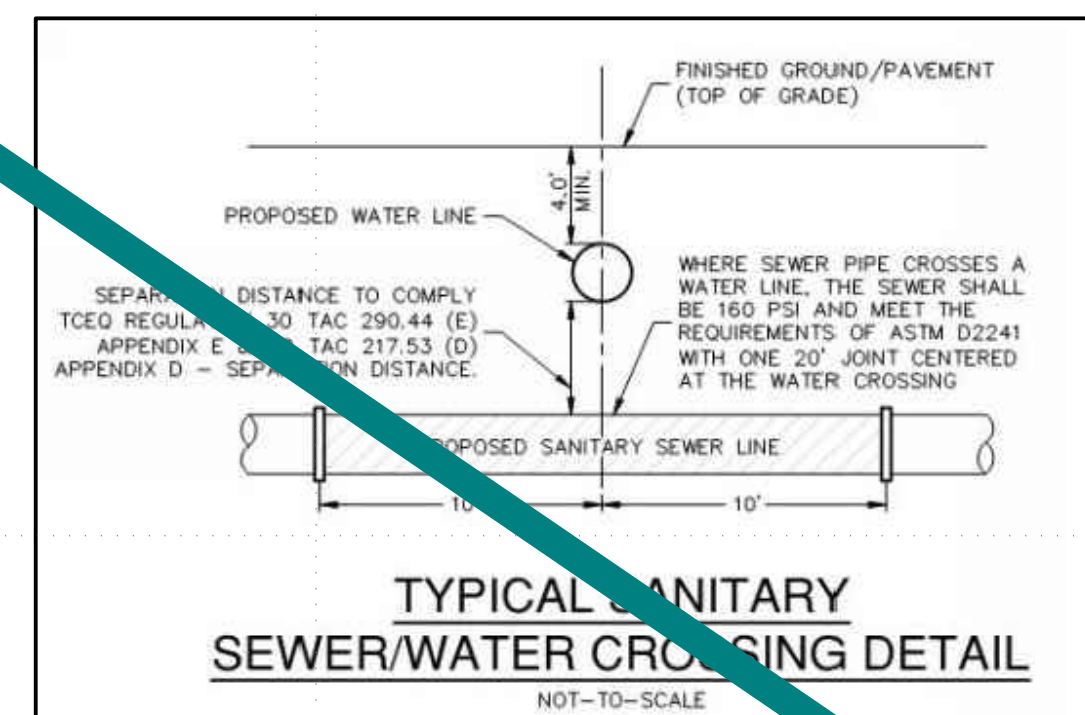


LEGAL DESCRIPTION:

LOTS 02-03, BLOCK 14, N.E.B. 10879, SOUTHLAKE (ID # 27) SUBDIVISION PLAT NO. 20-1180408 VOL. 3002, PAGE 383, D.P.R. IN THE CITY OF SAN ANTONIO, TEXAS



WATER/STORM DRAIN CROSSING DETAIL
NTS

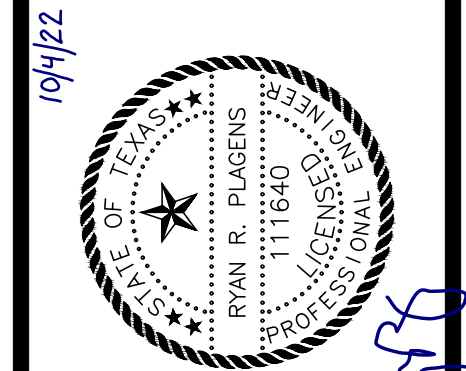


TYPICAL SANITARY SEWER/WATER CROSSING DETAIL
NOT-TO-SCALE

SAWS PRESSURE ZONE 828

Developer: Terramark Brooks Land I, LTD
Address: 905 N. Pine Street
City: San Antonio State: Texas Zip: 78202
Phone: (757) 528-3734 Fax: _____
SAWS Block Map: 174-550 Total EDUs: 19.5 Total Acreage: 1.376
Total Linear Footage of Pipe: 8": 436 Plat No.: 20-11800408
Number of Lots: 18 SINGLE FAMILY SAWS Job No.: 21-1036

UP ENGINEERING + SURVEYING
11903 JONES MALSERBERGER, SUITE 102
SAN ANTONIO, TX 78216 TEL: 210-774-5604
WWW.UPENGINEERING.COM TBEFELS F-10194606



TERRAMARK BROOKS LAND I, LTD.
905 N. PINE STREET
SAN ANTONIO, TEXAS 78202

PLAT NO. 20-11800408
SOUTHLAKE - PHASE 2 & 3
PHASE 3 WATER SYSTEM
LAYOUT

REV	DATE	DESCRIPTION	BY

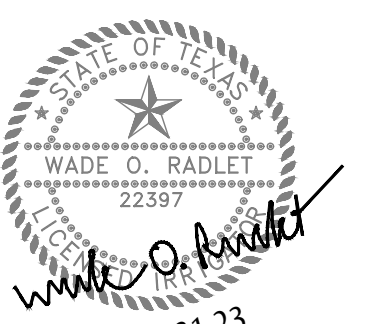
DESIGNED BY: _____
DRAFTED BY: _____
CHECKED BY: _____

SHEET
CU304
OF 25

NOT A PART OF AN APPROVED PLAN SET

FOR PERMIT REVIEW ONLY

Date: 01/04/2023 8:10am User: 01/04/2023 8:10am
C:\Users\jplagens\OneDrive\Documents\2021 - Southlake at Brooks Ph. 2 - 3\16240\Sheet\0817 - Ph. 2 - 3 - 21\W02514.dwg



SOUTHLAKE

PROJECT ADDRESS
SOUTHLAKE COURT
SAN ANTONIO TX 78235

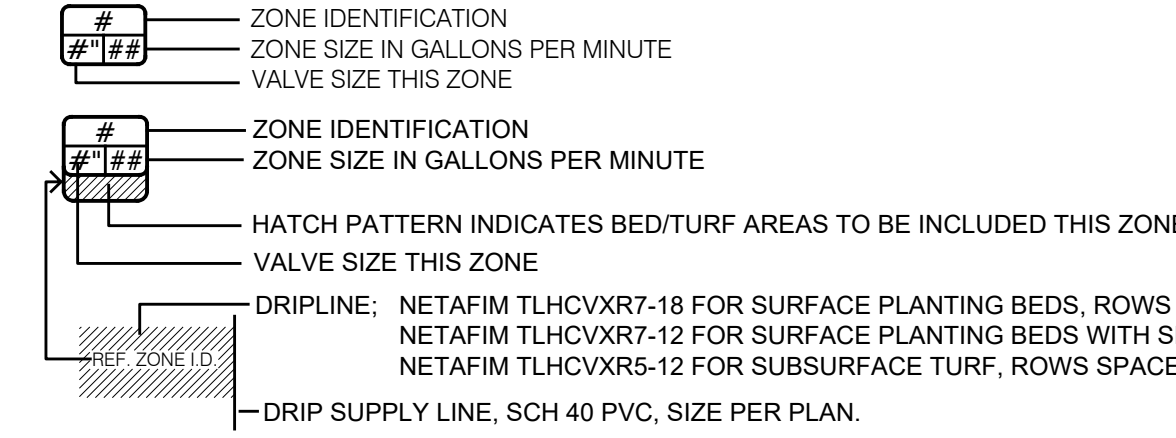
OWNER | CLIENT
TERRAMARK URBAN HOMES
905 N PINE STREET
SAN ANTONIO, TX 78202

OWNER'S REPRESENTATIVE
RICARDO TURRUBIATES
757.528.3734
RTURRUBIATES@TERRAMARKTX.COM

- W DEDICATED 3/4" IRRIGATION RECYCLED WATER METER.
- CB DOUBLE CHECK BACKFLOW DEVICE, ABOVE GROUND 1" WATTS LF007 PER LOCAL CODES.
- EM MASTER VALVE, HUNTER MODEL ICV-151G
- ED DATA INDUSTRIAL FLOW METER MODEL IR220-P, SIZE OF MAINLINE
- MP ROTATOR NOZZLE 90"-210"; SIZE AS SPECIFIED ON PLAN.
- MP ROTATOR NOZZLE 210"-270"; SIZE AS SPECIFIED ON PLAN.
- MP ROTATOR NOZZLE 360"; SIZE AS SPECIFIED ON PLAN.
- MP ROTATOR; M35-M3500, M3-MP 3000, M2-MP 2000, M1-MP 1000, M8-M800SR, MC-MP CORNER, MR,MS,ML- MP SIDESTRIPS AND END STRIPS

- NOTE: ALL MP ROTATOR SPRAY HEADS ARE TO BE HUNTER PROS-06-PRS40-CV SPRAY BODY, PROVIDE CHECK VALVE AT LOW HEAD
- 1 INSTALL TWO ROWS OF DRIP LINE EVENLY SPACED. USE TLHCVXR7-18. IF BED AREA EXCEEDS 36", INSTALL THREE ROWS EVENLY SPACED. INSTALL STAPLES @ MAX. 3' O C TO SECURE
- 2 INDIVIDUAL DRIP EMITTERS FOR PLANTS, REF. DETAIL 8/LI2.3

- NETAFIM DRIP CONTROL ZONE VALVE - REFERENCE DETAILS
- REMOTE CONTROL VALVE, HUNTER ICV, SIZE AS INDICATED ON PLANS
- HUNTER HQ-33-DR3 QUICK COUPLING VALVE WITH HK-33 KEY
- MANUAL VALVE- SIZE OF MAINLINE



- ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
VALVE SIZE THIS ZONE
- ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
VALVE SIZE THIS ZONE
- HATCH PATTERN INDICATES BED/TURF AREAS TO BE INCLUDED THIS ZONE
VALVE SIZE THIS ZONE
- DRIPLINE; NETAFIM TLHCVXR7-18 FOR SURFACE PLANTING BEDS, ROWS SPACED AT 18 INCHES
NETAFIM TLHCVXR7-12 FOR SURFACE PLANTING BEDS WITH SLOPES GREATER THAN 3:1
NETAFIM TLHCVXR5-12 FOR SUBSURFACE TURF, ROWS SPACED AT 12 INCHES
- DRIP SUPPLY LINE, SCH 40 PVC, SIZE PER PLAN.
- TREE BUBBLER ASSEMBLY ON 6" POP UP

- CONTROLLER - HUNTER ACC2 DECODER CONTROLLER WITH CELLULAR MODULE, FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH LANDSCAPE ARCHITECT.
- WEATHER SENSOR - HUNTER SOLAR-SYNC WEATHER SENSOR, FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH LANDSCAPE ARCHITECT.
- MAIN LINE - USE SCH-40 PVC PIPE, SIZE AS INDICATED ON PLANS
- LATERAL LINE - USE CLASS 315 ON 1/2" PIPE AND CLASS 200 IPS PVC ON 3/4" AND LARGER PIPE. DO NOT DEVIATE ON SIZING WITHOUT CONSULTING WITH PROJECT DESIGNER.
- SLEEVE - USE TWO (2) SIZES LARGER THAN SPRINKLER PIPE DESIGNATED FOR CROSSING PAVING ON ALL LATERAL LINES. USE SCH-40 PVC PIPE, VALVE WIRING MAY BE RUN IN THE SAME SLEEVES.

NOTE: REFER TO SHEET LI2.1 TO LI2.3 FOR DETAILS

FIELD LOCATE BY STAKING, THE CONTROLLER, WATER METER, BACKFLOW DEVICE, MASTER VALVE AND FLOW SENSOR FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

1 LEGEND

STATEMENT OF IRRIGATION DESIGN STANDARDS CONFORMITY:
This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out 35-510(j) and 35-511(c)(6) of the City of San Antonio Unified Development Code.

Wade O. Radlet
Wade O. Radlet TX LI# 22397

- SPECIAL NOTES:**
- THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES AND WILL SECURE ALL REQUIRED PERMITS.
 - ALL WIRES, CONTROL VALVES, AND PRESSURIZED WATER SUPPLY LINES SHALL NOT BE LOCATED WITHIN THE EXISTING ROW OR OUTSIDE PROPERTY BOUNDARIES.

"Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ), MC-178, PO Box 13087, Austin, Texas 78711-3087
TCEQ's website is: www.tceq.state.tx.us"

CONSTRUCTION NOTES:

- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH THE SPECIFICATIONS AND ALL SUBMITTAL REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE FOR SITE INSPECTIONS AS SPECIFIED IN THE SPECIFICATIONS. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE DOES NOT RELIEVE THE CONTRACTOR FROM INSPECTION APPROVAL AND WILL REQUIRE THE CONTRACTOR TO UNCOVER WORK AS REQUIRED FOR APPROVAL AT THE COST OF THE CONTRACTOR. IRRIGATION CONTRACTOR IS TO INFORM OWNER'S REPRESENTATIVE OF THE START DATE OF WORK.
- THE IRRIGATION CONTRACTOR IS REQUIRED BY LAW TO NOTIFY TEXAS ONE CALL (800-245-4545) 72 HOURS PRIOR TO ANY EXCAVATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. IRRIGATION CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES. WHETHER OR NOT TEXAS ONE CALL IS NOTIFIED.
- DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WITHOUT VERIFYING ACTUAL ON-SITE WATER PRESSURE FROM THE SOURCE. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS AS REQUIRED TO ACCOMPLISH IRRIGATION INSTALLATION.
- DUE TO SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS SLEEVES, ETC., WHICH MAY BE REQUIRED. IRRIGATION CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEM, PLANTING AND ARCHITECTURAL FEATURES. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND WITHIN PROPERTY LINES.
- DURING INSTALLATION IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO COORDINATE PIPING WITH THE LANDSCAPE SUBCONTRACTOR TO AVOID CONFLICT WITH PROPOSED PLANTING. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION SUBCONTRACTOR TO MOVE PIPING TO ALLOW PROPER PLACEMENT OF PLANT MATERIAL. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
- NO MACHINE TRENCHING IS TO BE DONE WITHIN THE DRIPLINE OF EXISTING TREES. TRENCHING IS TO BE DONE BY HAND, AIR-SPADE OR BY TUNNELING UNDER ROOT SYSTEM BY METHOD APPROVED BY LANDSCAPE ARCHITECT. PIPING LAYOUT IS DIAGRAMMATIC AND PIPING SHALL BE ROUTED AROUND EXISTING TREES AS POSSIBLE TO AVOID DAMAGE TO THE ROOT SYSTEMS. DO NOT CUT ANY ROOT OVER 3/4" DIAMETER UNLESS APPROVAL FROM THE LANDSCAPE ARCHITECT IS FIRST OBTAINED. ANY CUTS MADE SHALL BE CLEAN AND WITHOUT FRAVED ENDS.
- IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES WHEREVER PIPING OR CONDUIT PASSES UNDER ALL PAVING, THROUGH WALLS, ETC. ALL SLEEVE LOCATIONS MAY NOT BE SHOWN ON PLAN. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS, GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS AS REQUIRED. ALL SLEEVE AND CHASE LOCATIONS ARE NOT NOTED ON PLAN. ALL SLEEVES 4" OR LESS SHALL BE SCH-40 PVC. ALL SLEEVES 6" OR GREATER SHALL BE CLASS-200 PVC. ALL SLEEVES TO BE SIZED TWICE THE DIAMETER OF PIPE OR COMBINATION OF PIPES ENCLOSED WITHIN THE SLEEVE.
- CONFIRM STATIC WATER PRESSURE AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS LESS THAN STATED IN PRESSURE CALCULATIONS DO NOT PROCEED UNTIL DIRECTED SO BY THE LANDSCAPE ARCHITECT. IF ACTUAL SITE STATIC PRESSURE EXCEEDS DESIGN PRESSURE BY 15 P.S.I. IN ANY ZONE, A PRESSURE REDUCING VALVE SHALL BE INSTALLED. REFER TO DETAILS FOR MODEL.
- ADJUSTABLE FLOW CONTROLS SHALL BE REQUIRED ON CIRCUIT REMOTE CONTROL VALVE. PRESSURE AT ANY POINT WITHIN A ZONE SHALL NOT VARY BY MORE THAN 10% FROM THE DESIGN SPRINKLER OPERATING PRESSURE. SEE SPECIFICATIONS FOR TESTING.
- THE CONTRACTOR SHALL BE A REGISTERED LICENSED IRRIGATOR IN THE STATE OF TEXAS. CONTRACTOR MUST CONFORM TO ALL CODES AS STATED IN SECTION 344 OF THE TEXAS WATER CODE AS OUTLINED BY TCEQ.
- OBTAIN COVERAGE TEST APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO PLANTING, SODDING OR SEEDING.
- ALL UNDESIGNATED END LATERAL PIPING SHALL BE 1/2" IN SPRAY ZONES AND 3/4" IN ROTOR ZONES.
- SPRINKLER HEAD SPACING SHALL NOT EXCEED 50% OF SPRAY DIAMETER BASED ON MANUFACTURERS OPERATING SPECIFICATIONS. SPRINKLER HEAD SPACING SHALL BE DESIGNED FOR HEAD-TO-HEAD COVERAGE OR HEADS SHALL BE SPACED AS PER MANUFACTURER'S RECOMMENDATIONS AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL BE DESIGNED SO THAT IRRIGATION IS NOT APPLIED TO VEHICULAR TRAFFIC LANES, OTHER PAVEMENT OR STRUCTURES.
- ALL ROTORS SHALL BE LOCATED 12" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE, ALL SPRAY HEADS SHALL BE LOCATED 6" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE.
- VALVE AND CIRCUITS SHALL BE SEPARATED BASED ON WATER USE. SO THAT TURF AREAS ARE WATERED SEPARATELY FROM SHRUB AND GROUND COVER AREAS. IRRIGATION HEADS IN THE TURF AREAS WILL BE VALVED SEPARATELY FROM SHRUB AND/OR GROUND COVER AREAS. IT IS RECOMMENDED THAT SEASONAL COLOR AREAS BE WATERED SEPARATELY. UNDER NO CIRCUMSTANCES ARE ZONE TYPES TO BE COMBINED I.E. ROTARY HEADS WITH SPRAYS, TURF AREAS WITH PLANTING BEDS.
- IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM STATIC PRESSURE ON SITE PRIOR TO STARTING WORK. REFER TO NOTES #9 AND #10.
- IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES CONTAINED IN THESE DOCUMENTS.
- UNSLEEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY. INSTALL PIPES IN ADJACENT SLEEVES WITHIN LANDSCAPE AREAS.
- 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER WITH A HARDWIRE CONNECTION APPROVED AND INSTALLED BY A LICENSED ELECTRICIAN.
- SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN EACH CONTROL VALVE CIRCUIT.
- SERVICEABLE CHECK VALVES SHALL BE REQUIRED ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE.
- ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN SENSOR SHUT-OFF DEVICE.
- ALL IRRIGATION WIRES SHALL BE UL LISTED FOR DIRECT UNDERGROUND BURIAL AND SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATIONS. 3M-DBY WATERPROOF CONNECTORS TO BE USED ON ALL WIRE CONNECTIONS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT.
- ALL IRRIGATION HEADS SHALL BE ADJUSTED TO MINIMIZE OVER-SPRAY ONTO ALL IMPERVIOUS SURFACES.
- ALL PIPE CONNECTIONS SHALL BE PRIMED WITH AN APPROVED COLOR PRIMER BEFORE BEING CHEMICAL WELDED.
- AFTER AWARD OF CONTRACT AND BEFORE ANY IRRIGATION SYSTEM MATERIALS ARE ORDERED FROM SUPPLIERS OR DELIVERED TO THE JOB SITE, SUBMIT TO THE OWNER A COMPLETE LIST OF ALL IRRIGATION SYSTEM MATERIALS, OR PROCESSES PROPOSED TO BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT. THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE WILL ALLOW NO SUBSTITUTIONS WITHOUT PRIOR WRITTEN ACCEPTANCE. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.
- IRRIGATION CLOSEOUT DOCUMENTS SHALL INCLUDE A WATER BUDGET. A LAMINATED COPY OF THE WATER BUDGET SHALL BE PERMANENTLY INSTALLED INSIDE THE IRRIGATION CONTROLLER DOOR.

- A. CHART CONTAINING ZONE NUMBER, PRECIPITATION RATE AND GPM.
- B. LOCATION OF EMERGENCY IRRIGATION SYSTEM SHUT-OFF VALVE.

2 NOTES

PRESSURE REQUIREMENT CALCULATIONS @ ZONE No. 2	
DESIGN STATISTICS FOR CALCULATIONS	
Total Zone Flow:	15.7 g.p.m.
Electric Valve Size:	1"
Static Pressure Less 10% (static @ 65 psi):	58.5 p.s.i.
ACCUMULATIVE LOSSES FROM CITY MAIN TO FURTHEST HEAD	
Sprinkler head requirement:	40 p.s.i.
Zone Pipe/Fitting Loss:	1.71 p.s.i.
1" Electric Valve Loss:	3.0 p.s.i.
Elevation Net Loss (+, - FT.):	n/a
System Mainline Loss (2" Sch-40 Mainline):	0.63 p.s.i.
Backflow Preventer Loss (1"):	3.5 p.s.i.
Water Meter Loss (3/4"):	4.1 p.s.i.
Master Electric Valve Loss (1.5"):	1.5 p.s.i.
Type K Copper Service Loss:	
Total Net Loss:	14.44 p.s.i.
Design Pressure:	54.44 p.s.i.

Notes: System requires a minimum of 55 psi static pressure for system to operate properly. Irrigation Contractor shall conduct on site pressure test to verify site pressure prior to starting work. Contractor shall notify Owner's Representative of pressure deficiencies or any other on site problems that may alter the effectiveness of the system. Pipe has been size to insure that velocity does not exceed 5 FPS. do not change pipe size in the field without consulting system designer.

4 CRITICAL LOSS CHART

TYPICAL WEEKLY SCHEDULE BASED ON PRECIPITATION RATE					
Precipitation Rate (in/hr)	Water Desired (in/wk)	Time/Cycle (min)	No. of Zones	Total Time * Min. Hrs.	
Turf Rotor Zone .64	.80				
MP Rotor Spray .44	.80	107.0	2	214	3.6
Turf Drip Zones .85	.80				
Drip Zones .55	.80	88.0	5	440	7.4
Tree Bubblers 3.87	.80	12.0	9	108	1.8
Total System Hours of Operation Per Week					12.8

* IT WILL BE NECESSARY TO WATER MULTIPLE ZONES AT ONE TIME TO MEET WATERING WINDOW. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO TIMES PER WEEK. TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE AND ESTABLISHMENT OF NEW PLANTING.

3 VALVE SCHEDULE

Month	ET %	Irrigation	Gallons
Jan	33%	12,256	Gallons
Feb	39%	14,485	Gallons
March	60%	22,284	Gallons
April	75%	27,855	Gallons
May	88%	32,683	Gallons
June	95%	35,283	Gallons
July	100%	37,140	Gallons
Aug	95%	35,283	Gallons
Sept	77%	28,598	Gallons
Oct	60%	22,284	Gallons
Nov	39%	14,485	Gallons
Dec	32%	11,885	Gallons
TOTAL		294,520	Gallons

Zone #	Emitter Type	Zone GPM	Desired Precip.	Precip. Rate	Min./Week	Total Gal Peak Month
1	MP	10.1	0.8	0.45	107	37140
2	MP	15.7	0.8	0.45	107	
3	DR	13.3	0.8	0.64	75	
4	DR	7.5	0.8	0.64	75	
5	BL	8	0.8	3.87	12	
6	DR	12	0.8	0.64	75	
7	BL	8	0.8	3.87	12	
8	DR	14.4	0.8	0.64	75	
9	BL	6	0.8	3.87	12	
10	BL	4	0.8	3.87	12	
11	DR	15.5	0.8	0.64	75	
12	BL	6	0.8	3.87	12	
13	BL	18	0.8	3.87	12	
14	BL	8	0.8	3.87	12	
15	BL	18	0.8	3.87	12	
16	BL	14	0.8	3.87	12	

MAX FLOW THROUGH METER: 18 GPM

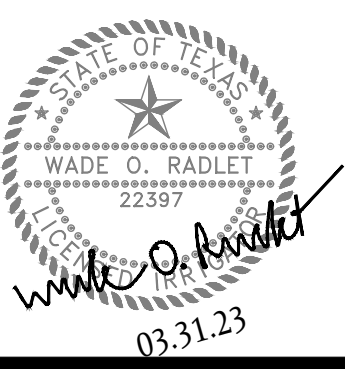
5 RECYCLED WATER USE DATA

REVISIONS		
NO.	DATE	DESCRIPTION

ISSUE SETS		
NO.	DATE	DESCRIPTION

SHEET INFORMATION	
PROJECT NO.	20015
DATE ISSUED	MARCH 31, 2023
SHEET NAME	
ISSUE SETS	
SHEET NUMBER	





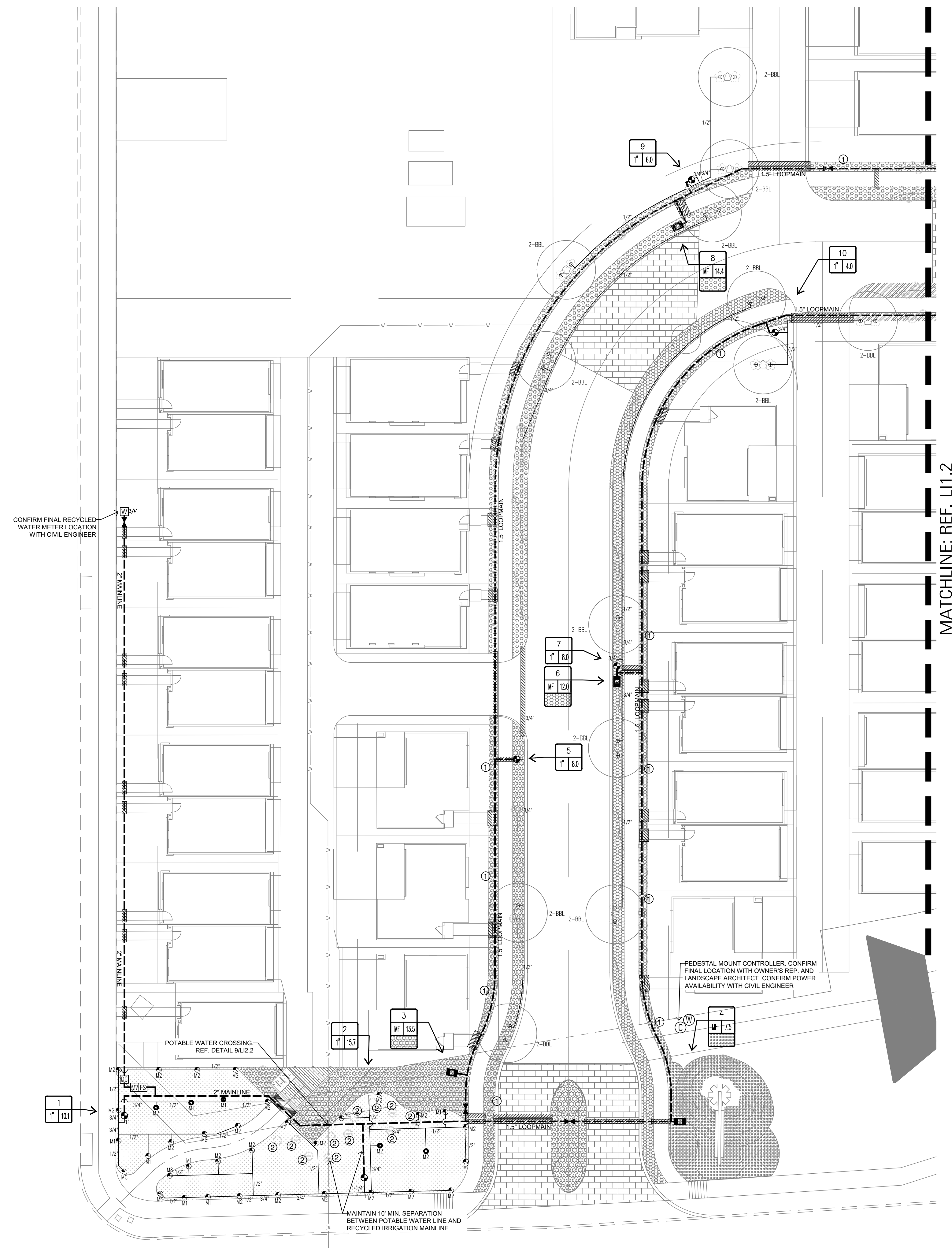
PROJECT

SOUTHLAKE

PROJECT ADDRESS
SOUTHLAKE COURT
SAN ANTONIO TX 78235

OWNER | CLIENT
TERRAMARK URBAN HOMES
905 N PINE STREET
SAN ANTONIO, TX 78202

OWNER'S REPRESENTATIVE
RICARDO TURRUBIATES
757.528.3734
RTURRUBIATES@TERRAMARKTX.COM



NOTE:
THIS IRRIGATION SYSTEM IS DESIGNED FOR RECYCLED WATER USE. ALL COMPONENTS OF THE SYSTEM ARE TO BE NP (NON-POTABLE PURPLE) COMPLIANT AS SUPPLIED BY THE MANUFACTURER. THE COMPONENTS SHALL MEET ALL TCEQ (TEXAS DEPARTMENT OF ENVIRONMENTAL QUALITY) AND LOCAL GOVERNING AUTHORITY CODES FOR RECYCLED WATER USE IN LANDSCAPE IRRIGATION SYSTEMS. SIGNAGE AS REQUIRED BY LOCAL AUTHORITY/TCEQ SHALL BE PROVIDED.

NOTE:
ALL POTABLE WATER CROSSINGS SLEEVES SHALL EXTEND 9' HORIZONTALLY FROM THE CENTER LINE OF THE POTABLE PIPE ON BOTH SIDES OF THE CROSSING AND BE PROPERLY IDENTIFIED.

NOTE:
RECYCLED CROSSINGS TO BE BELOW POTABLE WATER LINES.

NOTE:
CONTRACTOR TO FOLLOW CHAPTER 290 SUBCHAPTER D TAC 30 FOR POTABLE WATER AND CHAPTER 210 RULES AND REGULATIONS FOR RECYCLED WATER. CONTRACTOR TO CHECK WITH AUTHORITY HAVING JURISDICTION FOR ALL PIPE LABELING AND SEPARATIONS.

NOTE:
PHOTOGRAPH AND GPS LOCATE ALL RECYCLED WATER LINES CROSSINGS UNDER DOMESTIC WATER LINES. COORDINATE DATA WITH CIVIL ENGINEER AND OWNER'S RECORDS. REFER TO DTL. 9/L12.2, WHERE POSSIBLE ADJUST MAINLINE LOCATION TO AVOID POTABLE WATER CROSSINGS.

NOTE:
THE IRRIGATION MAINLINE SHALL BE INSTALLED NO CLOSER THEN 9 FEET IN ALL DIRECTIONS FROM WATER/WASTEWATER/DRAIN COLLECTION FACILITIES. ALL SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE SURFACE OF EACH OF THE RESPECTIVE PIECES. ADJUST IRRIGATION MAINLINE AS NEEDED TO MAINTAIN ACCEPTABLE OFFSET.

REVISIONS

NO.	DATE	DESCRIPTION

ISSUE SETS

NO.	DATE	DESCRIPTION

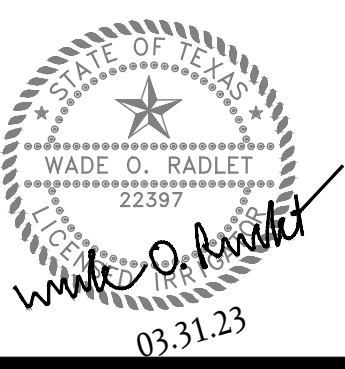
SHEET INFORMATION

PROJECT NO.
20015

DATE ISSUED
MARCH 31, 2023

SHEET NAME
IRRIGATION PLAN

SHEET NUMBER
L11.1



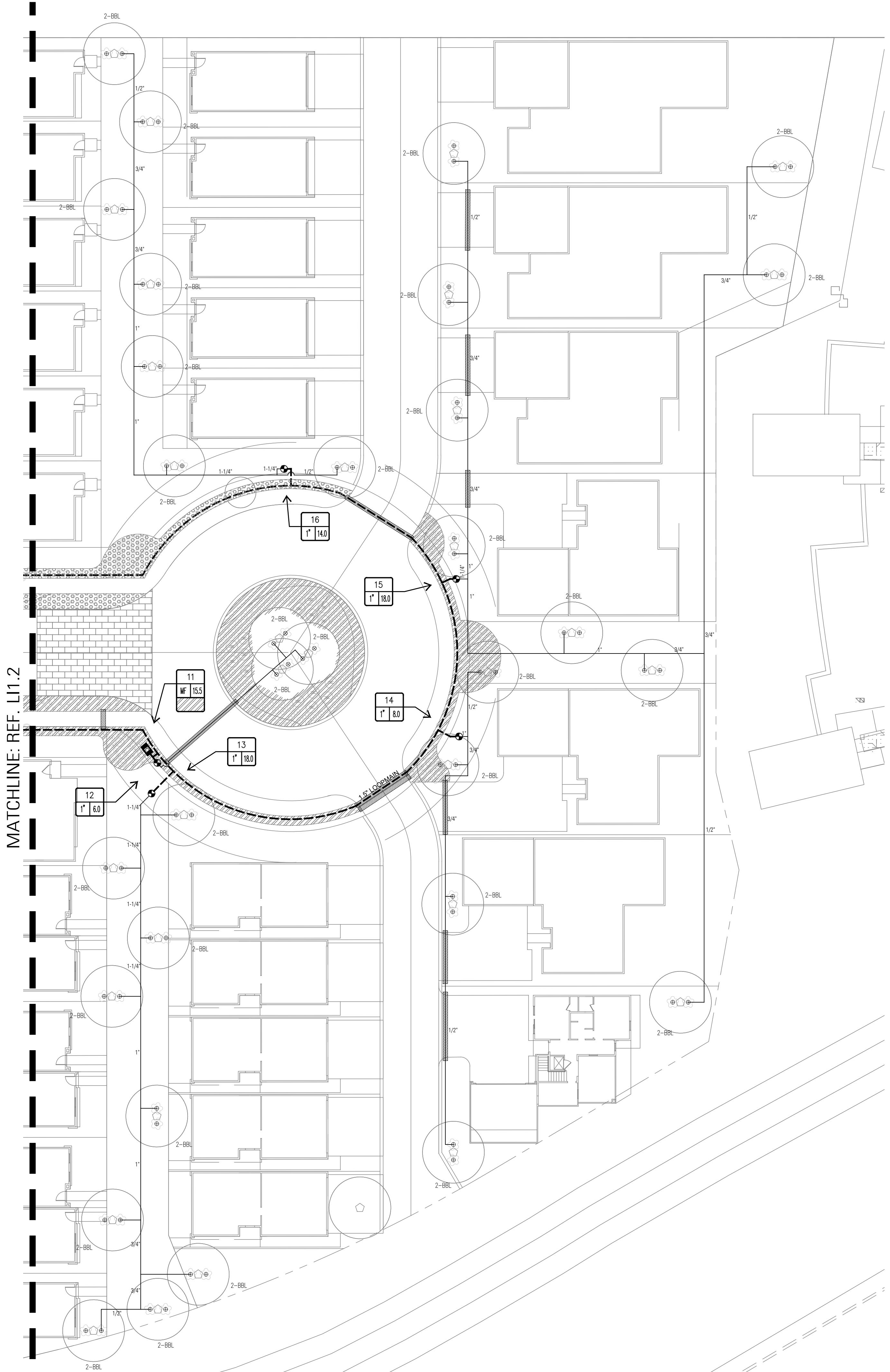
PROJECT

SOUTHLAKE

PROJECT ADDRESS
SOUTHLAKE COURT
SAN ANTONIO TX 78235

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SAN ANTONIO, TX 78202

OWNER'S REPRESENTATIVE
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MATCHLINE: REF. LI1.2

NOTE:
THIS IRRIGATION SYSTEM IS DESIGNED FOR RECYCLED WATER USE. ALL COMPONENTS OF THE SYSTEM ARE TO BE NP (NON-POTABLE PURPLE) COMPLIANT AS SUPPLIED BY THE MANUFACTURER. THE COMPONENTS SHALL MEET ALL TCEQ (TEXAS DEPARTMENT OF ENVIRONMENTAL QUALITY) AND LOCAL GOVERNING AUTHORITY CODES FOR RECYCLED WATER USE IN LANDSCAPE IRRIGATION SYSTEMS. SIGNAGE AS REQUIRED BY LOCAL AUTHORITY/TCEQ SHALL BE PROVIDED.

NOTE:
ALL POTABLE WATER CROSSINGS SLEEVES SHALL EXTEND 9' HORIZONTALLY FROM THE CENTER LINE OF THE POTABLE PIPE ON BOTH SIDES OF THE CROSSING AND BE PROPERLY IDENTIFIED.

NOTE:
RECYCLED CROSSINGS TO BE BELOW POTABLE WATER LINES.

NOTE:
CONTRACTOR TO FOLLOW CHAPTER 290 SUBCHAPTER D TAC 30 FOR POTABLE WATER AND CHAPTER 210 RULES AND REGULATIONS FOR RECYCLED WATER. CONTRACTOR TO CHECK WITH AUTHORITY HAVING JURISDICTION FOR ALL PIPE LABELING AND SEPARATIONS.

NOTE:
PHOTOGRAPH AND GPS LOCATE ALL RECYCLED WATER LINES CROSSINGS UNDER DOMESTIC WATER LINES. COORDINATE DATA WITH CIVIL ENGINEER AND OWNER'S RECORDS. REFER TO DTL 9LI2.2, WHERE POSSIBLE ADJUST MAINLINE LOCATION TO AVOID POTABLE WATER CROSSINGS.

NOTE:
THE IRRIGATION MAINLINE SHALL BE INSTALLED NO CLOSER THEN 9 FEET IN ALL DIRECTIONS FROM WATER/WASTEWATER/DRAIN COLLECTION FACILITIES. ALL SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE SURFACE OF EACH OF THE RESPECTIVE PIECES. ADJUST IRRIGATION MAINLINE AS NEEDED TO MAINTAIN ACCEPTABLE OFFSET.

REVISIONS

NO.	DATE	DESCRIPTION

ISSUE SETS

NO.	DATE	DESCRIPTION

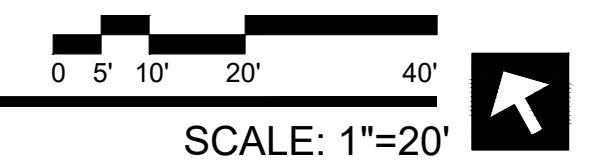
SHEET INFORMATION

PROJECT NO.	20015
DATE ISSUED	MARCH 31, 2023
SHEET NAME	IRRIGATION PLAN

IRRIGATION PLAN

SHEET NUMBER	LI1.2
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1 IRRIGATION
PLAN



NOTE: THIS IRRIGATION SYSTEM IS DESIGNED FOR RECYCLED WATER USE. ALL COMPONENTS OF THE SYSTEM ARE TO BE NON-POTABLE PURPLE COMPLIANT AS SUPPLIED BY THE MANUFACTURER. THE COMPONENTS SHALL MEET ALL TEXAS DEPARTMENT OF ENVIRONMENTAL QUALITY AND LOCAL GOVERNING AUTHORITY CODES FOR RECYCLED WATER USE IN LANDSCAPE IRRIGATION SYSTEMS. SIZING AS REQUIRED BY LOCAL AUTHORITIES SHALL BE PROVIDED.

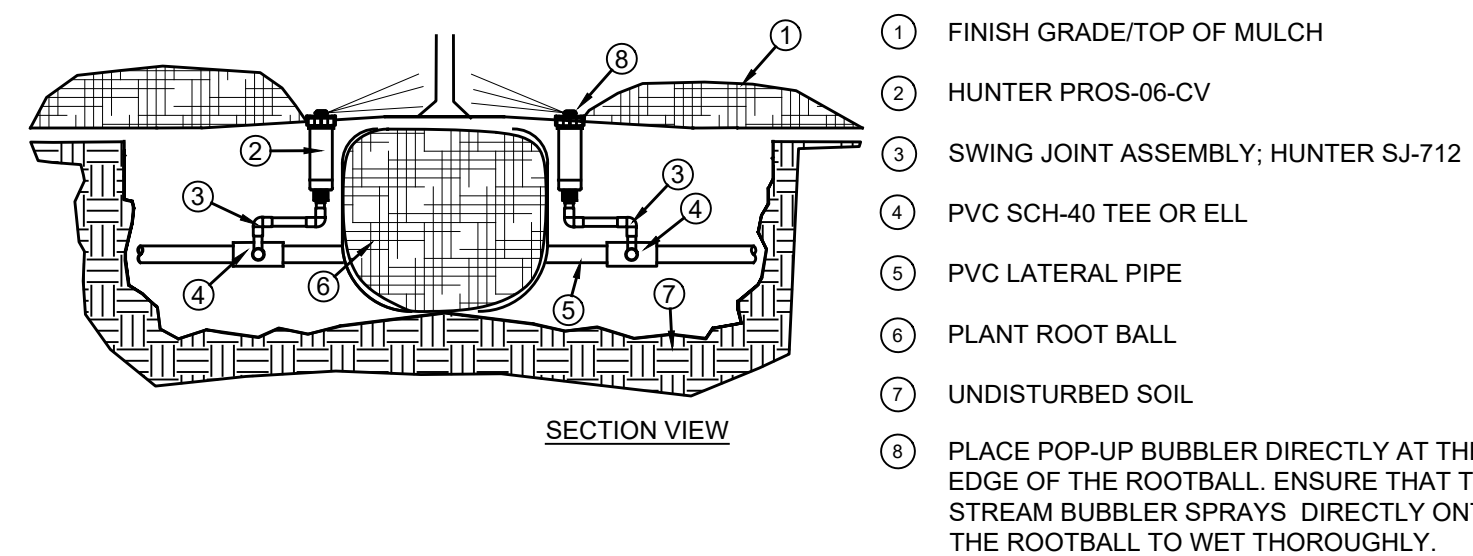
NOTE: ALL POTABLE WATER CROSSINGS SLEEVES SHALL EXTEND 1' HORIZONTALLY FROM THE CENTERLINE OF THE POTABLE PIPE ON BOTH SIDES OF THE CROSSING AND BE PROPERLY IDENTIFIED.

NOTE: RECYCLED CROSSINGS TO BE BELOW POTABLE WATER LINES.

NOTE: CONTRACTOR TO FOLLOW CHAPTER 290 SUBCHAPTER D TAC 30 FOR POTABLE WATER AND CHAPTER 210 RULES AND REGULATIONS FOR RECYCLED WATER. CONTRACTOR TO CHECK WITH AUTHORITY HAVING JURISDICTION FOR ALL PIPE LABELING AND SEPARATIONS.

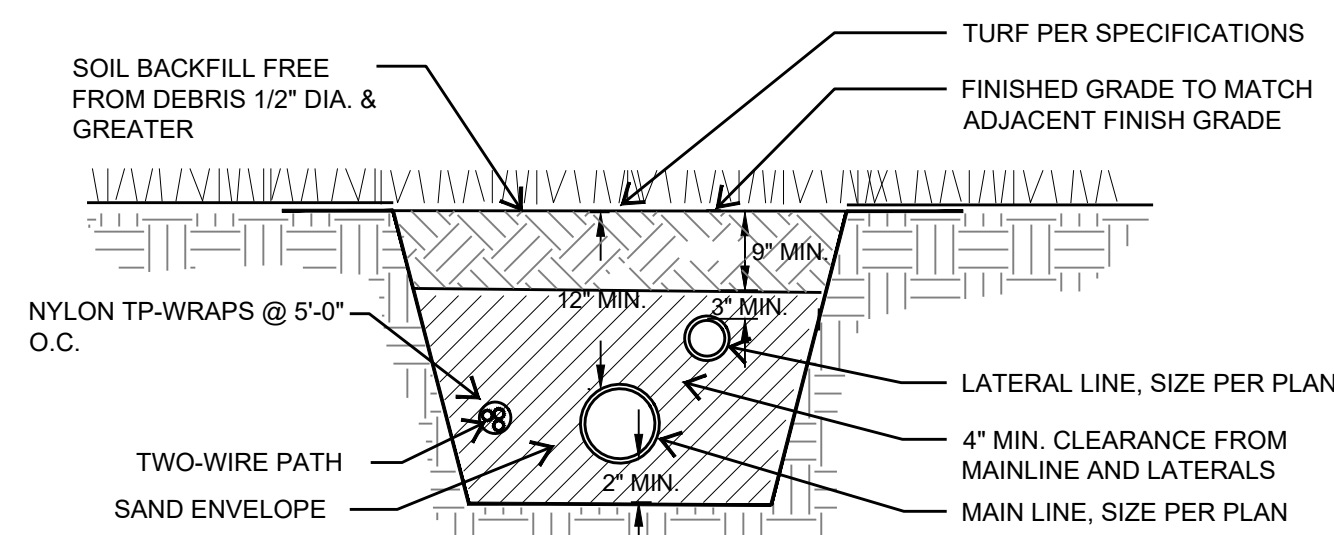
NOTE: PHOTOGRAPH AND GPS LOCATE ALL RECYCLED WATER LINES CROSSINGS UNDER DOMESTIC WATER LINES. COORDINATE DATA WITH CIVIL ENGINEER AND OWNER'S RECORDS. REFER TO DTL 601.2 WHERE POSSIBLE. ADJUST MAINLINE LOCATION TO AVOID POTABLE WATER CROSSINGS.

NOTE: THE IRRIGATION MAINLINE SHALL BE INSTALLED NO CLOSER THAN 9 FEET IN ALL DIRECTIONS FROM WATER/WASTE WATER/DRAIN COLLECTION FACILITIES. ALL SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE SURFACE OF EACH OF THE RESPECTIVE PIECES. ADJUST IRRIGATION MAINLINE AS NEEDED TO MAINTAIN ACCEPTABLE OFFSET.

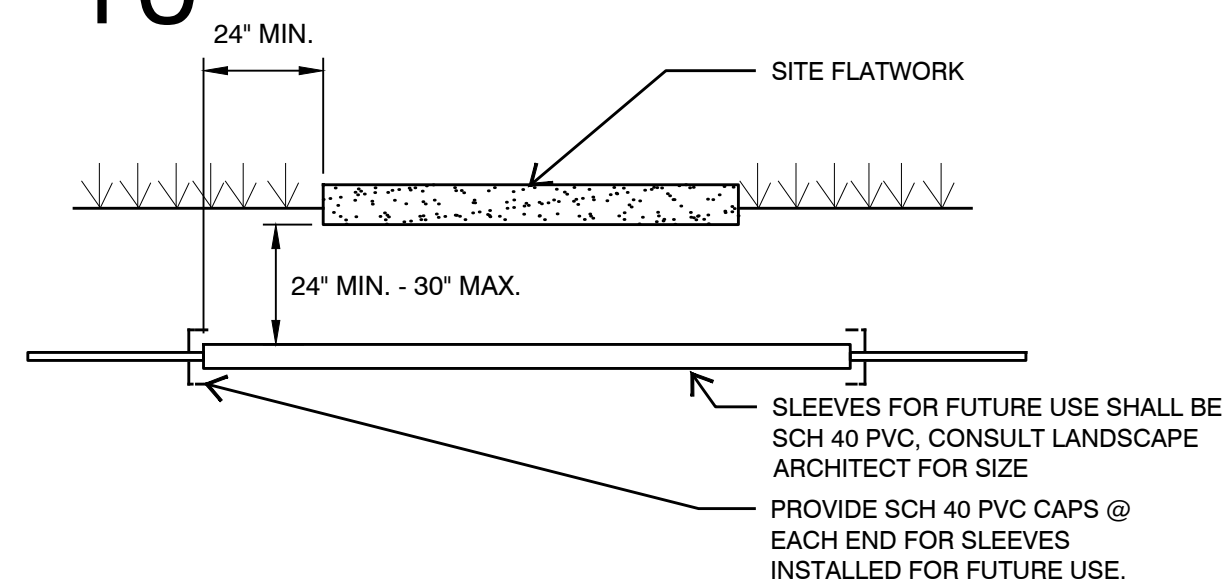


11 TREE BUBBLER ASSEMBLY- SECTION

- NOTE:
1. MAINLINE DEPTH MAY VARY BETWEEN 12" AND 24" WITH 12" MIN. AT TOP OF PIPE
 2. LATERAL DEPTH MAY VARY BETWEEN 12" AND 18" WITH 12" MIN.
 3. SAND ENVELOPE SHALL BE INSTALLED IF ROCK IS PRESENT

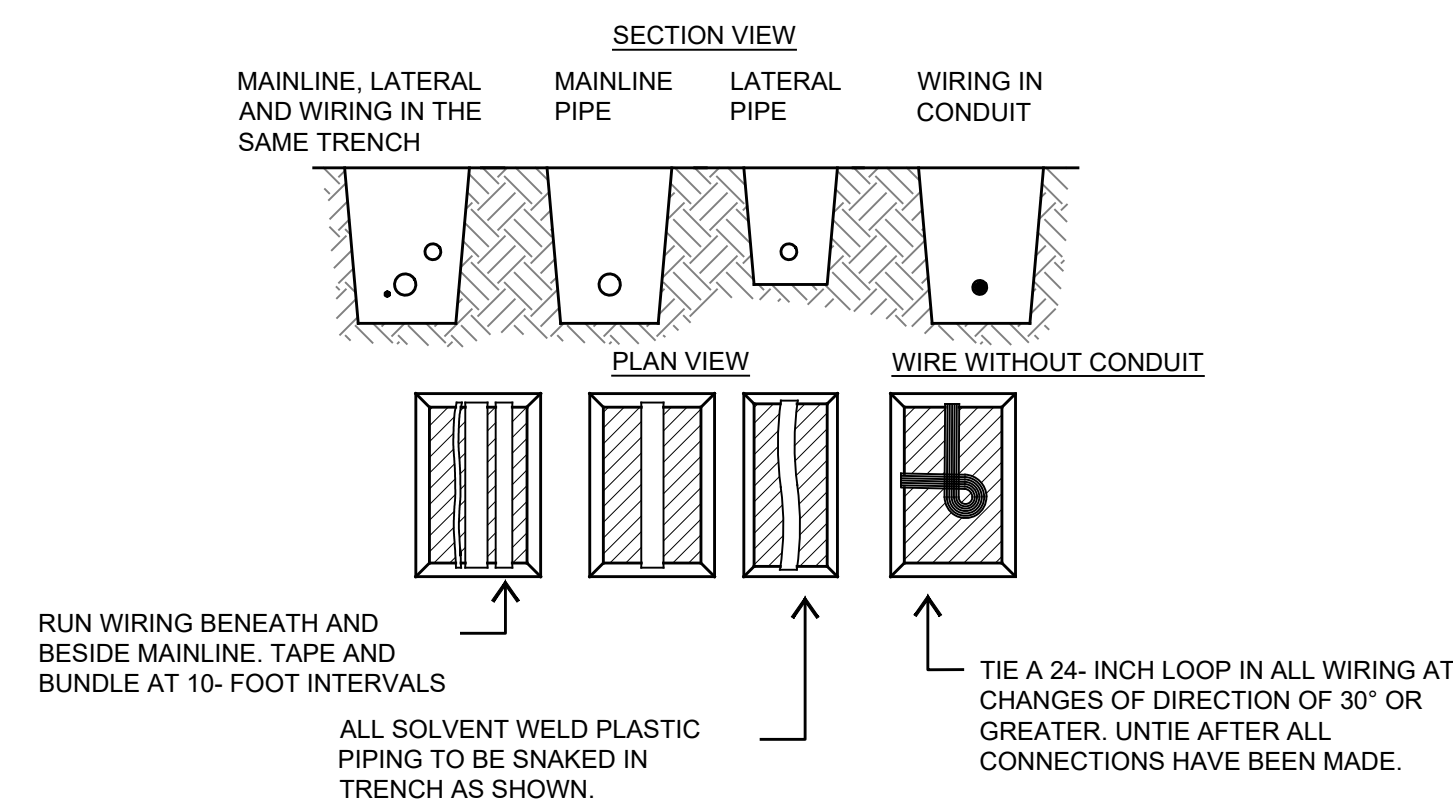


10 TRENCH PROFILE



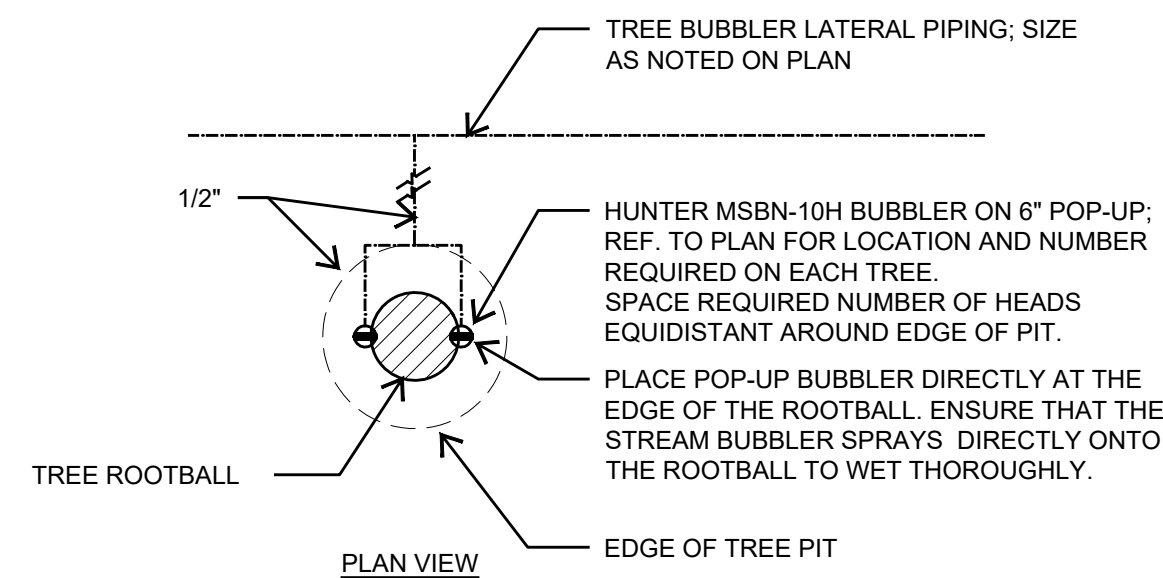
- IRRIGATION SLEEVE NOTES:
1. PIPING AND CONTROL WIRES SHALL BE INSTALLED IN SEPARATE SLEEVES UNDER PAVING. REFER TO IRRIGATION SLEEVE PLAN FOR SIZE AND LOCATION.
 2. SLEEVE ELEVATION SHALL BE TWENTY-FOUR (24) INCHES BELOW TOP OF PAVEMENT.
 3. SLEEVES SHALL EXTEND ONE (1) FOOT BEYOND THE EDGE OF PAVEMENT AND BE STAKED FOR LOCATION.
 4. ALL SLEEVES 4" OR LESS, SHALL BE SCH-40 PVC, ALL SLEEVES GREATER THAN 4" SHALL BE CLASS-200 SDR-21. SLEEVES SHALL BE CAPPED ON BOTH ENDS AND SIZED A MIN. OF TWO (2) TIMES THE DIAMETER OF THE PIPE INSIDE THE SLEEVE.
 5. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE TOP OF CURB WITH A SAW-CUT OF TWO PARALLEL LINES THAT ARE TWO (2) INCHES LONG AND ONE (1) INCH APART ON BOTH SIDES OF THE STREET OR CROSSING.
 6. THE CONTRACTOR RESPONSIBLE FOR INSTALLATION OF SLEEVES SHALL ALSO BE RESPONSIBLE TO LOCATE ANY SLEEVE WHICH CANNOT BE FOUND DURING THE INSTALLATION OF THE IRRIGATION SYSTEM.

9 IRRIGATION SLEEVE

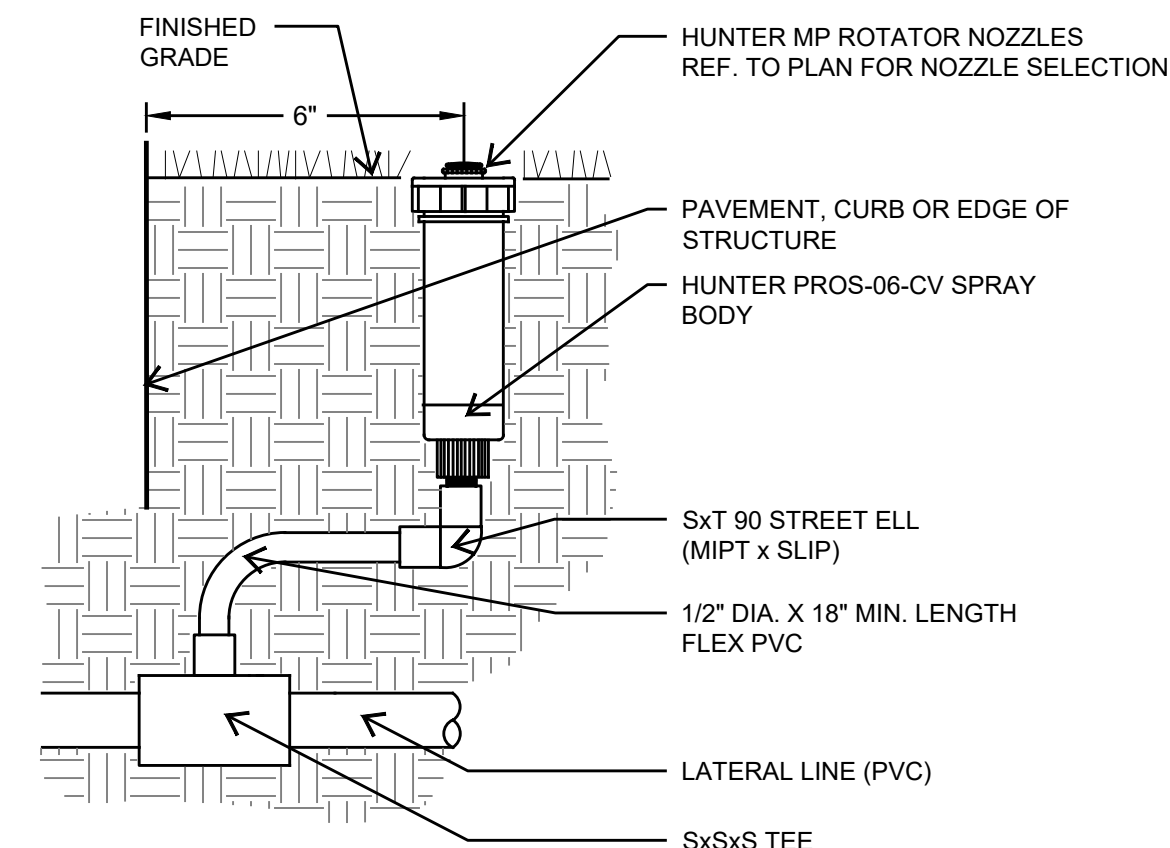


- NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH-40 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
 2. FOR PIPE AND WIRE BURIAL DEPTHS SEE TRENCH PROFILE DETAIL.

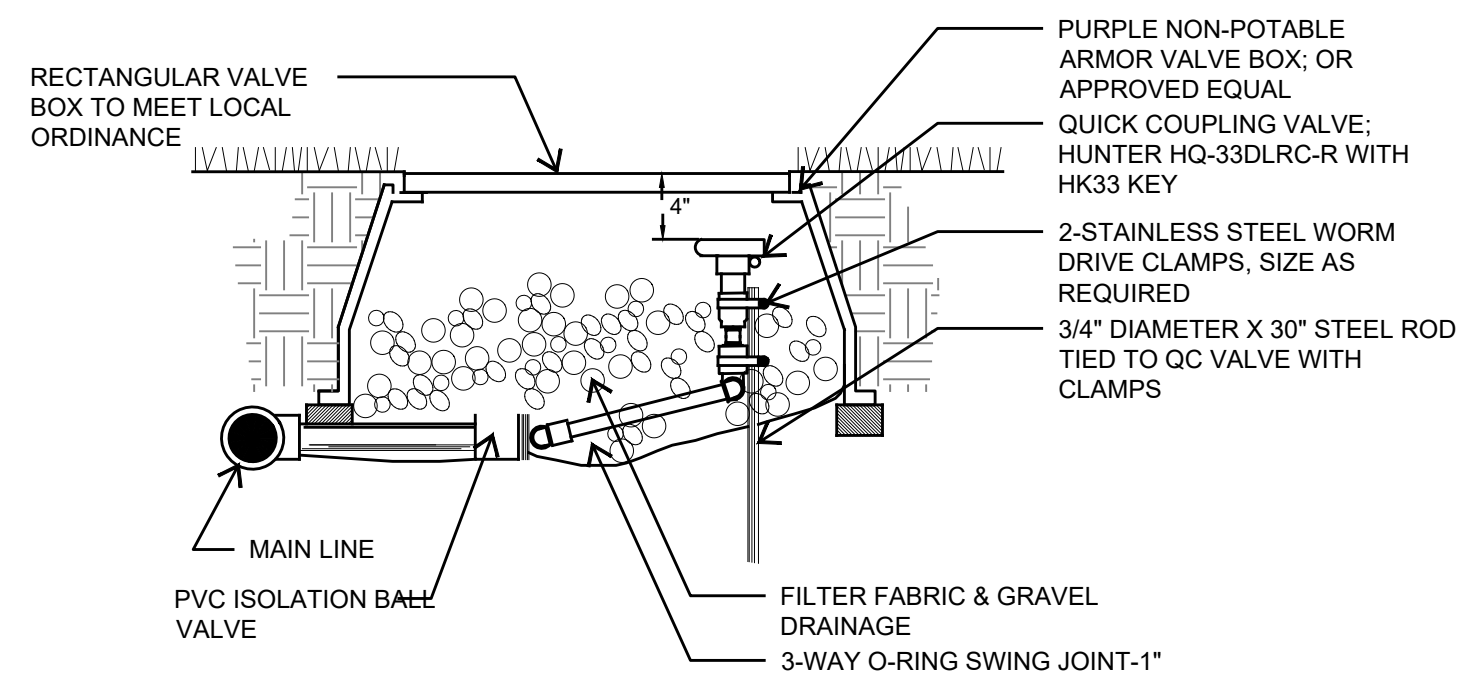
12 IRRIGATION TRENCH



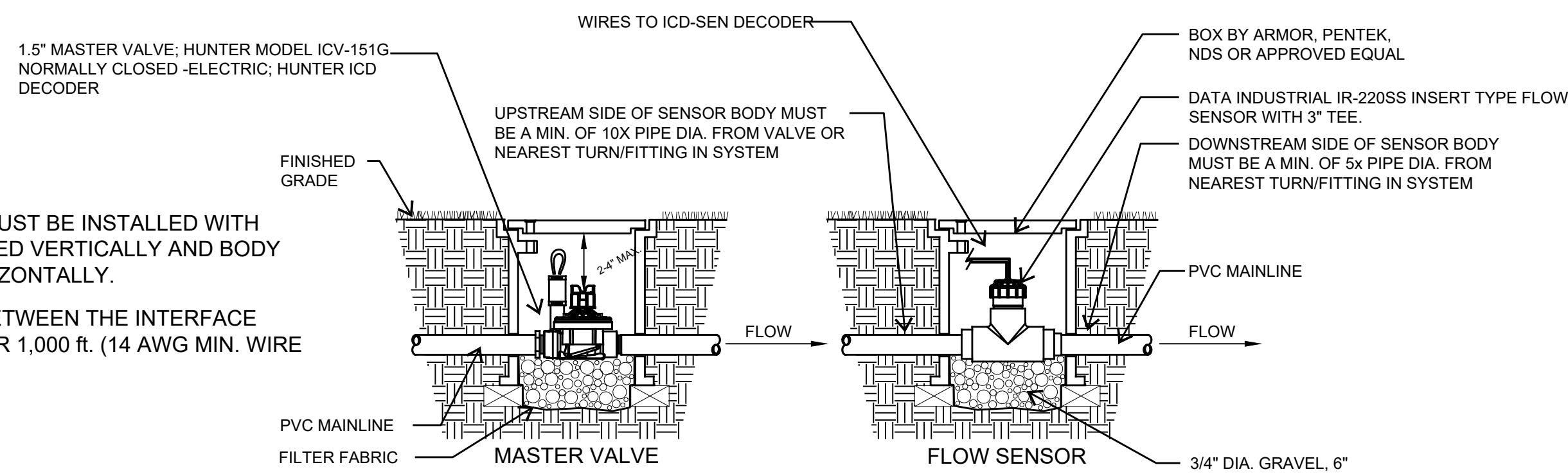
8 TREE BUBBLER ASSEMBLY- PLAN



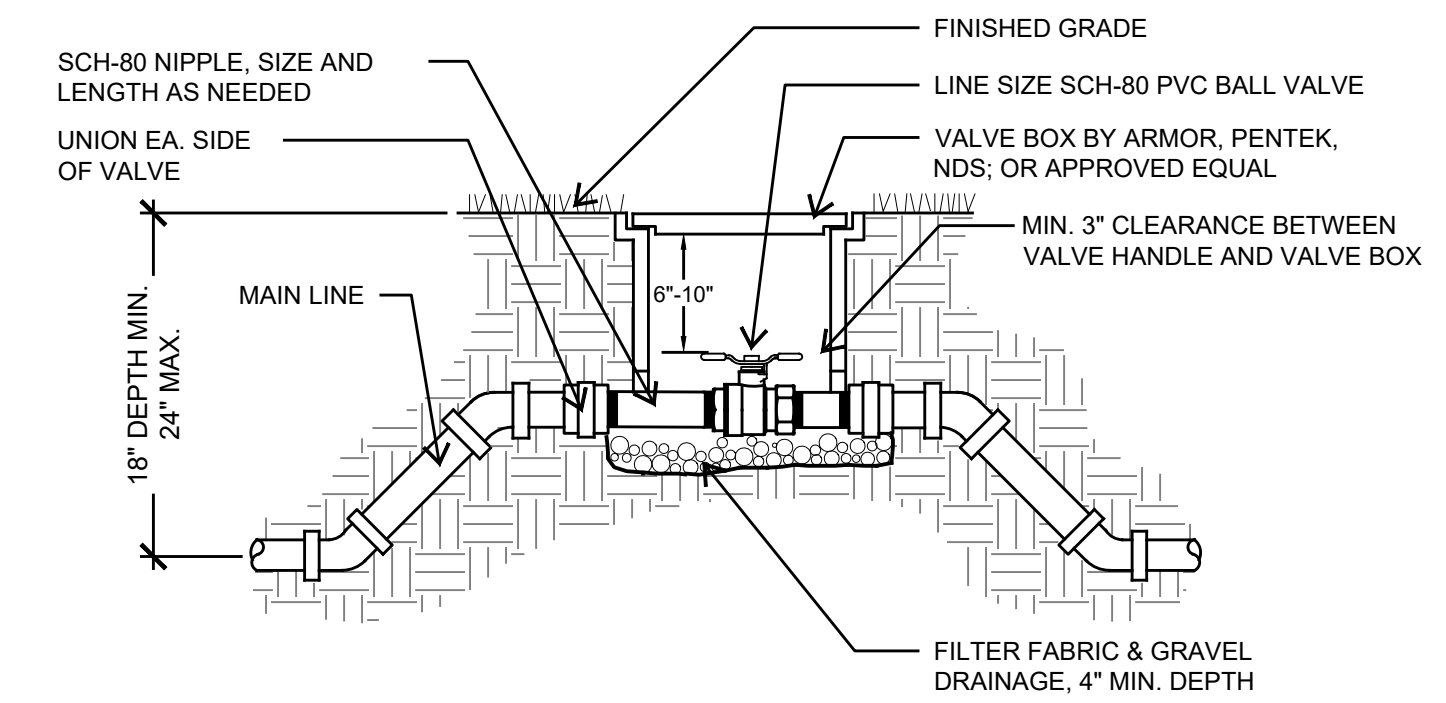
7 MP ROTATOR POP UP



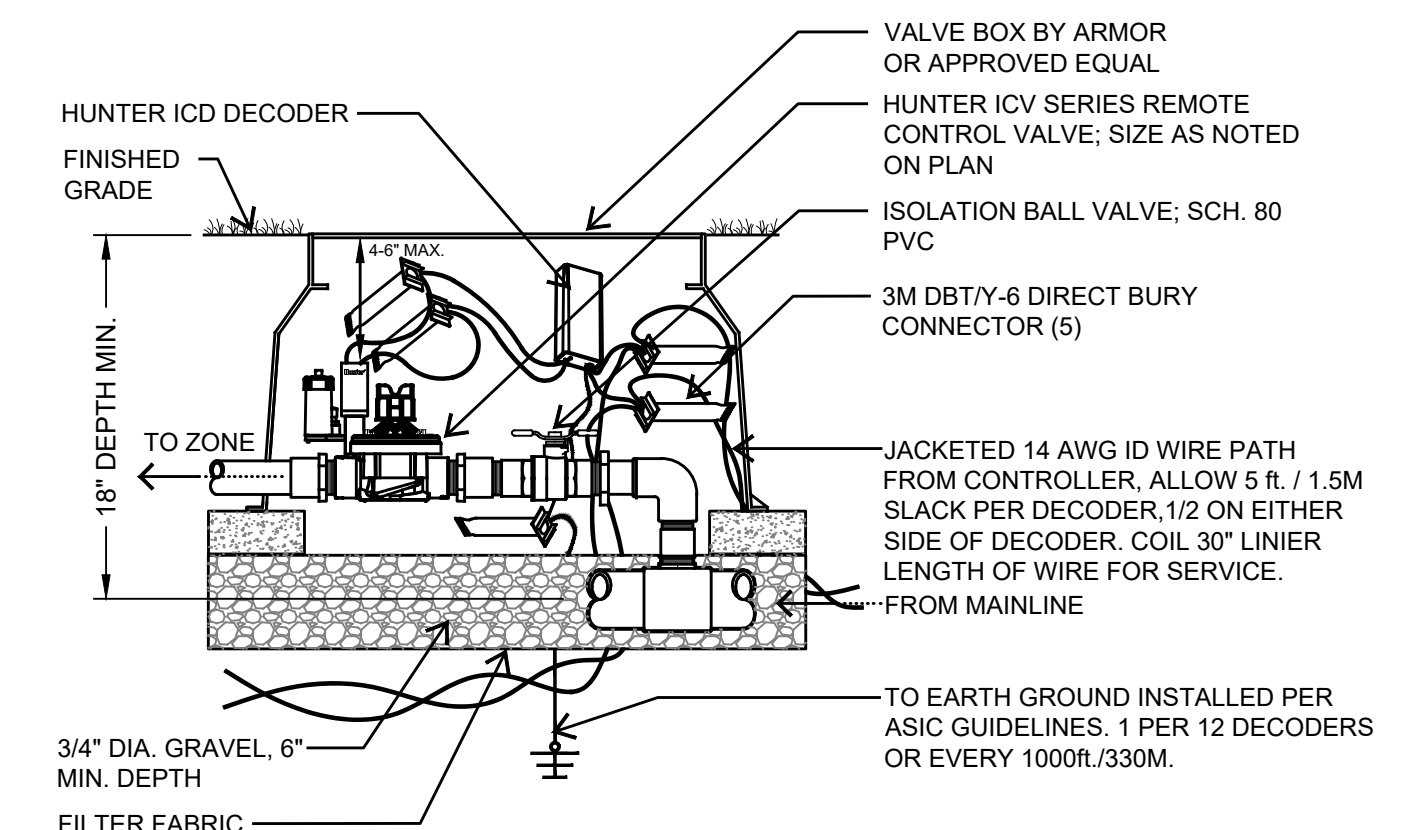
6 QUICK COUPLER VALVE



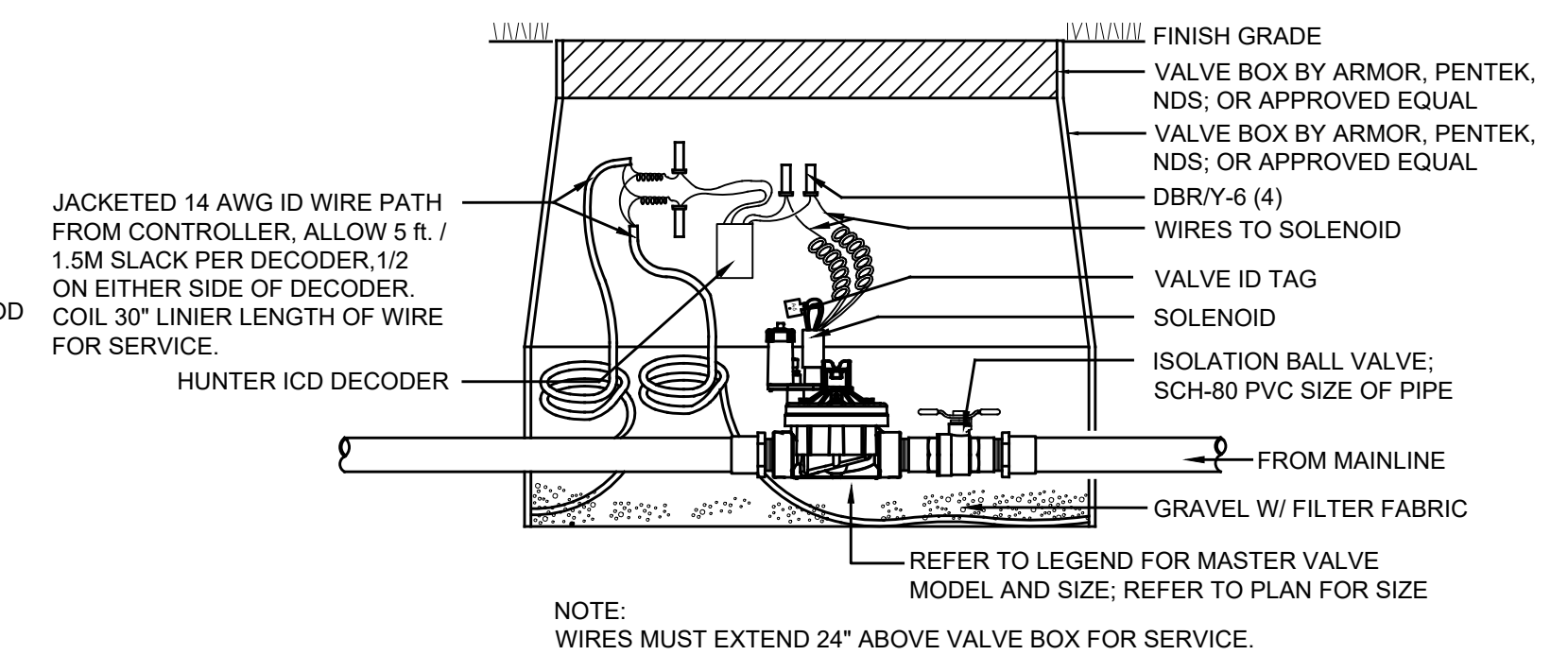
5 MASTER VALVE AND FLOW SENSOR



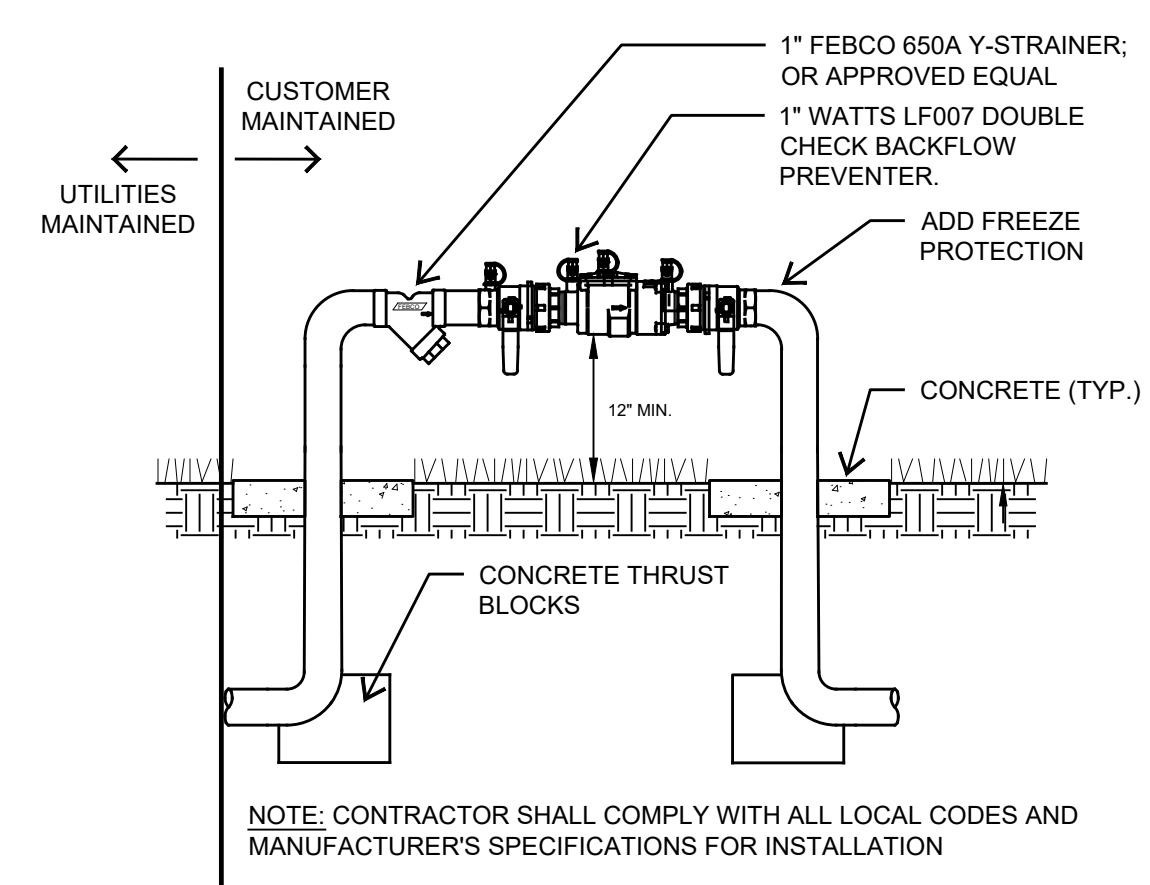
4 MANUAL ISOLATION VALVE



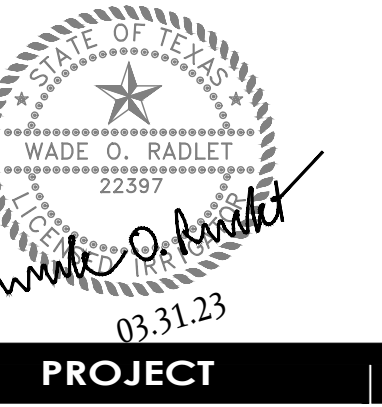
3 ZONE VALVE



2 MASTER VALVE



1 BACKFLOW DEVICE



PROJECT ADDRESS
SOUTHLAKE COURT
SAN ANTONIO TX 78235

OWNER | CLIENT
TERRAMARK URBAN HOMES
905 N PINE STREET
SAN ANTONIO, TX 78202

OWNER'S REPRESENTATIVE
RICARDO TURRUBIATES
757.528.3734
RTURRUBIATES@TERRAMARKTX.COM

REVISIONS

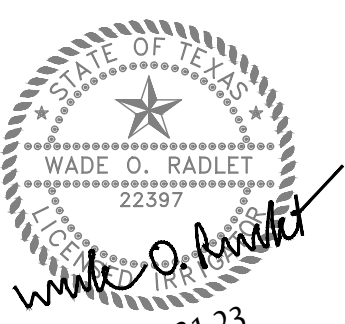
NO.	DATE	DESCRIPTION

ISSUE SETS

NO.	DATE	DESCRIPTION

SHEET INFORMATION

PROJECT NO.	20015
DATE ISSUED	MARCH 31, 2023
SHEET NAME	IRRIGATION DETAILS
SHEET NUMBER	L12.1



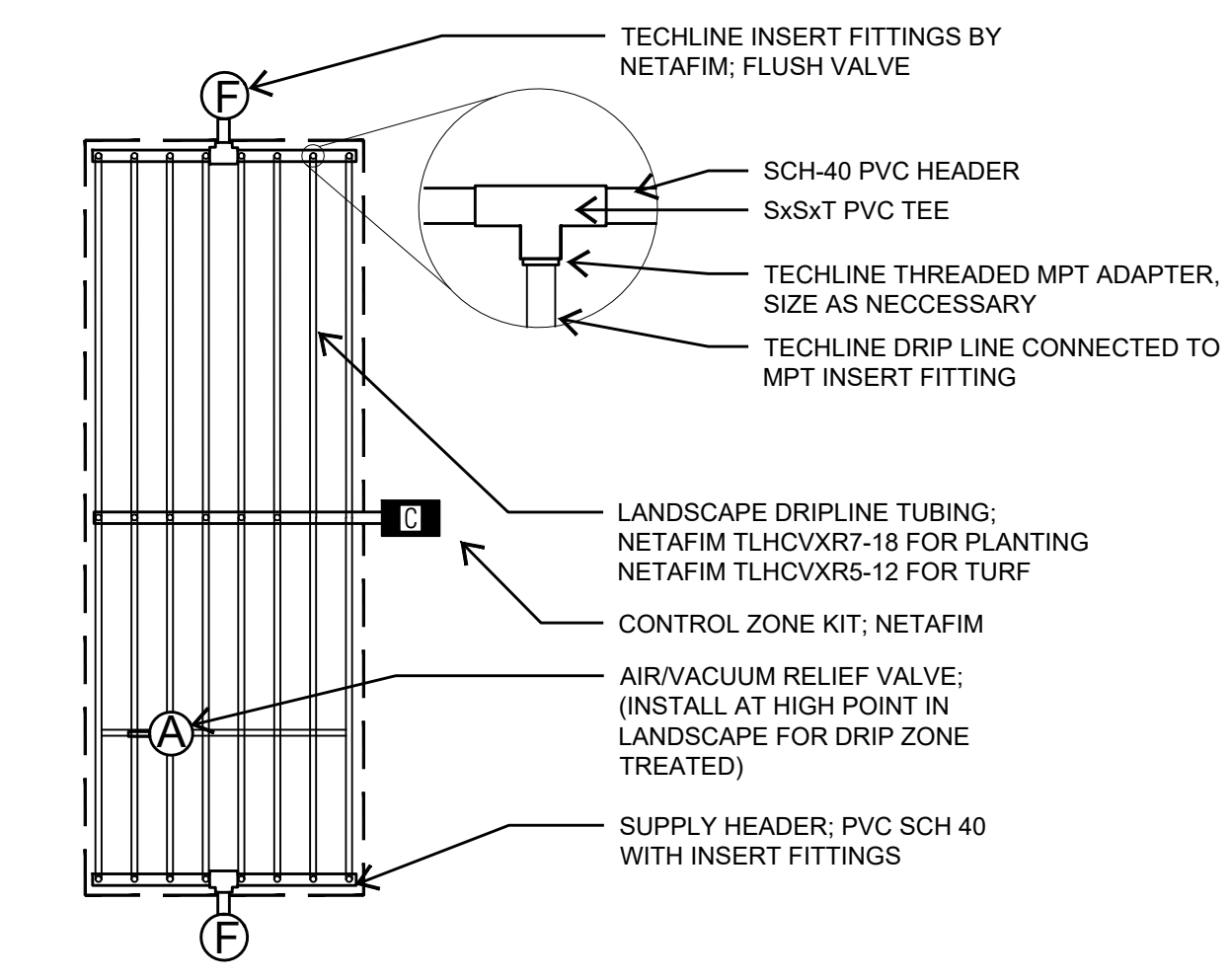
03.31.23
PROJECT

SOUTHLAKE

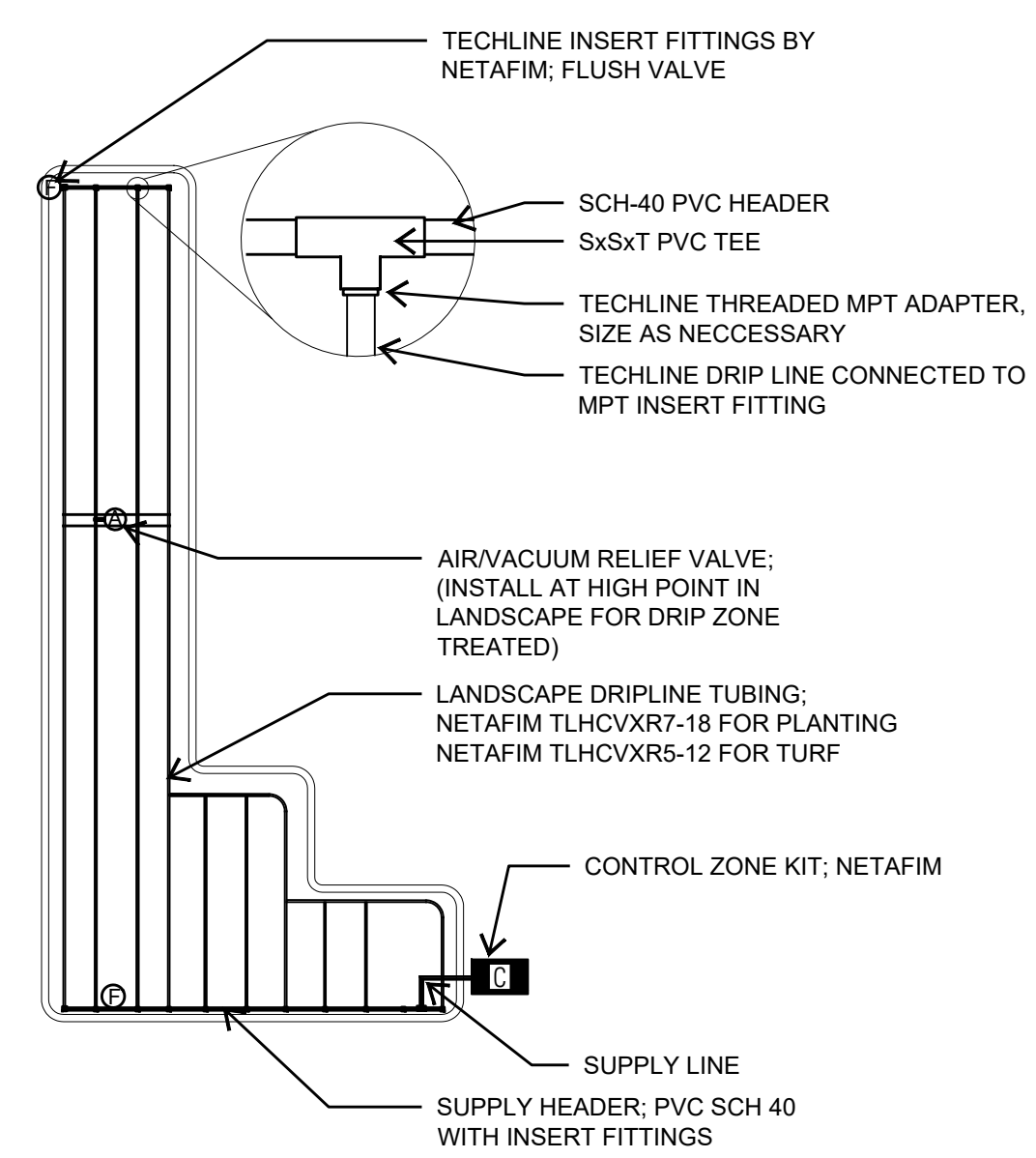
PROJECT ADDRESS
SOUTHLAKE COURT
SAN ANTONIO TX 78235

OWNER | CLIENT
TERRAMARK URBAN HOMES
905 N PINE STREET
SAN ANTONIO, TX 78202

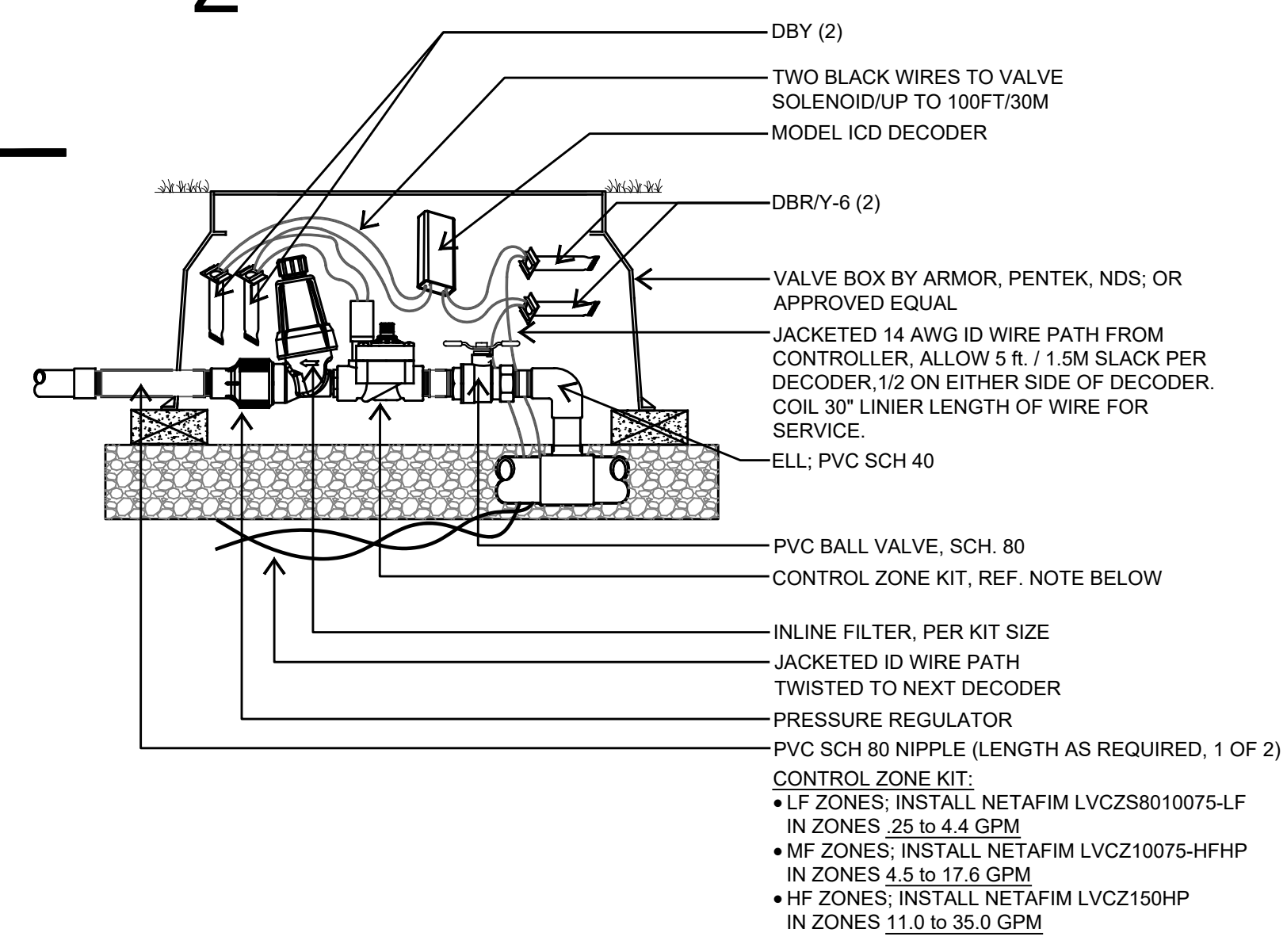
OWNER'S REPRESENTATIVE
RICARDO TURRUBIATES
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RTURRUBIATES@TERRAMARKTX.COM



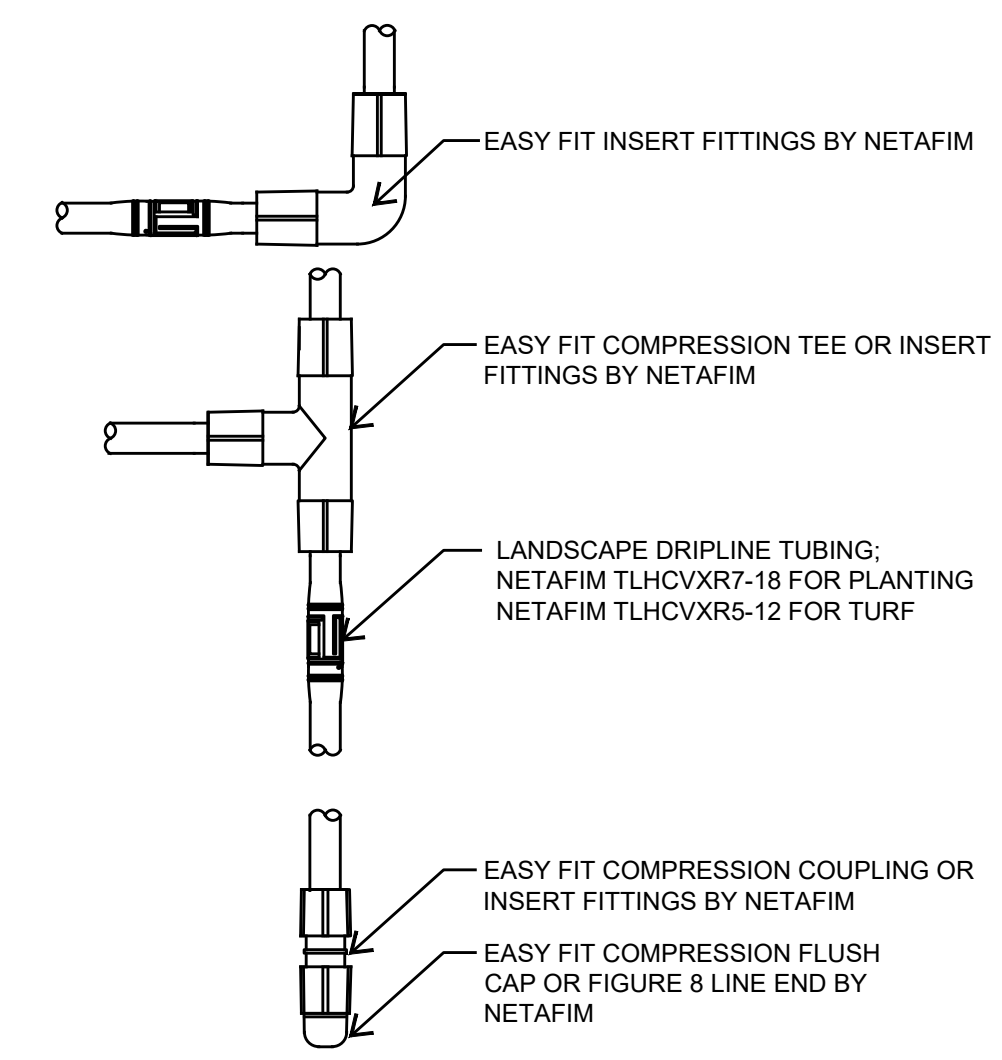
3 DRIPLINE INSTALLATION (CENTER FEED)



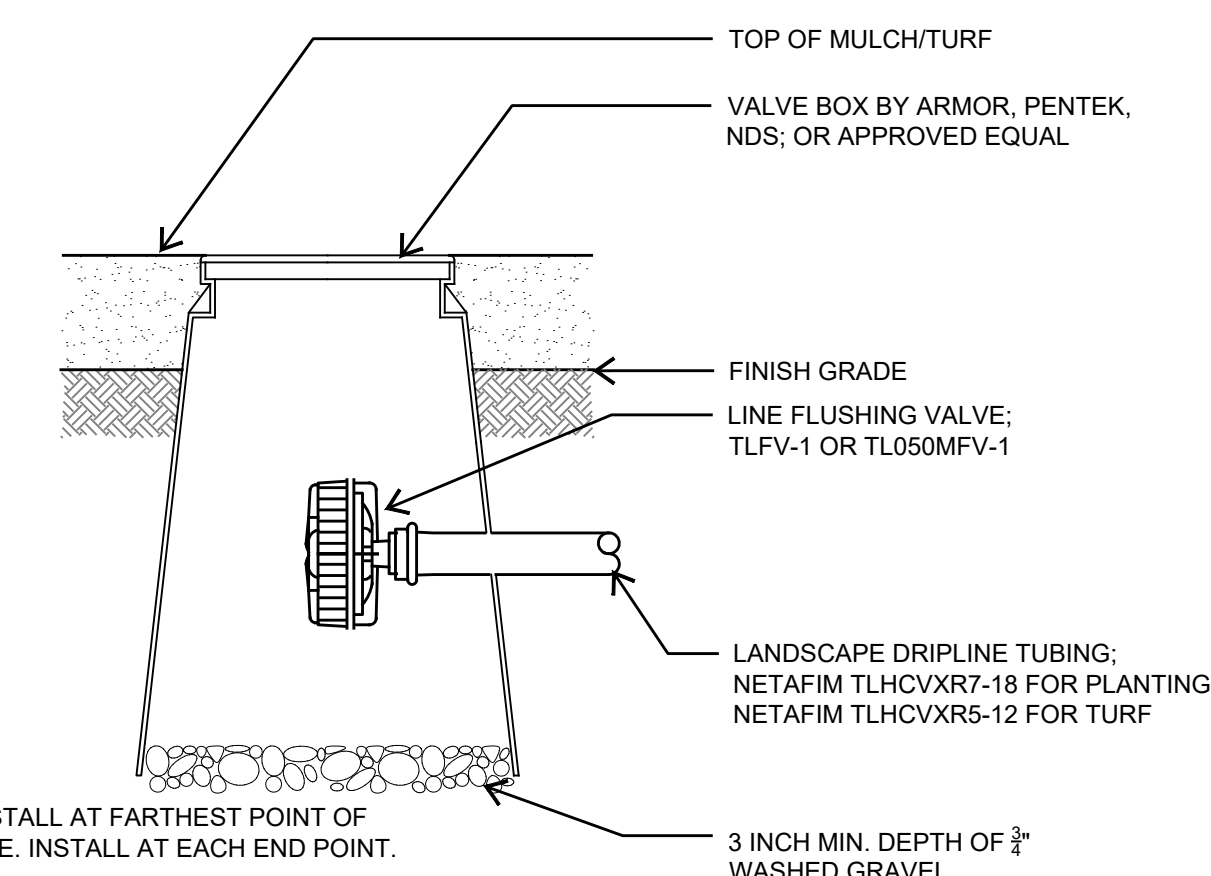
2 DRIPLINE INSTALLATION (END FEED)



1 CONTROL ZONE KIT

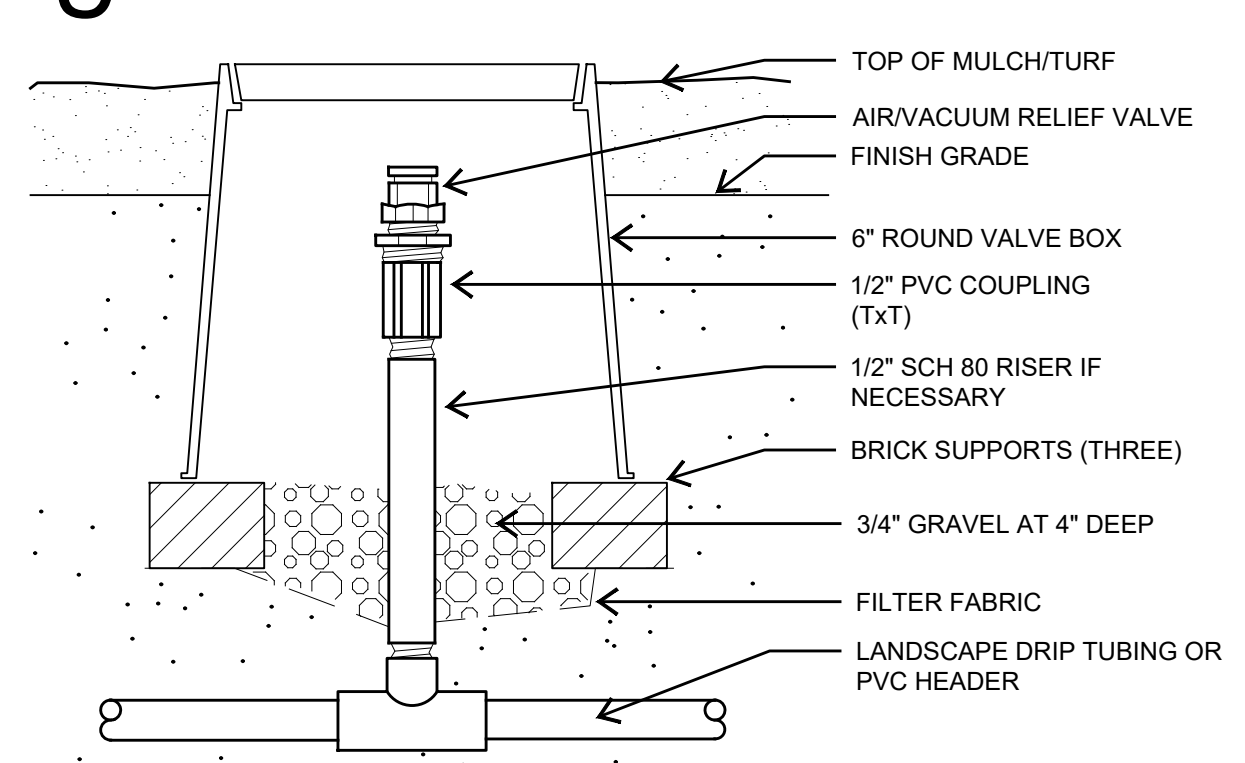


6 DRIPLINE FITTINGS



NOTE: INSTALL AT FARTHEST POINT OF DRIP ZONE. INSTALL AT EACH END POINT.

5 DRIPLINE FLUSH VALVE

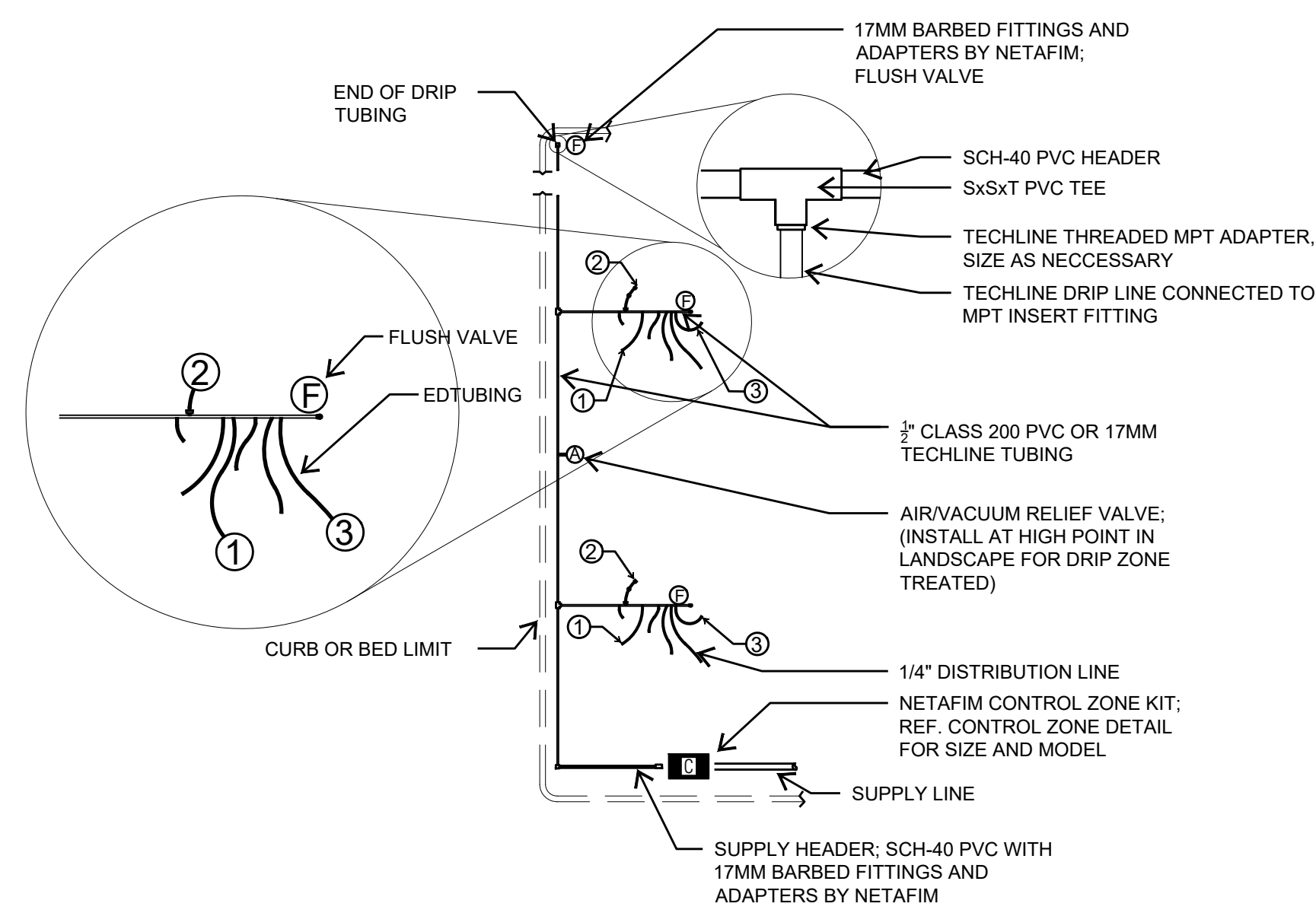


NOTE: INSTALL AT HIGHEST POINT OF DRIP ZONE. IF MORE THAN TWO HIGH POINTS IN A ZONE, INSTALL AT EACH HIGH POINT.

4 AIR RELIEF VALVE

NETAFIM TECHFLOW EMITTER SCHEDULE

- ① 15 GAL. SHRUB - (2)-RED 2.0 GPH SPCV20 NETAFIM EMITTERS WITH EDTUBE FROM DISTRIBUTION LINE
- ② 5 GAL. SHRUB - (1)-BLACK 1.0 GPH SPCV10 NETAFIM EMITTERS WITH EDTUBE FROM DISTRIBUTION LINE
- ③ 1 GAL. SHRUB - (1)-BLUE 0.5 GPH SPCV05 NETAFIM EMITTERS WITH EDTUBE FROM DISTRIBUTION LINE



8 INDIVIDUAL DRIP EMITTERS

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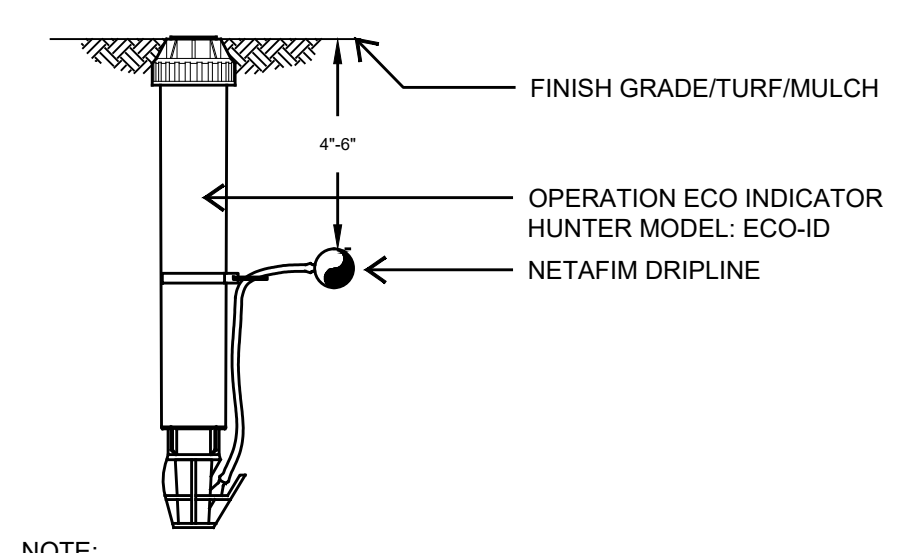
NOTE: ALL POTABLE WATER CROSSINGS SLEEVES SHALL EXTEND 9\"/>

NOTE: RECYCLED CROSSINGS TO BE BELOW POTABLE WATER LINES.

NOTE: CONTRACTOR TO FOLLOW CHAPTER 290 SUBCHAPTER D TAG 30 FOR POTABLE WATER AND CHAPTER 210 RULES AND REGULATIONS FOR RECYCLED WATER. CONTRACTOR TO CHECK WITH AUTHORITY HAVING JURISDICTION FOR ALL PIPE LABELING AND SEPARATIONS.

NOTE: PHOTOGRAPH AND GPS LOCATE ALL RECYCLED WATER LINES CROSSINGS UNDER DOMESTIC WATER LINES. COORDINATE DATA WITH CIVIL ENGINEER AND OWNER'S RECORDS. REFER TO DTL 61.2.7 WHERE POSSIBLE ADJUST MAINLINE LOCATION TO AVOID POTABLE WATER CROSSINGS.

NOTE: THE IRRIGATION MAINLINE SHALL BE INSTALLED NO CLOSER THAN 8 FEET IN ALL DIRECTIONS FROM WATER/WASTEWATER/DRAIN COLLECTION FACILITIES. ALL SEPARATION DISTANCES ARE MEASURED FROM THE OUTSIDE SURFACE OF EACH OF THE RESPECTIVE PIECES. ADJUST IRRIGATION MAINLINE AS NEEDED TO MAINTAIN ACCEPTABLE OFFSET.



NOTE:
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/4\"/>

7 OPERATION INDICATOR

- 1) DRIP LINE SHALL BE BURIED 3\"/>
- 2) STAGGER EMITTER SPACING IN PARALLEL ROWS TO CREATE TRIANGULAR WETTING PATTERN.
- 3) ALL DRIP LINE SHALL BE SECURED USING SOIL STAPLES AS SUPPLIED BY THE MANUFACTURER SPACED A MAX. OF 3\"/>
- 4) DRIP LATERALS SHOWN ON THE PLANS ARE USED TO INDICATE ZONING SIZES AND RELATIONSHIPS. INSTALLATION OF DRIP ZONES SHALL FOLLOW ONE OF THE TWO METHODS DESCRIBED IN DTLS. 2/3-1/2.3. AND NETAFIM'S RECOMMENDED INSTALLATION SPECIFICATIONS.
- 5) NETAFIM HCVXR SERIES DRIP LINE SHALL BE USED AS FOLLOWS:
TURF AREAS: TLHCVXR5-12, ROWS SPACED AT 12 INCHES
BED AREAS: TLHCVXR7-18, ROWS SPACED AT 18 INCHES
BED AREAS WITH SLOPE 3:1 OR MORE: TLHCVXR7-12
- 6) WHEN CONFLICTS OCCUR BETWEEN THESE DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS DEFER TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
- 7) EACH DRIP ZONE SHALL HAVE A DRIP SYSTEM OPERATION INDICATOR, AS MANUFACTURED BY NETAFIM. INSTALL PER NETAFIM RECOMMENDATIONS.

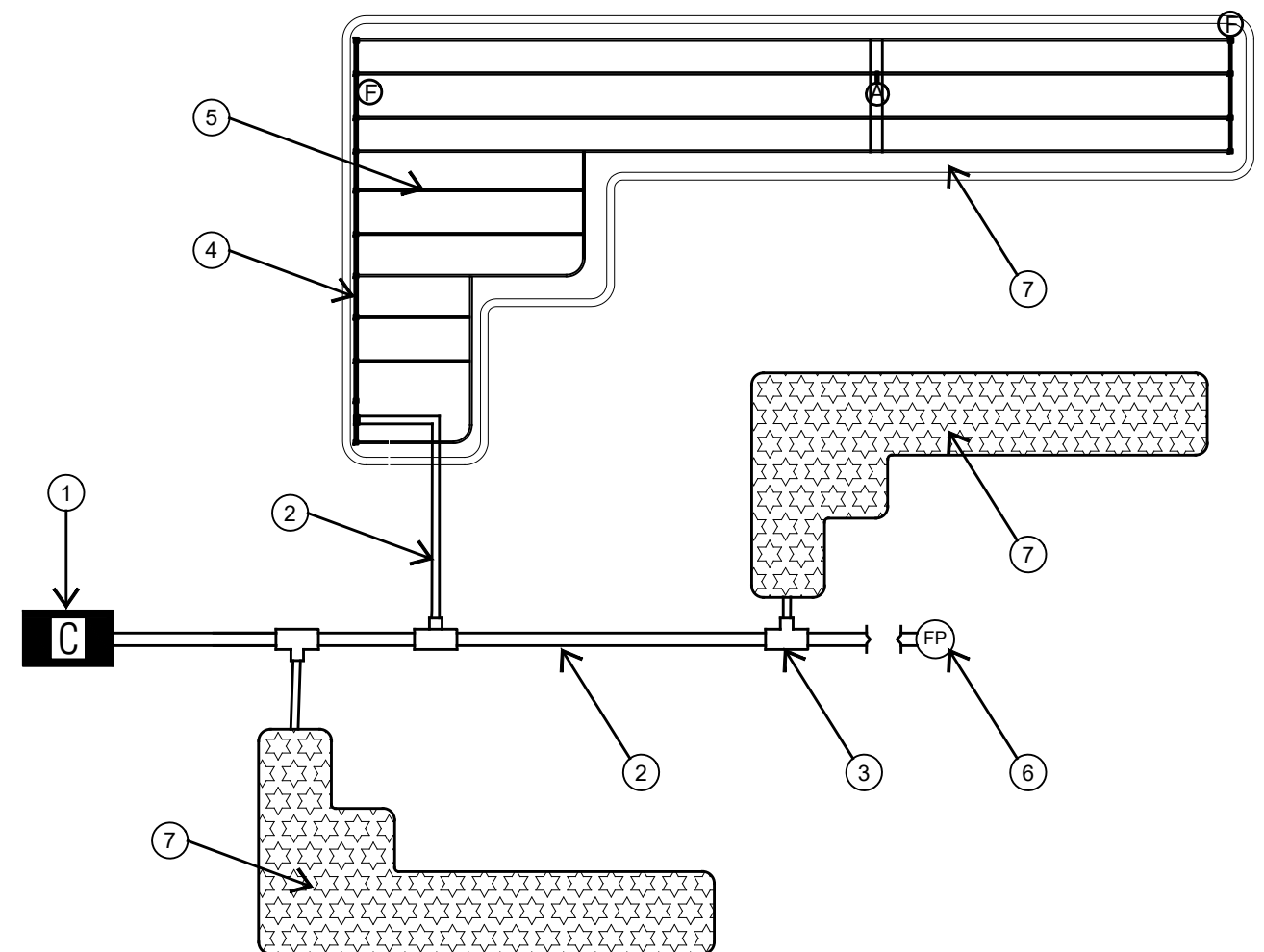
PROPER SIZING OF SUPPLY AND EXHAUST HEADERS (17MM HCVXR SERIES DRIPLINE)

TOTAL ZONE FLOW	PIPE SIZE
UP TO 5 GPM	1/2" SCH 40 PVC or 1/2" CLASS 315 PVC
5.1 TO 8 GPM	3/4" CLASS 200 PVC
8.1 TO 13 GPM	1" CLASS 200 PVC
13.1 TO 22 GPM	1-1/4" CLASS 200 PVC
22.1 TO 31 GPM	1-1/2" CLASS 200 PVC

NOTE: A 45 PSI PRESSURE REGULATOR IS RECOMMENDED TO OBTAIN MAXIMUM RUN LENGTHS AND MAXIMIZE ZONE SIZE WHEN INSTALLING HCVXR SERIES DRIPLINE.

10 DRIP DESIGN NOTES

- ① CONTROL ZONE KIT; NETAFIM
- ② PVC SUPPLY LINE; SIZE PER CHART BELOW
- ③ PVC SCH-40 TEE OR EL (TYPICAL)
- ④ SUPPLY HEADER; PVC SCH 40 WITH INSERT FITTINGS
- ⑤ LANDSCAPE DRIPLINE TUBING; NETAFIM TLHCVXR7-18 FOR PLANTING; NETAFIM TLHCVXR5-12 FOR TURF
- ⑥ DRIPLINE FLUSH POINT (SEE NETAFIM DETAIL: FLUSH VALVE)
- ⑦ DRIP AREA; DEFINED BY HATCH ASSOCIATED TO ZONE TAG ON PLANS



9 DRIP HATCH LAYOUT

REVISIONS		
NO.	DATE	DESCRIPTION

ISSUE SETS		
NO.	DATE	DESCRIPTION

SHEET INFORMATION	
PROJECT NO.	20015
DATE ISSUED	MARCH 31, 2023
SHEET NAME	IRRIGATION DETAILS
SHEET NUMBER	LI2.3

TREE INVENTORY	
LARGE	HERITAGE
6" OAK	
7" MOUNTAIN CEDAR	
8" OAK	
10" OAK	
11" OAK	
12" OAK	
17" OAK	
23" OAK	



SOUTHLAKE AT BROOKS

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REVISIONS

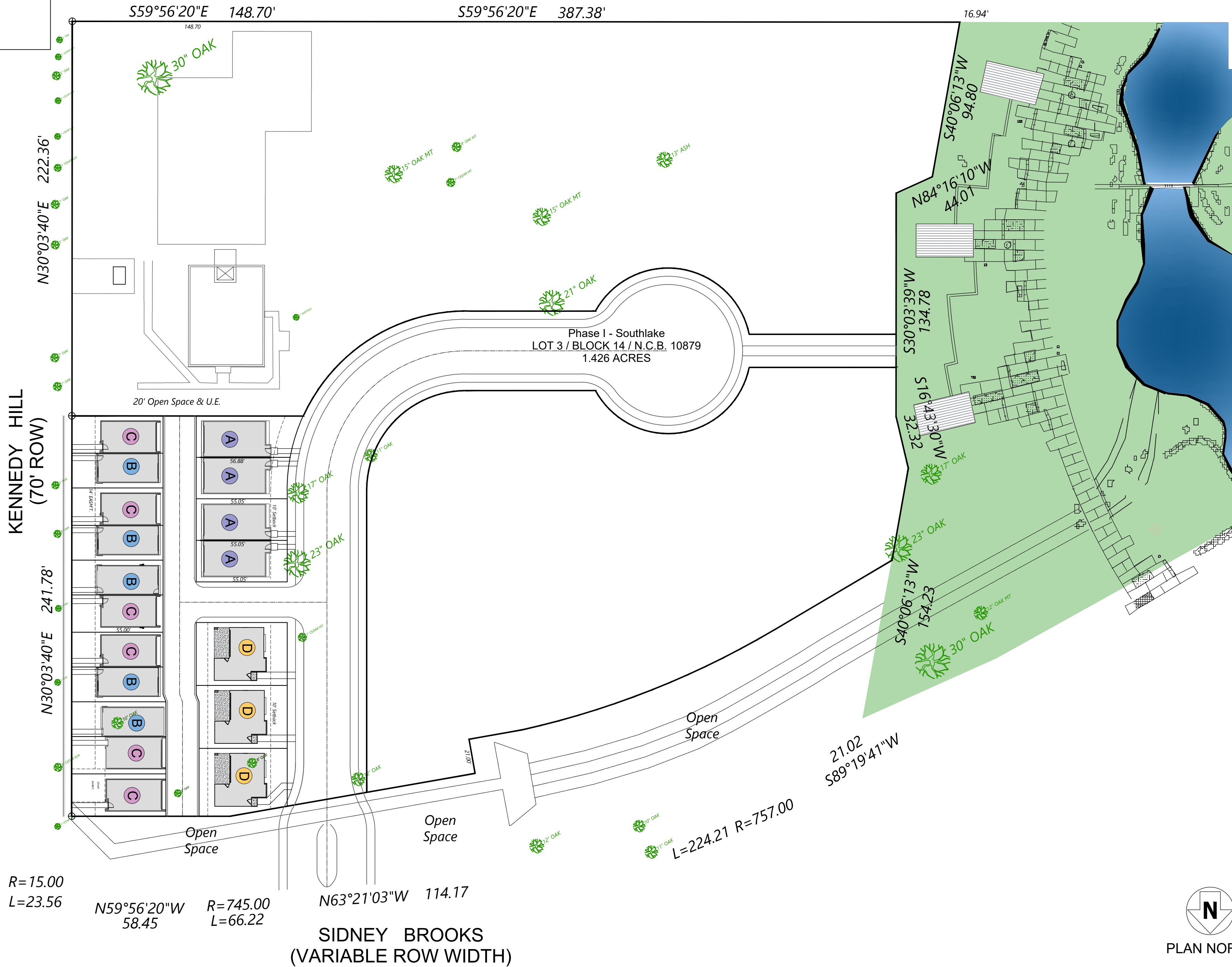
SITE WORK 02/05/21

DATE 02/05/21
DRAWN BY RT

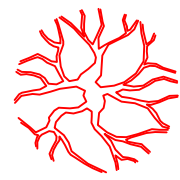
TREE SURVEY

SHEET NO.

S1



TREE PRESERVATION	
PRESERVE	REMOVE
7" MOUNTAIN CEDAR	6" OAK
11" OAK	8" OAK
12" OAK	10" OAK
17" OAK	
23" OAK	



EXISTING TREES TO BE REMOVED

SIGNIFICANT

TOTAL SIGNIFICANT INCHES = 94"
 40% (REQ. PRESERVATION) x 94" = 37.4"
 70" (SIGN. PRESERVED) = 74%

HERITAGE

TOTAL HERITAGE INCHES = 0"
 100% (REQ. PRESERVATION) x 0" = 0"
 HERITAGE PRESERVED = 0" (100%)



SOUTHLAKE AT BROOKS

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REVISIONS

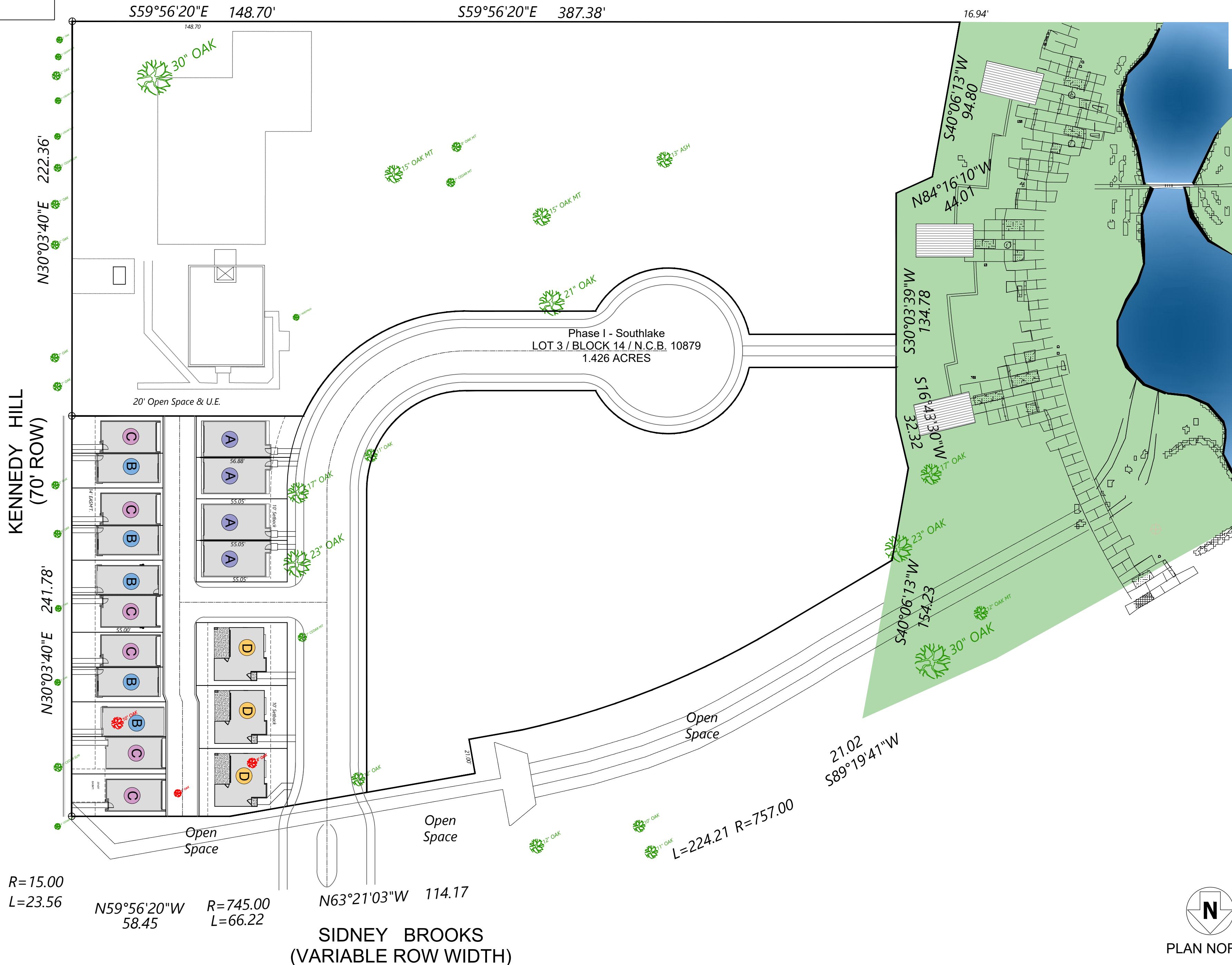
SITE WORK 02/05/21

DATE 02/05/21
 DRAWN BY RT

TREE REMOVAL

SHEET NO.

S2



1 TREE REMOVAL
 1:40 @ 24x18