

CONSTRUCTION PLANS

FOR

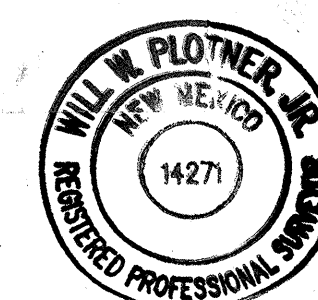
JUAN TABO BLVD. PHASE I

STORM & SAS IMPROVEMENTS

ALBUQUERQUE, NEW MEXICO

I, WILL P. OTER JR., A DULY QUALIFIED, REGISTERED, PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE "AS-BUILT" INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM FIELD CONSTRUCTION AND "AS-BUILT" SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION, THAT THE "AS-BUILT" INFORMATION SHOWN ON THESE DRAWINGS WAS ADDED BY ME OR UNDER MY SUPERVISION, AND THAT THIS "AS-BUILT" INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF BASED ON MY REASONABLE RECORDS AND USE OF THE DESIGN CONCEPT, CALCULATIONS, ENGINEERING, OR INTENT OF THE RECORD DRAWINGS.

Will Plotner 4/16/07



INDEX TO DRAWINGS

SHEET NO.	SHEET
1	TITLE SHEET
2	PLAT
3	GUIDE BANK PLAN
4 & 5	UTILITY PLAN & PROFILE
5	NMSHD PIPE CULVERT HEADWALL

CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, James D. Hughes, NMPE 11674, of the firm Mark Goodwin & Associates, PA, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision, and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met except as noted by me on the as-built construction drawings. This Certification is based on site inspections by me or personnel under my direction, and survey information provided by Will Ploner, Jr., NMPS number 14271.

James D. Hughes NMPE 11674

I, James D. Hughes, certify that this electronic version is identical to the original reproducible APPROVED FOR CONSTRUCTION drawings signed by me on 3-18 2005

This set of drawings is accepted for RECORD purposes by _____ on _____, 2007.



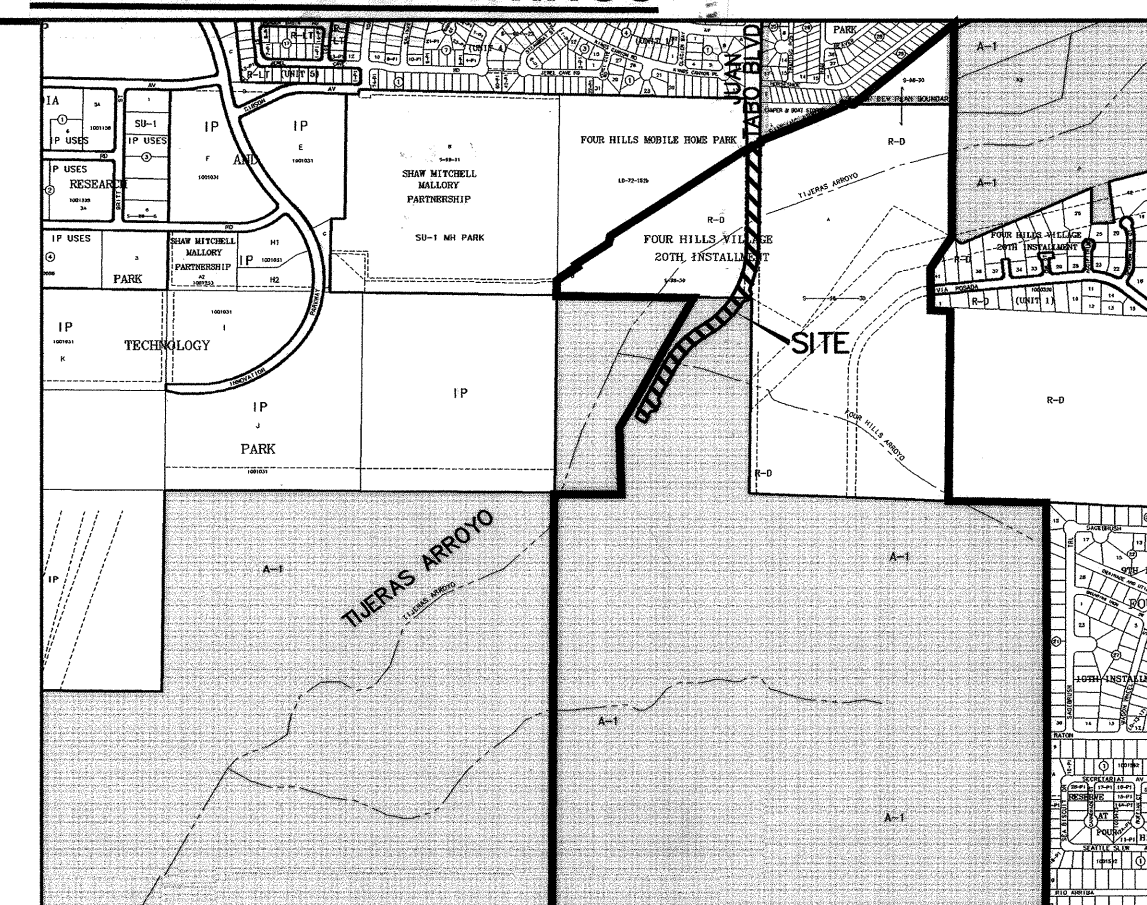
APPROVED AS RECORD DRAWINGS
DESIGN REVIEW SECTION
CITY CONSTRUCTION ENGINEER

DATE: 11/16/18

~~AMAFGA~~ ~~DATE~~

DRB NO. 1001370

RECORD DRAWINGS

VICINITY MAP ZONE ATLAS M-21/N-21

ZONE ATLAS M-21/N-2

SCALE: NONE

GENERAL NOTES

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #7.
3. TWO WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (280-1990) FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. FIVE (5) WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A COORDINATION DIVISION (CD) DIVISION 4 DETAILED CONSTRUCTION SCHEDULE TO THE CITY OF ALBUQUERQUE. TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION COORDINATION ENGINEER (324-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
6. ALL WORK AFFECTING ARTERIAL ROADWAYS REQUIRES TWENTY-FOUR HOUR CONSTRUCTION.
7. ALL STREET STIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REPAIRED WITH WHITE PAINT. THE CONTRACTOR TO THE SAME LOCATION AS WAS EXISTING, OR AS INDICATED BY THIS PLAN SET.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PROPER REPLACEMENT SHALL BE DONE ONLY BY THE CITY SURVEYOR. WHEN CHANGE IS MADE IN THE FINAL ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT TO COVER THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
9. CONTRACTOR SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF "AS CONSTRUCTED" DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAVE BEEN RECORDED.
10. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
11. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALBUQUERQUE WATER SYSTEMS DIVISION (857-8200) SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT EXISTING PUBLIC WATER OR SEWER UTILITIES. EXISTING VALVES TO BE OPERATED BY CITY PERSONNEL ONLY. CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION SEVEN (7) WORKING DAYS PRIOR TO NEEDING VALVES TURNED ON OR OFF.
12. FOR STORM DRAIN CONSTRUCTION, RCP JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL INSPECTION AND THE CONTRACTOR SHALL DETERMINE JOINTS TO BE GROUTED FOR FINAL ACCEPTANCE OF THE CONSTRUCTION.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☒ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- ☒ BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- ☐ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER.
- ☒ SIDEWALK AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☐ IF CURB IS DERESSED FOR A DRIVEPAD, THE DRIVEPAD SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF CURB AND GUTTER.
- ☒ ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.

CAUTION:
NOTE THAT ALL EXISTING UTILITIES MAY NOT BE SHOWN. ALL EXISTING SERVICE CONNECTIONS ARE NOT SHOWN. ANY EXISTING UTILITIES THAT ARE SHOWN ARE APPROXIMATE LOCATION ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL THE UTILITY OWNERS AND TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS.

dmg D. MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P. O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200 FAX (505) 797-9533

[illegible]

A2079 4 HILLS BRIDGE PLANS/Phase I/A2079-TITLE-Plan dwg/03-18-05/DEF

BULK LAND PLAT FOR
JUAN TABO HILLS
WITHIN

SECTIONS 27, 33 AND 34
TOWNSHIP 10 NORTH, RANGE 4 EAST, NMMP
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
DECEMBER, 2004

SCANNED BY
PLANNING

LEGAL DESCRIPTION

DESCRIPTION

A tract of land situated within Sections 33 and 34, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being the Northeast one-quarter of the Southeast one-quarter (NE1/4, SE1/4) Section 33, together with the West half of the Southwest one-quarter (W1/2SW1/4) and the West half of the East half of the Southwest one-quarter (W1/2SW1/4) of the Southeast one-quarter (SE1/4, SE1/4) Section 33, together with a tract of land situated within Sections 27, 33 and 34, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico being all of TRACT A, FOUR HILLS VILLAGE 20TH INSTALLMENT as the same is shown and designated on said plat filed for record in the office of the County Clerk of Bernalillo County, New Mexico on December 28, 1988 in Book 98C, Page 36, and being more particularly described as follows:

BEGINNING at the southwest corner of the herein described tract, from whence the Albuquerque Central Survey Monument 7-M21 bears N 03°08'30" W, 643.92 feet;

THENCE N 00°17'01" E, 2750.97 feet to a point;
THENCE S 89°42'17" E, 447.39 feet to a point;
THENCE N 01°49'04" W, 439.87 feet to a point;
THENCE N 29°26'17" E, 1004.51 feet to a point;
THENCE N 89°15'53" W, 911.63 feet to a point;
THENCE N 00°42'12" E, 98.56 feet to a point;
THENCE N 57°28'58" E, 163.10 feet to a point;
THENCE N 32°31'02" W, 20.00 feet to a point;
THENCE N 57°28'58" E, 260.16 feet to a point;
THENCE N 12°37'53" E, 50.77 feet to a point;
THENCE N 57°29'12" E, 1082.65 feet to a point;
THENCE S 00°39'44" W, 8.73 feet to a point;
THENCE N 54°55'30" E, 52.84 feet to a point;
THENCE N 68°13'30" E, 46.69 feet to a point;
THENCE N 00°33'31" E, 13.27 feet to a point;
THENCE N 01°08'50" E, 594.70 feet to a point;
THENCE S 86°43'49" E, 64.80 feet to a point;
THENCE N 52°53'48" E, 852.28 feet to a point;
THENCE S 00°32'11" W, 550.16 feet to a point;
THENCE S 00°40'21" W, 840.23 feet to a point;
THENCE S 34°19'37" W, 254.94 feet to a point;
THENCE S 01°08'04" E, 270.46 feet to a point;
THENCE S 87°23'00" E, 132.86 feet to a point;
THENCE S 87°50'40" E, 664.23 feet to a point;
THENCE S 00°22'48" W, 1707.50 feet to a point;
THENCE S 00°30'17" W, 734.93 feet to a point;
THENCE S 00°22'48" W, 274.47 feet to a point;
THENCE N 89°17'01" W, 1313.06 feet to a point;
THENCE N 89°10'39" W, 1317.21 feet to the point of beginning and containing (14270.086 s.f.) 327.3584 acres more or less.



P.O. BOX 30701, ALBQ., N.M. 87190
505-884-1990

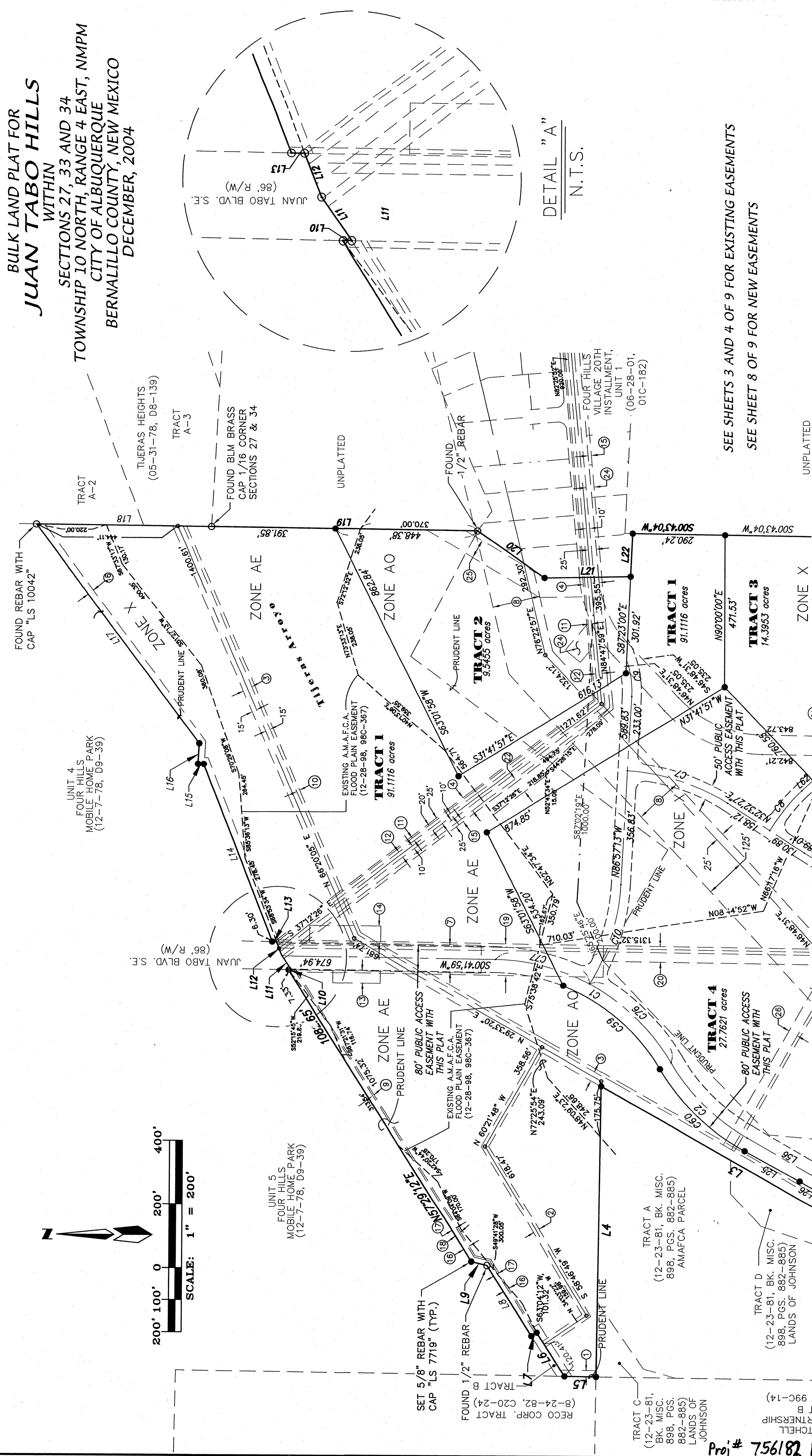
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Scale: NTS
Drawn: STEPHEN
Date: 01/13/05
Checked: ALS
Job: A02079
Sheet 9 of 9

CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
C1	666.21	650.00	59°43'27"
C2	340.18	650.00	29°59'09"
C3	126.36	650.00	11°08'17"
C4	338.33	650.00	29°49'21"
C5	189.61	650.00	16°42'50"
C6	173.45	650.00	15°17'21"
C7	334.60	650.00	29°29'40"
C8	161.25	650.00	14°13'28"
C9	117.25	650.00	9°51'56"
C10	327.46	650.00	28°51'52"
C11	948.39	1040.16	52°15'06"
C12	955.85	650.00	44°35'21"
C13	137.45	650.00	12°06'56"
C14	168.92	435.11	22°14'35"
C15	201.05	650.00	17°43'19"
C16	281.11	825.00	19°31'22"
C17	98.68	425.00	13°18'10"
C18	318.31	555.00	32°51'38"
C19	223.30	598.00	21°21'31"
C20	127.18	425.00	17°08'46"
C21	238.32	700.00	19°31'22"
C22	127.70	550.00	13°18'10"
C23	385.48	430.00	51°21'51"
C24	370.22	1050.00	20°12'06"
C25	233.44	1950.00	6°51'13"
C26	259.74	550.00	27°03'31"
C27	212.92	450.00	27°03'31"
C28	245.41	2050.00	6°51'13"
C29	334.96	650.00	27°03'31"
C30	475.13	530.00	51°21'51"
C31	104.48	430.00	13°18'10"
C32	272.59	600.00	19°31'22"
C33	97.26	325.00	17°08'46"
C34	296.06	550.00	30°59'29"
C35	198.13	450.00	24°55'22"
C36	488.49	950.00	29°31'17"
C37	456.08	1050.00	24°53'13"
C38	241.75	550.00	25°11'04"
C39	114.62	250.00	26°16'09"
C40	433.40	425.00	58°25'41"
C41	43.69	1000.00	1°00'45"
C42	65.56	100.00	37°13'56"
C43	331.42	350.00	10°00'45"
C44	331.42	325.00	59°25'41"
C45	160.47	350.00	26°16'09"
C46	285.71	650.00	25°11'04"
C47	412.64	950.00	24°53'13"
C48	541.02	1050.00	24°53'13"
C49	239.72	550.00	24°58'22"
C50	242.23	650.00	30°50'29"
C51	645.84	650.00	53°58'30"
C52	409.71	786.00	29°49'21"
C53	148.94	514.00	16°42'50"
C54	112.97	275.00	23°32'17"
C55	102.20	325.00	18°01'00"
C56	298.80	325.00	59°40'15"
C57	357.06	666.00	29°49'21"
C58	179.11	614.00	16°42'50"
C59	406.69	610.00	38°11'57"
C60	374.54	690.00	31°05'02"
C61	79.50	1050.00	4°20'17"
C62	24.97	435.11	37°17'18"
C63	143.94	435.11	18°57'16"
C64	246.62	430.00	32°31'38"
C65	138.87	430.00	18°30'13"
C66	171.16	530.00	18°30'13"
C67	303.97	530.00	32°31'38"
C68	18.57	250.00	4°15'18"
C69	96.05	250.00	22°00'50"
C70	423.22	950.00	3°59'48"
C71	66.27	950.00	3°59'48"
C72	461.52	1050.00	25°11'02"
C73	100.38	1040.16	53°14'46"
C74	812.20	1040.16	44°44'20"
C75	24.79	686.00	21°40'04"
C76	359.26	650.00	31°40'04"
C77	306.95	650.00	27°03'23"

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N89°42'17"W	447.39
L2	S01°49'04"E	439.87
L3	S29°26'17"W	1004.51
L4	S89°15'53"E	911.63
L5	S00°42'12"W	98.56
L6	S57°28'58"W	163.10
L7	S32°31'02"E	20.00
L8	S72°28'58"W	260.16
L9	S12°37'53"W	50.77
L10	N00°39'44"E	8.73
L11	S04°55'30"W	52.84
L12	S68°13'30"W	46.69
L13	S00°33'31"W	13.27
L14	S89°17'01"W	594.70
L15	S01°08'50"W	18.00
L16	N86°43'49"W	64.80
L17	S82°53'48"W	852.28
L18	N00°32'11"E	550.16
L19	N34°19'37"E	254.94
L20	N01°08'04"E	274.47
L21	N87°23'00"W	132.86
L22	N87°20'40"W	664.23
L23	N00°22'48"E	1707.50
L24	N89°10'39"E	734.93
L25	N28°26'17"W	70.61
L26	N89°18'23"W	201.11
L27	N89°18'23"W	168.92
L28	S18°00'20"W	176.04
L29	N17°59'00"W	126.00
L30	S82°28'58"W	184.46
L31	N12°04'31"W	128.00
L32	N00°22'48"E	98.61
L33	N69°37'12"W	120.14
L34	N55°40'12"W	102.99
L35	N89°38'27"W	121.99
L36	S89°38'27"W	184.46
L37	S89°10'39"E	261.54
L38	S89°28'58"W	184.46
L39	S82°42'26"W	145.51
L40	N00°30'17"E	19.27
L41	N89°37'12"W	143.00
L42	N89°37'12"W	144.03
L43	S82°42'26"W	145.51
L44	N35°13'05"W	187.08
L45	N65°00'00"E	161.23
L46	N55°00'00"E	325.00
L47	N59°38'23"W	168.47
L48	N82°27'44"W	168.92
L49	S77°15'08"W	108.00
L50	S78°16'12"E	191.28
L51	N89°37'12"W	137.83
L52	N89°27'44"W	168.92
L53	S77°15'06"W	72.00
L54	S29°26'17"W	282.88
L55	N82°21'35"E	141.84
L56	S77°15'06"W	133.70
L57	S72°44'54"E	76.56
L58	S72°44'54"E	72.00
L59	S43°59'32"E	46.56

A02079(42079 + 4 HILLS)Bulk Plat(NEW sht 5-8.dwg - Layout1 (12-28-04) SPS

BULK LAND PLAT FOR
JUAN TABO HILLS
WITHIN
SECTIONS 27, 33 AND 34
TOWNSHIP 10 NORTH, RANGE 4 EAST, NMMP
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
DECEMBER, 2004



SEE SHEETS 3 AND 4 OF 9 FOR EXISTING EASEMENTS
SEE SHEET 8 OF 9 FOR NEW EASEMENTS

NEW EASEMENTS:

- 1) TRACT 1 IS OPEN SPACE DEDICATED TO THE CITY OF ALBUQUERQUE PER THE EXCHANGE AGREEMENT DATED 7-23-04.
- 2) A BLANKET DRAINAGE EASEMENT WITH THIS PLAT TO BE BETTER DEFINED OR VACATED UPON FUTURE DEVELOPMENT.
- 3) A 25' WIDE FLOATING ACCESS EASEMENT FROM NEW 80' WIDE PUBLIC ACCESS EASEMENT ACROSS NEW TRACT 1 TO AMAFCA TRACT "A" IS HEREBY GRANTED WITH THIS PLAT. FINAL LOCATION TO BE DETERMINED AT A LATER DATE BETWEEN CITY OPEN SPACE AND AMAFCA.

SEE SHEET 6 OF 9



P.O. BOX 30701, ALBQ., N.M. 87190
505-884-1990

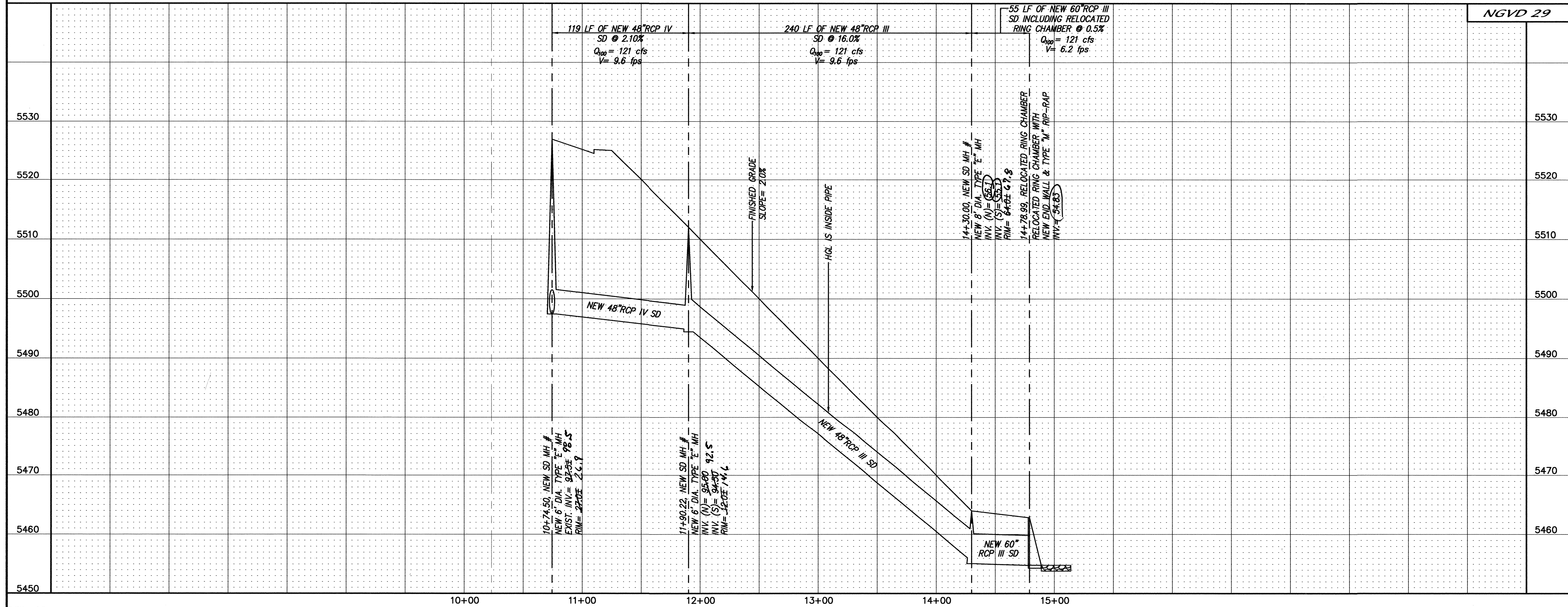
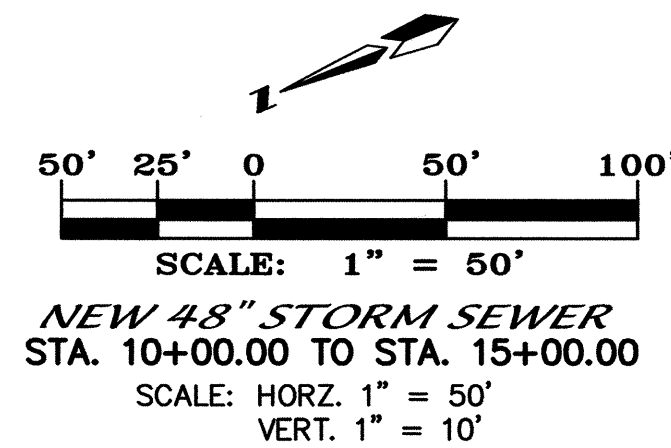
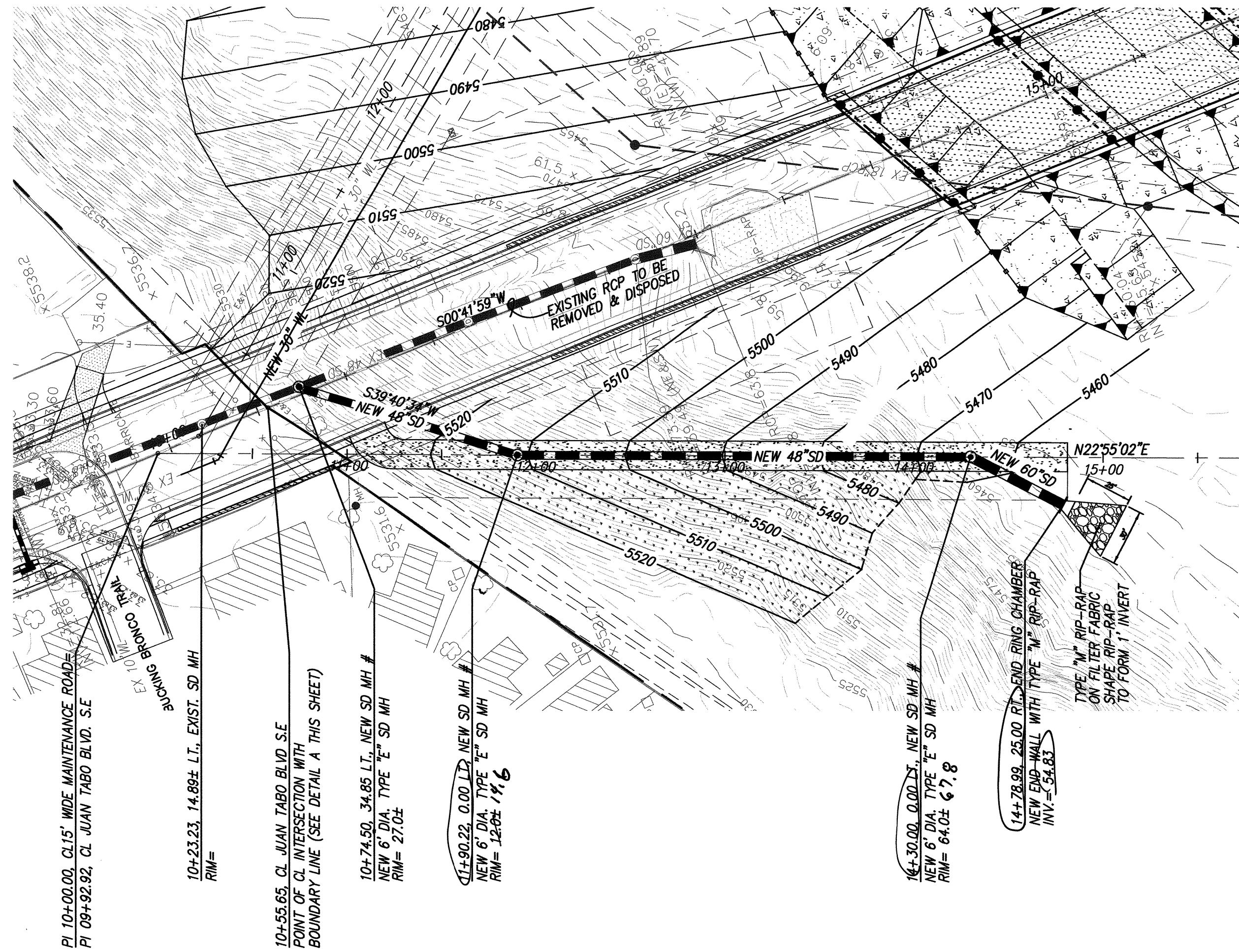
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Scale: AS SHOWN
Drawn: STEPHEN
Date: 01/13/05
Checked: ALS
Job: A02079
Sheet 5 of 9

CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, Mark Goodwin, NMPE 8948, of the firm Mark Goodwin & Associates, P.A., a Registered Professional Engineer in the State of New Mexico, do hereby certify that the plans and specifications for the proposed project have been prepared in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted on the as-built construction drawings. This Certification is based on site inspections by me or personnel under my direct supervision and survey information provided by Will Plotter, Jr., NMPS number 14271.

Mark Goodwin
NMPE 8948
10/10/05

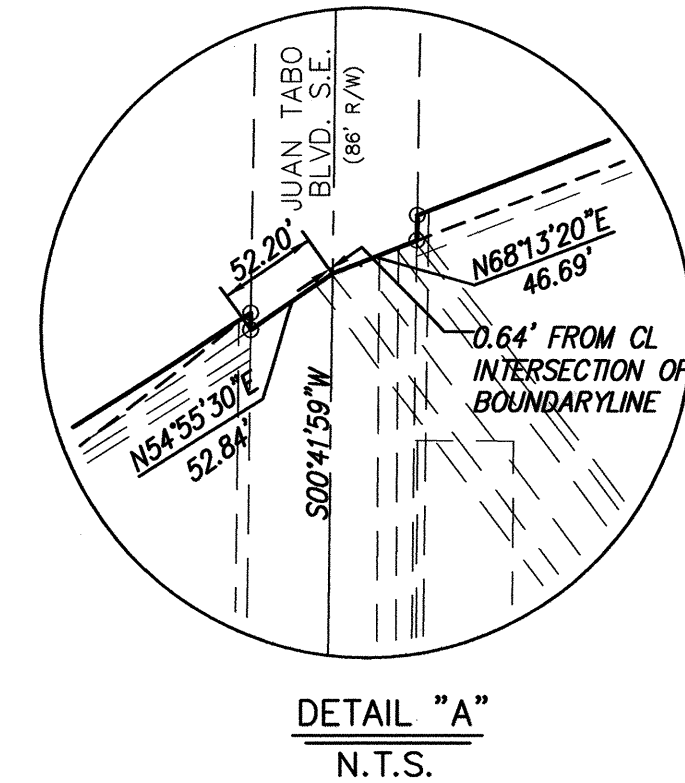
I, Mark Goodwin, certify that this drawing is identical to the original reproducible APPROVED FOR CONSTRUCTION drawings signed by James J. March 3, 2005.



- NOTES
- ALL STATIONING IS CENTERLINE STATIONING.
 - ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.

Certification
THE CHANGES SHOWN HEREON ARE BASED UPON A FIELD SURVEY CONDUCTED BY ME OR UNDER MY SUPERVISION AND REFLECT THE LOCATIONS (VERTICALLY AND HORIZONTALLY) TO THE BEST OF MY KNOWLEDGE AND BELIEF.

Will Plotter, Jr.
10/10/05



dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
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ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

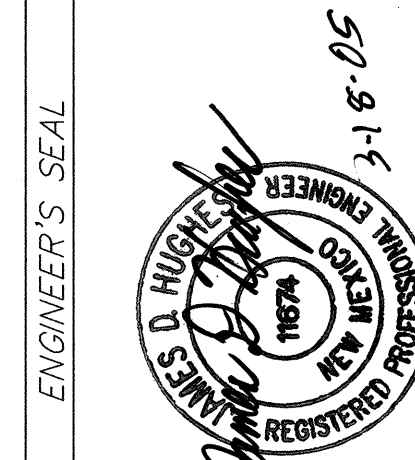
TITLE: JUAN TABO BOULEVARD S.E. - PHASE 1
UTILITY IMPROVEMENTS

DESIGN REVIEW COMMITTEE
APPROVED
APR 15 2005
DESIGN REVIEW COMMITTEE

CITY ENGINEER APPROVAL
APPROVED
APR 21 2005
CITY ENGINEER

LAST DESIGN UPDATE
MO./DAY/YR.
MO./DAY/YR.

CITY PROJECT NO. 756182
ZONE MAP NO. M-21/N-21
SHEET 4 OF 6

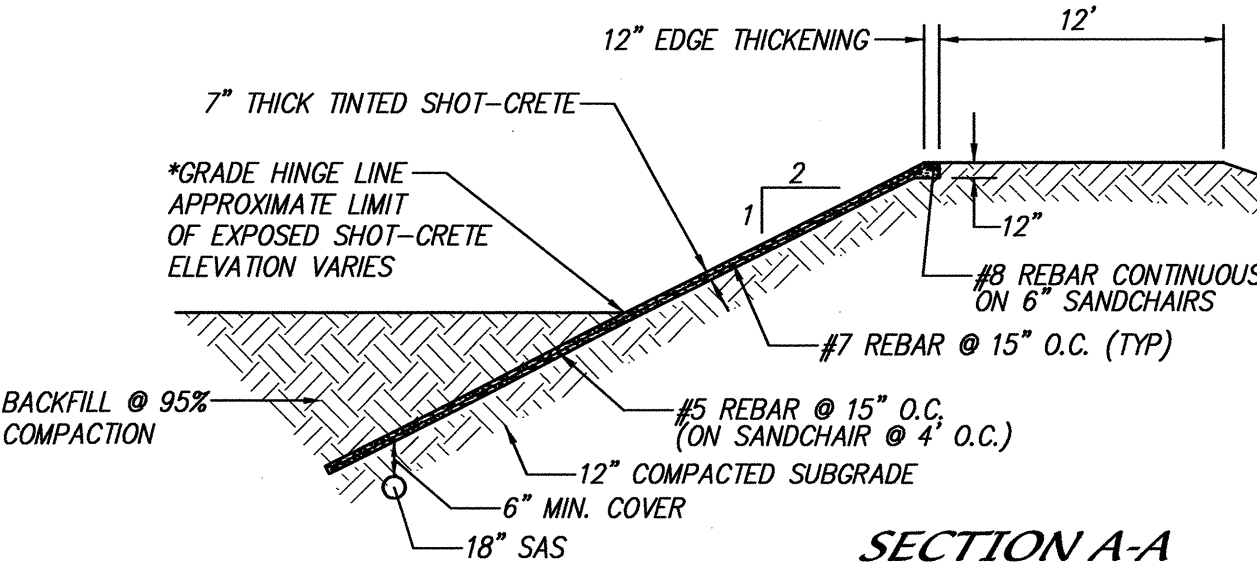
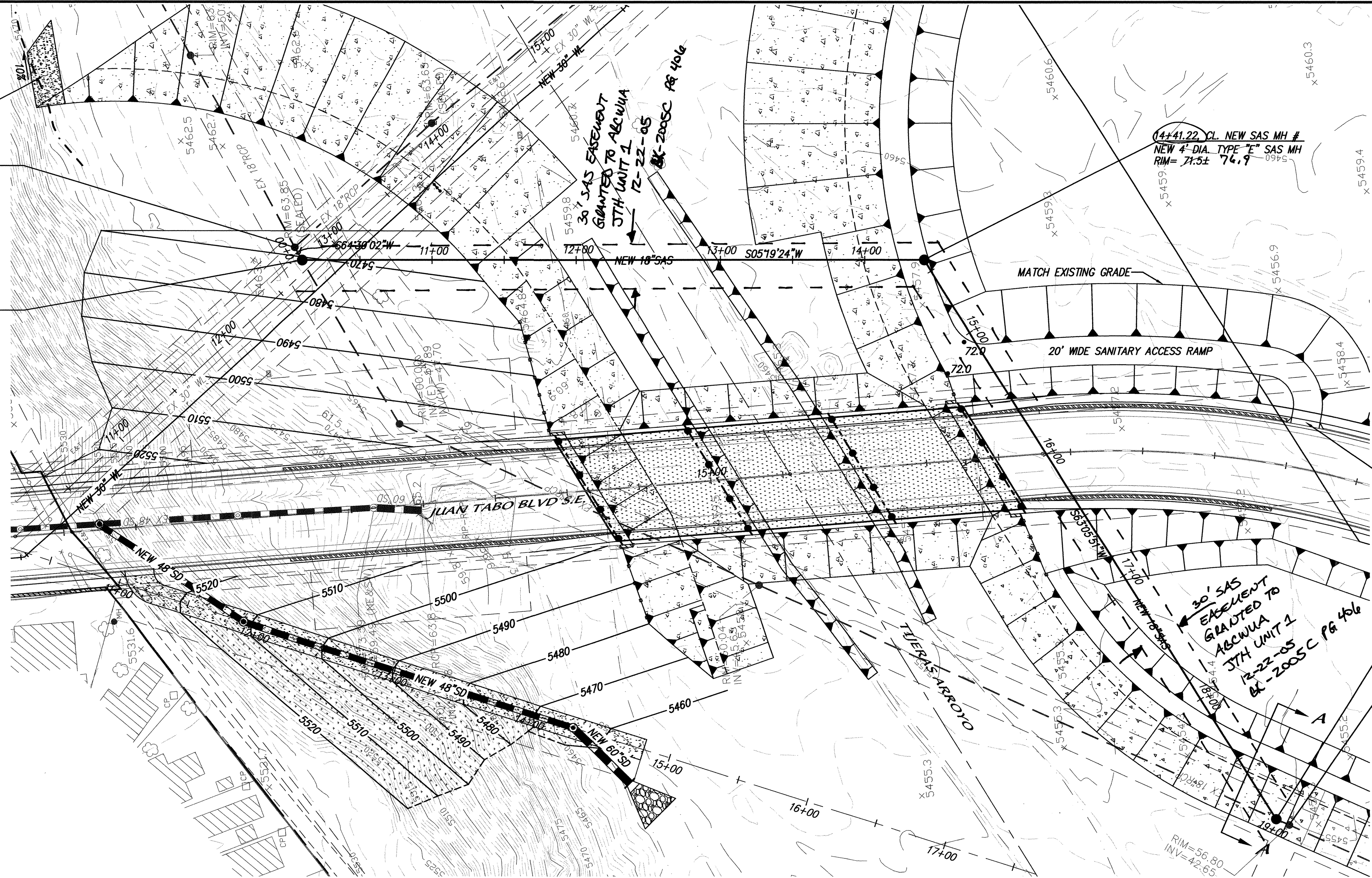


REMARKS		BY	
REVISIONS			
NO.	DATE		
DESIGN			
DESIGNED BY	DATE		
DRAWN BY	DATE		
CHECKED BY	DATE		

SCANNED BY
PLANNING

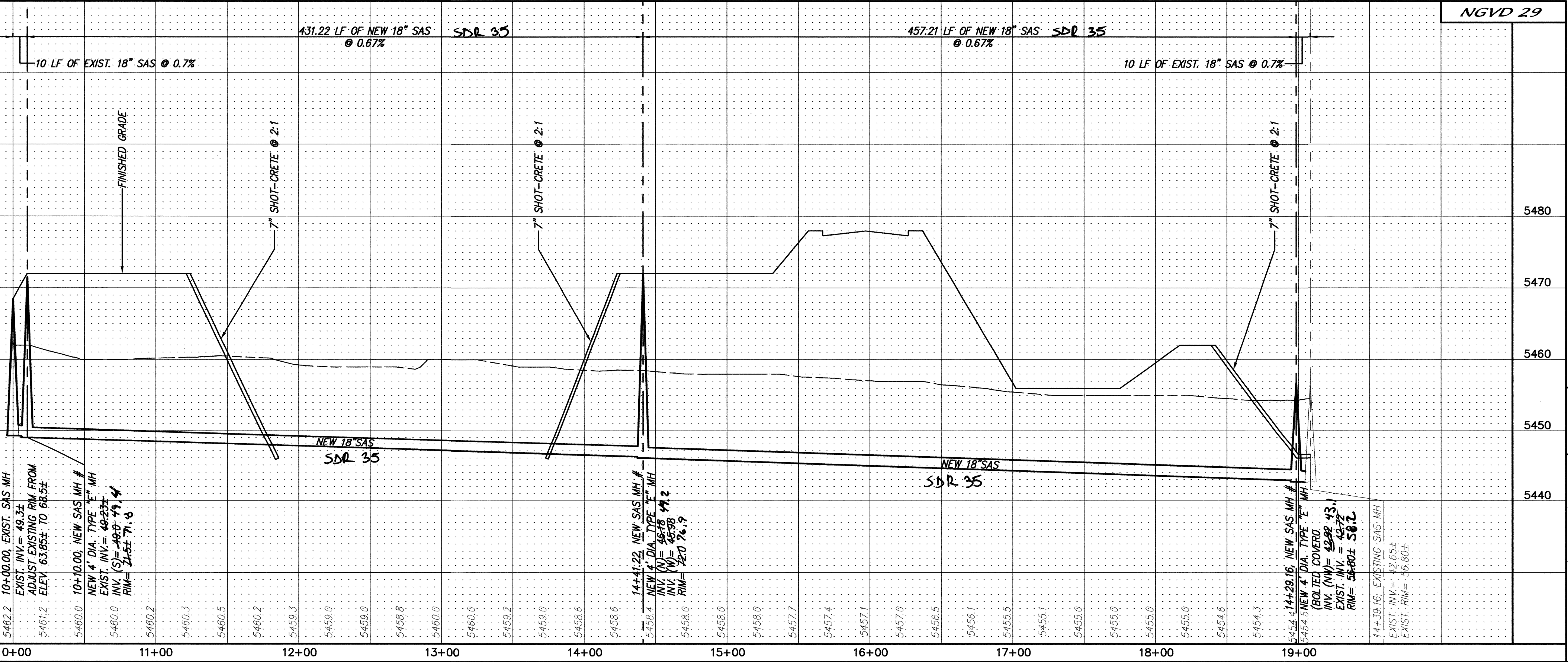
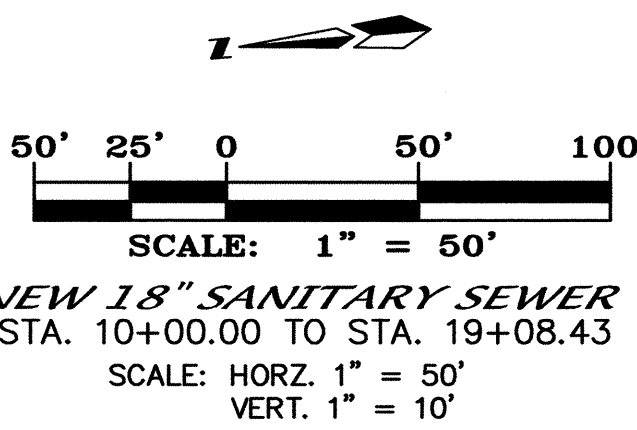
20' WIDE DIRT SERVICE ROAD
DAMP AT 10% DIRT COMPACTION
TO 95% DENSITY
10+00.00, CL. EXISTING SAS MH
RIM= 63.85±, TO BE ADJUSTED
TO 68.5±

10+10.00, CL. NEW SAS MH #
NEW 4" DIA. TYPE "E" SAS MH
RIM= 71.5± 71.8



Certification
THE CHANGES SHOWN HEREON ARE BASED UPON A
FIELD SURVEY CONDUCTED BY ME OR UNDER MY
SUPERVISION AND REFLECT THE LOCATIONS
(VERTICALLY AND HORIZONTALLY) TO THE BEST OF
MY KNOWLEDGE AND BELIEF.

18+08.43, CL. NEW SAS MH #
NEW 4" DIA. TYPE "E" SAS MH
RIM= 71.5± 71.8
19+08.43, CL. EXISTING SAS MH
RIM= 56.80
INV= 42.65



CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS
I, James D. Hughes, NMPE 11674, of the firm Mark Goodwin & Associates, P.A., a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision, and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design of the project has been followed. I have not observed any violations of the plans and specifications. This certification is based on the information provided by the contractor and the information provided by the City Engineer. I am not responsible for any errors or omissions in the plans and specifications. I am not responsible for any errors or omissions in the construction of the project. I am not responsible for any errors or omissions in the operation of the project. I am not responsible for any errors or omissions in the maintenance of the project. I am not responsible for any errors or omissions in the repair of the project. I am not responsible for any errors or omissions in the replacement of the project. I am not responsible for any errors or omissions in the removal of the project. I am not responsible for any errors or omissions in the relocation of the project. I am not responsible for any errors or omissions in the reconstruction of the project. I am not responsible for any errors or omissions in the renovation of the project. I am not responsible for any errors or omissions in the remodeling of the project. I am not responsible for any errors or omissions in the redecoration of the project. I am not responsible for any errors or omissions in the refurnishing of the project. I am not responsible for any errors or omissions in the reupholstering of the project. I am not responsible for any errors or omissions in the repainting of the project. I am not responsible for any errors or omissions in the retiling of the project. I am not responsible for any errors or omissions in the rewallpapering of the project. I am not responsible for any errors or omissions in the reflooring of the project. I am not responsible for any errors or omissions in the reroofing of the project. I am not responsible for any errors or omissions in the rewaterproofing of the project. I am not responsible for any errors or omissions in the reelectrification of the project. I am not responsible for any errors or omissions in the replumbing of the project. I am not responsible for any errors or omissions in the reHVACing of the project. I am not responsible for any errors or omissions in the refireproofing of the project. I am not responsible for any errors or omissions in the repestproofing of the project. I am not responsible for any errors or omissions in the retermiteproofing of the project. I am not responsible for any errors or omissions in the rewaterproofing of the project. I am not responsible for any errors or omissions in the reelectrification of the project. I am not responsible for any errors or omissions in the replumbing of the project. I am not responsible for any errors or omissions in the reHVACing of the project. I am not responsible for any errors or omissions in the refireproofing of the project. I am not responsible for any errors or omissions in the repestproofing of the project. I am not responsible for any errors or omissions in the retermiteproofing of the project.

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT	
TITLE: JUAN TABO BOULEVARD S.E. - PHASE 1 UTILITY IMPROVEMENTS	
DESIGN REVIEW COMMITTEE APR 15 2005	CITY ENGINEER APPROVAL APR 21 2005
DESIGNED BY JDH	CHECKED BY DMG
DRAWN BY DER	DATE 02/05
CITY PROJECT NO. 756182	ZONE MAP NO. M-21/N-21
SHEET 5 OF 6	

CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, James D. Hughes, NMPE 11674, of the firm Mark Goodwin & Associates, P.A., a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision, and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by me on the as-built construction drawings. This Certification is based on site inspections by me or personnel under my direction, and survey information provided by Will Plotner, Jr., NMPS number 14271.

James D. Hughes NMPE 11674

I, James D. Hughes, certify that this electronic version is identical to the original reproducible APPROVED FOR CONSTRUCTION drawings signed by me on 20.

DESIGN DATA

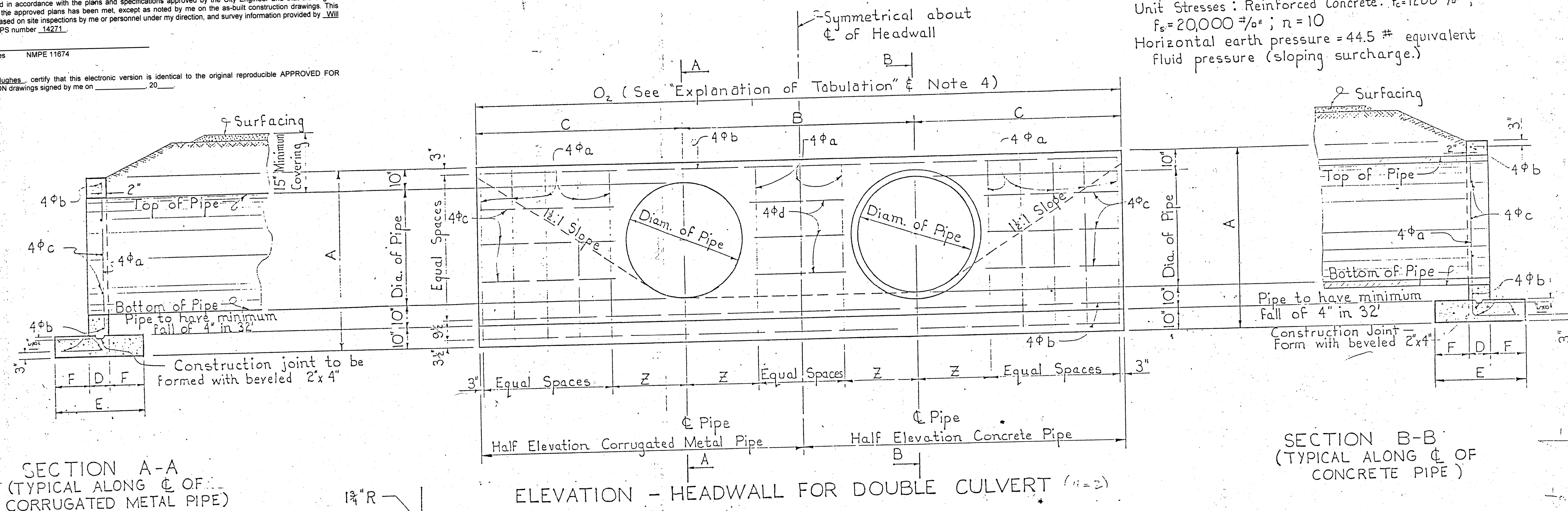
Design according to AAS.H.O. Spec's,

1957.

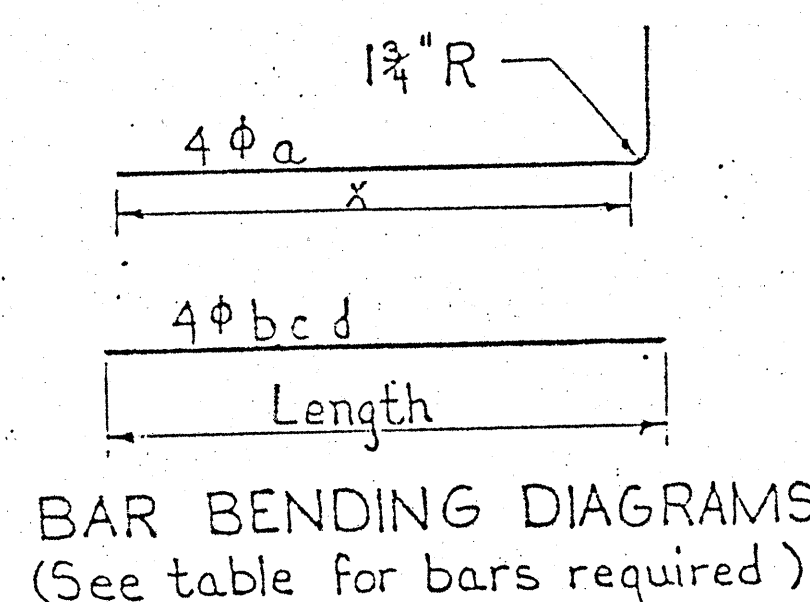
Unit Stresses : Reinforced Concrete: $f_c = 1200 \text{ #/in}^2$;
 $f_s = 20,000 \text{ #/in}^2$; $n = 10$

Horizontal earth pressure = 44.5 # equivalent
fluid pressure (sloping surcharge.)

FED. RD. DIST. NO.	STATE	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
9	NEW MEXICO			



SECTION A-A
(TYPICAL ALONG CL OF
CORRUGATED METAL PIPE)



BAR BENDING DIAGRAMS
(See table for bars required)

ELEVATION - HEADWALL FOR DOUBLE CULVERT (n=2)

SECTION B-B
(TYPICAL ALONG CL OF
CONCRETE PIPE)

GENERAL NOTES

1. Materials and workmanship to conform to N.M.S.H. Commission Specifications
2. Design based on a minimum concrete compressive strength of 3000 pounds per square inch at 28 days. Chamfer all exposed edges 3/4" unless noted otherwise.
3. Reinforcing steel to be deformed bars, intermediate grade, conforming to A.S.T.M. Specifications A-15 and A-305. Dimensions refer to CL of bar.
4. While the details on this drawing are for a typical culvert with 2 pipes, this drawing applies to culvert headwalls with any number of pipes. The central portion of the wall of length "B" is repeated as many times as required by the number of pipes.

CONCRETE HEADWALLS

Bar spacings shown are approximate only.

Quantities shown are for two headwalls.

Bar spacings shown are approximate only.															Quantities shown are for two headwalls.										ADD FOR EACH ADDITIONAL PIPE										Diam. of Pipe
Diam. of Pipe	DIMENSIONS							REQUIRED FOR TWO HEADWALLS WITH ONE PIPE										Quantities																	
								4 φ a bars					4 φ b		4 φ c bars			Reinforcing Steel			Concrete-Cu. Yds.			4 φ a		1 φ d bars		Reinforcing Steel			Concrete-Cu. Yds.				
	A	B	C	D	E	F	O ₁	No.	Length	x	Spacing	Z	No.	Length	No.	Length	Spacing	Steel-lbs.	C.P.C.	C.M.C.	No.	No.	Length	Spacing	Steel-lbs.	C.P.C.	C.M.C.								
18"	4'-0"	3'-0"	3'-3"	8"	2'-2"	9"	6'-6"	12	4'-6"	3'-5"	1'-0"	1'-1"	8	0 _n -3"	4	2'-0"	1'-4"	75	1.74	1.80	4	2	1'-0"	1'-4"	29	0.73	0.78	18"							
24"	4'-6"	4'-0"	4'-0"	8"	2'-2"	9"	8'-0"	12	5'-0"	3'-11"	1'-3"	1'-4½"	8	0 _n -3"	4	2'-6"	1'-7"	88	2.28	2.36	4	2	1'-3"	1'-7"	36	1.02	1.10	24"							
30"	5'-0"	5'-0"	4'-9"	8"	2'-6"	11"	9'-6"	12	5'-9"	4'-5"	1'-5"	1'-8"	8	0 _n -3"	8	3'-3"	1'-3"	113	3.05	3.18	4	4	1'-9"	1'-3"	47	1.43	1.56	30"							
36"	5'-6"	6'-0"	5'-9"	8"	2'-8"	1'-0"	11'-6"	16	6'-3"	4'-11"	1'-2"	1'-1½"	8	0 _n -3"	8	4'-0"	1'-5"	148	4.02	4.19	6	4	2'-3"	1'-5"	63	1.85	2.02	36"							
42"	6'-0"	7'-0"	6'-6"	10"	3'-0"	1'-1"	13'-0"	16	7'-0"	5'-5"	1'-4"	2'-3"	8	0 _n -3"	8	4'-6"	1'-6"	167	5.68	5.96	6	4	2'-9"	1'-6"	73	2.65	2.93	42"							
48"	6'-6"	8'-0"	7'-3"	10"	3'-4"	1'-3"	14'-6"	20	7'-9"	5'-11"	1'-2"	2'-6½"	8	0 _n -3"	12	4'-9"	1'-3"	218	6.92	7.28	6	6	3'-0"	1'-3"	86	3.31	3.67	48"							
54"	7'-0"	9'-0"	8'-0"	10"	3'-6"	1'-4"	16'-0"	24	8'-3"	6'-5"	1'-0"	2'-10"	8	0 _n -3"	12	5'-0"	1'-5"	257	8.12	8.57	8	6	3'-6"	1'-5"	106	3.95	4.39	54"							
60"	7'-6"	10'-0"	8'-9"	10"	3'-9"	1'-5½"	17'-6"	28	9'-0"	6'-11"	0'-11"	3'-1½"	8	0 _n -3"	12	5'-6"	1'-6½"	305	9.51	10.04	10	6	3'-9"	1'-6½"	129	4.68	5.22	60"							

EXPLANATION OF TABULATION

$$O_1 = 2C \quad O_2 = 2C + B$$

$$O_3 = 2C + 2B \quad O_n = 2C + (n-1)B$$

Where n = number of pipes

Proj # 756182 Map N-21 Sheet

5 of 6

SERIAL H-1-61

APPROVED: _____
SHEET NO. _____

Designed by: HT 2-54 & RW 261
Detailed by: RW 2-61
Checked by: J.A.S. 2-61
Checked by: J.A.S. 2-13-61