

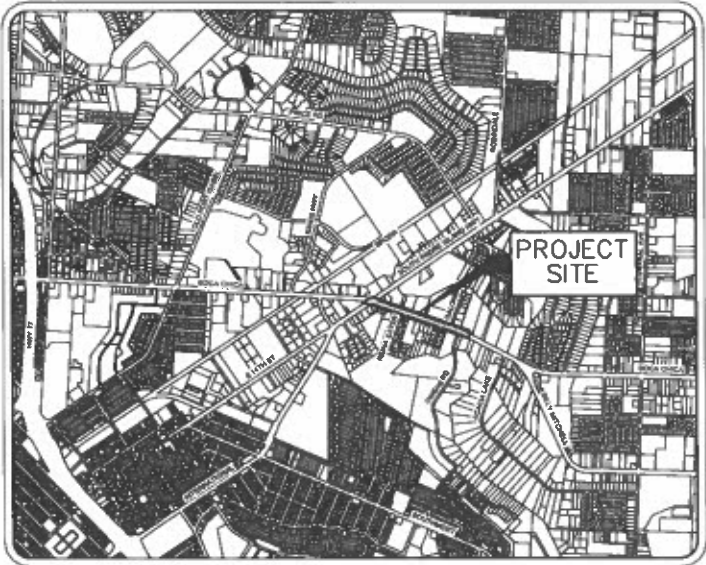
CONSTRUCTION PLANS
FOR
BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS

BID # B060-22

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LOCATION MAP
SCALE 1"=2000'

OWNER:

BROWNSVILLE PUBLIC UTILITIES BOARD
1425 ROBINHOOD DR.
BROWNSVILLE, TX. 78520
(956) 983-6100

UTILITY DISCLAIMER:

THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING SIZE, TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT THE TEXAS "ONE CALL" SYSTEM AT 811 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION FOR EXISTING UTILITY LOCATIONS. THE CONTRACTOR SHALL ALSO BE FULLY RESPONSIBLE FOR FIELD VERIFYING LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES, AND SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES TO THE UTILITY COMPANY'S APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

DISCLAIMER:

THE SEAL(S) APPEARING ON THIS CONSTRUCTION SET WERE AUTHORIZED BY:
JOHN W. CLINT, 85417
ON (DATE)
ALTERATION OF SEALED DOCUMENTS WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT. THE RECORD COPY OF THIS DRAWING IS ON FILE AT THE OFFICES OF

HALFF ASSOCIATES, INC.
1075 PAREDES LINE ROAD
SUITE B
BROWNSVILLE, TEXAS 78521
TBPPE FIRM #F-312

ENGINEER OF RECORD:

JOHN W. CLINT, P.E.
1075 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 78521
EMAIL: JCLINT@HALFF.COM
PHONE: (956) 303-7110

BPUB ENGINEER'S STATEMENT:

THE ABOVE IDENTIFIED PLANS AND SPECIFICATIONS HAVE BEEN REVIEWED AND FOUND TO BE IN COMPLIANCE WITH THE APPLICABLE ENGINEERING PROVISIONS (WATER AND WASTEWATER IMPROVEMENTS) OF THE MUNICIPAL CODE OF THE CITY OF BROWNSVILLE AND BPUB WATER AND WASTEWATER STANDARD DETAILS. ISSUANCE OF THIS APPROVAL SHALL NOT BE CONSTRUED AS APPROVAL OF CONCEPT FOR THE CONSTRUCTION DETAILS OF THE PROPOSED IMPROVEMENTS AND SHALL NOT IN ANY WAY RELEASE THE DEVELOPER AND THE DESIGN ENGINEER FROM LIABILITY FOR THE ADEQUACY OF THE DESIGN NOR FROM LIABILITY CAUSED BY AND RESULTING FROM THE CONSTRUCTION OF IMPROVEMENTS AS PROVIDED IN THE ABOVE SPECIFIED DOCUMENTS.

Marie C. Leal, P.E. DATE 7/20/2022
MARIE C. LEAL, P.E.
DIRECTOR OF SPECIAL PROJECTS AND WATER / WASTEWATER ENGINEERING,
PLANNING & OPERATIONS
FOR THE BROWNSVILLE PUBLIC UTILITIES BOARD



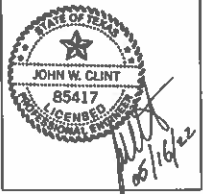
1075 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 78521
TEL: (956) 303-7100
TBPPELS ENGINEERING FIRM #302

AVO: 43503.001 DATE: APRIL 2022

BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)
BROWNSVILLE, TEXAS



Revision No.	Date	Description
1		



Project No.	43503.001
Issued	5/16/2022
Drawn By	RJA
Checked By	JWC
Scale	AS NOTED
Sheet Title	COVER SHEET
Sheet Number	1

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July 21, 2022, 3:37 PM

GENERAL CONSTRUCTION NOTES:

1. ALL MATERIALS, WORKMANSHIP AND IMPROVEMENTS SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES, INCLUDING THE STANDARD CONSTRUCTION DETAILS AND TECHNICAL SPECIFICATIONS FROM BROWNSVILLE PUBLIC UTILITIES BOARD (THE OWNER), CITY OF BROWNSVILLE, TEXAS DEPARTMENT OF TRANSPORTATION AND ALL OTHER GOVERNING AGENCIES.
2. PRIOR TO BEGINNING CONSTRUCTION, THE OWNER OR HIS AUTHORIZED REPRESENTATIVE SHALL SCHEDULE A PRECONSTRUCTION CONFERENCE BETWEEN THE CONSULTING ENGINEER, CONTRACTOR, BROWNSVILLE PUB AND ALL AFFECTED PARTIES.
3. PRE-CONSTRUCTION PHOTOGRAPHS SHALL BE TAKEN THAT SHOW EXISTING CONDITIONS OF THE SITE AND ADJOINING STRUCTURES TO REMAIN. PHOTOS SHALL INCLUDE DAMAGE TO FINISH SURFACES THAT MIGHT BE MISCONSTRUED AS DAMAGE CAUSED BY DEMOLITION OPERATIONS. (NO SEPARATE PAY)
4. THE CONTRACTOR SHALL HAVE A PERSON ON CALL 24 HOURS A DAY TO ADDRESS CONSTRUCTION AREA MAINTENANCE ITEMS, TRAFFIC CONTROL, OR OTHER NEEDS NECESSARY FOR PUBLIC SAFETY. THIS PERSON SHALL HAVE AUTHORITY TO ACT ON BEHALF OF THE CONTRACTOR IN EMERGENCY CONDITIONS. THE PERSON SHALL BE STATIONED WITHIN 1/2 HOUR TRAVEL TIME FROM THE PROJECT SITE. THE PERSON SHALL BE IDENTIFIED IN WRITING PRIOR TO START OF CONSTRUCTION. THE ON-SITE REPRESENTATIVE SHALL HAVE ACCESS ALL EQUIPMENT AND MATERIAL AND HAVE FULL AUTHORITY NECESSARY TO CORRECT ANY PROBLEMS, DEFICIENCIES, OR EMERGENCIES WHICH MAY ARISE DURING NON-WORKING HOURS AND DURING THE ABSENCE OF THE SUPERINTENDENT.
5. STANDARD WORK HOURS: THE STANDARD WORK HOURS FOR THE OWNER IS 8:00 AM TO 5:00 PM, MONDAY THROUGH FRIDAY. SHOULD THE CONTRACTOR ELECT TO WORK ON SATURDAY, SUNDAYS OR HOLIDAYS, HE SHALL BE RESPONSIBLE FOR PAYING OVERTIME CHARGES FOR THE OWNERS PERSONNEL INVOLVED. THESE CHARGES WILL BE AT COST AND WILL BE CALCULATED EITHER AT TIME AND A HALF OR DOUBLE TIME, AS APPLICABLE TO THE PARTICULAR DAY BEING WORKED. PRE-APPROVAL SHALL BE OBTAINED FROM THE ENGINEER OR ENGINEER'S REPRESENTATIVE BY COMPLETING AND SIGNING A OWNER'S FORM ENTITLED "CONSTRUCTION INSPECTORS OVERTIME COMPENSATION AUTHORIZATION", PRIOR TO COMMENCING ANY OVERTIME WORK. ANY WORK DONE OUTSIDE THE STANDARD WORKDAY, WITHOUT PRIOR AUTHORIZATION, SHALL BE CONSIDERED UNDER UNAUTHORIZED WORK. THE CONTRACTOR IS REQUIRED TO PAY THE OVERTIME WAGES OF THE OWNER INSPECTORS THAT WORK OVERTIME MONDAYS THROUGH FRIDAYS AT TIME IN A HALF. THE CONTRACTOR IS RESPONSIBLE FOR THE OVERTIME WAGES OF THE ONWER INSPECTORS THAT WORK HOLIDAYS AT DOUBLE TIME. MINIMUM HOURS WILL BE BILLED TO CONTRACTOR FOR CALL OUTS OR FOR INSUFFICIENT NOTICE OF TWO (2) HOURS.
6. THE CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL DIMENSIONS AND THE LOCATION OF EXISTING AND PROPOSED PROJECT ELEMENTS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN PLAN DIMENSIONS AND ACTUAL FIELD CONDITIONS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND OWNER. NO CONSTRUCTION ACTIVITY SHALL CONTINUE WITHOUT APPROVAL FROM THE OWNER.
7. ALL MATERIALS AND LABOR, WHETHER SPECIFICALLY INDICATED ON PLANS OR NOT, WHICH ARE NECESSARY FOR THE PROPER INSTALLATION AND FUNCTION OF THE SYSTEM SHALL BE FURNISHED BY THIS CONTRACTOR.
8. CONTRACTOR SHALL NOT PROCEED WITH ANY WORK INVOLVING A CHANGE IN PROJECT SCOPE, EQUIPMENT, MATERIALS OR COST WITHOUT FIRST HAVING OBTAINED ENGINEER'S AND/OR OWNER'S APPROVAL IN WRITING. IF APPROVAL HAS NOT BEEN OBTAINED IN WRITING PRIOR TO PROCEEDING WITH ANY CHANGE, CONTRACTOR WILL NOT BE REIMBURSED FOR SUCH CHANGE.
9. CONTRACTOR TO PLAN AND PERFORM HIS WORK IN A MANNER THAT WILL PERMIT SAFE PUBLIC TRAFFIC MOVEMENT ON ALL STREETS.
10. THE CONTRACTOR SHALL PLAN AND SEQUENCE ALL CONSTRUCTION ACTIVITY IN SUCH A MANNER THAT WILL PERMIT SAFE PEDESTRIAN AND VEHICULAR MOVEMENT.
11. TEMPORARY TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE IN ACCORDANCE WITH TXDOT SPECIFICATIONS. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN, FOR APPROVAL BY THE OWNER, PRIOR TO CONSTRUCTION. THE TRAFFIC CONTROL PLAN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS. ALL TRAFFIC CONTROL / TRAFFIC SAFETY SHALL BE IN ACCORDANCE WITH THE LATEST MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CRITERIA.
12. CONTRACTOR SHALL PROVIDE PROTECTIVE DEVICES SUCH AS SIGNS, LIGHTS, SIGNALS, AND OTHER DEVICES, AS NEEDED FOR THE SAFETY OF THE PUBLIC AND WORKERS. (NO SEPARATE PAY)
13. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND SAFETY OF THE WORK SITE, WORKERS, SUBCONTRACTORS, MATERIALS AND EQUIPMENT.
14. THE DRAWINGS AND SPECIFICATIONS REPRESENT THE COMPLETED STRUCTURES/DESIGN. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND MEANS NECESSARY TO PROTECT PERSONS AND STRUCTURES DURING CONSTRUCTION. OBSERVATION BY THE ENGINEER OR THE OWNER DOES NOT INCLUDE REVIEW OF THESE MEASURES.
15. THESE PLANS, PREPARED BY HALFF ASSOCIATES, INC., DO NOT EXTEND TO OR INCLUDE DESIGN OF SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF HALFF ASSOCIATES, INC., REGISTERED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONSTRUCTION CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS, INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY THE HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE REGULAR SESSION.
16. CONTRACTOR SHALL PROVIDE A SEQUENCE OF WORK AND PERFORM ASSOCIATED GRADING THAT PROVIDES POSITIVE OUTFALLS AT ALL TIMES.
17. CONSTRUCTION STAKING AND SURVEYING SHALL BE PROVIDED BY THE CONTRACTOR AND AT CONTRACTOR'S EXPENSE. ALL DIMENSIONS ARE TO BACK OF CURB OR, WHERE NO CURB EXISTS, TO EDGE OF PAVEMENT UNLESS SHOWN OTHERWISE. ALL UTILITY DIMENSIONS AND STATIONS/COORDINATES ARE TO CENTER OF THE STRUCTURE UNLESS SHOWN OTHERWISE.
18. CONTRACTOR TO COORDINATE WITH THE OWNER ON WORK SCHEDULES, TESTING, GENERAL INSPECTION, AND OPERATION AND LOCATION OF EXISTING LINES. 19 THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING ALL CONSTRUCTION MATERIALS TESTING AND GENERAL INSPECTIONS. THE CONTRACTOR SHALL COORDINATE THROUGH THE OWNER'S DESIGNATED FIELD REPRESENTATIVE A MINIMUM OF 24-HOURS PRIOR TO TESTING OR INSPECTION. FAILURE TO BE PREPARED FOR TESTING MAY RESULT IN TRAVEL CHARGES. RE-TESTING WILL BE BORNE BY THE CONTRACTOR.
19. MATERIAL TESTING SHALL BE PROVIDED BY THE OWNER. RE-TEST TO BE AT CONTRACTOR'S EXPENSE.
20. THE CONTRACTOR SHALL INSPECT ALL MATERIALS AT DELIVERY AND NOTIFY THE OWNER OF ANY DAMAGED OR QUESTIONABLE MATERIALS. ANY DAMAGED OR QUESTIONABLE MATERIAL INSTALLED WITHOUT PRIOR INSPECTION BY THE OWNER SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE.
21. THE CONTRACTOR SHALL COORDINATE ANY REQUIRED TEMPORARY RELOCATION OF MAILBOXES WITH THE BROWNSVILLE POSTMASTER. FINAL LOCATION SHALL BE IN ACCORDANCE WITH THE LOCAL POST OFFICE REQUIREMENTS AT CONTRACTOR'S EXPENSE.
22. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED. (NO SEPARATE PAY)
23. THE CONTRACTOR IS ENCOURAGED TO INSPECT AND DOCUMENT THE PRE-CONSTRUCTION CONDITION OF ALL PRIVATE DRIVEWAYS, MAILBOXES, PAVEMENT AREAS, SIDEWALKS, CURB AND GUTTER, FENCES AND ALL OTHER ITEMS TO BE AFFECTED BY PROPOSED CONSTRUCTION PRIOR TO COMMENCING.
24. ANY DAMAGE TO EXISTING PAVEMENT OR EXISTING STRUCTURES SHALL BE REPAIRED TO PRECONSTRUCTION CONDITION OR BETTER AT CONTRACTOR'S EXPENSE. EXISTING STRUCTURES MAY INCLUDE BUT ARE NOT LIMITED TO INLETS, MANHOLES, POWER POLES, SIDEWALKS, CURB AND GUTTER, FENCES, SPRINKLER SYSTEMS, LAWNS OR PRIVATE PROPERTY IMPROVEMENTS.
25. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER OR ENGINEER, UNLESS OTHERWISE NOTED.

- 28.CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. NOTIFY TEXAS ONE CALL FOR UTILITY LOCATIONS PRIOR TO ANY AND ALL EXCAVATIONS.
29. CONTRACTOR TO EXERCISE EXTREME CAUTION WHEN WORKING NEAR EXISTING FACILITIES AND/OR UTILITIES. ALL DAMAGE TO BE REPAIRED AT CONTRACTOR'S EXPENSE. ALL COSTS FOR INTERRUPTION OF GAS, ELECTRICAL, COMMUNICATIONS AND/OR WATER SERVICE DUE TO CONTRACTOR'S WORK SHALL BE BORNE BY THE CONTRACTOR.
30. INFORMATION ON EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS FROM BEST AVAILABLE INFORMATION OF RECORD AND SPOT FIELD LOCATIONS. ALTHOUGH EVERY EFFORT HAS BEEN MADE TO ACCURATELY DEPICT ALL UTILITIES, NOT ALL (PUBLIC AND PRIVATE) MAY BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION AND LOCATION OF THESE UNDERGROUND UTILITIES AS REQUIRED AT NO SEPARATE PAY. CONTRACTOR TO COORDINATE WITH ALL UTILITY COMPANIES.
31. ALL WORK SHALL BE PERFORMED WITHIN THE OWNER'S RIGHT-OF-WAY, EASEMENTS OR ON PUBLIC-OWNED PROPERTY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMISSION TO USE PRIVATE PROPERTY, IF NECESSARY, FOR THE PURPOSES OF STAGING, STOCKPILE, STORAGE OR REFUSE AREAS. THE CONTRACTOR SHALL PROVIDE WRITTEN EVIDENCE TO THE OWNER PRIOR TO USE.
32. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED RESIDENTS OR BUSINESS OWNERS OF CONSTRUCTION ACTIVITY THROUGH THE USE OF BILINGUAL (ENGLISH AND SPANISH) DOOR TAGS, PAMPHLETS OR SIMILAR METHODS. ALL AFFECTED PARTIES MUST BE NOTIFIED A MINIMUM OF 48-HOURS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE A SAMPLE OF THE NOTIFICATION TO THE OWNER PRIOR TO IMPLEMENTATION.
33. CONTRACTOR TO ENSURE SAME DAY ACCESS TO ALL RESIDENCES AND BUSINESSES ADJACENT TO CONSTRUCTION.
34. THE CONTRACTOR SHALL DO ALL NECESSARY CLEARING, EXCAVATION, TRENCHING, SHORING, DE-WATERING, DEMOLITION, GRADING, BACKFILLING, ETC. TO COMPLETE THE PROJECT. ASSOCIATED COSTS SHALL BE SUBSIDIARY TO THE RESPECTIVE BID ITEMS AS IDENTIFIED IN THE CONTRACT UNLESS NOTED OTHERWISE.
35. THE CONTRACTOR SHALL PROVIDE A GROUNDWATER CONTROL PLAN FOR APPROVAL BY THE OWNER PRIOR TO CONSTRUCTION. THE PLAN SHALL BE DEVELOPED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS AND OUTLINE THE CONTRACTOR'S MEANS AND METHODS FOR CONTROLLING GROUNDWATER INCLUDING THE LOCATION OF ALL PROPOSED GROUNDWATER MONITORING WELLS FOR VERIFICATION PRIOR TO BEGINNING EXCAVATION FOR THE CONTRACTOR'S PROPOSED EXCAVATION SAFETY SYSTEM. ADEQUACY AND IMPLEMENTATION OF THE PLAN IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER RESERVES THE RIGHT TO REJECT PLANS. THE GROUNDWATER CONTROL PLAN WILL BE MAINTAINED IN THE OWNER'S REPRESENTATIVE FILES FOR REFERENCE PURPOSES ONLY. NO REVIEW WILL BE MADE NOR IS ANY RESPONSIBILITY FOR THE PLAN ASSUMED BY THE OWNER OR THE OWNER'S REPRESENTATIVES. (NO SEPARATE PAY)
36. THE CONTRACTOR SHALL PROVIDE AN EMERGENCY PLAN, IN CASE OF A LARGE RAIN EVENT OR OTHER IMPACTFUL EVENT, FOR APPROVAL BY THE OWNER PRIOR TO CONSTRUCTION. THE PLAN SHALL BE DEVELOPED, SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS. ADEQUACY AND IMPLEMENTATION OF THE PLAN IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE OWNER RESERVES THE RIGHT TO REJECT THE PLANS. (NO SEPARATE PAY)
37. ALL COMPACTION SHALL BE ACHIEVED BY MECHANICAL METHODS. NO WATER JETTING ALLOWED, UNLESS APPROVED BY THE OWNER.
38. ALL SPOIL MATERIAL AND DEBRIS SHALL BE DISPOSED OFFSITE BY THE CONTRACTOR IN A LEGAL MANNER. FURNISHING AND TRANSPORTATION OF ALL OFFSITE MATERIAL TO BE AT CONTRACTOR'S EXPENSE.
39. DEMOLITION, REMOVAL AND DISPOSAL OF ALL EXCESS CONCRETE, CURBS, RUBBLE, ETC. TO BE DONE IN A LEGAL MANNER AT CONTRACTOR'S EXPENSE.
40. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION AREA AS CLEAN AS POSSIBLE. ALL ASSOCIATED DEBRIS SHALL BE COLLECTED AND PROPERLY DISPOSED OF AT THE END OF EACH WORKDAY.
41. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RETURN THE SITE TO ORIGINAL CONTOURS UNLESS DIFFERENT FINISHED ELEVATIONS ARE SHOWN ON PLANS. CONTRACTOR TO ENSURE NO AREAS OF PONDING ARE PRESENT.

40. CONCRETE NOTES:
- A. ALL CONCRETE WORK TO BE FORMED, UNLESS OTHERWISE APPROVED.
- B. ALL CONCRETE TO BE 3000-PSI MINIMUM AT 28 DAYS, UNLESS OTHERWISE SHOWN.
- STRENGTH TO BE DETERMINED BY CYLINDER BREAK TEST.
- C. ALL REINFORCING STEEL TO BE ASTM A-615, GRADE 60, UNLESS OTHERWISE SHOWN.
- D. ALL EXPOSED CONCRETE WORK TO BE CHAMFERED.
- E. ALL CONCRETE USED FOR CURB AND GUTTER, CONCRETE PAVEMENT, DRIVEWAYS, SIDEWALKS AND OTHER FLAT WORK SHALL CONTAIN A MINIMUM OF 1.5 POUNDS OF FIBER MESH PER CUBIC YARD.
- F. ALL EXPOSED CONCRETE SURFACES SHALL BE TREATED WITH CURING COMPOUND RESIN BASE ASTM C 309 TYPE 2 WITH PIGMENTED TINT OF FUGITIVE DYE.
- G. EXPANSION JOINTS WILL BE PLACED AT CURB RETURNS, INLETS AND AT THE END OF EACH POUR WITH INTERVALS NOT TO EXCEED 40 FT. JOINTS SHALL CONSIST OF 1/2" PRE-MOLDED EXPANSION JOINT MATERIAL WITH 3, 36" X 1/2" DOWELS, ONE END GREASED AND WRAPPED. CARE MUST BE TAKEN THAT DOWELS ARE STRAIGHT AND LAID PARALLEL WITH CURB AND NO CONCRETE PLUGS OR OTHER MATERIAL BE ALLOWED THROUGH THE DOWEL HOLES OR EXPANSION MATERIAL WHICH WOULD PREVENT THE JOINT FROM OPERATION AS AN EXPANSION JOINT. EXPANSION JOINT MATERIALS SHALL BE PRE-MOLDED ASPHALT IMPREGNATED EXPANSION JOINT MATERIAL CONFORMING WITH ASTM D 994 (NOT WOOD FIBER TYPE)
- H. CONTRACTION (DUMMY, SAWED OR GROVED) JOINTS SHALL BE 2" DEEP AND PLACED AT MAXIMUM OF 10-FOOT INTERVALS.
- I. WHEN CONNECTING TO EXISTING CURB AND GUTTER, THE CONTRACTOR SHALL DRILL AND DOWEL TWO #6 X 16" TIE BARS A MINIMUM OF 6-INCHES DEEP INTO THE EXISTING CURB AND GUTTER SECTION.

41. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING ALL FIELD CHANGES AND FURNISHING A LEGIBLE SET OF "AS-BUILT" DRAWINGS TO THE OWNER.
42. WHEN INSTALLING ANY MANUFACTURED PRODUCT, THE CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDED INSTALLATION DIRECTIONS. IF ANY CONFLICTS OR DISCREPANCIES BETWEEN MANUFACTURER'S DIRECTIONS AND THE CONTRACT DOCUMENTS ARE FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING AND SHALL NOT PERFORM ANY WORK ON ANY ITEM UNTIL SUCH CONFLICT HAS BEEN RESOLVED IN WRITING.

PAVING CONSTRUCTION NOTES:

1. HOT MIX ASPHALT CONCRETE TO BE IN ACCORDANCE WITH SPECIFICATION 32 12 16.13, HOT MIX ASPHALTIC CONCRETE PAVEMENT.
2. SUBGRADE EXCAVATION AND COMPACTION TO BE INCLUDED IN PRICE BID PER SQUARE YARD FOR "PAVEMENT BID ITEMS."
3. CONTRACTOR TO SHAPE, FILL, GRADE AND COMPACT TO ENSURE PROPER DRAINAGE.
4. ALL PAVEMENTS SHALL BE NEATLY SAW-CUT PARALLEL OR PERPENDICULAR TO THE PAVEMENT EDGE (NO ANGLED SAW CUTS). DAMAGE TO PAVEMENT BEYOND THE EXTENTS OF CONSTRUCTION LIMITS AS A RESULT OF FAILURE TO PROPERLY SAW-CUT SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
5. CONSTRUCTION JOINTS TO EXISTING PAVEMENT SHALL BE MADE BY EITHER CUTTING BACK EXISTING TO PRODUCE A SLIGHTLY BEVELED EDGE FOR THE FULL THICKNESS OF THE WEARING COURSE OR A SUITABLE LAP JOINT SHALL BE MADE. SAW CUTTING REQUIRED.
6. NO TRAFFIC SHALL BE ALLOWED ON THE FINISHED WEARING SURFACE UNTIL AT LEAST 12 HOURS, OR UNTIL THE PAVEMENT HAS COOLED TO NO LESS THAN 160°F, AFTER COMPLETION OF ROLLING.
7. ANY SETTLEMENT UNDER PAVEMENT DUE TO INADEQUATE COMPACTION OF UTILITY LINE BACKFILL SHALL BE CAUSE FOR RECTIFICATION OF TRENCH AND REPLACEMENT OF PAVEMENT SECTION AT CONTRACTOR'S EXPENSE.
8. HOT MIX ASPHALT CONCRETE TRANSPORT TRUCKS TO BE EQUIPPED WITH CANVAS COVERS TO BE UTILIZED DURING MATERIAL HAULING. MATERIAL DELIVERED TO SITE AT IMPROPER TEMPERATURE SHALL BE REJECTED. HOT MIX SHALL BE LAID AT A MINIMUM TEMPERATURE OF 225 DEGREES FAHRENHEIT.
9. CONTRACTOR TO REPLACE ALL PAVEMENT MARKINGS AND MARKERS THAT WERE REMOVED, DEMOLISHED, OR DAMAGED DURING CONSTRUCTION. (NO SEPARATE PAY)
10. CONTRACTOR SHALL "LAY DOWN" CURB SECTION AT DRIVEWAY LOCATIONS SHOWN ON DRAWINGS. CONTRACTOR SHALL BE REQUIRED TO GRADE FROM EXISTING DRIVES AND PARKING AREAS TO MATCH GRADES AND ALLOW SMOOTH TRANSITIONS AND PROPER DRAINAGE. (NO SEPARATE PAY)

STRIPING NOTES:

1. ALL SIGNS AND MARKINGS SHALL BE PLACED BY THE CONTRACTOR IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION, UNLESS OTHERWISE SHOWN OR DIRECTED.
2. THE PAVEMENT SURFACE SHALL BE MADE FREE OF DELETERIOUS MATERIAL PRIOR TO APPLICATION OF PERMANENT MARKINGS.
3. ALL STRIPING SHALL BE A HI-PERFORMANCE ZONE MARKING PAINT AND SHALL BE PLACED PER MANUFACTURER RECOMMENDATIONS.

UTILITY GENERAL NOTES:

1. THE TYPE, SIZE AND LOCATION OF ALL UNDERGROUND UTILITIES DEPICTED ON THE CONSTRUCTION PLANS WERE RESEARCHED WITH RESPECT TO THE BEST AVAILABLE DATA AND THEREFORE SHOWN APPROXIMATE. ALTHOUGH EVERY EFFORT HAS BEEN MADE TO ACCURATELY DEPICT ALL UTILITIES, NOT ALL (PUBLIC AND PRIVATE) MAY BE SHOWN. NEITHER THE ENGINEER NOR THE OWNER IS RESPONSIBLE FOR THE ACCURACY OF THE LOCATION OF THE UTILITIES SHOWN ON THE CONSTRUCTION PLANS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL UTILITY COMPANIES WITH JURISDICTION WITHIN THE LIMITS OF CONSTRUCTION FOR FIELD VERIFICATION AT NO ADDITIONAL EXPENSE TO THE OWNER. UTILITY COMPANIES TO INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
- BROWNSVILLE PUB (956) 983-6100
BROWNSVILLE ENGINEERING DEPT. (956) 541-1012
TXDOT - BROWNSVILLE OFFICE (956) 542-2260
TEXAS 811
TEXAS GAS SERVICE(800) 959-5325
SPECTRUM/TIME WARNER CABLE (800) 222-5355
AT&T TEXAS(956) 630-6261
AMERICAN ELECTRIC AND POWER (AEP) TEXAS (800) 277-2177
MAGIC VALLEY ELECTRICAL COOPERATIVE (MVEC) (866) 225-5683
FRONTIER COMMUNICATIONS (800) 921-8101
CHARTER COMMUNICATIONS (866) 874-2389
VERIZON (800) 922-0204
2. CONTRACTOR SHALL EXPOSE ANY EXISTING UTILITY THAT MAY BE IN CONFLICT PRIOR TO COMMENCING CONSTRUCTION AND EXCAVATION.
3. THE CONTRACTOR SHALL NOTIFY ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS RESPONSIBLE FOR PUBLIC AND PRIVATE UTILITIES AFFECTED BY HIS/HER OPERATIONS PRIOR TO COMMENCING CONSTRUCTION.
4. CONTRACTOR SHALL AT ALL TIMES ALLOW ACCESS TO EXISTING DRIVEWAY OR PROVIDE/MAINTAIN ALTERNATIVE ALL-WEATHER ROUTES.
5. ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES LATEST EDITION.
6. ANY DAMAGES TO FENCES, WALKS, OR PRIVATE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
7. ALL CONSTRUCTION MATERIALS TESTING WILL BE COORDINATED THROUGH THE OWNER.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXCAVATED MATERIAL, EXCESS CONCRETE, AND DEBRIS FROM THE CONSTRUCTION SITE AT NO ADDITIONAL EXPENSE TO THE OWNER.
9. IN ACCORDANCE WITH HOUSE BILLS 662 AND 665 ENACTED BY THE TEXAS LEGISLATURE (70TH REGULAR LEGISLATIVE SESSION), THE CONTRACTOR SHALL MEET THE REQUIREMENTS FOR TRENCH SAFETY AS OUTLINED IN THE CURRENT VERSION OF THE UNITED STATES DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) STANDARDS, 29 CFR, PART 1926, SUBPART P-EXCAVATIONS.
10. PRIOR TO COMMENCING ANY EXCAVATION, THE CONTRACTOR SHALL PROVIDE A TRENCH SAFETY PLAN. ALL PLANS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF TEXAS. THE PLAN SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL.
11. IN THE EVENT CONDITIONS ENCOUNTERED IN THE FIELD REQUIRE TRENCH SAFETY SYSTEMS OUTSIDE OF THE EXTENTS SUGGESTED TRENCH PROTECTION SHOWN ON THE CONSTRUCTION PLANS, ALL EXCAVATION SHALL CEASE AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A REVISED TRENCH SAFETY PLAN. NO EXCAVATION SHALL RESUME UNTIL THE REVISED TRENCH SAFETY PLAN HAS BEEN APPROVED. (NO SEPARATE PAY)

12. THE CONTRACTOR SHALL ENSURE APPROVED TRENCH SAFETY PLANS ARE IMPLEMENTED. FAILURE TO ADHERE TO THE TRENCH SAFETY PLAN WILL RESULT IN A STOP WORK ORDER. NON-COMPLIANCE INCIDENTS MAY BE REPORTED TO OSHA.
13. TRENCHES OR EXCAVATIONS MAY NOT BE LEFT OPEN OVERNIGHT UNLESS AUTHORIZED IN WRITING BY THE OWNER. IN CASES WHERE TRENCHES ARE LEFT OPEN, THE CONTRACTOR MUST PROVIDE TRAFFIC-RATED, ANCHORED STEEL PLATE COVERS APPROVED BY THE OWNER.
14. CONTRACTOR SHALL PROTECT AND SUSPEND ALL EXISTING UTILITIES TO REMAIN.
15. ALL UTILITIES SHALL REMAIN IN SERVICE AT ALL TIMES. THE PROTECTION, TEMPORARY BYPASS PUMPING, ETC. OF ALL UTILITY LINES SHALL BE INCIDENTAL TO THE INSTALLATION OF THE PROPOSE UTILITIES. CONTRACTOR SHALL COORDINATE WITH UTILITY OWNERS.

BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



Revision No.	Date	Description
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Project No.:	43503.001
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GENERAL NOTES

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Sheet Number

UTILITY NOTES

1. ALL CONSTRUCTION OPERATIONS TO BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION. COPIES OF OSHA STANDARDS MAY BE PURCHASED FROM THE U.S. GOVERNMENT PRINTING OFFICE.
2. ELECTRICAL LINES ARE LOCATED IN THE PROJECT AREA. THE ATTENTION OF THE CONTRACTOR IS DIRECTED TO STATE LAW (VERNON'S ANNOTATED TEXAS STATUTES, ARTICLE 1436 (C)), CONCERNING CONSTRUCTION OPERATIONS IN THE VICINITY OF ELECTRICAL LINES AND THE NEED FOR EFFECTIVE PRECAUTIONARY MEASURES.
3. ANY CHANGES OR REVISIONS TO THE UTILITY DESIGN MUST FIRST BE SUBMITTED TO THE BROWNSVILLE PUBLIC UTILITY BOARD FOR REVIEW AND WRITTEN APPROVAL..
4. THE CONTRACTOR SHALL GIVE THE BROWNSVILLE PUBLIC UTILITY BOARD 24 HOUR ADVANCE NOTICE PRIOR TO PLACEMENT OF ANY CONCRETE, TO PERMIT THE REVIEW OF FORMS. REINFORCING STEEL PLACEMENT, AND OTHER PREPARATIONS.
5. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CITY OF BROWNSVILLE PUBLIC UTILITY BOARD STANDARD SPECIFICATIONS.
6. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, ALL UTILITY CONCRETE IS TO BE CLASS "K" (4000 PSI-28 DAYS), AND ALL REINFORCING STEEL TO BE ASTM A615 GRADE 60.
7. MAXIMUM LENGTH OF OPEN TRENCH TO BE 60', OR AS DIRECTED BY THE OWNER.

WASTEWATER NOTES

1. ALL PIPE BEDDING MATERIAL SHALL CONFORM TO DETAILS AND THE MANUFACTURER'S RECOMMENDATION.
2. ALL INTERNAL CONCRETE SURFACES FOR WASTEWATER MANHOLES TO BE COATED PER MATERIALS AND PROCEDURES SPECIFIED IN CONTRACT SPECIFICATIONS AND DESIGN PLANS.
3. ALL MANHOLE COVERS SHALL BE 32" DIAMETER WATERTIGHT SANITARY SEWER MANHOLE FRAME AND COVER EAST JORDAN IRON WORKS MODEL V-1430A (OR APPROVED EQUAL) AND READ "BROWNSVILLE PUBLIC UTILITIES BOARD".
4. THE DISTANCE FROM TOP OF SANITARY SEWER MANHOLE CONE TO FINISHED GRADE TO BE 12" MINIMUM OR 18" MAX (AS PER DETAIL), UNLESS NOTED OTHERWISE ON PLANS.
5. EXISTING WASTEWATER LINES SHALL BE KEPT IN SERVICE UNTIL PROPOSED WASTEWATER SYSTEM IMPROVEMENTS HAVE BEEN COMPLETED AND APPROVED BY THE OWNER.
6. CONTRACTOR TO CONSTRUCT WASTEWATER GRAVITY MAIN FROM DOWNSTREAM END TO UPSTREAM END WITH BELLS FACING UPSTREAM.
7. ALL MANHOLES TO BE BENCHED IN THE DIRECTION OF FLOW TO MINIMIZE TURBULENCE.
8. ALL SEWER LINES, MANHOLES AND FORCE MAINS SHALL BE TESTED IN ACCORDANCE WITH TCEQ CHAPTER 217.57 REGULATIONS AND AND CONTRACT SPECIFICATIONS.

THE OWNER RETAINS THE RIGHTS TO TELEWISE THE LINE TO DETERMINE THE CONDITION OF THE SEWER LINE PRIOR TO FINAL ACCEPTANCE, IN ACCORDANCE WITH CONTRACT SPECIFICATIONS.

9. THE CONTRACTOR SHALL PERFORM QUALITY TESTING FOR THE WATER AND WASTEWATER SYSTEM INSTALLED AND AND SHALL PROVIDE ALL EQUIPMENT (INCLUDING PUMPS AND GAUGES), SUPPLIES AND LABOR NECESSARY TO PERFORM THE TESTS AT HIS EXPENSE. BROWNSVILLE P.U.B. TO BE GIVEN 48 HRS NOTICE PRIOR TO ALL TESTING AND SHALL BE MONITORED BY BROWNSVILLE PUB PERSONNEL. TESTING IS TO BE DONE IN ACCORDANCE WITH B.P.U.B. STANDARDS.
10. ALL MANHOLES LOCATED WITHIN A ROADSIDE DITCH SHALL HAVE A MINIMUM COVER OF 18". AND HAVE WATERTIGHT COVERS. MANHOLES SHALL BE MARKED WITH MANHOLE MARKERS (USE MARKER DETAIL AS SHOWN IN "TYPICAL SERVICE CONNECTION") LOCATED AT THE RIGHT-OF-WAY. COST SUBSIDIARY TO OTHER ITEMS.
11. PROPOSED WATER AND SANITARY SEWER SERVICES ARE SHOWN IN AN APPROXIMATE LOCATION AND SHALL BE VERIFIED IN THE FIELD WITH AN INSPECTOR BASED ON THE LOCATION OF HOMES. SANITARY SEWER SERVICES SHALL BE SINGLE SERVICES UNLESS DECIDED OTHERWISE BY FIELD TECHNICIAN DURING CONSTRUCTION.
12. CONTRACTOR SHALL INSTALL ALL PROPOSED SANITARY SEWER SERVICE CONNECTIONS WITH AN ADEQUATE DEPTH TO ACCOMMODATE THE YARD LINE TO HAVE A SLOPE OF 1/4-INCH PER FOOT PLUS 2' FEET MINIMUM COVER AT THE EXISTING HOME. THE CONTRACTOR SHALL VERIFY THAT SERVICE LINE HAS ADEQUATE DEPTH TO REACH THE RESIDENCE'S EXISTING SEWER CONNECTION(S).

SHALL BE CONDUCTED.

ABANDONMENT OF EXISTING SANITARY SEWER SYSTEM NOTES

1. ALL SANITARY SEWER MANHOLES AND PIPING TO BE ABANDONED IN PLACE SHALL BE JETTED AND PUMPED CLEAN OF SEWAGE AND SLUDGE BY A TCEQ CERTIFIED HAULER. ALL SEWAGE SHALL BE DISPOSED OF ACCORDING TO TCEQ RULES.
2. DECOMMISSIONING OF SANITARY SEWER MANHOLES INCLUDES THE REMOVING THE MANHOLE AND BACKFILLING WITH BANK RUN SAND. THE MANHOLE SHALL BE REMOVED TO A MINIMUM OF 4 FEET BELOW NATURAL GROUND. ALL BACKFILL SHALL BE COMPACTED TO 98% PERCENT STD. PROCTOR, AS PER SPECIFICATION 02 50 10 - ABANDONMENT OF SANITARY SEWER.
3. THE INSPECTOR SHALL INSPECT THE MANHOLE PRIOR TO THE CONTRACTOR DECOMMISSIONING STRUCTURE(S).
4. FLOWABLE FILL (ABANDONMENT GROUT) SHALL BE USED TO FILL ALL ABANDONED IN PLACE PIPES, AS PER SPECIFICATION 33 31 00.13 - ABANDONMENT OF SANITARY SEWER.

UTILITY TESTING NOTES

1. BROWNSVILLE PUBLIC UTILITY BOARD TO BE GIVEN 48 HOURS NOTICE PRIOR TO ALL TESTING OF WATER LINES, WASTEWATER LINES, AND DENSITY TESTING. REFER TO CONTRACT SPECIFICATIONS7 AND TCEQ NOTES FOR TESTING REQUIREMENTS. ALL TESTING TO BE CONDUCTED IN PRESENCE OF B.P.U.B. INSPECTOR.
2. ALL SANITARY SEWERS, EXCLUDING SERVICE LINES, SHALL BE MANDREL TESTED PER TEXAS COMMISSION ON ENVIRONMENTAL QUALITY CRITERIA. MANDREL TEST SHALL NOT BE PERFORMED UNTIL BACKFILL HAS BEEN IN PLACE FOR A MINIMUM OF 30 DAYS.
3. SOIL DENSITY TESTS AND RELATED SOIL ANALYSIS TESTS TO BE ACCOMPLISHED BY AN INDEPENDENT LABORATORY UNDER CONTRACT WITH THE OWNER. TESTS WHICH SHOW UNSATISFACTORY RESULTS ARE TO BE REPEATED AT THE EXPENSE OF THE CONTRACTOR SUBSEQUENT TO CONTRACTOR'S REMEDIAL ACTIVITIES.
4. DENSITY TESTING OF COMPACTED SUBGRADE MATERIAL FOR FIRST COURSE, AND SECOND COURSE OF COMPACTED BASE SHALL BE MADE AT ALL DRIVEWAYS AND INTERSECTING STREETS. IN ADDITION, ONE (1) DENSITY TEST PER LIFT PER FIVE HUNDRED (500) FEET OF INSTALLED PIPELINE SHALL BE CONDUCTED.

STORM DRAINAGE LINE CONSTRUCTION NOTES:

- 1.CONTRACTOR SHALL PROVIDE POSITIVE STORM WATER DRAINAGE AT ALL TIMES.
2. CONTRACTOR TO PROVIDE POSITIVE OUTFLOW FOR DRAINAGE BASIN AT ALL TIMES. IN THE CASE OF A STORM EVENT, CAPACITY FOR STORM WATER RUNOFF SHALL BE PROVIDED ON SITE AS A TEMPORARY DETENTION FACILITY TO MINIMIZE ADJACENT LOCAL FLOODING.
3. CONTRACTOR SHALL PROVIDE A SEQUENCE OF WORK FOR STORM DRAINAGE TIE-INS THAT PROVIDES POSITIVE OUTFLOW AT ALL TIMES.
4. CONTRACTOR TO FIELD VERIFY THE LOCATION OF EXISTING UTILITIES AND FACILITIES PRIOR TO CONSTRUCTION.
5. ALL REINFORCED CONCRETE STORM PIPES SHALL BE ASTM C-76 CLASS III OR CLASS IV WITH O-RING RUBBER GASKET SEALED JOINTS, UNLESS OTHERWISE NOTED ON PLANS. ALL PIPE AND APPURTENANCES (INLETS, MANHOLES, JUNCTION BOXES, ETC.) SHALL CONFORM TO THE TECHNICAL SPECIFICATIONS.
6. REINFORCED CONCRETE PIPES SHALL EXTEND TO THE INSIDE FACE OF ALL STRUCTURES. ALL JOINTS SHALL BE GROUTED TO ENSURE A WATER-TIGHT FIT. IN NO INSTANCE SHALL GROUT BE USED TO EXTEND AN INCOMPLETE SEGMENT OF PIPE TO THE INSIDE FACE OF A STRUCTURE.
7. PRECAST REINFORCED CONCRETE STORM BOXES SHALL BE IN ACCORDANCE WITH ASTM C1577. THE JOINTS SHALL BE SEALED WITH GROUT FROM INSIDE THE BOXES.
8. CAST-IN-PLACE REINFORCED CONCRETE STORM BOXES SHALL BE CONSTRUCTED WITH CLASS "C" CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AND GRADE 60 REINFORCED STEEL. WELDED WIRE REINFORCEMENT IS NOT ALLOWED.
9. BANK RUN SAND BACKFILL IN LIEU OF NATIVE MATERIAL IS ALLOWED AT THE CONTRACTOR'S DISCRETION; NO SEPARATE PAY. THE CONTRACTOR SHALL SUBMIT A SAMPLE OF THE BACKFILL MATERIAL TO THE OWNER FOR INSPECTION AND SHALL UTILIZE THE MATERIAL ONLY UPON APPROVAL BY THE OWNER.
10. EXPANSION JOINTS ARE REQUIRED BETWEEN ALL INLET STRUCTURES AND CURB AND GUTTER AND/OR SIDEWALK.
11. MANHOLE COVERS WITHIN THE CITY OF BROWNSVILLE SHALL DISPLAY THE CITY OF BROWNSVILLE LOGO AND STORM SEWER DESIGNATION. MANHOLE COVERS IN ROADWAYS SHALL BE H-20 RATED.
12. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING STORM SEWER INFRASTRUCTURE REMAINS FUNCTIONAL THROUGHOUT THE COURSE OF CONSTRUCTION. IN THE EVENT THAT ANY ASSOCIATED CONSTRUCTION ACTIVITY IMPEDES THE FUNCTION OF A SYSTEM, THE CONTRACTOR SHALL PROVIDE THE OWNER A PLAN TO ADDRESS THE ISSUE IN ANTICIPATION OF A STORM EVENT.
13. ALL NEWLY INSTALLED STORM SEWER PIPE AND APPURTENANCES ARE SUBJECT TO VIDEO INSPECTION.
14. ALL DIMENSION CONTROLS SHOWN ON PLANS ARE TO CENTER OF STRUCTURE.

WATERLINE CONSTRUCTION NOTES:

1. ALL WATERLINES TO BE C-900 CLASS 150 PVC UNLESS OTHERWISE NOTED.
2. DOUBLE CHECK VALVE WILL BE REQUIRED WHEN FILLING NEW WATERLINE FOR PRESSURE TESTING.
3. ALL WATER, REUSE (RECLAIMED), & WASTEWATER COLLECTION LINE CROSSINGS TO BE CONSTRUCTED IN ACCORDANCE WITH TCEQ REGULATION, CHAPTER 210, 290 & 217.
4. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING LINES TO BE TIED IN TO NEW MAIN PRIOR TO SETTING LOCATION OF TIE-IN TEE AND VALVE ON MAIN.
5. WATERLINE MAINS TO BE HYDROSTATICALLY AND BACTERIOLOGICALLY TESTED PER OWNER'S REQUIREMENTS PRIOR TO TIE-INS. OWNER APPROVAL OF TESTING IS REQUIRED.
6. ALL CROSSINGS OF WASTEWATER COLLECTION LINES AND WATERLINES CONSTRUCTED IN ACCORDANCE WITH TCEQ REGULATIONS CHAPTER 290 AND 217. SEPARATION DISTANCES SHALL COMPLY WITH 30 TAC 217.53(D).
7. CONTRACTOR SHALL MAINTAIN AS MINIMUMS 10 FEET HORIZONTAL AND 2 FEET VERTICAL SEPARATION BETWEEN WATERLINES AND ANY OTHER SEWER LINES.
8. NO WATER JETTING ALLOWED; MECHANICAL COMPACTION REQUIRED.
9. FIRE HYDRANTS SHALL BE PLACED NO CLOSER THAN 3-FEET BEHIND THE CURB AND NO CLOSER THAN 2-FEET FROM THE R.O.W. LINE. THE BOTTOM OF THE HYDRANT FLANGE SHALL BE NO LESS THAN 2 AND NO MORE THAN 6 INCHES ABOVE GRADE.
10. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4FT OF COVER ON ALL WATERLINES, UNLESS OTHERWISE NOTED ON PLANS.
11. FITTINGS TO BE USED ON DEFLECTIONS AS NEEDED. FITTINGS ARE INCIDENTAL TO THE INSTALLATION OF THE WATERLINE. (NO SEPARATE PAY)
12. CONTRACTOR IS RESPONSIBLE FOR INSTALLING VALVES, FITTINGS AND ALL INCIDENTALS AS NEEDED FOR A COMPLETE IN PLACE SYSTEM AND SHALL BE SUBSIDIARY TO PIPE INSTALLATION.
13. WATERLINE VALVES SHALL ONLY BE OPERATED BY THE OWNER. CONTRACTOR TO COORDINATE WITH THE OWNER IF WATERLINE VALVE OPERATIONS ARE REQUIRED DURING CONSTRUCTION.
14. ALL PIPE TO BE STORED A MINIMUM OF 6 INCHES ABOVE GROUND.

EROSION CONTROL NOTES:

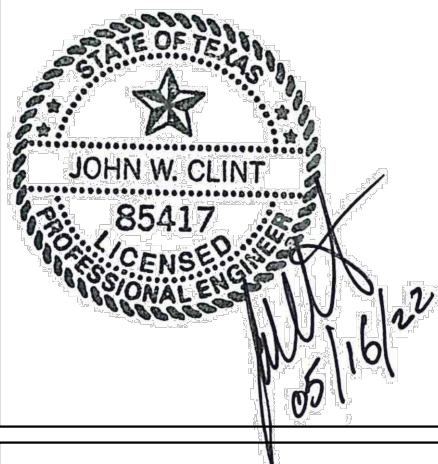
1. CONTRACTOR SHALL OBTAIN A SWPPP PERMIT AND POST IT AT THE CONSTRUCTION SITE PRIOR TO CONSTRUCTION.
2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO COMMENCING ANY EARTH DISTURBING ACTIVITY.
3. ALL EFFORTS SHALL BE MADE TO CONTAIN DISTURBED SOILS WITHIN THE EXTENTS OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES.
4. THE CONTRACTOR SHALL SEQUENCE ALL CONSTRUCTION IN SUCH A MANNER AS TO MINIMIZE THE AMOUNT AND EXTENTS OF DISTURBED EARTH.
5. A STABILIZED CONSTRUCTION EXIT IS REQUIRED AT ALL POINTS OF DESIGNATED EGRESS FROM THE LIMITS OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE LOCATION(S) UNLESS OTHERWISE NOTED ON THE PLANS. THE LOCATION(S) OF THE STABILIZED CONSTRUCTION EXIT(S) MAY BE MODIFIED WITH RESPECT TO THE SEQUENCE OF CONSTRUCTION.
6. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY MAINTAINED DURING THE COURSE OF THEIR INTENDED USE.
7. ALL STAGING, MATERIAL STORAGE, STOCKPILE AND REFUSE AREAS SHALL REQUIRE APPLICABLE EROSION AND SEDIMENT CONTROL MEASURES.
8. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINED WITHIN APPROPRIATE RECEPTACLES (ROLL-OFF CONTAINERS, DUMPSTERS, TRASH CANS, WIRE-MESH CAGES, ETC.) AND CONFINED WITHIN PERIMETER EROSION AND SEDIMENT CONTROLS.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE DURING THE COURSE OF EARTH DISTURBING ACTIVITY AND UNTIL FINAL STABILIZATION IS ACHIEVED. STRUCTURAL MEASURES MAY BE REMOVED ONLY UPON FINAL PROJECT ACCEPTANCE BY THE OWNER OR AS DIRECTED BY THE OWNER.
10. PERMANENT STABILIZATION SHALL BEGIN AS SOON AS PRACTICABLE OR AS DIRECTED BY THE OWNER.
11. DUST CONTROL SHALL BE IMPLEMENTED AS NECESSARY OR AS DIRECTED BY THE OWNER. DUST CONTROL MAY CONSIST OF WATERING OR OTHER METHODS APPROVED BY THE OWNER. DUST CONTROL AND ASSOCIATED WATERING OR OTHER METHOD SHALL BE SUBSIDIARY TO THE EROSION CONTROL BID ITEM IN THE UNIT PRICE SCHEDULE.
12. TRACKED DEBRIS SHALL BE SWEEPED AT THE END OF EACH WORKDAY OR AS DIRECTED BY THE OWNER.
13. ALL DISCHARGES ASSOCIATED WITH DEWATERING OPERATIONS SHALL IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES. MEASURES MAY INCLUDE BUT ARE NOT LIMITED TO SEDIMENTATION BASINS OR FILTER SOCKS.
14. CONCRETE WASH-WATER SHALL NOT BE DISCHARGED DIRECTLY INTO A STORM SEWER SYSTEM OR RECEIVING STREAM. ALL WASH ACTIVITIES MUST BE PERFORMED WITHIN THE EXTENTS OF ESTABLISHED EROSION AND SEDIMENT CONTROL MEASURES OR DESIGNATED AREAS APPROVED BY THE OWNER.
15. SEDIMENT SHALL BE CLEARED FROM ALL STORM SEWER PIPES, CULVERTS AND APPURTENANCES WITHIN THE LIMITS OF CONSTRUCTION PRIOR TO FINAL PROJECT ACCEPTANCE. SEDIMENT SHALL BE PROPERLY DISPOSED.
16. STAGING, STOCKPILE AND EQUIPMENT STORAGE AREAS SHALL NOT BE LOCATED WITHIN THE EXTENTS OF ANY TREE DRIP LINES.

BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



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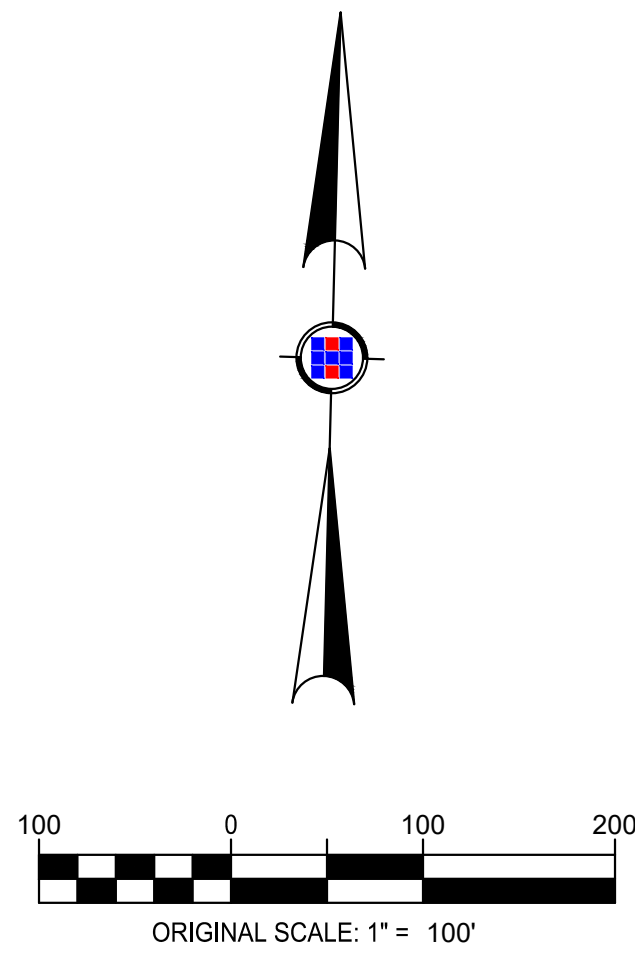
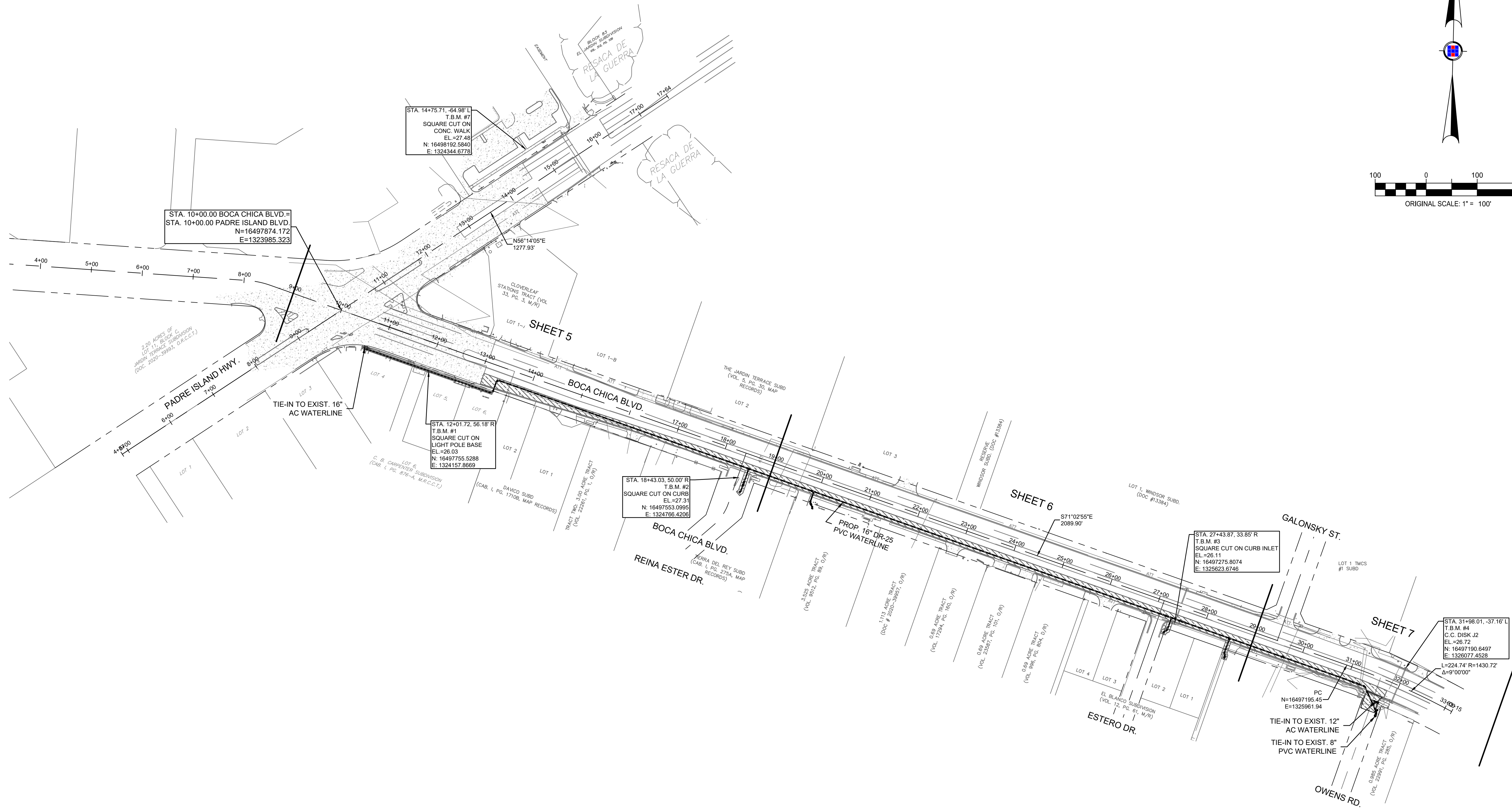
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GENERAL NOTES

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Know what's below.
Call before you dig.

THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING SIZE, TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR SHALL CONTACT THE GEORGETOWN AREA 'ONE CALL' SYSTEM AT 1-800-344-8377 (DIG TESS) 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION FOR EXISTING UTILITY LOCATIONS. THE CONTRACTOR SHALL ALSO BE FULLY RESPONSIBLE FOR FIELD VERIFYING LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES, AND SHALL IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES TO THE UTILITY COMPANY'S APPROVAL AT THE EXPENSE OF THE CONTRACTOR.

BOCA CHICA WATERLINE UPGRADE (INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



1075 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 77828
TEL: 361-200-1000
TELE: 361-200-1001

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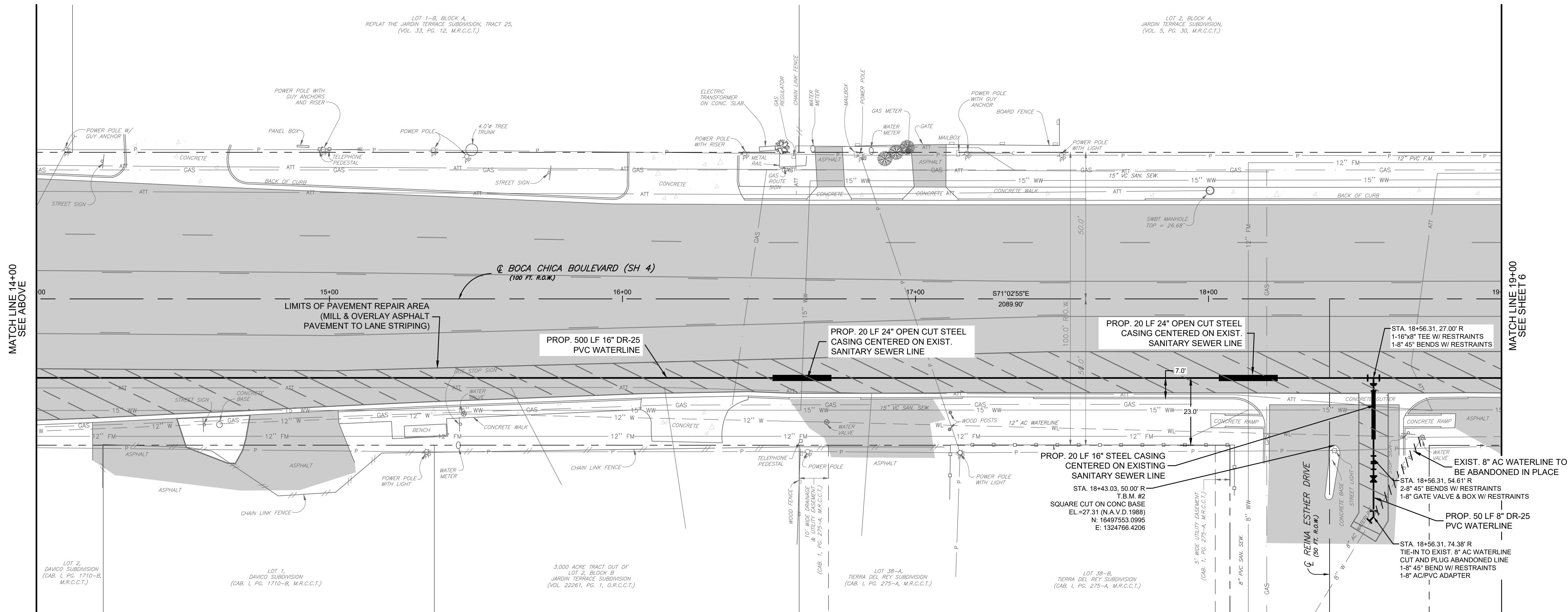
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PROJECT OVERVIEW

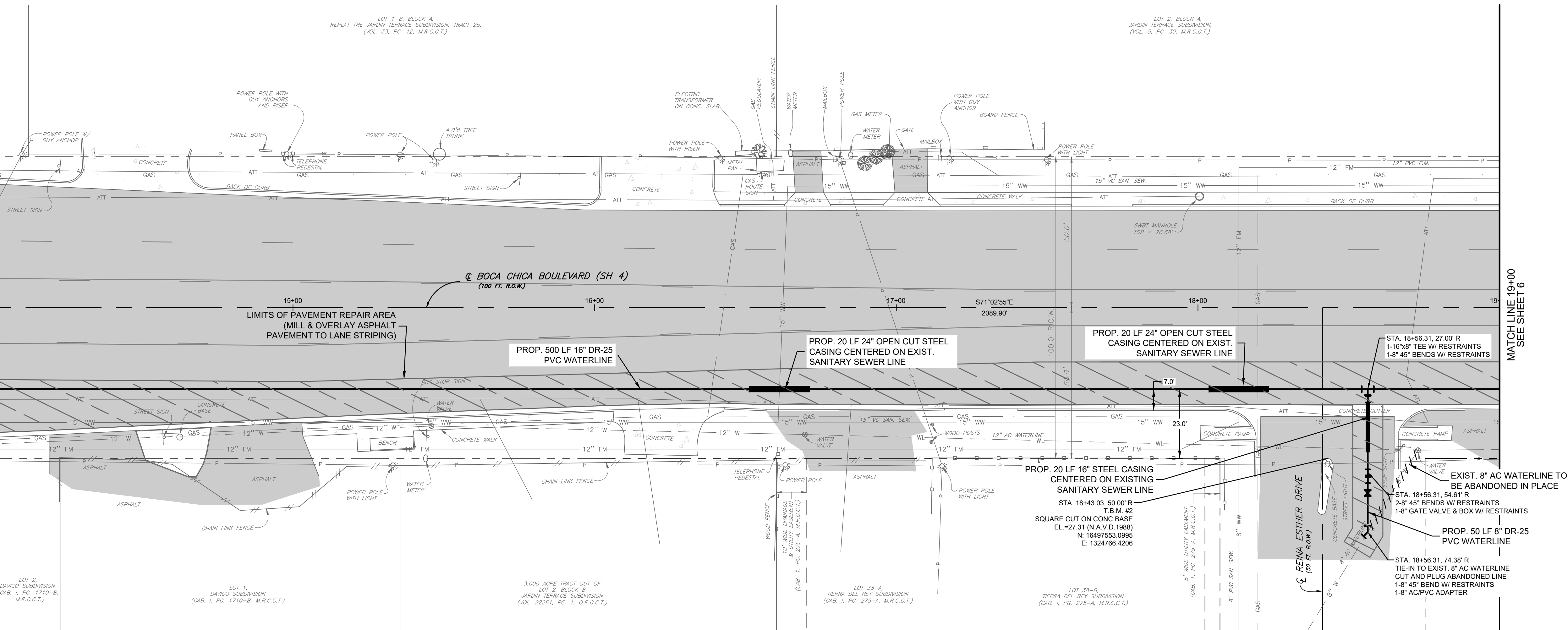
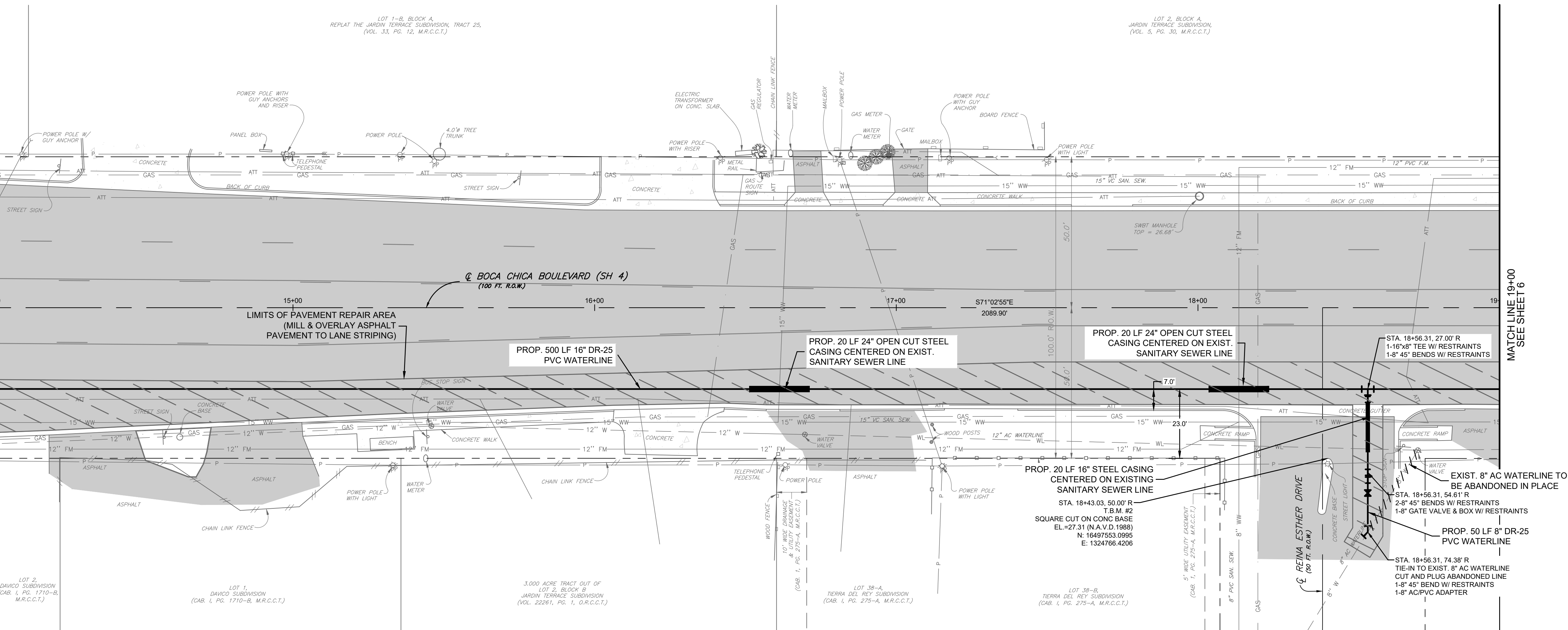
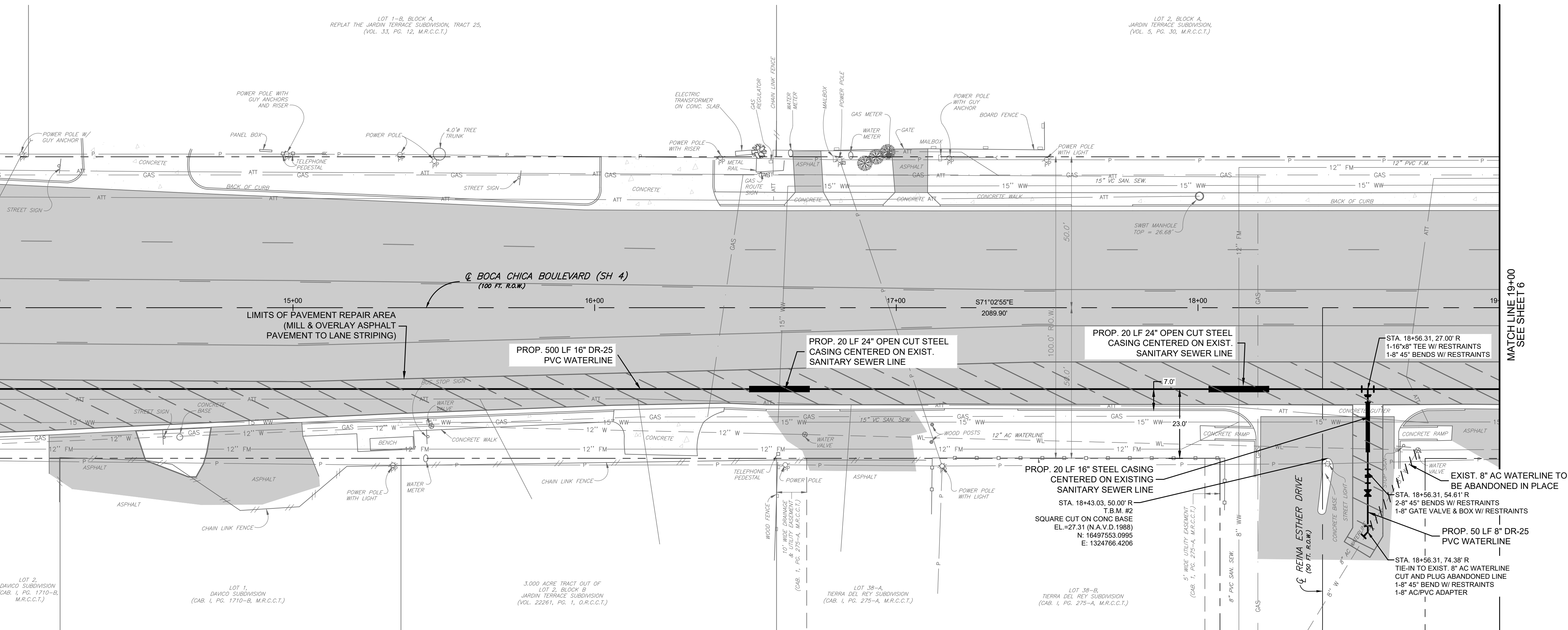
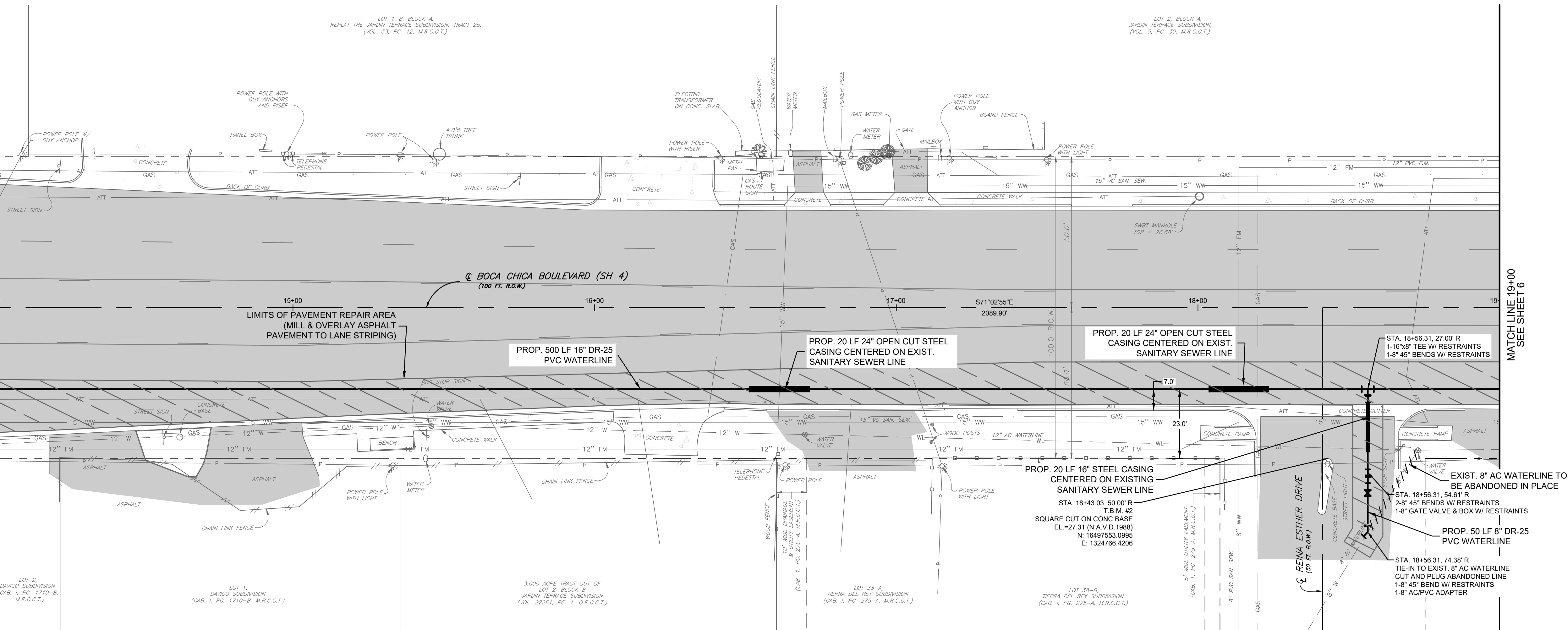
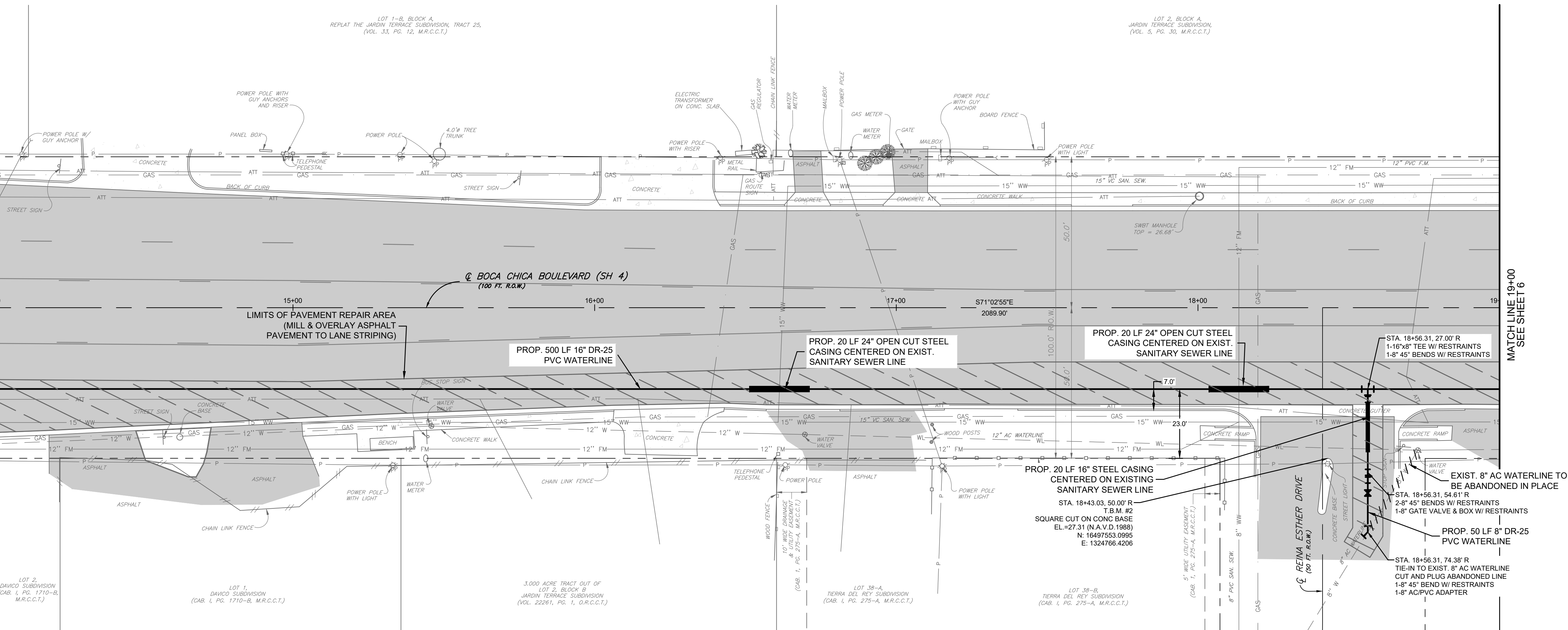
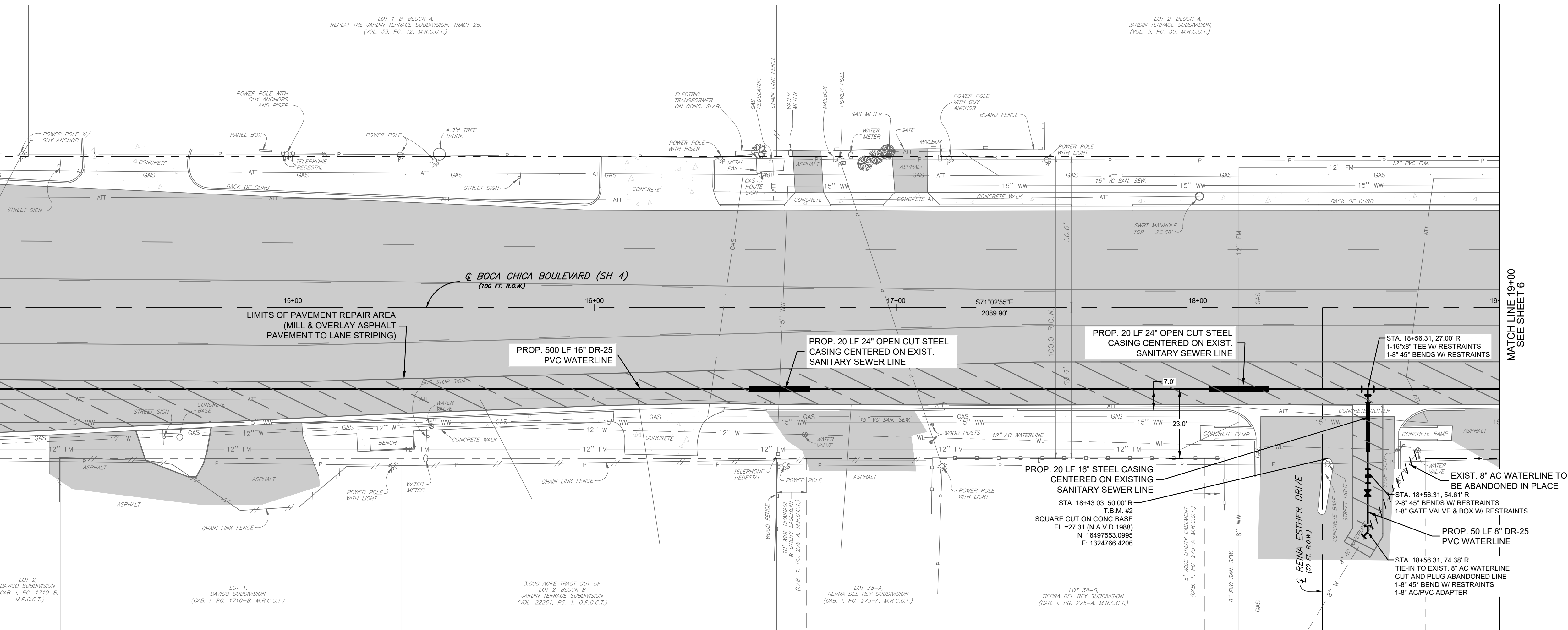
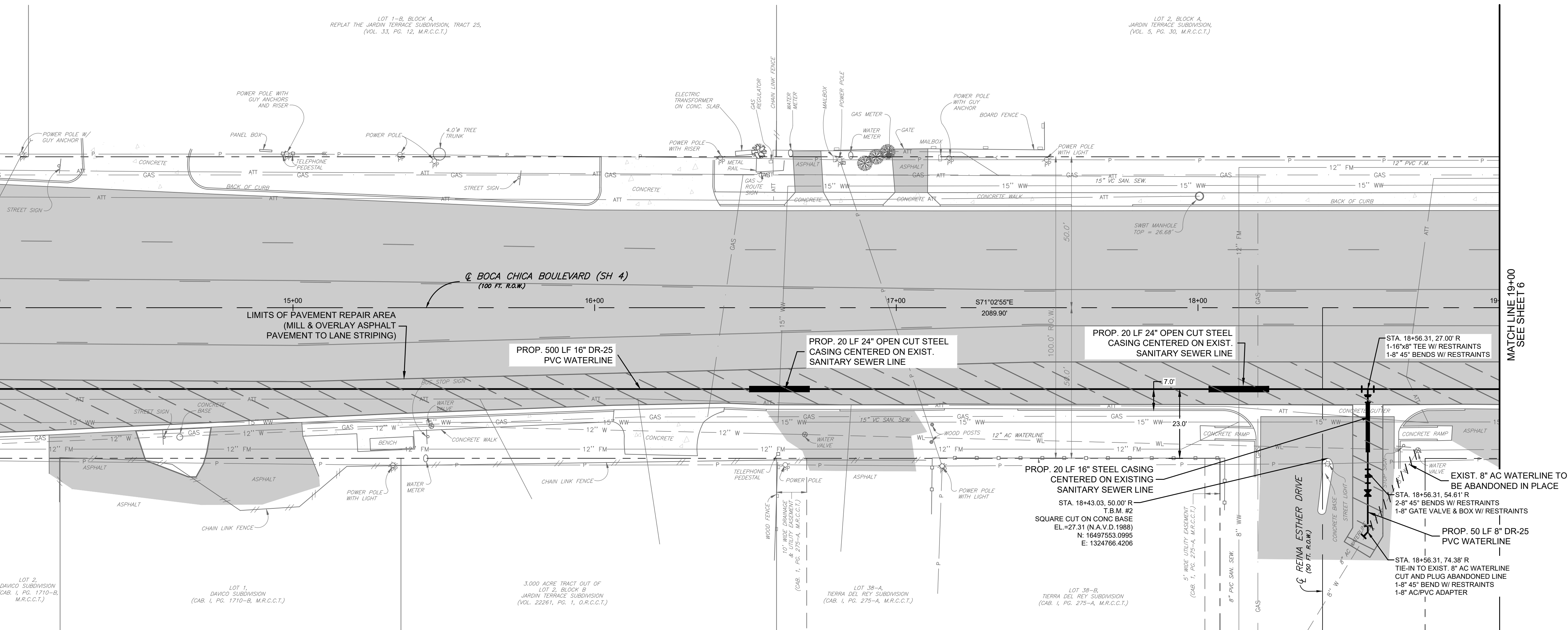
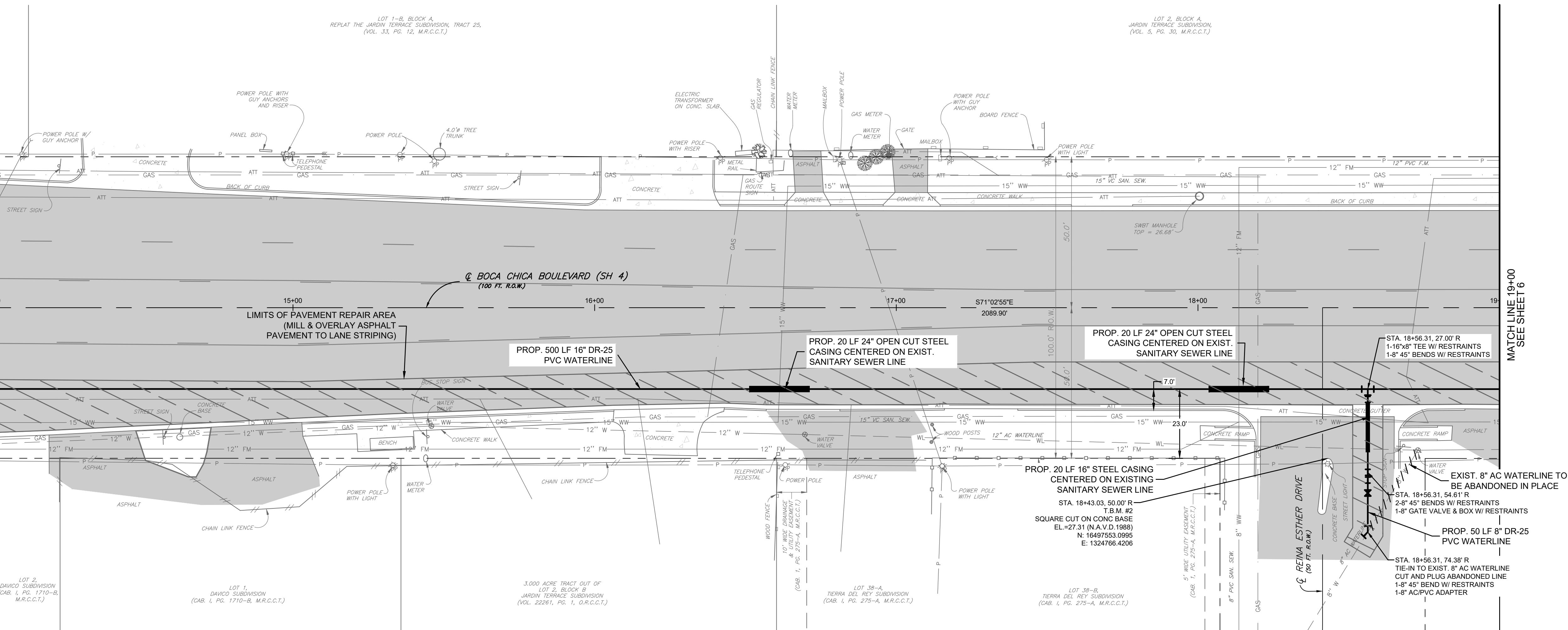
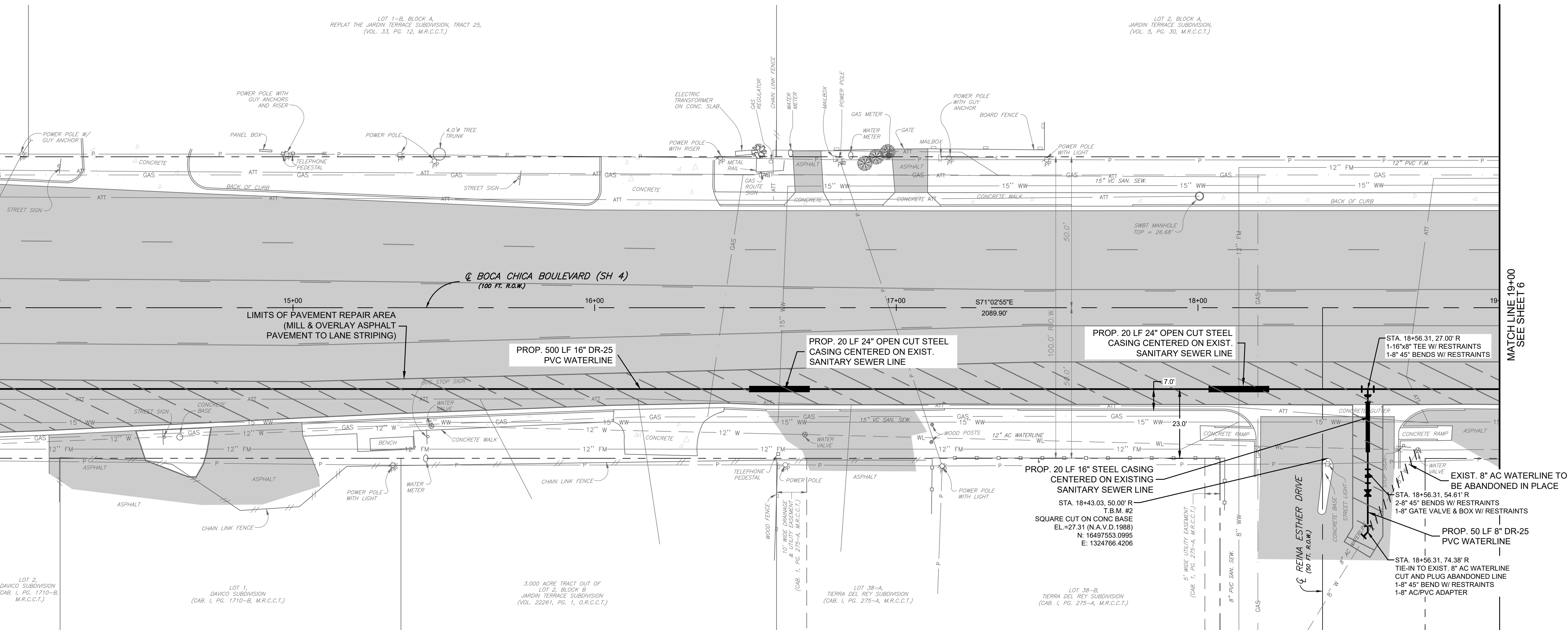
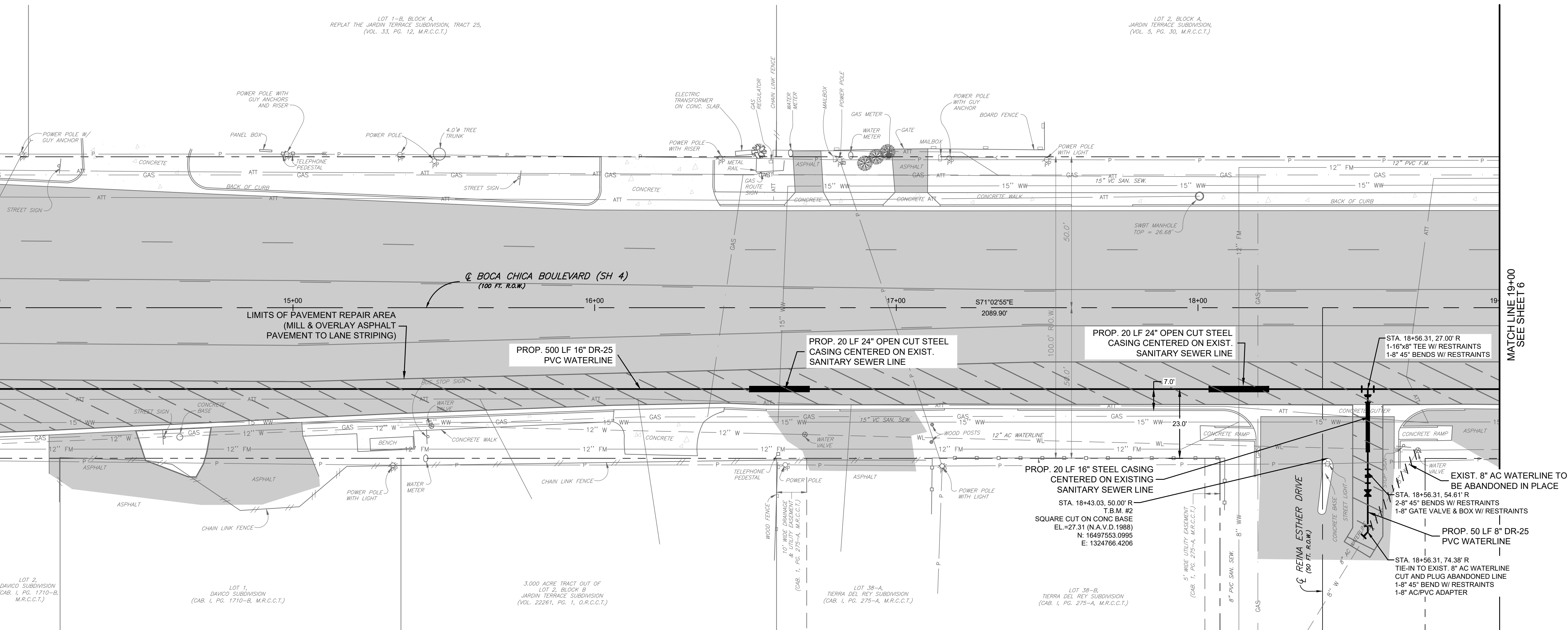
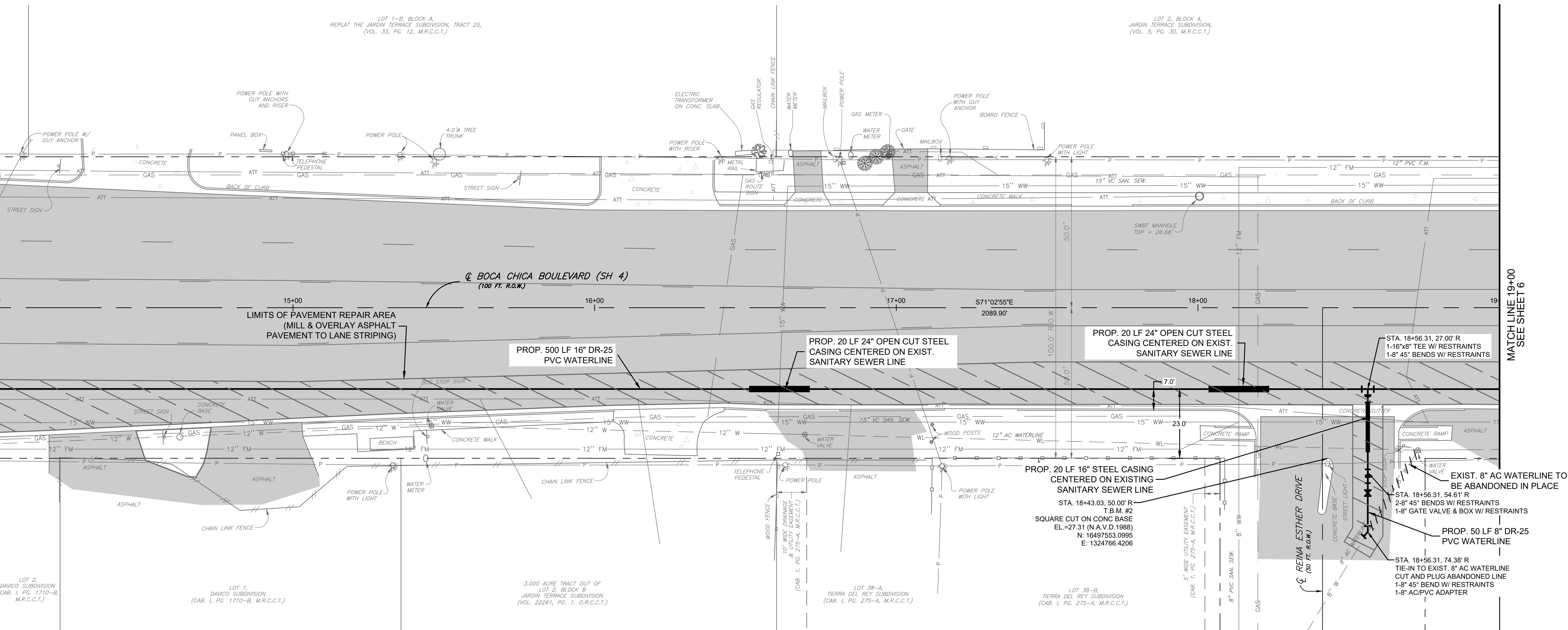
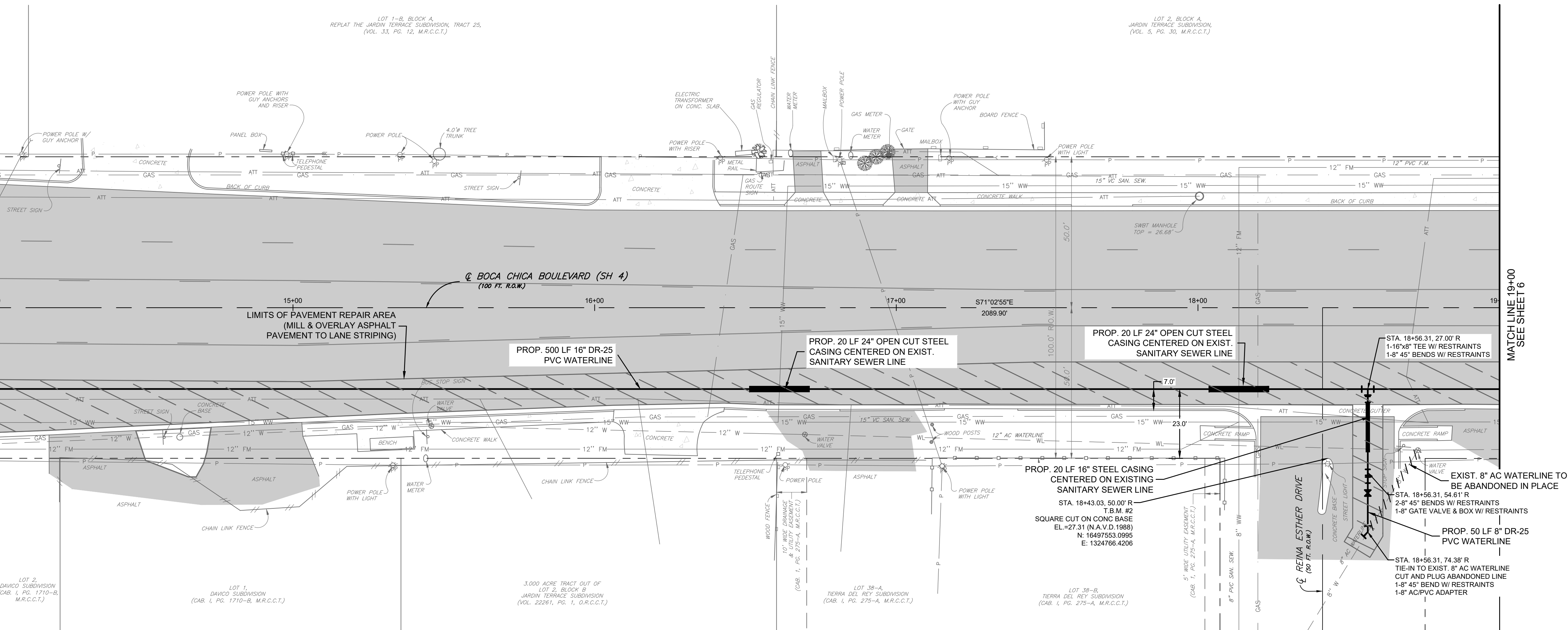
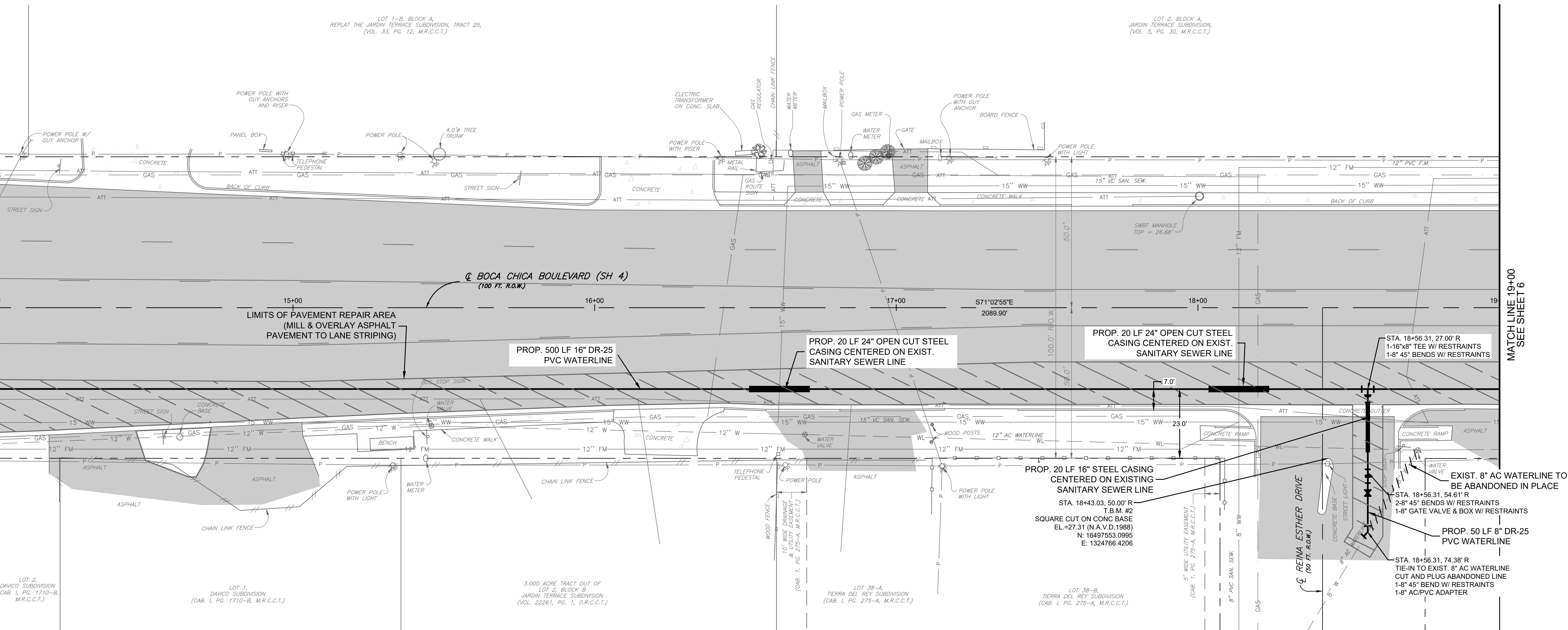
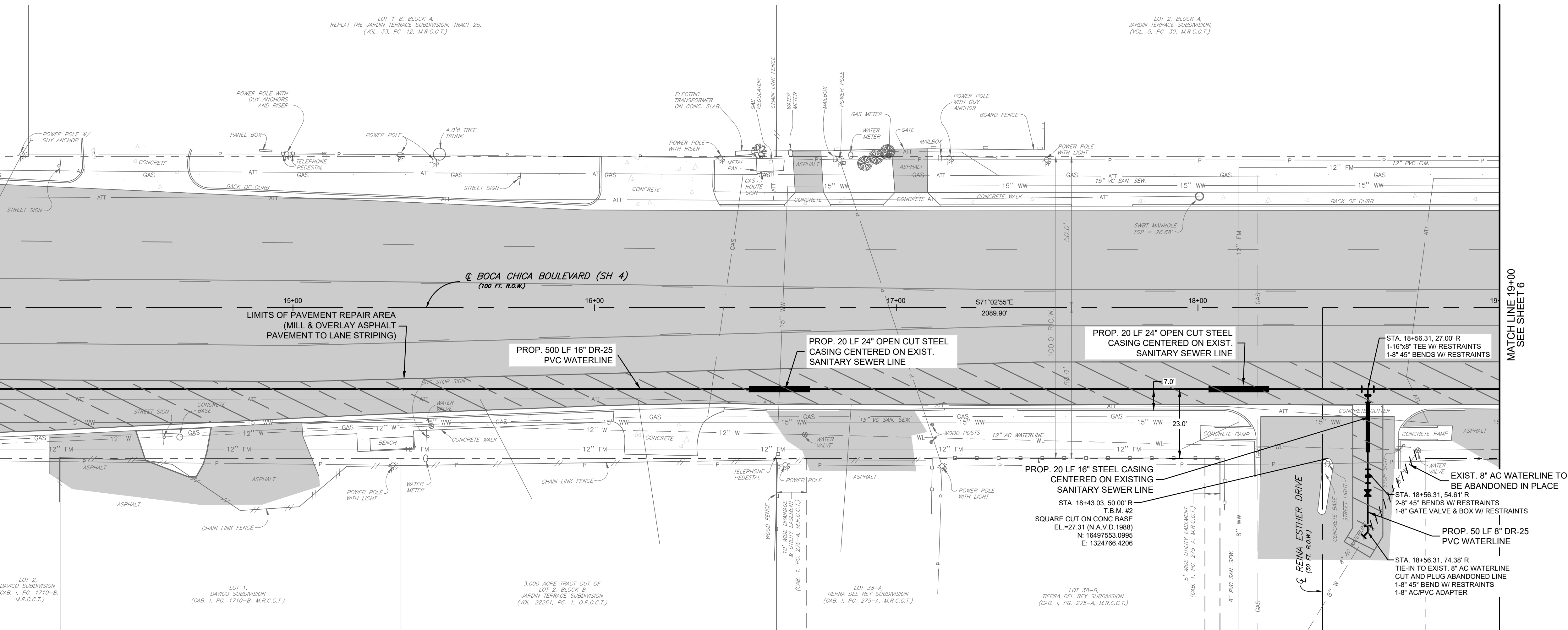
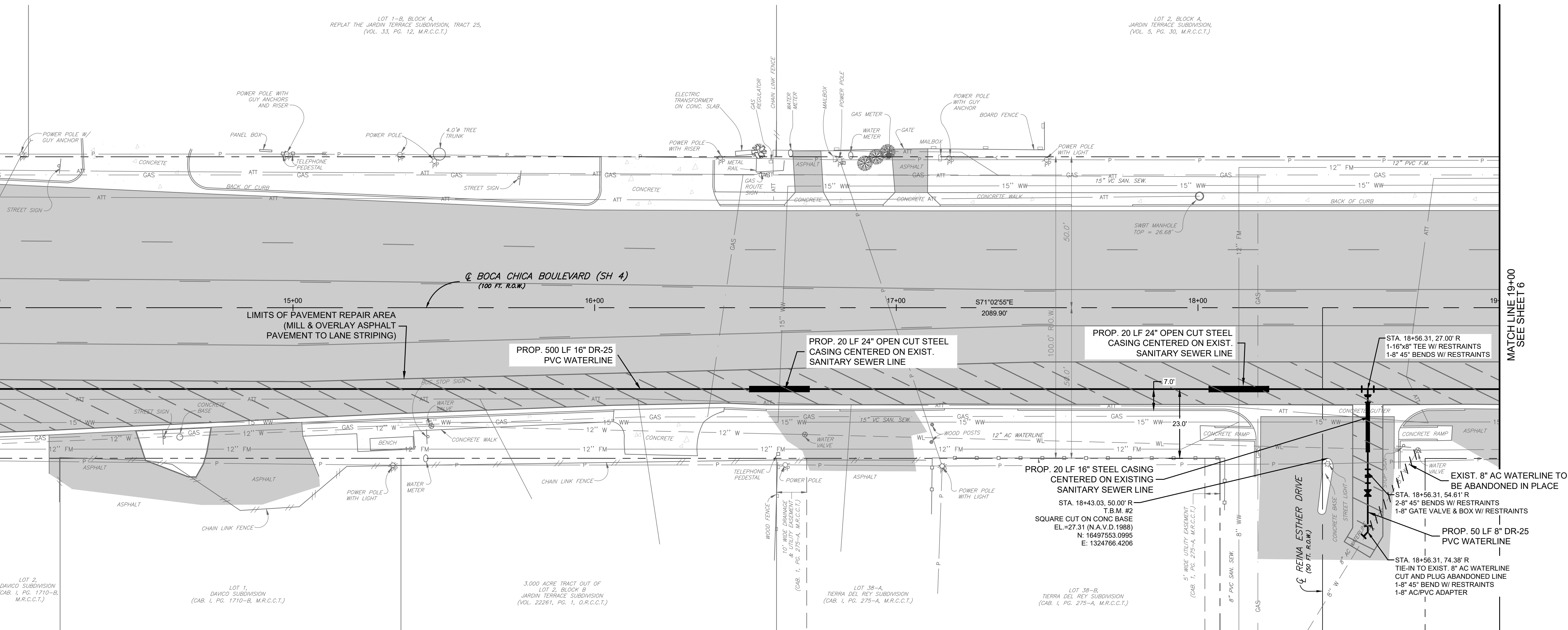
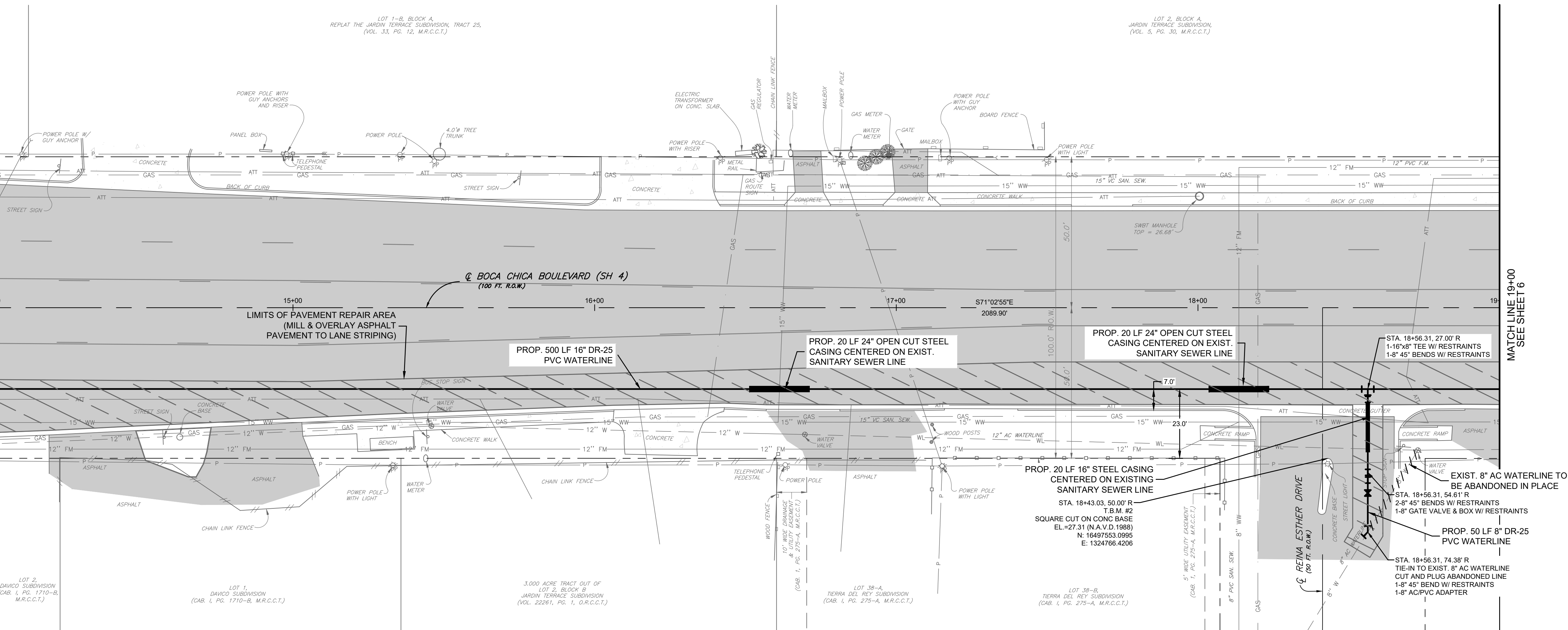
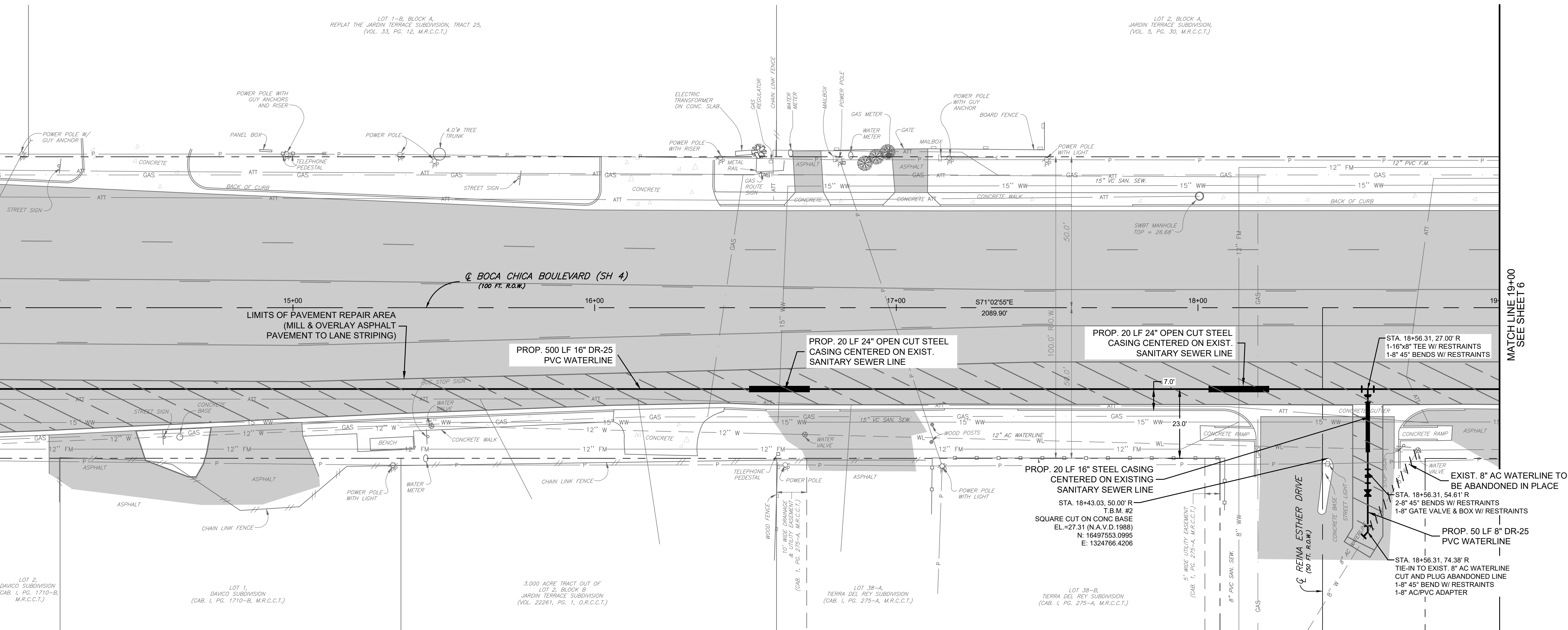
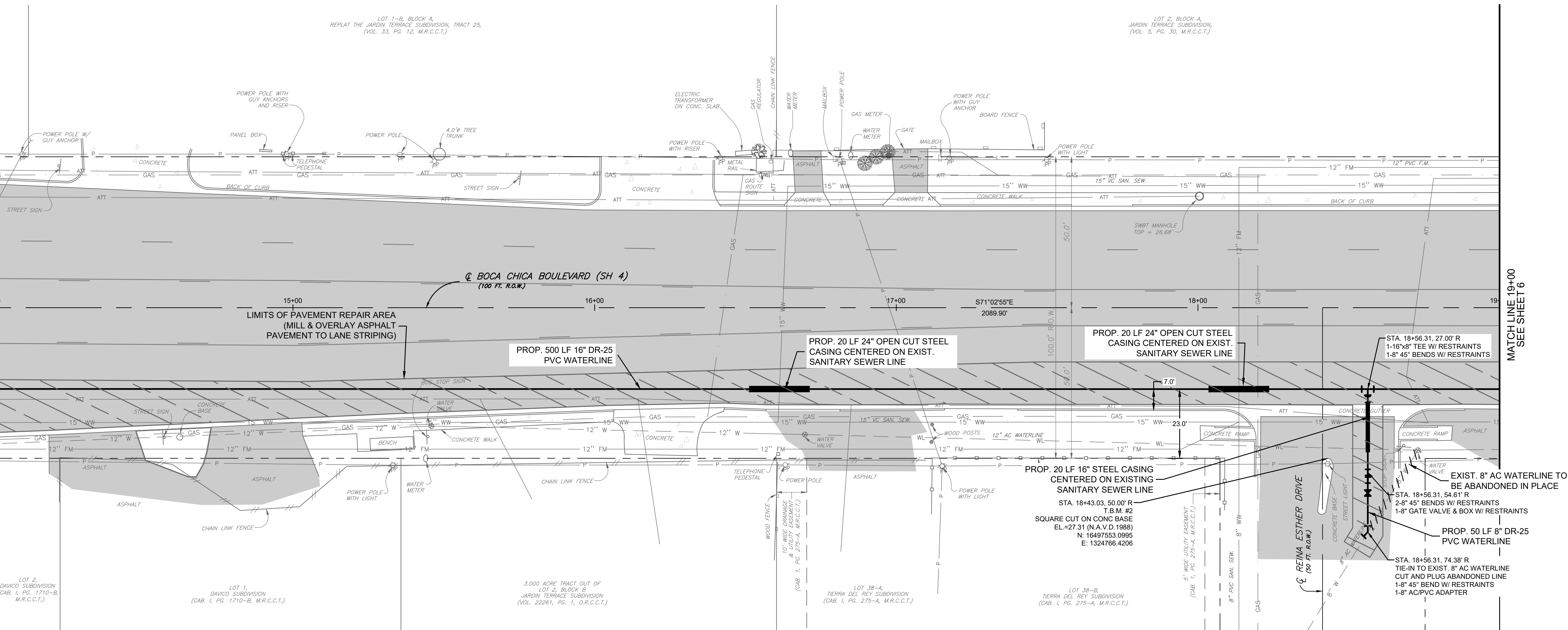
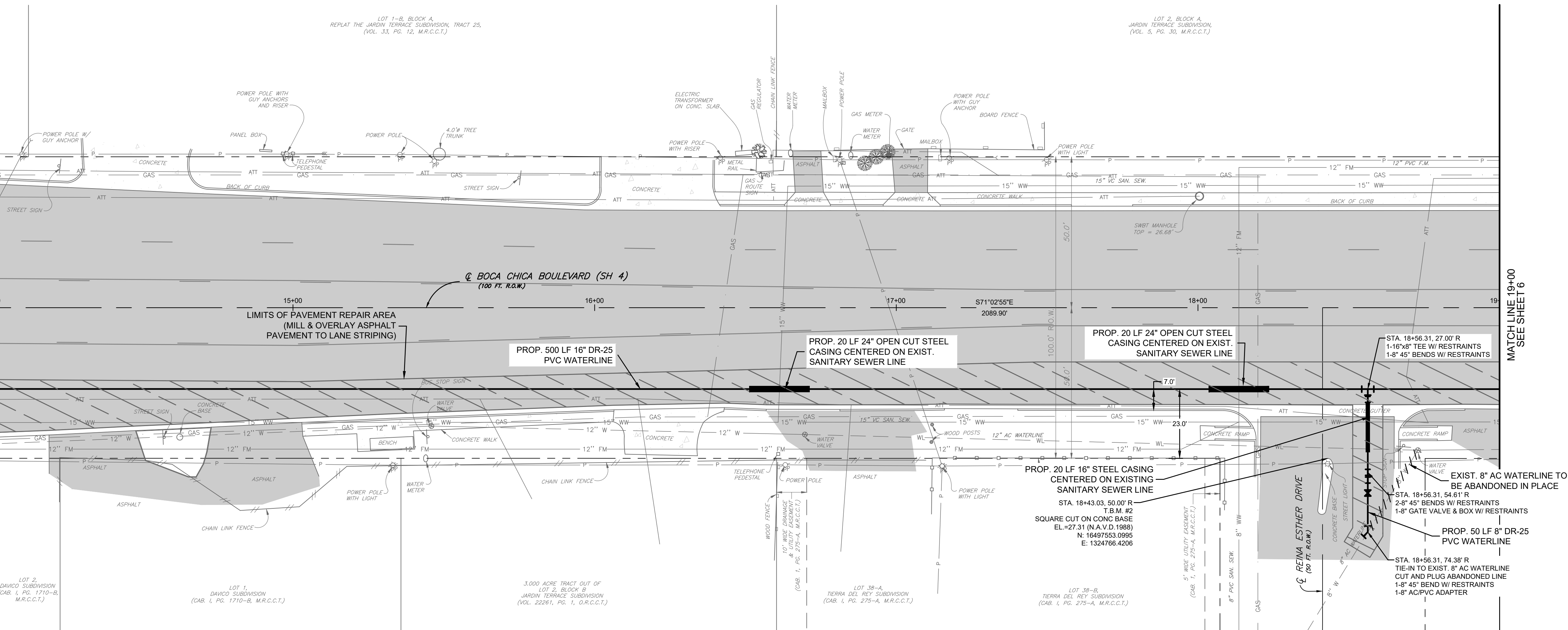
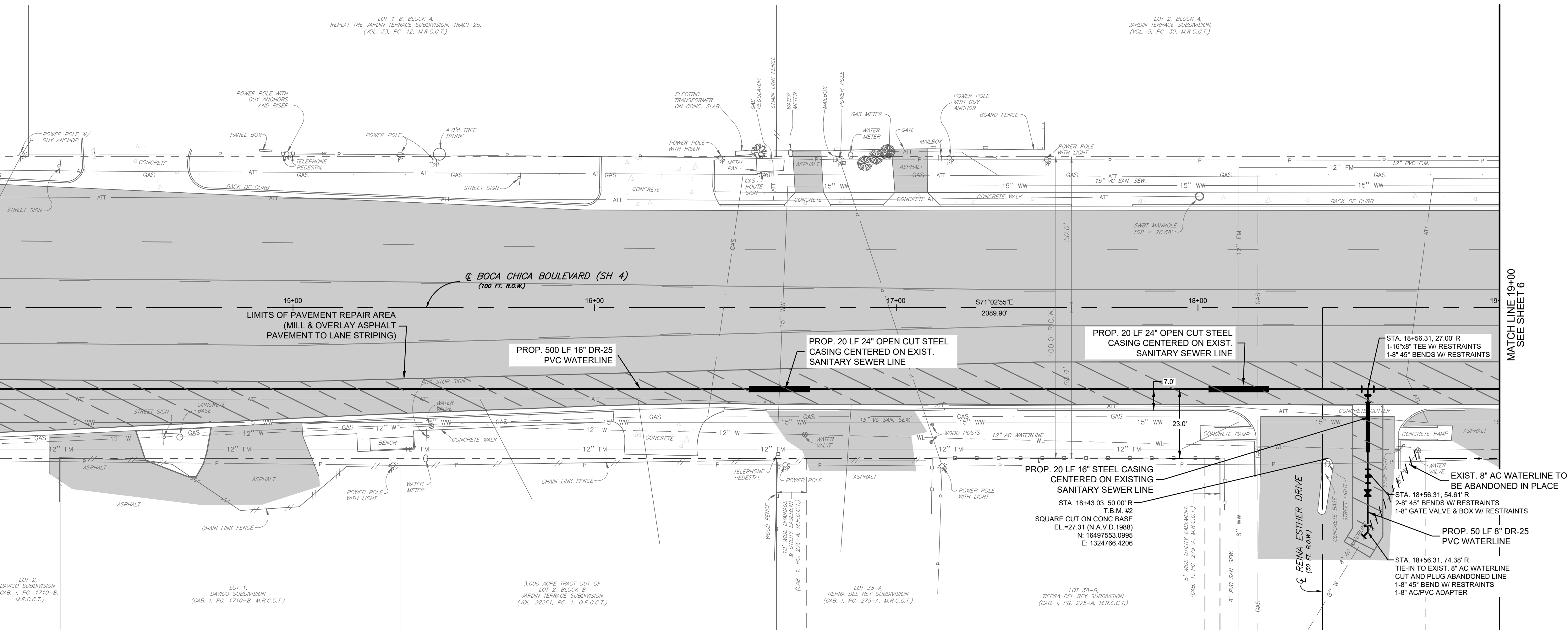
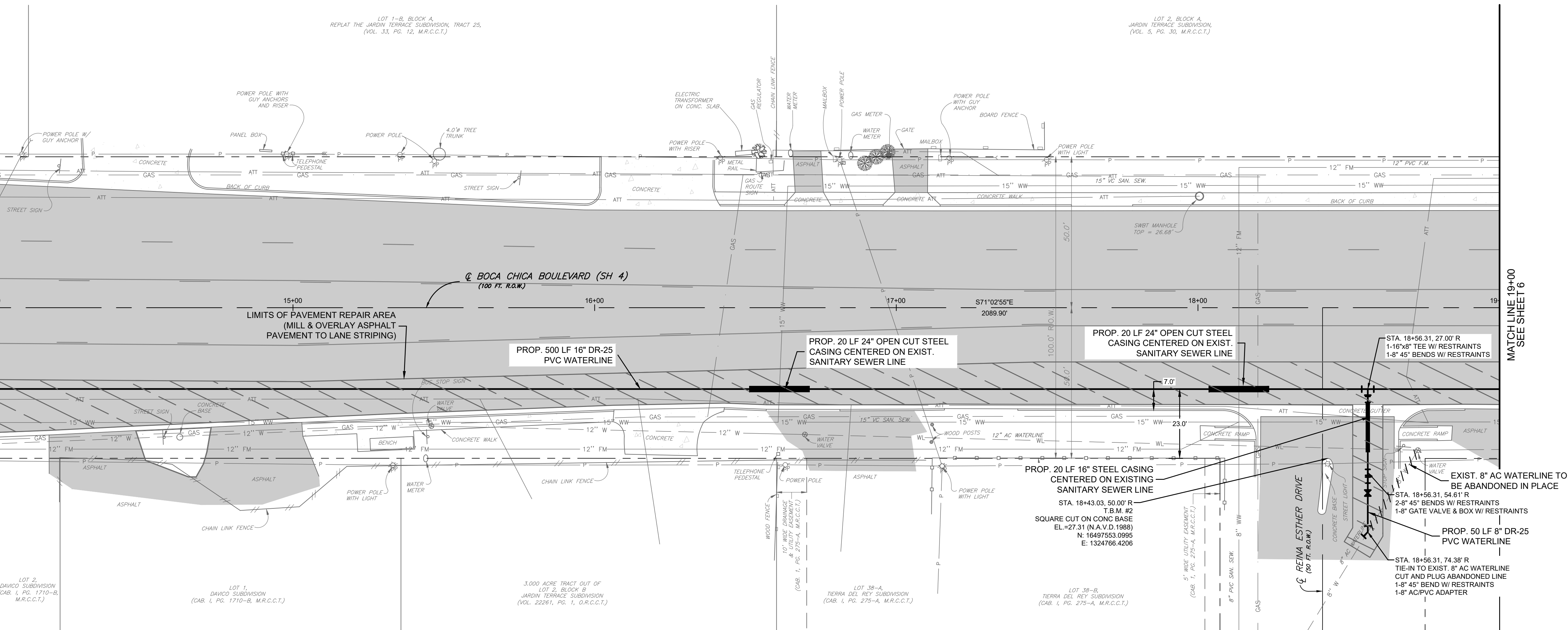
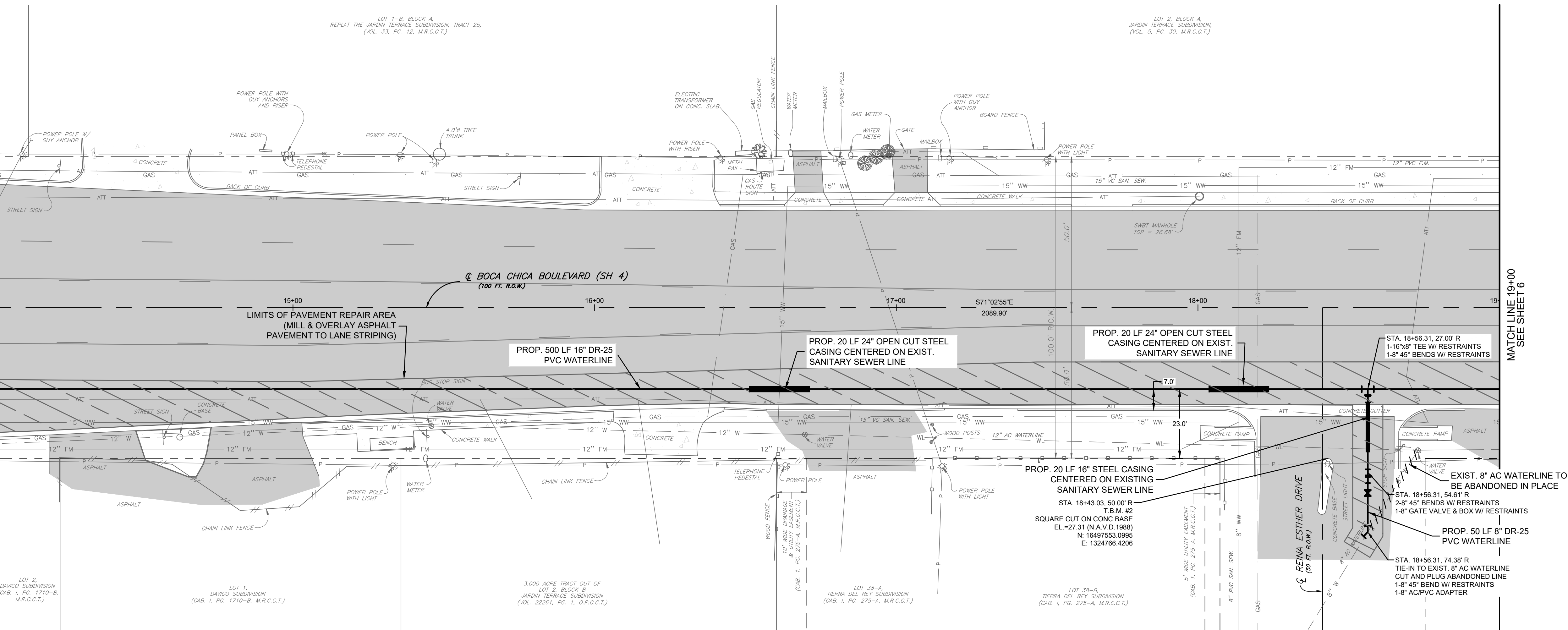
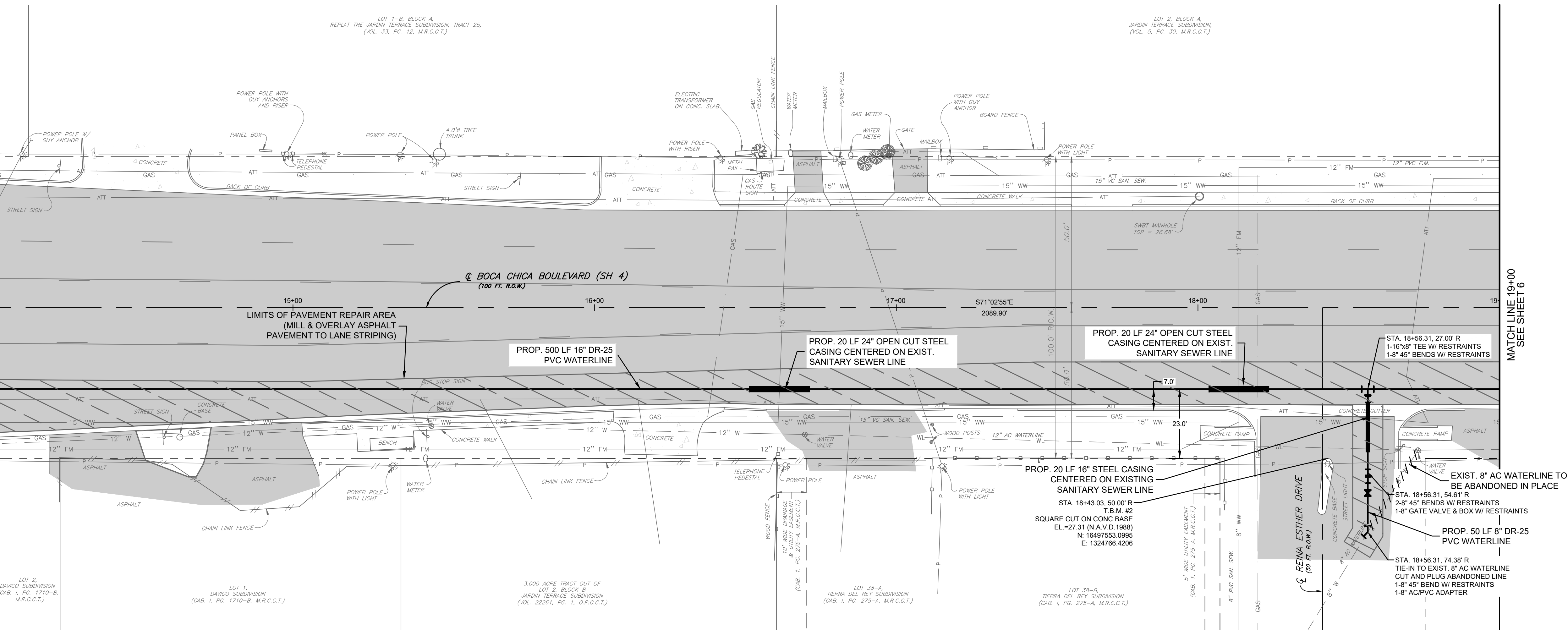
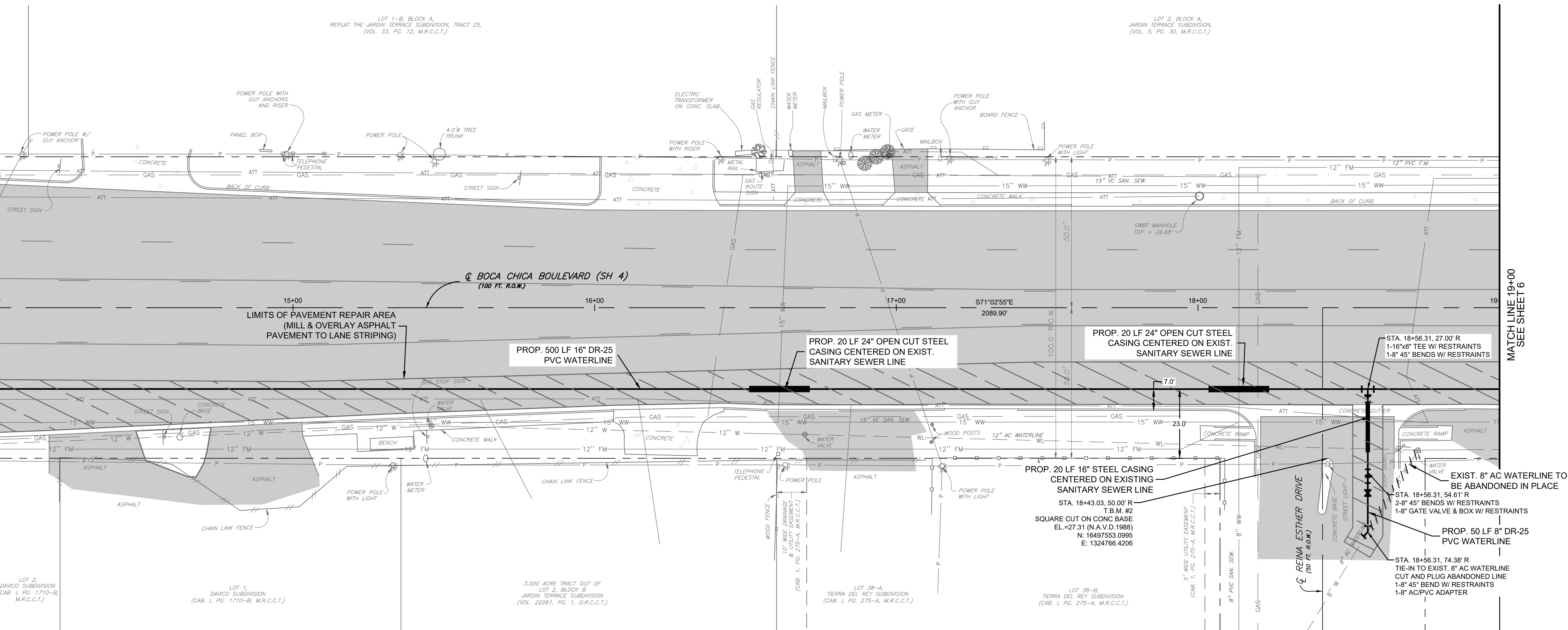
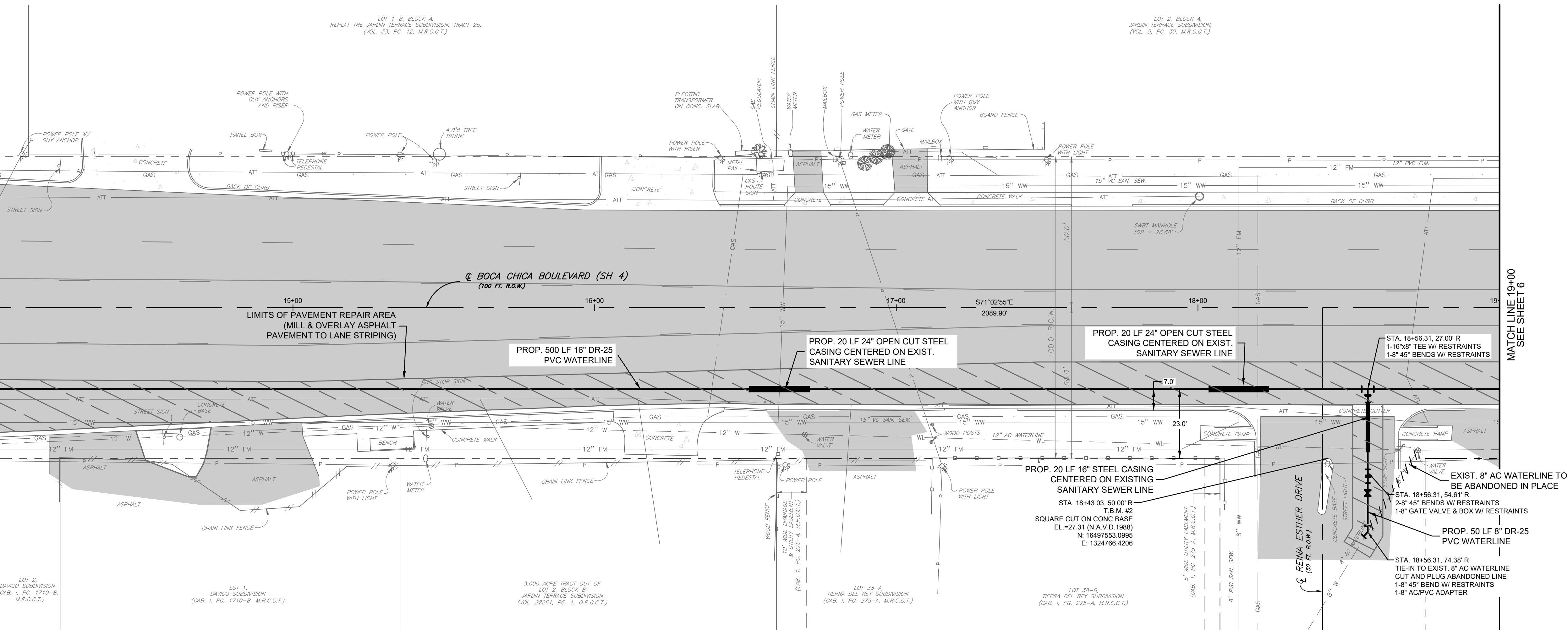
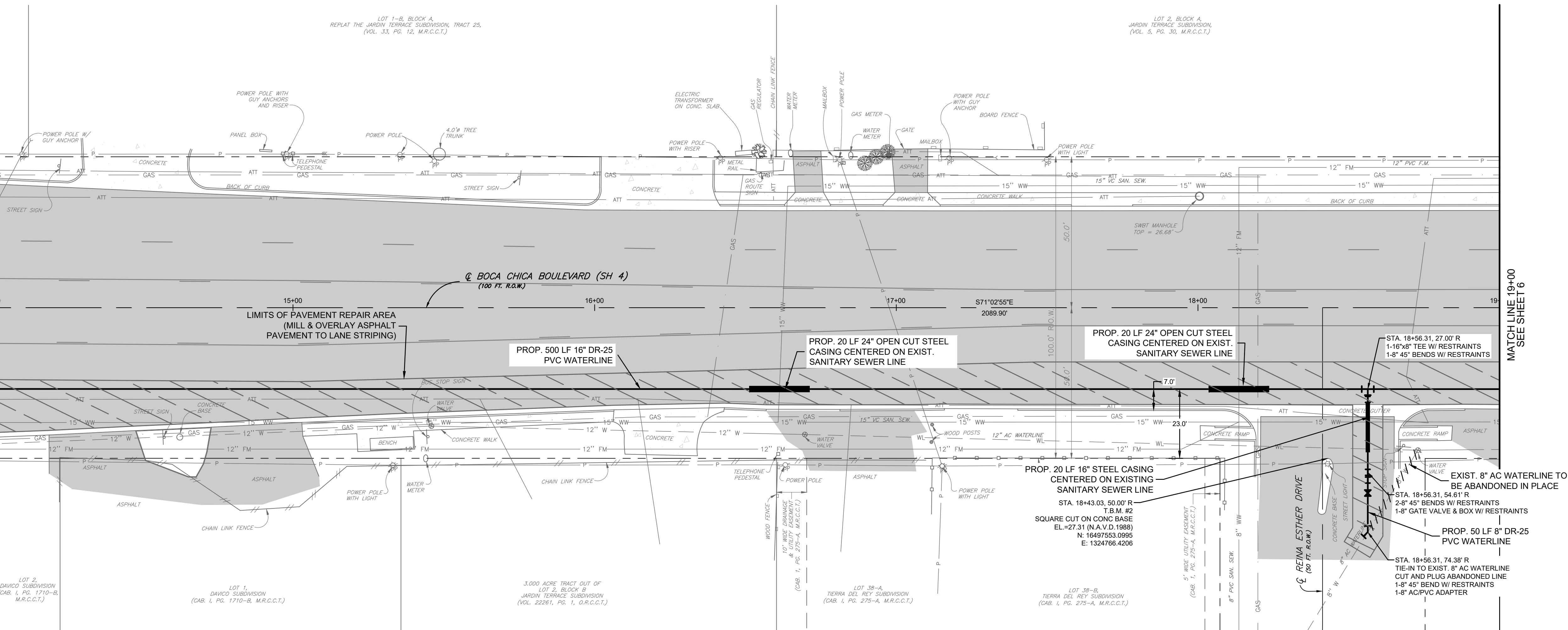
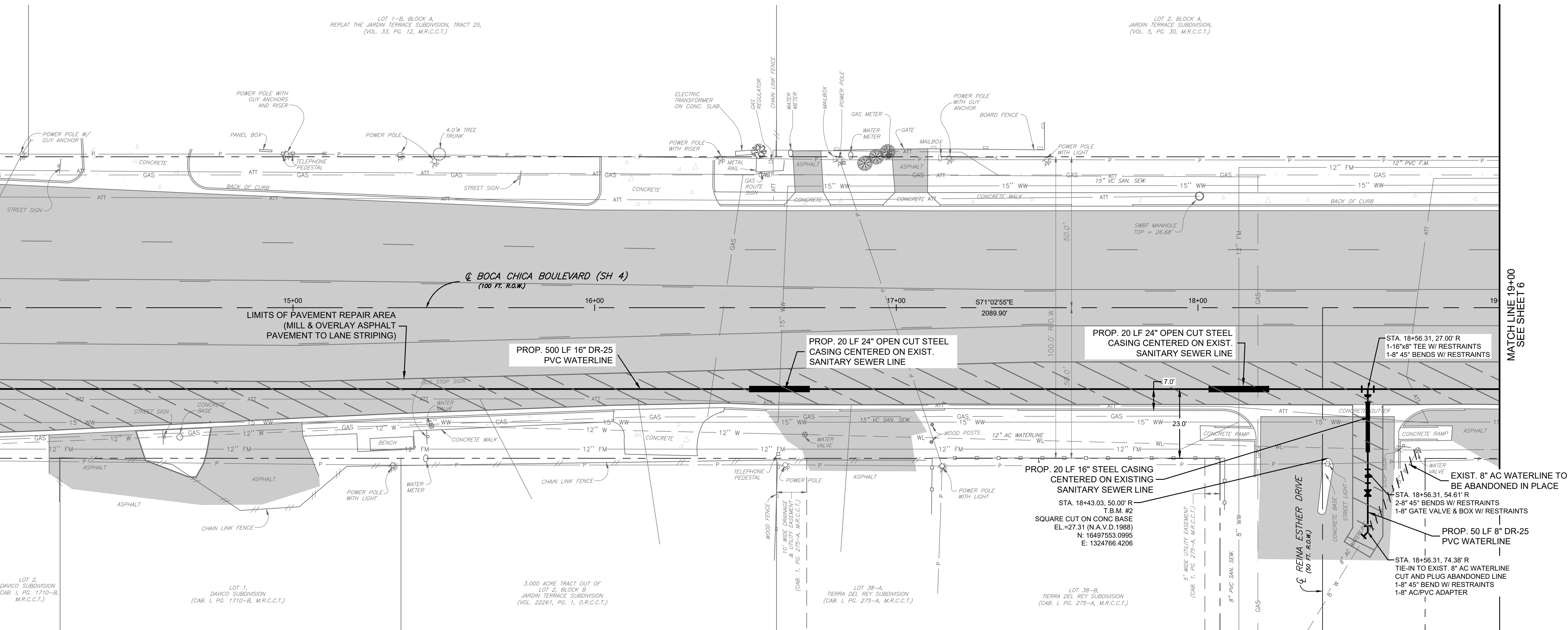
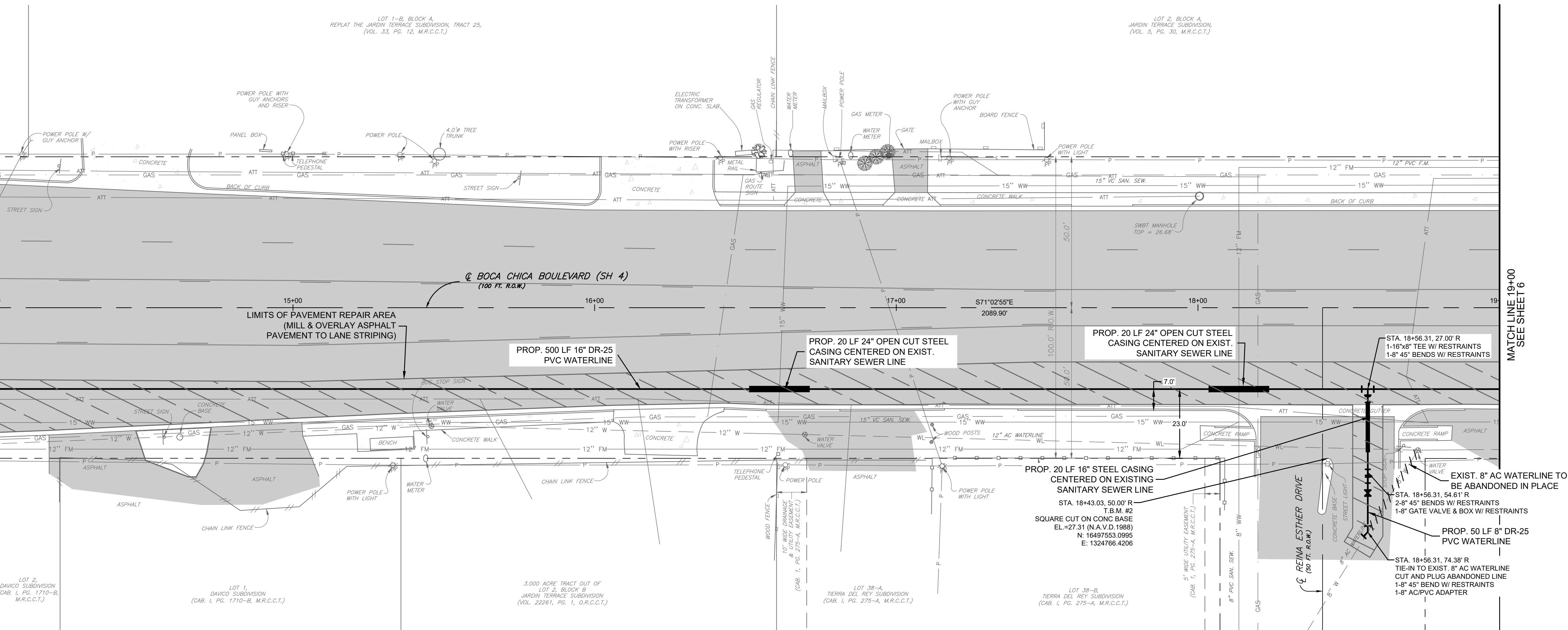
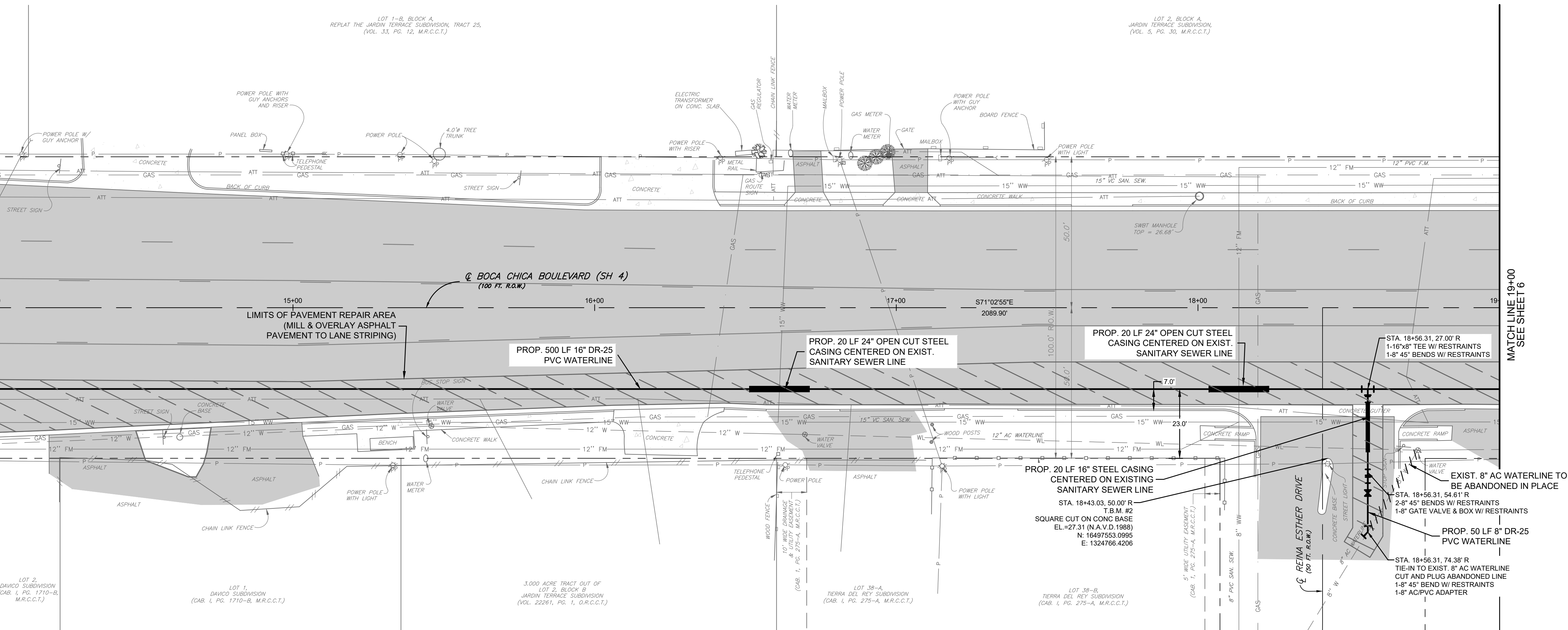
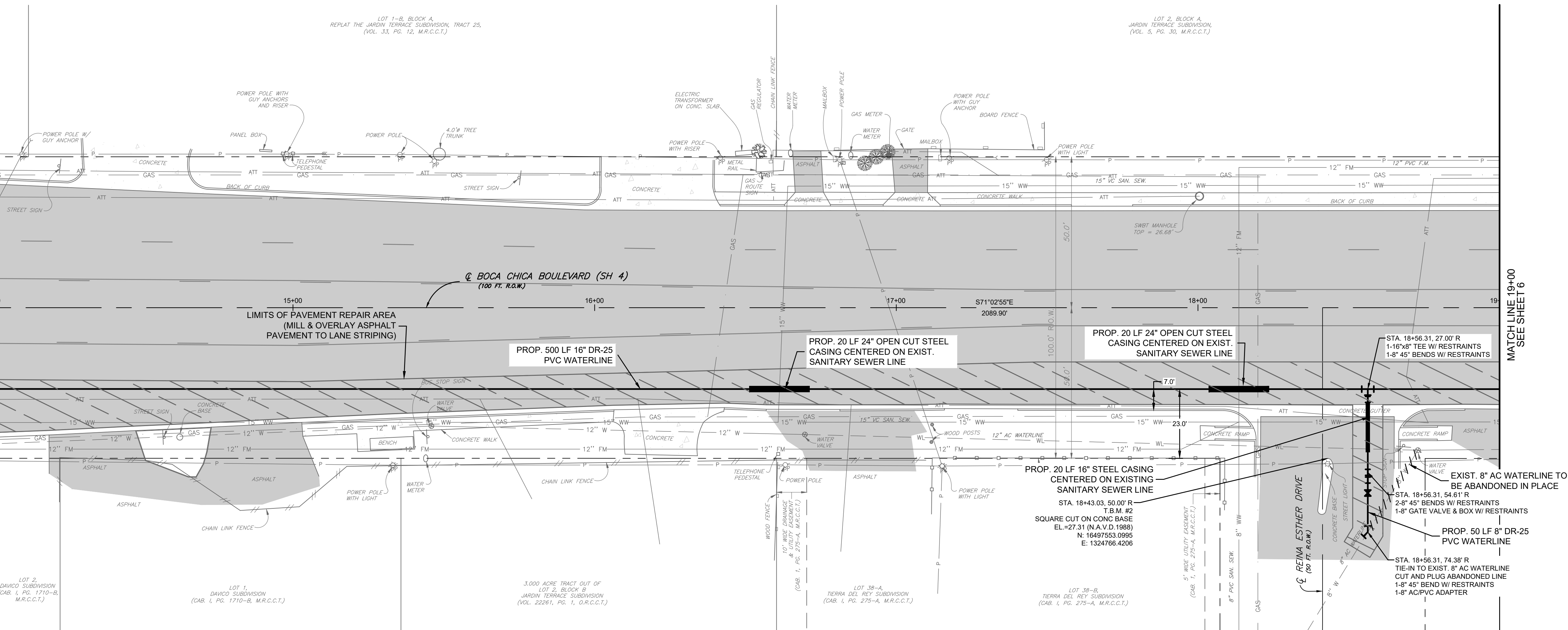
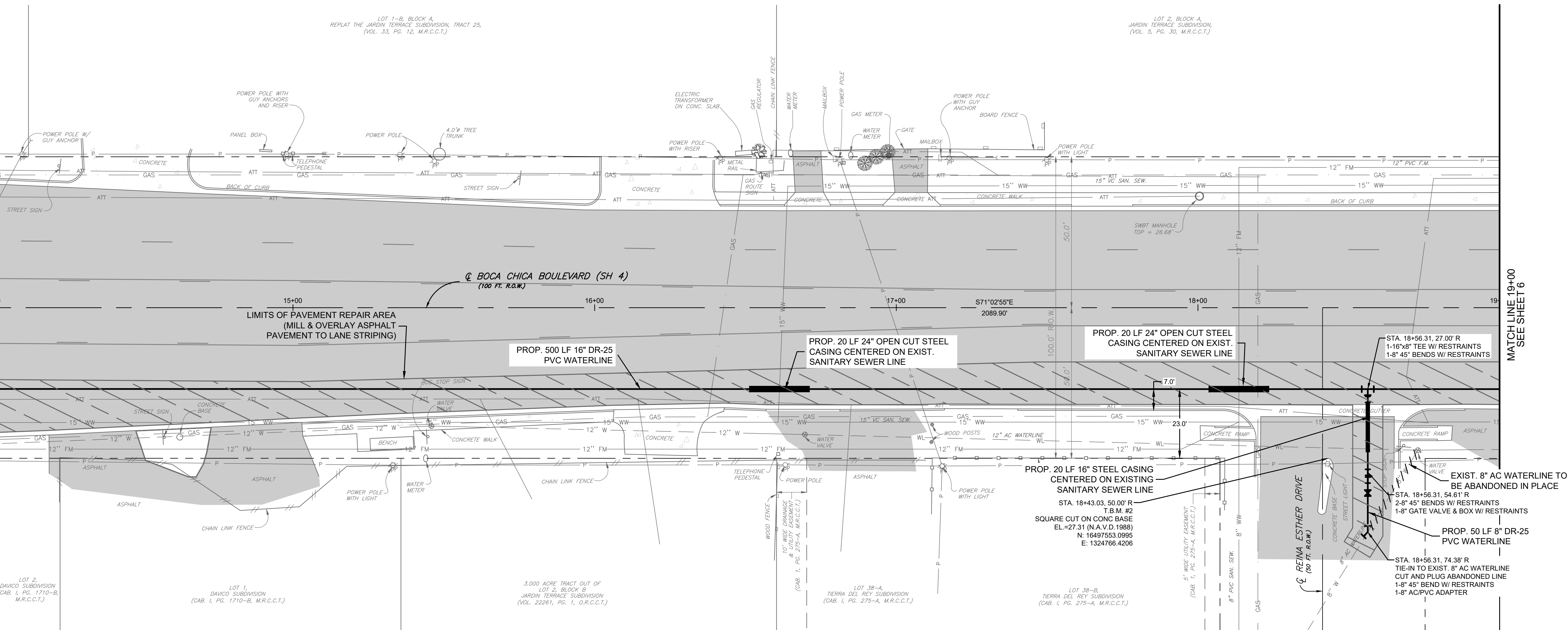
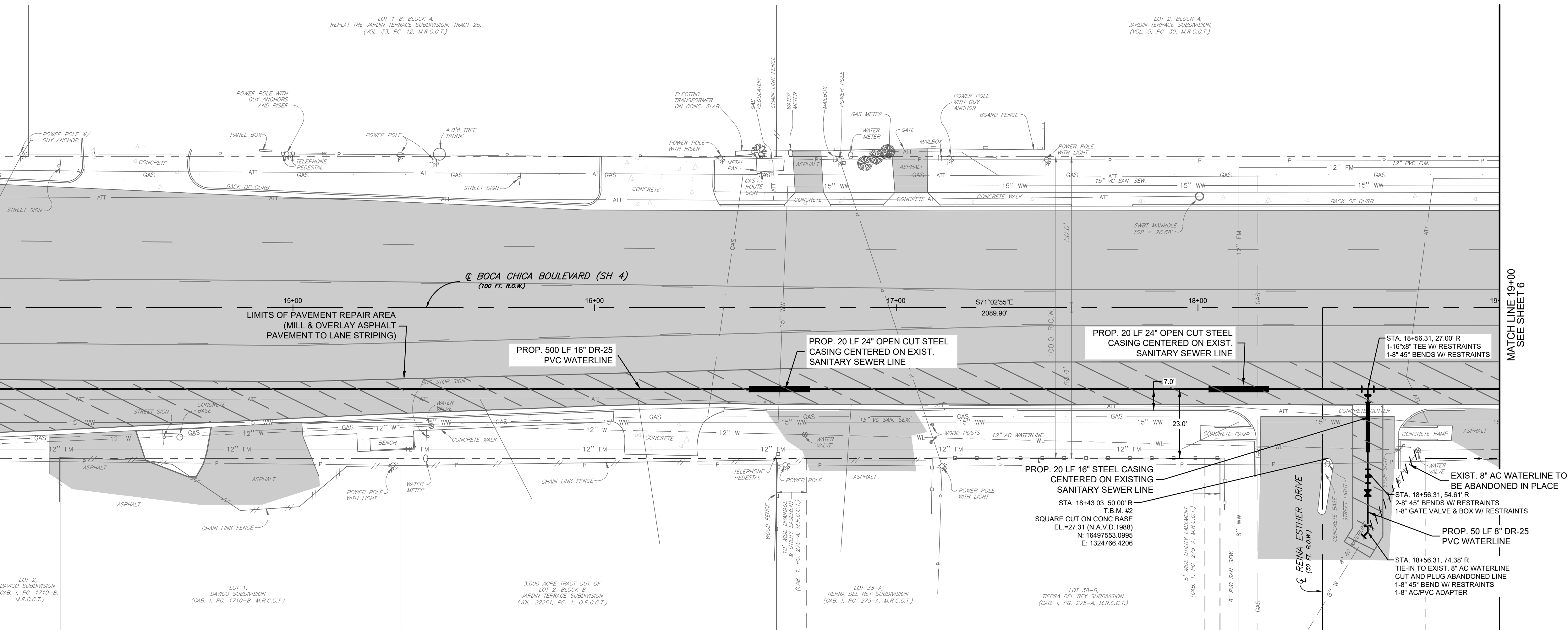
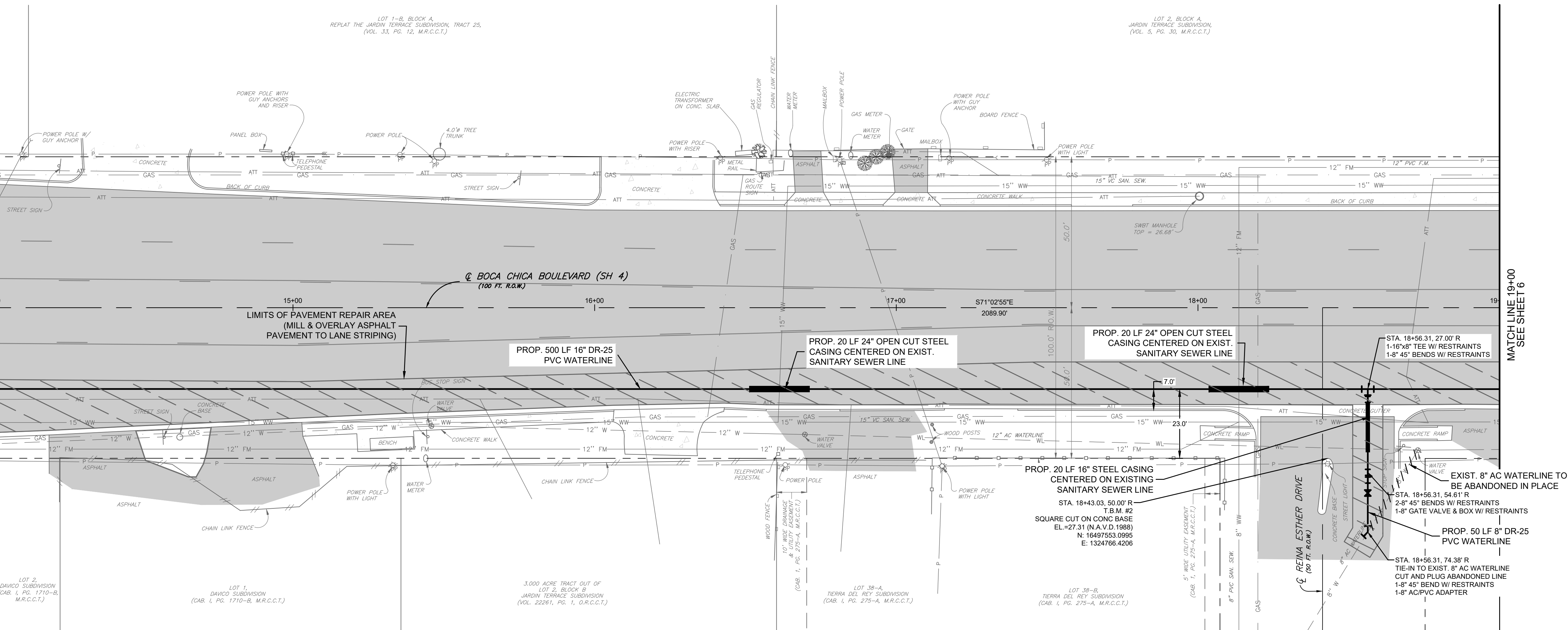
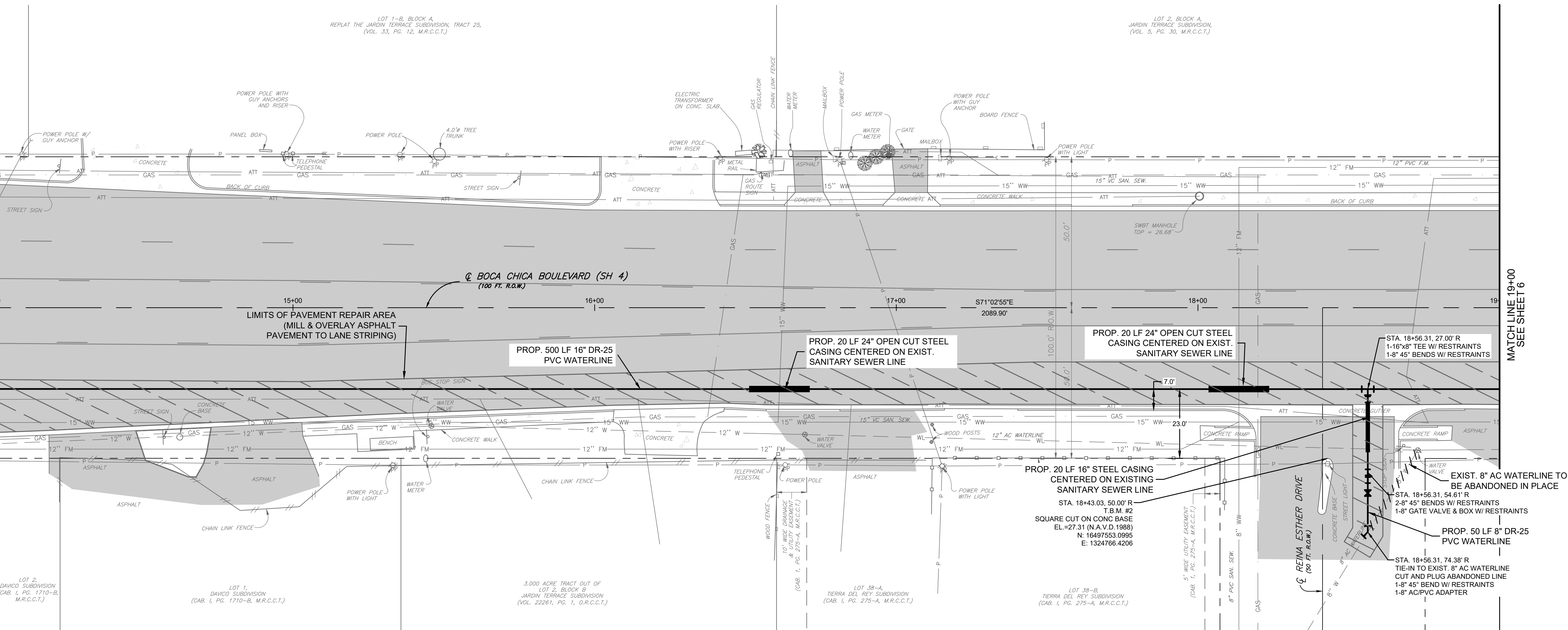
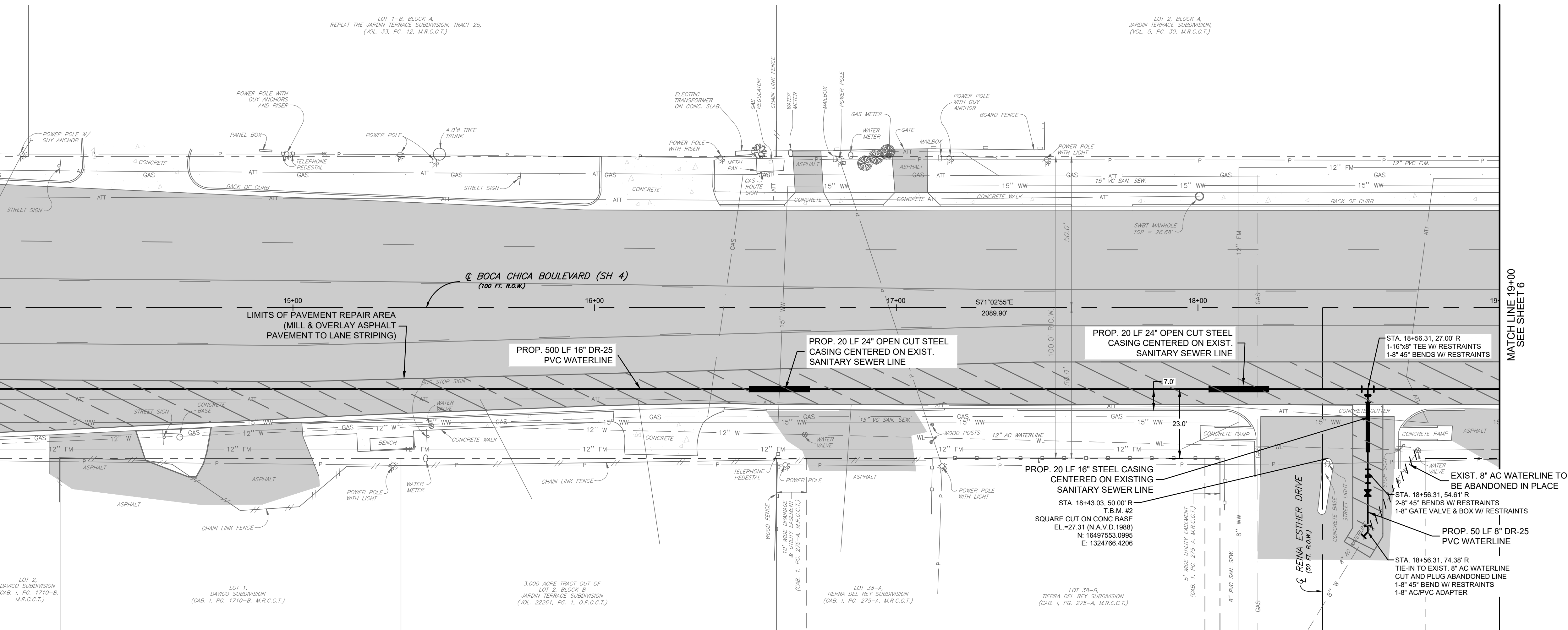
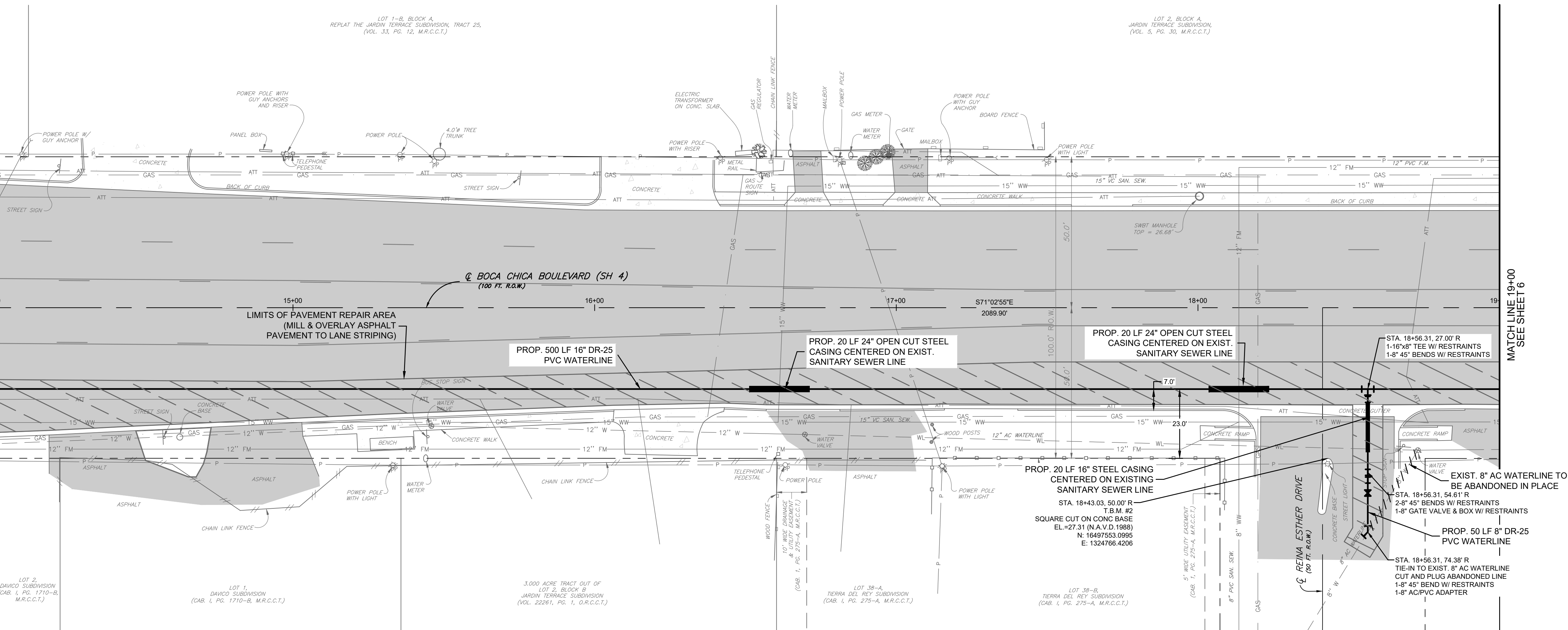
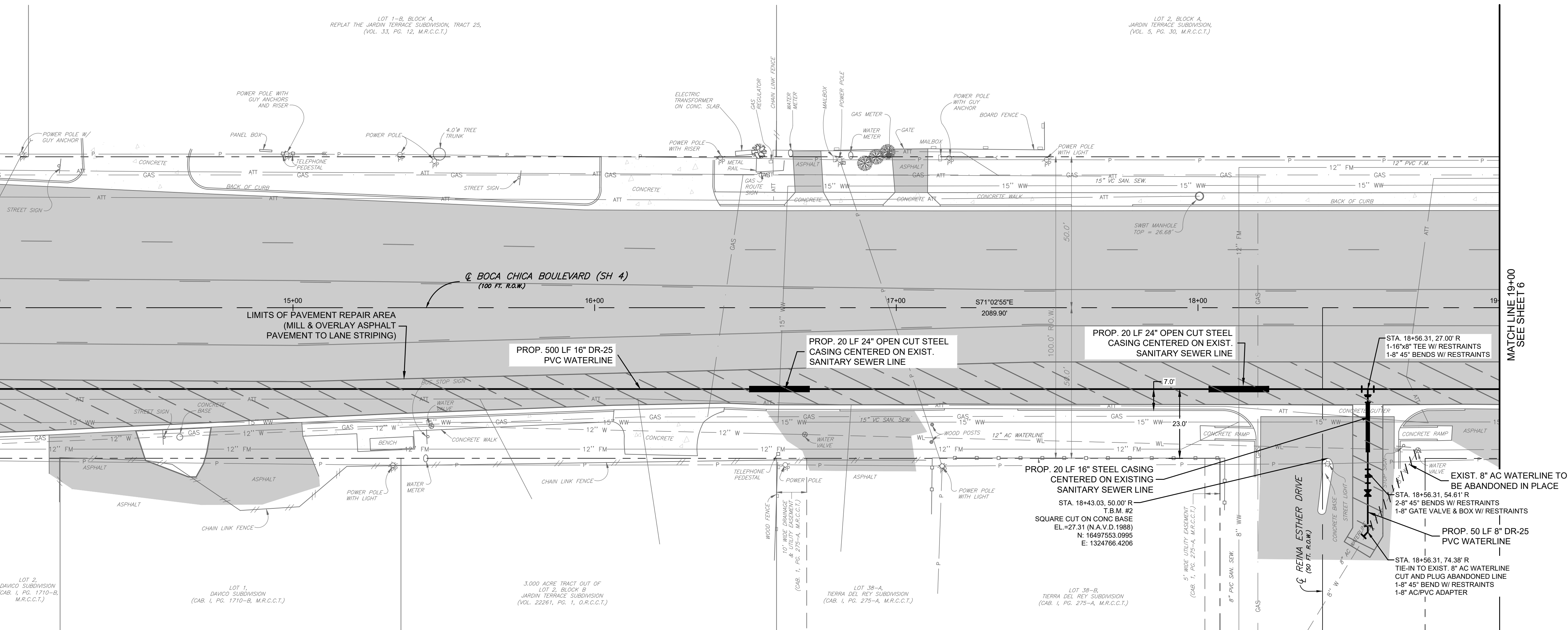
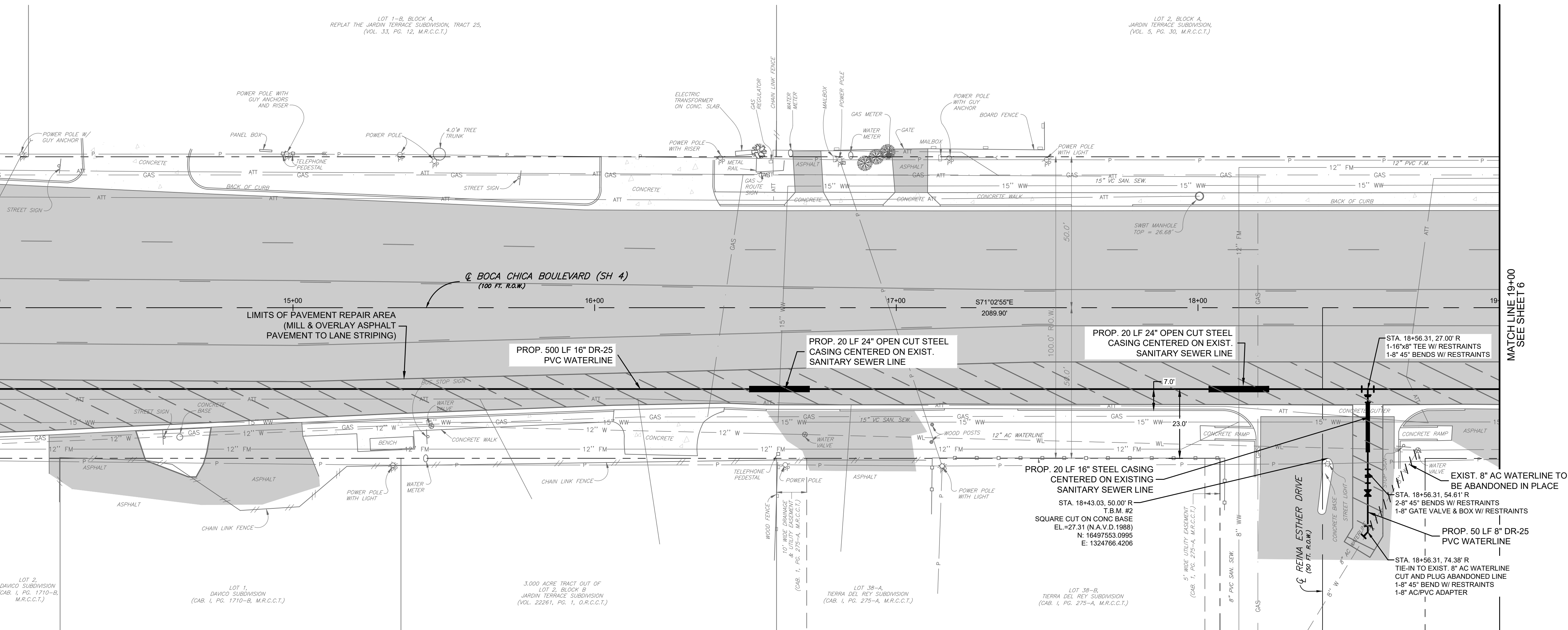
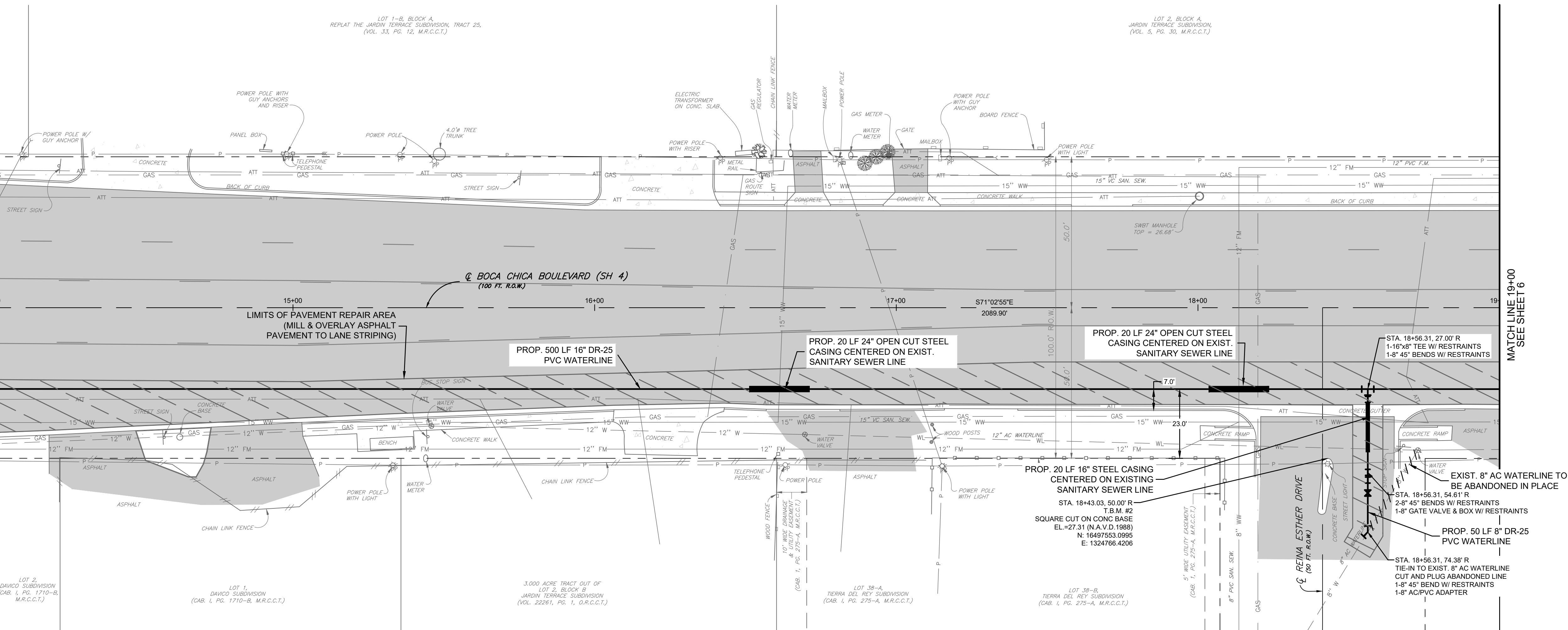
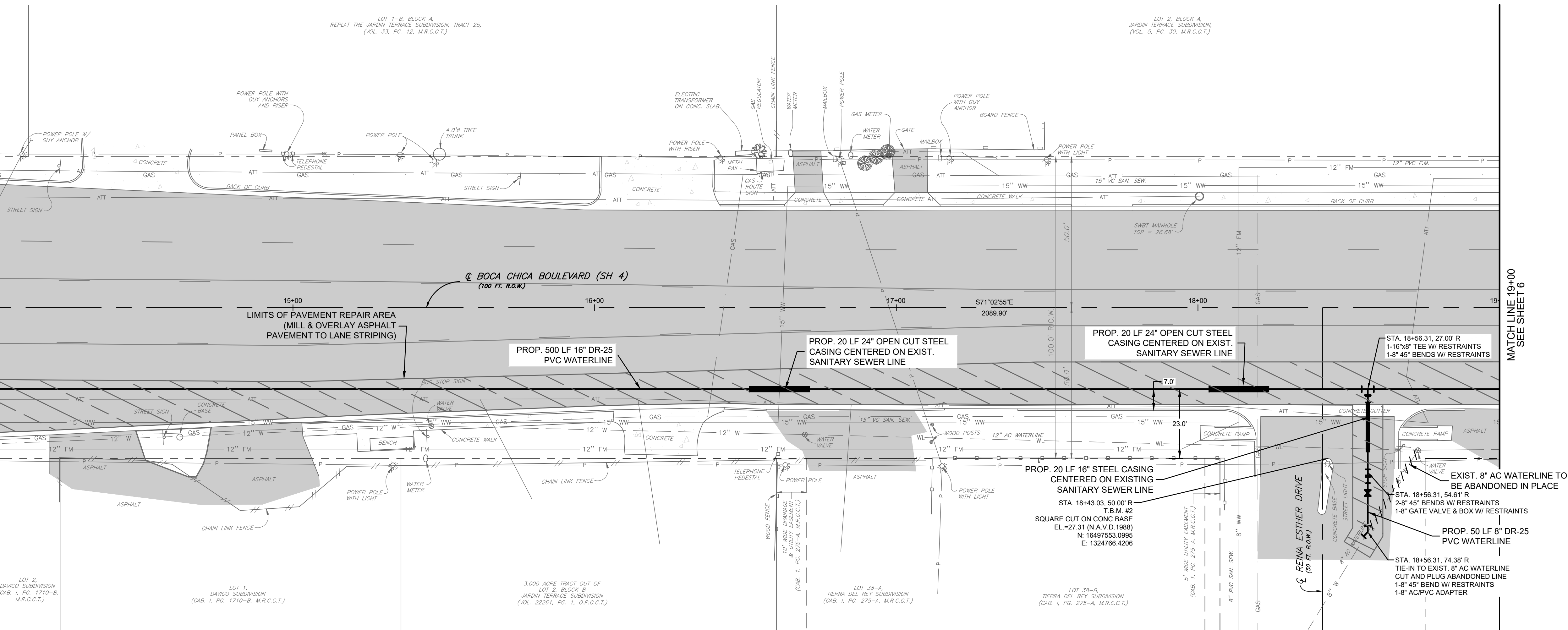
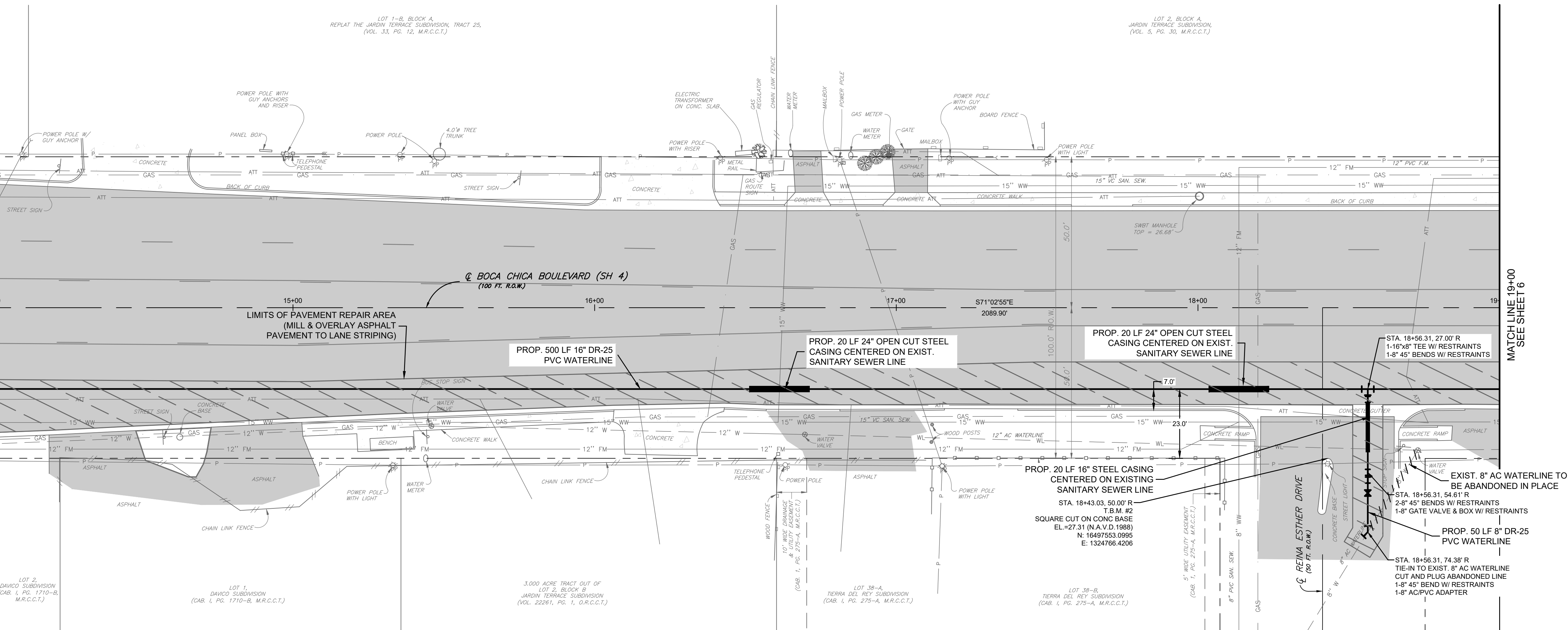
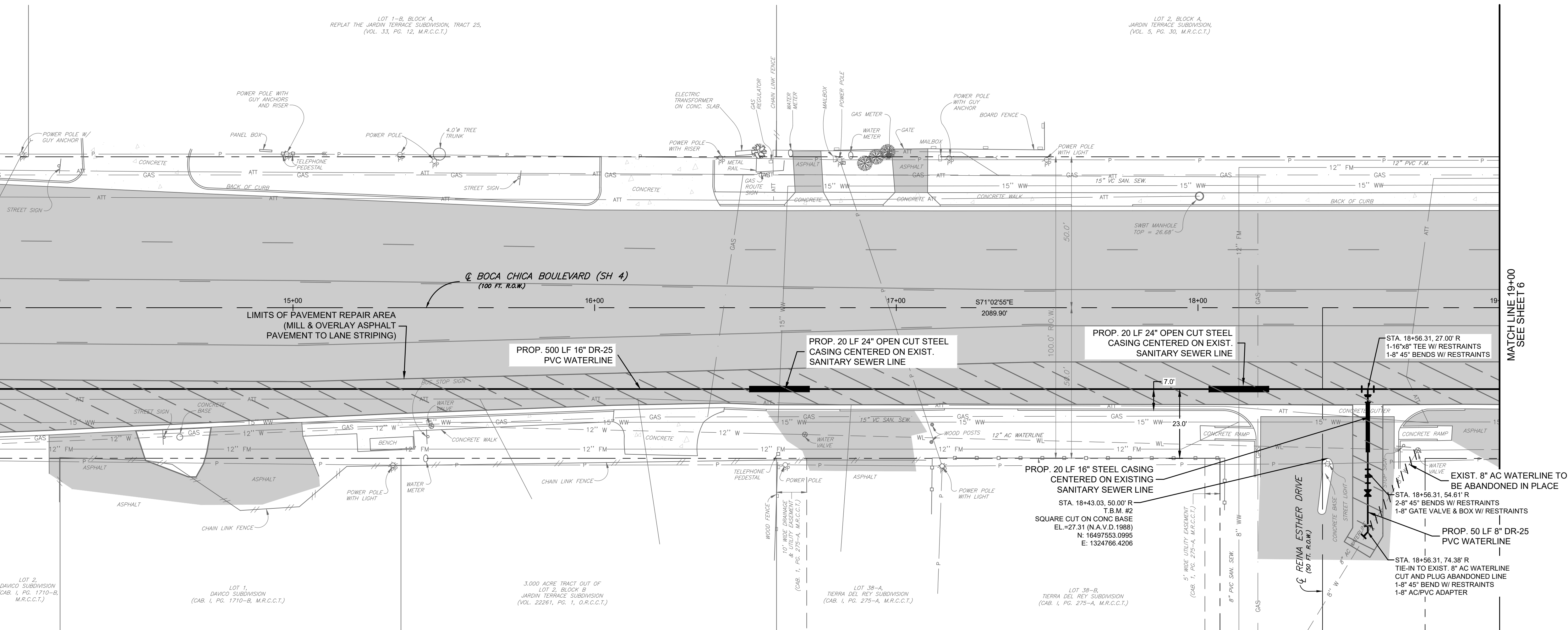
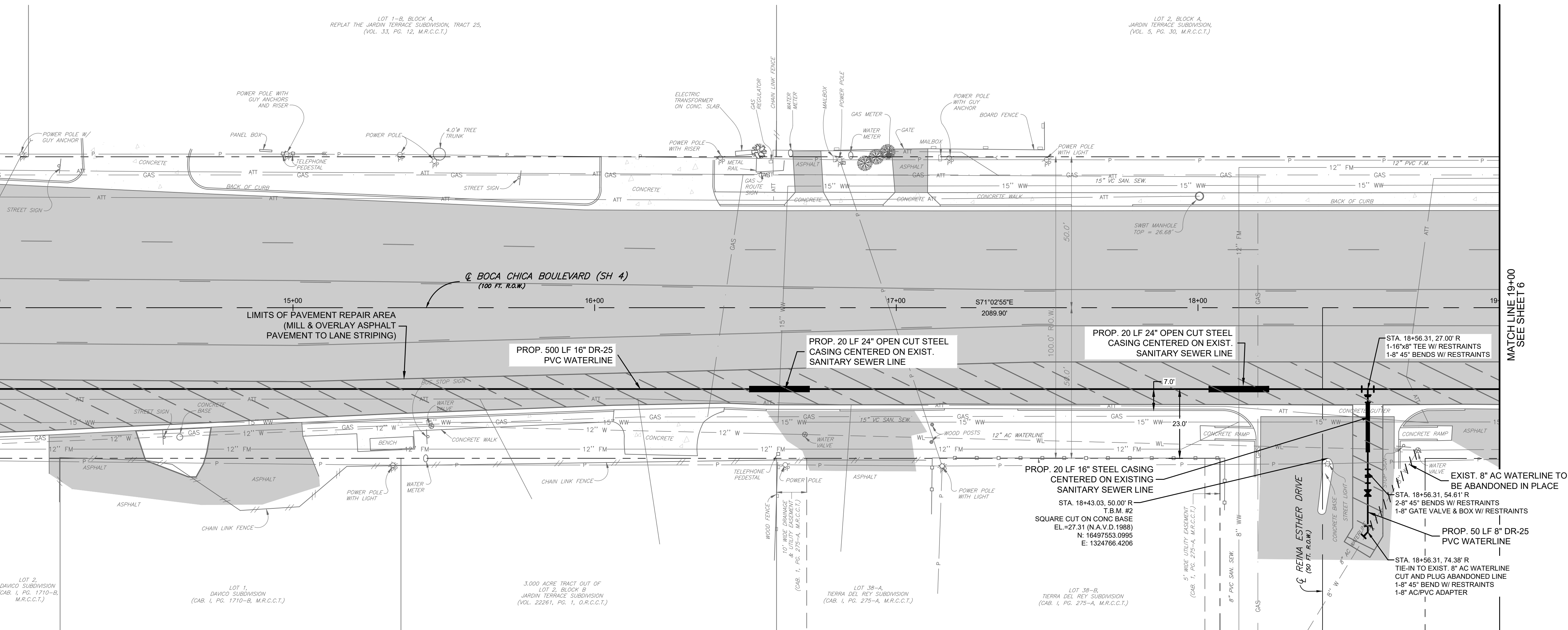
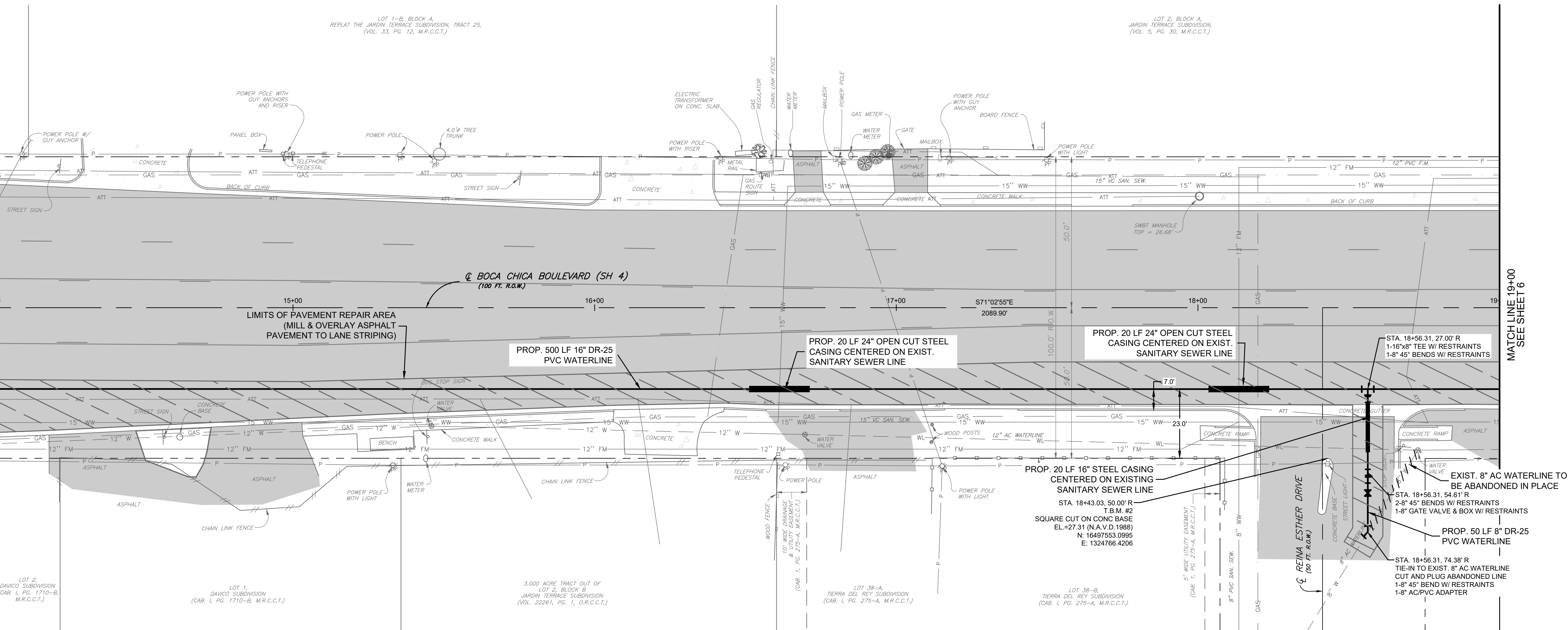
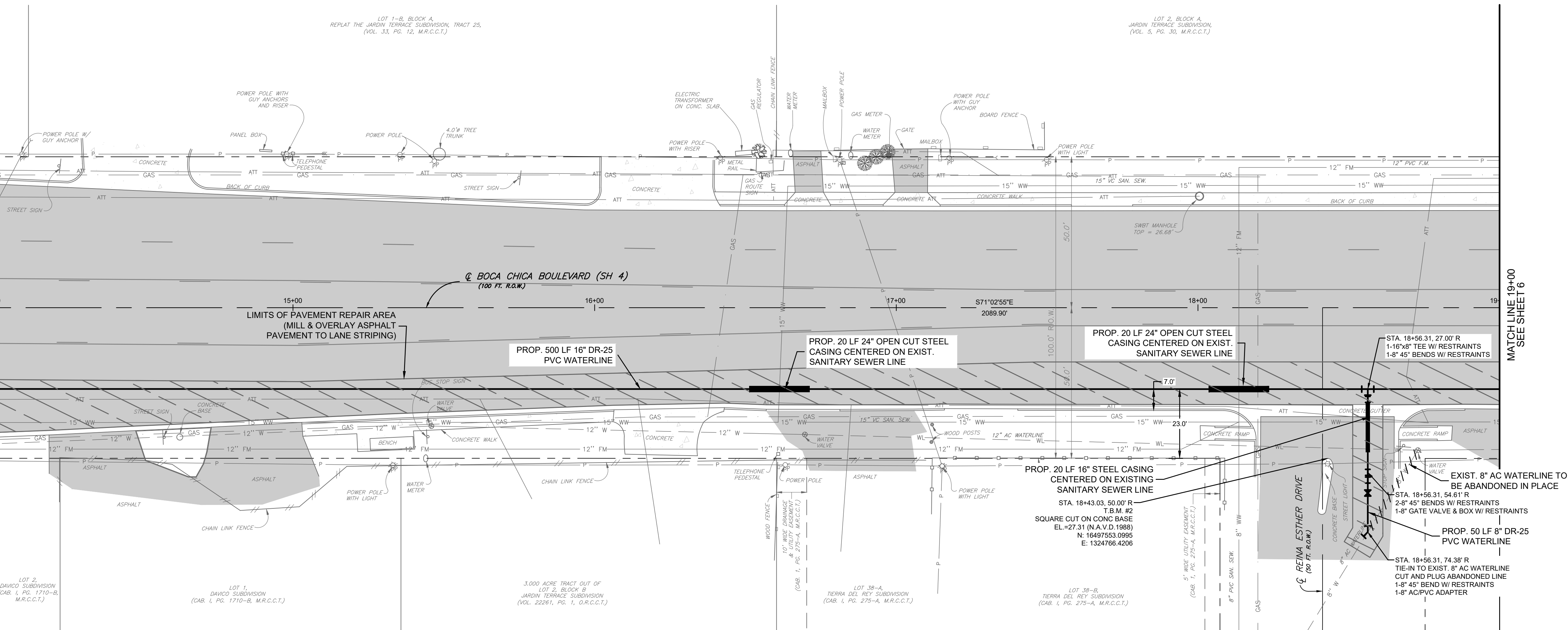
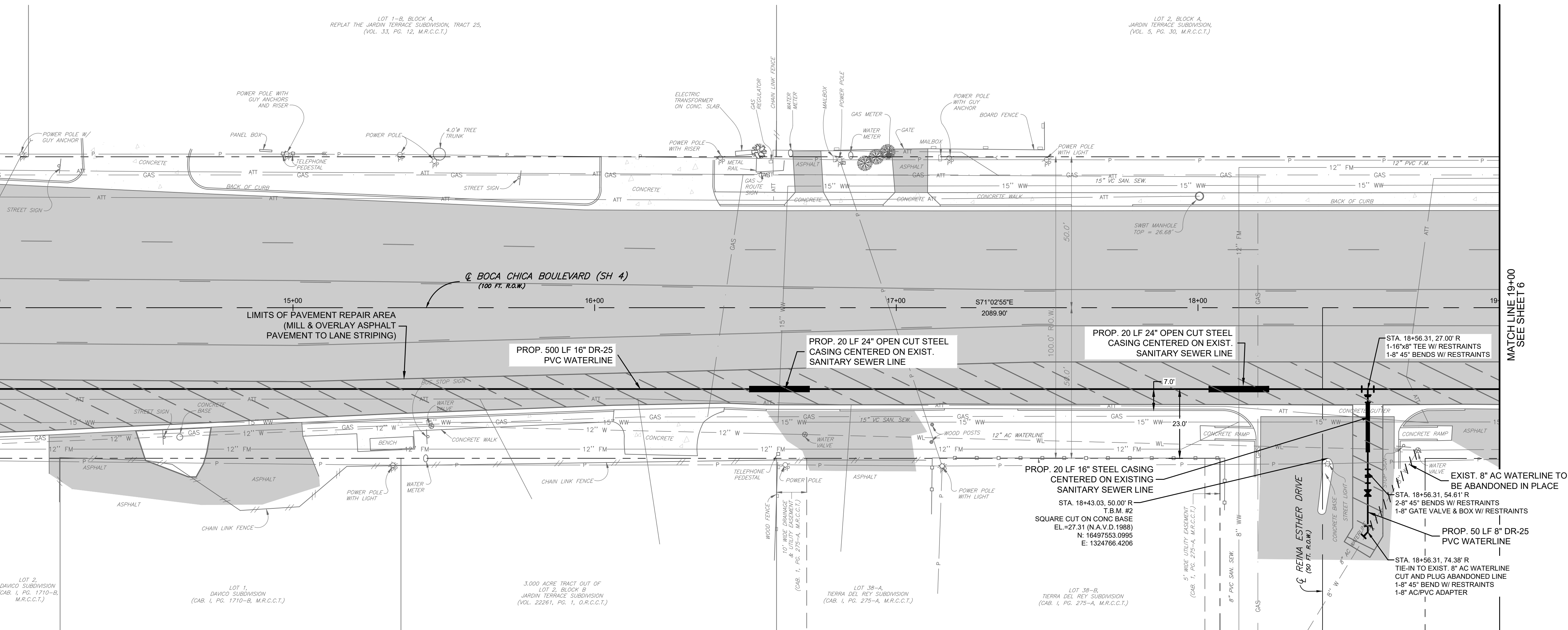
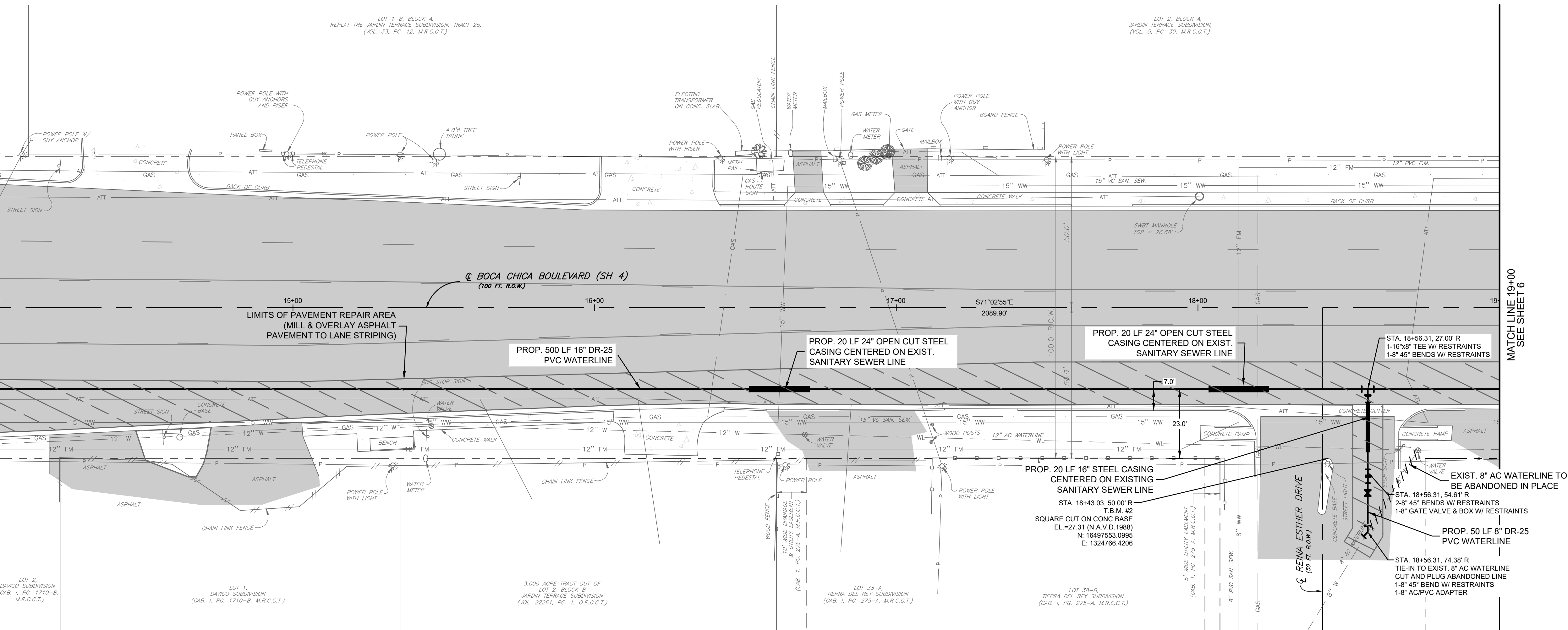
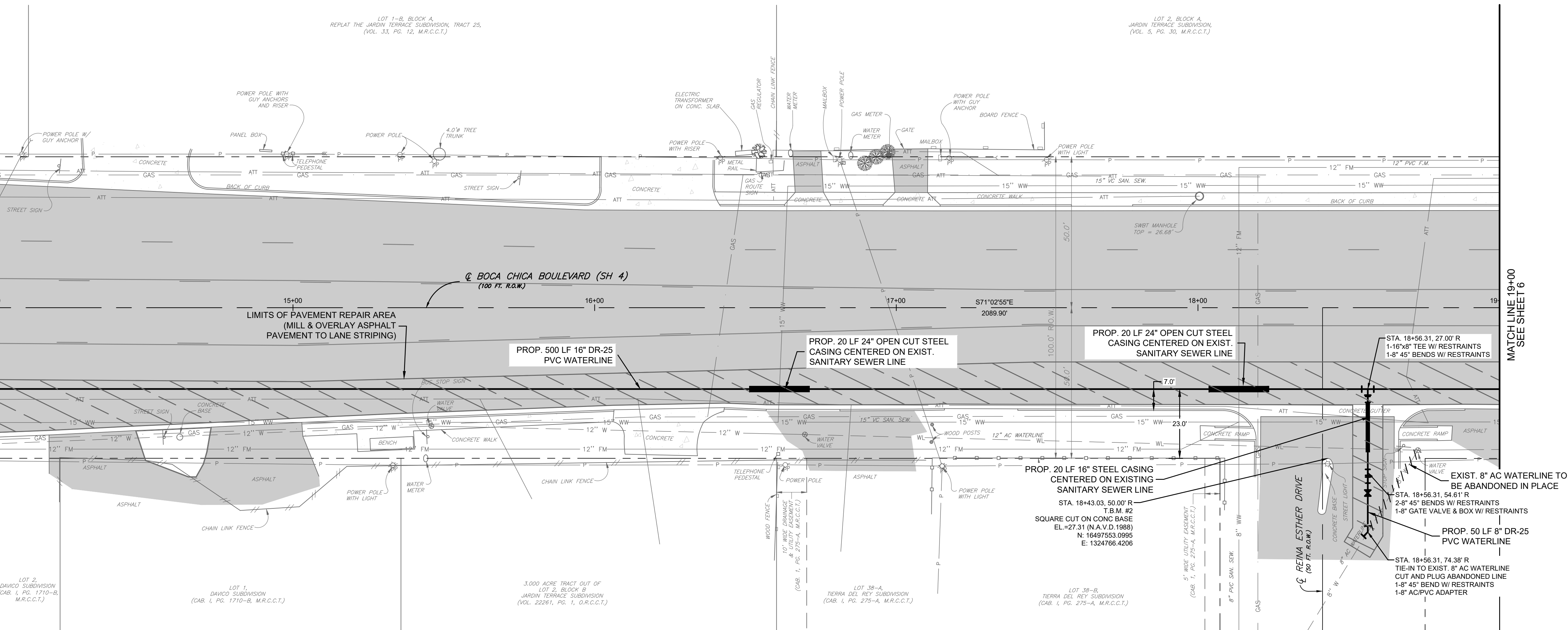
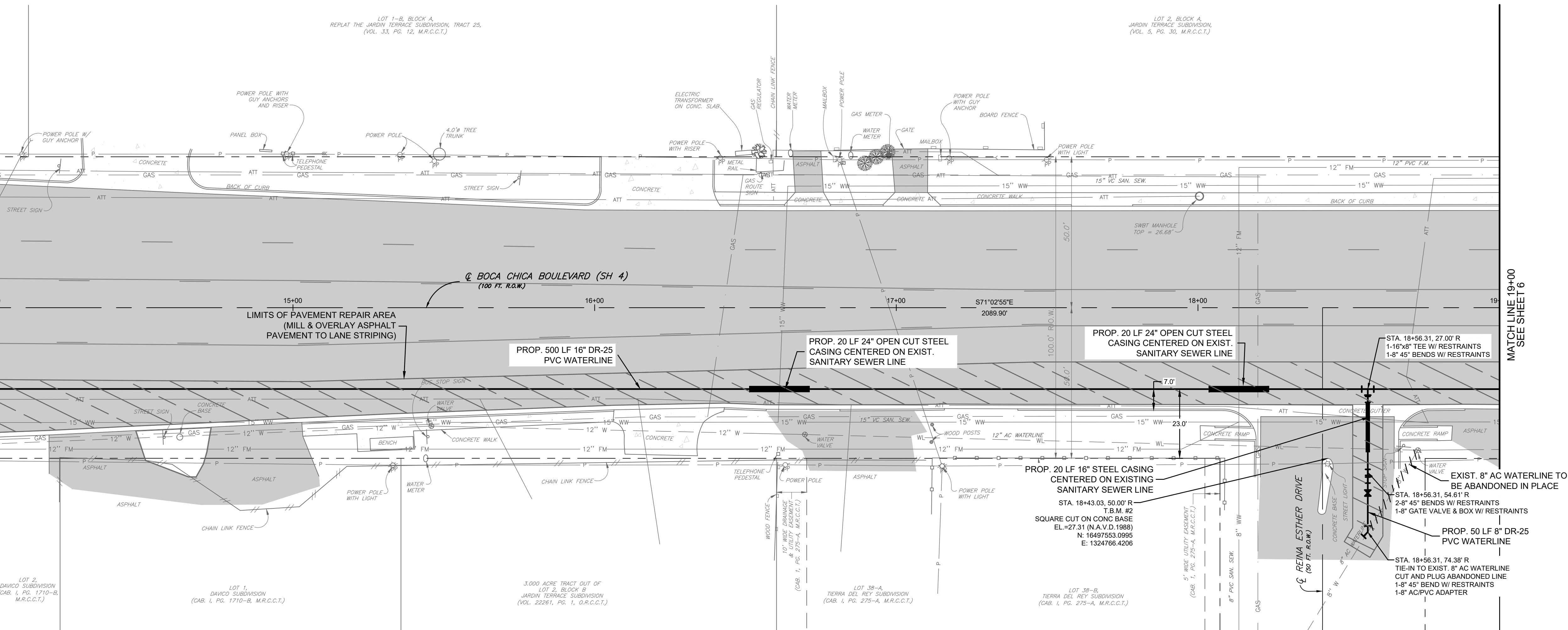
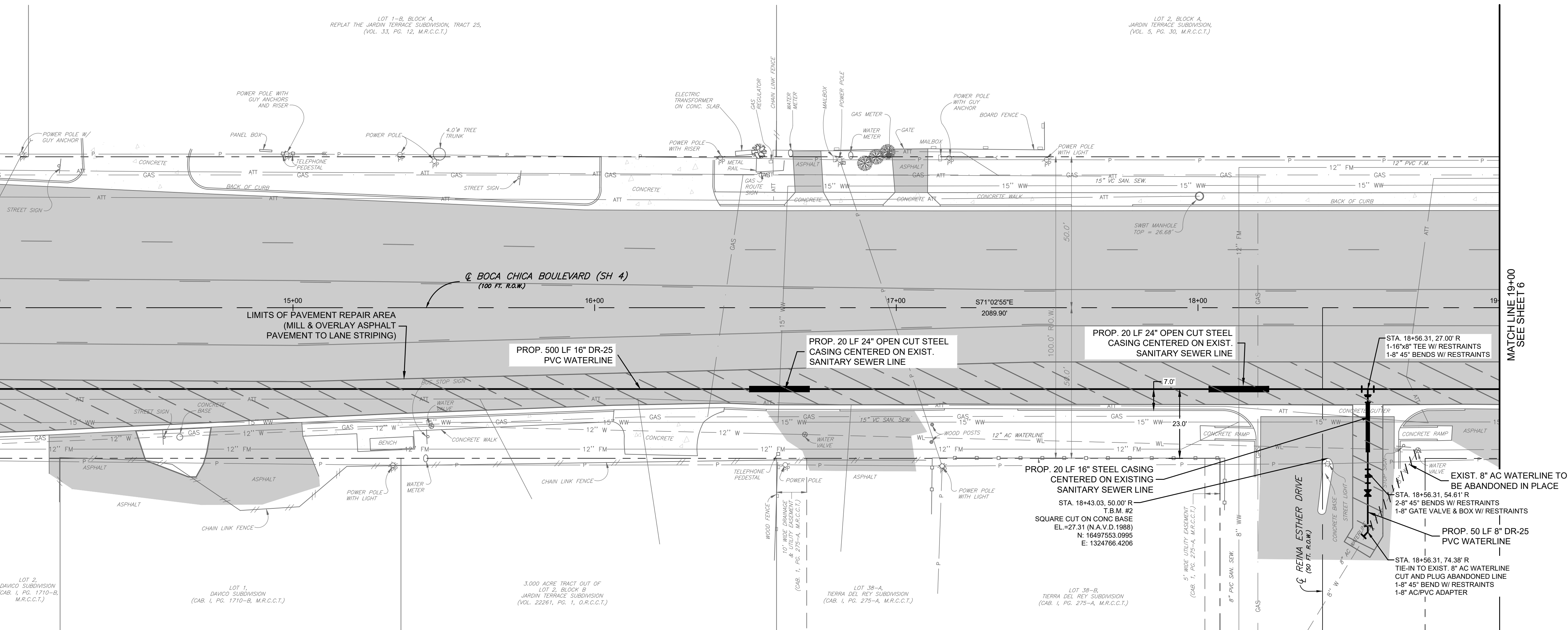
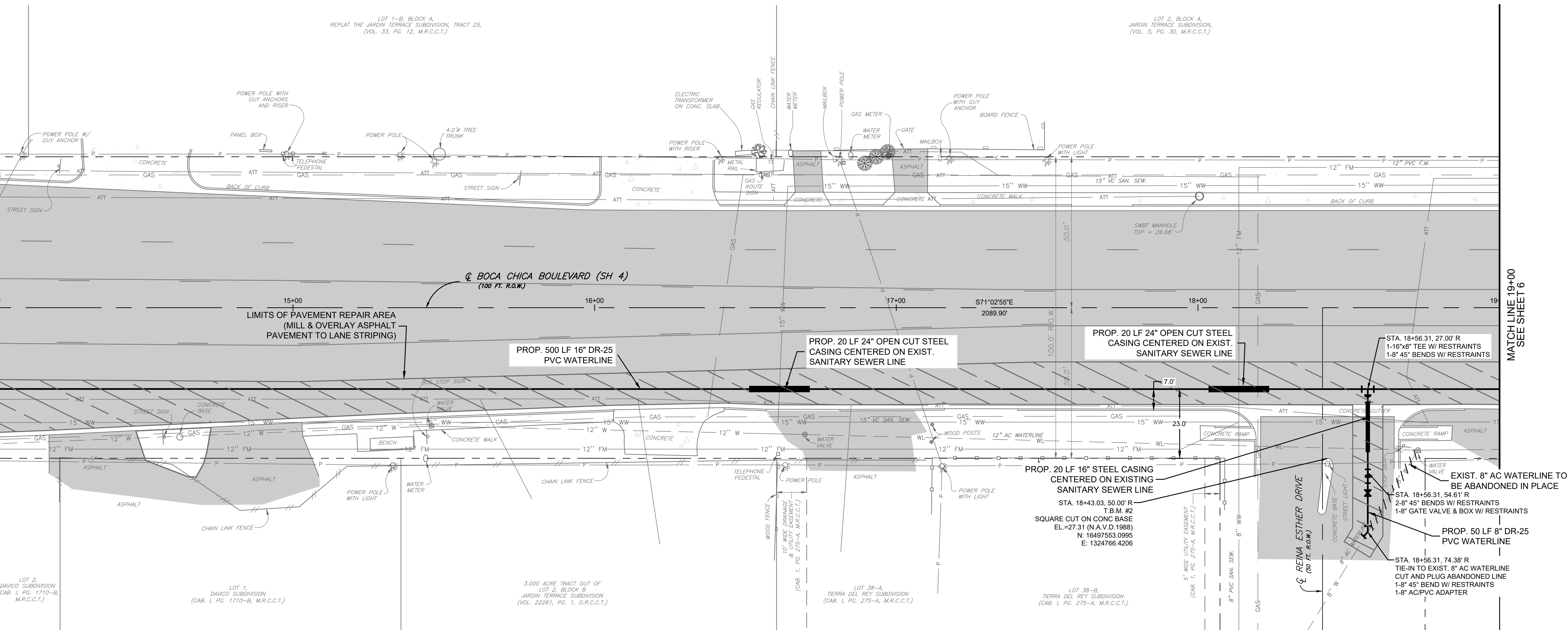
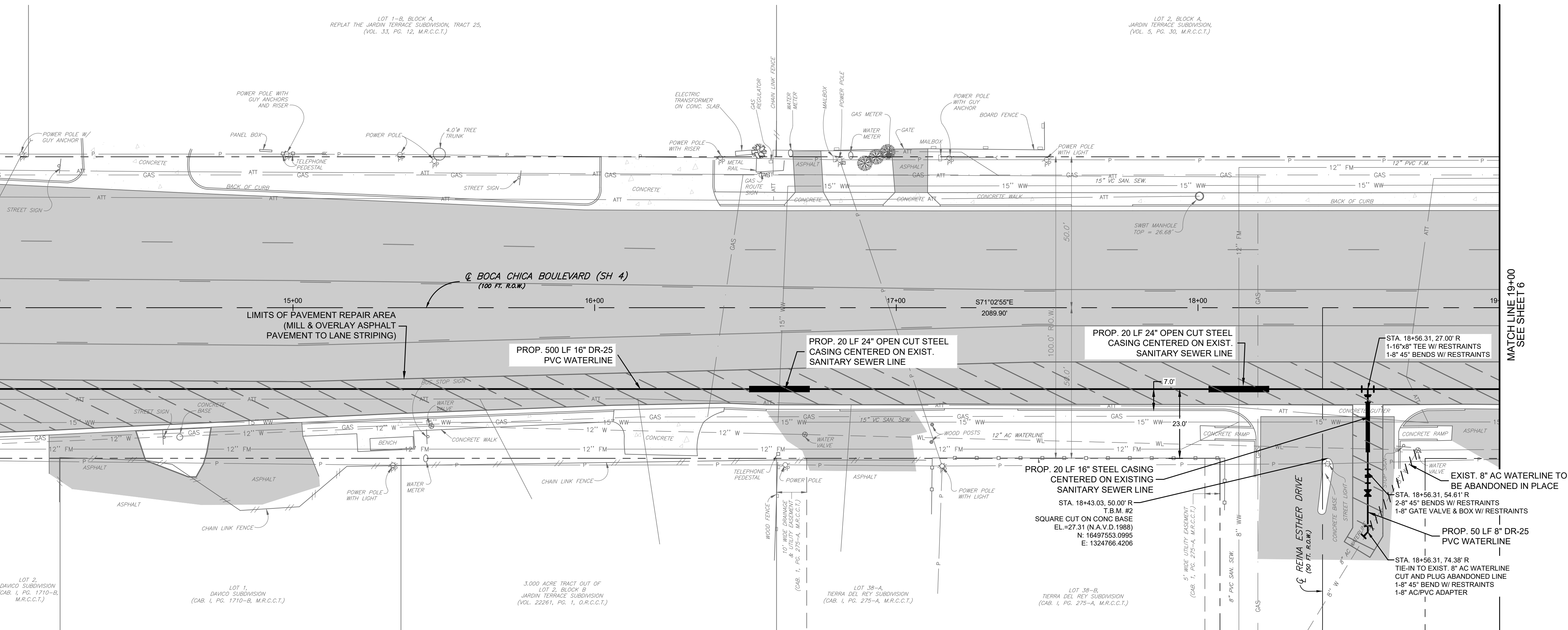
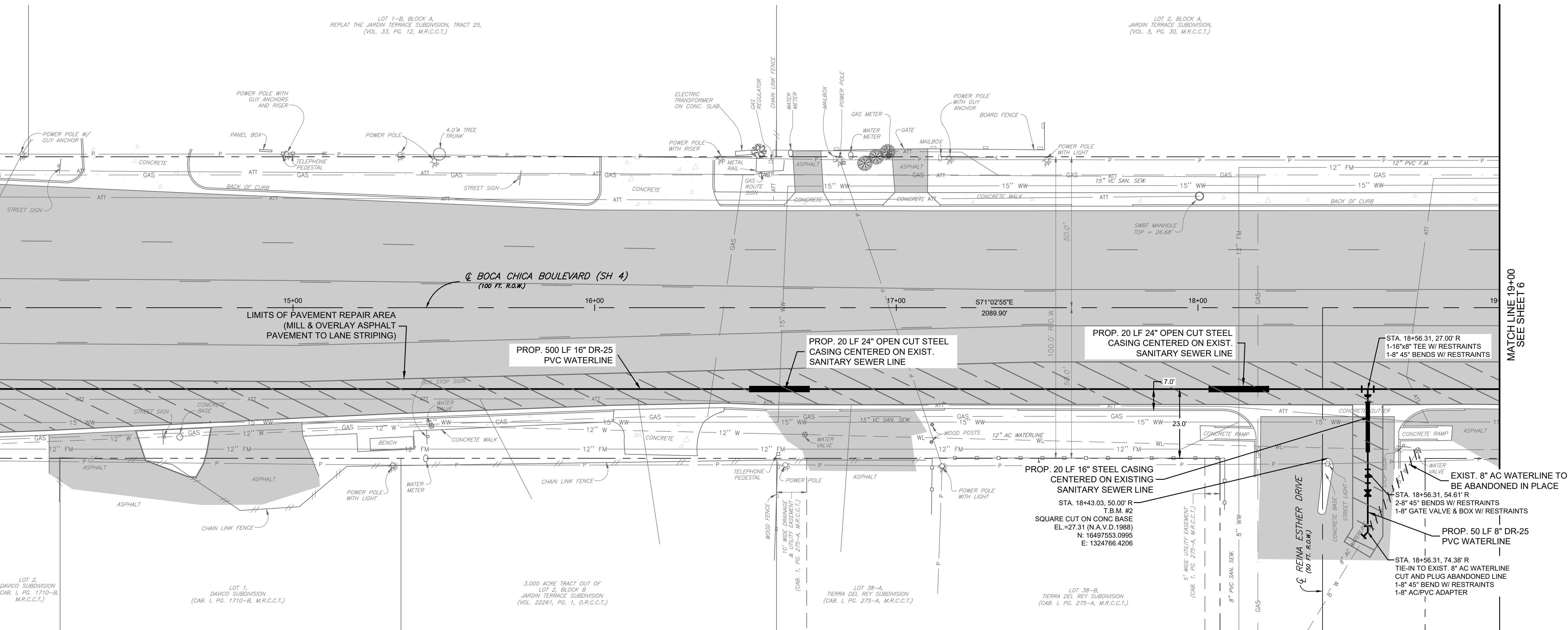
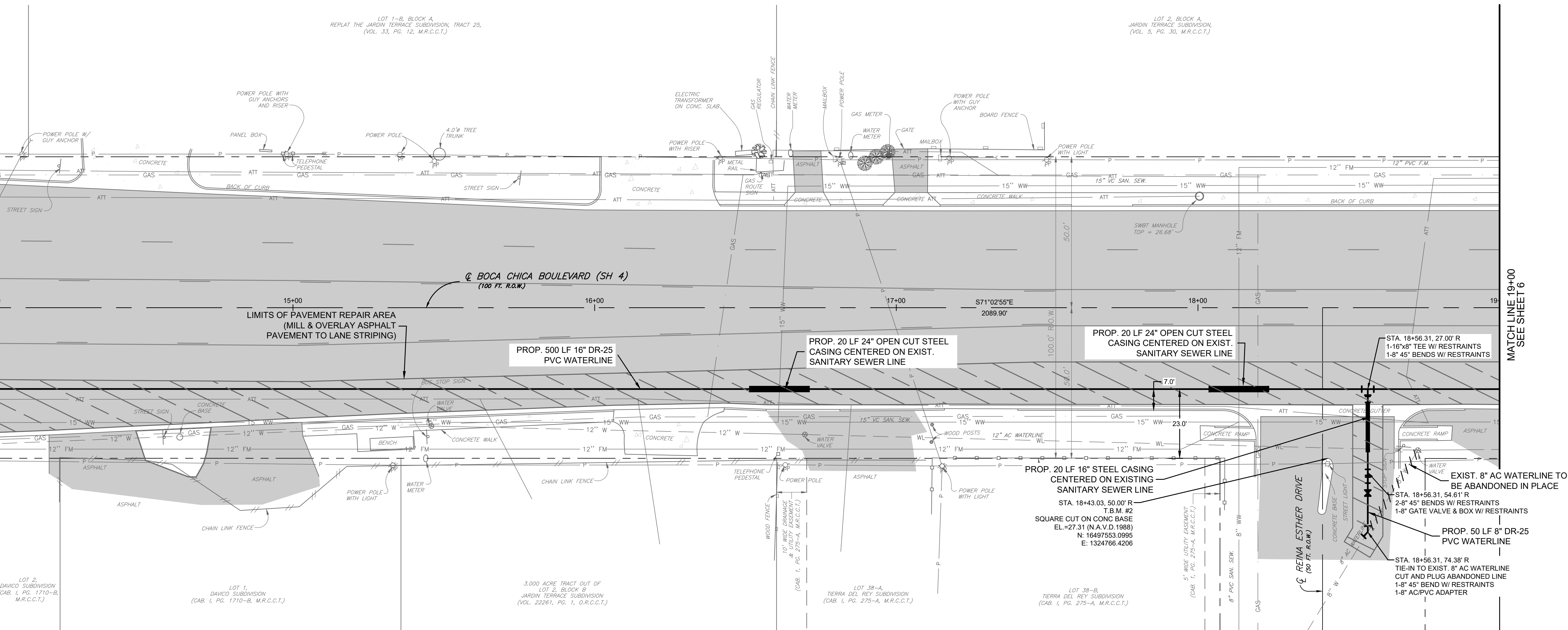
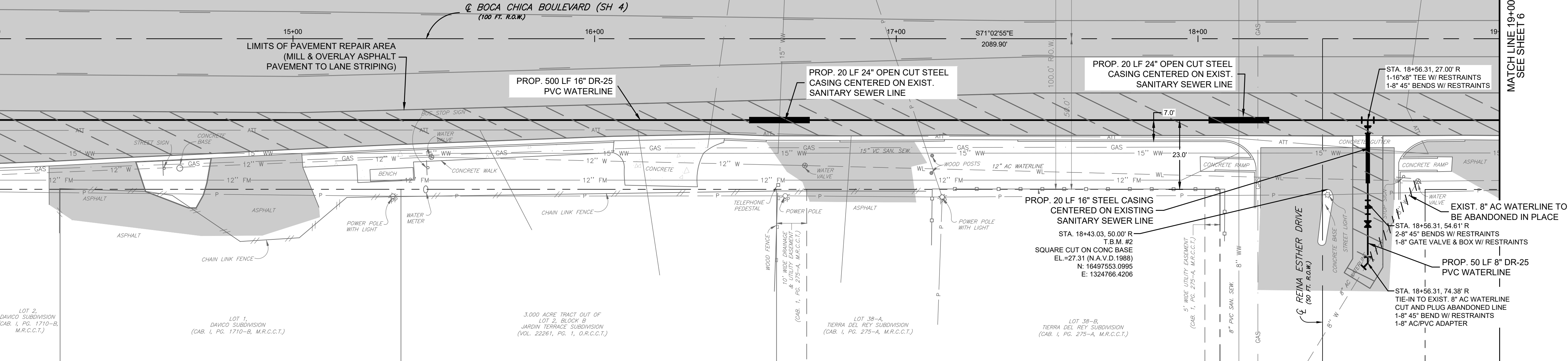
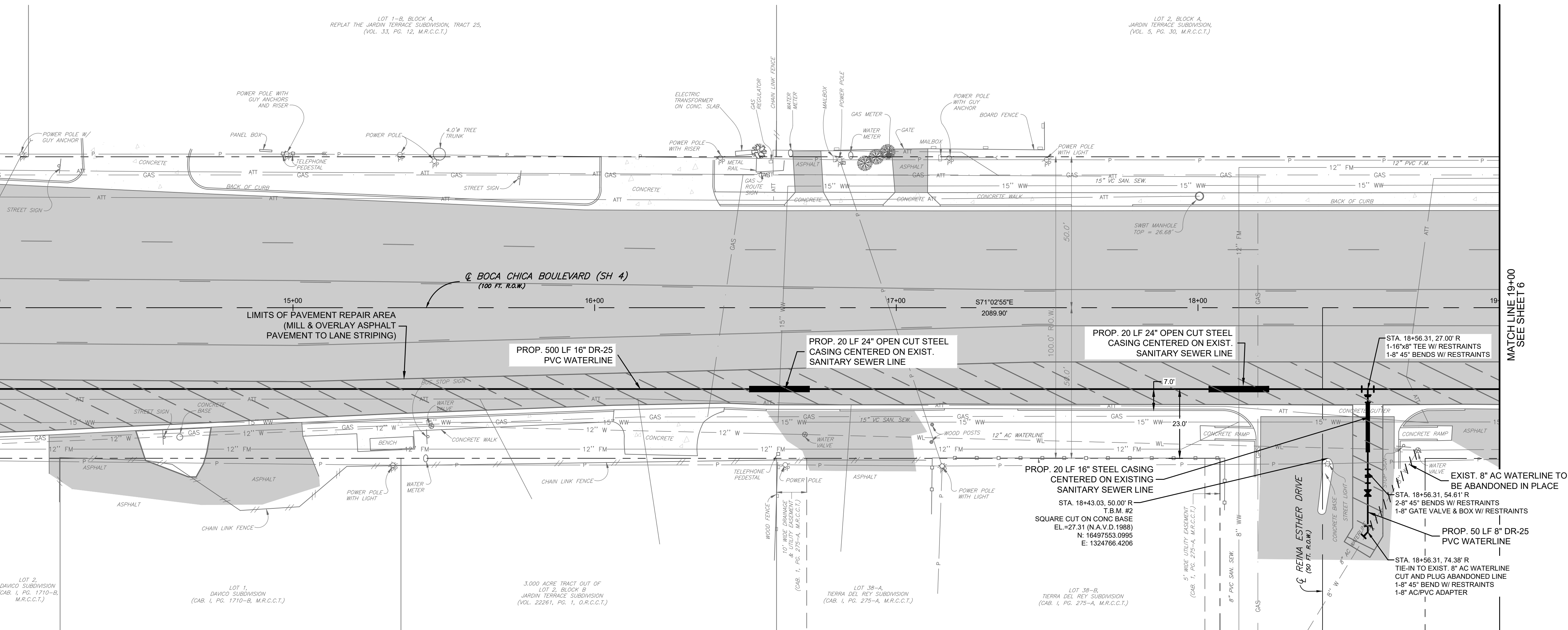
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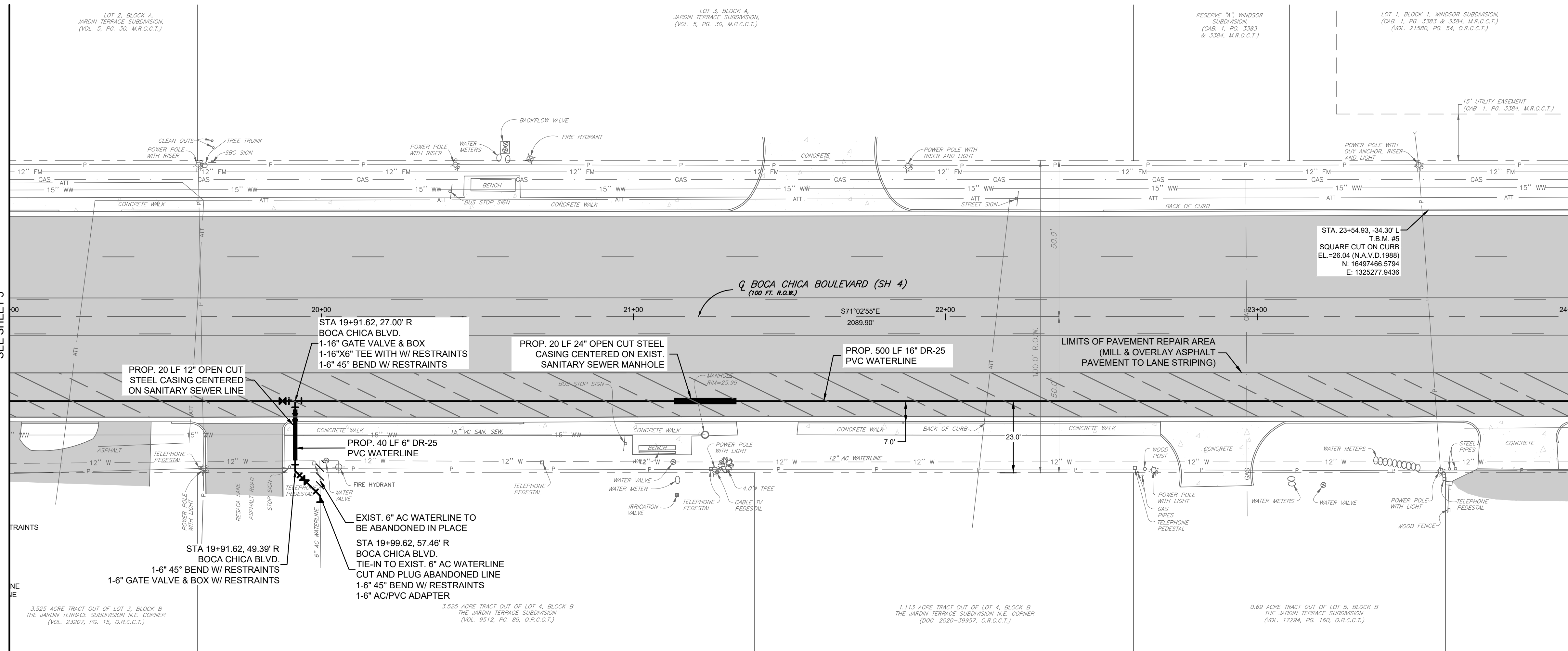
MATCH LINE 14+00
SEE ABOVE

MATCH LINE 19+00
SEE SHEET 6



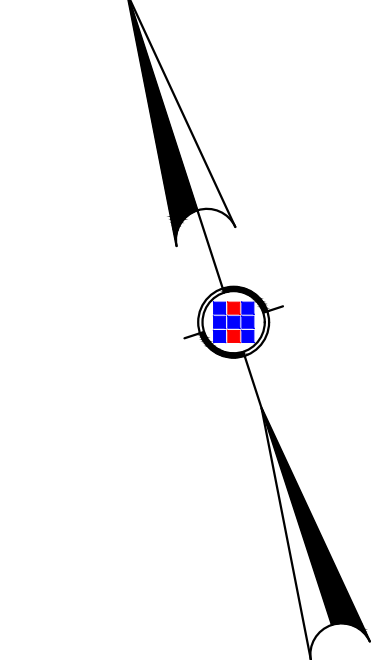
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SEE SHEET 5

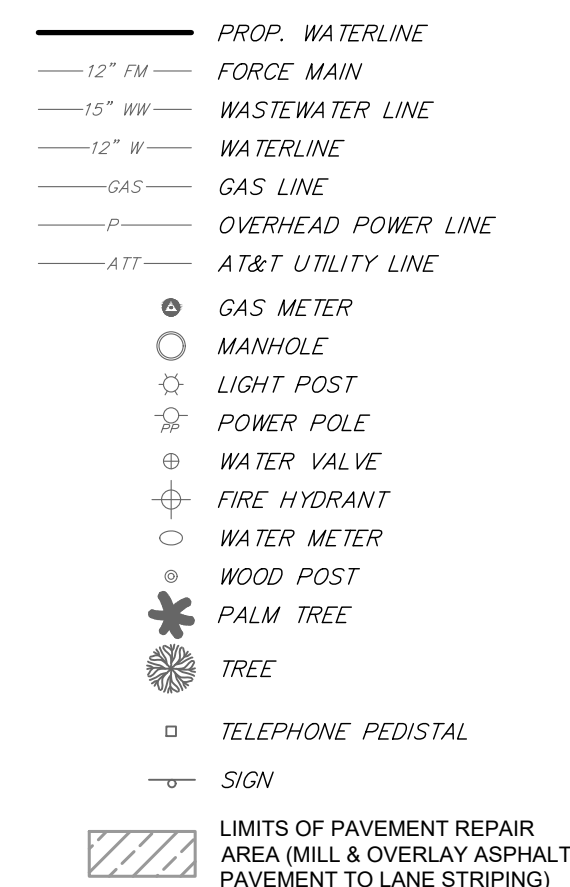


MATCH LINE 24+00
SEE SHEET 6

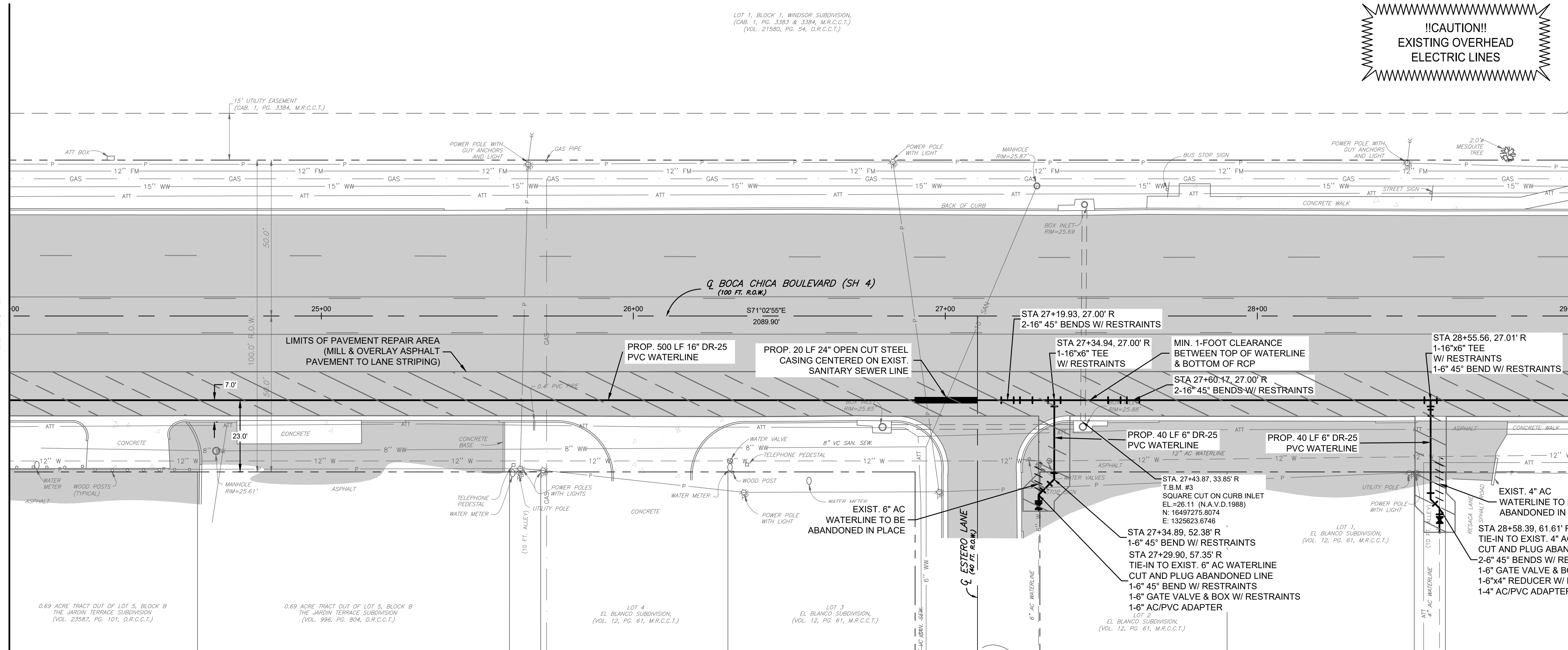
!!CAUTION!!
EXISTING OVERHEAD
ELECTRIC LINES



LEGEND



MATCH LINE 24+00
SEE SHEET 6



MATCH LINE 29+00
SEE SHEET 7

!!CAUTION!!
EXISTING OVERHEAD
ELECTRIC LINES

- NOTES:
1. CONTRACTOR RESPONSIBLE TO REPLACE ALL DISTURBED LANDSCAPING
 2. CONTRACTOR RESPONSIBLE TO RETURN ALL EXIST. IMPROVEMENTS TO PRE-CONSTRUCTION CONDITIONS
 3. CONTRACTOR TO VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

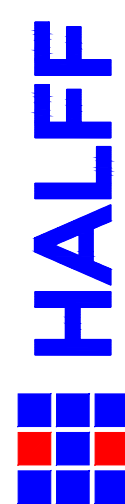


Know what's below.
Call before you dig.

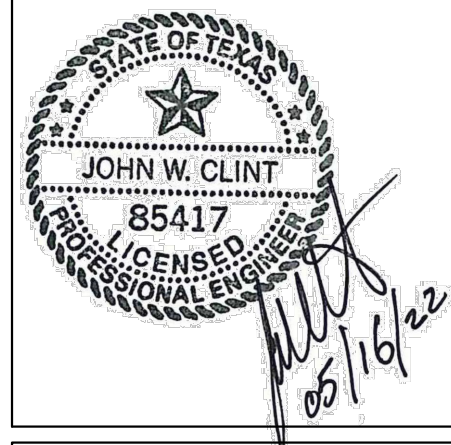
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BOCA CHICA WATERLINE UPGRADE (INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS

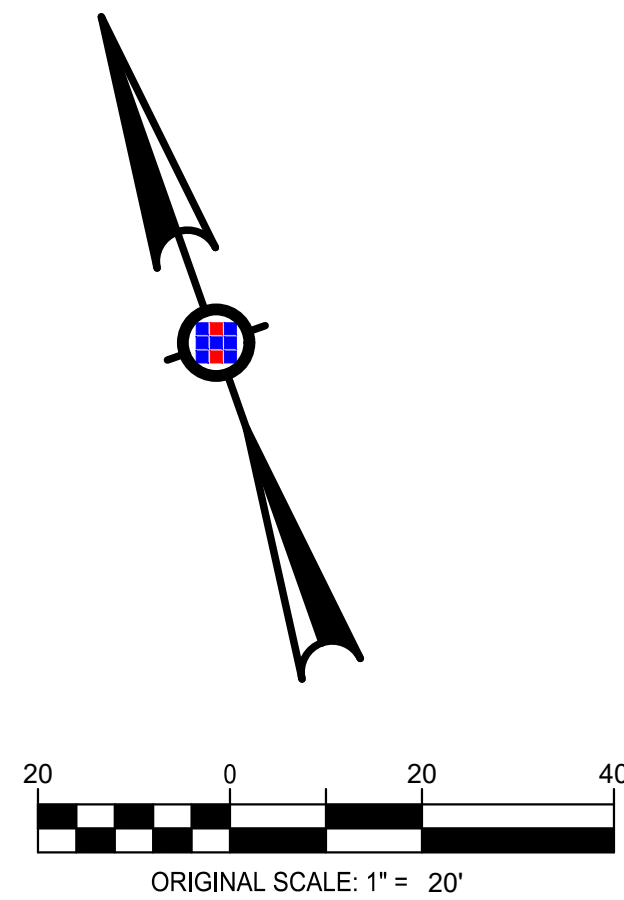
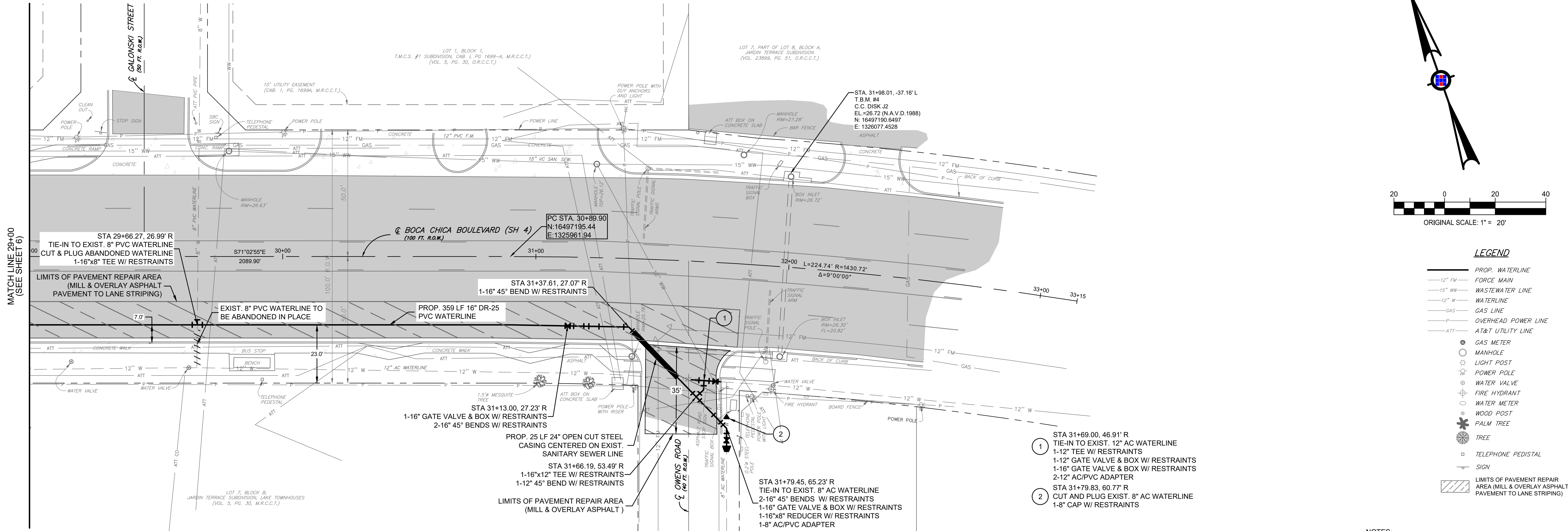


Revision No.	Date	Description
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Project No.:	43503.001
Issued:	5/16/2022
Drawn By:	RJA
Checked By:	JWC
Scale:	AS NOTED
Sheet Title	BOCA CHICA BLVD. WATERLINE PLAN STA. 19+00-29+00
Sheet Number	6

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- LEGEND**
- 12\" FM — PROP. WATERLINE
 - 15\" WW — FORCE MAIN
 - 12\" W — WASTEWATER LINE
 - GAS — WATERLINE
 - P — GAS LINE
 - ATT — OVERHEAD POWER LINE
 - ATT — AT&T UTILITY LINE
 - GAS METER
 - MANHOLE
 - LIGHT POST
 - POWER POLE
 - WATER VALVE
 - FIRE HYDRANT
 - WATER METER
 - WOOD POST
 - PALM TREE
 - TREE
 - TELEPHONE PEDISTAL
 - SIGN
 - ▨ LIMITS OF PAVEMENT REPAIR AREA (MILL & OVERLAY ASPHALT PAVEMENT TO LANE STRIPING)

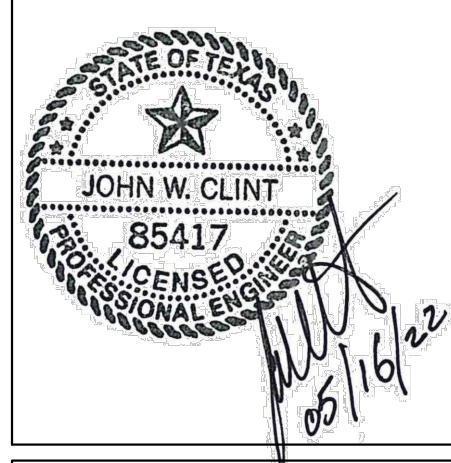
- NOTES:**
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**BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)**

BROWNSVILLE, TEXAS



Revision No.	Date	Description
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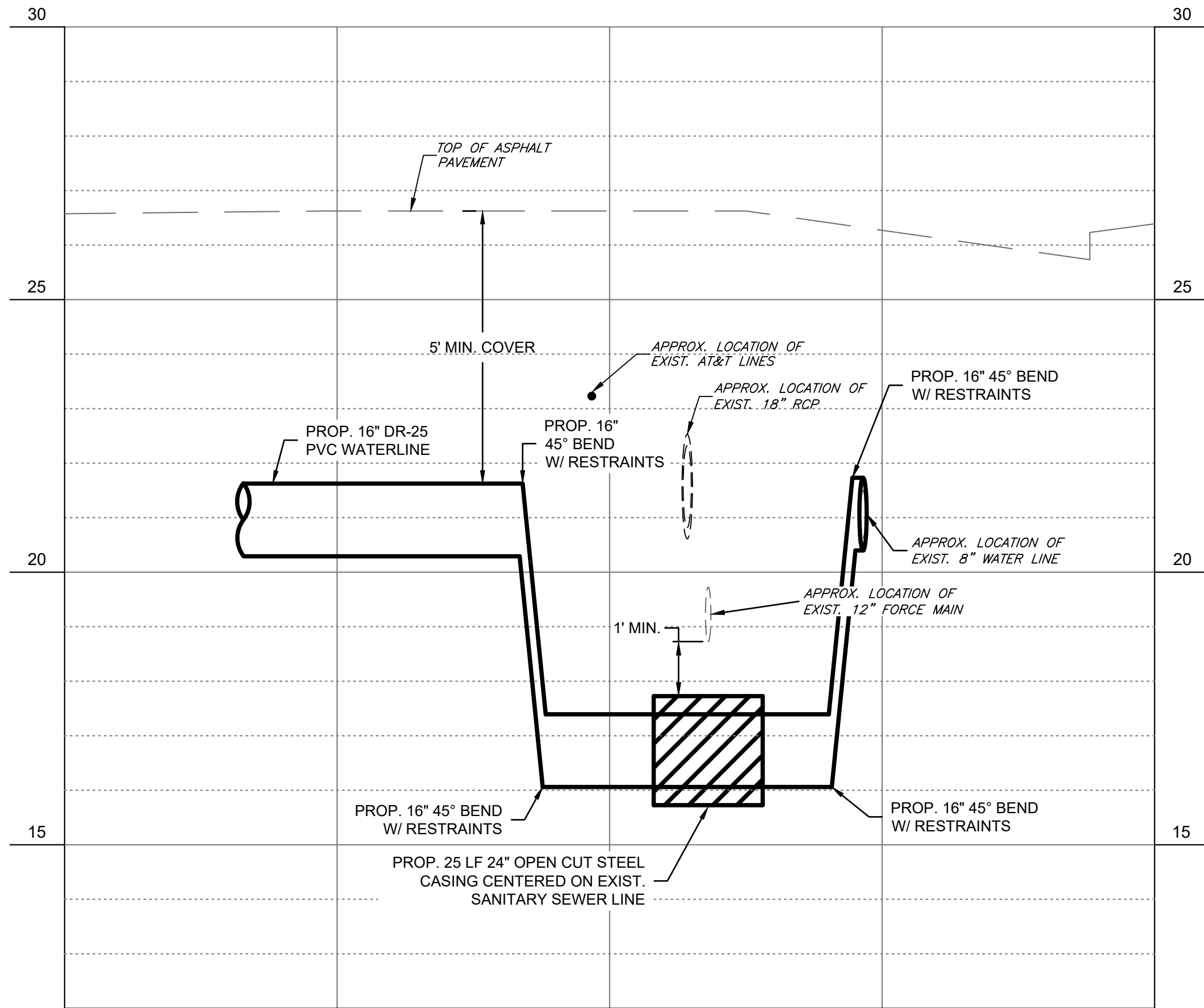
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Issued:	5/16/2022
Drawn By:	RJA
Checked By:	JWC
Scale:	AS NOTED
Sheet Title	BOCA CHICA BLVD. WATERLINE PLAN STA. 29+00-33+00



Know what's below.
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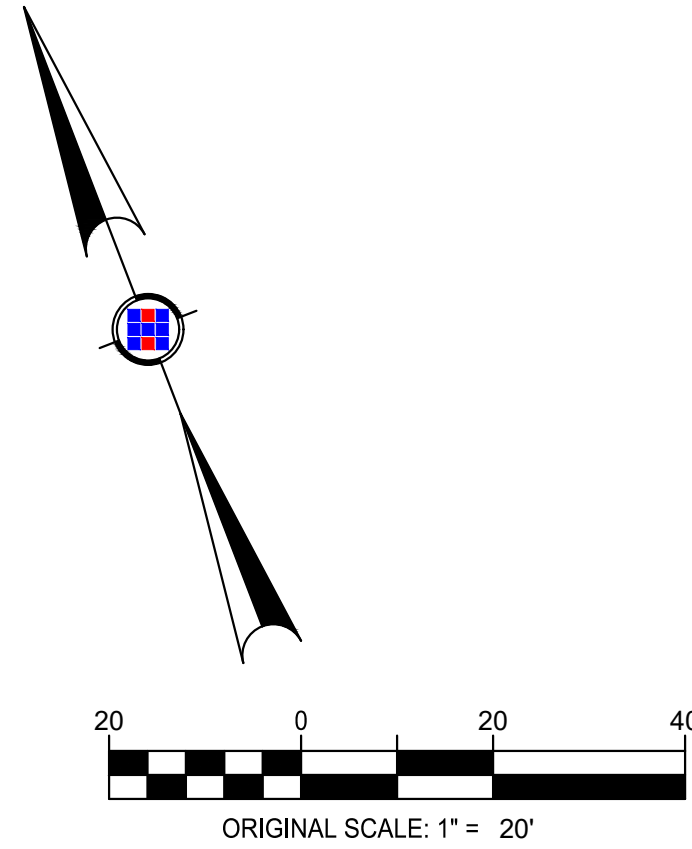
PROP. 25 LF 24" OPEN CUT STEEL CASING CENTERED ON EXIST. SANITARY SEWER LINE

REMOVE & REPLACE EXIST. VALLEY GUTTER TO NEAREST JOINTS (SUBSIDIARY TO OTHER ITEMS)

REMOVE & REPLACE CURB & GUTTER AS NEEDED (SUBSIDIARY TO OTHER ITEMS)

- 1 STA 31+69.00, 46.91' R
TIE-IN TO EXIST. 12" AC WATERLINE
1-12" TEE W/ RESTRAINTS
1-12" GATE VALVE & BOX W/ RESTRAINTS
1-16" GATE VALVE & BOX W/ RESTRAINTS
2-12" AC/PVC ADAPTER
- 2 STA 31+79.83, 60.77' R
CUT AND PLUG EXIST. 8" AC WATERLINE
1-8" CAP W/ RESTRAINTS

!!CAUTION!!
EXISTING OVERHEAD
ELECTRIC LINES



LEGEND

- PROP. WATERLINE
12" FM FORCE MAIN
15" WW WASTEWATER LINE
12" W WATERLINE
GAS GAS LINE
P OVERHEAD POWER LINE
ATT AT&T UTILITY LINE
- GAS METER
MANHOLE
LIGHT POST
POWER POLE
WATER VALVE
FIRE HYDRANT
WOOD POST
PALM TREE
TREE
TELEPHONE PEDISTAL
SIGN
- LIMITS OF PAVEMENT REPAIR
AREA (MILL & OVERLAY ASPHALT
PAVEMENT TO LANE STRIPING)

- NOTES:
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BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



1075 PAREDES LINE ROAD, SUITE 8
BROWNSVILLE, TEXAS 77826
TEL: 361.852.1100
TELEFAX: 361.852.1101
WWW.HALFF.COM

Revision No.	Date	Description
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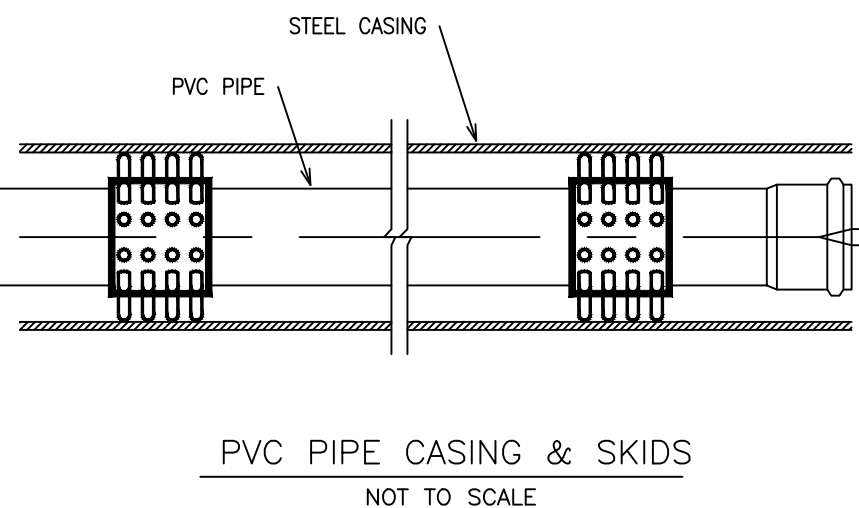
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Issued: 5/16/2022
Drawn By: RJA
Checked By: JWC
Scale: AS NOTED

Sheet Title
PLAN & PROFILE
BOCA CHICA BLVD
STA 31+50

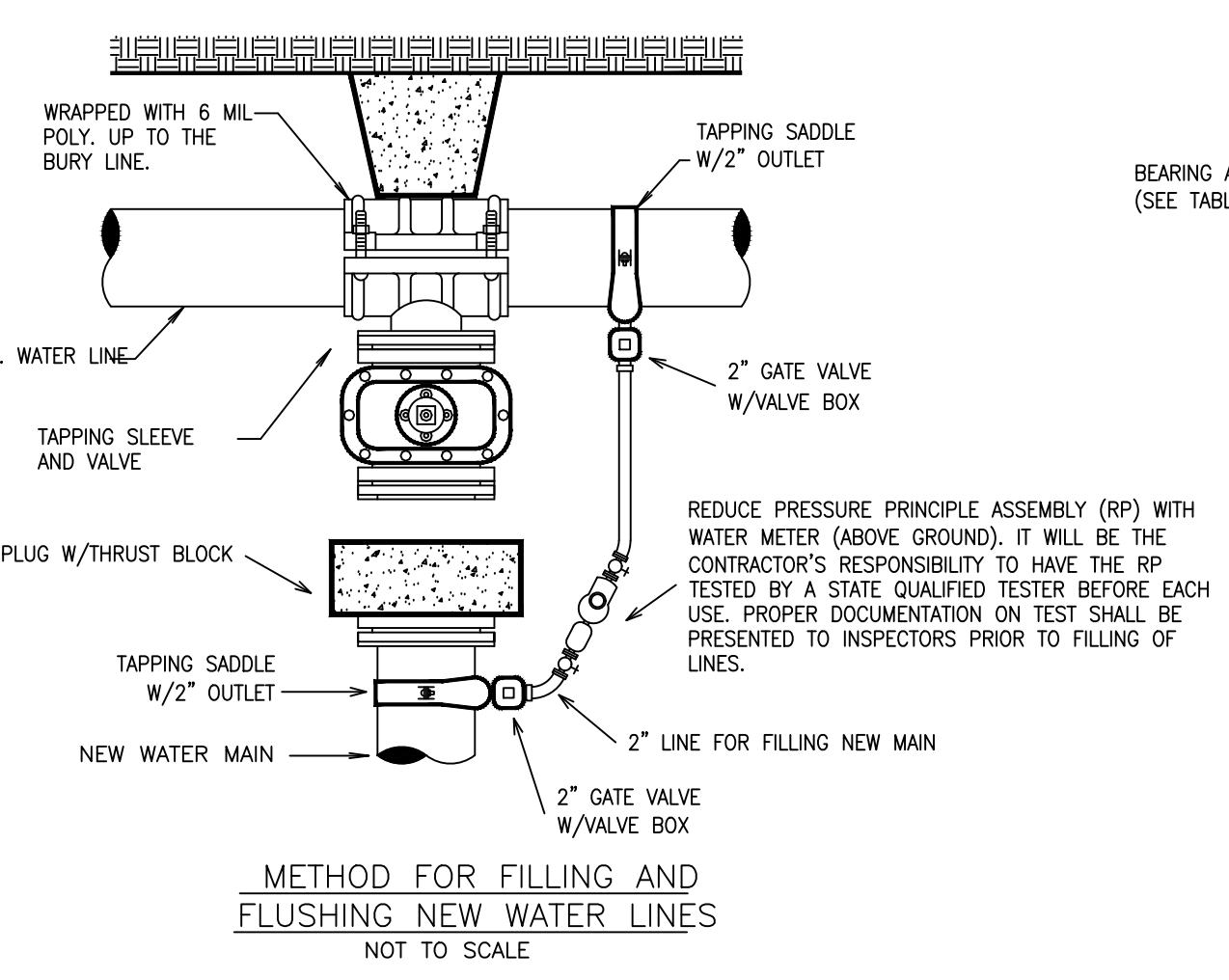
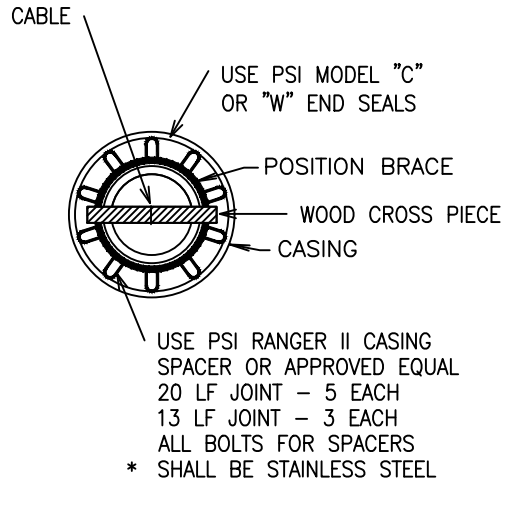
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Sheet Number

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STEEL CASING WALL THICKNESS CHART	
MINIMUM THICKNESS	DIAMETER OF CASING PIPE
1/4"	12" OR LESS
5/16"	OVER 12"—18"
3/8"	OVER 18"—22"
7/16"	OVER 22"—28"
1/2"	OVER 28"—34"
9/16"	OVER 34"—42"
5/8"	OVER 42"—48"
OVER 48" MUST BE APPROVED BY B.P.U.B.	
NOTE: THIS CHART IS ONLY FOR SMOOTH STEEL CASING PIPES WITH MINIMUM YIELD STRENGTH OF 35,000 PSI	



NOMINAL PIPE SIZE	CASING SIZE	NO. OF SKIDS
6"	12"	4
8"	16"	4
12"	20"	4
16"	24"	5

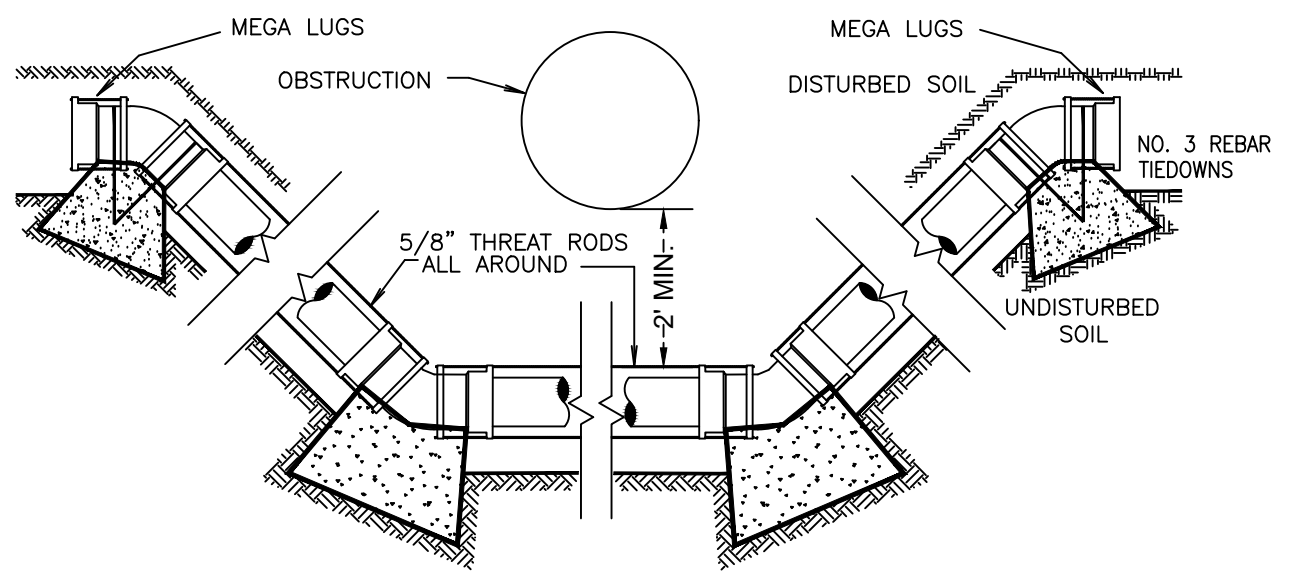
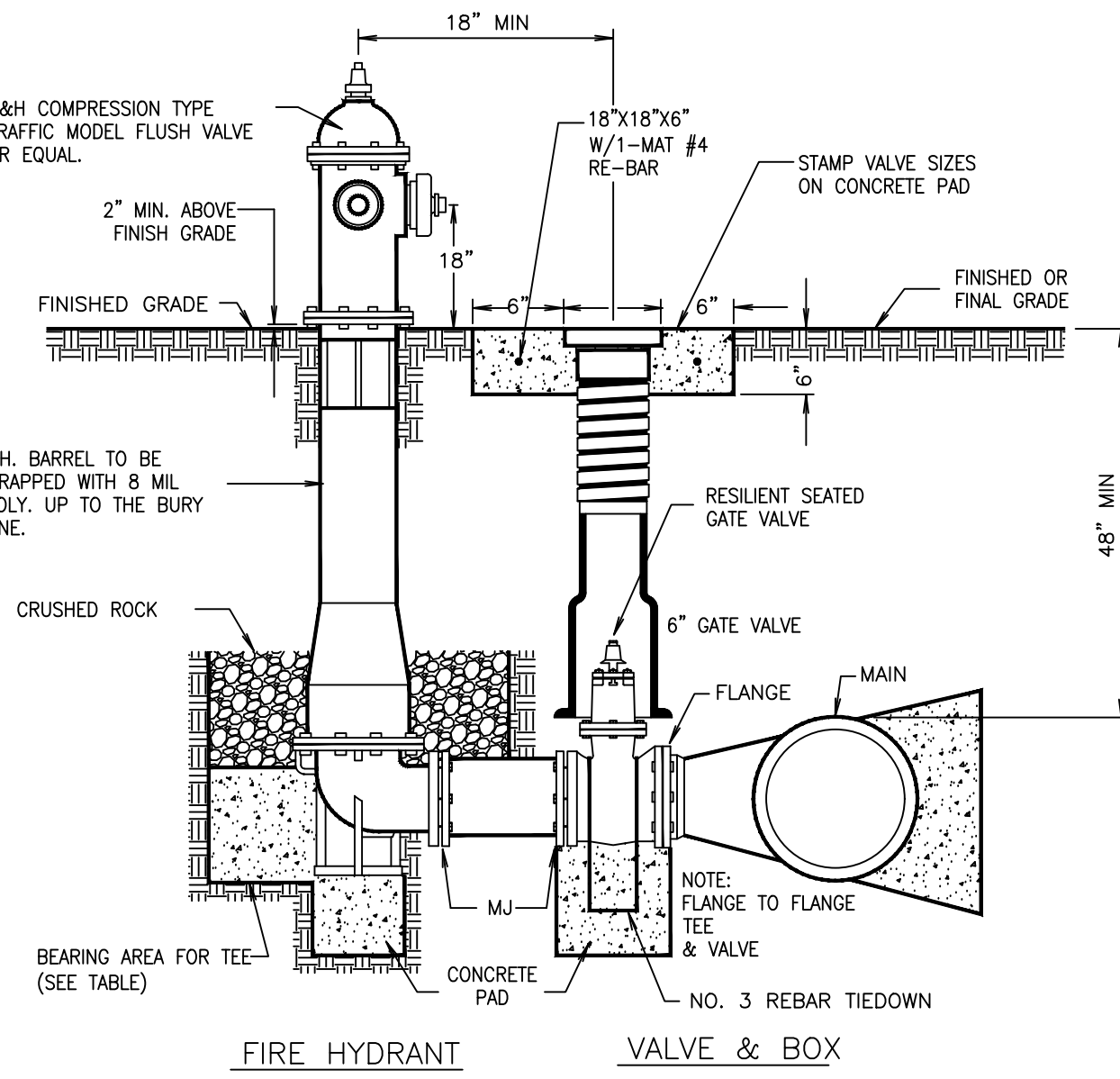
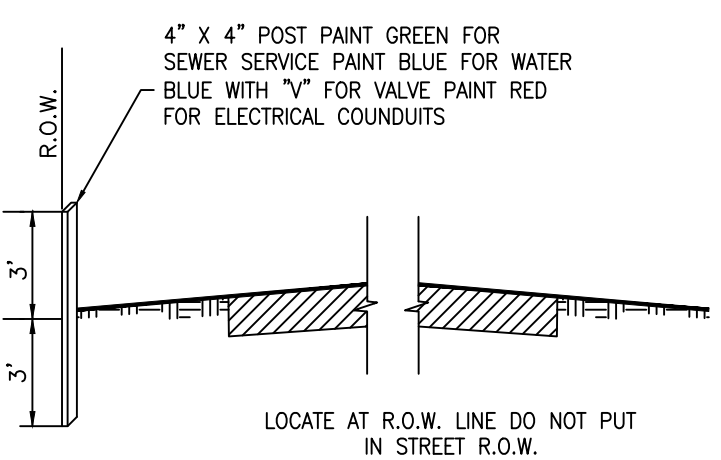


NOTE:
WATER USAGE FOR ALL INITIAL TESTING WILL NOT BE BILLED TO THE CONTRACTOR. ANY RE-TESTING NEEDED WILL BE THE RESPONSIBILITY OF THE CONTRACTOR INCLUDING PAYMENT OF ADDITIONAL WATER NEEDED.
CONTRACTOR WILL BE ALLOWED TO FLUSH THE WATERLINE INITIALLY FOR A MAXIMUM OF 12-24 HRS. OR AS DETERMINED BY THE ENGINEER. IF FLUSHING IS DETERMINED TO BE LONGER, THE ENGINEER WILL BE REQUIRED TO SUPPLY THE PROPER DOCUMENTATION AND CALCULATIONS TO SUPPORT SUCH FINDINGS.
AMOUNT OF FLOW TO BE USED FOR FLUSHING WILL BE MONITORED AND REGULATED BY THE BPUB INSPECTORS. CONTRACTOR WILL NOT BE ALLOWED TO TIE-IN TO EXISTING WATER LINE UNTIL ALL TEST ON NEW LINES HAVE BEEN COMPLETED AND APPROVED.

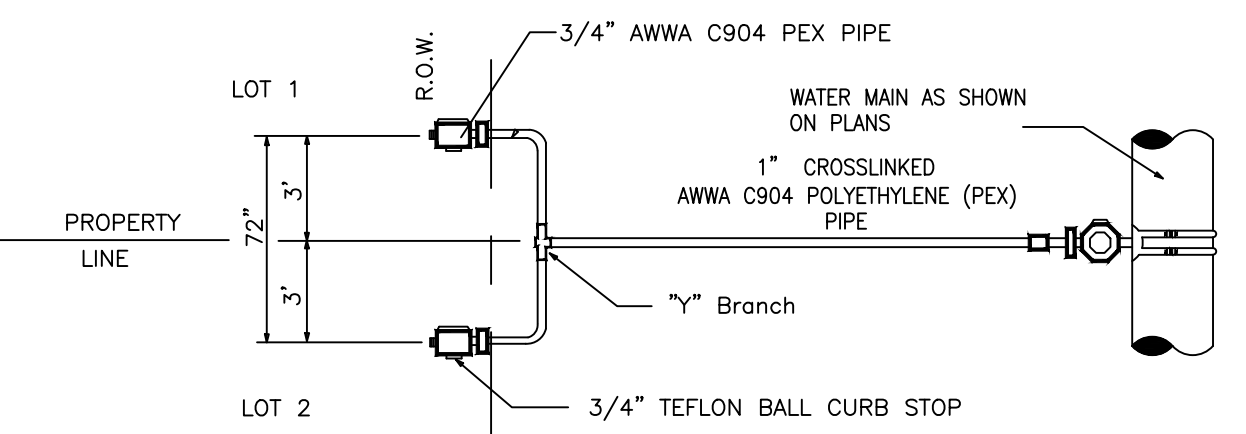
WATER MAIN - SANITARY SEWER CROSSINGS							
PRIMARY CONDITION	PROPOSED WATER EXISTING SANITARY SEWER				PROPOSED WATER PROPOSED SANITARY SEWER OR EXISTING WATER PROPOSED SANITARY SEWER		
	WATER OVER SANITARY SEWER		WATER UNDER SANITARY SEWER		WATER OVER SANITARY SEWER		WATER UNDER SANITARY SEWER
IF THE CLEARANCE IS	LESS THAN 2'	GREATER THAN 2' BUT LESS THAN 9'	LESS THAN 2'	GREATER THAN 2' BUT LESS THAN 9'	LESS THAN 2'	GREATER THAN 2' BUT LESS THAN 9'	GREATER THAN 2' BUT LESS THAN 9'
*PROTECTION REQUIREMENT	1	2	3	4	5 6(B)	6	3

*PROTECTION REQUIREMENTS FOR SANITARY SEWER CROSSINGS (UNLESS VARIANCE IS GRANTED BY THE TCEQ)

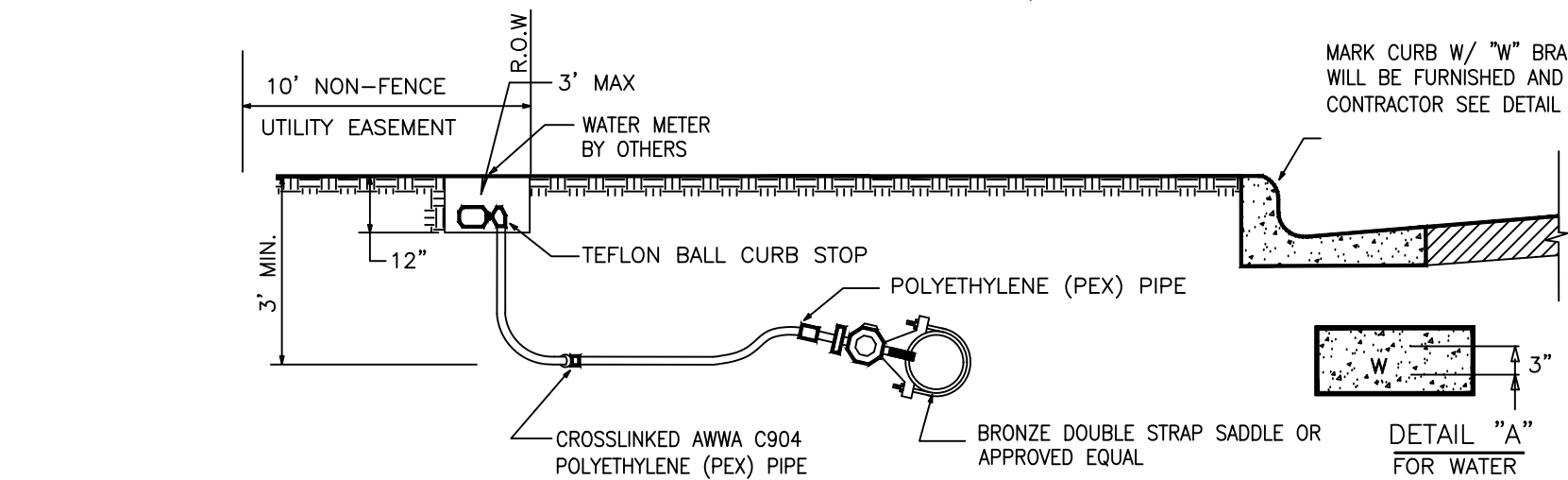
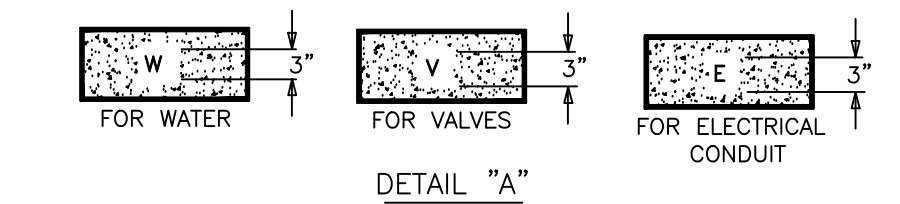
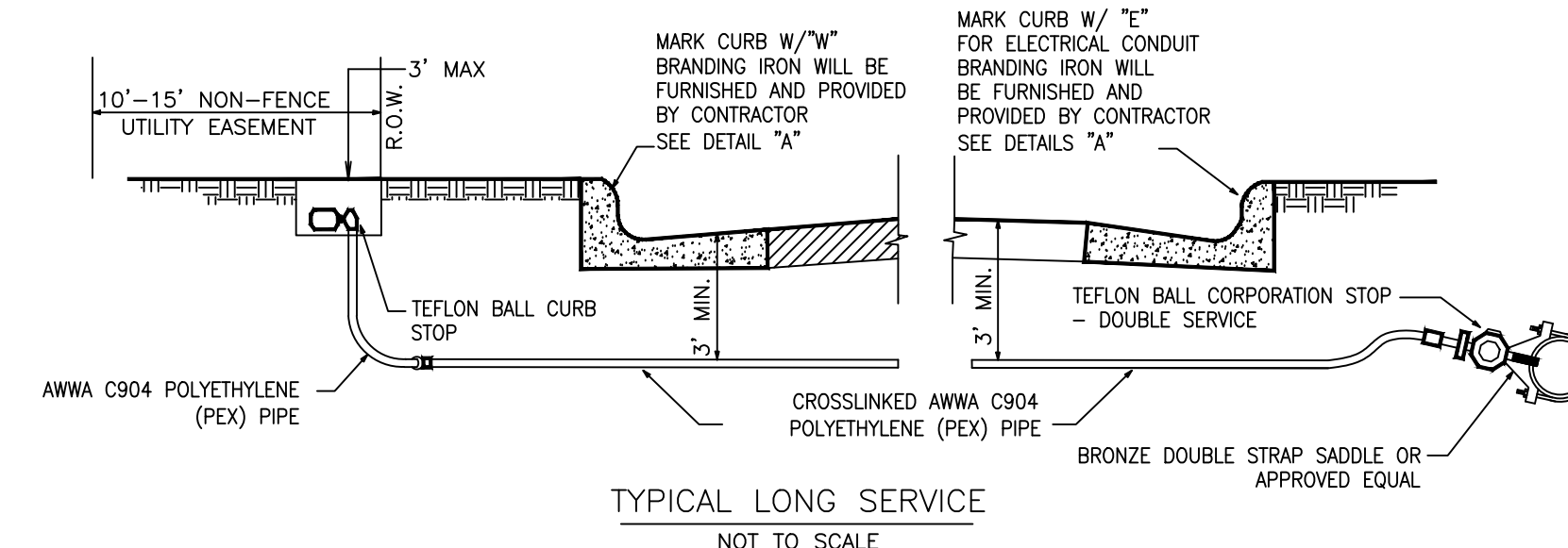
- CENTER ONE (1) 20-FOOT JOINT OF C-900 PVC DR18, CLASS 150, WATERLINE PIPE OVER SANITARY SEWER; 6-INCH ABSOLUTE MINIMUM CLEARANCE.
- IF NO EVIDENCE OF SANITARY SEWER LEAKAGE, CENTER ONE JOINT OF WATER LINE OVER SANITARY SEWER; 24-INCH ABSOLUTE MINIMUM CLEARANCE. IF THE SEWER LINE IS LEAKING, THE SEWER LINE SHALL BE REPLACED FOR AT LEAST NINE FEET IN BOTH DIRECTIONS (18 FEET TOTAL) WITH AT LEAST 150 PSI RATED PIPE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.
- SEWER LINE SHALL BE ENCASED. THE CASING PIPE SHALL BE CONSTRUCTED OF AT LEAST 150 PSI RATED PIPE CLASS PIPE, AT LEAST 18 FEET LONG, SEALED IN BOTH ENDS WITH CEMENT GROUT OR A MANUFACTURED SEAL. AT LEAST 2 NOMINAL SIZES LARGER THAN THE WASTEWATER COLLECTION PIPE, AN ABSOLUTE MINIMUM SEPARATION OF ONE FOOT BETWEEN WATER LINE AND ENCASMENT PIPE, OR WATER LINE SHALL BE CONSTRUCTED OF DUCTILE IRON OR STEEL PIPE WITH MECHANICAL OR WELDED JOINTS AS APPROPRIATE. AN ABSOLUTE MINIMUM SEPARATION DISTANCE OF ONE FOOT BETWEEN THE WATER LINE AND WASTEWATER MAIN OR LATERAL SHALL BE PROVIDED.
- AUGER 9-FOOT MINIMUM EACH SIDE OF SANITARY SEWER. PLACE ONE 20-FOOT JOINT OF C900 PVC, 150 PSI, CENTERED UNDER SANITARY SEWER. FILL BORED HOLE WITH BENTONITE/CLAY MIXTURE; 2-FOOT ABSOLUTE MINIMUM CLEARANCE OR REPLACE THE EXISTING SANITARY SEWER WITH 150 PSI LINED DUCTILE IRON OR PVC PIPE WITH APPROPRIATE ADAPTERS ON ALL PORTIONS OF THE SANITARY WITHIN 9-FOOT OF THE WATER MAIN.
- WHERE A NEW POTABLE WATER LINE CROSSES A NEW, PRESSURE RATED WASTEWATER MAIN OR LATERAL, ONE SEGMENT OF THE WATER LINE PIPE SHALL BE CENTERED OVER AND SHALL BE PERPENDICULAR TO THE WASTE WATER LINE SUCH THAT THE JOINTS OF THE WATERLINE PIPE ARE EQUIDISTANT AND AT LEAST NINE FEET HORIZONTALLY FROM THE CENTER LINE OF THE WASTEWATER MAIN OR LATERAL. THE POTABLE WATER LINE SHALL BE AT LEAST SIX INCHES ABOVE THE WASTEWATER MAIN OR LATERAL. WHENEVER POSSIBLE, THE CROSSING SHALL BE CENTERED BETWEEN JOINTS OF THE WASTEWATER MAIN OR LATERAL. THE WASTEWATER PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF AT LEAST 150 PSI. THE WASTEWATER MAIN OR LATERAL SHALL BE EMBEDDED IN CEMENT STABILIZED SAND FOR THE TOTAL LENGTH OF ONE PIPE SEGMENT PLUS 12 INCHES BEYOND THE JOINT ON EACH END.
- IF CLEARANCE IS BETWEEN 2 TO 9-FEET
A) CENTER A MINIMUM 18-FOOT JOINT OF 150 PSI LINED DUCTILE IRON OR PVC PIPE AT WATER LINE.
B) CEMENT STABILIZED SAND SHALL HAVE A MINIMUM OF 10% CEMENT PER CUBIC YARD OF CEMENT STABILIZED SAND MIXTURE (BASED ON LOOSE DRY WEIGHT VOLUME NOT LEAST 2.5 BAGS OF CEMENT PER CUBIC YARD OF MIXTURE). THE CEMENT STABILIZED SAND BEDDING SHALL BE A MINIMUM OF SIX INCHES ABOVE AND FOUR INCHES BELOW THE WASTEWATER MAIN OR LATERAL. THE USE OF BROWN COLORING IN CEMENT STABILIZED SAND FOR WASTEWATER MAIN OR LATERAL BEDDING IS RECOMMENDED FOR THE IDENTIFICATION OF PRESSURE RATED WASTEWATER MAINS DURING FUTURE CONSTRUCTION.



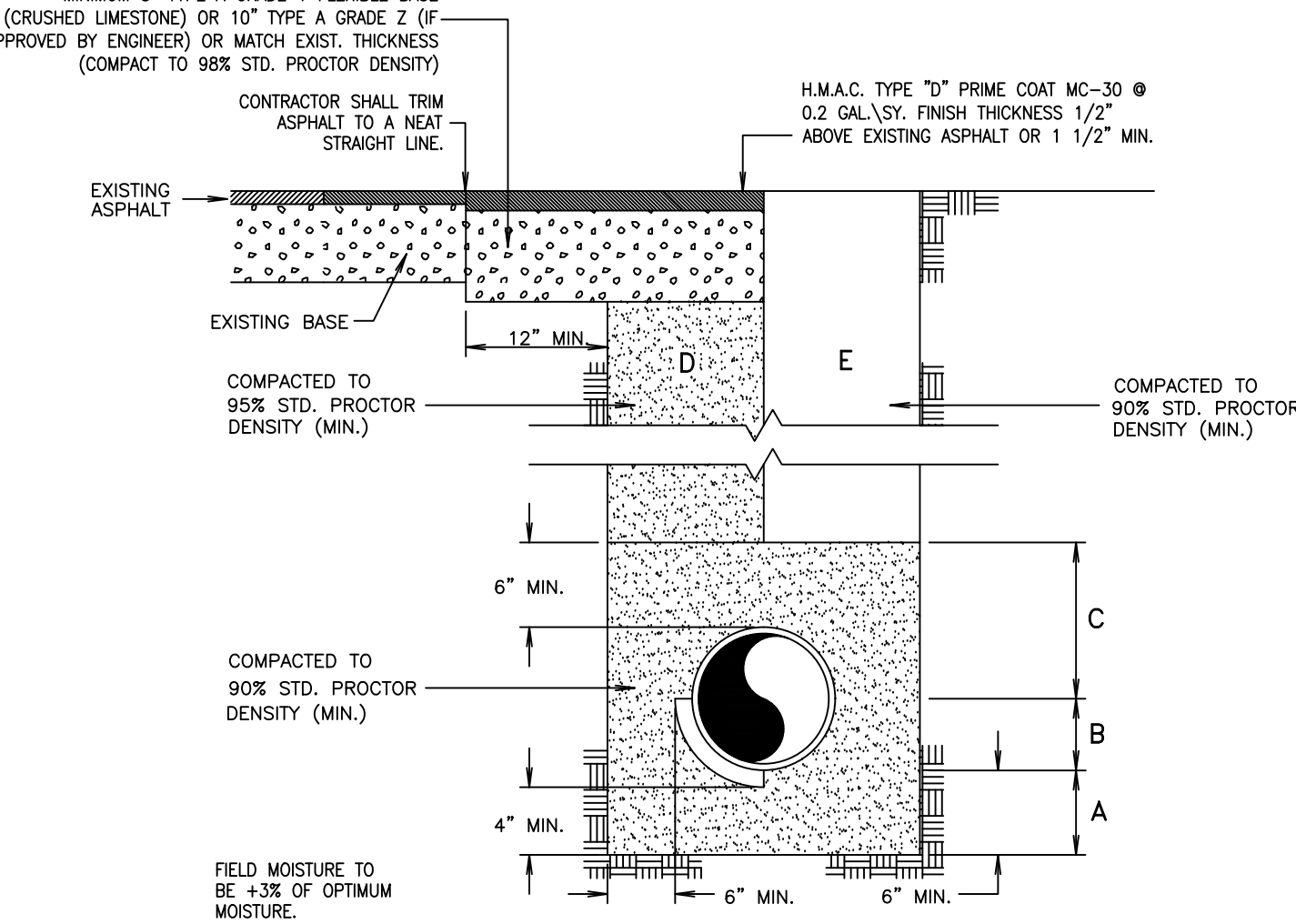
SPECIAL CONDITION LINE ADJUSTMENTS 5/8" GALV. ALL THREAT RODS WITH EYELET BOLTS FOR ASSEMBLY WITH THRUST BLOCKS.



- NOTE:
- USE 3/4" PEX PIPE FOR SINGLE SERVICE CONNECTION.
 - USE SERVICE CLAMP OR FACTORY THREADED COUPLING FOR 1" SERVICE CONNECTIONS.
 - SERVICES SHALL BE INSTALLED ACCORDING TO STANDARD PIPE BEDDING DETAIL.
 - APPROVED MATERIAL: REHAU MUNICIPEX WATER SERVICE LINE OR EQUAL.



- NOTE:
- USE 3/4" PEX PIPE FOR SINGLE SERVICE CONNECTION.
 - USE SERVICE CLAMP OR FACTORY THREADED COUPLING FOR 1" SERVICE CONNECTIONS.
 - SERVICES SHALL BE INSTALLED ACCORDING TO STANDARD PIPE BEDDING DETAIL.
 - APPROVED MATERIAL: REHAU MUNICIPEX WATER SERVICE LINE MEETING AWWA C904 SDR9 OR EQUAL.



TYPICAL PIPE BEDDING AND TRENCH BACKFILL DETAIL
NOT TO SCALE

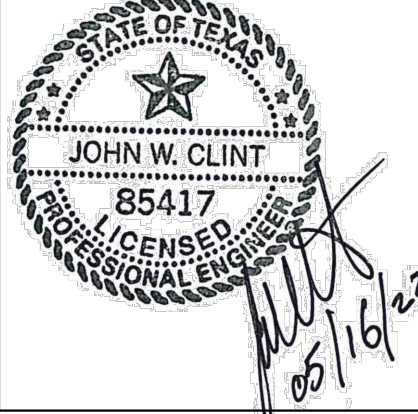
- A BANK RUN SAND BEDDING PLACED BEFORE PIPE IS LAID UP TO FLOW LINE OF PIPE (MIN. THICKNESS = 6").
- B BANK RUN SAND BACKFILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE (4" LIFTS, HAND TAMPED).
- C BANK RUN SAND BACKFILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE (6" LIFTS, HAND TAMPED).
- D BANK RUN SAND BACKFILL, CLASS "A" (6" LIFTS, MECHANICAL COMPACTION).
- E EARTH BACKFILL, CLASS "B" (12" LIFTS, MECHANICAL COMPACTION).
- FOUNDATION PREPARATION (WELLPPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.)
- BACKFILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENT AND COMPACTED TO 95% STD. PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL NOT EXCEED 6". STRUCTURE BACKFILL MATERIAL SHALL BE BANK RUN SAND, APPROVED SITE SOIL, OR OTHER APPROVED SUBSTITUTE.

BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS

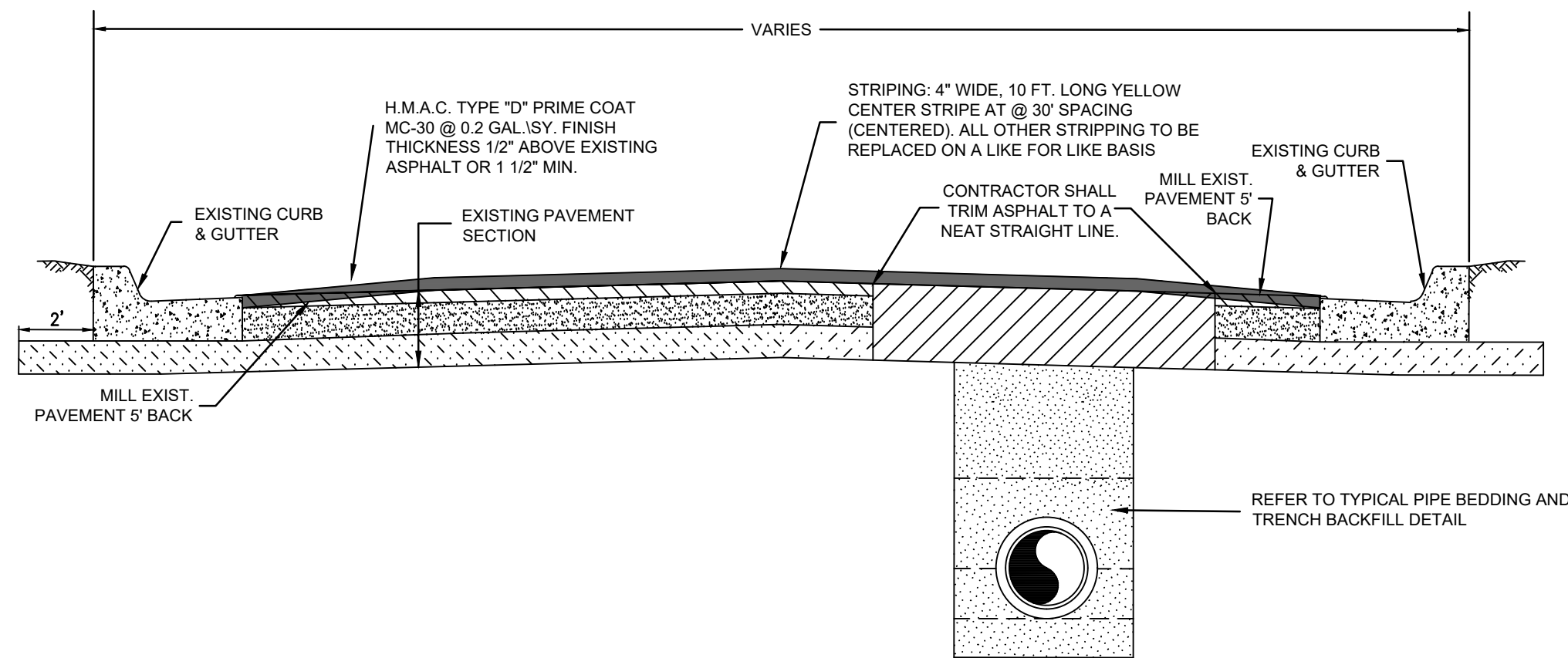


Revision No.	Date	Description
1		



Project No.: 43503.001
Issued: 5/16/2022
Drawn By: RJA
Checked By: JWC
Scale: AS NOTED
Sheet Title

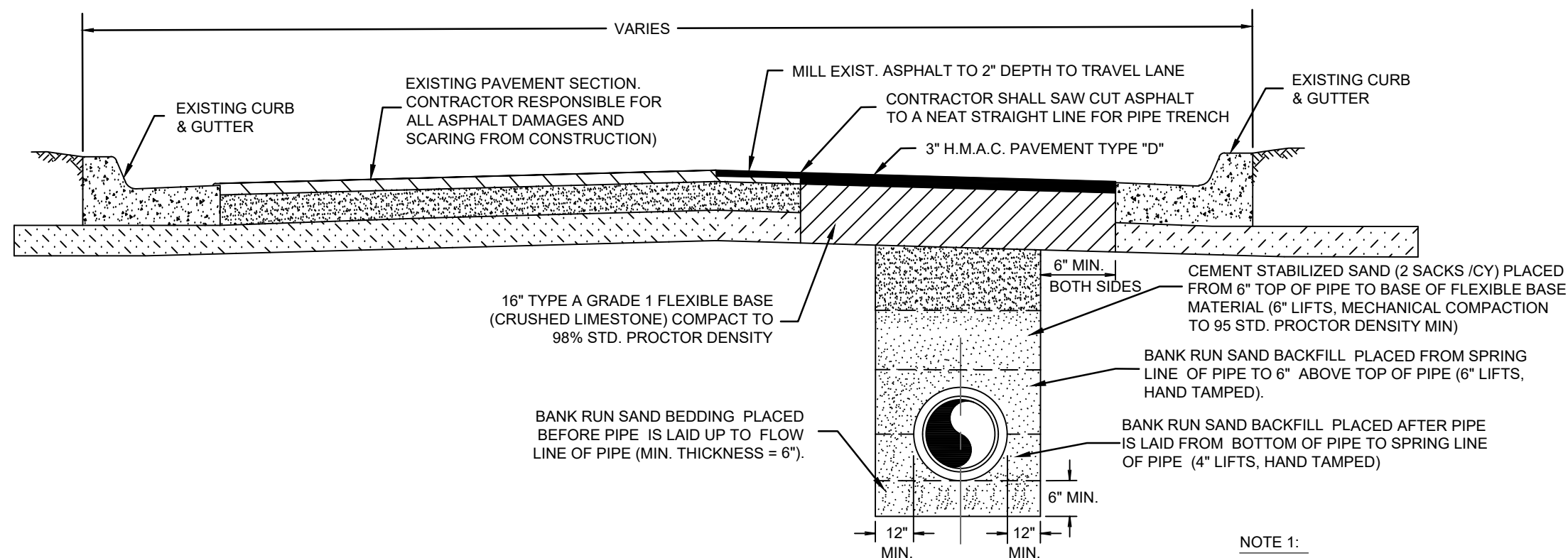
WATER DETAILS



NOTES 1
FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE AS DETERMINED BY THE ENGINEER OR OWNER'S REPRESENTATIVE.

NOTES 2
ALL EXISTING STRIPING TO BE REPLACED ON A LIKE FOR LIKE BASIS FOLLOWING TXDOT SPECIFICATIONS

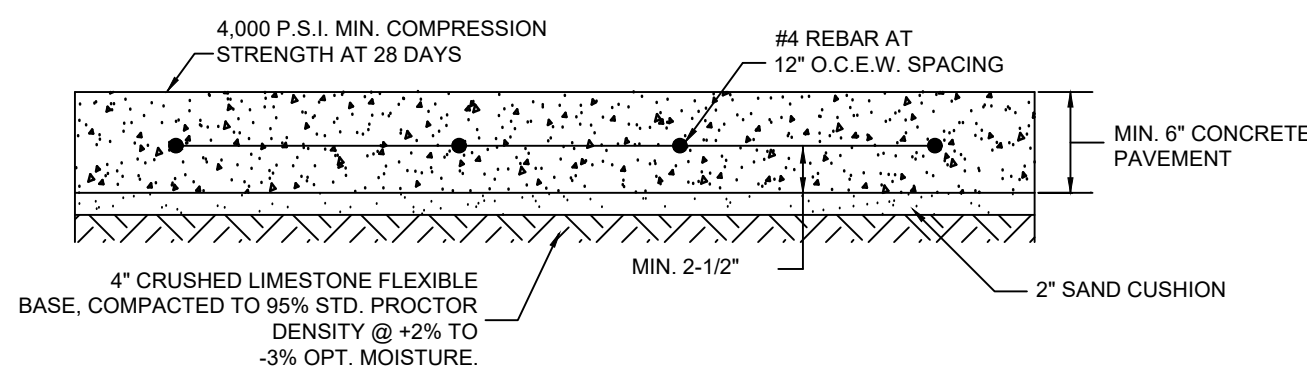
OWENS ROAD
PAVEMENT REPAIR
NOT TO SCALE



NOTE 1:
FOUNDATION PREPARATION (WELLPOINTS, GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE AS DETERMINED BY THE ENGINEER OR OWNER'S REPRESENTATIVE.

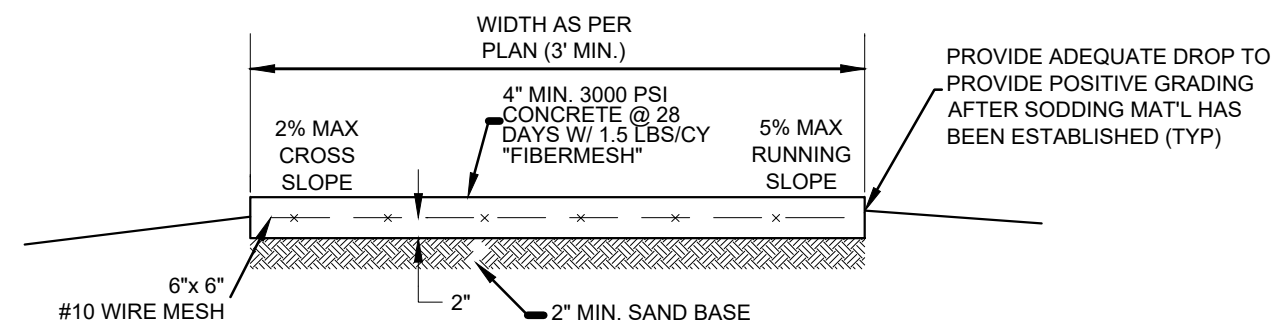
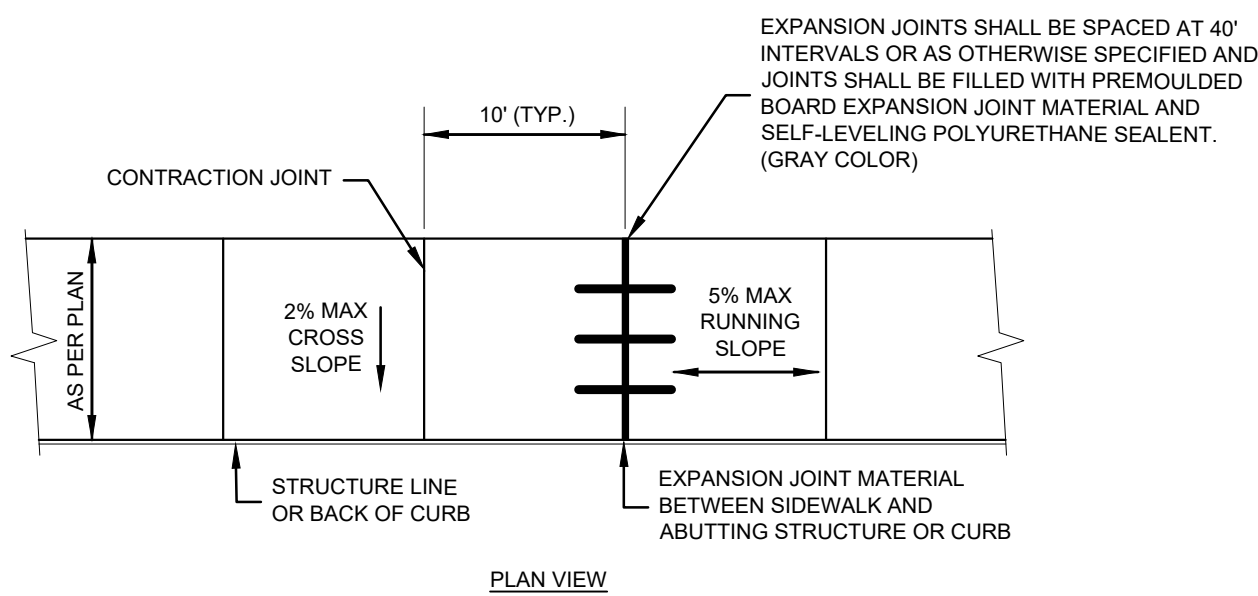
NOTE 2:
ALL EXISTING STRIPING TO BE REPLACED ON A LIKE FOR LIKE BASIS FOLLOWING TXDOT SPECIFICATIONS

BOCA CHICA BLVD
PAVEMENT REPAIR
NOT TO SCALE

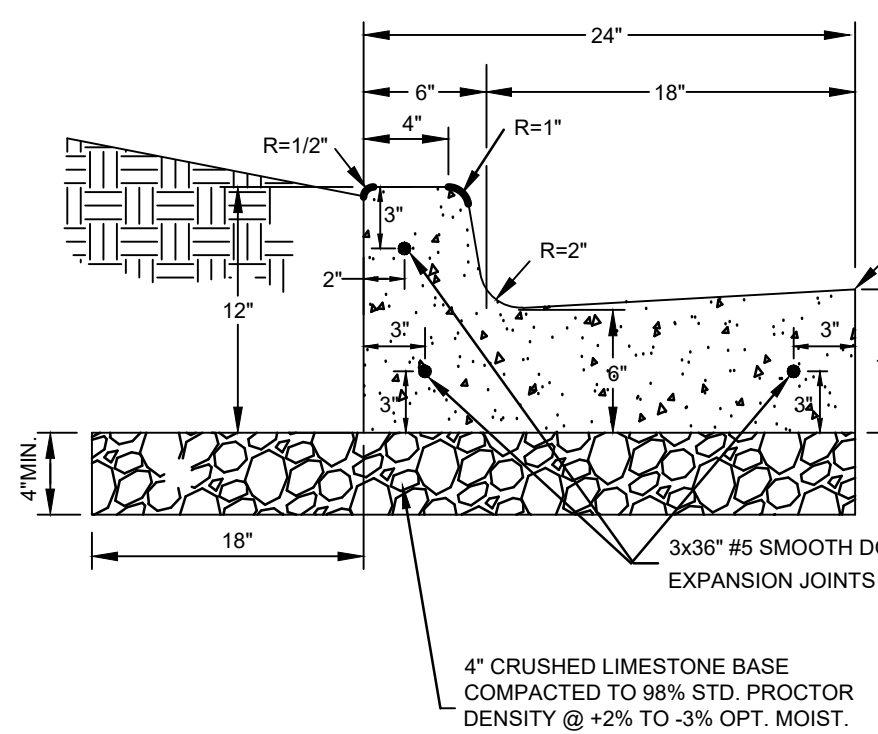


NOTES:
1. CONTRACTION JOINTS SHALL BE CONSTRUCTED EVERY 10' EACH DIRECTION WITH ISOLATION (EXPANSION) JOINTS EVERY 40', EXCEPT WHERE NOTED ON ENTRANCE DETAILS.
2. THE ABOVE CONCRETE PAVEMENT SECTION IS CONSIDERED THE MINIMUM STANDARD FOR CONCRETE PAVEMENT SECTIONS WITHIN NEW RESIDENTIAL AND COLLECTOR STREET CONSTRUCTION. THIS PAVEMENT SECTION IS NOT CONSIDERED FOR BUS PADS. THE DEVELOPER SHALL PROVIDE A DESIGNED CONCRETE PAVEMENT SECTION, PREPARED BY A CITY APPROVED GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF TEXAS, FOR THE CITY OF BROWNSVILLE'S REVIEW.

CONCRETE DRIVEWAY/
VALLEY GUTTER SECTION
N.T.S.

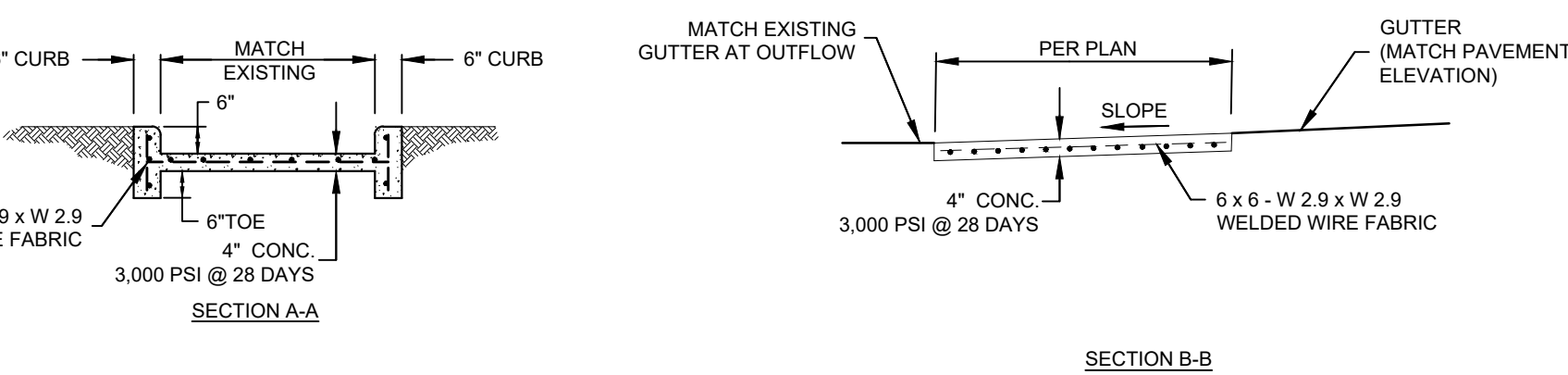
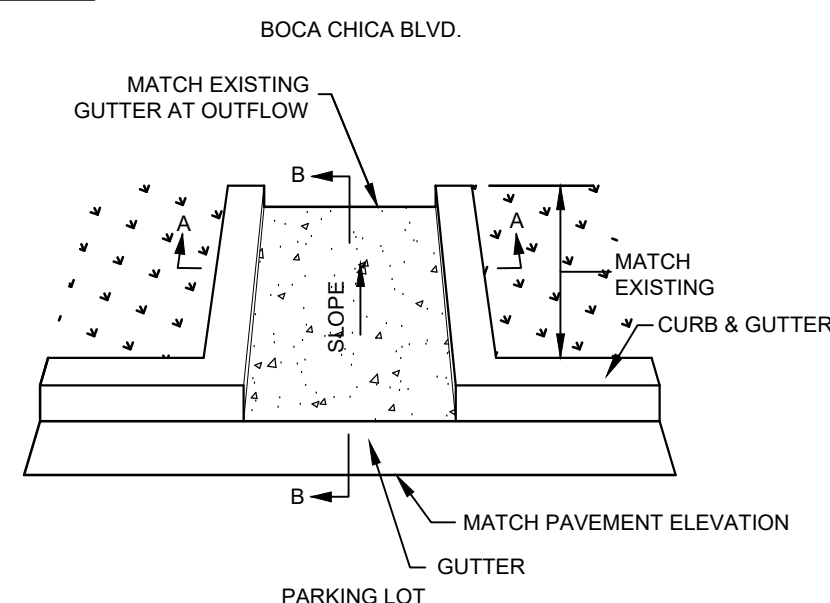


CONCRETE SIDEWALK DETAIL
N.T.S.

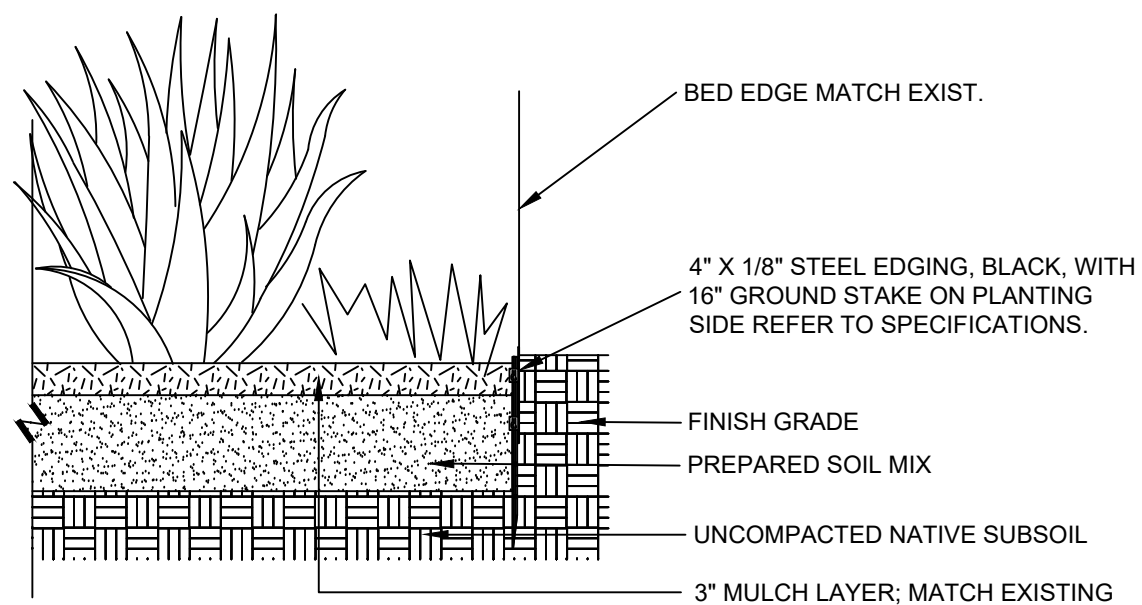


NOTES:
1. CONCRETE SHALL BE CLASS "A" WITH A 3,000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS WITH 1.5 LBS/CY "FIBERMESH".
2. CURBS SHALL BE BACKFILLED IMMEDIATELY AFTER REMOVAL OF FORMS TO PREVENT TILTING.
3. 1" DEEP CONTRACTION JOINTS @ 10 O.C. MAX.
4. EXPANSION JOINTS WILL BE PLACED AT CURB RETURNS, INLETS, AND END OF EACH POUR WITH INTERVALS NOT TO EXCEED 40 LF.
5. JOINTS WILL CONSIST OF BOARD EXPANSION JOINT MATERIAL AND SELF LEVELING POLYURETHANE SEALANT (GRAY COLOR) WITH 3-36" #5 SMOOTH DOWELS, ONE END GREASED AND WRAPPED.
6. CARE MUST BE TAKEN THAT THE DOWELS ARE STRAIGHT AND LAID PARALLEL WITH CURB AND NO CONCRETE "PLUGS" OR OTHER MATERIAL BE ALLOWED THROUGH THE DOWEL HOLES OR EXPANSION MATERIAL THAT WOULD PREVENT JOINT FROM OPERATING AS AN EXPANSION JOINT.
7. PROOF ROLL EXIST. SUBGRADE. ANY UNSTABLE SUBGRADE SHALL BE REMOVED AND REPLACED WITH FLEXIBLE BASE OR APPROVED SALVAGE MATERIAL.

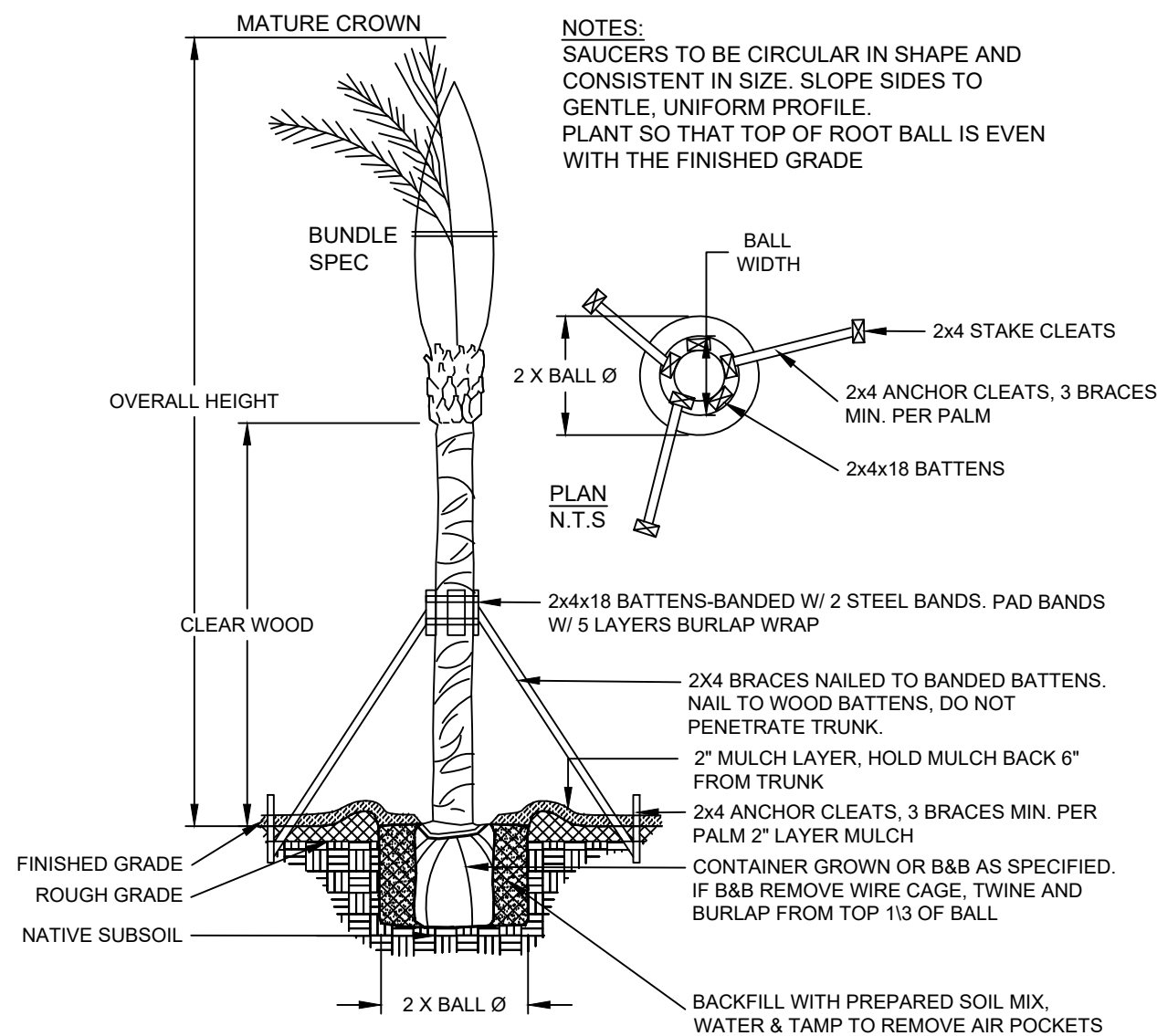
TYPICAL CURB AND GUTTER SECTION
N.T.S.



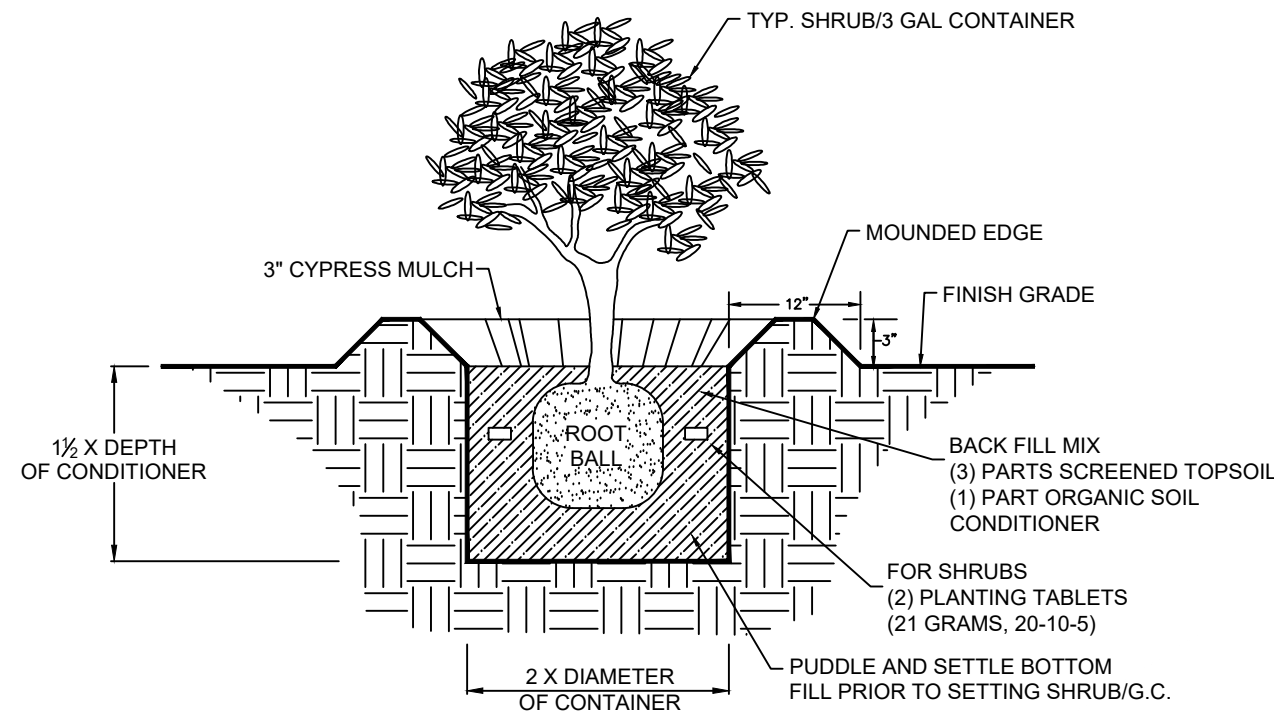
CONCRETE FLUME & SIDEWALK FLUME DETAIL
N.T.S.



TYPICAL STEEL EDGING
N.T.S.



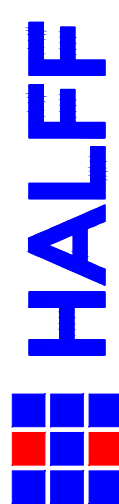
PALM TREE PLANTING WITH BRACES
N.T.S.



SHRUB/G.C. PLANTING DETAIL
NOT TO SCALE

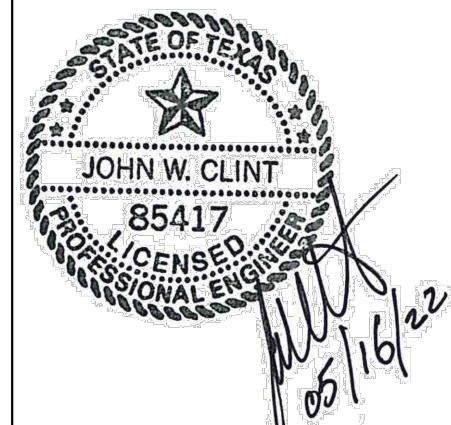
BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



1025 PAREDES LINE ROAD, SUITE B
BROWNSVILLE, TEXAS 77828
TEL: 361.851.1111
FAX: 361.851.1112

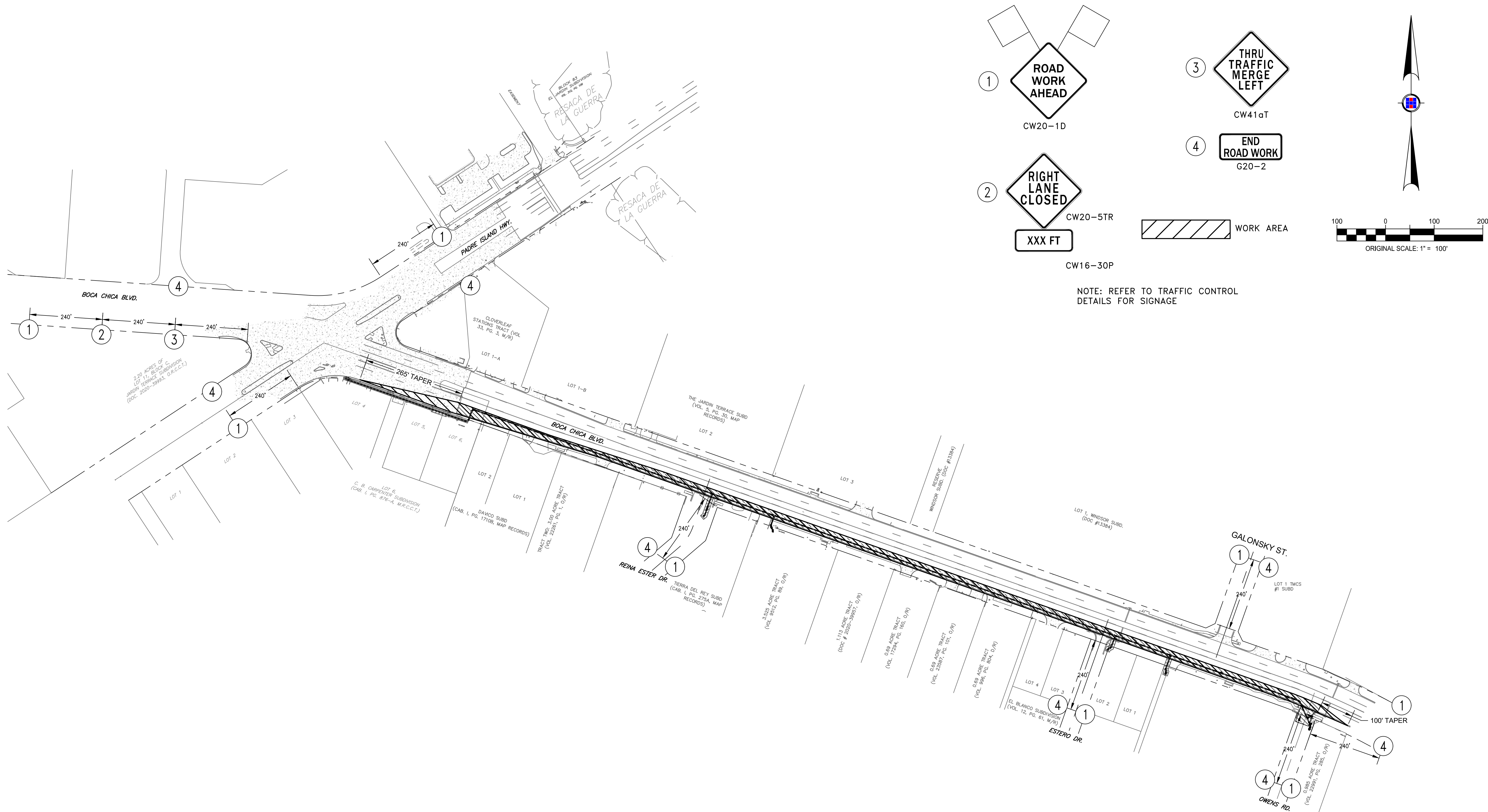
Revision No.	Date	Description
1		



Project No.: 43503.001
Issued: 5/16/2022
Drawn By: RJA
Checked By: JWC
Scale: AS NOTED
Sheet Title
PAVING AND
LANDSCAPING DETAILS

10
Sheet Number

I:\43503\43503.001\CAD\Interiors\C-TP-43503.001.dwg
July 21, 2022 3:38 PM



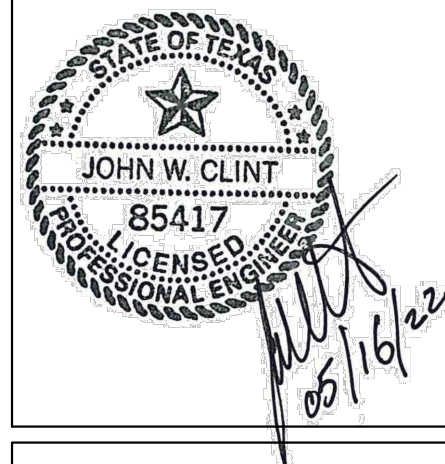
BOCA CHICA WATERLINE UPGRADE
(INTERNATIONAL BLVD. TO OWENS ROAD)

BROWNSVILLE, TEXAS



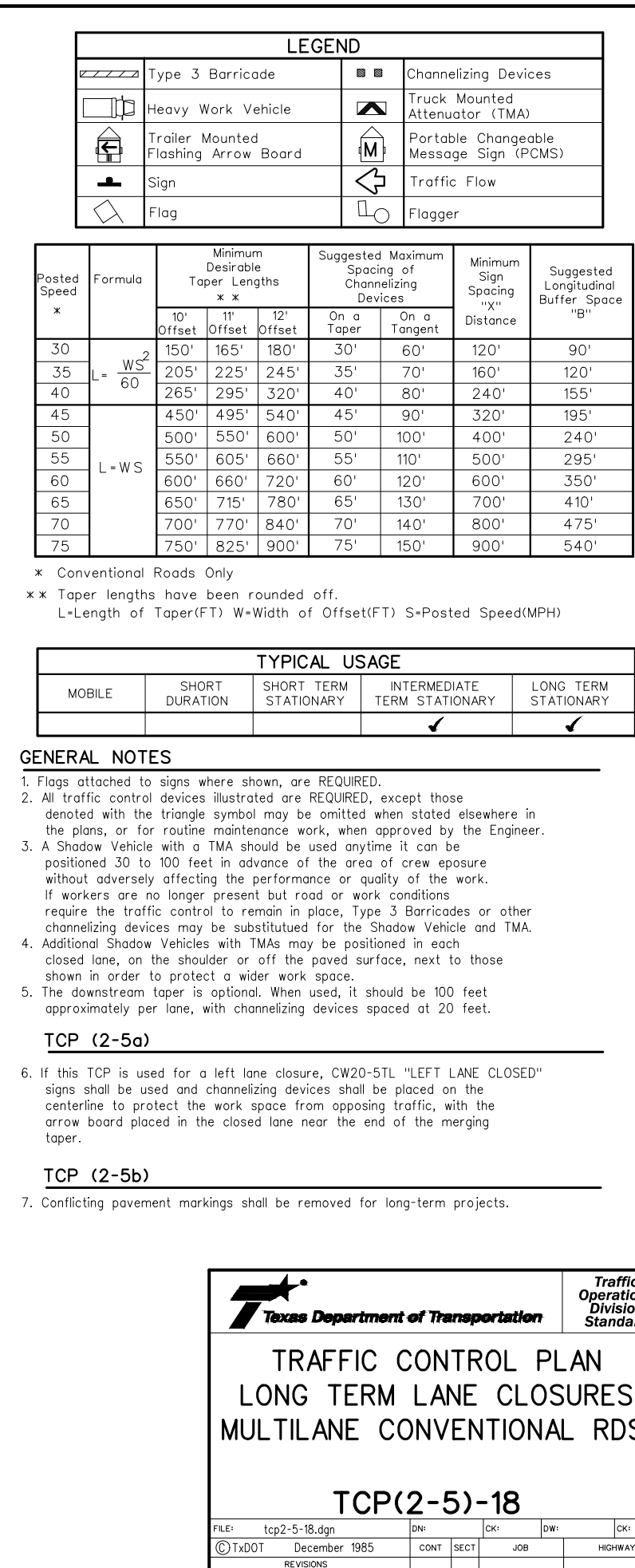
1075 PAREDES LINE ROAD, SUITE 6
BROWNSVILLE, TEXAS 77828
TEL: 361.200.1000
TEPELS ENGINEERING FIRM #312

Revision No.	Date	Description
1		



Project No.:	43503.001
Issued:	5/16/2022
Drawn By:	RJA
Checked By:	JWC
Scale:	AS NOTED

Sheet Title
TRAFFIC CONTROL PLAN



Posted Speed * X	Formula	Minimum Desirable X 10 Offset	Minimum Desirable X 12 Offset	Suggested Maximum Spacing of Control Devices On a 100 Foot Segment	Minimum Spacing Distance	Suggested Longitude Buffer Space ¹
30	L = WS ² /60	165	165	180	120	90'
35		205	225	245	35'	70'
40		265	305	345	30'	120'
45		345	405	445	25'	240'
50	L = WS ² /60	450	505	545	50'	320'
55		565	630	665	100'	400'
60		695	770	810	120'	500'
65		840	935	975	140'	600'
70	L = WS ² /60	1000	1105	1145	160'	800'
75		1175	1290	1330	180'	900'

GENERAL NOTES


1. Flags attached to signs where shown, are REQUIRED.
2. All traffic control devices illustrated are required, except those denoted with the triangle symbol which may be omitted.
3. The use of traffic signs, flagmen, flaggers, and flagger attendants in the plans, or for routine maintenance work, when approved by the Engineer.
4. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the work zone, and without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, type 1 Barrier or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
5. Additional Shadow Vehicles with TMAs may be positioned as shown, closed, open, or shouldered or off the road, next to those shown in order to protect a wider work space.
6. The downstream taper is optional. When used, it should be 100 feet approximately per lane, with channelizing devices spaced at 20 feet.

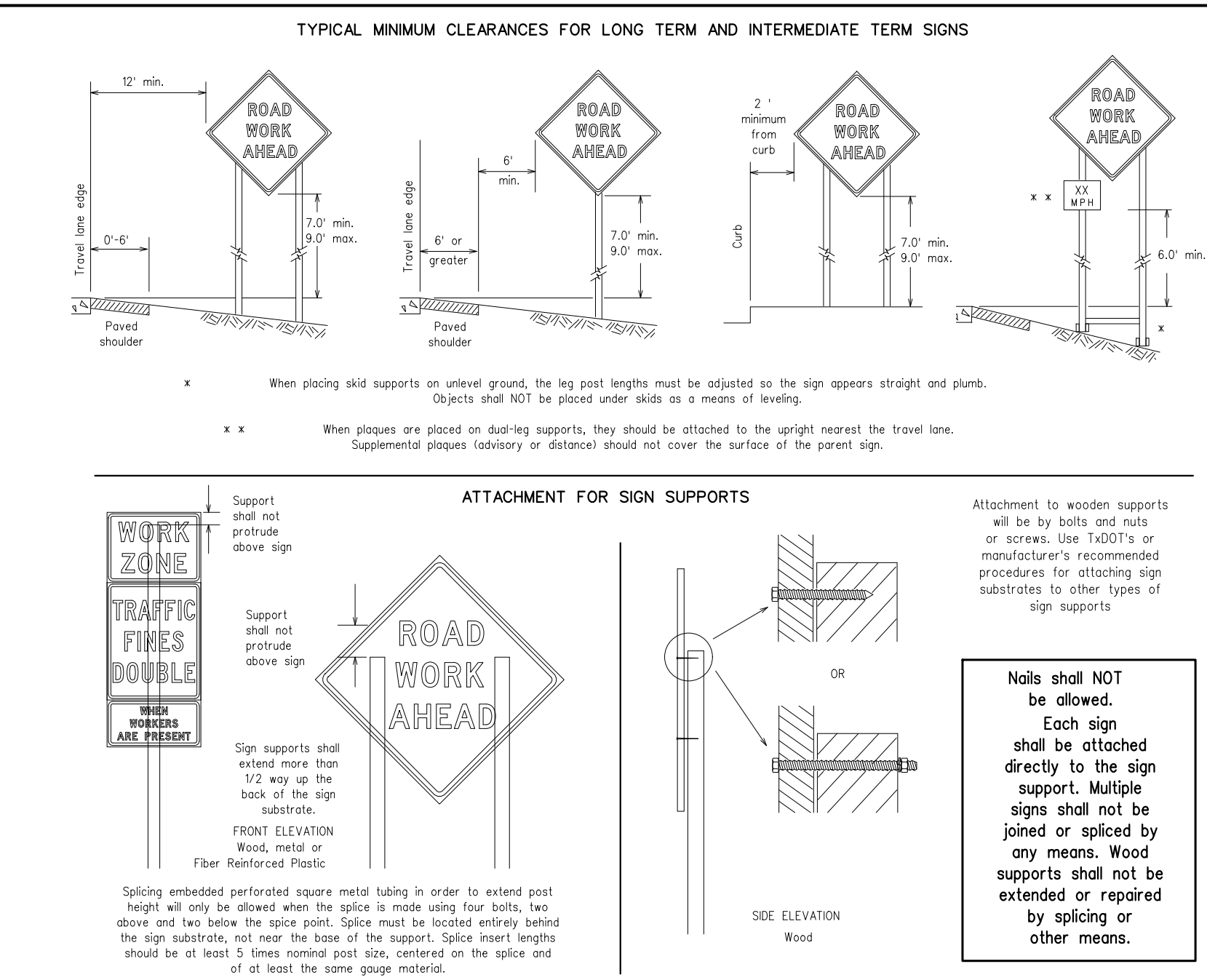
TCP (2-5d)

6. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic, with the arrow board placed in the closed lane near the end of the merging taper.

TCP (2-5b)

7. Conflicting pavement markings shall be removed for long-term projects.

	Traffic Operational Division Standards																		
<h1>TRAFFIC CONTROL PLAN</h1> <h2>MULTI TERM LANE CLOSURES</h2> <h3>MULTILANE CONVENTIONAL RDS</h3> <h1>TCP(2-5)-18</h1>																			
<table border="1" style="width: 100%; border-collapse: collapse;"><thead><tr><th style="width: 15%;">REV.</th><th style="width: 45%;">DESCRIPTION</th><th style="width: 10%;">DATE</th><th style="width: 10%;">BY</th><th style="width: 10%;">CHK</th><th style="width: 10%;">APP</th></tr></thead><tbody><tr><td>1</td><td>Issued</td><td>December 1985</td><td>CON</td><td>SECT</td><td>JOB</td></tr><tr><td>2</td><td>Revised</td><td></td><td></td><td></td><td>HOV/REV</td></tr></tbody></table>		REV.	DESCRIPTION	DATE	BY	CHK	APP	1	Issued	December 1985	CON	SECT	JOB	2	Revised				HOV/REV
REV.	DESCRIPTION	DATE	BY	CHK	APP														
1	Issued	December 1985	CON	SECT	JOB														
2	Revised				HOV/REV														



<p align="center">STOP/SLOW PADDLES</p> <p>1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.</p> <p>2. When used at night, the STOP/SLOW paddle shall be retroreflective.</p> <p>3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.</p>	<p align="center">CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS</p> <p>1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations, show route designations, destinations, directions, distances, services, points of interest, and other geographic, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route</p>
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4. Any signs, supports and/or SMO pole faces and/or SMO Standards shall be removed and hand signaling devices in the TWU/DCO. distance is normally installed on a roadway without construction.

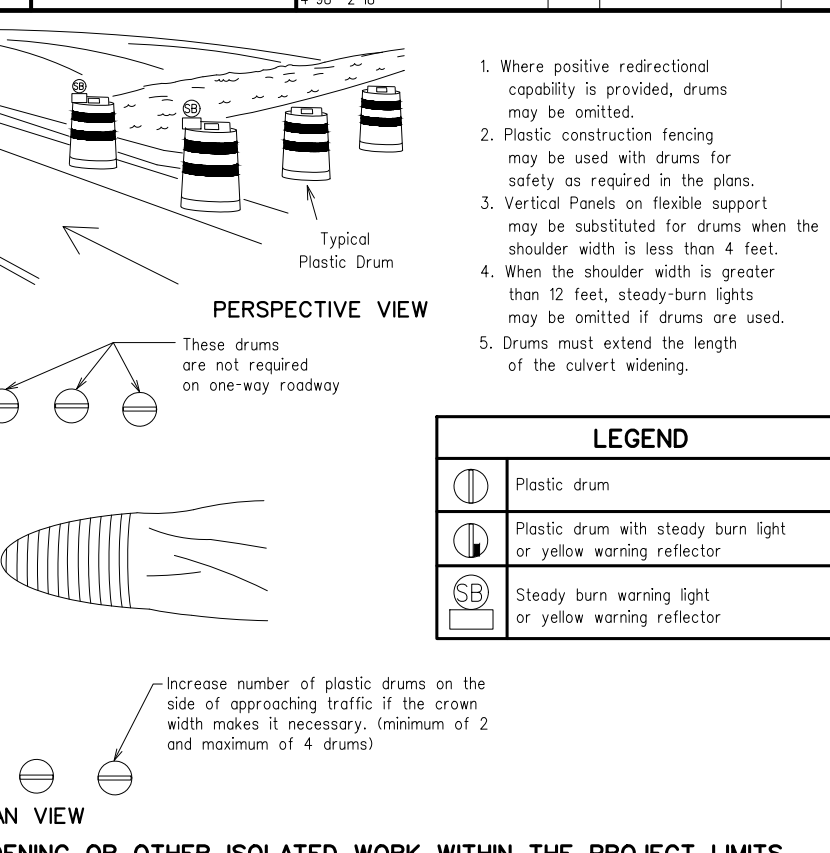
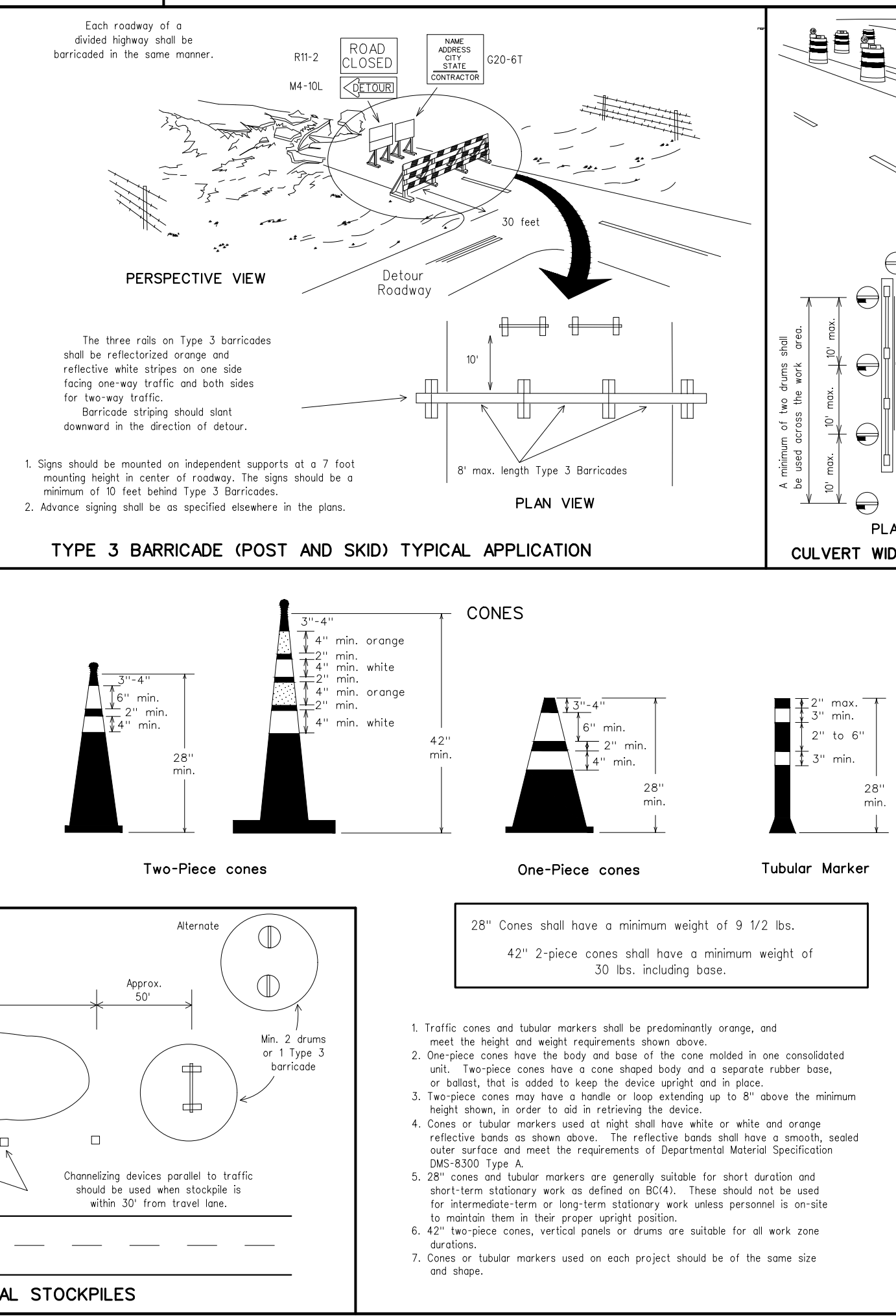
5. When permanent relocations are required, the Contractor shall coordinate with the TWU/DCO under the following conditions, remove or change the permanent signs until the permanent sign message matches the roadway condition.

6. When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.

7. If existing signs are to be relocated on the right side of the roadway, they shall be installed on counterweight bases as shown on the SMO Standards. The signs shall meet the required mounting heights shown on the BC Sheets or the SMO Standards. This work should be paid for under the appropriate pay item for relocating existing signs.

8. If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use counterweight supports as shown on the BC Sheets or the DW/DCO. The signs shall meet the required mounting heights shown on the BC Sheets or the SMO Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.

9. Any sign or traffic control device that is struck or damaged by the Contractor or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure no undue existence to the motorists. This work should be paid for under the appropriate pay item for replacing existing signs.




The diagram illustrates a reflective traffic device, specifically a retroreflective Type A edgeline channelizer. It is shown in cross-section with the following dimensions and features:

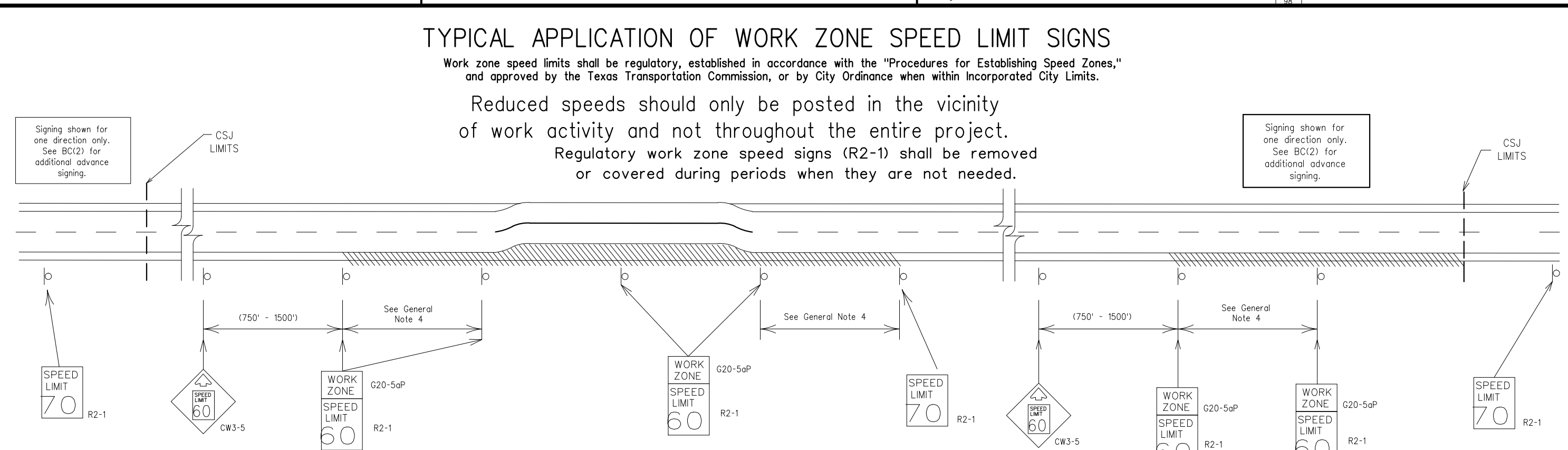
- Top Width:** 4"
- Top Thickness:** 1/2"
- Height:** 42"
- Base Width:** 6"
- Material:** Retroreflective Type A conforming to Departmental Material Specification DM-3300.
- Label:** EDGELINE CHANNELIZER

The device is intended for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in situations or for purposes other than those specified.

- This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in situations or for purposes other than those specified.
- This device shall not be used to separate lanes of traffic (passing or otherwise) or warn of objects.
- This device is based on a 42 inch, two-piece device with an alternate slipping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The retroreflective band shall be retroreflective Type A conforming to Departmental Material Specification DM-3300, unless otherwise noted.

This device must weigh a minimum of 50 lbs.

 Texas Department of Transportation		Traveller Operation Division Standards
<h1>BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES</h1>		
<h2>BC(10)-14</h2>		
FILE _____	REV. 1-10-01	REV. 1-10-01
9-10-01 November, 2002	CONT. 14C1	CON. 14C1
9-07 8-14	87521 DG	2588
9-17	END	CHARTY
	PHUB	CAMERON



<p>GUIDANCE FOR USE:</p> <p>LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS</p> <p>This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.</p> <p>Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:</p> <ul style="list-style-type: none"> a) rough road or damaged pavement surface b) substantial alteration of roadway geometrics (diversions) c) construction detours d) grade e) width f) any other conditions readily apparent to the driver <p>As long as any of these conditions exist, the work zone speed limit signs should remain in place.</p>	<p>GENERAL NOTES</p> <ol style="list-style-type: none"> Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance. Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height. Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel. Frequency of work zone speed limit signs should be: <table border="0"> <tr> <td>40 mph and greater</td> <td>0.2 to 2 miles</td> </tr> <tr> <td>35 mph and less</td> <td>0.2 to 1 mile</td> </tr> </table> Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheetting" on BC14). Fabrication, erection and maintenance of the ADVANCE SPEED LIMIT (CW3-5) sign, "WORK ZONE (G20-5aP) plaque and the "SPEED LIMIT (R2-1) signs shall not be paid for directly, but shall be considered subsidiary to Item 502. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "SLOWING OR CLOSURE" on B714. 	40 mph and greater	0.2 to 2 miles	35 mph and less	0.2 to 1 mile
40 mph and greater	0.2 to 2 miles				
35 mph and less	0.2 to 1 mile				

<p>SHORT TERM WORK ZONE SPEED LIMIT</p> <p>This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.</p> <p>Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered.</p> <p>(See Removing or Covering on BC(4)).</p>	<p>8. Techniques that may help reduce traffic speeds include but are not limited to:</p> <ul style="list-style-type: none"> A. Law enforcement. B. Flagger stationed next to sign. C. Portable changeable message sign (PCMS). D. Low-power (drone) radar transmitter. E. Speed monitor-trailers or signs. <p>9. Speeds shown on details above are for illustration only. Work Zone Speed Limits should only be posted as approved for each project.</p> <p>10. For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed reduction see TxDOT form *1204 in the TxDOT e-form system.</p>
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