ADDENDUM NO. 1

CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES

PROJECT NAME:
MISSION TRAILS PACKAGE IV AND V
CSJ: 0915-12-438

DATE: June 21, 2012

This addendum should be included in and be considered part of the plans and specifications for the name of the project. The contractor shall be required to sign an acknowledgement of the receipt of this addendum and submit with their bid. Where provisions of the following supplementary data differ from those of the original Construction Documents, the Addendum shall govern and take precedence.

QUESTIONS AND RESPONSE:

1. What is the Engineer's estimate? Answer – Base Bid = $3.49M, SAWS Water = $651K, SAWS Sewer = $58K, CPS Gas = $209K.
2. Is it possible to provide the model numbers and manufacturer for: bench's, tables & trash receptacles specified for this project? Answer – These items shall be in accordance with the details shown in the plans. No specific model numbers are specified.
3. Can the bid items be revised to read standard numerical instead of metric? Answer – The bid items will remain metric.
4. Item 8302 is shown twice on the bid form. Are both needed? Answer – No, the bid form has been revised and will be issued with Addendum #1.

CHANGES TO BID DOCUMENTS:

1. Substitute and utilize the revised Table of Contents
   a. Special Specification 9502-COSA has been removed
   b. Special Specification 3000 is added
2. Substitute and utilize the revised "INVITATION FOR BID"
   a. The DBE goal is 5% of the contract amount. Item #8 has been revised to reflect 5% DBE goal.
3. Substitute and utilize the revised Page 11 of the "City of San Antonio General Specifications Version 1995 (Metric)"
   a. Envelopes #1 and #2 will be received in the Office of the City Clerk until 2:00 p.m. on Tuesday, June 26, 2012. All envelopes will be opened and publicly read aloud at 2:00 p.m.
4. Substitute and utilize the revised "025 UNIT PRICING FORM"
   a. Removed Item 8302 ELEC CONDUCTOR (NO. 2) INSULATED

b. Revised Quantities for Item 530-5001 DRVWYS (CONC) (150MM)
c. Added Item "LIQUIDATED DAMAGES"
d. Added SAWS Sanitary Sewer Item 500 "PREP ROW"
e. Added SAWS Water Item 500 "PREP ROW"
f. Revised SAWS Water Item 9525 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measurement from LS to Item 3000 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measured by the M

5. For CPS work, PREP ROW and MOBILIZATION are considered subsidiary to the various bid items.

CHANGES TO SPECIFICATIONS:

1. Substitute and utilize the revised Governing Specifications and Special Provisions
   a. Special Specification 9502-COSA has been removed
   b. Special Specification 3000 is added
2. Substitute and utilize SAWS Specification No. 3000 "SPECIFICATIONS FOR HANDLING ASBESTOS CEMENT PIPE" in place of Special Specification No. 9502-COSA.

CHANGES TO PLANS:

1. Revised Plan Sheet 19
   a. revised to remove Item 8302
   b. revised to add Item "LIQUIDATED DAMAGES"
2. Revised SAWS Water Plan Sheet 335
   a. Revised General Notes
3. Revised SAWS Water Plan Sheet 336
   a. Added Item 500 "PREP ROW"
   b. Revised SAWS Water Item 9525 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measurement from LS to Item 3000 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measured by the M
4. Revised SAWS Water Plan Sheet 342
   a. Revised SAWS Water Item 9525 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measurement from LS to Item 3000 "REMOVAL, TRANSPORTATION AND DISPOSAL" Measured by the M
5. Revised SAWS Sanitary Sewer Plan Sheet 351
   a. Revised General Notes
6. Revised SAWS Sanitary Sewer Plan Sheet 352
   a. Added Item 500 "PREP ROW"

CITY OF SAN ANTONIO

Control 0915-12-438
Project
Highway VARIOUS
County Bexar

ADDENDUM ACKNOWLEDGMENT

Each bidder is required to acknowledge receipt of an addendum issued for a specific project. This page is provided for the purpose of acknowledging an addendum.

FAILURE TO ACKNOWLEDGE RECEIPT OF AN ADDENDUM WILL RESULT IN THE BID NOT BEING READ.

In order to properly acknowledge an addendum the date which appears on the top of the addendum notification letter must be entered below.

ADDENDUM NO. 1 DATED: _____

ADDENDUM NO. 2 DATED: _____

ADDENDUM NO. 3 DATED: _____

ADDENDUM NO. 4 DATED: _____

ADDENDUM NO. 5 DATED: _____

In addition, the bidder by affixing their signature to the signature page of the proposal is acknowledging that they have taken the addendum(s) into consideration when preparing their bid and that the information contained in the addendum will be included in the contract, if awarded by the Commission or other designees.

COSA Local Area Management
Table of Contents

m. Special Provision 440-005-COSA Reinforcing Steel
n. Special Provision 441-008-COSA, Steel Structures
o. Special Provision 445-001-COSA Galvanizing
p. Special Provision 447-002-COSA Structural Bolting
q. Special Provision 449-001-COSA Anchor Bolts
r. Special Provision 462-001-COSA, Concrete Box Culverts and Sewers
s. Special Provision 464-001-COSA, Reinforced Concrete Pipe
t. Special Provision 466-001-COSA, Headwalls and Wingwalls
u. Special Provision 467-002-COSA, Safety End Treatment
v. Special Provision 500-002-COSA, Mobilization
w. Special Provision 502-021-COSA, Barricades, Signs and Traffic Handling
x. Special Provision 522-002-COSA Portland Cement Concrete Plants
y. Special Provision 524-006-COSA Hydraulic Cement
z. Special Provision 526-002-COSA Membrane Curing
aa. Special Provision 530-004-COSA, Driveways and Turnouts
bb. Special Provision 531-004-COSA, Sidewalks
cc. Special Provision 662-005-COSA, Work Zone Pavement Markings
dd. Special Provision 666-012-COSA, Reflectorized Pavement Markings
ee. Special Provision 672-004-COSA, Raised Pavement Markers
ff. Special Provision 680-004-COSA, Installation of Highway Traffic Signals

17. Special Specifications COSA Series
    a. 801-COSA Tree and Landscape Protection
    b. 802-COSA Tree Pruning, Soil Amending and Fertilization
    c. 805-COSA Trees, Plants and Ground Covers
    d. 1134-COSA Impermeable Liner
    e. 1135-COSA Water Tank and Pump
    f. 1136-COSA Steel or Polyethylene Mobil Water Storage Tank
    g. 5425-COSA Gravel Filter Bags for Erosion Control
    h. 9401-COSA Curb Ramp and Landing
    i. 9402-COSA Landscape Pavers
    j. 9403-COSA Temporary Sediment Control Fence
    k. 9500-COSA Sanitary Sewer
    l. 9501-COSA Water Main and Service Line
    m. 9509-COSA Flowable Backfill
    n. 9510-COSA Earthwork for Erosion Control
    o. 9511-COSA Rock Filter Dams for Erosions and Sedimentation Control
    p. 9512-COSA Construction Exit
    q. 9513-COSA Trail Markers
    r. 9514-COSA Decorative Metal Fencing
    s. 9516-COSA Enhancement Signing
    t. 9517-COSA Adjusting of Vehicular and Pedestrian Gates
    u. 9518-COSA Steel Benches
    v. 9519-COSA Steel Trash Receptacles
    w. 9520-COSA Picnic Tables
    x. 9521-COSA Ride Quality for Pavement Structures
    y. 9522-COSA Natural Gas Pipeline
    z. 9600-COSA Video Imaging Vehicle Detection System
    aa. 9601-COSA Removing and Relocating Pedestal Pole Assemblies
    bb. 9602-COSA Aluminum Conductors
    cc. 9800-COSA Project Signs
18. Special Specifications SAWS Series
    a. 3000 Specifications for Handling Asbestos Cement Pipe
19. Appendix A: Example of Envelope 1
    a. Bid documents and any alternate bids

20. Appendix B: Example of Envelope 2
    a. Bid bond or cashiers check
    b. Assurance of Compliance with Equal Employment Opportunity Statement
    c. Certificate of Non-Segregated Facilities
    d. Statement on President's Executive Order
    e. Addenda Acknowledgement Form
    f. Disclosure of Lobbing Activities
    g. Child Support Form
    h. Certificate of Non-Collusion
    i. Certificate of Interest In Other Bid Proposals For This Work
    j. Litigation Disclosure Form
    k. Certification of Absence of Suspension, Debarment, Voluntary Exclusion, or Determination of Ineligibility

INVITATION FOR BID

(IFB)

1. Sealed bid proposals and other required documents will be received at the Office of the City Clerk, City Hall, 100 Military Plaza (corner of Commerce and Flores Street), 2nd floor, San Antonio, Texas 78205 will be received for the following project:

Mission Trails IV& V

In accordance with Plans and Specifications on file with Civil Engineering Consultants. Plans and Specifications can be obtained at 11550 IH 10 West., Suite 395, San Antonio, Texas 78230. Please call 210-641-9999 for an order number prior to pick up. Plans and Specifications may be purchased at a cost of $ 150.00 per set (+ tax). No refund will be made for plan sets that are returned.

2. The following documents constitute the required information to be submitted as a part of the bid proposal:

a. Envelope #1, shall contain:
   1) Bid document and any alternate bids.

b. Envelope #2, shall contain:
   1. Bid bond or cashiers check.
   2. Assurance of Compliance with Equal Employment Opportunity Statement.
   3. Certificate of Non-Segregated Facilities.
   4. Statement on President's Executive Order.
   5. Addenda Acknowledgement Form (if applicable).
   6. Disclosure of Lobbying Activites.
   7. Child Support Statement.
   8. Certificate of Non-Collusion.
   9. Certificate of Interest in Other Bid Proposals for This Work.
   10. Litigation Disclosure Form.
   11. Certificate of Absense of Suspension, Debarment, Voluntary Exclusion, or Determination of Ineligibility.

The envelopes shall be clearly marked with the name of the project for which bids are to be submitted.

3. The Bid shall be submitted in duplicate on Proposal Forms provided with the specifications. Envelope #1 shall contain the Bid and shall be clearly identified as: Bid Proposal For: **Mission Trails IV& V.**

Envelopes #1 and #2 will be received in the Office of the City Clerk until **2:00 p.m.** on **Tuesday, June 26, 2012**. All envelopes will be opened and publicly read aloud. Any Bids received after that will be returned unopened. The City reserves the right to reject any and all Bids and waive any formalities.

4. A certified or cashier's Check or an original Bid Proposal Guaranty issued by a corporate surety company licensed to do business in the State of Texas and payable to the order of the City of San Antonio, Texas, in an amount not less than five percent (5%) of the greates total amount of the Bid Proposal, must accompany each Bid as a guarantee that if awarded the Contract, the successful Bidder will promptly enter into a Contract and execute payment and performance bonds as outlined in the specification and Contract Documents.

5. A Performance Bond, in an amount of not less than one hundred percent (100%) of the Contract Price, conditioned upon the faithful performance of the Contract; a Payment Bond, as required by Chapter 2253 of the Texas Government Code, guaranteeing the payment of all persons supplying labor and furnishing materials; and an Extended Warranty Bond, either by separate instrument or incorporated in the foregoing bonds, will be required. Payment and performance bonds provided to the City of San Antonio for these purposes are required to conform with Article 7.19-1 of the Texas Insurance Code. To that end, all bonds provided (i) must be executed by a surety company holding a certificate of authority from the United States secretary of the treasury to qualify on obligations permitted or required under federal law–or- (ii) must be provided by a surety company that is covered by reinsurance for any liability in excess of $100,000.00 from a reinsurer authorized and admitted as a reinsurer in Texas holding a certificate of authority from the United States secretary of the treasury to qualify on obligations permitted or required under federal law.

   A. A listing on the Department of the Treasury Listing of Approved Sureties on the date of bond issuance shall be sufficient proof of the aforesaid certificate of authority.

   B. A copy of the reinsurance contract(s) with accompanying cover letter with original signature shall be sufficient proof of the aforesaid reinsurance.

   Contractor shall provide either a copy of the list as described in “A.” above, or the contract(s) and letter described in “B.” above, together with the payment and performance bonds.

6. Bid Bonds, Performance Bonds, Payment Bonds, and Extended Warranty Bonds issued by a corporate surety company not licensed to do business in the State of Texas will <u>not</u> be accepted.

7. The successful Bidder will be required to execute the Standard Form Construction Contract prepared and supplied by the City.

8. This is a proposed Public Works Contract, and Chapter 2258 of the Texas Government Code requires that not less than the prevailing wage rate for Work of a similar character in this locality shall be paid all laborers, workmen, and mechanics employed in the construction thereof shall be complied with. The stated Disadvantaged Business Enterprise (DBE) Program goals for this project have been set at 5%. The City DBE Program is subject to approval by the Federal Highway Administration (FHWA).

9.* "NON-DISCRIMINATION IN EMPLOYMENT. BIDDERS ON THIS WORK WILL BE REQUIRED TO COMPLY WITH THE PRESIDENT'S EXECUTIVE ORDER NO. 11246, "EQUAL EMPLOYMENT OPPORTUNITY," AS AMENDED BY EXECUTIVE ORDER

NO. 11375, "AMENDING EXECUTIVE ORDER 11246 RELATING TO EQUAL EMPLOYMENT OPPORTUNITY," AND AS SUPPLEMENTED BY REGULATIONS AT 41 CFR PART 60, "OFFICE OF FEDERAL CONTRACT COMPLIANCE PROGRAMS, EQUAL EMPLOYMENT OPPORTUNITY, DEPARTMENT OF LABOR. THE REQUIREMENTS FOR BIDDERS AND CONTRACTORS UNDER THIS ORDER ARE EXPLAINED IN THE SPECIFICATIONS"

EQUAL EMPLOYMENT OPPORTUNITY, DEPARTMENT OF LABOR. THE REQUIREMENTS FOR BIDDERS AND CONTRACTORS UNDER THIS ORDER ARE EXPLAINED IN THE SPECIFICATIONS"

10. Per Ordinance #69403, the City of San Antonio, its employees, contractors, and subcontractors shall not discriminate on the basis of race, color, religion, national origin, sex, age, or handicap in the award and performance of contracts, Violation of this ordinance is a criminal offense and subject to penalty.

11. Notice is hereby posted that a pre-bid conference will be held at the **Municipal Plaza Building, 114 W. Commerce, 9th floor conference room, San Antonio, Texas at 10:00 a.m. on June 12, 2012.** This conference will be held to answer questions prospective Bidders may have regarding the intent of the plans and/or specifications.

12. This project will be bid as a separated contract in accordance with a recent amendment to section 151.311 of the tax code. This will allow the contractor to claim a tax exemption on the contract price of materials.

13. Effective January 1, 2006, Chapter 176 of the Texas Local Government Code requires that persons, of their agents, who seek to contract for the sale or purchase of property, goods, or services with the City, shall file a completed conflict of interest questionnaire with the City Clerk not later than the 7th business day after the date that the person: (1) begins contract discussions or negotiations with the City; or (2) submits to the City an application, response to a request for proposals or bids, correspondence, or another writing related to a potential agreement with the City. The conflict of interest questionnaire form is available from the Texas Ethics Commission at www.ethics.state.tx.us. Completed conflict of interest questionnaires may be mailed or delivered by hand to the Office of the City Clerk. If mailing a completed conflict of interest questionnaire, mail to: Office of the City Clerk, P.O. Box 839966, San Antonio, Tex 78283-3966. If delivering a completed conflict of interest questionnaire, deliver to: Office of the City Clerk, City Hall, 2nd floor, 100 Military Plaza, San Antonio, TX 78205. Please consult your own legal advisor if you have questions regarding the stature or form.

14. This construction Contract is being funded with federal funds and is subject to all applicable federal labor standards provisions pertaining to payment of prevailing wage rates, anti-kickback provisions, overtime provisions, etc., as required by federal laws and regulations, in addition to labor standards applicable under State and local law.

ITEM 2

INSTRUCTIONS TO BIDDERS
LOCAL AGENCY MANAGED PROJECTS (LAM)

2.1. Introduction. The 2004 Specifications for the General Provisions (Items 1 – 9) are written in passive voice, indicative mood. The Special Provisions for the General Provisions are written in active voice, imperative mood. The subject of imperative sentences is understood to be "The Contractor." Phrases such as "as approved," "unless approved," "upon approval," "as directed," "as verified," "as ordered," and "as determined" refer to actions of the Engineer unless otherwise stated, and it is understood that the directions, orders, or instructions to which they relate are within the limitations of and authorized by the Contract.

2.2. Bid Proposal Documents. Sealed bid proposals and other required documents will be received at the Office of the City Clerk (City Hall, 100 Military Plaza, 2nd Floor, San Antonio, Texas), as set forth in the Invitation for Bids (IFB). Information and Bidding documents are obtainable from the Consultant as set forth in the published IFB. Bidding documents are also on file in the Office of Plans and Records (Municipal Plaza Building, 9th Floor, 114 W. Commerce).

.1 The following documents constitute the required information to be submitted as a part of the bid proposal:

a. Envelope #1, furnished by the City shall contain:
   Bid document and any alternate bids
b. Envelope #2, furnished by the City, shall contain:
   Bid bond or cashiers check
   Assurance of Compliance with Equal Employment Opportunity Statement
   Certificate of Non-Segregated Facilities
   Statement on President's Executive Order
   Addenda Acknowledgement Form
   Disclosure for Lobbying Activities
   Child Support Statement
   Certificate of Non-Collusion
   Certificate of Interest In Other Bid Proposals For This Work
   Litigation Disclosure Form

The envelopes furnished by the City shall be clearly marked with the name of the project for which bids are to be submitted.

2.3. Bid Proposal Forms. The Bid shall be submitted in duplicate on Bid Proposal Forms provided with the specifications. Envelope #1 shall contain the Bid Proposal and shall be clearly identified as: Bid Proposal For:____

_____

Envelopes #1 and #2 will be received in the Office of the City Clerk until 2:00 p.m. on Tuesday, June 26, 2012 _____. All envelopes will be opened and publicly read aloud at 2:00 p.m. Any Bids received after that will be returned unopened. The City reserves the right to reject any and all Bids and waive any formalities.

2.4. Bidder Findings of Discrepancies or Ambiguities. Prospective Bidders shall notify Consultant and Owner in writing at least five (5) calendar days prior to scheduled Bid Opening date if discrepancies and ambiguities or omissions are found in the Project Plans and/or Specifications, or if further information or interpretation is desired.

2.5. Addenda. Answers by Consultant and/or Owner will be given in writing to all prospective Bidders in Addendum form. All provisions and requirements of such addenda will supersede or modify affected portions of the Project Plans and/or Specifications. All addenda will be incorporated in and bound with the Contract Documents. No other explanation or interpretation will be considered official or binding upon the Owner.

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	506.1			CONC RETAINING WALL - COMB. TYPE	M3	5.7			1
	523.1			ADJUST VEHICULAR GATES	EA	7			2
	801.2			LEVEL IIA PROTECTIVE FENCING	M	247.4			3
	801.3			LEVEL IIB PROTECTIVE FENCING	M	5.3			4
	100	5002		PREP ROW	KM	1.22			5
	106	5001		OBLIT ABND ROAD	KM	0.2			6
	110	5001		EXCAVATION (RDWY)	M3	2903			7
	110	5013		EXCAVATION (SPECIAL)	M3	897			8
	132	5018		EMBANK (ORD COMP) (TY B) (CL 3)	M3	1219			9
	150	5001		BLADING	H	4			10
	160	5002		FURN AND PLAC TPSL (CL 2)(150 MM)	M2	3887			11
	164	5007		CELL FIB SEED (TEMP) (WARM)	M2	1944			12
	164	5009		CELL FIB SEED (TEMP) (COOL)	M2	1944			13
	164	5033		CELL FIB SEED (PERM)(URBAN)(CLAY)	M2	3887			14
	168	5001		VEGETATIVE WATERING	KL	5039			15
	192	5039		HALL'S HONEYSUCKLE (CTR NM1)	EA	1780			16
	192	5041		NEW GOLD LANTANA (CTR NM 1)	EA	104			17
	192	5041		CREEPING LANTANA (CTR NM1)	EA	87			18
	192	5045		LINDHEIMER MUHLY (CTR NM1)	EA	151			19
	192	5102		DWARF PAMPAS GRASS (CTR NM5)	EA	32			20
	192	5285		CEDAR ELMS (MIN 100MM CAL) (CNTR)	EA	25			21
	192	5329		LIVE OAKS (MIN 100MM CAL) (CNTR)	EA	12			22
	192	5564		VITEX AGNUS CASTUS (CTR NM5)	EA	264			23
	192	5778		NATCHEZ CREPEMYRTLE (3.7-4.3 M HT) (CNTR)	EA	29			24
	192	5836		SEEP MUHLY (CTR NM1)	EA	49			25
	192	5841		CHERRY SAGE (CTR NM1)	EA	202			26
	192	9999		COPPERTONE LOQUAT (CTR NM5)	EA	30			27
	260	5005		LIME TREAT SUBGR (DC) (150MM)	M2	10427			28
	260	5017		LIME (TYPE A (SLRY) TY B OR TY C (SLRY))	MGR	85			29
	340	5021		HOT MIX (TY C) (SURF)	MGR	816			30
	340	5061		HOT MIX (TY B) (BASE) (PG 64-22)	MGR	1022			31
	340	5064		HOT MIX (TY A) (BASE) (PG 64-22)	MGR	5508			32
	420	5003		CL A CONC (MISC)	M3	139			33
	423	5005		RETAINING WALL (CONC BLOCK)	M2	87			34
	432	5001		RIPRAP (CONC) (CL B)	M3	47			35
	432	5026		RIPRAP (CONC) (CL B) (125MM)	M3	40			36
	450	5055		RAIL (HANDRAIL) (SPL)	M	117			37
	462	5012		CONC BOX CULV 1800MM X 600MM	M	25.5			38
	464	5005		RCP CL III 600MM	M	155.4			39
	465	5312		INLET (COMPL) (CURB) (TY C)	EA	3			40
	465	5391		MANH (COMP) (TY I)	EA	1			41
	465	9999		INLET (COMPL) (CURB) (TY III) (MOD)	EA	1			42
	466	5271		WINGWALL FW-0 (H=600MM)	EA	2			43
	466	5415		HEADWALL CH-PW-30 (1800MM)	EA	1			44
	466	5575		HEADWALL CH-PW-30 (1500MM)	EA	1			45
	467	5074		SET (TY II) (600MM) (RCP) (6:1)	EA	2			46
	479	5001		ADJUST MANHOLE	EA	2			47

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	500	5001		MOBILIZATION	LS	1			48
	502	5001		BARRICADES, SIGNS, AND TRAF HANDLE	MO	14			49
	508	5001		CONSTRUCT DETOUR CL 1	KM	0.06			50
	514	5002		PERM CONC TRAF BAR (SPL)	M	63.9			51
	529	5001		CONC CURB (TY 1)	M	1903			52
	529	5100		CONC CURB AND GUTTER (SLOTTED) (SPL)	M	4.3			53
	530	5001		DRVWYS (CONC) (150MM)	M2	1704			54
	530	5078		DRVWYS (CONC) (200MM)	M2	57			55
	531	5002		CONCRETE SIDEWALKS	M2	2201			56
	531	5025		CONC SIDEWALK (DRAIN)	M	4.3			57
	5425	5002		GRAVEL FILTER BAGS	M	166			58
	550	5024		CHAIN LINK FENCE (SPL)	M	211			59
	610	5043		RDWY ILL ASSEM (SPL TY4)	EA	33			60
	618	5001		CONDUIT (RM) (19MM)	M	5			61
	618	5012		CONDUIT (PVC) (SCHD 40) (63 MM)	M	1114			62
	618	5018		CONDUIT (PVC) (SCHD 80) (50MM)	M	29			63
	620	5003		ELEC CONDUCTOR (NO.8) BARE	M	32			64
	624	5001		GROUND BOX TY A (122311) W/ APRON	EA	4			65
	628	9000		ELEC SERV TY D (120/240) 060 (NS) SS (L) SP (O)	EA	3			66
	644	5096		SM RD SGN ASSM TY PSM (1) DU (P)	EA	80			67
	648	5002		REPLAC SMALL RDSD SIGNS	EA	5			68
	649	5002		REMOV SMALL RDSD SGN ASSMS	EA	5			69
	649	5006		RELOC SMALL RDSD SGN ASSMS	EA	1			70
	656	5003		FND FOR TRAF SIG (600MM) DRIL SHFT	M	1.7			71
	656	5031		FND FOR RDWY ILL ASM (TY E) (600MM DR SH)	M	55.8			72
	658	5064		OBJ MRK ASM TY 2 (OM - 2VP) (A)	EA	2			73
	662	5001		WRK ZN PAV MRK REMOV (W) (SLD) (100 MM)	M	20			74
	662	5011		WRK ZN PAV MRK REMOV (W) (SLD) (600MM)	M	3.4			75
	662	5023		WRK ZN PAV MRK REMOV (Y) (SLD) (100MM)	M	280.6			76
	662	5049		WRK ZN PAV MRK NON-REMOV (W) (SLD) (100MM)	M	253.8			77
	662	5069		WRK ZN PAV MRK NON-REMOV (Y) (SLD) (100MM)	M	248.6			78
	666	5006		REFL PAV MRK TY I (W) (SLD) (200MM)	M	3601			79
	666	5009		REFL PAV MRK TY I (W) (SLD) (300 MM)	M	4			80
	666	5012		REFL PAV MRK TY I (W) (SLD) (600MM)	M	318			81
	666	5013		REFL PAV MRK TY I (W) (ARROW)	EA	22			82
	666	5017		REFL PAV MRK TY I (W) (WORD)	EA	4			83
	666	5021		REFL PAV MRK TY I (W) (RR XING)	EA	2			84
	666	5024		REFL PAV MRK TY I (Y) (SLD) (100MM)	M	4132			85
	666	5025		REFL PAV MRK TY I (Y) (BRK) (100MM)	M	170			86
	666	5032		REFL PAV MRK TY I (Y) (SLD) (600MM)	M	4			87
	666	5034		REFL PAV MRK TY I (Y) (MEDIAN NOSE)	EA	2			88
	666	5039		REFL PAV MRK TY II (W) (SLD) (200MM)	M	3601			89
	666	5041		REFL PAV MRK TY II (W) (SLD) (300 MM)	M	4			90
	666	5044		REFL PAV MRK TY II (W) (SLD) (600MM)	M	318			91
	666	5045		REFL PAV MRK TY II (W) (ARROW)	EA	22			92
	666	5049		REFL PAV MRK TY II (W) (WORD)	EA	4			93
	666	5053		REFL PAV MRK TY II (W) (RR XING)	EA	2			94

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	666	5056		REFL PAV MRK TY II (Y) (SLD) (100MM)	M	4132			95
	666	5057		REFL PAV MRK TY II (Y) (BRK) (100MM)	M	170			96
	666	5063		REFL PAV MRK TY II (Y) (SLD) (600MM)	M	4			97
	666	5065		REFL PAV MRK TY II (Y) (MEDIAN NOSE)	EA	2			98
	666	5105		REFL PAV MRK TY I (W) (DOT) (200MM)	M	124			99
	666	5106		REFL PAV MRK TY I (W) (BIKE) (ARROW)	EA	49			100
	666	5108		REFL PAV MRK TY I (W) (BIKE) (SYMBOL)	EA	49			101
	666	5109		REFL PAV MRK TY I (W) (BIKE) (RR XING)	EA	1			102
	666	5110		REFL PAV MRK TY II (W) (DOT) (200MM)	M	124			103
	666	5111		REFL PAV MRK TY II (W) (BIKE) (ARROW)	EA	49			104
	666	5113		REFL PAV MRK TY II (W) (BIKE) (SYMBOL)	EA	49			105
	666	9999		REFL PAV MRK TY II (W) (BIKE) (RR XING)	EA	1			106
	672	5007		RAIS PAV MRKR CL B (REFL) TY I-C	EA	30			107
	672	5009		RAIS PAV MRKR CL B (REFL) TY II-A-A	EA	420			108
	677	5001		ELIM EXT PAV MRK & MRKR (100MM)	M	1739			109
	677	5003		ELIM EXT PAV MRK & MRKR (200MM)	M	45			110
	677	5006		ELIM EXT PAV MRK & MRKR (600 MM)	M	74			111
	680	5001		INSTALL OF HWY TRAFFIC SIG (ISOLATED)	EA	1			112
	681	5001		TEMP TRAF SIGNALS FOR CONSTR	EA	1			113
	684	5048		TRAF SIG CBL (TY A) (9 CONDR) (14AWG)	M	29			114
	8302	5012		ELEC CONDUCTOR (NO. 2) INSULATED	M	3546			115
	9401	5002		CURB RAMP AND LANDING (TY 2)	EA	1			116
	9401	5004		CURB RAMP AND LANDING (TY 4)	EA	12			117
	9401	5006		CURB RAMP AND LANDING (TY 7)	EA	3			118
	9402	5001		LANDSCAPE PAVERS	M2	1387			119
	9403	5001		TEMP SEDMT CONT FENCE	M	55			120
	9403	5002		TEMP SEDMT CONT FENCE (REMOV & REPLAC)	M	55			121
	9403	5003		TEMP SEDMT CONT FENCE (REMOV)	M	55			122
	9510	5001		BKHOE WORK (EROSION CONT) (CL 1)	H	4			123
	9510	5002		FRNT END LDR WORK (EROSN CONT) (CL 1)	H	10			124
	9511	5004		ROCK FILTER DAMS (TY 2)	M	10			125
	9511	5005		ROCK FILTER DAMS (REMOV & REPLAC) (TY 2)	M	10			126
	9511	5006		ROCK FILTER DAMS (REMOV) (TY 2)	M	10			127
	9512	5001		CONSTRUCT EXIT (TY 1)	M2	120			128
	9512	5002		CONSTRUCT EXIT (REMOV & REPLAC) (TY 1)	M2	120			129
	9512	5003		CONSTRUCT EXIT (REMOV) (TY 1)	M2	120			130
	9512	5004		CONSTRUCT EXIT (TY 2)	M2	80			131
	9512	5006		CONSTRUCT EXIT (REMOV) (TY 2)	M2	80			132
	9513	9001		TRAIL MARKER	EA	6			133
	9514	9001		DECORATIVE METAL FENCING (TY A) H=1.83M	M	720			134
	9514	9002		DECORATIVE METAL FENCE (TY C)	M	56			135
	9514	9004		DECORATIVE METAL PEDESTRIAN SWING GATE	EA	1			136
	9514	9005		DECORATIVE METAL DOUBLE SWING GATE	EA	4			137
	9516	5001		ADA SIGN ASSM	EA	73			138
	9516	5002		ADB SIGN ASSM	EA	19			139
	9516	5003		BDB SIGN ASSM	EA	10			140
	9516	5004		BDA SIGN ASSM	EA	10			141

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	9518	COSA		BENCH	EA	7			142
	9518	COSA		TRASH RECEPTACLE	EA	12			143
	9520	COSA		PICNIC TABLE	EA	10			144
	9600	5001		VIVDS PROCESSOR SYSTEM	EA	1			145
	9600	5002		VIVDS CAMERA ASSEMBLY	EA	4			146
	9600	5003		VIVDS SET-UP SYSTEM	EA	1			147
	9600	5005		VIVDS COMMUN CABLE COAXIAL	M	191			148
	9601	9000		RELOCATE EXISTING PEDASTAL POLE	EA	1			149
				CONTRACTOR FORCE ACCOUNT 1	LS	1	$10,000.00	$10,000.00	150
				In accordance with Item 9.4 Peace Officers and Cruisers(PART)					
				LIQUIDATED DAMAGES	DAY	0	-$1,500.00	$0.00	151
							Total CoSA Bid Amount:		

CPS Energy Gas Bid

	9522	9000		NGP (LONG SERVICE) (PLASTIC w/Tracer) (NEW MAIN TO PROP)	EA	1			152
	9522	9001		NGP (LONG SERVICE) (PLASTIC w/Tracer) (NEW MAIN TO METER)	EA	2			153
	9522	9002		NGP (SHORT SERVICE) (PLASTIC w/Tracer) (NEW MAIN TO PROP)	EA	1			154
	9522	9003		NGP (SHORT SERVICE) (PLASTIC w/Tracer) (NEW MAIN TO METER)	EA	4			155
	9522	9004		NGP (MAIN) (PLASTIC w/Tracer) (51mm)	M	8			156
	9522	9005		NGP (MAIN) (Plasstic w/Tracer Wire) (102mm)	M	414			157
	9522	9006		NGP (MAIN) (PLASTIC w/Tracer) (152.4mm)	M	289			158
	9522	9007		NGP (MAIN) (Steel) (152.4mm)	M	25			159
	9522	9008		NGP (MAIN) (Plastic W/Tracer Wire) (152.4mm)(JT Trench W/102mm STL)	M	125			160
	9522	9009		NGP (MAIN) (Bore)(Steel) (102mm)	M	128			161
	9522	9010		NGP (MAIN) (Bore)(Plastic W/Tracer Wire) (152.4mm)	M	282			162
	9522	9011		NGP (MAIN) (Bore)(Steel Casing) (305mm)	M	141			163
	9522	9012		NGP (MAIN) (CASING)(Steel) (305mm)	M	207			164
	9522	9013		NGP (INSERT) (MAIN) (Plastic W/Tracer Wire) (154.2mm)	M	472			165
	9522	9014		Flowable Backfill	M3	77			166
	9522	9015		Cut & Restore Pavement (Gas Line Trench Only)	M2	250			167
	9522	9016		Trench Excavation Protection	M	1004			168
	9522	9017		Concrete Cap (20684 kPA (3000 PSI))	M3	2			169
	110	5013		EXCAVATION (SPECIAL)	M3	211			170
							Total CPS Energy Gas Bid Amount:		

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
SAWS Sanitary Sewer Bid									
	500	9000		MOBILIZATION	LS	1			171
	500	XXXX		PREP ROW	LS	1			172
	402	9000		SANITARY SEWER (TRENCH EXCAVATION PROTECTION)	M	75.31			173
	9524	9000		SANITARY SEWERS (PVC) (SDR 26) (200 MM) (1.8 M - 3.0 M)	M	75.31			174
	9524	9001		SANITARY SEWER (LATERAL PIPE) (150 MM)	M	19			175
	9524	9002		SANITARY SEWER (CLEANOUT)	EA	2			176
	9524	9003		SANITARY SEWERS (VERTICAL STACKS)	M	0.3			177
	9524	9004		SANITARY SEWER PRECAST MANHOLE (COMPLETE)	EA	2			178
	9524	9006		SANITARY SEWER (EXTRA DEPTH MANHOLE)	VM	1.2			179
	9524	9007		SANITARY SEWERS (CONCRETE ENCASEMENT, CONCRETE CRADLES, CONCRETE SADDLES AND CONCRETE COLLARS)	M3	0.35			180
	9524	9008		SANITARY SEWER (ADJUST MANHOLE)	EA	1			181
	9524	9009		SANITARY SEWER (TELEVISION INSPECTION) (200 MM - 375 MM)	M	75.31			182
	9524	9010		SANITARY SEWER (BYPASS PUMPING)	LS	1			183
	9524	XXXX		SANITARY SEWER (ABANDON MANHOLE)	EA	1			184
							Total SAWS Sanitary Sewer Bid Amount:		
SAWS Water Bid									
	500	9000		MOBILIZATION	LS	1			185
	500	XXXX		PREP ROW	LS	1			186
	402	9000		TRENCH EXCAVATION PROTECTION	M	589			187
	9523	9000		PIPE WATER MAIN (PVC) (C900) (200 MM)	M	32			188
	9523	9001		PIPE WATER MAIN (PVC) (C905) (400 MM)	M	557			189
	9523	9002		JACKING, BORING, TUNNELING (WATER MAIN) (750 MM)	M	30			190
	9523	9003		CARRIER PIPE FOR JACKING, BORING, TUNNELING (PVC) (C905) (400 MM)	M	30			191
	9523	9004		CASING OR LINER FOR JACKING, BORING, TUNNELING (STL) (750 MM) (13 MM WALL THICKNESS)	M	30			192
	9523	9005		CARRIER PIPE FOR OPEN CUT (PVC) (C905) (400 MM)	M	5			193
	9523	9006		CASING OR LINER FOR OPEN CUT (STL) (750 MM) (13 MM WALL THICKNESS)	M	5			194
	9523	9007		GATE VALVE AND BOX (COMPLETE) (150 MM)	EA	1			195
	9523	9008		GATE VALVE AND BOX (COMPLETE) (200 MM)	EA	3			196
	9523	9009		GATE VALVE AND BOX (COMPLETE) (400 MM)	EA	6			197
	9523	9010		ADJUST EXISTING VALVE BOX	EA	2			198
	9523	9011		TEMPORARY BLOWOFF (COMPLEETE) (50 MM)	EA	6			199
	9523	9012		DUCTILE IRON FITTINGS	KG	8297			200
	9523	9013		TIE-IN (COMPLETE) (400 MM)	EA	4			201
	9523	9014		FIRE HYDRANT WITH 150 MM VALVE AND BOX	EA	3			202
	9523	9015		AUTOMATIC AIR RELEASE VALVE (COMPLETE) (25 MM)	EA	2			203
	9523	9016		RELAY SHORT SERVICE (19 MM)	EA	1			204
	9523	9017		RELAY SHORT SERVICE (25 MM)	EA	1			205
	9523	9018		RELAY LONG SERVICE (19 MM)	EA	4			206
	9523	9019		RELAY LONG SERVICE (25 MM)	EA	1			207
	9523	9020		RELAY LONG SERVICE (50 MM)	EA	1			208
	9523	9021		RELAY LONG SERVICE (150 MM)	EA	1			209
	9523	9022		RELAY SHORT FIRELINE SERVICE (200 MM)	M	7			210
	9523	9023		RELOCATE EXISTING METER AND NEW METER BOX	EA	5			211
	9523	9024		HYDROSTATIC PRESSURE TEST	EA	2			212

PROJECT NAME: MISSION TRAILS ENHANCEMENT PROJECT, PACHAGE IV AND V
PROJECT NO. 0915-12-438

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX. QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
	9523	XXXX		RELAY SHORT FIRELINE SERVICE (150 MM)	M	7			213
	9523	XXXX		TIE-IN (COMPLETE) (50 MM)	EA	1			214
	9523	XXXX		TIE-IN (COMPLETE) (150 MM)	EA	1			215
	9523	XXXX		RELOCATE FIRE HYDRANT	EA	1			216
	9523	XXXX		CUT AND REPLACE ASPHALT PAVEMENT	M2	38			217
	3000	XXXX		REMOVAL, TRANSPORTATION AND DISPOSAL	M	19			218
	9525	XXXX		ASBESTOS ABATEMENT WORK PLAN	LS	1			219
	110	5013		EXCAVATION (SPECIAL)	M3	546			220
							Total SAWS Water Bid Amount:		

_____certifies that the unit prices shown on this complete computer print-out for all of the bid items and the alternates contained in this proposal are the unit prices intended and that its bid will be tabulated using these unit prices and no other information from this print-out.

_____Acknowleged and agrees that the total bid amount shown will be read as its total bid and further agrees that the official total bid amount will be determined by multiplying the unit bid prices shown in this print-out by the respective estimated quantities shown in the proposal and then totaling all of the extended amounts. _____ agrees to the terms, conditions, and requirements of the bidder's bid proposal.

Signed: _____ Date: _____

Title: _____

CSJ:	**0915-12-438**
PROJECT:	**HP**
COUNTY:	**BEXAR**
HIGHWAY:	**CS**

CITY OF SAN ANTONIO
GENERAL AND SPECIAL SPECIFICATIONS FOR LAM
VERSION 1995 METRIC

ITEM NO.	**DESCRIPTION**
Items 1 TO 9	General Requirements and Covenants (COSA)

TEXAS DEPARTMENT OF TRANSPORTATION
GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

All standard specifications and special provisions applicable to this project are identified as follows:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION MARCH 1, 1995. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

ITEM NO.	**DESCRIPTION**
100	Preparing Right of Way (132)
104	Removing Concrete
106	Obliterating Abandoned Road
110	Excavation (132)
132	Embankment (100)(204)(400)
150	Blading
158	Specialized Excavation Work (132)
160	Furnishing and Placing Topsoil (204)
164	Seeding for Erosion Control (166)(168)
168	Vegetative Watering
192	Roadside Planting and Establishment (168)
260	Lime Treatment for Materials Used as Subgrade (Road Mixed) (132)(204)(264)(300)(520)
420	Concrete Structures (421)(426)(427)(433)(435)(437)438) (440)(520)(522)(524)(526)(5381)
423	Retaining Wall (110)(132)(400)(420)(421)(424)(425)(426)(440)(520)(524)(526)
432	Riprap (420)(421)(440)
450	Railing (441)(445)(448)
462	Concrete Box Culverts and Sewers (400)(427)(464)(467)(520)(522)(526)

464	Reinforced Concrete Pipe (400)
465	Manholes and Inlets (400)(420)(421)(427)(520)(524)(526)
466	Headwalls and Wingwalls (400)(420)(421)(427)(440)(520)(522)(524)(526)
467	Safety End Treatment (400)
479	Adjusting Manholes and Inlets (400)(465)
500	Mobilization
502	Barricades, Signs and Traffic Handling
508	Constructing Detours
514	Permanent Concrete Traffic Barrier (420)(421)(424)(427)(437)(440)(526)
529	Concrete Curb, Gutter, and Combined Curb and Gutter (360)(420)(421)(437)(440)(526)
530	Driveways and Turnouts
531	Sidewalks (360)(420)(421)(437)(440)(526)
610	Roadway Illumination Assemblies (441)(442)(445)(447)(449)(616)(620)(656)
618	Conduit (400)(476)
620	Electrical Conductors
624	Ground Boxes (421)(440)
628	Electrical Services (441)(445)(449)(618)(620)(627)(656)
644	Small Roadside Sign Supports and Assemblies (421)(440)(634)(636)(646)(656)
649	Removing and Relocating Roadside Sign Assemblies (445)(634)(636)(637)(643)(646)(647)(656)
656	Foundations for Signs, traffic Signals, and Roadway Illumination Assemblies (400)(416)(420)(421)(440)(449)(618)(644)
658	Delineator and Object Marker Assemblies (660)
662	Work Zone Pavement Markings (666)(672)
666	Reflectorized Pavement Markings
672	Raised Pavement Markers (5381)
677	Eliminating Existing Pavement Markings and Markers (300)(302)(316)(678)
680	Installation of Highway Traffic Signals (610)(625)(627)(634)(636)(6000)(6001)(6002)(6003)(6004)(6005)(6007)(6008)(6010)(6023)
684	Traffic Signal Cables

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED HEREON WHATEVER IN CONFLICT WITH

Required Contract Provisions, Federal Aid Construction Contracts
(Form FHWA 1273, March 1994)
Wage Rates

Special Provision	"Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)"(000-001-COSA)
Special Provision	"Certification of Nondiscrimination in Employment"(000-003-COSA)
Special Provision	"Notice to All Bidders" (000-009-COSA)
Special Provision	"Conversions Factors" (000-021-COSA)
Special Provision	"Notice of Requirement for Affirmative Action to Ensure Equal

Employment Opportunity (Executive Order 11246)" (000-423-COSA)
Special Provision "Partnering" (000-878-COSA)
Special Provision "Notice of Changes" (000-1483-COSA)
Special Provision "On-The-Job Training" (000-1676-COSA)
Special Provision "Disadvantaged Business Enterprise in Federal-Aid Construction" (000-1966-COSA)
Special Provision "Definition of Terms" (001-005-COSA)
Special Provision "Award and Execution of Contract" (003-021-COSA)
Special Provision "Scope of Work" (004-008-COSA)
Special Provision "Control of the Materials" (006-COSA)
Special Provision "Control of the Materials" (006-030-1-COSA)
Special Provision "Legal Relations and Responsibilities to the Public" (007-001-COSA)
Special Provision "Legal Relations and Responsibilities to the Public" (007-002-COSA)
Special Provision "Legal Relations and Responsibilities to the Public" (007-279-COSA)
Special Provision "Legal Relations and Responsibilities to the Public" (007-1179-COSA)
Special Provision "Prosecution and Progress" (008-998-COSA)
Special Provision "Prosecution and Progress" (008-999-COSA)
Special Provision "Measurement and Payment" (009-052-COSA)
Special Provision "Preparing Right of Way" (100-003-COSA)
Special Provision "Seeding for Erosion Control" (164-002-COSA)
Special Provision "Roadside Planting and Establishment" (192-012-COSA)
Special Provision "Lime and Lime Slurry" (264-001-COSA)
Special Provision "Asphalts, Oils and Emulsions" (300-049-COSA)
Special Provision "Aggregate for Surface Treatments" (302-014-COSA)
Special Provision "Hot Asphalt-Rubber Surface Treatments" (318-004-COSA)
Special Provision "Excavation and Backfill for Structures" (400-030-COSA)
Special Provision "Concrete Structures" (420-010-COSA)
Special Provision "Portland Cement Concrete" (421-028-COSA)
Special Provision "Pre-Cast Concrete Structures" (424-002-COSA)
Special Provision "Joint Sealants and Fillers" (433-002-COSA)
Special Provision "Reinforcing Steel" (440-005-COSA)
Special Provision "Steel Structures" (441-008-COSA)
Special Provision "Galvanizing" (445-001-COSA)
Special Provision "Structural Bolting" (447-002-COSA)
Special Provision "Anchor Bolts" (449-001-COSA)
Special Provision "Concrete Box Culverts and Sewers" (462-001-COSA)
Special Provision "Reinforced Concrete Pipe" (464-001-COSA)
Special Provision "Headwalls and Wingwalls" (466-001-COSA)
Special Provision "Safety End Treatment" (467-002-COSA)
Special Provision "Mobilization" (500-002-COSA)
Special Provision "Barricades, Signs and Traffic Handling" (502-021-COSA)
Special Provision "Portland Cement Concrete Plants" (522-002-COSA)
Special Provision "Hydraulic Cement" (524-006-COSA)
Special Provision "Membrane Curing" (526-002-COSA)
Special Provision "Driveways and Turnouts" (530-004-COSA)
Special Provision "Sidewalks" (531-004-COSA)

Special Provision	"Work Zone Pavement Markings" (662-005-COSA
Special Provision	"Reflectorized Pavement Markings" (666-012-COSA)
Special Provision	"Raised Pavement Markings" (672-004-COSA)
Special Provision	"Installation of Highway Traffic Signals" (680-004-COSA)

SPECIAL SPECIFICATIONS -COSA

Item 801-COSA	Tree and Landscape Protection
Item 802-COSA	Tree Pruning, Soil Amending and Fertilization
Item 805-COSA	Trees, Plants and Ground Covers
Item 1134-COSA	Impermeable Liner
Item 1135-COSA	Water Tank and Pump
Item 1136-COSA	Steel or Polyethylene Mobil Water Storage Tank
Item 5425-COSA	Gravel Filter Bags for Erosion Control(506)
Item 9401-COSA	Curb Ramp and Landing
Item 9402-COSA	Landscape Pavers (247)(421)
Item 9403-COSA	Temporary Sediment Control Fence(506)(9510)
Item 9500-COSA	Sanitary Sewer
Item 9501-COSA	Water Main and Service Line
Item 9509-COSA	Flowable Backfill
Item 9510-COSA	Earthwork for Erosion Control(506)(556)
Item 9511-COSA	Rock Filter Dams for Erosions and Sedimentation Control (502)
Item 9512-COSA	Construction Exits (506)
Item 9513-COSA	Trail Markers
Item 9514-COSA	Decorative Metal Fence
Item 9516-COSA	Enhancement Signing
Item 9517-COSA	Adjusting of Vehicular and Pedestrian Gates (550)
Item 9518-COSA	Steel Benches
Item 9519-COSA	Steel Trash Receptacles
Item 9520-COSA	Picnic Tables
Item 9521-COSA	Ride Quality for Pavement Structures
Item 9522-COSA	Natural Gas Pipeline
Item 9600-COSA	Video Imaging Vehicle Detection System
Item 9601-COSA	Removing and Relocating Pedestal Pole Assemblies
Item 9602-COSA	Aluminum Conductors
Item 9800-COSA	Project Signs

SPECIAL SPECIFICATIONS -SAWS

Item 3000	Specifications for Handling Asbestos Cement Pipe

ITEM NO. 3000
SPECIFICATIONS FOR
HANDLING ASBESTOS CEMENT PIPE

INTRODUCTION

This item shall govern the uncovering, dislodging, handling, removing, transporting, and disposing of asbestos cement (AC) pipe and other asbestos containing materials (ACM). AC pipe is also known as transite pipe. AC pipe typically contains from 15% to 20% chrysotile and crocidolite asbestos and is considered to be an asbestos-containing material. The disturbance and/or removal of this material is governed by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 Code of Federal Regulations (CFR) 61; by the Occupational Safety and Health Administration (OSHA) 29 CFR 1926.1101; the State of Texas Occupation Code, Chapter 1954 and Health and Safety Code Chapters 361 and 363; and the Texas Administrative Code (TAC), 25 TAC Chapter 295 and 30 TAC Chapter 330.3 and 330.171. The material is classified by definition under 40 CFR 61, Subpart M, Section 61.141 as Category II, non-friable ACM, unless, when dry, it can be crumbled, pulverized, or reduced to powder by hand pressure. At that time, it becomes classified as regulated ACM (RACM) and subject to regulation under Subpart M. It is the intent of this specification to define procedures that maintain the AC pipe in an intact state. Contractors shall not use procedures that subject the AC pipe to forces that will crumble, pulverize, or reduce to powder the AC pipe. By using procedures that have a low to no probability of fiber release, the pipe retains its classification as Category II, non-friable ACM. These procedures will protect workers from the health risk associated with airborne asbestos.

References to the City of San Antonio (COSA) pertain only to those joint bid projects, where joint jurisdiction occurs due to the contract's binding agreement. Definitions used and incorporated as part of this specification are located in Appendix One. Applicable standards and guidelines used and incorporated as part of this specification are located in Appendix Two.

3000.1 DESCRIPTION

This item shall consist of the uncovering, dislodging, handling, removing, transporting, and disposing of AC pipe, joints, wrappings and other ACM. To comply with NESHAP and OSHA requirements, this project will require workers trained in using wet technique procedures to dislodge and remove AC pipe, AC pipe joints, valves (any type) containing ACM, and any surrounding soils that may contain ACM. The Contractor shall develop an Asbestos Removal Work Plan, herein referred to as "the Plan", (see Appendix Three, Example Procedures) that provides specific and detailed procedures they and/or any of their subcontractors will follow to maintain the AC pipe in an intact state. The Plan shall specify the wet techniques to be followed when the pipe collars are dislodged. The Plan shall include procedures/actions to be followed if the intact AC pipe becomes broken and the possibility exists of asbestos fibers becoming airborne. By regulatory definition, if and when the pipe and/or collar are broken, they become a regulated ACM (RACM) and subject to NESHAP. The Plan shall state or reference procedures in the contractor's Safety and health program document that they will follow to comply with the federal OSHA asbestos standard. Finally, the Plan shall contain provisions for the

environmentally compliant disposal of the intact AC pipe and any RACM created during the removal process. The Plan shall be provided to the San Antonio Water System (SAWS) at the pre-construction (pre-con) meeting for its review and approval prior to initiating uncovering operations to verify the contractor has met the contractual requirements. No handling and disposing of SAWS AC pipe will begin without approval from SAWS. Any ACM encountered that is not SAWS pipe and not previously identified by SAWS or shown on SAWS plans will be not be authorized for disposal payment. Preparation and submission of the Plan shall be considered subsidiary to the work required and no direct payment will be made.

If the project is joint bid with COSA, the Plan shall also be submitted to COSA Environmental representatives for their review and approval, as required. The Contractor shall comply with the COSA and any other agencies requirements. Any uncovering, dislodging, handling, or disposing of AC pipe and associated written handling and removal plans, such as an abatement plan, required by another agency will be paid for by that agency using their specification/bid item number. Again, no handling and disposing of SAWS AC pipe will begin without approval from SAWS.

To meet and/or exceed NESHAP and OSHA guidelines, the contractor may subcontract the AC pipe handling plan and work to an Environmental Protection Agency (EPA) accredited and Texas Department of State Health Services (DSHS) licensed asbestos abatement contractor, DSHS licensed asbestos consultant, and DSHS air monitoring technician.

NESHAP guidelines apply to facility projects in which the combined amount of regulated asbestos containing material (RACM) is at least 260 linear feet (LF) or 35 cubic feet or 160 square feet. This means that if the combined amount of RACM is at least 260 linear feet of the AC pipe, including AC collars, and it is expected to become or becomes crumbled, pulverized, or reduced to powder, then the project is subject to the NESHAP provisions of reporting and asbestos emission control paragraphs in 40 CFR Section 61.145. If the DSHS RACM limit of 260 LF is exceeded, the contractor is responsible for any DSHS administrative fees and fines. The contractor shall be responsible for submitting the DSHS notification with copies to SAWS and COSA Environmental Division for joint bid projects.

If the scope of the project may involve the threshold amount (260 linear feet or greater), a Demolition/Renovation Notification Form will be sent to DSHS by the Contractor. This form shall be post-marked no later than 10 working days prior to the start of any asbestos handling work.

All projects involving AC pipe require that NESHAP and OSHA standards are met and/or exceeded. The contractor shall perform all work in a manner that meets or exceeds those standards. The contractor shall have and follow a written Plan that describes their detailed handling and disposal procedures of the AC pipe. The contractor shall submit copies of the Plan to SAWS for review and approval and for joint bids, COSA Environmental representatives, as required. OSHA requires that during any ACM disturbance, regardless of amount, the asbestos worker(s) shall be protected from potential airborne asbestos exposure in excess of the permissible exposure limit or excursion limit as stipulated in 29 CFR 1926.1101.

MEASUREMENT

3000.2 SUBMITTALS AND NOTICES

A. At the Pre-construction Conference/Meeting the following shall be submitted for review and approval to SAWS, and when applicable COSA Environmental representatives, as required:

1. The Plan in accordance with: NESHAP, OSHA, this Special Specifications, Item Number 3000, and State requirements. The number of copies submitted of the Plan is the same as the number of copies required under other bid submittal requirements with one copy being submitted electronically. The work plan shall provide detailed procedures for retaining the AC pipe's Category II, non-friable NESHAP classification. The contractor shall incorporate working with ACM and complying with mandated OSHA requirements for Class II, asbestos work in their project specific Safety and Health Plan. The guidance provided in these special specifications is not intended and does not constitute an asbestos abatement project design as described under 25 TAC, Chapter 295.

2. Submit proof satisfactory to SAWS, and as applicable, COSA Environmental representatives, that required permits, site location, and arrangements for transport and disposal of asbestos containing waste material (ACWM) have been made that meet Texas environmental statutes and regulations. Include the name of the transporter, their Texas asbestos transporter license number, and the name of the approved landfill where the AC pipe and ACM waste will be buried.

B. During Asbestos Handling and Disposal Activities: Submit copies to SAWS and if applicable, COSA Environmental representatives of all transport manifests, trip tickets, and disposal receipts for all ACWM removed from the work area during the project. The Contractor will sign manifests as the SAWS's representative (generator) for the AC pipe and provide copies to the SAWS Construction Inspection Department for final payment.

3000.3 CONSTRUCTION REQUIREMENTS

A. The Work includes all work specified herein, to include mobilization and demobilization, labor, materials, overhead, profit, taxes, transportation, disposal fees, administrative fees, and incidental cost. Estimating areas, quantities, and weight are the sole responsibility of the Contractor.

B. The Contractor shall remove and double bag with 6-mil polyethylene sheeting to yield a total of at least 12-mil, the asbestos pipe in the trench or immediately when it comes out of the trench, seal, label, transport, and dispose of all Category II non-friable ACM and RACM in compliance with applicable current Federal, State and local regulations, laws, ordinances, rules, standards and regulatory agency recommended requirements.

C. The Contractor shall notify SAWS and, if applicable COSA representatives, at least 72 hours prior to beginning uncovering, dislodging, handling, and removing the AC pipe. AC pipe uncovering, dislodging, handling, and/or removing shall be conducted during regular business hours, 8 a.m. to 5 p.m., Monday-Friday. No uncovering, dislodging, handling, and or removing of AC pipe outside of the normal business

hours or during the weekend is allowed unless special circumstances require the contractor to do so and the work has been approved in writing at least 72 hours before the commencement of the work.

D. Time is of the essence in removing the ACM from the project area. All work must be completed within the time period specified in the contract. SAWS, and if applicable COSA representative will be responsible for coordinating this work in high-density areas, such as schools, church facilities, and residential areas.

E. All notifications required to state regulatory agencies will be made by the Contractor with copies provided to SAWS and as applicable, COSA representatives, including but not limited to the DSHS Demolition/Renovation Notification Form. If 260 linear feet or greater of RACM pipe will become crumbled, pulverized, or reduced to powder, the project is subject to NESHAP regulations and a Demolition/Renovation Notification Form will be sent to DSHS by the Contractor. This form will need to be post-marked no later than 10 working days prior to the start of any asbestos disturbance.

F. The Contractor shall have an on-site supervisor, who is an OSHA Competent Person, present on the job site at all times that the AC pipe work is in progress. This supervisor shall be thoroughly familiar with and experienced at asbestos pipe handing using wet techniques and shall be familiar with and shall enforce the use of all safety procedures and equipment. He/she shall be knowledgeable of all applicable EPA, OSHA, and DSHS asbestos requirements and guidelines.

G. The Contractor has: sole and primary responsibility for the "means and/or methods" of the work; an obligation to SAWS to inspect all stages of the work; and sole responsibility to supervise the performance of the work. Certain work practices for AC pipe disturbance are prohibited as per Section 3000.5.C.

H. The Contractor shall be responsible for site safety and for taking all necessary precautions to protect the Contractor's, SAWS, and COSA personnel and the public from airborne asbestos exposure and/or injury. The Contractor shall be responsible for maintaining the integrity of the work area.

I. The Contractor shall confine operations at the site to the area requiring interface with the AC pipe and the general site area in close proximity to the project. The Contractor will not unreasonably encumber the site with materials or equipment. If ACWMs are required to be stored overnight in a secured area, the waste material and waste containers shall be labeled according to OSHA and EPA, and the State of Texas requirements, & containerized to preclude unauthorized disturbance of the ACWMs.

J. The Contractor shall be responsible for obtaining and coordinating waste disposal and transport of ACWM to a Texas Commission on Environmental Quality (TCEQ) permitted asbestos waste landfill. Waste manifests shall be generated for the transport of the AC pipe and ACWMs from the project site to the landfill disposal site. The Contractor will sign the manifests as the SAWS's representative (generator) for the AC pipe and provide copies to the SAWS Construction Inspection Department for final payment.

3000.4 SITE SECURITY

The Contractor shall demarcate the area of AC pipe interface ("regulated area") with barrier tape and warning signs, per OSHA regulation 29 CFR 1926.1101. Access to the regulated area will be limited to authorized personnel and visitors. The contractor shall identify in their site specific safety and health plan how they intend to limit access and who is authorized to be in the demarcated area.

3000.5 AC PIPE HANDLING

A. General: Any project involving AC pipe, the Contractor shall comply with OSHA standards and shall develop a Safety and Health Plan that complies with SAWS Specification 902, Construction Safety and Health Program requirements.

B. The Contractor shall uncover, dislodge, handle, remove, transport, and dispose of all AC pipe specified in the SAWS bid documents/plans for this project using wet technique procedures. All work involving AC pipe and other ACM products must be addressed in the Plan. The Contractor shall take precautions to prevent damage to adjacent structures and material/finished material not required for AC pipe handling.

C. Prohibited Work Practices and Engineering Controls: Contractors shall not use procedures that subject the AC pipe to forces that will crumble, pulverize, or reduce to powder the AC pipe. The following work practices and engineering controls shall **not** be used for work related to AC pipe or for work which disturbs ACM, regardless of asbestos exposure or the results of Initial Exposure Assessments:

1. High-speed abrasive disc saws and sanders not equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.
2. Carbide-tipped cutting blades.
3. Electrical drills, chisels, and rasps used to make field connections in AC pipe.
4. Shell cutters used to cut entry holes in AC pipe.
5. A hammer and chisel without using wet techniques to remove pipe connections.
6. Compressed air used to remove asbestos or material containing asbestos.
7. Dry sweeping, dry shoveling, or other dry clean-up of dust and ACM debris.
8. Employee rotation as a means of reducing employee exposure to asbestos.

D. General Removal Work Practices: See Appendix Three for an example of the detailed general work practices a contractor could use in preparing an Asbestos Removal Work Plan. If the contractor uses the example, they must expand upon the provisions in the appendix to describe its specific procedures. The appendix is provided for illustrative purposes only. If the contractor employs this example, SAWS requires greater site specific detail to be included in the Plan submitted for approval.

E. Disposal bags for RACM shall be 6-mil polyethylene and labeled as required by EPA regulation 40 CFR 61.150 (a)(1)(iv) or OSHA requirement 29 CFR 1926.1101(k)(8).

F. Stick-on labels identifying the generator's name (SAWS) and address and the project site location shall be applied to any asbestos waste disposal bag that contains RACM, as per EPA or OSHA and Department of Transportation requirements.

G. Abandonment of AC water mains/pipes:

1. The Contractor is responsible for isolating the existing mains to remain in place by capping, plugging and blocking as necessary. The opening of an abandoned AC water main and all other openings or holes shall be blocked off by manually forcing cement grout or concrete into & around the openings in sufficient quantity to provide a permanent watertight seal. Abandonment of AC water mains will be considered subsidiary to the work required, & no direct payment will be made.
2. Abandonment of Valves that contain ACM: Valves to be abandoned in the execution of the work shall have the valve box and extension packed with sand to within eight inches (8″) of the street surface. The remaining eight inches (8″) shall be filled with 3,000 psi concrete or an equivalent sand-cement mix and finished flush with the adjacent pavement or ground surface. The valves covers shall be salvaged & returned to SAWS. The abandonment of valves containing ACM will be considered subsidiary to the work required, & no direct payment will be made.
3. Verification of Removal & Clean-up Procedures: The Contractor's on-site Competent Person shall inspect the work area, verify, and certify that no residual AC pipe fragments and debris remain.

H. Disposal Procedures: Submit copies to SAWS Environmental Division and, if applicable COSA Environmental representatives, of all transport manifests, trip tickets, and disposal receipts for all asbestos waste materials removed from the work area during the project. The Contractor will sign manifests as the SAWS representative (generator) for the AC pipe and provide copies to SAWS Construction Inspections for final payment.

3000.6 Payment

The work performed per items shall be paid for at the unit price bid per lineal foot for the various sizes of AC pipe removed. The lineal foot bid price shall include "Removal, Transportation, and Disposal," which prices shall be full compensation for the work herein specified including the furnishing of all materials, equipment, tools and for the material disposal, submittals, and labor necessary to complete the work. No payment shall be made for the Plan.

3000.7 Bid Item

Removal, Transportation, and Disposal (Lineal Foot)

STANDARD PLAN NOTE:

Asbestos Cement (AC) pipe, also known as transite pipe, contains asbestos-containing material (ACM) and is located within the project limits. Special waste management procedures and health and safety requirements are applicable when handling, removing, and disposing of this pipe. Payment for such work is to be made under Special Specification Item No 3000, "Special Specification for Handling Asbestos Cement Pipe".

Appendix One

DEFINITIONS

As used anywhere in Item No. 3000, Specifications for Handling Asbestos-Cement Pipe, including all appendices, the following shall be defined to mean:

A. Amended Water – Water to which a surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACM.

B. Approval – Means the SAWS contract requirements have been met but does not mean that the SAWS stipulates any written documents adequately comply with federal and state occupational safety and health regulatory requirements.

C. Asbestos – A group of naturally occurring silicate minerals and includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that has been chemically treated and/or altered.

D. Asbestos Containing Material (ACM) – Material or products that contain more than 1.0% of any kind of asbestos.

E. Asbestos Containing Waste Material (ACWM) – Asbestos containing material or asbestos contaminated objects requiring disposal.

F. Authorized Personnel – Any person authorized by the Contractor and required by work duties to be present in the regulated area.

G. Authorized Visitor – SAWS representatives, and any representative of a regulatory or other agency having jurisdiction over the project.

H. Asbestos Consultant – A person licensed by the Texas Department of State Health Services to perform the following asbestos abatement related functions in public buildings:

(1) Project design; (2) Asbestos surveys and condition assessment of ACM; (3) Asbestos Management Planning; (4) The collection of bulk material samples, airborne substance samples and the planning of sampling strategies; (5) Owner-representative services for asbestos abatement projects or O&M programs, including air monitoring and project management; (6) Consultation regarding regulatory compliance and all aspects of technical specifications and contract documents; and (7) The selection, fit testing, and appropriate use of personal protection equipment & the development of asbestos related engineering controls.

I. Abatement Contractor – The company, agency, or entity licensed by the Texas Department of State Health Services that has been retained to perform asbestos abatement and other associated functions.

J. Class II Asbestos Work (OSHA Standard) – Activities involving the removal of ACM, which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

K. Competent Person – An individual who is capable of identifying existing asbestos hazards in the workplace, can select the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them.

L. Friable Asbestos – Asbestos containing material, that when dry, can be crumbled, pulverized, or reduced to powder by hand pressure and includes previously non-friable material that has become damaged to the extent that, when dry, it may be crumbled, pulverized, or reduced to powder by hand pressure.

M. NESHAP – The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

N. OSHA – The Occupational Safety and Health Administration.

O. Regulated Area – An area established by the Contractor or employer to demarcate areas where asbestos work is conducted and any adjoining area where debris and waste from such asbestos work accumulate; and an area within which airborne concentrations of asbestos exceed or there is a reasonable possibility they may exceed the permissible exposure limit.

P. Regulated Asbestos Containing Material (RACM) – (1) Friable asbestos material; (2) Category I non-friable ACM that has become friable; (3) Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading; or, (4) Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by forces expected to act on the material in the course of the demolition or renovation operations regulated by 40 CFR Part 61, Subpart M.

Q. Staging area – A pre-selected area where wrapped or containerized asbestos containing waste material will be placed prior to removal from the project site.

R. Surfactant – A chemical wetting agent added to water to improve penetration.

S. Uncovering operations – The use of mechanical, pneumatic, and/or manual procedures that disturb the material and/or soil above and/or around the AC pipe that would expose personnel to the AC pipe.

Appendix Two

APPLICABLE STANDARDS AND GUIDELINES

All work under these specifications shall be done in strict accordance with all applicable Federal, State, and local regulations, standards, and codes governing asbestos disturbance, handling, removal and disposal. Work activities shall also comply with SAWS and City of San Antonio Specifications related to safety and health.

The most recent edition of any relevant regulation, standard, or code shall be in effect. Where there is a conflict between the regulations, standards, codes, and/or these specifications, the most stringent requirements shall apply.

As a minimum, the Contractor shall comply with the applicable portions of the following:

A. Occupational Safety and Health Administration (OSHA) including but not limited to:

1. Title 29 Code of Federal Regulations (CFR) Section 1926 – Safety and Health Regulations for Construction
2. Title 29 CFR Section 1926.1101 – Safety and Health Regulations for Construction - Asbestos.
3. Title 29 CFR Section 1910.134 – Occupational Health and Safety Standards - Respiratory Protection.
4. Title 29 CFR Section 1910.1020 – Occupational Health and Safety Standards - Access to Employee Exposure and Medical Records.
5. Title 29 CFR Section 1910.1200 – Occupational Health and Safety Standards - Hazard Communication.

B. Environmental Protection Agency (EPA) including but not limited to:

Title 40 Code of Federal Regulations Part 61 Subpart M – National Emission Standard for Asbestos.

C. Texas Statutes, including but not limited to:

1. Occupation Code, Chapter 1954, Asbestos Health Protection
2. Health and Safety Code Chapters 361 and 363, Solid Waste

D. Texas Administrative Code including but not limited to:

1. Department of State Health Services, Title 25, Chapter 295, Subchapter C – Texas Asbestos Health Protection.
2. Texas Administrative Code, Title 30, Chapter 330 Municipal Solid Waste.

E. Department of Transportation – Hazardous Materials Regulations 49 CFR, Parts 170 – 180.

F. SAWS Specification 902 Safety and Health Program

Appendix Three

Example of Procedures for Handling SAWS AC Pipe

The following is an example of procedures for handling SAWS AC pipe. A contractor could use them as a basis for preparing an Asbestos Removal Work Plan. The contractor must expand upon the provisions of this appendix to describe its specific procedures. This appendix is provided for illustrative purposes only. The contractor is required to develop a site specific Asbestos Removal Work Plan that complies with the provisions of this specification. If the contractor employs this example, SAWS will require greater site specific detail to be included in the plan submitted for approval.

Scope of Work: Describe the work and be specific as to the intended involvement with the existing AC pipe. For example: abandoning/removing X feet of AC pipe; tying into a section of an existing waterline and replacing one section (X feet) of pipe to make the connection; or connecting into an existing section of AC pipe by tapping into the AC pipe.

1. **Excavation to pipe**
   - Excavate to within X inches/feet of the section of AC pipe to be replaced/removed. Depending upon the depth of the excavation, shoring may be needed following company procedures (provide or reference those procedures).
   - Once the pipe is located, excavate (by machine or hand) on one/both sides of the pipe to expose the collars and pipe. Dig the earth from around the collars by hand to create a clearance space completely around the collar. DO NOT SCRAPE OR ABRADE THE PIPE WITH THE EXCAVATION DEVICE(S).
   - Set up pumps to evacuate any residual water when the AC pipe is dislodged.
2. **Wet method use**
   - Make the amended water solution by mixing 1 ounce of a liquid detergent (Dawn, Joy, other) with 2 to 3 gallons of water in a 2 to 3 gallon mist sprayer. Other size sprayers may be used.
   - Wet each portion of the pipe, normally just the collar, to be removed with the amended water (water/soap) solution.
   - Use the mist sprayer to produce a "mist" application and continuously wet the collars throughout the wrapping, cracking, and removal process. A worker shall be assigned to and is responsible for this procedure during the entire dislodging process.
3. **Only cracking AC pipe collars is approved**
   - Wrap wet towels/burlap/other defined absorbent material around the collar. Wrap the collar with at least two layers of 6-mil polyethylene sheeting to provide a total of at least 12-mil. It is recommended that additional poly be used on the collars to minimize possible tearing of the plastic.

- Place another layer of wet towels/burlap/ other defined absorbent material on the wrapped collar.
- Use the flat head end of a sledgehammer to crack the collar while continuously "misting" the collar. Strike the collar on the side of the section of pipe to be removed to prevent the remaining section of pipe from being broken.
- Put all of the pieces of collar into a 6-mil polyethylene waste bag. Look for small pieces that may have been generated during the cracking process, wet them, and place them in the waste bag.

NOTE: When the collars are cracked and removed from a shutdown waterline, residual water may drain from the dislodged AC pipe. Follow company safety procedures to control the water (provide or reference those procedures).

4. Double bag all AC waste materials

- All visible AC pipe materials including collars, towels, rubber gloves, gaskets, and other items suspected of containing asbestos shall be double bagged using two (2) 6-mil AC waste bags. The inner bag contents shall be mist sprayed with amended water or mixed with water from the trench prior to closing to maintain the contents wet. Close the bag when it is half full by twisting the top of the bag and sealing with moisture resistant tape.
- If the asbestos waste bag is small enough, it may be placed inside the section of intact pipe before the pipe is wrapped in at least two layers of 6-mil poly. If placing the waste bag inside the pipe, do not force it causing it to tear.

5. Removal of pipe and waste bag from trench

- All sections of "intact" pipe shall be wrapped in a minimum of two (2) layers of 6-mil poly sheets (12-mil total) while in the trench and lifted out of the trench using only nylon slings. If the trench contains water, the pipe shall be lifted out of the trench using only nylon slings and placed on a minimum of two (2) layers of 6-mil poly sheets (12-mil total) on the ground next to the trench.
- Wrap each pipe segment in at least 12-mil of poly and secure with tape.
- Lift the ACM waste bag(s) from the trench and move it/them to a secure location to prevent accidental contact with the bag(s) that would cause it/them to tear.

NOTE: Any valves, bends, tees, fittings, or other items that have AC pipe connected shall be wrapped whole as required with the same minimum total of 12-mil of poly material.

6. AC Pipe and Waste Storage/Transfer

- Wrapped AC pipe and ACM waste bags shall be stored in a secure area away from traffic that could damage the wrapped pipe and/or waste bags while awaiting transport to the permitted landfill.
- If daily transport to a permitted landfill cannot be provided, a roll-off type dumpster/disposal container may be used to hold only the wrapped AC pipe and bagged RACM waste to prevent damage to the wrapping.

- DO NOT TOSS THE PIPE OR WASTE BAGS INTO THE ROLL-OFF OR DISPOSAL CONTAINER.
- DO NOT MIX SPOILS WITH THE AC WRAPPED PIPE AND AC WASTE.

– All wrapped or bagged materials shall be moved to the AC pipe/waste fenced holding area for storage. If a roll-off or other type disposal container is used, place the wrapped pipe and waste bags in the roll-off/container using methods that do not cause the wrapping/bagging to be torn.

– Any bagged or wrapped materials that are torn in handling shall be mended and taped. If the tear is too extensive for a simple tape repair, wrap/bag with an additional equivalent of 12-mil minimum thickness of poly wrap/bagging.

7. AC Pipe and Waste Disposal

The wrapped AC pipe and ACM bagged waste shall be transported to an approved AC waste landfill with the manifests being generated at the time of transfer. Include the name of the transporter, their Texas asbestos transporter license number, and the name of the permitted landfill where the AC pipe and ACM waste will be buried.

- END -

ESTIMATED STREET AND DRAINAGE QUANTITIES

ITEM #	DESCRIPTION	UNIT	ESTIMATED QUANTITIE	FINAL QUANTITIE	ITEM #	DESCRIPTION	UNIT	ESTIMATED QUANTITIE	FINAL QUANTITIE
	COSA ITEMS					COSA ITEMS			
506.1	CONC RETAINING WALL - COMB. TYPE	M3	5.7		662 5023	WRK ZN PAV MRK REMOV (Y) (SLD) (100MM)	M	280.6	
523.1	ADJUST VEHICULAR GATES	EA	7		662 5049	WRK ZN PAV MRK NON-REMOV (W) (SLD) (100MM)	M	253.8	
801.2	LEVEL IIA PROTECTIVE FENCING	M	247.4		662 5069	WRK ZN PAV MRK NON-REMOV (Y) (SLD) (100MM)	M	248.6	
801.3	LEVEL IIB PROTECTIVE FENCING	M	5.3		666 5006	REFL PAV MRK TY I (W) (SLD) (200MM)	M	3601	
100 5002	PREP ROW	KM	1.22		666 5009	REFL PAV MRK TY I (W) (SLD) (300 MM)	M	4	
106 5001	OBLIT ABND ROAD	KM	0.2		666 5012	REFL PAV MRK TY I (W) (SLD) (600MM)	M	318	
110 5001	EXCAVATION (RDWY)	M3	2903		666 5013	REFL PAV MRK TY I (W) (ARROW)	EA	22	
110 5013	EXCAVATION (SPECIAL)	M3	801		666 5017	REFL PAV MRK TY I (W) (WORD)	EA	4	
132 5018	EMBANK (ORD COMP) (TY B) (CL 3)	M3	1219		666 5021	REFL PAV MRK TY I (W) (RR XING)	EA	2	
150 5001	BLADING	H	4		666 5024	REFL PAV MRK TY I (Y) (SLD) (100MM)	M	4132	
160 5002	FURN AND PLAC TPSL (CL 2)(150 MM)	M2	3887		666 5025	REFL PAV MRK TY I (Y) (BRK) (100MM)	M	170	
164 5007	CELL FIB SEED (TEMP) (WARM)	M2	1944		666 5032	REFL PAV MRK TY I (Y) (SLD) (600MM)	M	4	
164 5009	CELL FIB SEED (TEMP) (COOL)	M2	1944		666 5034	REFL PAV MRK TY I (Y) (MEDIAN NOSE)	EA	2	
164 5033	CELL FIB SEED (PERM)(URBAN)(CLAY)	M2	3887		666 5039	REFL PAV MRK TY II (W) (SLD) (200MM)	M	3601	
168 5001	VEGETATIVE WATERING	KL	5039		666 5041	REFL PAV MRK TY II (W) (SLD) (300 MM)	M	4	
192 5039	HALL'S HONEYSUCKLE (CTR NM1)	EA	1780		666 5044	REFL PAV MRK TY II (W) (SLD) (600MM)	M	318	
192 5041	NEW GOLD LANTANA (CTR NM 1)	EA	104		666 5045	REFL PAV MRK TY II (W) (ARROW)	EA	22	
192 5041	CREEPING LANTANA (CTR NM1)	EA	87		666 5049	REFL PAV MRK TY II (W) (WORD)	EA	4	
192 5045	LINDHEIMER MUHLY (CTR NM1)	EA	151		666 5053	REFL PAV MRK TY II (W) (RR XING)	EA	2	
192 5102	DWARF PAMPAS GRASS (CTR NM5)	EA	32		666 5056	REFL PAV MRK TY II (Y) (SLD) (100MM)	M	4132	
192 5285	CEDAR ELMS (MIN 100MM CAL) (CNTR)	EA	25		666 5057	REFL PAV MRK TY II (Y) (BRK) (100MM)	M	170	
192 5329	LIVE OAKS (MIN 100MM CAL) (CNTR)	EA	12		666 5063	REFL PAV MRK TY II (Y) (SLD) (600MM)	M	4	
192 5564	VITEX AGNUS CASTUS (CTR NM5)	EA	264		666 5065	REFL PAV MRK TY II (Y) (MEDIAN NOSE)	EA	2	
192 5778	NATCHEZ CREPEMYRTLE (3.7-4.3 M HT) (CNTR)	EA	29		666 5105	REFL PAV MRK TY I (W) (DOT) (200MM)	M	124	
192 5836	SEEP MUHLY (CTR NM1)	EA	49		666 5106	REFL PAV MRK TY I (W) (BIKE) (ARROW)	EA	49	
192 5841	CHERRY SAGE (CTR NM1)	EA	202		666 5108	REFL PAV MRK TY I (W) (BIKE) (SYMBOL)	EA	49	
192 9999	COPPERTONE LOQUAT (CTR NM5)	EA	30		666 5109	REFL PAV MRK TY I (W) (BIKE) (RR XING)	EA	1	
260 5005	LIME TREAT SUBGR (DC) (150MM)	M2	10427		666 5110	REFL PAV MRK TY II (W) (DOT) (200MM)	M	124	
260 5017	LIME (TYPE A (SLRY) TY B OR TY C (SLRY))	MGR	85		666 5111	REFL PAV MRK TY II (W) (BIKE) (ARROW)	EA	49	
340 5021	HOT MIX (TY C) (SURF)	MGR	816		666 5113	REFL PAV MRK TY II (W) (BIKE) (SYMBOL)	EA	49	
340 5061	HOT MIX (TY B) (BASE) (PG 64-22)	MGR	1022		666 9999	REFL PAV MRK TY II (W) (BIKE) (RR XING)	EA	1	
340 5064	HOT MIX (TY A) (BASE) (PG 64-22)	MGR	5508		672 5007	RAIS PAV MRKR CL B (REFL) TY I-C	EA	30	
420 5003	CL A CONC (MISC)	M3	139		672 5009	RAIS PAV MRKR CL B (REFL) TY II-A-A	EA	420	
423 5005	RETAINING WALL (CONC BLOCK)	M2	87		677 5001	ELIM EXT PAV MRK & MRKR (100MM)	M	1739	
432 5001	RIPRAP (CONC) (CL B)	M3	47		677 5003	ELIM EXT PAV MRK & MRKR (200MM)	M	45	
432 5026	RIPRAP (CONC) (CL B) (125MM)	M3	40		677 5006	ELIM EXT PAV MRK & MRKR (600 MM)	M	74	
450 5055	RAIL (HANDRAIL) (SPL)	M	117		680 5001	INSTALL OF HWY TRAFFIC SIG (ISOLATED)	EA	1	
462 5012	CONC BOX CULV 1800MM X 600MM	M	25.5		681 5001	TEMP TRAF SIGNALS FOR CONSTR	EA	1	
464 5005	RCP CL III 600MM	M	155.4		684 5048	TRAF SIG CBL (TY A) (9 CONDR) (14AWG)	M	29	
465 5312	INLET (COMPL) (CURB) (TY C)	EA	3		8302 5012	ELEC CONDUCTOR (NO. 2) INSULATED	M	3546	
465 5391	MANH (COMP) (TY I)	EA	1		9401 5002	CURB RAMP AND LANDING (TY 2)	EA	1	
465 9999	INLET (COMPL) (CURB) (TY III) (MOD)	EA	1		9401 5004	CURB RAMP AND LANDING (TY 4)	EA	12	
466 5271	WINGWALL FW-0 (H=600MM)	EA	2		9401 5006	CURB RAMP AND LANDING (TY 7)	EA	3	
466 5415	HEADWALL CH-PW-30 (1800MM)	EA	1		9402 5001	LANDSCAPE PAVERS	M2	1387	
466 5575	HEADWALL CH-PW-30 (1500MM)	EA	1		9403 5001	TEMP SEDMT CONT FENCE	M	55	
467 5074	SET (TY II) (600MM) (RCP) (6:1)	EA	2		9403 5002	TEMP SEDMT CONT FENCE (REMOV & REPLAC)	M	55	
479 5001	ADJUST MANHOLE	EA	2		9403 5003	TEMP SEDMT CONT FENCE (REMOV)	M	55	
500 5001	MOBILIZATION	LS	1		9510 5001	BKHOE WORK (EROSION CONT) (CL 1)	H	4	
502 5001	BARRICADES, SIGNS, AND TRAF HANDLE	MO	14		9510 5002	FRNT END LDR WORK (EROSN CONT) (CL 1)	H	10	
508 5001	CONSTRUCT DETOUR CL 1	KM	0.06		9511 5004	ROCK FILTER DAMS (TY 2)	M	10	
514 5002	PERM CONC TRAF BAR (SPL)	M	63.9		9511 5005	ROCK FILTER DAMS (REMOV & REPLAC) (TY 2)	M	10	
529 5001	CONC CURB (TY 1)	M	1903		9511 5006	ROCK FILTER DAMS (REMOV) (TY 2)	M	10	
529 5100	CONC CURB AND GUTTER (SLOTTED) (SPL)	M	4.3		9512 5001	CONSTRUCT EXIT (TY 1)	M2	120	
530 5001	DRVWYS (CONC) (150MM)	M2	1704		9512 5002	CONSTRUCT EXIT (REMOV & REPLAC) (TY 1)	M2	120	
530 5078	DRVWYS (CONC) (200MM)	M2	57		9512 5003	CONSTRUCT EXIT (REMOV) (TY 1)	M2	120	
531 5002	CONCRETE SIDEWALKS	M2	2201		9512 5004	CONSTRUCT EXIT (TY 2)	M2	80	
531 5025	CONC SIDEWALK (DRAIN)	M	4.3		9512 5006	CONSTRUCT EXIT (REMOV) (TY 2)	M2	80	
5425 500	GRAVEL FILTER BAGS	M	166		9513 9001	TRAIL MARKER	EA	6	
550 5024	CHAIN LINK FENCE (SPL)	M	211		9514 9001	DECORATIVE METAL FENCING (TY A) H=1.83M	M	720	
610 5043	RDWY ILL ASSEM (SPL TY4)	EA	33		9514 9002	DECORATIVE METAL FENCE (TY C)	M	56	
618 5001	CONDUIT (RM) (19MM)	M	5		9514 9004	DECORATIVE METAL PEDESTRIAN SWING GATE	EA	1	
618 5012	CONDUIT (PVC) (SCHD 40) (63 MM)	M	1114		9514 9005	DECORATIVE METAL DOUBLE SWING GATE	EA	4	
618 5018	CONDUIT (PVC) (SCHD 80) (50MM)	M	29		9516 5001	ADA SIGN ASSM	EA	73	
620 5003	ELEC CONDUCTOR (NO.8) BARE	M	32		9516 5002	ADB SIGN ASSM	EA	19	
624 5001	GROUND BOX TY A (122311) W/ APRON	EA	4		9516 5003	BDB SIGN ASSM	EA	10	
628 9000	ELEC SERV TY D (120/240) 060 (NS) SS (L) SP (O)	EA	3		9516 5004	BDA SIGN ASSM	EA	10	
644 5096	SM RD SGN ASSM TY PSM (1) DU (P)	EA	80		9518 COS	BENCH	EA	7	
648 5002	REPLAC SMALL RDSD SIGNS	EA	5		9518 COS	TRASH RECEPTACLE	EA	12	
649 5002	REMOV SMALL RDSD SGN ASSMS	EA	5		9520 COS	PICNIC TABLE	EA	10	
649 5006	RELOC SMALL RDSD SGN ASSMS	EA	1		9600 5001	VIVDS PROCESSOR SYSTEM	EA	1	
656 5003	FND FOR TRAF SIG (600MM) DRIL SHFT	M	1.7		9600 5002	VIVDS CAMERA ASSEMBLY	EA	4	
656 5031	FND FOR RDWY ILL ASM (TY E) (600MM DR SH)	M	55.8		9600 5003	VIVDS SET-UP SYSTEM	EA	1	
658 5064	OBJ MRK ASM TY 2 (OM - 2VP) (A)	EA	2		9600 5005	VIVDS COMMUN CABLE COAXIAL	M	191	
662 5001	WRK ZN PAV MRK REMOV (W) (SLD) (100 MM)	M	20		9601 9000	RELOCATE EXISTING PEDESTAL POLE	EA	1	
662 5011	WRK ZN PAV MRK REMOV (W) (SLD) (600MM)	M	3.4			CONTRACTOR FORCE ACCOUNT 1	LS	1	$ 10,000.00
						In accordance with Item 9.4 Peace Officers and Cruisers(PART)			
					1	LIQUIDATED DAMAGES	DAY	0	

REVISION		
#	DATE	
1	6/19/2012	DELETED ITEM 8302 AND ADDED LIQUIDATED DAMAGES

(CS) MISSION ROAD

ESTIMATE AND QUANTITIES (ROADWAY)

ADDENDUM NO.1

Sheet 1 of 1

CITY OF SAN ANTONIO
DEPARTMENT OF PUBLIC WORKS

Texas Department of Transportation

CIVIL ENGINEERING CONSULTANTS

FED.RD. DIV.NO.	FEDERAL AID PROJECT NO.		SHEET NO.
6			19
STATE	DIST.	COUNTY	
TX	SAT	BEXAR	
CONT.	SECT.	JOB	HIGHWAY NO.
0915	12	438	VARIOUS

PLANS FOR
WATER WORKS CONSTRUCTION

JOB #: 07-5024

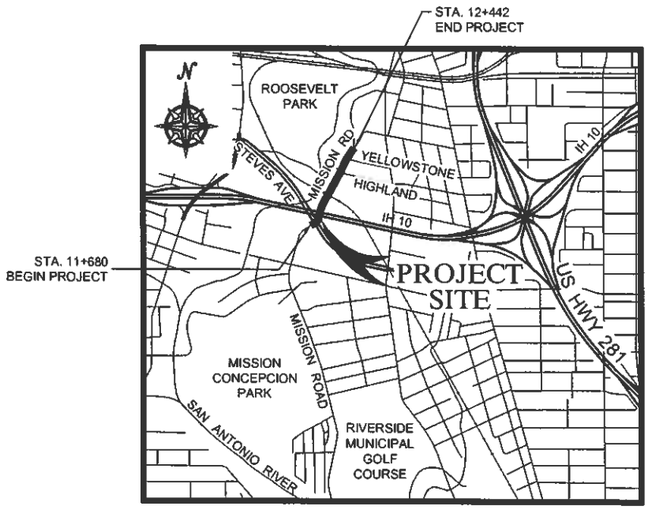
MISSION TRAILS
PACKAGE IV

Sheet List Table	
Sheet Number	Sheet Title
335	COVER SHEET
336	QUANTITY SHEET
337	OVERALL PROJECT LAYOUT
PLAN AND PROFILE	
338	STA 11+681.33 TO STA 11+800
339	STA 11+800 TO STA 909.87
340	STA 12+044.294 TO STA 12+100
341	STA 12+100 TO STA 12+225
342	STA 12+225 TO STA 12+350
343	STA 12+350 TO STA 12+442.040
344	STA 11+700 - STA 11+841
345	ROOSEVELT WATER ADJUSTMENTS
STANDARD WATER DETAILS	
346	WATER DETAILS 1
347	WATER DETAILS 2
348	WATER DETAILS 3
349	WATER DETAILS 4
350	WATER DETAILS 5

GENERAL WATER NOTES

1 △

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:
   A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
   B. Current Texas Department of Transportation (TXDOT) "Standard Specifications for Construction of Highways, Streets and Drainage."
   C. Current San Antonio Water System "Standard Specifications for Water and Sanitary Sewer Construction."
   D. Current City of San Antonio "Standard Specifications for Public Works Construction."
   E. Current City of San Antonio "Utility Excavation Criteria Manual"
2. The Contractor is to make arrangements with the SAWS Construction Inspection Division at 233-3500 and provide notification procedures the contractor will use to notify affected home residents and/or property owners 48 hours prior to excavation.
3. Locations and depths of existing utilities and service laterals shown on the plans are understood to be approximate. Actual locations and depths must be field verified by the Contractor 48 hours prior to construction. It shall be the Contractor's responsibility to locate utility service lines as required for construction and to protect them during construction at no cost to SAWS.
4. The Contractor shall verify the exact location of underground utilities and drainage structures at least 48 hours prior to construction whether shown on plans or not. The following contact information are supplied for verification purposes:
   SAWS Utility Locates: 233-2010
   SAWS Production Control Center: 233-2016
   COSA Drainage: 207-8048
   COSA Traffic Signal Operations: 207-7720
   Texas State Wide One Call Locator: 1-800-545-6005 or 811
   Bexar Metropolitan Water District: 354-6536
5. The Contractor shall comply with City of San Antonio or other governing Municipality's tree ordinances when excavating near trees.
6. The Contractor shall not place any waste materials or spoils in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.
7. Prior to tie-ins, any shutdowns of existing mains of any size must be coordinated with the SAWS Construction Inspection Division at (210) 233-3500 and/or SAWS Production groups at least two weeks in advance of the shutdown. The Contractor must also provide a sequence of work as related to the tie-ins; this is at no additional cost to SAWS or the project and it is the responsibility of the Contractor to sequence the work accordingly.
8. Where water lines and new sewer lines are installed with a separation distance closer than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC 217.53(d) (Pipe Design) and 30 TAC 290.44(e) (Water Distribution).
9. Asbestos Cement (AC) pipe, also known as transite pipe which is known to contain asbestos-containing material (ACM), may be located within the project limits. Special waste management procedures and health and safety requirements will be applicable when removal and/or disturbance of this pipe occurs. Payment for such work is to be made under Special Specification Item for Asbestos Cement Pipe.
10. Any work completed without prior written authorization which is not included in these plans and specifications will not be compensated by the San Antonio Water System.



SITE DIAGRAM FOR JOB No. : 07-5024

JOB TITLE : MISSION TRAILS - PACKAGE IV

LOCATION MAP

REVISIONS		
#	DATE	DESCRIPTION
1	6/15/2012	REVISED GENERAL NOTES

STATE OF TEXAS
RICHARD W. HENDRIX
107385
LICENSED PROFESSIONAL ENGINEER

Richard W. Hendrix
6/15/12

FORD ENGINEERING INC.
ENGINEERING * PLANNING * DEVELOPMENT
FB PROJECT No: 1000.2007 DATE: FEB. 24, 2011
10927 WYE DRIVE, SUITE 104 * SAN ANTONIO, TEXAS 78217
TEL: (210) 590-4777 * FAX: (210) 590-4940
www.fordengineering.com
TBPE No: F-1162

SAN ANTONIO WATER SYSTEM

MISSION TRAILS
PACKAGE IV
PROPOSED WATER MAIN

COVER SHEET

SAWS JOB NO. 07-5024

Texas Department of Transportation

DESIGNED: MLP	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CHECKED: MLP	6	TEXAS	STP 94 (331) TE			VARIOUS
DRAWN: JML	STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CHECKED: MLP	SAT	BEXAR	0915	12	438	335

		500-9000	500-XXXX	402-9000	9523-9000	9523-9001	9523-9002	9523-9003	9523-9004	9523-9005	9523-9006	9523-9007	9523-9008	9523-9009	9523-9010	9523-9011	9523-9012	9523-9013	9523-9014
SHEET NUMBER	STATION TO STATION	MOBILIZATION	1 PREP ROW	TRENCH EXCAVATION PROTECTION	PIPE WATER MAIN (PVC) (C900) (200 MM)	PIPE WATER MAIN (PVC) (C905) (400 MM)	JACKING, BORING, TUNELING (WATER MAIN) (750 MM)	CARRIER PIPE FOR JACKING, BORING, TUNNELING (PVC) (C905) (400 MM)	CASING OR LINER FOR JACKING, BORING, TUNNELING (STL) (750 MM) (13 MM WALL THICKNESS)	CARRIER PIPE FOR OPEN CUT (PVC) (C905) (400 MM)	CASING OR LINER FOR OPEN CUT (STL) (750 MM) (13 MM WALL THICKNESS)	GATE VALVE AND BOX (COMPLETE) (150 MM)	GATE VALVE AND BOX (COMPLETE) (200 MM)	GATE VALVE AND BOX (COMPLETE) (400 MM)	ADJUST EXISTING VALVE BOX	TEMPORARY BLOWOFF (COMPLETE) (50 MM)	DUCTILE IRON FITTINGS	TIE-IN (COMPLETE) (400 MM)	FIRE HYDRANT WITH 150 MM VALVE AND BOX
		LS	LS	M	M	M	M	M	M	M	M	EA	EA	EA	EA	EA	KG	EA	EA
338	11+681.33 TO 11+800			89		89							1		1	1	1061	1	
339	11+800 TO 11+909.87			110		110						1		3			2421		1
340	12+044.294 TO 12+100			45		45	10	10	10	5	5			1		1	1163	1	
341	12+100 TO 12+225			105		105	20	20	20								313		
342	12+225 TO 12+350			161	32	129							2	2		2	2347		2
343	12+350 TO 12+393.493			44		44										1	273	1	
344	11+700 11+841			35		35										1	719	1	
345	ROOSEVELT WATER ADJUSTMENTS														1				
TOTAL		1	1	589	32	557	30	30	30	5	5	1	3	6	2	6	8297	4	3

		9523-9015	9523-9016	9523-9017	9523-9018	9523-9019	9523-9020	9523-9021	9523-9022	9523-9023	9523-9024	9523-XXXX	9523-XXXX	9523-XXXX	9523-XXXX	9523-XXXX	3000-XXXX	9525-XXXX
SHEET NUMBER	STATION TO STATION	AUTOMATIC AIR RELEASE VALVE (COMPLETE) (25 MM)	RELAY SHORT SERVICE (19 MM)	RELAY SHORT SERVICE (25 MM)	RELAY LONG SERVICE (19 MM)	RELAY LONG SERVICE (25 MM)	RELAY LONG SERVICE (50 MM)	RELAY LONG SERVICE (150 MM)	RELAY SHORT FIRELINE SERVICE (200 MM)	RELOCATE EXISTING METER AND NEW METER BOX	HYDROSTATIC PRESSURE TEST	RELAY SHORT FIRELINE SERVICE (150 MM)	TIE-IN (COMPLETE) (50 MM)	TIE-IN (COMPLETE) (150 MM)	RELOCATE FIRE HYDRANT	CUT AND REPLACE ASPHALT PAVEMENT	1 AC PIPE REMOVAL, TRANSPORTATION AND DISPOSAL	ASBESTOS ABATEMENT WORK PLAN
		EA	EA	EA	EA		EA	EA	M	EA	EA	M	EA	EA	EA	M2	M	LS
338	11+681.33 TO 11+800		1		1		1		7	2	1	7						
339	11+800 TO 11+909.87	1			1			1										
340	12+044.294 TO 12+100				1						1							
341	12+100 TO 12+225				1													
342	12+225 TO 12+350			1		1				1			1	1			19	1
343	12+350 TO 12+393.493	1																
344	11+700 11+841															38		
345	ROOSEVELT WATER ADJUSTMENTS									2					1			
TOTAL		2	1	1	4	1	1	1	7	5	2	7	1	1	1	38	19	1

REVISIONS		
#	DATE	DESCRIPTION
1	6/15/2012	ADDED PREP ROW AND CHANGED AC PIPE REMOVAL FROM LS TO M

STATE OF TEXAS
RICHARD W. HENDRIX
107385
LICENSED PROFESSIONAL ENGINEER
6/15/12

FORD ENGINEERING INC.
ENGINEERING • PLANNING • DEVELOPMENT
FB PROJECT No: 1800.2907 DATE: FEB. 24, 2011
10927 WYE DRIVE, SUITE 104 • SAN ANTONIO, TEXAS 78217
TEL: (210) 590-4777 • FAX: (210) 590-4940
www.fordengineering.com
TBPE No: F-1162

SAN ANTONIO WATER SYSTEM

MISSION TRAILS
PACKAGE IV
PROPOSED WATER MAIN

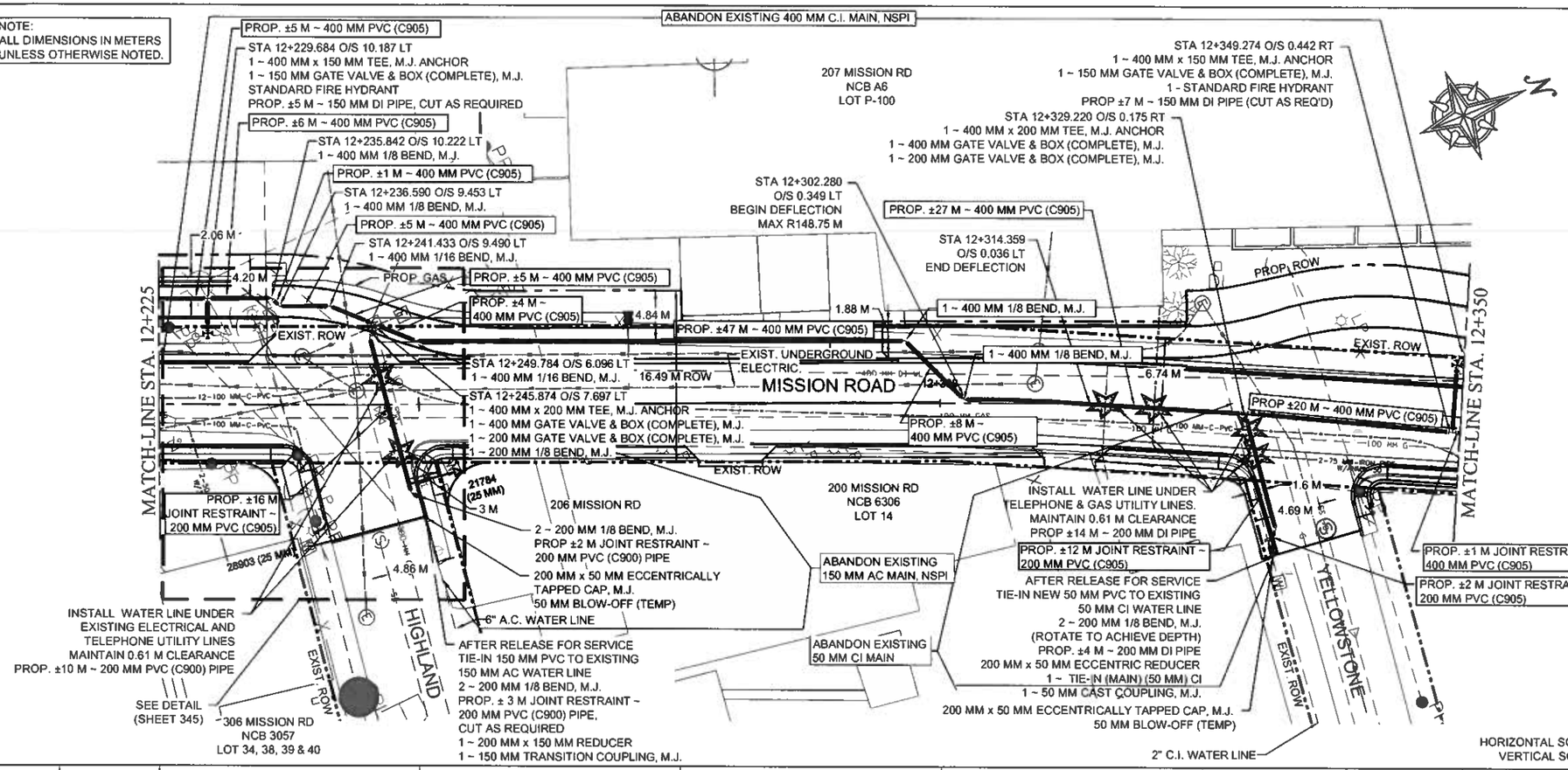
QUANTITY SHEET

SAWS JOB NO. 07-5024

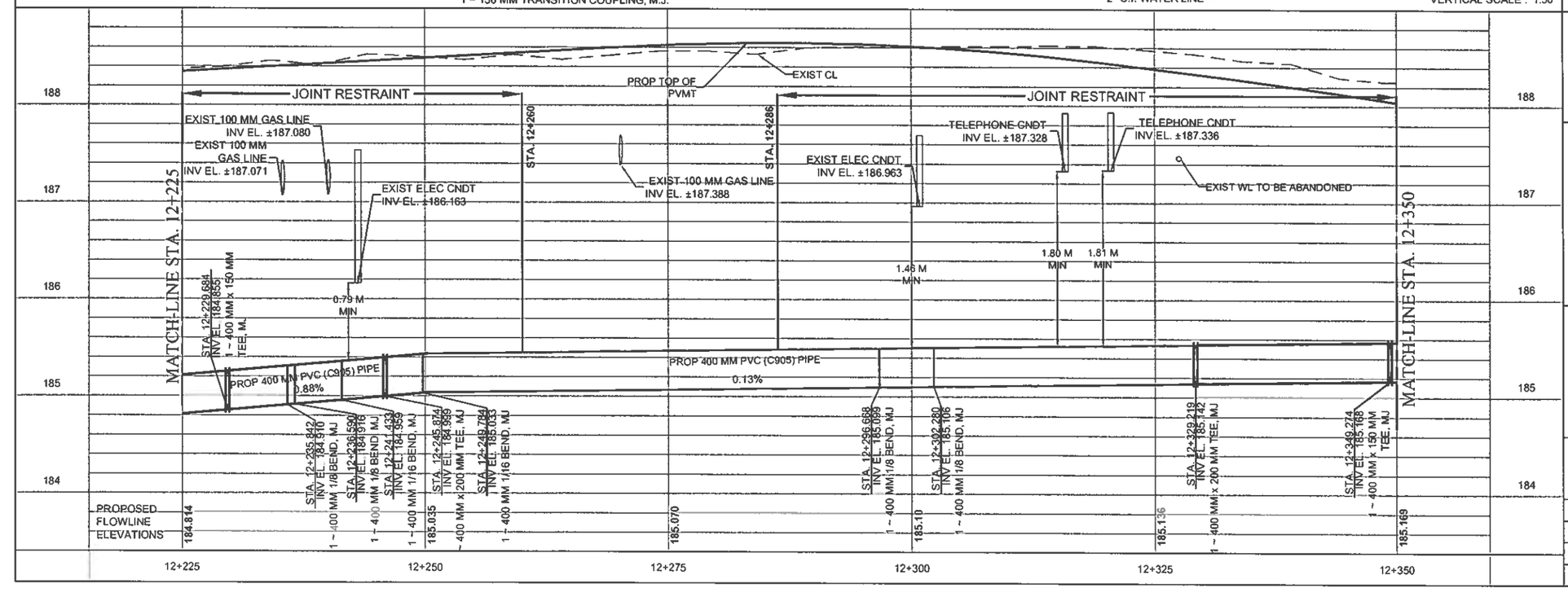
Texas Department of Transportation

DESIGNED: MLP	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CHECKED: MLP	6	TEXAS	STP 94 (331) TE			VARIOUS
DRAWN: JML	STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CHECKED: MLP	SAT	BEXAR	0915	12	438	336

NOTE:
ALL DIMENSIONS IN METERS
UNLESS OTHERWISE NOTED.



HORIZONTAL SCALE : 1:500
VERTICAL SCALE : 1:50



TRENCH EXCAVATION SAFETY PROTECTION

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

CITY PUBLIC SERVICE NOTE:
1. CALL CPS LOCATOR AT 978-3500 48 HOURS BEFORE BEGINNINGANY EXCAVATION.
2. DUE TO FEDERAL REGULATION TITLE 49, PART 192.181, CPS MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

SAN ANTONIO WATER SYSTEMS NOTE:
LOCATION AND DEPTH OF EXISTING WATER AND SEWER MAINS AND SERVICES SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR 48 HOURS PRIOR TO BEGINNING CONSTRUCTION BY CALLING THE SAWS WATER LINE LOCATOR AT 233-2010. THE CONTRACTOR SHOULD EXERCISE EXTREME CAUTION WHEN WORKING NEAR EXISTING WATER FACILITIES, AND SHOULD THEY BE DAMAGED DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR WILL BE REQUIRED TO REIMBURSE THE SAN ANTONIO WATER SYSTEM FOR THE TOTAL COST TO REPAIR OR REPLACE THE DAMAGED FACILITIES.

REVISIONS

#	DATE	DESCRIPTION
1	6/15/2012	CHANGED AC PIPE REMOVAL FROM LS TO M FOR UNIT PRICE
2	6/20/2012	REVISED ITEM NUMBER FOR AC PIPE REMOVAL

ITEM	QTY	UNIT	DESCRIPTION
402-9000	161	M	TRENCH EXCAVATION PROTECTION
9523-9000	32	M	PIPE WATER MAIN (PVC) (C900) (200 MM)
9523-9001	129	M	PIPE WATER MAIN (PVC) (C905) (400 MM)
9523-9008	2	EA	GATE VALVE AND BOX (COMPLETE) (200 MM)
9523-9009	2	EA	GATE VALVE AND BOX (COMPLETE) (400 MM)
9523-9011	2	EA	TEMPORARY BLOW-OFF (COMPLETE) (50 MM)
9523-9012	2347	KG	DUCTILE IRON FITTINGS
9523-xxxx	1	EA	TIE-IN (COMPLETE) (MAIN) (50 MM)
9523-xxxx	1	EA	TIE-IN (COMPLETE) (MAIN) (150 MM)
9523-9014	2	EA	FIRE HYDRANT WITH 150 MM VALVE AND BOX
9523-9017	1	EA	RELAY SHORT SERVICE (25 MM)
9523-9019	1	EA	RELAY LONG SERVICE (25 MM)
9523-9023	1	EA	RELOCATE EXISTING METER AND NEW METER BOX
3000-xxxx	19	M	AC PIPE REMOVAL, TRANSPORTATION AND DISPOSAL
9525-xxxx	1	LS	ASBESTOS ABATEMENT WORK PLAN

FORD ENGINEERING INC.
ENGINEERING • PLANNING • DEVELOPMENT
FEI PROJECT No: 1800 2907 DATE: FEB 24, 2011
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www.fordengineering.com
TBPE No: F-11162

STATE OF TEXAS
RICHARD W. HENDRIX
107385
LICENSED PROFESSIONAL ENGINEER
6/20/12

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

SAN ANTONIO WATER SYSTEM

MISSION TRAILS
PACKAGE IV
PROPOSED WATER MAIN

STA 12+225 TO STA 12+350

SAWS JOB NO. 07-5024

Texas Department of Transportation

DESIGNED: MLP	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CHECKED: MLP	6	TEXAS	STP 94 (331) TE			VARIOUS
DRAWN: JML	STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CHECKED: MLP	SAT	BEXAR	0915	12	438	342

PLANS FOR
SANITARY SEWER CONSTRUCTION

JOB #: 07-5524

MISSION TRAILS
PACKAGE IV

GENERAL SEWER NOTES 1

1. All materials and construction procedures within the scope of this contract shall be approved by the San Antonio Water System (SAWS) and comply with the Plans, Specifications, General Conditions and with the following as applicable:

   A. Current Texas Commission on Environmental Quality (TCEQ) "Design Criteria for Domestic Wastewater System", Texas Administrative Code (TAC) Title 30 Part 1 Chapter 217 and "Public Drinking Water", TAC Title 30 Part 1 Chapter 290.
   B. Current Texas Department of Transportation (TXDOT) "Standard Specifications for Construction of Highways, Streets and Drainage."
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   E. Current City of San Antonio "Utility Excavation Criteria Manual"

2. The Contractor is to make arrangements with the SAWS Construction Inspection Division at 233-3500 and provide notification procedures the contractor will use to notify affected home residents and/or property owners 48 hours prior to excavation.

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   Utility Locate:
   SAWS Utility Locates: 233-2010
   SAWS Production Control Center: 233-2016
   COSA Drainage: 207-8048
   COSA Traffic Signal Operations: 207-7720
   Texas State Wide One Call Locator: 1-800-545-6005 or 811
   Bexar Metropolitan Water District: 354-6536

4. The Contractor is responsible to ensure that no overflows or spillage of sewage occurs. Should this occur, the Contractor shall:

   A. Identify the source of the spill and attempt to eliminate any additional spillage. Notify SAWS Construction Inspections Division at 233-3500.
   B. Contain the spill in place and prevent contamination of streams.
   C. Clean up the spill and dispose of contaminated materials.
   D. Disinfect the area of the spill with a mixture of HTH chlorine and water.
   E. Identify and train personnel responsible for spillage prevention and control.

   No separate measurement or payment shall be made for this work. All work shall be done according to guidelines set by the TCEQ and the SAWS.

5. The Contractor shall comply with City or other governing Municipality's tree ordinances when excavating near trees.

6. The Contractor shall not place any waste materials or spoils in the 100-year Flood Plain without first obtaining an approved Flood Plain Permit.

7. Service Lateral Connections:

   A. The exact location and elevation of the service laterals and manholes shall be field verified by the Contractor. No separate pay item (NSPI).
   B. A minimum of 3 feet of cover is to be maintained over the sanitary sewer laterals at subgrade.
   C. All sewer lateral services for future connections as identified on the plans shall have a one way clean-out, capped and sealed.
   D. The Contractor shall be responsible for maintaining continuous service during construction of the sewer work. (NSPI).
   E. Laterals shall be constructed to serve all existing houses and platted vacant lots.

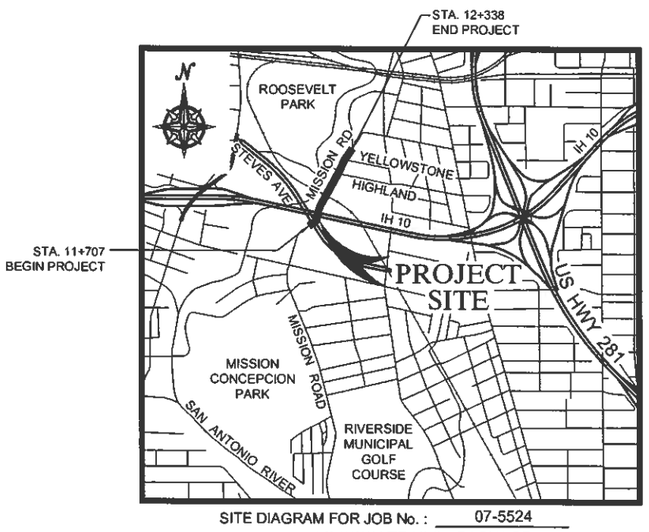
8. Contractor shall coordinate with SAWS Construction Inspection Division at 233-3500 and/or SAWS Lift Stations Operations at least two weeks in advance of the shutdown of existing force mains of any size. The Contractor must also provide a sequence of work as related to the shutdown including any bypass pumping or pump and haul as required by SAWS. Pump and Haul will not be allowed over the Edwards Aquifer Recharge Zone.

9. Sewer lines located within or crossing the 5-year flood plain of a drainage way will be protected from inundation and stream velocities which could cause erosion and scouring of backfill. The trench must be capped with concrete to prevent scouring of backfill. The trench must be encased in concrete. All concrete shall have a minimum thickness of six inches.

10. Where water lines and new sewer lines are installed with a separation distance of less than nine feet (i.e., water lines crossing wastewater lines, water lines paralleling wastewater lines, or water lines next to manholes) the installation must meet the requirements of 30 TAC 217.53(d) (Pipe Design) and 30 TAC 290.44(e) (Water Distribution).

11. Any work completed without prior written authorization which is not included in these plans and specifications will not be compensated by the San Antonio Water System.

12. The Contractor shall provide bypass pumping of sewage around each segment of pipe to be replaced, in accordance with SAWS Standard Specifications for Water and Sanitary Sewer Construction Item No. 864, "Bypass Pumping". Payment for such work will be made under the bid item "Sanitary Sewer (Bypass Pumping)" as per Standard Specifications for Water and Sanitary Sewer Construction Item No. 864, "Bypass Pumping". The Contractor shall provide in writing a sequence of bypass pumping for review and approval by the Inspections department. Refer to the construction plans for the construction phasing and diversion requirements. The Contractor shall also provide a detailed sketch showing the location of bypass pumping equipment for each line segment(s) around which flows are being bypassed, along with the specification of pumping equipment, type, size, capacity and amount of pumps required to handle the peak wet weather flow.



SITE DIAGRAM FOR JOB No. : 07-5524

JOB TITLE : MISSION TRAILS - PACKAGE IV

LOCATION MAP

Sheet List Table	
Sheet Number	Sheet Title
351	COVER SHEET
352	QUANTITY SHEET
353	OVERALL PROJECT LAYOUT
PLAN AND PROFILE	
354	LINE A
355	YELLOWSTONE
STANDARD SEWER DETAILS	
356	SEWER DETAILS 1
357	SEWER DETAILS 2
358	SEWER DETAILS 3

REVISIONS		
#	DATE	DESCRIPTION
1	6/15/2012	REVISED GENERAL NOTES

STATE OF TEXAS
RICHARD W. HENDRIX
107385
LICENSED PROFESSIONAL ENGINEER
6/15/12

FORD ENGINEERING INC.
ENGINEERING • PLANNING • DEVELOPMENT
FE PROJECT No: 1800.2907 DATE: FEB. 24, 2011
10927 WYE DRIVE, SUITE 104 • SAN ANTONIO, TEXAS 78217
TEL: (210) 590-4777 • FAX: (210) 590-4940
www.fordengineering.com
TBPE No: F-1162

SAN ANTONIO WATER SYSTEM

MISSION TRAILS
PACKAGE IV
SANITARY SEWER

COVER SHEET

SAWS JOB NO. 07-5524

Texas Department of Transportation

DESIGNED: MLP	FED. RD. DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CHECKED: MLP	6	TEXAS	STP 94 (331) TE			VARIOUS
DRAWN: JML	STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CHECKED: MLP	SAT	BEXAR	0915	12	438	351

		500-9000	500-XXXX (1)	402-9000	9524-9000	9524-9001	9524-9002	9524-9003	9524-9004	9524-9006	9524-9007	9524-9008	9524-9009	9524-9010	9524-XXXX
SHEET NUMBER	STATION TO STATION	MOBILIZATION	PREP ROW	SANITARY SEWER (TRENCH EXCAVATION PROTECTION)	SANITARY SEWERS (PVC) (SDR 26) (200 MM) (1.8 M - 3.0 M)	SANITARY SEWER (LATERAL PIPE) (150 MM)	SANITARY SEWER (CLEANOUT)	SANITARY SEWERS (VERTICAL STACKS)	SANITARY SEWER PRECAST MANHOLE (COMPLETE)	SANITARY SEWER (EXTRA DEPTH MANHOLE)	SANITARY SEWERS (CONCRETE ENCASEMENT, CONCRETE CRADLES, CONCRETE SADDLES AND CONCRETE COLLARS)	SANITARY SEWER (ADJUST MANHOLE)	SANITARY SEWER (TELEVISION INSPECTION) (200 MM - 375 MM)	SANITARY SEWER (BYPASS PUMPING)	SANITARY SEWER (ABANDON MANHOLE)
		LS	LS	M	M	M	EA	M	EA	VM	M3	EA	M	LS	EA
354	11+707 TO 11+782			75.31	75.31	19	2	0.30	2	1.2	0.35		75.31	1	
355	YELLOWSTONE											1			1
TOTAL		1	1	75.31	75.31	19	2	0.30	2	1.2	0.35	1	75.31	1	1

REVISIONS		
#	DATE	DESCRIPTION
1	6/15/2012	ADDED PREP ROW

STATE OF TEXAS
RICHARD W. HENDRIX
107385
LICENSED PROFESSIONAL ENGINEER
6/15/12

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SAN ANTONIO WATER SYSTEM

MISSION TRAILS
PACKAGE IV
SANITARY SEWER

QUANTITY SHEET

SAWS JOB NO. 07-5524

Texas Department of Transportation

DESIGNED: MLP	FED. RD DIV. NO.	STATE	PROJECT NO.			HIGHWAY NO.
CHECKED: MLP	6	TEXAS	STP 94 (331) TE			VARIOUS
DRAWN: JML	STATE DIST.	COUNTY	CONTROL NO.	SECTION NO.	JOB NO.	SHEET NO.
CHECKED: MLP	SAT	BEXAR	0915	12	438	352