

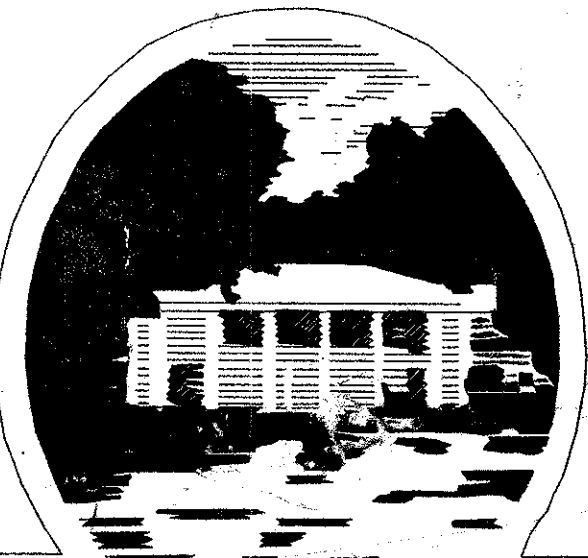
PLANS FOR THE CONSTRUCTION OF
 PAVING, BRIDGE, STORM SEWER, WATER, SANITARY SEWER
 SIGNALIZATION AND STREETScape IMPROVEMENTS FOR

ARAPAHO ROAD - PHASE III

FROM SURVEYOR BOULEVARD TO ADDISON ROAD

STATION 34+07.75 TO STATION 87+88.00 (LENGTH = 5381 FT = 1.02 MILES)

PROJECT RECORD COPY I



TOWN OF
ADDISON

R. SCOTT WHEELER
 MAYOR

DIANE MALLORY GLYNDA TURNER
 JIMMY NIEMANN GREGORY S. HIRSH
 COUNCIL MEMBERS

FREDERICK M. SILVER JOE CHOW
 MAYOR PRO TEMPORE DEPUTY MAYOR PRO TEMPORE

RON WHITEHEAD
 CITY MANAGER

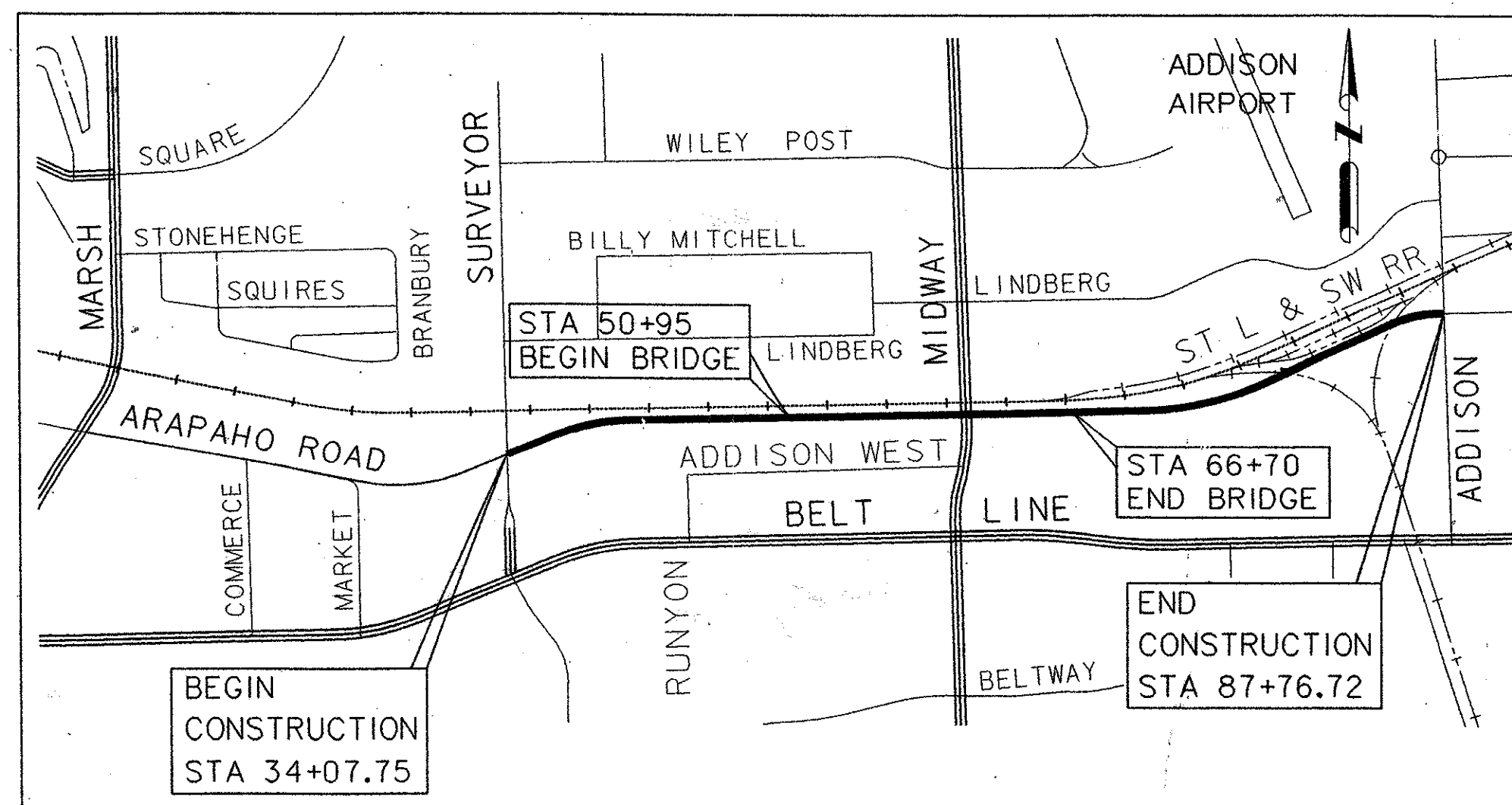
MIKE MURPHY
 DIRECTOR OF PUBLIC WORKS

OWNER:

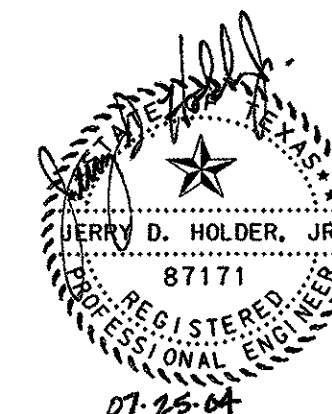
TOWN OF ADDISON
 DEPARTMENT OF PUBLIC WORKS
 16801 WESTGROVE
 P.O. BOX 144
 ADDISON, TEXAS 75001
 (972) 450-2886

ENGINEER:

HNTB CORPORATION
 5910 WEST PLANO PARKWAY, SUITE 200
 DALLAS, TEXAS 75093
 (972) 661-5626



LOCATION MAP
 NOT TO SCALE

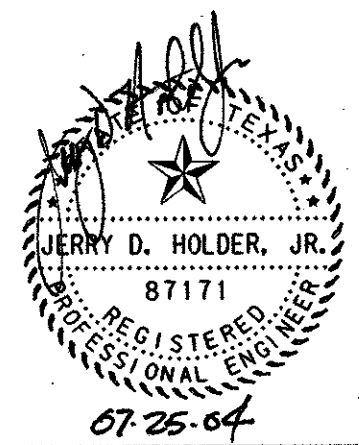


SHEET NO.	DESCRIPTION	PAGE NO.
	COVER SHEET	1
I-1	INDEX OF SHEETS	2
N-1 TO N-2	NOTES AND LEGEND	3-4
Q-1 TO Q-4	QUANTITY SHEETS	5-7A
KM-1	KEY MAP	8
SC-1 TO SC-4	SURVEY CONTROL PLANS	9-12
RW-1 TO RW-7	RIGHT-OF-WAY PLANS	13-19
R-1 TO R-7	REMOVAL PLANS	20-26
TC-1 TO TC-10	TRAFFIC CONTROL PLANS	27-30F
PT-1 TO PT-10	PAVING TYPICAL SECTIONS	31-40
PP-1 TO PP-12	PAVING PLAN AND PROFILES	41-52
DP-1	DRIVEWAY PROFILES	53
IG-1	INTERSECTION GRADING	54
JL-1	JOINT LAYOUT	55
PK-1 TO PK-5	PARKING LAYOUT	56-60
G-1 TO G-4	GRADING PLANS	61-64
PD-1	PAVING DETAILS	65
S-1 TO S-6	SIGNING PLANS	66-71
ST-1 TO ST-7	STRIPING PLANS	72-78
EC-1 TO EC-8	EROSION CONTROL PLANS	79-85A
D-1 TO D-3 **	DRAINAGE AREA MAP	86-88
SW-1 TO SW-28	STORM SEWER PLANS, PROFILES & DETAILS	89-113D
SS-1 TO SS-3	12" SANITARY SEWER PLAN AND PROFILES	114-116
SS-4 TO SS-7	10" SANITARY SEWER RELOCATION PLAN & DETAILS	117-117C
DWU-1	60" BUTTERFLY VALVE	118-118A
RT-1 TO RT-5	RETAINING WALL (MSE) PLAN, PROFILE & DETAILS	119-123
SR-1	STRUCTURAL RETAINING WALL DETAILS	123A
XS-1 TO XS-29	CROSS-SECTIONS	124-152
IL-1 TO IL-11	ILLUMINATION PLANS & DETAILS (SHEET 162 NOT USED)	153-162A
0304D	INSTALLATION OF ROAD CROSSING WITH PRECAST CONCRETE PANELS	162B
CT-1 TO CT-2	CROSSING TRACK PLANS	162C-162D
TS-1 TO TS-19	TRAFFIC SIGNAL PLANS	163-181
U-1 TO U-6	EXISTING UTILITY PLANS	182-187
LA-01 TO LA-14	SITWORK LAYOUT AND DIMENSIONING PLANS	188-201
LP-01 TO LP-14	LANDSCAPE PLANS	202-215
DT-01 TO DT-04	SITWORK DETAILS	216-219
DT-05	FENCE AND COLUMN DETAILS	220
DT-06	FENCE AND RETAINING WALL DETAILS	221
DT-07	PLANTING DETAILS	222
DT-08	MISC. DETAILS	223
IR-01 TO IR-16	IRRIGATION PLANS	224-238A
IR-17	IRRIGATION DETAILS	238B
BR-1 TO BR-4	BRIDGE LAYOUT	239-242
BR-5 TO BR-6	BRIDGE TYPICAL SECTION	243-244
BR-7	ESTIMATED QUANTITIES	245
BR-8 TO BR-9	BEARING SEAT ELEVATIONS	246-247
BR-10	BEARING PAD TAPER REPORT	248
BR-11 TO BR-12	FOUNDATION LAYOUT	249-250
BR-13	FOUNDATION DETAILS	251
BR-14 TO BR-15	ABUTMENT 1 DETAILS	252-253
BR-16 TO BR-17	ABUTMENT 15 DETAILS	254-255
BR-18 TO BR-20	BENTS 2-8 & 11-14 DETAILS	256-258
BR-21	GEOMETRY BENT 9	259
BR-22	GEOMETRY BENT 10	260
BR-23 TO BR-28	BENTS 9 & 10 DETAILS	261-266
BR-29	FRAMING PLAN UNIT 1	267
BR-30	FRAMING PLAN UNIT 2	268
BR-31	FRAMING PLAN UNIT 3	269
BR-32	FRAMING PLAN UNIT 4	270
BR-33	FRAMING PLAN UNIT 5	271
BR-34	FRAMING PLAN UNIT 6	272

** SHEETS D1- D3, WILL BE SUPPLIED AT THE PRECONSTRUCTION MEETING

SHEET NO.	DESCRIPTION	PAGE NO.
BR-35	GEOMETRY MAIN SPAN	273
BR-36 TO BR-37	MAIN SPAN ERECTION SEQUENCE	274-275
BR-38 TO BR-41	ARCH RIB DETAIL UNIT 4	276-279
BR-42	HANGAR DETAIL UNIT 4	280
BR-43 TO BR-44	U-BEAM DETAILS UNIT 4	281-282
BR-45	PRECAST PANEL LAYOUT UNIT 4	283
BR-46	STINGER DETAILS	284
BR-47	SLAB PLAN UNIT 1	285
BR-48	SLAB PLAN UNIT 2	286
BR-49	SLAB PLAN UNIT 3	287
BR-50	SLAB PLAN UNIT 4	288
BR-51	SLAB PLAN UNIT 5	289
BR-52	SLAB PLAN UNIT 6	290
BR-53	WARNING STRIP DETAIL	291
BR-54 TO BR-57	SLAB DETAILS	292-295
BR-58 TO BR-59	DIAPHRAGM REINFORCEMENT - UNIT 4	296-297
BR-60	PRESTRESSED CONCRETE U-BEAMS (DESIGN DATA) UBNS	298
BR-61	BRIDGE RAIL LAYOUT	299
BR-62 TO BR-63	PEDESTRIAN RAIL DETAILS	300-301
BR-64 TO BR-65	TRAFFIC RAIL (STEEL) TYPE T4(S) (MOD) A	302-303
BR-66 TO BR-67	TRAFFIC RAIL (STEEL) TYPE T4(S) (MOD) B	304-305
BR-68	LIGHT POLE ANCHORAGE DETAILS	306
BR-69	SURFACE FINISHES FOR STRUCTURES	307
BR-70	MSE WALL PANEL SCHEME	308
BS-1*	SEALED EXPANSION JOINT DETAILS - SEJ-A (MOD)	309
BS-2* TO BS-3*	PRESTRESSED CONCRETE U-BEAM DETAILS - UBA	310-311
BS-4* TO BS-5*	ENGLISH BEAM END AND BEARING DETAILS - UBB	312-313
BS-6* TO BS-8*	MISCELLANEOUS SLAB DETAILS - UBMS	314-316
BS-9*	MISCELLANEOUS SLAB DETAILS (INVERTED TEE BENTS) - UBMST	317
BS-10* TO BS-12*	PRESTRESSED CONCRETE PANEL DETAILS - PCP(U)	318-320
BS-13*	PERMANENT METAL DECK FORMS PMDF(U)	321
BL-1 TO BL-4	BRIDGE LIGHTING PLAN 240 AND 120V	322-325
BL-5 TO BL-8	BRIDGE LIGHTING PLAN 480V	326-329
BL-9	BRIDGE LIGHTING MAIN SPAN	330
BL-10	BRIDGE LIGHTING CONDUIT LOCATIONS	331
BL-11 TO BL-13	BRIDGE LIGHTING DETAILS	332-334
BL-14	WIRING DIAGRAM: 240/120V FLOODLIGHTS & RECEPTACLES	335
BL-15	CONDUIT AND CONDUCTOR SUMMARY FLOODLIGHTS & RECEPTACLES	336
BL-16	WIRING DIAGRAM: 240/120V TYPE "D" UNDER BRIDGE LIGHTS	337
BL-17	CONDUIT AND CONDUCTOR SUMMARY TYPE D UNDER BRIDGE LIGHTS	338
BL-18	WIRING DIAGRAM TYPE "C" LED DRIVERS	339
BL-19	CONDUIT & CONDUCTOR SUMMARY TYPE C LED	340
BL-20	WIRING DIAGRAM DIAPHRAGM LED	341
BL-21	CONDUIT & CONDUCTOR SUMMARY DIAPHRAGM LED	342
BL-22	WIRING DIAGRAM (480V) TYPE "G" & "F" ROADWAY LIGHTS	343
BL-23	CONDUIT & CONDUCTOR SUMMARY TYPE G & F ROADWAY LIGHTS	344
BL-24	BRIDGE LIGHTING PANEL SCHEDULE LDC "A" & "B"	345
BL-25	BRIDGE LIGHTING - ELECTRIC SERVICE SCHEMATIC	346
BLS-1*	ED (1)-03 ELECTRICAL DETAILS - CONDUIT	347
BLS-2*	ED (2)-03 ELECTRICAL DETAILS - CONDUCTORS	348
BLS-3*	ED (3)-03 ELECTRICAL DETAILS - GROUND BOXES	349
BLS-4*	ED (4)-03 ELECTRICAL DETAILS - SERVICE SCHEMATICS AND SUPPORT - TYPE TP (OVERHEAD)	350
BLS-5*	ED (5)-03 ELECTRICAL DETAILS - SERVICE ENCLOSURE & NOTES	351
BLS-6*	ED (6)-03 ELECTRICAL DETAILS - SERVICE SUPPORT TYPE SF & SP	352
BLS-7*	ED (8)-03 ELECTRICAL DETAILS - ELECTRICAL SERVICE SUPPORT - PEDESTAL SERVICE TYPE PS	353
BLS-8*	ED (10)-03 ELECTRICAL DETAILS - DUCT CABLE	354
BLS-9*	ED (13)-03 ELECTRICAL DETAILS - GROUND BOXES / BATTERY BOX	355
BLS-10*	RID (5)-04 ROADWAY ILLUMINATION DETAILS	356

* THE STANDARD SHEETS SPECIFICALLY IDENTIFIED BY AN (*) HAVE BEEN DETERMINED TO BE APPLICABLE TO THIS PROJECT.



NO.	DATE	REVISION	APPROV.
5	6-01-04	REISSUE SHEET	JSN
3	5-24-04	REISSUE SHEET	JSN

2

HNTB ARCHITECTS ENGINEERS PLANNERS
The HNTB Companies

ARAPAHO ROAD - PHASE III

SURVEYOR BOULEVARD TO ADDISON ROAD

INDEX OF SHEETS

TOWN OF ADDISON, TEXAS

Design	Drawn	DATE	SCALE	PROJECT NO.	SHEET NO.
Check	Check	APRIL 04		25768	1-1

NO.	DATE	REVISION	APPROV.
1			
2			
3			

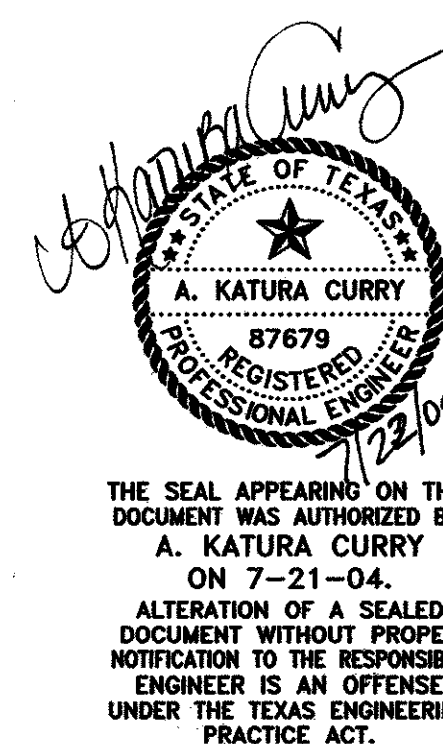
UTILITY IMPROVEMENTS

ITEM NO.	DESCRIPTION & UNIT PRICE IN WORDS	UNIT	EST. QTY.
200	10" PVC SDR 35 sanitary sewer pipe, including embedment	LF	1,396
201	12" PVC SDR 35 sanitary sewer pipe, including embedment	LF	1,177
202	4' diameter sanitary sewer manhole	EA	6
203	4' diameter sanitary sewer manhole with internal drop	EA	4
204	Connect existing sanitary sewer service	EA	6
205	24" steel encasement pipe	LF	300
206	Construct concrete encasement	CY	5
207	Remove and dispose of existing manhole	EA	5
208	Erosion control devices	LS	1
209	Remove Concrete Channel Lining	LS	1
210	Remove Existing 66" RCP	LF	763
211	Remove Existing 3-66" Headwall	EA	2
212	Remove 54" Headwall and RCP	LF	28
213	Remove 9'x5' Culvert	LF	30
214	Remove 24" RCP	LF	60
215	Remove 30" RCP	LF	16
216	Remove 30" headwall	EA	1
217	Remove CMP and headwall	LF	39
218	Remove 2-4'x2' headwall	EA	2
219	Salvage Fire Hydrant and Valve	EA	1
220	Concrete Pilot Channel	SY	85
221	8' Standard Curb Inlet	EA	6
222	10' Standard Curb Inlet	EA	3
223	12' Standard Curb Inlet	EA	1
224	8' Recessed Curb Inlet	EA	7
225	10' Recessed Curb Inlet	EA	10
226	2-8' Recessed Curb Inlet	EA	1
227	10' Modified Curb Inlet	EA	1
228	2-Grate Inlet	EA	4
229	'Y' Inlet	EA	13
230	1'x1' Grate Inlet	EA	1
231	2-10'x6' PW Wingwall	EA	1
232	1-6'x5' PW Wingwall	EA	1
233	30" - Type A Headwall	EA	1
234	36" - Type B Headwall	EA	1
235	Box Culvert Storm Manhole	EA	6
236	Type A Storm Sewer Manhole	EA	1
237	18" RCP Storm Sewer Pipe	LF	8
238	21" RCP Storm Sewer Pipe	LF	954
239	24" RCP Storm Sewer Pipe	LF	912
240	30" RCP Storm Sewer Pipe	LF	554

UTILITY IMPROVEMENTS CONT.

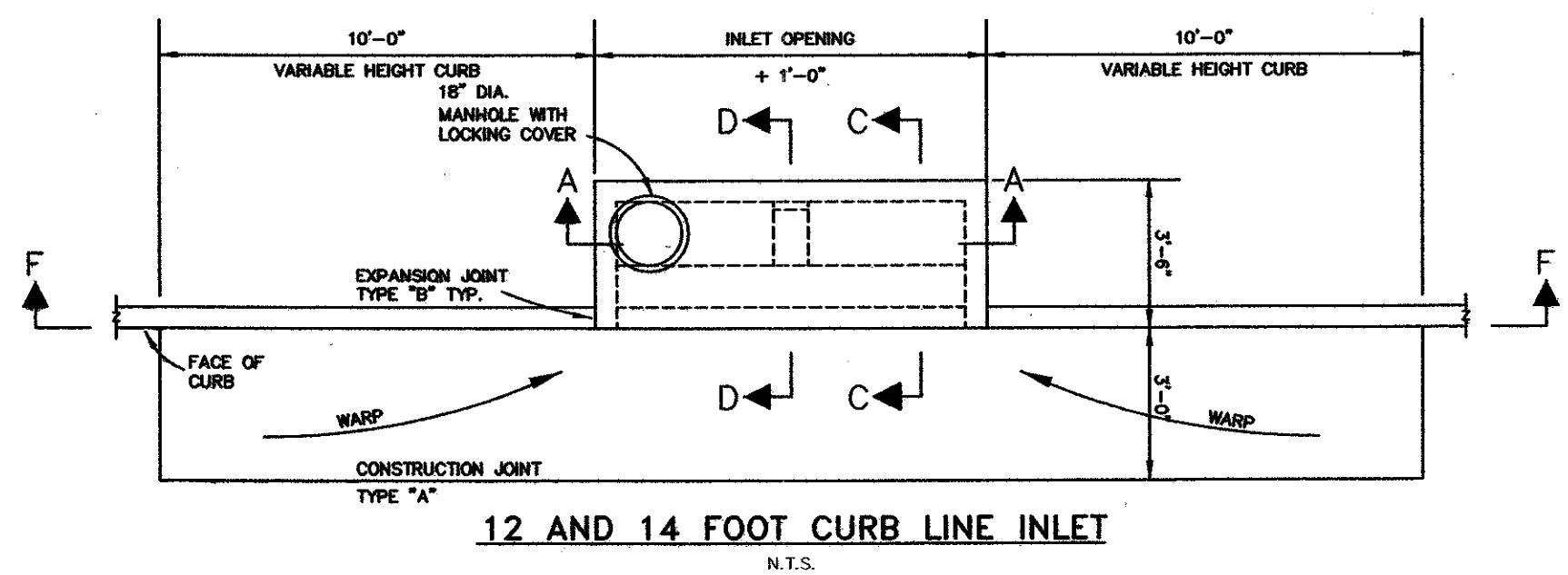
ITEM NO.	DESCRIPTION & UNIT PRICE IN WORDS	UNIT	EST. QTY.
241	36" RCP Storm Sewer Pipe	LF	35
242	54" RCP Storm Sewer Pipe	LF	19
243	60" RCP Storm Sewer Pipe	LF	6
244	4' X 2' Box Culvert	LF	24
245	6' X 3' Box Culvert	LF	244
246	6' X 5' Box Culvert	LF	112
247	7' X 5' Box Culvert	LF	260
248	8' X 5' Box Culvert	LF	590
249	9' X 5' Box Culvert	LF	4,516
250	10' X 5' Box Culvert	LF	512
251	10' X 6' Box Culvert	LF	1,395
252	21" RCP w/ 36" Steel Encasement by Bore & Jack	LF	48
253	24" RCP w/ 36" Steel Encasement by Bore & Jack	LF	42
254	30" RCP w/ 42" Steel Encasement by Bore & Jack	LF	38
255	4" Schedule 40 PVC	LF	1,572
256	8" Schedule 40 PVC	LF	15
257	PVC Fittings	LS	1
258	12" HDPE	LF	124
259	Concrete Pavement Removal / Replacement	SY	140
260	Concrete Driveway Removal / Replacement	SY	45
261	Fire Hydrant (including 6" water and valves)	EA	1
262	8" water line	LF	85
263	60" RCCP Water Lowering	LF	60
264	16" PVC Water Lowering	LF	20
265	8" PVC Water Lowering	LF	10
266	Trench Safety Design and Construction	LF	14,476
267	Remove sediment from 60" RCP	CY	250

NOTE:
THE QUANTITIES CONTAINED ON THIS SHEET ARE THE ORIGINAL QUANTITIES ISSUED FOR BID ON THIS PROJECT. THEY DO NOT REFLECT ANY CHANGES MADE BY ADDENDUM OR CHANGES REFLECTED IN THE ISSUED CONSTRUCTION PLANS DATED 07/22/2004. REVISED QUANTITIES SHALL BE ISSUED BY GRANTHAM & ASSOCIATES, INC. UNDER SEPARATE COVER.

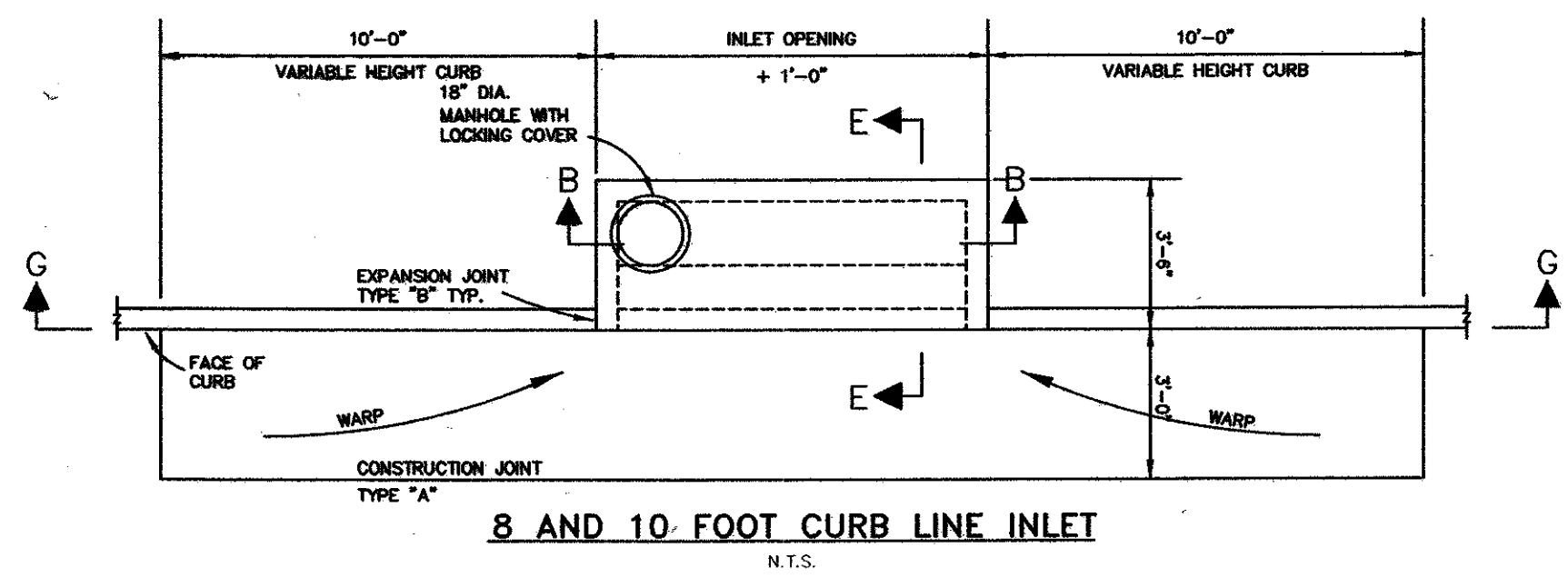


DATE:	MAY 2004	SCALE:	N.T.S.	JOB NO.:	02-320
DRAWN:	G&A	DESIGN:	AKC	REVIEWED:	DWG: 320QUANT.DWG
ARAPAHO ROAD PHASE III					
UTILITIES & SIGNALIZATION QUANTITIES					
TOWN OF ADDISON					
g&a Grantham & Associates, Inc.					SHT. Q-2
<small>1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)</small>					

NO.	DATE	REVISION	APPROV.
1			
2			
3			

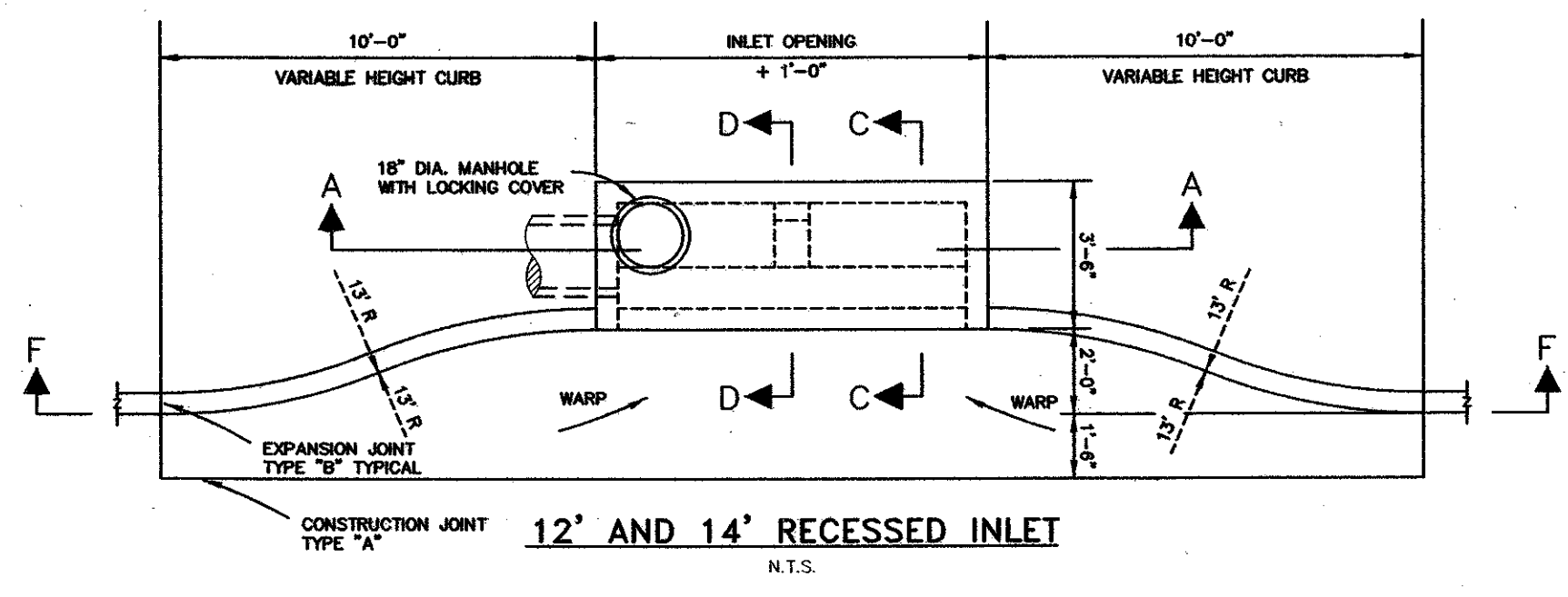


12 AND 14 FOOT CURB LINE INLET
N.T.S.

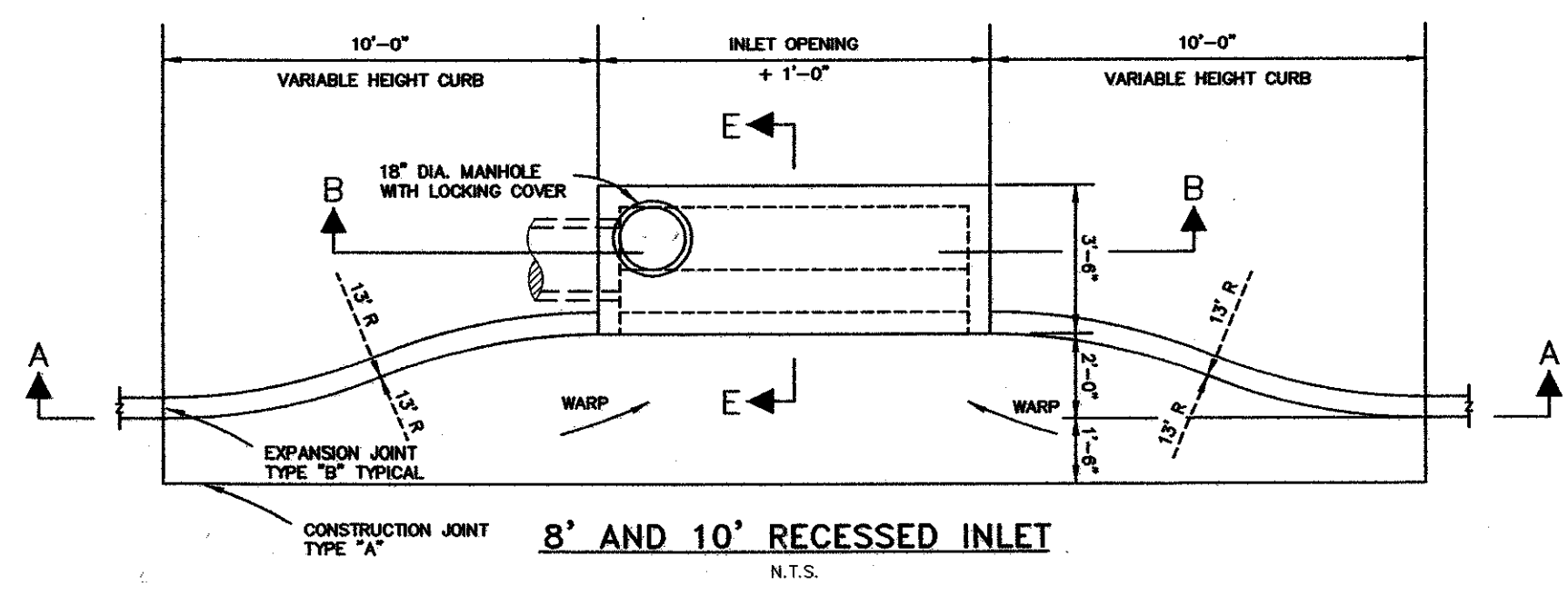


8 AND 10 FOOT CURB LINE INLET
N.T.S.

GENERAL NOTES:
1. OUTLET PIPE MAY BE LOCATED IN ANY WALL BUT SHALL NOT BE LOCATED AT ANY CORNER OR PILLASTER.
2. MANHOLE RING WITH LOCKING COVER SHALL BE PLACED OVER THE OUTLET PIPE. REINFORCING BARS ARE TO BE ADJUSTED ACCORDINGLY.
3. ALL INLET WALLS SHALL BE FORMED UP, BACK AND FRONT.



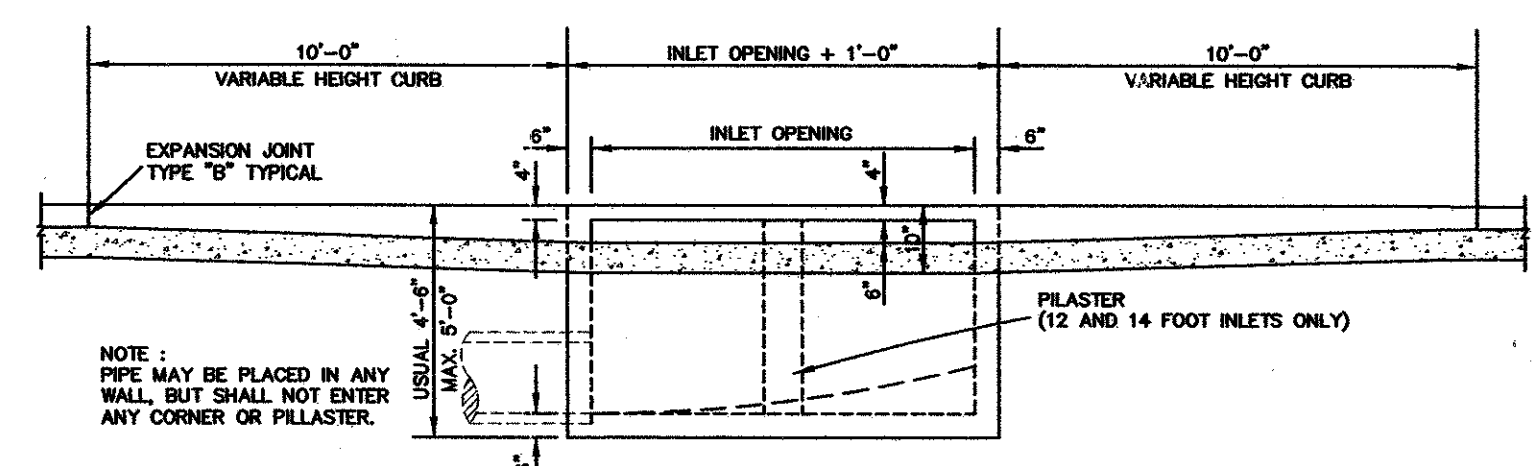
12' AND 14' RECESSED INLET
N.T.S.



8' AND 10' RECESSED INLET
N.T.S.

GENERAL NOTES:
1. OUTLET PIPE MAY BE LOCATED IN ANY WALL BUT SHALL NOT BE LOCATED AT ANY CORNER AT THE PILLASTER.
2. MANHOLE RING WITH LOCKING COVER SHALL BE PLACED OVER THE OUTLET PIPE. REINFORCING BARS ARE TO BE ADJUSTED ACCORDINGLY.

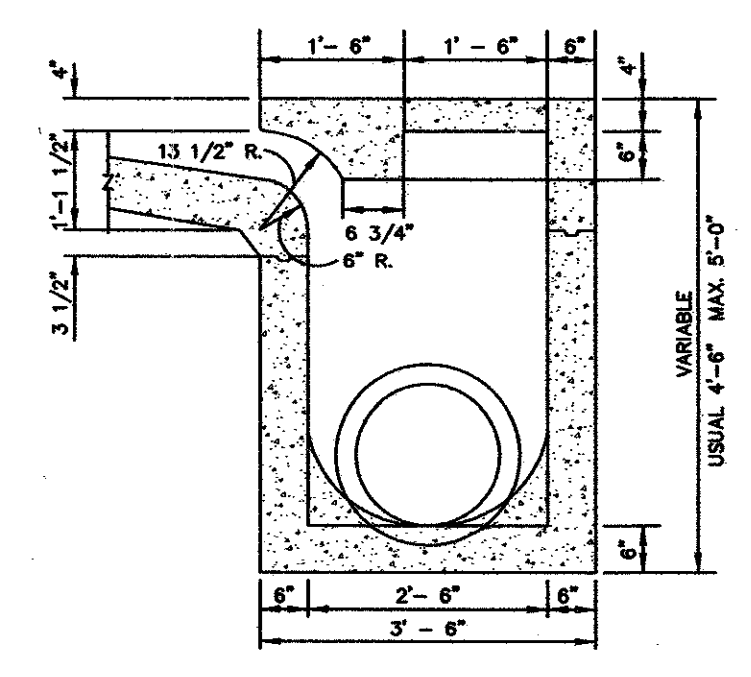
CURB LINE INLET PLAN VIEW



SECTION F-F (12 AND 14 FOOT INLETS)
SECTION G-G (8 AND 10 FOOT INLETS)
N.T.S.

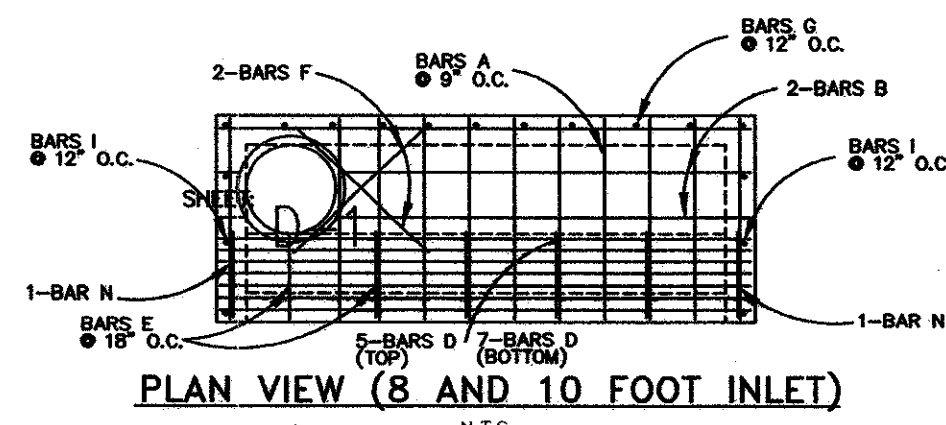
NOTE:
PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR PILLASTER.

NOTE:
INLET THROAT SHALL BE A 7 1/2" OPENING.

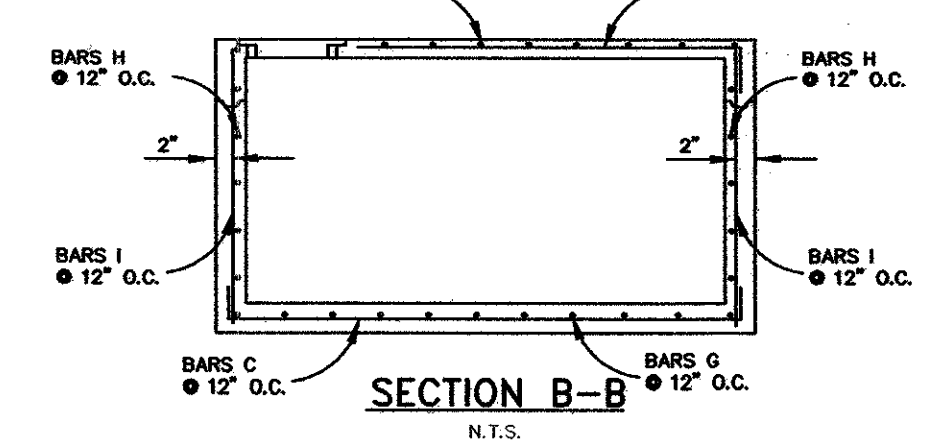


TYPICAL CROSS SECTION
N.T.S.

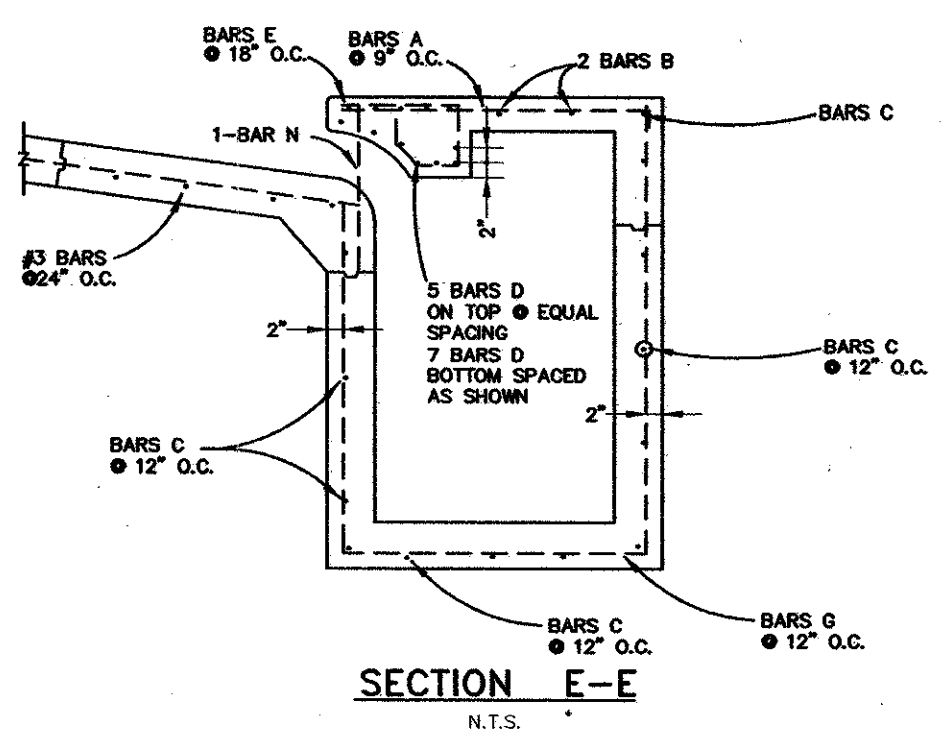
CURB LINE INLET CROSS SECTIONS



PLAN VIEW (8 AND 10 FOOT INLET)
N.T.S.

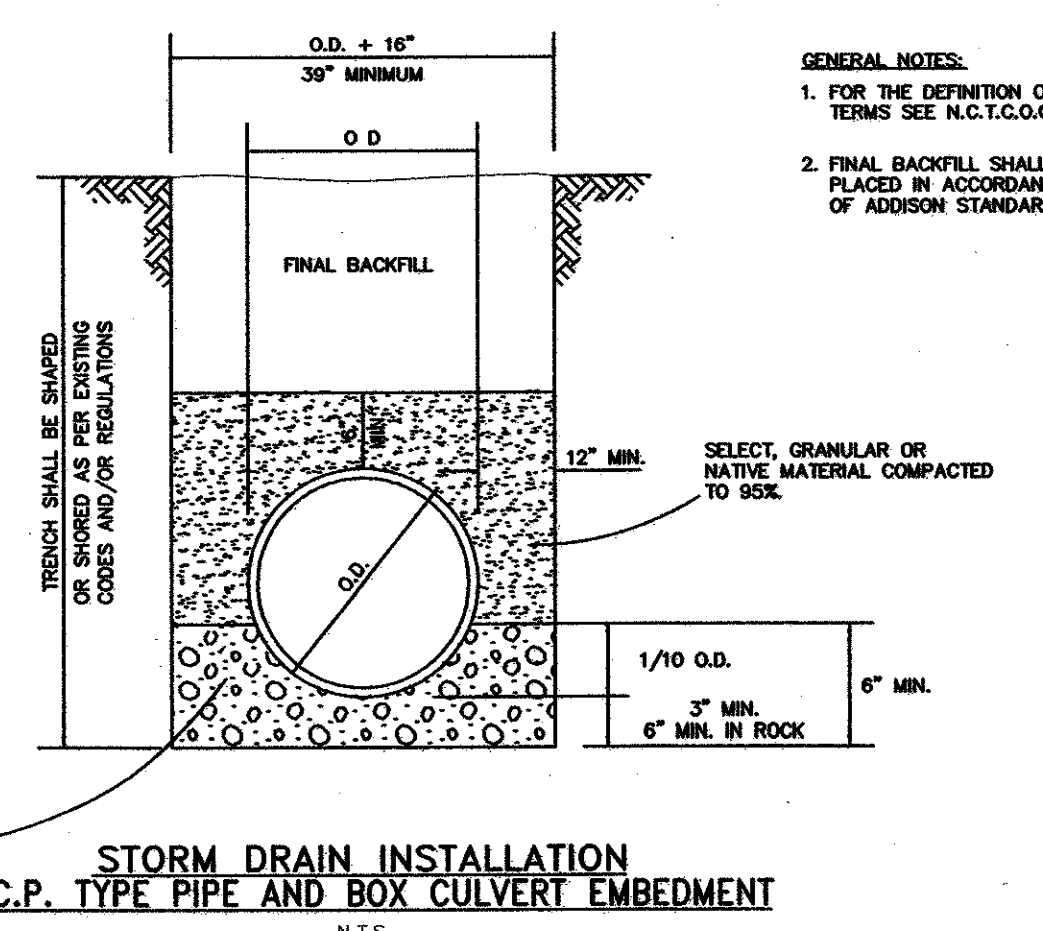


SECTION B-B
N.T.S.



SECTION E-E
N.T.S.

CURB INLET REINFORCING

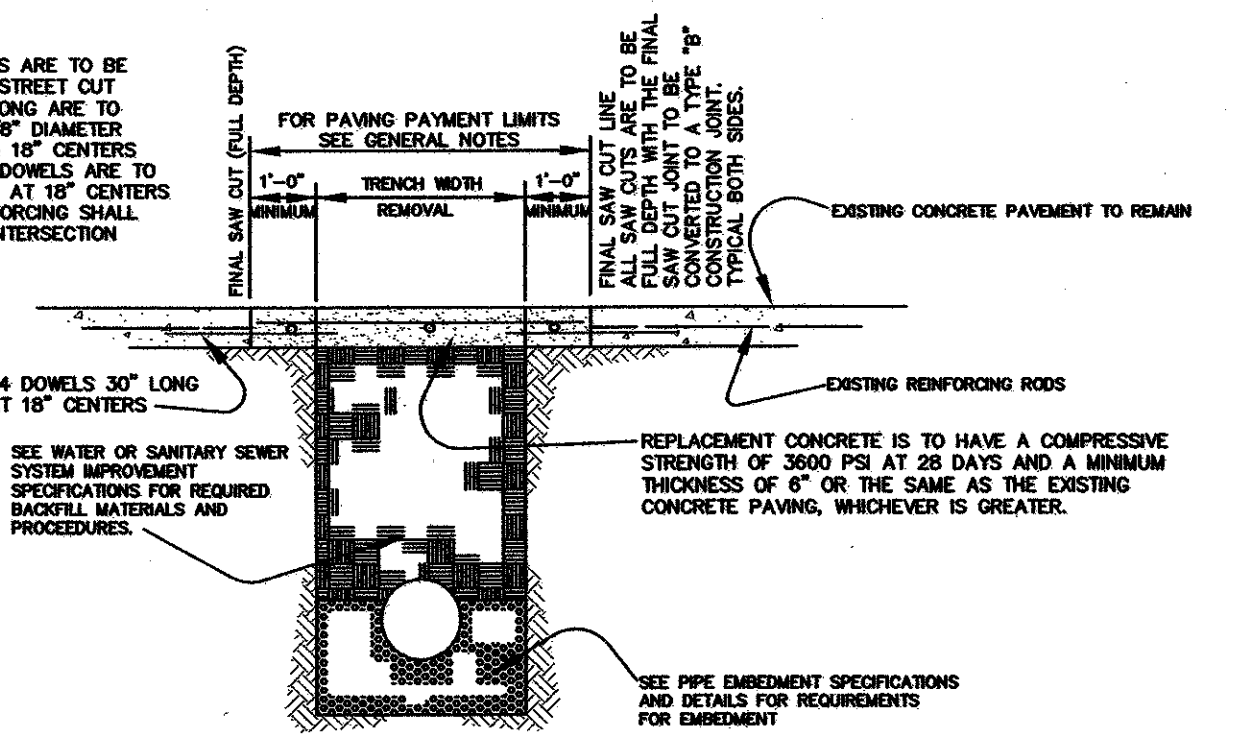


STORM DRAIN INSTALLATION
R.C.P. TYPE PIPE AND BOX CULVERT EMBEDMENT
N.T.S.

GENERAL NOTES:
1. FOR THE DEFINITION OF THE BACKFILL MATERIAL TERMS SEE N.C.T.C.O.G. SPECIFICATIONS ITEM 2.1.8.
2. FINAL BACKFILL SHALL CONSIST OF AND BE PLACED IN ACCORDANCE WITH THE TOWN OF ADDISON STANDARDS AND SPECIFICATIONS.

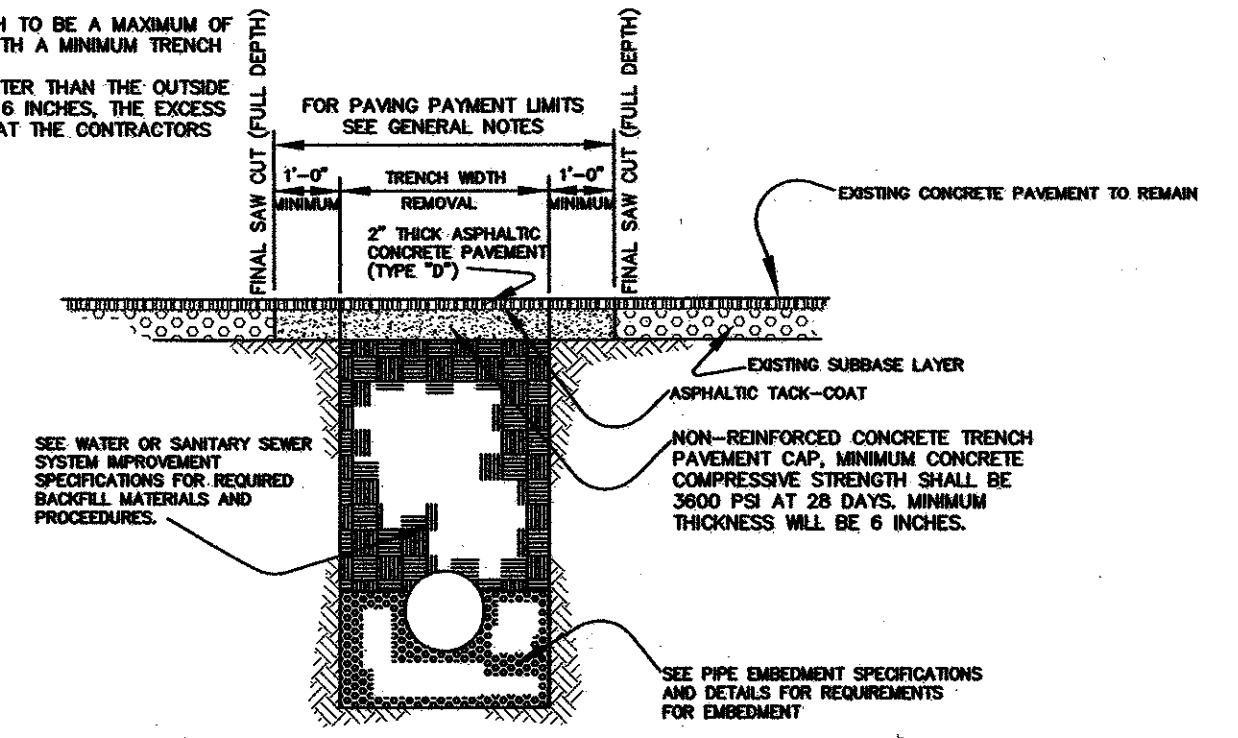
SCREENED PEA GRAVEL OR CRUSHED AGGREGATE (MAXIMUM 1/4" TO 1 1/2" SCREEN)

REINFORCING NOTES:
ONLY NEW REINFORCING BARS ARE TO BE USED FOR REPLACEMENT IN STREET CUT REPAIRS. #4 DOWELS 30" LONG ARE TO BE EPOXY GROUTED INTO 5/8" DIAMETER DRILLED HOLES 12" DEEP ON 18" CENTERS IN THE EXISTING CONCRETE. DOWELS ARE TO BE LAPPED WITH #4 REBARS AT 18" CENTERS BOTH DIRECTIONS. ALL REINFORCING SHALL HAVE WIRE TIES AT EVERY INTERSECTION (100% TIE).



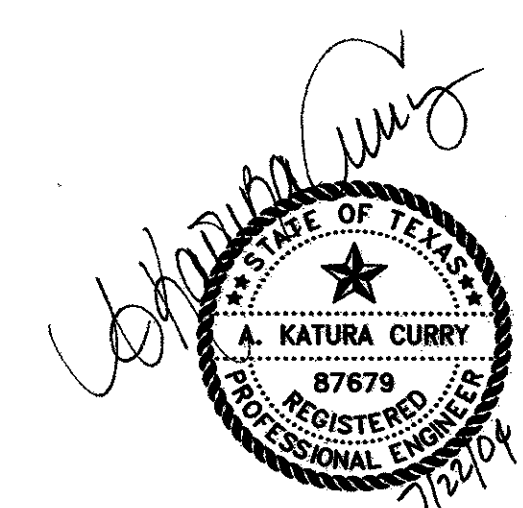
REINFORCED CONCRETE PAVEMENT
N.T.S.

GENERAL NOTES:
PAVEMENT REPLACEMENT WIDTH TO BE A MAXIMUM OF TRENCH WIDTH PLUS 2'-0" (WITH A MINIMUM TRENCH WIDTH OF 39 INCHES). IF THE TRENCH WIDTH IS GREATER THAN THE OUTSIDE DIAMETER OF THE PIPE PLUS 18 INCHES, THE EXCESS REPLACEMENT WIDTH WILL BE AT THE CONTRACTORS EXPENSE.



FLEXIBLE BASE AND ASPHALTIC CONCRETE SURFACE
N.T.S.

STREET CUT REPAIRS



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
A. KATURA CURRY
ON 7-21-04.
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

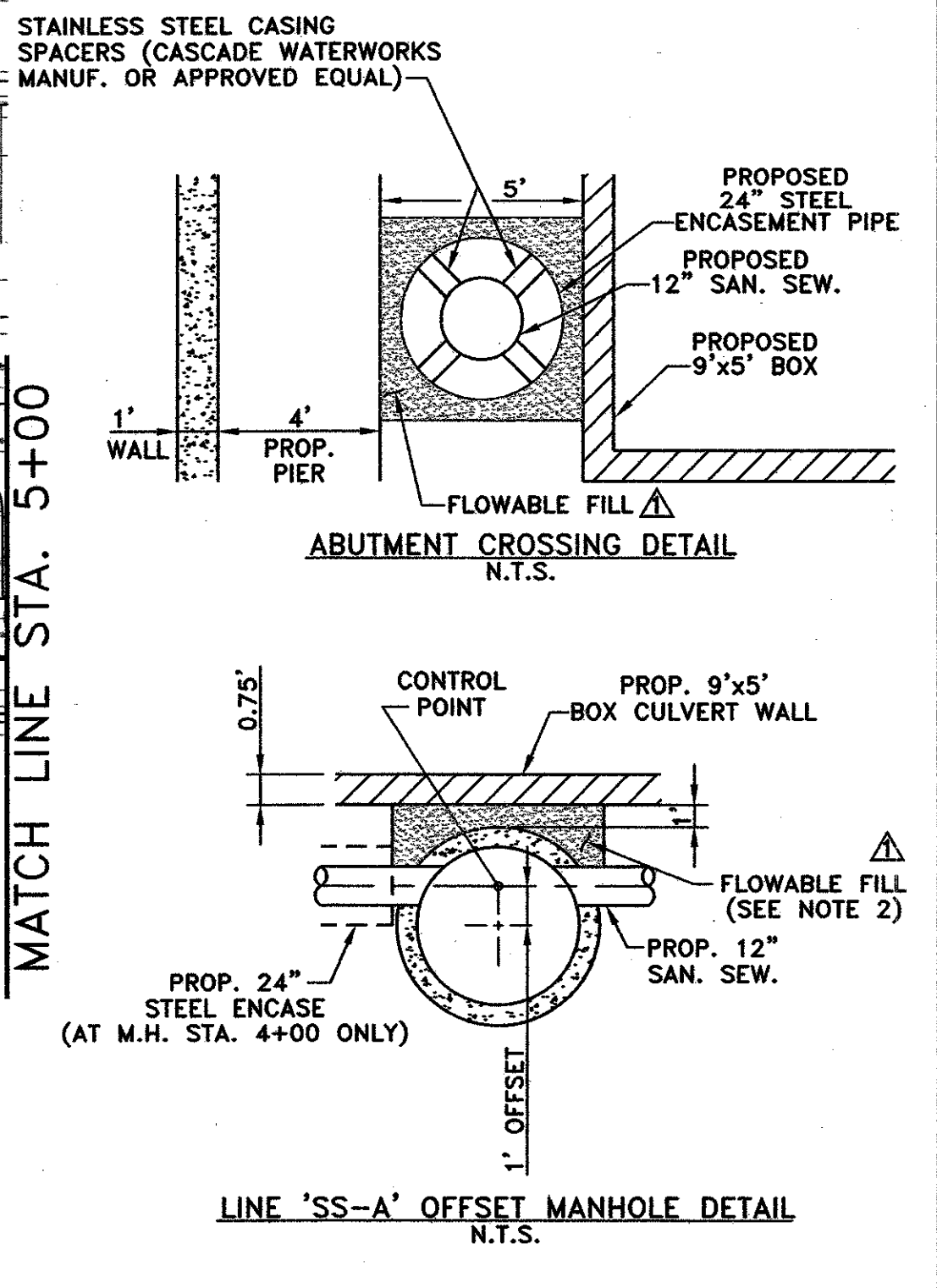
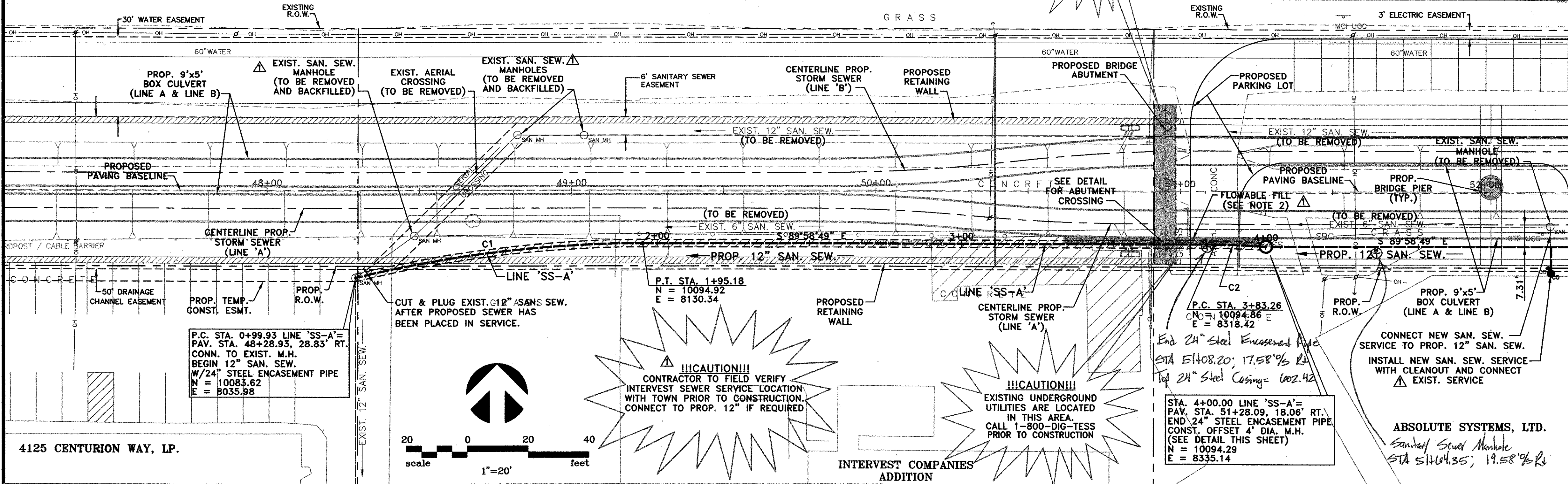
DATE:	MAY 2004	SCALE:	NOT TO SCALE	JOB NO.:	320
DRAWN:	G&A	DESIGN:	BRG	REVIEWED:	BRG
				DWG:	320DETAILS
ARAPAHO ROAD PHASE III					
STANDARD CONSTRUCTION DETAILS					
DRAINAGE - SHEET 1 OF 3					
TOWN OF ADDISON					
g&a			Grantham & Associates, Inc.		SHT. SW-26
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042			(972) 864-2333 (TEL) (972) 864-2334 (FAX)		

NO.	DATE	REVISION	APPROV.
1	06/01/04	ADD NOTES	A.K.C.
2			
3			

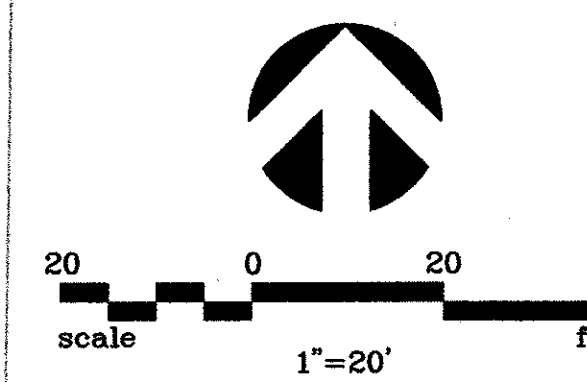
SANITARY SEWER LINE 'SS-A' CURVE DATA:

NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	400.00'	13°38'39"	95.25'	N 83°11'52" E	95.03'
C2	250.00'	03°50'09"	16.74'	S 88°03'44" E	16.73'

**DALLAS AREA RAPID TRANSIT
PROPERTY ACQUISITION CORPORATION**



P.C. STA. 0+99.93 LINE 'SS-A'=
PAV. STA. 48+28.93, 28.83' RT.
CONN. TO EXIST. M.H.
BEGIN 12" SAN. SEW.
W/24" STEEL ENCASUREMENT PIPE
N = 10083.62
E = 8035.98



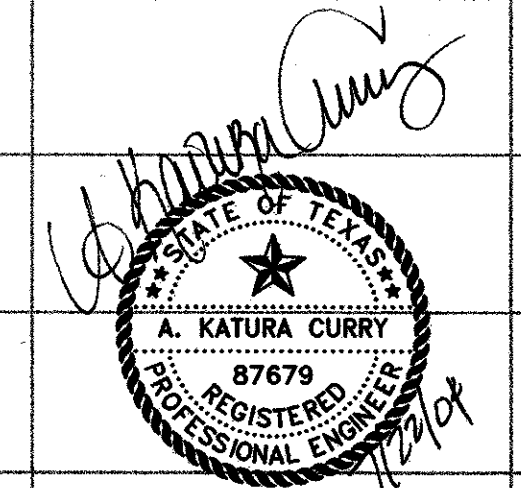
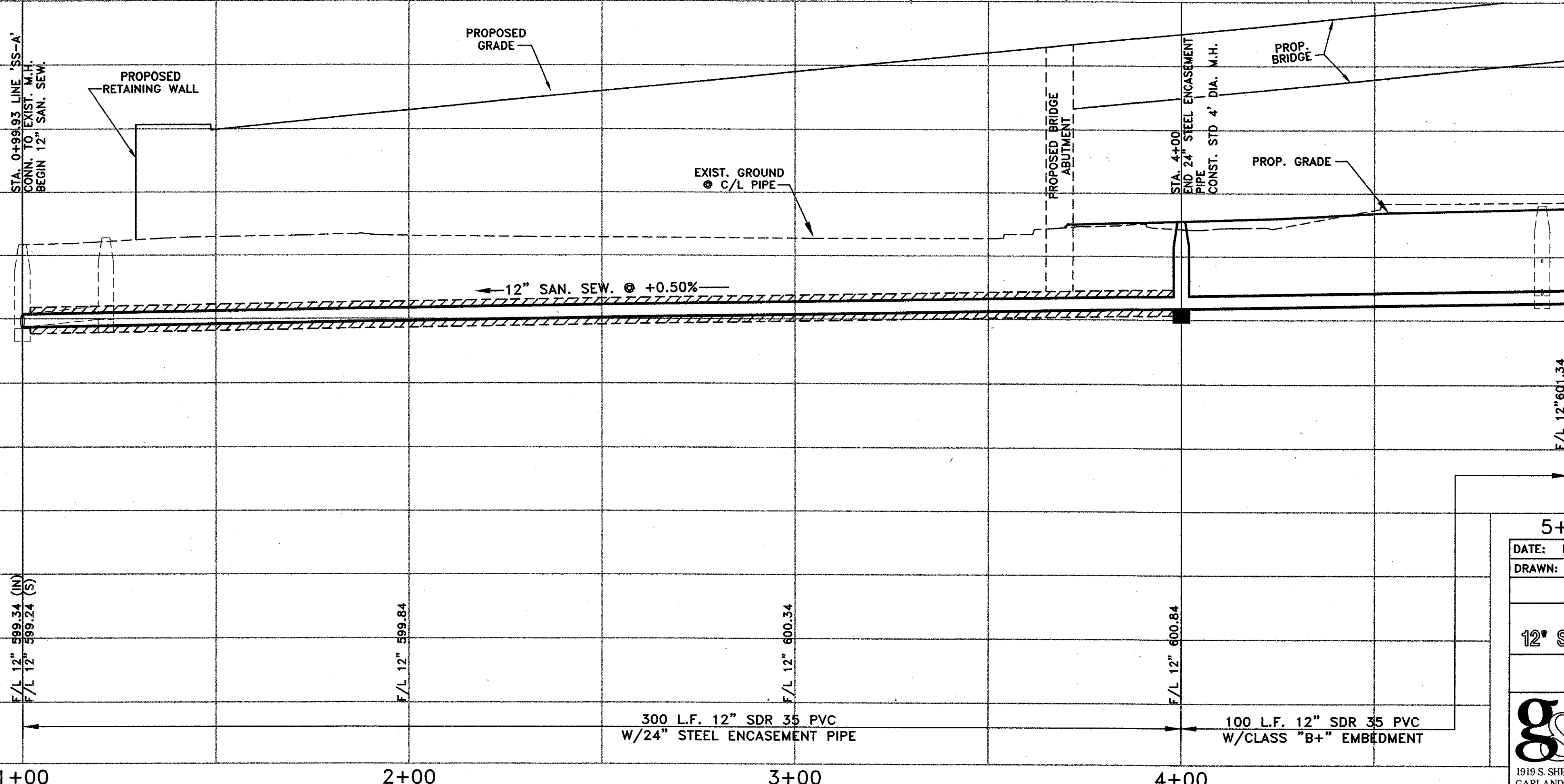
!!!CAUTION!!!
CONTRACTOR TO FIELD VERIFY
INTERVEST SEWER SERVICE LOCATION
WITH TOWN PRIOR TO CONSTRUCTION.
CONNECT TO PROP. 12" IF REQUIRED

!!!CAUTION!!!
EXISTING UNDERGROUND
UTILITIES ARE LOCATED
IN THIS AREA.
CALL 1-800-DIG-TESS
PRIOR TO CONSTRUCTION

P.C. STA. 3+83.26
C.N. = 10094.86
E = 8318.42
End 24" Steel Encasement Pipe
STA 51+08.20; 17.58' 1/2 R
Top 24" Steel Casings = 1002.42

ABSOLUTE SYSTEMS, LTD.
Sanitary Sewer Manhole
STA 51+04.35; 19.58' 1/2 R

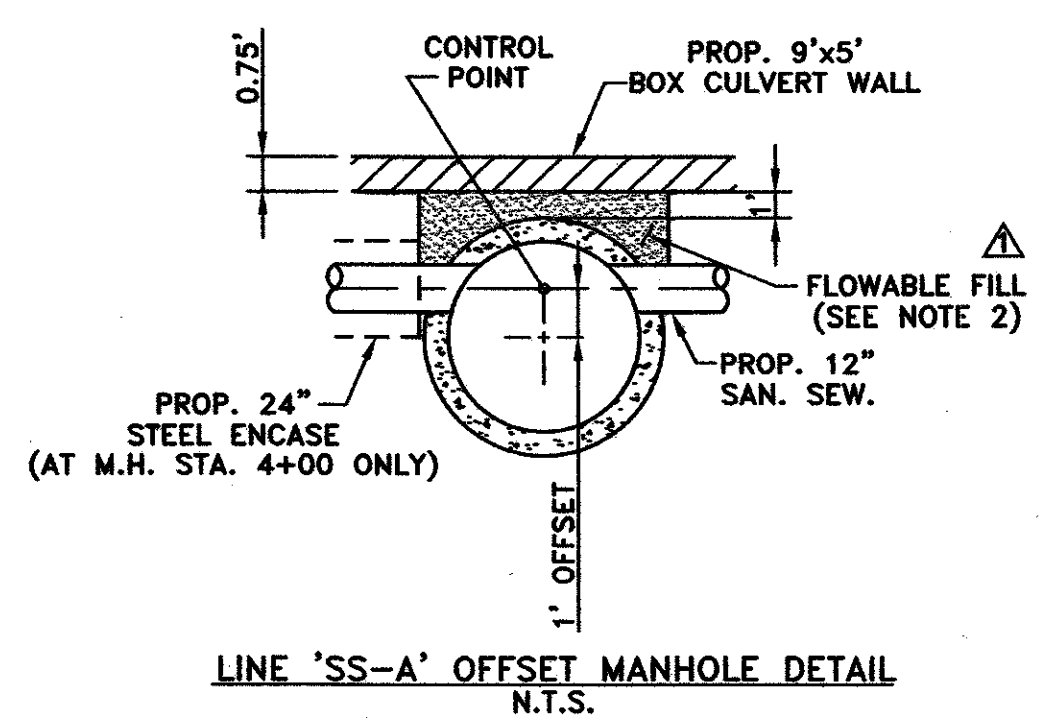
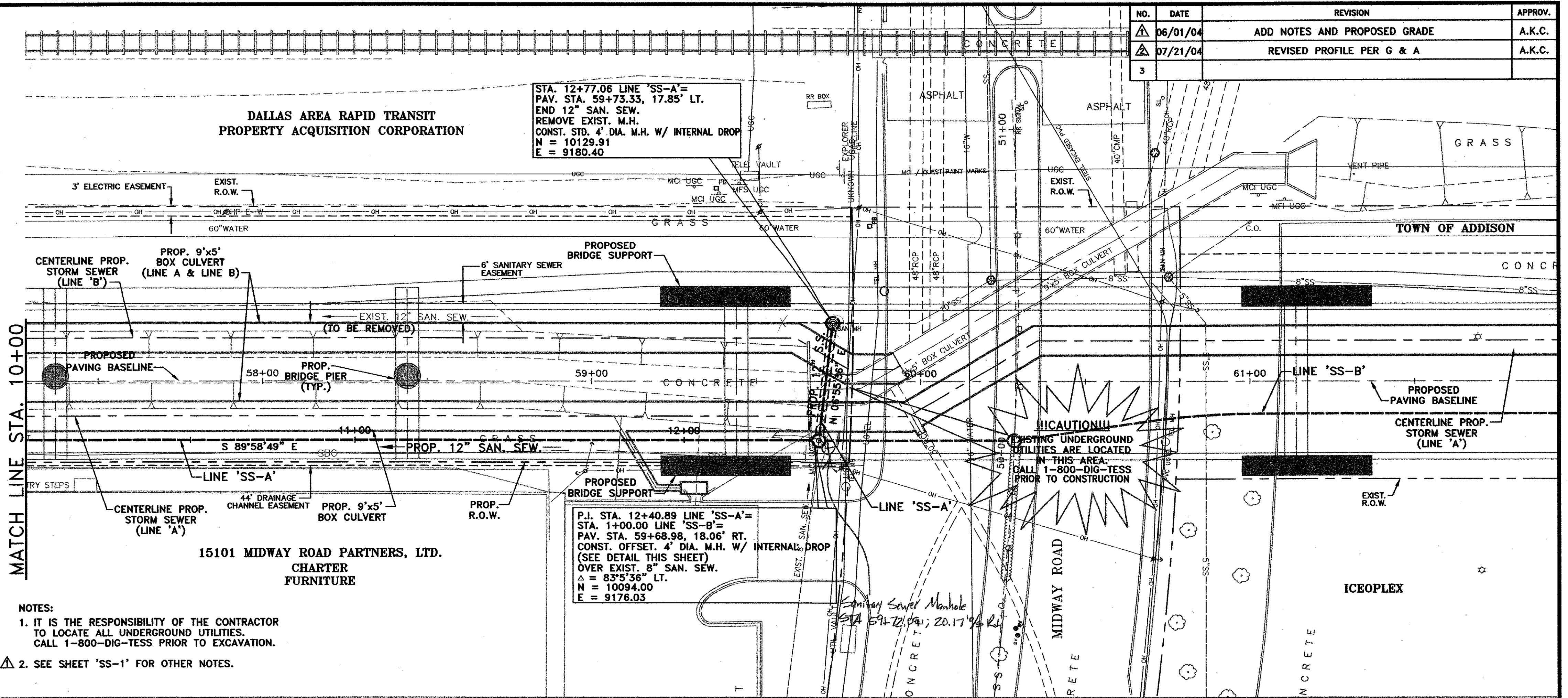
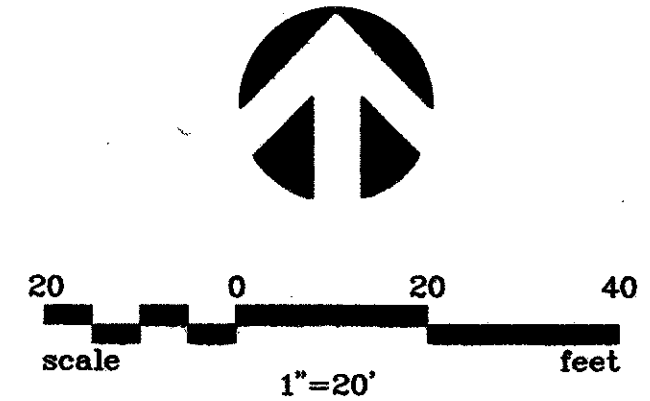
- NOTES:**
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES. CALL 1-800-DIG-TESS PRIOR TO EXCAVATION.
 - CONTRACTOR SHALL INSTALL FLOWABLE FILL BETWEEN LINE 'SS-A' AND BOX CULVERT FROM STA. 3+30 TO STA. 4+05 AND BETWEEN LINE 'SS-A' AND ALL BRIDGE ABUTMENT PIERS, AND OTHER NOTED LOCATIONS. (NO SEPARATE PAY ITEM)
 - CONTRACTOR SHALL COORDINATE WITH TOWN STAFF TO FIELD LOCATE ALL EXISTING SANITARY SEWER SERVICE LOCATIONS AND SIZE PRIOR TO CONSTRUCTION. ALL NEW AND EXPOSED EXISTING SANITARY SEWER SERVICE LINES SHALL BE INSPECTED FOR CONDITION PRIOR TO BACKFILL WITH CEMENT STABILIZED SAND. (NO SEPARATE PAY ITEM)
 - CONTRACTOR SHALL REPLACE ALL EXISTING SANITARY SEWER SERVICES INSIDE PROPOSED R.O.W. AND INSTALL NEW SEWER SERVICE TO MATCH EXISTING SIZE WITH NEW CLEANOUT.
 - ALL MANHOLES TO BE REMOVED SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND (NO SEPARATED PAY FOR BACKFILL)
 - NO SEPARATE PAY ITEM FOR PLUGGING EXISTING SANITARY SEWER LINES/SERVICES AS SHOWN ON THE PLANS.
 - STAINLESS STEEL CASING SPACERS SHALL BE USED IN STEEL ENCASUREMENT PIPE PER ABUTMENT CROSSING DETAIL.



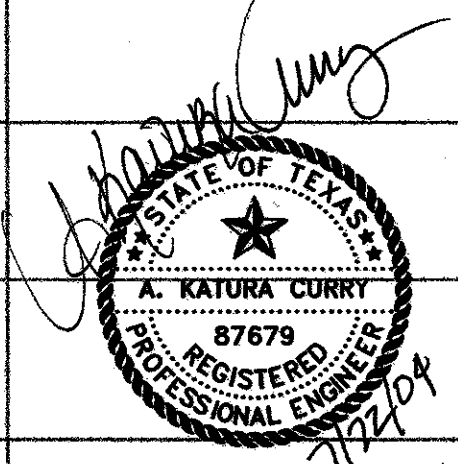
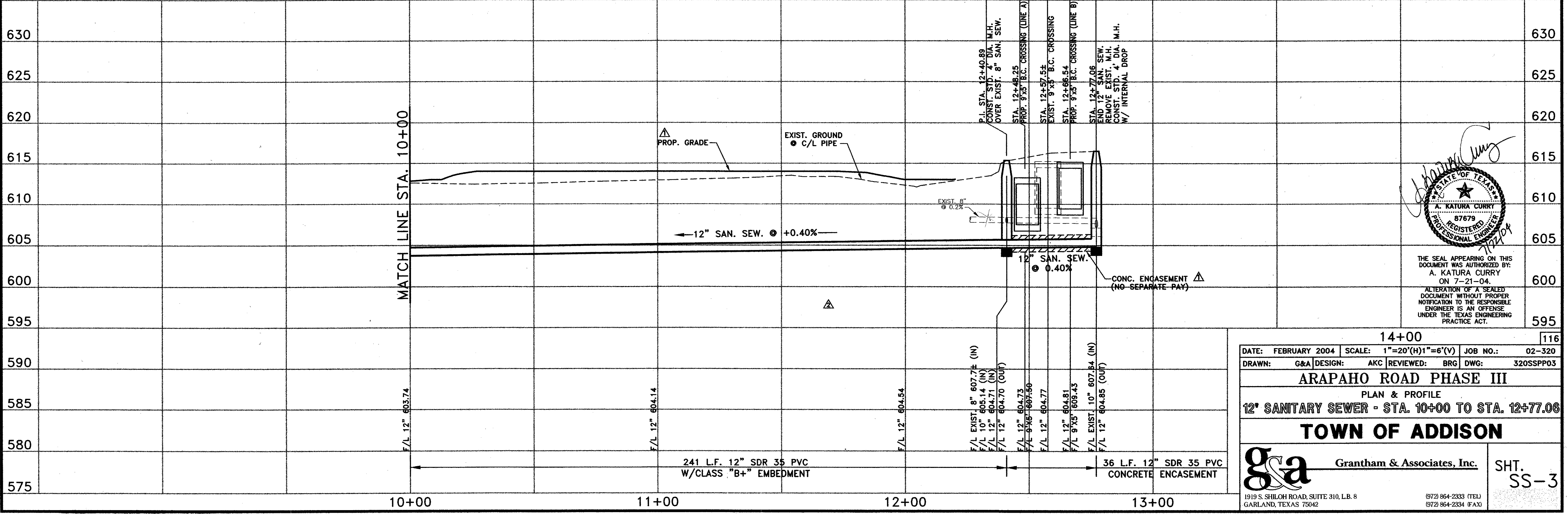
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
A. KATURA CURRY
ON 7-21-04.
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DATE: FEBRUARY 2004	SCALE: 1"=20'(H)1"=6'(V)	JOB NO.: 02-320
DRAWN: G&A	DESIGN: AKC	REVIEWED: BRG
DWG: 320SSPP01		
ARAPAHO ROAD PHASE III		
PLAN & PROFILE		
12" SANITARY SEWER - STA. 1+00 TO STA. 5+00		
TOWN OF ADDISON		
g&a Grantham & Associates, Inc.		SHT. SS-1
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042		(972) 864-2333 (TEL) (972) 864-2334 (FAX)

NO.	DATE	REVISION	APPROV.
1	06/01/04	ADD NOTES AND PROPOSED GRADE	A.K.C.
2	07/21/04	REVISED PROFILE PER G & A	A.K.C.
3			



- NOTES:
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL UNDERGROUND UTILITIES. CALL 1-800-DIG-TESS PRIOR TO EXCAVATION.
 - SEE SHEET 'SS-1' FOR OTHER NOTES.



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14+00 116

DATE: FEBRUARY 2004 | SCALE: 1"=20'(H)1"=6'(V) | JOB NO.: 02-320
 DRAWN: G&A | DESIGN: AKC | REVIEWED: BRG | DWG: 320SSPP03

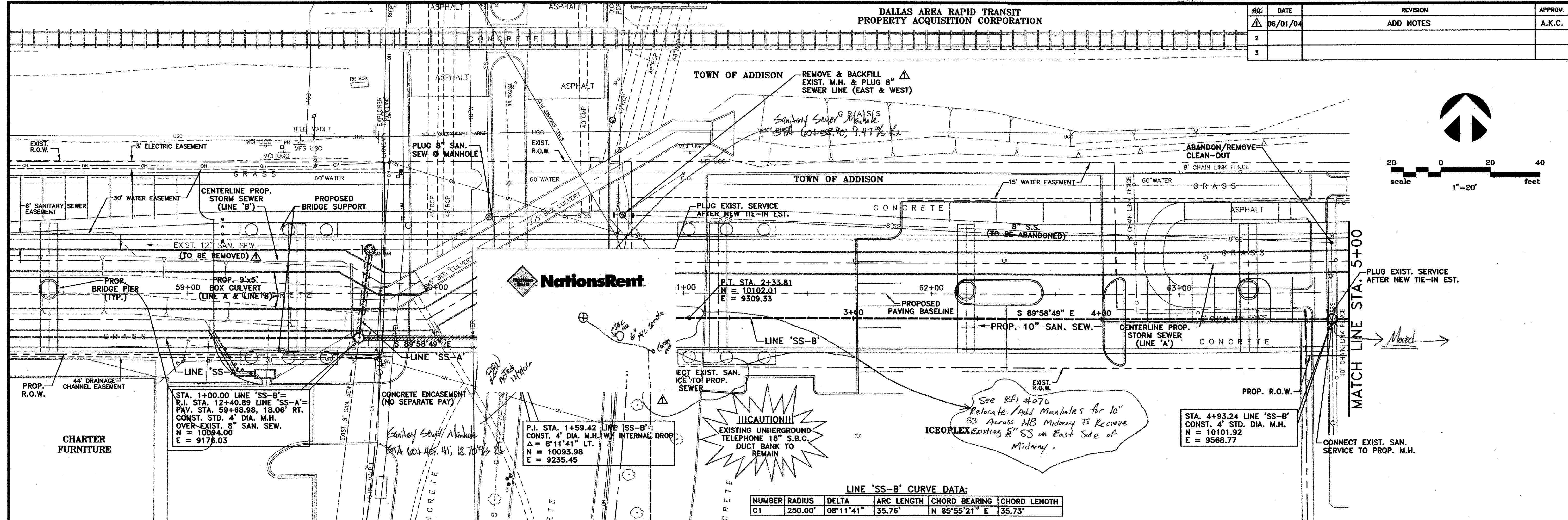
ARAPAHO ROAD PHASE III
 PLAN & PROFILE
 12" SANITARY SEWER - STA. 10+00 TO STA. 12+77.06

TOWN OF ADDISON

g&a Grantham & Associates, Inc. SHT. SS-3

1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)

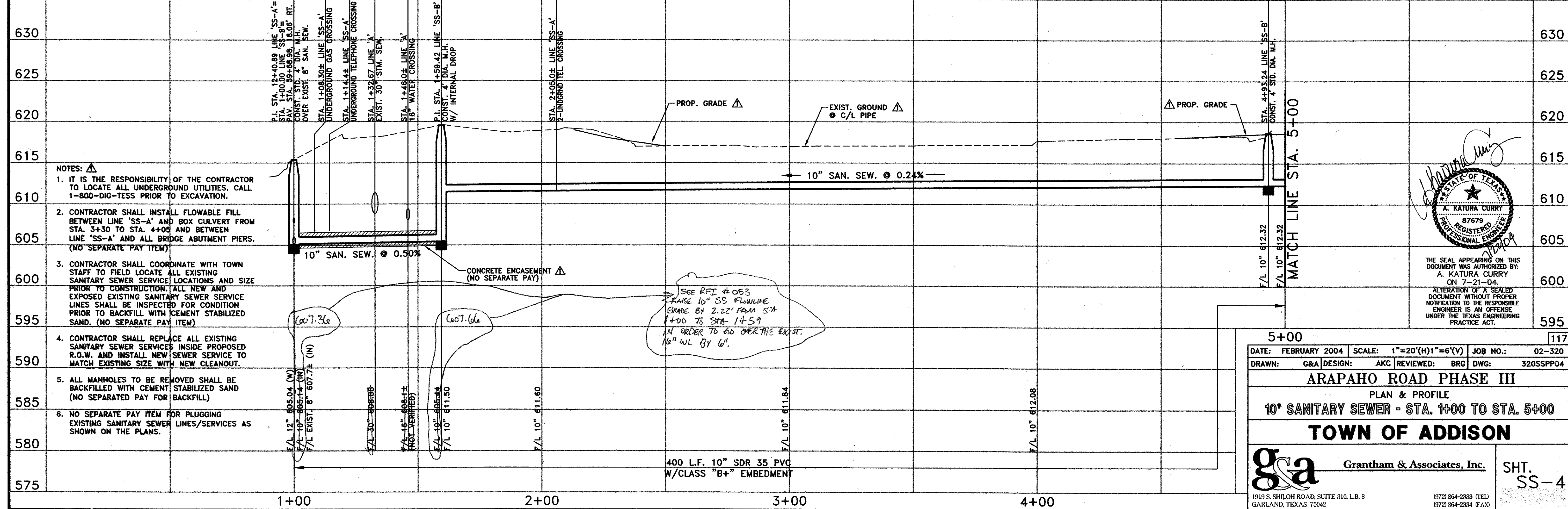
NO.	DATE	REVISION	APPROV.
1	06/01/04	ADD NOTES	A.K.C.
2			
3			



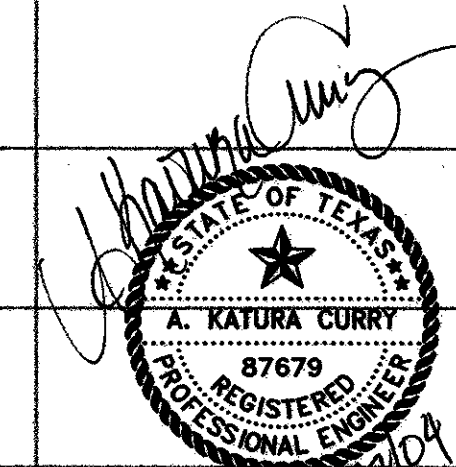
NationsRent

LINE 'SS-B' CURVE DATA:

NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C1	250.00'	08°11'41"	35.76'	N 85°55'21" E	35.73'



- NOTES:
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 - NO SEPARATE PAY ITEM FOR PLUGGING EXISTING SANITARY SEWER LINES/SERVICES AS SHOWN ON THE PLANS.



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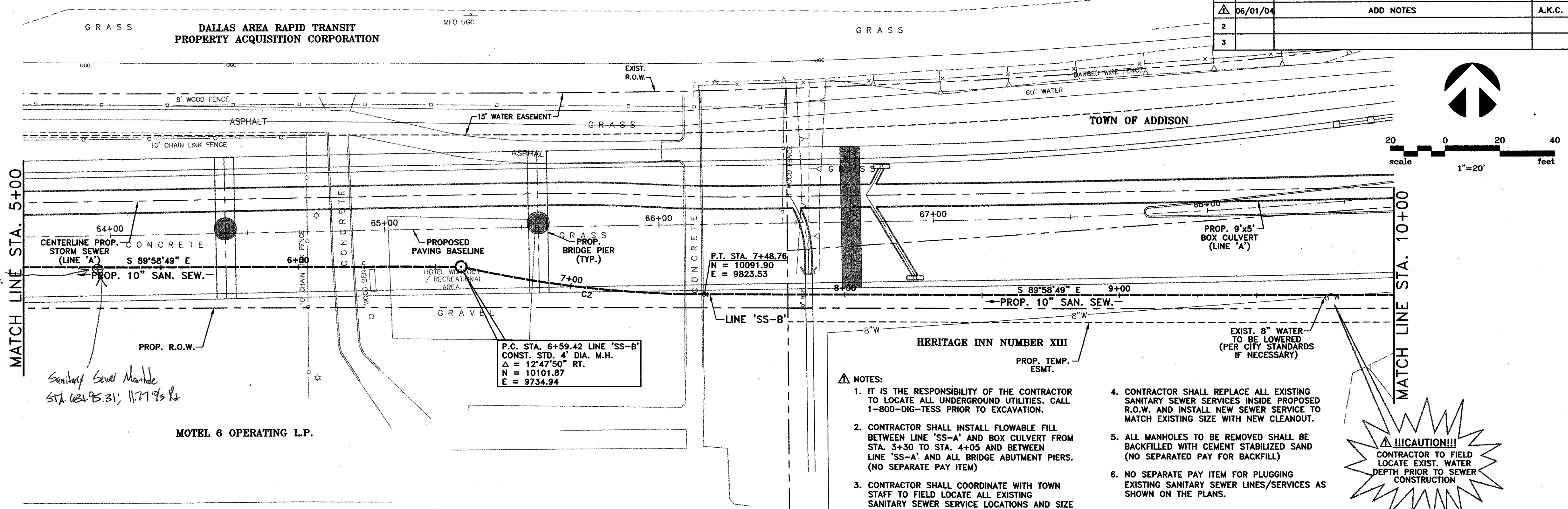
5+00 117

DATE: FEBRUARY 2004 SCALE: 1"=20'(H)1"=6'(V) JOB NO.: 02-320
DRAWN: G&A DESIGN: AKC REVIEWED: BRG DWG: 320SSPP04

ARAPAHO ROAD PHASE III
PLAN & PROFILE
10" SANITARY SEWER - STA. 1+00 TO STA. 5+00
TOWN OF ADDISON

g&a Grantham & Associates, Inc. SHT. SS-4
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)

NO.	DATE	REVISION	APPROV.
1	06/01/04	ADD NOTES	A.K.C.
2			
3			



MATCH LINE STA. 5+00

MATCH LINE STA. 10+00

Sanitary Sewer Manhole
Sta. 6+95.31, 11.77' R

MOTEL 6 OPERATING L.P.

P.C. STA. 6+59.42 LINE 'SS-B'
CONST. STD. 4' DIA. M.H.
Δ = 12°47'50" RT.
N = 10101.87
E = 9734.94

P.T. STA. 7+48.76
N = 10091.90
E = 9823.53

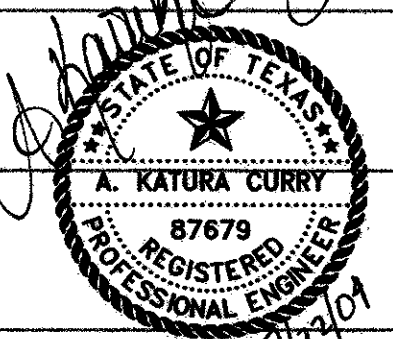
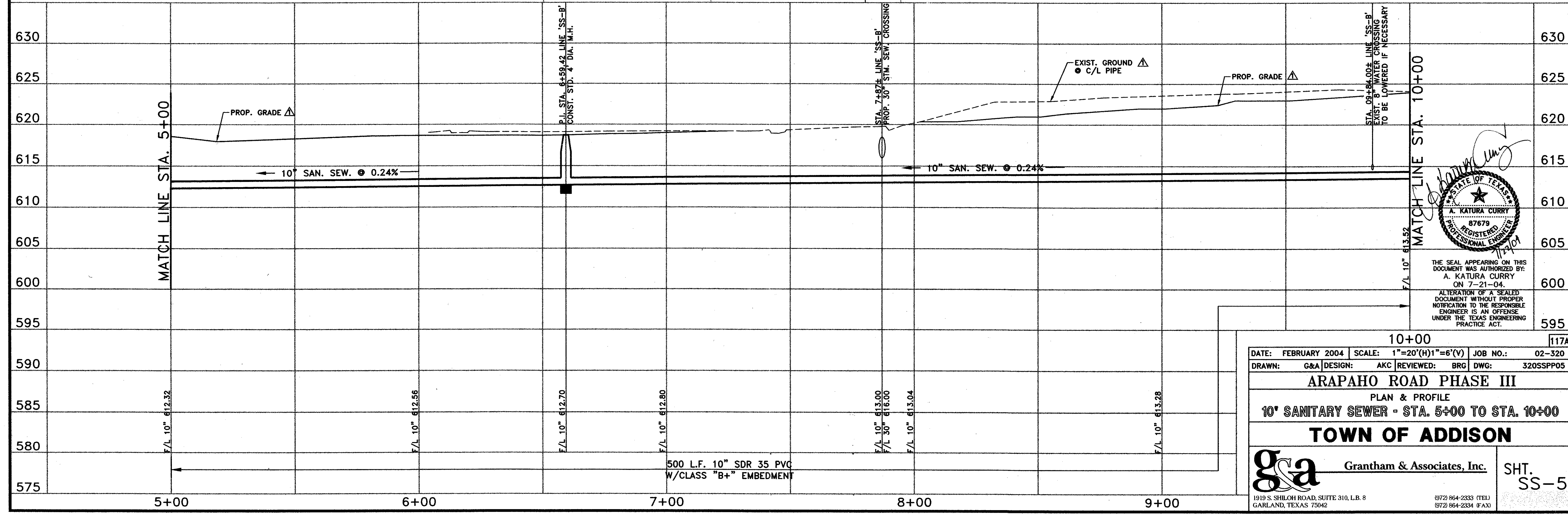
NOTES:

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!!!CAUTION!!!
CONTRACTOR TO FIELD LOCATE EXIST. WATER DEPTH PRIOR TO SEWER CONSTRUCTION

LINE 'SS-B' CURVE DATA:

NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C2	400.00'	12°47'50"	89.34'	S 83°34'54" E	89.16'



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10+00 117A

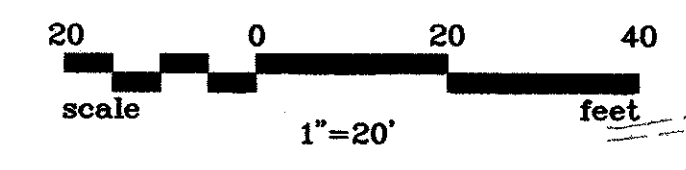
DATE: FEBRUARY 2004 SCALE: 1"=20'(H)1"=6'(V) JOB NO.: 02-320
 DRAWN: G&A DESIGN: AKC REVIEWED: BRG DWG: 320SSPP05

ARAPAHO ROAD PHASE III
 PLAN & PROFILE
10" SANITARY SEWER - STA. 5+00 TO STA. 10+00

TOWN OF ADDISON

g&a Grantham & Associates, Inc. SHT. SS-5

1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)

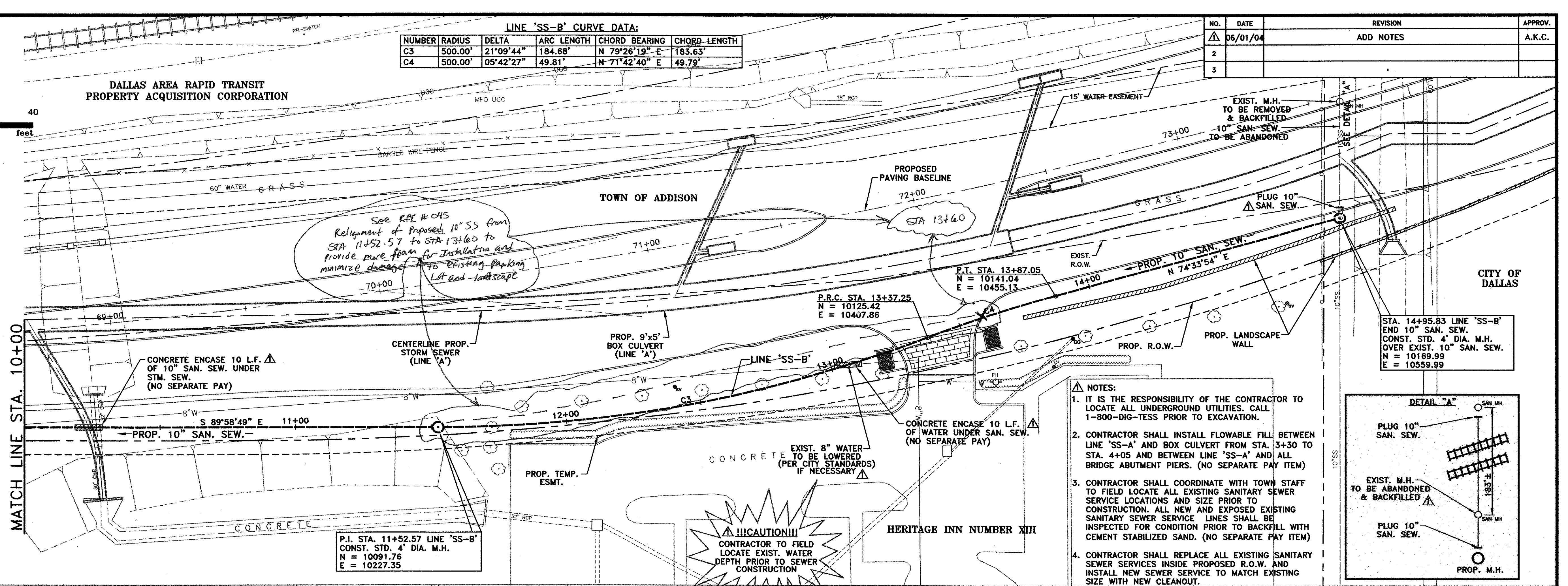


LINE 'SS-B' CURVE DATA:

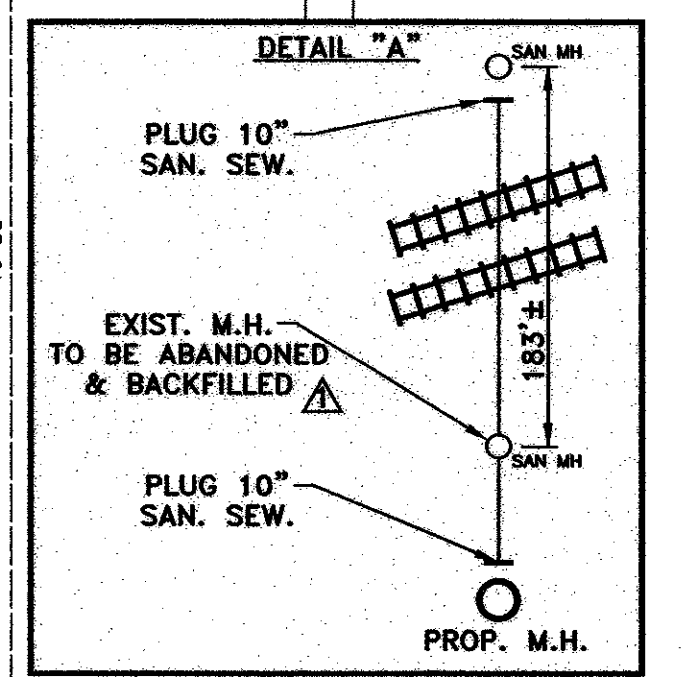
NUMBER	RADIUS	DELTA	ARC LENGTH	CHORD BEARING	CHORD LENGTH
C3	500.00'	21°09'44"	184.68'	N 79°26'19" E	183.63'
C4	500.00'	05°42'27"	49.81'	N 71°42'40" E	49.79'

NO.	DATE	REVISION	APPROV.
1	06/01/04	ADD NOTES	A.K.C.
2			
3			

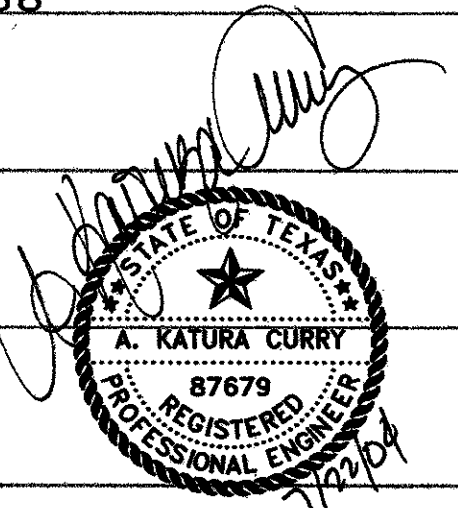
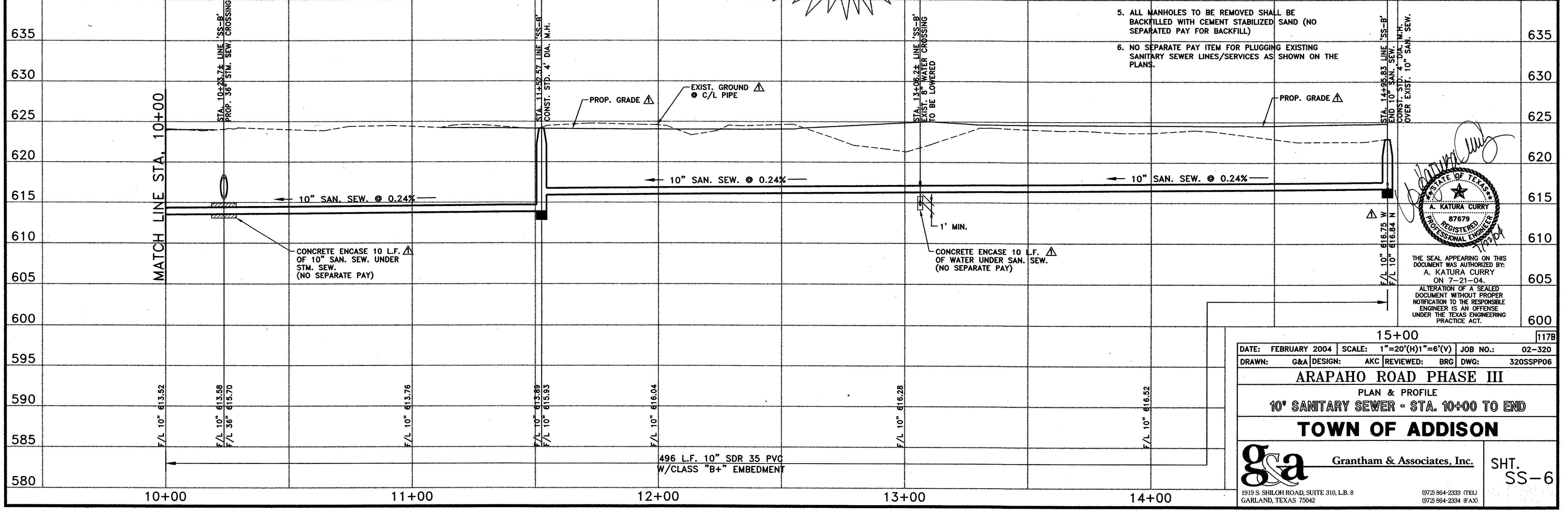
DALLAS AREA RAPID TRANSIT
PROPERTY ACQUISITION CORPORATION



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CAUTION!!!
CONTRACTOR TO FIELD LOCATE EXIST. WATER DEPTH PRIOR TO SEWER CONSTRUCTION



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15+00 117B

DATE: FEBRUARY 2004 SCALE: 1"=20'(H)1"=6'(V) JOB NO.: 02-320

DRAWN: G&A DESIGN: AKC REVIEWED: BRG DWG: 320SSPP06

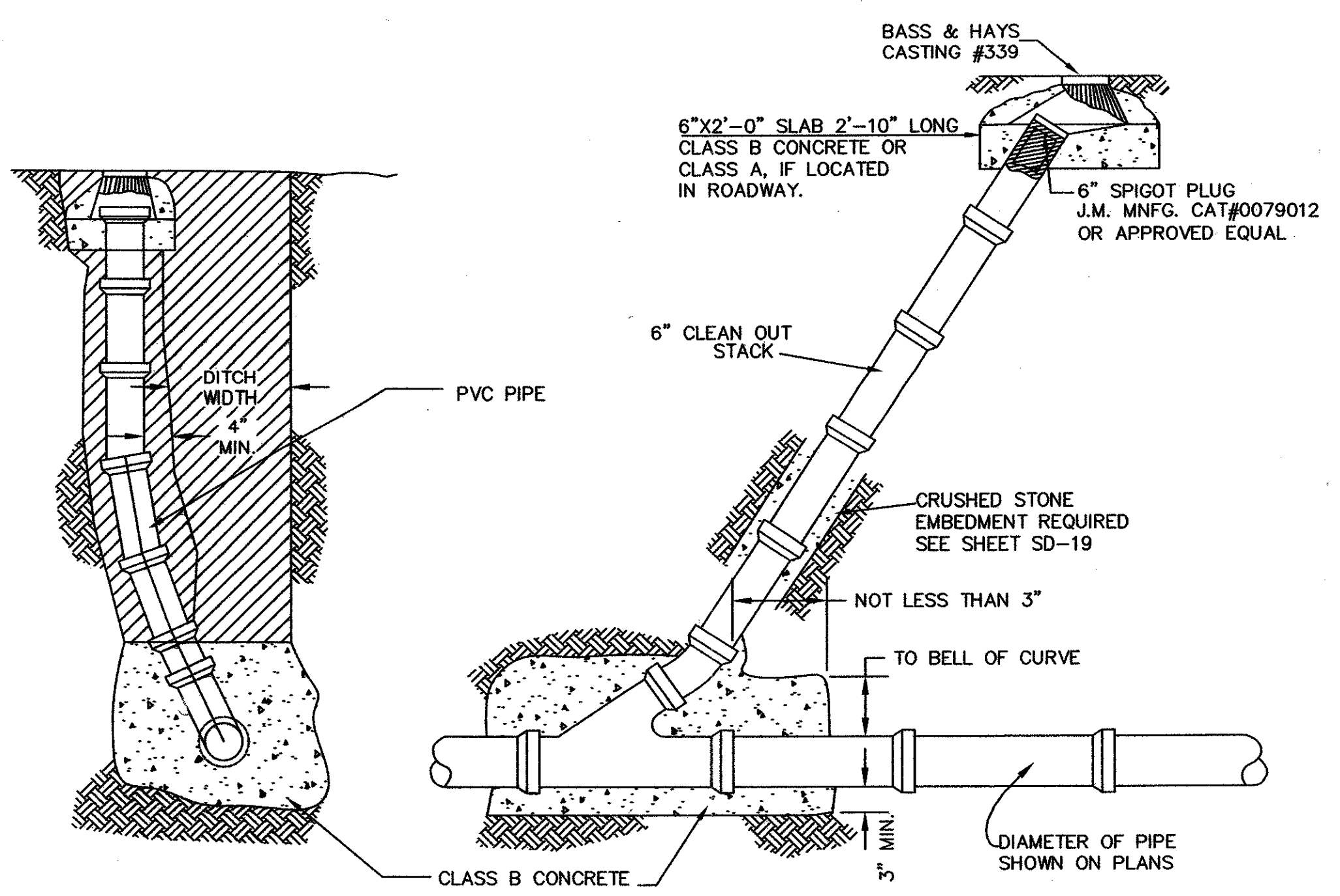
ARAPAHO ROAD PHASE III
PLAN & PROFILE
10" SANITARY SEWER - STA. 10+00 TO END

TOWN OF ADDISON

g&a Grantham & Associates, Inc. SHT. SS-6

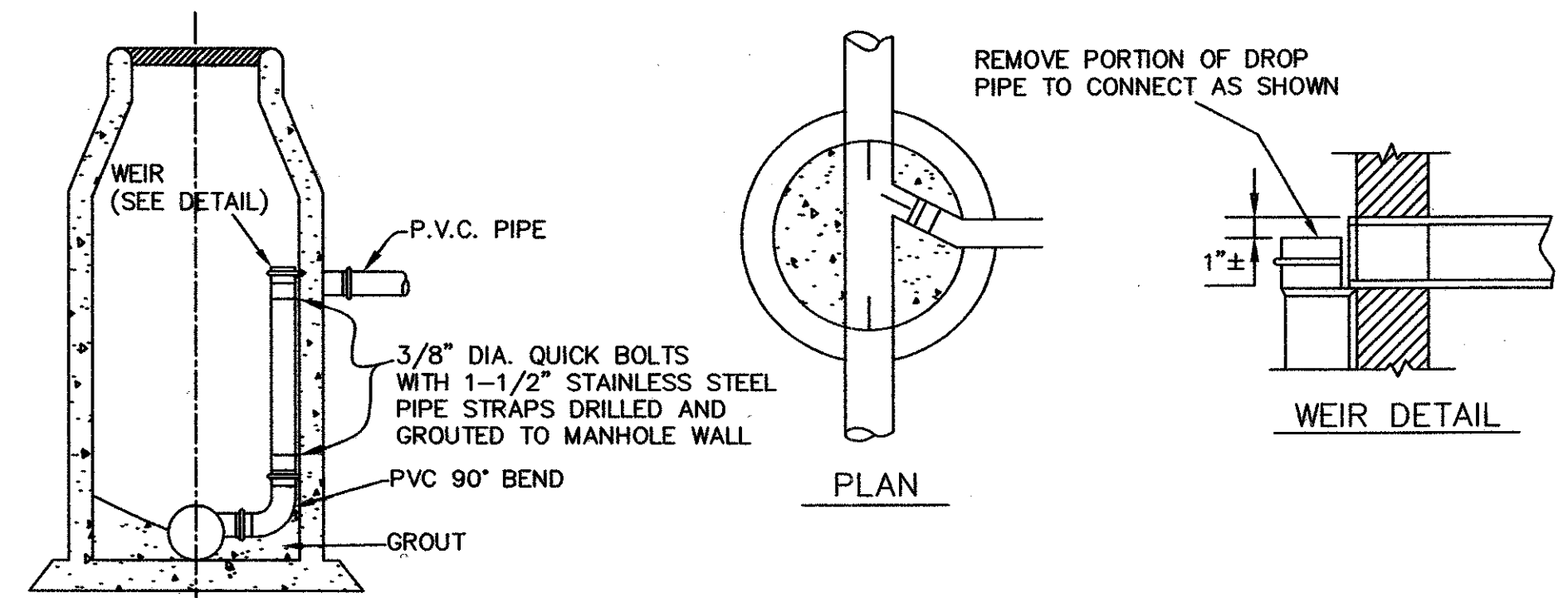
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)

NO.	DATE	REVISION	APPROV.
1	06/01/04	REVISE GENERAL NOTES & REMOVED DETAILS	A.K.C.
2			
3			

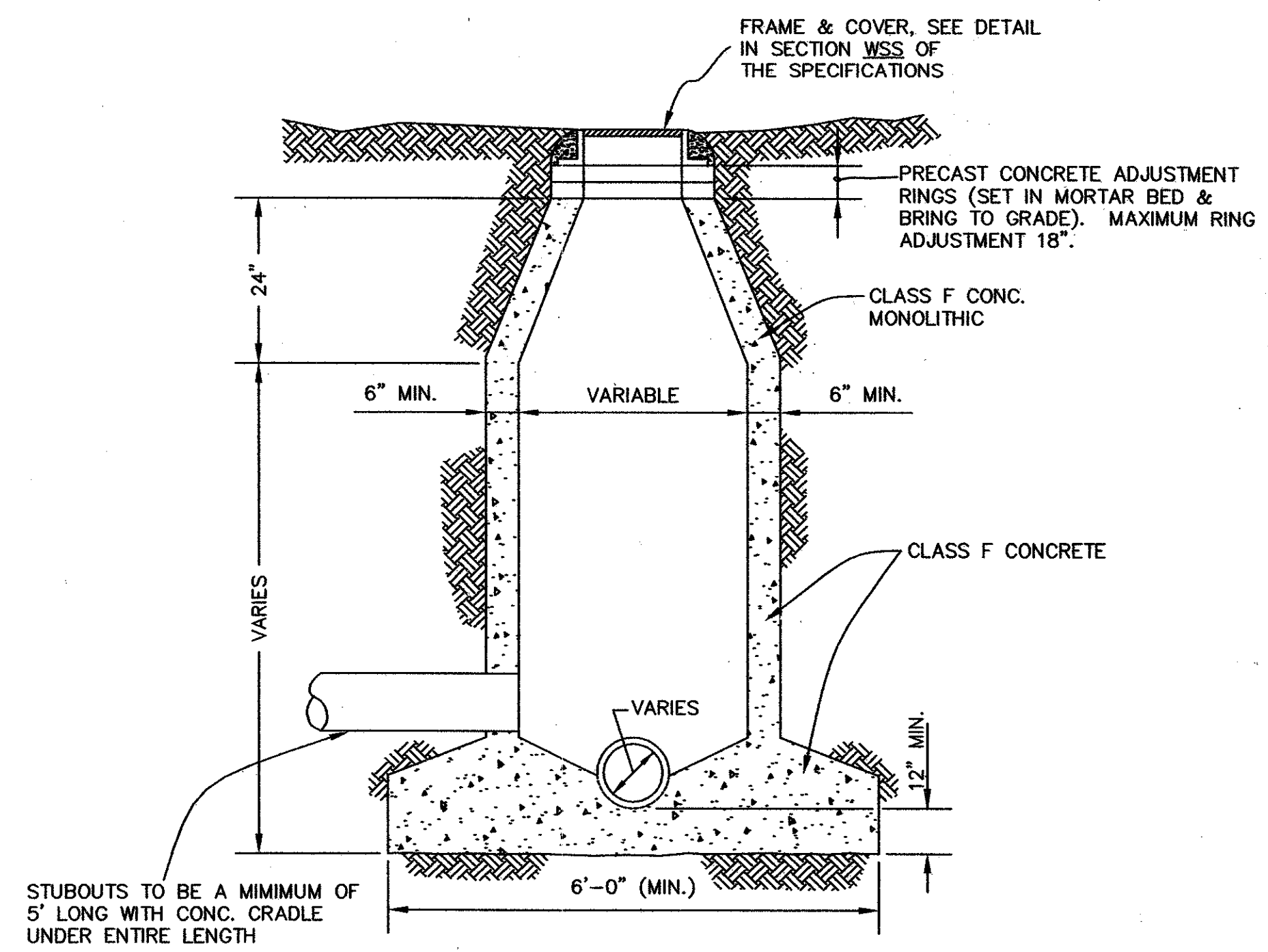


STANDARD CLEANOUT
N.T.S.

NOTE: SHALLOWER PARALLEL LINE REQUIRED WHEN FLOW LINE OF SANITARY SEWER EXCEEDS 12 FT. DEPTH. VERTICAL DROP CONNECTIONS NOT PERMITTED.



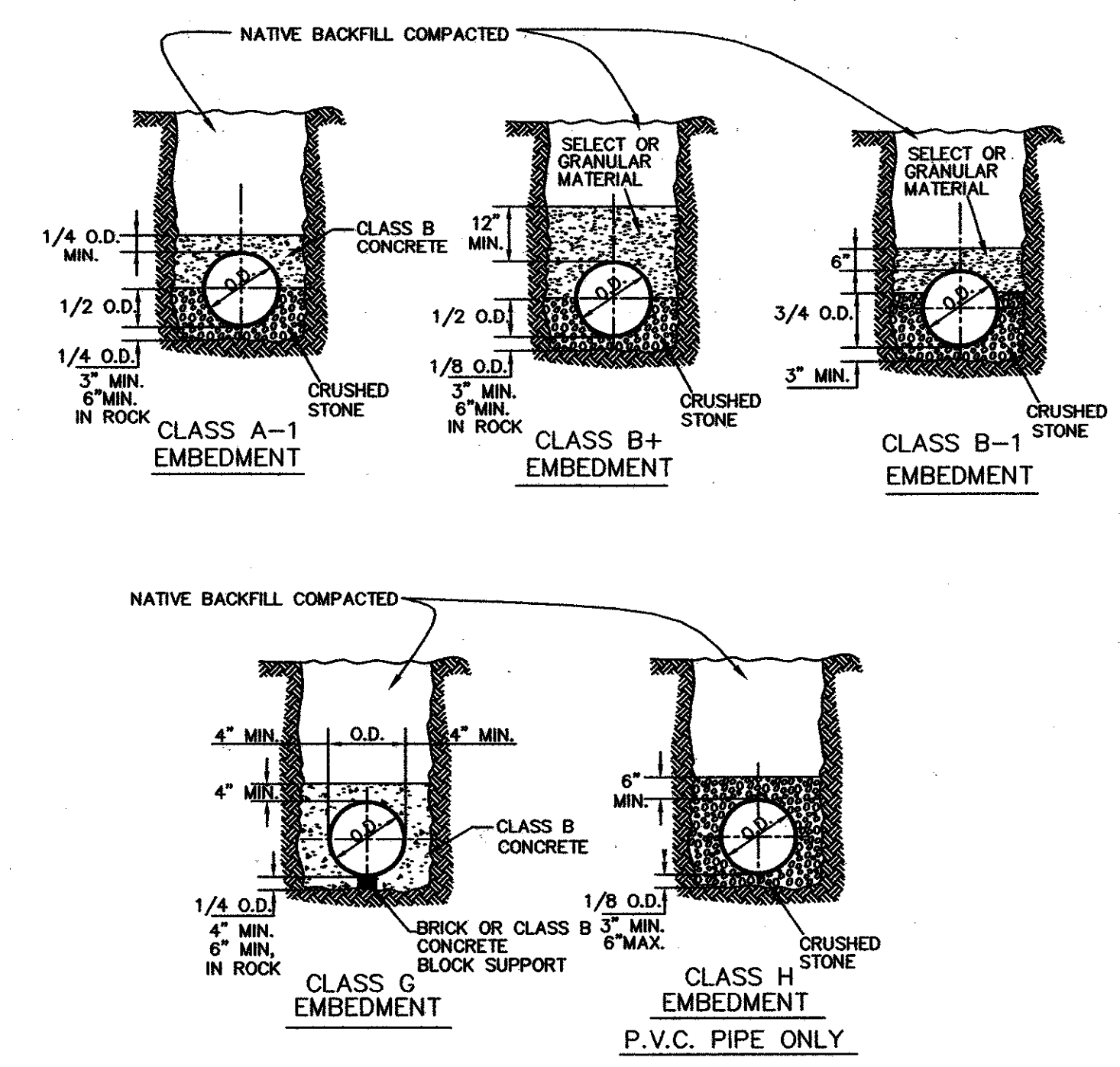
ELEVATION DROP MANHOLE



STANDARD CAST-IN-PLACE MANHOLE

CAST-IN-PLACE NOTES:

- KEYWAYS REQUIRED FOR ALL CONSTRUCTION JOINTS.
- P.V.C. WATER STOP REQUIRED FOR ALL JOINTS IN LOWER 4'-0" OF MANHOLES.

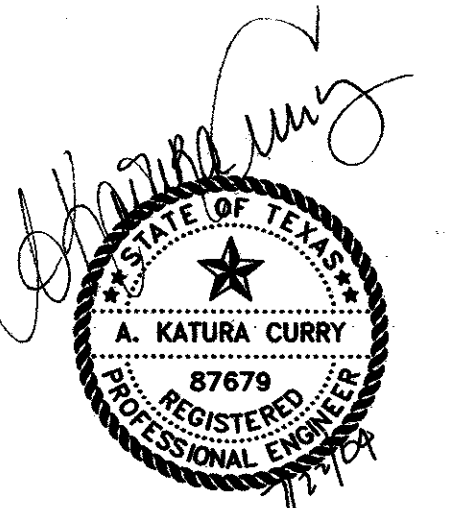


NOTES:

- TYPE OF EMBEDMENT OR ENCASEMENT SHALL BE SHOWN IN THE PROFILES FOR ALL LINES. LOAD CALCULATIONS SHALL BE SUBMITTED TO THE CITY ENGINEER.
 - NO WATER JETTING OR FLOODING ALLOWED UNDER PAVEMENTS. NO WATER JETTING OR FLOODING ALLOWED IN CLAY MATERIALS. JETTING PROCEDURE SHALL BE APPROVED BY THE CITY ENGINEER.
 - ALL EMBEDMENT MATERIALS SHALL BE COMPACTED TO 90% STANDARD PROCTOR DENSITY EXCEPT UNDER FUTURE PAVING. UNDER FUTURE PAVING, EMBEDMENT MATERIALS SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY AND AS SHOWN ON PAVEMENT REPLACEMENT DETAIL ON SHEET SD-17.
 - CLASS B CONCRETE MIN. 4 SACK, WATER CEMENT RATIO 8; 28-DAY MINIMUM STRENGTH, 2000 PSI.
 - CRUSHED STONE GRADATION (AGGREGATE GRADE 4)
- | SIEVE SIZE | % RETAINED |
|------------|------------|
| 1-1/2 INCH | 0 |
| 1 INCH | 0-5 |
| 1/2 INCH | 40-75 |
| NO. 4 | 90-100 |
| NO. 8 | 95-100 |
- GRANULAR MATERIAL SHALL BE FREE FLOWING SUCH AS SAND OR HYDRAULICALLY GRADED CRUSHED STONE FINES, OR MIXED SAND & GRAVEL OR SANDY LOAM. THE MATERIAL SHALL BE FREE OF CLAY AND ORGANIC MATTER AND SHALL NOT CONTAIN LUMPS OR STONES OVER 2 INCHES IN DIAMETER.
 - SELECT MATERIAL SHALL BE GRAVEL, FINE ROCK CUTTINGS, SAND, SANDY LOAM, AND MATERIALS FREE OF CLAY AND ORGANIC MATTER. ROCK CUTTINGS SHALL HAVE NO DIMENSION OVER 2 INCHES.

GENERAL NOTES

- ALL SANITARY SEWER PIPE MAINS SHALL BE PVC SDR-35 PIPE. LATERALS SHALL BE PVC SDR-35 PIPE.
 - SANITARY SEWER PIPE JOINTS SHALL CONFORM TO CURRENT ASTM DESIGNATIONS FOR PVC PIPE.
 - ALL SANITARY SEWER LATERALS SHALL INCLUDE TEE, WYE BEND, PIPE, AND STANDARD CLEANOUT INSTALLED AT THE PROPERTY LINE OF EACH LOT, UNLESS OTHERWISE INDICATED ON THE PLANS. 6" OR LARGER LATERALS REQUIRE M.H. AT MAIN SEWER PIPE. LATERALS SHALL HAVE A MIN SLOPE OF 1/8" / 1'.
 - UNLESS OTHERWISE NOTED, ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS.
 - THE LOCATION OF ALL MANHOLES, CLEANOUTS, AND SERVICES SHALL BE MARKED ON THE STREET, PARKING OR ALLEY CURB, AS DIRECTED BY THE CITY ENGINEER.
 - PVC PIPE SHALL BE MANUFACTURED FROM A LOW FILLER PVC COMPONENT CAPABLE OF MEETING THE HIGHEST PERFORMANCE STANDARDS OF THE ASTM SPECIFICATIONS.
 - ALL PVC PIPE INSTALLED SHALL BE TESTED FOR DEFLECTION. THE DEFLECTIONS TEST SHALL BE USED TO DETERMINE ADEQUACY OF PIPE, BEDDING, BACKFILL, AND INSTALLATION. THE TEST SHALL CONSIST OF HAND PULLING A MANDREL SIZED AT 95% OF THE INSIDE DIAMETER OF THE PIPE FROM MANHOLE TO MANHOLE AT LEAST 30 DAYS AFTER BACKFILLING.
 - THE CONTRACTOR SHALL PLACE CONCRETE ENCASEMENT IN SUCH A MANNER THAT ALL PIPE INSTALLATIONS MEET THE SPECIFICATION DEFLECTION REQUIREMENTS. CONCRETE ENCASEMENT, AS SHOWN ON DRAWINGS, SHALL END AT A PIPE JOINT IN EACH CASE. (NO SEPARATE PAY ITEM FOR CONCRETE ENCASEMENT)
 - ALL MAIN LINE, LATERAL AND SERVICE TRENCHES SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND. IF THE PIPE IS CONCRETE ENCASED, THE CEMENT STABILIZED SAND SHALL EXTEND FROM THE TOP OF THE CONCRETE ENCASEMENT TO THE TOP OF THE TRENCH. (NO SEPARATE PAY ITEM FOR CEMENT STABILIZED SAND).
- SEE SECTIONS IR & WSS OF THE TECHNICAL SPECIFICATIONS FOR TESTING INFORMATION.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
A. KATURA CURRY
ON 7-21-04.
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

DATE: MAY 2004 SCALE: NOT TO SCALE JOB NO.: 320
DRAWN: G&A DESIGN: BRG REVIEWED: BRG DWG: 320DETAILS

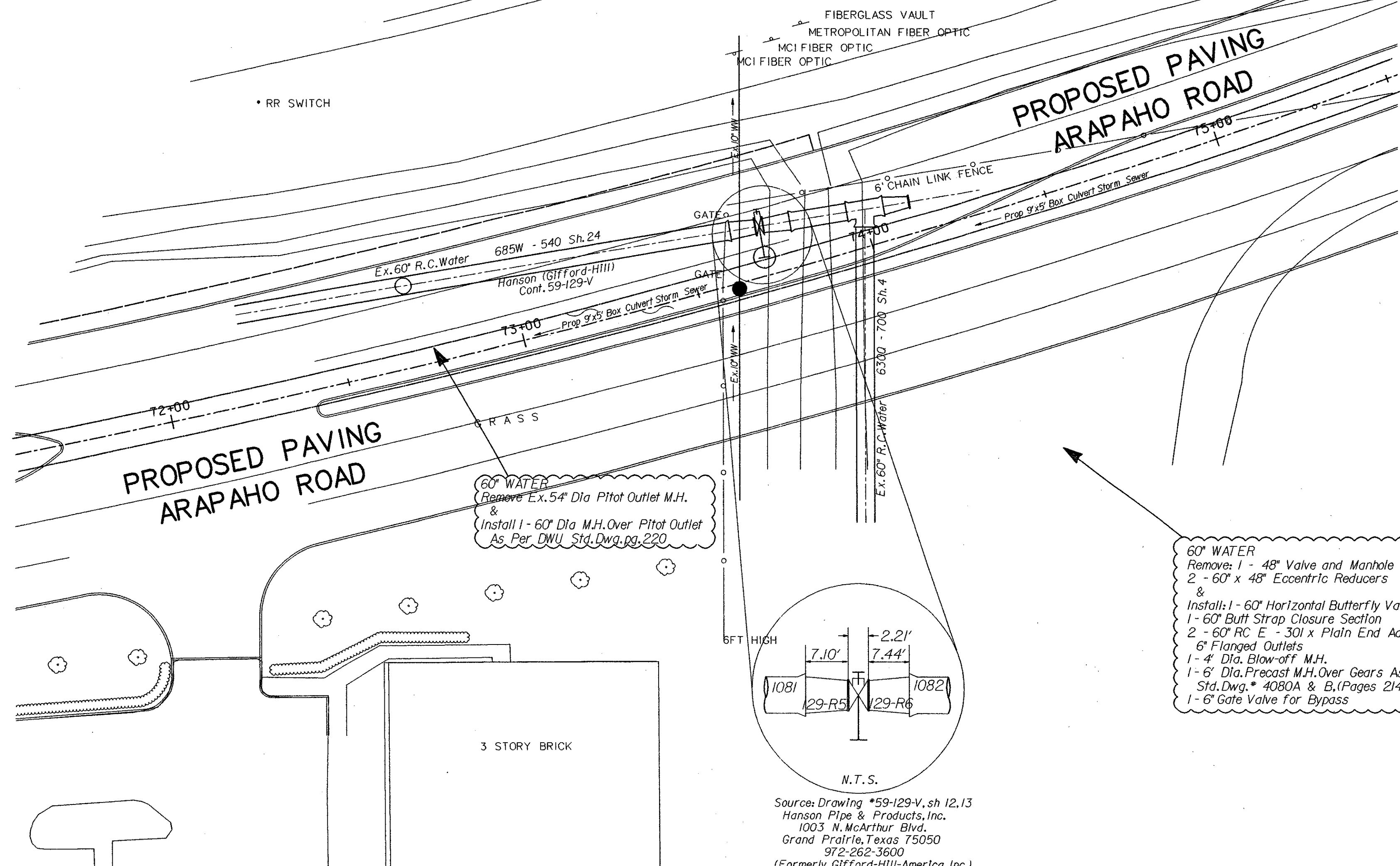
ARAPAHO ROAD PHASE III
STANDARD CONSTRUCTION DETAILS
SANITARY SEWER

TOWN OF ADDISON

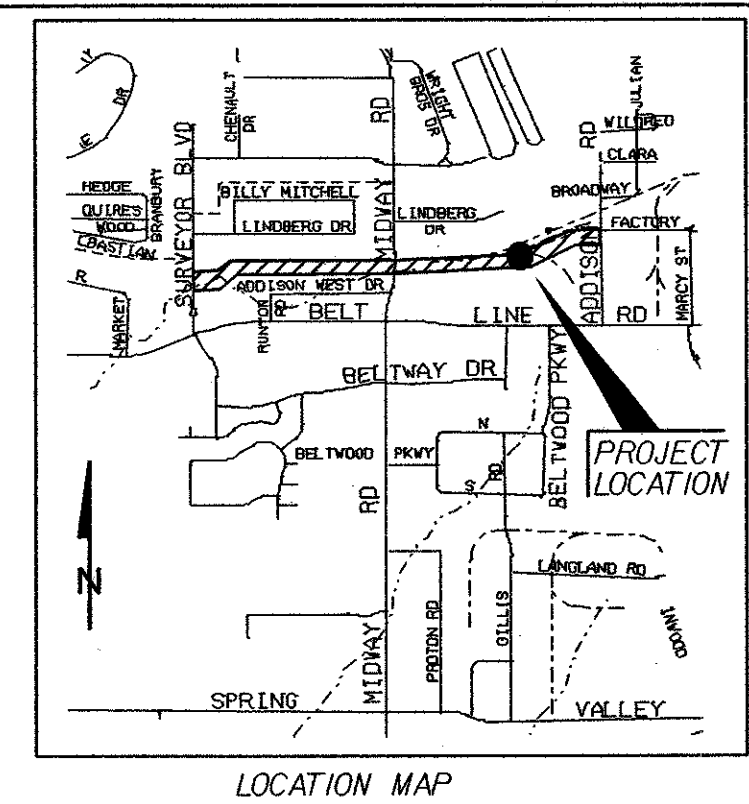
g&a Grantham & Associates, Inc. SHT. SS-7
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)

GENERAL NOTES

1. The contractor shall verify the dimensions of all existing water mains to be connected to prior to ordering materials for connections.
2. Backfill for all new valves and manholes shall be Four F Flowable Backfill as per NCTCOG 60210 (I). NO SEPARATE PAY ITEM
3. The 60" Butterfly Valve will be furnished by the City of Dallas Water Utilities Department. The Valve shall be picked up by the contractor at 2900 Municipal St., Dallas, Texas 75215. The contractor shall contact Roger Adams at (214) 670-8459 or Robert Dullig at (214) 670-8458 48 hours in advance to schedule a pick-up time.
4. The contractor will be responsible for furnishing the bolts, glands, insulating kits, gaskets etc. for all valves.
5. The Water Main shall only be shutdown during the winter months of October to April and with the permission of Water Distribution.
6. The contractor will be required to work evenings and weekends for coordinated shut-down of large water mains.



Water Map 33-28H

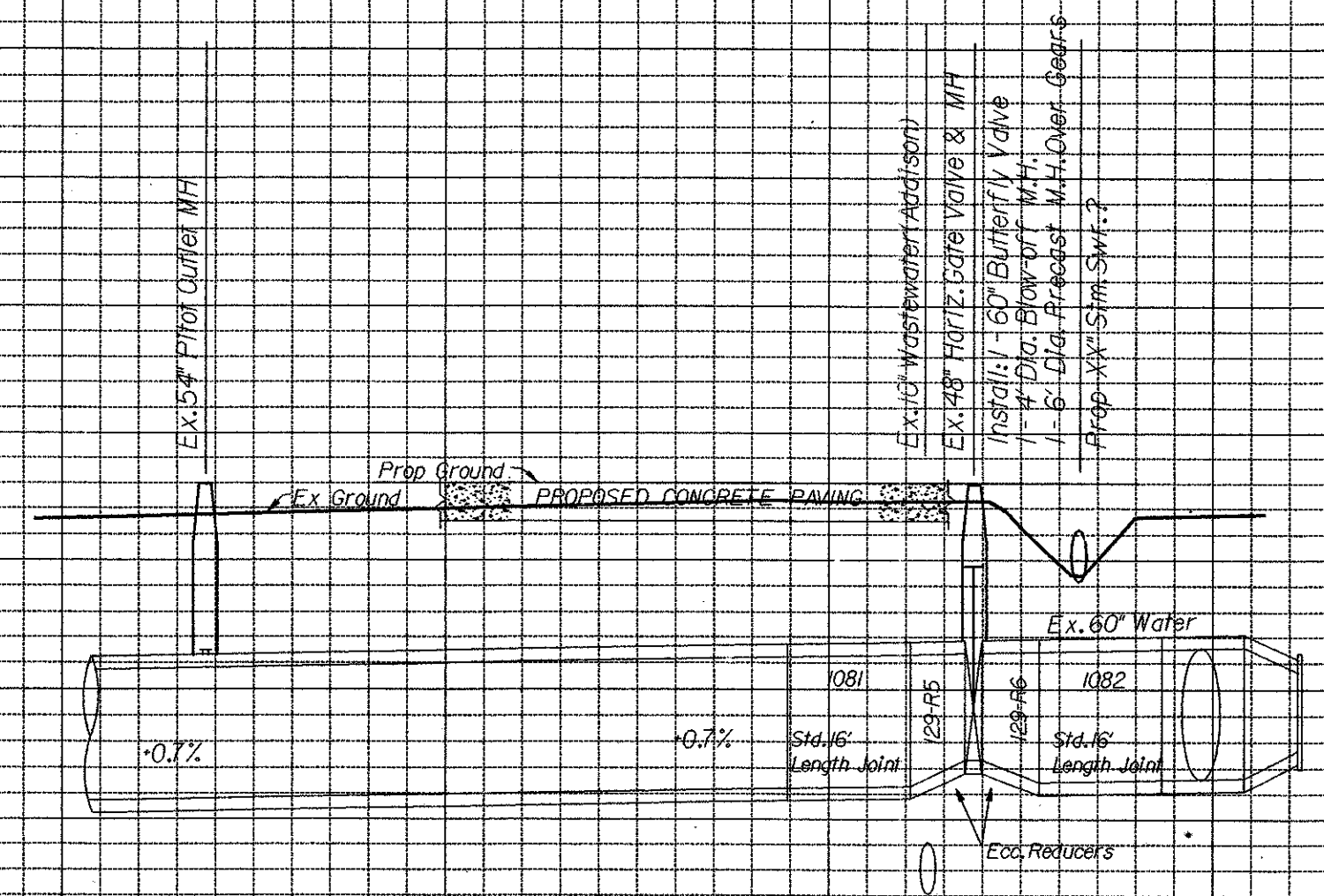


NOTE!
Contractor Shall Verify O.D. of Existing 30" RC Water & Report to Engineer Prior to Ordering Fittings.

60" WATER
Remove: 1 - 48" Valve and Manhole
2 - 60" x 48" Eccentric Reducers &
Install: 1 - 60" Horizontal Butterfly Valve, M.J. x M.J.
1 - 60" Butt Strap Closure Section
2 - 60" RC E - 301 x Plain End Adapters w/ 6" Flanged Outlets
1 - 4" Dia. Blow-off M.H.
1 - 6" Dia. Precast M.H. Over Gears As Per DWJ. Std. Dwg. # 4080A & B. (Pages 214, 215 & 216)
1 - 6" Gate Valve for Bypass

WARNING!
Existing Buried Utilities In Area - Contact Dig-Tess 48 Hours Prior To Construction. Phone #1-800-344-8377

Source: Drawing #59-129-V, sh 12,13
Hanson Pipe & Products, Inc.
1003 N. McArthur Blvd.
Grand Prairie, Texas 75050
972-262-3600
(Formerly Gifford-Hill-America, Inc.)

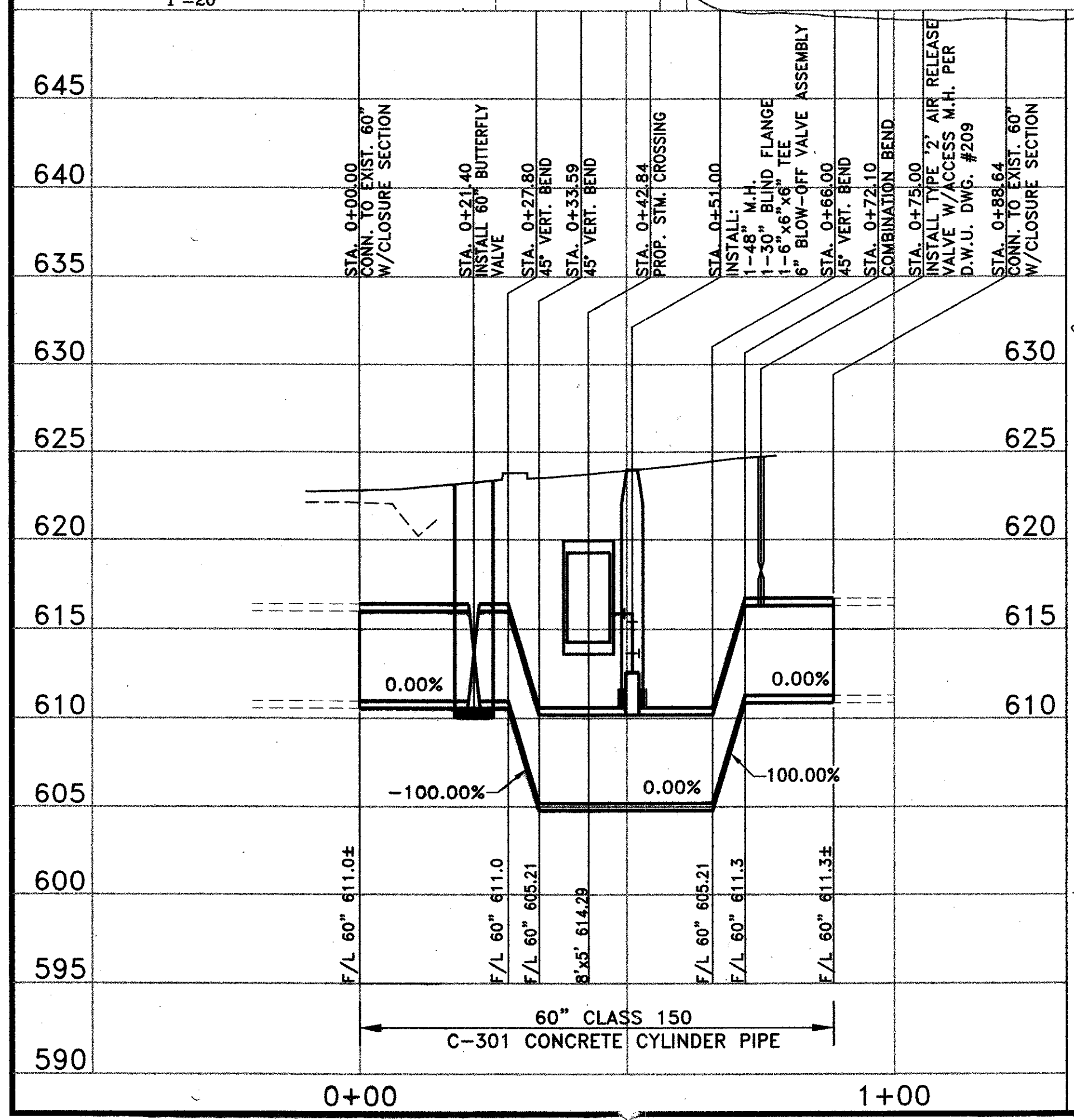
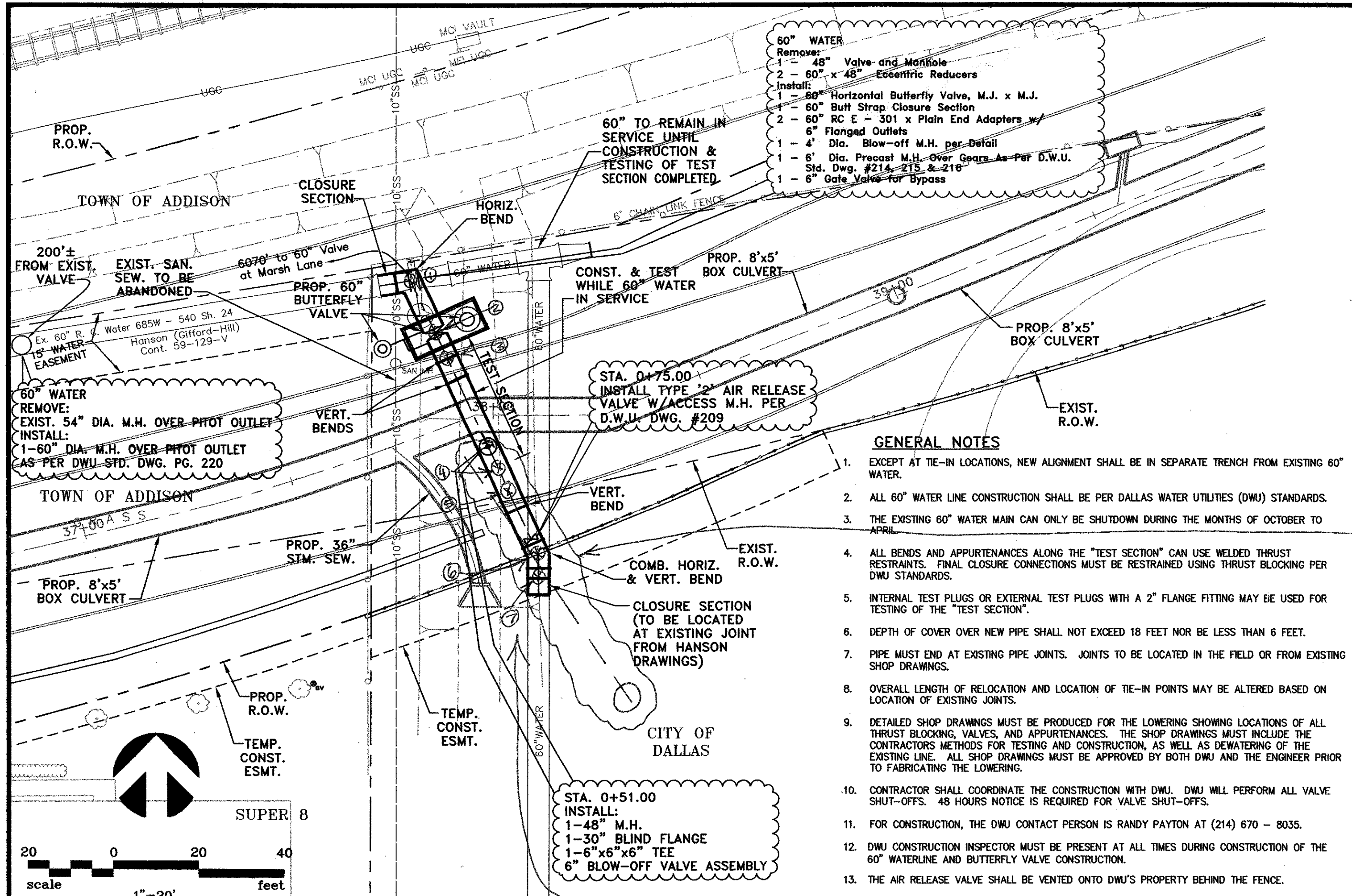


625
620
615
610

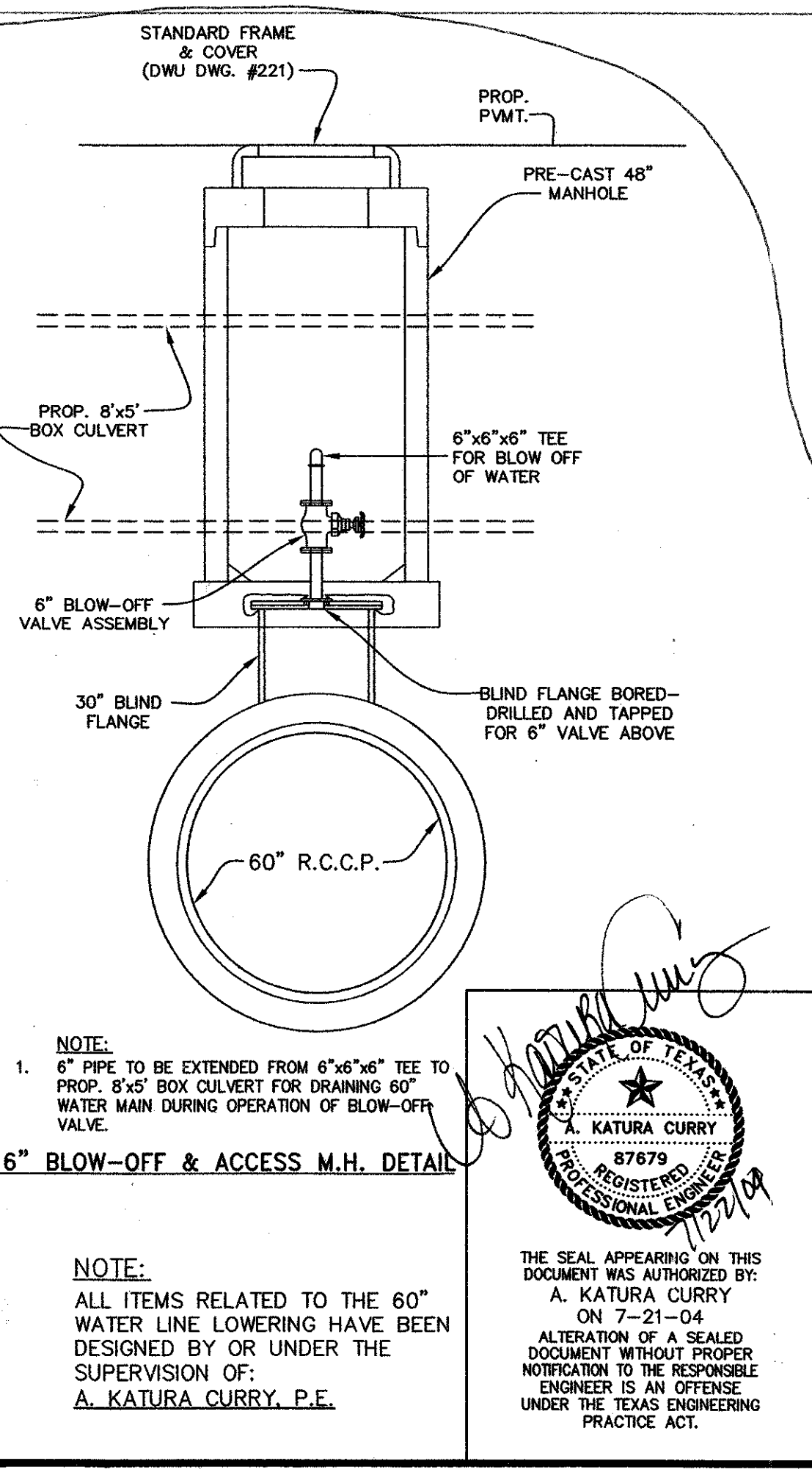
The seal appearing on this document was authorized by Erling Holey, P.E. 41497 on 09/25/2003 for interim review only, Not For Bidding or Construction.

60" BUTTERFLY VALVE ARAPAHO ROAD AT BELTWOOD PUMP STATION WATER UTILITIES DEPARTMENT CITY OF DALLAS, TEXAS						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	SHEET NO.
E. ESTEILE	E. ESTEILE	AUG 2003	1" = 20' H 1" = 5' V		685W-	DWU-1

XX



- GENERAL NOTES**
- EXCEPT AT TIE-IN LOCATIONS, NEW ALIGNMENT SHALL BE IN SEPARATE TRENCH FROM EXISTING 60" WATER.
 - ALL 60" WATER LINE CONSTRUCTION SHALL BE PER DALLAS WATER UTILITIES (DWU) STANDARDS.
 - THE EXISTING 60" WATER MAIN CAN ONLY BE SHUTDOWN DURING THE MONTHS OF OCTOBER TO APRIL.
 - ALL BENDS AND APPURTENANCES ALONG THE "TEST SECTION" CAN USE WELDED THRUST RESTRAINTS. FINAL CLOSURE CONNECTIONS MUST BE RESTRAINED USING THRUST BLOCKING PER DWU STANDARDS.
 - INTERNAL TEST PLUGS OR EXTERNAL TEST PLUGS WITH A 2" FLANGE FITTING MAY BE USED FOR TESTING OF THE "TEST SECTION".
 - DEPTH OF COVER OVER NEW PIPE SHALL NOT EXCEED 18 FEET NOR BE LESS THAN 6 FEET.
 - PIPE MUST END AT EXISTING PIPE JOINTS. JOINTS TO BE LOCATED IN THE FIELD OR FROM EXISTING SHOP DRAWINGS.
 - OVERALL LENGTH OF RELOCATION AND LOCATION OF TIE-IN POINTS MAY BE ALTERED BASED ON LOCATION OF EXISTING JOINTS.
 - DETAILED SHOP DRAWINGS MUST BE PRODUCED FOR THE LOWERING SHOWING LOCATIONS OF ALL THRUST BLOCKING, VALVES, AND APPURTENANCES. THE SHOP DRAWINGS MUST INCLUDE THE CONTRACTOR'S METHODS FOR TESTING AND CONSTRUCTION AS WELL AS DEWATERING OF THE EXISTING LINE. ALL SHOP DRAWINGS MUST BE APPROVED BY BOTH DWU AND THE ENGINEER PRIOR TO FABRICATING THE LOWERING.
 - CONTRACTOR SHALL COORDINATE THE CONSTRUCTION WITH DWU. DWU WILL PERFORM ALL VALVE SHUT-OFFS. 48 HOURS NOTICE IS REQUIRED FOR VALVE SHUT-OFFS.
 - FOR CONSTRUCTION, THE DWU CONTACT PERSON IS RANDY PAYTON AT (214) 670 - 8035.
 - DWU CONSTRUCTION INSPECTOR MUST BE PRESENT AT ALL TIMES DURING CONSTRUCTION OF THE 60" WATERLINE AND BUTTERFLY VALVE CONSTRUCTION.
 - THE AIR RELEASE VALVE SHALL BE VENTED ONTO DWU'S PROPERTY BEHIND THE FENCE.



GENERAL NOTES

- The contractor shall verify the dimensions of all existing water mains to be connected to prior to ordering materials for connections.
- Backfill for all new valves and manholes shall be Four F Flowable Backfill as per NCTCOG 602.10 (I). NO SEPARATE PAY ITEM
- The 60" Butterfly Valve will be furnished by the City of Dallas Water Utilities Department. The Valve shall be picked up by the contractor at 2900 Municipal St. Dallas, Texas 75215. The contractor shall contact Johnny Partain (214) 670-8796 or Robert Dullig at (214) 670-8458, 48 hours in advance to schedule a pick-up time.
- The contractor will be responsible for furnishing the bolts, glands, insulating kits, gaskets etc. for all valves.
- The Water Main shall only be shutdown during the winter months of October to April and with the permission of Water Distribution.
- All existing utilities shown are approximate locations and depths. Exact locations and depths shall be verified by the contractor before beginning construction (including ordering of pre-cast manholes and ordering of concrete pipe, if applicable). The contractor is responsible for the protection of all existing utilities.
- CAUTION: Existing underground utilities involved. Call the Texas Excavation Safety System at 1-800-DIG-TESS (1-800-344-8377) 48 hours prior to construction.

4" PVC DRAIN PIPE TO BE INSTALLED AT THE OPTION OF CONSTRUCTION ENGINEER

TYPICAL BUTTERFLY VALVE INSTALLATION WITH BLOW - OFF & M.H.
 (No Scale)

PLAN

REINF. CONC. SUPPORT DETAIL

NOTE:
 CONTRACTOR TO FURNISH STEM SUPPORT BRACKETS EVERY 8'-0" SUPPORT FROM WALL OF MANHOLE

NOTE:
 CONTRACTOR TO PROVIDE VALVE OPERATOR EXTENSION AS NECESSARY

24-B

CONTRACT #03-167F, DWU FILE 685W, DWU NO. 540

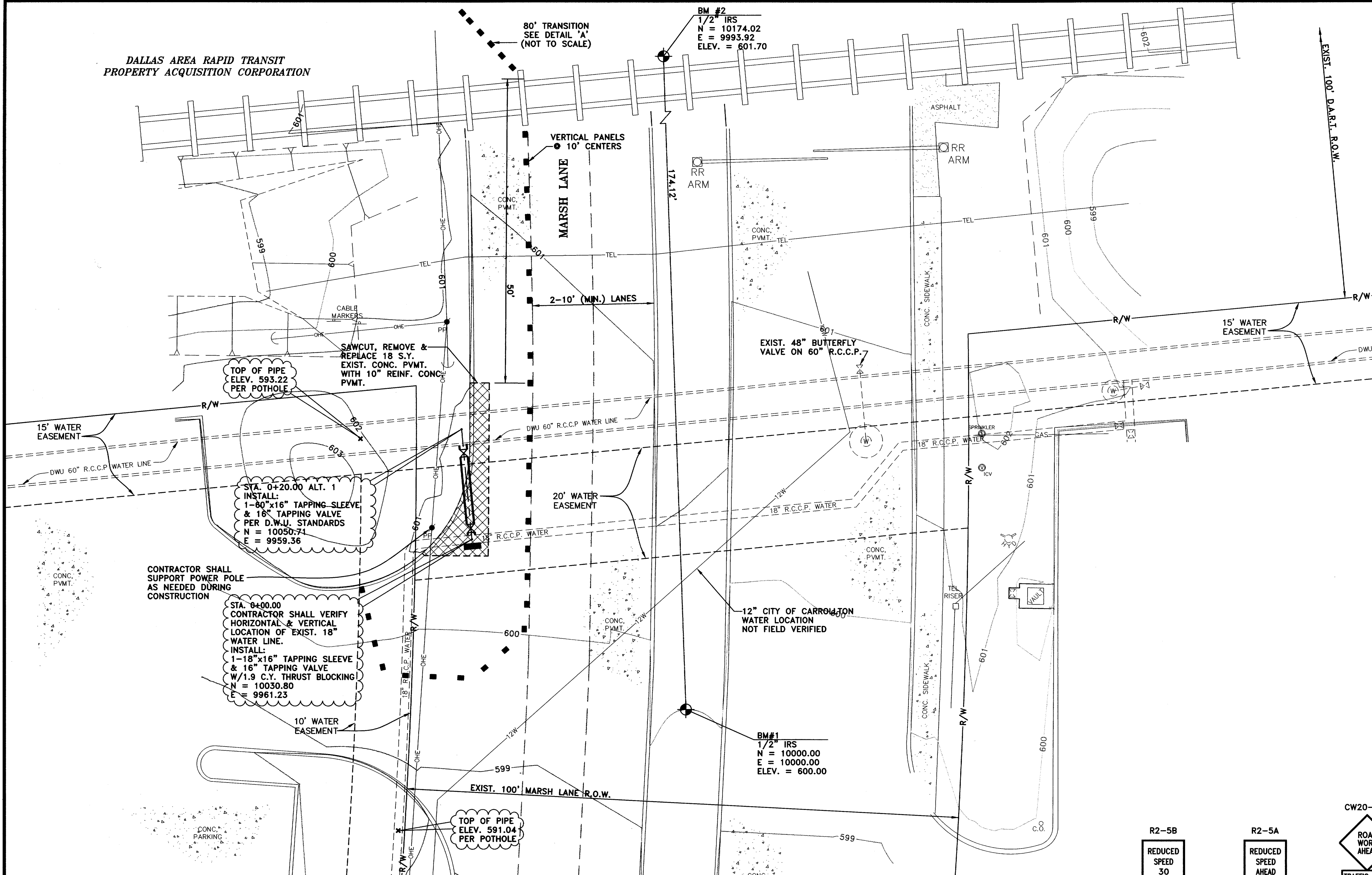
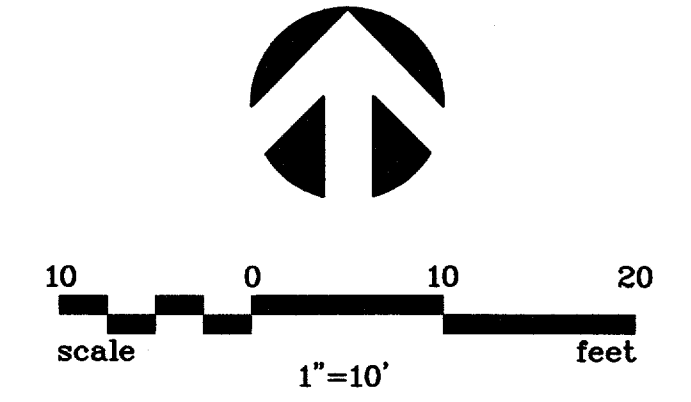
DATE:	JULY 2004	SCALE:	1"=20'(H)1"=6'(V)	JOB NO.:	320-02
DRAWN:	G&A	DESIGN:	AKC	REVIEWED:	BRG
ARAPAHO ROAD PHASE III					
PLAN & PROFILE					
D.W.U. 60" WATER & BUTTERFLY VALVE					
TOWN OF ADDISON					
g&a Grantham & Associates, Inc.					
SHT. DWU-1					

1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042

(972) 964-2333 (TEL) (972) 964-2334 (FAX)

DALLAS AREA RAPID TRANSIT
PROPERTY ACQUISITION CORPORATION

NO.	DATE	REVISION	APPROV.
1			
2			
3			



STA. 0+20.00 ALT. 1 INSTALL: 1-80"x16" TAPPING SLEEVE & 16" TAPPING VALVE PER D.W.U. STANDARDS N = 10050.71 E = 9959.36	615
STA. 0+20.00 INSTALL: 1-18"x16" TAPPING SLEEVE & 16" TAPPING VALVE PER D.W.U. STANDARDS	610
STA. 0+20.00 INSTALL: 1-80"x16" TAPPING SLEEVE & 16" TAPPING VALVE PER D.W.U. STANDARDS	605
EXIST. GROUND ● C/L PIPE	600
	595
16" R.C.C.P. ● 0.25%	590
20 L.F. 16" R.C.C.P. W/ CLASS 'C' EMBEDMENT	585
F/L 18" 589.54 F/L 16" 589.61	580
F/L 16" 589.85 F/L 60" 587.82	575
0+00	

GENERAL NOTES:

- The following municipalities have jurisdiction on this project:
Town of Addison - jurisdiction begins at the back of west curb of Marsh and extends east.
City of Carrollton - jurisdiction begins at the back of west curb of Marsh and extends west.
Dallas Water Utilities - Owner and operator of the 60" and 18" water lines.
- All construction to be in accordance with the standards and specifications set forth by Dallas Water Utilities, the Town of Addison, and NCTCOG. In the event of a conflict, DWU standards shall govern regarding the waterline construction and Town of Addison shall govern regarding the pavement construction.
- This work is being performed in conjunction with the Arapaho Road Phase 3 project for the Town of Addison; therefore, all work shall adhere to the contract documents for the above mentioned project. These are available from the Town of Addison or the engineer.
- This project is on an independent control system. The benchmarks provided on this sheet are not tied to any City survey control.
- These plans do not extend to or include designs or systems pertaining to the safety of the construction contractor or its employees, agent or representatives in performance of the work. The construction contractor shall prepare or obtain the appropriate safety systems, including but not limited to trench safety, including the plans and specifications.
- The Contractor shall call 1-800-DIG-TESS 48 hours prior to excavation. The underground utility locations shown on these plans are approximate only.
- Contractor shall prepare and implement an erosion control plan.

WATER LINE CONSTRUCTION NOTES:

- Wet taps to be performed by Hanson Pipe or approved equal.
- Hanson Pipe or approved equal shall supply the tapping sleeve assembly and tapping service. The contractor shall supply all other necessary labor, excavation, thrust blocking, tapping valve and supports for the wet tap, per Hanson Pipe or approved equal specifications.
- The Contractor shall verify the horizontal/vertical location of the 18" water line.
- All bends, tees, valves, and tapping locations shall be thrust blocked per DWU standards.
- Testing and chlorination of the new water line will be performed by DWU.
- The contractor shall supply a blow-off and flush points for testing by DWU.
- Contractor shall submit a construction plan to the engineer and DWU for approval prior to construction.

PAVING & GRADING NOTES:

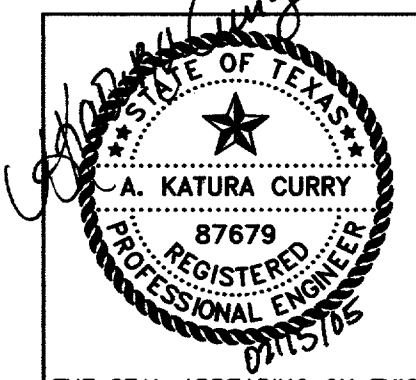
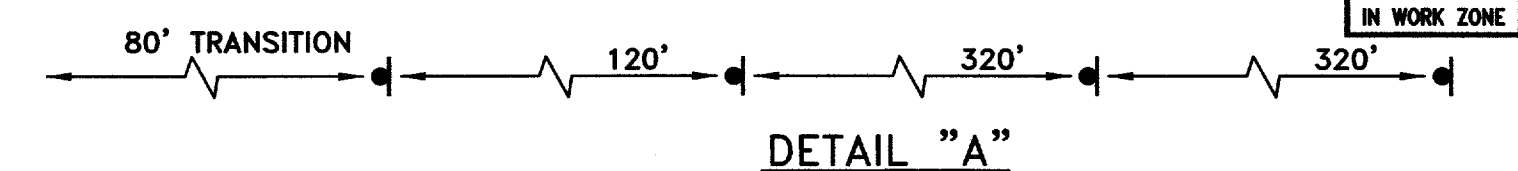
- All backfill shall be compacted to 95% standard proctor density. The contractor shall pay extra attention to Item 504 "Open Cut Backfill" of the NCTCOG specifications.

CONSTRUCTION SCHEDULE:

- Wet tap is scheduled to be performed between February 24th and 26th.
- Construction of all aspects of the project must be completed by March 1, 2005.

TRAFFIC CONTROL NOTES:

- The Contractor shall be responsible for public safety during construction and will provide the necessary traffic barricades and warning signage to protect the construction site. All barricades, warning signs, lights, devices, etc. for the guidance and protection of traffic and pedestrians must conform to the 2003 Texas Manual of Uniform Traffic Control Devices, as currently amended, by the Texas Department of Transportation.



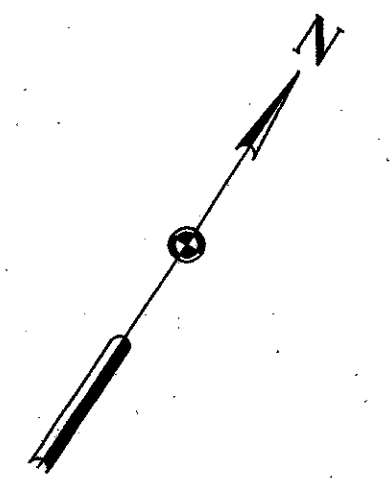
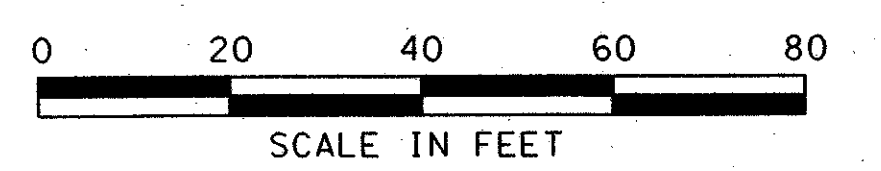
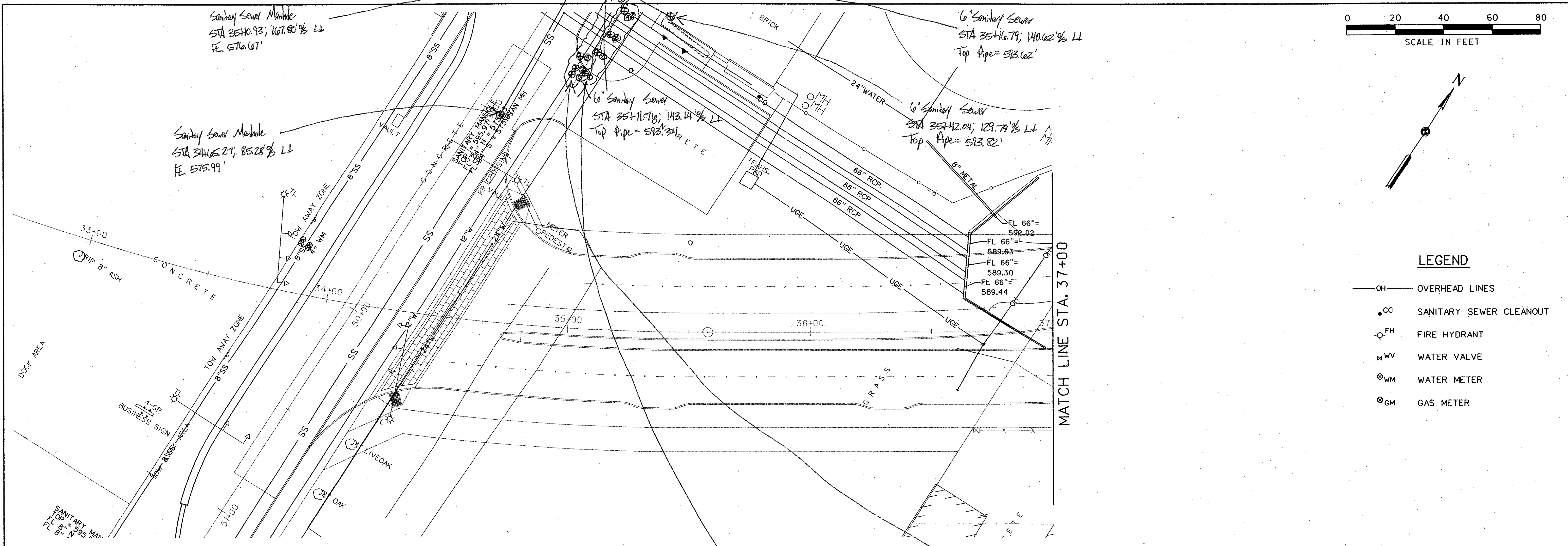
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY:
A. KATURA CURRY
ON 2-15-05.
ALTERATION OF A SEALED DOCUMENT WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS AN OFFENSE UNDER THE TEXAS ENGINEERING PRACTICE ACT.

RECORD DRAWING 2/15/05
DATE: JANUARY 2005 SCALE: 1"=10'(H)1"=6'(V) JOB NO.: 02-320
DRAWN: G&A DESIGN: AKK REVIEWED: BRG DWG: 320WATER01

ARAPAHO ROAD PHASE III
D.W.U./ FARMERS BRANCH
MARSH LANE 16" WATER MAIN INTERCONNECT
TOWN OF ADDISON 118B

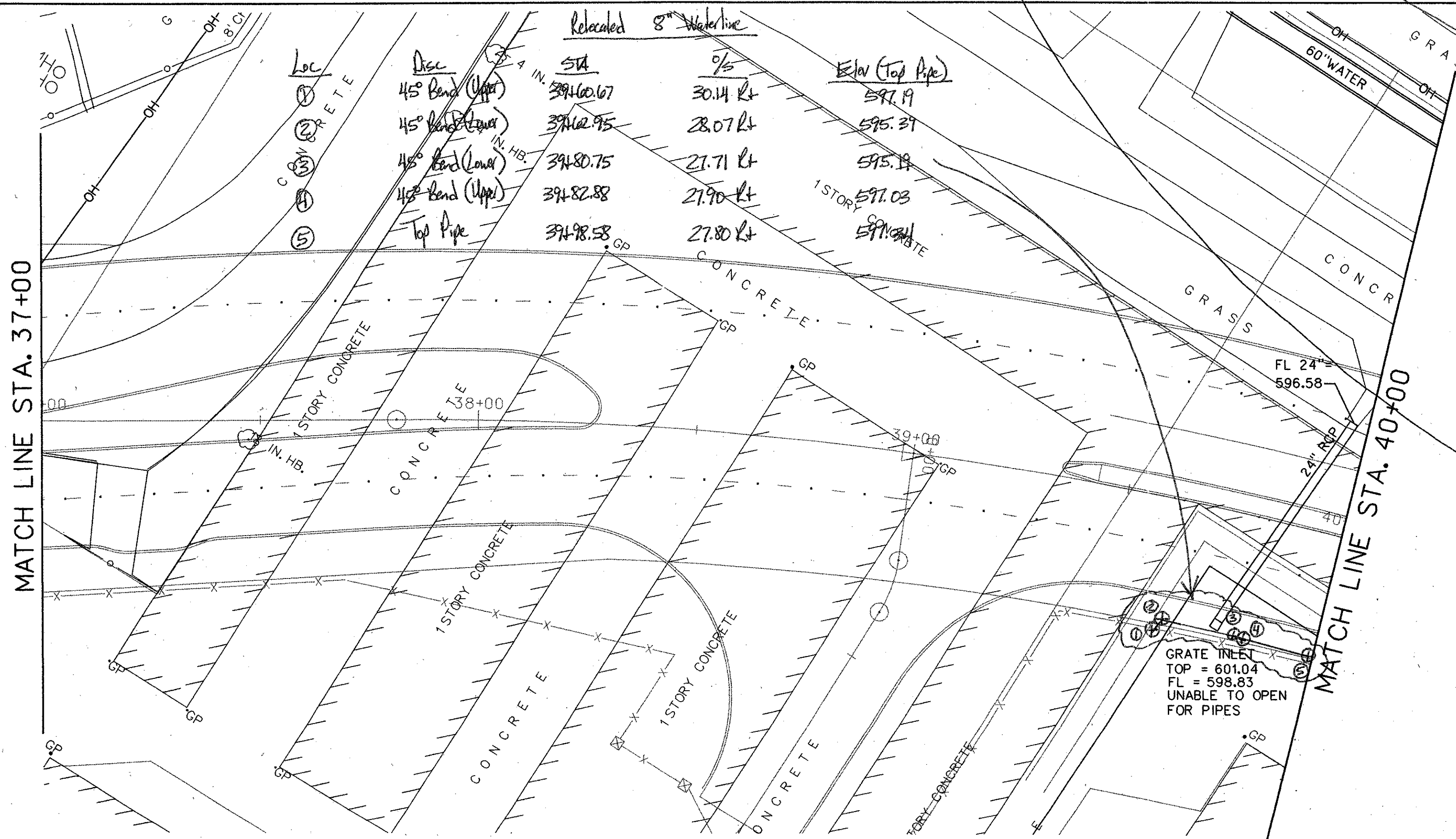
g&a Grantham & Associates, Inc. SHT. 1
1919 S. SHILOH ROAD, SUITE 310, L.B. 8 GARLAND, TEXAS 75042 (972) 864-2333 (TEL) (972) 864-2334 (FAX)
OF 1

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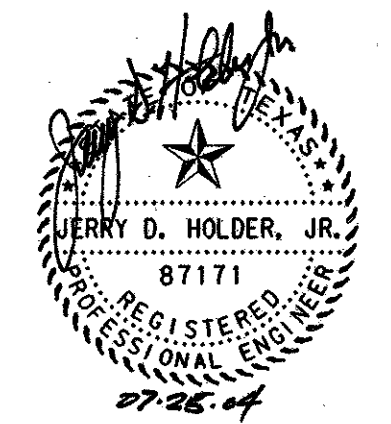
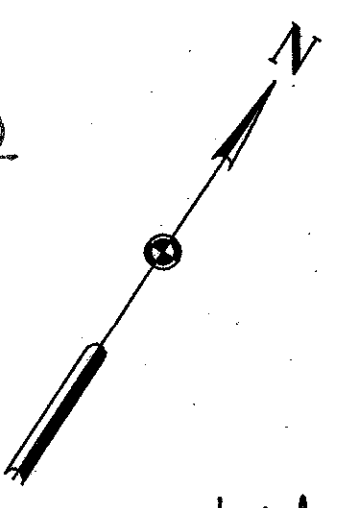
LEGEND

- OH — OVERHEAD LINES
- CO SANITARY SEWER CLEANOUT
- FH FIRE HYDRANT
- W WV WATER VALVE
- ⊗ WM WATER METER
- ⊗ GM GAS METER



12" Waterline Laying			
Loc	Desc	STA	%
①	Valve Stem	34+95.08	104.30 LT
②	Upper 45° Bend	34+97.47	106.99 LT
③	Lower 45° Bend	35+00.42	112.02 LT
④	Lower 45° Bend	35+17.59	138.52 LT
⑤	Upper 45° Bend	35+21.77	144.43 LT
⑥	Valve Stem	35+21.05	147.70 LT

24" Waterline			
Loc	Desc	STA	%
①	Top Pipe	35+08.99	106.26 LT
②	↑	35+08.91	113.94 LT
③	↓	35+13.75	121.88 LT
④	Top Pipe	35+20.56	132.35 LT



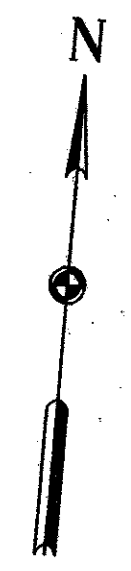
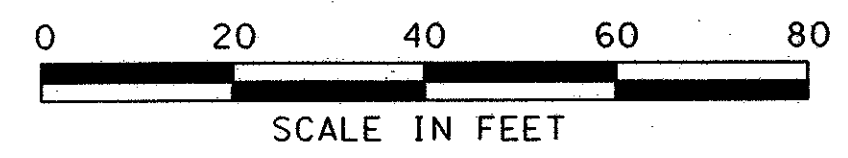
NOTE:

UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION ON THE PLANS. PRIOR TO THE BEGINNING OF ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITY ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

587.01	REVISION	APPROV.	182
HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies			
ARAPAHO ROAD - PHASE III			
SURVEYOR BOULEVARD TO ADDISON ROAD			
EXISTING UTILITY PLAN			
STA 33+87.02 TO 40+00			
TOWN OF ADDISON, TEXAS			
Design JSN	Drawn GFS	DATE	SCALE
Check JDH	Check JSN	APRIL 04	1" = 20'
PROJECT NO.		SHEET NO.	
25768		U-1	

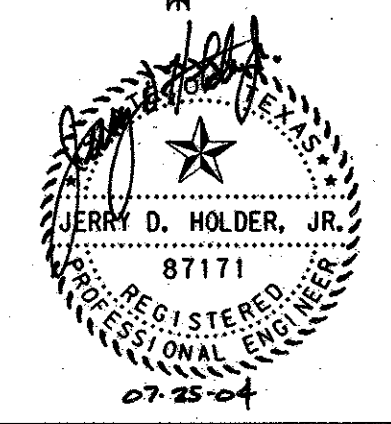
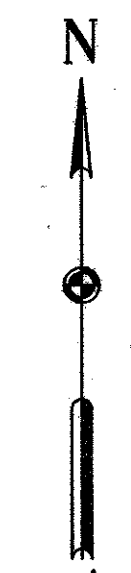
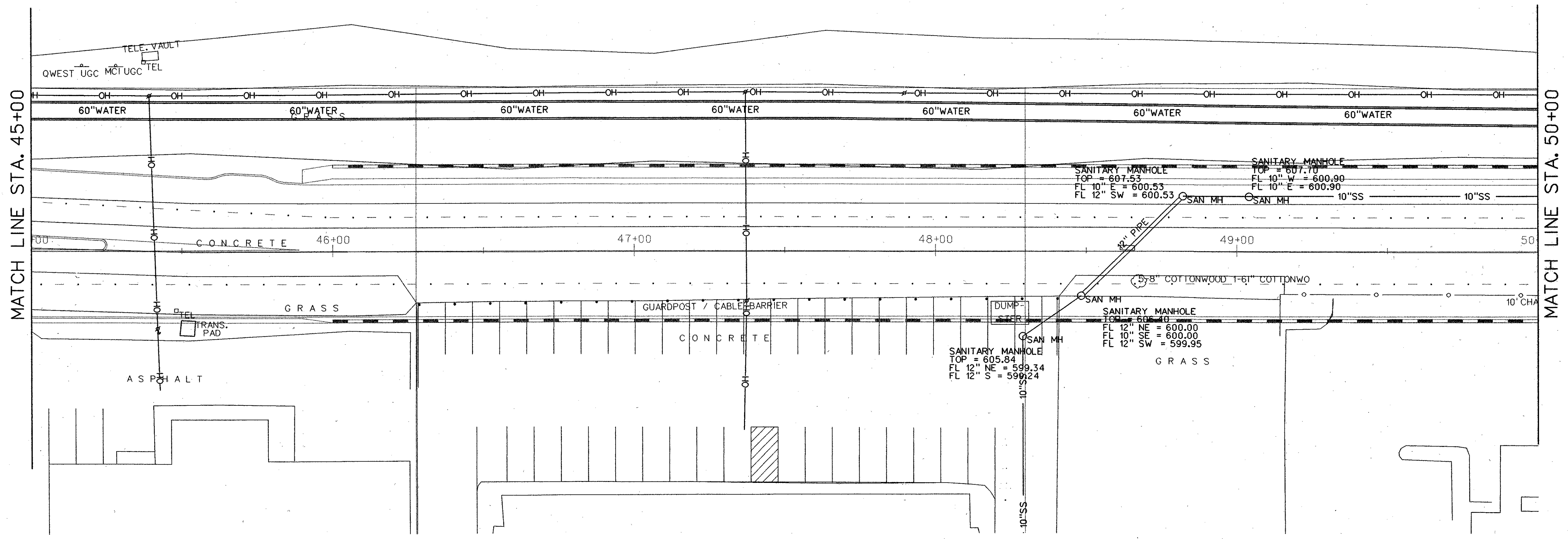
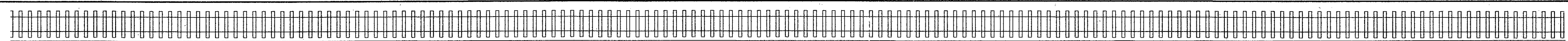
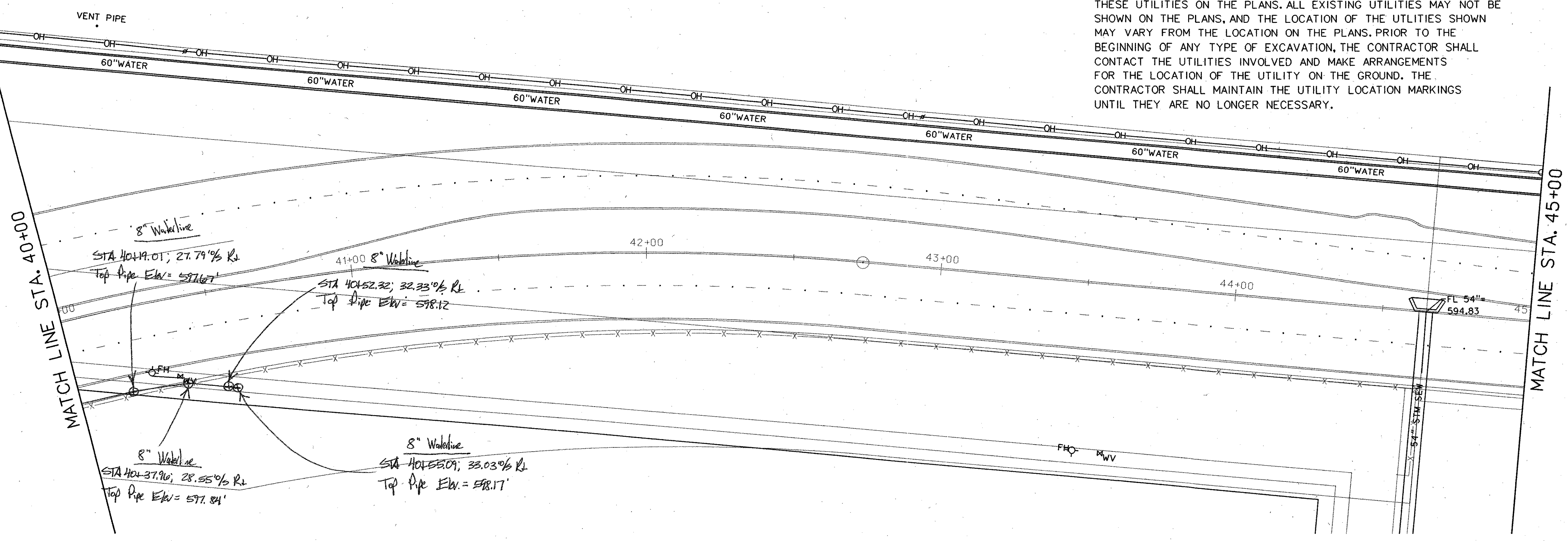
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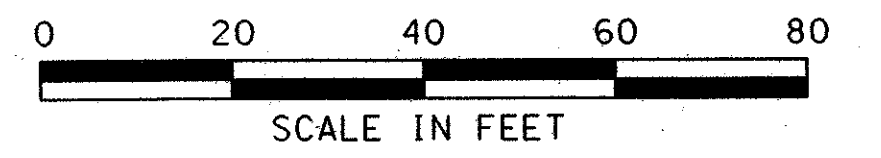
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- OH — OVERHEAD LINES
- CO SANITARY SEWER CLEANOUT
- FH FIRE HYDRANT
- ⊕ WV WATER VALVE
- ⊗ WM WATER METER
- ⊗ GM GAS METER



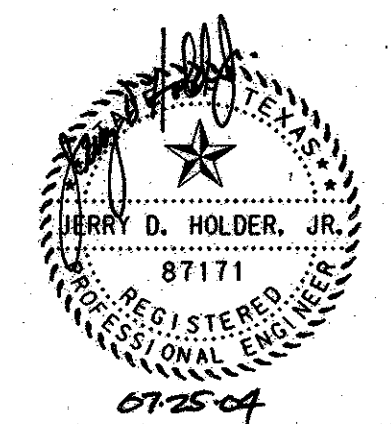
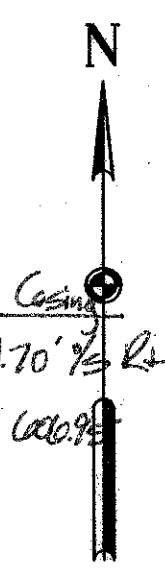
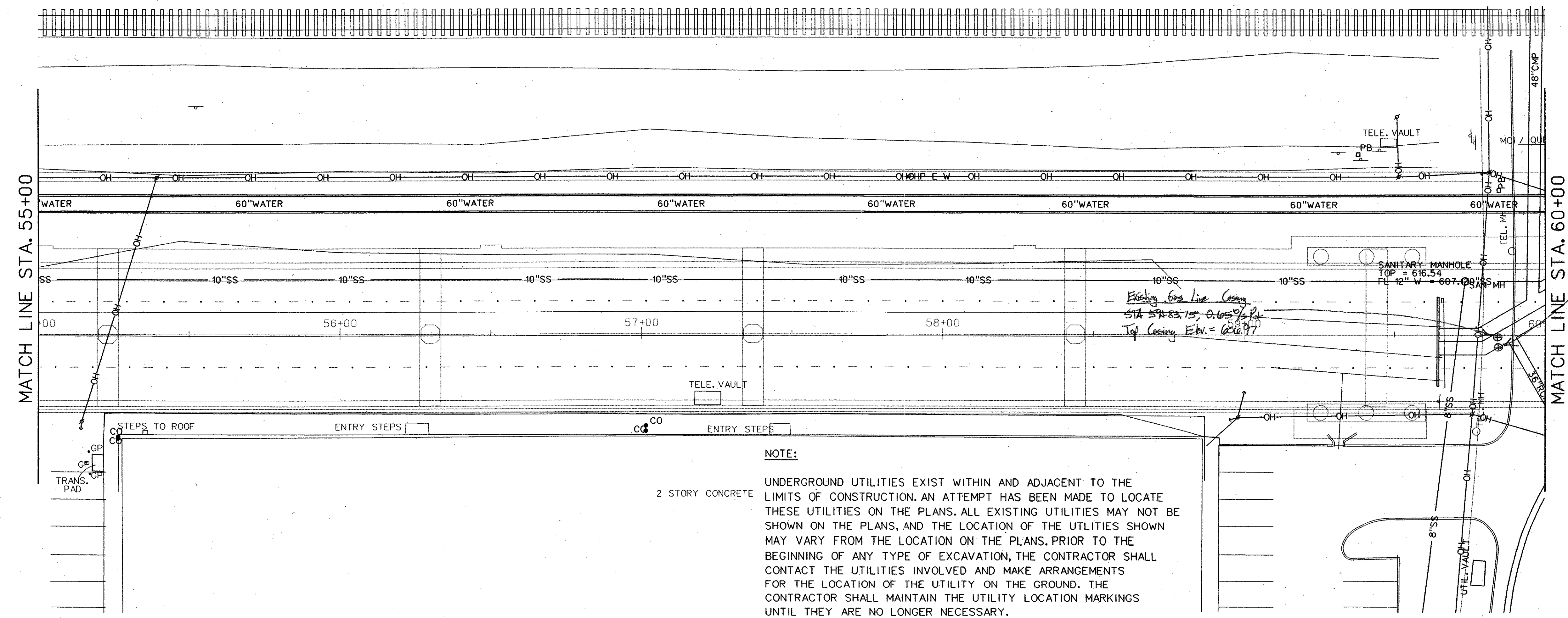
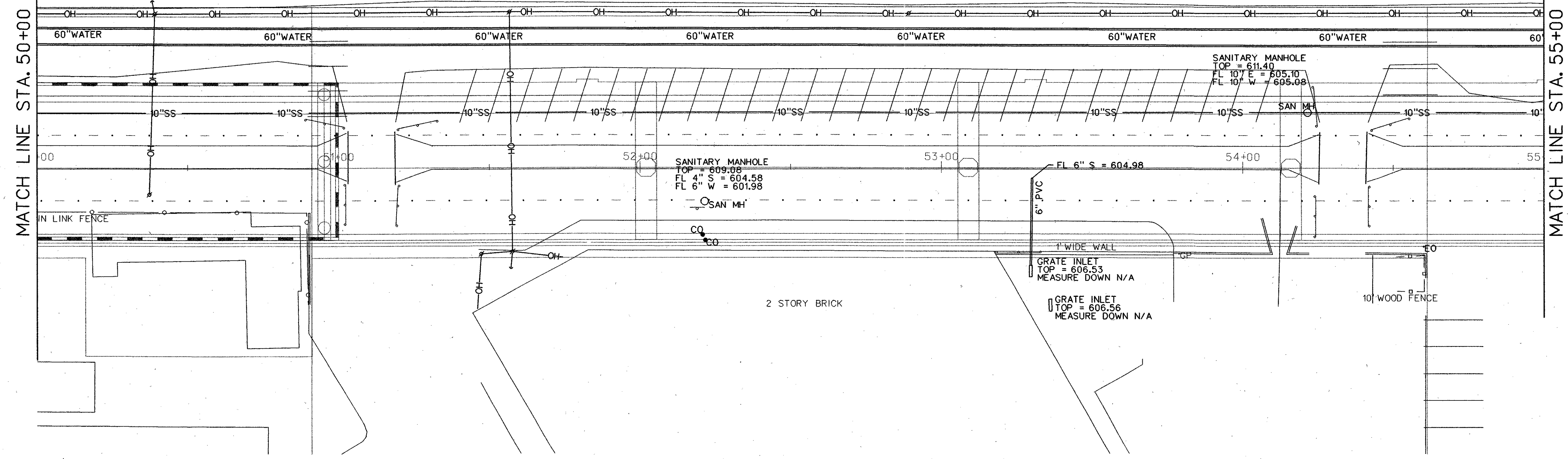
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NO.	DATE	REVISION	APPROV.		
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ARAPAHO ROAD - PHASE III					
SURVEYOR BOULEVARD TO ADDISON ROAD					
EXISTING UTILITY PLAN					
STA 40+00 TO 50+00					
TOWN OF ADDISON, TEXAS					
Design JSN	Drawn GFS	DATE	SCALE	PROJECT NO.	SHEET NO.
Check JDH	Check JSN	APRIL 04	1" = 20'	25768	U-2

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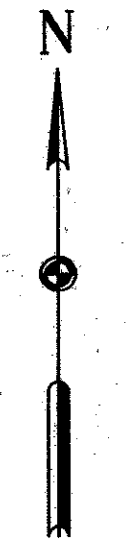
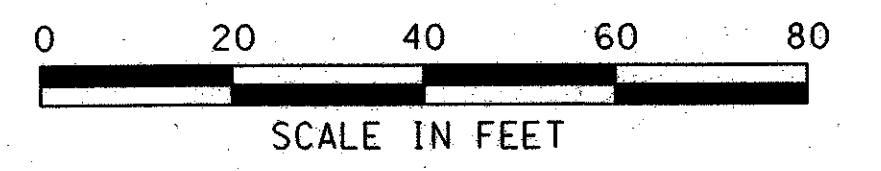
- OH — OVERHEAD LINES
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- FH FIRE HYDRANT
- W WV WATER VALVE
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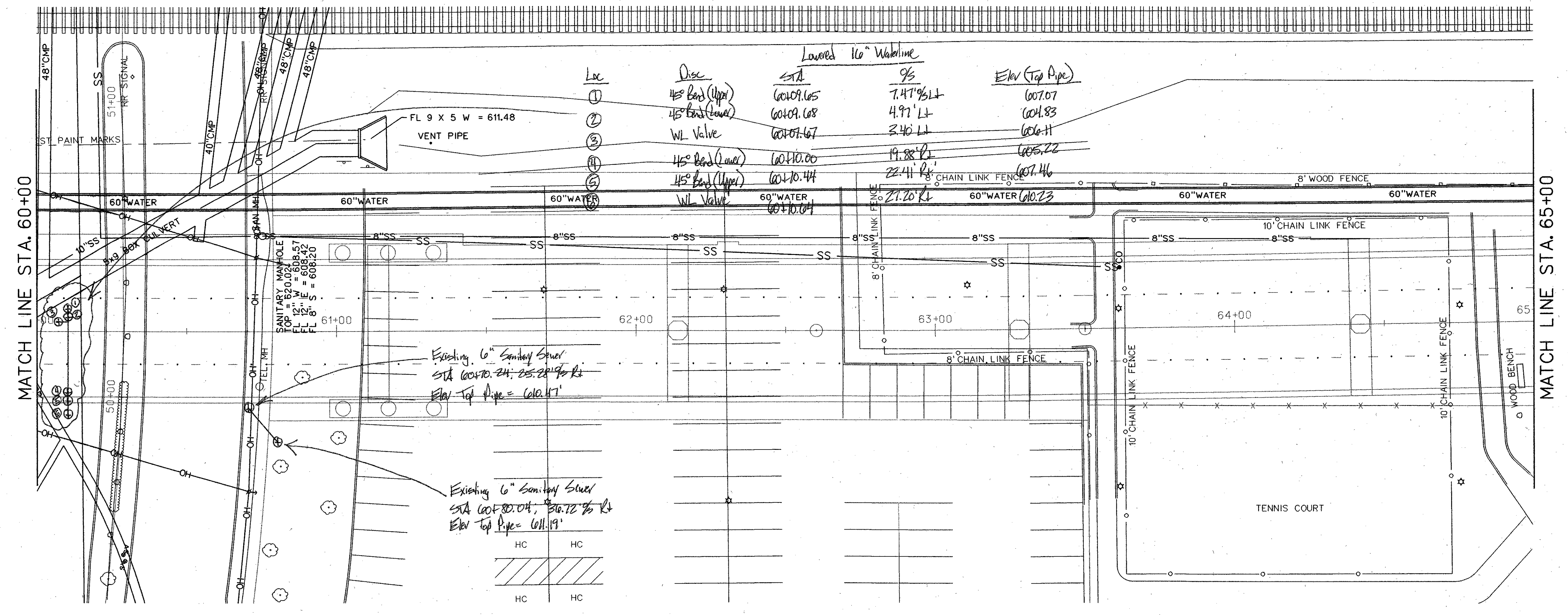
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ARAPAHO ROAD - PHASE III				
SURVEYOR BOULEVARD TO ADDISON ROAD				
EXISTING UTILITY PLAN				
STA 50+00 TO 60+00				
TOWN OF ADDISON, TEXAS				
Design JSN	Drawn GFS	DATE	SCALE	PROJECT NO. SHEET NO.
Check JDH	Check JSN	APRIL 04	1" = 20'	25768 U-3

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LEGEND

- OH — OVERHEAD LINES
- CO SANITARY SEWER CLEANOUT
- ⊙ FH FIRE HYDRANT
- ⊕ WV WATER VALVE
- ⊗ WM WATER METER
- ⊙ GM GAS METER

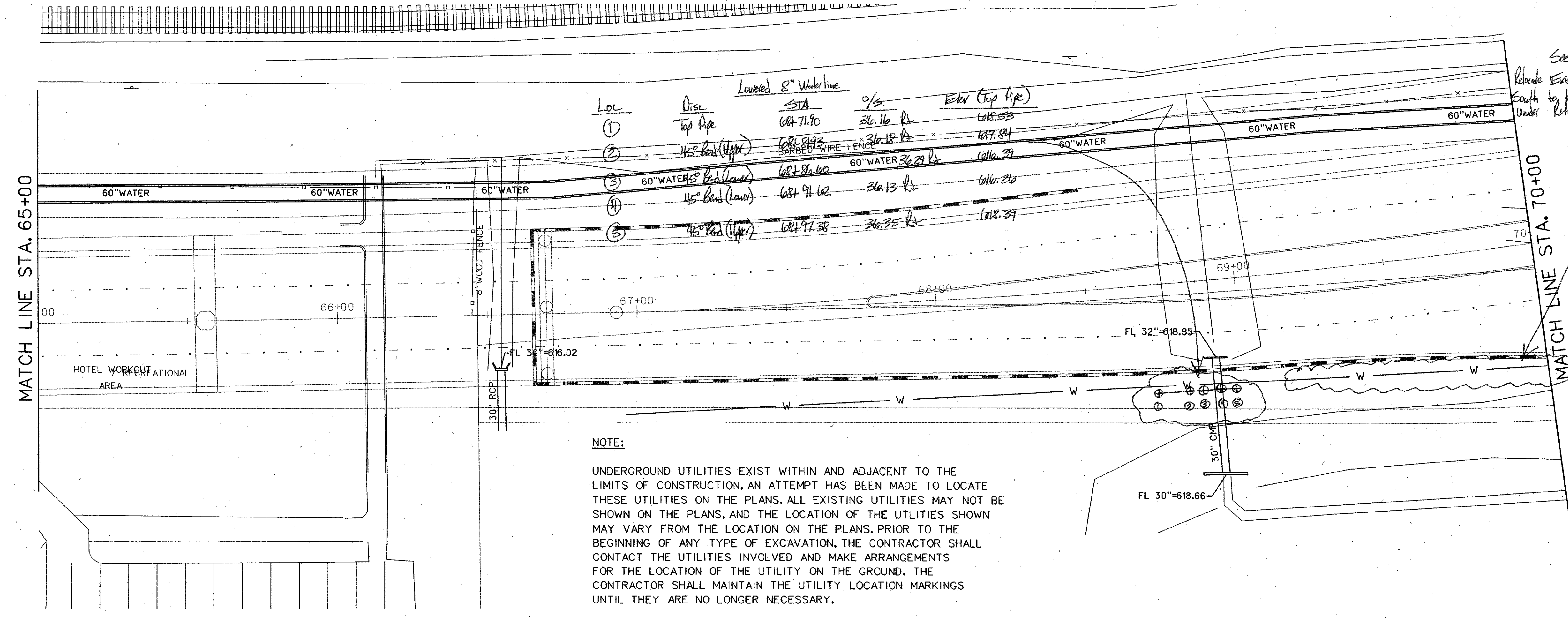
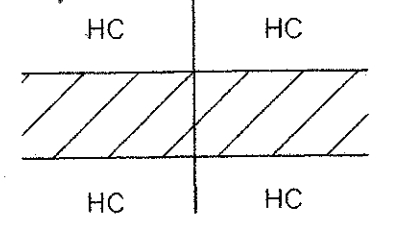


Lowered 16" Waterline

Loc	Disc	STA	Q/S	Elev (Top Pipe)
①	45° Bend (Upper)	60+09.65	7.47' RL	607.07
②	45° Bend (Lower)	60+09.68	4.97' LT	604.83
③	WL Valve	60+07.67	3.40' LT	606.11
④	45° Bend (Lower)	60+10.00	19.88' RL	605.22
⑤	45° Bend (Upper)	60+10.44	22.41' RL	607.46
⑥	WL Valve	60+10.04	21.20' RL	607.23

Existing 6" Sanitary Sewer
STA 60+10.24, 25.28, 28.96 RL
Elev Top Pipe = 602.47'

Existing 6" Sanitary Sewer
STA 60+10.04, 20.72, 25.40 RL
Elev Top Pipe = 601.19'

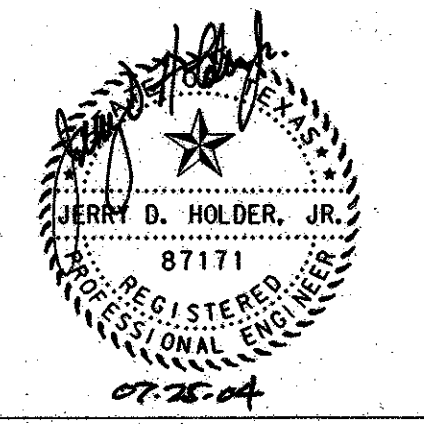


Lowered 8" Waterline

Loc	Disc	STA	Q/S	Elev (Top Pipe)
①	Top Pipe	68+71.90	36.16 RL	618.53
②	45° Bend (Upper)	68+91.92	36.18 RL	617.84
③	60" WATER 45° Bend (Lower)	68+86.60	60" WATER 36.29 RL	616.37
④	45° Bend (Lower)	68+91.62	36.13 RL	616.20
⑤	45° Bend (Upper)	68+97.38	36.35 RL	618.37

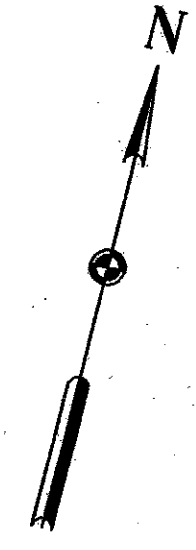
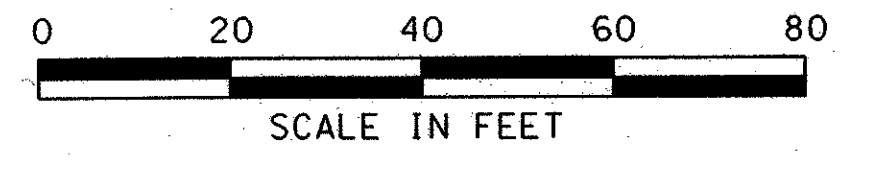
See RFI#083
Relocate Existing 8" Waterline to the South to keep it from being located Under Retaining Wall R/W.

NOTE:
UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION ON THE PLANS. PRIOR TO THE BEGINNING OF ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITY ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.



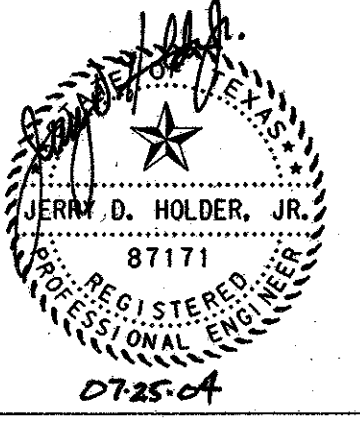
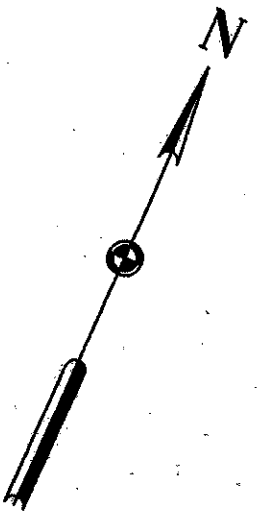
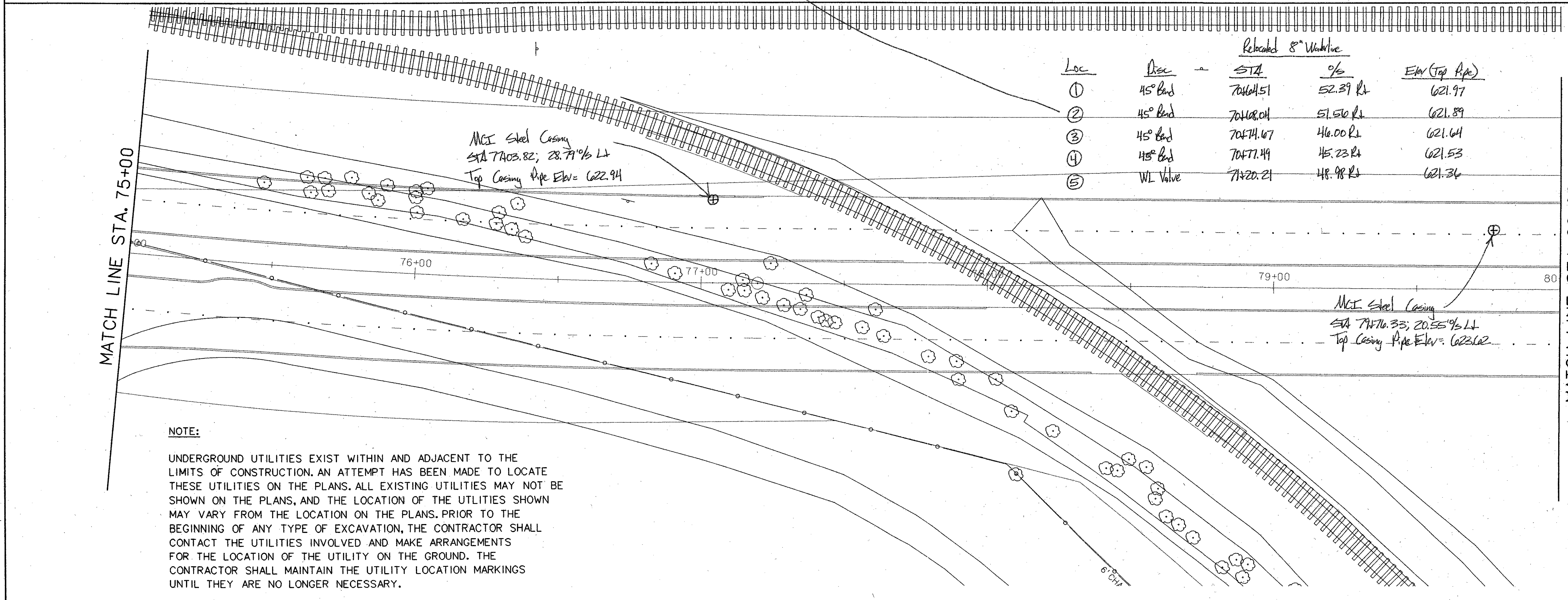
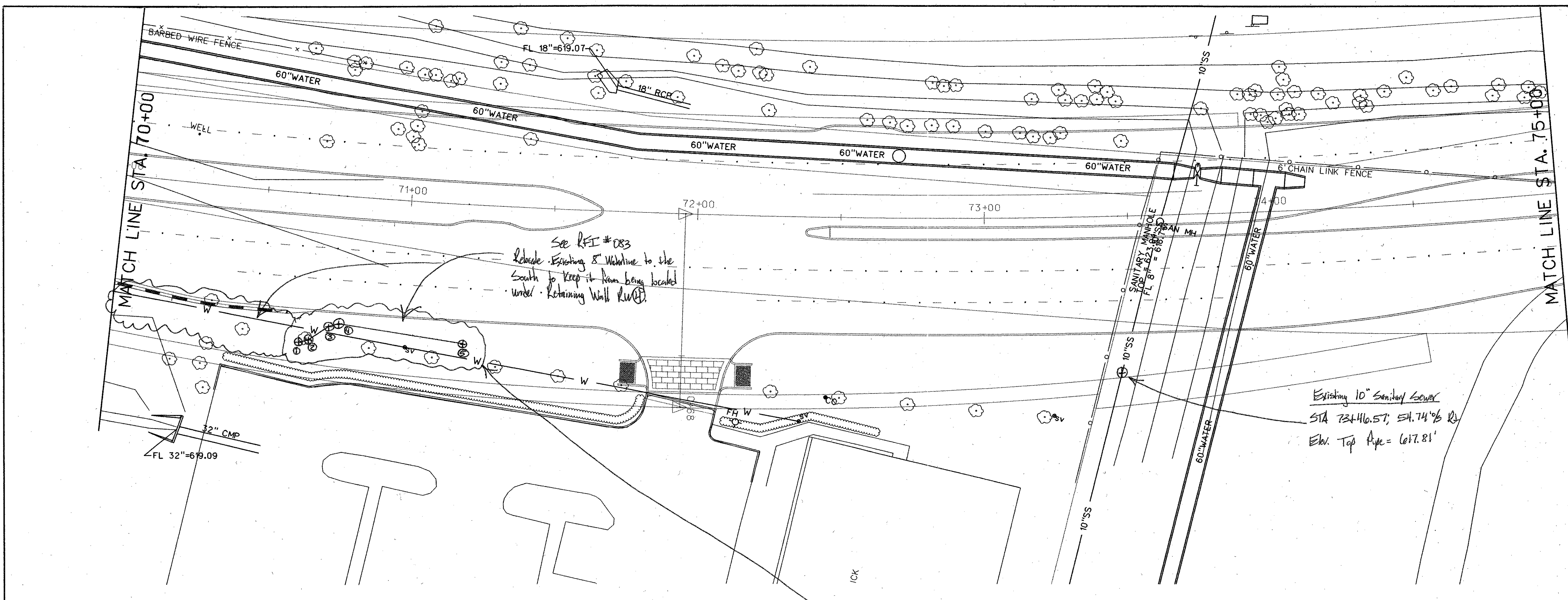
NO.	DATE	REVISION	APPROV.
HNTB ARCHITECTS ENGINEERS PLANNERS The HNTB Companies			185
ARAPAHO ROAD - PHASE III SURVEYOR BOULEVARD TO ADDISON ROAD EXISTING UTILITY PLAN STA 60+00 TO 70+00 TOWN OF ADDISON, TEXAS			
Design JSN	Drawn GFS	DATE	SCALE PROJECT NO. SHEET NO.
Check JDH	Check JSN	APRIL 04	1" = 20' 25768 U-4

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LEGEND

- OH — OVERHEAD LINES
- CO SANITARY SEWER CLEANOUT
- ⊙ FH FIRE HYDRANT
- ⊕ WV WATER VALVE
- ⊗ WM WATER METER
- ⊙ GM GAS METER

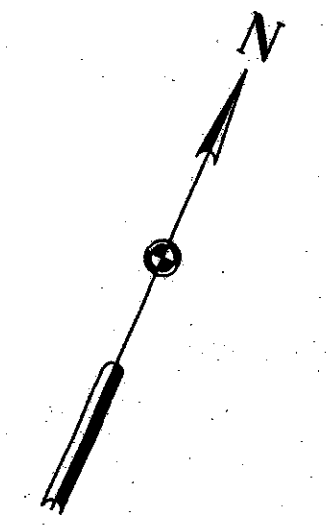
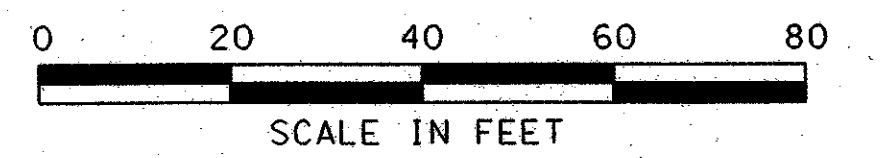


NOTE:

UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION ON THE PLANS. PRIOR TO THE BEGINNING OF ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITY ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.

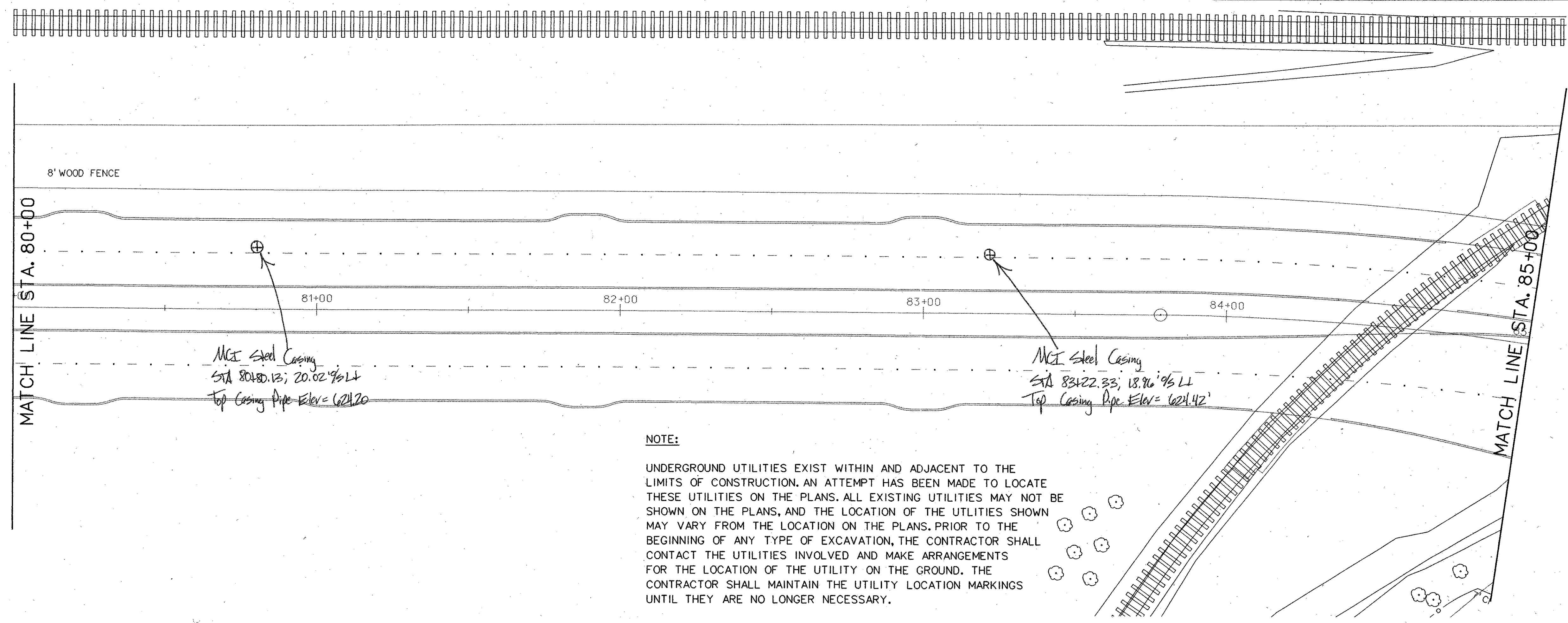
NO.	DATE	REVISION	APPROV.	186
ARAPAHO ROAD - PHASE III SURVEYOR BOULEVARD TO ADDISON ROAD EXISTING UTILITY PLAN STA 70+00 TO 80+00 TOWN OF ADDISON, TEXAS				
Design JSN	Drawn GFS	DATE	SCALE	PROJECT NO. SHEET NO.
Check JDH	Check JSN	APRIL 04	1" = 20'	25768 U-5

29-JUN-2004 13:03 G:\25768-ph3\N1\cas\c_r_3u+05.dgn



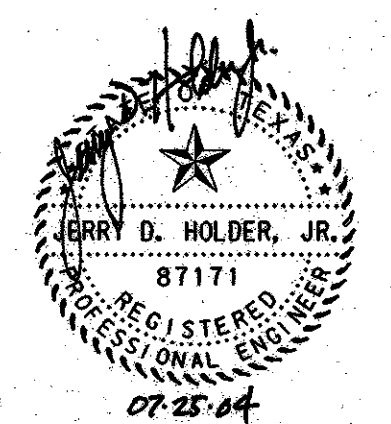
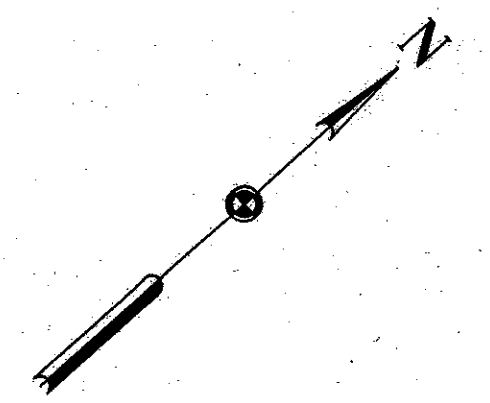
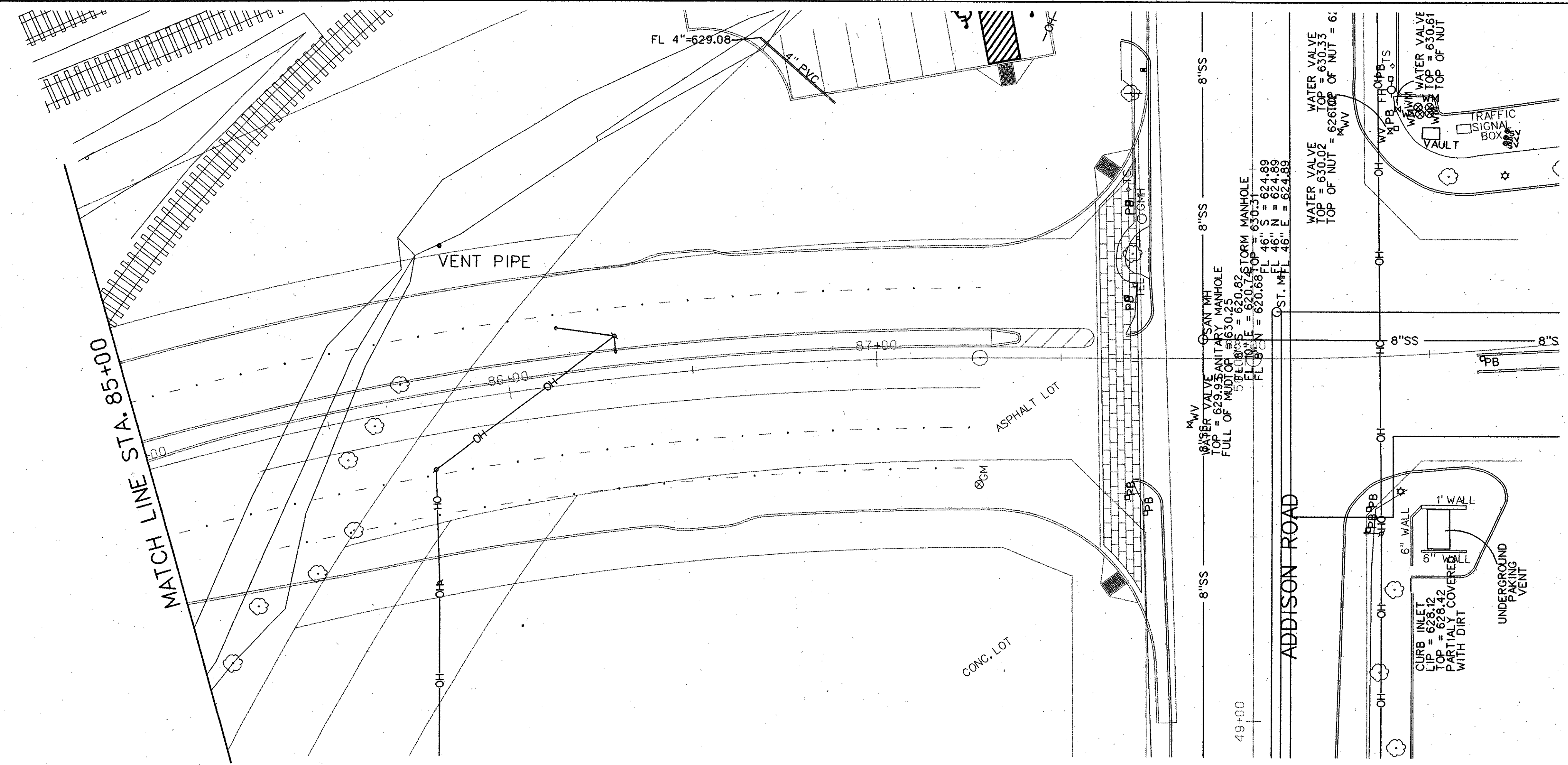
LEGEND

- OH— OVERHEAD LINES
- CO SANITARY SEWER CLEANOUT
- ⊙FH FIRE HYDRANT
- ⊙WV WATER VALVE
- ⊙WM WATER METER
- ⊙GM GAS METER



NOTE:

UNDERGROUND UTILITIES EXIST WITHIN AND ADJACENT TO THE LIMITS OF CONSTRUCTION. AN ATTEMPT HAS BEEN MADE TO LOCATE THESE UTILITIES ON THE PLANS. ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THE PLANS, AND THE LOCATION OF THE UTILITIES SHOWN MAY VARY FROM THE LOCATION ON THE PLANS. PRIOR TO THE BEGINNING OF ANY TYPE OF EXCAVATION, THE CONTRACTOR SHALL CONTACT THE UTILITIES INVOLVED AND MAKE ARRANGEMENTS FOR THE LOCATION OF THE UTILITY ON THE GROUND. THE CONTRACTOR SHALL MAINTAIN THE UTILITY LOCATION MARKINGS UNTIL THEY ARE NO LONGER NECESSARY.



NO.	DATE	REVISION	APPROV.	187
HNTB ARCHITECTS ENGINEERS PLANNERS <i>The HNTB Companies</i>				
ARAPAHO ROAD - PHASE III				
SURVEYOR BOULEVARD TO ADDISON ROAD				
EXISTING UTILITY PLAN				
STA 80+00 TO 87+88				
TOWN OF ADDISON, TEXAS				
Design JSN	Drawn GFS	DATE	SCALE	PROJECT NO. SHEET NO.
Check JDH	Check JSN	APRIL 04	1" = 20'	25768 U-6