

# CITY OF ROCKWALL, TEXAS

CONSTRUCTION PLANS FOR

## DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS

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JULIE COUCH

### ASSISTANT CITY MANAGER

RICHARD CROWLEY

### CITY ENGINEER

CHUCK TODD, P.E.



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BY PAC DATE 5/29/10

**BIRKHOFF, HENDRICKS & CONWAY, L.L.P.**  
PROFESSIONAL ENGINEERS  
Dallas, Texas

OCTOBER 2008



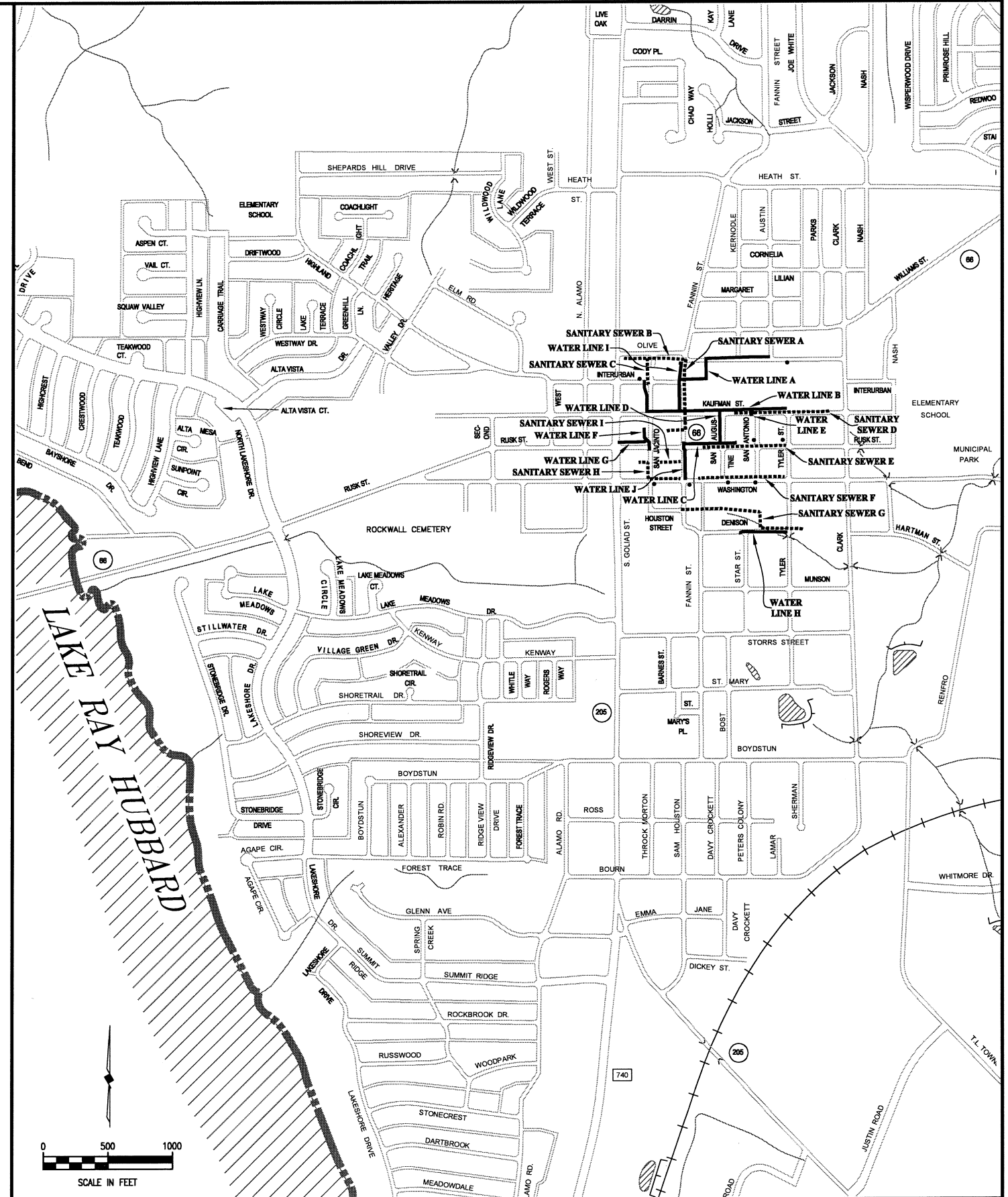
*Ronald V. Conway*  
10/13/08

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**SHEET INDEX**

SHEET NO.	SHEET DESCRIPTION
1	TITLE SHEET
2	LOCATION MAP & SHEET INDEX
3	GENERAL NOTES
4	COORDINATE CONTROL MASTER PLAN
5	SHEET LOCATION
6	PAVEMENT IMPROVEMENTS
7	SAN. SEW. A STA. 0+00 TO STA. 5+00
8	SAN. SEW. A STA. 5+00 TO STA. 6+95.66
9	SAN. SEW. B STA. 0+00 TO STA. 4+81.48
10	SAN. SEW. C STA. 0+00 TO STA. 2+03.77
11	SAN. SEW. D STA. 1+25 TO STA. 4+00
12	SAN. SEW. D STA. 4+00 TO STA. 9+00
13	SAN. SEW. D STA. 9+00 TO STA. 10+83
14	SAN. SEW. E STA. 0+00 TO STA. 4+00
15	SAN. SEW. E STA. 4+00 TO STA. 6+50
16	SAN. SEW. F STA. 0+00 TO STA. 4+00
17	SAN. SEW. F STA. 4+00 TO STA. 6+79.05
18	SAN. SEW. G STA. 0+00 TO STA. 4+00
19	SAN. SEW. G STA. 4+00 TO STA. 9+00
20	SAN. SEW. G STA. 9+00 TO STA. 10+54.79
21	SAN. SEW. H STA. 0+00 TO STA. 4+05
22	SAN. SEW. I STA. 0+00 TO STA. 1+60.92
23	WATER LINE A STA. 1+00 TO STA. 5+00
24	WATER LINE A STA. 5+00 TO STA. 9+15.65
25	WATER LINE B STA. 1+00 TO STA. 7+00
26	WATER LINE B STA. 7+00 TO STA. 11+00
27	WATER LINE B STA. 11+00 TO STA. 14+36.93
28	WATER LINE C STA. 1+00 TO STA. 5+21.19
29	WATER LINE D STA. 1+00 TO STA. 3+59.59
30	WATER LINE E STA. 1+00 TO STA. 1+69.27
31	WATER LINE F STA. 1+00 TO STA. 2+94.58
32	WATER LINE G STA. 1+00 TO STA. 3+28
33	WATER LINE H STA. 1+00 TO STA. 4+78.53
34	WATER LINE I STA. 0+00 TO STA. 3+94.95
35	WATER LINE J STA. 0+00 TO STA. 2+21.89
36 - 37	WATER LINE CONNECTION PLAN
38	FIRE HYDRANT INSTALLATION PLAN

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 10/13/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SHEET INDEX & LOCATION MAP**

BHC  
 PROJECT NO.  
 2007-148  
 SHEET NO.  
**2**  
 OCTOBER 2008

**GENERAL NOTES:**

- ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" BY THE NORTH TEXAS CENTRAL COUNCIL OF GOVERNMENTS, 3rd EDITION AS AMENDED BY THE CITY OF ROCKWALL. THE CONTRACTOR SHALL REFERENCE THE LATEST CITY OF ROCKWALL STANDARD DETAILS PROVIDED IN THE ROCKWALL PUBLIC WORKS DEPARTMENTS "STANDARDS OF DESIGN AND CONSTRUCTION" MANUAL FOR DETAILS NOT PROVIDED IN THESE PLANS. THE CONTRACTOR SHALL POSSESS ONE SET OF THE NCTCOG STANDARD SPECIFICATIONS AND DETAILS AND THE CITY OF ROCKWALL'S "STANDARDS OF DESIGN AND CONSTRUCTION" MANUAL ON THE PROJECT SITE AT ALL TIMES.
- REASONABLE EFFORT HAS BEEN MADE TO SHOW THE LOCATION OF ALL KNOWN UNDERGROUND UTILITIES AND SERVICE LINES. HOWEVER, THE OWNER ASSUMES NO RESPONSIBILITY FOR FAILURE TO SHOW ANY OR ALL EXISTING SUBSURFACE UTILITIES OR UTILITY LINES, OR TO SHOW THEM IN THEIR EXACT LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES, SERVICE LINES OR THE LIKE, WHICH ARE CROSSED OR EXPOSED BY THE CONSTRUCTION OPERATION.
- CONTRACTOR SHALL SUPPORT UTILITIES WHERE CROSSING WITH PROPOSED STORM SEWERS, WATER LINES AND SANITARY SEWERS. METHOD OF SUPPORT SHALL BE PROVIDED TO THE OWNER 24 HOURS PRIOR TO CROSSING.
- THE LOCATION OF ALL ATMOS GAS LINES, SBC AND TXU ELECTRIC UNDERGROUND PHONE LINES IN THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL CONTACT ATMOS, TXU AND SBC TO VERIFY LOCATION AND DEPTH OF ALL EXISTING GAS, ELECTRIC AND PHONE LINES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL HAVE AND PAY FOR TXU AND/OR SOUTHWESTERN BELL TELEPHONE SUPPORT AND PROTECT ALL POWER, GUY WIRES OR CABLE AND/OR LIGHT POLES IN THE WORK AREA.
- ANY FENCE REMOVED FOR CONVENIENCE OF CONSTRUCTION SHALL BE REPLACED OR RECONSTRUCTED. NEW MATERIALS SHALL MATCH EXISTING FENCES. ALL WOOD FENCES SHALL BE REPLACED WITH NEW CEDAR WITH THE POSTS MATCHING THE EXISTING POSTS.
- TEMPORARY FENCING SHALL BE REQUIRED WHERE THERE IS EVIDENCE OF LIVESTOCK AND WHERE DAMAGED OR REMOVED FENCES ARE NOT TO BE REPLACED BY THE END OF THE SAME WORK DAY.
- THE CONTRACTOR SHALL REPLACE ALL SHRUBS, PLANTS, TREES ETC. THAT ARE REMOVED FOR CONVENIENCE OF CONSTRUCTION AT HIS EXPENSE. NEW SHRUBS, PLANTS, TREES, ETC. SHALL BE EQUAL TO OR BETTER THAN THE EXISTING ONES OR MEET THE NEEDS AND APPROVAL OF THE PROPERTY OWNER AND THE CITY.
- THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND SPRINKLER SYSTEMS. AN IRRIGATOR LICENSED IN THE STATE OF TEXAS SHALL REPAIR ALL DAMAGE CAUSED BY CONSTRUCTION WITHIN 48 HOURS. ALL COSTS SHALL BE BORNE BY THE CONTRACTOR.
- THE CONTRACTOR SHALL NOT DISPOSE OF WASTE AND ANY MATERIALS INTO STREAMS OR WATERWAYS. THE CONTRACTOR SHALL SECURE ALL EXCAVATION AT THE END OF EACH DAY AND DISPOSE OF ALL EXCESS MATERIALS. DISPOSAL SITE SHALL BE DOCUMENTED AND PROVIDED TO THE CITY.
- THE CONTRACTOR SHALL OBTAIN TPDES STORM WATER PERMIT, POST ALL PERMITS ON THE CONSTRUCTION SITE, SUBMIT A NOTICE OF INTENT (NOI) AND SUBMIT A NOTICE OF TERMINATION (NOT). THE CONTRACTOR AND HIS SUB-CONTRACTORS SHALL BE THE SOLE OPERATOR AND PERMITEES OF THE CONSTRUCTION SITE.
- CONTRACTOR SHALL GRADE GROUND AND DITCHES DISTURBED BY CONSTRUCTION TO PREVENT PONDING OF STORM WATER RUNOFF. GRADING SHALL BE SUBSIDIARY TO THE APPROPRIATE BID ITEM FOR UNCLASSIFIED STREET AND UNCLASSIFIED CHANNEL EXCAVATION. TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6-INCHES AND DISC HARROWED TO A MINIMUM DEPTH OF 4-INCHES (NO PAY ITEM). CONTRACTOR SHALL REPLACE GRASS AREAS DISTURBED BY CONSTRUCTION ACTIVITIES WITH SOLID SOD AS PROVIDED IN THE CONSTRUCTION PLANS. SODDED AREAS SHALL BE WATERED AND MAINTAINED FOR A PERIOD OF NO LESS THAN 72 HOURS. EACH DAY THE CONTRACTOR SHALL WATER THE AREAS UNTIL THE PROPERTY OWNER ASSUMES RESPONSIBILITY OF SODDED AREAS. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER IN WRITING WITH A COPY SENT TO THE CITY OF ROCKWALL THAT THEY ARE TO ASSUME RESPONSIBILITY OF MAINTENANCE OF THE HYDROMULCHED OR SODDED AREAS AT A SPECIFIED TIME AND DATE.
- CONTRACTOR SHALL REPLACE ANY TREES REMOVED OR DESTROYED THAT ARE NOT SHOWN IN THESE PLANS TO BE REMOVED OR SHALL PAY FAIR MARKET VALUE TO OWNER AS DETERMINED BY THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SERVICE LINES CROSSED OR EXPOSED BY CONSTRUCTION OPERATIONS. WHERE EXISTING SERVICE LINES ARE CUT, BROKEN OR DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPLACE THE SERVICE LINE WITH SAME TYPE OF ORIGINAL CONSTRUCTION OR BETTER.
- THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE ALL NECESSARY TRAFFIC CONTROL DEVICES IN CONFORMANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (PART IV).
- THE CONTRACTOR SHALL PROVIDE ACCESS AT ALL TIMES DURING EACH PHASE OF CONSTRUCTION TO ALL LOCAL RESIDENTS, BUSINESSES, MAIL SERVICE AND TRASH PICK UP.
- THE CONTRACTOR SHALL PROVIDE 4 INCHES OF TOP SOIL IN ALL PARKWAYS THAT ARE TO BE SODDED. TOP SOIL SHALL BE APPROVED BY THE CITY IN WRITING. TOPSOIL SHALL BE SUBSIDIARY TO PLACEMENT OF GRASS.
- TURF MAT SHALL BE NORTH AMERICAN GREEN TYPE SC250 VMAX SERIES OR APPROVED EQUAL.
- TREE REMOVAL SHALL BE SUBSIDIARY TO THE APPROPRIATE BID SCHEDULE ITEM FOR R.O.W. PREPARATION.
- EXISTING FRANCHISE UTILITIES SHOWN IN THESE PLANS REFLECT APPROXIMATE LOCATIONS PRIOR TO RELOCATIONS. SOME RELOCATIONS HAVE OCCURRED WITH UTILITY POLE, GAS, PHONE AND CABLE UTILITIES. THE CONTRACTOR SHALL CONTACT DIG-TESS TO LOCATE EXISTING AND NEW UTILITIES NOT SHOWN IN THESE PLANS.

**PAVING NOTES:**

- ALL PROPOSED HMAC STREET PAVEMENT SHALL CONSIST OF 4 INCHES OF TYPE B (BASE) WITH 2 INCHES OF TYPE D (SURFACE), OR 1-1/2 INCHES OF TYPE D (SURFACE) FOR OVERLAYS, IN ACCORDANCE WITH NCTCOG ITEMS 5.7 AND 2.4.13.
- STREET, ALLEY AND DRIVEWAY CONCRETE PAVEMENT SHALL MEET THE REQUIREMENTS OF NCTCOG ITEM 7.4.5 WITH THE FOLLOWING REQUIREMENTS
  - MINIMUM COMPRESSIVE STRENGTH @ 28 DAYS 3,600-PSI
  - MINIMUM CEMENT PER CUBIC YARD (MACHINE) 6.0 SACKS
  - MINIMUM CEMENT PER CUBIC YARD (HAND POURED) 6.5 SACKS
  - MINIMUM W/C RATIO 6.0
  - MAXIMUM SLUMP SLIP FORM 3.0 INCHES
  - MAXIMUM SLUMP POURED BY HAND 4.0 INCHES
- REINFORCED CONCRETE SIDEWALKS SHALL BE IN CONFORMANCE WITH NCTCOG ITEM 7.4.5, CLASS "C" CONCRETE (3,600-PSI @ 28 DAYS).
- ALL PROPOSED CONCRETE STREET REINFORCEMENT SHALL BE #3 BARS ON 18-INCH CENTERS EACH WAY.
- CONCRETE FOR ALL CURB AND GUTTERS, VALLEY GUTTERS, DRIVEWAYS, SIDEWALKS AND BRICK PAVER BORDERS AND BASES SHALL BE IN CONFORMANCE WITH NCTCOG ITEM 7.4.5, CLASS "C" CONCRETE (3600 P.S.I. THE CONTRACTOR SHALL UTILIZE ONE CONCRETE MIX DESIGN THROUGHOUT THE PROJECT. CONCRETE MIX DESIGN SHALL BE SUBMITTED FOR REVIEW.
- REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ASTM 615, 616 AND 617.
- ALL REINFORCING STEEL SHALL BE TIED (100%). REINFORCING STEEL SHALL BE SET ON PLASTIC CHAIRS. BAR LAPS SHALL BE MINIMUM 30 DIAMETERS.
- SAWED TRANSVERSE DUMMY JOINTS SHALL BE SPACED EVERY 15 FEET OR 1.25 TIME LONGITUDINAL BUTT JOINT SPACING WHICHEVER IS LESS. SAWING SHALL OCCUR WITHIN 5 TO 12 HOURS AFTER THE POUR INCLUDING SEALING. OTHERWISE THE SECTION SHALL BE REMOVED AND LONGITUDINAL BUTT JOINT CONSTRUCTED.
- 8 INCH FLEXIBLE BASE SUBGRADE SHALL BE COMPACTED TO A 95% MODIFIED PROCTOR DENSITY (ASTM D1557). 6 INCH COMPACTED SUBGRADE SHALL BE COMPACTED TO A 95% STANDARD PROCTOR DENSITY (ASTM D698). DENSITY TEST RESULTS SHALL BE COMPLETED BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY. ALL RESULTS SHALL BE PROVIDED TO THE CITY. THERE SHALL BE NO SEPARATE PAYMENT FOR DETERMINATION OF MAXIMUM DENSITY, ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF THE BID SCHEDULE.
- ALL FILL SHALL BE COMPACTED BY SHEEPS FOOT ROLLER. MAXIMUM LOOSE LIFT FOR COMPACTION SHALL BE 8 INCHES. ALL LIFTS SHALL BE TESTED FOR DENSITY BY AN INDEPENDENT LABORATORY APPROVED BY THE CITY.
- ALL AREAS OUTSIDE PAVEMENT DISTURBED BY CONSTRUCTION ACTIVITIES SHALL HAVE GRASS ESTABLISHED IMMEDIATELY. GRASS SHALL MEET THE REQUIREMENTS OF ITEM 3.8, 3.9, 3.10, AND 3.11 OF NCTCOG. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE BID SCHEDULE ITEM. AREAS DISTURBED OUTSIDE THE R.O.W. OR LIMITS OF CONSTRUCTION SHALL HAVE GRASS ESTABLISHED IMMEDIATELY AT THE CONTRACTORS EXPENSE.
- ALL AREAS TO BE EXCAVATED OR FILLED SHALL HAVE EROSION CONTROL PLACED PRIOR TO COMMENCING EARTHWORK AS PROVIDED IN THE APPROPRIATE SECTION OF THE BID SCHEDULE. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN ACCORDANCE WITH NCTCOG ITEM 3.12.
- ALL PROPOSED SIDEWALKS SHALL INCLUDE BARRIER FREE RAMPS AT INTERSECTIONS STREETS, ALLEYS, DRIVEWAYS, ETC. BARRIER FREE RAMPS SHALL MEET CURRENT ADA REQUIREMENTS AND BE APPROVED BY THE TEXAS LICENSING BOARD.
- SIDEWALKS SHALL BE DOWELED INTO PAVEMENT WHERE IT ABUTS CURBS AND DRIVEWAYS. EXPANSION JOINT MATERIAL SHALL BE USED AT THESE LOCATIONS (NO PAY ITEM).
- CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING CONCRETE AND HMAC PAVEMENT AS REQUIRED FOR CONSTRUCTION OF THE PROJECT. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEMS IN THE BID SCHEDULE.
- ALL CONNECTIONS OF PROPOSED CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT SHALL INCLUDE A LONGITUDINAL BUTT JOINT AS THE LOAD TRANSFER DEVICE-SEE DETAIL THIS SET OF PLANS. CONCRETE SAW CUTS FOR ALL DRIVEWAYS AND SIDEWALKS SHALL BE SUBSIDIARY TO THE APPROPRIATE BID ITEM FOR DRIVEWAY AND SIDEWALK REPLACEMENT.
- ALL PROPOSED GRAVEL PAVEMENT SHALL CONSIST OF 6 INCHES OF NCTCOG ITEM 2.1.3 GRAVEL AND SHALL BE IN ACCORDANCE WITH NCTCOG ITEM 4.4. FINISHED GRADE UNDER GRAVEL PAVEMENT AREAS SHALL BE COMPACTED TO 95% STANDARD PROCTOR BY USE OF MECHANICAL OR HAND TAMPING DEVICES.
- THERE SHALL BE NO SEPARATE PAYMENT FOR SUBGRADE PREPARATION UNDER DRIVEWAY AREAS AND ALL COST SHALL BE INCLUDED IN THE APPROPRIATE ITEMS OF THE BID SCHEDULE.
- PAYMENT FOR REMOVAL AND REPLACEMENT OF STREET, DRIVEWAY AND SIDEWALK PAVEMENTS SHALL BE BASED ON PLAN QUANTITY AND NO ADJUSTMENTS WILL BE MADE UNLESS APPROVED IN WRITING BY THE CITY ENGINEER.
- ALL PAVEMENTS TO BE REMOVED AND REPLACED SHALL BE SAW CUT ALONG NEAT LINES AS SHOWN IN THE PLANS. PROPOSED CONCRETE PAVEMENT SHALL BE CONSTRUCTED WITH LONGITUDINAL CONSTRUCTION JOINTS AT ALL CONNECTIONS TO EXISTING CONCRETE PAVEMENT.
- ASPHALT STREETS TO BE MILLED AND OVERLAYED SHALL HAVE EXISTING PAVEMENT MILLED 1-1/2 INCHES AND OVERLAYED WITH TYPE D (SURFACE) ASPHALT. ASPHALT SURFACE ON ASPHALT ROAD REPAIRS SHALL BE INSTALLED WITH STREET OVERLAY FOR STREETS TO BE MILLED AND OVERLAYED.

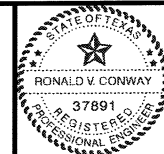
**WATER LINE AND SANITARY SEWER NOTES:**

- PROPOSED WATER LINES SHALL BE AWWA C-900 PVC, CLASS 200 UNLESS OTHERWISE SHOWN ON WATER, SANITARY SEWER OR STORM SEWER PROFILES. PROPOSED WATER LINES SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 4 FEET. PROPOSED WATER LINE EMBEDMENT SHALL BE NCTCOG CLASS "B-3" AS AMENDED BY THE CITY OF ROCKWALL'S PUBLIC WORKS STANDARDS OF DESIGN AND CONSTRUCTION MANUAL.
- WATER LINES SHALL BE CENTERED OVER ALL PROPOSED SANITARY SEWER CROSSINGS. WATER LINE JOINTS SHALL BE 9 FEET FROM SANITARY SEWER CROSSINGS. UNLESS OTHERWISE SHOWN, WATER LINES SHALL BE AT LEAST 2 FEET ABOVE SANITARY SEWER CROSSINGS.
- CONTRACTOR SHALL COORDINATE THE SHUTTING DOWN OF THE EXISTING WATER LINES WITH THE CITY OF ROCKWALL. THE CITY SHALL OPERATE ALL WATER VALVES.
- ALL OUTLETS ON PROPOSED WATER LINES SHALL BE FLANGED OUTLETS. ALL VALVES CONNECTED TO THE OUTLETS SHALL BE FLANGED OR FLANGED BY MECHANICAL JOINT. VALVES CONNECTED TO OUTLETS SHALL BE FLANGED.
- CONTRACTOR SHALL FURNISH AND INSTALL GASKET ON WATER LINES BETWEEN ALL DISSIMILAR METALS AND AT VALVES (BOTH EXISTING AND PROPOSED).
- ALL FIRE HYDRANTS AND VALVES REMOVED AND SALVAGED SHALL BE RETURNED TO THE OWNER OR TO A LOCATION ACCEPTABLE TO THE OWNER.
- WATER LINE MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF ROCKWALL'S STANDARDS OF CONSTRUCTION DESIGN MANUAL, SECTION 5. SANITARY SEWER MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF ROCKWALL'S STANDARDS OF CONSTRUCTION DESIGN MANUAL, SECTION 6.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL LOCATE ALL SANITARY SEWER SERVICES ALONG STREETS WITH PROPOSED SANITARY SEWERS. ALL EXISTING SANITARY SEWER SERVICES SHALL BE TRANSFERRED FROM EXISTING SANITARY SEWERS. TRANSFERRING SANITARY SEWER SERVICES SHALL INCLUDE CLEAN OUTS, TEES, WYES, PLUGS AND CONNECTION. PAYMENT FOR TRANSFERRING SANITARY SEWER SERVICES SHALL BE PAID PER EACH, UNDER THE APPROPRIATE BID SCHEDULE ITEM.
- PROPOSED SANITARY SEWER EMBEDMENT SHALL BE NCTCOG CLASS "B-2" AS AMENDED BY THE CITY OF ROCKWALL'S PUBLIC WORKS STANDARDS OF DESIGN AND CONSTRUCTION MANUAL.
- BLUE EMS PADS SHALL BE INSTALLED AT EVERY CHANGE IN DIRECTION, VALVE AND SERVICE ON THE PROPOSED WATER LINE.
- GREEN EMS PADS SHALL BE INSTALLED AT EVERY MANHOLE, CLEAN OUT AND SERVICE ON THE PROPOSED SANITARY SEWER.
- CONTRACTOR TO INSTALL NEW METER BOXES AND ALL FITTINGS EXCEPT THE METERS PER EACH SERVICE COMPLETE INCLUDING CONNECTION TO THE MAIN LINE.
- EXISTING METER AND METER BOXES NOT SPECIFYING CALLED TO BE RELOCATED SHALL BE ADJUSTED TO MATCH PROPOSED GRADES (NO PAY ITEM).
- WATER SERVICES TO BE REPLACED SHALL BE 1-INCH POLYTUBE LINE.
- SANITARY SEWER SERVICES TO BE REPLACED SHALL BE 4-INCH P.V.C. PIPE.
- EXISTING WATER AND SANITARY SEWER LINES TO BE REPLACED SHALL BE CUT AND PLUGGED OR CAPPED WITH A FITTING OR PLUGGED WITH CONCRETE.

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**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
GENERAL NOTES

BHC  
PROJECT NO.  
2007-148

SHEET NO.

OCTOBER 2008

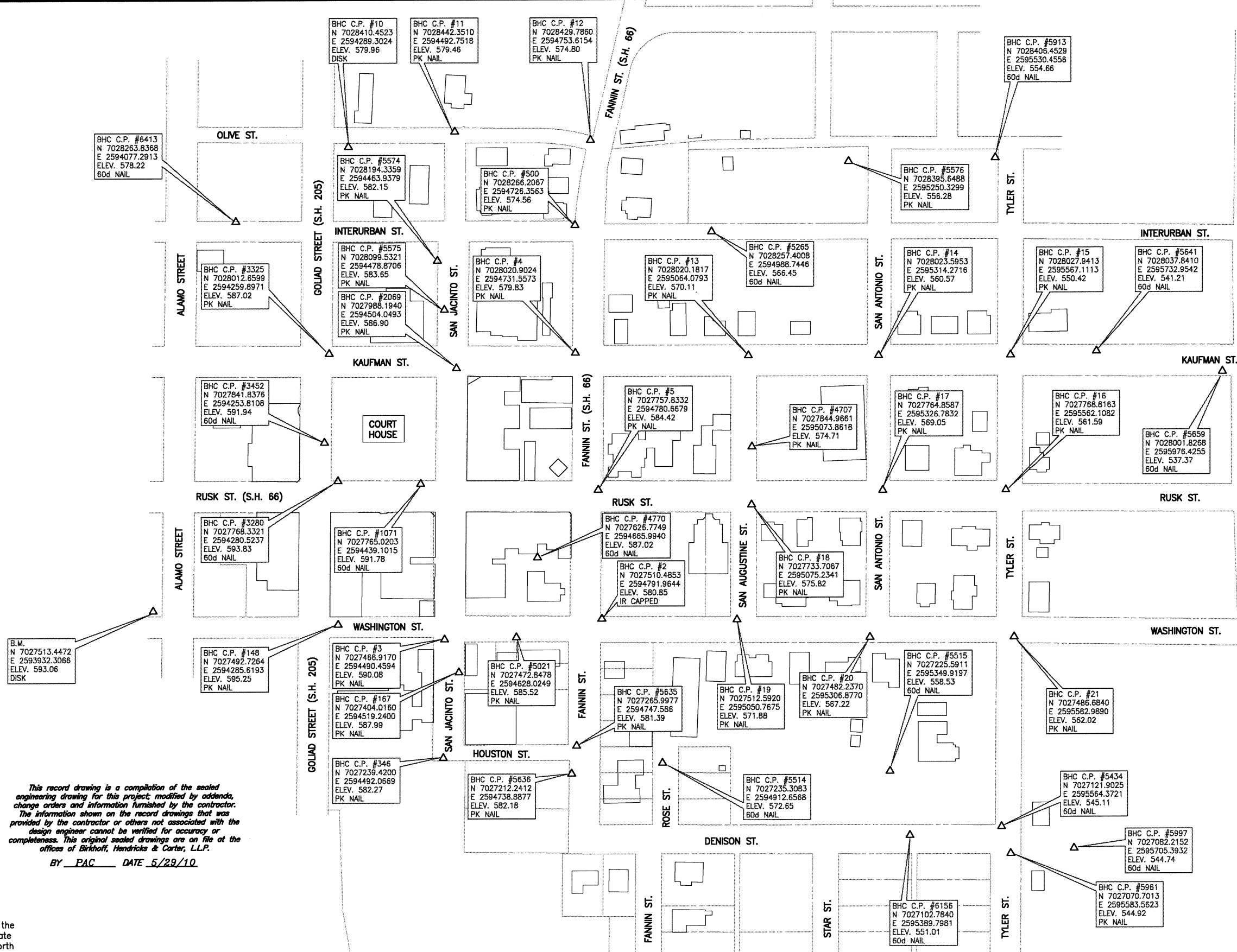
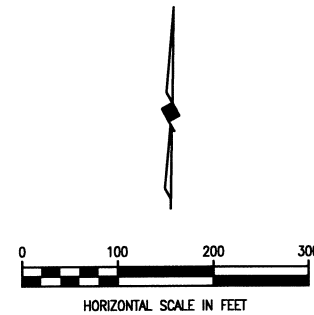
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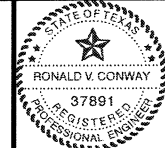
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Coordinates are based on the Texas State Plane Coordinate System, NAD-83, Texas North Central Zone 4202.



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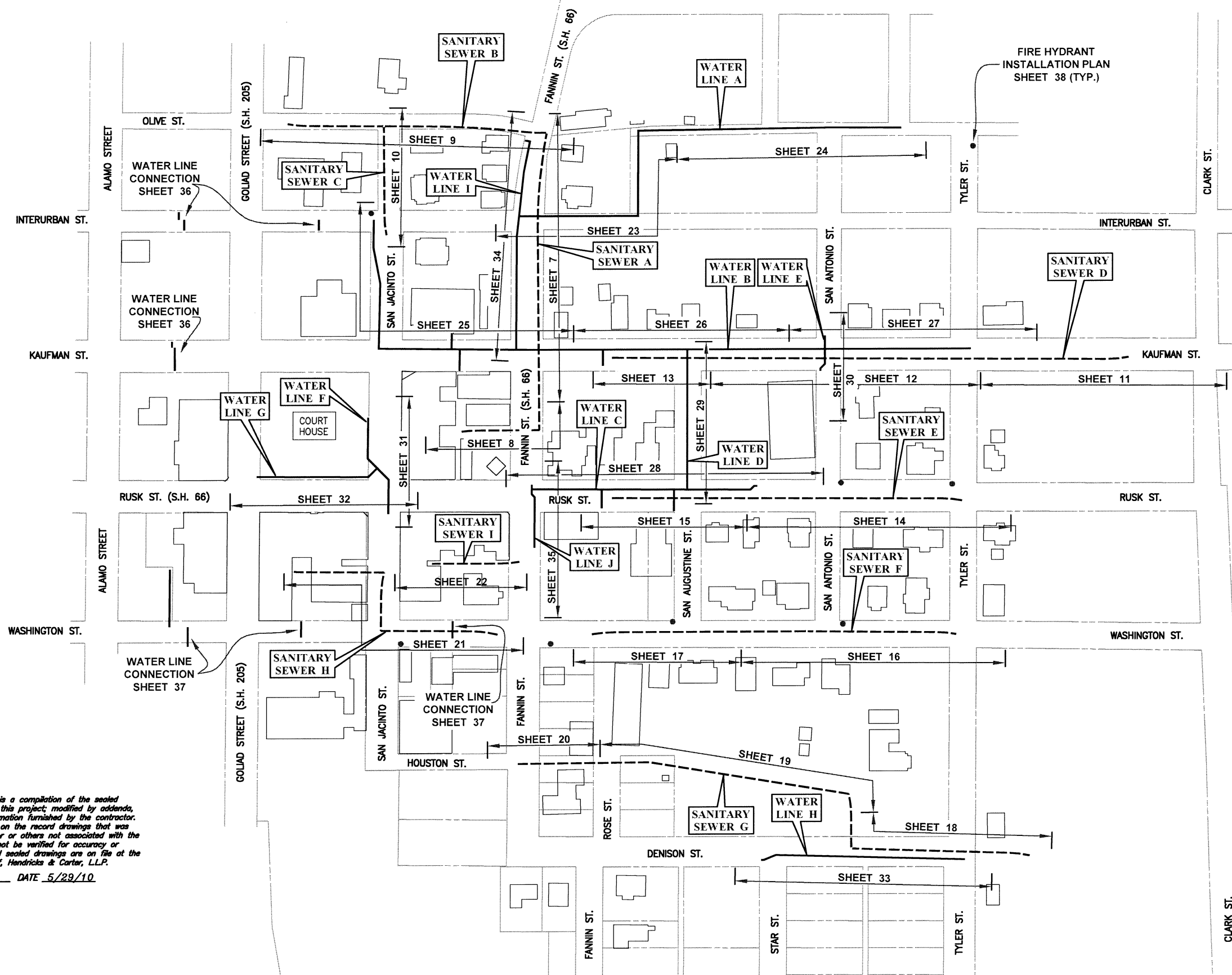
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**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**COORDINATE CONTROL MASTER PLAN**

BHC PROJECT NO. 2007-148	SHEET NO. <b>4</b>
OCTOBER 2008	

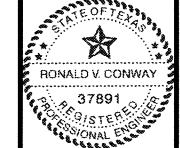
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**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
SHEET LOCATION

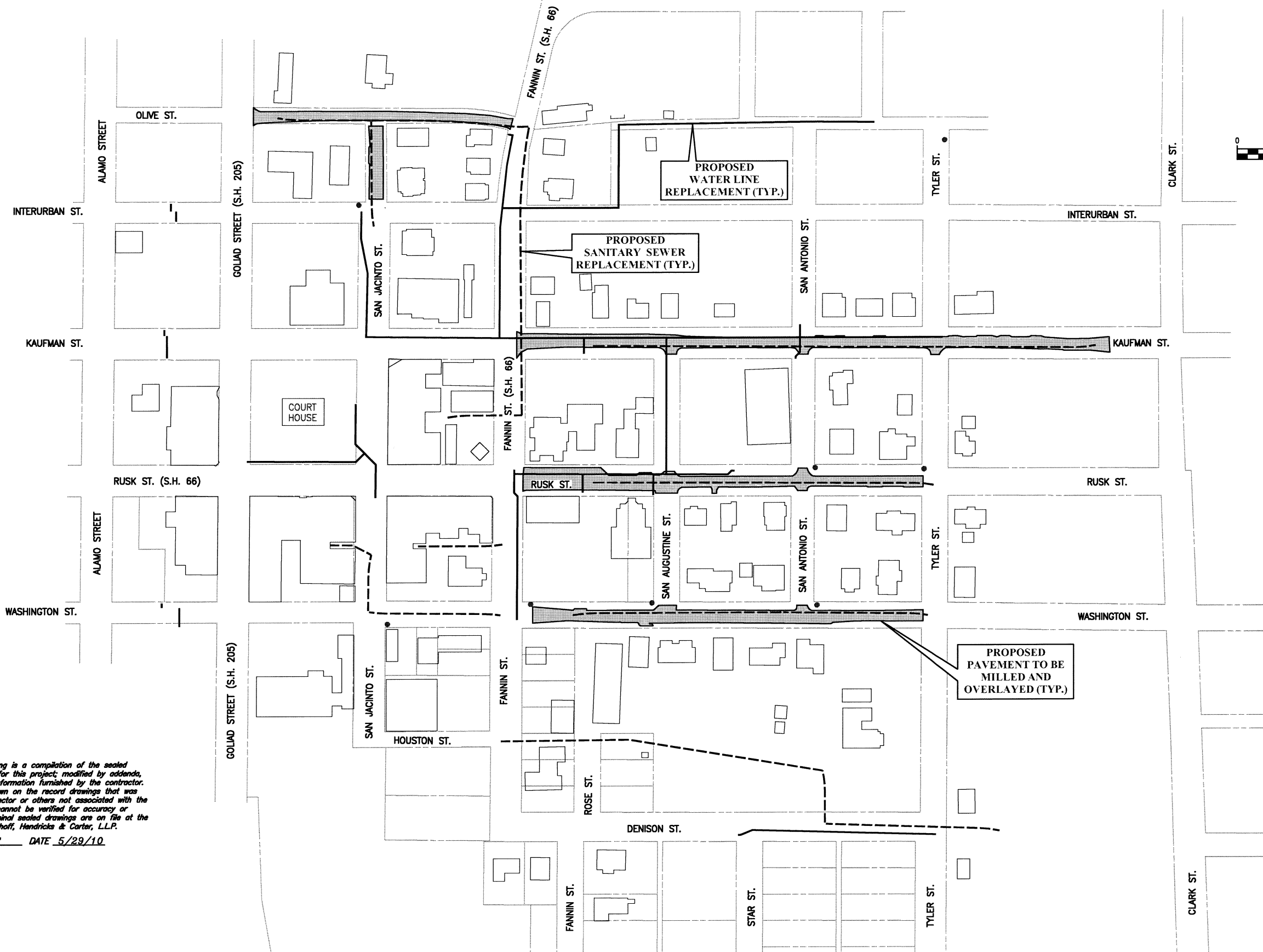
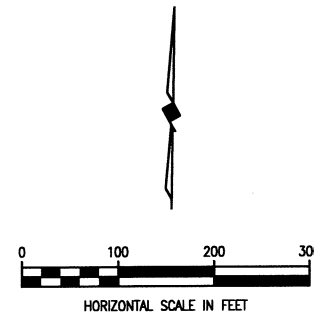
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SHEET NO.  
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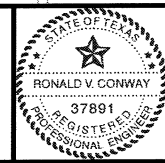
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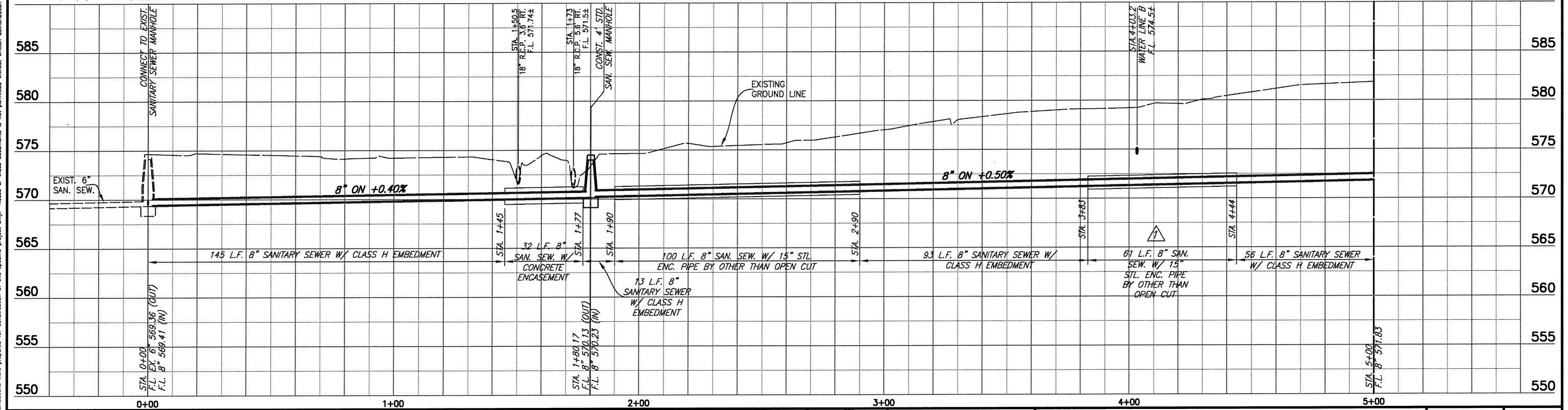
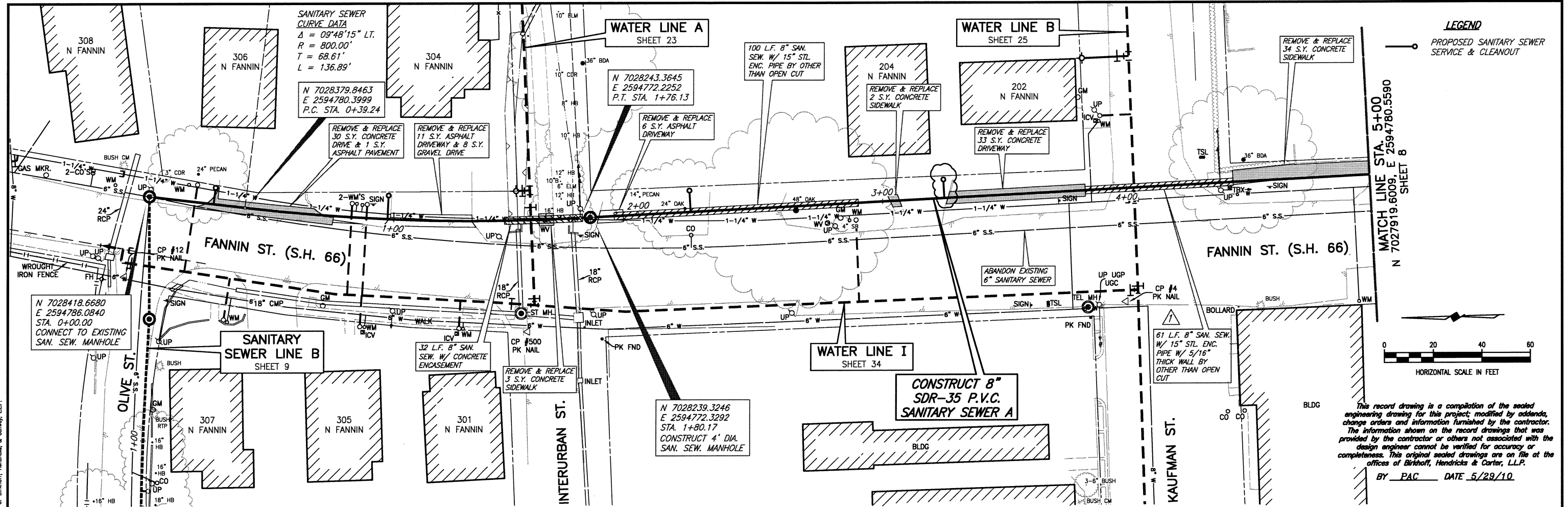
*Ronald V. Conway*  
10/13/08

**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
PAVEMENT IMPROVEMENTS

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

SHEET NO.  
**6**

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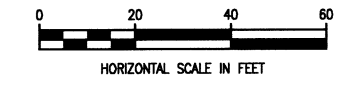
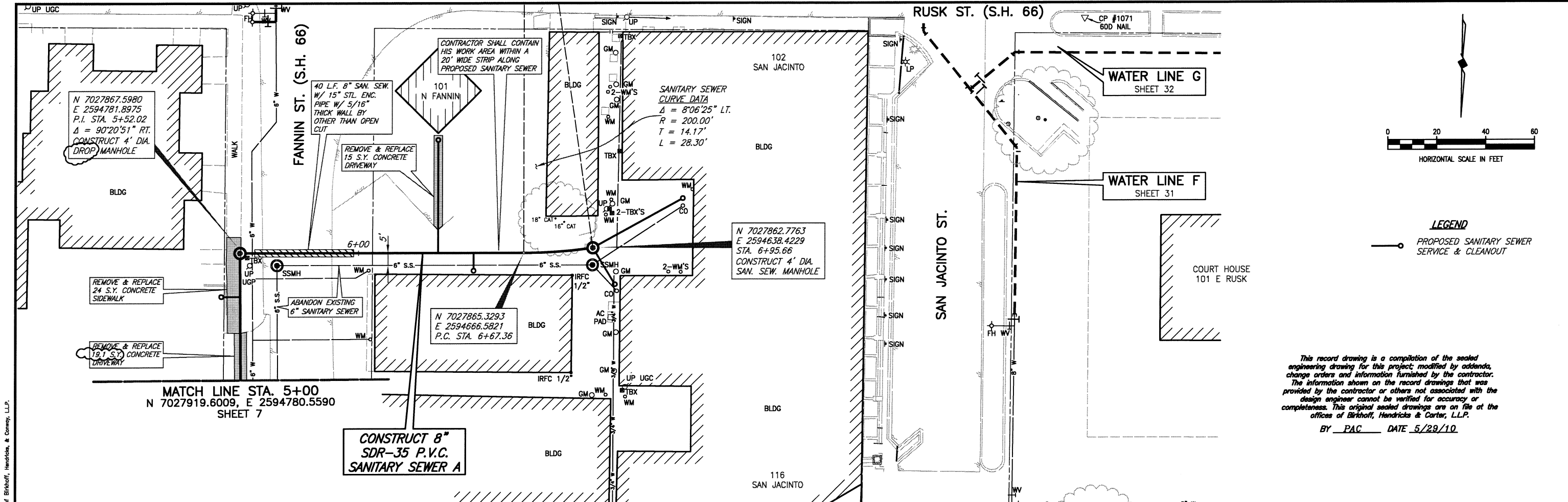
REVISION, 10-20-2008
REVISED: DEC. 4, 2008

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**PROFESSIONAL ENGINEERS**  
 11910 Greenville Ave., Suite 600  
 Dallas, Texas  
 (214) 361-7900

**STATE OF TEXAS**  
**RONALD V. CONWAY**  
 37891  
 REGISTERED PROFESSIONAL ENGINEER

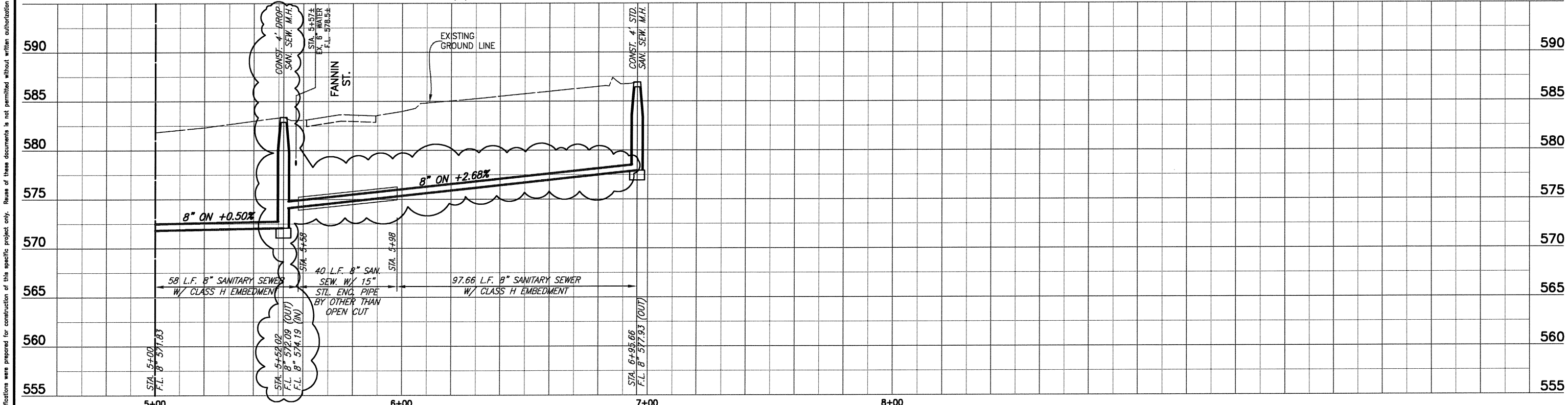
*Ronald V. Conway*  
 12/4/08

<b>CITY OF ROCKWALL, TEXAS</b>	BHC PROJECT NO. 2007-148	SHEET NO. 7
<b>DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS</b>	OCTOBER 2008	
<b>SANITARY SEWER A - PLAN &amp; PROFILE</b>		
<b>STA. 0+00 TO STA. 5+00</b>		



**LEGEND**  
 —○— PROPOSED SANITARY SEWER SERVICE & CLEANOUT

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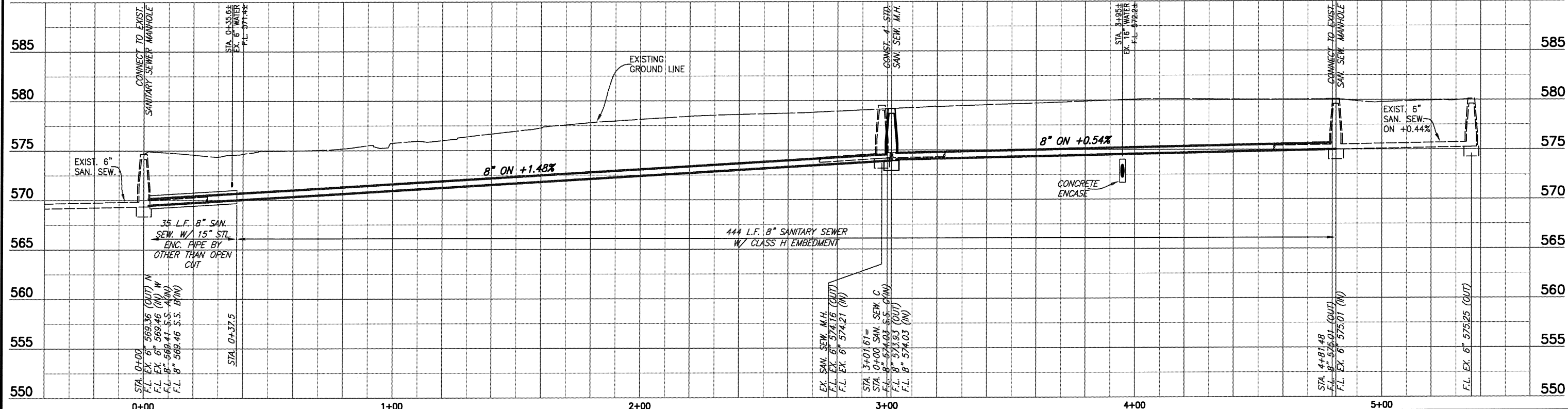
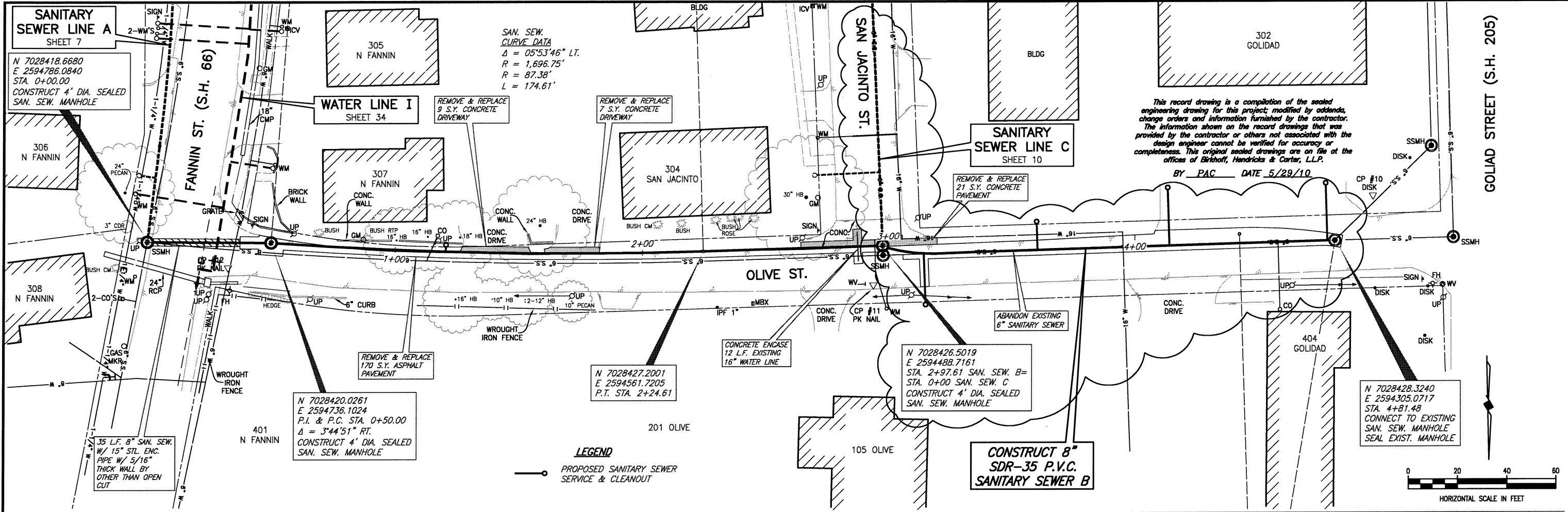
*Ronald V. Conway*  
 12/4/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER A - PLAN & PROFILE**  
 STA. 5+00 TO STA. 6+95.66

BHC PROJECT NO. 2007-148  
 OCTOBER 2008  
 SHEET NO. **8**



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**STATE OF TEXAS**  
RONALD V. CONWAY  
37891  
PROFESSIONAL ENGINEER

*Ronald V. Conway*  
12/4/08

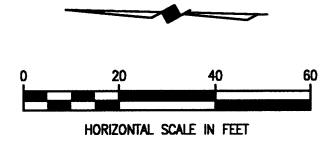
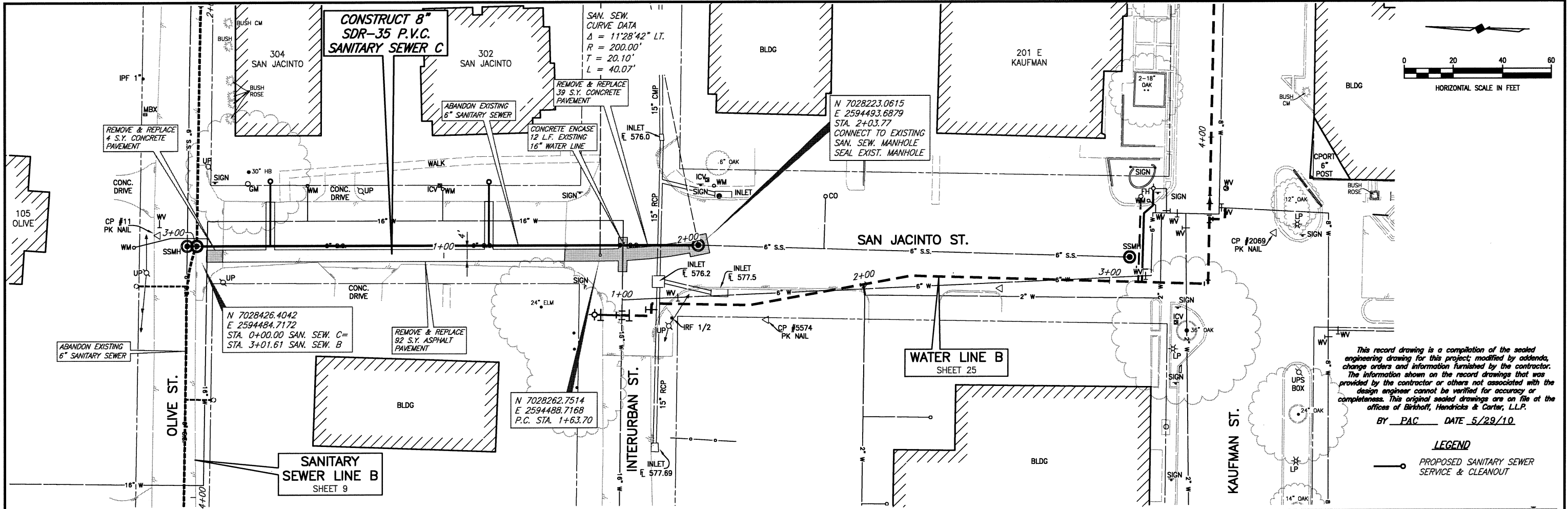
**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS

**SANITARY SEWER B - PLAN & PROFILE**  
STA. 0+00 TO STA. 4+81.48

BHC PROJECT NO. 2007-148  
OCTOBER 2008

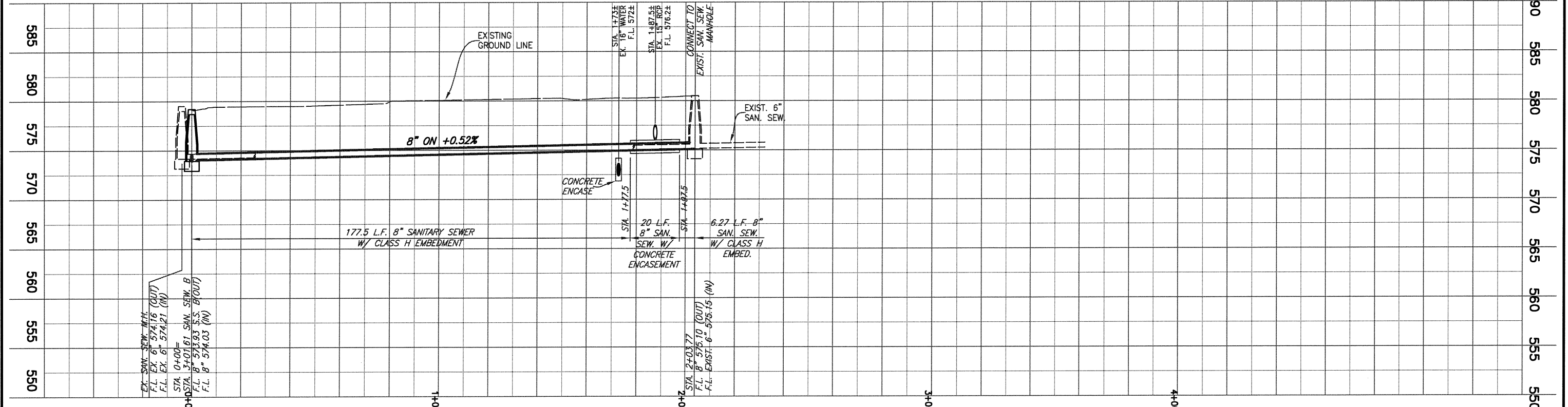
SHEET NO. **9**

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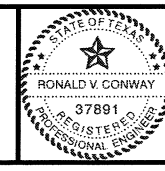
This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Conway, L.L.P.  
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**LEGEND**  
 PROPOSED SANITARY SEWER SERVICE & CLEANOUT



REVISED: NOV. 24, 2008

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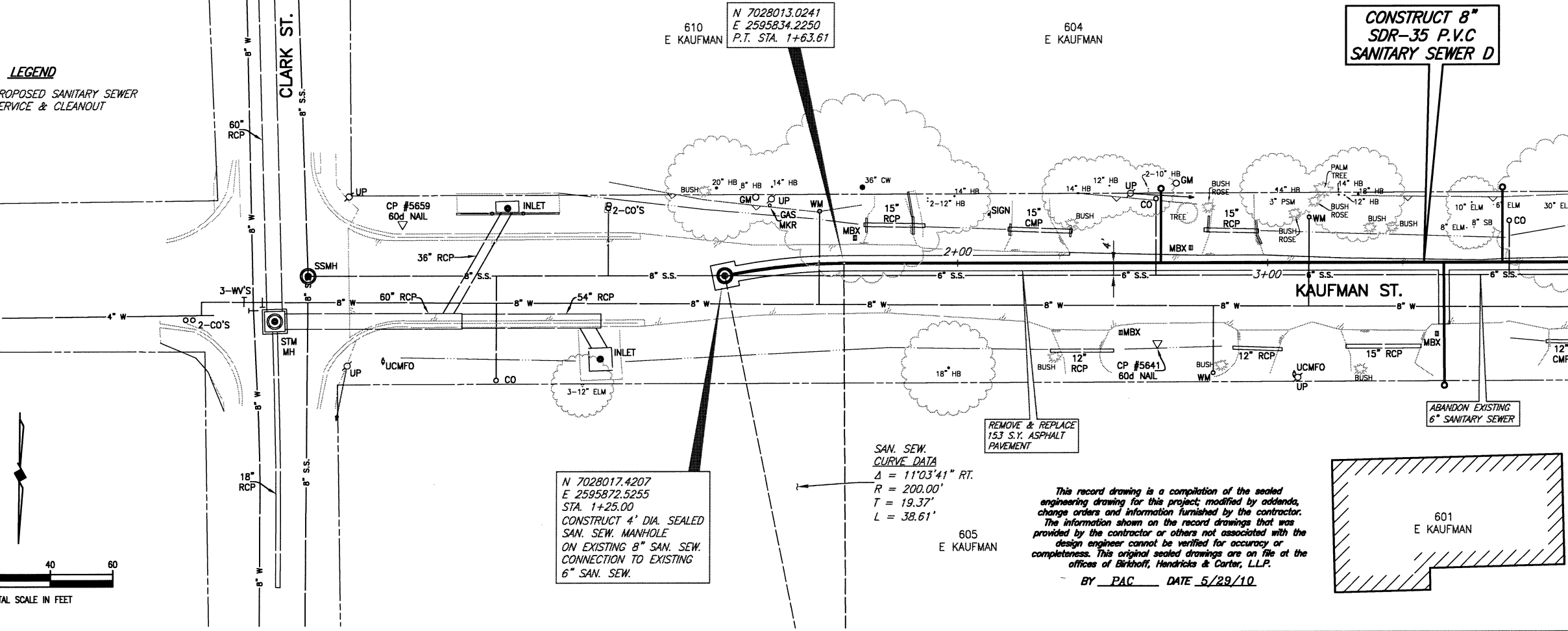
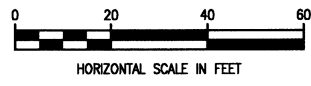
*Ronald V. Conway*  
 12/4/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER C - PLAN & PROFILE**  
 STA. 0+00 TO STA. 2+03.77

BHC PROJECT NO. 2007-148  
 OCTOBER 2008  
 SHEET NO. **10**

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**LEGEND**  
PROPOSED SANITARY SEWER SERVICE & CLEANOUT



MATCH LINE STA. 4+00  
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SHEET 12

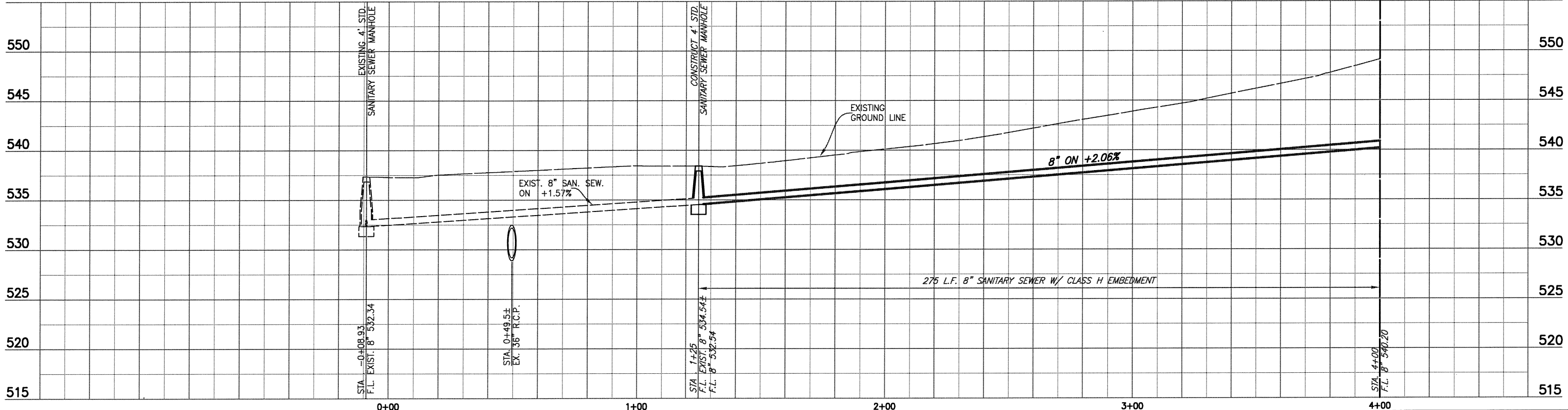
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STA. 1+25.00  
CONSTRUCT 4' DIA. SEALED  
SAN. SEW. MANHOLE  
ON EXISTING 8" SAN. SEW.  
CONNECTION TO EXISTING  
6" SAN. SEW.

SAN. SEW.  
CURVE DATA  
 $\Delta = 11^{\circ}03'41''$  RT.  
 $R = 200.00'$   
 $T = 19.37'$   
 $L = 38.61'$

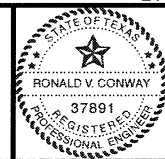
REMOVE & REPLACE  
153 S.Y. ASPHALT  
PAVEMENT

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10/13/08

**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER D - PLAN & PROFILE**  
STA. 1+25 TO STA. 4+00

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

SHEET NO.  
**11**

MATCH LINE STA. 4+00  
N 7028010.5433, E 259597.8499  
SHEET 11

BLDG

TYLER ST.

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E 2595565.3990  
STA. 4+32.45  
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SAN. SEW. MANHOLE

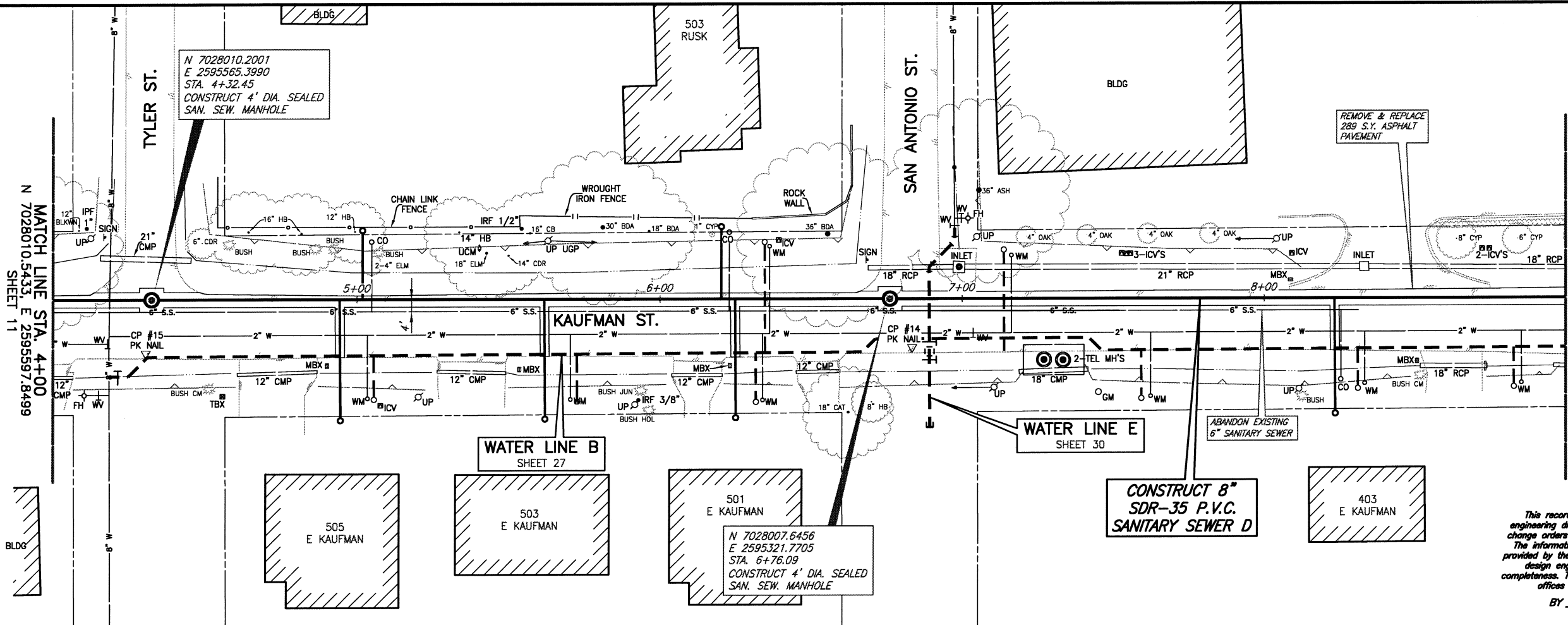
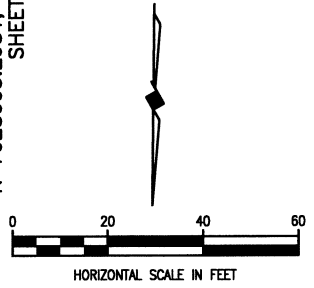
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SAN ANTONIO ST.

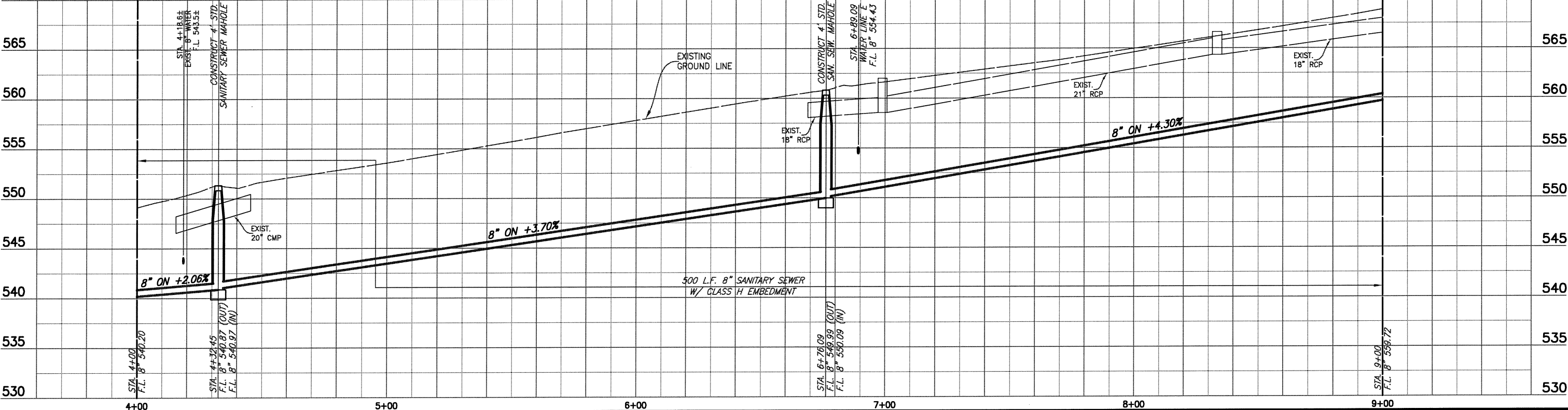
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N 7028005.2981, E 2595097.8774  
SHEET 13

LEGEND

PROPOSED SANITARY SEWER  
SERVICE & CLEANOUT



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Dallas, Texas  
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STATE OF TEXAS  
RONALD V. CONWAY  
37891  
REGISTERED PROFESSIONAL ENGINEER

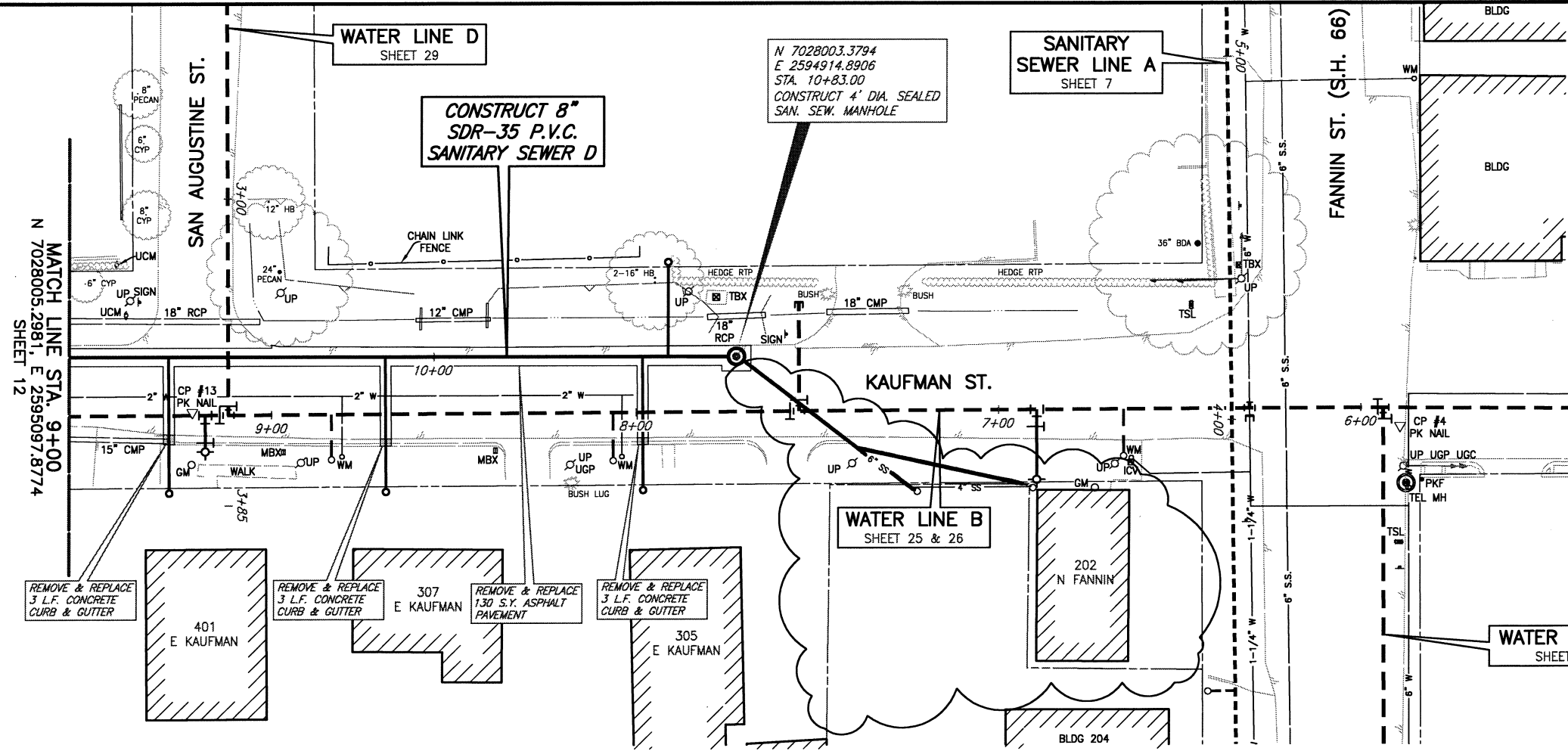
*Ronald V. Conway*  
12/4/08

**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
SANITARY SEWER D - PLAN & PROFILE  
STA. 4+00 TO STA. 9+00

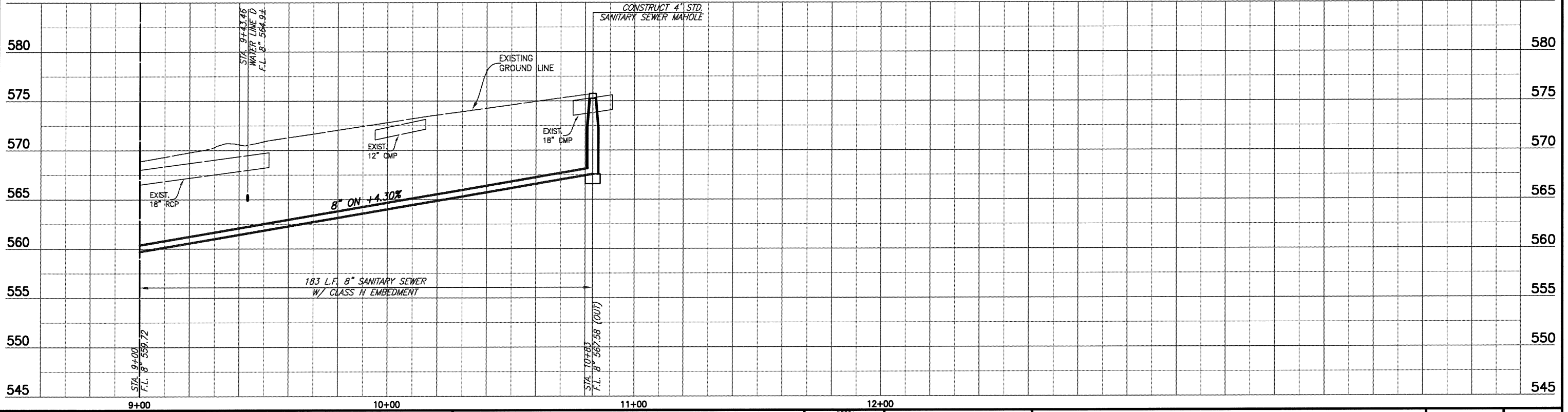
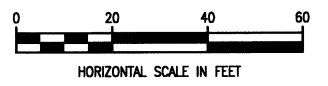
BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

SHEET NO.  
**12**

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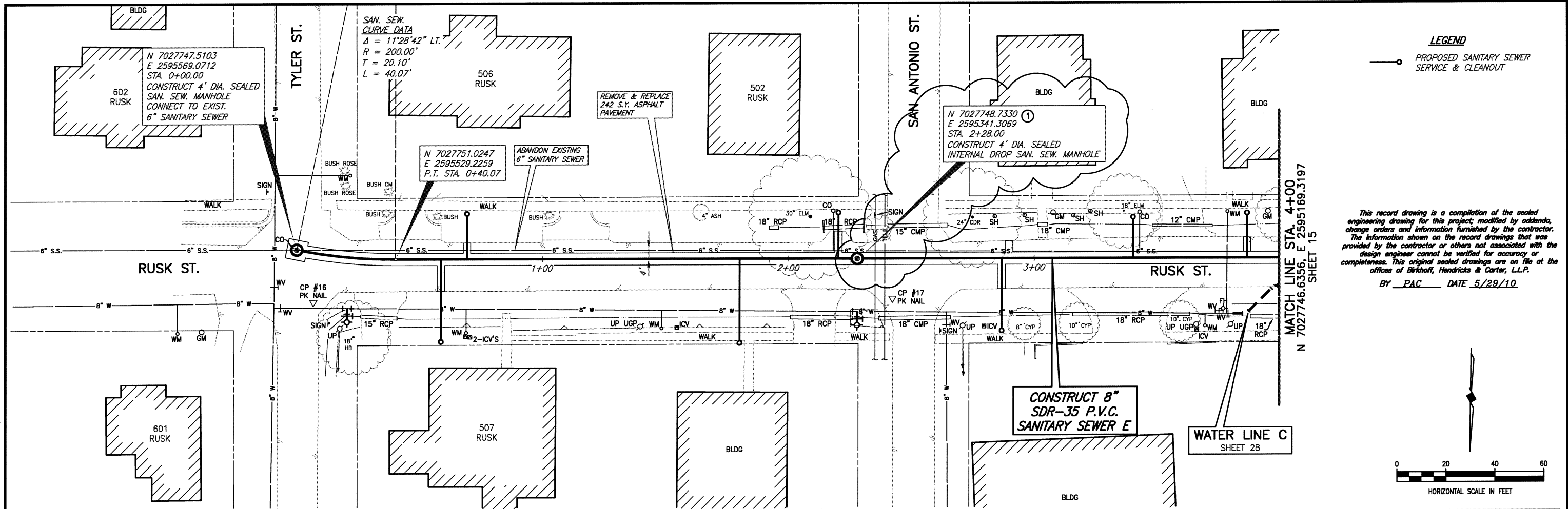
*Ronald V. Conway*  
 10/13/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER D - PLAN & PROFILE**  
 STA. 9+00 TO STA. 10+83

BHC PROJECT NO. 2007-148  
 SHEET NO. **13**  
 OCTOBER 2008

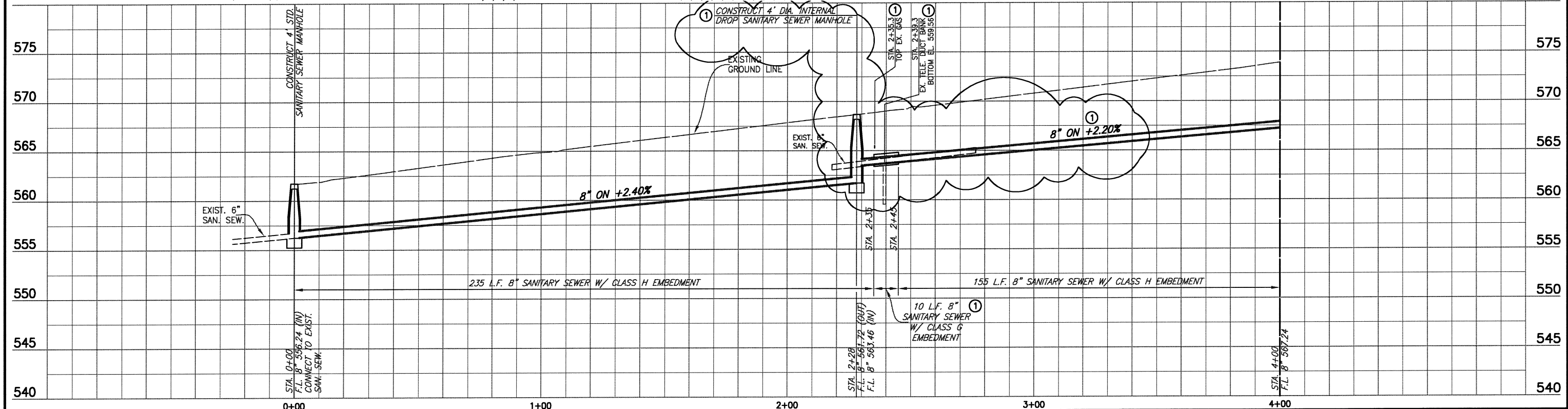
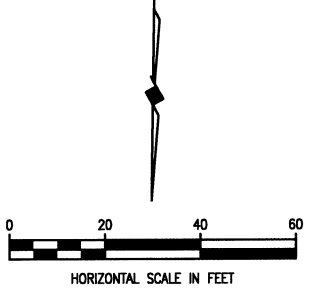
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 PROPOSED SANITARY SEWER SERVICE & CLEANOUT

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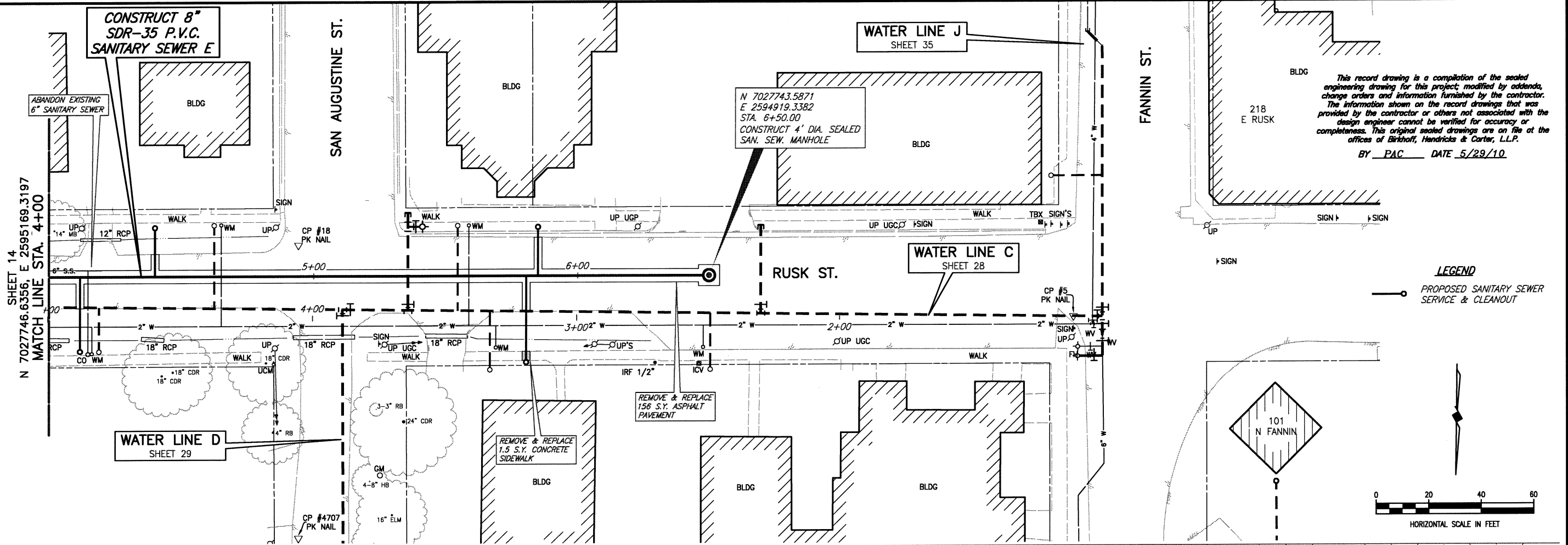
REVISED: JAN. 2, 2009
FIELD CHANGE NO. 1: JUNE 2, 2009 ①

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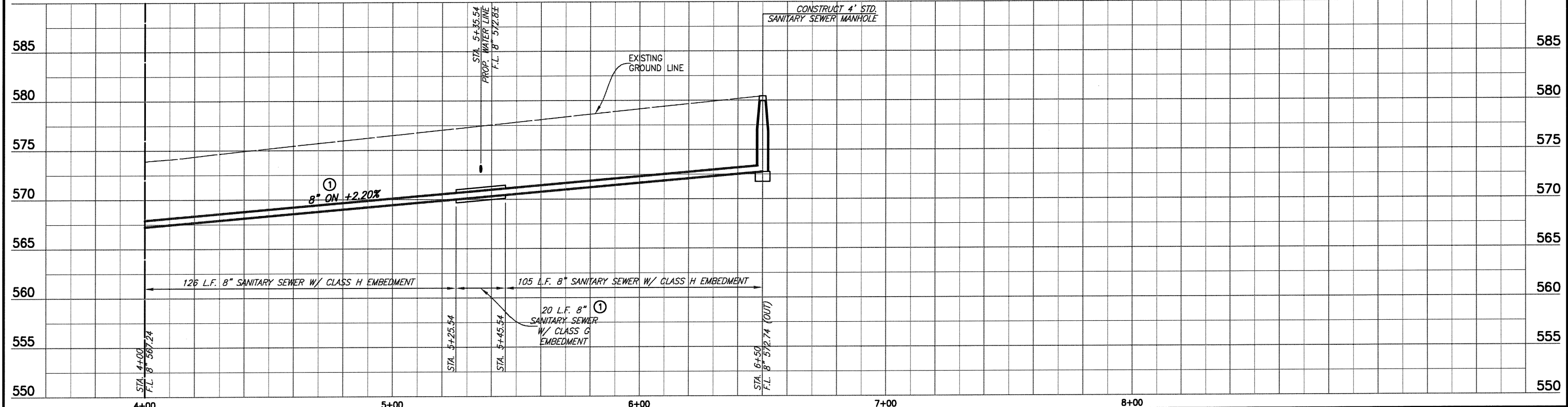
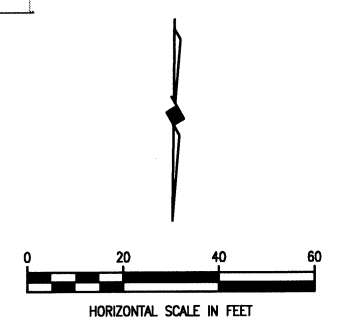

<b>CITY OF ROCKWALL, TEXAS</b>		BHC PROJECT NO. 2007-148	SHEET NO.
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS		OCTOBER 2008	14
<b>SANITARY SEWER E - PLAN &amp; PROFILE</b>		STA. 0+00 TO STA. 4+00	

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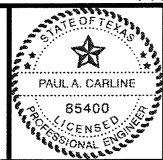
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 PROPOSED SANITARY SEWER SERVICE & CLEANOUT



FIELD CHANGE NO. 1: JUNE 2, 2009 (1)

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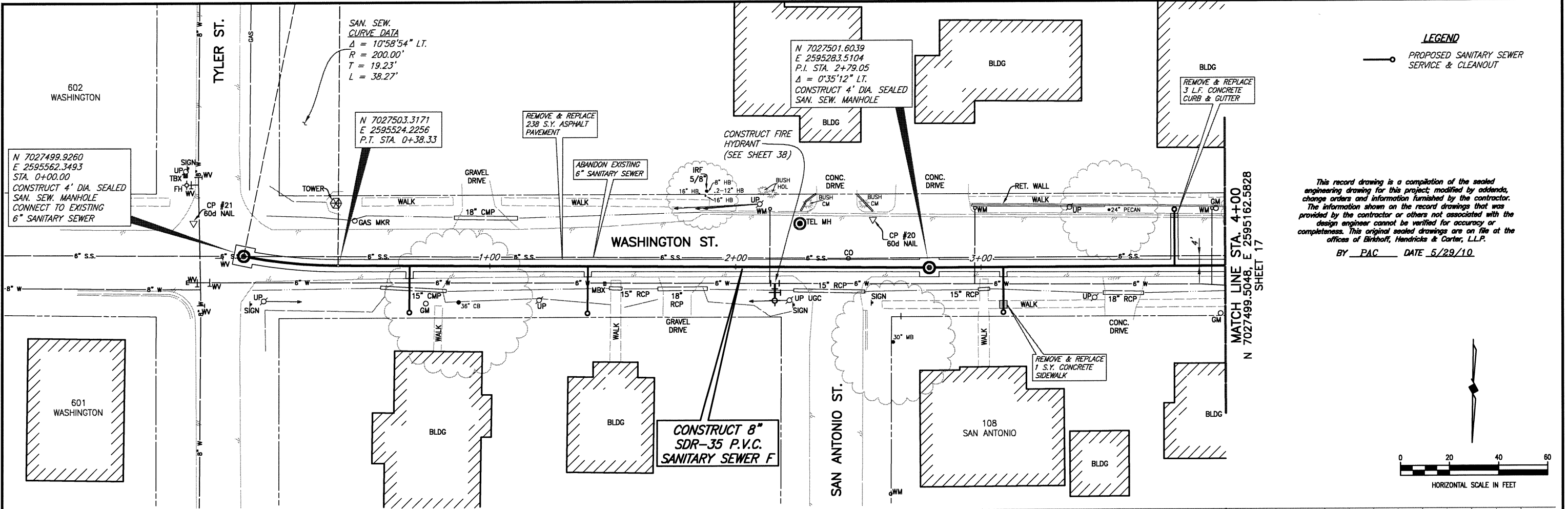
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**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER E - PLAN & PROFILE**  
 STA. 4+00 TO STA. 6+50

BHC  
 PROJECT NO.  
 2007-148  
 OCTOBER 2008

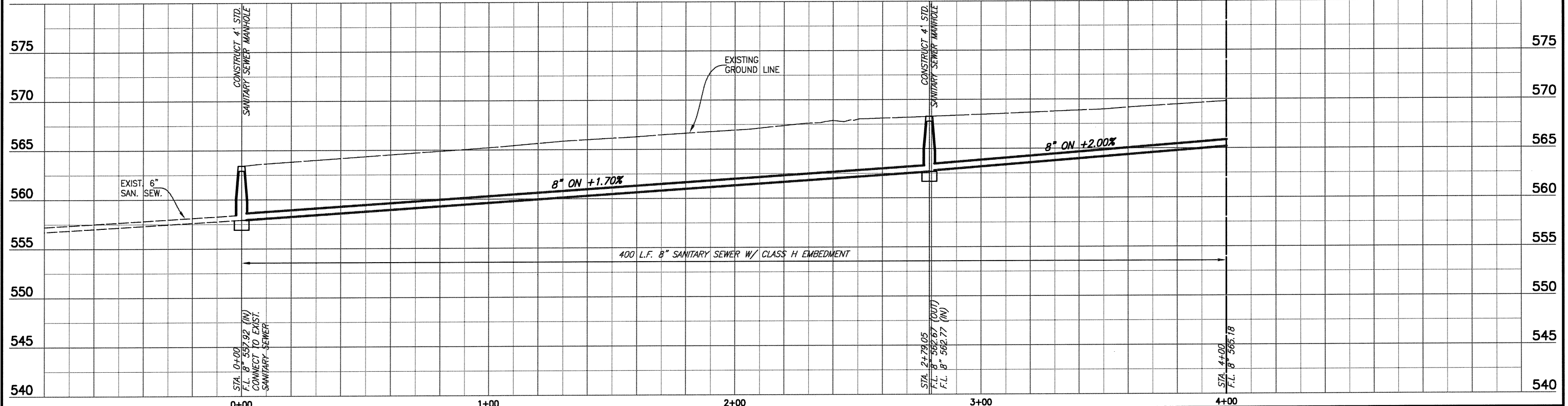
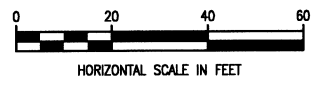
SHEET NO.  
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**LEGEND**  
 PROPOSED SANITARY SEWER SERVICE & CLEANOUT

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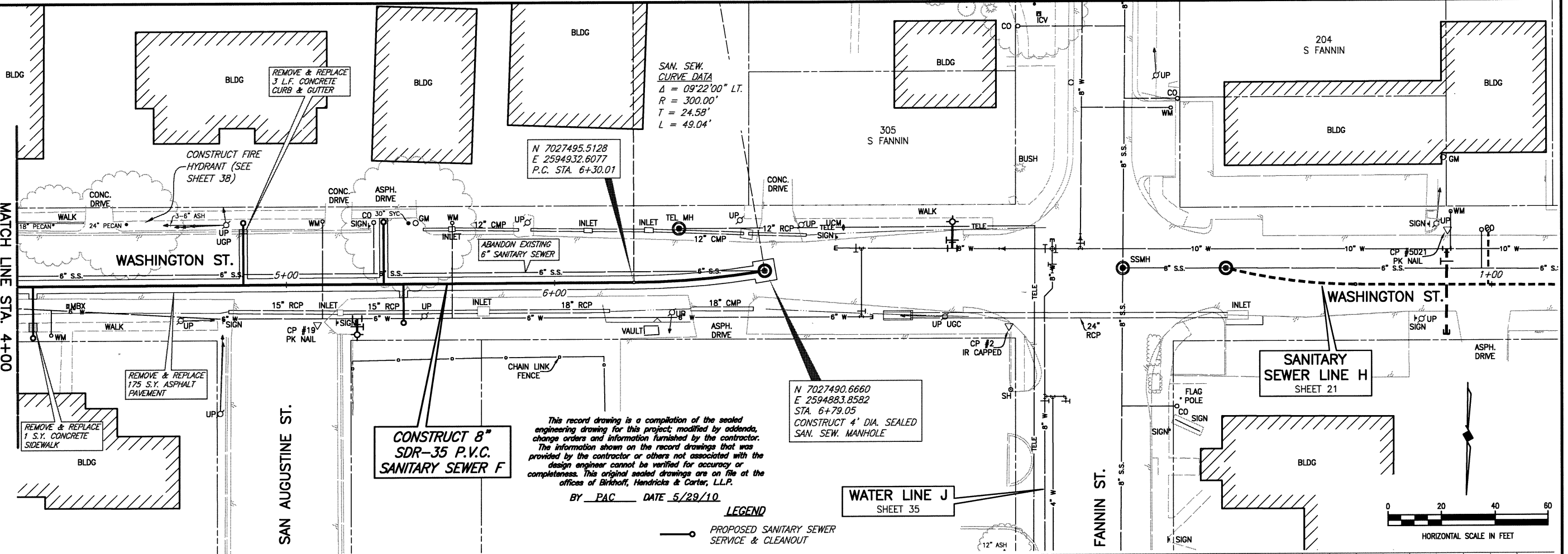
*Ronald V. Conway*  
 10/13/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER F - PLAN & PROFILE**  
 STA. 0+00 TO STA. 4+00

BHC PROJECT NO. 2007-148	SHEET NO. 16
OCTOBER 2008	



MATCH LINE STA. 4+00  
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SHEET 16

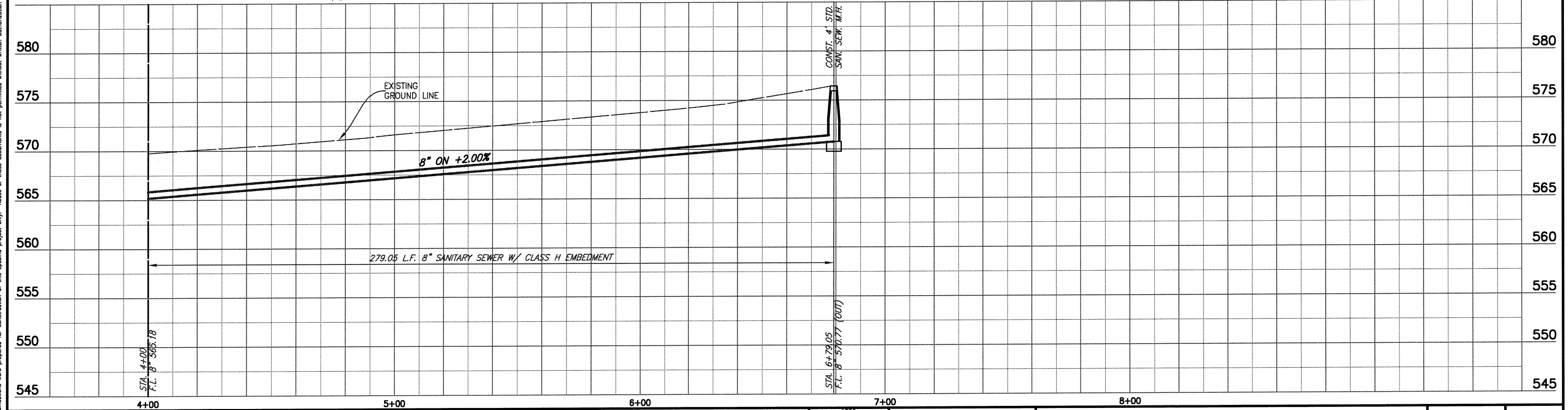
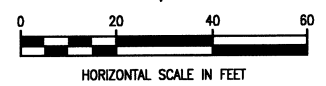


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BY PAC DATE 5/29/10

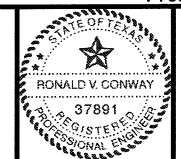
N 7027490.6660  
E 2594883.8582  
STA. 6+79.05  
CONSTRUCT 4' DIA. SEALED SAN. SEW. MANHOLE

CONSTRUCT 8" SDR-35 P.V.C. SANITARY SEWER F

LEGEND  
—○— PROPOSED SANITARY SEWER SERVICE & CLEANOUT



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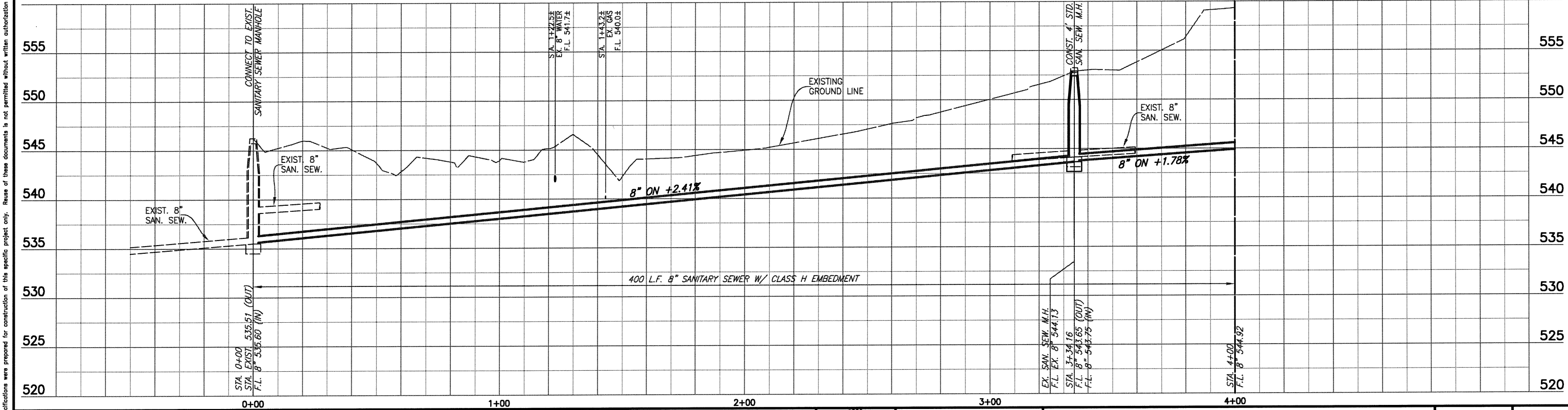
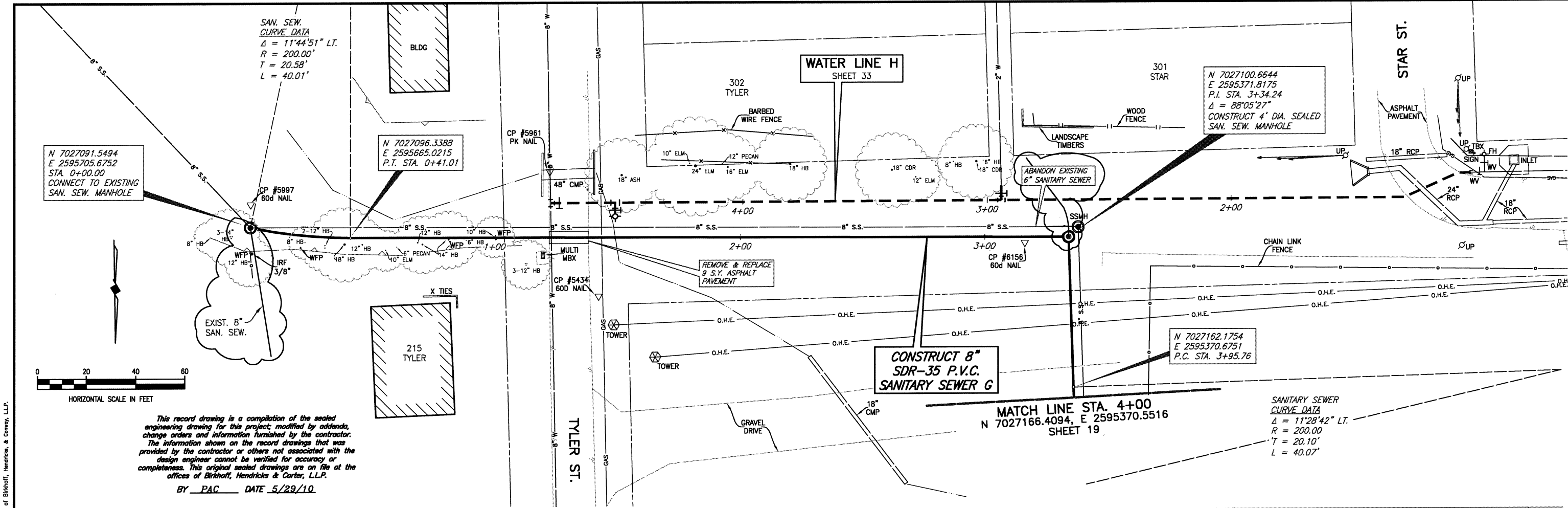


*Ronald V. Conway*  
10/13/08

**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER F - PLAN & PROFILE**  
STA. 4+00 TO STA. 6+79.05

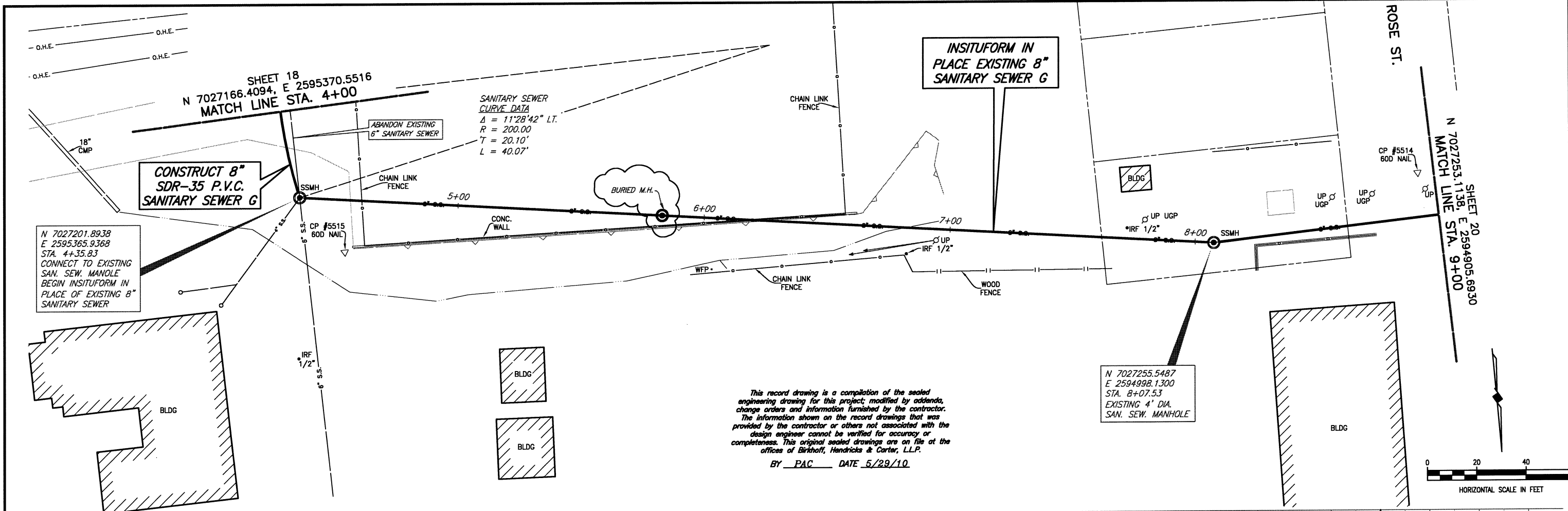
BHC PROJECT NO. 2007-148  
OCTOBER 2008  
SHEET NO. **17**

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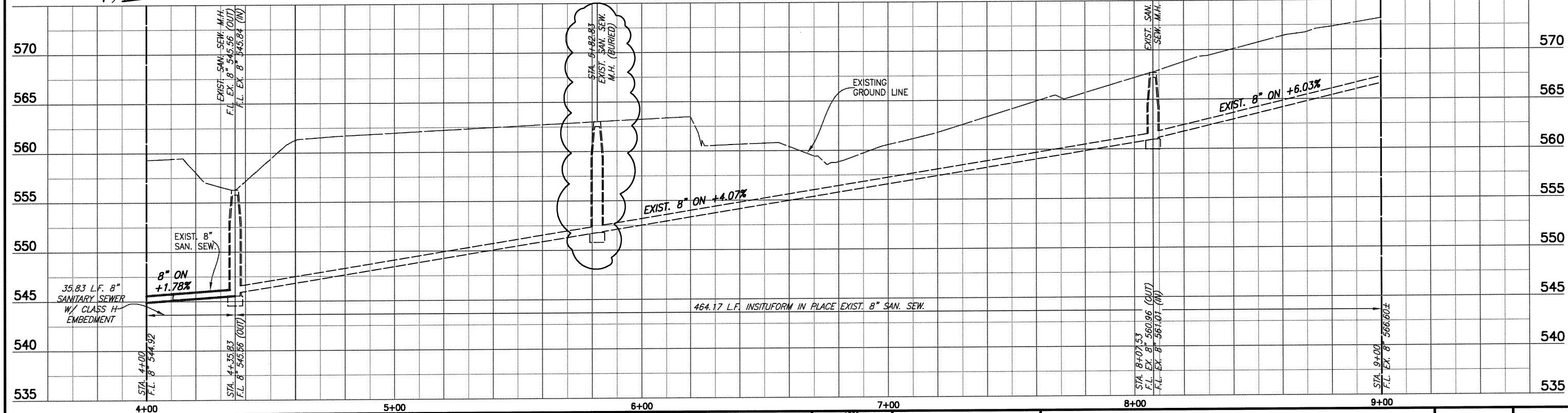
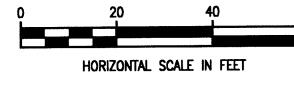


<b>BIRKHOFF, HENDRICKS &amp; CONWAY, L.L.P.</b> PROFESSIONAL ENGINEERS 11910 Greenville Ave., Suite 600 Dallas, Texas (214) 361-7900		<i>Ronald V. Conway</i> 10/13/08	<b>CITY OF ROCKWALL, TEXAS</b> DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS		BHC PROJECT NO. 2007-148	SHEET NO. <b>18</b>
			<b>SANITARY SEWER G - PLAN &amp; PROFILE</b> STA. 0+00 TO STA. 4+00		OCTOBER 2008	

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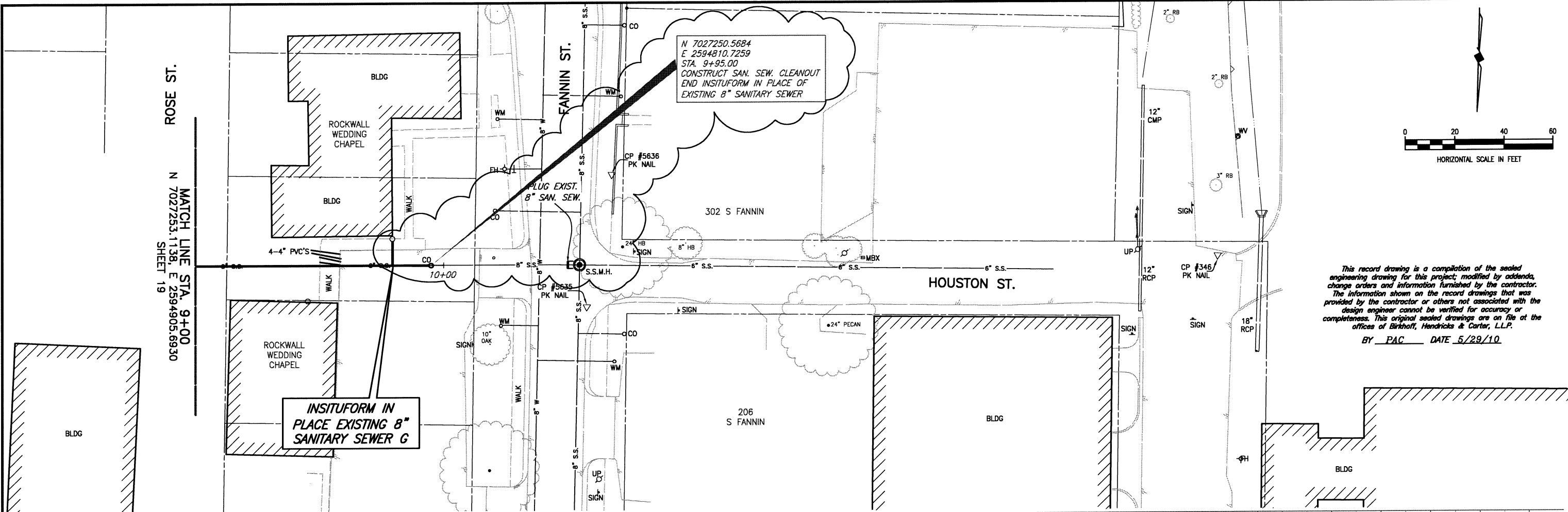


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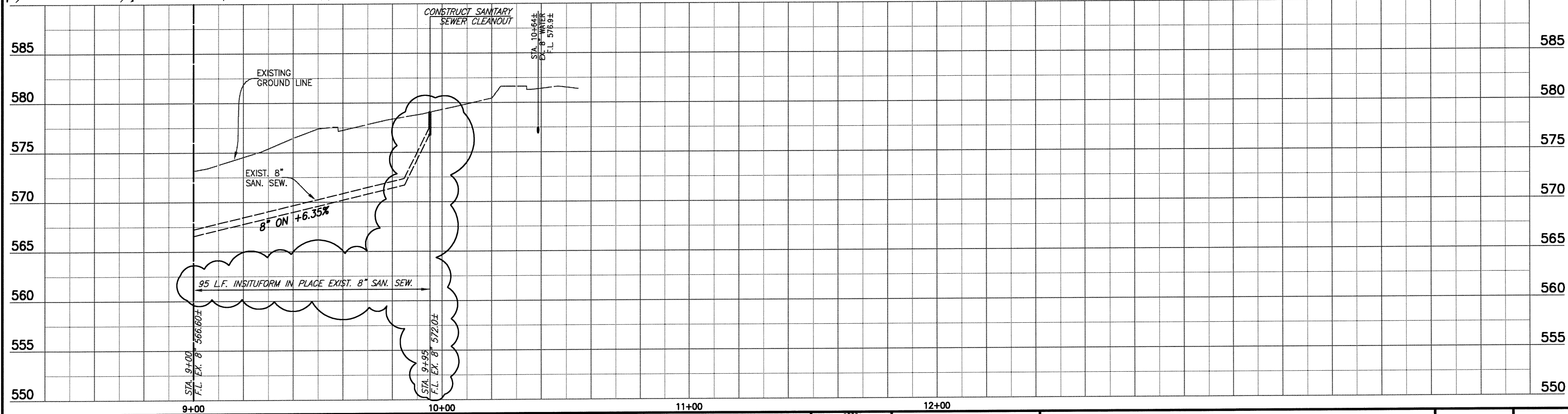
REVISED: NOV. 24, 2008  	<b>BIRKHOFF, HENDRICKS &amp; CONWAY, L.L.P.</b> PROFESSIONAL ENGINEERS 11910 Greenville Ave., Suite 600 Dallas, Texas (214) 361-7900			<b>CITY OF ROCKWALL, TEXAS</b> DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS <b>SANITARY SEWER G - PLAN &amp; PROFILE</b> STA. 4+00 TO STA. 9+00	BHC PROJECT NO. 2007-148  OCTOBER 2008	SHEET NO.  <b>19</b>
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REVISED: APRIL 22, 2009

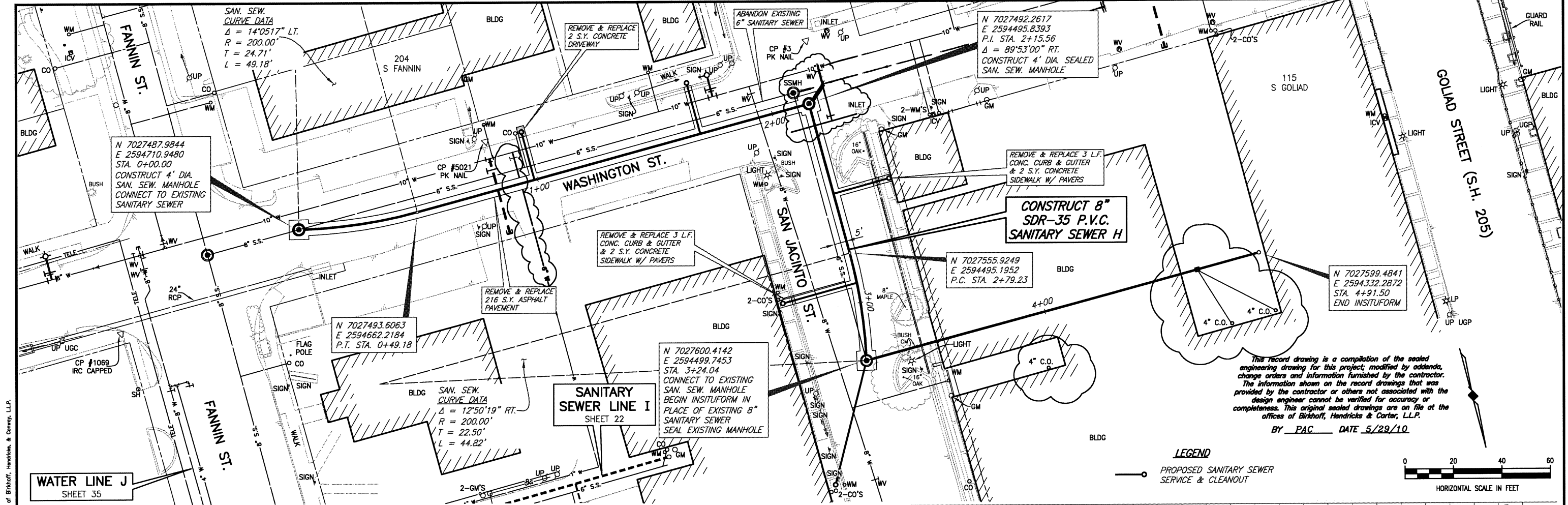

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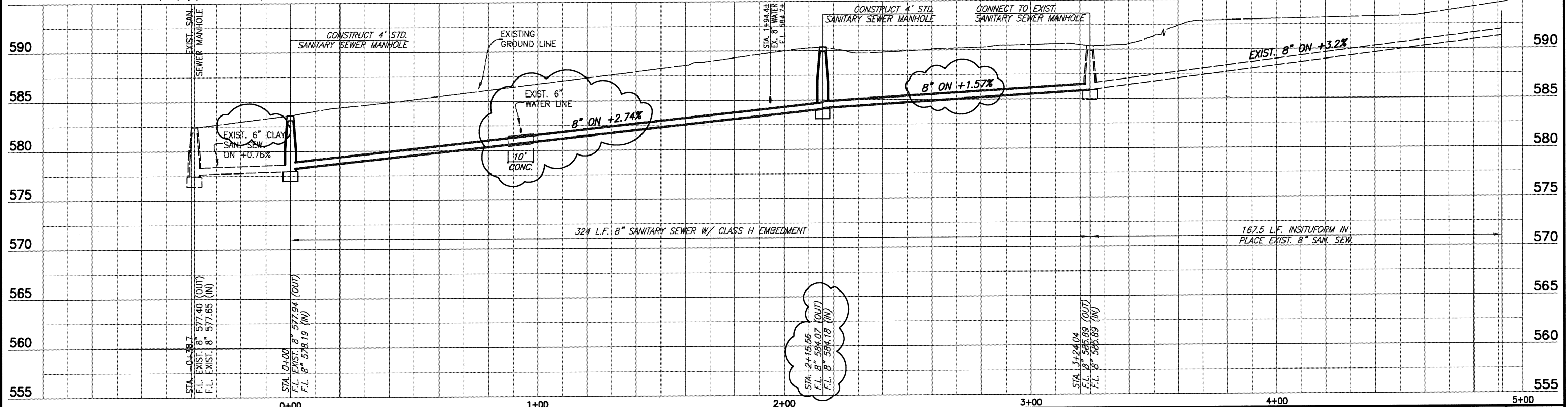
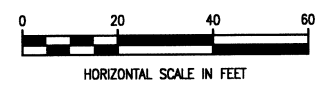
**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER G - PLAN & PROFILE**  
 STA. 9+00 TO STA. 10+54.79

BHC PROJECT NO. 2007-148	SHEET NO.
OCTOBER 2008	<b>20</b>



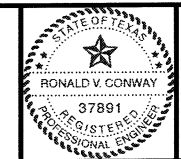
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**LEGEND**  
 ○ PROPOSED SANITARY SEWER SERVICE & CLEANOUT



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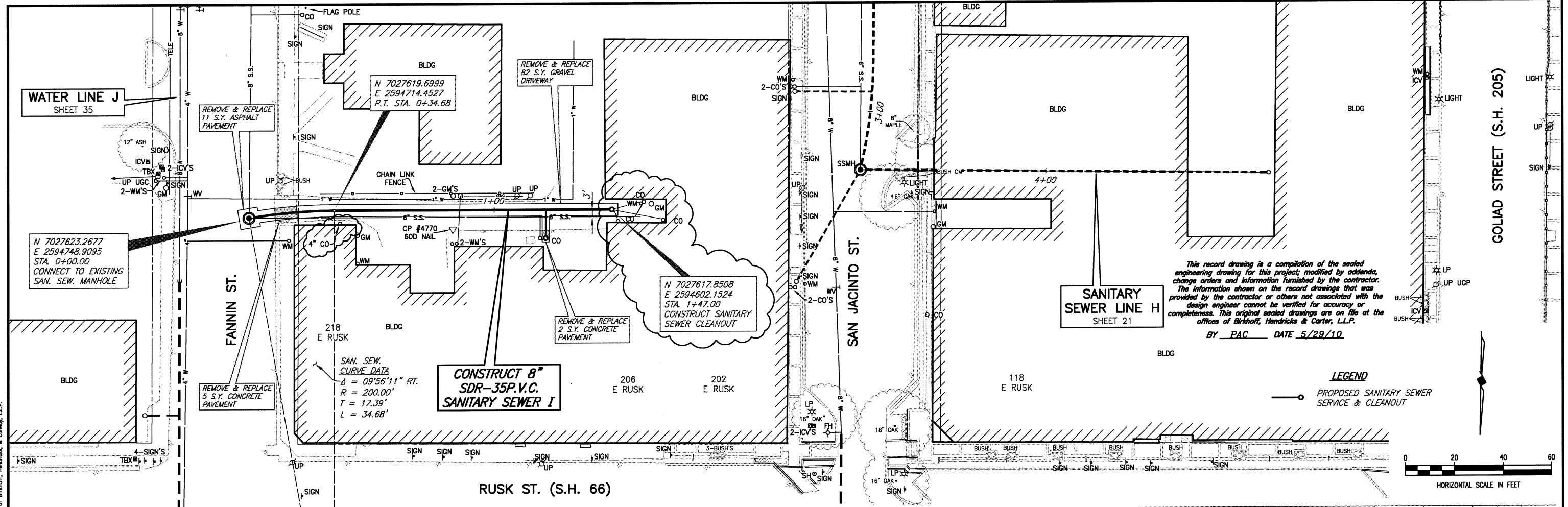


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**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**SANITARY SEWER H - PLAN & PROFILE**  
 STA. 0+00 TO STA. 4+05

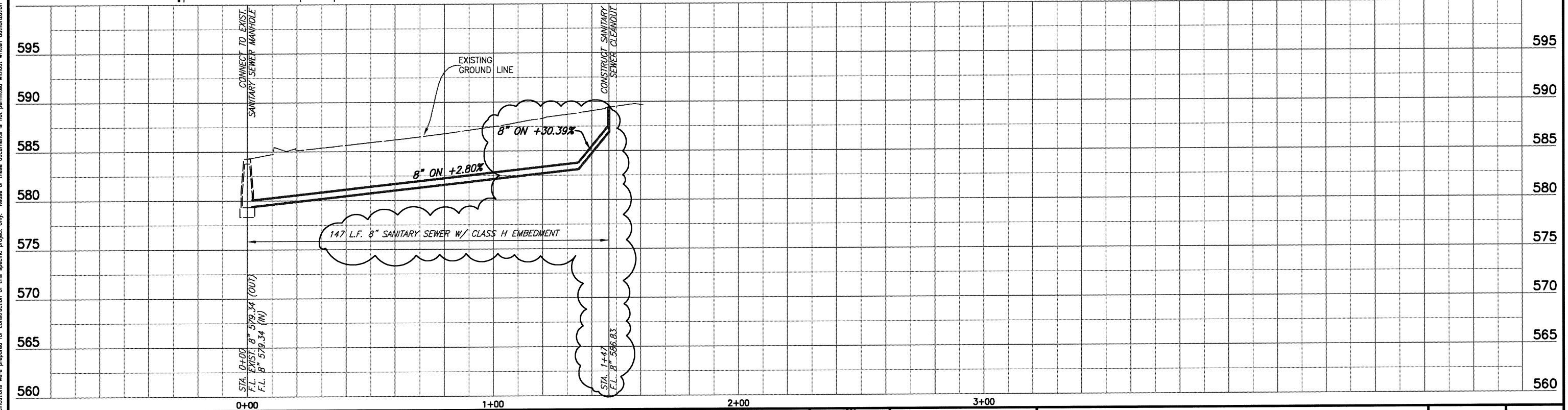
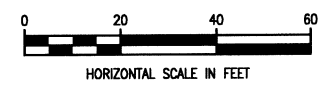
BHC PROJECT NO. 2007-148  
 OCTOBER 2008  
 SHEET NO. **21**

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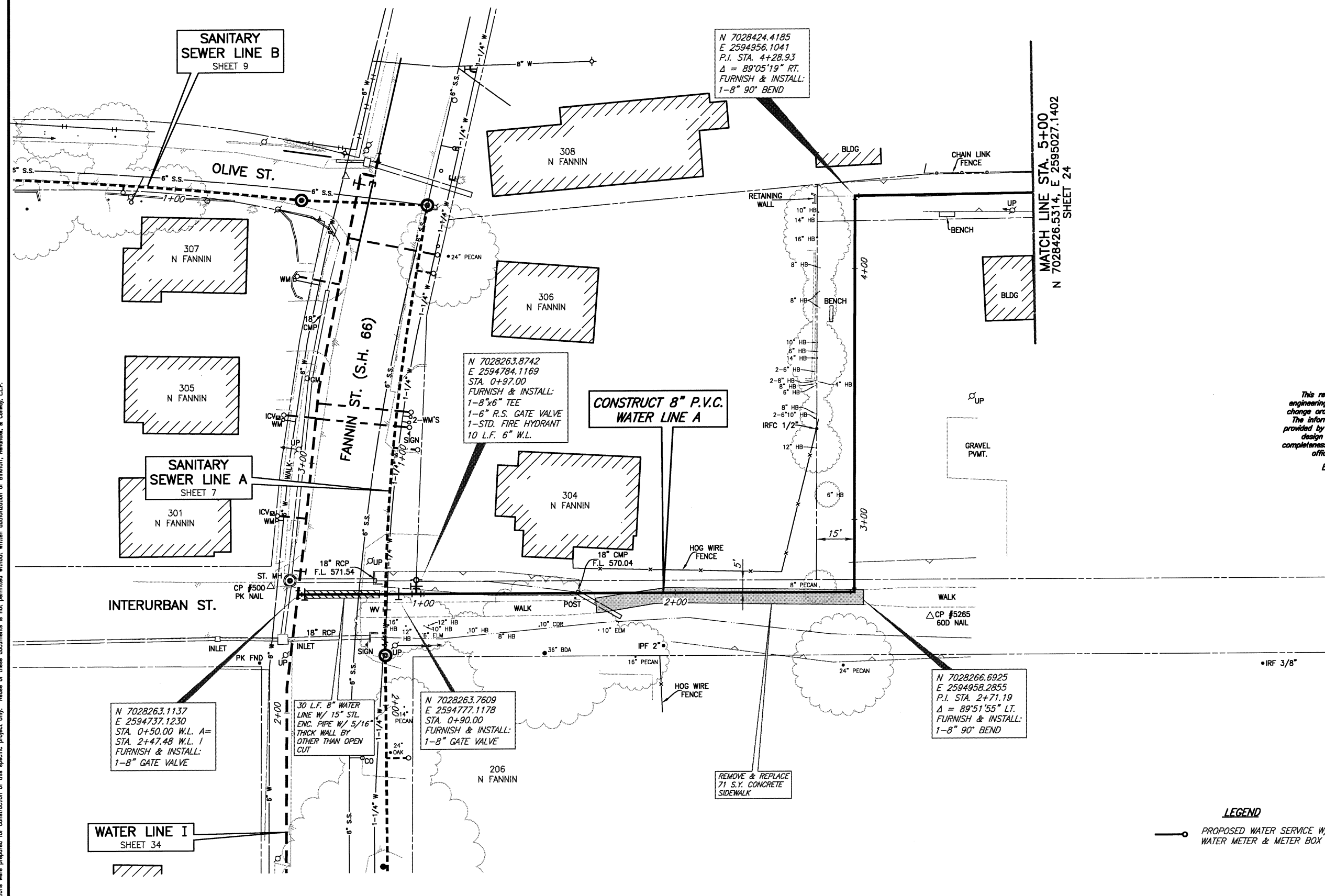
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**LEGEND**  
 PROPOSED SANITARY SEWER SERVICE & CLEANOUT



REVISED: NOV. 24, 2008  BIRKHOFF, HENDRICKS & CONWAY, L.L.P. PROFESSIONAL ENGINEERS 11910 Greenville Ave., Suite 600 Dallas, Texas (214) 361-7900		 12/4/08	<b>CITY OF ROCKWALL, TEXAS</b> DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS <b>SANITARY SEWER I - PLAN &amp; PROFILE</b> STA. 0+00 TO STA. 1+60.92	BHC PROJECT NO. 2007-148  OCTOBER 2008	SHEET NO.  <b>22</b>
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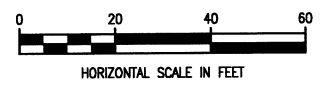
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**LEGEND**

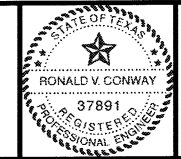
—○— PROPOSED WATER SERVICE W/  
 WATER METER & METER BOX



OCTOBER 2008

SHEET NO.  
**23**

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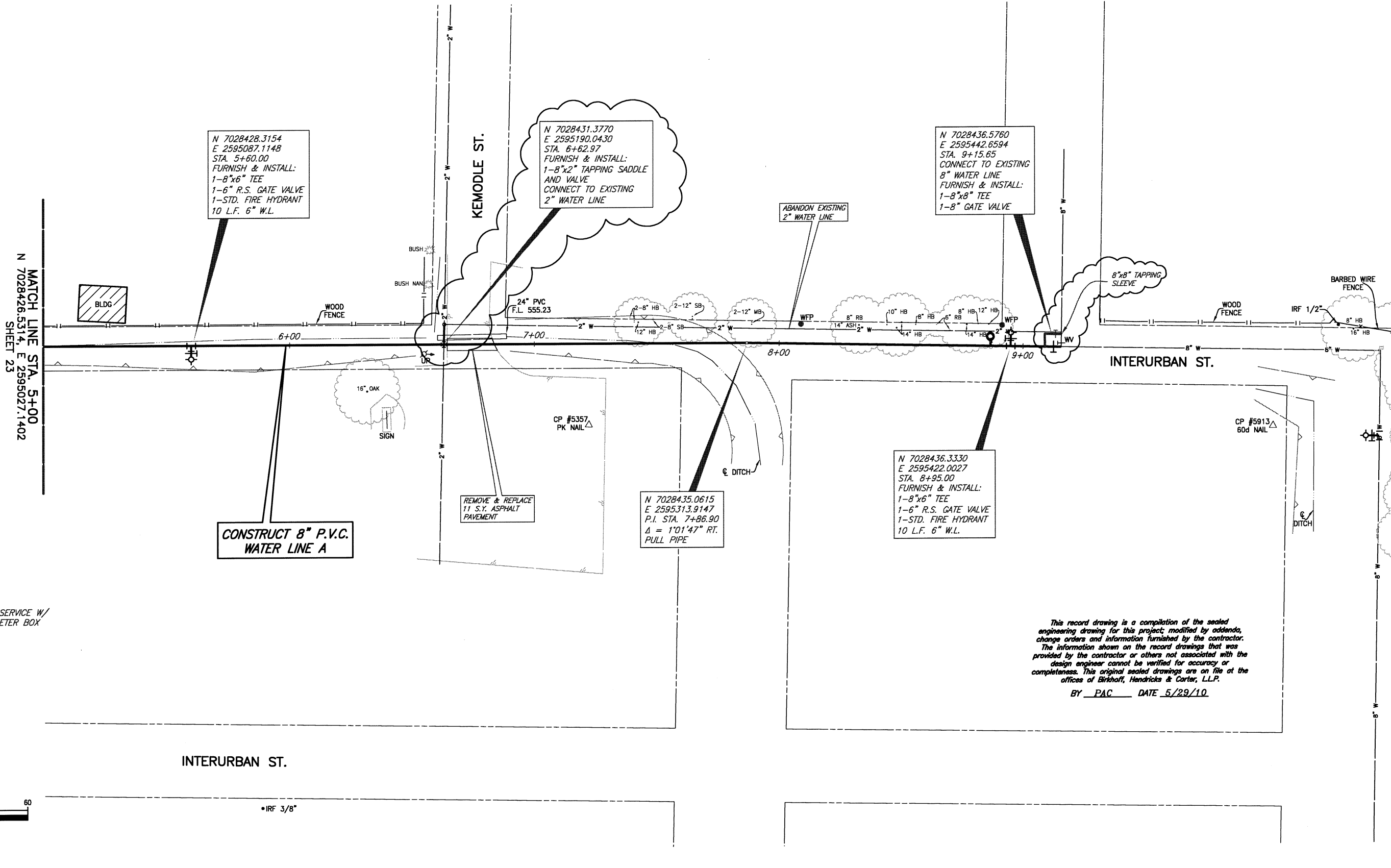


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 10/13/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE A - PLAN**  
 STA. 1+00 TO STA. 5+00

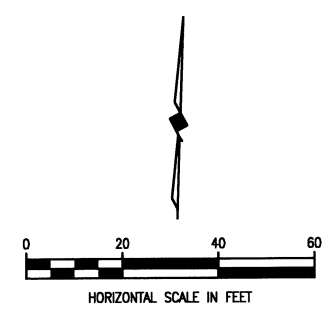
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MATCH LINE STA. 5+00  
N 7028426.5314, E 2595027.1402  
SHEET 23



**LEGEND**

—○— PROPOSED WATER SERVICE W/  
WATER METER & METER BOX



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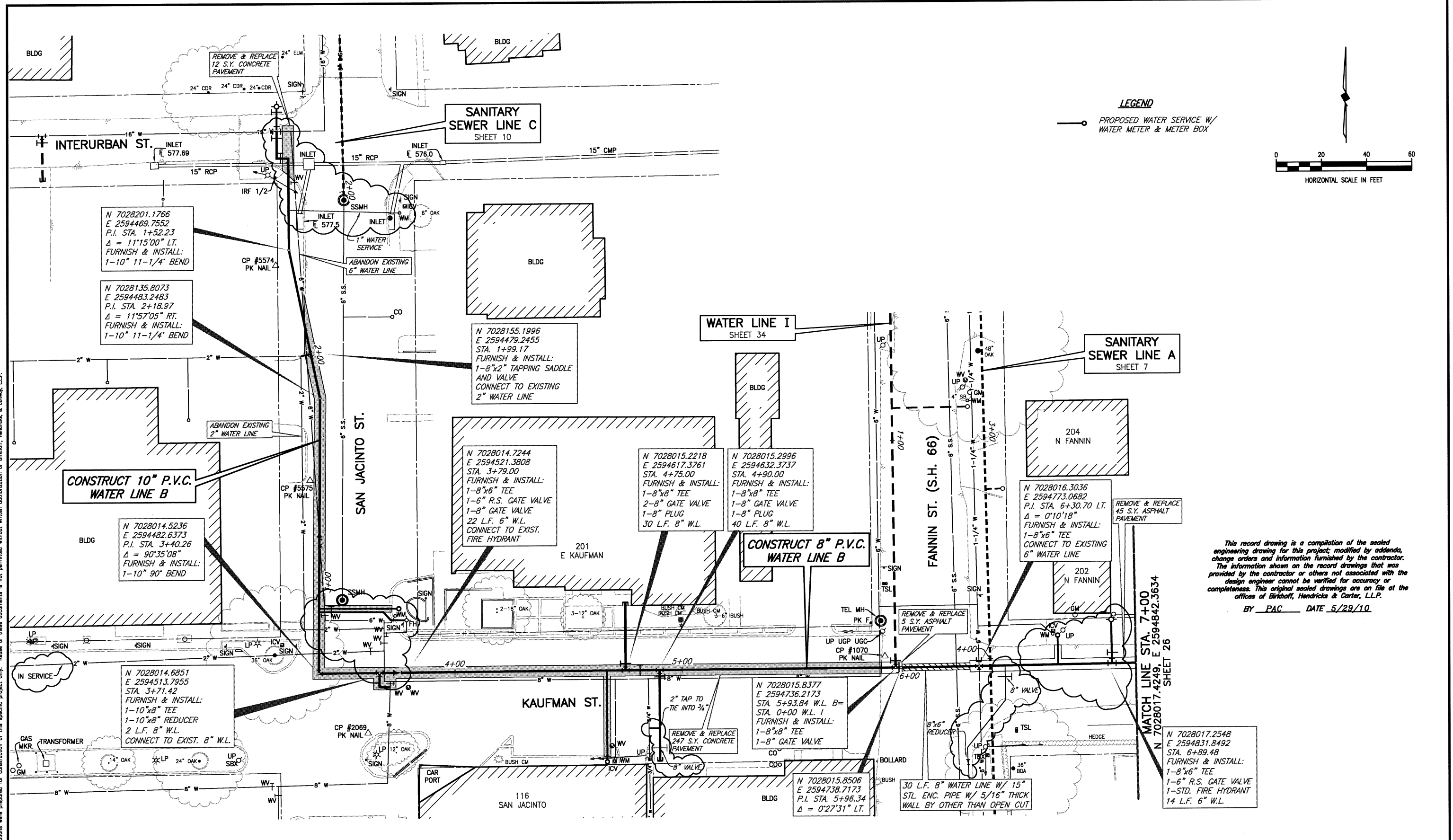
**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE A - PLAN**  
STA. 5+00 TO STA. 9+15.65

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

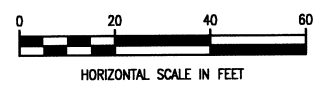
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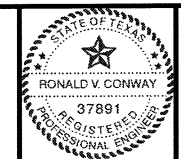
**LEGEND**  
—○— PROPOSED WATER SERVICE W/  
WATER METER & METER BOX



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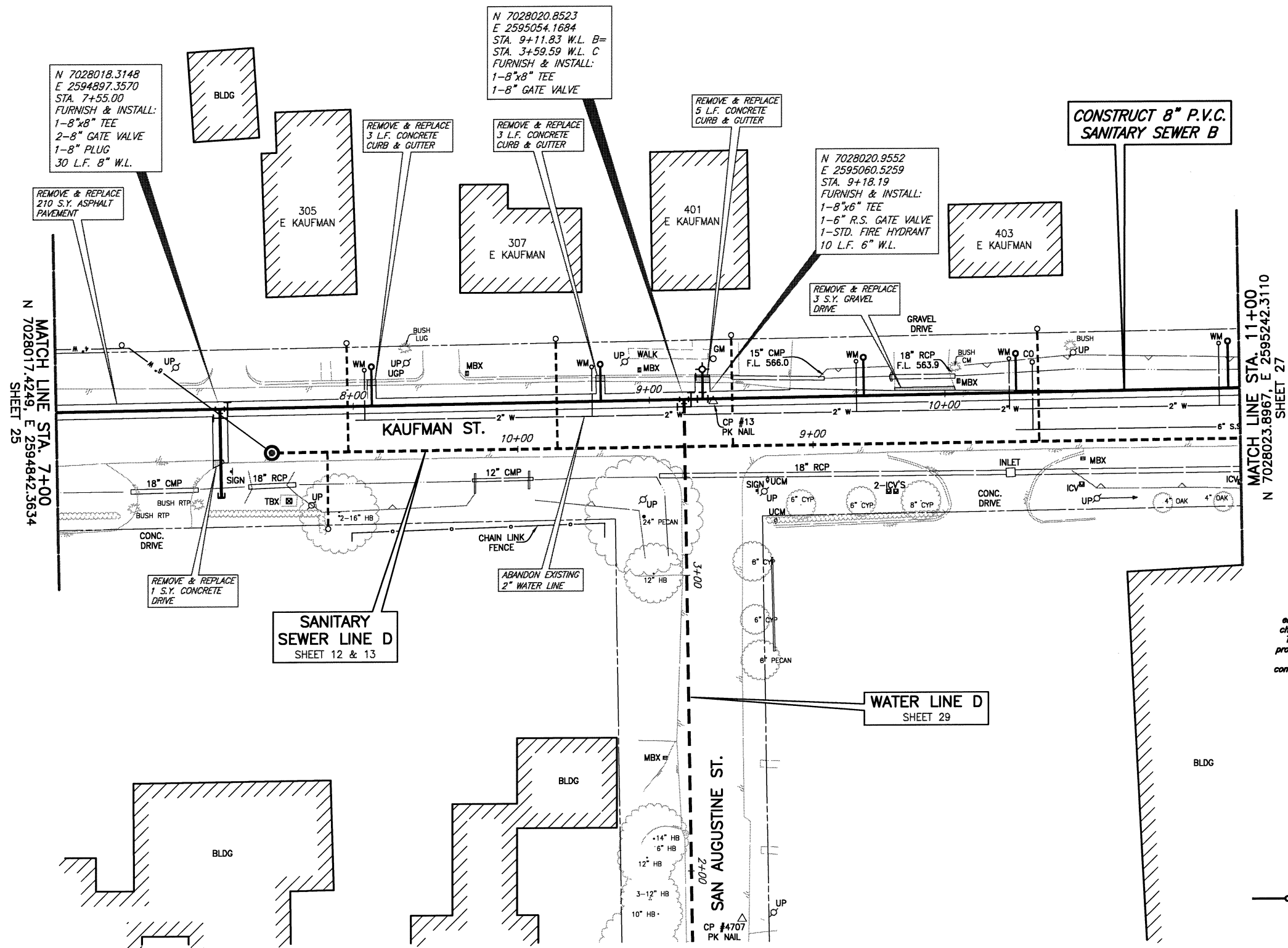
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12/4/08

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DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE B - PLAN**  
STA. 1+00 TO STA. 7+00

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

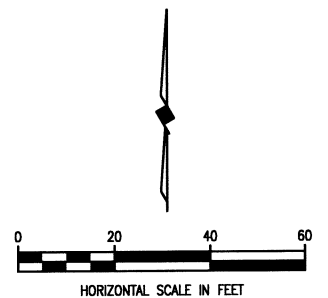
SHEET NO.  
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**LEGEND**  
 ○ PROPOSED WATER SERVICE W/  
 WATER METER & METER BOX



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 10/13/08

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 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE B - PLAN**  
 STA. 7+00 TO STA. 11+00

BHC  
 PROJECT NO.  
 2007-148  
 OCTOBER 2008

SHEET NO.  
**26**

**LEGEND**

—○— PROPOSED WATER SERVICE W/  
WATER METER & METER BOX

N 7028024.0465  
E 2595251.5649  
P.I. STA. 11+09.26  
Δ = 45°00'00" RT.  
FURNISH & INSTALL:  
1-8" 45' BEND

N 7028024.5508  
E 2595282.7287  
P.I. STA. 11+43.94  
Δ = 45°00'00" RT.  
FURNISH & INSTALL:  
1-8" 45' BEND

N 7028024.9676  
E 2595308.4887  
STA. 11+69.71 W.L. B=  
STA. 1+44.27 W.L. E  
FURNISH & INSTALL:  
1-8"x8" CROSS

**CONSTRUCT 8" P.V.C.  
WATER LINE B**

N 7028035.6993  
E 2595579.1135  
STA. 3+13.56  
CONNECT TO EXISTING  
8" WATER LINE  
FURNISH & INSTALL:  
1-8"x8" TAPPING  
SLEEVE & VALVE

N 7028019.8673  
E 2595255.8816  
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Δ = 45°00'00" LT.  
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1-8" 45' BEND

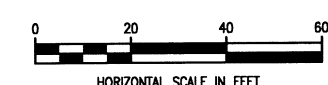
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E 2595278.5495  
P.I. STA. 11+37.93  
Δ = 45°00'00" LT.  
FURNISH & INSTALL:  
1-8" 45' BEND

**WATER LINE E**  
SHEET 30

**WATER LINE E**  
SHEET 30

**SANITARY  
SEWER LINE D**  
SHEET 11 & 12

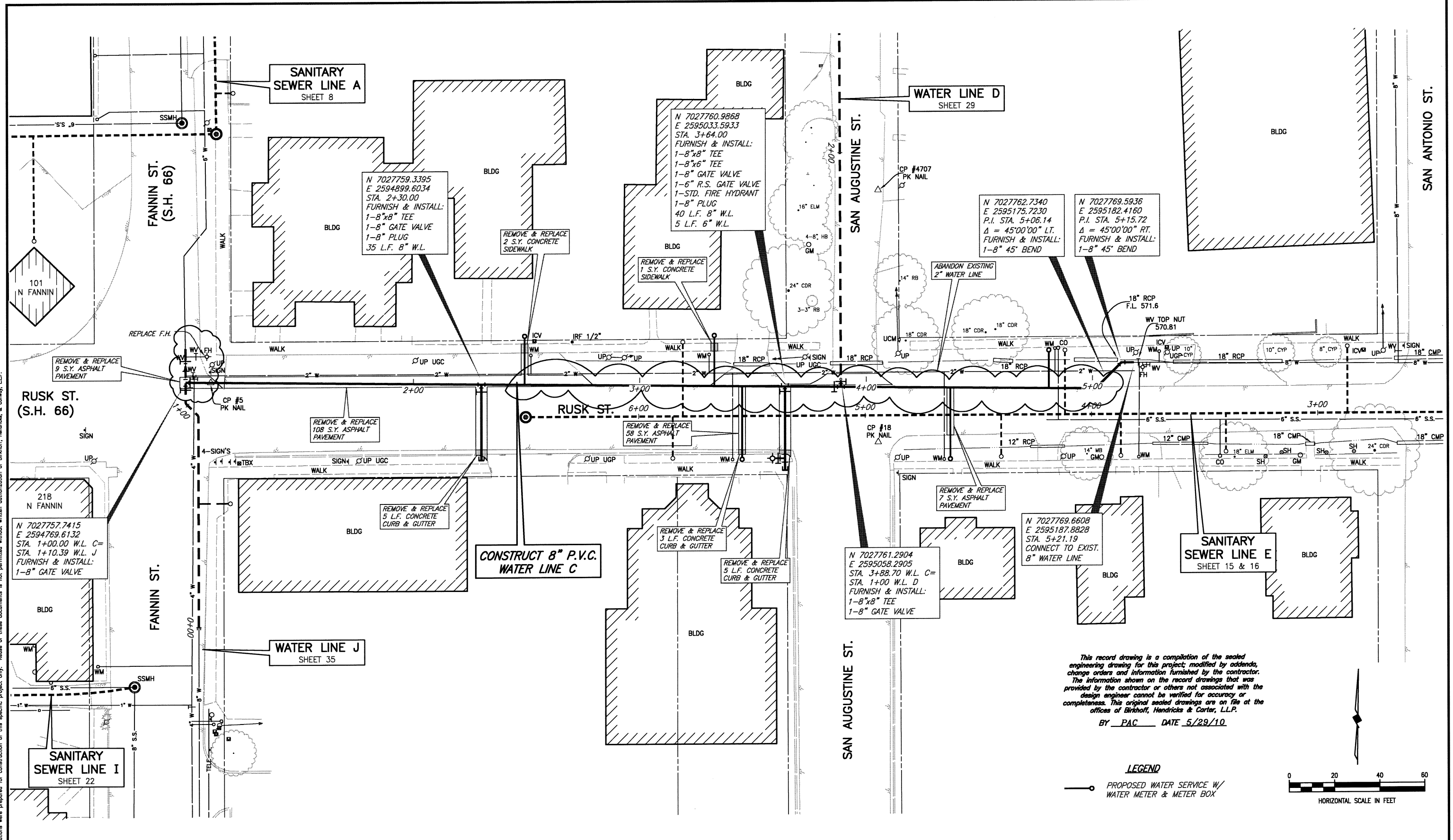
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				<b>WATER LINE B - PLAN</b> STA. 11+00 TO STA. 14+36.93	OCTOBER 2008	<b>27</b>

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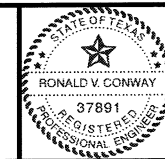


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**LEGEND**  
 —○— PROPOSED WATER SERVICE W/  
 WATER METER & METER BOX

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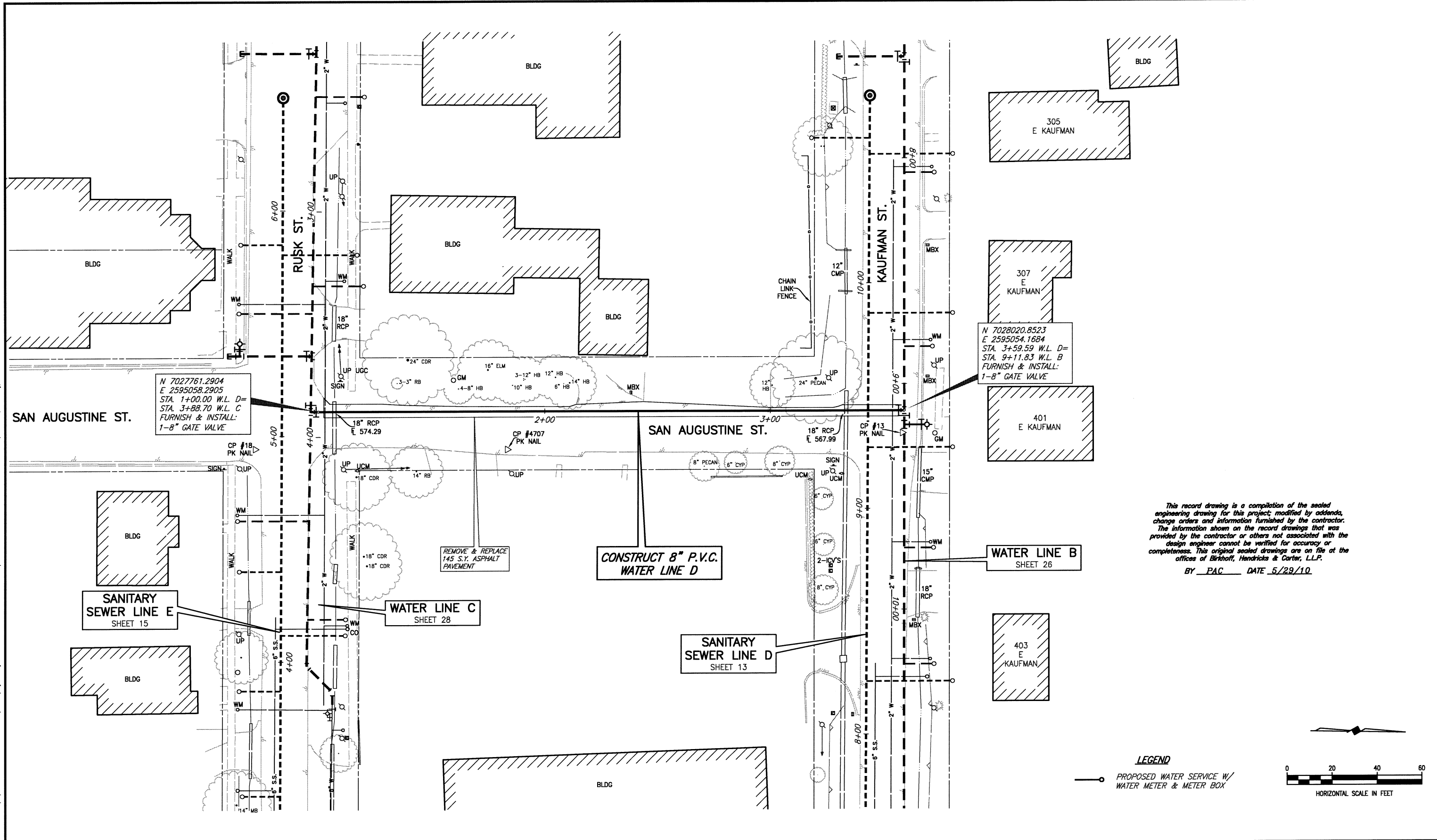
*Ronald V. Conway*  
 12/4/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE C - PLAN & PROFILE**  
 STA. 1+00 TO STA. 5+21.19

BHC  
 PROJECT NO.  
 2007-148  
 OCTOBER 2008

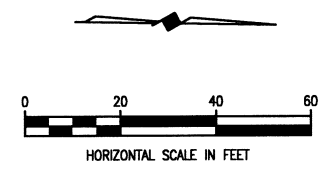
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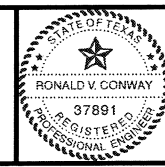


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**LEGEND**  
 PROPOSED WATER SERVICE W/  
 WATER METER & METER BOX




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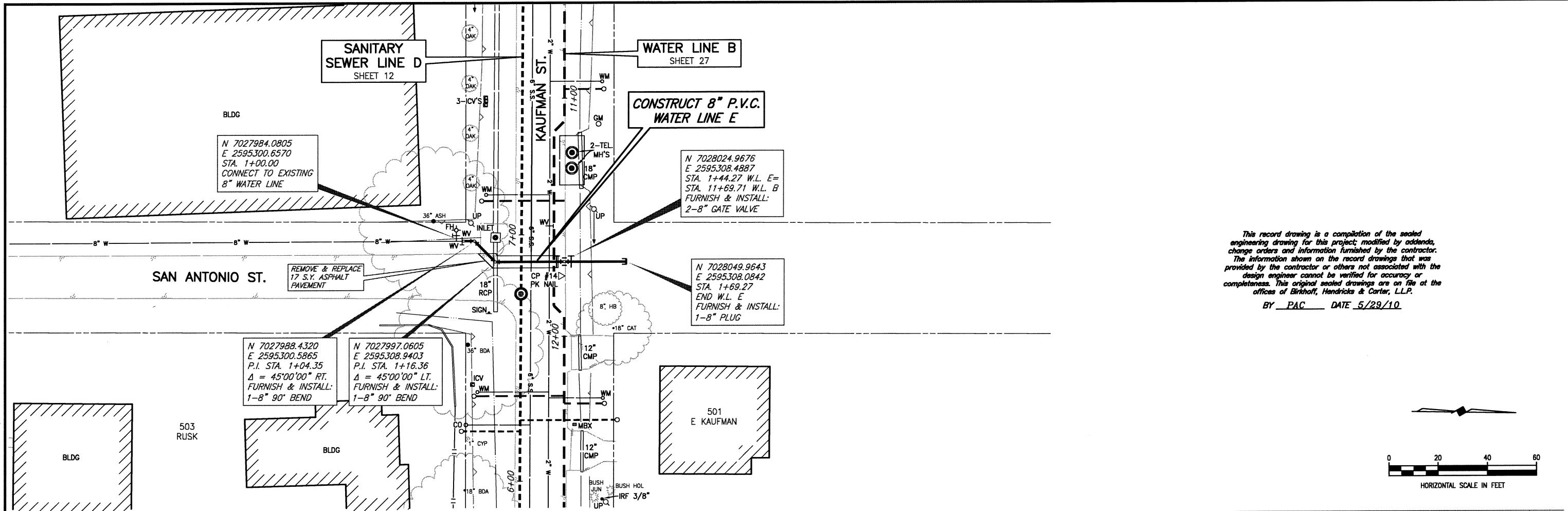


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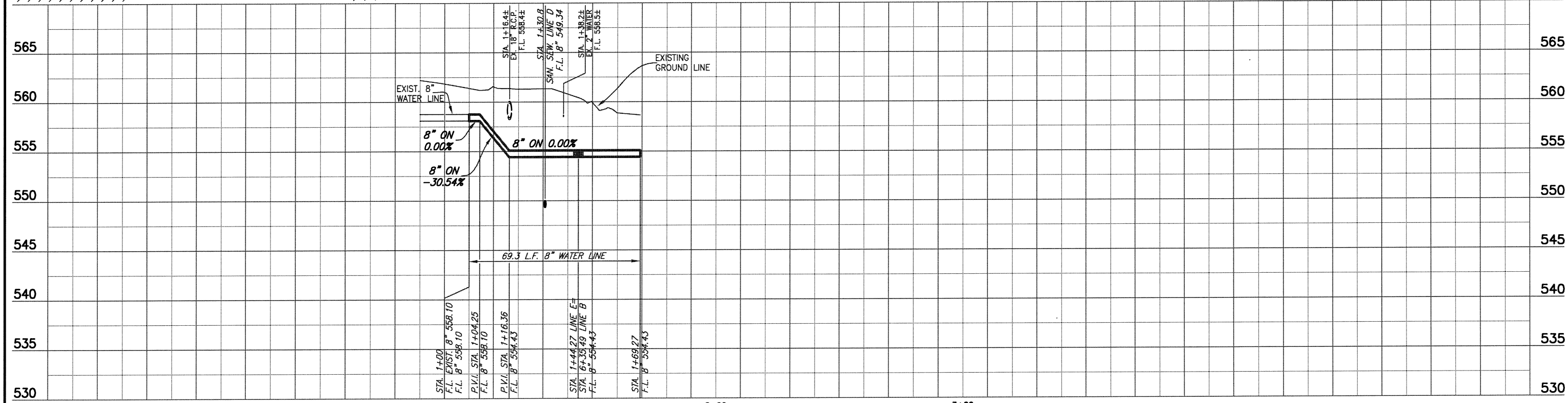
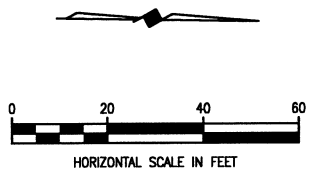
**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE D - PLAN & PROFILE**  
 STA. 1+00 TO STA. 3+59.59

BHC PROJECT NO. 2007-148	SHEET NO. <b>29</b>
OCTOBER 2008	

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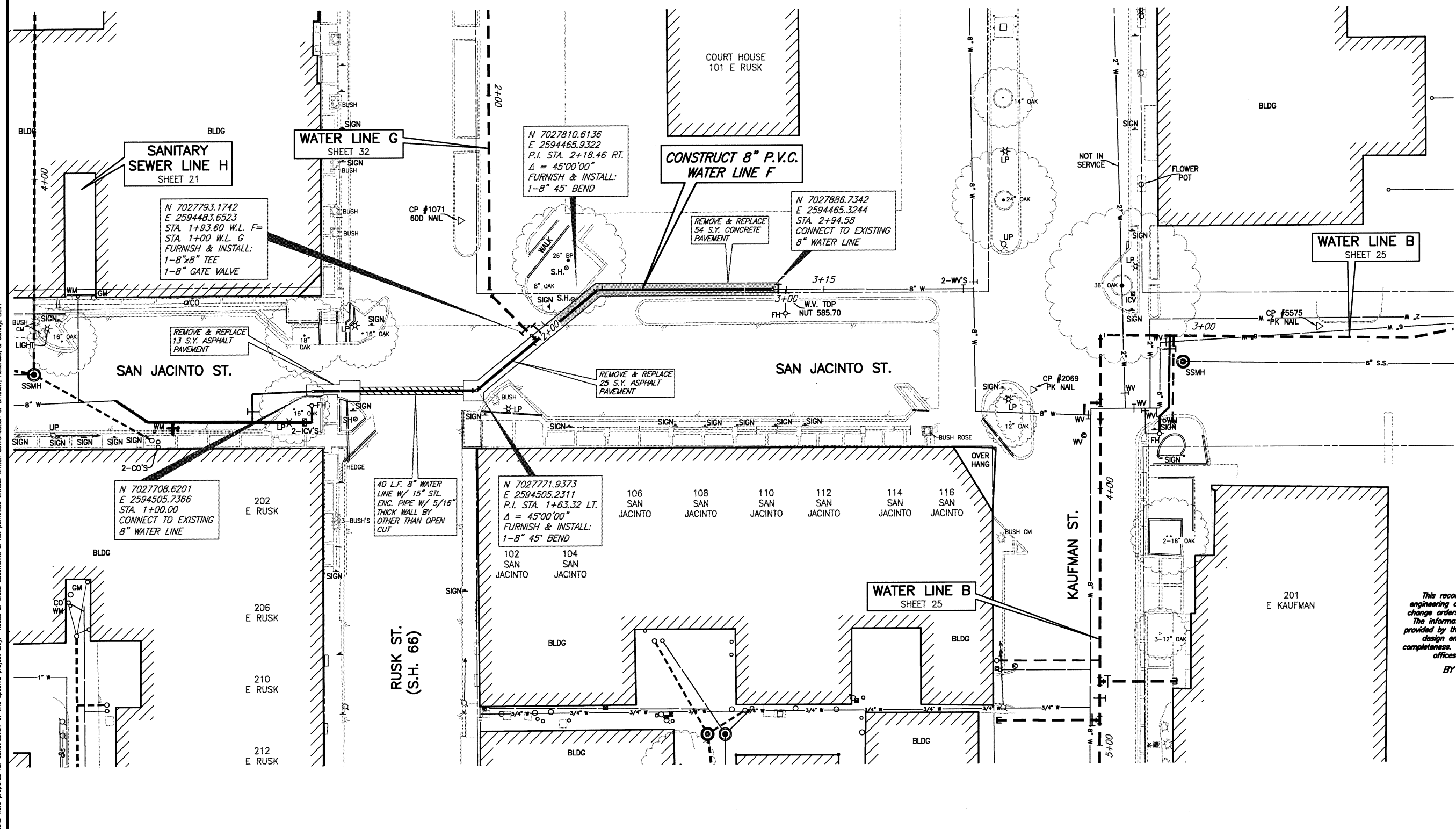


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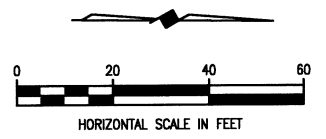


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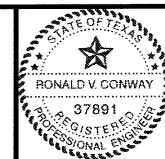


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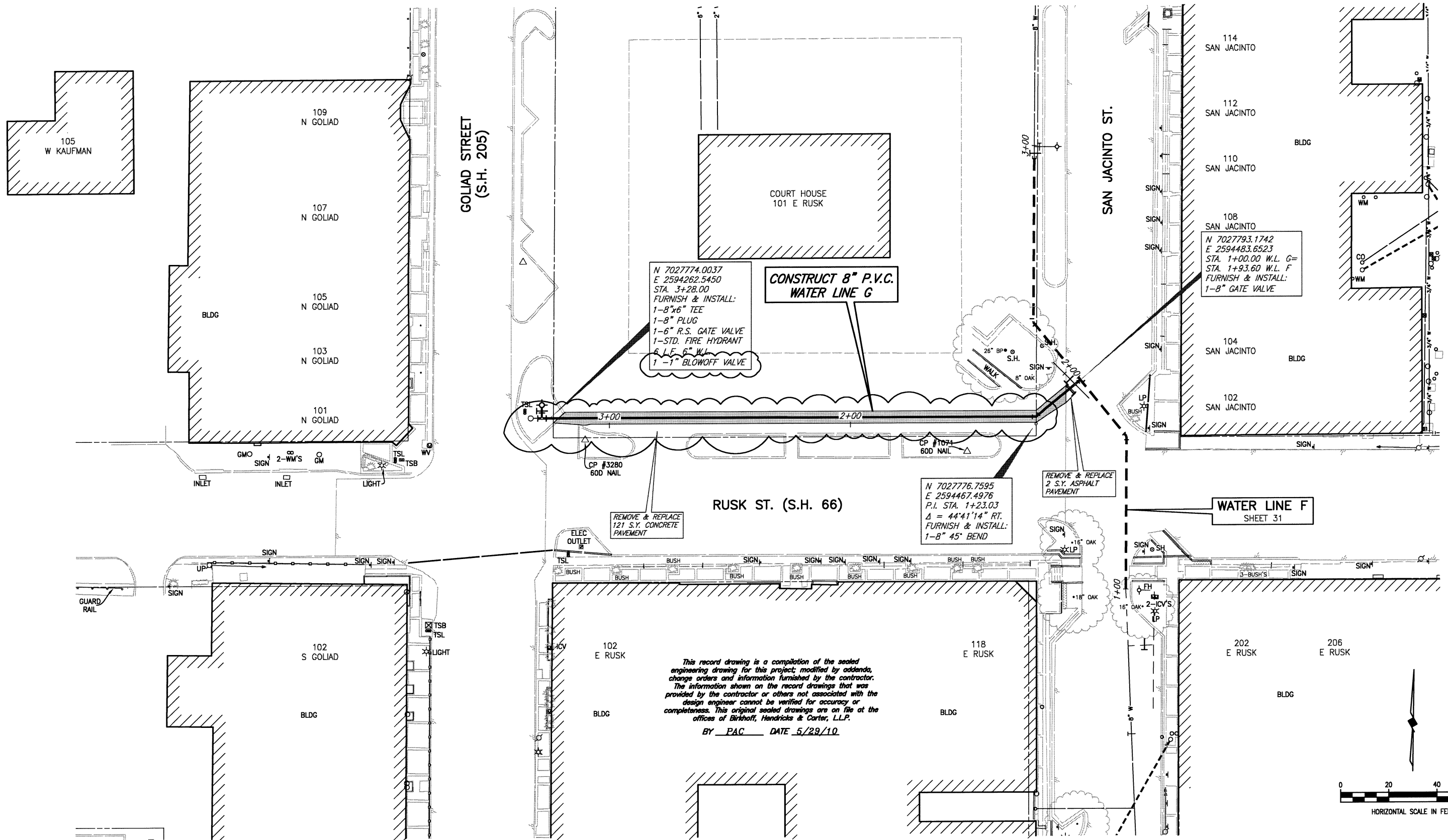


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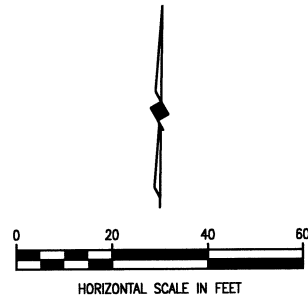
**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE F - PLAN & PROFILE**  
 STA. 1+00 TO STA. 2+94.58

BHC PROJECT NO. 2007-148	SHEET NO.  <b>31</b>
OCTOBER 2008	

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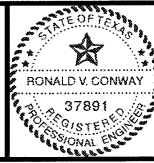


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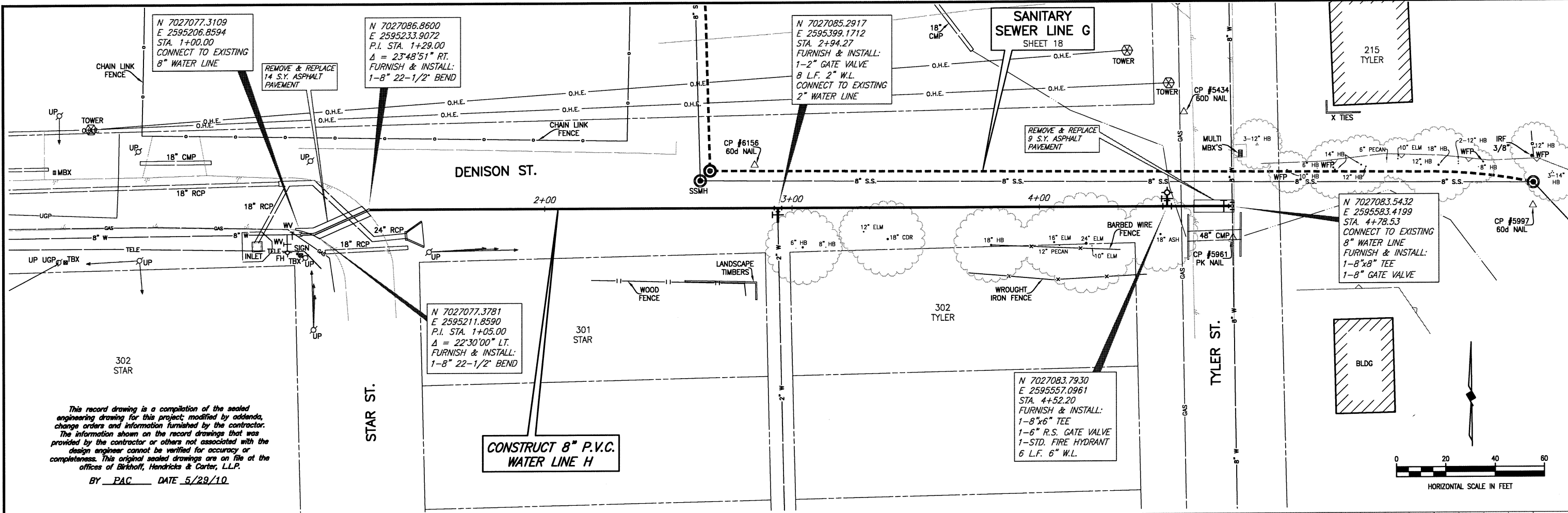
*Ronald V. Conway*  
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**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE G - PLAN & PROFILE**  
 STA. 1+00 TO STA. 3+28

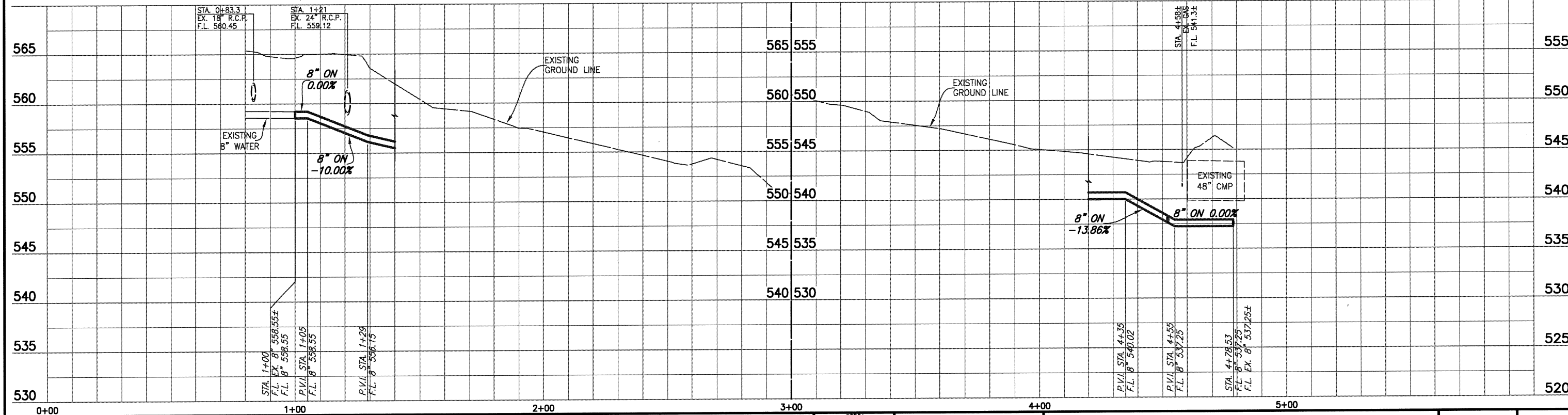
BHC  
 PROJECT NO.  
 2007-148  
 OCTOBER 2008

SHEET NO.  
**32**





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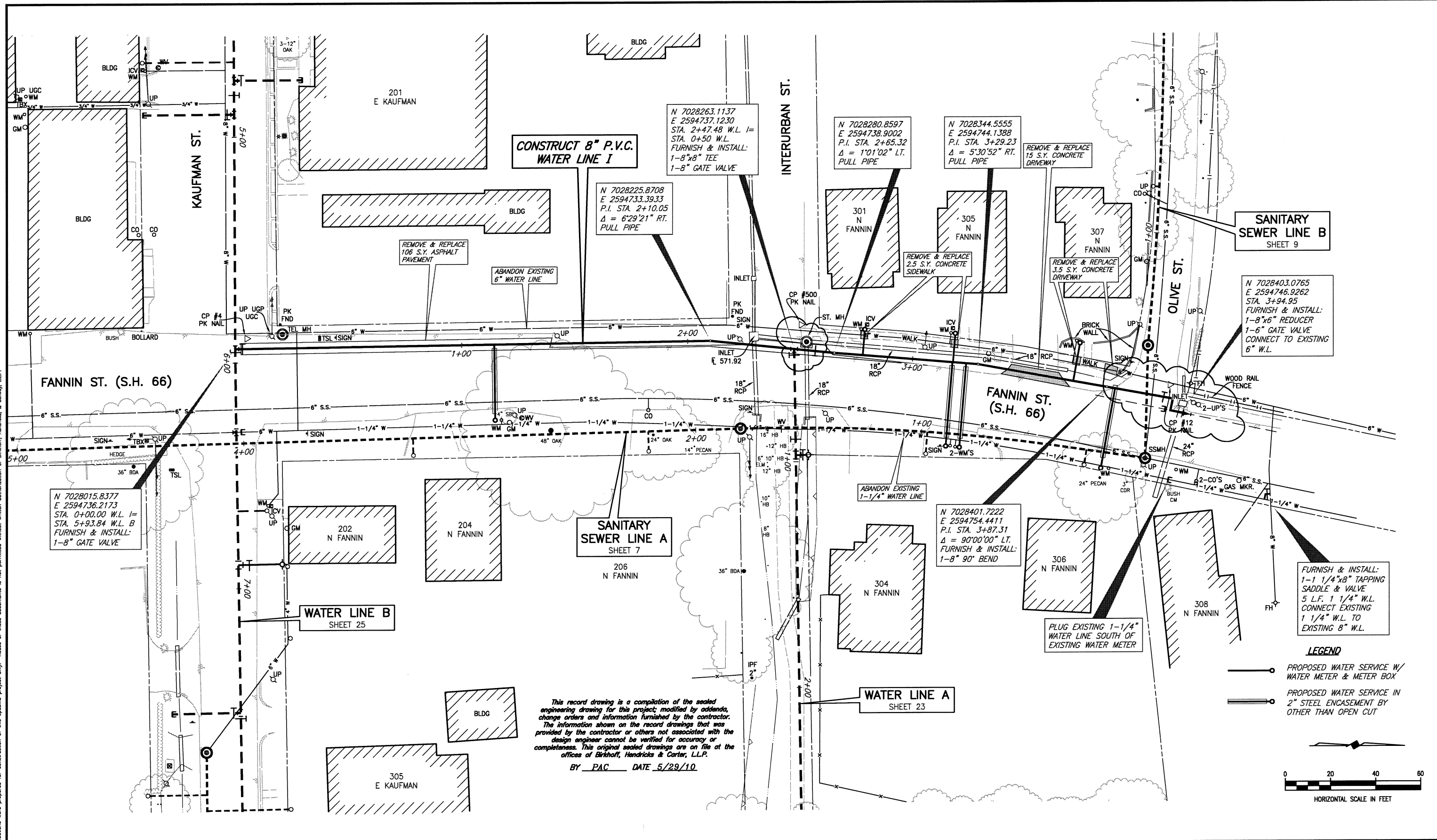


*Ronald V. Conway*  
 10/13/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE H - PLAN & PROFILE**  
 STA. 1+00 TO STA. 4+78.53

BHC  
 PROJECT NO.  
 2007-148  
 SHEET NO.  
**33**  
 OCTOBER 2008

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**CONSTRUCT 8" P.V.C. WATER LINE I**

N 7028225.8708  
E 2594733.3933  
P.I. STA. 2+10.05  
Δ = 6'29"21" RT.  
PULL PIPE

N 7028263.1137  
E 2594737.1230  
STA. 2+47.48 W.L. I=  
STA. 0+50 W.L.  
FURNISH & INSTALL:  
1-8"x8" TEE  
1-8" GATE VALVE

N 7028280.8597  
E 2594738.9002  
P.I. STA. 2+65.32  
Δ = 1'01"02" LT.  
PULL PIPE

N 7028344.5555  
E 2594744.1388  
P.I. STA. 3+29.23  
Δ = 5'30"52" RT.  
PULL PIPE

REMOVE & REPLACE  
15 S.Y. CONCRETE  
DRIVEWAY

**SANITARY SEWER LINE B**  
SHEET 9

N 7028403.0765  
E 2594746.9262  
STA. 3+94.95  
FURNISH & INSTALL:  
1-8"x6" REDUCER  
1-6" GATE VALVE  
CONNECT TO EXISTING  
6" W.L.

N 7028015.8377  
E 2594736.2173  
STA. 0+00.00 W.L. I=  
STA. 5+93.84 W.L. B  
FURNISH & INSTALL:  
1-8" GATE VALVE

**SANITARY SEWER LINE A**  
SHEET 7

N 7028401.7222  
E 2594754.4411  
P.I. STA. 3+87.31  
Δ = 90'00"00" LT.  
FURNISH & INSTALL:  
1-8" 90° BEND

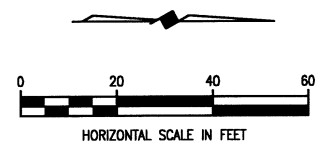
FURNISH & INSTALL:  
1-1 1/4"x8" TAPPING  
SADDLE & VALVE  
5 L.F. 1 1/4" W.L.  
CONNECT EXISTING  
1 1/4" W.L. TO  
EXISTING 8" W.L.

**WATER LINE B**  
SHEET 25

**WATER LINE A**  
SHEET 23

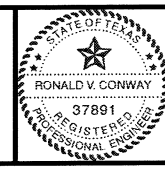
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**LEGEND**  
—○— PROPOSED WATER SERVICE W/  
WATER METER & METER BOX  
—○— PROPOSED WATER SERVICE IN  
2" STEEL ENCASMENT BY  
OTHER THAN OPEN CUT



REVISED: NOV. 24, 2008
REVISED: DEC. 4, 2008

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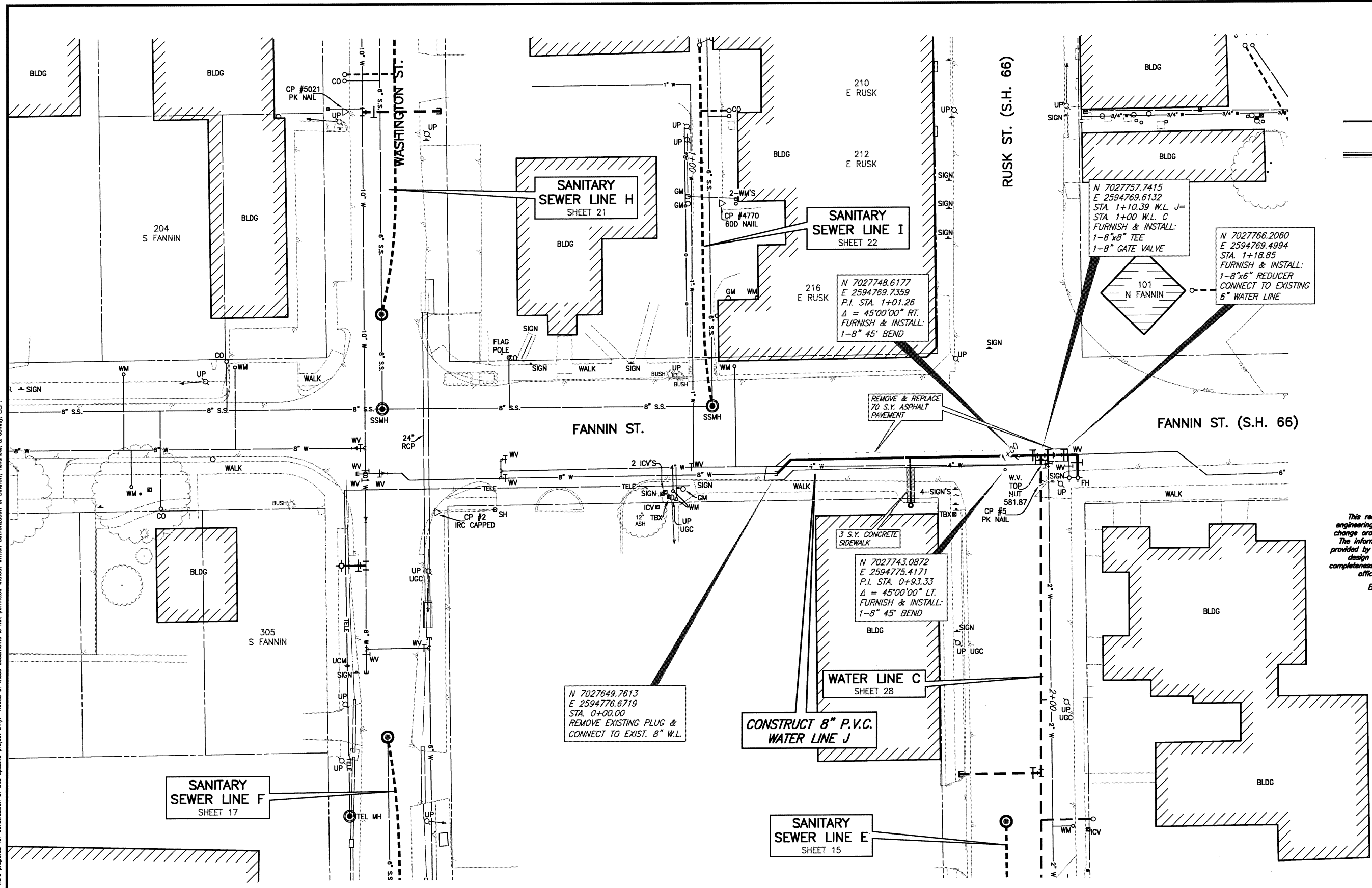


*Ronald V. Conway*  
12/4/08

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DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE I - PLAN**  
STA. 0+00 TO STA. 3+94.95

BHC PROJECT NO. 2007-148	SHEET NO. <b>34</b>
OCTOBER 2008	

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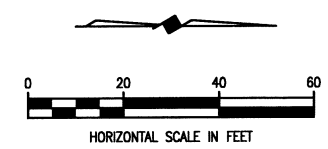
**LEGEND**

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WATER METER & METER BOX

—=— PROPOSED WATER SERVICE IN  
2" STEEL ENCASEMENT BY  
OTHER THAN OPEN CUT

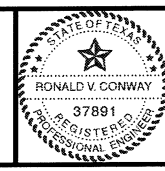
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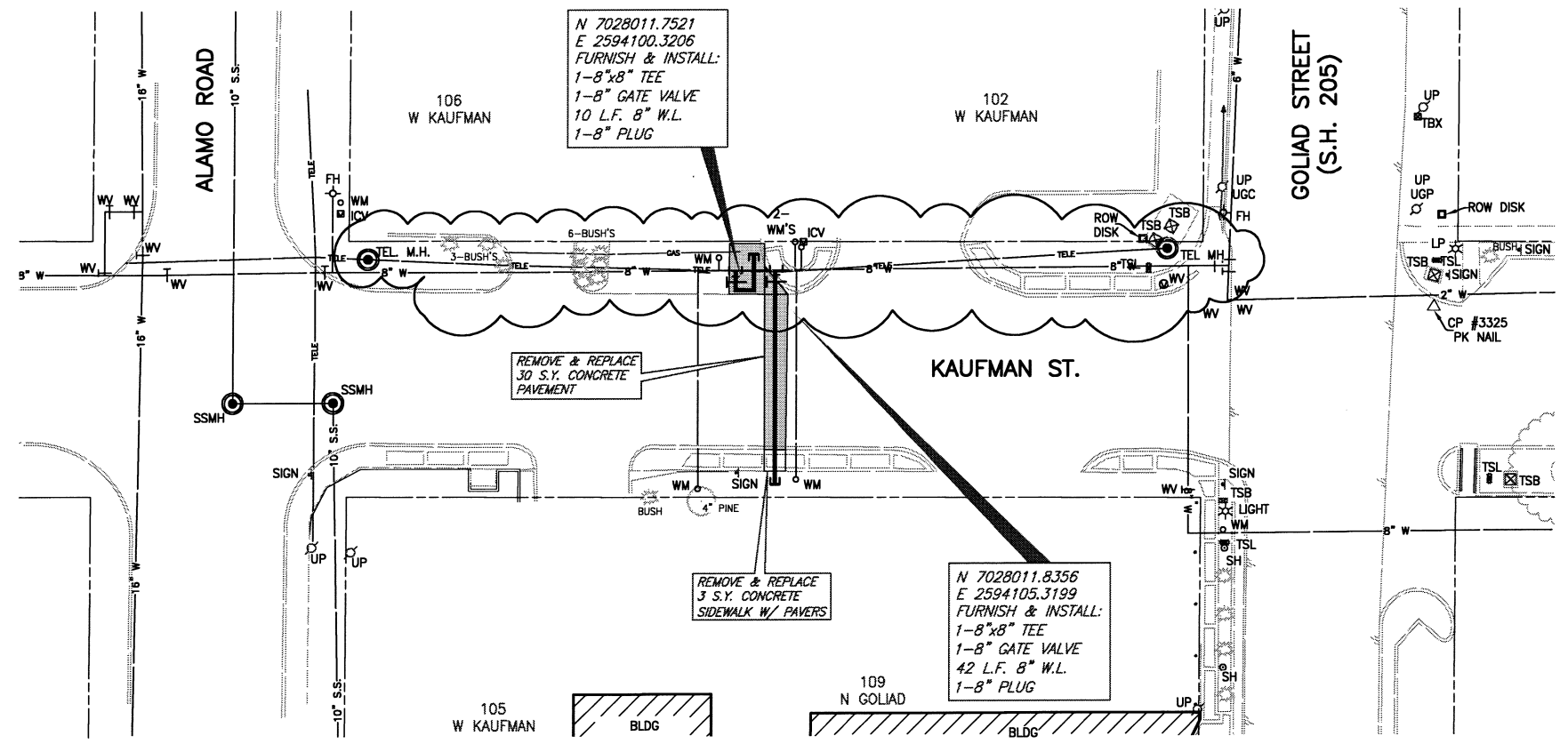
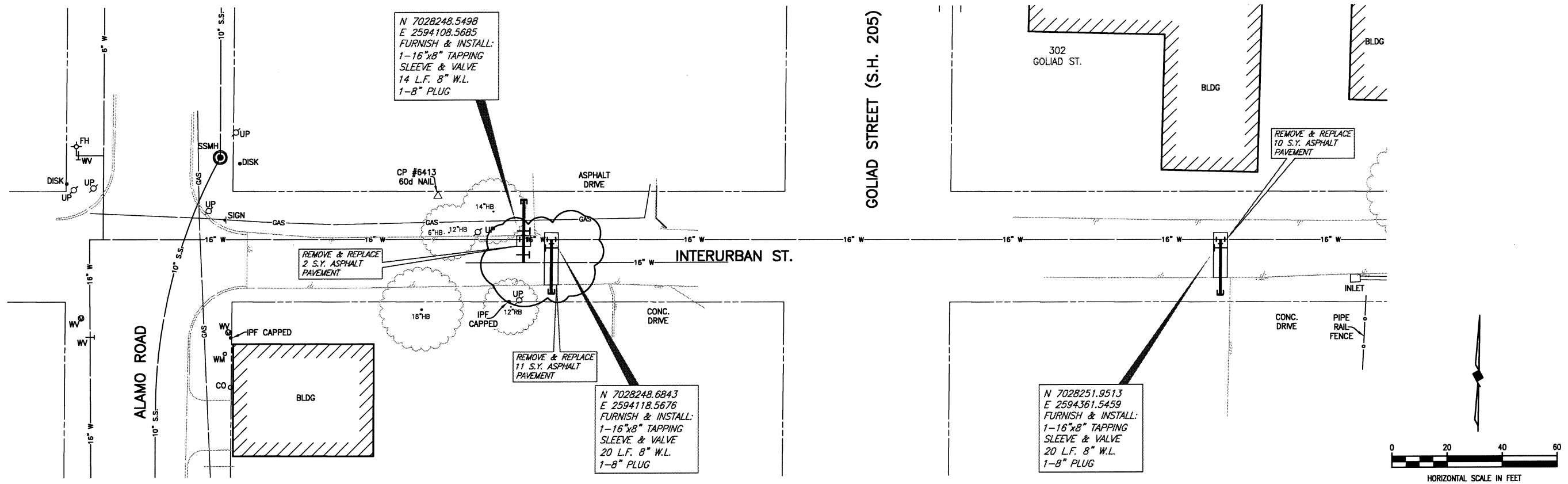


*Ronald V. Conway*  
 12/4/08

**CITY OF ROCKWALL, TEXAS**  
 DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE J - PLAN**  
 STA. 0+00 TO STA. 2+21.89

BHC PROJECT NO. 2007-148	SHEET NO. <b>35</b>
OCTOBER 2008	

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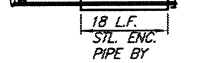
**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
WATER LINE CONNECTION PLAN

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

SHEET NO.  
**36**

CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF EXIST. 10" W.L. PRIOR TO INSTALLING ENC. PIPE.

**PROFILE DETAIL**  
NO SCALE

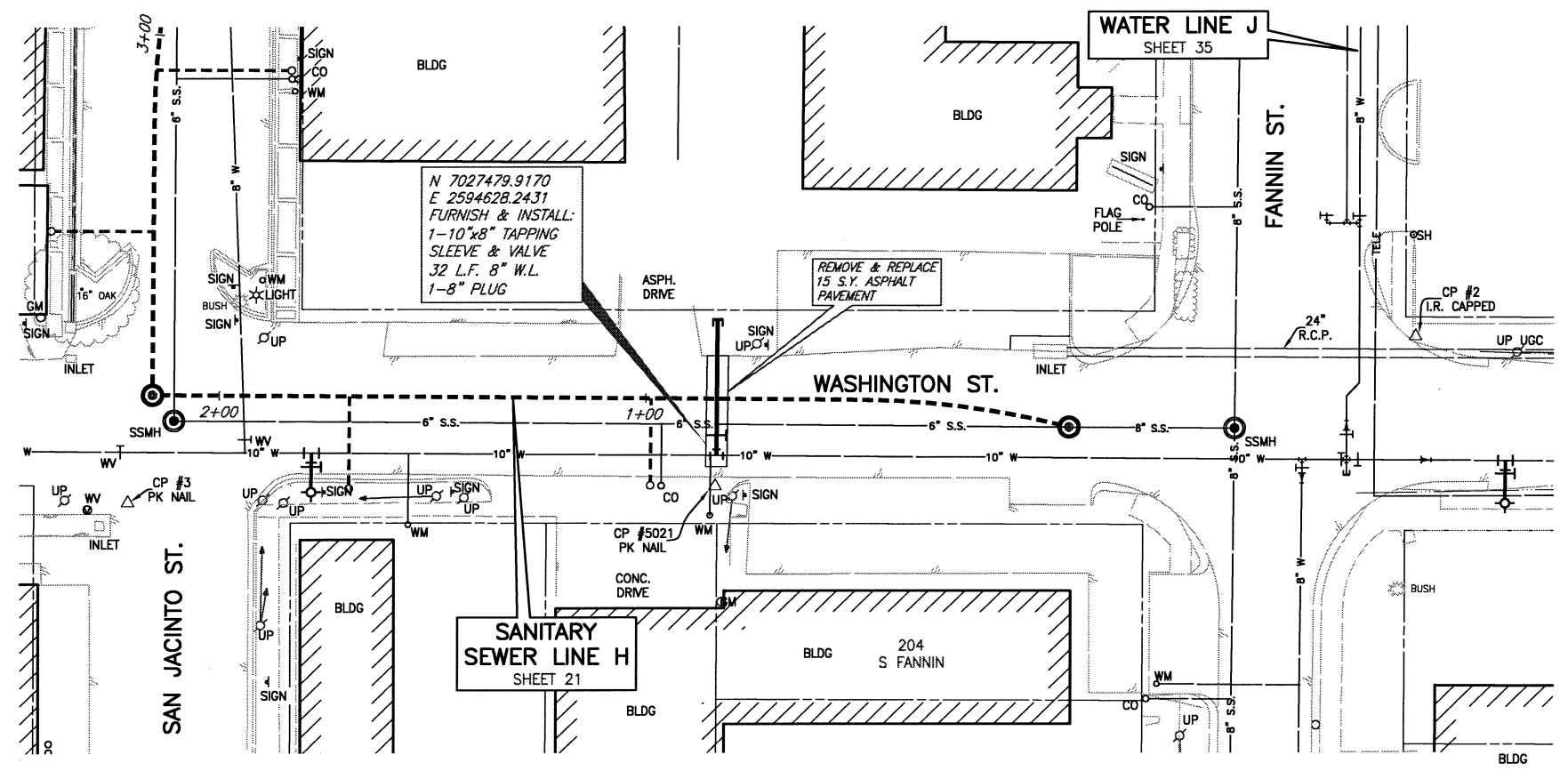
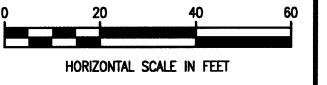
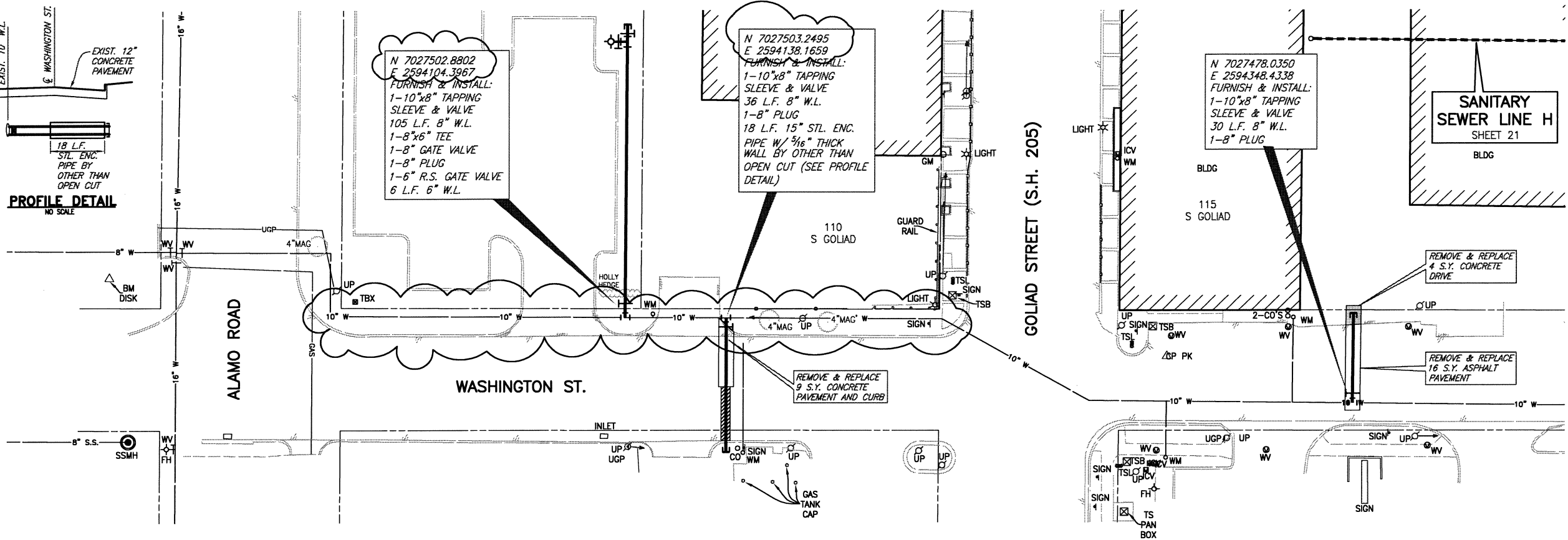


N 7027502.8802  
E 2594104.3967  
FURNISH & INSTALL:  
1-10"x8" TAPPING SLEEVE & VALVE  
1-8" GATE VALVE  
105 L.F. 8" W.L.  
1-8"x6" TEE  
1-8" GATE VALVE  
1-8" PLUG  
1-6" R.S. GATE VALVE  
6 L.F. 6" W.L.

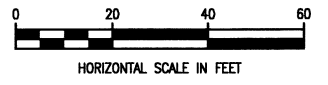
N 7027503.2495  
E 2594138.1659  
FURNISH & INSTALL:  
1-10"x8" TAPPING SLEEVE & VALVE  
36 L.F. 8" W.L.  
1-8" PLUG  
18 L.F. 15" STL. ENC. PIPE W/ 5/16" THICK WALL BY OTHER THAN OPEN CUT (SEE PROFILE DETAIL)

N 7027478.0350  
E 2594348.4338  
FURNISH & INSTALL:  
1-10"x8" TAPPING SLEEVE & VALVE  
30 L.F. 8" W.L.  
1-8" PLUG

**SANITARY SEWER LINE H**  
SHEET 21

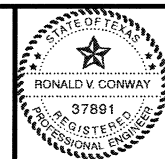


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REVISED: DEC. 4, 2008  
REVISED: JAN. 2, 2009

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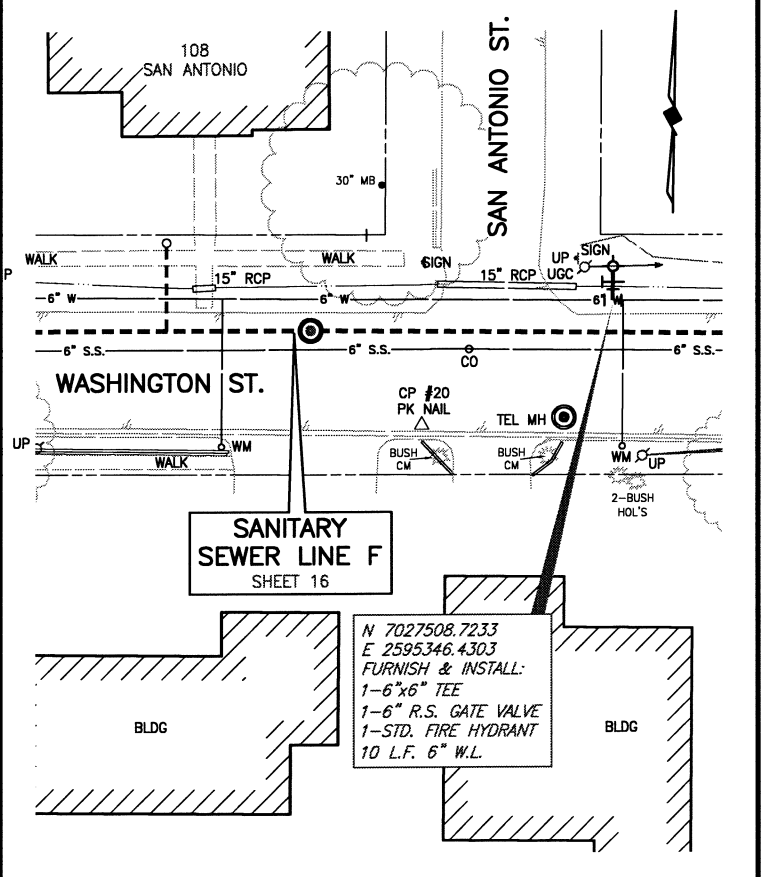
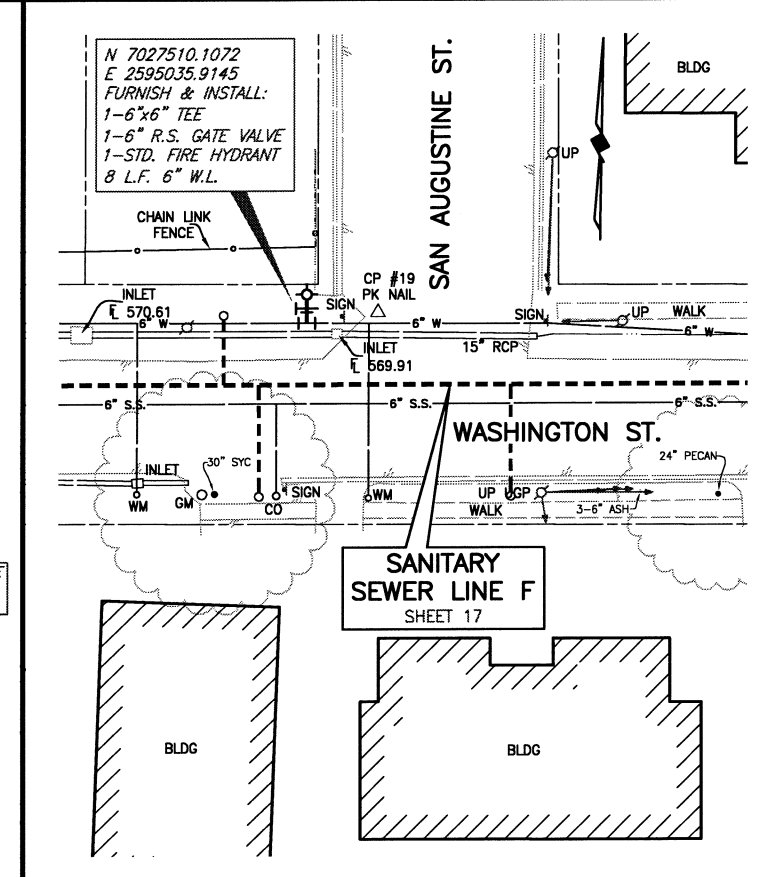
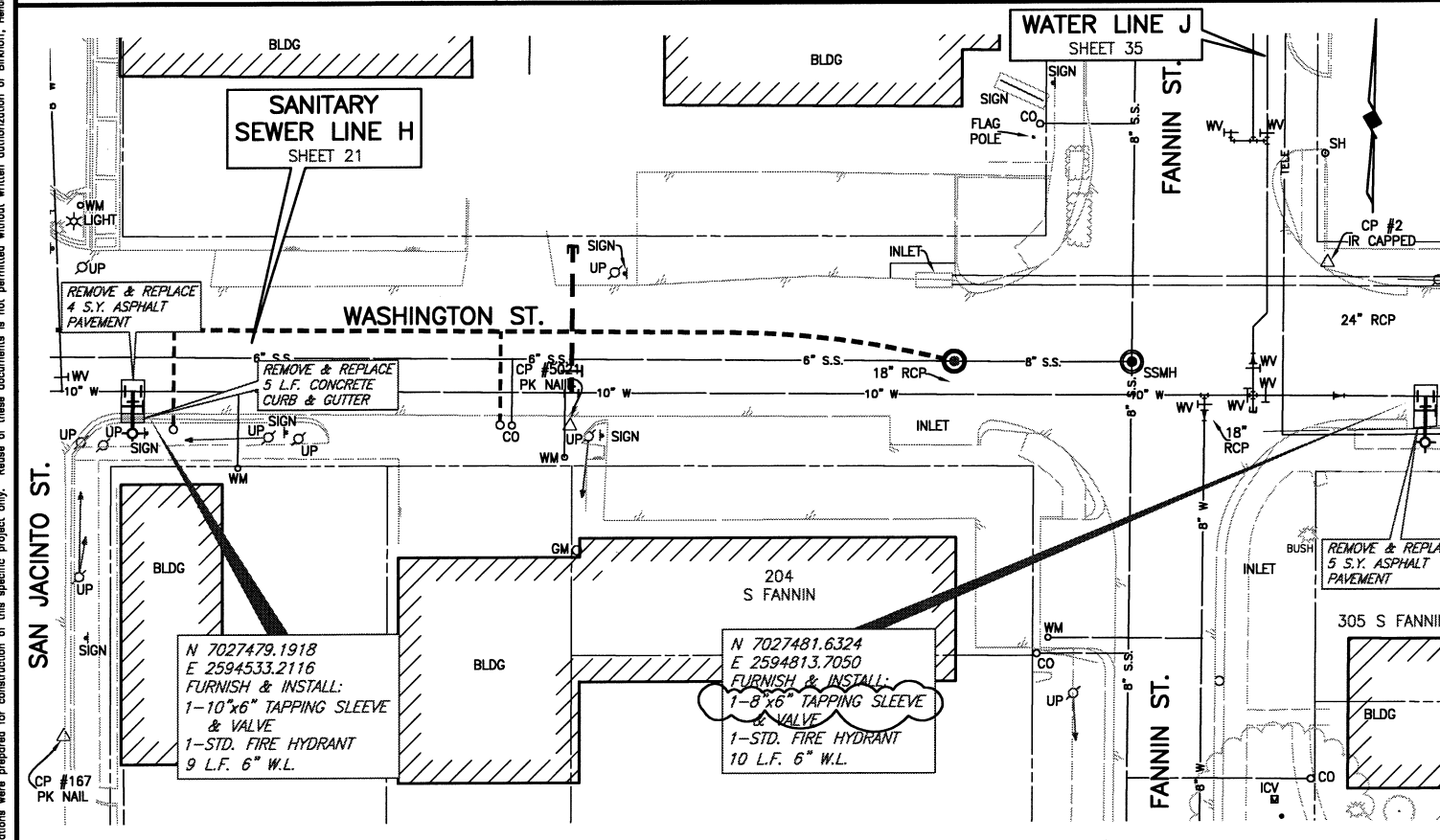
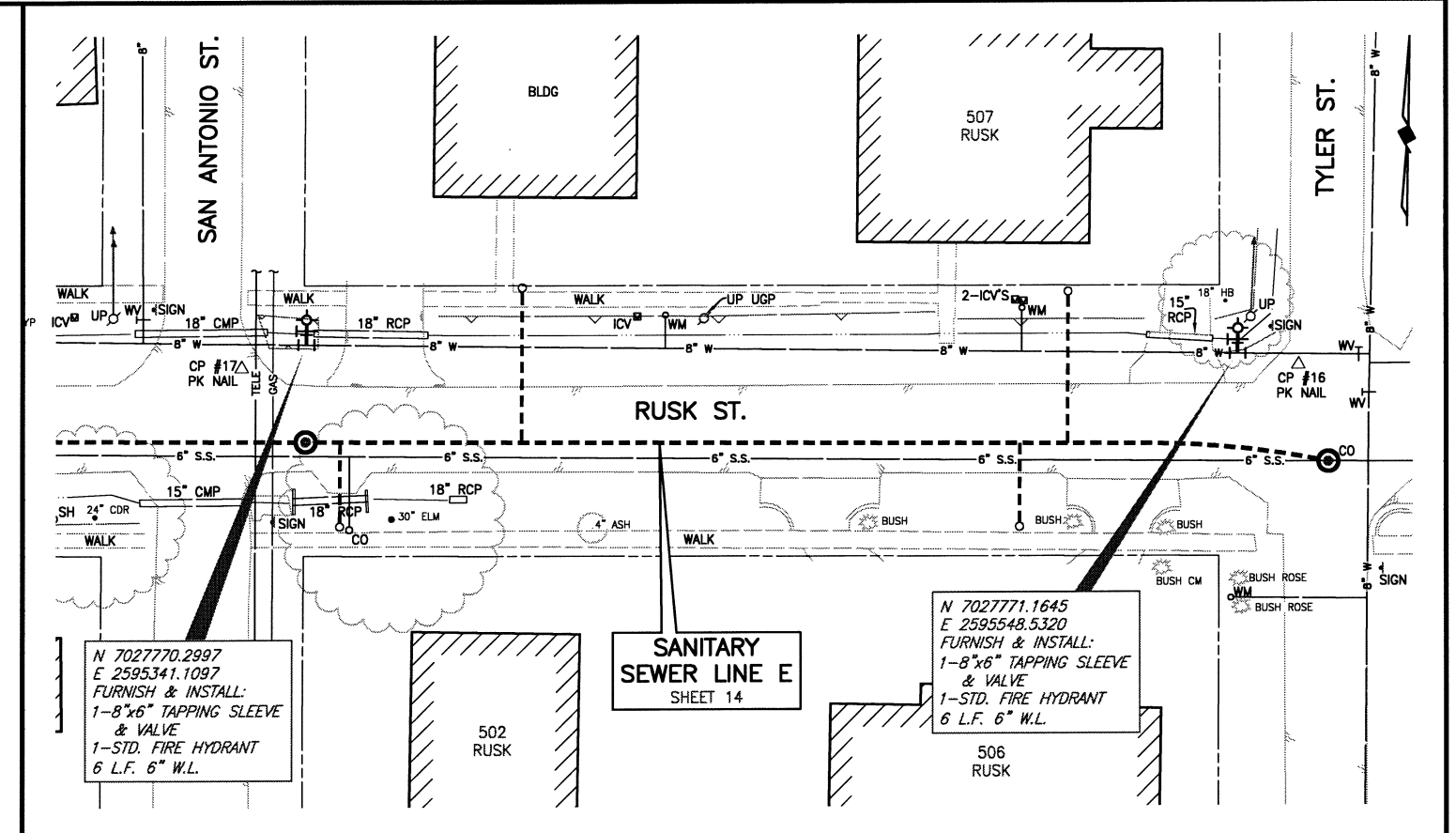
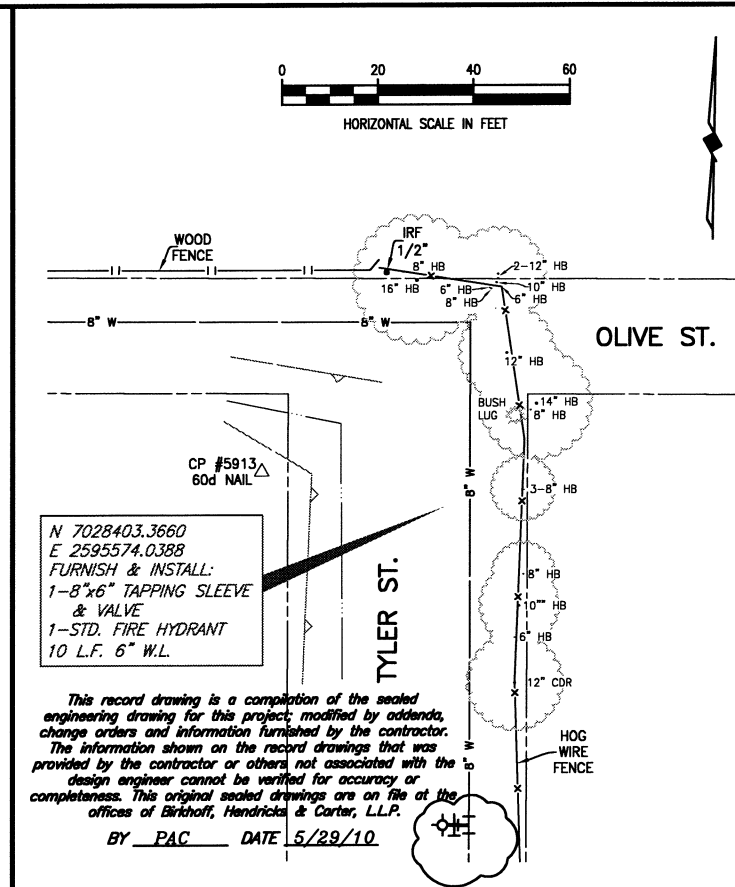
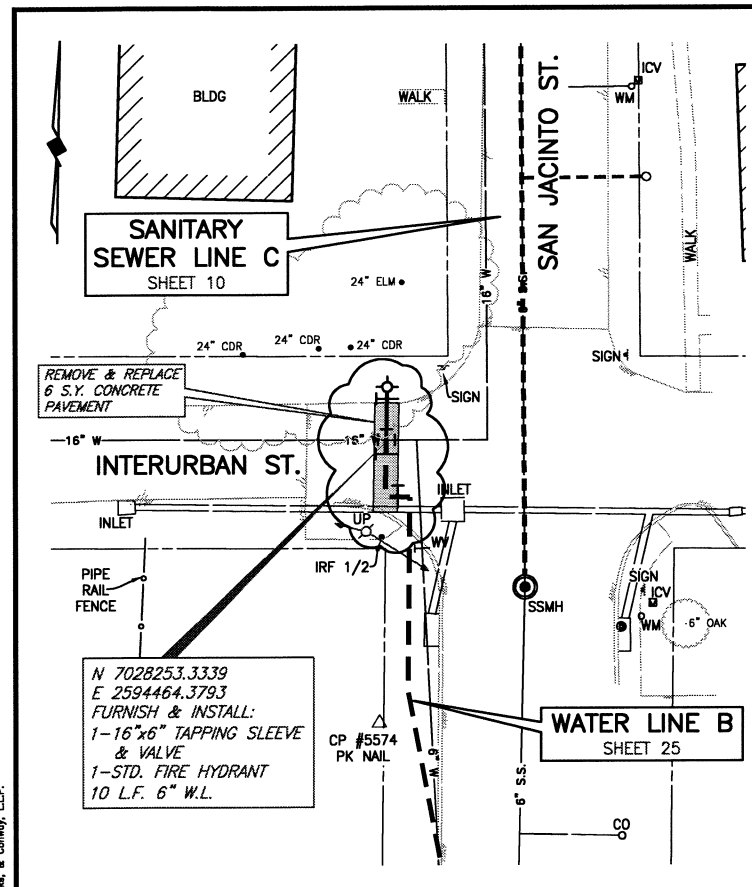


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12/4/08

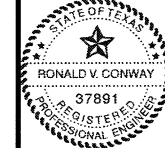
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DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
**WATER LINE CONNECTION PLAN**

BHC PROJECT NO. 2007-148  
OCTOBER 2008  
SHEET NO. **37**

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10/13/08

**CITY OF ROCKWALL, TEXAS**  
DOWNTOWN AREA WATER AND SANITARY SEWER IMPROVEMENTS  
FIRE HYDRANT INSTALLATION PLAN

BHC  
PROJECT NO.  
2007-148  
OCTOBER 2008

SHEET NO.  
**38**