



GENERAL SECTION

- 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:
  - CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM, TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
  - CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
  - CURRENT "SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION."
  - CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
  - CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.
- THE CONTRACTOR IS TO NOTIFY AND 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.
- LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
 

SAN ANTONIO WATER SYSTEM:  
SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES

COSA DRAINAGE 207-8048  
COSA TRAFFIC SIGNAL OPERATIONS 207-7720  
TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES DONE BY THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
- 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.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

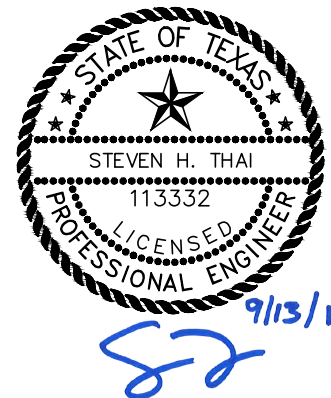
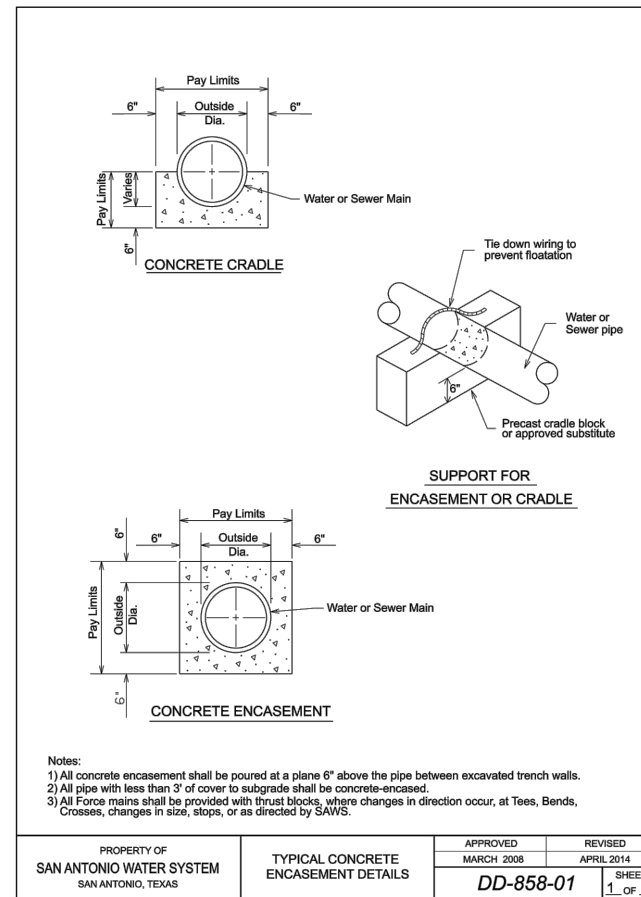
ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

- PRE CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS. (NSPI)
- POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPANY'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.
- ALL TREE WORK SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST.
- CONTRACTOR SHALL INDICATE TO THE CITY OF SAN ANTONIO DSD PROPOSED LIMITS OF CLEARANCE WITH TREES DURING PRE-CONSTRUCTION MEETING AND WITH PROJECT SUBMITTALS.

WATER SECTION:

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS INSPECTION AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY. SAWS PRODUCTION CONTROL CENTER 233-2016
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAYBE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS, PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAP/PLUG. (NSPI)
- REPLACEMENT OF WATER METER BOXES ARE TO BE AT THE DISCRETION OF THE SAWS INSPECTOR.
- CONTRACTOR TO PLACE WATER METER BOXES WITHIN RIGHT-OF-WAY. AT PROPERTY LINE.
- CONTRACTOR SHALL RESTRAIN ALL PROPOSED PIPES, VALVES AND FITTINGS AT NO ADDITIONAL COST (RL=RESTRAINT LENGTH).
- FLOWABLE FILL TO FOLLOW SAWS STD DD-858-01 DETAIL.

SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Curb	LF	12
103	Remove Sidewalks and Driveways	SY	38
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	389.89
413	Flowable Fill	CY	1.22
500	Concrete Curb	LF	12
502	Concrete Sidewalks	SY	38
550	Trench Protection	LF	957
818	6" PVC Waterline (Restrained)	LF	5
818	8" PVC Waterline (Restrained)	LF	952
824	Relay 3/4" Long Service	EA	11
824	Relay 3/4" Short Service	EA	10
828	8" Gate Valve	EA	2
833	Existing Meter & New Meter Box Relocation	EA	21
833	New Meter Box	EA	21
834	Fire Hydrant	EA	2
836	Pipe Fittings, All Sizes & Types	TN	0.79
840	6" Water Tie-Ins	EA	1
840	8" Water Tie-Ins	EA	3
841	Hydrostatic Testing	EA	2
844	2" Blow-off, Temporary	EA	3
1020	8" Water Main Break/Leak Repairs, all types	EA	2
3000	Removal, Transportation and Disposal of various sizes of A.C. Pipe	LF	52

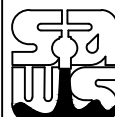


Brown & Gay Engineers, Inc.  
F-1046

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TBPE Registration No. F-1046

No.	Revision	Drawn	Approved	Date

REVISIONS



2017 SMP GLAD DR FROM  
PIEDMONT AVE TO  
LYNHURST AVE  
CONSTRUCTION NOTES AND  
QUANTITY SUMMARY

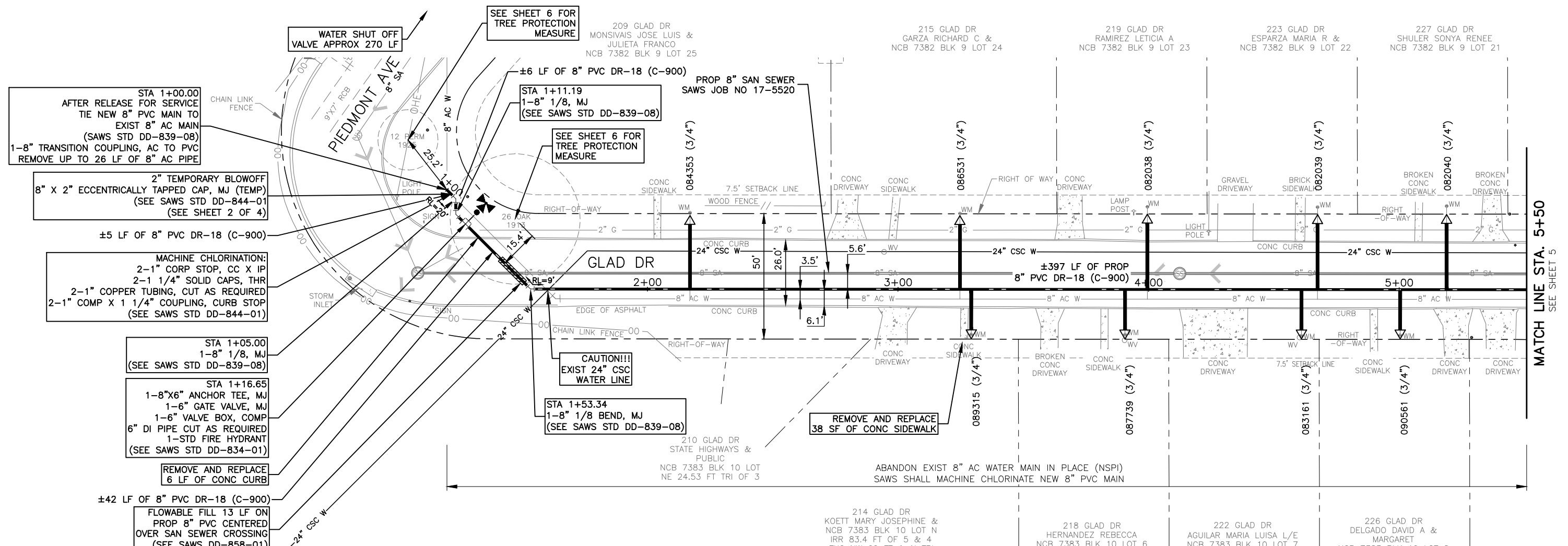
DEVELOPER: \_\_\_\_\_  
CONT. BUDGET PROJ.

SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

MAP No. 168562 AND 170562 SHEET  
SECT. No. 2  
DR. CK. JOB No. 17-5025 OF 6



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- STA 1+00.00  
AFTER RELEASE FOR SERVICE  
TIE NEW 8" PVC MAIN TO  
EXIST 8" AC MAIN  
(SAWS STD DD-839-08)  
1-8" TRANSITION COUPLING, AC TO PVC  
REMOVE UP TO 26 LF OF 8" AC PIPE
- 2" TEMPORARY BLOWOFF  
8" X 2" ECCENTRICALLY TAPPED CAP, MJ (TEMP)  
(SEE SAWS STD DD-844-01)  
(SEE SHEET 2 OF 4)
- ±5 LF OF 8" PVC DR-18 (C-900)
- MACHINE CHLORINATION:  
2-1" CORP STOP, CC X IP  
2-1 1/4" SOLID CAPS, THR  
2-1" COPPER TUBING, CUT AS REQUIRED  
2-1" COMP X 1 1/4" COUPLING, CURB STOP  
(SEE SAWS STD DD-844-01)
- STA 1+05.00  
1-8" 1/8, MJ  
(SEE SAWS STD DD-839-08)
- STA 1+16.65  
1-8"x6" ANCHOR TEE, MJ  
1-6" GATE VALVE, MJ  
1-6" VALVE BOX, COMP  
6" DI PIPE CUT AS REQUIRED  
1-STD FIRE HYDRANT  
(SEE SAWS STD DD-834-01)
- REMOVE AND REPLACE  
6 LF OF CONC CURB
- ±42 LF OF 8" PVC DR-18 (C-900)
- FLOWABLE FILL 13 LF ON  
PROP 8" PVC CENTERED  
OVER SAN SEWER CROSSING  
(SEE SAWS DD-858-01)

**TREE PROTECTION NOTE:**  
THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.

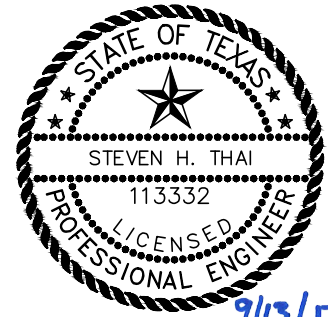
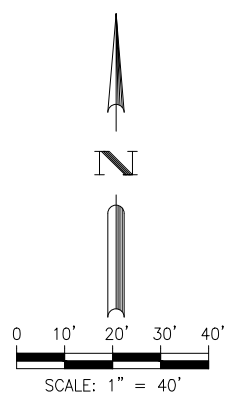
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**CAUTION !!!**  
EXISTING  
UNDERGROUND GAS AND  
OVERHEAD ELECTRIC LINES.

**TRENCH EXCAVATION SAFETY PROTECTION:**  
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE 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 CONTRACTORS IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH, AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OF 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.

**ASBESTOS CEMENT (AC) PIPE:**  
ASBESTOS CEMENT PIPE, ALSO KNOWN AS TRANSITE PIPE, AND WHICH IS KNOWN TO CONTAIN ASBESTOS CONTAINING MATERIAL (ACM) IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THE PIPE OCCUR. PAYMENT FOR SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000. (SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE)

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103	Remove Concrete Curb	LF	6
103	Remove Sidewalks and Driveways	SY	38
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	183.33
413	Flowable Fill	CY	1.22
500	Concrete Curb	LF	6
502	Concrete Sidewalks	SY	38
550	Trench Protection	LF	450
818	8" PVC Waterline (Restrained)	LF	450
824	Relay 3/4" Long Service	EA	5
824	Relay 3/4" Short Service	EA	4
833	Existing Meter & New Meter Box Relocation	EA	9
833	New Meter Box	EA	9
834	Fire Hydrant	EA	1
836	Pipe Fittings, All Sizes & Types	TN	0.23
840	8" Water Tie-Ins	EA	1
841	Hydrostatic Testing	EA	1
844	2" Blow-off, Temporary	EA	1
1020	8" Water Main Break/Leak Repairs, all types	EA	1
3000	Removal, Transportation and Disposal of various sizes of A.C. Pipe	LF	26



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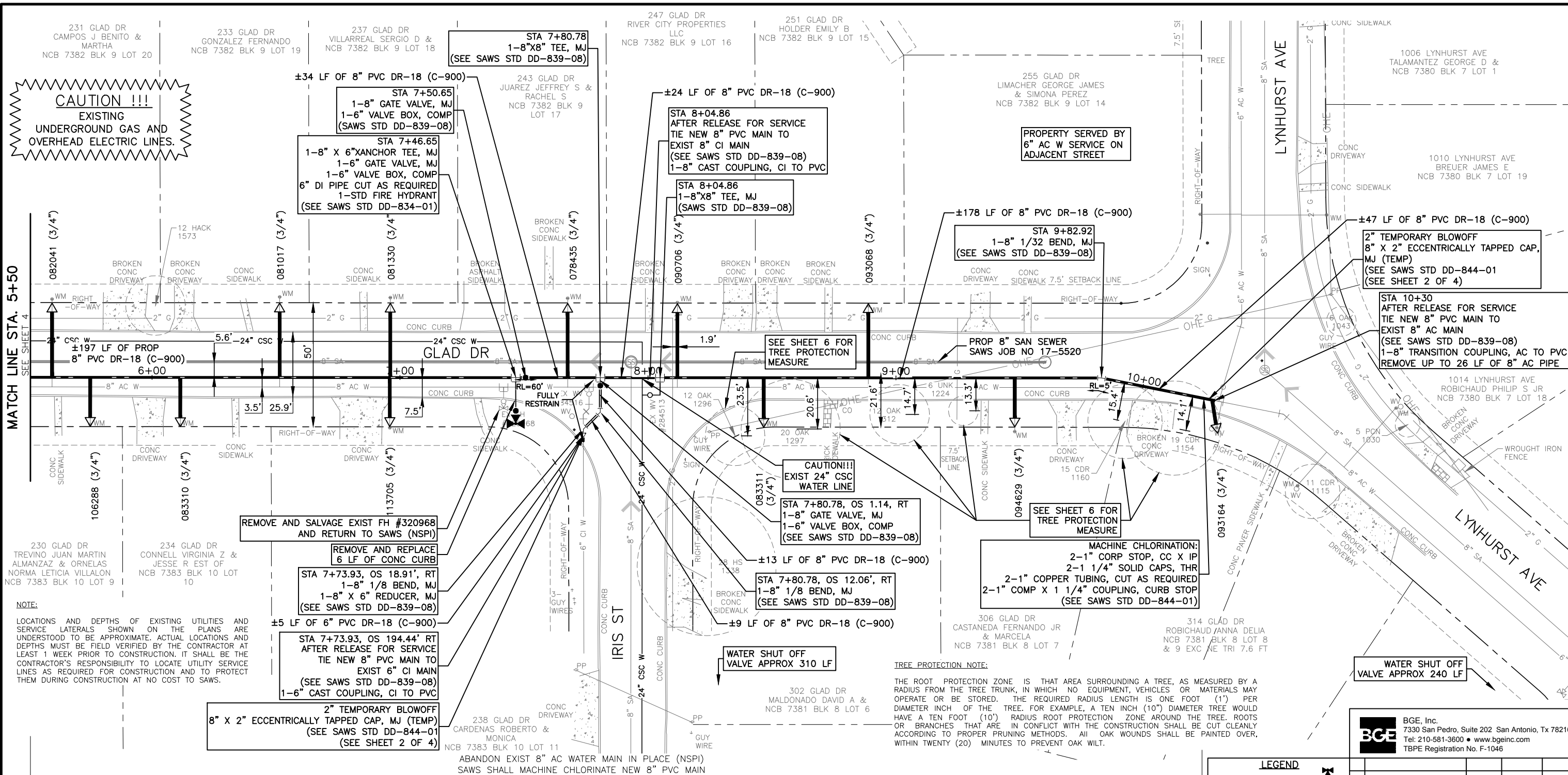
**LEGEND**

- PROP. WATER MAIN
- PROP. SAN SERVICE CLEANOUT
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV.
- NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER

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No.	Revision	Drawn	Approved	Date
REVISIONS				
2017 SMP GLAD DR FROM PIEDMONT AVE TO LYNHURST AVE WATER IMPROVEMENTS LINE A STA 1+00 TO STA 5+50				
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED				
APPROVED				
MAP No. 168562 AND 170562				SHEET
SECT. No.				4
DR.	CK.	JOB No. 17-5025		Of 6

MATCH LINE STA. 5+50  
SEE SHEET 5

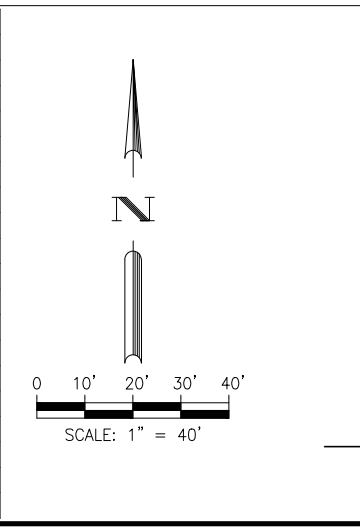


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SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
103	Remove Concrete Curb	LF	6
205	Hot Mix Asphaltic Pavement - Type B (12" Compacted Depth)	SY	206.56
500	Concrete Curb	LF	6
550	Trench Protection	LF	507
818	6" PVC Waterline (Restrained)	LF	5
818	8" PVC Waterline (Restrained)	LF	502
824	Relay 3/4" Long Service	EA	6
824	Relay 3/4" Short Service	EA	6
828	8" Gate Valve	EA	2
833	Existing Meter & New Meter Box Relocation	EA	12
833	New Meter Box	EA	12
834	Fire Hydrant	EA	1
836	Pipe Fittings, All Sizes & Types	TN	0.56
840	6" Water Tie-Ins	EA	1
840	8" Water Tie-Ins	EA	2
841	Hydrostatic Testing	EA	1
844	2" Blow-off, Temporary	EA	2
1020	8" Water Main Break/Leak Repairs, all types	EA	1
3000	Removal, Transportation and Disposal of various sizes of A.C. Pipe	LF	26



STATE OF TEXAS  
 STEVEN H. THAI  
 113332  
 LICENSED PROFESSIONAL ENGINEER  
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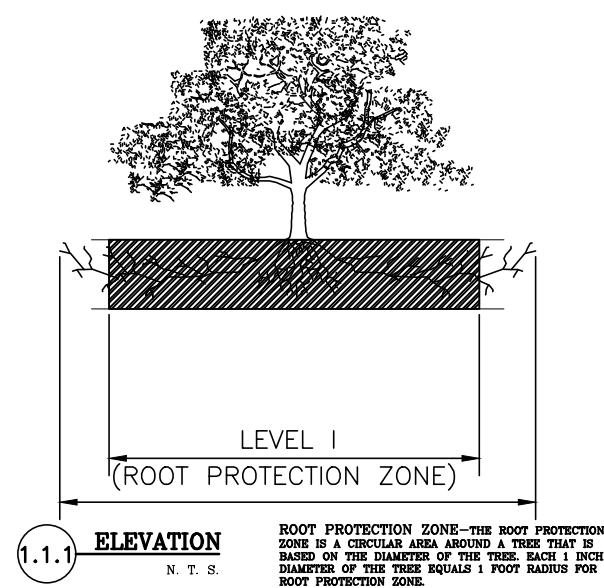
**LEGEND**

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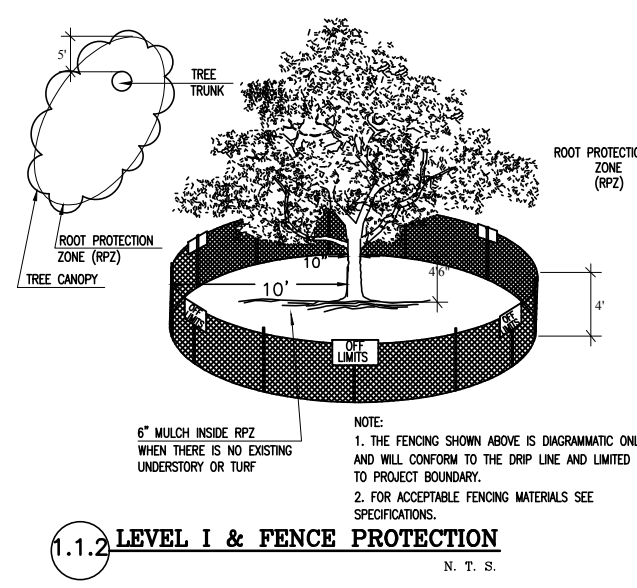
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APPROVED				
MAP No. 168562 AND 170562		SHEET 5		
SECT. No.		DR. CK. JOB No. 17-5025 Of 6		

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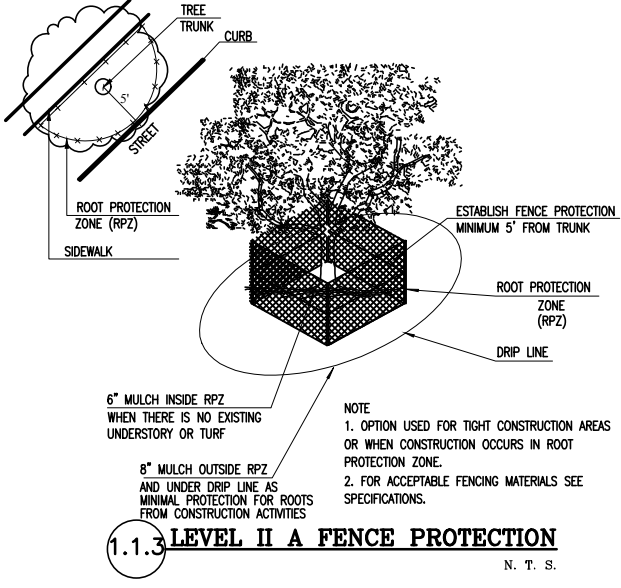
**1.1.1 ELEVATION**  
N. T. S.

ROOT PROTECTION ZONE—THE ROOT PROTECTION ZONE IS A CIRCULAR AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE. EACH 1 INCH DIAMETER OF THE TREE EQUALS 1 FOOT RADIUS FOR ROOT PROTECTION ZONE.



**1.1.2 LEVEL I & FENCE PROTECTION**  
N. T. S.

NOTE:  
1. THE FENCING SHOWN ABOVE IS DIAGRAMMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND LIMITED TO PROJECT BOUNDARY.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.



**1.1.3 LEVEL II A FENCE PROTECTION**  
N. T. S.

NOTE:  
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.  
2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

- GENERAL NOTES:**
- ALL PROTECTED SIZE TREES AFFECTED BY CONSTRUCTION SHALL HAVE THE LIMBS AND ROOTS TRIMMED AND PRUNED ACCORDING TO ITEM No. 802. (TREE PRUNING, SOIL AMENDING AND FERTILIZATION), UNLESS SPECIFIED TREES SHALL RECEIVE LEVEL 1 PROTECTION AS PER ITEM No. 801. (TREE AND LANDSCAPE PROTECTION) AND AS DETAILED IN 1.1.2.
  - ALL TREES SHALL REMAIN UNLESS NOTED ON THE CITY APPROVED PLANS.
  - NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND PROTECTION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE CITY ARBORIST OFFICE.
  - TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
  - THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES (3") IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT THE CITY INSPECTOR IF ROOTS LARGER THAN THREE INCHES (3") WITHIN THE FIVE FOOT (5') ROOT PROTECTION ZONE NEED TO BE PRUNED.
  - THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.
  - NO DISTURBANCE SHALL OCCUR CLOSER TO THE TRUNK THAN HALF THE ROOT PROTECTION ZONE AREA.
  - TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND.
  - TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED.
  - EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH OR WET BURLAP.
  - ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST OFFICE PRIOR TO ITS REMOVAL.

**1.3 GENERAL NOTES**

**TREE PROTECTION TABLE**

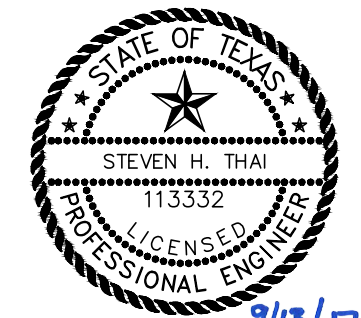
TREE SHEET #	TREE/CALIPER	STATION OR NUMBER	LOCATION	ITEM 801	PROTECTION MEASURE	
					ITEM 802 MAINTENANCE/TREATMENTS/PROTECTION	REMOVAL SEE GENERAL NOTE No. 2
4	PERSIMMON/12"	0+75	WITHIN ROW	PROTECTED	II A	
4	OAK/26"	1+27	WITHIN ROW	PROTECTED	II A	
5	HACKBERRY/12"	6+03	WITHIN ROW			
5	HUISACHE/27"	8+26	OUTSIDE ROW			
5	OAK/12"	8+38	WITHIN ROW	PROTECTED	II A	
5	OAK/20"	8+60	OUTSIDE ROW	PROTECTED	II A	
5	OAK/12"	9+04	WITHIN ROW	PROTECTED	II A	
5	UNKNOWN/6"	9+29	WITHIN ROW	PROTECTED	II A	
5	CEDAR/15"	9+94	WITHIN ROW	PROTECTED	II A	
5	CEDAR/19"	10+16	WITHIN ROW	PROTECTED	II A	
5	OAK/6"	10+55	WITHIN ROW			
5	CEDAR/11"	10+89	WITHIN ROW			
5	PECAN/5"	10+94	WITHIN ROW			

**1.3 TREE PROTECTION TABLE**

**TREE INVENTORY SUMMARY**  
(6" DIAMETER AND LARGER)

TOTAL DIAMETER INCHES, R.O.W	166
TOTAL DIAMETER INCHES REMOVED	0
TOTAL DIAMETER INCHES PRESERVED	166
TOTAL PERCENTAGE INCHES PRESERVED	100%
TOTAL INCHES TO BE MITIGATED	0

**1.3 TREE INVENTORY SUMMARY**



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F-1046

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Tel: 210-581-3600 • www.bgeinc.com  
TBPE Registration No. F-1046

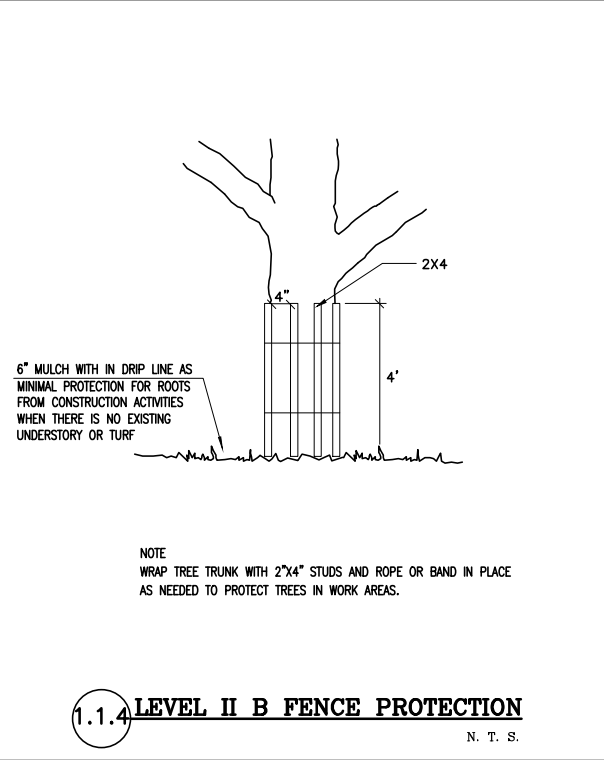
No.	Revision	Drawn	Approved	Date
REVISIONS				

2017 SMP GLAD DR FROM  
PIEDMONT AVE TO  
LYNHURST AVE  
**TREE PRESERVATION PLAN**

DEVELOPER:  
CONT. BUDGET PROJ.

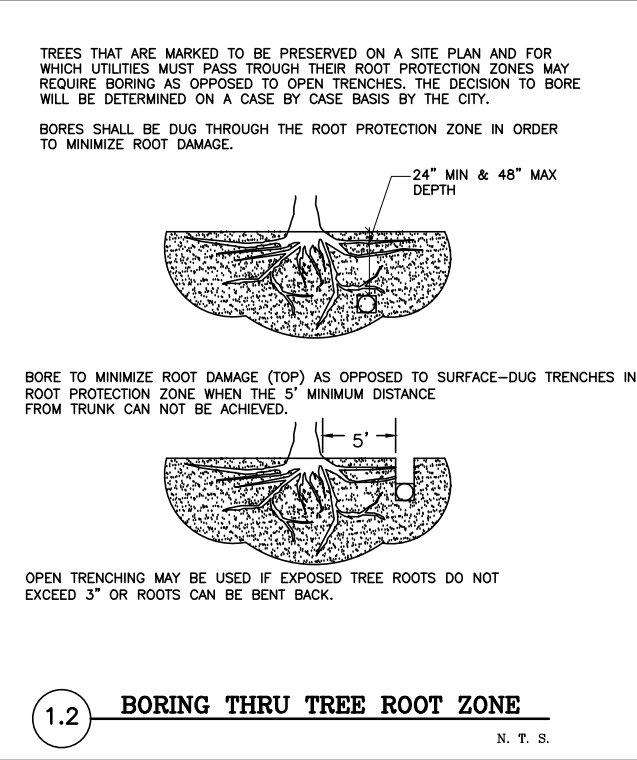
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_

MAP No. 168562 AND 170562	SHEET 6
SECT. No. _____	Of 6
DR. CK. _____	JOB No. 17-5025



**1.1.4 LEVEL II B FENCE PROTECTION**  
N. T. S.

NOTE:  
WRAP TREE TRUNK WITH 2"x4" STUDS AND ROPE OR BAND IN PLACE AS NEEDED TO PROTECT TREES IN WORK AREAS.

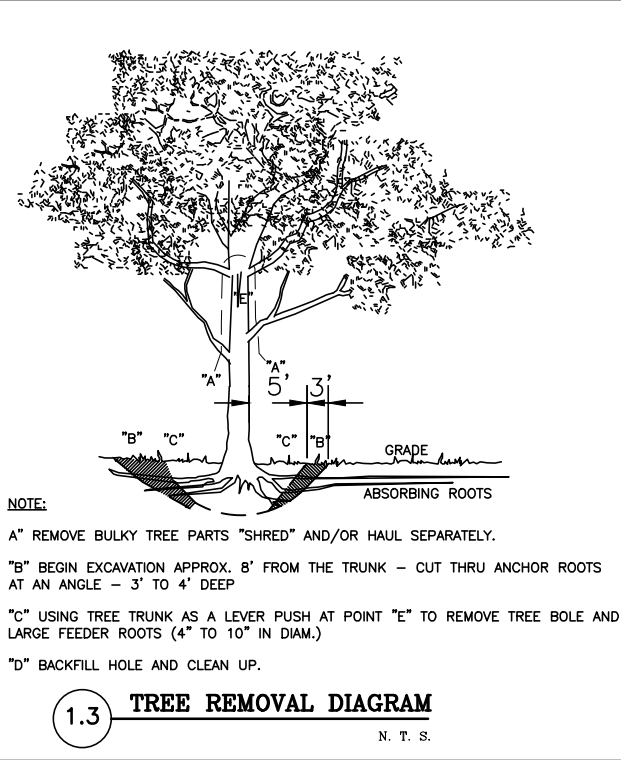


**1.2 BORING THRU TREE ROOT ZONE**  
N. T. S.

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS THROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE BORING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO BORE WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE CITY.

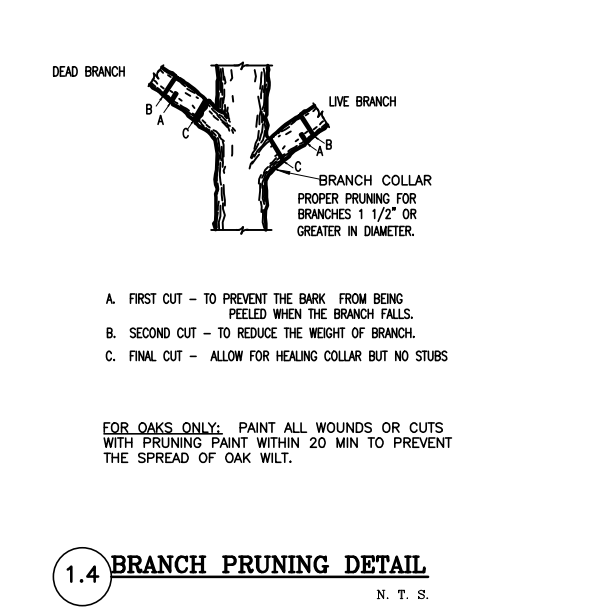
BORES SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.

OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.



**1.3 TREE REMOVAL DIAGRAM**  
N. T. S.

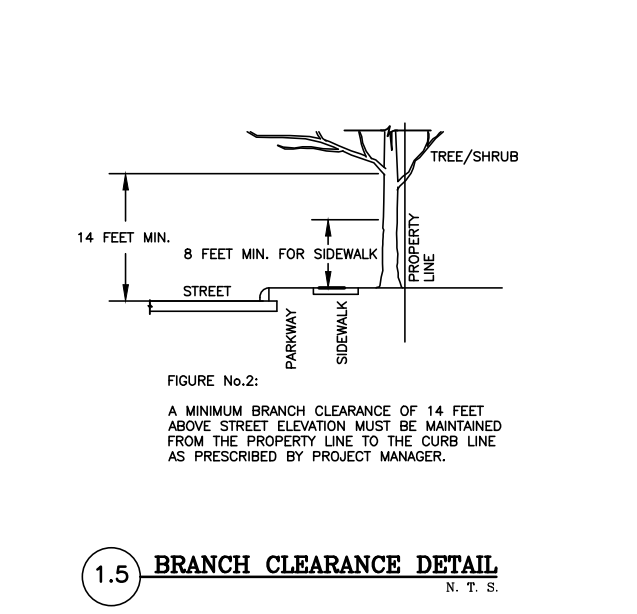
NOTE:  
"A" REMOVE BULKY TREE PARTS "SHRED" AND/OR HAUL SEPARATELY.  
"B" BEGIN EXCAVATION APPROX. 8' FROM THE TRUNK - CUT THRU ANCHOR ROOTS AT AN ANGLE - 3' TO 4' DEEP  
"C" USING TREE TRUNK AS A LEVER PUSH AT POINT "E" TO REMOVE TREE BOLE AND LARGE FEEDER ROOTS (4" TO 10" IN DIAM.)  
"D" BACKFILL HOLE AND CLEAN UP.



**1.4 BRANCH PRUNING DETAIL**  
N. T. S.

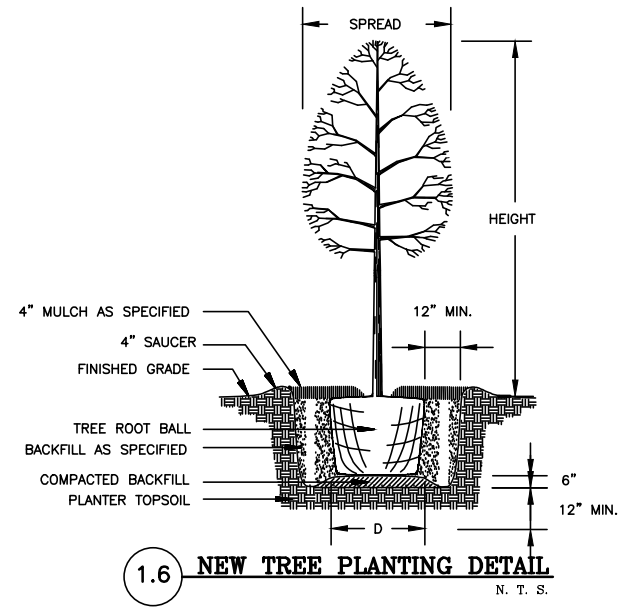
A. FIRST CUT - TO PREVENT THE BARK FROM BEING PEELLED WHEN THE BRANCH FALLS.  
B. SECOND CUT - TO REDUCE THE WEIGHT OF BRANCH.  
C. FINAL CUT - ALLOW FOR HEALING COLLAR BUT NO STUBS

FOR OAKS ONLY: PAINT ALL WOUNDS OR CUTS WITH PRUNING PAINT WITHIN 20 MIN TO PREVENT THE SPREAD OF OAK WILT.



**1.5 BRANCH CLEARANCE DETAIL**  
N. T. S.

FIGURE No.2:  
A MINIMUM BRANCH CLEARANCE OF 14 FEET ABOVE STREET ELEVATION MUST BE MAINTAINED FROM THE PROPERTY LINE TO THE CURB LINE AS PRESCRIBED BY PROJECT MANAGER.



**1.6 NEW TREE PLANTING DETAIL**  
N. T. S.



**GENERAL SECTION**

1. 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 (TCEQ) "DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM", TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 290.
- B. CURRENT 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" (UECM).

2. THE CONTRACTOR SHALL OBTAIN SAWS STANDARD DETAILS FROM SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS\_CENTER/SPECS. UNLESS OTHERWISE NOTED WITHIN DESIGN PLANS.

3. THE CONTRACTOR IS TO NOTIFY AND 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.

4. LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:

SAN ANTONIO WATER SYSTEM:  
SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES

COSA DRAINAGE 207-8048  
COSA TRAFFIC SIGNAL OPERATIONS 207-7720  
TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-6005 OR 811

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION AS A RESULT OF DAMAGES DONE BY THE PROJECT'S CONSTRUCTION.

7. ALL WORK IN TEXAS HIGHWAY DEPARTMENT AND BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT.

8. THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.

9. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

10. 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.

11. HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKREQ@SAWS.ORG.

ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.

12. PRE CON SITE VIDEO: BEFORE THE START OF ANY CONSTRUCTION. THE SITE MUST BE VIDEO RECORDED BY THE CONTRACTOR WITH ONE COPY SUBMITTED TO SAWS INSPECTIONS. A PRE-SITE VIDEO WILL PROVIDE ACCURATE DOCUMENTATION OF THE EXISTING CONDITIONS. (NSPI)

13. POWER POLE BRACING: CONTRACTORS SHOULD BE ADVISED THAT THERE ARE EXISTING OVERHEAD UTILITY POLES ALONG THE PROJECT CORRIDOR. CONTRACTORS SHOULD FURTHER BE ADVISED THAT IF THE DISTANCE FROM THE OUTSIDE FACE OF A UTILITY TRENCH TO THE FACE OF A UTILITY POLE IS LESS THAN 5 FEET, SAID UTILITY POLE IS SUBJECT TO BRACING, BASED ON A DETERMINATION MADE BY UTILITY POLE OWNER. COSTS INCURRED BY CONTRACTOR FOR BRACING OF THESE UTILITY POLES IS SUBSIDIARY TO THAT RESPECTIVE UTILITY COMPANY'S WORK. IT IS ADVISABLE FOR THE CONTRACTOR TO REVIEW THE CONSTRUCTION DOCUMENTS, AND VISIT THE CONSTRUCTION SITE TO DETERMINE POTENTIAL IMPACTS.

**SEWER SECTION:**

14. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:

- A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210)233-2015. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
- B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
- C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
- D. CLEAN UP SPILL SITE (RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOIL/MATERIALS.
- E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
- F. MEET ALL POST-SSO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISIONING THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.

SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA.

NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.

15. THE CONTRACTOR SHALL PROVIDE BYPASS PUMPING OF SEWAGE AROUND EACH SEGMENT OF PIPE TO BE REPLACED, IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION 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)" (LUMP SUM) AS PER SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 864, "BYPASS PUMPING".

16. PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING FORCE MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT 233-3500 AND/OR SAWS PRODUCTION GROUPS AT LEAST ONE WEEK OR MORE IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS; THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.

17. ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI).

18. THE CONTRACTOR SHALL NOTIFY JUAN C. RAMIREZ AT (210) 233-3558 AND SAWS E.O.C. AT (210) 233-2015 A MINIMUM OF 72 HOURS, NOT COUNTING WEEKENDS OR SAWS HOLIDAYS, BEFORE WORKING ON THE PIPE OR MANHOLE, IN ORDER TO HAVE SAWS REMOVE THE SMART COVER. ANY DAMAGE DONE TO THE SMART COVER WILL BE CHARGED TO THE CONTRACTOR THROUGH A CHANGE ORDER.

**CPS ENERGY NOTES:**

- 1. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- 2. THE CONTRACTOR WILL BE RESPONSIBLE FOR PROTECTING CPS OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES IF ADJACENT TO WORK AREA.

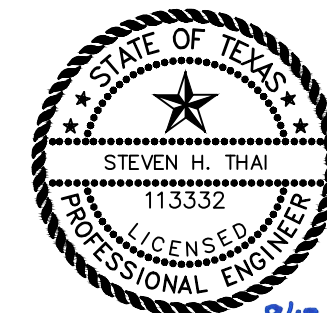
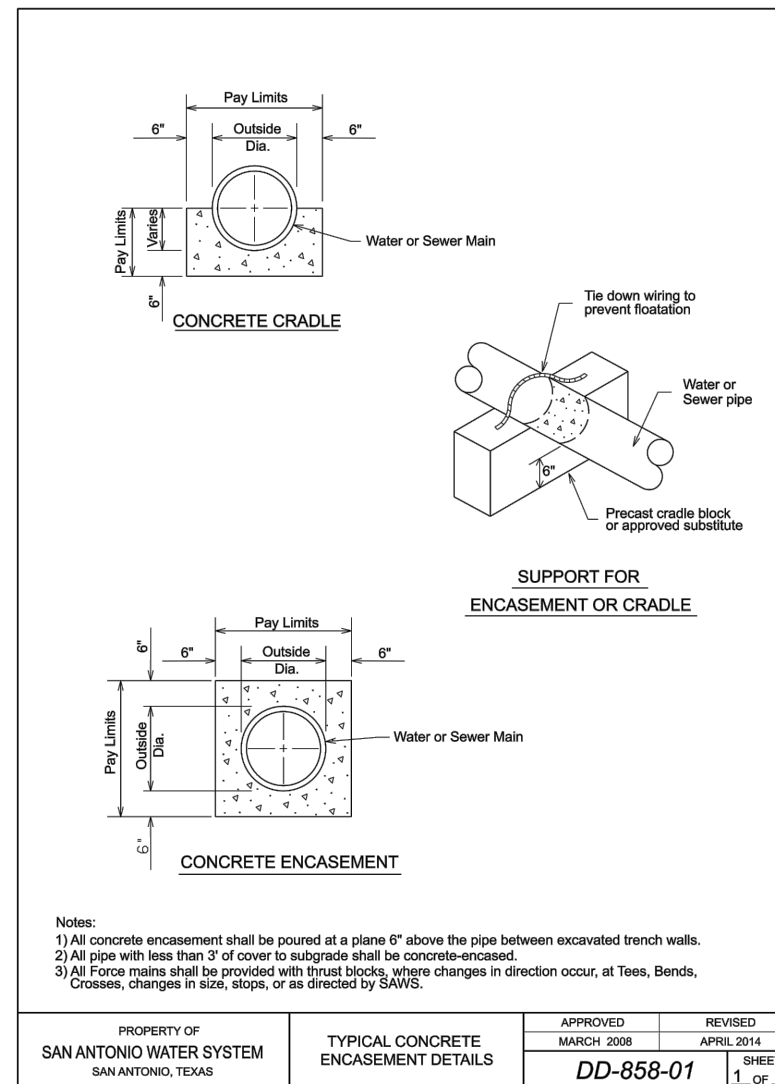
**NOTES:**

- 1. TRENCH EXCAVATION SAFETY PROTECTION SHALL BE ACCOMPLISHED AS REQUIRED BY THE MOST RECENT PROVISIONS OF PART 1926, SUBPART P-EXCAVATIONS. TRENCHING AND SHORING OF THE OSHA STANDARDS AND INTERPRETATIONS, AS MAY BE AMENDED.
- 2. MAINTAIN MINIMUM VERTICAL CLEARANCE OF 2 FT WHERE SEWER MAIN CROSSES EXISTING AND PROPOSED UTILITIES, UNLESS OTHERWISE SHOWN ON PLANS. PROVIDE TEMPORARY SUPPORT OF EXISTING UTILITY AS REQUIRED. WHEN SEWER MAIN PARALLELS WATER MAIN, MAINTAIN MINIMUM 4 FT HORIZONTAL CLEARANCE.
- 3. THE CONTRACTOR SHOULD CALL FOR LOCATES THROUGH "ONE CALL" UTILITY LOCATE SERVICE (1-800-545-6005) 48 HOURS PRIOR TO CONSTRUCTION/EXCAVATION WORK, CONTRACTORS HAVE THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.
- 4. SEPARATION DISTANCE BETWEEN PARALLEL WATER MAIN AND SEWER MAINS ARE IN ACCORDANCE WITH SAWS VARIANCES TO SECTIONS OF TCEQ RULES.
- 5. FLOWABLE FILL TO FOLLOW SAWS STD DD-858-01 DETAIL.
- 6. ALL TREE WORK SHALL BE PERFORMED BY AN ISA CERTIFIED ARBORIST.
- 7. CONTRACTOR SHALL INDICATE TO THE CITY OF SAN ANTONIO DSD PROPOSED LIMITS OF CLEARANCE WITH TREES DURING PRE-CONSTRUCTION MEETING AND WITH PROJECT SUBMITTALS.

**CITY OF SAN ANTONIO NOTES:**

- 1. ALL LIMITS FOR CURB, SIDEWALK, AND TREE PREP BEYOND WHAT IS CONSIDERED INCIDENTAL TO NORMAL UTILITY CONSTRUCTION WILL BE ADDRESSED BY THE SAWS INSPECTOR. ALL COMMUNICATION FROM THE CITY WILL BE COORDINATED THROUGH THE SAWS INSPECTOR. SAWS INSPECTOR WILL ALSO DETERMINE IN ADDITIONAL COMPENSATION IS WARRANTED IF LIMITS EXCEED INCIDENTALS.

SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
206	Hot Mix Asphaltic Pavement, Type B (12" Compacted Depth)	SY	347.11
413	Flowable Fill	CY	79.40
550	Trench Protection	LF	852
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6' cut)	LF	802
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (6'-14' cut)	LF	50
852	Sanitary Sewer Manhole (0'-6')	EA	3
854	Sanitary Sewer Laterals, (SDR 26, ASTM 2241, 160 psi)	LF	514
854	Two-Way Sanitary Sewer Clean-out	EA	21
864	Small Diameter - Bypass Pumping System	EA	1
866	Pre Sewer Main Television Inspection (6"-12")	LF	852
866	Post Sewer Main Television Inspection (8"-12")	LF	852
910	Manhole Rehabilitation	VF	6.5



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No.	Revision	Drawn	Approved	Date

REVISIONS

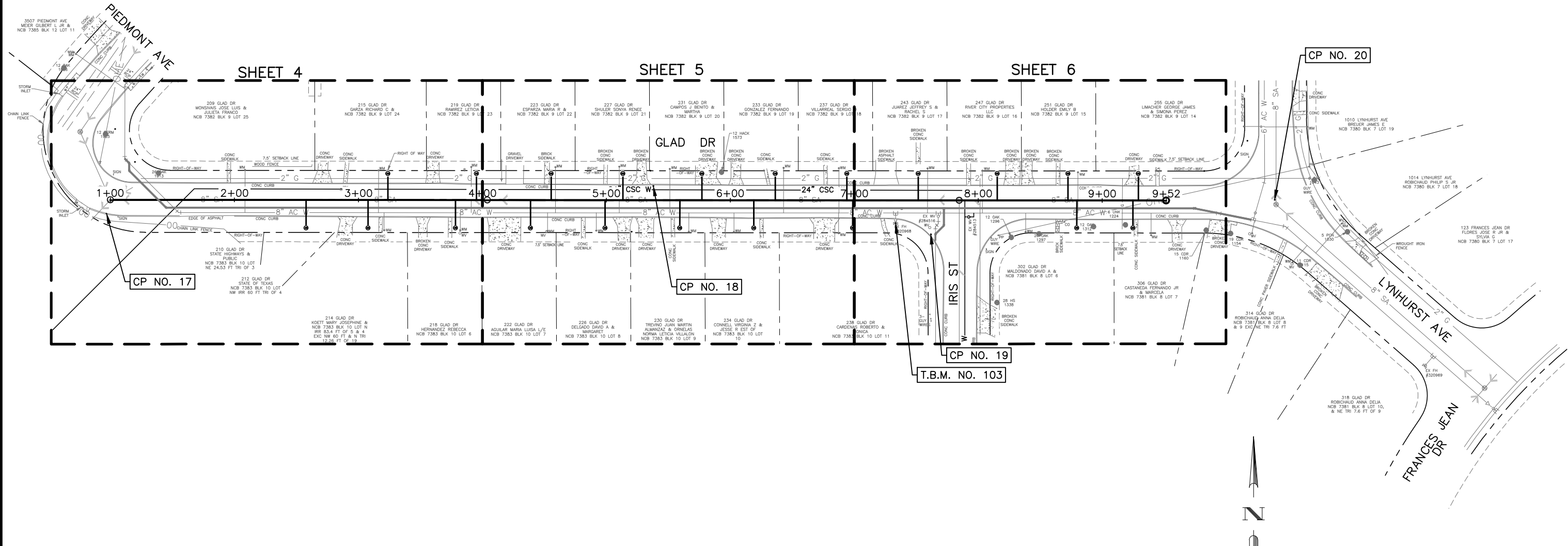
2017 SMP GLAD DR FROM  
PIEDMONT AVE TO  
LYNHURST AVE  
CONSTRUCTION NOTES AND  
QUANTITY SUMMARY

DEVELOPER: \_\_\_\_\_  
 CONT. BUDGET PROJ.  
 SUBMITTED \_\_\_\_\_  
 APPROVED \_\_\_\_\_

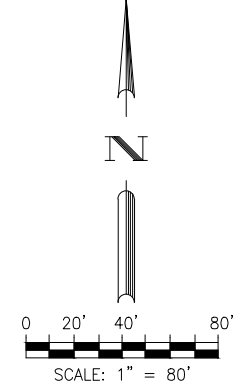
MAP No. 168562 AND 170562 SHEET 2  
 SECT. No. \_\_\_\_\_ OF 7  
 DR. CK. JOB No. 17-5520



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SURVEY CONTROL				
CP	NORTHING	EASTING	DESCRIPTION	
17	13686968.25	2138281.86	CP MAG NAIL WITH WASHER MARKED "LNV-SA"	
18	13686990.57	2138722.98	CP MAG NAIL WITH WASHER MARKED "LNV-SA"	
19	13686951.65	2138946.92	CP MAG NAIL WITH WASHER MARKED "LNV-SA"	
20	13686979.48	2139224.27	CP MAG NAIL WITH WASHER MARKED "LNV-SA"	
T.B.M.	NORTHING	EASTING	DESCRIPTION	ELEVATION
103	13686961.00	2138918.00	BM CHISELED PLUS ON FIRE HYDRANT BOLT	649.75



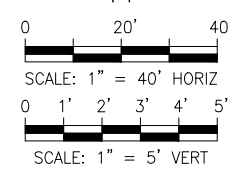
Brown & Gay Engineers, Inc.  
F-1046

LEGEND			
PROP. WATER MAIN		EXIST. WATER MAIN	
GAS MAIN		SANITARY SEWER	
STORM SEWER		UTILITY POLE LINE	
ELECTRIC CABLE		TELEPHONE CABLE	
DUAL BRANCH SERV.		NEW UNMETERED SERVICE:	
3/4" SINGLE		1" DUAL	
SERVICE RECONNECT:		3/4" 1" OR LARGER	
SERVICE RELAY:		3/4" 1" OR LARGER	
SERVICE RELOCATE:		3/4" 1" OR LARGER	
RELOCATE METER		NEW SERVICE:	
3/4" 1" OR LARGER		TEST HOLE LOCATION	
TH-07			

No.	Revision	Drawn	Approved	Date
REVISIONS				
2017 SMP GLAD DR FROM PIEDMONT AVE TO LYNHURST AVE OVERALL PROJECT LAYOUT AND SURVEY CONTROL				
DEVELOPER:				
CONT.		BUDGET PROJ.		
SUBMITTED _____				
APPROVED _____				
MAP No. 168562 AND 170562				SHEET
SECT. No.				3
DR.	CK.	JOB No. 17-5520		Of 7

**CAUTION !!!**  
EXISTING UNDERGROUND GAS AND OVERHEAD ELECTRIC LINES.

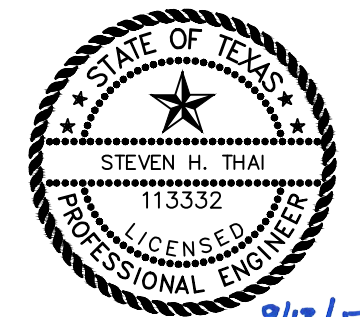
**TRENCH EXCAVATION SAFETY PROTECTION:**  
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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 OF 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.



SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
206	Hot Mix Asphaltic Pavement, Type B (12" Compacted Depth)	SY	122.22
413	Flowable Fill	CY	27.84
550	Trench Protection	LF	300
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6" cut)	LF	250
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (6'-14" cut)	LF	50
854	Sanitary Sewer Laterals, (SDR 26, ASTM 2241, 160 psi)	LF	126
854	Two-Way Sanitary Sewer Clean-out	EA	5
864	Small Diameter - Bypass Pumping System	EA	1
866	Pre Sewer Main Television Inspection (6"-12")	LF	300
866	Post Sewer Main Television Inspection (8"-12")	LF	300
910	Manhole Rehabilitation	VF	6.5

**NOTE:**  
LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

**TREE PROTECTION NOTE:**  
THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.



9/13/17  
[Signature]

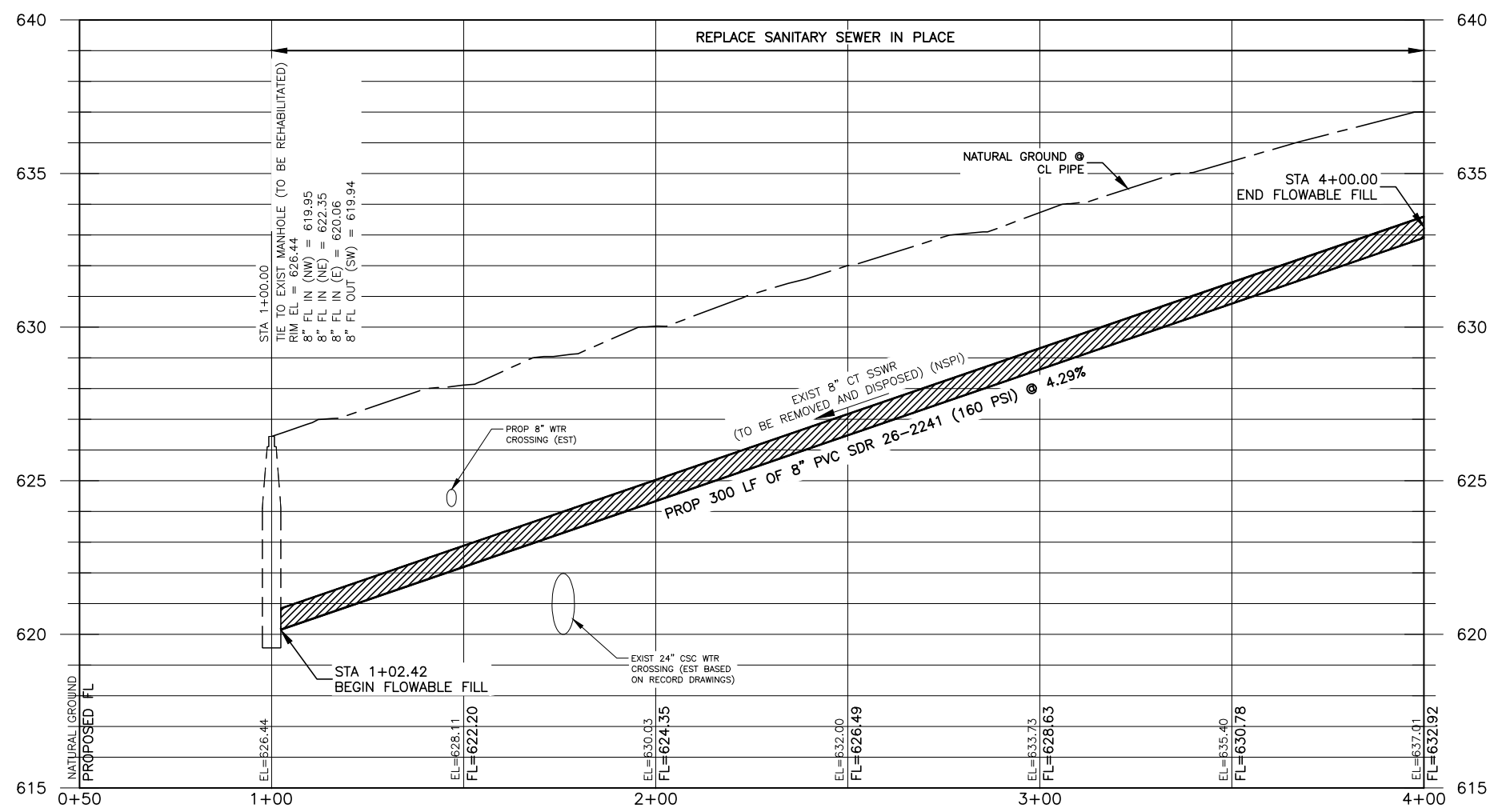
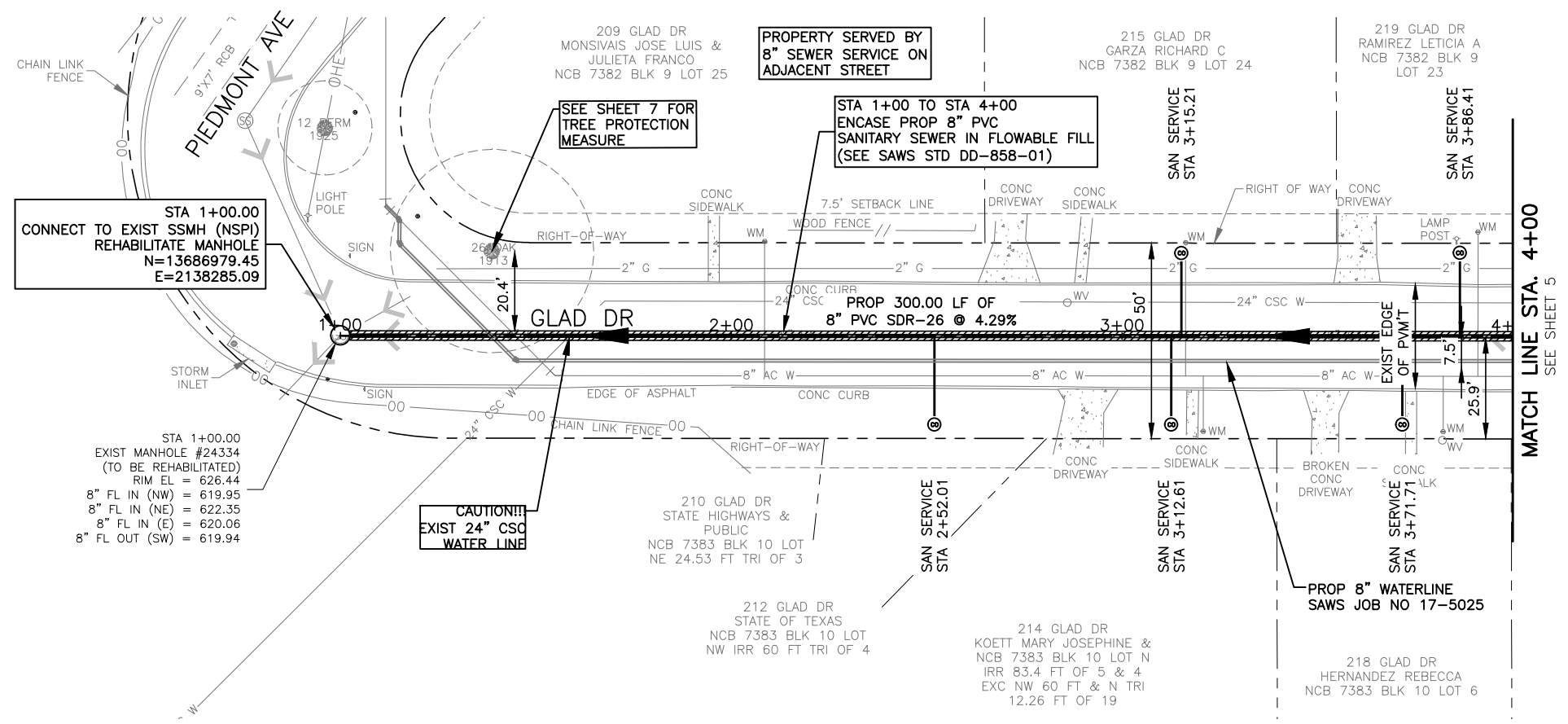
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**BGE** BGE, Inc.  
7330 San Pedro, Suite 202 San Antonio, Tx 78216  
Tel: 210-581-3600 • www.bgeinc.com  
TBPE Registration No. F-1046

**LEGEND**

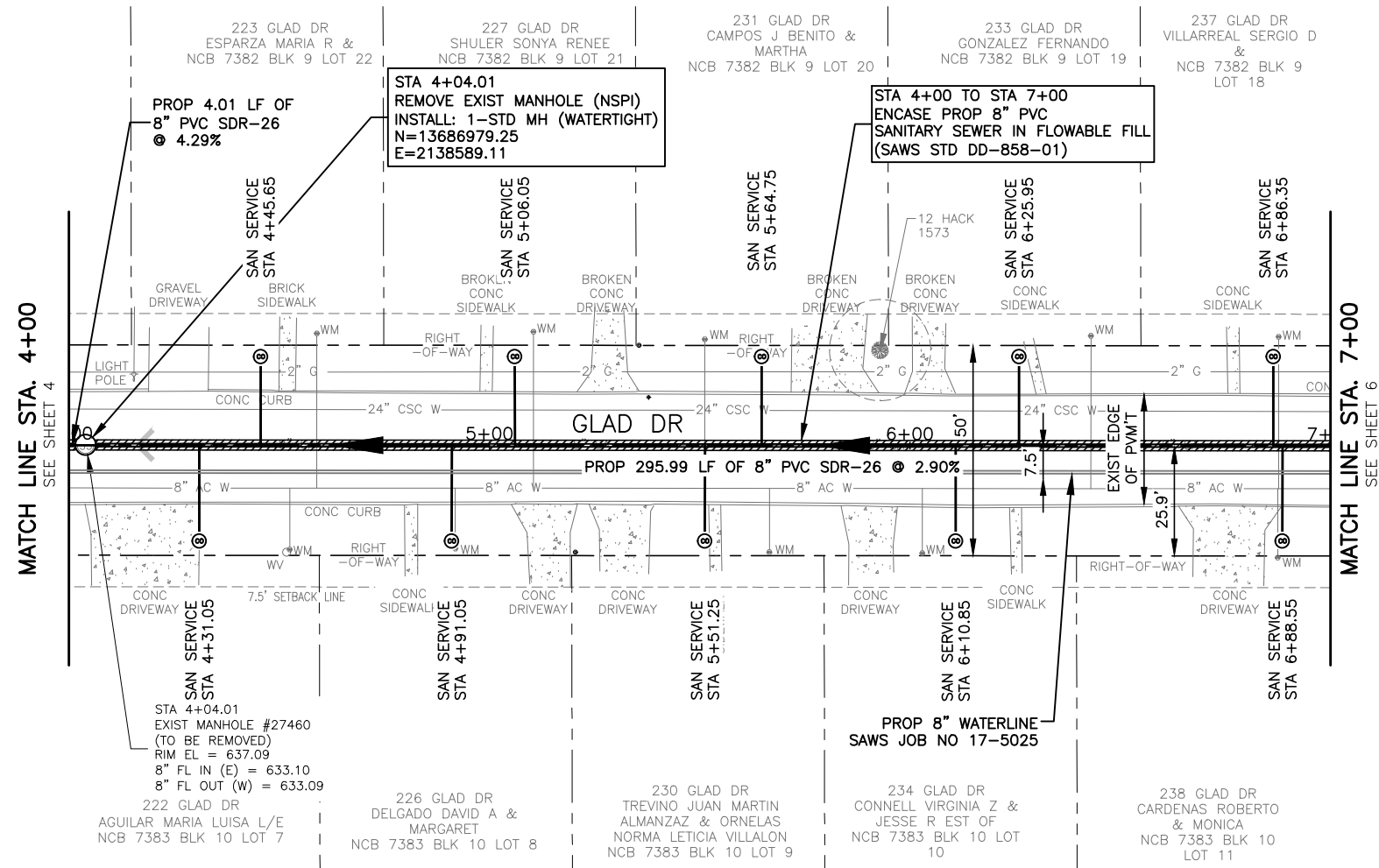
- PROP. WATER MAIN: 12" DIA.
- EXIST. WATER MAIN: 6" C.I.W.
- GAS MAIN: 2" G
- SANITARY SEWER: 8" SA
- STORM SEWER: 24" ST
- UTILITY POLE LINE: 4"
- ELECTRIC CABLE: E
- TELEPHONE CABLE: T
- DUAL BRANCH SERV. NEW UNMETERED SERVICE: 3/4" SINGLE, 1" DUAL
- SERVICE RECONNECT: 3/4" 1" OR LARGER
- SERVICE RELAY: 3/4" 1" OR LARGER
- SERVICE RELOCATE: 3/4" 1" OR LARGER
- RELOCATE METER: M
- NEW SERVICE: 3/4" 1" OR LARGER
- TEST HOLE LOCATION: TH-07

No.	Revision	Drawn	Approved	Date
REVISIONS				
2017 SMP GLAD DR FROM PIEDMONT AVE TO LYNHURST AVE SANITARY SEWER - LINE A STA 1+00 TO STA 4+00				
DEVELOPER: _____				
CONT. _____		BUDGET PROJ. _____		
SUBMITTED _____				
APPROVED _____				
MAP No. 168562 AND 170562				SHEET
SECT. No. _____				4
DR. _____	CK. _____	JOB No. 17-5520		Of 7



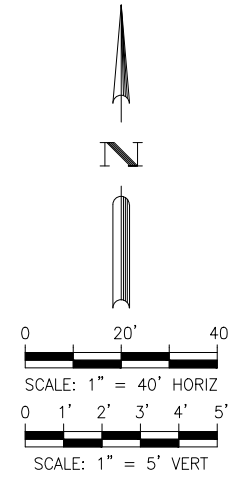
BGE, INC. S:\Projects\168562\170562\CADD\03\_CADD\01\_Sheets\Glad\_Sewer\01\_Sheet04\_Glad\_SSWR\_PWP.dwg Sep. 13. 2017 4:38pm acaltrero

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**CAUTION !!!**  
EXISTING UNDERGROUND GAS AND OVERHEAD ELECTRIC LINES.

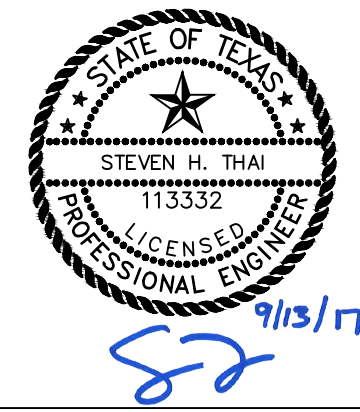
**TRENCH EXCAVATION SAFETY PROTECTION:**  
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURE/DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) 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 OF 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.



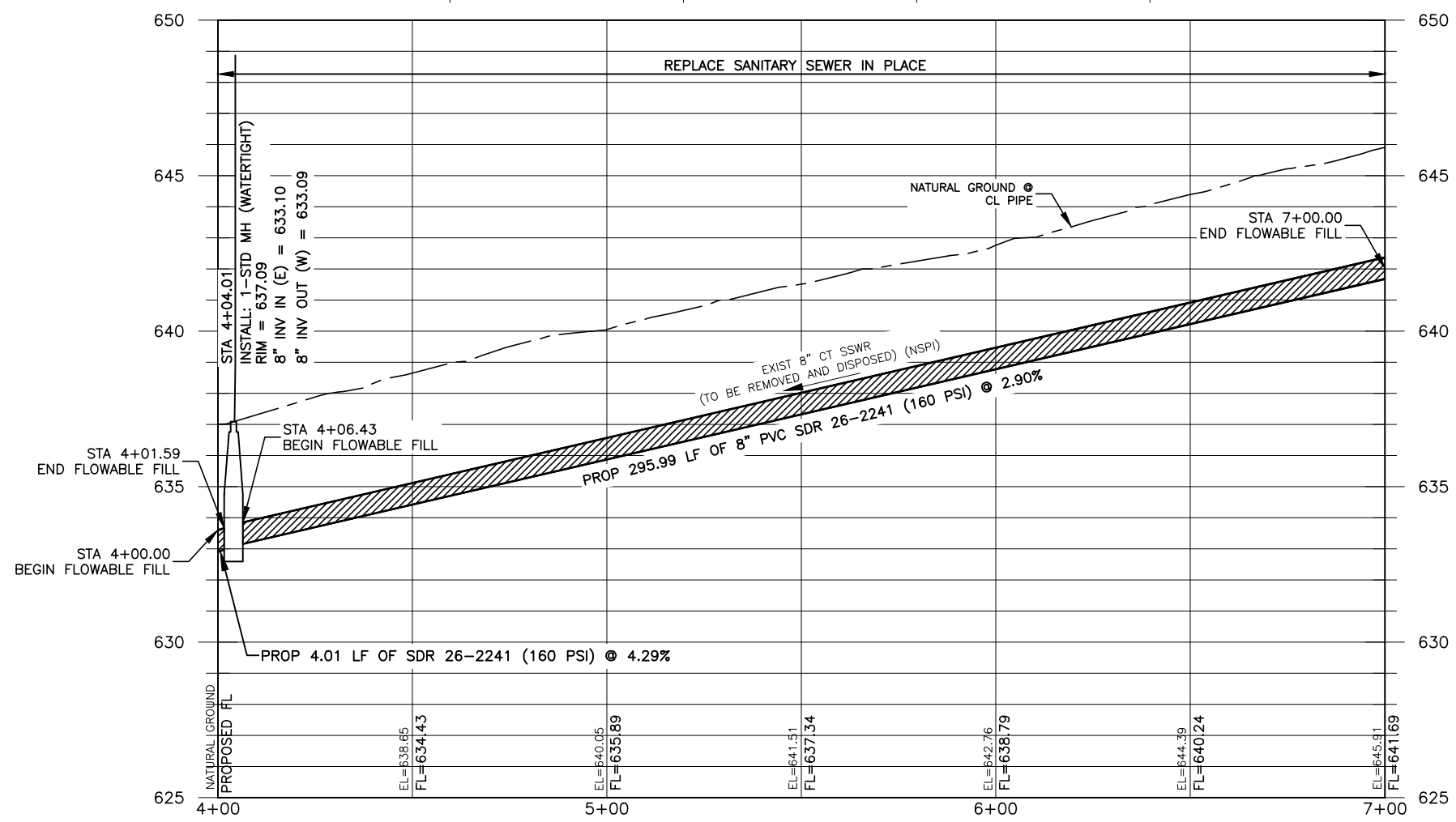
SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
206	Hot Mix Asphaltic Pavement, Type B (12" Compacted Depth)	SY	122.22
413	Flowable Fill	CY	27.84
550	Trench Protection	LF	300
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6" cut)	LF	300
852	Sanitary Sewer Manhole (0'-6")	EA	1
854	Sanitary Sewer Laterals, (SDR 26, ASTM 2241, 160 psi)	LF	250
854	Two-Way Sanitary Sewer Clean-out	EA	10
866	Pre Sewer Main Television Inspection (6"-12")	LF	300
866	Post Sewer Main Television Inspection (8"-12")	LF	300

**NOTE:**  
LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.

**TREE PROTECTION NOTE:**  
THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY OPERATE OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE. ROOTS OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS. ALL OAK WOUNDS SHALL BE PAINTED OVER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.



Brown & Gay Engineers, Inc.  
F-1046



**LEGEND**

- PROP. WATER MAIN
- EXIST. WATER MAIN
- GAS MAIN
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE LINE
- ELECTRIC CABLE
- TELEPHONE CABLE
- DUAL BRANCH SERV. NEW UNMETERED SERVICE:
- 3/4" SINGLE
- 1" DUAL
- SERVICE RECONNECT:
- 3/4"
- 1" OR LARGER
- SERVICE RELAY:
- 3/4"
- 1" OR LARGER
- SERVICE RELOCATE:
- 3/4"
- 1" OR LARGER
- RELOCATE METER
- NEW SERVICE:
- 3/4"
- 1" OR LARGER
- TEST HOLE LOCATION

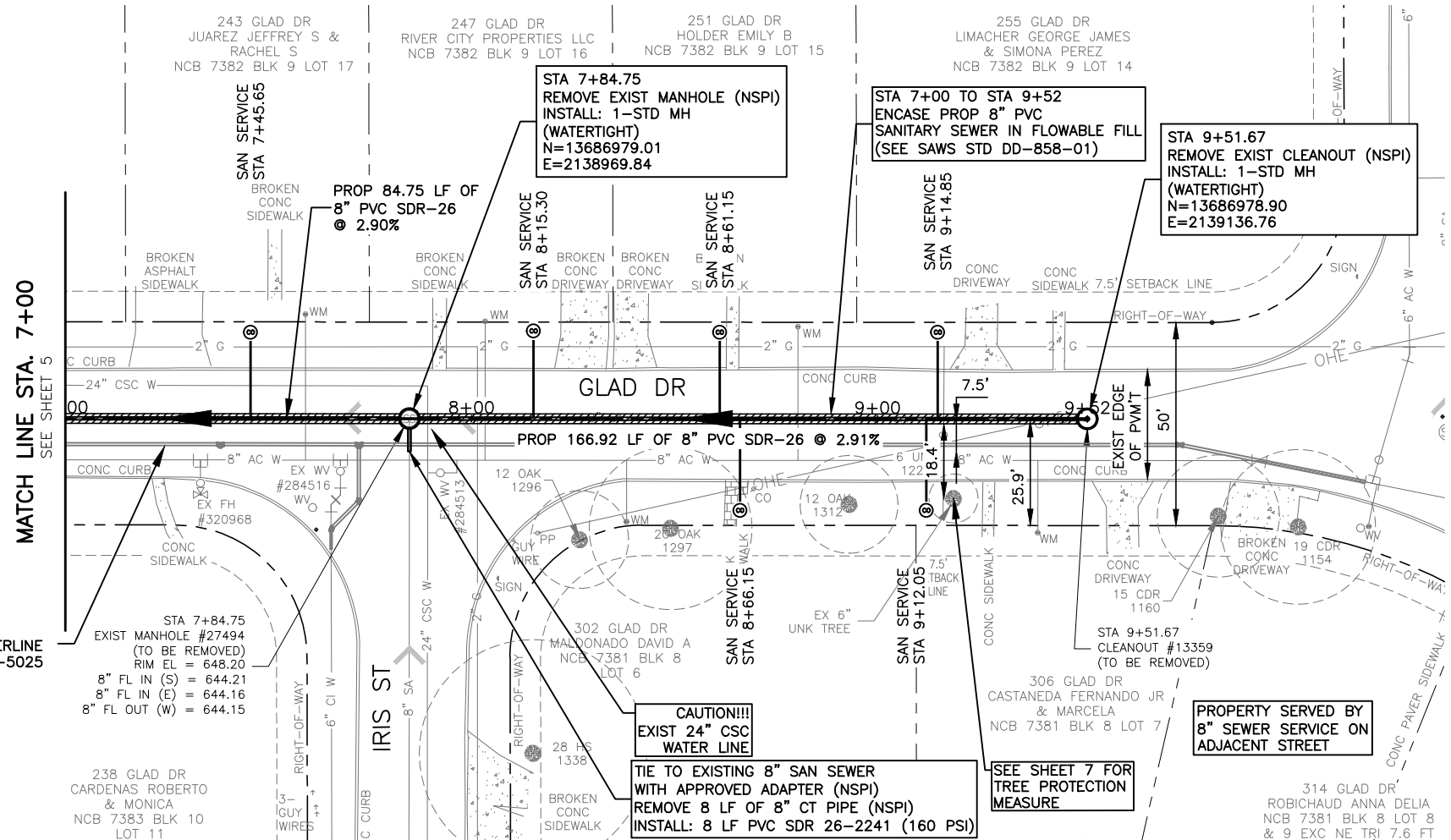
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No.	Revision	Drawn	Approved	Date
REVISIONS				

2017 SMP GLAD DR FROM PIEDMONT AVE TO LYNHURST AVE  
SANITARY SEWER - LINE A  
STA 4+00 TO STA 7+00

DEVELOPER: \_\_\_\_\_  
CONT. \_\_\_\_\_ BUDGET PROJ. \_\_\_\_\_  
SUBMITTED \_\_\_\_\_  
APPROVED \_\_\_\_\_  
MAP No. 168562 AND 170562  
SECT. No. \_\_\_\_\_ SHEET 5  
DR. \_\_\_\_\_ CK. \_\_\_\_\_ JOB No. 17-5520 OF 7

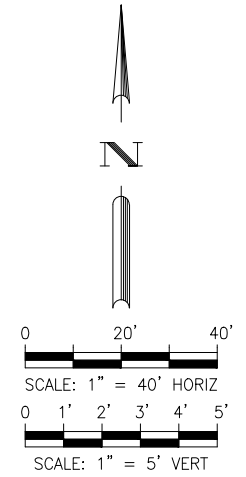
EGE, INC. C:\Projects\SAWS\Glad\_Sewer\01\_Sheets\Glad\_Sewer\01\_Sheet04\_Glad\_Sewer\_PWP.dwg Sep. 13. 2017 4:39pm acaltrora



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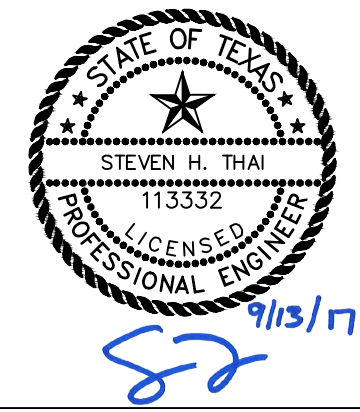
SPEC NO.	UNIT DESCRIPTION	UNIT	QUANTITY
206	Hot Mix Asphaltic Pavement, Type B (12" Compacted Depth)	SY	102.67
413	Flowable Fill	CY	23.72
550	Trench Protection	LF	252
848	8" PVC Gravity Sanitary Sewer Pipe (SDR 26-2241, 160 psi) (0'-6" cut)	LF	252
852	Sanitary Sewer Manhole (0'-6")	EA	2
854	Sanitary Sewer Laterals, (SDR 26, ASTM 2241, 160 psi)	LF	138
854	Two-Way Sanitary Sewer Clean-out	EA	6
866	Pre Sewer Main Television Inspection (6"-12")	LF	252
866	Post Sewer Main Television Inspection (8"-12")	LF	252

**NOTE:**

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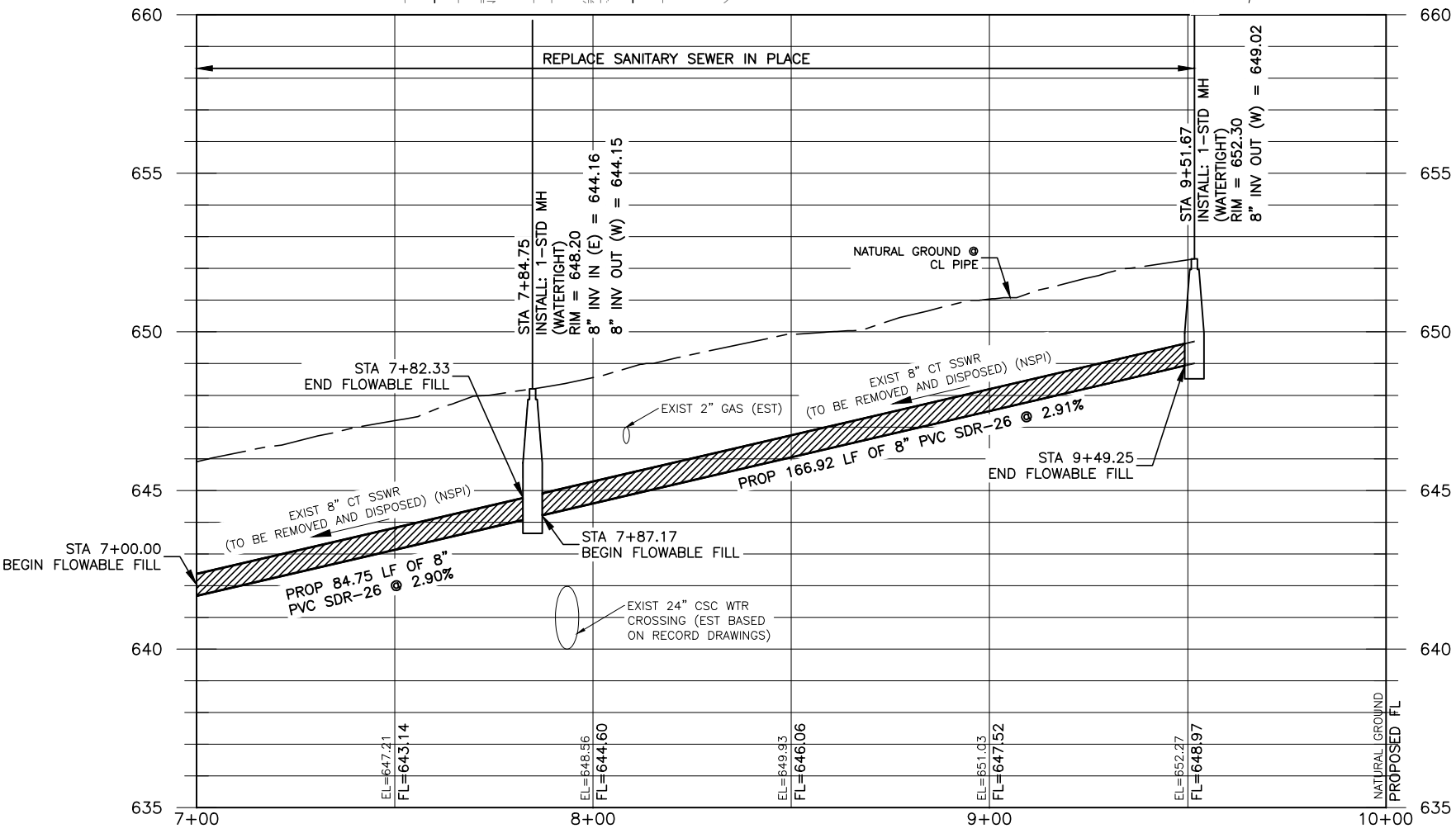
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- 3/4" 1" OR LARGER:
- RELOCATE METER:
- NEW SERVICE:
- 3/4" 1" OR LARGER:
- TEST HOLE LOCATION:

No.	Revision	Drawn	Approved	Date
REVISIONS				
2017 SMP GLAD DR FROM PIEDMONT AVE TO LYNHURST AVE SANITARY SEWER - LINE A STA 7+00 TO STA 9+52				
DEVELOPER: _____				
CONT. _____		BUDGET PROJ. _____		
SUBMITTED _____				
APPROVED _____				
MAP No. 168562 AND 170562				SHEET
SECT. No. _____				6
DR. _____	CK. _____	JOB No. 17-5520		Of 7

