# SAN ANTONIO WATER SYSTEM



LAUGHLIN-THYSSEN, INC. AS-BUILTS 02/17/16

PROPOSED JOB NO. 10-5510
SEELING CHANNEL IMPROVEMENTS - PHASE I
WOODLAWN LAKE
SANITARY SEWER REPLACEMENTS
BID REVIEW SUBMITTAL
JULY 2012

# 10" PVC SWR = 191' 15" PVC SWR = 530' 18" PVC SWR = 10' 21" PVC SWR = 436' 30" FRP SWR = 1,055' SAN SEWER DOG HOUSE MANHOLES = 1 EA

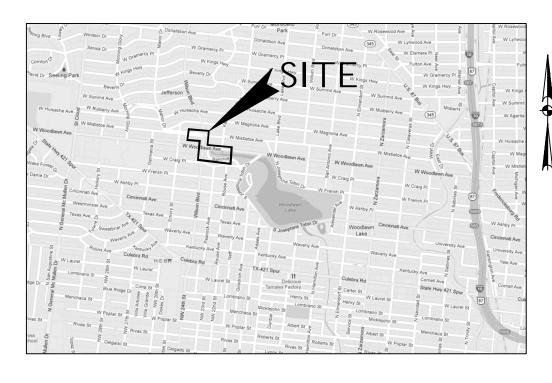
**AS-BUILT QUANTITIES** 

8" PVC SWR = 272'

SANITARY SEWER MANHOLE = 14 EA 16 EA
ADJUST EXISTING MANHOLES = 4 EA
RECONSTRUCT EXISTING MANHOLES = 2 EA
SANITARY SEWER DROP MANHOLES = 6 EA 5 EA
SWR. LATERALS REPLACED = 6 EA

### MATERIALS NOTE

PIPE: JM EAGLE/DPC/HOBOS MANHOLES: HANSON (PRE-CAST)



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### PLAN OF RECORD

SAWS JOB No. : 10 - 5510 CONTRACTOR : LAUGHLN THYSSEN INSPECTOR : BARRY SMITH COMPLETED : 2/26/16

LOCATION MAP N.T.S.



AECOM TECHNICAL SERVICES, INC. 6800 PARK TEN BLVD., SUITE 180 SOUTH SAN ANTONIO, TEXAS 78213 WWW.AECOM.COM TBPE REG. NO. F-8580



GENERAL NOTES

REVISED SEPTEMBER 2011

- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
- A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCFQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER". TAC ÌITLE 30 PART 1 CHAPTER 290.
- B. CURRENT TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE. C. CURRENT SAN ANTONIO WATER SYSTEM "STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
- D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
- E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL"
- 2. THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 233-3500 AND PROVIDE NOTIFICATION PROCEDURES THE CONTRACTOR WILL USE TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO EXCAVATION.

3. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND

- UTILITIES AND DRAINAGE STRUCTURES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES: UTILITY LOCATE: SAWS UTILITY LOCATES: 233-2010 SAWS PRODUCTION CONTROL CENTER: 233-2016 COSA DRAINAGE: 207-8048 COSA TRAFFIC SIGNAL OPERATIONS: 207-7720 TEXAS STATE WIDE ONE CALL LOCATOR: 1-800-545-6005 OR 811 BEXAR METROPOLITAN WATER DISTRICT: 354-6536
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO OVERFLOWS OR SPILLAGE OF SEWAGE OCCURS. SHOULD THIS OCCUR, THE CONTRACTOR
- A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE. NOTIFY SAWS CONSTRUCTION INSPECTIONS DIVISION AT
- B. CONTAIN THE SPILL IN PLACE AND PREVENT CONTAMINATION OF STREAMS. C. CLEAN UP THE SPILL AND DISPOSE OF CONTAMINATED MATERIALS. D. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER
- E. IDENTIFY AND TRAIN PERSONNEL RESPONSIBLE FOR SPILLAGE PREVENTION AND CONTROL
- NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND THE SAWS.
- 5. THE CONTRACTOR SHALL COMPLY WITH CITY OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS OR SPOILS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD
- 7. SERVICE LATERAL CONNECTIONS:
- A. THE EXACT LOCATION AND ELEVATION OF THE SERVICE LATERALS AND MANHOLES SHALL BE FIELD VERIFIED BY THE CONTRACTOR. NO SEPARATE PAY ITEM (NSPI)
- B. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER LATERALS AT SUBGRADE.
- C. ALL SEWER LATERAL SERVICES FOR FUTURE CONNECTIONS AS IDENTIFIED ON THE PLANS SHALL HAVE A ONE WAY CLEAN-OUT, CAPPED AND SEALED. D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING CONTINUOUS SERVICE DURING CONSTRUCTION OF THE SEWER WORK. (NSPI)
- E. LATERALS SHALL BE CONSTRUCTED TO SERVE ALL EXISTING HOUSES AND PLATTED VACANT LOTS.
- 8. CONTRACTOR SHALL COORDINATE WITH SAWS CONSTRUCTION INSPECTION DIVISION AT 233-3500 AND/OR SAWS LIFT STATIONS OPERATIONS AT LEAST TWO WEEKS IN ADVANCE OF THE SHUTDOWN OF EXISTING FORCE MAINS OF ANY SIZE. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE SHUTDOWN INCLUDING ANY BYPASS PUMPING OR PUMP AND HAUL AS REQUIRED BY SAWS, PUMP AND HAUL WILL NOT BE ALLOWED OVER THE EDWARDS AQUIFER RECHARGE ZONE.
- 9. SEWER LINES LOCATED WITHIN OR CROSSING THE 5-YEAR FLOOD PLAIN OF A DRAINAGE WAY WILL BE PROTECTED FROM INUNDATION AND STREAM VELOCITIES WHICH COULD CAUSE EROSION AND SCOURING OF BACKFILL. THE TRENCH MUST BE CAPPED WITH CONCRETE TO PREVENT SCOURING OF BACKFILL. THE TRENCH MUST BE ENCASED IN CONCRETE. ALL CONCRETE SHALL HAVE A MINIMUM THICKNESS OF SIX INCHES.
- 10. WHERE WATER LINES AND NEW SEWER LINES ARE INSTALLED WITH A SEPARATION DISTANCE OF LESS THAN NINE FEET (I.E., WATER LINES CROSSING WASTEWATER LINES, WATER LINES PARALLELING WASTEWATER LINES, OR WATER LINES NEXT TO MANHOLES) THE INSTALLATION MUST MEET THE REQUIREMENTS OF 30 TAC 217.53(D) (PIPE DESIGN) AND 30 TAC 290.44(E) (WATER DISTRIBUTION).
- 1. ANY WORK COMPLETED WITHOUT PRIOR WRITTEN AUTHORIZATION WHICH IS NOT INCLUDED IN THESE PLANS AND SPECIFICATIONS WILL NOT BE COMPENSATED BY THE SAN ANTONIO WATER SYSTEM.

12. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION ITEM NO. 864, "BYPASS PUMPING". PAYMENT FOR SUCH WORK WILL BE MADE UNDER THE BID ITEM "SANITARY SEWER (BYPASS PUMPING)" AS PER STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION ITEM NO. 864, "BYPASS PUMPING". THE CONTRACTOR SHALL PROVIDE IN WRITING A SECLIENCE OF BYPASS PLIMPING FOR REVIEW AND APPROVAL BY THE INSPECTIONS DEPARTMENT. REFER TO THE CONSTRUCTION PLANS FOR THE CONSTRUCTION PHASING AND DIVERSION REQUIREMENTS. THE CONTRACTOR SHALL ALSO PROVIDE A DETAILED SKETCH SHOWING THE LOCATION OF BYPASS PUMPING EQUIPMENT FOR EACH LINE SEGMENT(S) AROUND WHICH FLOWS ARE BEING BYPASSED, ALONG WITH THE SPECIFICATION OF PUMPING EQUIPMENT, TYPE, SIZE, CAPACITY AND AMOUNT OF PUMPS REQUIRED TO HANDLE THE PEAK WET WEATHER FLOW.

### SAFETY NOTES

- DUE TO FEDERAL REGULATIONS TITLE 49. PART 192.181. CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND GAS VALVES THAT ARE IN THE PROJECT AREAS.
- 2. THESE PLANS, PREPARED BY AECOM TECHNICAL SERVICES INC., DO NOT EXTEND TO OR INCLUDE DESIGNS ON SYSTEMS PERTAINING TO THE SAFETY OF THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVE IN THE PERFORMANCE OF THE WORK, THE SEAL OF THE REGISTERED ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED INTO THESE PLANS. THE CONSTRUCTION CONTRACTOR IS TO PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEMS. INCLUDING THE PLANS AND SPECIFICATIONS REQUIRED BY HOUSE BILLS 562 AND 565 ENACTED BY THE TEXAS LEGISLATURE IN THE 70TH LEGISLATURE—REGULAR
- 3. IF POTENTIAL HAZARDOUS MATERIALS ARE ENCOUNTERED DURING EXCAVATION, CONSTRUCTION SHOULD CEASE UNTIL THE ENGINEER IS NOTIFIES. IF AN IMMEDIATE THREAT TO WORKER SAFETY OR A RELEASE TO THE ENVIRONMENT OF UNKNOWN WASTES IS PRESENT, CALL 911.

- . ON ALL MANHOLES TO BE ABANDONED, THE RINGS AND COVERS SHALL BE SALVAGED IN ACCORDANCE WITH THE MOST CURRENT SAN ANTONIO WATER SYSTEM'S STANDARD SPECIFICATION FOR CONSTRUCTION, ITEM 101: PREPARATION RIGHT-OF-WAY. THE HOLE SHOULD BE BACKFILLED TO THE SATISFACTION OF
- 2. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING SANITARY SEWERS AT ALL TIMES DURING CONSTRUCTION AND SHALL PROVIDE ALL NECESSARY BYPASS

### EXCAVATION

- 1. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENT IN RETRINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.
- 2. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.
- 3. CONTRACTOR SHALL INCORPORATE THE USE OF A TRENCH BOX OR OTHER ACCEPTABLE SAFETY SYSTEM IN ANY TRENCH THAT EXCEEDS FIVE (5) FEET IN

### EROSION AND SEDIMENTATION CONTROL

- 1. THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY AND ENVIRONMENTAL PROTECTION AGENCY (EPA) REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF SEWER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTES ON THE PROJECT'S PLAN AND PROFILE SHEETS.
- 2. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE SAN ANTONIO WATER SYSTEM
- 3. CONTRACTOR SHALL COMPLY WITH THE GOVERNING AGENCY NPDES CONSTRUCTION REQUIREMENTS AND SHALL PROVIDE APPROPRIATE MITIGATION MEASURES OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS, AND AS DIRECTED BY THE ENGINEER, SPECIAL CONSTRUCTION REQUIREMENTS, TEMPORARY PROTECTIVE FENCING OR BARRICADES, SHEETING, SHORING, EROSION PROTECTION, AND SURFACE RESTORATION AT CERTAIN LOCATIONS ARE INDICATED ON THE DRAWINGS TO BRING CONTRACTORS ATTENTION TO SENSITIVE AREAS.

### SANITARY SEWER GENERAL NOTES

- ALL WASTEWATER MAINS SHALL BE SIZE AND MATERIAL SHOWN ON PROFILE VIEW AND SHALL COMPLY WITH THE FOLLOWING STANDARDS: FIBERGLASS REINFORCED PIPE(FRP)=ASTM D-4161 PVC SDR-26 ASTM D-3034(PSI OF 115) USE WHEN PLANS CALL FOR SDR-26 PVC UNIESS SPECIFIED OTHERWISE PVC SDR-26 ASTM D-2241 (PSI OF 150) USE ONLY WHEN SPECIFIED.
- 2. WATER JETTING THE BACKFILL WITHIN A STREET WILL NOT BE PERMITTED. SANITARY SEWER TRENCHES SUBJECT TO TRAFFIC SHALL CONFORM TO THE S.A.W.S. STANDARD SPECIFICATIONS FOR CONSTRUCTION, ITEM NO. 550 & 804.
- 5. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS AT LEAST FOUR INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND EXCEPT WHEN LOCATED IN TXDOT R.O.W. OR PAVED AREAS. IN TXDOT R.O.W. OR PAVED AREAS. THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT,
- 4. SEWER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS AS APPROVED BY SAWS, MECHANICAL JOINT "BOOT TYPE" CONNECTIONS ALONE WILL NOT BE ALLOWED. "BOOT TYPE" JOINTS MAY BE USED OIN CONJUNCTION WITH COMPRESSION JOINTS AS APPROVED BY SAWS. ANY CHANGES FROM THESE METHODS MUST BE APPROVED BY SAWS.
- 5. A DEFLECTION TEST SHALL BE PERFORMED ON ALL FLEXIBLE PIPE. THE TEST SHALL BE CONDUCTED AFTER INITIAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS, SAWS ITEM NO. 849.
- 6. ALL MAINS MUST PASS AIR TESTING PER SAWS ITEM NO. 849 IN THE STANDARD SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE SAN ANTONIO WATER
- 7. ALL MAINS MUST COMPLY WITH SAWS ITEM NO. 868 OF SEWER MAIN CLEANING.
- 8. SANITARY SEWER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLES IN ACCORDANCE WITH THE SAWS STANDARD SPECIFICATIONS ITEM NO. 849.

- 1. CONTRACTOR SHALL GIVE NOTICES TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK, REQUIRED PERMITS THAT CAN BE ISSUED TO CONTRACTOR SHALL BE OBTAINED AT HIS EXPENSE.
- 2. CONTRACTOR SHALL NOTIFY CONSTRUCTION INSPECTOR AND ENVIRONMENTAL INSPECTOR AT LEAST 24 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITY WITHIN EASEMENT OR STREET RIGHT-OF-WAY. THE METHOD OF PLACEMENT AND COMPACTION OF BACKFILL IN THE CITY'S RIGHT-OF-WAY MUST BE APPROVED PRIOR TO THE START OF BACKFILL OPERATIONS.

### GENERAL NOTES

- 1. CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT FOR ACTUAL TEST HOLE LOCATIONS AND THE FINDINGS OF THE GEOTECHNICAL INVESTIGATION
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION FROM DAMAGE DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING, STRUCTURES, AND OTHER EXISTING IMPROVEMENTS WITHIN THE LIMITS OF CONSTRUCTION.
- 3. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE, NEAT, AND WORKMAN-LIKE MANNER AT ALL TIMES, JOB SITE SAFETY SHALL NOT BE
- 4. IF A THREATENED OR ENDANGERED PLANT OR ANIMAL SPECIES IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY SAWS.
- 5. BLASTING IS NOT ALLOWED ON THIS CONTRACT.
- 6. WHERE REQUIRED, CONCRETE ENCASEMENT SHALL BE PLACED FOR FULL WIDTH OF THE TRENCH TO A PLANE 6" ABOVE THE TOP OF THE PIPE, WITH PAY LIMITS AS SHOWN ON THE ITEM NO. DD-858-01.
- 7. CONTRACTOR SHALL PROTECT OR REMOVE AND REPLACE ALL TRAFFIC SIGNS.
- 8. CONTRACTOR SHALL PROTECT OR REMOVE AND REPLACE ALL MAILBOXES.
- 9. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER IN ADVANCE OF ANY WORK ON THE OWNER'S PROPERTY.
- 10. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT AND COMPLY WITH ALL TRAFFIC CONTROL REQUIREMENTS SET FORTH BY ALL REGULATING ENTITIES PRIOR TO THE START OF ANY WORK.
- 11. ALL PERMANENT SIGNS OR TRAFFIC CONTROL DEVICES MISSING OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 12. THE CONTRACTOR MUST MAINTAIN ALL STREETS OPEN TO THROUGH TRAFFIC AS IDENTIFIED IN THE SEELING CHANNEL IMPROVEMENT (PHASE I) TRAFFIC CONTROL PLANS.
  CONTRACTOR SHALL PROVIDE REASONABLE ACCESS TO RESIDENCES AND ALL BUSINESSES WITHIN ALL PHASES OF WORK, AS WELL AS PROVIDING SUITABLE ACCESS TO ACCOMMODATIONS FOR SCHOOL CHILDREN, PEDESTRIANS, GARBAGE PICK-UP, AND MAIL DELIVERY BY THE US POSTAL SERVICE.

### TREE PROTECTION

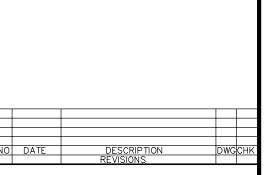
- CONTRACTOR SHALL PROTECT ALL TREES WHENEVER POSSIBLE. DAMAGE TO TREES SHOWN ON PLANS TO BE SAVED WILL BE MITIGATED AT THE CONTRACTOR'S EXPENSE PER MOST CURRENT CITY OF SAN ANTONIO TREE
- 2. THE CITY ARBORIST SHALL BE PRESENT AT THE PRE CONSTRUCTION MEETING.
- 3. NO CONSTRUCTION ACTIVITIES SHALL BE PERFORMED WITHIN 5' FROM THE TRUNK OF A TREE THAT IS PROTECTED. TRENCH SHORING WILL BE REQUIRED INSIDE OF A TREE'S ROOT PROTECTION ZONE. THE ROOT PROTECTION ZONE IS CALCULATED AS A RADIUS TO THE TREE TRUNK EQUAL TO ONE FOOT PER DIAMETER INCH OF THE TREE.
- 4. THIS PROJECT IS SUBJECT TO REGULATIONS ESTABLISHED BY THE CITY OF SAN ANTONIO TREE ORDINANCE.

### UNDERGROUND UTILITIES

- 1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION AND DEPTHS OF ALL EXISTING UTILITIES SHOWN OR NOT SHOWN ON THE PLANS 72 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY EXISTING UTILITY DISCREPANCIES IDENTIFIED DURING UTILITY VERIFICATIONS 72 HOURS PRIOR TO
- THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE.

### ENGINEER'S NOTES

- CONTRACTOR SHALL REPLACE ALL DISTURBED ASPHALT IN ACCORDANCE WITH DD-804-01 (SHEET 15 OF 15).
- CONTRACTOR SHALL REFER TO SEELING CHANNEL (PHASE I) TRAFFCIC CONTROL PLAN SEQUENCE OF WORK FOR PROPOSED SEWER IMPROVEMENTS PHASING REQUIREMENTS.
- INFORMATION FROM AVAILABLE PLAN OF RECORD DRAWINGS SLIGGESTS THAT THE SITE MAY CONTAIN EXISTING WATER AND WASTEWATER SYSTEMS THAT WERE ABANDONED. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ABANDONED WATER OR WASTEWATER SYSTEMS IN CONFLICT WITH ANY PROPOSED IMPROVEMENTS. NO SEPARATE PAY ITEM.
- REFER TO SEELING CHANNEL IMPROVEMENTS (PHASE I) PROJECT LEGEND FOR ADDITIONAL IDENTIFICATION OF EXISTING AND PROPOSED UTILITIES.



**AECOM** 

AFCOM TECHNICAL SERVICES, INC. 6800 PARK TEN BLVD., SUITE 180 SOUTH SAN ANTONIO, TEXAS 78213



SAN ANTONIO WATER SYSTEM SANITARY SEWER REPLACEMENT PROJECT PROP. JOB NO. 10-5510

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

SEELING CHANNEL PHASE I

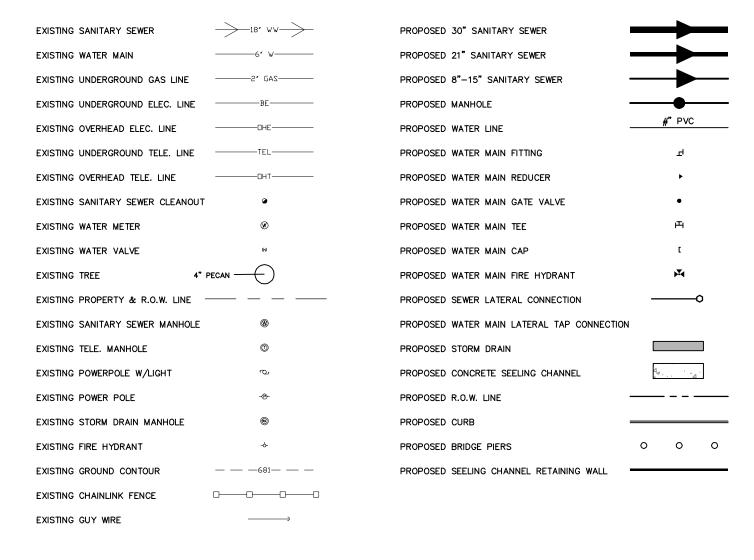
**GENERAL NOTES** 

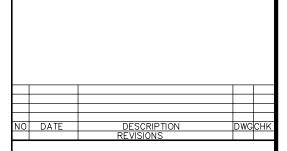
DATE: JULY 2012

BID SUBMITTAL PROJECT NO.: 60184822 DRWN, BY: M.G. DSGN, BY: T.W. CHKD, BY: C.C. SHEET NO.

# EXISTING

# PROPOSED







AECOM TECHNICAL SERVICES, INC. 6800 PARK TEN BLVD., SUITE 180 SOUTH SAN ANTONIO, TEXAS 78213 WWW.AECOM.COM TBPE REG. NO. F-3580



SAN ANTONIO WATER SYSTEM SANITARY SEWER REPLACEMENT PROJECT PROP. JOB NO. 10-5510

CITY OF SAN ANTONIO

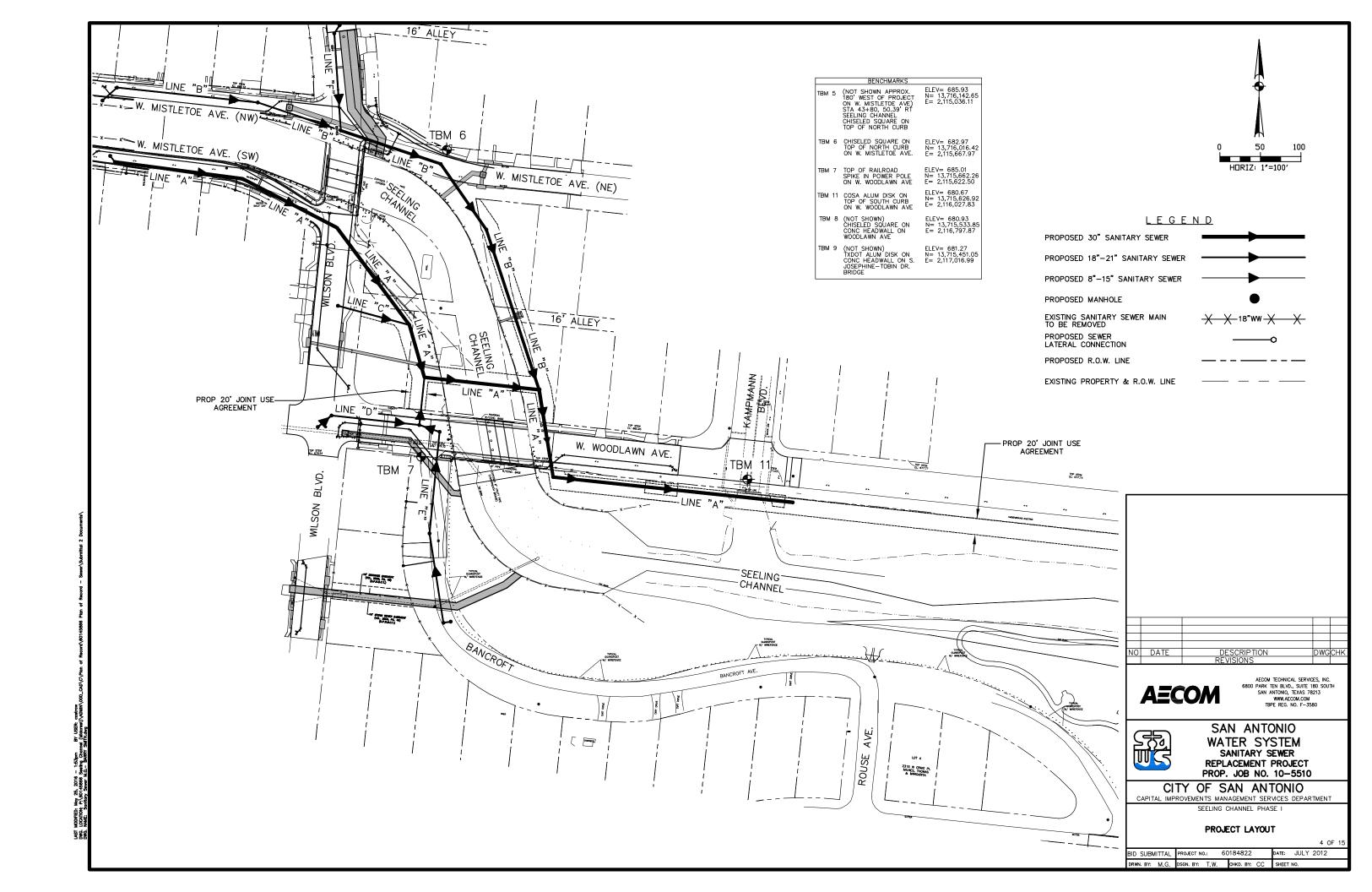
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

SEELING CHANNEL PHASE I

ABBREVIATIONS & LEGEND

3 OF 1

BID SUBMITTAL PROJECT NO.: 60184822 DATE: JULY DRWN. BY: M.G. DSGN. BY: T.W. CHKD. BY: CC SHEET NO.



SANITARY SEWER REPLACEMENT PROJECT						
ITEM NO.	DESCRIPTION	UNIT	TOTAL			
100	Mobilization	LS	1			
101	Preparation of R.O.W.	LS	1			
550	Trench Excavation Safety Protection	LF	2,255			
848	8" PVC Sanitary Sewer Line (14' - 18')	LF	272			
848	10" PVC Sanitary Sewer Line (10' - 14')	LF	67			
848	10" PVC Sanitary Sewer Line (14' - 18')	LF	125			
848	15" PVC Sanitary Sewer Line (6' - 10')	LF	13			
848	15" PVC Sanitary Sewer Line (10' - 14')	LF	234			
848	15" PVC Sanitary Sewer Line (14' - 18')	LF	286			
848	18" PVC Sanitary Sewer (6' - 10')	LF	10			
848	21" PVC Sanitary Sewer (14' - 18')	LF	436			
848	30" Fiberglass Reinforced Gravity Sanitary Sewer (6' - 10')	LF	40			
848	30" Fiberglass Reinforced Gravity Sanitary Sewer (14' - 18')	LF	894			
851	Adjust Existing Manholes	EA	894			
850	Sanitary Sewer Structures - 60"	EA	(°)/2\			
850	Sanitary Sewer Structures - 72"	EA	<b>6</b> } <sup>──</sup>			
850	Sanitary Sewer Structures - 96" \/1\	EA	4			
852	48" Manhole (0' - 6' deep)	EA	13			
852	60" Manhole (0' - 6' deep)	EA	1			
852	48" Manhole Extra Depth	VF	103			
852	60" Manhole Extra Depth	VF	10			
854 (	Sanitary Sewer Laterals	LF	118			
854	Sanitary Sewer Cleanout	EA	6			
855	Reconstruct Existing Manhole	EA	2			
856	Jacking, Boring or Tunneling (48")	LF	122			
856	Carrier Pipe - 30" Fiberglass Reinforced Gravity Sewer Pipe	LF	122			
856	Casing - 48" Steel Pipe	LF	122			
858	Concrete Encasement	CY	19			
860	Vertical Stacks	VF	20			
862	Abandonment of Sanitary Sewers (15" or larger)	LF	1,463			
864	Bypass Pumping	LS	1			
866	8" - 15" Sewer Main Television Inspection	LF	984			
866	18" - 21" Sewer Main Television Inspection	LF	446			
866	24" - 30" Sewer Main Television Inspection	LF	934			
866	8" - 15" Sewer Main Cleaning & Pre-Televising (Existing Mains)	LF	226			
866	18" - 21" Sewer Main Cleaning & Pre-Televising (Existing Mains)	LF	1,652			

Δ	8/14/12	REVISED QUANTITY DESCRIPTIONS		
Α	8/23/12	REVISED QUANTITIES		
NO	DATE	DESCRIPTION	DWG	CHK
		REVISIONS		



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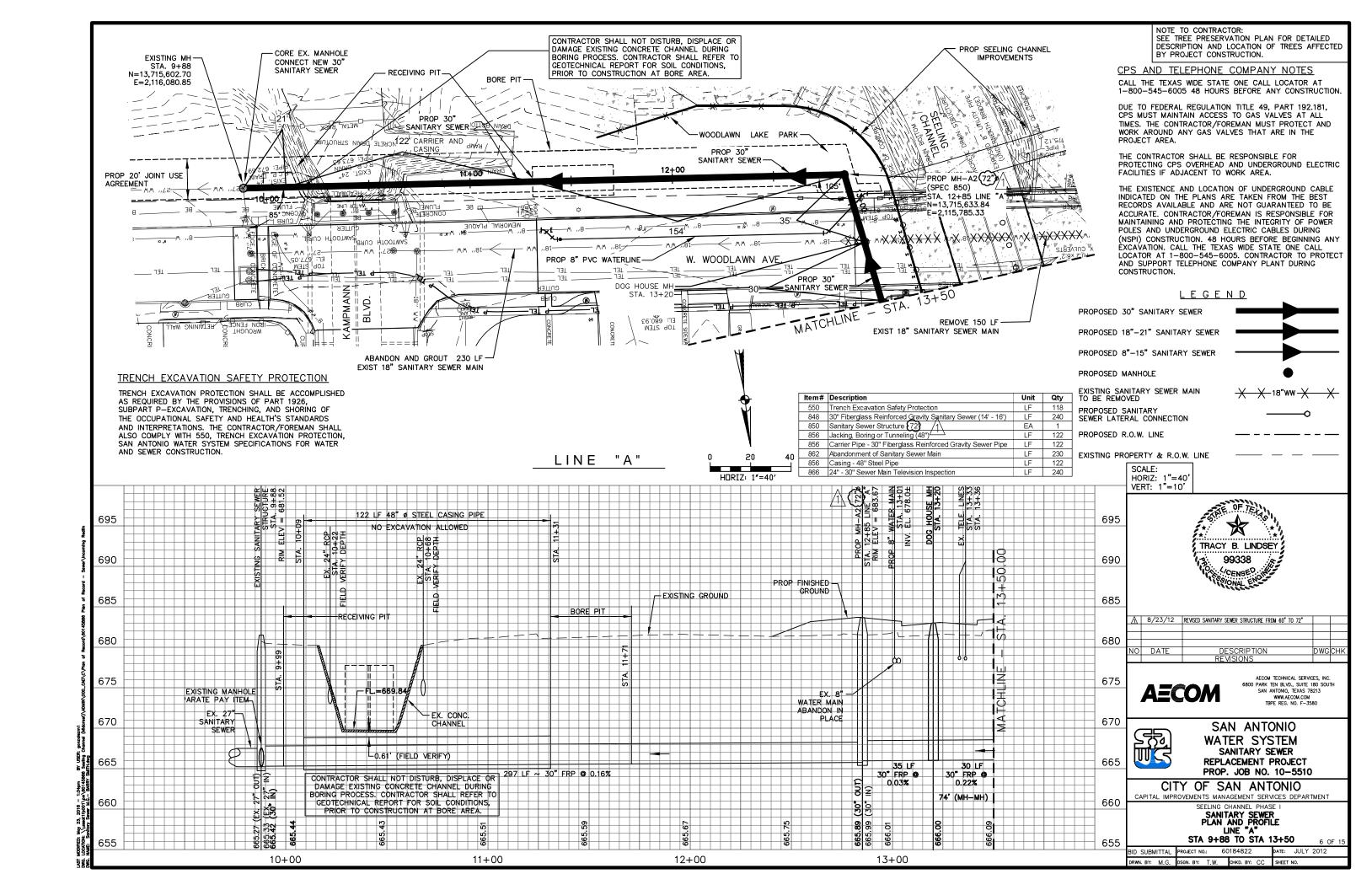
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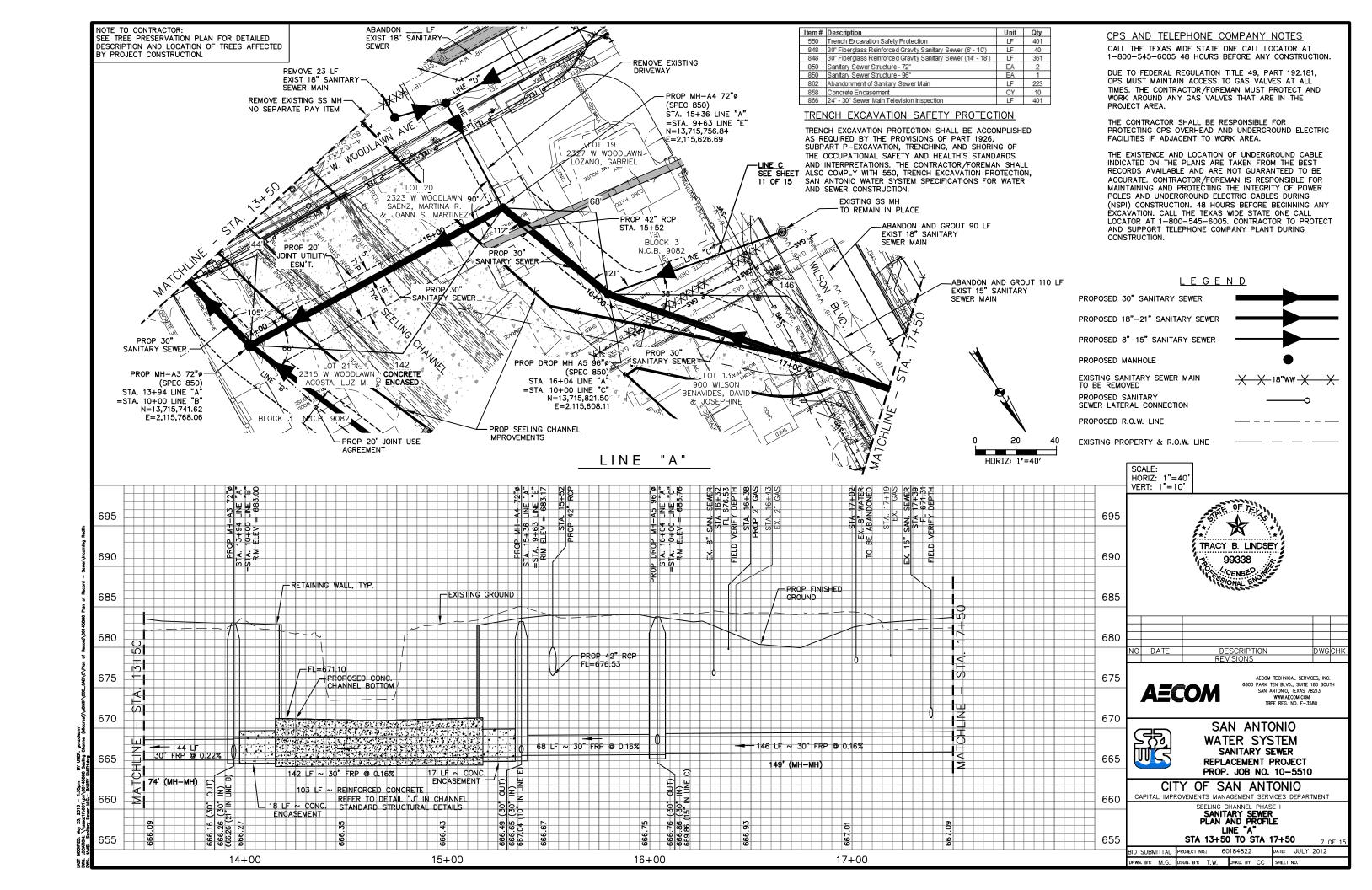
CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

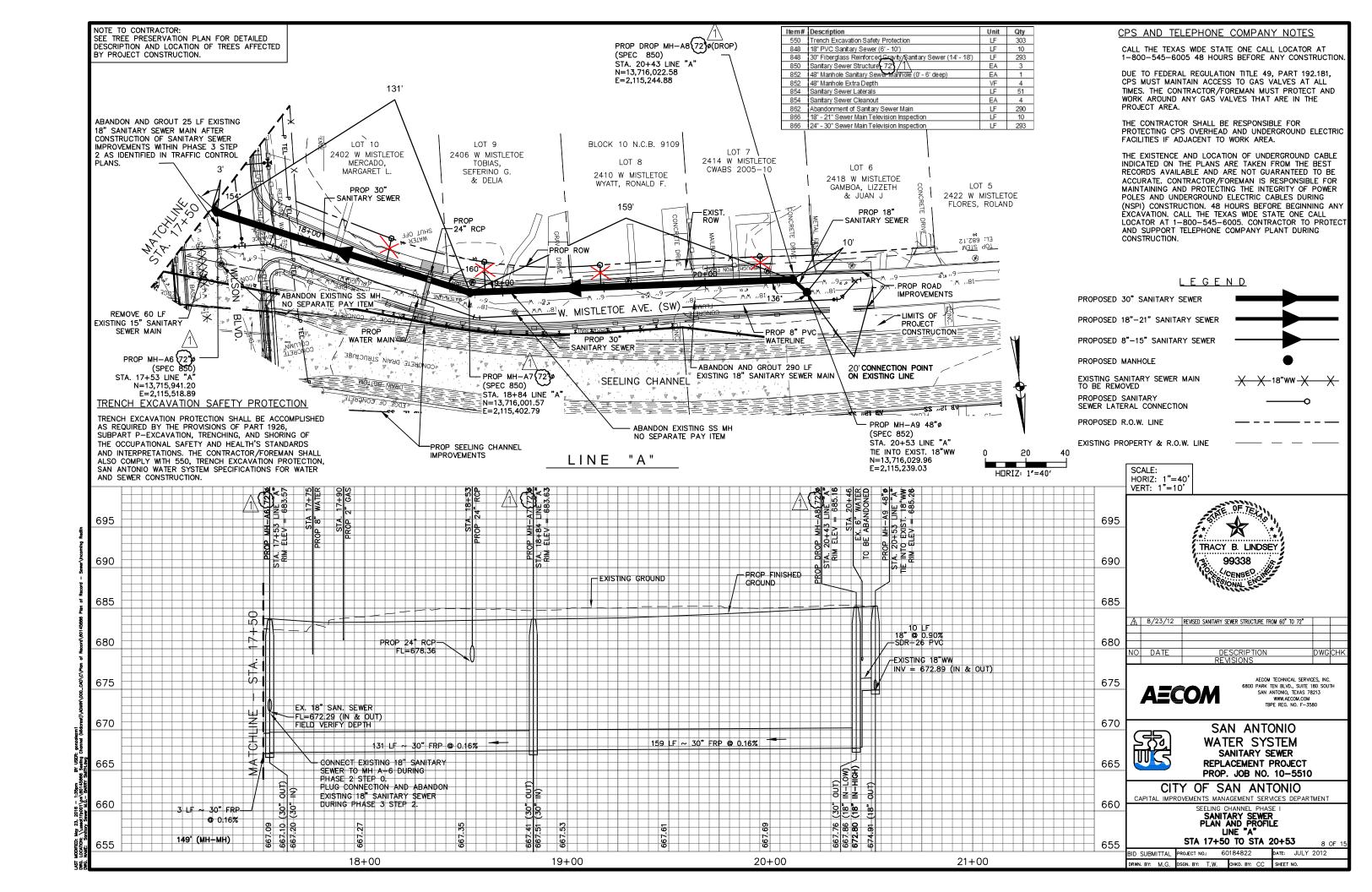
SEELING CHANNEL PHASE I

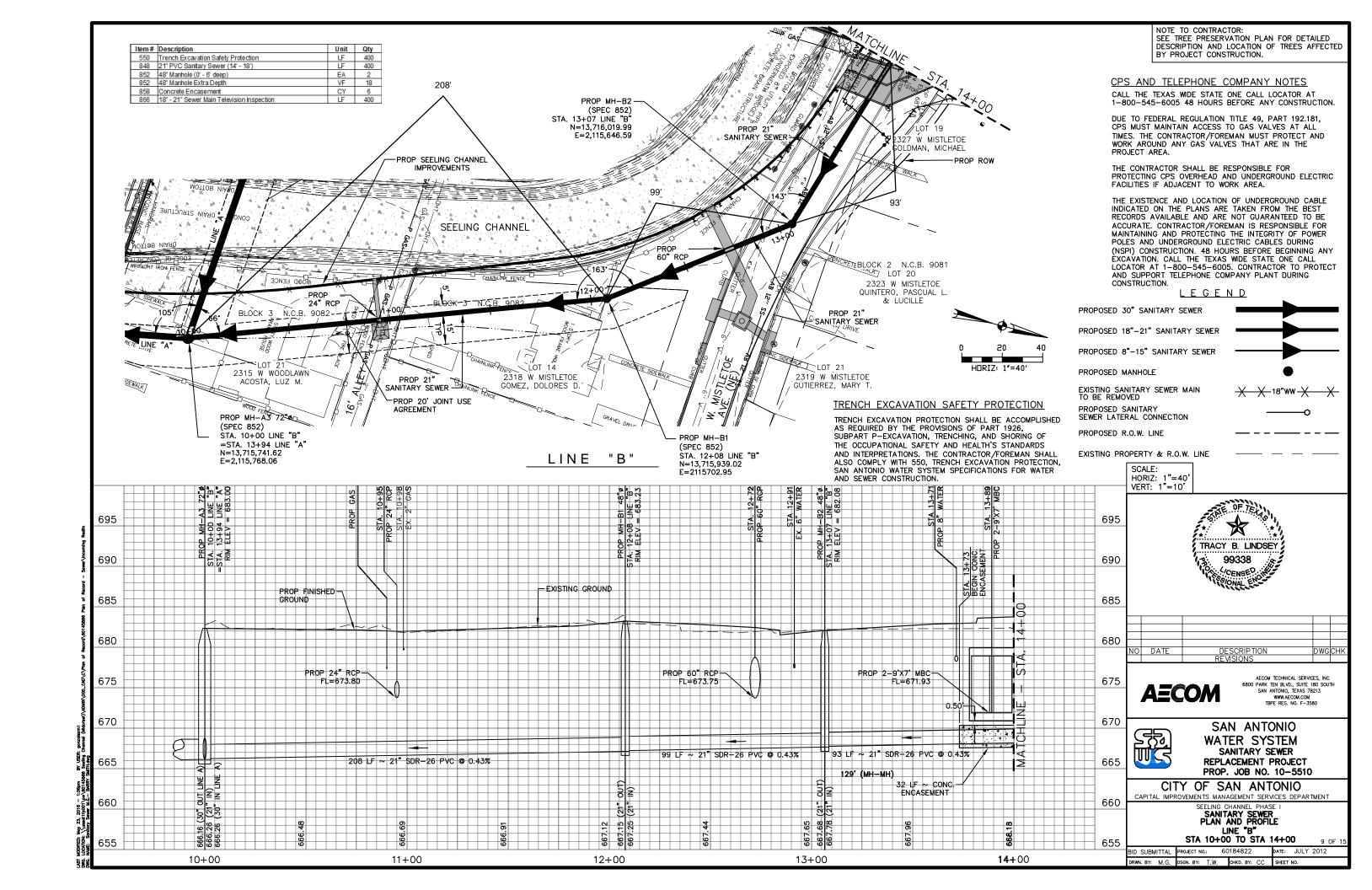
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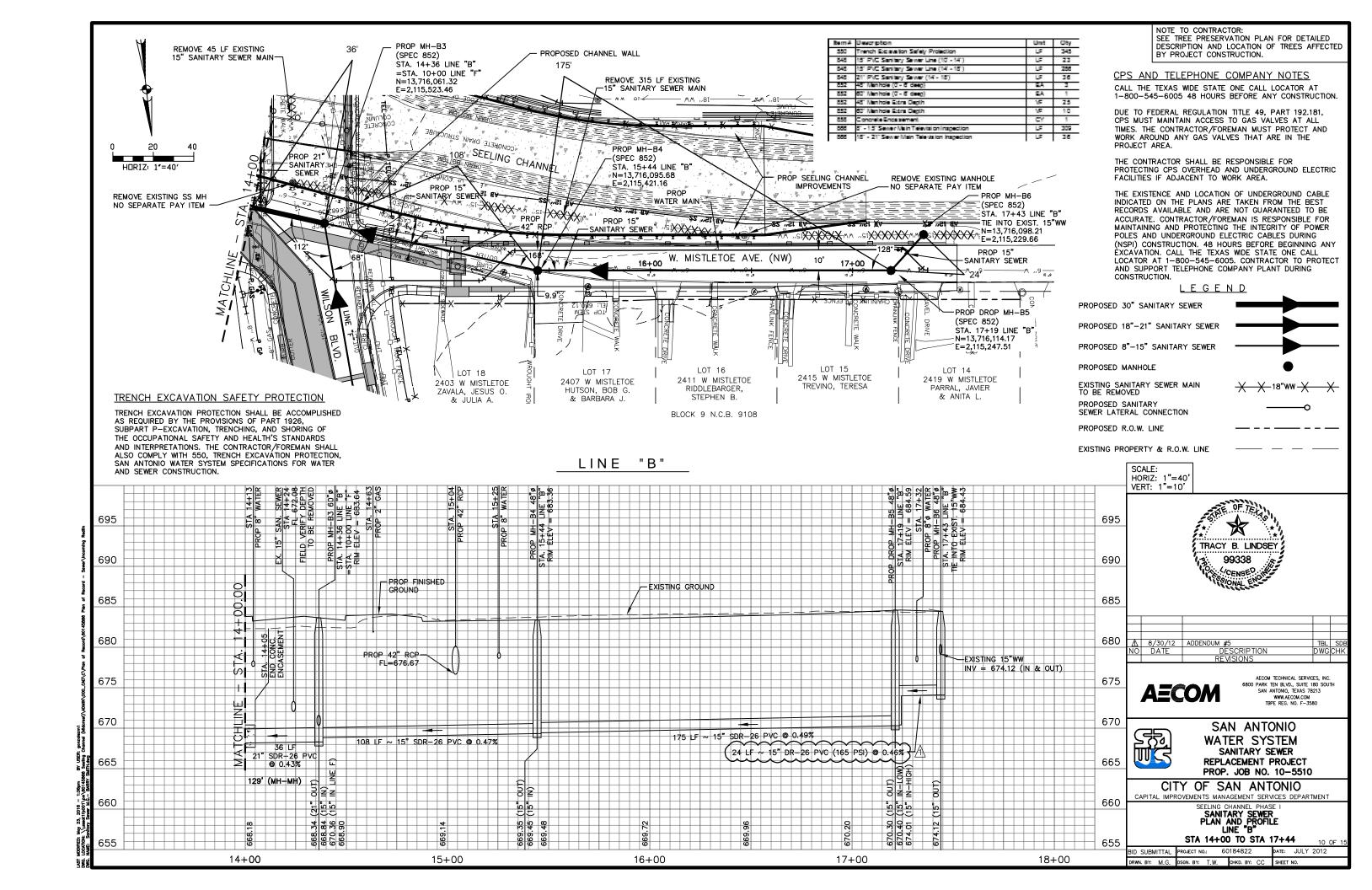
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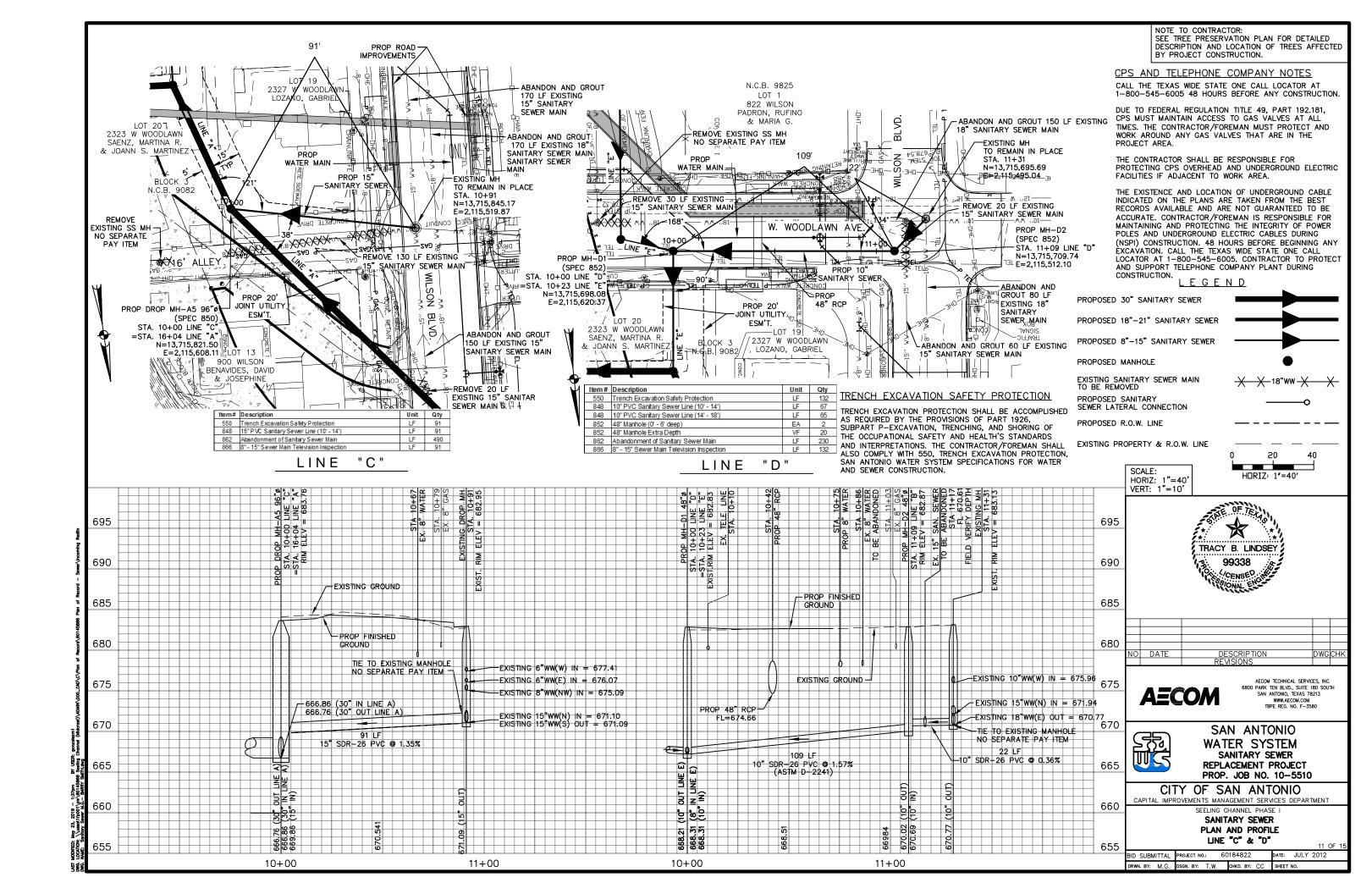


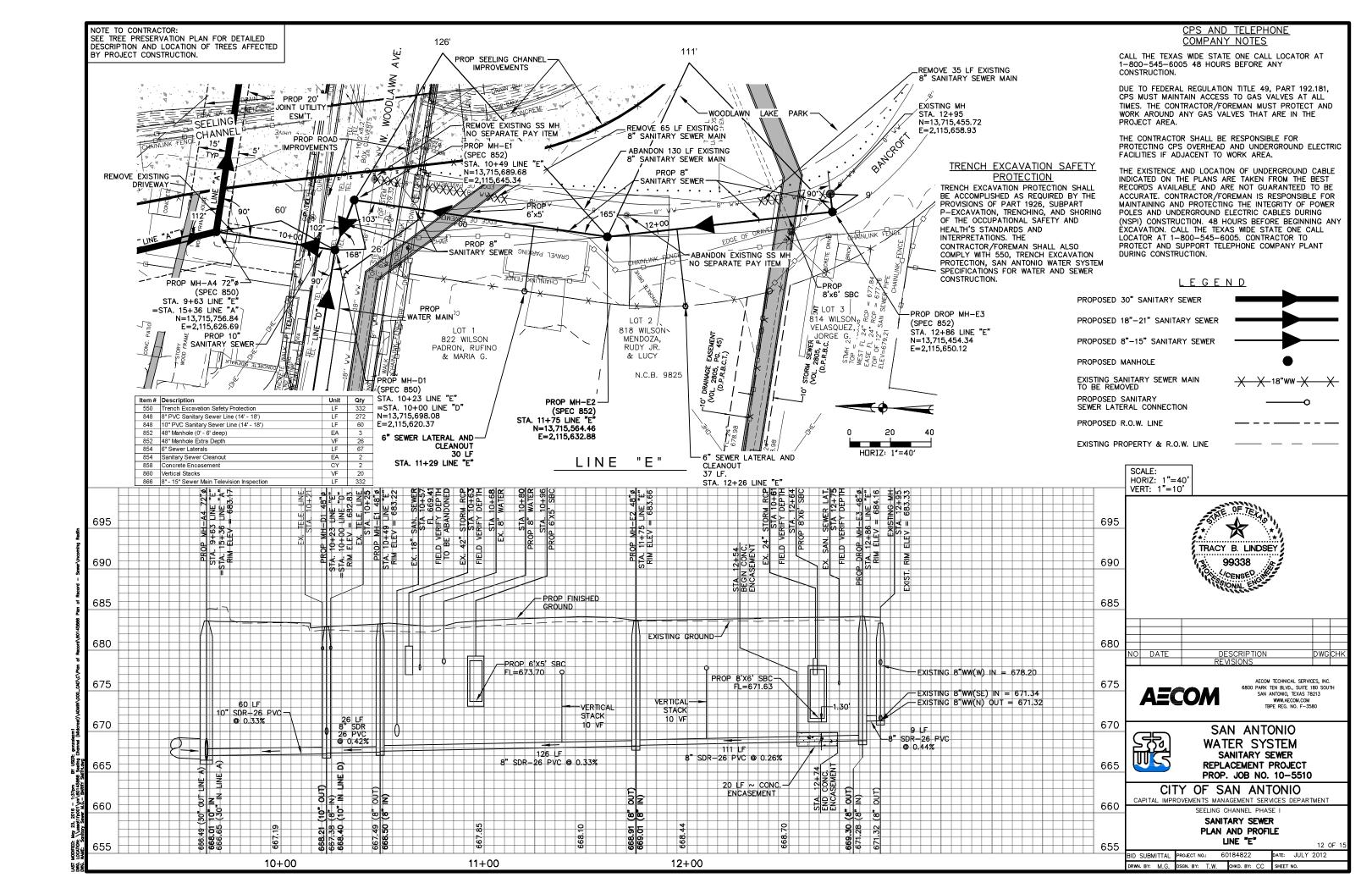


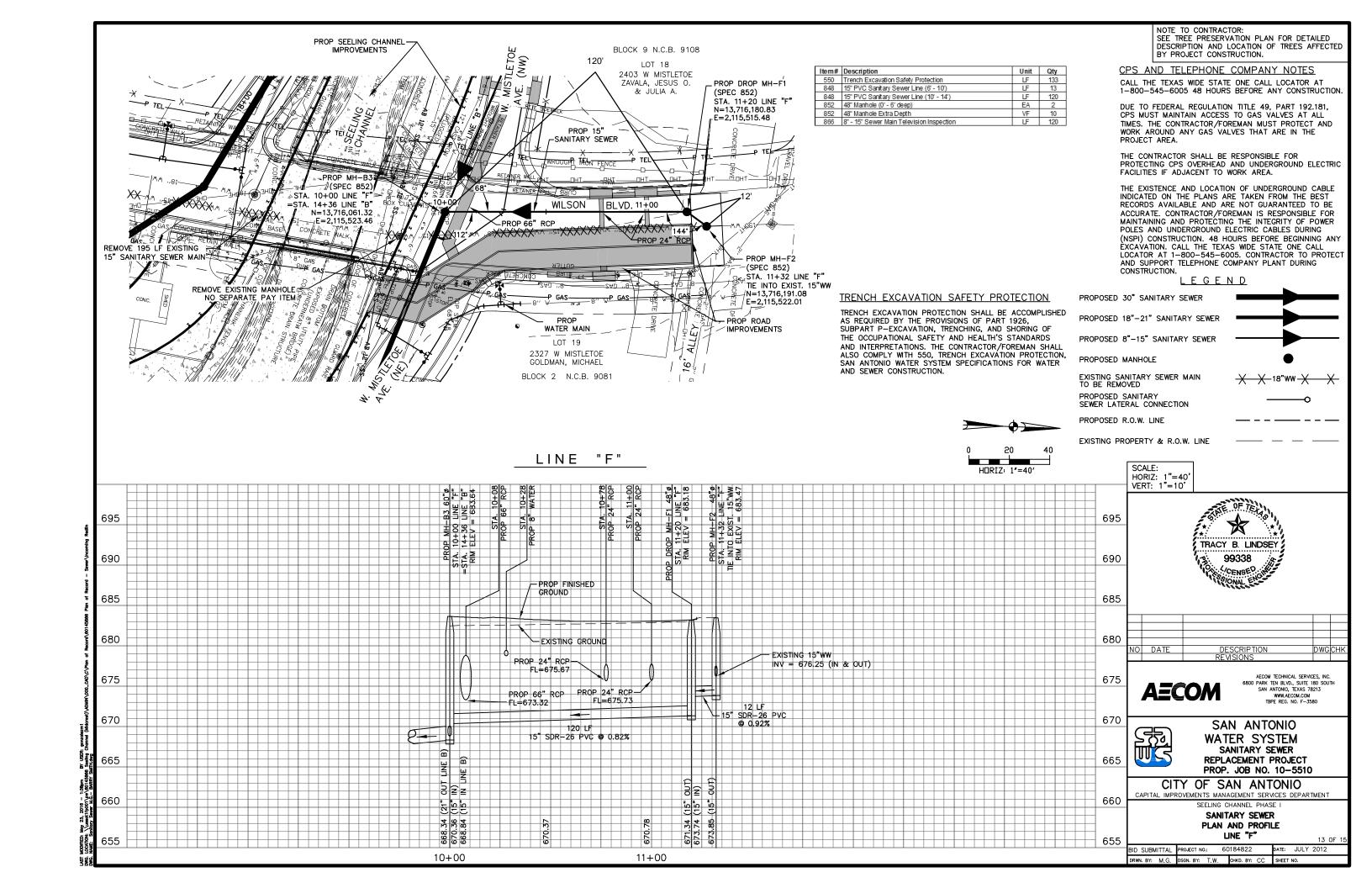


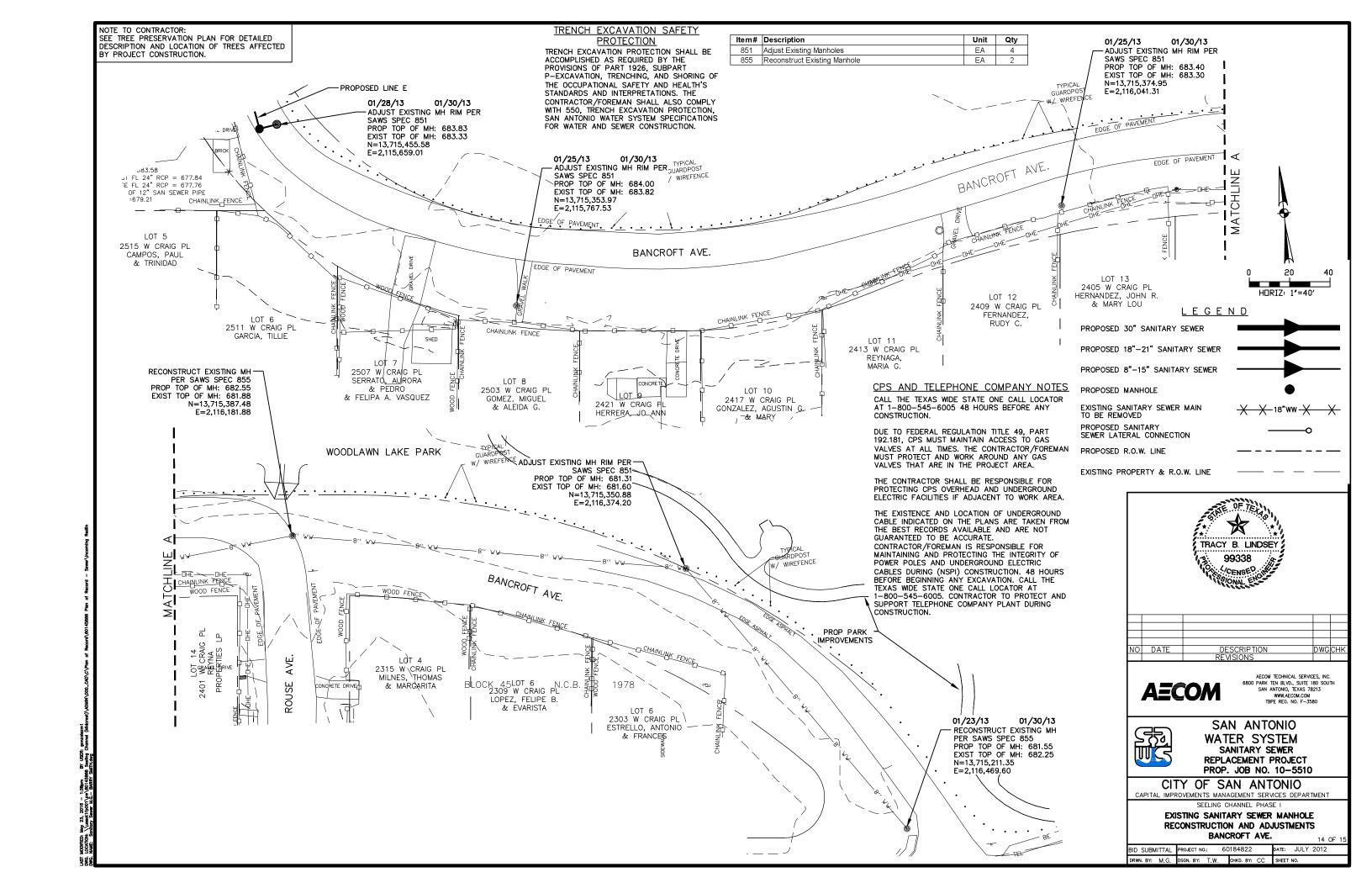


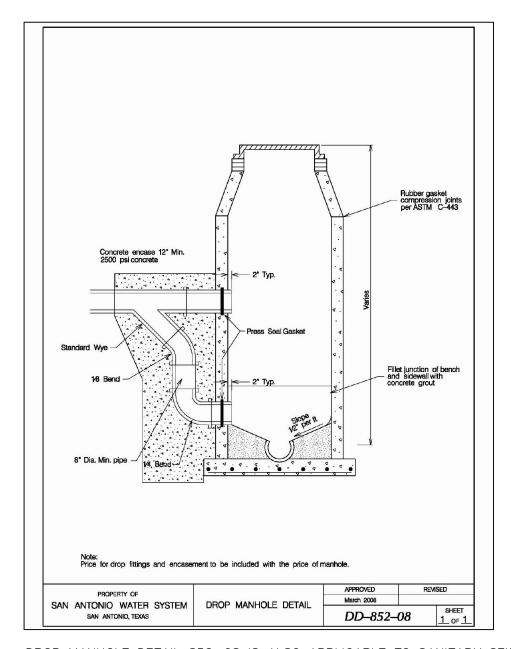




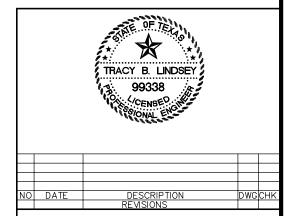








DROP MANHOLE DETAIL 852-08 IS ALSO APPLICABLE TO SANITARY SEWER STRUCTURES.



**AECOM** 

AECOM TECHNICAL SERVICES, INC. 6800 PARK TEN BLVD., SUITE 180 SOUTH SAN ANTONIO, TEXAS 78213 WWW.AECOM.COM TBPE REG. NO. F-3580



SAN ANTONIO WATER SYSTEM SANITARY SEWER REPLACEMENT PROJECT PROP. JOB NO. 10-5510

CITY OF SAN ANTONIO

CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

SEELING CHANNEL PHASE I

DETAILS

15 OF

BID SUBMITTAL PROJECT NO.: 60184822 DATE: JULY
DRWN. BY: M.G. DSGN. BY: T.W. CHKD. BY: CC SHEET NO.