



City of San Antonio
TRANSPORTATION AND CAPITAL IMPROVEMENTS

ADDENDUM No. 4

FORMAL INVITATION FOR BIDS (IFB)

PROJECT NAME: Redland Road North – ID NO.:40-00314

DATE: December 23, 2015

This addendum is separated into sections for convenience; however, all contractors, subcontractors, material men, and other parties shall be responsible for reading the entire addendum. The failure to list an item or items in all affected sections of this addendum does not relieve any party affected from performing as per instructions, providing that the information is set forth one time any place in this addendum. These documents shall be attached to and become part of the Contract Documents for this project. The contractor shall be required to sign an acknowledgement of the receipt of this addendum and submit with their proposal package.

GENERAL:

1. The following changes and/or additions to the Contract Documents, via this addendum, shall apply to proposals made for and to the execution of the various parts of the work affected thereby.
2. Careful note of the Addendum shall be taken by all interested parties and all trades affected shall be fully advised in their performance of the work involved.

GENERAL COMMENTS:

1. Pre-bid meeting minutes and pre-bid sign in sheet are attached.
2. Please replace 025 Unit Pricing Form with attached 025 Unit Pricing Form. Adjustments include but are not limited to the following:
 - o Addition of Temporary Suspension of Work bid item
 - o Revised drainage quantities
 - o Revised roadway quantities
3. Revised Supplemental general notes to include note to provide anti-graffiti coating to all retaining walls. Special Specification and bid item provided.
4. Tree watering instructions revised. Sheet 335 revised with updated watering schedule.
5. Specification 329300 updated to correct specification number in footer.
6. Revised Inlet. Sheet 245 has been updated to reflect the new inlet type.
7. Limits of TCP phases 3 and 4 are revised. Sheets 34, 46, 48, 49, 50 and 52 revised to show new limits.
8. Revised Roadway Plan & Profile Sheet 109 to include removing and replacing two existing backflow preventers. Bid item and special specification included.
9. Sequence of work narrative revised to say that each phase must be completed before starting the next phase. This includes Final lift and final pavement markings. Sheets 31 and 34 Revised to show new notes
10. TCP revised to include transitional pavement between each phase.
11. TCP notes revised to say that required underground utility tie-ins at the end of each phase are subsidiary to applicable bid items.
12. Summary sheets revised. Sheets 17, 18, 19, 20, and 21 have been updated to reflect updated drainage quantities and suspension of work bid item.

QUESTIONS FROM PROSPECTIVE BIDDERS:

1. Q. If each phase will have to be completely finished, including final lift and final pavement markings, will the warranty start then?
A. Yes, there will be a walk through and the warranty for that section will start then.

2. Q. Since the break between phases 3 and 4 is changing will that change the 540 calendar day contract length?
A. No. The contract length will stay 540 calendar days.
3. Q. Are the CAD files available?
A. No, the City does not provide CAD files.
4. Q. Is this job a "Buy American (AIS) job?
A. No.
5. Q. The bid items 816 for the 30 inch, 20 inch and 16 inch ductile pipe states restrained. Please clarify if every pipe joint is to be restrained or will the EBAA restraint chart be used for this matter.
A. EBAA restrained chart to be used.
6. Q. Can you provide the CAD (version 2010 or earlier) with the following information: - Centerline - Edge of Pavement/Curb - Right of Way - Existing Contours with Elevation - Proposed Contours with Elevation - Sidewalk - Drainage Swales/Channels etc. - Phasing Line Work – Utilities?
A. No, the City does not provide CAD files.
7. Q. In view of Addendum No. 2, and the unexpected and unusual reservation of right to extend NTP for up to 120 days after Council Award, does the City know or have present reason to believe that such an extension is likely, and if so what are the specific facts and circumstances that give rise to that likelihood?
A. Overhead utilities are not clear in Phases 1 thru 5 to include Level 3 Communications, Grande Communications, Time Warner Cable and AT&T.
8. Q. Can you apply the same limitation of time to Owner and add in Article 4.3.2 of the General Conditions the following sentence: "Failure by Owner to submit written notice of the claim within fifteen (15) calendar days shall constitute a waiver of such claim."
A. No.
9. Q. With respect to Article 10.6 of the General Conditions, please confirm the extension of time that will be granted to the Contractor in the event that any telecommunications or public utility must be changed or moved.
A. Any utility delays will be covered under "Suspension of Work" and a separate Bid Item included via an addendum has been added for any required suspension of work.
10. Q. Will you require all the interior of the adjusted and reconstructed manholes to be epoxy coated or just touched up?
A. Requirements for the reconstruction of sanitary sewer manholes is as per the requirements of SAWS specification 851, "Adjusting Existing manholes (Watertight Ring and Cover)".
11. Q. Can you add an item for gas trench protection?
A. Gas trench protection will not be paid for separately but is included in the unit price for installing the gas main.
12. Q. Can you provide the scope of work, specifications, and the exact location of the existing/proposed septic system?
A. Scope of work and location for the septic system is as defined in Special Specification 4000, "Septic System Installation for 18850 Redland Road".
13. Q. Two questions with regards to the quantity of 15" RCP. The summary sheet shows 88LF on sheet 254, but that sheet show 88LF 6x4 RCB, and there is no bid tem for 6x4 box culvert. Are you going to correct the summary sheet and the quantities in the unit price form?
A. Yes, the summary sheet was corrected to remove 88 LF of 15-inch RCP from sheet 254 and add 88 LF of 6-ft x 4-ft concrete box culvert.

PROJECT: Redland Road North (#40-00314)
NAME OF MEETING: Pre-Bid Meeting
RECORDED BY: Shaun Spivey, P.E.
DATE: December 17, 2015, 10:00 AM
LOCATION: City of San Antonio, Main Plaza Bldg., 9th floor Conference Room
ATTENDEES: See attached sign in sheet

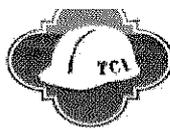
The following reflects our understanding of the items discussed during the subject meeting. If you do not notify us within five working days, we will assume that you are in agreement with our understanding.

ITEM	DESCRIPTION	PRESENTER
1.	<ul style="list-style-type: none"> - Contract requirements - Invitation for bid, low bid, 540 calendar days, Estimated construction cost \$16,100,000 - Liquidated damages \$1300 for substantial completion, \$970 for final completion. - Bid bond required for not less than 5% of total bid. - Wage is heavy highway TX150016 01/02/2015 TX16 - Communication restriction on project. Respondents may only contact council members, the project PM and SBEDA staff. - Questions should be sent to project PM and to the engineer, questions must be received by December 22, 2015 4pm. - Submissions are due January 12, 2016 2pm. Can hand deliver to City Clerk's office on the 2nd floor of City Hall. - January 5, 2016 is the last day for addendums - The next addendum is expected to be posted on December 23, 2015 - Pre-bid meeting information will be on the City's website. - Labor compliance requirements. Wage Decision dated 1/2/15. Must be posted at job site. The City has 7 holidays. If an employee works one of those days they must be paid time and a half for working on that day. Employees who work more than 40 hours in a week must be paid time and a half for that. - Certified payrolls are submitted through the LCP tracker system now. - Any apprentices must be registered through the United States Department of Labor Apprentices program. - City will do site visits. If there are issues the City will call the general contractor. The contractor will have to pay restitution. There is a \$60 penalty for underpaying employees. - SBEDA requirements are being updated. The update will come in an addendum. The new requirements will be 19% M/WBE and 2% out of the M/WBE goal is to be 	Contracts (CoSA)

ITEM	DESCRIPTION	PRESENTER
	<p>subcontracted to AABE firms. If you submit a plan that is higher than the goal, the contractor will be held to the higher number for the submittal.</p> <ul style="list-style-type: none"> - The City plans to issue an addendum on December 23, 2015 to cover changes to the plans discussed during the pre-bid meeting. 	
2.	<ul style="list-style-type: none"> - The project limits are from 1604 to Ridgewood parkway. - The project is approximately 8300 feet. - There are six (6) phases to the project. - The project begins at 1604 and Phase 1 must be completed first including up to the Type D HMAC. - Storm drain, underground utilities including gas, water, sewer manhole adjustments, 8-10 foot sidewalk on one side 6' sidewalk on the other side. - One property has cattle so there will be temporary fencing required as noted in the plans. - The contractor will be required to maintain 2 way traffic throughout. - Landscaping is also included in the project. - Jelly fish systems are utilized on this project since it is over the Edwards Aquifer recharge zone. - One traffic signal will be added at Gold Canyon. - First half of project has residential areas. The second half is businesses. The Contractor will need to maintain access to the driveways. - The consultant is Freese and Nichols, Inc. 	James Wucinski (TCI)
3.	<ul style="list-style-type: none"> - CPS overhead is complete through phase 3. - Underground will be complete through phase 3 by mid-January. - The rest is pending right-of-way acquisition. 	Claudia Valles-Tovar (CPS)
4.	<ul style="list-style-type: none"> - CPS overhead is not complete with Phases 4 and 5. They are waiting on right-of-way. They will not be completed for some time. - Level 3, Grande and Time Warner have not adjusted yet. - It is expected that Phase 1 of the utilities will be completed before the project starts. 	Sean Strong (TCI)
5.	<ul style="list-style-type: none"> - There is a 120 calendar day start delay for this project. The City can start the project anytime within that 120 calendar days 	James Wucinski (TCI)
6.	<ul style="list-style-type: none"> - SAWS is joint bidding on this project. - Freese and Nichols is the consultant. - There are waterline adjustments and installations on this project. - For sewer there are manhole adjustments and reconstructs. - Since the project is over the Edwards Aquifer recharge zone there is and SCS permit pending that was sent on December 3rd. 	Nicholas Vasquez (SAWS)

ITEM	DESCRIPTION	PRESENTER
	<ul style="list-style-type: none"> - The contractor cannot start any work on sewer until the SCS permit is approved. - If TCEQ has any issues with the SCS permit SAWS will issue an addendum by the 5th. Any later adjustments will come as a Change order. - SAWS does not anticipate any major changes from the TCEQ SCS permit review. 	
7.	<ul style="list-style-type: none"> - Utilities should be complete through phase 1 before the contractor starts. - Utilities should be complete through phase 2 and 3 before the contractor completes phase 1. - Phase 4 and 5 are pending ROW acquisitions. The utilities won't be able to move until ROW is acquired. - If for some reason utilities are not complete by the time the contractor gets through phase 3 the City may suspend work to allow ROW and utilities to clear. There will be a pay item to cover the suspension of work. It will be in the addendum. 	Sean Strong (TCI)
8.	There is gas utility work as part of this project. The gas work is joint bid.	James Wucinski (TCI)
9.	Permits include Tree permit, WPAP permit, SCS permit, TxDOT permit.	Sean Strong (TCI)
10.	<ul style="list-style-type: none"> - Please don't wait until receiving the Notice to Proceed to look for field office. Item 526 says that the field office must be up and running before starting construction. Right now CPS is taking 9-12 weeks to set up electricity. - Randy Esparza will be the inspector. 	Manuel De Latorre (CoSA Inspections)
11.	<ul style="list-style-type: none"> - A pre-construction public meeting is anticipated in early to mid-March 2016. - Keep in mind that there are a lot of residences and businesses so the City asks that the contractor take care of any issues that come up promptly. 	Joey Doctor (CPO)
12.	<p>TCP</p> <ul style="list-style-type: none"> - There are currently 6 phase of work. 5 are major work. The 6th is final clean up. - The plans are changing to require all work in each phase to be complete before moving to the next phase because of non-joint bid utilities not being completed. - Expecting to take warranty and walk through for each phase. - There are a lot of phasing requirements noted in plans. <p>ROW</p> <ul style="list-style-type: none"> - Not all of the ROW has been acquired. The ROW acquisition is complete through phase 3 <p>Mob/Demob</p> <ul style="list-style-type: none"> - A temporary suspension item will be added to the project by addendum. 	Sean Strong (TCI)

ITEM	DESCRIPTION	PRESENTER
	<ul style="list-style-type: none"> - A ROW permit will need to be pulled so that contractor can commence the roadway work. No fee to the contractor. Go through ROW to get the permit. <p>Geotech</p> <ul style="list-style-type: none"> - Make sure that you look at the geotechnical report provided in the project manual. <p>Addendum</p> <ul style="list-style-type: none"> - Addendum 1 – Change the pre-bid meeting date and final questions date - Addendum 2 – add the 120 day delay - Future Addendum will have a revised sheet in the Redland Trails subdivision as well as the meeting minutes, sign in sheet and revised SBEDA goals. <p>Allowances</p> <ul style="list-style-type: none"> - One will be for police officers - A second is for the La Hacienda gate. <p>TCP Phasing</p> <ul style="list-style-type: none"> - Phase 3 limits will change. Phase 3 will end at 61+75. - Any changes to the quantities will be in the addendum <p>Temporary tie ins</p> <ul style="list-style-type: none"> - Any temporary utility tie-ins required at the end of each construction phase will be subsidiary to the respective utility bid items 	
13.	<p>Questions</p> <p>Q1 When is the earliest that the project could reasonably start. A1 March 2016. Start date is dependent on OH utilities moving out of the way.</p> <p>Q2: Will the Warranty begin at the end of each phase [since we are paving up to and including the Type D HMAC in each phase]. A2: Yes, it is expected that a final walkthrough will be completed at the end of each phase with the warranty starting once the punch list has been completed for the phase</p> <p>Q3: Since the traffic control phases are being modified will the number of calendar days in the contract be modified? A3: No, the project calendar will remain at 540 calendar days.</p> <p>Q4: Are there any SBE goals for the project [based on the current SBEDA bid documents]? A4: There will be M/WBE goals and AABE goals only. The goals are being revised via a separate addendum.</p>	Sean Strong (TCI)
14.	<ul style="list-style-type: none"> - The contract is 540 calendar days - 6 days per week, Monday through Saturday. - Sun up through sun down. - The calendar days won't change when phasing changes. 	James Wucinski (TCI)



CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS

PRE-BID MEETING

December 17, 2015

Redland Road North #40-00314

NAME	ORGANIZATION	PHONE	EMAIL
Daniel Kershner	Fugro Consultants	210-655-9516	dkershner@fugro.com
WILLIE KRÄMER	ZACHRY	210-871-3287	WILLIE.KRAMER@ZACHRYCORP.COM
RAFAEL LOZANO	CURREAN CONTRACTING	210-328-9571	RLOZANO@CURREANCONTRACTING.COM
TROY WANNER	CAPITAL EXCAVATION	(512) 844-3093	CBotkin@CAPITALEXCAVATION.COM
RYAN DETRY	C-ZEEL CONST	(210) 736-6523	RYAN.DETRY@CEZEE.COM
Thomas Gonzalez	TCI	207-1308	TCI.schedules@sanantonio.gov
Nick Vasquez	SAWS	210-233-2341	nicholas.vasquez@saws.org
Joshua Garcia	SAWS	210-233-3893	joshua.garcia@saws.org
Christopher Reyes	J3 Company	210-421-7521	Christopher.Reyes@J3co.com
JOE JOCK	TCI	207-8419	joe.jock@sanantoniogov
Bolando Leina	TCI	207-2814	Bolando.Leina@sanantonio.gov
SCAM STRANG	TCI	207-8037	Scam.Strang@sanantonio.gov
Rafael Rios	DC CIVIL	210-889-7919	riosrafael@yahoo.com
Daniel Campo	DC CIVIL	210-484-8402	daniel.campo@dccivil.com
Clint Henson	Jordan Foster	210-889-0728	chenson@jordanfosterconstruction.com
Roberto Nunez	Jordan Foster	210-889-0728	rnunez@jordanfosterconstruction.com



CITY OF SAN ANTONIO
TRANSPORTATION & CAPITAL IMPROVEMENTS

PRE-BID MEETING

December 17, 2015

Redland Road North #40-00314

NAME	ORGANIZATION	PHONE	EMAIL
Manuel DeLaTolle	TCI - Inspections	912-1317	Manuel.DeLaTolle@SanAntonio.gov
Randy Esparza	TCI - Inspections	262-1422	Randy.Esparza@sanantonio.gov
CARLOS BENAVIDES	HARPER BROTHERS	740-0099	bidssa@harperbro.com
Brandon Browning	Harper Brothers	740-0099	bidssa@harperbro.com
TEO ZAMORA	S.J. LOVIS CONST.	210-340-9998	tedze@sjlovis.com
Rick Hale	J3 Company	210-669-1458	info@j3co.com
Francisco Valdez	TCI - Contract	210-257-7177	Francisco.Valdez@sanantonio.gov
JOSE E. GUSJARDO	ANGEL BROTHERS	830-499-8107	Jguajardo@angelbrothers.com
Shawn Spivey	FNI	210-298-3817	SES@fniinc.com
JOHN C. COLQUHOUN	FNI	210-298-3805 1247-2015	JCC@FNIINC.COM
JAMES C. WARCINSKI	TCI	207-7042	James.Warcinski@sanantonio.gov

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

PROJECT NAME: Redland Rd North (Ridgewood Parkway to Loop 1604)
PROJECT No.: 40-00314

The CITY will only accept unit bid prices to the hundredths.
Any unit bid prices extended out to more than two decimal places will be truncated to two decimal places in the City's favor.

ALT. NO.	ITEM NO.	DESC. CODE	S.P. NO.	BID ITEM DESCRIPTION	UNIT OF MEASURE	APPROX QUANTITIES	UNIT BID PRICE	AMOUNT	ITEM SEQUENCE NO.
BASE BID									
	COSA ITEMS								
	100.1			MOBILIZATION	LS	1		\$ -	
	100.2			INSURANCE & BOND	LS	1		\$ -	
	101.1			PREPARING RIGHT-OF-WAY	LS	1		\$ -	
	103.01			REMOVE CONCRETE CURB	LF	3180		\$ -	
	103.03			REMOVE SIDEWALKS AND DRIVEWAYS	SF	21708		\$ -	
	103.04			REMOVE MISCELLANEOUS CONCRETE	SF	1678		\$ -	
	104.1			STREET EXCAVATION	CY	64548		\$ -	
	105.1			CHANNEL EXCAVATION	CY	252		\$ -	
	106.1			BOX CULVERT EXCAVATION AND BACKFILL	CY	53		\$ -	
	107.1			EMBANKMENT (TYPE B) (FINAL) (DENSITY CONTROLLED)	CY	2535		\$ -	
	200.1			FLEXIBLE BASE (8" COMPACTED DEPTH)	SY	400		\$ -	
	203.1			TACK COAT	GAL	5750		\$ -	
	205.2			HMAC, TYPE B (8" COMPACTED DEPTH)	SY	6537		\$ -	
	205.2			HOT MIX ASPHALTIC PAVEMENT, TYPE B (9.5" COMP. DEPTH)	SY	58181		\$ -	
	205.3			HOT MIX ASPHALTIC PAVEMENT, TYPE C (2" COMP. DEPTH)	SY	53645		\$ -	
	205.4			HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	57426		\$ -	
	208.1			SALVAGING, HAULING & STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT(2" DEPTH)	SY	3781		\$ -	
	306.1			STRUCTURAL EXCAVATION	CY	5		\$ -	
	307.1			CONCRETE STRUCTURE (GATE CHANNEL)	CY	4		\$ -	
	307.52			CONCRETE STRUCTURE WINGWALL (SW-0) (HW=4-ft)	EA	1		\$ -	
	307.54			CONCRETE STRUCTURE WINGWALL (PW-1)(HW = 8-ft)	EA	1		\$ -	
	307.56			CONCRETE STRUCTURE WINGWALL (PF-S)(HW = 10-ft)	EA	2		\$ -	
	307.57			CONCRETE STRUCTURE HEADWALL (CH-PW-0)(DIA 36)	EA	2		\$ -	
	308.1			DRILLED SHAFTS (24")	LF	20		\$ -	
	308.1			DRILLED SHAFTS (36")	LF	40		\$ -	
	309.11			PRECAST REINFORCED CONCRETE BOX CULVERT (3'X2')	LF	141		\$ -	
	309.12			PRECAST REINFORCED CONCRETE BOX CULVERT (4'X2')	LF	417		\$ -	
	309.13			PRECAST REINFORCED CONCRETE BOX CULVERT (4'X3')	LF	73		\$ -	
	309.14			PRECAST REINFORCED CONCRETE BOX CULVERT (5'X3')	LF	1252		\$ -	
	309.15			PRECAST REINFORCED CONCRETE BOX CULVERT (6'X4')	LF	88		\$ -	
	401.11			REINFORCED CONCRETE PIPE (CLASS III)(15-INCH DIAMETER)	LF	187		\$ -	
	401.13			REINFORCED CONCRETE PIPE (CLASS III)(24-INCH DIAMETER)	LF	1578		\$ -	
	401.14			REINFORCED CONCRETE PIPE (CLASS III)(30-INCH DIAMETER)	LF	571		\$ -	
	401.15			REINFORCED CONCRETE PIPE (CLASS III)(36-INCH DIAMETER)	LF	415		\$ -	
	401.16			REINFORCED CONCRETE PIPE (CLASS IV)(24-INCH DIAMETER)	LF	1515		\$ -	
	401.17			REINFORCED CONCRETE PIPE (CLASS IV)(30-INCH DIAMETER)	LF	331		\$ -	
	401.18			REINFORCED CONCRETE PIPE (CLASS IV)(36-INCH DIAMETER)	LF	169		\$ -	
	403.01			JUNCTION BOX 4'x4'x4'	EA	18		\$ -	
	403.02			JUNCTION BOX 5'x5'x5'	EA	13		\$ -	
	403.03			JUNCTION BOX 6'x6'x6'	EA	2		\$ -	
	403.12			CURB INLET (15-FT) INLET Type II-E	EA	3		\$ -	
	403.14			INLET EXTENSIONS (10 FT)	EA	10		\$ -	
	403.15			COSA 5-FT CURB INLET EXTENSION	EA	5		\$ -	
	403.16			SPECIAL INLET (4-WAY)	EA	1		\$ -	

CITY OF SAN ANTONIO
025 UNIT PRICING FORM

403.17		SPECIAL INLET - GRATE (COMPLETE)	EA	1	\$	-
403.21		GRATE INLET (30 FT X 2 FT)	EA	2	\$	-
403.5		MANHOLE VERTICAL STACK	EA	7	\$	-
403.6		SPECIAL INLET AT STATION 66+38	EA	1	\$	-
403.61		SPECIAL INLET AT STATION 82+96	EA	1	\$	-
403.62		SPECIAL INLET AT STATION 83+40	EA	1	\$	-
403.63		SPECIAL INLET AT STATION 84+52 - JB-E-01	EA	1	\$	-
403.64		SPECIAL INLET AT STATION 84+52 -DISCHARGE POINT 6	EA	1	\$	-
403.65		SPECIAL INLET AT STATION 92+62	EA	1	\$	-
403.8		INLET (COMPLETE) (10')(TYPE II-E)	EA	15	\$	-
407.3		CONCRETE STRUCTURE (MISCELLANEOUS) (CONCRETE CAP)	CY	2.3	\$	-
410.2		GRAVEL SUBGRADE FILLER	CY	351	\$	-
423		TEMP RETAINING WALL	SF	150	\$	-
500.1		CONCRETE CURBING	LF	24543	\$	-
500.1		CONCRETE HEADER CURB	LF	307	\$	-
502.1		CONCRETE SIDEWALKS	SY	12058	\$	-
503.2		PORTLAND CEMENT CONCRETE DRIVEWAYS-COMMERCIAL	SY	2679	\$	-
503.4		ASPHALT CONCRETE DRIVEWAY	SY	346	\$	-
503.5		GRAVEL DRIVEWAY	SY	486	\$	-
504.1		CONCRETE MEDIAN	SY	626	\$	-
505.1		CONCRETE RIPRAP (5" THICK)	SY	264	\$	-
505.1		CONCRETE RIPRAP (4" THICK)	SY	13	\$	-
506.1		CONCRETE RETAINING WALLS-COMB. TYPE	CY	49.27	\$	-
507.1		FENCE (CHAIN LINK)	LF	824	\$	-
507.5		GATES-VEHICULAR (18111 Redland)	EA	5	\$	-
507.6		FENCE (CHAIN LINK SECURITY)	LF	957	\$	-
507.2A		TEMPORARY CHAIN LINK WIRE FENCE (6' HIGH)	LF	250	\$	-
513.1		REMOVING AND RELOCATING MAIL BOXES	EA	12	\$	-
515.1		TOPSOIL (4")	CY	1015	\$	-
516.1		BERMUDA SODDING	SY	5712	\$	-
516.2		ST. AUGUSTINE SODDING	SY	5712	\$	-
517.1		BRIDGE RAILING	LF	150	\$	-
523.1		ADJUSTING CHAIN LINK VEHICULAR GATES (19079 Redland)	EA	1	\$	-
523.1		ADJUSTING CHAIN LINK VEHICULAR GATES (18840 Redland)	EA	2	\$	-
523.1		ADJUSTING CHAIN LINK VEHICULAR GATES (19732 N US HWY 281)	EA	1	\$	-
523.1		ADJUSTING CHAIN LINK VEHICULAR GATES (18111 Redland)	EA	1	\$	-
523.4		ADJUSTING WROUGHT IRON VEHICULAR GATE (18823 Redland)	EA	1	\$	-
523.4		ADJUSTING WROUGHT IRON VEHICULAR GATE (18741 Redland)	EA	1	\$	-
523.7		ADJUSTING METAL TYPE I VEHICULAR GATE (18581 Redland)	EA	1	\$	-
523.7		ADJUSTING METAL TYPE I VEHICULAR GATE (18335 Redland)	EA	1	\$	-
525.1		CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	2438	\$	-
525.1		CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	120	\$	-
530.1		BARRICADES, SIGNS & TRAFFIC HANDLING	LS	1	\$	-
531.3		R1-1 STOP (HIGH DENSITY) (30)	EA	3	\$	-
531.4		R1-2 YIELD (HIGH DENSITY) (48)	EA	2	\$	-
531.6		R2-1 SPEED LIMIT (HIGH DENSITY) (18 x 18)	EA	3	\$	-
531.11		R3-5L LEFT TURN ONLY (HIGH DENSITY) (30x36)	EA	1	\$	-
531.17		R4-7 KEEP RIGHT (HIGH DENSITY) (24 x 30)	EA	10	\$	-
531.19		R6-1 ONE WAY (HIGH DENSITY) (36 x 12)	EA	3	\$	-
531.23		R9-3 NO PEDESTRIAN CROSSING (18X12)	EA	1	\$	-
531.24		R9-3a PEDESTRIAN CROSSING PROHIBITED (18X18)	EA	1	\$	-
531.34		S1-1 ADVANCE SCHOOL CROSSING & SCHOOL CROSSING (36X36)	EA	1	\$	-
531.38		W1-2 CURVE (HIGH DENSITY) (36 x 36)	EA	3	\$	-
531.49		LANE ENDS MERGE RIGHT (36 x 36)	EA	1	\$	-
531.54		W13-1 ADVISORY SPEED (HIGH DENSITY) (18 x 18)	EA	4	\$	-
531.59		9 INCH STREET NAME, BLOCK NUMBER (HIGH DENSITY)	EA	6	\$	-

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531.64		W16-9P AHEAD (HIGH DENSITY) (24 x 12)	EA	1		\$	-
531.86		D-DY-FLX-SRF SURFACE MOUNTED DELINEATOR	EA	94		\$	-
531.86		D-DW-FLX-SRF SURFACE MOUNTED DELINEATOR	EA	26		\$	-
535.1		4 INCH WIDE YELLOW LINE	LF	61393		\$	-
535.2		4 INCH WIDE WHITE LINE	LF	5063		\$	-
535.3		8 INCH WIDE YELLOW LINE	LF	70		\$	-
535.4		8 INCH WIDE WHITE LINE	LF	3248		\$	-
535.7		24 INCH WIDE WHITE LINE	LF	1442		\$	-
535.7		24 INCH WIDE YELLOW LINE	LF	141		\$	-
535.8		RIGHT WHITE ARROW	EA	5		\$	-
535.8		LEFT WHITE ARROW	EA	46		\$	-
535.12		WORD "ONLY"	EA	8		\$	-
535.13		STRAIGHT WHITE ARROW	EA	3		\$	-
537.1		TRAFFIC BUTTON (TYPE W) (4")	EA	24		\$	-
537.6		PAVEMENT MARKER (TYPE 1-C)	EA	610		\$	-
537.8		PAVEMENT MARKER (TYPE II A-A)	EA	373		\$	-
540.1		ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 3)	LF	135		\$	-
540.6		CONSTRUCTION EXITS (INSTALL/REMOVE)	SY	856		\$	-
540.9		TEMPORARY SEDIMENT CONTROL FENCE	LF	5075		\$	-
540.10		CURB INLET GRAVEL FILTERS	LF	1100		\$	-
550.1		TRENCH EXCAVATION SAFETY PROTECTION	LF	6737		\$	-
552		REMOVING AND RELOCATING IRRIGATION SYSTEMS	LF	200		\$	-
615.1		TRAFFIC SIGNAL CONTROLLER ASSEMBLY (TYPE 332 CABINET)	EA	1		\$	-
618.1		CONDUIT (2 INCH/PVC SCHEDULE 40)	LF	67		\$	-
618.3		CONDUIT (3 INCH/PVC SCHEDULE 40)	LF	52		\$	-
618.3		CONDUIT (3 INCH/PVC SCHEDULE 40)(BORE)	LF	896		\$	-
620.1		ELECTRICAL CONDUCTORS (NO. 6)(BARE)	LF	12		\$	-
620.2		ELECTRICAL CONDUCTORS (NO. 8)(BARE)	LF	535		\$	-
624.8		GROUND BOXES TYPE D (162922) W/ APRON	EA	4		\$	-
628.1		ELECTRICAL SERVICES (PER INSTALLATION)	EA	1		\$	-
655.1		TYPE 332 CONTROLLER FOUNDATION	EA	1		\$	-
680.1		INSTALLATION OF HIGHWAY TRAFFIC SIGNAL	EA	1		\$	-
681.1		TEMPORARY TRAFFIC SIGNALS	EA	2		\$	-
682.1		INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (3 SECTIONS)	EA	8		\$	-
682.2		INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (4 SECTIONS)	EA	4		\$	-
682.4		INSTALL PEDESTRIAN SIGNAL SECTION (12 INCH) LED (2 IND)	EA	8		\$	-
684.1		TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 4)	LF	619		\$	-
684.1		TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 9)	LF	1710		\$	-
686.1		INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 36')	EA	1		\$	-
686.1		INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 44')	EA	3		\$	-
687.1		PEDESTRIAN POLE ASSEMBLIES	EA	4		\$	-
688.2		PEDESTRIAN DETECTORS (2 INCH PUSH BUTTON)	EA	8		\$	-
693.1		INTERNALLY LIGHTED STREET NAME SIGNS	EA	4		\$	-
695.3		EMERGENCY PREEMPTION DETECTOR	EA	4		\$	-
695.4		EMERGENCY PREEMPTION DETECTOR CABLE	LF	571		\$	-
633.1		BATTERY BACKUP SYSTEM	EA	1		\$	-
696.01		RADAR PRESENCE DETECTION DEVICE (RPDD)	EA	4		\$	-
696.03		RADAR ADVANCE DETECTION DEVICE (RADD)	EA	2		\$	-
696.08		RVDD INTERFACE MODULE (4-CHANNEL)	EA	6		\$	-
696.11		RVDD SETUP SYSTEM	EA	1		\$	-
696.16		RVDD COMMUNICATION AND POWER CABLE (6-COND WXSS705)	LF	846		\$	-
696.21		INSTALL RADAR VEHICLE DETECTION DEVICE	EA	6		\$	-
696.26		INSTALL RVDD COMMUNICATIONS AND POWER CABLE	LF	846		\$	-
SPECIAL							
1101.1		REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18964 Redland)	LF	171		\$	-
1101.1		REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18833 Redland)	LF	89		\$	-

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	1102.1		REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (Drainage Easement)	LF	50		\$	-	
	2000.1		RELOCATE SIGN (18765 Redland Rd)	LS	1		\$	-	
	2000.1		RELOCATE SIGN (18980 Redland Rd)	LS	1		\$	-	
	3000.1		STAMPED AND STAINED CONCRETE SIDEWALK	SY	1303		\$	-	
	4000.1		SEPTIC SYSTEM INSTALLATION (18850 Redland)	EA	1		\$	-	
	4100.1		REMOVING AND RELOCATING BACKFLOW PREVENTER	EA	2		\$	-	
	5000.1		CONTECH JELLYFISH FILTER - JF-4-2-1 (Complete-Installed)	EA	4		\$	-	
	5000.2		CONTECH JELLYFISH FILTER -JF- 6-3-1 (Complete-Installed)	EA	2		\$	-	
	5140.1		ANTI GRAFFITI COATING	SF	445		\$	-	
	6004.1		UTILITY POLE BRACING	EA	5		\$	-	
	7000.1		REMOVAL OF WATERLINE (16 IN)	LF	82		\$	-	
	7000.1		REMOVAL OF WATERLINE (30 IN)	LF	98		\$	-	
	7000.2		REMOVAL OF 36" RCP	LF	226		\$	-	
	7000.3		REMOVAL OF CURB INLET	EA	3		\$	-	
	7000.4		REMOVAL OF CONCRETE BOX CULVERT (3x2)	LF	80		\$	-	
	8000.1		REMOVAL AND REPLACEMENT OF WOOD FENCE	LF	187		\$	-	
	9002.1		TEMPORARY SUSPENSION OF WORK IN WHOLE	DAY	90		\$	-	
	321443.1		RIVER ROCK & FILTER FABRIC	SF	14394		\$	-	
	321443.2		3/16" x 4" STEEL EDGING	LF	1740		\$	-	
	329300.1		CEDAR ELM, ULMUS CRASSIFOLIA	EA	176		\$	-	
	329300.2		LACEY OAK, QUERCUS LACEYI	EA	9		\$	-	
	329300.3		TEXAS REDBUD< CERCIS CANADENSIS 'TEXENSIS'	EA	15		\$	-	
	MISC		PORTABLE CHANGEABLE MESSAGE SIGN (2 EA INSTALLATION)	WEEK	20		\$	-	
	COSA		CAT 5E ETHERNET CABLE	LF	66		\$	-	
	COSA		BELDEN POWER CABLE	LF	33		\$	-	
	COSA		#6 THHN/THWN	LF	24		\$	-	
	COSA		WIRELESS COMMUNICATION ASSEMBLY	EA	1		\$	-	
			6' BENCH	EA	3		\$	-	
			LARGE BOULDERS	EA	42		\$	-	
			SMALL BOULDERS	EA	80		\$	-	
	TxDOT ITEMS								
	432.2023		RIPRAP (STONE PROTECTION)(6 IN) (using 24 IN cost)	SY	228		\$	-	
	450.6042		RAIL (TY PR1)	LF	165		\$	-	
	450.6060		RAIL (TY PR1)(MOD)	LF	126		\$	-	
	465.2001		CURB INLET (COMPL)(TY C)(10-FT)	EA	23		\$	-	
	465.2007		CURB INLET (15-FT) INLET Type C-E	EA	7		\$	-	
	465.2104		INLET EXTENSIONS (5 FT)	EA	2		\$	-	
	529.2094		CONC CURB (TY F3)	LF	50		\$	-	
	552.6003		WIRE FENCE (TY C)	LF	1238		\$	-	
	552.6004		WIRE FENCE (TY D)	LF	1723		\$	-	
	552.6005		GATE (TY 1) (2939 N Loop 1604 E)	EA	2		\$	-	
	772.6003		POST AND CABLE FENCE (NEW INSTALLATION)	LF	30		\$	-	

TOTAL COSA BID AMOUNT _____

SAWS WATER ITEMS									
	100.1		MOBILIZATION	LS	1		\$	-	
	101.1		PREPARATION OF RIGHT-OF-WAY	LS	1		\$	-	
	550		TRENCH EXCAVATION SAFETY PROTECTION	LF	5390		\$	-	
	814		16" DUCTILE IRON PIPE (RESTRAINED)	LF	622		\$	-	
	814		20" DUCTILE IRON PIPE (RESTRAINED)	LF	98		\$	-	
	814		30" DUCTILE IRON PIPE (RESTRAINED)	LF	3214		\$	-	
	818		8" PVC WATERLINE (RESTRAINED)	LF	55		\$	-	

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824			RELAY 3/4" SHORT SERVICE	EA	1		\$	-	
824			RELAY 1" SHORT SERVICE	EA	3		\$	-	
824			RELAY 1 1/2" SHORT SERVICE	EA	2		\$	-	
824			RELOCATE 1" SHORT SERVICE	EA	1		\$	-	
824			RELOCATE 1 1/2" SHORT SERVICE	EA	3		\$	-	
824			RELOCATE 2" SHORT SERVICE	EA	1		\$	-	
826			VALVE BOX ADJUSTMENT	EA	30		\$	-	
828			16" CUT-IN GATE VALVE	EA	1		\$	-	
830			30" BUTTERFLY VALVES	EA	4		\$	-	
832			16"X6" TAPPING SLEEVES & VALVES	EA	2		\$	-	
832			16"X8" TAPPING SLEEVES & VALVES	EA	1		\$	-	
833			EXISTING METER AND NEW METER BOX RELOCATION	EA	2		\$	-	
833			METER BOX	EA	20		\$	-	
834.1			FIRE HYDRANT	EA	7		\$	-	
834.2			TAPPED FIRE HYDRANT	EA	2		\$	-	
834.3			RELOCATE FIRE HYDRANT	EA	6		\$	-	
836			PIPE FITTINGS, ALL SIZES AND TYPES	TON	12.607		\$	-	
840			8" WATER TIE-INS	EA	1		\$	-	
840			16" WATER TIE-INS	EA	16		\$	-	
840			20" WATER TIE-INS	EA	2		\$	-	
840			30" WATER TIE-INS	EA	5		\$	-	
841			HYDROSTATIC TESTING	EA	12		\$	-	
844			2" BLOWOFF, TEMPORARY	EA	17		\$	-	
844			4" BLOWOFF, TEMPORARY	EA	7		\$	-	
846			1" AIR RELEASE ASSEMBLIES	EA	4		\$	-	
846			2" AIR RELEASE ASSEMBLIES	EA	9		\$	-	
856.2			16" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	60		\$	-	
856.2			20" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	20		\$	-	
856.2			30" CARRIER PIPE FOR JACKING, BORING, TUNNELING	LF	80		\$	-	
856.3			30" CASING (STL)	LF	60		\$	-	
856.2			36" CASING (STL)	LF	20		\$	-	
856.3			48" CASING (STL)	LF	80		\$	-	
858.3			CONCRETE ENCASEMENT, CRADLES, SADDLES AND COLLARS	CY	79.2		\$	-	
1015			SERVICE LINE BREAKS/LEAK REPAIR	EA	1		\$	-	
1020			WATER MAIN BREAKS/LEAK REPAIR	EA	1		\$	-	

TOTAL SAWS WATER BID AMOUNT _____

SAWS SEWER ITEMS									
100.1			Mobilization	LS	1		\$	-	
101.1			Preparation of Right-of-Way	LS	1		\$	-	
851			Adjusting Existing Manholes (Watertight Ring and Cover)	EA	2		\$	-	
855			Reconstruction of Existing Manhole	EA	8		\$	-	
864			Bypass Pumping	LS	1		\$	-	

TOTAL SAWS SEWER BID AMOUNT _____

CPS GAS ITEMS									
1			Rerun and Lower Gas Service Off New Main (Main to 1 Ft. Inside Property Line), Sizes 1" thru 4" (including replacing riser if necessary)						
			Short Side	EA	1		\$	-	

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	2		Install Gas Main or Casing (Distance As Measured Along the Top of Trench)					
			1.25" Plastic Pipe and Tracer Wire	FT	20		\$	-
			2" Plastic Pipe and Tracer Wire	FT	184		\$	-
			6" Plastic Pipe and Tracer Wire	FT	7,626		\$	-
			The COST to abandon the existing main(s) is not an ADDITIONAL item and is to be included in the Unit Price(s) for this item.					
	3		Temporary Street Restoration					
			Asphalt – 6" H.M.A.C. Type B	SY	830		\$	-

TOTAL CPS GAS BID AMOUNT _____

NOTE A:	For each of the items below, the Contractor's work is to include: trenching, joining, testing, coating steel, connecting new pipe to existing pipe and all necessary fittings for tie-ins such as, stopper fittings and 3-way stopper tees, sand padding, backfilling and compacting to consistency of original soil, installing all necessary cathodic protection devices such as CPTLB's and anodes, replacing paving, curbs, and sidewalks removed or damaged during construction, and cleanup as may be necessary in each instance.
NOTE B:	Trenching is considered to be the normal method of service installation and is required on all service adjustments. A gas service can be rerun by INSERTION, when the old service is PULLED from the riser to one foot inside the property line, ONLY at the discretion of the CPS Inspector.
NOTE C:	Bid quantities shown are estimates by CPS. Per foot prices shall be applied to the actual distance measured along the top of the trench or the actual length of the bore, as applicable.
NOTE D:	Unit prices shall include insurance costs. CPS' insurance requirements are specified in Exhibit GAS-1.

TOTAL (COSA + SAWS + CPS GAS) 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. _____ Acknowledged 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: _____

SUPPLEMENTAL GENERAL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH ALL PROPERTY OWNERS PRIOR TO ANY FENCE OR GATE REMOVAL FOR PET MANAGEMENT PURPOSES.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING CONDITION OF ANY IRRIGATION LINES PRIOR TO CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELOCATION OF PRIVATE IRRIGATION LINES WITH ALL PROPERTY OWNERS PRIOR TO CONSTRUCTION.
4. SHOULD CONSTRUCTION IMPACT RESIDENTS RECEIVING SOLID WASTE COLLECTION SERVICE FROM THE CITY (GARBAGE COLLECTION, RECYCLING COLLECTION, ORGANICS COLLECTION, BRUSH COLLECTION, BULKY-TRASH COLLECTION), CONTRACTOR SHALL NOTIFY THE SOLID WASTE MANAGEMENT DEPARTMENT AT 207-6427 OR 207-6428 TO JOINTLY COORDINATE A SERVICE DELIVERY PLAN IN ORDER TO MINIMIZE DISRUPTION OF ROUTINE SOLID WASTE COLLECTION SERVICES DURING CONSTRUCTION.
5. THE WORK WEEK SHALL BE MONDAY THROUGH SATURDAY FROM SUN UP UNTIL SUN DOWN.
6. EXCESS SOIL DISPOSAL: CONTRACTOR SHALL PROVIDE A SUBMITTAL REGARDING SOIL DISPOSAL SITES TO CITY 45 DAYS PRIOR TO COMMENCEMENT OF HAULING OFF ANY EXCAVATED AND/OR EXCESS FILL MATERIAL FROM THE PROJECT SITE. THE CONDITIONS SET FORTH HEREIN SOLELY ARE DUE TO A DESIRE BY CITY TO MANAGE AND DOCUMENT THE DISPOSAL OF SOILS FROM THIS PROJECT SITE, NOT DUE TO ANY ENVIRONMENTAL CONCERNS RELATIVE TO THE MATERIAL BEING DISPOSED OF. ACCORDINGLY, IN THE SOIL DISPOSAL CONTRACTOR SUBMITTAL:

CONTRACTOR SHALL CERTIFY AND ASSURE THE NUMBER OF SOIL DISPOSAL SITES CONTRACTOR UTILIZES DOES NOT EXCEED THREE (3) SITES.

CONTRACTOR SHALL CERTIFY THAT NO DISPOSAL AREAS ARE WITHIN THE FLOOD PLAIN AND PROVIDE OWNER EVIDENCE TO THAT EFFECT.

CONTRACTOR SHALL PROVIDE ALL AFFECTED LANDOWNER'S WRITTEN AUTHORIZATION TO DISPOSE OF SOIL FROM THIS PROJECT SITE ON HIS/HER/ITS PROPERTY.

CONTRACTOR SHALL INCLUDE PROVISIONS IN LANDOWNER AGREEMENTS THAT CITY RESERVES THE RIGHT TO CONDUCT INDEPENDENT VISUAL INSPECTIONS AND SOIL TESTING ON LISTED PROPERTIES PRIOR TO DISPOSAL OF THIS PROJECT'S EXCESS SOILS, TO DETERMINE BACKGROUND LEVELS OF VARIOUS ELEMENTS AS IDENTIFIED BY CITY. SAID LANDOWNER AGREEMENTS SHALL PROVIDE AN EFFECTIVE RIGHT OF ENTRY THAT WILL EXPIRE UPON SUBSTANTIAL COMPLETION OF THE PROJECT.

CONTRACTOR AGREES TO ABIDE BY LANDOWNERS WRITTEN CONDITIONS IN LANDOWNER AGREEMENTS, INCLUDING THOSE RELATED TO PLACING, COMPACTING, RESTORATION AND EROSION CONTROL OF THE SITE(S). LANDOWNER WILL BE REQUESTED TO PROVIDE FINAL WRITTEN APPROVAL PRIOR TO SUBSTANTIAL COMPLETION AND ANY COSTS CITY INCURS, TO ADDRESS LEGITIMATE LANDOWNER CONCERNS, WILL BE CONSIDERED AND MAY BE DEDUCTED FROM CONTRACTOR'S FINAL PAYMENT, AS DETERMINED BY THE CITY.

ACCORDINGLY, LANDOWNERS SHALL PROVIDE CERTIFICATION TO CONTRACTOR AND CONTRACTOR SHALL INCLUDE SAID CERTIFICATION IN ITS SUBMITTAL THAT EXCESS SOILS SHALL NOT BE HAULED TO RESIDENTIAL PROPERTIES. EVERY ATTEMPT SHALL BE MADE TO DISPOSE OF EXCESS SOILS AT EITHER COMMERCIAL OR INDUSTRIAL PROPERTIES.

CONTRACTOR AGREES TO COMPLY WITH OTHER REGULATORY AGENCIES FOR PROPER AND LEGAL IMPLEMENTATION OF THE REUSE PLAN PRIOR TO SOILS TRANSPORT, AS APPLICABLE. CONTRACTOR SHALL ENSURE AN APPROPRIATE STORM WATER POLLUTION PREVENTION PLAN IS DEVELOPED AND IMPLEMENTED, IN ACCORDANCE WITH TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM REQUIREMENTS, AS APPLICABLE.

CONTRACTOR SHALL BE RESPONSIBLE FOR TRACKING EXCESS SOIL DISPOSED AT APPROVED DESIGNATED AREAS. CONTRACTOR SHALL TRACK LOADS AND PROVIDE DOCUMENTATION, SUCH AS TRIP TICKETS OR "BILL OF LANDING" FOR ALL TRANSPORTED SOIL TO EACH APPROVED SITE.

7. IF ANY SENSITIVE FEATURE (CAVES, SUBSURFACE VOIDS, ETC) IS DISCOVERED DURING CONSTRUCTION, ALL CONSTRUCTION ACTIVITIES NEAR THE SENSITIVE FEATURE MUST BE SUSPENDED IMMEDIATELY. THE ENGINEER SHOULD BE IMMEDIATELY NOTIFIED OF ANY SENSITIVE FEATURES ENCOUNTERED DURING CONSTRUCTION. THE CONSTRUCTION ACTIVITIES NEAR THE SENSITIVE FEATURE MAY NOT PROCEED UNTIL A US FISH AND WILDLIFE SERVICE (USFWS) PERMITTED BIOLOGIST HAS ASSESSED THE SITE FOR EVIDENCE OF HABITAT OR LISTED ENDANGERED SPECIES. IF IT IS DETERMINED THAT ENDANGERED SPECIES OR THEIR HABITAT IS PRESENT WITHIN THE VOID SPACE, CONSULTATIONS WITH THE USFWS WILL COMMENCE AND WORK WITHIN THE IMMEDIATE VICINITY OF THE SENSITIVE FEATURE WILL NOT BE ALLOWED TO PROCEED UNTIL ALL PARTIES ARE IN AGREEMENT REGARDING NECESSARY PERMITTING.
8. ALL REMOVAL ITEMS WILL BE PAID UNDER COSA ITEM 101 "PREPARING RIGHT OF WAY" UNLESS SPECIFICIED DIFFERENTLY ON THE CONSTRUCTION PLANS.
9. ABANDONED UTILITIES SUCH AS WATER MAINS, GAS MAINS AND COMMUNICATION CABLES THAT ARE IN CONFLICT WITH PROPOSED ITEMS WILL NEED TO BE REMOVED BY THE CONTRACTOR EVEN IF THE ABANDONED UTILITY IS CALLED OUT TO BE REMOVED BY OTHERS. NO SEPARATE PAY WILL BE PROVIDED FOR REMOVAL OF EXISTING UTILITIES AND SHOULD BE CONSIDERED SUBSIDIARY TO THE PERTINENT BID ITEMS.
10. CONTRACTOR SHALL APPLY SHERWIN WILLIAMS PRO INDUSTRIAL ANTI-GRAFFITI COATING TO ALL CONCRETE RETAINING WALLS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS



SUPPLEMENTAL STORMWATER NOTES

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN ALL REQUIRED STORMWATER PERMITS, FEES, AND APPROVALS. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PERMITS REQUIRED FOR CONSTRUCTION IN DRAINAGE EASEMENTS, RIGHT-OF-WAYS, AND FLOODPLAINS.
2. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT LEAST 24 HOURS PRIOR TO THE INSTALLATION OF ANY DRAINAGE FACILITY WITHIN A DRAINAGE EASEMENT OR STREET RIGHT-OF-WAY NOT INDICATED ON THE CONSTRUCTION PLANS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING EXISTING DRAINAGE FACILITIES FROM DAMAGE. ANY DAMAGE TO EXISTING DRAINAGE SYSTEMS, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AT HIS EXPENSE. THE CONTRACTOR SHALL NOTIFY STORM WATER ENGINEERING AT 210-207-8052 AS SOON AS CONFLICTS WITH UTILITIES ARE ENCOUNTERED OR ANY DRAINAGE SYSTEM IS DAMAGED DURING CONSTRUCTION.
4. CONSTRUCTION SPOILS WILL NOT BE ALLOWED TO BE DEPOSITED ANYWHERE WITHIN A DRAINAGE EASEMENT, RIGHT-OF-WAY OR FLOODPLAIN WITHIN THE LIMITS OF THE PROJECT AND SHALL BE DISPOSED OFFSITE IN COMPLIANCE WITH CURRENT APPLICABLE REGULATIONS.
5. NO STRUCTURE, FENCES, WALLS, LANDSCAPING, OR OTHER OBSTRUCTIONS THAT IMPEDE DRAINAGE SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THE CONSTRUCTION DOCUMENTS.
6. UPON COMPLETION OF TRENCHING, THE AREA WILL BE BACKFILLED AND COMPACTED TO ITS ORIGINAL CONDITION. TRENCHES/BORE PITS TO BE OPEN AND UNATTENDED LONGER THAN 24 HOURS SHALL BE PROTECTED TO WITHSTAND ALL HYDRODYNAMIC AND HYDROSTATIC FORCES AND PREVENT DOWNSTREAM IMPACTS. TRENCHES/BORE PITS TO BE OPEN LONGER THAN 30 DAYS AFTER STARTING EXCAVATION SHALL BE BACKFILLED WITH A SEMI-PERMANENT REPAIR BACKFILL.
7. IMPROVED SECTIONS OF EARTHEN CHANNELS AND/OR WATERWAYS WILL BE VEGETATED BY SEEDING OR SODDING. EIGHTY-FIVE PERCENT OF THE CHANNEL SURFACE AREA MUST HAVE ESTABLISHED VEGETATION BEFORE THE CITY OF SAN ANTONIO WILL ACCEPT THE CHANNEL FOR MAINTENANCE.
8. WHERE THE STORM DRAIN TRENCH CUTS STORM, WASTEWATER, WATER, GAS OR OTHER LINES OR CONDUIT WHICH ARE KNOWN TO BE ABANDON, THESE LINES SHALL BE CUT FLUSH WITH THE SIDES OF THE TRENCH. FOR LINES GREATER THAN 15-INCHES IN DIAMETER ALL LINE ENDS SHALL BE BLOCKED WITH A CONCRETE PLUG IN A MANNER SATISFACTORY TO THE CITY AND ENGINEER.

SUPPLEMENTAL VIA NOTES

1. CONCERNING NEW VIA RELATED FLATWORK: THE CONTRACTOR SHALL SCHEDULE WITH VIA ((210)362-2155 OR (210)-362-2096) A PRE-POUR INSPECTION FOR ANY SHELTER SLAB, PAD, ADA CONNECTOR OR OTHER PLACEMENT THAT DIRECTLY AFFECTS VIA AMENITIES PLACEMENT NOT TO INCLUDE SIDEWALKS.



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CITY OF SAN ANTONIO
CAPITAL IMPROVEMENTS MANAGEMENT SERVICES DEPARTMENT

REDLAND ROAD IMPROVEMENTS
SUPPLEMENTAL GENERAL NOTES

NO:	DATE:	REVISION:	APPROVED BY:	100% SUBMITTAL	PROJECT NO.:	40-00314	DATE:	11/23/2015
1	12/22/2015	ADD NOTE 10	JCC	DRWN. BY:	DSGN. BY:	CHKD. BY:	SHEET NO.:	16_OF166

BR118 BR119 BR120 BR121 BR122 BR123 BR124 BR125 BR126 BR127 BR128 BR129 BR130 BR131 BR132 BR133 BR134 BR135 BR136 BR137 BR138 BR139 BR140 BR141 BR142 BR143 BR144 BR145 BR146 BR147 BR148 BR149 BR150 BR151 BR152 BR153 BR154 BR155 BR156 BR157 BR158 BR159 BR160 BR161 BR162 BR163 BR164 BR165 BR166 BR167 BR168 BR169 BR170 BR171 BR172 BR173 BR174 BR175 BR176 BR177 BR178 BR179 BR180 BR181 BR182 BR183 BR184 BR185 BR186 BR187 BR188 BR189 BR190 BR191 BR192 BR193 BR194 BR195 BR196 BR197 BR198 BR199 BR200 BR201 BR202 BR203 BR204 BR205 BR206 BR207 BR208 BR209 BR210 BR211 BR212 BR213 BR214 BR215 BR216 BR217 BR218 BR219 BR220 BR221 BR222 BR223 BR224 BR225 BR226 BR227 BR228 BR229 BR230 BR231 BR232 BR233 BR234 BR235 BR236 BR237 BR238 BR239 BR240 BR241 BR242 BR243 BR244 BR245 BR246 BR247 BR248 BR249 BR250 BR251 BR252 BR253 BR254 BR255 BR256 BR257 BR258 BR259 BR260 BR261 BR262 BR263 BR264 BR265 BR266 BR267 BR268 BR269 BR270 BR271 BR272 BR273 BR274 BR275 BR276 BR277 BR278 BR279 BR280 BR281 BR282 BR283 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BR616 BR617 BR618 BR619 BR620 BR621 BR622 BR623 BR624 BR625 BR626 BR627 BR628 BR629 BR630 BR631 BR632 BR633 BR634 BR635 BR636 BR637 BR638 BR639 BR640 BR641 BR642 BR643 BR644 BR645 BR646 BR647 BR648 BR649 BR650 BR651 BR652 BR653 BR654 BR655 BR656 BR657 BR658 BR659 BR660 BR661 BR662 BR663 BR664 BR665 BR666 BR667 BR668 BR669 BR670 BR671 BR672 BR673 BR674 BR675 BR676 BR677 BR678 BR679 BR680 BR681 BR682 BR683 BR684 BR685 BR686 BR687 BR688 BR689 BR690 BR691 BR692 BR693 BR694 BR695 BR696 BR697 BR698 BR699 BR700 BR701 BR702 BR703 BR704 BR705 BR706 BR707 BR708 BR709 BR710 BR711 BR712 BR713 BR714 BR715 BR716 BR717 BR718 BR719 BR720 BR721 BR722 BR723 BR724 BR725 BR726 BR727 BR728 BR729 BR730 BR731 BR732 BR733 BR734 BR735 BR736 BR737 BR738 BR739 BR740 BR741 BR742 BR743 BR744 BR745 BR746 BR747 BR748 BR749 BR750 BR751 BR752 BR753 BR754 BR755 BR756 BR757 BR758 BR759 BR760 BR761 BR762 BR763 BR764 BR765 BR766 BR767 BR768 BR769 BR770 BR771 BR772 BR773 BR774 BR775 BR776 BR777 BR778 BR779 BR780 BR781 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BR948 BR949 BR950 BR951 BR952 BR953 BR954 BR955 BR956 BR957 BR958 BR959 BR960 BR961 BR962 BR963 BR964 BR965 BR966 BR967 BR968 BR969 BR970 BR971 BR972 BR973 BR974 BR975 BR976 BR977 BR978 BR979 BR980 BR981 BR982 BR983 BR984 BR985 BR986 BR987 BR988 BR989 BR990 BR991 BR992 BR993 BR994 BR995 BR996 BR997 BR998 BR999 BR1000

ITEM NO	DESCRIPTION	UNIT	Roadway Quantities																			Total			
			Sheet Numbers																						
			88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106		107	108	109
100.1	MOBILIZATION	LS																					1		
100.2	INSURANCE & BOND	LS																					1		
101.1	PREPARING RIGHT-OF-WAY	LS																					1		
530.1	BARRICADES, SIGNS & TRAFFIC HANDLING	LS																					1		
103.01	REMOVE CONCRETE CURB	LF	231	387	634	305	260	0	0	40	0	0	0	0	0	326	0	0	231	0	0	0	714	3128	
103.03	REMOVE SIDEWALKS AND DRIVEWAYS	SF	456	245	4372	1830	1153	90	2000	833	1466	560	1945	0	0	508	0	0	408	0	0	2848	2977	21691	
103.04	REMOVE MISCELLANEOUS CONCRETE	SF	0	0	0	0	0	0	0	0	0	0	0	0	0	178	0	0	0	0	94	77	764	1113	
104.1	STREET EXCAVATION	CY	1204	3436	3527	2660	3784	3515	3358	3264	3871	5994	4149	3164	2233	2588	2778	2276	1754	1843	3915	3076	1061	1098	64548
107.1	EMBANKMENT (TYPE B) (FINAL) (DENSITY CONTROLLED)	CY	2	1	1	1	27	3	0	1	7	12	16	28	125	6	17	18	81	174	0	8	1150	857	2535
203.1	TACK COAT	GAL	150	296	314	200	285	267	267	267	267	267	305	267	226	224	347	223	247	296	259	266	246	264	5750
205.2	HOT MIX ASPHALTIC PAVEMENT, TYPE B (9.5" COMP. DEPTH)	SY	162	716	3311	2117	2998	2823	2823	2823	2823	2823	3245	2823	2529	2465	3714	2540	2738	3238	2821	2934	2742	2973	58181
205.3	HOT MIX ASPHALTIC PAVEMENT, TYPE C (2" COMP. DEPTH)	SY	41	631	3139	2000	2844	2667	2667	2667	2667	2667	3050	2667	2256	2231	3464	2229	2461	2960	2590	2656	2453	2638	53645
205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	1496	2957	3139	2000	2844	2667	2667	2667	2667	2667	3050	2667	2256	2231	3464	2229	2461	2960	2590	2656	2453	2638	57426
208.1	SALVAGING, HAULING & STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT (2" DEPTH)	SY	1455	2326	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3781
306.1	STRUCTURAL EXCAVATION	CY	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
307.1	CONCRETE STRUCTURE (GATE CHANNEL)	CY	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
500.1	CONCRETE CURBING	LF	243	436	888	600	800	800	800	843	800	800	975	1044	1407	1201	1302	1600	1600	1864	1442	1443	1556	2047	24491
502.1	CONCRETE SIDEWALKS	SY	148	185	546	520	615	496	566	478	483	510	555	584	704	528	604	725	700	627	637	682	628	520	12041
503.2	PORTLAND CEMENT CONCRETE DRIVEWAYS-COMMERCIAL	SY	22	82	277	78	62	308	209	313	250	185	122	166	0	0	0	41	0	0	125	40	241	158	2679
503.4	ASPHALT CONCRETE DRIVEWAY	SY	0	0	0	3	42	74	76	7	8	16	0	0	0	0	0	0	0	0	0	0	0	120	345
503.5	GRAVEL DRIVEWAY	SY	0	0	0	0	0	34	0	0	50	7	4	73	0	0	0	15	0	115	25	0	163	486	
504.1	CONCRETE MEDIAN	SY	0	0	0	0	0	0	0	0	0	0	0	21	15	83	68	37	53	28	24	47	76	174	625
505.1	CONCRETE RIPRAP (4" THICK)	SY	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	0	0	2.23	0	0	0	1.39	1.39	0	0	0	3.34	0	0	0	0.47	1.63	3.06	14.82	12.5	6.49	1.95	49.27
507.1	FENCE (CHAIN LINK)	LF	0	0	0	0	146	58	55	18	49	0	14	0	0	0	0	0	0	194	52	0	0	585	
507.5	GATES-VEHICULAR (18111 Redland)	EA	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	1	5	
507.6	FENCE (CHAIN LINK SECURITY)	LF	0	0	297	198	0	127	0	45	0	0	49	241	0	0	0	0	0	0	0	0	0	0	957
513.1	REMOVING AND RELOCATING MAIL BOXES	EA	0	1	0	1	1	2	2	2	0	2	0	1	0	0	0	0	0	0	0	0	0	0	12
515.1	TOPSOIL (4")	CY	39	23	99	24	29	29	24	35	37	30	47	34	37	33	29	96	33	31	30	38	63	66	905
516.1	BERMUDA SODDING	SY	173	101	442	108	130	128	106	157	165	132	208	150	164	146	128	431	148	136	135	169	283	294	4034
516.2	ST. AUGUSTINE SODDING	SY	173	101	442	108	130	128	106	157	165	132	208	150	164	146	128	431	148	136	135	169	283	294	4034
523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (19079 Redland)	EA	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (18840 Redland)	EA	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (19732 N US HWY 281)	EA	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (18111 Redland)	EA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
523.4	ADJUSTING WROUGHT IRON VEHICULAR GATE (18823 Redland)	EA	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
523.4	ADJUSTING WROUGHT IRON VEHICULAR GATE (18741 Redland)	EA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
523.7	ADJUSTING METAL TYPE I VEHICULAR GATE (18581 Redland)	EA	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
523.7	ADJUSTING METAL TYPE I VEHICULAR GATE (18335 Redland)	EA	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
552	REMOVING AND RELOCATING IRRIGATION SYSTEMS	LF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200
1101.1	REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18964 Redland)	LF	0	0	0	64	107	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	171
1101.1	REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18833 Redland)	LF	0	0	0	0	0	0	0	0	0	89	0	0	0	0	0	0	0	0	0	0	0	0	89
2000.1	RELOCATE SIGN (18765 Redland Rd)	LS	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
2000.1	RELOCATE SIGN (18980 Redland Rd)	LS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3000.1	STAMPED AND STAINED CONCRETE SIDEWALK	SY	0	0	50	69	69	51	69	57	59	54	60	62	89	69	58	48	86	76	66	81	76	54	1303

Signs and Pavement Markings Quantities																
ITEM NO	DESCRIPTION	UNIT	Sheet Numbers										Total			
			352	353	354	355	356	357	358	359	360	361		362		
531.3	R1-1 STOP (HIGH DENSITY) (30)	EA	1	1									1			3
531.4	R1-2 YIELD (HIGH DENSITY) (48)	EA													2	2
531.6	R2-1 SPEED LIMIT (HIGH DENSITY) (18 x 18)	EA								2				1		3
531.11	R3-5L LEFT TURN ONLY (HIGH DENSITY) (30x36)	EA											1			1
531.17	R4-7 KEEP RIGHT (HIGH DENSITY) (24 x 30)	EA							1	4				4	1	10
531.19	R6-1 ONE WAY (HIGH DENSITY) (36 x 12)	EA											1	1	1	3
531.23	R9-3 NO PEDESTRIAN CROSSING (18X12)	EA	1													1
531.24	R9-3a PEDESTRIAN CROSSING PROHIBITED (18X18)	EA	1													1
531.34	S1-1 ADVANCE SCHOOL CROSSING & SCHOOL CROSSING (36X36)	EA	1													1
531.38	W1-2 CURVE (HIGH DENSITY) (36 x 36)	EA	1		1				1							3
531.49	LANE ENDS MERGE RIGHT (36 x 36)	EA										1				1
531.54	W13-1 ADVISORY SPEED (HIGH DENSITY) (18 x 18)	EA	2		1				1							4
531.59	9 INCH STREET NAME, BLOCK NUMBER (HIGH DENSITY)	EA	2	2									2			6
531.64	W16-9P AHEAD (HIGH DENSITY) (24 x 12)	EA	1													1
531.86	D-DY-FLX-SRF SURFACE MOUNTED DELINEATOR	EA							1	4	35	49	4	1		94
531.86	D-DW-FLX-SRF SURFACE MOUNTED DELINEATOR	EA										26				26
535.1	4 INCH WIDE YELLOW LINE	LF	1595	1640	2325	2000	2000	1016								10576
535.2	4 INCH WIDE WHITE LINE	LF	400	405	450	400	410	440	215	460	400	400	405			4385
535.4	8 INCH WIDE WHITE LINE	LF	572	320					268	654	435	633	246	120		3248
535.7	24 INCH WIDE WHITE LINE	LF	254	150						726		108		204		1442
535.7	24 INCH WIDE YELLOW LINE	LF	46	52	43											141
535.8	RIGHT WHITE ARROW	EA	3								2					5
535.8	LEFT WHITE ARROW	EA	7	5	6	6	4	2	6	2	4	4				46
535.12	WORD "ONLY"	EA	1	2						4		1				8
535.13	STRAIGHT WHITE ARROW	EA									2	1				3
537.1	TRAFFIC BUTTON (TYPE W) (4")	EA										24				24
537.6	PAVEMENT MARKER (TYPE 1-C)	EA	50	56	46	40	39	59	51	64	124	60	21			610
537.8	PAVEMENT MARKER (TYPE II A-A)	EA	64	76	51	40	40	20		35	47					373

Traffic Control Plan Quantities																													
ITEM NO	DESCRIPTION	UNIT	Sheet Numbers																								Total		
			35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56					
MISC	PORTABLE CHANGEABLE MESSAGE SIGN (2 EA INSTALLATION)	WEEK	2	2	2								2					2									2	20	
205.2	HMAC, TYPE B (8" COMPACTED DEPTH)	SY	497	203	777	692						465						590										6537	
423	TEMP RETAINING WALL	SF	150																									150	
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	182	545	1510	928						1240	950					885									1606	680	2438
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	80	40	100	20						100	20					40									100	20	120
535.1	4 INCH WIDE YELLOW LINE	LF	1373	1955	3361	1961	677	707	2890	2086	2722	2690	1068	3593				3086	4259	5130	3448	2008	1091	894		3688	2130	50817	
535.2	4 INCH WIDE WHITE LINE	LF											341	337															678
535.3	8 INCH WIDE YELLOW LINE	LF	70																										70
681.1	TEMPORARY TRAFFIC SIGNALS	EA	1																						1				2

Gold Canyon Traffic Signal			
ITEM NO	DESCRIPTION	UNIT	QTY
308.1	DRILLED SHAFTS (24")	LF	20
308.1	DRILLED SHAFTS (36")	LF	40
615.1	TRAFFIC SIGNAL CONTROLLER ASSEMBLY (TYPE 332 CABINET)	EA	1
618.1	CONDUIT (2 INCH/PVC SCHEDULE 40)	LF	67
618.3	CONDUIT (3 INCH/PVC SCHEDULE 40)	LF	52
618.3	CONDUIT (3 INCH/PVC SCHEDULE 40)(BORE)	LF	896
620.1	ELECTRICAL CONDUCTORS (NO. 6)(BARE)	LF	12
620.2	ELECTRICAL CONDUCTORS (NO. 8)(BARE)	LF	535
624.8	GROUND BOXES TYPE D (162922) W/ APRON	EA	4
628.1	ELECTRICAL SERVICES (PER INSTALLATION)	EA	1
633.1	BATTERY BACKUP SYSTEM	EA	1
655.1	TYPE 332 CONTROLLER FOUNDATION	EA	1
680.1	INSTALLATION OF HIGHWAY TRAFFIC SIGNAL	EA	1
682.1	INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (3 SECTIONS)	EA	8
682.2	INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (4 SECTIONS)	EA	4
682.4	INSTALL PEDESTRIAN SIGNAL SECTION (12 INCH) LED (2 IND)	EA	8
684.1	TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 4)	LF	619
684.1	TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 9)	LF	1710
686.1	INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 36')	EA	1
686.1	INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 44')	EA	3
687.1	PEDESTRIAN POLE ASSEMBLIES	EA	4
688.2	PEDESTRIAN DETECTORS (2 INCH PUSH BUTTON)	EA	8
693.1	INTERNALLY LIGHTED STREET NAME SIGNS	EA	4
695.3	EMERGENCY PREEMPTION DETECTOR	EA	4
695.4	EMERGENCY PREEMPTION DETECTOR CABLE	LF	571
696.01	RADAR PRESENCE DETECTION DEVICE (RPDD)	EA	4
696.03	RADAR ADVANCE DETECTION DEVICE (RADD)	EA	2
696.08	RVDD INTERFACE MODULE (4-CHANNEL)	EA	6
696.11	RVDD SETUP SYSTEM	EA	1
696.16	RVDD COMMUNICATION AND POWER CABLE (6-COND WXSS705)	LF	846
696.21	INSTALL RADAR VEHICLE DETECTION DEVICE	EA	6
696.26	INSTALL RVDD COMMUNICATIONS AND POWER CABLE	LF	846
	CAT 5E ETHERNET CABLE	LF	66
	BELDEN POWER CABLE	LF	33
	#6 THHN/THWN	LF	24
	WIRELESS COMMUNICATION ASSEMBLY	EA	1

FREESSE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

NO.	DATE	REVISION	APPROVED BY
1	12/22/2015	UPDATE QUANTITIES	SES

FREESSE AND NICHOLS
4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6353
PHONE: (210) 298-3800 FAX: (210) 298-3801 WWW.FREESSE.COM

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD IMPROVEMENTS
ESTIMATED QUANTITIES SHEET

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: 11/23/2015
DRWN. BY: MJM	DSGN. BY: SES	CHKD. BY: JCC
		SHEET NO.: 19 OF 466

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REDLAND RD QUANTITIES				
ITEM NO	COSA SPEC. NO.	DESCRIPTION	UNIT	QUANTITY
1	100.1	MOBILIZATION	LS	1
2	100.2	INSURANCE & BOND	LS	1
3	101.1	PREPARING RIGHT-OF-WAY	LS	1
4	103.01	REMOVE CONCRETE CURB	LF	3180
5	103.03	REMOVE SIDEWALKS AND DRIVEWAYS	SF	21708
6	103.04	REMOVE MISCELLANEOUS CONCRETE	SF	1678
7	104.1	STREET EXCAVATION	CY	64548
8	105.1	CHANNEL EXCAVATION	CY	252
9	106.1	BOX CULVERT EXCAVATION AND BACKFILL	CY	53
10	107.1	EMBANKMENT (TYPE B) (FINAL) (DENSITY CONTROLLED)	CY	2535
11	200.1	FLEXIBLE BASE (8" COMPACTED DEPTH)	SY	400
12	203.1	TACK COAT	GAL	5750
13	205.2	HMAC, TYPE B (8" COMPACTED DEPTH)	SY	6537
14	205.2	HOT MIX ASPHALTIC PAVEMENT, TYPE B (9.5" COMP. DEPTH)	SY	58181
15	205.3	HOT MIX ASPHALTIC PAVEMENT, TYPE C (2" COMP. DEPTH)	SY	53645
16	205.4	HOT MIX ASPHALTIC PAVEMENT, TYPE D (2" COMP. DEPTH)	SY	57426
17	208.1	SALVAGING, HAULING & STOCKPILING RECLAIMABLE ASPHALTIC PAVEMENT(2" DEPTH)	SY	3781
18	306.1	STRUCTURAL EXCAVATION	CY	5
19	307.1	CONCRETE STRUCTURE (GATE CHANNEL)	CY	4
20	307.52	CONCRETE STRUCTURE WINGWALL (SW-0) (HW=4-ft)	EA	1
21	307.54	CONCRETE STRUCTURE WINGWALL (PW-1)(HW = 8-ft)	EA	1
22	307.56	CONCRETE STRUCTURE WINGWALL (PF-S)(HW = 10-ft)	EA	2
23	307.57	CONCRETE STRUCTURE HEADWALL (CH-PW-0)(DIA 36)	EA	2
24	308.1	DRILLED SHAFTS (24")	LF	20
25	308.1	DRILLED SHAFTS (36")	LF	40
26	309.11	PRECAST REINFORCED CONCRETE BOX CULVERT (3'X2')	LF	141
27	309.12	PRECAST REINFORCED CONCRETE BOX CULVERT (4'X2')	LF	417
28	309.13	PRECAST REINFORCED CONCRETE BOX CULVERT (4'X3')	LF	73
29	309.14	PRECAST REINFORCED CONCRETE BOX CULVERT (5'X3')	LF	1252
30	309.15	PRECAST REINFORCED CONCRETE BOX CULVERT (6'X4')	LF	88
31	401.11	REINFORCED CONCRETE PIPE (CLASS III)(15-INCH DIAMETER)	LF	187
32	401.13	REINFORCED CONCRETE PIPE (CLASS III)(24-INCH DIAMETER)	LF	1578
33	401.14	REINFORCED CONCRETE PIPE (CLASS III)(30-INCH DIAMETER)	LF	571
34	401.15	REINFORCED CONCRETE PIPE (CLASS III)(36-INCH DIAMETER)	LF	415
35	401.16	REINFORCED CONCRETE PIPE (CLASS IV)(24-INCH DIAMETER)	LF	1515
36	401.17	REINFORCED CONCRETE PIPE (CLASS IV)(30-INCH DIAMETER)	LF	331
37	401.18	REINFORCED CONCRETE PIPE (CLASS IV)(36-INCH DIAMETER)	LF	169
38	403.01	JUNCTION BOX 4'x4'x4'	EA	18
39	403.02	JUNCTION BOX 5'x5'x5'	EA	13
40	403.03	JUNCTION BOX 6'x6'x6'	EA	2
41	403.12	CURB INLET (15-FT) INLET Type II-E	EA	3
42	403.14	INLET EXTENSIONS (10 FT)	EA	10
43	403.15	COSA 5-FT CURB INLET EXTENSION	EA	5
44	403.16	SPECIAL INLET (4-WAY)	EA	1
45	403.17	SPECIAL INLET - GRATE (COMPLETE)	EA	1
46	403.21	GRATE INLET (30 FT X 2 FT)	EA	2
47	403.5	MANHOLE VERTICAL STACK	EA	7
48	403.6	SPECIAL INLET AT STATION 66+38	EA	1
49	403.61	SPECIAL INLET AT STATION 82+96	EA	1
50	403.62	SPECIAL INLET AT STATION 83+40	EA	1

REDLAND RD QUANTITIES				
ITEM NO	COSA SPEC. NO.	DESCRIPTION	UNIT	QUANTITY
51	403.63	SPECIAL INLET AT STATION 84+52 - JB-E-01	EA	1
52	403.64	SPECIAL INLET AT STATION 84+52 -DISCHARGE POINT 6	EA	1
53	403.65	SPECIAL INLET AT STATION 92+62	EA	1
54	403.8	INLET (COMPLETE) (10')(TYPE II-E)	EA	15
55	407.3	CONCRETE STRUCTURE (MISCELLANEOUS) (CONCRETE CAP)	CY	2.3
56	410.2	GRAVEL SUBGRADE FILLER	CY	351
57	423	TEMP RETAINING WALL	SF	150
58	500.1	CONCRETE CURBING	LF	24543
59	500.1	CONCRETE HEADER CURB	LF	307
60	502.1	CONCRETE SIDEWALKS	SY	12058
61	503.2	PORTLAND CEMENT CONCRETE DRIVEWAYS-COMMERCIAL	SY	2679
62	503.4	ASPHALT CONCRETE DRIVEWAY	SY	346
63	503.5	GRAVEL DRIVEWAY	SY	486
64	504.1	CONCRETE MEDIAN	SY	626
65	505.1	CONCRETE RIPRAP (5" THICK)	SY	264
66	505.1	CONCRETE RIPRAP (4" THICK)	SY	13
67	506.1	CONCRETE RETAINING WALLS-COMB. TYPE	CY	49.27
68	507.1	FENCE (CHAIN LINK)	LF	824
69	507.5	GATES-VEHICULAR (18111 Redland)	EA	5
70	507.6	FENCE (CHAIN LINK SECURITY)	LF	957
71	507.2A	TEMPORARY CHAIN LINK WIRE FENCE (6' HIGH)	LF	250
72	513.1	REMOVING AND RELOCATING MAIL BOXES	EA	12
73	515.1	TOPSOIL (4")	CY	1015
74	516.1	BERMUDA SODDING	SY	5712
75	516.2	ST. AUGUSTINE SODDING	SY	5712
76	517.1	BRIDGE RAILING	LF	150
77	523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (19079 Redland)	EA	1
78	523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (18840 Redland)	EA	2
79	523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (19732 N US HWY 281)	EA	1
80	523.1	ADJUSTING CHAIN LINK VEHICULAR GATES (18111 Redland)	EA	1
81	523.4	ADJUSTING WROUGHT IRON VEHICULAR GATE (18823 Redland)	EA	1
82	523.4	ADJUSTING WROUGHT IRON VEHICULAR GATE (18741 Redland)	EA	1
83	523.7	ADJUSTING METAL TYPE I VEHICULAR GATE (18581 Redland)	EA	1
84	523.7	ADJUSTING METAL TYPE I VEHICULAR GATE (18335 Redland)	EA	1
85	525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	2438
86	525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	120
87	530.1	BARRICADES, SIGNS & TRAFFIC HANDLING	LS	1
88	531.3	R1-1 STOP (HIGH DENSITY) (30)	EA	3
89	531.4	R1-2 YIELD (HIGH DENSITY) (48)	EA	2
90	531.6	R2-1 SPEED LIMIT (HIGH DENSITY) (18 x 18)	EA	3
91	531.11	R3-5L LEFT TURN ONLY (HIGH DENSITY) (30x36)	EA	1
92	531.17	R4-7 KEEP RIGHT (HIGH DENSITY) (24 x 30)	EA	10
93	531.19	R6-1 ONE WAY (HIGH DENSITY) (36 x 12)	EA	3
94	531.23	R9-3 NO PEDESTRIAN CROSSING (18X12)	EA	1
95	531.24	R9-3a PEDESTRIAN CROSSING PROHIBITED (18X18)	EA	1
96	531.34	S1-1 ADVANCE SCHOOL CROSSING & SCHOOL CROSSING (36X36)	EA	1
97	531.38	W1-2 CURVE (HIGH DENSITY) (36 x 36)	EA	3
98	531.49	LANE ENDS MERGE RIGHT (36 x 36)	EA	1
99	531.54	W13-1 ADVISORY SPEED (HIGH DENSITY) (18 x 18)	EA	4
100	531.59	9 INCH STREET NAME, BLOCK NUMBER (HIGH DENSITY)	EA	6

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FREES AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

NO:	DATE	REVISION	APPROVED BY
1	12/22/2015	UPDATE QUANTITIES	SES



PHONE: (210) 298-3800 FAX: (210) 298-3801 WWW.FREES.COM

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD IMPROVEMENTS
ESTIMATED QUANTITIES SHEET

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: 11/23/2015
DRWN. BY: MJM	DSGN. BY: SES	CHKD. BY: JCC
		SHEET NO.: 20_OF_466

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REDLAND RD QUANTITIES				
ITEM NO	COSA SPEC. NO.	DESCRIPTION	UNIT	QUANTITY
101	531.64	W16-9P AHEAD (HIGH DENSITY) (24 x 12)	EA	1
102	531.86	D-DY-FLX-SRF SURFACE MOUNTED DELINEATOR	EA	94
103	531.86	D-DW-FLX-SRF SURFACE MOUNTED DELINEATOR	EA	26
104	535.1	4 INCH WIDE YELLOW LINE	LF	61393
105	535.2	4 INCH WIDE WHITE LINE	LF	5063
106	535.3	8 INCH WIDE YELLOW LINE	LF	70
107	535.4	8 INCH WIDE WHITE LINE	LF	3248
108	535.7	24 INCH WIDE WHITE LINE	LF	1442
109	535.7	24 INCH WIDE YELLOW LINE	LF	141
110	535.8	RIGHT WHITE ARROW	EA	5
111	535.8	LEFT WHITE ARROW	EA	46
112	535.12	WORD "ONLY"	EA	8
113	535.13	STRAIGHT WHITE ARROW	EA	3
114	537.1	TRAFFIC BUTTON (TYPE W) (4")	EA	24
115	537.6	PAVEMENT MARKER (TYPE 1-C)	EA	610
116	537.8	PAVEMENT MARKER (TYPE II A-A)	EA	373
117	540.1	ROCK FILTER DAMS (INSTALL/REMOVE) (TYPE 3)	LF	135
118	540.6	CONSTRUCTION EXITS (INSTALL/REMOVE)	SY	856
119	540.9	TEMPORARY SEDIMENT CONTROL FENCE	LF	5075
120	540.10	CURB INLET GRAVEL FILTERS	LF	1100
121	550.1	TRENCH EXCAVATION SAFETY PROTECTION	LF	6737
122	552	REMOVING AND RELOCATING IRRIGATION SYSTEMS	LF	200
123	615.1	TRAFFIC SIGNAL CONTROLLER ASSEMBLY (TYPE 332 CABINET)	EA	1
124	618.1	CONDUIT (2 INCH/PVC SCHEDULE 40)	LF	67
125	618.3	CONDUIT (3 INCH/PVC SCHEDULE 40)	LF	52
126	618.3	CONDUIT (3 INCH/PVC SCHEDULE 40)(BORE)	LF	896
127	620.1	ELECTRICAL CONDUCTORS (NO. 6)(BARE)	LF	12
128	620.2	ELECTRICAL CONDUCTORS (NO. 8)(BARE)	LF	535
129	624.8	GROUND BOXES TYPE D (162922) W/ APRON	EA	4
130	628.1	ELECTRICAL SERVICES (PER INSTALLATION)	EA	1
131	655.1	TYPE 332 CONTROLLER FOUNDATION	EA	1
132	680.1	INSTALLATION OF HIGHWAY TRAFFIC SIGNAL	EA	1
133	681.1	TEMPORARY TRAFFIC SIGNALS	EA	2
134	682.1	INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (3 SECTIONS)	EA	8
135	682.2	INSTALL VEHICLE SIGNAL SECTION WITH BACK PLATE (4 SECTIONS)	EA	4
136	682.4	INSTALL PEDESTRIAN SIGNAL SECTION (12 INCH) LED (2 IND)	EA	8
137	684.1	TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 4)	LF	619
138	684.1	TRAFFIC SIGNAL CABLES (TYPE A)(14 AWG)(CONDUCTOR NO. 9)	LF	1710
139	686.1	INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 36')	EA	1
140	686.1	INSTALL TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (1 ARM 44')	EA	3
141	687.1	PEDESTRIAN POLE ASSEMBLIES	EA	4
142	688.2	PEDESTRIAN DETECTORS (2 INCH PUSH BUTTON)	EA	8
143	693.1	INTERNALLY LIGHTED STREET NAME SIGNS	EA	4
144	695.3	EMERGENCY PREEMPTION DETECTOR	EA	4
145	695.4	EMERGENCY PREEMPTION DETECTOR CABLE	LF	571
146	633.1	BATTERY BACKUP SYSTEM	EA	1
147	696.01	RADAR PRESENCE DETECTION DEVICE (RPDD)	EA	4
148	696.03	RADAR ADVANCE DETECTION DEVICE (RADD)	EA	2
149	696.08	RVDD INTERFACE MODULE (4-CHANNEL)	EA	6
150	696.11	RVDD SETUP SYSTEM	EA	1

REDLAND RD QUANTITIES				
ITEM NO	COSA SPEC. NO.	DESCRIPTION	UNIT	QUANTITY
151	696.16	RVDD COMMUNICATION AND POWER CABLE (6-COND WXSS705)	LF	846
152	696.21	INSTALL RADAR VEHICLE DETECTION DEVICE	EA	6
153	696.26	INSTALL RVDD COMMUNICATIONS AND POWER CABLE	LF	846
154	1101.1	REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18964 Redland)	LF	171
155	1101.1	REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (18833 Redland)	LF	89
156	1101.1	REMOVAL AND REPLACEMENT OF WROUGHT IRON FENCE (Drainage Easement)	LF	50
157	2000.1	RELOCATE SIGN (18765 Redland Rd)	LS	1
158	2000.1	RELOCATE SIGN (18980 Redland Rd)	LS	1
159	3000.1	STAMPED AND STAINED CONCRETE SIDEWALK	SY	1303
160	4000.1	SEPTIC SYSTEM INSTALLATION (18850 Redland)	EA	1
161	4100.1	REMOVING AND RELOCATING BACKFLOW PREVENTER	EA	2
162	5000.1	CONTECH JELLYFISH FILTER - JF-4-2-1 (Complete-Installed)	EA	4
163	5000.2	CONTECH JELLYFISH FILTER - JF-6-3-1 (Complete-Installed)	EA	2
164	5140.1	ANTI GRAFFITI COATING	SF	445
165	6004.1	UTILITY POLE BRACING	EA	5
166	7000.1	REMOVAL OF WATERLINE (16 IN)	LF	82
167	7000.1	REMOVAL OF WATERLINE (30 IN)	LF	98
168	7000.2	REMOVAL OF 36" RCP	LF	226
169	7000.3	REMOVAL OF CURB INLET	EA	3
170	7000.4	REMOVAL OF CONCRETE BOX CULVERT (3x2)	LF	80
171	8000.1	REMOVAL AND REPLACEMENT OF WOOD FENCE	LF	187
172	9002.1	TEMPORARY SUSPENSION OF WORK IN WHOLE	DAY	90
173	321443.1	RIVER ROCK & FILTER FABRIC	SF	14394
174	329300.1	CEDAR ELM, ULMUS CRASSIFOLIA	EA	176
175	329300.2	LACEY OAK, QUERCUS LACEYI	EA	9
176	329300.3	TEXAS REDBUD< CERCIS CANADENSIS 'TEXENSIS'	EA	15
177	MISC	PORTABLE CHANGEABLE MESSAGE SIGN (2 EA INSTALLATION)	WEEK	20
178		6' BENCH	EA	3
179		3/16" x 4" STEEL EDGING	LF	1740
180		LARGE BOULDERS	EA	42
181		SMALL BOULDERS	EA	80
182		CAT 5E ETHERNET CABLE	LF	66
183		BELDEN POWER CABLE	LF	33
184		#6 THHN/THWN	LF	24
185		WIRELESS COMMUNICATION ASSEMBLY	EA	1
186	432.2023	RIPRAP (STONE PROTECTION)(6 IN) (using 24 IN cost)	SY	228
187	450.6042	RAIL (TY PR1)	LF	165
188	450.6060	RAIL (TY PR1)(MOD)	LF	126
189	465.2001	CURB INLET (COMPL)(TY C)(10-FT)	EA	23
190	465.2007	CURB INLET (15-FT) INLET Type C-E	EA	7
191	465.2104	INLET EXTENSIONS (5 FT)	EA	2
192	529.2094	CONC CURB (TY F3)	LF	50
193	552.6003	WIRE FENCE (TY C)	LF	1238
194	552.6004	WIRE FENCE (TY D)	LF	1723
195	552.6005	GATE (TY 1) (2939 N Loop 1604 E)	EA	2
196	772.6003	POST AND CABLE FENCE (NEW INSTALLATION)	LF	30



FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

NO.	DATE	REVISION	APPROVED BY
1	12/22/2015	UPDATE QUANTITIES	SES



4040 Broadway Street, Suite 600
San Antonio, Texas 78209-6353
PHONE: (210) 298-3800 FAX: (210) 298-3801 WWW.FREESE.COM

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS
REDLAND ROAD IMPROVEMENTS
ESTIMATED QUANTITIES SHEET

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: 11/23/2015
DRWN. BY: MJM	DSGN. BY: SES	CHKD. BY: JCC
		SHEET NO.: 21_OF_466

SEQUENCE OF WORK:

- The contractor shall construct this project in multiple separate phases.
- Traffic will be handled during construction operations with flag-men. Traffic may be placed on subgrade and un-finished base that is compacted to provide a smooth riding surface that is acceptable to the engineer.
- Grading operations shall be sequenced to maintain equal lane elevations during non-work conditions.
- No drop-offs will be permitted during non-work conditions.
- Cross drainage construction impacting local access will only be allowed during non-peak hours. Local access shall be maintained at all times unless otherwise directed by the engineer. All trenching and cut pavement must be restored such that all normal local access can be resumed as soon as possible.
- All traffic control device placement and re-striping operations shall occur during non-peak hours unless otherwise noted on the plans or directed/approved by the engineer.
- Non-peak hours as mentioned above shall be from 9:00 AM TO 3:00 PM, Monday thru Friday.
- Any existing pavement markings conflicting with work zone pavement markings shall be removed in accordance with city standards. All stripe removal shall be grind and treat with Jeonite. Existing signs conflicting with Temporary Traffic Control operation shall be covered or removed. Traffic Signals conflicting with Temporary Traffic Control Operation shall be covered. Payment shall be subsidiary to item 530.
- The main elements of this contract consist of reconstructing the existing roadway, consisting of grading, base, drainage structures and surfacing to include curbs, sidewalks, and raised center medians, the construction of new storm sewer system, and the installation of a 30-in transmission water main and water main offsets, and the installation of gas main.

THE FOLLOWING GENERAL CONSTRUCTION PHASING SHOULD BE FOLLOWED, **UNLESS CHANGES ARE APPROVED BY THE CITY OF SAN ANTONIO TCI DEPARTMENT:**

PHASE 1 (STA 97+80 TO LOOP 1604 FRONTAGE ROAD - 600 LF):
PHASE 1A (WEST SIDE OF ROADWAY)

1. PREPARE RIGHT OF WAY. CPS TO MOVE OVERHEAD ELECTRIC.
2. CONSTRUCT TEMPORARY ROADWAY (SEE NOTE NEXT SHEET).
3. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
4. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
5. INSTALL TEMPORARY SW3P MEASURES.
6. SHIFT TRAFFIC TO NORTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
7. CONSTRUCT JOINT BID UTILITIES, STORM DRAIN, CULVERT AND CULVERT EXTENSION.
8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - E. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 1B (EAST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NECESSARY.
 5. SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED SOUTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. CONSTRUCT JOINT BID UTILITIES, STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 7. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. INSTALL SURFACE COURSE
 - E. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - F. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 - G. INSTALL PERMANENT TRAFFIC SIGNS & FINAL PAVEMENT MARKINGS. TEMPORARY EXPENDABLE SHORT TERM PAVEMENT MARKINGS WILL BE USED AT TRANSITION OF PHASES UNTILL FINAL PAVEMENT MARKINGS CAN BE PLACED.
 8. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA

PHASE 2 (STA 71+00 TO STA 97+80 - 2,700 LF):

- PHASE 2A (EAST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. CONSTRUCT TEMPORARY PAVEMENT AS NECESSARY.
 5. SHIFT TRAFFIC TO SOUTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS.
 7. CONSTRUCT JOINT BID UTILITIES, STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - E. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 2B (WEST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED NORTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 5. RELOCATE ROW FENCING TO ROW LIMITS AND MOVE OVERHEAD ELECTRIC.
 6. CONSTRUCT JOINT BID UTILITIES.
 7. CONSTRUCT STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATIONS
 - C. CONSTRUCT BASE COURSES, CURB
 - D. INSTALL SURFACE COURSE
 - E. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK

- F. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 - G. INSTALL PERMANENT TRAFFIC SIGNS & FINAL PAVEMENT MARKINGS. TEMPORARY EXPENDABLE SHORT TERM PAVEMENT MARKINGS WILL BE USED AT TRANSITION OF PHASES UNTILL FINAL PAVEMENT MARKINGS CAN BE PLACED.
9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 3 (STA 60+00 TO STA 71+00 - 1,100 LF):**
PHASE 3A (EAST SIDE OF ROADWAY)
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
 5. SHIFT TRAFFIC TO SOUTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS AND MOVE OVERHEAD ELECTRIC.
 7. CONSTRUCT JOINT BID UTILITIES STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT SURFACE BASE, CURB
 - D. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - E. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 3B (WEST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
 5. SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED NORTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS.
 7. CONSTRUCT JOINT BID UTILITIES, STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT SURFACE COURSE, CURB
 - D. INSTALL SURFACE COURSE
 - E. CONSTRUCT DRIVEWAYS SIDEWALKS AND ASSOCIATED FLATWORK
 - F. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 - G. INSTALL PERMANENT TRAFFIC SIGNS & FINAL PAVEMENT MARKINGS. TEMPORARY EXPENDABLE SHORT TERM PAVEMENT MARKINGS WILL BE USED AT TRANSITION OF PHASES UNTILL FINAL PAVEMENT MARKINGS CAN BE PLACED.
 9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 4 (STA 46+00 TO STA 60+00 - 1,400 LF):**
PHASE 4A (WEST SIDE OF ROADWAY)
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
 5. SHIFT TRAFFIC TO NORTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS AND MOVE OVERHEAD ELECTRIC.
 7. CONSTRUCT JOINT BID UTILITIES STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - E. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 4B (EAST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
 5. SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED SOUTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS.
 7. CONSTRUCT JOINT BID UTILITIES, STORM DRAIN, CULVERT AND CULVERT EXTENSION.
 8. CONSTRUCT PERMANENT ROADWAY.

PHASE 1A AND PHASE 1B MUST BE 100% COMPLETE PRIOR TO MOVING TO A PHASE 2.

PHASE 2A/B MUST BE 100% COMPLETE PRIOR TO MOVING TO A NEW PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

1 PHASE 3A/B MUST BE 100% COMPLETE PRIOR TO MOVING TO A NEW PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

1 PHASE 4A/B MUST BE 100% COMPLETE PRIOR TO MOVING TO A NEW PHASE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

- A. CONSTRUCT EMBANKMENT, AS REQUIRED.
- B. SUB-GRADE PREPARATION
- C. CONSTRUCT BASE COURSES, CURB
- D. INSTALL SURFACE COURSE
- E. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
- F. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
- G. INSTALL PERMANENT TRAFFIC SIGNS & FINAL PAVEMENT MARKINGS. TEMPORARY EXPENDABLE SHORT TERM PAVEMENT MARKINGS WILL BE USED AT TRANSITION OF PHASES UNTILL FINAL PAVEMENT MARKINGS CAN BE PLACED.
9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

PHASE 5 (STA 20+00 TO STA 46+00 - 2,600 LF):
PHASE 5A (WEST SIDE OF ROADWAY)

1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
3. INSTALL TEMPORARY SW3P MEASURES.
4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
5. SHIFT TRAFFIC TO NORTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
6. RELOCATE ROW FENCING TO ROW LIMITS AND MOVE OVERHEAD ELECTRIC.
7. CONSTRUCT JOINT BID UTILITIES STORM DRAIN, CULVERT AND CULVERT EXTENSION.
8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - E. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.

- PHASE 5B (EAST SIDE OF ROADWAY)**
1. PLACE PROJECT LIMIT BARRICADES AND WORK ZONE PAVEMENT MARKINGS.
 2. PLACE PCMS INFORMING OF CONSTRUCTION, 2 WEEKS PRIOR TO CONSTRUCTION.
 3. INSTALL TEMPORARY SW3P MEASURES.
 4. INSTALL TEMPORARY PAVEMENT AS NEEDED.
 5. SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED SOUTHBOUND LANES AND PROVIDE TWO-WAY TRAFFIC FLOW (ONE LANE EACH DIRECTION).
 6. RELOCATE ROW FENCING TO ROW LIMITS.
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 8. CONSTRUCT PERMANENT ROADWAY.
 - A. CONSTRUCT EMBANKMENT, AS REQUIRED.
 - B. SUB-GRADE PREPARATION
 - C. CONSTRUCT BASE COURSES, CURB
 - D. INSTALL SURFACE COURSE
 - E. CONSTRUCT DRIVEWAYS, SIDEWALKS AND ASSOCIATED FLATWORK
 - F. CLEAN-UP R.O.W. SEEDING/SOD TEMPORARY OR PERMANENT
 - G. INSTALL PERMANENT TRAFFIC SIGNS & FINAL PAVEMENT MARKINGS. TEMPORARY EXPENDABLE SHORT TERM PAVEMENT MARKINGS WILL BE USED AT TRANSITION OF PHASES UNTILL FINAL PAVEMENT MARKINGS CAN BE PLACED.
 9. REMOVE ALL SURPLUS MATERIAL FROM SITE AND PLANT FINAL SEEDING FOR EROSION CONTROL WITHIN PHASE AREA.



Mark B. Hill
12-23-2014

FORM NO. E-1102

FORD ENGINEERING, INC.
10927 WYE DRIVE SUITE 104
SAN ANTONIO, TX 78217
TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS

TRAFFIC CONTROL PLAN
SEQUENCE OF WORK 1

REV.	DATE	DESCRIPTION	100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: NOV 23, 2015
1	12-23-2015	ADDENDUM 4	DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH

SHEET NO: 31 OF 466

TRAFFIC CONTROL SEQUENCE OF WORK:

Traffic Control Plan phases are numbered according to roadway construction phases and sections on "Traffic Control Plan" sheets in these plans. Utilities in this project include SAWS (water and sewer), CPS Energy (overhead electric and gas) and will be constructed within the limits of construction shown for each phase of construction.

GENERAL NOTES:

1. Flag persons shall control traffic and be within visual or radio contact at all times unless otherwise noted. Flag persons shall meet the current TxDOT requirements for flagging. At the end of daily work operations, a 3:1 maximum slope shall be placed along all edge drop-offs.

TRAFFIC NOTES AND SPECIAL CONDITIONS

1. It is the contractor's sole responsibility to see that all traffic control devices are properly installed and maintained at the job site in accordance with the plans, specifications and related industry standards and regulations. These notes, do not, in of themselves, constitute a Traffic Control Plan. In the event that these plans do not include traffic control, or that the Contractor wishes to vary from traffic control included with these plans, he shall submit for review a Traffic Control Plan sealed by a Professional Engineer registered in the State of Texas, including a sign and barricade plan conforming to the requirements of the latest version of the Texas Manual on Uniform Traffic Control Devices. The City's construction observer / inspector (COI) and the traffic engineering representative will only be responsible to inspect the traffic control devices being deployed. If, in the opinion of the traffic engineering representative and the COI, the traffic control devices do not conform to established standards or are incorrectly placed or are insufficient in quantity to protect the general public, the COI shall have the option to stop construction operations at no expense to the City until such time as the conditions are corrected by the contractor.
2. Prior to starting construction, the contractor shall contact the City of San Antonio Traffic Operations Section at 207-7765 for a traffic sign and traffic signal inventory. Prior to completion of the contract and removal of the barricades, the contractor shall again contact the Traffic Operations Section. The barricades shall not be removed until all applicable permanent traffic signs and signals are in place.
3. It is the contractor's responsibility to obtain and maintain temporary stop signs and all other traffic control devices required to protect the general public. If the City of San Antonio has removed permanent stop signs, the contractor shall request that the signs be returned to the construction site to be reinstalled by the contractor. All permanent signs or traffic control devices missing or damaged upon completion of construction shall be replaced at the contractor's expense.
4. The contractor must contact the City's COI 48 hours in advance (not including weekends) of any minor street closure. It will be the contractor's responsibility to advise the COI 10 days in advance of and arterial total street closure. This much time is necessary to install advisory signs and give the motorists a minimum of 7 days notice of the street closure. The COI after being notified will contact the traffic engineering office to make the necessary arrangements.
5. As work progresses, location of temporary traffic control devices will be adjusted and modified, as necessary by the contractor at contractor's expense.
6. If the need arises, additional temporary traffic control devices, special directional devices, and/or business name signs may be ordered by the traffic engineering representative at the contractor's expense.
7. Temporary traffic control devices shall conform to the City's "Typical Sign and Barricade Standards" sheets and to the Texas Manual on Uniform Traffic Control Devices.
8. The contractor must maintain all streets within project limits open to through traffic by repairing trenches, potholes, leveling up with asphalt, etc. at no direct payment, with the cost to be included in other items.
9. The contractor shall be responsible for providing suitable access accommodations for school children and pedestrians.
10. The contractor shall provide access for delivery of mail by the U.S. Postal Service.
11. The contractor shall provide for access to residences and all businesses at all times within all the phases of the work.
12. When construction work necessitates the utilization of vehicle paths other than the lanes normally used, traffic control markings no longer applicable shall be removed and approved temporary pavement markings and signs installed in accordance with Part VI-D of the Texas Manual on Uniform Traffic Control Devices.
After construction is completed and traffic is rerouted back to the original lanes, the traffic control markings and/or raised buttons that were originally removed from the existing pavement must be replaced. In addition, temporary markings must be removed. All of this is to be done at no direct payment, cost should be included in other items.
13. Permanent pavement markings shall be applied prior to the opening of the completed street to traffic. Temporary additional short-term expendable pavement markings may be provided prior to the application of permanent markings in minimum lengths of 36", or raised pavement markings to delineate continuity until such time as standard pavement markings in normal lengths can be placed at no direct payment.
14. All temporary traffic control devices, etc. shall be provided by the contractor without direct payment, unless otherwise noted or stated.
15. The COI will monitor the contractor's traffic control devices and will be responsible to furnish all residents and businesses with an information flyer on all jobs during construction.
16. Any damage to permanent traffic signals, the controller box, loops or conduits during or upon completion of the project shall be repaired or replaced at the contractor's expense. The decision to repair, as opposed to replace, the damaged equipment shall be made by the City's Traffic Engineer.
17. The contractor is responsible for repairing all streets outside of the project limits which are damaged due to construction activities. The replaced section must be approved by the City's Street Engineer. There will be no direct payment for this work. The cost is to be included in other items.
18. Off-duty police officers will be required as directed by the Traffic Engineer at no direct payment, cost to be included in other Bid Items. This will be a requirement where two-way traffic is to be maintained.
19. If split construction is shown, then the sanitary sewer shall be completed prior to beginning street and drainage construction, and traffic shall be maintained or detoured as directed by the Traffic Engineer. There will be no additional payment for the maintaining of traffic or detours.
20. The contractor shall provide the city an emergency telephone number for evenings, weekends, and holidays by the first working day of the project. This telephone number must be a commercial answering service. The answering service must be able to contact the contractor and have the contractor respond to the City staff within two hours of the initial contact.
21. The contractor shall maintain continuous access to all intersecting streets unless otherwise shown on these plans. When continuous access is scheduled to be blocked, the contractor shall contact the dispatchers for the Fire Department and EMS at (210) 227-8341 and the Police Department at (210) 207-2257, to apprise them of the pending street closure at least forty-eight hours in advance.. If the closure falls along a bus route, the contractor shall also contact VIA at (210) 362-5220.
22. The contractor shall maintain either the existing or temporary street name signs at each intersection onsite throughout construction. If the existing street name signs are used, they must be maintained in the condition encountered prior to the beginning of construction, and then be turned in to the City Inspector at the end of the project. If temporary signs are used during construction, they shall have a minimum of 4-inch letters, and may be fabricated with construction zone material (black legend on orange background, using plywood substrate, etc.).

CONSTRUCTION OF INTERSECTIONS:

Contractor is to construct the intersections one-half at a time. Contractor shall maintain traffic flow in each direction during the construction of the intersection. Temporary lane dividers will be required during the construction of the intersection to direct traffic flow.

CONSTRUCTION OF TEMPORARY ROADWAY:

Temporary traffic control devices will be required during the construction of the temporary pavement. Contractor to refer to TCP 2-1b standard details for sign and channelizing device spacing and placement.

PHASING AND STAGING NOTES - STREET AND DRAINAGE CONSTRUCTION

1. Any questions regarding phasing or staging will be strictly handled by the Department of Public Works which has complete authority to make final decisions on any changes or modifications. The contractor must contact the City's construction inspector 48 hours in advance (not including weekends or holidays) of any minor street closure. It will be the contractor's responsibility to advise Construction Inspections ten (10) days in advance of any arterial street closure. This much time is necessary to install advisory signs and give the motorists a minimum of seven (7) days notice before street closure. The construction inspector, after having been notified, will contact the engineering office immediately to make the necessary arrangements. The temporary barricades and warning signs shall be located so as to afford the maximum protection to the public as well as construction personnel and equipment and to facilitate an expeditious flow of traffic at all times during construction.
2. If there are two (2) or more phases in the project, no more than two (2) phases of construction may be worked at one time, **unless otherwise indicated in the plans**. Partial construction at different scattered locations within the project will not be allowed. Projects that consist of distinct and separate areas maybe under construction at the same time with an approved field alteration. All remaining streets within the project or separate area shall remain open at all times.
3. **Unless otherwise indicated in the plans**, two (2) phases in sequence may be worked at the same time, in projects where there are at least three (3) phases. Such as Phase 1 and Phase 2 and before going to Phase 3, Phase 1 must be completed 100% with base material and approved densities (prime coated if base material is Item No. 200" Flexible Base") before beginning Phase 3. If there are only two (2) phases in the project, Phase 1 must be completed 100% with base material and approved densities (prime coated if base material is Item No. 200 "Flexible Base") before proceeding to Phase 2.
4. The plans are phased for street, storm drainage and utility construction. No storm sewer or utility construction will take place outside of the phasing limits under construction, unless specifically noted on the plans or authorized in writing by the CoSA Project Manager.
5. All storm drainage pipes are not considered utilities, regardless of size. This work shall be part of the Phase.
6. Unless otherwise indicated in the plans, intersecting streets shall be constructed in stages so as to maintain access. Intersection work shall be done during weekend hours or as directed by the Engineer. No two adjacent intersections may be constructed simultaneously. With approval from the Engineer, the Contractor may close an entire intersection. The Contractor will be required to provide a detour plan for such a closure to the Engineer for approval.
7. Vegetation shall be established upon completion of each project phase.

PHASING NOTES FOR UTILITIES, SANITARY SEWER, WATER, ETC.

1. At no time can contractor have more than 400 ft. of unbackfilled trench and no more than 800 ft. shall be without replacement of pavement.
2. At no time can the contractor work on more than one (1) adjacent parallel street at any time.
3. At no time can the contractor have more than two (2) adjacent cross streets closed at any one time.
4. Unless noted otherwise, Joint Bid utility work must be done within the phases shown, prior to street and drainage work. All utility trenches outside of the phase the contractor is presently working in must comply with the above notes. Replacement of pavement, will not be required within the phases under construction.
5. All temporary tie-ins for new water and gas mains between phases are considered subsidiary to the relevant pay item.

PEDESTRIAN NOTES

1. Temporary pedestrian crossings may be required. Locations will be decided upon in the field by the Construction Inspector and the TCI Project Manager. It shall be four (4') feet wide x four (4') inches thick of Class 'A' concrete and comply with Item 502. No direct payment.
2. Temporary pedestrian bridges may be required. Locations will be decided upon in the field by the Construction Inspector and the TCI Project Manager. No direct payment unless noted on plans.

ADDITIONAL TRAFFIC CONTROL NOTES:

1. Low profile concrete barricades will be used between the active work zone and adjacent travel lanes.
2. If required, additional barricades and directional devices may be ordered by the TCI Project Manager at the contractor's expense.
3. Only one side of an intersecting street may be worked on at a time. Drive access must be maintained at all times to the neighboring subdivisions and businesses.
4. Contractor shall be responsible for restoring to its original or better condition, any damage done to existing fences, concrete islands, street paving, curbs, shrubs, bushes, ornamental planters, driveways, irrigation systems, and any damage to utilities not scheduled to be relocated or replaced. (No Separate Pay Item)



Handwritten signature and date: *Mark B. Hill 12-23-2014*

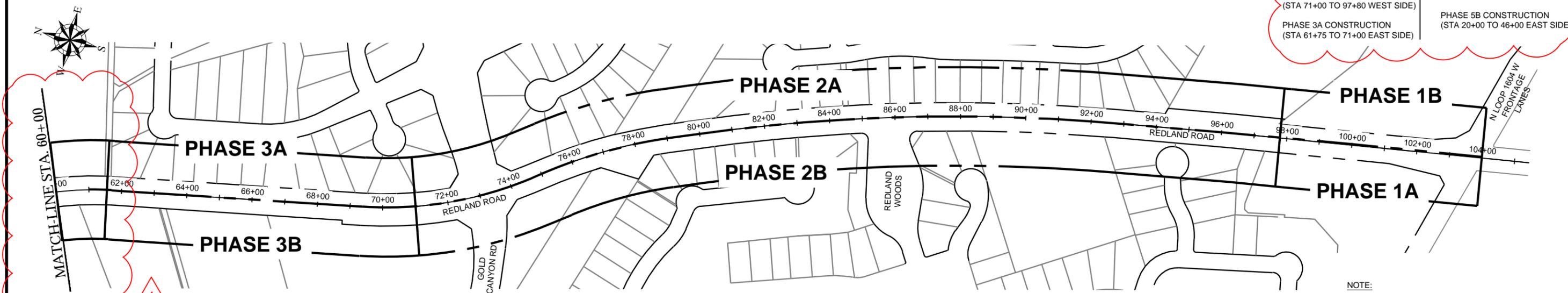
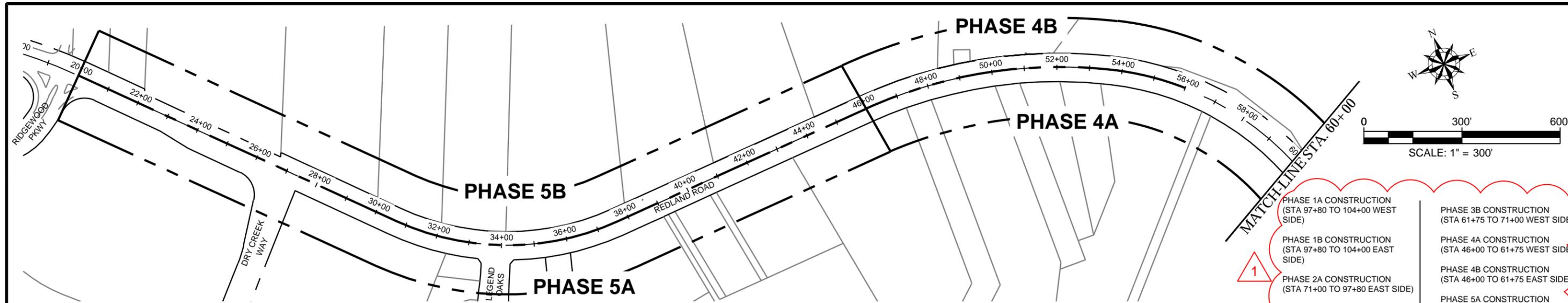
TYPE NO. E-1192
FORD ENGINEERING, INC.
10927 WYE DRIVE SUITE 104
SAN ANTONIO, TX 78217
TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

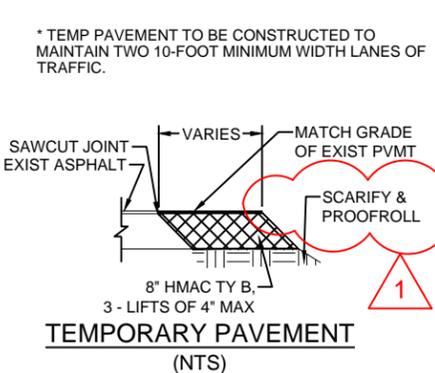
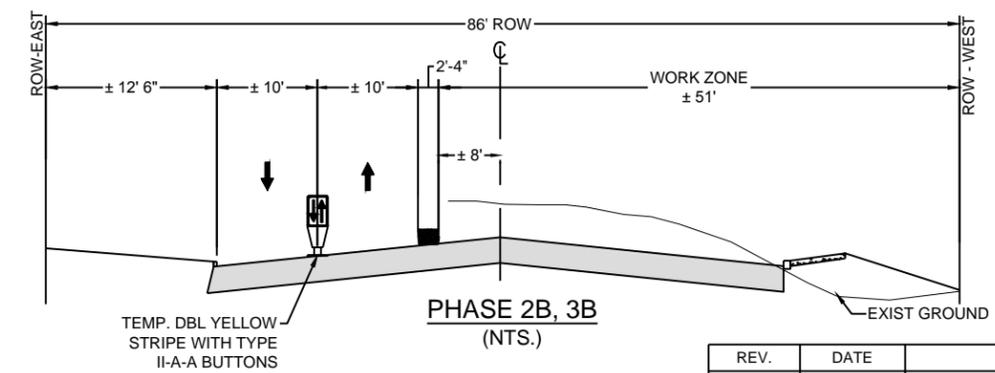
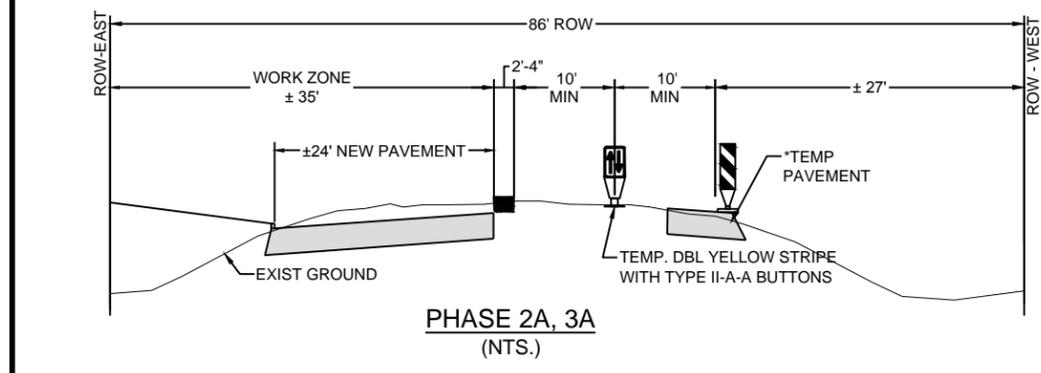
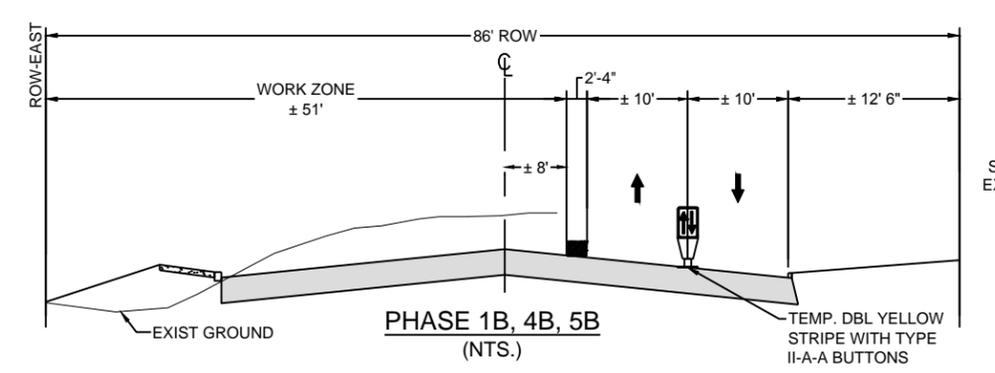
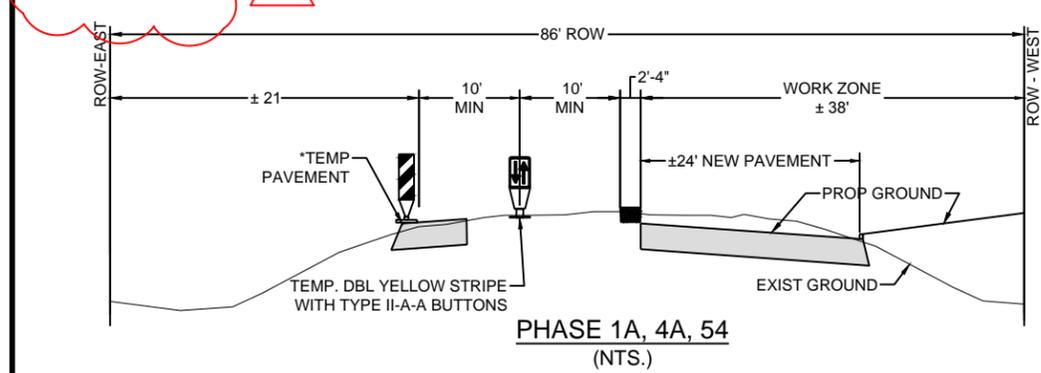
REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
SEQUENCE OF WORK 2

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: NOV 23, 2015	
DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH	SHEET NO: 32 OF 466

REV.	DATE	DESCRIPTION
1	12-23-2015	ADDENDUM 4



- PHASE 1A CONSTRUCTION (STA 97+80 TO 104+00 WEST SIDE)
- PHASE 1B CONSTRUCTION (STA 97+80 TO 104+00 EAST SIDE)
- PHASE 2A CONSTRUCTION (STA 71+00 TO 97+80 EAST SIDE)
- PHASE 2B CONSTRUCTION (STA 71+00 TO 97+80 WEST SIDE)
- PHASE 3A CONSTRUCTION (STA 61+75 TO 71+00 EAST SIDE)
- PHASE 3B CONSTRUCTION (STA 61+75 TO 71+00 WEST SIDE)
- PHASE 4A CONSTRUCTION (STA 46+00 TO 61+75 WEST SIDE)
- PHASE 4B CONSTRUCTION (STA 46+00 TO 61+75 EAST SIDE)
- PHASE 5A CONSTRUCTION (STA 20+00 TO 46+00 WEST SIDE)
- PHASE 5B CONSTRUCTION (STA 20+00 TO 46+00 EAST SIDE)



NOTE:

LOCAL ACCESS TO PROPERTIES AND BUSINESSES ADJACENT TO THE RIGHT OF WAY MUST BE PROVIDED AND MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION WILL CHANGE THE EFFECT ON THE TRAVELING PUBLIC. WITH THE NOTIFICATION, THE CONTRACTOR SHALL PROVIDE INFORMATION ABOUT PORTIONS OF CONSTRUCTION AS DIRECTED/APPROVED BY THE ENGINEER. THE INFORMATION SHALL BE PROVIDED WITH SUFFICIENT TIME SUCH THAT THE ENGINEER CAN FORWARD INFORMATION TO THE MEDIA TO INFORM THE PUBLIC, BEFORE THE CONSTRUCTION AFFECTS THE TRAVELING PUBLIC.

SIGN LOCATIONS ARE APPROXIMATE. ANY EXISTING SIGNS CONFLICTING WITH TEMPORARY TRAFFIC CONTROL OPERATION SHALL BE COVERED OR REMOVED. PAYMENT SHALL BE SUBSIDIARY TO ITEM 530.

REFER TO BC, TCP, AND WZ STANDARDS FOR SIGN TYPE AND SPACING.

Mark B. Hill
12-23-2014



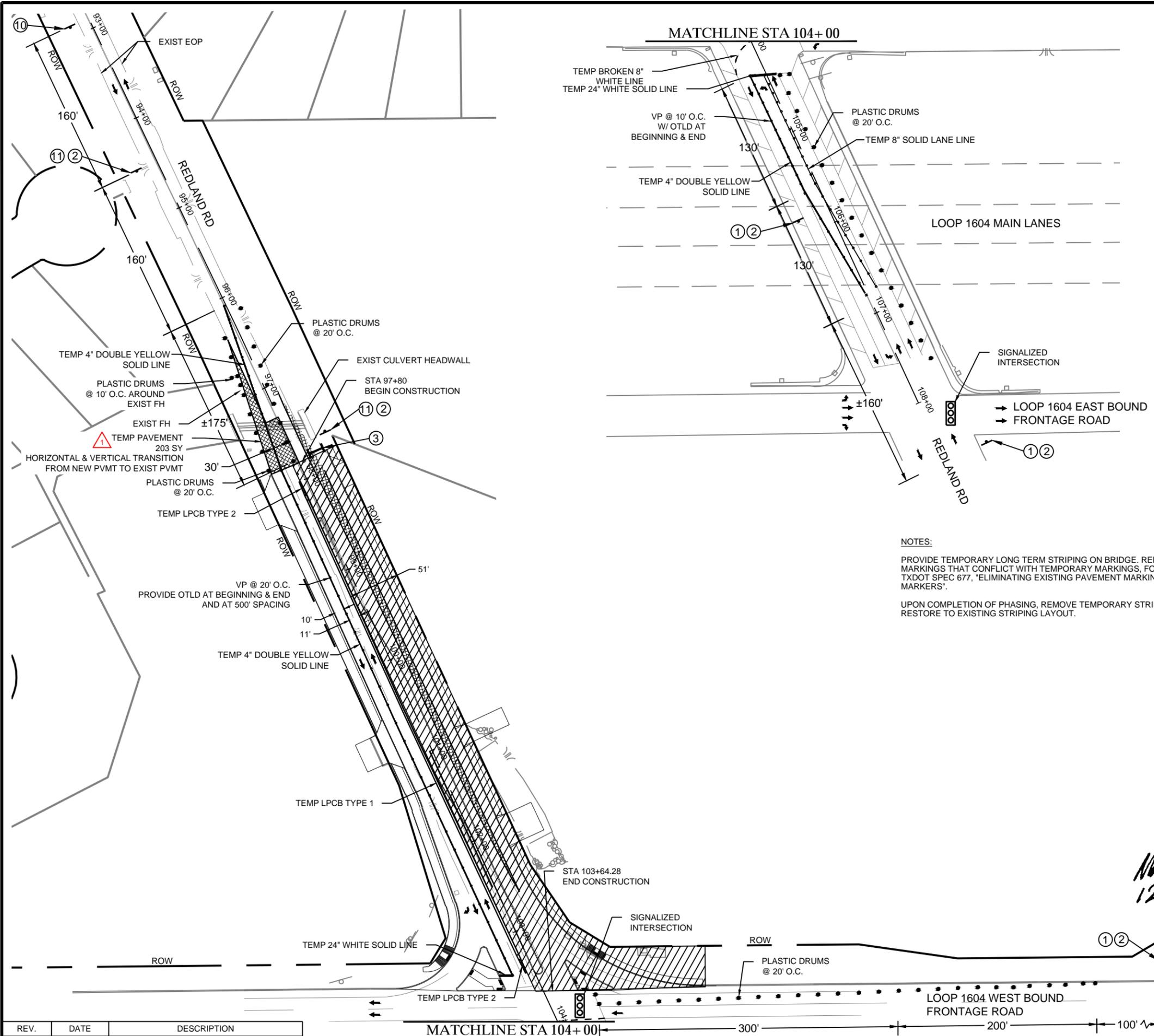
FORD ENGINEERING, INC.
10927 WYE DRIVE SUITE 104
SAN ANTONIO, TX 78217
TEL: (210) 590-4777 FAX: (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
DEPARTMENTS OF TRANSPORTATION AND CAPITAL IMPROVEMENT

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
OVERALL PHASING

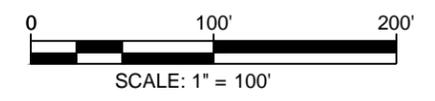
100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: NOV 23, 2015
DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH
SHEET NO: 34 OF 466		

REV.	DATE	DESCRIPTION
1	12-23-2015	ADDENDUM 4



SIGN LEGEND

- ① CW1-4L
48 X 48
- ② 35
M.P.H. C13-1P (35)
24 X 24
- ③ ROAD
CLOSED R11-2
48 X 30
- ⑩ DO
NOT
PASS R4-1
24 X 30
- ⑪ CW1-4R
48 X 48



LEGEND

- WORK ZONE
- TEMP PAVEMENT (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
- LPCB

NOTES:

1. LOCAL ACCESS TO PROPERTIES AND BUSINESSES ADJACENT TO THE RIGHT OF WAY MUST BE PROVIDED AND MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION WILL CHANGE THE EFFECT ON THE TRAVELING PUBLIC. WITH THE NOTIFICATION, THE CONTRACTOR SHALL PROVIDE INFORMATION ABOUT PORTIONS OF CONSTRUCTION AS DIRECTED/APPROVED BY THE ENGINEER. THE INFORMATION SHALL BE PROVIDED WITH SUFFICIENT TIME SUCH THAT THE ENGINEER CAN FORWARD INFORMATION TO THE MEDIA TO INFORM THE PUBLIC, BEFORE THE CONSTRUCTION AFFECTS THE TRAVELING PUBLIC.
3. SIGN LOCATIONS ARE APPROXIMATE. ANY EXISTING SIGNS CONFLICTING WITH TEMPORARY TRAFFIC CONTROL OPERATION SHALL BE COVERED OR REMOVED. PAYMENT SHALL BE SUBSIDIARY TO ITEM 530.
4. REFER TO TCP (1-4a)-12, TCP (2-3b)-12, BC (1-12)-14, AND WZ-14 STANDARDS FOR SIGN TYPE AND SPACING.
5. REMOVAL OF EXISTING PAVEMENT MARKINGS PER SPEC 533. NO SEPARATE PAY ITEM.
6. CONTRACTOR TO ENSURE ALL LOW PROFILE CONCRETE BARRIERS HAVE FLEXIBLE REFLECTIVE DELINEATORS ATTACHED.
7. LPCB(1)-92 AND LPCB(2)-92 LOW PROFILE CONCRETE BARRIER (PORTABLE AND PRECAST), INCLUDES COST FOR FURNISHING, INSTALLING, REUSE, RELOCATION, AND REMOVING FOR THE DURATION OF THE PROJECT, PER ITEM 525. RELOCATE TEMP LPCB AT END OF PHASE TO NEXT PHASE AND ADJUST QUANTITY, AS NEEDED.
8. MAINTAIN 10' MINIMUM TRAVEL LANES
9. TEMP DRIVING PVMT TO BE INSTALLED. REFER TO TCP (1-1b)-12 FOR TRAFFIC SIGNING AND CHANNELIZATION DEVICE SPACING.
10. PROVIDE TEMPORARY TRAFFIC SIGNALS AT 1604 INTERSECTION

NOTES:

PROVIDE TEMPORARY LONG TERM STRIPING ON BRIDGE. REMOVE MARKINGS THAT CONFLICT WITH TEMPORARY MARKINGS, FOLLOWING TXDOT SPEC 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS".
UPON COMPLETION OF PHASING, REMOVE TEMPORARY STRIPING & RESTORE TO EXISTING STRIPING LAYOUT.

ITEM NO.	DESCRIPTION	UNIT	QTY
MISC.	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (2 EA INSTALLATION)	WEEK	2
205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	203
525.1	CONC.TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	545
525.1	CONC.TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	40
535.1	4 INCH WIDE YELLOW LINE	LF	1955
681.1	TEMPORARY TRAFFIC SIGNALS	EA	1

Mark B. Hill
12-28-2015

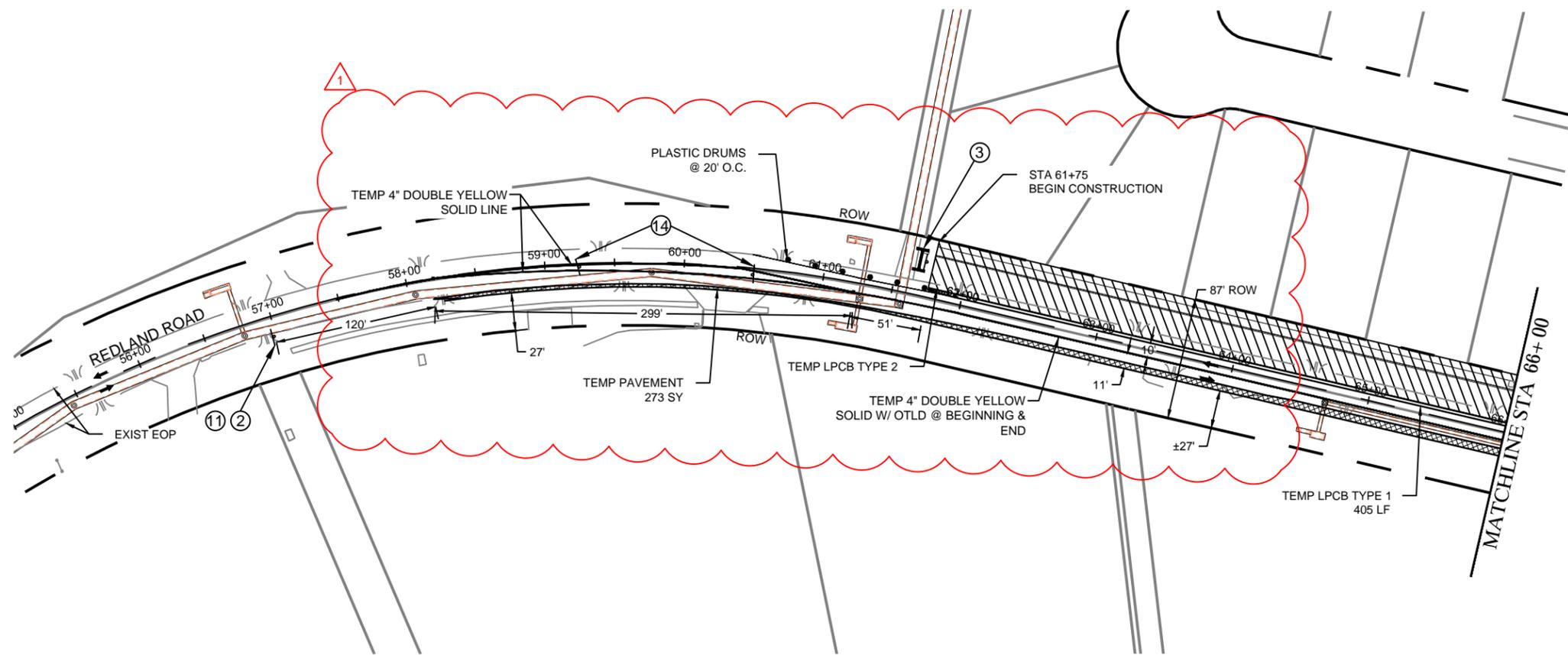
FORD ENGINEERING, INC.
10927 WYE DRIVE SUITE 104
SAN ANTONIO, TX 78217
TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
PHASE 1B REDLAND ROAD STA 96+00 - 108+00

100% SUBMITTAL PROJECT NO.: 40-00314 DATE: NOV 23, 2015
DRWN. BY: DD DSGN. BY: MH CHKD. BY: MH SHEET NO: 36 OF 466

REV.	DATE	DESCRIPTION
1	12-23-2015	ADDENDUM 4



SIGN LEGEND

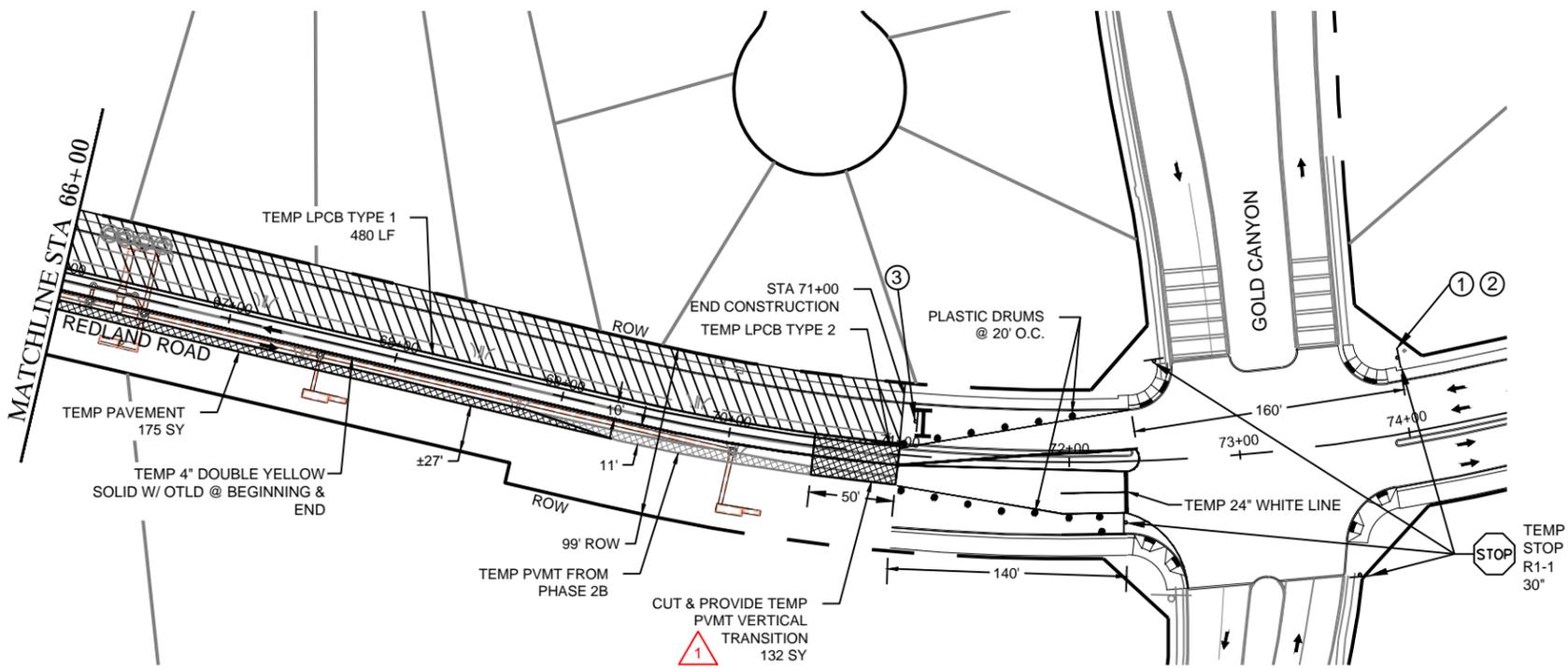
- ① CW1-4L
48 X 48
- ② C13-1P (35)
24 X 24
- ③ R11-2
48 X 30
- ⑪ CW1-4R
48 X 48
- ⑭ CW1-4R
48 X 48

LEGEND

- WORK ZONE
- TEMP DRIVING PVMT SURFACE (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
- LPCB

NOTES:

1. LOCAL ACCESS TO PROPERTIES AND BUSINESSES ADJACENT TO THE RIGHT OF WAY MUST BE PROVIDED AND MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION WILL CHANGE THE EFFECT ON THE TRAVELING PUBLIC. WITH THE NOTIFICATION, THE CONTRACTOR SHALL PROVIDE INFORMATION ABOUT PORTIONS OF CONSTRUCTION AS DIRECTED/APPROVED BY THE ENGINEER. THE INFORMATION SHALL BE PROVIDED WITH SUFFICIENT TIME SUCH THAT THE ENGINEER CAN FORWARD INFORMATION TO THE MEDIA TO INFORM THE PUBLIC, BEFORE THE CONSTRUCTION AFFECTS THE TRAVELING PUBLIC.
3. SIGN LOCATIONS ARE APPROXIMATE. ANY EXISTING SIGNS CONFLICTING WITH TEMPORARY TRAFFIC CONTROL OPERATION SHALL BE COVERED OR REMOVED. PAYMENT SHALL BE SUBSIDIARY TO ITEM 530.
4. REFER TO TCP (1-4a)-12, TCP (2-3b)-12, BC (1-12)-14, AND WZ-14 STANDARDS FOR SIGN TYPE AND SPACING.
5. REMOVAL OF EXISTING PAVEMENT MARKINGS PER SPEC 533. NO SEPARATE PAY ITEM.
6. CONTRACTOR TO ENSURE ALL LOW PROFILE CONCRETE BARRIERS HAVE FLEXIBLE REFLECTIVE DELINEATORS ATTACHED.
7. LPCB(1)-92 AND LPCB(2)-92 LOW PROFILE CONCRETE BARRIER (PORTABLE AND PRECAST). INCLUDES COST FOR FURNISHING, INSTALLING, REUSE, RELOCATION, AND REMOVING FOR THE DURATION OF THE PROJECT, PER ITEM 525. RELOCATE TEMP LPCB AT END OF PHASE TO NEXT PHASE AND ADJUST QUANTITY, AS NEEDED.
8. MAINTAIN 10' MINIMUM TRAVEL LANES
9. TEMP DRIVING PVMT ON WEST SIDE TO BE INSTALLED W/ PHASE 3A. REFER TO TCP (1-1b)-12 FOR TRAFFIC SIGNING AND CHANNELIZATION DEVICE SPACING.



ITEM NO.	DESCRIPTION	UNIT	QTY
MISC.	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (2 EA INSTALLATION)	WEEK	2
205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	590
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	885
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	40
535.1	4 INCH WIDE YELLOW LINE	LF	3593



Mark B. Hill
12-23-2014

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CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
PHASE 3A REDLAND ROAD STA 60+00 - 71+00

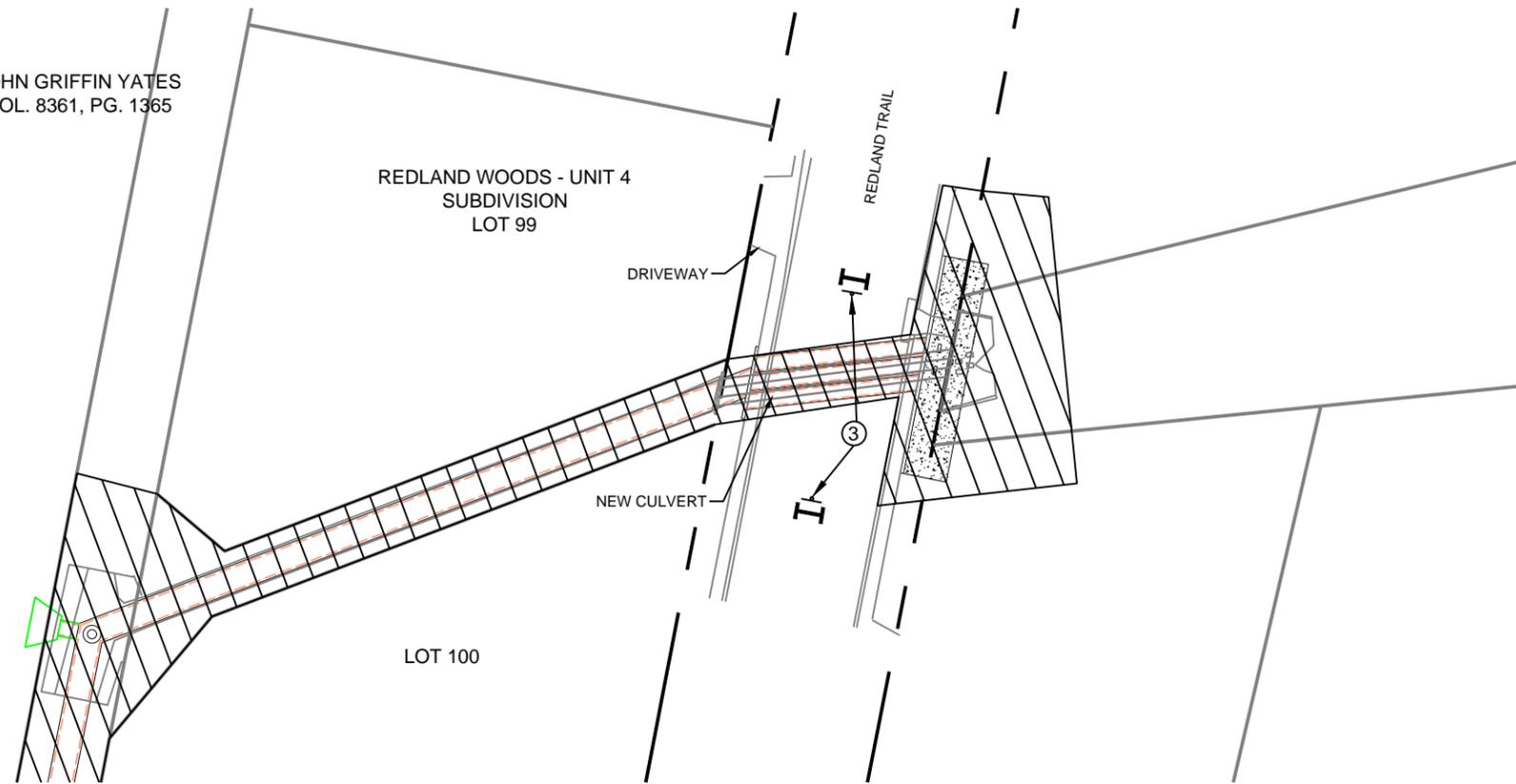
REV.	DATE	DESCRIPTION	100% SUBMITTAL	PROJECT NO.:	DATE:
1	12-23-2015	ADDENDUM 4	DD	40-00314	NOV 23, 2015

DRWN. BY: DD DSGN. BY: MH CHKD. BY: MH SHEET NO: 46 OF 466

JOHN GRIFFIN YATES
VOL. 8361, PG. 1365

REDLAND WOODS - UNIT 4
SUBDIVISION
LOT 99

LOT 100



SIGN LEGEND

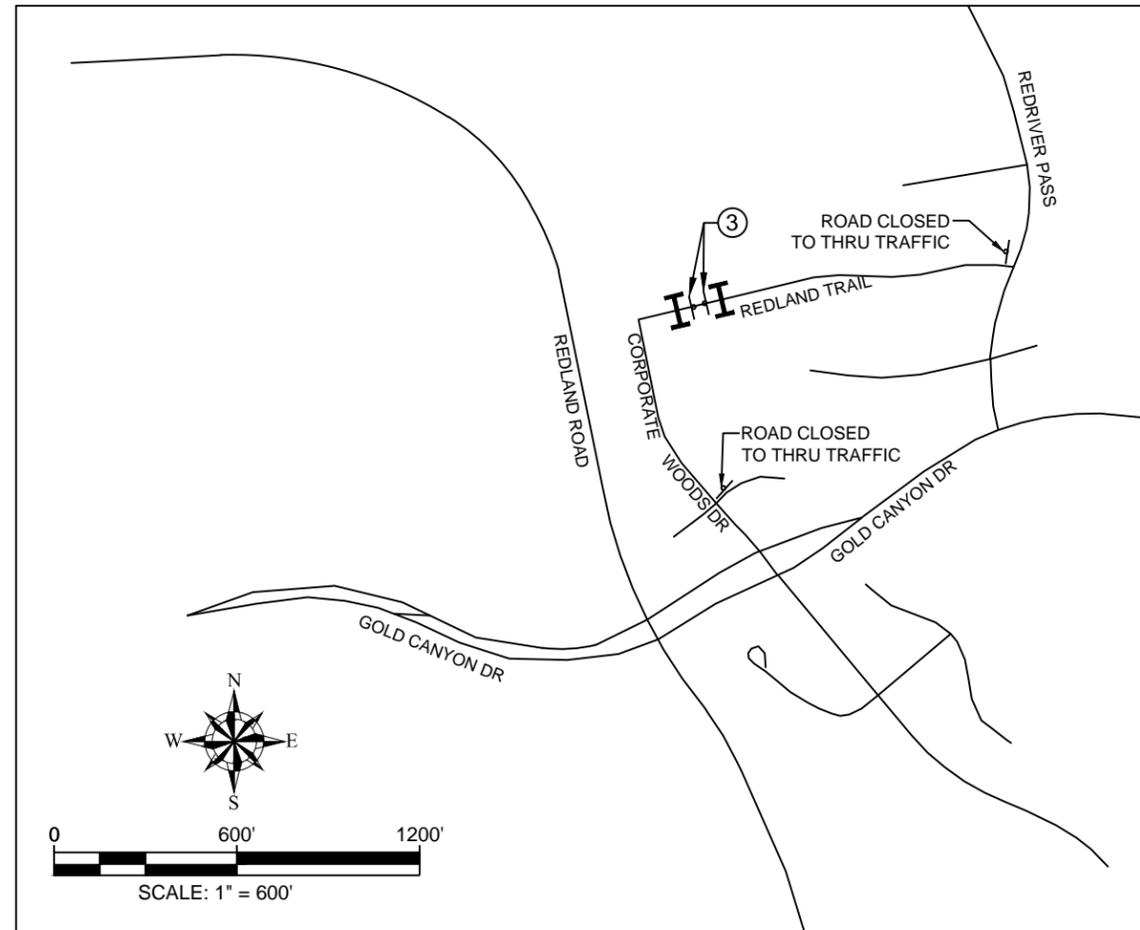
③ ROAD CLOSED R11-2 48 X 30

LEGEND

- WORK ZONE
- TEMP DRIVING PVMT SURFACE (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
- LPCB

NOTES:

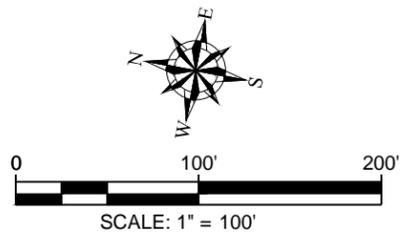
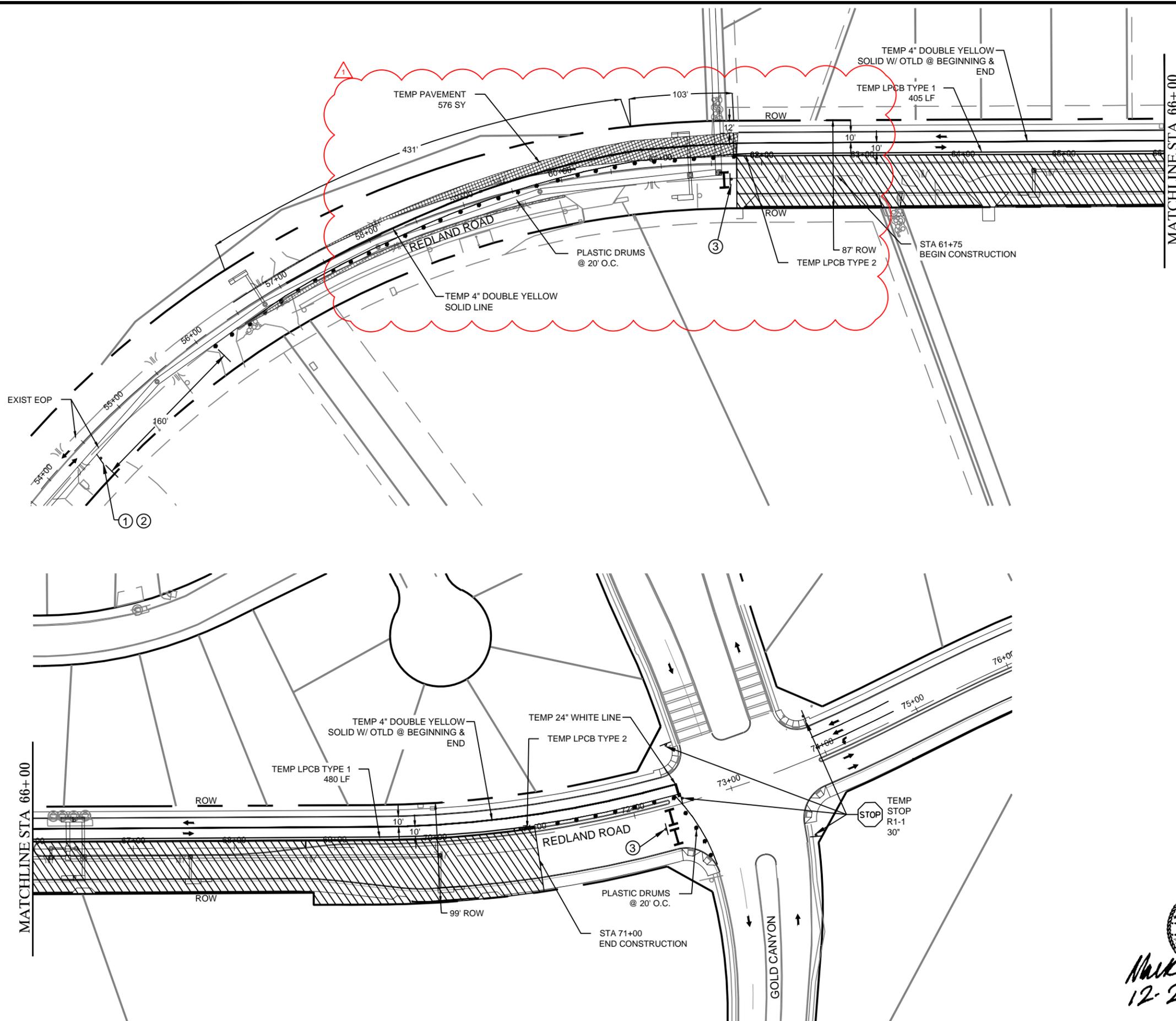
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2. THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION WILL CHANGE THE EFFECT ON THE TRAVELING PUBLIC. WITH THE NOTIFICATION, THE CONTRACTOR SHALL PROVIDE INFORMATION ABOUT PORTIONS OF CONSTRUCTION AS DIRECTED/APPROVED BY THE ENGINEER. THE INFORMATION SHALL BE PROVIDED WITH SUFFICIENT TIME SUCH THAT THE ENGINEER CAN FORWARD INFORMATION TO THE MEDIA TO INFORM THE PUBLIC, BEFORE THE CONSTRUCTION AFFECTS THE TRAVELING PUBLIC.
3. SIGN LOCATIONS ARE APPROXIMATE. ANY EXISTING SIGNS CONFLICTING WITH TEMPORARY TRAFFIC CONTROL OPERATION SHALL BE COVERED OR REMOVED. PAYMENT SHALL BE SUBSIDIARY TO ITEM 530.
4. REFER TO TCP (1-4a)-12, TCP (2-3b)-12, BC (1-12)-14, AND WZ-14 STANDARDS FOR SIGN TYPE AND SPACING.
5. REMOVAL OF EXISTING PAVEMENT MARKINGS PER SPEC 533. NO SEPARATE PAY ITEM.
6. CONTRACTOR TO ENSURE ALL LOW PROFILE CONCRETE BARRIERS HAVE FLEXIBLE REFLECTIVE DELINEATORS ATTACHED.
7. LPCB(1)-92 AND LPCB(2)-92 LOW PROFILE CONCRETE BARRIER (PORTABLE AND PRECAST). INCLUDES COST FOR FURNISHING, INSTALLING, REUSE, RELOCATION, AND REMOVING FOR THE DURATION OF THE PROJECT, PER ITEM 525. RELOCATE TEMP LPCB AT END OF PHASE TO NEXT PHASE AND ADJUST QUANTITY, AS NEEDED.
8. MAINTAIN 10' MINIMUM TRAVEL LANES.



Mark B. Hill
12-23-2014

<small>TYPE No. E-1102</small> FORD ENGINEERING, INC. 10927 WYE DRIVE SUITE 104 SAN ANTONIO, TX 78217 TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com		
CITY OF SAN ANTONIO DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS		
REDLAND ROAD NORTH IMPROVEMENTS TRAFFIC CONTROL PLAN ① PHASE 4B REDLAND TRAIL CULVERT		
100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: NOV 23, 2015
DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH
SHEET NO: 47 OF 466		

REV.	DATE	DESCRIPTION
1	12-23-2015	ADDENDUM 4



SIGN LEGEND		LEGEND	
①	CW1-4L 48 X 48	WORK ZONE	
②	C13-1P (35) 24 X 24	TEMP DRIVING PVMT SURFACE (SEE SHEET 34)	
③	ROAD CLOSED 48 X 30	TYPE III BARRICADE	
		TRAFFIC FLOW	
		OPPOSING TRAFFIC LANE DIVIDER	
		VERTICAL PANEL	
		PLASTIC DRUMS	
		LPCB	

- NOTES:**
- LOCAL ACCESS TO PROPERTIES AND BUSINESSES ADJACENT TO THE RIGHT OF WAY MUST BE PROVIDED AND MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
 - THE CONTRACTOR SHALL NOTIFY THE ENGINEER WHEN CONSTRUCTION WILL CHANGE THE EFFECT ON THE TRAVELING PUBLIC. WITH THE NOTIFICATION, THE CONTRACTOR SHALL PROVIDE INFORMATION ABOUT PORTIONS OF CONSTRUCTION AS DIRECTED/APPROVED BY THE ENGINEER. THE INFORMATION SHALL BE PROVIDED WITH SUFFICIENT TIME SUCH THAT THE ENGINEER CAN FORWARD INFORMATION TO THE MEDIA TO INFORM THE PUBLIC, BEFORE THE CONSTRUCTION AFFECTS THE TRAVELING PUBLIC.
 - SIGN LOCATIONS ARE APPROXIMATE. ANY EXISTING SIGNS CONFLICTING WITH TEMPORARY TRAFFIC CONTROL OPERATION SHALL BE COVERED OR REMOVED. PAYMENT SHALL BE SUBSIDIARY TO ITEM 530.
 - REFER TO TCP (1-4a)-12, TCP (2-3b)-12, BC (1-12)-14, AND WZ-14 STANDARDS FOR SIGN TYPE AND SPACING.
 - REMOVAL OF EXISTING PAVEMENT MARKINGS PER SPEC 533. NO SEPARATE PAY ITEM.
 - CONTRACTOR TO ENSURE ALL LOW PROFILE CONCRETE BARRIERS HAVE FLEXIBLE REFLECTIVE DELINEATORS ATTACHED.
 - LPCB(1)-92 AND LPCB(2)-92 LOW PROFILE CONCRETE BARRIER (PORTABLE AND PRECAST), INCLUDES COST FOR FURNISHING, INSTALLING, REUSE, RELOCATION, AND REMOVING FOR THE DURATION OF THE PROJECT, PER ITEM 525. RELOCATE TEMP LPCB AT END OF PHASE TO NEXT PHASE AND ADJUST QUANTITY, AS NEEDED.
 - MAINTAIN 10' MINIMUM TRAVEL LANES
 - TEMP DRIVING PVMT TO BE INSTALLED. REFER TO TCP (1-1b)-12 FOR TRAFFIC SIGNING AND CHANNELIZATION DEVICE SPACING.

ITEM NO.	DESCRIPTION	UNIT	QTY
①	MISC. PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (2 EA INSTALLATION)	WEEK	2
205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	576
②	525.1 CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	885
②	525.1 CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	40
②	535.1 4 INCH WIDE YELLOW LINE	LF	3086



Mark B. Hill
12-23-2014

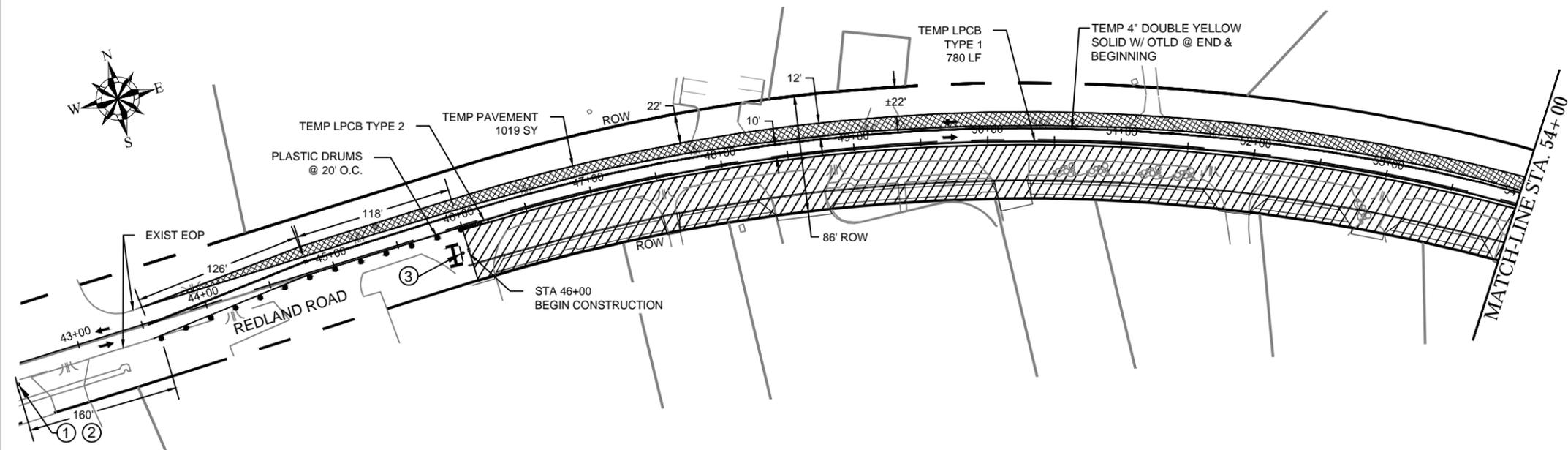
FORD ENGINEERING, INC.
10927 WYE DRIVE SUITE 104
SAN ANTONIO, TX 78217
TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
PHASE 3B REDLAND ROAD STA 60+00 - 71+00

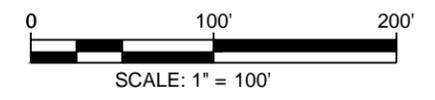
REV.	DATE	DESCRIPTION	100% SUBMITTAL	PROJECT NO.:	DATE:
1	12-23-2015	ADDENDUM 4	DD	40-00314	NOV 23, 2015

DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH	SHEET NO: 48 OF 466
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SIGN LEGEND

- ① CW1-4L 48 X 48
- ② 35 M.P.H. C13-1P (35) 24 X 24
- ③ ROAD CLOSED R11-2 48 X 30
- ⑦ LEFT LANE END CW9-1 48 X 48
- ⑪ CW1-4R 48 X 48
- ⑭ CW1-4R 48 X 48

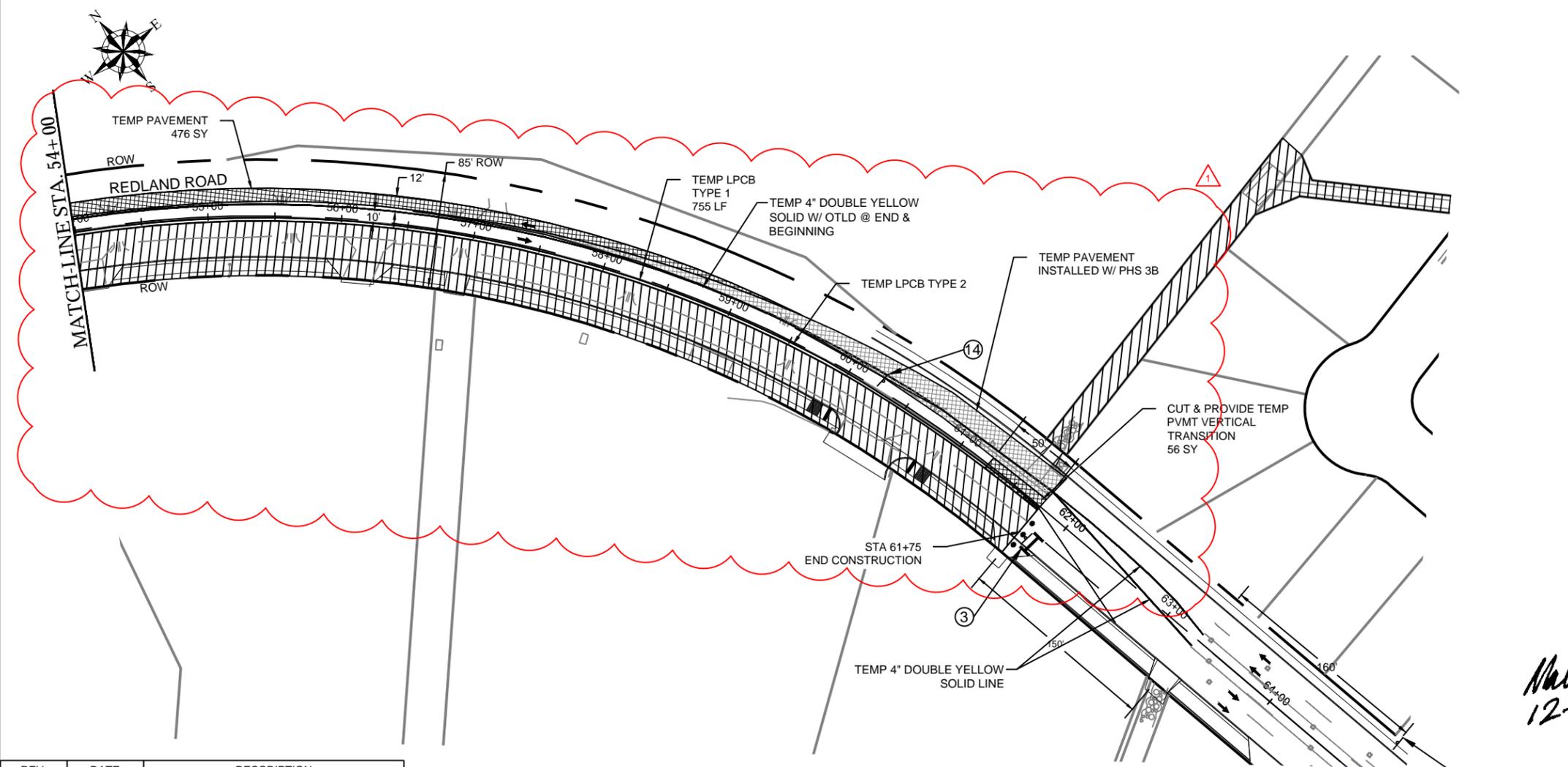


LEGEND

- WORK ZONE
- TEMP DRIVING PVMT SURFACE (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
- LPCB

NOTES:

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8. MAINTAIN 10' MINIMUM TRAVEL LANES
9. TEMP DRIVING PVMT ON THE EAST SIDE TO BE INSTALLED W/ PHASE 4A. REFER TO TCP (1-1b)-12 FOR TRAFFIC SIGNING AND CHANNELIZATION DEVICE SPACING.



ITEM NO.	DESCRIPTION	UNIT	QTY
MISC.	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (2 EA INSTALLATION)	WEEK	2
205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	1551
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	1535
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	40
535.1	4 INCH WIDE YELLOW LINE	LF	4259



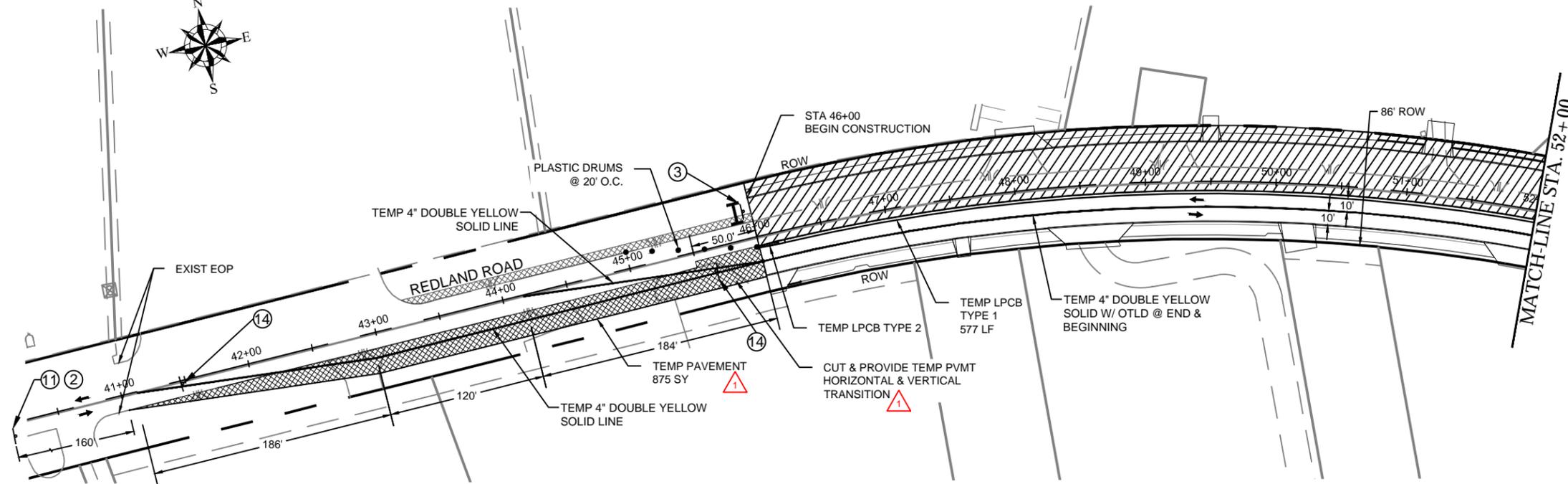
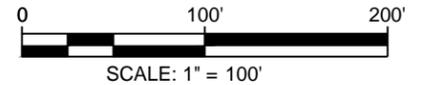
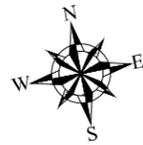
REV.	DATE	DESCRIPTION
1	12-23-2015	ADDENDUM 4

FORD ENGINEERING, INC.
 10927 WYE DRIVE SUITE 104
 SAN ANTONIO, TX 78217
 TEL. (210) 590-4777 FAX (210) 590-4940 www.fordengineering.com

CITY OF SAN ANTONIO
 DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
 PHASE 4A REDLAND ROAD STA 46+00 - 60+00

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: NOV 23, 2015
DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH
SHEET NO: 49		OF 466



SIGN LEGEND

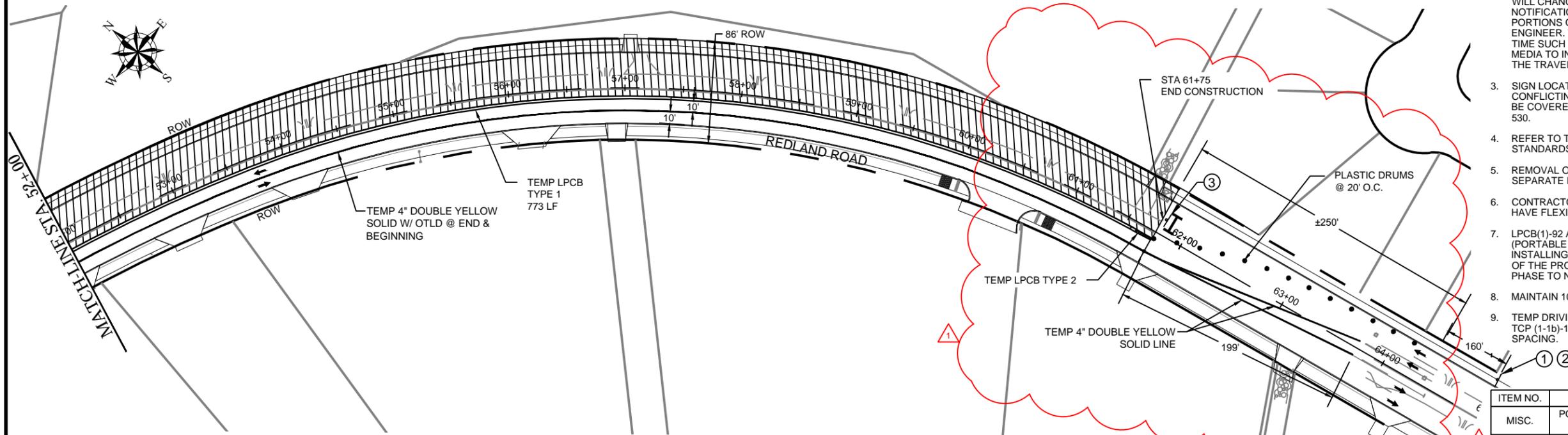
- ① CW1-4L 48 X 48
- ② C13-1P (35) 24 X 24
- ③ ROAD CLOSED 48 X 30
- ⑪ CW1-4R 48 X 48
- ⑭ CW1-4R 48 X 48

LEGEND

- WORK ZONE
- TEMP DRIVING PVMT SURFACE (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
- LPCB

NOTES:

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8. MAINTAIN 10' MINIMUM TRAVEL LANES
9. TEMP DRIVING PVMT ON THE WEST SIDE TO BE INSTALLED. REFER TO TCP (1-1b)-12 FOR TRAFFIC SIGNING AND CHANNELIZATION DEVICE SPACING.



ITEM NO.	DESCRIPTION	UNIT	QTY
MISC.	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) (2 EA INSTALLATION)	WEEK	2
205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	875
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	1525
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	40
535.1	4 INCH WIDE YELLOW LINE	LF	5130



Mark B. Hill
12-23-2014

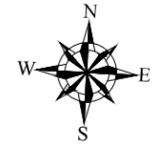
FORD ENGINEERING, INC.
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SAN ANTONIO, TX 78217
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CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
PHASE 4B REDLAND ROAD STA 46+00 - 60+00

REV.	DATE	DESCRIPTION	100% SUBMITTAL	PROJECT NO.:	DATE:
1	12-23-2015	ADDENDUM 4	DD	40-00314	NOV 23, 2015

DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH	SHEET NO: 50 OF 466
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SCALE: 1" = 100'

SIGN LEGEND

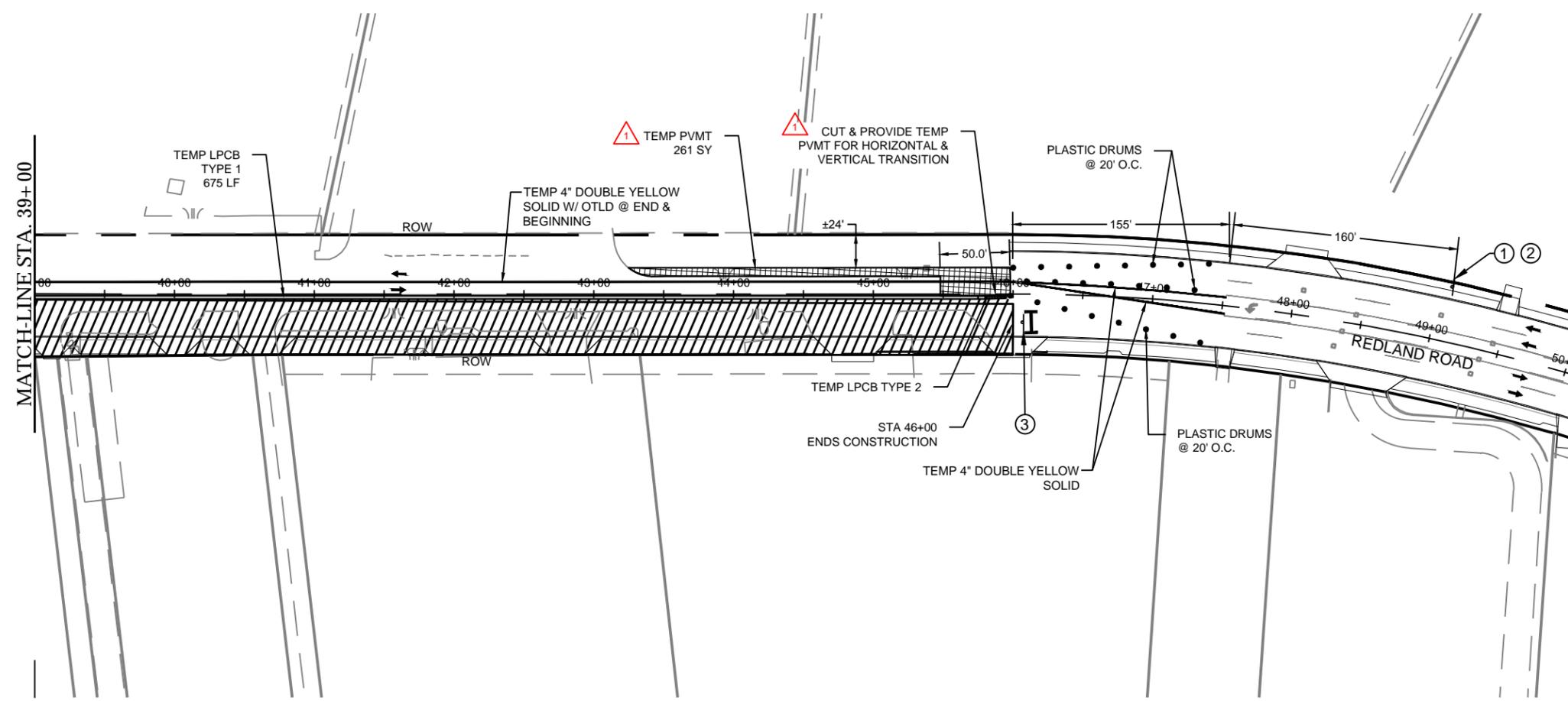
- ① CW1-4L
48 X 48
- ② C13-1P (35)
24 X 24
- ③ R11-2
48 X 30

LEGEND

- WORK ZONE
- TEMP DRIVING PVMT SURFACE (SEE SHEET 34)
- TYPE III BARRICADE
- TRAFFIC FLOW
- OPPOSING TRAFFIC LANE DIVIDER
- VERTICAL PANEL
- PLASTIC DRUMS
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ITEM NO.	DESCRIPTION	UNIT	QTY
① 205.2	TEMPORARY HMAC TYPE B (8" COMPACTED DEPTH)	SY	261
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 1)	LF	675
525.1	CONC. TRAFFIC BARRIER (LPCB) (TYPE 2)	LF	20
① 535.1	4 INCH WIDE YELLOW LINE	LF	2008

MARK B. HILL
 12-23-2014

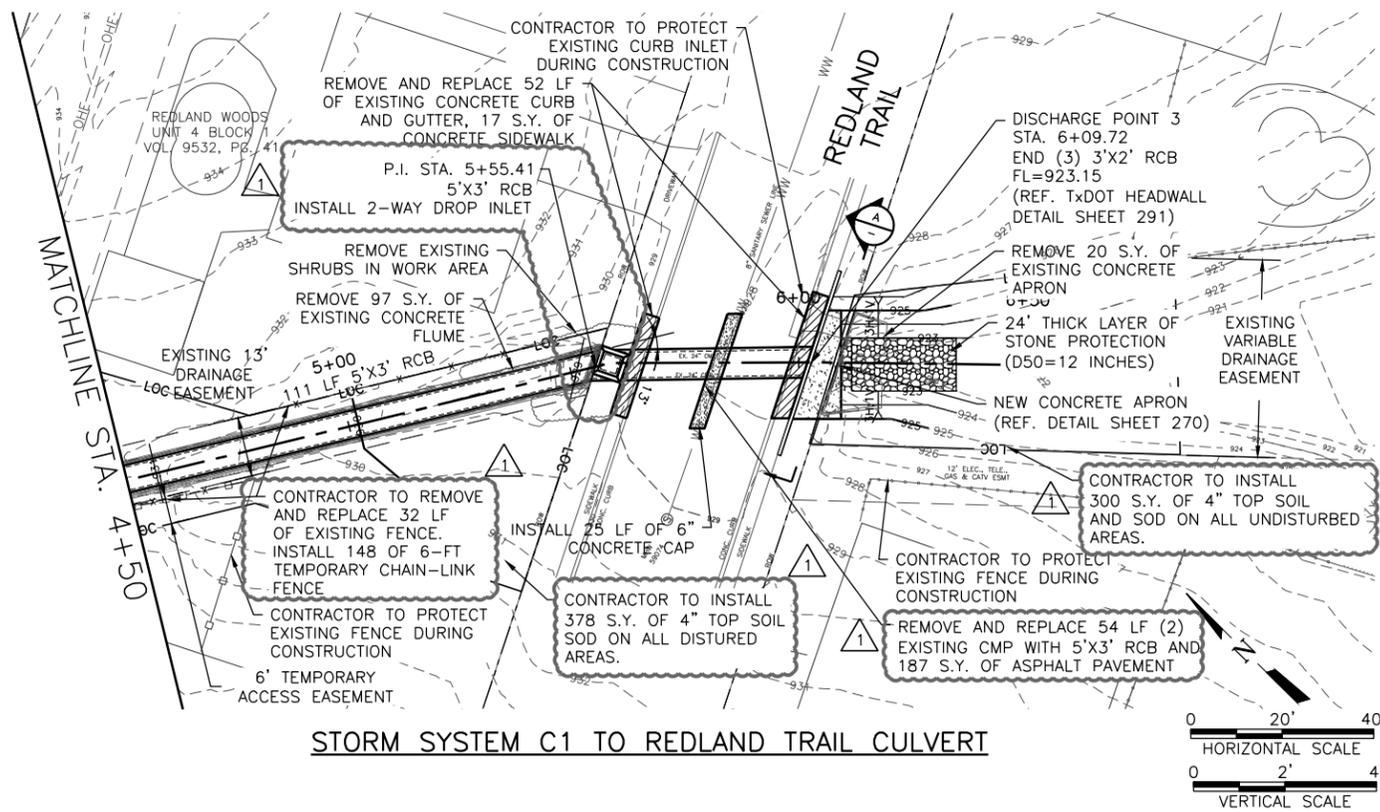
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CITY OF SAN ANTONIO
 DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

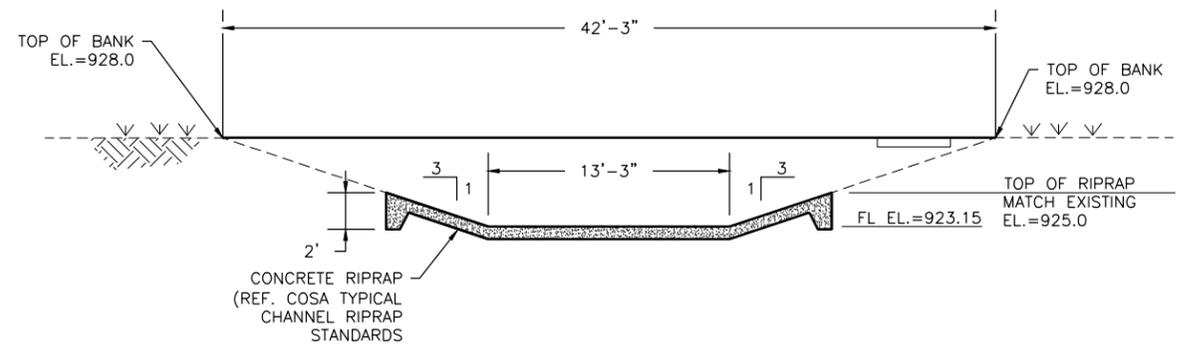
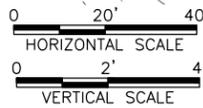
REDLAND ROAD NORTH IMPROVEMENTS
TRAFFIC CONTROL PLAN
 PHASE 5A REDLAND ROAD STA 39+00 - 46+00

REV.	DATE	DESCRIPTION	100% SUBMITTAL	PROJECT NO.:	DATE:
1	12-23-2015	ADDENDUM 4	DD	40-00314	NOV 23, 2015

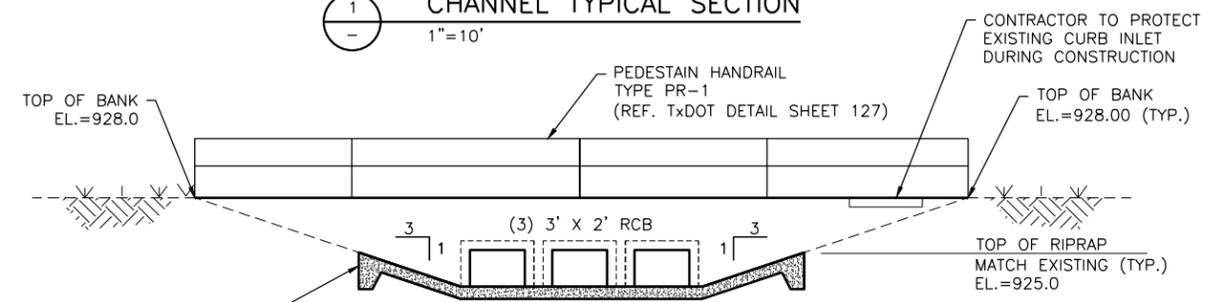
DRWN. BY: DD	DSGN. BY: MH	CHKD. BY: MH	SHEET NO: 52 OF 466
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STORM SYSTEM C1 TO REDLAND TRAIL CULVERT



CHANNEL TYPICAL SECTION

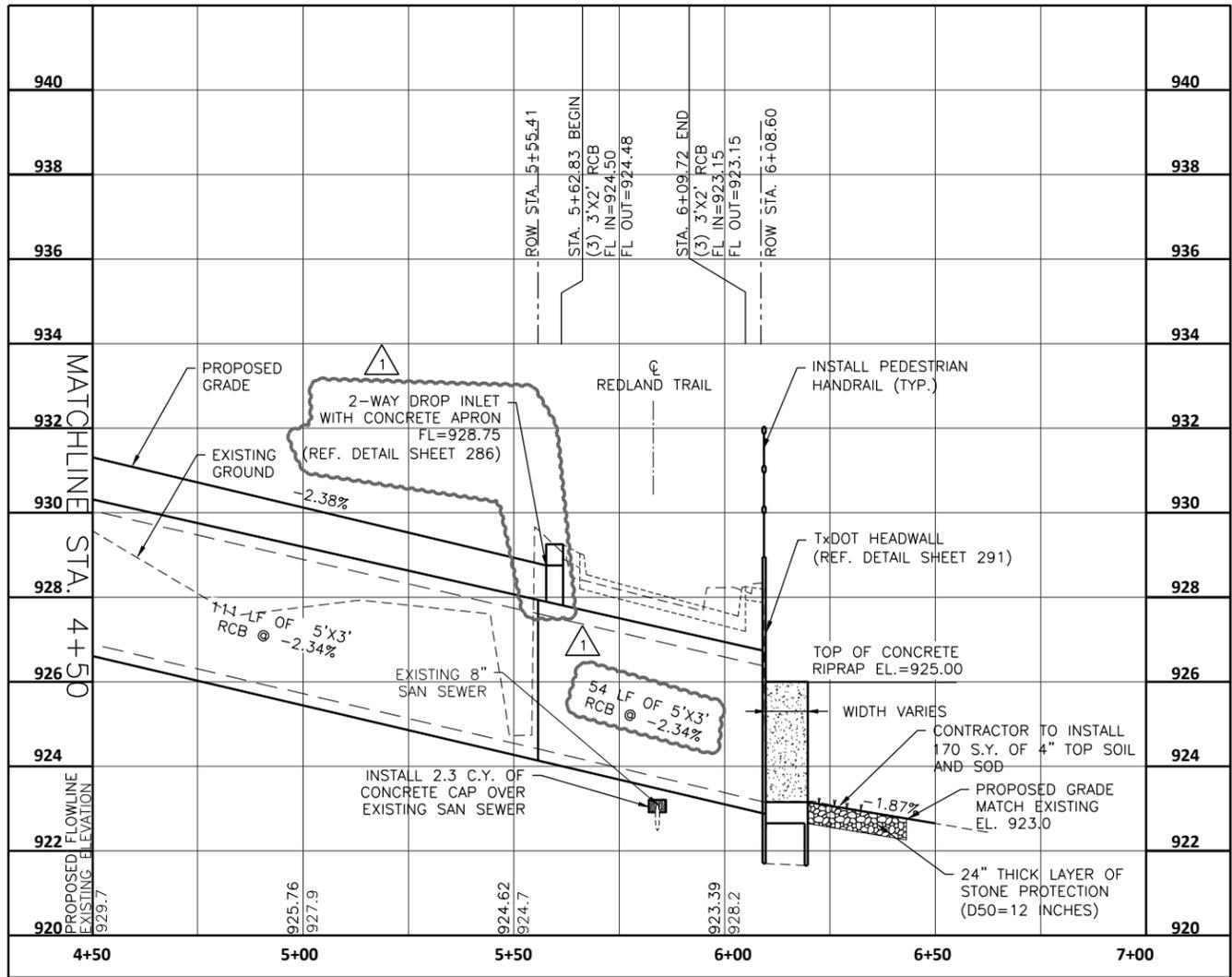


HEADWALL DOWNSTREAM VIEW

LEGEND

- PROP. STORM DRAIN LINE
- PROP. STORM DRAIN MANHOLE
- PROP. STORM INLET
- PROPOSED RIGHT-OF-WAY
- LIMITS OF CONSTRUCTION
- PROPOSED GAS
- PROPOSED WATERLINE
- PROPOSED UNDERGROUND TELEPHONE LINE AND MANHOLE BOX
- EXIST RIGHT-OF-WAY
- STORM DRAIN AND MANHOLE
- EX GAS LINE
- EX WATER LINE
- EX WASTEWATER LINE
- EX UNDERGROUND TELEPHONE
- EX EASEMENT
- EX GAS LINE BENCHMARK
- EX ELECTRICAL BOX
- EX ELECTRIC METER
- EX FIRE HYDRANT
- EX GAS VALVE
- EX IRRIGATION VALVE
- EX MAIL BOX
- EX POWER POLES
- EX SANITARY SEWER MANHOLE
- EX SIGN
- EX TELEPHONE MANHOLE
- EX TELEPHONE PEDESTAL
- EX TRAFFIC POLE
- EX TREE
- EX WATER METER
- EX WATER VALVE

CAUTION!! OVERHEAD ELECTRIC LINES EXIST WITHIN THE WORK AREA. THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA AND MAY NOT BE INDICATED ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.



FREESE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

NO: 40-00314 DATE: 12/22/15 REVISION: ADDENDUM #4 APPROVED BY: JDV

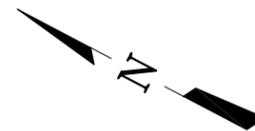
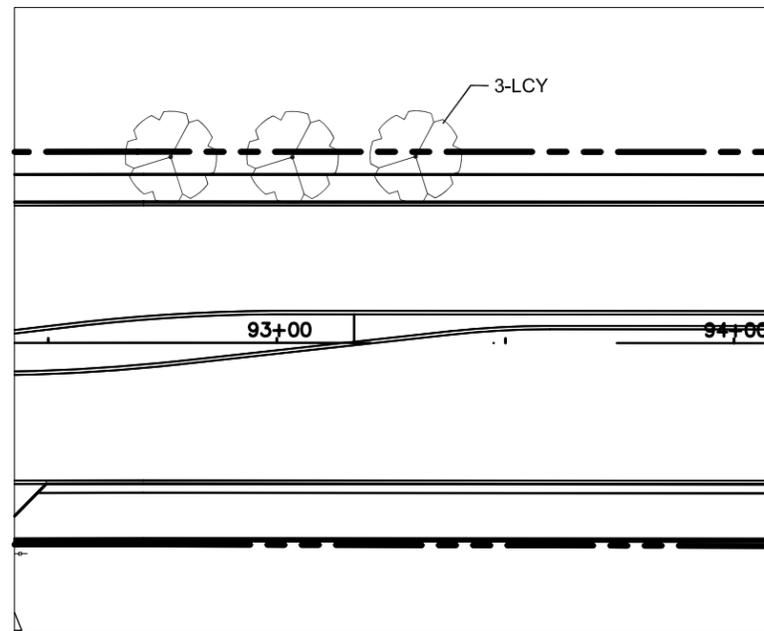
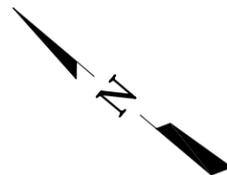
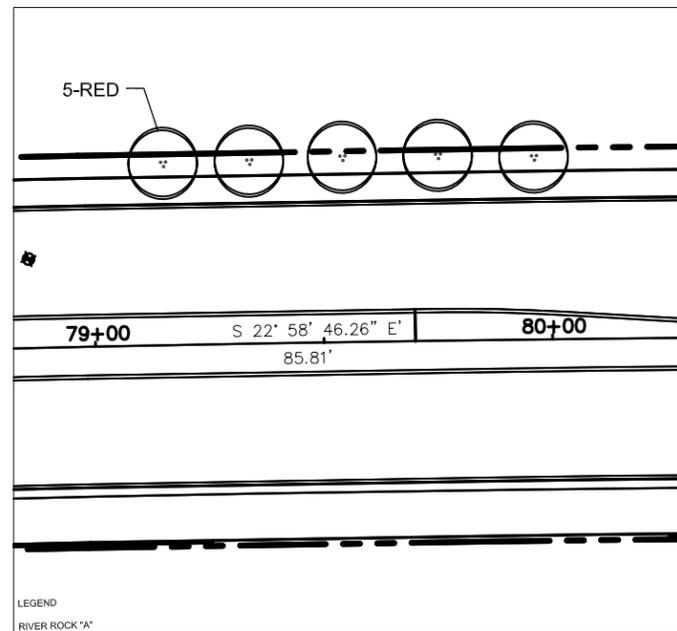
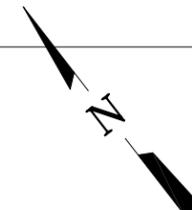
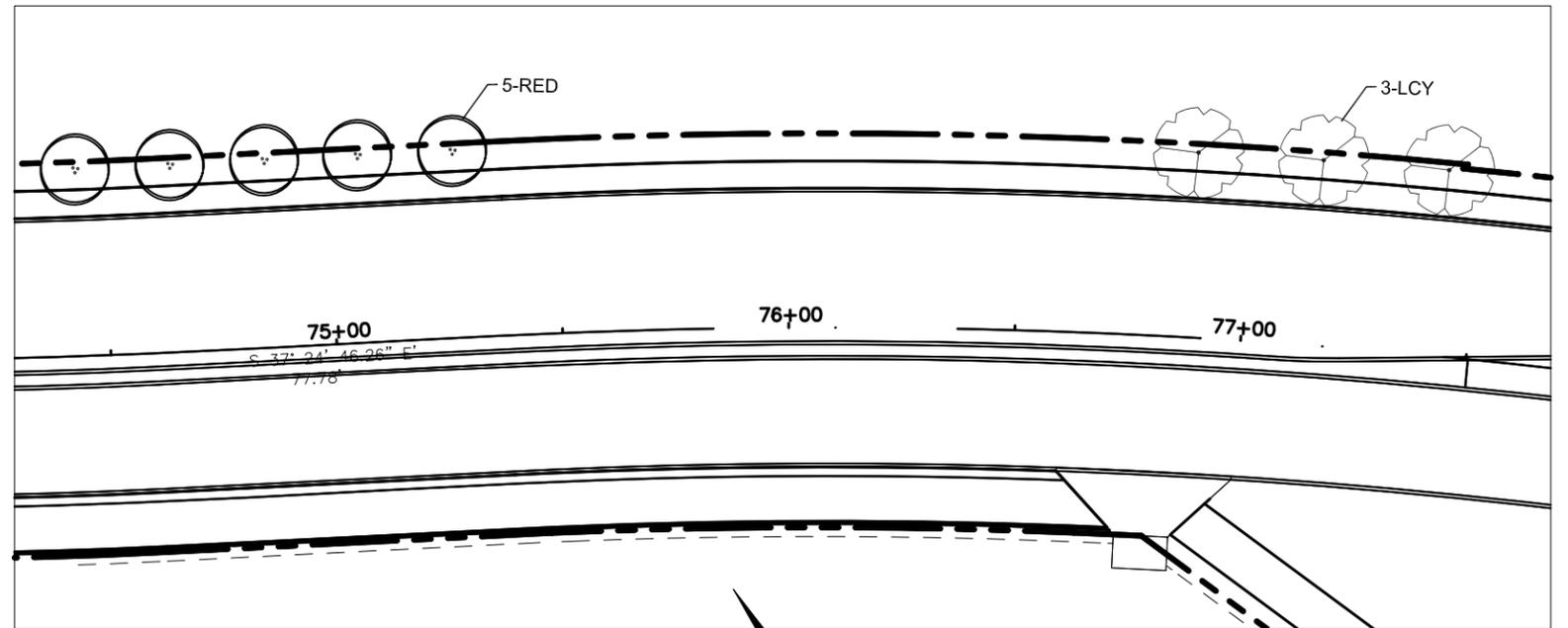
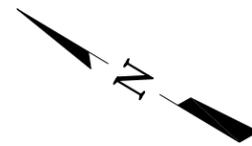
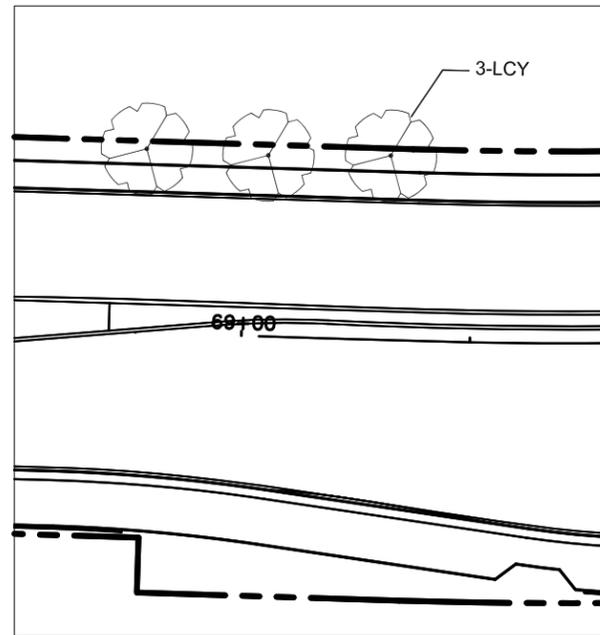
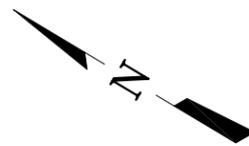
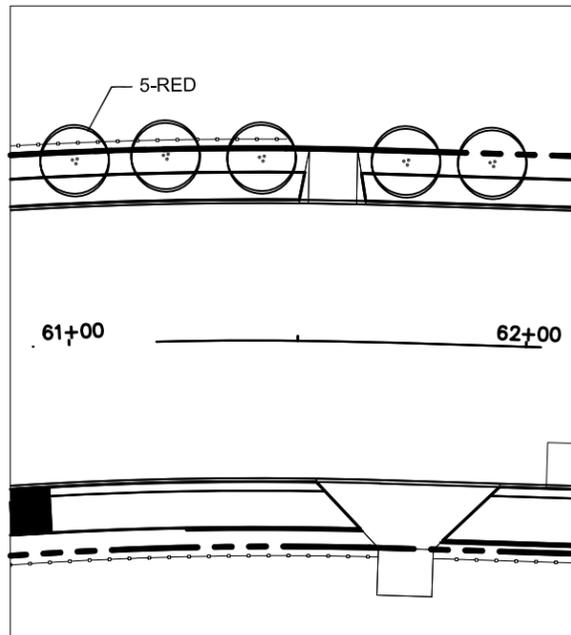
FREESE AND NICHOLS
4040 Broadway Street, Suite 600
San Antonio, Texas 78208-6353
PHONE: (210) 298-3800 FAX: (210) 298-3801 WWW.FREESE.COM

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD IMPROVEMENTS
DRAINAGE PLAN AND PROFILE
STA. 4+50 TO END LN-C1

100% SUBMITTAL PROJECT NO.: 40-00314 DATE: 12/18/2015
DRWN. BY: NO DSGN. BY: JDV CHKD. BY: JWS SHEET NO.: 2450F466

Drawing: C:\Users\jvaldez\appdata\local\temp\AcPublish_5904\CV-SAT-PP-STRM1.dwg
 User: no
 Last Modified: Dec. 18, 15 - 11:51
 Plot Date/Time: Dec. 18, 15 - 12:04:02



PLANT LIST			
KEY	QUANTITY	COMMON NAME, BOTANICAL NAME	MINIMUM SIZE, CONDITION, SPACING
TREES			
ELM	176	Cedar Elm, <i>Ulmus crassifolia</i>	Trees are single trunk unless noted otherwise 2" caliper, 8' height, 4' spread
LCY	9	Lacey Oak, <i>Quercus laceyi</i>	2" caliper, 7' height, 4' spread
RED	15	Texas Redbud, <i>Cercis canadensis 'Texensis'</i>	Three 3/4" canes, 6' height, 5' spread

- NOTES
- TREES WILL BE LOCATED AS SHOWN ON PLANS AND AS DETERMINED IN THE FIELD.
 - TREES LOCATED ALONG REDLAND ROAD WILL BE WATERED FROM A WATER TRUCK (SEE SCHEDULE BELOW).

WATERING FREQUENCY:

- 1st Month - Water three (3) times a week over root ball only
- 2nd Month - Water two (2) times a week over root ball only
- 3rd Month - Water once (1) a week
- Next six months - Water once a month
- Next Summer - Water 1-2 times in March - September

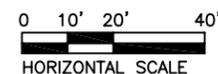
WATER AMOUNT (per event)

- < 3 inch trunk - one (1) gallon per trunk inch
- > 3 inch trunk - two (2) gallons per trunk inch

TREE PLANTED IN WINTER - Eliminate 1st Month Schedule

USE OF TREGATOR - Eliminate 1st and 2nd months schedule.

Retain the 3rd Month Schedule for the next three months, the six months, and the next year's schedule.



FREESSE AND NICHOLS, INC.
TEXAS REGISTERED ENGINEERING FIRM F-2144

LANDSCAPE ARCHITECTURE
MASTER PLANNING
URBAN DESIGN

LAFFOON
ASSOCIATES

319 HARMON DR., SUITE 100
SAN ANTONIO, TEXAS 78209
210.828.0455 jlafoon@bcglobal.net

11/11/15

NO.	DATE	REVISION	APPROVED BY
1	12/11/15	WATERING SCHEDULE	JOHN LAFFOON

FREESSE AND NICHOLS
4040 BROADWAY ST., STE 600
SAN ANTONIO, TX 78249
PHONE: (210) 298-3800 FAX: (210) 298-3801 WWW.FREESSE.COM

CITY OF SAN ANTONIO
DEPARTMENT OF TRANSPORTATION AND CAPITAL IMPROVEMENTS

REDLAND ROAD IMPROVEMENTS
LANDSCAPE PLAN
STA. 61+00 TO STA. 94+00

100% SUBMITTAL	PROJECT NO.: 40-00314	DATE: 11/11/2015
DRWN. BY: JLL	DSGN. BY: JLL	CHKD. BY: JLL
		SHEET NO.: 335_OF_466

SECTION 329300

PLANTING

PART 1 GENERAL

1.1 RELATED DOCUMENTS

Requirements of Drawings, General & Supplementary Conditions and Division 1 apply to this section.

1.2 SCOPE

A. This section covers the work necessary for planting, including but not limited to

1. Protect existing vegetation
2. Prepare planting areas
3. Dig and prepare planting holes
4. Place plant material and backfill
5. Sod or hydromulch lawns (See Roadway Spec)
6. Prune plant material
7. Mulch planting areas
8. Guarantee plant material

1.3 CLARIFICATION OF PLANS

A. In event discrepancies occur between quantities of plants or plant names indicated on the plant list as drawn on the plans, the plants shown on the plans and as required to complete the intent of the plan shall govern. Review the plans carefully and bring any discrepancies to the attention of the Landscape Architect 15 days prior to bid opening date.

1.4 QUALITY ASSURANCE

A. Size and grading standards shall conform to those of the American Association of Nurserymen and the Texas Association of Nurserymen. A plant shall be dimensioned as it stands in its natural position.

1.5 RELATED WORK

SECTION 321443 - River Rock Placement

1.6 SUBMITTALS

- A. Submit minimum one-quart sample of topsoil to the Landscape Architect for approval prior to installation. Provide list of contents and source of each material.
- B. Submit prior to final acceptance, reproducible "as built" drawings showing the location of any plant materials that have been planted in locations other than that shown on original plans. Label drawing "Record Drawing", date, seal, sign and submit to the Landscape Architect.

1.7 SUBSTITUTIONS

No substitutions will be permitted without prior approval of the Landscape Architect.

1.8 DELIVERY AND HANDLING

A. Notify the Landscape Architect at least 48 hours in advance of delivery of plant materials to the work site. All plant materials will be reviewed at the site prior to planting.

- B. Avoid delivering plant materials to the site unless they are scheduled to be planted within 2 days.
- C. Deliver plant materials to the site in covered or protected vehicles. Protect plant materials from wind and sun injury. Delivery will be to area designated on the plan or as provided by the Owner and only after coordination with other trades to insure that the area is available to be occupied.
- D. Plants shall be handled in a professional manner with appropriate equipment to prevent scaring or breakage to trunks, limbs and branches, and to insure integrity of root balls. Plants with loose, broken or damaged root balls will be rejected.
- E. Keep stored plant materials (especially balled & burlapped stock) well watered while stored.
- F. Cover stored loose materials to prevent damage or scattering.

1.9 PROJECT CONDITIONS

- A. Coordinate with other trades before beginning work.
- B. No plant materials will be installed until official approval by the Landscape Architect has taken place. Any unapproved plant materials installed by the contractor and found to be substandard will be removed at the contractor's expense and replaced with plants meeting the criteria outlined in the construction documents, after approval by the Landscape Architect.

1.10 NOTIFICATION

- A. Notify the Landscape Architect a minimum of 48 hours prior to requesting a site visit.

PART 2 - PRODUCTS

2.1 PLANTING SOIL MIX – N/A

2.2 TOP SOIL

- A. Topsoil shall be good quality natural sandy loam, dark brown in color, fertile, friable, soil that is free of subsoil, clay, lumps, brush, stones larger than 1", any type grass, weeds, seeds and any debris detrimental to plant growth. Topsoil shall be harvested from the upper 6" - 18" of sites known to contain high quality soils. The topsoil will be used as backfill for tree planting. PROVIDE SAMPLE PRIOR TO INSTALLATION.

2.3 PLANT MATERIALS

- A. To promote survivability and long term health, trees shall be obtained from sources that grow or harvest trees within a 150 mile radius of the project site. Rainfall and soil conditions (pH) at sources shall be commensurate with conditions at the project site.
- B. All plant materials shall be typical of their species and variety. Trees shall have strong central, non-forking, single trunks (unless noted otherwise in the plant list). Tree canopies shall be well-developed, with symmetrical branching.
- C. All plants shall have normal, well-developed branches and vigorous root systems. They shall be sound, healthy, vigorous, free from defects, disfiguring knots, abrasions of the bark, sunscald injuries, plant diseases, insect eggs, borers, and all other forms of infections.
- D. Field collected material shall be balled and burlapped. They shall be dug from areas with a subgrade favorable for good root development.
- E. Plants will be dug and moved with a solid ball of earth, secured by burlap and wire or other sufficient means. Broken, loose or manufactured balls of earth will not be accepted.

- F. Container grown stock will have vigorous root development throughout the container. Branch and root structures will extend at least to the outer edges of the container. Recently “potted up” material will not be accepted. Standards set forth by the American Association of Nurserymen and the Texas Association of Nurserymen will be followed.

2.4 PRE-EMERGENT HERBICIDE

- A. Pre-emergent herbicide shall be a product such as Eptam, Pennant or Balan XL2G

2.5 TREE PROTECTION

- A. Tree Wound Paint: TREEHEAL manufactured by FlintKote or approved equal.
- B. Tree Armor:
 - 1. Wood: SPFA utility grade, 2x4
 - 2. Wire: Annealed steel wire, 16 gage minimum.
- C. Tree Barricade Fencing: Fabric of square link orange 4' width, high density polyethylene with 5 – 7 year life. Posts of 6' height studded T-posts with painted-on finish for rust protection.

PART 3 - EXECUTION

3.1 PROTECTION OF EXISTING VEGETATION

- A. A protective barrier must be erected at the outer edge of each root protection zone (at the tree drip line where possible) and maintained in good and effective condition until construction is completed. The barrier may consist of 4' high vinyl construction fencing attached to metal T-posts driven into the ground at 8' spacing, or other approved materials sufficient to restrict all access from the root protection zone. Extra care is to be exercised to avoid damage to existing tree roots where the barrier is located within the tree's drip line, and damage to existing underground irrigation systems.
- B. During construction, no excess soil, additional fill, equipment, liquids, or construction debris shall be placed inside the protective barrier nor shall any soil be removed from within the barrier.
- C. Tree armor shall be placed at locations where barricade fencing interferes with construction access, as approved by Landscape Architect.
 - a. Protect tree trunk with tree armor to a height of eight feet (8) or to the limits of lower branching (when exposed to construction activity within the drip line) with 2x4's butted side to side completely around the trunk. Wrap wire (do not nail) around trees.
- D. The proposed finish grade and elevation of land within the root protection zone of any tree to be preserved shall not be raised or lowered more than three (3) inches. Welling and retaining methods are allowed outside the zone.
- E. The root protection zone for each tree to be preserved must remain unpaved.
- F. Protect existing trees and other vegetation to remain in place against cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling of construction materials or excavated materials within the drip line, excess foot & vehicular traffic or parking of vehicles within drip lines.
- G. Provide protection for roots 1" in diameter or greater during construction operations. Hand excavate within the drip line of existing trees. Clean cut roots 1" and larger with tree saw or ax. Coat cuts with tree wound dressing or other acceptable coating formulated for use on damaged plant tissues.

- H. Temporarily cover exposed roots with wet burlap to prevent roots from drying. Recover with soil as soon as possible.
- I. Repair or replace trees or vegetation indicated to remain which are damaged by construction operations, as directed by the Landscape Architect. Employ a licensed arborist to accomplish pruning or significant repairs to existing trees. Coordinate with the Landscape Architect.
- J. Any trees or vegetation damaged by construction operations which cannot be appropriately repaired and restored to full-growth status shall be replaced with new plant material at the Contractor's expense. The Landscape Architect shall determine appropriate replacement sizes.
- K. Comply with City of San Antonio ordinances.

3.2 PREPARATION OF PLANT BEDS - N/A

3.3 PLANTING

- A. Start planting when other divisions of work have been completed.
- B. Plants will be located where shown on the plans except where obstructions overhead or underground are encountered or where changes have been made in construction.
- C. Locations of all trees will be staked by the contractor and these locations approved by the Landscape Architect prior to the installation of trees.
- D. Shrub masses and arrangements will be laid out on the ground with shrubs in their containers. Arrangements must be approved by the Landscape Architect prior to planting.
- E. All plants shall be set to ultimate finish grade (unless noted otherwise), so they will be left in the proper relationship to the surrounding grade. No filling will be permitted around trunks or stems.
- F. All ropes, wire, etc., shall be removed from top of root balls and removed from planting hole before backfilling. Burlap shall be property cut at sides of root balls.
- G. Plant trees in holes at least 24" greater in diameter than diameter of tree ball. Bottom of tree root ball should rest on firm, 6" mound of undisturbed subsoil or well-compacted backfill added to the hole. Backfill in 8" layers with topsoil. Water-in to settle backfill. Create 4" deep water-retaining saucer around each tree. See drawings.
- H. Install tree staking as indicated on the plans.
- I. After planting has been approved by the Landscape Architect and just prior to placing mulch, distribute a pre-emergent herbicide such as Eptam, Pennant or Balan XL2G in all tree, shrub and groundcover planting areas at the rate recommended by the manufacturer. Provide evidence the herbicide has been applied.
- J. Place approved mulch material in plant beds and tree saucers to a minimum depth of 2". Do not mound mulch around plant stems or cover plant foliage.
- K. Thoroughly water plants immediately following planting. Deep water trees until there are definite signs that the trees are established, new growth is apparent and no trees are experiencing stress conditions. Do not over water.
- L. As necessary, plants will be neatly and appropriately pruned after planting. Remove dead and broken branches, but preserve the natural character of the plant material. All cuts will be made neatly and immediately covered with tree wound paint (especially oak trees).
- M. All pruning and repair work will be done in accordance with professional horticultural methods and as instructed by the Landscape Architect.

3.6 MAINTENANCE

- A. During the course of construction **and until 12 months after the project has been accepted** by the Landscape Architect and Owner, the Contractor will be responsible for maintaining all plants in a sound, healthy and watered condition. Weeds and grass in planting beds will be removed, including roots, or properly treated with herbicide during this period.
- B. Water all plant materials until accepted by the Landscape Architect and Owner. Apply sufficient water to provide 1" per week to all plants unless otherwise provided by natural rainfall.
- C. Restore any items damaged during execution of work under this section. Remove all excess soil, materials and debris from the site.

PART 4 - GUARANTEE

4.1 LENGTH OF GUARANTEE

- A. All plant material will be guaranteed to remain alive and healthy for twelve months from the time of final written acceptance. Plant replacements will be guaranteed for this same period.

4.2 RESPONSIBILITIES OF CONTRACTOR AND OWNER

- A. The Contractor shall periodically inspect the project during the guarantee period and immediately notify the Owner of any irregularities which might affect his guarantee.
- A. The Contractor shall also be responsible for resetting of any plants to an upright position or proper grade, and for removal and replacement of any dead or partially dead plant material.
- C. It will be the responsibility of the Owner to insure that the plant materials are watered and maintained sufficiently. Lawns and plant beds should receive approximately 1" of water per week, either from the irrigation system or natural rainfall. Trees should receive supplemental weekly watering (depending on rainfall) by hose (fill planting saucer and allow to soak into ground) for one year after planting. Restore damaged planting saucers when necessary. Additional tree watering may be required during extremely hot and/or dry weather.

PART 5 – MEASUREMENT & PAYMENT

5.1 MEASUREMENT

- A. Measurement for "Tree Planting" shall be made by each tree for trees planted in place as designated on the plans and specifications.
- B. Measurement for "Tree Protection" shall be made by each tree for protection in place as designated on the plans and specifications.

5.2 PAYMENT

- A. Payment for "Tree Planting" measured as above, will be paid for at the contract price bid per tree, which price shall be full compensation for furnishing, hauling, excavation, placing materials, for all plants, soil mix, mulch, herbicides, tree staking and water required for all labor, tools, equipment and incidentals necessary to complete the work as designed.
- B. Payment for "Tree Protection" measured as above, will be paid for at the contract price bid per tree, which price shall be full compensation for furnishing, hauling, placing materials, for all lumber, wire, rope or banding, fencing fabric, fence posts, and other material required for all labor, tools, equipment and incidentals necessary to complete the work as designed.

REDLAND ROAD NORTH

5.3 BID ITEMS

A. Item 329300.1 – Tree Planting – per tree

B. Item 329300.2 – Tree Protection – per tree

END OF SECTION

Item 9002

Temporary Suspension of Work

This item shall govern for the complete suspension of work throughout the entire project as established by the engineer.

Temporary Suspension of Work: The engineer may suspend the work wholly and will provide notice and reasons for the suspension in writing. Suspend and resume work only as directed in writing.

When work is suspended for reasons not under the control of the Contractor, the Engineer will suspend working day charges.

Project Schedule Update: If work has been suspended, the Contractor shall incorporate time suspensions into the monthly Project Schedule updates.

Measurement: This item will be measured by the week of work suspension.

Payment: The suspension of work implemented in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Temporary Suspension of Work." This price is full compensation for any required demobilization; covering of trenches; opening of lanes, sidewalks; payment for equipment, insurance and salaries during said work suspension; Project Schedule updates; remobilization; payment for barricades and field offices, and any other fees and documentation as may be required.

Bid Items:

Item 9002.1 – Temporary Suspension of Work in whole – per day.

ITEM 4100

REMOVING AND RELOCATING BACKFLOW PREVENTER

- 4100.1. **DESCRIPTION:** This item shall govern for removing and relocating of existing backflow prevention assemblies within the City's right-of-way, which interfere with the proposed construction. Materials shall include PVC of various size, valves, specialties, controls, fittings, and backflow preventers. The installation of pipe and backflow preventers shall include all joints or connections to existing pipes, valves or other appurtenances as may be required to complete the work.
- 4100.2. **MATERIALS:** Re-use existing materials where practical and as approved by the Engineer. If new materials are required, materials shall conform to the following provisions:
- A. PVC Pipe. Pipe shall conform to the requirements of ASTM D1785, PVC 1120 Schedule 40; or ASTM D2241, PVC 1120 SDR 21, class 200.
 - B. PVC Fittings. Solvent welded socket type fittings shall conform to requirements of ASTM D2466, Schedule 40. Threaded type fittings shall conform to requirements of ASTM D 2464, Schedule 80.
 - C. Solvent Cement. Solvent cement shall conform to the requirements of ASTM D 2564.
 - D. Backflow Preventers. Backflow preventers with intermediate atmospheric vent shall be in accordance with ASSE 1012. Reduced pressure principle backflow preventers shall be in accordance with ASSE 1013.
 - E. Accessories and Appurtenances. Pop-up spray heads, gear driven rotary heads, remote control valves, and valve boxes shall match existing equipment in brand model number and nozzles.
- 4100.3. **EQUIPMENT:** Provide the machinery, tools and equipment necessary for proper prosecution of the work. All machinery, tools and equipment used shall be maintained in a satisfactory and workmanlike manner.
- 4100.4. **CONSTRUCTION:** Remove portion of the backflow prevention assembly that conflict with the proposed new construction. Re-install backflow preventions assemblies after the required site grading and flat work has been completed. All backflow prevention assembly installation shall be in accordance with the following Standards unless otherwise directed or approved by the San Antonio Water System (SAWS). These instructions are general guidelines and are subject to change without notice. Any Inquiries or requests should be directed to the San Antonio Water System's Backflow Prevention Section at (210) 233-3332.
- A. Assemblies will be installed in an accessible location to facilitate maintenance, testing and repair, and should be located no more than five feet above the floor or grade level. The backflow preventer must be installed between the meter and the owner's first tap or tee (total containment) unless otherwise approved. Internal containment will be approved for car washes, schools, retail laundries and multiple lease spaces by individual review. In no instances will the assembly be allowed in the same vault with the San Antonio Water System's water meter. Containment backflow assemblies

on fire lines must be located within 100' (pipe length) of the property line.

- B. Vault lids will be constructed in such a manner as to permit easy accessibility at all times by an individual. Vaults deeper than five feet shall be provided with a ladder permanently attached to a side wall. It is the contractor and owner's obligation and responsibility to ensure OSHA regulations are adhered to in the construction of all vaults. Additionally, confined space regulations are to be consulted and followed in the testing and maintenance of the backflow prevention assemblies.
- C. Before installing the assembly, pipelines should be thoroughly flushed to remove foreign material.
- D. Test cocks must never be used as supply connections and must be plugged except when testing. Plugs must be non-ferris, e.g., brass, plastic, etc. Backflow preventers must be installed horizontally and in an upright position. Future testing and repair on backflow prevention assemblies require the indicated clearances to be provided regardless of test cock locations except for 1" or smaller double check valve assemblies that are repairable from the top, have test cocks on top of the assembly and not installed in concrete or asphalt.
- E. All hot water heating systems should be evaluated before the backflow prevention assembly is installed to ensure that a Thermal Expansion Tank has been properly installed and in working condition. Future backflow prevention assembly tests should also include the testing of pressure relief valves.
- F. In order to ensure that backflow prevention assemblies continue to operate satisfactorily, it will be necessary that they be tested at the time of installation. Such tests will be conducted in accordance with SAWS performance standards and field test procedures as prescribed by the American Water Works Association or the University of Southern California. The Backflow Prevention Section shall provide appropriate "test and maintenance" report forms. The completed test and maintenance report form shall be submitted to SAWS for record keeping and processing.
- G. The Backflow Prevention Section will inspect all containment installations, i.e., located between the water meter and the owner's first tap or tee.
- H. All costs entailed in the subject program are to be borne by the customer. This includes the initial purchase of the backflow preventer, its proper installation, testing and maintenance. Both containment and internal isolation backflow preventers must be maintained in good working condition.
- I. INSTALLATION OF REDUCED PRESSURE PRINCIPLE BACKFLOWPREVENTERS. Reduced pressure principle backflow preventers will be installed above ground. (Fig. A) The unit should be placed at least 12 inches (12") plus diameter of pipe above the finish grade to allow clearance for repair work. A concrete slab at finish grade is recommended. Proper drainage should be provided for the relief valve and may be piped away from the location, provided it is readily visible from above grade and the relief valve is separated from the drain line by a minimum of double the diameter of the supply line. A modified vault installation may be used if constructed with ample side clearances. (Fig. B) Freezing can be a problem in this area and precautions

A

should be taken to protect above ground installations. (See General Instructions, page 1).

ABOVE GROUND INSTALLATION

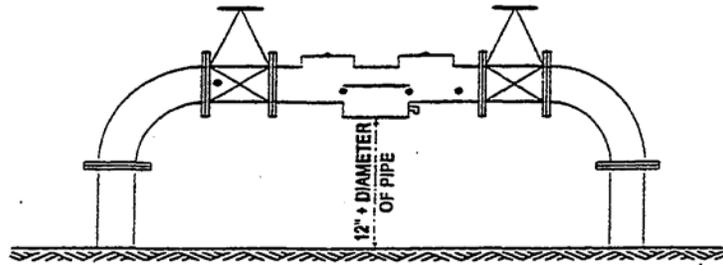


FIG. A

MODIFIED VAULT INSTALLATION

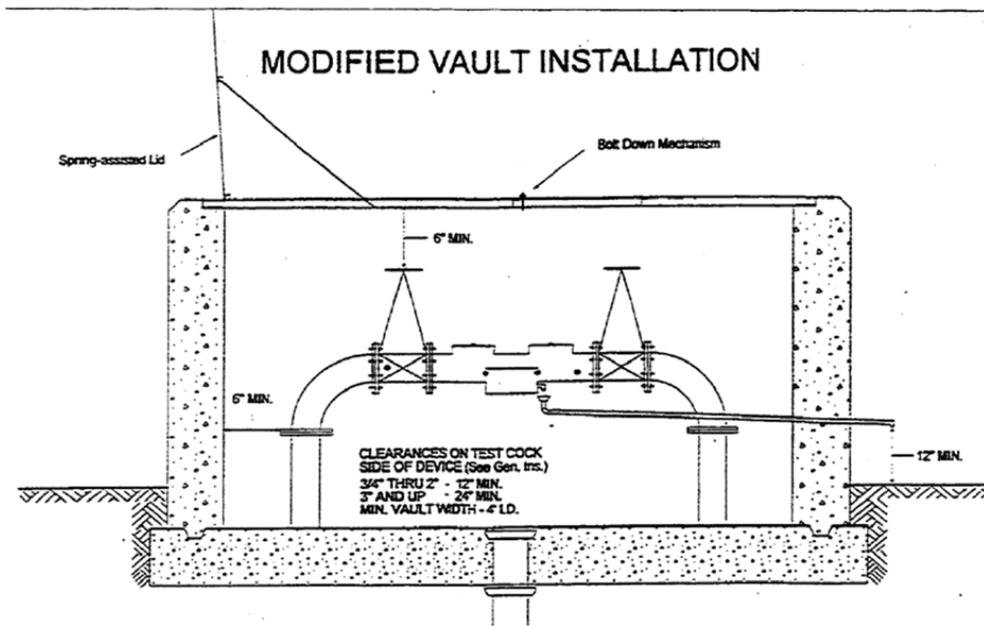
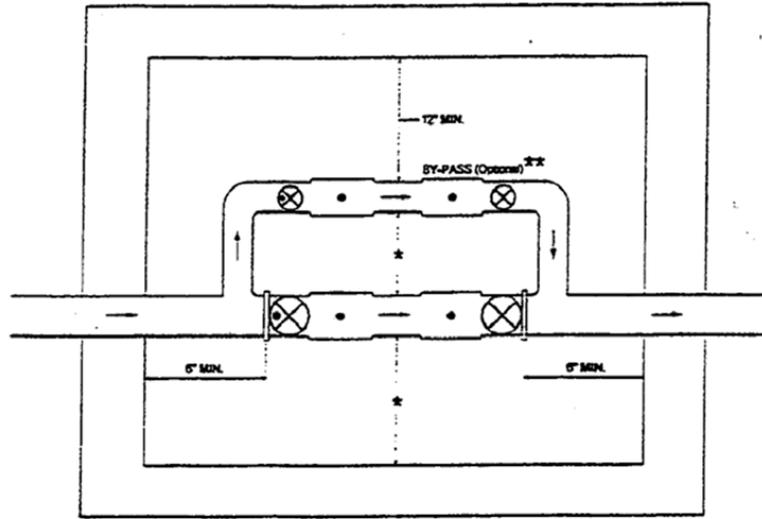


FIG. B

- J. INSTALLATION OF DOUBLE CHECK VALVE ASSEMBLY BACKFLOW PREVENTER. Though double check valve assemblies can be installed above ground, these backflow preventers are also readily adaptable for vault installations. Special notice should be given to the side clearances for accessibility to properly test and repair the assembly. Test cocks must be plugged. Plugs must be non-ferris, e.g., brass, plastic, etc. NOTE SIDE CLEARANCES, (Fig. C) (See General Instructions, page 1)

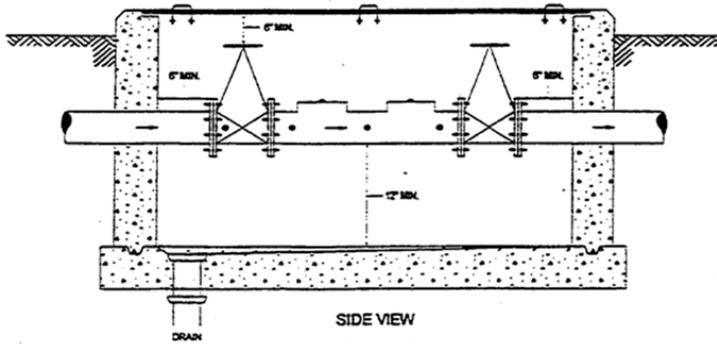
Vault Installation



TOP VIEW

CLEARANCES ON TEST COCK
SIDE OF DEVICE (See Gen. Ins.)
3/4" THRU 2" - 12" MIN. *
3" AND UP - 24" MIN.
MIN. VAULT WIDTH 3" AND UP - 4" I.D.

* SEE III A - 3/4" THRU 2"
** SEE V - BY-PASS POLICY



SIDE VIEW

Fig. C

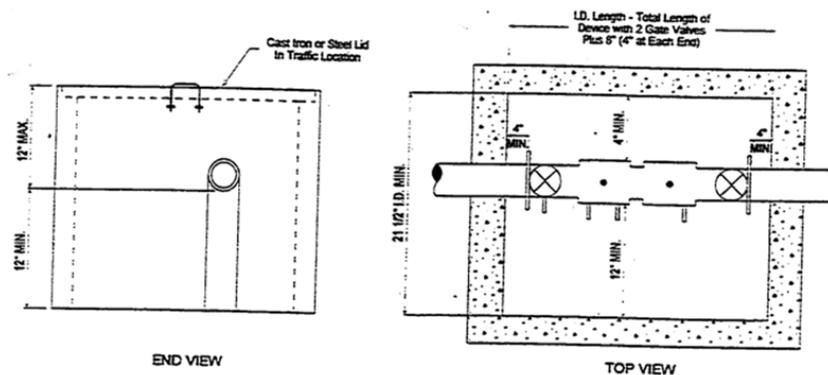
K. BELOW GRADE VAULT INSTALLATION OF DOUBLE CHECK VALVE ASSEMBLY. Double check valve assemblies should be installed above grade if possible, but may be installed in below grade vaults when these vaults are properly constructed in accordance with the following guidelines:

I. General – Double Check Valve Assemblies – All Sizes

Double check valve assembly backflow preventers, unlike reduced pressure principle assemblies, are designed and readily adaptable for below grade installations, provided they are installed in a vault which is well drained and of solid construction. Vaults within traffic areas should be constructed accordingly. Assemblies must be installed horizontally and in an upright position. Backflow preventers installed in a vertical position or on their side will be disapproved.

II. Double Check Valve Assemblies Sizes ¾" through 2"

Backflow preventers of sizes two inches and less should not be installed more than 12" below grade for accessibility during testing and repair. To accommodate the installation of most double check valve assemblies up to and including two inch sizes, a vault constructed of concrete, steel, cast iron or other durable material conforming to the dimensions described below is acceptable. Provide a twelve inch (12") clearance on the test cock side of the assembly (see General Instructions No. 4), a four inch (4") clearance on the non-test cock side' and a four inch (4") clearance between the two gate valves at the ends of the vault. Exception: The side clearance can be reduced to 4" on 1" or smaller double check valve assemblies that are repairable from the top, have test cocks on the top of the assembly and not installed in cement or asphalt, see General Instructions No. 4. The floor of the vault shall be either of solid construction with a drain or bottomless to facilitate drainage. In order to facilitate repair of Y-pattern assemblies, a twelve inch (12") clearance must be provided below the assembly. Rigid construction must extend to the floor of the vault.



- L. INDOOR INSTALLATION – REDUCED PRESSURE AND DOUBLE CHECK VALVE ASSEMBLY BACKFLOW PREVENTERS: Where it is impractical to install the backflow preventer above ground, the installation may be made in an easily accessible location inside a building. The unit should be placed above the floor and away from the wall, at a distance great enough to allow clearance for repair work. If the backflow preventer is positioned against the wall, care should be taken that the test cocks are easily accessible for testing, and the assembly can be repaired. An air gap should be used between the relief valve outlet and the drain line if drainage is to be piped away. The drain should be of adequate size to carry the volume of water the relief valve is capable of discharging. The air gap should be no less than double the diameter of the discharge pipe. (Fig. D) (See General Instructions, Page 1)

INDOOR INSTALLATION

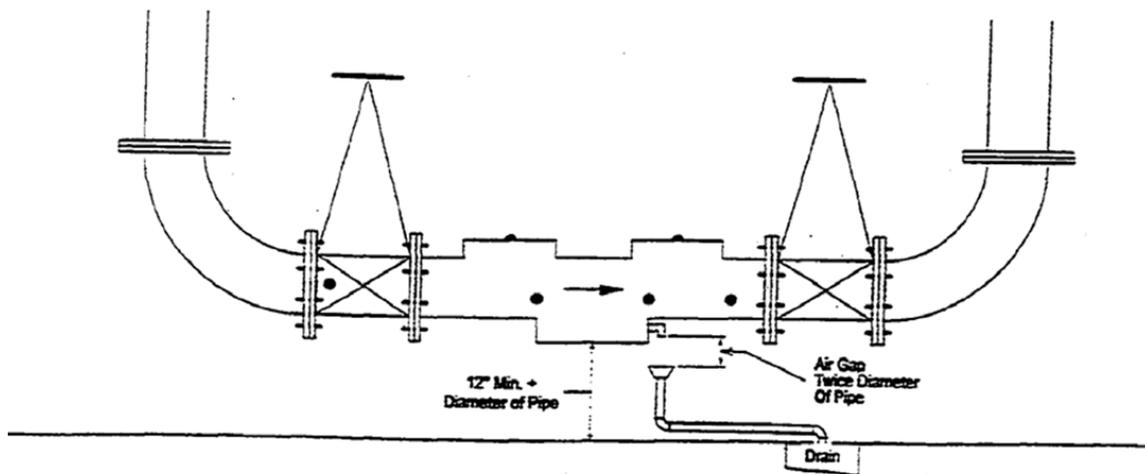


FIG D.

- M. BY-PASS POLICY. Backflow prevention assemblies must be tested upon installation. The testing procedure requires the water to be turned off. If continuous water service is a necessity, provisions should be made for a by-pass around the mainline backflow preventer. A by-pass installed around an approved backflow prevention assembly must be protected from backflow through this by-pass, i.e., it also will include a backflow preventer of the same type as the main service line backflow preventer. Though it need not be of the same size, it must be installed in a similar fashion to the service line device.
- N. AIR GAP SEPARATION (A/G). An air gap separation is the unobstructed vertical distance through the free atmosphere between the lowest opening from any pipe or faucet

supplying water to a tank, plumbing fixture or other device and the flood level or overflow rim of the receptacle. An "approved air gap separation" shall be at least double the diameter of the supply pipe measured vertically above the overflow rim of the vessel and in no case shall the gap be less than 1". The tank should be installed as close to the property line as practical. The piping between the water meter and the air gap separation should be entirely visible to ensure that no connections or tees are made in that area. To eliminate possible entrance of vermin, screened protections over the entire (A/G) set up are encouraged.

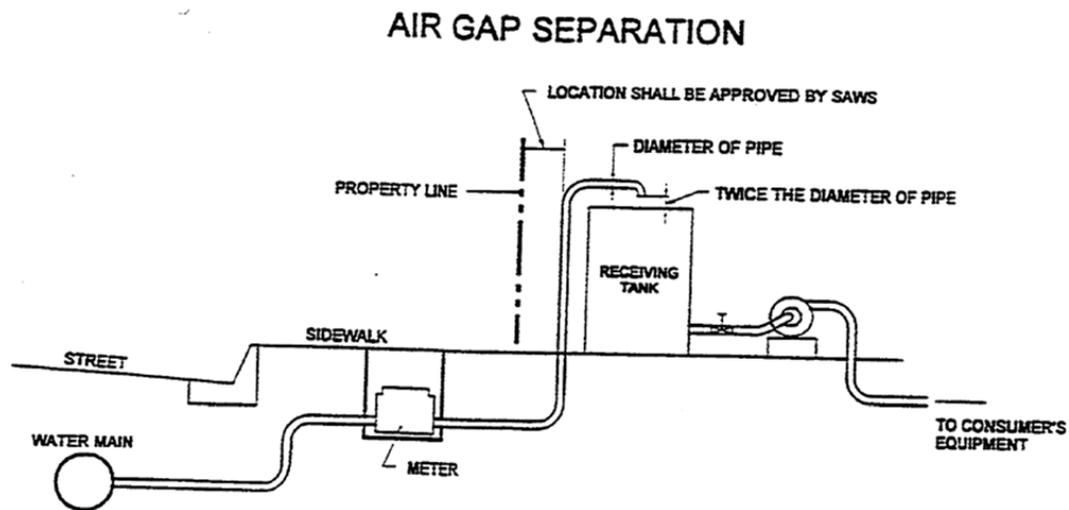


FIG E.

- O. LAWN SPRINKLER INSTALLATION USING A PRESSURE TYPE VACUUM BREAKER AS A BACKFLOW PREVENTER. Pressure type vacuum breakers may be installed without regards to downstream valve, making it possible to isolate an entire lawn sprinkler system with a single unit when properly located. This assembly must not be installed where it will be subject to backpressure and should be installed at least twelve inches (12") above the highest outlet. The vacuum breaker should be installed where it will be accessible for periodic testing and where, if slight spillage should occur, it would not be objectionable. (Fig. F) (See General Instructions). If chemical additives are to be used, an air gap separation or reduced pressure principle assembly will be required.

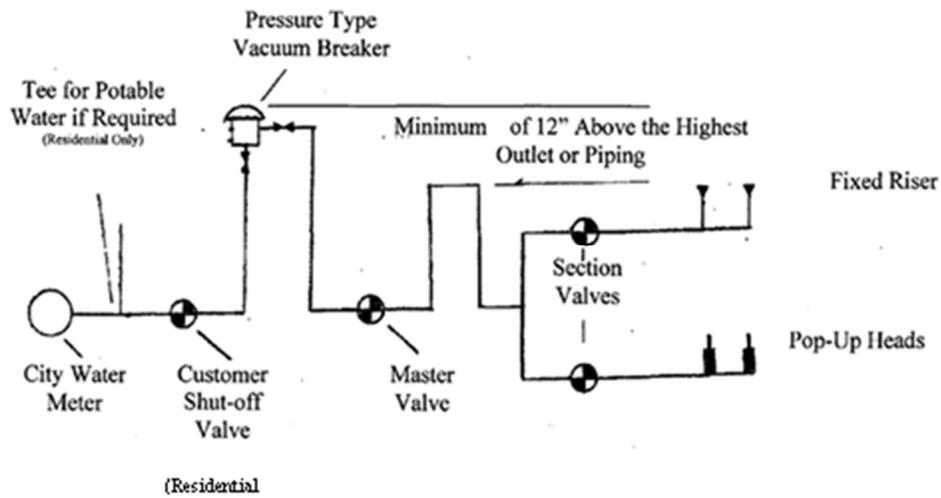


Fig F.

4100.5. **MEASUREMENT:** This item will be measured by the each of removal and replacement of backflow preventers.

4100.6. **PAYMENT:** The work performed as prescribed by this item will be paid for at the contract unit price bid, per linear foot for "removing and relocating backflow preventers" which price shall be full compensation for removing the existing backflow prevention assembly from its present location and relocation to permanent location as shown on the plans or as directed by the Engineer, for furnishing all materials, labor, tools, equipment and incidental necessary to complete the work.

4100.7. BID ITEM:

Item 4100.1 – Removing and Relocating Backflow Preventer – per each (EA).

Item 5140

Anti-Graffiti Coating

5140.1. Description. Provide anti-graffiti coatings on surfaces shown on the plans to meet the requirements of this Specification.

5140.2. Materials. This Specification governs for the materials, sampling, and testing of anti-graffiti coating.

(1) Bidder's and/or Supplier's Requirements. Utilize Sherwin Williams Pro Industrial Anti-Graffiti Coating in accordance with the manufactures recommendations or approved equal.

(2) Sampling and Testing. Sample and test each batch of anti-graffiti coating supplied to the project to verify that the supplied material matches the infrared pattern prequalification sample. Sampling and testing will be in accordance with the City's Testing Procedures.

Costs of sampling and testing be borne by the Contractor or supplier.

(3) Material Requirements. Secure materials in sufficient time to allow for testing and timely execution of the work. Requirements set forth for anti-graffiti coatings, which are proprietary in nature, do not relieve the manufacturer and/or the Contractor of any obligations relating to patents, nor does it give the manufacturer the right to patent infringement.

The Contractor may use coatings for above grade concrete, concrete block, exposed aggregate concrete, brick, and stonework. The anti-graffiti coating must not react deleteriously with any of the above substrates. When applied, it must produce a firm, continuous, uniform film free of pinholes, cracks, or other film defects and must exhibit satisfactory adherence. The consistency must be such to allow satisfactory coating application by spray, by roller, or by brush at atmospheric and material temperatures above 50°F without thinning. When applied properly to vertical surfaces, the material must not sag, disintegrate, check, peel, crack, or otherwise not form a uniform coating during the required curing period.

5140.3. Container and Markings. Ship material in containers that meet federal requirements and that are suitable, well sealed, and sufficiently sturdy to withstand normal shipping and handling. Plainly and securely label finished product containers and cases with the following:

- (1)** manufacturer's name,
- (2)** product designation, including component part,
- (3)** batch number,

- (4) date of manufacturer, and
- (5) net volume.

Labeling will be on the sides of containers and cases and must be moisture-resistant to withstand outdoor storage for a minimum of 1 yr. Protect containers from freezing. When palletizing the finished product for shipment, the labels will be to the outside for easy identification.

5140.4. Construction. Prepare the surface for application in accordance with Item 311, "Concrete Surface Finish," to remove laitance, curing compound, dirt, grime, and other contaminants. The Engineer must approve the cleaning method. When the manufacturer requires a primer, apply the primer in accordance with the manufacturer's recommendations.

If applying anti-graffiti coating over an existing coating, first clean the coating of dirt, grime, and other contaminants to meet the tape test described in TxDOT Item 427. The Engineer must approve the cleaning method. Also, remove any graffiti by approved methods before applying the anti-graffiti coating.

Meet the material preparation and equipment requirements recommended by the manufacturer.

Apply the anti-graffiti coating after completing the cleaning and just before the final acceptance of the work unless otherwise approved. Apply anti-graffiti coatings only when the substrate is dry and the temperature of the atmosphere, substrate surface, and material are above 50°F.

Do not apply anti-graffiti coatings when impending weather conditions might result in injury to the fresh coating.

Apply the anti-graffiti coating by spray, by roller, or by brush. When application is by spray, the applicator must spray in deliberate length passes, triggering the spray gun at the end of each pass, overlapping adjacent passes 20 to 40%. Aim the spray gun so that the material is meeting the surface at an angle not less than 80°. Applicators must practice the above techniques to paint on this project.

Apply the anti-graffiti coating in one coat. Total coverage will be at the rate of not more than 130 sq. ft. per gallon to achieve a dry film thickness of not less than 7 mils.

Apply the anti-graffiti coating to all exposed surfaces of the item to be treated.

5140.5. Measurement. Anti-graffiti coatings will be measured by the square feet or square yard of surface coated.

This is a plans quantity measurement Item and the quantity to be paid for will be that quantity shown in the proposal of the Contract plans, except as may be modified by Articles of the contract documents. If no adjustment of quantities is required, additional measurements or calculations will not be required.

City of San Antonio Special Specifications for Construction

5140.6. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Anti-graffiti Coating." This price will be full compensation for furnishing, labeling, storing, sampling and testing all materials, for cleaning existing surfaces; for application of material; and for all labor, tools, equipment, and incidentals.

5140.7. BID ITEM:

Item 5140.1 – “Anti-graffiti Coating” – per square foot (SF)

END OF ADDENDUM No. 4



City of San Antonio
TRANSPORTATION AND CAPITAL IMPROVEMENTS

RECEIPT OF ADDENDUM NUMBER(S) 4 IS HEREBY ACKNOWLEDGED FOR PLANS AND
SPECIFICATIONS FOR CONSTRUCTION OF THE Redland Road North #40-00314

FOR WHICH BIDS WILL BE OPENED ON January 12, 2016 at 2:00pm

THIS ACKNOWLEDGEMENT MUST BE SIGNED AND RETURNED WITH THE BID
PACKAGE.

Company Name: _____

Address: _____

City/State/Zip Code: _____

Date: _____

Signature

Print Name/Title