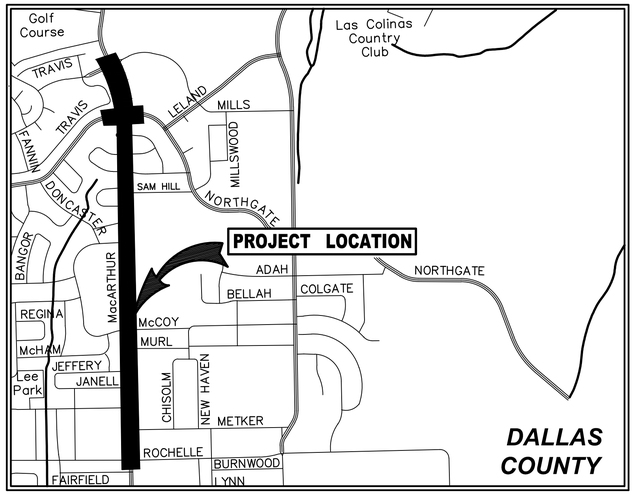

VICINITY MAP
(NOT TO SCALE)

NOT TO SCALE

MACARTHUR BOULEVARD STREET IMPROVEMENTS PROJECT ROADWAY, TRAFFIC, DRAINAGE, WATER AND SEWER DESIGN

(From METKER STREET to BYRON NELSON WAY)

ITB No. 087J-22F

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MAYOR:

RICHARD H. STOPFER

CITY COUNCIL:

JOHN C. DANISH
ALLAN E. MEAGHER
MARK ZESKE
PHIL RIDDLE
OSCAR WARD
AL ZAPANTA
KYLE TAYLOR
DENNIS WEBB

IRVING
TEXAS

CITY MANAGER:
CHRIS HILLMAN

ASSISTANT CITY MANAGER:
ORLANDO SANCHEZ

CAPITAL IMPROVEMENT PROGRAM
PATRICK LAMERS, P.E.

CITY ENGINEER
WALT THOMAS, P.E.

ENGINEERING MANAGER
DAVID SPRINGOB, P.E.

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

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* THE STANDARD SHEETS, SPECIFICALLY IDENTIFIED IN THIS DRAWING SHEET INDEX, HAVE BEEN SELECTED BY ME OR UNDER MY RESPONSIBLE SUPERVISION AS BEING APPLICABLE TO THIS PROJECT.

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SECTION 01000

GENERAL NOTES

1.) THE CITY OR CITY'S ENGINEER WILL PROVIDE ONLY "BASIC" HORIZONTAL & VERTICAL CONTROL (SEE SECTION 01051). THE CONTRACTOR SHALL PROVIDE HIS OWN CONSTRUCTION STAKING DONE BY AN RPLS.

2.) THE CONTRACTOR SHALL BE REQUIRED TO CALL 811 PRIOR TO CONSTRUCTION TO ENSURE ALL UNDERGROUND UTILITIES HAVE BEEN LOCATED.

3.) ALL UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES AND NOTIFYING THE VARIOUS UTILITIES BEFORE CONSTRUCTION (SEE SECTION 02014). THE DETERMINATION OF THE LOCATIONS OF THE UTILITIES SHALL NOT BE CONSIDERED SUFFICIENT BASIS FOR CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA WORK OR FOR INCREASING THE PAY QUANTITIES IN ANY MANNER WHATSOEVER.

4.) ALL GAS, TELECOMMUNICATION, CABLE AND POWER LINES TO BE ADJUSTED SHALL BE ADJUSTED BY OTHERS.

5.) ALL ADJACENT PROPERTY DAMAGED BY THE PROPOSED CONSTRUCTION THAT IS NOT DESCRIBED IN AN EXISTING PAY ITEM AND OCCURS AS A RESULT OF BLATANTLY CARELESS CONSTRUCTION ACTIVITY SHALL BE RESTORED TO EQUAL OR BETTER CONDITION THAN WHICH IT WAS FOUND BEFORE SUCH WORK WAS UNDERTAKEN (NON-PAY ITEM).

6.) PAVEMENT REPAIR PAY QUANTITIES WILL BE LIMITED TO THE MAXIMUM TRENCH WIDTH PLUS TWO FEET UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. ANY ADDITIONAL TRENCHING REQUIRED FOR TRENCH SAFETY PURPOSES SHALL BE CONSIDERED PART OF THE UNIT PRICE FOR TRENCH SAFETY.

7.) ANY WATER METERS IN EXISTING DRIVEWAYS OR SIDEWALKS, OR THAT FALL WITHIN ANY PROPOSED SIDEWALK OR DRIVEWAYS, SHALL BE RELOCATED AS SPECIFIED IN SECTION 15096.

8.) THE CONTRACTOR SHALL BORE UNDER ALL STREETS, CONCRETE AND ASPHALT DRIVEWAYS AND TREES, EXCEPT AS NOTED ON THE PLANS OR BY THE ENGINEER. THE BORE PRICE SHALL BE FOR THE INSTALLATION ONLY UNLESS ENCASEMENT PIPE IS REQUIRED AS NOTED ON THE PLANS (ENCASEMENT PIPE WILL BE INCLUDED IN THE PRICE OF THE BORE IF REQUIRED). THE BORE LENGTH SHALL BE MEASURED AS THE EDGE TO EDGE DISTANCE OF THE EXISTING PAVEMENT, OBSTACLE OR STRUCTURE. ALL GRAVEL AND DIRT DRIVEWAYS SHALL BE OPEN CUT UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.

9.) THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS AS STIPULATED IN SECTION 02400 "TRENCH SAFETY - SHEETING AND SHORING" OF THE SPECIFICATIONS FOR ALL TRENCHING CONDUCTED IN THE PROJECT.

10.) THE CONTRACTOR SHALL NOT BE PERMITTED TO HAVE ANY OPEN TRENCHES AT THE END OF EACH WORKING DAY UNLESS APPROVED BY THE ENGINEER.

11.) IN OPEN CONSTRUCTION AREAS THAT MAY POSE A POTENTIAL RISK TO THE HEALTH, SAFETY AND WELFARE OF THE PUBLIC, THE CONTRACTOR SHALL BE REQUIRED TO ERECT TEMPORARY CONSTRUCTION FENCING, WHICH, WHERE DEEMED NECESSARY, MAY INCLUDE CHAIN LINK FENCE (NON-PAY ITEM).

12.) ALL CUT AND FILL SLOPES SHALL BE 4:1 EXCEPT AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. CUT SLOPES MAY BE STEEPENED TO PROTECT EXISTING TREES AND FENCES ONLY WITH PRIOR APPROVAL OF THE ENGINEER. ALL PROPERTY ADJACENT TO THE PROPOSED CONSTRUCTION SHALL BE GRADED AS DIRECTED BY THE ENGINEER (NON-PAY ITEM).

13.) TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH "TRENCH BACKFILL" SPECIFICATIONS AND DETAILS. NO WATER JETTING WILL BE ALLOWED. A 2 INCH LAYER OF LEVELING SAND IS REQUIRED UNDER SIDEWALKS.

14.) THE CONTRACTOR SHALL PRESERVE ALL EXISTING PAVEMENT, SHOULDERS, DRIVEWAYS AND SIDEWALKS. THE REMOVAL AND REPLACEMENT OF THE SAID ITEMS SHALL ONLY BE DEEMED NECESSARY IN ORDER TO COMPLETE THE PROJECT OR AS DIRECTED BY THE ENGINEER. ANY DAMAGE NOT DEEMED NECESSARY FOR THE COMPLETION OF SAID PROJECT SHALL BE REPLACED TO EQUAL OR BETTER CONDITIONS AS A NON-PAY ITEM.

15.) WHERE APPLICABLE, THE CONTRACTOR SHALL PLACE RUBBER MATS OR EARTH ON THE PAVEMENT TO PROTECT IT FROM TRACK MARKS AND/OR CRACKING DURING CONSTRUCTION (NON-PAY ITEM).

16.) BARRIER FREE RAMPS SHALL BE CONSTRUCTED AT ALL INTERSECTING STREETS AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.

17.) THE CITY OF IRVING WILL NOT REIMBURSE THE CONTRACTOR FOR ANY WATER USED TO PERFORM THE WORK AS REQUIRED IN THE CONTRACT.

18.) ALL DISTURBED AREAS SHALL BE FINISHED TO GRADE, SMOOTHED WITH A SUITABLE CEMENT FREE TOP SOIL (2" MINIMUM) AND SEEDED OR SODDED AS OUTLINED IN THE SPECIFICATIONS OR DIRECTED BY THE ENGINEER.

19.) DURING IRVING STAGE 2 WATER RATIONING, THE CONTRACTOR MAY NOT BE ALLOWED TO OBTAIN WATER FROM FIRE HYDRANTS ALONG THE PROJECT, BUT RATHER BE DIRECTED TO OBTAIN WATER FROM SPECIFIED LOCATIONS WITHIN THE CITY OF IRVING. PERMIT WILL BE REQUIRED TO USE CITY OF IRVING WATER DURING STAGE 1, 2, or 3 WATER RESTRICTIONS AND CAN BE FOUND IN SECTION 01515 TEMPORARY WATER. ALL WATERING REQUIREMENTS ARE NON-PAY ITEMS.

20.) ALL EXCAVATED MATERIAL DEEMED EXCESS OR UNSUITABLE SHALL BE DISPOSED OF BY THE CONTRACTOR AT A LOCATION OTHER THAN THE CITY OF IRVING LANDFILL (SEE SECTION 01516 - SOLID WASTE DISPOSAL).

21.) ALL EXISTING PAVEMENT, CURB AND GUTTER, AND SIDEWALK TO BE REMOVED SHALL BE DISPOSED OF BY THE CONTRACTOR.

22.) THE CONTRACTOR SHALL PRESERVE ALL TREES, SHRUBS, SPRINKLER SYSTEMS, FENCES, MAIL BOXES AND OTHER PROPERTY OWNER IMPROVEMENTS NOT NOTED FOR REMOVAL. THE REMOVAL AND/OR REPLACEMENT OF THE SAID PROPERTY OWNER IMPROVEMENTS BY THE CONTRACTOR SHALL BE CONSIDERED AS A NON-PAY ITEM UNLESS A PAY ITEM EXISTS FOR THE SPECIFIC IMPROVEMENT. SPRINKLER SYSTEMS REPAIRS AND ADJUSTMENTS DUE TO GRADE CUTS AND FILLS AS INDICATED ON THE PLANS SHALL ALSO BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE CONSIDERED AS PART OF SECTION 01600.

23.) THE CONTRACTOR SHALL GIVE THE CITY, RESIDENTS AND BUSINESSES AFFECTED BY ANY ANTICIPATED WATER OR WASTEWATER SERVICE DISRUPTIONS AT LEAST FORTY EIGHT (48) HOURS PRIOR NOTICE.

24.) THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING, SUPPORTING AND/OR BRACING ALL UNDERGROUND UTILITIES (MAINS OR SERVICES), POWER POLES AND/OR LIGHT POLES WITHIN THE PROJECT LIMITS. ANY DAMAGE TO THE SAME SHALL BE IMMEDIATELY REPORTED TO APPLICABLE AUTHORITIES, OWNER'S, CITY'S FRANCHISE UTILITY SUPERVISOR, AND CITY'S ENGINEERING INSPECTOR. DAMAGED WATER & WASTEWATER MAINS/SERVICES SHALL BE IMMEDIATELY REPAIRED/REPLACED AT THE DIRECTION OF AND NO ADDITIONAL COST TO THE CITY. OTHER UTILITIES DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED/REPLACED BY THE RESPECTIVE OWNER AT THEIR DISCRETION AND SCHEDULE AND AT NO ADDITIONAL COST TO THE CITY. ANY DAMAGE TO EXISTING PAVEMENT, SUBGRADE, SIDEWALKS, BUS PADS, IRRIGATION SYSTEMS, SOD, ETC. THAT ARE DIRECTLY RELATED TO THE REPAIR/REPLACEMENT OF A DAMAGED UNDERGROUND UTILITY SHALL BE REPAIRED/REPLACED AT THE DIRECTION OF AND NO ADDITIONAL COST TO THE CITY.

25.) IN PLACES WHERE THE FIRE HYDRANT, STREET LIGHT OR ANY OTHER OBSTRUCTION IS LOCATED WITHIN THE SIDEWALK, THE CONTRACTOR SHALL WARP THE SIDEWALK AROUND THE OBSTRUCTION TO ALLOW AT LEAST A 36" WIDE UNOBSTRUCTED WALKING AREA.

26.) THE CONTRACTOR SHALL DEVOTE BOTH MANPOWER AND EQUIPMENT TO THE PROJECT ON A CONTINUOUS BASIS EACH AND EVERY WORKDAY IN SUFFICIENT QUANTITY TO BRING THE PROJECT TO COMPLETION WITHOUT DELAY. IF IT IS DETERMINED THE CONTRACTOR HAS FAILED TO DILIGENTLY PROSECUTE THE PROJECT, THE CITY MAY ELECT TO HAVE THE REMAINING WORK PERFORMED BY ANOTHER CONTRACTOR AND DEDUCT WHATEVER IS PAID TO THE SUBSTITUTE CONTRACTOR FROM THE CONTRACTOR'S CONTRACT. SUCH ACTION MAY BE A BASIS FOR THE CITY COUNCIL REJECTING A FUTURE BID FROM SAID CONTRACTOR.

27.) THE CONTRACTOR SHALL TRIM OR PRUNE ALL TREE LIMBS WITHIN THE LIMITS OF THE WORK ZONE TO ALLOW A MINIMUM VERTICAL CLEARANCE OF 14'-6" ABOVE THE ROADWAY SURFACE. THE CONTRACTOR SHALL TRIM OR PRUNE ALL SHRUBS, TREE LIMBS, AND HEDGES WITHIN THE LIMITS OF THE WORK ZONE TO ALLOW A HORIZONTAL CLEARANCE OF 6" FROM THE EDGE OF ANY NEW SIDEWALK AND A VERTICAL CLEARANCE OF 7'-6" FROM THE TOP OF THE SIDEWALK. CLEARANCE SOMETIMES CAN BE ACHIEVED BY SHORTENING SOME OF THE LOW BRANCHES RATHER THAN REMOVING THEM. ALL WORK DONE PER THESE REQUIREMENTS SHALL BE CONSIDERED SUBSIDIARY TO CLEARING AND GRUBBING (SECTION 02102) AND ALL PRUNING SHALL BE DONE IN ACCORDANCE WITH TREE PROTECTION (SECTION 01563).

28.) HYDROMULCH SEEDING SHALL NOT BE ALLOWED IN FRONT OF OR ON DEVELOPED LOTS UNLESS OTHERWISE DIRECTED IN WRITING BY THE ENGINEER.

29.) THE CONTRACTOR SHALL INSTALL ALL STORM DRAINS AND WASTEWATER SYSTEMS STARTING WITH THE DOWNSTREAM END OF THE INSTALLATION AND PROCEED SEQUENTIALLY UPSTREAM. THE CONTRACTOR SHALL NOT BE ALLOWED TO SKIP UPSTREAM TO LAY PIPE OR INSTALL BORES UNLESS OTHERWISE APPROVED IN WRITING BY THE ENGINEER.

30.) UNLESS DEEMED IMPRACTICABLE BY THE ENGINEER, THE CONTRACTOR SHALL PROVIDE TEMPORARY PEDESTRIAN ACCESS (NON PAY ITEM).

31.) THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL WATER METERS TO FACILITATE THE READING OF THE METERS BY THE CITY'S METER READERS AND SHALL MAINTAIN ACCESS TO EXISTING VALVES, MANHOLES, METERS AND CLEANOUTS FOR CITY PERSONNEL IN CASE OF EMERGENCY CUT OFFS OR WASTEWATER OVERFLOWS.

32.) ALL EXISTING UTILITY SIZES AND LOCATIONS SHOWN ON PLANS ARE APPROXIMATE. CONTRACTOR MUST FIELD VERIFY ALL EXISTING UTILITY SIZES BEFORE ORDERING MATERIALS. NO COMPENSATION WILL BE MADE FOR ORDERING THE WRONG SIZE.

33.) WHEN FIELD VERIFICATION OF EXISTING UTILITIES DIFFERS FROM WHAT IS SHOWN ON THE PLANS, ANY SUPPOSED DISCREPANCY SHALL BE IMMEDIATELY BROUGHT TO THE ENGINEER'S ATTENTION BEFORE PROCEEDING.

34.) WHEN PLANS CALL FOR MILLING AND OVERLAYING AN AREA OF THE PROJECT, MILLING MUST BE DONE AFTER THE UTILITIES ARE INSTALLED.

35.) BEFORE OVERLAYING OF A ROAD IS DONE, STREETS DEPARTMENT MAY NEED TO MAKE PAVEMENT REPAIRS. THIS WILL NEED TO BE COORDINATED WITH STREETS DEPARTMENT AND WILL TYPICALLY TAKE FOUR (4) WEEKS FOR STREETS DEPARTMENT TO MAKE THEIR REPAIRS. THIS COORDINATION TIME IS ALREADY INCLUDED IN THE CONTRACT TIME AND SHALL NOT BE GROUNDS FOR REQUESTING EXTRA DAYS IN THE CONTRACT.

36.) WHEN MATERIALS ARE STOCKPILED ALONG A CURB, THEY SHALL NOT BE REMOVED WITH HEAVY EQUIPMENT. ANY CURB THAT IS MARRED, CHIPPED, CRACKED, OR DAMAGED IN ANY WAY WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. EXTRA TIME WILL NOT BE GIVEN FOR THESE REPAIRS.

37.) WHEN DIRECTED TO REMOVE AND REPLACE FULL PANELS OF CONCRETE STREET PAVEMENT, ANY PAVEMENT ADJACENT TO CURB AND GUTTER SHALL BE SAW CUT 18" TO 24" FROM THE CURB AFTER NORMAL TRENCHING AND UTILITY INSTALLATION IS COMPLETE. ONLY AFTER ALL UTILITIES ARE INSTALLED AND THE CONTRACTOR IS CUTTING PAVEMENT OUTSIDE THE TRENCHES TO ACCOMPLISH THE PAVEMENT REPAIR MAY THE CONTRACTOR CUT THE PAVEMENT WITHIN 24" OF THE CURB, BUT NO CLOSER THAN 18". CONTRACTOR IS TO PROTECT THE CURB AND GUTTER WHILE SAW CUTTING AND THE CURB AND GUTTER SECTION IS TO REMAIN IN PLACE UNLESS DIRECTED OTHERWISE ON THE PLANS OR BY THE ENGINEER. IF CONTRACTOR DAMAGES OR CHOOSES TO REMOVE AND REPLACE THE CURB, IT SHALL BE AT NO COST TO THE CITY.

38.) ANY ABANDONED UTILITIES IN CONFLICT WITH PROPOSED UTILITIES SHALL BE REMOVED TO FACILITATE PROPER INSTALLATION OF THE PROPOSED UTILITIES, NON-PAY ITEM.

39.) CONCRETE TESTED DURING CONSTRUCTION MUST MEET THE STRENGTHS SHOWN ON SUBMITTED MIX DESIGNS THAT WERE APPROVED BY THE CITY. ANY CONCRETE THAT DOES NOT MEET THE CITY APPROVED MIX DESIGNS SHALL BE REJECTED EVEN IF TESTED STRENGTHS MEET OR EXCEED THOSE REQUIRED BY CITY SPECIFICATIONS.

40.) CONTRACTOR SHALL CEASE ALL MAJOR CONSTRUCTION ACTIVITIES AND PROCEED TO ORGANIZE AND CLEAN THE JOB SITE SO THAT ALL MATERIALS ON HAND AND EQUIPMENT ARE STORED IN A NEAT AND ORDERLY FASHION BY 3 P.M. THE DAY BEFORE A CITY HOLIDAY OR HOLIDAY WEEKEND. MATERIALS ON HAND SHALL BE PLACED IN A LOCATION TO MINIMIZE RESTRICTIONS TO CURBSIDE PARKING AND ALL TRAFFIC CONTROL DEVICES SHALL BE INSPECTED AND REPAIRED OR REPLACED TO CONFORM TO THE APPROVED TRAFFIC CONTROL PLAN.

41.) WORK SHALL BE DONE ONLY DURING THE REGULAR AND COMMONLY ACCEPTED AND DESCRIBED WORKING HOURS BETWEEN 7:00 A.M. AND 6:00 P.M. NO WORK SHALL BE DONE NIGHTS, SATURDAYS, SUNDAYS, OR ANY REGULAR HOLIDAY UNLESS SPECIAL PERMISSION IS GIVEN BY THE (CITY) ENGINEER OR AS MAY BE APPROVED BY THE PROPER ADMINISTRATIVE CITY REPRESENTATIVE.

42.) CONTRACTOR SHALL CONTACT THE LAS COLINAS ASSOCIATION PRIOR TO ANY WORK WITHIN THEIR JURISDICTIONAL LIMITS TO ASCERTAIN THE LOCATION OF LANDSCAPE IRRIGATION LINES AND APPURTENANCES, THE DISPOSITION OF ALL TREES, SHRUBS, OTHER PLANTS, TURF, AND ALL OTHER IMPROVEMENTS INSTALLED AND MAINTAINED BY THE ASSOCIATION. THE CONTRACTOR SHALL RESTORE ALL LANDSCAPING AND IRRIGATION FACILITES TO THE SATISFACTION OF THE ASSOCIATION. CONTACT DARLA MCDANIELS AT 972-541-2345.

43.) FOR TRANSIT MIX OPERATIONS, THE MANUFACTURER OF THE CONCRETE SHALL, BEFORE UNLOADING, FURNISH TO THE PURCHASER WITH EACH BATCH OF CONCRETE AT THE SITE A DELIVERY TICKET ON WHICH IS PRINTED, STAMPED, OR WRITTEN, THE FOLLOWING INFORMATION TO DETERMINE THAT THE CONCRETE WAS PROPORTIONED IN ACCORDANCE WITH THE APPROVED MIX DESIGN: (1) NAME OF CONCRETE SUPPLIER, (2) SERIAL NUMBER OF TICKET, (3) DATE, (4) TRUCK NUMBER, (5) NAME OF PURCHASER, (6) SPECIFIC DESIGNATION OF JOB (NAME AND LOCATION), (7) SPECIFIC CLASS, DESIGN IDENTIFICATION AND DESIGNATION OF THE CONCRETE IN CONFORMANCE WITH THAT EMPLOYED IN JOB SPECIFICATION, (8) AMOUNT OF CONCRETE IN CUBIC YARDS (OR CUBIC METERS), (9) TIME LOADED OR OF FIRST MIXING OF CEMENT AND AGGREGATES, (10) WATER ADDED BY RECEIVER OF CONCRETE AND HIS/HER INITIALS, (11) WEIGHT OF CEMENT, (12) WEIGHT OF FLY ASH, (13) TYPE AND AMOUNT OF ADMIXTURES, (14) INFORMATION NECESSARY TO CALCULATE THE TOTAL MIXING WATER ADDED BY THE PRODUCER (TOTAL MIXING WATER INCLUDE FREE WATER ON THE AGGREGATES, WATER AND ICE BATCHED AT THE PLANT, AND WATER ADDED BY THE TRUCK OPERATOR FROM THE MIXER TANK), (15) MAXIMUM SIZE OF AGGREGATE, (16) WEIGHTS OF FINE AND COARSE AGGREGATE.
FOR ON-SITE CONCRETE PLANT OPERATIONS, THE CONCTRACTOR SHALL SUPPLY TO THE OWNER A BATCH TICKET WITH THE FOLLOWING INFORMATION AND FOR EACH CONTINUOUS PAVING OPERATION, PROVIDE RECEIPTS AND INVOICES TO SUBSTANTIATE THE AMOUNT OF CEMENT AND FLY ASH USED IN THE PLACEMENT. (1) AT THE BEGINNING OF EACH DAY'S PLACEMENT, A LIST OF ACTUAL BATCH WEIGHTS TO BE USED SHALL BE GIVEN TO THE OWNER. (2) WHEN ANY CHANGES ARE MADE, A NEW LIST OF WEIGHTS SHALL BE GIVEN TO THE OWNER. REFER TO NCTCOG 303.3.5.5. FOR ADDITIONAL INFORMATION.

WATER NOTES

44.) ALL BOLTS, WASHERS, AND HEX NUTS SHALL BE STAINLESS STEEL. HIGH STRENGTH CORTEN T-HEAD BOLTS AS APPLICABLE. STAINLESS PLATING NOT ACCEPTABLE.

45.) THE CUTTING AND PLUGGING OF EXISTING WATER LINES, TEES, CROSSES, ETC. ASSOCIATED WITH THE DIRECT CONNECTION OF NEW WATER MAINS TO EXISTING MAINS SHALL BE CONSIDERED AS PART OF THE UNIT PRICE FOR WET CONNECTIONS.

46.) THE CENTERLINE OF THE PROPOSED WATER MAIN SHALL TYPICALLY BE LOCATED 2.25 FEET FROM THE BACK OF THE EXISTING CURB UNLESS SPECIFIED OTHERWISE ON THE PLANS.

47.) THE PROPOSED WATER MAIN SHALL HAVE A MINIMUM COVER OF FOUR (4) FEET MEASURED FROM THE TOP OF THE EXISTING CURB OR FROM THE TOP OF THE EXISTING GROUND TO THE TOP OF PROPOSED PIPE, WHICH EVER IS GREATER, OR AS DIRECTED BY THE ENGINEER.

48.) THE CONTRACTOR SHALL CENTER A FULL 20 FOOT LONG JOINT OF THE PROPOSED PIPE AT A STORM DRAIN CROSSING IF THE PROPOSED PIPE MUST PASS UNDER THE STORM DRAIN.

49.) PROPOSED OR EXISTING WATER LINES CROSSING PROPOSED OR EXISTING WASTEWATER LINES SHALL COMPLY WITH THE RULES OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) AS DESCRIBED IN CHAPTER 217: DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS AND CHAPTER 290: PUBLIC DRINKING WATER OF THE TEXAS ADMINISTRATIVE CODE.

50.) ALL DUCTILE IRON FITTINGS SHALL BE POLYWRAPPED.

51.) EXTRA DEPTH FIRE HYDRANTS SHALL INCLUDE ONE EXTRA 6" 90 DEGREE OR 45 DEGREE BEND AND EXTRA COUPLINGS OR PIPE TO MAKE UP THE VERTICAL GRADE DIFFERENCE AND MAINTAIN A STANDARD FIRE HYDRANT AND GATE VALVE INSTALLATION

52.) THE CUTTING, PLUGGING, AND BLOCKING OF EXISTING WATER LINES AND PLUGGING AND BLOCKING OF EXISTING TEES AND CROSSES NOT ASSOCIATED WITH THE UNIT PRICE FOR A WET CONNECTION SHALL BE MEASURED AND PAID FOR AS A SEPARATE BID ITEM FOR CUTTING AND PLUGGING EXISTING WATER MAINS, TEES, AND CROSSES. ANY GATE VALVES REQUIRED TO BE REMOVED SHALL BE CONSIDERED SUBSIDIARY TO THIS ITEM (SECTION 15200).

53.) FOR ALL RCCP WATER PIPE INSTALLATION, THE CONTRACTOR SHALL LOCATE THE EXISTING RCCP WATER MAIN AT ALL PROPOSED TIE-IN POINTS TO VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATIONS AND ELEVATIONS PRIOR TO EXCAVATION FOR INSTALLATION OF THE PROPOSED RCCP WATER MAIN (NON-PAY ITEM).

54.) A MINIMUM OF ONE (1) FOOT CLEARANCE (HORIZONTALLY OR VERTICALLY AT THE DISCRETION OF THE CITY) SHALL BE REQUIRED BETWEEN THE PROPOSED WATER LINE AND DRAINAGE STRUCTURES OR STORM DRAINAGE PIPE. THE CONTRACTOR SHALL NOT BE PERMITTED TO USE BENDS (UNLESS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER) TO MEET THE ABOVE MENTIONED CRITERIA. THE CONTRACTOR SHALL DEFLECT THE PIPE TO ACHIEVE THE MINIMUM VERTICAL SEPARATION. THE CONTRACTOR SHALL PROVIDE CUT STAKES AT ALL DRAINAGE STRUCTURES AND STORM DRAIN PIPE CROSSINGS TO VERIFY THE WATER MAIN DEPTH.

55.) WATER LINES ALLOWED TO BE CONSTRUCTED UNDER ANY PROPOSED CURB INLETS SHALL BE STEEL ENCASED.

56.) THE CONTRACTOR SHALL SEQUENCE THE INSTALLATION OF ALL PROPOSED WATER MAINS TO MINIMIZE CLOSURE SECTIONS. THE CONTRACTOR SHALL USE A SOLID SLEEVE TO REPAIR ALL LEAKS AND TO PERFORM REQUIRED CLOSURES. THE CONTRACTOR SHALL NOT BE PERMITTED TO INSTALL MORE THAN ONE (1) SOLID SLEEVE FOR REPAIR PER FIVE HUNDRED (500) LINEAR FEET OF PIPE INSTALLATION. NO BELL CLAMPS OR REPAIR CLAMPS SHALL BE PERMITTED.

57.) THE CONTRACTOR SHALL TRANSFER ALL EXISTING METERED SERVICES AFTER THE PROPOSED WATER MAIN HAS BEEN TESTED AND APPROVED BY THE ENGINEER. NO SERVICE SHALL BE DISRUPTED FOR A PERIOD LONGER THAN SIX (6) HOURS. ALL SERVICES SHALL BE 3/4", 1", 1-1/2", OR 2" EXCEPT AS NOTED ON THE PLANS.

58.) THE RELOCATION OF EXISTING WATER METERS AND BOXES LOCATED IN EXISTING DRIVEWAY APPROACHES SHALL BE A SEPARATE BID ITEM IN ADDITION TO THE APPLICABLE BID ITEM FOR SHORT WATER SERVICES AND LONG WATER SERVICES (SECTION 15095).

59.) ALL GATE VALVES TO BE ABANDONED SHALL HAVE THE VALVE STACKS REMOVED AND BACKFILLED. ALL VALVE STACKS DEEMED SATISFACTORY BY THE ENGINEER MAY BE UTILIZED DURING THE CONSTRUCTION OF THE PROPOSED VALVES. THE REMOVAL OF SAID VALVE STACKS BY THE CONTRACTOR SHALL BE CONSIDERED A NON-PAY ITEM.

60.) ANY GATE VALVES REQUIRED TO BE REMOVED DURING CONSTRUCTION SHALL BECOME THE PROPERTY OF THE CITY OF IRVING AND THE CONTRACTOR SHALL TRANSPORT ALL ABANDONED GATE VALVES TO THE CITY OF IRVING STOCK YARD, UNLESS OTHERWISE DIRECTED BY THE ENGINEER (NON-PAY ITEM).

61.) THE FIRE HYDRANTS AND SHOES WHICH ARE REMOVED FROM THE EXISTING MAIN SHALL REMAIN THE PROPERTY OF THE CITY OF IRVING. THE CONTRACTOR SHALL EXERCISE CARE SO AS NOT TO DAMAGE THE FIRE HYDRANTS AND SHOES WHEN REMOVED FROM THE EXISTING MAIN OR WHEN TRANSPORTED TO THE CITY OF IRVING STOCK YARD. SUBSIDIARY TO SECTION 15110.

62.) THE CONTRACTOR SHALL DECHLORINATE THE WATER AS REQUIRED IN THE PROPOSED MAIN AFTER STERILIZATION (SECTION 15043).

63.) THE CONTRACTOR SHALL BE REQUIRED TO TEST FROM VALVE TO VALVE AND THEN TRANSFER SERVICES. THIS TESTING WILL ALLOW THE FINAL PAVEMENT, SIDEWALK, OR SODDING REPLACEMENT TO BE ACCOMPLISHED PRIOR TO THE INSTALLATION OF THE ENTIRE PROPOSED WATER LINE. THE CLEAN-UP OPERATIONS MAY VARY FROM THIS SEQUENCE IF AUTHORIZED BY THE ENGINEER.

64.) HIGHRISE BUILDINGS AND OTHER COMMERCIAL PROPERTIES THAT NEED WATER FOR CHILLERS WILL BE SUPPLIED A TEMPORARY CONNECTION TO PROVIDE WATER FOR CONTINUOUS CHILLER OPERATION(NON-PAY ITEM).

65.) THERE SHALL BE NO SOLDERING OR CRIMPING OF WATER SERVICES WITHIN THE CITY ROW.

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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F-469 TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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www.cityofirving.org

GENERAL NOTES
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 2

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WASTEWATER NOTES

66.) THE CONTRACTOR SHALL MAINTAIN FLOW IN THE EXISTING WASTEWATER MAIN LINES AND PROVIDE ALL WASTEWATER BY-PASSES AS REQUIRED TO PERFORM THE WORK UNTIL ALL CONNECTIONS HAVE BEEN MADE TO THE PROPOSED SYSTEM (NON-PAY ITEM).

67.) IF A WASTEWATER OVERFLOW OR SPILL OCCURS DURING THE REPLACEMENT OF AN EXISTING WASTEWATER MAIN OR IF A WASTEWATER OVERFLOW OR SPILL OCCURS FROM AN EXISTING WASTEWATER MAIN THAT IS DISTURBED DURING OTHER CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE WATER UTILITIES DEPARTMENT AT 972-721-2281. THE CONTRACTOR SHALL TAKE WHATEVER STEPS HE DEEMS NECESSARY OR AS INSTRUCTED BY THE ENGINEER TO CONTAIN OR RE-ROUTE THE SPILL OR OVERFLOW UNTIL WATER UTILITIES HAS INVESTIGATED THE SPILL OR OVERFLOW. IF THE SPILL OR OVERFLOW HAS OCCURRED DUE TO THE CONTRACTOR'S CONSTRUCTION, HE SHALL BE RESPONSIBLE TO TAKE THE STEPS NECESSARY TO REMEDY THE INCIDENT AS INSTRUCTED BY WATER UTILITIES OR AS DIRECTED BY THE ENGINEER (SECTION 01517).

68.) ALL CONNECTIONS TO EXISTING AND PROPOSED MANHOLES SHALL BE CONSIDERED AS A NON-PAY ITEM.

69.) ALL EXISTING V.C.P. WASTEWATER MAINS TO BE ABANDONED SHALL BE FILLED WITH SAND OR GROUT BY THE CONTRACTOR AS NOTED ON THE PLANS AND SHALL BE PAID PER LINEAR FOOT PER SECTION 02040.

70.) ALL MANHOLE CASTINGS AND FRAMES WHICH ARE REMOVED IN ASSOCIATION WITH SECTION 02020 "MANHOLE ABANDONMENT AND BACKFILLING" SHALL REMAIN THE PROPERTY OF THE CITY OF IRVING AND SHALL BE TRANSPORTED BY THE CONTRACTOR TO THE CITY STOCK YARD. (SUBSIDIARY TO SECTION 02020).

71.) THE CONTRACTOR SHALL BE REQUIRED, IF NECESSARY AND DIRECTED BY THE ENGINEER IN WRITING, TO CONSTRUCT ADDITIONAL MANHOLES (NOT SHOWN ON THE PLANS) TO CONNECT COMMERCIAL WASTEWATER SERVICE LATERALS. IF SO DIRECTED, ALL COMMERCIAL WASTEWATER SERVICE LATERALS SHALL BE CONNECTED TO THE PROPOSED WASTEWATER LINE UTILIZING A STANDARD FOUR (4) FOOT DIAMETER MANHOLE. THE CONTRACTOR SHALL CONSTRUCT ALL MANHOLES FOR COMMERCIAL SERVICES AT A LOCATION AS DETERMINED BY THE ENGINEER. NO SEPARATE PAYMENT SHALL BE MADE FOR THE CONNECTION OF COMMERCIAL WASTEWATER SERVICE LATERALS. ANY PIPE REQUIRED WILL BE PAID AT THE UNIT PRICE FOR THE RESPECTIVE SIZE PIPE, TRENCHING, AND TRENCH SAFETY AS SHOWN IN THE BID PROPOSAL. ALL MANHOLES REQUIRED SHALL BE PAID AT THE UNIT BID PRICE AS STATED FOR A STANDARD FOUR (4) FOOT DIAMETER MANHOLE IN THE BID PROPOSAL.

72.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND CONNECTING THE EXISTING WASTEWATER SERVICES TO THE NEW WASTEWATER MAIN. ALL WASTEWATER SERVICE TRANSFERS TO THE NEW MAIN SHALL BE MADE **AFTER** THE MAIN HAS BEEN TESTED AND APPROVED (EXCEPT WHEN THE PROPOSED WASTEWATER LINE IS TO BE PLACED IN THE SAME TRENCH AS THE EXISTING WASTEWATER LINE) OR AS DIRECTED BY THE ENGINEER. NO WASTEWATER SERVICE SHALL BE DISRUPTED LONGER THAN SIX (6) HOURS. ALL WASTEWATER SERVICES SHALL BE FOUR (4) INCH P.V.C. OF THE SAME SDR AS THE MAIN THE SERVICE IS BEING CONNECTED TO, EXCEPT AS NOTED BY THE ENGINEER. THE CONTRACTOR MAY OPEN CUT DRIVEWAYS TO INSTALL WASTEWATER SERVICES UNLESS SPECIFIED OTHERWISE ON THE PLANS. ALL SERVICES UNDER EXISTING PAVEMENT SHALL BE BORED. THE ENGINEER MAY CHANGE AND ALTER THE LINE, GRADE AND FORM OF THE PROPOSED WASTEWATER SERVICES AS MAY BE NECESSARY OR DESIRABLE TO INSURE COMPLETION OF SUCH SERVICES IN THE MOST SATISFACTORY MANNER. SUCH CHANGES SHALL NOT BE CONSIDERED SUFFICIENT BASIS FOR CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA WORK OR FOR INCREASING THE PAY QUANTITIES IN ANY MANNER WHATSOEVER.

73.) WHEN THE PROPOSED WASTEWATER LINE IS TO BE PLACED IN THE SAME TRENCH AS THE EXISTING WASTEWATER LINE, THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS AND LABOR REQUIRED TO ROUTE THE UPSTREAM WASTEWATER FLOW IN THE EXISTING V.C.P. LINE INTO THE DOWNSTREAM MANHOLE AND INTO THE PROPOSED P.V.C. LINE THAT IS INSTALLED DOWNSTREAM DURING THE CONSTRUCTION (NON-PAY ITEM). THE CONTRACTOR SHALL INSTALL THE WASTEWATER SERVICES AND TRANSFER THE SANITARY SERVICES AS THE PROPOSED P.V.C. LINE IS INSTALLED. THE CONTRACTOR SHALL REMOVE THE EXISTING WASTEWATER MAIN AS THE PROPOSED MAIN IS INSTALLED (NON-PAY ITEM). THE CONTRACTOR SHALL NOT BE REQUIRED TO PRESSURE TEST THIS SECTION OF THE PROPOSED LINE AFTER THE INSTALLATION IS COMPLETED. THE CONTRACTOR SHALL MAKE A TEMPORARY CONNECTION BETWEEN THE PROPOSED P.V.C. LINE THAT IS INSTALLED AND THE EXISTING V.C.P. LINE AT THE END OF EACH WORKING DAY TO MAINTAIN FLOW IN THE WASTEWATER LINE (NON-PAY ITEM).

74.) THE CONTRACTOR SHALL NOT HAVE MORE THAN SIX HUNDRED (600) LINEAR FEET OF PAVEMENT IN NEED OF REPAIR AT ONE TIME.

75.) CLEAN OUTS WILL BE INSTALLED AT THE PROPERTY LINE ON EACH WASTEWATER LATERAL.

76.) ABANDONMENT OF EXISTING CLEAN OUTS IS A NON-PAY ITEM AND IS CONSIDERED SUBSIDIARY TO ABANDONMENT OF WASTEWATER MAIN.

77.) ANY WATER AND WASTEWATER SERVICE INSTALLATION THAT EXTENDS MORE THAN FIVE (5) FEET OUTSIDE THE RIGHT-OF-WAY OR EASEMENTS MUST BE PERFORMED BY A STATE OF TEXAS LICENSED PLUMBER REGISTERED WITH THE CITY OF IRVING AS A PLUMBING CONTRACTOR (SUBSIDIARY TO RESPECTIVE BID ITEMS). PERMISSION MUST BE OBTAINED FROM THE PROPERTY OWNER FOR ANY WORK PERFORMED OUTSIDE THE RIGHT-OF-WAY. PERMITS WILL HAVE TO BE ACQUIRED BY THE PLUMBER AND THE WORK MUST BE INSPECTED BY A CITY PLUMBING INSPECTOR BUT THE CITY WILL WAIVE PERMIT FEES FOR CITY PROJECTS.

PAVEMENT NOTES

78.) ALL PAVEMENT, DRIVEWAYS, PARKING AREAS, CURB AND GUTTER, SIDEWALK AND OTHER MATERIAL REQUIRED TO BE REMOVED SHALL BE CONSIDERED AS PART OF SECTION 02529 "EXISTING CONCRETE FLATWORK REMOVAL" OR SECTION 02528 "EXISTING ASPHALT FLATWORK REMOVAL". EXISTING CONCRETE FLATWORK REMOVAL AND EXISTING ASPHALT FLATWORK REMOVAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS DISPOSAL.

79.) ALL DRIVEWAY APPROACHES SHALL BE A MINIMUM OF TWELVE (12) FEET WIDE. IF THE EXISTING DRIVEWAY IS LESS THAN TWELVE (12) FEET WIDE, THEN THE NEW DRIVEWAY SHALL BE TRANSITIONED TO THE EXISTING WIDTH ON A 3:1 TAPER. THE CONTRACTOR SHALL GRADE THE AREA ADJACENT TO THE DRIVEWAY TRANSITION TO THE SATISFACTION OF THE ENGINEER (NON-PAY ITEM).

80.) THE CONTRACTOR SHALL CONSTRUCT A CONCRETE UNDERCUT HEADER AT ALL PROPOSED CONCRETE TO EXISTING CONCRETE JOINTS OR TIE INTO THE EXISTING CONCRETE WITH AT LEAST EIGHTEEN (18) INCHES OF EXPOSED STEEL. THE CONTRACTOR SHALL CONSTRUCT A STANDARD HEADER AT ALL PROPOSED CONCRETE TO EXISTING ASPHALT JOINTS.

81.) THE DRIVEWAY APPROACHES SHALL BE SIX (6) INCH MINIMUM REINFORCED CONCRETE PAVEMENT FOR RESIDENTIAL AND EIGHT (8) INCH MINIMUM REINFORCED CONCRETE PAVEMENT FOR COMMERCIAL. ADDITIONAL DRIVEWAY REPAIRS SHALL MATCH EXISTING MATERIAL.

82.) THE CONTRACTOR SHALL PROTECT ANY EXISTING AND/OR PROPOSED STORM DRAIN CONDUIT WHICH IS IN THE PROPOSED SUBGRADE DURING THE SUBGRADE STABILIZATION PROCESS.

83.) UNLESS OTHERWISE NOTED ON THE PLANS, STREETS SHALL BE CONSTRUCTED ONE HALF AT A TIME. AT NO TIME SHALL THE ENTIRE WIDTH OF THE STREET BE CLOSED WITHOUT APPROVAL OF THE ENGINEER AND A PROPER TEMPORARY RIDING SURFACE CONSTRUCTED PRIOR TO THE REMOVAL OF THE EXISTING PAVEMENT.

STORM DRAINAGE NOTES

84.) ALL EXISTING REINFORCED CONCRETE PIPE TO BE REMOVED AS NOTED ON THE PLANS SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR. THIS SHALL BE SUBSIDIARY TO THE UNIT PRICE FOR REMOVAL OF THE EXISTING PIPE.

85.) PLUGGING ENDS OF STORM DRAIN PIPE SHALL BE CONSIDERED SUBSIDIARY TO PIPE INSTALLATION OR PIPE REMOVAL.

86.) THE CONTRACTOR SHALL LOCATE THE EXISTING STORM DRAINAGE PIPE AT ALL PROPOSED TIE-IN POINTS TO VERIFY THE HORIZONTAL AND VERTICAL ALIGNMENT IF NOTED ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF THE LOCATIONS AND ELEVATIONS PRIOR TO EXCAVATION FOR INSTALLATION OF THE PROPOSED STORM DRAIN PIPE (CONSIDERED SUBSIDIARY TO STORM DRAINAGE PIPE INSTALLATION).

87.) THE CONTRACTOR SHALL RELOCATE ALL WATER MAINS AND WASTEWATER LATERALS THAT ARE IN DIRECT GRADE CONFLICT WITH THE PROPOSED STORM DRAIN. SAID RELOCATIONS SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEM.

88.) THE CONTRACTOR SHALL RELOCATE ALL WATER SERVICES THAT ARE IN DIRECT CONFLICT WITH THE PROPOSED STORM DRAIN (NON-PAY ITEM). NO WATER SERVICE SHALL BE DISRUPTED LONGER THAN SIX (6) HOURS.

EROSION & SEDIMENTATION CONTROL NOTES

89.) SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS INDICATED ON THE PLANS AND IN ACCORDANCE WITH SECTION 02900 PRIOR TO ANY EMBANKMENT OR EXCAVATION WORK BEING DONE. WHEN THE PROJECT IS COMPLETE AND THE ENTIRE PROJECT SITE IS COMPLETELY STABILIZED, THE SEDIMENT CONTROL DEVICES AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER. THE CONTRACTOR HAS THE ULTIMATE RESPONSIBILITY FOR THE EFFECTIVE CONTROL OF EROSION AND SEDIMENTATION.

90.) THE CONTRACTOR SHALL SEED OR SOD A COMPLETED EMBANKMENT AS SOON AS PRACTICABLE, BUT NO LATER THAN 14 DAYS AFTER SAID EMBANKMENT IS COMPLETE.

91.) THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE PUBLIC STREETS ADJACENT TO THE CONSTRUCTION SITE IN A CLEAN AND SAFE CONDITION. ANY DIRT, MUD, GRAVEL OR ANY OTHER MATERIAL TRACKED OR SPILLED ONTO THE PUBLIC STREET SHALL BE REMOVED AND SWEPT PROMPTLY TO THE SATISFACTION OF THE ENGINEER AND IN NO CASE LEFT TO REMAIN AFTER THE END OF THE WORKING DAY. THE CONTRACTOR SHALL USE EITHER A VACUUM SWEEPER OR A STANDARD SWEEPER, AFTERWARD REMOVING ALL MATERIAL FROM THE GUTTER LINE (NON-PAY ITEM).

TRAFFIC AND ACCESS CONTROL

92.) THE CONTRACTOR SHALL ROUTE TRAFFIC AND BARRICADE ALL ROADS AS REQUIRED BY THE CITY OF IRVING TRAFFIC AND TRANSPORTATION DEPARTMENT. THE CONTRACTOR SHALL ALSO ROUTE TRAFFIC AND BARRICADE ALL ROADS AS REQUIRED BY THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) WHEN CONSTRUCTION IS WITHIN TXDOT RIGHT-OF-WAY. ALL BARRICADES, SIGNS AND TRAFFIC CONTROL DEVICES REQUIRED FOR THE PROJECT SHALL BE PAID PER SECTION 01533 OF THESE SPECIFICATIONS.

93.) A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE TRAFFIC AND TRANSPORTATION DEPARTMENT AT LEAST THREE (3) BUSINESS DAYS PRIOR TO ANY CONSTRUCTION WITHIN THE PUBLIC STREET RIGHT-OF-WAY. CONTACT THE TRAFFIC OPERATIONS SUPERVISOR AT 972-721-2646. BARRICADES, TEMPORARY PAVEMENT MARKINGS, AND SIGNS SHALL BE MAINTAINED IN GOOD CONDITION MEETING THE LEGIBILITY AND RETROREFLECTIVITY REQUIREMENTS OF THE CURRENT EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES UNTIL THE COMPLETION AND ACCEPTANCE OF ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY OR UNTIL CONTRACTOR IS DIRECTED OTHERWISE.

94.) ELECTRONIC ARROW DISPLAYS (PANEL TYPE B OR C) MEETING THE REQUIREMENTS OF PART VI, SECTION 6F-3 OF THE LATEST EDITION OF THE *TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS* SHALL BE USED FOR ALL LANE CLOSURES ON ANY STREET OR HIGHWAY DESIGNATED ON THE CURRENT EDITION OF THE CITY OF IRVING MASTER THOROUGHFARE PLAN, AND AT ANY ADDITIONAL LOCATION SPECIFICALLY IDENTIFIED AS REQUIRING ARROW DISPLAY TRAFFIC CONTROL ON THE TRAFFIC CONTROL PLAN FOR THIS PROJECT IF THAT FACILITY IS OPENED TO PUBLIC TRAFFIC. COPIES OF THE CITY OF IRVING COMPREHENSIVE PLAN MASTER THOROUGHFARE PLAN ARE AVAILABLE ON THE CITY OF IRVING WEBSITE. EXCEPTIONS TO THIS PROVISION MAY BE REQUESTED FROM THE TRAFFIC OPERATIONS SUPERVISOR.

95.) ELECTRONIC PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS), MEETING THE REQUIREMENTS OF PART VI, SECTION 6F-2 OF THE LATEST EDITION OF THE *TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS* SHALL BE USED WHENEVER ANY PORTION OF A ROADWAY DESIGNATED ON THE CURRENT EDITION OF THE CITY OF IRVING MASTER THOROUGHFARE PLAN IS TO BE CLOSED TO TRAFFIC IN EITHER OR BOTH DIRECTIONS, AND AT ANY OTHER LOCATION OR SITUATION DESIGNATED ON THE TRAFFIC CONTROL PLAN. THE PCMS SHALL BE IN PLACE, PROGRAMMED AND IN OPERATION AT LEAST SEVEN (7) CALENDAR DAYS BEFORE THE ROADWAY CLOSING. THE PCMS SHALL BE MAINTAINED IN GOOD OPERATING CONDITION UNTIL APPROVED CONSTRUCTION BARRICADING AND SIGNING IS IN PLACE AND THE ROADWAY IS ACTUALLY CLOSED TO TRAFFIC. THE TRAFFIC AND TRANSPORTATION DEPARTMENT WILL ASSIST THE CONTRACTOR IN THE PREPARATION OF AND SHALL APPROVE THE TEXT OF THE MESSAGE(S) TO BE DISPLAYED BY THE PCMS.

96.) NO WORK SHALL COMMENCE WITHIN EXISTING STREET RIGHT-OF-WAY WITHOUT AN APPROVED TRAFFIC CONTROL PLAN. THE CONTRACTOR SHALL NOTIFY THE CITY OF IRVING, DEPARTMENT OF PUBLIC WORKS, TRAFFIC DIVISION AT LEAST THREE (3) BUSINESS DAYS PRIOR TO BEGINNING WORK WITHIN THE RIGHT-OF-WAY, OR BEFORE PERFORMING ANY WORK WHICH WILL OBSTRUCT OR IMPEDE THE NORMAL FLOW OF TRAFFIC.

97.) ON MULTI-LANE THOROUGHFARES THE CONTRACTOR SHALL BE ALLOWED TO CLOSE ONLY ONE LANE OF TRAFFIC IN EACH DIRECTION FROM 9:00 A.M TO 4:00 P.M. MONDAY THROUGH FRIDAY UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL HAVE ALL LANES OPEN TO TRAFFIC AT ALL OTHER TIMES AND ON HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

98.) IF THE CONTRACTOR IS NOT PROVIDING ADEQUATE TRAFFIC CONTROL, INCLUDING BUT NOT LIMITED TO FLAG MEN, WORK SHALL BE STOPPED IMMEDIATELY AND SHALL NOT BE ALLOWED TO CONTINUE UNTIL THE CONTRACTOR HAS A MEETING WITH THE CITY ENGINEER.

99.) ALL PUBLIC STREET SIGNS (NEW OR EXISTING) LOCATED 6" OR LESS FROM THE SIDEWALK MUST HAVE A VERTICAL CLEARANCE OF 84" FROM THE TOP OF THE SIDEWALK TO THE BOTTOM OF THE SIGN. THE CONTRACTOR SHALL COORDINATE ALL SIGN REMOVAL, AND ALL SIGNS SHALL BE RESET OR RELOCATED AS DIRECTED BY THE TRAFFIC OPERATIONS SUPERVISOR AT 972-721-2646 (NON-PAY ITEM) AND ANY EXISTING SIGN LOCATED 6" OR LESS FROM A PROPOSED SIDEWALK THAT DOES NOT MEET THE ABOVE REQUIREMENTS SHALL BE RESET OR RELOCATED AS DIRECTED (NON-PAY ITEM).

100.) THE CONTRACTOR SHALL NOT UNLOAD OR STORE MATERIALS, PERMIT WORKERS TO PARK, NOR PARK EQUIPMENT WITHIN THE STREET RIGHT-OF-WAY WHERE THE STREET IS OPEN TO PUBLIC TRAVEL WITHOUT PRIOR APPROVAL OF THE CITY OF IRVING, TRAFFIC AND TRANSPORTATION DEPARTMENT.

101.) THE CONTRACTOR SHALL NOT ENCROACH UPON, NOR PERFORM ANY WORK WITHIN STATE HIGHWAY RIGHT-OF-WAY WITHOUT FIRST SECURING NECESSARY PERMITS FROM THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) AND MAKING REQUIRED NOTIFICATIONS AS STIPULATED ON THE TXDOT PERMIT CONTACT THE TXDOT DALLAS AREA OFFICE AT 214-320-6100.

102.) STREET-LIGHTING FOUNDATIONS SHALL BE INSTALLED AT LOCATION(S) INDICATED ON THE APPROVED CONSTRUCTION DRAWINGS, BUT, IN NO CASE SHALL THE FOUNDATION BE LOCATED LESS THAN TWO FEET (2.0') CLEAR OF THE NEAREST BACK OF CURB.

103.) THE CITY OF IRVING, TRAFFIC AND TRANSPORTATION DEPARTMENT SHALL INSTALL ALL PERMANENT PAVEMENT MARKINGS, INCLUDING RAISED PAVEMENT MARKERS, WITHIN PUBLIC RIGHTS-OF- WAY. THE CONTRACTOR SHALL FURNISH RAISED PAVEMENT MARKERS, SUCH AS TRAFFIC BUTTONS, AS REQUIRED BY THE BIDDING DOCUMENTS. THE CITY SHALL FURNISH AND INSTALL ALL PERMANENT TRAFFIC SIGNS WITHIN PUBLIC RIGHTS-OF-WAY. IF NEEDED, ALL PERMANENT TRAFFIC SIGNS OR PAVEMENT MARKINGS, INCLUDING RAISED PAVEMENT MARKERS, NOT LOCATED WITHIN PUBLIC RIGHTS-OF-WAY SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR PER APPLICABLE PAY ITEM.

104.) UNLESS OTHERWISE INDICATED ON THE CONSTRUCTION DRAWINGS, ALL MEDIAN OPENINGS SHALL INCLUDE INSTALLATION OF ONE 4-INCH DIAMETER PVC CONDUIT SLEEVE FOR IRRIGATION PIPING, ONE 3-INCH DIAMETER PVC CONDUIT SLEEVE FOR IRRIGATION CIRCUITS, ONE 3-INCH DIAMETER PVC CONDUIT SLEEVE FOR STREET LIGHTING CIRCUITS, AND ONE 3-INCH DIAMETER PVC CONDUIT SLEEVE FOR TRAFFIC SIGNAL CIRCUITS, UNLESS OTHERWISE APPROVED. CONDUIT SLEEVES SHALL BE SCHEDULE 40 PVC PIPE WITH SOLVENT-WELD JOINTS. CONDUIT FOR IRRIGATION SYSTEMS SHALL BE BURIED A MINIMUM OF 24 INCHES BELOW FINAL GRADE LINE OF THE PARKWAY OR TOP OF PAVEMENT. CONDUIT FOR PROPOSED UNDERGROUND ELECTRICAL CIRCUITS SHALL BE BURIED A MINIMUM OF 42 INCHES BELOW FINAL GRADE LINE OF THE PARKWAY OR TOP OF PAVEMENT. CONDUIT SLEEVES SHALL EXTEND FIFTEEN (15) FEET BEYOND THE POINT OF NOSE OF MEDIAN, OR FIVE (5) FEET BEYOND THE EDGE OF MEDIAN BRICK PAVERS UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE CITY. CONDUIT SLEEVES SHALL BE INSTALLED BEFORE FINAL COMPACTION OF THE PAVEMENT SUBGRADE. ALL JOINTS SHALL BE CEMENTED; NO THREADED, SNAP OR LOCK TOGETHER, OR MECHANICAL JOINTED PIPE SYSTEMS SHALL BE USED.

105.) IF INDICATED ON THE DRAWINGS, CONDUIT SHALL BE REQUIRED FOR PROVIDING ELECTRIC SERVICE TO THE MEDIANS FROM THE ROADWAY BORDER AREA, AND TO PROVIDE CONTINUOUS CONDUIT FOR THE STREET LIGHTING INSTALLATION. UNLESS OTHERWISE INDICATED ON THE PLANS, CONDUIT SHALL BE 2-INCH DIAMETER SCHEDULE 40 PVC WITH SOLVENT-WELD JOINTS, BURIED 42 INCHES BELOW FINAL GRADE OF PARKWAY OR TOP OF PAVEMENT, AT THE LOCATIONS AND ALIGNMENT INDICATED ON THE DRAWINGS. CONDUIT SHALL BE INSTALLED BEFORE FINAL COMPACTION OF THE PAVEMENT SUBGRADE.

106.) ALL DRIVEWAY AND SIDEWALK CROSSINGS WHICH ARE OPEN CUT SHALL HAVE AT LEAST A TEMPORARY PAVEMENT REPAIR AT THE END OF EACH DAY (SEE SECTION 02621).

107.) THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL CROSS STREETS (NON-PAY ITEM).

108.) THE CONTRACTOR SHALL MAINTAIN AT LEAST A 12 FOOT WIDE EDGE TO EDGE ALL WEATHER RIDING SURFACE AT ALL TIMES FOR ONE-WAY TRAFFIC OR WHEN TWO-WAY TRAFFIC MUST BE MAINTAINED AND CONTROLLED BY FLAGGERS, AND 24 FOOT WIDE EDGE TO EDGE ALL WEATHER RIDING SURFACE WHEN PRACTICAL OR WHEN TWO-WAY TRAFFIC MUST BE MAINTAINED WITHOUT FLAGGERS.

109.) ALL LOCAL RESIDENTS WHO WILL BE DENIED ACCESS TO THEIR DRIVEWAYS SHALL BE NOTIFIED BY THE CONTRACTOR TWO (2) WORKING DAYS PRIOR TO THE CLOSURE OF THEIR ACCESS.

110.) THE CONTRACTOR SHALL PROVIDE ACCESS TO ALL BUSINESS LOCATIONS AT ALL TIMES DURING THE CONSTRUCTION.

111.) CONTRACTOR SHALL CONTACT THE TRAFFIC SIGNAL SUPERINTENDENT BY EMAIL AT EHOLLIS@CITYOFIRVING.ORG AND BY PHONE AT 972-721-2646 OR CELL 972-877-4060 NO LESS THAN 3 BUSINESS DAYS PRIOR TO ANY CONSTRUCTION WORK WITHIN EXISTING STREETS AND PUBLIC RIGHT-OF-WAY TO LOCATE ANY AND ALL TRAFFIC CONTROL DEVICES AND INTERCONNECT CABLES AFFECTED BY SAID WORK.

SIDEWALK NOTES

112.) THE PROPOSED SIDEWALK SHALL BE CONSTRUCTED WITHIN THE LIMITS OF THE RIGHT-OF-WAY AS SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. THE ELEVATION OF THE TOP OF SIDEWALK SHALL BE ALONG A LINE WITH A 2% SLOPE EXTENDING FROM THE TOP OF BACK OF CURB TO THE PROPOSED SIDEWALK. THE GROUND BETWEEN THE CURB AND NEW SIDEWALK SHALL BE GRADED AT THE SAME 2%. GRADING FROM THE BACK OF SIDEWALK TO THE ROW SHALL BE AT A 4:1 SLOPE.

113.) CONNECTION OF THE PROPOSED SIDEWALK TO EXISTING PAVING, SIDEWALK, AND BARRIER FREE RAMPS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF THE CONSTRUCTION OF THE SIDEWALK.

114.) ANY EXCAVATION, FILL, BACKFILLING OR GRADING REQUIRED IN THE CONSTRUCTION OF THE SIDEWALK OR RETAINING WALLS SHALL BE CONSIDERED SUBSIDIARY TO THE COST OF CONSTRUCTION OF THE SIDEWALK.

115.) EXPANSION JOINT MATERIAL OF AN APPROVED TYPE SHALL BE PLACED BETWEEN THE EXISTING CURB LINE AND THE PROPOSED SIDEWALK IN AREAS WHERE THE SIDEWALK IS ADJACENT TO THE BACK OF CURB OR EXISTING SIDEWALK.

116.) PROPOSED SIDEWALKS WHICH ARE ADJACENT TO THE BACK OF CURB SHALL BE SIX (6) FEET WIDE. ALL OTHER SIDEWALKS SHALL BE FIVE (5) FEET WIDE UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.

117.) CURB CUTS SHALL BE INSTALLED AT LOCATIONS WHERE THE SIDEWALK CROSSES A RAISED CURB OTHER THAN AT A STREET INTERSECTION OR AS DIRECTED BY THE ENGINEER.

118.) ANY PROPOSED SIDEWALK TO BE ADJOINED TO AN EXISTING DRIVE APPROACH, BUS PAD OR INTERSECTION THAT DOES NOT REQUIRE A CURB CUT, SHALL BE DOWELED INTO THE EXISTING DRIVE APPROACH, BUS PAD OR INTERSECTION WITH 1/2" DOWELS (NON-PAY ITEM).

119.) ALL SIDEWALKS SHALL HAVE A MAXIMUM 5% RUNNING SLOPE AND A MAXIMUM 2% CROSS SLOPE.

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SCALE: SEE GRAPHICS
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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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GENERAL NOTES
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 3

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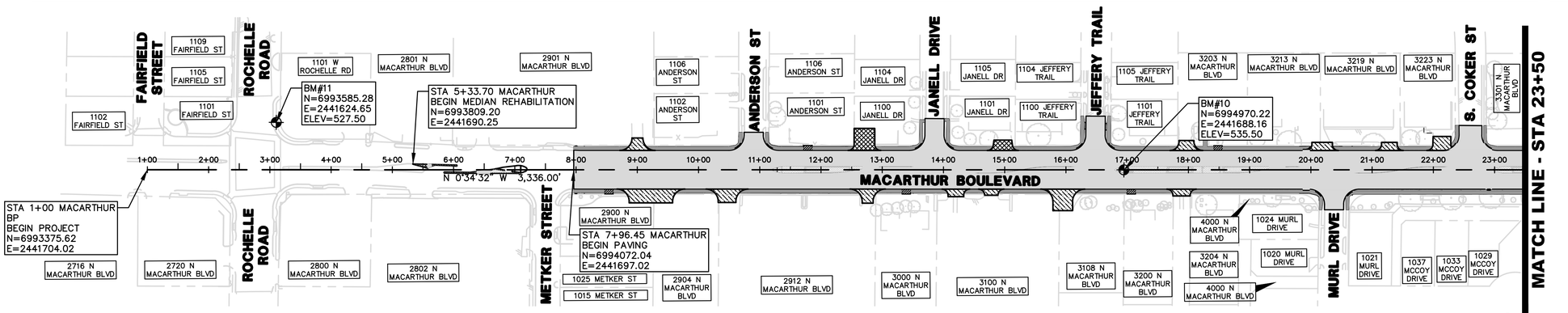

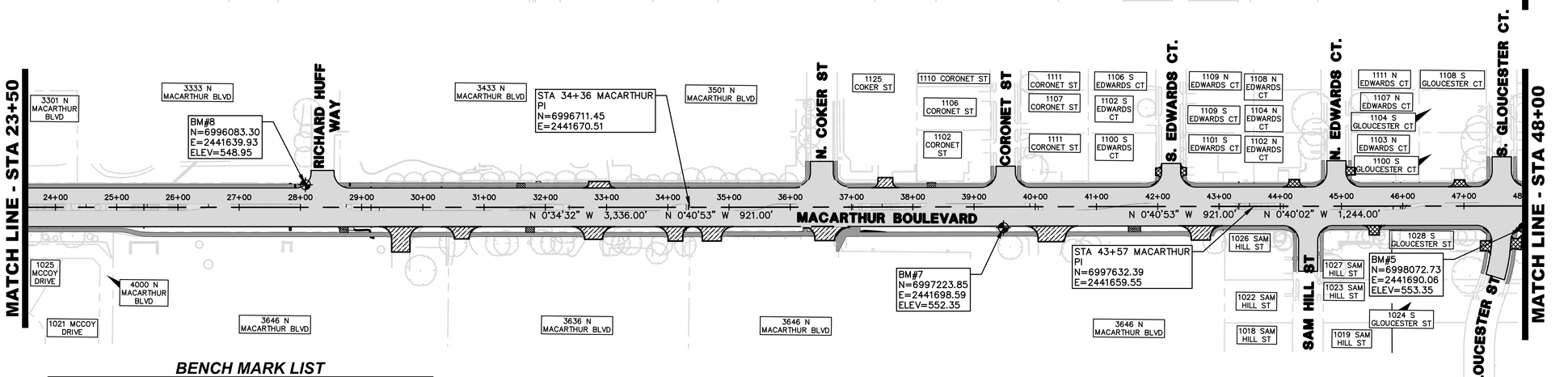

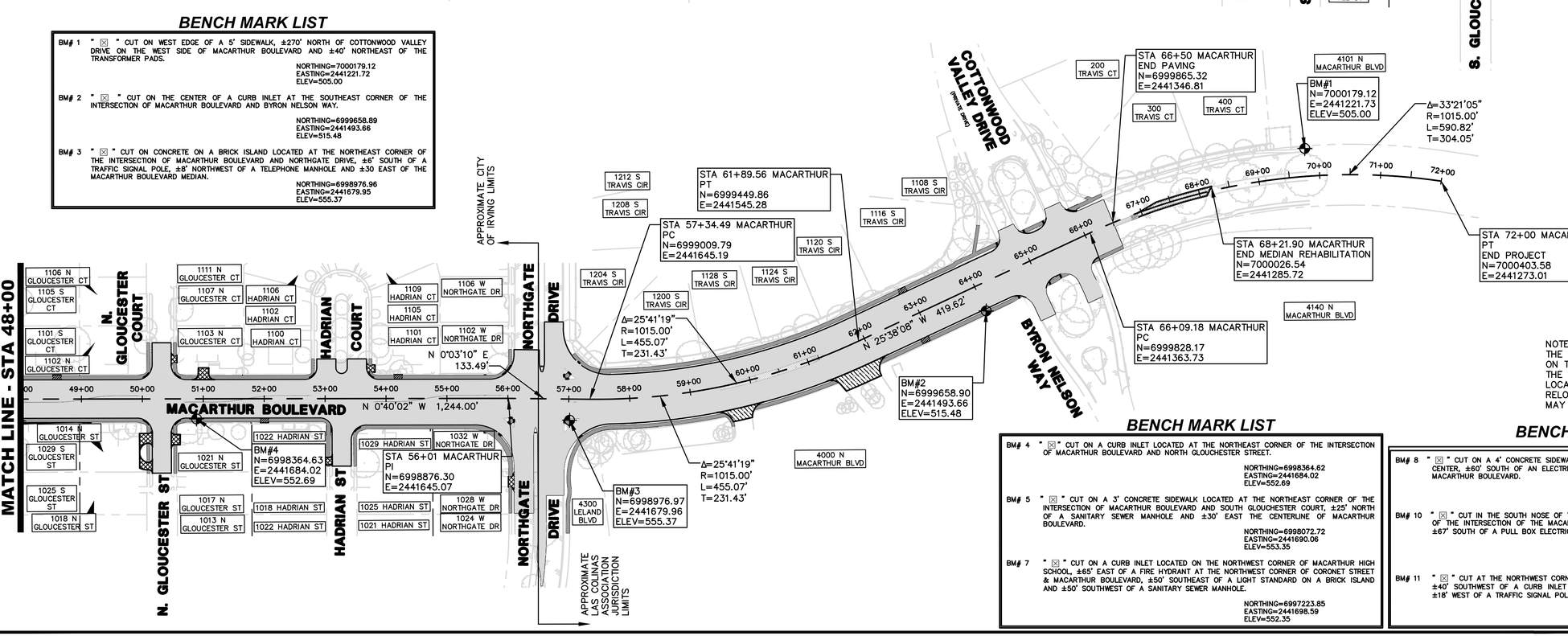

BENCH MARK LIST

BM# 1 " ☒ " CUT ON WEST EDGE OF A 5' SIDEWALK, ±270' NORTH OF COTTONWOOD VALLEY DRIVE ON THE WEST SIDE OF MACARTHUR BOULEVARD AND ±40' NORTHEAST OF THE TRANSFORMER PADS.
NORTHING=7000179.12
EASTING=2441221.72
ELEV=505.00

BM# 2 " ☒ " CUT ON THE CENTER OF A CURB INLET AT THE SOUTHEAST CORNER OF THE INTERSECTION OF MACARTHUR BOULEVARD AND BYRON NELSON WAY.
NORTHING=6999658.89
EASTING=2441493.66
ELEV=515.48

BM# 3 " ☒ " CUT ON CONCRETE ON A BRICK ISLAND LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF MACARTHUR BOULEVARD AND NORTHGATE DRIVE, ±6' SOUTH OF A TRAFFIC SIGNAL POLE, ±8' NORTHWEST OF A TELEPHONE MANHOLE AND ±30 EAST OF THE MACARTHUR BOULEVARD MEDIAN.
NORTHING=6998876.96
EASTING=2441679.95
ELEV=555.37

BENCH MARK LIST

BM# 4 " ☒ " CUT ON A CURB INLET LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF MACARTHUR BOULEVARD AND NORTH GLOUCHESTER STREET.
NORTHING=6998364.62
EASTING=2441684.02
ELEV=552.69

BM# 5 " ☒ " CUT ON A 3' CONCRETE SIDEWALK LOCATED AT THE NORTHEAST CORNER OF THE INTERSECTION OF MACARTHUR BOULEVARD AND SOUTH GLOUCHESTER COURT, ±25' NORTH OF A SANITARY SEWER MANHOLE AND ±30' EAST THE CENTERLINE OF MACARTHUR BOULEVARD.
NORTHING=6998072.72
EASTING=2441690.06
ELEV=553.35

BM# 7 " ☒ " CUT ON A CURB INLET LOCATED ON THE NORTHWEST CORNER OF MACARTHUR HIGH SCHOOL, ±65' EAST OF A FIRE HYDRANT AT THE NORTHWEST CORNER OF CORONET STREET & MACARTHUR BOULEVARD, ±50' SOUTHEAST OF A LIGHT STANDARD ON A BRICK ISLAND AND ±50' SOUTHWEST OF A SANITARY SEWER MANHOLE.
NORTHING=6997223.85
EASTING=2441698.59
ELEV=552.35

BENCH MARK LIST

BM# 8 " ☒ " CUT ON A 4' CONCRETE SIDEWALK AT THE NORTHEAST CORNER OF THE IRVING ARTS CENTER, ±60' SOUTH OF AN ELECTRIC MANHOLE AND ±30' WEST OF THE CENTERLINE OF MACARTHUR BOULEVARD.
NORTHING=6996083.30
EASTING=2441639.92
ELEV=548.95

BM# 10 " ☒ " CUT IN THE SOUTH NOSE OF THE MEDIAN OF MACARTHUR BOULEVARD, ±46' NORTH OF THE INTERSECTION OF THE MACARTHUR BOULEVARD AND JEFFREY TRAIL CENTERLINES, ±67' SOUTH OF A PULL BOX ELECTRIC AND ±40 EAST OF A FIRE HYDRANT.
NORTHING=6994970.21
EASTING=2441688.16
ELEV=535.50

BM# 11 " ☒ " CUT AT THE NORTHWEST CORNER OF ROCHELLE ROAD AND MACARTHUR BOULEVARD, ±40' SOUTHWEST OF A CURB INLET IN MACARTHUR BOULEVARD'S WEST CURB LINE AND ±18' WEST OF A TRAFFIC SIGNAL POLE.
NORTHING=6993585.28
EASTING=2441624.65
ELEV=527.50

NOTE:
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0 50 100 200 300
HORIZONTAL SCALE IN FEET

PROPOSED CONCRETE PAVEMENT
PROPOSED CONCRETE DRIVEWAY
PROPOSED MEDIAN PAVERS
PROPOSED CONCRETE SIDEWALK

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · REGISTERED PROFESSIONAL ENGINEER

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
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972.721.2611
www.cityofirving.org

SURVEY CONTROL PLAN
STA 1+00 TO STA 72+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

SHEET 4

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LOT 1
BLOCK A
FINA MART
(VOL. 87247, PG. 4207)
MAC ARTHUR FUEL CTR INC
(VOL. 2003132, PG. 10455)
1101 W ROCHELLE RD

PNYX LTD PS
(VOL. 2004228, PG. 4607)
2801 N MACARTHUR BLVD

IRVING NORTH CHRISTIAN CHURCH
(VOL. 71165, PG. 2189)
2901 N MACARTHUR BLVD

LOT 16

ABANDON 443 LF OF EXISTING 14" WATER

REMOVE 13 SY OF EXISTING PAVEMENT

REMOVE EXISTING MONOLITHIC MEDIAN NOSE

REMOVE 38 SY OF EXISTING PAVEMENT

MACARTHUR BOULEVARD

REMOVE 1136 SY OF EXISTING PAVEMENT

BLOCK A
FAIRLANE PARK 2
(VOL. 50, PG. 51)
MACARTHUR PLAZA LLC
(INST. NO. 200900307235)
2802 N MACARTHUR BLVD

BLOCK A
FAIRLANE PARK 2
(VOL. 50, PG. 51)
MACARTHUR PLAZA LLC
(INST. NO. 200900307235)
2802 N MACARTHUR BLVD

MATCH LINE STA - 7+00

LOT 13
BLOCK E
TERRY PARK
(VOL. 134, PG. 2438)
SACHIN INVESTMENTS LLC SERIES J
(INST. NO. 201400171699)
1102 ANDERSON ST

ANDERSON STREET

ABANDON 79 LF OF EXISTING 8" WATER

REMOVE 32 LF OF EXISTING 18" RCP STORM DRAIN

REMOVE 35 LF OF EXISTING 24" RCP STORM DRAIN

PROPOSED ROW

REMOVE 43 SY OF EXISTING DRIVEWAY

REMOVE 77 SY OF EXISTING CONCRETE FLATWORK

REMOVE 261 LF OF EXISTING 48" RCP STORM DRAIN

REMOVE 26 LF OF EXISTING 39" RCP STORM DRAIN

IRVING NORTH CHRISTIAN CHURCH
(VOL. 71165, PG. 2189)
2901 N MACARTHUR BLVD

REMOVE EXISTING JUNCTION BOX

REMOVE 1747 SY OF EXISTING PAVEMENT

REMOVE 42 SY OF EXISTING CONCRETE FLATWORK

ABANDON 402 LF OF EXISTING 14" WATER

MACARTHUR BOULEVARD

REMOVE 325 SY OF EXISTING BRICK PAVERS

REMOVE 39 SY OF EXISTING CONCRETE FLATWORK

REMOVE 184 SY OF EXISTING DRIVEWAY

LOT 1
BLOCK A
STAVELY ADDITION
(VOL. 85146, PG. 982)
MACARTHUR 2900 LLC
(INST. NO. 201600169410)
2900 N MACARTHUR BLVD

ABANDON 335 LF OF EXISTING 8" SS

REMOVE 57 SY OF EXISTING CONCRETE FLATWORK

ABANDON 34 LF OF EXISTING WATER

ABANDON 34 LF OF EXISTING WATER

RYAN ROSS WAYNE
(VOL. 2002057, PG. 1971)
2904 N MACARTHUR BLVD

REMOVE 80 SY OF EXISTING DRIVEWAY

REMOVE 49 LF OF EXISTING 24" RCP STORM DRAIN

REMOVE EXISTING INLET

REMOVE 17 SY OF EXISTING CONCRETE FLATWORK

REMOVE 18 LF OF EXISTING 33" RCP STORM DRAIN

MATCH LINE STA - 11+00

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
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CITY OF IRVING
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50 DP
STA 7+96.45 TO STA 14+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 5

RPAROULEK
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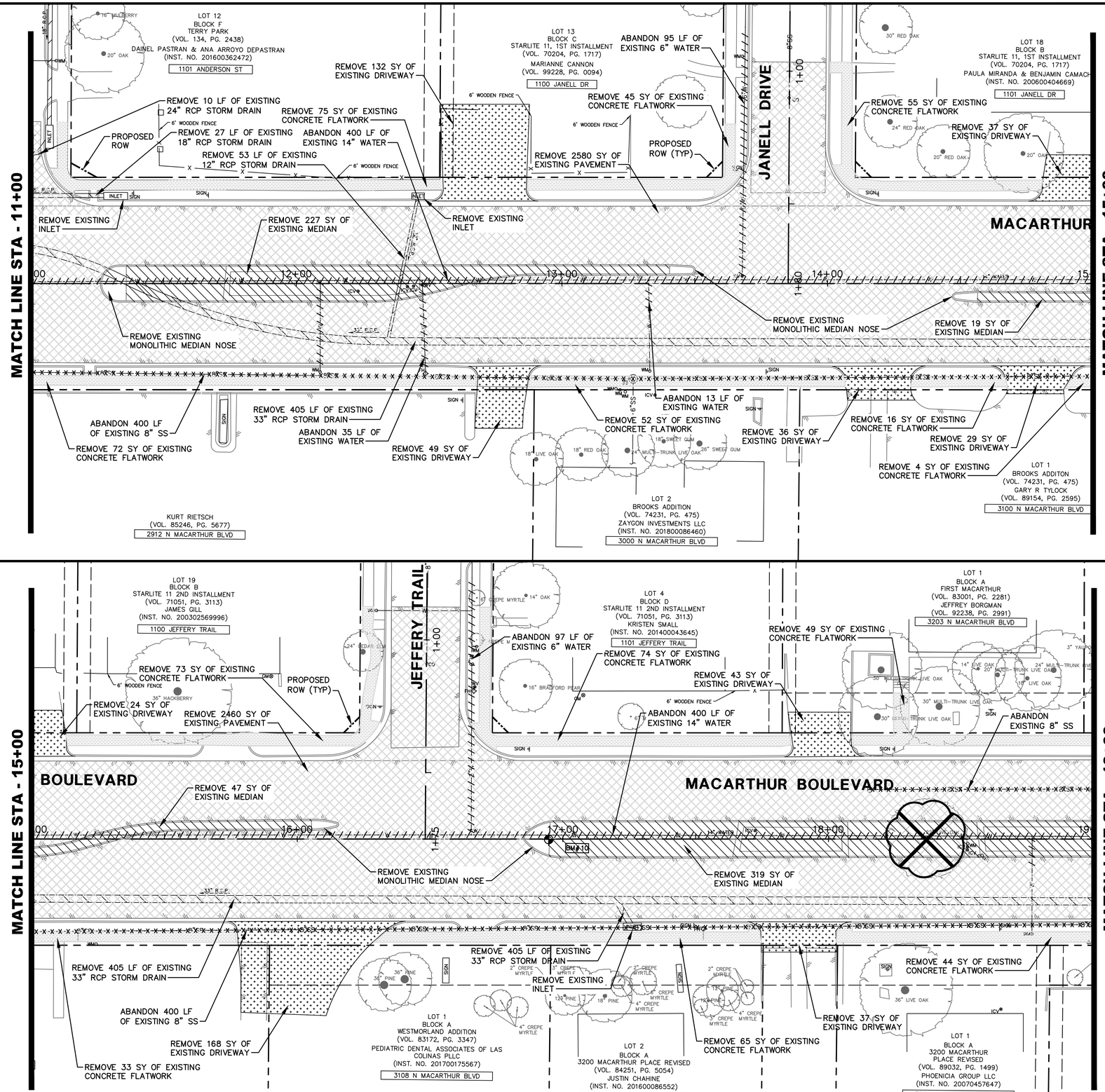

TREE REMOVAL SCHEDULE

22" LIVE OAK

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- x x x x x ABANDON/REMOVE EXISTING SEWER
- xxxxxxxxxxxx REMOVE EXISTING FENCE
- / / / / / ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
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51 DP
STA 14+00 TO STA 20+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 6

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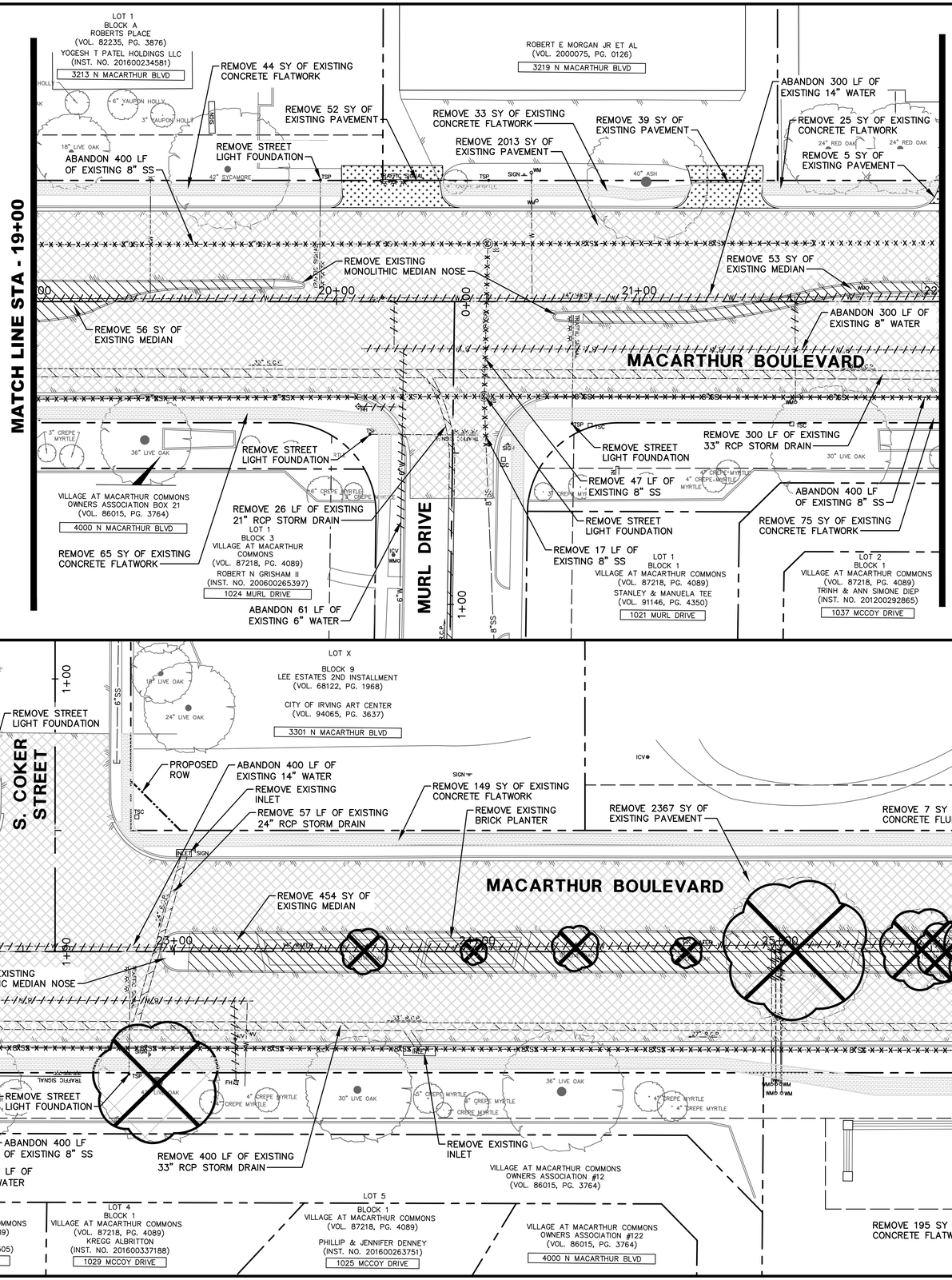

TREE REMOVAL SCHEDULE

42" LIVE OAK
9" LIVE OAK
4" CREPE MURTLE
8" LIVE OAK
7" LIVE OAK
20" LIVE OAK
15" MULTI-TRUNK CEDAR ELM
12" CEDAR ELM
16" LIVE OAK
5" MULTI-TRUNK CREPE MURTLE
8" MULTI-TRUNK CREPE MURTLE

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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52 DP
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 7

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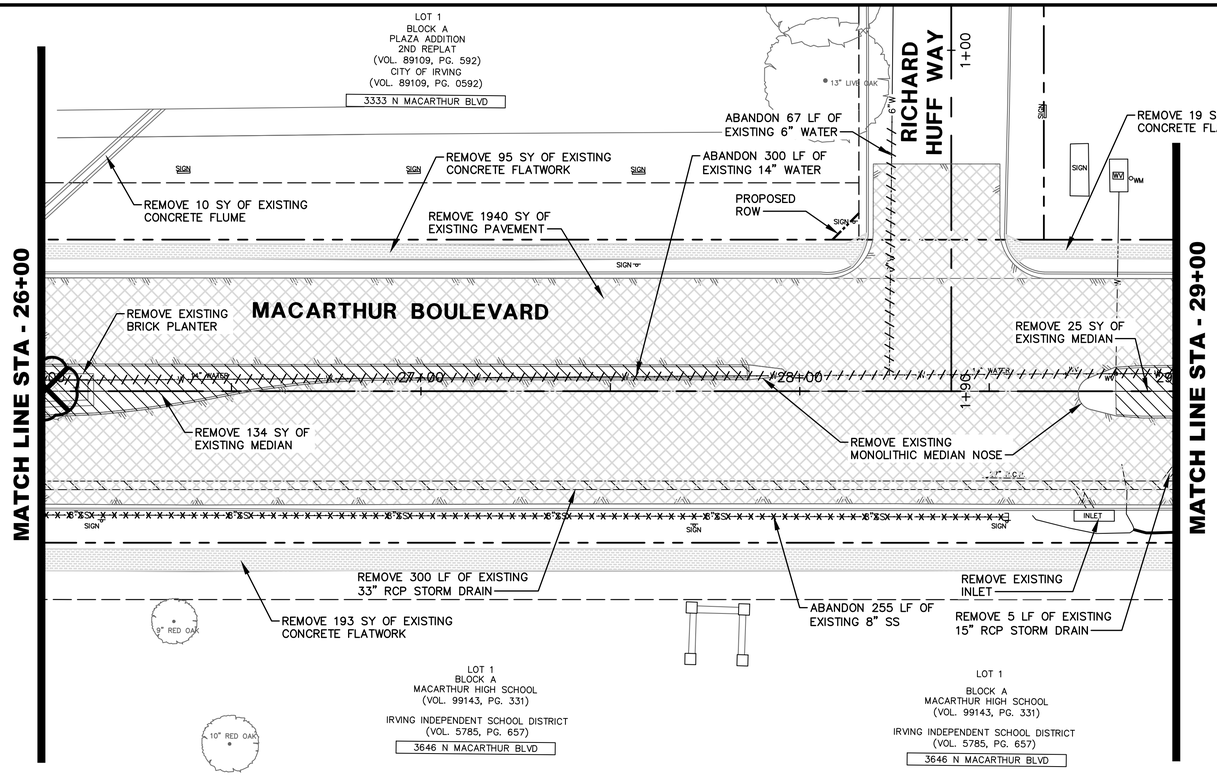

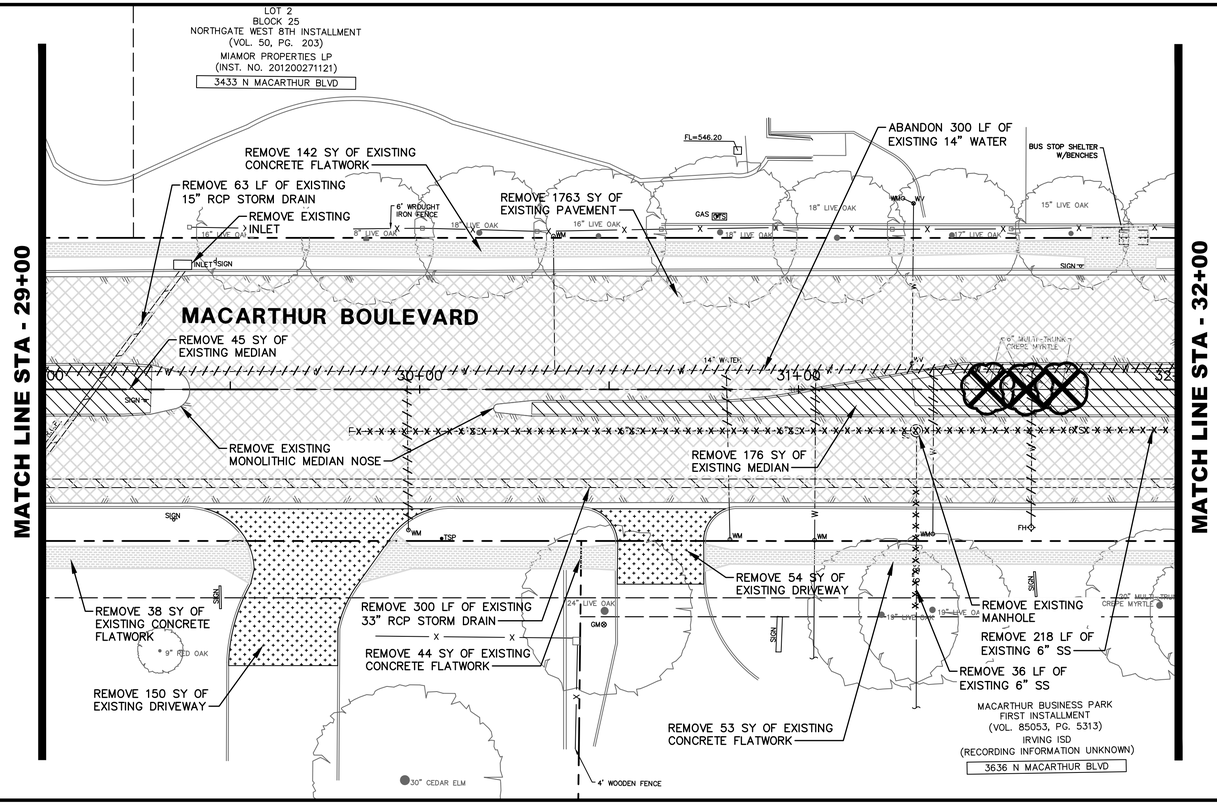

TREE REMOVAL SCHEDULE

6" MULTI-TRUNK CREPE MURTLE
6" MULTI-TRUNK CREPE MURTLE
6" MULTI-TRUNK CREPE MURTLE

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 78109 817.412.7155
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53 DP
STA 26+00 TO STA 32+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 8

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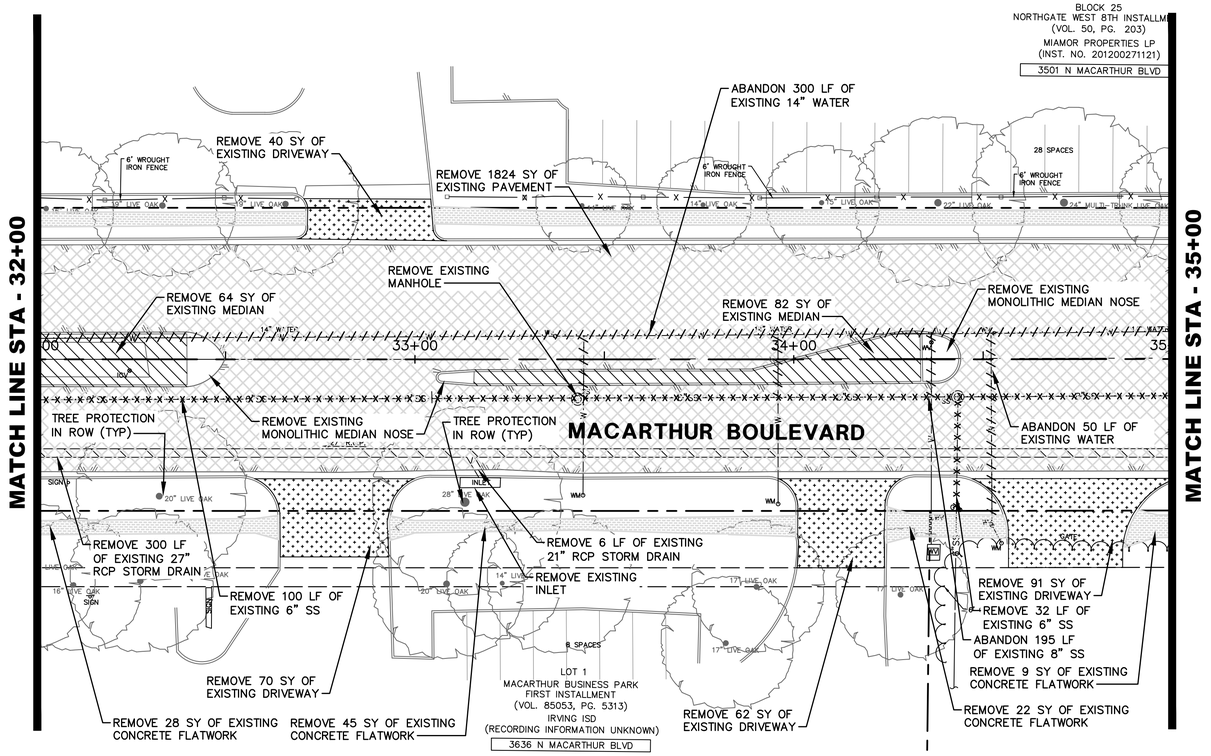

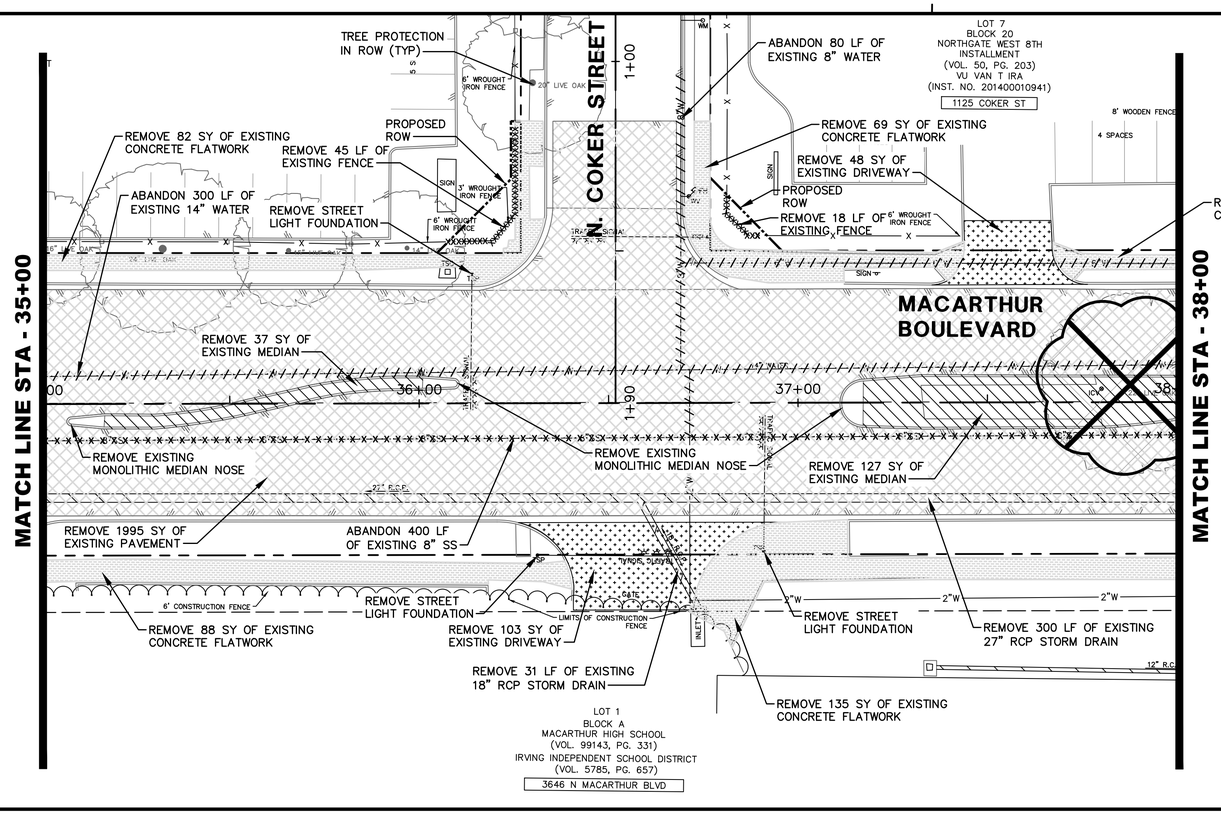

TREE REMOVAL SCHEDULE

22" LIVE OAK

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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54 DP
STA 32+00 TO STA 38+00

MACARTHUR BOULEVARD
METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 9

RPAROULEK
05/11/2022 - 10:11AM
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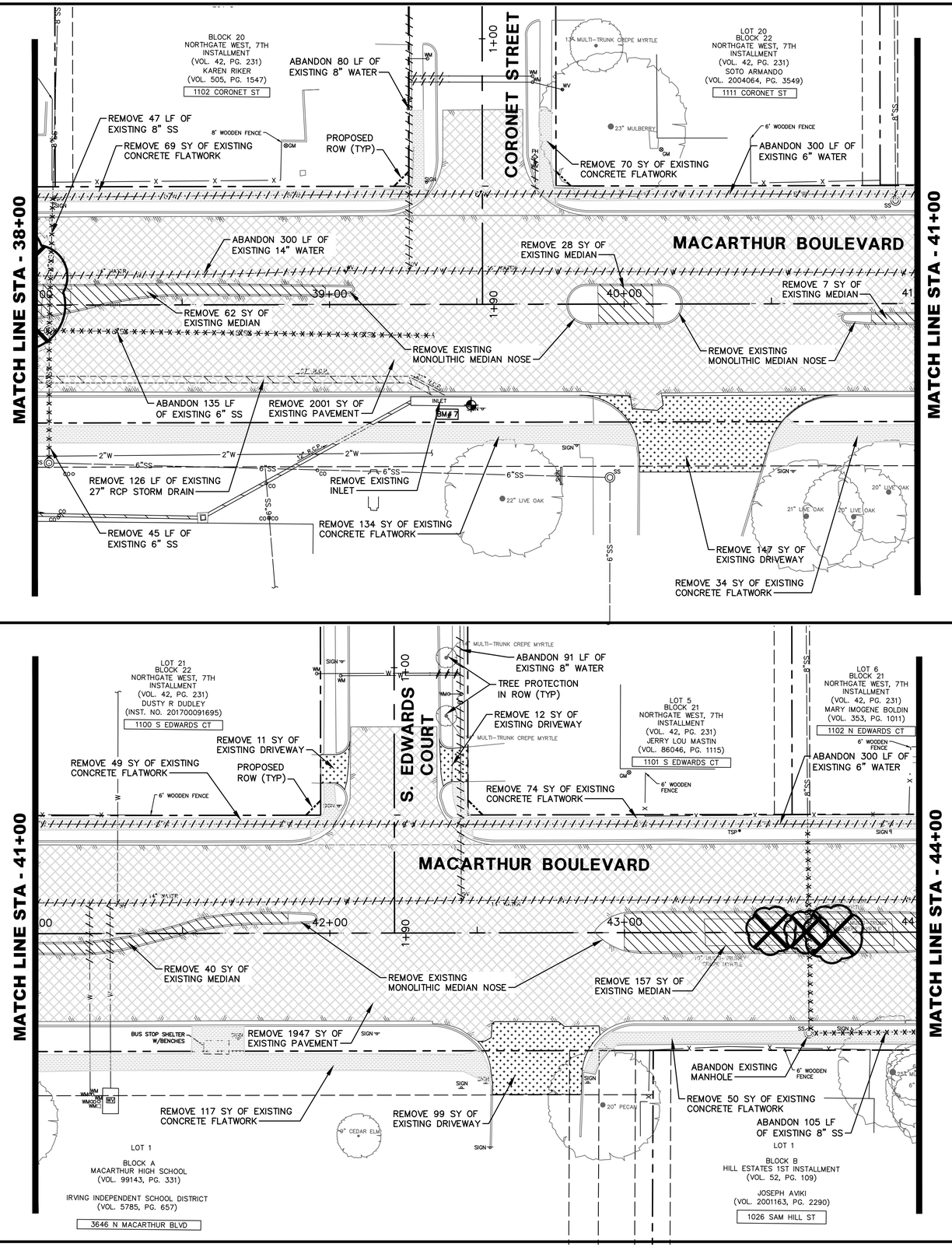

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- · X X X X X · ABANDON/REMOVE EXISTING SEWER
- XXXXXXXXXXXX · REMOVE EXISTING FENCE
- · / / / / / · ABANDON EXISTING WATER
- REMOVE EXISTING TREE

TREE REMOVAL SCHEDULE

10" MULTI-TRUNK CREPE MURTLE
8" MULTI-TRUNK CREPE MURTLE
9" MULTI-TRUNK CREPE MURTLE

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
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DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

55 DP
STA 38+00 TO STA 44+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 10

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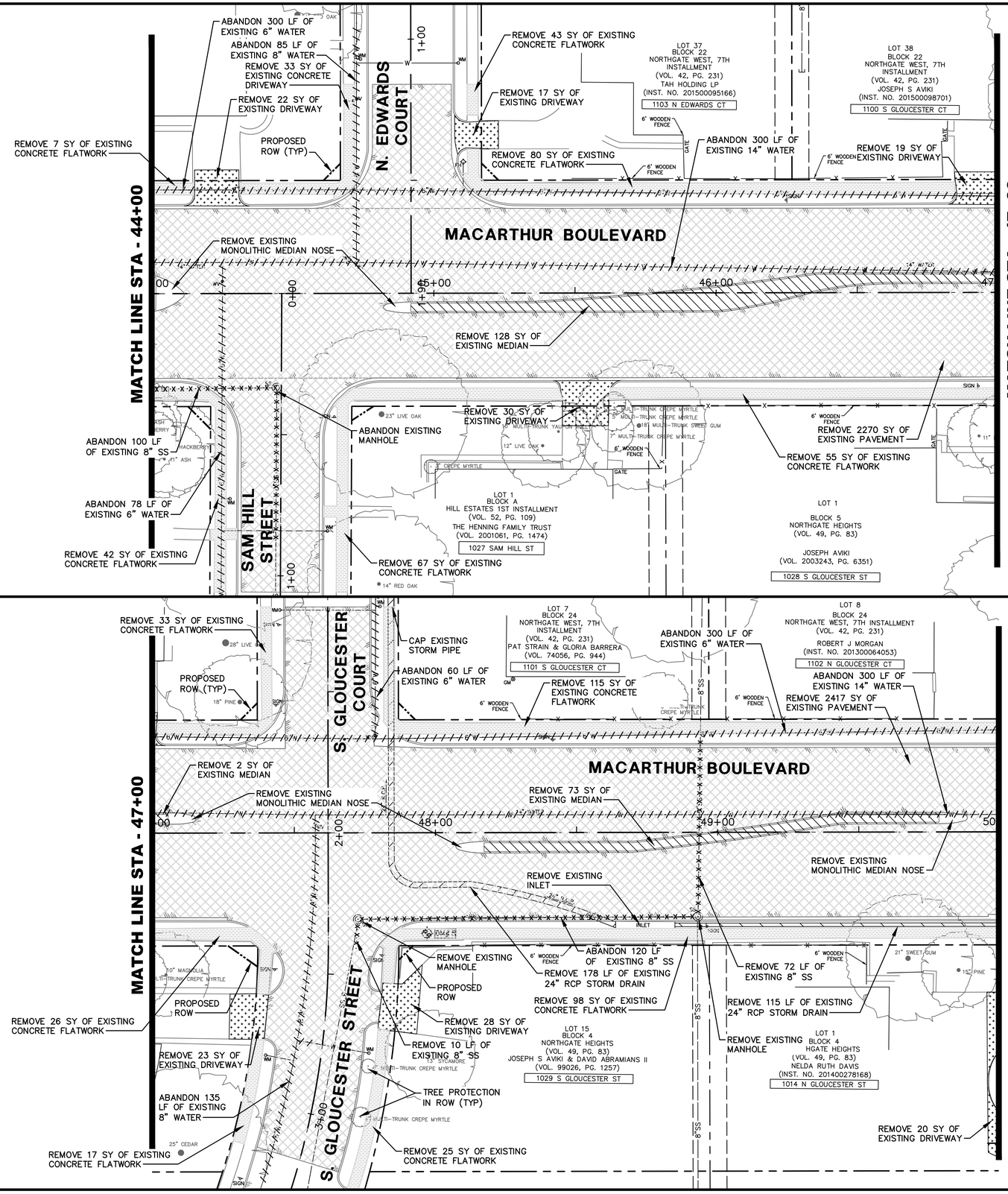


0 10 20 40 60
HORIZONTAL SCALE IN FEET

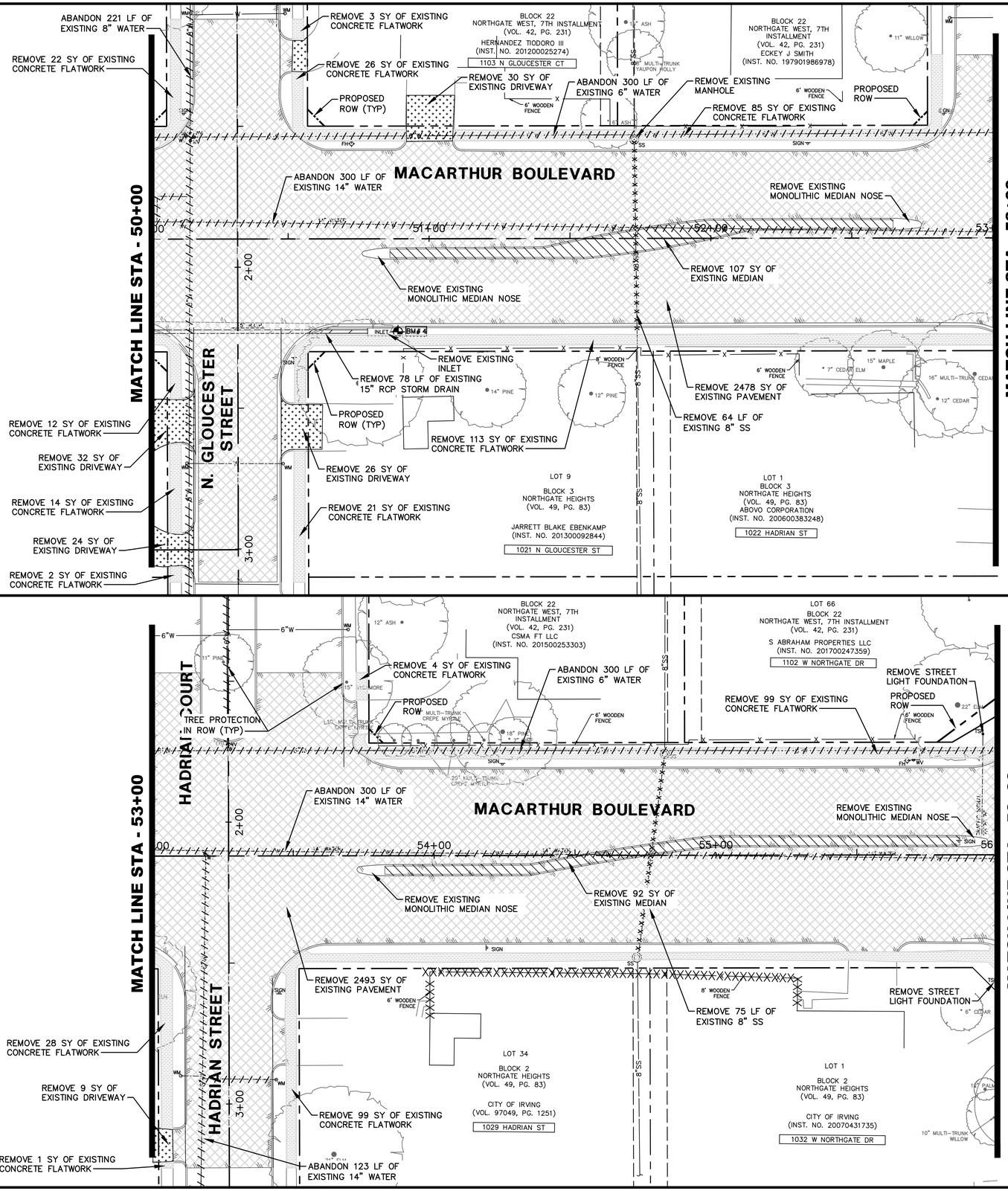
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
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- REMOVE EXISTING TREE

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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/11/2022

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/11/2022. IT IS A VIOLATION OF LAW TO ALTER THIS DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

57 DP
STA 50+00 TO STA 56+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 12

RPAROULEK
05/11/2022 - 10:12AM
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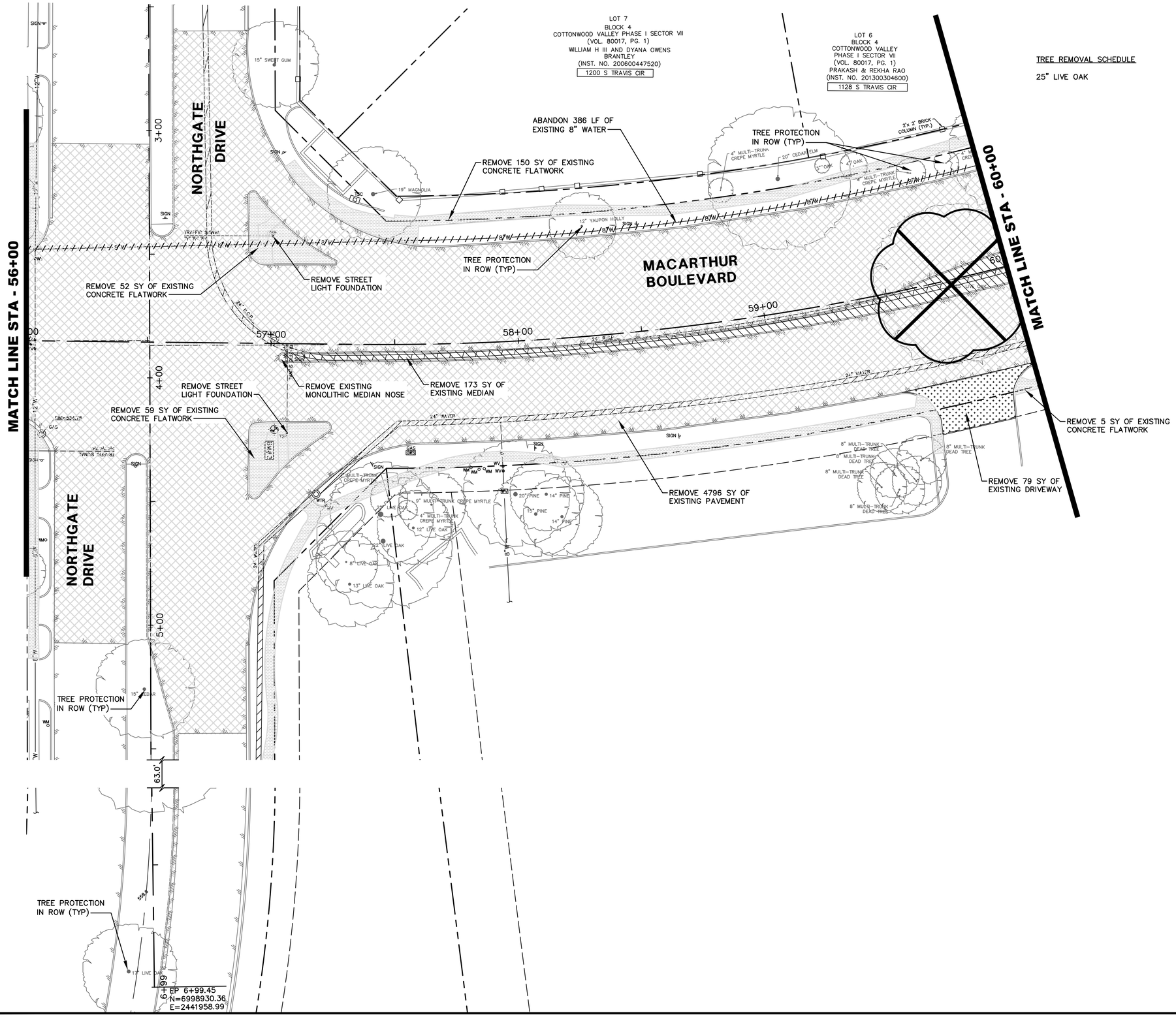

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ABANDON/REMOVE EXISTING SEWER
- REMOVE EXISTING FENCE
- ABANDON EXISTING WATER
- REMOVE EXISTING TREE

NOTE:
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REV	DATE	BY	REVISIONS:

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

XXXXXXXX
XX/XXXX

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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4060 BRYANT IRVIN ROAD
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

SHEET
13

58 DP
STA 56+00 TO STA 60+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

RPAROULEK
05/11/2022 - 10:12AM
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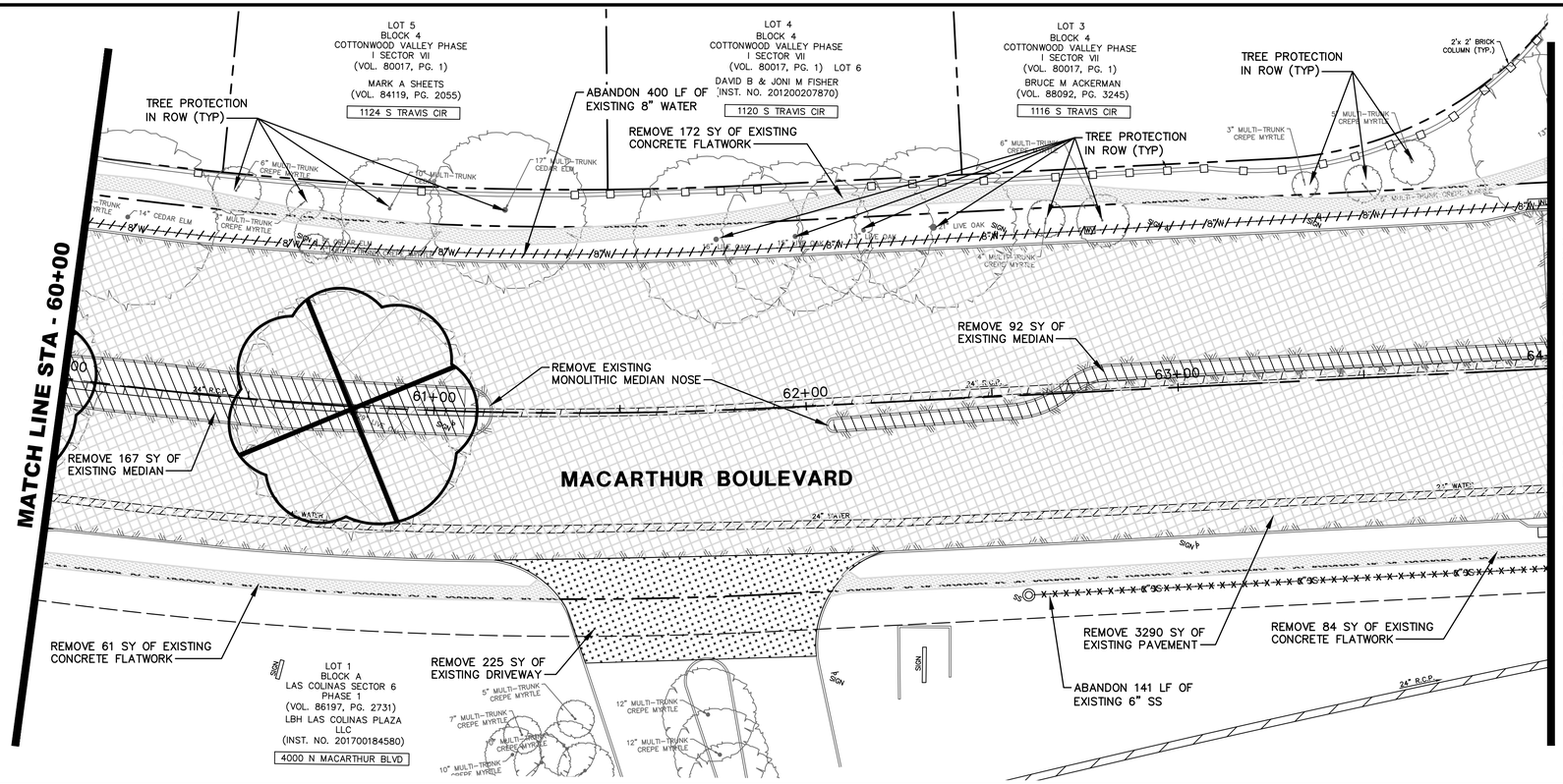

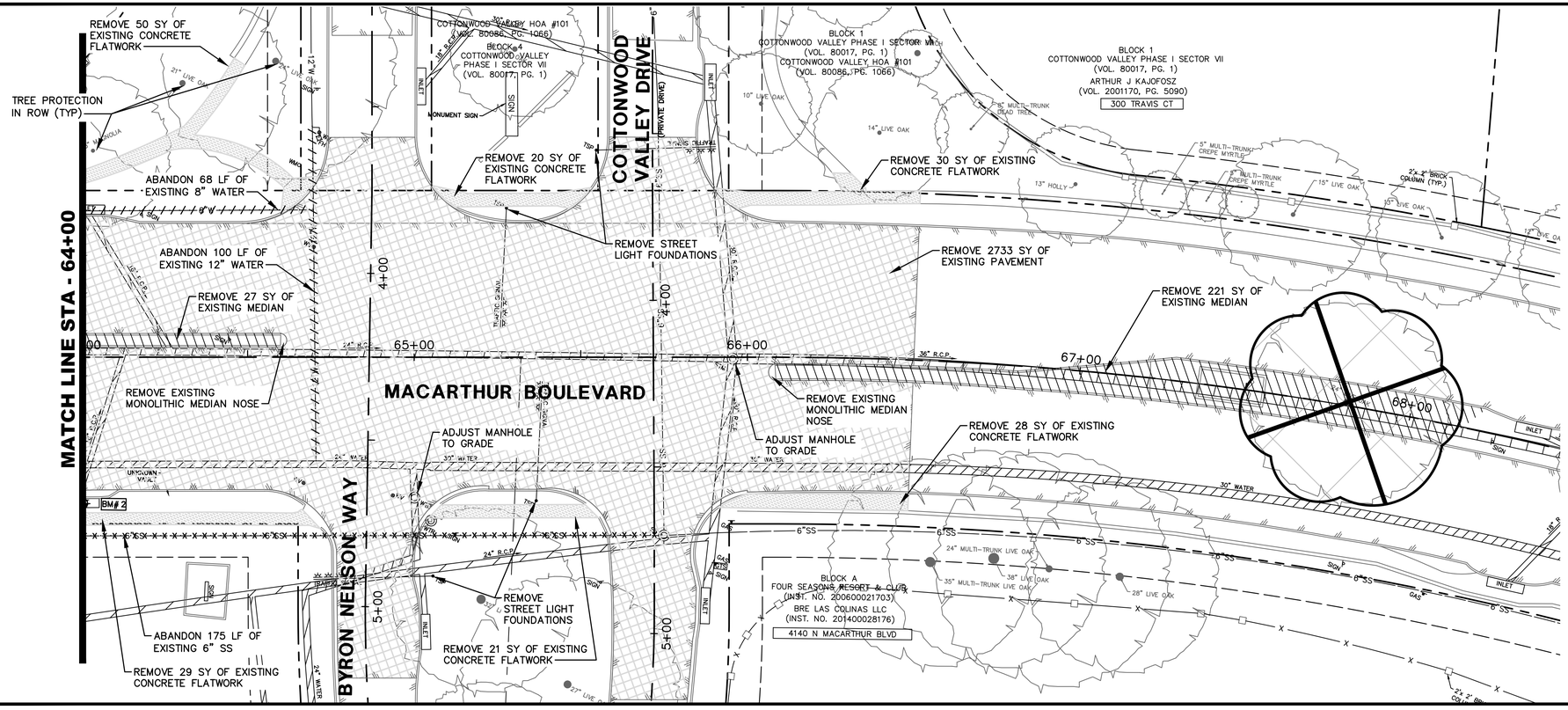

TREE REMOVAL SCHEDULE

29" LIVE OAK

TREE REMOVAL SCHEDULE

24" LIVE OAK

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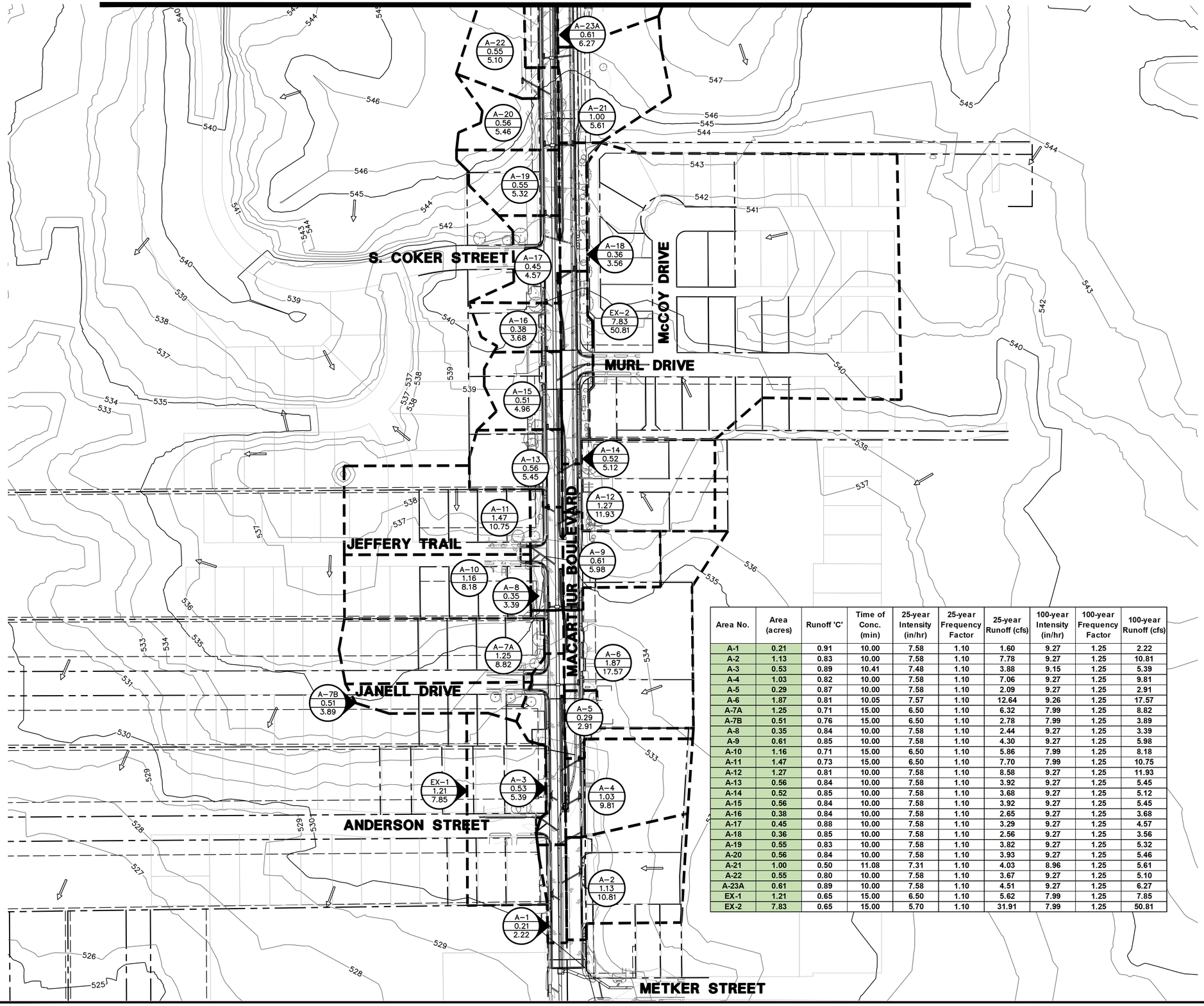
0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- REMOVE EXISTING PAVEMENT
- REMOVE EXISTING MEDIAN
- REMOVE EXISTING DRIVEWAY
- REMOVE EXISTING SIDEWALK
- ·x x x x x· ABANDON/REMOVE EXISTING SEWER
- xxxxxxxxxxxx· REMOVE EXISTING FENCE
- ·/ / / / /· ABANDON EXISTING WATER
- REMOVE EXISTING TREE

REV	DATE	BY	REVISIONS:



Area No.	Area (acres)	Runoff 'C'	Time of Conc. (min)	25-year Intensity (in/hr)	25-year Frequency Factor	25-year Runoff (cfs)	100-year Intensity (in/hr)	100-year Frequency Factor	100-year Runoff (cfs)
A-1	0.21	0.91	10.00	7.58	1.10	1.60	9.27	1.25	2.22
A-2	1.13	0.83	10.00	7.58	1.10	7.78	9.27	1.25	10.81
A-3	0.53	0.89	10.41	7.48	1.10	3.88	9.15	1.25	5.39
A-4	1.03	0.82	10.00	7.58	1.10	7.06	9.27	1.25	9.81
A-5	0.29	0.87	10.00	7.58	1.10	2.09	9.27	1.25	2.91
A-6	1.87	0.81	10.05	7.57	1.10	12.64	9.26	1.25	17.57
A-7A	1.25	0.71	15.00	6.50	1.10	6.32	7.99	1.25	8.82
A-7B	0.51	0.76	15.00	6.50	1.10	2.78	7.99	1.25	3.89
A-8	0.35	0.84	10.00	7.58	1.10	2.44	9.27	1.25	3.39
A-9	0.61	0.85	10.00	7.58	1.10	4.30	9.27	1.25	5.98
A-10	1.16	0.71	15.00	6.50	1.10	5.86	7.99	1.25	8.18
A-11	1.47	0.73	15.00	6.50	1.10	7.70	7.99	1.25	10.75
A-12	1.27	0.81	10.00	7.58	1.10	8.58	9.27	1.25	11.93
A-13	0.56	0.84	10.00	7.58	1.10	3.92	9.27	1.25	5.45
A-14	0.52	0.85	10.00	7.58	1.10	3.68	9.27	1.25	5.12
A-15	0.56	0.84	10.00	7.58	1.10	3.92	9.27	1.25	5.45
A-16	0.38	0.84	10.00	7.58	1.10	2.65	9.27	1.25	3.68
A-17	0.45	0.88	10.00	7.58	1.10	3.29	9.27	1.25	4.57
A-18	0.36	0.85	10.00	7.58	1.10	2.56	9.27	1.25	3.56
A-19	0.55	0.83	10.00	7.58	1.10	3.82	9.27	1.25	5.32
A-20	0.56	0.84	10.00	7.58	1.10	3.93	9.27	1.25	5.46
A-21	1.00	0.50	11.08	7.31	1.10	4.03	8.96	1.25	5.61
A-22	0.55	0.80	10.00	7.58	1.10	3.67	9.27	1.25	5.10
A-23A	0.61	0.89	10.00	7.58	1.10	4.51	9.27	1.25	6.27
EX-1	1.21	0.65	15.00	6.50	1.10	5.62	7.99	1.25	7.85
EX-2	7.83	0.65	15.00	5.70	1.10	31.91	7.99	1.25	50.81

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

THE SEAL APPEARING ON THIS DOCUMENTS WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. IT IS NOT TO BE USED FOR BIDDING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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CITY OF IRVING
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DRAINAGE AREA MAP
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 15

M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_DA.DWG

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MATCH LINE B-B

MATCH LINE A-A

N. EDWARDS COURT

SAM HILL STREET

S. EDWARDS COURT

MACARTHUR BOULEVARD

CORONET STREET

N. COKER STREET

RICHARD HUFF

A-38 0.52 4.91

A-37 1.68 11.75

A-36 1.54 10.73

A-35B 1.30 9.07

A-35A 0.22 2.42

A-35C 1.33 9.34

A-34 2.00 14.58

A-33 2.96 21.53

A-32 0.55 5.45

A-31 1.99 14.79

EX-3 1.13 7.86

A-30 0.33 3.31

A-29 2.77 19.96

A-27 0.46 4.62

A-28 2.58 24.25

A-26 1.13 10.83

A-25 0.73 7.32

A-24 0.64 5.05

A-23A 0.61 6.27

A-23B 1.31 7.26

A-22 0.55 5.10

0 50 100 200 300

HORIZONTAL SCALE IN FEET

LEGEND

- PROPOSED DRAINAGE DIVIDE
- DRAINAGE FLOW DIRECTION
- DA X / X.XX / XX.XX — DRAINAGE AREA ID, AREA IN ACRES, Q_{100} IN FT^3/SECOND
- 571 — CONTOUR

Area No.	Area (acres)	Runoff 'C'	Time of Conc. (min)	25-year Intensity (in/hr)	25-year Frequency Factor	25-year Runoff (cfs)	100-year Intensity (in/hr)	100-year Frequency Factor	100-year Runoff (cfs)
A-22	0.55	0.80	10.00	7.58	1.10	3.67	9.27	1.25	5.10
A-23A	0.61	0.89	10.00	7.58	1.10	4.51	9.27	1.25	6.27
A-23B	1.31	0.48	10.00	7.58	1.10	5.22	9.27	1.25	7.26
A-24	0.64	0.68	10.00	7.58	1.10	3.63	9.27	1.25	5.05
A-25	0.73	0.87	10.00	7.58	1.10	5.27	9.27	1.25	7.32
A-26	1.13	0.83	10.00	7.58	1.10	7.79	9.27	1.25	10.83
A-27	0.46	0.87	10.00	7.58	1.10	3.32	9.27	1.25	4.62
A-28	2.58	0.81	10.00	7.58	1.10	17.44	9.27	1.25	24.25
A-29	1.99	0.63	10.00	7.58	1.10	10.45	9.27	1.25	14.53
A-30	0.33	0.87	10.00	7.58	1.10	2.38	9.27	1.25	3.31
A-31	1.99	0.64	10.00	7.58	1.10	10.64	9.27	1.25	14.79
A-32	0.55	0.86	10.00	7.58	1.10	3.92	9.27	1.25	5.45
A-33	2.96	0.63	10.00	7.58	1.10	15.48	9.27	1.25	21.53
A-34	2.00	0.63	10.00	7.58	1.10	10.49	9.27	1.25	14.58
A-35A	0.22	0.95	10.00	7.58	1.10	1.74	9.27	1.25	2.42
A-35B	1.30	0.70	15.00	6.50	1.10	6.49	7.99	1.25	9.07
A-35C	1.33	0.70	15.00	6.50	1.10	6.69	7.99	1.25	9.34
A-36	1.54	0.70	15.00	6.50	1.10	7.69	7.99	1.25	10.73
A-37	1.68	0.70	15.00	6.50	1.10	8.41	7.99	1.25	11.75
A-38	0.52	0.82	10.00	7.58	1.10	3.53	9.27	1.25	4.91
EX-3	1.13	0.60	10.00	6.70	1.10	5.00	9.27	1.25	7.86

REVISIONS:

REV	DATE	BY	
1			
2			
3			
4			
5	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch

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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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SHEET 16

DRAINAGE AREA MAP
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

RPAROULEK
05/10/2022 - 9:23AM
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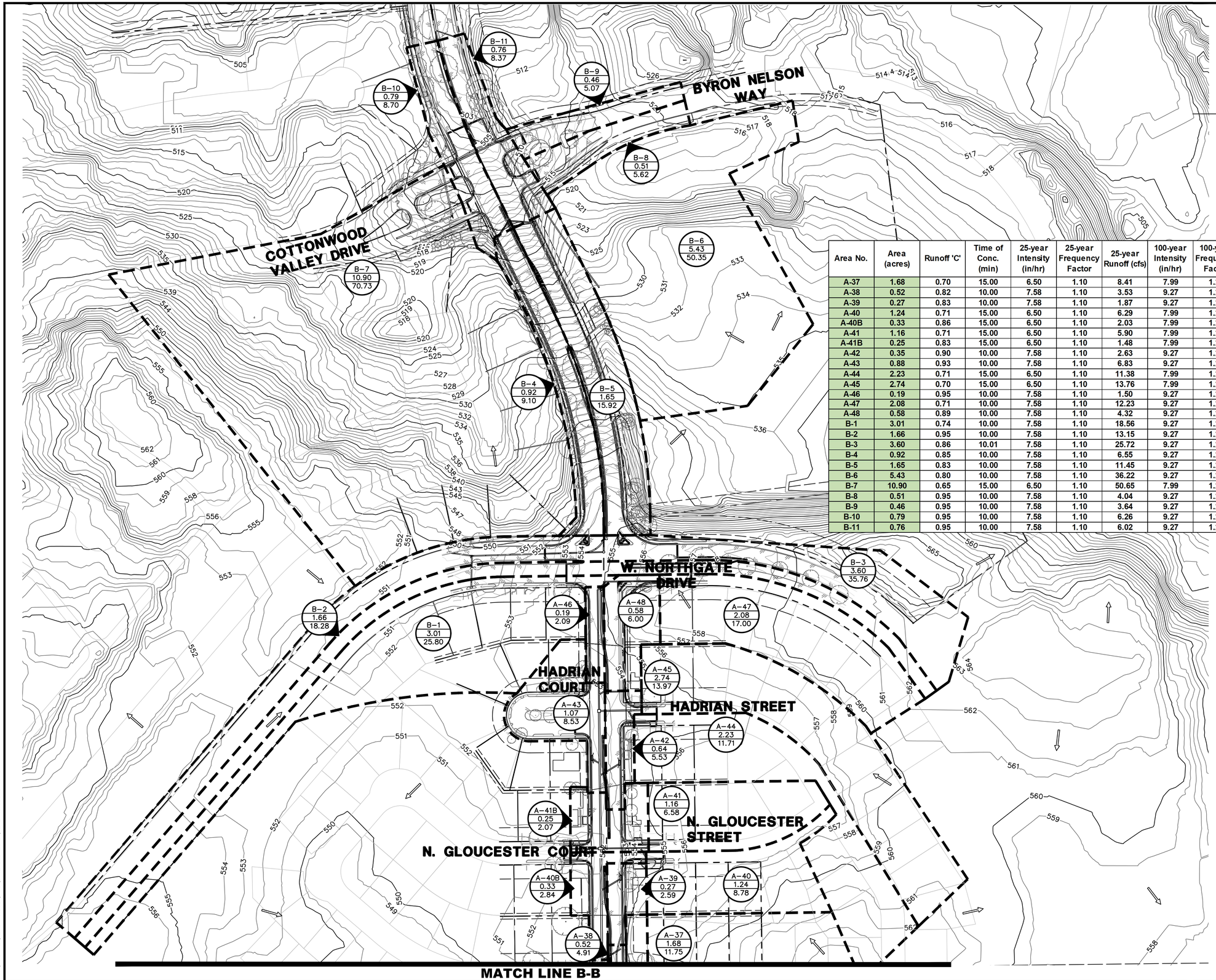

Area No.	Area (acres)	Runoff 'C'	Time of Conc. (min)	25-year Intensity (in/hr)	25-year Frequency Factor	25-year Runoff (cfs)	100-year Intensity (in/hr)	100-year Frequency Factor	100-year Runoff (cfs)
A-37	1.68	0.70	15.00	6.50	1.10	8.41	7.99	1.25	11.75
A-38	0.52	0.82	10.00	7.58	1.10	3.53	9.27	1.25	4.91
A-39	0.27	0.83	10.00	7.58	1.10	1.87	9.27	1.25	2.59
A-40	1.24	0.71	15.00	6.50	1.10	6.29	7.99	1.25	8.78
A-40B	0.33	0.86	15.00	6.50	1.10	2.03	7.99	1.25	2.84
A-41	1.16	0.71	15.00	6.50	1.10	5.90	7.99	1.25	8.23
A-41B	0.25	0.83	15.00	6.50	1.10	1.48	7.99	1.25	2.07
A-42	0.35	0.90	10.00	7.58	1.10	2.63	9.27	1.25	3.65
A-43	0.88	0.93	10.00	7.58	1.10	6.83	9.27	1.25	9.49
A-44	2.23	0.71	15.00	6.50	1.10	11.38	7.99	1.25	15.90
A-45	2.74	0.70	15.00	6.50	1.10	13.76	7.99	1.25	19.21
A-46	0.19	0.95	10.00	7.58	1.10	1.50	9.27	1.25	2.09
A-47	2.08	0.71	10.00	7.58	1.10	12.23	9.27	1.25	17.00
A-48	0.58	0.89	10.00	7.58	1.10	4.32	9.27	1.25	6.00
B-1	3.01	0.74	10.00	7.58	1.10	18.56	9.27	1.25	25.80
B-2	1.66	0.95	10.00	7.58	1.10	13.15	9.27	1.25	18.28
B-3	3.60	0.86	10.01	7.58	1.10	25.72	9.27	1.25	35.76
B-4	0.92	0.85	10.00	7.58	1.10	6.55	9.27	1.25	9.10
B-5	1.65	0.83	10.00	7.58	1.10	11.45	9.27	1.25	15.92
B-6	5.43	0.80	10.00	7.58	1.10	36.22	9.27	1.25	50.35
B-7	10.90	0.65	15.00	6.50	1.10	50.65	7.99	1.25	70.73
B-8	0.51	0.95	10.00	7.58	1.10	4.04	9.27	1.25	5.62
B-9	0.46	0.95	10.00	7.58	1.10	3.64	9.27	1.25	5.07
B-10	0.79	0.95	10.00	7.58	1.10	6.26	9.27	1.25	8.70
B-11	0.76	0.95	10.00	7.58	1.10	6.02	9.27	1.25	8.37

0 50 100 200 300
HORIZONTAL SCALE IN FEET

LEGEND

- PROPOSED DRAINAGE DIVIDE
- DRAINAGE FLOW DIRECTION
- DA X / X.XX / XX.XX — DRAINAGE AREA ID, AREA IN ACRES, Q_{100} IN FT^3/SECOND
- 571 — CONTOUR

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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TX REG. ENGINEERING FIRM F-469
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(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 17

RPAROULEK
05/10/2022 – 9:24AM
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LINE ST–A HYDRAULIC CALCULATIONS

25-YEAR STORM DRAIN HYDRAULIC CALCULATIONS TABLE

FROM (DS)	TO DESIGN (US)	Pipe Length	Drainage Area			Runoff 'C'	Incr. cA	Total cA	Time of Concentration			25-yr Intensity	25-yr Frequency	100-yr Intensity	100-yr Frequency	Q25 Runoff	Q100 Runoff	Inlet Bypass	Q Pipe	Pipe Size	n	Sf	HGL		HEAD LOSS CALCULATIONS							Design HGL	Invert Elev.		T/C ELEV.
			Incremental		Total				Inlet	Travel	Total												D/S	U/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2g$	Hk		FROM	TO	
			No.	Area	Area				min.	min.	min.	in/hr		in/hr		cfs	cfs	cfs	cfs	in.		ft/ft	Elev.	Elev.	ft/sec	ft/sec	ft.	ft.	ft.	ft.	ft.	Elev.	ft.	ft.	ft.
1	2	3	4	5	6	7	8	9	10	11	12	13		14		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
A																																			
0+00.00	1+46.55	146.55	A-1	0.21	63.51	0.91	0.19	45.94	10.00	0.29	26.43	4.97	1.10	6.16	1.25	251.31	353.76	0.00	251.31	6' x 5'	0.015	0.0047	525.30	525.99	8.39	8.38	1.09	1.09	0.75	0.82	0.27	526.26	519.20	520.00	529.52
1+46.55	1+79.25	32.70	A-2	1.13	63.30	0.83	0.93	45.75	10.00	0.06	26.14	5.00	1.10	6.19	1.25	251.71	354.27	0.00	251.71	6' x 5'	0.015	0.0047	526.26	526.42	8.23	8.39	1.05	1.09	0.75	0.79	0.30	526.72	520.00	520.18	529.36
1+79.25	2+86.54	107.29	EX-1	1.21	62.17	0.65	0.79	44.82	15.00	0.21	26.08	5.01	1.10	6.20	1.25	246.87	347.45	0.00	246.87	6' x 5'	0.015	0.0046	526.72	527.21	8.12	8.23	1.02	1.05	0.75	0.77	0.28	527.50	520.18	520.76	530.00
2+86.54	3+33.92	47.38	A-4	1.03	60.96	0.82	0.85	44.03	10.00	0.09	25.87	5.03	1.10	6.23	1.25	243.57	342.75	0.00	243.57	6' x 5'	0.015	0.0044	527.50	527.71	7.98	8.12	0.99	1.02	0.75	0.74	0.28	527.99	520.76	521.02	529.34
3+33.92	3+49.57	15.65	A-3	0.53	59.93	0.89	0.47	43.18	10.41	0.03	25.78	5.04	1.10	6.24	1.25	239.32	336.75	0.00	239.32	6' x 5'	0.015	0.0043	527.99	528.06	7.88	7.98	0.96	0.99	0.75	0.72	0.26	528.32	521.02	521.11	529.54
3+49.57	4+10.00	60.43	A-5	0.29	59.40	0.87	0.25	42.71	10.00	0.12	25.75	5.04	1.10	6.24	1.25	236.85	333.27	0.39	236.46	6' x 5'	0.015	0.0042	528.32	528.57	7.87	7.88	0.96	0.96	0.75	0.72	0.24	528.82	521.11	521.44	529.82
4+10.00	5+89.38	179.38	A-6, A-7A, A-7B	3.63	59.11	0.77	2.79	42.46	15.00	0.37	25.63	5.05	1.10	6.26	1.25	236.03	332.09	0.00	236.03	6' x 5'	0.015	0.0042	528.82	529.57	7.41	7.87	0.85	0.96	0.25	0.21	0.75	530.31	521.44	522.41	532.16
5+89.38	7+50.00	160.62	A-8 & A-9	0.96	55.48	0.84	0.81	39.67	10.00	0.36	25.26	5.09	1.10	6.30	1.25	222.18	312.54	0.00	222.18	6' x 5'	0.015	0.0037	530.31	530.91	7.28	7.41	0.82	0.85	0.25	0.21	0.65	531.55	522.41	523.29	533.59
7+50.00	8+34.45	84.45	A-10 & A-11	2.63	54.52	0.72	1.90	38.86	15.00	0.19	24.90	5.13	1.10	6.35	1.25	219.26	308.37	0.80	218.47	6' x 5'	0.015	0.0036	531.55	531.85	6.98	7.28	0.76	0.82	0.75	0.57	0.26	532.11	523.29	523.75	534.89
8+34.45	9+17.64	83.19	A-12	1.27	51.89	0.81	1.03	36.97	10.00	0.19	24.71	5.15	1.10	6.37	1.25	209.39	294.44	0.09	209.30	6' x 5'	0.015	0.0033	532.11	532.38	6.81	6.98	0.72	0.76	0.75	0.54	0.22	532.60	523.75	524.20	535.33
9+17.64	9+43.45	25.81	A-13	0.56	50.62	0.84	0.47	35.94	10.00	0.06	24.52	5.17	1.10	6.40	1.25	204.36	287.34	0.00	204.36	6' x 5'	0.015	0.0031	532.60	532.68	6.73	6.81	0.70	0.72	0.75	0.53	0.19	532.87	524.20	524.34	535.36
9+43.45	10+21.96	78.51	A-14	0.52	50.06	0.85	0.44	35.47	10.00	0.19	24.46	5.18	1.10	6.40	1.25	201.94	283.93	0.00	201.94	6' x 5'	0.015	0.0031	532.87	533.11	6.67	6.73	0.69	0.70	0.75	0.52	0.18	533.30	524.34	524.77	536.24
10+21.96	11+08.55	86.59	A-15	0.56	49.54	0.84	0.47	35.03	10.00	0.21	24.27	5.20	1.10	6.43	1.25	200.22	281.48	0.00	200.22	6' x 5'	0.015	0.0030	533.30	533.56	6.61	6.67	0.68	0.69	0.75	0.51	0.18	533.74	524.77	525.24	536.85
11+08.55	12+13.73	105.18	EX-2	7.83	48.98	0.65	5.09	34.56	15.00	0.26	24.06	5.22	1.10	6.46	1.25	198.41	278.90	0.00	198.41	6' x 5'	0.015	0.0029	533.74	534.05	5.67	6.61	0.50	0.68	0.75	0.37	0.30	534.35	525.24	525.82	537.95
12+13.73	12+68.64	54.91	A-16	0.38	41.15	0.84	0.32	29.47	10.00	0.16	23.80	5.25	1.10	6.49	1.25	170.12	239.09	0.04	170.08	6' x 5'	0.015	0.0022	534.35	534.47	5.63	5.67	0.49	0.50	0.75	0.37	0.13	534.60	525.82	526.12	538.29
12+68.64	13+66.15	97.51	A-17	0.45	40.77	0.88	0.39	29.15	10.00	0.28	23.64	5.27	1.10	6.51	1.25	168.86	237.30	0.00	168.86	6' x 5'	0.015	0.0021	534.60	534.81	5.59	5.63	0.48	0.49	0.75	0.36	0.13	534.94	526.12	526.65	539.16
13+66.15	14+18.30	52.15	A-18	0.36	40.32	0.85	0.31	28.75	10.00	0.15	23.36	5.30	1.10	6.55	1.25	167.58	235.45	0.00	167.58	6' x 5'	0.015	0.0021	534.94	535.05	5.54	5.59	0.48	0.48	0.75	0.36	0.13	535.18	526.65	526.93	539.68
14+18.30	15+48.90	130.60	A-19	0.55	39.96	0.83	0.46	28.45	10.00	0.39	23.21	5.32	1.10	6.57	1.25	166.33	233.67	0.00	166.33	6' x 5'	0.015	0.0021	535.18	535.45	5.50	5.54	0.47	0.48	0.75	0.35	0.13	535.57	526.93	527.65	540.81
15+48.90	17+00.00	151.10	A-20 & A-21	1.56	39.41	0.62	0.97	27.99	11.08	0.45	22.82	5.36	1.10	6.63	1.25	165.04	231.80	0.09	164.95	6' x 5'	0.015	0.0020	535.57	535.88	6.44	5.50	0.64	0.47	0.25	0.16	0.31	536.19	527.65	528.47	542.18
17+00.00	18+02.74	102.74	A-22	0.55	37.85	0.80	0.44	27.02	10.00	0.26	22.37	5.41	1.10	6.69	1.25	160.88	225.90	0.00	160.88	5' x 5'	0.015	0.0031	536.19	536.51	6.37	6.44	0.63	0.64	0.75	0.47	0.17	536.68	528.47	529.13	545.50
18+02.74	18+79.94	77.20	A-23A & A-23B	1.92	37.30	0.61	1.17	26.58	10.00	0.20	22.11	5.45	1.10	6.73	1.25	159.18	223.47	0.00	159.18	5' x 5'	0.015	0.0031	536.68	536.92	6.11	6.37	0.58	0.63	0.25	0.15	0.48	537.40	529.13	529.63	545.74
18+79.94	21+05.00	225.06	A-24 & A-25	1.37	35.38	0.69	0.95	25.41	10.00	0.61	21.91	5.47	1.10	6.76	1.25	152.87	214.58	0.00	152.87	5' x 5'	0.015	0.0028	537.40	538.04	7.59	6.11	0.89	0.58	0.25	0.22	0.36	538.40	529.63	531.08	550.23
21+05.00	22+00.00	95.00	A-26	1.13	34.01	0.83	0.93	24.46	10.00	0.20	21.30	5.55	1.10	6.85	1.25	149.22	209.37	0.16	149.06	60"	0.013	0.0033	538.40	538.71	7.34	7.59	0.84	0.89	0.75	0.63	0.27	538.97	531.08	531.70	551.64
22+00.00	25+50.00	350.00	A-27 & A-28	3.04	32.88	0.82	2.49	23.53	10.00	0.79	21.10	5.57	1.10	6.88	1.25	144.18	202.27	0.00	144.18	60"	0.013	0.0031	538.97	540.05	6.69	7.34	0.69	0.84	0.25	0.17	0.66	540.71	531.70	533.95	552.94
25+50.00	27+47.00	197.00	A-29 & A-30	2.32	29.84	0.66	1.54	21.04	10.00	0.49	20.31	5.67	1.10	7.00	1.25	131.30	184.10	0.00	131.30	60"	0.013	0.0025	540.71	541.21	7.74	6.69	0.93	0.69	0.25	0.23	0.46	541.67	533.95	535.23	553.25
27+47.00	28+42.52	95.52	EX-3	1.13	27.52	0.60	0.68	19.50	10.00	0.20	19.82	5.74	1.10	7.08	1.25	123.11	172.56	0.00	123.11	54"	0.013	0.0039	541.67	542.05	7.51	7.74	0.88	0.93	0.75	0.66	0.27	542.32	535.23	535.71	553.69
28+42.52	30+05.00	162.48	A-31 & A-32	2.54	26.39	0.69	1.75	18.82	10.00	0.36	19.62	5.77	1.10	7.11	1.25	119.40	167.34	0.00	119.40	54"	0.013	0.0037	542.32	542.92	6.87	7.51	0.73	0.88	0.25	0.18	0.69	543.61	535.71	536.53	552.22
30+05.00	31+47.00	142.00	A-33	2.96	23.85	0.63	1.86	17.07	10.00	0.34	19.26	5.82	1.10	7.17	1.25	109.26	153.10	0.00	109.26	54"	0.013	0.0031	543.61	544.05	6.17	6.87	0.59	0.73	0.75	0.44	0.29	544.34	536.53	537.24	552.79
31+47.00	33+84.32	237.32	A-34	2.00	20.89	0.63	1.26	15.22	10.00	0.64	18.92	5.87	1.10	7.23	1.25	98.19	137.54	0.00	98.19	54"	0.013	0.0025	544.34	544.93	5.75	6.17	0.51	0.59	0.75	0.39	0.21	545.14	537.24	538.44	553.15
33+84.32	35+58.12	173.80	A-35A	0.22	18.89	0.95	0.21	13.96	10.00	0.50	18.28	5.96	1.10	7.34	1.25	91.51	128.13	0.00	91.51	54"	0.013	0.0022	545.14	545.51	5.56	5.75	0.48	0.51	0.75	0.36	0.15	545.67	538.44	539.32	554.11
35+58.12	36+50.00	91.88	35-B & 35-C	2.63	18.67	0.70	1.84	13.75	15.00	0.27	17.78	6.04	1.10	7.43	1.25	91.28	127.76	2.91	88.37	54"	0.013	0.0020	545.67	545.85	5.00	5.56	0.39	0.48	0.75	0.29	0.19	546.04	539.32	539.78	556.89
36+50.00	39+60.00	310.00	A-36 & A-37	3.22	16.04	0.70	2.25	11.91	15.00	1.03	17.51	6.08	1.10	7.48	1.25	79.63	111.42	0.11	79.52	54"	0.013	0.0016	546.04	546.55	6.89	5.00	0.74	0.39	0.25	0.18	0.20	546.75	539.78	541.35	556.05
39+60.00	40+10.00	50.00	A-38	0.52	12.82	0.82	0.42	9.66	10.00	0.12	16.48	6.24	1.10	7.68	1.25	66.33	92.74	0.00	66.33	42"	0.013	0.0043	546.75	546.97	6.61	6.89	0.68	0.74	0.75	0.51	0.23	547.20	541.35	541.60	553.06
40+10.00	41+60.00	150.00	A-39	0.27	12.30	0.83	0.22	9.24	10.00	0.37	16.36	6.26	1.10	7.70	1.25	63.62	88.95	0.00	63.62	42"	0.013	0.0040	547.20	547.80	6.46	6.61	0.65	0.68	0.75	0.49	0.19	547.99	541.60	542.35	551.95
41+60.00	42+50.00	90.00	A-40, A-40B, A-41 & A-41B	2.98	12.03	0.74	2.20	9.01	15.00	0.23	15.99	6.32	1.10	7.78	1.25	62.70	87.63	0.52	62.18	42"	0.013	0.0038	547.99	548.34	6.75	6.46	0.71	0.65	0.25	0.18	0.47	548.81	542.35	542.81	550.41
42+50.00	44+06.41	156.41	A-42	0.35	9.05	0.90	0.31	6.82	10.00	0.38	15.76	6.36	1.10	7.83	1.25	47.71	66.68	0.00	47.71	36"	0.013	0.0051	548.81	549.61	6.51	6.75	0.66	0.71	0.75	0.49	0.21	549.82	542.81	543.60	552.22
44+06.41	44+32.48	26.07	A-43	0.88	8.70	0.93	0.82	6.50	10.00	0.06	15.38	6.43	1.10	7.91	1.25	45.99	64.24	0.00	45.99	36"	0.013	0.0048	549.82	549.95	5.70	6.51	0.50	0.66	0.75	0.38	0.28	550.23	543.60	543.73	551.75
44+32.48	45+45.00	112.52	A-44 & A-45	4.97	7.82	0.71	3.52	5.68	15.00	0.32	15.32	6.44	1.10	7.92	1.25	40.26	56.24	0.00	40.26	36"	0.013	0.0036	550.23	550.64	5.25	5.70	0.43	0.50	0.25	0.11	0.40	551.03	543.73	544.30	553.06
45+45.00	45+80.04	35.04	A-46	0.19	2.85	0.95	0.18	2.17	10.00	0.11	12.81	6.93	1.10	8.50	1.25	16.50	22.99	0.00	16.50	24"	0.013	0.0053	551.03	551.22	4.83	5.25	0.36	0.43	0.75	0.27	0.16	551.38	544.30	545.75	553.21
45+80.04	46+01.44	21.40	A-48	0.58	2.66	0.89	0.52	1.98	10.00	0.07	12.70	6.95	1.10	8.52	1.25	15.17	21.14	0.00	15.17	24"	0.013	0.0045	551.38	551.47	3.58	4.83	0.20	0.36	0.75	0.15	0.21	551.68	545.75	546.64	553.45
46+01.44	46+85.00	83.56	N/A	0.00	2.08	0.00	0.00	1.47	0.00	0.38	12.63	6.96	1.10	8.54	1.25	11.24	15.66	0.00	11.24	24"	0.013	0.0025	551.68	551.89	3.62	3.58	0.20	0.20	0.10	0.02	0.10	551.99	546.64	550.11	555.00
46+85.00	48+04.23	119.23	N/A	0.00	2.08	0.00	0.00	1.47	0.00	0.54	12.25	7.05	1.10	8.64	1.25	11.37	15.84	0.00	11.37	24"	0.013	0.0025	551.99	552.29	3.68	3.62	0.21	0.20	0.35	0.07	0.10	552.39	550.11	550.71	555.00
46+01.44	48+29.71	228.27	N/A	0.00	2.08	0.00	0.00	1.47	0.00	1.03	11.71	7.17	1.10	8.78	1.25	11.56	16.10	0.00	11.56	24"	0.013	0.0026	552.39	552.99	3.81	3.68	0.22	0.21	0.35	0.08	0.10	553.09	550.71	551.84	555.00
48+29.71	49+86.75	157.04	A-47	2.08	2.08	0.71	1.47	1.47	10.00	0.68	10.68	7.41	1.10	9.07	1.25	11.95	16.63	0.00	11.95	24"	0.013	0.0028	553.09	553.53	0.00	3.81	0.00	0.22	0.50	0.00	0.11	553.64	551.84	552.62	556.62

LINE ST–A LATERAL HYDRAULIC CALCULATIONS

25-YEAR STORM DRAIN HYDRAULIC CALCULATIONS TABLE

FROM (DS)	TO DESIGN (US)	Pipe Length	Drainage Area			Runoff 'C'	Incr. cA	Total cA	Time of Concentration			25-yr Intensity	25-yr Frequency	100-yr Intensity	100-yr Frequency	Q25 Runoff	Q100 Runoff	Inlet Bypass	Q Pipe	Pipe Size	n	Sf	HGL		HEAD LOSS CALCULATIONS							Design HGL	Invert Elev.		T/C ELEV.
			Incremental		Total				Inlet	Travel	Total												D/S	U/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2g$	Hk		FROM	TO	
			No.	Area	Area				min.	min.	min.	in/hr		in/hr		cfs	cfs	cfs	cfs	in.		ft/ft	Elev.	Elev.	ft/sec	ft/sec	ft.	ft.	ft.	ft.	ft.	Elev.	ft.	ft.	ft.
1	2	3	4	5	6	7	8	9	10	11	12	13		14		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
A-1																																			
0+00.00	0+16.74	16.74	A-1	0.21	0.21	0.91	0.19	0.19	10.00	0.56	10.56	7.44	1.10	9.11	1.25	1.57	2.18	0.00	1.57	24"	0.013	0.0000	526.26	526.26	0.00	0.50	0.00	0.00	1.25	0.00	0.10	526.36	521.50	523.52	529.52
A-2																																			
0+00.00	0+46.45	46.45	A-2	1.13	1.13	0.83	0.93	0.93	10.00	0.32	10.32	7.50	1.10	9.18	1.25	7.70	10.70	0.00	7.70	24"	0.013	0.0012	526.72	526.78	0.00	2.45	0.00	0.09	1.25	0.00	0.12	526.89	520.18	520.86	529.36
A-3																																			
0+00.00	0+16.73	16.73	A-3	0.53	0.53	0.89	0.47	0.47	10.41	0.23	10.64	7.42	1.10	9.08	1.25	3.85	5.35	0.00	3.85	24"	0.013	0.0003	528.32	528.33	0.00	1.22	0.00	0.02	1.25	0.00	0.10	528.43	522.60	523.54	529.54
A-4																																			
0+00.00	0+46.08	46.08	A-4	1.03	1.03	0.82	0.85	0.85	10.00	0.35	10.35	7.49	1.10	9.17	1.25	6.97	9.70	0.00	6.97	24"	0.013	0.0010	527.99	528.03	0.00	2.22	0.00	0.08	1.25	0.00	0.10	528.13	521.02	521.34	529.34
A-5																																			
0+00.00	0+46.81	46.81	A-5	0.29	0.29	0.87	0.25	0.25	10.00	1.53	11.53	7.21	1.10	8.83	1.25	1.99	2.77	0.39	1.60	24"	0.013	0.0001	528.82	528.82	0.00	0.51	0.00	0.00	1.25	0.00	0.10	528.92	521.43	521.82	529.82
A-6																																			
0+00.00	0+40.51	40.51	A-6	1.87	1.87	0.81	1.52	1.52	10.05	0.20	10.25	7.52	1.10	9.20	1.25	12.55	17.45	2.05	10.50	24"	0.013	0.0022	530.31	530.40	0.00	3.34	0.00	0.17	1.25	0.00	0.22	530.62	522.41	522.66	532.16
A-7A																																			
0+00.00	0+53.97	53.97	A-7B	0.51	1.76	0.76	0.39	1.27	15.00	0.33	15.33	6.44	1.10	7.92	1.25	9.02	12.59	0.50	8.51	24"	0.013	0.0014	530.31	530.39	0.00	2.71	0.00	0.11	0.25	0.00	0.11	530.50	522.41	527.15	532.56
0+53.97	0+74.85	20.88	A-7A	1.25	1.25	0.71	0.88	0.88	15.00	0.19	15.19	6.46	1.10	7.95	1.25	6.28	8.78	0.50	5.78	24"	0.013	0.0007	530.50	530.52	0.00	1.84	0.00	0.05	1.25	0.00	0.10	530.62	527.15	528.26	532.76
A-7B																																			
0+00.00	0+10.12	10.12	A-7B	0.51	0.51	0.76	0.39	0.39	15.00	0.19	15.19	6.46	1.10	7.95	1.25	2.77	3.87	0.00	2.77	24"	0.013	0.0001	530.50	530.51	0.00	0.88	0.00	0.01	1.25	0.00	0.10	530.61	527.15	527.91	532.41
A-8																																			
0+00.00	0+14.50	14.50	A-8	0.35	0.35	0.84	0.29	0.29	10.00	0.31	10.31	7.50	1.10	9.18	1.25	2.42	3.36	0.00	2.42	24"	0.013	0.0001	531.55	531.55	0.00	0.77	0.00	0.01	1.25	0.00	0.10	531.65	527.01	527.66	533.65

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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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CITY OF IRVING
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DRAINAGE CALCULATIONS
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 18

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LINE ST–A LATERAL HYDRAULIC CALCULATIONS

25-YEAR STORM DRAIN HYDRAULIC CALCULATIONS TABLE

FROM (DS)	TO DESIGN (US)	Pipe Length	Drainage Area			Runoff 'C'	Incr. cA	Total cA	Time of Concentration			25-yr Intensity	25-yr Frequency	100-yr Intensity	100-yr Frequency	Q25 Runoff	Q100 Runoff	Inlet Bypass	Q Pipe	Pipe Size	n	Sf	HGL		HEAD LOSS CALCULATIONS							Design HGL	Invert Elev.		T/C ELEV.
			Incremental		Total Area				Inlet	Travel	Total												D/S	U/S	V1 (in)	V2 (out)	$V1^2/2g$	$V2^2/2g$	Kj	$KjV1^2/2g$	Hk		FROM	TO	
		feet	No.	Area					min.	min.	min.	in/hr		in/hr		cfs	cfs	cfs	cfs	in.		ft/ft	Elev.	Elev.	ft/sec	ft/sec	ft.	ft.	ft.	ft.	ft.	Elev.	ft.	ft.	ft.
1	2	3	4	5	6	7	8	9	10	11	12	13		14		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
A-9																																			
0+00.00	0+40.51	40.51	A-9	0.61	0.61	0.85	0.52	0.52	10.00	0.50	10.50	7.45	1.10	9.12	1.25	4.23	5.88	0.02	4.21	24"	0.013	0.0003	531.55	531.57	0.00	1.34	0.00	0.03	1.25	0.00	0.10	531.67	528.38	528.58	533.59
A-10																																			
0+00.00	0+27.19	27.19	A-10	1.16	1.16	0.71	0.82	0.82	15.00	0.28	15.28	6.45	1.10	7.93	1.25	5.81	8.12	0.80	5.02	24"	0.013	0.0005	532.48	532.49	0.00	1.60	0.00	0.04	1.25	0.00	0.10	532.59	528.55	530.39	534.89
A-11																																			
0+00.00	0+42.07	42.07	A-10	1.16	2.63	0.71	0.82	1.90	15.00	0.16	15.16	6.47	1.10	7.95	1.25	13.49	18.85	0.00	13.49	24"	0.013	0.0036	532.11	532.26	2.44	4.29	0.09	0.29	0.75	0.07	0.22	532.48	525.25	528.55	534.89
0+42.07	0+66.68	24.61	A-11	1.47	1.47	0.73	1.08	1.08	15.00	0.17	15.17	6.47	1.10	7.95	1.25	7.66	10.70	0.00	7.66	24"	0.013	0.0011	532.48	532.51	0.00	2.44	0.00	0.09	1.25	0.00	0.12	532.62	528.55	530.48	534.98
A-12																																			
0+00.00	0+46.82	46.82	A-12	1.27	1.27	0.81	1.03	1.03	10.00	0.29	10.29	7.51	1.10	9.18	1.25	8.50	11.82	0.09	8.41	24"	0.013	0.0014	532.60	532.66	0.00	2.68	0.00	0.11	1.25	0.00	0.14	532.80	525.70	530.34	535.33
A-13																																			
0+00.00	0+16.73	16.73	A-13	0.56	0.56	0.84	0.47	0.47	10.00	0.23	10.23	7.52	1.10	9.20	1.25	3.89	5.41	0.00	3.89	24"	0.013	0.0003	532.87	532.88	0.00	1.24	0.00	0.02	1.25	0.00	0.10	532.98	525.84	528.36	535.36
A-14																																			
0+00.00	0+46.82	46.82	A-14	0.52	0.52	0.85	0.44	0.44	10.00	0.68	10.68	7.41	1.10	9.07	1.25	3.60	5.00	0.00	3.60	24"	0.013	0.0003	533.30	533.31	0.00	1.14	0.00	0.02	1.25	0.00	0.10	533.41	526.27	531.24	536.24
A-15																																			
0+00.00	0+16.73	16.73	A-15	0.56	0.56	0.84	0.47	0.47	10.00	0.23	10.23	7.52	1.10	9.20	1.25	3.89	5.41	0.00	3.89	24"	0.013	0.0003	533.74	533.74	0.00	1.24	0.00	0.02	1.25	0.00	0.10	533.84	526.74	528.85	536.85
A-16																																			
0+00.00	0+16.73	16.73	A-16	0.38	0.38	0.84	0.32	0.32	10.00	0.34	10.34	7.49	1.10	9.17	1.25	2.62	3.64	0.04	2.58	24"	0.013	0.0001	534.60	534.61	0.00	0.82	0.00	0.01	1.25	0.00	0.10	534.71	527.61	530.29	538.29
A-17																																			
0+00.00	0+16.73	16.73	A-17	0.45	0.45	0.88	0.39	0.39	10.00	0.27	10.27	7.51	1.10	9.19	1.25	3.26	4.53	0.00	3.26	24"	0.013	0.0002	534.94	534.94	0.00	1.04	0.00	0.02	1.25	0.00	0.10	535.04	529.65	531.16	539.16
A-18																																			
0+00.00	0+46.90	46.90	A-18	0.36	0.36	0.85	0.31	0.31	10.00	0.99	10.99	7.33	1.10	8.98	1.25	2.48	3.44	0.00	2.48	24"	0.013	0.0001	535.18	535.18	0.00	0.79	0.00	0.01	1.25	0.00	0.10	535.28	528.43	533.68	539.68
A-19																																			
0+00.00	0+16.73	16.73	A-19	0.55	0.55	0.83	0.46	0.46	10.00	0.23	10.23	7.52	1.10	9.20	1.25	3.79	5.28	0.00	3.79	24"	0.013	0.0003	535.57	535.58	0.00	1.21	0.00	0.02	1.25	0.00	0.10	535.68	530.64	532.81	540.81
A-20																																			
0+00.00	0+14.50	14.50	A-20	0.56	0.56	0.84	0.47	0.47	10.00	0.20	10.20	7.53	1.10	9.21	1.25	3.90	5.43	0.02	3.89	24"	0.013	0.0003	536.19	536.46	0.00	1.24	0.00	0.02	1.25	0.00	0.10	536.56	534.01	536.19	542.18
A-21																																			
0+00.00	0+40.50	40.50	A-21	1.00	1.00	0.50	0.50	0.50	11.08	0.62	15.84	6.35	1.10	7.81	1.25	3.50	4.89	0.07	3.43	24"	0.013	0.0002	536.19	536.61	0.00	1.09	0.00	0.02	1.25	0.00	0.10	536.71	531.57	536.33	542.33
A-22																																			
0+00.00	0+68.05	68.05	A-22	0.55	0.55	0.80	0.44	0.44	10.00	1.00	11.00	7.33	1.10	8.98	1.25	3.55	4.94	0.00	3.55	24"	0.013	0.0002	536.68	539.78	0.00	1.13	0.00	0.02	1.25	0.00	0.10	539.88	530.63	539.50	545.50
A-23A																																			
0+00.00	0+14.50	14.50	A-23A	0.61	0.61	0.89	0.54	0.54	10.00	0.18	10.18	7.53	1.10	9.22	1.25	4.48	6.23	0.27	4.21	24"	0.013	0.0003	539.56	540.04	0.00	1.34	0.00	0.03	1.25	0.00	0.10	540.14	537.56	539.74	545.74
A-23B																																			
0+00.00	0+40.75	40.75	A-23B	1.31	1.31	0.48	0.63	0.63	10.00	0.45	10.45	7.47	1.10	9.14	1.25	5.15	7.16	0.39	4.75	24"	0.013	0.0004	539.56	540.32	0.00	1.51	0.00	0.04	1.25	0.00	0.10	540.42	537.56	539.92	545.92
A-24																																			
0+00.00	0+40.50	40.50	A-24	0.64	0.64	0.68	0.44	0.44	10.00	0.60	10.60	7.43	1.10	9.09	1.25	3.56	4.95	0.01	3.55	24"	0.013	0.0002	544.08	544.58	0.00	1.13	0.00	0.02	1.25	0.00	0.10	544.68	542.08	544.23	550.23
A-25																																			
0+00.00	0+14.50	14.50	A-25	0.73	0.73	0.87	0.63	0.63	10.00	0.15	10.15	7.54	1.10	9.23	1.25	5.24	7.28	0.29	4.94	24"	0.013	0.0005	544.08	544.58	0.00	1.57	0.00	0.04	1.25	0.00	0.10	544.68	542.08	544.26	550.26
A-26																																			
0+00.00	0+46.37	46.37	A-26	1.13	1.13	0.83	0.93	0.93	10.00	0.38	15.42	6.42	1.10	7.90	1.25	6.60	9.23	0.16	6.44	24"	0.013	0.0008	538.97	542.95	0.00	2.05	0.00	0.07	1.25	0.00	0.10	543.05	533.19	542.64	551.64
A-27																																			
0+00.00	0+14.49	14.49	A-27	0.46	0.46	0.87	0.40	0.40	10.00	0.23	10.23	7.52	1.10	9.20	1.25	3.29	4.58	0.00	3.29	24"	0.013	0.0002	546.85	547.29	0.00	1.05	0.00	0.02	1.25	0.00	0.10	547.39	544.85	547.02	553.04
A-28																																			
0+00.00	0+15.67	15.67	N/A	0.00	2.58	0.00	0.00	2.09	0.00	0.05	10.13	7.55	1.10	9.23	1.25	17.37	24.15	0.00	17.37	24"	0.013	0.0059	546.85	546.94	0.00	5.53	0.00	0.47	0.35	0.00	0.17	547.11	544.85	545.61	552.94
0+15.67	0+43.28	27.61	A-28	2.58	2.58	0.81	2.09	2.09	10.00	0.08	10.08	7.56	1.10	9.25	1.25	17.40	24.19	0.00	17.40	24"	0.013	0.0059	547.11	547.76	0.00	5.54	0.00	0.48	1.25	0.00	0.60	548.36	545.61	546.94	552.94
A-29																																			
0+00.00	0+40.50	40.50	A-29	1.99	1.99	0.63	1.25	1.25	10.00	0.20	10.20	7.53	1.10	9.21	1.25	10.38	14.43	0.00	10.38	24"	0.013	0.0021	549.85	549.94	0.00	3.30	0.00	0.17	1.25	0.00	0.21	550.15	547.85	548.26	553.25
A-30																																			
0+00.00	0+14.51	14.51	A-30	0.33	0.33	0.87	0.29	0.29	10.00	0.32	10.32	7.50	1.10	9.18	1.25	2.36	3.28	0.00	2.36	24"	0.013	0.0001	549.85	549.85	0.00	0.75	0.00	0.01	1.25	0.00	0.10	549.95	547.85	548.37	553.36
A-31																																			
0+00.00	0+40.67	40.67	A-31	1.99	1.99	0.64	1.28	1.28	10.00	0.20	10.20	7.53	1.10	9.21	1.25	10.56	14.69	0.00	10.56	24"	0.013	0.0022	543.61	547.33	0.00	3.36	0.00	0.18	1.25	0.00	0.22	547.55	542.75	546.82	552.82

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SCALE: SEE GRAPHICS
DATE: MAY 2022
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REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH
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MACARTHUR BOULEVARD
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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LINE ST–A LATERAL HYDRAULIC CALCULATIONS

25-YEAR STORM DRAIN HYDRAULIC CALCULATIONS TABLE

FROM (DS)	TO DESIGN (US)	Pipe Length	Drainage Area			Runoff 'C'	Incr. cA	Total cA	Time of Concentration			25-yr Intensity	25-yr Frequency	100-yr Intensity	100-yr Frequency	Q25 Runoff	Q100 Runoff	Inlet Bypass	Q Pipe	Pipe Size	n	Sf	HGL		HEAD LOSS CALCULATIONS							Design HGL	Invert Elev.		T/C ELEV.
			Incremental No.	Area	Total Area				Inlet min.	Travel min.	Total min.												D/S Elev.	U/S Elev.	V1 (in) ft/sec	V2 (out) ft/sec	$V1^2/2g$ ft.	$V2^2/2g$ ft.	Kj ft.	$KjV1^2/2g$ ft.	Hk ft.		FROM	TO	
1	2	3	4	5	6	7	8	9	10	11	12	13		14		15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
A-32																																		
0+00.00	0+14.54	14.54	A-32	0.55	0.55	0.86	0.47	0.47	10.00	0.20	10.20	7.53	1.10	9.21	1.25	3.90	5.42	0.00	3.90	24"	0.013	0.0003	546.04	546.50	0.00	1.24	0.00	0.02	1.25	0.00	0.10	546.60	544.04	546.22	552.22
A-33																																		
0+00.00	0+47.48	47.48	A-33	2.96	2.96	0.63	1.86	1.86	10.00	0.16	10.16	7.54	1.10	9.22	1.25	15.40	21.41	0.00	15.40	24"	0.013	0.0046	544.34	546.36	0.00	4.90	0.00	0.37	1.25	0.00	0.47	546.83	538.49	545.79	552.79
A-34																																		
0+00.00	0+47.48	47.48	A-34	2.00	2.00	0.63	1.26	1.26	10.00	0.24	10.24	7.52	1.10	9.20	1.25	10.40	14.47	0.00	10.40	24"	0.013	0.0021	545.14	547.61	0.00	3.31	0.00	0.17	1.25	0.00	0.21	547.83	539.69	547.15	553.15
A-35A																																		
0+00.00	0+46.79	46.79	A-35A	0.22	0.22	0.95	0.21	0.21	10.00	1.48	11.48	7.22	1.10	8.85	1.25	1.66	2.31	0.00	1.66	24"	0.013	0.0001	545.67	548.31	0.00	0.53	0.00	0.00	1.25	0.00	0.10	548.41	540.57	548.11	554.11
A35-B																																		
0+00.00	0+25.34	25.34	N/A	0.00	2.63	0.00	0.00	1.84	0.00	0.13	15.75	6.37	1.10	7.83	1.25	12.91	18.04	2.91	10.00	24"	0.013	0.0020	546.04	546.09	3.20	3.18	0.16	0.16	0.35	0.06	0.10	546.19	541.03	544.25	
0+25.34	0+79.64	54.30	A-35C	1.33	2.63	0.70	0.94	1.84	15.00	0.28	15.62	6.39	1.10	7.86	1.25	12.96	18.11	2.91	10.05	24"	0.013	0.0020	546.19	551.67	1.58	3.20	0.04	0.16	0.25	0.01	0.15	551.82	544.25	551.16	
0+79.64	1+03.45	23.81	N/A	0.00	1.30	0.00	0.00	0.91	0.00	0.25	15.34	6.44	1.10	7.92	1.25	6.43	8.99	1.47	4.96	24"	0.013	0.0005	551.82	552.68	1.59	1.58	0.04	0.04	0.35	0.01	0.10	552.78	551.16	552.16	
1+03.45	1+11.55	8.10	A-35B	1.30	1.30	0.70	0.91	0.91	15.00	0.08	15.08	6.48	1.10	7.97	1.25	6.48	9.05	1.47	5.01	24"	0.013	0.0005	552.78	553.02	0.00	1.59	0.00	0.04	1.25	0.00	0.10	553.12	552.16	552.50	556.89
A35-C																																		
0+00.00	0+22.69	22.69	A-35C	1.33	1.33	0.70	0.94	0.94	15.00	0.23	15.23	6.46	1.10	7.94	1.25	6.64	9.28	1.44	5.21	24"	0.013	0.0005	551.82	552.05	0.00	1.66	0.00	0.04	1.25	0.00	0.10	552.15	551.16	551.30	555.80
A-36																																		
0+00.00	1+09.20	109.20	A-37	1.68	3.22	0.70	1.18	2.25	15.00	0.36	15.36	6.43	1.10	7.91	1.25	15.94	22.27	0.09	15.85	24"	0.013	0.0049	546.75	552.04	2.44	5.04	0.09	0.40	0.25	0.02	0.10	552.14	541.34	551.39	
1+09.20	1+19.35	10.15	A-36	1.54	1.54	0.70	1.08	1.08	15.00	0.07	15.07	6.49	1.10	7.97	1.25	7.67	10.71	0.02	7.65	24"	0.013	0.0011	552.14	552.29	0.00	2.44	0.00	0.09	1.25	0.00	0.12	552.40	551.39	551.68	556.13
A-37																																		
0+00.00	0+21.12	21.12	A-37	1.68	1.68	0.70	1.18	1.18	15.00	0.13	15.13	6.47	1.10	7.96	1.25	8.38	11.71	0.09	8.29	24"	0.013	0.0013	552.14	552.45	0.00	2.64	0.00	0.11	1.25	0.00	0.14	552.59	551.39	551.54	556.08
A-38																																		
0+00.00	0+47.16	47.16	A-38	0.52	0.52	0.82	0.42	0.42	10.00	0.72	10.72	7.40	1.10	9.06	1.25	3.45	4.80	0.00	3.45	24"	0.013	0.0002	547.20	547.21	0.00	1.10	0.00	0.02	1.25	0.00	0.10	547.31	542.35	545.06	553.06
A-39																																		
0+00.00	0+46.82	46.82	A-39	0.27	0.27	0.83	0.22	0.22	10.00	1.38	11.38	7.24	1.10	8.87	1.25	1.78	2.48	0.00	1.78	24"	0.013	0.0001	547.99	547.99	0.00	0.57	0.00	0.00	1.25	0.00	0.10	548.09	543.10	545.95	551.95
A-40																																		
0+00.00	0+27.54	27.54	A-40	1.24	1.24	0.71	0.88	0.88	15.00	0.25	15.25	6.45	1.10	7.93	1.25	6.25	8.72	0.48	5.76	24"	0.013	0.0006	549.20	550.19	0.00	1.83	0.00	0.05	1.25	0.00	0.10	550.29	548.23	549.75	554.24
A-40B																																		
0+00.00	0+27.36	27.36	A-40B	0.33	0.33	0.86	0.28	1.11	15.00	0.18	15.18	6.47	1.10	7.95	1.25	7.89	11.02	0.00	7.89	24"	0.013	0.0012	549.12	549.15	1.71	2.51	0.05	0.10	1.25	0.06	0.12	549.28	0.00	1.51	550.41
A-41																																		
0+00.00	0+85.24	85.24	A-40	1.24	2.40	0.71	0.88	1.70	15.00	0.39	15.61	6.39	1.10	7.86	1.25	11.98	16.74	0.48	11.50	24"	0.013	0.0026	548.81	549.03	1.71	3.66	0.05	0.21	0.75	0.03	0.17	549.20	542.81	548.23	
0+85.24	0+98.63	13.39	N/A	0.00	1.16	0.00	0.00	0.82	0.00	0.13	15.22	6.46	1.10	7.94	1.25	5.86	8.18	0.48	5.38	24"	0.013	0.0006	549.20	549.52	1.86	1.71	0.05	0.05	0.35	0.02	0.10	549.62	548.23	549.08	
0+98.63	1+08.82	10.19	A-41	1.16	1.16	0.71	0.82	0.82	15.00	0.09	15.09	6.48	1.10	7.97	1.25	5.88	8.21	0.04	5.84	24"	0.013	0.0007	549.62	550.16	0.00	1.86	0.00	0.05	1.25	0.00	0.10	550.26	549.08	549.73	554.23
A-41B																																		
0+00.00	0+38.13	38.13	A-40B	0.33	0.58	0.86	0.28	2.08	15.00	0.13	15.27	6.45	1.10	7.93	1.25	14.79	20.66	0.00	14.79	24"	0.013	0.0043	548.81	548.97	4.08	4.71	0.26	0.34	0.75	0.19	0.15	549.12	542.81	544.48	
0+38.13	0+61.41	23.28	N/A	0.00	0.25	0.00	0.00	1.80	0.00	0.10	15.14	6.47	1.10	7.96	1.25	12.82	17.90	0.00	12.82	24"	0.013	0.0032	549.12	549.20	4.09	4.08	0.26	0.26	0.35	0.09	0.10	549.30	544.48	545.50	
0+61.41	0+71.63	10.22	A-41B	0.25	0.25	0.83	0.21	1.80	15.00	0.04	15.04	6.49	1.10	7.98	1.25	12.85	17.95	0.00	12.85	24"	0.013	0.0032	549.30	549.33	2.16	4.09	0.07	0.26	1.25	0.09	0.32	549.65	545.50	545.95	550.44
A-42																																		
0+00.00	0+46.96	46.96	A-42	0.35	0.35	0.90	0.31	0.31	10.00	0.97	10.97	7.34	1.10	8.99	1.25	2.54	3.54	0.00	2.54	24"	0.013	0.0001	549.82	549.83	0.00	0.81	0.00	0.01	1.25	0.00	0.10	549.93	544.10	547.22	552.22
A-43																																		
0+00.00	0+16.77	16.77	A-43	0.88	0.88	0.93	0.82	0.82	10.00	0.13	10.13	7.55	1.10	9.23	1.25	6.80	9.45	0.00	6.80	24"	0.013	0.0009	550.23	550.24	0.00	2.16	0.00	0.07	1.25	0.00	0.10	550.34	544.23	545.75	551.76
A-44																																		
0+00.00	0+27.74	27.74	A-44	2.23	2.23	0.71	1.59	1.59	15.00	0.14	15.14	6.47	1.10	7.96	1.25	11.34	15.84	0.73	10.61	24"	0.013	0.0022	551.68	551.75	0.00	3.38	0.00	0.18	1.25	0.00	0.22	551.97	547.08	548.32	553.06
A-45																																		
0+00.00	0+62.22	62.22	A-44	2.23	2.23	0.71	1.59	4.03	15.00	0.18	15.36	6.44	1.10	7.91	1.25	28.56	39.89	0.73	27.83	30"	0.013	0.0046	551.03	551.32	3.39	5.67	0.18	0.50	0.75	0.13	0.37	551.68	544.30	547.08	
0+62.22	0+89.09	26.87	N/A	0.00	0.00	0.00	0.00	2.44	0.00	0.13	15.17	6.47	1.10	7.95	1.25	17.37	24.26	0.73	16.64	30"	0.013	0.0016	551.68	551.73	3.24	3.39	0.16	0.18	0.35	0.06	0.10	551.83	547.08	548.28	
0+89.09	0+97.09	8.00	A-45	2.74	2.74	0.70	1.92	2.44	15.00	0.04	15.04	6.49	1.10	7.98	1.25	17.44	24.35	1.54	15.89	30"	0.013	0.0015	551.83	551.84	0.00	3.24	0.00	0.16	1.25	0.00	0.20	552.04	548.28	548.64	553.14
A-46																																		
0+00.00	0+16.75	16.75	A-46	0.19	0.19	0.95	0.18	0.18	10.00	0.59	10.59	7.43	1.10	9.09	1.25	1.48	2.05	0.00	1.48	24"	0.013	0.0000	551.38	551.38	0.00	0.47	0.00	0.00	1.25	0.00	0.10	551.48	545.75	546.32	553.06
A-48																																		
0+00.00	0+54.17	54.17	A-48	0.58	0.58	0.89	0.52	0.52	10.00	0.67	10.67	7.41	1.10	9.07	1.25	4.22	5.87	0.00	4.22	24"	0.013	0.0003	551.68	551.70	0.00	1.34	0.00	0.03	1.25	0.00	0.10	551.80	546.64	548.34	553.06

REVISIONS: SCALE: SEE GRAPHICS | DATE: MAY 2022 | DESIGNED BY: CKT/RCP | DRAWN BY: DRI | REVIEWED BY: CAB | SURVEYED BY: PACHECO KOCH

REV	DATE	BY
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5	XXXXXXXX	

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. IT IS NOT TO BE USED FOR ANY PURPOSE WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F–469
TX REG. SURVEYING FIRM LS–10008001

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CITY OF IRVING, DALLAS COUNTY, TEXAS

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ON GRADE INLET CALCULATION

ON-GRADE DEPRESSED GUTTER INLET CAPACITY CALCULATION TABLE

Inlet			Drainage Area																								
Design Point	Inlet No.	Station	Area No.	Area (acres)	Runoff Coeff. "C"	Conc. Time (min)	Long Slope "S" (ft/ft)	Cross Slope of Pavement "S_x" (ft/ft)	Cross Slope of Gutter "S'_x" (ft/ft)	Depth of Flow "Yo" (ft)	Spread of Flow "T" (ft)	Equivalent Cross Slope "Se" (ft/ft)	Street Section (type)	Mannings coefficient for pavement "n"	25-year Intensity (in/hr)	25-year Runoff (cfs)	25-year Carryover Flow (cfs)	25-year Total Gutter Q (cfs)	100-year Intensity (in/hr)	100-year Runoff (cfs)	100-year Carryover Flow (cfs)	100-year total Gutter Q (cfs)	Design Storm	Length Required "L_T" (ft)	Actual Provided Length "L" (ft)	L/L_T	Efficiency "E"	Inlet Capacity "Qi" (cfs)	25-year Carryover Flow "q" (cfs)	100-year Carryover Flow "q" (cfs)	COMMENTS
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
A-5	A-5		A-5	0.29	0.87	10.00	0.0150	0.030	0.250	0.26	8.61	0.121	Rooftop	0.015	7.58	2.09	2.05	4.14	9.27	2.91	4.90	7.81	25	13.68	10	0.73	90.6%	3.75	0.39	2.15	Bypass to A-4
A-6	A-6		A-6	1.87	0.81	10.05	0.0173	0.020	0.250	0.33	16.41	0.071	Rooftop	0.015	7.57	12.64	0.02	12.65	9.26	17.57	0.62	18.19	25	31.44	20	0.64	83.8%	10.60	2.05	4.90	Bypass to A-5
A-7A	A-7A		A-7A	1.25	0.71	15.00	0.0094	0.045	0.250	0.38	8.59	0.135	Rooftop	0.015	6.50	6.32	0.00	6.32	7.99	8.82	0.00	8.82	25	13.24	10	0.76	92.1%	5.82	0.50	1.48	Bypass to A-3
A-7B	A-7B		A-7B	0.51	0.76	15.00	0.0106	0.038	0.250	0.26	6.82	0.148	Rooftop	0.015	6.50	2.78	0.00	2.78	7.99	3.89	0.00	3.89	25	9.21	10	1.09	100.0%	2.78	0.00	0.06	Bypass to A-3
A-8	A-8		A-8	0.35	0.84	10.00	0.0085	0.020	0.250	0.22	11.24	0.092	Rooftop	0.015	7.58	2.44	0.80	3.24	9.27	3.39	2.29	5.69	25	12.27	15	1.22	100.0%	3.24	0.00	0.12	Bypass to A-3
A-9	A-9		A-9	0.61	0.85	10.00	0.0090	0.017	0.250	0.24	13.65	0.077	Rooftop	0.015	7.58	4.30	0.09	4.39	9.27	5.98	0.91	6.88	25	15.70	15	0.96	99.6%	4.38	0.02	0.62	Bypass to A-6
A-10	A-10		A-10	1.16	0.71	15.00	0.0074	0.026	0.250	0.32	12.12	0.093	Rooftop	0.015	6.50	5.86	0.00	5.86	7.99	8.18	0.00	8.18	25	14.93	10	0.67	86.4%	5.06	0.80	1.91	Bypass to A-8
A-11	A-11		A-11	1.47	0.73	15.00	0.0053	0.035	0.250	0.42	11.98	0.103	Rooftop	0.015	6.50	7.70	0.00	7.70	7.99	10.75	0.00	10.75	25	14.30	15	1.05	100.0%	7.70	0.00	0.27	Bypass to A-8
A-12	A-12		A-12	1.27	0.81	10.00	0.0090	0.020	0.250	0.32	16.03	0.072	Rooftop	0.015	7.58	8.58	0.00	8.58	9.27	11.93	0.02	11.96	25	21.75	20	0.92	98.9%	8.49	0.09	0.91	Bypass to A-9
A-13	A-13		A-13	0.56	0.84	10.00	0.0090	0.020	0.250	0.24	11.95	0.088	Rooftop	0.015	7.58	3.92	0.00	3.92	9.27	5.45	0.15	5.60	25	13.87	15	1.08	100.0%	3.92	0.00	0.12	Bypass to A-8
A-14	A-14		A-14	0.52	0.85	10.00	0.0080	0.020	0.250	0.24	11.93	0.088	Rooftop	0.015	7.58	3.68	0.00	3.68	9.27	5.12	0.00	5.12	25	13.03	15	1.15	100.0%	3.68	0.00	0.02	Bypass to A-12
A-15	A-15		A-15	0.56	0.84	10.00	0.0090	0.020	0.250	0.24	11.99	0.087	Rooftop	0.015	7.58	3.92	0.04	3.96	9.27	5.45	0.31	5.76	25	13.95	15	1.08	100.0%	3.96	0.00	0.15	Bypass to A-13
A-16	A-16		A-16	0.38	0.84	10.00	0.0090	0.020	0.250	0.21	10.32	0.097	Rooftop	0.015	7.58	2.65	0.00	2.65	9.27	3.68	0.01	3.69	25	11.06	10	0.90	98.5%	2.61	0.04	0.31	Bypass to A-15
A-17	A-17		A-17	0.45	0.88	10.00	0.0090	0.020	0.250	0.22	11.19	0.092	Rooftop	0.015	7.58	3.29	0.00	3.29	9.27	4.57	0.20	4.77	25	12.53	15	1.20	100.0%	3.29	0.00	0.01	Bypass to A-16
A-18	A-18		A-18	0.36	0.85	10.00	0.0095	0.024	0.250	0.22	9.21	0.109	Rooftop	0.015	7.58	2.56	0.07	2.63	9.27	3.56	0.87	4.42	25	10.47	15	1.43	100.0%	2.63	0.00	0.00	Bypass to A-14
A-19	A-19		A-19	0.55	0.83	10.00	0.0090	0.020	0.250	0.24	11.86	0.088	Rooftop	0.015	7.58	3.82	0.02	3.84	9.27	5.32	0.64	5.96	25	13.71	15	1.09	100.0%	3.84	0.00	0.20	Bypass to A-17
A-20	A-20		A-20	0.56	0.84	10.00	0.0132	0.020	0.250	0.23	11.42	0.091	Rooftop	0.015	7.58	3.93	0.27	4.20	9.27	5.46	1.25	6.71	25	15.72	15	0.95	99.6%	4.19	0.02	0.64	Bypass to A-19
A-21	A-21		A-21	1.00	0.50	11.08	0.0150	0.020	0.250	0.23	11.36	0.091	Rooftop	0.015	7.31	4.03	0.39	4.42	8.96	5.61	1.45	7.06	25	16.65	15	0.90	98.4%	4.35	0.07	0.87	Bypass to A-18
A-23A	A-23A		A-23A	0.61	0.89	10.00	0.0210	0.020	0.250	0.22	11.00	0.093	Rooftop	0.015	7.58	4.51	0.29	4.81	9.27	6.27	1.05	7.32	25	18.82	15	0.80	94.3%	4.53	0.27	1.25	Bypass to A-20
A-23B	A-23B		A-23B	1.31	0.48	10.00	0.0205	0.020	0.250	0.23	11.41	0.091	Rooftop	0.015	7.58	5.22	0.01	5.23	9.27	7.26	0.53	7.79	25	19.66	15	0.76	92.5%	4.84	0.39	1.45	Bypass to A-21
A-24	A-24		A-24	0.64	0.68	10.00	0.0160	0.020	0.250	0.21	10.59	0.095	Rooftop	0.015	7.58	3.63	0.16	3.79	9.27	5.05	0.99	6.03	25	15.45	15	0.97	99.8%	3.78	0.01	0.53	Bypass to A-23B
A-25	A-25		A-25	0.73	0.87	10.00	0.0164	0.020	0.250	0.24	11.93	0.088	Rooftop	0.015	7.58	5.27	0.00	5.27	9.27	7.32	0.00	7.32	25	18.78	15	0.80	94.4%	4.97	0.29	1.05	Bypass to A-23A
A-26	A-26		A-26	1.13	0.83	10.00	0.0081	0.030	0.250	0.37	12.24	0.096	Rooftop	0.015	7.58	7.79	0.00	7.79	9.27	10.83	0.00	10.83	25	16.96	15	0.88	97.9%	7.63	0.16	0.99	Bypass to A-24
A-35A	A-35A		A-35A	0.22	0.95	10.00	0.0070	0.020	0.250	0.18	9.24	0.105	Rooftop	0.015	7.58	1.74	0.00	1.74	9.27	2.42	0.00	2.42	25	8.21	10	1.22	100.0%	1.74	0.00	0.00	Bypass to A-34
A-35B	A-35B		A-35B	1.30	0.70	15.00	0.0508	0.021	0.250	0.21	10.13	0.100	Rooftop	0.015	6.50	6.49	0.00	6.49	7.99	9.07	0.00	9.07	25	26.72	15	0.56	77.3%	5.02	1.47	2.96	Bypass to A-35
A-35C	A-35C		A-35C	1.33	0.70	15.00	0.0575	0.025	0.250	0.22	8.97	0.112	Rooftop	0.015	6.50	6.69	0.00	6.69	7.99	9.34	0.00	9.34	25	26.10	15	0.57	78.5%	5.25	1.44	2.93	Bypass to A-35
A-36	A-36		A-36	1.54	0.70	15.00	0.0200	0.030	0.250	0.31	10.28	0.107	Rooftop	0.015	6.50	7.69	0.00	7.69	7.99	10.73	0.00	10.73	25	20.70	20	0.97	99.8%	7.67	0.02	0.59	Bypass to A-38
A-37	A-37		A-37	1.68	0.70	15.00	0.0200	0.030	0.250	0.32	10.63	0.105	Rooftop	0.015	6.50	8.41	0.00	8.41	7.99	11.75	0.00	11.75	25	21.79	20	0.92	98.9%	8.32	0.09	0.89	Bypass to A-38
A-38	A-38		A-38	0.52	0.82	10.00	0.0110	0.020	0.250	0.22	11.20	0.092	Rooftop	0.015	7.58	3.53	0.11	3.64	9.27	4.91	1.48	6.40	25	13.90	15	1.08	100.0%	3.64	0.00	0.42	Bypass to A-39
A-40	A-40		A-40	1.24	0.71	15.00	0.0060	0.035	0.250	0.38	10.85	0.109	Rooftop	0.015	6.50	6.29	0.00	6.29	7.99	8.78	0.00	8.78	25	13.16	10	0.76	92.3%	5.81	0.48	1.46	Bypass to A-40B
A-40B	A-40B		A-40B	0.33	0.86	15.00	0.0161	0.042	0.250	0.24	5.72	0.169	Rooftop	0.015	6.50	2.03	0.48	2.52	7.99	2.84	1.46	4.30	25	9.26	10	1.08	100.0%	2.52	0.00	0.23	Bypass to Area No.
A-41	A-41		A-41	1.16	0.71	15.00	0.0060	0.020	0.250	0.30	15.03	0.075	Rooftop	0.015	6.50	5.90	0.00	5.90	7.99	8.23	0.00	8.23	25	16.02	15	0.94	99.3%	5.85	0.04	0.57	Bypass to A-41B
A-41B	A-41B		A-41B	0.25	0.83	15.00	0.0111	0.018	0.250	0.16	8.50	0.110	Rooftop	0.015	6.50	1.48	0.04	1.53	7.99	2.07	0.57	2.64	25	8.68	10	1.15	100.0%	1.53	0.00	0.10	Bypass to Area No.
A-44	A-44		A-44	2.23	0.71	15.00	0.0090	0.020	0.250	0.36	17.82	0.067	Rooftop	0.015	6.50	11.38	0.00	11.38	7.99	15.90	0.00	15.90	25	25.54	20	0.78	93.6%	10.66	0.73	2.43	Bypass to A-42
A-45	ST-A		A-45	2.74	0.70	15.00	0.0090	0.020	0.250	0.38	19.13	0.064	Rooftop	0.015	6.50	13.76	0.00	13.76	7.99	19.21	0.00	19.21	25	28.43	20	0.70	88.8%	12.21	1.54	3.98	Bypass to A-42
A-46	A-46		A-46	0.19	0.95	10.00	0.0114	0.025	0.250	0.17	6.94	0.134	Rooftop	0.015	7.58	1.50	0.00	1.50	9.27	2.09	0.00	2.09	25	7.74	10	1.29	100.0%	1.50	0.00	0.00	Bypass to A-43
A-47	A-47		A-47	2.08	0.71	10.00	0.0078	0.044	0.250	0.50	11.57	0.113	Rooftop	0.015	7.58	12.23	0.00	12.23	9.27	17.00	0.00	17.00	25	18.39	20	1.09	100.0%	12.23	0.00	0.22	Bypass to A-48
A-48	A-48		A-48	0.58	0.89	10.00	0.0112	0.020	0.250	0.24	11.90	0.088	Rooftop	0.015	7.58	4.32	0.00	4.32	10.27	6.63	0.00	6.63	25	15.40	15	0.97	99.9%	4.31	0.01	0.50	Bypass to A-42

SUMP INLET CALCULATION

SUMP INLET CAPACITY (CURB OPENING AND DROP INLET) COMPUTATION SHEET

Inlet No.	Gutter Slope "So" (ft/ft)	Crown Slope of Pavement "θo" (ft/ft)	Gutter Flow "Qo" (cfs)	Depth of Gutter Flow "Yo" (ft)	Depth of Depression "a" (ft)	Depth of Flow at Opening "Y" (ft)	Capacity of Inlet per Foot "Q/L" (cfs/ft)	Length of Inlet Opening "L" or "P" (ft)	Capacity of Inlet "Q" (cfs)	Carryover into Overflow (cfs)	Percent of Q-25 Captured by Inlet %	Spread of Flow "T" (ft)
1	2	3	4	5	6	7	8	9	10	11	12	13
A-1	0.007	0.020	1.60	0.14	0.33	0.47	0.92	10.00	9.23	0.00	100.0%	6.90
A-2	0.007	0.030	7.78	0.29	0.33	0.62	1.04	10.00	10.40	0.00	100.0%	9.69
A-3	0.007	0.020	4.38	0.20	0.33	0.53	0.96	10.00	9.62	0.00	100.0%	10.07
A-4	0.007	0.030	7.45	0.29	0.33	0.62	1.04	10.00	10.36	0.00	100.0%	9.54
A-27	0.007	0.020	3.32	0.18	0.33	0.51	0.94	10.00	9.44	0.00	100.0%	9.08
A-28	0.009	0.023	17.44	0.34	0.33	0.67	1.08	20.00	21.61	0.00	100.0%	15.15
A-29	0.007	0.040	10.45	0.36	0.33	0.70	1.10	10.00	10.97	0.00	100.0%	9.05
A-30	0.007	0.020	2.38	0.16	0.33	0.49	0.92	10.00	9.25	0.00	100.0%	8.01
A-31	0.007	0.030	10.64	0.33	0.33	0.66	1.07	10.00	10.70	0.00	100.0%	10.90
A-32	0.007	0.020	3.92	0.19	0.33	0.53	0.96	10.00	9.55	0.00	100.0%	9.66
A-33	0.007	0.020	15.48	0.32	0.33	0.66	1.07	15.00	16.00	0.00	100.0%	16.17
A-34	0.007	0.020	10.49	0.28	0.33	0.61	1.03	10.00	10.30	0.19	98.2%	13.97
A-39	0.007	0.010	1.87	0.11	0.33	0.45	0.85	10.00	8.50	0.00	100.0%	11.28
A-42	0.007	0.020	4.90	0.21	0.33	0.54	0.97	10.00	9.70	0.00	100.0%	10.50
A-43	0.007	0.038	6.83	0.30	0.33	0.63	1.05	10.00	10.48	0.00	100.0%	8.03

REVISIONS: SCALE: SEE GRAPHICS | DATE: MAY 2022 | DESIGNED BY: CKT/RCP | DRAWN BY: DRI | REVIEWED BY: CAB | SURVEYED BY: PACHECO KOCH

REV	DATE	BY
1	XX/XXXX	

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON XXXXXXXX. IT SHALL NOT BE USED FOR ANY PURPOSE WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

DRAINAGE CALCULATIONS
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 21

RPAROULEK
05/10/2022 – 9:24AM
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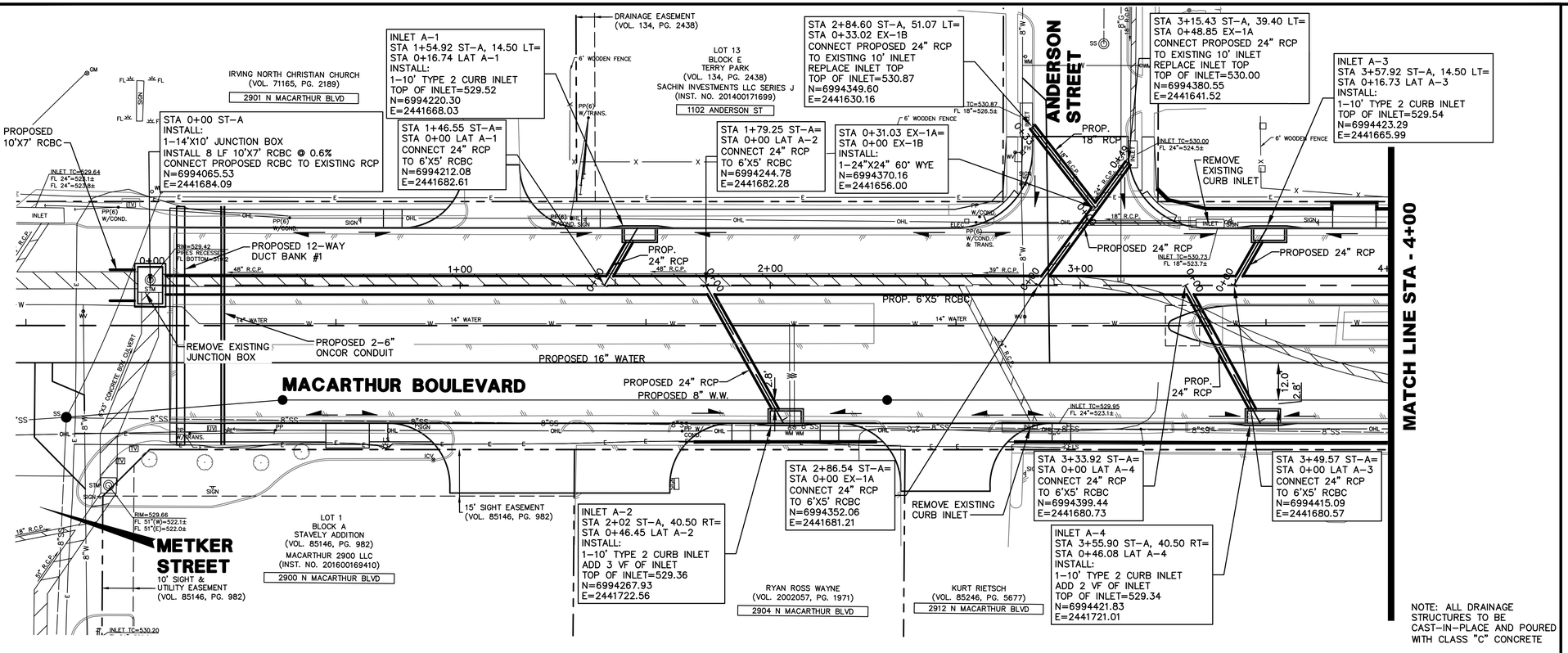

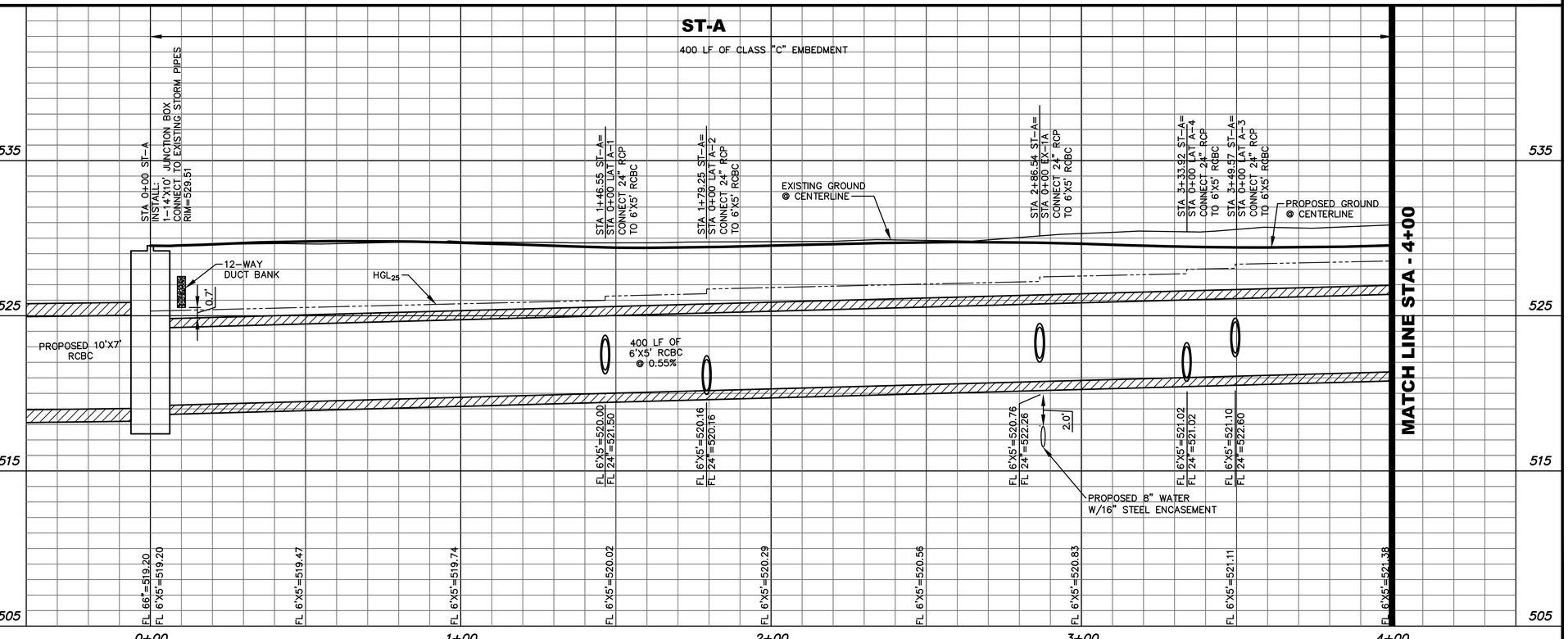

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

PROPOSED STORM ST-A
STA 0+00 TO STA 4+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 22

CITY OF IRVING
Capital Improvement Program
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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

RPAROULEK
05/11/2022 - 10:13AM
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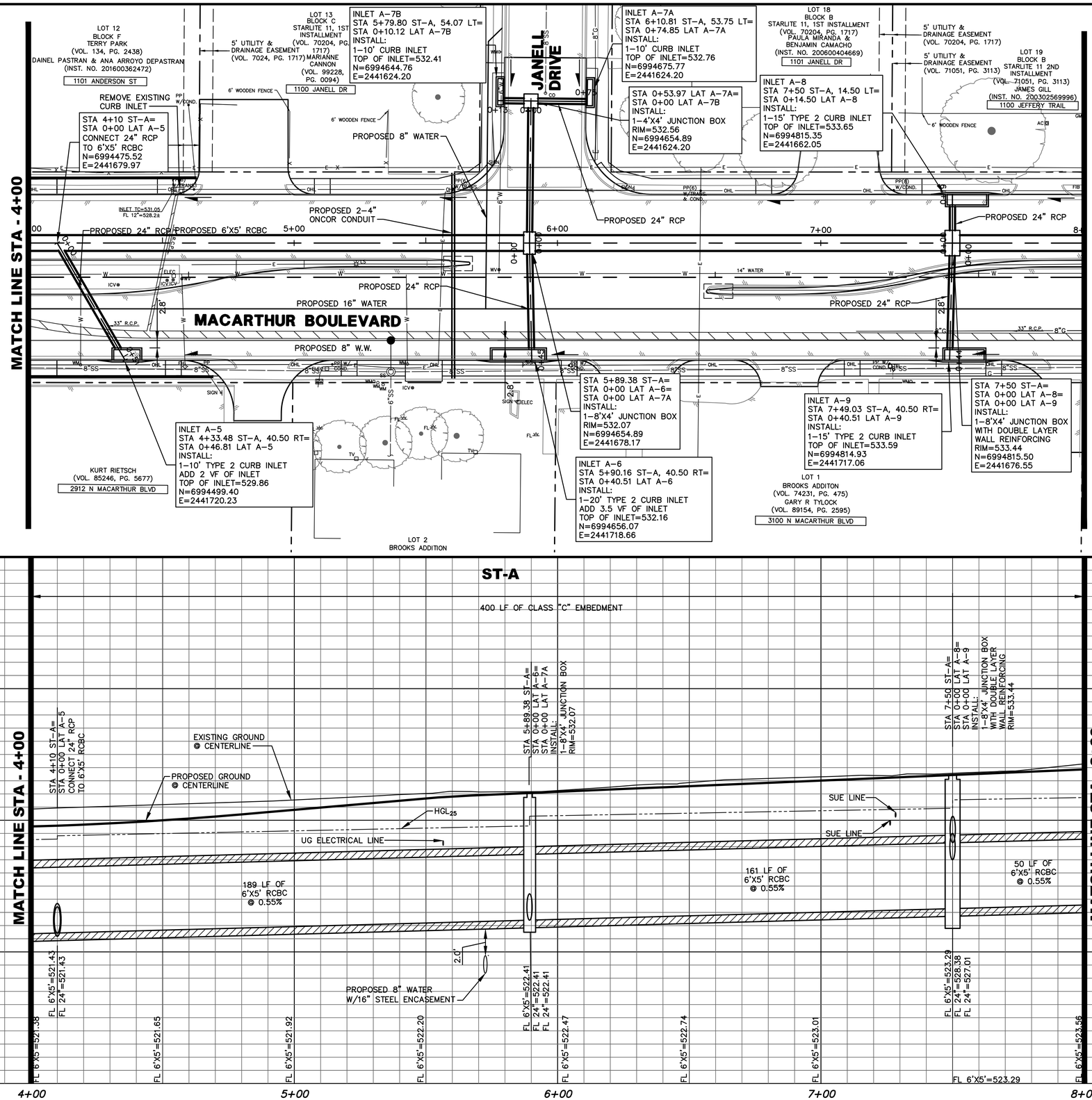

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
			XXXXXXX
			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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PROPOSED STORM ST-A
STA 4+00 TO STA 8+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 23

RPAROULEK
05/11/2022 - 10:13AM
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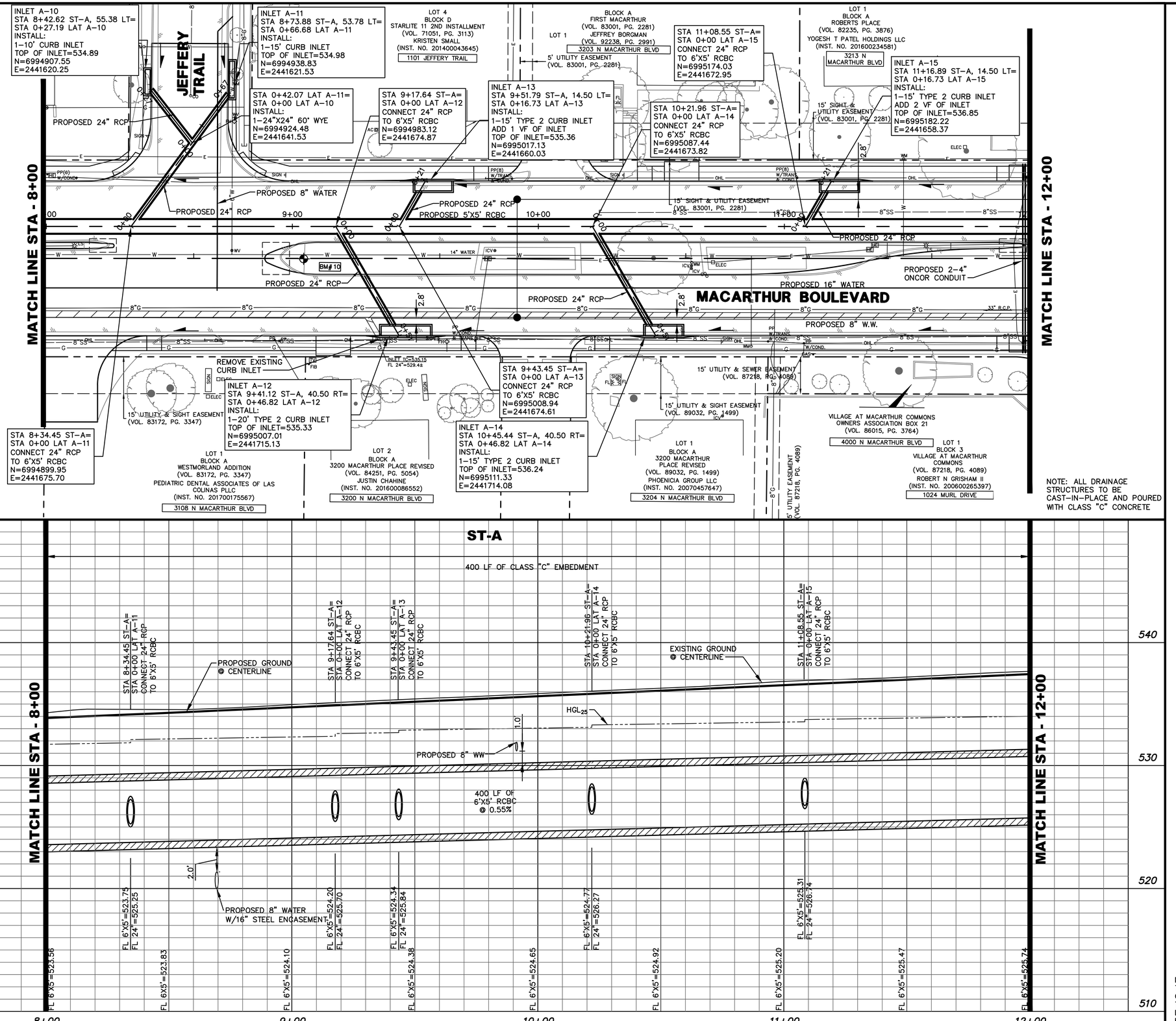

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
XX/XX/XXXX

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Pacheco Koch

4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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PROPOSED STORM ST-A
STA 8+00 TO STA 12+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
24

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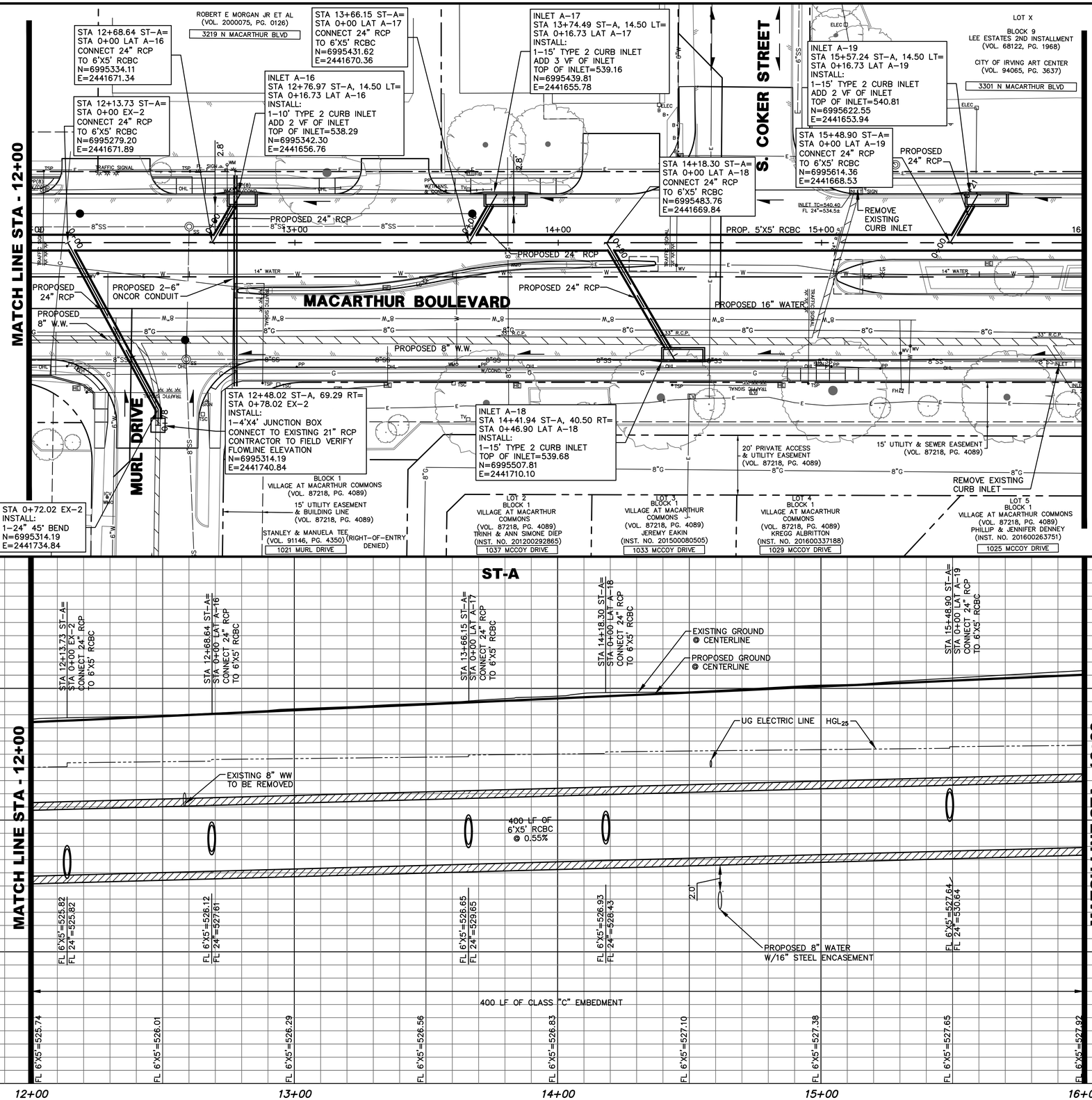

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
XX/XX/XX

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
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PROPOSED STORM ST-A
STA 12+00 TO STA 16+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
25

RPAROULEK
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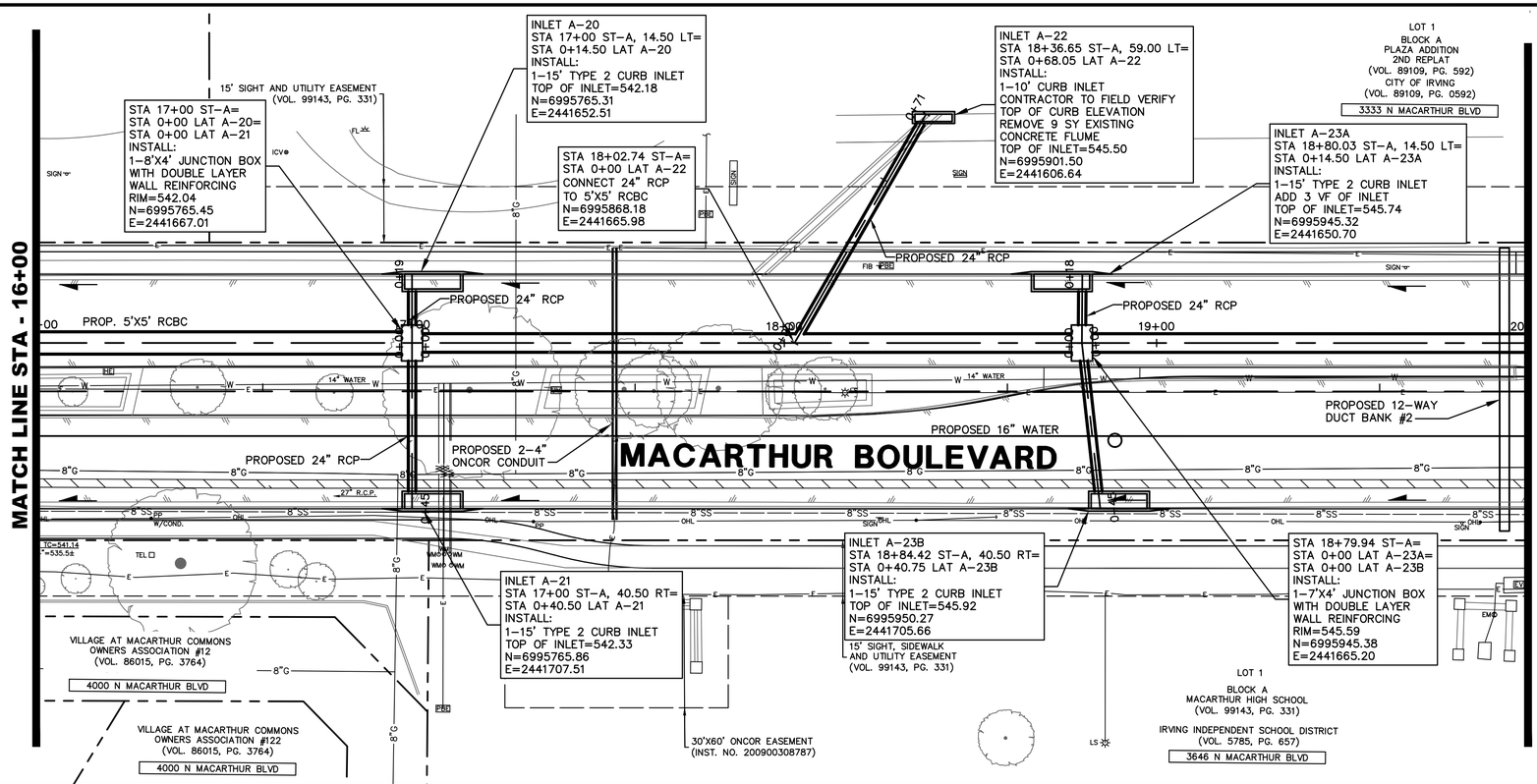

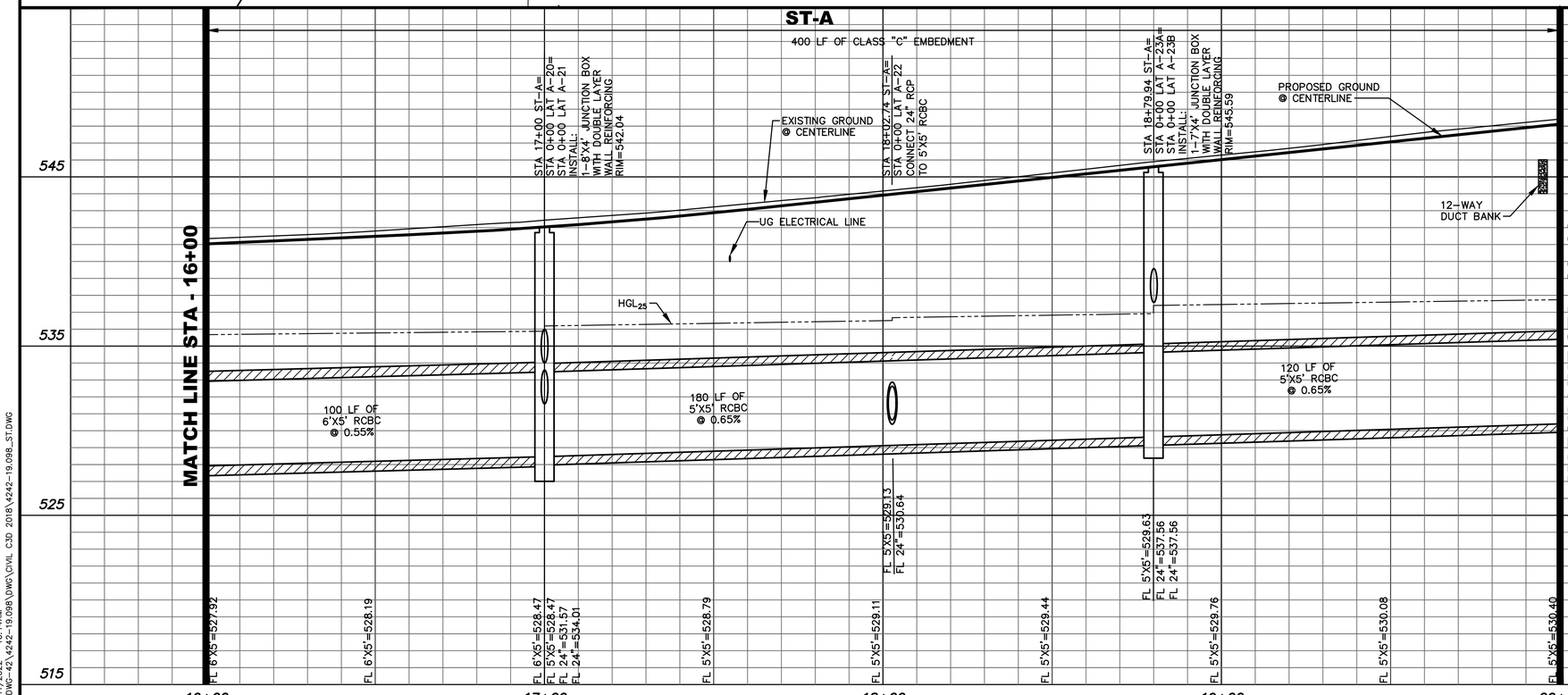

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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

LEGEND
FLOW DIRECTION

REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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PROPOSED STORM ST-A
STA 16+00 TO STA 20+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 26

RPAROULEK
05/11/2022 - 10:14AM
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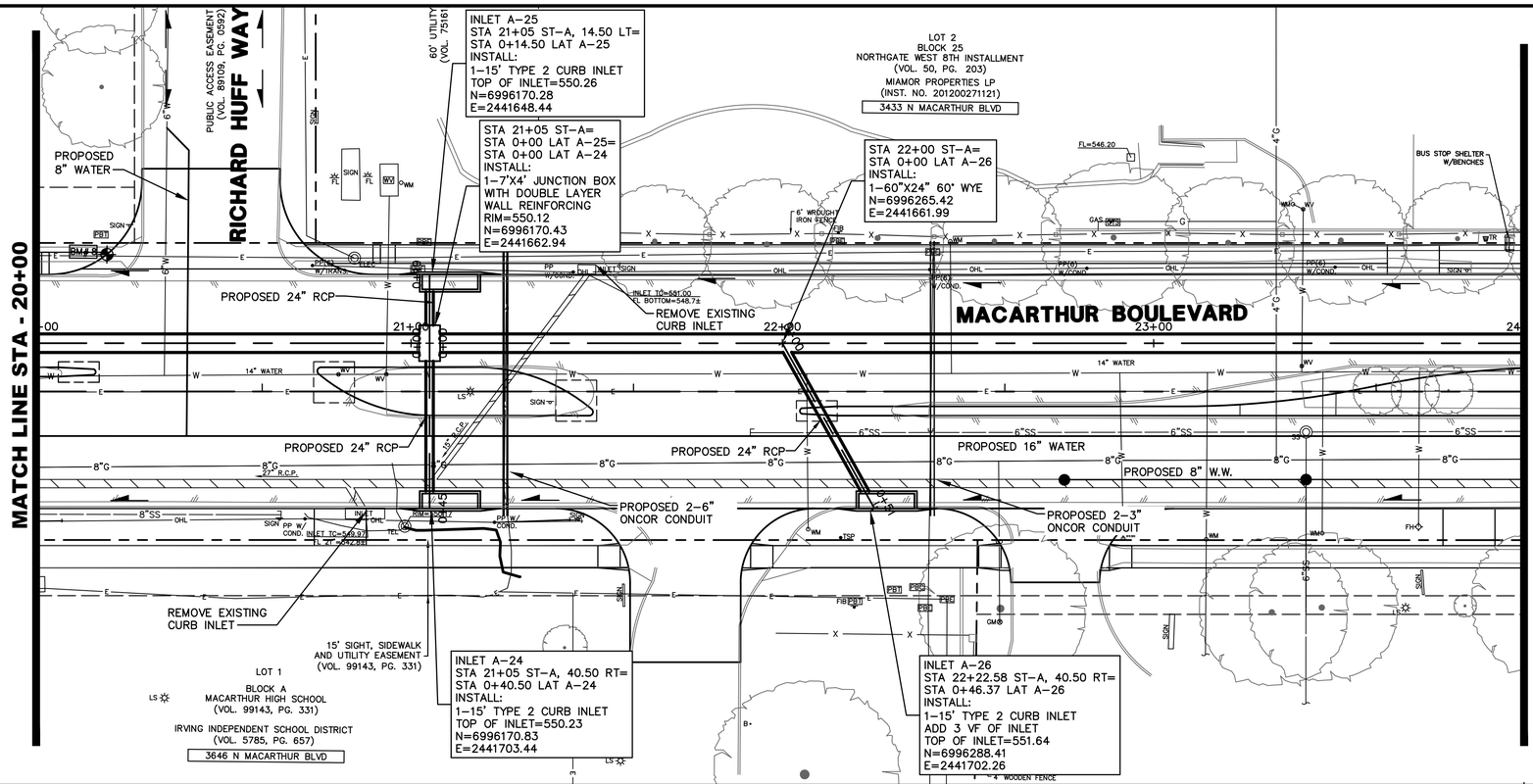

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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CITY OF IRVING
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PROPOSED STORM ST-A
STA 20+00 TO STA 24+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 27

RPAROULEK
05/11/2022 - 10:14AM
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STA 25+50 ST-A=
STA 0+00 LAT A-27=
STA 0+00 LAT A-28
INSTALL:
1-7'X4' JUNCTION BOX
WITH DOUBLE LAYER
WALL REINFORCING
RIM=552.88
N=6996615.41
E=2441658.47

INLET A-27
STA 25+50 ST-A, 14.49 LT=
STA 0+14.49 LAT A-27
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=553.02
N=6996615.26
E=2441643.99

LOT 1
BLOCK 25
NORTHGATE WEST 8TH INSTALLMENT
(VOL. 50, PG. 203)
MIAMOR PROPERTIES LP
(INST. NO. 201200271121)
3501 N MACARTHUR BLVD

INLET A-30
STA 27+47.03 ST-A, 14.51 LT=
STA 0+14.51 LAT A-30
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=553.36
N=6996812.25
E=2441641.80

MATCH LINE STA - 24+00

MATCH LINE STA - 28+00

6' WROUGHT IRON FENCE

PROPOSED 2-2" SPECTRUM CONDUIT

PROPOSED 2-4" ONCOR CONDUIT

PROPOSED 24" RCP

MACARTHUR BOULEVARD

PROPOSED 60" RCP

PROPOSED 24" RCP

PROPOSED 16" WATER

PROPOSED 8" W.W.

PROPOSED 24" RCP

PROPOSED 24" RCP

14" WATER

6"SS

8"SS

8"G

27" R.C.P.

15' SIGHT EASEMENT
(VOL. 85053, PG. 5313)

STA 27+47 ST-A=
STA 0+00 LAT A-29=
STA 0+00 LAT A-30
INSTALL:
1-7'X4' JUNCTION BOX
WITH DOUBLE LAYER
WALL REINFORCING
RIM=553.23
N=6996812.39
E=2441656.31

INLET A-28
STA 25+37.89 ST-A, 40.48 RT=
STA 0+43.28 LAT A-28
INSTALL:
1-20' TYPE 2 CURB INLET
TOP OF INLET=552.94
N=6996603.70
E=2441699.08

INLET A-29
STA 27+46.93 ST-A, 40.50 RT=
STA 0+40.50 LAT A-29
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=553.25
N=6996812.80
E=2441696.80

REMOVE EXISTING CURB INLET

20' UTILITY EASEMENT
(VOL. 85053, PG. 5313)

6' CONSTRUCTION FENCE

15' SIGHT, SIDEWALK AND UTILITY EASEMENT
(VOL. 99143, PG. 331)

LOT 1
MACARTHUR BUSINESS PARK
FIRST INSTALLMENT
(VOL. 85053, PG. 5313)
IRVING ISD
(RECORDING INFORMATION UNKNOWN)
3636 N MACARTHUR BLVD

LOT 1
MACARTHUR BUSINESS PARK
FIRST INSTALLMENT
(VOL. 85053, PG. 5313)
IRVING ISD
(RECORDING INFORMATION UNKNOWN)
3636 N MACARTHUR BLVD

LOT 1
BLOCK A
MACARTHUR HIGH SCHOOL
(VOL. 99143, PG. 331)
IRVING INDEPENDENT SCHOOL DISTRICT
(VOL. 5785, PG. 657)
3646 N MACARTHUR BLVD

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

ST-A

400 LF OF CLASS "C" EMBEDMENT

PROPOSED GROUND @ CENTERLINE

EXISTING GROUND @ CENTERLINE

UG ELECTRICAL LINE

UG ELECTRICAL LINE

UG ELECTRICAL LINE

HGL_{25}

150 LF OF 60" RCP @ 0.65%

197 LF OF 60" RCP @ 0.65%

53 LF OF 54" RCP @ 0.50%

555 / 545 / 535 / 525

24+00 / 25+00 / 26+00 / 27+00 / 28+00

FL 60"=532.98
FL 60"=533.31
FL 60"=533.31
FL 60"=533.95
FL 24"=544.85
FL 24"=544.85
FL 60"=533.31
FL 60"=533.31
FL 60"=533.31
FL 60"=535.22
FL 54"=535.22
FL 24"=547.85
FL 24"=547.85
FL 60"=533.31

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/11/2022. IT IS NOT TO BE USED FOR ANY PROJECT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 24+00 TO STA 28+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 28

RPAROULEK
05/11/2022 - 10:15AM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

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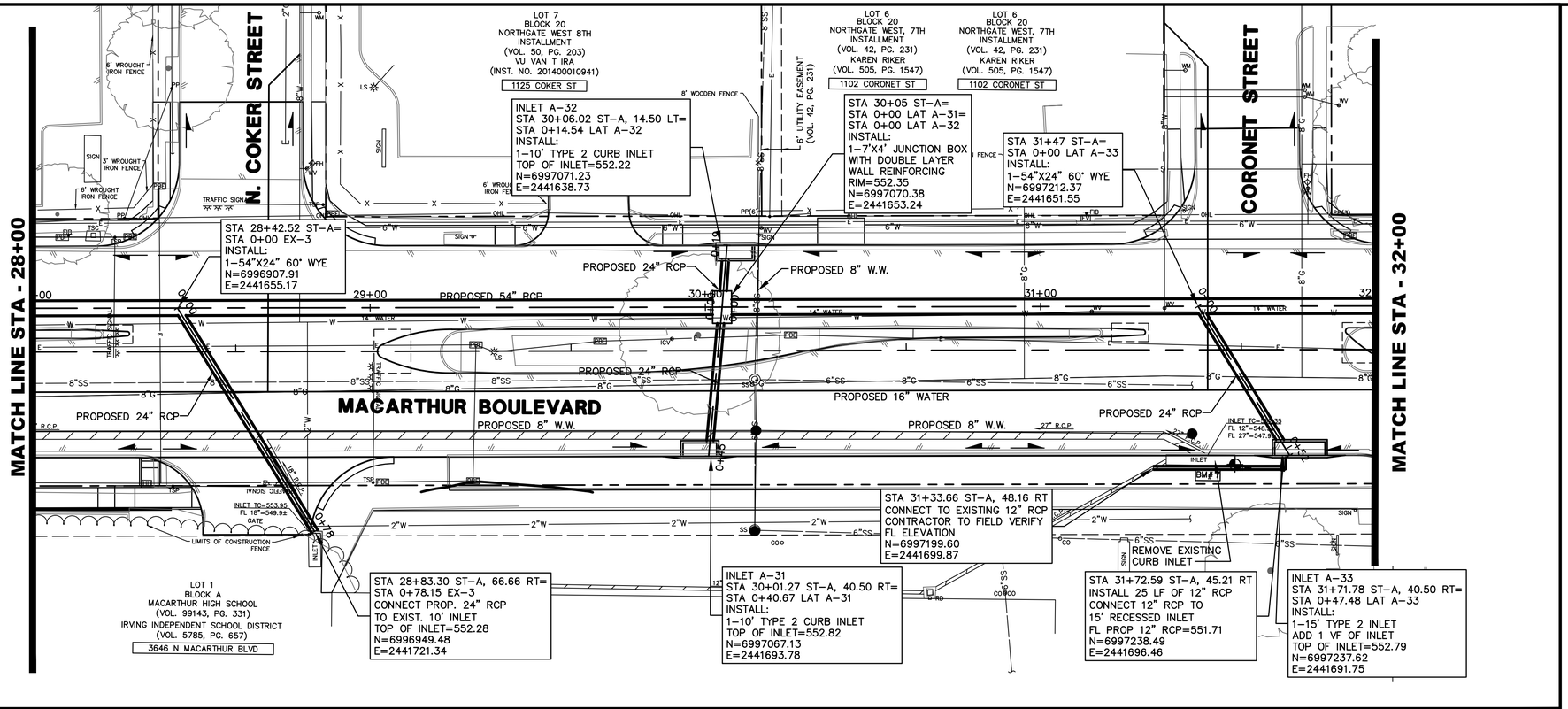

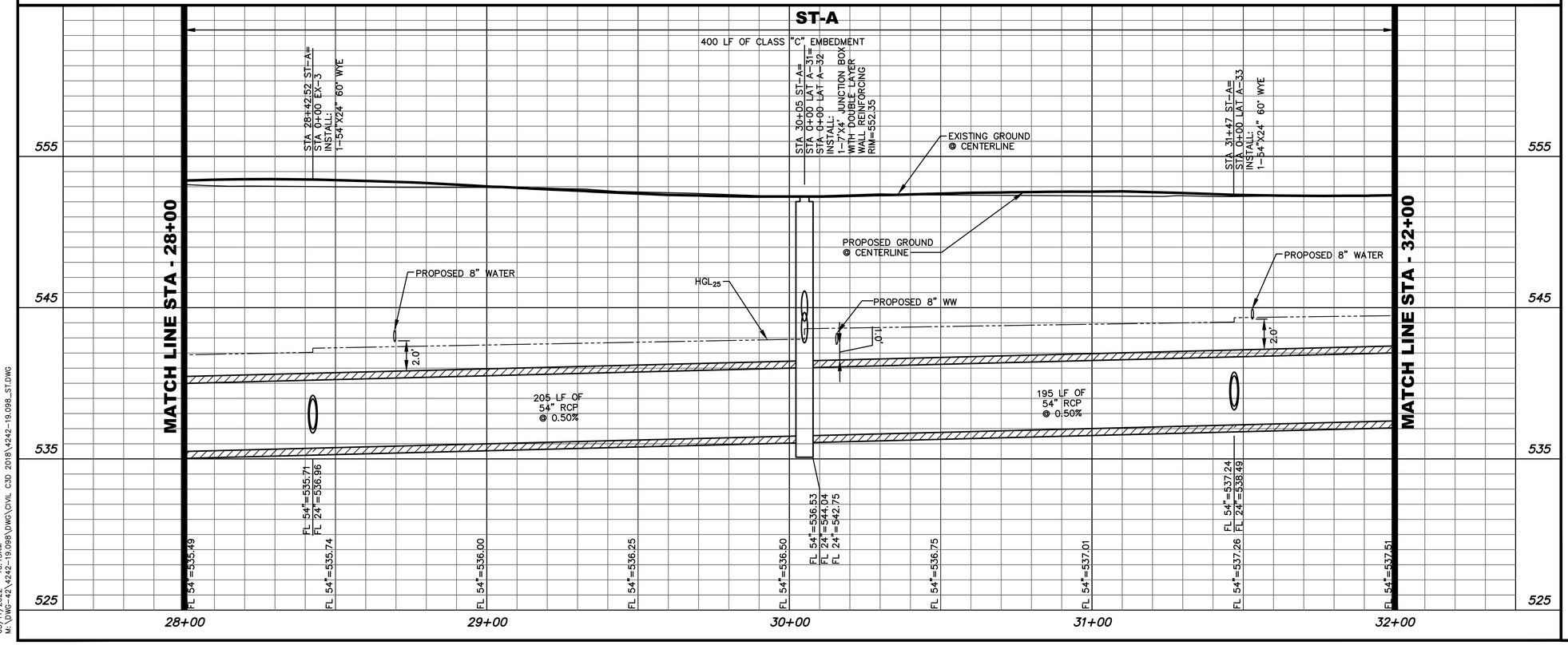

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/11/2022

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 28+00 TO STA 32+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 29

M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

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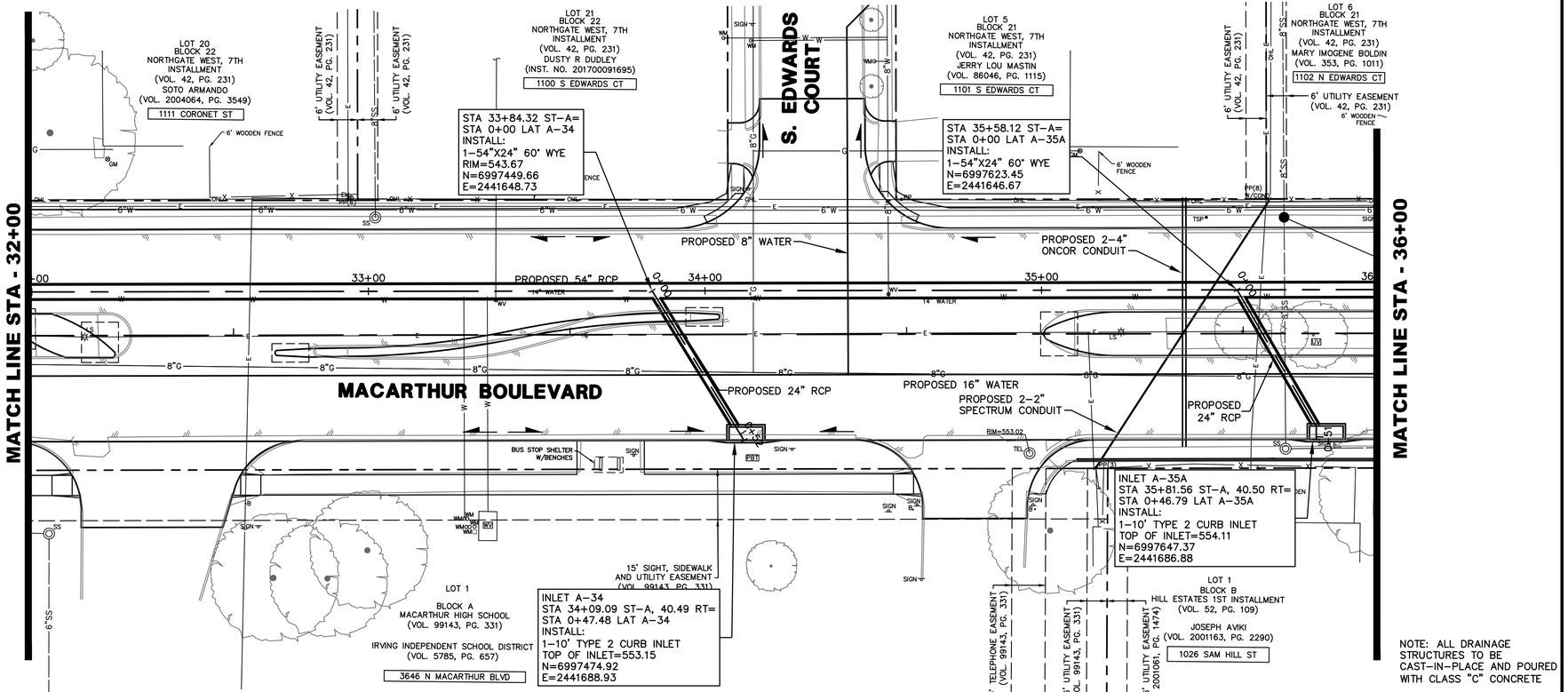
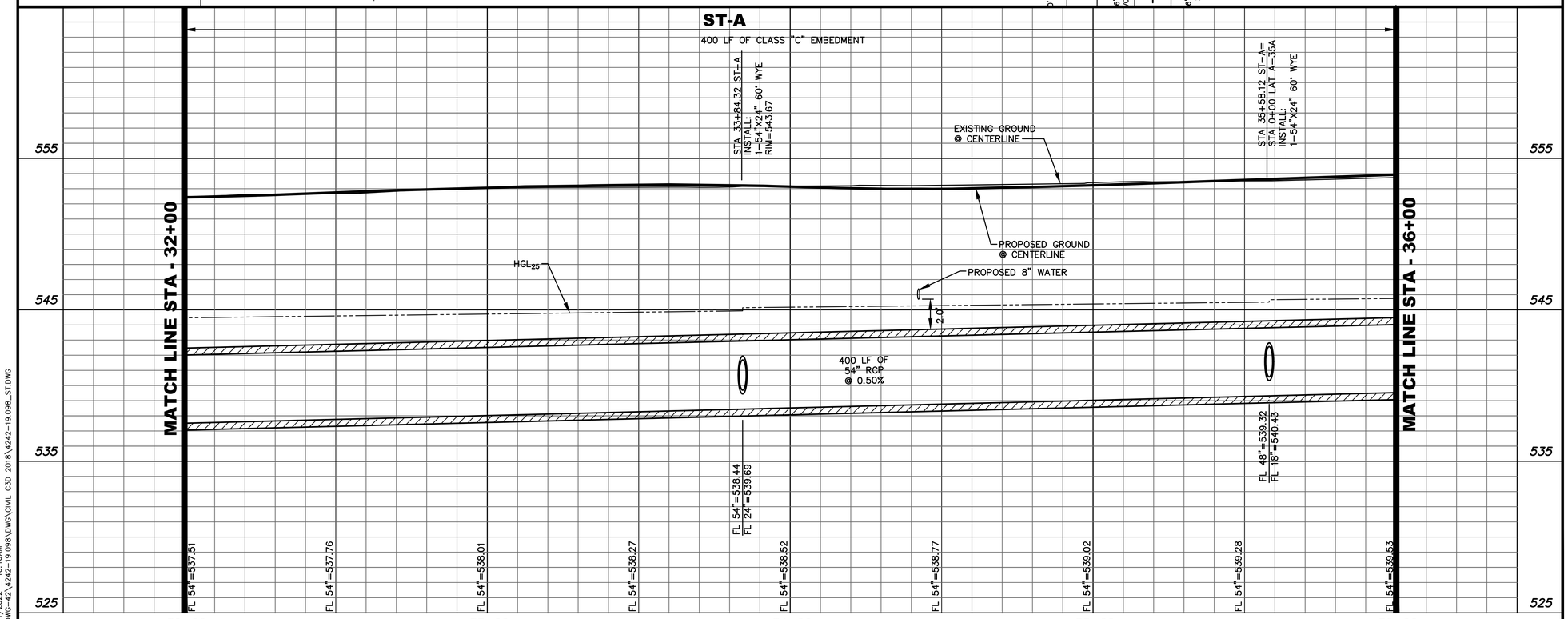


NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE



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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
1			
2			
3			
4			
5	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 32+00 TO STA 36+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 30

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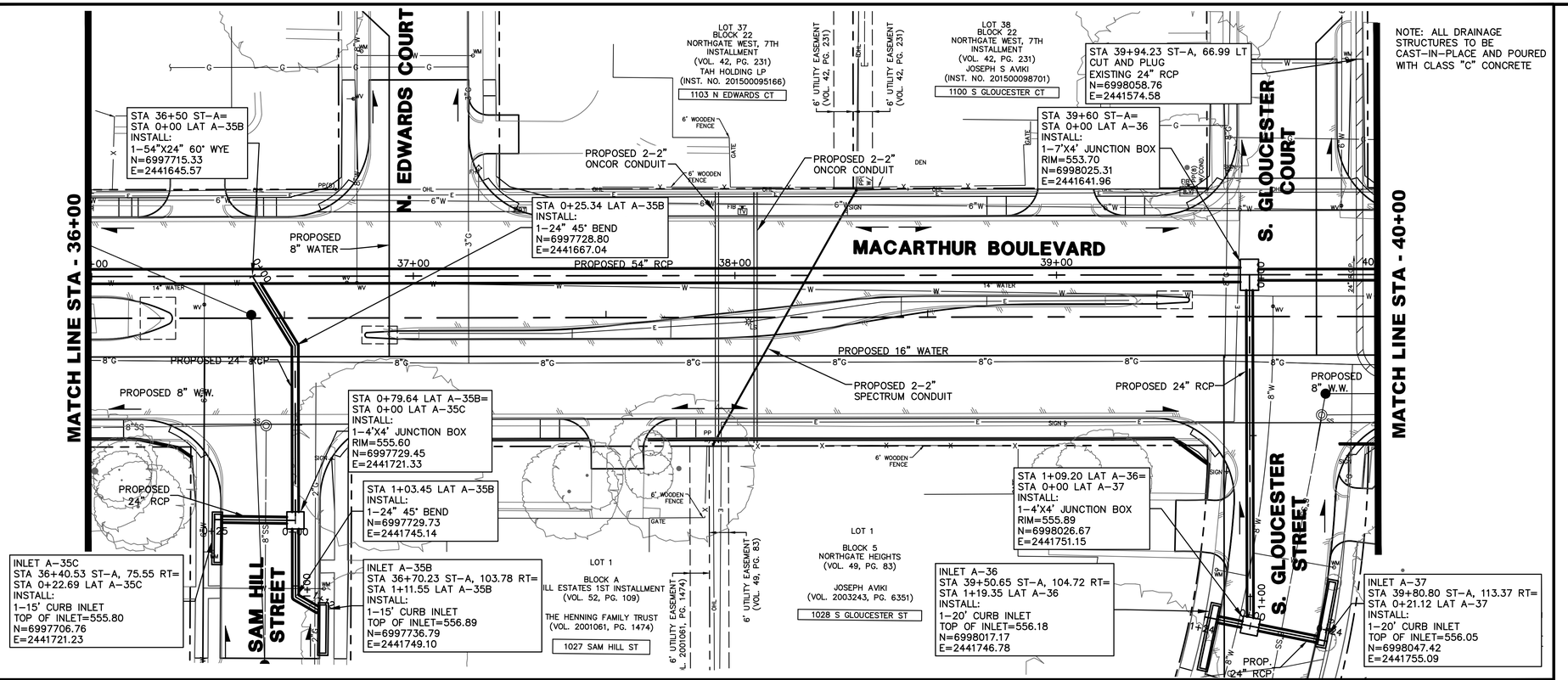

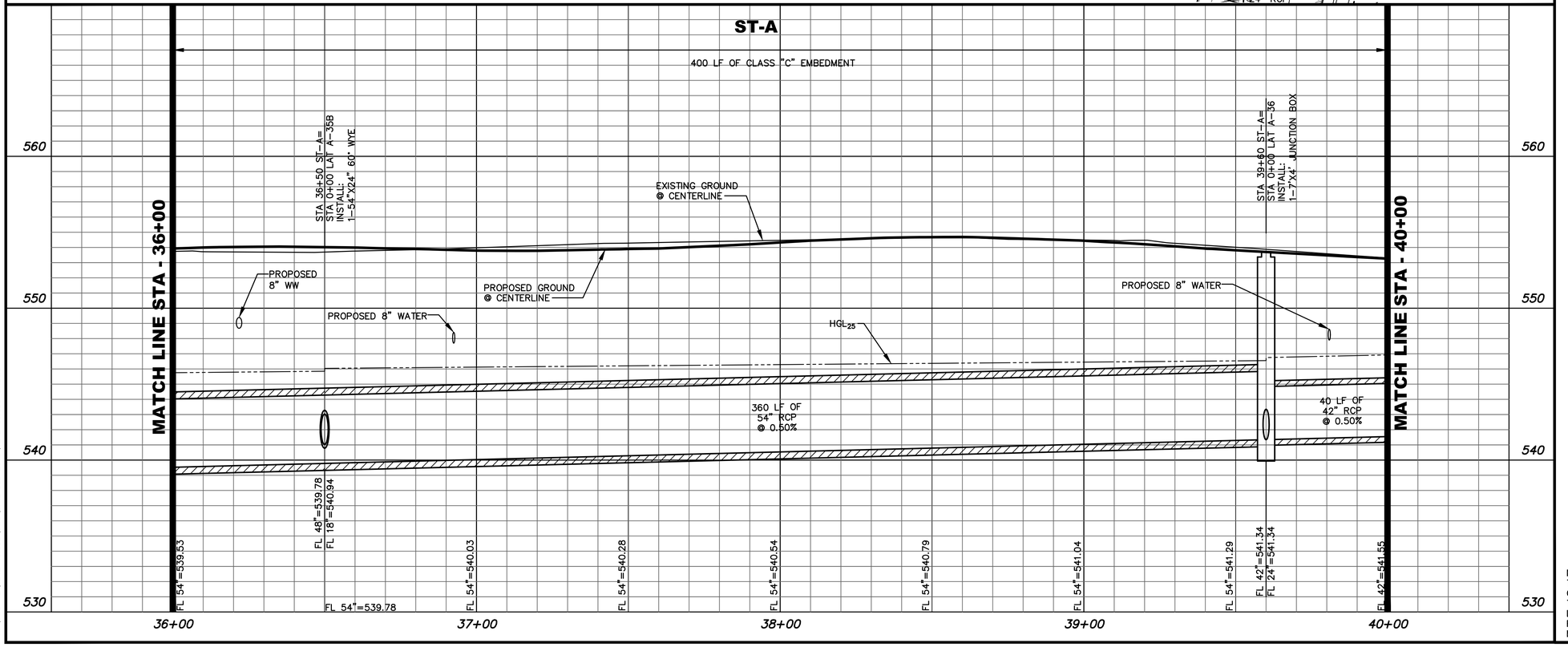

0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
XX/XX/XXXX

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 36+00 TO STA 40+00
MACARTHUR BOULEVARD
METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 31

RPAROULEK
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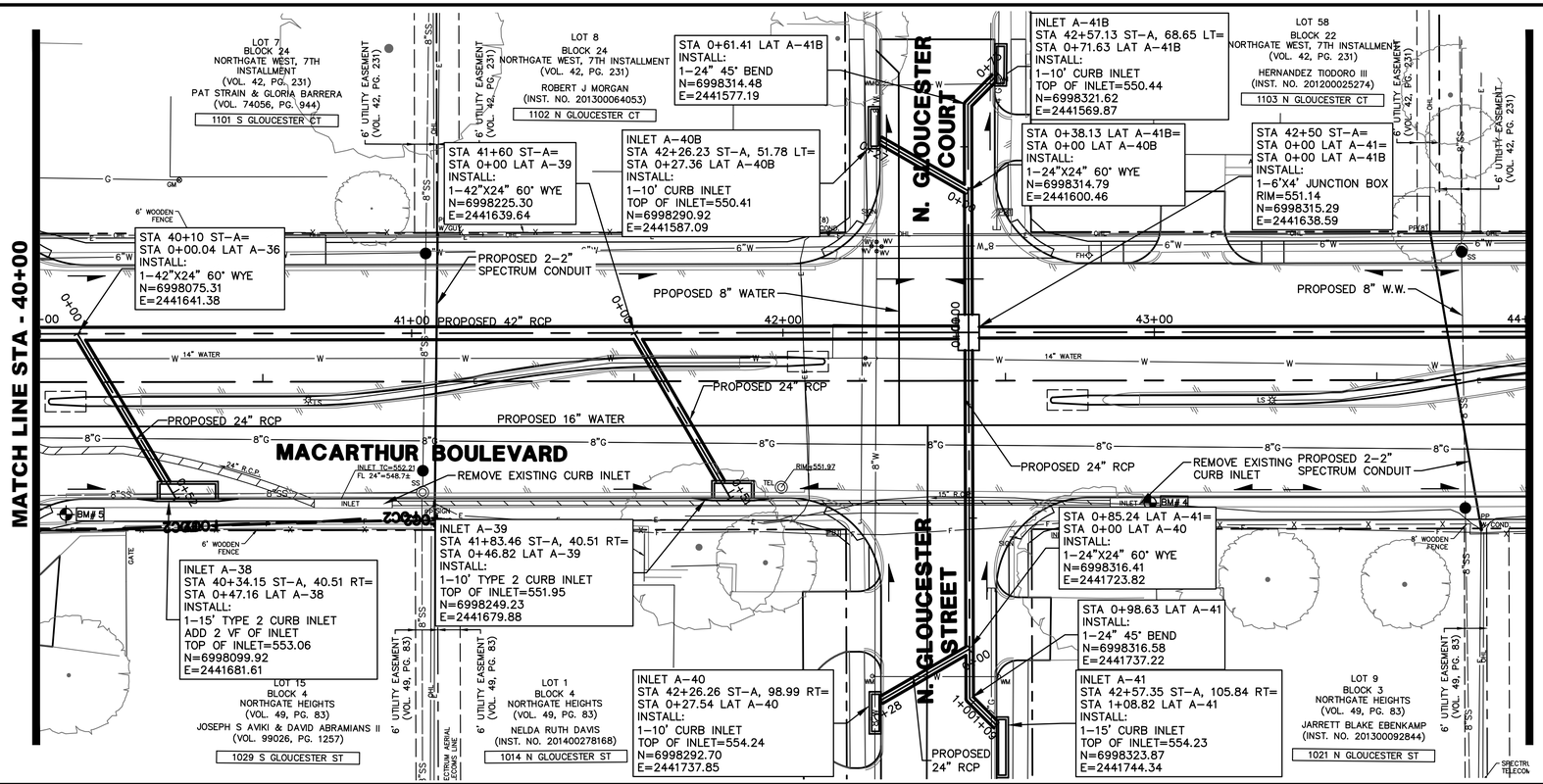
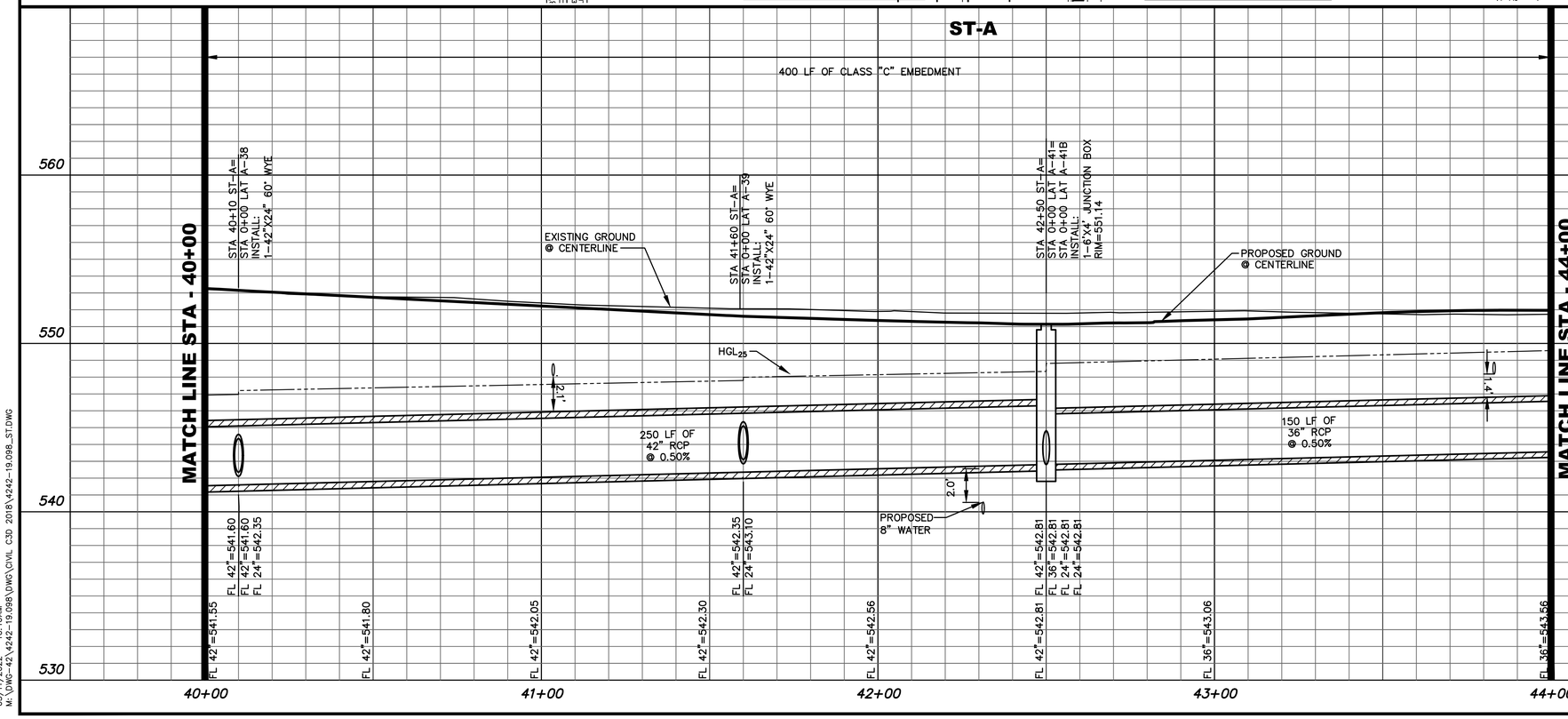


NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE



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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 40+00 TO STA 44+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 32

RPAROULEK
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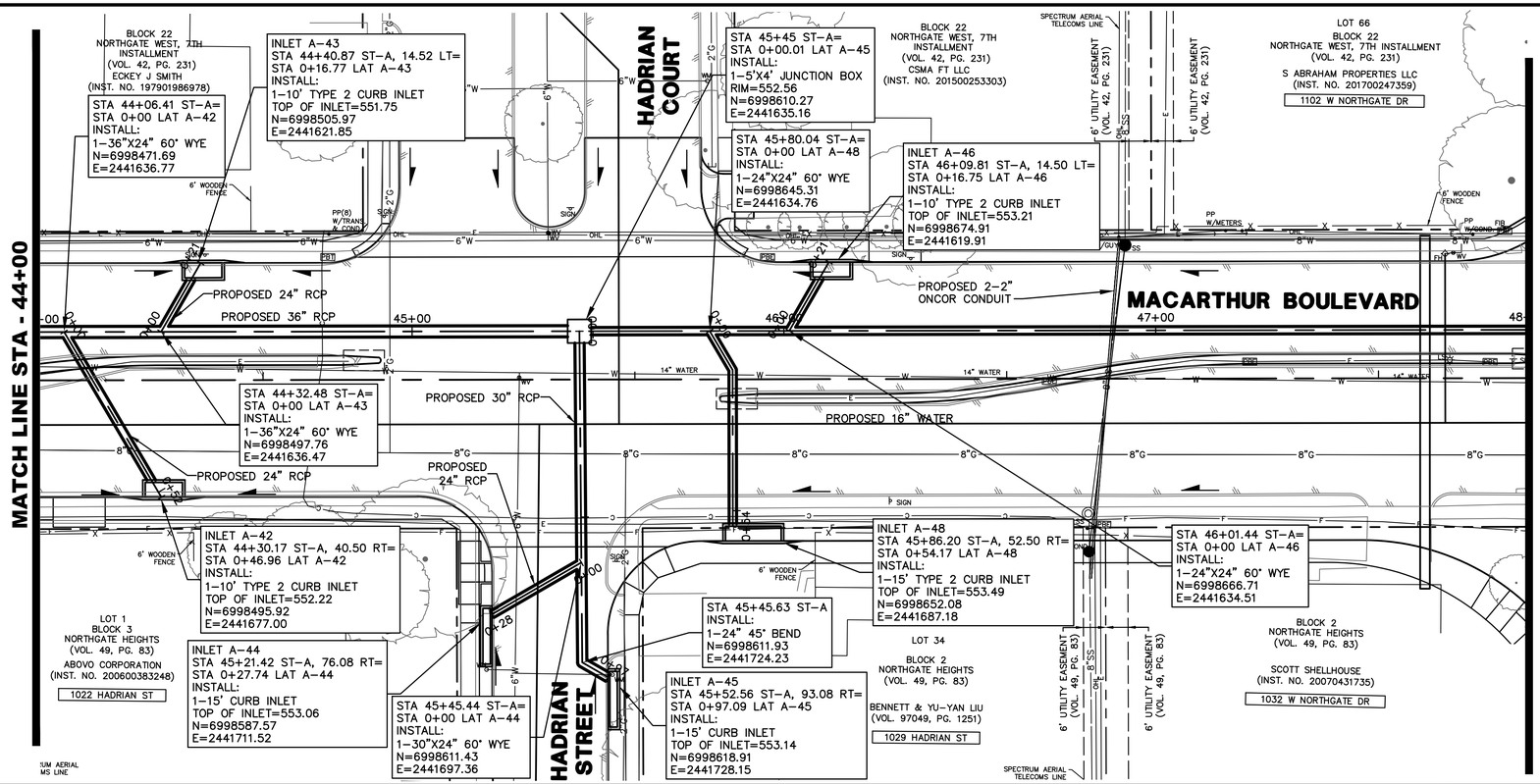
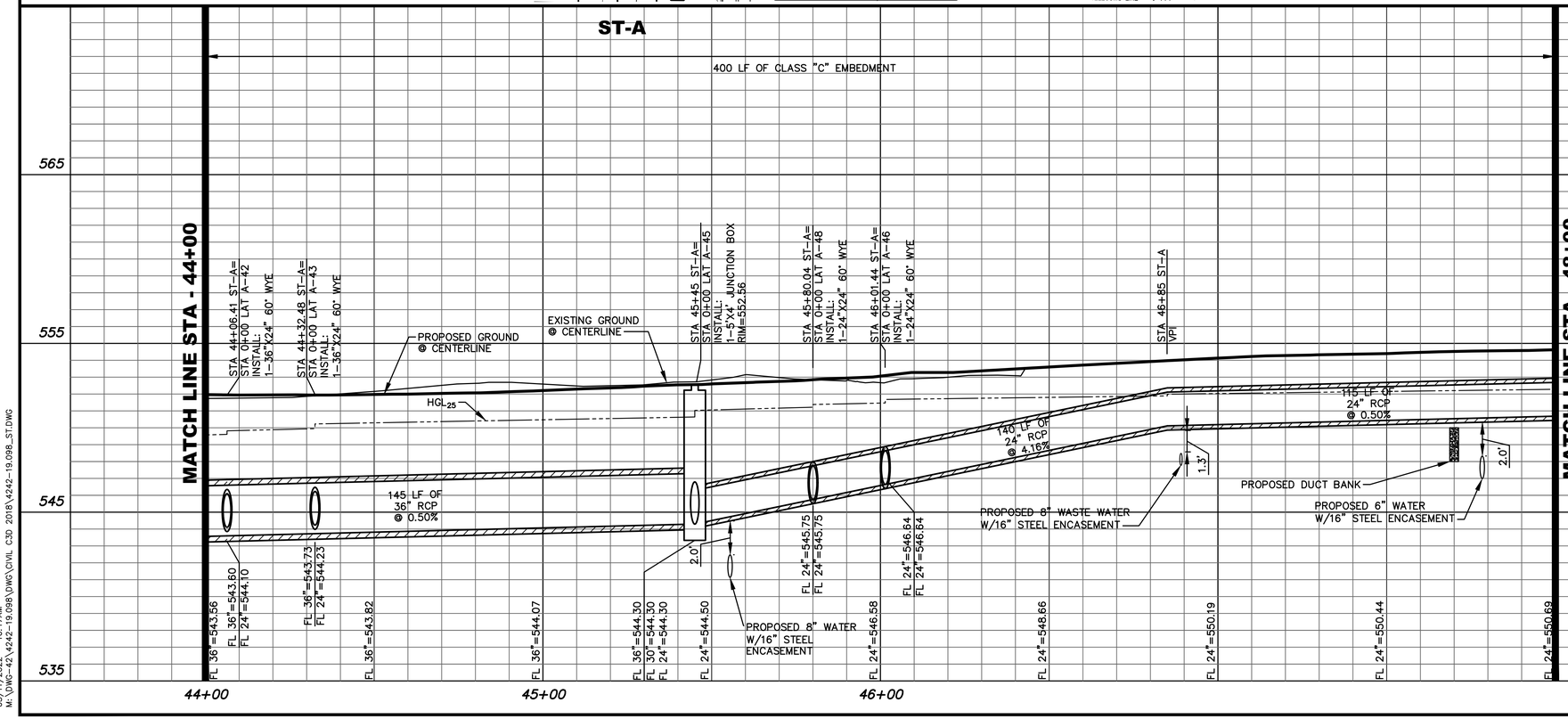


NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE



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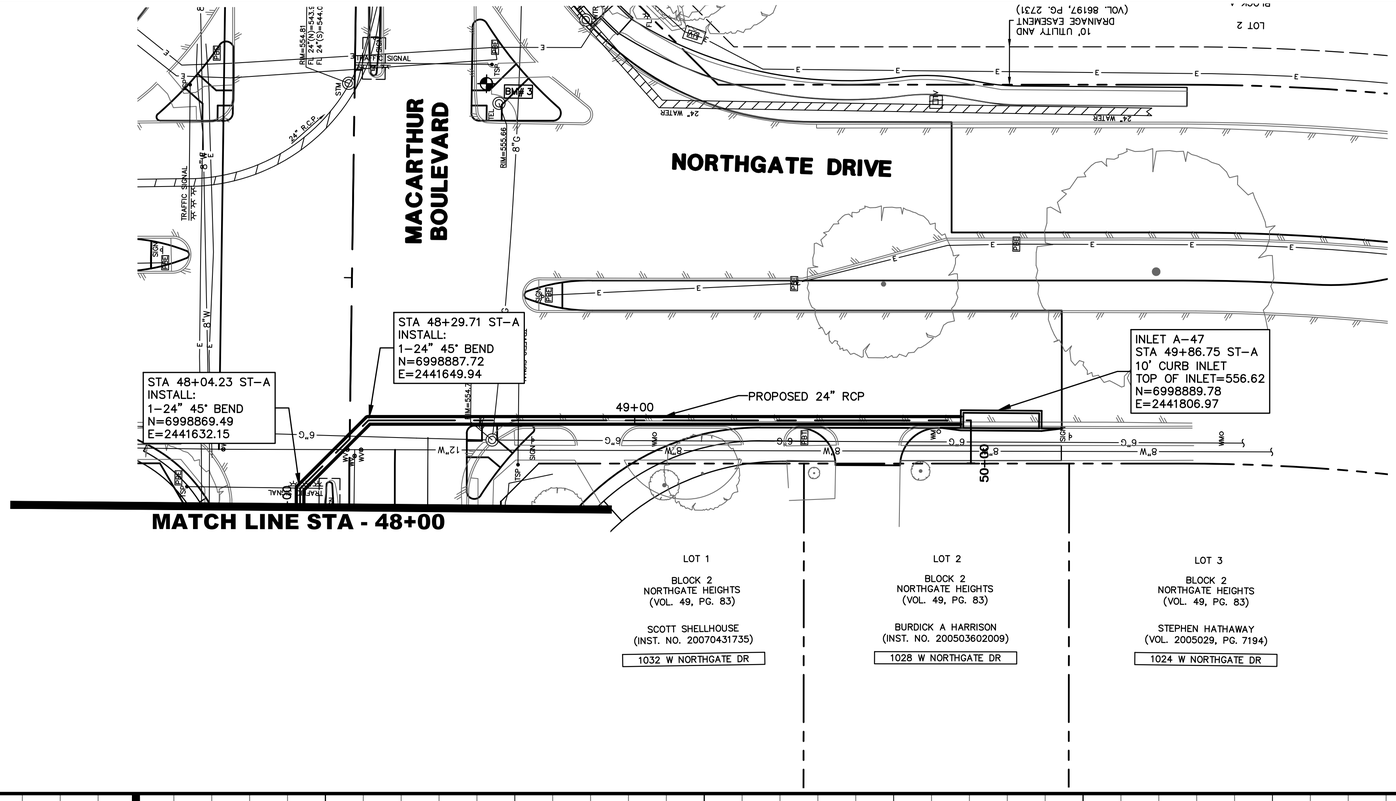
0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

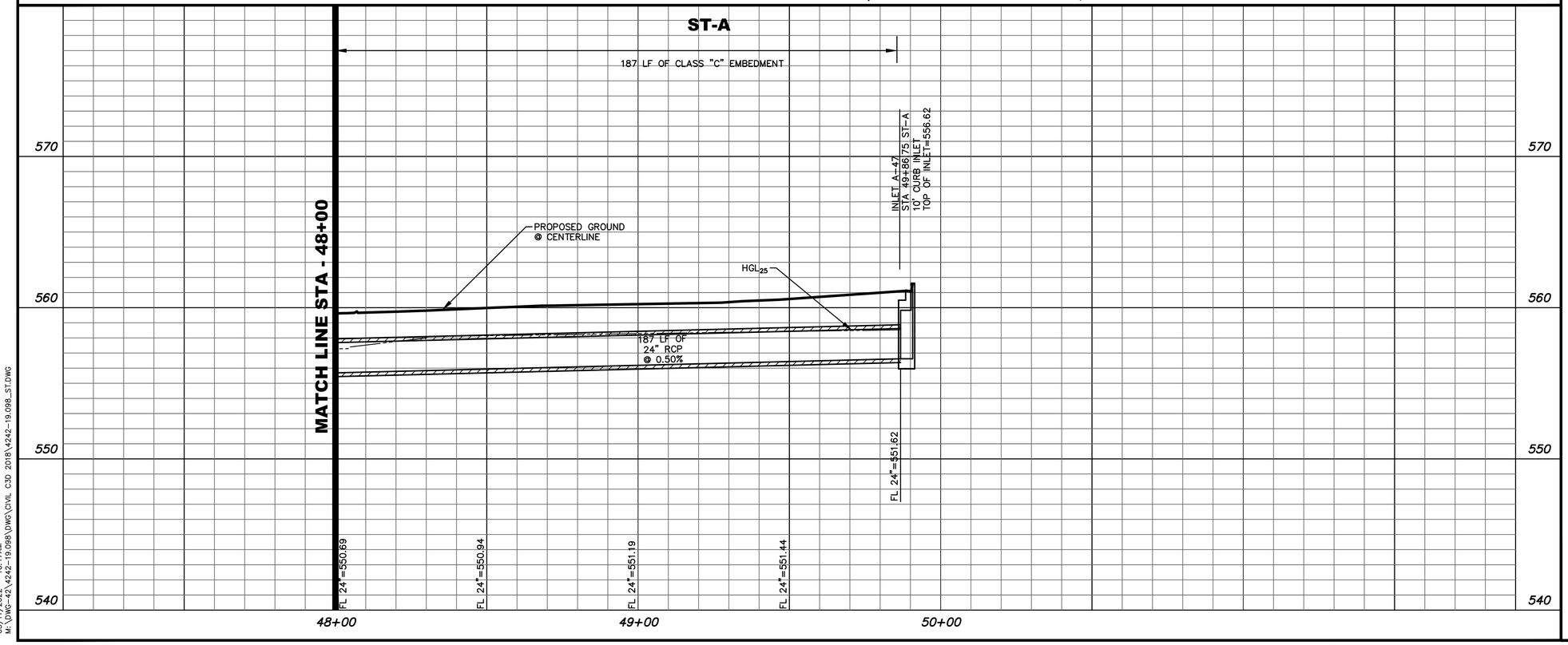
LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:



NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE



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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

FLOW DIRECTION

REV	DATE	BY	REVISIONS:
1	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM ST-A
STA 48+00 TO STA 49+86.75
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

SHEET
33-B

RPAROULEK
05/11/2022 - 10:17AM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

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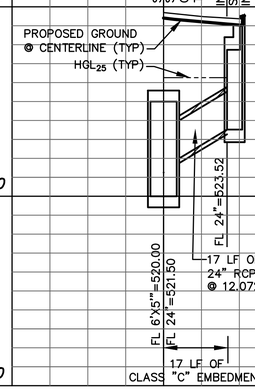
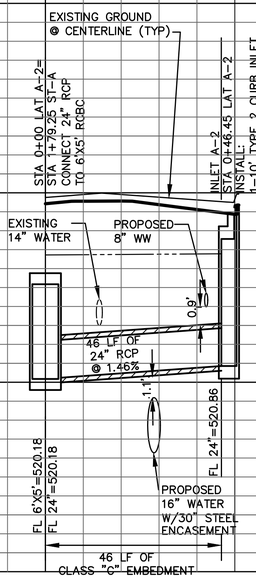
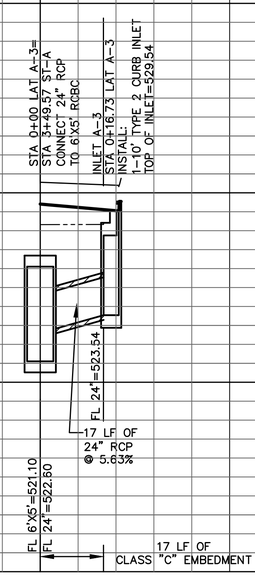
LAT A-1



LAT A-2



LAT A-3



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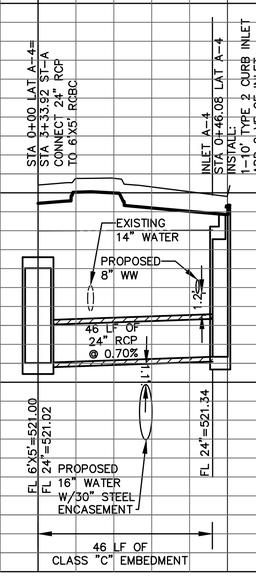
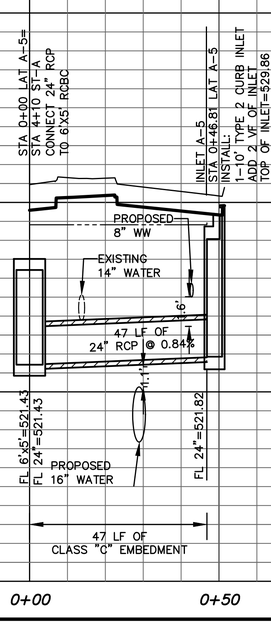


0+00 0+50 0+00 0+50 0+00 0+50 0+00 0+50

540 530 520 510

LAT A-5



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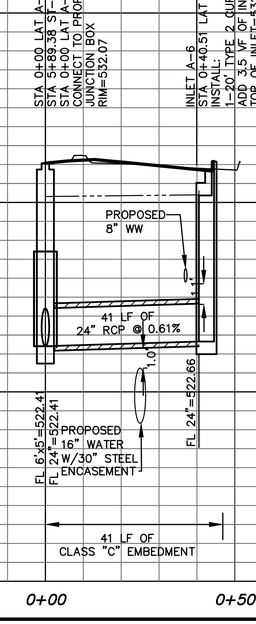

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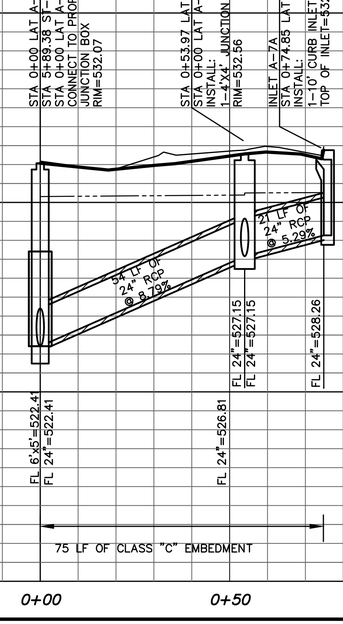

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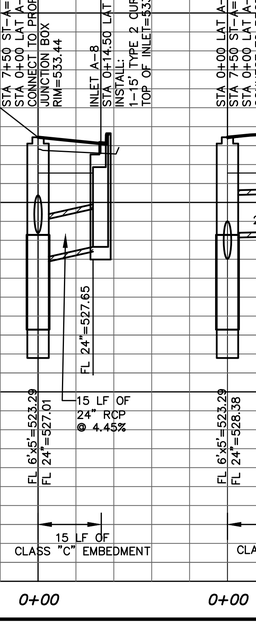
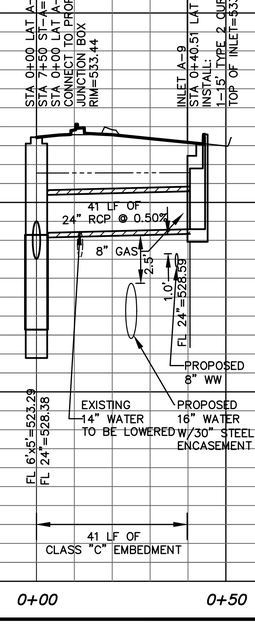


LAT A-9



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540 530 520 510

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/11/2022. IT IS NOT TO BE USED FOR BIDDING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM
LAT PROFILES A-1 TO A-9
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 34

RPAROULEK
05/11/2022 - 10:18AM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

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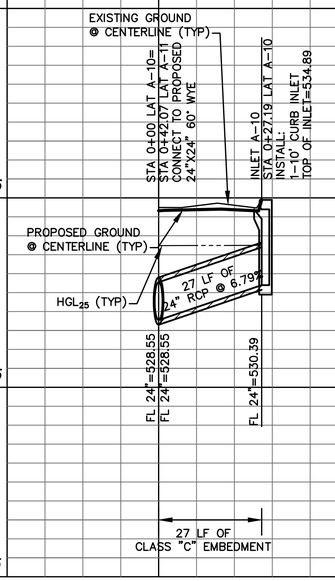
LAT A-10



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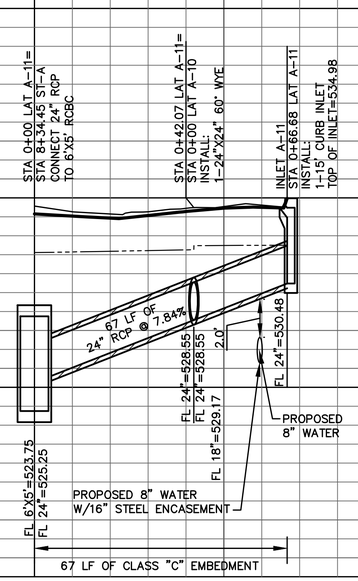

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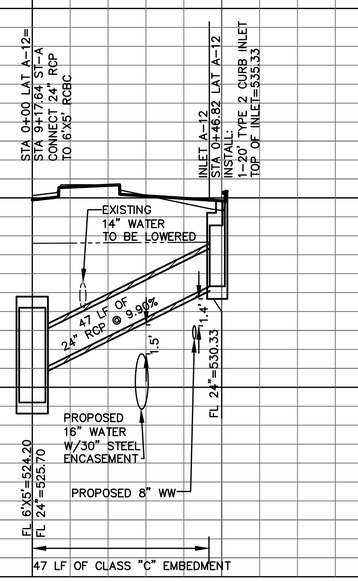

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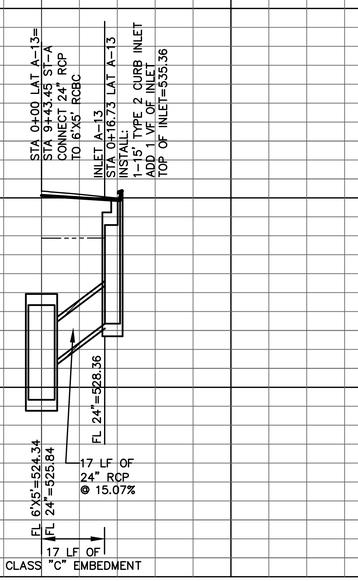

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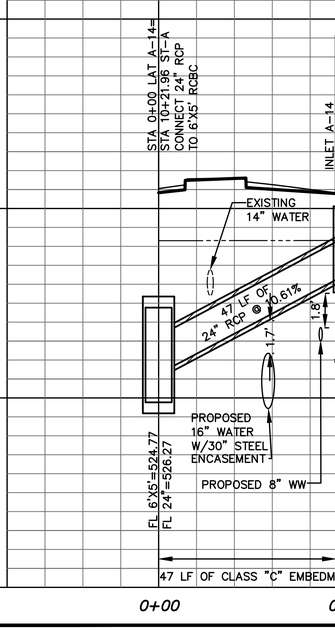

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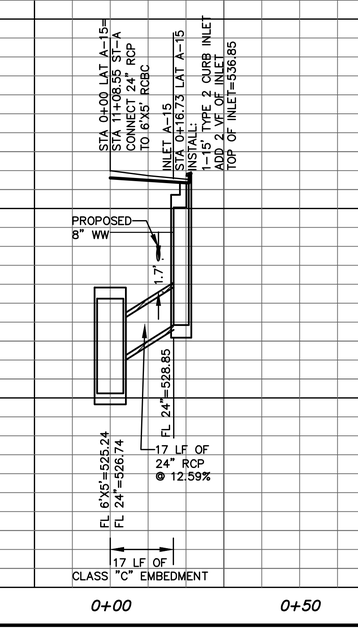

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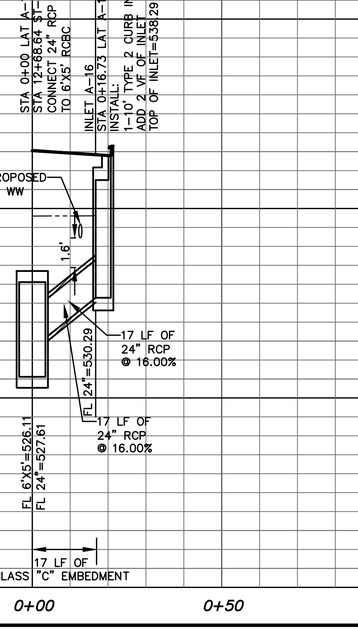

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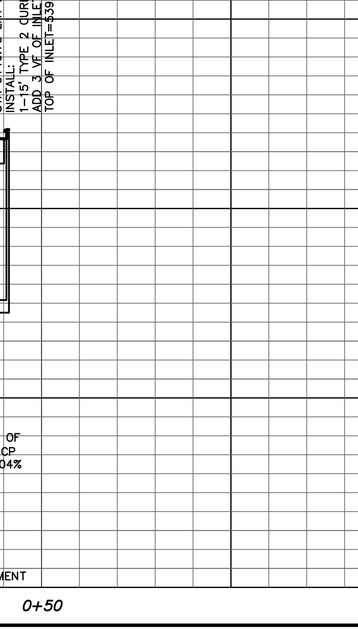

0+00 0+50 0+00 0+50 0+00 0+50 0+00 0+50 0+00 0+50 0+00 0+50

545 535 525 515

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

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REV	DATE	BY	REVISIONS:
1			
2			
3			
4			
5	XX/XXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER — 10/5/22

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED STORM
LAT PROFILES A-10 TO A-17
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 35

DBURTON
05/10/2022 - 5:35PM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

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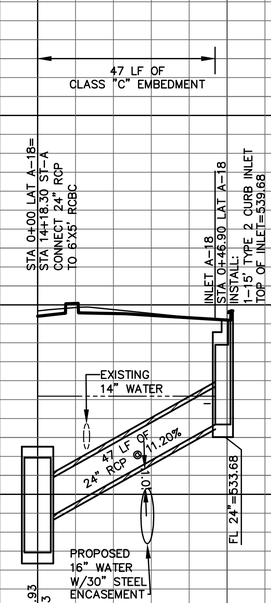
LAT A-18



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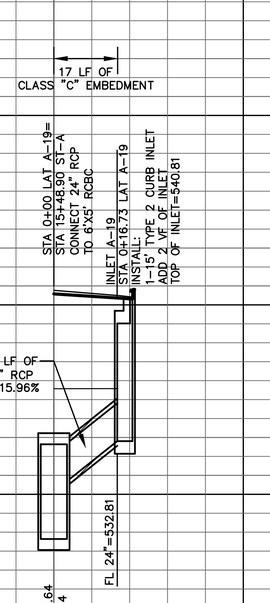

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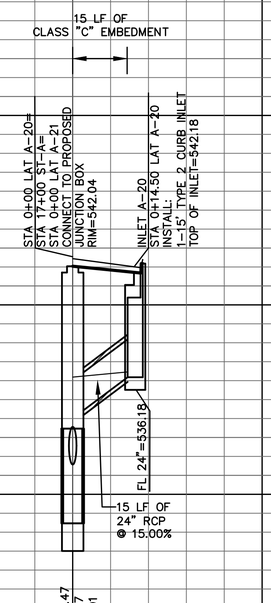

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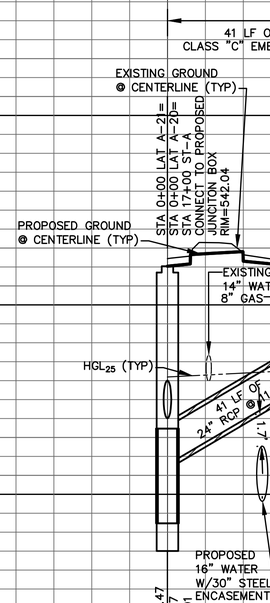

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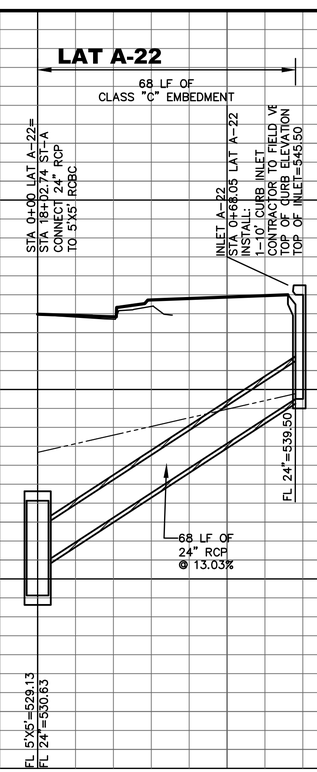

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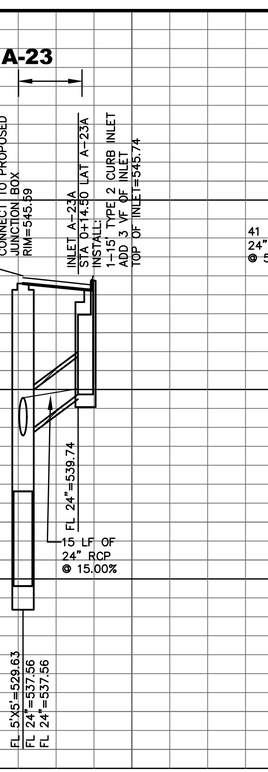

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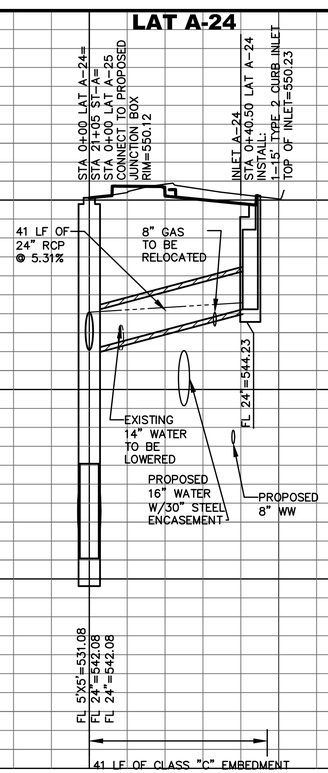
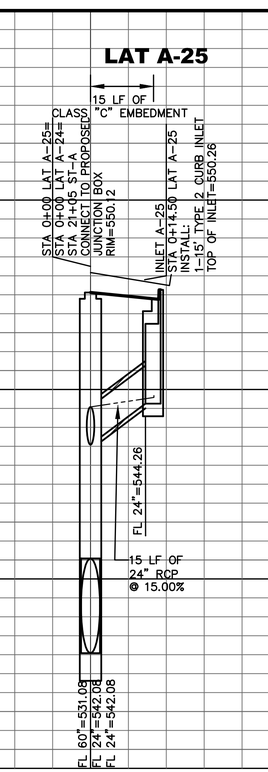


LAT A-25



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
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REV	DATE	BY	REVISIONS:
1			
2			
3			
4			
5	XX/XXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
SURVEYING

THE SEAL APPEARING ON THIS DOCUMENTS WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022 AND IS NOT TO BE USED FOR ANY PURPOSE WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

SHEET **36**

PROPOSED STORM
LAT PROFILES A-18 TO A-25
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

DBURTON
05/10/2022 - 5:35PM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST1.DWG

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LAT A-26

STA 0+00 LAT A-26=
STA 22+00 ST-A
INSTALL:
1-60"X24" 60° WYE

INLET A-26
STA 0+46.37 LAT A-26
INSTALL:
1-15' TYPE 2 CURB INLET
ADD 3 VF OF INLET
TOP OF INLET=551.64

EXISTING GROUND
@ CENTERLINE (TYP)
47 LF OF
CLASS "C" EMBEDMENT
PROPOSED GROUND
@ CENTERLINE (TYP)
PROPOSED
16" WATER
8" GAS
EXISTING
14" WATER
HGL$_{25}$ (TYP)
PROPOSED
8" WW
FL 24"=542.64
47 LF OF
24" RCP
@ 20.37%
FL 60"=531.69
FL 24"=533.19

LAT A-27

STA 0+00 LAT A-27=
STA 0+00 LAT A-28=
STA 25+50 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=552.88

INLET A-27
STA 0+14.49 LAT A-27
INSTALL:
1-10' TYPE 2 CURB INLE
TOP OF INLET=553.02

15 LF OF CLASS "C" EMBEDMENT
FL 24"=547.03
15 LF OF
24" RCP
@ 15.00%
FL 60"=533.95
FL 24"=544.85
FL 24"=544.85

LAT A-28

STA 0+00 LAT A-28=
STA 0+00 LAT A-27=
STA 25+50 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=552.88

INLET A-28
STA 0+43.28 LAT A-28
INSTALL:
1-20' TYPE 2 CURB INLET
TOP OF INLET=552.94

8" GAS
TO BE
RELOCATED
43 LF OF
24" RCP
@ 4.82%
PROPOSED
16" WATER
W/30" STEEL
ENCASEMENT
PROPOSED 8" WW
FL 24"=546.94
FL 60"=533.95
FL 24"=544.85
FL 24"=544.65
43 LF OF
CLASS "C" EMBEDMENT

LAT A-29

STA 0+00 LAT A-29=
STA 0+00 LAT A-30=
STA 27+47 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=553.23

INLET A-29
STA 0+40.50 LAT A-29
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=553.25

8" GAS
TO BE
RELOCATED
41 LF OF
24" RCP
@ 1.00%
EXISTING
14" WATER
FL 24"=548.25
PROPOSED
16" WATER
W/30" STEEL
ENCASEMENT
PROPOSED
8" WW
54"=535.22
24"=547.85
24"=547.85
41 LF OF
CLASS "C" EMBEDMENT

LAT A-30

STA 0+00 LAT A-30=
STA 0+00 LAT A-29=
STA 27+47 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=553.23

INLET A-30
STA 0+14.51 LAT A-30
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=553.36

FL 24"=548.36
15 LF OF
24" RCP
@ 3.57%
54"=535.22
24"=547.85
24"=547.85
15 LF OF
CLASS "C" EMBEDMENT

LAT A-31

STA 0+00 LAT A-31=
STA 0+00 LAT A-32=
STA 30+05 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=552.35

INLET A-31
STA 0+40.67 LAT A-31
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=552.82

EXISTING
14" WATER
8" GAS
TO BE
RELOCATED
41 LF OF
24" RCP
@ 10.00%
2.8'
FL 24"=546.82
PROPOSED
16" WATER
W/30" STEEL
ENCASEMENT
PROPOSED 8" WW
54"=536.53
24"=544.04
24"=542.75
41 LF OF
CLASS "C" EMBEDMENT

LAT A-32

STA 0+00 LAT A-32=
STA 0+00 LAT A-31=
STA 30+05 ST-A
CONNECT TO PROPOSED
JUNCTION BOX
RIM=552.35

INLET A-32
STA 0+14.54 LAT A-32
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=552.22

FL 24"=546.22
15 LF OF
24" RCP
@ 15.00%
FL 54"=536.53
FL 24"=544.04
FL 24"=542.75
15 LF OF
CLASS "C" EMBEDMENT

LAT A-33

STA 0+00 LAT A-33=
STA 31+47 ST-A
CONNECT TO PROPOSED
54"X24" 60°WYE

INLET A-33
STA 0+47.48 LAT A-33
INSTALL:
1-15' TYPE 2 INLET
ADD 1 VF OF INLET
TOP OF INLET=552.79

8" GAS
1.2'
FL 24"=545.79
47 LF OF
24" RCP
@ 15.38%
PROPOSED
16" WATER
W/30" STEEL
ENCASEMENT
FL 54"=537.24
FL 24"=538.49
47 LF OF
CLASS "C" EMBEDMENT

555 / 545 / 535 / 525

0+00 0+50 0+00 0+50 0+00 0+50 0+00 0+50

0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 4 8 12
VERTICAL SCALE IN FEET

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

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REVISIONS:

REV	DATE	BY
1	XX/XXXX	

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

XXXXXXXX

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
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CITY OF IRVING
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PROPOSED STORM
LAT PROFILES A-26 TO A-33
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
37

DBURTON
05/10/2022 - 5:35PM
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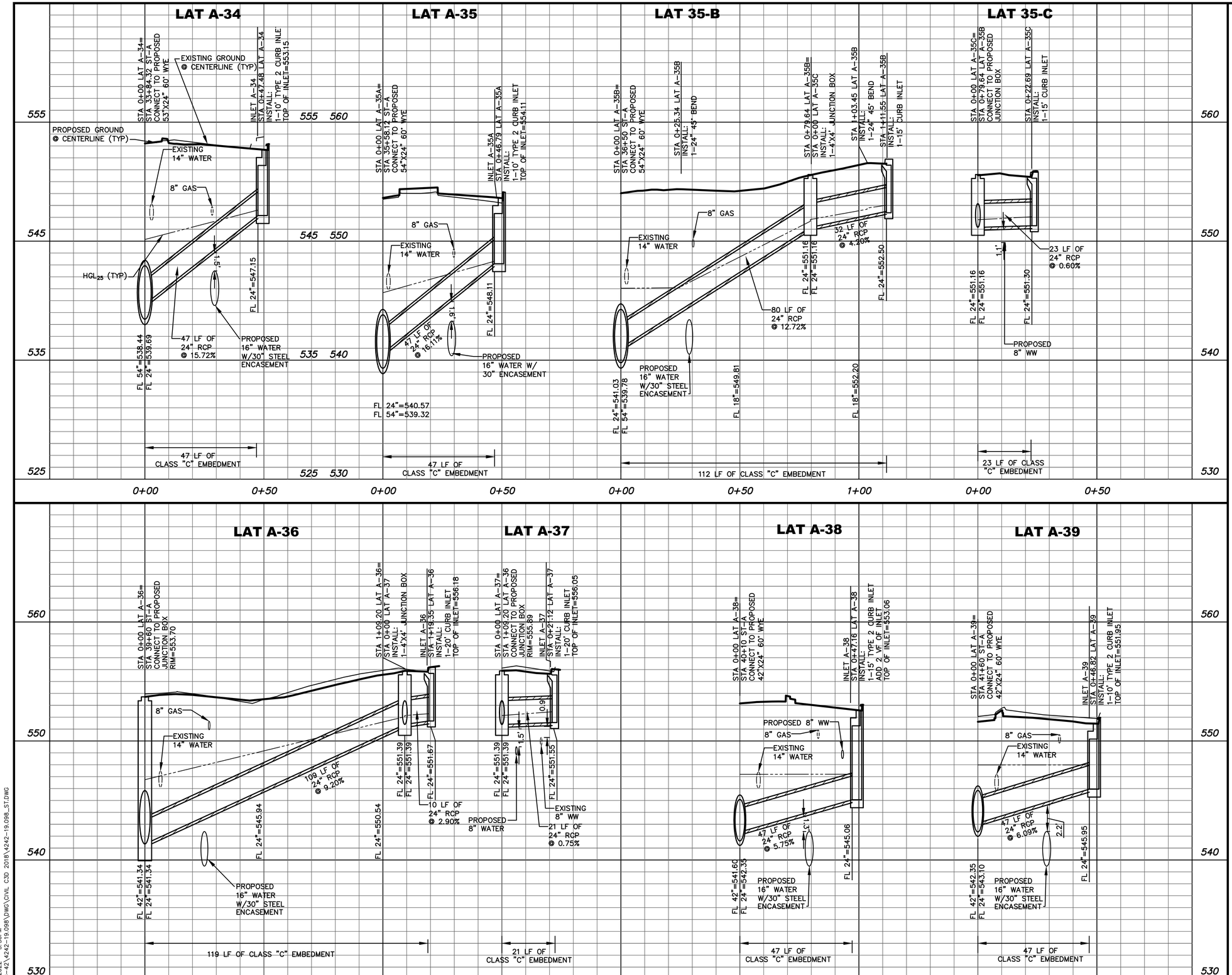

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

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	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
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DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
SURVEYING

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FORT WORTH, TX 76109 817.412.7155
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PROPOSED STORM
LAT PROFILES A-34 TO A-39
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
38

DBURTON
05/10/2022 - 5:36PM
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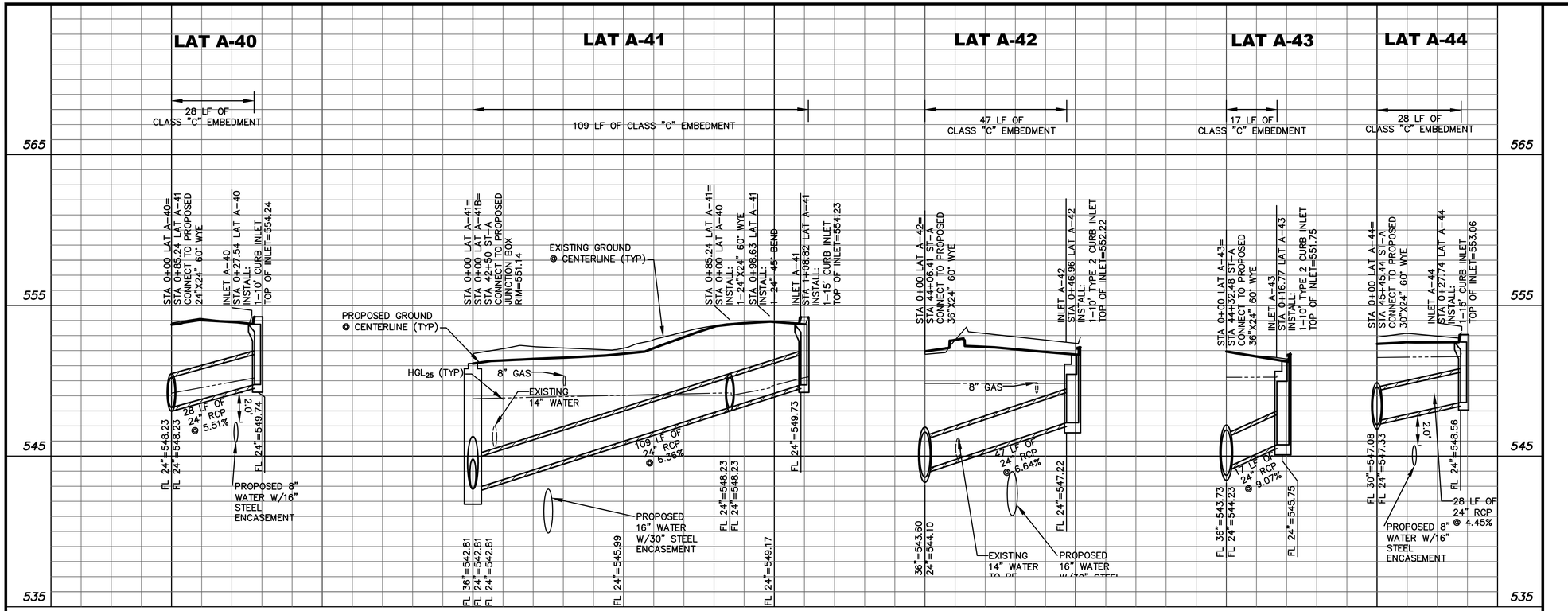

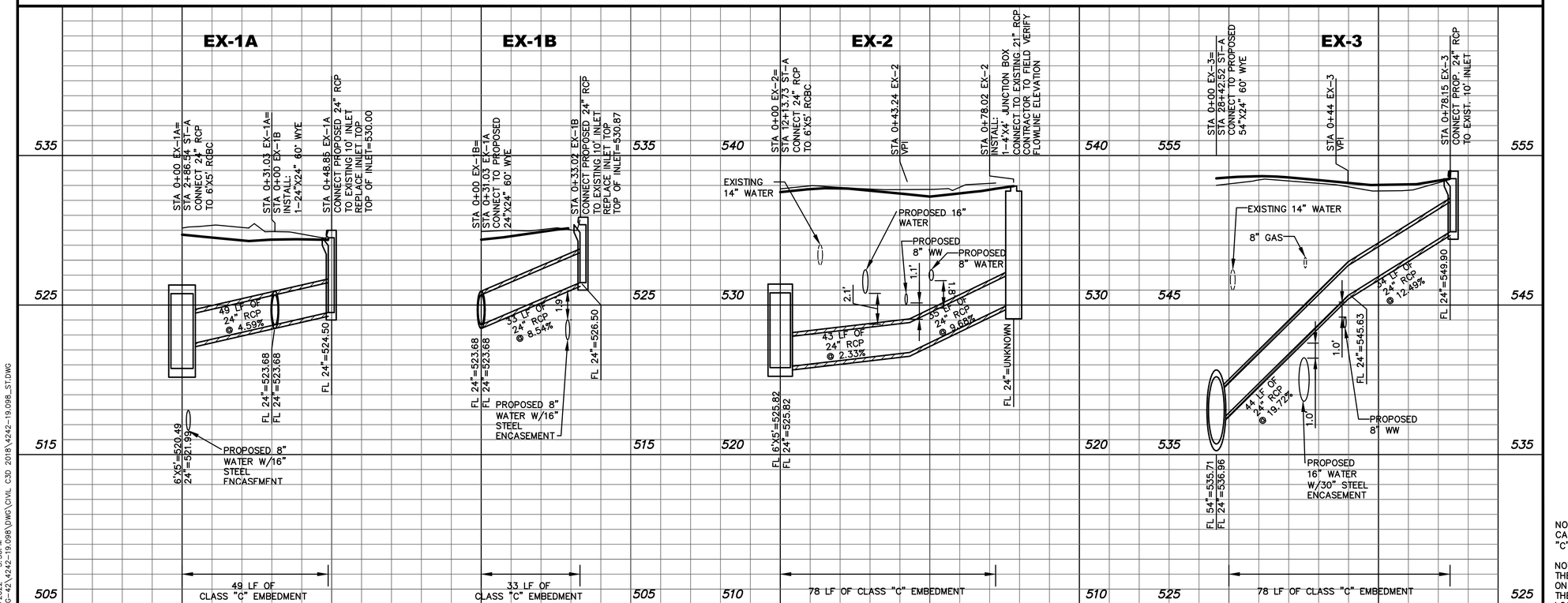

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

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REV	DATE	BY	REVISIONS:
1			XXXXXXX
2			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
SURVEYING

THE SEAL APPEARING ON THIS DOCUMENTS WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. THIS DOCUMENT SHALL NOT BE USED WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

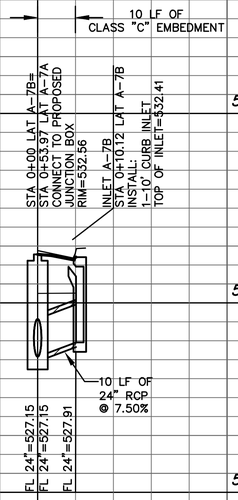
PROPOSED STORM
LAT PROFILES A-40 TO EX-3
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
39

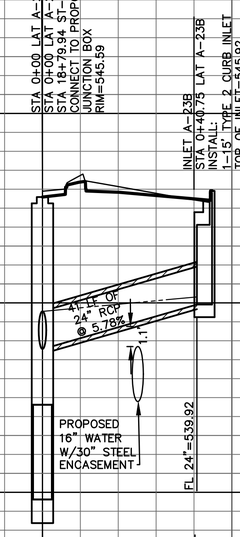
DBURTON
05/10/2022 - 5:36PM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_ST.DWG

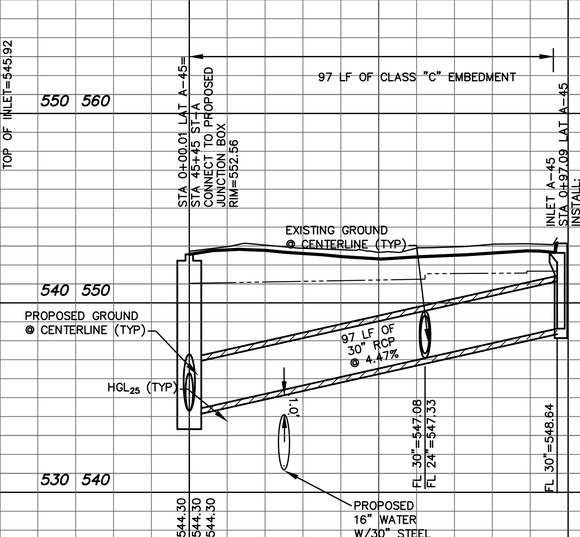
LAT A-7B



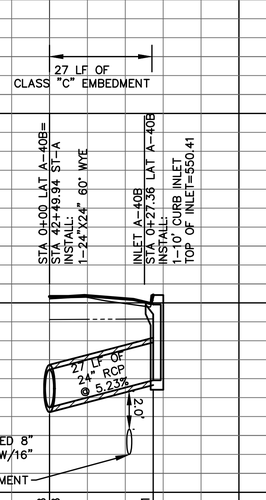
LAT A-23B



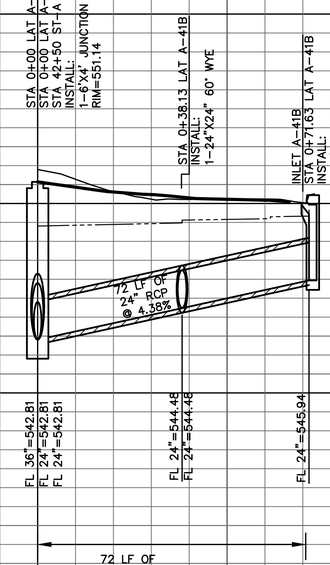
LAT A-45



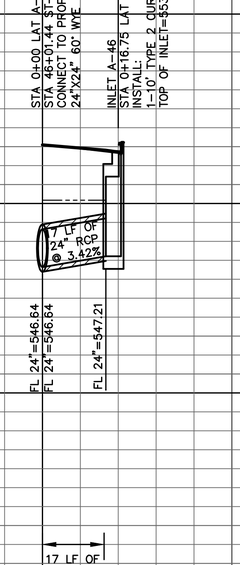
LAT A-40B



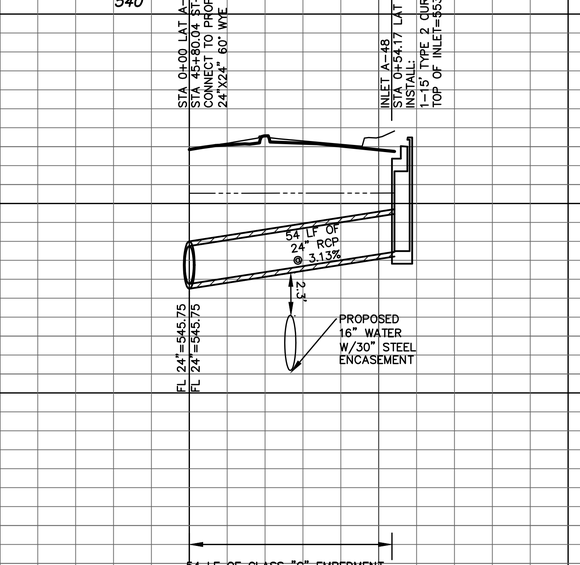
LAT A-41B



LAT A-46



LAT A-48



0+00 0+50 0+00 0+50 0+00 0+50 1+00 0+00

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

NOTE: ALL DRAINAGE STRUCTURES TO BE CAST-IN-PLACE AND POURED WITH CLASS "C" CONCRETE

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

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2			
3			
4			
5	XX/XXX		XXXXXXX

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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
40

DBURTON
05/10/2022 - 5:37PM
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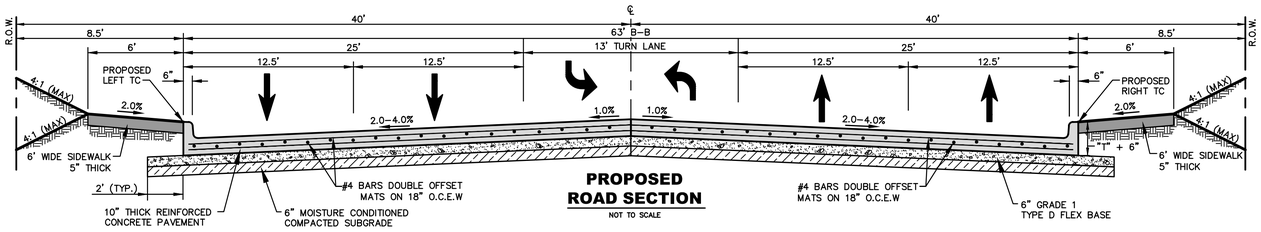
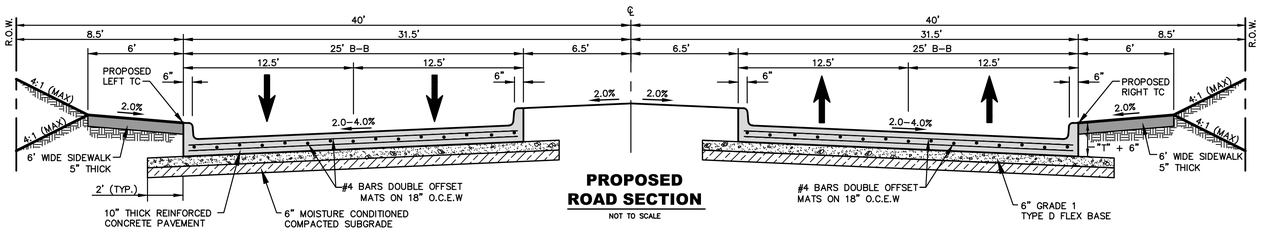


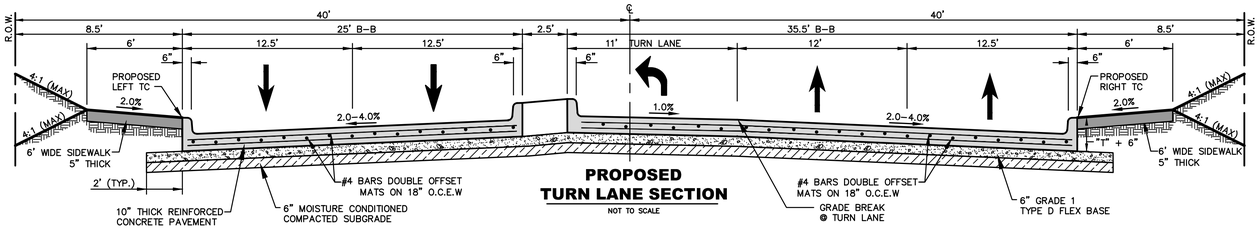
PROPOSED ROAD SECTION
NOT TO SCALE

STA 7+96 TO 11+18



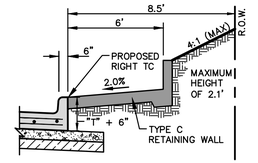
PROPOSED ROAD SECTION
NOT TO SCALE

STA 11+19 TO 12+97, STA 16+78 TO 19+54, STA 22+96 TO 25+42, STA 42+91 TO 44+15



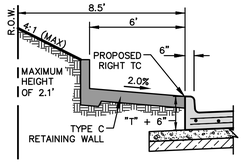
PROPOSED TURN LANE SECTION
NOT TO SCALE

STA 12+97 TO 13+57, STA 14+47 TO 16+17, STA 19+53 TO 19+87, STA 20+67 TO 22+27, STA 44+74 TO 47+31, STA 47+92 TO 50+01, STA 50+62 TO 52+82



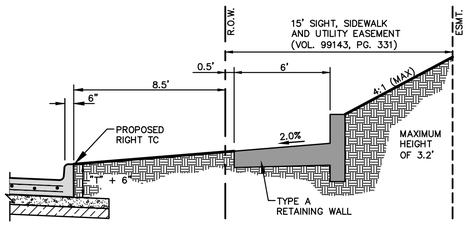
PROPOSED ROAD SECTION
W/ TYPE C RETAINING WALL
NOT TO SCALE

STA. 9+57 TO 12+67, STA. 43+00 TO 44+21



PROPOSED ROAD SECTION
W/ TYPE C RETAINING WALL
NOT TO SCALE

STA. 11+14 TO STA. 12+53



PROPOSED ROAD SECTION
W/ TYPE A RETAINING WALL
NOT TO SCALE

STA. 34+93 TO STA. 36+31

REV	DATE	BY	REVISIONS:	SCALE: SEE GRAPHICS
				DATE: MAY 2022
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				DRAWN BY: DRI
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	XX/XXXX		XXXXXXXX	SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS — BRIAN D. O'NEILL — 83880 — LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
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TYPICAL SECTION

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 41

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05/10/2022 — 11:36AM
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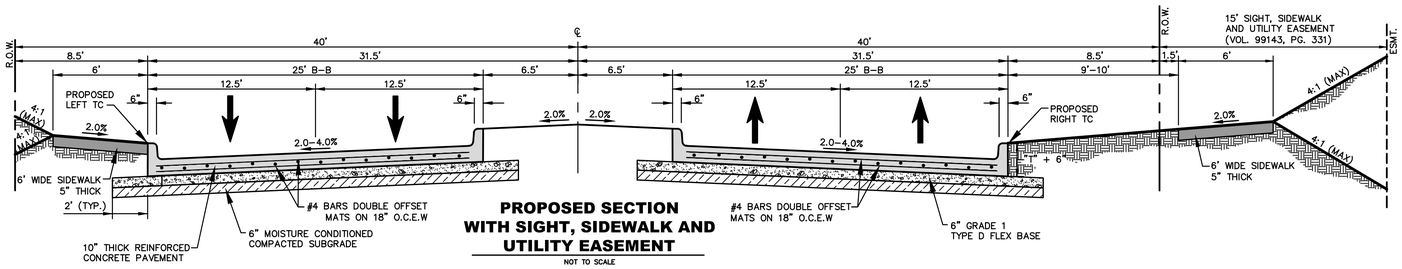
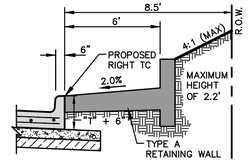


PROPOSED SECTION WITH SIGHT, SIDEWALK AND UTILITY EASEMENT

NOT TO SCALE

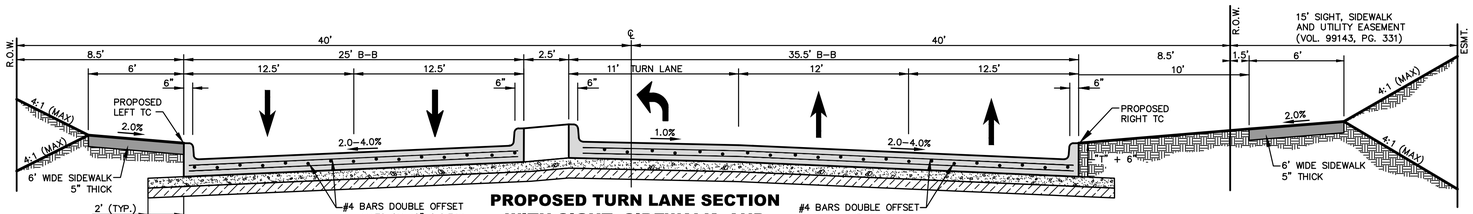
STA 25+42 TO 26+92, STA 28+65 TO 29+38, STA 30+69 TO 32+49, STA 33+79 TO 34+44, STA 36+91 TO 38+52, STA 39+81 TO 40+14



PROPOSED ROAD SECTION W/ TYPE A RETAINING WALL

NOT TO SCALE

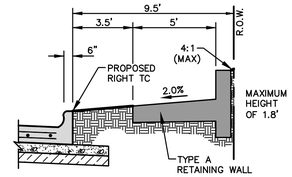
STA. 44+70 TO 47+37



PROPOSED TURN LANE SECTION WITH SIGHT, SIDEWALK, AND UTILITY EASEMENT

NOT TO SCALE

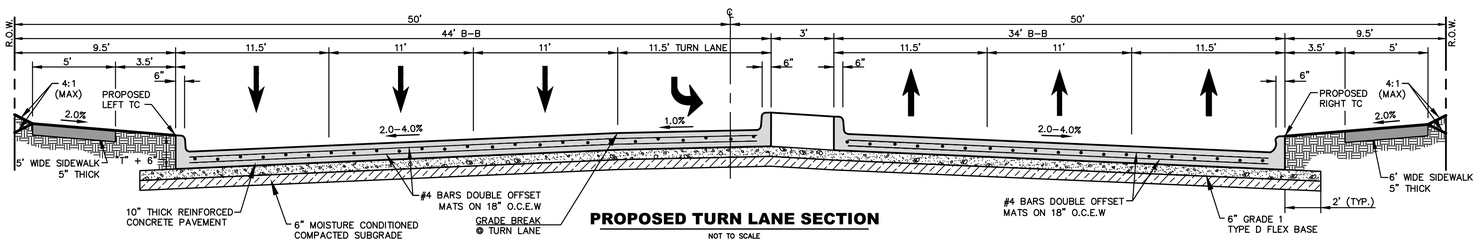
STA 26+92 TO 28+05, STA 29+95 TO 30+69, STA 33+09 TO 33+79, STA 35+03 TO 36+18, STA 38+52 TO 39+21, STA 40+63 TO 41+94, STA 53+73 TO 55+96



PROPOSED ROAD SECTION W/ TYPE A RETAINING WALL

NOT TO SCALE

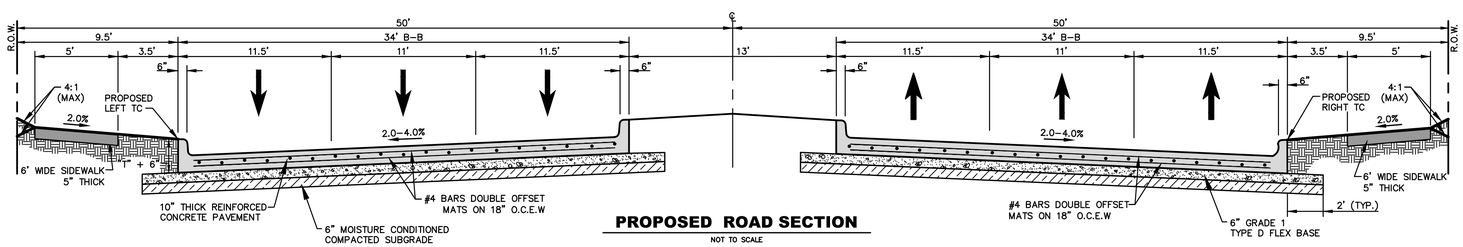
STA. 57+32 TO 58+42



PROPOSED TURN LANE SECTION

NOT TO SCALE

STA 57+32 TO 59+22, STA 62+05 TO 64+61, STA 66+09 TO 66+50



PROPOSED ROAD SECTION

NOT TO SCALE

STA 59+22 TO 61+28

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

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STATE OF TEXAS
BRIAN D. O'NEILL
83380
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
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TYPICAL SECTION

MACARTHUR BOULEVARD
METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 42

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05/20/2022 - 11:36AM
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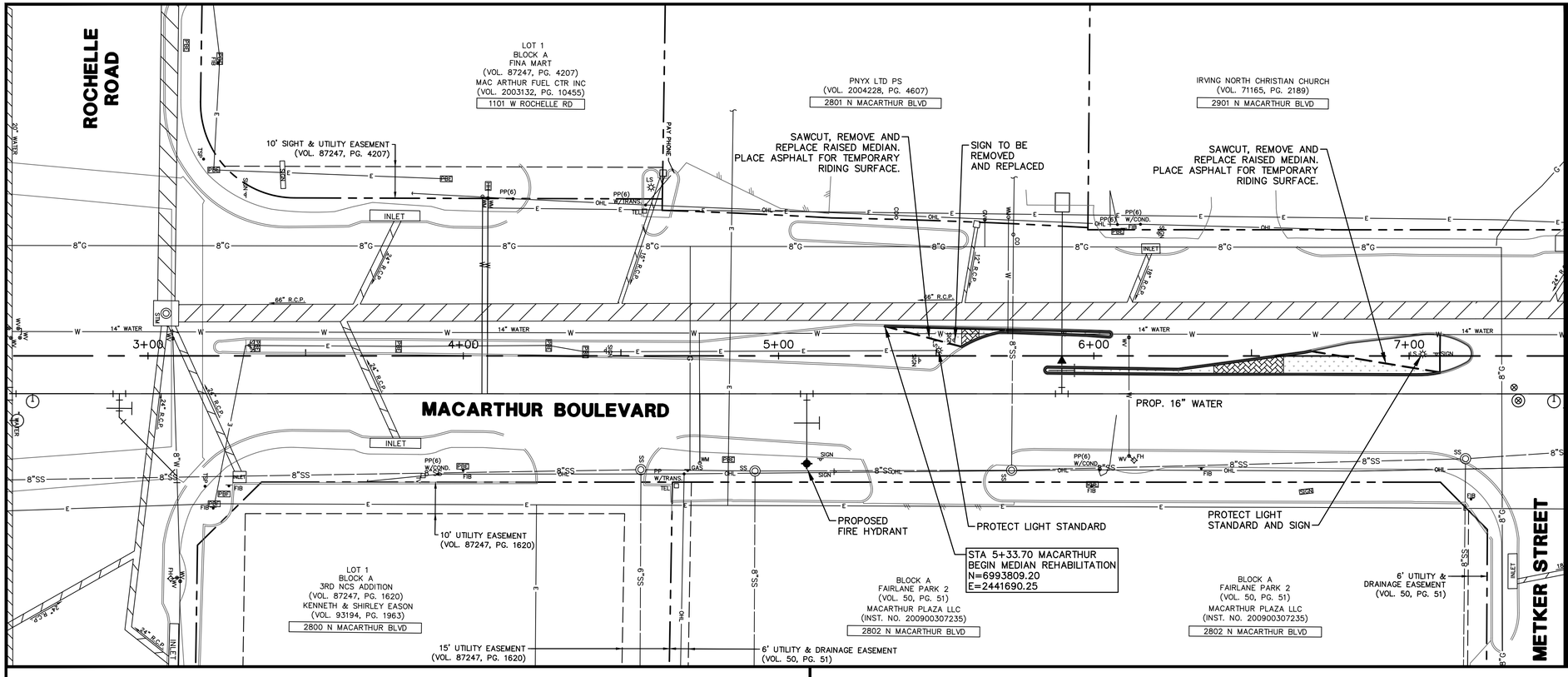
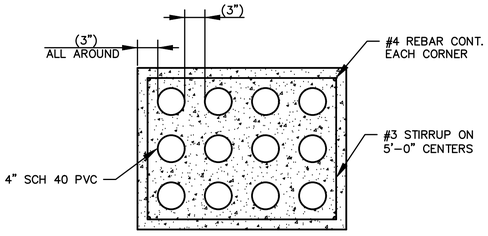


0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

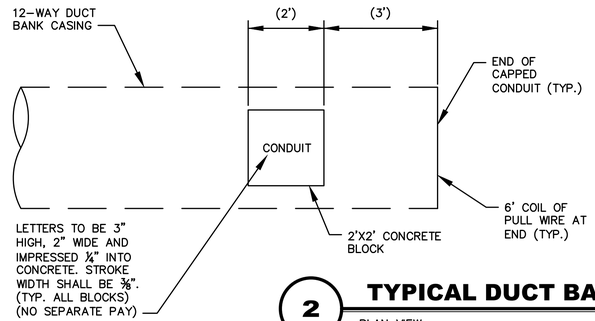


12-WAY DUCT BANK

GENERAL NOTES

1. CONCRETE SHALL BE 2500 P.S.I. @ 28 DAYS.
2. MINIMUM COVER TO TOP OF ENVELOPE SHALL BE (24").
3. BACKFILL TRENCH TO SURFACE WITH CLEAN NATIVE SOIL TO 95% MINIMUM RELATIVE COMPACTION DENSITY
4. USE PLASTIC DUCT SPACERS INCLUDING TOP, INTERMEDIATE, AND BOTTOM PIECES.
5. SPRINKLE RED DYE (FERRIC OXIDE) ON TOP OF WET DUCT BANK

1 TYPICAL DUCT BANK
CROSS SECTION VIEW
NOT TO SCALE



2 TYPICAL DUCT BANK
PLAN VIEW
NOT TO SCALE

NOTE:
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ROADWAY PLAN & PROFILE
STA 5+33.70 TO STA 7+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 43

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RPAROULEK
05/10/2022 - 5:03PM
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MATCH LINE STA - 7+50

MATCH LINE STA - 12+00

METKER STREET

ANDERSON STREET

MACARTHUR BOULEVARD

IRVING NORTH CHRISTIAN CHURCH
(VOL. 71165, PG. 2189)
2901 N MACARTHUR BLVD

LOT 13
BLOCK E
TERRY PARK
(VOL. 134, PG. 2438)
SACHIN INVESTMENTS LLC SERIES J
(INST. NO. 201400171699)
1102 ANDERSON ST

LOT 12
BLOCK F
TERRY PARK
(VOL. 134, PG. 2438)
DAINEL PASTRAN & ANA ARROYO DEPASTRAN
(INST. NO. 201600362472)
1101 ANDERSON ST

LOT 1
BLOCK A
STAVELY ADDITION
(VOL. 85146, PG. 982)
MACARTHUR 2900 LLC
(INST. NO. 201600169410)
2900 N MACARTHUR BLVD

RYAN ROSS WAYNE
(VOL. 2002057, PG. 1971)
2904 N MACARTHUR BLVD

KURT RIETSCH
(VOL. 85246, PG. 5677)
2912 N MACARTHUR BLVD

STA 7+96.45 MACARTHUR
BEGIN PROPOSED
CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
CONTINUE MEDIAN REHABILITATION
N=6994072.04
E=2441697.02

STA 10+90.13 MACARTHUR, 61.00 LT=
STA 1+29 ANDERSON
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6994365.09
E=2441633.07

STA 10+90.03 MACARTHUR=
STA 1+90 ANDERSON
N=6994365.60
E=2441694.07

EXISTING R.O.W.

2'X2'X8" CONCRETE BLOCK WITH "CONDUIT" LETTERS ETCHED INTO BLOCK (TYP.)

STA 8+00 MACARTHUR
DUCT BANK NO. 1
PROPOSED 77 LF OF DUCT BANK

STA 8+13 MACARTHUR
PROPOSED 77 LF 2-6" ONCOR CONDUIT

STA 9+00.48, (51.7') LT
18.0' WIDE DRIVEWAY

STA 9+22.33, (54.0') RT
70.9' WIDE DRIVEWAY

STA 10+46.54, (53.4') RT
28.8' WIDE DRIVEWAY

BARRIER FREE RAMP TYPE 11 (TYP.)

BARRIER FREE RAMP TYPE 5 (TYP.)

PROTECT 6' WOOD FENCE

6' WOODEN FENCE

6' UTILITY & DRAINAGE EASEMENT (VOL. 134, PG. 2438)

POWER POLE TO BE RELOCATED (BY OTHERS)

PROPOSED FIRE HYDRANT

PROPOSED R.O.W. CLIP (TYP.)

INLET A-1
STA 9+48, 31.50 LT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=529.52

INLET A-2
STA 9+92.97, 31.50 RT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=529.36

INLET A-3
STA 11+51, 31.50 LT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=529.54

INLET A-4
STA 11+49.05, 31.50 RT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=529.34

PROPOSED RETAINING WALL

PROPOSED 8'X14' BUS PAD

15' SIGHT EASEMENT (VOL. 85146, PG. 982)

PROP. 24" RCP

PROP. 6'X5' RCBC

PROP. 16" WATER

PROP. 8" W.W.

PROPOSED 8" WATER

PROPOSED MONOLITHIC MEDIAN NOSE (TYP)

ANDERSON STREET ℄

MACARTHUR BLVD ℄

CROSS SLOPE TABLE		
STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
7+96.45	0.90%	−1.10%
8+00	1.00%	−1.20%
8+50	2.50%	−2.00%
9+00	2.50%	−2.00%
10+00	2.00%	−3.00%
10+50	2.00%	−3.00%
11+00	2.00%	−3.00%
11+50	2.00%	−3.00%
12+00	2.00%	−3.00%

LEFT LANE CROSS SLOPE TRANSITION AREA STA 7+96.45 TO 8+50–SEE CROSS SLOPE TABLE FROM .9% TO 2.5%

RIGHT LANE CROSS SLOPE TRANSITION AREA STA 7+96.45 TO 8+50–SEE CROSS SLOPE TABLE FROM −1.1% TO −2%

LEFT LANE CROSS SLOPE TRANSITION AREA STA 9+00 TO 9+50–SEE CROSS SLOPE TABLE FROM 2.5% TO 2%

RIGHT LANE CROSS SLOPE TRANSITION AREA STA 9+50 TO 10+00–SEE CROSS SLOPE TABLE FROM −2% TO −3%

90' VC
LT VPI STA=8+45
LT VPI EL=530.03
E=0.17
K=60.00
HP STA=8+48
HP EL=529.86

110' VC
LT VPI STA=9+45
LT VPI EL=529.33
E=0.19
K=78.57
LP STA=9+45
LP EL=529.52

100' VC
LT VPI STA=10+50
LT VPI EL=530.06
E=0.17
K=71.43
HP STA=10+50
HP EL=529.89

170' VC
VPI STA=11+85
VPI EL=529.12
E=0.52
K=70.10
LP STA=11+49.07
LP EL=529.54

100' VC
RT VPI STA=8+50
RT VPI EL=530.17
E=0.19
K=65.33
HP STA=8+54.27
HP EL=529.98

90' VC
RT VPI STA=9+91
RT VPI EL=529.19
E=0.16
K=64.29
LP STA=9+91
LP EL=529.35

64' VC
RT VPI STA=10+68
RT VPI EL=529.73
E=0.11
K=45.71
HP STA=10+68
HP EL=529.61

160' VC
RT VPI STA=11+80
RT VPI EL=528.94
E=0.49
K=65.83
LP STA=11+46.08
LP EL=529.34

EXISTING GROUND @ CENTERLINE

EXISTING RT R.O.W.

EXISTING LT R.O.W.

PROPOSED LT TC

PROPOSED RT TC

STA 7+96.45
BEGIN RT TC PROFILE
RT TC=529.73

STA 7+96.45
BEGIN LT TC PROFILE
ELEV=529.64

RT 0.83%
LT 0.80%
LT −0.70%
RT −0.70%
LT 0.70%
RT 0.70%
RT −0.70%
LT 0.70%

LT TC=529.67
RT TC=529.76
LT TC=529.86
RT TC=529.98
LT TC=529.65
RT TC=529.82
LT TC=529.52
RT TC=529.48
LT TC=529.71
RT TC=529.35
LT TC=529.89
RT TC=529.58
LT TC=529.71
RT TC=529.50
LT TC=529.54
RT TC=529.34
LT TC=529.73
RT TC=529.56

12-WAY DUCT BANK

PROP. 6'X5' RCBC

535
530
525
520

8+00
9+00
10+00
11+00
12+00

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. IT IS A VIOLATION OF LAW TO ALTER THIS DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/10/2022

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 7+50 TO STA 12+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 44

RPAROULEK
05/10/2022 – 5:03PM
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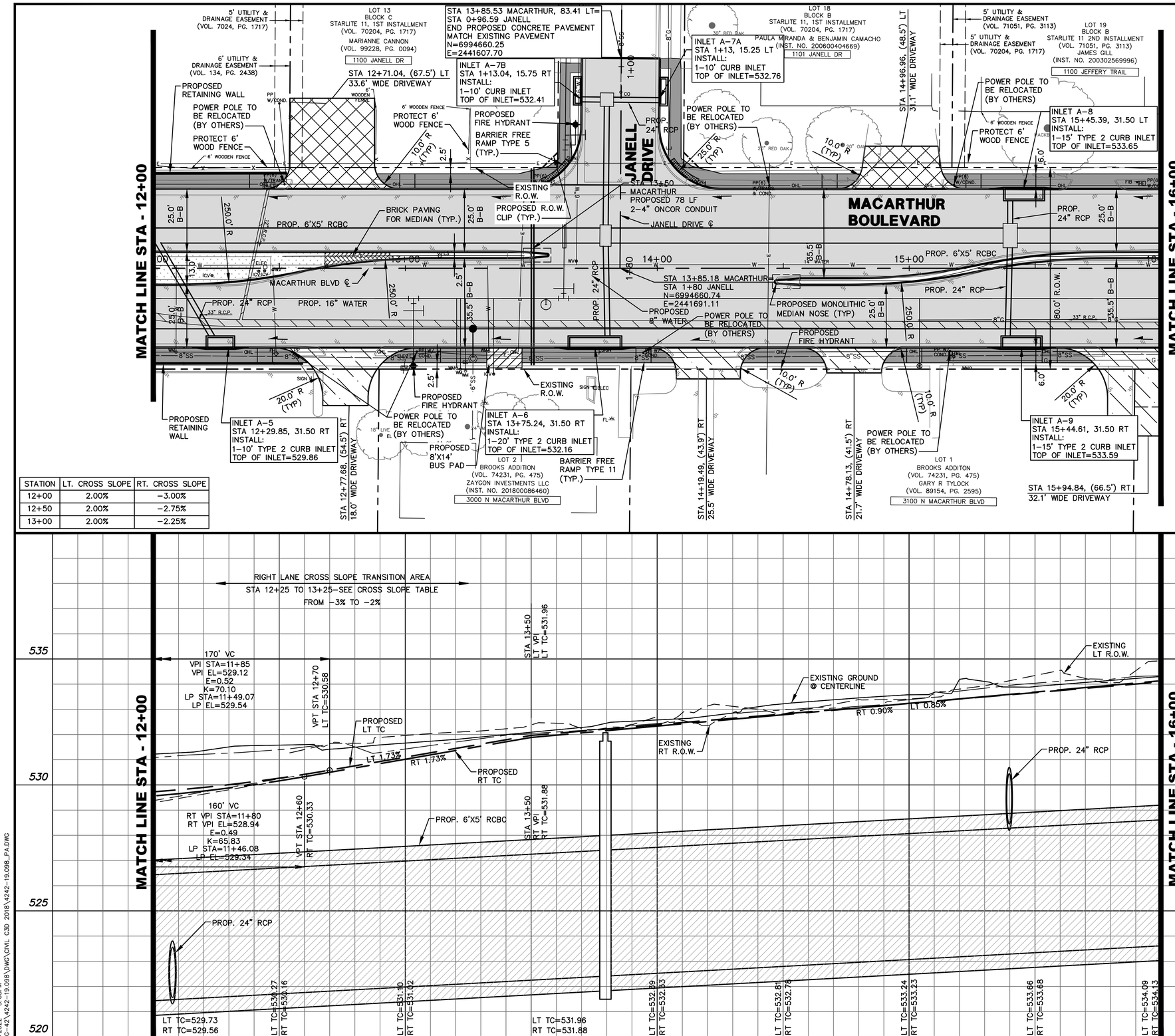

STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
12+00	2.00%	−3.00%
12+50	2.00%	−2.75%
13+00	2.00%	−2.25%

NOTE:
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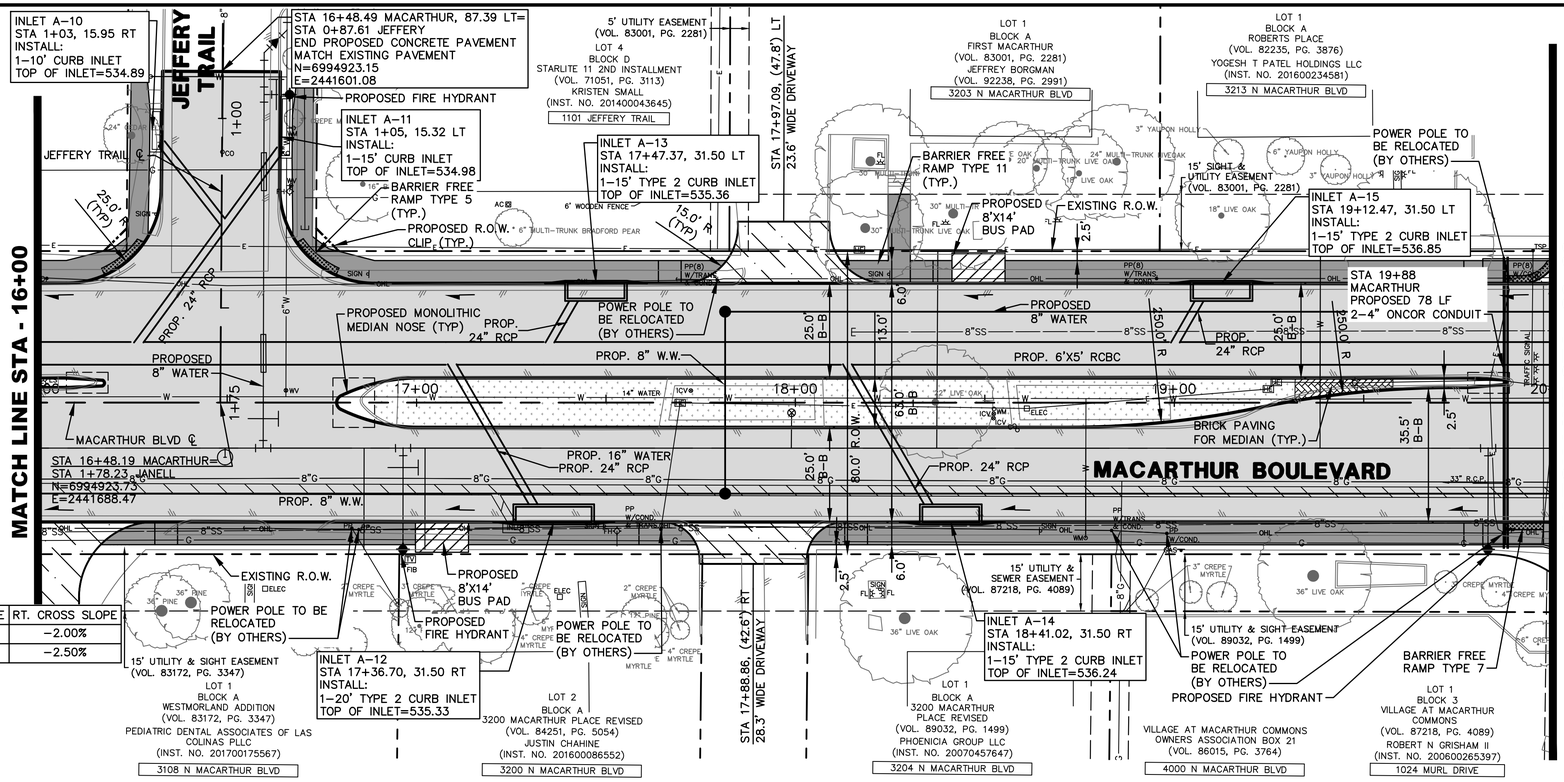
0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

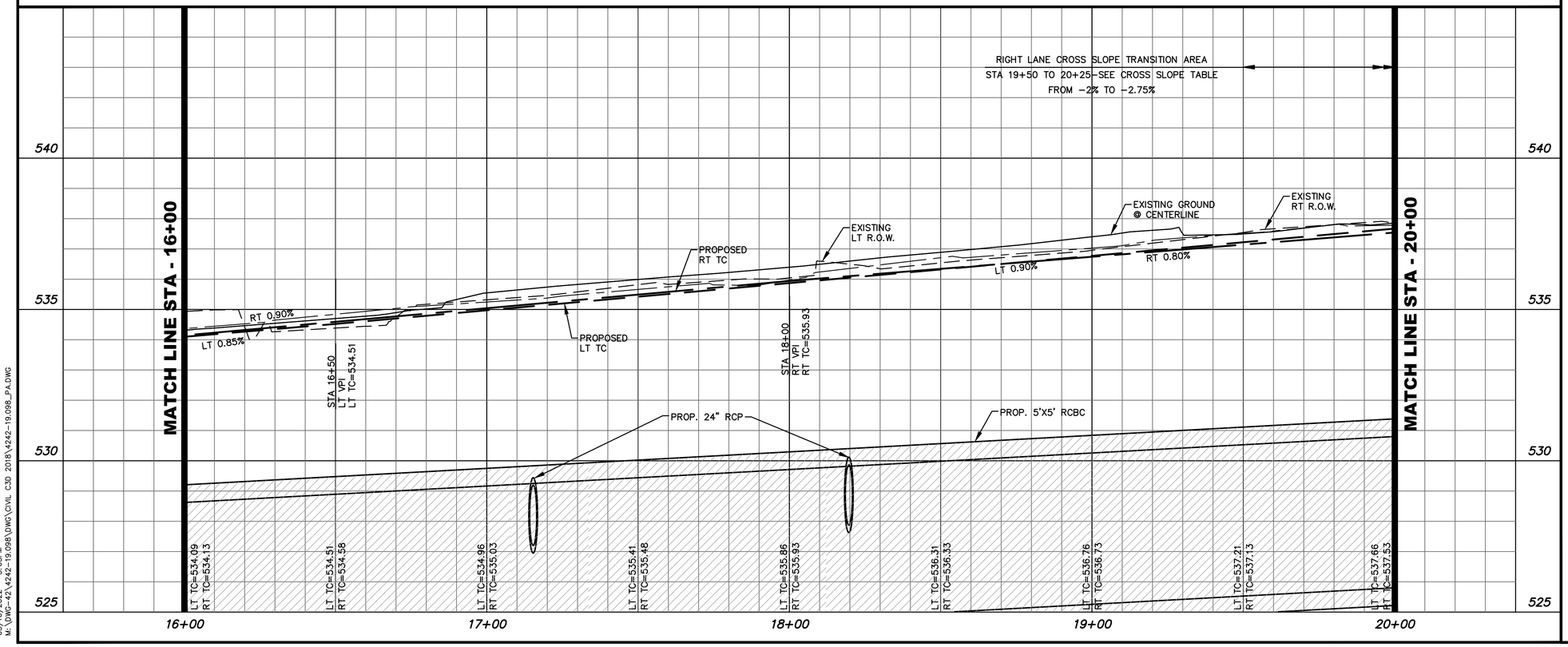
LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:



STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
19+50	2.00%	−2.00%
20+00	2.00%	−2.50%



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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX. REG. ENGINEERING FIRM F–469
TX. REG. SURVEYING FIRM LS–10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 16+00 TO STA 20+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 46

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RPAROULEK
05/10/2022 – 5:03PM
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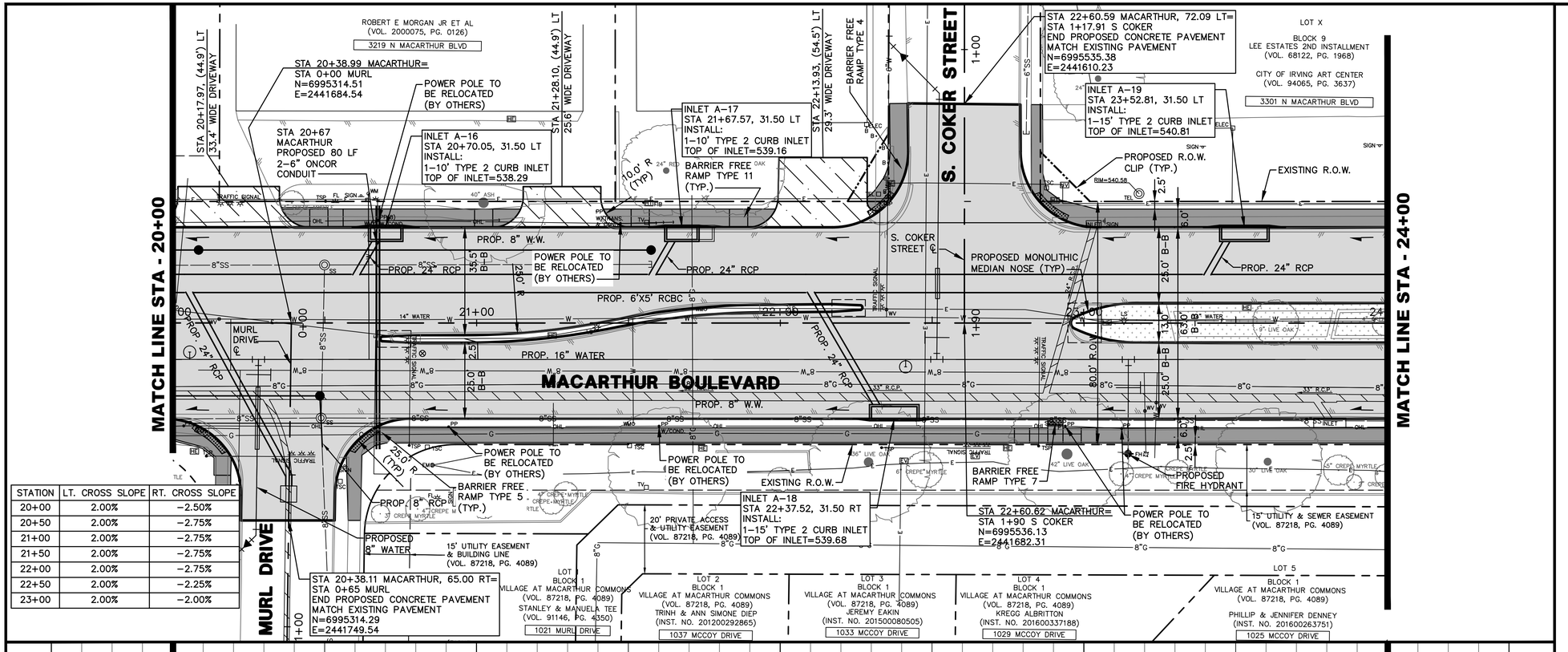

STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
20+00	2.00%	−2.50%
20+50	2.00%	−2.75%
21+00	2.00%	−2.75%
21+50	2.00%	−2.75%
22+00	2.00%	−2.75%
22+50	2.00%	−2.25%
23+00	2.00%	−2.00%

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXX
			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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NOTE:
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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX. REG. ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 20+00 TO STA 24+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 47

RPAROULEK
05/10/2022 – 5:04PM
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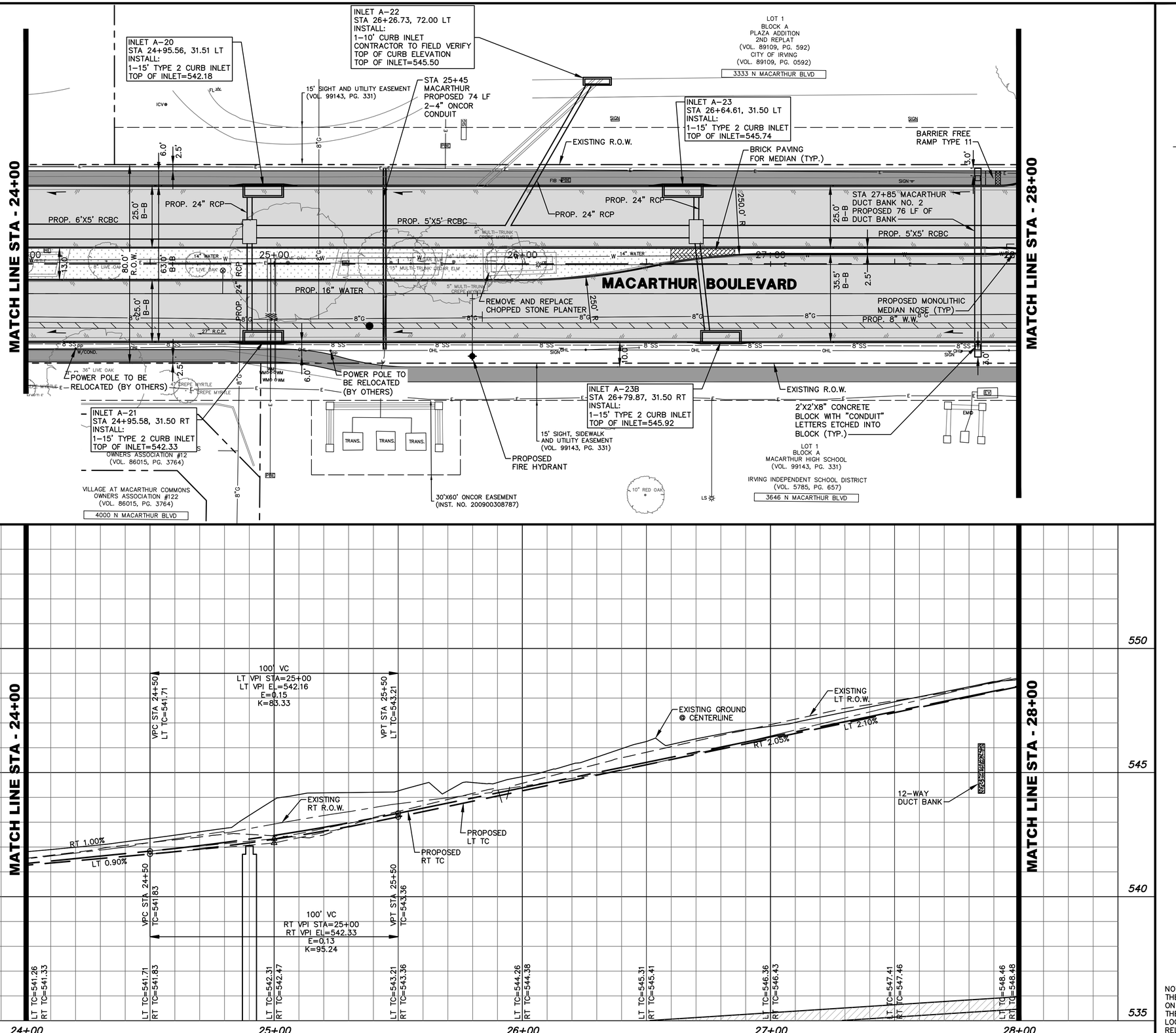

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REVISIONS:	BY	DATE	REV
XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
SURVEYING

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 24+00 TO STA 28+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
48

NOTE:
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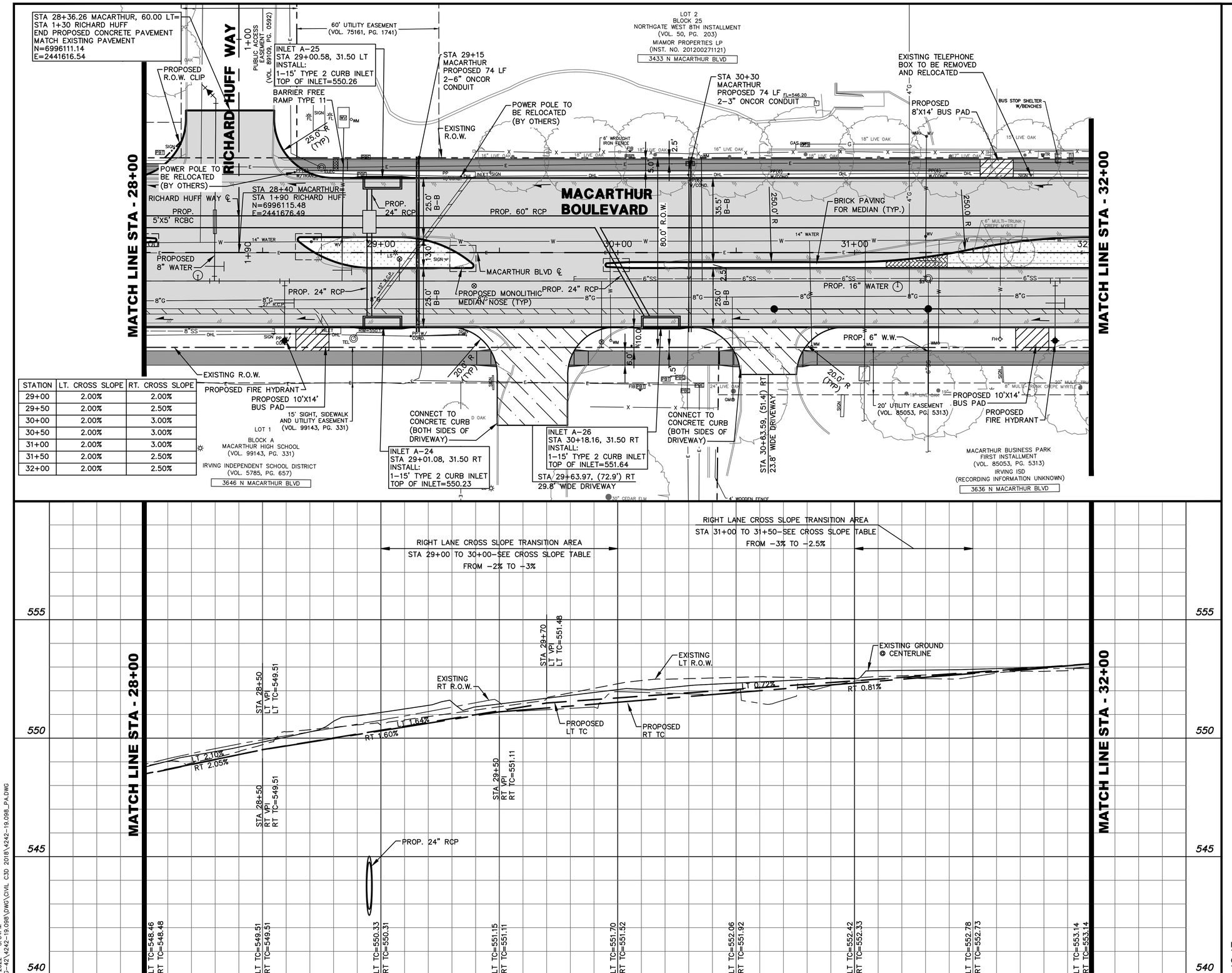

STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
29+00	2.00%	2.00%
29+50	2.00%	2.50%
30+00	2.00%	3.00%
30+50	2.00%	3.00%
31+00	2.00%	3.00%
31+50	2.00%	2.50%
32+00	2.00%	2.50%

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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ROADWAY PLAN & PROFILE
STA 28+00 TO STA 32+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

SHEET 49

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

RPAROULEK
05/10/2022 - 5:04PM
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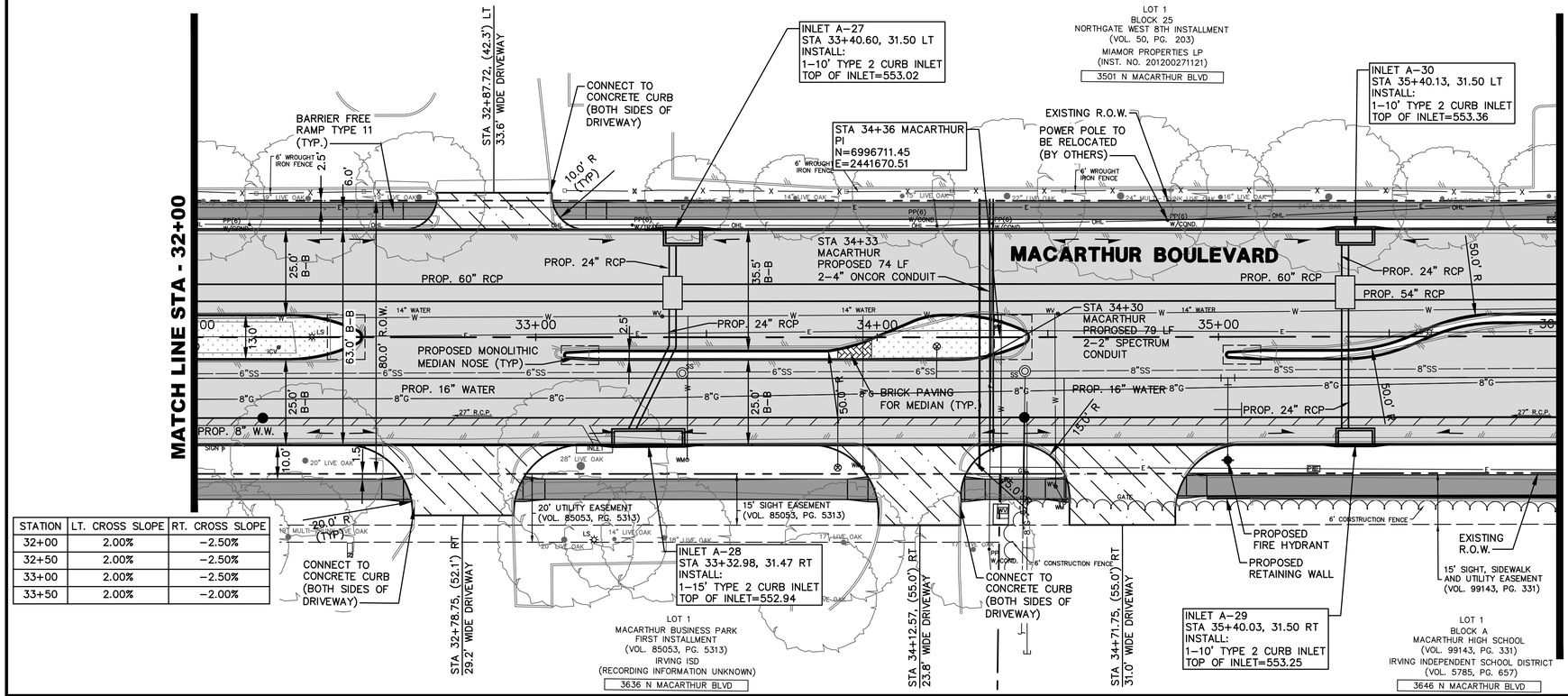
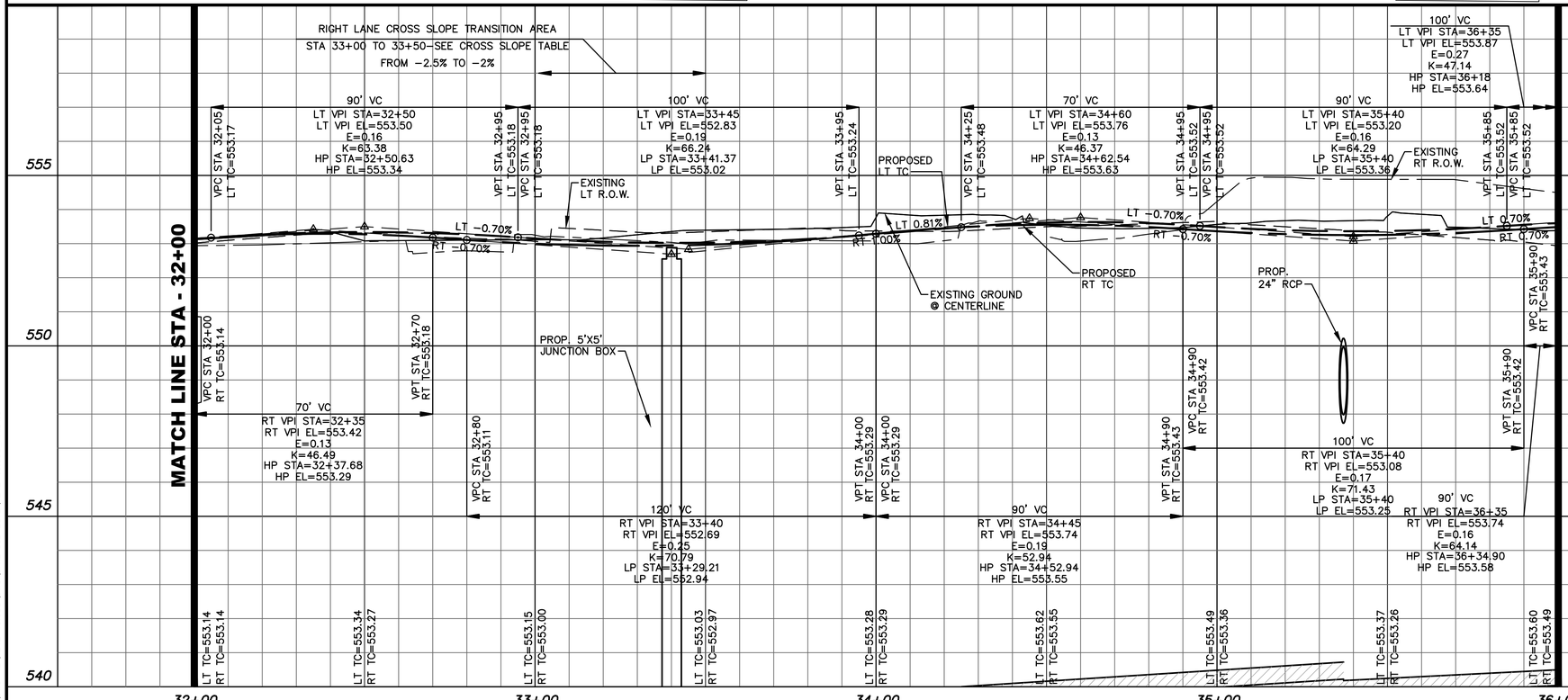


STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
32+00	2.00%	−2.50%
32+50	2.00%	−2.50%
33+00	2.00%	−2.50%
33+50	2.00%	−2.00%



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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
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LICENSED
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 32+00 TO STA 36+00
MACARTHUR BOULEVARD
METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 50

RPAROULEK
05/10/2022 – 5:05PM
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STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
36+50	2.00%	−2.00%
37+00	2.50%	−2.00%
37+50	3.00%	−2.00%
38+00	3.50%	−2.00%
38+50	4.00%	−2.00%

STA 36+51.74 MACARTHUR, 74.43 LT=
STA 1+15.75 N COKER
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6996926.29
E=2441593.52

STA 39+51.96 MACARTHUR, 66.02 LT=
STA 1+24.08 CORONET
END PROPOSED
CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6997226.59
E=2441598.36

LOT 7 BLOCK 20 NORTHGATE WEST 8TH INSTALLMENT (VOL. 50, PG. 203) VJ VAN T IRA (INST. NO. 201400010941) 1125 COKER ST

LOT 6 BLOCK 20 NORTHGATE WEST, 7TH INSTALLMENT (VOL. 42, PG. 231) KAREN RIKER (VOL. 505, PG. 1547) 1102 CORONET ST

6' UTILITY EASEMENT (VOL. 42, PG. 231)

STA 37+55.48, (48.0') LT
24.2' WIDE DRIVEWAY

INLET A-32
STA 38+03.08, 31.50 LT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=552.22

INLET A-31
STA 37+88.37, 31.50 RT
INSTALL:
1-10' TYPE 2 CURB INLET
TOP OF INLET=552.82

INLET A-33
STA 39+68.65, 31.44 RT
INSTALL:
1-15' TYPE 2 CURB INLET
TOP OF INLET=552.79

STA 36+51.82 MACARTHUR=
STA 1+90.17 N COKER
N=6996927.26
E=2441667.94

STA 39+51.94 MACARTHUR=
STA 1+90.10 CORONET
N=6997227.36
E=2441664.37

STA 36+56.09, (54.6') RT
31.9' WIDE DRIVEWAY

CONNECT TO CONCRETE CURB

PROPOSED RETAINING WALL

BARRIER FREE RAMP TYPE 10

BARRIER FREE RAMP TYPE 5 (TYP.)

BARRIER FREE RAMP TYPE 11 (TYP.)

PROPOSED FIRE HYDRANT

PROPOSED R.O.W. CLIP (TYP.)

EXISTING R.O.W.

PROPOSED 8'X14' BUS PAD

POWER POLE TO BE RELOCATED (BY OTHERS)

N. COKER STREET ℄

CORONET STREET ℄

MACARTHUR BLVD ℄

PROPOSED 8" WATER

PROPOSED MONOLITHIC MEDIAN NOSE (TYP)

BRICK PAVING FOR MEDIAN (TYP.)

PROP. 54" RCP

PROP. 24" RCP

PROP. 8" W.W.

PROP. 16" WATER

MATCH LINE STA - 36+00

MATCH LINE STA - 40+00

MACARTHUR BOULEVARD

LEFT LANE CROSS SLOPE TRANSITION AREA
STA 36+50 TO 38+50–SEE CROSS SLOPE TABLE
FROM 2% TO 4%

100' VC
LT VPI STA=36+35
LT VPI EL=553.87
E=0.26
K=48.37
HP STA=36+18.86
HP EL=553.64

140' VC
LT VPI STA=37+80
LT VPI EL=551.89
E=0.36
K=67.72
LP STA=38+02.59
LP EL=552.21

70' VC
LT VPI STA=38+85
LT VPI EL=552.62
E=0.13
K=48.28
HP STA=38+83.79
HP EL=552.50

100' VC
LT VPI STA=39+70
LT VPI EL=551.98
E=0.19
K=65.45
LP STA=39+69.09
LP EL=552.18

90' VC
RT VPI STA=36+35
RT VPI EL=553.74
E=0.16
K=64.14
HP STA=36+34.90
HP EL=553.58

90' VC
RT VPI STA=37+90
RT VPI EL=552.65
E=0.16
K=64.14
LP STA=37+90.10
LP EL=552.81

70' VC
RT VPI STA=38+70
RT VPI EL=553.21
E=0.12
K=50.00
HP STA=38+70
HP EL=553.09

110' VC
RT VPI STA=39+60
RT VPI EL=552.58
E=0.20
K=74.04
LP STA=39+56.83
LP EL=552.78

PROPOSED LT TC

PROPOSED RT TC

EXISTING LT R.O.W.

EXISTING RT R.O.W.

EXISTING GROUND @ CENTERLINE

LT -0.70%

LT -1.37%

RT -0.70%

LT -0.75%

VPT STA 36+85 LT TC=553.19

VPC STA 37+10 LT TC=552.84

VPT STA 36+80 RT TC=553.42

VPC STA 37+45 RT TC=552.97

VPT STA 38+35 RT TC=552.96

VPC STA 38+50 LT TC=552.38

VPT STA 38+50 LT TC=552.38

VPC STA 38+35 RT TC=552.96

VPT STA 39+05 RT TC=552.96

VPC STA 39+20 LT TC=552.36

VPT STA 39+20 LT TC=552.36

VPC STA 39+05 RT TC=552.96

PROP. 24" RCP

PROP. 54" R.C.P

LT TC=553.60
RT TC=553.49

LT TC=553.54
RT TC=553.56

LT TC=552.98
RT TC=553.28

LT TC=552.42
RT TC=552.93

LT TC=552.21
RT TC=552.82

LT TC=552.38
RT TC=553.05

LT TC=552.47
RT TC=553.00

LT TC=552.23
RT TC=552.79

LT TC=552.45
RT TC=552.31

555
550
545
540

36+00
37+00
38+00
39+00
40+00

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. IT IS NOT TO BE USED FOR BIDDING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

NOTE:
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ROADWAY PLAN & PROFILE
STA 36+00 TO STA 40+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 51

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

RPAROULEX
05/10/2022 – 5:05PM
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M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_PA.DWG

STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
40+00	4.00%	−2.00%
40+50	4.00%	−2.00%
41+00	3.50%	−2.00%
41+50	3.00%	−2.00%
42+00	3.00%	−2.00%
42+50	3.25%	−2.00%
43+00	3.50%	−2.00%
43+50	3.50%	−2.00%
44+00	3.50%	−2.00%

MATCH LINE STA - 40+00

LOT 20 BLOCK 22 NORTHGATE WEST, 7TH INSTALLMENT (VOL. 42, PG. 231) SOTO ARMANDO (VOL. 2004064, PG. 3549) 1111 CORONET ST

LOT 21 BLOCK 22 NORTHGATE WEST, 7TH INSTALLMENT (VOL. 42, PG. 231) DUSTY R DUDLEY (INST. NO. 201700091695) 1100 S EDWARDS CT

STA 42+22.07 MACARTHUR, 70.00 LT= STA 1+20.03 S EDWARDS
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6997496.63
E=2441591.16

STA 1+33.18, (25.0') RT
31.2' WIDE DRIVEWAY

PROPOSED R.O.W. CLIP (TYP.)

S. EDWARDS COURT

PROPOSED 8" WATER

STA 1+32.68, (25.0') LT
31.2' WIDE DRIVEWAY

POWER POLE TO BE RELOCATED (BY OTHERS)

BARRIER FREE RAMP TYPE 5 (TYP.)

LOT 5 BLOCK 21 NORTHGATE WEST, 7TH INSTALLMENT (VOL. 42, PG. 231) JERRY LOU MASTIN (VOL. 86046, PG. 1115) 1101 S EDWARDS CT

LOT 6 BLOCK 21 NORTHGATE WEST, 7TH INSTALLMENT (VOL. 42, PG. 231) MARY IMOGENE BOLDIN (VOL. 353, PG. 1011) 1102 N EDWARDS CT

STA 43+57 MACARTHUR PI
N=6997632.39
E=2441659.55

EXISTING R.O.W.

PROPOSED MONOLITHIC MEDIAN NOSE (TYP)

PROP. 54" RCP

MACARTHUR BLVD ℄ 41+00

S. EDWARDS COURT ℄

MACARTHUR BOULEVARD

STA 43+32 MACARTHUR PROPOSED 74 LF 2–4" ONCOR CONDUIT

PROP. 8" W.W.

PROP. 16" WATER

PROP. 24" RCP

STA 42+21.94 MACARTHUR= STA 1+88.55 S COKER
N=6997497.34
E=2441661.16

STA 43+32 MACARTHUR PROPOSED 95 LF 2–2" SPECTRUM CONDUIT

PROP. 18" RCP

BUS STOP SHELTER W/BENCHES

PROPOSED FIRE HYDRANT

PROPOSED 10'X20' BUS PAD

BARRIER FREE RAMP TYPE 10 (TYP.)

BARRIER FREE RAMP TYPE 10 (TYP.)

CONNECT TO CONCRETE CURB (BOTH SIDES OF DRIVEWAY)

CONNECT TO CONCRETE CURB (BOTH SIDES OF DRIVEWAY)

BARRIER FREE RAMP TYPE 1

PROPOSED RETAINING WALL

INLET A–34
STA 42+02.20, 31.50 RT
INSTALL:
1–10' TYPE 2 CURB INLET
TOP OF INLET=553.15

INLET A–35
STA 43+74.67, 31.50 RT
INSTALL:
1–10' TYPE 2 CURB INLET
TOP OF INLET=554.11

STA 40+26.46, (57.0') RT
43.5' WIDE DRIVEWAY

LOT 1 BLOCK A MACARTHUR HIGH SCHOOL (VOL. 99143, PG. 331) IRVING INDEPENDENT SCHOOL DISTRICT (VOL. 5785, PG. 657) 3646 N MACARTHUR BLVD

15' SIGHT, SIDEWALK AND UTILITY EASEMENT (VOL. 99143, PG. 331)

STA 42+70.29, (54.8') RT
31.2' WIDE DRIVEWAY
10' TELEPHONE EASEMENT (VOL. 99143, PG. 331)

6' UTILITY EASEMENT (VOL. 99143, PG. 331)

6' UTILITY EASEMENT (VOL. 2001061, PG. 1474)

LOT 1 BLOCK B HILL ESTATES 1ST INS"ALLMENT (VOL. 52, PG. 109) JOSEPH AVIKI (VOL. 2001163, PG. 2290) 10M 26 SAM HILL ST

MATCH LINE STA - 44+00

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REVISIONS:

REV	DATE	BY	
1	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F–469
TX REG. SURVEYING FIRM LS–10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 40+00 TO STA 44+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 52

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON–SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

555 / 550 / 545 / 540

40+00 41+00 42+00 43+00 44+00

LEFT LANE CROSS SLOPE TRANSITION AREA
STA 40+50 TO 41+50–SEE CROSS SLOPE TABLE
FROM 4% TO 3%

LEFT LANE CROSS SLOPE TRANSITION AREA
STA 42+25 TO 42+75–SEE CROSS SLOPE TABLE
FROM 3% TO 3.5%

100' VC
LT VPI STA=39+70
LT VPI EL=551.98
E=0.19
K=65.45
LP STA=39+69.09
LP EL=552.18
VPT STA 40+20 LT TC=552.37

80' VC
LT VPI STA=41+50
LT VPI EL=553.38
E=0.15
K=53.41
HP STA=41+51.54
HP EL=553.24
VPC STA 41+10 LT TC=553.07
VPT STA 41+90 LT TC=553.10
VPC STA 41+90 LT TC=553.10

100' VC
LT VPI STA=42+40
LT VPI EL=552.74
E=0.18
K=69.93
LP STA=42+40.35
LP EL=552.92
VPT STA 42+90 LT TC=553.09

70' VC
LT VPI STA=44+25
LT VPI EL=554.05
E=0.12
K=49.65
HP STA=44+25.25
HP EL=553.93
VPC STA 43+90 LT TC=553.80

EXISTING RT R.O.W.
RT 0.79%
LT 0.78%
LT 0.72%
EXISTING LT R.O.W.
EXISTING GROUND @ CENTERLINE
RT 0.70%
LT 0.71%
PROPOSED RT TC
PROPOSED LT TC

VPT STA 40+15 RT TC=553.01
VPC STA 40+55 RT TC=553.33
VPT STA 41+45 RT TC=553.36
VPC STA 41+45 RT TC=553.36
VPT STA 42+65 RT TC=553.36

110' VC
RT VPI STA=39+60
RT VPI EL=552.58
E=0.20
K=74.04
LP STA=39+56.83
LP EL=552.78

120' VC
RT VPI STA=42+05
RT VPI EL=552.94
E=0.21
K=85.36
LP STA=42+05.16
LP EL=553.15

90' VC
RT VPI STA=41+00
RT VPI EL=553.68
E=0.17
K=60.38
HP STA=41+02.44
HP EL=553.51

PROP. 54" R.C.P
PROP. 24" R.C.P
PROP. 24" R.C.P

LT TC=552.25 RT TC=552.91
LT TC=552.61 RT TC=553.29
LT TC=553.00 RT TC=553.51
LT TC=553.24 RT TC=553.33
LT TC=553.03 RT TC=553.15
LT TC=552.92 RT TC=553.27
LT TC=553.16 RT TC=553.61
LT TC=553.52 RT TC=553.96
LT TC=553.86 RT TC=554.31

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05/10/2022 – 5:05PM
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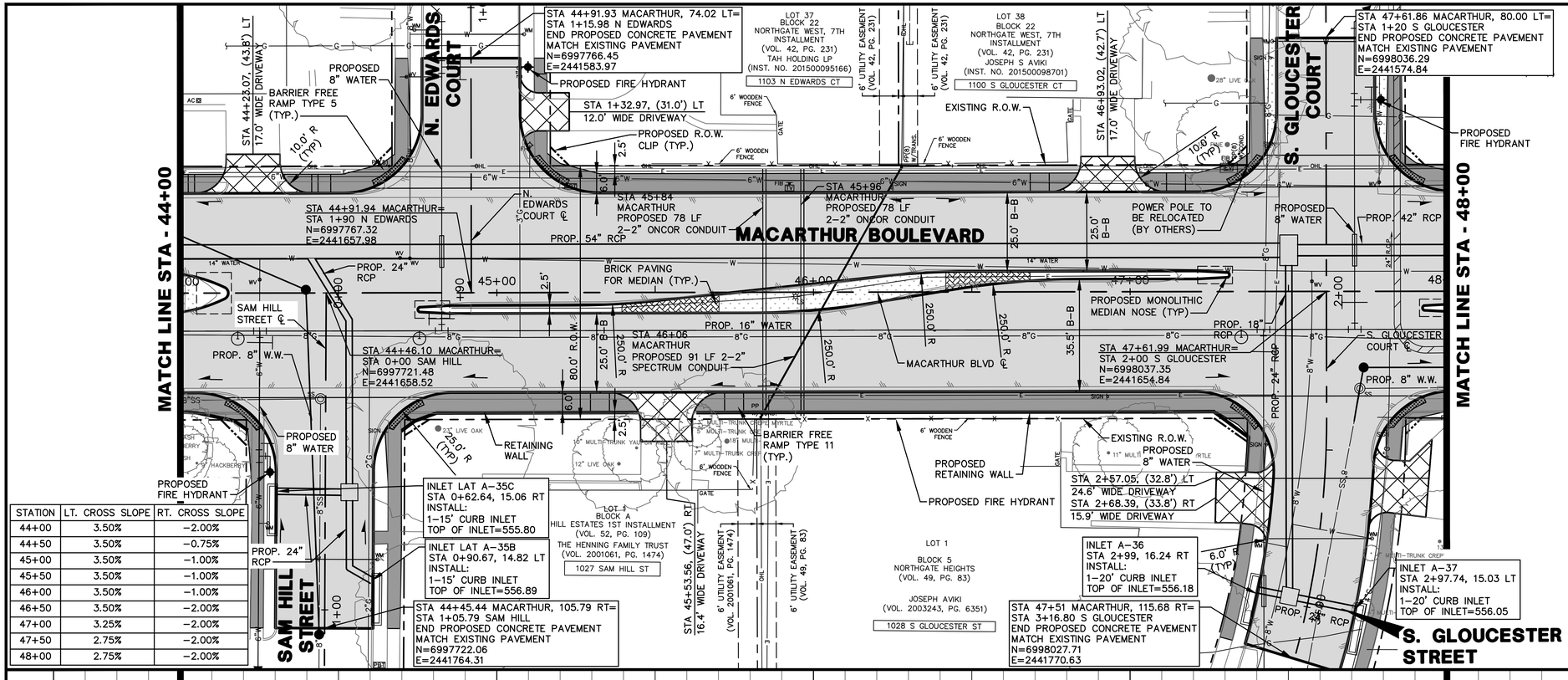
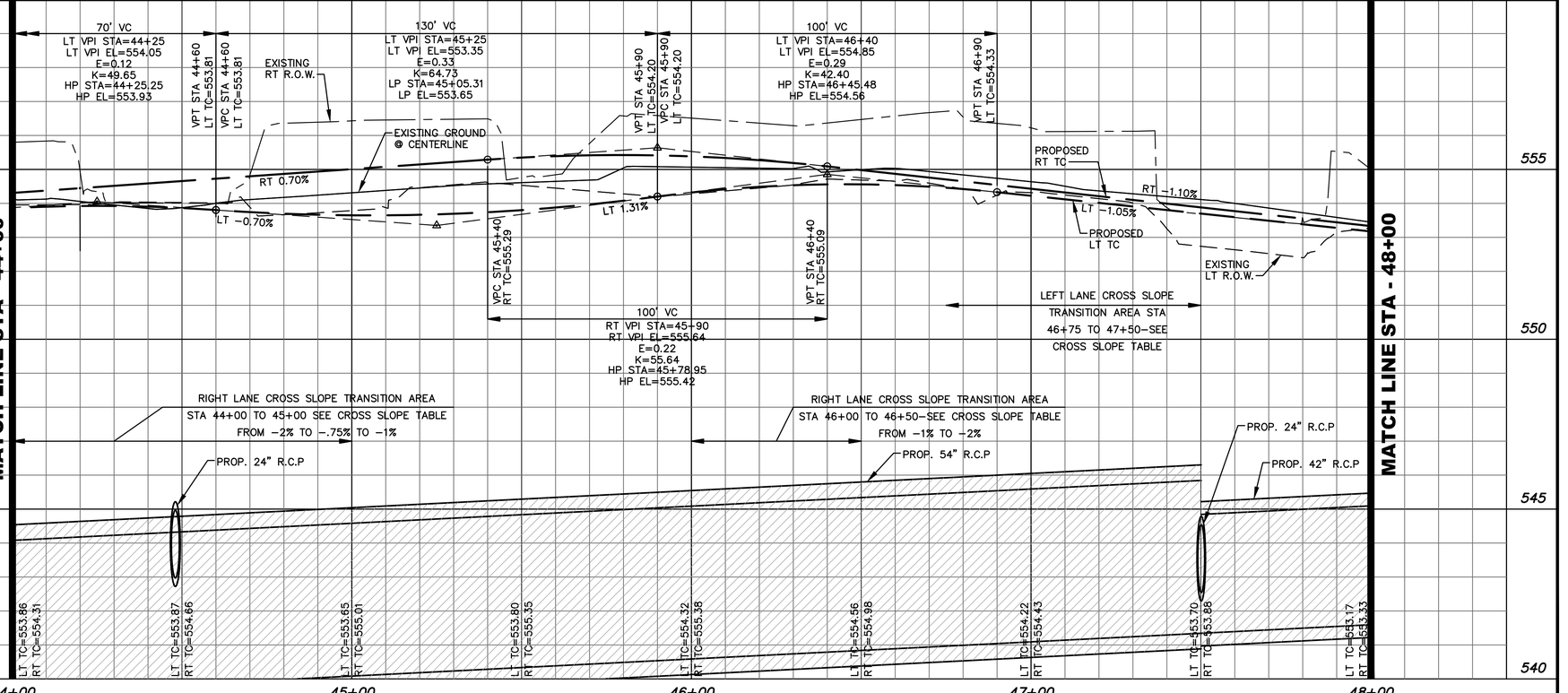


STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
44+00	3.50%	−2.00%
44+50	3.50%	−0.75%
45+00	3.50%	−1.00%
45+50	3.50%	−1.00%
46+00	3.50%	−1.00%
46+50	3.50%	−2.00%
47+00	3.25%	−2.00%
47+50	2.75%	−2.00%
48+00	2.75%	−2.00%



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

NOTE:
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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 44+00 TO STA 48+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 53

RPAROULEK
05/10/2022 - 5:06PM
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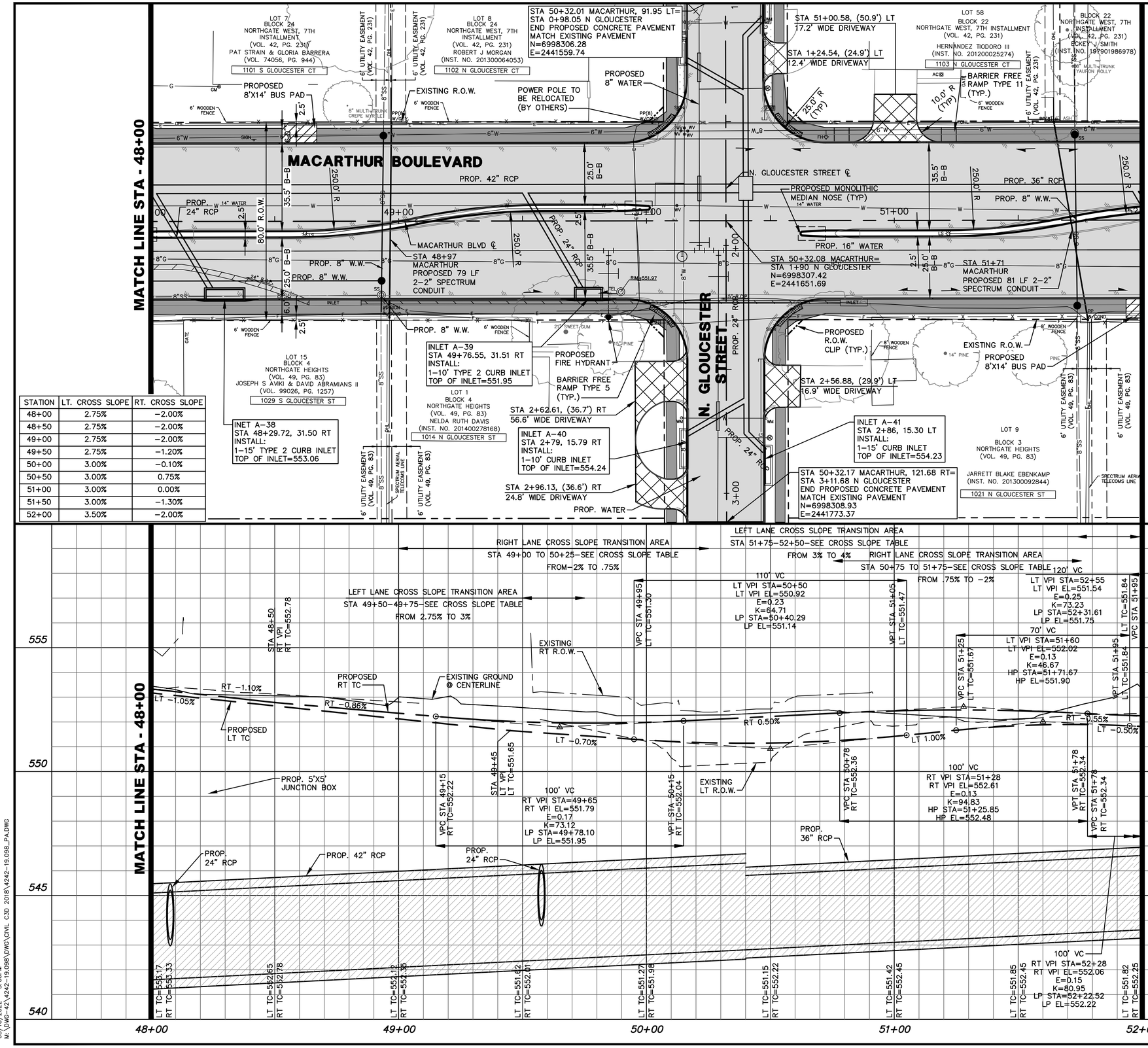

STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
48+00	2.75%	−2.00%
48+50	2.75%	−2.00%
49+00	2.75%	−2.00%
49+50	2.75%	−1.20%
50+00	3.00%	−0.10%
50+50	3.00%	0.75%
51+00	3.00%	0.00%
51+50	3.00%	−1.30%
52+00	3.50%	−2.00%

0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
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972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 48+00 TO STA 52+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

SHEET 54

RPAROULEK
05/10/2022 - 5:06PM
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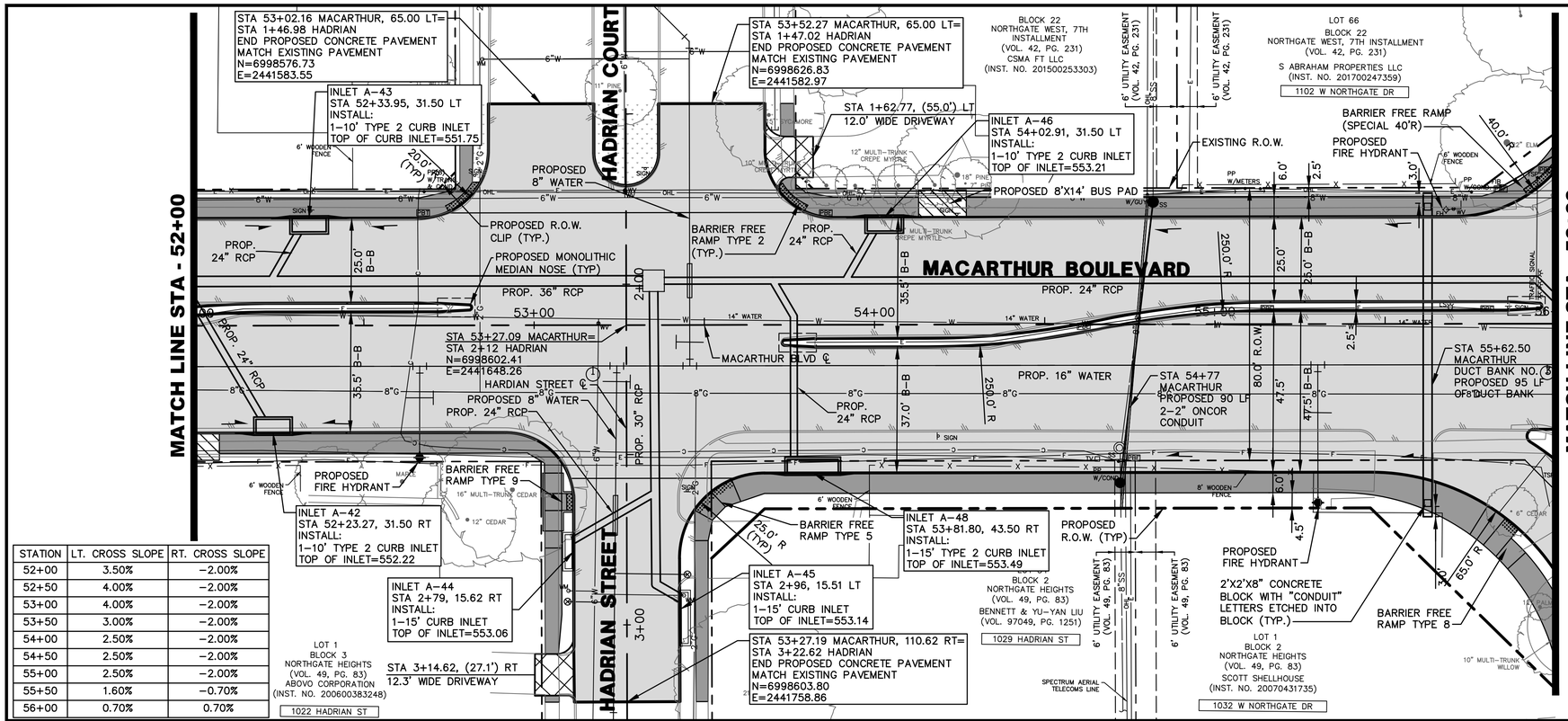


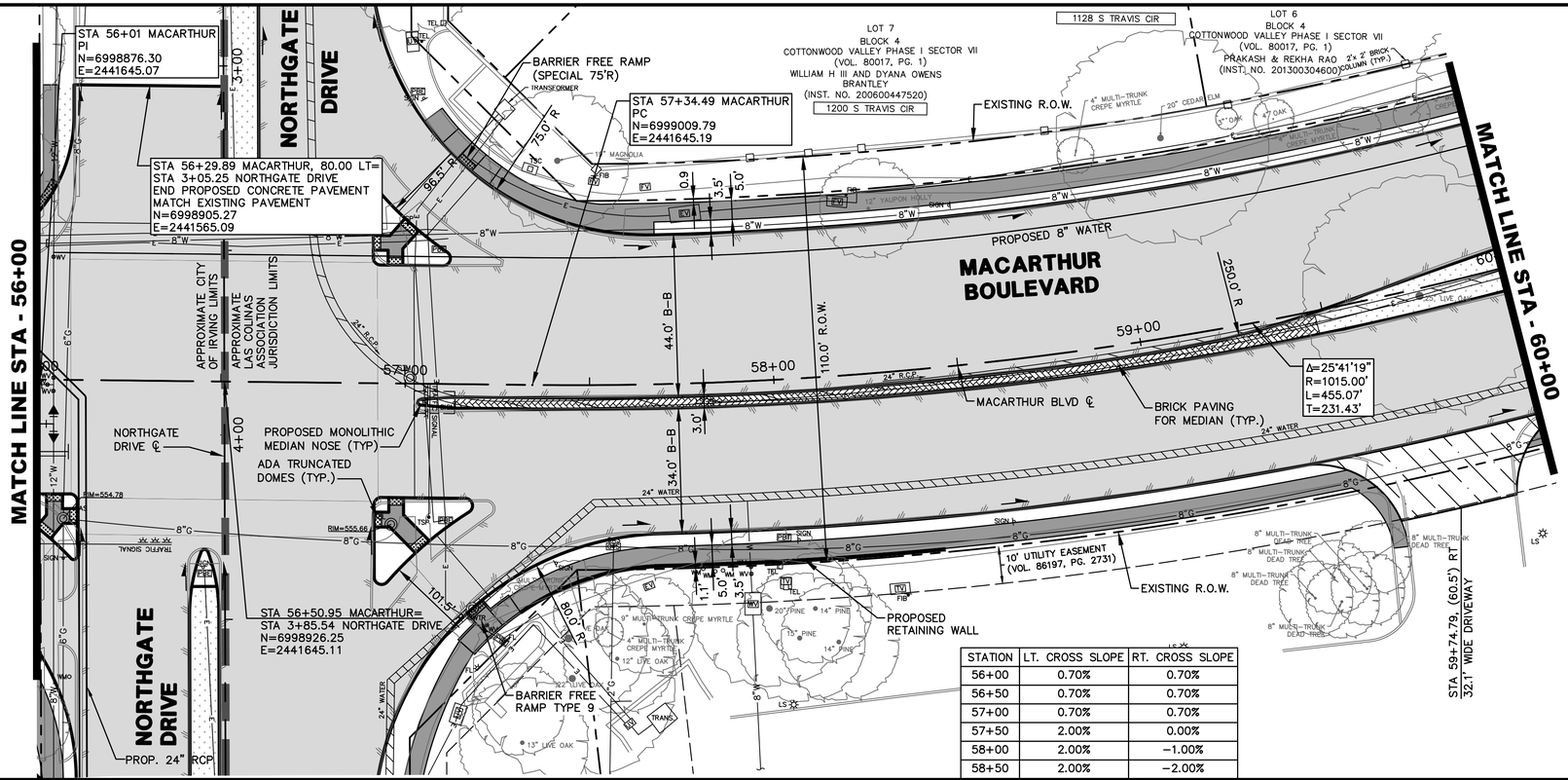
STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
52+00	3.50%	-2.00%
52+50	4.00%	-2.00%
53+00	4.00%	-2.00%
53+50	3.00%	-2.00%
54+00	2.50%	-2.00%
54+50	2.50%	-2.00%
55+00	2.50%	-2.00%
55+50	1.60%	-0.70%
56+00	0.70%	0.70%

0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

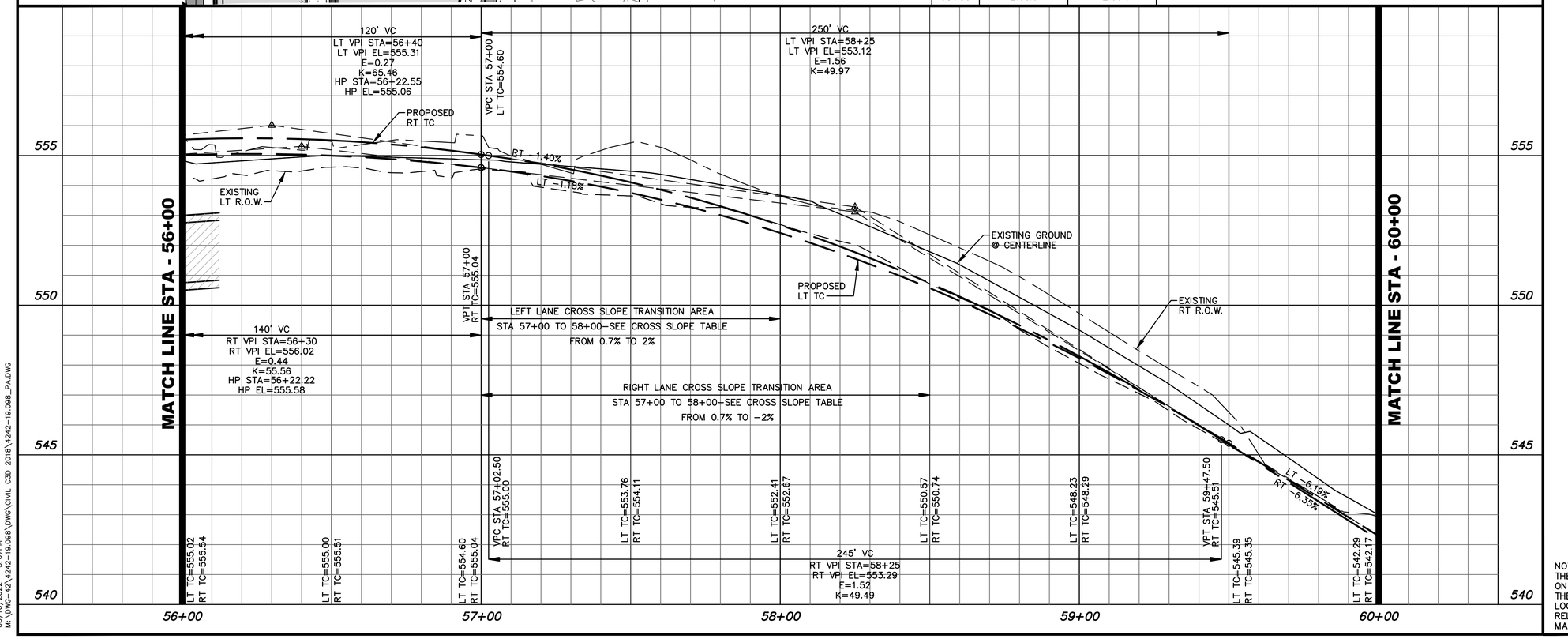
LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:



STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
56+00	0.70%	0.70%
56+50	0.70%	0.70%
57+00	0.70%	0.70%
57+50	2.00%	0.00%
58+00	2.00%	−1.00%
58+50	2.00%	−2.00%



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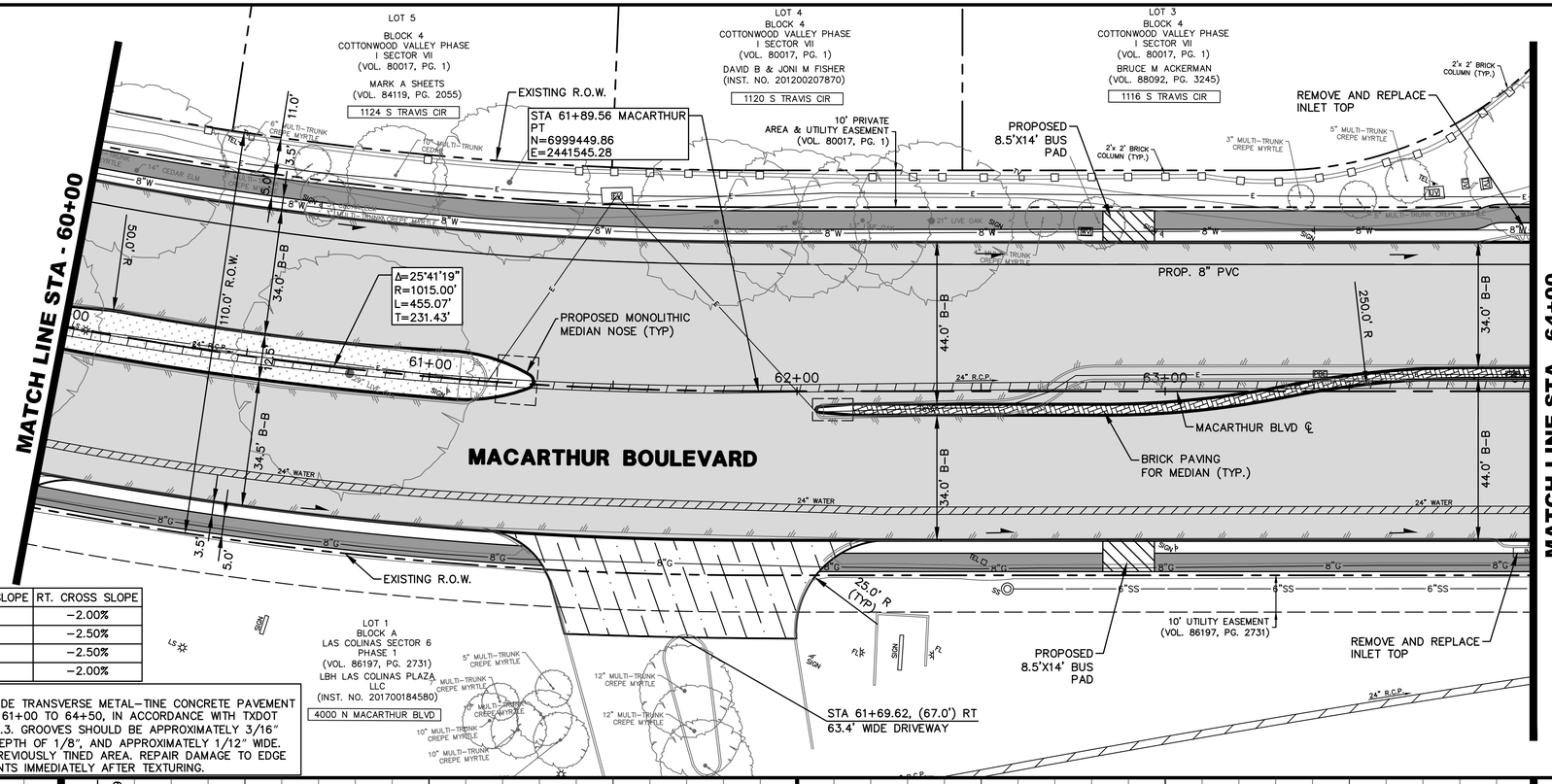
0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

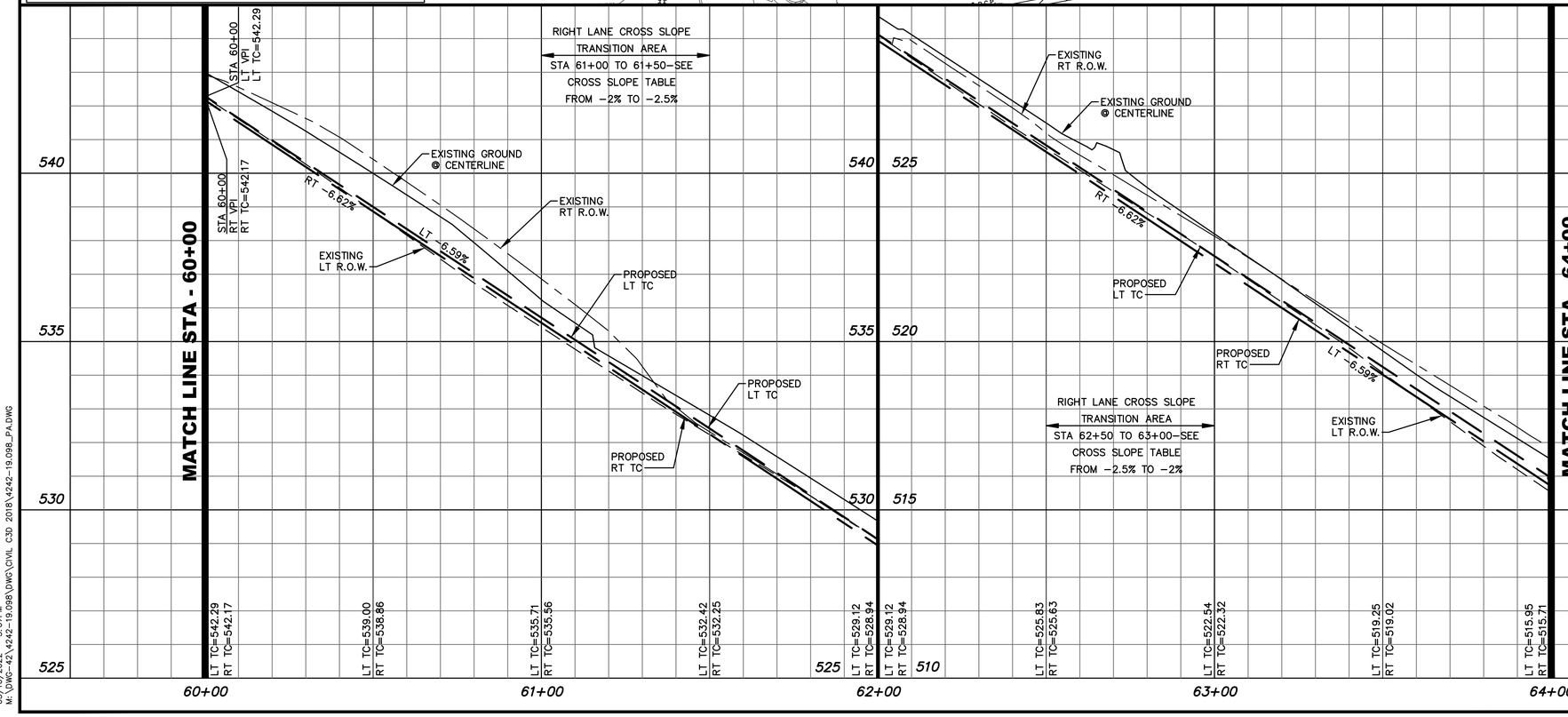
- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:



STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
61+00	2.00%	−2.00%
61+50	2.00%	−2.50%
62+00	2.00%	−2.50%
62+50	2.00%	−2.00%

NOTE:
CONTRACTOR TO PROVIDE TRANSVERSE METAL-TINE CONCRETE PAVEMENT TEXTURING, FROM STA 61+00 TO 64+50, IN ACCORDANCE WITH TXDOT SPECIFICATION 360 4.8.3. GROOVES SHOULD BE APPROXIMATELY 3/16" DEEP, WITH MINIMUM DEPTH OF 1/8", AND APPROXIMATELY 1/12" WIDE. DO NOT OVERLAP A PREVIOUSLY TINED AREA. REPAIR DAMAGE TO EDGE OF THE SLAB AND JOINTS IMMEDIATELY AFTER TEXTURING.



NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET
0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/10/2022

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022 AND IS NOT TO BE USED FOR ANY PURPOSE WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 60+00 TO STA 64+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
57

RPAROULEK
05/10/2022 - 5:07PM
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STA 64+87.33 MACARTHUR, 66.00 LT=
STA 3+51.08 COTTONWOOD VALLEY DRIVE
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6999689.77
E=2441356.94

STA 65+71.54 MACARTHUR, 66.00 LT=
STA 3+51.08 COTTONWOOD VALLEY DRIVE
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6999765.68
E=2441320.51

MATCH LINE STA - 64+00

MATCH LINE STA - 67+50

COTTONWOOD VALLEY DRIVE (PRIVATE DRIVE)

BYRON NELSON WAY

MACARTHUR BOULEVARD

BARRIER FREE RAMP TYPE 10 (TYP.)

COTTONWOOD VALLEY HOA #101
(VOL. 80086, PG. 1066)

BLOCK 4
COTTONWOOD VALLEY PHASE I SECTOR VII
(VOL. 80017, PG. 1)

BLOCK 1
COTTONWOOD VALLEY PHASE I SECTOR VII
(VOL. 80017, PG. 1)
COTTONWOOD VALLEY HOA #101
(VOL. 80086, PG. 1066)

BLOCK 1
COTTONWOOD VALLEY PHASE I SECTOR VII
(VOL. 80017, PG. 1)
ARTHUR J KAJOFOSZ
(VOL. 2001170, PG. 5090)
300 TRAVIS CT

EXISTING R.O.W.

PROPOSED 8" WATER

PROPOSED 12" WATER

PROP. 24" RCP
STA 64+86.53 MACARTHUR=
STA 4+25.02 BYRON NELSON WAY
N=6999717.54
E=2441416.67

ADJUST MANHOLE LID
MATCH EXISTING GRADE

STA 66+09.18 MACARTHUR
PC
N=6999828.17
E=2441363.73

Δ=33°21'05"
R=1015.00'
L=590.82'
T=304.05'

BRICK PAVING FOR MEDIAN (TYP.)

SAWCUT, REMOVE AND REPLACE RAISED MEDIAN. PLACE ASPHALT FOR TEMPORARY RIDING SURFACE.

REMOVE AND REPLACE CHOPPED STONE PLANTER

PROPOSED MONOLITHIC MEDIAN NOSE (TYP)

STA 65+71.80 MACARTHUR=
STA 4+17.08 COTTONWOOD VALLEY DRIVE
N=6999794.48
E=2441379.90

PROTECT LIGHT STANDARD

STA 66+50 MACARTHUR
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
CONTINUE MEDIAN REHABILITATION
N=6999865.32
E=2441346.81

STA 65+70.99 MACARTHUR, 102.75 RT=
STA 5+19.86 COTTONWOOD VALLEY DRIVE
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6999838.20
E=2441472.89

REMOVE AND REPLACE INLET TOP

STA 64+85.76 MACARTHUR, 96.26 RT=
STA 5+21.42 BYRON NELSON WAY
END PROPOSED CONCRETE PAVEMENT
MATCH EXISTING PAVEMENT
N=6999758.55
E=2441503.91

EXISTING R.O.W.

BARRIER FREE RAMP TYPE 11

REMOVE AND REPLACE INLET TOP

BLOCK A
FOUR SEASONS RESORT & CLUB
(INST. NO. 200600021703)

BRE-LAS COLINAS LLC
(INST. NO. 201400028176)
4140 N MACARTHUR BLVD

NOTE:
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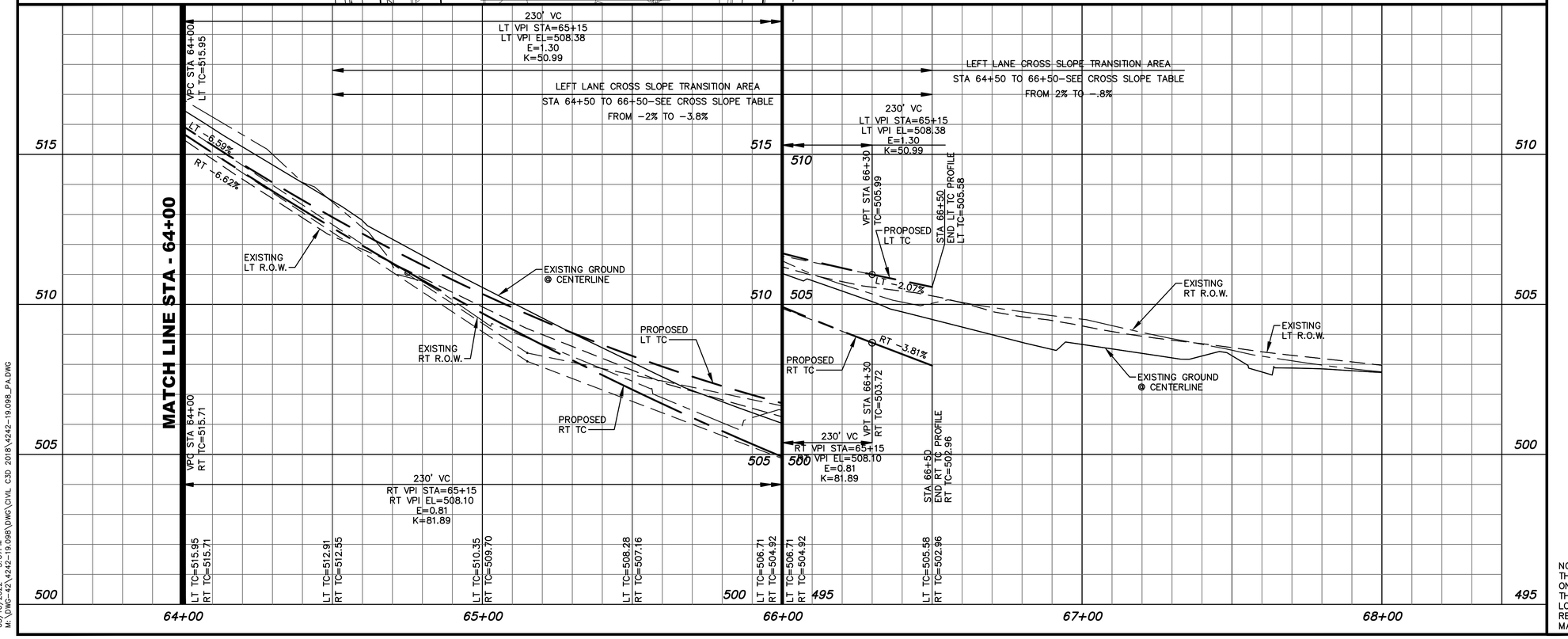
STATION	LT. CROSS SLOPE	RT. CROSS SLOPE
64+50	2.00%	-2.00%
65+00	1.00%	-2.40%
65+50	0.00%	-3.20%
66+00	-0.80%	-3.80%



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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
SURVEYING

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 64+00 TO STA 67+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 58

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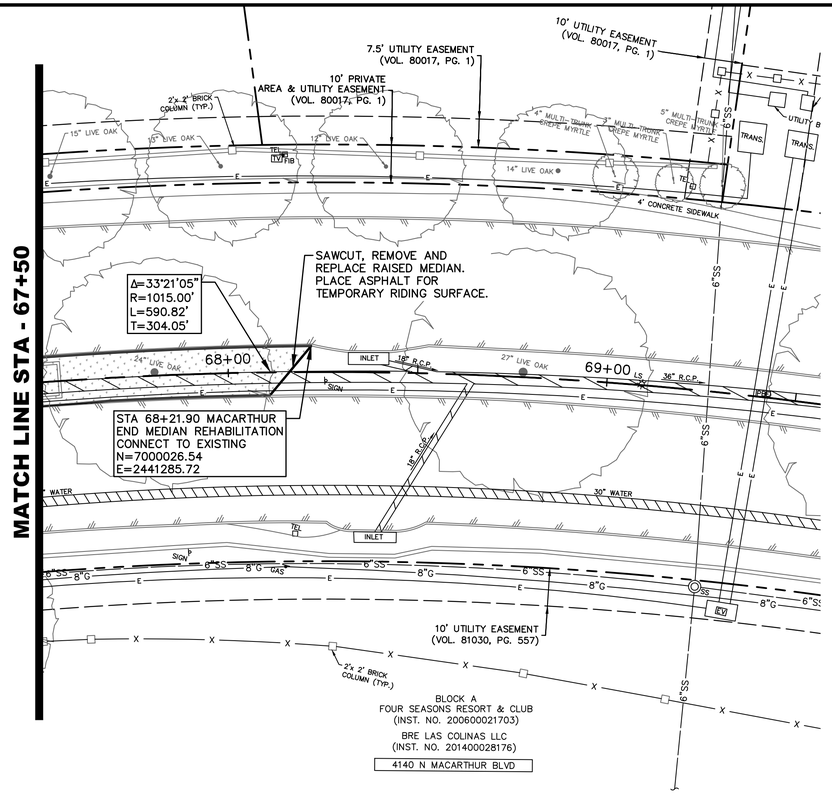

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ROADWAY PLAN & PROFILE
STA 67+50 TO 69+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 59

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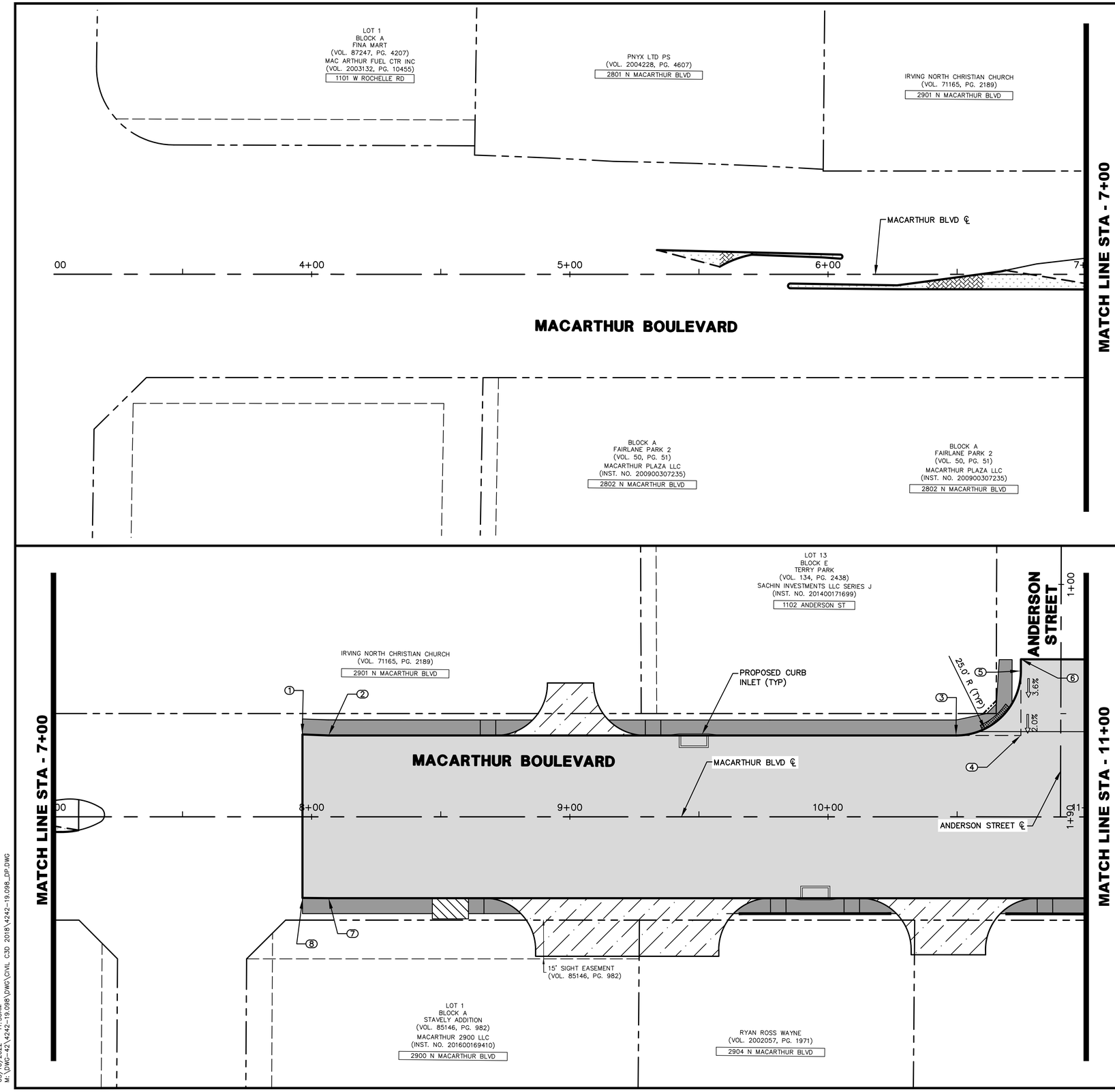

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	7+96.45	31.9' LT	529.64
2	8+06.45	31.5' LT	529.72
3	10+49.69	31.5' LT	529.89
4	10+74.69	31.5' LT	529.85
5	10+74.69	56.5' LT	530.58
6	10+74.69	61.0' LT	530.78
7	8+06.45	31.5' RT	529.81
8	7+96.45	31.4' RT	529.73

NOTE: ALL ELEVATIONS ARE TOP OF CURB UNLESS NOTED ELSEWHERE

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

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- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

DESIGN POINT LAYOUT
STA 7+96.45 TO STA 14+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 60

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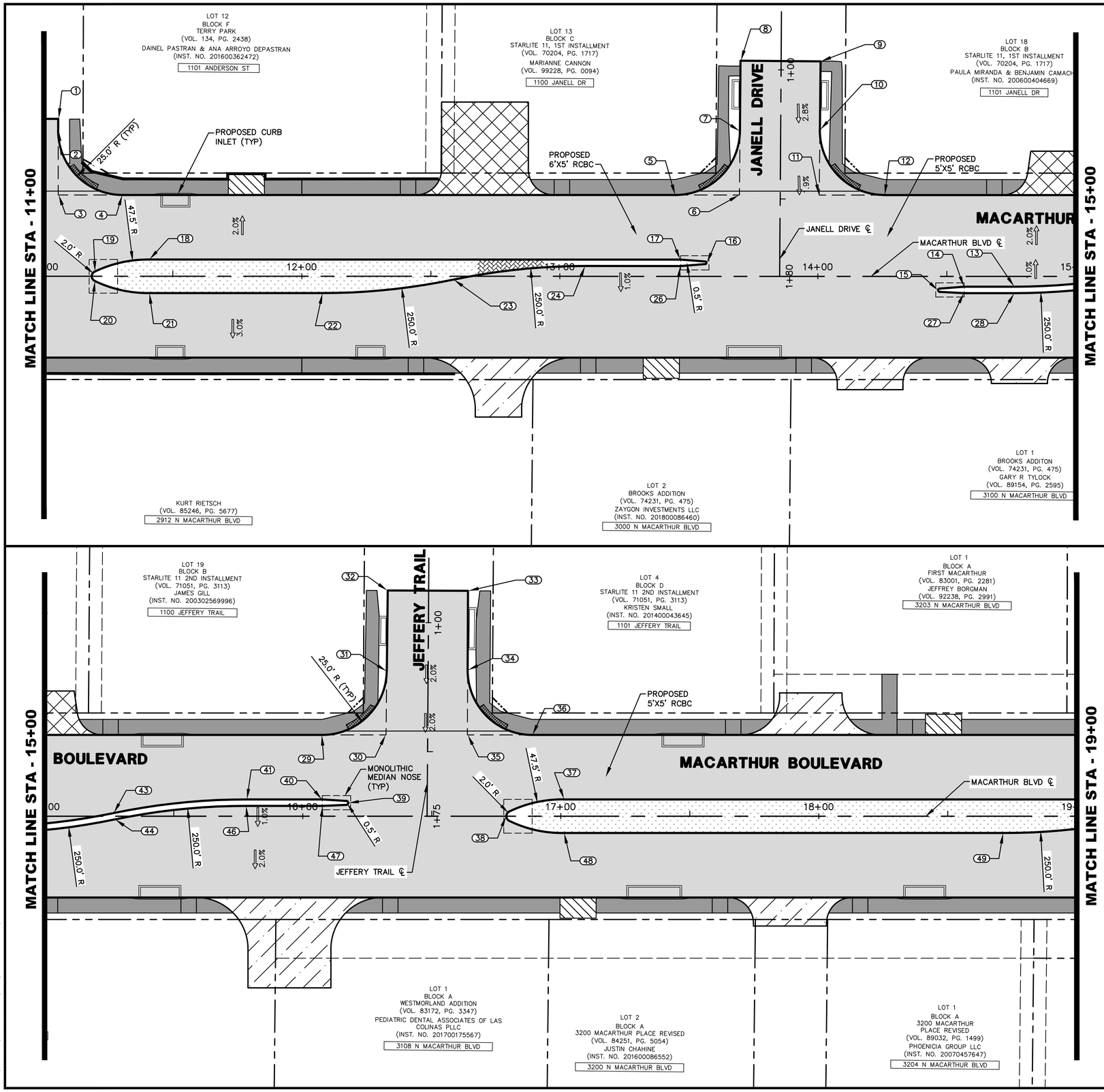

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	11+05.57	61.0' LT	529.96
2	11+05.57	56.5' LT	529.90
3	11+05.57	31.5' LT	529.68
4	11+30.57	31.5' LT	529.57
5	13+44.80	31.5' LT	531.88
6	13+69.61	31.5' LT	532.13
7	13+69.80	56.3' LT	532.51
8	13+70	83.5' LT	532.91
9	14+01.05	83.3' LT	532.84
10	14+00.78	56.8' LT	532.71
11	14+00.52	31.5' LT	532.39
12	14+25.78	31.5' LT	532.61
13	14+76.21	4.0' RT	533.53
14	14+56.68	4.0' RT	533.35
15*	14+46.67	5.4' RT	532.98
16*	13+56.83	5.2' LT	532.26
17	13+46.79	6.5' LT	532.38
18	11+40.80	6.5' LT	530.02
19*	11+19.70	1.8' LT	529.90
20*	11+19.70	1.8' RT	529.90
21	11+40.79	6.5' RT	530.07
22	12+07.86	6.5' RT	530.35
23	12+58.79	1.3' RT	531.00
24	13+09.89	4.0' LT	531.75
26	13+46.79	4.0' LT	532.33
27	14+56.68	6.5' RT	533.33
28	14+76.21	6.5' RT	533.50

NOTE: ALL ELEVATIONS ARE TOP OF CURB UNLESS NOTED ELSEWHERE
*: REPRESENTS A 3" CURB HEIGHT, INSTEAD OF TYPICAL 6" CURB HEIGHT.

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
29	16+07.56	31.5' LT	534.15
30	16+32.27	31.5' LT	534.37
31	16+32.56	56.2' LT	534.77
32	16+32.92	87.5' LT	535.09
33	16+64.05	87.3' LT	535.05
34	16+63.91	56.6' LT	534.93
35	16+63.80	31.5' LT	534.64
36	16+88.91	31.5' LT	534.86
37	17+01.14	6.5' LT	535.46
38*	16+78.91	0.0' RT	535.05
39*	16+17.59	5.1' LT	534.48
40	16+07.56	6.5' LT	534.63
41	15+78.23	6.5' LT	534.38
43	15+26.63	1.2' LT	533.96
44	15+27.14	1.3' RT	534.00
46	15+78.23	4.0' LT	534.44
47	16+07.56	4.0' LT	534.70
48	17+01.14	6.5' RT	535.53
49	18+71.60	6.5' RT	536.99

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
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- PROPOSED MEDIAN GRASS
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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BRIAN D. O'NEILL
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825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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DESIGN POINT LAYOUT
STA 14+00 TO STA 20+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 61

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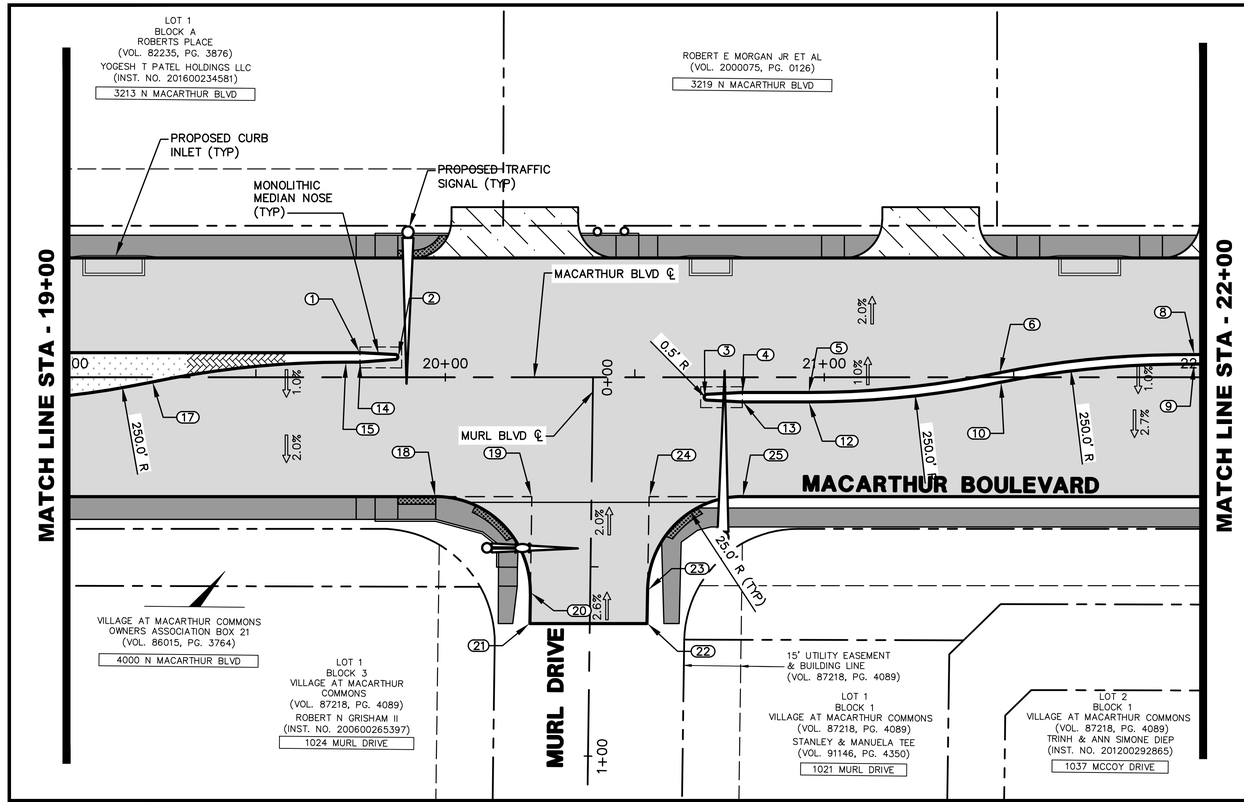

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	19+77.45	6.5' LT	537.94
2*	19+87.46	5.4' LT	537.79
3*	20+68.34	5.2' RT	538.52
4	20+78.38	4.0' RT	538.88
5	20+95.79	4.0' RT	539.01
6	21+46.20	1.2' LT	539.46
8	21+97.81	6.0' LT	539.93
9	21+97.81	3.5' LT	540.02
10	21+46.81	1.2' RT	539.51
12	20+95.79	6.5' RT	539.03
13	20+78.38	6.5' RT	538.86
14	19+77.45	4.0' LT	537.97
15	19+73.63	4.0' LT	537.94
17	19+22.53	1.3' RT	537.45
18	19+97.45	31.5' RT	537.51
19	20+22.83	31.5' RT	537.73
20	20+22.45	56.9' RT	538.23
21	20+22.33	65.0' RT	538.28
22	20+53.23	65.0' RT	538.29
23	20+53.38	56.1' RT	538.23
24	20+53.78	31.5' RT	537.97
25	20+78.38	31.5' RT	538.20

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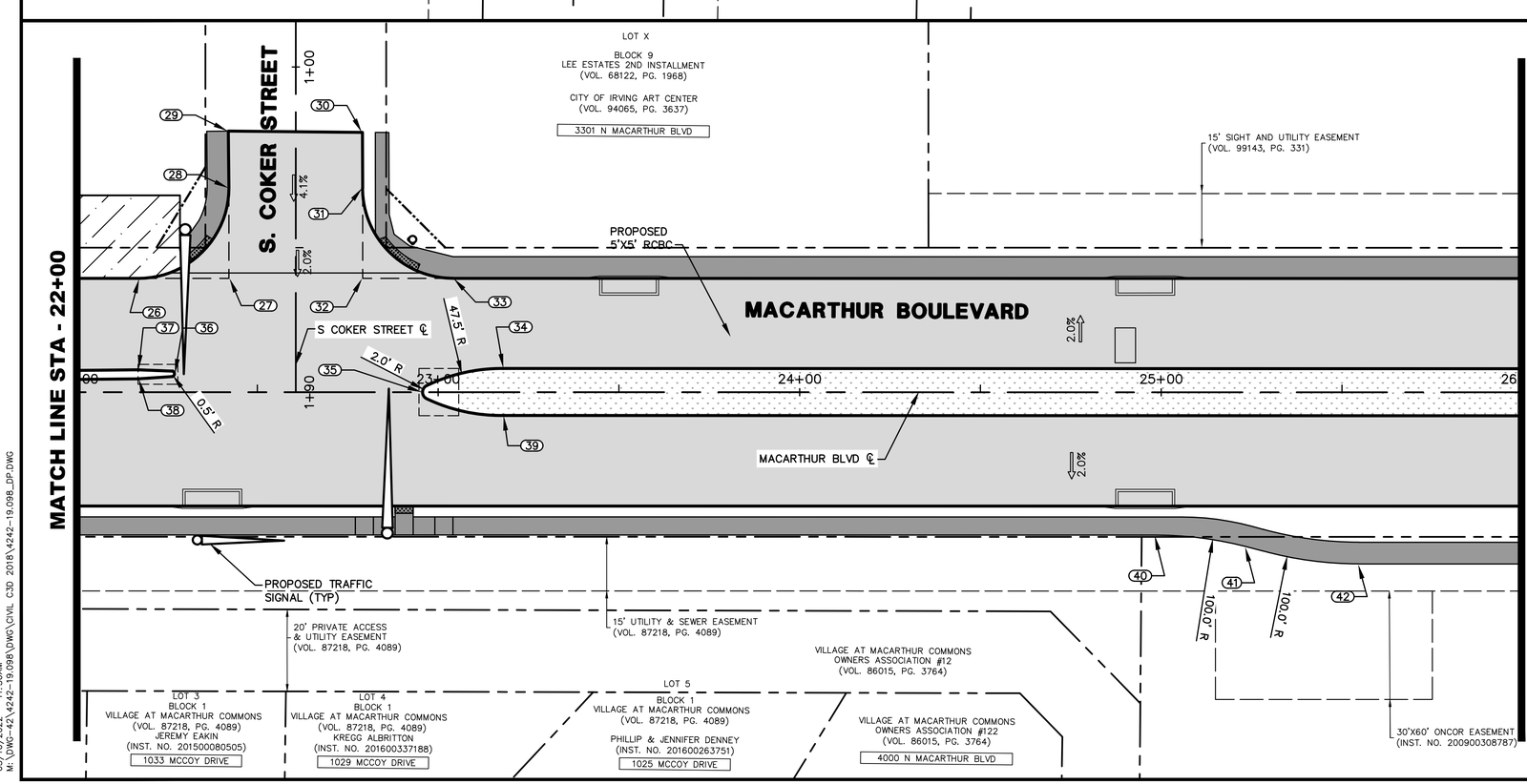

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
26	22+17.12	31.5' LT	539.62
27	22+42.12	31.5' LT	539.85
28	22+42.12	56.5' LT	540.51
29	22+41.93	72.3' LT	541.22
30	22+79.05	71.9' LT	540.87
31	22+79.12	56.5' LT	540.78
32	22+79.12	31.5' LT	540.20
33	23+04.12	31.5' LT	540.40
34	23+17.89	6.5' LT	541.00
35*	22+95.66	0.0'	540.58
36*	22+27.04	5.1' LT	539.95
37	22+16.99	6.2' LT	540.10
38	22+16.99	3.7' LT	0.00
39	23+17.89	6.5' RT	540.99
40	24+98.34	39.5' RT	0.46
41	25+23.40	42.7' RT	543.31
42	25+54.67	47.5' RT	543.78

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/10/2022

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

DESIGN POINT LAYOUT
STA 20+00 TO STA 26+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 62

CLOFTIS
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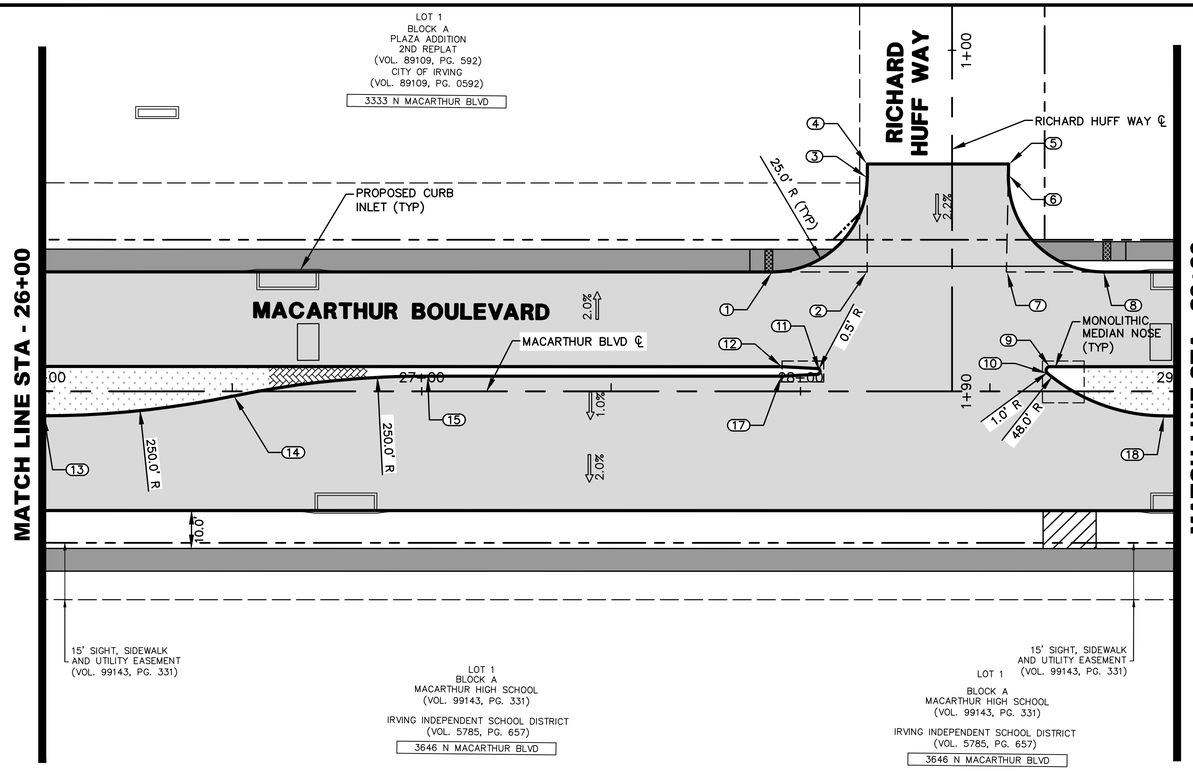
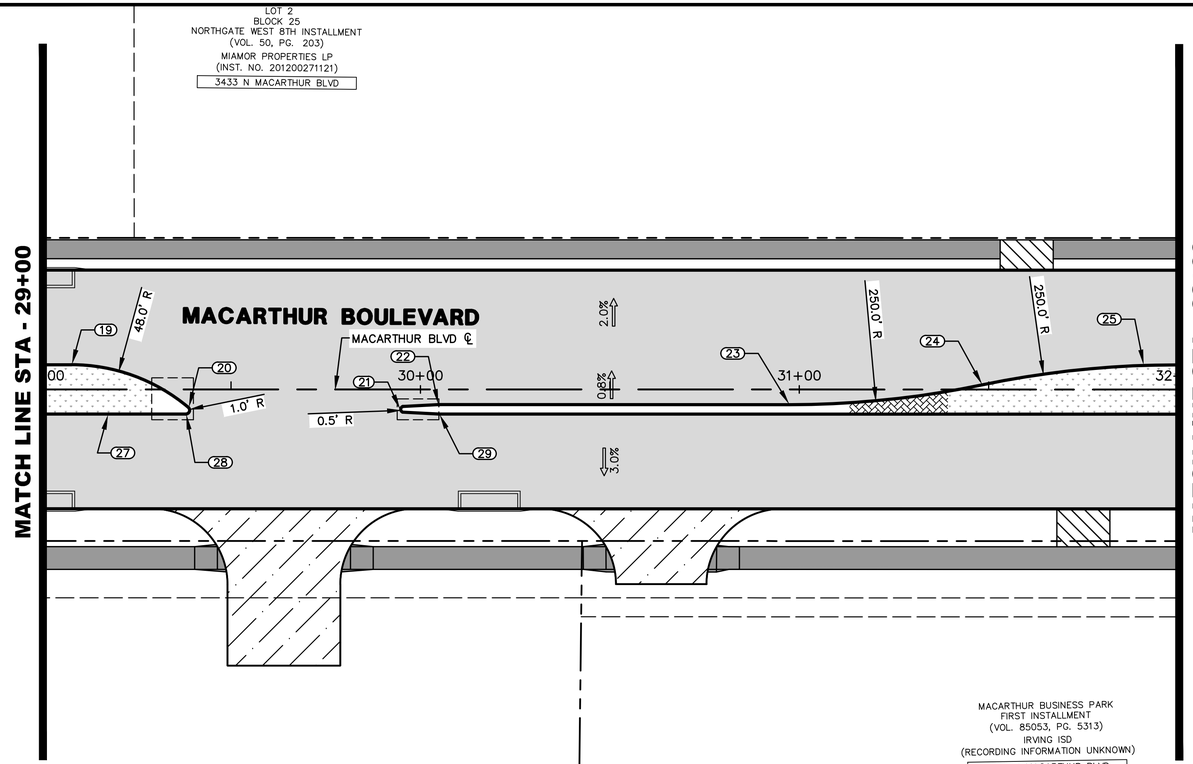


PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	27+92.61	31.5' LT	548.31
2	28+17.58	31.5' LT	548.83
3	28+17.61	56.5' LT	549.10
4	28+17.61	60.0' LT	549.12
5	28+54.90	60.0' LT	550.26
6	28+54.84	57.0' LT	550.24
7	28+54.33	31.5' LT	549.59
8	28+79.84	31.5' LT	550.00
9*	28+65.84	6.5' LT	550.03
10*	28+65.22	4.7' LT	550.02
11*	28+05.15	5.2' LT	548.84
12	27+95.11	6.5' LT	548.87
13	26+00.11	6.5' RT	544.86
14	26+50.31	1.3' RT	545.93
15	27+01.40	4.0' LT	546.96
17	27+95.10	4.0' LT	548.91
18	28+96.04	6.5' RT	550.73

NOTE: ALL ELEVATIONS ARE TOP OF CURB UNLESS NOTED ELSEWHERE
*: REPRESENTS A 3" CURB HEIGHT, INSTEAD OF TYPICAL 6" CURB HEIGHT.



PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
19	29+07.84	6.5' LT	550.95
20*	29+38.72	4.7' RT	551.25
21*	29+94.83	5.2' RT	551.92
22	30+04.87	4.0' RT	552.23
23	30+97.50	4.0' RT	552.90
24	31+48.43	1.2' LT	553.30
25	31+91.06	6.4' LT	553.56
27	29+17.40	6.5' RT	551.11
28*	29+38.08	6.5' RT	551.24
29	30+04.87	6.5' RT	552.27

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
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DESIGNED BY: CKT/RCP
DRAWN BY: DRI
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SURVEYED BY: PACHECO KOCH

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MACARTHUR BOULEVARD
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
63

CLOFTIS
05/10/2022 - 11:51AM
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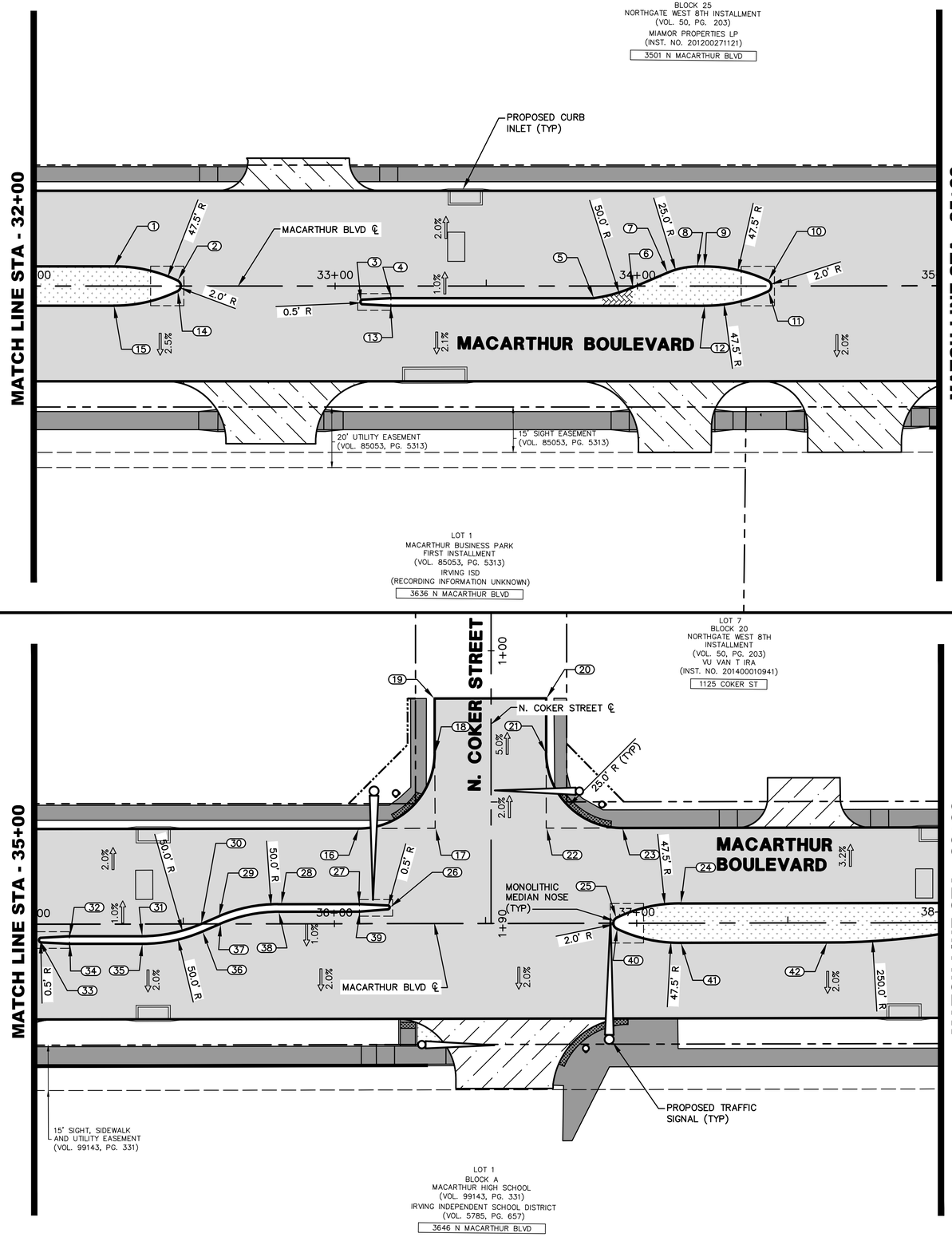

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	32+26.73	6.5' LT	553.77
2*	32+47.85	1.9' LT	553.61
3*	33+08.43	5.2' RT	553.31
4	33+18.47	4.0' RT	553.56
5	33+85.69	4.0' RT	553.67
6	33+98.34	0.5' RT	553.81
7	34+10.07	4.5' LT	553.86
8	34+19.96	6.5' LT	553.92
9	34+22.10	6.5' LT	553.94
10*	34+43.21	1.8' LT	553.87
11*	34+43.21	1.8' RT	553.84
12	34+22.12	6.5' RT	553.95
13	33+18.47	6.5' RT	553.48
14*	32+47.86	1.7' RT	553.63
15	32+26.73	6.5' RT	553.88

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PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
16	36+08.27	31.5' LT	553.63
17	36+33.39	31.5' LT	553.61
18	36+33.27	56.5' LT	552.58
19	36+33.30	74.4' LT	551.42
20	36+70.18	74.4' LT	551.33
21	36+70.15	56.5' LT	552.42
22	36+70.12	31.5' LT	553.33
23	36+95.15	31.5' LT	553.03
24	37+14.49	6.5' LT	553.45
25*	36+93.39	1.8' LT	553.47
26*	36+18.29	5.4' LT	553.88
27	36+08.27	6.5' LT	554.11
28	35+82.32	6.5' LT	553.98
29	35+61.76	2.5' LT	553.92
30	35+55.88	0.0' RT	553.92
31	35+36.26	4.0' RT	553.88
32	35+12.33	4.0' RT	553.92
33*	35+02.28	5.2' RT	553.62
34	35+12.32	6.5' RT	553.80
35	35+36.66	6.5' RT	553.73

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
36	35+56.28	2.5' RT	553.79
37	35+62.16	0.0' LT	553.83
38	35+81.75	4.0' LT	553.96
39	36+08.27	4.0' LT	554.08
40*	36+93.39	1.8' RT	553.50
41	37+14.49	6.5' RT	553.66
42	37+63.05	6.5' RT	553.35

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DESIGN POINT LAYOUT
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 64

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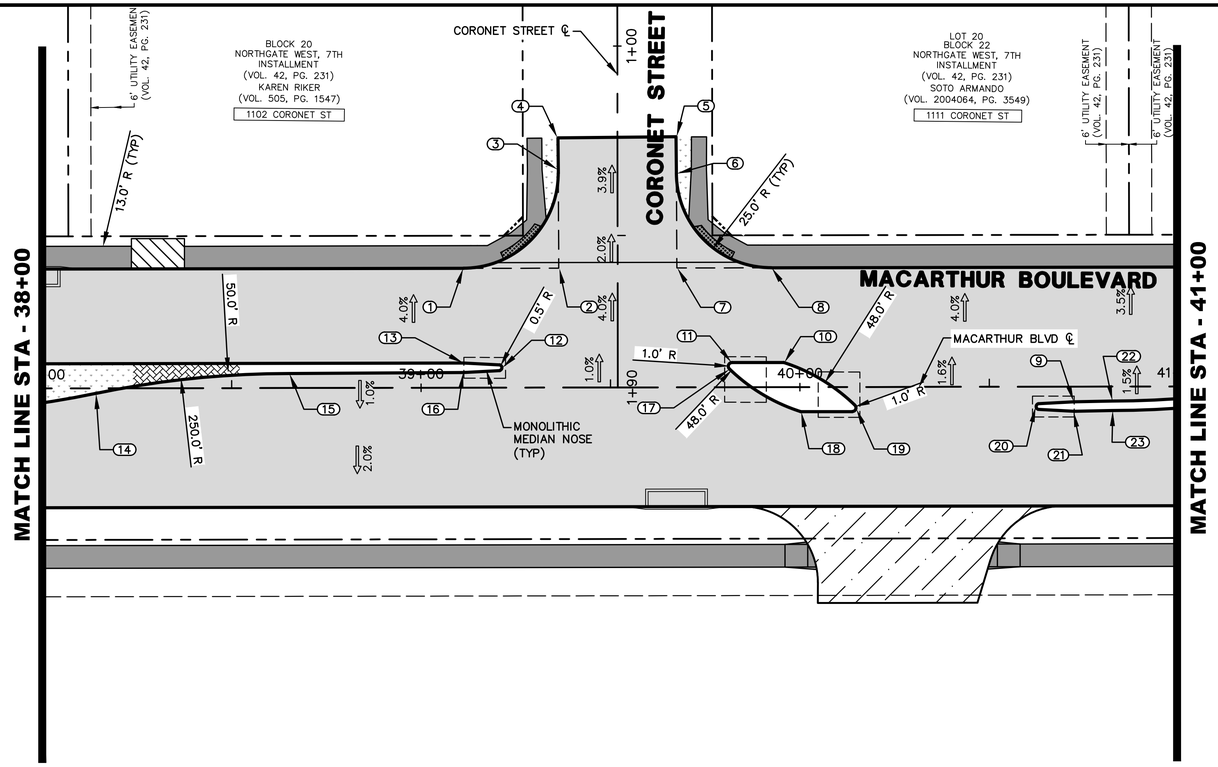

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	39+11.32	31.5' LT	552.42
2	39+36.40	31.5' LT	552.23
3	39+36.32	57.5' LT	551.29
4	39+36.25	65.9' LT	550.77
5	39+67.40	66.1' LT	550.44
6	39+67.48	56.4' LT	551.14
7	39+67.58	31.5' LT	551.67
8	39+92.48	31.5' LT	552.23
9	40+72.40	4.0' RT	553.71
10	39+95.74	6.5' LT	553.19
11*	39+82.10	6.5' LT	552.90
12*	39+21.36	5.2' LT	553.08
13	39+11.32	6.5' LT	553.37
14	38+14.08	1.3' RT	553.39
15	38+65.09	3.8' LT	553.59
16	39+11.31	4.0' LT	553.42
17*	39+81.50	4.7' LT	552.92
18	40+00.17	6.5' RT	553.40
19*	40+14.76	5.8' RT	553.25
20*	40+62.36	5.2' RT	553.63
21	40+72.40	6.5' RT	553.93
22	40+82.35	3.8' RT	553.76
23	40+82.34	6.3' RT	553.96

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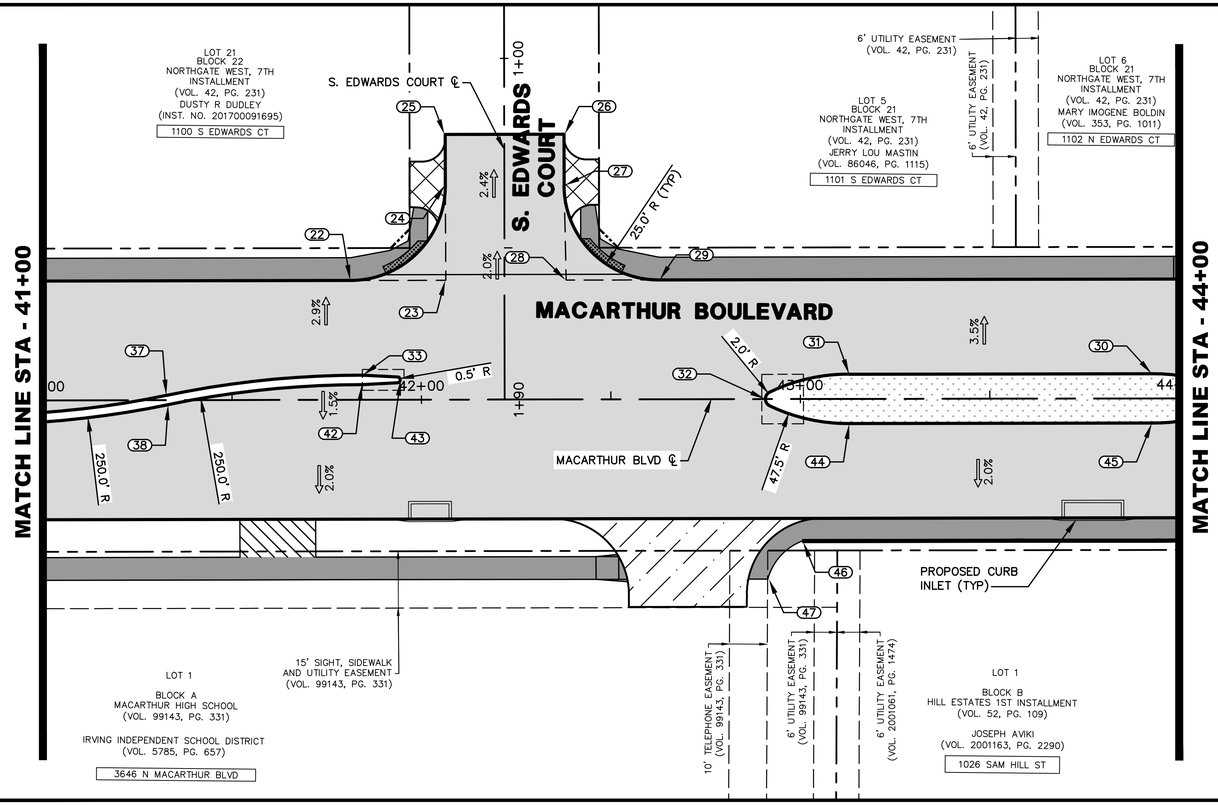

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
22	41+81.39	31.5' LT	553.15
23	42+06.48	31.5' LT	553.00
24	42+06.39	56.5' LT	552.20
25	42+06.39	70.0' LT	551.51
26	42+37.74	70.0' LT	551.83
27	42+37.74	56.5' LT	552.26
28	42+38.24	31.5' LT	552.91
29	42+62.74	31.5' LT	552.95
30	43+92.94	6.5' LT	554.66
31	43+13.06	6.5' LT	554.09
32*	42+90.83	0.0' LT	553.75
33	41+84.39	6.5' LT	553.85
37	41+32.77	1.3' LT	553.96

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PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
38	41+33.28	1.2' RT	553.97
42	41+84.38	4.0' LT	553.58
43*	41+94.43	5.2' LT	553.54
44	43+13.06	6.5' RT	554.18
45	43+92.94	6.5' RT	554.74
46	43+00.50	37.7' RT	553.79
47	42+91.43	47.5' RT	554.44

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1			XXXXXXX
2			
3			
4			
5	XX/XXXX		

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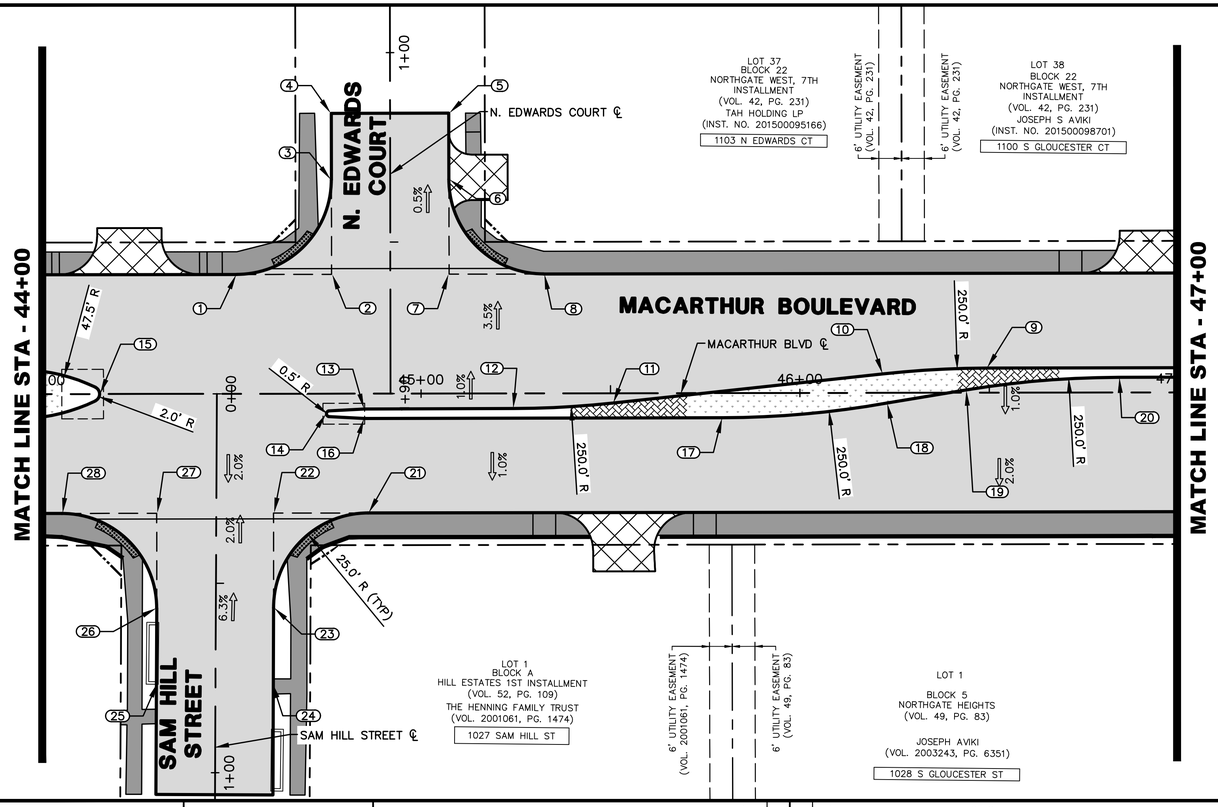

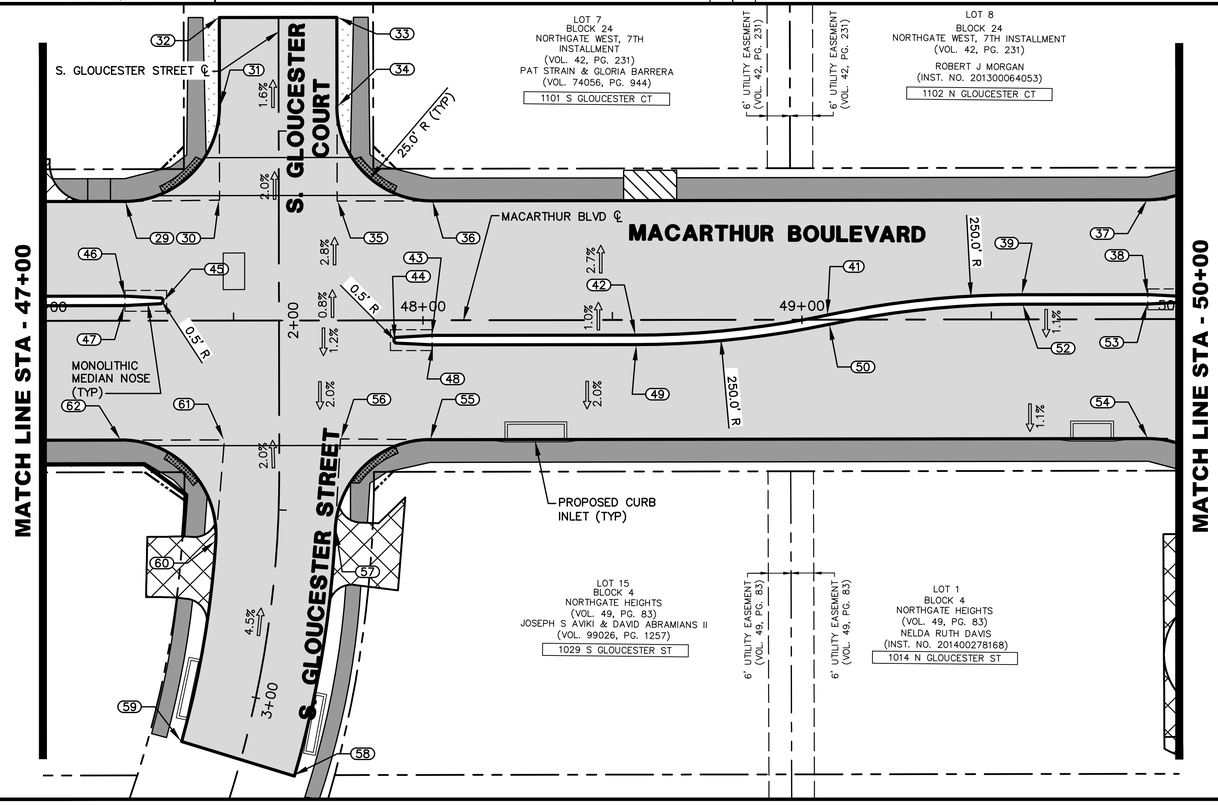

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	44+51.43	31.5' LT	553.86
2	44+76.43	31.5' LT	553.72
3	44+76.43	56.5' LT	553.51
4	44+76.43	74.0' LT	553.36
5	45+07.44	74.0' LT	553.18
6	45+07.44	56.5' LT	553.37
7	45+07.47	31.5' LT	553.65
8	45+32.44	31.5' LT	553.70
9	46+49.27	6.5' LT	555.40
10	46+21.97	5.0' LT	555.33
11	45+50.60	2.6' RT	554.65
12	45+24.51	4.0' RT	554.60
13	44+85.09	4.1' RT	554.60
14*	44+75.05	5.3' RT	554.73
15*	44+15.17	0.0' LT	554.57
16	44+85.09	6.6' RT	555.12
17	45+79.63	6.5' RT	555.65

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
18	46+22.91	2.7' RT	555.59
19	46+43.87	0.7' LT	555.56
20	46+84.20	4.0' LT	555.10
21	44+86	31.5' RT	554.91
22	44+61.01	31.5' RT	554.74
23	44+61	56.5' RT	555.64
24	44+60.45	76.3' RT	556.63
25	44+30.52	76.2' RT	556.56
26	44+30.17	56.5' RT	555.49
27	44+30.17	31.5' RT	554.52
28	44+05.17	31.5' RT	554.34

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PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
29	47+21.34	31.5' LT	554.00
30	47+46.34	31.8' LT	553.73
31	47+46.34	56.5' LT	553.00
32	47+46.34	80.0' LT	551.98
33	47+77.39	80.0' LT	551.89
34	47+77.39	56.5' LT	552.71
35	47+77.39	31.5' LT	553.39
36	48+02.39	31.5' LT	553.15
37	49+91.32	31.5' LT	551.41
38	49+91.32	6.5' LT	552.03
39	49+58.21	6.5' LT	552.23
41	49+06.60	1.2' LT	552.74
42	48+56.18	4.0' RT	553.26
43	48+02.40	4.0' RT	553.85
44*	47+92.35	5.2' RT	553.66
45*	47+31.38	5.2' LT	554.37
46	47+21.34	6.5' LT	554.74
47	47+21.33	4.0' LT	554.70
48	48+02.39	6.5' RT	553.79
49	48+56.18	6.5' RT	553.21

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
50	49+07.11	1.3' RT	552.78
52	49+58.18	4.0' LT	552.24
53	49+91.32	4.0' LT	552.04
54	49+91.42	31.5' RT	551.96
55	48+01.74	31.5' RT	553.32
56	47+78.18	31.3' RT	553.58
57	47+76.77	55.2' RT	554.56
58	47+65.41	120.1' RT	556.51
59	47+36.12	111.1' RT	556.50
60	47+45.22	58.2' RT	554.83
61	47+47.54	31.5' RT	553.93
62	47+20.28	31.5' RT	554.21

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER · 05/10/2022

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

DESIGN POINT LAYOUT
STA 44+00 TO STA 50+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 66

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05/10/2022 - 11:51AM
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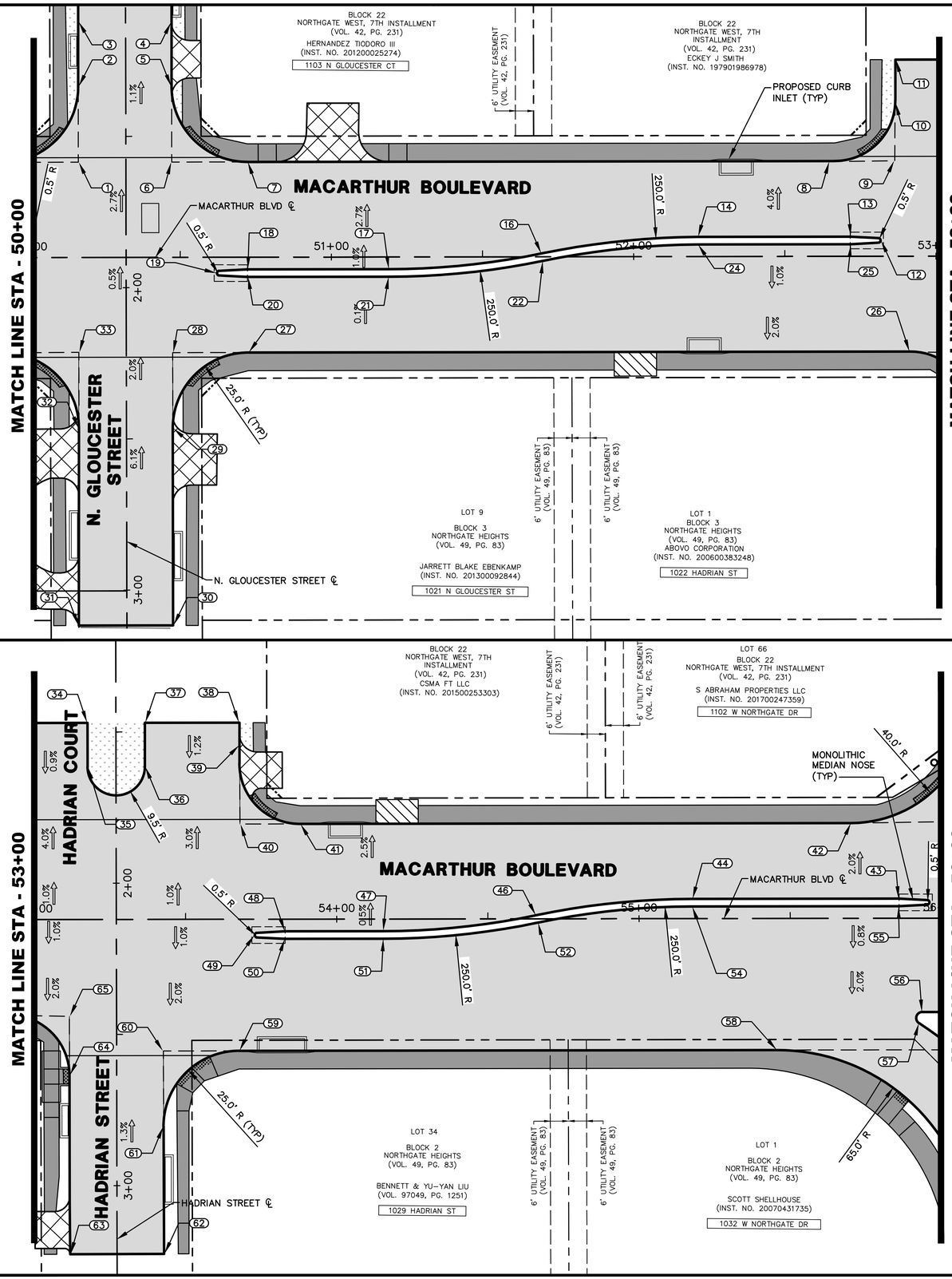

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	50+16.32	31.5' LT	551.18
2	50+16.32	56.5' LT	550.59
3	50+16.32	78.0' LT	550.06
4	50+47.22	77.7' LT	550.47
5	50+47.22	56.5' LT	550.64
6	50+47.22	31.5' LT	551.13
7	50+72.22	31.5' LT	551.22
8	52+64.90	31.3' LT	551.83
9	52+86.40	31.6' LT	551.96
10	52+86.54	50.7' LT	552.07
11	52+86.65	65.0' LT	552.11
12*	52+81.69	5.2' LT	552.64
13	52+71.65	6.5' LT	552.82
14	52+21.15	6.5' LT	552.66
16	51+69.53	1.1' LT	552.67
17	51+19.11	4.0' RT	552.34
18	50+72.23	4.0' RT	551.98
19*	50+62.18	5.2' RT	551.78
20	50+72.22	6.5' RT	552.03
21	51+19.10	6.5' LT	552.63

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
22	51+70.04	1.3' RT	552.87
24	52+21.15	4.0' LT	552.72
25	52+71.64	4.0' LT	552.87
26	52+91.30	31.6' RT	552.51
27	50+72.44	31.5' RT	552.33
28	50+47.44	31.5' RT	552.19
29	50+47.44	56.5' RT	553.30
30	50+47.45	121.7' RT	554.46
31	50+16.29	121.7' RT	554.46
32	50+16.42	56.5' RT	552.49
33	50+16.42	31.4' RT	552.04

NOTE: ALL ELEVATIONS ARE TOP OF CURB UNLESS NOTED ELSEWHERE
*: REPRESENTS A 3" CURB HEIGHT, INSTEAD OF TYPICAL 6" CURB HEIGHT.

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
34	53+17.67	65.0' LT	552.12
35	53+17.65	50.5' LT	552.07
36	53+36.62	50.5' LT	552.64
37	53+36.62	65.0' LT	552.65
38	53+67.92	65.0' LT	552.61
39	53+67.94	57.6' LT	552.70
40	53+68.03	31.5' LT	552.84
41	53+87.92	31.5' LT	553.06
42	55+70.27	31.5' LT	554.85
43	55+86.03	6.5' LT	555.16
44	55+17.56	6.5' LT	554.93
46	54+65.95	1.2' LT	554.58
47	54+15.53	4.0' RT	553.99
48	53+82.92	4.0' RT	553.67
49*	53+72.88	5.2' RT	553.47
50	53+82.92	6.5' RT	553.80

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
51	54+15.53	6.5' RT	554.21
52	54+66.46	1.3' RT	554.82
54	55+17.53	4.0' LT	555.38
55	55+86.02	4.0' LT	555.33
56	55+93.66	31.0' RT	555.45
57	55+92.59	34.7' RT	555.44
58	55+45.60	43.5' RT	555.07
59	53+67.63	43.5' RT	553.08
60	53+42.58	43.5' RT	552.86
61	53+42.63	68.5' RT	553.11
62	53+42.71	110.6' RT	553.42
63	53+11.66	110.7' RT	553.46
64	53+11.52	51.5' RT	552.98
65	53+11.52	32.0' RT	552.66

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NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

- PROPOSED CONCRETE PAVEMENT
- REMOVE AND REPLACE CONCRETE RESIDENTIAL DRIVEWAY
- REMOVE AND REPLACE CONCRETE COMMERCIAL DRIVEWAY
- REMOVE AND REPLACE MEDIAN/CROSSWALK PAVERS
- REMOVE AND REPLACE CONCRETE SIDEWALK
- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
			XXXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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DESIGN POINT LAYOUT
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CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 67

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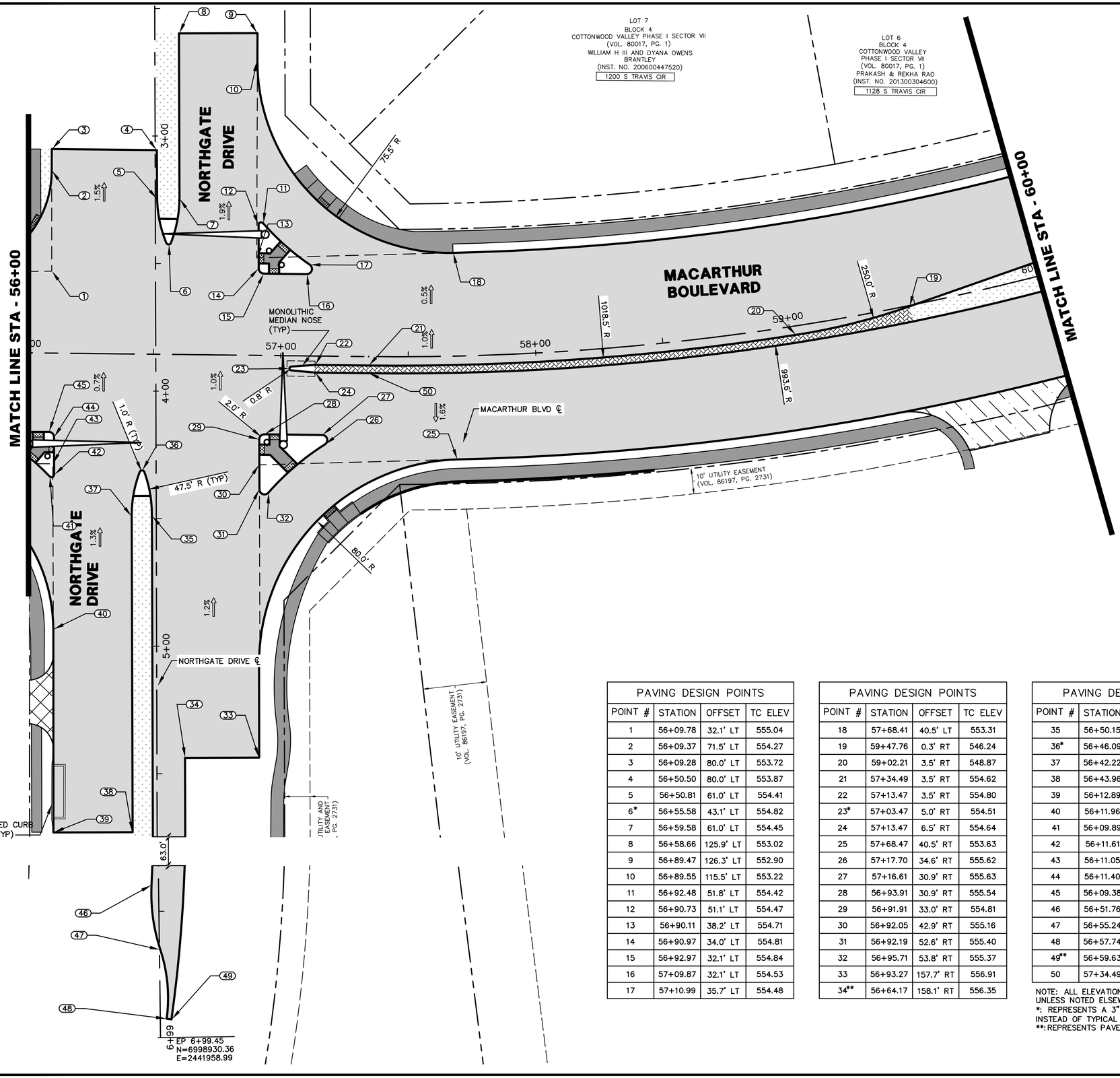

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	56+09.78	32.1' LT	555.04
2	56+09.37	71.5' LT	554.27
3	56+09.28	80.0' LT	553.72
4	56+50.50	80.0' LT	553.87
5	56+50.81	61.0' LT	554.41
6*	56+55.58	43.1' LT	554.82
7	56+59.58	61.0' LT	554.45
8	56+58.66	125.9' LT	553.02
9	56+89.47	126.3' LT	552.90
10	56+89.55	115.5' LT	553.22
11	56+92.48	51.8' LT	554.42
12	56+90.73	51.1' LT	554.47
13	56+90.11	38.2' LT	554.71
14	56+90.97	34.0' LT	554.81
15	56+92.97	32.1' LT	554.84
16	57+09.87	32.1' LT	554.53
17	57+10.99	35.7' LT	554.48

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
18	57+68.41	40.5' LT	553.31
19	59+47.76	0.3' RT	546.24
20	59+02.21	3.5' RT	548.87
21	57+34.49	3.5' RT	554.62
22	57+13.47	3.5' RT	554.80
23*	57+03.47	5.0' RT	554.51
24	57+13.47	6.5' RT	554.64
25	57+68.47	40.5' RT	553.63
26	57+17.70	34.6' RT	555.62
27	57+16.61	30.9' RT	555.63
28	56+93.91	30.9' RT	555.54
29	56+91.91	33.0' RT	554.81
30	56+92.05	42.9' RT	555.16
31	56+92.19	52.6' RT	555.40
32	56+95.71	53.8' RT	555.37
33	56+93.27	157.7' RT	556.91
34**	56+64.17	158.1' RT	556.35

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
35	56+50.15	63.5' RT	555.73
36*	56+46.09	45.6' RT	555.03
37	56+42.22	63.6' RT	555.76
38	56+43.96	187.5' RT	556.82
39	56+12.89	187.9' RT	556.96
40	56+11.96	108.3' RT	556.03
41	56+09.89	48.4' RT	555.63
42	56+11.61	47.7' RT	555.64
43	56+11.05	43.4' RT	555.63
44	56+11.40	32.9' RT	555.54
45	56+09.38	30.9' RT	555.53
46	56+51.76	254.1' RT	557.72
47	56+55.24	279.5' RT	558.04
48	56+57.74	306.5' RT	558.36
49**	56+59.63	306.8' RT	557.94
50	57+34.49	6.5' RT	554.37

NOTE: ALL ELEVATIONS ARE TOP OF CURB UNLESS NOTED ELSEWHERE
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**: REPRESENTS PAVEMENT ELEVATION

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0 10 20 40 60
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- PROPOSED MEDIAN GRASS
- PROPOSED ADA TRUNCATED DOMES
- PROPOSED 8'X14' BUS PADS (TYP.)

REV	DATE	BY	REVISIONS:
1	XX/XXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 68

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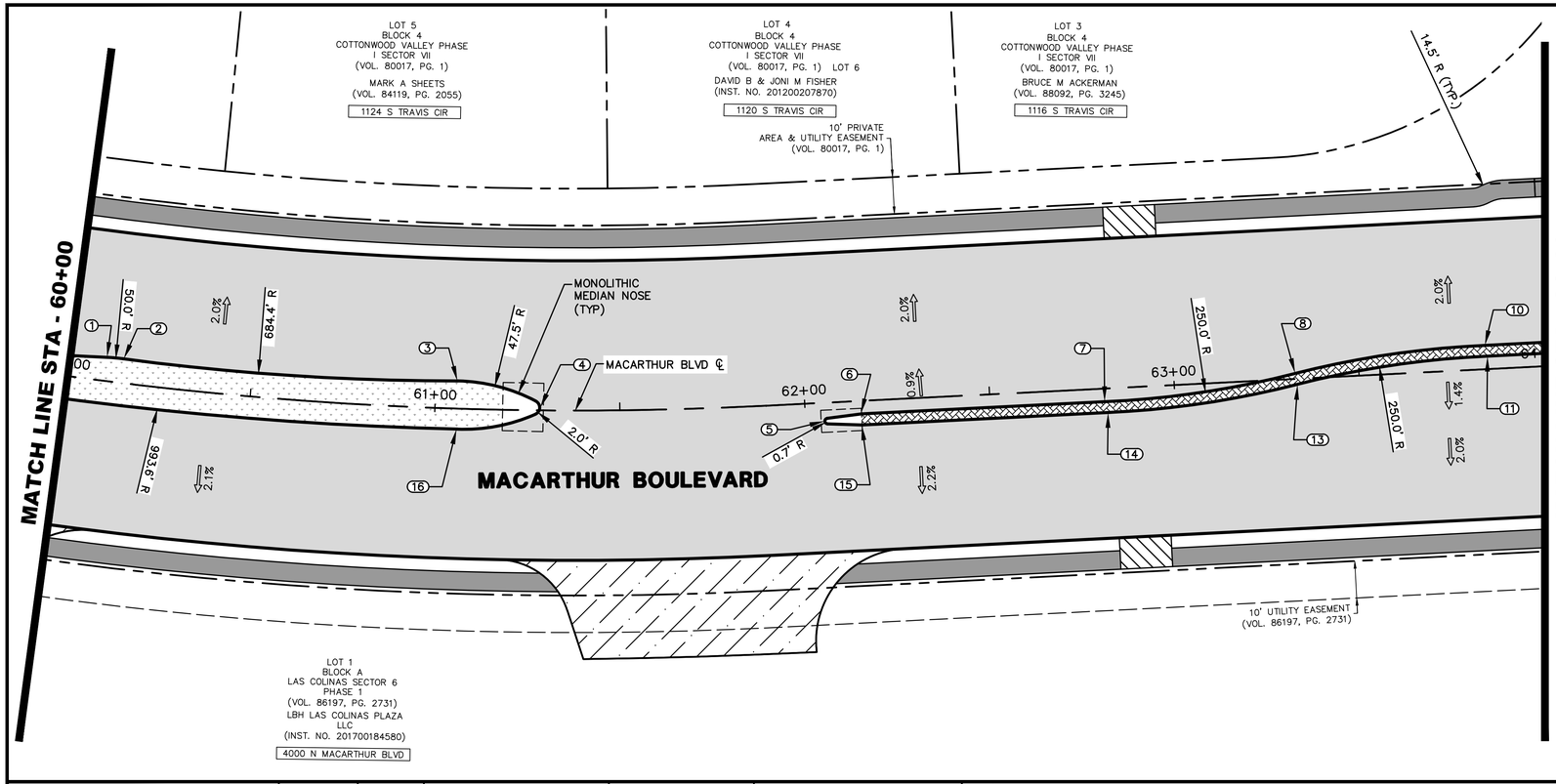

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
1	60+10.51	6.4' LT	542.25
2	60+14.70	6.5' LT	541.97
3	61+06.02	7.5' LT	535.46
4*	61+28.33	0.7' LT	534.53
5*	62+05.21	5.0' RT	529.50
6	62+15.21	3.5' RT	528.88
7	62+81.09	3.5' RT	524.53
8	63+32.65	1.4' LT	521.09
10	63+84.20	6.4' LT	517.65
11	63+84.80	3.5' LT	517.48
13	63+33.16	1.5' RT	520.85
14	62+81.60	6.5' RT	524.21
15	62+15.21	6.5' RT	528.71
16	61+06.14	5.5' RT	535.85

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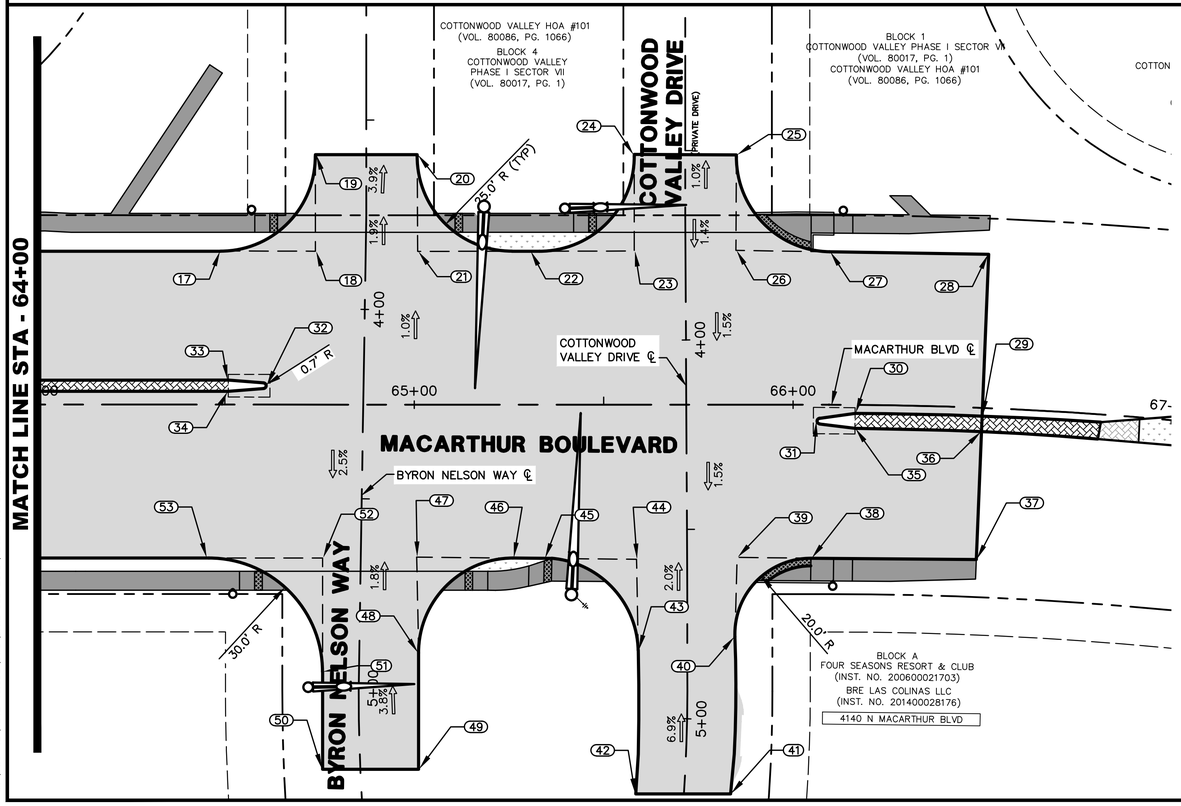

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
17	64+48.90	40.5' LT	513.00
18	64+73.90	40.5' LT	511.62
19	64+73.90	66.0' LT	510.53
20	65+00.76	66.0' LT	509.72
21	65+00.88	40.5' LT	510.31
22	65+30.55	40.5' LT	509.03
23	65+58.07	40.6' LT	507.99
24	65+58.07	65.9' LT	507.48
25	65+85.03	65.9' LT	506.83
26	65+84.90	40.7' LT	507.13
27	66+09.63	40.4' LT	506.45
28	66+50	40.6' LT	505.58
29	66+50	2.2' RT	504.72
30	66+16.38	2.3' RT	505.92
31*	66+06.35	4.3' RT	505.77
32*	64+60.91	5.0' LT	512.71
33	64+50.90	6.5' LT	513.51
34	64+50.90	3.5' LT	513.36
35	66+16.37	6.2' RT	505.77
36	66+50	6.3' RT	504.29
37	66+50	40.1' RT	502.96
38	66+04.78	40.5' RT	504.72
39	65+85.22	40.3' RT	505.56
40	65+84.64	61.3' RT	506.47
41	65+83.49	102.8' RT	509.26

PAVING DESIGN POINTS			
POINT #	STATION	OFFSET	TC ELEV
42	65+58.48	102.8' RT	510.07
43	65+59.13	64.8' RT	507.81
44	65+58.67	40.8' RT	506.75
45	65+34.38	40.6' RT	507.92
46	65+26.39	40.5' RT	508.39
47	65+00.64	40.3' RT	509.71
48	65+01.14	65.5' RT	510.42
49	65+01.14	96.3' RT	511.78
50	64+75.79	96.3' RT	512.64
51	64+75.79	70.5' RT	511.91
52	64+75.79	40.5' RT	511.06
53	64+45.34	40.5' RT	513.17

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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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DESIGN POINT LAYOUT
STA 60+00 TO STA END
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
69

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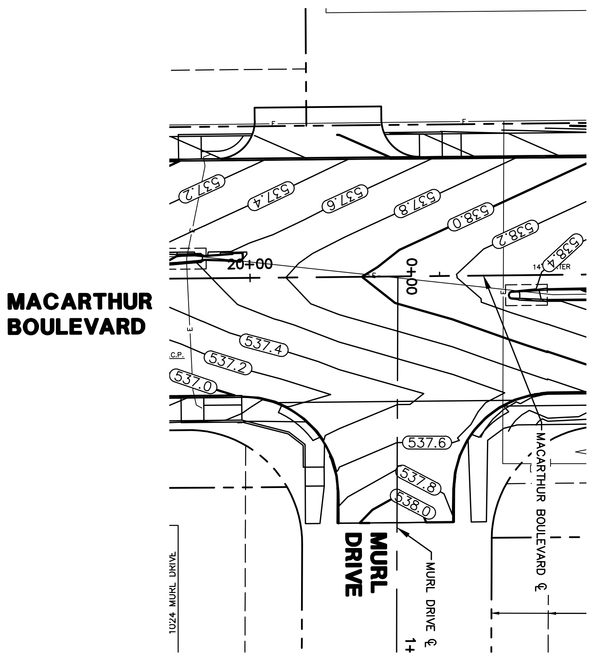

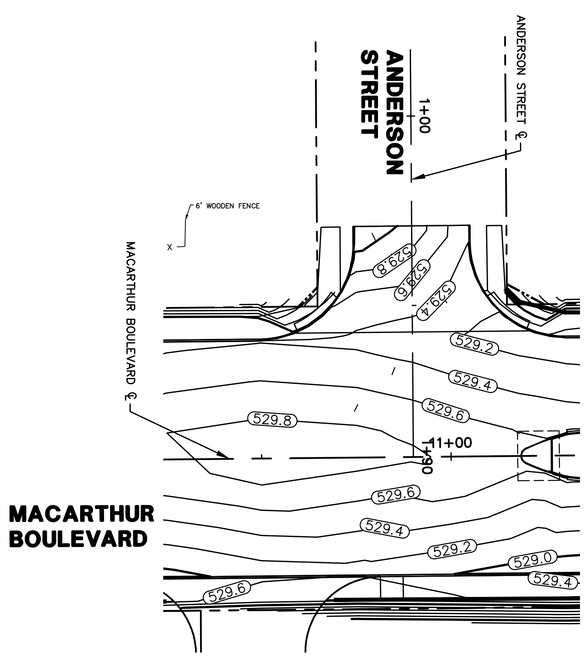

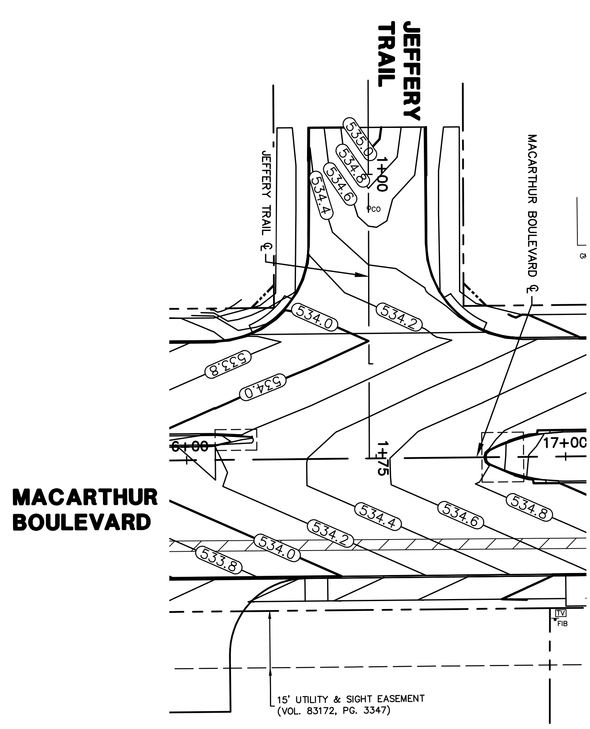

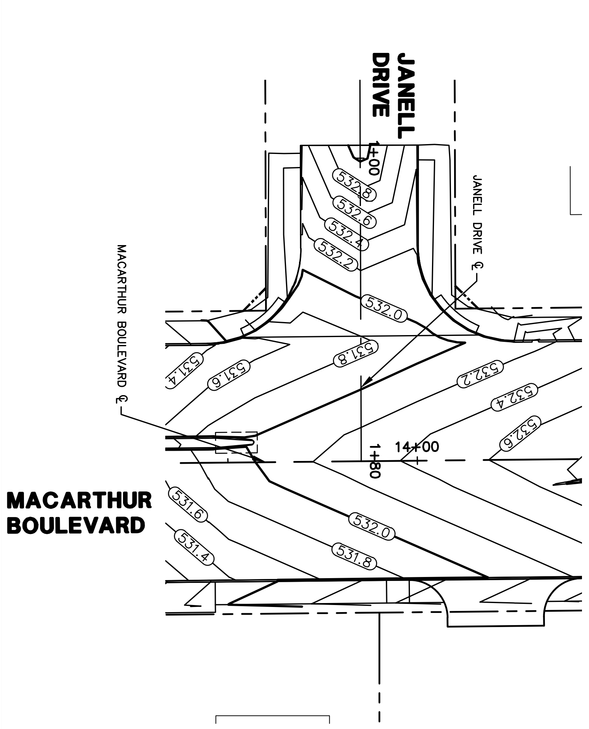



SHEET 70

INTERSECTION GRADING

MACARTHUR BOULEVARD
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

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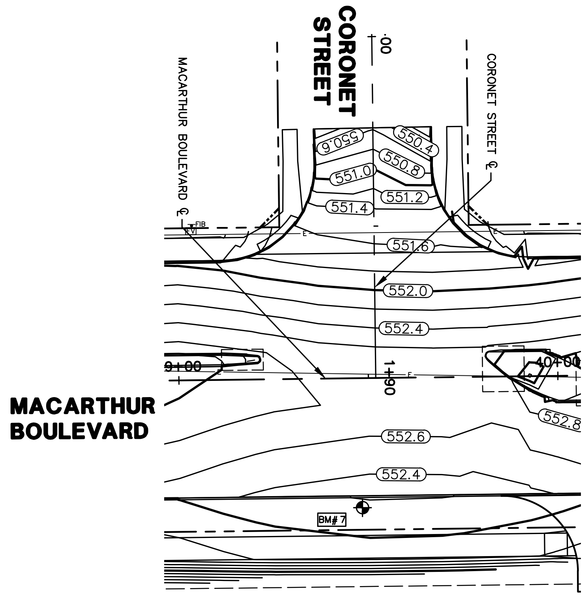
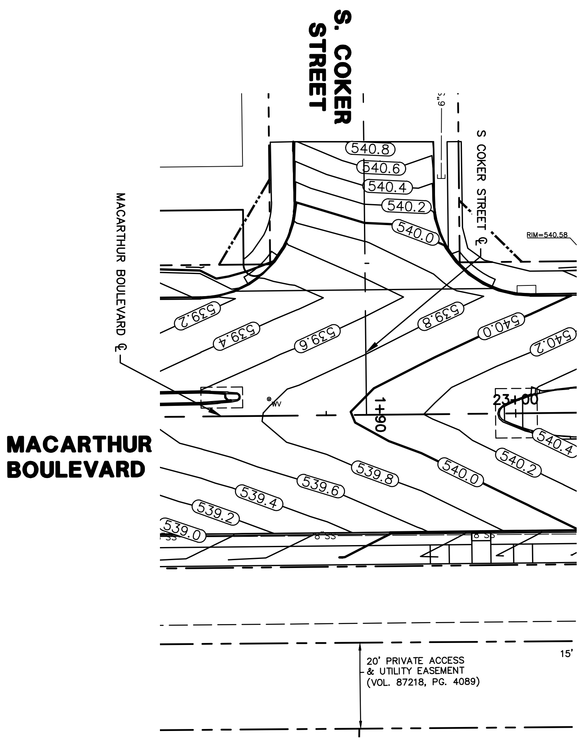
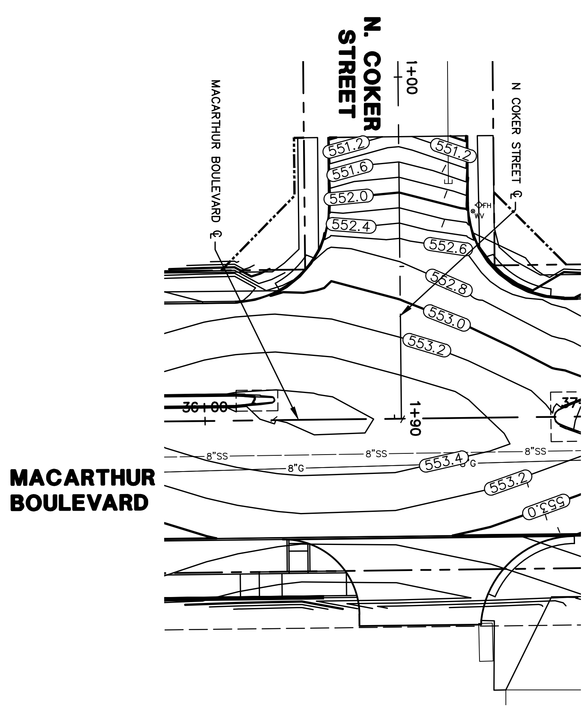
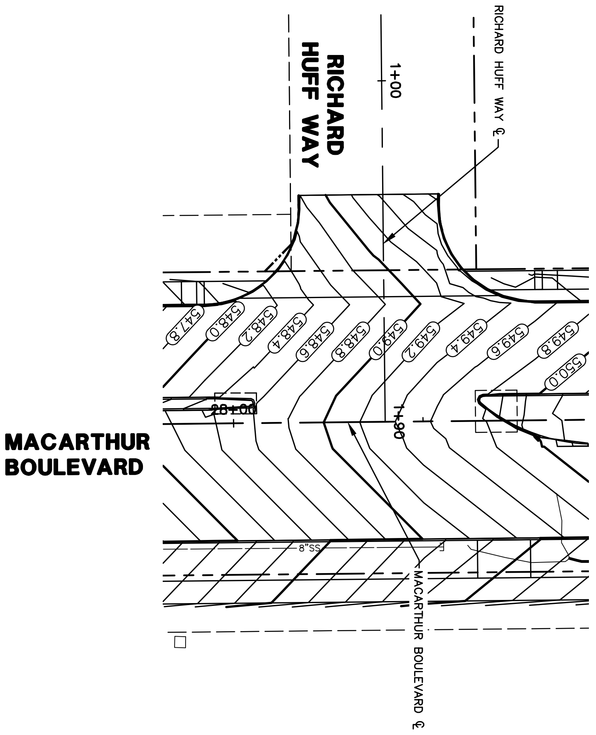
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH









MACARTHUR BOULEVARD

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HORIZONTAL SCALE IN FEET
0 10 20 40 60

SHEET 71

INTERSECTION GRADING

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FORT WORTH, TX 76109 817.412.7155
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STATE OF TEXAS · BRIAN D. O'NEIL · 83980 · LICENSED · PROFESSIONAL ENGINEER

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1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
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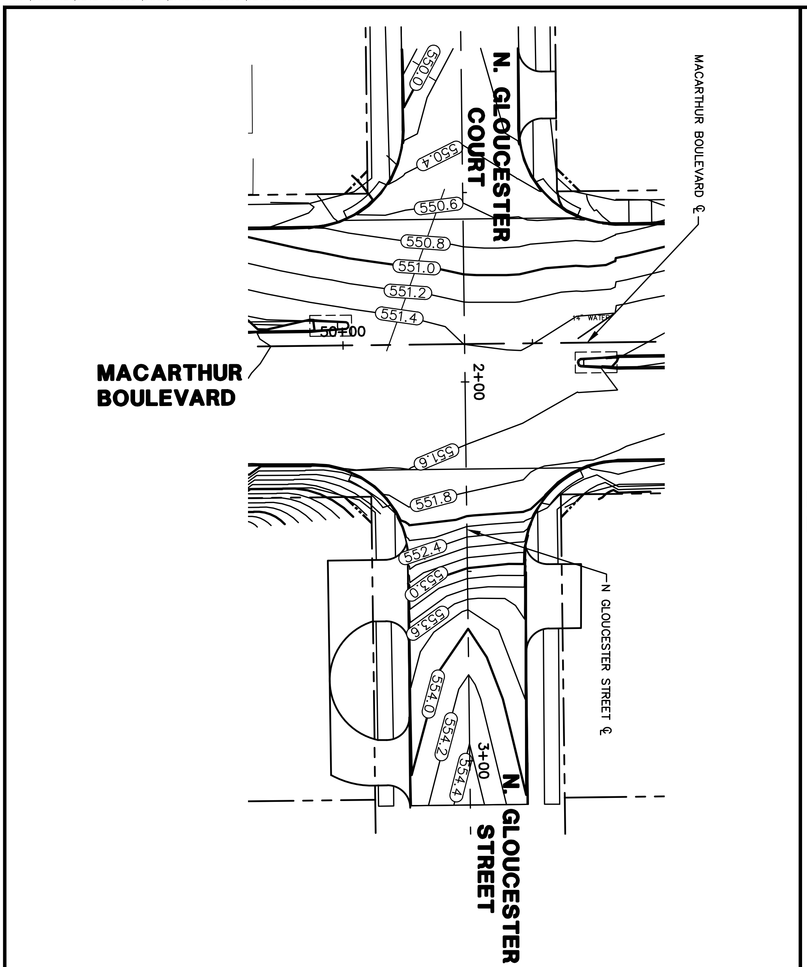
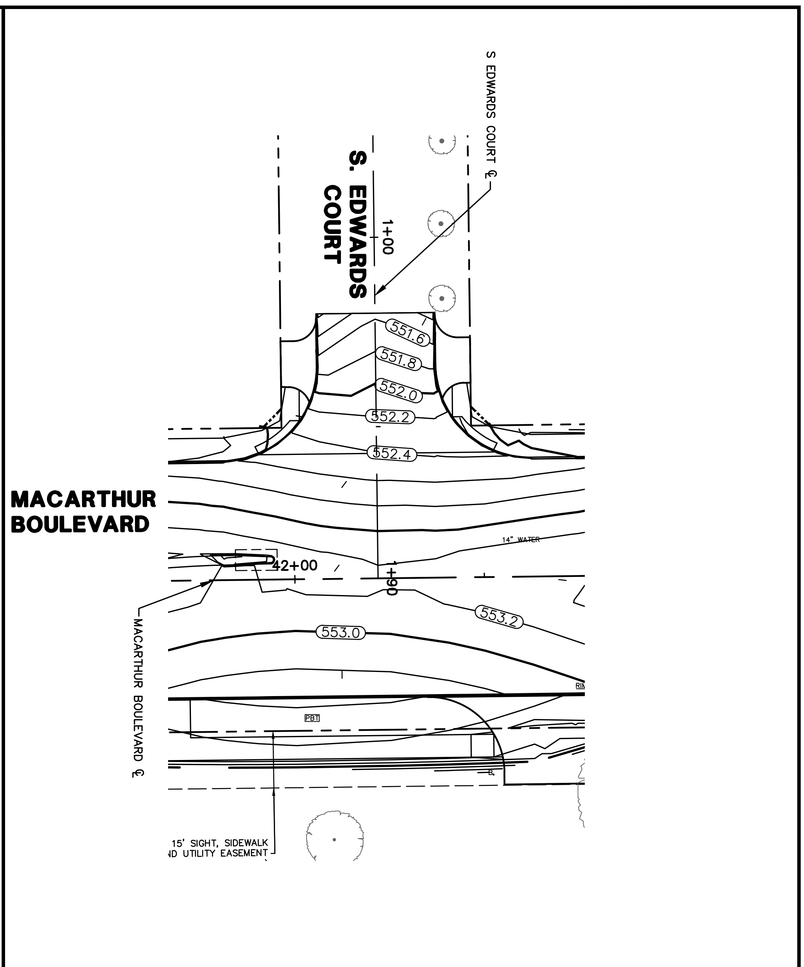
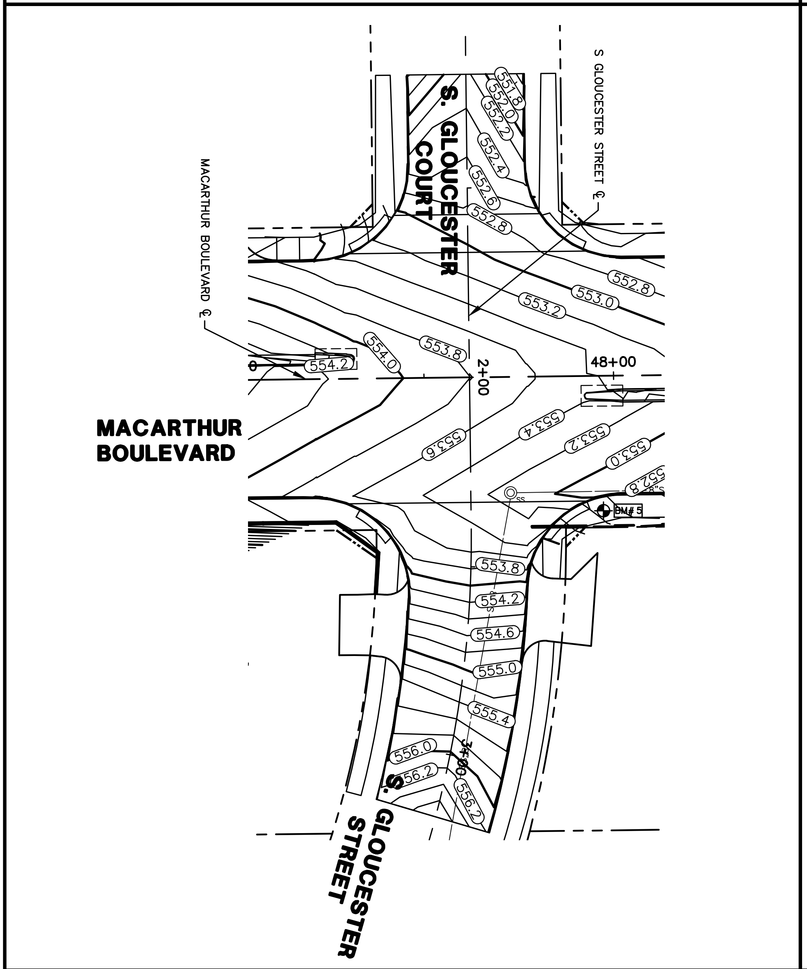
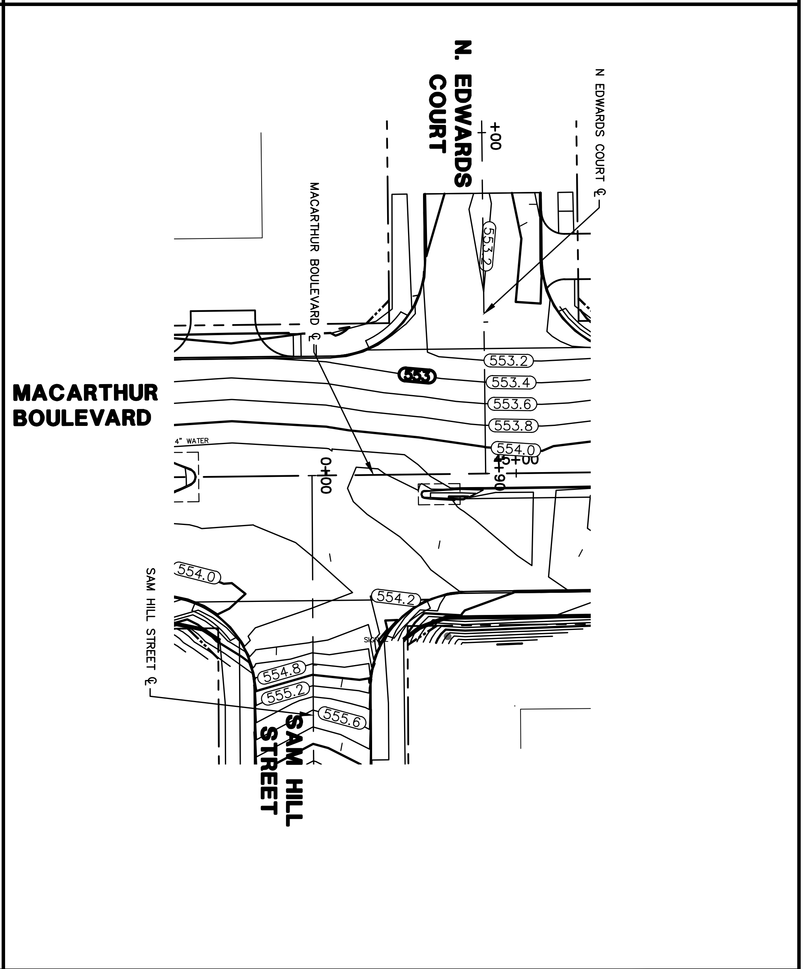
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH









HORIZONTAL SCALE IN FEET
0 10 20 40 60

SHEET 72

INTERSECTION GRADING

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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83980
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Pacheco Koch

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INTERSECTION GRADING
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CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
73

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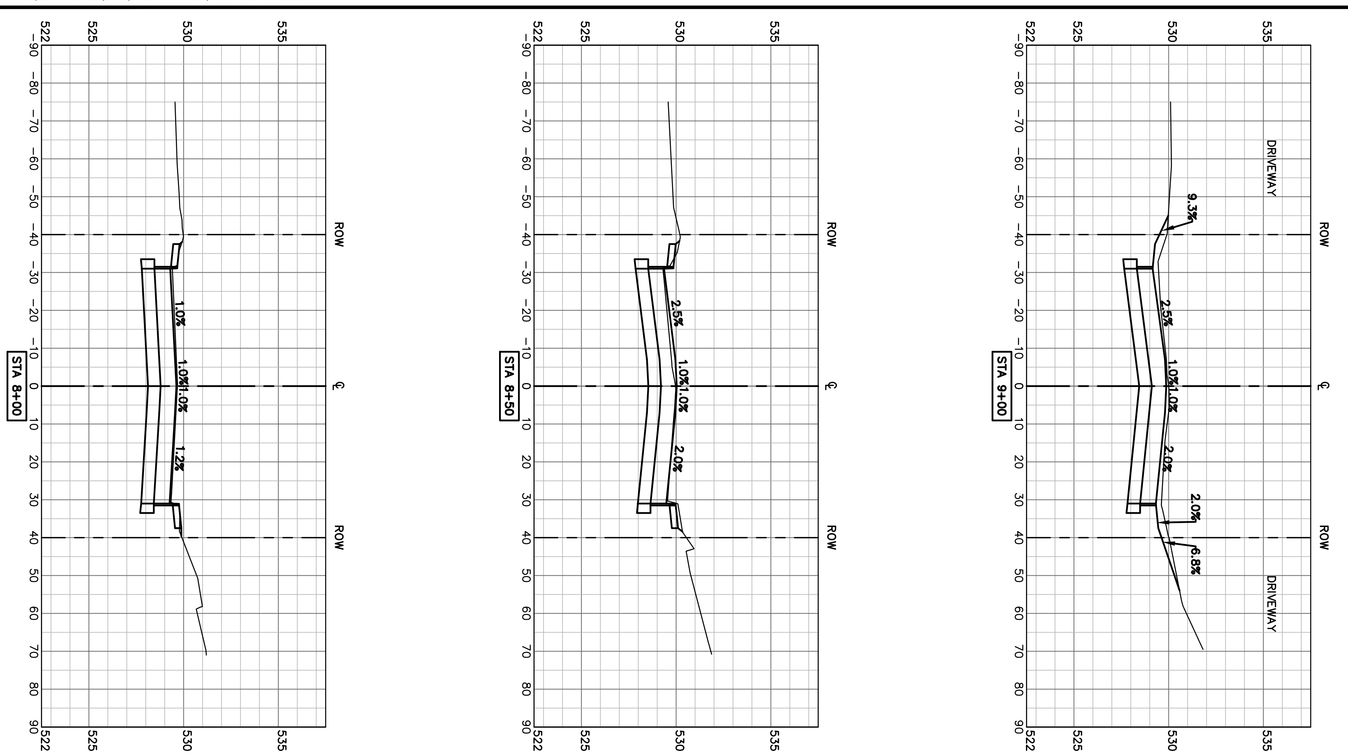

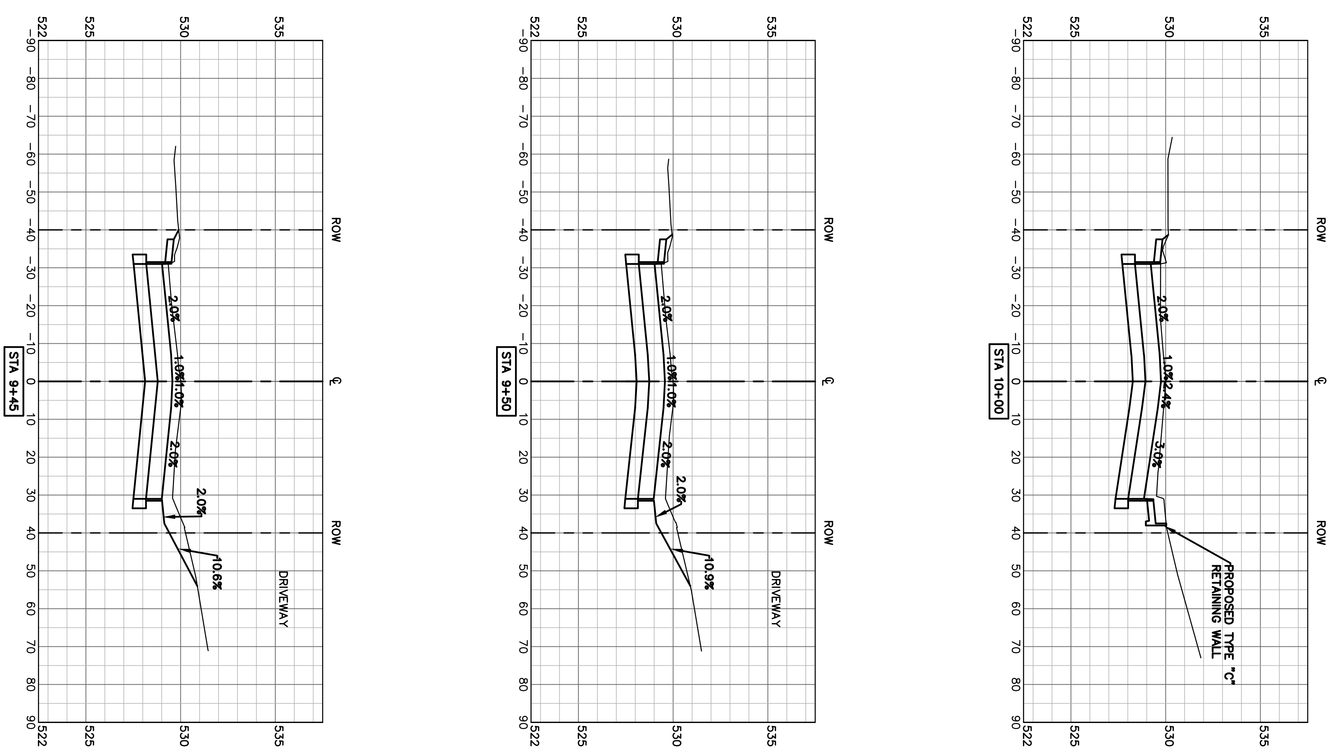

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 74

PAVING CROSS SECTIONS
STA 8+00 TO STA 10+00
MACARTHUR BOULEVARD
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CITY OF IRVING, DALLAS COUNTY, TEXAS

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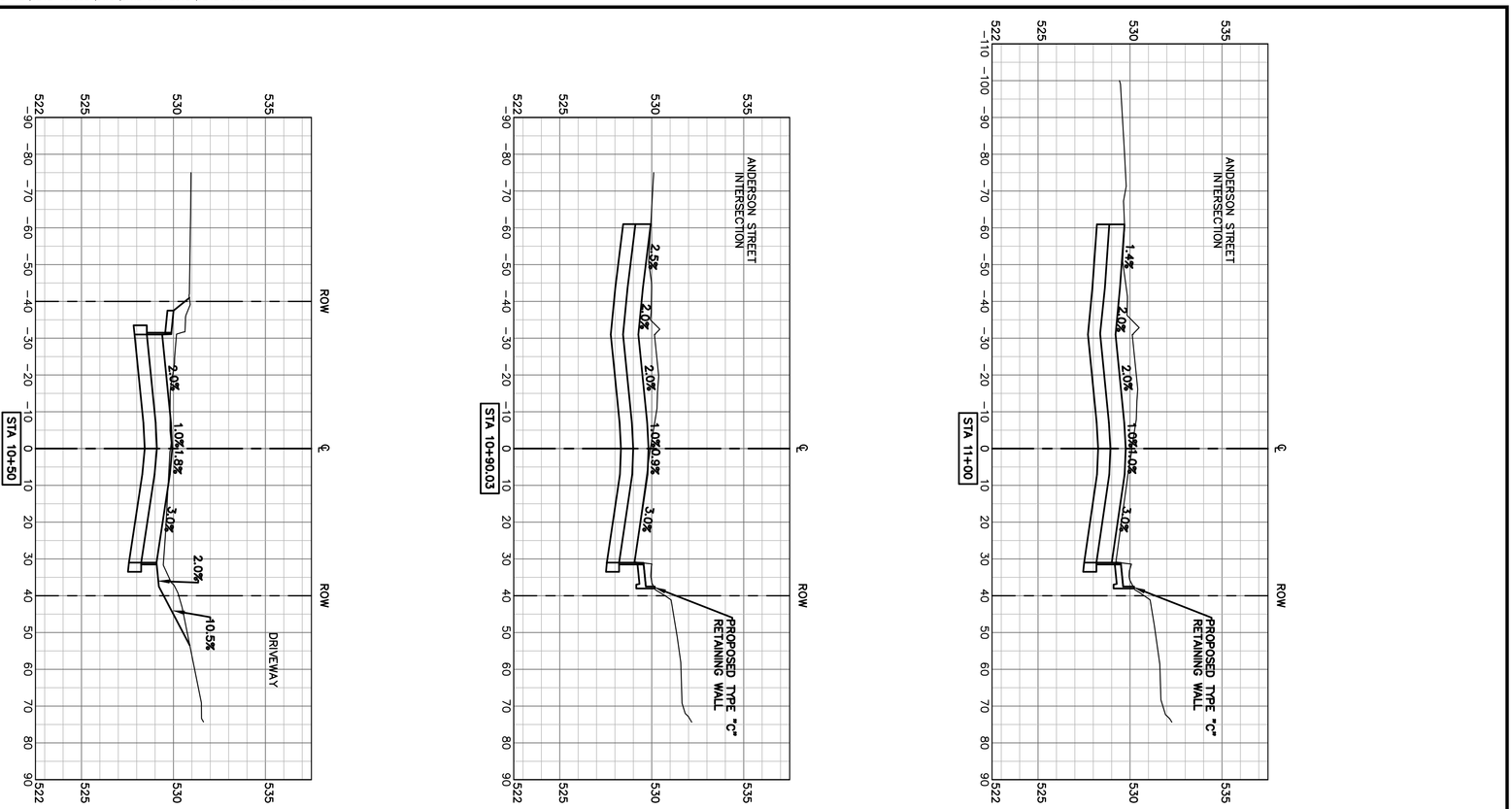

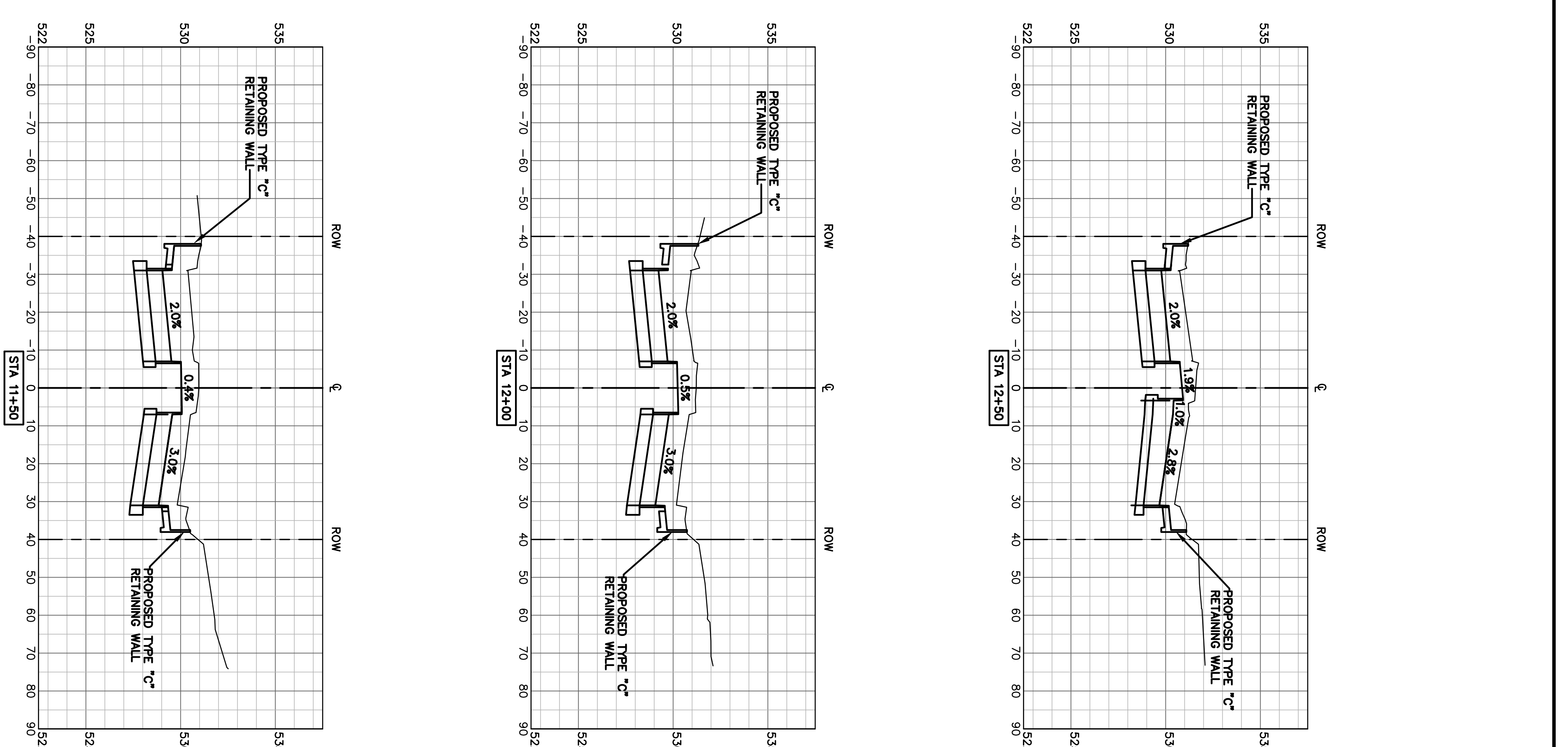

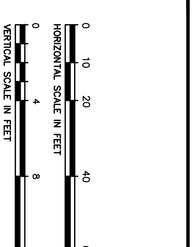

SHEET 75

PAVING CROSS SECTIONS
STA 10+50 TO STA 12+50
MACARTHUR BOULEVARD
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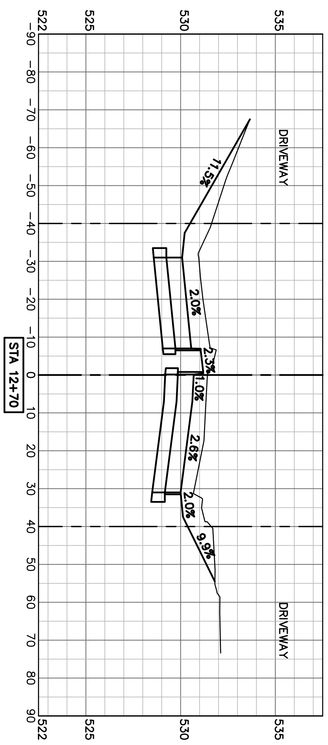

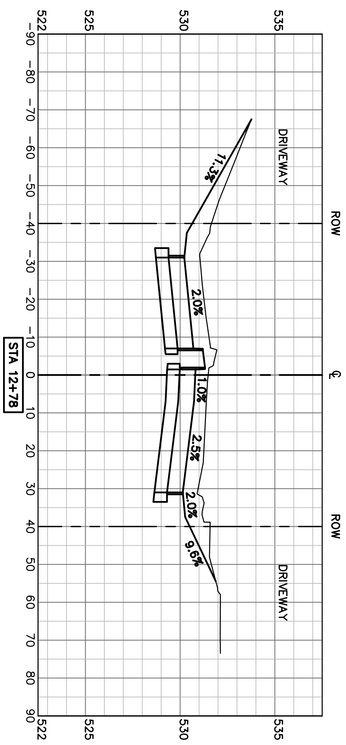

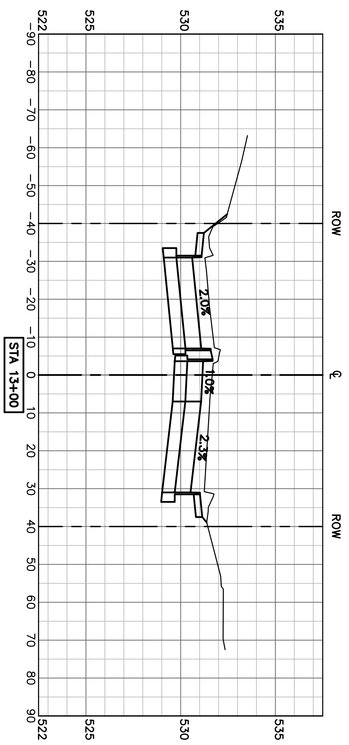

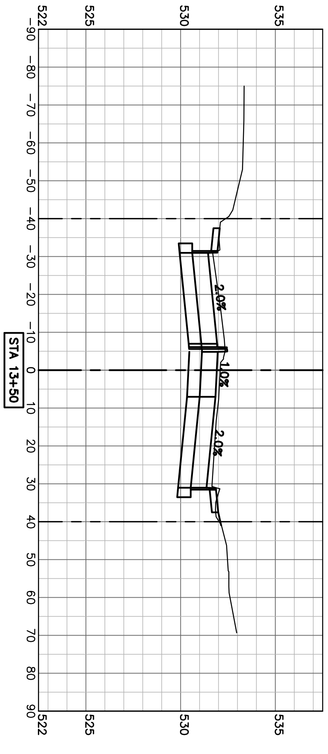

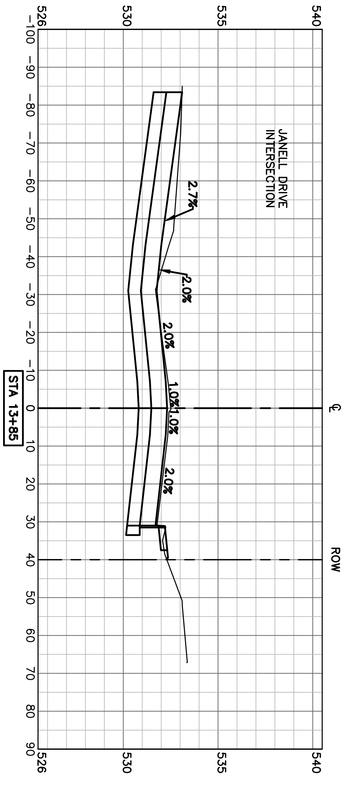

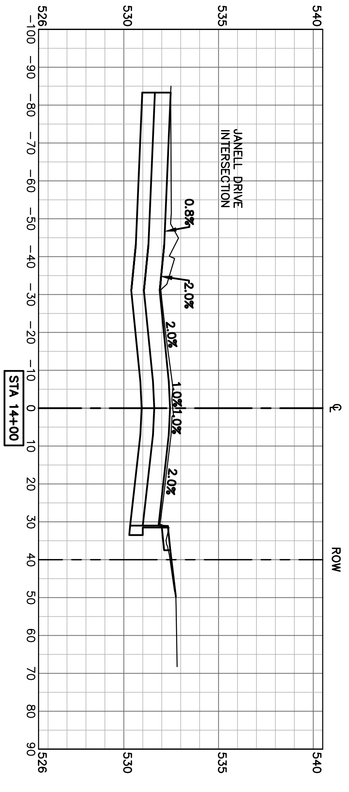

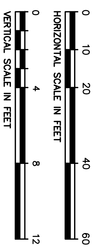

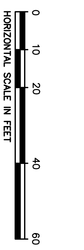

SHEET
76

PAVING CROSS SECTIONS
STA 12+70 TO STA 14+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS
BRIAN D. O'NEILL
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DRAWN BY: DRI
REVIEWED BY: CAB
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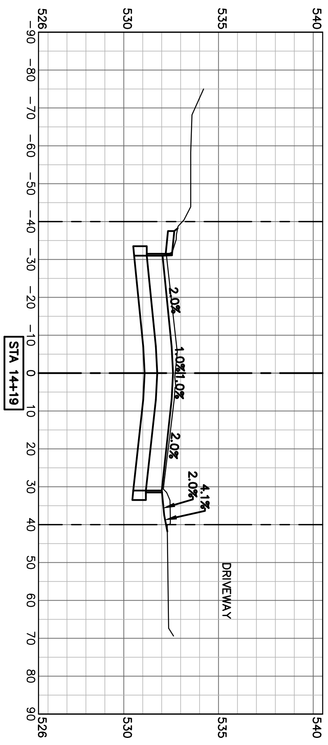

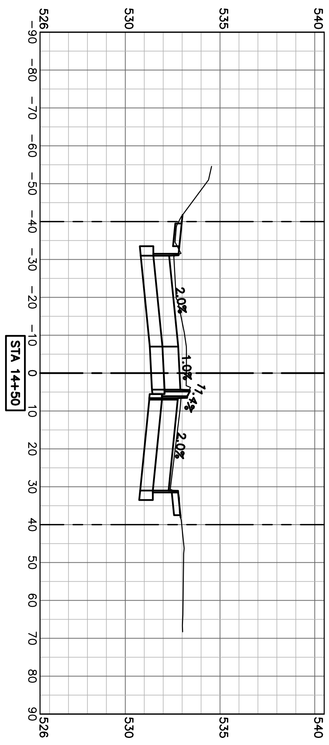

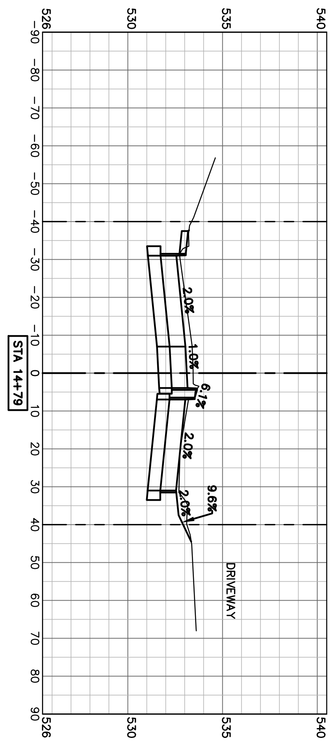

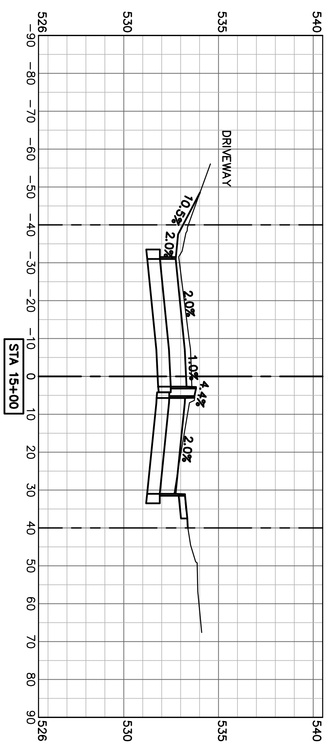

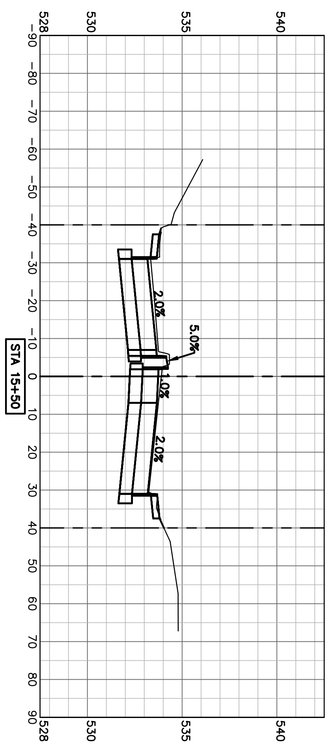

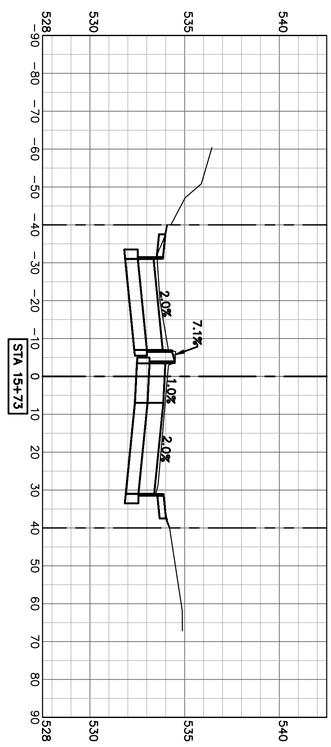

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 77

PAVING CROSS SECTIONS
STA 14+19 TO STA 15+73
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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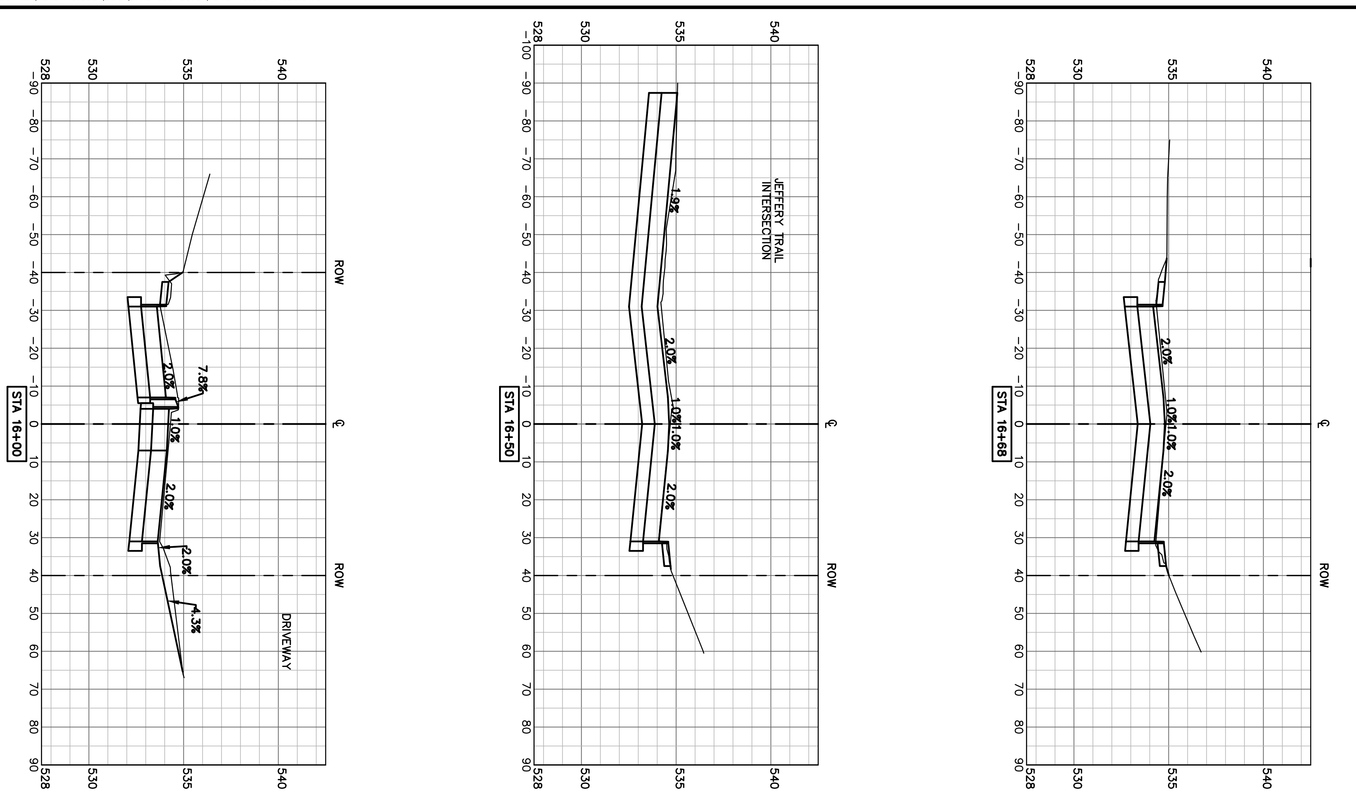

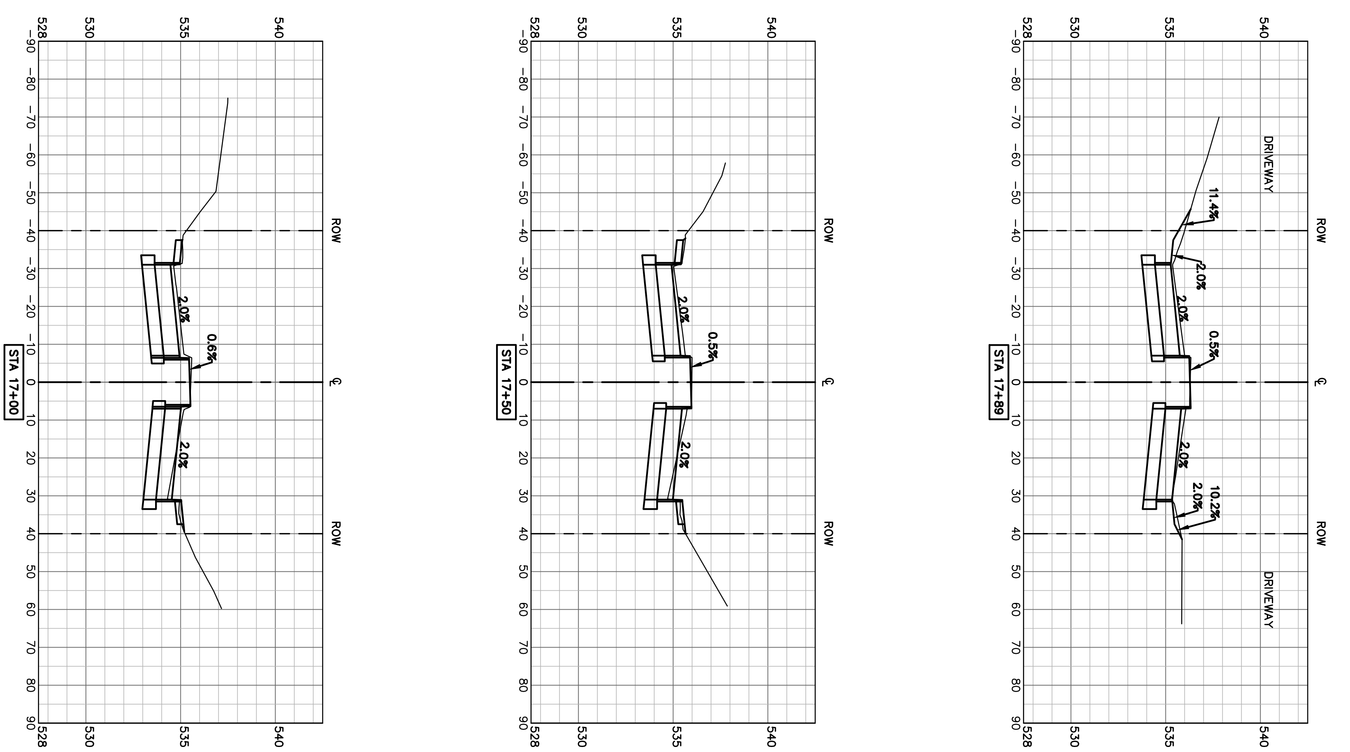

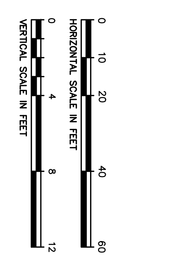

SHEET 78

PAVING CROSS SECTIONS
STA 16+00 TO STA 17+89
MACARTHUR BOULEVARD
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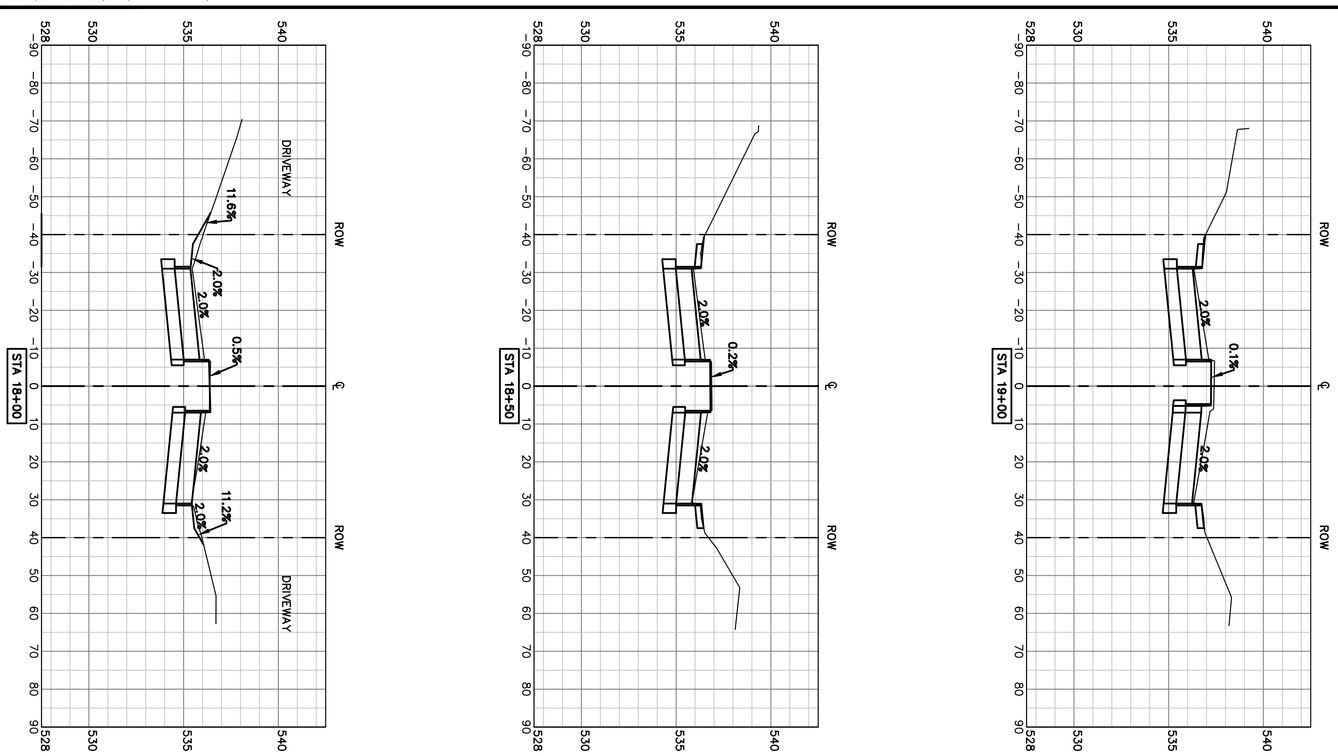

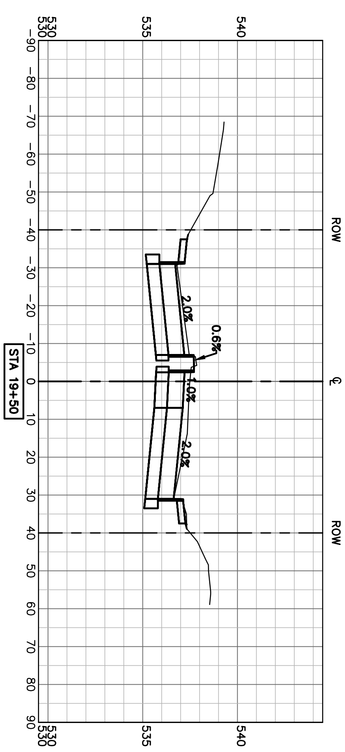

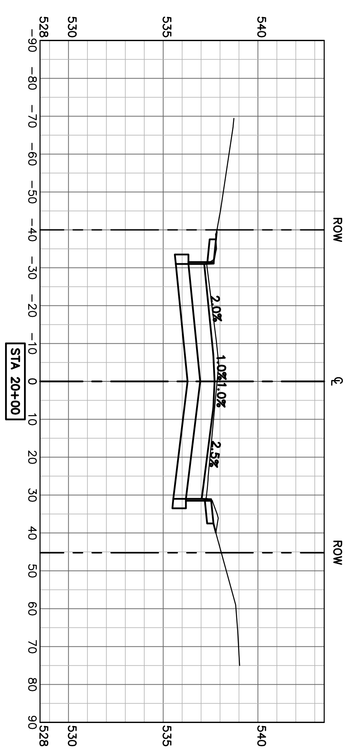

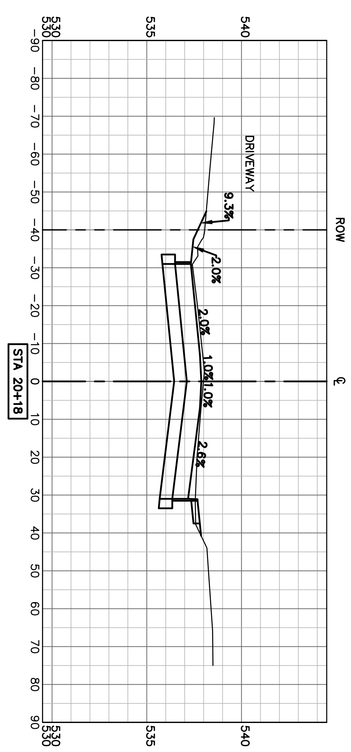

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 79

PAVING CROSS SECTIONS
STA 18+00 TO STA 20+18
MACARTHUR BOULEVARD
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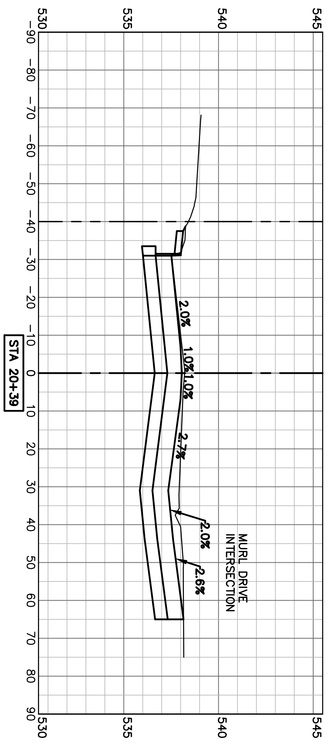

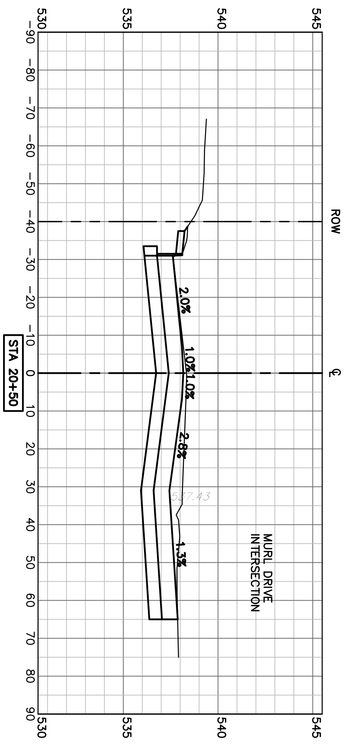

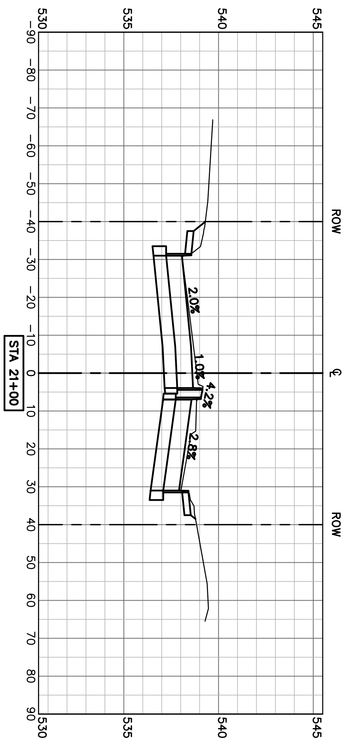

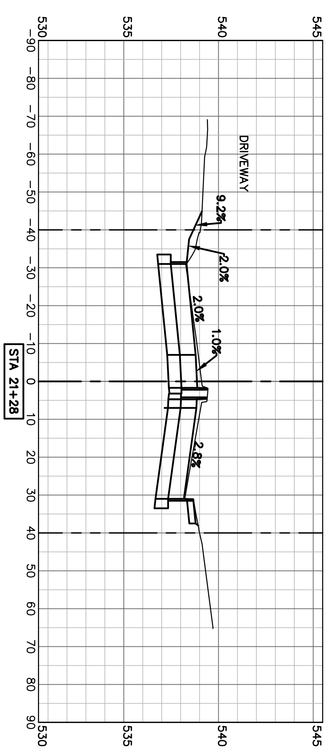

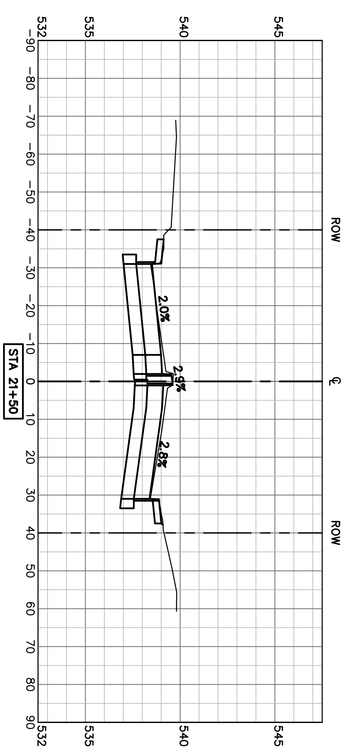

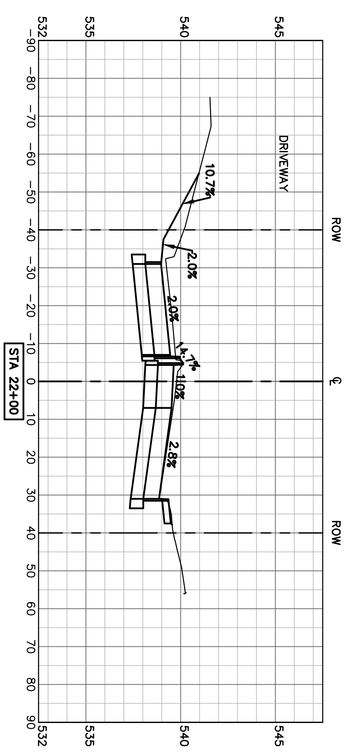

HORIZONTAL SCALE IN FEET
0 10 20 40 60

VERTICAL SCALE IN FEET
0 4 8 12

SHEET
80

PAVING CROSS SECTIONS
STA 20+39 TO STA 22+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

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DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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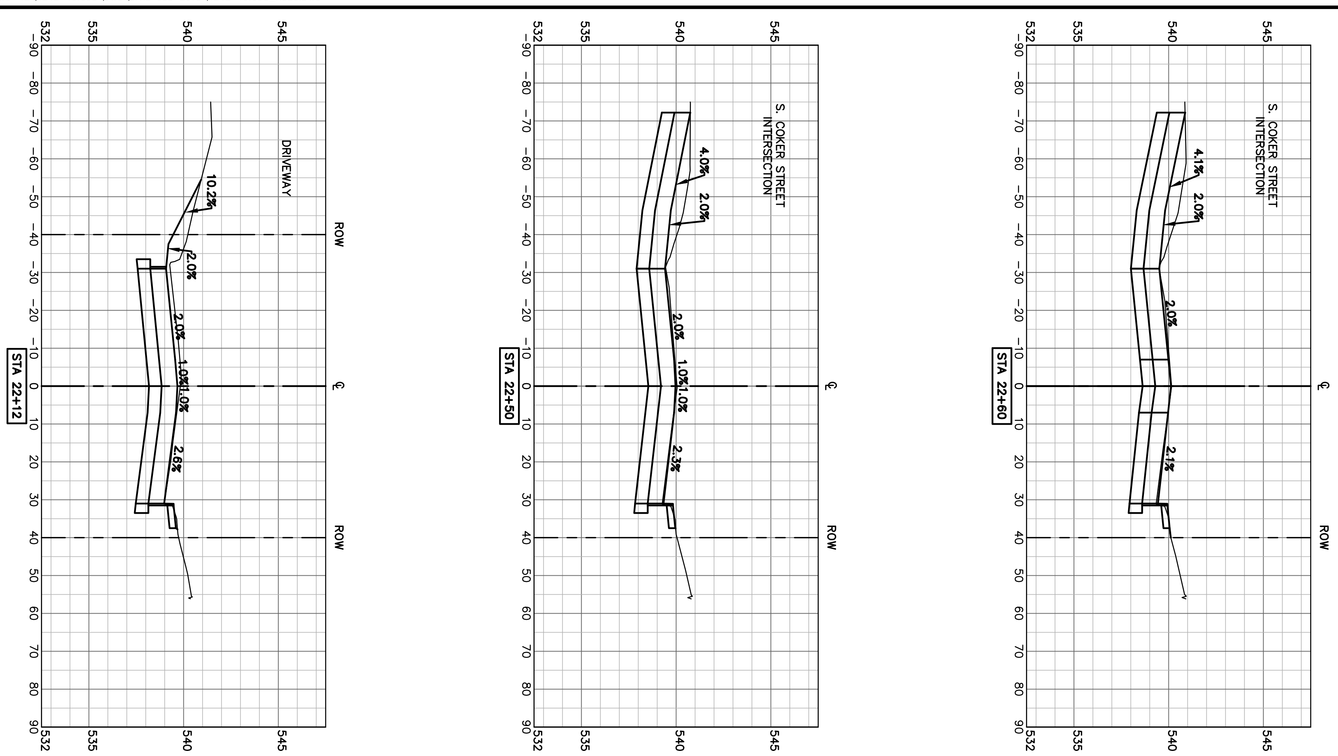

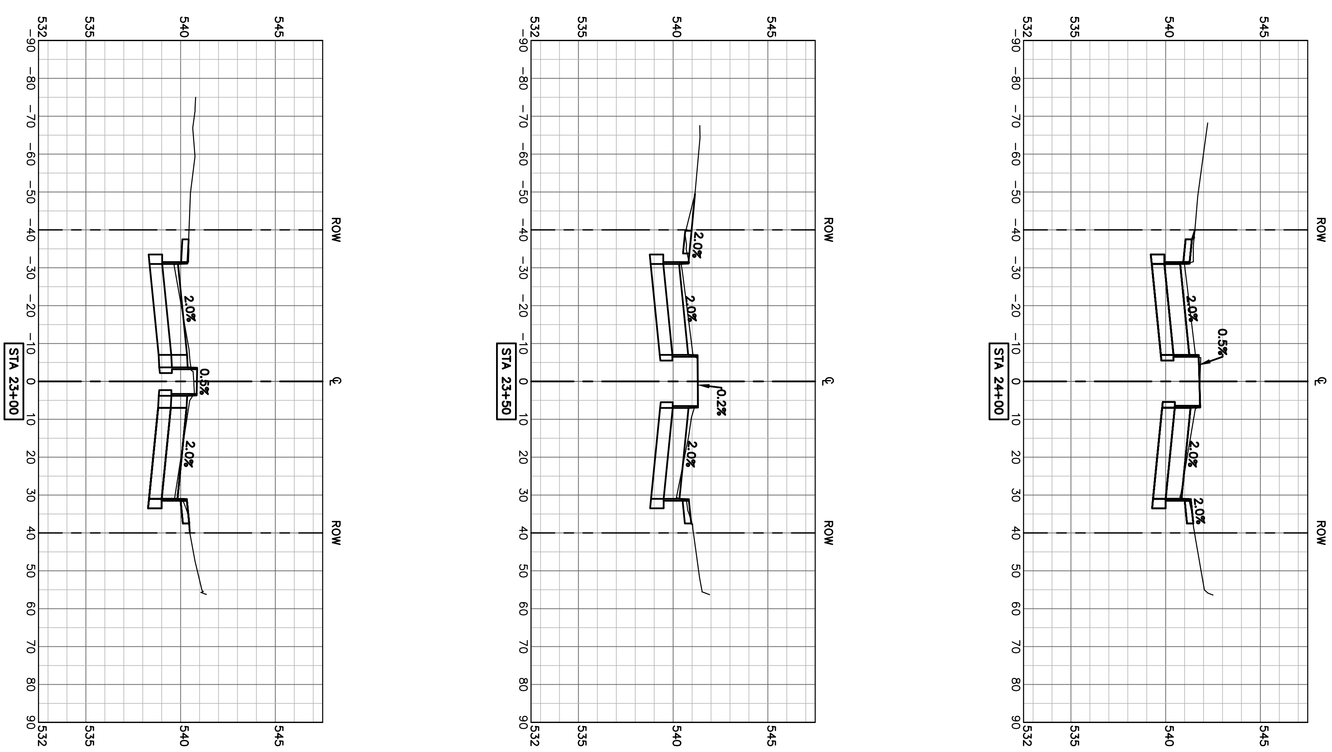

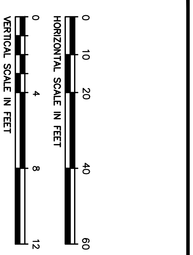

SHEET
81

PAVING CROSS SECTIONS
STA 22+12 TO STA 24+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
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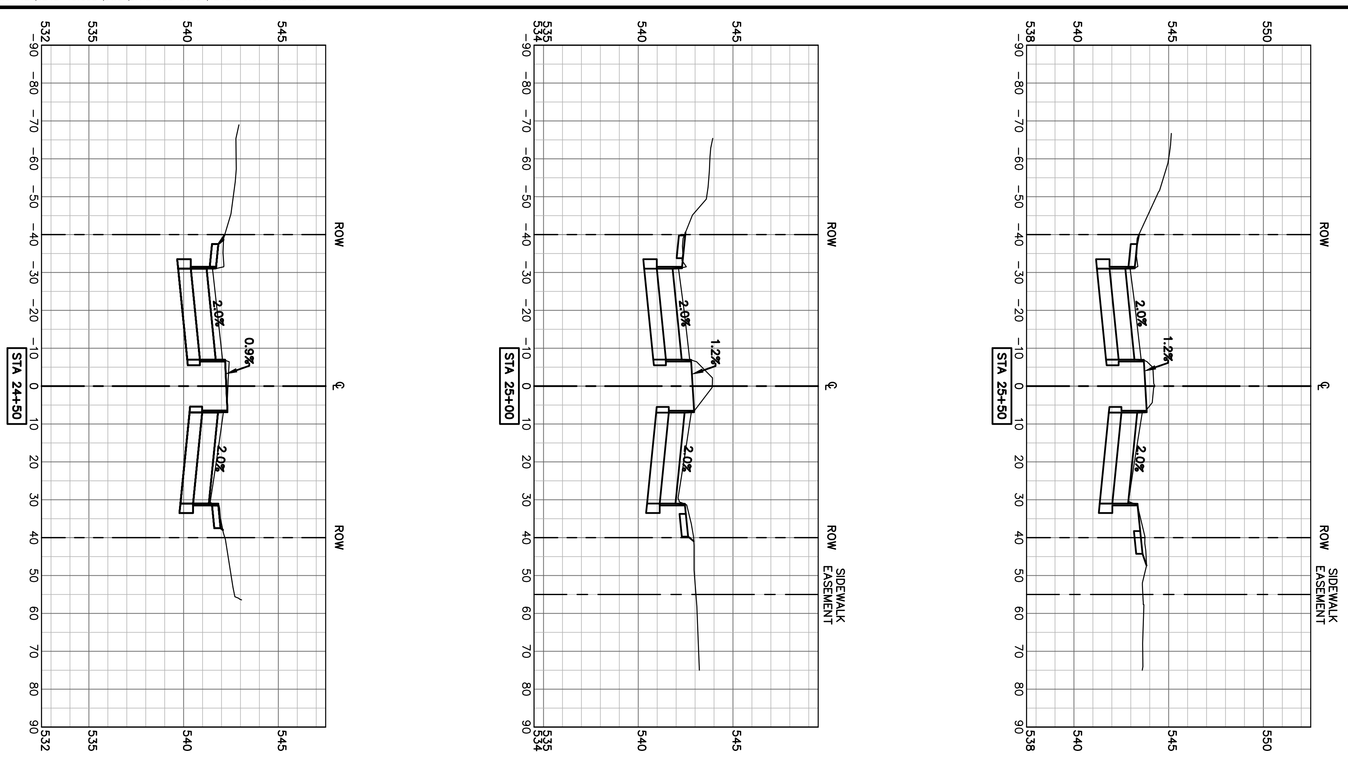

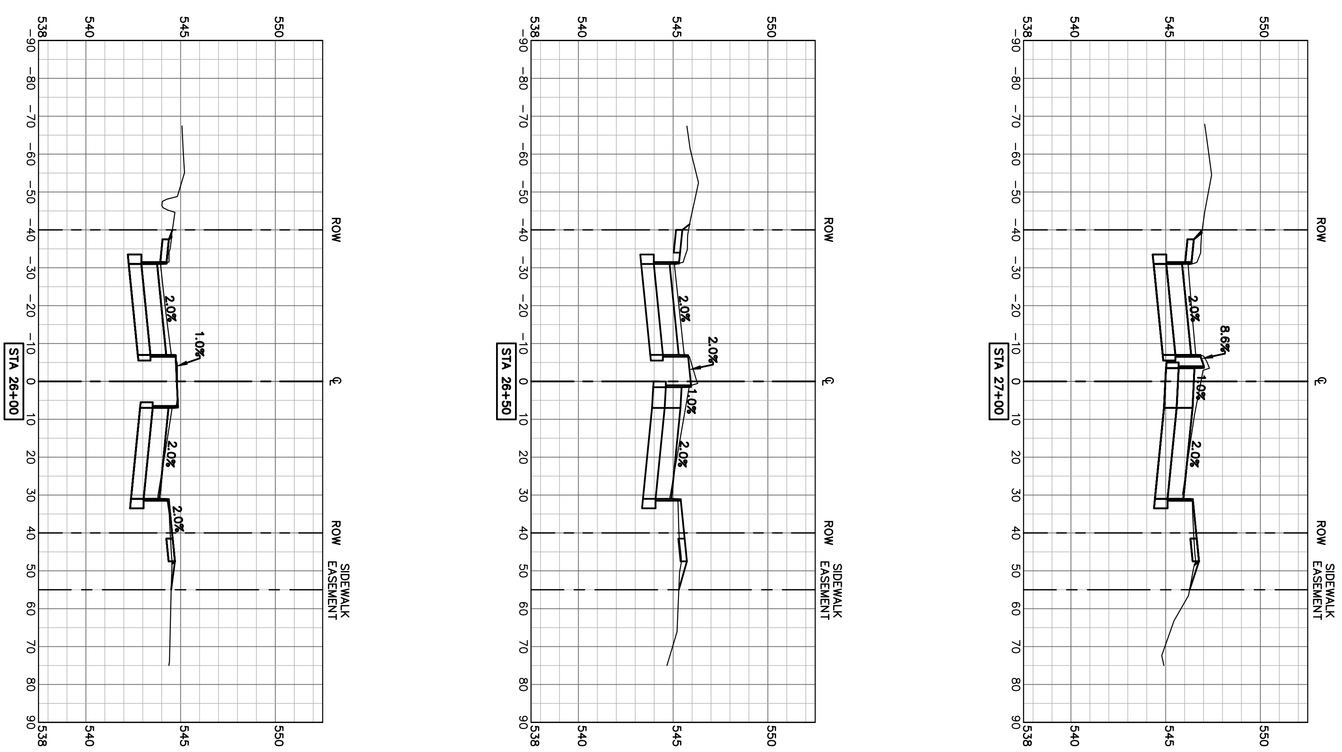

VERTICAL SCALE IN FEET: 0, 4, 8, 12
HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 82

PAVING CROSS SECTIONS
STA 24+50 TO STA 27+00
MACARTHUR BOULEVARD
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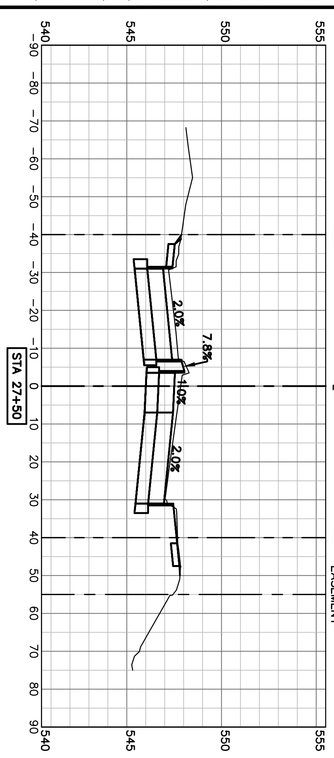

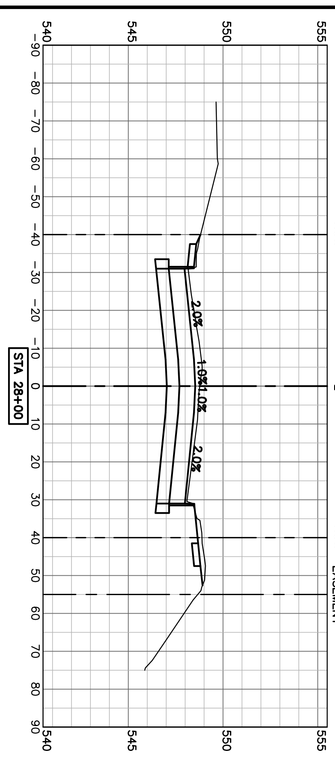

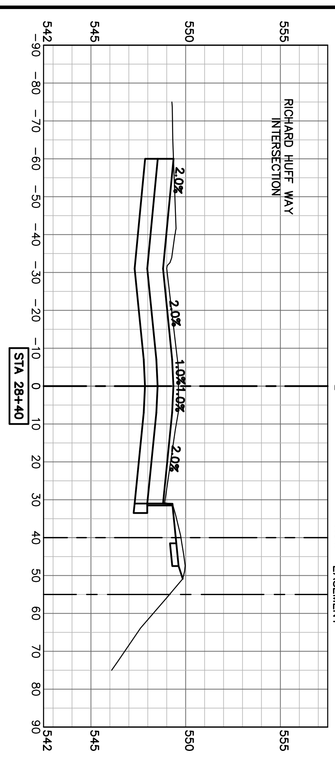

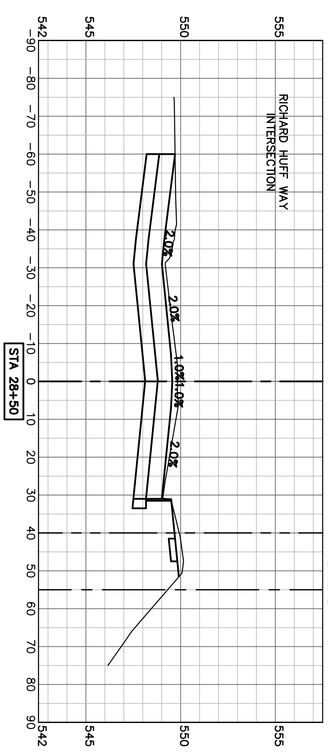

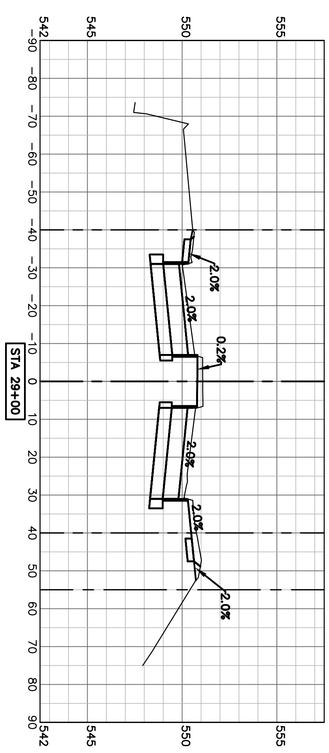

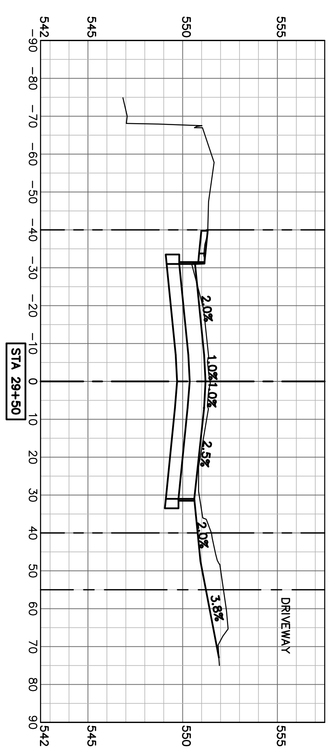

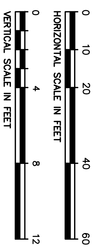

SHEET
83

PAVING CROSS SECTIONS
STA 27+50 TO STA 29+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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BRIAN D. O'NEILL
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LICENSED
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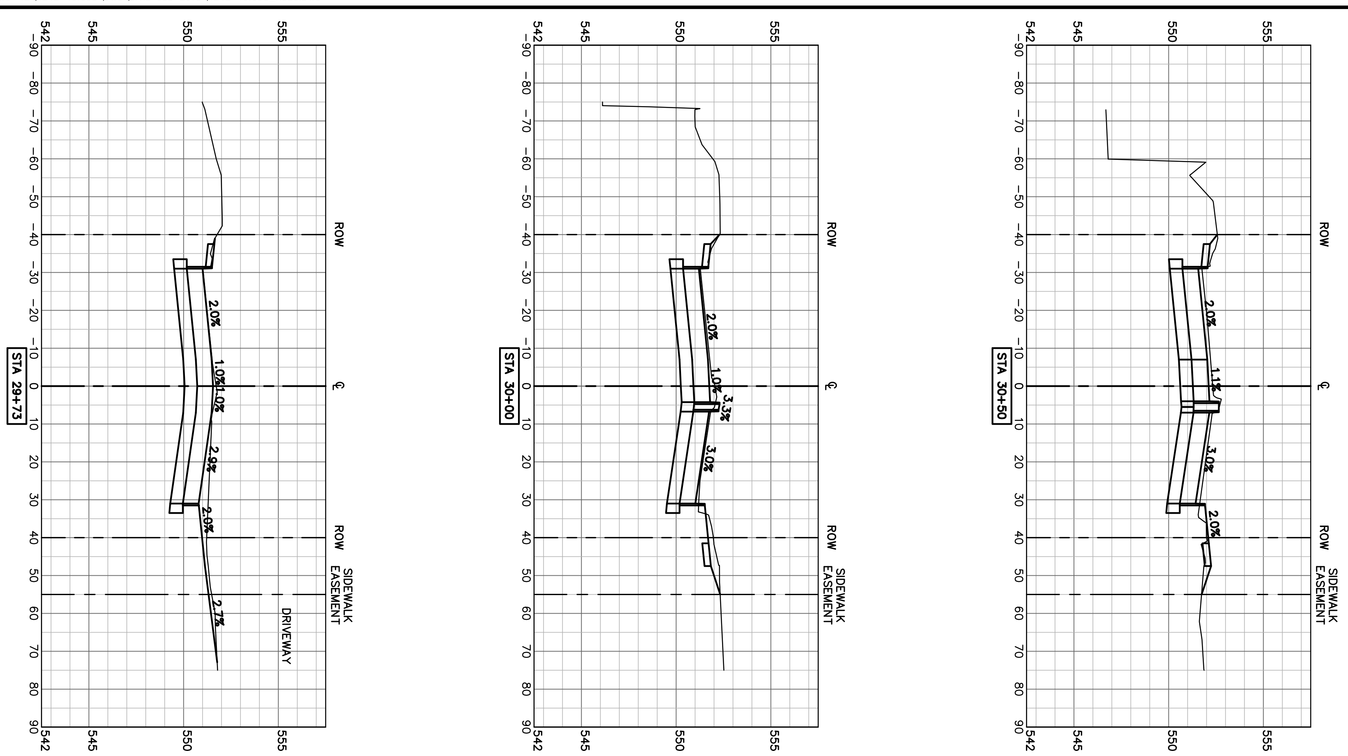

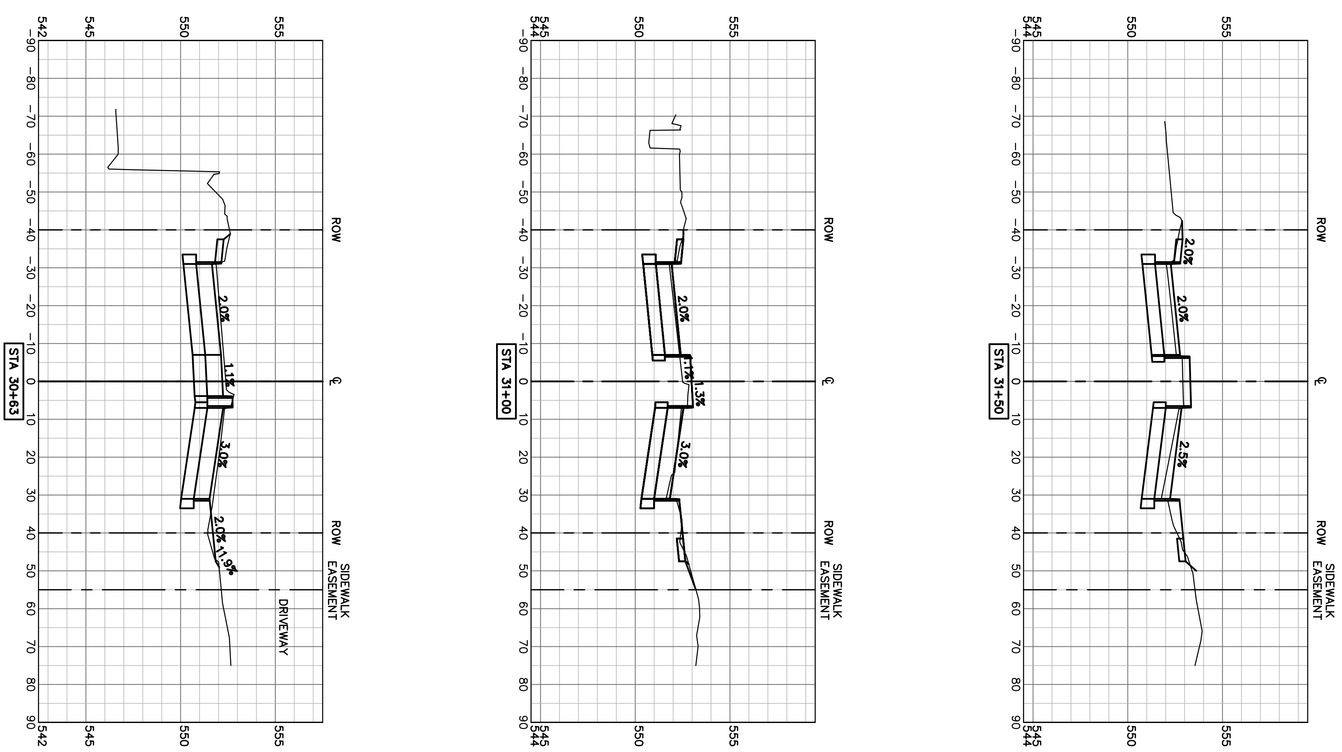

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 84

PAVING CROSS SECTIONS
STA 29+73 TO STA 31+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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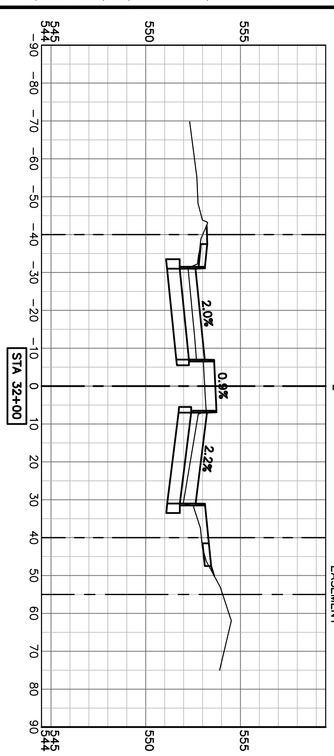

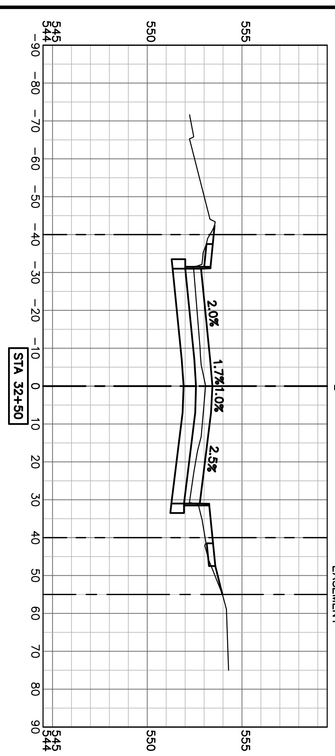

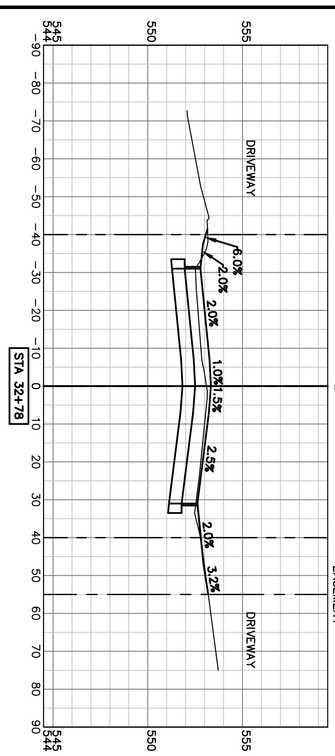

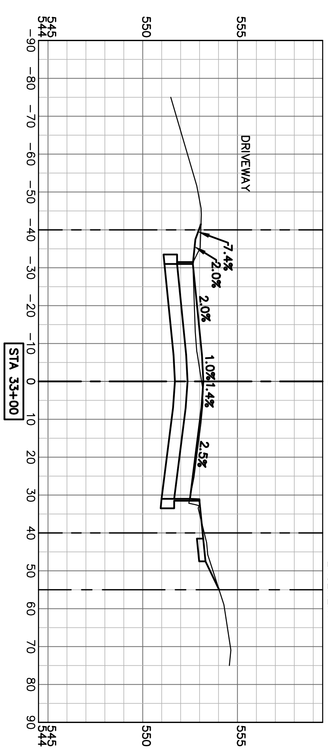

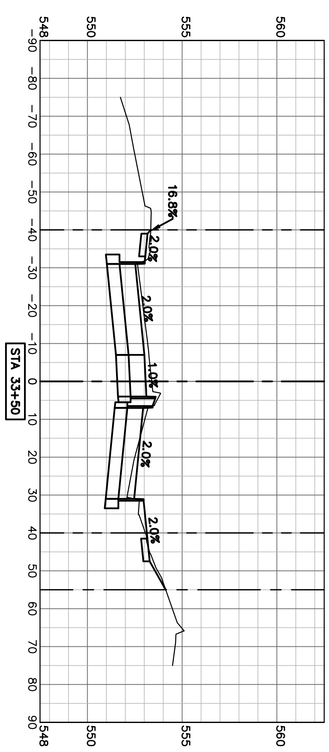

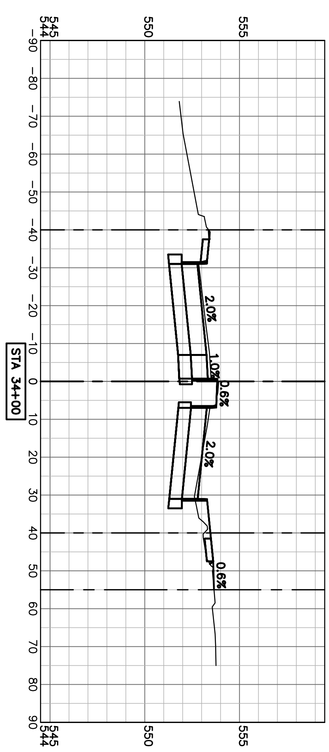

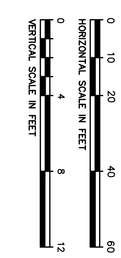

SHEET
85

PAVING CROSS SECTIONS
STA 32+00 TO STA 34+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
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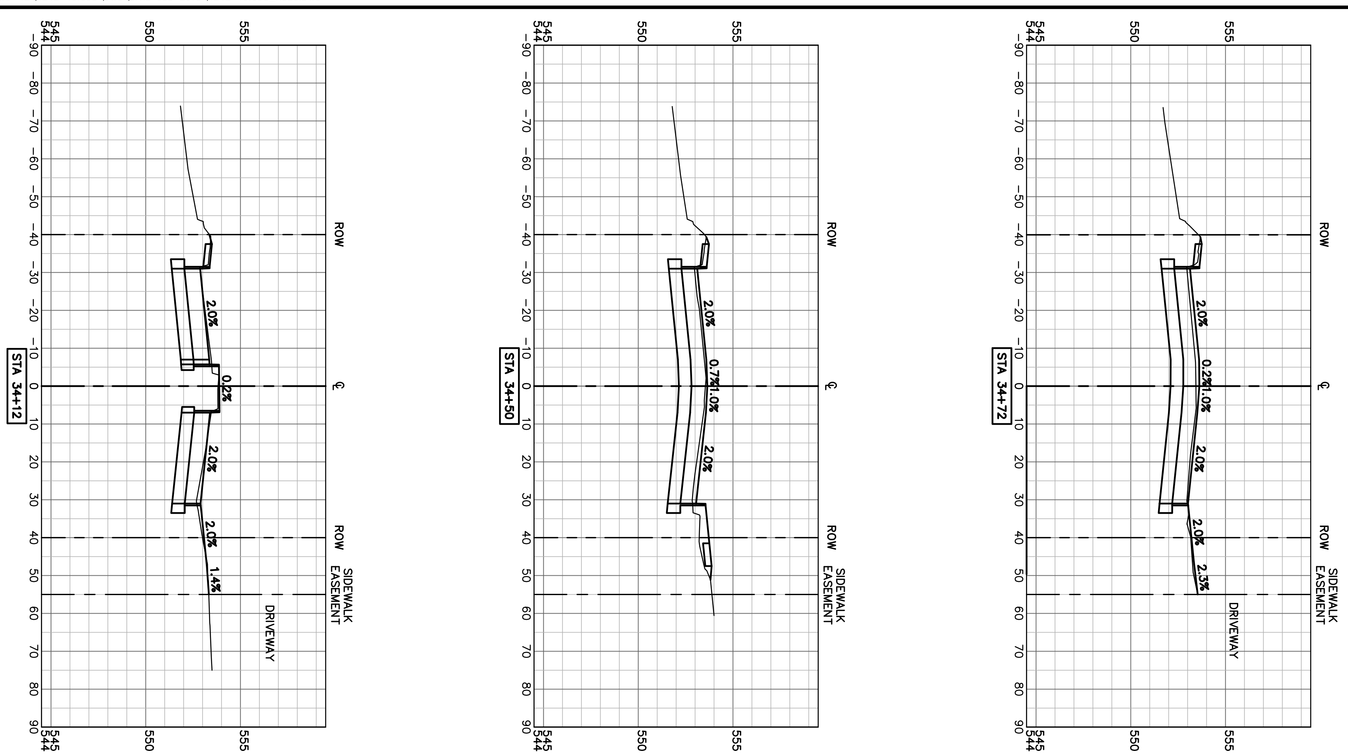

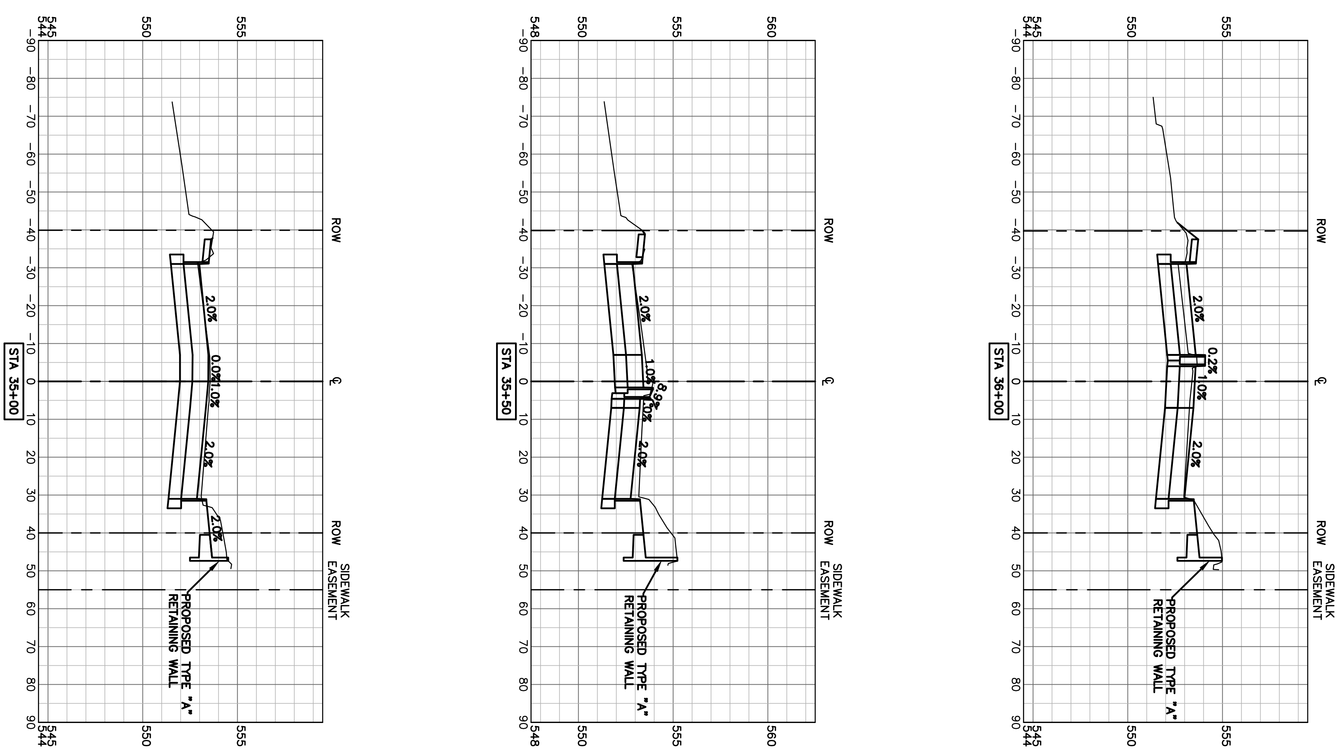

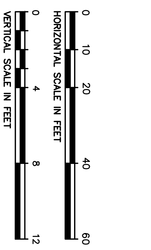

SHEET 86

PAVING CROSS SECTIONS
STA 34+12 TO STA 36+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
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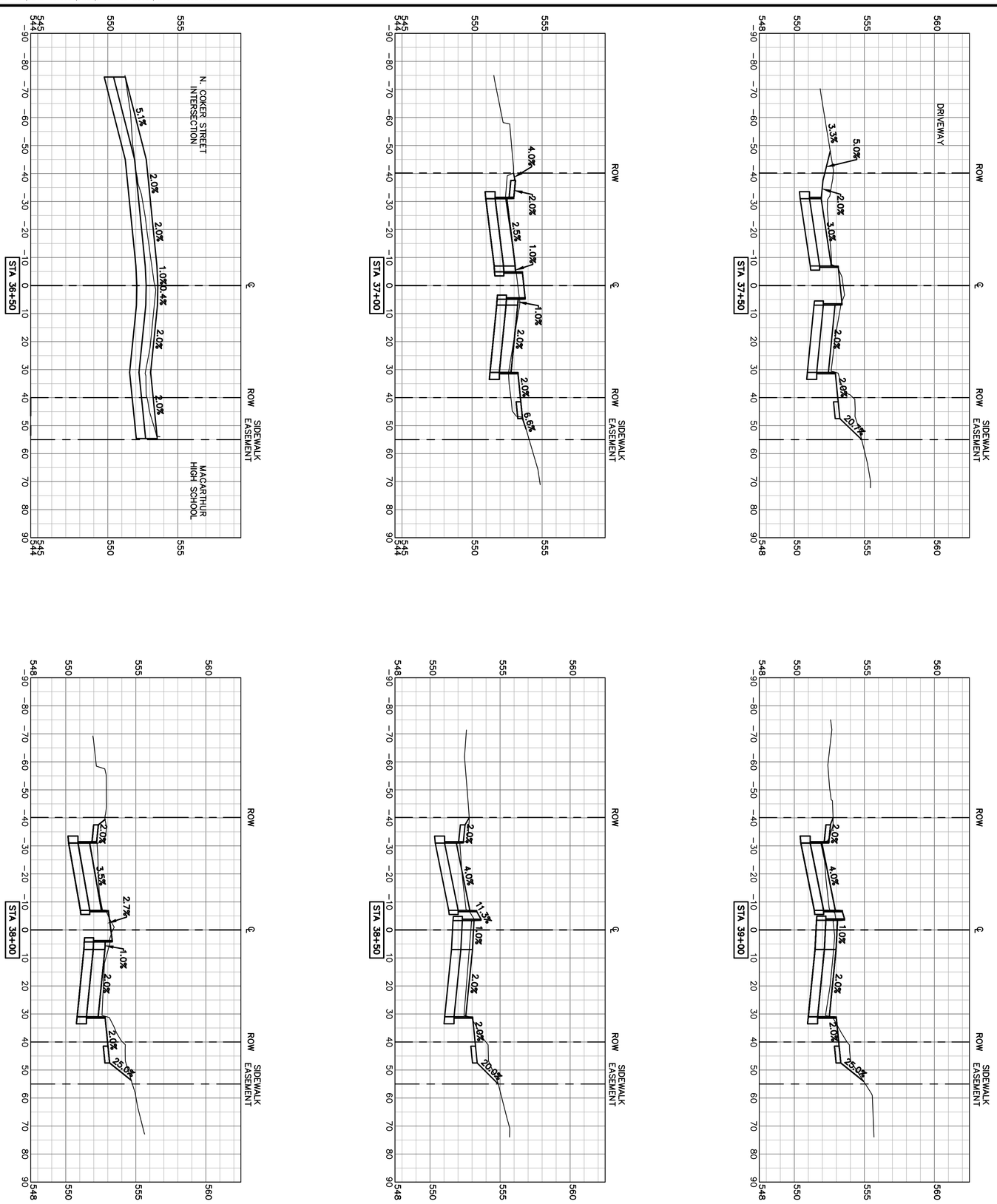

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 87

PAVING CROSS SECTIONS STA 34+12 TO STA 36+00

MACARTHUR BOULEVARD
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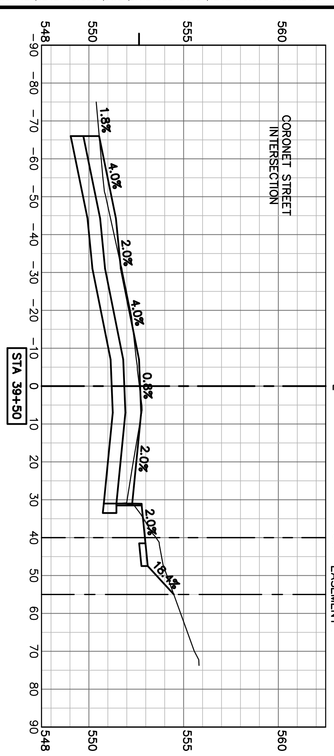

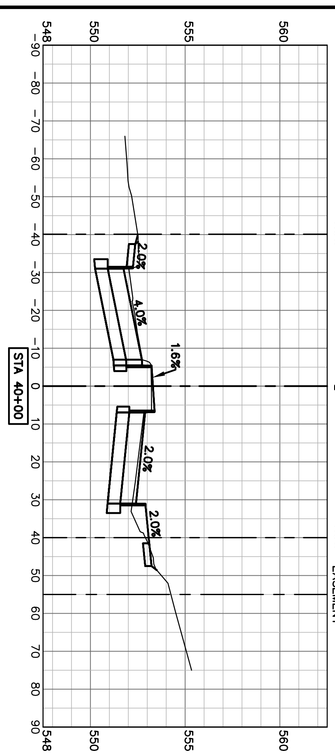

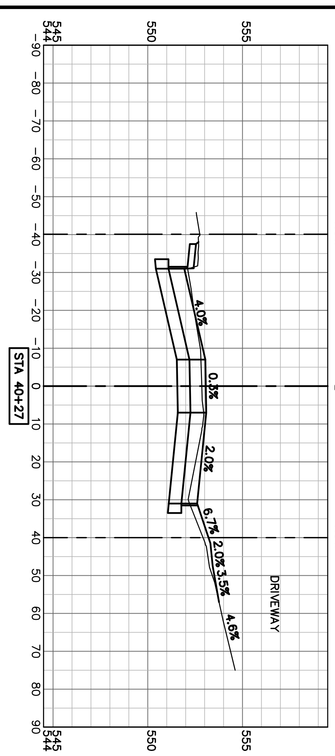

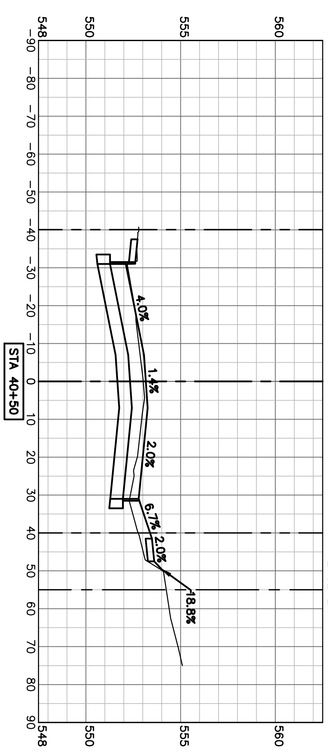

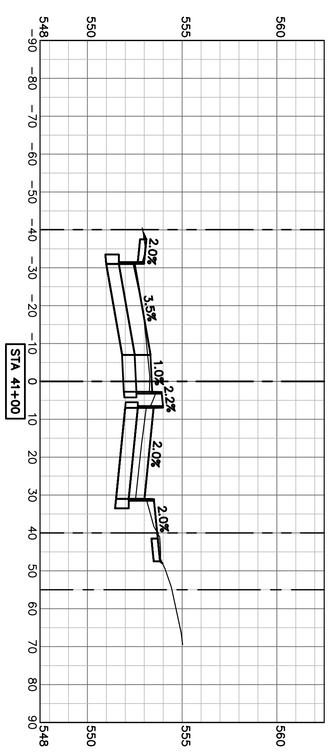

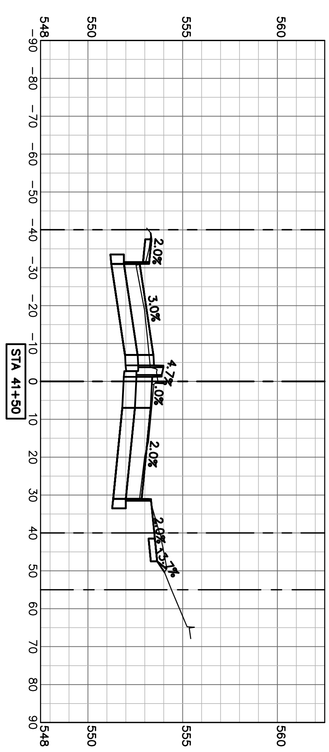

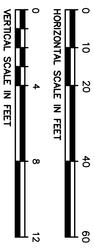

SHEET
88

PAVING CROSS SECTIONS
STA 34+12 TO STA 36+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
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STATE OF TEXAS
BRIAN D. O'NEIL
83980
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEIL, P.E. 83980 ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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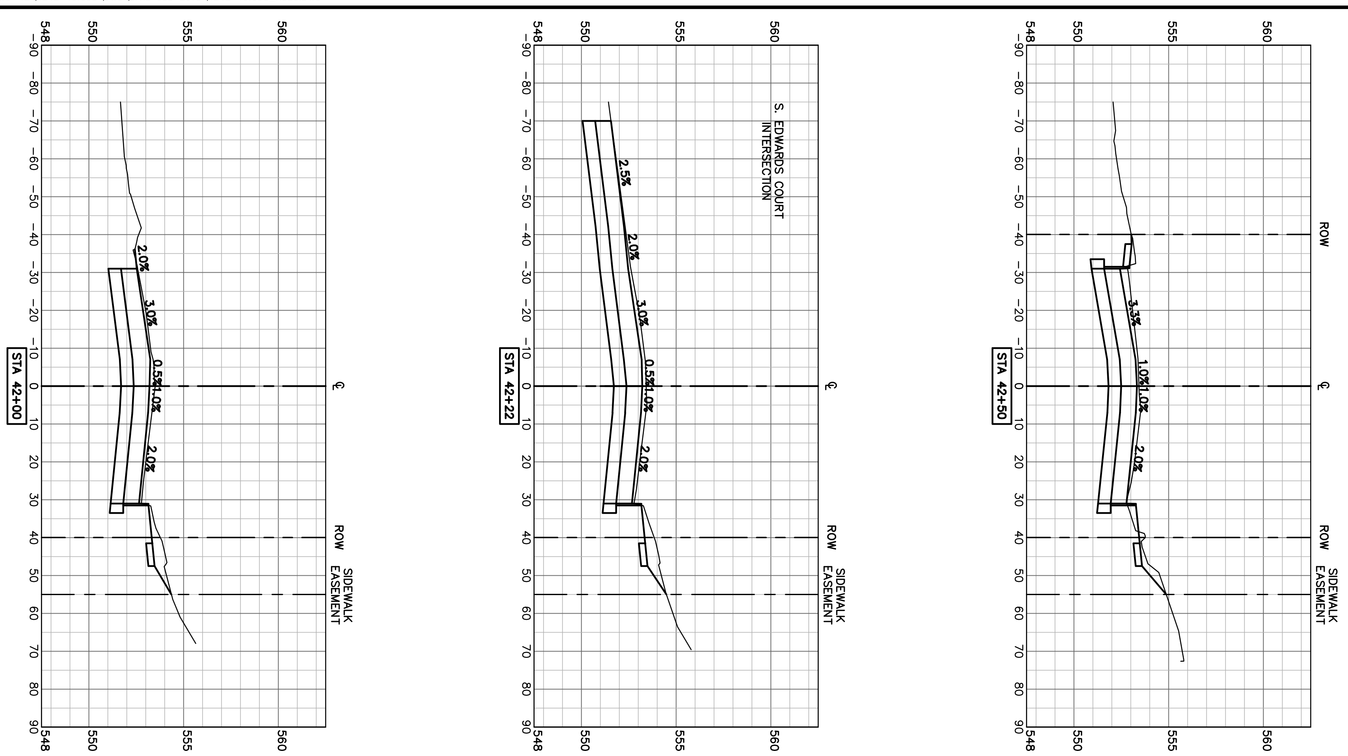

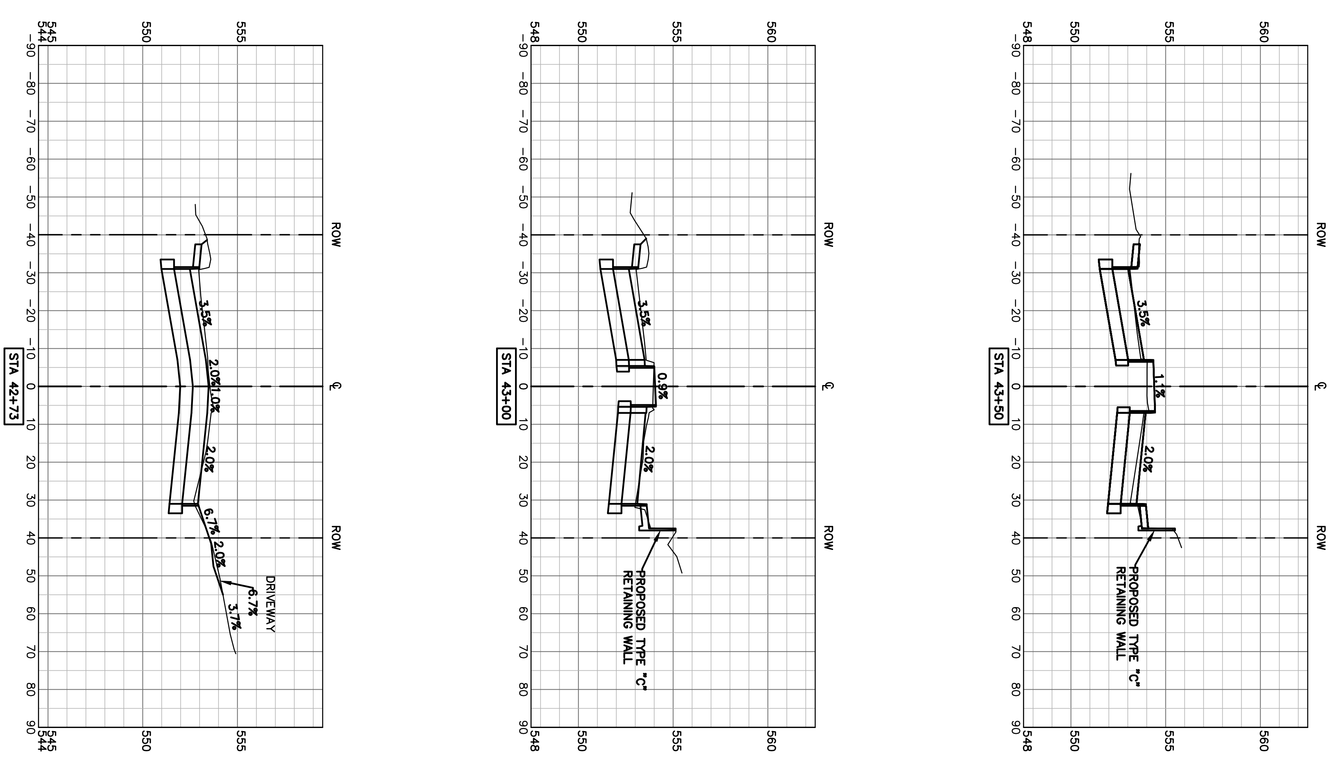

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

VERTICAL SCALE IN FEET: 0, 4, 8, 12

SHEET 89

PAVING CROSS SECTIONS
STA 42+00 TO STA 43+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
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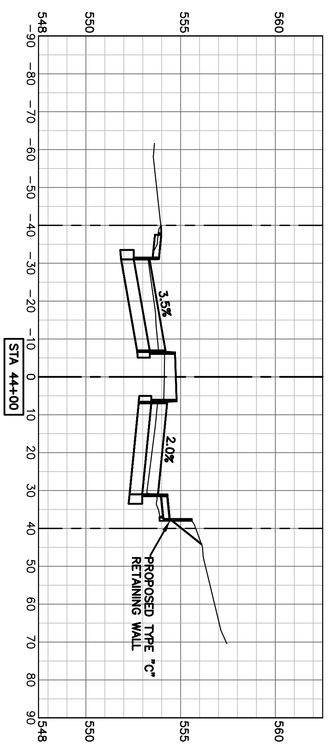

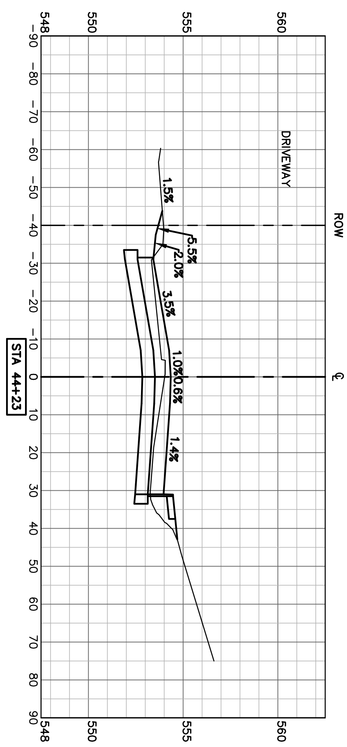

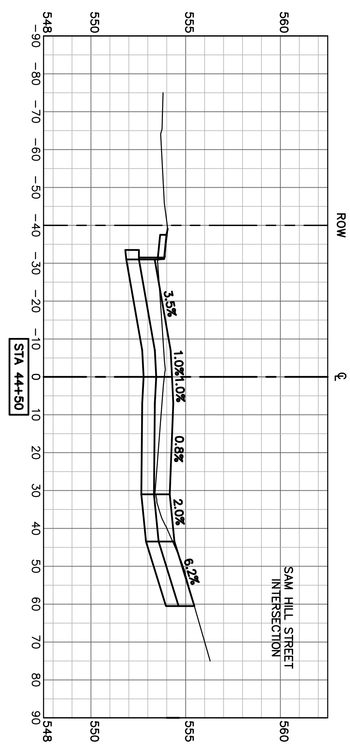

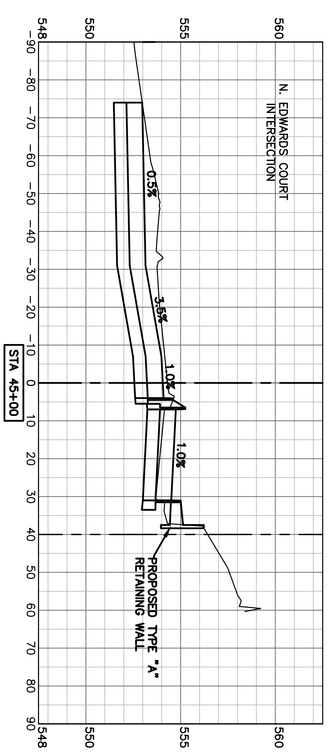

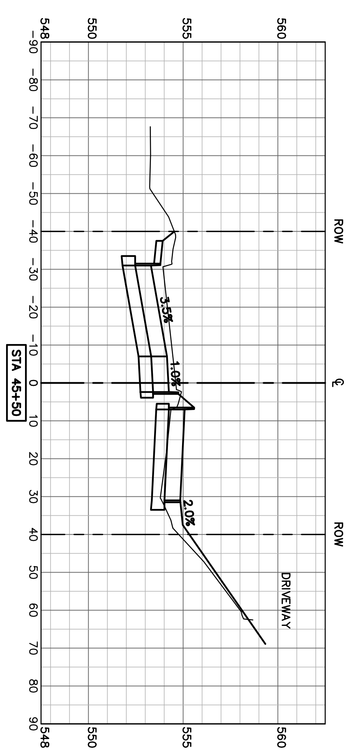

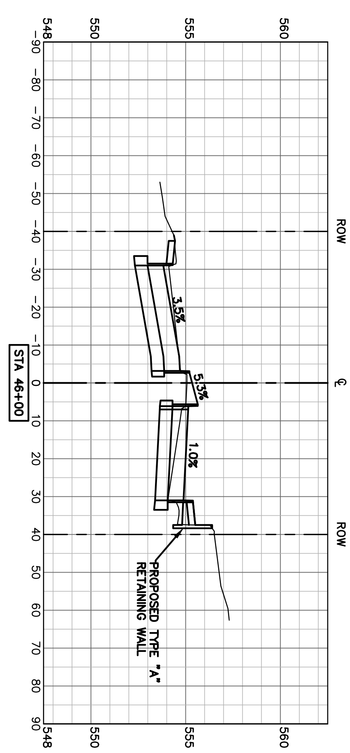

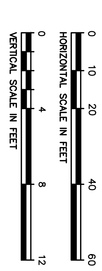

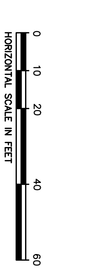

SHEET 90

PAVING CROSS SECTIONS STA 44+00 TO STA 46+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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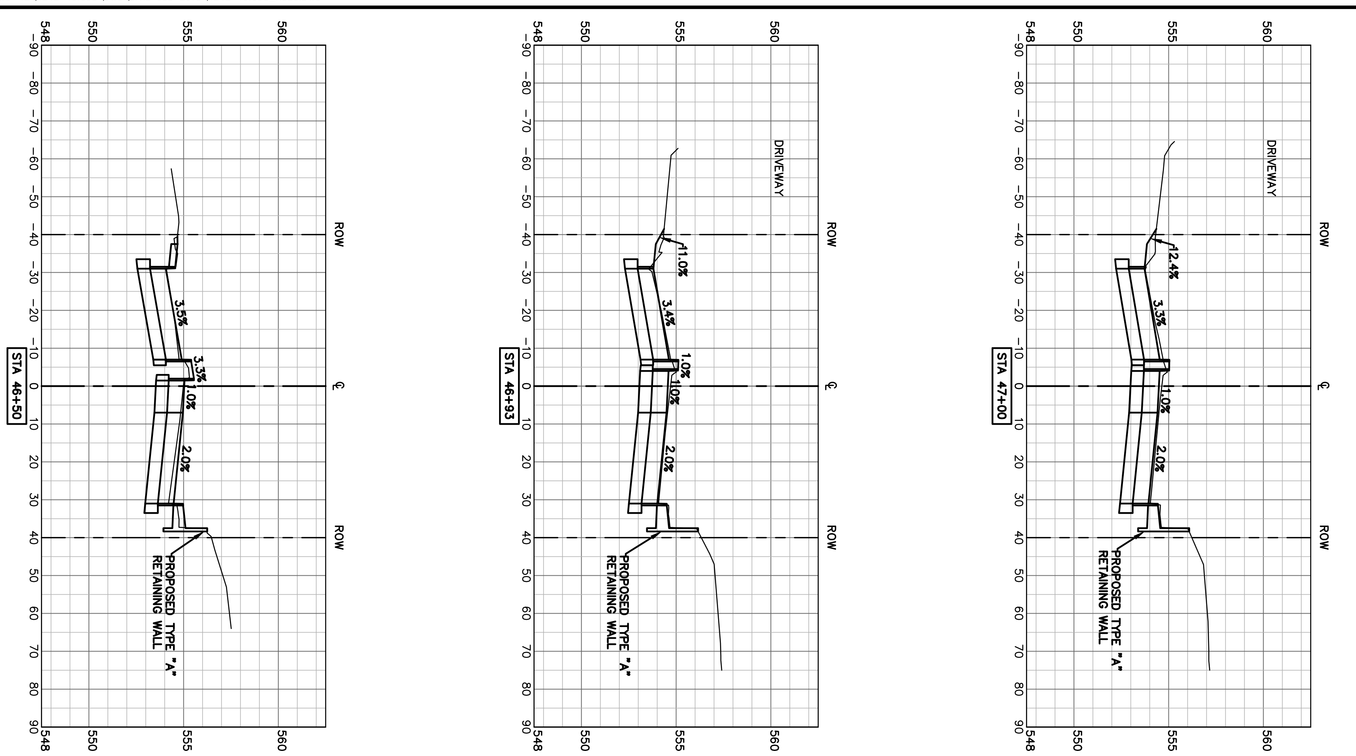
REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH



VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 91

PAVING CROSS SECTIONS
STA 46+50 TO STA 47+00
MACARTHUR BOULEVARD
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CITY OF IRVING, DALLAS COUNTY, TEXAS

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DESIGNED BY: CKT/RCP
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REVIEWED BY: CAB
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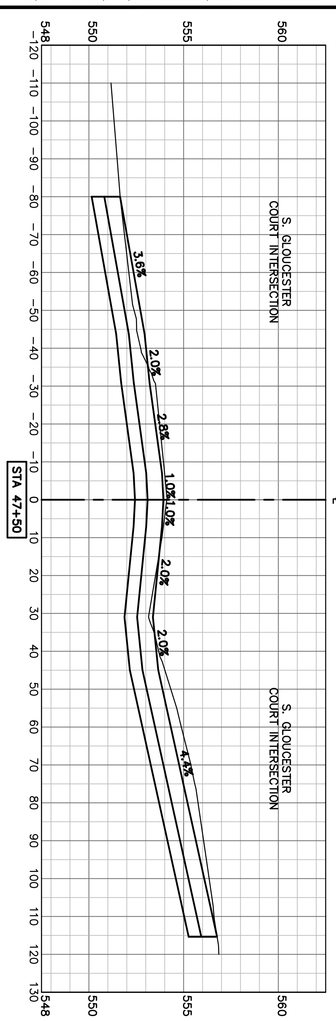

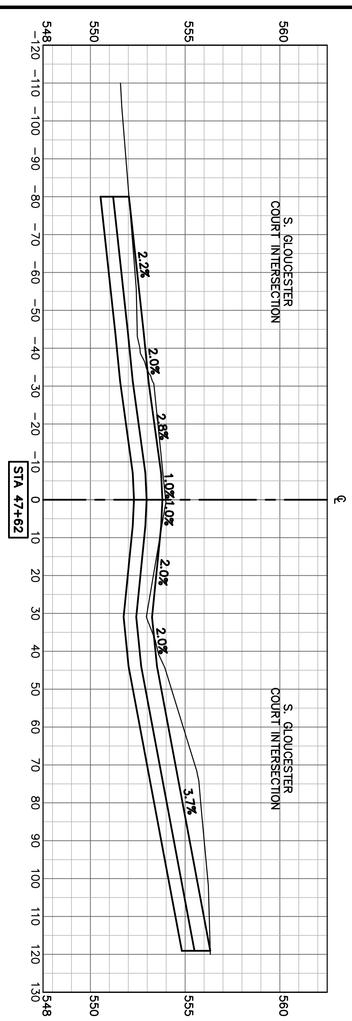

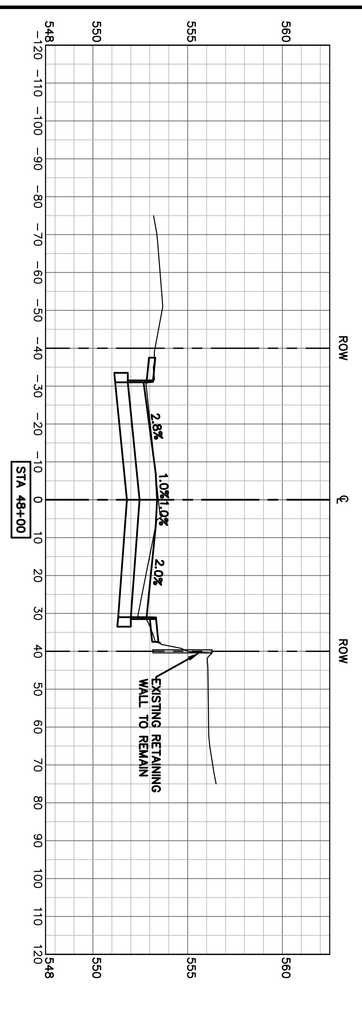

VERTICAL SCALE IN FEET: 0, 4, 8, 12
HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 92

PAVING CROSS SECTIONS
STA 47+50 TO STA 48+00
MACARTHUR BOULEVARD
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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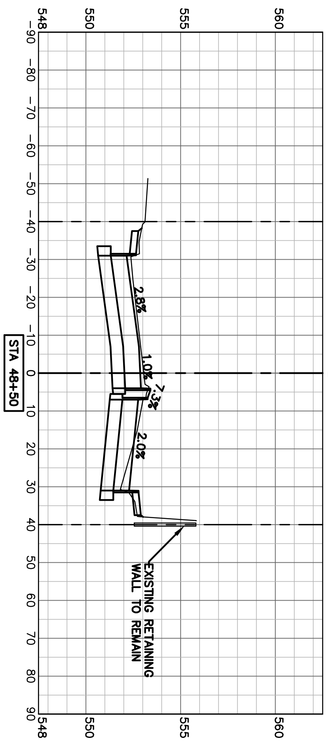

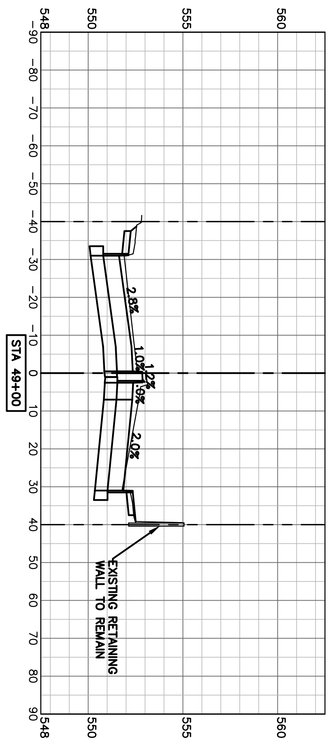

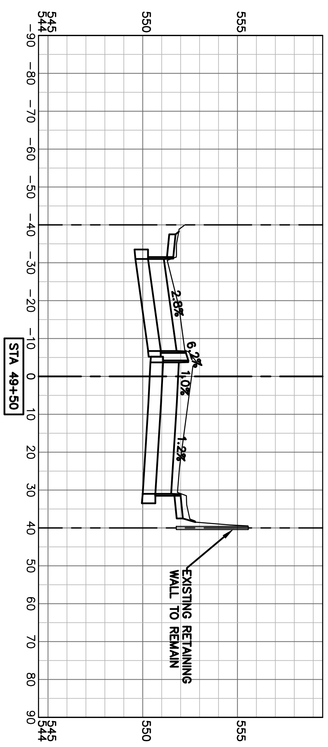

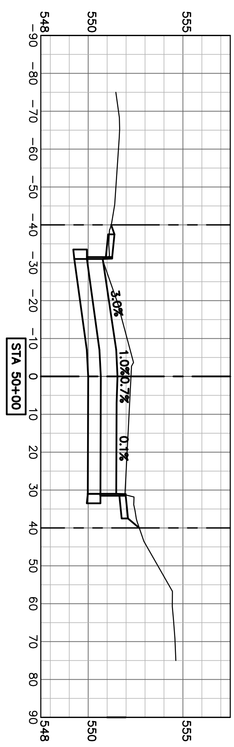

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 93

PAVING CROSS SECTIONS STA 48+50 TO STA 50+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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05/10/2022 – 12:06PM
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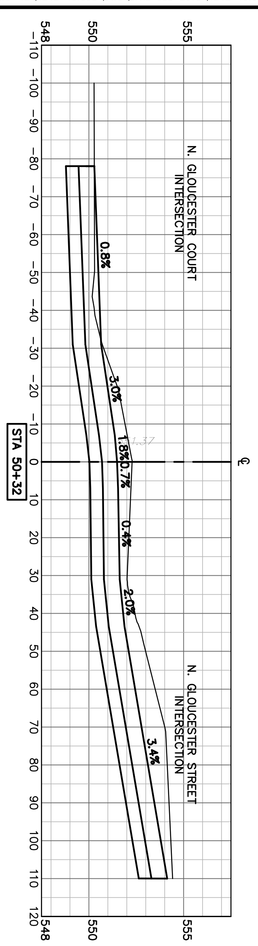

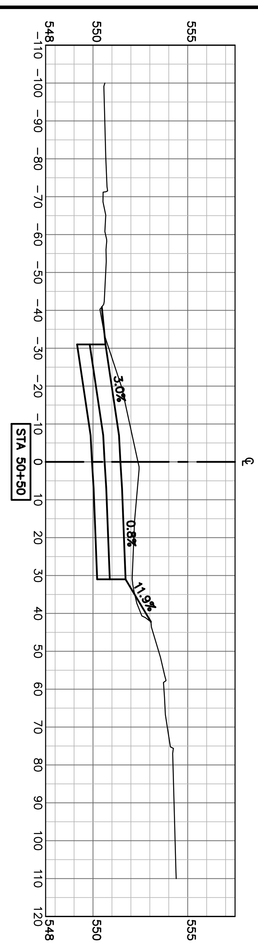

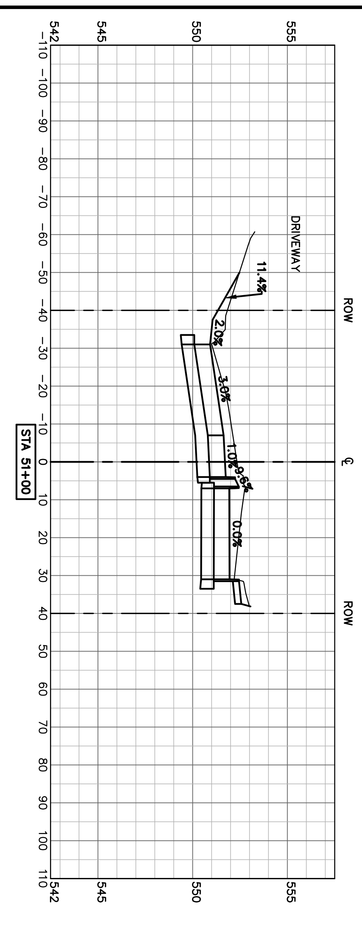

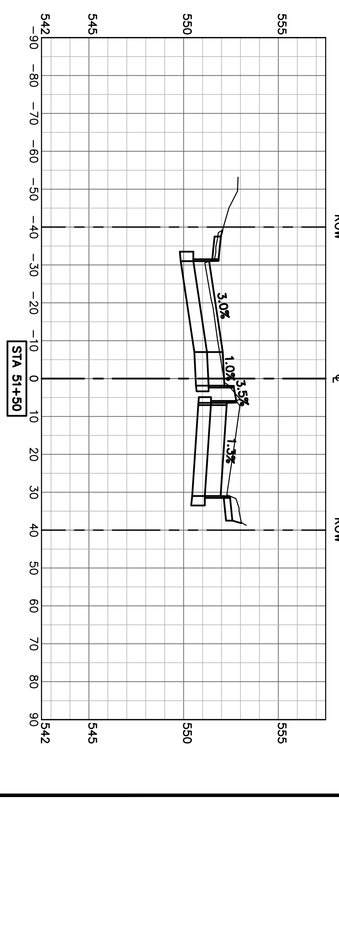

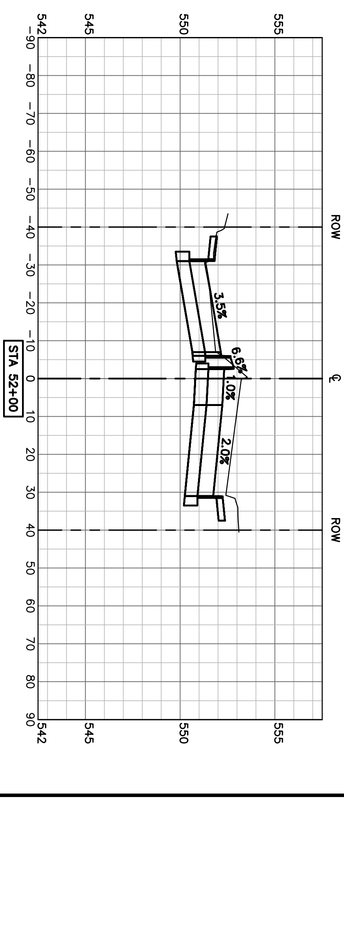

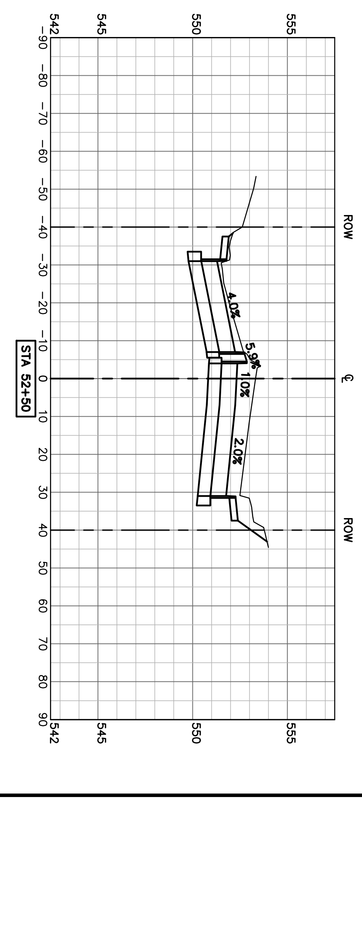

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 94

PAVING CROSS SECTIONS
STA 50+32 TO STA 52+50
MACARTHUR BOULEVARD
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DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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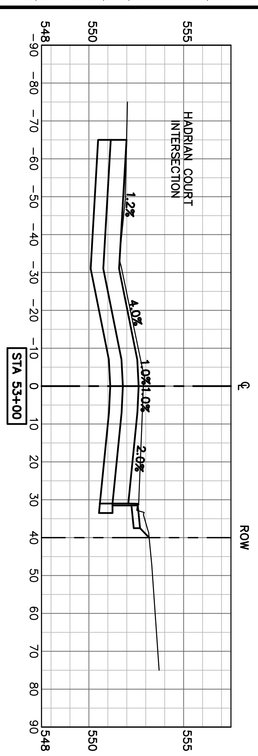

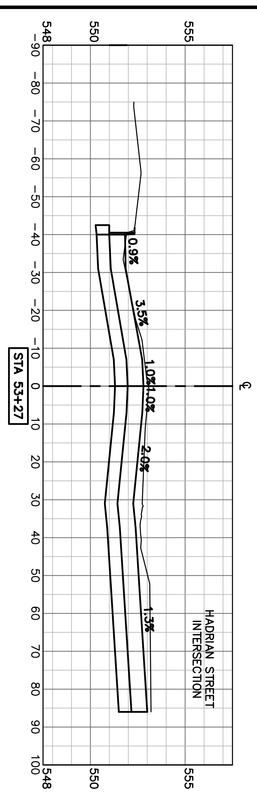

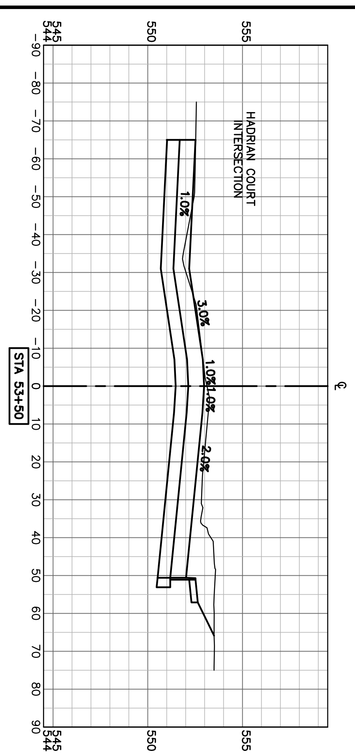

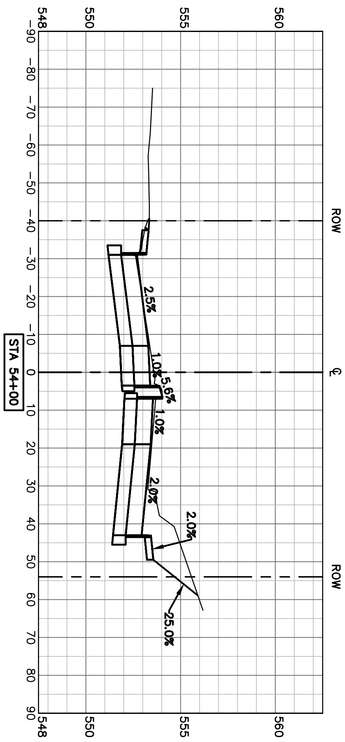

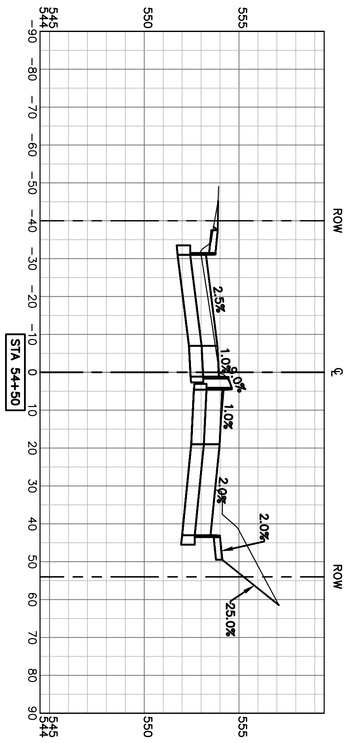

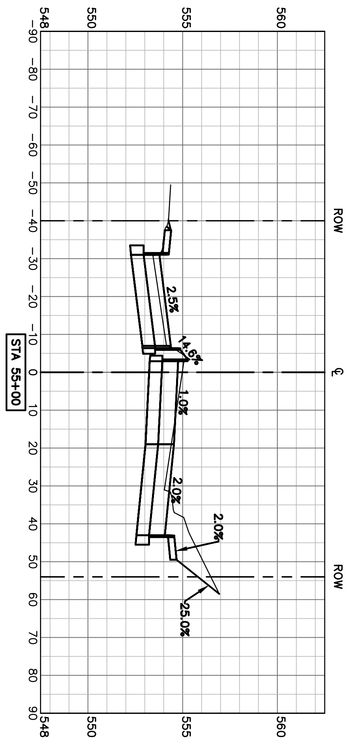

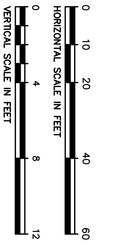

SHEET
95

PAVING CROSS SECTIONS
STA 53+00 TO STA 55+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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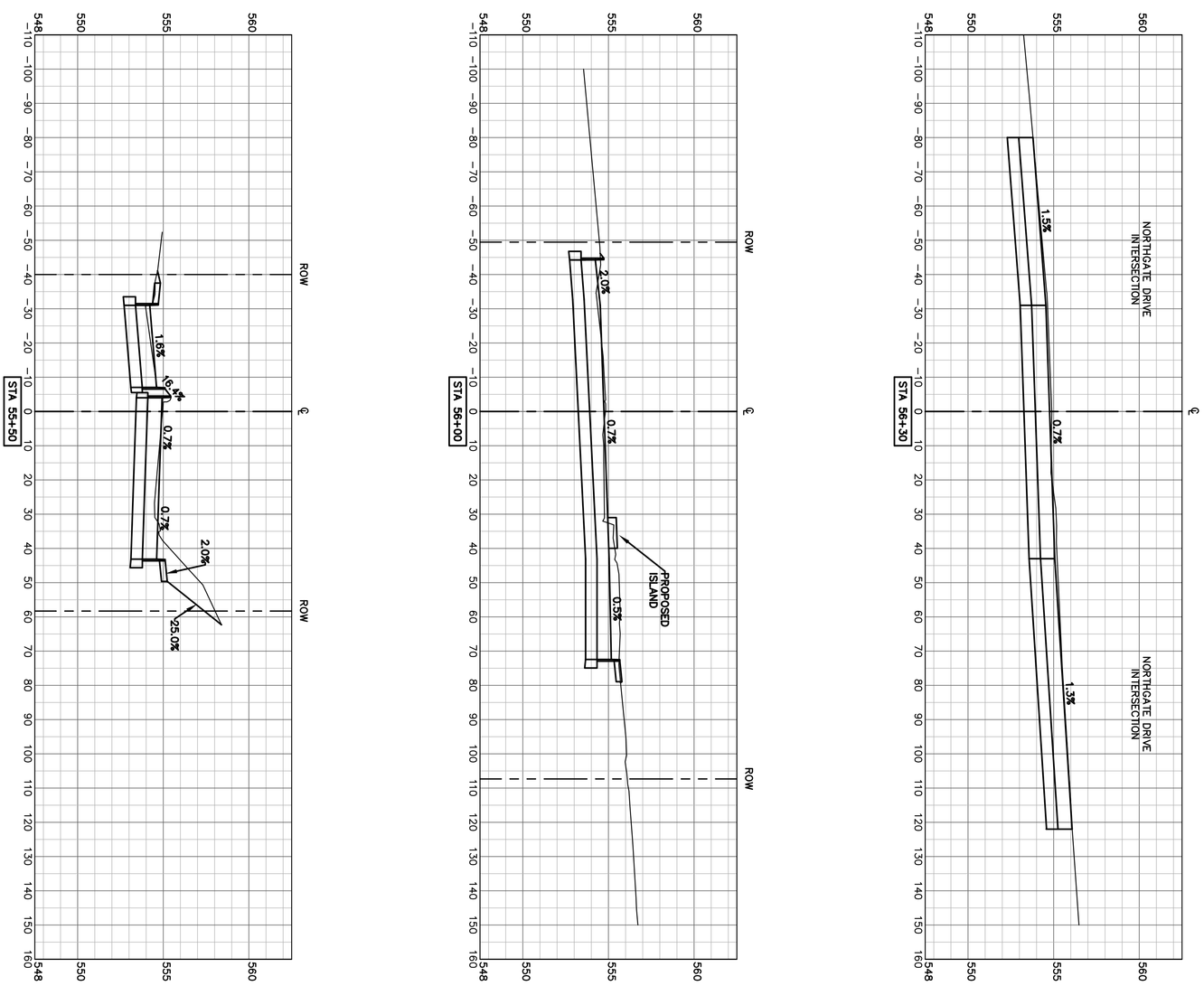

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 96

PAVING CROSS SECTIONS
STA 55+50 TO STA 56+30
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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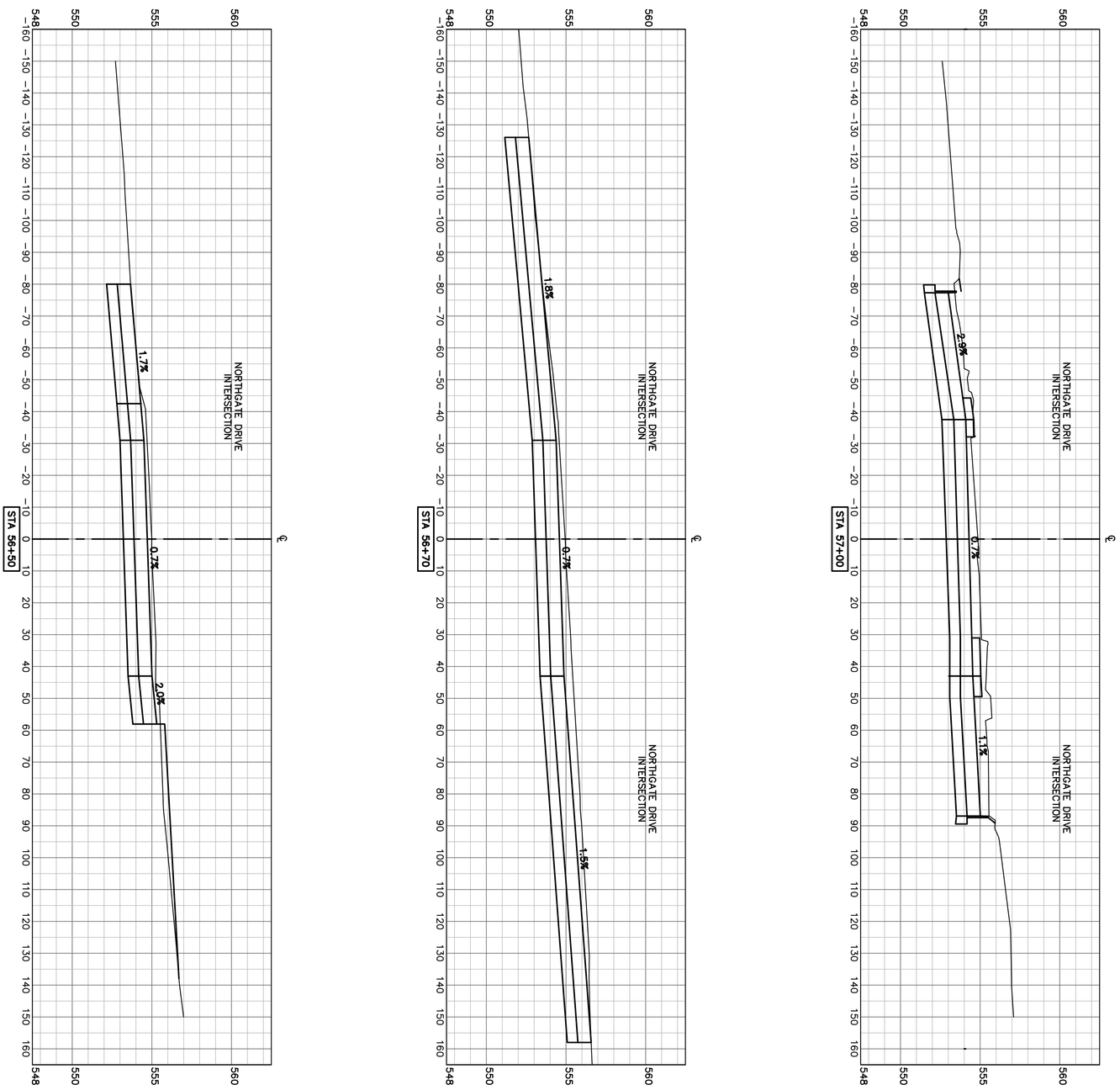
SURVEYED BY: PACHECO KOCH



HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

VERTICAL SCALE IN FEET: 0, 4, 8, 12

SHEET 97

PAVING CROSS SECTIONS
STA 56+50 TO STA 57+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
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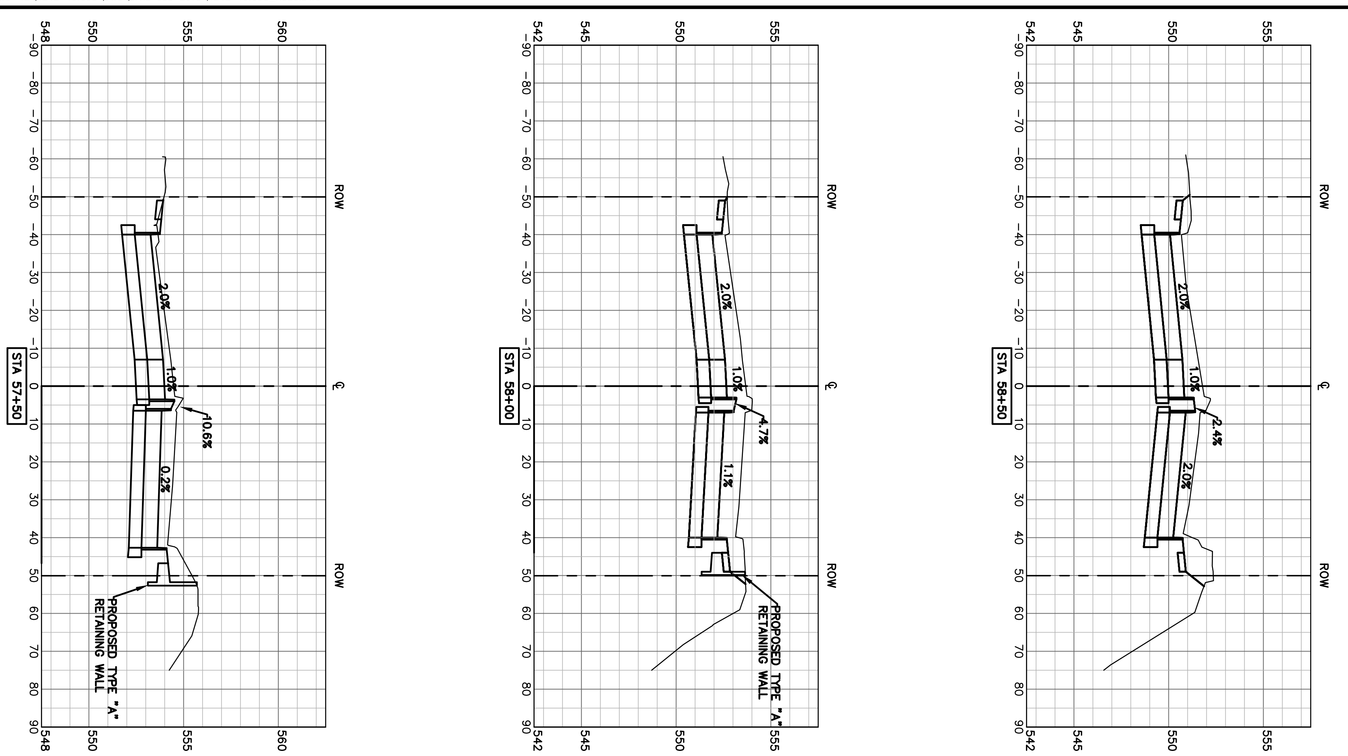

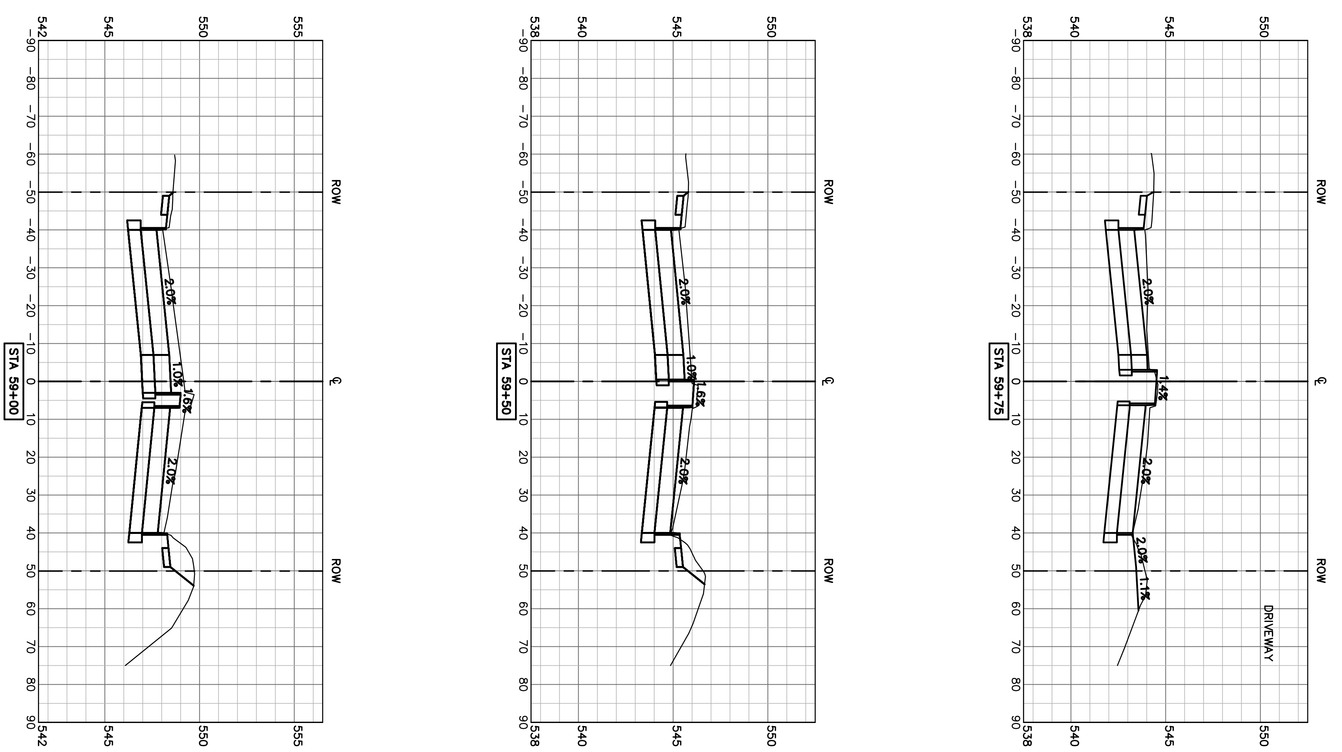

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 98

PAVING CROSS SECTIONS
STA 57+50 TO STA 59+75
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
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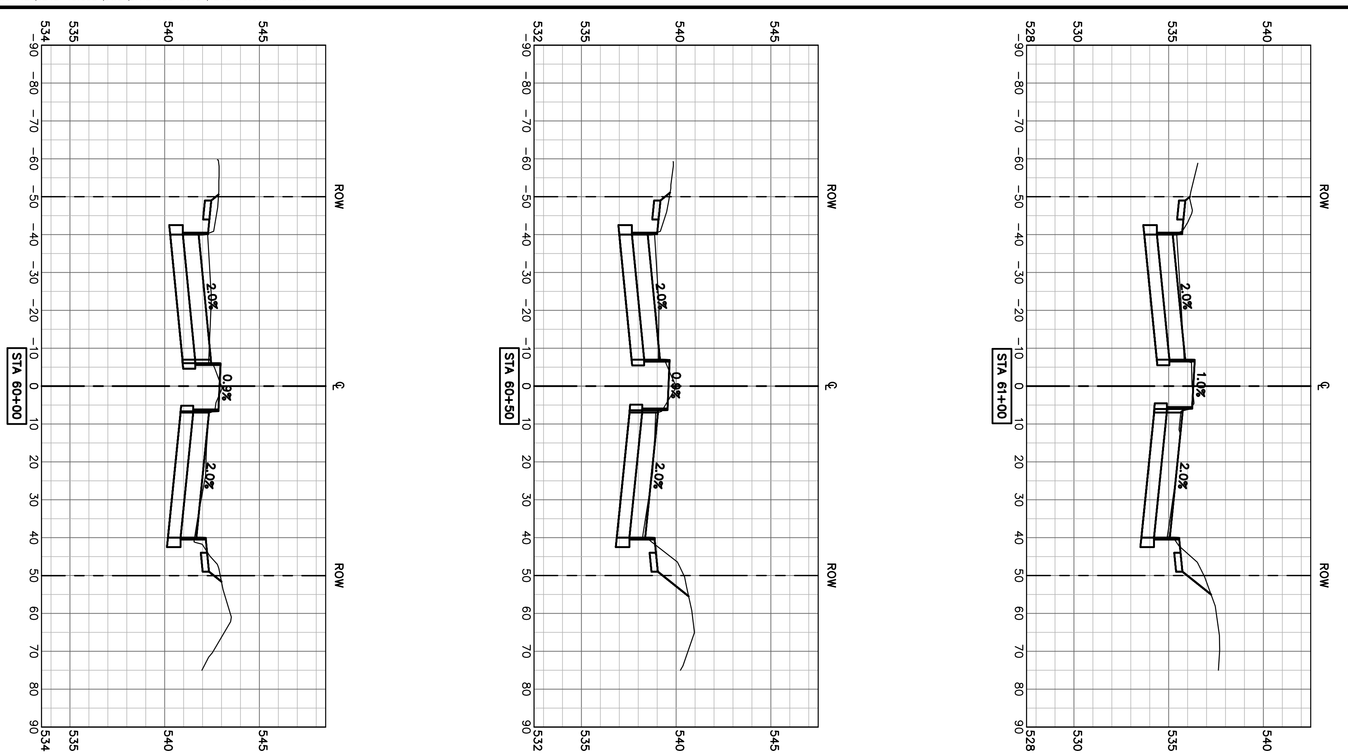

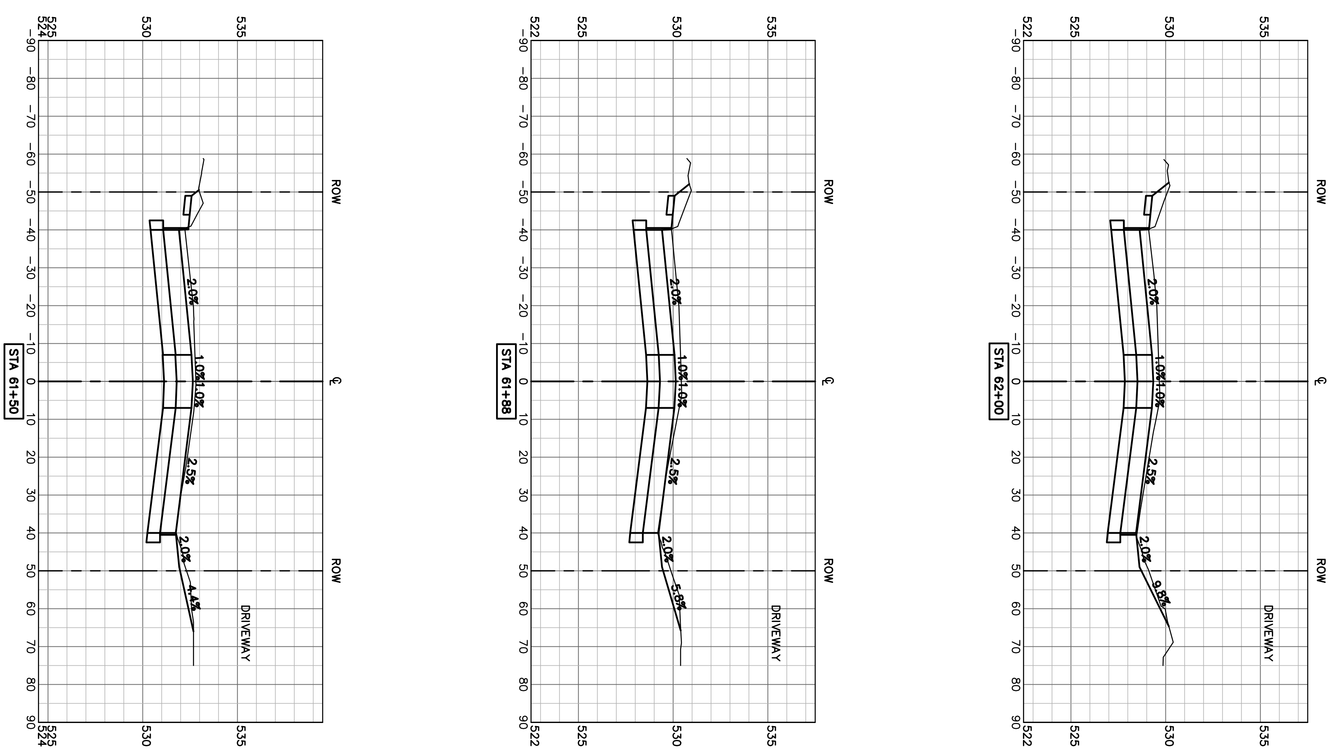

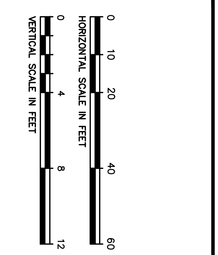

SHEET 99

PAVING CROSS SECTIONS STA 60+00 TO STA 62+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
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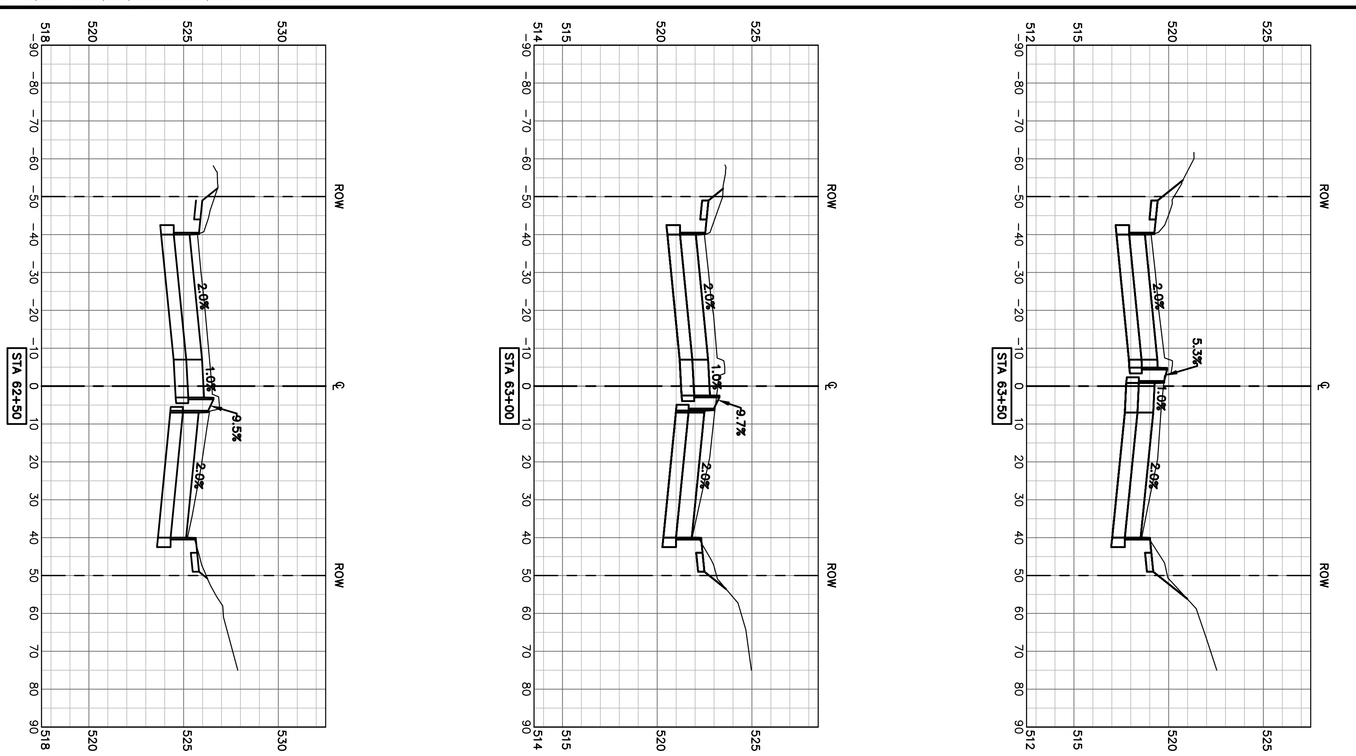

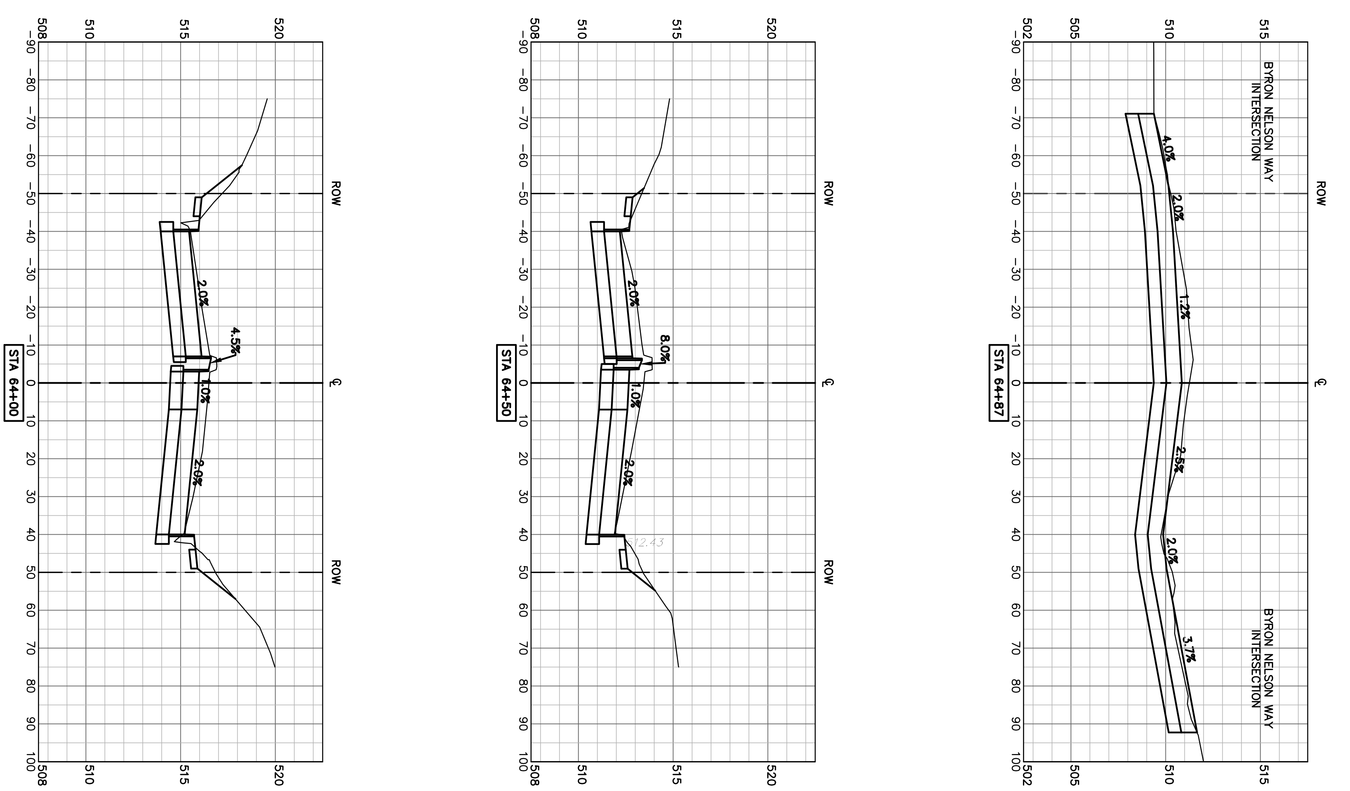

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

VERTICAL SCALE IN FEET: 0, 4, 8, 12

SHEET 100

PAVING CROSS SECTIONS
STA 62+50 TO STA 64+87
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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SURVEYED BY: PACHECO KOCH

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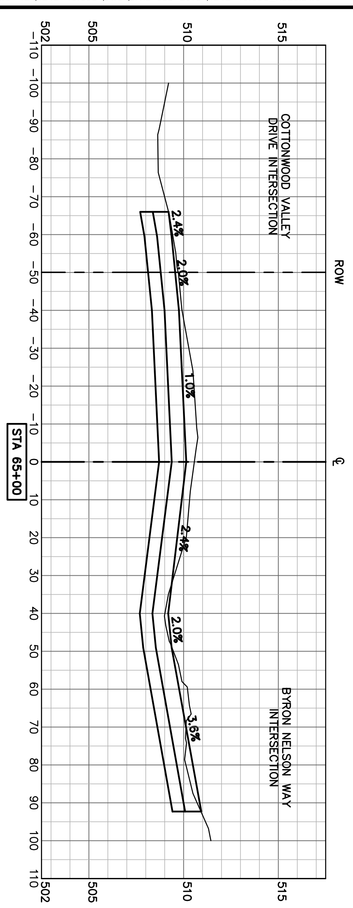

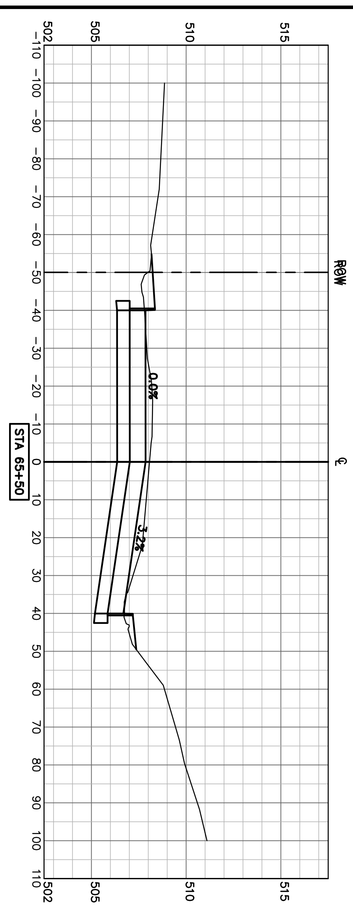

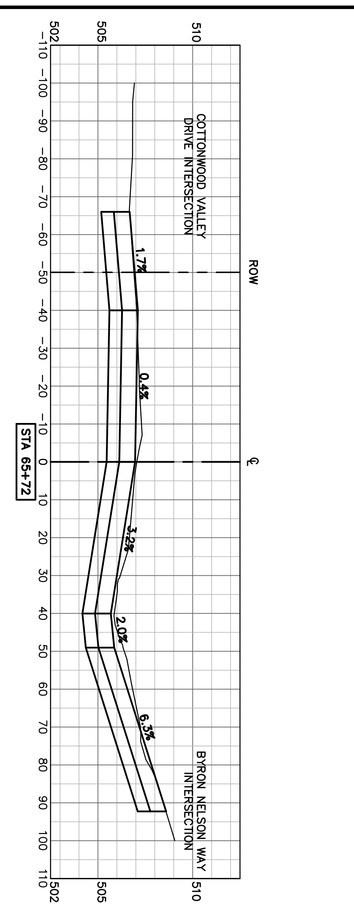

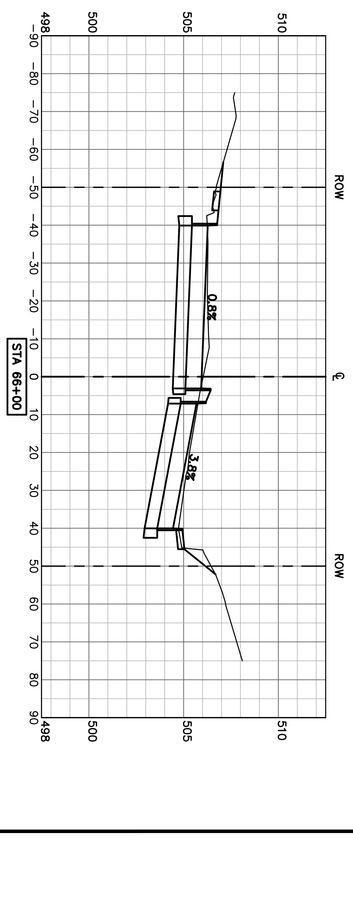

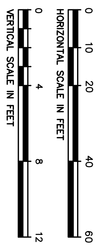

SHEET
101

PAVING CROSS SECTIONS
STA 65+00 TO STA 66+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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SURVEYED BY: PACHECO KOCH

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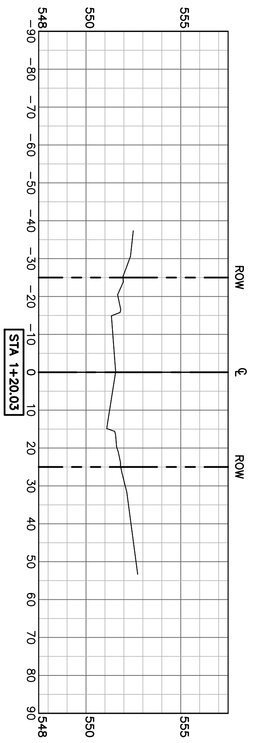

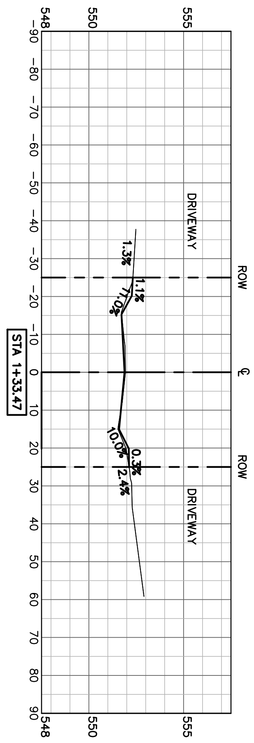

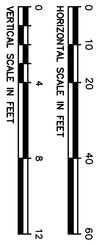

SHEET 102

PAVING CROSS SECTIONS
S. EDWARDS COURT
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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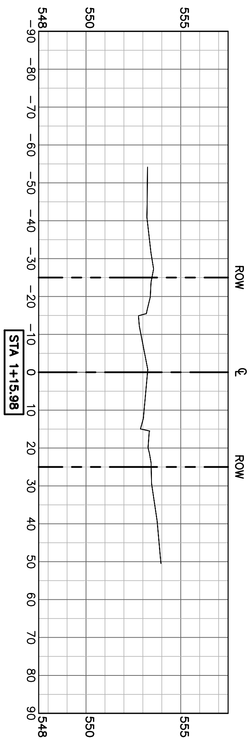

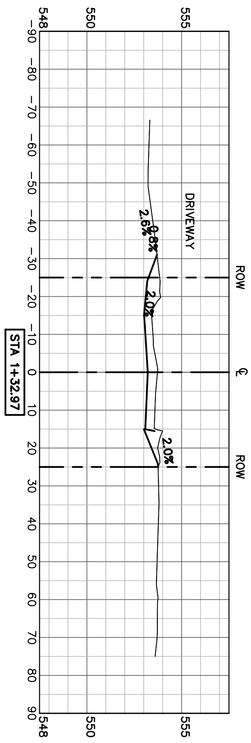

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 103

PAVING CROSS SECTIONS
N. EDWARDS COURT
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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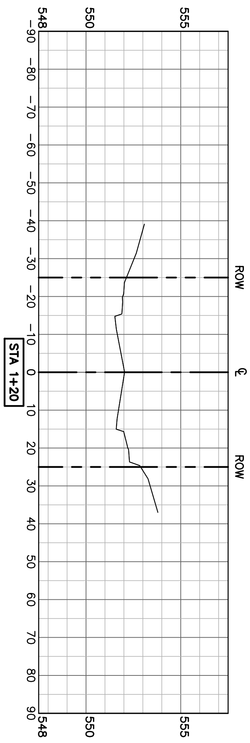

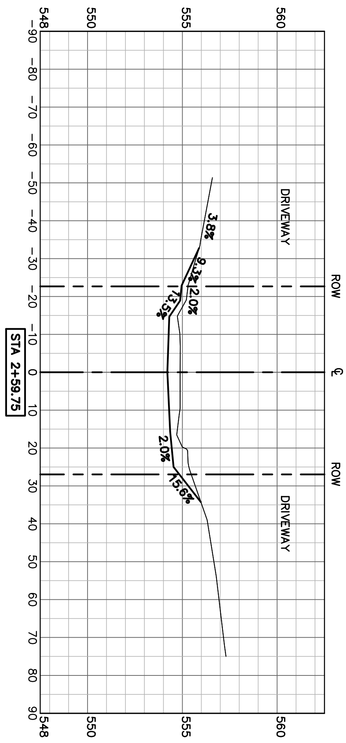

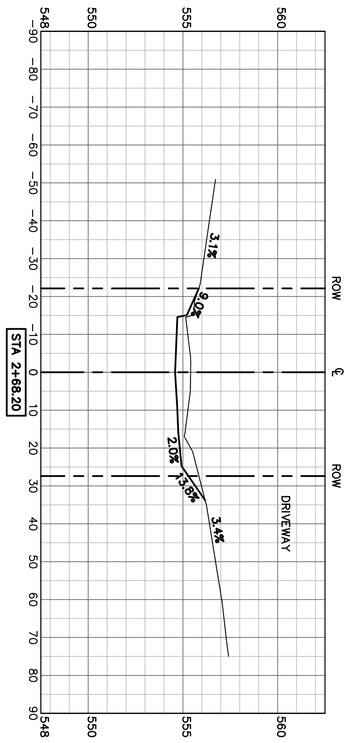

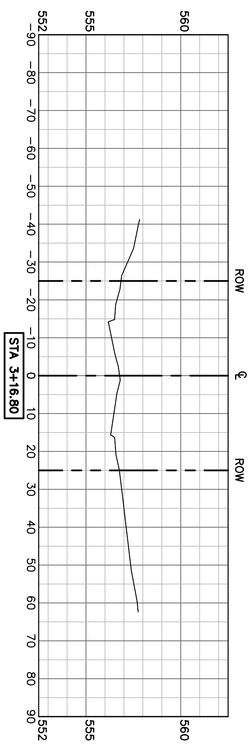

VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 104

PAVING CROSS SECTIONS
S. GLOUCESTER
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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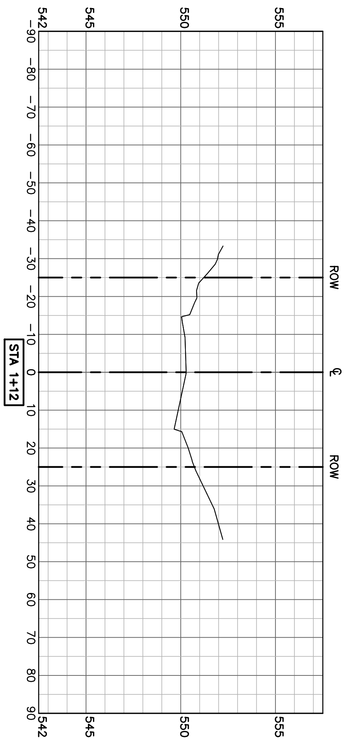
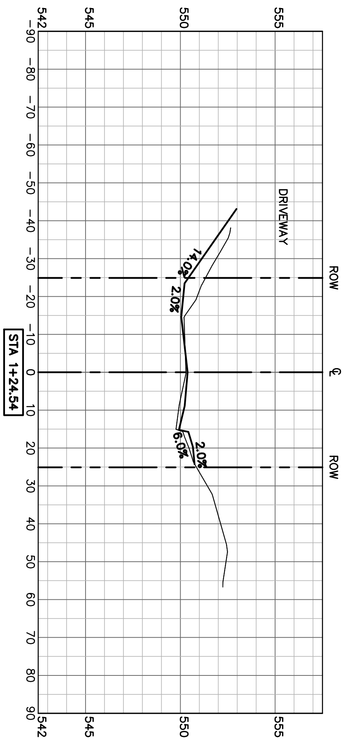
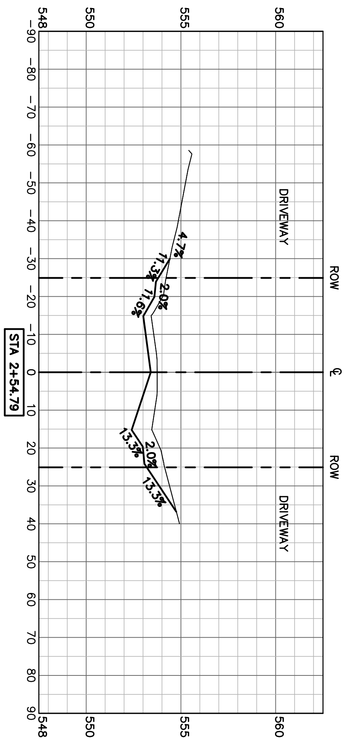
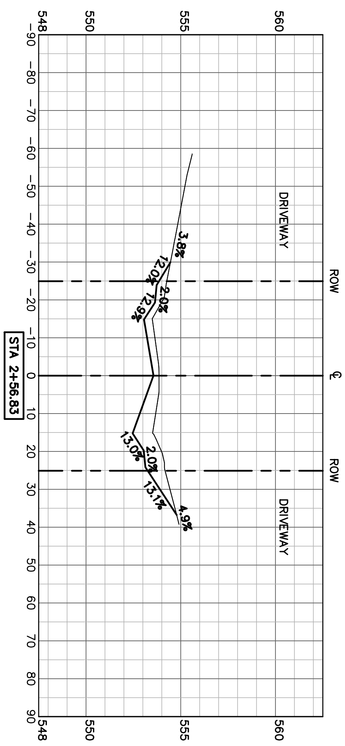
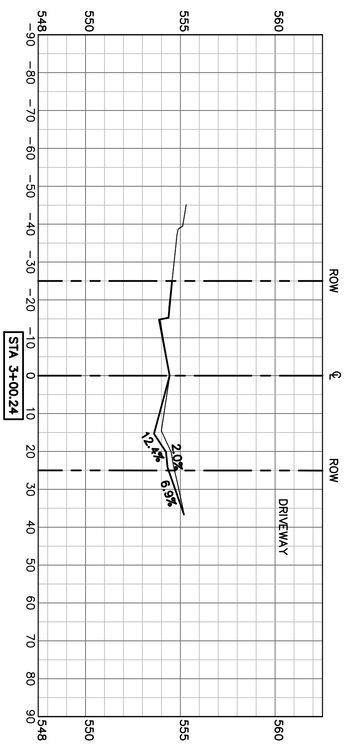
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

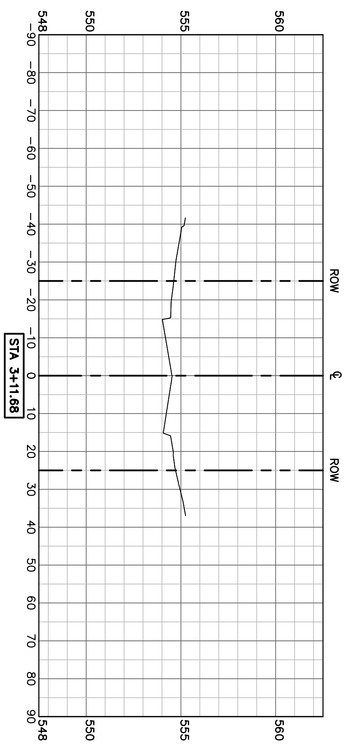


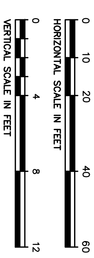














SHEET
105

PAVING CROSS SECTIONS
N. GLOUCESTER
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

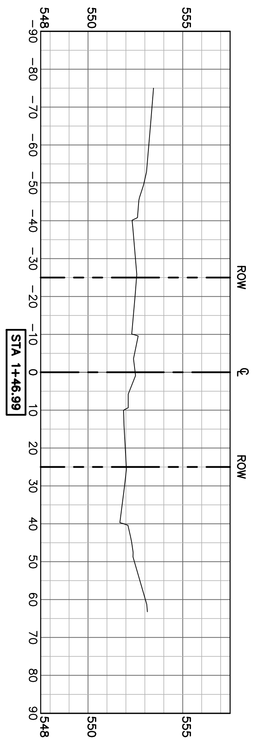
Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

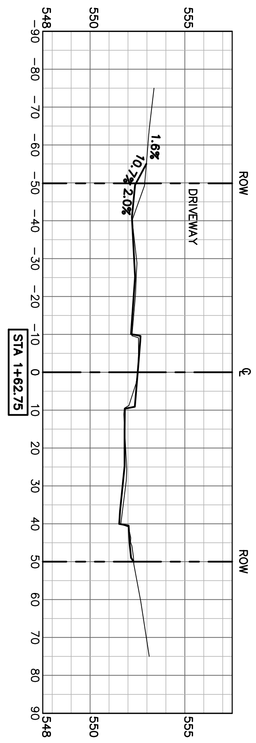
STATE OF TEXAS
BRIAN D. O'NEIL
83980
LICENSED
PROFESSIONAL ENGINEER
05/10/22

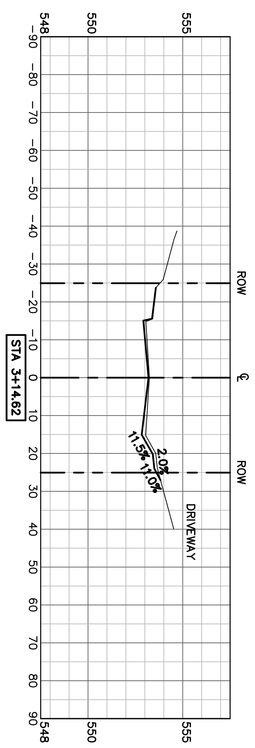
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEIL, P.E. 83980 ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

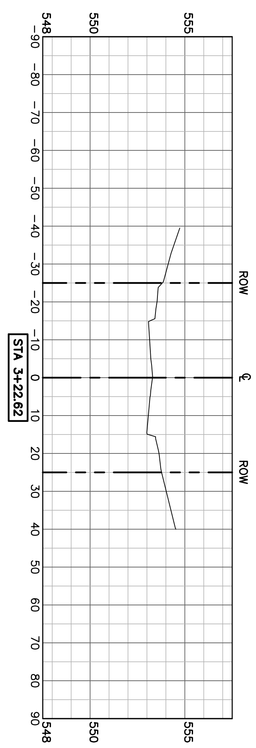
REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH









VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 106

PAVING CROSS SECTIONS
HADRIAN COURT
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
Capital Improvement Program
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Irving, Texas 75060
972.721.2611
www.cityofirving.org

Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
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TX REG. SURVEYING FIRM LS-10008001

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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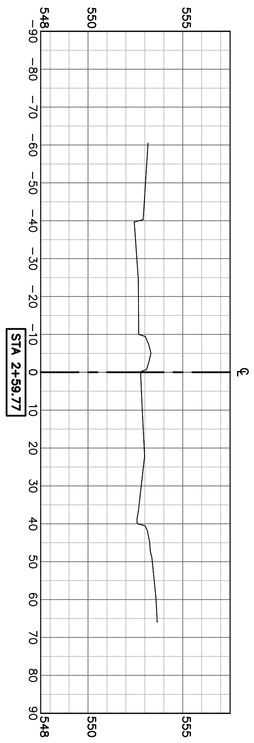
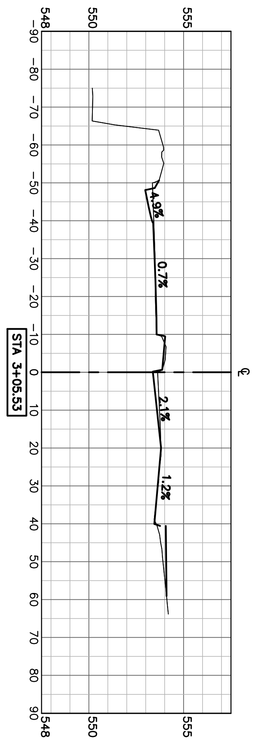
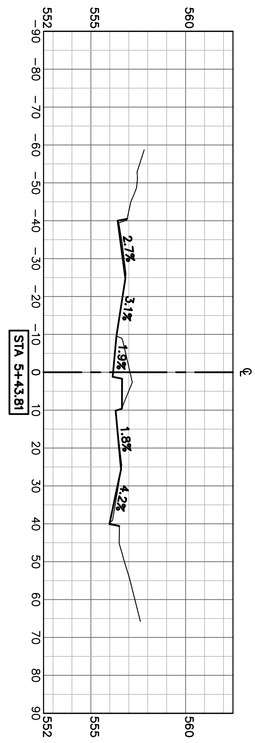
REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH







VERTICAL SCALE IN FEET: 0, 4, 8, 12

HORIZONTAL SCALE IN FEET: 0, 10, 20, 40, 60

SHEET 107

PAVING CROSS SECTIONS
NORTHGATE DRIVE
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

CITY OF IRVING
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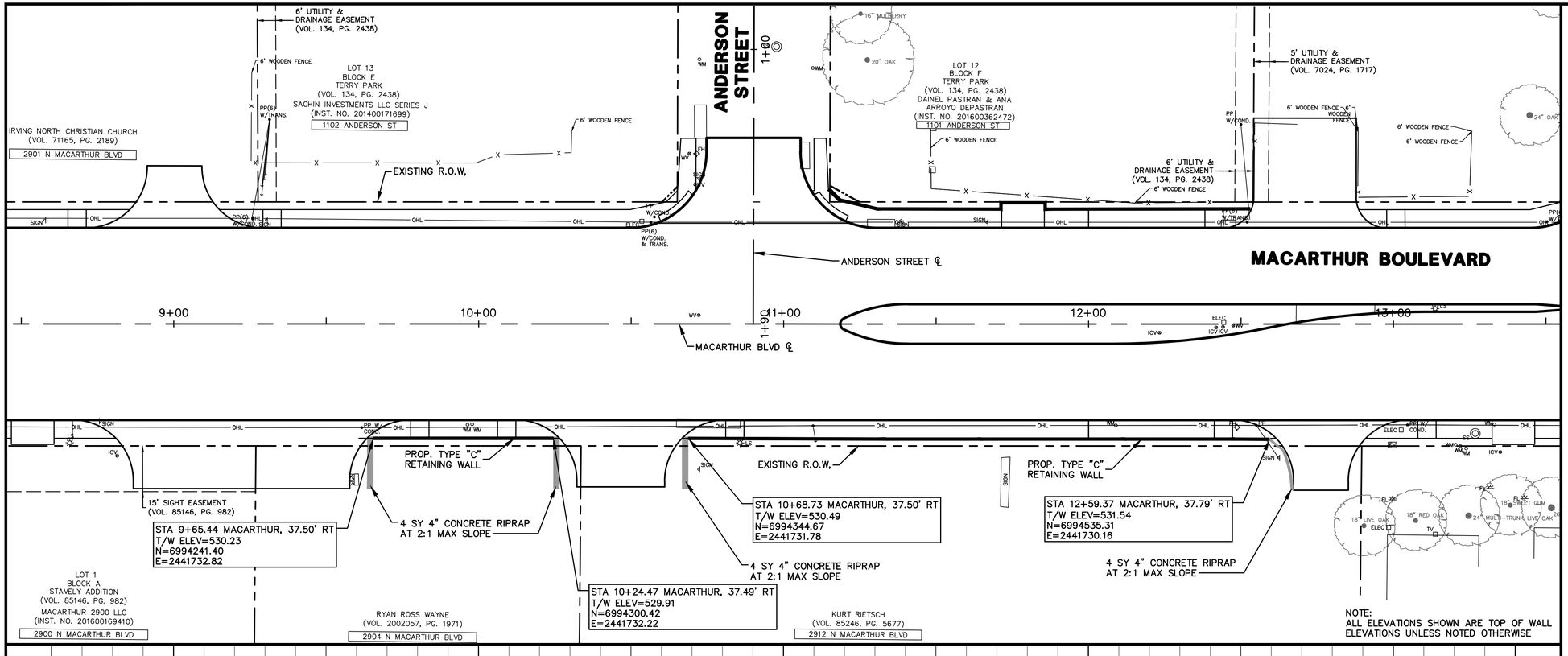
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

PROPOSED CONCRETE RIPRAP

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
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83980
LICENSED PROFESSIONAL ENGINEER

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CITY OF IRVING
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972.721.2611
www.cityofirving.org

RIGHT RETAINING WALL PLAN & PROFILE
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 108

CLOFTIS
05/10/2022 - 12:10PM
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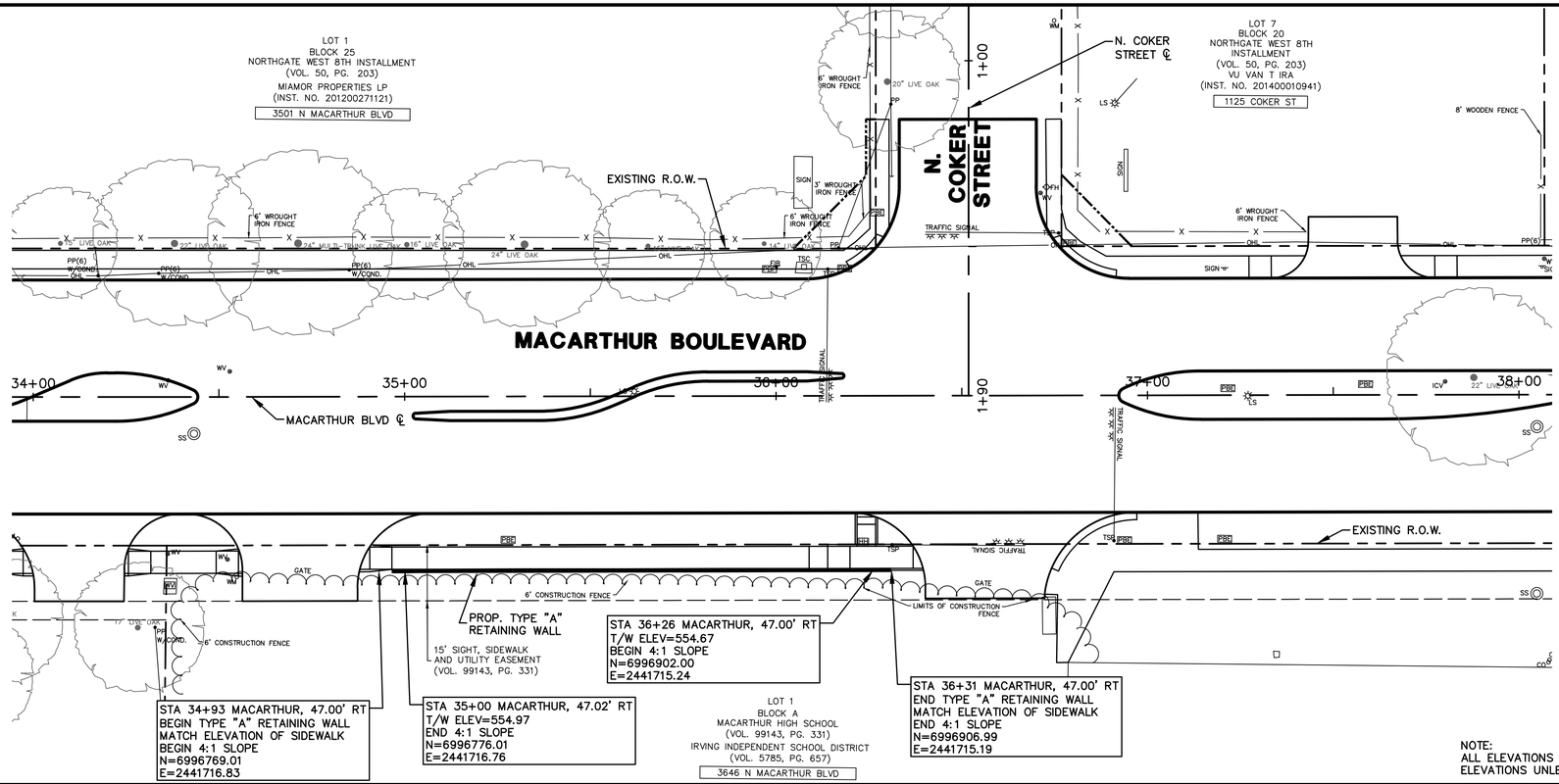

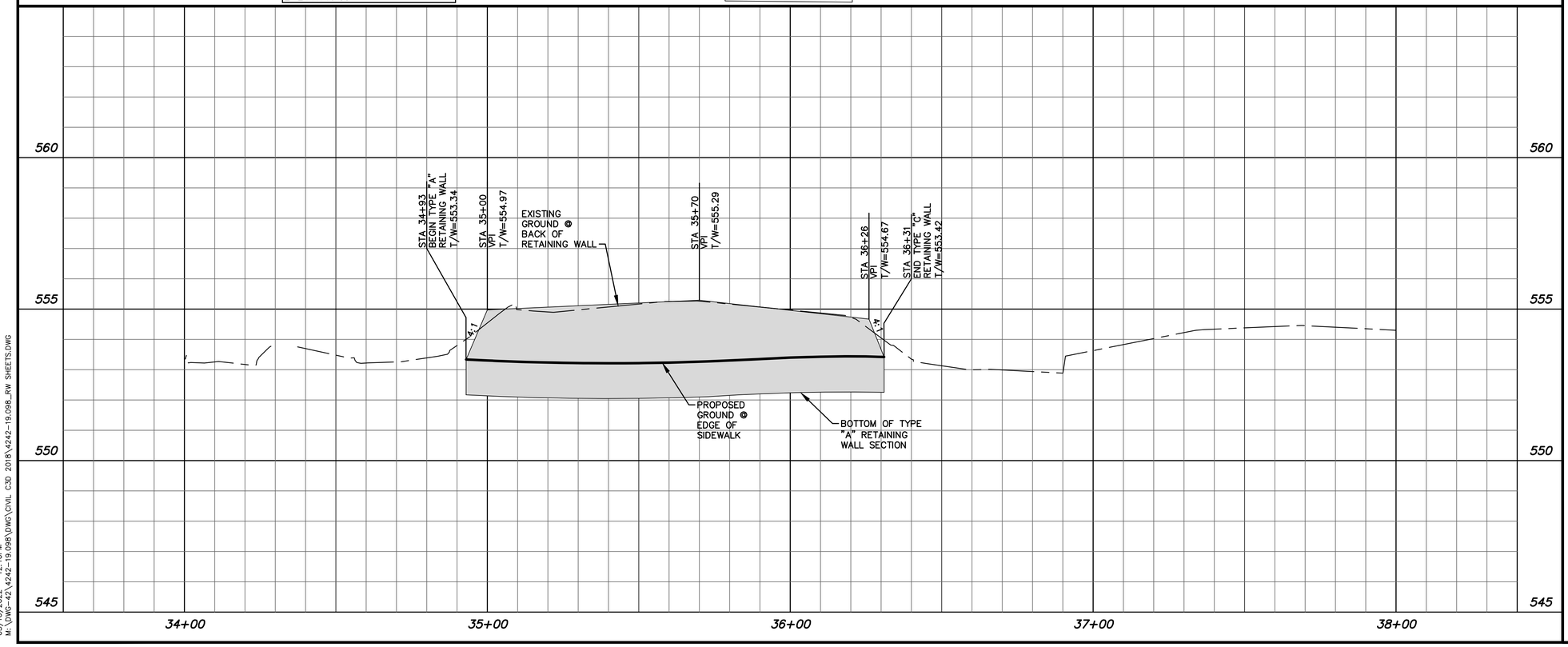

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

NOTE:
ALL ELEVATIONS SHOWN ARE TOP OF WALL ELEVATIONS UNLESS NOTED OTHERWISE

NOTE:
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
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TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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RIGHT RETAINING WALL PLAN & PROFILE
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 109

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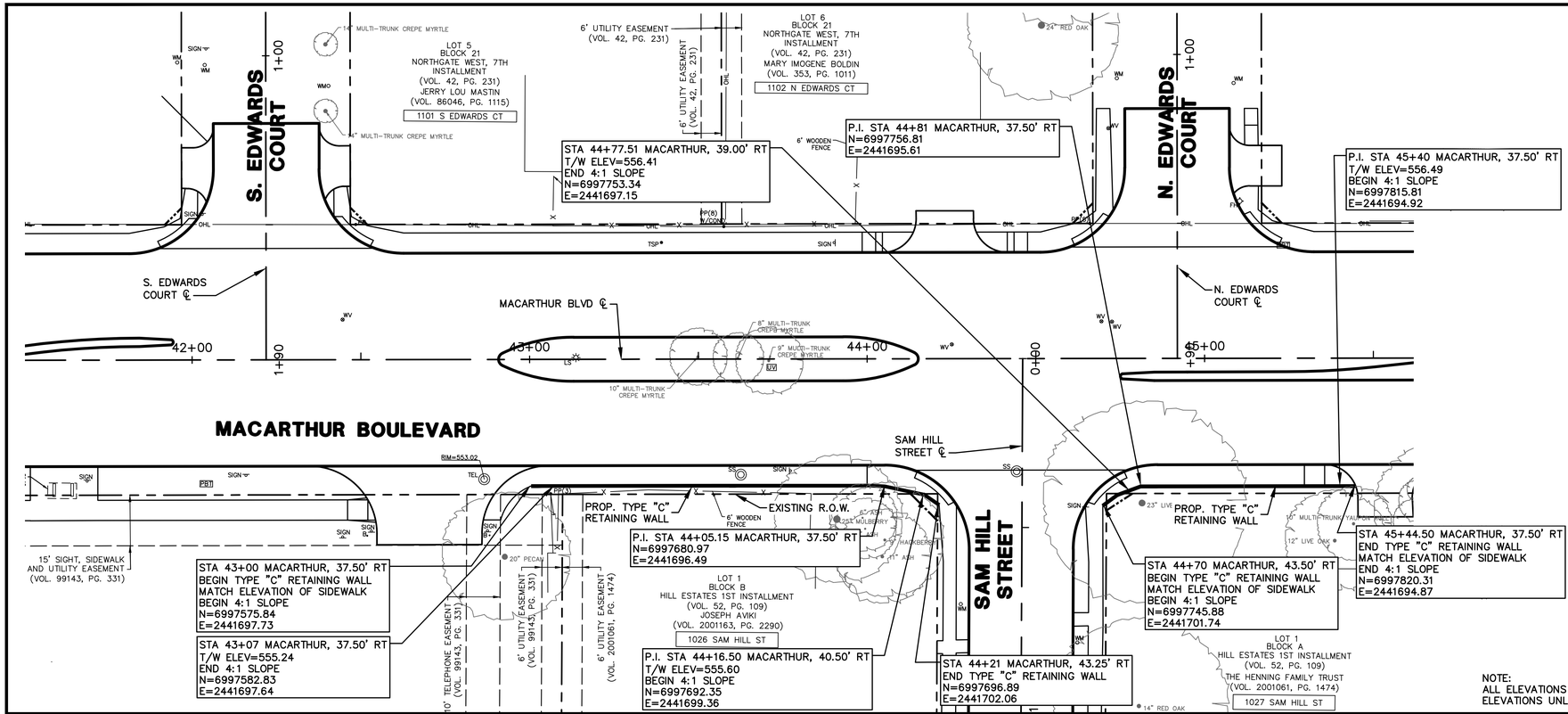

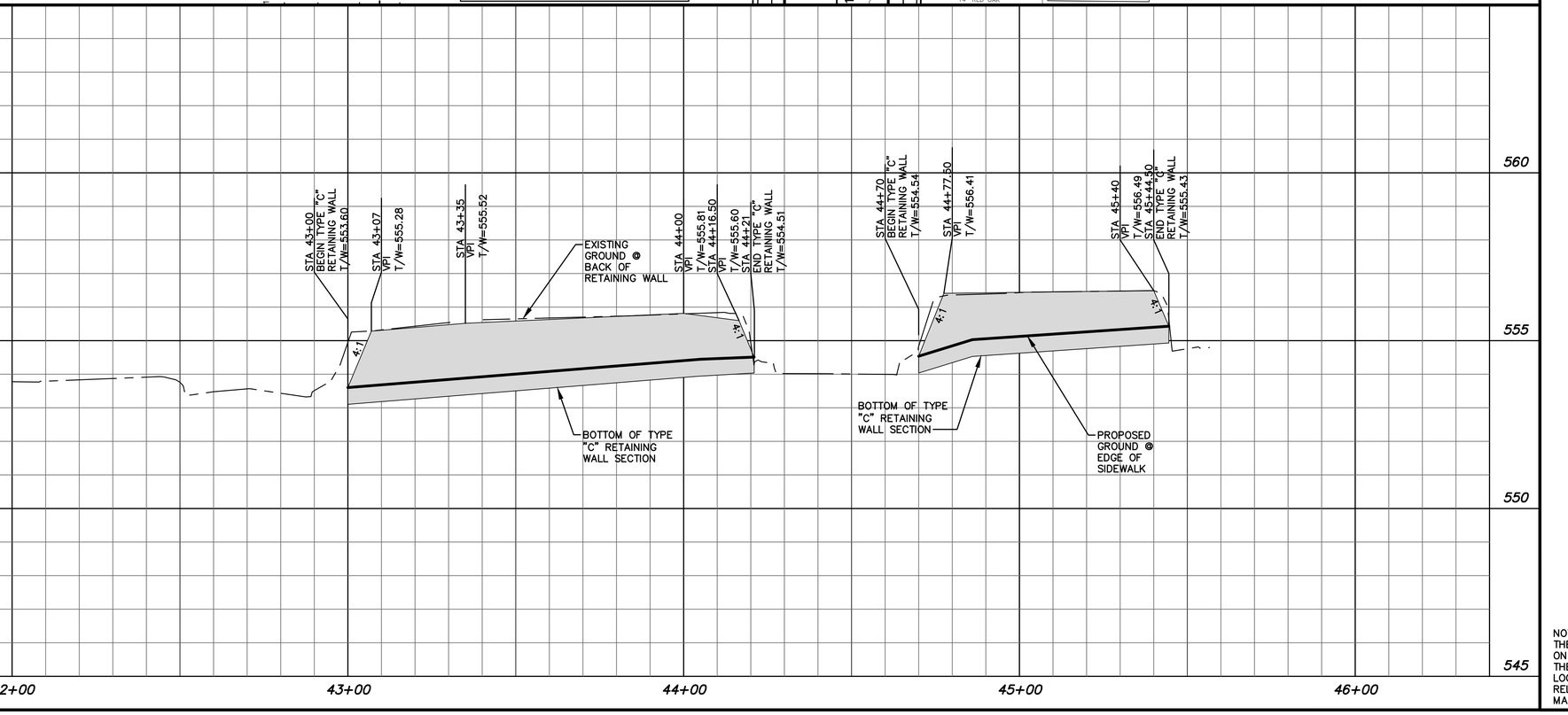

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

NOTE:
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REV	DATE	BY	REVISIONS:
1			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS BRIAN D. O'NEILL 83980 REGISTERED PROFESSIONAL ENGINEER

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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972.721.2611
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RIGHT RETAINING WALL PLAN & PROFILE
MACARTHUR BOULEVARD (METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 110

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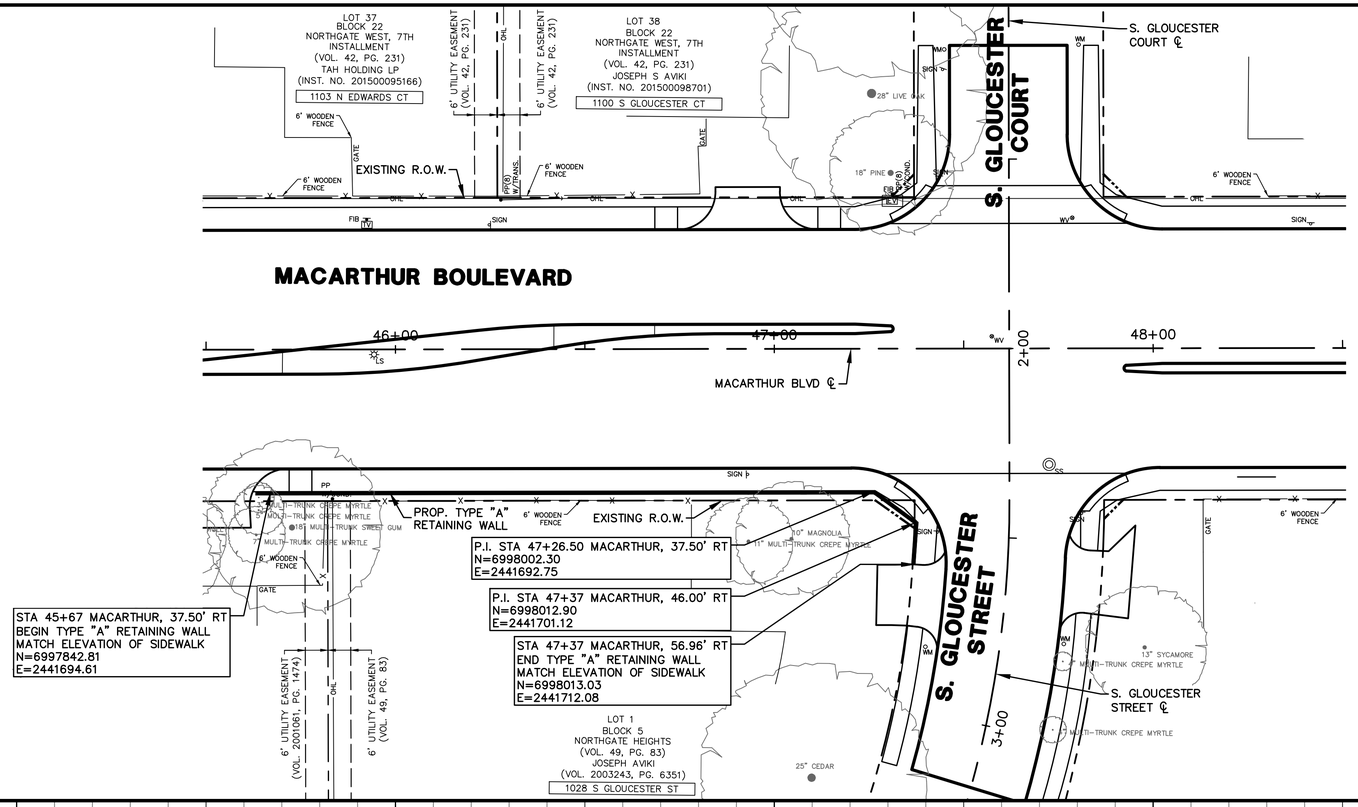

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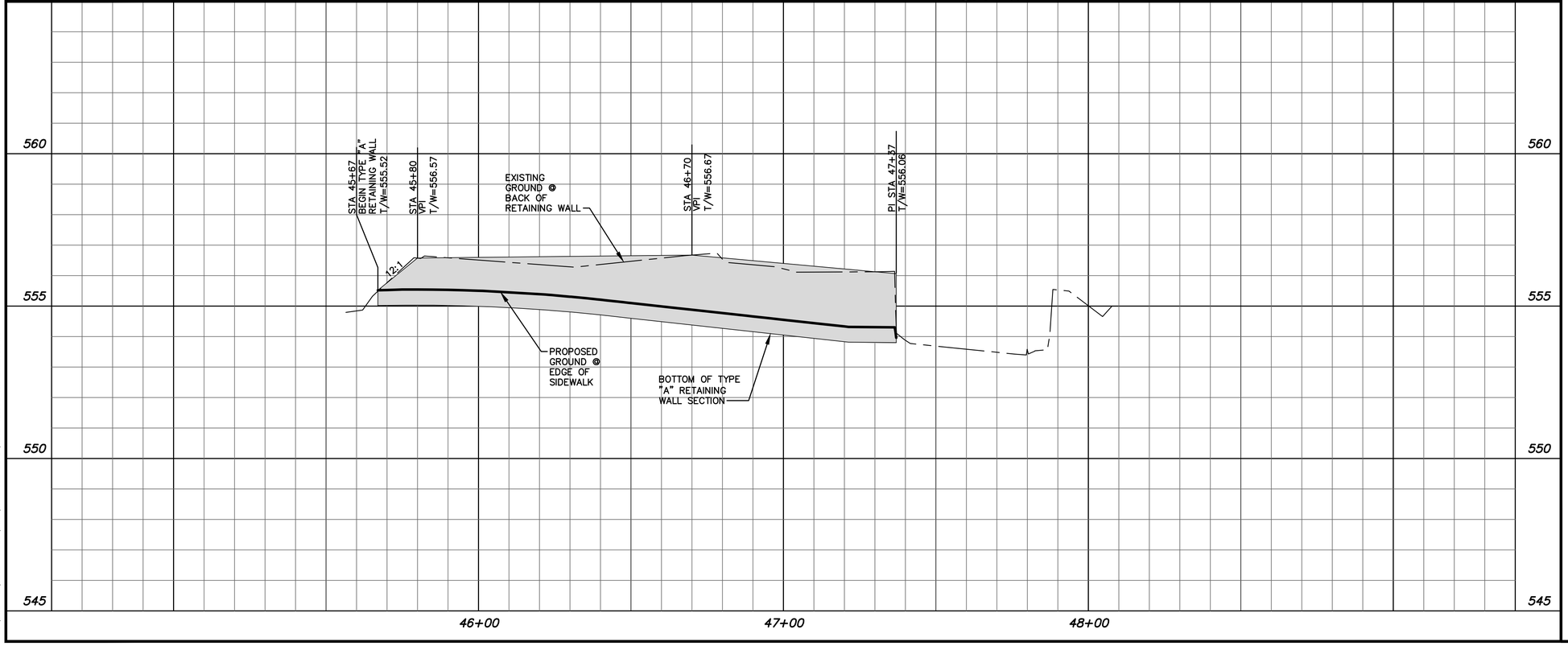

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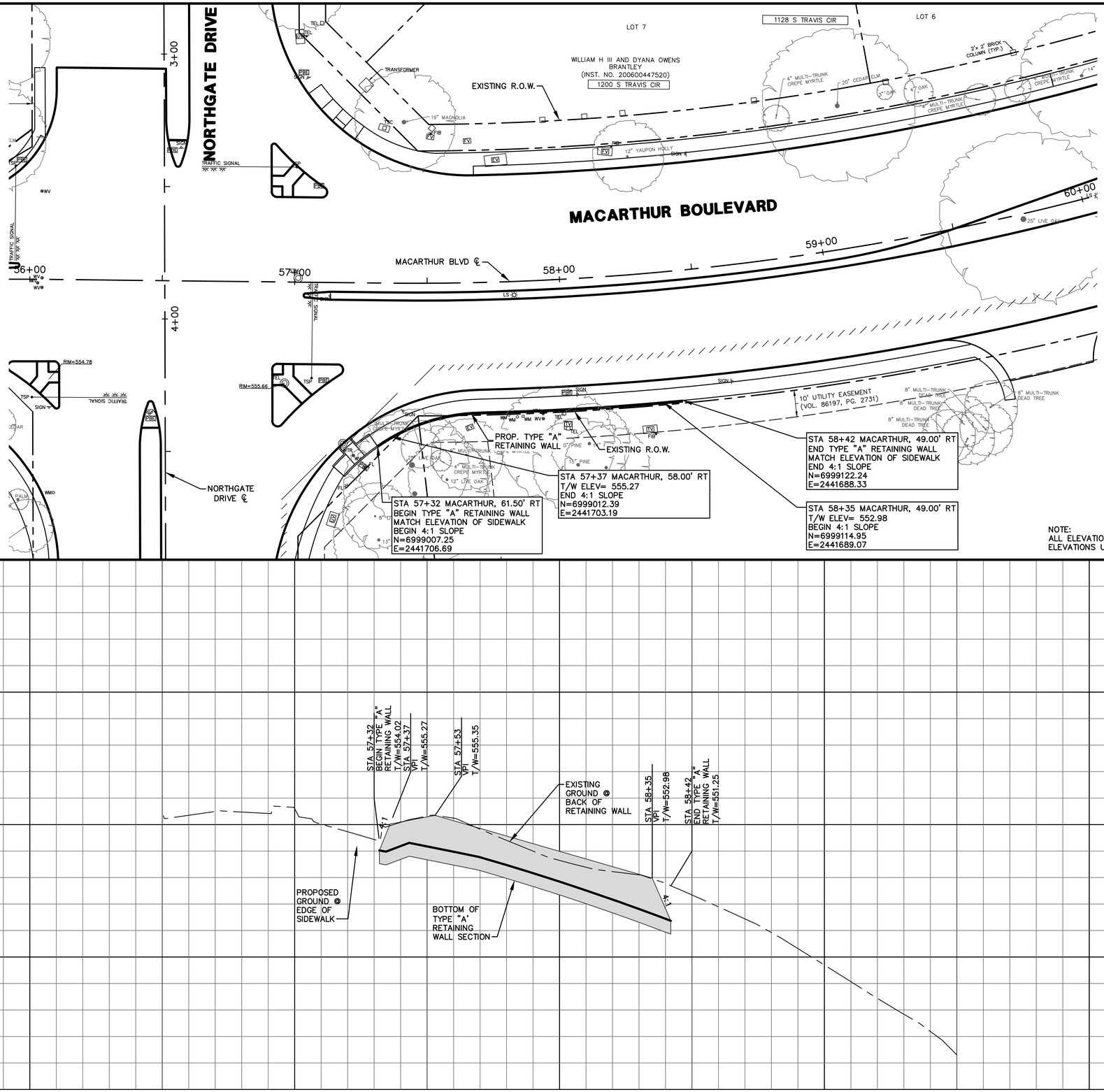
0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

REV	DATE	BY	REVISIONS:



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RGP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch
4080 BRYANT IRVIN ROAD
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RIGHT RETAINING WALL PLAN & PROFILE
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 112

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05/10/2022 - 12:12PM
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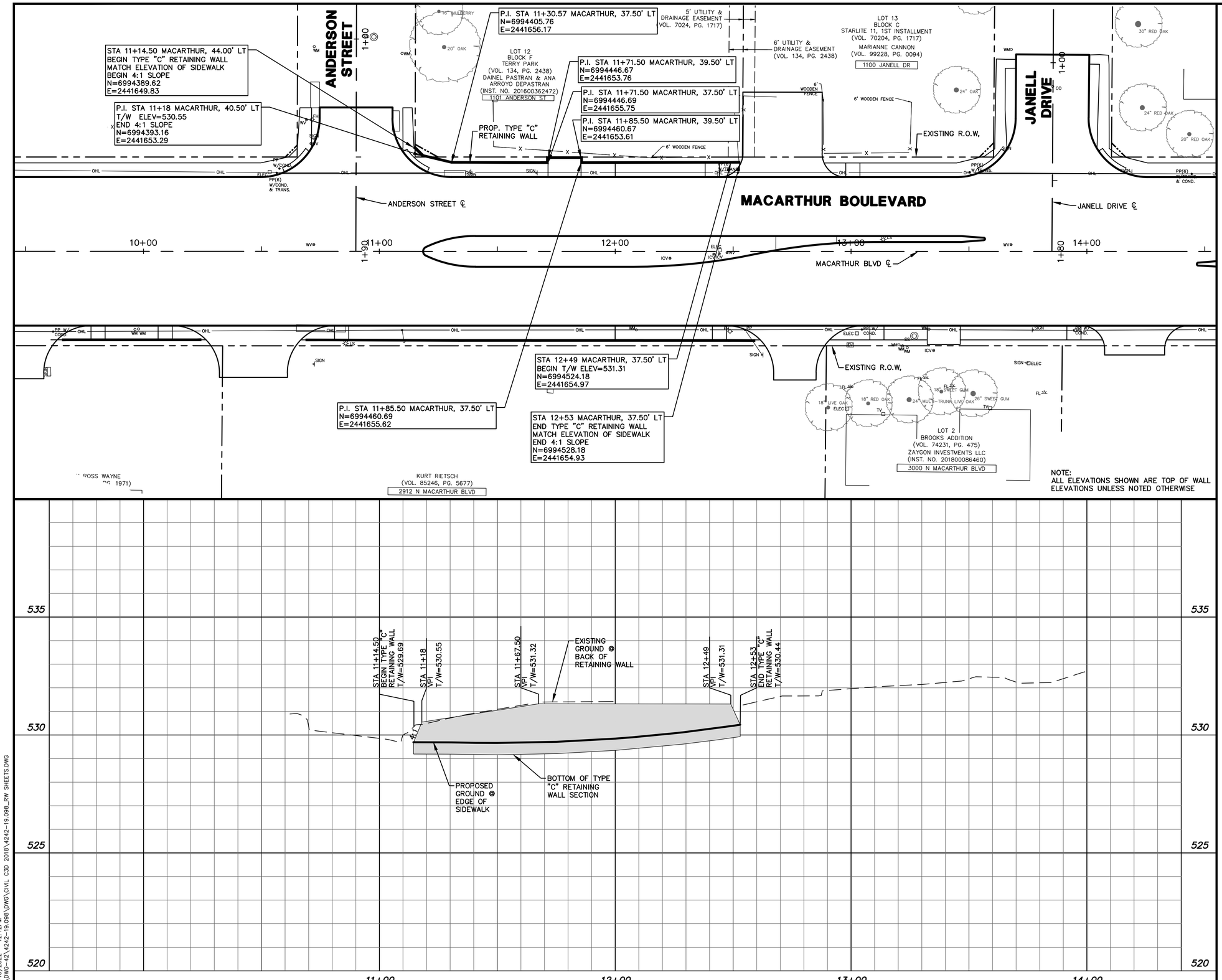

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

PROPOSED RETAINING WALL

REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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Capital Improvement Program
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LEFT RETAINING WALL PLAN & PROFILE
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 113

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CONSTRUCT 400 LF 8" PVC D2241 SDR-26 WW MAIN

400 LF OF EXISTING 8" VCP WW MAIN TO BE ABANDONED AND GROUTED

STA 0+00 LINE "WW-A"
REMOVE AND REPLACE
EXISTING 4' DIA. MH
CONNECT TO EX. 8" VCP WW MAIN
CONSTRUCT 15 SY CONCRETE PAVEMENT REPAIR
RIM=529.22
N: 6994038.92
E: 2441726.93

IRVING NORTH CHRISTIAN CHURCH
(VOL. 71165, PG. 2189)
2901 N MACARTHUR BLVD

LOT 13
BLOCK E
TERRY PARK
(VOL. 134, PG. 2438)
SACHIN INVESTMENTS LLC
SERIES J
(INST. NO. 201400171699)
1102 ANDERSON ST

LOT 12
BLOCK F
TERRY PARK
(VOL. 134, PG. 2438)
DAINEL PASTRAN & ANA ARROYO DEPASTRAN
(INST. NO. 201600362472)
1101 ANDERSON ST

ANDERSON STREET

ANDERSON STREET ℄

6' UTILITY & DRAINAGE EASEMENT (VOL. 134, PG. 2438)

6' WOODEN FENCE

INLET TC=530.87
FL 18"=526.5±

TV 530.76
TN 526.56

INLET TC=530.00
FL 24"=524.5±

INLET TC=529.64
FL 24"=523.1±
FL 24"=523.8±

PROPOSED 24" RCP

PROPOSED 6'X5' RCBC

PROPOSED 24" RCP

PROPOSED 8" WATER

PROPOSED 24" RCP
INLET TC=530.73
FL 18"=523.7±

RIM=529.42
PIPES REMOVED
FL 8"(B)TOM=511.2

DUCT BANK #1

ONCOR 2-6" CONDUIT

TV 529.58
W/ TN 525.48

UNABLE TO OPEN

MACARTHUR BOULEVARD

MACARTHUR BLVD ℄

PROPOSED 125 SY CONCRETE PANEL REPLACEMENT

EXISTING 8" VCP WW

EXISTING 8" VCP WW.

96°17'29"

RIM=529.66
FL 51"(W)=522.1±
FL 51"(E)=522.0±

15' SIGHT EASEMENT (VOL. 85146, PG. 982)

10' SIGHT & UTILITY EASEMENT (VOL. 85146, PG. 982)

EXISTING 8" VCP WW MAIN TO BE CUT, PLUGGED & ABANDONED

METKER STREET

P.I. STA 0+70 LINE "WW-A"
Δ=03°44'42" RT
CONSTRUCT 4' DIA. MH
RIM=529.56
N: 6994108.64
E: 2441720.65

PROPOSED 24" RCP

EXISTING 8" VCP WW MAIN TO BE ABANDONED & GROUTED

PROPOSED 16" WATER

PROPOSED 24" RCP

STA 2+65 WW-A
CONSTRUCT 4' DIA. MH
CONNECT TO COMMERCIAL SERVICE
RIM=529.18
N=6994303.63
E=2441718.70

INLET TC=529.95
FL 24"=523.1±

MATCH LINE STA - 4+00

LOT 1
BLOCK A
STAVELY ADDITION
(VOL. 85146, PG. 982)
MACARTHUR 2900 LLC
(INST. NO. 201600169410)
2900 N MACARTHUR BLVD

RYAN ROSS WAYNE
(VOL. 2002057, PG. 1971)
2904 N MACARTHUR BLVD

KURT RIETSCH
(VOL. 85246, PG. 5677)
2912 N MACARTHUR BLVD

LINE "WW-A"

NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

39 LF OF CONCRETE PANEL REPLACEMENT

STA 0+00 LINE "WW-A"
REMOVE & REPLACE
EXISTING MH
CONNECT TO EXISTING WW MAIN
RIM=529.22

P.I. STA 0+70 LINE "WW-A"
CONSTRUCT 4' DIA. MH
RIM=529.56

STA 2+65 LINE "WW-A"
CONSTRUCT 4' DIA. MH
CONNECT TO COMMERCIAL SERVICE
RIM=529.18

EXISTING GROUND @ CENTERLINE

PROPOSED GROUND @ CENTERLINE

EXISTING MAN HOLE

EXISTING FIBER OPTIC

12-WAY DUCT BANK

ONCOR 2-6" CONDUIT

70 LF 8" WW MAIN @ 0.40%

1.5'

10 LF 12" STEEL ENCASEMENT

EXISTING 6'x3' RCB
FL=519.4

195 LF 8" WW MAIN @ 0.40%

1.0'

PROPOSED 24" RCP
FL=520.8

EXISTING 8" WW MAIN

136 LF 8" WW MAIN @ 0.40%

1.1'

PROPOSED 24" RCP
FL=521.3

EXISTING 24" RCP TO BE REMOVED

FL 8"=521.1 (S) OUT
FL 8"=523.0 (N) IN
FL 8"=521.1 (E) IN

FL 8"=523.28 (S) OUT
FL 8"=523.38 (N) IN

FL 8"=524.15 (S) OUT
FL 8"=524.25 (N) IN

400' LF 8" PVC (D2241 SDR-26)
W/ CLASS "B" EMBEDMENT

FL 8"=523.20
FL 8"=523.50
FL 8"=523.70
FL 8"=523.90
FL 8"=524.10
FL 8"=524.39
FL 8"=524.59
FL 8"=524.79

530
520
510
500

0+00 1+00 2+00 3+00 4+00

MATCH LINE STA - 4+00

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

SHEET
WASTEWATER PLAN & PROFILE
LINE WW-A
STA 0+00 TO STA 4+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

114

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05/20/2022 - 12:19PM
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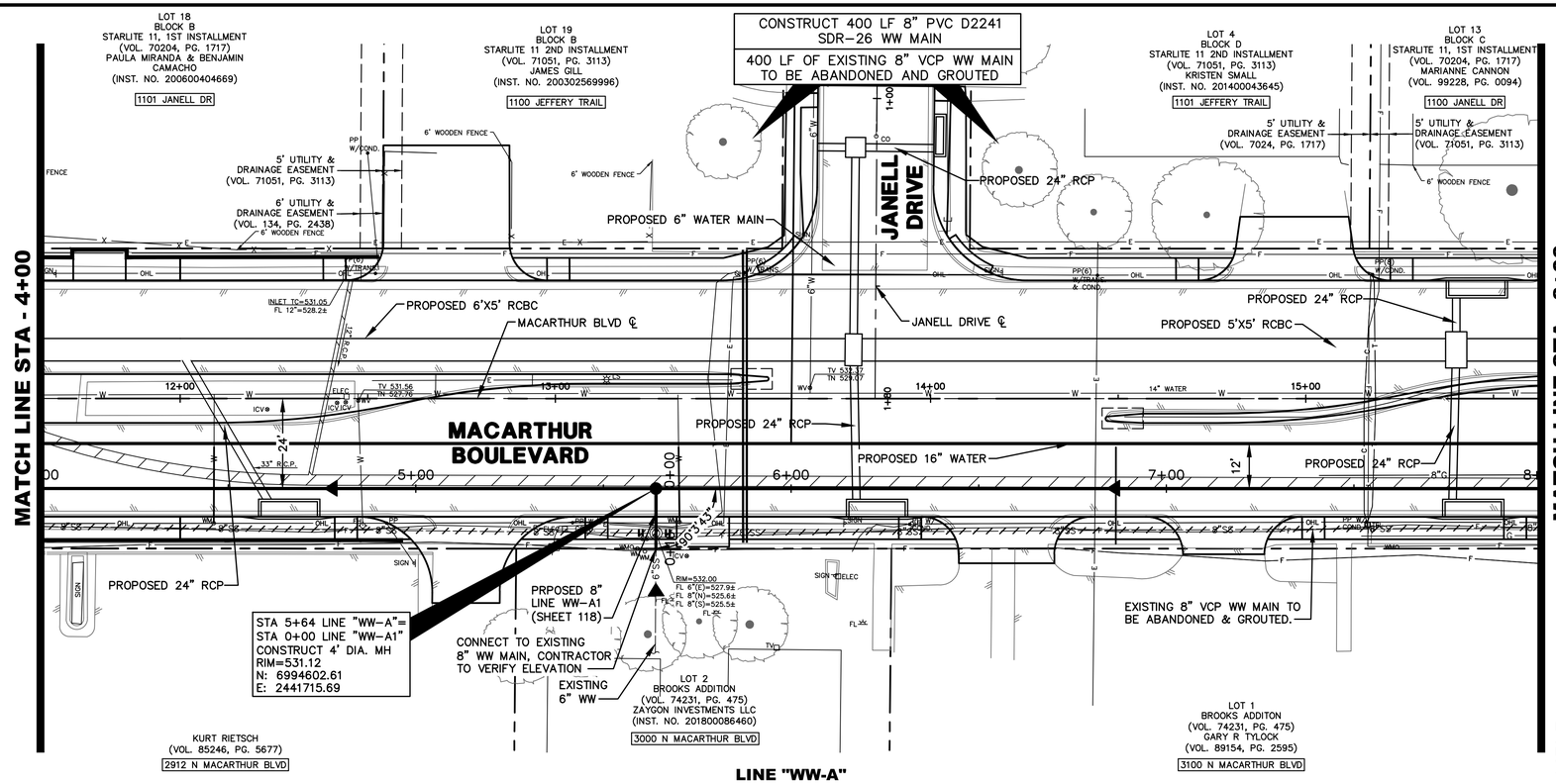

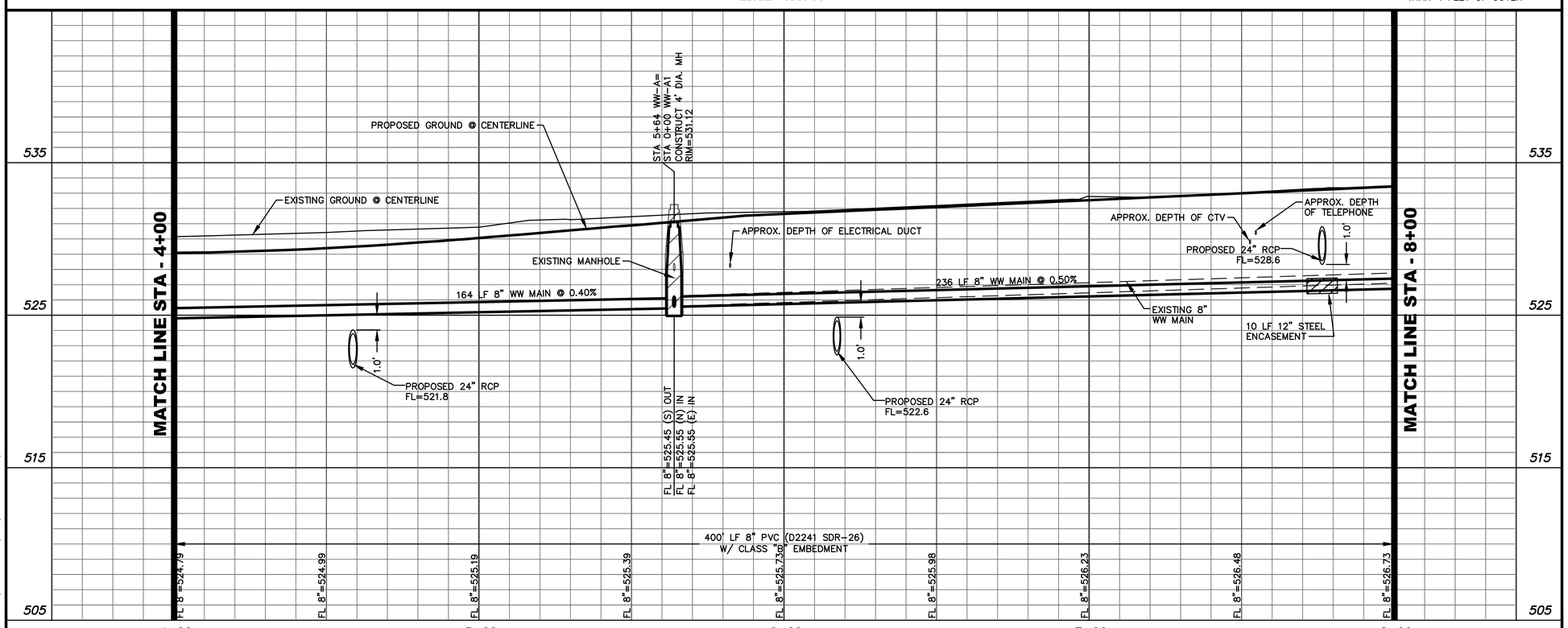

NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER

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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

REVISIONS:	BY	DATE
XXXXXXX		XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
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REVIEWED BY: CAB
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TX REG. SURVEYING FIRM LS-10008001

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Capital Improvement Program

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Irving, Texas 75060
972.721.2611
www.cityofirving.org

WASTEWATER PLAN & PROFILE
LINE WW-A
STA 4+00 TO STA 8+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 115

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05/10/2022 -- 12:13PM
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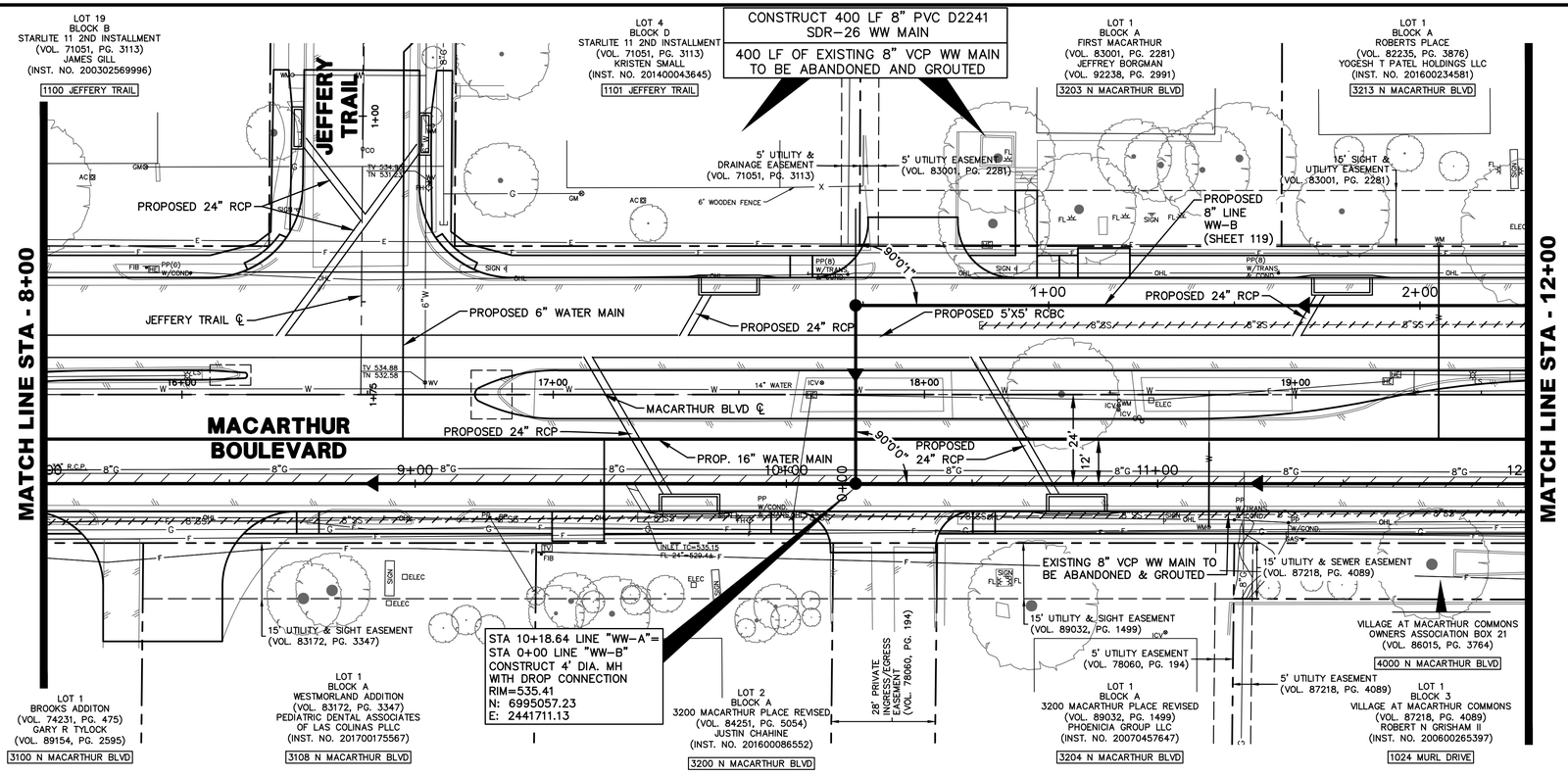

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

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REVISIONS:

REV	DATE	BY
1	XX/XXXX	
2		
3		
4		
5		

SCALE: SEE GRAPHICS
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DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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TX REG. SURVEYING FIRM LS-10008001

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SHEET
WASTEWATER PLAN & PROFILE
LINE WW-A
STA 8+00 TO STA 12+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

116

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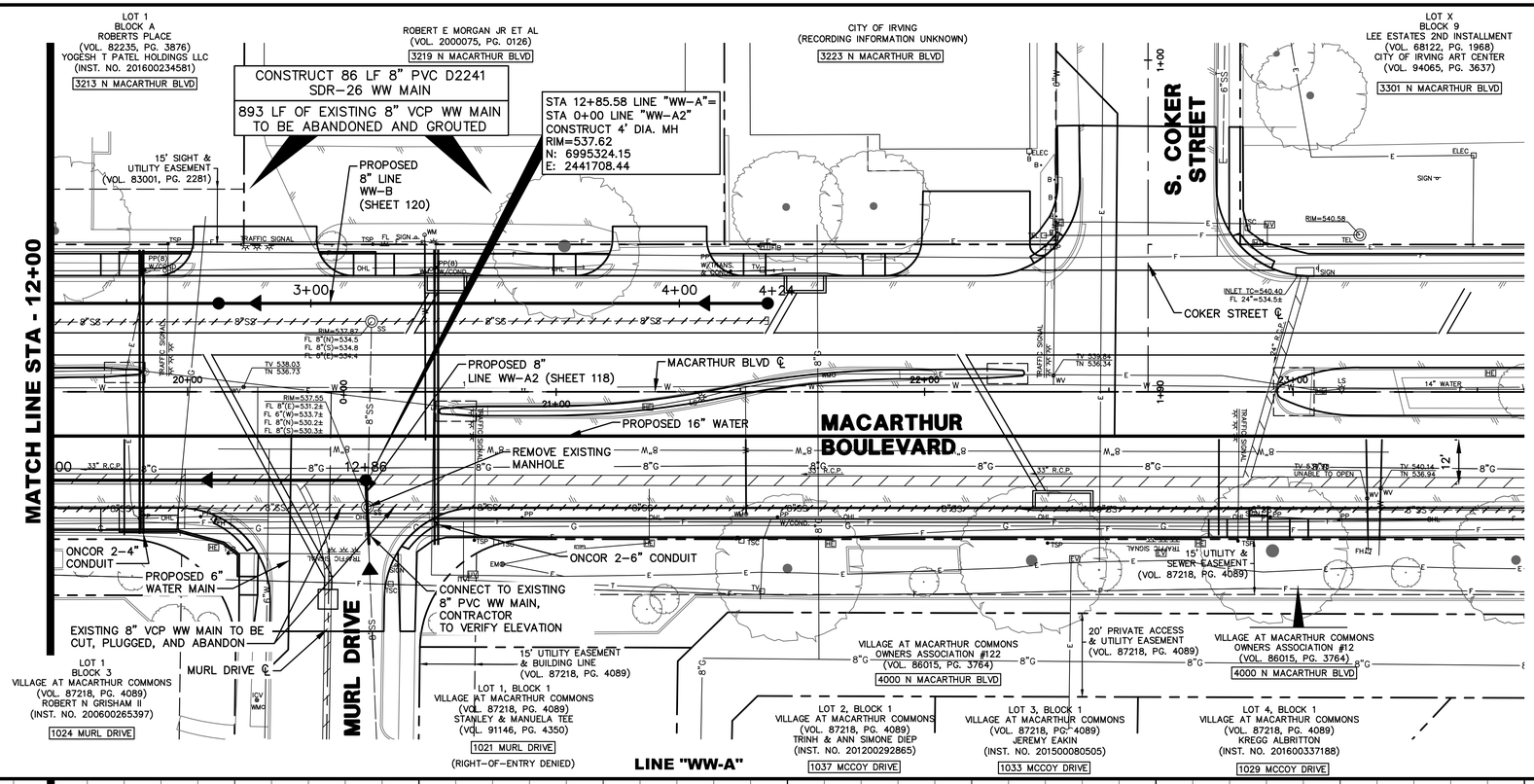

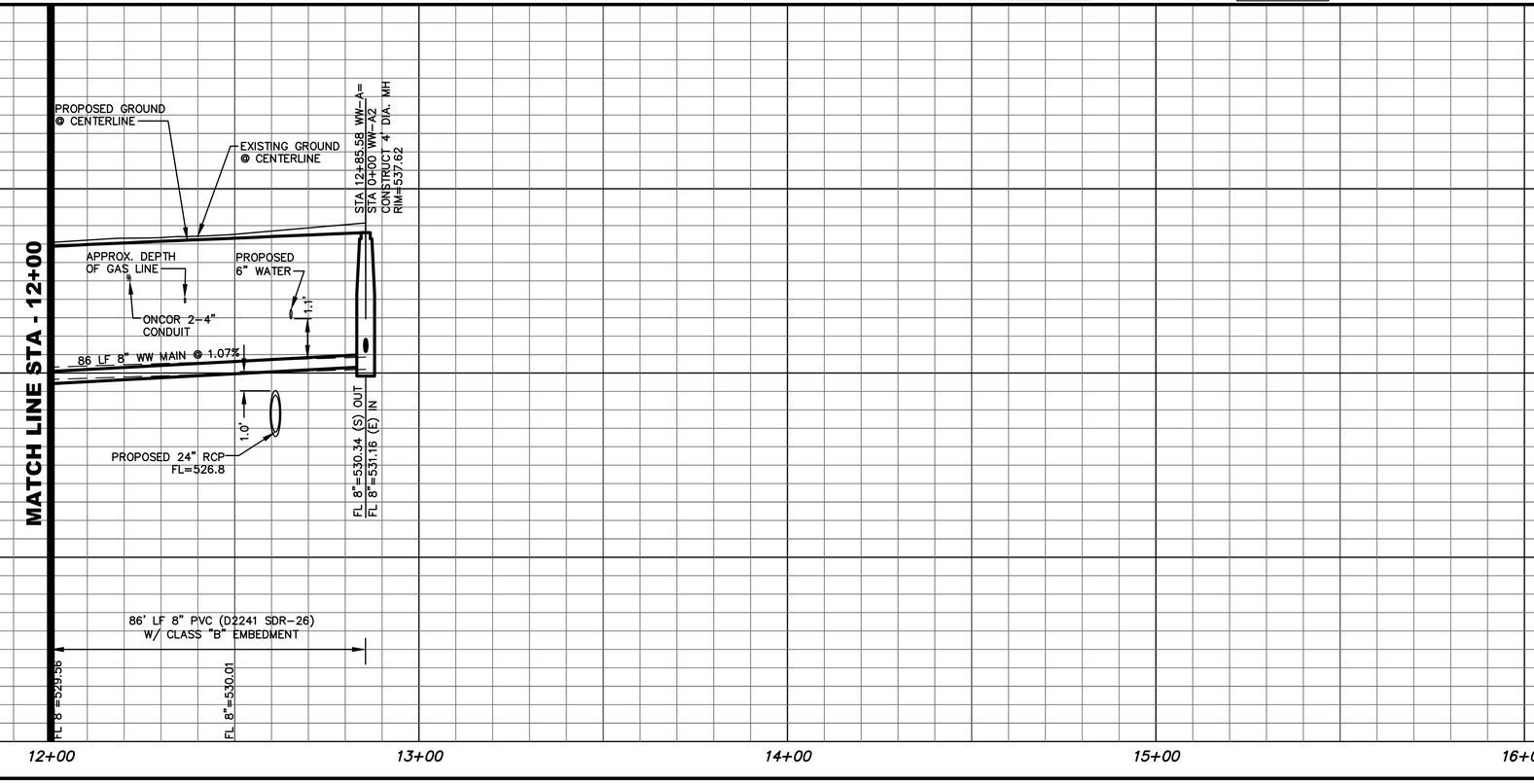

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	XX/XXXX		XXXXXXXX

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SURVEYED BY: PACHECO KOCH

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BRIAN D. O'NEIL 83380 LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10006001

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Capital Improvement Program
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www.cityofirving.org

SHEET
WASTEWATER PLAN & PROFILE
LINE WW-A
STA 12+00 TO STA 12+85.50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

117

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05/10/2022 - 12:14PM
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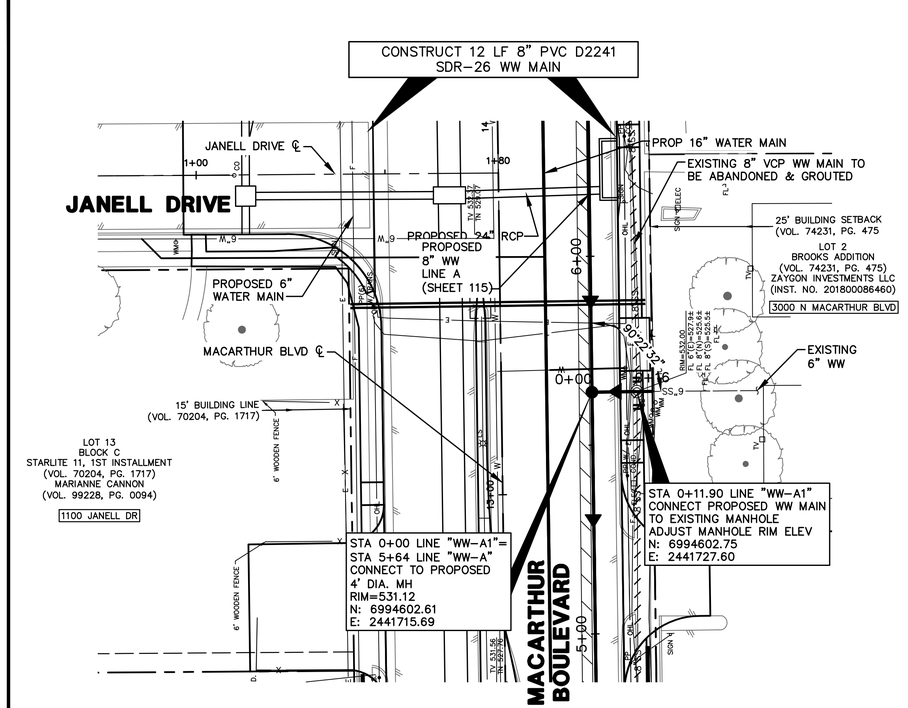
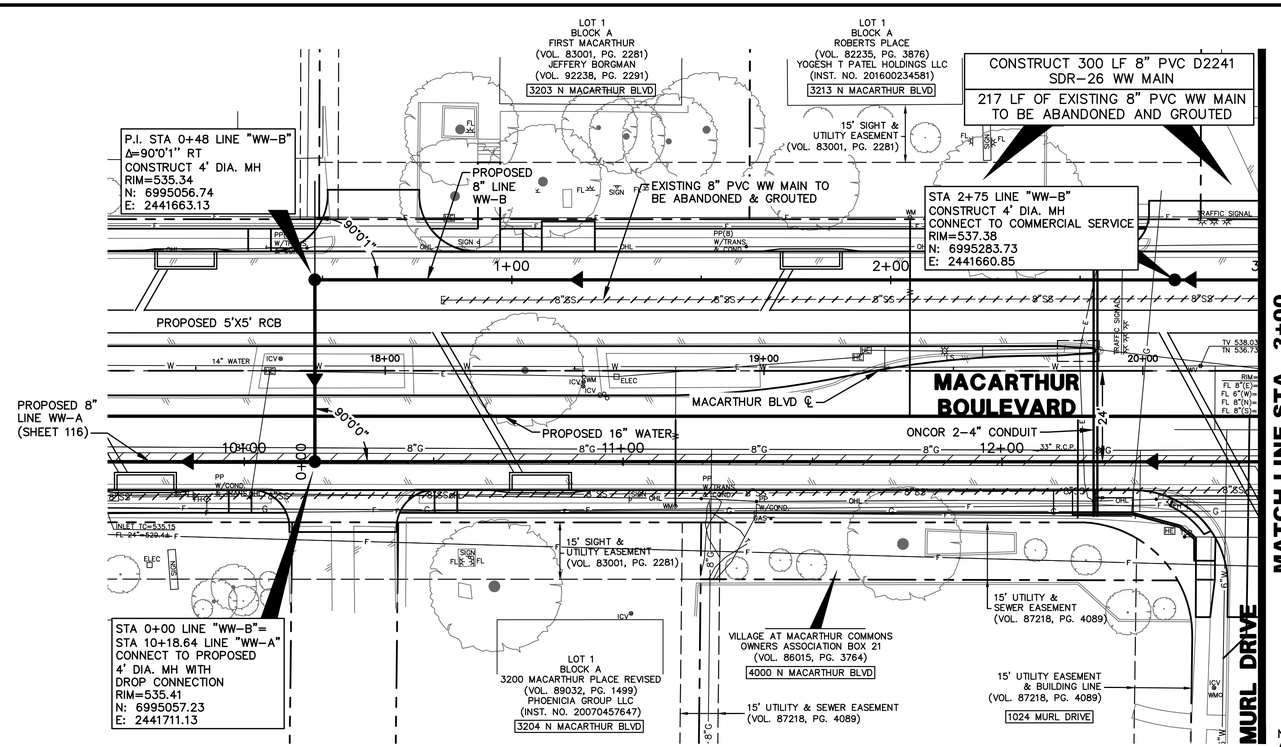
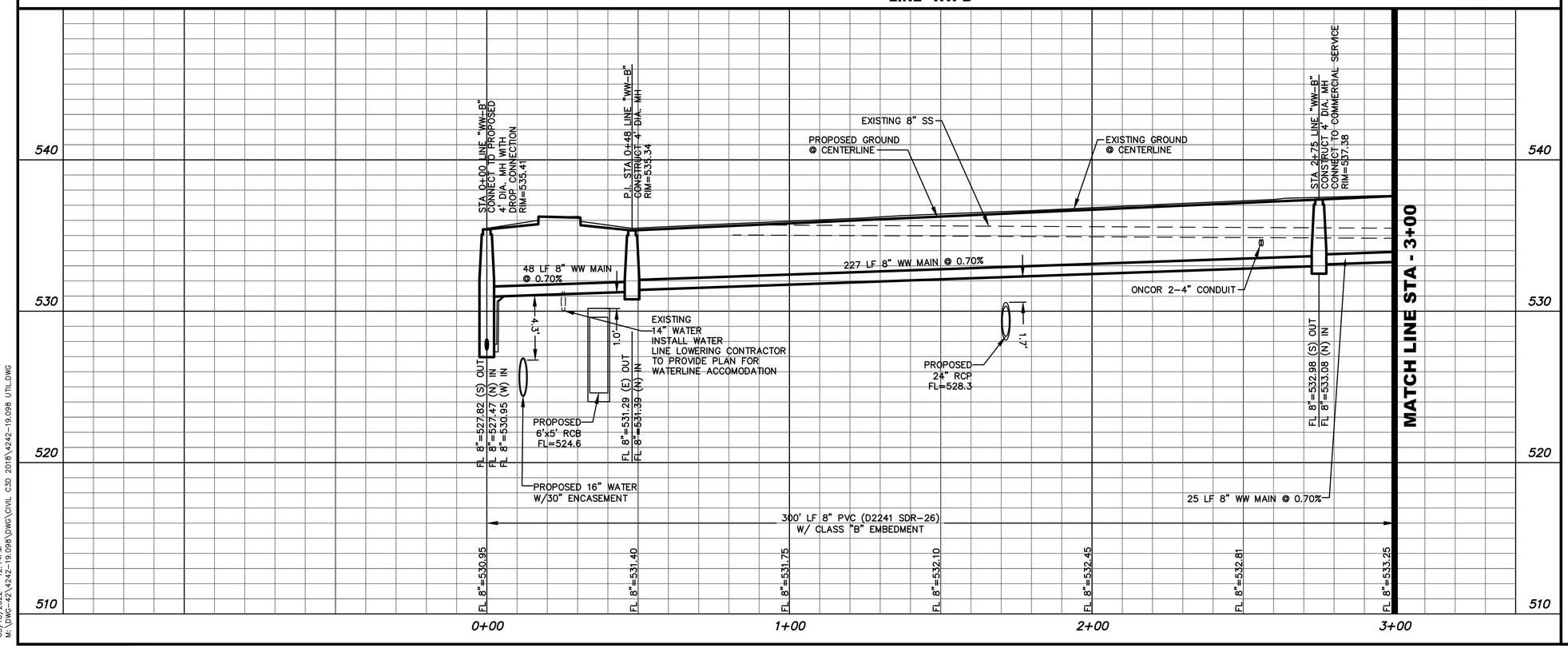

CONSTRUCT 12 LF 8" PVC D2241
SDR-26 WW MAIN
JANELL DRIVE
JANELL DRIVE ℄
PROP 16" WATER MAIN
EXISTING 8" VCP WW MAIN TO BE ABANDONED & GROUTED
25' BUILDING SETBACK
(VOL. 74231, PG. 475
LOT 2
BROOKS ADDITION
(VOL. 74231, PG. 475)
ZAYGON INVESTMENTS LLC
(INST. NO. 201800086460)
3000 N MACARTHUR BLVD
PROPOSED 24" RCP
PROPOSED
8" WW
LINE A
(SHEET 115)
PROPOSED 6"
WATER MAIN
MACARTHUR BLVD ℄
EXISTING
6" WW
15' BUILDING LINE
(VOL. 70204, PG. 1717)
LOT 13
BLOCK C
STARLITE 11, 1ST INSTALLMENT
(VOL. 70204, PG. 1717)
MARIANNE CANNON
(VOL. 99228, PG. 0094)
1100 JANELL DR
STA 0+00 LINE "WW-A1"=
STA 5+64 LINE "WW-A"
CONNECT TO PROPOSED
4' DIA. MH
RIM=531.12
N: 6994602.61
E: 2441715.69
STA 0+11.90 LINE "WW-A1"
CONNECT PROPOSED WW MAIN
TO EXISTING MANHOLE
ADJUST MANHOLE RIM ELEV
N: 6994602.75
E: 2441727.60
MACARTHUR BOULEVARD
6' WOODEN FENCE
SIGN
TV 538.47
TW 538.47
TV 538.56
TW 538.56
FL 8"(S)=527.93
FL 8"(E)=525.54
FL 8"(N)=525.54
FL 8"(W)=525.54
RIM=532.00
0+00
1+00
2+00
3+00
4+00
5+00
6+00
1+80
14"
8"W
8"G
8"S
OHL
SS
WWP
SDWK
SDWK
SDWK





NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER

NOTE:
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0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WASTEWATER PLAN & PROFILE
LINE WW-B
STA 0+00 TO STA 3+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
119

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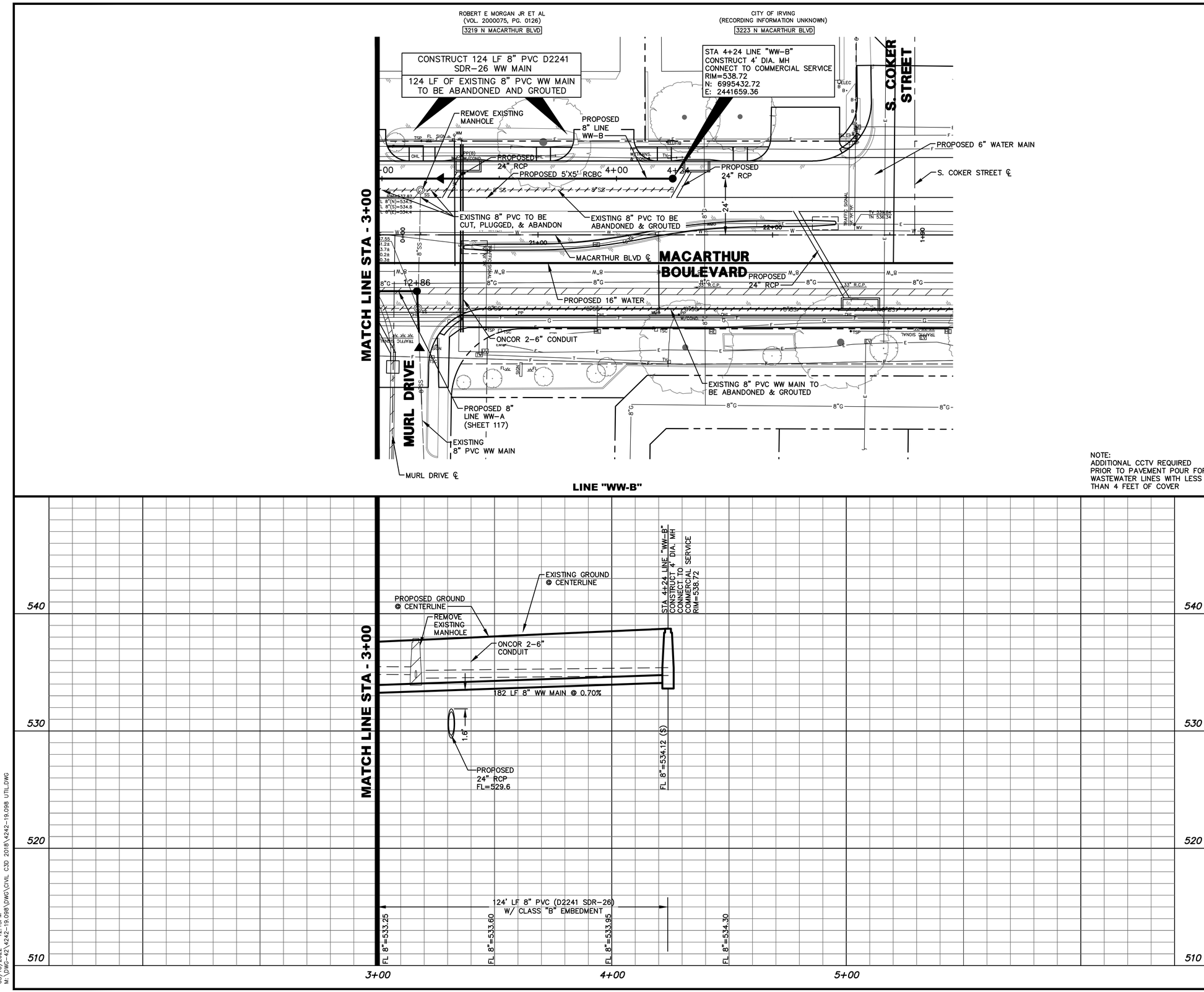

NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

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STATE OF TEXAS
BRIAN D. O'NEILL
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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
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Irving, Texas 75060
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WASTEWATER PLAN & PROFILE
LINE WW-B
STA 3+00 TO STA 4+81.54
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 120

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CONSTRUCT 400 LF 8" PVC D2241 SDR-26 WW MAIN

400 LF OF EXISTING 8" VCP WW MAIN TO BE ABANDONED AND GROUTED

LOT 1
BLOCK A
MACARTHUR HIGH SCHOOL
(VOL. 99143, PG. 331)
IRVING INDEPENDENT SCHOOL DISTRICT
(VOL. 5785, PG. 657)
3646 N MACARTHUR BLVD

LOT 1
MACARTHUR BUSINESS PARK
FIRST INSTALLMENT
(VOL. 85053, PG. 5313)
IRVING ISD
(RECORDING INFORMATION UNKNOWN)
3636 N MACARTHUR BLVD

EXISTING 6" WW

CONNECT TO EXISTING 6" WW MAIN, CONTRACTOR TO VERIFY ELEVATION

PROPOSED 8" WW LINE C-2 (SHEET 123)

15' SIGHT, SIDEWALK AND UTILITY EASEMENT (VOL. 99143, PG. 331)

EXISTING 8" VCP WW MAIN TO BE ABANDONED & GROUTED (1962)

PROPOSED 24" RCP

PROPOSED 16" WATER

PROPOSED 24" RCP

PROPOSED 8" LINE WW-D (SHEET 124)

PROPOSED 24" RCP

EXISTING 8" VCP WW MAIN TO BE CUT, PLUGGED, AND ABANDONED

6' UTILITY EASEMENT (VOL. 42, PG. 231)

EXISTING 8" WW

STA 0+00 LINE "WW-C"=
STA 0+63 LINE "WW-D"
CONSTRUCT 4' DIA. MH
ADD 2 VF EXTRA DEPTH
RIM=552.47
N: 6997080.89
E: 2441689.92

LOT 7
BLOCK 20
NORTHGATE WEST 8TH INSTALLMENT
(VOL. 50, PG. 203)
VU VAN T IRA
(INST. NO. 201400010941)
1125 COKER ST

MACARTHUR BOULEVARD

MACARTHUR BLVD ℄

PROPOSED 8" WATER

PROPOSED 48" RCP

PROPOSED 24" RCP

N. COKER STREET ℄

STA 3+62.09 LINE "WW-C"=
STA 0+00 LINE "WW-C2"
CONSTRUCT 4' DIA. MH
ADD 1 VF EXTRA DEPTH
CONSTRUCT 10 LF OF 8" PVC WW MAIN EAST @ 0.40%
CONNECT TO EXISTING 6" WW MAIN
RIM=553.20
N: 6996718.82
E: 2441693.88

EXISTING 6" VCP WW MAIN TO BE REMOVED

ONCOR 2-4" CONDUIT

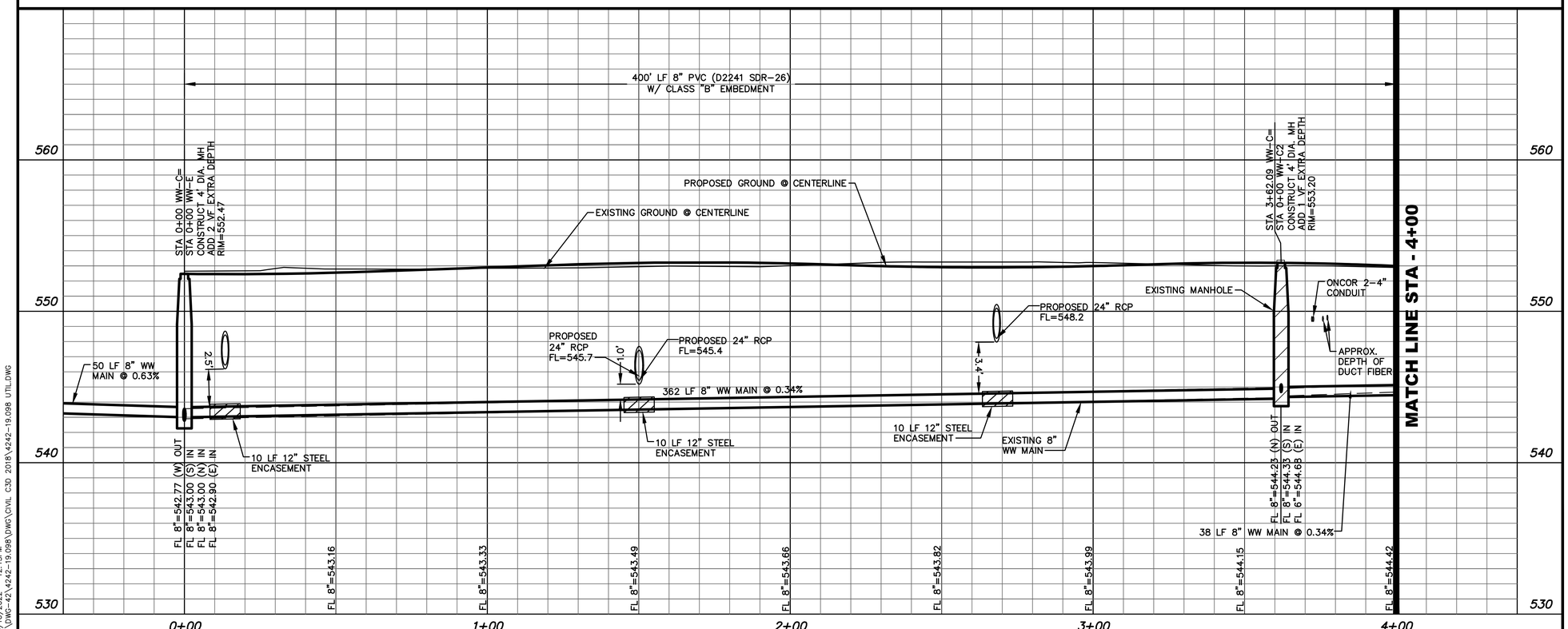
EXISTING 8" VCP WW MAIN TO BE CUT, PLUGGED, AND ABANDONED

LOT 1
BLOCK 25
NORTHGATE WEST 8TH INSTALLMENT
(VOL. 50, PG. 203)
MIAMOR PROPERTIES LP
(INST. NO. 201200271121)
3501 N MACARTHUR BLVD

MATCH LINE STA - 4+00

N. COKER STREET

LINE "WW-C"



0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

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REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
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REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WASTEWATER PLAN & PROFILE
LINE WW-C
STA 0+00 TO STA 4+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 121

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05/10/2022 - 12:15PM
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CONSTRUCT 339 LF 8" PVC D2241 SDR-26 WW MAIN

381 LF OF EXISTING 6" VCP WW MAIN TO BE REMOVED

MATCH LINE STA. - 4+00

LOT 1
MACARTHUR BUSINESS PARK
FIRST INSTALLMENT
(VOL. 85053, PG. 5313)
IRVING ISD
(RECORDING INFORMATION UNKNOWN)
3636 N MACARTHUR BLVD

LOT 1
BLOCK A
MACARTHUR HIGH SCHOOL
(VOL. 99143, PG. 331)
IRVING INDEPENDENT SCHOOL DISTRICT
(VOL. 5785, PG. 657)
3646 N MACARTHUR BLVD

CONNECT TO EXISTING 6" WW MAIN, CONTRACTOR TO VERIFY ELEVATION

EXISTING 6" WW

EXISTING 6" WW

STA 5+85.17 LINE "WW-C"
CONSTRUCT 4' DIA. MH
CONNECT TO COMMERCIAL SERVICE
RIM=552.93
N: 6996495.76
E: 2441696.33

STA 7+39.17 LINE "WW-C"
CONSTRUCT 4' DIA. MH
CONNECT TO COMMERCIAL SERVICE
RIM=551.77
N: 6996341.77
E: 2441698.01

15' SIGHT EASEMENT (VOL. 85053, PG. 5313)

20' UTILITY EASEMENT (VOL. 85053, PG. 5313)

EXISTING 6" VCP WW MAIN TO BE ABANDONED (1962)

PROPOSED 16" WATER

REMOVE EXISTING MANHOLE

MACARTHUR BLVD ℄

REMOVE EXISTING MANHOLE

MACARTHUR BOULEVARD

ONCOR 2-3" CONDUIT

STA 6+74.08 LINE "WW-C"=
STA 0+00 LINE "WW-C1"
CONSTRUCT CONSTRUCT 4' DIA. MH WITH EXTERNAL DROP CONNECTION
RIM=552.26
N: 6996406.85
E: 2441697.30

LOT 1
BLOCK 25
NORTHGATE WEST 8TH INSTALLMENT
(VOL. 50, PG. 203)
MIAMOR PROPERTIES LP
(INST. NO. 201200271121)
3501 N MACARTHUR BLVD

LOT 2
BLOCK 25
NORTHGATE WEST 8TH INSTALLMENT
(VOL. 50, PG. 203)
MIAMOR PROPERTIES LP
(INST. NO. 201200271121)
3433 N MACARTHUR BLVD

LINE "WW-C"

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

EXISTING GROUND ℄ CENTERLINE

EXISTING MANHOLE TO BE REMOVED

PROPOSED 24" RCP FL=546.7

10 LF 12" STEEL ENCASEMENT

185 LF 8" WW MAIN @ 0.34%

89 LF 8" WW MAIN @ 0.66%

65 LF 8" WW MAIN @ 0.73%

339' LF 8" PVC (D2241 SDR-26) W/ CLASS "B" EMBEDMENT

EXISTING 6" WW MAIN

PROPOSED GROUND ℄ CENTERLINE

STA 5+85.17 LINE "WW-C" CONSTRUCT 4' DIA. MH CONNECT TO COMMERCIAL SERVICE RIM=552.93

STA 6+74.08 WW-C= STA 0+00 WW-C1 CONSTRUCT 4' DIA. MH WITH EXTERNAL DROP CONNECTION RIM=552.26

STA 7+39.17 LINE "WW-C" CONSTRUCT 4' DIA. MH CONNECT TO COMMERCIAL SERVICE RIM=551.77

FL 8"=545.09 (N) OUT
FL 8"=545.19 (S) IN

FL 8"=545.78 (N) OUT
FL 8"=545.88 (S) IN
FL 6"=549.47 (E) IN

FL 8"=546.36 (N) OUT

FL 8"=544.42
FL 8"=544.58
FL 8"=544.75
FL 8"=544.91
FL 8"=545.23
FL 8"=545.60
FL 8"=546.07

555 545 535 525

4+00 5+00 6+00 7+00 8+00

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

4080 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

SHEET
WASTEWATER PLAN & PROFILE
LINE WW-C
STA 4+00 TO STA 6+89.17
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

122

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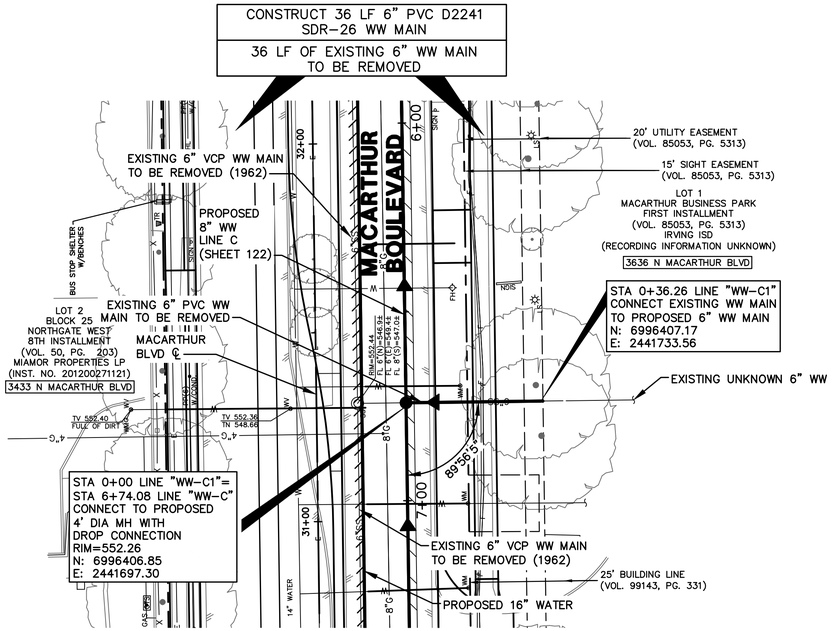

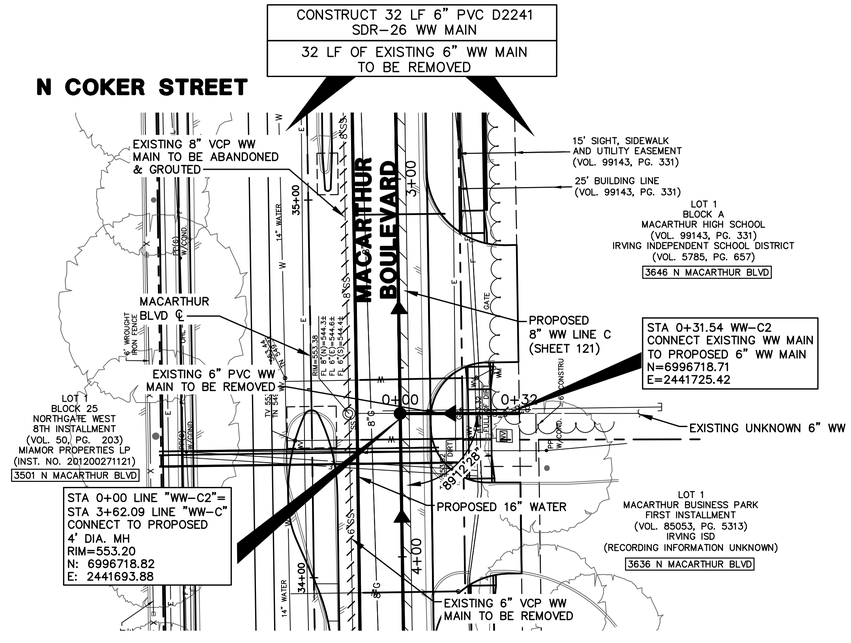

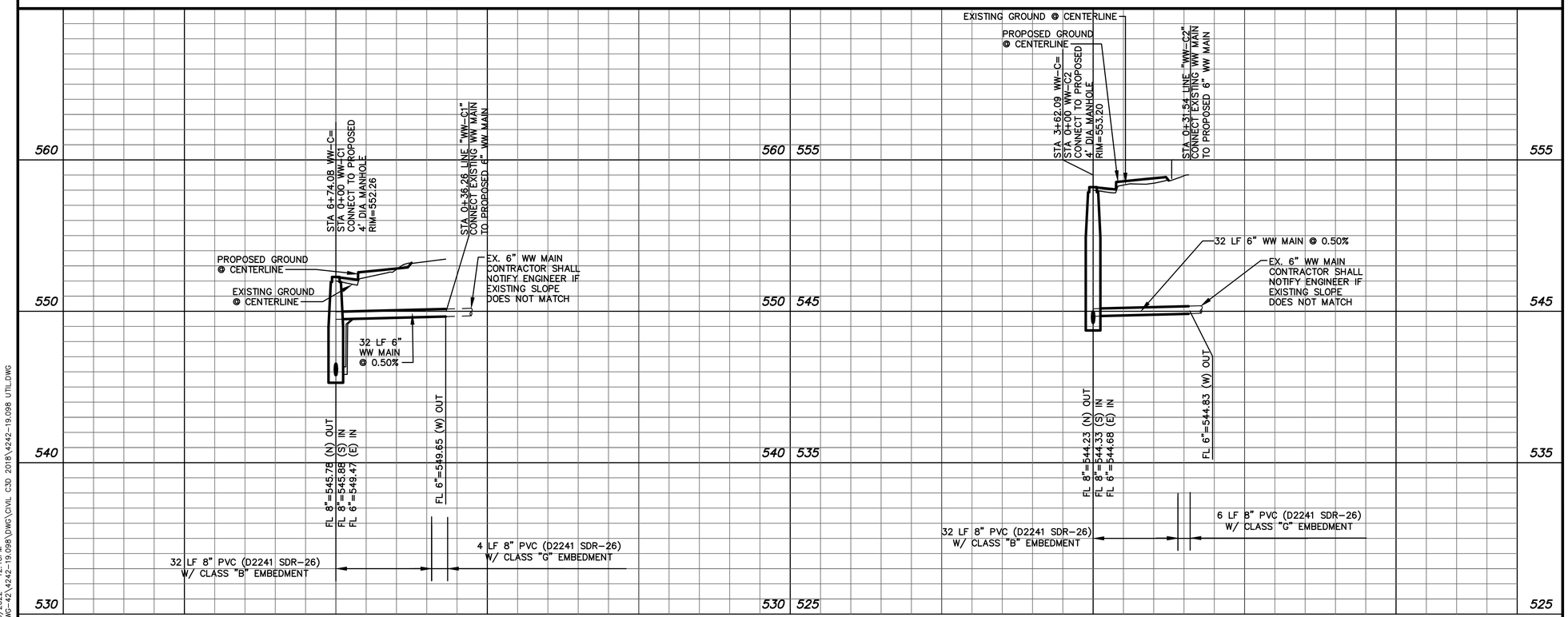

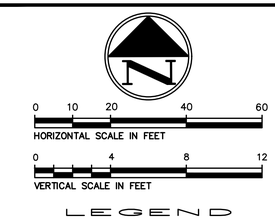

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REV	DATE	BY	REVISIONS:
	XX/XXXX		

SCALE: SEE GRAPHICS
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DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH / XXXXXXX

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Pacheco Koch
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WASTEWATER PLAN & PROFILE
LINE WW-C1 & WW-C2
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 123

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05/10/2022 – 12:16PM
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CONSTRUCT 93 LF 8" PVC D2241 SDR-26 WW MAIN

93 LF OF EXISTING 8" VCP WW MAIN TO BE REMOVED

CORONET STREET

EXISTING 6" VCP TO REMAIN

PROPOSED 16" WATER

15' SIGHT, SIDEWALK AND UTILITY EASEMENT (VOL. 99143, PG. 331)

STA 0+00 LINE "WW-D"
END 8" LINE WW-D
CONNECT TO EX. 8" WW
RIM=543.24
N: 6997081.18
E: 2441626.92

PROPOSED 8" LINE WW-E (SHEET 124)

MACARTHUR BLVD ℄

STA 0+93 LINE "WW-D"
REMOVE AND REPLACE
4' DIA. MH
ADD 2 VF EXTRA DEPTH
CONNECT TO EX. 6" VCP WW MAIN
RIM=554.65
N: 6997080.79
E: 2441719.92

6' UTILITY EASEMENT (VOL. 42, PG. 231)

EX. 8" VCP WW MAIN (CONSTRUCTED 1962)

EXISTING 6" VCP WW MAIN TO BE REMOVED

EXISTING 8" VCP WW MAIN TO BE REMOVED

EXISTING 8" VCP WW MAIN TO BE CUT, PLUGGED, & ABANDONED

REMOVE EXISTING MANHOLE

STA 0+63 LINE "WW-D"=
STA 0+00 LINE "WW-C"
CONNECT TO PROPOSED
4' DIA. MH
RIM=552.47
N: 6997080.89
E: 2441689.92

LOT 7
BLOCK 20
NORTHGATE WEST
8TH INSTALLMENT
(VOL. 50, PG. 203)
VU VAN T IRA
(INST. NO. 201400010941)
1125 COKER ST

LOT 1
BLOCK A
MACARTHUR HIGH SCHOOL
(VOL. 99143, PG. 331)
IRVING INDEPENDENT SCHOOL DISTRICT
(VOL. 5785, PG. 657)
3646 N MACARTHUR BLVD

PROPOSED 8" LINE WW-C (SHEET 121)

N COKER STREET

MACARTHUR BOULEVARD

LINE "WW-D"

CONSTRUCT 83 LF 8" PVC D2241 SDR-26 WW MAIN

83 LF OF EXISTING 8" VCP WW MAIN TO BE REMOVED

LOT 66
BLOCK 22
NORTHGATE WEST, 7TH INSTALLMENT
(VOL. 42, PG. 231)
S ABRAHAM PROPERTIES LLC
(INST. NO. 201700247359)
1102 W NORTHGATE DR

PROPOSED 24" RCP

MACARTHUR BLVD ℄

LOT 1
BLOCK 2
NORTHGATE HEIGHTS
(VOL. 49, PG. 83)
SCOTT SHELLHOUSE
(INST. NO. 20070431735)
1032 W NORTHGATE DR

STA 0+00 LINE "WW-J"
CONSTRUCT 4' DIA. MH
CONNECT EXISTING WW MAIN TO PROPOSED MH
RIM=554.20
N: 6998756.78
E: 2441610.52

PROPOSED 16 WATER

STA 0+83.02 LINE "WW-J"
CONSTRUCT 4' DIA. MH
CONNECT EXISTING WW MAIN TO PROPOSED MH
RIM=554.31
N: 6998747.94
E: 2441693.06

6' UTILITY EASEMENT (VOL. 42, PG. 231)

6' UTILITY EASEMENT (VOL. 49, PG. 83)

EX. 8" PVC WW MAIN (CONSTRUCTED 1998)

6' UTILITY EASEMENT (VOL. 42, PG. 231)

CONTRACTOR SHALL VERIFY EXISTING FLOW LINE ELEVATION

6' UTILITY EASEMENT (VOL. 49, PG. 83)

EX. 8" PVC WW MAIN (CONSTRUCTED 1998)

REMOVE EXISTING MANHOLE

LOT 65
BLOCK 22
NORTHGATE WEST, 7TH INSTALLMENT
(VOL. 42, PG. 231)
CSMA FT LLC
(INST. NO. 201500253303)
1101 HADRIAN CT

LOT 34
BLOCK 2
NORTHGATE HEIGHTS
(VOL. 49, PG. 83)
BENNETT & YU-YAN LIU
(VOL. 97049, PG. 1251)
1029 HADRIAN ST

LINE "WW-J"

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

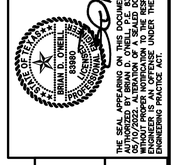
LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

REVISIONS:	REV	DATE	BY
		XX/XXXX	
		XXXXXXXX	

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH



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Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
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WASTEWATER PLAN & PROFILE
LINE WW-D & WW-J
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 124

NOTE:
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STA 0+00 LINE "WW-D"
END 8" LINE WW-D
CONNECT TO EX. 8" WW
RIM=543.24

STA 0+63 WW-D=
STA 0+00 WW-C
STA 0+00 WW-E
CONNECT TO PROPOSED
4' DIA. MH
RIM=552.47

PROPOSED GROUND @ CENTERLINE

STA 0+93 LINE "WW-D"
REMOVE AND REPLACE
4' DIA. MH
ADD 2 VF EXTRA DEPTH
RIM=554.65

EXISTING GROUND @ CENTERLINE

PROPOSED CURB INLET

EXISTING 6" WATER

EXISTING MANHOLE

EXISTING 14" WATER MAIN

EXISTING 8" WW MAIN

EX. 8" WW MAIN CONTRACTOR SHALL NOTIFY ENGINEER IF EXISTING SLOPE DOES NOT MATCH

2.8'

1.3'

63 LF 8" WW MAIN @ 0.41%

20 LF 12" STEEL ENCASEMENT

10'

2'

FL 8"=542.51 (W) OUT
FL 8"=542.51 (E) IN

PROPOSED 54" RCP
FL=536.6

4 LF 8" PVC (D2241 SDR-26) W/ CLASS "C" EMBEDMENT

PROPOSED 16" WATER W/ 30" CASING
FL=538.8

30 LF 8" WW MAIN @ 5.33%

FL 8"=542.77 (W) OUT
FL 8"=543.00 (S) IN
FL 8"=543.00 (N) IN
FL 8"=542.90 (E) IN

FL 8"=544.50 (W) OUT
FL 6"=544.60 (N) IN

89 LF 8" PVC (D2241 SDR-26) W/ CLASS "B" EMBEDMENT

FL 8"=542.71

555
545
535
525

0+00
1+00

LINE "WW-D"

STA 0+00 LINE "WW-J"
CONSTRUCT 4' DIA. MH
CONNECT EXISTING WW MAIN TO PROPOSED MH
RIM=554.20

STA 0+83.02 LINE "WW-J"
CONSTRUCT 4' DIA. MH
CONNECT EXISTING WW MAIN TO PROPOSED MH
RIM=554.31

EXISTING MANHOLE TO BE REMOVED

CONTRACTOR SHALL VERIFY EXISTING FLOW LINE ELEVATION

EXISTING 8" PVC WW MAIN (1998)

1.42'

PROPOSED 24" RCP
FL=550.1

EXISTING 8" PVC WW MAIN (1998)

83 LF 8" WW MAIN @ 0.34%

3.0'

APPROX. DEPTH OF 8" GAS LINE

10 LF 12" STEEL ENCASEMENT

FL 8"=547.95 (W) OUT
FL 8"=547.72 (E) IN

PROPOSED 16" WATER W/ 30" CASING
FL=542.1

83' LF 8" PVC (D2241 SDR-26) W/ CLASS "B" EMBEDMENT

FL 8"=548.00 (W) OUT
FL 8"=548.04 (E) IN

555
545
535
525

0+00
1+00

LINE "WW-J"

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05/17/2022 – 12:17PM
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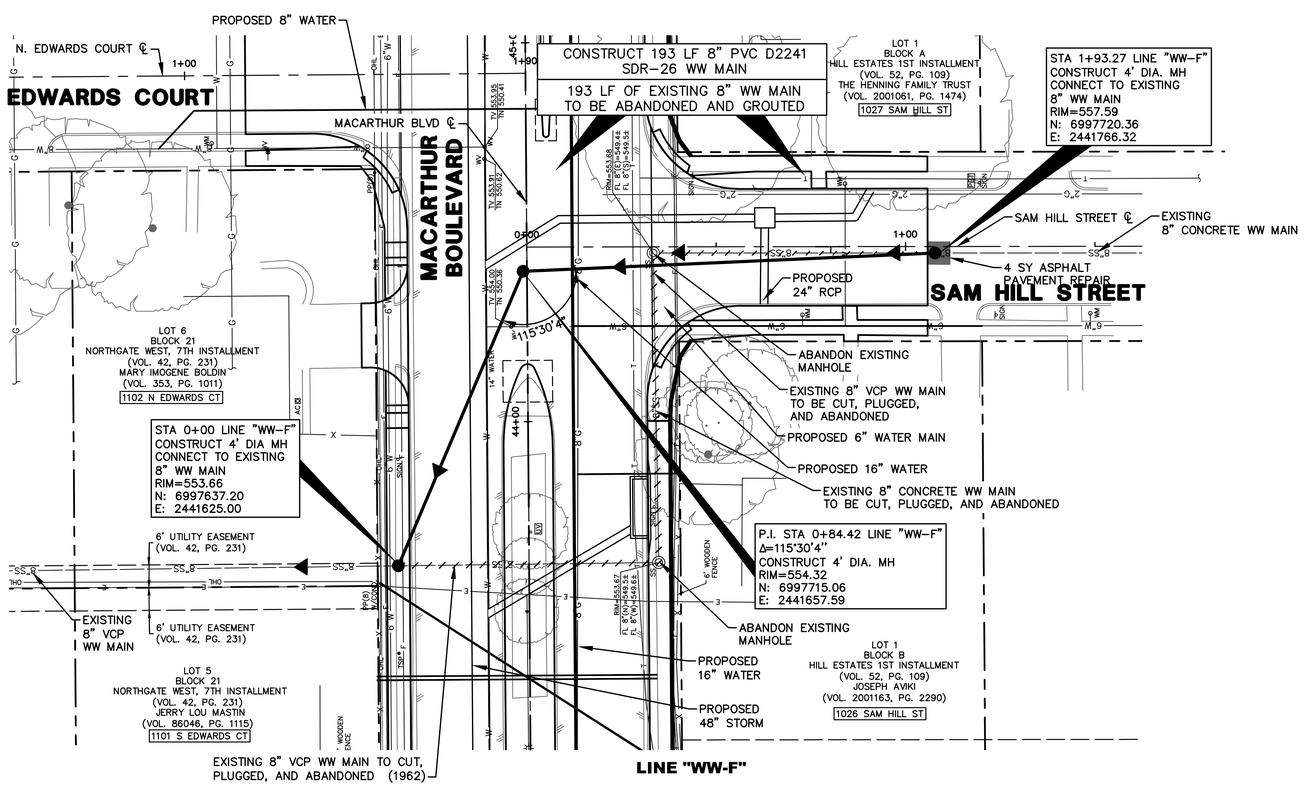

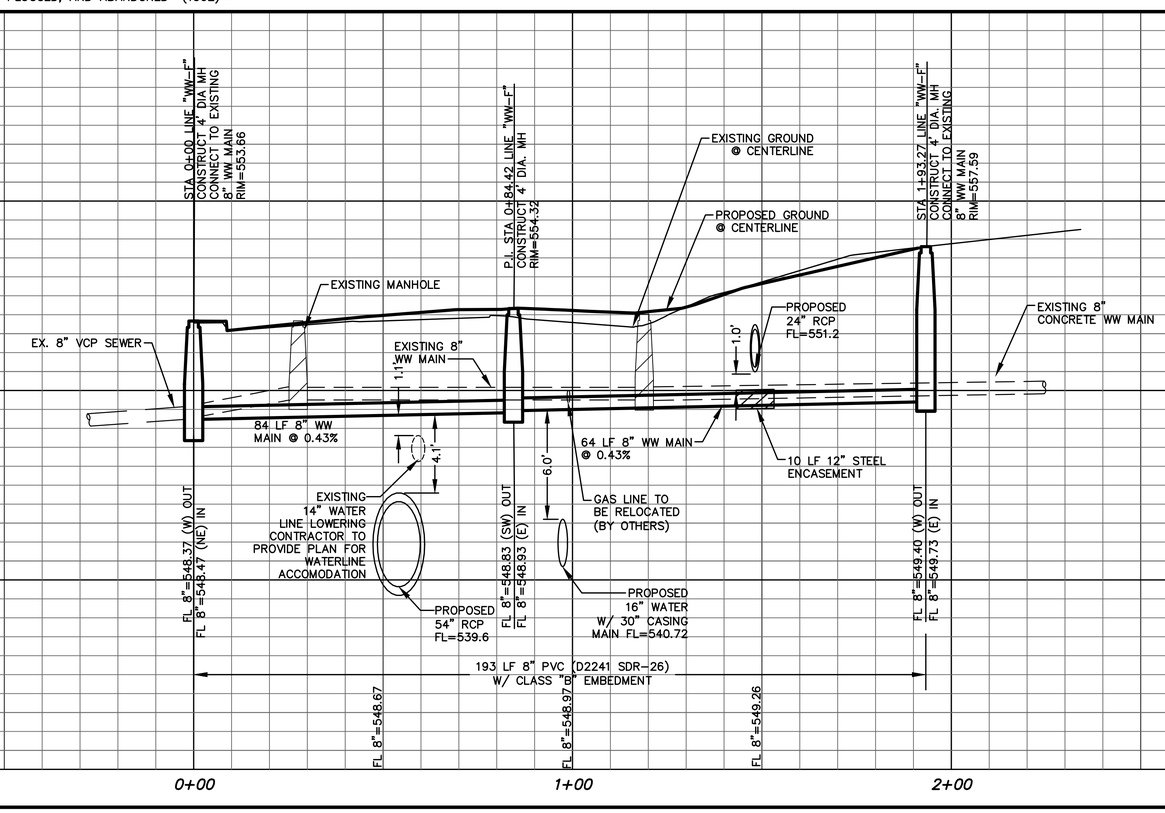

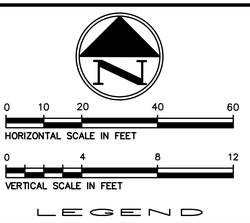

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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
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SURVEYED BY: PACHECO KOCH

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Pacheco Koch

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WASTEWATER PLAN & PROFILE
LINE WW-F
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 125

CLOFTIS
05/10/2022 – 12:17PM
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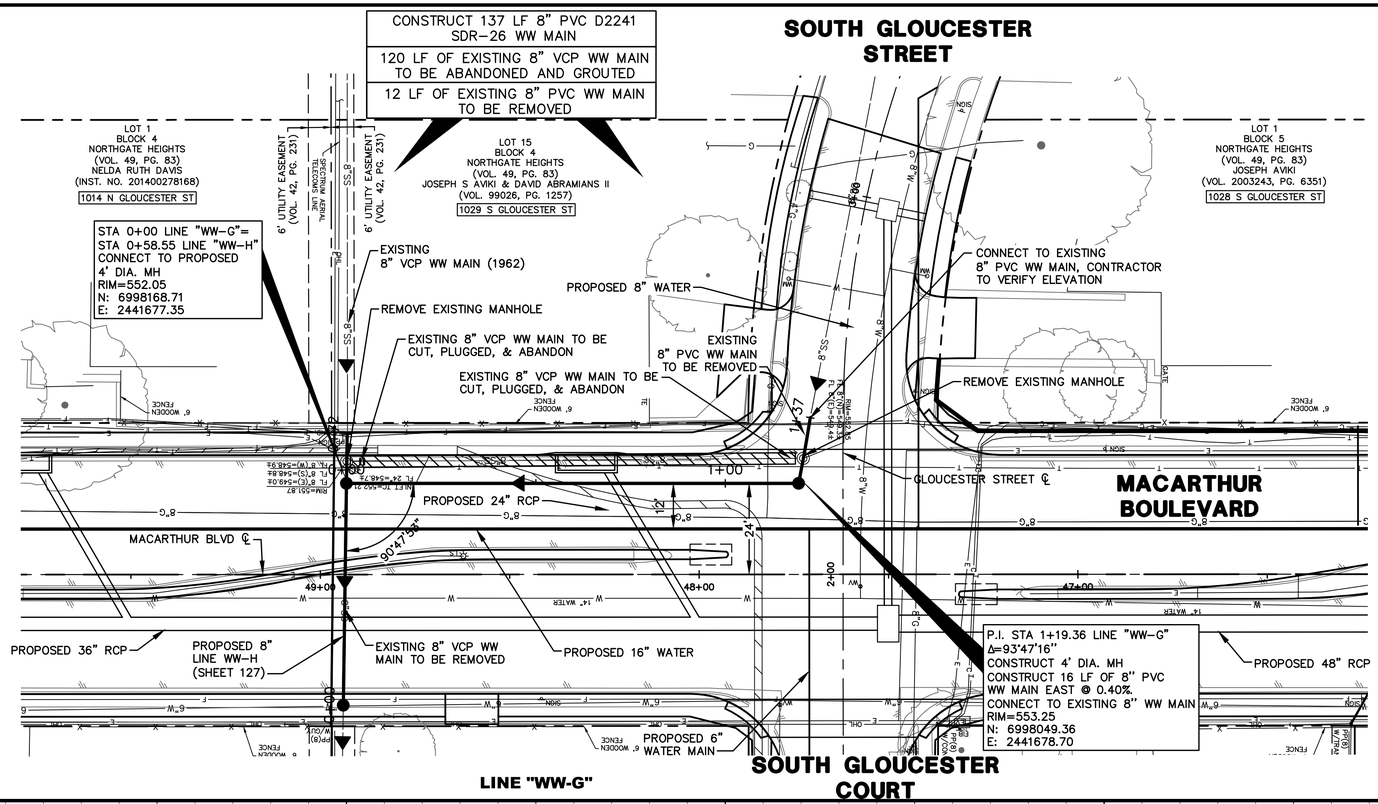
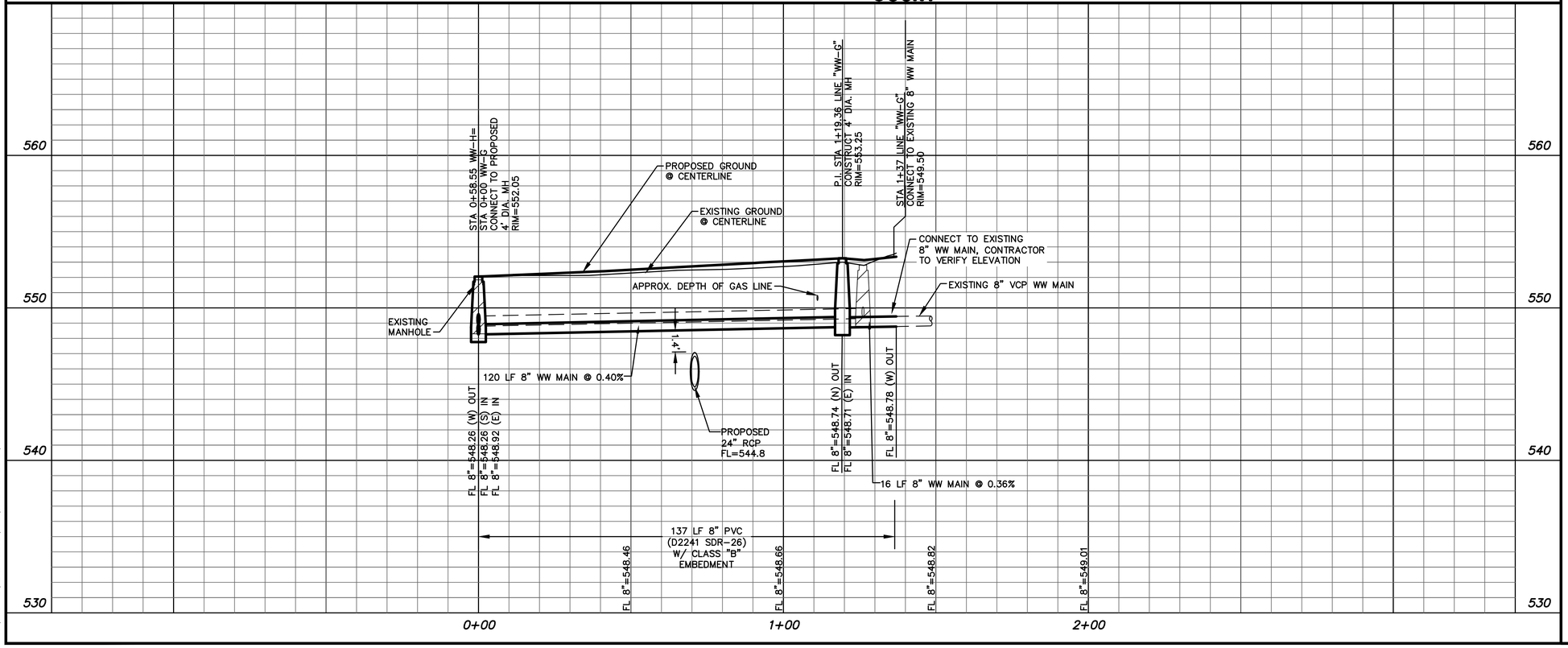
CONSTRUCT 137 LF 8" PVC D2241 SDR–26 WW MAIN

120 LF OF EXISTING 8" VCP WW MAIN TO BE ABANDONED AND GROUTED

12 LF OF EXISTING 8" PVC WW MAIN TO BE REMOVED



NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER



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HORIZONTAL SCALE IN FEET: 0 10 20 40 60

VERTICAL SCALE IN FEET: 0 4 8 12

LEGEND

ABANDON EX. WW MAIN

WW FLOW DIRECTION

REV	DATE	BY	REVISIONS:
			XXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
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SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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WASTEWATER PLAN & PROFILE
LINE WW-G

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 126

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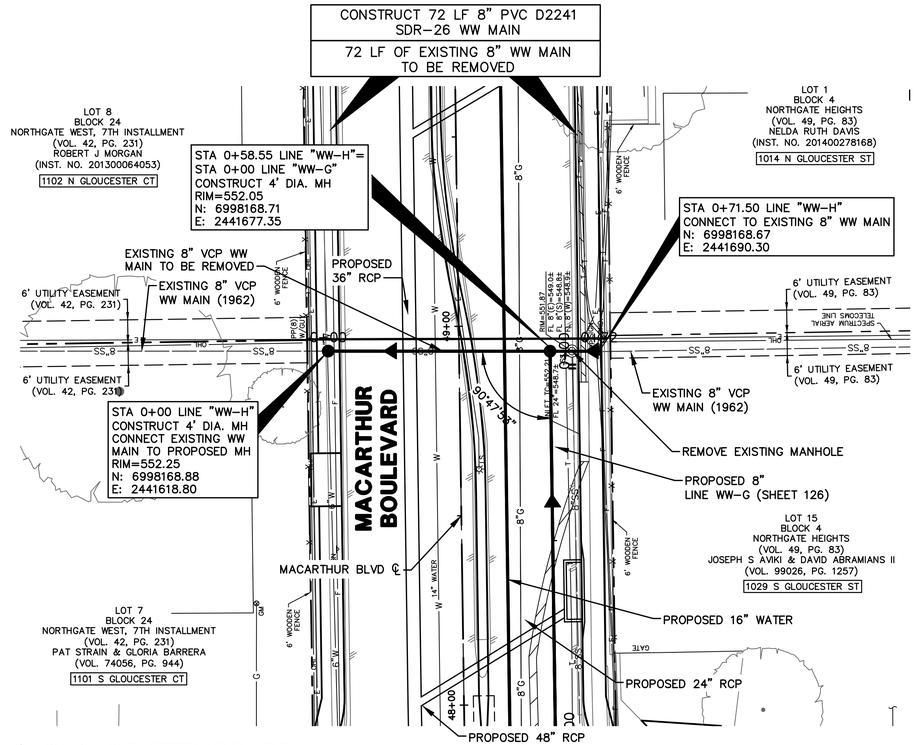
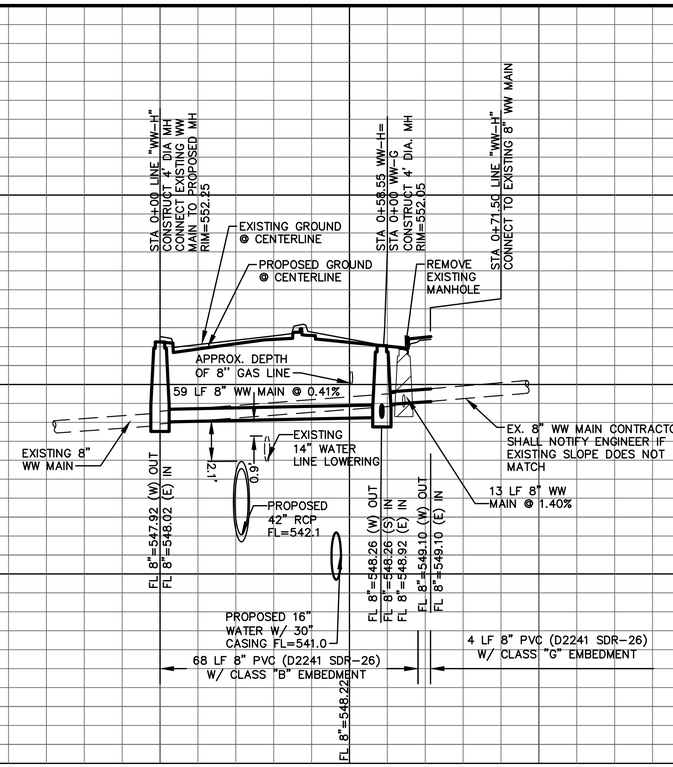
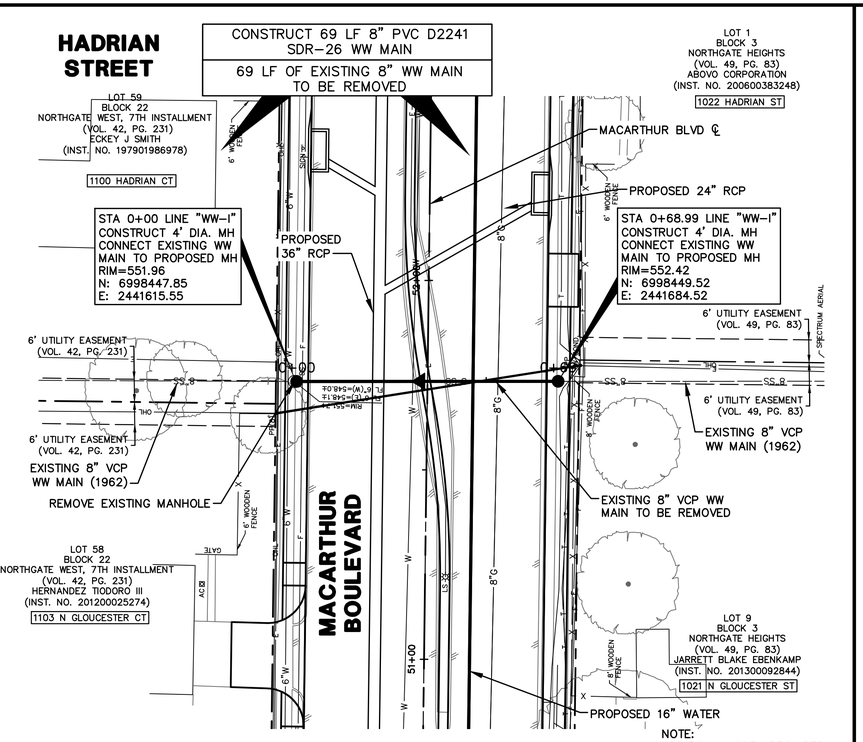
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098 UTIL.DWG



S GLOUCESTER COURT

LINE "WW-H"

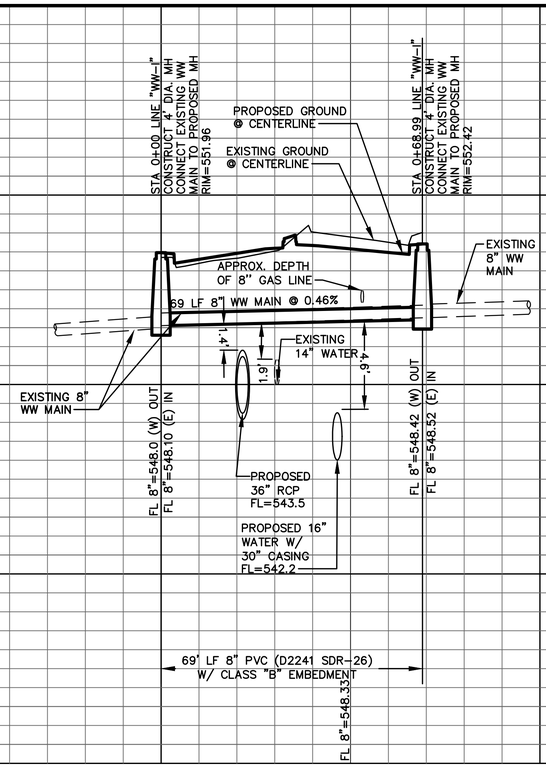




NOTE:
ADDITIONAL CCTV REQUIRED PRIOR TO PAVEMENT POUR FOR WASTEWATER LINES WITH LESS THAN 4 FEET OF COVER

N GLOUCESTER COURT

LINE "WW-I"



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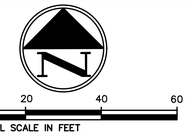

REVISIONS:	REV	DATE	BY

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH
XXXXXXXX

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

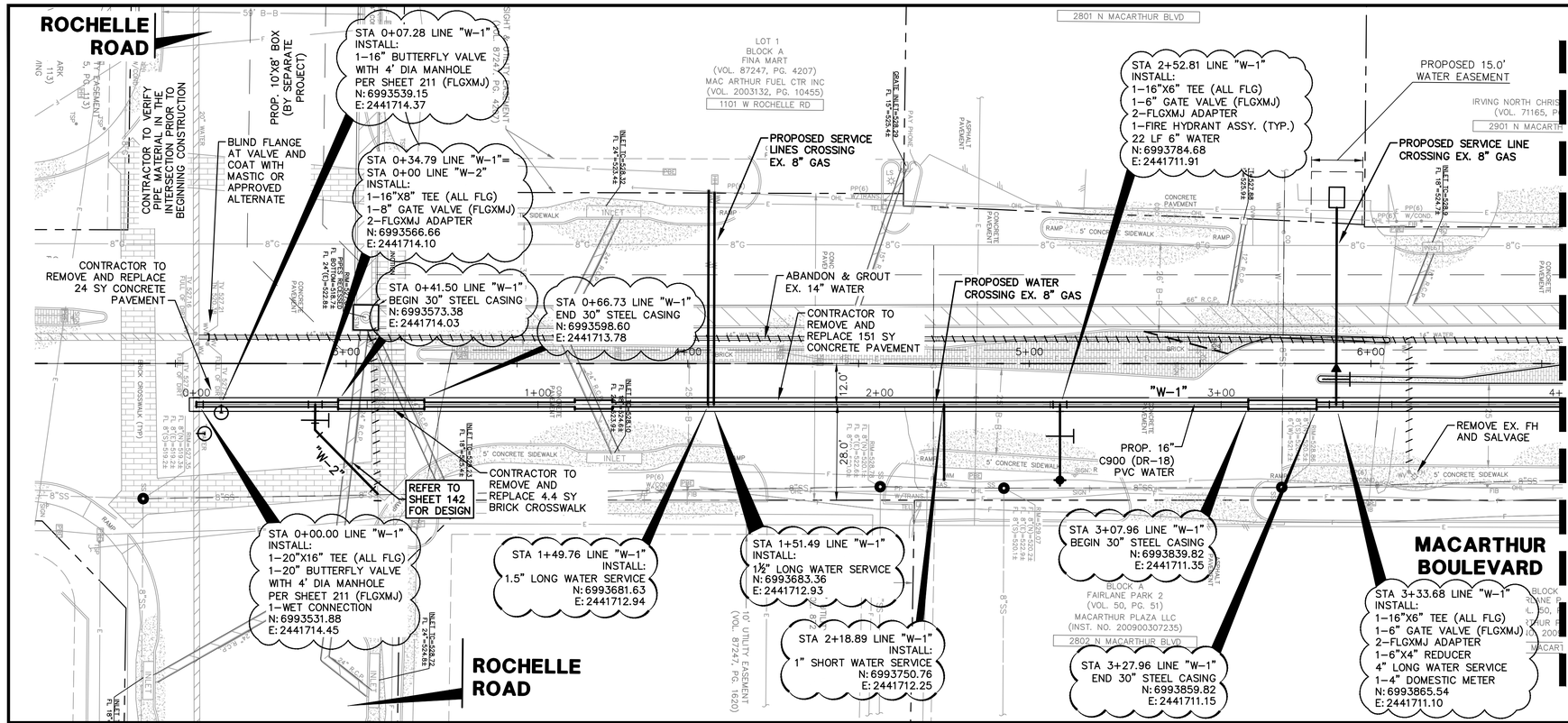
CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

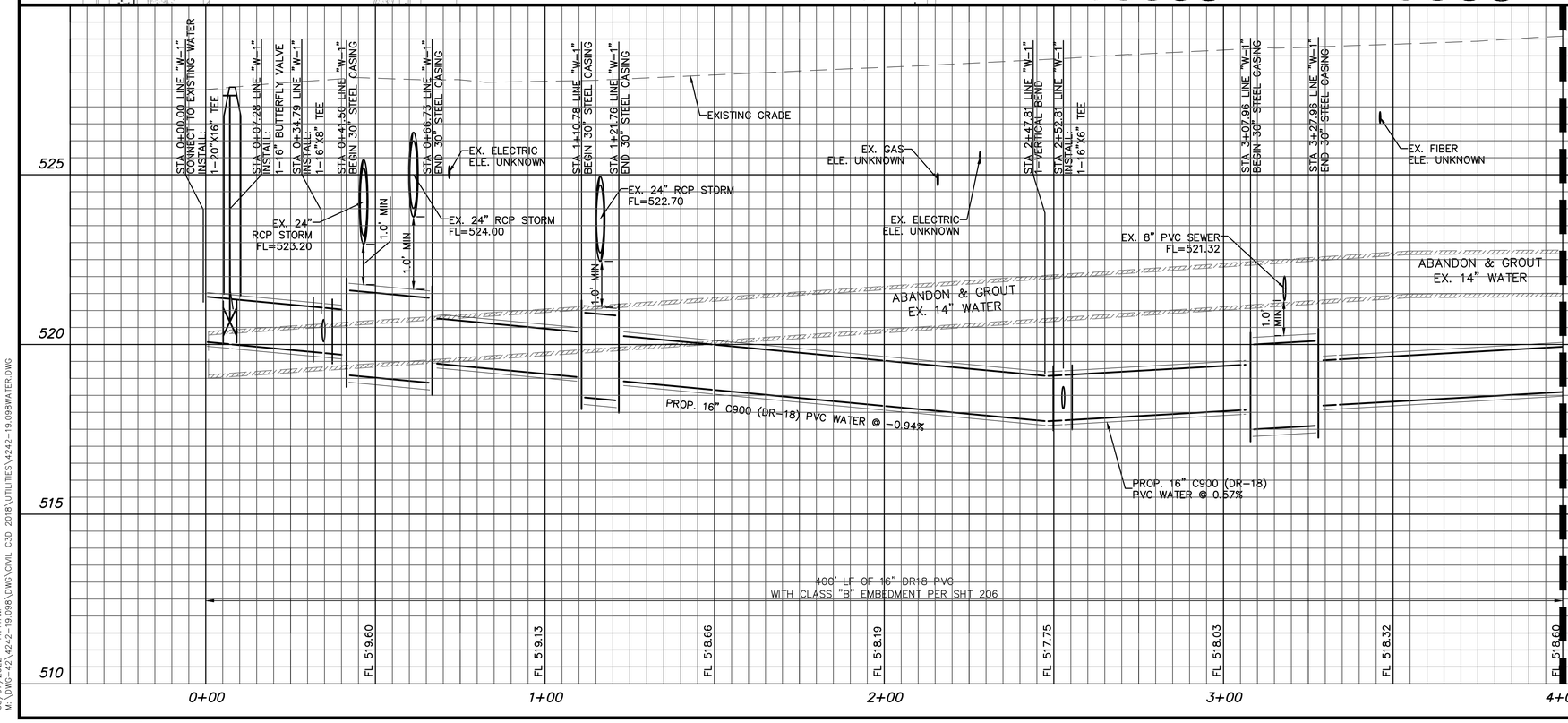
WASTEWATER PLAN & PROFILE
LINE WW-H & WW-I
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 127

CLOFTIS
05/10/2022 -- 12:18PM
M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098 UTIL.DWG

M:\DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-18.098 UTIL.DWG





0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊕ ELECTRIC METER
- EV ELECTRIC VAULT
- FH ◇ FIRE HYDRANT
- FIB ▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW ⊗ MONITORING WELL
- GAS ▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊕ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS ☆ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. •PP W/TRANSFORMER
- PP •☆ PP W/ LIGHT
- PP W/METERS •PP W/METERS
- PP W/GUY •⟷• PP W/ GUY ANCHOR
- PP W/COND. •PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN ⊤ TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VN1 VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV WATER VAULT
- WV⊗ WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- X FENCE
- OHL OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- E UNDERGROUND ELECTRIC LINE
- T UNDERGROUND TELEPHONE LINE
- C UNDERGROUND CABLE LINE
- F UNDERGROUND FIBER OPTIC LINE
- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

NOTE:
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
CLINT A. BISSETT
93845
REGISTERED PROFESSIONAL ENGINEER
05-10-22

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WATER PLAN & PROFILE
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MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 128

DRUZ
05/07/2022 - 11:11AM
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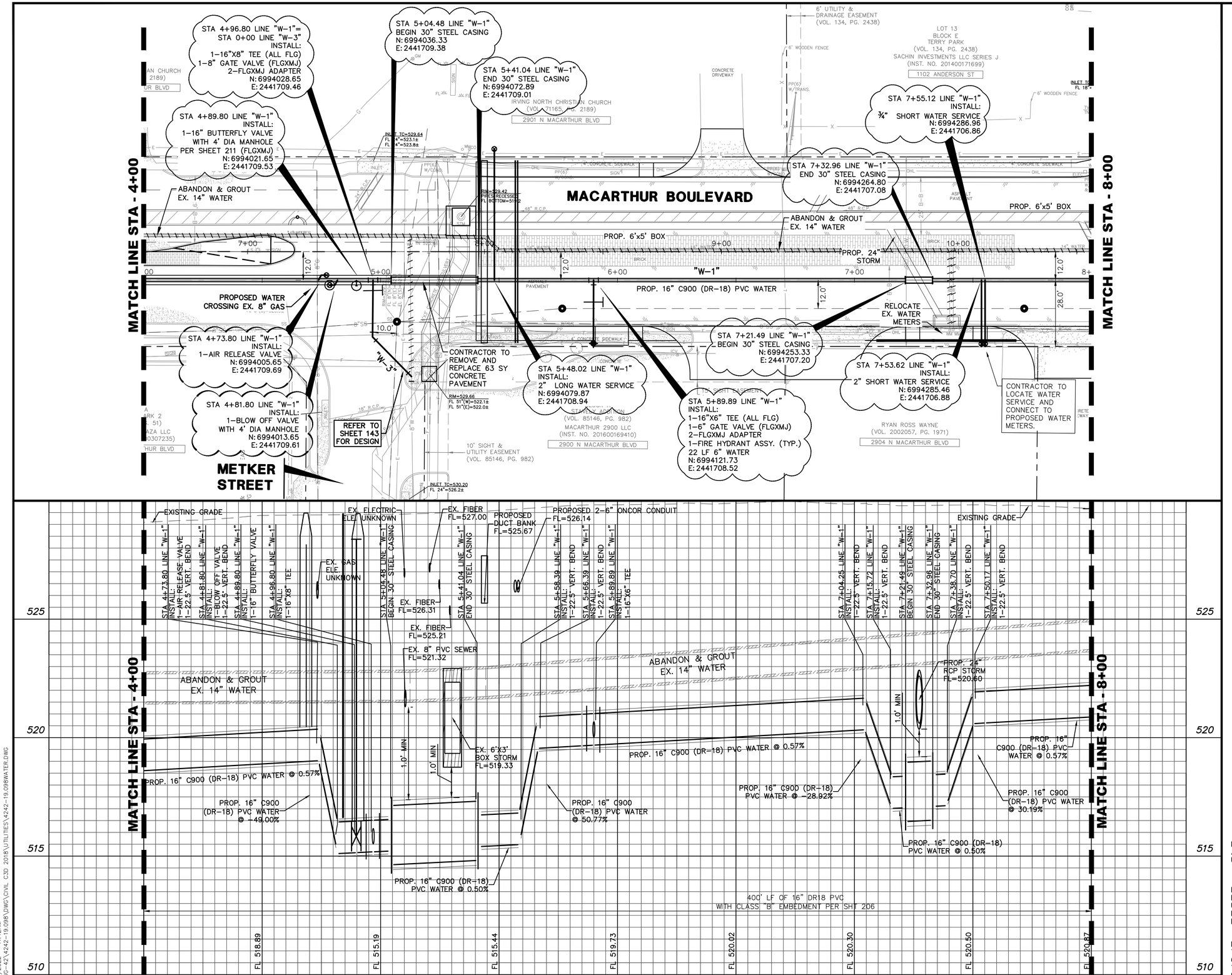

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB• UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS• UG GAS MARKER
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- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV• IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
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- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VNT VENT
- WTR• UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
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- 613 EXIST CONTOUR

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REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSETT — 93845 — REGISTERED PROFESSIONAL ENGINEER
05-10-22

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MACARTHUR BOULEVARD
(METIKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 129

DRUIZ
05/07/2022 — 11:12AM
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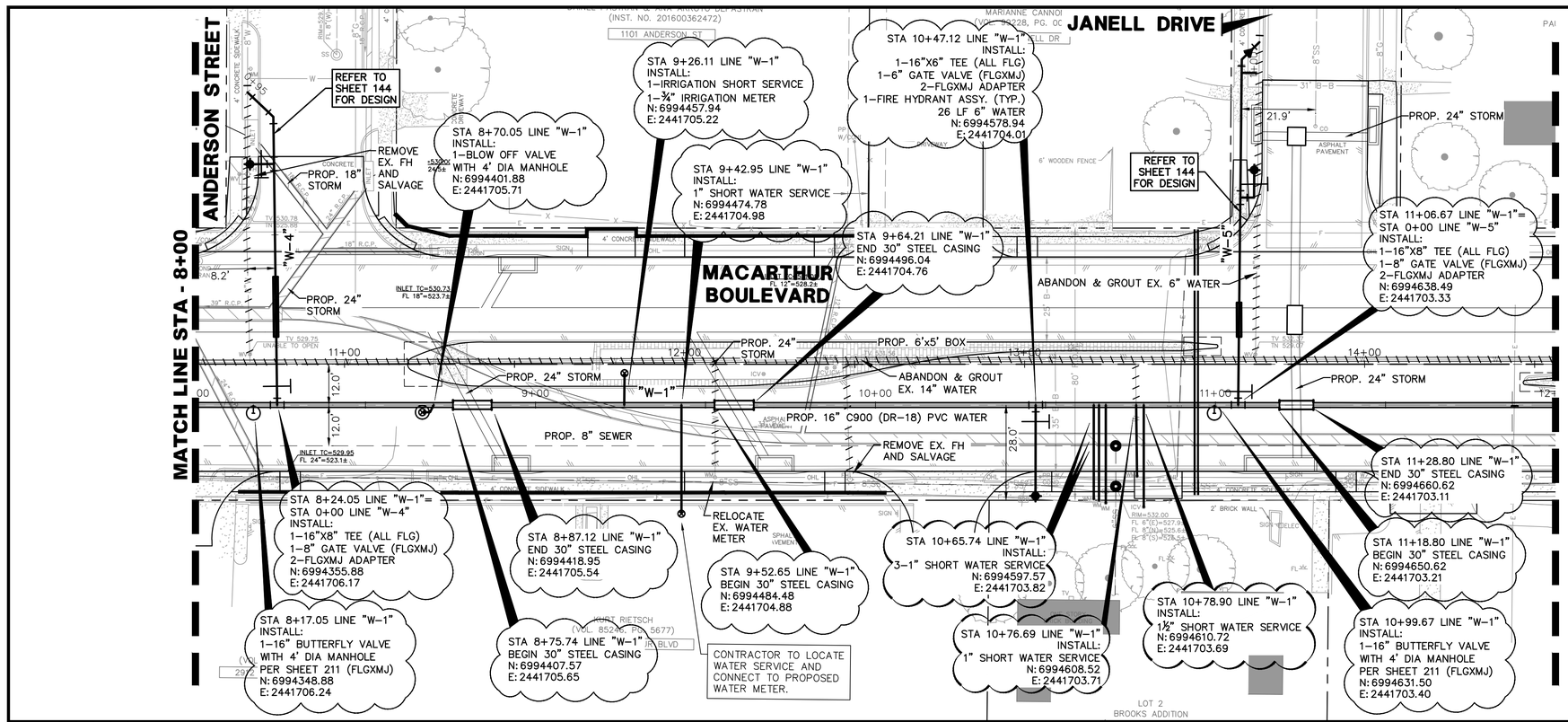

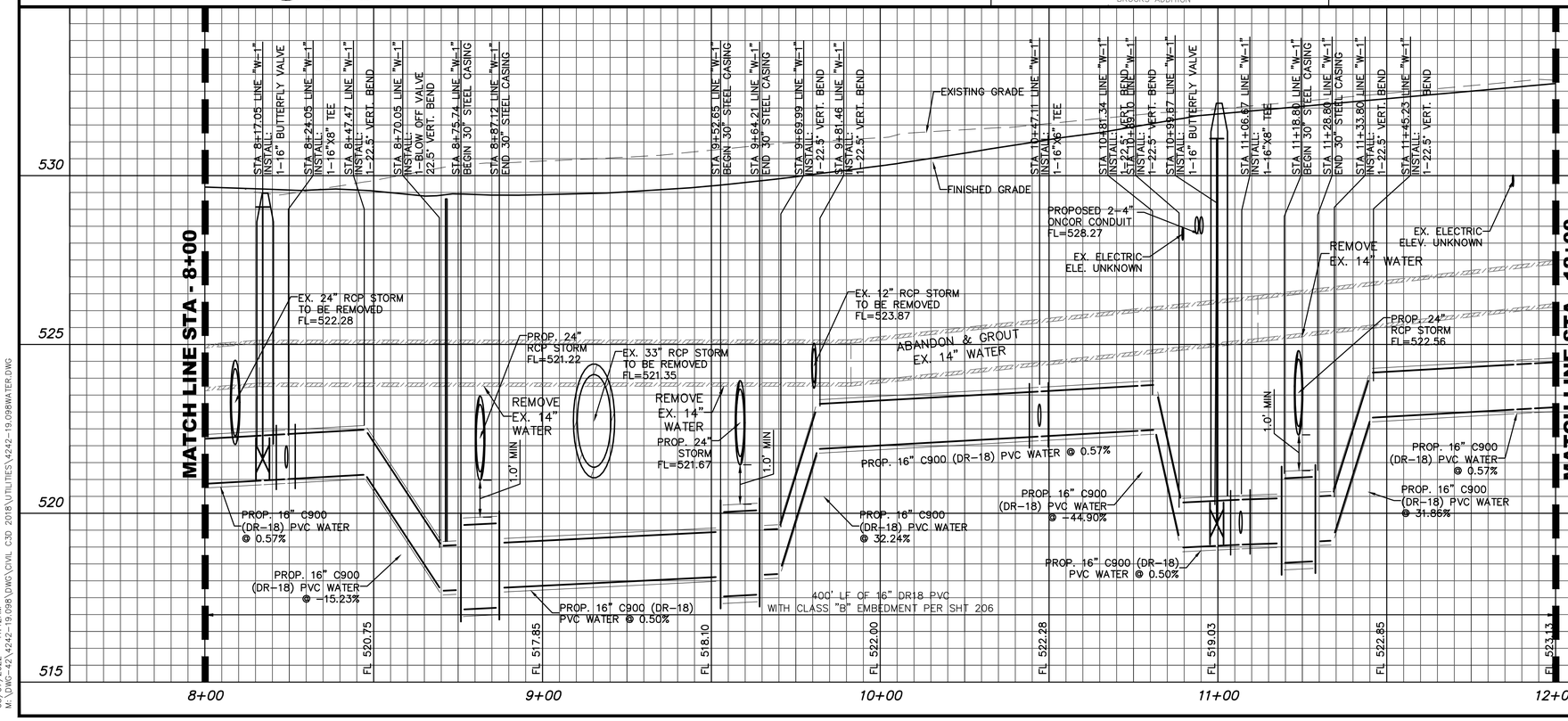

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

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			XXXXXXXX
			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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05-10-22
JAMES A. BISSETT, JR.
93845
LICENSED PROFESSIONAL ENGINEER
STATE OF TEXAS

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
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SHEET 130

DRUIZ
05/07/2022 - 11:12AM
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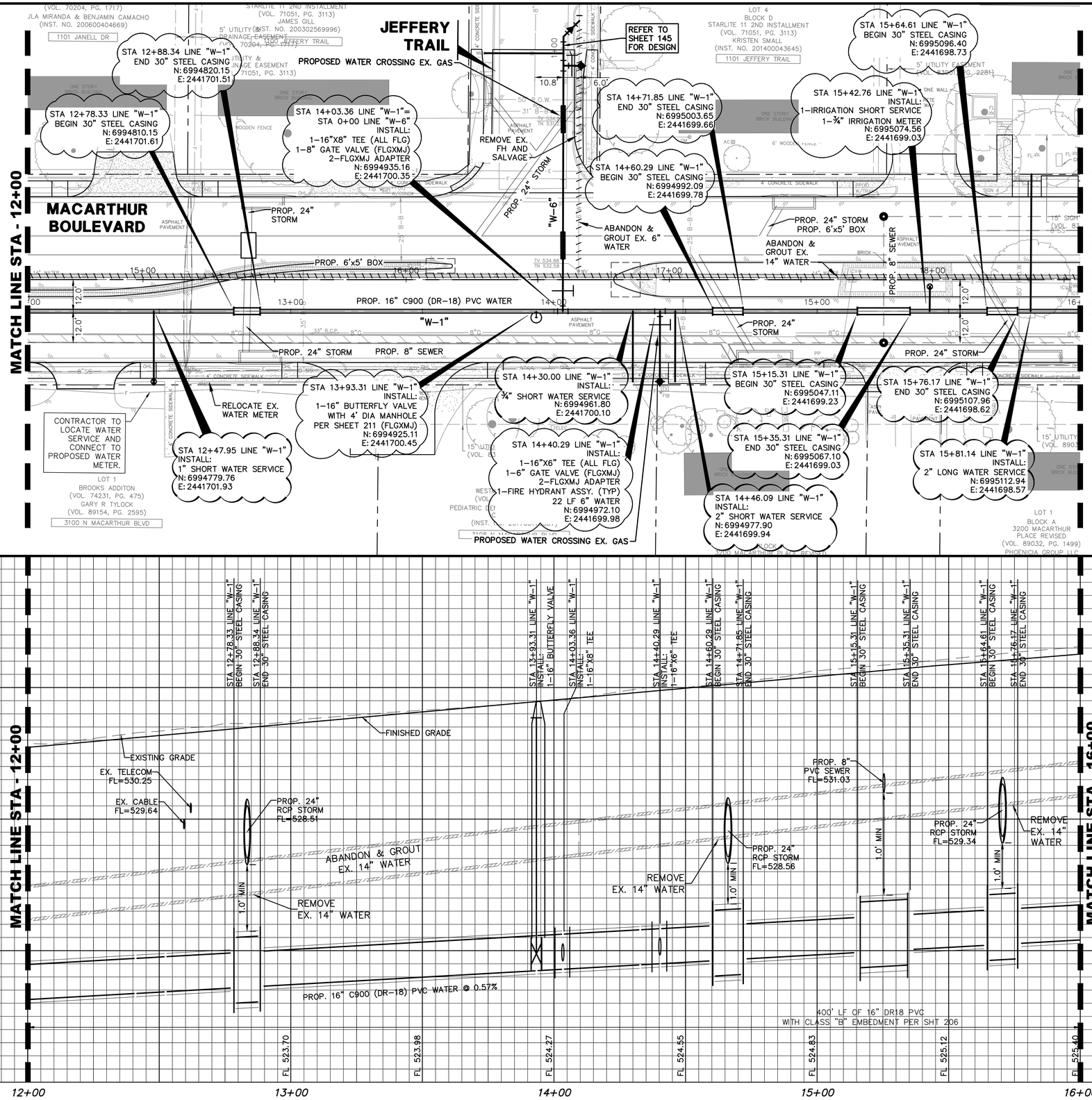

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
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- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
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- 6"W WATER LINE
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	XX/XX/XX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
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DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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05-10-22

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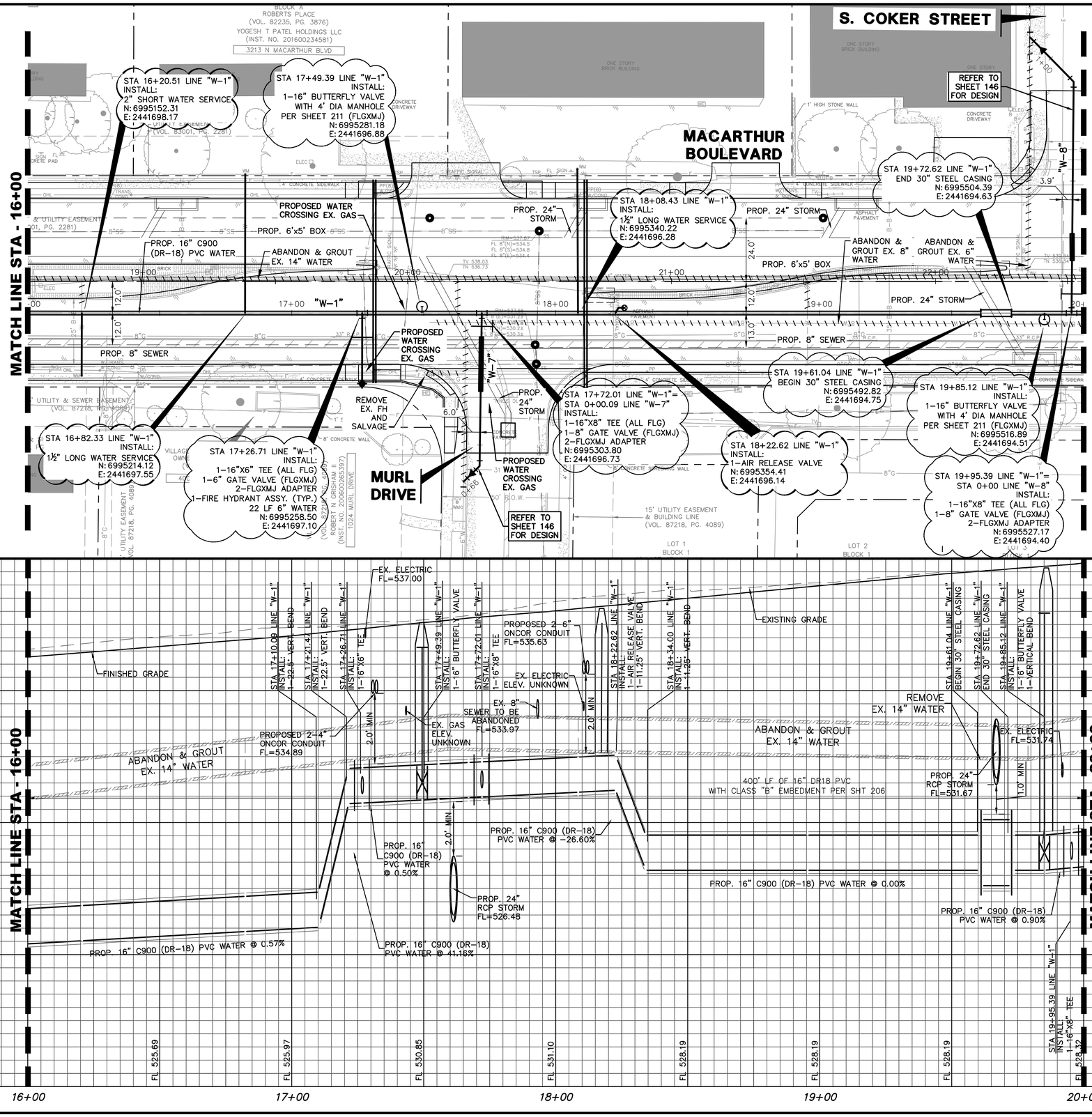

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW◇ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊗ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VN1 VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV WATER VAULT
- WV⊗ WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
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- FENCE
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- HAND RAIL
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- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

NOTE:
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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · 93845 · CLINT A. BISSET · LICENSED PROFESSIONAL ENGINEER
05-10-22

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
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WATER PLAN & PROFILE STA 16+00 TO STA 20+00
MACARTHUR BOULEVARD (METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 132

DRUIZ
05/07/2022 - 11:12AM
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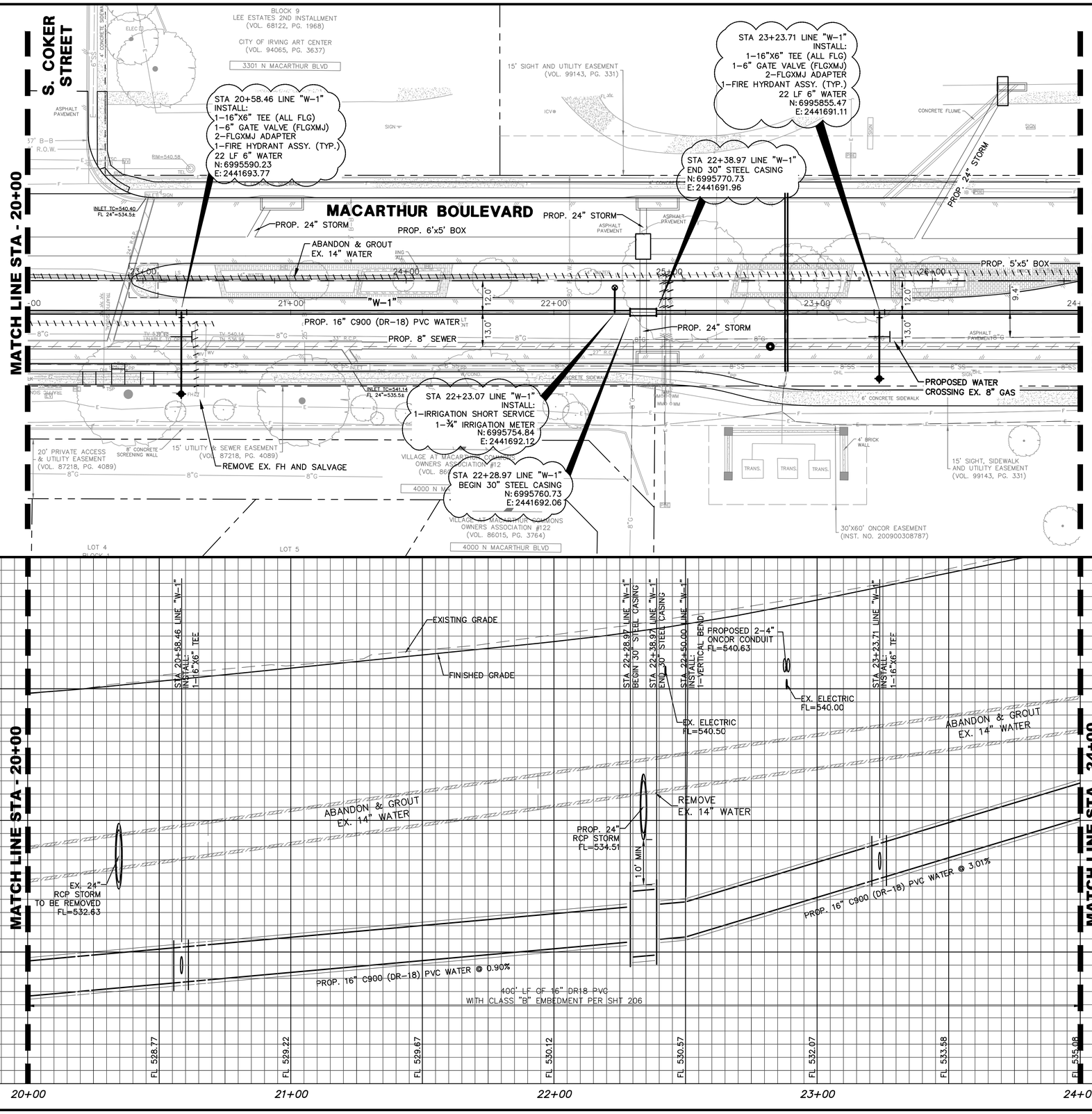

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
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- FP• FLAG POLE
- FL☆ FLOOD LIGHT
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- GM⊗ GAS METER
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- GV GAS VAULT
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV• IRRIGATION CONTROL VALVE
- LS☆ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/METERS PP W/METERS
- PP W/ LIGHT
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
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- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VNT VENT
- WTR• UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
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- (C.M.) CONTROLLING MONUMENT
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- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

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REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
CLINT A. BISSET
93845
LICENSED PROFESSIONAL ENGINEER
05-10-22

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSET, P.E. ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORITY AND THE SEAL OF A LICENSED ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

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MACARTHUR BOULEVARD
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
133

DRUIZ
05/07/2022 - 11:13AM
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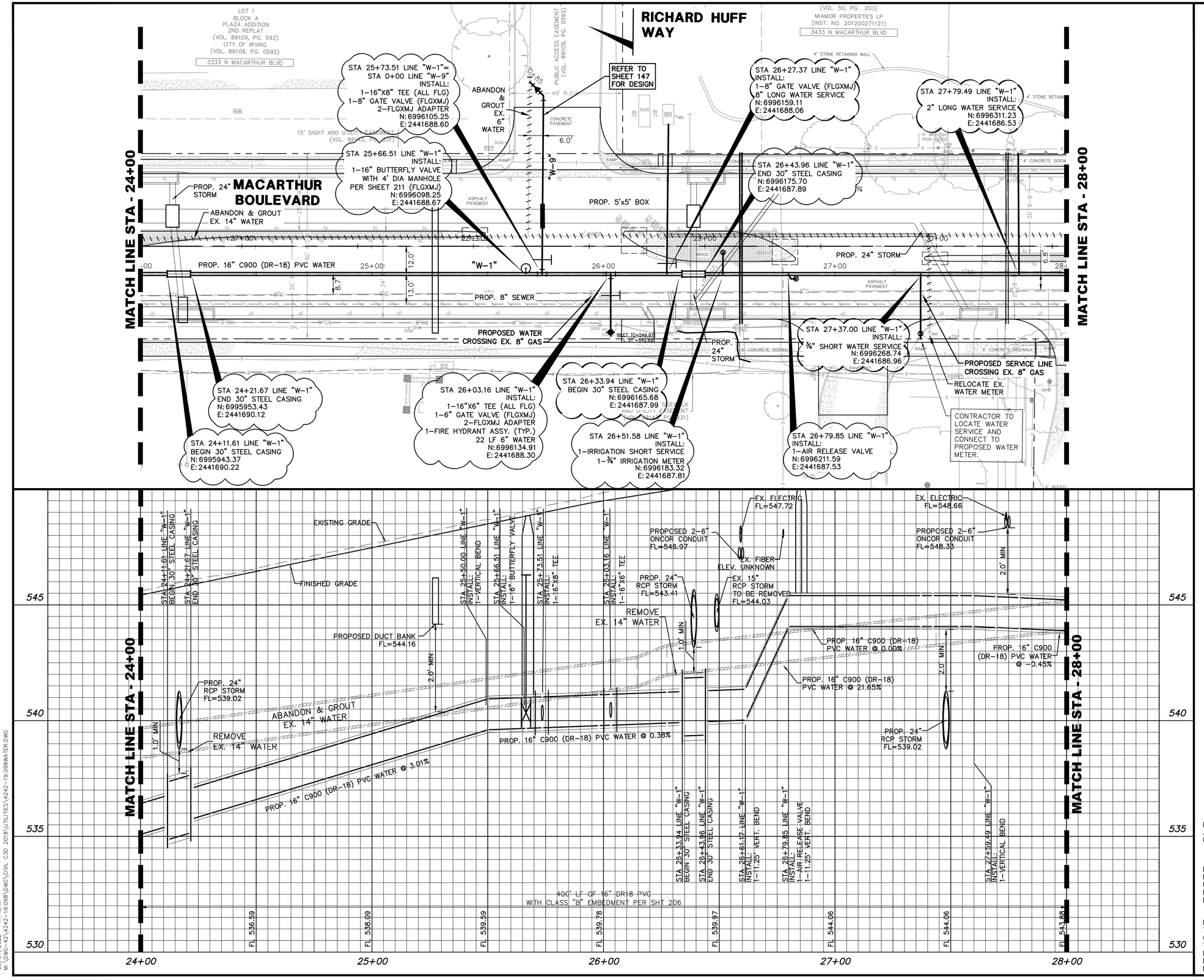

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
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- ELEC□ ELECTRIC BOX
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REV	DATE	BY	REVISIONS:
			XXXXXXXX
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · 93845 · REGISTERED PROFESSIONAL ENGINEER · CLINT A. BISSET · 05-10-22

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WATER PLAN & PROFILE STA 24+00 TO STA 28+00
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 134

DRUIZ
05/07/2022 - 11:13AM
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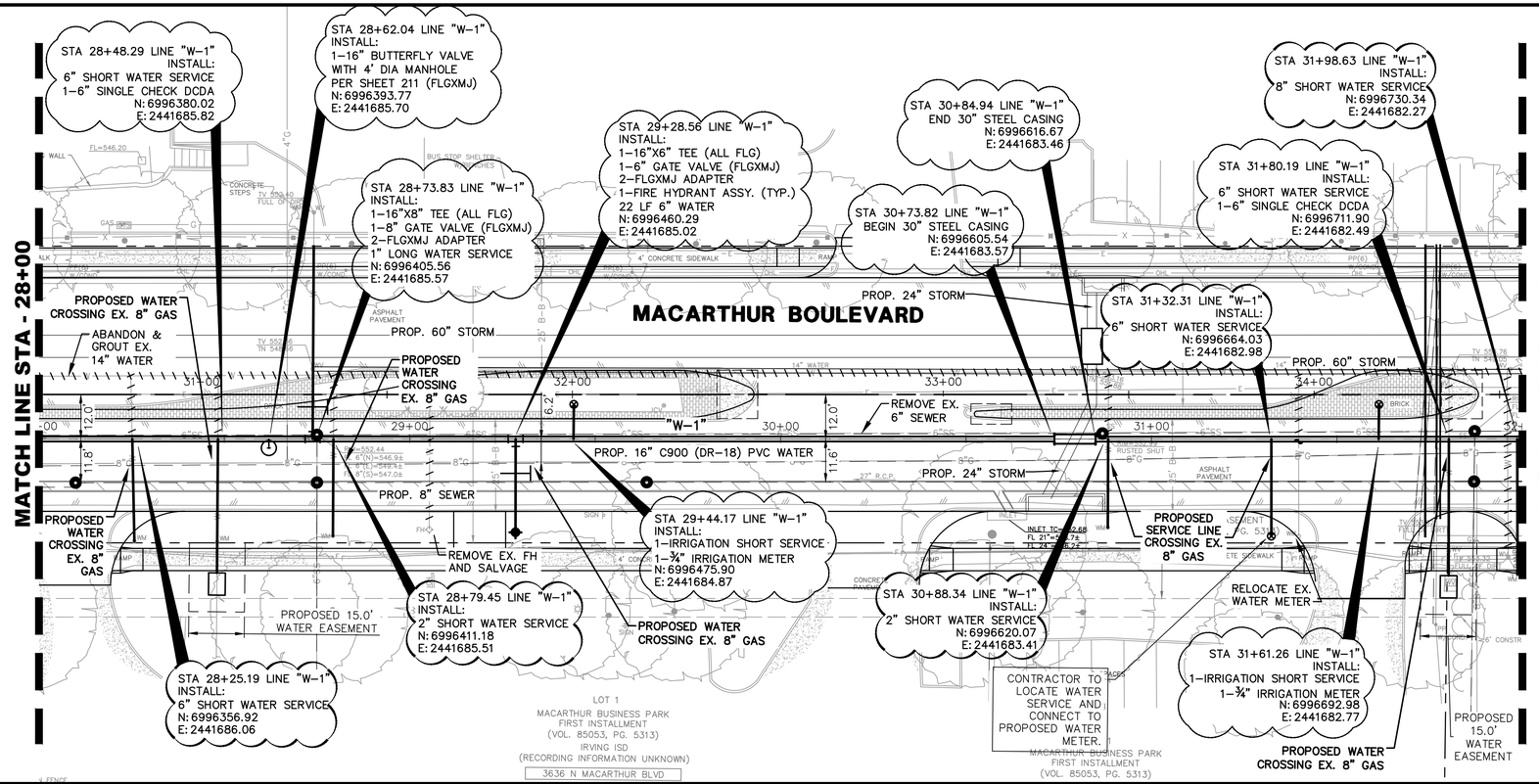

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
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REV	DATE	BY	REVISIONS:
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
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SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · CLINT A. BISSET · 93845 · LICENSED PROFESSIONAL ENGINEER
05-10-22
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Pacheco Koch

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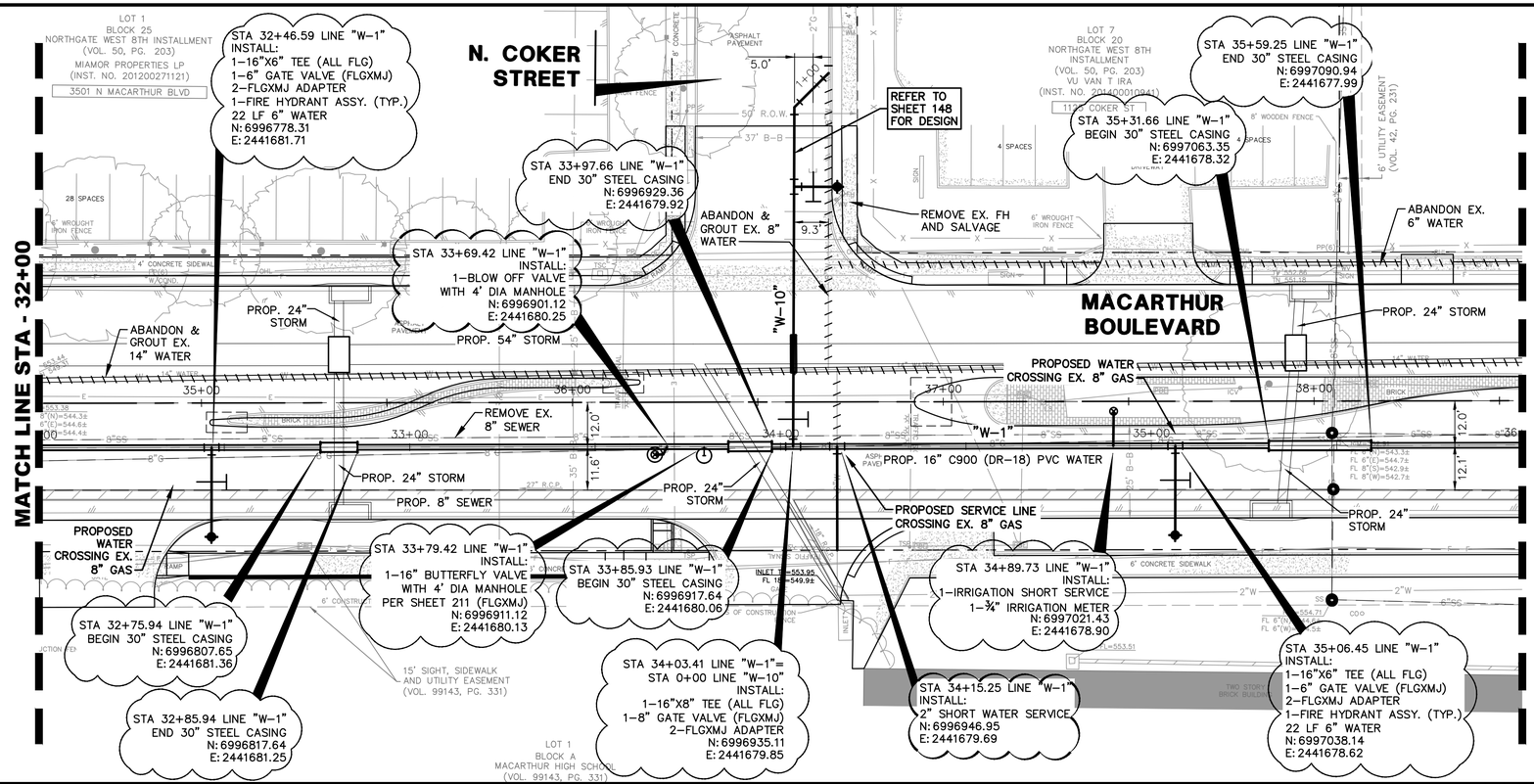

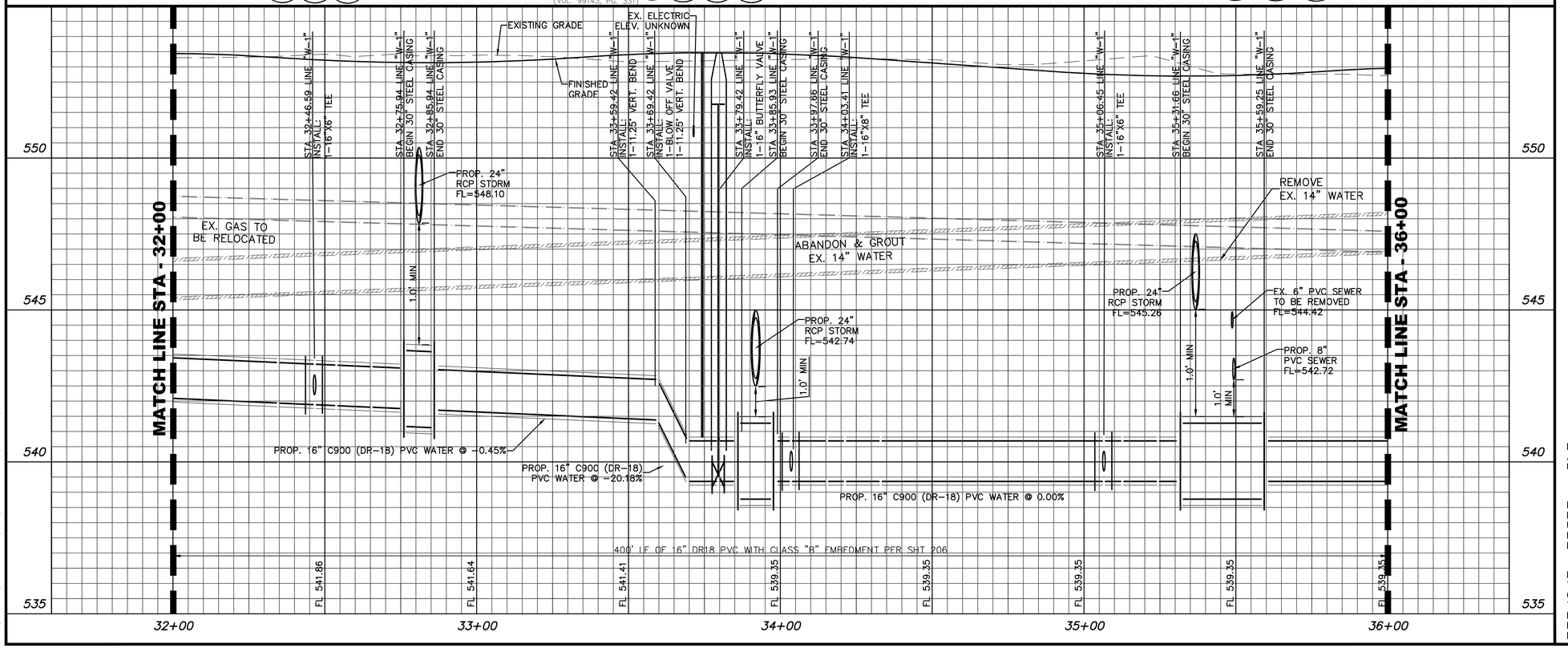

0 10 20 40 60
HORIZONTAL SCALE IN FEET

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REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSETT — 93845 — LICENSED PROFESSIONAL ENGINEER — 05-10-22

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSETT, P.E. 93845 ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT THE PERMISSION OF THE LICENSED PROFESSIONAL ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WATER PLAN & PROFILE
STA 32+00 TO STA 36+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 136

DRUIZ
05/07/2022 - 11:13AM
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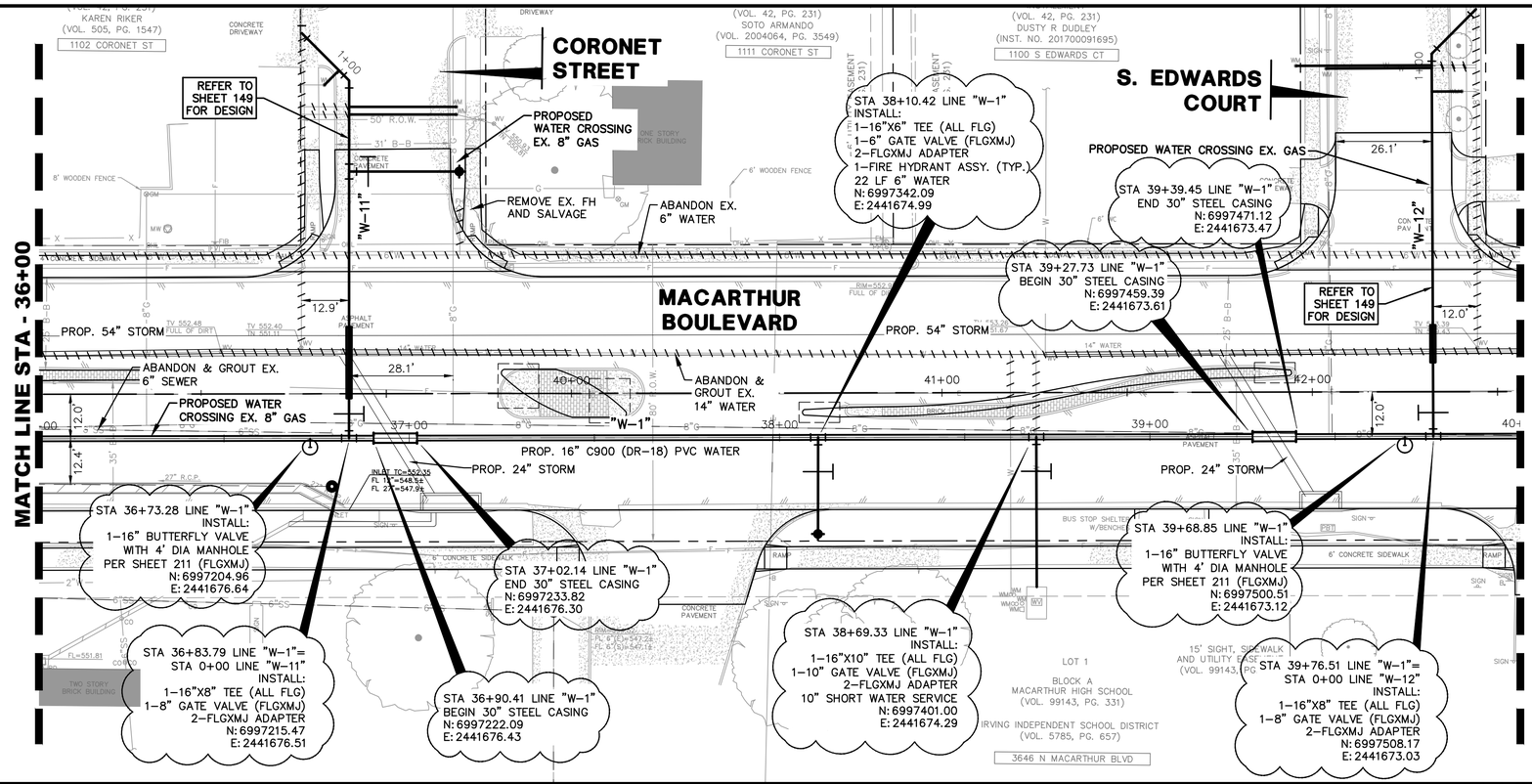

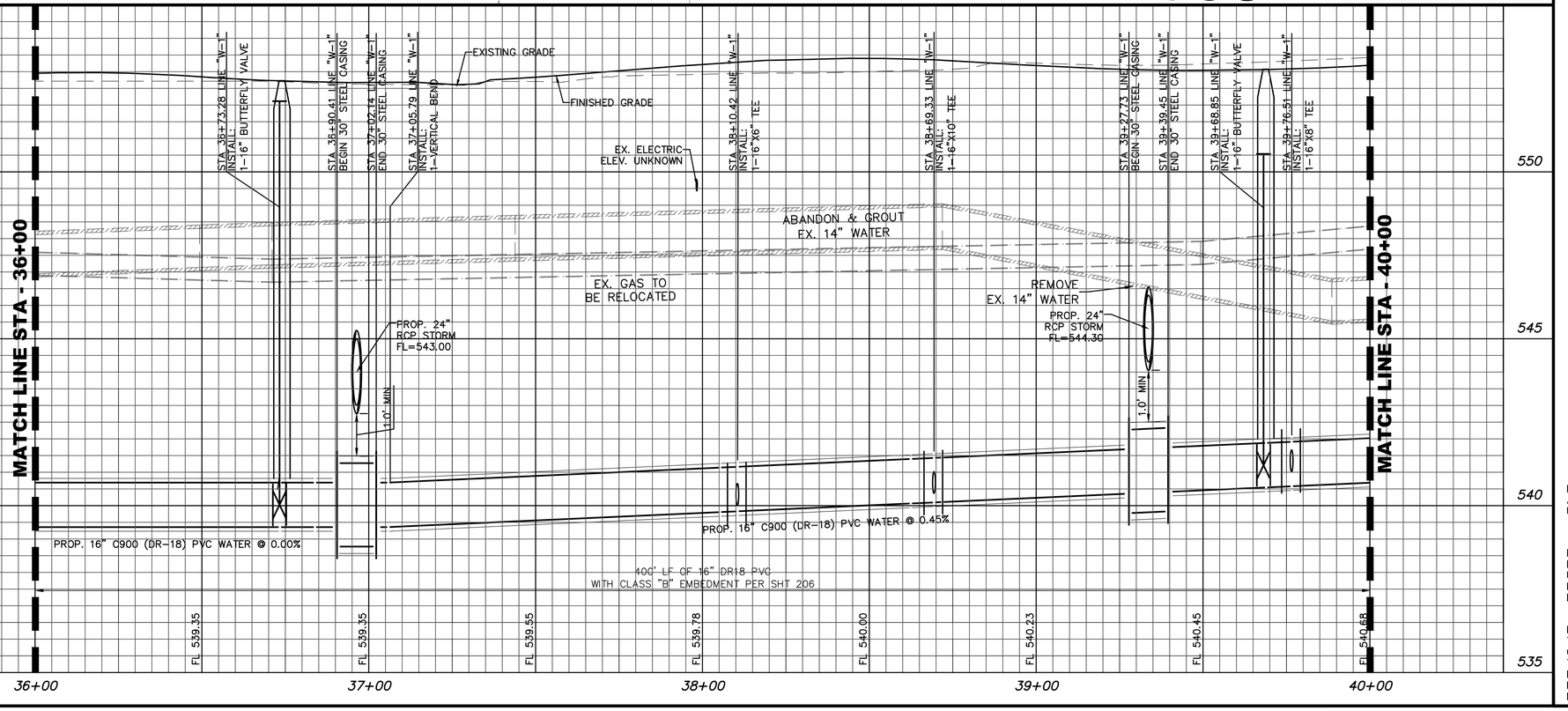

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B BOLLARD
- CO CLEANOUT
- ELEC ELECTRIC BOX
- ELEC ELECTRIC MANHOLE
- EM ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB UG FIB. OPTIC MARKER
- FP FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS UG GAS MARKER
- GAS GAS MANHOLE
- GM GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH MANHOLE (TYPE UNKNOWN)
- MB MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP(1) PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS SAN. SEWER MANHOLE
- SS UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP POWER POLE
- PPM METAL UTILITY POLE
- TEL TELEPHONE BOX
- TEL UG TELEPHONE MARKER
- TR TRASH CAN
- TSC TRAFFIC SIGNAL CONTROL
- TSP TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM STORM SEWER MANHOLE
- TEL TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VN VENT
- WTR UG WATER MARKER
- WM WATER METER
- WTR WATER MANHOLE
- WV WATER VAULT
- WV WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OHL OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- UNDERGROUND ELECTRIC LINE
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- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

NOTE:
ALL WELDING MUST BE APPROVED BY WATER UTILITIES APPROVED WELDER.

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REV	DATE	BY	REVISIONS:
			XXXXXXXX
			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSETT — 93845 — LICENSED PROFESSIONAL ENGINEER — 05-10-22

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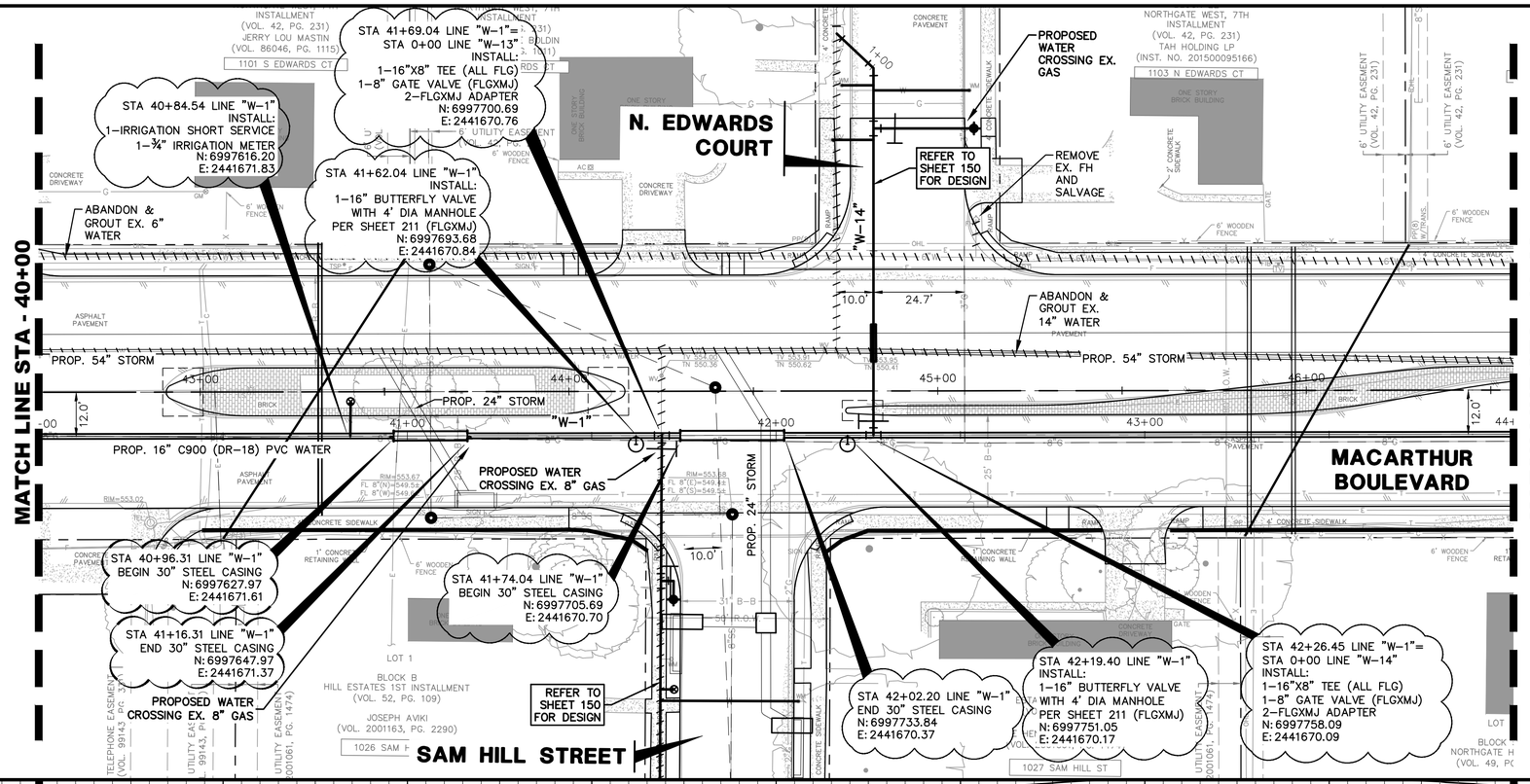

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
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- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
- FH ◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW ◯ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊗ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV• IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
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- PP W/METERS PP W/METERS
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- TEL □ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR▼ TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- VLT VAULT (TYPE UNKNOWN)
- VNT VENT
- WTR▼ UG WATER MARKER
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSET — 93845 — LICENSED PROFESSIONAL ENGINEER
05-10-22

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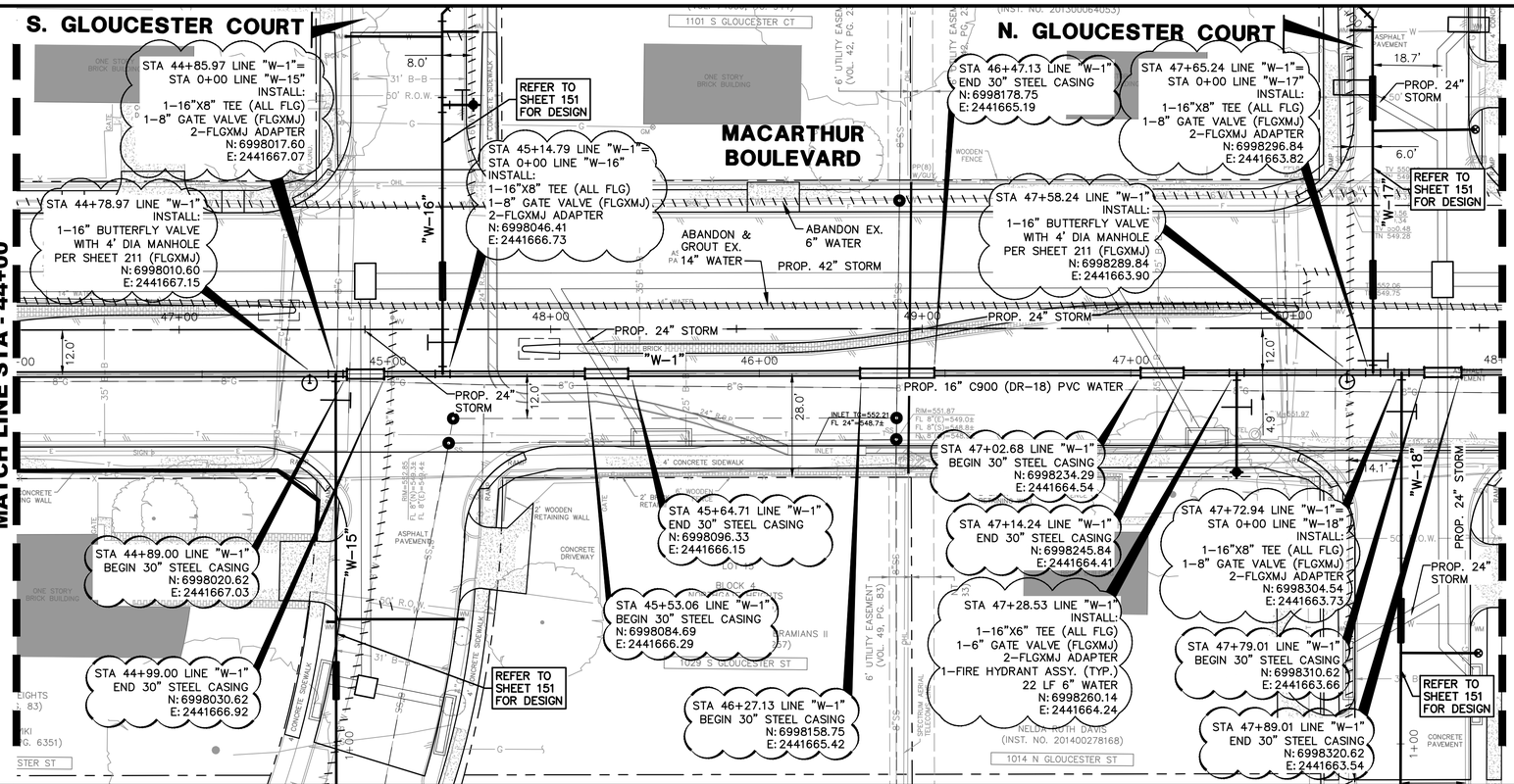

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	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSET — 93845 — REGISTERED PROFESSIONAL ENGINEER
05-10-22

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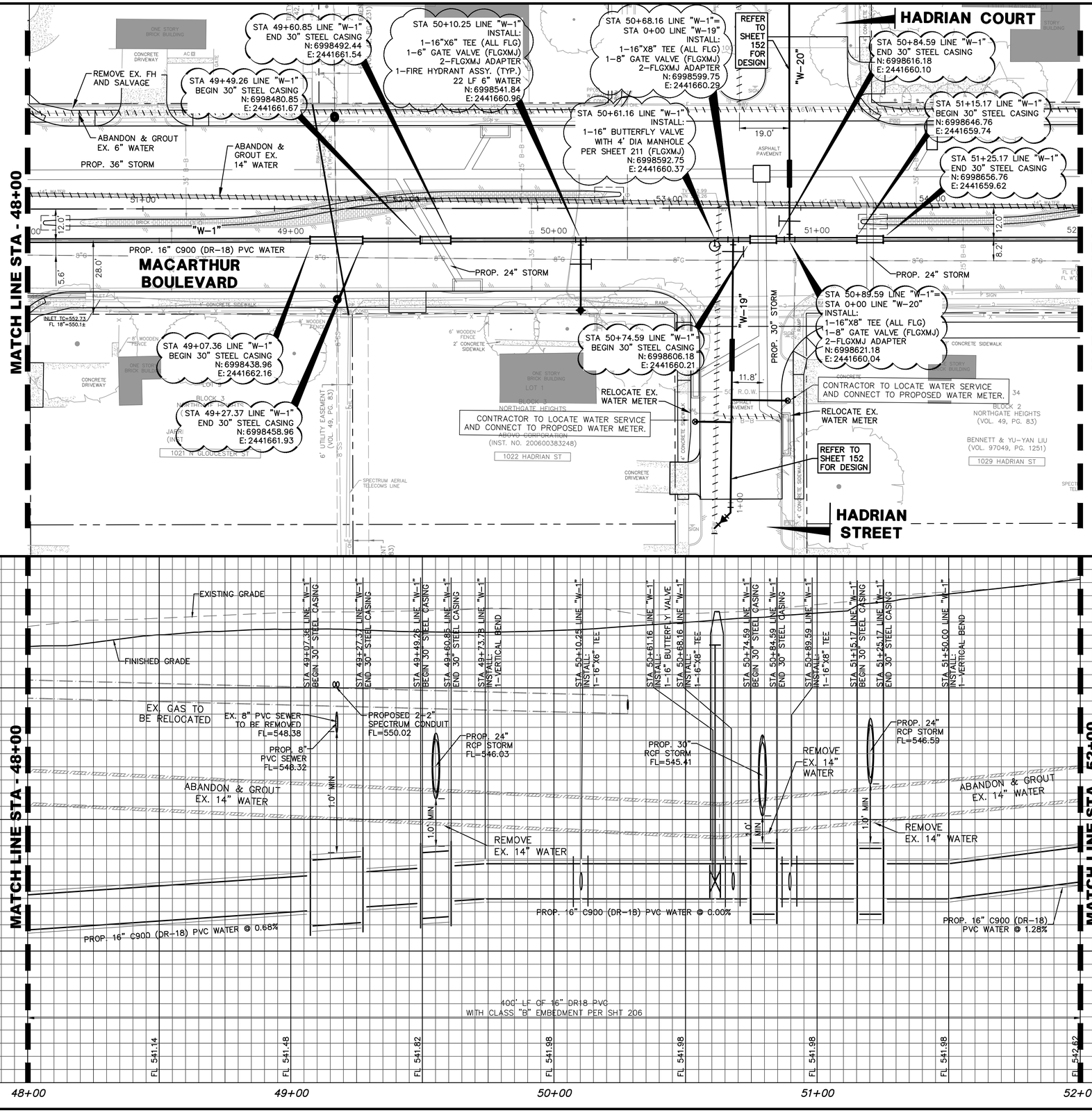

0 10 20 40 60
HORIZONTAL SCALE IN FEET

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LEGEND

- B• BOLLARD
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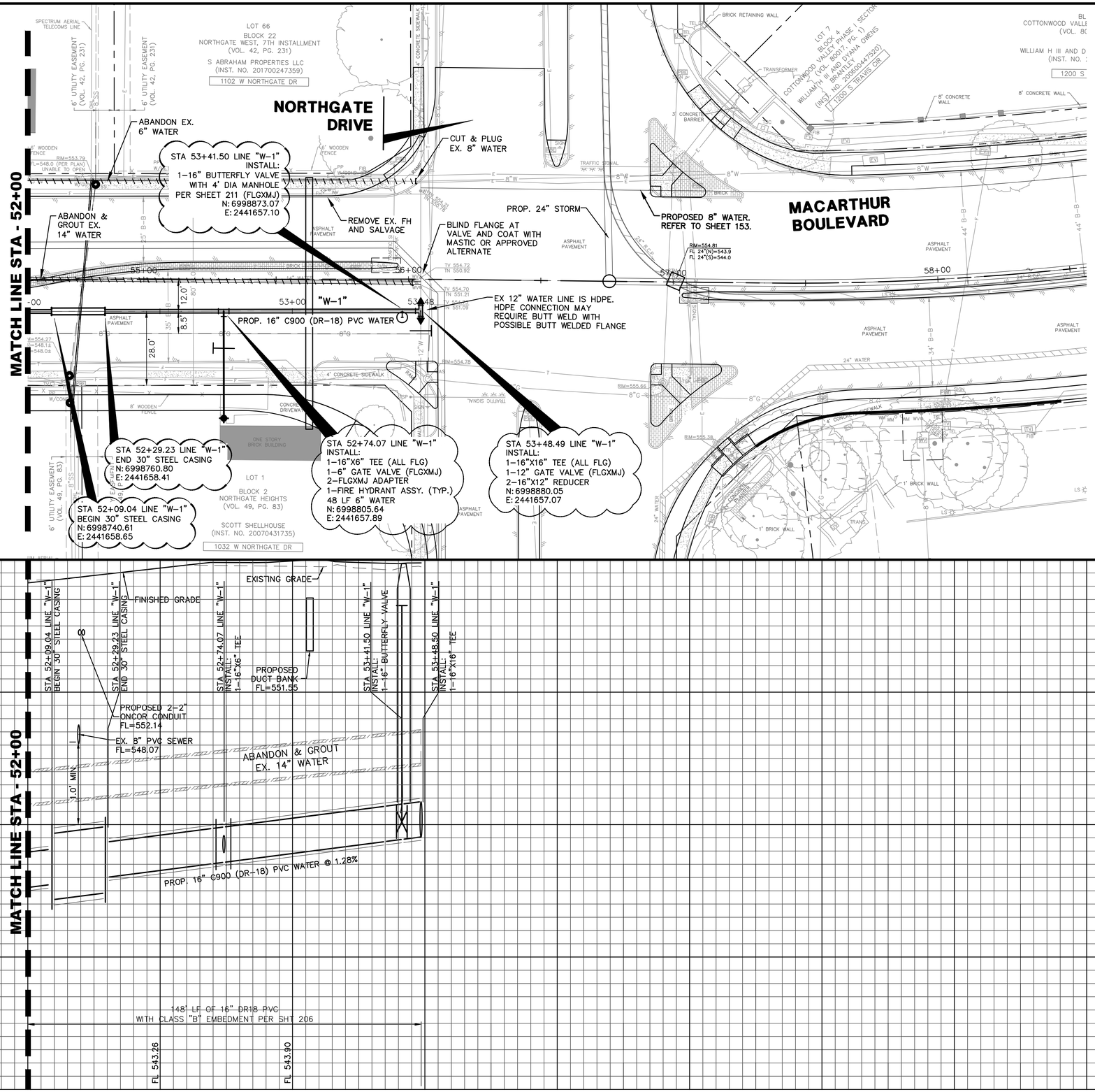

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- 613 EXIST CONTOUR

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ALL WELDING MUST BE APPROVED BY WATER UTILITIES APPROVED WELDER.

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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSET — 93845 — LICENSED PROFESSIONAL ENGINEER
05-10-22

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WATER PLAN & PROFILE STA 52+00 TO END
MACARTHUR BOULEVARD
(METIKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 141

DRUIZ
05/07/2022 - 11:15AM
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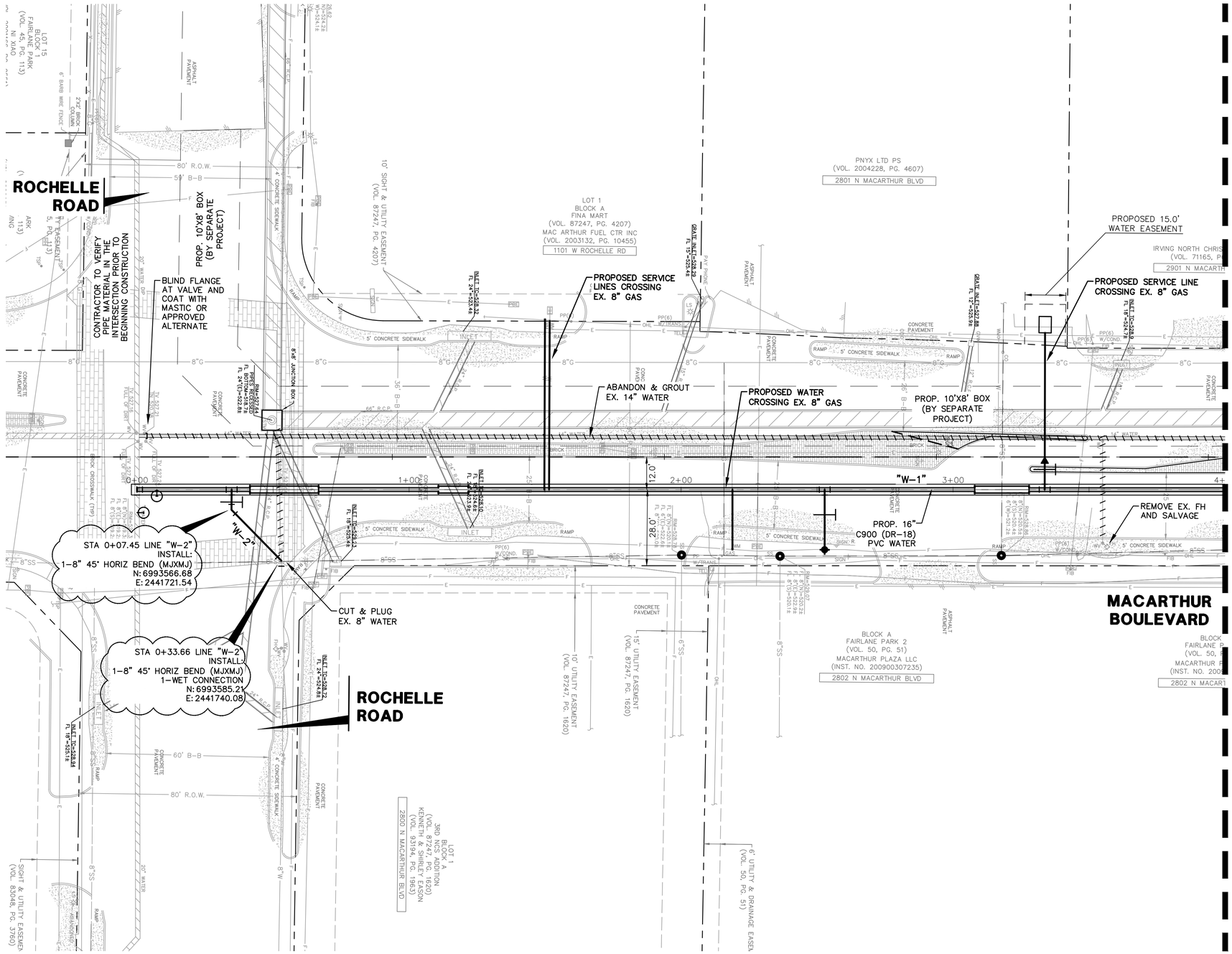

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL☆ FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW◇ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊗ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS☆ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP ☆ PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL □ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VN1 VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV WATER VAULT
- WV⊗ WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OHL OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

REFER TO SHEET 128 FOR 16" WATER PLAN AND PROFILE

NOTE:
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1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSET — 93845 — REGISTERED PROFESSIONAL ENGINEER — 05-10-22

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SHEET 142

DRUIZ
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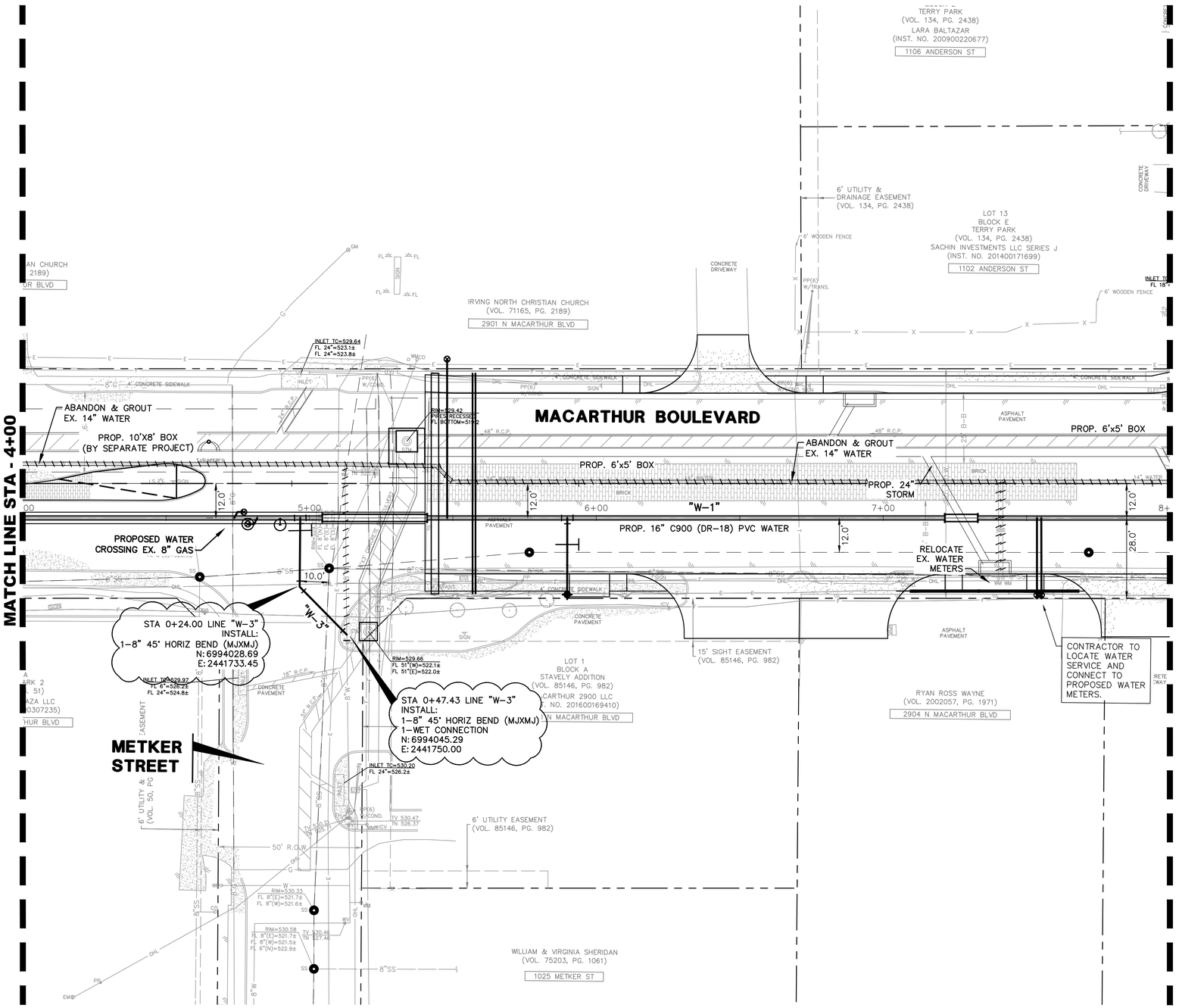

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
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- GV GAS VAULT
- GV⊗ GAS VALVE
- HE HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS☼ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
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- PP W/METERS PP W/METERS
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- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
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- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- V VAULT (TYPE UNKNOWN)
- VENT VENT
- WTR▼ UG WATER MARKER
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- 6"W WATER LINE
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- 613 EXIST CONTOUR

REFER TO SHEET 129 FOR 16" WATER PLAN AND PROFILE

NOTE:
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

REVISIONS:	BY	DATE	REV
XXXXXXXX		XX/XXXX	

STATE OF TEXAS — CLINT A. BISSET — 93845 — LICENSED PROFESSIONAL ENGINEER
05-10-22

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SHEET 143

DRUIZ
05/07/2022 - 11:15AM
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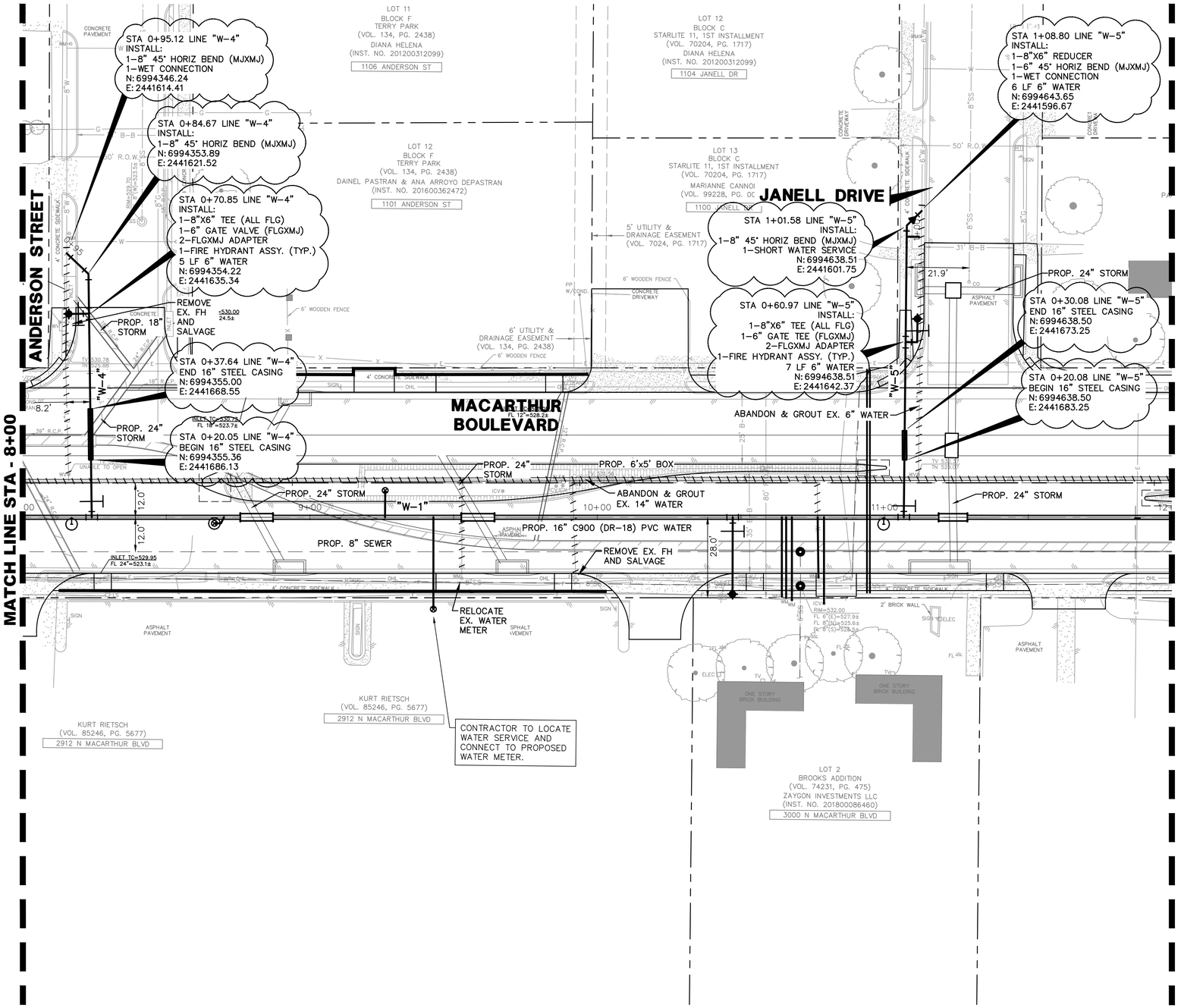

0 10 20 40 60
HORIZONTAL SCALE IN FEET

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- 613 EXIST CONTOUR

REFER TO SHEET 130 FOR 16" WATER PLAN AND PROFILE

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XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS · CHRIS T. KOCH · 93845 · LICENSED PROFESSIONAL ENGINEER · 05-10-22

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SHEET 144

DRUIZ
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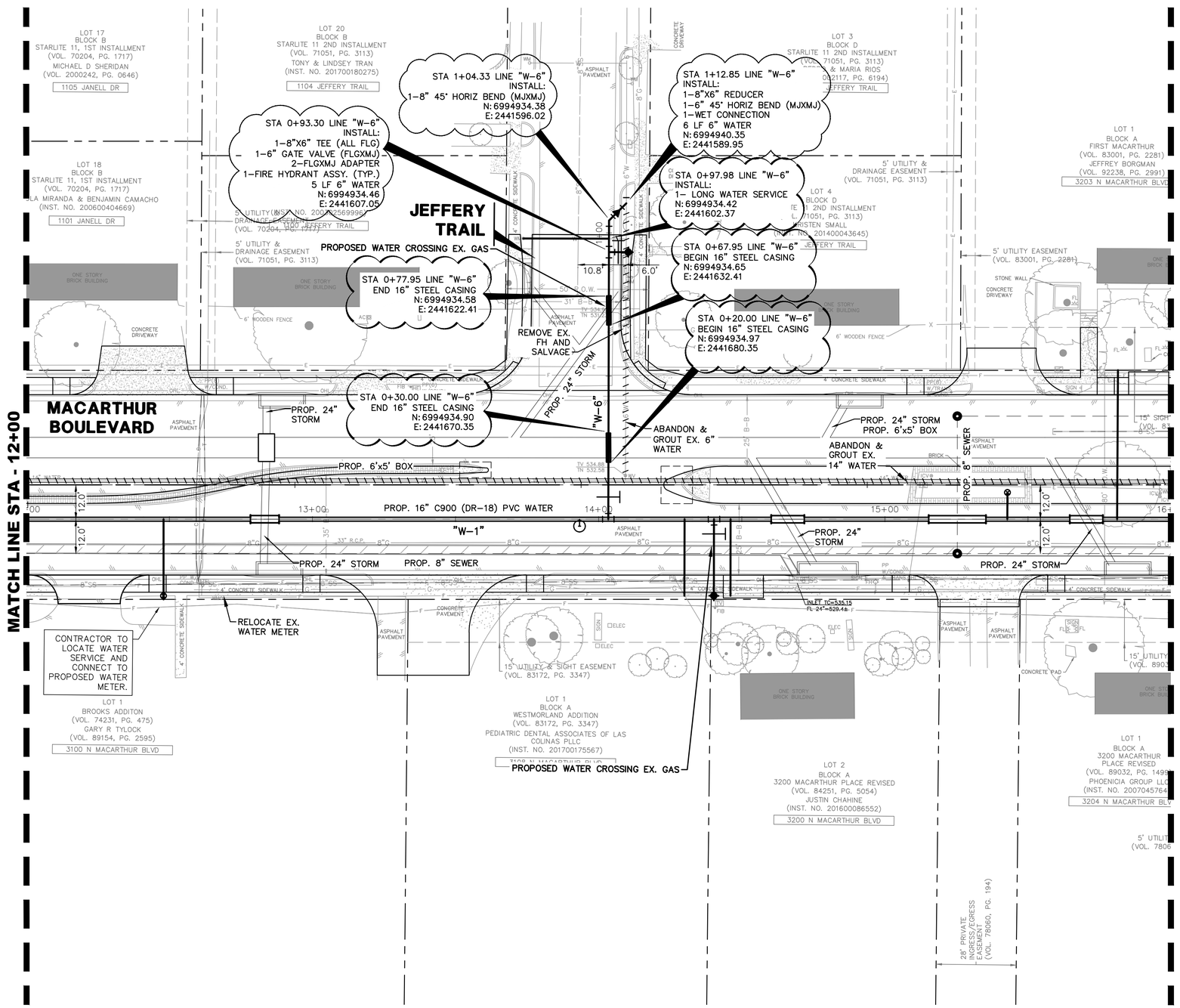

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
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STATE OF TEXAS · CLINT A. BISSET · 93845 · LICENSED PROFESSIONAL ENGINEER · 05-10-22

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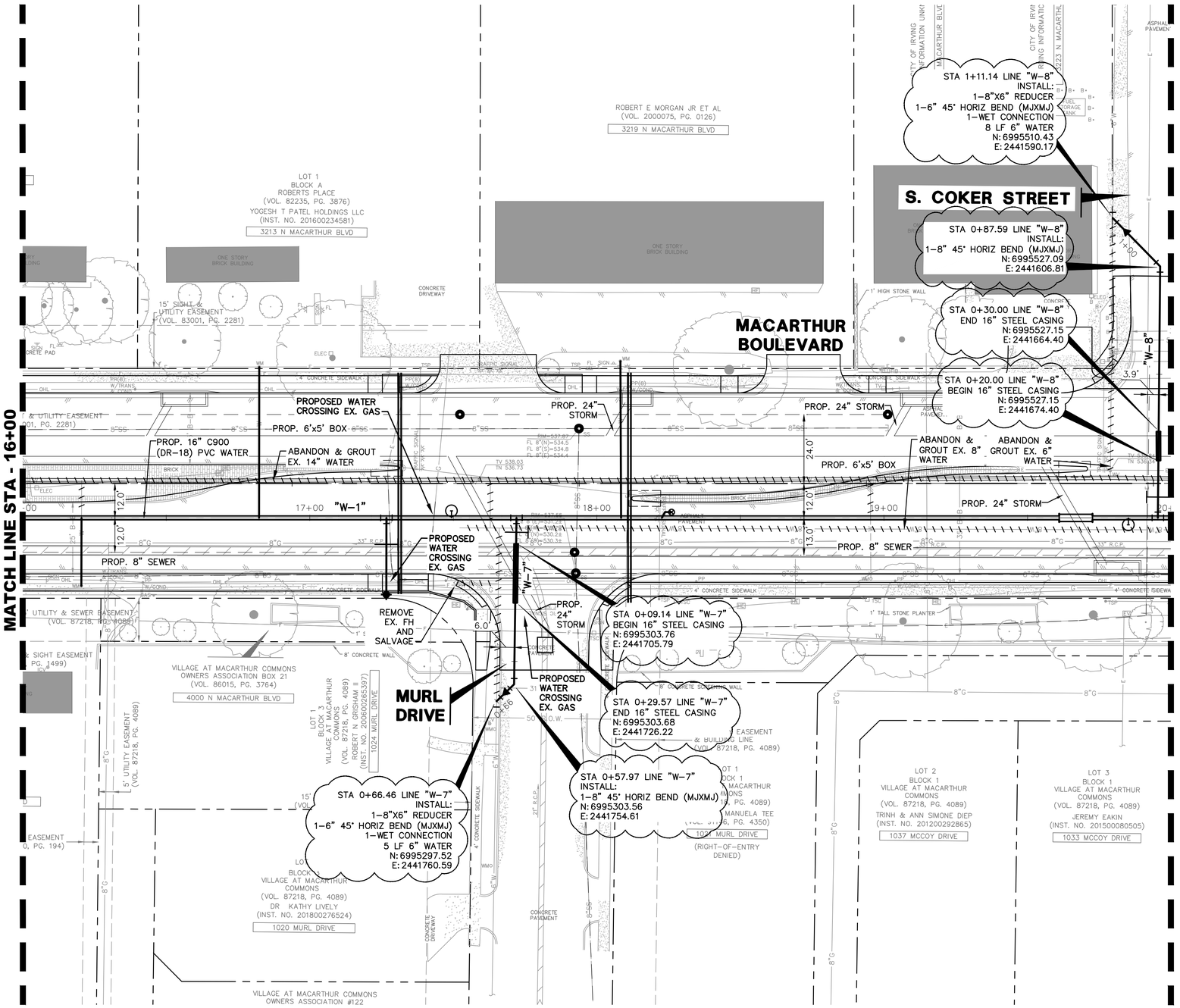

0 10 20 40 60
HORIZONTAL SCALE IN FEET

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VERTICAL SCALE IN FEET

LEGEND

- BOLLARD
- CLEANOUT
- ELECTRIC BOX
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- ELECTRIC METER
- ELECTRIC VAULT
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- UG FIB. OPTIC MARKER
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- (C.M.) CONTROLLING MONUMENT
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- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

NOTE:
ALL WELDING MUST BE APPROVED BY WATER UTILITIES APPROVED WELDER.

NOTE:
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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
CLINT A. BISSET
93845
LICENSED PROFESSIONAL ENGINEER
05-10-22

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Pacheco Koch
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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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972.721.2611
www.cityofirving.org

WATER PLAN
STA 16+00 TO STA 20+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
146

DRUIZ
05/07/2022 - 11:16AM
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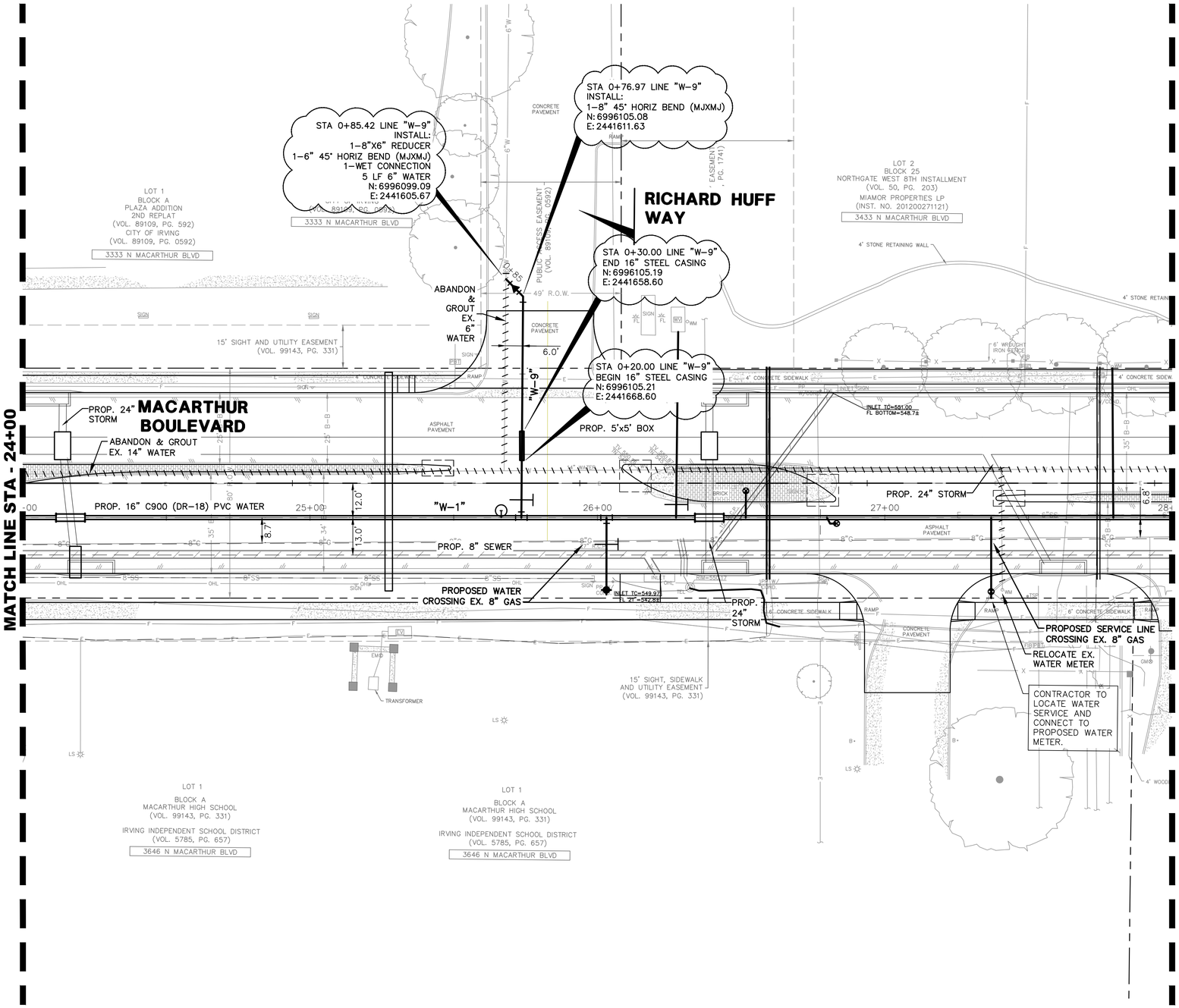

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM◈ ELECTRIC METER
- EV ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW◎ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM◈ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV◈ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV◈ IRRIGATION CONTROL VALVE
- LS☼ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/METERS PP W/METERS
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN▽ TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- VT VAULT (TYPE UNKNOWN)
- VENT VENT
- WTR▼ UG WATER MARKER
- WM◎ WATER METER
- WTR◯ WATER MANHOLE
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REFER TO SHEET 134 FOR 16" WATER PLAN AND PROFILE

NOTE:
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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1	XX/XXXX		XXXXXXXX

STATE OF TEXAS — CLINT A. BISSET — 93845 — LICENSED PROFESSIONAL ENGINEER — 05-10-22

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SHEET 147

DRUIZ
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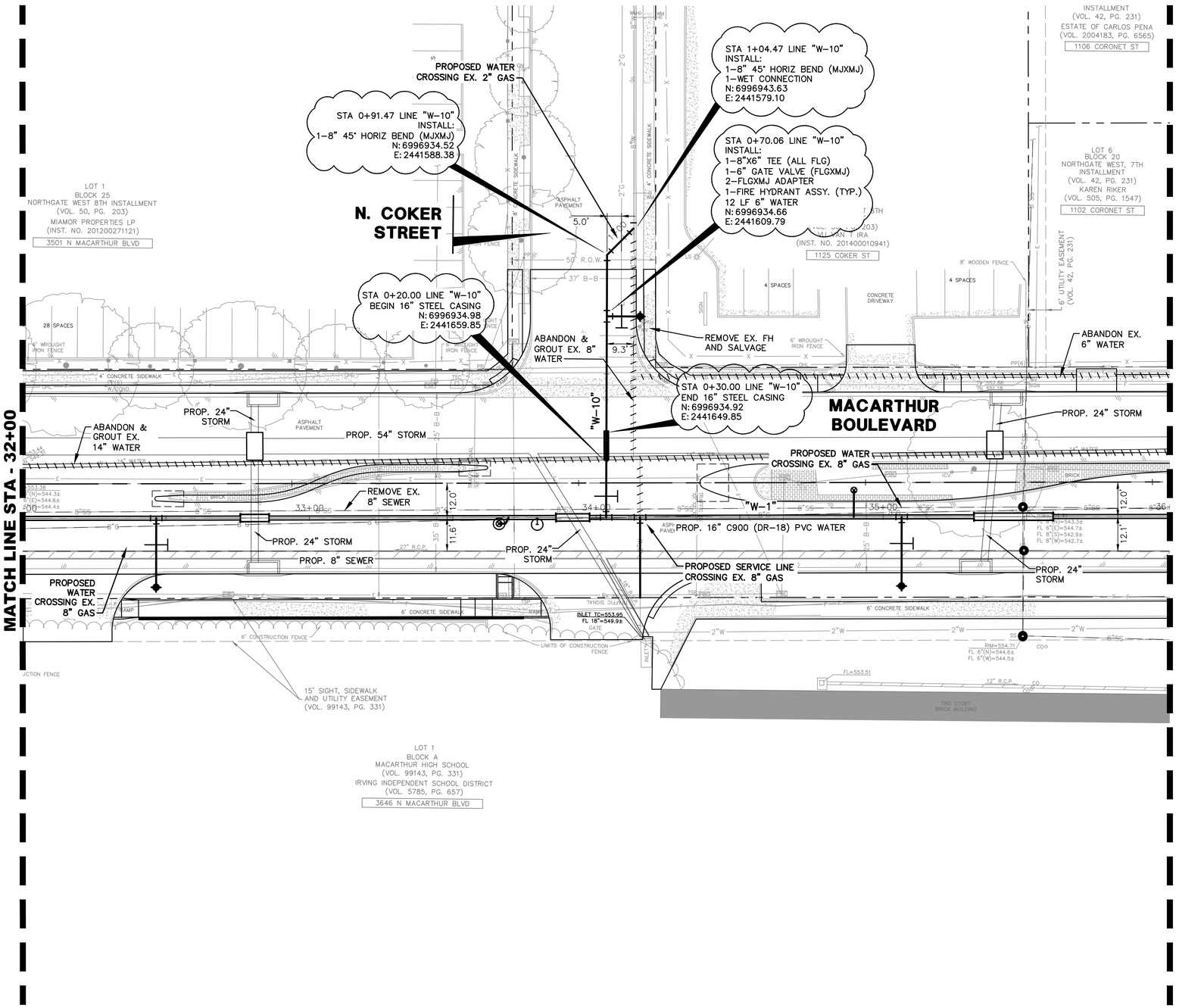

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- BOLLARD
- CO CLEANOUT
- ELEC ELECTRIC BOX
- ELEC ELECTRIC MANHOLE
- EM ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB UG FIB. OPTIC MARKER
- FP FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS UG GAS MARKER
- GAS GAS MANHOLE
- GM GAS METER
- GTS GAS TEST STATION
- GV GAS VALVE
- GV GAS VALVE
- HE HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH MANHOLE (TYPE UNKNOWN)
- MB MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1) PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS SAN. SEWER MANHOLE
- SS UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
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- PPM METAL UTILITY POLE
- TEL TELEPHONE BOX
- TEL UG TELEPHONE MARKER
- TR TRASH CAN
- TSC TRAFFIC SIGNAL CONTROL
- TSP TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM STORM SEWER MANHOLE
- TEL TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VNT VENT
- WTR UG WATER MARKER
- WM WATER METER
- WTR WATER MANHOLE
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REFER TO SHEET 136 FOR 16" WATER PLAN AND PROFILE

NOTE:
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	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · CLINT A. BISSET · 93845 · LICENSED PROFESSIONAL ENGINEER · 05-10-22

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CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 148

DRUIZ
05/07/2022 - 11:16AM
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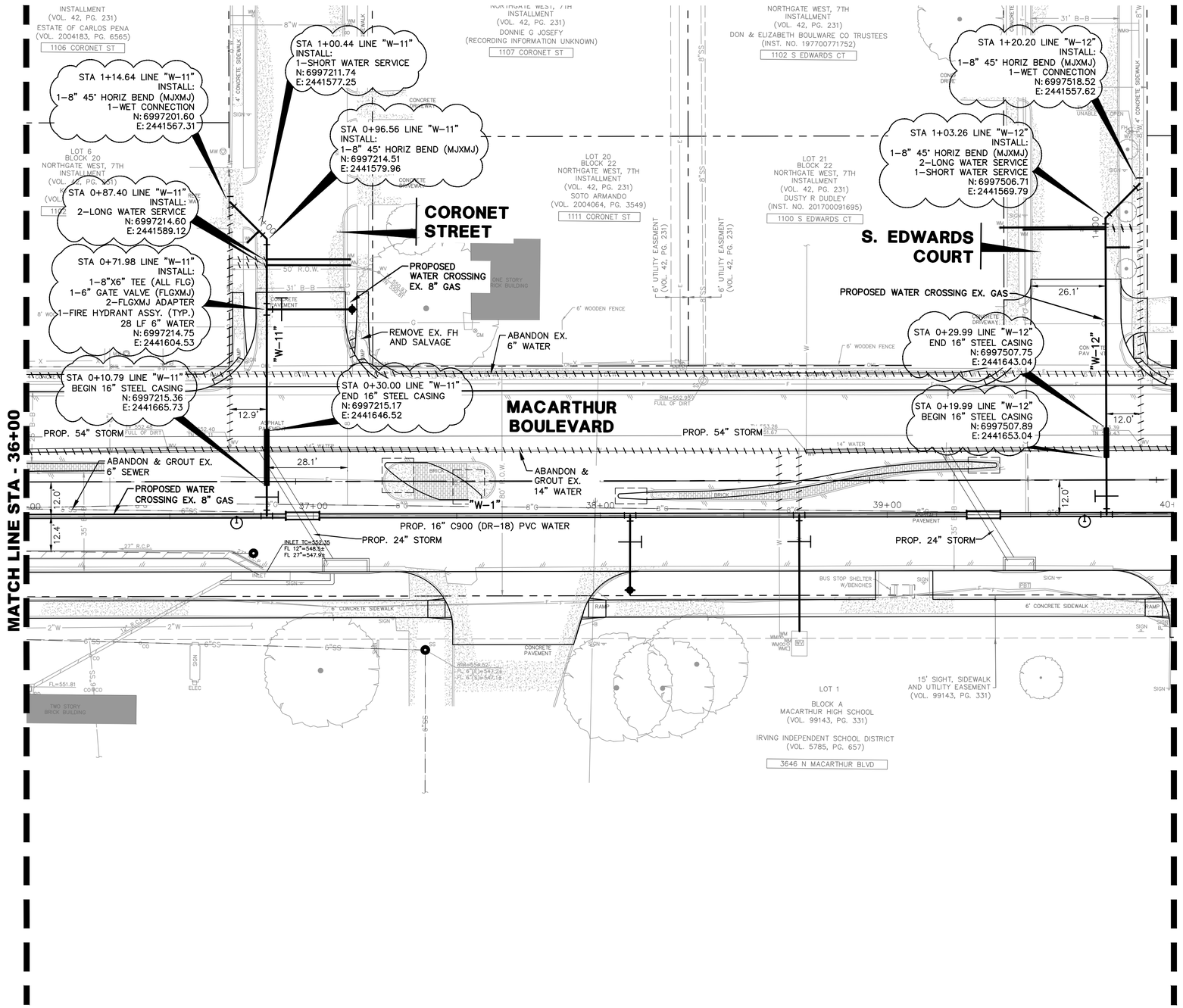

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
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- 613 EXIST CONTOUR

REFER TO SHEET 137 FOR 16" WATER PLAN AND PROFILE

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SCALE: SEE GRAPHICS
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DESIGNED BY: CKT/RCP
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SHEET 149

DRUIZ
05/07/2022 - 11:16AM
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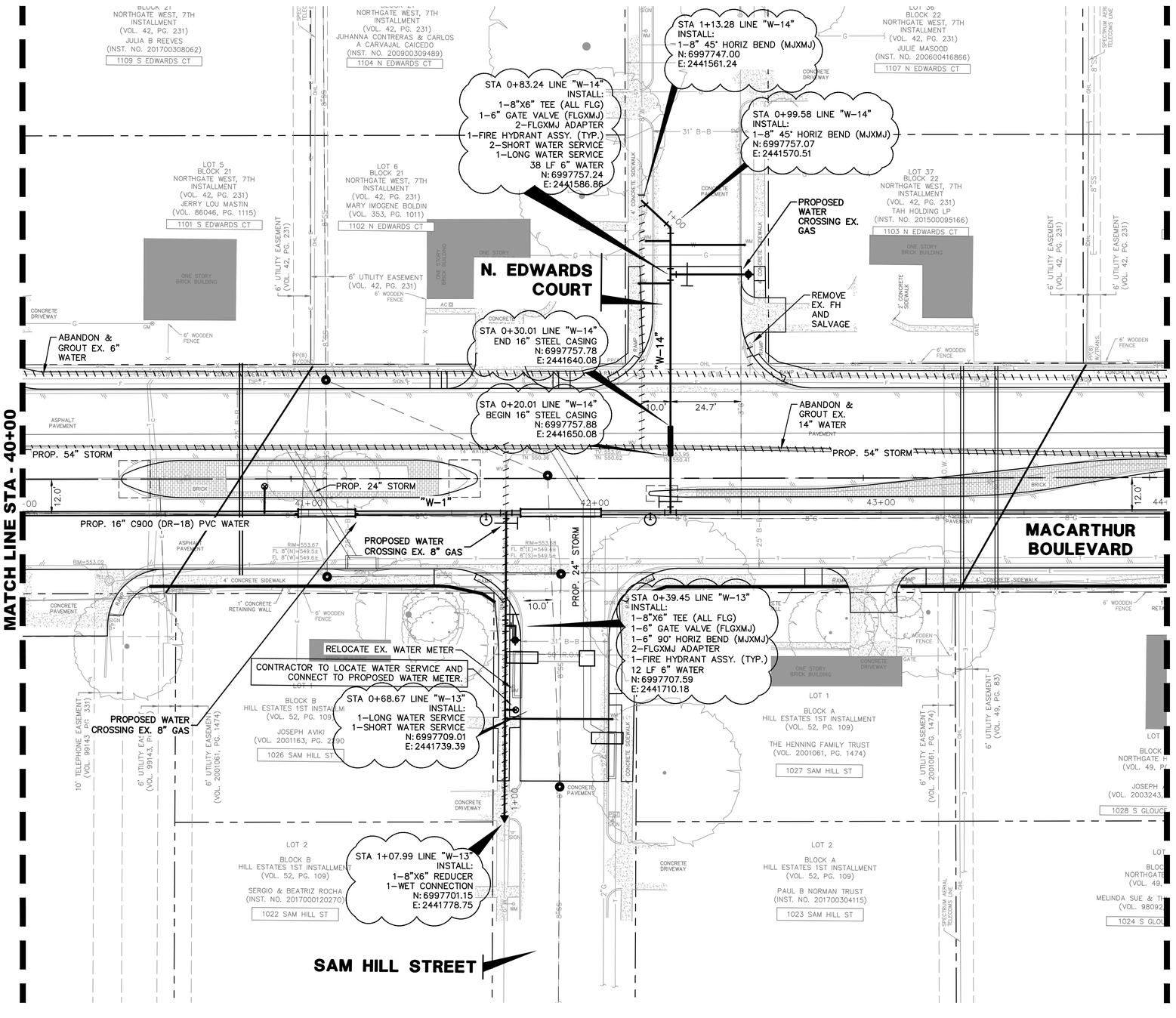

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
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- ELEC□ ELECTRIC BOX
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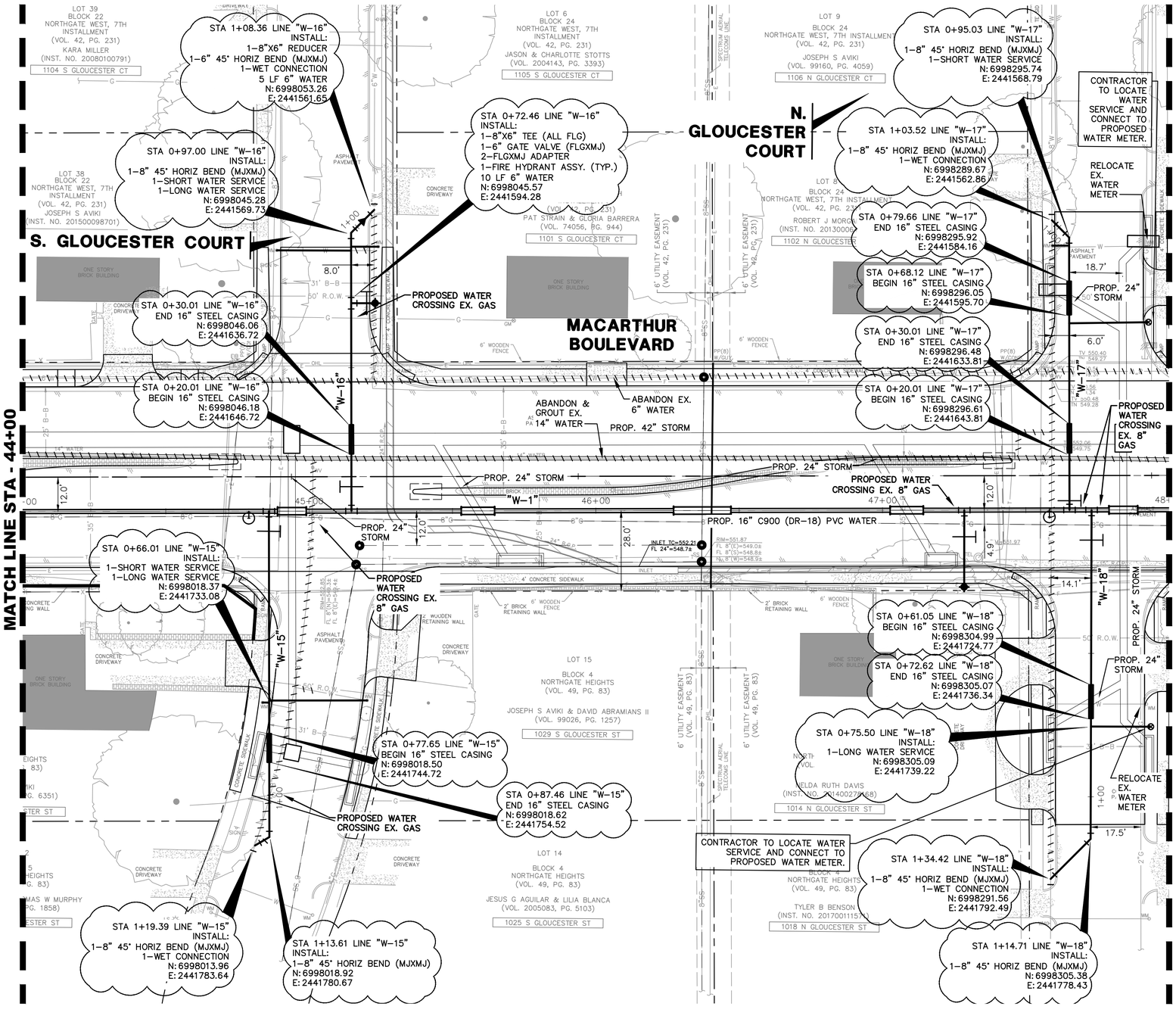

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- PPM• METAL UTILITY POLE
- TEL □ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VN↑ VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV WATER VAULT
- WV⊗ WATER VALVE
- IRS 1/2–INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OHL OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- E UNDERGROUND ELECTRIC LINE
- T UNDERGROUND TELEPHONE LINE
- C UNDERGROUND CABLE LINE
- F UNDERGROUND FIBER OPTIC LINE
- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

REFER TO SHEET 139 FOR 16" WATER PLAN AND PROFILE

NOTE:
ALL WELDING MUST BE APPROVED BY WATER UTILITIES APPROVED WELDER.

NOTE:
EXISTING WATER LINE TO STAY IN SERVICE UNTIL THE PROPOSED WATER LINE INSTALLATION HAS BEEN COMPLETED, TESTED, DISINFECTED, AND ACCEPTED BY THE CITY.

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON–SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — 93845 — REGISTERED PROFESSIONAL LAND SURVEYOR — CLINT A. BISSETT
05-10-22

THIS SEAL APPEARS ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSETT, RPLS ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORITY TO DO SO IS UNLAWFUL AND ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F–469
TX REG. SURVEYING FIRM LS–10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WATER PLAN
STA 44+00 TO STA 48+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 151

DRUIZ
05/07/2022 – 11:16AM
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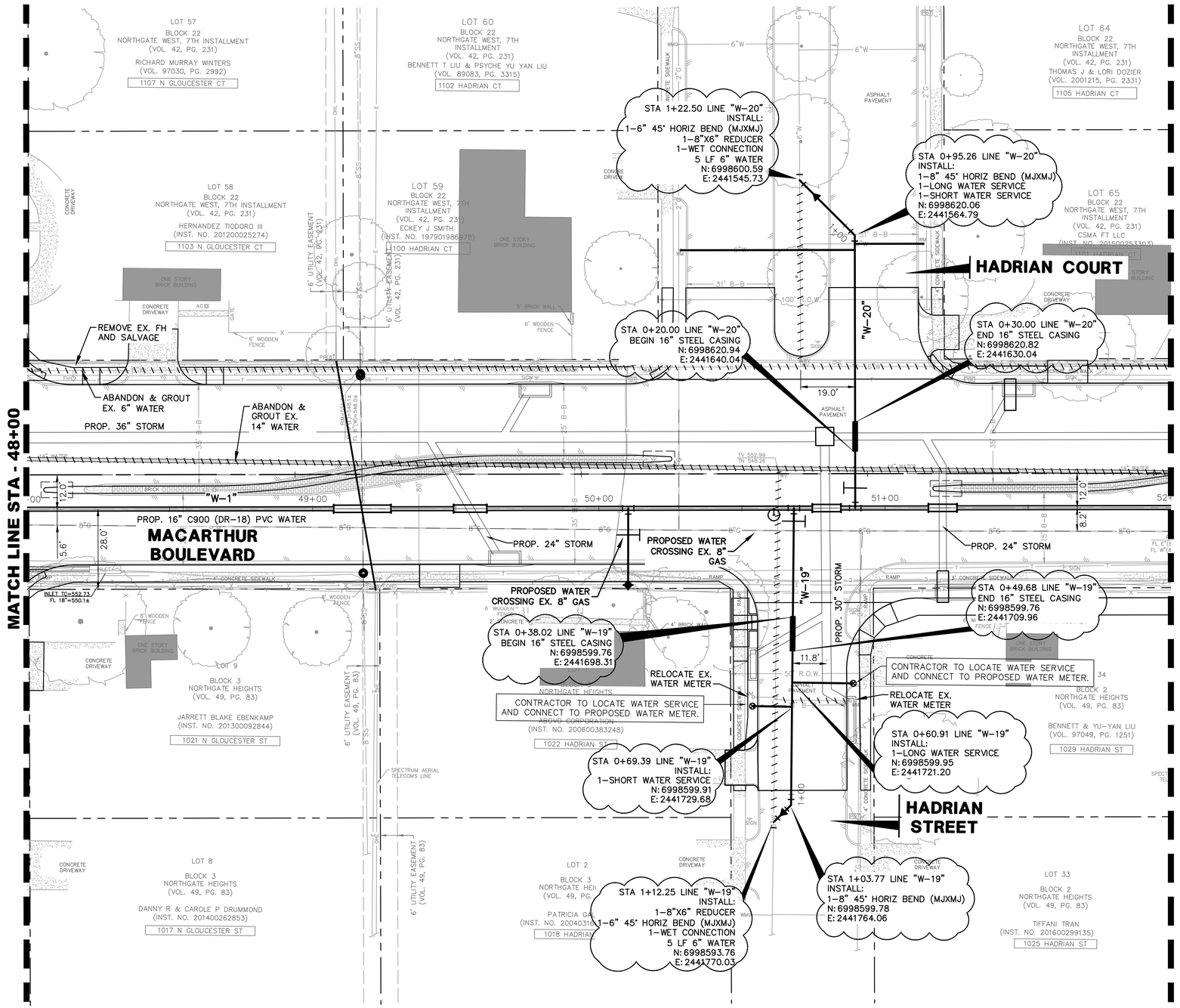

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊗ GAS METER
- GTS GAS TEST STATION
- GV GAS VALVE
- GV⊗ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VNT VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV WATER VAULT
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- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

REFER TO SHEET 140 FOR 16" WATER PLAN AND PROFILE

NOTE:
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NOTE:
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — CLINT A. BISSET — 93845 — LICENSED PROFESSIONAL ENGINEER — 05-10-22

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CLINT A. BISSET, P.E. ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER AUTHORITY TO DO SO BY THE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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972.721.2611
www.cityofirving.org

WATER PLAN
STA 48+00 TO STA 52+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 152

DRUIZ
05/07/2022 - 11:16AM
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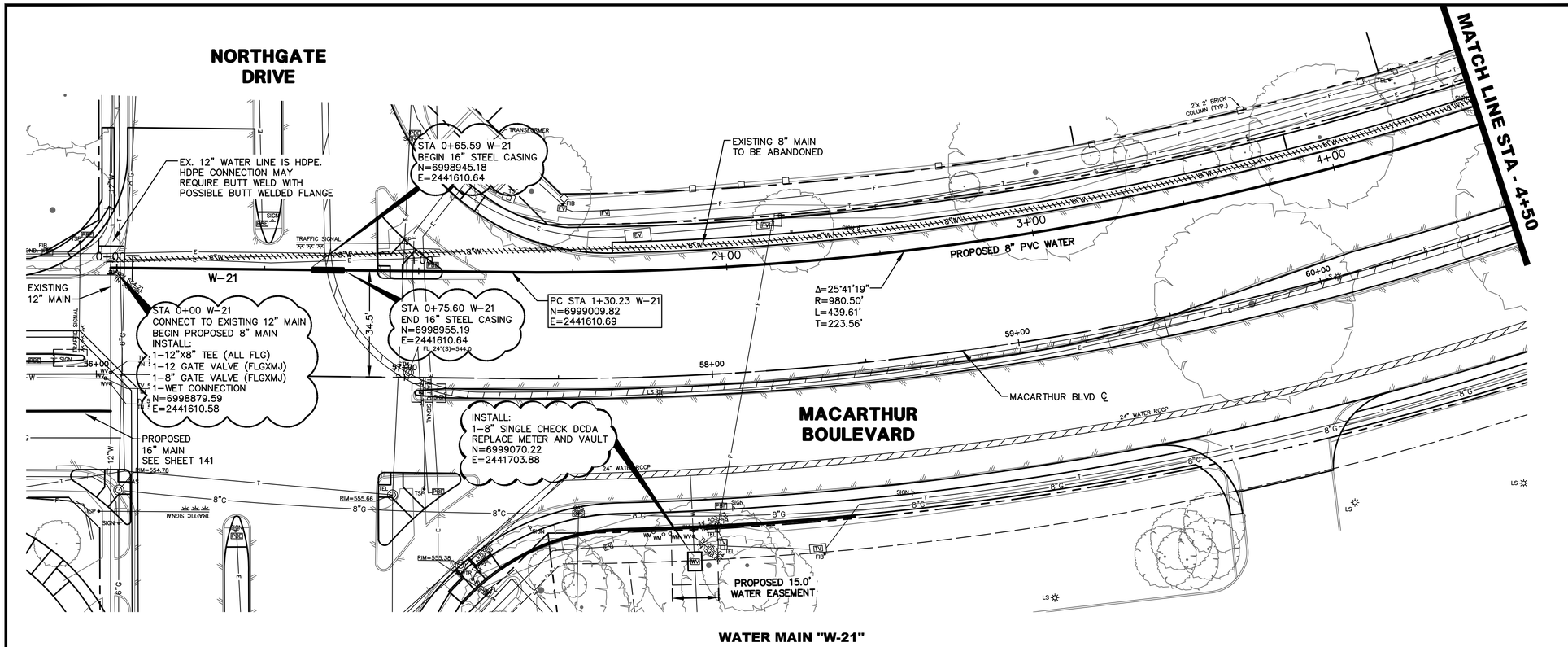

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 4 8 12
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WATER MAIN

ABANDON EX. SEWER MAIN

NOTE:
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SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY
1	XX/XXXX	XXXXXXXX

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

BRIAN D. O'NEILL 83980 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WATER PLAN
STA 0+00 TO END

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 153

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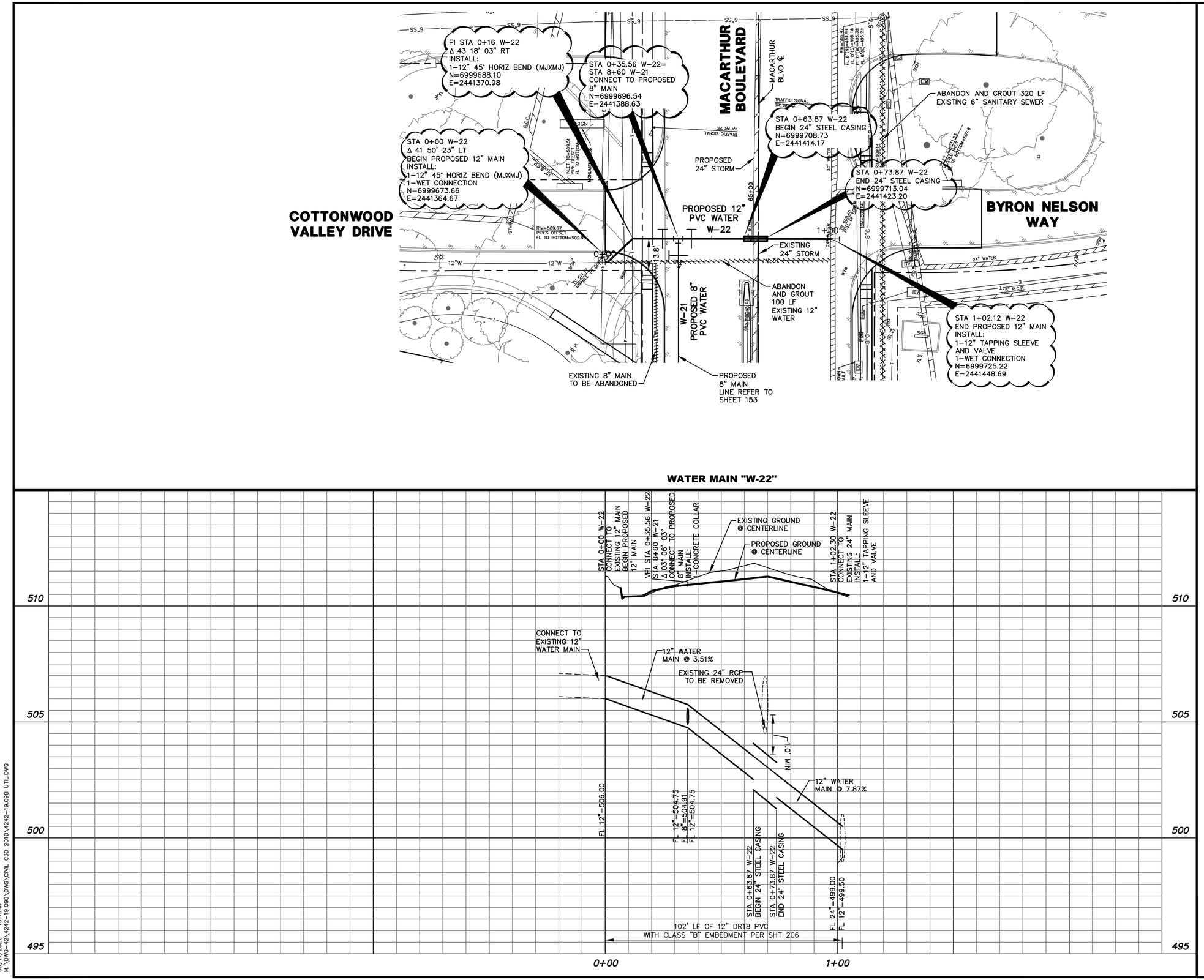

0 10 20 40 60
HORIZONTAL SCALE IN FEET

0 2 4 6
VERTICAL SCALE IN FEET

LEGEND

ABANDON EX. WATER MAIN

ABANDON EX. SEWER MAIN

NOTE:
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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

WATER PLAN & PROFILE
STA 0+00 TO END

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 154

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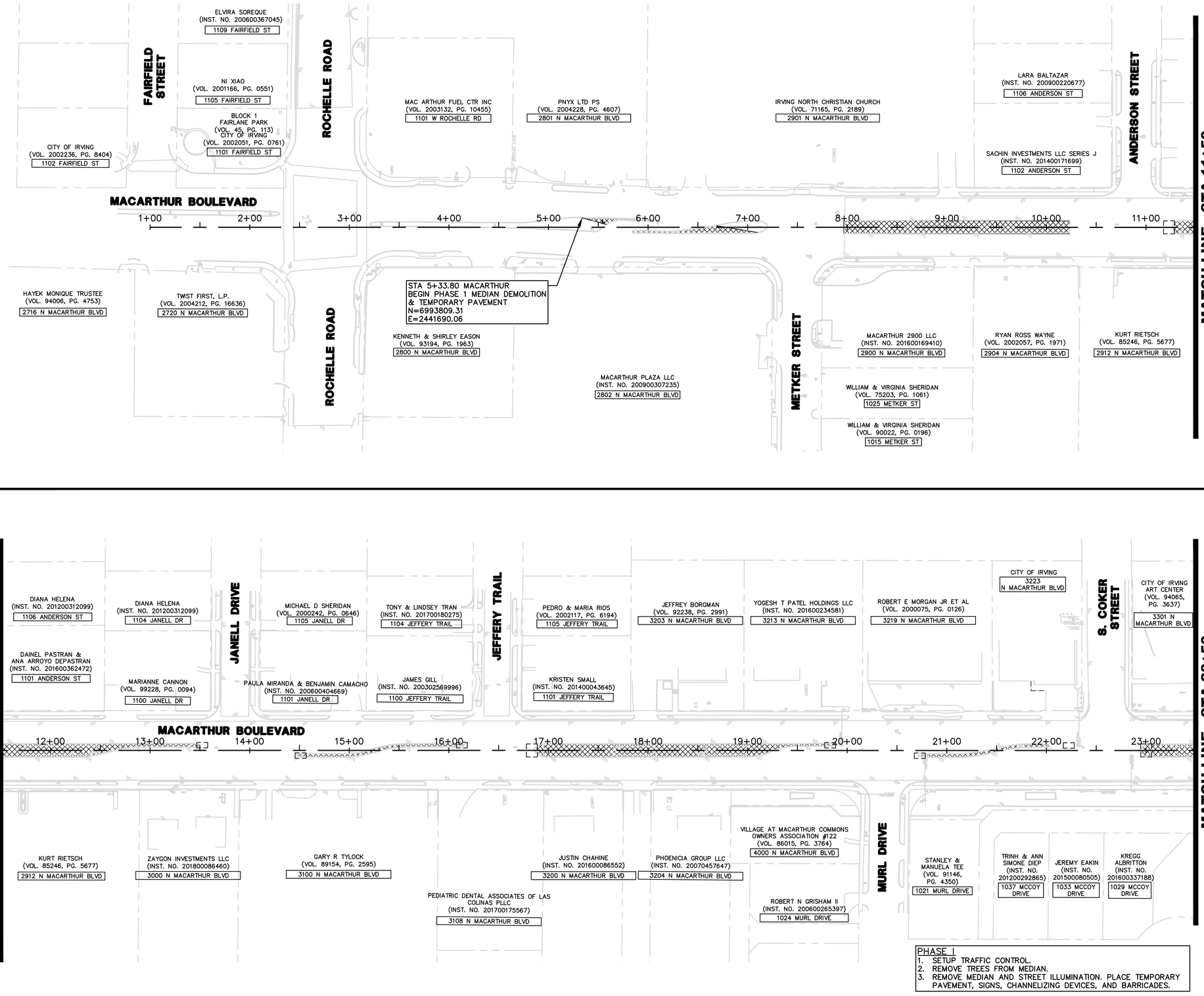

PHASE I
1. SETUP TRAFFIC CONTROL.
2. REMOVE TREES FROM MEDIAN.
3. REMOVE MEDIAN AND STREET ILLUMINATION. PLACE TEMPORARY PAVEMENT, SIGNS, CHANNELIZING DEVICES, AND BARRICADES.

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC □ ELECTRIC BOX
- ELEC ⓔ ELECTRIC MANHOLE
- EM◈ ELECTRIC METER
- EV ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP⚑ FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW ⓜ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS ⓖ GAS MANHOLE
- GM◈ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV◈ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV◈ IRRIGATION CONTROL VALVE
- LS ☼ LIGHT STANDARD
- MH ⓜ MANHOLE (TYPE UNKNOWN)
- MB □ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN ▽ TRAFFIC SIGN
- SS ⓢ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
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- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM ⓢ STORM SEWER MANHOLE
- TEL ⓣ TELEPHONE MANHOLE
- UV VAULT (TYPE UNKNOWN)
- VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR ⓦ WATER MANHOLE
- WV WATER VAULT
- WV◈ WATER VALVE
- IRS 1/2"-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
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- HAND RAIL
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- T UNDERGROUND TELEPHONE LINE
- C UNDERGROUND CABLE LINE
- F UNDERGROUND FIBER OPTIC LINE
- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR
- PHASE 1 MEDIAN DEMOLITION & TEMPORARY PAVEMENT

NOTE:
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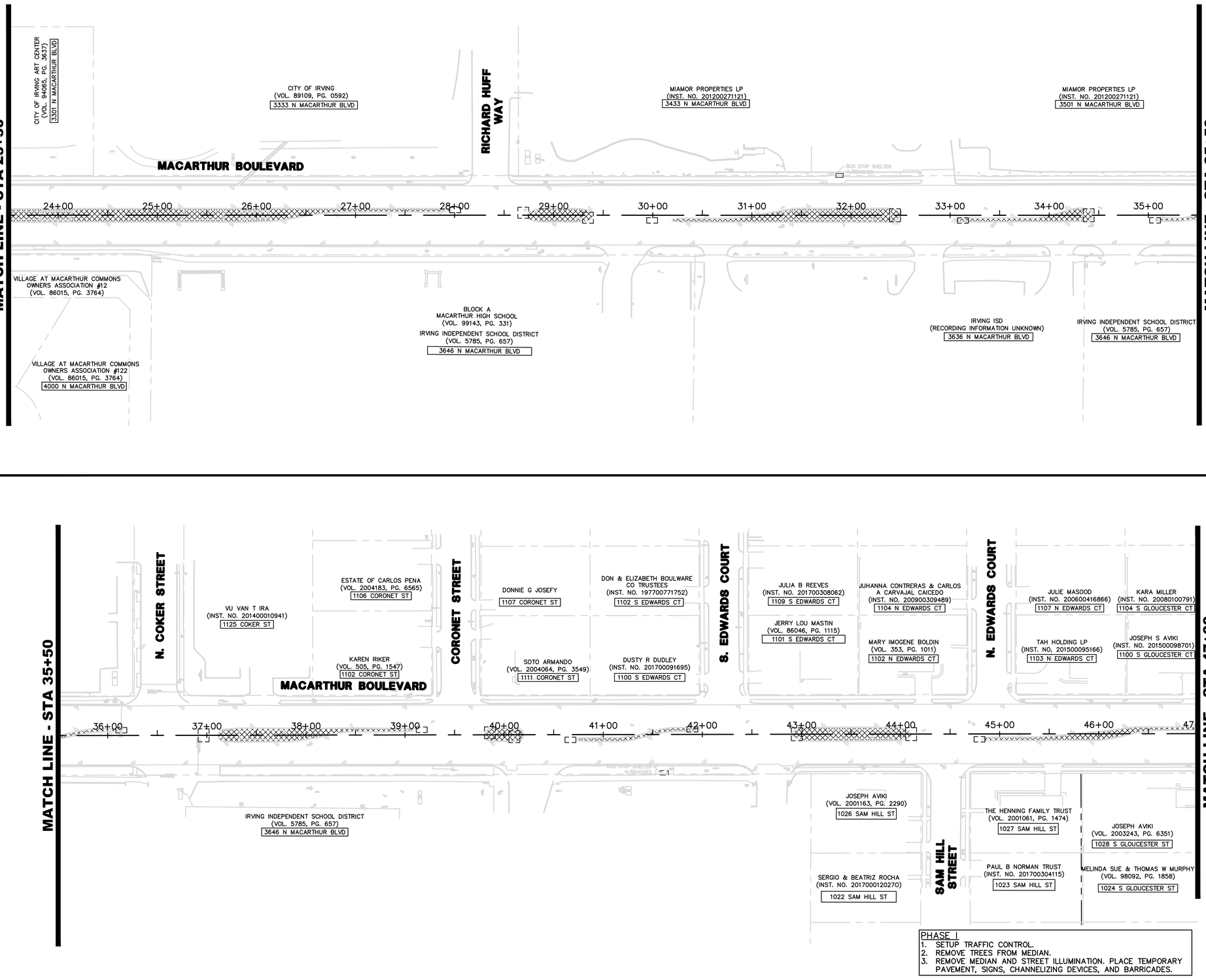
REV	DATE	BY	REVISIONS:



PHASE I
1. SETUP TRAFFIC CONTROL.
2. REMOVE TREES FROM MEDIAN.
3. REMOVE MEDIAN AND STREET ILLUMINATION. PLACE TEMPORARY PAVEMENT, SIGNS, CHANNELIZING DEVICES, AND BARRICADES.

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM⊕ ELECTRIC METER
- EV ELECTRIC VAULT
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- FL FLOOD LIGHT
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- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM⊕ GAS METER
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- GV⊕ GAS VALVE
- HH HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊕ IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHTS PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
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- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
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- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
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- TV TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
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REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENTS WAS AUTHORIZED BY BRIAN D. O'NEILL, P.E. 83980 ON 05/10/2022. THIS DOCUMENT SHALL NOT BE MODIFIED WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER. IT IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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972.721.2611
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CONSTRUCTION PHASING PLAN
STA 23+50 TO STA 47+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 156

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05/10/2022 - 2:10PM
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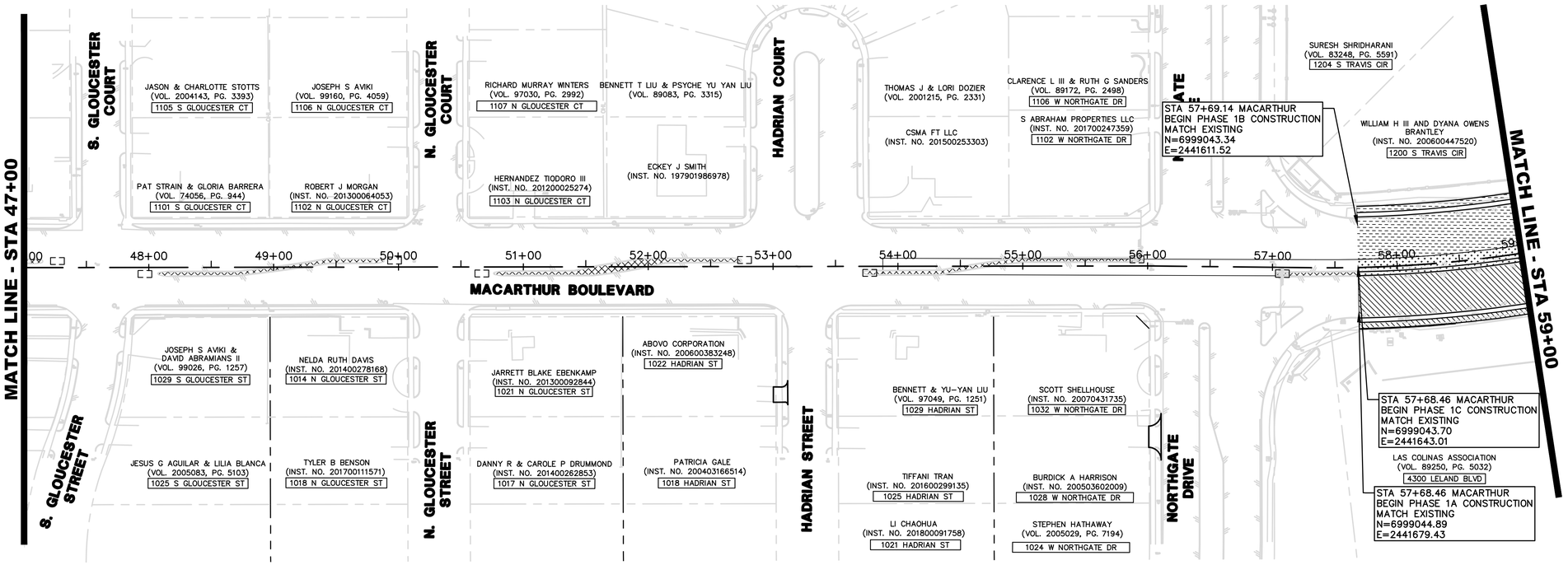

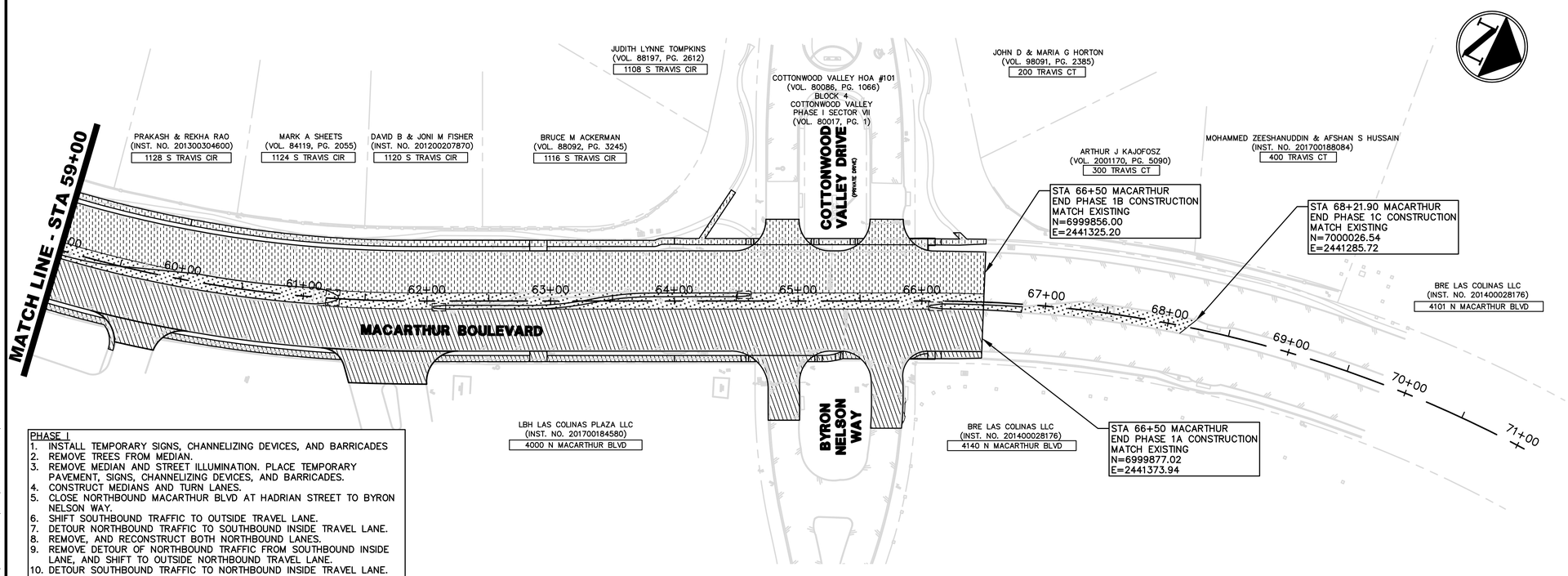

PHASE I
1. INSTALL TEMPORARY SIGNS, CHANNELIZING DEVICES, AND BARRICADES
2. REMOVE TREES FROM MEDIAN.
3. REMOVE MEDIAN AND STREET ILLUMINATION. PLACE TEMPORARY PAVEMENT, SIGNS, CHANNELIZING DEVICES, AND BARRICADES.
4. CONSTRUCT MEDIANS AND TURN LANES.
5. CLOSE NORTHBOUND MACARTHUR BLVD AT HADRIAN STREET TO BYRON NELSON WAY.
6. SHIFT SOUTHBOUND TRAFFIC TO OUTSIDE TRAVEL LANE.
7. DETOUR NORTHBOUND TRAFFIC TO SOUTHBOUND INSIDE TRAVEL LANE.
8. REMOVE, AND RECONSTRUCT BOTH NORTHBOUND LANES.
9. REMOVE DETOUR OF NORTHBOUND TRAFFIC FROM SOUTHBOUND INSIDE LANE, AND SHIFT TO OUTSIDE NORTHBOUND TRAVEL LANE.
10. DETOUR SOUTHBOUND TRAFFIC TO NORTHBOUND INSIDE TRAVEL LANE.
11. REMOVE AND RECONSTRUCT BOTH SOUTHBOUND LANES.
12. CONTRACTOR SHALL PROVIDE TRANSITIONS FROM EXISTING PAVEMENT TO COMPLETED WORK WHEREVER APPROPRIATE.
13. 13. CONSTRUCT MEDIANS AND TURN LANES.

NOTE:
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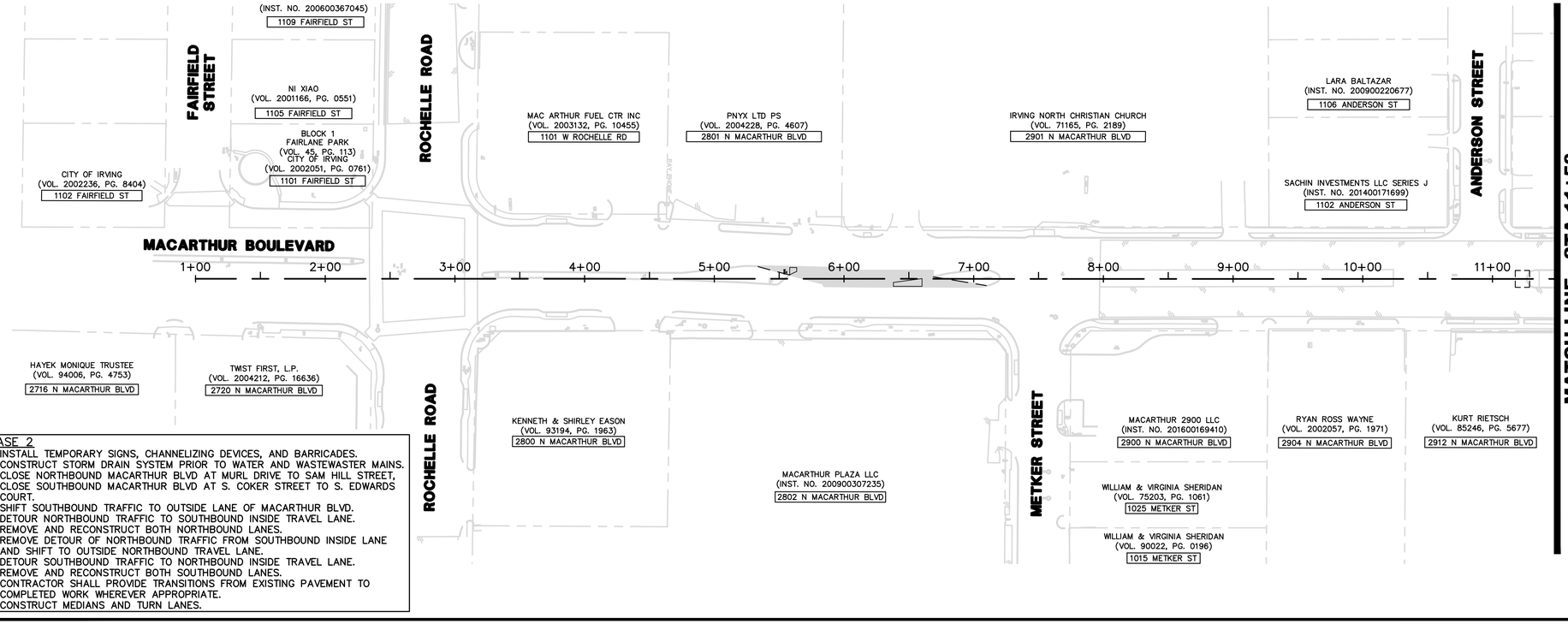
0 25 50 100 150
HORIZONTAL SCALE IN FEET

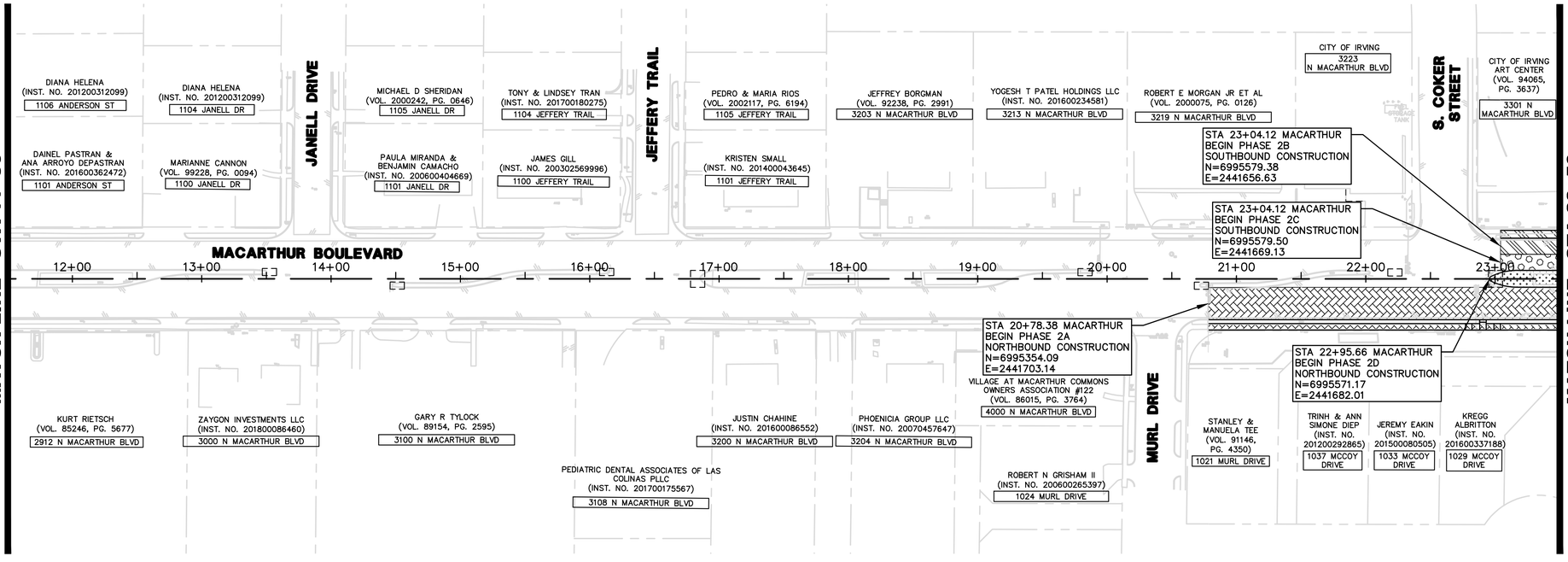
LEGEND

- B BOLLARD
- CO CLEANOUT
- ELEC ELECTRIC BOX
- ELEC ELECTRIC MANHOLE
- EM ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB UG FIB. OPTIC MARKER
- FP FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS UG GAS MARKER
- GAS GAS MANHOLE
- GM GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV GAS VALVE
- HE HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH MANHOLE (TYPE UNKNOWN)
- MB MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP(1) PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS SAN. SEWER MANHOLE
- SS UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP POWER POLE
- PPM METAL UTILITY POLE
- TEL TELEPHONE BOX
- TEL UG TELEPHONE MARKER
- TR TRASH CAN
- TSC TRAFFIC SIGNAL CONTROL
- TSP TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM STORM SEWER MANHOLE
- TEL TELEPHONE MANHOLE
- VT VAULT (TYPE UNKNOWN)
- VENT
- WTR UG WATER MARKER
- WM WATER METER
- WTR WATER MANHOLE
- WV WATER VAULT
- WV WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR
- PHASE 1 MEDIAN DEMOLITION & TEMPORARY PAVEMENT
- PHASE 1A CONSTRUCTION
- PHASE 1B CONSTRUCTION
- PHASE 1C CONSTRUCTION

REV	DATE	BY	REVISIONS:



PHASE 2
1. INSTALL TEMPORARY SIGNS, CHANNELIZING DEVICES, AND BARRICADES.
2. CONSTRUCT STORM DRAIN SYSTEM PRIOR TO WATER AND WASTEWASTER MAINS.
3. CLOSE NORTHBOUND MACARTHUR BLVD AT MURL DRIVE TO SAM HILL STREET, CLOSE SOUTHBOUND MACARTHUR BLVD AT S. COKER STREET TO S. EDWARDS COURT.
4. SHIFT SOUTHBOUND TRAFFIC TO OUTSIDE LANE OF MACARTHUR BLVD.
5. DETOUR NORTHBOUND TRAFFIC TO SOUTHBOUND INSIDE TRAVEL LANE.
6. REMOVE AND RECONSTRUCT BOTH NORTHBOUND LANES.
7. REMOVE DETOUR OF NORTHBOUND TRAFFIC FROM SOUTHBOUND INSIDE LANE AND SHIFT TO OUTSIDE NORTHBOUND TRAVEL LANE.
8. DETOUR SOUTHBOUND TRAFFIC TO NORTHBOUND INSIDE TRAVEL LANE.
9. REMOVE AND RECONSTRUCT BOTH SOUTHBOUND LANES.
10. CONTRACTOR SHALL PROVIDE TRANSITIONS FROM EXISTING PAVEMENT TO COMPLETED WORK WHEREVER APPROPRIATE.
11. CONSTRUCT MEDIANS AND TURN LANES.



NOTE:
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0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B BOLLARD
- CO CLEANOUT
- ELEC ELECTRIC BOX
- ELEC ELECTRIC MANHOLE
- EM ELECTRIC METER
- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB UG FIB. OPTIC MARKER
- FP FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS UG GAS MARKER
- GAS GAS MANHOLE
- GM GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV GAS VALVE
- HE HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH MANHOLE (TYPE UNKNOWN)
- MB MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1) PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS SAN. SEWER MANHOLE
- SS UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP POWER POLE
- PPM METAL UTILITY POLE
- TEL TELEPHONE BOX
- TEL UG TELEPHONE MARKER
- TR TRASH CAN
- TSC TRAFFIC SIGNAL CONTROL
- TSP TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM STORM SEWER MANHOLE
- TEL TELEPHONE MANHOLE
- VV VAULT (TYPE UNKNOWN)
- VENT
- WTR UG WATER MARKER
- WM WATER METER
- WTR WATER MANHOLE
- WV WATER VAULT
- WV WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
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- X FENCE
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- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

- PHASE 1 CONSTRUCTION
- PHASE 2A CONSTRUCTION
- PHASE 2B CONSTRUCTION
- PHASE 2C CONSTRUCTION
- PHASE 2D CONSTRUCTION

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
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972.721.2611
www.cityofirving.org

CONSTRUCTION PHASING PLAN
STA 7+96.45 TO STA 23+50
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 158

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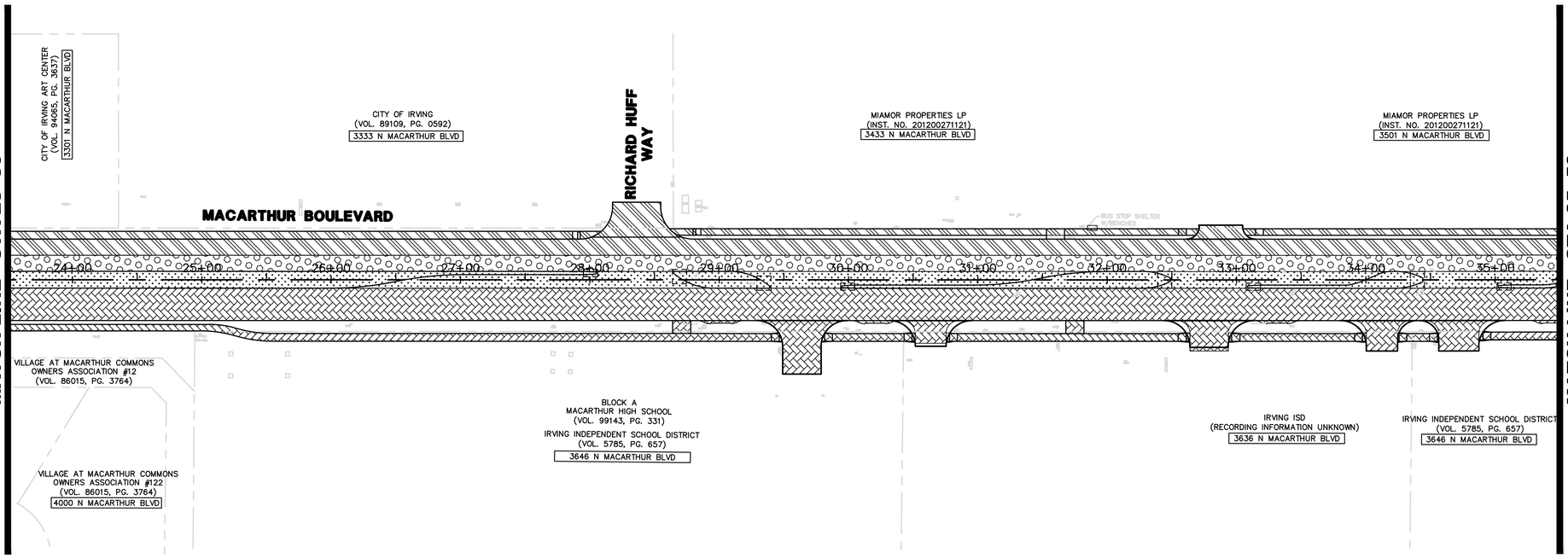

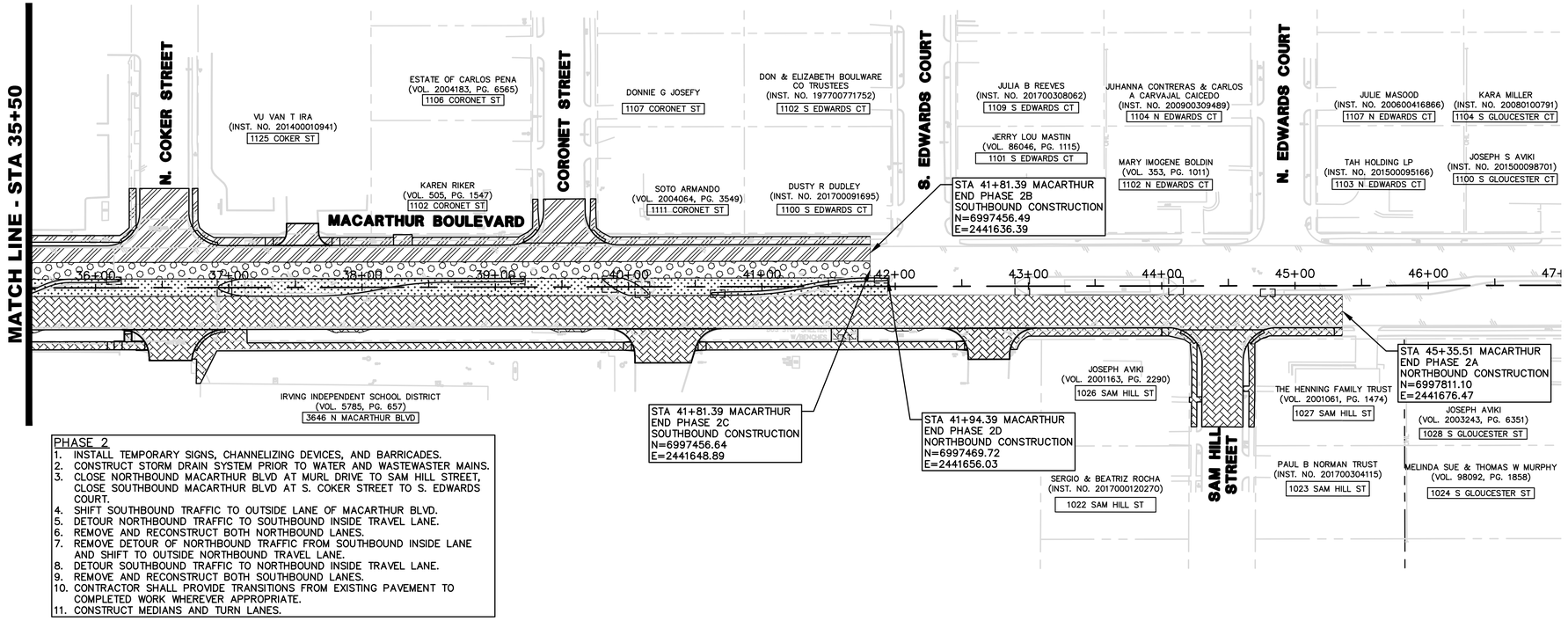

PHASE 2

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2. CONSTRUCT STORM DRAIN SYSTEM PRIOR TO WATER AND WASTEWASTER MAINS.
3. CLOSE NORTHBOUND MACARTHUR BLVD AT MURL DRIVE TO SAM HILL STREET, CLOSE SOUTHBOUND MACARTHUR BLVD AT S. COKER STREET TO S. EDWARDS COURT.
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8. DETOUR SOUTHBOUND TRAFFIC TO NORTHBOUND INSIDE TRAVEL LANE.
9. REMOVE AND RECONSTRUCT BOTH SOUTHBOUND LANES.
10. CONTRACTOR SHALL PROVIDE TRANSITIONS FROM EXISTING PAVEMENT TO COMPLETED WORK WHEREVER APPROPRIATE.
11. CONSTRUCT MEDIANS AND TURN LANES.

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B BOLLARD
- CO CLEANOUT
- ELEC ELECTRIC BOX
- ELEC ELECTRIC MANHOLE
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- EV ELECTRIC VAULT
- FH FIRE HYDRANT
- FIB UG FIB. OPTIC MARKER
- FP FLAG POLE
- FL FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW MONITORING WELL
- GAS UG GAS MARKER
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- GV GAS VAULT
- GV GAS VALVE
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- HH HAND HOLE (TYPE UNKNOWN)
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- LS LIGHT STANDARD
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- MB MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS PP W/METERS
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- PP W/COND. PP W/CONDUIT
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- TEL UG TELEPHONE MARKER
- TR TRASH CAN
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- TSP TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM STORM SEWER MANHOLE
- TEL TELEPHONE MANHOLE
- V VAULT (TYPE UNKNOWN)
- VENT VENT
- WTR UG WATER MARKER
- WM WATER METER
- WTR WATER MANHOLE
- WV WATER VAULT
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- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR
- PHASE 2A CONSTRUCTION
- PHASE 2B CONSTRUCTION
- PHASE 2C CONSTRUCTION
- PHASE 2D CONSTRUCTION

NOTE:
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REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STA 23+50 TO STA 47+00

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 159

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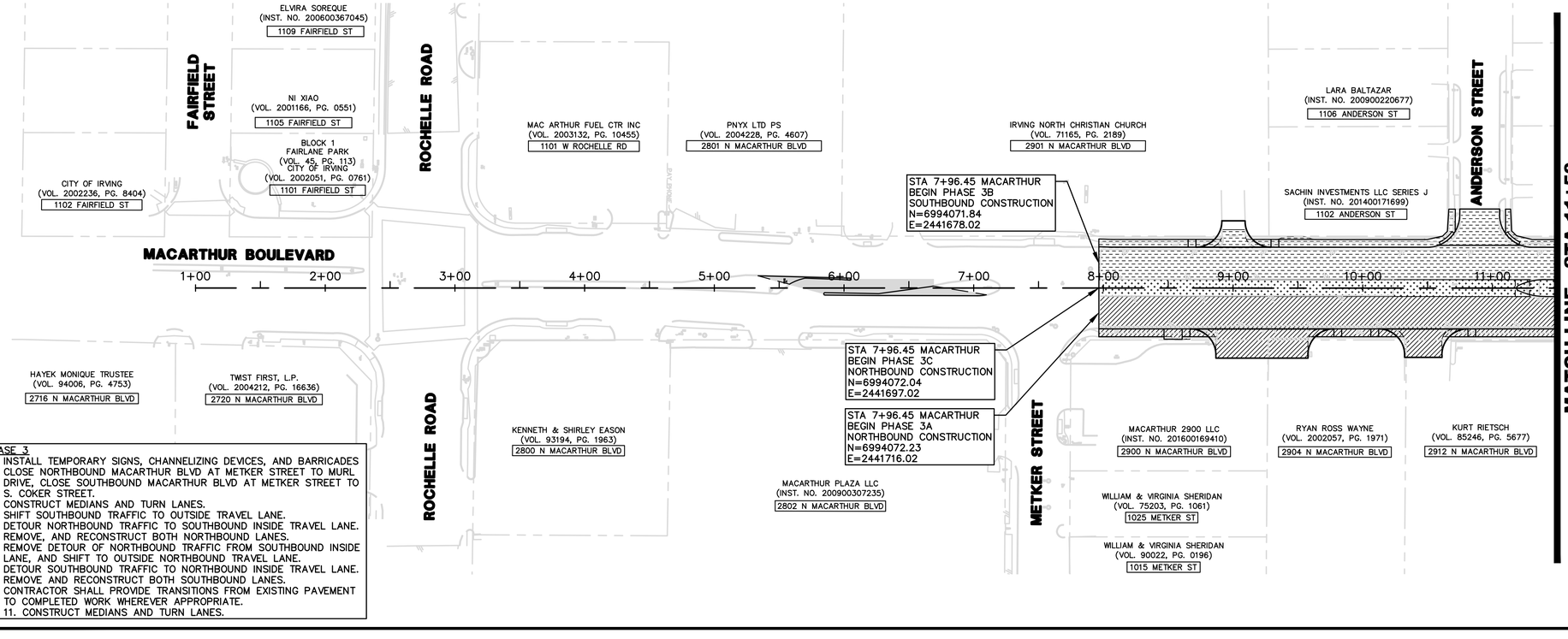

0 25 50 100 150

HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC○ ELECTRIC MANHOLE
- EM◎ ELECTRIC METER
- EV ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL☆ FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW ⓦ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS○ GAS MANHOLE
- GM◎ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV◍ GAS VALVE
- HC HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV◍ IRRIGATION CONTROL VALVE
- LS☼ LIGHT STANDARD
- MH○ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/METERS PP W/METERS
- PP W/ LIGHT
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN▽ TRAFFIC SIGN
- SS○ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR▼ TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM○ STORM SEWER MANHOLE
- TEL○ TELEPHONE MANHOLE
- VV VAULT (TYPE UNKNOWN)
- VN VENT
- WTR▼ UG WATER MARKER
- WM◎ WATER METER
- WTR○ WATER MANHOLE
- WV WATER VAULT
- WV• WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
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- C UNDERGROUND CABLE LINE
- F UNDERGROUND FIBER OPTIC LINE
- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR

PHASE 1 & 2 COMPLETE
PHASE 3A CONSTRUCTION
PHASE 3B CONSTRUCTION
PHASE 3C CONSTRUCTION

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DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER
05/10/2022

Pacheco Koch

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CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
160

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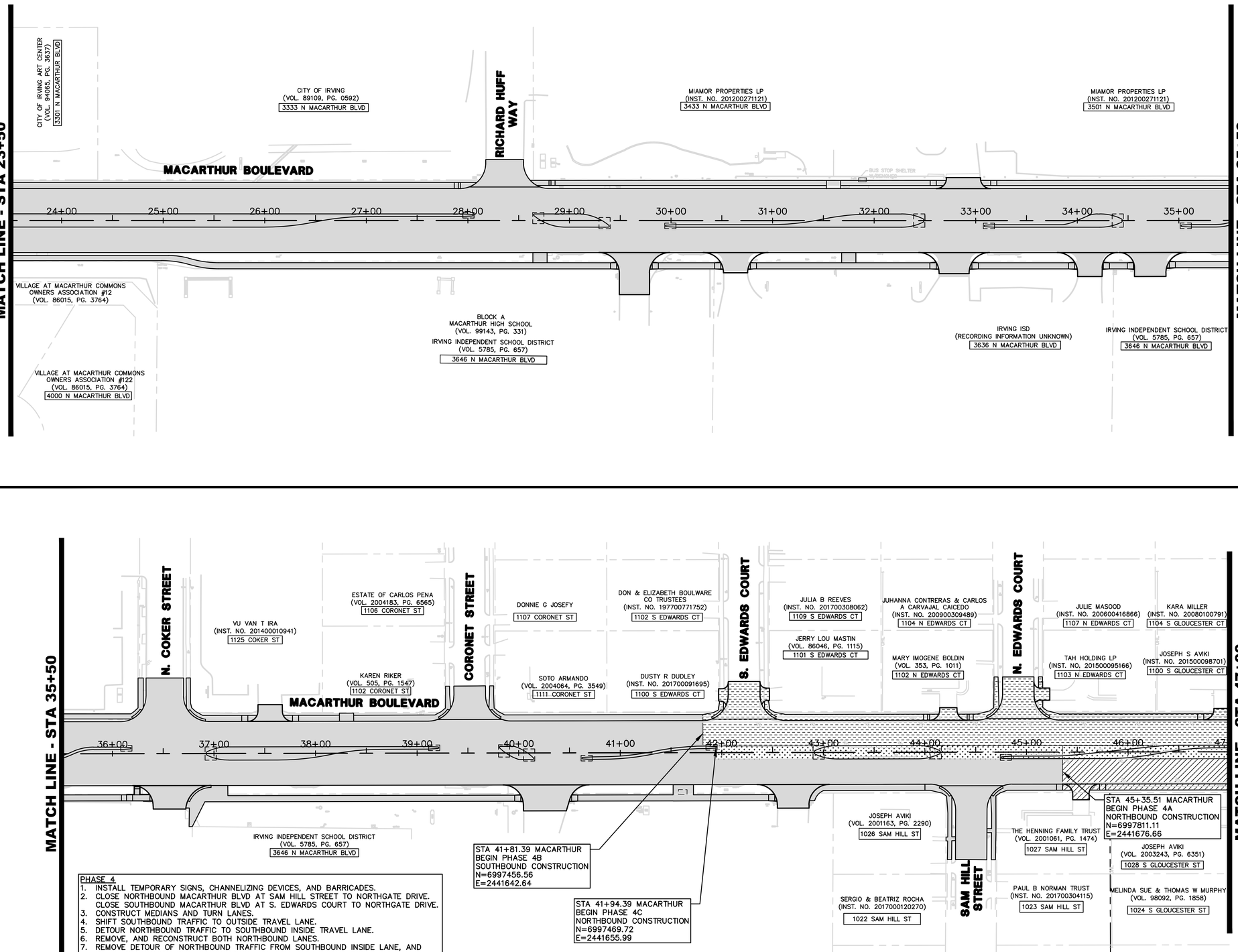

PHASE 4
1. INSTALL TEMPORARY SIGNS, CHANNELIZING DEVICES, AND BARRICADES.
2. CLOSE NORTHBOUND MACARTHUR BLVD AT SAM HILL STREET TO NORTHGATE DRIVE. CLOSE SOUTHBOUND MACARTHUR BLVD AT S. EDWARDS COURT TO NORTHGATE DRIVE.
3. CONSTRUCT MEDIANS AND TURN LANES.
4. SHIFT SOUTHBOUND TRAFFIC TO OUTSIDE TRAVEL LANE.
5. DETOUR NORTHBOUND TRAFFIC TO SOUTHBOUND INSIDE TRAVEL LANE.
6. REMOVE, AND RECONSTRUCT BOTH NORTHBOUND LANES.
7. REMOVE DETOUR OF NORTHBOUND TRAFFIC FROM SOUTHBOUND INSIDE LANE, AND SHIFT TO OUTSIDE NORTHBOUND TRAVEL LANE.
8. DETOUR SOUTHBOUND TRAFFIC TO NORTHBOUND INSIDE TRAVEL LANE.
9. REMOVE AND RECONSTRUCT BOTH SOUTHBOUND LANES.
10. CONTRACTOR SHALL PROVIDE TRANSITIONS FROM EXISTING PAVEMENT TO COMPLETED WORK WHEREVER APPROPRIATE.
11. 11. CONSTRUCT MEDIANS AND TURN LANES.

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- BOLLARD
- CLEANOUT
- ELECTRIC BOX
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC VAULT
- FIRE HYDRANT
- UG FIB. OPTIC MARKER
- FLAG POLE
- FLOOD LIGHT
- FIBER OPTIC VAULT
- MONITORING WELL
- UG GAS MARKER
- GAS MANHOLE
- GAS METER
- GAS TEST STATION
- GAS VAULT
- GAS VALVE
- HAND HOLE ELECTRIC
- HAND HOLE TELEPHONE
- HAND HOLE (TYPE UNKNOWN)
- IRRIGATION CONTROL VALVE
- LIGHT STANDARD
- MANHOLE (TYPE UNKNOWN)
- MAILBOX
- PP W/TRANSFORMER
- PP W/ LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP W/ CROSS ARM (LENGTH IN FEET)
- TRAFFIC SIGN
- SAN. SEWER MANHOLE
- UG SAN. SEWER MARKER
- PULL BOX (TYPE UNKNOWN)
- PULL BOX ELECTRIC
- PULL BOX CABLE
- PULL BOX FIBER
- PULL BOX TELEPHONE
- POWER POLE
- METAL UTILITY POLE
- TELEPHONE BOX
- UG TELEPHONE MARKER
- TRASH CAN
- TRAFFIC SIGNAL CONTROL
- TRAFFIC SIGNAL POLE
- TELEPHONE VAULT
- STORM SEWER MANHOLE
- TELEPHONE MANHOLE
- VAULT (TYPE UNKNOWN)
- VENT
- UG WATER MARKER
- WATER METER
- WATER MANHOLE
- WATER VAULT
- WATER VALVE
- IRS 1/2"-INCH IRON ROD W/"PACHECO KOCH" CAP SET
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- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- WATER LINE
- SANITARY SEWER LINE
- EXIST CONTOUR

PHASE 2 COMPLETE
PHASE 4A CONSTRUCTION
PHASE 4B CONSTRUCTION
PHASE 4C CONSTRUCTION

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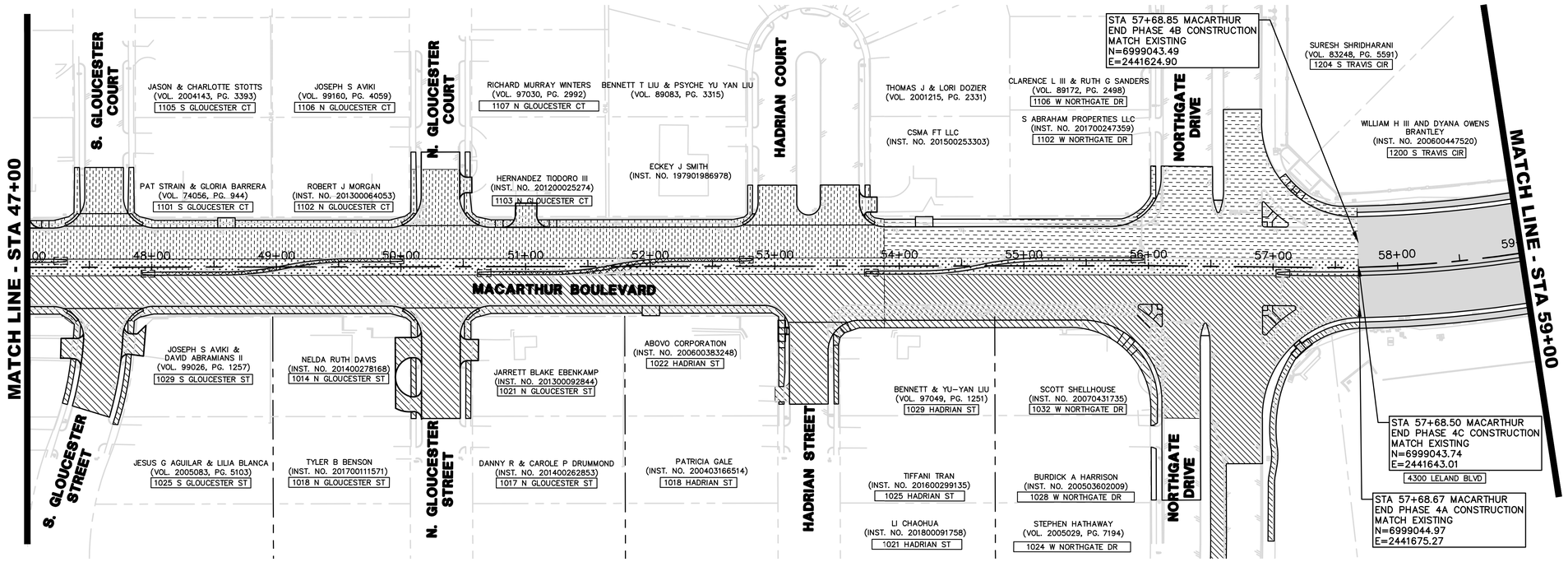

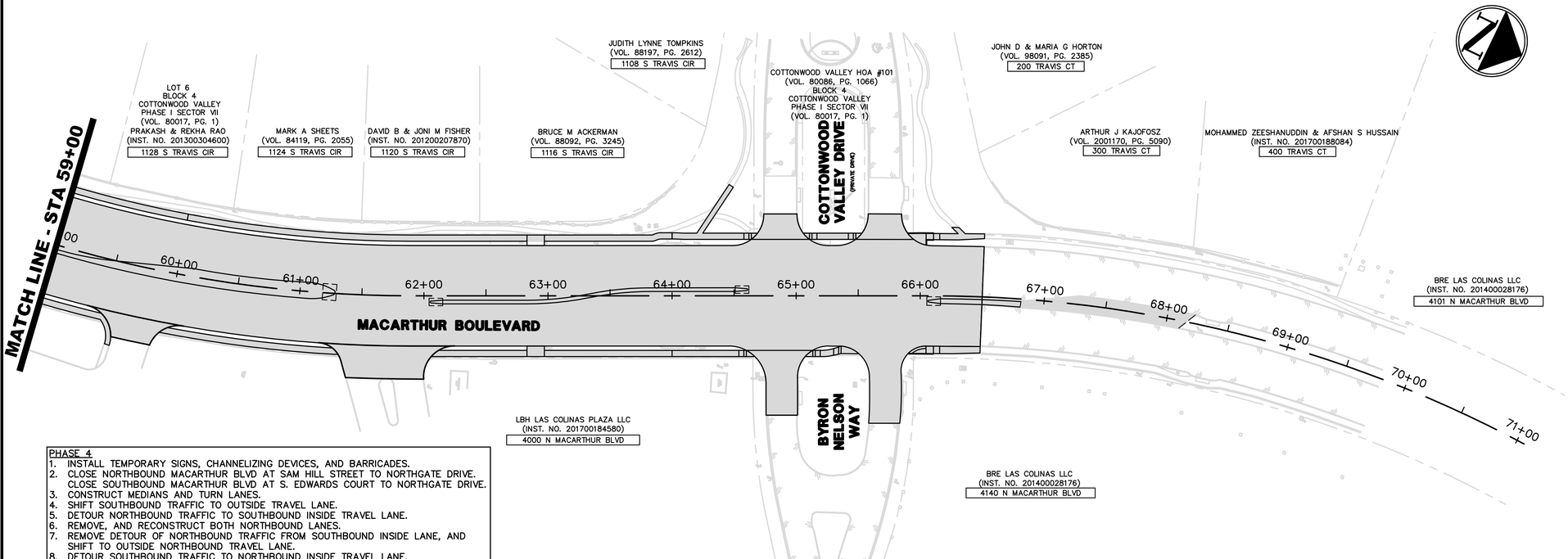

PHASE 4

1. INSTALL TEMPORARY SIGNS, CHANNELIZING DEVICES, AND BARRICADES.
2. CLOSE NORTHBOUND MACARTHUR BLVD AT SAM HILL STREET TO NORTHGATE DRIVE. CLOSE SOUTHBOUND MACARTHUR BLVD AT S. EDWARDS COURT TO NORTHGATE DRIVE.
3. CONSTRUCT MEDIANS AND TURN LANES.
4. SHIFT SOUTHBOUND TRAFFIC TO OUTSIDE TRAVEL LANE.
5. DETOUR NORTHBOUND TRAFFIC TO SOUTHBOUND INSIDE TRAVEL LANE.
6. REMOVE, AND RECONSTRUCT BOTH NORTHBOUND LANES.
7. REMOVE DETOUR OF NORTHBOUND TRAFFIC FROM SOUTHBOUND INSIDE LANE, AND SHIFT TO OUTSIDE NORTHBOUND TRAVEL LANE.
8. DETOUR SOUTHBOUND TRAFFIC TO NORTHBOUND INSIDE TRAVEL LANE.
9. REMOVE AND RECONSTRUCT BOTH SOUTHBOUND LANES.
10. CONTRACTOR SHALL PROVIDE TRANSITIONS FROM EXISTING PAVEMENT TO COMPLETED WORK WHEREVER APPROPRIATE.
11. 11. CONSTRUCT MEDIANS AND TURN LANES.

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
- EM● ELECTRIC METER
- EV▽ ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL FLOOD LIGHT
- FV▽ FIBER OPTIC VAULT
- MW◎ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS◯ GAS MANHOLE
- GM● GAS METER
- GTS GAS TEST STATION
- GV▽ GAS VAULT
- GV● GAS VALVE
- HC HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV● IRRIGATION CONTROL VALVE
- LS LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN TRAFFIC SIGN
- SS◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL□ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR▼ TRASH CAN
- TSC□ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV▽ TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- UV▽ VAULT (TYPE UNKNOWN)
- VENT
- WTR▼ UG WATER MARKER
- WM○ WATER METER
- WTR◯ WATER MANHOLE
- WV▽ WATER VAULT
- WV● WATER VALVE
- IRS 1/2-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- FENCE
- OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- UNDERGROUND ELECTRIC LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND CABLE LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR
- PHASE 1 COMPLETE
- PHASE 4A CONSTRUCTION
- PHASE 4B CONSTRUCTION
- PHASE 4C CONSTRUCTION

NOTE:
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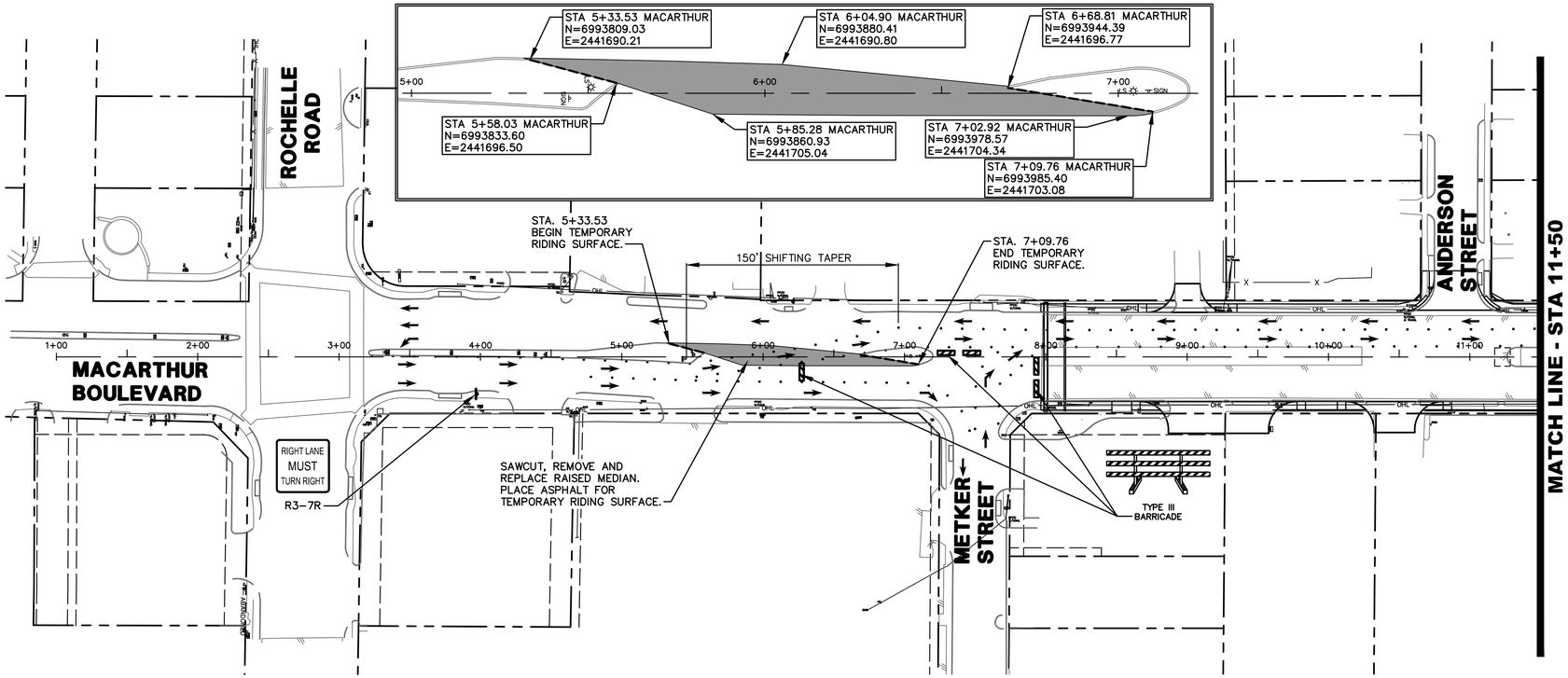
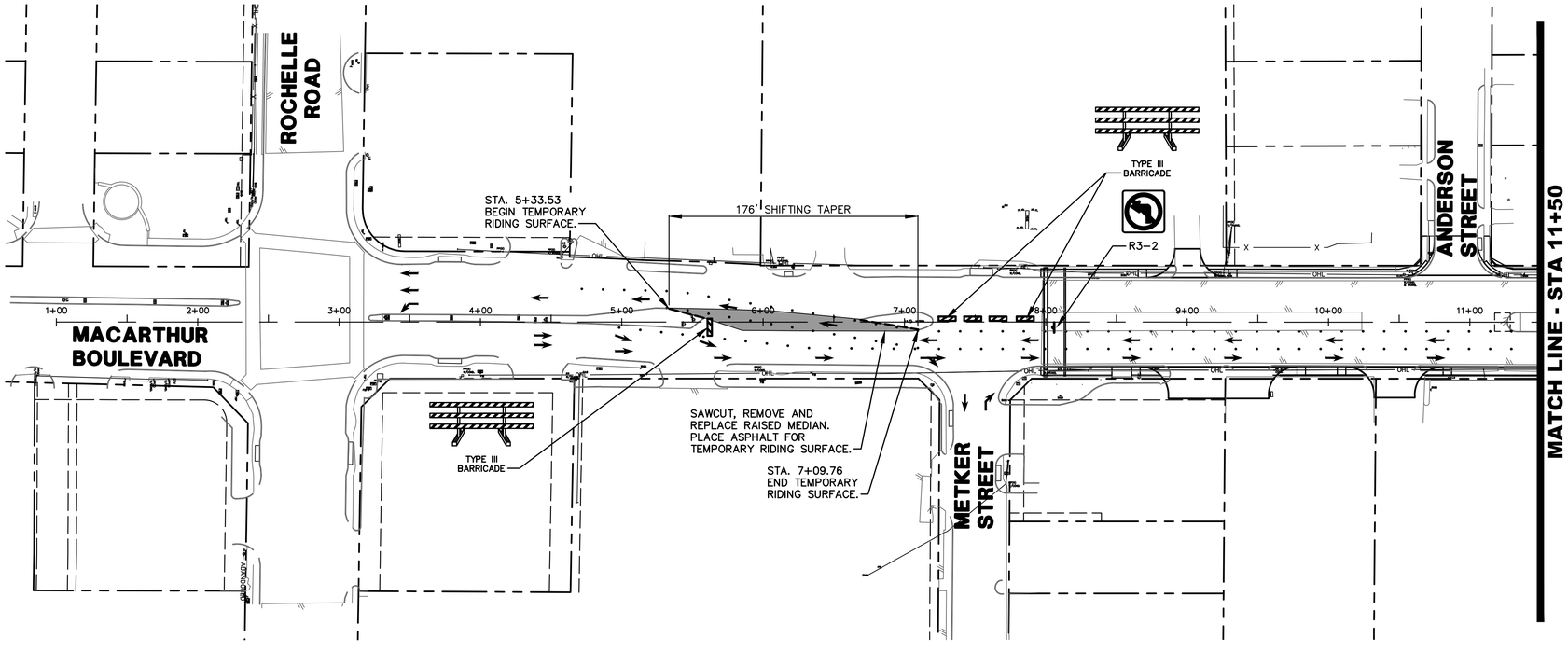
REV	DATE	BY	REVISIONS:

CHANNELIZING DEVICES FOR
PHASE 2 CONSTRUCTION



CHANNELIZING DEVICES FOR
PHASE 2 CONSTRUCTION



0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC □ ELECTRIC BOX
- ELEC ◯ ELECTRIC MANHOLE
- EM⊗ ELECTRIC METER
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- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL☼ FLOOD LIGHT
- FV FIBER OPTIC VAULT
- MW ⊗ MONITORING WELL
- GAS▼ UG GAS MARKER
- GAS ◯ GAS MANHOLE
- GM⊗ GAS METER
- GTS GAS TEST STATION
- GV GAS VAULT
- GV⊗ GAS VALVE
- HC HAND HOLE ELECTRIC
- HT HAND HOLE TELEPHONE
- HH HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS☼ LIGHT STANDARD
- MH ◯ MANHOLE (TYPE UNKNOWN)
- MB □ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP W/LIGHT
- PP W/METERS
- PP W/ GUY ANCHOR
- PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN▽ TRAFFIC SIGN
- SS ◯ SAN. SEWER MANHOLE
- SS▼ UG SAN. SEWER MARKER
- PB PULL BOX (TYPE UNKNOWN)
- PBE PULL BOX ELECTRIC
- PBC PULL BOX CABLE
- PBF PULL BOX FIBER
- PBT PULL BOX TELEPHONE
- PP• POWER POLE
- PPM• METAL UTILITY POLE
- TEL □ TELEPHONE BOX
- TEL▼ UG TELEPHONE MARKER
- TR🗑 TRASH CAN
- TSC □ TRAFFIC SIGNAL CONTROL
- TSP• TRAFFIC SIGNAL POLE
- TV TELEPHONE VAULT
- STM ◯ STORM SEWER MANHOLE
- TEL ◯ TELEPHONE MANHOLE
- VA VAULT (TYPE UNKNOWN)
- VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR ◯ WATER MANHOLE
- WV WATER VAULT
- WV⊗ WATER VALVE
- IRS 1/2"-INCH IRON ROD W/"PACHECO KOCH" CAP SET
- (C.M.) CONTROLLING MONUMENT
- PROPERTY LINE
- EASEMENT LINE
- SETBACK LINE
- SURVEY ABSTRACT LINE
- X FENCE
- OHL OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- E UNDERGROUND ELECTRIC LINE
- T UNDERGROUND TELEPHONE LINE
- C UNDERGROUND CABLE LINE
- F UNDERGROUND FIBER OPTIC LINE
- G UNDERGROUND GAS LINE
- STORM DRAIN LINE
- 6"W WATER LINE
- 6"SS SANITARY SEWER LINE
- 613 EXIST CONTOUR
- CHANNELIZING DEVICE
- OPEN LANE
- TEMPORARY CONSTRUCTION SIGN
- TYPE III BARRICADE

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REV	DATE	BY	REVISIONS:
	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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Irving, Texas 75060
972.721.2611
www.cityofirving.org

TRAFFIC CONTROL PLAN
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING DALLAS COUNTY, TEXAS

SHEET 163

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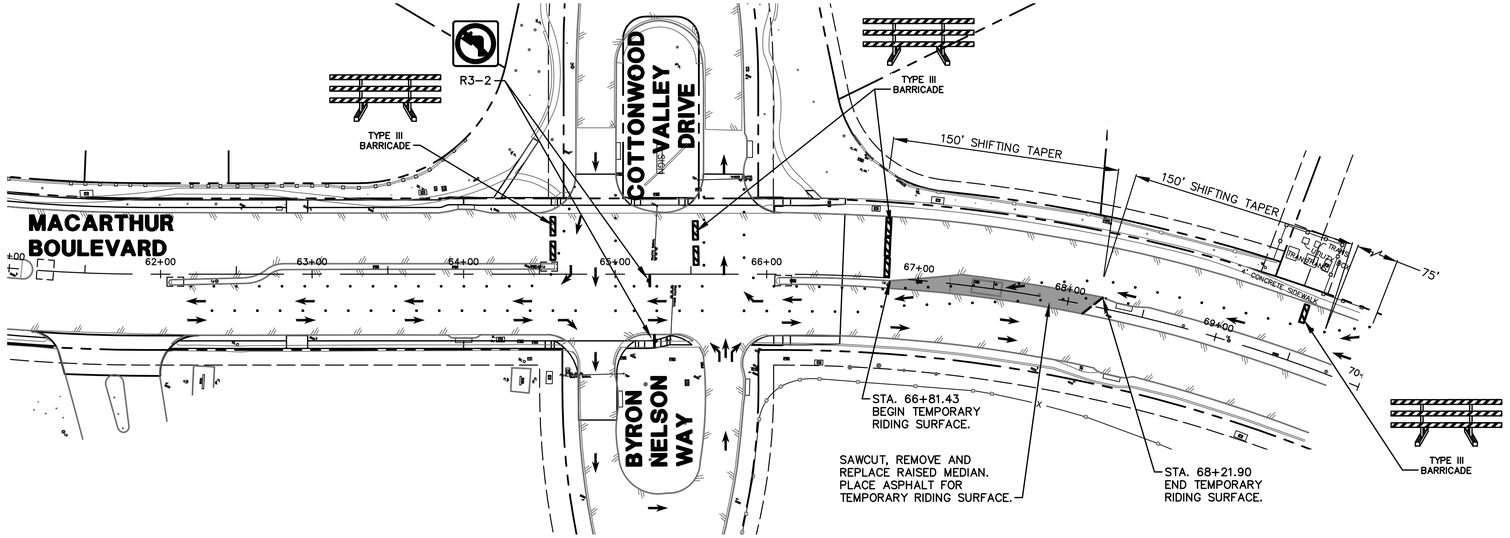
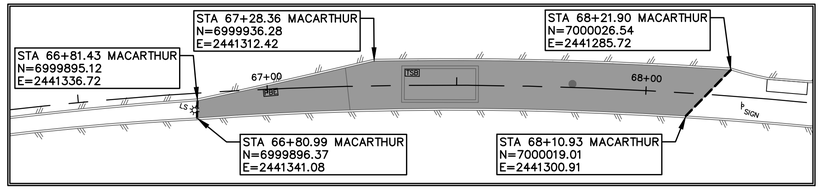
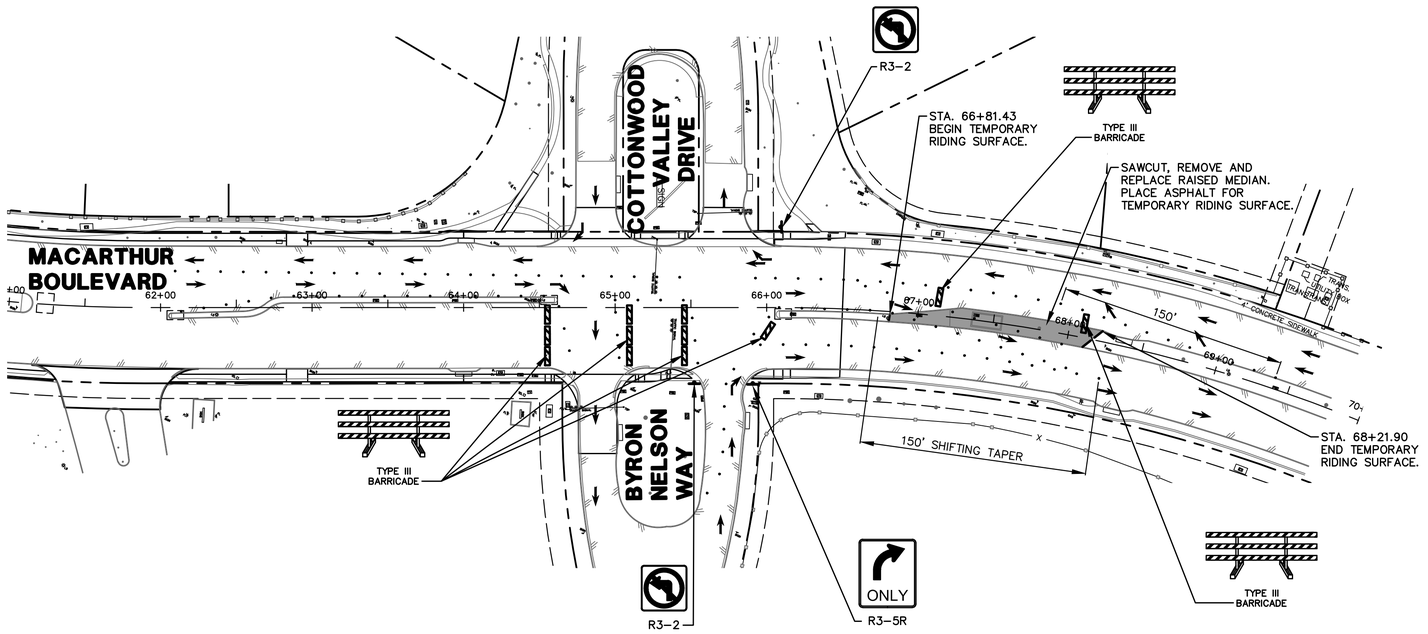
CHANNELIZING DEVICES FOR
PHASE 3 CONSTRUCTION





CHANNELIZING DEVICES FOR
PHASE 3 CONSTRUCTION



0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

- B• BOLLARD
- CO• CLEANOUT
- ELEC□ ELECTRIC BOX
- ELEC◯ ELECTRIC MANHOLE
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- EV▽ ELECTRIC VAULT
- FH◇ FIRE HYDRANT
- FIB▼ UG FIB. OPTIC MARKER
- FP• FLAG POLE
- FL☼ FLOOD LIGHT
- FV▽ FIBER OPTIC VAULT
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- GAS▼ UG GAS MARKER
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- GM⊗ GAS METER
- GTS▽ GAS TEST STATION
- GV▽ GAS VAULT
- GV⊗ GAS VALVE
- HE□ HAND HOLE ELECTRIC
- HT□ HAND HOLE TELEPHONE
- HH□ HAND HOLE (TYPE UNKNOWN)
- ICV⊗ IRRIGATION CONTROL VALVE
- LS☼ LIGHT STANDARD
- MH◯ MANHOLE (TYPE UNKNOWN)
- MB□ MAILBOX
- PP W/TRANS. PP W/TRANSFORMER
- PP ☼ PP W/ LIGHT
- PP W/METERS PP W/METERS
- PP ⟷ PP W/ GUY ANCHOR
- PP W/COND. PP W/CONDUIT
- PP(1)• PP W/ CROSS ARM (LENGTH IN FEET)
- SIGN▽ TRAFFIC SIGN
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- SS▼ UG SAN. SEWER MARKER
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- PBF□ PULL BOX FIBER
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- TV▽ TELEPHONE VAULT
- STM◯ STORM SEWER MANHOLE
- TEL◯ TELEPHONE MANHOLE
- VV▽ VAULT (TYPE UNKNOWN)
- VN1 VENT
- WTR▼ UG WATER MARKER
- WM⊙ WATER METER
- WTR◯ WATER MANHOLE
- WV1 WATER VAULT
- WV• WATER VALVE
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- SETBACK LINE
- SURVEY ABSTRACT LINE
- —X— FENCE
- —OHL— OVERHEAD UTILITY LINE
- HAND RAIL
- GUARD RAIL
- —E— UNDERGROUND ELECTRIC LINE
- —T— UNDERGROUND TELEPHONE LINE
- —C— UNDERGROUND CABLE LINE
- —F— UNDERGROUND FIBER OPTIC LINE
- —G— UNDERGROUND GAS LINE
- STORM DRAIN LINE
- —6"W— WATER LINE
- —6"SS— SANITARY SEWER LINE
- 613 EXIST CONTOUR
- CHANNELIZING DEVICE
- OPEN LANE
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NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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Pacheco Koch
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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

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825 West Irving Boulevard
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TRAFFIC CONTROL PLAN
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 164

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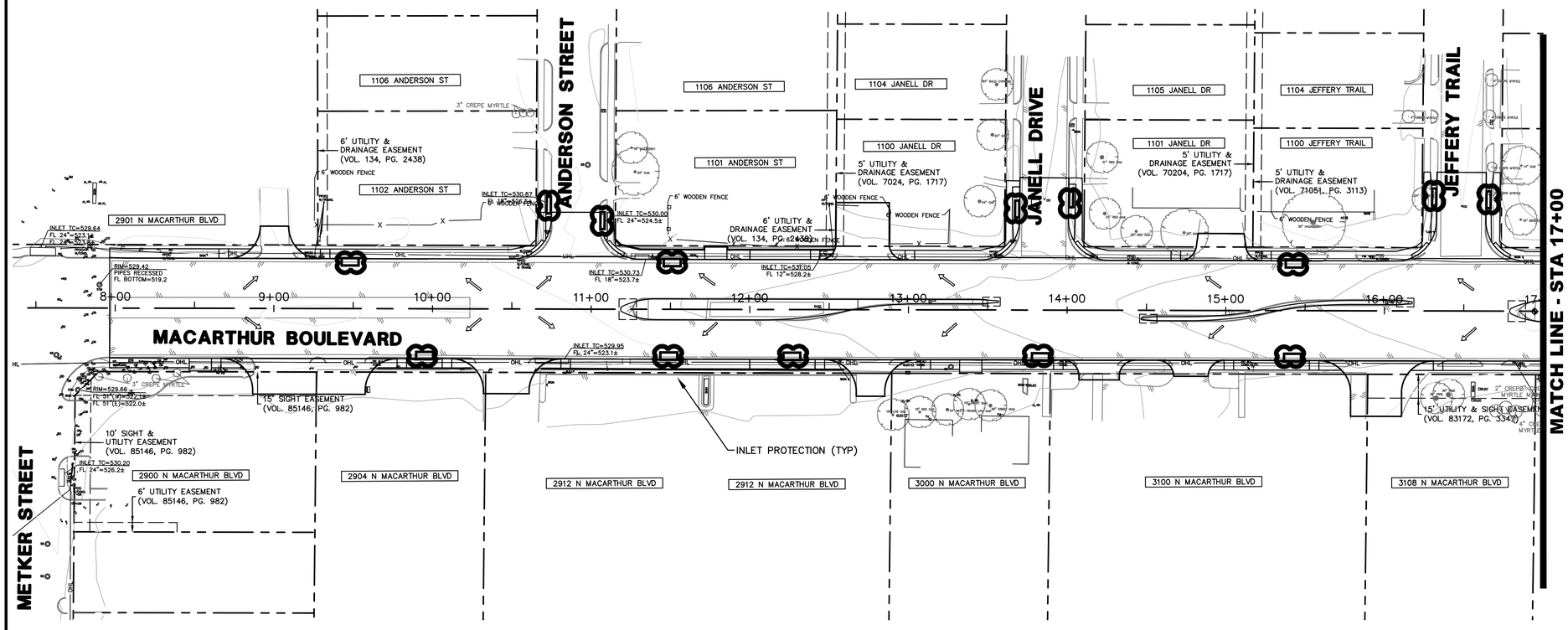

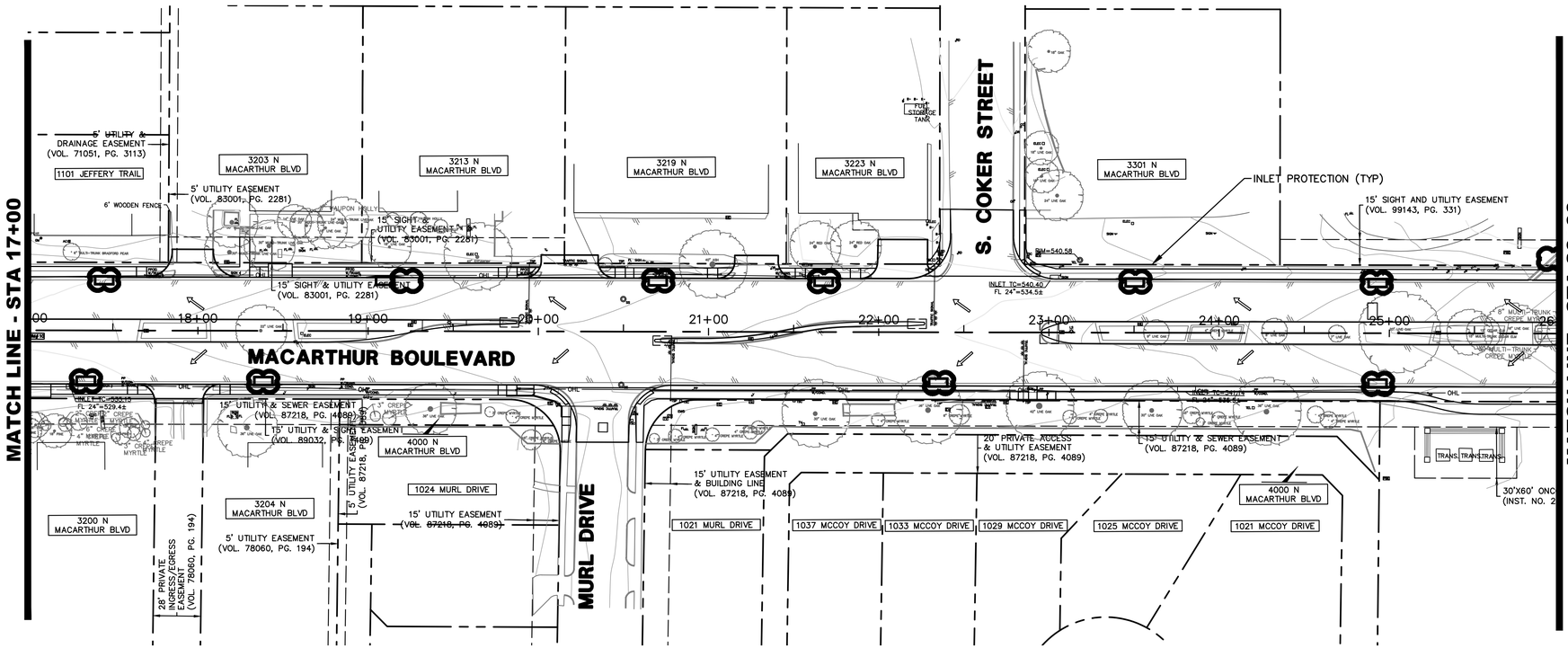

0 20 40 80 120

HORIZONTAL SCALE IN FEET

LEGEND

- INLET PROTECTION
- DRAINAGE FLOW DIRECTION
- SILT FENCE (LIMITS OF DISTURBED AREA)

NOTE: CONTRACTOR TO INSTALL CONSTRUCTION ENTRANCES/EXITS PER DETAIL AS NEEDED

NOTE:
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1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED PROFESSIONAL ENGINEER

Pacheco Koch

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TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

EROSION CONTROL
STA 8+00 TO STA 26+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING · DALLAS COUNTY, TEXAS

SHEET 165

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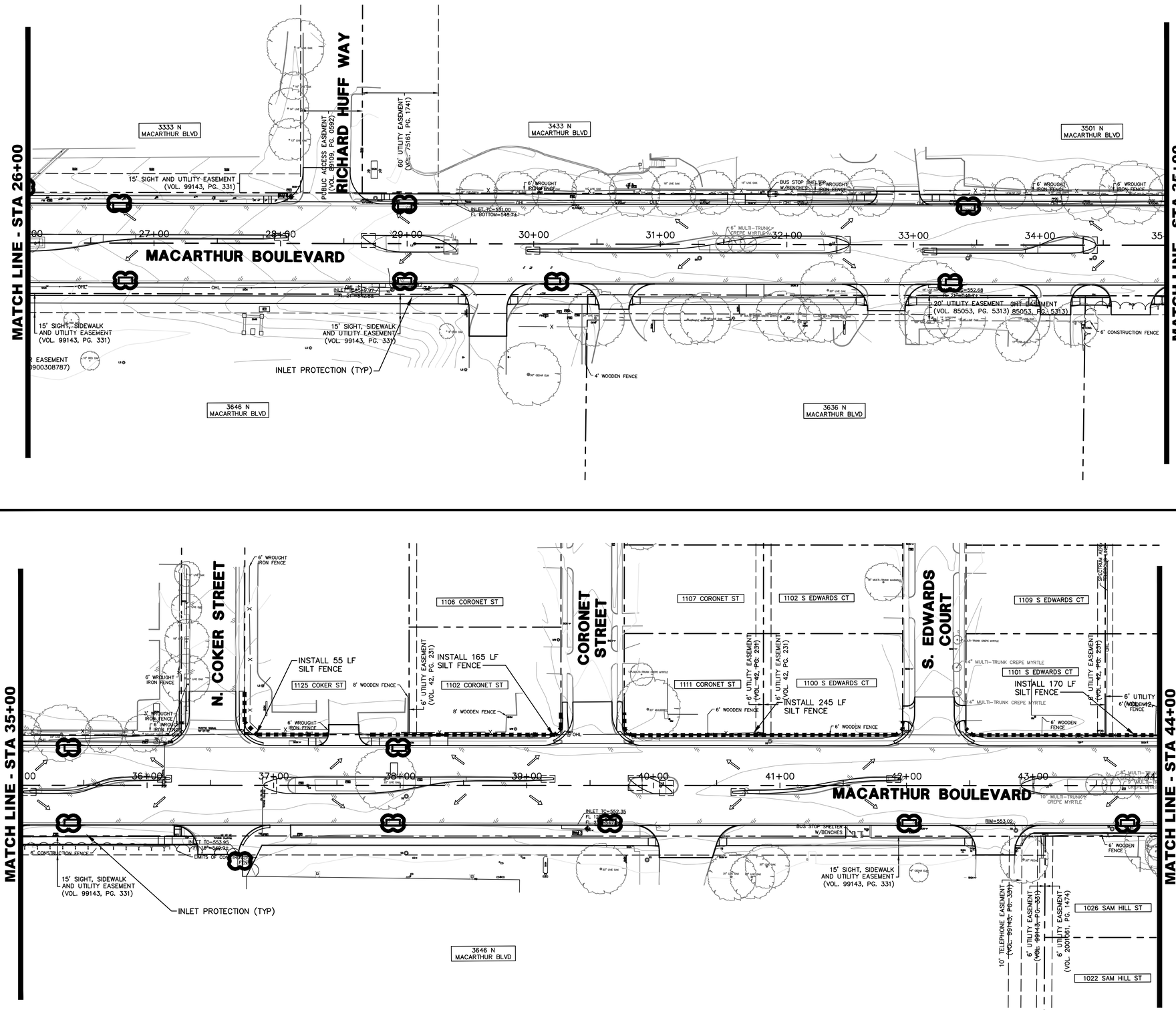

0 20 40 80 120

HORIZONTAL SCALE IN FEET

LEGEND

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- DRAINAGE FLOW DIRECTION
- SILT FENCE (LIMITS OF DISTURBED AREA)

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REV	DATE	BY	REVISIONS:
1			XXXXXXX
2			
3			
4			
5	XX/XXXX		

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
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STATE OF TEXAS
BRIAN D. O'NEILL
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EROSION CONTROL
STA 26+00 TO STA 44+00
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
166

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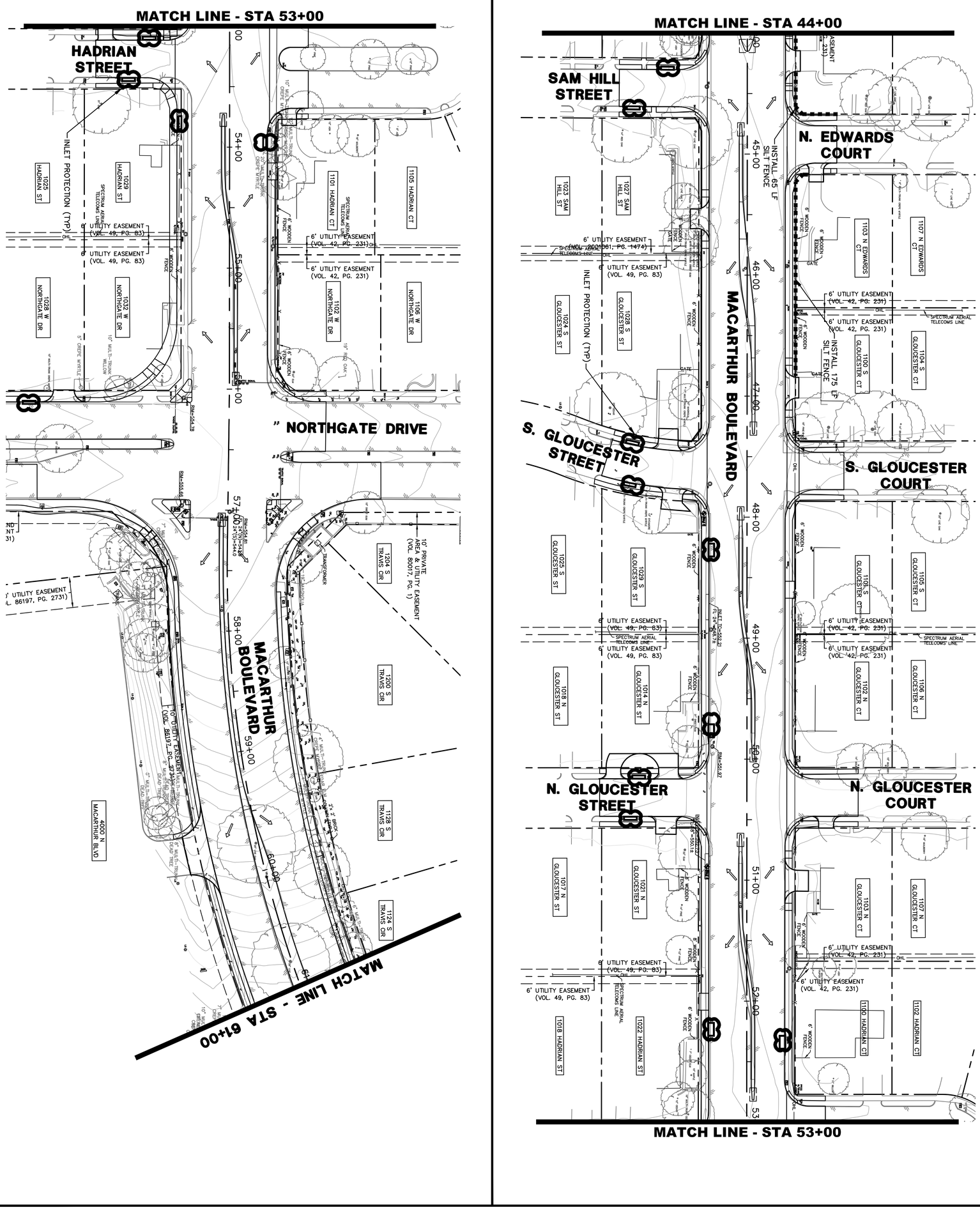

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LEGEND

- INLET PROTECTION
- DRAINAGE FLOW DIRECTION
- SILT FENCE (LIMITS OF DISTURBED AREA)

NOTE: CONTRACTOR TO INSTALL CONSTRUCTION ENTRANCES/EXITS PER DETAIL AS NEEDED

HORIZONTAL SCALE IN FEET
0 20 40 80 120

N

SHEET	EROSION CONTROL STA 44+00 TO STA 61+00 MACARTHUR BOULEVARD (METKER STREET TO BYRON NELSON WAY) STREET IMPROVEMENTS PROJECT *CITY OF IRVING, DALLAS COUNTY, TEXAS*
167	

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STATE OF TEXAS — BRIAN D. O'NEIL — 83980 — PROFESSIONAL ENGINEER

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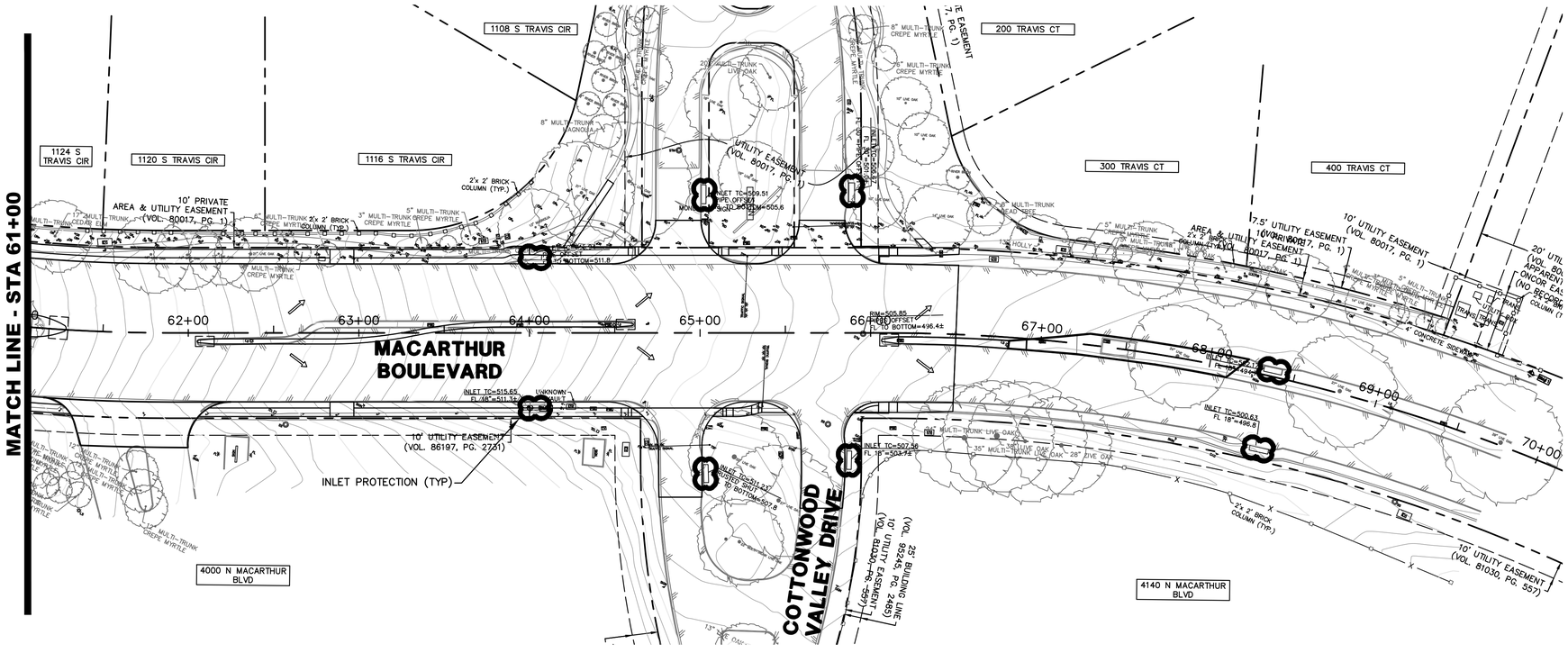

0 20 40 80 120
HORIZONTAL SCALE IN FEET

LEGEND

INLET PROTECTION

DRAINAGE FLOW DIRECTION

SILT FENCE (LIMITS OF DISTURBED AREA)

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REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED
PROFESSIONAL ENGINEER

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

EROSION CONTROL
STA 61+00 TO END
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 168

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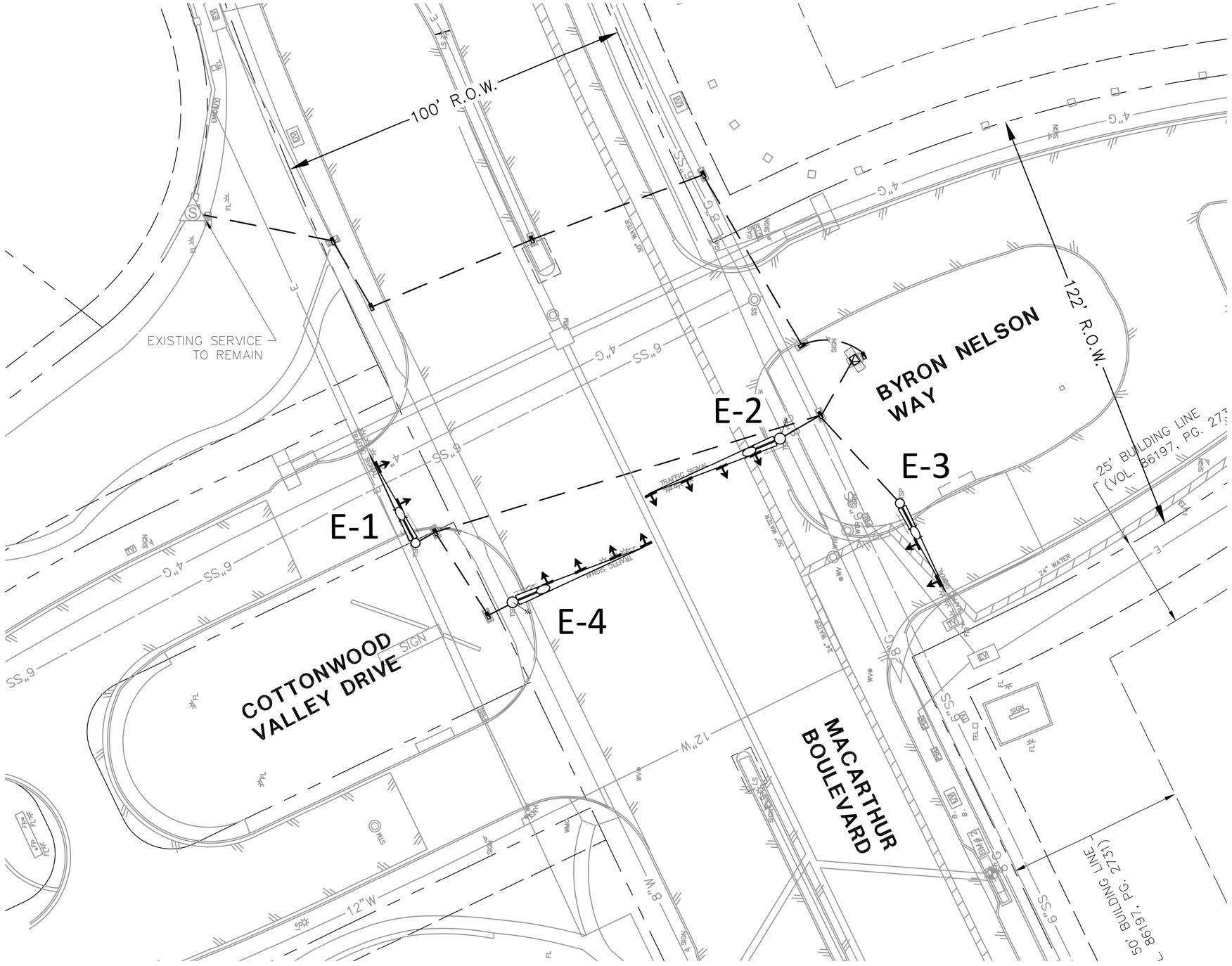

0 15 30 60 90
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/ WITHOUT APRON
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- SIGNAL HEAD AND NUMBER
- OPTICOM
- ANTENNAE
- PEDESTRIAN HEAD AND NUMBER
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - SIGNAL DEMOLITION
GREY - REFERENCE INFORMATION

GENERAL NOTES:

- EXISTING VIVDS TO BE REMOVED BY OWNER PRIOR TO INSTALLATION OF TEMPORARY SIGNAL. CONTACT EUGENE HOLLIS (972-877-4060) 5 WORKING DAYS PRIOR TO THIS NEED. ALL REMAINING EXISTING SIGNAL EQUIPMENT/SIGNS CAN BE USED WITH THE PROPOSED TEMPORARY SIGNALS AT CONTRACTORS EXPENSE.
- OWNER SHALL FURNISH CONTRACTOR WITH SEPARATE SALVAGED VIVDS FOR USE WITH ALL PROPOSED TEMPORARY SIGNALS. INSTALLATION OF SHALL BE CONSIDERED SUBSIDIARY TO THE TEMPORARY SIGNALS PAY ITEM.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE SALVAGED AND RETURNED TO THE CITY OF IRVING. ALL EXISTING CONDUIT TO BE ABANDONED.
- ALL STREET NAME SIGNS TO BE USED FOR TEMPORARY SIGNALS.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY	
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CARL B. LAFERNEY 108697 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

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DEMO SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT BYRON NELSON WAY
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 169

LFOX
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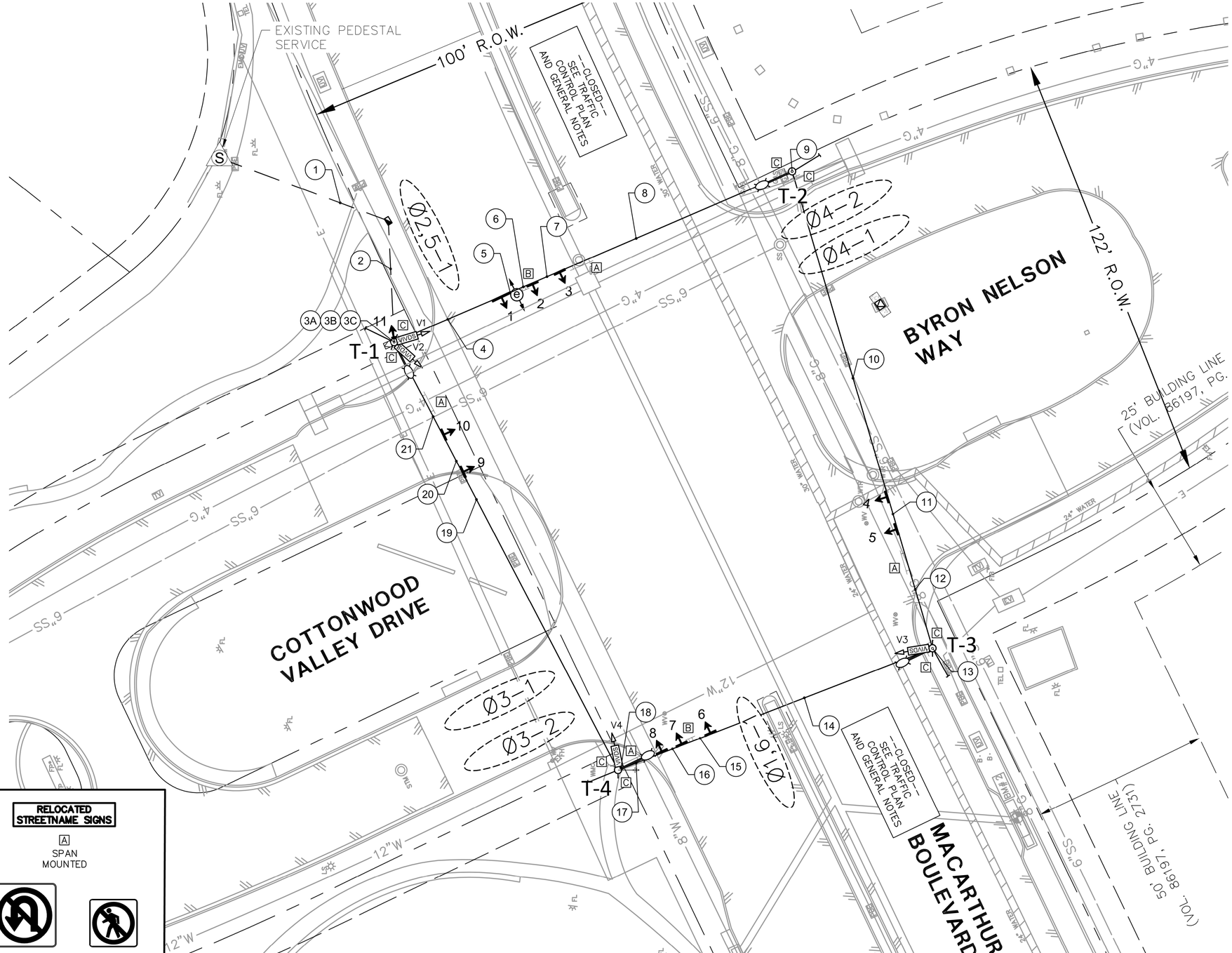

RELOCATED STREETNAME SIGNS

A — SPAN MOUNTED

R3-4	R9-3A
24"x24"	18"x18"
B SPAN MOUNTED	C POLE MOUNTED

0 15 30 60 90

HORIZONTAL SCALE IN FEET

LEGEND

- STRUCTURAL POLE
- # SIGNAL HEAD AND NUMBER
- ANTENNAE
- VIVDS DETECTORS
- OPTICOM
- GROUNDBOX WITH/WITHOUT APRON
- POLE MOUNTED CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- SPAN WIRE
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- TRANSFORMER

BLACK - TEMPORARY SIGNAL
GREY - REFERENCE INFORMATION

(#) — PROPOSED CONDUIT RUN/SPAN WIRE RUN

GENERAL NOTES:

- CABINET TO BE POLE MOUNTED ON POLE T-1.
- TEMPORARY SIGNAL DESIGN SHOWN FOR WHEN MACARTHUR IS OPEN ON WEST SIDE OF STREET ONLY. CONTRACTOR TO ADJUST SIGNAL HEADS ALONG SPAN FOR EACH PHASE OF CONSTRUCTION. SIGNAL HEAD POSITIONS SHALL MEET TMUTCD STANDARDS.
- EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION (NON-PAY ITEM).
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
- CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE-USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

REVISIONS:	BY	DATE	REV
XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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Pacheco Koch
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TEMP SIGNAL LAYOUT

MACARTHUR BOULEVARD AT BYRON NELSON WAY

STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 170

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CABLE TERMINATION CHART

CONDUCTOR NO.	CONDUCTOR COLOR	CABLE 1 14 AWG 7 CNDR	CABLE 2 14 AWG 5 CNDR	CABLE 3 14 AWG 5 CNDR	CABLE 4 14 AWG 7 CNDR	CABLE 5 14 AWG 5 CNDR	CABLE 7 14 AWG 7 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 9 14 AWG 7 CNDR	CABLE 10 14 AWG 5 CNDR	CABLE 11 14 AWG 5 CNDR
		FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM POLE T-1 TO CABINET
1	BLACK	SH 1 <- Y Ø1	SPARE	SPARE	SPARE	SPARE	SH 6 <- Y Ø5	SPARE	SPARE	SPARE	SPARE	SPARE
2	WHITE	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM
3	RED	SH 1 <- R Ø1	SH 2 R Ø6	SH 3 R Ø6	SH 4 R Ø3	SH 5 R Ø3	SH 6 <- R Ø5	SH 7 R Ø2	SH 8 R Ø2	SH 9 R Ø4	SH 10 R Ø4	SH 11 R Ø2
4	GREEN	SPARE	SH 2 G Ø6	SH 3 G Ø6	SH 4 G Ø3	SH 5 G Ø3	SPARE	SH 7 G Ø2	SH 8 G Ø2	SH 9 G Ø4	SH 10 G Ø4	SH 11 G Ø2
5	ORANGE	SPARE	SH 2 Y Ø6	SH 3 Y Ø6	SH 4 Y Ø3	SH 5 Y Ø3	SPARE	SH 7 Y Ø2	SH 8 Y Ø2	SH 9 Y Ø4	SH 10 Y Ø4	SH 11 Y Ø2
6	BLUE	SH 1 <- G Ø1			SH 4 <-G Ø3		SH 6 <- G Ø5			SH 9 <-G Ø4		
7	WHITE/BLACK	SH 1 <- FY Ø1			SPARE		SH 6 <- FY Ø5			SPARE		

GROUND BOX SCHEDULE

DESCRIPTION	UNIT	QUANTITY
TYPE C GROUND BOX WITH APRON	EA	1

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT RUN	NUMBER OF CONDUITS				STATUS	ELECTRICAL CONDUCTORS			CONDUCTOR AND DETECTOR CABLE		VIVDS COMMUNICATION CABLE (COAXIAL)	OPTICOM CABLE	ETHERNET CABLE	LENGTH OF RUN (FEET)
	2" PVC TRENCHED	2" RM	4" RM	AERIAL		NO. 6 XHHW (POWER)	NO. 6 BARE	NO. 8 XHHW WIRE	14 AWG 5 CNDR. CABLE	14 AWG 7 CNDR. CABLE				
1	1				I	2	1	4						50
2	1				I	2	1	4						35
3A		1			I	2	1	4						10
3B			1		I		1	4	7	4	4	1	1	10
3C		1			I		1	4			2			10
4				1	I			4	3	2	1	1		30
5				1	I			4	3	1	1	1		5
6				1	I			4	3	1	1			5
7				1	I			4	2	1	1			10
8				1	I			4	1	1	1			75
9		1			I		1	2			0			15
10				1	I			2	1	1	1			95
11				1	I			2	1		1			10
12				1	I			2			1			35
13		1			I		1	2			1			15
14				1	I									70
15				1	I					1				10
16				1	I				1	1				10
17				1	I				2	1				5
18		1			I		1	2			1		1	15
19				1	I			2	2	1	1		1	95
20				1	I			2	2	2	1		1	10
21				1	I			2	3	2	1		1	30
TOTAL	85	65	10	495		190	160	1600	710	490	490	45	160	

RUN 3A IS FROM GROUND TO CABINET. RUN 3B FROM CABINET TO SPAN. RUN 3C FROM SPAN TO LUMINAIRE.

REVISIONS:

REV	DATE	BY	
			XXXXXXXX

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DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH



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Pacheco Koch

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TEMP DESIGN CHARTS (1 OF 2)

MACARTHUR BOULEVARD
AT BYRON NELSON WAY

STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 171

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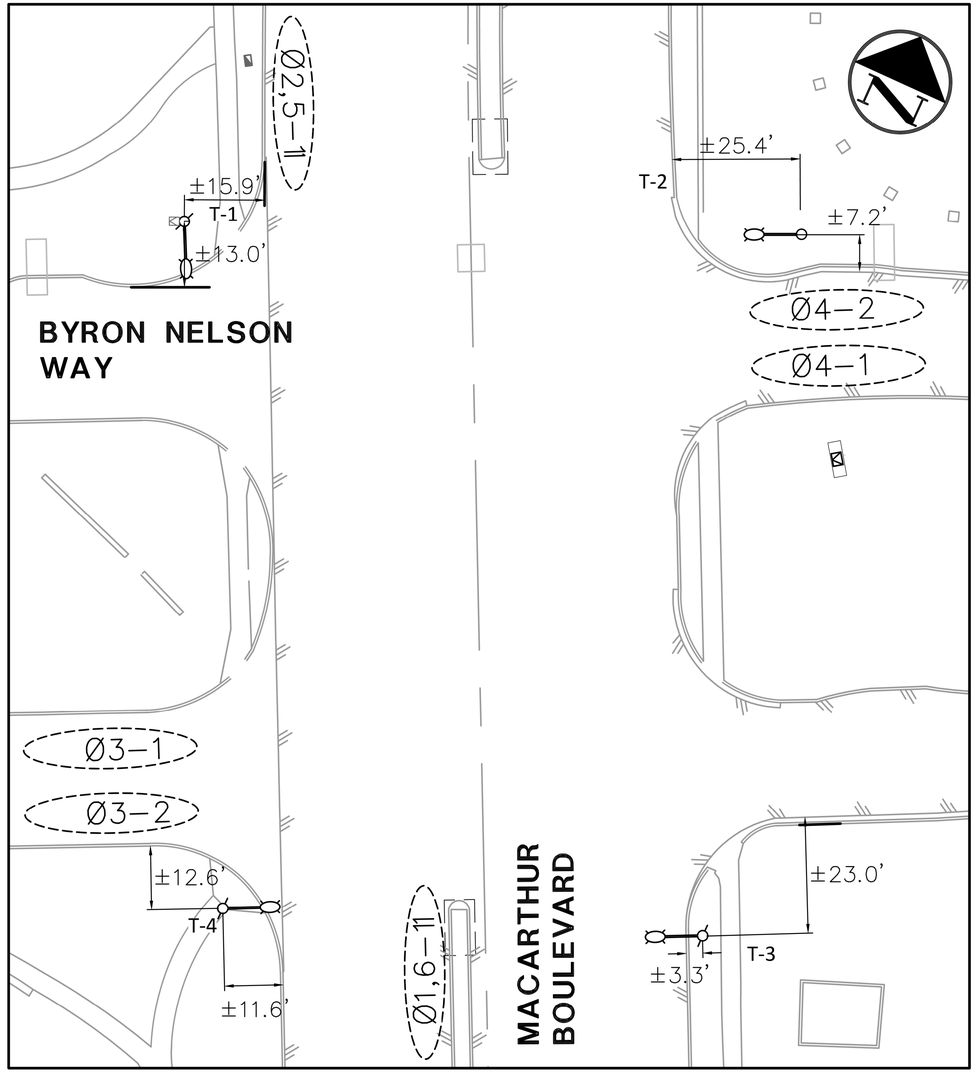
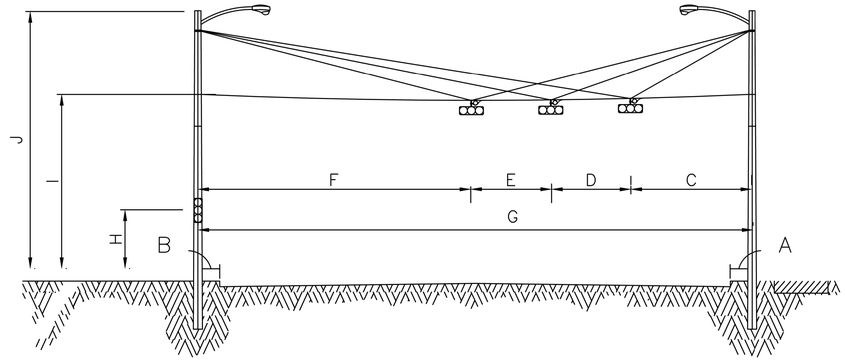
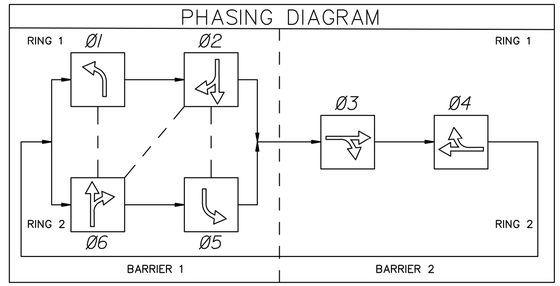
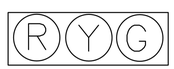






NOTE: CONTRACTOR RESPONSIBLE FOR SIGNAL PHASING DURING CONSTRUCTION.



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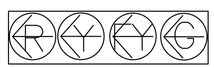
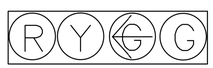


H4FLT



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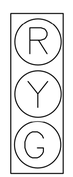

V3

SIGNAL HEADS														
SIGNAL HEAD #	12 INCH	BACKPLATE (EACH)			VEH SIG SEC (12 IN) (EA)									PED SIG
		3 SEC	4 SEC	5 SEC	<-R	R	R->	<-Y	Y	Y->	<-G	G	G->	
1,6	H4FLT	-	2	-	2	-	-	4	-	-	2	-	-	-
2,3,5,7,8,10	H3	8	-	-	-	8	-	-	8	-	-	8	-	-
4,9	H4LT	-	2	-	-	2	-	-	2	-	2	2	-	-
11	V3	1	-	-	-	1	-	-	1	-	-	1	-	-
TOTAL		9	4	0	2	11	0	4	11	0	4	11	0	0

SIGNAL HEAD AND POLE PLACEMENT												
SPAN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	F (FT)	G (FT)	H (FT)	I (FT)	J (FT)	LUMINAIRES	NO. OF VEHICULAR HEADS
T-1 TO T-2	25.4	15.9	71.0	10.0	10.0	31.0	122.0	-	20.0	35.0	YES	3
T-2 TO T-3	23.0	7.2	35.0	10.0	-	95.0	140.0	-	20.0	35.0	YES	2
T-3 TO T-4	11.6	3.3	13.0	10.0	10.0	62.0	95.0	-	20.0	35.0	YES	3
T-4 TO T-1	13.0	12.6	30.0	10.0	-	96.0	136.0	-	20.0	35.0	YES	2

VEHICLE DETECTION INFORMATION			
VIVDS DETECTOR	STATUS	PHASES	LOCATION
V1	I	PH 4 PRESENCE	T-1 POLE
V2	I	PH 1 & 6 PRESENCE	T-1 POLE
V3	I	PH 3 PRESENCE	T-3 POLE
V4	I	PH 5 & 2 PRESENCE	T-4 POLE
I=INSTALL; E=EXISTING			

REVISIONS:

REV	DATE	BY	

SCALE: SEE GRAPHICS
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DRAWN BY: CLF/BAH
REVIEWED BY: CBL
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CARL B. LAFFERRE
103687
LICENSED
PROFESSIONAL
ENGINEER
STATE OF TEXAS

Pacheco Koch

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TEMP DESIGN CHARTS (2 OF 2)

MACARTHUR BOULEVARD
AT BYRON NELSON WAY

STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
172

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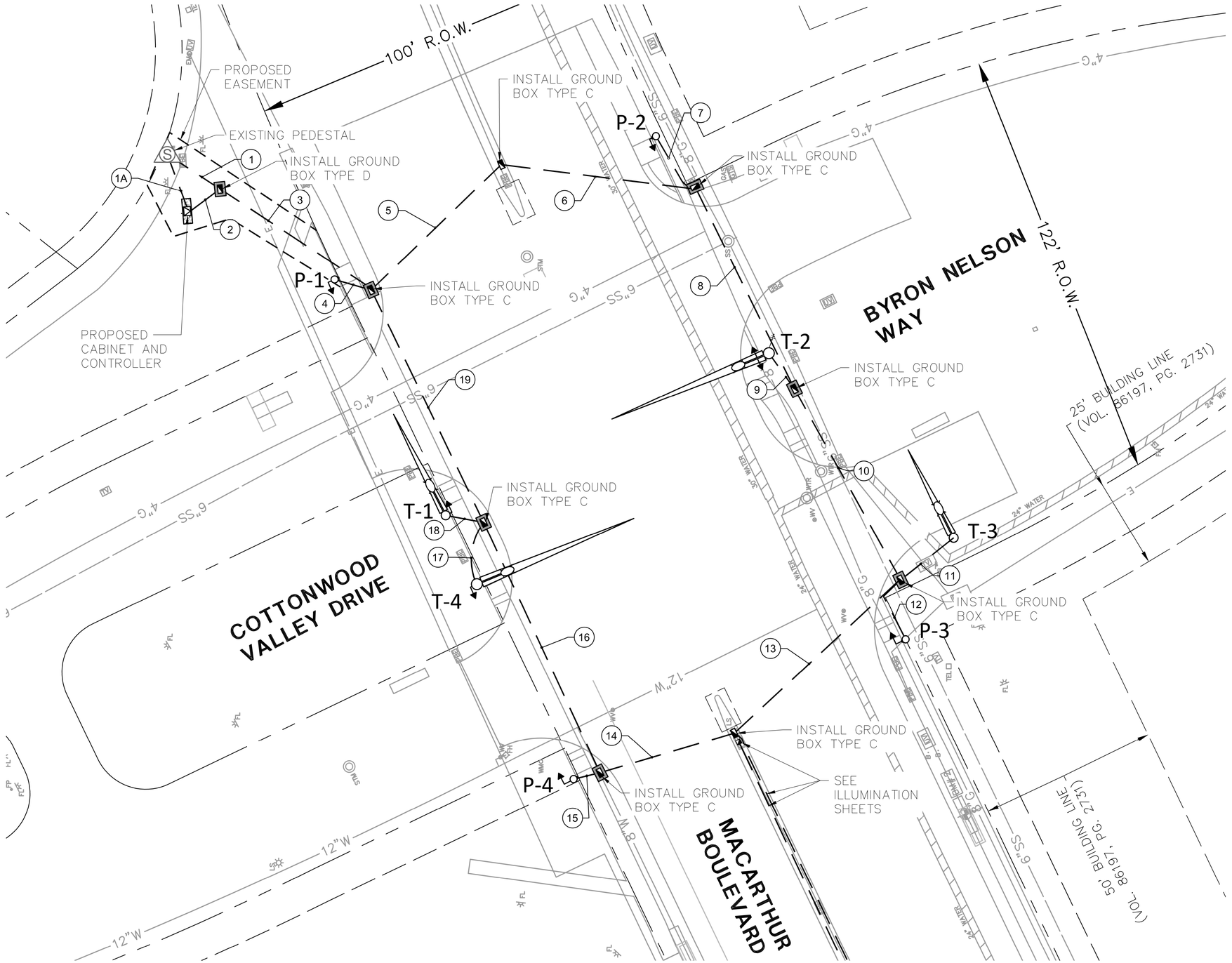

0 15 30 60 90
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- PEDESTRIAN SIGNAL HEAD
- GROUNDBOX WITH/WITHOUT APRON
- ILLUMINATION GROUNDBOX
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
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- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - PROPOSED SIGNAL
GREY - REFERENCE INFORMATION

GENERAL NOTE:

- P–1,2,3,4 ARE PEDESTAL POLES. BOTH PED HEADS AND PUSH BUTTONS WILL BE LOCATED ON THESE POLES
- THE POLE SHAFT OF POLE T–2 WILL BE EXTENDED TO ACCOMMODATE COMMUNICATIONS EQUIPMENT.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON–SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.
- CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL CONDUIT, GROUND BOXES, APRONS, AND FOUNDATIONS FOR ALL POLES AND CONTROLLER CABINETS.
- OWNER WILL FURNISH AND INSTALL ALL WIRING, POLES, SIGNAL EQUIPMENT, AND CONTROLLER CABINETS.
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972–887–4060) TO ARRANGE PICK–UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
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TX REG. ENGINEERING FIRM F–469
TX REG. SURVEYING FIRM LS–10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED SIGNAL LAYOUT

MACARTHUR BOULEVARD AT BYRON NELSON WAY

STREET IMPROVEMENTS PROJECT

CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 173

LFOX
05/10/2022 – 4:31PM
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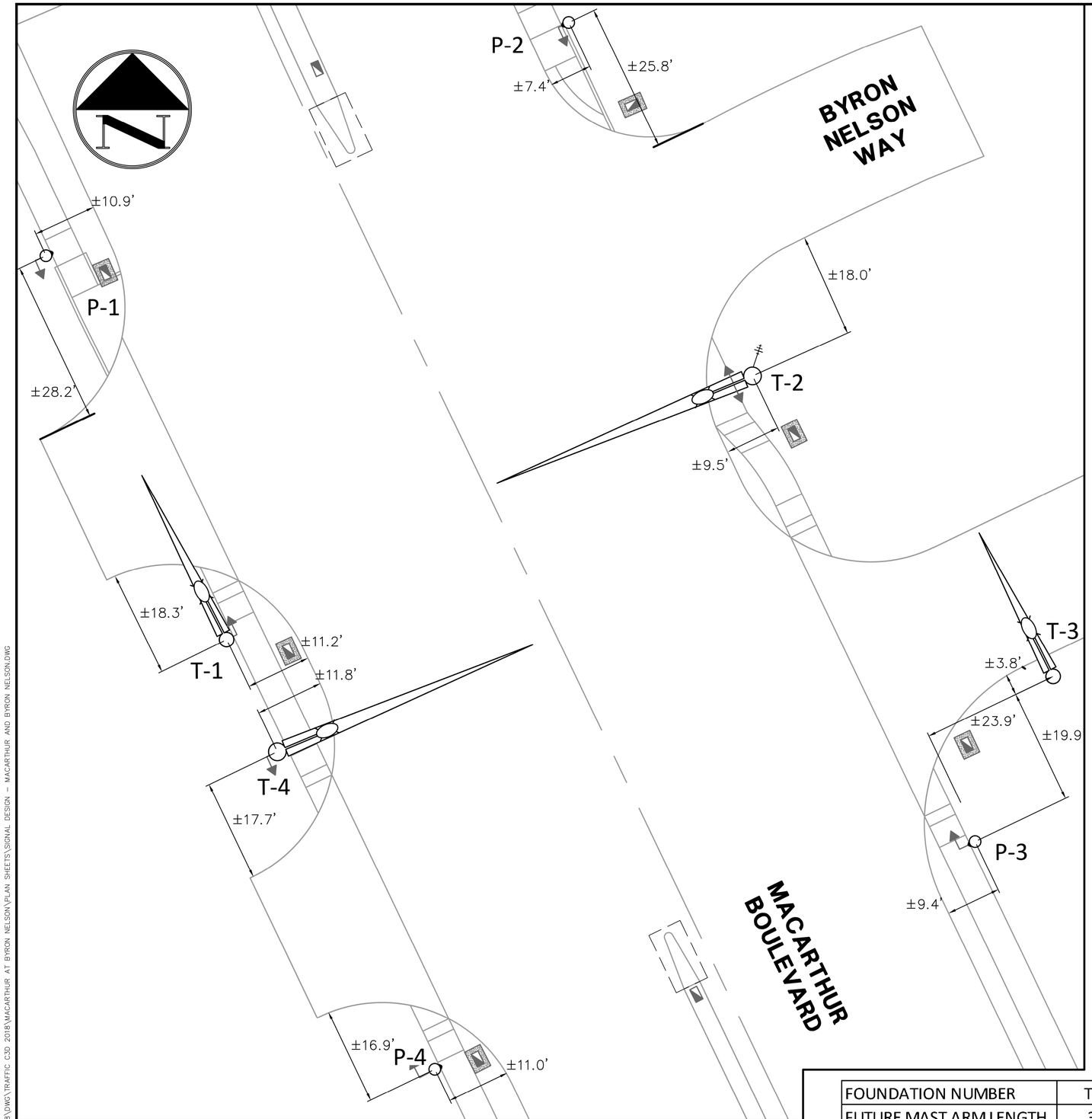

CONDUIT AND CONDUCTOR SCHEDULE					
CONDUIT RUN	2" PVC TRENCH	4" PVC TRENCH	2" PVC TRENCH (INTERCONNECT)	STATUS*	LENGTH OF RUN (FT)
1	1			I	20
1A	1			I	20
2	1	2	1	I	10
3	1	2	1	I	55
4	1		1	I	15
5		1		I	50
6		1		I	55
7	1			I	20
8		1		I	65
9		1		I	15
10		1		I	65
11		1		I	20
12	1			I	25
13		1		I	65
14		1		I	40
15	1			I	10
16		1		I	80
17		1		I	20
18		1		I	15
19		1		I	75
TOTAL	175	695	80		

GROUNDBOX SUMMARY	
TYPE	QTY
GROUND BOX TY C	6
GROUND BOX TY C WITH APRON	2
GROUND BOX TY D	1

FOUNDATION NUMBER	T-1	T-2	T-3	T-4	P-1	P-2	P-3	P-4
FUTURE MAST ARM LENGTH	32	48	28	48	N/A	N/A	N/A	N/A
FOUNDATION TYPE	36-A	36-A	36-A	36-A	24-A	24-A	SPREAD	24-A
LUMINAIRES (YES/NO)	YES	YES	YES	YES	N/A	N/A	N/A	N/A

NOTE: CITY OF IRVING REQUIRES 36-A FOUNDATION ON POLES WITH MAST ARMS LESS THAN 36 FEET.

REVISIONS:

REV	DATE	BY	
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
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Irving, Texas 75060
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DESIGN CHARTS

MACARTHUR BOULEVARD
AT BYRON NELSON WAY

STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 174

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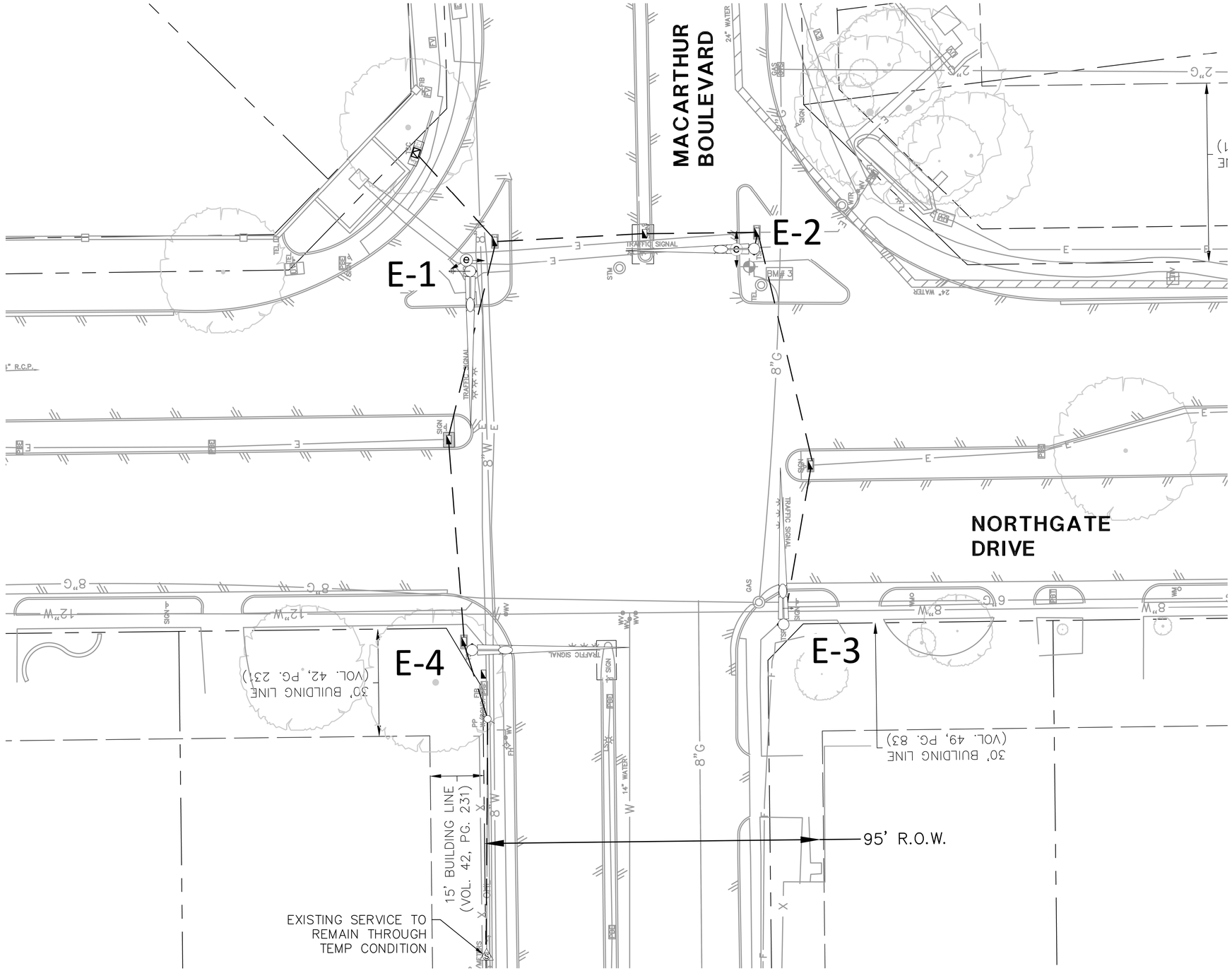

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/ WITHOUT APRON
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- SIGNAL HEAD AND NUMBER
- OPTICOM
- ANTENNAE
- PEDESTRIAN HEAD AND NUMBER
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - SIGNAL DEMOLITION
GREY - REFERENCE INFORMATION

GENERAL NOTE:

- EXISTING VIVDS TO BE REMOVED BY OWNER PRIOR TO INSTALLATION OF TEMPORARY SIGNAL. CONTACT EUGENE HOLLIS (972-877-4060) 5 WORKING DAYS PRIOR TO THIS NEED. ALL REMAINING EXISTING SIGNAL EQUIPMENT/SIGNS CAN BE USED WITH THE PROPOSED TEMPORARY SIGNALS AT CONTRACTORS EXPENSE.
- OWNER SHALL FURNISH CONTRACTOR WITH SEPARATE SALVAGED VIVDS FOR USE WITH ALL PROPOSED TEMPORARY SIGNALS. INSTALLATION OF SHALL BE CONSIDERED SUBSIDIARY TO THE TEMPORARY SIGNALS PAY ITEM.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE SALVAGED AND RETURNED TO THE CITY OF IRVING. ALL EXISTING CONDUIT TO BE ABANDONED.
- ALL EXISTING STREET NAME SIGNS TO BE REUSED FOR THE TEMPORARY SIGNAL.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY	
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DEMO SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT NORTHGATE DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 175

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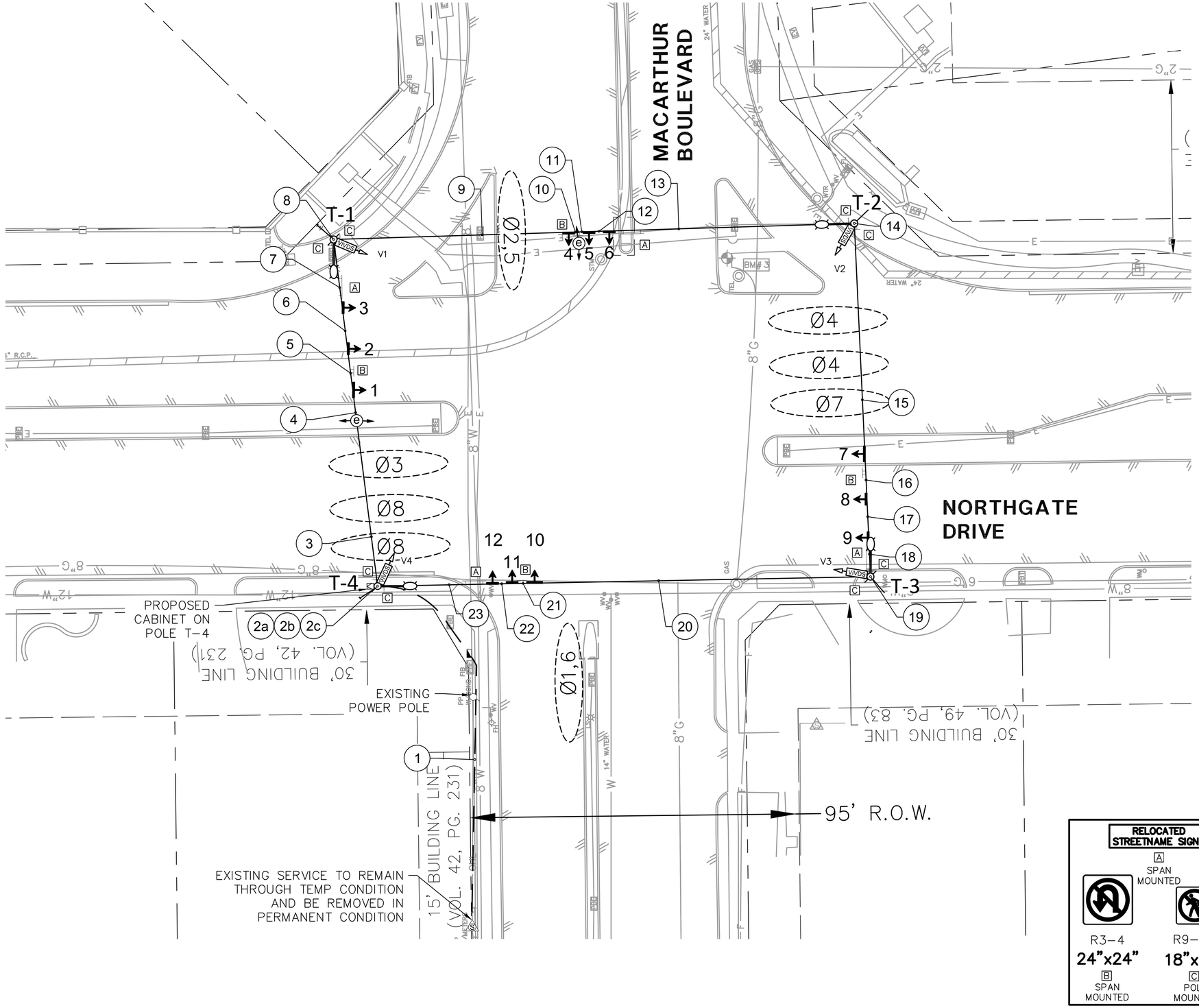

RELOCATED STREETNAME SIGNS

A SPAN MOUNTED

R3-4 **24"x24"** B SPAN MOUNTED

R9-3A **18"x18"** C POLE MOUNTED

0 10 20 40 60

HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - EXISTING SIGNAL
GREY - REFERENCE INFORMATION

GENERAL NOTES:

1. CABINET TO BE POLE MOUNTED ON POLE T-4.
2. TEMPORARY SIGNAL DESIGN SHOWN FOR WHEN MACARTHUR IS OPEN ON WEST SIDE OF STREET ONLY. CONTRACTOR TO ADJUST SIGNAL HEADS ALONG SPAN FOR EACH PHASE OF CONSTRUCTION. SIGNAL HEAD POSITIONS SHALL MEET TMUTCD STANDARDS.
   - EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION (NON-PAY ITEM).
3. CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
4. THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
5. CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE-USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

REVISIONS:	BY	DATE	REV
XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
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DESIGNED BY: TNB
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REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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CARL B. LATERNSER 105807 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

Pacheco Koch

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TX REG. ENGINEERING FIRM F-469
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TEMPORARY SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT NORTHGATE DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 176

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CABLE TERMINATION CHART

CONDUCTOR NO.	CONDUCTOR COLOR	CABLE 1 14 AWG 7 CNDR	CABLE 2 14 AWG 5 CNDR	CABLE 3 14 AWG 5 CNDR	CABLE 4 14 AWG 5 CNDR	CABLE 5 14 AWG 5 CNDR	CABLE 6 14 AWG 5 CNDR	CABLE 7 14 AWG 7 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 9 14 AWG 5 CNDR	CABLE 10 14 AWG 7 CNDR	CABLE 11 14 AWG 5 CNDR	CABLE 12 14 AWG 5 CNDR
		FROM SPAN T-1/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET
1	BLACK	SH 1 <- Y Ø7	SPARE	SPARE	SPARE	SPARE	SPARE	SH 7 <- Y Ø3	SPARE	SPARE	SH 10 <- Y Ø5	SPARE	SPARE
2	WHITE	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM
3	RED	SH 1 <- R Ø7	SH 2 R Ø4	SH 3 <-R Ø4	SH 4 <- R Ø1	SH 5 R Ø6	SH 6 R Ø6	SH 7 <- R Ø3	SH 8 R Ø8	SH 9 R Ø8	SH 10 <- R Ø5	SH 11 R Ø2	SH 12 R Ø2
4	GREEN	SPARE	SH 2 G Ø4	SH 3 <-G Ø4	SH 4 <-G Ø1	SH 5 G Ø6	SH 6 G Ø6	SPARE	SH 8 G Ø8	SH 9 G Ø8	SPARE	SH 11 G Ø2	SH 12 G Ø2
5	ORANGE	SPARE	SH 2 Y Ø4	SH 3 <-Y Ø4	SH 4 <-Y Ø1	SH 5 Y Ø6	SH 6 Y Ø6	SPARE	SH 8 Y Ø8	SH 9 Y Ø8	SPARE	SH 11 Y Ø2	SH 12 Y Ø2
6	BLUE	SH 1 <- G Ø7						SH 7 <- G Ø3			SH 10 <- G Ø5		
7	WHITE/BLACK	SH 1 <- FY Ø7						SH 7 <- FY Ø3		SH 10 <- FY Ø5			

CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT RUN	NUMBER OF CONDUITS				STATUS	ELECTRICAL CONDUCTORS			CONDUCTOR AND DETECTOR CABLE		VIVDS COMMUNICATION CABLE (COAXIAL)	OPTICOM CABLE	ETHERNET CABLE	LENGTH OF RUN (FEET)
	2" PVC TRENCHED	2" RM	4" RM	AERIAL		NO. 6 XHHW (POWER)	NO. 6 BARE	NO. 8 XHHW WIRE	14 AWG 5 CNDR. CABLE	14 AWG 7 CNDR. CABLE				
1	1				I	2	1	4						125
2A		1			I	2	1	4						10
2B			1		I		1	4	9	3	4	2	1	10
2C		1			I		1	4			2			10
3				1	I			2	5	1	2	2	1	50
4				1	I			2	5	1	2	1		10
5				1	I			2	5		2	1	1	15
6				1	I			2	4		2	1	1	15
7				1	I			2	3		2	1	1	20
8		1			I		1	4			1		1	10
9				1	I			2	3		1	1		70
10				1	I			2	2		1	1		5
11				1	I			2	2		1			5
12				1	I			2	1		1			10
13				1	I			2			1			75
14		1			I		1	2			1			10
15				1	I									70
16				1	I					1				15
17				1	I				1	1				15
18				1	I				2	1				15
19		1			I		1	2			1			10
20				1	I			2	2	1	1			100
21				1	I			2	2	2	1			10
22				1	I			2	3	2	1			10
23				1	I			2	4	2	1			35
TOTAL	125	50	10	545		270	185	1560	1260	345	630	255	120	

RUN 2A IS FROM GROUND TO CABINET. RUN 2B FROM CABINET TO SPAN. RUN 2C FROM SPAN TO LUMINAIRE.

REVISIONS:

REV	DATE	BY	
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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TEMP DESIGN CHARTS (1 OF 2)
MACARTHUR BOULEVARD
AT NORTHGATE DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 177

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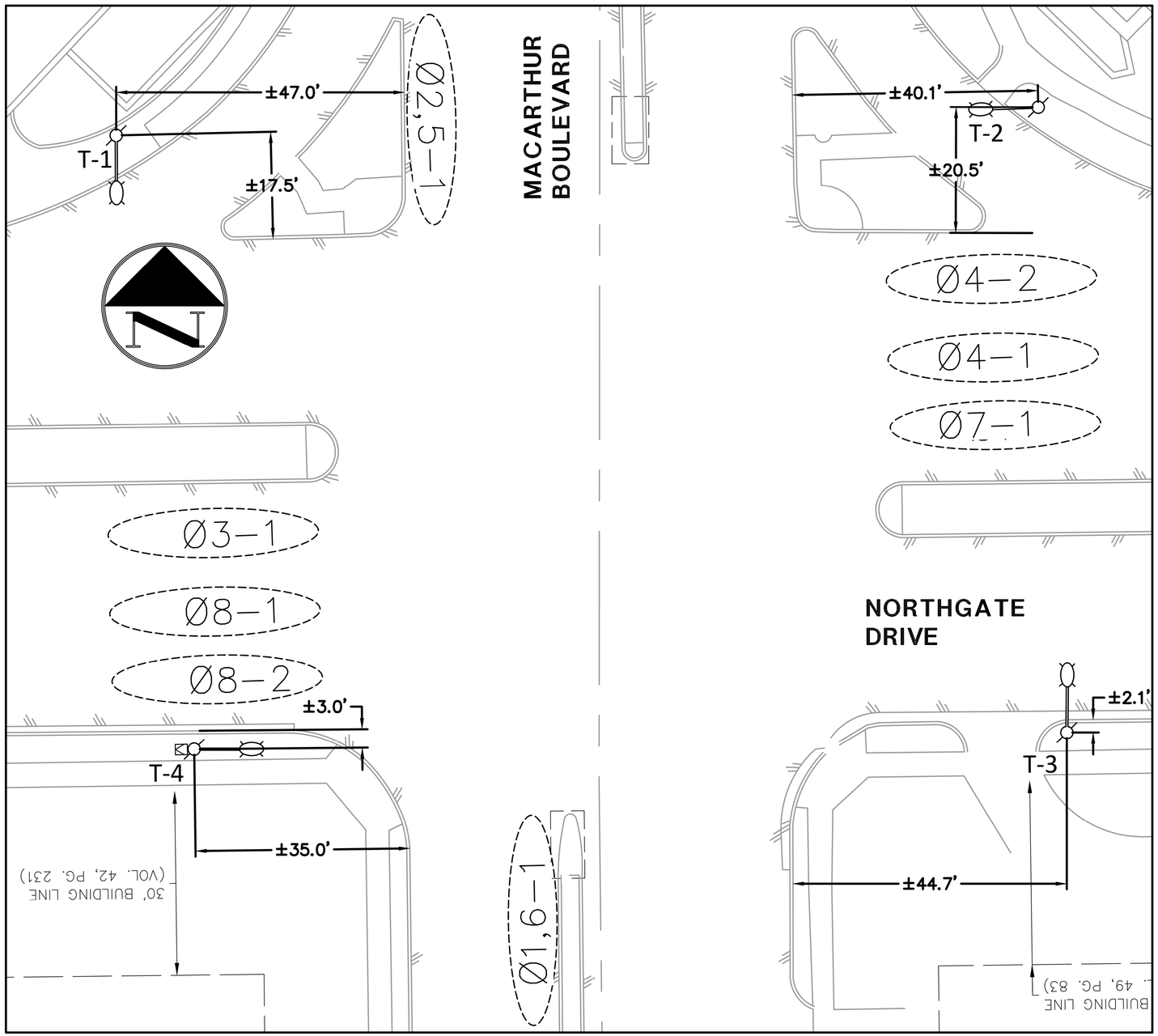
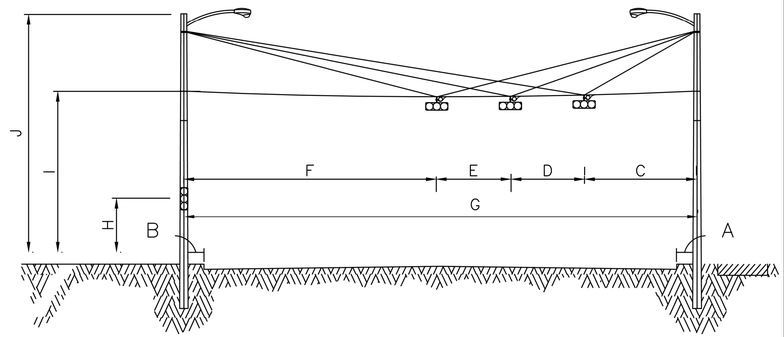
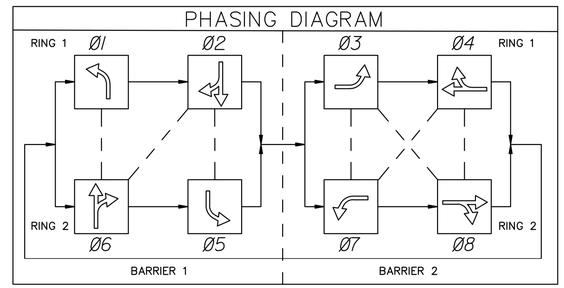




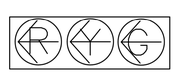
SIGNAL HEAD AND POLE PLACEMENT												
SPAN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	F (FT)	G (FT)	H (FT)	I (FT)	J (FT)	LUMINAIRES	NO. OF VEHICULAR HEADS
T-1 TO T-2	40.1	47.0	70.0	10.0	10.0	66.0	156.0	-	20.0	35.0	YES	3
T-2 TO T-3	2.1	20.5	15.0	10.0	10.0	67.0	102.0	-	20.0	35.0	YES	3
T-3 TO T-4	35.0	44.7	33.0	10.0	10.0	97.0	150.0	-	20.0	35.0	YES	3
T-4 TO T-1	17.5	3.0	19.0	15.0	10.0	56.0	100.0	-	20.0	35.0	YES	3



NOTE: CONTRACTOR RESPONSIBLE FOR SIGNAL PHASING DURING CONSTRUCTION.

VEHICLE DETECTION INFORMATION			
VIVDS DETECTOR	STATUS	PHASES	LOCATION
V1	I	PH 7 & 4 PRESENCE	T-1 POLE
V2	I	PH 1 & 6 PRESENCE	T-2 POLE
V3	I	PH 3 & 8 PRESENCE	T-3 POLE
V4	I	PH 5 & 2 PRESENCE	T-4 POLE
I=INSTALL; E=EXISTING			

SIGNAL HEADS														
SIGNAL HEAD #	12 INCH	BACKPLATE (EACH)			VEH SIG SEC (12 IN) (EA)									PED SIG
		3 SEC	4 SEC	5 SEC	<-R	R	R->	<-Y	Y	Y->	<-G	G	G->	
1,7,10	H4FLT	-	3	-	3	-	-	6	-	-	3	-	-	-
2,3,5,6,8,9,11,12	H3	8	-	-	-	8	-	-	8	-	-	8	-	-
4	H3L	1	-	-	1	-	-	1	-	-	1	-	-	-
TOTAL		9	3	0	4	8	0	7	8	0	4	8	0	0



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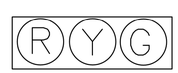

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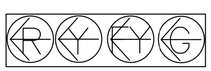

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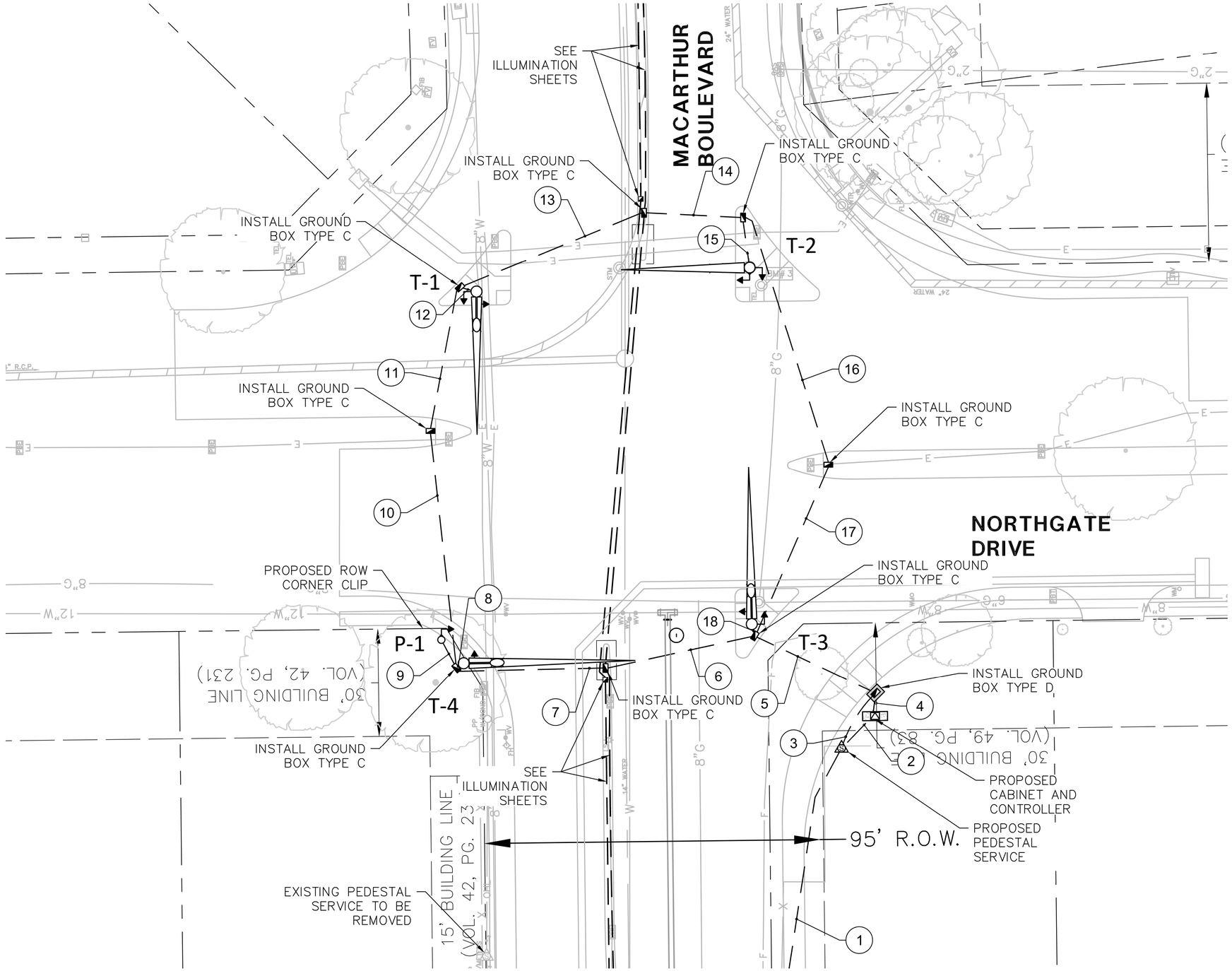
REV	DATE	BY



0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
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- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - EXISTING SIGNAL
GREY - REFERENCE INFORMATION

GENERAL NOTE:

- P-1,2,3,4,5 ARE ONE PUSHBUTTON POLES. ALL PED HEADS WILL BE LOCATED ON SIGNAL POLES.
- THE POLE SHAFT OF POLE T-1 WILL BE EXTENDED TO ACCOMMODATE COMMUNICATIONS EQUIPMENT.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.
- CITY OF IRVING PURCHASED CORNER LOT. ROW IS BEING DETERMINED AND WILL BE PROVIDED LATER. CONTROLLER CABINET FOUNDATION AND CONDUIT RUN DESIGN TO BE INSIDE ROW.
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
- CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE-USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
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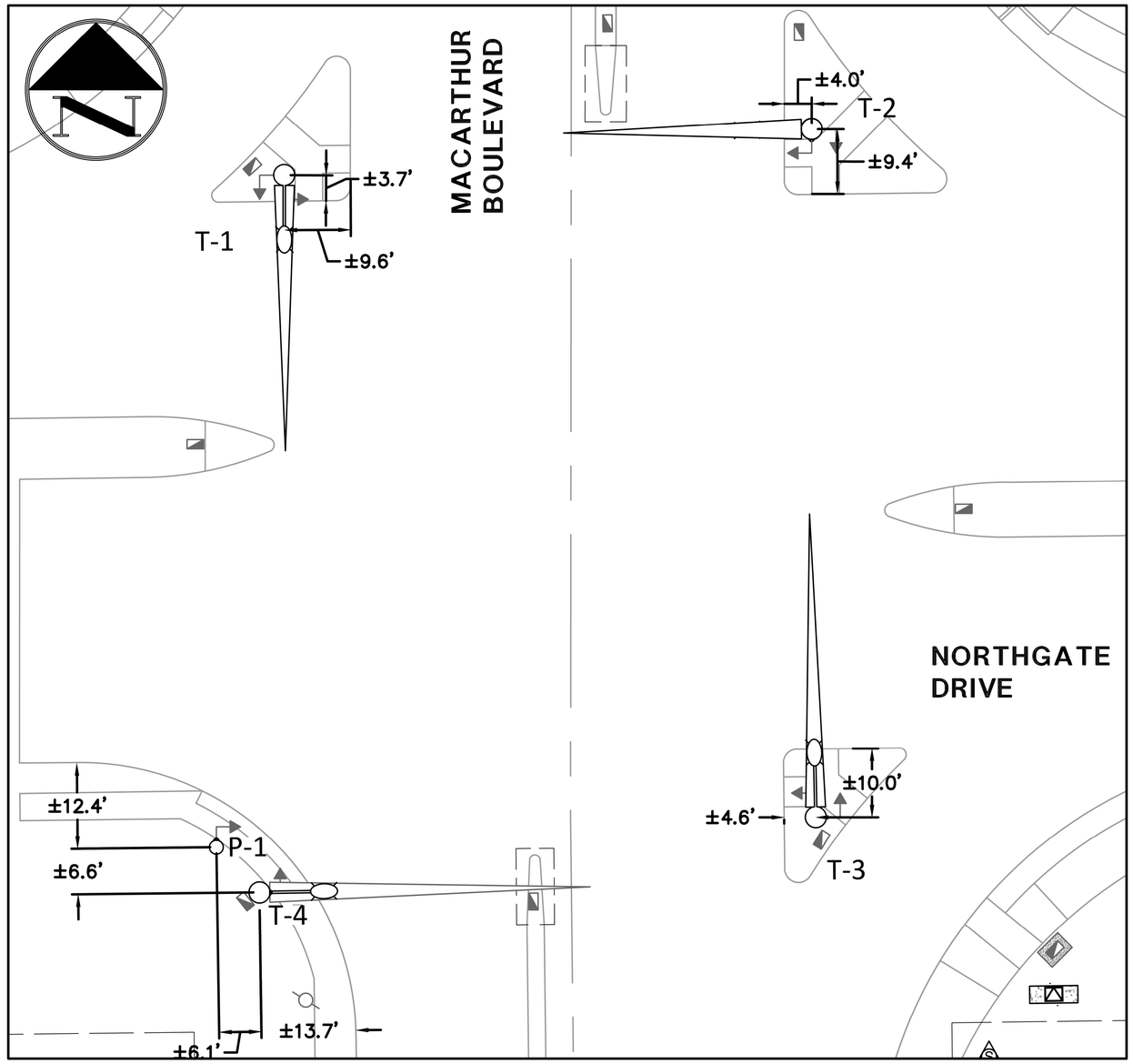
Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT NORTHGATE DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 179

LFOX
05/10/2022 - 4:33PM
M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT NORTHGATE\PLAN SHEETS\SIGNAL DESIGN - MACARTHUR AT NORTHGATE.DWG



CONDUIT AND CONDUCTOR SCHEDULE					
CONDUIT RUN	2" PVC TRENCH	4" PVC TRENCH	2" PVC TRENCH (INTERCONNECT)	STATUS*	LENGTH OF RUN (FT)
1	1				150
2	1			I	20
3	1			I	20
4	1	2	1	I	10
5		1	1	I	40
6		1	1	I	45
7		1		I	45
8		1		I	5
9	1			I	10
10		1		I	70
11		1		I	45
12		1		I	10
13		1		I	60
14		1		I	30
15		1		I	15
16		1		I	80
17		1		I	55
18		1		I	5
TOTAL	210	525	95		

*INSTALL

GROUNDBOX SUMMARY	
TYPE	QTY
GROUND BOX TY C	8
GROUND BOX TY D WITH APRON	1

FOUNDATION NUMBER	T-1	T-2	T-3	T-4	P-1
FUTURE MAST ARM LENGTH	40	36	44	48	N/A
FOUNDATION TYPE	36-A	36-A	36-A	36-A	24-A
LUMINAIRES (YES/NO)	YES	YES	YES	YES	N/A

NOTE: CITY OF IRVING REQUIRES 36-A FOUNDATION ON POLES WITH MAST ARMS LESS THAN 36 FEET.

ELECTRICAL SERVICE DATA									
ELECTRICAL SERVICE DESCRIPTION (SEE ED (4))	SERVICE CONDUIT SIZE (PVC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT CKT.BRK. POLE/AMP	TWO-POLE CONTACTOR AMPS ***	PANELBD./ LOADCENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CKT.BRK. POLE/AMPS	KVA LOAD
ELEC SRV TY D 120/240 070(NS)AL(E)PS(U)	2"	3/#4	N/A	2P/70	30	100	T.S.	1P/50	<10.8
							Lighting	2P/20	

SCALE: SEE GRAPHICS
DATE: DECEMBER 2019
DESIGNED BY: DST/CEW
DRAWN BY: DMG
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY
1	XX/XXXX	XXXXXXXX

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TX REG. ENGINEERING FIRM F-469
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DESIGN CHARTS
MACARTHUR BOULEVARD
AT NORTHGATE DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 180

LFOX
05/10/2022 - 4:33PM
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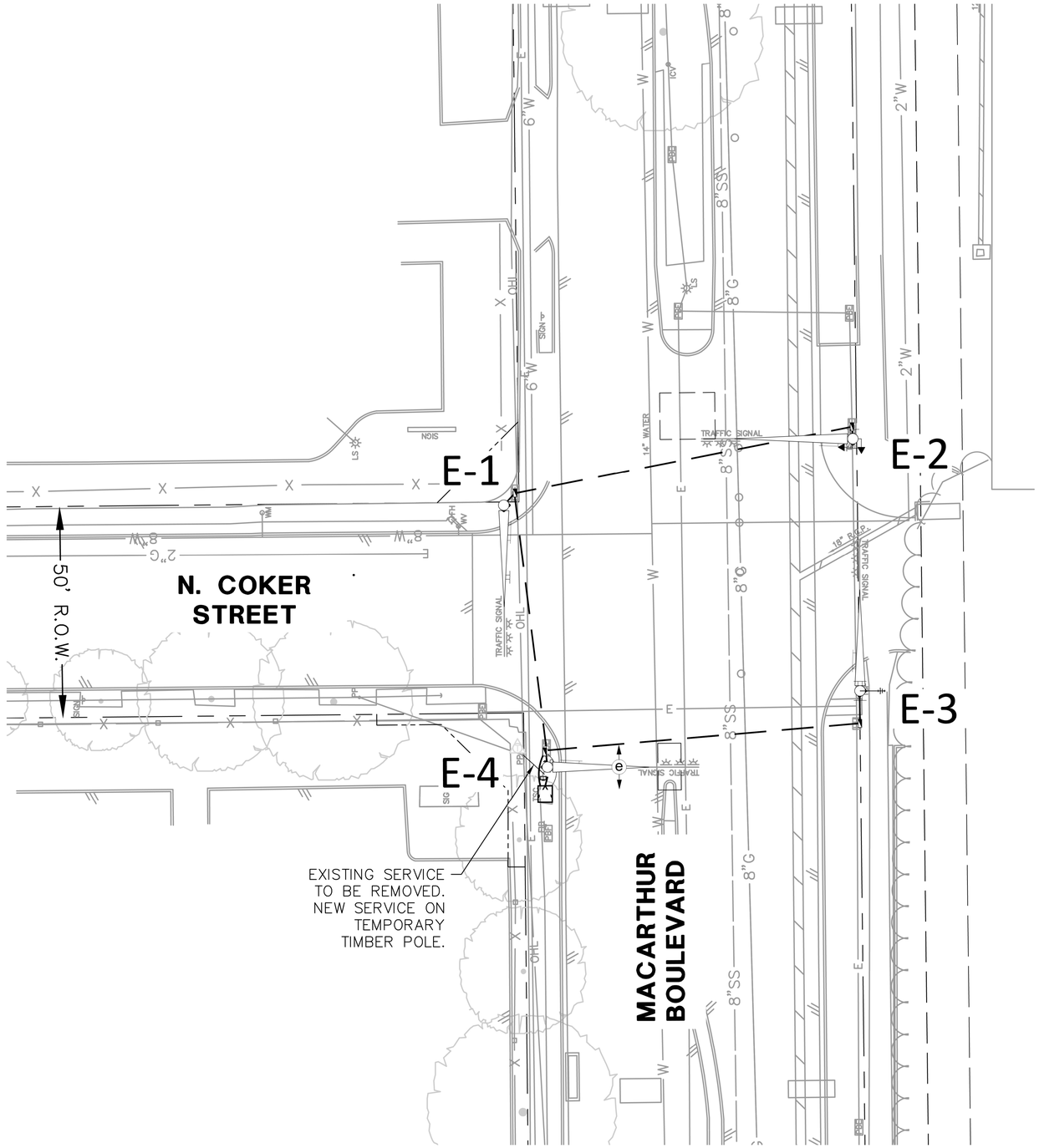

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- SIGNAL HEAD AND NUMBER
- OPTICOM
- PEDESTRIAN HEAD AND NUMBER
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - SIGNAL DEMOLITION
GREY - REFERENCE INFORMATION

GENERAL NOTES:

- EXISTING VIVDS TO BE REMOVED BY OWNER PRIOR TO INSTALLATION OF TEMPORARY SIGNAL. CONTACT EUGENE HOLLIS (972-877-4060) 5 WORKING DAYS PRIOR TO THIS NEED. ALL REMAINING EXISTING SIGNAL EQUIPMENT/SIGNS CAN BE USED WITH THE PROPOSED TEMPORARY SIGNALS AT CONTRACTORS EXPENSE.
- OWNER SHALL FURNISH CONTRACTOR WITH SEPARATE SALVAGED VIVDS FOR USE WITH ALL PROPOSED TEMPORARY SIGNALS. INSTALLATION OF SHALL BE CONSIDERED SUBSIDIARY TO THE TEMPORARY SIGNALS PAY ITEM.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE SALVAGED AND RETURNED TO THE CITY OF IRVING. ALL EXISTING CONDUIT TO BE ABANDONED.
- EXISTING STREET NAME BLADES TO BE RELOCATED TO TIMBER POLES FOR TEMPORARY CONSTRUCTION.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY	
1	XX/XXXX		XXXXXXXX

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DEMO SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT NORTH COKER STREET
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 181

M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER N\PLAN SHEETS\SIGNAL DESIGN - MACARTHUR AND COKER N.DWG

LFOX
05/10/2022 - 4:35PM
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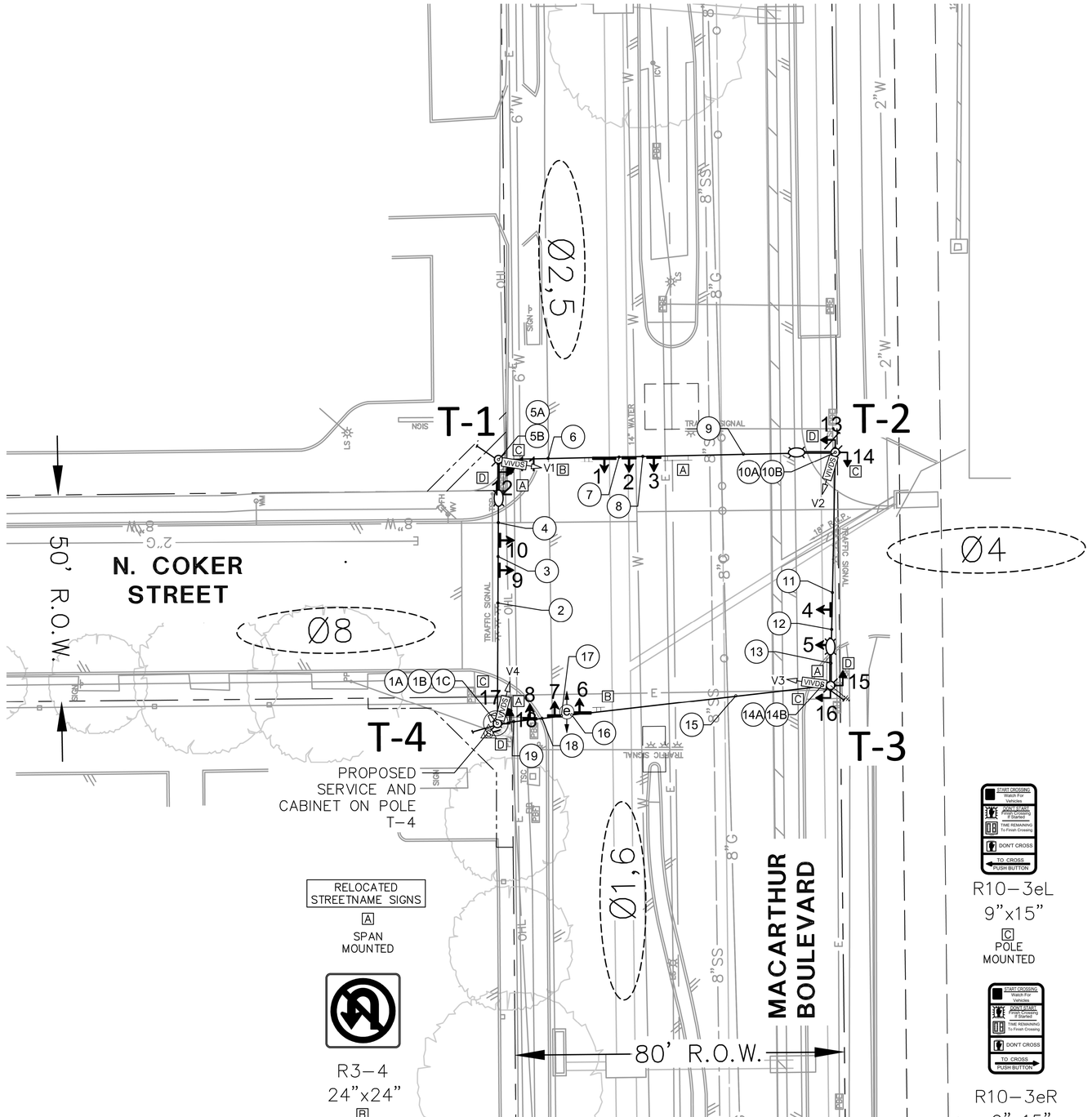

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- STRUCTURAL POLE
- SIGNAL HEAD AND NUMBER
- ANTENNAE
- VIVDS DETECTORS
- OPTICOM
- PEDESTRIAN HEAD AND NUMBER
- GROUNDBOX WITH/WITHOUT APRON
- POLE MOUNTED CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- SPAN WIRE
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- TRANSFORMER

BLACK - TEMPORARY SIGNAL
GREY - REFERENCE INFORMATION

GENERAL NOTES:

- ELECTRICAL SERVICE AND CABINET TO BE POLE MOUNTED ON POLE T-4.
- TEMPORARY SIGNAL DESIGN SHOWN FOR WHEN MACARTHUR IS OPEN ON WEST SIDE OF STREET ONLY. CONTRACTOR TO ADJUST SIGNAL HEADS ALONG SPAN FOR EACH PHASE OF CONSTRUCTION. SIGNAL HEAD POSITIONS SHALL MEET TMUTCD STANDARDS.
- EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION (NON-PAY ITEM).
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
- CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE-USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

REVISIONS:	BY	DATE	REV
XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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CONDUIT AND CONDUCTOR SCHEDULE

CONDUIT RUN	NUMBER OF CONDUITS			STATUS	ELECTRICAL CONDUCTORS			CONDUCTOR AND DETECTOR CABLE			VIVDS COMMUNICATION CABLE (COAXIAL)	OPTICOM CABLE	ETHERNET CABLE	LENGTH OF RUN (FEET)
	2" RM	4" RM	AERIAL		NO. 6 XHHW (POWER)	NO. 6 BARE	NO. 8 XHHW WIRE	12 AWG 2 CNDR. CABLE	14 AWG 5 CNDR. CABLE	14 AWG 7 CNDR. CABLE				
1A	1			I	2	1	4							5
1B		2		I		2	4	8	16	2	4	1	1	10
1C	1			I		1	4				1			10
2			1	I			2	4	8	1	2			40
3			1	I			2	4	7	1	2			10
4			1	I			2	4	6	1	2			20
5A	1			I		1		2	2					10
5B	1			I		1	4				1			10
6			1	I			2	2	4	1	1			25
7			1	I			2	2	4		1			10
8			1	I			2	2	3		1			10
9			1	I			2	2	2		1			40
10A	1			I		1		2	2					10
10B	1			I		1	2				1			10
11			1	I										40
12			1	I					1					10
13			1	I					2					15
14A	1			I		1		2	2					10
14B	1			I		1	2				1		1	10
15			1	I			2	2	4		1		1	60
16			1	I			2	2	4	1	1		1	5
17			1	I			2	2	4	1	1	1	1	5
18			1	I			2	2	5	1	1	1	1	10
19			1	I			2	2	6	1	1	1	1	10
TOTAL	75	20	310		10	95	670	770	1410	145	395	35	110	

RUN 1A IS FROM SERVICE TO CABINET. RUN 1B FROM CABINET TO SPAN. RUN 1C FROM SPAN TO LUMINAIRE.

RUNS 5A, 11A, 15A FROM SPAN TO PED HEADS AND PUSH BUTTONS. RUNS 5B, 11B, 15B FROM SPAN TO LUMINARE.

CABLE TERMINATION CHART

CONDUCTOR NO.	CONDUCTOR COLOR	CABLE 1 14 AWG 7 CNDR	CABLE 2 14 AWG 5 CNDR	CABLE 3 14 AWG 5 CNDR	CABLE 4 14 AWG 5 CNDR	CABLE 5 14 AWG 5 CNDR	CABLE 7 14 AWG 6 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 9 14 AWG 5 CNDR	CABLE 10 14 AWG 5 CNDR	CABLE 11 14 AWG 5 CNDR	CABLE 12 12 AWG 2 CNDR	CABLE 13 14 AWG 5 CNDR
		FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM SPAN T-1/T-4 TO CABINET	FROM POLE T-1 TO CABINET	FROM POLE T-1 TO CABINET	FROM POLE T-1 TO CABINET
1	BLACK	SH 1 <- Y Ø1	SPARE	SPARE	SPARE	SPARE	SH 6 <- Y Ø5	SPARE	SPARE	SPARE	SPARE	SPARE	APS COM	SPARE
2	WHITE	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	PED COM	APS POWER	PED COM
3	RED	SH 1 <- R Ø1	SH 2 R Ø6	SH 3 R Ø6	SH 4 R Ø8	SH 5 R Ø8	SH 6 <- R Ø5	SH 7 R Ø2	SH 8 R Ø2	SH 9 R Ø4	SH 10 R Ø4	SH 11 DW Ø2		SH 12 DW Ø4
4	GREEN	SPARE	SH 2 G Ø6	SH 3 G Ø6	SH 4 G Ø8	SH 5 G Ø8	SPARE	SH 7 G Ø2	SH 8 G Ø2	SH 9 G Ø4	SH 10 G Ø4	SH 11 W Ø2		SH 12 W Ø4
5	ORANGE	SPARE	SH 2 Y Ø6	SH 3 Y Ø6	SH 4 Y Ø8	SH 5 Y Ø8	SPARE	SH 7 Y Ø2	SH 8 Y Ø2	SH 9 Y Ø4	SH 10 Y Ø4	SPARE		SPARE
6	BLUE	SH 1 <- G Ø1					SH 6 <- G Ø5							
7	WHITE/BLACK	SH 1 <- FY Ø1					SH 6 <- FY Ø5							

CABLE TERMINATION CHART

CONDUCTOR NO.	CONDUCTOR COLOR	CABLE 14 12 AWG 2 CNDR	CABLE 15 14 AWG 5 CNDR	CABLE 16 12 AWG 2 CNDR	CABLE 17 14 AWG 5 CNDR	CABLE 18 12 AWG 2 CNDR	CABLE 19 14 AWG 5 CNDR	CABLE 20 12 AWG 2 CNDR	CABLE 21 14 AWG 5 CNDR	CABLE 22 12 AWG 2 CNDR	CABLE 23 14 AWG 5 CNDR	CABLE 24 12 AWG 2 CNDR	CABLE 25 14 AWG 5 CNDR	CABLE 26 12 AWG 2 CNDR
		FROM POLE T-1 TO CABINET	FROM POLE T-2 TO CABINET	FROM POLE T-2 TO CABINET	FROM POLE T-2 TO CABINET	FROM POLE T-2 TO CABINET	FROM POLE T-3 TO CABINET	FROM POLE T-3 TO CABINET	FROM POLE T-3 TO CABINET	FROM POLE T-3 TO CABINET	FROM POLE T-4 TO CABINET	FROM POLE T-4 TO CABINET	FROM POLE T-4 TO CABINET	FROM POLE T-4 TO CABINET
1	BLACK	APS COM	SPARE	APS COM	SPARE	APS COM	SPARE	APS COM	SPARE	APS COM	SPARE	APS COM	SPARE	APS COM
2	WHITE	APS POWER	PED COM	APS POWER	PED COM	APS POWER	PED COM	APS POWER	PED COM	APS POWER	PED COM	APS POWER	PED COM	APS POWER
3	RED		SH 13 DW Ø4		SH 14 DW Ø6		SH 15 DW Ø6		SH 16 DW Ø8		SH 17 DW Ø8		SH 18 DW Ø2	
4	GREEN		SH 13 W Ø4		SH 14 W Ø6		SH 15 W Ø6		SH 16 W Ø8		SH 17 W Ø8		SH 18 W Ø2	
5	ORANGE		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE	
6	BLUE													
7	WHITE/BLACK													

REVISIONS: | BY | DATE | REV | XXXXXXXX | XX/XXXX

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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CARL B. LAFFERTY 92697 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

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4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
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TEMP DESIGN CHARTS (1 OF 2)

MACARTHUR BOULEVARD
AT NORTH COKER STREET
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 183

LFOX
05/10/2022 – 4:35PM
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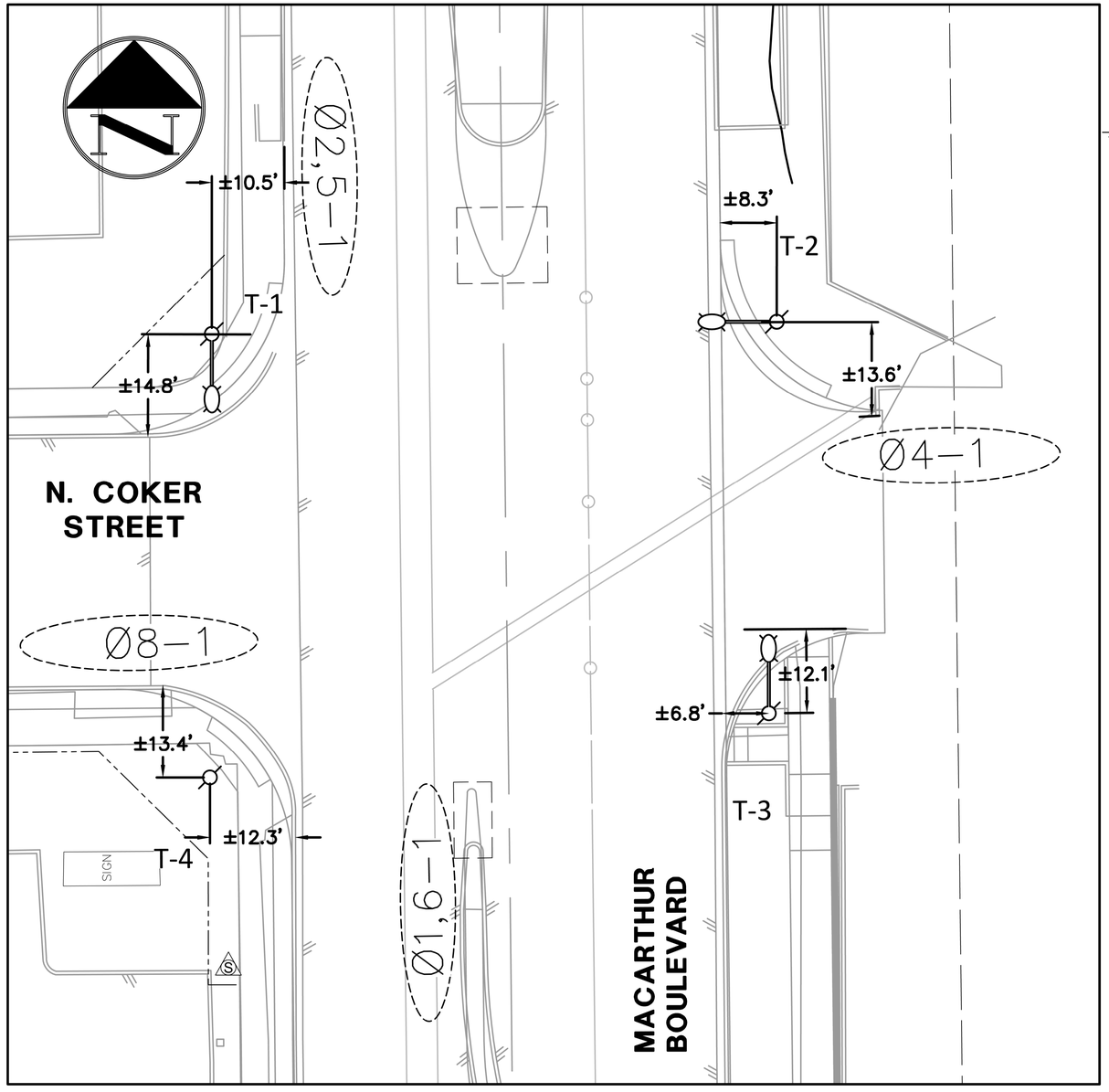
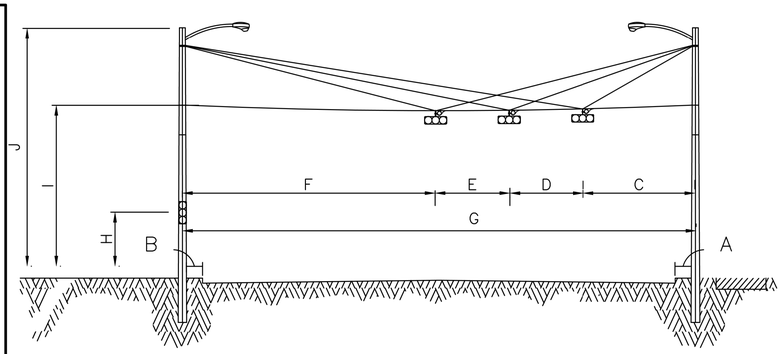
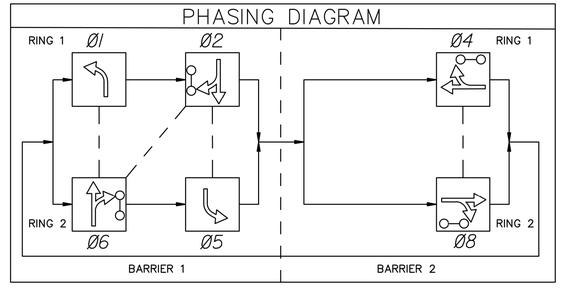


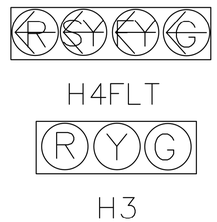


SIGNAL HEAD AND POLE PLACEMENT													
SPAN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	F (FT)	G (FT)	H (FT)	I (FT)	J (FT)	LUMINAIRES	NO. OF VEHICULAR HEADS	NO. OF PEDESTRIAN HEADS
T-1 TO T-2	5.3	10.5	40.0	10.0	10.0	25.0	85.0	10.0	20.0	35.0	YES	3	2
T-2 TO T-3	12.1	13.6	15.0	10.0	-	38.0	63.0	10.0	20.0	35.0	YES	2	2
T-3 TO T-4	12.3	4.7	10.0	10.0	10.0	56.0	86.0	10.0	20.0	35.0	YES	3	2
T-4 TO T-1	14.8	13.4	20.0	10.0	-	38.0	68.0	10.0	20.0	35.0	NO	2	2



NOTE: CONTRACTOR RESPONSIBLE FOR SIGNAL PHASING DURING CONSTRUCTION.

NOTE:
PEDESTRIAN PUSHBUTTONS ARE TO REMAIN ACTIVE FOR ALL CROSSINGS. IF THIS IS NOT POSSIBLE PEDESTRIAN SIGNALIZATION WILL BE IN RECALL..



SIGNAL HEADS														
SIGNAL HEAD #	12 INCH	BACKPLATE (EACH)			VEH SIG SEC (12 IN) (EA)									PED SIG
		3 SEC	4 SEC	5 SEC	<-R	R	R->	<-Y	Y	Y->	<-G	G	G->	
1,6	H4FLT	-	2	-	2	-	-	4	-	-	2	-	-	-
2,3,4,5,7,8,9,10	H3	8	-	-	-	8	-	-	8	-	-	8	-	-
11,12,13,14,15,16,17,18	143C	-	-	-	-	-	-	-	-	-	-	-	-	8
TOTAL		8	2	0	2	8	0	4	8	0	2	8	0	8

ELECTRICAL SERVICE DATA									
ELECTRICAL SERVICE DESCRIPTION (SEE ED (4))	SERVICE CONDUIT SIZE (PVC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT CKT.BRK. POLE/AMP	TWO-POLE CONTACTOR AMPS ***	PANELBD./ LOADCENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CKT.BRK. POLE/AMPS	KVA LOAD
ELC SRV T D 120/240 070(NS)GS(N)TP(O)	2"	3/#4	N/A	2P/70	30	100	T.S.	1P/50	<10.8
							Lighting	2P/20	

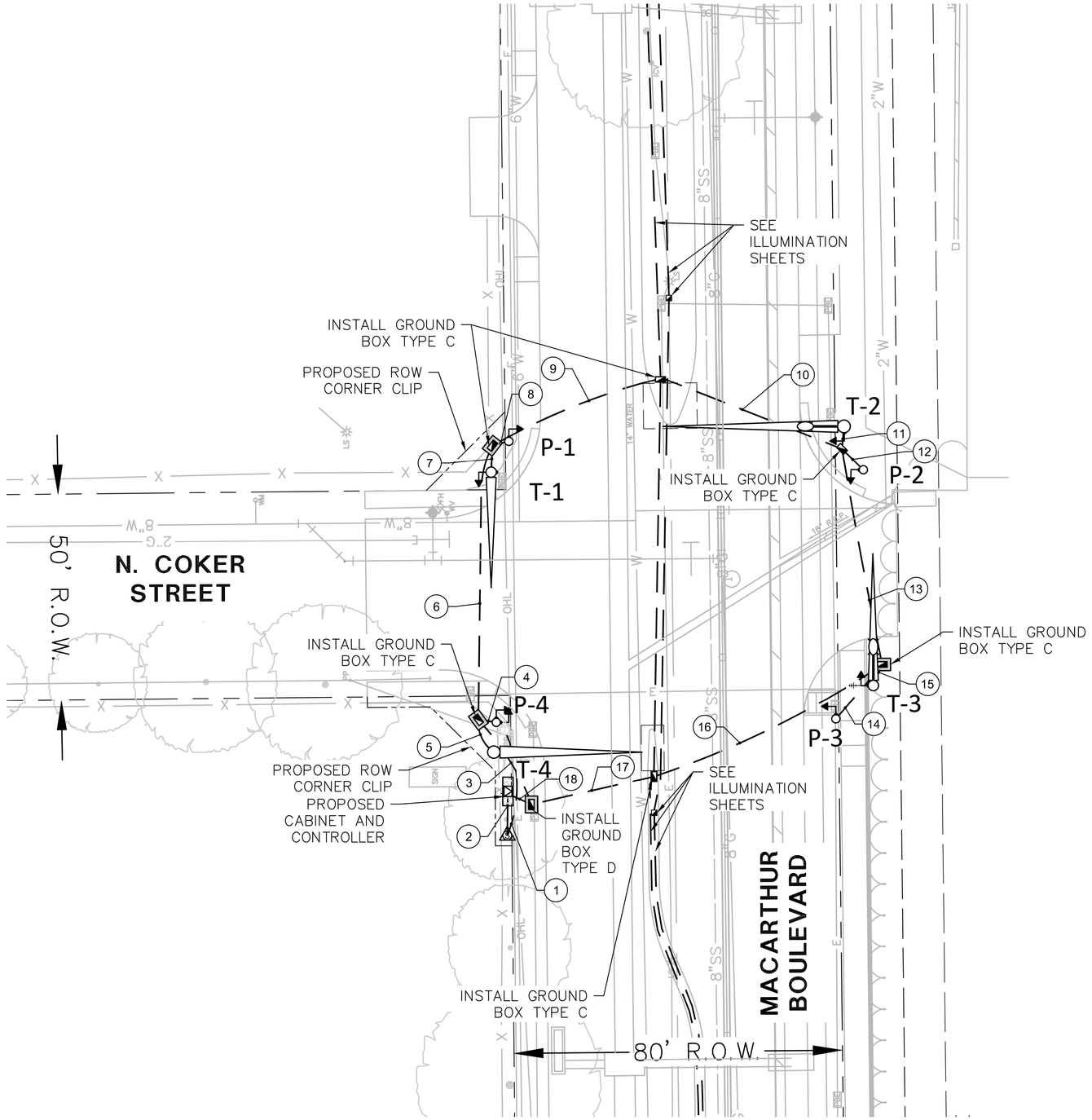
NOTE: INSTALL SERVICE ON TEMPORARY POLE T–4.

VEHICLE DETECTION INFORMATION			
VIVDS DETECTOR	STATUS	PHASES	LOCATION
V1	I	PH 4 PRESENCE	T-1 POLE
V2	I	PH 1 & 6 PRESENCE	T-2 POLE
V3	I	PH 8 PRESENCE	T-3 POLE
V4	I	PH 5 & 2 PRESENCE	T-4 POLE

I=INSTALL; E=EXISTING

REVISIONS:

REV	DATE	BY	



0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- ILLUMINATION GROUNDBOX
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - PROPOSED SIGNAL
GREY - REFERENCE INFORMATION
(#) — PROPOSED CONDUIT RUN

GENERAL NOTE:

- P–1,2,3 ARE PEDESTAL POLES. AND PUSH BUTTONS WILL BE LOCATED ON THESE POLES.
- THE POLE SHAFT OF POLE T–3 WILL BE EXTENDED TO ACCOMMODATE COMMUNICATIONS EQUIPMENT.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON–SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.
- POLE P–3 DESIGNED WITH SPREAD FOOTING DUE TO PROXIMITY OF UNDERGROUND ELECTRICAL LINE AND EXISTING POLE FOUNDATION. CONTRACTOR TO FIELD VERIFY AND ADJUST TO 6' X 24–A FOUNDATION IF ROOM IS AVAILABLE.
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972–887–4060) TO ARRANGE PICK–UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
- CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE–USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

REVISIONS:	REV	DATE	BY
XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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TX REG. ENGINEERING FIRM F–469
TX REG. SURVEYING FIRM LS–10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PROPOSED SIGNAL LAYOUT

MACARTHUR BOULEVARD
AT NORTH COKER STREET

STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 185

LFOX
05/10/2022 – 4:35PM
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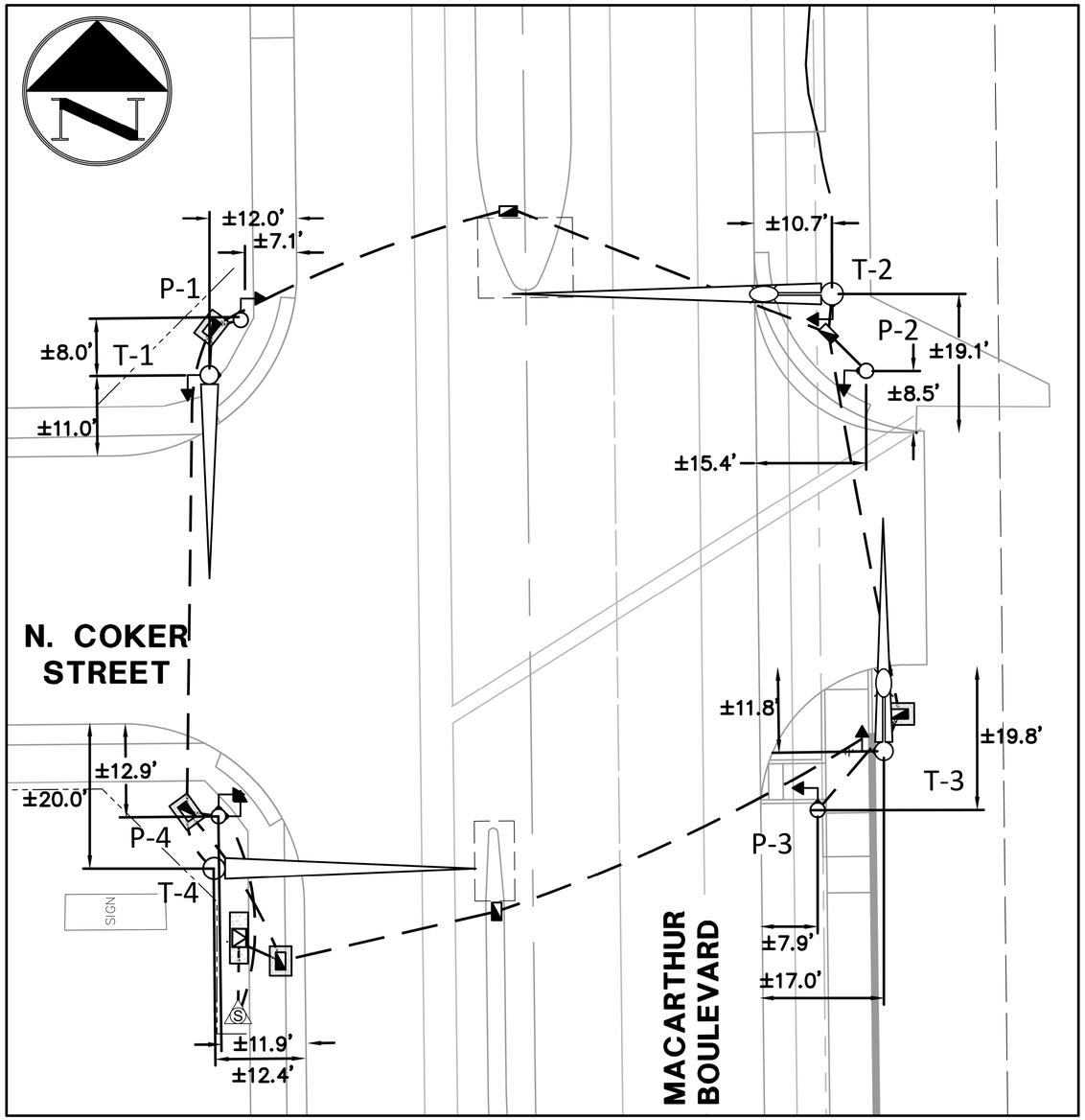

CONDUIT AND CONDUCTOR SCHEDULE (PERMANENT SIGNAL)					
CONDUIT RUN	2" PVC TRENCH	4" PVC TRENCH	2" PVC TRENCH (INTERCONNECT)	STATUS*	LENGTH OF RUN (FT)
1	1			I	10
2	1			I	25
3	1			I	25
4	1			I	10
5		1		I	10
6		1		I	75
7		1		I	10
8	1			I	10
9		1		I	55
10		1		I	50
11		1		I	10
12	1			I	10
13		1		I	60
14		1		I	20
15	1			I	15
16		1		I	65
17		1	1	I	35
18	1	2	1	I	10
TOTAL	115	410	45		

GROUNDBOX SUMMARY	
TYPE	QTY
GROUND BOX TY C	3
GROUND BOX TY C WITH APRON	3
GROUND BOX TY D WITH APRON	1

FOUNDATION NUMBER	T-1	P-1	T-2	P-2	T-3	P-3	T-4	P-4
FUTURE MAST ARM LENGTH	28	N/A	44	N/A	24	N/A	36	N/A
FOUNDATION TYPE	36-A	24-A	36-A	24-A	36-A	SPREAD	36-A	24-A
LUMINAIRES (YES/NO)	NO	N/A	YES	N/A	YES	N/A	NO	N/A

NOTE: CITY OF IRVING REQUIRES 36-A FOUNDATION ON POLES WITH MAST ARMS LESS THAN 36 FEET.

ELECTRICAL SERVICE DATA									
ELECTRICAL SERVICE DESCRIPTION (SEE ED (4))	SERVICE CONDUIT SIZE (PVC)	SERVICE CONDUCTORS NO./SIZE	SAFETY SWITCH AMPS	MAIN DISCONNECT CKT.BRK. POLE/AMP	TWO-POLE CONTACTOR AMPS ***	PANELBD./ LOADCENTER AMP RATING (MIN)	CIRCUIT NO.	BRANCH CKT.BRK. POLE/AMPS	KVA LOAD
ELC SRV TY D 120/240 070(NS)AL(E)PS(U)	2"	3/#4	N/A	2P/70	30	100	T.S.	1P/50	<10.8
							Lighting	2P/20	

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

REVISIONS:

REV	DATE	BY
1	XX/XXXX	XXXXXXXX

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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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DESIGN CHARTS
MACARTHUR BOULEVARD
AT NORTH COKER STREET
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 186

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05/10/2022 – 4:35PM
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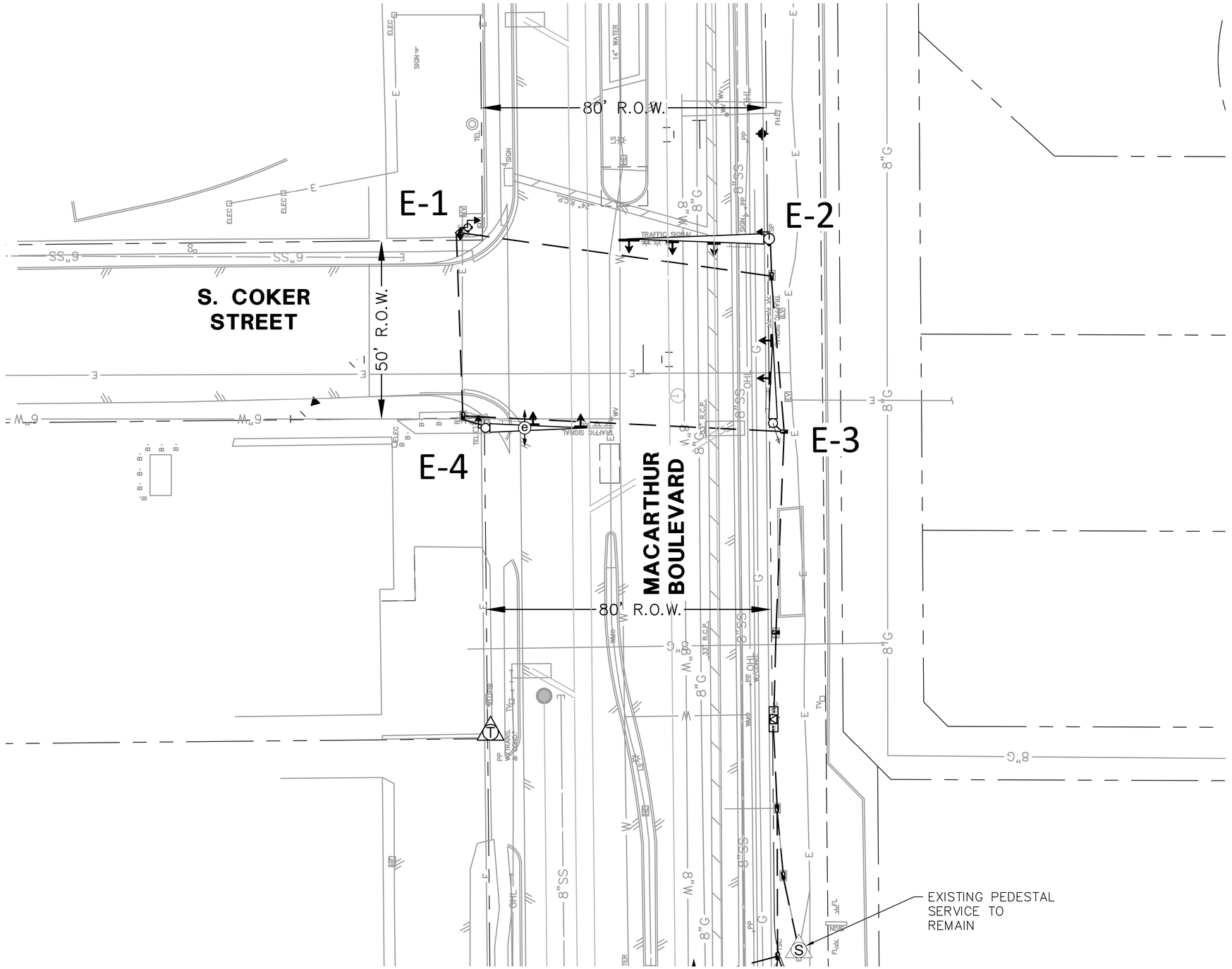

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- ILLUMINATION GROUNDBOX
- CABINET WITH/WITHOUT APRON
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- SIGNAL HEAD AND NUMBER
- OPTICOM
- ANTENNAE
- PEDESTRIAN HEAD AND NUMBER
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - SIGNAL DEMOLITION
GREY - REFERENCE INFORMATION

GENERAL NOTE:

- EXISTING VIVDS TO BE REMOVED BY OWNER PRIOR TO INSTALLATION OF TEMPORARY SIGNAL. CONTACT EUGENE HOLLIS (972-877-4060) 5 WORKING DAYS PRIOR TO THIS NEED. ALL REMAINING EXISTING SIGNAL EQUIPMENT/SIGNS CAN BE USED WITH THE PROPOSED TEMPORARY SIGNALS AT CONTRACTORS EXPENSE.
- OWNER SHALL FURNISH CONTRACTOR WITH SEPARATE SALVAGED VIVDS FOR USE WITH ALL PROPOSED TEMPORARY SIGNALS. INSTALLATION OF SHALL BE CONSIDERED SUBSIDIARY TO THE TEMPORARY SIGNALS PAY ITEM.
- ALL EXISTING SIGNAL EQUIPMENT SHALL BE SALVAGED AND RETURNED TO THE CITY OF IRVING. ALL EXISTING CONDUIT TO BE ABANDONED.
- ALL EXISTING STREET NAME SIGNS TO BE REUSED FOR THE TEMPORARY SIGNAL.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:
	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
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REVIEWED BY: CBL
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CITY OF IRVING
Capital Improvement Program

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DEMO SIGNAL LAYOUT (1 OF 2)

MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
187

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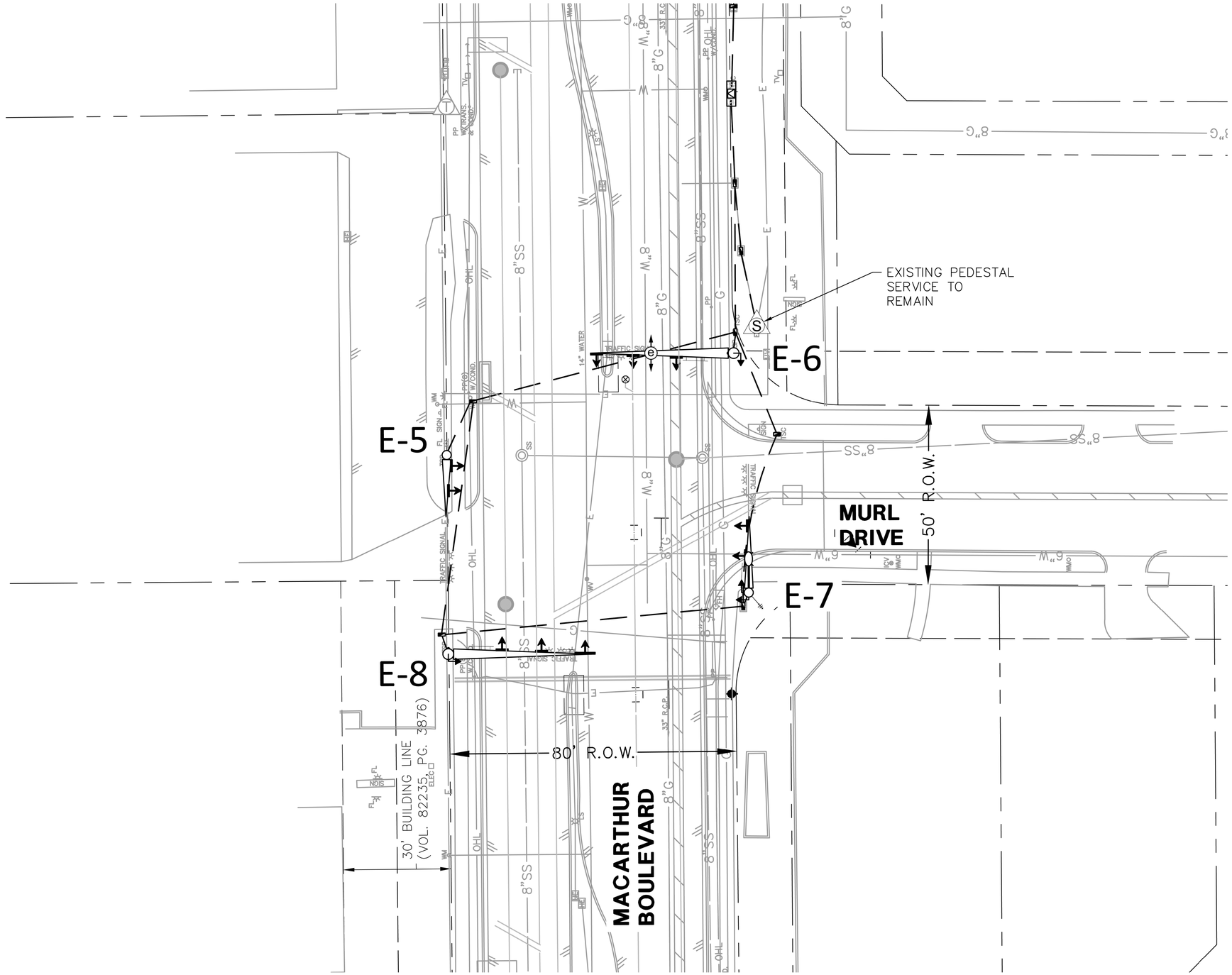

0 10 20 40 60

HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- ILLUMINATION GROUNDBOX
- CABINET WITH/WITHOUT APRON
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- GROUND MOUNT SIGN
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- PEDESTRIAN HEAD AND NUMBER
- CONDUIT RUN
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- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - SIGNAL DEMOLITION
GREY - REFERENCE INFORMATION

GENERAL NOTE:

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REVISIONS:	REV	DATE	BY
XXXXXXXX		XX/XXXX	

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CITY OF IRVING
Capital Improvement Program

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DEMO SIGNAL LAYOUT (2 OF 2)

MACARTHUR BOULEVARD AT SOUTH COKER AND MURL DRIVE STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 188

M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER S AND MURL\PLAN SHEETS\SIGNAL DESIGN - COKER S AND MURL.DWG

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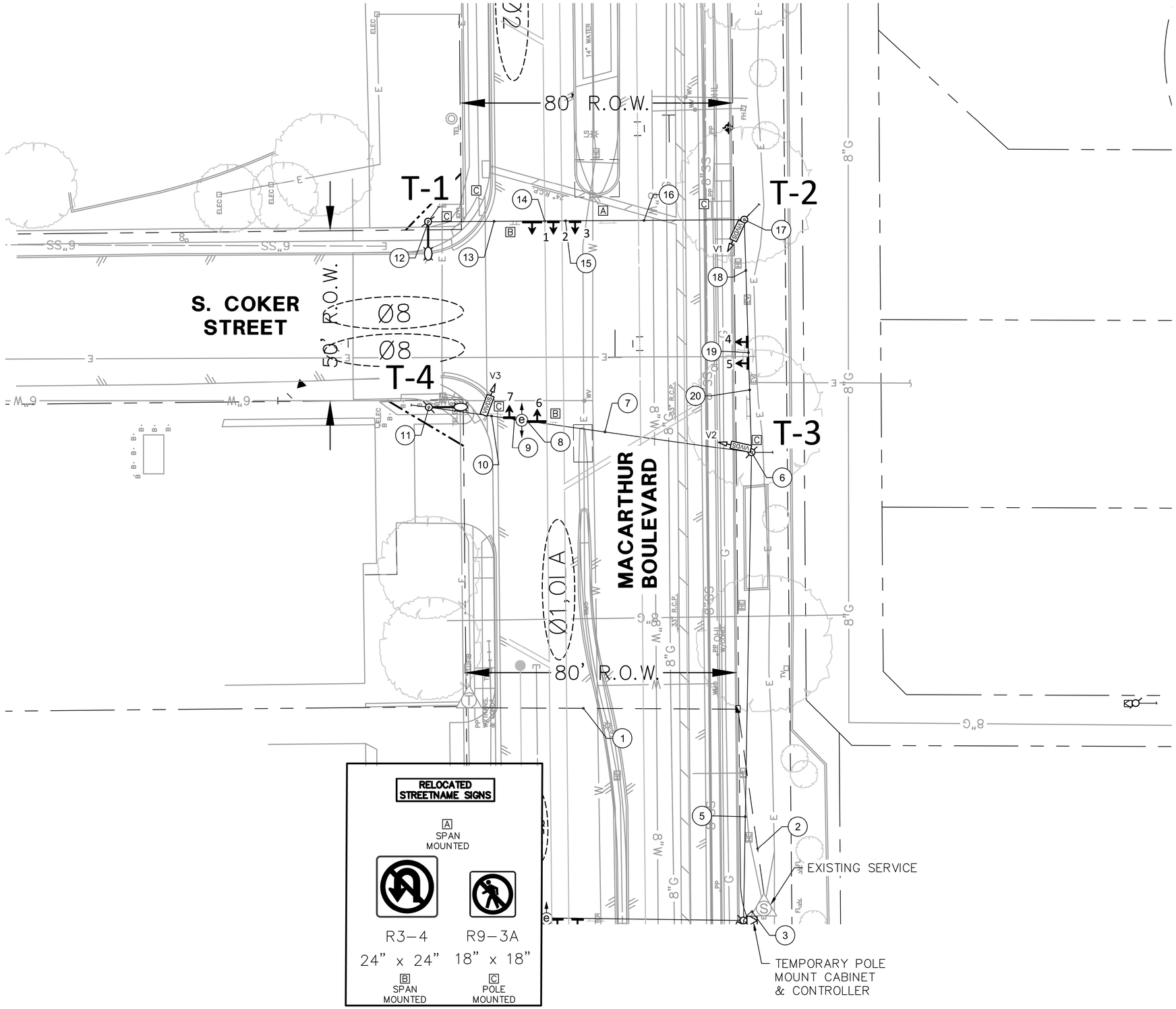

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- STRUCTURAL POLE
- SIGNAL HEAD AND NUMBER
- ANTENNAE
- VIVDS DETECTORS
- OPTICOM
- GROUNDBOX WITH/WITHOUT APRON
- POLE MOUNTED CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- SPAN WIRE
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- TRANSFORMER

BLACK - TEMPORARY SIGNAL
GREY - REFERENCE INFORMATION

(#) PROPOSED CONDUIT RUN/SPAN WIRE RUN

GENERAL NOTES:

1. TEMPORARY SIGNAL DESIGN SHOWN FOR WHEN MACARTHUR IS OPEN ON WEST SIDE OF STREET ONLY. CONTRACTOR TO ADJUST SIGNAL HEADS ALONG SPAN FOR EACH PHASE OF CONSTRUCTION. SIGNAL HEAD POSITIONS SHALL MEET TMUTCD STANDARDS.
- EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION (NON-PAY ITEM).
2. EXISTING ELECTRICAL SERVICE TO OPERATE TEMPORARY SIGNAL OPERATIONS.
3. EXISTING TRANSFORMER TO BE RELOCATED ON BACKSIDE OF SIDEWALK AT ROW LINE. EXISTING TRANSFORMER WILL POWER THE TEMPORARY AND PROPOSED SIGNALS.
4. CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
5. THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
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7. GREEN LOUVERS TO BE INSTALLED ON SIGNAL HEADS 1, 2, AND 3.

REV	DATE	BY	REVISIONS:

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
DESIGNED BY: TNB
DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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FORT WORTH, TX 76109 817.412.7155
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TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
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TEMPORARY SIGNAL (1 OF 2)

MACARTHUR BOULEVARD AT SOUTH COKER AND MURL DRIVE STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 189

M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER S AND MURL\PLAN SHEETS\SIGNAL DESIGN - COKER S AND MURL.DWG

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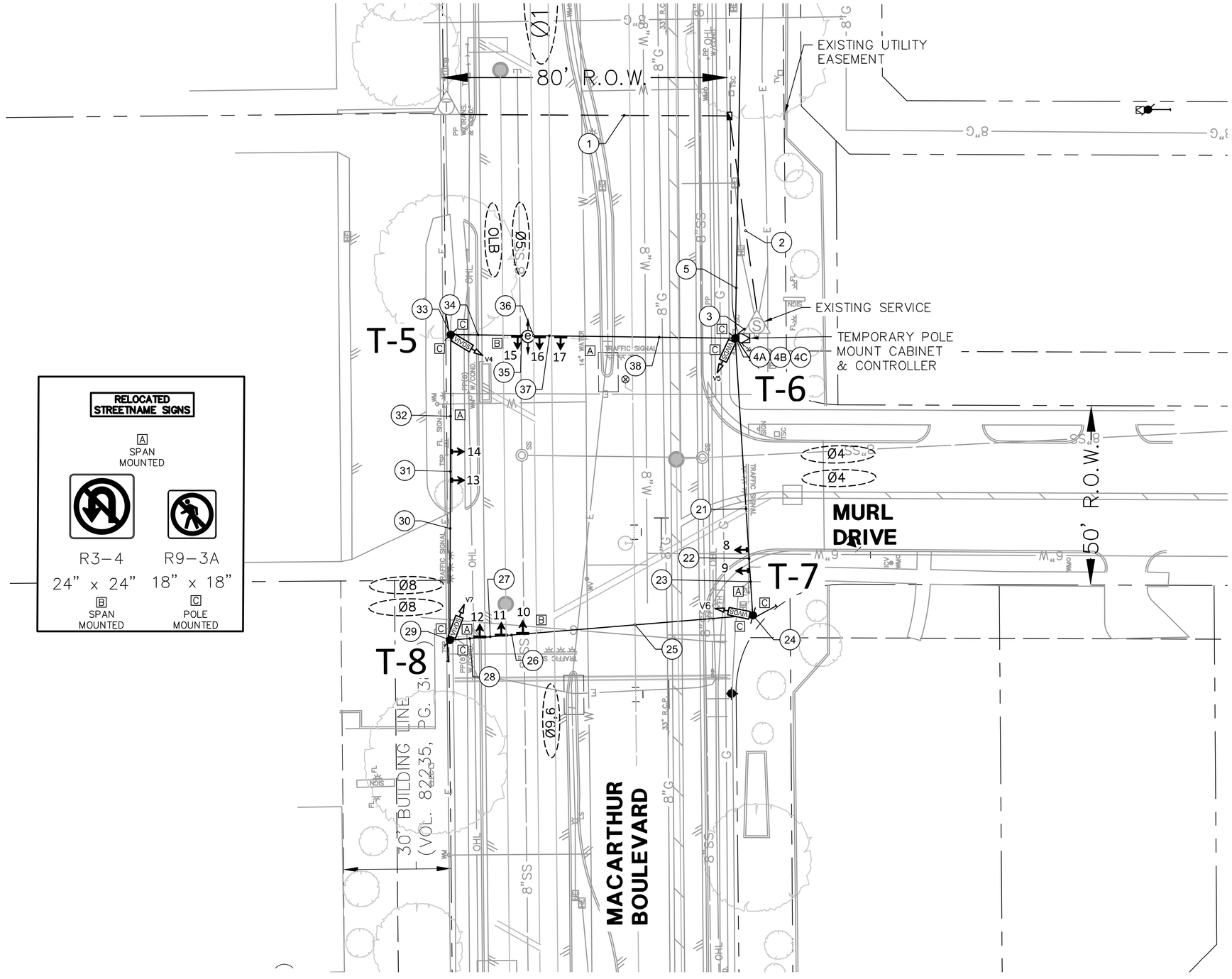

RELOCATED STREETNAME SIGNS

A
SPAN MOUNTED

R3-4
24" x 24"
B
SPAN MOUNTED

R9-3A
18" x 18"
C
POLE MOUNTED

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- STRUCTURAL POLE
- SIGNAL HEAD AND NUMBER
- ANTENNAE
- VIVDS DETECTORS
- OPTICOM
- GROUNDBOX WITH/WITHOUT APRON
- POLE MOUNTED CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
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- ELECTRICAL METER SYMBOLS
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- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- TRANSFORMER

BLACK - TEMPORARY SIGNAL
GREY - REFERENCE INFORMATION

GENERAL NOTES:

1. TEMPORARY SIGNAL DESIGN SHOWN FOR WHEN MACARTHUR IS OPEN ON WEST SIDE OF STREET ONLY. CONTRACTOR TO ADJUST SIGNAL HEADS ALONG SPAN FOR EACH PHASE OF CONSTRUCTION. SIGNAL HEAD POSITIONS SHALL MEET TMUTCD STANDARDS.
- EXISTING UNDERGROUND AND OVERHEAD UTILITIES IN VICINITY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT ANY DAMAGE TO SAID UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO CONSTRUCTION (NON-PAY ITEM).
2. EXISTING ELECTRICAL SERVICE TO OPERATE TEMPORARY SIGNAL OPERATIONS.
3. EXISTING TRANSFORMER TO BE RELOCATED ON BACKSIDE OF SIDEWALK AT ROW LINE. EXISTING TRANSFORMER WILL POWER THE TEMPORARY AND PROPOSED SIGNALS.
4. TEMPORARY SERVICE AND CABINET CONTROLLER TO BE LOCATED ON T-6 TO BE USED FOR TEMPORARY SIGNAL.
5. CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
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8. GREEN LOUVERS TO BE INSTALLED ON SIGNAL HEADS 10, 11, AND 12.

REVISIONS:	REV	DATE	BY

SCALE: SEE GRAPHICS
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SURVEYED BY: PACHECO KOCH

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Pacheco Koch
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TEMPORARY SIGNAL (2 OF 2)

MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 190

M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER S AND MURL\PLAN SHEETS\SIGNAL DESIGN - COKER S AND MURL.DWG
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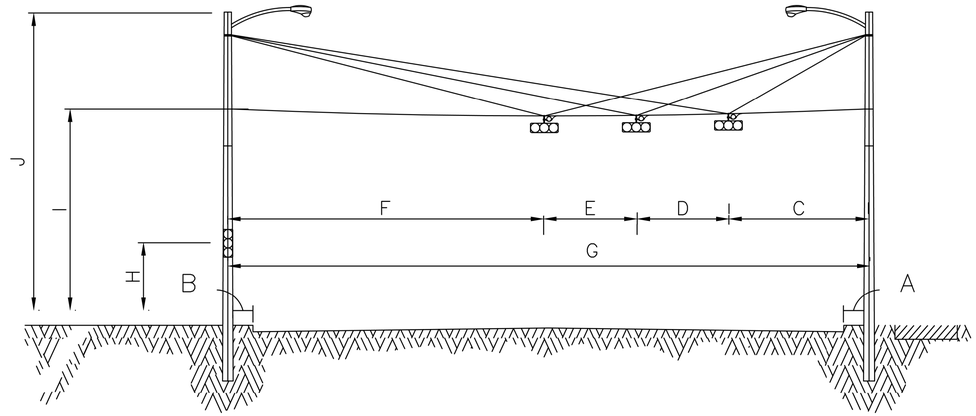
CONDUIT AND CONDUCTOR SCHEDULE															
CONDUIT RUN	NUMBER OF CONDUITS					STATUS	ELECTRICAL CONDUCTORS			CONDUCTOR AND DETECTOR CABLE		VIVDS COMMUNICATION CABLE (COAXIAL)	OPTICOM CABLE	ETHERNET CABLE	LENGTH OF RUN (FEET)
	2" PVC TRENCHED	2" PVC BORED	2" RM	4" RM	AERIAL		NO. 6 XHHW (POWER)	NO. 6 BARE	NO. 8 XHHW WIRE	14 AWG 5 CNDR. CABLE	14 AWG 7 CNDR. CABLE				
1		1				I	2	1	4						80
2	1					I	2	1	4						60
3	1					I	2	1	4						10
4A			1			I	2	1	4						5
4B				2		I				14	3	7	2	1	15
4C			1			I								1	15
5						I				6	1	3	1		145
6			1			I						1			10
7					1	I			2	2		1	1		65
8					1	I			2	1		1	1		5
9					1	I			2	1		1			5
10					1	I			2			1			10
11			1			I			2			1			10
12			1			I			2						10
13					1	I			2						30
14					1	I			2		1				10
15					1	I			2		1				10
16					1	I			2		1				50
17			1			I						1			10
18					1	I			2		1	1			40
19					1	I			2		1	1			10
20					1	I			2		1	1			30
21					1	I				4	1	2			70
22					1	I				3	1	2			10
23					1	I				2	1	2			20
24			1			I						1			10
25					1	I				2	1	1			70
26					1	I				2		1			10
27					1	I				1		1			10
28					1	I						1			15
29			1			I						1			10
30					1	I									45
31					1	I				1					10
32					1	I				2					35
33			1			I						1			10
34					1	I				2		1			20
35					1	I				2	1	1			5
36					1	I				2	1	1	1		5
37					1	I				3	1	1	1		10
38					1	I				4	1	1	1		50
TOTAL	70	80	90	30			310	155	1190	2110	580	1160	310	30	
RUN 4A IS FROM GROUND TO CABINET. RUN 4B IS FROM CABINET TO SPAN. RUN 4C IS FROM SPAN TO LUMINAIRE.															

VLOOKUP TABLES - DO NOT EDIT



SIGNAL HEAD AND POLE PLACEMENT												
SPAN	A (FT)	B (FT)	C (FT)	D (FT)	E (FT)	F (FT)	G (FT)	H (FT)	I (FT)	J (FT)	LUMINAIRES	NO. OF VEHICULAR HEADS
T-1 TO T-2	17.0	12.0	31.0	6.0	6.0	50.0	93.0	-	20.0	35.0	YES	3
T-2 TO T-3	15.0	23.9	36.0	6.0	-	26.0	68.0	-	20.0	35.0	NO	2
T-3 TO T-4	3.2	10.1	64.0	7.0	-	9.0	80.0	-	20.0	35.0	YES	2
T-5 TO T-6	9.5	7.7	49.0	10.0	10.0	19.0	88.0	-	20.0	35.0	NO	3
T-6 TO T-7	18.7	28.8	13.0	10.0	-	59.0	82.0	-	20.0	35.0	NO	2
T-7 TO T-8	8.7	13.8	8.0	10.0	10.0	64.0	92.0	-	20.0	35.0	NO	3
T-8 TO T-5	49.3	8.7	33.0	10.0	-	45.0	88.0	-	20.0	35.0	NO	2

GROUND BOX SCHEDULE		
DESCRIPTION	UNIT	QUANTITY
TYPE C GROUND BOX WITH APRON	EA	1

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			XX/XXXX

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CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

TEMP DESIGN CHARTS (1 OF 4)
MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 191

LFOX
05/10/2022 - 4:37PM
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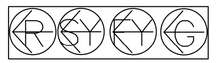
CABLE TERMINATION CHART																		
CONDUCTOR NO.	CONDUCTOR COLOR	CABLE 1 14 AWG 7 CNDR	CABLE 2 14 AWG 5 CNDR	CABLE 3 14 AWG 5 CNDR	CABLE 4 14 AWG 5 CNDR	CABLE 5 14 AWG 5 CNDR	CABLE 6 14 AWG 5 CNDR	CABLE 7 14 AWG 5 CNDR	CABLE 8 14 AWG 5 CNDR	CABLE 9 14 AWG 5 CNDR	CABLE 10 14 AWG 7 CNDR	CABLE 11 14 AWG 5 CNDR	CABLE 12 14 AWG 5 CNDR	CABLE 13 14 AWG 5 CNDR	CABLE 14 14 AWG 5 CNDR	CABLE 15 14 AWG 5 CNDR	CABLE 16 14 AWG 5 CNDR	CABLE 17 14 AWG 5 CNDR
		FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-1/T-2 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-2/T-3 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-3/T-4 TO CABINET	FROM SPAN T-6/T-7 TO CABINET	FROM SPAN T-6/T-7 TO CABINET	FROM SPAN T-7/T-8 TO CABINET	FROM SPAN T-7/T-8 TO CABINET	FROM SPAN T-7/T-8 TO CABINET	FROM SPAN T-5/T-8 TO CABINET	FROM SPAN T-5/T-8 TO CABINET	FROM SPAN T-5/T-6 TO CABINET	FROM SPAN T-5/T-6 TO CABINET	FROM SPAN T-5/T-6 TO CABINET
1	BLACK	SH 1 <- Y Ø1	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SH 10 <- Y Ø5	SPARE	SPARE	SPARE	SPARE	SH15 <-YØ9	SPARE	SPARE
2	WHITE	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM	SH COM
3	RED	SH 1 <- R Ø1	SH 2 R Ø6	SH 3 R Ø6	SH 4 R Ø8	SH 5 R Ø8	SH 6 R Ø2	SH 7 R Ø2	SH 8 R Ø8	SH 9 R Ø8	SH 10 <- R Ø5	SH 11 R Ø2	SH 12 R Ø2	SH 13 R Ø4	SH 14 R Ø4	'SH15 <-RØ9	SH 16 R Ø6	SH 17 R Ø6
4	GREEN	SPARE	SH 2 G Ø6	SH 3 G Ø6	SH 4 G Ø8	SH 5 G Ø8	SH 6 G Ø2	SH 7 G Ø2	SH 8 G Ø8	SH 9 G Ø8	SPARE	SH 11 G Ø2	SH 12 G Ø2	SH 13 G Ø4	SH 14 G Ø4	SPARE	SH 16 G Ø6	SH 17 G Ø6
5	ORANGE	SPARE	SH 2 Y Ø6	SH 3 Y Ø6	SH 4 Y Ø8	SH 5 Y Ø8	SH 6 Y Ø2	SH 7 Y Ø2	SH 8 Y Ø8	SH 9 Y Ø8	SPARE	SH 11 Y Ø2	SH 12 Y Ø2	SH 13 Y Ø4	SH 14 Y Ø4	SPARE	SH 16 Y Ø6	SH 17 Y Ø6
6	BLUE	SH 1 <- G Ø1									SH 10 <- G Ø5					SH 15 <- G Ø9		
7	WHITE/BLACK	SH 1 <- FY Ø1									SH 10 <- FY Ø5					SH15 <-FYØ9		

VEHICLE DETECTION INFORMATION			
VIVDS DETECTOR	STATUS	PHASES	LOCATION
V1	I	PH 1 PRESENCE	T-2 POLE
V2	I	PH 8 PRESENCE	T-3 POLE
V3	I	PH 2 PRESENCE	T-4 POLE
V4	I	PH 4 PRESENCE	T-5 POLE
V5	I	PH 9 & 6 PRESENCE	T-6 POLE
V6	I	PH 8 PRESENCE	T-7 POLE
V7	I	PH 5 PRESENCE	T-8 POLE

I=INSTALL; E=EXISTING



H3



H4FLT

SIGNAL HEADS														
SIGNAL HEAD #	12 INCH	BACKPLATE (EACH)			VEH SIG SEC (12 IN) (EA)									PED SIG
		3 SEC	4 SEC	5 SEC	<-R	R	R->	<-Y	Y	Y->	<-G	G	G->	
1,13,15	H4FLT	-	3	-	3	-	-	6	-	-	3	-	-	-
2,3,4,5,6,7,8,9,11,12,13,14,16,17	H3	14	-	-	-	14	-	-	14	-	-	14	-	-
TOTAL		14	3	0	3	14	0	6	14	0	3	14	0	0

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TEMP DESIGN CHARTS (2 OF 4)

MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 192

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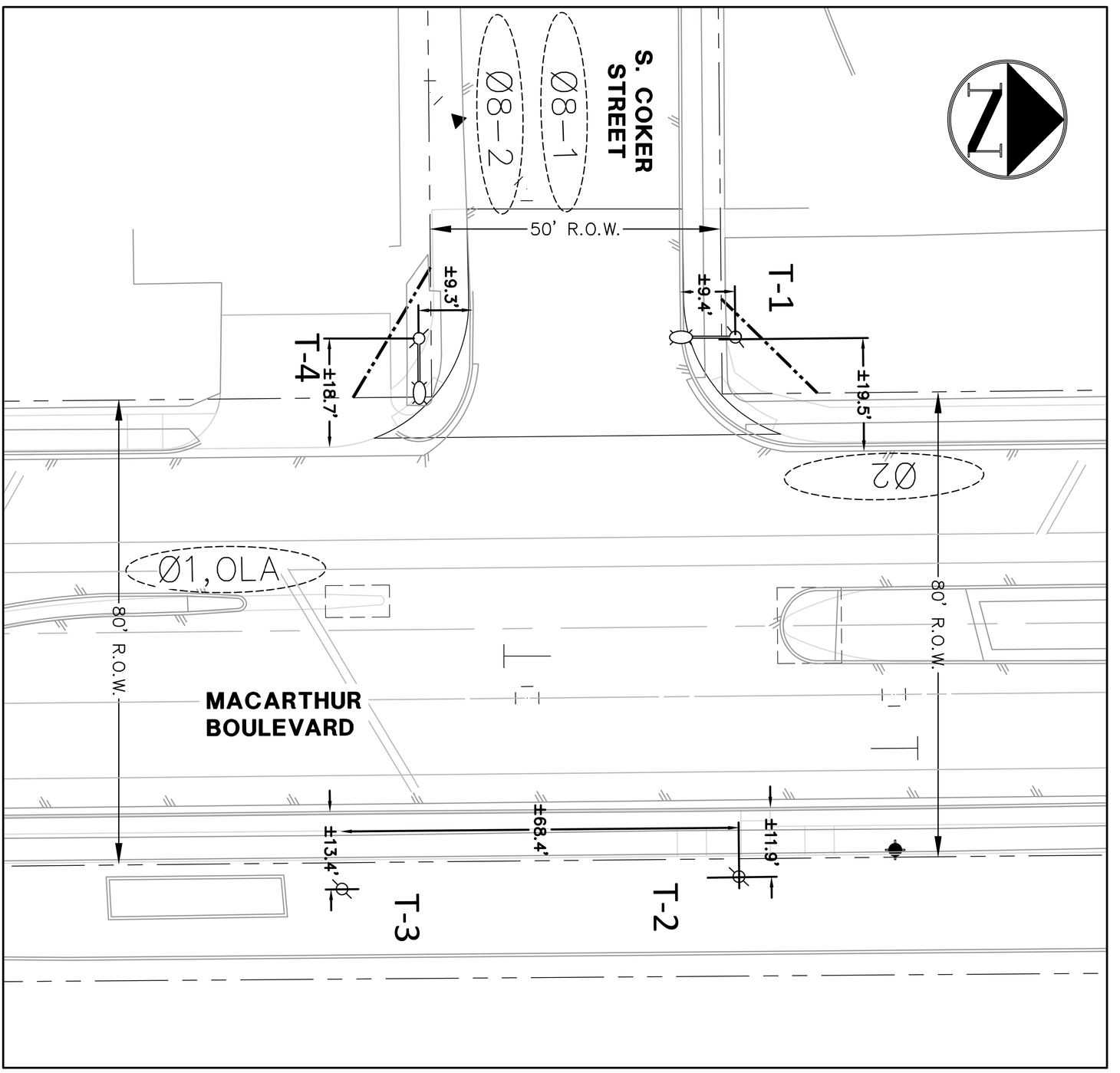

SHEET 193

TEMP DESIGN CHARTS (3 OF 4)

MACARTHUR BOULEVARD AT SOUTH COKER AND MURL DRIVE STREET IMPROVEMENTS PROJECT

CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS
CARL B. LAFERNEY
108697
LICENSED
PROFESSIONAL
ENGINEER
IRVING

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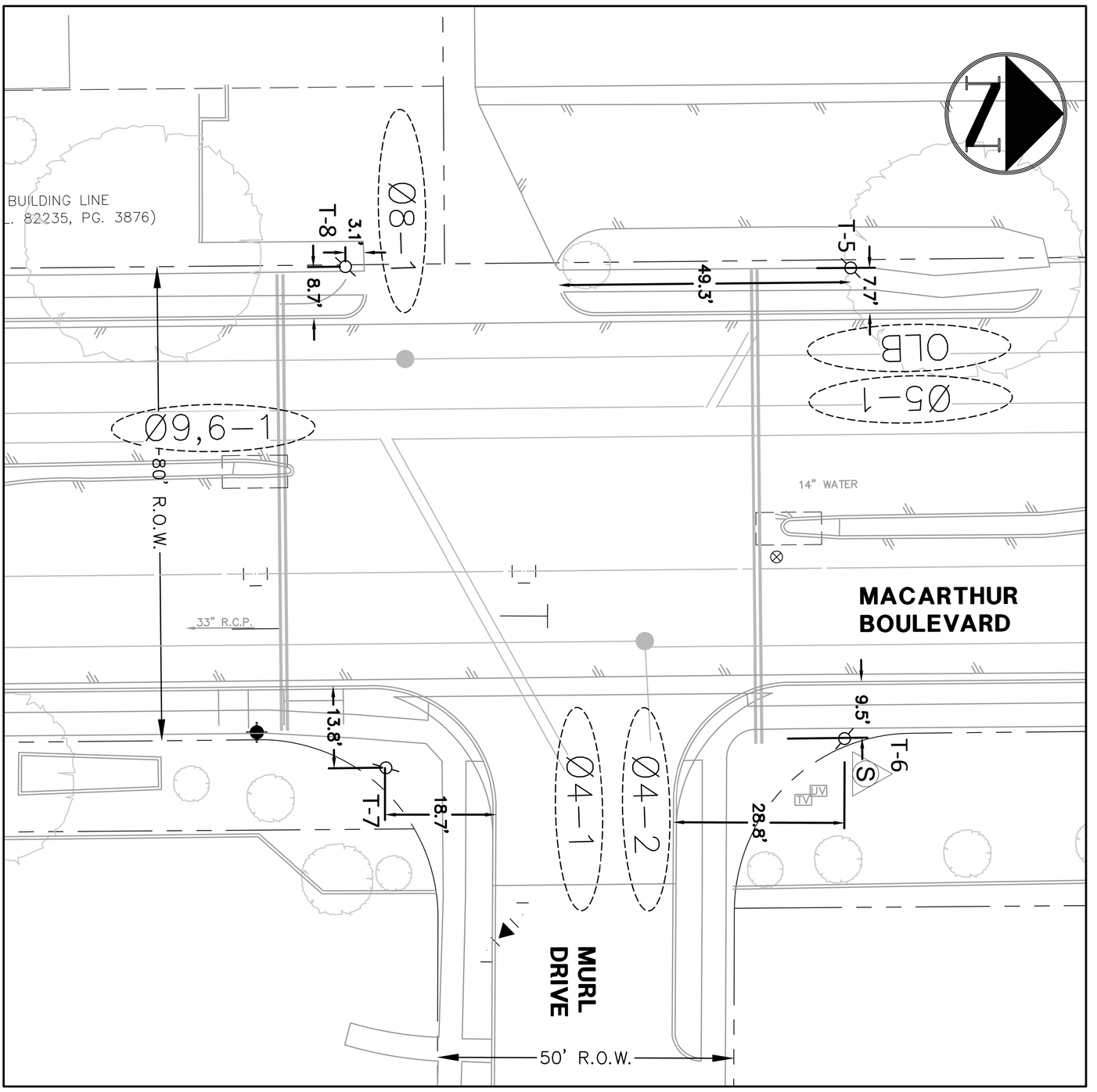

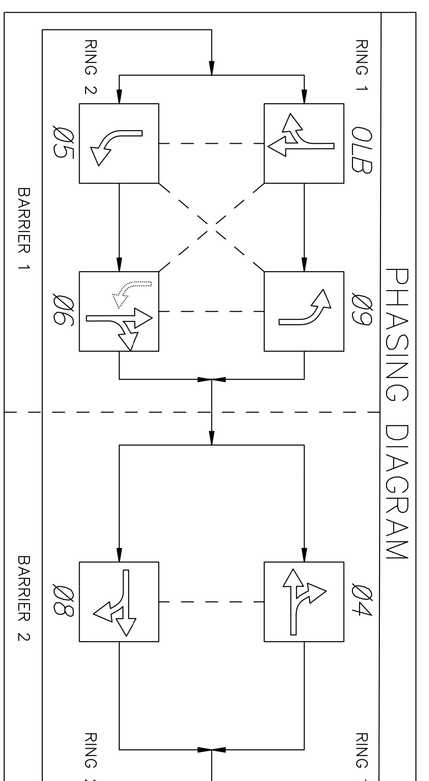

NOTE: CONTRACTOR RESPONSIBLE FOR SIGNAL PHASING DURING CONSTRUCTION.

SHEET 194

TEMP DESIGN CHARTS (4 OF 4)

MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS
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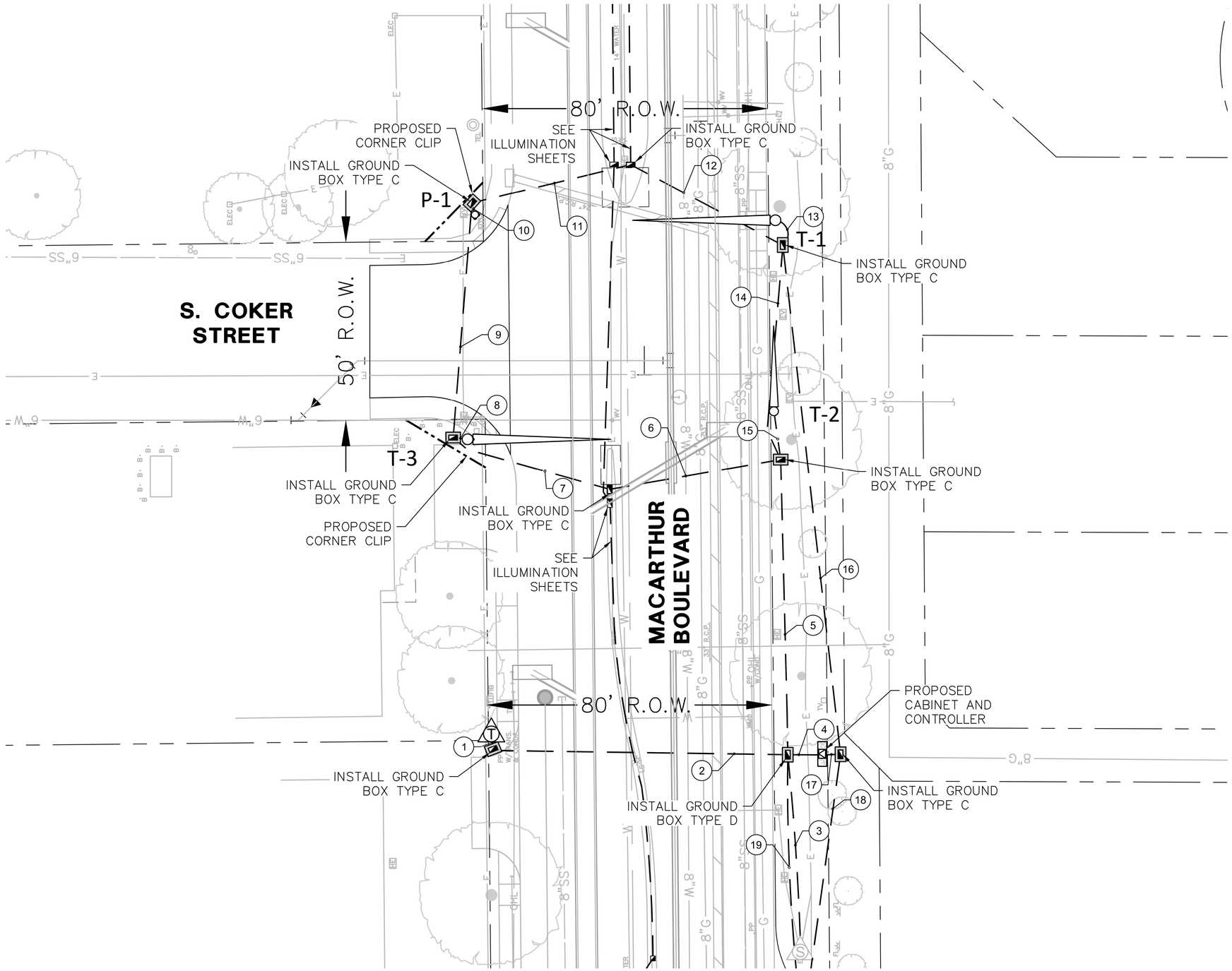

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

- TRAFFIC SIGNAL POLE
- PEDESTRIAN POLE WITH PUSHBUTTON
- GROUNDBOX WITH/WITHOUT APRON
- ILLUMINATION GROUNDBOX
- CABINET
- LUMINAIRE
- GROUND MOUNT SIGN
- MAST ARM SIGNS
- ELECTRICAL METER SYMBOLS
- CONDUIT RUN
- FENCELINES
- OVERHEAD ELECTRIC
- WATERLINE
- SANITARY SEWER
- STORM DRAIN
- ROW LINE
- STRUCTURAL POLE
- TRANSFORMER

BLACK - PROPOSED SIGNAL
GREY - REFERENCE INFORMATION

(#) — PROPOSED CONDUIT RUN

GENERAL NOTE:

- P-1 IS A PEDESTAL POLE WITH PED HEADS AND PUSH BUTTONS.
- P-2, P-3 ARE PED POLES WITH SIGNAL HEADS ON THEM. NO PEDESTRIAN EQUIPMENT ARE ON THESE POLES.
- THE POLE SHAFT OF POLE T-2 WILL BE EXTENDED TO ACCOMMODATE COMMUNICATIONS EQUIPMENT.
- THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.
- CONTRACTOR TO GIVE ADVANCED NOTICE TO CITY (MINIMUM 5 BUSINESS DAYS) PRIOR TO CONSTRUCTION. CITY WILL COLLECT ALL EXISTING DETECTION FROM INTERSECTION AND FURNISH/REFURBISH NEW DETECTION TO BE USED FOR TEMPORARY AND PERMANENT SIGNAL DESIGNS.
- THE CONTRACTOR WILL PICK UP DETECTION EQUIPMENT FROM THE CITY'S BRIERY YARD LOCATED AT 128 N BRIERY ROAD, BUILDING #104 IRVING, TX 75060. CONTACT EUGENE HOLLIS (C: 972-887-4060) TO ARRANGE PICK-UP OF MATERIALS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.
- CONTRACTOR SHALL SALVAGE EXISTING EMERGENCY VEHICLE PREEMPTION DEVICES AND RE-USE FOR TEMPORARY DESIGNS. CONTRACTOR SHALL RETURN EQUIPMENT TO CITY ONCE THE CONTRACTOR COMPLETES ALL PERMANENT DESIGN CONSTRUCTION.

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PROPOSED SIGNAL LAYOUT
MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 195

LFOX
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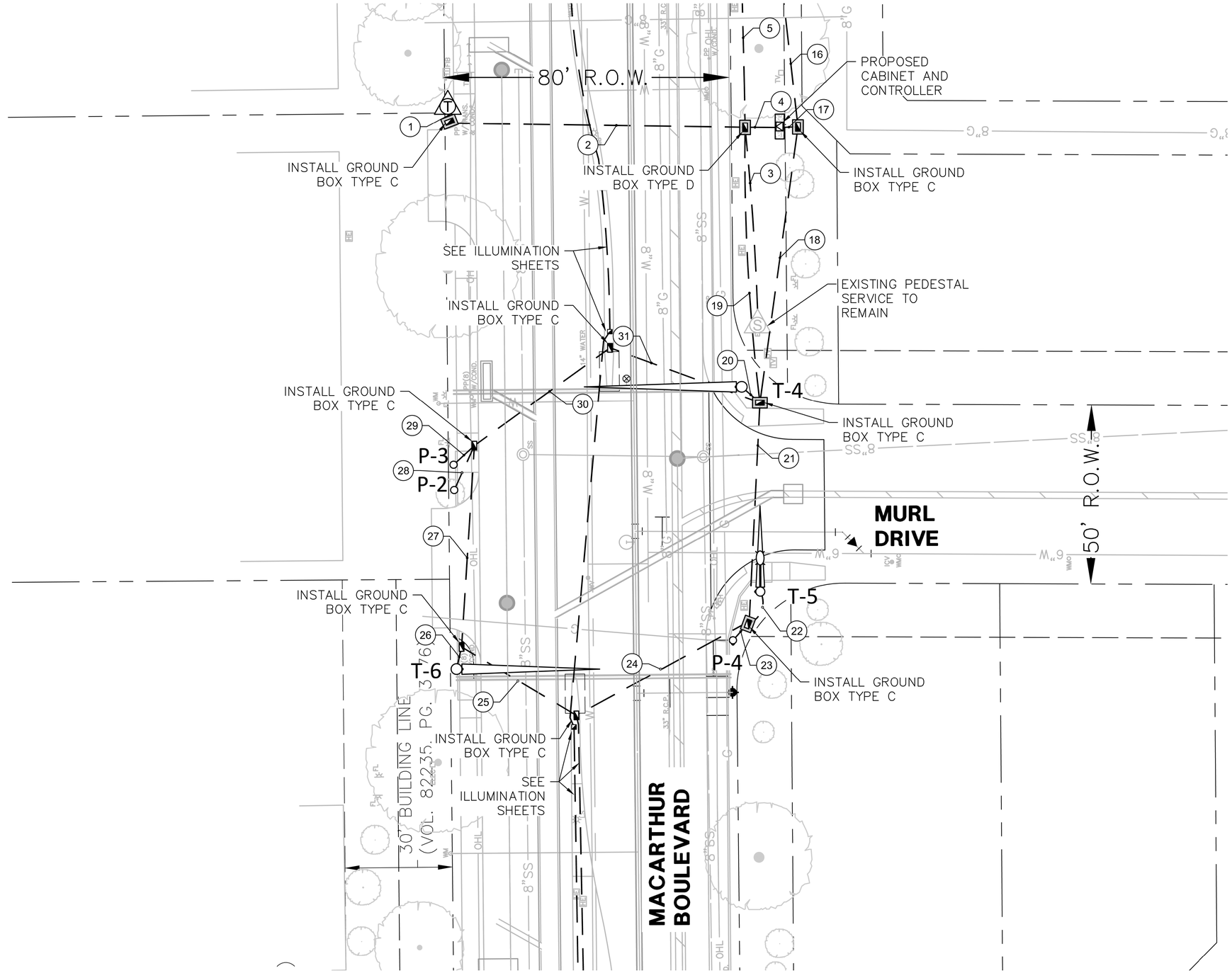

0 10 20 40 60
HORIZONTAL SCALE IN FEET

LEGEND

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XXXXXXXX		XX/XXXX	

SCALE: SEE GRAPHICS
DATE: OCTOBER 2020
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DRAWN BY: CLF/BAH
REVIEWED BY: CBL
SURVEYED BY: PACHECO KOCH

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PROPOSED SIGNAL LAYOUT

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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 196

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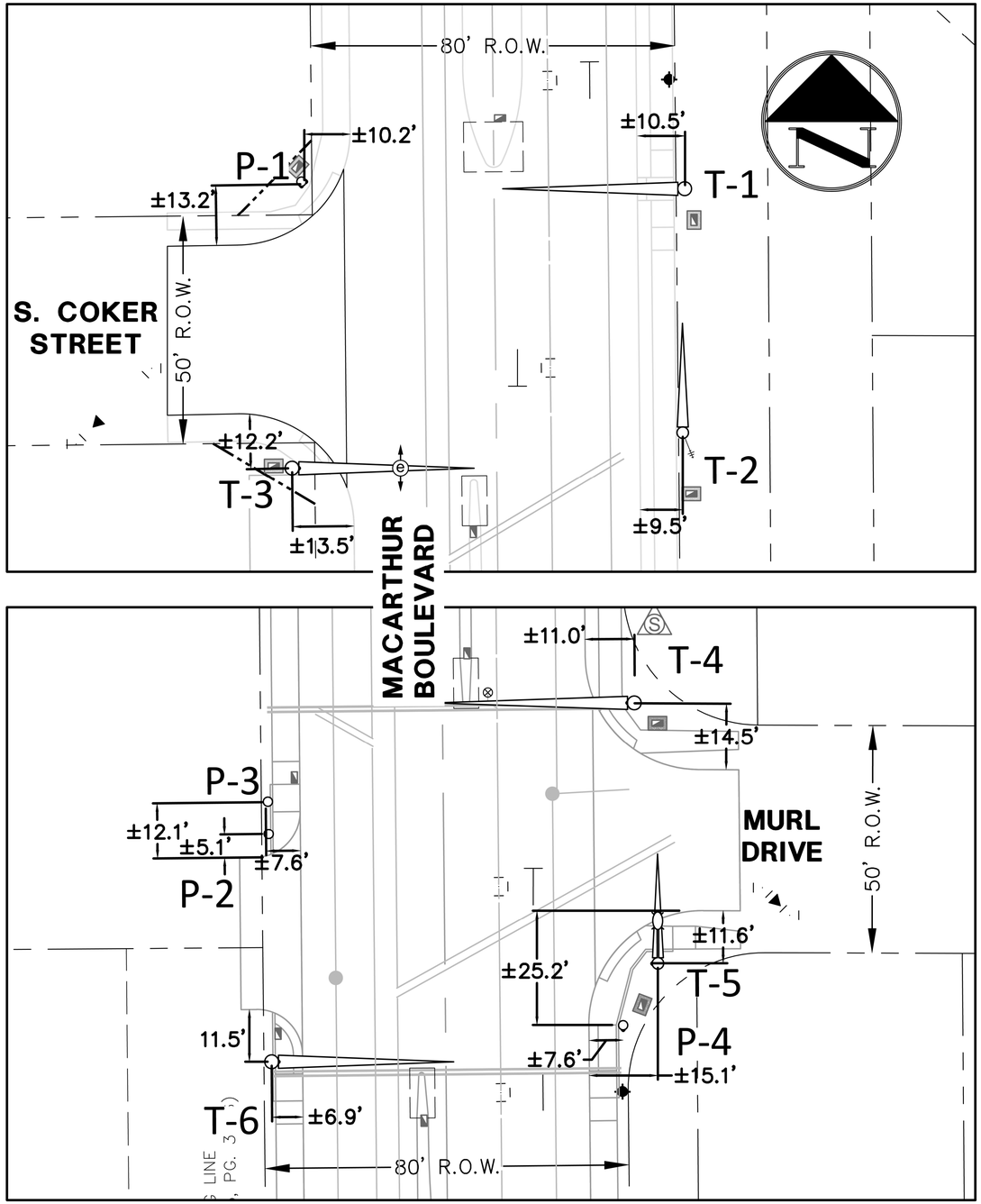

CONDUIT AND CONDUCTOR SCHEDULE						
CONDUIT RUN	2" PVC TRENCH	3" PVC TRENCH	4" PVC TRENCH	2" PVC TRENCH (INTERCONNECT)	STATUS*	LENGTH OF RUN (FT)
1	1				I	10
2	1				I	85
3		1			I	60
4	1		2		I	10
5			2		I	85
6			1		I	50
7			1		I	50
8		1			I	5
9			1		I	70
10	1				I	5
11			1		I	50
12			1	1	I	50
13		1			I	10
14			1		I	65
15		1			I	15
16				1	I	145
17				1	I	5
18				1	I	80
19			1		I	80
20		1			I	10
21			1	1	I	65
22		1			I	15
23	1				I	10
24			1	1	I	55
25			1		I	40
26		1			I	10
27			1		I	60
28	1				I	15
29	1				I	10
30			1		I	50
31			1		I	45
TOTAL	145	125	920	400		

*INSTALL

GROUND BOX SCHEDULE	
TYPE	QTY
GROUND BOX TY C	5
GROUND BOX TY C	9
GROUND BOX TY D WITH APRON	1

FOUNDATION NUMBER	T-1	T-2	T-3	T-4	T-5	T-6	P-1	P-2	P-3	P-4
FUTURE MAST ARM LENGTH	40	24	40	44	24	40	N/A	N/A	N/A	N/A
FOUNDATION TYPE	36-A	36-A	36-A	36-A	36-A	36-A	24-A	24-A	24-A	24-A
LUMINAIRES (YES/NO)	NO	NO	NO	NO	YES	NO	N/A	N/A	N/A	N/A

NOTE: CITY OF IRVING REQUIRES 36-A FOUNDATION ON POLES WITH MAST ARMS LESS THAN 36 FEET.

REVISIONS:

REV	DATE	BY	
			XXXXXXXX
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825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

DESIGN CHARTS
MACARTHUR BOULEVARD
AT SOUTH COKER AND MURL DRIVE
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 197

LFOX
05/10/2022 - 4:36PM
M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER S AND MURL\PLAN SHEETS\SIGNAL DESIGN - COKER S AND MURL.DWG

M:\DWG-42\4242-19.098\DWG\TRAFFIC C3D 2018\MACARTHUR AT COKER S AND MURL\PLAN SHEETS\SIGNAL DESIGN - COKER S AND MURL.DWG

0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

LS LIGHT STANDARD FOUNDATION

P POWER POLE

NOTE:
THE LOCATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE, VERIFY, AND COORDINATE THE RELOCATION OF THE ON-SITE UTILITIES THAT MAY CONFLICT WITH CONSTRUCTION.

REV	DATE	BY	REVISIONS:
			XXXXXXXX
			XX/XXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

ILLUMINATION PLAN
STA ##### TO STA #####
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 198

LFOX
05/10/2022 - 4:38PM
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0 25 50 100 150
HORIZONTAL SCALE IN FEET

LEGEND

LS LIGHT STANDARD FOUNDATION

P POWER POLE

NOTE:
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REV	DATE	BY	REVISIONS:
			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NELL
83980
REGISTERED
PROFESSIONAL
ENGINEER

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ILLUMINATION PLAN
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MACARTHUR BOULEVARD
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STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 199

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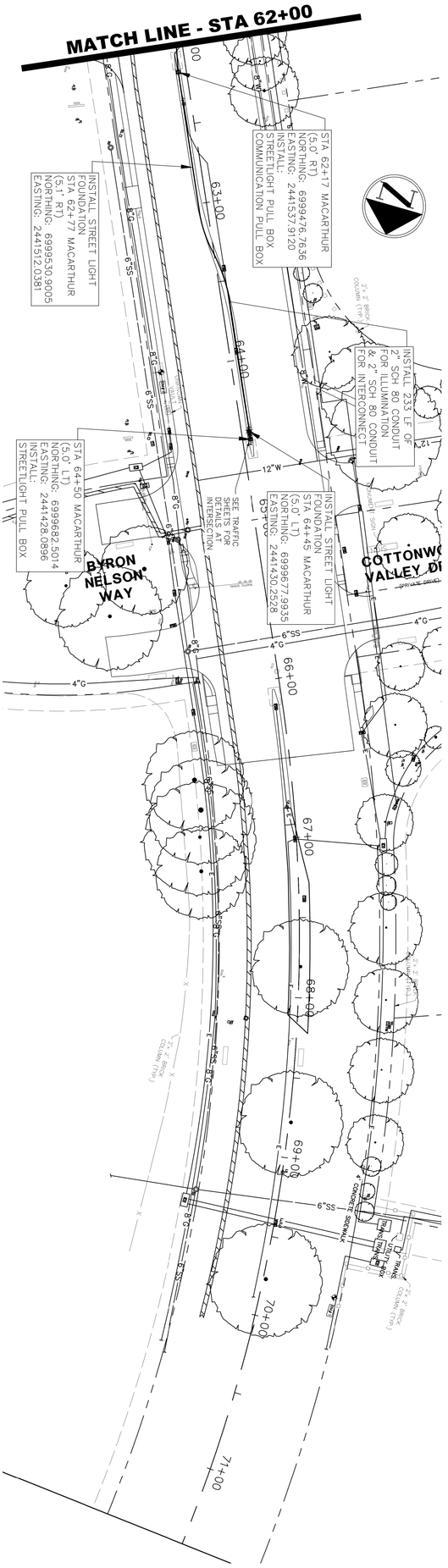

LEGEND

LS LIGHT STANDARD

LIGHT STANDARD FOUNDATION

POWER POLE

HORIZONTAL SCALE IN FEET
0 25 50 100 150

NOTE:
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SHEET 200

ILLUMINATION PLAN
STA ##### TO STA #####
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS
BRIAN D. O'NEIL
83980
LICENSED PROFESSIONAL ENGINEER

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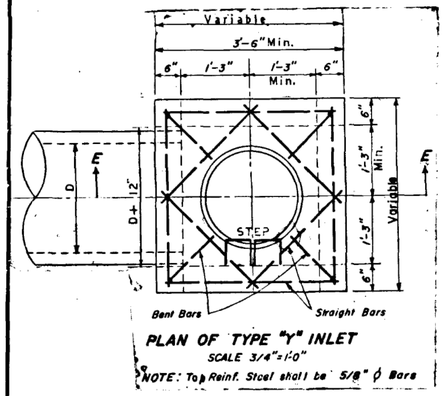
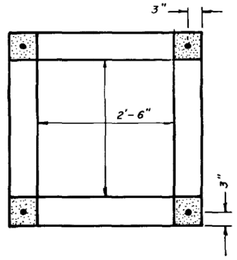
REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

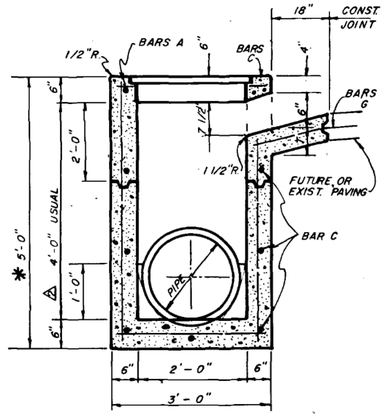


PLAN OF TYPE "Y" INLET
SCALE 3/4"=1'-0"

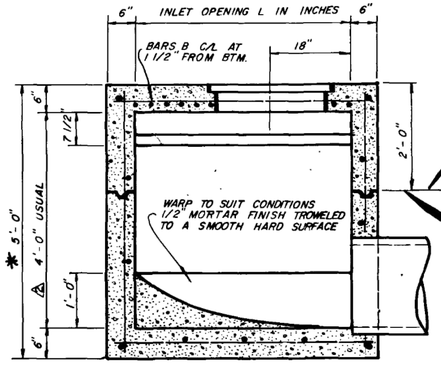
NOTE: Top Reinf. Steel shall be 5/8" ϕ Bars



SECTION F F
SCALE: 3/4"=1'-0"



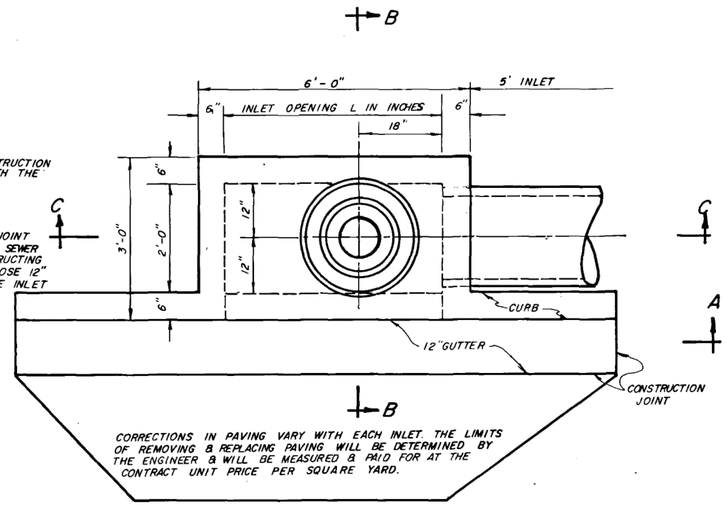
SECTION B-B



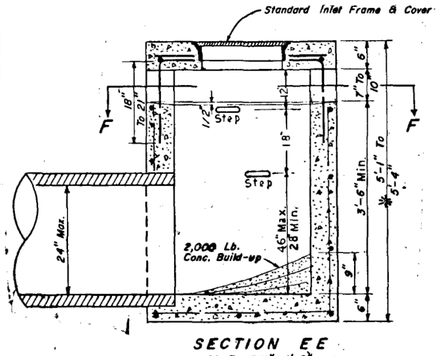
SECTION C-C

PORTION ABOVE CONSTRUCTION JOINT TO BE LET WITH THE PAVING CONTRACT

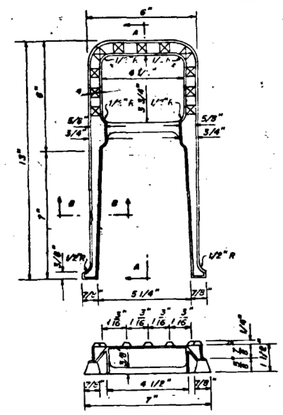
PORTION BELOW CONST. JOINT TO BE LET WITH STORM SEWER CONTRACT. WHEN CONSTRUCTING BOTTOM HALF ONLY, EXPOSE 12" STEEL (MIN.) FOR FUTURE INLET TOP TIE INS.

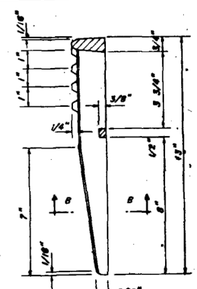


PLAN

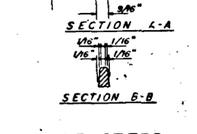


SECTION E E
SCALE: 3/4"=1'-0"



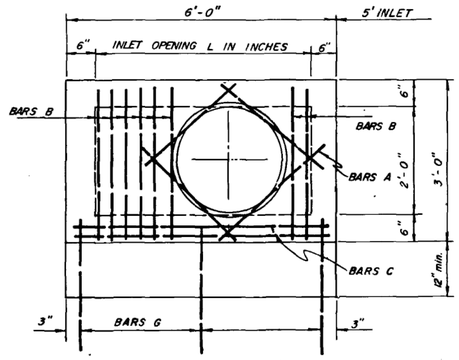


SECTION L-A

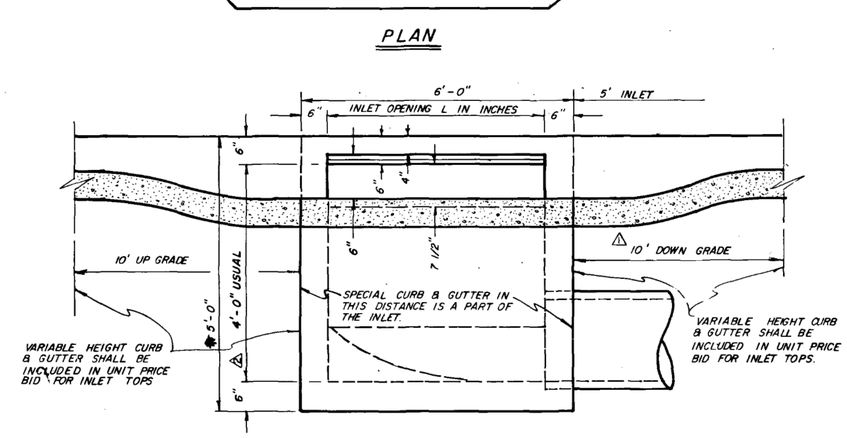


SECTION B-B

STANDARD CAST IRON MANHOLE STEPS



REINFORCING PLAN



SECTION A-A

5 FOOT MANHOLES

2'-6" 5' INLETS 4 NO. 5

BAR A

2'-9" 5' INLET 8 NO. 5

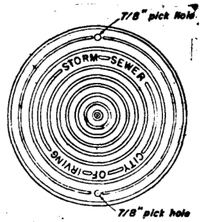
BAR B

6" 6" 5'-9" 5' INLET 2 NO. 5

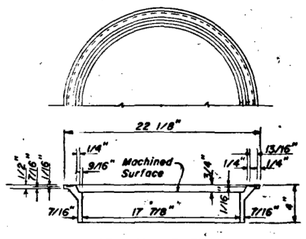
BAR C

3'-0" VARIABLE LENGTH	5' INLET 3 NO. 3 " Y " INLETS

BAR G

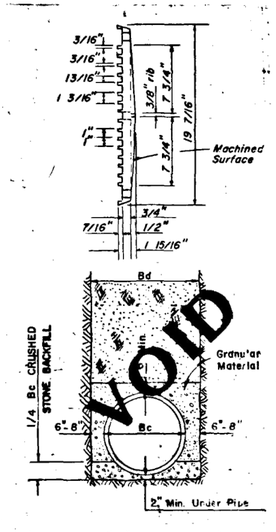


PLAN OF COVER
SCALE 1 1/2" = 1'-0"

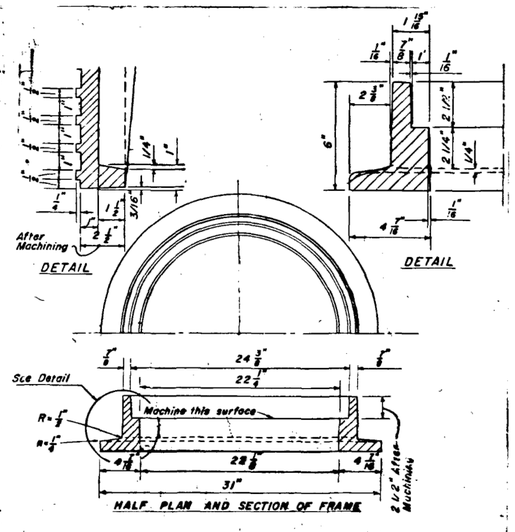


SECTION OF FRAME

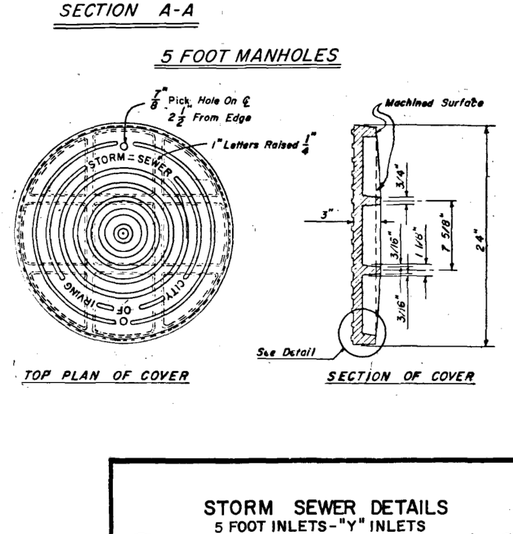
INLET FRAME AND COVER
SCALE 1 1/2" = 1'-0"



CLASS "B" BEDDING
Shovel placed and shovel tamped to fill completely all spaces under and adjacent to the conduit.



STANDARD C.I. MANHOLE FRAME & COVER
As Manufactured by DALLAS FOUNDRY NO. 700-B, or approved equal
Wgt. 400 pounds



TOP PLAN OF COVER

SECTION OF COVER

GENERAL NOTE FOR INLETS

1. Concrete Shall Have A Minimum Strength Of 3,000 P.S.I. At 28 Days.
2. Lateral Pipe May Enter Inlet At Any Location.
3. Reinforcement, Structural Steel And Castings Shall Conform To T.H.D. Specifications.
4. In the Event a Construction Joint has not been Provided or Block-outs for Inlets-Use a Special Under Cut Header under Pavement Slab.
5. Reinforcing Steel shall be a Min. of 1" clear from outside edge of walls or Conc.
6. Reinforcing steel in walls and bottom shall be one mat of #4 bars spaced not more than 18" c-c both ways.
7. The Gutter in Front of the Inlet is a part of the inlet & shall be Built with the Inlet. Use Reinf. in Gutter where it is Built in Connection with exist. or Proposed Concrete Base or Concrete Paving otherwise Reinf. in Gutter may be omitted.
8. Top of Inlet shall have a 1/4" Mortar Topping with a Float Finish, Face of Inlet & Top of Gutter shall have a 1/2" Mortar Surface with a Trowel Finish Conforming to the requirements for Special Concrete Curb and Gutter.
9. * Vertical Bars will Vary in Length in Both "Y" & Standard Inlet. If Required Inlet Has Greater Depth Than Indicated Max., Plans Must Be Approved by Engineer.

STORM SEWER DETAILS
5 FOOT INLETS-"Y" INLETS

CITY OF IRVING — Department of Public Works

DESIGN	DRAWN	CHECK	DATE	SCALE	SHEET NO.
CITY OF IRVING	L.R.S.		APRIL '81	AS NOTED	201

⚠ INLET DEPTH NOTE 1-28-94
⚠ REV. FROM 5' TO 10' 12/5/85

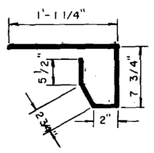
D-1A

GENERAL NOTES FOR INLETS

1. Concrete Shall Have A Minimum Strength Of 3,000 P.S.I. At 28 Days.
2. Lateral Pipe May Enter Inlet At Any Location.
3. Reinforcement, Structural Steel And Castings Shall Conform To THD Specifications.
4. In the Event a Construction Joint has not been Provided or, Block-outs for Inlets- Use a Special Under Cut Header under Pavement Slab.
5. Reinforcing Steel shall be a Min. of 1 1/4" from outside edges of walls of Conc.
6. Reinforcing steel in walls and bottom shall be one mat of # 4 bars spaced not more than 18" c-c both ways.
7. The Gutter in Front of the Inlet is a part of the Inlet & shall be Built with the Inlet. Use Reinf. in Gutter where it is Built in Connection with exist. or Proposed Concrete Base or Concrete Paving, otherwise Reinf. in Gutter may be omitted.
8. Top of Inlet shall have a 1/4" Mortar Topping with a Float Finish; Face of Inlet & Top of Gutt. shall have a 1/2" Mortar Surface with a Trowel Finish Conforming to the requirements for Special Concrete Curb and Gutter.
9. * Vertical Bars will vary in Length with Both "Y" & Standard Inlets. If Inlet is to have Greater Depth Than Maximum Indicated, Plans Must Be Approved By Engineer.

4'-3"	6' INLET 2 NO. 3
6'-3"	8' INLET 2 NO. 3
8'-3"	10' INLET 2 NO. 3

BAR J



6' INLET	3 NO. 3
8' INLET	4 NO. 3
10' INLET	6 NO. 3

BAR H

3'-0"	6', 8', 10' INLETS 5 NO. 3

BAR G

3'-6"	6', 8', 10' INLETS 1 NO. 4

BAR F

3'-0"	6' INLET 10 NO. 3
3'-0"	8' INLET 13 NO. 3
3'-0"	10' INLET 16 NO. 3

BAR A

6'-8"	6' INLET 1 NO. 3
8'-8"	8' INLET 1 NO. 3
10'-8"	10' INLET 1 NO. 3

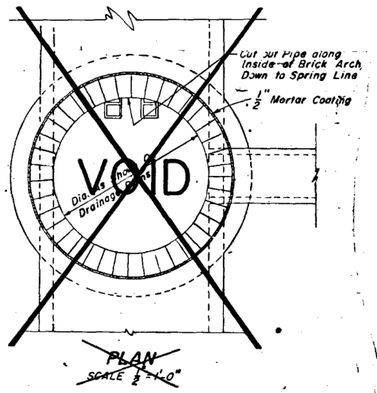
BAR B

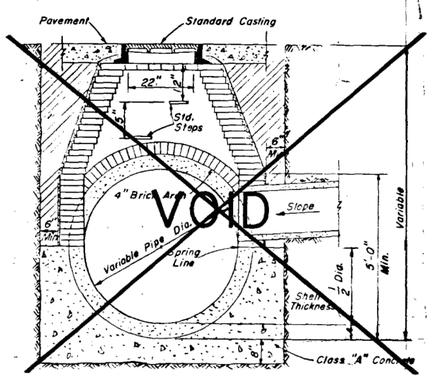
6'-8"	6' INLET 15 NO. 4
8'-8"	8' INLET 15 NO. 4
10'-8"	10' INLET 15 NO. 4

BAR C

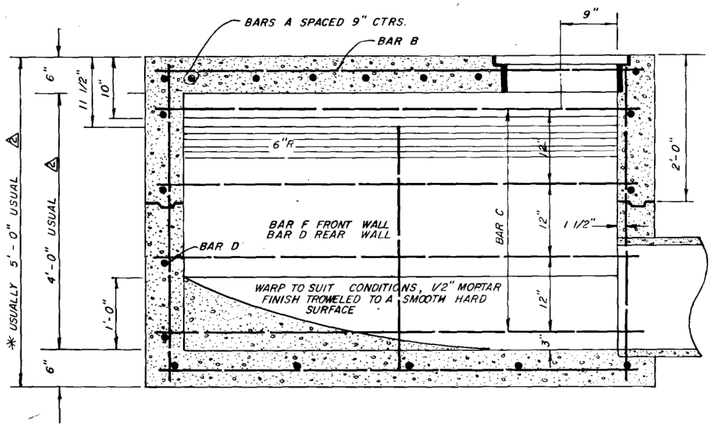
4'-8"	6', 8', 10' INLETS 5 NO. 4

BAR D

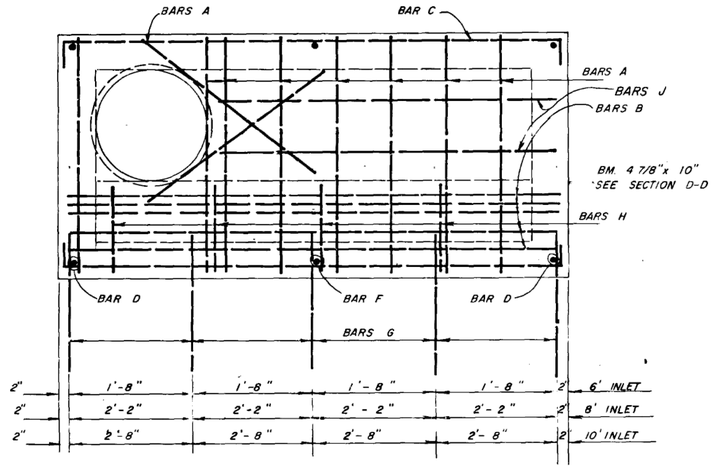




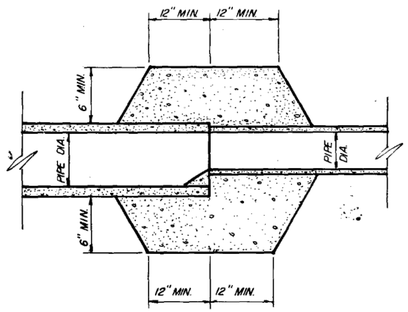
ELEVATION
TYPICAL STORM SEWER MANHOLE
SCALE 1/2"=1'-0"



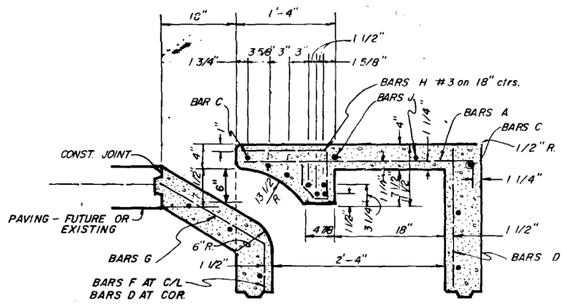
SECTION B-B



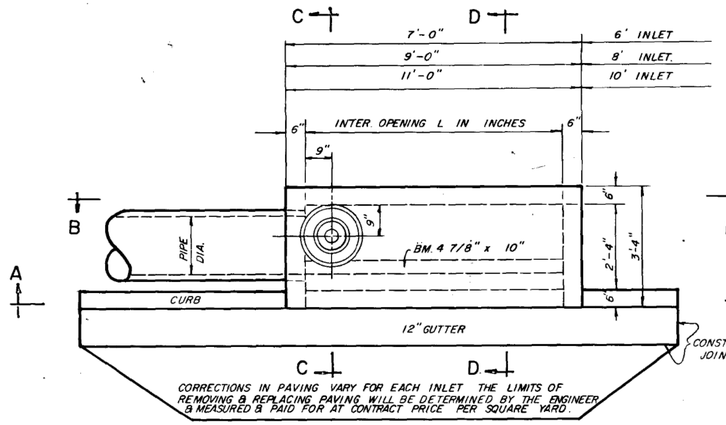
REINFORCING PLAN



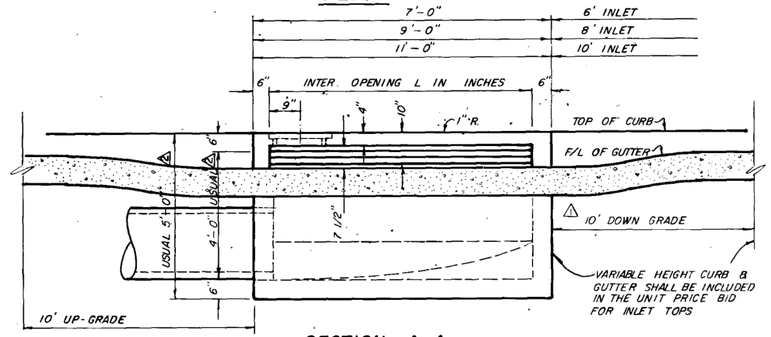
DETAIL OF 2000 LB. CONCRETE COLLAR FOR PIPE CONNECTION



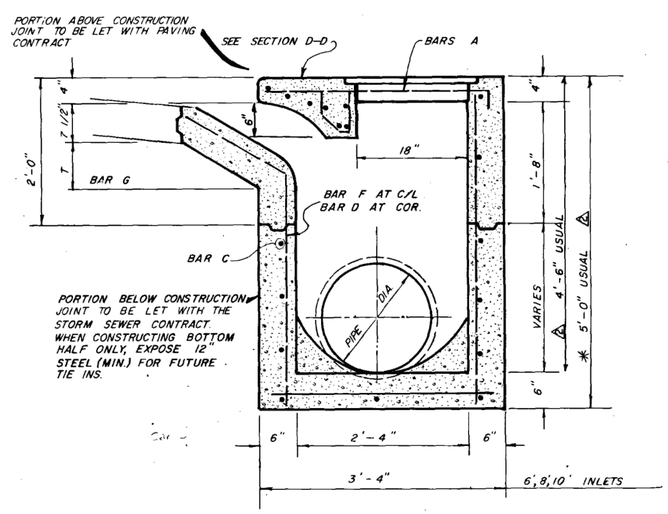
SECTION D-D



PLAN



SECTION A-A



SECTION C-C

6, 8, 10 FOOT INLETS

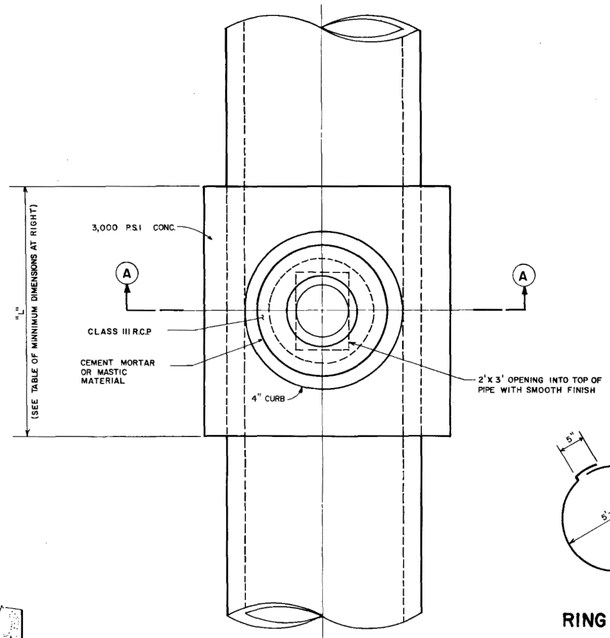
STORM SEWER DETAILS
6, 8, & 10 FOOT INLETS - MANHOLES

CITY OF IRVING — Department of Public Works — CITY OF IRVING

DESIGN	DRAWN	CHECK	DATE	SCALE	SHEET NO.
CITY of IRVING	L.R.S.			AS NOTED	202

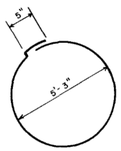
⚠ INLET DEPTH NOTE 1-28-94
⚠ REV. FROM 5' TO 10' 12/5/85

D-18

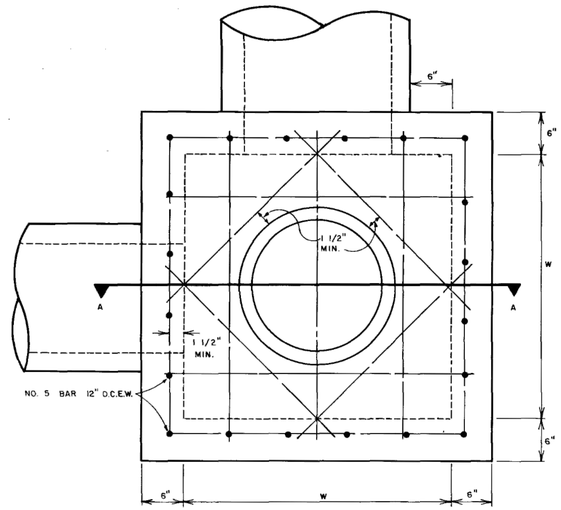


PLAN VIEW

TABLE OF MINIMUM DIMENSIONS			
LARGEST PIPE SIZE	"L"	"W"	"D"
36"	6'-1"	6'-1"	5'-0"
39"	6'-1"	6'-1"	5'-4"
42"	6'-1"	6'-1"	5'-7"
45"	6'-1"	6'-1"	5'-11"
48"	6'-1"	6'-1"	6'-2"
51"	6'-1"	6'-4"	6'-4"
54"	6'-1"	6'-11"	6'-11"
60"	6'-1"	7'-6"	7'-6"
66"	6'-1"	8'-1"	8'-1"
72"	6'-1"	8'-8"	8'-8"



RING BAR



PLAN

NOTES:

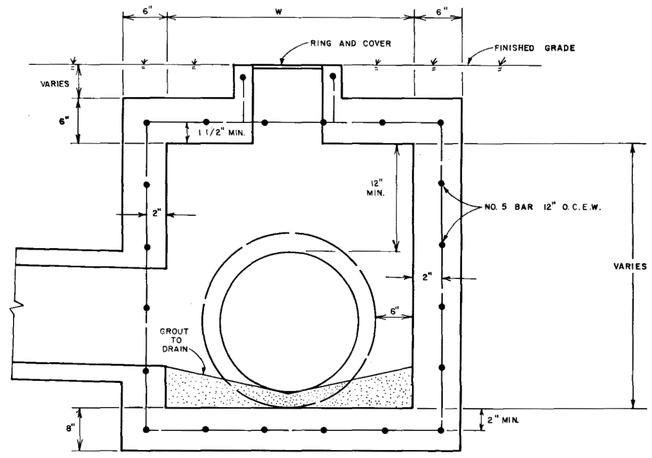
1. JUNCTION BOX FLOWLINE TO MATCH STORM SEWER FLOWLINE.
2. ALL STEEL TO BE GRADE 60, NO. 5 BAR 12" O.C.E.W. EACH FACE.
3. CONCRETE TO BE 3,000 P.S.I., (5 SACK) 28 DAYS
4. GROUT FLOOR TO DRAIN.
5. RING & COVER AND STEPS TO BE AS PER DETAILS ON SHEET 21.
6. RING & COVER FOR JB4 TO BE NEENAH FOUNDRY NO. R-1915-D OR APPROVED EQUIVALENT.
7. RISER TO BE MONOLITHIC WITH JUNCTION BOX.

CURB DETAIL

SECTION A-A
4' I.D. M.H.

(FOR MAINS OVER 36")

TYPICAL IN-LINE MANHOLE DETAIL



SECTION A-A

TYPICAL JUNCTION BOX

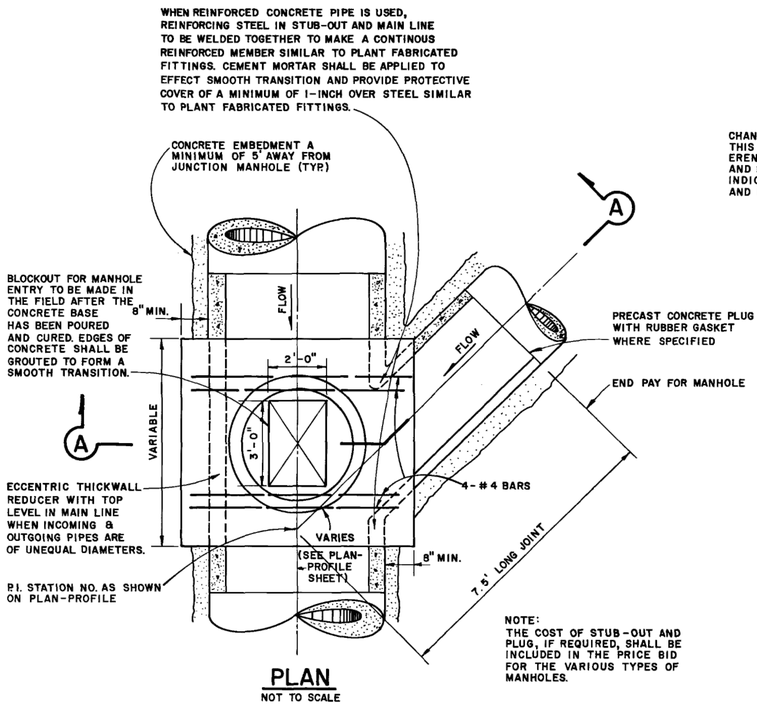
(FOR MAINS 36" & UNDER)

CITY STANDARD STORM SEWER MANHOLE AND JUNCTION BOX

City of Irving · Department of Public Works

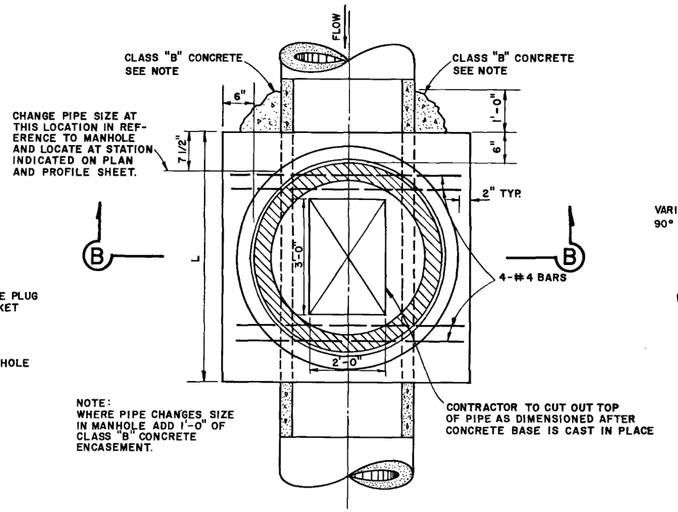
DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE:	SCALE:	SHEET NO.:
C.O.I.	G.P.B.		MAY 1985	N.T.S.	203

D-IC

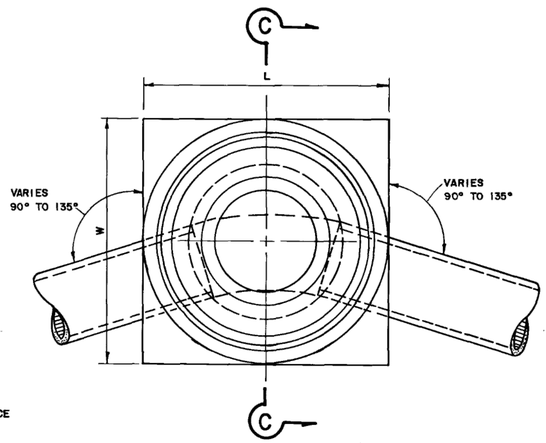


PLAN
NOT TO SCALE

NOTE:
THE COST OF STUB-OUT AND PLUG, IF REQUIRED, SHALL BE INCLUDED IN THE PRICE BID FOR THE VARIOUS TYPES OF MANHOLES.

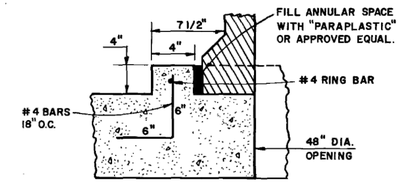


PLAN
NOT TO SCALE



PLAN
NOT TO SCALE

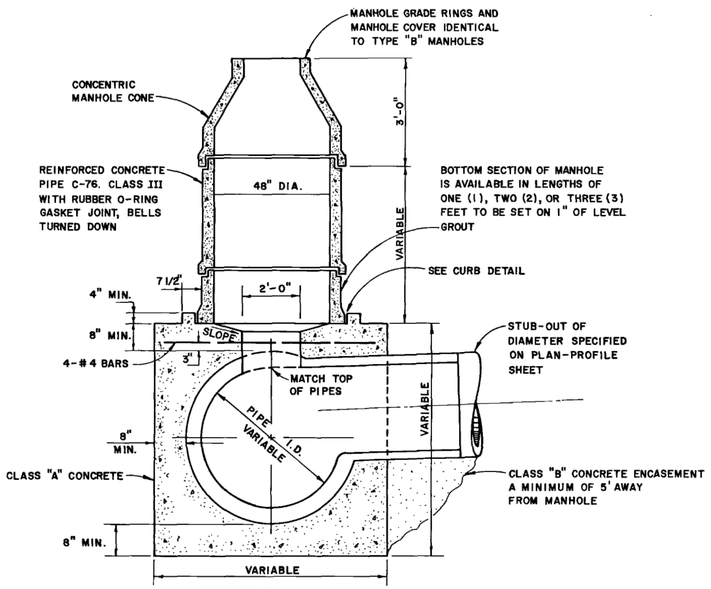
NOTE:
1. ALL CONCRETE SHALL BE CLASS "A" UNLESS OTHERWISE NOTED.



CURB DETAIL
NOT TO SCALE

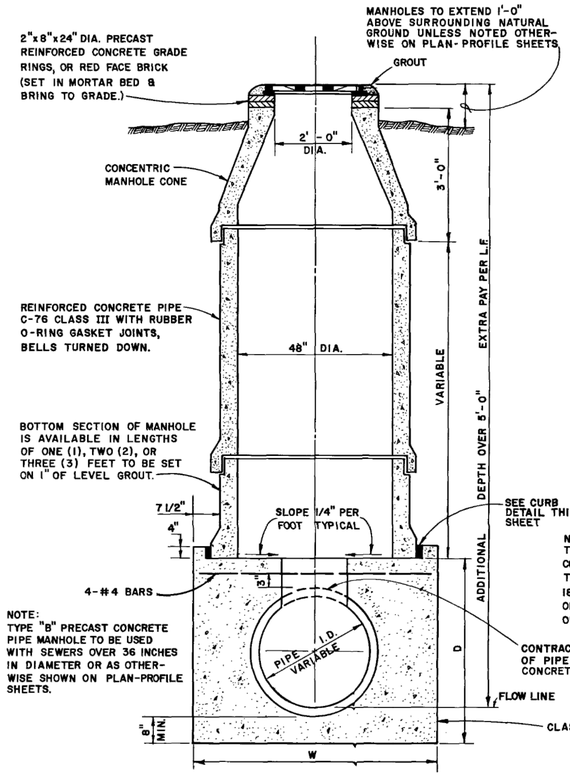


RING BAR DETAIL



SECTION A-A
NOT TO SCALE

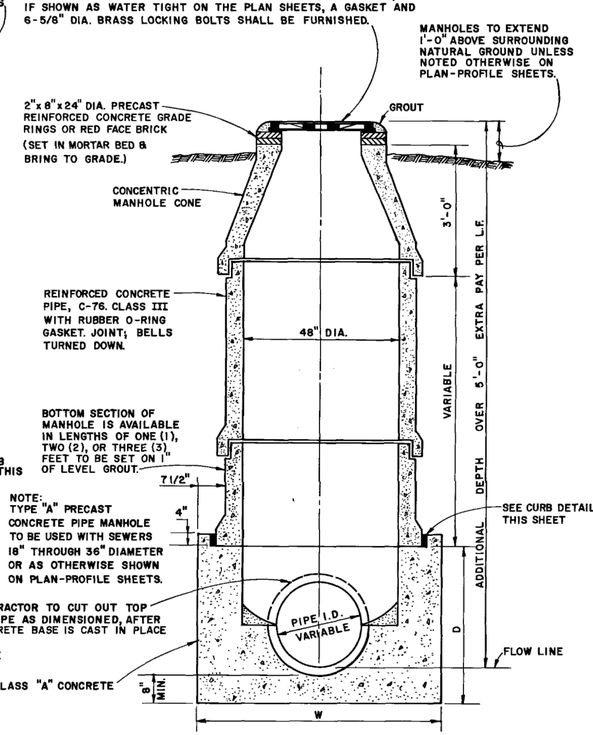
DETAIL OF TYPE "B" MANHOLE WITH STUB-OUT
(TYPE "A" MANHOLE WITH STUB-OUT SIMILAR)



SECTION B-B
NOT TO SCALE

PRECAST CONCRETE PIPE MANHOLE TYPE "B"

CAST IRON MANHOLE FRAMES AND COVERS SHALL BE: BASS & HAYS NO. 400-24, TRINITY VALLEY NO. 2672, OR EQUAL, WITH THE LETTERING "SANITARY SEWER" AND 2 PICK BARS (NOT HOLES); IF SHOWN AS WATER TIGHT ON THE PLAN SHEETS, A GASKET AND 6-5/8" DIA. BRASS LOCKING BOLTS SHALL BE FURNISHED.



SECTION C-C
NOT TO SCALE

PRECAST CONCRETE PIPE MANHOLE TYPE "A"

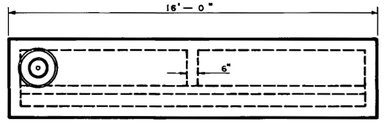
TABLE OF MINIMUM DIMENSIONS			
LARGEST PIPE SIZE	"L"	"W"	"D"
12"	6'-1"	6'-1"	2'-8"
15"	6'-1"	6'-1"	3'-0"
18"	6'-1"	6'-1"	3'-3"
21"	6'-1"	6'-1"	3'-7"
24"	6'-1"	6'-1"	3'-10"
27"	6'-1"	6'-1"	4'-2"
30"	6'-1"	6'-1"	4'-5"
33"	6'-1"	6'-1"	4'-9"
36"	6'-1"	6'-1"	5'-0"
39"	6'-1"	6'-1"	5'-4"
42"	6'-1"	6'-1"	5'-7"
45"	6'-1"	6'-1"	5'-11"
48"	6'-1"	6'-1"	6'-2"
51"	6'-1"	6'-4"	6'-4"
54"	6'-1"	6'-11"	6'-11"
60"	6'-1"	7'-6"	7'-6"
66"	6'-1"	8'-1"	8'-1"
72"	6'-1"	8'-8"	8'-8"

PRECAST CONCRETE PIPE MANHOLE DETAILS

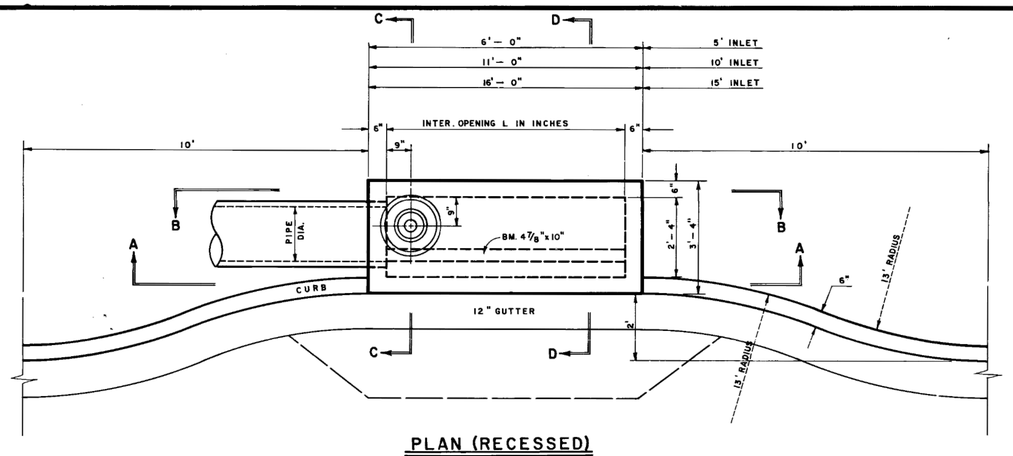
CITY OF IRVING - DEPT. OF PUBLIC WORKS

SHEET NO. 204

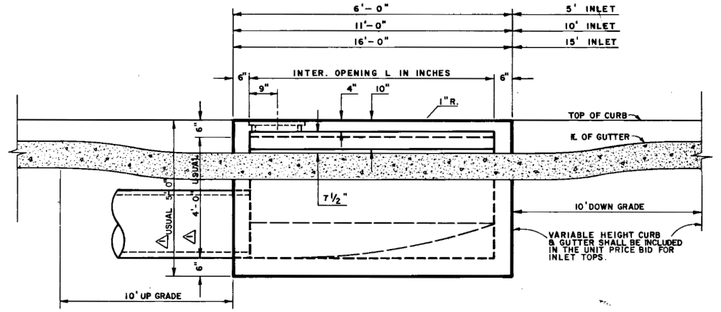
D-17



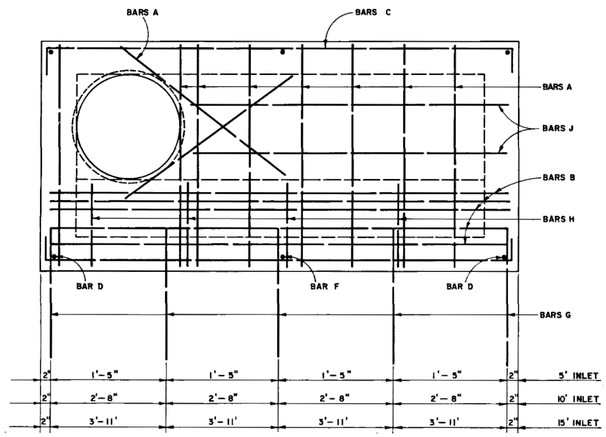
6" THICK BEAM IN
TOP HALF OF 15' INLET



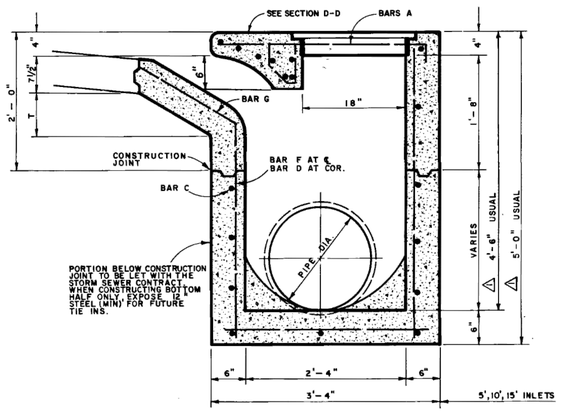
PLAN (RECESSED)



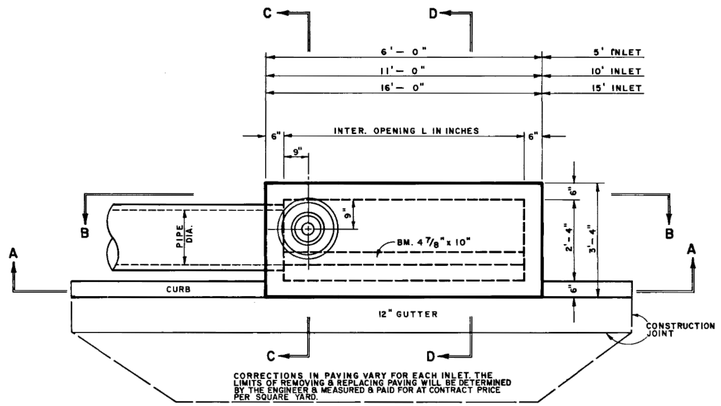
SECTION A-A



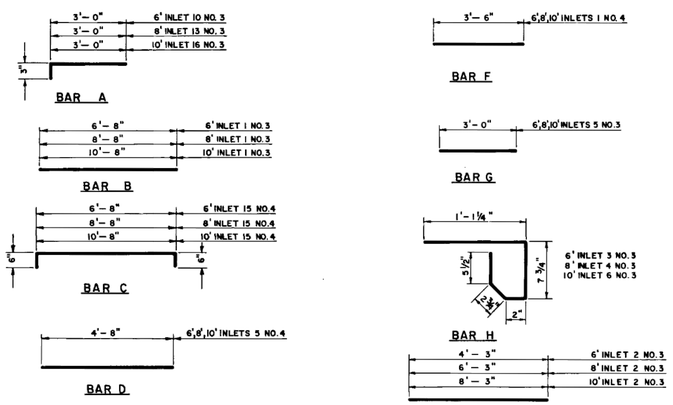
REINFORCING PLAN

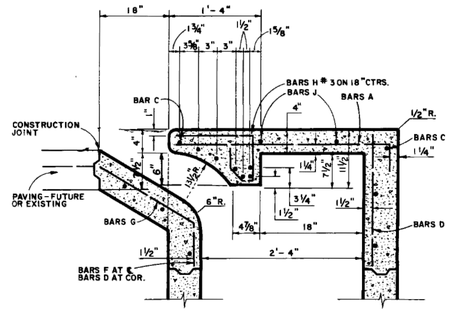


SECTION C-C

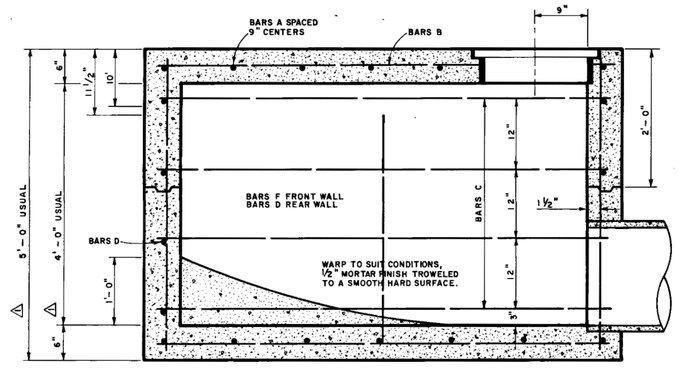


PLAN (STRAIGHT)





SECTION D-D



SECTION B-B

GENERAL NOTES

1. CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 3,000 P.S.I. AT 28 DAYS.
2. LATERAL PIPE MAY ENTER INLET AT ANY LOCATION.
3. REINFORCEMENT, STRUCTUAL STEEL AND CASTINGS SHALL CONFORM TO T.H.D. SPECIFICATIONS.
4. IN THE EVENT A CONSTRUCTION JOINT OR BLOCK-OUTS FOR INLETS HAVE NOT BEEN PROVIDED, USE A SPECIAL UNDER CUT HEADER UNDER PAVEMENT SLAB.
5. REINFORCING STEEL SHALL BE A MINIMUM OF 1 ¼" FROM OUTSIDE EDGES OF WALLS OF CONCRETE.
6. REINFORCING STEEL IN WALLS AND BOTTOM SHALL BE ONE MAT OF " 4 BARS SPACED NOT MORE THAN 18" C-C BOTH WAYS.
7. THE GUTTER IN FRONT OF THE INLET IS A PART OF THE INLET & SHALL BE BUILT WITH THE INLET. USE REINF. IN GUTTER WHERE IT IS BUILT IN CONNECTION WITH EXIST. OR PROPOSED CONCRETE BASE OR CONCRETE PAVING OTHERWISE REINF. IN GUTTER MAY BE OMITTED.
8. TOP OF INLET SHALL HAVE A ¼" MORTAR TOPPING WITH A FLOAT FINISH; FACE OF INLET & TOP OF GUTTER SHALL HAVE A ½" MORTAR SURFACE WITH A TROWEL FINISH CONFORMING TO THE REQUIREMENTS FOR SPECIAL CONCRETE CURB & GUTTER.
9. VERTICAL BARS WILL VARY IN LENGTH WITH BOTH " Y " & STANDARD INLETS. IF INLET IS TO HAVE GREATER DEPTH THAN MAXIMUM INDICATED, PLANS MUST BE APPROVED BY ENGINEER.

⚠ REV. INLET DEPTH 1-28-94

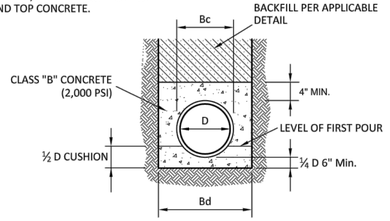
INLET DETAILS

5, 10 & 15 FOOT INLETS

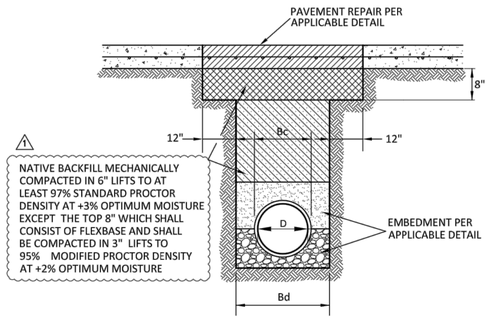
City of Irving · Department of Public Works

DESIGNED BY:	DRAWN BY:	CHECKED BY:	DATE: D-4A	SCALE:	SHEET NO.: 205

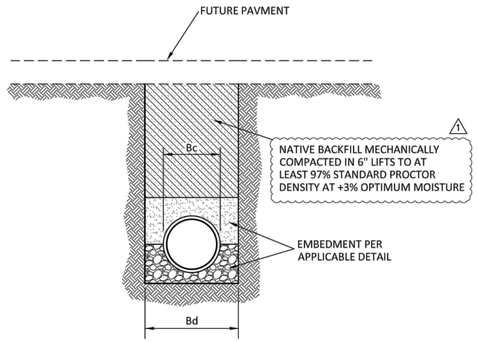
NOTE: THE CUSHION PORTION OF CONCRETE ENCASEMENT SHALL BE POURED FIRST AND ALLOWED TO SET UP, BUT NOT ALLOWED TO DRY, BEFORE PLACEMENT OF THE SIDE AND TOP CONCRETE.



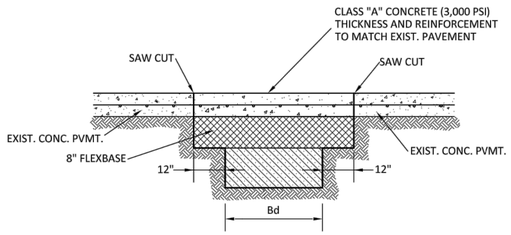
CONCRETE ENCASEMENT CLASS "G" EMBEDMENT
N.T.S.



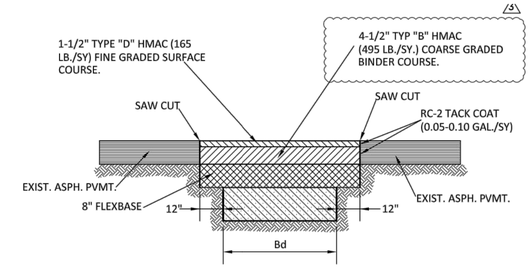
IMPROVED BACKFILL ASSOCIATED WITH PAVEMENT REPAIR
N.T.S.



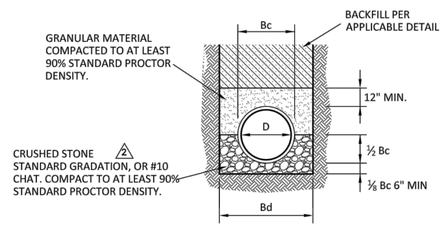
IMPROVED BACKFILL UNDER AREAS OF FUTURE PAVMENT
N.T.S.



CONCRETE PAVEMENT REPAIR FOR OPEN CUT TRENCHING
N.T.S.



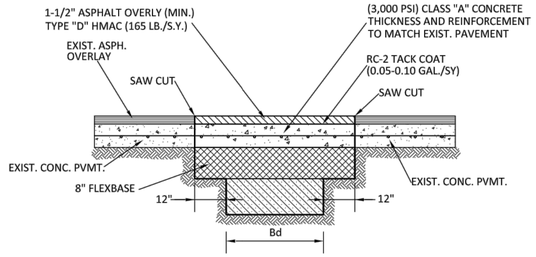
ASPHALT PAVEMENT REPAIR FOR OPEN CUT TRENCHING
N.T.S.



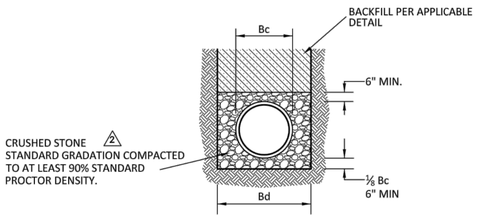
CLASS "B" EMBEDMENT FOR PVC PIPE
N.T.S.

INSIDE DIA. (D)	MAX. TRENCH WIDTH (Bd)
24" OR LESS	Bc + 16" (24"MIN.)
24"- 72"	Bc + 24"

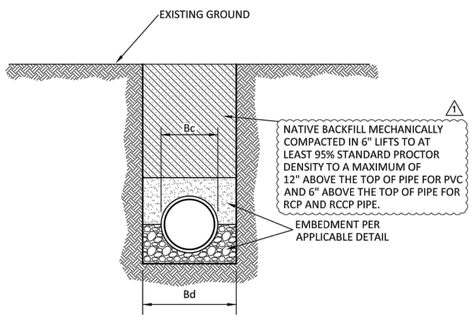
GRADATION FOR STANDARD CRUSHED ROCK	PERCENT
RETAINED ON 1½ INCH SIEVE	0%
RETAINED ON 1 INCH SIEVE	0 - 5%
RETAINED ON ½ INCH SIEVE	40 - 75%
RETAINED ON No.4 SIEVE	90 - 100%
RETAINED ON No.8 SIEVE	95 - 100%



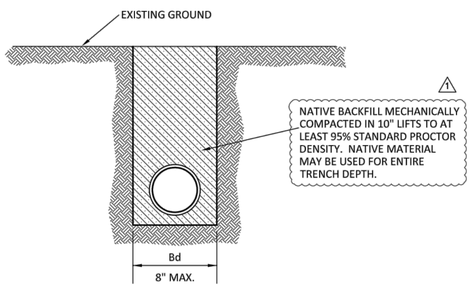
CONCRETE PAVEMENT REPAIR W/ASPHALT OVERLAY FOR OPEN CUT TRENCHING
N.T.S.



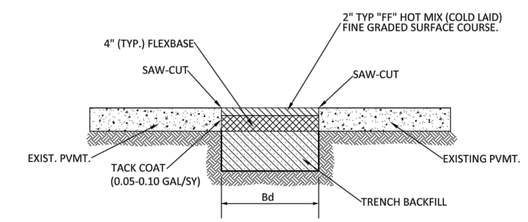
CLASS "C" EMBEDMENT FOR RCCP, RCP AND FRP PIPE
N.T.S.



UNIMPROVED BACKFILL UNDER AREAS NOT INFLUENCED BY VEHICULAR TRAFFIC
N.T.S.



EMBEDMENT AND BACKFILL FOR UTILITY CONDUITS, GAS MAINS AND WATER SERVICES < 4"
N.T.S.



HOT MIX-COLD LAID ASPHALTIC CONCRETE PAVEMENT FOR TEMPORARY PAVEMENT REPAIR
N.T.S.

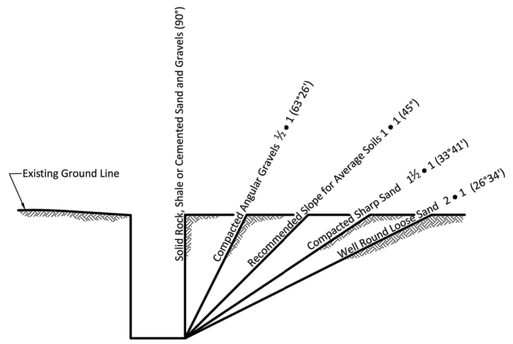
REV	DATE	BY	REVISIONS:
5	10/14/20	MAE / APT	REVISED NOTE
4	04/04/18	APT / WEL	REVISED TO REMOVE CRUSHED CONCRETE AS ACCEPTABLE EMBEDMENT
3	06/01/15	APT / WEL	REVISED TO MATCH STANDARD SPECIFICATION 02200
2	11/22/13	APT	DATE ISSUED
1			

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
TRENCH EMBEDMENT, BACKFILL AND PAVEMENT REPAIR DETAILS

SHEET 206

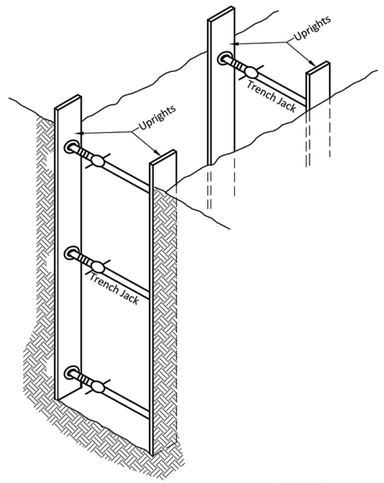
K:\PROJECTS\DETAILS\W-WW\DWG\WW-01\WW-01 TRENCH EMBEDMENT BACKFILL PAVEMENT REPAIR.DWG



Note:
Clays, Silts, Loams or Non-Homogenous Soils Require Shoring and Bracing. The Presence of Ground Water Requires Special Treatment.

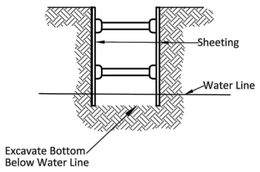
APPROXIMATE ANGLE OF REPOSE FOR SLOPING OF SIDES OF EXCAVATIONS

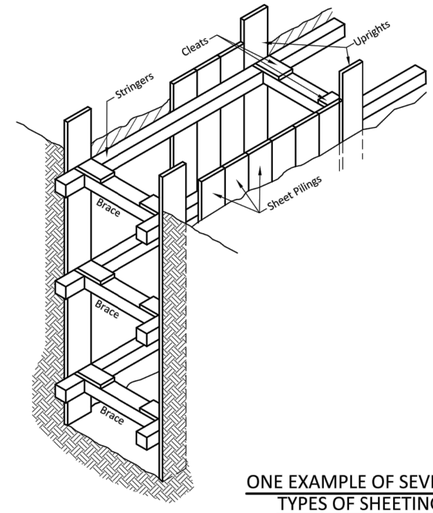
TABLE P-1



TRENCH JACKS IN TRUE HORIZONTAL POSITION AND SPACED VERTICALLY

FIGURE 1





ONE EXAMPLE OF SEVERAL TYPES OF SHEETING

FIGURE 2

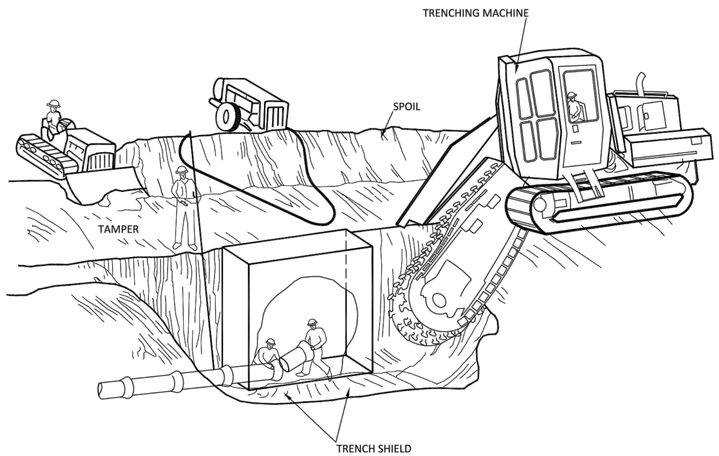
Depth of Trench	Kind or Condition of Earth	Size and Spacing of Members										
		Uprights		Stringers		Cross Braces 1					Maximum Spacing	
						Width of Trench						
		Min. Dimension	Max. Spacing	Min. Dimension	Max. Spacing	Up to 3 Feet	3 Feet to 6 Feet	6 Feet to 9 Feet	9 Feet to 12 Feet	12 Feet to 15 Feet	Vert.	Horz.
Feet		Inches	Feet	Inches	Feet	Inches	Inches	Inches	Inches	Inches	Feet	Feet
5 to 10	Hard, Compact	3 x 4 or 2 x 6	6			2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Likely to Crack	3 x 4 or 2 x 6	3	4 X 6	4	2 x 6	4 x 4	4 x 6	6 x 6	6 x 8	4	6
	Soft, Sandy,or Filled	3 x 4 or 2 x 6	Close Sheeting	4 X 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Hydrostatic Pressure	3 x 4 or 2 x 6	Close Sheeting	6 X 8	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
10 to 15	Hard, Compact	3 x 4 or 2 x 6	4	4 X 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Likely to Crack	3 x 4 or 2 x 6	2	4 X 6	4	4 x 4	4 x 6	6 x 6	6 x 8	8 x 8	4	6
	Soft, Sandy,or Filled	3 x 4 or 2 x 6	Close Sheeting	4 X 6	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
	Hydrostatic Pressure	3 x 6	Close Sheeting	8 X 10	4	4 x 6	6 x 6	6 x 8	8 x 8	8 x 10	4	6
15 to 20	All Kinds of Conditions	3 x 6	Close Sheeting	4 X 12	4	4 x 12	6 x 8	8 x 8	8 x 10	10 x 10	4	6
Over 20	All Kinds of Conditions	3 x 6	Close Sheeting	6 X 8	4	4 x 12	8 x 8	8 x 10	10 x 10	10 x 12	4	6

1 Trench jacks may be used in lieu of, or in combination with, cross braces.
Shoring is not required in solid rock, hard shale, or hard slag.
Where desirable, steel sheet piling and bracing of equal strength may be substituted for wood.

TRENCH SHORING & SHEETING - MINIMUM REQUIREMENTS

TABLE P-2

FIGURE 3



REV	DATE	BY	REVISIONS:	DATE ISSUED
				11/22/13

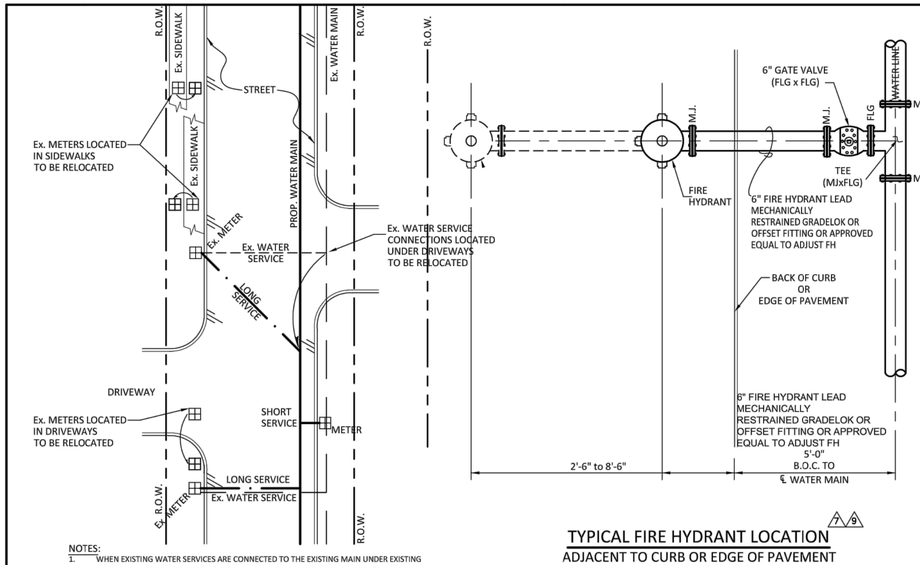
CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS

TRENCH SHEETING, SHORING & SLOPING FOR TRENCHES OVER 5 FEET DEEP

SHEET 207

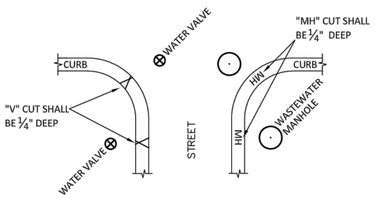
K:\PROJECTS\DETAILS\W-WW\DWG\WW-02\WW-02.DWG



NOTES:
1. WHEN EXISTING WATER SERVICES ARE CONNECTED TO THE EXISTING MAIN UNDER EXISTING DRIVEWAYS, A LONG SERVICE SHALL BE INSTALLED FROM A POINT OUTSIDE THE EXISTING DRIVEWAY TO THE EXISTING METER BY OTHER THAN OPEN CUT.
2. ANY SERVICE WORK DONE ON THE PRIVATE SIDE OF A WATER METER ASSOCIATED WITH A METER RELOCATION SHALL BE PERFORMED BL A LICENSED PLUMBER.

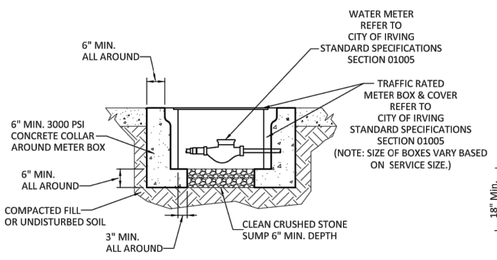
TYPICAL SHORT & LONG WATER SERVICE LOCATIONS

TYPICAL FIRE HYDRANT LOCATION
ADJACENT TO CURB OR EDGE OF PAVEMENT

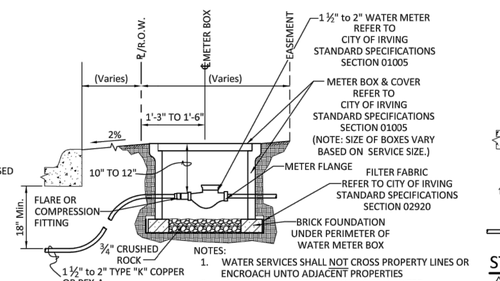


FOR CUTS IN THE CURB TO INDICATE EXISTING OR PROPOSED WATER VALVES OR WASTEWATER MANHOLES.

UTILITY MARKING LOCATIONS

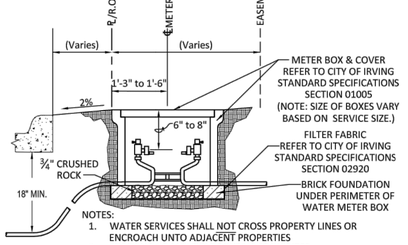


TRAFFIC RATED METER BOX



NOTES:
1. WATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES
2. STACKING OF MULTIPLE BOXES IS PROHIBITED

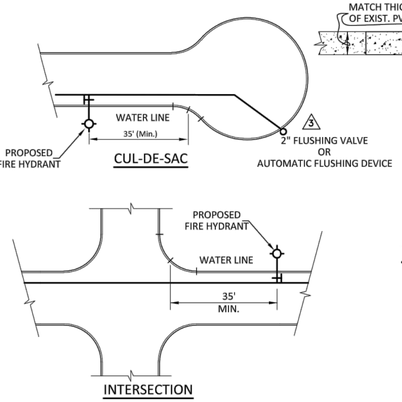
STANDARD 1 ½" TO 2" WATER METER AND BOX LOCATION



NOTES:
1. WATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES
2. STACKING OF MULTIPLE BOXES IS PROHIBITED

STANDARD ⅝" TO 1" WATER METER AND BOX LOCATION

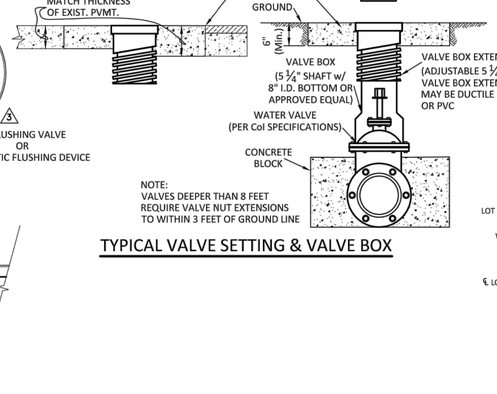
TYPICAL FIRE HYDRANT INSTALLATION



CUL-DE-SAC

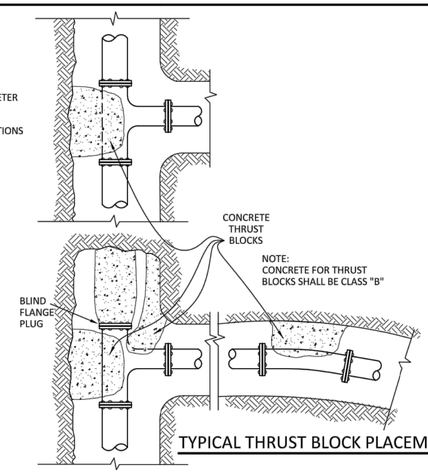
INTERSECTION

STANDARD FIRE HYDRANT LOCATIONS



NOTE:
VALVES DEEPER THAN 8 FEET REQUIRE VALVE NUT EXTENSIONS TO WITHIN 3 FEET OF GROUND LINE

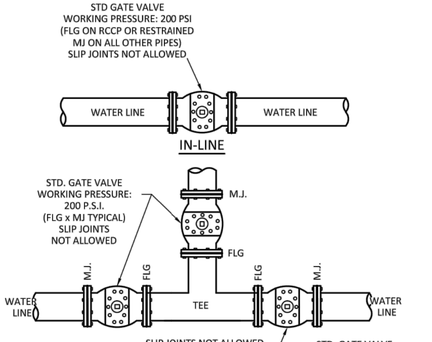
TYPICAL VALVE SETTING & VALVE BOX



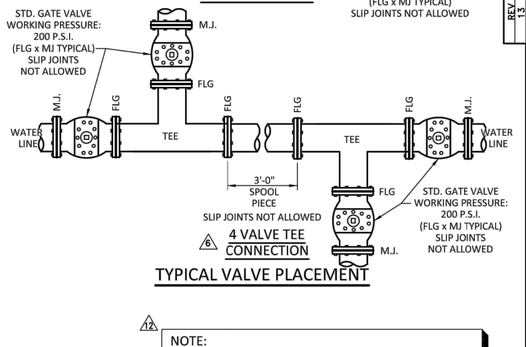
NOTES:
1. METER & VALVE SHALL BE INSTALLED LEVEL AND CENTERED IN BOX.
2. ONLY ONE GASKET ALLOWED ON EITHER SIDE OF METER.

1½" OR 2" WATER SERVICE CONNECTIONS

TYPICAL THRUST BLOCK PLACEMENT



TEE CONNECTION

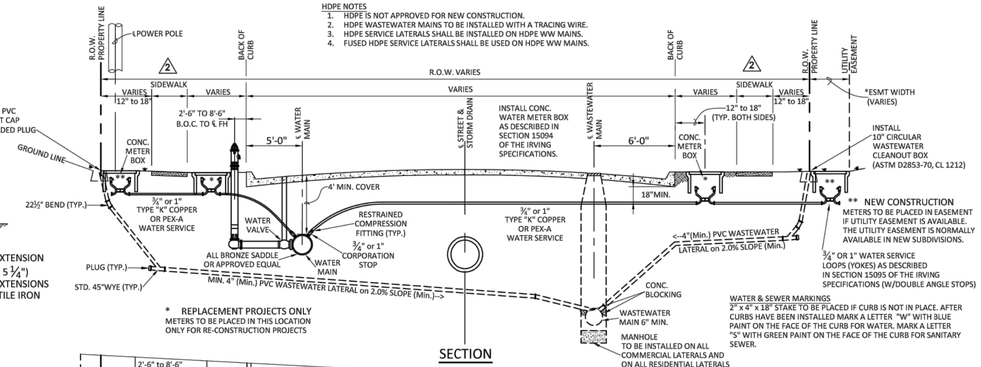


4 VALVE TEE CONNECTION

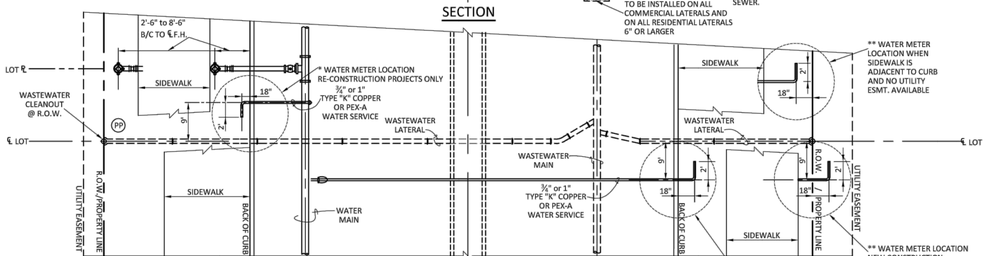
TYPICAL VALVE PLACEMENT

NOTE:
THE MINIMUM COVER REQUIRED FOR NEW PUBLIC WASTEWATER MAINS SHALL BE 4 FEET OR GREATER

HDPE NOTES
1. HDPE IS NOT APPROVED FOR NEW CONSTRUCTION.
2. HDPE WASTEWATER MAINS TO BE INSTALLED WITH A TRACING WIRE.
3. HDPE SERVICE LATERALS SHALL BE INSTALLED ON HDPE WW MAINS.
4. FUSED HDPE SERVICE LATERALS SHALL BE USED ON HDPE WW MAINS.



SECTION



PLAN

TYPICAL WATER & WASTEWATER CONNECTIONS WITHIN R.O.W.

REV	DATE	BY	REVISIONS
13	10/20/21	CoI-WU/gpt	REVISED HORZ. SEPARATION FROM 5' TO 9'
12	01/27/21	CoI-WU/gpt	ADDED 4' MINIMUM COVER NOTE.
11	11/24/20	CoI-WU/gpt	ADDED PEX-A AS ALLOWABLE ALTERNATIVE
10	08/11/20	CoI-WU/gpt	REVISED TYPICAL WATER & WASTEWATER MAIN LOCATIONS IN R.O.W.
9	05/01/19	CoI-WU/gpt	ADDED BRICK FOUNDATION & UPDATED 6" FH LEAD TYPES
8	05/29/18	JRB/gpt	REVISED METER BOX & COVER NOTE
7	02/13/18	JRB/gpt	REVISED WATER & WASTEWATER MAIN LOCATIONS WITHI R.O.W.
6	11/14/17	JRB/gpt	ADDED 4 VALVE TEE CONNECTION DETAIL
5	04/04/17	JRB/gpt	ADDED BRICK FOUNDATION AT METER BOX
4	02/02/17	WEL/gpt	REVISED FIRE HYDRANT CONC. PAD
3	11/30/16		REVISED FLUSH VALVES
2	04/02/14		DATE RE-ISSUED
1	11/22/13		DATE ISSUED

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
WATER AND WASTEWATER DETAILS

SHEET 208

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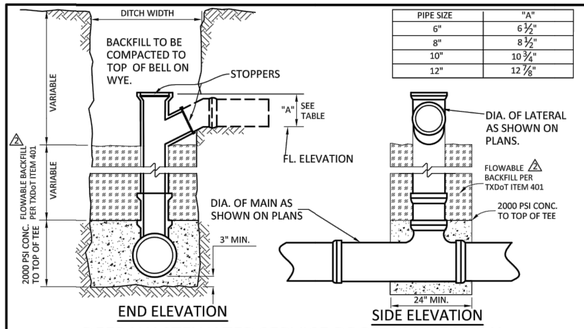
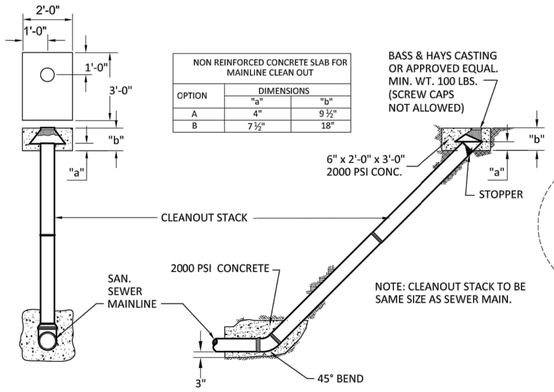


PIPE SIZE	"A"
6"	6 ½"
8"	8 ½"
10"	10 ¾"
12"	12 ⅞"

DEEP WASTEWATER SERVICE DROP CONNECTION
(FOR WASTEWATER MAINS 10' AND DEEPER)



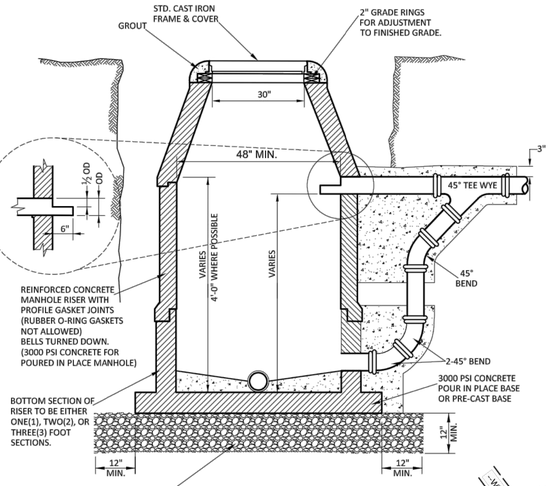
NON REINFORCED CONCRETE SLAB FOR MAINLINE CLEAN OUT		
OPTION	DIMENSIONS	
	"a"	"b"
A	4"	9 ½"
B	7 ½"	18"

NOTES:
OPTION "A" REQUIRES THE TOP OF THE CONCRETE SLAB TO BE CONSTRUCTED FIVE (5) INCHES BELOW THE EXISTING GROUND ELEVATION.

OPTION "B" REQUIRES THE TOP OF THE CONCRETE SLAB TO MATCH THE EXISTING GROUND ELEVATION.

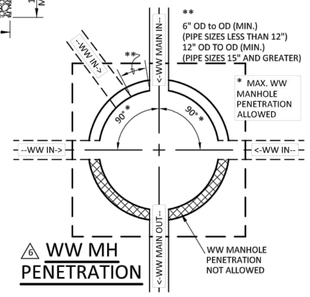
CLEAN OUT TO BE INSTALLED ON MAINLINES OF 500 FT. OR LESS.

WASTEWATER MAIN LINE CLEAN OUT
(BY SPECIAL PERMISSION ONLY)

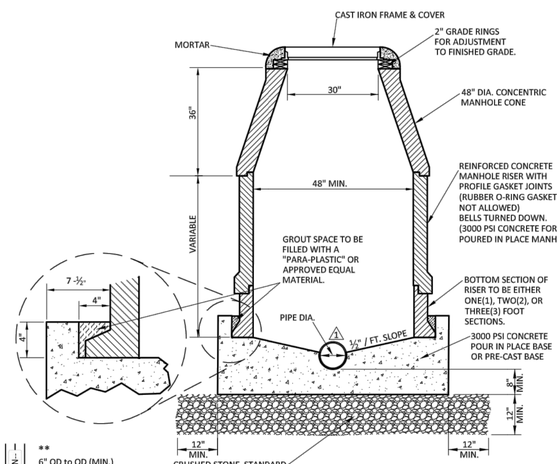


NOTE:
1 MANHOLES CONNECTED TO PIPES LESS THAN 15-INCHES IN DIAMETER SHALL HAVE AN INVERT DEPTH OF AT LEAST HALF THE DIAMETER OF THE LARGEST PIPE.
2 MANHOLES CONNECTED TO PIPES 15-INCH TO 24-INCH IN DIAMETER SHALL HAVE AN INVERT DEPTH OF AT LEAST THREE FOURTHS THE DIAMETER OF THE LARGEST PIPE.
3 MANHOLES CONNECTED TO PIPES GREATER THAN 24-INCH IN DIAMETER SHALL HAVE AN INVERT DEPTH AT LEAST EQUAL TO THE DIAMETER OF THE LARGEST PIPE.

STANDARD DROP CONNECTION
WASTEWATER MANHOLE



⚠6 WW MH PENETRATION



NOTE:
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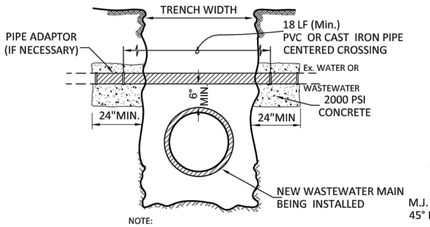
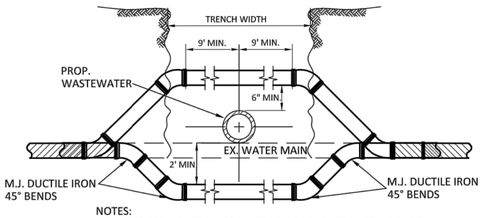
3 MANHOLES CONNECTED TO PIPES GREATER THAN 24-INCH IN DIAMETER SHALL HAVE AN INVERT DEPTH AT LEAST EQUAL TO THE DIAMETER OF THE LARGEST PIPE.

STANDARD PRECAST CONCRETE
WASTEWATER MANHOLE



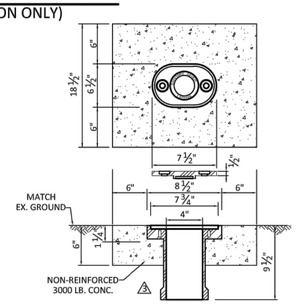
NOTE:
NO JOINT SHALL BE ALLOWED WITHIN THE LIMITS OF THE TRENCH WIDTH

TRENCH SPAN FOR
EXISTING UTILITY PIPE



NOTES:
1 CENTER A SECTION OF WATER PIPE AT LEAST 18' LONG OVER OR UNDER WASTEWATER LINE. CENTER A SECTION OF SEWER PRESSURE PIPE (150 PSI) AT LEAST 18' LONG OVER OR UNDER WATER LINE.
2 CONCRETE BLOCKING FOR WATER LINE BENDS REQUIRED. (NOT SHOWN.)
3 USE RETAINING GLANDS ON ALL FITTINGS.
4 2'x2'x2' CONCRETE ENCASEMENT AROUND WASTEWATER COUPLINGS AT EACH END OF PRESSURE PIPE (NOT SHOWN)

WATER MAIN ADJUSTMENT



BASS & HAYS CASTING PATTERN NO.404C

BASS & HAYS CASTING PATTERN NO. 404C OR APPROVED EQUAL SHALL BE INSTALLED WHERE APPLICABLE IN ALL ALLEYS AND SIDEWALKS.

1 ALL COMMERCIAL SERVICES WILL BE A MINIMUM OF 6" IN DIAMETER AND CONNECTION MADE AT A MANHOLE.

2 WHEN CONNECTING TO AN EXISTING MANHOLE, MANHOLE REPLACEMENT WILL BE REQUIRED, UNLESS OTHERWISE DIRECTED BY CITY OF IRVING WATER UTILITIES AT TIME OF INSPECTION.

3 WW MAINS AND WW SERVICE LATERALS MUST ENTER A MANHOLE WITH THE OUTFALL OF THE MAIN/SERVICE DIRECTED TOWARDS THE OUTFALL OF THE MANHOLE. GREATEST ALLOWABLE ANGLE OF PENETRATION WILL BE 90°.

4 WASTEWATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES.

5 CAST IRON FRAMES & COVERS SHALL BE "BASS AND HAYS VRM30 OR VRM30WT (WATERTIGHT) OR APPROVED EQUAL WITH CITY OF IRVING LOGO ON ALL COVERS. ALL COVERS SHALL BE DESIGNATED "SANITARY SEWER" AND EQUIPPED WITH TWO (2) PICK BARS (NOT HOLES).

6 IF COVER IS WATERTIGHT, A GASKET AND (4) - ½" STAINLESS STEEL LOCKING BOLTS SHALL BE FURNISHED.

7 GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE SET IN A BED OF MORTAR. GRADE RING DIMENSIONS: 2" x 8" x 30" DIA.

8 NO MANHOLE STEPS SHALL BE INSTALLED.

9 A SEAL OR WATER STOP IS REQUIRED WHEN CONNECTING PVC SEWER PIPE TO A MANHOLE. THE CONNECTION SHALL BE MADE UTILIZING A RUBBER RING WATER STOP. (CONCRETE WILL NOT BOND TO P.V.C.)

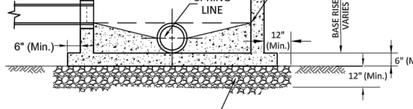
10 THE DIAMETER OF THE CONCRETE BASE SHALL NOT BE LESS THAN THE INSIDE DIAMETER OF THE MANHOLE PLUS 2 FEET.

11 NO SWEEPING INVERTS WILL BE ALLOWED.

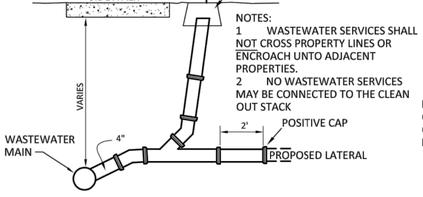
12 HDPE PIPE SHALL NOT BE PART OF THE INVERT OR BENCH.

⚠4⚠5 WASTEWATER MANHOLE GENERAL NOTES

⚠10
NOTE:
THE MINIMUM COVER REQUIRED FOR NEW PUBLIC WASTEWATER MAINS SHALL BE 4 FEET OR GREATER

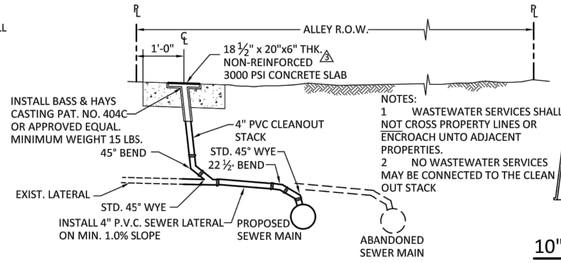


PRECAST BASE FOR MANHOLE



NOTES:
1 WASTEWATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES.
2 NO WASTEWATER SERVICES MAY BE CONNECTED TO THE CLEAN OUT STACK

STD. RESIDENTIAL
⚠4⚠5 WASTEWATER SERVICE & CLEAN OUT



NOTES:
1 WASTEWATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES.
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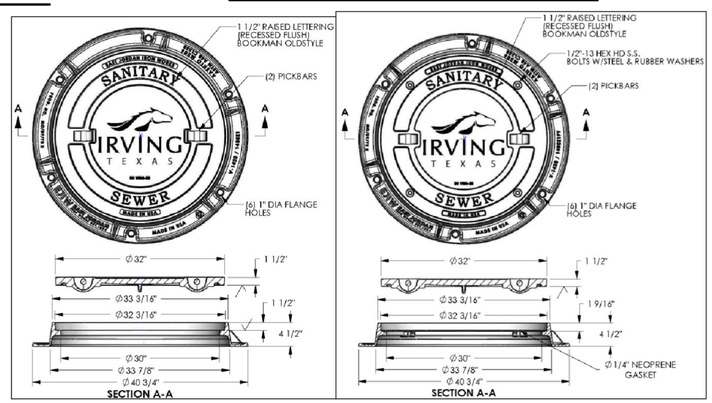
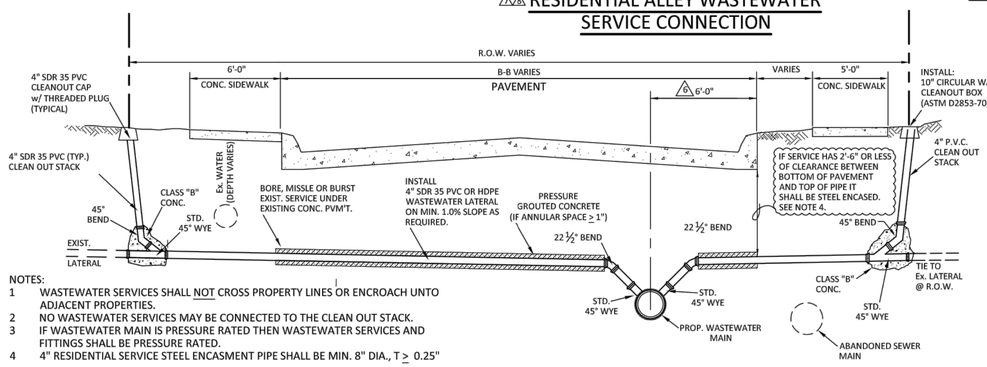
10" CIRCULAR WASTEWATER CLEAN-OUT BOX

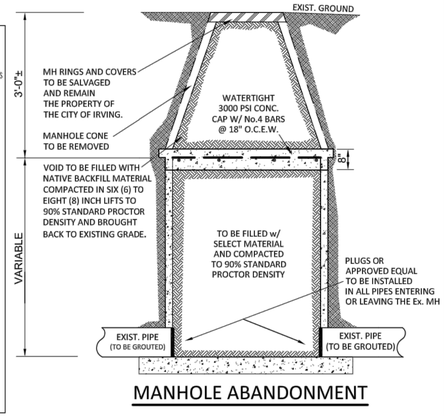


⚠4⚠5 RESIDENTIAL ALLEY WASTEWATER SERVICE CONNECTION



NOTES:
1 WASTEWATER SERVICES SHALL NOT CROSS PROPERTY LINES OR ENCROACH UNTO ADJACENT PROPERTIES.
2 NO WASTEWATER SERVICES MAY BE CONNECTED TO THE CLEAN OUT STACK.
3 IF WASTEWATER MAIN IS PRESSURE RATED THEN WASTEWATER SERVICES AND FITTINGS SHALL BE PRESSURE RATED.
4 4" RESIDENTIAL SERVICE STEEL ENCASMENT PIPE SHALL BE MIN. 8" DIA., T ≥ 0.25"

⚠4⚠5 RESIDENTIAL WASTEWATER SERVICE CONNECTION



MANHOLE ABANDONMENT

REV	DATE	BY	REVISIONS:
4	01/27/21	Col-WU	APT ADDED 4' MINIMUM COVER NOTE.
3	11/24/20	Col-WU	APT Removed Conshield requirement from WW Gen. Notes added Notes 3 & 4.
2	02/07/20		APT Added Note Prohibiting WW Service Connection to WW Cleanout Stack
1	10/29/19		APT Revised Wastewater General Notes
4	08/22/19	WEL	APT Revised Wastewater General Notes per Col-WU comments & WW LOCATION IN STREET
3	07/19/18	JRB	APT Revised Wastewater General Notes per Col-WU comments
2	02/13/18	WEL	APT Revised Wastewater Location within R.O.W.
1	11/22/13		DATE ISSUED

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
WASTEWATER
DETAILS

SHEET 209

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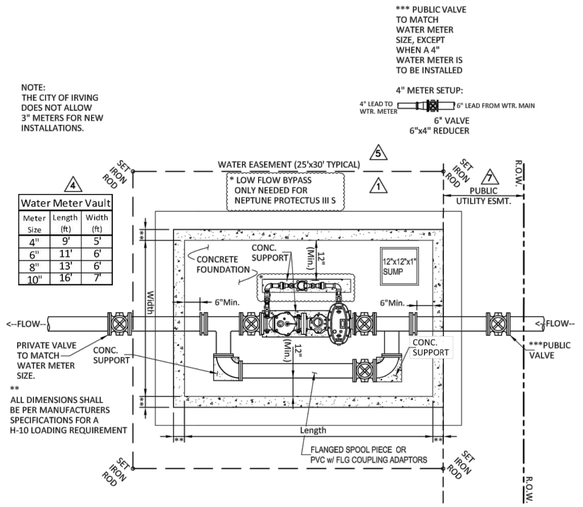
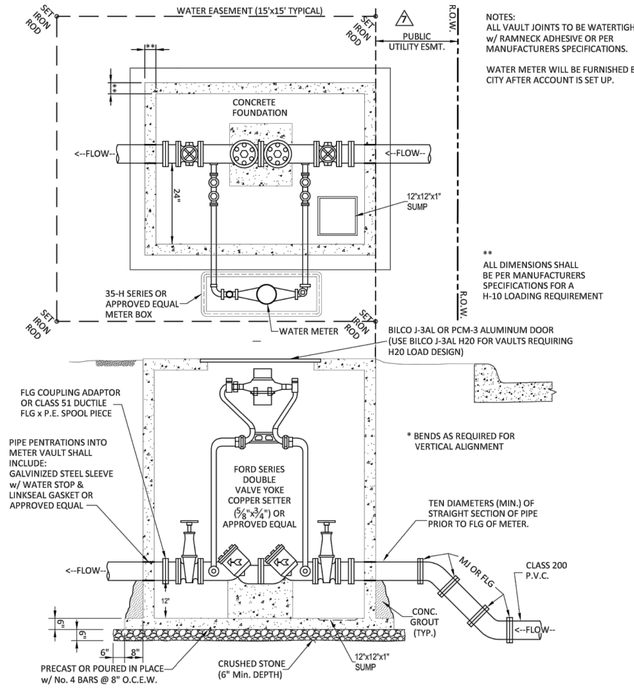
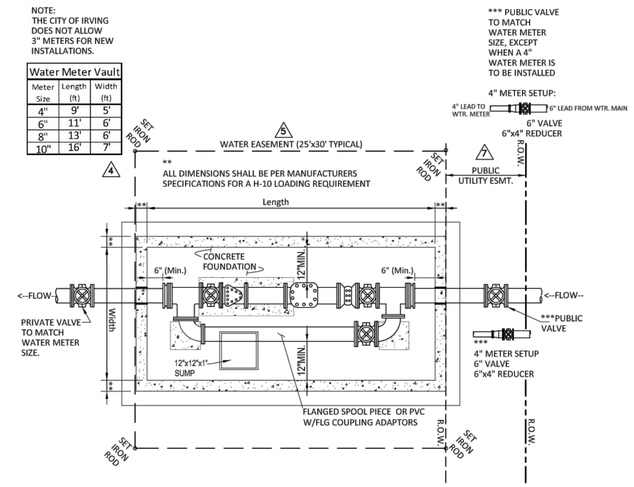
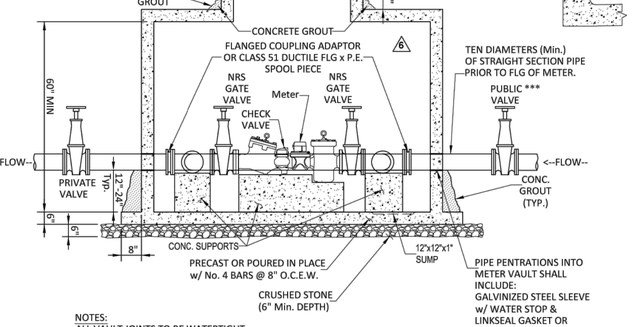








NOTES:
ALL VAULT JOINTS TO BE WATERTIGHT w/ RAMNECK ADHESIVE OR PER MANUFACTURERS SPECIFICATIONS.

BLOCKING SHALL BE PLACED TO ALLOW FOR FLANGE BOLT REMOVAL.

⚠6⚠7 COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT

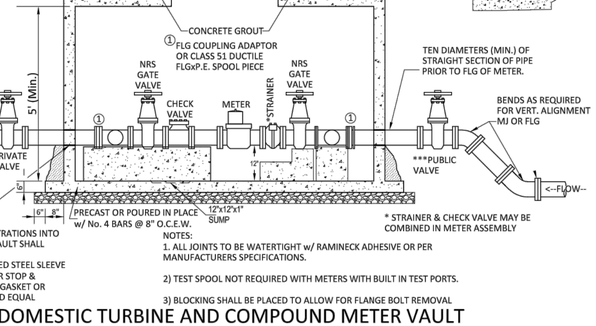
!!! Approval from Director of C.o.I. Water Utilities required for installation of any size Combination Meter !!!

NOTES:
1. A COMBINATION FIRE LINE AND DOMESTIC WATER METER SHALL NOT SERVE MULTIPLE PROPERTIES.
2. FIRE LINES AND DOMESTIC SERVICE LINES SHALL NOT CROSS PROPERTY LINES OR ENCROACH ONTO ADJACENT PROPERTY.
3. A COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT WILL NOT BE ALLOWED TO BE INSTALLED IN A SIDEWALK OR PAVED AREA,
4. A COMBINATION FIRE LINE AND DOMESTIC WATER METER VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.

DOUBLE CHECK DETECTOR ASSEMBLY (LEAK DETECTOR)

⚠7

NOTES:
1. A DOUBLE CHECK DETECTOR ASSEMBLY SHALL NOT SERVE MULTIPLE PROPERTIES.
2. FIRE LINES SHALL NOT CROSS PROPERTY LINES OR ENCROACH ONTO ADJACENT PROPERTY.
3. A DOUBLE CHECK DETECTOR ASSEMBLY VAULT WILL NOT BE ALLOWED TO BE INSTALLED IN A SIDEWALK OR PAVED AREA,
4. A DOUBLE CHECK DETECTOR ASSEMBLY VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.



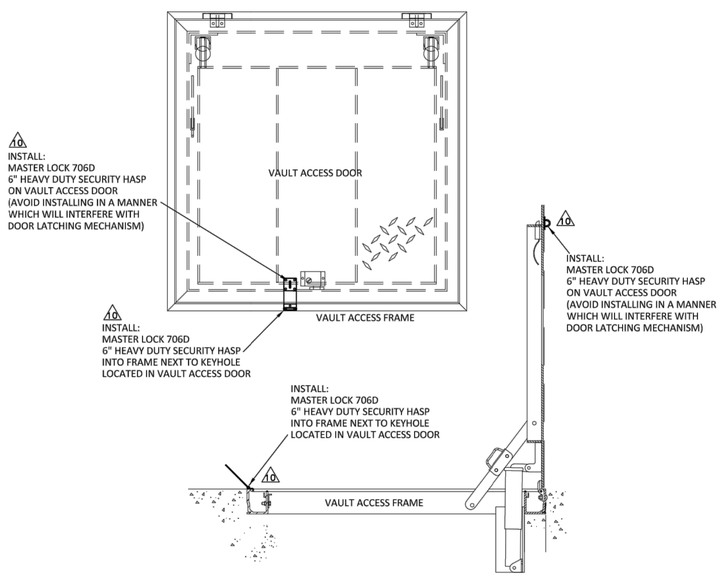
NOTES:
1. ALL JOINTS TO BE WATERTIGHT w/ RAMINECK ADHESIVE OR PER MANUFACTURERS SPECIFICATIONS.

2) TEST SPOOL NOT REQUIRED WITH METERS WITH BUILT IN TEST PORTS.

3) BLOCKING SHALL BE PLACED TO ALLOW FOR FLANGE BOLT REMOVAL

⚠4⚠7 DOMESTIC TURBINE AND COMPOUND METER VAULT

NOTES:
1. A DOMESTIC TURBINE AND COMPOUND METER SHALL NOT SERVE MULTIPLE PROPERTIES.
2. DOMESTIC SERVICE LINES SHALL NOT CROSS PROPERTY LINES OR ENCROACH ONTO ADJACENT PROPERTY.
3. A DOMESTIC TURBINE AND COMPOUND METER VAULT WILL NOT BE ALLOWED TO BE INSTALLED IN A SIDEWALK OR PAVED AREA,
4. A DOMESTIC TURBINE AND COMPOUND METER VAULT MUST REMAIN EASILY ACCESSIBLE FROM THE STREET AT ALL TIMES AND SHALL NOT HAVE FENCES OR OTHER OBSTRUCTIONS INSTALLED IN FRONT OF THEM.



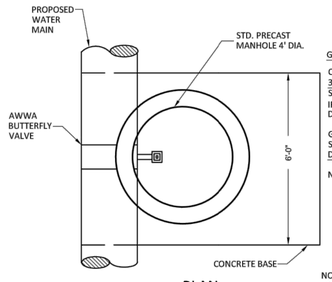
⚠10⚠9 HINGED LOCK HASP ATTACHMENT

REV	DATE	BY	REVISIONS:
11	03-11-22	APT/AW	ADDED PUBLIC AND PRIVATE VALVES TO DOM. TURBINE/COMPOUND METER VAULT DETAIL AND ADDED NOTES FOR DOM. METER VAULTS
10	03-11-22	APT/AW	REVISED HASP TO MASTER LOCK 706D 6" HEAVY DUTY SECURITY HASP
9	04-07-20	APT	ADDED HINGED HASP REQUIREMENT AND DETAIL
8	02-05-20	APT	ADDED NOTE REQUIRING DIRECTOR OF WATER UTILITIES APPROVAL PRIOR TO INSTALLATION OF ANY SIZE COMBINATION METER.
7	08-21-19	WEL/APT	ADDED NOTES FOR ALL VAULT & METERS CLARIFIED WTR ESMT LOCATION
6	07-31-17	JRB/APT	ADDED NOTES FOR CLARFICATION
5	08-17-16	WEL/APT	REVISED EASEMENT SIZE
4	01-19-16	WEL/APT	ADDED VAULT SIZE CHART / NOTE DISALLOWING 3" METERS
3	11/22/13	WEL/APT	DATE ISSUED

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
DOMESTIC TURBINE AND COMPOUND METER, DOUBLE CHECK DETECTOR ASSEMBLY, COMBINATION FIRE LINE AND DOMESTIC VAULT DETAILS

SHEET 210



PLAN

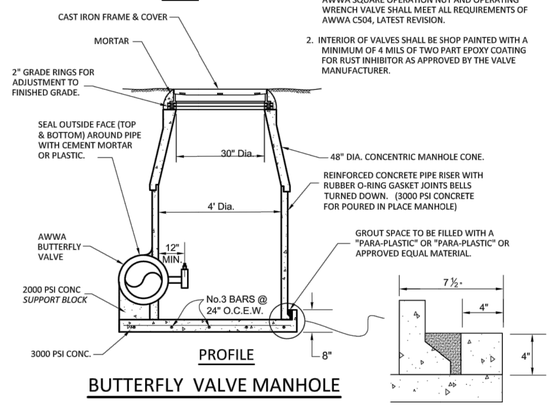
GENERAL NOTES:

CAST IRON FRAMES & COVERS SHALL BE "BASS AND HAYS 30" DIA. (WATERTIGHT) OR APPROVED EQUAL. ALL COVERS SHALL BE EQUIPPED WITH TWO (2) PICK BARS (NOT HOLES). IF COVER IS WATERTIGHT, A GASKET AND SIX (6) - ⅜" DIAMETER BRASS LOCKING BOLTS SHALL BE FURNISHED.

GRADE RINGS SHALL BE PRECAST REINFORCED CONCRETE SET IN A BED OF MORTAR.
DIMENSIONS: 2" x 8" x 30" DIA.

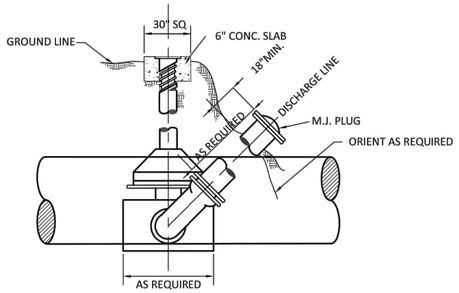
NO MANHOLE STEPS SHALL BE INSTALLED.

NOTE
1. AWWA BUTTERFLY VALVES SHALL BE SUPPLIED WITH 2" AWWA SQUARE OPERATION NUT AND OPERATING WRENCH VALVE SHALL MEET ALL REQUIREMENTS OF AWWA C504, LATEST REVISION.
2. INTERIOR OF VALVES SHALL BE SHOP PAINTED WITH A MINIMUM OF 4 MILS OF TWO PART EPOXY COATING FOR RUST INHIBITOR AS APPROVED BY THE VALVE MANUFACTURER.

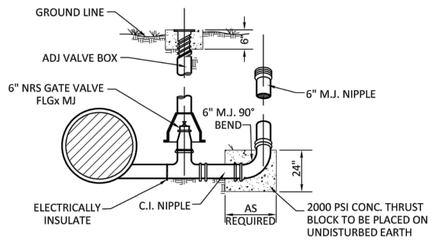


PROFILE

BUTTERFLY VALVE MANHOLE

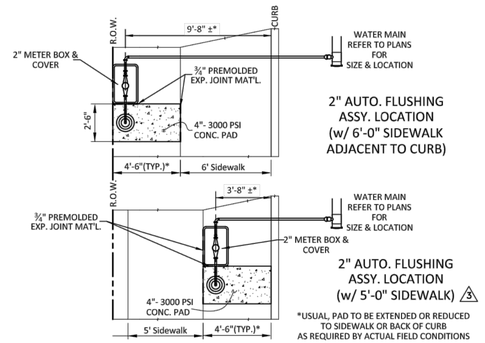


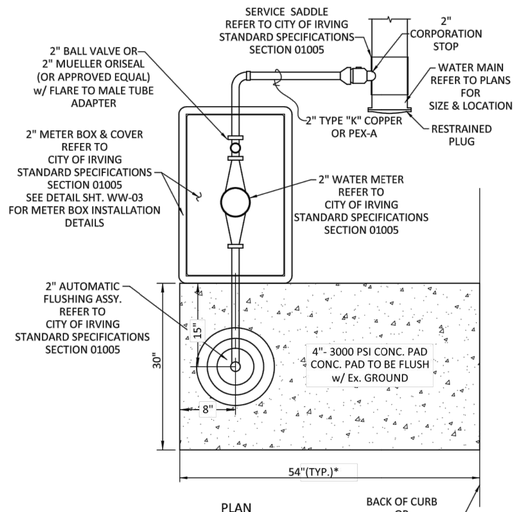
PLAN



PROFILE

TYPICAL BLOW-OFF VALVE ASSEMBLY





PLAN

NOTES:
1. NO SERVICE TAPS WILL BE ALLOWED WITHIN 20 FEET OF A TAP FOR A FLUSH ASSY.
2. STACKING OF MULTIPLE METER BOXES IS PROHIBITED.

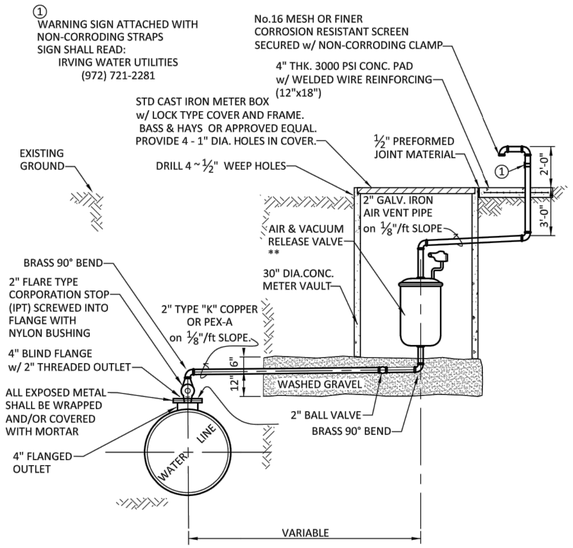
2" AUTOMATIC FLUSHING ASSEMBLY 2 3

GENERAL NOTES

CAST IRON FRAMES & COVERS SHALL BE "BASS & HAYES No. 400-24 or No. 380 - 24 P (WATERTIGHT) OR APPROVED EQUAL.

SHALL BE EQUIPPED WITH (2) PICK BARS (NOT HOLES.) IF COVER IS WATERTIGHT, A GASKET & SIC (6) ⅜" DIA. BRASS LOCKING BOLTS SHALL BE FURNISHED.

GRADE RINGS SHALL BE PRECAST REINFORCED CONC. SET IN A BED OF MORTAR. DIMENSIONS: 2" x 8" x 30"



** COMBINATION AIR AND VACCUUM RELEASE VALVE PER CITY OF IRVING STANDARD SPECIFICATIONS SECTION 01005 APPROVED PRODUCTS LISTING WATER AND WASTEWATER SYSTEMS

4 1 TYPICAL AIR AND VACUUM RELEASE VALVE INSTALLATION

REV	DATE	BY	REVISIONS:
4	11/24/20	APT—CoI—WU	ADDED PEX-A AS ALLOWABLE ALTERNATIVE
3	7/29/19	APT—REL	REMOVED 2" FLUSH VALVE DETAIL, ADDED DETAILS FOR CONC. SPLASH PAD
2	11/30/16	APT—JRB	REVISED FLUSHING VALVE DETAILS PER CoI/WU COMMENTS
1	8/31/16	APT—JRB	REVISED AIR & VACCUM RELEASE VALVE DETAIL PER CoI/WU COMMENTS
	11/22/13	APT	DATE ISSUED

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
WATER LINE DETAILS

SHEET 211

K:\PROJECTS\DETAILS\W-WW\DWG\WW-06\WW-06.DWG

GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOFT SOIL AND 2000 LBS./S.F. IN STIFF SOIL.
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE, OR PLUG TO PREVENT THE CONCRETE FROM STICKING TO IT.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

I.D. (IN.)	T (IN.)	Δ = 11.25° (FT.)	Δ = 22.50° (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH A (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* VOL. (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

∗ SY:FF CLAY VERY SAND HARD SOIL

TABLE OF PLUGS & TEES DIMENSIONS & QUANTITIES

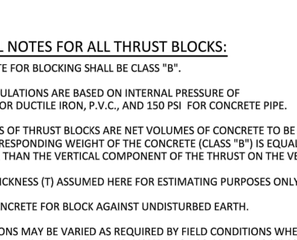
I.D. (IN.)	Δ= 11.25° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4

I.D. (IN.)	Δ= 22.50° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4
24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5
30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8
36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1
78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

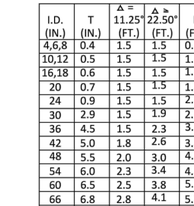
TABLE OF HORIZONTAL 11.25° & 22.5° BENDS DIMENSIONS & QUANTITIES

Δ	11.25° THRUST (TONS)	11.25° VOL. (C.Y.)	22.50° THRUST (TONS)	22.50° VOL. (C.Y.)	30° THRUST (TONS)	30° VOL. (C.Y.)	45° THRUST (TONS)	45° VOL. (C.Y.)	67.50° THRUST (TONS)	67.50° VOL. (C.Y.)	90° THRUST (TONS)	90° VOL. (C.Y.)	Δ I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

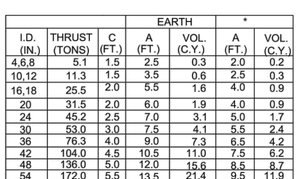
TABLE OF VERTICAL 11.25° TO 90° BEND DIMENSIONS & QUANTITIES



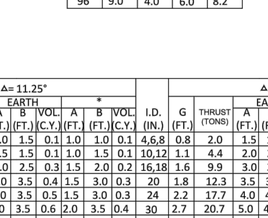
PLAN OF TEE THRUST BLOCK



SECTION X-X



PLAN OF PLUG THRUST BLOCK



PLAN

THRUST BLOCKS FOR 11.25° TO 90° HORIZONTAL BENDS

I.D. (IN.)	Δ= 30° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9

I.D. (IN.)	Δ= 45° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

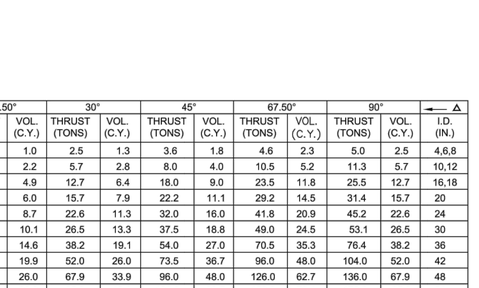
TABLES OF HORIZONTAL 30° & 45° BENDS DIMENSIONS & QUANTITIES

I.D. (IN.)	Δ= 67.50° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2
96	24.9	603.6	38.0	16.0	138.9	25.5	12.0	70.0

I.D. (IN.)	Δ= 90° G (FT.)	THRUST (TONS)	EARTH A (FT.)	EARTH B (FT.)	EARTH VOL. (C.Y.)	* A (FT.)	* B (FT.)	* VOL. (C.Y.)
4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

TABLES OF HORIZONTAL 67.5° & 90° BENDS DIMENSIONS & QUANTITIES

ELEVATION "B-B"



ELEVATION "A-A"

THRUST BLOCKS FOR 11.25° TO 90° VERTICAL BENDS

REV	DATE	BY	REVISIONS:	DATE ISSUED
1				
2				
3				
4				11/22/13
5				

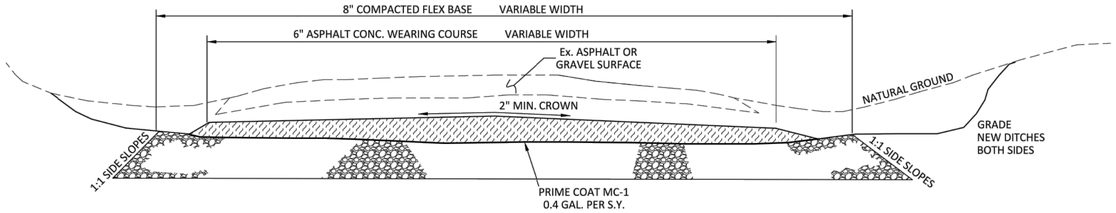
CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS

THRUST BLOCKING

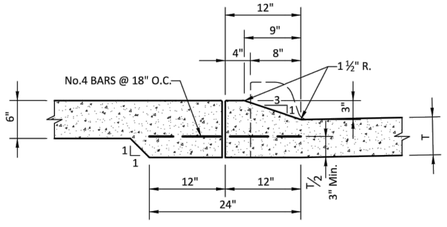
SHEET 212

K:\PROJECTS\DETAILS\W-WW\DWG\WW-09\WW-09.DWG



TYPICAL TRANSITION SECTION FROM EXISTING ASPHALT ROADWAY TO NEW CONCRETE RESIDENTIAL STREET

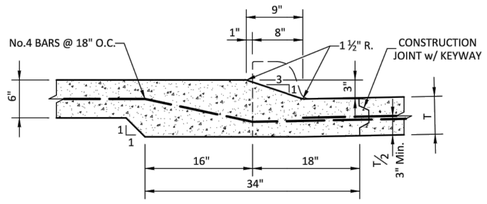
N.T.S.



MUST HAVE WRITTEN PERMISSION FROM TRANSPORTATION DEPT.

MONOLITHIC MOUNTABLE CURB

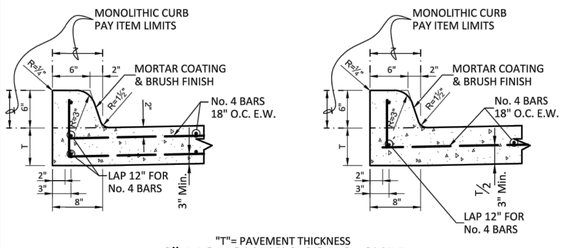
N.T.S.



MUST HAVE WRITTEN PERMISSION FROM TRANSPORTATION DEPT.

MONOLITHIC MOUNTABLE CURB (OPTIONAL CONSTRUCTION METHOD)

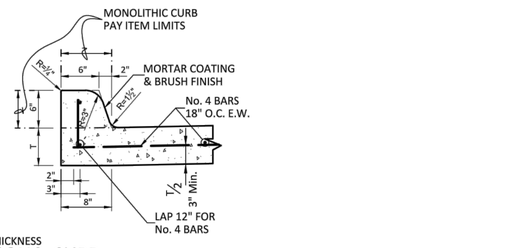
N.T.S.

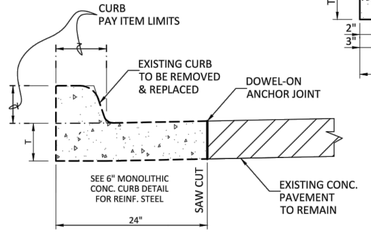


"T"= PAVEMENT THICKNESS

6" MONOLITHIC CONC. CURB

N.T.S.

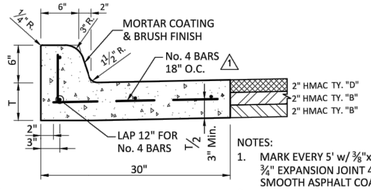




"T"= PAVEMENT THICKNESS

⑤ 6" CONCRETE CURB & GUTTER REPLACEMENT (for Concrete Streets)

N.T.S.



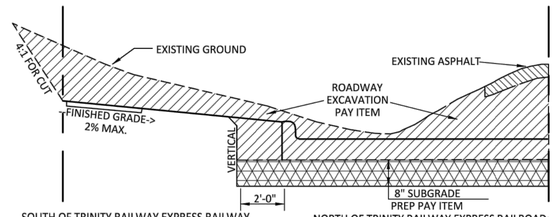
NOTES:
1. MARK EVERY 5' w/ ⅜"x1" DEEP GROOVE INSTALL ¾" EXPANSION JOINT 40' O.C. w/ 14"x¾" SMOOTH ASPHALT COATED DOWELS 16" O.C.
2. 6" FLEXBASE SUBGRADE 2' BEYOND BACK OF CURB

"T"= PAVEMENT THICKNESS

② 6" CONC. CURB & GUTTER (for Asphalt Streets)

N.T.S.

(NOT FOR NEW CONSTRUCTION)

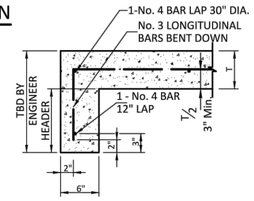


SOUTH OF TRINITY RAILWAY EXPRESS RAILWAY
REQUIRED SUBGRADE PREP.
P.I. <20 SUBGRADE PREP. ONLY
8" SUBGRADE WITH CEMENT STABILIZATION PER CITY OF IRVING STANDARD SPECIFICATION SECTION 02507 *SUBGRADE PREPARATION*
P.I.>20 8" SUBGRADE WITH LIME STABILIZATION PER CITY OF IRVING STANDARD SPECIFICATION SECTION 02507 *SUBGRADE PREPARATION*

NORTH OF TRINITY RAILWAY EXPRESS RAILROAD:
NATURAL GROUND COMPACTED TO 97% STANDARD PROCTOR AT 0-3% ABOVE OPTIMUM MOISTURE WITH 6" FLEXBASE PER CITY OF IRVING STANDARD SPECIFICATION SECTION 02507 *SUBGRADE PREPARATION*

③ ROADWAY EXCAVATION SUBGRADE PREPARATION TYPICAL HALF-SECTION

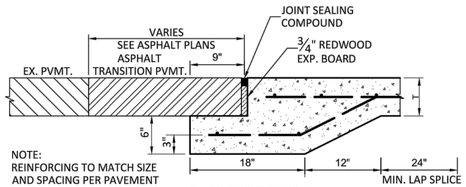
N.T.S.



NOTE:
POUR HEADER INTEGRAL w/ PAVING
"T"= PAVEMENT THICKNESS

CONCRETE HEADER

N.T.S

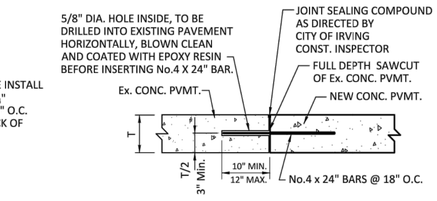


NOTE:
REINFORCING TO MATCH SIZE AND SPACING PER PAVEMENT CROSS SECTION

"T"= PAVEMENT THICKNESS

SPECIAL UNDERCUT HEADER

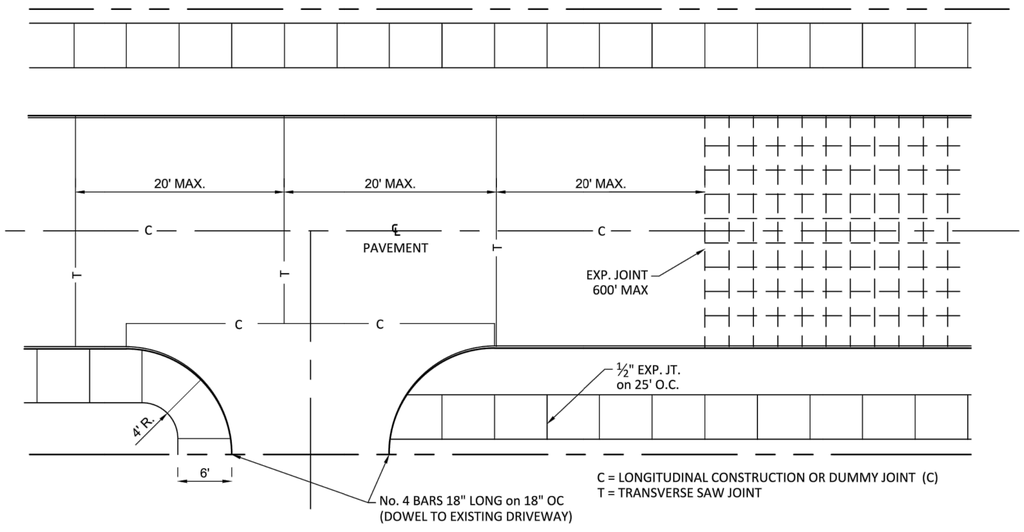
N.T.S



"T"= PAVEMENT THICKNESS
STANDARD METHOD FOR JOINING NEW REINFORCED CONCRETE PAVEMENT TO EXISTING REINFORCED CONCRETE CONCRETE PAVEMENT INCLUDING DRIVEWAYS AND CONCRETE CURBS

④ DOWEL-ON ANCHOR JOINT DETAIL

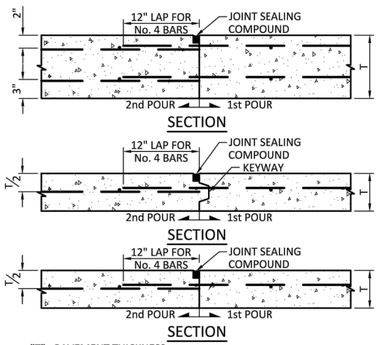
N.T.S.



C = LONGITUDINAL CONSTRUCTION OR DUMMY JOINT (C)
T = TRANSVERSE SAW JOINT

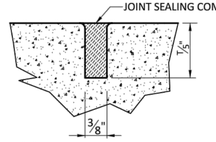
TYPICAL PAVEMENT PLAN

N.T.S.



CONSTRUCTION JOINTS

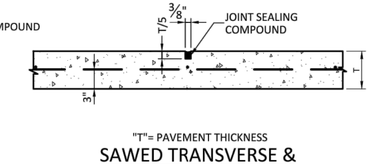
N.T.S.



"T"= PAVEMENT THICKNESS

GROOVE DETAILS

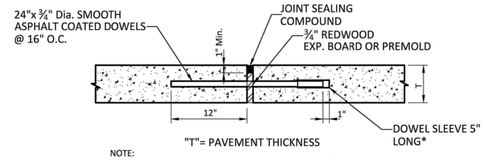
N.T.S.



"T"= PAVEMENT THICKNESS

SAWED TRANSVERSE & LONGITUDINAL DUMMY JOINT

N.T.S.



"T"= PAVEMENT THICKNESS

NOTE:
SLEEVES FOR DOWELS SHALL HAVE AN INSIDE DIA. OF 1/16" GREATER THAN THE DIA. OF THE DOWELS & SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.
END OF DOWEL INSERTED INTO SLEEVE SHALL BE LUBRICATED

EXPANSION JOINT

N.T.S.

REVISIONS:	REV	DATE	BY
ADDED CONCRETE CURB & GUTTER REPLACEMENT DETAIL	5	03.07.19	APT
REVISED FOR CLARIFICATION PURPOSES	4	04.04.18	APT
REVISED ROADWAY EXCAVATION SUBGRADE PREPARATION	3	01.19.18	APT
REVISED DETAIL TITLE	2	08.03.16	APT
CORRECTED TYPOGRAPHICAL ERROR.	1	05.27.16	APT

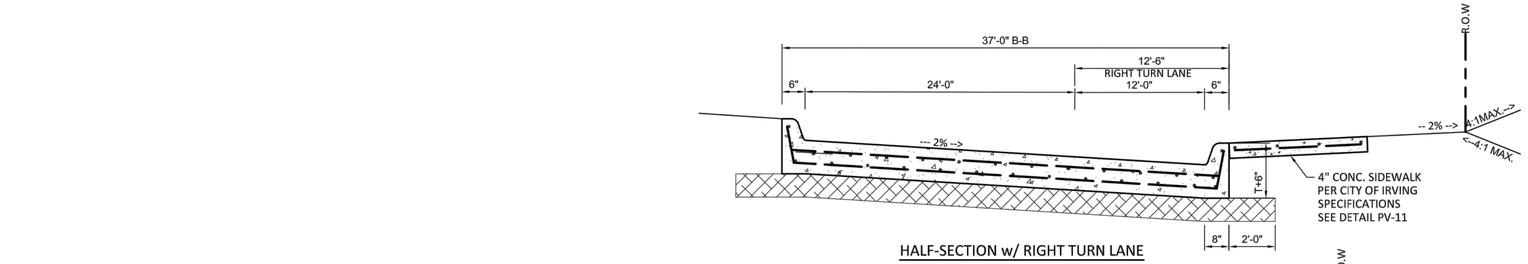
SCALE: As Noted
DATE:
DESIGNED BY: Col-CIP
DRAWN BY: APT
REVIEWED BY: Col-CIP
CREATED BY: Col-CIP

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

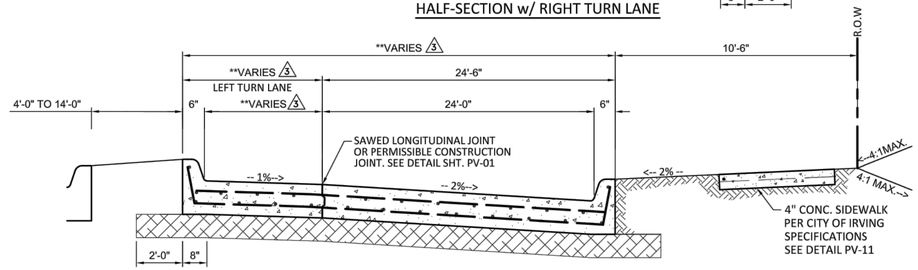
PAVING DETAILS FOR CONCRETE STREETS

SHEET 213

K:\PROJECTS\DETAILS\PVMT\DWG\PV-01 PAVING DETAILS FOR CONCRETE STREETS\PV-01 PAVING DETAILS FOR CONCRETE STREETS.DWG

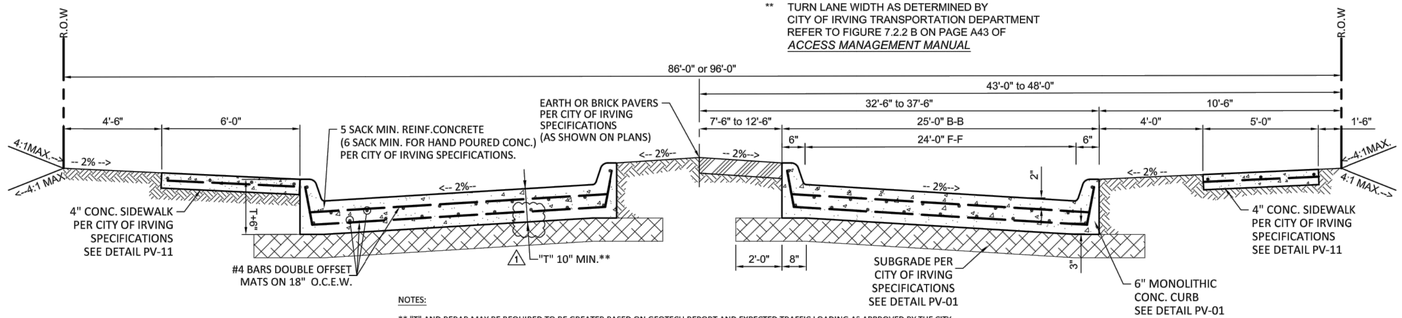


HALF-SECTION w/ RIGHT TURN LANE



3 HALF-SECTION w/ LEFT TURN LANE

** TURN LANE WIDTH AS DETERMINED BY
CITY OF IRVING TRANSPORTATION DEPARTMENT
REFER TO FIGURE 7.2.2 B ON PAGE A43 OF
ACCESS MANAGEMENT MANUAL



NOTES:

** "T" AND REBAR MAY BE REQUIRED TO BE GREATER BASED ON GEOTECH REPORT AND EXPECTED TRAFFIC LOADING AS APPROVED BY THE CITY.

THE CONTRACTOR SHALL INSTALL SUPPORTING CHAIRS FOR REINFORCING STEEL ON A ONE SQUARE YARD SPACING IN ALL CONCRETE PAVEMENT. THE CHAIRS, TO BE INSTALLED AND SHALL HAVE BASES OR PLATES ON BOTTOM. THE CHAIRS SHALL CONFORM TO WIEGHTS, WIRE SIZES AND DIMENSIONS AS SPECIFIED BY THE TEXAS DOT FOR DIFFERENT PAVEMENT THICKNESSES. A CONSTRUCTION JOINT SHALL BE USED IN ALL BLOCK-CUTS FOR DRIVEWAYS, INLETS, ETC. CONCRETE STREET FINISH SHALL BE DONE WITH A BAKER BROOM.

SECTION 2

MASTER THOROUGHFARE 4D ROADWAY

TYPICAL CROSS SECTION 4 LANE DIVIDED CONCRETE PAVEMENT

N.T.S.

REV	DATE	BY	REVISIONS:
3	2/07/20	APT	REVISED HALF SECTION w/ LEFT TURN TO COORDINATE WITH COI ACCESS MANAGEMENT MANUAL
2	5/22/15	APT	REVISED TITLE
1	10/16/14	APT WEL	REVISED DIMENSION

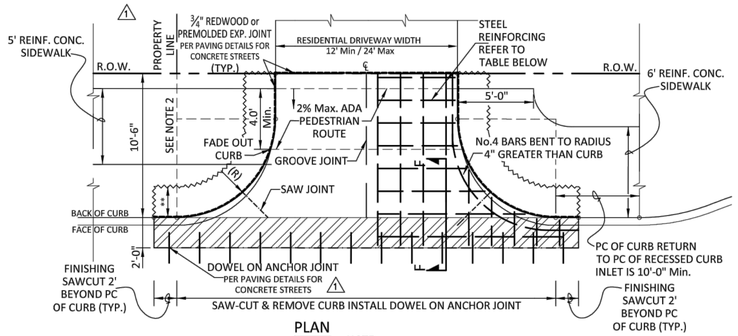
SCALE:
DATE:
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
CREATED BY: CITY CREW

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PAVING DETAILS
FOR
CONCRETE DIVIDED STREETS

SHEET 214

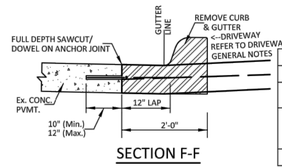
K:\PROJECTS\DETAILS\PVMT\DWG\PV-03 PAVING DETAILS FOR CONC DIVIDED STREETS\PV-03-RV01.DWG



PLAN

** SUBGRADE TO MATCH THAT OF STREET PVMT AND EXTEND 2' BEYOND BACK OF CURB AND EDGE OF DRIVEWAY WITHIN THE R.O.W.

NOTE:
REFER TO CITY OF IRVING
PAVING DETAILS FOR CONCRETE STREETS SHT. PV-01 &
STANDARD DETAILS FOR SIDEWALKS SHT. PV-11
CITY OF IRVING STANDARD SPECIFICATIONS SECTION 02602
REINFORCED CONCRETE DRIVEWAY APPROACHES



SECTION F-F

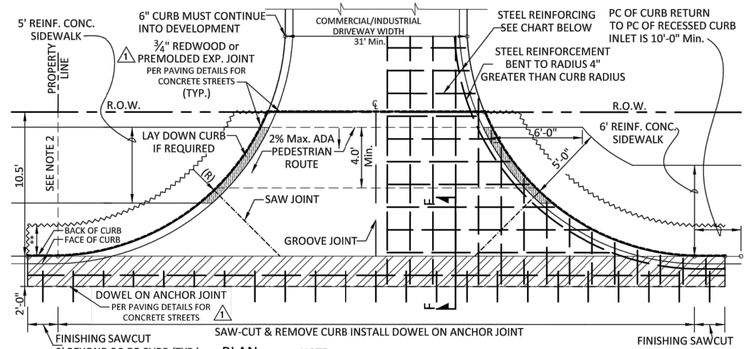
RESIDENTIAL (RES)	
CONCRETE THICKNESS	6" Minimum
STEEL REINFORCEMENT SIZE & SPACING	No.4 Bars @ 18" On Center Each Way
(R) BACK OF CURB RADII	6'-0" R.: Residential & Collector Streets with On-Street Parking 10'-0" R: Collector Streets without On-Street Parking & All Arterials
MINIMUM FALL	1.0%

RESIDENTIAL DRIVEWAY/ALLEY APPROACH

(NTS)

DRIVEWAY GENERAL NOTES

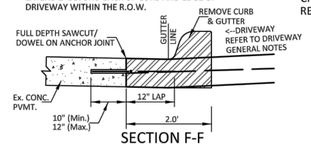
1. THE SURFACE OF A DRIVEWAY APPROACH WILL TYPICALLY RISE AT LEAST 0.5 FEET (6") ABOVE THE STREET GUTTER ELEVATION AT THE CENTERLINE OF THE DRIVEWAY UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. A DRIVEWAY PROFILE GRADE OF NO GREATER THAN 2% AND NO LESS THAN 1% SHALL CROSS THE PATH OF THE PUBLIC SIDEWALK PARALLELING THE STREET IN ACCORDANCE WITH CURRENT ACCESSIBILITY STANDARDS.
2. PC OF CURB RETURN SHALL NOT EXTEND BEYOND PROJECTED PROPERTY LINE OF THE ADJACENT LOT.
3. SINGLE FAMILY RESIDENTIAL:
   THE MAXIMUM GRADIENT FOR SINGLE-FAMILY RESIDENT LAND USE ACCESS SHALL BE 10% EXCEPT THAT AN EXCEPTION ALLOWING A MAXIMUM GRADE OF UP TO 15% MAY BE GRANTED BY THE CITY ENGINEER.
4. MULTI-FAMILY AND COMMERCIAL:
   THE MAXIMUM GRADIENT FOR DRIVEWAYS SERVING MULTI-FAMILY AND COMMERCIAL LAND USES SHALL BE 8% EXCEPT THAT AN EXCEPTION ALLOWING A MAXIMUM GRADE OF UP TO 12% MAY BE GRANTED IN WRITING BY THE CITY ENGINEER.
5. INDUSTRIAL:
   DRIVEWAYS PROVIDING ACCESS FOR INDUSTRIAL LAND USE PROPERTIES SHALL HAVE A MAXIMUM PROFILE GRADE OF 6% ALTHOUGH AN EXCEPTION ALLOWING A GRADE OF UP TO 10% MAY BE GRANTED IN WRITING BY THE CITY ENGINEER.
6. FIRE LANES:
   THE MAXIMUM GRADE FOR DRIVEWAYS DESIGNATED AS FIRE LANES SHALL BE 6% UNLESS A VARIANCE IS GRANTED IN WRITING BY THE FIRE MARSHALL.



PLAN

**SUBGRADE TO MATCH THAT OF STREET PVMT AND EXTEND 2' BEYOND BACK OF CURB AND EDGE OF DRIVEWAY WITHIN THE R.O.W.

NOTE:
REFER TO CITY OF IRVING PAVING DETAILS FOR CONCRETE STREETS SHT PV-01 & STANDARD DETAILS FOR SIDEWALKS SHT. PV-11
CITY OF IRVING STANDARD SPECIFICATIONS SECTION 02602
REINFORCED CONCRETE DRIVEWAY APPROACHES

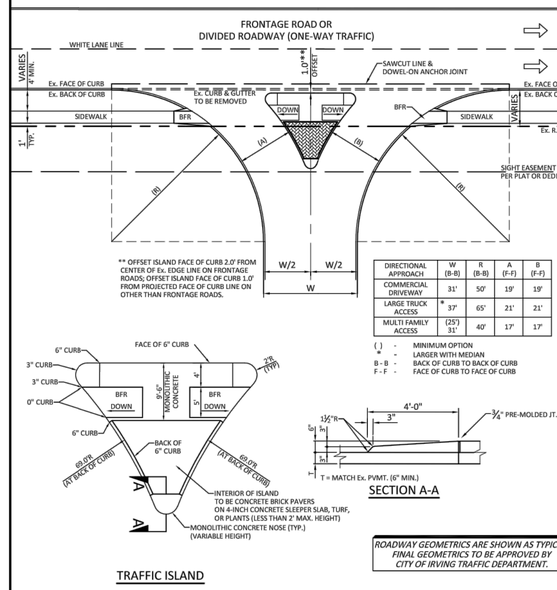


SECTION F-F

COMMERCIAL (COM) & INDUSTRIAL (IND)	
CONCRETE THICKNESS	8" Minimum
STEEL REINFORCEMENT SIZE & SPACING	No.4 Bars @ 12" On Center Each Way or No.5 Bars @ 18" On Center Each Way
(R) BACK OF CURB RADII	20'- 0" Min. 20'- 0" Firelane 30'- 0" Commercial (Com) 40'- 0" Industrial (Ind) & Other (Max.)
MINIMUM FALL	1.0%

COMMERCIAL / INDUSTRIAL DRIVEWAY APPROACH DETAIL

(NTS)

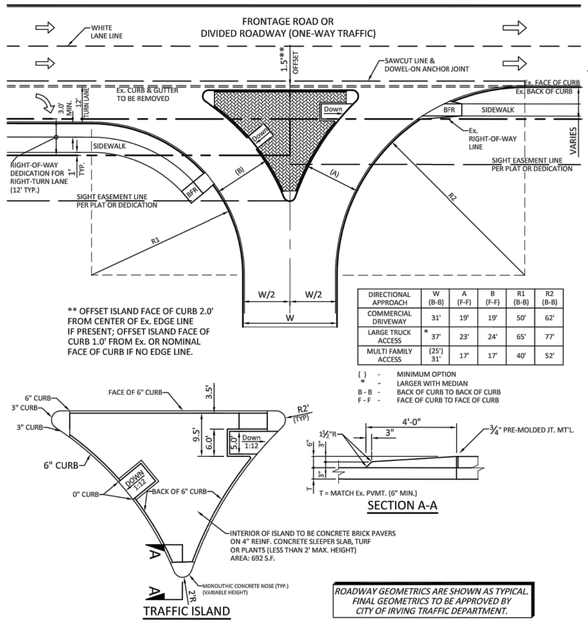


DIRECTIONAL APPROACH	W (B-B)	R (B-B)	A (F-F)	B (F-F)
COMMERCIAL DRIVEWAY	31'	50'	19'	19'
LARGE TRUCK ACCESS	* 37'	65'	21'	21'
MULTI FAMILY ACCESS	(25') 31'	40'	17'	17'

ROADWAY GEOMETRICS ARE SHOWN AS TYPICAL. FINAL GEOMETRICS TO BE APPROVED BY CITY OF IRVING TRAFFIC DEPARTMENT.

DIRECTIONAL COMMERCIAL DRIVE APPROACH

N.T.S.

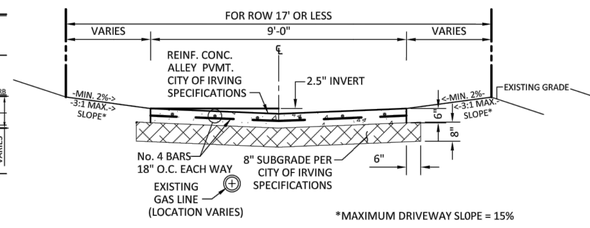


DIRECTIONAL APPROACH	W (B-B)	A (F-F)	B (F-F)	R1 (B-B)	R2 (B-B)
COMMERCIAL DRIVEWAY	31'	19'	19'	50'	62'
LARGE TRUCK ACCESS	* 37'	23'	24'	65'	77'
MULTI FAMILY ACCESS	(25') 31'	17'	17'	40'	52'

ROADWAY GEOMETRICS ARE SHOWN AS TYPICAL. FINAL GEOMETRICS TO BE APPROVED BY CITY OF IRVING TRAFFIC DEPARTMENT.

DIRECTIONAL COMMERCIAL DRIVE APPROACH w/ DECELERATION LANE

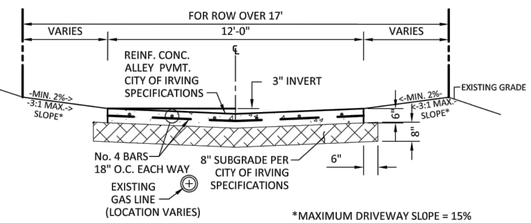
N.T.S.



TYPICAL ALLEY SECTION

OPTION 1

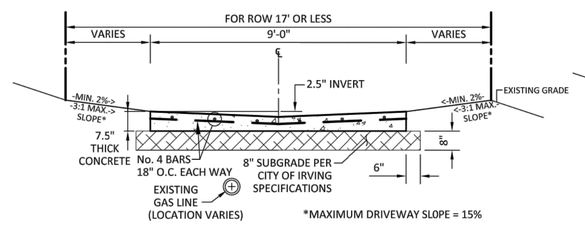
N.T.S.



TYPICAL ALLEY SECTION

OPTION 1

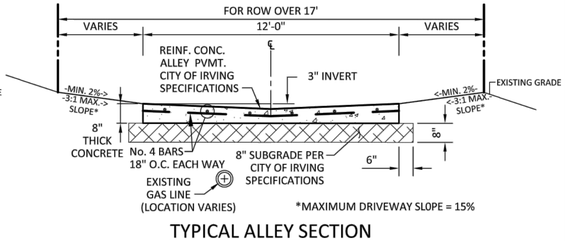
N.T.S.



TYPICAL ALLEY SECTION

OPTION 2

N.T.S.



TYPICAL ALLEY SECTION

OPTION 2

N.T.S.

REV	DATE	BY	REVISIONS:
3	04.12.19	APT	ADDED ALLEY DETAILS
2	04.12.19	Col T&T JRB/cpf	REVISED GENERAL NOTES ADDED NOTE 2 REVISED DETAIL TO REFLECT ADDITION OF NOTE 2
1	04.04.18		ISSUED FOR CLARIFICATION PURPOSES

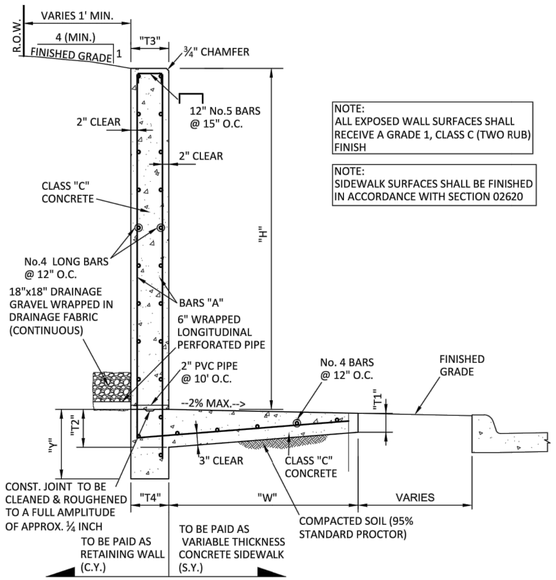
SCALE: As Noted
DATE:
DESIGNED BY: Col-CIP
DRAWN BY: Col-CIP
REVIEWED BY: Col-CIP
CREATED BY: Col-CIP

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

PAVING DETAILS FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL, DIRECTIONAL DRIVEWAYS and ALLEYS

SHEET 215

K:\PROJECTS\DETAILS\PVMT\DWG\PV-04 PAVING DETAILS FOR CONC DRIVEWAYS & ALLEYS\PV-04 DRIVEWAYS & ALLEYS.DWG



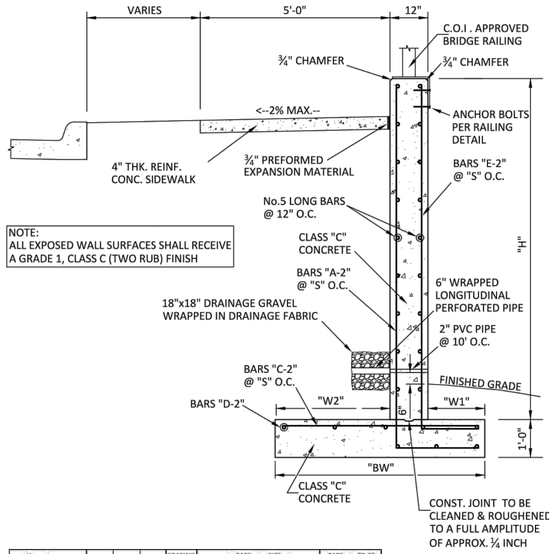
NOTE:
ALL EXPOSED WALL SURFACES SHALL RECEIVE A GRADE 1, CLASS C (TWO RUB) FINISH

NOTE:
SIDEWALK SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 02620

H		W *	T1	T2	T3	T4	Y	BARS "A"		
OVER	BUT NOT OVER							SIZE	SPAC.	SIZE
1'-6"	3'-0"	5'-0"	6"	8"	10"	10"	1'-2'	#4	15"	
3'-0"	4'-0"	5'-0"	8"	10"	10"	10"	1'-8"	#4	15"	
4'-0"	5'-0"	5'-0"	8"	10"	10"	10"	1'-10"	#4	15"	
5'-0"	6'-0"	5'-0"	8"	10"	10"	10"	2'-4"	#5	12"	
6'-0"	7'-0"	6'-0"	10"	12"	10"	10"	2'-10"	#5	12"	

*MEASURED FROM THE FACE OF WALL INCLUDING ANY FACADE IF INSTALLED

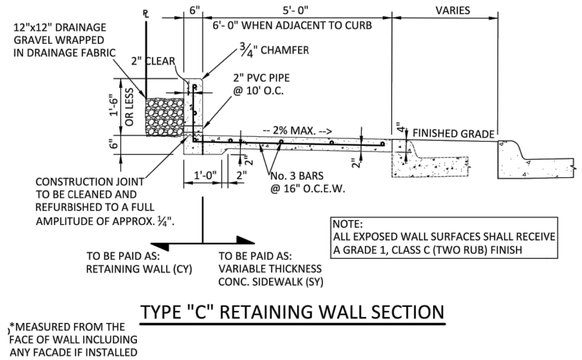
TYPE "A" RETAINING WALL SECTION
N.T.S.



NOTE:
ALL EXPOSED WALL SURFACES SHALL RECEIVE A GRADE 1, CLASS C (TWO RUB) FINISH

H		BW	W1	W2	SPACING	BARS SIZE				BARS	"D-2"
OVER	BUT NOT OVER				"S"	"A-2"	"B-2"	"C-2"	"E-2"	SIZE	No.
	3'-0"	3'-0"	6"	1'-6"	16"	#4	#3	#4	#4	#4	4
3'-0"	4'-0"	3'-6"	8"	1'-10"	16"	#4	#3	#4	#4	#4	4
4'-0"	5'-0"	4'-6"	1'-4"	2'-2"	16"	#4	#3	#4	#4	#4	5
5'-0"	6'-0"	5'-6"	1'-6"	3'-0"	12"	#4	#4	#4	#4	#5	5
6'-0"	7'-0"	6'-6"	1'-6"	4'-0"	16"	#5	#4	#4	#5	#5	6
7'-0"	8'-0"	7'-6"	1'-6"	5'-0"	16"	#5	#4	#4	#5	#5	6
8'-0"	9'-0"	8'-6"	1'-6"	6'-0"	12"	#5	#4	#4	#5	#5	7
9'-0"	10'-0"	9'-6"	1'-6"	7'-0"	12"	#6	#4	#4	#6	#5	7

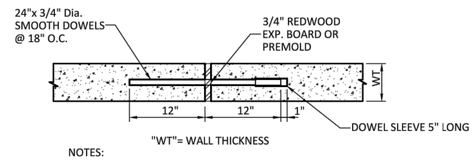
TYPE "B" RETAINING WALL SECTION
NOT TO SCALE



NOTE:
ALL EXPOSED WALL SURFACES SHALL RECEIVE A GRADE 1, CLASS C (TWO RUB) FINISH

*MEASURED FROM THE FACE OF WALL INCLUDING ANY FACADE IF INSTALLED

TYPE "C" RETAINING WALL SECTION



NOTES:
SLEEVES FOR DOWELS SHALL HAVE AN INSIDE DIA. OF 1/16" GREATER THAN THE DIA. OF THE DOWELS & SHALL BE APPROVED BY THE ENGINEER PRIOR TO USE.

1/2" REDWOOD OR PREMOLDED EXPANSION JOINTS w/ DOWELS AS SHOWN, SHALL BE SPACED @ 25' ON CENTER, MATCHING SIDEWALK EXPANSION JOINTS, FOR FULL DEPTH OF ALL WALLS. (i.e. TYPE A, B and C.)

RETAINING WALL EXPANSION JOINT
N.T.S.

REV	DATE	BY	REVISIONS:	ISSUE DATE
				9/1/16

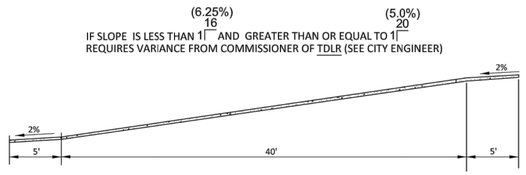
SCALE:
DATE:
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
SURVEY BY: CITY CREW

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
RETAINING WALLS
Type "A", Type "B" & Type "C"

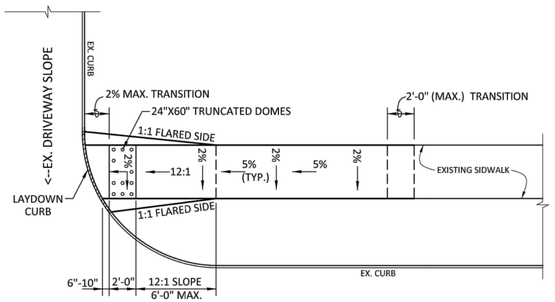
SHEET 216

K:\PROJECTS\DETAILS\PVMT\DWG\PV-10 RETAINING WALL\PV-10.DWG

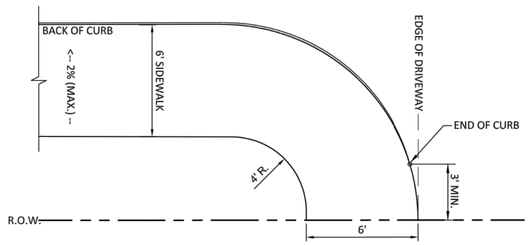


NOTES:
1. TDLR - TEXAS DEPARTMENT OF LICENSING & REGULATION
2. NO GROOVES, CONTRAST COLOR OR HANDRAILS REQUIRED FOR RAMPS AS SHOWN ABOVE.

A.D.A. MAXIMUM RUNNING GRADES FOR CONTINOUS SIDEWALK

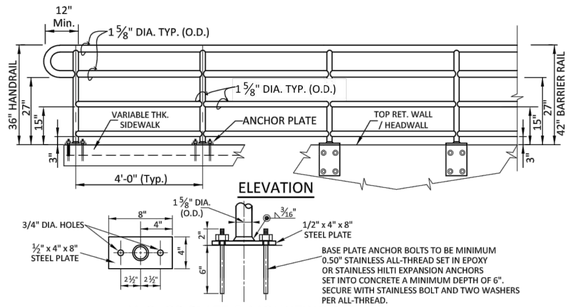


NEW SIDEWALK TRANSITION TO EXISTING FULL CURB DRIVEWAY



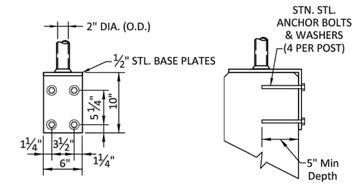
TYPICAL SIDEWALK ADJACENT TO CURB AT A FADED CURB DRIVEWAY

(NO CURB CUT NEEDED)



ANCHOR PLATE & MOUNTING DETAILS

(VARIABLE THK. SIDEWALK)



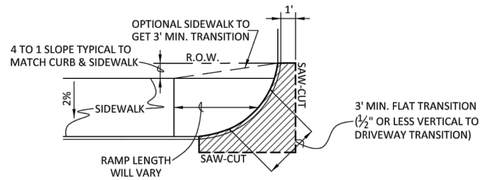
ANCHOR PLATE & MOUNTING DETAILS

(WALLS & RETAINING WALLS)

NOTES:
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS OF RAILING PRIOR TO INSTALLATION FOR APPROVAL
2. USE I COAT OF 3 MIL ZINC RICH PRIMER AND 1 COAT ZINC RICH FINISH COAT (COLOR TO BE DETERMINED BY ENGINEER)
3. SEE CITY OF IRVING STANDARD SPECIFICATIONS SECTIONS 01005 & 05101

TYPE "A" 36" HANDRAIL / 42" BARRIER RAIL (2)(3)(4)(5)(6)

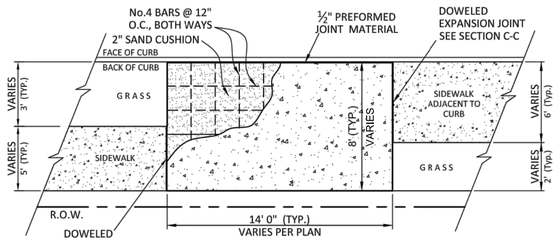
N.T.S



PLAN

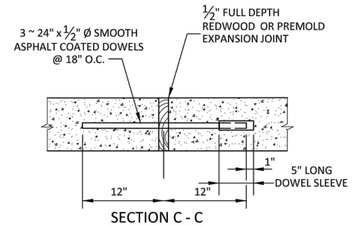
NOTE: DOWEL INTO SIDEWALK & DRIVEWAY W/ #3 @18" O.C.

CURB CUT DETAIL FOR 6' SIDEWALK ADJACENT TO CURB AT DRIVEWAYS AND OTHER CURB LOCATIONS

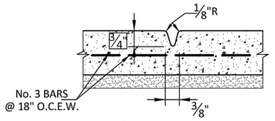


NOTES
1. CHAMFER ALL OUTSIDE CORNERS 1/2" RADIUS.
2. CONCRETE TO BE 3000 P.S.I (6" THICK)
3. REINFORCED STEEL TO BE A S.T.M. A615 GRADE 40, OR GRADE 60.
4. SURFACE TO RECEIVE A FINE BROOM SURFACE.
5. A 2" SAND CUSHION REQUIRED.

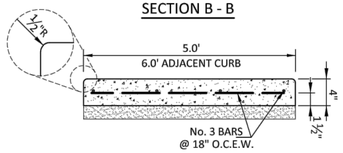
BUS STOP PAD



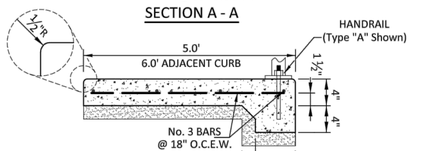
SECTION C - C



SECTION B - B

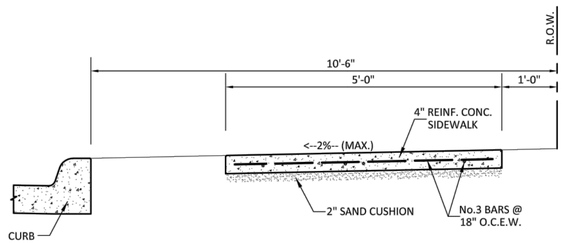


SECTION A - A

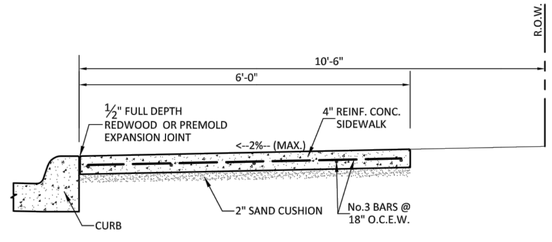


SECTION A - A*
w/ Type "A" Handrail

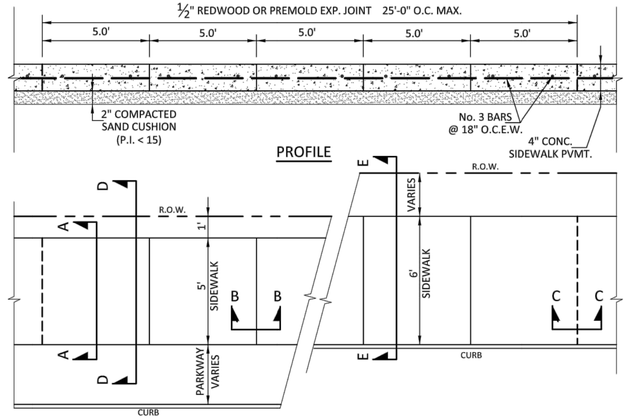
* To Be Paid as Variable Thickness Reinf. Conc. Sidewalk



5' SIDEWALK
SECTION D-D



6' SIDEWALK ADJACENT TO CURB
SECTION E-E



PLAN

REINFORCED SIDEWALK PLAN & PROFILE

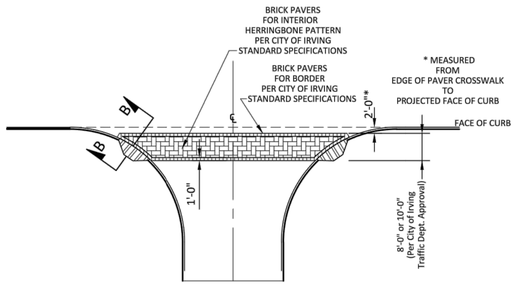
K:\PROJECTS\DETAILS\PVMT\DWG\PV-11 SIDEWALK DETAILS\PV-11.DWG

REV	DATE	BY	REVISIONS:
6	8/18/21	APT	ADDED DIMENSIONING FOR BARRIER RAIL USAGE
5	12/18/19	APT	CHANGED FROM 2" & 2 1/2" TO 1 5/8" O.D. TO BE ADA COMPLIANT
4	6/07/19	APT	ADDED BOTTOM RAIL, ADJUSTED RAIL SPACING
3	9/06/16	APT	ADDED WALL & RETAINING WALL MOUNTING DETAILS
2	9/06/16	APT	ADDED TYPE "A" HANDRAIL DETAILS

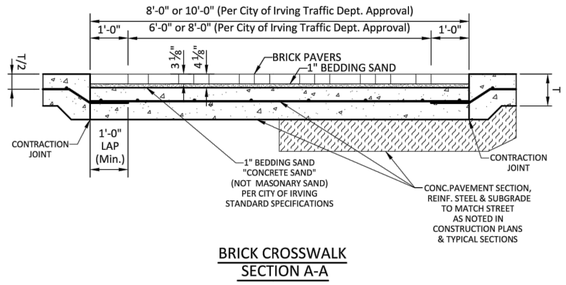
SCALE:
DATE:
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
CREATED BY: CITY CREW

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

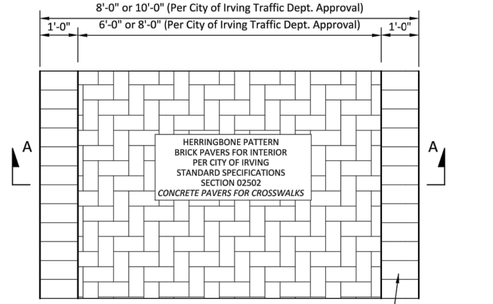
STANDARD DETAILS for SIDEWALKS



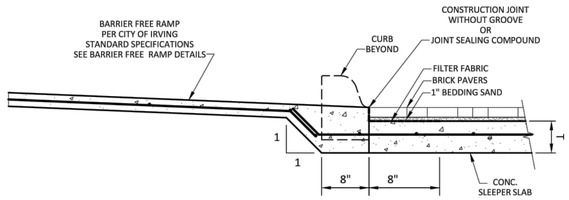
BRICK CROSSWALK



BRICK CROSSWALK
SECTION A-A



BRICK CROSSWALK
PLAN



BARRIER FREE RAMP/BRICK CROSSWALK
SECTION B-B

REV	DATE	BY	REVISIONS:
	7/24/18		Issued

SCALE: Not To Scale

DESIGNED BY: Col-CIP

DRAWN BY: Col-CIP

REVIEWED BY: Col-CIP

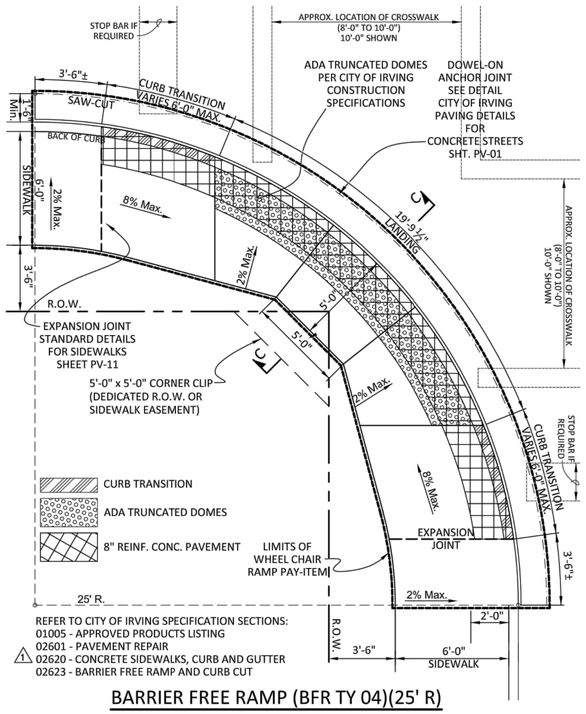
CREATED BY: Col-CIP

CITY OF IRVING
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
for
BRICK PAVER CROSSWALKS

SHEET 218

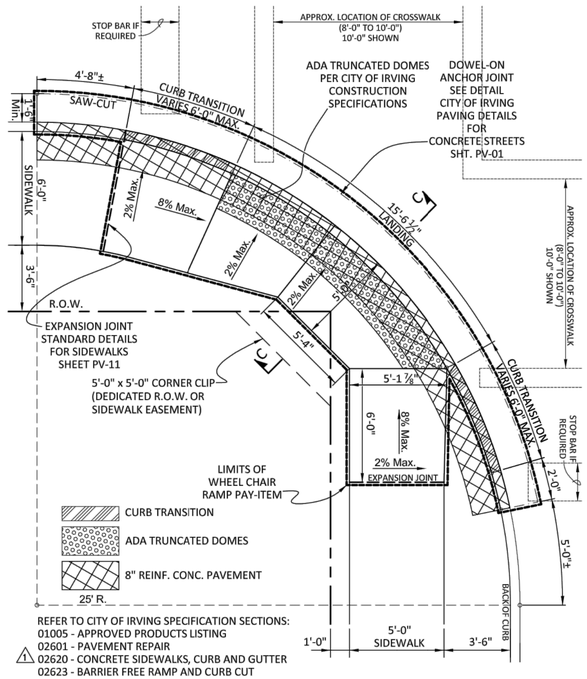
K:_PROJECTS_DETAILS_PVMT_DWG_PV-12 PAVING DETAILS FOR BRICK PAVER CROSSWALKS_PV-12 DETAILS FOR BRICK PAVER CROSSWALKS.DWG



BARRIER FREE RAMP (BFR TY 04)(25' R)

NTS

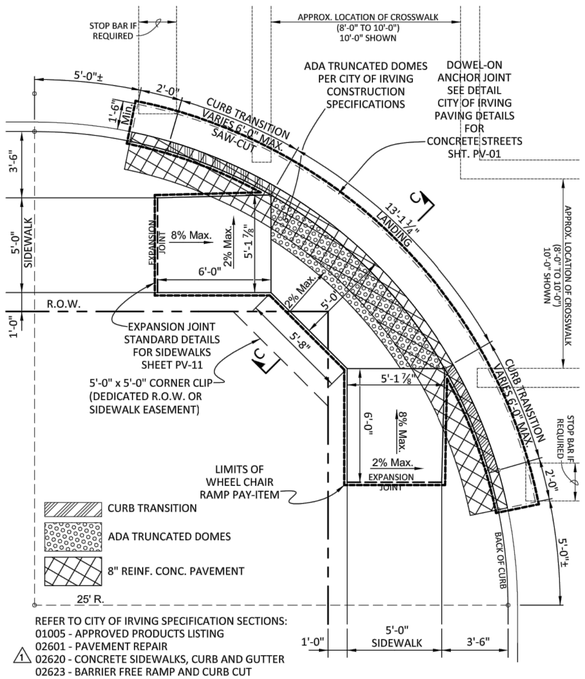
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
1 02601 - PAVEMENT REPAIR
02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT



BARRIER FREE RAMP (BFR TY 05)(25' R)

NTS

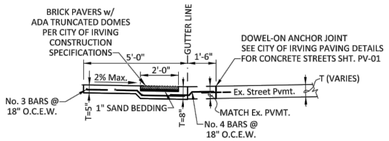
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
1 02601 - PAVEMENT REPAIR
02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT



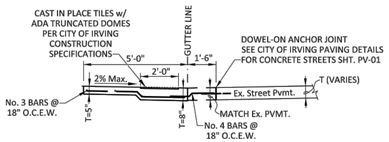
BARRIER FREE RAMP (BFR TY 06)(25' R)

NTS

REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
1 02601 - PAVEMENT REPAIR
02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT



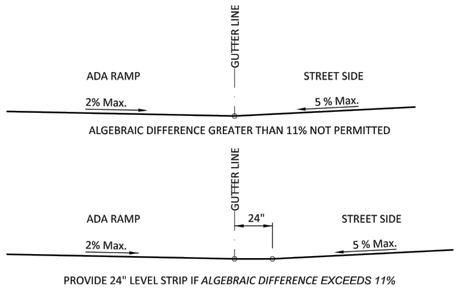
BRICK PAVERS w/ ADA TRUNCATED DOMES



BRICK PAVERS w/ CAST IN PLACE TILES

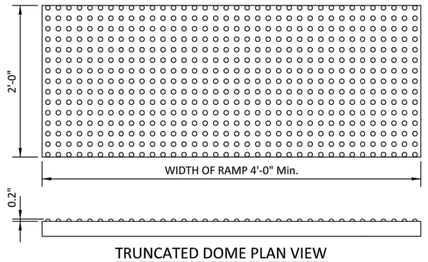
SECTION C - C

NTS

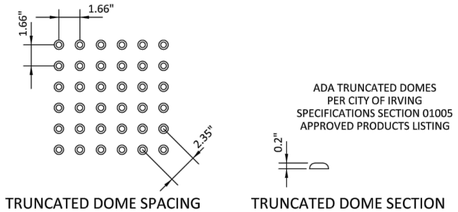


COUNTER SLOPE CONDITIONS

NTS



TRUNCATED DOME PLAN VIEW



TRUNCATED DOME SPACING

TRUNCATED DOME SECTION

ADA TRUNCATED DOME DETECTABLE WARNINGS

NTS

BARRIER FREE RAMP NOTES:

1 LAYDOWN CURB LENGTH VARIES (MINIMUM LENGTH AS SHOWN)

2 BARRIER FREE RAMPS SHALL BE DOWELED INTO EXISTING STREET PAVEMENT PER DOWEL-ON ANCHOR JOINT DETAIL, SEE CITY OF IRVING PAVING DETAILS FOR CONCRETE STREETS SHEET PV-01.

3 BARRIER FREE RAMPS SHALL BE 8" REINFORCED CONCRETE (4000 PSI) FOR A 2 FOOT LONG WIDTH FROM BACK OF CURB. THE REMAINDER OF THE BARRIER FREE RAMP SHALL BE 5" REINFORCED CONCRETE (4000 PSI). THE ENTIRE BARRIER FREE RAMP SHALL HAVE A 1" SAND CUSHION.

4 ALL 8% RAMPS CANNOT EXCEED 6' IN LENGTH.

5 FILL TO BE MINIMUM 95% STANDARD PROCTOR DENSITY AND SHALL BE SELECT FILL WITH P.I. LESS THAN 15.

6 VERTICAL TRANSITION FROM RAMP TO STREET GUTTER SHALL NOT BE GREATER THAN A VERTICAL LIP OF ⅜".

7 ADA TRUNCATED DOMES SHALL BE PER CITY OF IRVING CONSTRUCTION SPECIFICATIONS SECTION 01005.

REVISIONS:	REV	DATE	BY
CORRECTED CONC. SIDEWALKS, CURB AND GUTTER SPECIFICATION NUMBER	1	12.14.20	APT
PUBLISHED TO ENGINEERING DOWNLOADS	1	01.08.18	APT WEL

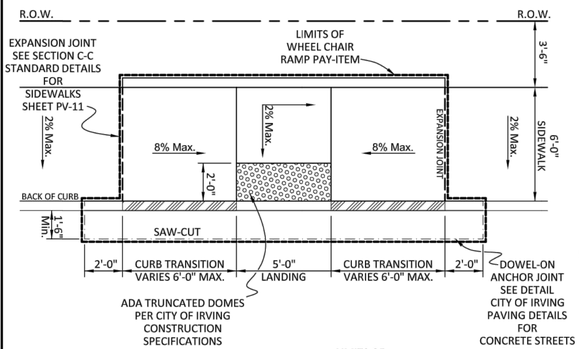
SCALE: NTS
DATE: 01/08/2018
DESIGNED BY: Col/CIP
DRAWN BY: APT
REVIEWED BY: WEL

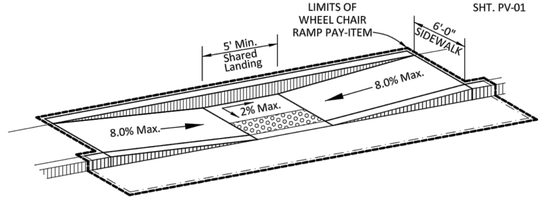
CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
BARRIER FREE RAMPS
FOR
25' RADIUS CURB RETURNS

SHEET 219

K:\PROJECTS\DETAILS\PVMT\DWG\PV-15 PED ACCESS BFR R-25FT\PV-15 BARRIER FREE RAMPS 25.DWG





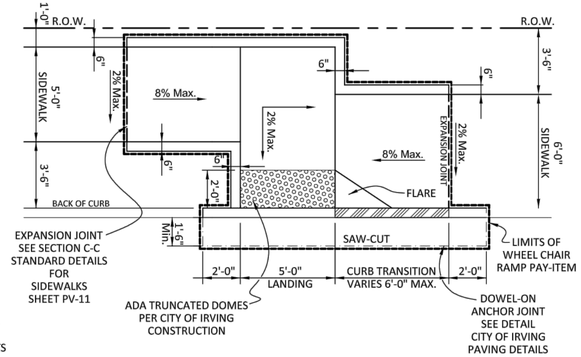
CURB TRANSITION
ADA TRUNCATED DOMES

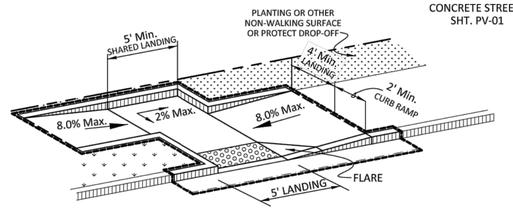
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
02601 - PAVEMENT REPAIR
⚠1 02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT

(Use only where water will not pond in the landing.)

BARRIER FREE RAMP (BFR TY 07)

NTS





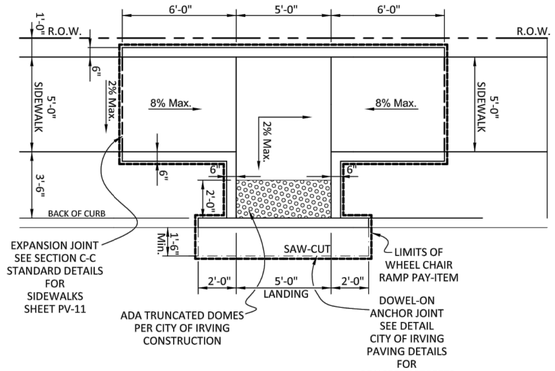
CURB TRANSITION
ADA TRUNCATED DOMES

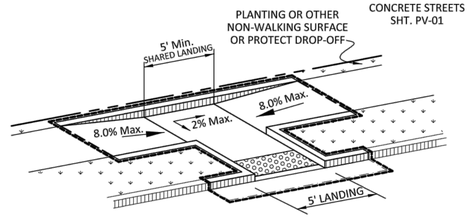
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
02601 - PAVEMENT REPAIR
⚠1 02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT

(Use only where water will not pond in the landing.)

BARRIER FREE RAMP (BFR TY 08)

NTS





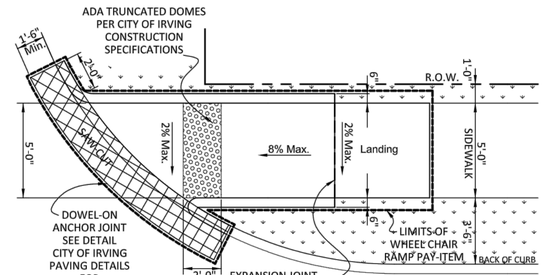
CURB TRANSITION
ADA TRUNCATED DOMES

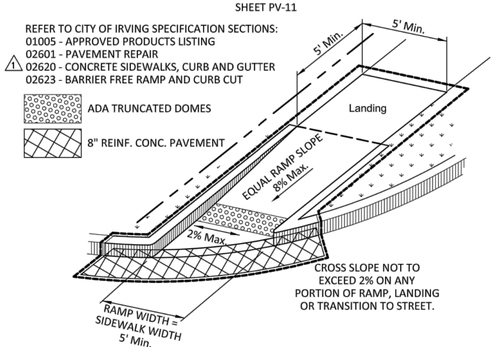
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
02601 - PAVEMENT REPAIR
⚠1 02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT

(Use only where water will not pond in the landing.)

BARRIER FREE RAMP (BFR TY 09)

NTS





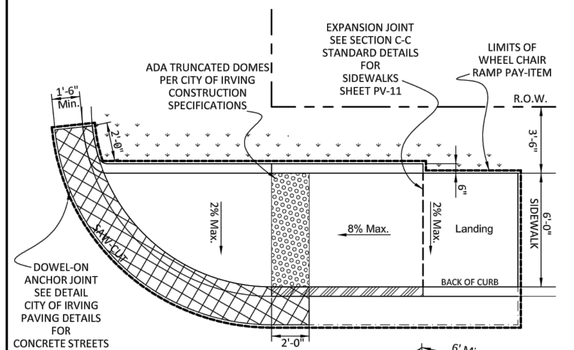
REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
⚠1 02601 - PAVEMENT REPAIR
02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT

ADA TRUNCATED DOMES

8" REINF. CONC. PAVEMENT

BARRIER FREE RAMP (BFR TY 10)

NTS



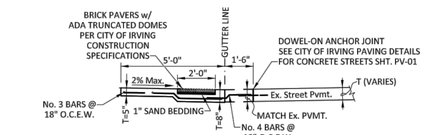
CURB TRANSITION
ADA TRUNCATED DOMES

REFER TO CITY OF IRVING SPECIFICATION SECTIONS:
01005 - APPROVED PRODUCTS LISTING
02601 - PAVEMENT REPAIR
⚠1 02620 - CONCRETE SIDEWALKS, CURB AND GUTTER
02623 - BARRIER FREE RAMP AND CURB CUT

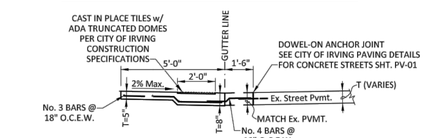
(Use only where water will not pond in the landing.)

BARRIER FREE RAMP (BFR TY 11)

NTS



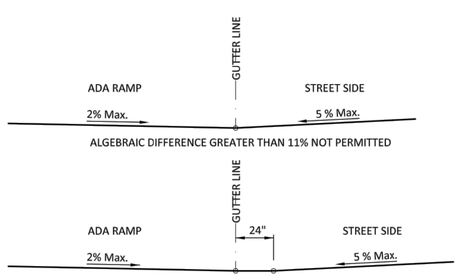
BRICK PAVERS w/ ADA TRUNCATED DOMES



BRICK PAVERS w/ CAST IN PLACE TILES

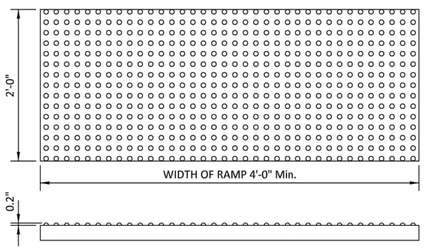
SECTION C - C

NTS

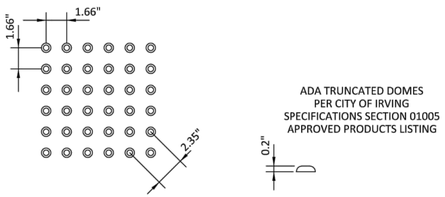


COUNTER SLOPE CONDITIONS

NTS



TRUNCATED DOME PLAN VIEW



TRUNCATED DOME SPACING

TRUNCATED DOME SECTION

ADA TRUNCATED DOME DETECTABLE WARNINGS

NTS

BARRIER FREE RAMP NOTES:

1. LAYDOWN CURB LENGTH VARIES (MINIMUM LENGTH AS SHOWN)
2. BARRIER FREE RAMPS SHALL BE DOWELED INTO EXISTING STREET PAVEMENT PER DOWEL-ON ANCHOR JOINT DETAIL, SEE CITY OF IRVING PAVING DETAILS FOR CONCRETE STREETS SHEET PV-01.
3. BARRIER FREE RAMPS SHALL BE 8" REINFORCED CONCRETE (4000 PSI) FOR A 2 FOOT LONG WIDTH FROM BACK OF CURB. THE REMAINDER OF THE BARRIER FREE RAMP SHALL BE 5" REINFORCED CONCRETE (4000 PSI). THE ENTIRE BARRIER FREE RAMP SHALL HAVE A 1" SAND CUSHION.
4. ALL 8% RAMPS CANNOT EXCEED 6' IN LENGTH.
5. FILL TO BE MINIMUM 95% STANDARD PROCTOR DENSITY AND SHALL BE SELECT FILL WITH P.I. LESS THAN 15.
6. VERTICAL TRANSITION FROM RAMP TO STREET GUTTER SHALL NOT BE GREATER THAN A VERTICAL LIP OF ⅜".
7. ADA TRUNCATED DOMES SHALL BE PER CITY OF IRVING CONSTRUCTION SPECIFICATIONS SECTION 01005.

REV	DATE	BY	REVISIONS:
1	12.14.20	APT	CORRECTED CONC. SIDEWALKS, CURB AND GUTTER SPECIFICATION NUMBER
1	01.08.18	APT WEL	PUBLISHED TO ENGINEERING DOWNLOADS

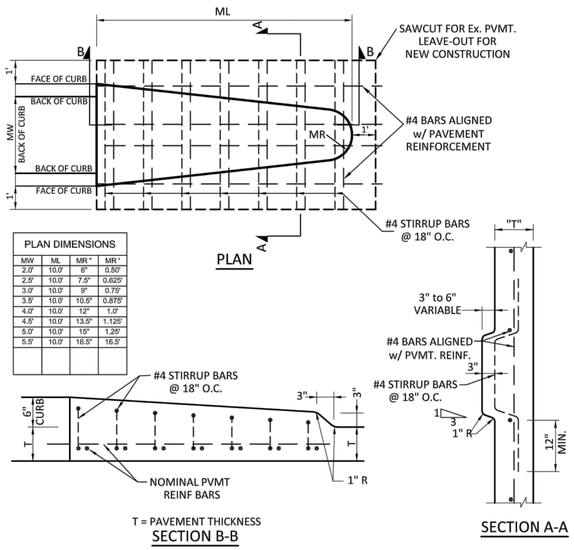
SCALE: NTS
DATE: 01/08/2018
DESIGNED BY: Col/CIP
DRAWN BY: APT
REVIEWED BY: WEL

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS
BARRIER FREE RAMPS
MID-BLOCK AND
COMMERCIAL DRIVEWAYS

SHEET 220

K:\PROJECTS\DETAILS\PVMT\DWG\PV-17 PED ACCESS BFR MID-BLOCK\PV-17 BARRIER FREE RAMPS MID-BLOCK.DWG

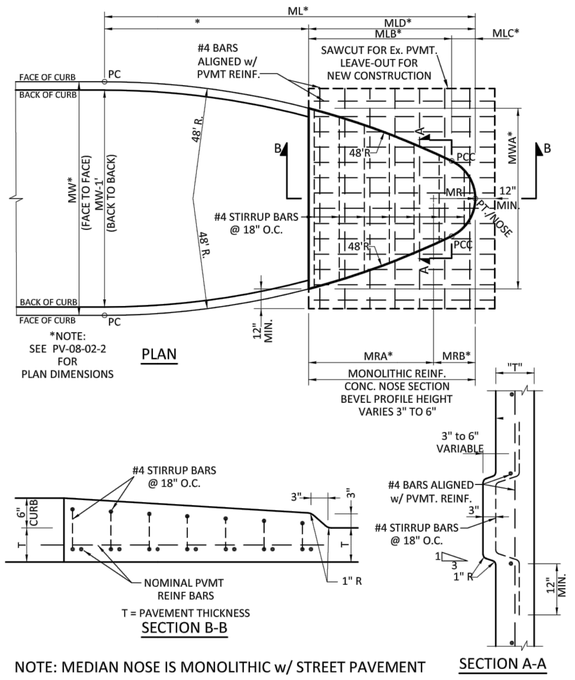


PLAN DIMENSIONS			
MW	ML	MR'	MR''
2.0'	10.0'	6"	0.50'
2.5'	10.0'	7.5"	0.625'
3.0'	10.0'	9"	0.75'
3.5'	10.0'	10.5"	0.875'
4.0'	10.0'	12"	1.0'
4.5'	10.0'	13.5"	1.125'
5.0'	10.0'	15"	1.25'
5.5'	10.0'	16.5"	16.5'

NOTE: MEDIAN NOSE IS MONOLITHIC w/ STREET PAVEMENT

2' TO 5.5' (FACE-TO-FACE) MEDIAN NOSE DETAIL

N.T.S.

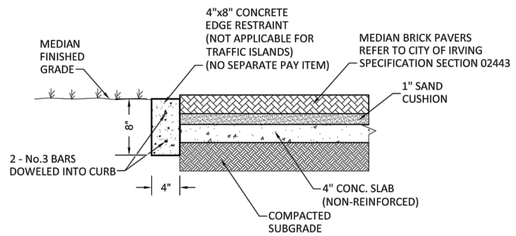


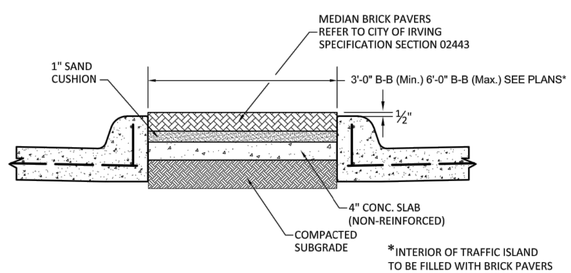
NOTE: MEDIAN NOSE IS MONOLITHIC w/ STREET PAVEMENT

6' TO 27' (FACE-TO-FACE) MEDIAN NOSE DETAIL

N.T.S.

PLAN DIMENSIONS (See PV-08-02-1)									
MW	ML	MLA	MLB	MLC	MLD	MWA	MR	MRA	MRB
6.0'	14.14'	4.14'	9.16'	0.84'	10'	5.64'	14"	8.83'	1.17'
6.5'	14.97"	4.97'	9.18'	0.82'	10'	5.98'	14"	8.83'	1.17'
7.0'	15.58'	5.58'	9.13'	0.87'	10'	6.35'	15"	8.75'	1.25'
7.5'	16.33'	6.33'	9.15'	0.85'	10'	6.66'	15"	8.75'	1.25'
8.0'	17.05'	7.05'	9.17'	0.83'	10'	6.96'	15"	8.75'	1.25'
8.5'	17.25'	7.25'	9.00'	1.00'	10'	7.40'	18"	8.50'	1.50'
9.0'	17.93'	7.93'	9.03'	0.97'	10'	7.68'	18"	8.50'	1.50'
9.5'	18.14'	8.14'	8.87'	1.13'	10'	8.11'	21"	8.25'	1.75'
10.0'	18.78'	8.78'	8.89'	1.11'	10'	8.38'	21"	8.25'	1.75'
10.5'	18.98'	9.98'	8.74'	1.26'	10'	8.80'	24"	8.00'	2.00'
11.0'	19.19'	9.19'	8.58'	1.42'	10'	9.23'	27"	7.75'	2.25'
11.5'	19.80'	9.80'	8.61'	1.39'	10'	9.48'	27"	7.75'	2.25'
12.0'	20.00'	10.00'	8.46'	1.54'	10'	9.89'	30"	7.50'	2.50'
12.5'	20.59'	10.59'	8.49'	1.51'	10'	10.14'	30"	7.50'	2.50'
13.0'	21.16'	11.16'	8.53'	1.47'	10'	10.37'	30"	7.50'	2.50'
13.5'	21.70'	11.70'	8.56'	1.44'	10'	10.60'	30"	7.50'	2.50'
14.0'	22.23'	12.23'	8.58'	1.42'	10'	10.83'	30"	7.50'	2.50'
14.5'	22.74'	12.74'	8.61'	1.39'	10'	11.06'	30"	7.50'	2.50'
15.0'	23.24'	13.24'	8.64'	1.36'	10'	11.28'	30"	7.50'	2.50'
15.5'	23.12'	13.12'	8.34'	1.66'	10'	11.84'	36"	7.00'	3.00'
16.0'	23.62'	13.62'	8.37'	1.63'	10'	12.06'	36"	7.00'	3.00'
16.5'	24.09'	14.09'	8.41'	1.59'	10'	12.27'	36"	7.00'	3.00'
17.0'	23.99'	13.99'	8.11'	1.89'	10'	12.83'	42"	6.50'	3.50'
17.5'	24.47'	14.47'	8.15'	1.85'	10'	13.04'	42"	6.50'	3.50'
18.0'	24.37'	14.37'	7.85'	2.15'	10'	13.60'	48"	6.00'	4.00'
18.5'	24.84'	14.84'	7.89'	2.11'	10'	13.80'	48"	6.00'	4.00'
19.0'	25.30'	15.30'	7.94'	2.06'	10'	13.99'	48"	6.00'	4.00'
19.5'	25.75'	15.75'	7.98'	2.02'	10'	14.19'	48"	6.00'	4.00'
20.0'	25.13'	15.13'	7.34'	2.66'	10'	15.13'	60"	5.00'	5.00'
20.5'	25.59'	15.59'	7.39'	2.61'	10'	15.59'	60"	5.00'	5.00'
21.0'	26.04'	16.04'	7.45'	2.55'	10'	16.04'	60"	5.00'	5.00'
21.5'	26.48'	16.48'	7.50'	2.50'	10'	16.48'	60"	5.00'	5.00'
22.0'	26.91'	16.91'	7.55'	2.45'	10'	16.91'	60"	5.00'	5.00'
22.5'	26.85'	16.85'	7.26'	2.64'	10'	16.85'	66"	5.50'	4.50'
23.0'	27.27'	17.27'	7.32'	2.68'	10'	17.27'	66"	5.50'	4.50'
23.5'	27.68'	17.68'	7.37'	2.63'	10'	17.68'	66"	5.50'	4.50'
24.0'	28.09'	18.09'	7.42'	2.58'	10'	18.09'	66"	5.50'	4.50'
24.5'	28.48'	18.48'	7.47'	2.53'	10'	18.48'	66"	5.50'	4.50'
25.0'	28.44'	18.44'	7.21'	2.79'	10'	18.44'	72"	4.00'	6.00'
25.5'	28.84'	18.84'	7.26'	2.74'	10'	18.84'	72"	4.00'	6.00'
26.0'	29.22'	19.22'	7.32'	2.68'	10'	19.22'	72"	4.00'	6.00'
26.5'	29.59'	19.59'	7.37'	2.63'	10'	19.59'	72"	4.00'	6.00'
27.0'	29.95'	19.95'	7.42'	2.58'	10'	19.95'	72"	4.00'	6.00'

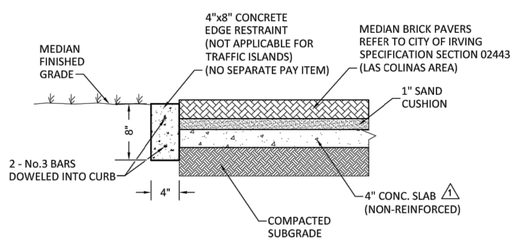


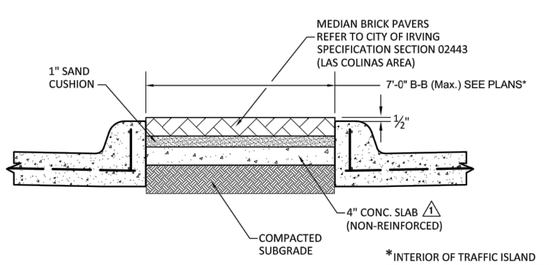


CITY OF IRVING

CONCRETE MEDIAN AND TRAFFIC ISLAND PAVERS

NTS





LAS COLINAS AREA

CONCRETE MEDIAN AND TRAFFIC ISLAND PAVERS

REV	DATE	BY	REVISIONS:
1	4/05/22	rpt	CHANGED FLEXBASE TO UNREINF. CONCRETE
2	8/31/16	T&T	ISSUE DATE

SCALE:
DATE:
DESIGNED BY:
DRAWN BY:
REVIEWED BY:
SURVEY BY: CITY CREW

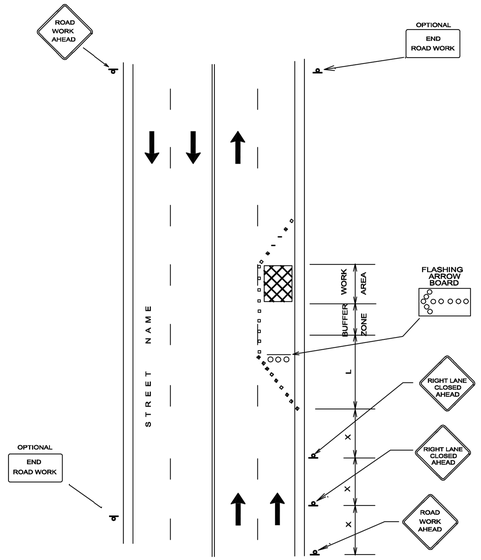
CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

STANDARD DETAILS

MONOLITHIC MEDIAN NOSE & MEDIAN BRICK PAVERS

SHEET 221

K:\PROJECTS\DETAILS\PVMT\DWG\PV-08 MEDIAN MONOLITHIC NOSE & BRICK PAVER\PV-08.DWG



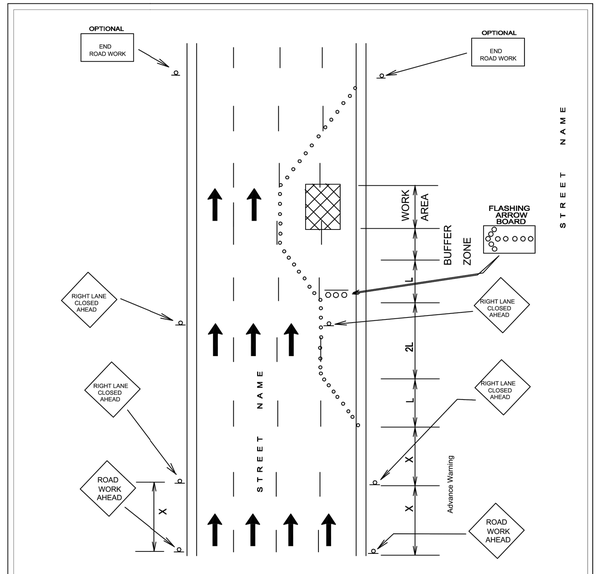
This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL CURB LANE CLOSURE ON MULTILANE STREET Note: See reverse side for General Notes and Device Spacing	A



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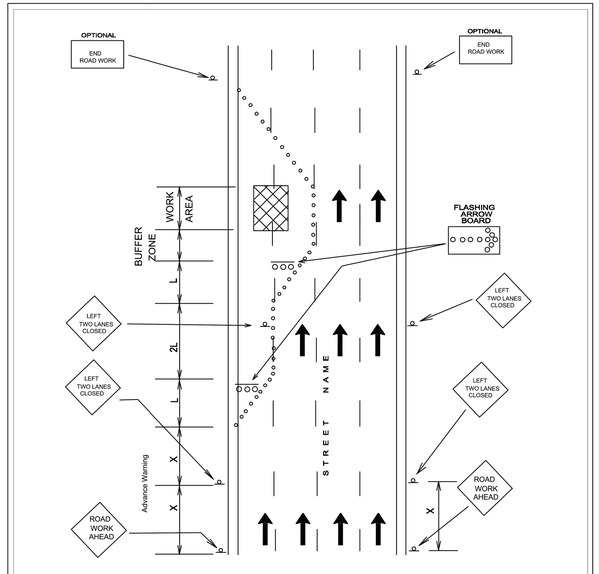
_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL TWO RIGHT LANE CLOSURE ON MULTILANE ONE-WAY STREET Note: See reverse side for General Notes and Device Spacing	B



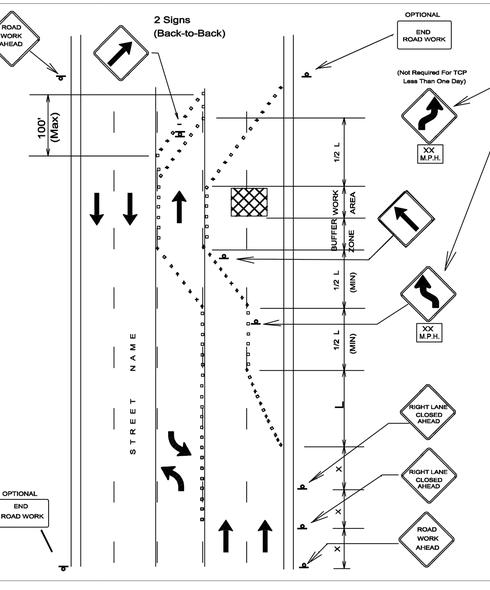
This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL TWO LEFT LANE CLOSURE ON MULTILANE ONE-WAY STREET Note: See reverse side for General Notes and Device Spacing	B1



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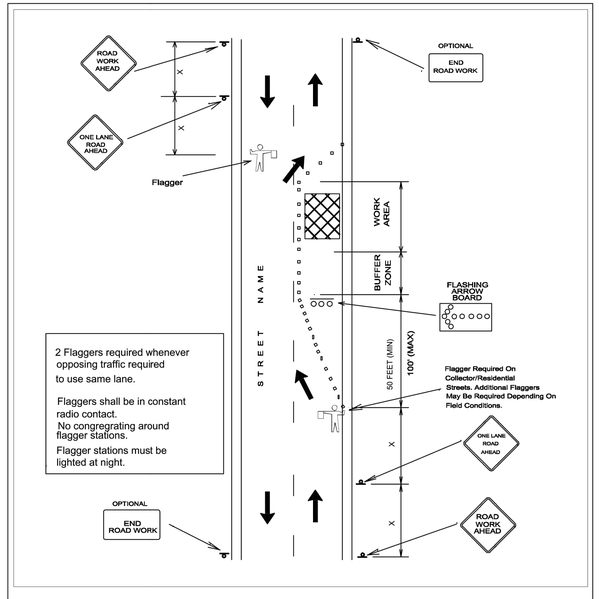
_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL HALF ROADWAY CLOSURE ON MULTILANE STREET Note: See reverse side for General Notes and Device Spacing	C



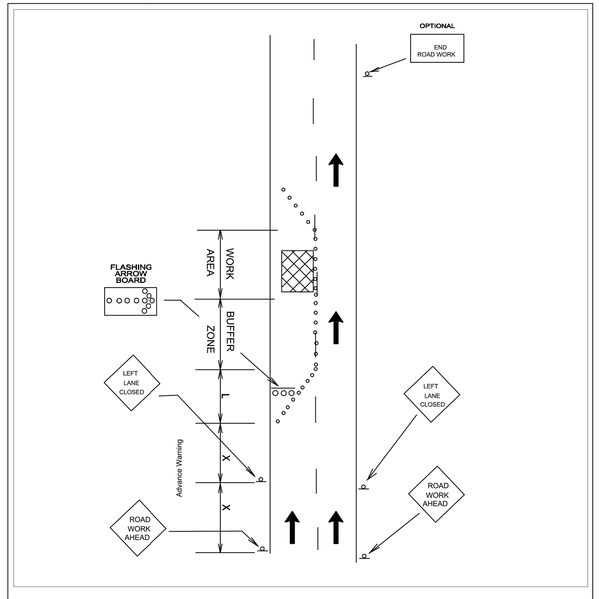
This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL LANE CLOSURE ON MINOR STREET Note: See reverse side for General Notes and Device Spacing	D



This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

Public Works ENGINEERING IRVING	TYPICAL INTERIOR LEFT LANE CLOSURE Note: See reverse side for General Notes and Device Spacing	D1

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS — BRIAN D. O'NEILL — 83980 — LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch

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FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F--469
TX REG. SURVEYING FIRM LS--10008001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

TRAFFIC CONTROL DETAILS

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 222

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05/10/2022 -- 2:21PM
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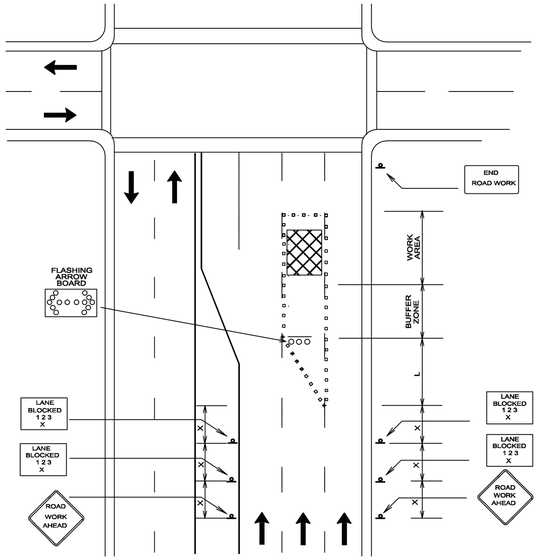


This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

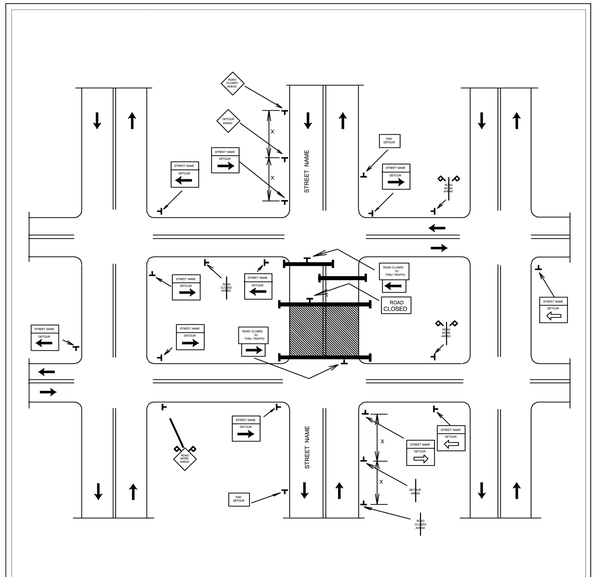
Public Works ENGINEERING

IRVING

TYPICAL LANE CLOSURE NEAR SIDE OF INTERSECTION

Note: See reverse side for General Notes and Device Spacing

E



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_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

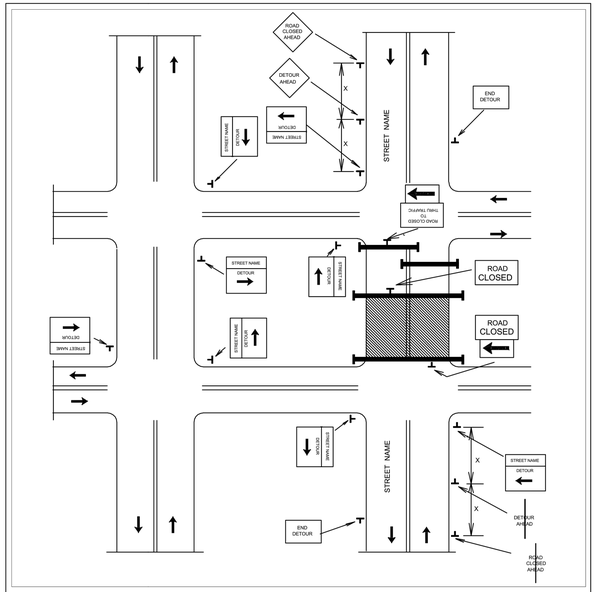
Public Works ENGINEERING

IRVING

FULL STREET CLOSURE DETOUR

Note: See reverse side for General Notes and Device Spacing

F



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_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

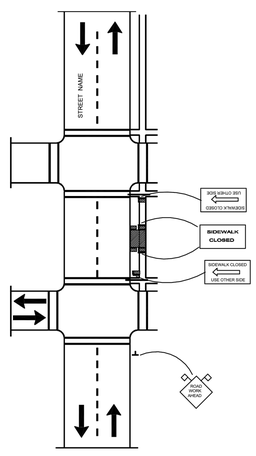
Public Works ENGINEERING

IRVING

FULL STREET CLOSURE DETOUR

Note: See reverse side for General Notes and Device Spacing

F1



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_____ / _____ / _____

and that all channelizing devices will conform to "General Notes" as attached.

Signature: Date

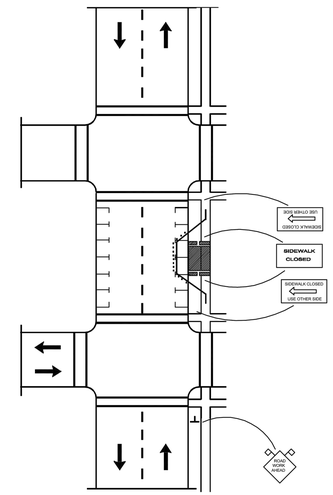
Public Works ENGINEERING

IRVING

TYPICAL SIDEWALK CLOSURE WITH PEDESTRIAN DETOUR

Note: See reverse side for General Notes and Device Spacing

G



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Signature: Date

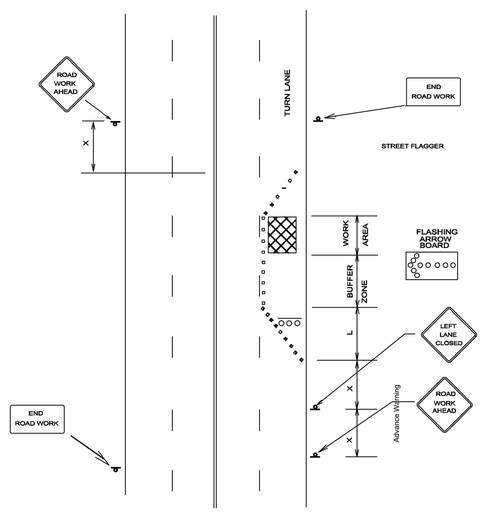
Public Works ENGINEERING

IRVING

TYPICAL SIDEWALK CLOSURE WITH PEDESTRIAN WALKWAY

Note: See reverse side for General Notes and Device Spacing

H



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Signature: Date

Public Works ENGINEERING

IRVING

TYPICAL RIGHT TURN LANE CLOSURE

Note: See reverse side for General Notes and Device Spacing

I1

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

STATE OF TEXAS
BRIAN D. O'NEILL
83980
LICENSED PROFESSIONAL ENGINEER

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Pacheco Koch

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TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10008001

CITY OF IRVING
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TRAFFIC CONTROL DETAILS

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
223

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IRVING
Public Works
ENGINEERING

Note:
See reverse side for General Notes and Device Spacing

TYPICAL RIGHT TURN LANE CLOSURE

11

This plan is submitted for Traffic Control. I certify this plan will be used for the following location(s):

_____ / _____ / _____

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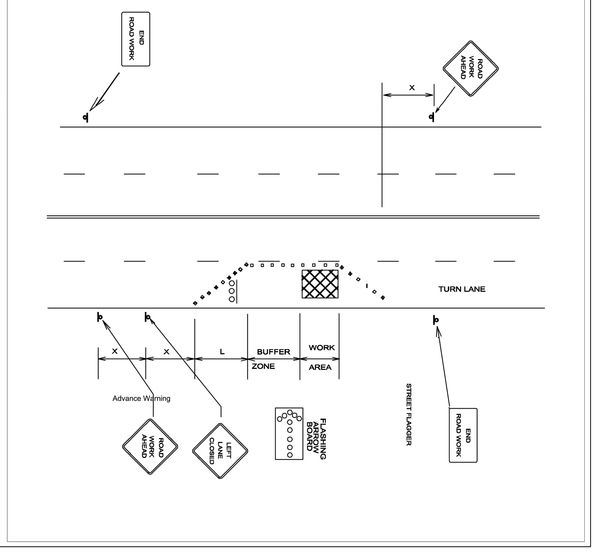
Signature: _____

Date



SHEET
224

TRAFFIC CONTROL DETAILS

MACARTHUR BOULEVARD
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CITY OF IRVING, DALLAS COUNTY, TEXAS

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STATE OF TEXAS · BRIAN D. O'NEILL · 83980 · LICENSED · PROFESSIONAL ENGINEER

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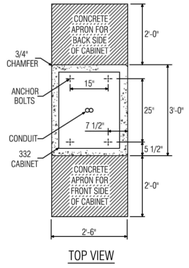
REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: MAY 2022
DESIGNED BY: CKT/RCP
DRAWN BY: DRI
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

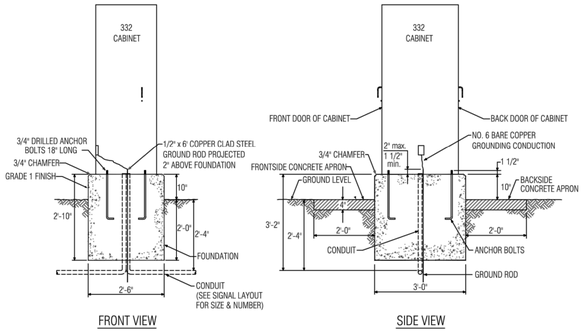
332 CABINET FOUNDATION DETAIL

IRVING
TEXAS
PREPARED BY THE TRAFFIC DEPARTMENT



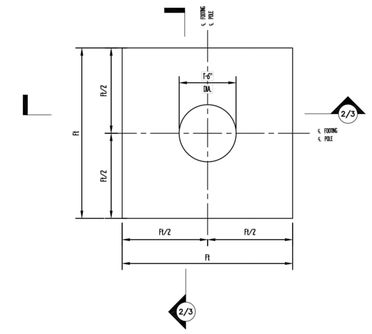
TOP VIEW

NOTES:
1) ANCHOR BOLT THREADS SHALL BE TAPED PRIOR TO POURING CONCRETE.
2) DRILLED ANCHORS (RED HEAD W/ 3/4" BOLTS & WASHERS) INSTALLED AFTER FOUNDATION HAS CURED.

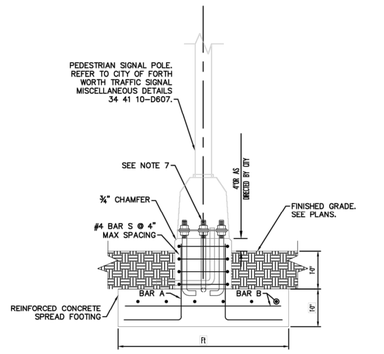


FRONT VIEW

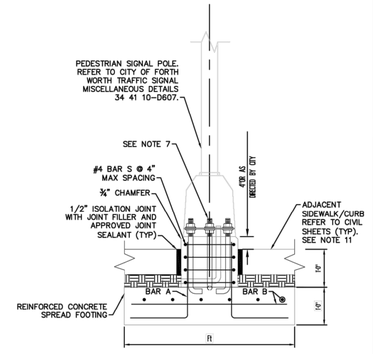
SIDE VIEW



1 FOUNDATION PEDESTAL POLE DETAIL
SCALE: 1/2"=1'-0"



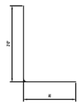
2 SECTION CUT
SCALE: 1/2"=1'-0"



3 ISOLATION JOINT DETAIL
SCALE: 1/2"=1'-0"

PEDESTRIAN POLE				
DESCRIPTION	Ft*	BAR A	"A1"	BAR B
10/14 FOOT POLE	5'-0"	#5 @ 9"	1'-9"	#4 @ 6"
5 FOOT POLE	3'-0"	#5 @ 9"	0'-9"	#4 @ 6"

* Ft DIMENSION SHALL APPLY TO LENGTH AND WIDTH. FOUNDATION SHALL BE SQUARE.



BAR A



BAR S

NOTE:

1. FOUNDATION IS DESIGNED IN ACCORDANCE WITH 2013 EDITION OF AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.
2. CONCRETE SHALL BE CAST AGAINST UNDISTURBED, IN-SITU MATERIAL. EXCAVATION, COMPACTION, AND BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF FORT WORTH STANDARD SPECIFICATIONS.
3. ALL CONCRETE SHALL BE DESIGNED, MIXED, TRANSPORTED, AND PLACED IN ACCORDANCE WITH CITY OF FORT WORTH STANDARD SPECIFICATIONS FOR ALL CONSTRUCTION PROJECTS, AND THE LATEST EDITION OF ACI-318.
4. CONCRETE MIX DESIGN SHALL BE IN ACCORDANCE WITH CITY OF FORTH WORTH STANDARD SPECIFICATIONS DIVISION 03 30 00, CAST-IN-PLACE CONCRETE. CONTRACTOR SHALL USE A PRE-APPROVED CONCRETE MIX DESIGN OR SUBMIT PROPOSED MIX DESIGN FOR APPROVAL PRIOR TO CONSTRUCTION. CONCRETE FOR STRUCTURES SHALL BE CLASS S AND HAVE A MINIMUM 28-DAY COMPRESSION STRENGTH OF 3,600 PSI.
5. ALL REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60 IN ACCORDANCE WITH CITY OF FORTH WORTH STANDARD SPECIFICATIONS DIVISION 03 30 00, CAST-IN-PLACE CONCRETE. CONTRACTOR SHALL SUBMIT CERTIFICATION FOR REINFORCING STEEL. REINFORCING PLACEMENT SHALL BE IN ACCORDANCE WITH ACI-318.
6. ALL REINFORCING DIMENSIONS ARE TO OUTSIDE OF BAR UNLESS OTHERWISE NOTED.
7. SEE CITY OF FORTH WORTH STANDARD 34 41 10-D605 "TRAFFIC SIGNAL POLE FOUNDATION DETAILS" ANCHOR BOLT ASSEMBLY DETAIL (HOOKED ANCHOR TYPE 1) FOR DETAILS RELATED TO THE ANCHORAGE OF THE PEDESTAL POLE TO THE FOUNDATION.
8. JOINT SEALERS AND FILLERS SHALL BE IN ACCORDANCE WITH TXDOT ITEM 438 "CLEANING AND SEALING JOINTS." SUBMIT PRODUCT DATA FOR ALL JOINTS AND SEALANTS FOR APPROVAL.
9. ALL CLEAR COVER FOR REINFORCING SHALL BE 2" WHERE FORMED AND 3" WHERE CAST AGAINST EARTH, UNLESS OTHERWISE NOTED ON THE PLANS.
10. DESIGN IS BASED ON THE FOLLOWING GEOTECHNICAL ASSUMPTIONS. GEOTECHNICAL ENGINEER SHALL VERIFY THE FOLLOWING ASSUMED PARAMETERS PRIOR TO CONSTRUCTION.
    - 10.A. MINIMUM GROSS ALLOWABLE BEARING PRESSURE = 1.5 KSF
    - 10.B. MINIMUM ANGLE OF INTERNAL FRICTION = 20°
    - 10.C. MINIMUM COEFFICIENT OF BASE FRICTION = 0.30
11. IF PAVEMENT ABOVE FOOTING IS PLACED DIRECTLY ON FOOTING, APPLY A BOND BREAKER TO THE TOP OF FOOTING IN ACCORDANCE WITH CITY OF FORT WORTH STANDARD SPECIFICATION SECTION 32 13 73 "CONCRETE PAVING JOINT SEALANTS".

FORT WORTH	CITY OF FORT WORTH, TEXAS **SPREAD FOOTING PEDESTAL POLE FOUNDATION**	REVISED: 07-26-2021 **34 41 10-D605A**

NOTE: SPREAD FOOTING PEDESTAL POLE FOUNDATION DETAIL TO BE USED IN ALL SPREAD FOUNDATION LOCATIONS.

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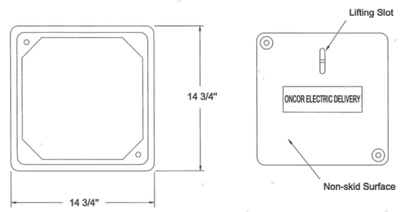
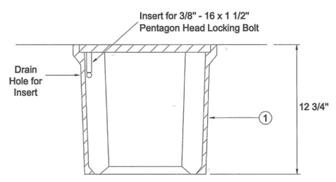
Street Light Secondary Connection Box

213 - 040
12 - 19



Top View
With Cover Removed

Cover



Cross Section

Notes :
A. For use when conductor size and number of terminations warrant.
B. H-10 (light vehicular traffic loading).
C. Replacement cover TSN is 326507.

Item	Description	TSN/Ref	CU
1	Box, Secondary 12" x 12" x 12"	300306	SLSCB

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ONCOR

REV	DATE	BY	REVISIONS:
1	XX/XXXX		XXXXXXXX

SCALE: SEE GRAPHICS
DATE: DECEMBER 2021
DESIGNED BY: CKT/RCP
DRAWN BY: DMD
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

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Pacheco Koch
4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7165
TX. REG. ENGINEERING FIRM F-469
TX. REG. SURVEYING FIRM LS-10006001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
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TRAFFIC CABINET FOUNDATION
MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET 225

M: \DWG-42\X242-19.098\DWG\CIVIL C3D 2018\X242-19.098_DETAILS.DWG

LFOX
05/10/2022 -- 4:39PM
M: \DWG-42\X242-19.098\DWG\CIVIL C3D 2018\X242-19.098_DETAILS.DWG

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DATE:
FILE:

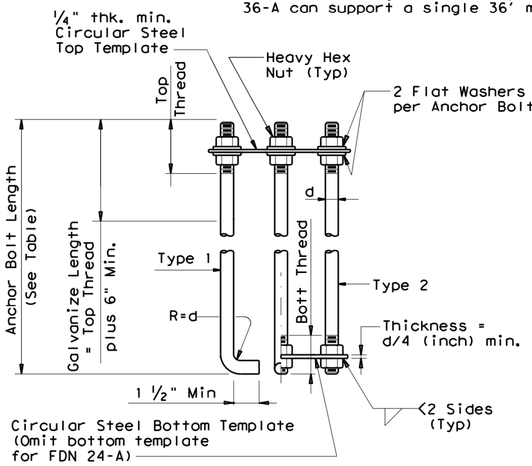
FOUNDATION DESIGN TABLE

FDN TYPE	DRILLED SHAFT DIA	REINFORCING STEEL		EMBEDDED DRILLED SHAFT LENGTH-ft ④, ⑤, ⑥			ANCHOR BOLT DESIGN ①				FOUNDATION DESIGN LOAD ②		TYPICAL APPLICATION
		VERT BARS	SPIRAL & PITCH	TEXAS CONE PENETROMETER N blows/ft			ANCHOR BOLT DIA	Fy (ksi)	BOLT CIR DIA	ANCHOR TYPE	MOMENT K-ft	SHEAR Kips	
				10	15	40							
24-A	24"	4- #5	#2 at 12"	5.7	5.3	4.5	¾"	36	12 ¾"	1	10	1	Pedestal pole, pedestal mounted controller.
30-A	30"	8- #9	#3 at 6"	11.3	10.3	8.0	1 ½"	55	17"	2	87	3	Mast arm assembly. (see Selection Table)
36-A	36"	10- #9	#3 at 6"	13.2	12.0	9.4	1 ¾"	55	19"	2	131	5	Mast arm assembly. (see Selection Table) 30' strain pole with or without luminaire.
36-B	36"	12- #9	#3 at 6"	15.2	13.6	10.4	2"	55	21"	2	190	7	Mast arm assembly. (see Selection Table) Strain pole taller than 30' & strain pole with mast arm
42-A	42"	14- #9	#3 at 6"	17.4	15.6	11.9	2 ¼"	55	23"	2	271	9	Mast arm assembly. (see Selection Table)

FOUNDATION SELECTION TABLE FOR STANDARD MAST ARM PLUS ILSN SUPPORT ASSEMBLIES (ft)

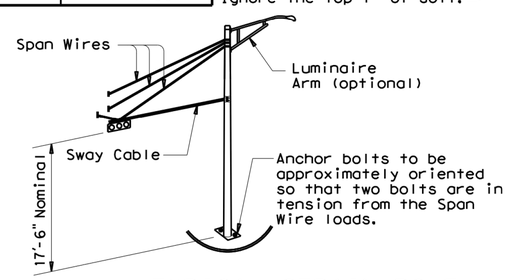
		FDN 30-A	FDN 36-A	FDN 36-B	FDN 42-A
80 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH	32'	48'		
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS	24' X 24'			
		28' X 28'			
		32' X 28'	32' X 32'		
			36' X 36'		
			40' X 36'		
			44' X 28'	44' X 36'	
100 MPH DESIGN WIND SPEED	MAX SINGLE ARM LENGTH		36'	44'	
	MAXIMUM DOUBLE ARM LENGTH COMBINATIONS		24' X 24'		
			28' X 28'		
			32' X 24'	32' X 32'	
				36' X 36'	
				40' x24'	40' X 36'
					44' x 36'

EXAMPLE:
1. For 80mph design wind speed, foundation 30-A can support up to a 32' arm with another arm up to 28'
2. For 100mph design wind speed, foundation 36-A can support a single 36' mast arm.

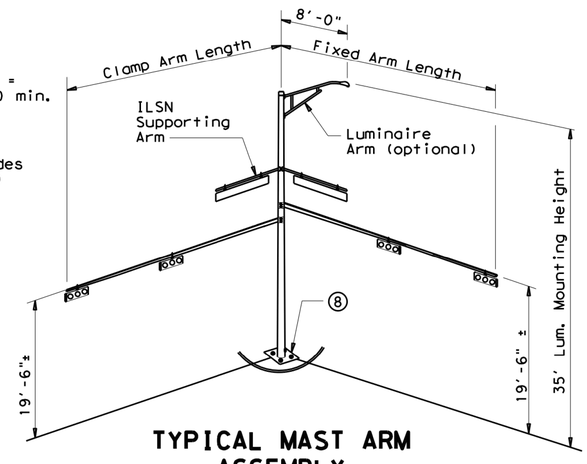


HOOKED ANCHOR (TYPE 1) NUT ANCHOR (TYPE 2)

ANCHOR BOLT ASSEMBLY

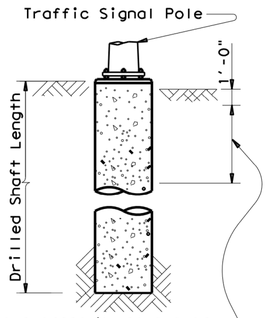


TYPICAL STRAIN POLE ASSEMBLY



TYPICAL MAST ARM ASSEMBLY

⑧ Orient anchor bolts orthogonal with the fixed arm direction to ensure that two bolts are in tension under dead load.



Use average N value over the top third of the embedded shaft. Ignore the top 1' of soil.

NOTES:

① Anchor bolt design develops the foundation capacity given under Foundation Design Loads.

② Foundation Design Loads are the allowable moments and shears at the base of the structure.

③ Foundations may be listed separately or grouped according to similarity of location and type. Quantities are for the Contractor's information only.

④ Field Penetrometer readings at a depth of approximately 3 to 5 feet may be used to adjust shaft lengths.

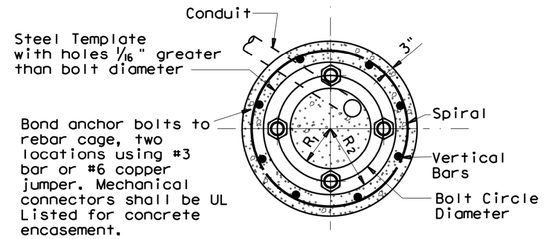
⑤ If rock is encountered, the Drilled Shaft shall extend a minimum of two diameters into solid rock.

⑥ Decimal lengths in Design Table are to allow interpolation for other penetrometer values. Round to nearest foot for entry into Summary Table.

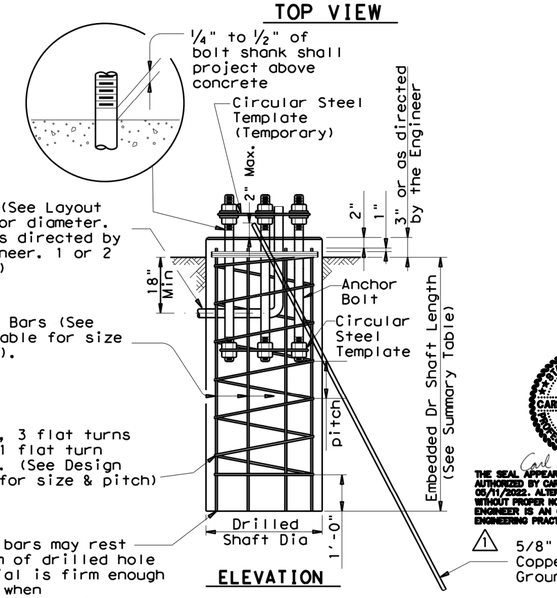
ANCHOR BOLT & TEMPLATE SIZES

BOLT DIA IN.	⑦ BOLT LENGTH	TOP THREAD	BOTTOM THREAD	BOLT CIRCLE	R2	R1
¾"	1'-6"	3"	—	12 ¾"	7 ⅛"	5 ⅝"
1 ½"	3'-4"	6"	4"	17"	10"	7"
1 ¾"	3'-10"	7"	4 ½"	19"	11 ¼"	7 ¾"
2"	4'-3"	8"	5"	21"	12 ½"	8 ½"
2 ¼"	4'-9"	9"	5 ½"	23"	13 ¾"	9 ¼"

⑦ Min dimensions given, longer bolts are acceptable.



TOP VIEW



ELEVATION

FOUNDATION DETAILS

FOUNDATION SUMMARY TABLE ③

LOCATION IDENTIFICATION	AVG. N BLOW /ft.	FDN TYPE	NO. EA	DRILLED SHAFT LENGTH ⑥ (FEET) 24-A	30-A	36-A	36-B	42-A
BYRON NELSON AT MACARTHUR								
T-1,T-2,T-3,T-4	36-A					52		
P-1,P-2, P-4	24-A			18				
P-3		SPREAD		SPREAD				
NORTHGATE AT MACARTHUR								
T-1,T-2,T-3,T-4		36-A				52		
P-1,P-2,P-4		SPREAD		SPREAD				
P-3,P-5		24-A		8				
N.COKER AT MACARTHUR								
T-1,T-2,T-3,T-4		36-A				52		
P-1,P-2,P-4		24-A		18				
P-3		SPREAD		SPREAD				
S.COKER/MURL AT MACARTHUR								
T-1,T-2,T-3,T-4,T-5,T-6		36-A				78		
P-1,P-3,P-4, P-5,P-6		24-A		30				
P-2		SPREAD		SPREAD				
TOTAL DRILLED SHAFT LENGTHS				74	66	234		

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals and interim revisions thereto.

Reinforcing steel shall conform to Item 440, "Reinforcing Steel".

Concrete shall be Class "C".

Threads for anchor bolts and nuts shall be rolled or cut threads of 8UN series up to 2" in diameter or UNC series for all sizes. Bolts and nuts shall have Class 2A and 2B fit tolerances. Galvanized nuts shall be tapped after galvanizing.

Anchor bolts that are larger than 1" in diameter shall conform to "alloy steel" or "medium-strength mild steel" per Item 449, "Anchor Bolts". Anchor bolts that are 1" in diameter or less shall conform to ASTM A36. Galvanize a minimum of the top end thread length plus 6" for all anchor bolts unless otherwise noted. Exposed washers and exposed nuts shall be galvanized. All galvanizing shall be in accordance with Item 445, "Galvanizing".

Templates and embedded nuts need not be galvanized. Lubricate and tighten anchor bolts when erecting the structure in accordance with Item 449, "Anchor Bolts".

⚠1 Ground rod shall protrude a minimum of 1"and a maximum of 2" above the finish grade of the foundation. Make connections to ground rods according to NEC. Ground rod clamps shall be listed for their intended purpose.

MODIFICATIONS:

⚠1 ADDED GROUND ROD TO FOUNDATION DETAILS (9/15)

STATE OF TEXAS — CARL B. LAFERNEY — 108907 — LICENSED PROFESSIONAL ENGINEER

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Texas Department of Transportation
Traffic Operations Division

TRAFFIC SIGNAL POLE FOUNDATION

TS-FD-12 (DAL)

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REVISIONS	CONT	SECT	JOB	HIGHWAY
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11-98				
1-12	DIST	COUNTY		SHEET NO.
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GENERAL NOTES FOR ALL ELECTRICAL WORK

1. The location of all conduits, junction boxes, ground boxes, and electrical services is diagrammatic and may be shifted to accommodate field conditions.

2. Provide new and unused materials. Ensure that all materials and installations comply with the applicable articles of the National Electrical Code (NEC), TxDOT standards and specifications, National Electrical Manufacturers Association (NEMA), and are listed by Underwriters Laboratories (UL) or a Nationally Recognized Testing Lab (NRTL). NRTLs such as Canadian Standard Association (CSA), Intertek Testing Services NA Inc., or FM Approvals LLC can be considered equivalent to UL. Where reference is made to NEMA listed devices, International Electrotechnical Commission (IEC) listed devices will not be considered an acceptable equal to a NEMA listed device. Acceptable devices may have both a NEMA and IEC listing. Faulty fabrication or poor workmanship in any material, equipment, or installation is justification for rejection. Replace or reinstall rejected material or equipment at no additional cost to the Department.

3. Miscellaneous nuts, bolts and hardware, except for high strength bolts, may be stainless steel when plans specify galvanized, provided the bolt size is ½ in. or less in diameter.

4. Provide the following test equipment as required by the Engineer to confirm compliance with the contract and the NEC: voltmeter, ammeter, megohm meter (1000 volt DC), ground resistance tester, torque wrenches, and torque screwdrivers. Ensure all equipment has been properly calibrated within the last year. Provide calibration certification to the Engineer upon request. Operate test equipment during inspection as requested by the Engineer.

5. Install grounding as shown on the plans and in accordance with the NEC. Ensure all metallic conduits; metal poles; luminaires; and metal enclosures are bonded to the equipment grounding conductor. Provide stranded bare copper or green insulated grounding conductors. Ground rods, connectors, and bonding jumpers are subsidiary to the various bid items.

6. When required by the Engineer, notify the Department in writing of materials from the Material Producers List (MPL) intended for use on each project. Prequalified materials are listed on the MPL on TxDOT's website under "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials on this list.

CONDUIT

A. MATERIALS

1. Provide conduit, junction boxes, fittings, and hardware as per TxDOT Departmental Material Specification (DMS) 11030 "Conduit" and Item 618 "Conduit" of TxDOT's "Standard Specifications For Construction And Maintenance Of Highways, Streets, And Bridges," latest edition. Provide conduits listed under Item 618 on the MPL under "Roadway Illumination and Electrical Supplies." Provide conduit types according to the descriptive code or as shown on the plans. Do not substitute other types of conduits for those shown. Provide liquidtight flexible metal conduit (LFMC) when flexible conduit is called for on galvanized steel rigid metallic conduit (RMC) systems. Provide liquidtight flexible nonmetallic conduit (LFNC) when flexible conduit is called for on polyvinyl chloride (PVC) systems.

2. Provide galvanized steel RMC for all exposed conduits, unless otherwise shown on the plans. Properly bond all metal conduits.

3. Unless otherwise shown on the plans, provide junction boxes with a minimum size as shown in the following table, which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes is present, count the conductors as if all are of the larger size. For situations not applicable to the table, size junction boxes in accordance with NEC.

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

4. Junction boxes with an internal volume of less than 100 cu. in. and supported by entering raceways must have threaded entries or hubs identified for the intended purpose and supported by connection of two or more rigid metal conduits. Secure conduit within 3 ft. of the enclosure or within 18 in. of the enclosure if all conduit entries are on the same side. Mechanically secure all junction boxes with an internal volume greater than 100 cu. inches.

5. Provide hot dipped galvanized cast iron or sand cast aluminum outlet boxes for junction boxes containing only 10 AWG or 12 AWG conductors. Do not use die cast aluminum boxes. Size outlet boxes according to the NEC.

6. Do not use intermediate metal conduit (IMC) or electrical metallic tubing (EMT) unless specifically required by the plan sheets. When EMT is called for, provide junction boxes made from galvanized steel sheeting, listed and approved for outdoor use, unless otherwise noted on the plans. Size all galvanized steel junction boxes in accordance with the NEC. Provide junction boxes for IMC conduit systems that meet the same requirements for junction boxes used with RMC systems.

7. Provide PVC junction boxes intended for outdoor use on PVC conduit systems, unless otherwise noted on the plans.

8. Provide PVC elbows in PVC conduit systems, unless otherwise shown on the plans. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the PVC conduit system. When galvanized steel RMC elbows are specifically called for in the plans and any portion of the RMC elbow is buried less than 18 in., ground the RMC elbow by means of a grounding bushing on a rigid metal extension. Grounding of the rigid metal elbow is not required if the entire RMC elbow is encased in a minimum of 2 in. of concrete. PVC extensions are allowed on these concrete encased rigid metal elbows. RMC or PVC elbows are subsidiary to various bid items.

9. When required, provide High-Density Polyethylene (HDPE) conduit with factory installed internal conductors according to Item 622 "Duct Cable." At the Contractor's request and with approval by the Engineer, substitute HDPE conduit with no conductors for bored schedule 40 or schedule 80 PVC conduit bid under Item 618. Ensure bored HDPE substituted for PVC is schedule 40 and of the same size PVC called for in the plans. Ensure the substituted HDPE meets the requirements of Item 622, except that the conduit is supplied without factory-installed conductors. Make the transition of the HDPE conduit to PVC (or RMC elbow when required) at the bore pit. Provide conduit of the size and schedule as shown on the plans. Do not extend substituted conduit into ground boxes or foundations. Provide PVC or galvanized steel RMC elbows as called for at all ground boxes and foundations.

10. Use two-hole straps when supporting 2 in. and larger conduits. On electrical service poles, properly sized stainless steel or hot dipped galvanized one-hole standoff straps are allowed on the service riser conduit.

B. CONSTRUCTION METHODS

1. Provide and install expansion joint conduit fittings on all structure-mounted conduits at the structure's expansion joints to allow for movement of the conduit. In addition, provide and install expansion joint fittings on all continuous runs of galvanized steel RMC conduit externally exposed on structures such as bridges at maximum intervals of 150 ft. When requested by the project Engineer, supply manufacturer's specification sheet for expansion joint conduit fittings. Repair or replace expansion joint fittings that do not allow for movement at no additional cost to the Department. Provide the method of determining the amount of expansion to the Engineer upon request. Do not use LFMC or LFNC as a substitute for the required expansion conduit fittings.

2. Space all conduit supports at maximum intervals of 5 ft. Install conduit spacers when attaching metal conduit to surface of concrete structures. See "Conduit Mounting Options" on ED(2). Install conduit support within 3 ft. of all enclosures and conduit terminations.

3. Do not attach conduit supports directly to pre-stressed concrete beams except as shown specifically in the plans or as approved by the Engineer.

4. Unless otherwise shown on the plans, jack or bore conduit placed beneath existing roadways, driveways, sidewalks, or after the base or surfacing operation has begun. Backfill and compact the bore pits below the conduit per Item 476 "Jacking, Boring, or Tunneling Pipe or Box" prior to installing conduit or duct cable to prevent bending of the connections.

5. When placing conduit in the sub-grade of new roadways, backfill all trenches with excavated material unless otherwise noted on the plans. When placing conduit in the sub-base of new roadways, backfill all trenches with cement-stabilized base as per requirements of Items 110 "Excavation", 400 "Excavation and Backfill for Structures", 401 "Flowable Backfill", 402 "Trench Excavation Protection", and 403 "Temporary Special Shoring."

6. Provide and place warning tape approximately 10 in. above all trenched conduit as per Item 618.

7. During construction, temporarily cap or plug open ends of all conduit and raceways immediately after installation to prevent entry of dirt, debris and animals. Temporary caps constructed of durable duct tape are allowed. Tightly fix the tape to the conduit opening. Clean out the conduit and prove it clear in accordance with Item 618 prior to installing any conductors.

8. Ensure conduit entry into the top of any enclosure is waterproof by installing conduit sealing hubs or using boxes with threaded bosses. This includes surface mounted safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes. Grounding bushings on water tight sealing hubs are not required.

9. Fit the ends of all PVC conduit terminations with bushings or bell end fittings. Provide and install a grounding type bushing on all metal conduit terminations.

10. Install a bonding jumper from each grounding bushing to the nearest ground rod, grounding lug, or equipment grounding conductor. Ensure all bonding jumpers are the same size as the equipment grounding conductor. Bonding of conduit used as a casing under roadways for duct cable is not required, if the duct extends the full length through the casing.

11. At all electrical services, install a 6 AWG solid copper grounding electrode conductor.

12. Place conduits entering ground boxes so that the conduit openings are between 3 in. and 6 in. from the bottom of the box. See the ground box detail on sheet ED(4).

13. Seal ends of all conduits with duct seal, expandable foam, or by other methods approved by the Engineer. Seal conduit immediately after completion of conductor installation and pull tests. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a conduit sealant.

14. File smooth the cut ends of all mounting strut and conduit. Before installing, paint the field cut ends of all mounting strut and RMC (threaded or non-threaded) with zinc rich paint (94% or more zinc content) to alleviate overspray. Use zinc rich paint to touch up galvanized material as allowed under Item 445 "Galvanizing." Do not paint non-galvanized material with a zinc rich paint as an alternative for materials required to be galvanized.

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS CONDUITS & NOTES

ED(1)-14

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ELECTRICAL CONDUCTORS

A. MATERIAL INFORMATION

1. Provide Type XHHW insulated conductors in accordance with Departmental Material Specification (DMS)11040 "Conductors" and Item 620 "Electrical Conductors." Provide conductors as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies" Item 620. Color code insulated conductors in conformance with the NEC. Identify grounded (neutral) conductors with white insulation. Identify grounding conductors (ground wires) with green insulation or bare conductors. Identify ungrounded (hot) conductors with any color insulation except green, white, or gray. Keep color scheme consistent throughout the wiring system. Identify conductors 6 American Wire Gauge (AWG) and smaller by continuous color jacket. Identify electrical conductors 4 AWG and larger by continuous color jacket or by colored tape. When identifying conductors with colored tape, mark at least 6 in. of the conductor's insulation with half laps of tape.
2. Provide a solid copper 6 AWG grounding electrode conductor to bond the electrical service equipment to the concrete encased grounding electrode or the ground rod at the service location. Connect the grounding electrode conductor to the ground rod with a UL listed connector in accordance with DMS 11040. Connect the grounding electrode conductor to the concrete encased grounding electrode as shown in the plans.
3. Where two or more circuits are present in one conduit or enclosure, permanently identify the conductors of each branch circuit by attaching a non-metallic tag around both circuit conductors at each accessible location. Provide tags with two straps, large enough to indicate circuit number, letter, or other identification as shown in the plans. Print circuit identification on the tag with a permanent marker.
4. Use listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors for splicing as specified in DMS 11040. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Provide UL listed gel-filled insulating splice covers. Splicing materials, insulating materials, breakaway disconnects, splice covers, and fuse holders are subsidiary to various bid items.

B. CONSTRUCTION METHODS

1. Use only a flat, high tensile strength polyester fiber pull tape for pulling conductors through the conduit system. After installing conductors in conduit, perform conductor pull test. If a conductor cannot be freely pulled, make any needed alterations or repairs at no additional cost to the department. Perform insulation resistance tests in accordance with Item 620. Coordinate with the Engineer to witness the tests.
2. Leave 2 ft. minimum, 3 ft. maximum length for each conductor up to the splice in ground boxes. Leave 3 ft. minimum, 4 ft. maximum length of conductor in ground boxes when pulled through with no splice. Leave 1 ft. minimum, 1.5 ft. maximum length of conductor at enclosures, weatherheads and pole bases.
3. Make splices only in junction boxes, ground boxes, pole bases, or electrical enclosures and use only listed compression or screw type pressure connectors, terminal blocks, or split bolt connectors. Insulate splices with heavy wall heat shrink tubing or gel-filled insulating splice covers to provide a watertight splice. Overlap conductor insulation with heat shrink tubing a minimum of 2 in. past both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, increase the diameter of the conductor insulation using hot melt adhesive tape to provide a watertight seal between the individual conductors and the heat shrink tubing. Ensure the tape extends past the heat shrink tubing. Use hot melt adhesive tape to fill the gap and seal the ends of heat shrink tubing. Heat shrink tubing that appears to have been burned, or overheated, is considered defective and must be replaced.
4. Size and install gel-filled insulating splice covers according to manufacturer's specifications when used in place of heat shrink tubing.
5. Wire nuts with factory applied waterproof sealant may be used for 8 AWG or smaller conductors in above ground junction boxes, but not in pole bases or ground boxes. Install wire nuts in an upright position to prevent the accumulation of water.
6. Support conductors in illumination poles with a J-hook at the top of the pole.
7. When terminating conductors, remove the insulation and jacketing material without nicking the individual strands of the conductor. Conductors with nicked individual conductor strands or removed strands will be considered damaged.
8. Replace conductors and cables that are damaged beyond repair or that fail an insulation resistance test at no additional cost to the department.
9. Do not repair damaged conductors with duct tape, electrical tape, or wire nuts. Use only approved splicing methods.
10. Do not terminate more than one conductor under a single connector, unless the connector is rated for multiple conductors. Do not exceed the pressure connector's listing for maximum number and size of conductors allowed.
11. Install breakaway connectors on conductors bid under Item 620 whenever those conductors pass through a breakaway support device. Follow manufacturer's instructions when terminating conductors to breakaway connectors. Properly torque threaded connections. Proper terminations are critical to the safe operation of breakaway devices. Trim waterproofing boots on breakaway connectors to fit snugly around the conductor to ensure waterproof connection. Only one conductor may enter a single opening in a boot. Provide waterproof boots with the correct number of openings. Leave unused openings factory sealed. Use prequalified breakaway connectors as shown on the MPL.
12. Provide and install a separate stranded equipment grounding conductor (EGC) in all conduits that contain circuit wiring of 50 volts or more. Unless shown elsewhere, size the EGC to be the same size as the largest current carrying conductor contained in the conduit. Ensure all EGCs are bonded together at every accessible location. For traffic signal installations, provide a minimum size 8 AWG EGC. The EGC is paid for under Item 620.

C. TEMPORARY WIRING

1. Install temporary conductors and electrical equipment in accordance with the NEC article "Temporary Installations" and Department standard sheets.
2. Provide a ground fault circuit interrupter (GFCI) for power outlets for portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade. GFCI may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
3. Use listed wire nuts with factory applied sealant for temporary wiring where approved.
4. Enclose conductor splices within a listed enclosure or ground box, or ensure the splices are more than 10 ft. above grade vertically and more than 5 ft. horizontally from any metal structure. Where installing temporary conductors in areas subject to vehicle traffic or mobile construction equipment, ensure the vertical clearance to ground is at least 18 ft. when measured at the lowest point. Ground messenger wires that support power conductors in conformance with the NEC.
5. Protect and when necessary repair any existing electrical conduits uncovered during the construction process in a timely manner and in conformance with the NEC.

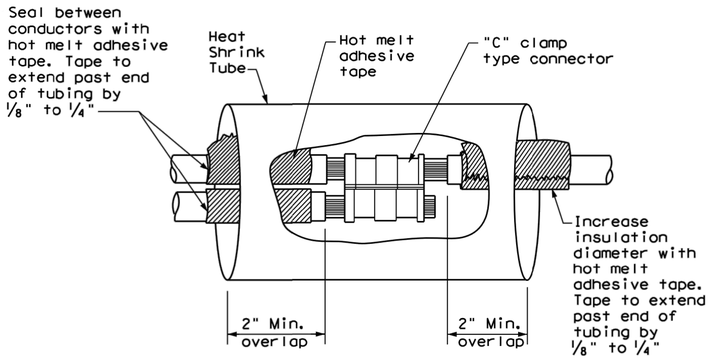
GROUND RODS & GROUNDING ELECTRODES

A. MATERIAL INFORMATION

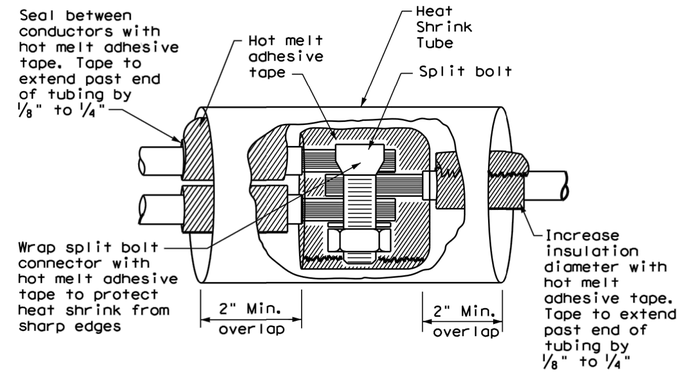
1. Provide and install a grounding electrode at electrical services. Provide ground rods according to DMS 11040 and the plans. Larger diameter or longer length rods may be called for in some specific locations, see the individual plans sheets. Concrete encased grounding electrodes may be called for in specific locations including electrical service, see individual plan sheets.

B. CONSTRUCTION METHODS

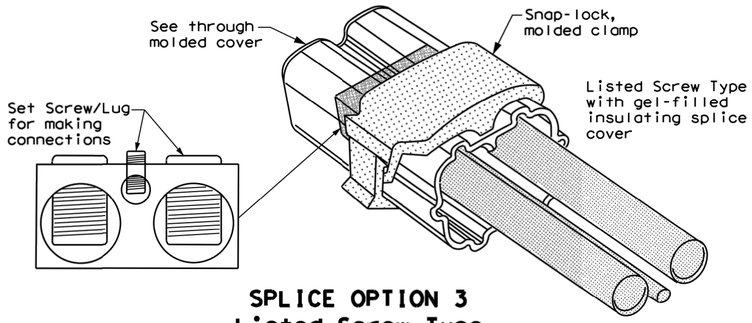
1. Furnish auxiliary ground rods for lightning protection and install in soil, concrete, or both, as called for in the plans. For ground rods installed in concrete, ensure the connection of the conductor to the ground rod is readily accessible for inspection or repairs. For ground rods installed in soil, ensure that the upper end is between 2 to 4 in. below finished grade.
2. Do not place ground rods in the same drilled hole as a timber pole.
3. Install ground rods so the imprinted part number is at the upper end of the rod.
4. Remove all non-conductive coatings such as concrete splatter from the rod at the clamp location.
5. Route all conductors as short and straight as possible for connection to lightning protection ground rods. When a bend is required, ensure a minimum radius bend of four inches for these conductors.
6. Unless otherwise called for in the plans, protect grounding electrode conductors with non-metallic conduit. When protecting grounding electrode conductors with metal conduit, provide and install a grounding type bushing and properly sized bonding jumper on each end of the metal conduit.
7. Written authorization is required before installing a ground rod in a horizontal trench for rocky soil or a solid rock bottom.



SPLICE OPTION 1
Compression Type



SPLICE OPTION 2
Split Bolt Type



SPLICE OPTION 3
Listed Screw Type

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS
CONDUCTORS

ED(3)-14

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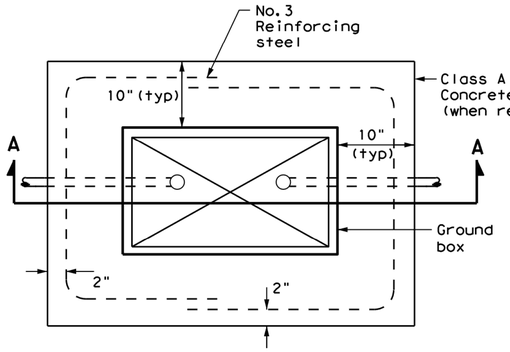
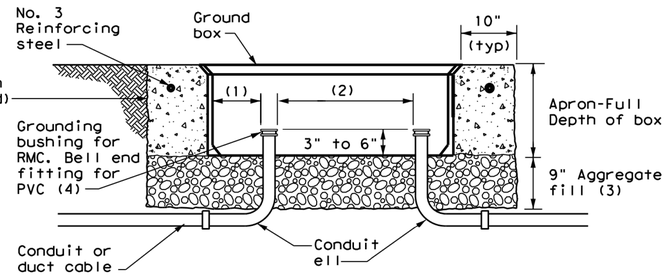


PLAN VIEW



SECTION A - A

APRON FOR GROUND BOX

(1) Uniformly space ends of conduits within the ground box. Position ends of conduits so that ground box walls do not interfere with the installation of grounding bushings or bell end fittings.

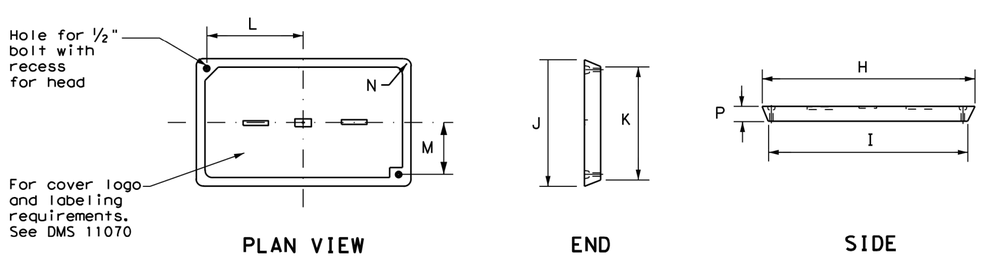
(2) Maintain sufficient space between conduits to allow for proper installation of bushing.

(3) Place aggregate under the box, not in the box. Aggregate should not encroach on the interior volume of the box.

(4) Install a grounding bushing on the upper end of all RMC terminating in a ground box. Ground RMC elbows when any part of the elbow is less than 18 in. below the bottom of the ground box. Install a PVC bushing or bell end fitting on the upper end of all PVC conduits terminating in a ground box.

GROUND BOX DIMENSIONS	
TYPE	OUTSIDE DIMENSIONS (INCHES) (Width x Length X Depth)
A	12 X 23 X 11
B	12 X 23 X 22
C	16 X 29 X 11
D	16 X 29 X 22
E	12 X 23 X 17

GROUND BOX COVER DIMENSIONS								
TYPE	DIMENSIONS (INCHES)							
	H	I	J	K	L	M	N	P
A, B & E	23 1/4	23	13 3/4	13 1/2	9 7/8	5 1/8	1 3/8	2
C & D	30 1/2	30 1/4	17 1/2	17 1/4	13 1/4	6 3/4	1 3/8	2



PLAN VIEW END SIDE

GROUND BOX COVER

GROUND BOXES

A. MATERIALS

1. Provide polymer concrete ground boxes measuring 16x30x24 in. (WxLxD) or smaller in accordance with Departmental Material Specification (DMS) 11070 "Ground Boxes" and Item 624 "Ground Boxes."

2. Provide Type A, B, C, D, and E ground boxes as shown in the plans, and as listed on the Material Producers List (MPL) on the Department web site under "Roadway Illumination and Electrical Supplies," Item 624.

3. Ensure ground box cover is correctly labeled in accordance with DMS 11070.

4. Provide larger ground boxes in accordance with Item 624 and as shown in the plans.

B. CONSTRUCTION METHODS

1. Remove all gravel and dirt from conduit. Cap all conduits prior to placing aggregate and setting ground box. Provide Grade 3 or 4 coarse aggregate as shown on Table 2 of Item 302 "Aggregates for Surface Treatments." Ensure aggregate bed is in place and at least 9 inches deep, prior to setting the ground box. Install ground box on top of aggregate.

2. Cast ground box aprons in place. Reinforcing steel may be field bent. Ensure the depth of concrete for the apron extends from finished grade to the top of the aggregate bed under the box. Ground box aprons, including concrete and reinforcing steel, are subsidiary to ground boxes when called for by descriptive code.

3. Keep bolt holes in the box clear of dirt. Bolt covers down when not working in ground boxes.

4. Install all conduits and ells in a neat and workmanlike manner. Uniformly space conduits so grounding bushings and bell end fittings can easily be installed.

5. Temporarily seal all conduits in the ground box until conductors are installed.

6. Permanently seal conduits immediately after the completion of conductor installation and pull tests. Permanently seal the ends of all conduits with duct seal, expandable foam, or other method as approved. Do not use duct tape as a permanent conduit sealant. Do not use silicone caulk as a sealant.

7. When a ground rod is present in a ground box, bond all equipment grounding conductors together and to the ground rod with listed connectors.

8. When a type B or D ground box is stacked to meet volume requirements, it is allowable to cut an appropriately sized hole for conduit entry in the side wall at least 18 inches below grade.

9. If an existing ground box in the contract has a metal cover, bond the cover to the equipment grounding conductor with a 3 ft. long stranded bonding jumper the same size as the grounding conductor. The bonding jumper is subsidiary to various bid items. Verify existing ground boxes with metal covers are shown on the plans, with notes fully describing the work required.

10. If other ground boxes with metal covers are within the project limits but are not part of the contract, the Engineer may direct the Contractor to bond the metal covers, identifying the specific boxes in writing. This work will be paid for separately.

11. Bond metal ground box covers to the grounding conductor with a tank ground type lug.

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS
GROUND BOXES

ED(4)-14

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PEDESTAL SERVICE NOTES

1. Manufacture pedestal electrical services in accordance with Departmental Material Specifications (DMS)11080 "Electrical Services", 11085 "Electrical Services-Pedestal (PS)" and Item 628 "Electrical Services. "Provide pedestal electrical services as listed on the Material Producers list (MPL) on the Department's web site under "Roadway Illumination and Electrical Supplies," Item 628. Ensure all mounting hardware and installation details of services meet utility company specifications. Contact the local utility company for approval of pedestal details prior to installing the electrical pedestal service. Submit any changes required by the utility company prior to manufacturing the pedestal enclosure.

2. When a meter socket is required, provide a socket with a minimum 100 amp rating that complies with local utility requirements.

3. Provide Class A or C concrete for pedestal service foundations in accordance with Item 420, "Concrete Substructures," except that concrete will not be paid for directly but is considered subsidiary to Item 628.

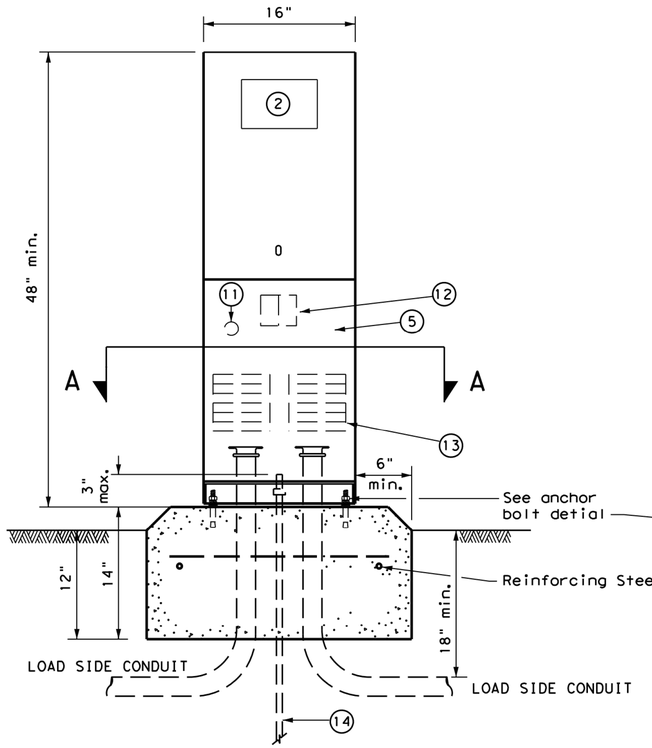
4. Provide #4 reinforcing steel for foundations in accordance with Item 440, "Reinforcement for Concrete."

5. Install ½ in. X 2 11/16 in. minimum length concrete single expansion type anchors for mounting pedestal enclosure to foundation. Anchor location to match mounting holes in each corner of enclosure. Secure each of the four corners of the pedestal enclosure to the anchors in the foundation with a ½ in. galvanized or stainless steel machine thread bolt, a properly sized locknut and a flat washer.

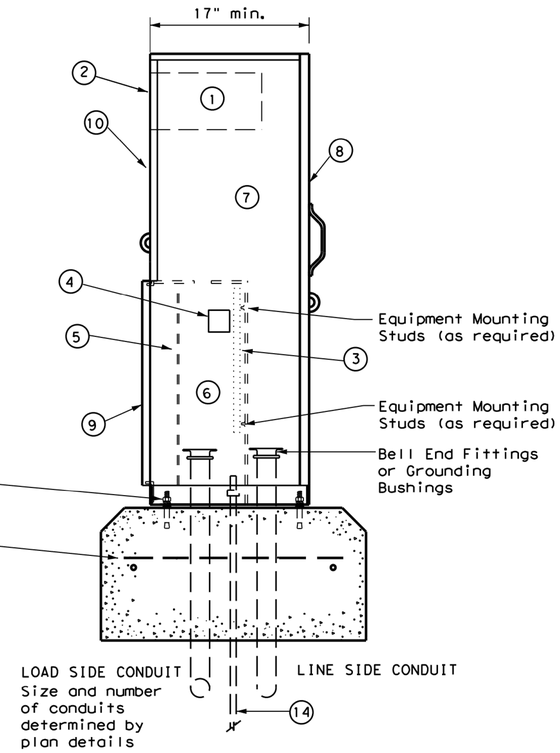
6. Finish top of concrete foundation in a neat and workmanlike manner. If leveling washers are used, ensure no more than ⅛ in. gap at any corner. Do not exceed a maximum dip or rise in the foundation of ⅛ in. per foot. When properly installed, ensure the top of the service enclosure is level front to back and side to side within ¼ in. Repair rocking or movement of the service enclosure at no additional cost to the department.

7. Do not use liquidtight flexible metal conduit (LFMC) on pedestal type services.

8. Ensure all elbows in the foundation are sized as per utility provider's conduit requirements for underground conduit and feeders. PVC extensions may be installed provided the ends of the rigid metal conduits are more than 2 in. below the top of the concrete foundation. Where extension conduits are metal, grounding bushings must be installed with a bonding jumper properly terminated.

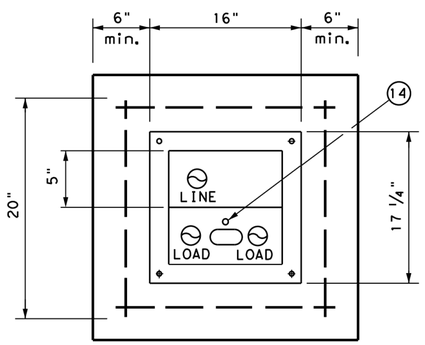


FRONT VIEW

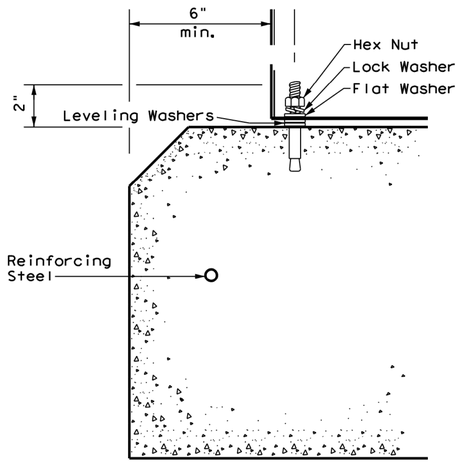


SIDE VIEW

TYPE C shown, TYPE A similar except that TYPE A shall have individual circuit breakers (CB) mounted on an equipment mounting panel. CB Handles shall protrude through hinged deadfront trim.



SECTION A-A



ANCHOR BOLT DETAIL

LEGEND	
1	Meter Socket, (when required)
2	Meter Socket Window, (when required)
3	Equipment Mounting Panel
4	Photo Electric Control Window, (When required)
5	Hinged Deadfront Trim
6	Load Side Conduit Trim
7	Line Side Conduit Area
8	Utility Access Door, with handle
9	Pedestal Door
10	Hinged Meter Access
11	Control Station (H-O-A Switch)
12	Main Disconnect
13	Branch Circuit Breakers
14	Copper Clad Ground Rod - 5/8" X 10'

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS
ELECTRICAL SERVICE SUPPORT
PEDESTAL SERVICE TYPE PS

ED(9)-14

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TIMBER POLE (TP) SERVICE SUPPORT NOTES

1. Ensure electrical service support is a class 5 treated timber pole as per Item 627 "Treated Timber Poles." Embed timber pole to depth required in Item 627.
2. Conduit and electrical conductors attached to the electrical service pole and underground within 12 in. of service pole are not paid for directly but are subsidiary to the electrial service.
3. Install pole-top mounted photocell (T) on north side of pole, or in service enclosure (E) as required. See Electrical Service Data chart in plan set.
4. Gain pole as required to provide flat surface for each channel. Gain timber pole to 5/8 in. max. depth and 1 7/8 in. max. height. Gain pole in a neat and workmanlike manner.
5. Mount meter and service equipment on stainless steel or galvanized channel (Unistrut, Kindorf, or equal). Provide channel sized 1 in. to 3 3/4 in. maximum depth, and 1½ in. to 1⅝ in. maximum width. File smooth the cut ends of galvanized channel and paint with zinc rich paint before installing on pole. Secure each channel section to timber pole with two galvanized or SS lag bolts, ¼ in. minimum diameter by 1½ in. minimum length. Use a galvanized or SS flat washer on each lag bolt. Do not stack channel.
6. When excess length must be trimmed from poles, trim from the top end only.

(1) Class 5 pole, height as required

(2) Service drop from utility company (attached below weatherhead)

(3) Service conduit (RMC) and service entrance conductors - One Red, One Black, One White (See Electrical Service Data)

(4) Safety switch (when required)

(5) Meter (when required)

(6) Service enclosure

(7) 6 AWG bare grounding electrode conductor in ½ in. PVC to ground rod - extend ½ in. PVC 6 in. underground.

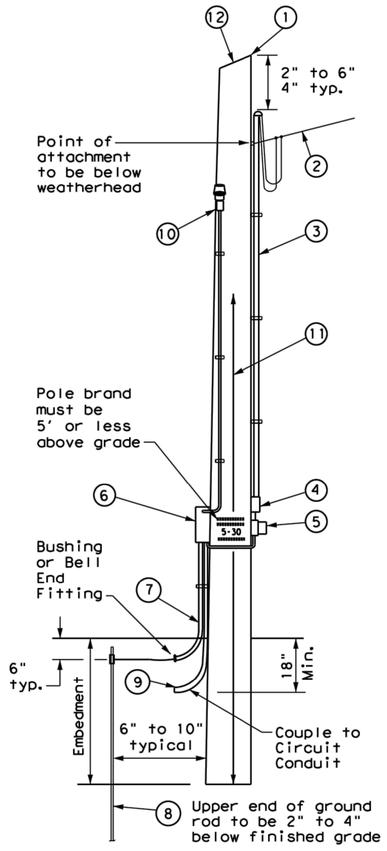
(8) 5/8 in. x 8 ft. Copper clad ground rod - drive ground rod to a depth of 2 in. to 4 in. below grade.

(9) RMC same size as branch circuit conduit.

(10) See pole-top mounted photocell detail on ED(5).

(11) When required by the serving utility provide bare 6 AWG copper conductor. Run wire from pole top to butt wrap or copper butt plate. Protect conductor with non-conductive material to a height of 8 ft. above finished grade.

(12) When required by utility, cut top of pole at an angle to enhance rain run off.

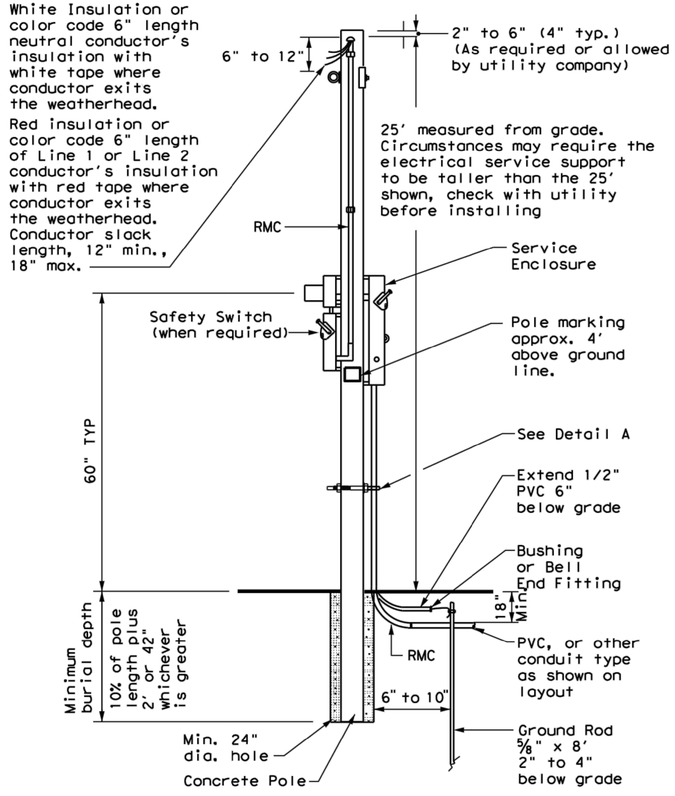


SERVICE SUPPORT TYPE TP (O)

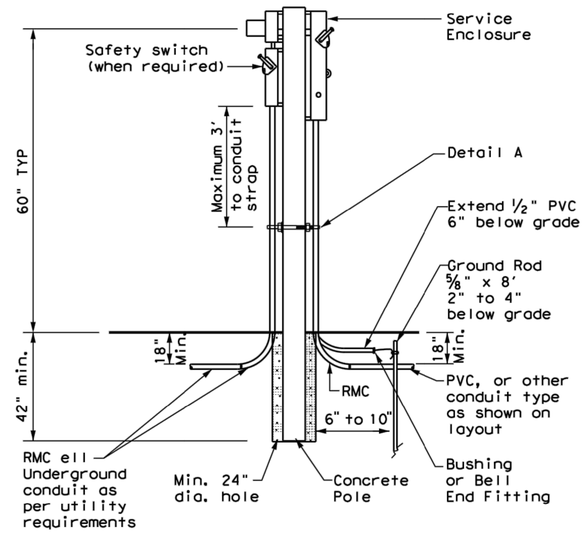
GRANITE CONCRETE (GC) & OTHER CONCRETE (OC) NOTES

Ensure electrical service support structures bid as type Granite Concrete (GC) or Other Concrete (OC) meet the following requirements.

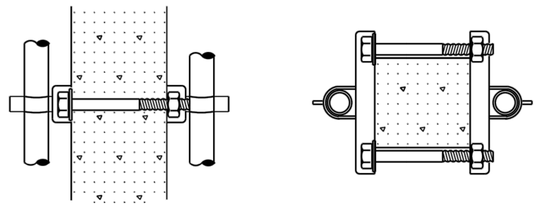
1. Provide GC and OC poles that meet the requirements of DMS 11080 "Electrical Services."
2. Provide prestressed concrete poles suitable for direct embedment into the ground without special foundations.
3. Verify poles are marked as required on DMS 11080. Location of marking should be approximately 4' above final grade. Use the two-point pickup locations when handling pole in horizontal position, and one-point pickup location for use in raising the pole to a vertical position. These marks are small but conspicuous.
4. Embed poles 42 in. or 10% of the length plus 2 ft., whichever is greater.
5. Ensure all installation details of services are in accordance with utility company specifications.
6. Install a one point rack or eye bolt bracket 6 inches to 12 inches below the weatherhead as an overhead service drop anchoring point for the electric utility.
7. Furnish and install galvanized or stainless steel channel strut 1 ½ in. or 1 5/8 in. wide by 1 in. up to 3 3/4 in. deep (Unistrut, Kindorf, B-line or equal). Attach channel strut with stainless steel concrete anchors (max. 1" depth), square U-bolts or back to back channel strut with long bolts, or other secure mounting as approved by the Engineer. Ensure bolts are galvanized in accordance with ASTM A153. Do not stack channel struts.
8. Backfill the holes thoroughly by tamping in 6 in. lifts. After tamping to grade, place additional backfill material in a 6 inch high cone around the pole to allow for settling. Use material equal in composition and density to the surrounding area. Backfilling will not be paid for directly but is subsidiary to various bid items.



CONCRETE SERVICE SUPPORT
Overhead (O)



CONCRETE SERVICE SUPPORT
Underground (U)



Side View Top View

DETAIL A

See Note 7. Before installing channel that has been cut, file sharp edges and paint with zinc-rich paint. Ensure there is no paint splatter on the pole.

Texas Department of Transportation

Traffic Operations Division Standard

ELECTRICAL DETAILS SERVICE SUPPORT TYPES GC, OC, & TP

ED(10)-14

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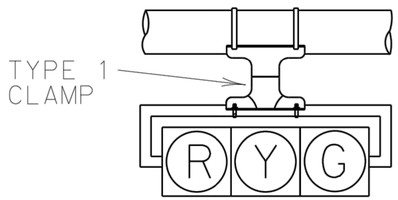

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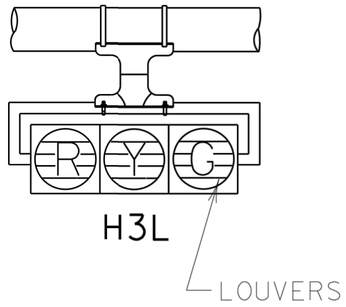

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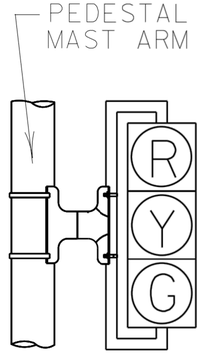

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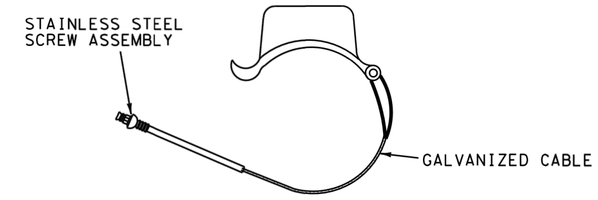
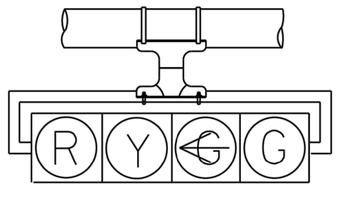


TYPE 1 AND 2 CLAMPS



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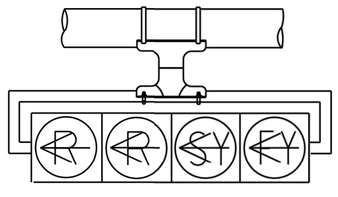

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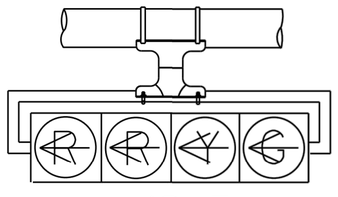

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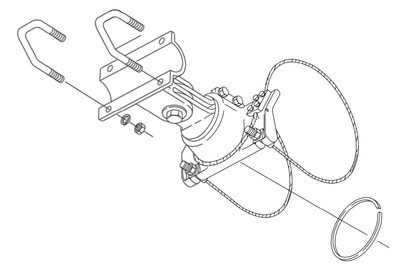
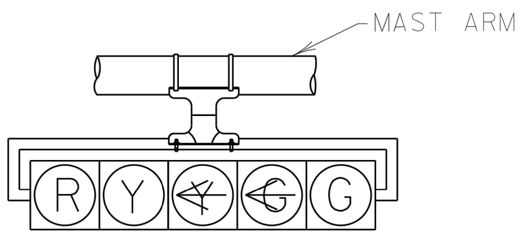


TYPE 2 CLAMP KIT

SHALL BE INSTALLED WHEN ROTATION ABOUT
THE HORIZONTAL AND VERTICAL AXES ARE NEEDED.



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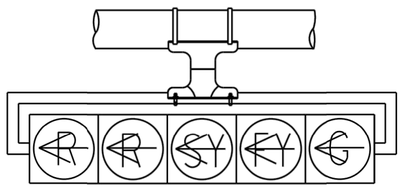

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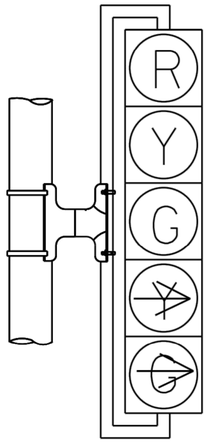

V5RT

NOTES:

1. VEHICLE SIGNAL HEADS SHALL BE MOUNTED WITH TYPE 1 CLAMP AND APPROPRIATE TUBING.
2. ALL POLE MOUNTED VEHICLE HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE PEDESTAL OR MAST ARM POLE.
3. THE SIGNAL HEADS SHOWN ARE NOT MEANT TO REFLECT ALL POSSIBLE SIGNAL HEADS, BUT ARE REPRESENTATIVE OF SIGNAL HEADS COMMONLY IN USE. SEE THE TRAFFIC SIGNAL LAYOUT FOR REQUIRED SIGNAL HEADS, AND THE NUMBER AND ORIENTATION OF LOUVERS.

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DALLAS DISTRICT STANDARD

TRAFFIC SIGNAL HEAD DETAILS (DAL)

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TEXAS			
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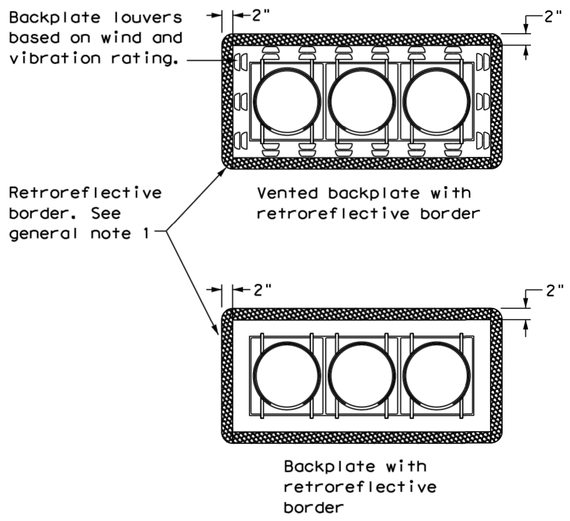
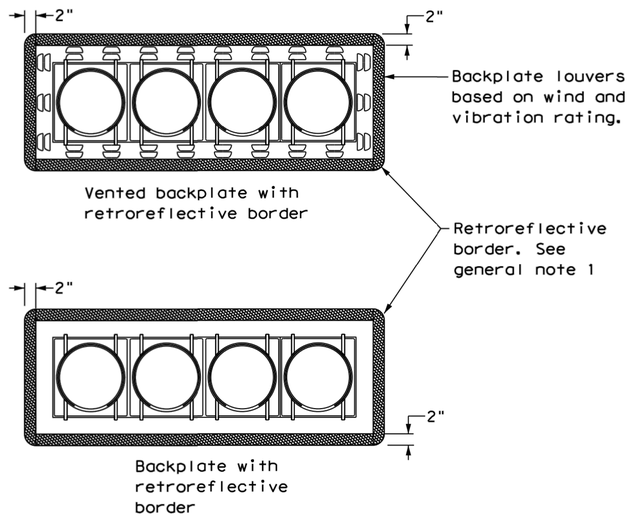
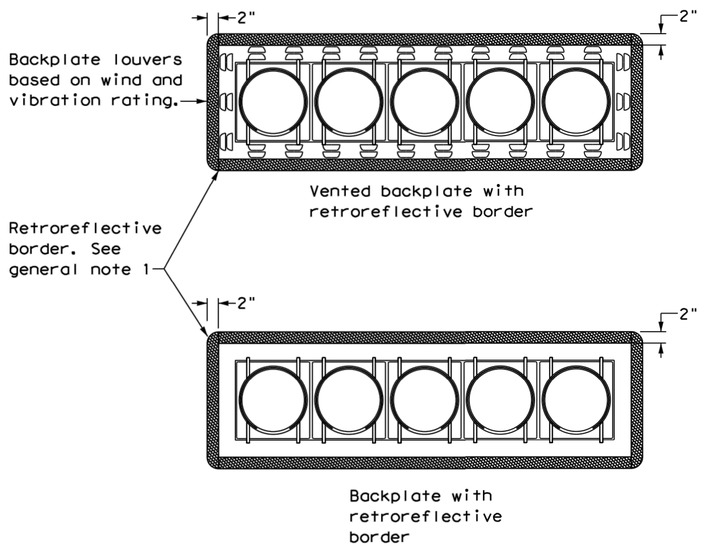


THREE-SECTION HEAD
HORIZONTAL OR VERTICAL



FOUR-SECTION HEAD
HORIZONTAL OR VERTICAL



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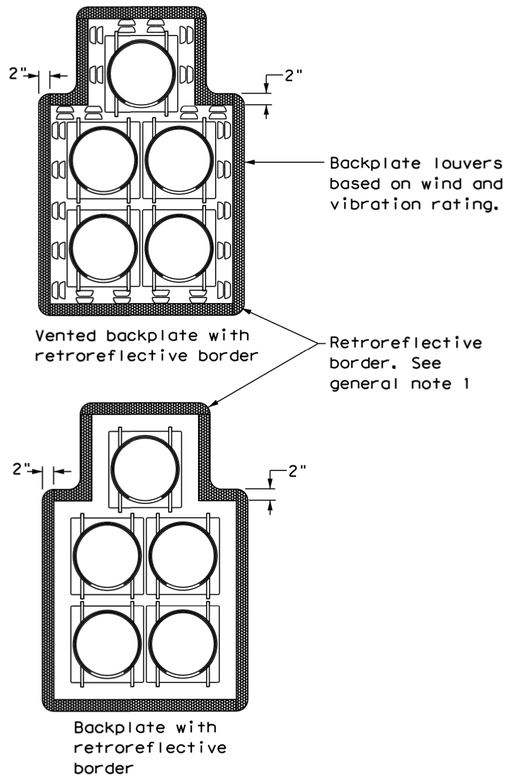
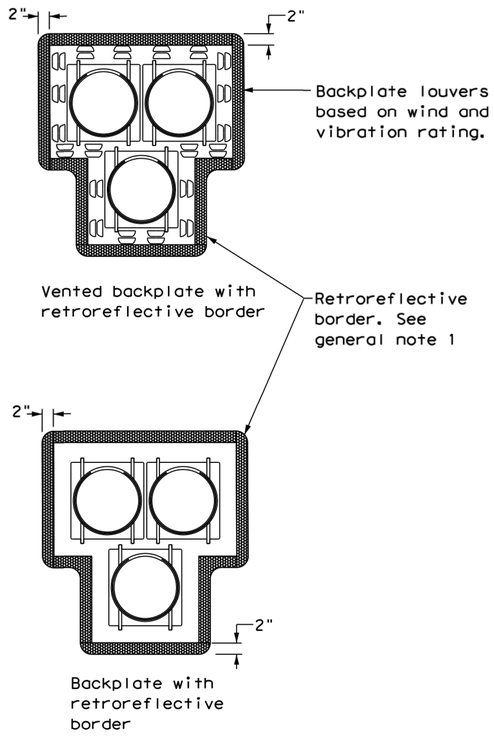


FIVE-SECTION HEAD
CLUSTER



PEDESTRIAN HYBRID
BEACON

GENERAL NOTES:

1. Backplates are optional for traffic signals and pedestrian hybrid beacons. When backplates are used, a 2-inch wide fluorescent yellow AASHTO Type B_{FL} or C_{FL} retroreflective border conforming to TxDOT DMS-8300 is required. Place on all approaches when used.
2. Signal head and backplate compatability must be verified by the contractor prior to installation.
3. When using backplates on signal heads, venting is preferred to reduce cyclic vibration stress.
4. When a vented backplate is used, the retroreflective border must not be placed over the louvers.
5. This standard sheet applies to all signal heads with backplates, including but not limited to:
   - Pole mounted
   - Overhead mounted
   - Span wire mounted
   - Mast arm mounted
   - Vertical signal heads
   - Horizontal signal heads
   - Clustered signal heads
   - Pedestrian hybrid beacons

Texas Department of Transportation

Traffic Safety Division Standard

TRAFFIC SIGNAL HEAD WITH BACKPLATE

TS-BP-20

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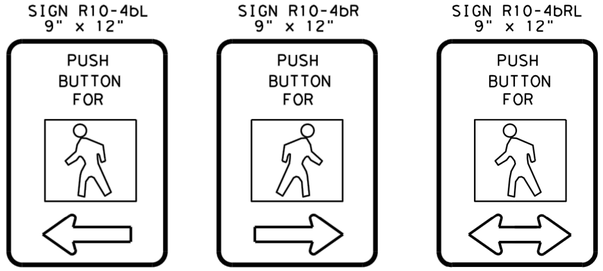
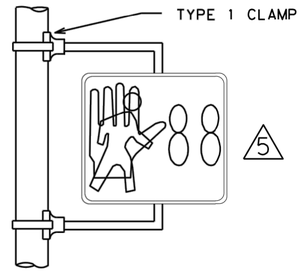
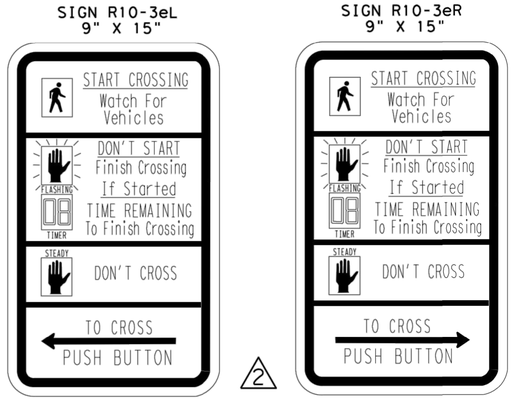
	DIST	COUNTY		SHEET NO.
				233



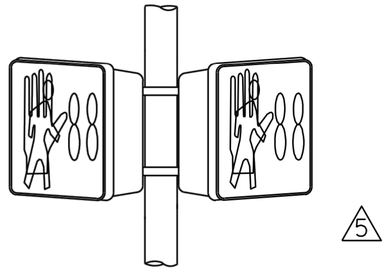
PEDESTRIAN PUSHBUTTON
SIGN DETAILS



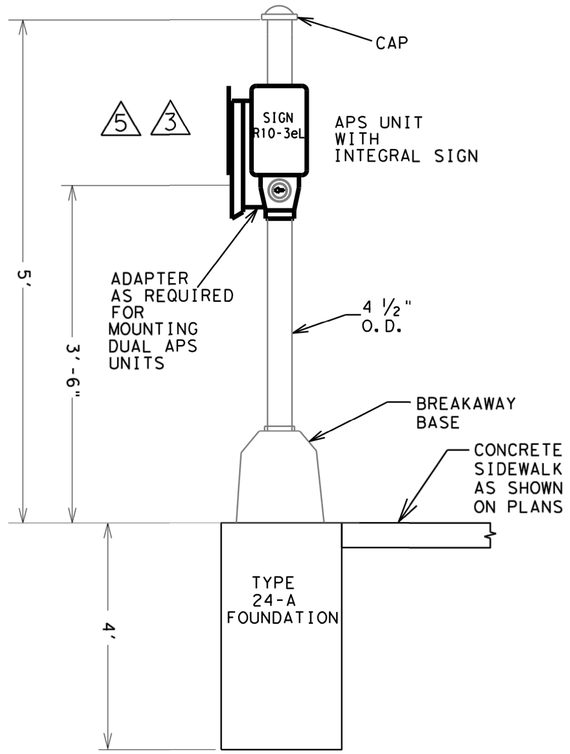
PEDESTRIAN SIGNAL HEAD MOUNTING
FOR ONE PEDESTRIAN SIGNAL HEAD
152A



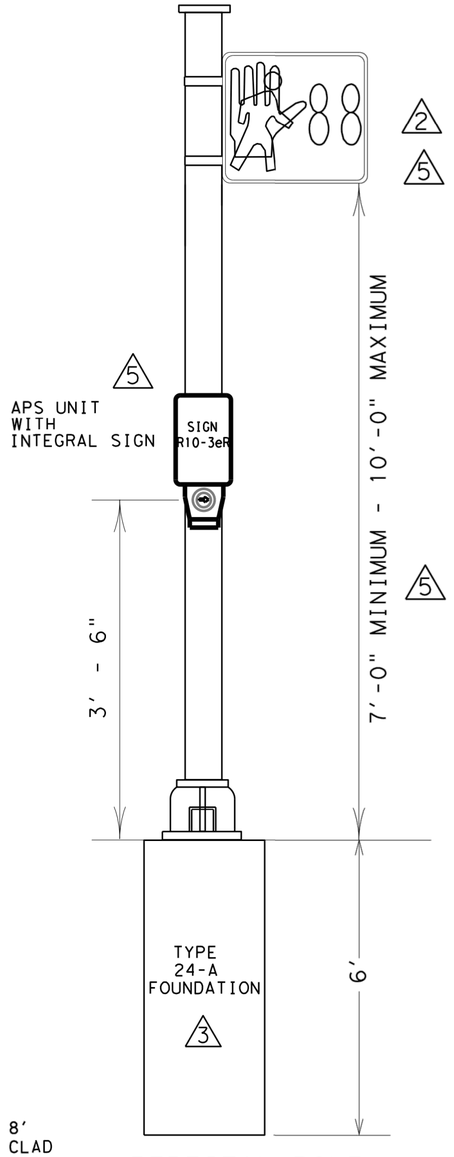
COUNTDOWN PEDESTRIAN PUSHBUTTON
SIGN DETAILS



PEDESTRIAN SIGNAL HEAD MOUNTING
FOR TWO PEDESTRIAN SIGNAL HEADS
143C

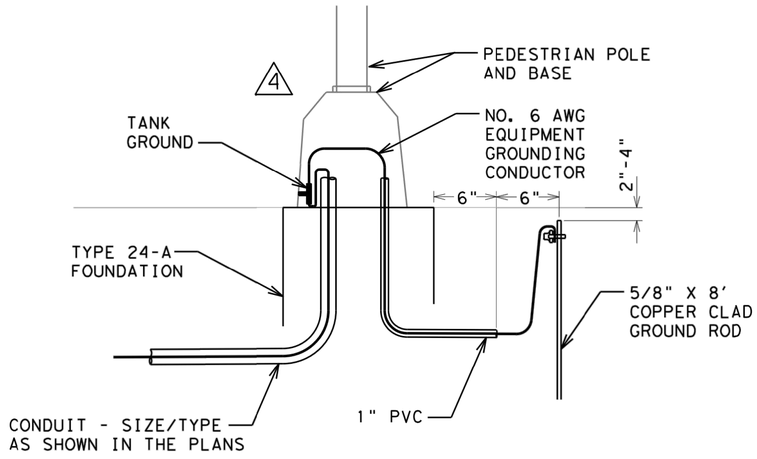


PEDESTRIAN PUSH BUTTON POLE

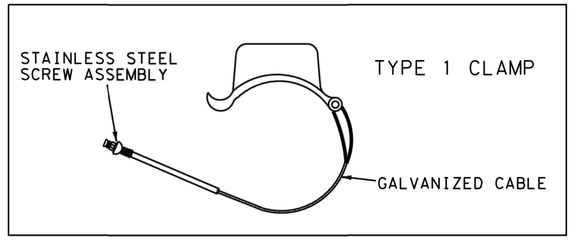


PEDESTAL POLE

NOTE:
THE POLES ON THIS DRAWING ARE SHOWN AS AN EXAMPLE ONLY. POLES OF SIMILAR DESIGN FOR ANY CROSS SECTION WHICH MEET THE SPECIFICATIONS AND REQUIREMENTS SHOWN ON THESE DRAWINGS AND ARE APPROVED BY THE ENGINEER WILL BE DEEMED ACCEPTABLE.



PEDESTRIAN PUSH BUTTON POLE
GROUNDING DETAILS



1 5 NOTE: EITHER TYPE 1 CLAMPS OR CLAM SHELL MOUNTING HARDWARE MAY BE USED AS APPROVED BY THE ENGINEER. FOR CLAM SHELLS, USE ICC P/N 4805 OR McCAIN QUICKMOUNT OR APPROVED EQUAL.

1 ALTERNATIVE MOUNTING METHOD
revised 12-92

2 ALTERNATIVE PEDESTRIAN SIGNAL HEAD AND SIGNING
revised 10-08

3 PEDESTRIAN PUSH BUTTON POLE
revised 01-11

4 PEDESTRIAN PUSH BUTTON POLE GROUNDING DETAILS
revised 09-15

5 APS UNIT ADDED
"SYMBOLS ONLY" PEDESTRIAN SIGNAL HEAD REMOVED
MOUNTING HARDWARE NOTES REVISED
MOUNTING HEIGHT REVISED
revised 06-17

NOTES:

5
1. ALL PEDESTRIAN SIGNAL HEADS SHALL BE INSTALLED ON THE AWAY-FROM-TRAFFIC SIDE OF THE PEDESTAL OR MAST ARM POLE.
2. ALL WIRING FOR PEDESTRIAN SIGNALS SHALL BE TOTALLY ENCLOSED WITHIN THE SIGNAL MOUNTING HARDWARE.
3. ALL PEDESTRIAN SIGNAL HEADS AND PUSH BUTTON SIGNS SHALL DISPLAY THE SYMBOLIZED MESSAGES SHOWN ABOVE.

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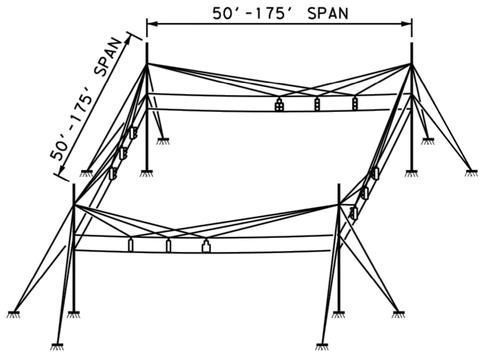
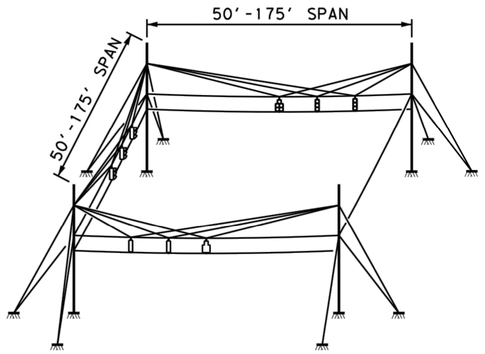
DALLAS DISTRICT STANDARD

PEDESTRIAN SIGNAL HEAD DETAILS (DAL)

FED. RD. DIV. NO.	PROJECT NO.		SHEET NO.
			234
STATE	STATE DIST.	COUNTY	
TEXAS			
CONT.	SECT.	JOB	HIGHWAY NO.



RECTANGULAR BOX CONFIGURATION



C-BOX CONFIGURATION

SIGNAL HEAD TYPE	'Y'
HORIZONTAL	1'-8" ±
VERTICAL	4'-0" ±

DESIGN CRITERIA:

1. SIGNAL HEAD DESIGN DEAD LOADS AND WIND AREAS SHOWN IN TABLE BELOW. VALUES INCLUDE BACKPLATES.
2. DESIGN IS BASED ON ONE 5 OR 4-SECTION HEAD AND ONE OR MORE ADDITIONAL 3-SECTION HEAD(S).
3. WEIGHT OF INDIVIDUAL ⅜" CABLE IS 0.273 LB/FT AND ⅜16" CABLE IS 0.080 LB/FT.
4. WEIGHT OF SWAY CABLE IS ASSUMED TO BE 0.65 LB/FT, WHICH INCLUDES AN ALLOWANCE FOR CONDUCTOR CABLE AND MISCELLANEOUS HARDWARE.
5. DESIGN WIND SPEED EQUALS 80 MPH PLUS A 1.3 GUST FACTOR (CURRENT AASHTO SPECIFICATIONS FOR SIGNS, LUMINAIRES AND TRAFFIC SIGNALS USE EQUIVALENT 90 MPH WITH A 1.14 GUST FACTOR).
6. IMPORTANCE FACTOR = 0.71 (10-YEAR DESIGN LIFE)
7. DESIGN WIND PRESSURE ON CABLES ARE ASSUMED AS 1.0 LB/FT.
8. DESIGN CONTAINS ALLOWANCE FOR A MAXIMUM 30 SQ. FT. OF 0.100 IN. THICK ALUMINUM SIGNS PER SPAN.
9. DESIGN CONTAINS ALLOWANCE FOR A 60 LB. LUMINAIRE HAVING AN EFFECTIVE PROJECTED AREA (ACTUAL AREA TIMES DRAG COEFFICIENT) OF 1.6 SQ. FT.
10. DESIGN ICE LOAD OF 3 PSF IS CONSIDERED AROUND SURFACES OF SUPPORTS, WIRES, SIGNALS AND ONE FACE OF SIGN PANELS ONLY.

SIGNAL HEAD DESIGN VALUES

SIGNAL HEAD TYPE	WT. PER HEAD	WIND AREA ◆
5-SECTION, 12" LENS	125 LBS	9.6 SQ. FT.
4-SECTION, 12" LENS	100 LBS	7.6 SQ. FT.
3-SECTION, 12" LENS	75 LBS	5.6 SQ. FT.

◆ EFFECTIVE PROJECTED DESIGN WIND AREA (ACTUAL AREA TIMES DRAG COEFFICIENT)

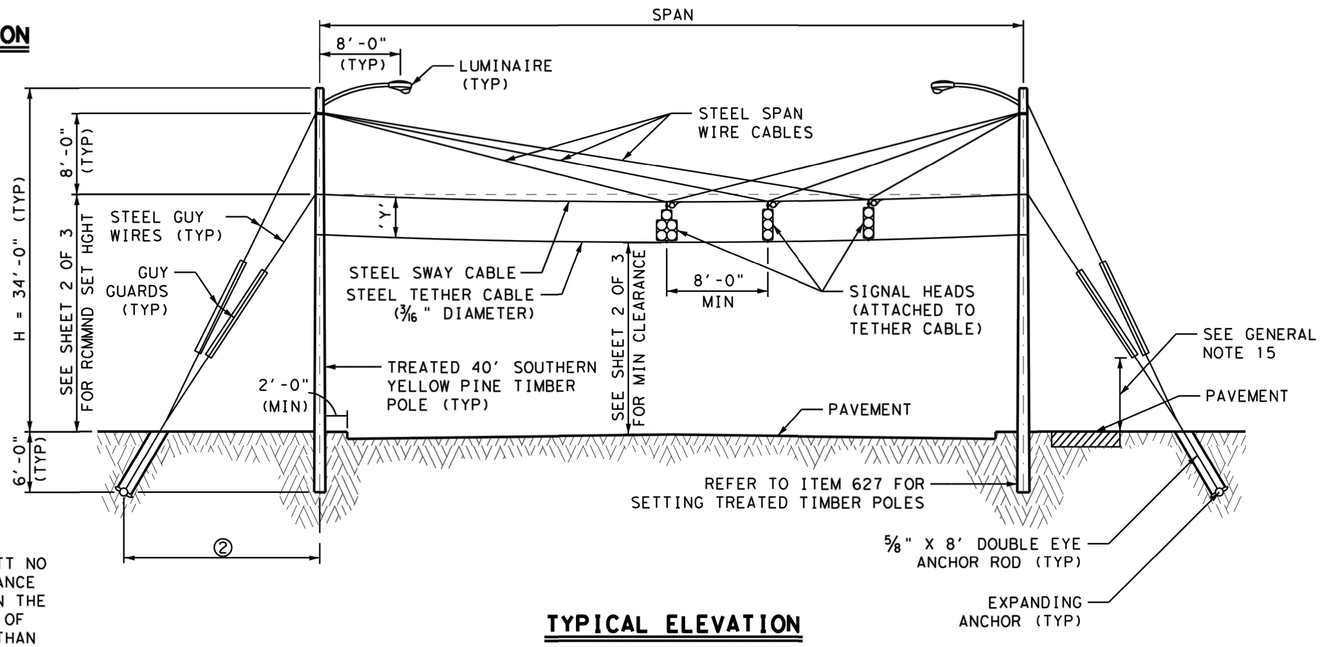
MATERIALS

TIMBER POLE	ANSI CLASS 2 TREATED TIMBER POLE
STEEL CABLE	ASTM A475, 7 WIRE, UTILITIES GRADE, GALVANIZED, ⅜" DIAMETER EXCEPT AS NOTED
SIGNAL HEADS	POLYCARBONATE HOUSING & LENS, LED LAMP WITH 12" LENS

SHIPPING PARTS LIST

DESCRIPTION	QUANTITY	UNIT
40' TIMBER POLE ①	24	EA
⅜" STEEL CABLE	#	FT
⅜16" STEEL CABLE	#	FT
8' LUMINAIRE ARM	14	EA

① SHIP EACH POLE WITH THE FOLLOWING: A BARE #6 AWG (AMERICAN WIRE GAUGE) COPPER ELECTRICAL CONDUCTOR FROM THE TOP OF THE POLE TO THE BUTT WRAP OR COPPER BUTT PLATE, PROTECTIVE ELECTRICAL CONDUCTOR TO A HEIGHT OF 8 FT. ABOVE FINISHED GRADE, BRANDING OF SUPPLIER, PLANT, SPECIES, PRESERVATIVE CODE & CLASS LENGTH 2 CLAMP-ON SIMPLEX. FOR A PROJECT REQUIRING 10 POLES OR LESS, THE CONTRACTOR MAY PURCHASE POLES LOCALLY IF SOURCE AND TREATMENT ARE DOCUMENTED.



TYPICAL ELEVATION

(VERTICAL SIGNALS SHOWN, HORIZONTAL SIGNALS SIMILAR)

② LOCATE THE EMBEDDED TIP OF GUY ANCHOR A DISTANCE FROM PILE BUTT NO GREATER THAN THE VERTICAL DISTANCE MEASURED ALONG THE POLE BETWEEN THE GROUND LINE AND THE ATTACHMENT OF LOWEST GUY AND NEVER ANY LESS THAN 1/3 OF THAT DISTANCE.

GENERAL NOTES:

1. DESIGN CONFORMS TO AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, 5TH EDITION.
2. THIS STANDARD IS ONLY APPLICABLE FOR RECTANGULAR OR C-BOX CONFIGURATIONS (AS SHOWN) WITH SPAN LENGTHS RANGING FROM 50' TO 175' IN EITHER DIRECTION.
3. FOR CONSTRUCTION REQUIREMENTS AND SEQUENCING, SEE SHEET 2 OF 3.
4. FOR ELECTRICAL AND MISCELLANEOUS DETAILS, SEE SHEET 3 OF 3.
5. SEE LAYOUT FOR LOCATIONS OF SIGNALS, SIGNS AND LUMINAIRES.
6. MINIMUM ALLOWABLE SOIL STRENGTH IS 20 BLOWS/12" PER THE TEXAS CONE PENETRATION TEST (TCP).
7. SEE SHEET 3 OF 3 FOR LUMINAIRE ARM AND CONNECTION DETAILS.
8. TEMPORARY TRAFFIC SIGNALS SHALL BE PAID FOR AND IN ACCORDANCE WITH ITEM 681.
9. ZINC-COATED STEEL WIRE STRAND SHALL BE IN ACCORDANCE ITEM 625.
10. TREATED TIMBER POLES SHALL BE IN ACCORDANCE WITH ITEM 627. FOR A PROJECT REQUIRING 10 POLES OR LESS, CONTRACTOR MAY PURCHASE LOCAL POLES IF SOURCE AND TREATMENT ARE DOCUMENTED.
11. VEHICLE AND PEDESTRIAN SIGNAL HEADS SHALL BE IN ACCORDANCE WITH ITEM 682.
12. TRAFFIC SIGNAL CABLES SHALL BE IN ACCORDANCE WITH ITEM 684.
13. CONTRACTOR SHALL NOT INSTALL ANY SPAN WIRE, SWAY, OR GUY WIRE CABLES AROUND EXISTING AERIAL UTILITIES. CLEARANCE SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE NATIONAL ELECTRIC CODE (NEC).
14. IF PEDESTRIAN ACCOMMODATIONS ARE TO BE INSTALLED, PEDESTRIAN SIGNAL HEADS AND PUSH BUTTONS SHOULD BE INSTALLED ON SEPARATE PEDESTAL POLES.
15. A MINIMUM 8' VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN SIDEWALK AND GUY WIRE. THE CLOSEST GUY WIRE TO THE SIDEWALK SHALL HAVE YELLOW PLASTIC TUBING.
16. DRILLED HOLE DIAMETER SHALL BE 18" MININUM OR A MINIMUM HOLE SIZE EQUAL TO THE POLE BUTT DIAMETER PLUS 8".
17. FILL MATERIAL SHALL BE TAMPED IN 6" LIFTS. A GRADE 7 OR 8 CONCRETE AGGREGATE OR DRILL CUTTINGS (IF GRANULAR AND NOT LARGER THAN ¾") MAY BE USED AS FILL.

EXPANDING ANCHOR NOTES:

1. HOLE SHALL BE DRILLED AT AN ANGLE INLINE WITH THE GUY (45° TO 60° TYPICAL).
2. OTHER ANCHOR TYPES (DISC OR SCREW TYPE) MAY BE USED WITH ENGINEER'S APPROVAL.
3. HOLE SIZE SHALL BE SLIGHTLY LARGER THAN THE UNEXPANDED ANCHOR, PER MANUFACTURER'S SPECIFICATIONS.
4. ALL ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL BLADES SHALL BE WEDGED INTO UNDISTURBED SOIL.
5. FOLLOWING INSTALLATION OF THE ANCHOR AND ANCHOR ROD, BACKFILL HOLE AND THOROUGHLY TAMP.

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LEVELS DISPLAYED 1 2

Texas Department of Transportation
Fort Worth District

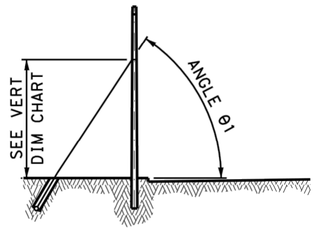
TRAFFIC SIGNAL SUPPORT STRUCTURES TIMBER POLE ASSEMBLIES

(80 MPH WIND ZONE)

TP-80(12) (FTW)

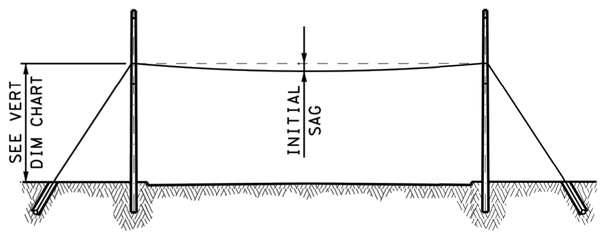
FILE: TP80.DGN	DN: JDS	CK: RSW	DW: JDS	CK: RSW
©TxDOT SEPTEMBER 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				235

CONSTRUCTION REQUIREMENTS AND SEQUENCING



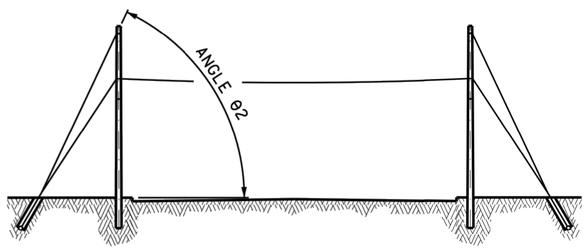
STEP 1 NOTES:
1. CONSTRUCTION MAY PROCEED IN ONLY ONE DIRECTION AT A TIME.
2. SET THE POLES PLUMB AND THE EXPANDING ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
3. BACKFILL HOLES FOR ANCHOR, ANCHOR ROD & POLES PER ITEM 627.
4. STRESS LOWER GUY WIRE TO:
   INITIAL TENSION = 500 LB / COS θ1 ②

STEP 1 - SET POLE & STRESS LOWER GUY WIRE



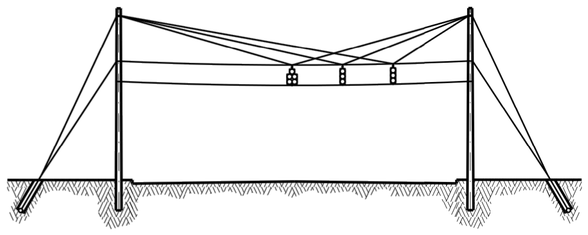
STEP 2 NOTES:
1. INSTALL AND STRESS THE STEEL SWAY CABLE PER THE INITIAL SWAY CABLE PROFILE CHART.
2. INITIAL SAG IS THE MAXIMUM DISTANCE BETWEEN THE SWAY CABLE AND A STRAIGHT LINE BETWEEN THE SUPPORT POINTS ON THE TIMBER POLES.
3. INITIAL SAG REQUIREMENTS DO NOT ACCOUNT FOR WEIGHT OF CONDUCTOR CABLE. CONDUCTOR CABLE IS TO BE ATTACHED IN STEP 4.
4. THIS IS THE FINAL STEP FOR THE OPEN END (SPAN WITHOUT SIGNALS) IN THE C-BOX CONFIGURATION.

STEP 2 - STRESS SWAY CABLE



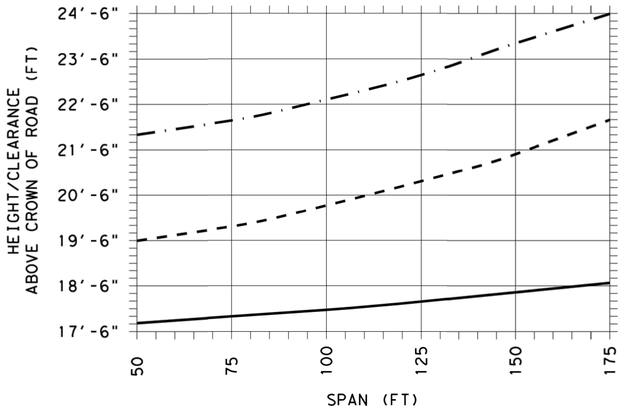
STEP 3 NOTES:
1. INSTALL THE UPPER STEEL GUY WIRE. CONNECT TO ANCHOR ROD FROM STEP 1.
2. DETERMINE HORIZONTAL COMPONENT OF STRESSING FORCE BASED ON THE SPAN LENGTH AND THE NUMBER OF SIGNAL HEADS FROM UPPER GUY WIRE INITIAL TENSION CHART.
3. STRESS UPPER GUY WIRE TO:
   INITIAL TENSION = HORIZ COMPONENT / COS θ2 ③

STEP 3 - STRESS UPPER GUY WIRE



STEP 4 NOTES:
1. ATTACH SIGNAL HEADS TO STEEL SWAY CABLE.
2. INSTALL STEEL SPAN WIRE CABLES AND SIGNALS. STRESS SPAN WIRE CABLES UNTIL THE SIGNALS CAN BE ATTACHED TO SWAY CABLE AND NOT CAUSE DEFLECTION IN THE SWAY CABLE FROM THE WEIGHT OF THE SIGNAL HEADS.
3. FOLLOWING THE STRESSING OF ALL SPAN WIRE CABLES, CONSTRUCTION MAY PROCEED IN THE PERPENDICULAR DIRECTION OR PROCEED WITH THE INSTALLATION OF THE TETHER CABLE, CONDUCTOR CABLE AND ALL OTHER ATTACHMENTS.
4. VERIFY MINIMUM FINAL CLEARANCE AFTER ALL ATTACHMENTS.

STEP 4 - INSTALL SIGNAL HEADS & ATTACHMENTS

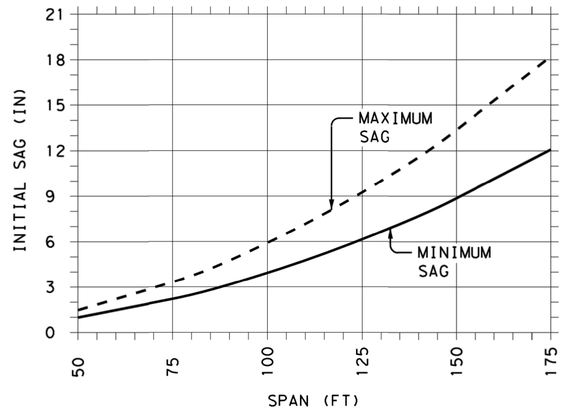


- - - - RECOMMENDED HEIGHT OF SWAY CABLE SUPPORT W/ VERTICAL SIGNALS ①
- - - - RECOMMENDED HEIGHT OF SWAY CABLE SUPPORT W/ HORIZONTAL SIGNALS ①
——— MINIMUM FINAL CLEARANCE AFTER ALL ATTACHMENTS ②

① RECOMMENDED HEIGHT DOES NOT ACCOUNT FOR INTERSECTION OR SITE GRADING AND ADJUSTMENTS MAY BE NECESSARY. CONTRACTOR MUST VERIFY THAT THE MINIMUM FINAL CLEARANCE BETWEEN THE PAVEMENT AND SIGNAL HEAD OR TETHER CABLE IS SATISFIED.

② FINAL CLEARANCE ALLOWS DEFLECTION DUE TO ICE LOADING.

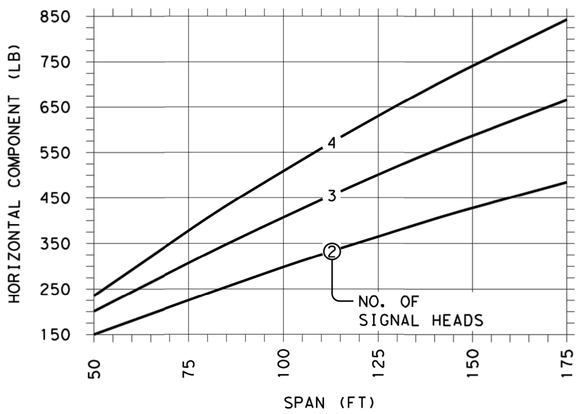
VERTICAL DIMENSIONS



- - - - TENSION = 700 LB ③
——— TENSION = 1,050 LB

③ TENSIONS SHOWN ARE CABLE FORCES AND DO NOT ACCOUNT FOR FRICTION IN EQUIPMENT DURING STRESSING OPERATIONS.

SWAY CABLE PROFILE



UPPER GUY WIRE INITIAL TENSION

NOTES:
1. SEE SHEET 1 OF 3 FOR GENERAL NOTES.
2. MINIMUM ALLOWABLE SOIL STRENGTH IS 20 BLOWS/12" PER THE TEXAS CONE PENETRATION TEST (TCP).

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LEVELS DISPLAYED
1 2

SHEET 2 OF 3

Texas Department of Transportation
Fort Worth District

TRAFFIC SIGNAL SUPPORT STRUCTURES TIMBER POLE ASSEMBLIES

(80 MPH WIND ZONE)

TP-80(12) (FTW)

FILE: TP80.DGN	DN: JDS	CK: RSW	DW: JDS	CK: RSW
©TxDOT SEPTEMBER 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				236

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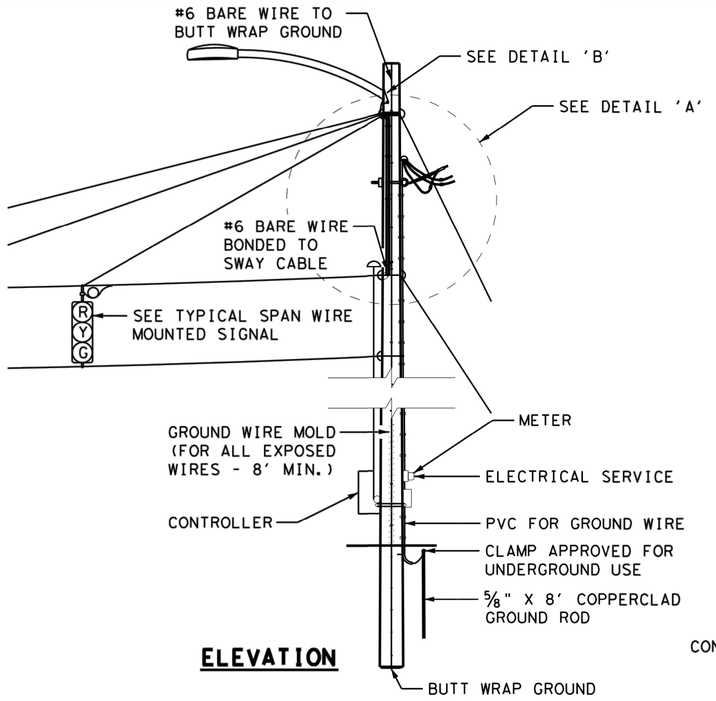
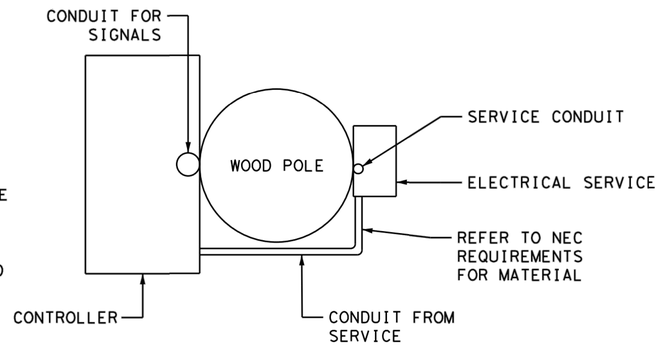


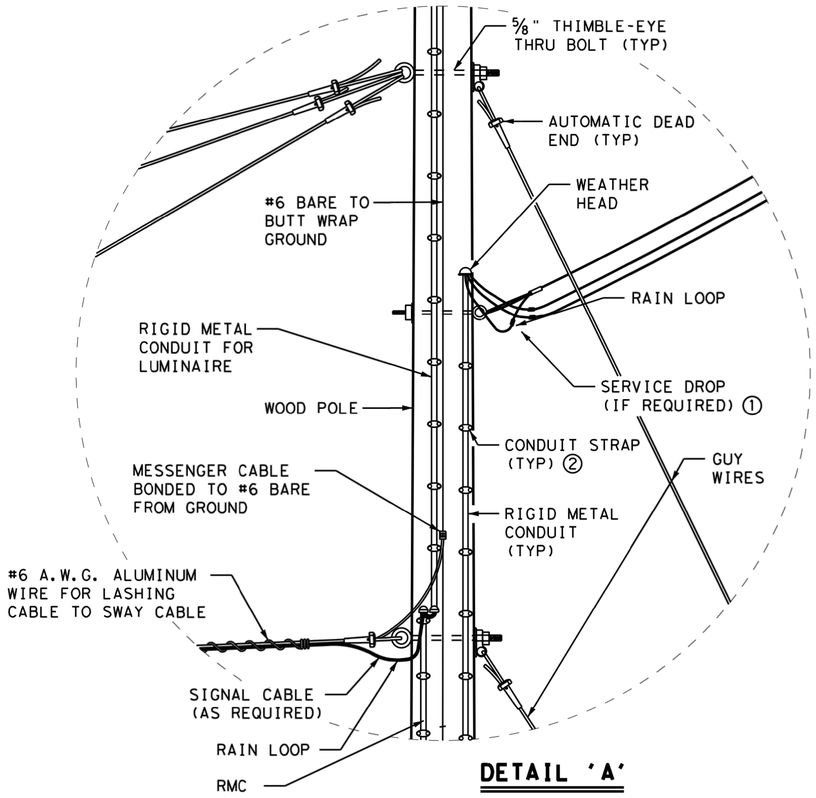
ELEVATION

ELECTRICAL NOTES:

1. ALL CONDUITS SHOWN ARE TYPICAL. CONDUIT SIZES MAY VARY. REFER TO THE LAYOUT FOR ACTUAL SIZES.
2. SEE LAYOUT FOR CONDUCTOR SIZE.
3. ALL UNDERGROUND CONDUIT SHALL BE A MINIMUM OF 2' BELOW GROUND LEVEL.
4. ALL CONDUITS SHALL BE SEALED.
5. SERVICE WIRING SHALL BE XHHW. GROUNDING TYPE INSULATED BUSHINGS SHALL BE INSTALLED ON EVERY CONDUIT ENTERING SERVICE ENCLOSURE.
6. ALL CONDUIT ATTACHED TO THE WOOD POLE SHALL BE RIGID METAL CONDUIT (RMC).
7. CONDUIT SHALL NOT ENTER CABINET FROM THE TOP.



PLAN

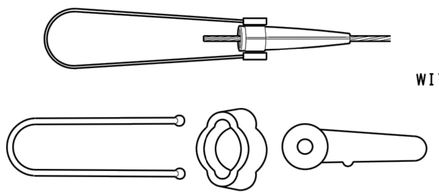


DETAIL 'A'

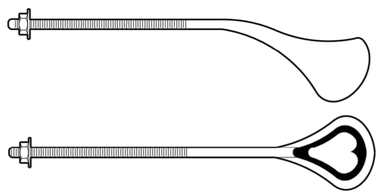
① SERVICE DROP POINT MIN. 6" BELOW WEATHER HEAD

② CONDUIT STRAPS SPACED MAX. 5' ON CENTER

③ ALL SPAN WIRE AND SWAY CABLES SHALL BE BONDED TOGETHER AT EACH POLE AND TO THE #6 BARE WIRE (BUTT WRAP) AT EACH POLE



AUTOMATIC DEAD END



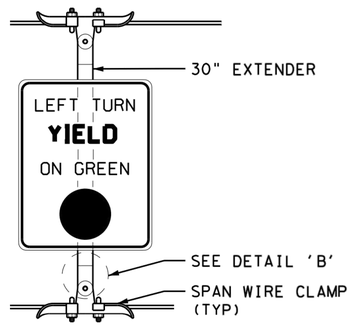
5/8" THIMBLE-EYE THRU BOLT



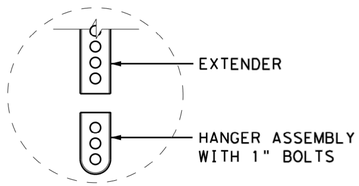
5/8" THIMBLE-EYE NUT

POLE MOUNTED SERVICE

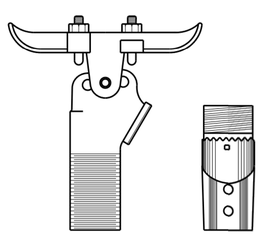
(CONTRACTOR SHALL ATTACH SERVICE ENCLOSURE WITH GALVANIZED CHANNEL. GAIN POLE IN TWO PLACES TO PROVIDE FLAT SURFACES. REFER TO ED(4)-03)



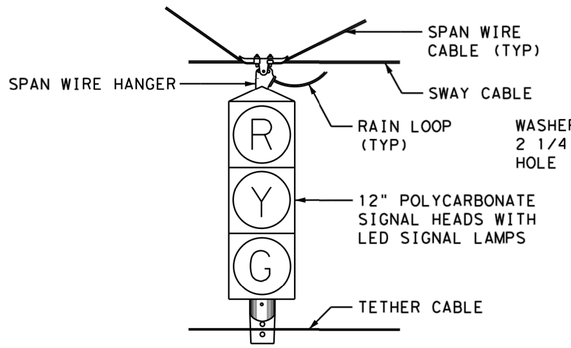
SIGN ATTACHMENT



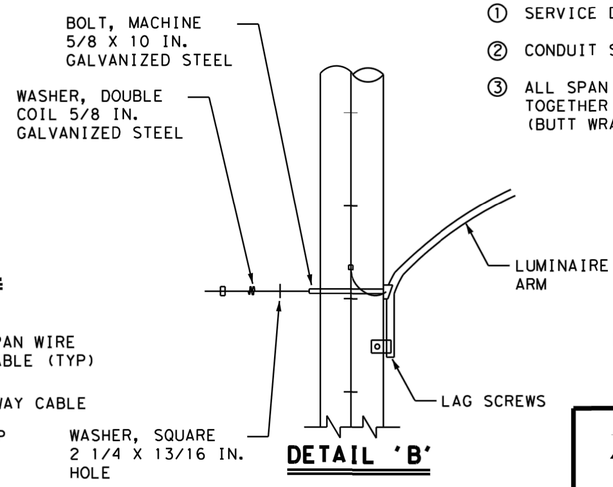
DETAIL 'B'



SPAN WIRE HANGER DETAIL



TYPICAL SPAN WIRE MOUNTED SIGNAL



DETAIL 'B'

① 4 - 1/2" x 1 1/4" BRACKET MOUNTING BOLTS SUPPLIED WITH POLE (2 BOLTS PER POSITION).

② ARM HAS HOLE WITH 1/2" RUBBER GROMMET FOR CONDUCTOR ENTRY WHEN SERVED OVERHEAD.

③ ARM WILL ACCOMMODATE OVERHEAD OR UNDERGROUND FEEDS

NOTES:

1. SEE SHEET 1 OF 3 FOR GENERAL NOTES.

Texas Department of Transportation
Fort Worth District

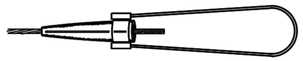
TRAFFIC SIGNAL SUPPORT STRUCTURES TIMBER POLE ASSEMBLIES

(80 MPH WIND ZONE)

TP-80(12) (FTW)

FILE: TP80.DGN	DN: JDS	CK: RSW	DW: JDS	CK: RSW
©TxDOT SEPTEMBER 2012	CONT	SECT	JOB	HIGHWAY
REVISIONS				
	DIST	COUNTY		SHEET NO.
				237

LEVELS DISPLAYED
1 2



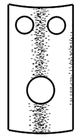
COMPRESSION FITTING

SOURCES:
RELIABLE ELECTRIC NO. 5264
FARGO NO. OR EQUAL



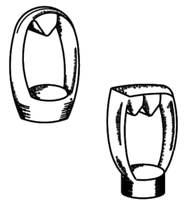
THIMBLEYE BOLT (Angle Type)

SOURCES:
HUBBELL POWER SYS. NO. 5016
MCLEAN POWER SYS. NO. J8154
OR EQUAL



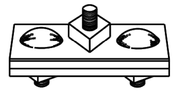
LIFT PLATE

SOURCES:
HUBBELL POWER SYS. NO. 7898
MCLEAN POWER SYS. NO. J7890
OR EQUAL



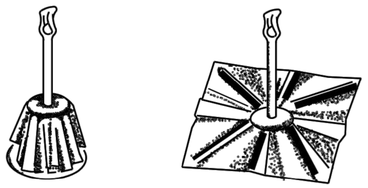
EYE NUTS (Twineye & tripleye)

SOURCES:
HUBBELL POWER SYS. NO. 6560 (TWIN), 6510 (SINGLE)
MCLEAN POWER SYS. NO. J6515 (TWIN), J6510 (SINGLE)
OR EQUAL



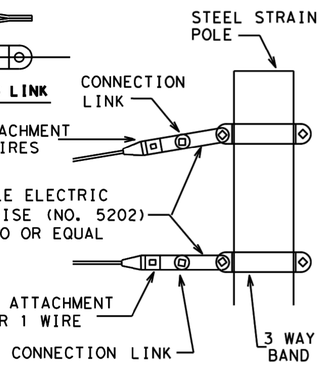
GUY CLAMP (3-Bolt)

6" HEAVY GUY CLAMP WITH 3-5/8" BOLTS OR RELIABLE ELECTRIC STRANDVISE WITH FLEXIBLE BAIL (NO. 5264), FARGO STRANDVISE, HUBBELL POWER SYS. NO. 6460, OR EQUAL



8-WAY ANCHOR

SOURCES:
HUBBELL POWER SYS. NO. 1283
MCLEAN POWER SYS. NO. J0283
OR EQUAL



SPAN CABLE ATTACHMENT DETAILS FOR STEEL STRAIN POLES

* ANCHORS SHOULD BE LOCATED SO THAT THE DISTANCE BETWEEN THE ANCHOR AND THE POLE BUTT IS EQUAL TO THE DISTANCE FROM THE GROUND TO THE POINT OF GUY ATTACHMENT. IN NO CASE SHOULD THE DISTANCE FROM THE ANCHOR TO THE POLE BUTT BE LESS THAN 1/3 OF THE DISTANCE FROM THE GROUND TO THE POINT OF GUY ATTACHMENT.

SHEET 1 OF 3
DALLAS DISTRICT STANDARD

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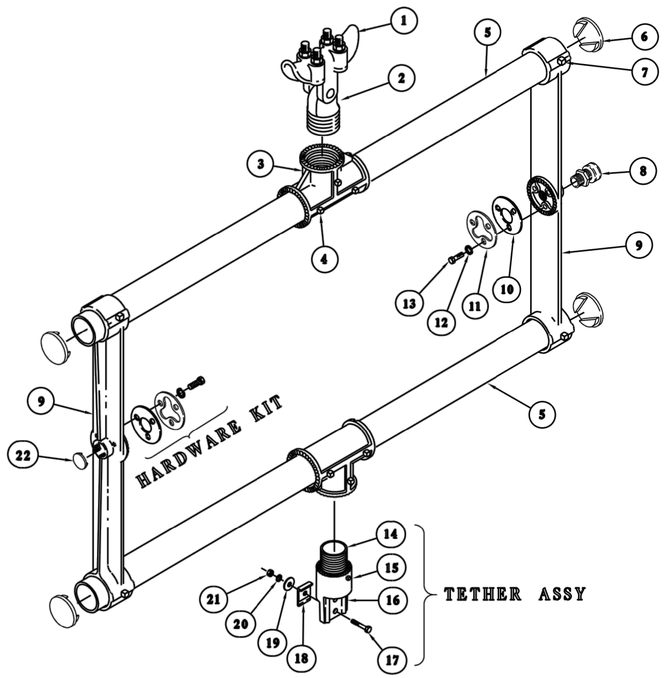
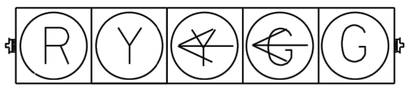
TEXAS	DAL	#CNTY	
CONT.	SECT.	JOB	HIGHWAY NO.
#CONT	#SECT	#JOB	#HWY

CONSTRUCTION DETAILS FOR SPAN WIRE MOUNTED TRAFFIC SIGNALS



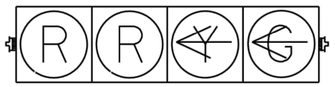
BOTTOM TETHERED, SPAN WIRE SIGNAL HEAD HARDWARE ASSEMBLY (BACKPLATE NOT SHOWN)

ITEM	DESCRIPTION	QTY
1	SPAN WIRE CLAMP, IRON, W/ U-BOLTS	1
2	SPAN WIRE ADAPTER, ALUM W/ STAINLESS BUSHING	1
3	TEE HORIZONTAL SLIP, DIE CAST ALUM	2
4	SCREW, SET SQ HD, 1/4"-20 X 1/2", STAINLESS	6
5	TUBE, 1 1/2" X LENGTH, ALUM	2
6	TUBE CAP, 1 1/2", PLASTIC	4
7	SCREW, SET SQ HD, 5/16"-18 X 5/8", STAINLESS	8
8	CGB, 3/4" .55-.65, ZINC 1	1
9	CAST ARM, FOR HORIZONTAL MOUNTED SIGNAL, ALUM	2
10	GASKET, TRI-BOLT, 1/16" X 70 DURO NEOPRENE	2
11	WASHER, SLOTTED, ZINC 2	2
12	WASHER, LOCK SPLIT, 1/4", STAINLESS	6
13	BOLT, HEX HD, 1/4"-20 X 1 1/2", GRADE 5, STAINLESS	6
14	NIPPLE, ALLTHREAD, 1 1/2" NPS X 2.13", ALUM	1
15	SCREW, SET SQ HD, 1/4"-20 X 5/8", STAINLESS	1
16	BODY, 1 1/2", HANGER, ALUM	1
17	BOLT, HEX HD, 5/16"-18 X 1 1/2", STAINLESS	1
18	PLATE, TETHER, 1-HOLE, ALUM	1
19	WASHER, FENDER, 5/16", STAINLESS	1
20	WASHER, SPLIT LOCK, 5/16", STAINLESS	1
21	NUT, HEX HD, 5/16"-18, STAINLESS	1
22	CAP, EN-3/4, BLUE (FOR CGB)	1



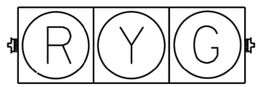
H5LT

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION



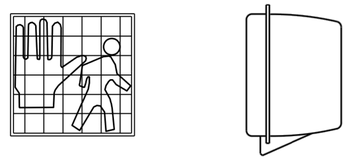
H4LT

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION

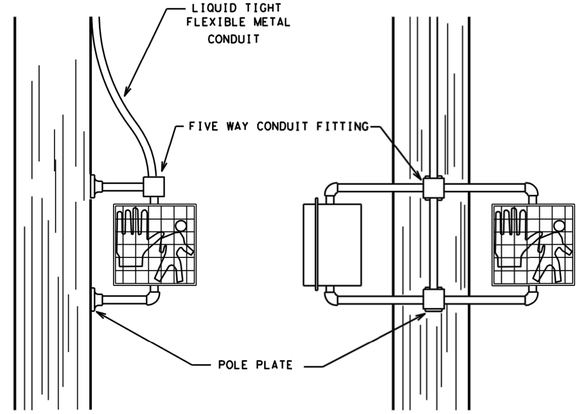


H3

TYPICAL SPAN WIRE
HORIZONTAL MOUNT
INSTALLATION

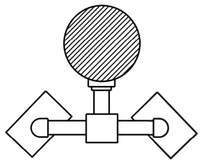


"EGGCRATE" VISOR PEDESTRIAN SIGNAL
WITH ONE-PIECE REFLECTOR



152A
ONE-WAY
ADJUSTABLE FACE SIGNAL FOR
WOOD POLE MOUNTING

143C
TWO-WAY
ADJUSTABLE FACE SIGNAL FOR
WOOD POLE MOUNTING

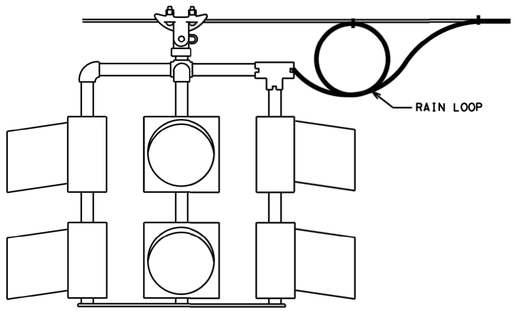


143C
PLAN VIEW

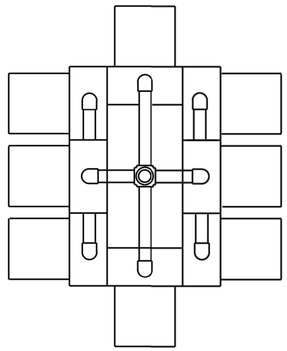
SIGN R10-4bR
SIGN R10-4bL
9"X12"



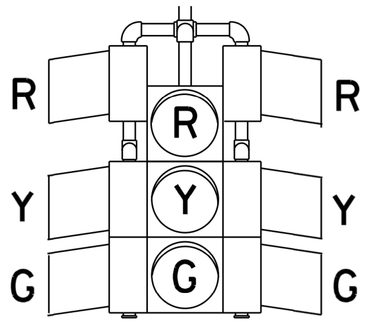
PEDESTRIAN PUSHBUTTON
SIGN DETAILS



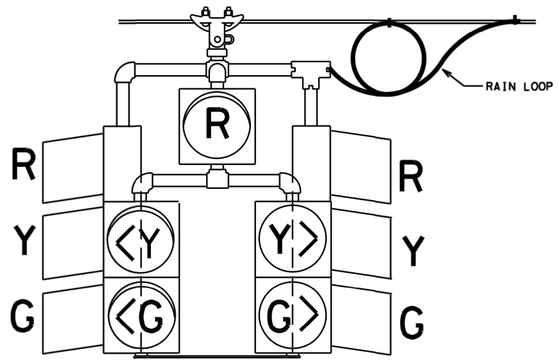
TYPICAL
FLASHING BEACON
INSTALLATION



TOP



SIDES

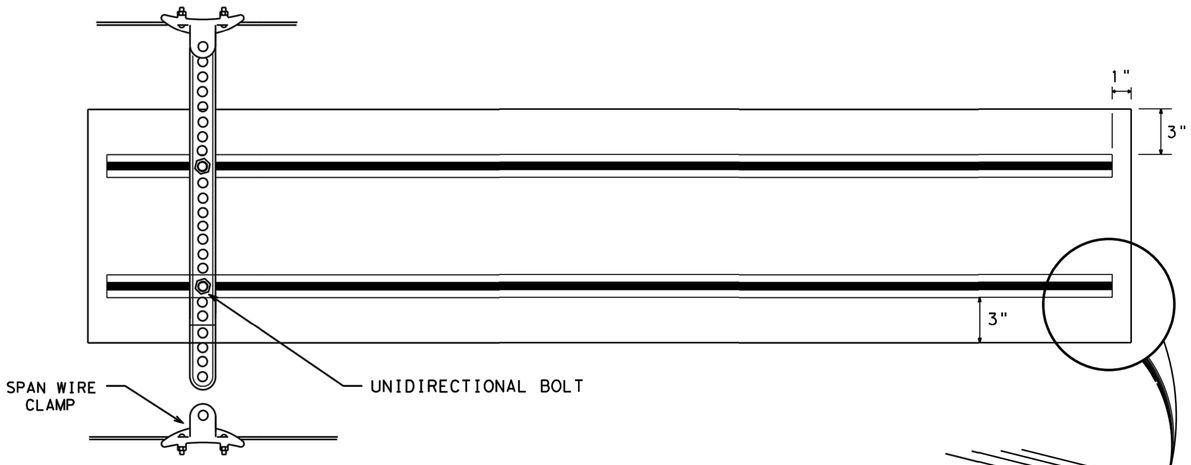


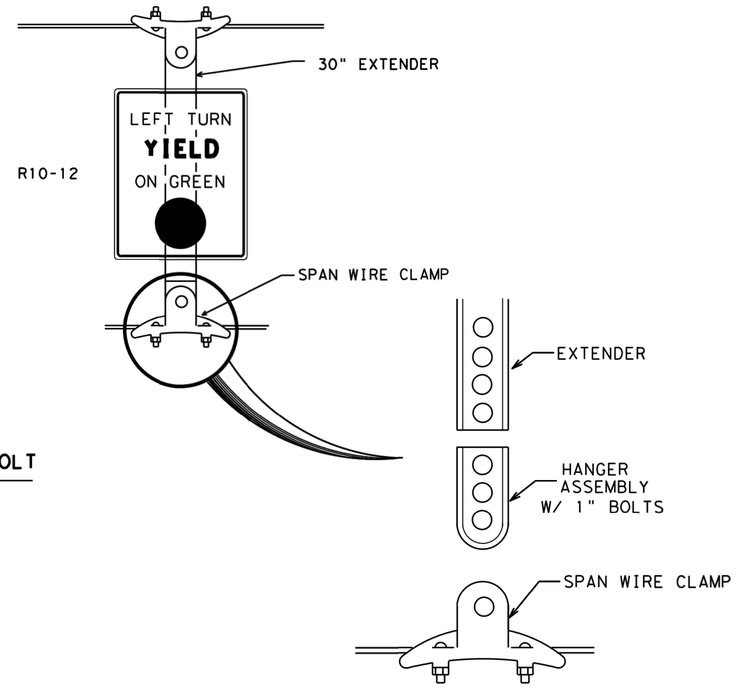
FRONT AND BACK

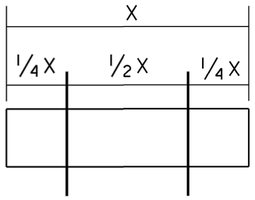
SHEET 2 OF 3
DALLAS DISTRICT STANDARD

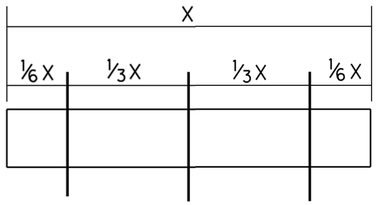
FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6	(SEE TITLE SHEET)		239
STATE	STATE DIST.NO.	COUNTY	
TEXAS	DAL	#CNTY	
CONT.	SECT.	JOB	HIGHWAY NO.
#CONT	#SECT	#JOB	#HWY

CONSTRUCTION DETAILS FOR SPAN WIRE MOUNTED TRAFFIC SIGNALS





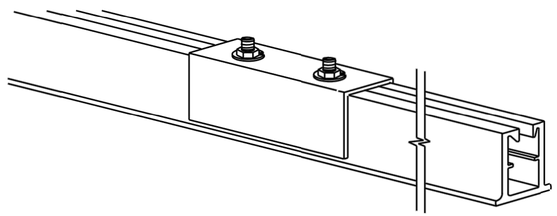




HANGER ASSEMBLY DETAILS

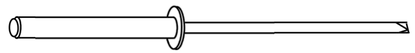
NOTES: 1. BASED ON SIGN WIDTH, THE NUMBER OF VERTICAL SUPPORTS REQUIRED ARE AS FOLLOWS:
3'-0" OR LESS - 1 SUPPORT REQUIRED
>3'-0" UP TO 8'-0" - 2 SUPPORTS REQUIRED
>8'-0" - 3 SUPPORTS REQUIRED
SEE DIAGRAMS FOR SIGN SUPPORT SPACING

2. FOR STREET NAME SIGNS, EXTRUDED ALUMINUM SHALL BE MOUNTED FOR HORIZONTAL SUPPORT AS SHOWN.



5" ALUMINUM COUPLING

6061-T6



ALUMINUM RIVET

NOTE: ALUMINUM RIVETS SHALL BE USED TO ATTACH THE SIGN TO THE EXTRUDED ALUMINUM. SPACINGS OF RIVETS SHALL BE 6" O.C.

SHEET 3 OF 3
DALLAS DISTRICT STANDARD

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
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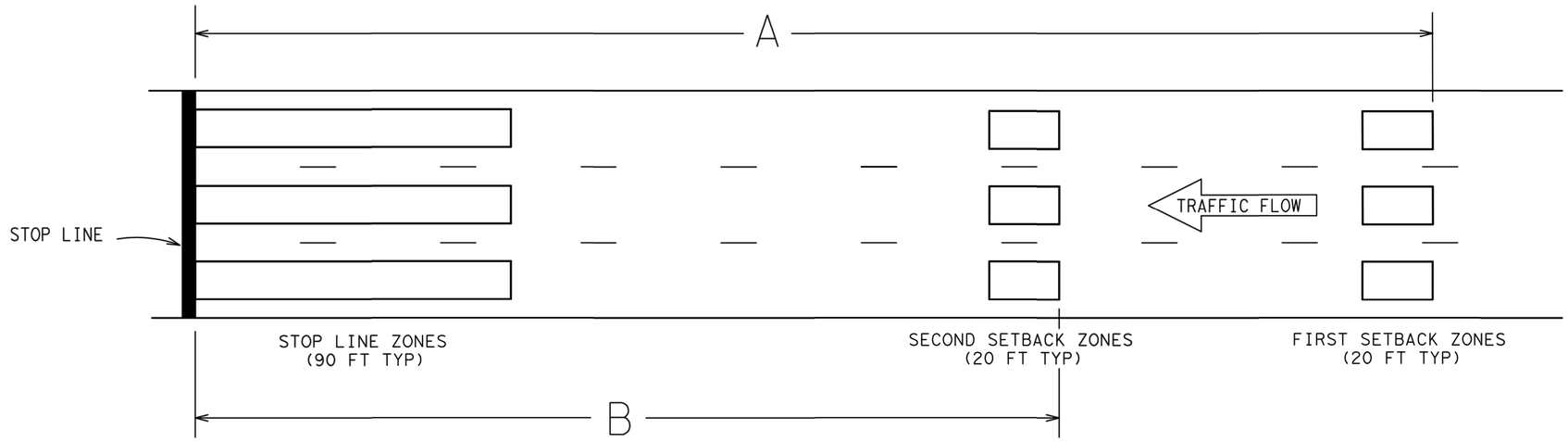
STATE	STATE DIST.NO.	COUNTY	
TEXAS	DAL	*CNTY	
CONT.	SECT.	JOB	HIGHWAY NO.
*CONT	*SECT	*JOB	*HWY

CONSTRUCTION DETAILS FOR SPAN WIRE MOUNTED TRAFFIC SIGNALS



APPROACH SPEED LIMIT (MPH)	DISTANCE [2] BETWEEN CAMERA AND STOP LINE (FT)	DISTANCE [1] A (FT)	CAMERA HEIGHT (FT)									
			24	28	32	36	40	24	28	32	36	40
			DISTANCE B (FT)					EXTENSION ON 2ND DET. ZONE (SEC.)				
60	80	470	280	295	305	310	315	0.0	0.0	0.0	0.5	0.5
	150	470	270	285	295	300	310	0.0	0.0	0.0	0.0	0.5
55	80	430	255	265	275	280	285	0.0	0.0	0.0	0.5	0.5
	150	430	245	255	265	275	280	0.0	0.0	0.0	0.0	0.5
50	80	390	235	245	250	255	260	0.0	0.0	0.5	0.5	0.5
	150	390	220	230	240	245	250	0.0	0.0	0.0	0.0	0.5
45	80	350	210	215	220	225	230	0.0	0.0	0.5	0.5	0.5
	150	350	190	200	210	215	220	0.0	0.0	0.0	0.0	0.5

1. Distances shown are based on a 20' detection zone and a 1.0 second passage time setting.
2. Distance between the camera and the stop line, as measured parallel to the direction of travel.

DALLAS DISTRICT STANDARD

Texas Department of Transportation
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Dallas District

VIDEO DETECTION ZONE PLACEMENT

VDZ-04 (DAL)

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REVISIONS	FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		HIGHWAY NO.
	STATE	DISTRICT	COUNTY	SHEET NO.
	TEXAS			241
	CONTROL	SECTION	JOB	

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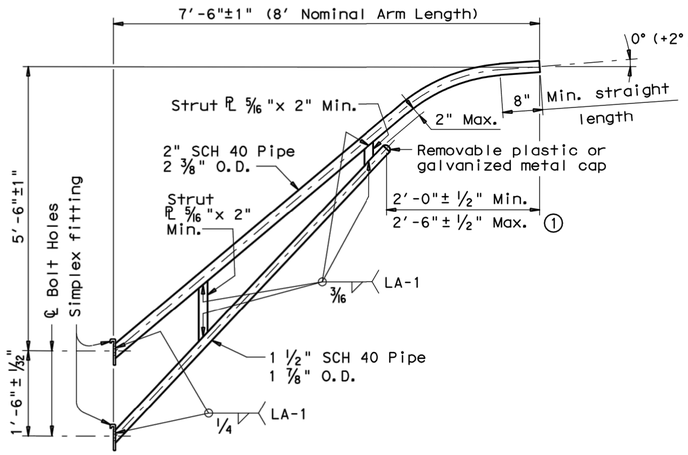
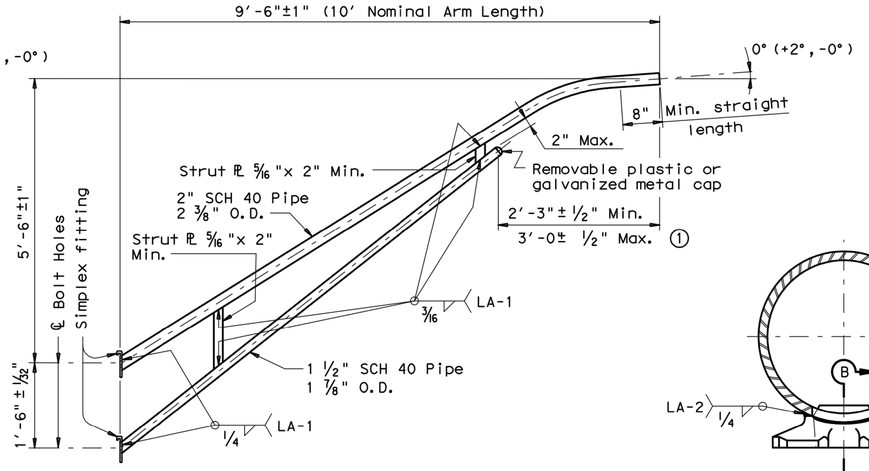
DATE:
FILE:



8-FOOT LUMINAIRE ARM



10-FOOT LUMINAIRE ARM

DIRECT ATTACHMENT DETAIL

MATERIALS	
Pole or Arm Simplex	ASTM A27 Gr.65-35 or A148 Gr.80-50, A576 Gr.1021 (3), or A36 (Arm only)
Arm Pipes	ASTM A53 Gr.B, A501, A1008 HSLAS-F Gr.50 (4), or A1011 HSLAS-F Gr.50 (4)
Arm Strut Plates (2)	ASTM A36, A572 Gr.50 (4), or A588
Misc.	ASTM designations as noted

(1) Dimensional limits are given to show acceptable variation in design. All of a Fabricator's production of a particular arm length shall have the same dimensions within specified tolerances.

(2) Any of the materials listed for plates may be used where the drawings do not specify a particular ASTM designation.

(3) A576 must be suitable for forging and also meet minimum tensile strength of 65 ksi, minimum yield of 35 ksi, and elongation in 2 inches of 22 percent.

(4) ASTM A572, A1008 HSLAS-F, and A1011 HSLAS-F may have higher yield strengths but shall not have less elongation than the grade indicated.

GENERAL NOTES:

Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto. Design Wind Speed equals 90 mph plus a 1.3 gust factor. Arms are designed to support a 60 lb. luminaire having an effective projected area (actual area times drag coefficient) of 1.6 sq. ft.

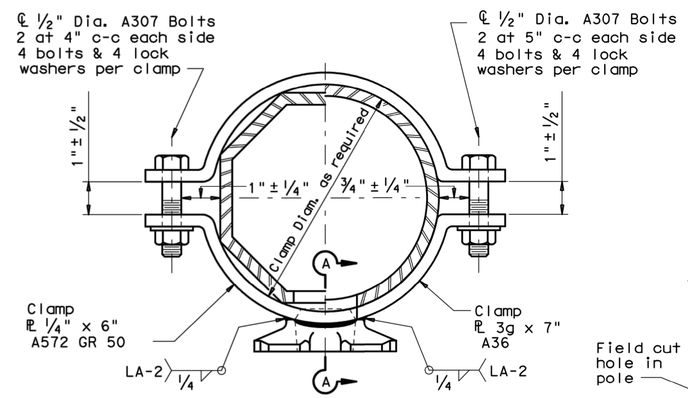
Materials and fabrication shall be in accordance with Item 686, "Traffic Signal Pole Assemblies (Steel)" and with the details, dimensions, and weld procedures shown herein. Weld references call for preapproved weld procedures which the Fabricator must obtain prior to fabrication. In the absense of specified Fabricaton tolerances, dimensions shall be within the tolerances generally obtainable in normal fabrication practice.

Unless otherwise noted, all parts shall be galvanized after fabrication in accordance with Item 445, "Galvanizing".

Deviation from the details and dimensions shown herein require submission of shop drawings in accordance with Item 441, "Steel Structures". Alternate designs are not acceptable.

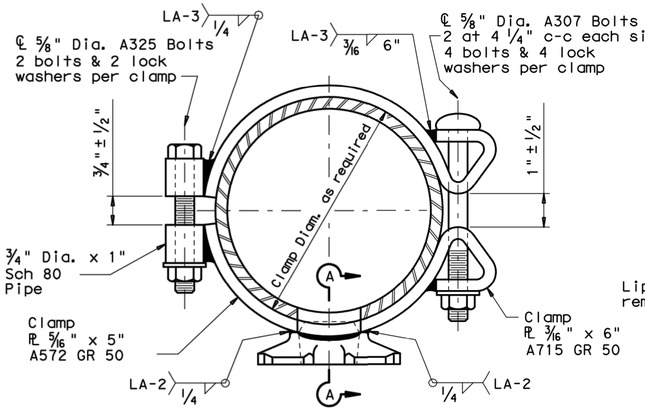
Each pole simplex fitting shall be supplied with 2 ASTM A325 bolts and 2 lock washers of the size specified. The bolts and lock washers shall be secured to the pole with the other hardware items called for in the plans. When clamp attachment is specified, the Fabricator shall ship the clamp assembly securely attached to the pole at the location shown on the plans.

If clamp assemblies are ordered without poles, the Fabricator shall ship one upper and one lower clamp assembly together in a single package, including all nuts and washers required for the clamps and simplex fittings.



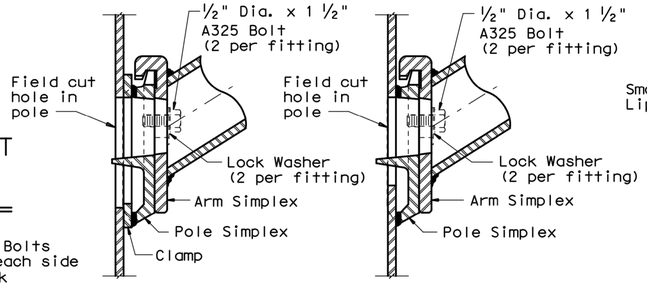
CLAMP ATTACHMENT DETAIL NO. 1 (HALF SECTION)

CLAMP ATTACHMENT DETAIL NO. 2 (HALF SECTION)



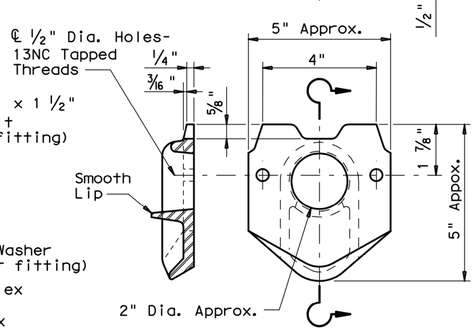
CLAMP ATTACHMENT DETAIL NO. 3 (HALF SECTION)

CLAMP ATTACHMENT DETAIL NO. 4 (HALF SECTION)

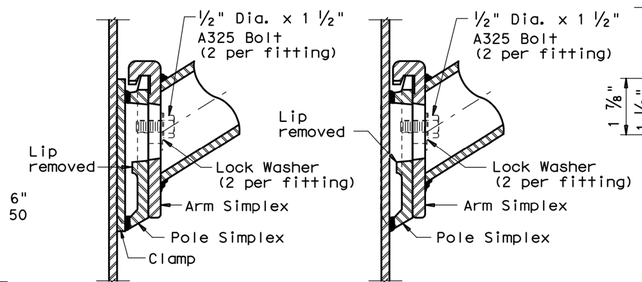


UPPER SIMPLEX FITTING

UPPER SIMPLEX FITTING



POLE SIMPLEX DETAIL

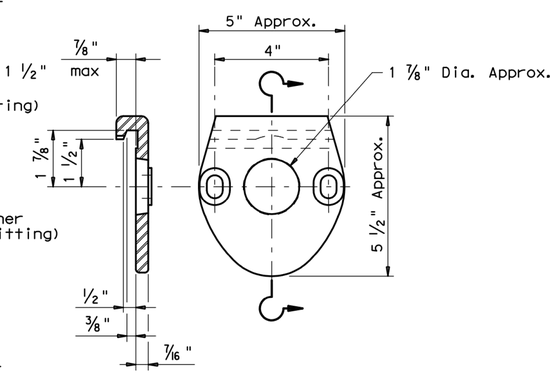


LOWER SIMPLEX FITTING

LOWER SIMPLEX FITTING

SECTON A-A

SECTON B-B



ARM SIMPLEX DETAIL

Texas Department of Transportation
Traffic Operations Division

STANDARD ASSEMBLY DRAWINGS FOR LUMINAIRE SUPPORT STRUCTURES

ARM DETAILS

LUM-A-12

© TxDOT August 1995

DN: LEH	CK: JSY	DW: LTT	CK: TEB

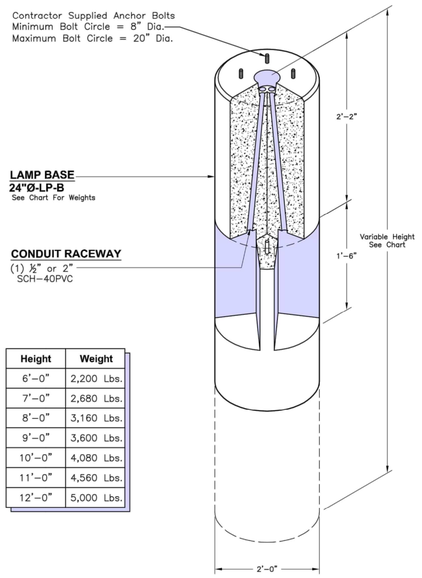
REVISIONS	CONT	SECT	JOB	HIGHWAY
5-96				
1-99				
1-12				
	DIST	COUNTY		SHEET NO.
				242

Oldcastle Precast®

Power & Energy

24" DIA Light Pole Base

Model: 24 LPB



Height	Weight
6'-0"	2,200 Lbs.
7'-0"	2,680 Lbs.
8'-0"	3,160 Lbs.
9'-0"	3,600 Lbs.
10'-0"	4,080 Lbs.
11'-0"	4,560 Lbs.
12'-0"	5,000 Lbs.

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REV	DATE	BY	REVISIONS:
1			
2			
3			
4			
5			XXXXXXXX

SCALE: SEE GRAPHICS
DATE: DECEMBER 2021
DESIGNED BY: CKT/RCP
DRAWN BY: DMD
REVIEWED BY: CAB
SURVEYED BY: PACHECO KOCH

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY CHRIS A. TYLE, P.E. 83502 ON 05/10/2022 AND THE DESIGN CONTAINED HEREIN IS NOT TO BE USED FOR CONSTRUCTION PURPOSES AFTER TWO YEARS FROM THIS DATE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

Pacheco Koch

4060 BRYANT IRVIN ROAD
FORT WORTH, TX 76109 817.412.7155
TX REG. ENGINEERING FIRM F-469
TX REG. SURVEYING FIRM LS-10006001

CITY OF IRVING
Capital Improvement Program
825 West Irving Boulevard
Irving, Texas 75060
972.721.2611
www.cityofirving.org

TRAFFIC CABINET FOUNDATION

MACARTHUR BOULEVARD
(METKER STREET TO BYRON NELSON WAY)
STREET IMPROVEMENTS PROJECT
CITY OF IRVING, DALLAS COUNTY, TEXAS

SHEET
243

M: \DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_DETAILS.DWG

LFOX
05/10/2022 -- 4:40PM
M: \DWG-42\4242-19.098\DWG\CIVIL C3D 2018\4242-19.098_DETAILS.DWG

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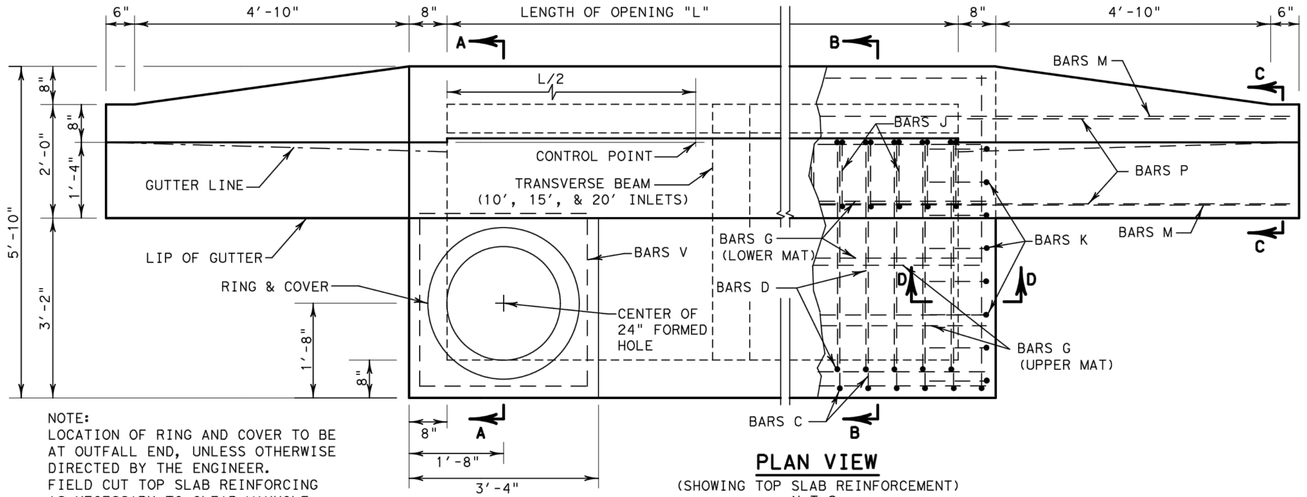
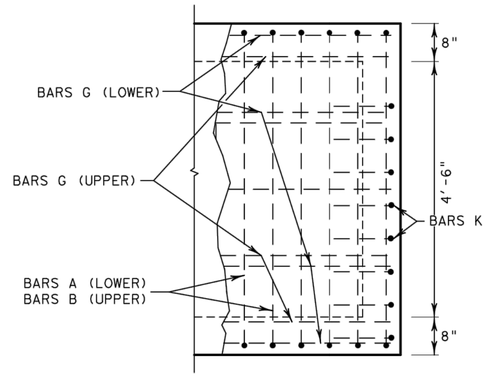
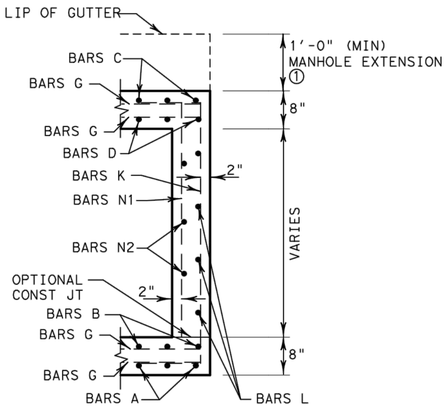


NOTE:
LOCATION OF RING AND COVER TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. FIELD CUT TOP SLAB REINFORCING AS NECESSARY TO CLEAR MANHOLE.

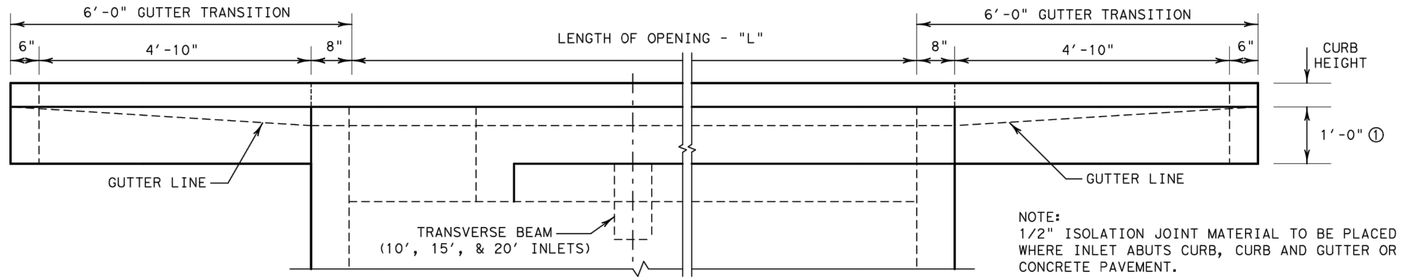
PLAN VIEW
(SHOWING TOP SLAB REINFORCEMENT)
N.T.S.



PARTIAL PLAN VIEW
(SHOWING BOTTOM SLAB REINFORCEMENT)
N.T.S.

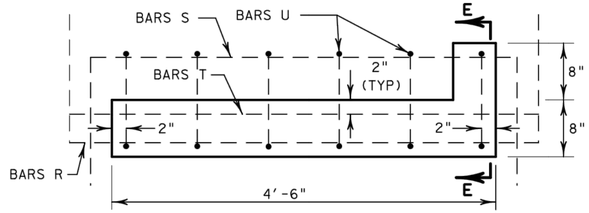


SECTION "D-D"
N.T.S.

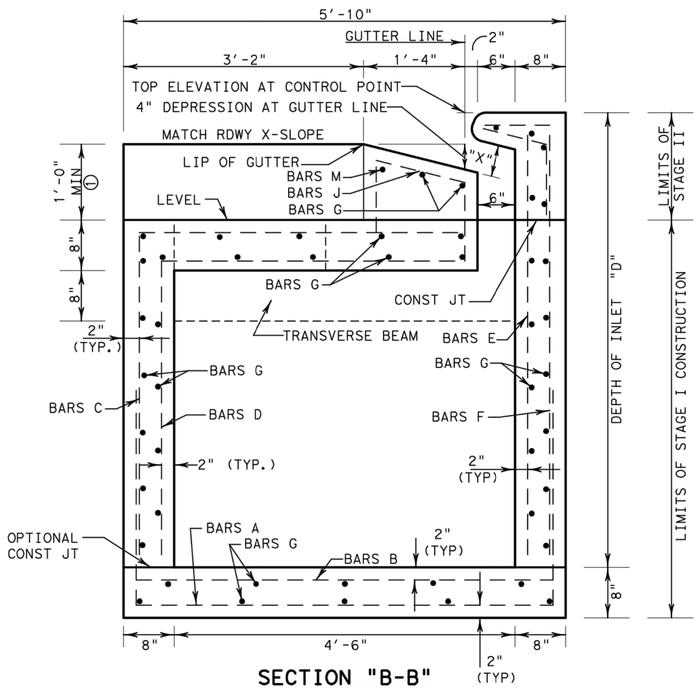


NOTE:
1/2" ISOLATION JOINT MATERIAL TO BE PLACED WHERE INLET ABUTS CURB, CURB AND GUTTER OR CONCRETE PAVEMENT.

FRONT ELEVATION VIEW
N.T.S.



TRANSVERSE BEAM DETAIL
BEAMS AT 5' C-C (10', 15', & 20' INLETS)
N.T.S.

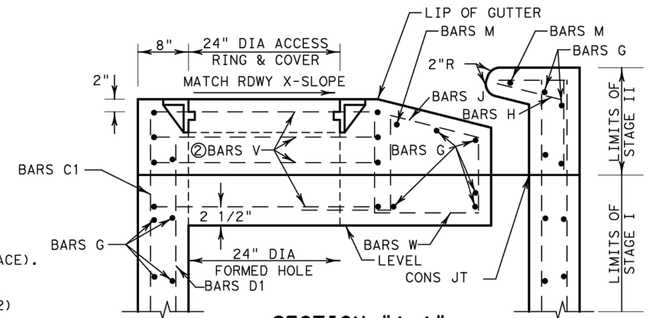


SECTION "B-B"
N.T.S.

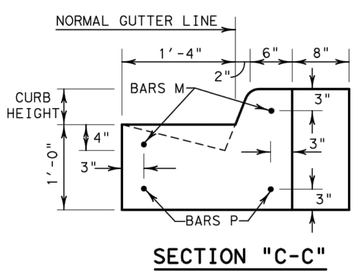
THROAT DIMENSION	
CURB HEIGHT (IN)	"X"
5	5"
6	5 7/8"
7	6 1/4"
8	6 1/2"

① MATCH DEPTH OF PAVEMENT STRUCTURE (BASE AND SURFACE). ADJUST BAR LENGTHS AS DIRECTED BY THE ENGINEER. (SEE DETAIL, SHEET 2 OF 2)

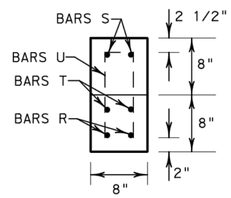
② STAGE II BARS V @ 3 EQUAL SPACES



SECTION "A-A"
N.T.S.



SECTION "C-C"
N.T.S.



SECTION "E-E"
N.T.S.

MAXIMUM PARALLEL * CONDUIT SIZE	
PIPE DIAMETER (IN)	BOX SPAN (FT)
42	3

* PARALLEL TO ROADWAY

NOTE:
SEE SHEET 2 OF 2 FOR DETAILS OF REINFORCING STEEL, ESTIMATED QUANTITIES, AND GENERAL NOTES.

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SHEET 1 OF 2 SHEETS

Texas Department of Transportation

Fort Worth District Standard

CURB INLET UNDER PAVEMENT FOR USE WITH TYPE II CURB
I-CU (FTW)

ORIGINAL DRAWING: 05/2019	icu-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		244
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISE JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

http://www.dot.state.tx.us/ftw/specinfo/standard.htm
11/6/2020 12:07:19 PM
P:\PROJECTS\TXDT16121\5 FTW Standards Revision\CADD\Modifications in Progress\icu-ftw.dgn

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BILL OF REINFORCING STEEL FOR "D" = 6'

Length "L"	Bars A		Bars B		Bars C		Bars C1		Bars D		Bars D1		Bars E		Bars F		Bars G		Bars H		Bars J		Bars K		Bars L		Bars M		Bars N1		Bars N2	
	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5	at 6" Spa	#5		#4	at 12" Spa	#4	at 12" Spa	#4	at 7" Spa	#5	at 6" Spa	#4		#4	at 12" Spa	#4	at 12" Spa
[ft]	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
5.0	13	151	13	75	6	54	7	39	4	38	7	37	11	67	13	90	54	338	7	9	7	21	16	72	14	138	2	22	10	29	8	29
10.0	23	268	23	132	16	145	7	39	14	131	7	37	21	128	23	160	54	620	12	15	12	35	16	72	14	138	2	29	10	29	8	29
15.0	33	384	33	189	26	235	7	39	24	225	7	37	31	189	33	229	54	901	17	21	17	50	16	72	14	138	2	36	10	29	8	29
20.0	43	501	43	247	36	325	7	39	34	319	7	37	41	249	43	299	54	1183	22	27	22	65	16	72	14	138	2	42	10	29	8	29

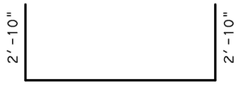
BILL OF REINFORCING STEEL FOR "D" = 6' (CONTINUED)

Length "L"	Bars P		Bars R		Bars S		Bars T		Bars U		Bars V		Bars W	
	#4		#6		#6		#6		#4	at 10" Spa	#4		#4	
[ft]	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt	No	Wt
5.0	4	15	0	0	0	0	0	0	0	0	4	35	6	11
10.0	4	15	2	23	2	21	2	17	6	13	4	35	6	11
15.0	4	15	4	45	4	43	4	33	12	26	4	35	6	11
20.0	4	15	6	68	6	64	6	50	18	39	4	35	6	11

SUMMARY OF QUANTITIES

Total Reinf Steel	Steel Qty Adjust.	Class "C" Concrete	Concrete Qty Adjust.
Weight	P.L.F.		P.L.F.
[Lb]	[Lb]	[CY]	[CY]
1,269	157.9	5.43	0.54
2,139	236.1	8.31	0.78
3,010	314.3	11.19	1.03
3,881	392.5	14.07	1.28

* BASED ON 6" CURB HEIGHT. ADJUST FOR OTHER CURB HEIGHTS.



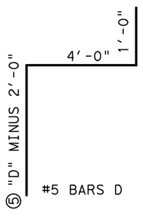
#5 BARS A

5'-6"
#5 BARS B

⑤ "D" MINUS 0'-8"
#5 BARS C1



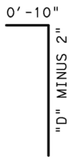
#5 BARS C



#5 BARS D

⑤ "D" MINUS 1'-0"
#5 BARS D1

"D" MINUS 2"
#5 BARS E



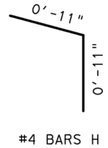
#5 BARS F

"L" + 1'-0"
#5 BARS G

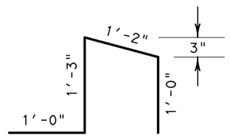
BAR G SPACING:

BOTTOM SLAB, LOWER MAT - 1'-4"
BOTTOM SLAB, UPPER MAT - 1'-2"
BACK WALL, OUTER MAT - 0'-6"
BACK WALL, INNER MAT - 0'-8"
FRONT WALL, OUTER MAT - 0'-6"
FRONT WALL, INNER MAT - 0'-8"
UPPER SLAB, LOWER MAT - 1'-0"
UPPER SLAB, UPPER MAT - 1'-0 3/4"
GUTTER - PLACE AS SHOWN

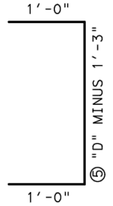
⑤ BASED ON 6" CURB HEIGHT. ADJUST FOR OTHER CURB HEIGHTS.



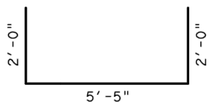
#4 BARS H



#4 BARS J



#4 BARS K



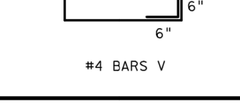
#5 BARS L

"L" + 11'-8"
#4 BARS M
PLACE AS SHOWN

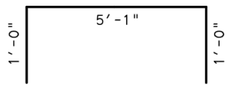
⑤ "D" MINUS 1'-8" (N1)

5'-6" (N2)
#4 BARS N

5'-8"
#4 BARS P
PLACE AS SHOWN

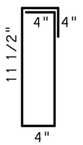


#6 BARS R
PLACE AS SHOWN

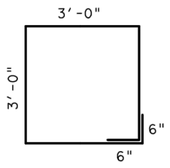


#6 BARS S
PLACE AS SHOWN

5'-6"
#6 BARS T
PLACE AS SHOWN



#4 BARS U

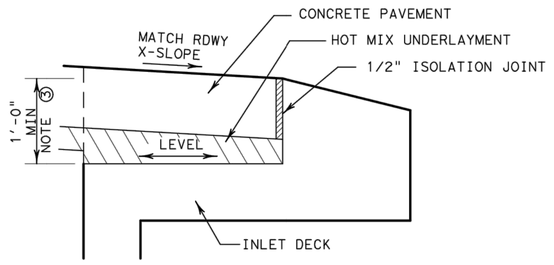


#4 BARS V



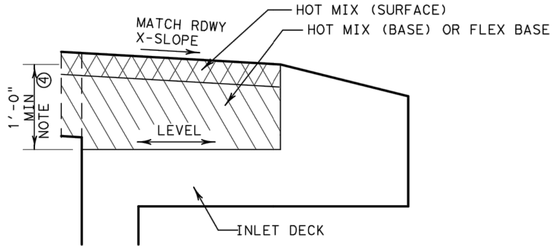
#4 BARS W

BARS W:
6 TOTAL TO BE PLACED
AT 16" SPACING
ALONG GUTTER SIDE
AND INLET SIDE OF RING.
(3 EACH SIDE)



③ THICKNESS OF CONCRETE PAVEMENT PLUS HOT MIX UNDERLAYMENT; IF LESS THAN 1'-0", INCREASE DEPTH OF HOT MIX UNDERLAYMENT.

INLET ADJACENT TO CONCRETE PAVEMENT



④ THICKNESS OF HOT MIX (SURFACE) PLUS HOT MIX (BASE) OR FLEX BASE. IF LESS THAN 1'-0", INCREASE DEPTH OF HOT MIX (BASE) OR FLEX BASE OVER INLET DECK.

MAXIMUM THICKNESS = 1'-6"

PLACE FLEX BASE IN MINIMUM 4" LIFTS

INLET ADJACENT TO HOT MIX PAVEMENT

GENERAL NOTES

1. DESIGNED FOR AASHTO LRFD HL-93 LOADING.
2. ALL CONCRETE FOR CAST-IN-PLACE STRUCTURES SHALL BE CLASS "C"; ALL CONCRETE FOR PRECAST STRUCTURES SHALL BE CLASS "H" (MINIMUM 5000 PSI DESIGN STRENGTH).
3. ALL REINFORCING STEEL SHALL BE GRADE 60.
4. STAGE I MAY BE EITHER CAST-IN-PLACE OR PRECAST. FABRICATE PRECAST STRUCTURES USING REBAR AS DETAILED HEREON, WITH BARS C, D, E, F AND J TO BE INCLUDED WITH STAGE I. SPLICING OF BARS WILL NOT BE PERMITTED, EXCEPT AS NOTED.
5. STAGE II SHALL BE CAST-IN-PLACE.
6. CHAMFER ALL EXPOSED CORNERS 3/4", EXCEPT WHERE NOTED OTHERWISE.
7. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO THE CENTERS OF BARS.
8. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM DRAIN PIPE.
9. FOR PIPE AND BOX CONNECTIONS TO PRECAST INLETS, SEE STANDARD DETAIL SHEET PBGC.
10. INSTALL RING AND COVER AT OUTFALL END OF INLET, UNLESS OTHERWISE DIRECTED. CAST IRON RING AND COVER SHALL CONFORM TO ITEM 471. SEE STANDARD MDD (FTW) FOR RING AND COVER DETAILS.
11. DEPTHS OTHER THAN THOSE SHOWN MAY BE USED WHENEVER NECESSARY, UP TO A MAXIMUM DEPTH OF 15'. QUANTITIES FOR OTHER DEPTHS MAY BE DETERMINED BY INTERPOLATION.
12. DO NOT COMMENCE WITH STAGE II CONSTRUCTION UNTIL CONCRETE PAVEMENT AND CURB, OR CONCRETE CURB AND GUTTER CONSTRUCTION IS COMPLETED AT THE INLET SITE.
13. INSTALL A TEMPORARY WOOD COVER AFTER STAGE I IS COMPLETED, TO REMAIN IN PLACE UNTIL STAGE II CONSTRUCTION BEGINS.
14. THE LOCATION OF INLET AS SHOWN IN THE PLAN REFERS TO THE CONTROL POINT AT THE FACE OF CURB AND MID-POINT OF THE INLET.
15. IF CONCRETE PAVEMENT IS PLACED WITHOUT UNDERLAYMENT, PLACE BOND BREAKER (3 LAYERS OF 30# ROOFING FELT OR 1/2" EXPANSION JOINT MATERIAL) BETWEEN INLET DECK AND CONCRETE PAVEMENT.
16. PLACE A SEALED 1/2" ISOLATION JOINT ALONG ALL VERTICAL FACES ABUTTING CONCRETE PAVEMENT, CURB, CURB AND GUTTER, OR SIDEWALK. USE CLASS 5 OR 8 JOINT SEALANT TO SEAL THE JOINT. SEE STANDARD JS (FTW) FOR ADDTIONAL INFORMATION.

Texas Department of Transportation — Fort Worth District Standard

CURB INLET UNDER PAVEMENT FOR USE WITH TYPE II CURB I-CU (FTW)

ORIGINAL DRAWING: 05/2019	icu-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		245
05/2019	REPLACES CI-2-08(FW)	STATE	STATE DIST.NO.	COUNTY
04/2020	ADD MAX CONDUIT SIZE TABLE	TEXAS	FTW	
11/2020	REVISE JOINT NOMENCLATURE	CONT.	SECT.	JOB / HIGHWAY NO.

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http://www.dot.state.tx.us/ftw/specinfo/standard.htm
11/6/2020 12:07:39 PM
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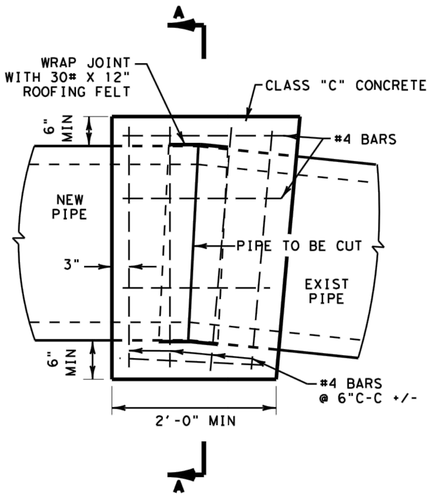
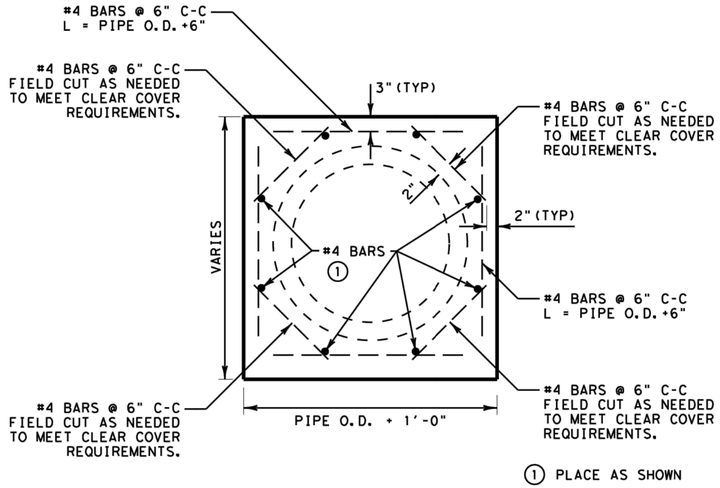


PLAN/ELEVATION



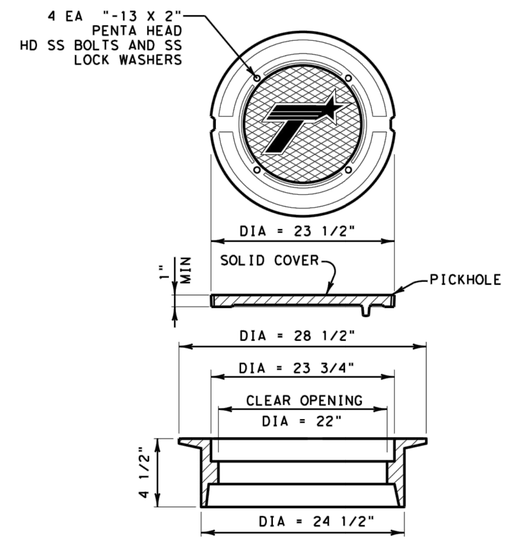
SECTION A-A

PIPE COLLAR GENERAL NOTES

1. THE CONTRACTOR SHALL TAKE STEPS TO ENSURE A SMOOTH JOINT ALONG THE INSIDE WALL OF PIPE.
2. ANY SPILLAGE OF CONCRETE THROUGH THE JOINT SHALL BE REMOVED AND THE INSIDE PIPE SURFACES SMOOTHED AS DIRECTED BY THE ENGINEER.
3. PIPE COLLARS WILL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO ITEM 464.

PIPE COLLAR DETAIL

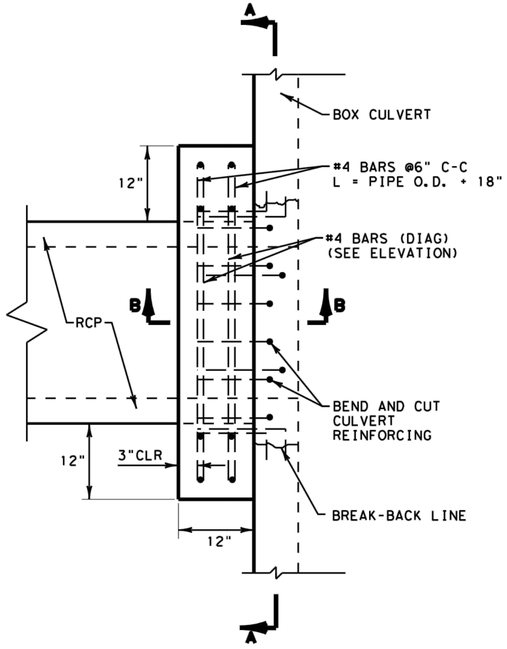
FOR HORIZONTAL OR VERTICAL PLACEMENT
N.T.S.



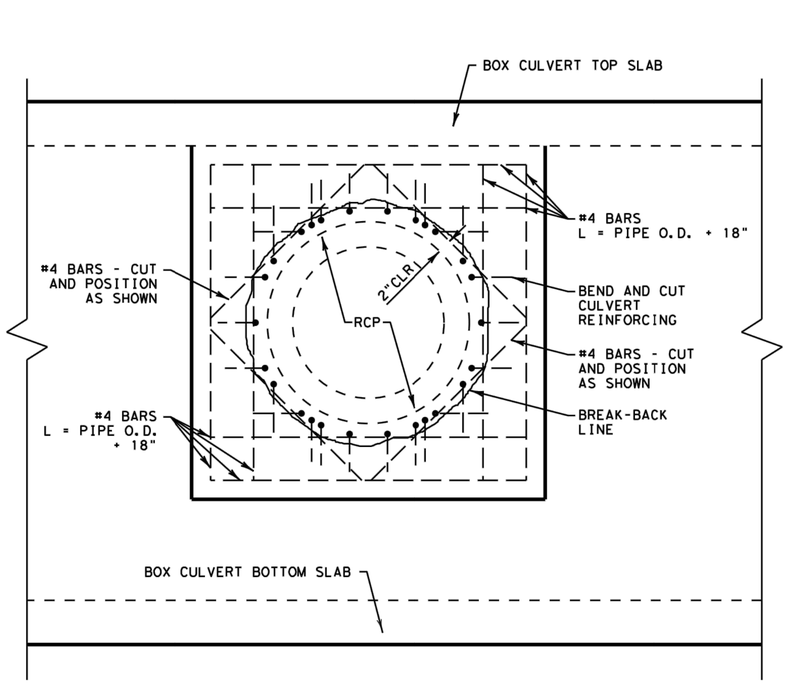
RING AND COVER DETAILS

MANHOLES AND CURB INLETS
N.T.S.

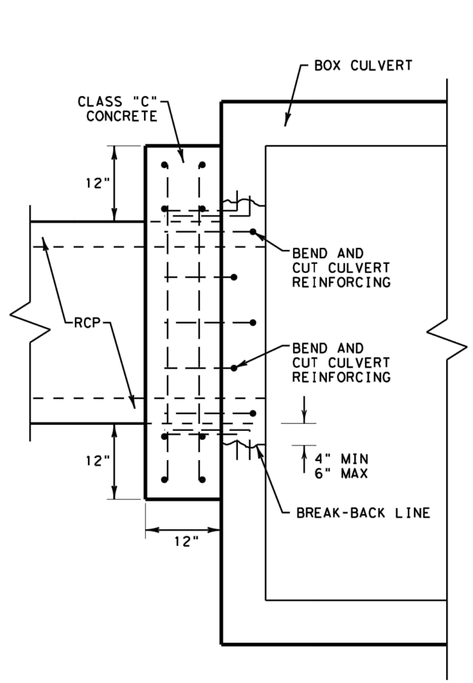
RING AND COVER SHALL CONFORM TO THE REQUIREMENTS OF ITEM 471 AND SHALL BE INCLUDED IN THE CURRENT TXDOT "APPROVED CAST IRON PRODUCTS SHEETS"



PLAN VIEW



SECTION A-A



SECTION B-B

PIPE STUB-IN GENERAL NOTES

1. SAW CUT A MAXIMUM 1/2" DEPTH AT BREAK-BACK LINE. USE REMOVAL METHODS THAT WILL NOT DAMAGE REMAINING CONCRETE OR CULVERT REINFORCING.
2. EXPOSE AND CLEAN BOX CULVERT REINFORCING. BEND BARS INTO PROPOSED CONNECTION AND TIE TO CONNECTION REINFORCING.
3. ROUGHEN AND CLEAN EXISTING CONCRETE SURFACES THAT ARE IN CONTACT WITH NEW CONCRETE BEFORE PLACING FORMS.
4. MATERIAL & LABOR FOR PIPE/BOX CONNECTIONS WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE SUBSIDIARY TO ITEMS 462 AND 464.

PIPE STUB-IN CONNECTION TO BOX CULVERT OR EXISTING DRAINAGE STRUCTURE

N.T.S.

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Fort Worth District Standard

MISCELLANEOUS DRAINAGE DETAILS
MDD(FTW)

ORIGINAL DRAWING: 05/2019	mdd-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		246
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
		TEXAS	FTW	
		CONT.	SECT.	JOB / HIGHWAY NO.

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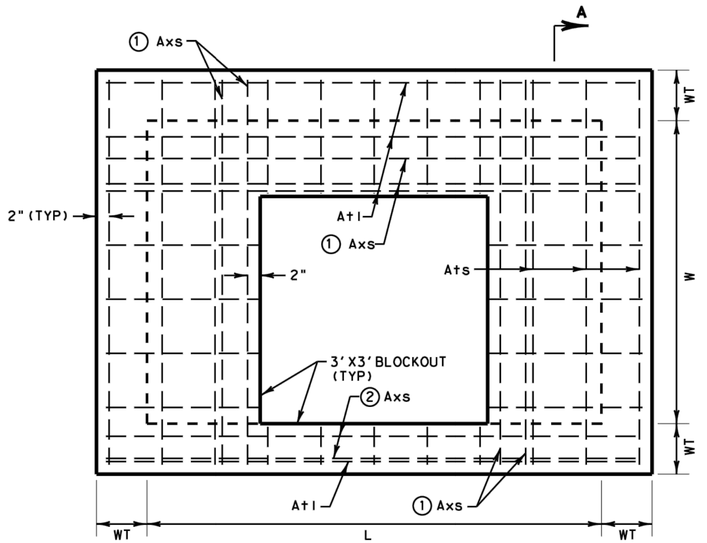
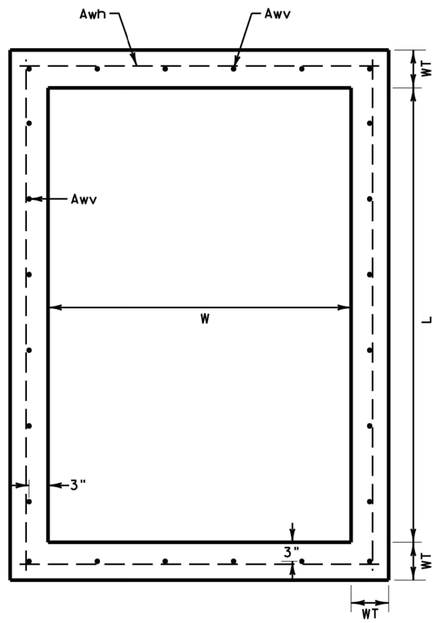
① FOR STRUCTURES WHERE W=L PROVIDE BARS Axs IN BOTH LONG AND SHORT (L AND W) DIRECTIONS AS SHOWN, FOR L>W, BARS Axs ONLY REQUIRED.

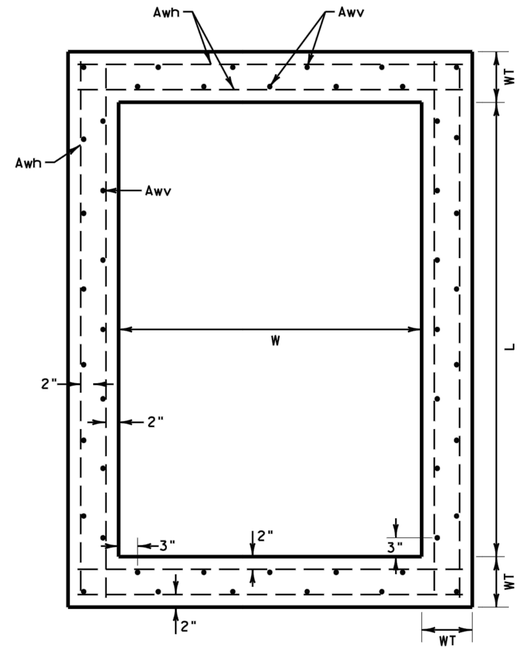
② BARS Axs MAY BE OMITTED IF DIRECTLY ABOVE THE WALL.



PLAN VIEW
SHOWING TOP SLAB REINFORCEMENT
N.T.S.

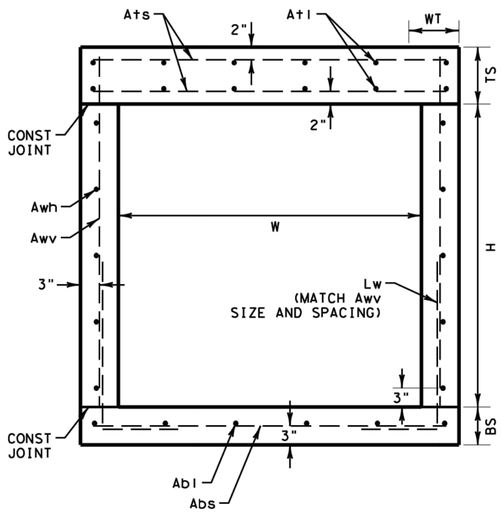


SINGLE LAYER REINFORCING
FOR WT = 6"

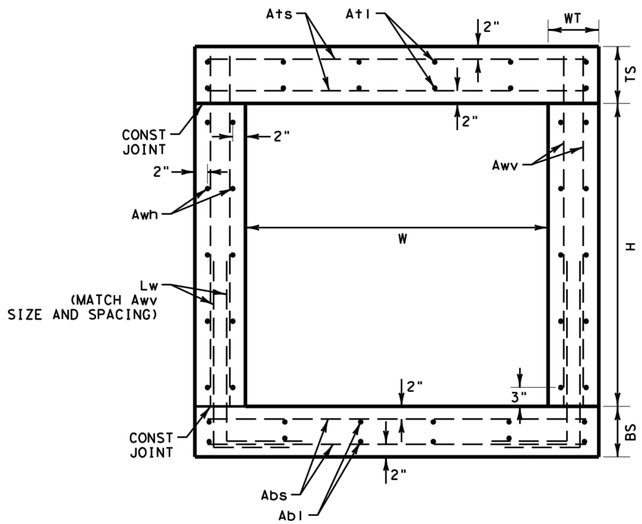


DOUBLE LAYER REINFORCING
FOR WT >/= 8"

PLAN VIEW
SHOWING WALL REINFORCEMENT
N.T.S.



SINGLE LAYER WALL REINFORCING
FOR BS = 6"
FOR WT = 6"



DOUBLE LAYER WALL REINFORCING
FOR BS >/= 8"
FOR WT >/= 8"

SECTION A-A
N.T.S.

GENERAL NOTES

1. DESIGNED FOR AASHTO LRFD HL 93 LOADING.
2. STRUCTURES MAY BE EITHER CAST-IN-PLACE OR PRECAST. FOR PRECAST STRUCTURES, SUBMIT SEALED ENGINEERING CALCULATIONS AND DRAWINGS FOR APPROVAL PRIOR TO FABRICATION.
3. USE CLASS "C" CONCRETE FOR CAST-IN-PLACE STRUCTURES; USE CLASS "H" CONCRETE (MINIMUM 5000 PSI DESIGN STRENGTH) FOR PRECAST STRUCTURES.
4. USE GRADE 60 STEEL FOR ALL REINFORCING.
5. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO THE CENTERS OF BARS.
6. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMMODATE STORM DRAIN PIPE.
7. FOR PIPE OR BOX CONNECTIONS TO PRECAST STRUCTURES, SEE STANDARD PBGC.
8. CONTROL POINTS ARE DEFINED FOR INLET OR MANHOLE STRUCTURES. POSITION BASE AS NECESSARY TO ALIGN WITH STORM DRAINS, ROADWAYS AND OTHER FEATURES, AS DIRECTED.

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Fort Worth District Standard

MANHOLE AND INLET BASE AND RISER
MI-B&R (FTW)

ORIGINAL DRAWING: 05/2019	mibr-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		247
05/2019	NEW STANDARD	STATE	STATE DIST.NO.	COUNTY
		TEXAS	FTW	
		CONT.	SECT.	JOB / HIGHWAY NO.

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BILL OF REINFORCING STEEL

SIZE			MAX DEPTH = 25' TO TOP OF BASE SLAB										MAX DEPTH = 15' TO TOP OF BASE SLAB									
			BASE SLAB			WALL			TOP SLAB				BASE SLAB			WALL			TOP SLAB			
L	W	H	BS*	Abs	Abl	WT*	Awh	Awv	TS*	Ats	Axs**	Atl	BS*	Abs	Abl	WT*	Awh	Awv	TS*	Ats	Axs**	Atl
8'	8'	8'	9"	#5 AT 9"	#5 AT 9"	10"	#5 AT 9"	#5 AT 9"	12"	#5 AT 9"	2~ #5	#5 AT 9"	9"	#5 AT 12"	#5 AT 12"	10"	#5 AT 12"	#5 AT 12"	12"	#5 AT 12"	2~ #5	#5 AT 12"
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7'	7'	7'	9"	#5 AT 9"	#5 AT 9"	9"	#5 AT 9"	#5 AT 9"	10"	#5 AT 7"	2~ #5	#5 AT 7"	9"	#4 AT 10"	#4 AT 10"	9"	#5 AT 10"	#5 AT 10"	10"	#5 AT 10"	2~ #5	#5 AT 10"
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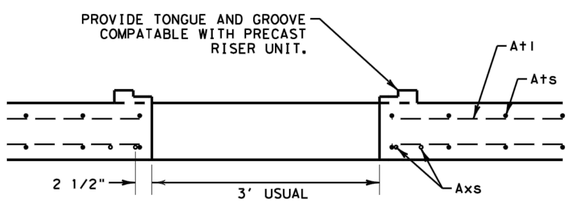
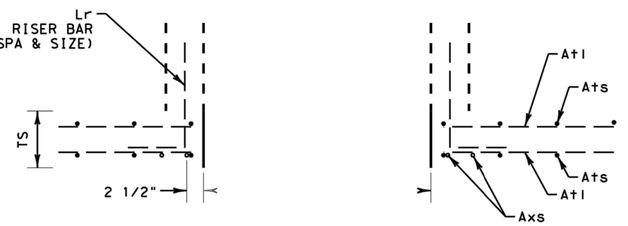
*PLACE TWO LAYERS OF REINFORCING MAT IN CONCRETE THICKNESSES EQUAL OR GREATER THAN 8". PLACE ONE LAYER OF REINFORCING MAT IN 6" THICK WALL/SLAB.
** ADDITIONAL REINFORCING BAR(S), Axs, REQUIRED AROUND BLOCKOUT PERIMETER. PLACE BARS Axs PARELLEL WITH BARS Ats IN THE SHORT DIRECTION. AND PLACE BARS Axs PARALLEL WITH BARS Atl IN THE LONG DIRECTION ONLY AS REQUIRED.
FOR TOP SLAB W=L, BAR(S) Axs ARE REQUIRED IN BOTH SHORT AND LONG DIRECTION.
IF TWO ADDITIONAL Axs BARS REQUIRED PER TABLE, PLACE THE SECOND Axs BAR AT 4" SPACING FROM THE FIRST Axs BAR IF THE Ats SPACING IS 8" OR GREATER, OTHERWISE BUNDLE WITH THE SECOND Ats BAR.



CONNECTION FOR PRECAST RISER
N.T.S.



CONNECTION FOR CAST-IN-PLACE RISER
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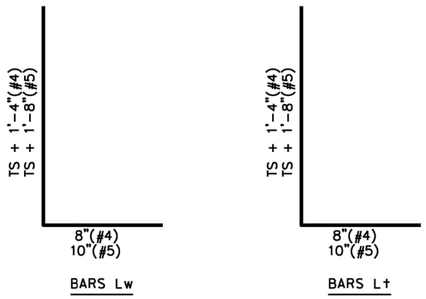
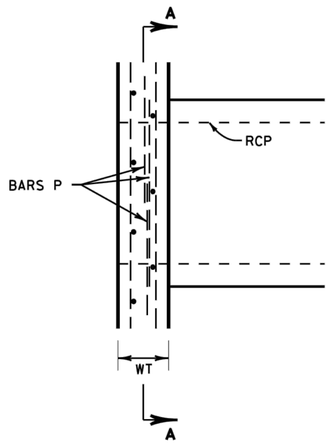
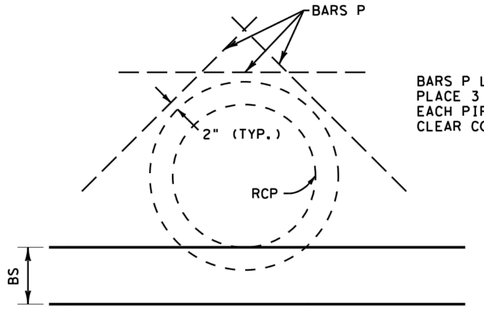




PLAN VIEW



BARS P LENGTH = PIPE O.D. + 9"
PLACE 3 BARS P AS SHOWN AT EACH PIPE OPENING WITH 2" CLEAR COVER OVER PIPE.

SHOWING ONLY BARS P FOR CLARITY

SECTION A-A
N.T.S.

SUPPLEMENTAL REINFORCEMENT
RCP CONNECTION
(CAST-IN-PLACE ONLY)

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Texas Department of Transportation
Fort Worth District Standard

MANHOLE AND INLET BASE AND RISER
MI-B&R (FTW)

ORIGINAL DRAWING: 05/2019	mibr-ftw.dgn	FED.RD. DIV.NO.	PROJECT NO.	SHEET NO.
DATE	REVISIONS	6		248
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