

**CITY CLERK
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* **CONTRACT SET**

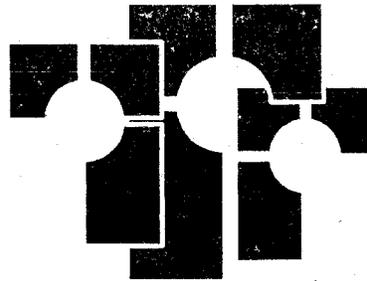
C-7806
10/25/2011

PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

PROJECT NO. 089029

67TH AVENUE STORM DRAIN; FRIER DRIVE TO
ORANGEWOOD AVENUE

AUGUST 2011

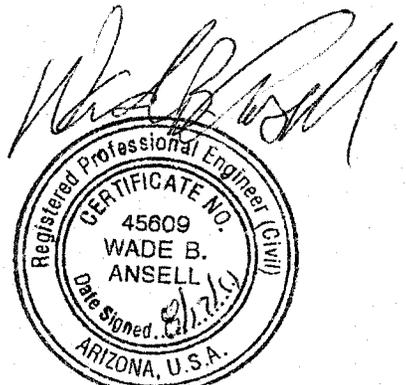


GLENDALE

CITY OF GLENDALE

ENGINEERING DEPARTMENT

5850 W. Glendale Avenue, Glendale, Arizona 85301 (623) 930-3630



EXPIRES 03/31/2013



Engineering Department

Memorandum

DATE: September 19, 2011
TO: All Plan and Specification Holders
FROM: Engineering
SUBJECT: Project# 089029 - 67th Avenue Storm Drain; Frier Drive to Orangewood Avenue

ADDENDUM NO. 1

In accordance with the contract documents "Information for Bidders," Page 4, Paragraph 10. CHANGES TO PLANS AND DOCUMENTS, the following revisions to the plans and specifications shall become a part of the contract documents and the bidder shall acknowledge receipt thereof as directed in Paragraph #11 of the Information for Bidders.

Please replace the bid schedule with the attached revised bid schedule.

The following bid items have been added to the bid schedule:

ITEM#	Description	Quantity	Unit
18	Remove Existing Concrete Curb & Gutter	60	LF
21	Remove Existing Sidewalk	30	SY
37	Concrete Catch Basin, COP P1570, Type N, Triple	2	EA

The following bid item quantity has been revised:

ITEM#	Description	Quantity	Unit
36	Concrete Catch Basin, COP P1569, Type M1	2	EA

On plan sheet 4 of 7 remove construction note bubble #1 and the reference to constructing 10 LF of 24" RGRCP CL IV Pipe, and revise the bid item quantity as indicated below.

The following bid item quantities have been revised:

ITEM#	Description	Quantity	Unit
40	24" CL IV RGRCP	366	LF
41	36" CL IV RGRCP	422	LF

The following bid item descriptions have been revised:

ITEM#	Description	Quantity	Unit
6	Asphalt Concrete Pavement Milling (3.5")	9,146	SY
8	Full Depth Pavement Repair (Aggregate Base Course 12" Thick, Asphalt Concrete Base Course, SHRP 3/4" (19 mm) 6" Thick)	100	SY
9	Asphalt-Rubber Concrete Overlay, Gap Graded (1.0")	772	TN
13	Supply & Install Replacement Water Valve Frame & Cover, (Contingency Item)	2	EA

On page 4 of the "Information for Bidders, paragraph 15 -TIME OF COMPLETION: revise the project completion period to ninety days (90 days).

Add the following paragraph to the Special Provisions section 6:

6.1.12 The Contractor shall maintain one travel lane in each direction and left turns at signalized intersections during the following periods:

Glendale Glitters Spectacular Weekend Friday, November 25 – Saturday, November 26, 2011,
5-10 p.m.

Christmas Holiday December 23-26, 2011

New Year Holiday – December 30, 2011 -January 1, 2012

Fiesta Bowl –January 2, 2012

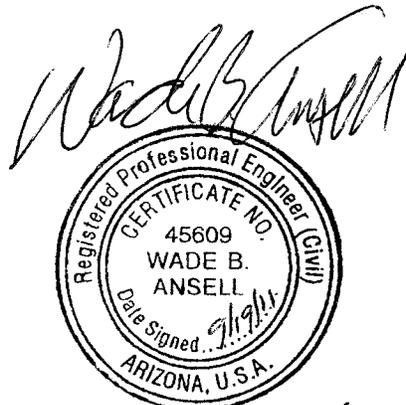
Glendale Glitter & Glow Block Party – Saturday, January 14, 2012

Glendale Chocolate Affaire – Friday, February 3, 2012 5 p.m. – Sunday, February 5, 2012, 5 p.m.

Add the attached Detail to the Bid Documents.

The detail clarifies pavement replacement for the storm drain trenches.

THIS ADDENDUM CONSISTS OF FIVE (5) PAGES.



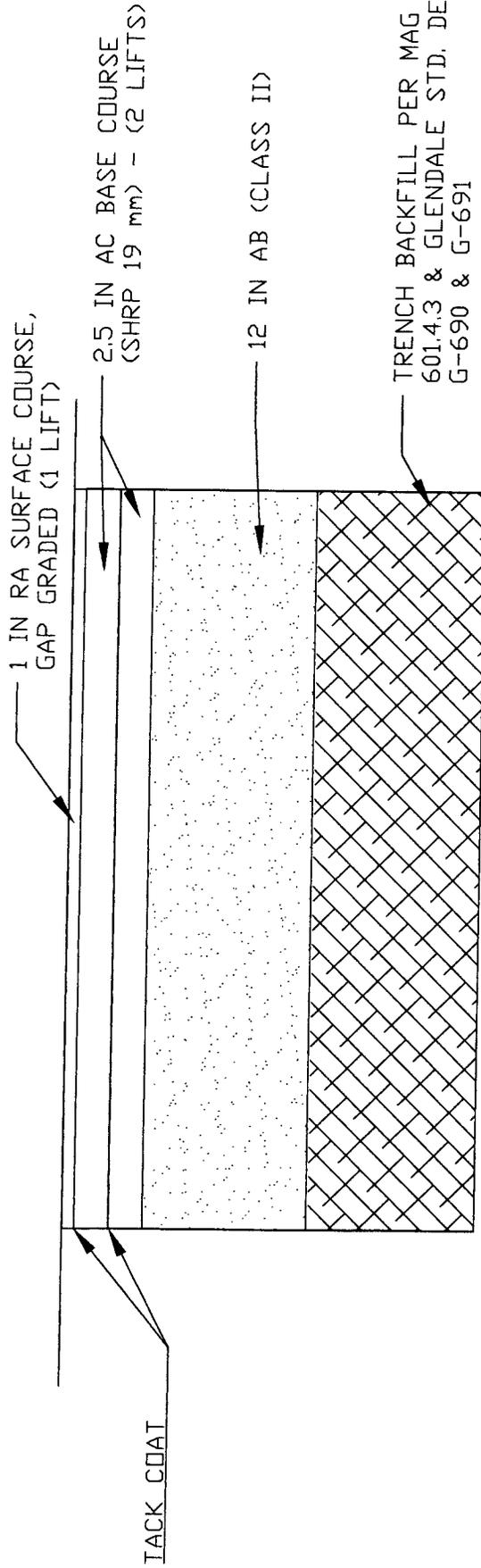
EXPIRES 03/31/2013

BID ITEM SUMMARY

ITEM #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL BID
1	Dust Control	1	LS		
2	Construction Surveying and Layout	1	LS		
3	Public Information/Newsletter	1	LS		
4	Allowance for Owner Construction Contingencies	1	LS	\$66,000.00	\$66,000.00
5	Mobilization/Demobilization	1	LS		
6	Asphalt Concrete Pavement Milling (3.5")	9,146	SY		
7	Asphalt Concrete Surf Course, SHRP 3/4" (19mm), 2.75" Thick	1,929	TN		
8	Full Depth Pavement Repair (Aggregate Base Course 12" Thick, Asphalt Concrete Base Course, SHRP 3/4" (19 mm) 6" Thick)	100	SY		
9	Asphalt-Rubber Concrete Overlay, Gap Graded (1.0")	772	TN		
10	Sidewalk Ramp, Type A, MAG Det. 231	3	EA		
11	Adjust Existing Valve Box & Cover, MAG Std. Det. 270	15	EA		
12	Supply & Install Replacement Manhole Frame & Cover (Contingency Item)	1	EA	\$300.00	\$300.00
13	Supply & Install Replacement Water Valve Frame & Cover (Contingency Item)	2	EA	\$300.00	\$600.00
14	Adjust Existing Southwest Gas Valves (Contingency Item)	2	EA	\$ 600.00	\$1,200.00
15	Adjust Existing Southwest Gas Manhole (Contingency Item)	1	EA	\$500.00	\$500.00
16	Adjust Existing Manhole Frame & Cover, MAG Std. Det. 422	8	EA		
17	Relocate Water Line (Contingency Item), MAG Std. Det. 370	6	EA	\$3000.00	\$18,000.00
18	Remove Existing Concrete Curb & Gutter	60	LF		
19	Remove Plug and Connect to Existing Pipe	1	EA		
20	Saw Cutting	1,950	LF		
21	Remove Existing Sidewalk	30	SY		
22	Pavement Marking (4" Wide White Stripe)(Paint)	2,430	LF		
23	Pavement Marking(4" Wide Yellow Stripe) (Paint)	4,300	LF		
24	Thermoplastic Pavement Marking (4" Wide White Stripe)(60 mil)	1,410	LF		
25	Thermoplastic Pavement Marking(4" Wide White Stripe) (90 mil)	650	LF		

26	Thermoplastic Pavement Marking (4" Wide Yellow Stripe) (60 mil)	3,300	LF		
27	Thermoplastic Pavement Marking (Single Arrow)	2	EA		
28	Raised Pavement Marker (Type D, Yellow 2-way)	90	EA		
29	Raised Pavement Marker (Type H, White)	75	EA		
30	Raised Pavement Marker, Fire Hydrant (Type 911A, Blue 2-way)	3	EA		
31	Traffic Control	1	LS		
32	Off-duty Glendale Police Officer	280	HR		
33	Survey Monument, MAG Std. Det. 120-1, Type A	2	EA		
34	6'x 30' Loop Detector per C.O.G. Traffic Signal Std. Det. T6-1	1	EA		
35	6'x40' Loop Detector per C.O.G. Traffic Signal Std. Det. T6-1	1	EA		
36	Concrete Catch Basin, COP P1569, Type M1	2	EA		
37	Concrete Catch Basin, COP P1570, Type N, Triple	2	EA		
38	Permanent Pipe Support , Mag. Std. Det. 403	6	EA		
39	18" CL IV RGRCP	142	LF		
40	24" CL IV RGRCP	366	LF		
41	36" CL IV RGRCP	422	LF		
42	Concrete Pipe Collar, 24"	5	EA		
43	Pipe Connection, MAG STD DET 524	5	EA		
44	Concrete Pipe Collar, 36"	2	EA		
45	60" diameter Manhole without steps (MAG Standard Detail 520 & 522) with City of Glendale cover per detail in bid documents	3	EA		
				TOTAL BID:	

DETAIL NO. 6 - PAVEMENT REPLACEMENT DETAIL (NTS)



NOTES:

IN CONJUNCTION WITH THE MILL AND OVERLAY THE SECTION IS TO BE REPLACED TO THE FIRST LIFT OF AC BASE COURSE. THE REMAINING BASE COURSE AND SURFACE COURSE SHALL BE REPLACED ALONG WITH THE MILL AND OVERLAY.

CITY OF GLENDALE STANDARD DETAIL	 GLENDALE	RETROFIT DRIVEWAYS FOR ADA ACCESS (N.T.S.)	
		APPROVED BY: CITY ENGINEER	DATE: _____ REVISION: SEPTEMBER 2011
		DETAIL NO.: 6	

PROJECT SPECIFICATIONS AND CONTRACT DOCUMENTS

MAYOR

Elaine M. Scruggs

VICE-MAYOR

Steven E. Frate

COUNCIL MEMBERS

Norma S. Alvarez

Joyce V. Clark

Yvonne J. Knaack

H. Philip Lieberman

Manuel D. Martinez

CITY MANAGER

Ed Beasley

CITY CLERK

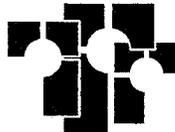
Pamela Hanna

CITY ATTORNEY

Craig D. Tindall

CITY ENGINEER

Larry J. Broyles



GLENDAL~~E~~

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NOTICE TO CONTRACTORS

Sealed bids shall be either mailed to the City of Glendale Engineering Department, 5850 West Glendale Avenue, Glendale, Arizona, 85301, or hand-delivered to the Engineering Department office, third floor, 5850 West Glendale Avenue, Glendale, Arizona, for furnishing all plant, material, equipment and labor, and to complete construction of: **PROJECT NO. 089029 67TH AVENUE STORM DRAIN; FRIER DRIVE TO ORANGEWOOD AVENUE.** Construction of 1030 linear feet of storm drain, four catch basins, and three manholes.

Bids must be received by the Engineering Department of the City of Glendale no later than **TUESDAY, SEPTEMBER 20 AT 10:00 A.M.** Any bid received after that time will not be considered and will be returned to the bidder. At that time, the bids will be publicly opened and read aloud in the Engineering Department Conference Room, 5850 West Glendale Avenue, Glendale, Arizona.

PRE-BID CONFERENCE: A pre-bid conference will be held on **WEDNESDAY, SEPTEMBER 14, at 2:00 P.M.**, City of Glendale Municipal Complex, 5850 W. Glendale Avenue, Glendale. Bidders, contractors, and other interested parties are invited to attend this conference which will be conducted by the Owner and Engineer to answer any questions. Attendance is not mandatory.

Plans, specifications and contract documents may be examined, and copies may be obtained at City of Glendale Engineering Department, 5850 West Glendale Avenue, Glendale, Arizona. A non-refundable charge of \$15.00 shall be paid for each set of plans and specifications issued from this office.

Each bid shall be in accordance with the plans, specifications and contract documents, and shall be set forth and submitted on the **BID DOCUMENTS** included with the project specifications book. The **BID DOCUMENTS** may be removed from the project specifications book and submitted independently of such book. Each bid shall be accompanied by a proposal guarantee, in the form of a certified or cashier's check or bid bond for ten percent (10%) of the amount of bid, made payable to the order of the City of Glendale, Arizona, to insure that the successful bidder will enter into the contract if awarded to him and submit the required Certificate of Insurance, Payment Bond and Performance Bond. All proposal guarantees, except those of the three lowest qualified bidders, will be returned immediately following the opening and checking of proposals. The proposal guarantees of the three lowest qualified bidders will be returned immediately after the contract documents have been executed by the successful bidder. The proposal guarantee shall be declared forfeited as liquidated damages if the successful bidder refuses to enter into said contract or submit the Certificate of Insurance, Payment Bond and Performance Bond after being requested to do so by the City of Glendale, Arizona.

The City of Glendale reserves the right to reject any or all bids or waive any informality or irregularity in a bid. No bidder may withdraw his bid for a period of fifty (50) days after opening and reading of the bids.

The City of Glendale is an equal opportunity employer and minority business enterprises and women's business enterprises are encouraged to submit bids.

CITY OF GLENDALE, ARIZONA

INFORMATION FOR BIDDERS

1. **ELIGIBILITY OF CONTRACTORS:** When calling for bids for contracts for public work to be performed on behalf of the State or any political subdivision thereof, which will be paid for from public funds, no bid shall be considered for performance of a contract, including construction work which is not submitted by a bidder duly licensed as a contractor in this State. No bid shall be awarded to any contractor or entity not authorized to do business in the State of Arizona by the Arizona Corporation Commission, as required by statute.

2. **PROPOSAL:** Bids to receive consideration shall be made in accordance with the following instructions:

(a) Before submitting a bid, bidders shall carefully examine the plans and specifications and contract documents, visit the site of the work, fully inform themselves as to all existing conditions and limitations.

(b) Bids shall be submitted on the "PROPOSAL" forms provided and delivered to the City of Glendale Engineering Department on or before the day and hour set in the "NOTICE TO CONTRACTORS," as published. Bids shall be enclosed in a sealed envelope marked on the outside lower right-hand corner indicating:

1. The bidder's name and address.
2. The project number.
3. The title of the project.
4. The time and date the bids are to be received.

(c) It is the sole responsibility of the bidder to see that his bid is received in proper time. Any bids received after the scheduled closing time for receipt of bids will be returned to the bidder unopened.

(d) The signatures of all persons shall be in longhand. Any interlineations, alterations, or erasures must be initialed by the signer of the bid.

(e) Bids shall not contain any recapitulations of the work to be done. No oral, telegraphic, telephonic, or modified proposals will be considered.

3. **BID SECURITY:** Each proposal shall be accompanied by a proposal guarantee in the form of a certified or cashier's check or bid bond, with a properly executed Power of Attorney attached, in an amount equal at least to ten percent (10%) of the proposal payable without condition to the City. If a bid bond is submitted with the bid it shall be issued by a company licensed with the Arizona Department of Insurance and authorized to issue such bonds in this state. **NO BONDS ISSUED BY INDIVIDUAL SURETIES WILL BE ACCEPTED. The company issuing the bid bond shall have a rating of not less than A- in the BEST rating available at the time this project was let to bid.** The proposal guarantee shall guarantee that the bidder, if awarded the contract, will, within ten (10) working days after the award, execute such contract in accordance with the proposal and in manner and form required by the contract documents, and will furnish good and sufficient bond for the faithful performance of the same, a payment bond and a certificate of insurance. The bid securities of the three (3) lowest bidders will be retained until the contract is awarded, or other disposition made thereof. The bid securities of all bidders, except the three (3) lowest, will be returned promptly after the canvass of bids. In the event the Contractor fails, within ten (10) working days after the award, to execute said Contract and deliver the Performance and Labor and

Material Payment Bonds and the Certificate of Insurance, the Bid Security shall become the property of the City.

4. WITHDRAWAL OF BID: Any bidder may withdraw his bid, either personally, by telegram or by written request, at any time prior to the scheduled closing time for receipt of bids. No bid may be withdrawn by telephone. Any bid withdrawn will not be opened and will be returned to the bidder. After opening and reading of the bids, no bidder may withdraw his bid for a period of fifty (50) days from the date of opening and reading.

5. LATE BIDS: Bids received after the scheduled closing time for receipt of bids, as contained in the "Notice to Contractors," will not be considered and will be returned to the bidder.

6. AWARD OR REJECTION OF BIDS: The contract will be awarded to the lowest and best qualified responsive bidder complying with these instructions and with the "NOTICE TO CONTRACTORS." The City of Glendale, Arizona, however, reserves the right to accept or reject any or all bids or to waive any or all informalities or irregularities in the bid. Alternates may be accepted depending upon the availability of City funds. Accepted alternates will be considered in determining the lowest responsive and responsible bidder.

7. BIDDERS INTERESTED IN MORE THAN ONE BID: No person, firm or corporation shall be allowed to make, file, or be interested in more than one (1) bid for the same work unless alternate bids are called for in the specifications or any addenda. A person, firm, or corporation who has submitted a sub-proposal to a bidder, or who has quoted prices on materials to a bidder is not thereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

8. CONTRACT, BONDS AND INSURANCE: The form of contract, which the successful bidder as Contractor will be required to execute, the forms of bonds, and the insurance form which he shall be required to furnish are included in the contract documents and should be carefully examined by the bidder. The successful bidder shall use the forms provided or such other forms as are acceptable by the City. The Contract and Performance and Labor and Material Payment Bonds and the Certificate of Insurance form will be executed in four (4) original counterparts. All bonds shall be issued by companies licensed with the Arizona Department of Insurance and authorized to issue such bonds in this state. **NO BONDS ISSUED BY INDIVIDUAL SURETIES WILL BE ACCEPTED. The company issuing any bond shall have a rating of not less than A- in the BEST rating available at the time this project was let to bid.**

9. SUBCONTRACTORS LISTING AND CERTIFICATION OF CONTRACT COMPLIANCE: The contractor will be required to furnish the form of subcontractors listing and certification of contract compliance with the executed contract documents. This information is requested for tracking and insurance purposes only.

10. INTERPRETATION OF PLANS AND DOCUMENTS: If any person contemplating a bid for proposed contract is in doubt as to the true meaning of any part of the plans, specifications, or other proposed contract documents, or finds discrepancies in or omissions from the plans and specifications, he may submit to the Engineering Department, a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Questions received less than ninety-six (96) hours before the bid opening time may not be answered. Any interpretation or correction of the documents will be made only by Addendum, duly issued and a copy of such Addendum will be mailed or delivered to each person receiving a set of

such documents. The City of Glendale will not be responsible for any other explanations or interpretations of the proposed documents.

11. CHANGES TO PLANS AND DOCUMENTS: Any changes to the plans and documents shall be made only by Addendum. No verbal or other changes to the plans and documents will be valid. A copy of each Addendum will be mailed or delivered as provided in Section 12 below.

12. ADDENDUM: Any addenda will be faxed, mailed or delivered to all who are known by the City to have received a complete set of bid documents, and to offices where bid documents have been filed for review purposes. It is the responsibility of each bidder to ascertain that he has received all addenda issued by telephoning the office identified in the NOTICE TO CONTRACTORS as the location where bid documents are available prior to submitting his bid.

Bidders shall acknowledge all addenda in the appropriate location on the "PROPOSAL" form. Failure to acknowledge receipt of Addenda shall render the bid proposal non-responsive and it will be rejected.

13. ASSIGNMENT OF CONTRACT: No assignment by the Contractor of any contract to be entered into hereunder, or any part thereof, or of funds to be received thereunder by the Contractor, will be recognized by the Owner by the Owner unless such assignment has had prior approval of the Owner, and the Surety has been given due notice of such assignment in writing and has consented thereto in writing.

14. PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER: The successful bidder may obtain five (5) sets of plans and specifications for this project from the City.

15. TIME OF COMPLETION: The Contractor shall commence work under this project on or before the tenth day following receipt of the Notice to Proceed for that project from the City of Glendale and shall fully complete all work under the project within thirty days (30 days) consecutive calendar days from and including the date of receipt of such Notice to Proceed. Time is of the essence in the completion of all work required under this contract. The Contractor shall, at all times, during the continuance of the contract, prosecute the work with such force and equipment as is sufficient to complete all work within the time specified.

16. CITY OF GLENDALE TRANSACTION PRIVILEGE TAX: The City of Glendale transaction privilege tax shall **NOT** be waived under the provisions of this contract. The current privilege tax rate can be obtained from the City of Glendale Sales Tax and Licenses Department. The Contractor shall be responsible for reporting and payment of all city, county, state or federal taxes.

17. PRE-BID CONFERENCE: A pre-bid conference will be held on WEDNESDAY, SEPTEMBER 14, 2011, @ 2:00 P.M., in the Engineering Department Conference Room 3B, 5850 West Glendale Avenue, Glendale, Arizona. Bidders, contractors, and other interested parties are invited to attend this conference which will be conducted by the Owner and Engineer to answer any questions.

18. ALTERNATES: Alternate proposals will not be considered unless called for in the documents or any addenda thereto. When alternates are requested, all requested alternates or alternate bid items, unless otherwise stated, shall be bid. If no change in the base bid will occur with the

alternate, enter "No Change."

19. APPROVAL OF SUBSTITUTIONS: The materials, products and equipment described in the Documents and Addenda establish a standard or required function, dimension, appearance and quality to be met by any proposed substitution. No substitute will be considered, before bid opening, unless written request for approval has been received by the City Engineer at least ten (10) working days prior to the scheduled closing time for receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including any drawings, cuts, performance and test data and any other information necessary for evaluation of the substitute. Bidder shall not be entitled to approval of a substitute.

If a substitute is approved, the approval shall be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

20. USE OF "EQUALS": When the specifications for materials, articles, products and equipment state "or equal," contractor may bid upon, and use materials, articles, products and equipment which will perform equally the duties imposed by the general design. The City Engineering Department will have the final approval of all materials, articles, products and equipment proposed to be used as an "equal." It shall not be purchased or installed without the prior written approval from the City Engineering Department.

Approvals for "equals," before bid opening, may be requested in writing to the City Engineering Department for approval. Requests must be received at least ten (10) days prior to the date set for opening the Bid Proposals. The request shall state the name of the material, article, product or equipment for which the item is sought to be considered an equal and a complete description of the proposed equal including any drawings, cuts, performance and test data and any other information necessary for approval of the equal. All approvals will be issued in the form of an addendum.

21. EXAMINATION OF CONTRACT DOCUMENTS AND VISIT SITE: Before submitting a Bid Proposal, bidders should carefully examine the Contract Documents, visit the site of the work, fully inform themselves as to all existing conditions and limitations. No consideration will be granted for any alleged misunderstanding of the material, articles or piece of equipment to be furnished or work to be done. It is understood that the tender of the Bid Proposal carries with it the agreement to all items and conditions referred to herein or indicated in the Contract Documents.

22. BIDDERS IN DEFAULT: No bid will be awarded to any person, firm or corporation that is not authorized by the Arizona Corporation Commission to do business in the State of Arizona, in arrears or is in default to the City of Glendale upon any debt or contract, or that is a defaulter as surety or otherwise upon any obligation to the City of Glendale, or has failed to faithfully perform any previous contract with the City of Glendale.

END OF INFORMATION FOR BIDDERS

PROPOSAL

Place City of Glendale Engineering Dept

Date Tuesday, September 20, 2011

Proposal of CRB Construction Inc Corporation organized and existing under the laws of the State of Arizona. ~~a partnership consisting of~~ _____; ~~or an individual trading as~~ _____.

TO THE HONORABLE MAYOR AND COUNCIL
CITY OF GLENDALE
GLENDALE, ARIZONA

Gentlemen:

The undersigned hereby proposes and agrees to furnish any and all required labor, materials, construction equipment, transportation and services for the construction of: **PROJECT 089029 - 67TH AVENUE STORM DRAIN; FRIER DRIVE TO ORANGEWOOD AVENUE**, in strict conformity with the plans and specifications for the following unit prices:

(Extension of these unit prices on the basis of estimated quantities and the totaling of these extensions are for the purpose of comparing bids only. The mathematics of such extensions and totaling will be checked and corrected by the Engineering Department, before evaluating the bids, and the lowest of such corrected and checked totals will determine the lowest bids.)

Project 089029

Revised 9/19/11

BID ITEM SUMMARY					
ITEM #	DESCRIPTION	QTY	UNIT	UNIT COST	TOTAL BID
1	Dust Control	1	LS	5,200.00	5,200.00
2	Construction Surveying and Layout	1	LS	1,800.00	1,800.00
3	Public Information/Newsletter	1	LS	1,000.00	1,000.00
4	Allowance for Owner Construction Contingencies	1	LS	\$66,000.00	\$66,000.00
5	Mobilization/Demobilization	1	LS	19,000.00 7,000	19,000.00 7,000.00
6	Asphalt Concrete Pavement Milling (3.5")	9,146	SY	2.70	24,694.20
7	Asphalt Concrete Surf Course, SHRP 3/4" (19mm), 2.75" Thick	1,929	TN	74.00	142,746.00
8	Full Depth Pavement Repair (Aggregate Base Course 12" Thick, Asphalt Concrete Base Course, SHRP 1/4" (19 mm) 6" Thick)	100	SY	63.00	6,300.00
9	Asphalt-Rubber Concrete Overlay, Gap Graded (1.0")	772	TN	95.00	73,340.00
10	Sidewalk Ramp, Type A, MAG Det. 231	3	EA	2,052.00	6,156.00
11	Adjust Existing Valve Box & Cover, MAG Std. Det. 270	15	EA	237.00	3,555.00
12	Supply & Install Replacement Manhole Frame & Cover (Contingency Item)	1	EA	\$300.00	\$300.00
13	Supply & Install Replacement Water Valve Frame & Cover (Contingency Item)	2	EA	\$300.00	\$600.00
14	Adjust Existing Southwest Gas Valves (Contingency Item)	2	EA	\$ 600.00	\$1,200.00
15	Adjust Existing Southwest Gas Manhole (Contingency Item)	1	EA	\$500.00	\$500.00
16	Adjust Existing Manhole Frame & Cover, MAG Std. Det. 422	8	EA	302.00	2,416.00
17	Relocate Water Line (Contingency Item), MAG Std. Det. 370	6	EA	\$3000.00	\$18,000.00
18	Remove Existing Concrete Curb & Gutter	60	LF	10.80	648.00
19	Remove Plug and Connect to Existing Pipe	1	EA	500.00	500.00
20	Saw Cutting	1,950	LF	2.16	4,212.00
21	Remove Existing Sidewalk	30	SY	21.60	648.00
22	Pavement Marking (4" Wide White Stripe)(Paint)	2,430	LF	.32	777.60
23	Pavement Marking(4" Wide Yellow Stripe) (Paint)	4,300	LF	.32	1,376.00
24	Thermoplastic Pavement Marking (4" Wide White Stripe)(60 mil)	1,410	LF	.70	987.00
25	Thermoplastic Pavement Marking(4" Wide White Stripe) (90 mil)	650	LF	1.70	1,105.00

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Revised 9/19/11

26	Thermoplastic Pavement Marking (4" Wide Yellow Stripe) (60 mil)	3,300	LF	.70	2,310.00
27	Thermoplastic Pavement Marking (Single Arrow)	2	EA	265.00	530.00
28	Raised Pavement Marker (Type D, Yellow 2-way)	90	EA	3.40	306.00
29	Raised Pavement Marker (Type H, White)	75	EA	3.40	255.00
30	Raised Pavement Marker, Fire Hydrant (Type 911A, Blue 2-way)	3	EA	3.40	10.20
31	Traffic Control	1	LS	11,000.0	11,000.00
32	Off-duty Glendale Police Officer	280	HR	47.00	13,160.00
33	Survey Monument, MAG Std. Det. 120-1, Type A	2	EA	350.0	700.00
34	6'x 30' Loop Detector per C.O.G. Traffic Signal Std. Det. T6-1	1	EA	700.00	700.00
35	6'x40' Loop Detector per C.O.G. Traffic Signal Std. Det. T6-1	1	EA	850.00	850.00
36	Concrete Catch Basin, COP P1569, Type M1	2	EA	2808.00	5616.00
37	Concrete Catch Basin, COP P1570, Type N, Triple	2	EA	3672.00	7344.00
38	Permanent Pipe Support, Mag. Std. Det. 403	6	EA	306.63	1,839.78
39	18" CL IV RGRCP	142	LF	52.16	7,406.72
40	24" CL IV RGRCP	366	LF	64.32	23,541.12
41	36" CL IV RGRCP	422	LF	82.52	34,823.44
42	Concrete Pipe Collar, 24"	5	EA	432.00	2,160.00
43	Pipe Connection, MAG STD DET 524	5	EA	270.00	1,350.00
44	Concrete Pipe Collar, 36"	2	EA	486.00	972.00
45	60" diameter Manhole without steps (MAG Standard Detail 520 & 522) with City of Glendale cover per detail in bid documents	3	EA	4495.00	13,485.00
				TOTAL BID:	499,420.06

\$499,420.06^{no}

The undersigned hereby declares that he has visited the site(s) and has carefully examined the contract documents relating to the work covered by the above bid or bids.

Upon receipt of notice of the acceptance of this bid, we will execute the formal contract attached within ten (10) days, and will deliver a one hundred percent (100%) Performance Bond for the faithful performance of this Contract, together with a one hundred percent (100%) Payment Bond and Certificate of Insurance.

The bid security attached, with endorsement, in the sum of ten percent (10%) of the total bid, is to become the property of the City of Glendale, Arizona, in the event the Contract and Bonds are not executed within the time set forth, as liquidated damages for the delay and additional work caused thereby.

The undersigned has checked carefully all the above figures and understands that the City of Glendale, Arizona, will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The undersigned understands that the Mayor and Council of the City of Glendale, Arizona, reserves the right to reject any or all bids or to waive any informalities or irregularities in the bid.

Respectfully submitted,

Arizona Contractor's
Classification and
License No.

132561 A

AKR Construction, Inc.
Contractor

By [Signature]

P O Box 37709
Phoenix Az 85069
(Complete business address)

Telephone Number: 602-258-4848
Fax Number 602-258-7568

Bidder shall signify receipt of all Addenda here (if any):

#1 [Signature]

Failure to acknowledge receipt of all Addenda shall render the bid proposal non-responsive and will be rejected.

Acknowledged by [Signature]

**CITY CLERK
ORIGINAL**C-7806
10/25/2011**CONSTRUCTION AGREEMENT**

This Construction Agreement ("Agreement") is entered into and effective between the CITY OF GLENDALE, an Arizona municipal corporation ("City"), and ALR Construction, Inc., an Arizona corporation ("Contractor") as of the 25th day of October, 2011.

RECITALS

- A. City intends to undertake a project for the benefit of the public and with public funds that is more fully set forth in the **Notice to Contractors** and the attached **Exhibit A** ("Project");
- B. City desires to retain the services of Contractor to perform those specific duties and produce the specific work as set forth in the Project, the plans and specifications, the **Information for Bidders**, and the **Maricopa Association of Governments ("MAG") General and Supplemental Conditions and Provisions**;
- C. City and Contractor desire to memorialize their agreement with this document.

AGREEMENT

In consideration of the Recitals, which are confirmed as true and correct and incorporated by this reference, the mutual promises and covenants contained in this Agreement, and other good and valuable consideration, City and Contractor agree as follows:

1. Project.

- 1.1 **Scope.** Contractor will provide all services and material necessary to assure the Project is completed timely and efficiently consistent with Project requirements, including, but not limited to, working in close interaction and interfacing with City and its designated employees, and working closely with others, including other contractors, providers or consultants retained by City.
- 1.2 **Documents.** The following documents are, by this reference, entirely incorporated into this Agreement and attached Exhibits as though fully set forth herein:

- (A) Notice to Contractors;
- (B) Information for Bidders;
- (C) MAG General Conditions, Supplemental General Conditions, Special and Technical Provisions;
- (D) Proposal;
- (E) Bid Bond;
- (F) Payment Bond;
- (G) Performance Bond;
- (H) Certificate of Insurance;
- (I) Appendix; and
- (J) Plans and Addenda thereto.

Should a conflict exist between this Agreement (and its attachments), and any of the incorporated documents as listed above, the provisions of this Agreement shall govern.

1.3 Project Team.

- (A) **Project Manager.** Contractor will designate an employee as Project Manager with sufficient training, knowledge, and experience to, in the City's opinion, to complete the project and handle all aspects of the Project such that the work produced by Contractor is consistent with applicable standards as detailed in this Agreement.

(B) Project Team.

- (1) The Project manager and all other employees assigned to the project by Contractor will comprise the "Project Team."
- (2) Project Manager will have responsibility for and will supervise all other employees assigned to the project by Contractor.

(C) Sub-contractors.

- (1) Contractor may engage specific technical contractor (each a "Sub-contractor") to furnish certain service functions.
- (2) Contractor will remain fully responsible for Sub-contractor's services.
- (3) Sub-contractors must be approved by the City, unless the Sub-contractor was previously mentioned in the response to the solicitation.
- (4) Contractor shall certify by letter that contracts with Sub-contractors have been executed incorporating requirements and standards as set forth in this Agreement.

2. **Schedule.** The Project will be undertaken in a manner that ensures it is completed in a timely and efficient manner. If not otherwise stated in **Exhibit A**, the Project shall be completed by no later than ninety (90) consecutive calendar days from and including the date of receipt of the Notice to Proceed.

3. **Contractor's Work.**

3.1 **Standard.** Contractor must perform services in accordance with the standards of due diligence, care, and quality prevailing among contractors having substantial experience with the successful furnishing of services and materials for projects that are equivalent in size, scope, quality, and other criteria under the Project and identified in this Agreement.

3.2 **Licensing.** Contractor warrants that:

- (A) Contractor and Sub-contractors will hold all appropriate and required licenses, registrations and other approvals necessary for the lawful furnishing of services ("Approvals"); and
- (B) Neither Contractor nor any Sub-contractor has been debarred or otherwise legally excluded from contracting with any federal, state, or local governmental entity ("Debarment").
 - (1) City is under no obligation to ascertain or confirm the existence or issuance of any Approvals or Debarments or to examine Contractor's contracting ability.
 - (2) Contractor must notify City immediately if any Approvals or Debarment changes during the Agreement's duration and the failure of the Contractor to notify City as required will constitute a material default of this Agreement.

3.3 **Compliance.** Services and materials will be furnished in compliance with applicable federal, state, county and local statutes, rules, regulations, ordinances, building codes, life safety codes, or other standards and criteria designated by City.

3.4 **Coordination; Interaction.**

- (A) If the City determines that the Project requires the coordination of professional services or other providers, Contractor will work in close consultation with City to proactively interact with any other contractors retained by City on the Project ("Coordinating Entities").
- (B) Subject to any limitations expressly stated in the budget, Contractor will meet to review the Project, schedules, budget, and in-progress work with Coordinating Entities and the City as often and for durations as City reasonably considers necessary in order to ensure the timely work delivery and Project completion.
- (C) If the Project does not involve Coordinating Entities, Contractor will proactively interact with any other contractors when directed by City to obtain or disseminate timely information for the

proper execution of the Project.

- 3.5 **Hazardous Substances.** Contractor is responsible for the appropriate handling, disposal of, and if necessary, any remediation and all losses and damages to the City, associated with the use or release of hazardous substances by Contractor in connection with completion of the Project.
- 3.6 **Warranties.** At any time within two years after completion of the Project, Contractor must, at Contractor's sole expense and within 20 days of written notice from the City, uncover, correct and remedy all defects in Contractor's work. City will accept a manufacturer's warranty on approved equipment as satisfaction of the Contractor's warranty under this subsection.
- 3.7. **Bonds.** Upon execution of this Agreement, and if applicable, Contractor must furnish Payment and Performance bonds as required under A.R.S. § 34-608.

4. **Compensation for the Project.**

- 4.1 **Compensation.** Contractor's compensation for the Project, including those furnished by its Sub-contractors will not exceed \$499,420.06, as specifically detailed in the Contractor's bid and set forth in Exhibit B ("Compensation").
- 4.2 **Change in Scope of Project.** The Compensation may be equitably adjusted if the originally contemplated scope of services as outlined in the Project is significantly modified by the City.
 - (A) Adjustments to the Scope or Compensation require a written amendment to this Agreement and may require City Council approval.
 - (B) Additional services which are outside the scope of the Project and not contained in this Agreement may not be performed by the Contractor without prior written authorization from the City.

5. **Billings and Payment.**

5.1 **Applications.**

- (A) The Contractor will submit monthly invoices (each, a "Payment Application") to City's Project Manager and City will remit payments based upon the Payment Application as stated below.
- (B) The period covered by each Payment Application will be one calendar month ending on the last day of the month.

5.2 **Payment.**

- (A) After a full and complete Payment Application is received, City will process and remit payment within 30 days.
- (B) Payment may be subject to or conditioned upon City's receipt of:
 - (1) Completed work generated by Contractor and its Sub-contractors; and
 - (2) Unconditional waivers and releases on final payment from Sub-contractors as City may reasonably request to assure the Project will be free of claims arising from required performances under this Agreement.

5.3 **Review and Withholding.** City's Project Manager will timely review and certify Payment Applications.

- (A) If the Payment Application is rejected, the Project Manager will issue a written listing of the items not approved for payment.
- (B) City may withhold an amount sufficient to pay expenses that City reasonably expects to incur in correcting the deficiency or deficiencies rejected for payment.
- (C) Contractor will provide, by separate cover, and concurrent with the execution of this Agreement, all required financial information to the City, including City of Glendale

Transaction Privilege License and Federal Taxpayer identification numbers.

- (D) City will temporarily withhold Compensation amounts as required by A.R.S. 34-221(C).

6. Termination.

6.1 For Convenience. City may terminate this Agreement for convenience, without cause, by delivering a written termination notice stating the effective termination date, which may not be less than 15 days following the date of delivery.

- (A) Contractor will be equitably compensated any services and materials furnished prior to receipt of the termination notice and for reasonable costs incurred.
- (B) Contractor will also be similarly compensated for any approved effort expended and approved costs incurred that are directly associated with Project closeout and delivery of the required items to the City.

6.2 For Cause. City may terminate this Agreement for cause if Contractor fails to cure any breach of this Agreement within seven days after receipt of written notice specifying the breach.

- (A) Contractor will not be entitled to further payment until after City has determined its damages. If City's damages resulting from the breach, as determined by City, are less than the equitable amount due but not paid Contractor for Service and Repair furnished, City will pay the amount due to Contractor, less City's damages.
- (B) If City's direct damages exceed amounts otherwise due to Contractor, Contractor must pay the difference to City immediately upon demand; however, Contractor will not be subject to consequential damages more than \$1,000,000 or the amount of this Agreement, whichever is greater.

7. Insurance.

7.1 Requirements. Contractor must obtain and maintain the following insurance ("Required Insurance"):

- (A) Contractor and Sub-contractors. Contractor, and each Sub-contractor performing work or providing materials related to this Agreement must procure and maintain the insurance coverages described below (collectively, "Contractor's Policies"), until each Parties' obligations under this Agreement are completed.
- (B) General Liability.
- (1) Contractor must at all times relevant hereto carry a commercial general liability policy with a combined single limit of at least \$1,000,000 per occurrence and \$2,000,000 annual aggregate.
 - (2) Sub-contractors must at all times relevant hereto carry a general commercial liability policy with a combined single limit of at least \$1,000,000 per occurrence.
 - (3) This commercial general liability insurance must include independent contractors' liability, contractual liability, broad form property coverage, products and completed operations, XCU hazards if requested by the City, and a separation of insurance provision.
 - (4) These limits may be met through a combination of primary and excess liability coverage.
- (C) Auto. A business auto policy providing a liability limit of at least \$1,000,000 per accident for Contractor and 1,000,000 per accident for Sub-contractors and covering owned, non-owned and hired automobiles.
- (D) Workers' Compensation and Employer's Liability. A workers' compensation and employer's liability policy providing at least the minimum benefits required by Arizona law.
- (E) Equipment Insurance. Contractor must secure, pay for, and maintain all-risk insurance as

necessary to protect the City against loss of owned, non-owned, rented or leased capital equipment and tools, equipment and scaffolding, staging, towers and forms owned or rented by Contractor or its Sub-contractors.

- (F) Notice of Changes. Contractor's Policies must provide for not less than 30 days' advance written notice to City Representative of:
 - (1) Cancellation or termination of Contractor or Sub-contractor's Policies;
 - (2) Reduction of the coverage limits of any of Contractor or and Sub-contractor's Policies; and
 - (3) Any other material modification of Contractor or Sub-contractor's Policies related to this Agreement.

- (G) Certificates of Insurance.
 - (1) Within 10 business days after the execution of the Agreement, Contractor must deliver to City Representative certificates of insurance for each of Contractor and Sub-contractor's Policies, which will confirm the existence or issuance of Contractor and Sub-contractor's Policies in accordance with the provisions of this section, and copies of the endorsements of Contractor and Sub-contractor's Policies in accordance with the provisions of this section.
 - (2) City is and will be under no obligation either to ascertain or confirm the existence or issuance of Contractor and Sub-contractor's Policies, or to examine Contractor and Sub-contractor's Policies, or to inform Contractor or Sub-contractor in the event that any coverage does not comply with the requirements of this section.
 - (3) Contractor's failure to secure and maintain Contractor Policies and to assure Sub-contractor policies as required will constitute a material default under this Agreement.

- (H) Other Contractors or Vendors.
 - (1) Other contractors or vendors that may be contracted by Contractor with in connection with the Project must procure and maintain insurance coverage as is appropriate to their particular agreement.
 - (2) This insurance coverage must comply with the requirements set forth above for Contractor's Policies (e.g., the requirements pertaining to endorsements to name the parties as additional insured parties and certificates of insurance).

- (I) Policies. Except with respect to workers' compensation and employer's liability coverages, the City must be named and properly endorsed as additional insureds on all liability policies required by this section.
 - (1) The coverage extended to additional insureds must be primary and must not contribute with any insurance or self insurance policies or programs maintained by the additional insureds.
 - (2) All insurance policies obtained pursuant to this section must be with companies legally authorized to do business in the State of Arizona and acceptable to all parties.

7.2 Sub-contractors.

- (A) Contractor must also cause its Sub-contractors to obtain and maintain the Required Insurance.
- (B) City may consider waiving these insurance requirements for a specific Sub-contractor if City is satisfied the amounts required are not commercially available to the Sub-contractor and the insurance the Sub-contractor does have is appropriate for the Sub-contractor's work under this Agreement.
- (C) Contractor and Sub-contractors must provide to the City proof of Required Insurance whenever requested.

7.3 Indemnification.

- (A) To the fullest extent permitted by law, Contractor must defend, indemnify, and hold harmless City and its elected officials, officers, employees and agents (each, an "Indemnified Party," collectively, the "Indemnified Parties"), for, from, and against any and all claims, demands, actions, damages, judgments, settlements, personal injury (including sickness, disease, death, and bodily harm), property damage (including loss of use), infringement, governmental action and all other losses and expenses, including attorneys' fees and litigation expenses (each, a "Demand or Expense"; collectively, "Demands or Expenses") asserted by a third-party (i.e. a person or entity other than City or Contractor) and that arises out of or results from the breach of this Agreement by the Contractor or the Contractor's negligent actions, errors or omissions (including any Sub-contractor or other person or firm employed by Contractor), whether sustained before or after completion of the Project.
- (B) This indemnity and hold harmless policy applies even if a Demand or Expense is in part due to the Indemnified Party's negligence or breach of a responsibility under this Agreement, but in that event, Contractor shall be liable only to the extent the Demand or Expense results from the negligence or breach of a responsibility of Contractor or of any person or entity for whom Contractor is responsible.
- (C) Contractor is not required to indemnify any Indemnified Parties for, from, or against any Demand or Expense resulting from the Indemnified Party's sole negligence or other fault solely attributable to the Indemnified Party.

7.4 Waiver of Subrogation. Contractor waives, and will require any Subcontractor to waive, all rights of subrogation against the City to the extent of all losses or damages covered by any policy of insurance.

8. Immigration Law Compliance.

- 8.1 Contractor, and on behalf any subcontractor, warrants, to the extent applicable under A.R.S. § 41-4401, compliance with all federal immigration laws and regulations that relate to their employees as well as compliance with A.R.S. § 23-214(A) which requires registration and participation with the E-Verify Program.
- 8.2 Any breach of warranty under subsection 8.1 above is considered a material breach of this Agreement and is subject to penalties up to and including termination of this Agreement.
- 8.3 City retains the legal right to inspect the papers of any Contractor or subcontractor employee who performs work under this Agreement to ensure that the Contractor or any subcontractor is compliant with the warranty under subsection 8.1 above.
- 8.4 City may conduct random inspections, and upon request of City, Contractor shall provide copies of papers and records of Contractor demonstrating continued compliance with the warranty under subsection 8.1 above. Contractor agrees to keep papers and records available for inspection by the City during normal business hours and will cooperate with City in exercise of its statutory duties and not deny access to its business premises or applicable papers or records for the purposes of enforcement of this section 8.
- 8.5 Contractor agrees to incorporate into any subcontracts under this Agreement the same obligations imposed upon Contractor and expressly accrue those obligations directly to the benefit of the City. Contractor also agrees to require any subcontractor to incorporate into each of its own subcontracts under this Agreement the same obligations above and expressly accrue those obligations to the benefit of the City.
- 8.6 Contractor's warranty and obligations under this section to the City is continuing throughout the term of this Agreement or until such time as the City determines, in its sole discretion, that Arizona law has been modified in that compliance with this section is no longer a requirement.
- 8.7 The "E-Verify Program" above means the employment verification program administered by the United States Department of Homeland Security, the Social Security Administration, or any successor program.

9. Conflict. Contractor acknowledges this Agreement is subject to A.R.S. § 38-511, which allows for cancellation

of this Agreement in the event any person who is significantly involved in initiating, negotiating, securing, drafting, or creating the Agreement on City's behalf is also an employee, agent, or consultant of any other party to this Agreement.

10. **Prohibitions.** Contractor certifies under A.R.S. §§ 35-391 *et seq.* and 35-393 *et seq.*, that it does not have, and during the term of this Agreement will not have "scrutinized" business operations, as defined in the preceding statutes, in the countries of Sudan or Iran.

11. **Non-Discrimination Policies.** Contractor must not discriminate against any employee or applicant for employment on the basis of race, religion, color sex or national origin. Contractor must develop, implement and maintain non-discrimination policies and post the policies in conspicuous places visible to employees and applicants for employment. Contractor will require any Sub-contractor to be bound to the same requirements as stated within this section.

12. **Notices.**

12.1 A notice, request or other communication that is required or permitted under this Agreement (each a "Notice") will be effective only if:

- (A) The Notice is in writing, and
- (B) Delivered in person or by private express overnight delivery service (delivery charges prepaid), certified or registered mail (return receipt requested).
- (C) Notice will be deemed to have been delivered to the person to whom it is addressed as of the date of receipt, if:
 - (1) Received on a business day, or before 5:00 p.m., at the address for Notices identified for the Party in this Agreement by U.S. Mail, hand delivery, or overnight courier on or before 5:00 p.m.; or
 - (2) As of the next business day after receipt, if received after 5:00 p.m.
- (D) The burden of proof of the place and time of delivery is upon the Party giving the Notice.
- (E) Digitalized signatures and copies of signatures will have the same effect as original signatures.

12.2 **Representatives.**

(A) Contractor. Contractor's representative ("Contractor's Representative") authorized to act on Contractor's behalf with respect to the Project, and his or her address for Notice delivery is:

Mohammad A. Najem
ALR Construction, Inc.
P.O. Box 37709
Phoenix, AZ 85069-7709

(B) City. City's representative ("City's Representative") authorized to act on City's behalf, and his or her address for Notice delivery is:

City of Glendale
Attn: Wade Ansell
5850 West Glendale Avenue
Glendale, Arizona 85301

With required copies to:

City of Glendale
City Manager
5850 West Glendale Avenue
Glendale, Arizona 85301

City of Glendale
City Attorney
5850 West Glendale Avenue
Glendale, Arizona 85301

(C) Concurrent Notices.

- (1) All notices to City's representative must be given concurrently to City Manager and City Attorney.
 - (2) A notice will not be considered to have been received by City's representative until the time that it has also been received by City Manager and City Attorney.
 - (3) City may appoint one or more designees for the purpose of receiving notice by delivery of a written notice to Contractor identifying the designee(s) and their respective addresses for notices.
- (D) **Changes.** Contractor or City may change its representative or information on Notice, by giving Notice of the change in accordance with this section at least ten days prior to the change.

13. **Financing Assignment.** City may assign this Agreement to any City-affiliated entity, including a non-profit corporation or other entity whose primary purpose is to own or manage the Project.

14. **Entire Agreement; Survival; Counterparts; Signatures.**

14.1 **Integration.** This Agreement contains, except as stated below, the entire agreement between City and Contractor and supersedes all prior conversations and negotiations between the parties regarding the Project or this Agreement.

- (A) Neither Party has made any representations, warranties or agreements as to any matters concerning the Agreement's subject matter.
- (B) Representations, statements, conditions, or warranties not contained in this Agreement will not be binding on the parties.
- (C) Any solicitation, addendums and responses submitted by the Contractor are incorporated fully into this Agreement as Exhibit A. Any inconsistency between Exhibit A and this Agreement will be resolved by the terms and conditions stated in this Agreement.

14.2 **Interpretation.**

- (A) The parties fairly negotiated the Agreement's provisions to the extent they believed necessary and with the legal representation they deemed appropriate.
- (B) The parties are of equal bargaining position and this Agreement must be construed equally between the parties without consideration of which of the parties may have drafted this Agreement.
- (C) The Agreement will be interpreted in accordance with the laws of the State of Arizona.

14.3 **Survival.** Except as specifically provided otherwise in this Agreement each warranty, representation, indemnification and hold harmless provision, insurance requirement, and every other right, remedy and responsibility of a Party, will survive completion of the Project, or the earlier termination of this Agreement.

14.4 **Amendment.** No amendment to this Agreement will be binding unless in writing and executed by the parties. Any amendment may be subject to City Council approval.

14.5 **Remedies.** All rights and remedies provided in this Agreement are cumulative and the exercise of any one or more right or remedy will not affect any other rights or remedies under this Agreement or applicable law.

14.6 **Severability.** If any provision of this Agreement is voided or found unenforceable, that determination will not affect the validity of the other provisions, and the voided or unenforceable provision will be reformed to conform to applicable law.

14.7 **Counterparts.** This Agreement may be executed in counterparts, and all counterparts will together comprise one instrument.

Project 089029

15. **Dispute Resolution.** Each claim, controversy and dispute ("Dispute") between Contractor and City will be resolved in accordance with Exhibit C. The final determination will be made by the City.
16. **Exhibits.** The following exhibits, with reference to the term in which they are first referenced, are incorporated by this reference.

Exhibit A	Project
Exhibit B	Compensation
Exhibit C	Dispute Resolution

The parties enter into this Agreement as of the date shown above.

City of Glendale,
an Arizona municipal corporation


By: Ed Beasley
Its: City Manager

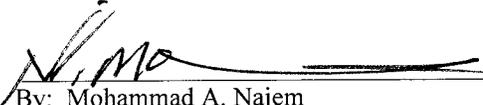
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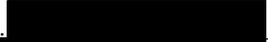
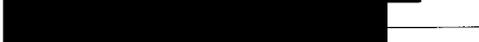

City Clerk (SEAL)

APPROVED AS TO FORM:


City Attorney

ALR Construction, Inc.
an Arizona corporation


By: Mohammad A. Najem
Its: President

WOMEN-OWNED/MINORITY BUSINESS [] YES [X] NO
CITY OF GLENDALE TRANSACTION PRIVILEGE TAX NO. 
FEDERAL TAXPAYER IDENTIFICATION NO. 

**EXHIBIT A
CONSTRUCTION AGREEMENT**

PROJECT

The construction of 930 linear feet of storm drain, four catch basins, and three manholes in 67th Avenue between Frier Drive and Oranewood Avenue.

**EXHIBIT B
CONSTRUCTION AGREEMENT**

COMPENSATION

METHOD AND AMOUNT OF COMPENSATION

By bid, including all services, materials and costs.

NOT-TO-EXCEED AMOUNT

The total amount of compensation paid to Contractor for full completion of all work required by the Project during the entire term of the Project must not exceed \$499,420.06.

DETAILED PROJECT COMPENSATION

As per Pages 7 & 8 of the Bid Schedule.

**EXHIBIT C
CONSTRUCTION AGREEMENT**

DISPUTE RESOLUTION

1. Disputes.

- 1.1 Commitment. The parties commit to resolving all disputes promptly, equitably, and in a good-faith, cost-effective manner.
- 1.2 Application. The provisions of this Exhibit will be used by the parties to resolve all controversies, claims, or disputes ("Dispute") arising out of or related to this Agreement-including Disputes regarding any alleged breaches of this Agreement.
- 1.3 Initiation. A party may initiate a Dispute by delivery of written notice of the Dispute, including the specifics of the Dispute, to the Representative of the other party as required in this Agreement.
- 1.4 Informal Resolution. When a Dispute notice is given, the parties will designate a member of their senior management who will be authorized to expeditiously resolve the Dispute.
 - (A) The parties will provide each other with reasonable access during normal business hours to any and all non-privileged records, information and data pertaining to any Dispute in order to assist in resolving the Dispute as expeditiously and cost effectively as possible;
 - (B) The parties' senior managers will meet within 10 business days to discuss and attempt to resolve the Dispute promptly, equitably, and in a good faith manner, and
 - (C) The Senior Managers will agree to subsequent meetings if both parties agree that further meetings are necessary to reach a resolution of the Dispute.

2. Arbitration.

- 2.1 Rules. If the parties are unable to resolve the Dispute by negotiation within 30 days from the Dispute notice, and unless otherwise informal discussions are extended by the mutual agreement, the Dispute will be decided by binding arbitration in accordance with Construction Industry Rules of the AAA, as amended herein. Although the arbitration will be conducted in accordance with AAA Rules, it will not be administered by the AAA, but will be heard independently.
 - (A) The parties will exercise best efforts to select an arbitrator within 5 business days after agreement for arbitration. If the parties have not agreed upon an arbitrator within this period, the parties will submit the selection of the arbitrator to one of the principals of the mediation firm of Scott & Skelly, LLC, who will then select the arbitrator. The parties will equally share the fees and costs incurred in the selection of the arbitrator.
 - (B) The arbitrator selected must be an attorney with at least 15 years experience with commercial construction legal matters in Maricopa County, Arizona, be independent, impartial, and not have engaged in any business for or adverse to either Party for at least 10 years.
- 2.2 Discovery. The extent and the time set for discovery will be as determined by the arbitrator. Each Party must, however, within ten (10) days of selection of an arbitrator deliver to the other Party copies of all documents in the delivering party's possession that are relevant to the dispute.
- 2.3 Hearing. The arbitration hearing will be held within 90 days of the appointment of the arbitrator. The arbitration hearing, all proceedings, and all discovery will be conducted in Glendale, Arizona unless otherwise agreed by the parties or required as a result of witness location. Telephonic hearings and other reasonable arrangements may be used to minimize costs.
- 2.4 Award. At the arbitration hearing, each Party will submit its position to the arbitrator, evidence to support that position, and the exact award sought in this matter with specificity. The arbitrator must select the award sought by one of the parties as the final judgment and may not independently alter or modify the awards sought by the parties, fashion any remedy, or make any equitable order. The arbitrator has no authority to consider or award punitive damages.

- 2.5 Final Decision. The Arbitrator's decision should be rendered within 15 days after the arbitration hearing is concluded. This decision will be final and binding on the Parties.
- 2.6 Costs. The prevailing party may enter the arbitration in any court having jurisdiction in order to convert it to a judgment. The non-prevailing party shall pay all of the prevailing party's arbitration costs and expenses, including reasonable attorney's fees and costs.
3. **Services to Continue Pending Dispute.** Unless otherwise agreed to in writing, Contractor must continue to perform and maintain progress of required services during any Dispute resolution or arbitration proceedings, and City will continue to make payment to Contractor in accordance with this Agreement.
4. **Exceptions.**
 - 4.1 Third Party Claims. City and Contractor are not required to arbitrate any third-party claim, cross-claim, counter claim, or other claim or defense of a third-party who is not obligated by contract to arbitrate disputes with City and Contractor.
 - 4.2 Liens. City or Contractor may commence and prosecute a civil action to contest a lien or stop notice, or enforce any lien or stop notice, but only to the extent the lien or stop notice the Party seeks to enforce is enforceable under Arizona Law, including, without limitation, an action under A.R.S. § 33-420, without the necessity of initiating or exhausting the procedures of this Exhibit.
 - 4.3 Governmental Actions. This Exhibit does not apply to, and must not be construed to require arbitration of, any claims, actions or other process filed or issued by City of Glendale Building Safety Department or any other agency of City acting in its governmental permitting or other regulatory capacity.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
11/1/2011

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER LeBaron & Carroll, LLC 1350 E. Southern Ave. Mesa AZ 85204 INSURED ALR Construction, Inc P.O. Box 37709 Phoenix AZ 85069	CONTACT NAME: Patti Moore, CISR PHONE (A/C, No, Ext): [REDACTED] FAX (A/C, No): (480) 844-9866 E-MAIL ADDRESS: pmoore@landc.com PRODUCER CUSTOMER ID #: 00042994 <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 80%;">INSURER(S) AFFORDING COVERAGE</th> <th style="width: 20%;">NAIC #</th> </tr> <tr> <td>INSURER A: Westfield Insurance Company</td> <td>24112</td> </tr> <tr> <td>INSURER B:</td> <td></td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Westfield Insurance Company	24112	INSURER B:		INSURER C:		INSURER D:		INSURER E:		INSURER F:	
INSURER(S) AFFORDING COVERAGE	NAIC #														
INSURER A: Westfield Insurance Company	24112														
INSURER B:															
INSURER C:															
INSURER D:															
INSURER E:															
INSURER F:															

COVERAGES **CERTIFICATE NUMBER:** 11/12 Master **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR	TYPE OF INSURANCE	ADDL	SUBR	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	GENERAL LIABILITY			TRA4389669	4/8/2011	4/8/2012	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						MED EXP (Any one person) \$ 10,000
							PERSONAL & ADV INJURY \$ 1,000,000
							GENERAL AGGREGATE \$ 2,000,000
							PRODUCTS - COMP/OP AGG \$ 2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						
	<input type="checkbox"/> POLICY	<input checked="" type="checkbox"/> PRO-JECT	<input type="checkbox"/> LOC				\$
A	AUTOMOBILE LIABILITY			TRA4389669	4/8/2011	4/8/2012	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS						Medical payments \$
	<input type="checkbox"/> NON-OWNED AUTOS						Underinsured motorist \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB			TRA4389669	4/8/2011	4/8/2012	EACH OCCURRENCE \$ 4,000,000
	<input checked="" type="checkbox"/> EXCESS LIAB						AGGREGATE \$ 4,000,000
	<input type="checkbox"/> CLAIMS-MADE						\$
	DEDUCTIBLE						\$
	RETENTION \$						\$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			N/A			WC STATU-TORY LIMITS
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	<input type="checkbox"/> Y/N					C.L. CACI ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						C.L. DISEASE - CA EMPLOYEE \$
	Rented/Leased Equipment						C.L. DISEASE - POLICY LIMIT \$
							\$500,000 limit \$1000 ded.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
 E: Project#: 089029, 67th Avenue Storm Drian, Frier Drive to Orangewood Avenue
 Certificate holder is included as additional insured per form CG2033 07/04 as respects general liability and auto liability per form CG7068 08/05.

CERTIFICATE HOLDER (623) 915-2861 City of Glendale Attn: Engineering Dept 5850 W Glendale Ave Glendale, AZ 85301	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE P Moore, CISR/LC-PM <i>Patti J Moore</i>
--	--

ARIZONA STATUTORY PERFORMANCE BOND FOR CONSTRUCTION
PURSUANT TO TITLES 28, 34, AND 41, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS THAT: ALR Construction Inc

(hereinafter "Principal"), as Principal, and Developers Surety and Indemnity Company (hereinafter

"Surety"), a corporation organized and existing under the laws of the State of Iowa,

with its principal offices in the City of Des Moines, holding a certificate of authority to transact surety business in Arizona issued by the Director of Insurance pursuant to Title 20, Chapter 2, Article 1, as

Surety, are held and firmly bound unto The City of Glendale

(hereinafter "Obligee"), in the amount of Four Hundred Ninety Nine Thousand

Four Hundred Twenty & 06/100 (Dollars)(\$ 499,420.06), for the payment whereof Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, date the 2nd

day of November, 2011, to construct and complete certain work described as
PROJECT 089029 - 67TH AVENUE STORM DRAIN; FRIER DRIVE TO ORANGEWOOD AVENUE
YEAR

which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, That if the Obligee faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of the contract during the original term of the contract and any extension of the contract, with or without notice of the Surety, and during the life of any guaranty required under the contract, and also performs and fulfills all the undertakings, covenants, terms, conditions and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the Surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

Witness our hands this 2nd day of November, 2011
YEAR

ALR Construction Inc
PRINCIPAL SEAL

By: [Signature]
Mohammad A Najem

Title: President

Developers Surety and Indemnity Company
SURETY SEAL

By: [Signature]
Jana L Maxwell (Attorney-in-Fact)

Farmer Leavitt Insurance Agency
Agency of Record
919 North 1st Street, Phoenix, AZ 85004

Agency Address
[Signature]
Arizona Resident Agent Countersignature
Rossana Gatlin

ARIZONA STATUTORY PAYMENT BOND FOR CONSTRUCTION
PURSUANT TO TITLES 28, 34, AND 41, ARIZONA REVISED STATUTES
(Penalty of this bond must be 100% of the Contract amount)

KNOW ALL MEN BY THESE PRESENTS THAT: ALR Construction Inc

(hereinafter "Principal"), as Principal, and Developers Surety and Indemnity Company (hereinafter

"Surety"), a corporation organized and existing under the laws of the State of Iowa,

with its principal offices in the City of Des Moines, holding a certificate of authority to transact surety business in Arizona issued by the Director of the Department of Insurance pursuant to Title 20, Chapter 2,

Article 1, as Surety, are held and firmly bound unto The City of Glendale

(hereinafter "Obligee"), in the amount of Four Hundred Ninety Nine Thousand

Four Hundred Twenty & 06/100 (Dollars)(\$499,420.06), for the payment whereof, Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written contract with the Obligee, date the 2nd day of November, 2011, to construct and complete certain work described as PROJECT 089029 - 67TH AVENUE STORM DRAIN; FRIER DRIVE TO ORANGEWOOD AVENUE

which contract is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, That if the Principal promptly pays all monies due to all persons supplying labor or materials to the Principal or the Principal's subcontractors in the prosecution of the work provided for in the contract, this obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of Title 34, Chapter 2, Article 2, Arizona Revised Statutes, to the same extent as if it were copied at length in this agreement.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

Witness our hands this 2nd day of November, 2011

ALR Construction Inc
PRINCIPAL SEAL

By: [Signature]
Mohammad A Najem

Title: President

Developers Surety and Indemnity Company
SURETY SEAL

By: [Signature]
Jana L Maxwell (Attorney-in-Fact)

Farmer Leavitt Insurance Agency
Agency of Record
919 North 1st Street, Phoenix, AZ 85004

Agency Address
[Signature]
Arizona Resident Agent Countersignature
Rossana Gatlin

POWER OF ATTORNEY FOR
DEVELOPERS SURETY AND INDEMNITY COMPANY
INDEMNITY COMPANY OF CALIFORNIA
PO Box 19725, IRVINE, CA 92623 (949) 263-3300

KNOW ALL BY THESE PRESENTS that except as expressly limited, DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA, do each hereby make, constitute and appoint:

James V. Farmer, Jana L. Maxwell, jointly or severally

as their true and lawful Attorney(s)-in-Fact, to make, execute, deliver and acknowledge, for and on behalf of said corporations, as sureties, bonds, undertakings and contracts of suretyship giving and granting unto said Attorney(s)-in-Fact full power and authority to do and to perform every act necessary, requisite or proper to be done in connection therewith as each of said corporations could do, but reserving to each of said corporations full power of substitution and revocation, and all of the acts of said Attorney(s)-in-Fact, pursuant to these presents, are hereby ratified and confirmed.

This Power of Attorney is granted and is signed by facsimile under and by authority of the following resolutions adopted by the respective Boards of Directors of DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA, effective as of January 1st, 2008.

RESOLVED, that a combination of any two of the Chairman of the Board, the President, Executive Vice-President, Senior Vice-President or any Vice President of the corporations be, and that each of them hereby is, authorized to execute this Power of Attorney, qualifying the attorney(s) named in the Power of Attorney to execute, on behalf of the corporations, bonds, undertakings and contracts of suretyship; and that the Secretary or any Assistant Secretary of either of the corporations be, and each of them hereby is, authorized to attest the execution of any such Power of Attorney;

RESOLVED, FURTHER, that the signatures of such officers may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures shall be valid and binding upon the corporations when so affixed and in the future with respect to any bond, undertaking or contract of suretyship to which it is attached.

IN WITNESS WHEREOF, DEVELOPERS SURETY AND INDEMNITY COMPANY and INDEMNITY COMPANY OF CALIFORNIA have severally caused these presents to be signed by their respective officers and attested by their respective Secretary or Assistant Secretary this January 1st, 2008.

By: Daniel Young
Daniel Young, Vice-President

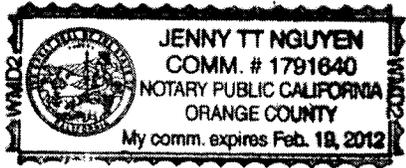
By: Stephen T. Pate
Stephen T. Pate, Senior Vice-President



State of California
County of Orange

On August 13th, 2008 before me, Jenny TT Nguyen, Notary Public
Date Here Insert Name and Title of the Officer

personally appeared Daniel Young and Stephen T. Pate
Name(s) of Signer(s)



Place Notary Seal Above

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature Jenny TT Nguyen
Jenny TT Nguyen, Notary Public

CERTIFICATE

The undersigned, as Secretary or Assistant Secretary of DEVELOPERS SURETY AND INDEMNITY COMPANY or INDEMNITY COMPANY OF CALIFORNIA, does hereby certify that the foregoing Power of Attorney remains in full force and has not been revoked and, furthermore, that the provisions of the resolutions of the respective Boards of Directors of said corporations set forth in the Power of Attorney are in force as of the date of this Certificate.

This Certificate is executed in the City of Irvine, California, this 2nd day of November 2011.

By: Gregg N. Okura
Gregg Okura, Assistant Secretary

CITY OF GLENDALE, ARIZONA
PUBLIC WORKS/ENGINEERING DEPARTMENT

CONTRACTOR'S AFFIDAVIT
REGARDING
SETTLEMENT OF CLAIMS

PROJECT 089029 - 67TH AVENUE STORM DRAIN; FRIER DRIVE TO ORANGEWOOD AVENUE

To the City of Glendale, Arizona

Gentlemen:

This is to certify that all lawful claims for materials, rental of equipment and labor used in connection with the construction of the above project, whether by subcontractor or claimant in person, have been duly discharged.

The undersigned, for the consideration of \$ _____, as set out in the final pay estimate, as full and complete payment under the terms of the contract, hereby waives and relinquishes any and all further claims or right of lien under, in connection with, or as a result of the above described project. The undersigned further agrees to indemnify and save harmless the City of Glendale against any and all liens, claims of liens, suits, actions, damages, charges, costs, litigation expenses, attorneys' fees and any other and expenses whatsoever, which said City may suffer arising out of the failure of the undersigned to pay for all labor performance and materials furnished for the performance of said installation.

Signed and dated at _____, this ____ day of _____, 20__.

Contractor

By _____

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

The foregoing instrument was subscribed and sworn to before me this ___ day of _____, 20

Notary Public

My Commission Expires: _____

SUPPLEMENTAL GENERAL CONDITIONS

1. GENERAL: By Ordinance No. 1110 New Series, the City of Glendale adopted the "Uniform Standard Specifications for Public Works Construction," which are sponsored and distributed by the Maricopa Association of Governments. Copies of these documents, with revisions, are on file in the office of the City Engineer of the City of Glendale, and are hereby made a part of these Contract Documents.

Whenever in the Uniform Standard Specifications, the words "The Contracting Agency" are used, the meaning shall be the City of Glendale.

In all cases where ASTM, AASHTO, AWWA, USAG, Federal, City of Phoenix, MAG Specifications, Maricopa County, Arizona State Highway, or other standard specifications are referred to, unless otherwise stated, revisions, supplements or addenda issued on or before the date of this contract, shall prevail. In the event of any conflict between these project specifications and the requirements of the plans, detail drawings, MAG Standard Details and Specifications, these project specifications shall prevail.

2. DEFINITIONS: The following terms, as used in or pertaining to the Contract Documents, are defined as follows:

CITY: The word "City" refers to the City of Glendale, Arizona. The official representative of said City in these proceedings shall be the City Engineer.

CONTRACTOR: The word "Contractor" means the person, firm, or corporation with whom the Contract is made by the City.

MATERIALS: The term "Materials" includes, in addition to materials incorporated in the project, equipment and other material used and/or consumed in the performance of the work.

SUBCONTRACTOR: The word "Subcontractor" includes those having a direct contract with the Contractor and those who furnish material worked to a special design according to the plans and/or specifications for this work, but does not include those who merely furnish materials not so worked.

ENGINEER: The word "Engineer" means a person, firm or corporation duly authorized by the City, to act for the City in staking out the work, inspecting materials and construction, and interpreting plans and specifications.

CONTRACT DOCUMENTS: The words "Contract Documents" mean the Notice to Contractors, Information for Bidders, "Uniform Standard Specifications for Public Works Construction," MAG General Conditions, Supplemental General Conditions, Special Provisions, Supplemental Specifications, Proposal, Contract, Payment Bond, Performance Bond, Certificates of Insurance, Plans and Addenda thereto.

3. PROPOSAL QUANTITIES: It is expressly understood and agreed by the parties hereto that the quantities of the various classes of work to be done and material to be furnished under this Contract, which have been estimated as stated in the Proposal, are only approximate and are to be used SOLELY for the purpose of comparing, on a consistent basis, the proposals offered for the work under this Contract; and the Contractor further agrees that the City will not be held responsible if any of the quantities shall be found incorrect; and the Contractor will not make any claim for damages or for loss of profits because of a difference between the quantities of the various classes of work as estimated and the work actually done. If any error, omission, or mis-statement is found to occur in the estimated quantities, the same shall not invalidate this Contract or release the Contractor from the execution and completion of the whole or any part of the work in accordance with the specifications and the plans herein mentioned, or for the prices herein agreed upon and fixed therefore, or excuse him from any of the obligations or liabilities hereunder, or entitle him to any damages or compensation except as may be provided for in this Contract.

4. WITHDRAWAL OF PROPOSALS: No proposal shall be withdrawn following the opening and reading of the bids for a period of 50 days from the date of opening without the consent of the contracting agency through the body or agent duly authorized to accept or reject the proposal.

5. LOSSES AND DAMAGES: All loss or damage arising out of the nature of the work to be done or from the action of the elements, or from any unforeseen circumstances in the prosecution of the same, or from any unusual obstructions or difficulties which may be encountered in and/or during the prosecution of the work, or from any casualty whatsoever of every description, shall be sustained and borne by the Contractor at his own cost and expense except as otherwise provided by the contract documents or the laws of the State of Arizona.

6. DUST PREVENTION: The Contractor shall take whatever steps, procedures or means required to prevent abnormal dust conditions due to his construction operations in connection with this contract. The dust control measures shall be maintained at all times during construction of the project, to the satisfaction of the Engineer, in accordance with the requirements of the "Maricopa County Health Department Air Pollution Control Regulations" which have been adopted pursuant to A.R.S. § 36-779.

The Contractor shall be required to obtain the necessary permit from the Maricopa County Air Pollution Control Bureau, 1001 N. Central Ave., Phoenix, Arizona 85004 - telephone (602) 506-6727.

7. EXCESS MATERIAL: Excess material shall be removed from the work site and wasted at a location approved by the Engineer. Broken concrete and asphalt may be delivered to the Glendale Sanitary Landfill located at 115th Avenue and Glendale Avenue. The prevailing regulations and fee schedule will not be waived for work under this project. All materials, to be disposed of at the landfill, shall be weighed and disposed of at the prevailing rate.

8. STOCKPILE OF MATERIALS: The Contractor may place or stockpile materials in the public right-of-way, if approved by the Engineer, provided they do not prevent access to adjacent properties or prevent compliance with traffic regulations.

Traffic shall not be required to travel over stockpiled materials, and proper dust control shall be maintained.

9. REFUSE COLLECTION ACCESS: At any time the project construction shall require the closure or disruption of traffic in any roadway, alley, or refuse collection easement such that normal refuse collection will be interfered with, the Contractor shall, at least 48 hours prior to causing such closure or disruption, make arrangements with the Field Operations Department in order that refuse collection service can be maintained.

10. CLEAN-UP: After all work under this contract is completed, the Contractor shall remove all loose concrete, lumber, wire, reinforcing, debris, and other materials not incorporated in the work, from the site of the work. Clean-up shall include the removal of all excess pointing mortar materials within pipes and removal of over-size rocks and boulders left after finish grading. The contractor shall provide for the legal disposal of all waste products, debris, etc., and shall make necessary arrangements for such disposal.

11. SHOP DRAWINGS: The Contractor shall provide shop drawings as may be necessary for the prosecution of the work as required by the contract documents. The Engineer shall promptly review all shop drawings. The Engineer's approval of any shop drawing shall not release the Contractor from responsibility for deviations from the contract documents. The approval of any shop drawing which substantially deviates from the requirements of the contract documents shall be evidenced by a change order.

When submitted for the Engineer's review, shop drawings shall bear the contractor's certification that he has reviewed, checked, and approved the shop drawings and that they are in conformance with the requirements of the contract documents.

Portions of the work requiring a shop drawing or sample submission shall not begin until the shop drawing or sample submission has been approved by the Engineer. A copy of each approved shop drawing and each approved sample shall be kept in good order by the Contractor at the site and shall be available to the Engineer.

12. PROTECTION OF FINISHED OR PARTIALLY FINISHED WORK: The Contractor shall properly guard and protect all finished or partially finished work, and shall be responsible for the same until the entire contract is completed and accepted, in writing, by the City. The Contractor shall turn over the entire work in full accordance with the specifications before final settlement shall be made.

13. STATUS OF EMPLOYEES: Contractor shall be responsible for assuring the legal working status of its employees and its subcontractor's employees.

14. LAWS AND REGULATIONS: This Contract shall be governed by and constructed in accordance with the laws of the State of Arizona. The Contractor shall keep himself fully informed of all existing and future City and County Ordinances and Regulations and State and Federal Laws and Occupational Safety and Health Standards (OSHA) in any manner affecting the work herein specified. He shall at all times observe and comply with said Ordinances, Regulations, or Laws.

15. PERMITS: The City has obtained certain required permits which are included in the project specifications, but it will be the duty of the Contractor to determine that all the necessary permits have been obtained. The Contractor shall, at his own expense, obtain all required permits which have not been furnished by the City. A no-fee permit will be issued for work in the City of Glendale right-of-way and easement. (Also see Paragraph 7. Dust Prevention.)

16. ELECTRIC POWER AND WATER: The Contractor shall make his own arrangements for electric power and water. Subject to the convenience of the City, he may be permitted to connect to existing facilities where available, but he shall meter and bear the cost of such power or water. Fire hydrant meters may be obtained from the City of Glendale. Installation and removal of meters should be scheduled at least forty-eight (48) hours in advance through the Public Works/Utilities Division at 930-2700. A \$1,555.50 deposit is required for each meter. The cost of the water is at the prevailing rate.

17. SURVEY CONTROL POINTS AND MONUMENTS: Existing survey monuments indicated on the plans or found during construction shall be protected by the Contractor, and in the event removal is necessary, removal and replacement shall be performed by permission of the Engineer, under direct supervision of the Engineer or his authorized representative. Survey monuments shall be constructed to conform to the requirements of MAG Specifications, Section 405, and Standard Details.

18. EXISTING UTILITIES: The Contractor is hereby advised that the location of all utilities, as shown on the plans, may not be complete nor exact and the Contractor shall satisfy himself as to the exact location of the utilities by contacting Blue Stake or the utility companies before proceeding with the work. After the underground utilities are located by Blue Stake or the utility company, the contractor shall excavate in a careful and prudent manner to prevent unwillful damage to the underground utilities.

In the event the Contractor or its Subcontractor damages an existing, properly identified underground City of Glendale water or sewer line, the Contractor shall be responsible for the repairs at its expense.

The exact location of all existing underground service utilities, whether or not indicated on the plans, shall be determined by the Contractor at no expense to the City, and he shall conduct his work so as to prevent interruption of service or damage to them.

The Contractor shall protect existing utility services and be responsible for their replacement if damaged by him, or to make necessary adjustment in their location, if required, in order to complete the work for his Contract.

Utility companies and other interested parties have been provided with construction plans and the

construction schedule for this project. The Contractor shall comply with MAG Specifications 105.6 to cooperate with the utility companies.

19. MAINTENANCE OF IRRIGATION FACILITIES: Where irrigation facilities interfere with construction, the Contractor shall remove and replace the affected irrigation facilities to its original condition. Final acceptance of replaced facilities will depend upon final approval of the Engineer.

20. OVERHEAD UTILITY LINES AND POLES: Contractor is advised that when work around overhead lines and poles is required on a project the Contractor is required to coordinate with Utility Companies who own and operate overhead lines and poles. The coordination may include, but not be limited to the following activities: pole bracing, de-energizing of lines, and temporary relocations. Contractor is responsible to contact the applicable Utility Company representative and discuss his proposed construction methods; in order to determine what actions the Utility Company must take and the costs related to those actions. The Contractor shall include these costs in the applicable bid items for this project.

The primary and the backup representatives for this review and cost determinations are as follows:

Arizona Public Service:	Mr. Bobby Garza	602-371-7989
Qwest:	Mr. Ron Floyd	602-630-1932
Salt River Project:	Mr. Tim Rinn	602-818-0115
Salt River Irrigation:	Mr. Tom Brennan	602-809-1376
Cox Communications:	Ms. Suzanne Holzer	623-328-3522
Southwest Gas:	Ms. Jean Pacheco	602-484-5227

21. SOUTHWEST GAS FACILITIES EXPOSED DURING CONSTRUCTION: The Contractor, upon exposing a gas line during construction, shall call SOUTHWEST GAS at 602-271-4277. The Southwest Gas patrolman will respond, usually within an hour, to inspect the line. Minor cuts or abrasions to the pipe coating will be rewrapped and tracer wire will be reconnected at no cost to the City.

22. UNDERGROUND UTILITIES' BEDDING: All water, sewer, storm drain, irrigation and other conduits installed within the City of Glendale shall be bedded from bottom of excavation to one foot above the pipe with granular bedding material meeting the requirements of Section 601.4.6 of MAG Uniform Standard Specifications. The initial bedding under the pipe shall follow City of Glendale Detail G-690.

23. SEWER SERVICE LINES: The Contractor shall be responsible for locating, and protecting from damage during construction, all sewer service lines within the project which are not owned by the City. Contractor will be permitted to review the "as-builts" to assist Contractor in locating the non-City owned sewer service lines. These "as-builts" were prepared, and supplied to the City, by private developers or contractors who installed the non-City owned sewer service lines. Therefore, the City does not guarantee or warranty the accuracy of such "as-builts" and the contractor, as a condition for being allowed to review such "as-builts", hereby agrees to hold the City harmless for any and all damages or other expenses contractor may incur as a result of any inaccuracies or incorrect information in these "as-builts".

24. RIGHTS-OF-WAY: The City will provide rights-of-way and easements for all work specified in this Contract, and the Contractor shall not enter or occupy with man, tools, equipment or materials any private ground outside the property of the City of Glendale, Maricopa County, Arizona, without the consent of the owner of such property.

25. SUBCONTRACTS: Subcontracts shall be in accordance with, and the Contractor shall be bound by, the following provisions:

All subcontracts shall be subject to the approval of the City.

All subcontracts shall be in writing and shall provide that all work to be performed thereunder shall be performed in accordance with the terms of the Contract.

Certified copies of any and all subcontracts shall be furnished to the City Engineering Department; however, prices may be omitted.

Subcontracts shall conform to the regulations governing employment of labor.

The subcontracting of any part of the work will in no way relieve the Contractor of his responsibility under the Contract.

26. **PRE-CONSTRUCTION CONFERENCE:** After completion of the Contract Documents, to include bonds, insurance and signatures, and prior to the commencement of any work on the project, the Engineer will schedule a Pre-Construction Conference. This will be held at the City of Glendale, 5850 West Glendale Avenue, Glendale, Arizona.

The purpose of this Conference is to establish a working relationship between the Contractor, Utility Companies, and the Engineer. The agenda will include critical elements of the construction schedule, procedures for handling shop drawings and other submittals, cost breakdown of major lump sum items, payment application and processing, coordination with the involved utility companies, emergency telephone numbers for all representatives involved in the course of construction, and establishment of the Notice to Proceed date.

Minimum attendance by the Contractor shall be a responsible official of the company/corporation, who is authorized to execute and sign documents on behalf of the company/corporation.

27. **OVERTIME:**

Regular Work Hours: The work required to be performed by the Plans and Specifications for the Project shall be performed only during regular working hours, unless the City has authorized overtime work in accordance with the procedures set forth below. Regular working hours shall be defined as one 8-1/2 hour shift per day, Monday through Friday, or, upon prior approval of the City, one 10-1/2 hour shift per day on a compressed four day work week during Monday through Friday. Regular working hours shall not include Saturdays, Sundays or City recognized legal holidays.

Authorization and Costs: If the Contractor desires to schedule work for times other than regular work hours (overtime), the Contractor shall make a written request to the City at least two business days prior to the scheduled overtime. The City reserves the right to deny the request to work overtime based on the best interest and needs of the City. If an overtime request is denied, the City may, at its sole discretion, extend the contract time at no additional costs to the City.

In the event the Contractor does perform work overtime, with or without the prior approval of the City, the Contractor shall be responsible to the City for all additional costs that may be incurred by the City as a result of the Contractor's overtime work, including costs for engineering, inspections, testing, surveying and construction administration, all in accordance with MAG Section 108.5. However, the Contractor shall not be responsible for City's costs incurred as a result of overtime work requested by the City or overtime work resulting from an emergency which is not the responsibility of the Contractor or its employees, subcontractors or suppliers. The City's cost will be billed directly to the Contractor or may, at the City's option, be deducted from monies due the Contractor.

28. **CONTRACTOR'S CONSTRUCTION SCHEDULE:** Concurrently, with the execution of the contract and prior to the pre-construction conference, the Contractor shall submit a preliminary schedule for the Engineer's acceptance. The schedule shall be in sufficient detail to allow the Engineer to determine if the proposed schedule will conform to an approved program of construction operations, as determined by the contracting agency. Within ten calendar days after the preliminary schedule, described above, has been approved by the Engineer, the Contractor shall submit a progress schedule, utilizing the critical path method scheduling technique, showing the order in which he proposes to carry out the work, the dates on which he will start each phase of the work, and the contemplated date

for completion of each phase. The Contractor shall not be permitted to commence construction until the schedule complying with this paragraph has been submitted to the City. The Contractor will not be granted any extension to the contract time or compensation for any damages as a result of the City's refusal to allow Contractor to commence construction until the critical path method progress schedule has been submitted and approved by the Engineer.

The critical path method (CPM) scheduling technique requires a breakdown of the entire work into individual tasks and an analysis of the number of days required to perform each task. The schedule submitted to the City should highlight and identify the critical path for the project. After the work is in progress, the Contractor shall submit supplementary progress schedules, using the critical path method technique, of the progress to date and projection for completion. The supplementary progress schedules shall be submitted with each pay request in accordance with the paragraph, "Payments to Contractors," of these Supplemental General Conditions. The progress schedules shall be subject to the approval of the Engineer. In the event the Contractor fails to submit a supplementary progress schedule acceptable to the Engineer, the City may withhold further progress payments to the Contractor until the Contractor submits an acceptable supplementary progress schedule, which is approved by the Engineer, to the City. Schedule changes requiring an increase in the City's engineering personnel on the project shall not be put into effect until the Engineer has approved such increase and made arrangements for the required additional personnel.

29. CHARACTER OF WORKMEN: None but skilled foremen and workmen shall be employed on work requiring special qualifications. When required by the Engineer, the Contractor shall discharge any person who is, in the opinion of the Engineer, disorderly, dangerous, insubordinate, incompetent, or otherwise objectionable. The Contractor shall keep the City harmless from damages or claims for compensation that may occur in the enforcement of this section of the specifications.

30. HINDRANCES AND DELAYS: Except as otherwise provided herein, no charge shall be made by the Contractor for hindrances or delays from any cause during the progress of the work embraced in this Contract; but such delays, if due to no fault or neglect of the Contractor, shall entitle the Contractor to an extension of time allowed for completing the work, sufficient to compensate for the delay, the amount of the delay to be determined by the Engineer, provided the Contractor shall give said Engineer immediate notice in writing of the cause of such delay.

30.1 Delay: In the event of a delay for which the City is solely responsible, which is unreasonable under the circumstances and which was not within the contemplation of City and Contractor at the time this Contract is executed, City and Contractor shall negotiate, in good faith, a payment by the City to Contractor for the expenses incurred by Contractor as a result of such delay, in accordance with the City of Glendale Engineering Department's POLICY STATEMENT FOR CALCULATING DELAYS AND DAMAGES. This provision shall not be construed to void any provision in the contract which requires notice of delay or provides for liquidated damages. However, if the delay is the result of any act or neglect of a third party, including the architect, engineer or other contractor employed by the City, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably foreseeable, unavoidable casualties, or any causes beyond the Contractor's control, the Contractor shall not be entitled to any payments or compensation for expenses incurred as a result of such delay, but the Contract Time shall be extended by Change Order for such reasonable time as the Engineer may determine. No extension or compensation will be granted for any delay which is the result, wholly or partially, of any act or neglect of Contractor or any Subcontractor hired by Contractor.

31. LIQUIDATED DAMAGES:

31.1 Should the contractor fail to substantially complete the work under this contract within the time for completion stated in the paragraph "Time of Completion," in the Information for Bidders, then the contractor shall pay the City of Glendale, Arizona, liquidated damages, pursuant to the provisions of Section 108.9, Standard Specifications for Public Works Construction, Maricopa Association of Governments, until the work is substantially complete.

31.2 Should the contractor fail to fully and finally complete the work under this contract within the

time for completion set forth in the paragraph "Time of Completion," in the Information for Bidders, even though the contractor has achieved substantial completion of the work within such time, then the contractor shall pay the City of Glendale, liquidated damages (pursuant to the provisions of Section

108.9, Standard Specifications for Public Works Construction, Maricopa Association of Governments), in an amount equal to 100% of the applicable liquidated damage rate set forth in MAG Section 108.9 for each and every calendar day of delay until the work is fully and finally complete and accepted.

31.3 The date of substantial completion shall be the date when the work is sufficiently complete, in accordance with the contract documents, so the owner can fully occupy and utilize the work or designated portion thereof for the use for which it is intended, with all the project's parts and systems operable as required by the contract documents and all the work is complete, accessible, operable, and usable by the owner for its intended purpose(s), and all parts, systems and sitework are 100% complete and cleaned for the owner's use. Only incidental corrective work and final cleaning (if required), beyond cleaning needed for the owner's full use, may remain for final completion.

31.4 Full and final completion shall be that date when all work under the project, including incidental corrective work under punch list and final cleaning, has been completed and the entire project is accepted by the owner.

32. PAYMENTS TO CONTRACTOR: The measurements of quantities and the payments to the Contractor shall be in accordance with MAG Uniform Standard Specifications for Public Works Construction, Part 100 - General Conditions, Section 109 - Measurements and Payments.

Payments will be made on the basis of itemized, monthly statements prepared by the City and signed by the Contractor. The Contractor shall submit an itemized, duly certified and approved estimate for work completed through the last day of the preceding month in accordance with MAG Specifications, as amended by these Supplemental General Conditions. Upon approval of the pay estimate, the City will mail the check directly to the Contractor.

The pay estimate shall be accompanied by an updated progress schedule as required by these Supplemental General Conditions and a cash flow report when required by the Special Provisions. Approval of progress payments shall be conditional upon submittal of progress schedules and cash flow reports, when required, which are acceptable to the Engineer.

Upon 100% completion and acceptance of the project, and with the request for final payment, the Contractor shall complete and submit the "Contractor's Affidavit Regarding Settlement of Claims" form which is included in these specifications. Before final payment and release of retention, Contractor must arrange for its Surety to provide the City with a fully executed AIA Consent of Surety form. To avoid delays in the final payment, the Surety may send the Consent of Surety directly to the City via fax at (623) 915-2689, and mail the original to the City of Glendale Engineering Department, 5850 West Glendale Avenue, Glendale, Arizona 85301. Should any ambiguity arise between the Contract and these Conditions, the provisions of the Contract shall prevail.

END OF SUPPLEMENTAL GENERAL CONDITIONS

SPECIAL PROVISIONS

1. SCOPE OF WORK: Construction of 930 linear feet of storm drain, four catch basins, and three manholes.

2. DEFINITIONS:

A. Section: Reference to a Section on the plans or in these Specifications shall mean a Section of the Uniform Standard Specifications for Public Works Construction, sponsored and distributed by Maricopa Association of Governments (MAG), latest revision. The provisions of MAG Uniform Standard Specifications and Details for Public Works Construction, which are not altered or modified by the drawings or by these Special Provisions or by any subsequently issued Addendum, shall apply to the contract even though the Contractor's attention is not specifically drawn to such provisions.

B. Standard Detail: Reference to a MAG Standard Detail (MAG S.D.) on the plans or in these specifications shall mean a standard detail drawing in the latest revision of the Uniform Standard Specifications for Public Works Construction, sponsored and distributed by Maricopa Association of Governments. City of Glendale Standard Detail (C.O.G. S.D.) shall mean a standard detail drawing in the City of Glendale's Engineering Design and Construction Standards, latest revision. City of Phoenix Standard Detail (C.O.P. S.D.) shall mean a standard detail drawing in the Phoenix Supplemental Standard Details for Public Works Construction, latest revision.

3. CONSTRUCTION SURVEYING AND LAYOUT: The work under this item shall consist of furnishing all materials, personnel, equipment, and traffic control necessary to perform all surveying, staking, and verification of the accuracy of all control points per the plans and as directed by the Engineer. Included in this work shall be all calculations required for the satisfactory completion of the project in conformance with the plans and these Special Provisions. The work shall be done under the direction of a registered professional engineer or a registered land surveyor employed by the Contractor. The crew chief shall be NICET Certified Level III or a registered land surveyor. The Contractor shall furnish all equipment, materials and other devices necessary for establishing, checking, marking and maintaining points, lines, grades and layouts.

Throughout the work, the Contractor shall set all stakes including, but not limited to; centerline stakes; offset stakes; reference point stakes; slope stakes; pavement lines, curb lines and grade stakes at intervals not greater than 25 feet; stakes for sewers, roadway drainage, pipe, under drains, clearing, paved gutter, fence, right of way markers, and survey monuments; blue tops of subgrade, subbase and base courses at intervals not greater than 50 feet; permanent as-built elevation marks; and all other horizontal or vertical controls necessary for complete and accurate layout and construction of the work. Stakes for horizontal and vertical curves shall be set at intervals appropriate for the length of curve. The coordinates of any new control points established by the Contractor during the course of the work shall be given to the Engineer within five working days of control point establishment.

Field notes shall be kept in standard field notebooks furnished by the Contractor. Field notes shall be kept in a clear, orderly and neat manner consistent with standard surveying practices. The standard field notebooks or copies of, shall be made available to the Engineer upon request at any time during the prosecution of the work.

When utility adjustments are a part of the contract, the Contractor shall perform all layout work and set all control points, stakes and references necessary for carrying out all such adjustments.

The Contractor shall cross-section all fill areas for monthly, quantity estimates and as directed by the Engineer. The Engineer may verify the accuracy of same. The Engineer shall check all measurements that involve determination of final quantities.

Any errors, omissions or discrepancies in the project plans shall be immediately brought to the attention of the Engineer. The Contractor shall promptly notify the Engineer in writing, explaining the problem in detail. The Engineer will advise the Contractor within three working days of any corrective actions deemed necessary. No changes in the project plans will be allowed without the approval of the Engineer.

The Contractor shall be compensated for additional work associated with survey and layout when:

- A. The project plans do not provide sufficient information and new calculations must be performed.
- B. The Contractor performs survey work based on erroneous plan information, which results in the duplication of work.
- C. Changes by the Engineer to the plan information for which the Contractor has already performed the work and results in the duplication of such work.

The Contractor shall not be due compensation for any survey work when:

- A. Information provided on the plans is sufficiently complete to allow any additional information necessary for the complete layout of the work to be routinely calculated.
- B. The Contractor fails to inform the Engineer of discovered plan errors before the performance of any extra survey work.
- C. Work is included in any other pay item.

The Contractor shall inform the Engineer in a timely manner of any omissions, ambiguities, or errors which the Contractor feels may result in extra calculations or survey work, so as not to delay the project or create any unnecessary calculations.

All additional survey work shall be documented by the Contractor and verified by the Engineer before compensation may be granted. Documentation shall consist of a detailed diary specifically addressing the work involved in the alleged problem area. The Contractor may be required to provide calculations, charts, graphs, drawings, or any other physical evidence, which will verify additional work.

The Contractor shall be responsible for verifying curb and gutter grades before placement of concrete using a steel straightedge, string line or other method approved by the Engineer. The field verification shall be performed in the presence of the Engineer or designated representative.

The Engineer reserves the right to make inspections and random checks of the staking and layout. Inspection or acceptance of all or any part of the Contractor's staking and layout by the Engineer does not relieve the Contractor of full responsibility to secure the proper dimensions, grades and elevations of the work.

If, in the Engineer's opinion, the work is not being performed in a manner that will assure proper controls and accuracy, the Engineer will order any or all of the staking and layout work redone at no additional cost to the City. If any portion of the Contractor's staking and layout work is ordered redone and requires additional rechecking by the Engineer, the City shall be reimbursed for all costs for such additional checking. The amount of such costs will be deducted from the Contractor's monthly estimate.

The Contractor shall provide final "as-constructed" field surveying, including both vertical and horizontal data based on the finished work. The Contractor shall also furnish final Record Drawings for all improvements. The Record Drawings shall be prepared by a Registered Land Surveyor and submitted to the Owner for approval prior to final acceptance of the project. The Record Drawings shall be prepared on a set of reproducible copies of the construction plans. The completed drawings shall be signed and sealed by the Registered Land Surveyor responsible for obtaining the As-built information and preparing the Record Drawings.

All survey field books and documentation shall be available for inspection by the Engineer.

Payment for this item will be made at the contract lump sum price fully complete for **M1058000 CONSTRUCTION SURVEYING AND LAYOUT.**

4. **SUSPENSION OF WORK:** The Engineer reserves the right to suspend the work wholly or in part if deemed necessary for the best interest of the City. This suspension will be without compensation to the Contractor, other than to adjust the contract time in accordance with MAG Section 108.

5. **COMPLIANCE WITH MANUFACTURER'S INSTRUCTIONS:** In all instances wherein the item and/or specifications require installation or construction in accordance with either manufacturer's or supplier's recommendations and/or instructions, said recommendations and/or instructions shall be submitted with the applicable portions clearly marked for approval prior to the commencement of work on that item or portion of the contract.

6. **TRAFFIC REGULATIONS:**

6.1 All traffic affected by this construction shall be regulated in accordance with the City of Phoenix "Traffic Barricade Manual," and these Special Provisions. The following traffic restrictions are minimum requirements throughout the construction period:

6.1.1 All traffic restrictions listed herein are to supplement the City of Phoenix "Traffic Barricade Manual," and are not intended to delete any part of the manual. All reference in the "Traffic Barricade Manual" to "arterial" and/or "collector" streets shall mean "arterial and/or major arterial" streets and are referred to as "major" streets in the following sections.

6.1.2 A minimum of two travel lanes (one for each direction) shall be maintained open to traffic at all times on all major streets. All work that enters or crosses a major street must be done at times other than 6:00 a.m. to 8:30 a.m., and 4:00 p.m. to 7:00 p.m.

6.1.3 A travel lane shall be defined as ten (10) feet of roadway with a safe motor vehicle operating speed of twenty-five (25) miles per hour.

6.1.4 A travel lane will not be considered as satisfactorily open to traffic until it has been graded reasonably smooth and is paved with a minimum of two (2) inches of asphalt. This shall be considered temporary pavement and shall be removed completely before proceeding with final surfacing.

6.1.5 The Contractor shall provide and maintain all necessary traffic controls, and must provide flashing arrow boards to protect and guide traffic for all work in the construction area.

6.1.6 Intersection area shall be defined as all of the area within the right-of-way of intersecting streets, plus two-hundred fifty (250) feet beyond the center of the intersected streets on all legs of the intersection.

- 6.1.7 The Contractor shall maintain all existing traffic signs erect, clean and in full view of the intended traffic at all times. Street name signs at major street intersections shall be maintained erect at all times. If any signs interfere with construction, the Contractor shall

notify the Inspector at least 48 hours in advance for City forces to remove said signs. The Contractor shall be responsible for having all temporary traffic control signs installed and maintained during construction. The Transportation Department will re-set all traffic and street name signs to permanent locations when notified by the Engineer that construction is complete.

- 6.1.8 Local access to all properties on the subject project shall be maintained at all possible times in the form of a safe and reasonable direct route to at least one of the above defined major streets. Whenever local access cannot be maintained, the Contractor shall notify the affected property owner or user and the Engineer at least twenty-four (24) hours in advance.

- 6.1.9 The Contractor shall be required to provide a uniformed off-duty City of Glendale police officer to assist with traffic control whenever traffic in any one direction is restricted to one lane at a signalized major intersection or at other locations if it should become necessary in the opinion of the Engineer. If the Contractor chooses to use a police officer at other locations during peak traffic hours or to assist with his other traffic control operations, the cost shall be included in the lump sum for "Traffic Control" and not paid out of the hours allowed for "Off Duty Glendale Police Officer." All requests for off-duty officers will be made through the Glendale Police Department, Off-Duty Work Administrator, Sgt. Ernie Ochoa (623-680-1179). The Contractor must provide evidence of workmen's compensation coverage before any officer will be permitted to work.

Measurement for payment of the uniformed off-duty Glendale police officer hours will be made by the actual number of man-hours used for traffic control at signalized major intersections or as approved by the Engineer. Because the quantity of hours is dependent on the Contractors schedule of activities, the unit price bid for this item will be administered as a contingency bid item and any adjustment in hours will not be subject to the 20 percent limitation.

Payment for the off-duty Glendale police officer will be made at the contract unit price bid per hour for OFF DUTY GLENDALE POLICE OFFICER and shall include the net hourly rate of \$35.00 per police officer with a three (3) hour minimum. The net hourly rate shall be increased to include withholding for Federal, State, FICA, Medicare, Workmen's Compensation insurance and any payroll administrative costs.

- 6.1.10 The Contractor shall prepare a traffic control plan for the project and submit it to the City Transportation Director for review and approval at least seven (7) working days before the pre-construction conference. The traffic control plan shall include flashing arrow boards, barricades and signs, and shall address how local access to adjacent properties will be handled in accordance with the specifications herein. Any changes to the traffic control plan during construction shall be submitted to the City Transportation Director for approval at least seventy-two (72) hours before implementation.

Payment for this item shall be made at the contract lump sum price for TRAFFIC CONTROL.

- 6.1.11 It is the City's desire to maintain one lane of traffic in each direction on minor streets whenever possible. Should it become imperative for the Contractor to close off a portion of any minor street or reduce the travel way to a single lane, he must obtain approval from the City Transportation Director twenty-four (24) hours prior to implementing a traffic control change. He must provide all the necessary signs to detour traffic and/or flagmen to control traffic for a single lane. The maximum amount of time that the street may be closed is from 9:00 a.m. until 4:00 p.m.

7. **ENERGIZED AERIAL ELECTRICAL POWER LINES:** The utility company maintains energized aerial electrical power lines in the immediate vicinity of this project. Do not consider these lines to be insulated. Construction personnel working in proximity to these lines are exposed to an extreme hazard from electrical shock. Contractors, their employees, and all other construction personnel working on this project must be warned of the danger and instructed to take adequate protective measures, including maintaining a minimum ten (10) feet clearance between the lines and all construction equipment and personnel. (See: OSHA Standard 1926.550(a)15.) As an additional safety precaution, Contractors should also be instructed to call the utility company to arrange, if possible, to have these lines de-energized or relocated when the work reaches their immediate vicinity. The cost of such temporary arrangements would be borne by the Contractor. The utility company can often respond to such requests if two days advance notice is given, but some situations may require up to sixty (60) days lead time for relocation or other arrangements.

8. **WEEKLY NEWSLETTER:** The Contractor shall prepare, subject to the approval of the Engineer, and distribute on a weekly basis by U.S. Mail, a one page newsletter containing a brief description of the work completed during the past week and work expected to be accomplished during the next week. Information such as, but not limited to, detours or hotline telephone numbers shall be included as required. Payment shall be made as a proportionate share of the lump sum as based on original calendar completion date, however, the Contractor shall continue preparation and distribution until one week after the date of substantial completion. The City shall supply the Contractor with a list of names and addresses not to exceed 500.

9. **CONCRETE GUTTER WATER TESTING:** The MAG Uniform Standard Specifications, Section 340.3, CONSTRUCTION METHODS, shall be modified as follows: The 1/2 inch referenced in Paragraph 16 beginning, "When required by the Engineer, gutter having a slope of 0.8 foot...", shall be changed to 1/4 inch.

10. **RECORD DRAWINGS:** The Contractor shall maintain one set of contract drawings with all changes, deviations, additions and deletions clearly marked thereon. Upon completion of the work, this set of drawings, shall be marked "RECORD DRAWINGS," dated, and delivered to the Engineer prior to approval of the Contractor's final payment request.

11. **SOILS REPORT:** The boring logs and soils report for this project are available for review at the City Engineering Office upon request. The boring logs and soils report are provided only as a courtesy. The logs and soils reports are not incorporated into, or part of, the contract and the City of Glendale makes no warranties, express or implied, as to the accuracy of the information contained therein. The Contractor should not rely on the information contained therein and should perform its own investigation as to the subsurface conditions of the project. The logs and soils reports are not intended, nor should they be relied upon by the Contractor as, a representation of the true soil conditions of the project. If there is a conflict between this provision and any other provision of the contract documents, this provision will prevail. The Contractor will accomplish the project under whatever condition he finds at the contract price.

12. **CASH FLOW REPORT:** The Contractor shall prepare a Cash Flow Report for projected monthly project cash flow on a City provided form and submit it for approval prior to issuance of the Notice to Proceed. The accumulation of monthly pay estimate costs shall be plotted versus time in accordance with the proposed construction schedule. After approval, the Contractor shall submit an updated Cash Flow Report prior to the receipt of each Progress Payment. Each updated Cash Flow Report shall reflect the Contractor's actual monthly payment versus the actual elapsed contract time.

At the City's request, if the projected quarterly project cash flow varies by more than ten percent of the total contract price, the Contractor shall prepare a revised Cash Flow Report. Each revised Cash Flow Report is subject to approval by the City prior to issuance of the progress payment.

Revisions to the report resulting from Contractor initiated delays or work schedule changes shall be at no cost to the City. Any revisions required by City initiated delays or changes to the work shall be paid as an integral part of the approved Change Order.

13. CONSTRUCTION SIGN: The project type to be indicated on the sign shall be 089029 - 67th Avenue Storm Drain; Frier Drive to Orangewood Avenue . See "Construction Sign Detail."

14. ALLOWANCE FOR CONSTRUCTION CONTINGENCIES: Bid schedule includes a lump sum contingency allowance. This allowance is at all times the property of the City and is for the sole purpose of reimbursing Contractor for any unforeseen work not apparent at the time of bidding or additional work requested by the CITY OF GLENDALE.

No work anticipated for reimbursement under this Bid Item shall be initiated by Contractor until Contractor, City of Glendale Representative and City of Glendale agree on the scope and cost to perform the additional work. The Contractor shall prepare and submit to City of Glendale Representative a cost itemization and summary for the additional work. City of Glendale Representative and City of Glendale shall review and approve prior to Contractor proceeding with any additional work. Any portion of the stated sum not expended remains the property of the City of Glendale.

Work under this section shall consist of any additional work identified by the owner and contractor due to construction activity. All work under this item shall be itemized as per MAG requirements and deducted from the set amount of \$66,000.00. All work under this section shall include but is not limited to all necessary materials, tools, layout, survey and labor required to complete each task.

Measurement and payment for this item shall be made on an individual basis per task and as described above. Limit for this item is set at \$66,000.00 on the bid form, under line item ALLOWANCE FOR CONSTRUCTION CONTINGENCY.

END OF SPECIAL PROVISIONS

SUPPLEMENTAL SPECIFICATION – TRENCH EXCAVATION, BACKFILL AND COMPACTION

All contractors shall adhere to the following bedding, backfill and compaction requirements for all construction projects within the City of Glendale. Specific sections of MAG are to be replaced with those published herein, in their entirety. All other specification sections of MAG Section 601 shall remain the same:

1. MAG 601.2.3, Trench Grade: Alignment and elevation stakes shall be furnished the contractor at set intervals and agreed upon offsets. On water main projects, elevation stakes will be furnished only when deemed necessary by the Engineer. In all cases where elevation stakes are furnished, the Engineer will also furnish the Contractor with cut sheets.

The Contractor shall excavate for and provide for an initial granular bedding at least 4 inches thick or one twelfth (1/12) the OD. of the pipe, whichever is greater. This bedding material shall be placed at a uniform density to the required compaction and fine graded as specified below. (See Standard Detail G-690.)

Bell or coupling holes shall be dug after the trench bottom has been graded. Such holes shall be of sufficient width to provide ample room for caulking, banding, or bolting. Holes shall be excavated only as necessary to permit accurate work in the making of the joints and to insure that the pipe will rest upon the prepared bottom of the trench and not be supported by any portion of the joint.

Depressions for joints, other than bell-and-spigot, shall be made in accordance with the recommendations of the joint manufacturer for the particular joint used.

2. MAG 601.4.1 - Foundation: The material upon which the conduit or structure is to be placed shall be accurately finished to the grade or dimensions shown on the plans or as directed by the Engineer. The bottom portion of the trench shall be shaped so as to conform to the bottom of the conduit or structure, in order to provide continuous contact between the conduit and the material upon which it is being placed. In rock trench, the contractor is to excavate at least six inches below bottom of bell.

3. MAG 601.4.2 - Bedding: Pipe and conduits installed in the City of Glendale easements and rights-of-way shall be bedded from bottom of excavation to one foot above the top of pipe with granular material meeting the requirements of MAG Section 601.4.6 and City of Glendale Standard Detail G690. Bedding shall be constructed so as to conform to a Class B, as defined by the American Society of Civil Engineers, Practice No. 60, except that the top of bedding shall extend to one foot above the top of pipe. Pipe bedding shall be required for all pipe having an inside diameter of 8 inches or larger, and shall be required for pipe of any size diameter whenever rock larger than 1 1/2-inch is encountered in the trench bottom.

Bedding shall consist of either granular material containing no pieces larger than 1 inch and free of any deleterious material. Chips or open graded rock will not be permitted without the express written permission of the Engineer. Water consolidation shall be permitted for bedding material only with the written permission of the Engineer. Bedding material for all sizes of pipe or conduit shall be placed in lifts, with the maximum loose thickness not to exceed 8 inches. In no case shall the depth of the first lift exceed the springline of the pipe. See Detail G-690.

4. MAG 601.4.3 Backfill: Backfill material shall be clean sound earthen material free from broken concrete, broken pavement, wood or other deleterious material. Unless otherwise specified, backfill may be screened native material with no piece larger than four (4) inches, select material or aggregate base course, or a slurry mixture consisting of aggregate base course and not more than one-half sack of cement per cubic yard.

Water consolidation shall not be permitted under any circumstance. Mechanical compaction shall be required except when ABC Slurry is chosen as the backfill material. The maximum uncompacted lift thickness for mechanically compacted backfill shall be one (1) foot for any trench width. Nothing

contained in these specifications shall be construed to violate or reduce any trench shoring requirements normally required by O.S.H.A.

The moisture content of backfill materials shall be carefully maintained between the limits of +2 and -4 percent of optimum moisture content as determined by AASHTO T-180 or ASTM D-1557.

5. MAG 601.4.4 Compaction Densities: Unless otherwise noted, the backfill compaction densities listed below, shall be determined using the Modified Proctor Method, ASTM 0-1557.

MINIMUM DENSITY REQUIRED				
Back - fill Type	Location	From Surface To 2' Below Surface	From 2' Below Surface To 1' Above Top of Pipe	From 1' Above Top of Pipe to Bottom of Trench
I	Under any existing or proposed pavement, curb, gutter, sidewalk, or such construction included III the contract, or when any part of the trench excavation is within 2' of the above.	90%	90%	95% Standard Proctor
II	On any utility easement street, road or alley right-of-way outside limits of (I).	90%	90%	95% Standard
III	Around any structures or exposed utilities	90% in all cases		

6. MAG 601.4.5 Compaction Methods: Water consolidation for backfill will not be permitted within the City of Glendale. The backfill compaction shall be accomplished by mechanical methods using equipment such as rollers, pneumatic tamps, hydro hammers, or other approved devices which secure uniform and required density without injury to the pipe or related structures.

The moisture content of backfill materials shall be placed at +2/-4% of optimum moisture content as determined by AASHTO T -180 or AS TM D-15 5 7. All materials outside these moisture content limits shall be considered unsuitable and subject to removal.

Standard Detail G-690, BEDDING AND BACKFILL, is attached.

*** END OF SUPPLEMENTAL SPECS – TRENCH EXCAVATION, BACKFILL AND COMPACTION ***

SUPPLEMENTAL SPECIFICATIONS

SUPPLEMENTAL SPECIFICATIONS - ADJUSTMENT OF EXISTING MANHOLES, VALVES AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS

1. ADJUSTMENT OF EXISTING MANHOLES, VALVES, AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS: The work under this section shall be done in accordance with Sections 345 and 405, MAG Uniform Standard Specifications as modified by these Special Provisions.

During the adjusting of manholes, the contractor will strictly adhere to the O.S.H.A. requirements, (29 CFR part 1910) Subsection 146 "Permit Required Confined Spaces" subpart J. All atmospheric testing and safety equipment must be utilized with permits available for inspection.

The Contractor will be responsible for the tie-out of all water valves, manholes, cleanouts and survey monuments and shall provide to the Inspector, prior to the overlay, a map clearly locating all survey monuments, frames and covers to be adjusted after paving. The methods used shall be approved by the Engineer prior to starting work.

The Contractor shall locate and adjust all existing frames and covers in the project area to the new pavement elevation and slopes with the possible exception of utility company manholes and valve boxes. The Contractor will only adjust the facilities after the overlay is complete. All manholes and valves will be marked with paint on the same day as the overlay and adjustments to frames and covers will be accomplished within seven days after completion of the overlay in a specific location unless otherwise approved in writing by the Engineer. **Under no circumstance shall utility manhole and valve adjustments be completed until after (water-based) paint striping is finalized.** Contractor shall keep rings and covers matched and shall replace them to their original locations. The Contractor shall notify the engineer of any missing manhole or valve covers for replacement. Non-standard manhole and valve covers shall have new frame and covers installed with the adjustment. Payment for replacing the non-standard shall be made at the unit price listed in the proposal under Items M3450030 SUPPLY AND INSTALL REPLACEMENT MANHOLE FRAME AND COVER (CONTINGENCY ITEM) and M3450035 SUPPLY AND INSTALL REPLACEMENT WATER VALVE FRAME AND COVER (CONTINGENCY ITEM).

All existing survey monuments are to remain in place and shall not be disturbed. Stable monuments i.e. Brass caps, iron pipe, rebar etc. shall have a frame and cover installed over the existing monument per M.A.G. Standard Detail 120-1, Type A. Monuments which could be disturbed by the installation of the frame and cover shall be paved over. Final determination as to which monuments shall receive the frame and cover shall be made by the Engineer following investigation by the Contractor. The City is to be notified at least one week prior to overlay operations to reference survey monuments to be covered by the paving.

The Contractor shall remove asphalt, chip seal and other material from all metal covers encountered within the limits of this project. The method for removal of this material must be approved by the Engineer prior to its being used. This work shall be completed prior to adjusting the frame. All concrete debris and spoils shall be removed by the contractor and hauled off on the same day. These will not be stockpiled in city right-of-way.

Prior to pouring the concrete after setting manhole frames, a 10-foot straight edge shall be used to ensure the proper slope and elevation. The concrete to be used shall attain a minimum strength of 2000 psi within 4 hours of placement. The Contractor may use a site-added set accelerating admixture such as Daraset, by W.R. Grace; Pozzutec20, by Master Builders or approved equivalent. In no case, shall the Contractor use a chloride containing accelerator. Mix design shall be submitted to the Engineer for approval prior to the commencement of the adjustments. Protection of all utilities is the responsibility of the contractor. All cracked, exposed aggregate, and adjustments with graffiti will be subject to removal. No concrete patching is acceptable.

Note (1) A utility company representative must be present at all times when adjusting a utility company facilities. The Contractor shall coordinate with the Engineer and with representatives of the various utilities regarding the adjustment and inspection of their manholes and valve boxes. Utility company's specifications shall be adhered to during adjustment. The Contractor shall be responsible for obtaining any additional specifications requirements from the utility company.

Note (2) Arizona Public Service Company manholes must be grouted on the inside and the outside for a waterproof seal.

The individual utility companies have the right to accept or reject the Contractor's bid for their portion of the adjustments. If the Contractor's bid for the adjustments is rejected, the utility company will perform their own adjustment and the bid item quantity will be adjusted accordingly. Any utility inspection costs associated with the utility work will be responsibility of the Contractor.

Arizona Public Service may utilize the Contractor to adjust manholes. The Contractor shall adjust to A.P.S. standards. The Contractor shall provide an approved schedule to A.P.S. All A.P.S. manholes must be grouted on the inside and the outside for a waterproof seal.

Southwest Gas may utilize the Contractor to adjust their manholes and valves. The contractor shall adjust to Southwest Gas standards and requirements. The contractor shall provide an approved schedule to Southwest Gas and notify them one (1) week prior to any work required.

Salt River Project (water) structures shall be adjusted by the Contractor. The Contractor shall utilize construction details provided by Salt River Project. Contact Robert Maurer, (602) 236-2962 two weeks prior to any work required.

Salt River Project (power) shall adjust their manholes. The Contractor shall provide an approved schedule to Salt River Project (power) and notify them two (2) weeks prior to any work required.

Qwest may utilize the Contractor to adjust their manholes. The Contractor shall provide an approved schedule to U.S. West and notify them one (1) week prior to any work required.

The Contractor shall maintain accurate records of utility adjustments so the City can recover the adjustment costs from the appropriate utility.

2. LOCATING UNEXPOSED MANHOLES, CLEANOUTS, WATER VALVE FRAMES AND COVERS AND SURVEY MONUMENTS: The Contractor shall locate unexposed manholes, water valves, and survey monuments as identified by an eight (8)-inch solid circle painted by the City.

In an attempt to locate a manhole, cleanout, water valve cover or survey monument, the Contractor will remove the existing asphalt and base within a minimum diameter of eighteen (18)-inches from the marking and to a maximum depth of one foot. Final adjustment to the frame and cover will be in accordance with MAG Standard Details 120, 270, 391, or 422 as applicable.

The City at no cost to the Contractor will supply lids found missing, defective or damaged unless otherwise indicated in the proposal or these special provisions. The Contractor shall coordinate all lid replacements with the appropriate utility company.

If, after an adequate attempt, no manhole, cleanout, water valve, frame and cover, or survey monument has been found, the Contractor shall notify the City. When indicated on the proposal or called out on the plans, the Contractor shall be paid for the work at the bid price whether or not the cover is found.

END OF SUPPLEMENTAL SPECIFICATIONS – ADJUSTMENT OF EXISTING MANHOLES, VALVES AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS

SUPPLEMENTAL SPECIFICATIONS - ADJUSTMENT OF EXISTING MANHOLES, VALVES, HANDHOLES AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS

1. ADJUSTMENT OF EXISTING MANHOLES, VALVES, AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS: The work under this section shall be done in accordance with Sections 345 and 405, MAG Uniform Standard Specifications as modified by these Special Provisions.

During the adjusting of manholes, the contractor will strictly adhere to the O.S.H.A. requirements, (29 CFR part 1910) Subsection 146 "Permit Required Confined Spaces" subpart J. All atmospheric testing and safety equipment must be utilized with permits available for inspection.

The Contractor will be responsible for the tie-out of all water valves, manholes, cleanouts and survey monuments and shall provide to the Inspector, prior to the overlay, a map clearly locating all survey monuments, frames and covers to be adjusted after paving. The methods used shall be approved by the Engineer prior to starting work.

The Contractor shall locate and pre-lower all existing frames and covers within the project area prior to performing milling operations. The Contractor shall then adjust all existing frames and covers in the project area to the new pavement elevation and slopes with the possible exception of utility company manholes and valve boxes. The Contractor will only adjust the facilities to new pavement elevation after the overlay is complete. All manholes and valves will be marked with paint on the same day as the overlay and adjustments to frames and covers will be accomplished within seven days after completion of the overlay in a specific location unless otherwise approved in writing by the Engineer. **Under no circumstance shall utility manhole and valve adjustments be completed until after (water-based) paint striping is finalized.** Contractor shall keep rings and covers matched and shall replace them to their original locations. The Contractor shall notify the engineer of any missing manhole or valve covers for replacement.

The Contractor shall supply and install new frames and covers on all non-standard sanitary sewer manhole rings and lids. New covers (lids) shall comply with C.O.G. Standard Detail G-704 and new frames (rings) shall comply with MAG Standard Detail 424. This work shall be performed with the adjustment. Contractor shall coordinate, salvage and deliver all non-standard frames and covers removed by this project to the City of Glendale yard (Lions Field) located at 63rd Avenue & Frier Drive. Payment for replacing and salvaging the non-standard frame and cover shall be made at the unit price listed in the proposal under Item M3500028 SUPPLY & INSTALL REPLACEMENT SANITARY SEWER MANHOLE FRAME (MAG 424) & COVER (C.O.G. G-704) (CONTINGENCY ITEM).

The Contractor shall supply and install new frames and covers on all non-standard valve and survey monument handhole rings and lids. This work shall be performed with the adjustment and/or installation. Contractor shall coordinate, salvage and deliver all non-standard frames and covers removed by this project to the City of Glendale yard (Lions Field) located at 63rd Avenue & Frier Drive. Payment for replacing and salvaging the non-standard frame and cover shall be made at the unit price listed in the proposal under Item M3500029 SUPPLY AND INSTALL REPLACEMENT VALVE BOX FRAME AND COVER (CONTINGENCY ITEM).

All existing survey monuments located at section corners and quarter-sections shall be removed and replaced, as necessary, with a hand hole per M.A.G. Standard Detail 120-1, Type A. Existing hand holes at these locations shall be adjusted to finished grade per M .A.G. Standard Detail 120-1, Type A. Survey monuments not located at a section corner or quarter-section shall be paved over. Final determination as to which monuments shall receive the frame and cover shall be made by the Engineer following investigation and inventory by the Contractor. The City is to be notified at least one week prior to overlay operations to reference survey monuments to be covered by the paving. The Contractor shall replace any damaged monuments at their own expense.

The Contractor shall remove asphalt, chip seal and other material from all metal covers encountered

within the limits of this project. The method for removal of this material must be approved by the Engineer prior to its being used. This work shall be completed prior to adjusting the frame and shall be performed with the adjustment and/or installation. The Contractor shall remove all debris that falls into any valve box, sewer clean out, sewer manhole, storm drain manhole, handhole or any other utility provider's structure as a result of any activity related to the construction activities of this project, and the cost shall be at the Contractor's expense.

Prior to pouring the concrete after setting manhole frames, a 10-foot straight edge shall be used to ensure the proper slope and elevation. The concrete to be used shall attain a minimum strength of 2,000 psi within 4 hours of placement. The Contractor may use a site-added set accelerating admixture such as Daraset, by W.R. Grace; Pozzutec20, by Master Builders or approved equivalent. In no case, shall the Contractor use a chloride containing accelerator. Mix design shall be submitted to the Engineer for approval prior to the commencement of the adjustments. Protection of all utilities is the responsibility of the contractor. All cracked, exposed aggregate, and adjustments with graffiti will be subject to removal. No concrete patching is acceptable.

Note (1) A utility company representative MUST be present at all times when adjusting a utility company facilities. The Contractor shall coordinate with the Engineer and with representatives of the various utilities regarding the adjustment and inspection of their manholes and valve boxes. Utility company's specifications shall be adhered to during adjustment. The Contractor shall be responsible for obtaining any additional specifications requirements from the utility company.

Note (2) Arizona Public Service Company manholes must be grouted on the inside and the outside for a waterproof seal.

The individual utility companies have the right to accept or reject the Contractor's bid for their portion of the adjustments. If the Contractor's bid for the adjustments is rejected, the utility company will perform their own adjustment and the bid item quantity will be adjusted accordingly. Any utility inspection costs associated with the utility work will be responsibility of the Contractor. **The following information shall be incorporated by the Contractor:**

Arizona Public Service may utilize the Contractor to adjust manholes. The Contractor shall adjust to A.P.S. standards. The Contractor shall provide an approved schedule to A.P.S. All A.P.S. manholes must be grouted on the inside and the outside for a waterproof seal.

Southwest Gas may utilize the Contractor to adjust their manholes and valves. The contractor shall adjust to Southwest Gas standards and requirements. The contractor shall provide an approved schedule to Southwest Gas and notify them one (1) week prior to any work required.

Salt River Project (water) structures shall be adjusted by the Contractor. The Contractor shall utilize construction details provided by Salt River Project. SRP manholes/vaults to be adjusted to grade may require partial or full demolition and rebuild of the structure. Contractor to verify necessary requirements with SRP prior to construction activities on their structures. Contractor to adjust mill/replace depths adjacent to SRP structures in the event they cannot be adjusted to grade. Contact Robert Maurer, (602) 236-2962 two weeks prior to any work required.

Salt River Project (power) shall adjust their manholes. The Contractor shall provide an approved schedule to Salt River Project (power) and notify them two (2) weeks prior to any work required.

Qwest may utilize the Contractor to adjust their manholes. The Contractor shall provide an approved schedule to U.S. West and notify them one (1) week prior to any work required.

The Contractor shall maintain accurate records of utility adjustments so the City can recover the adjustment costs from the appropriate utility.

2. LOCATING UNEXPOSED MANHOLES, CLEANOUTS, WATER VALVE FRAMES AND COVERS AND SURVEY MONUMENTS: The Contractor shall locate unexposed manholes, water valves, and survey monuments as identified by an eight (8)-inch solid circle painted by the City.

In an attempt to locate a manhole, cleanout, water valve cover or survey monument, the Contractor will remove the existing asphalt and base within a minimum diameter of eighteen (18)-inches from the marking and to a maximum depth of one foot. Final adjustment to the frame and cover will be in accordance with MAG Standard Details 120, 270, 391, or 422, as applicable.

The City, at no cost to the Contractor, will supply lids found missing, defective or damaged unless otherwise indicated in the proposal or these special provisions. The Contractor shall coordinate all lid replacements with the appropriate utility company.

If, after an adequate attempt, no manhole, cleanout, water valve, frame and cover, or survey monument has been found, the Contractor shall notify the City. When indicated on the proposal or called out on the plans, the Contractor shall be paid for the work at the bid price whether or not the cover is found.

END OF SUPPLEMENTAL SPECIFICATIONS – ADJUSTMENT OF EXISTING MANHOLES, VALVES AND SEWER CLEANOUTS AND REPLACEMENT OF SURVEY MONUMENTS

SUPPLEMENTAL SPECIFICATIONS – PAVEMENT MILLING

1. PAVEMENT MILLING: The Contractor shall mill existing material adjacent to existing concrete gutters as shown on the plans. All existing material built up over the gutter shall be removed as part of this bid item.

Portions of the roadway with no curb and gutter will not require edge milling except for taper to match existing pavement. Utility companies are not required to lower their appurtenances to facilitate edge milling or cul-de-sac milling.

The Contractor shall be required to protect all milled surfaces from deterioration and shall repair subsequent damage prior to tack coating. The entire surface shall be cleaned with a power pickup broom. No more than 300-feet of milled surface can be left un-swept by power broom during the milling operation. Raveled areas that do not require removing shall be cleaned by hand brooming. All milled surfaces shall be swept at the end of each working day. The above are incidental, and the cost thereof shall be included in other bid items. The Contractor shall protect all adjacent properties and vehicles from damage that might be caused by loose tailings. Any transverse joints over 1-inch in depth shall be ramped with cold mix asphalt prior exposing to vehicular traffic. Sidewalks adjoining milled area shall be swept on the same day.

Milling depths exceeding the specified depths by more than 1/4-inch shall be measured and the corresponding quantity of rubberized asphalt concrete shall be deducted from the final quantity for payment at the rate of 110 pounds per square yard per inch of excess depth. If less than 2", the pavement milling shall not precede the pavement overlay operation by more than 7 days. Milling depths of 2" or more shall be filled with base course asphalt concrete by the end of the work day. Transverse joints shall have vertical edges.

The Contractor shall notify the Superintendent of Traffic Operations (Phone (623) 930-2940) 48-hours prior to milling at signalized intersections or any locations where signal loop detectors may be damaged by the milling operation. Each signalized intersection shall be reviewed and the milling operation will be modified or reduced, including using smaller milling heads, to avoid damage to signal loops. The cost associated with this shall be included in the unit bid price for "Milling". Where it is determined that the loops will need to be replaced, the loops shall be placed after the milling is complete and prior to placing the final lift of asphalt. Placement of the loop detectors will require seven days. The Contractor will be responsible for the cost of replacement for damaged signal loops that were not designated for replacement.

Chipped gutter lips caused by milling in excess of ten feet shall be removed and replaced.

All suitable asphalt materials which are the result of the milling operations shall be removed from the job site, delivered to the City of Glendale Landfill located at 115th and Glendale avenues, and stockpiled as directed. Delivery shall be made via the Northern Ave gate; the contractor shall arrange for a water truck to maintain dust suppression during delivery of millings. City contact for the Landfill is Ernie Ruiz 623-930-4726. Dumping fees for stockpiling pavement millings will be waived. Delivery and stockpiling of millings will not be paid for separately, but is considered included in the bid price paid for MILLING.

All unsuitable materials shall be removed from the worksite and disposed of in a legal manner by the end of each working day.

Payment for milling existing pavement will be made at the unit price bid under Items M3000050 thru M3000055 ASPHALT CONCRETE PAVEMENT MILLING and shall include clean-up and disposal of the tailings.

END OF SUPPLEMENTAL SPECIFICATIONS – PAVEMENT MILLING

SUPPLEMENTAL SPECIFICATIONS – STOCKPILING OF ASPHALT MILLINGS

1. GENERAL:

All suitable asphalt materials which are the result of the milling operations shall be removed from the job site, delivered to the City of Glendale Landfill located at 115th and Glendale Avenues, and stockpiled in accordance with the following:

The Contractor shall notify the Landfill office, two weeks prior to materials coming to the site, of dates, starting and ending times for hauling to the Landfill. When required by the Landfill office, the Contractor shall provide a dedicated equipment operator and equipment to stockpile the material. If stockpiling at night the Contractor shall provide adequate lighting to ensure safe entry and exit from the Landfill. Delivery shall be made via the Northern Avenue gate; the contractor shall arrange for a water truck to maintain dust suppression during delivery of millings. When required the Contractor shall arrange for the delivery and set up of a hydrant meter at the Landfill. In accordance with Maricopa County Rule 310, the operator of the water truck shall have the minimum training required and hold a basic certification card. If the individual operating the water truck is not also a certified dust control coordinator, a coordinator must be on site during all hours of operation. The Contractor shall provide a flag person who shall be at the gate at all times.

In the event a Maricopa County dust control inspector arrives on site the Contractor shall immediately notify Landfill Supervisor at (623) 640-1046 or the Landfill office at 623-930-4720.

Dumping fees for stockpiling pavement millings will be waived.

The Contractor shall provide a copy of the insurance certificate, naming the City as additionally insured, to the Landfill office. The Contractor shall obtain a dust control permit, issued by Maricopa County, and provide a copy of the permit to the Landfill office prior to commencing hauling, when required by the Landfill. The Contractor shall be responsible for track out clean up on Northern Avenue and shall provide a sweeper if required by the Landfill office.

If materials other than asphalt millings are to be hauled to the Landfill, the Landfill office shall be notified prior to the dumping of said materials. All unsuitable materials shall be removed from the Landfill and disposed of in a legal manner by the end of each working day.

2. PAYMENT:

Delivery and stockpiling of millings will not be paid for separately, but is considered included in the bid price paid for "Pavement Milling".

END OF SUPPLEMENTAL SPECIFICATIONS – PAVEMENT MILLING

SUPPLEMENTAL SPECIFICATIONS – AGGREGATE BASE COURSE

The work under this item shall consist of regrading and compaction of existing base material if disturbed by construction. There shall be NO separate payment for this item.

END OF SUPPLEMENTAL SPECIFICATIONS – AGGREGATE BASE COURSE

SUPPLEMENTAL SPECIFICATIONS – SHRP ASPHALT CONCRETE SURFACE COURSE

ASPHALTIC CONCRETE: Mix designs can be used from the 2011 City of Glendale approved mix design lists or a mix design shall be submitted which meets the following requirements when tested with the applicable test methods:

I. General Information

1. All producers of hot asphalt concrete whose mixes may be placed within the rights-of-way of the City of Glendale will be required to submit complete asphaltic concrete mix designs for all such material.
2. Where to submit: Three (3) copies of the reports shall be submitted to the City of Glendale, Assistant City Engineer, 3rd floor, City of Glendale, 5850 West Glendale Avenue, Glendale, Arizona 85301-2599. Faxed copies are unacceptable and will not be reviewed.
3. When to submit: A new mix design will be required each January for each product code to be supplied. Verification tests for each product code shall be provided each July. A complete mix design will be required of any new product code at the time of its initial submittal. Laboratory certifications will be required on an annual basis. Mix submittals must be made at least seven working days prior to the paving date, in order to allow time for review and revision if necessary. No exceptions will be permitted.

II. Laboratory Requirements:

The mix designs must be performed by a laboratory knowledgeable in asphalt mix design. The laboratory can be the producers laboratory or a commercial geotechnical/materials laboratory provided they comply with the following:

- a. The laboratory, at the time of testing and submittal, remains certified by the AASHTO Accreditation Program in the field of Bituminous Materials. Further subfields of Hot-Mix Asphalt and Hot-Mix Asphalt Aggregate are additionally required. A copy of the certifications will be required with each submittal as described.
- b. The laboratory is under direct supervision of an experienced, registered Professional Engineer. This will require the Engineer be physically present on a routine basis while the mix design testing is being done and be the responsible person in charge of the work.
- c. The Engineer in charge of the laboratory shall submit a resume which details the Engineer's knowledge and experience in the field of asphalt concrete and the design of the same. The resume will be submitted with the suppliers mix designs. New resumes will be required whenever a change occurs with the Engineer. If the laboratory is approved by the Arizona Department of Transportation (ADOT) to perform asphalt concrete mixture designs, a copy of the personnel resource data that is supplied to ADOT, along with a copy of their approved letter will suffice.
- d. The Engineer shall seal (stamp), sign, and date each mix design or verification.

III. Mix Designs

a. Mix designs or verifications will be required as indicated in part I. above, for all asphalt mixes. The seal date must be current to within six months. Mix designs, without current verification, older than six months will be rejected. If, in the opinion of the Assistant City Engineer, the production test data from the mix is not meeting the approved design or if conditions at the plant change, quality control charts and/or additional submittals will be required. The scope of the additional submittals may vary depending on the degree of proof required to establish or re-establish a workable design. The following conditions are to be considered sufficient grounds justifiable for reevaluation of the mix designs.

1. A change in the producers pit.
2. When material is taken from a different or new source.
3. A change in the producers method of aggregate production.
4. Any other change that would require an adjustment in the asphaltic concrete mix design, in the opinion of the Engineer.

- b. Design of the asphalt paving mixtures shall be accomplished by either the Marshall Method of Mix Design as described in the latest edition of the MS-2 manual published by the Asphalt Institute, or SHRP criteria as described in the *SUPERPAVE[®] Mix Design Manual for New Construction and Overlays, SHRP-A-407* or *Level One Mix Design: Materials Selection, Compaction, and Conditioning, SHRP-A-408*, or current SHRP Design Manual when approved by the Engineer. ($N_{initial}$, N_{design} , $N_{maximum}$ to be determined by the Engineer)

A minimum of four (4) points will be used to establish the mix design results. Optimum asphalt content will be selected at an air void content of 4.0 plus or minus 0.2%. The proposed mix design must further comply with all requirements of Section III. e. of this document.

c. If the Marshall Method of mix design is chosen, the mix properties shall be verified with two compacted specimens using a gyratory compactor in accordance with AASHTO Provisional Method TP-4. The verification shall meet the criteria in the following table:

Number of Gyration	Percent of Maximum Theoretical Density
$N_{Initial}$	Maximum 89.0%
N_{Design}	95.0% to 97.5%
$N_{Maximum}$	Maximum 98.0%

- d. All mix submittals must include the following information:
1. A mix design or verification will be stamped, signed, and dated by the Engineer responsible for the mix design. Date must be current to within most recent six months.
 2. Product code for each mix design.
 3. Recommended bitumen content with charts as noted below.
 4. Aggregate proportions (including mineral filler) based on bin percentages and composite gradation. The composite plotted on a graph raised to 0.45 power.
 5. Statement as to method used to introduce mineral admixture with aggregate (wet or dry process)

6. Bulk density, stability, flow, % effective air voids.
7. Percent Tensile Strength Ratio
8. Mixing and compaction temperatures.
9. Source of asphalt, with supplier certificates.
10. Source of mineral filler with certificates.
11. Fractured face count.
12. Specific gravity of aggregates (bulk, bulk SSD, apparent and effective).
13. Specific gravity of mineral admix and asphalt cement.
14. Film thickness in microns.
15. SUPERPAVE[®] mix designs will require a volumetric analysis of the compacted hot mix asphalt per the *SUPERPAVE[®] Mix Design Manual for New Construction and Overlays*, SHRP-A-407, National Research Council, Washington D.C. May 1994. (Three trial blends are required)

e. Mix Design Criteria:

	ITEM	LIMITS/STANDARDS	REFERENCE
1.	Asphalt Mixes	3/8", 1/2", 3/4", 1", and 1-1/2" Nominal Maximum Size *	This document and attached gradations.
2.	Mineral Admixture (Lime or Portland Cement, Type I or II) Liquid Anti-strip	Min. 1%, Max. 2% by wt. for all mixes. per manufacturer	ASTM C150 or C977 AASHTO R15-89
3.	Asphalt Grade	AC-40 or PG grade per SUPERPAVE [®] design at 98% reliability limits. (PAV @ 110° C)	MAG 710.2.1 & 711.3 SHRP Mix Design Manual AASHTO - MP1
4.	Marshall Mix Design Method (or 5 below)	(75 blows)	MS-2 Manual
	a. Stability	Per Table 5.3 (MS-2)	ASTM D 1559
	b. Flow	0.08" to 0.16"	ASTM D 1559 AASHTO T245-94
	c. Air Voids	Design: 4.0% ± 0.2% Production: 3.0% - 5.0%	ASTM D 3203 AASHTO T269
5.	SUPERPAVE [®] Method	Level 1 Mix Design	SHRP Mix Design Manual
6.	Tensile Strength Ratio (TSR)	minimum of 75%	AASHTO T283-89
7.	Asphalt Binder Content	**	**
8.	Gradation	Between SHRP control points. Outside the Power 45 restricted zone. Arterial streets must be below restricted zone. ***	SHRP-A-407, Appendix A, Table A-1 thru A-5
9.	Sand Equivalent	Natural sand limited to a	

		maximum of 15%. Composite fines to meet a minimum uncompacted void content of 40% for residential or 45% for all others. SE 50 Minimum.	ARIZ Method 247 AASHTO T176
10.	Fractured Faces	85% min. 1 or more 80% min. 2 or more	ARIZ Method 212
11.	Plastic Index	Non-plastic	AASHTO T-90
12.	% Voids in Mineral Aggregate(VMA)	Per Table 5.3 (MS-2)	MS-2 Manual
13.	% Voids Filled (VFA)	Per Table 5.2 (MS-2)	MS-2 Manual
14.	Film Thickness	8-14 Microns	****
15.	Dust to AC Ratio (P_{200}/P_{be}) (incl admix)	0.6 to 1.2	MS-2 Manual

* Nominal Maximum Size is defined as one sieve size larger than the first sieve to retain more than ten percent. Maximum Size is defined as one size larger than the Nominal Maximum Size.

** The asphalt content shall be selected to provide a mix consistent with the above specified properties. The permissible production tolerance for the asphalt content, so determined, will be within the limits of $\pm 0.40\%$. Curves shall be provided which plot each of the four trial binder contents against Air Voids, VMA, and VFA, Unit Weight, Stability and Flow. If the SUPERPAVE® design method is used, the Densification Data and Curves developed shall be provided for review.

*** Once target values have been established by the mix design, the mineral aggregate gradation tolerances shall be as specified under ADOT 406-9.03(A). Samples may be taken at random locations by the Engineer in accordance with Arizona Test Method 104. In no case shall the gradations exceed the range in the SHRP Control Point Charts (See Gradations and Lift Thickness Tables below).

**** The asphalt film thickness should be calculated using the following formula:

$$T_f = \frac{(4876.8)(P_{be})}{(SA)(P_s)(G_b)}$$

Where,

- T_f = Asphalt Film Thickness, Microns
- P_{be} = Effective Asphalt Content, Percent by Total Weight of Mixture
- SA = Surface Area of Aggregate (square feet per pound)
- P_s = Aggregate Content, Percent by Total Weight of Mixture
- G_b = Specific Gravity of Asphalt Cement

Surface Area (SA) calculations should follow procedures outlined in Chapter 6 of the Asphalt Institute Manual Series No. 2 (MS-2), Sixth Edition.

IV. Hot Mix Facilities

The following information regarding the hot mix facilities will need to be submitted for review with the annual laboratory certifications, whenever a new facility is placed in operation or

whenever a facility is moved.

- A. Listing of all hot mix facility numbers, their physical locations, and the mix product codes that the producer intends to supply.
- B. Annual certificates on all weights and metering devices used in the production and weighing of the asphalt mix, for each such facility that the supplier intends to use to manufacture material for use within the City..
- C. Each supplier must submit annually the Arizona Rock Products Association (ARPA) "Certification of Hot Mix Asphalt Production Facilities".

V. Compaction Acceptance

Acceptance testing for asphalt mixtures which have been designed using Marshall methods will continue to be as specified under MAG 321.5.4. The target density for asphalt mixtures designed using Superpave criteria will be 92 percent of Maximum Theoretical Specific Gravity. Remediation or other required measures will be per applicable MAG specification, unless specifically superceded by this document.

SUPERPAVE[®] GRADATION LIMITS

GRADATION PLOT FOR 1½ INCH (37.5 mm) NOMINAL MAXIMUM SIZE

Sieve	mm	µm	0.45	ASTM Max	ASTM Min	0.45 Chart Max Dens	Minimum Boundary	Maximum Boundary
2	50.0	50000	130	100.0	100.0	100.0		
1-½	37.5	37500	114	100.0	90.0	87.9		
1	25.4	25000	95	88.0	68.0	73.2		
¾	19.00	19000	84	80.0	56.0	64.7		
½	12.50	12500	70	70.0	44.0	53.6		
¾	9.50	9500	62	64.0	37.0	47.4		
4	4.75	4750	45	53.0	23.0	34.7	34.7	34.7
8	2.36	2360	33	41.0	15.0	25.3	23.3	27.3
16	1.18	1180	24	30.0	10.0	18.5	15.5	21.5
30	0.60	600	18	22.0	7.0	13.7	11.7	15.7
50	0.30	300	13	16.0	4.0	10.0	10.0	10.0
100	0.15	150	10	12.0	2.0	7.3		
200	0.08	75	7	6.0	0.0	5.4		

Control Point in **BOLD ITALICS**

GRADATION PLOT FOR 1 INCH (25 mm) NOMINAL MAXIMUM SIZE

Sieve	mm	µm	0.45	ASTM Max	ASTM Min	0.45 Chart Max Dens	Minimum Boundary	Maximum Boundary
1-½	37.5	37500	114		100.0	100.0		
1	25.4	25000	95	100.0	90.0	83.3		
¾	19.00	19000	84	91.0	74.0	73.6		
½	12.50	12500	70	80.0	56.0	61.0		
¾	9.50	9500	62	73.0	46.0	53.9		
4	4.75	4750	45	59.0	29.0	39.5	39.5	39.5
8	2.36	2360	33	45.0	19.0	28.8	26.8	30.8
16	1.18	1180	24	33.0	13.0	21.1	18.1	24.1
30	0.60	600	18	24.0	8.0	15.6	13.6	17.6
50	0.30	300	13	17.0	5.0	11.4	11.4	11.4
100	0.15	150	10	12.0	3.0	8.3		
200	0.08	75	7	7.0	0.0	6.1		

Control Point in **BOLD ITALICS**

GRADATION PLOT FOR 3/4 INCH (19 mm) NOMINAL MAXIMUM SIZE

Sieve	mm	µm	0.45	ASTM Max	ASTM Min	0.45 Chart Max Dens	Minimum Boundary	Maximum Boundary
1	25.4	25000	95	100.0	100.0	100.0		
3/4	19.00	19000	84	100.0	90.0	88.4		
1/2	12.50	12500	70	88.0	68.0	73.2		
3/8	9.50	9500	62	80.0	56.0	64.7		
4	4.75	4750	45	65.0	35.0	47.4		
8	2.36	2360	33	49.0	23.0	34.6	34.6	34.6
16	1.18	1180	24	35.0	15.0	25.3	22.3	28.3
30	0.60	600	18	25.0	9.0	18.7	16.7	20.7
50	0.30	300	13	19.0	5.0	13.7	13.7	13.7
100	0.15	150	10	13.0	3.0	10.0		
200	0.08	75	7	8.0	2.0	7.3		

Control Point in **BOLD ITALICS**

GRADATION PLOT FOR 1/2 INCH (12.5 mm) NOMINAL MAXIMUM SIZE

Sieve	mm	µm	0.45	ASTM Max	ASTM Min	0.45 Chart Max Dens	Minimum Boundary	Maximum Boundary
3/4	19.00	19000	84	100.0	100.0	100.0		
1/2	12.50	12500	70	100.0	90.0	82.8		
3/8	9.50	9500	62	91.0	74.0	73.2		
4	4.75	4750	45	74.0	44.0	53.6		
8	2.36	2360	33	58.0	28.0	39.1	39.1	39.1
16	1.18	1180	24	42.0	18.0	28.6	25.6	31.6
30	0.60	600	18	30.0	11.0	21.1	19.1	23.1
50	0.30	300	13	21.0	5.0	15.5	15.5	15.5
100	0.15	150	10	15.0	3.0	11.3		
200	0.08	75	7	10.0	2.0	8.3		

Control Point in **BOLD ITALICS**

GRADATION PLOT FOR 3/8 INCH (9.5 mm) NOMINAL MAXIMUM SIZE

Sieve	mm	µm	0.45	ASTM Max	ASTM Min	0.45 chart Max Dens	Minimum Boundary	Maximum Boundary
1/2	12.50	12500	70	100.0	100.0	100.0		
3/8	9.50	9500	62	100.0	90.0	88.4		
4	4.75	4750	45	85.0	55.0	64.7		
8	2.36	2360	33	67.0	32.0	47.2	47.2	47.2
16	1.18	1180	24	42.0	46.0	34.6	31.6	37.6
30	0.60	600	18	33.0	12.0	25.5	23.5	27.5
50	0.30	300	13	23.0	7.0	18.7	18.7	18.7
100	0.15	150	10	15.0	3.0	13.7		
200	0.08	75	7	10.0	2.0	10.0		

Control Point in **BOLD ITALICS**

LIFT THICKNESS TABLE

The choice of asphaltic concrete mix designation shall be governed by the following target lift thicknesses:

Target Lift Thickness	Nominal Maximum Size Asphalt Mixture
1" (25 mm)	3/8" (9.5 mm)
1 1/2" (37.5 mm)	1/2" (12.5 mm)
2" (50 mm)	3/4" (19 mm)
3" (75 mm)	3/4" (19 mm)
4" (100 mm)	1-1/2" (37.5 mm)

NOTE: An asphalt concrete preservative seal, in accordance with MAG Section 334, shall be used on residential streets if a 3/4" conventional mixture is placed as surface course. Superpave mixtures will not require seal coat.

END OF SUPPLEMENTAL SPECIFICATIONS – SHRP ASPHALT CONCRETE SURFACE COARSE

SUPPLEMENTAL SPECIFICATION-LOOP DETECTORS

A. General: The contractor shall furnish and install loop detectors in the sizes and at the locations shown on the maps and in accordance with standard details T6-1 through T6-3 and the requirements of these specifications. All loop detectors shall be installed prior to the rubberized asphalt top course placement, either within the base course or within the existing asphalt, depending on the pavement structural section shown on the maps.

B. Materials: Loop detector wire shall conform to International Municipal Signal Association (IMSA) Specification 51-5. The saw cut loop sealant shall be hot applied rubberized asphalt formulated specifically for use as a loop sensor saw cut sealant, as specified on standard detail T6-1. The sealant shall be non-tracking during application and relatively stiff but flexible after application at low pavement temperatures.

Preformed loops may be proposed by the contractor and shall be separately approved by the City.

C. Construction Requirements: Loops shall be located in the center of the traveled lane. The loop sensor layout shall be made on the base course pavement surface prior to cutting and shall be approved by the City Traffic Signal Supervisor. All saw cuts shall be made with an abrasive type saw. The sawed slot shall extend to the curbside for each loop detector. Separate lead-in slots extending from the loop to the curbside shall be made for each loop detector. All corner points shall be core drilled at full depth of the loop saw cut. All saw cuts shall be flushed clean of all debris prior to the installation of the loop wire. Loop wire shall not be installed in unclean or wet saw cuts. Loop wire in adjacent loops shall be installed in opposite directions to reduce interference. Each pair of loop sensor wires entering a curb-side pull box shall be labeled to identify which loop it represents by lane and direction.

All loops shall be given a continuity and insulation test before and after placing the sealant in the saw cuts. Minimum reading to ground shall be at least 100 Meg-Ohms. Any loop detector sensor that does not meet the insulation test or does not properly tune when connected to the amplifier shall be replaced by the Contractor.

Saw cuts shall be filled with a sealant specifically intended for loop sealant applications. The sealant shall completely surround the loop sensor conductors and fill the saw cut to the top of the pavement surface.

All lead-in wires that are impacted by the mill and overlay operations that are connected to loop detectors not impacted by the mill and overlay operations shall be replaced and reconnected, and installed as outlined in this specification

D. Measurement: Loop detectors will be measured as a unit for each "cluster" as shown on construction maps (as they are existing today), and as shown on City of Glendale Standard Details T6-1 through T6-3. Measurement shall include size and type of loop detector installed and shall include all connections to traffic equipment/facilities, testing, material and labor.

E. Payment: The accepted quantities of detectors will be measured as described above and will be paid for at the contract unit price. Payment shall be full compensation for the work, complete in place.

END OF SUPPLEMENTAL SPECIFICATIONS – LOOP DETECTORS

SUPPLEMENTAL SPECIFICATIONS - ASPHALT-RUBBER CONCRETE OVERLAY, GAP
GRADED
MAG SECTION 325

325.1 DESCRIPTION: Asphalt-rubber concrete consists of supplying, placing and compaction of plant mixed gap graded asphalt-rubber concrete over asphalt surfaces. The thickness shall be as shown on the plans or as specified in the special provisions.

325.2 MATERIALS: Asphalt-rubber concrete shall consist of a mixture of aggregate and asphalt-rubber binder. Tack coat, asphalt-rubber concrete mix and transportation thereof shall be as specified in Sections 710 and 321, except as modified below:

325.2.1: AGGREGATE:

The aggregate shall meet the following gradation:

<u>Overlay Thickness Sieve Size</u>	<u>1" & 1-1/2" Percent Passing</u>	<u>2" Percent Passing</u>
25mm (1")	100	100
19 mm (3/4")	100	97-100
12.5 mm (1/2")	100	78-92
9.5 mm (3/8")	78-92	61-75
4.745 mm (#4)	28-42	30-40
2.36 mm (#8)	15-25	15-25
600 Um (#30)	5-15	5-15
75 um (#200)	3-7	2-6
*Type II Portland cement	1.5%	
Or		
*Hydrated Lime	1.0%	

***By total weight of the mineral aggregate.**

The aggregate shall conform to the requirements of MAG 701 and 710 for asphalt concrete, except as modified below:

Sand Equivalent	65 minimum
Crushed Aggregate (retained on 2.36 mm (#8) sieve, at least one crushed face, produced by crushing)	85 minimum

325.2.2 ASPHALT-RUBBER BINDER: The asphalt-rubber binder shall conform to Section 717.

325.2.3 MIX DESIGNS: At the Pre-Construction Meeting, the Contractor shall submit the name of the asphalt-rubber concrete supplier, a description of the materials, and the job mix design(s). The design method used shall be in accordance with the Marshall Mix procedure, 75 blows, as described in "Design Methods for Hot-Mixed Asphalt-Rubber Concrete Paving Materials" by James G. Chehovits, October 1989. The job mix designs are subject to approval by the Engineer.

Asphalt Rubber Binder Content: The percent of asphalt-rubber binder in the mix(es) shall be within the following range:

Overlay Thickness	Asphalt Rubber Binder	
	High Traffic	Low Traffic
1" and 1-1/2"	8.0% to 8.4%	8.4% to 8.8%
2"	7.1% to 7.4%	N/A

The amount of asphalt-rubber binder in each mix shall be provided in the design subject to approval by the Engineer. Low traffic areas include residential streets. High traffic areas include arterial streets.

Air Voids: The percent of air voids in the mix(es) shall be within the following range:

Overlay Traffic Volume	Air Voids
Low Traffic	3.0% to 5.0%
High Traffic	4.0% to 6.0%

The percent of air voids in each mix shall be provided in the design subject to approval by the Engineer.

Mix designs shall include the following information as a minimum:

1. Aggregate
 - Source and identification (for each material used)
 - Gradation (for each material used)
 - Blend percentage
 - Mixture gradation
2. Asphalt – Rubber Binder (No extender oil allowed)
 - Source and PG grade of asphalt cement
 - Source and identification of ground rubber
 - Ground rubber gradation
 - Ground rubber percentage of the asphalt – rubber binder
 - Type and amount of additive(s), if required
 - Temperature when added to aggregate
3. Recommended asphalt – rubber binder content by both weight of total mix and by weight of dry aggregate.
4. Recommendations for maximum / minimum temperatures during material production and lay down; and the allowable ambient air and existing pavement surface temperatures during lay down.

The mix design shall include sufficient test results and documentation to assure that all requirements for rubber, aggregate and the asphalt-rubber binder are fulfilled.

325.2.4 PRODUCTION TOLERANCE: Production requirements for asphalt-rubber concrete shall be as specified in Section 710.4.4 Volumetrics Section 710.5.1 Quality Control, and Section 321.6 Corrective Requirements for Deficiencies. The production tolerances including compaction

requirements and corrective action will be enforced for asphalt-rubber concrete.

Calibration Factors: A minimum of one week prior to the production of asphalt rubber hot mix, the Contractor shall submit to the Engineer samples of all hot mix materials that will be used on the project. The materials shall be used to determine the calibration factors using the acceptance laboratory and the Contractor supplied ignition furnaces and related quality control test equipment. Calibration factors shall be recalculated whenever a change in the asphalt rubber hot mix materials occurs and when requested by the Engineer.

325.3 SURFACE PREPARATION: Before placing asphalt-rubber concrete on existing pavements, severely raveled areas or cracked areas that are depressed more than 3/4" from the adjoining pavement shall be cut out and patched at least 48 hours prior to the resurfacing operation. Over-asphalted (bleeding or flushing) areas or rough high spots shall be removed by burning or milling. If leveling is required as determined by the Engineer, SHRP 9.5mm asphalt concrete shall be used and not measured for payment. The entire surface shall be cleaned with a power broom. Raveled areas that do not require removing shall be cleaned by hand brooming. The above surface cleaning requirements are included as part of the Asphalt-Rubber Concrete paving operations and the cost thereof shall be included in the Asphalt-Rubber Concrete pay item. Heating of transverse joints may be required.

Prior to placing the asphalt-rubber concrete on milled surfaces, pot-holes left by the milling operation shall be repaired by the Contractor, as a related non-pay item and as required by the Engineer. The milled area shall be swept.

After surfaces have been prepared to the satisfaction of the Engineer, they shall receive a tack coat as specified in Section 321.

Traffic will not be permitted over surfaces which have received a tack coat. When the overlay is to extend onto a concrete surface, the concrete surface shall be thoroughly cleaned of loose dust and cement particles and shall be tack coated. The work under this section shall be done in accordance with section 321 MAG uniform standard specifications.

325.4 CONSTRUCTION METHODS: Asphalt-rubber concrete shall be placed only when the surface is dry, and when the atmospheric temperature in the shade is 55° F or above. No asphalt-rubber concrete shall be placed when the weather is foggy or rainy. Asphalt-rubber concrete shall be placed only when the Engineer determines that weather conditions are suitable.

Except as otherwise noted, placing and rolling of the asphalt-rubber concrete and the smoothness of the surface shall be as specified in Section 321 for asphalt concrete. The spreading equipment shall be staffed by a full crew meeting industry standards and equipped with a mat reference ski-type control device of not less than 24 feet in length equipped with four attached sensors, or other method on control approved by the Engineer. The placing and rolling operation shall be performed by trained and fully qualified staff meeting industry standards. A sweeper shall be on-site and available for clean up after placement of pavement and for track out of asphalt left by the relocation of the paving machine and trucks.

The density of the compacted mixture shall not be less than 95% of the laboratory unit weight composed of the same mixture compacted by the 75 blow method of ASTM D-1559 at 290° F +/- 5° F, or at the job design specified compaction temperature. Pneumatic rollers shall not be used.

Placement and compaction temperature shall be specified with the submitted mix design data but in no

case less than 275° F at the point of placement. The temperature of the material in the truck shall be measured by inserting a thermometer, or other approved measuring device, to a point at least 6" below the surface of material.

If asphalt-rubber concrete is placed in a windrow during paving, the windrow shall not exceed a distance greater than 150 feet in front of the paving machine.

325.4.1 Lime Water: An application for lime water shall be applied by the Contractor to the compacted asphalt rubber concrete surface after final compaction, prior to opening the roadway to traffic, or when requested by the Engineer to cool the pavement to prevent tracking and pick-up. The lime water solution shall be applied at the rate of approximately 1/2 gallon/square yard or as directed by the Engineer. The lime shall be mixed using a minimum of (1) one, 50-pound bag per 3,000 gallons of water.

325.4.2 Sand Application: An application of sand shall be applied at intersections by the Contractor to the compacted asphalt rubber concrete surface after final compaction, prior to opening the roadway to traffic, or when requested by the Engineer to help prevent tracking and pick-up. The sand shall be applied at the rate of approximately 2 lbs/square yard or as directed by the Engineer.

325.4.3 Corrective Requirements for Deficiencies: Corrective measures shall be as specified in Section 321.6 Corrective Requirements for Deficiencies and in Section 710.4.4 Volumetrics.

325.4.4 Adjustments: After installation of an overlay course: On roads without curb and gutter, the existing shoulder elevation shall be adjusted by the Contractor to match the elevation at the edge of new overlay and slope away from new pavement surface at a rate that the existing quantity of shoulder related material will allow. Shoulder material includes the existing shoulder, millings, untreated base materials, or a granular material approved by the Engineer. Shoulder material shall be compacted to a minimum of 95% of maximum density, determined in accordance with section 301.3.

325.5 MEASUREMENT: Asphalt-Rubber Concrete shall be measured by the ton, for the mixture actually used, which shall include the required quantities of mineral aggregates, filler material, rubberized asphalt binder and anti-strip agent. Sand application shall be measured by the square yard.

Application of Lime Water shall not be measured for payment.

325.6 PAYMENT: Payment for Asphalt Milling will be as specified in Section 300. Payment for Tack Coat will be as specified in Section 329. Payment for Sand for Oil Tracking Reduction will be at the contract unit price per square yard applied. Payment for Asphalt - Rubber Concrete will be at the contract unit price per ton, complete in place. Application of Lime Water as approved by the Engineer will not be paid for separately. It shall be considered included in the payment for Asphalt-Rubber Concrete or Chip Seal.

***END OF SUPPLEMENTAL SPECIFICATIONS – ASPHALT-RUBBER CONCRETE
OVERLAY, GAP GRADED ***

SUPPLEMENTAL SPECIFICATIONS – TACK COAT

TACK COAT: The Contractor shall be required to protect all surfaces from deterioration and shall repair subsequent damage prior to tack coating. After surfaces have been prepared to the satisfaction of the engineer, they shall receive a tack coat as specified in MAG section 321. The tack coating application rate shall be according to existing surface conditions as determined by the engineer and per MAG section 321. Tack coating is incidental to paving and pavement replacement and the costs of tack coating shall be included in the costs of the paving.

END OF SUPPLEMENTAL SPECIFICATIONS – TACK COATING

SUPPLEMENTAL SPECIFICATION – PAVEMENT MARKINGS THERMOPLASTIC

A. General: The work under this section consists of the contractor furnishing all materials, preparing the pavement surface and installing the pavement markings. All pavement marking materials shall be approved by the City of Glendale Transportation Department prior to installation.

The contractor shall contact the City of Glendale Transportation Department (phone number (623-930-2940) a minimum of 72 hours in advance of striping lay-out to obtain the necessary lane closure permits.

The contractor shall lay-out all striping and marking while accompanied by a City of Glendale Senior Traffic Engineering specialist or other Transportation Department representative, two working days prior to striping.

All newly paved or over-lay roadways shall first be striped in water based paint and then re-striped with thermoplastic markings a minimum of 30 days after final paving. (See City of Glendale water based paint specifications for material type and installation).

Roadway striping shall not be done on weekends or holidays unless permission is granted in advance by the City Transportation Director, a minimum of two working days before installation.

All pavement striping dimensions are to face of curb and center of stripe, or to the center of double stripes.

B: Marking Removal: The contractor shall remove all existing pavement markings and striping in conflict with the final striping plan, by ultra high pressure water (36,000 P.S.I.) This removal method shall be done in conformance with E.P.A. requirements. If the removal of striping causes a depression of 1/8 inch or greater in depth in the pavement surface, the contractor shall seal the area with slurry per M.A.G. Standard Specifications 713 and 715, Type Two. Covering existing markings with black paint, tar or any other substance does not constitute line removal and will not be approved.

C. Lane Lines And Centerline: Application of the white lane line and yellow centerline striping shall be performed in accordance with Arizona Department of Transportation (ADOT) Standard Specification 704. The application equipment shall be truck mounted per ADOT Standard Specification 704-3.01.

Materials for white lane line and yellow center line striping shall be in accordance with ADOT Standard Specification 704 with the exception that the material shall be Alkyd Thermoplastic. All long line striping shall be spray type and be applied at a thickness of 60 mils.

All yellow and white broken lane lines shall have a common start point and cycle length, so as to be restriped simultaneously, using a common cycle length on both sides of the truck carriage. The cycle length is to be 40 feet with a 10 foot long line and a 30 foot space between lines.

D. Crosswalks and Stop Bars: Installation for striping all stop bars and crosswalks shall be in accordance with Section 704 of the ADOT Standard Specification, with the exception that the material shall be Alkyd Thermoplastic. The crosswalk and stop bars shall be the extruded type and applied at a thickness of 90 mils.

E. Pavement Turn Arrows and Symbols: Installation and material for left and right turn arrows shall be in accordance with Section 705 of the ADOT Standard Specifications. Material to be 3M Sta-

Mark Series SMS-5730 or approved equal. Apply 3M contact cement, E-44 or approved equal, to the roadway for the installation of all arrows.

F. Raised Pavement Markings: Raised pavement markers shall be in accordance with Section 706 of the ADOT Standard Specifications. Material to be Stimsonite 911 raised pavement markers with un-tempered glass lens, or approved equal. Install the markers per City of Glendale details M1-5 and M1-6.

A double sided blue raised pavement marker shall be installed at each fire hydrant in accordance with City of Glendale Standard Detail G-650.

***END OF SUPPLEMENTAL SPECIFICATIONS - PAVEMENT MARKINGS
THERMOPLASTIC***

SUPPLEMENTAL SPECIFICATION-WATER-BASED PAVEMENT MARKINGS

A. General: The work under this section consists of the contractor furnishing all materials, preparing the pavement surface and installing the pavement markings. All pavement marking materials shall be approved by the City of Glendale Transportation Department prior to installation.

The contractor shall contact the City of Glendale Transportation Department (phone number 623-930-2940) a minimum of 72 hours in advance of striping lay-out to obtain the necessary lane closure permits.

The contractor shall lay-out all striping and markings for the City Transportation Department review and approval, a minimum of two (2) working days before installation.

All newly paved or over-lay roadways shall first be striped in water based paint and then re-striped with thermoplastic markings a minimum of 30 days after final paving.

Roadway striping shall not be done on weekends or holidays unless permission is granted in advance by the City Transportation Director, a minimum of two working days before installation.

All pavement striping dimensions are to face of curb and center of stripe, or to the center of double stripes.

B. Marking Removal: The contractor shall remove all existing pavement markings and striping in conflict with the final striping plan, by ultra high pressure water (36,000 P.S.I.). This removal method shall be done in conformance with all E.P.A. requirements. If the removal of striping causes a depression of 1/8 inch or greater in depth in the pavement surface, the contractor shall seal the area with slurry per M.A.G. Standard Specifications 713 and 715, Type Two. Covering existing markings with black paint, tar or any other substance does not constitute line removal and will not be approved.

C. Lane Lines And Centerline: Application of the white lane line and yellow centerline striping shall be performed in accordance with Arizona Department of Transportation (ADOT) Standard Specification 708. The application equipment shall be truck mounted per ADOT Standard Specification 708-3.01.

Materials for white lane line and yellow center line striping shall be in accordance with ADOT Standard Specification 708, with the exception that water based traffic marking paint shall be used.

All yellow and white broken lane lines shall have a common start point and cycle length, so as to be restriped simultaneously, using a common cycle length on both sides of the truck carriage. The cycle length is to be 40 feet with a 10 foot long line and a 30 foot space between lines.

D. Crosswalks and Stop Bars: Installation for striping all stop bars and crosswalks shall be in accordance with Section 704 of the ADOT Standard Specification, with the exception that the material shall be Alkyd Thermoplastic. The crosswalk and stop bars shall be the extruded type and applied at a thickness of 90 mils.

E. Pavement Turn Arrows and Symbols: Installation and material for left and right turn arrows shall be in accordance with Section 705 of the ADOT Standard Specifications. Material to be 3M Sta-Mark Series SMS-5730 or approved equal. Apply 3M contact cement, E-44 or approved equal, to the roadway for the installation of all arrows.

F. Raised Pavement Markings: Raised pavement markers shall be in accordance with Section 706 of the ADOT Standard Specifications. Material to be Stimsonite 911 raised pavement markers with untempered glass lens, or approved equal. Install the markers per ADOT drawing 4-M-2-03.

A double sided blue raised pavement marker shall be installed at each fire hydrant in accordance with City of Glendale Standard Detail G-650.

***END OF SUPPLEMENTAL SPECIFICATIONS – WATER-BASED PAVEMENT
MARKINGS ***

SUPPLEMENTAL SPECIFICATION-AZPDES PERMIT REQUIREMENTS

Subsection 107.2.1 - AZPDES Permit Requirements:

A. This project is subject to the Arizona Pollutant Discharge Elimination System (AZPDES) Stormwater requirements for construction sites under the Environmental Protection Agency (EPA) General Permit for Arizona. Under provisions of that permit, the Contractor shall be designated as permittee, and shall take all necessary measures to assure compliance with the AZPDES General Permit for Arizona as well as all other applicable Federal, State and local laws, ordinances, statutes, rules and regulations pertaining to stormwater discharge. As the permittee, the Contractor is responsible for preparing, in a manner acceptable to the EPA, ADEQ, and the City of Glendale, all documents required by this regulation, including but not necessarily limited to:

1. Stormwater Pollution Prevention Plan (SWPPP) for the project, including certification of compliance form. Contractor shall be required to develop, implement, update and revise the SWPPP, as necessary, in order to assure compliance with the ADEQ permit requirements. **All SWPPP revisions must be reviewed by the City of Glendale's Land Development Engineer prior to implementation.** The SWPPP shall be retained on the project site at all times during construction.
2. Notice of Intent (NOI) to assure compliance with the AZPDES General Permit for Arizona, including certification of signatures.
3. Notice of Termination (NOT) of coverage under AZPDES General Permit for Arizona.

B. Three copies of the SWPPP and the NOI shall be submitted to the City of Glendale during the pre-construction meeting and shall be subject to review by the City prior to implementation.

C. Contractor shall submit the completed and duly signed NOI forms no later than forty-eight (48) hours prior to the **pre-construction meeting** for the project to the following agency:

Arizona Department of Environmental Quality; Surface Water Section/Stormwater
and General Permits Unit
1110 West Washington, 5415A-1
Phoenix, AZ 85007

The contractor may also go online and use the Stormwater SMART NOI System at:

<http://www.az.gov/webapp/noi/main.do>

Failure by the Contractor (or Subcontractors of any tier) to submit NOI's within the mandated time frame shall result in delay of the construction start date, and no claim for extension of time will be granted for such delay. A copy of the completed NOI shall be posted at the construction site.

D. Inspections of all stormwater pollution control devices on the project shall be performed by the Contractor on a monthly basis and following each rainfall of 0.50 inches or more in a 24-hour period at the project site as required under provisions of the AZPDES General Permit for Arizona. Contractor shall prepare reports on such inspections and retain the reports for a period of three years following the

completion of the project. Inspection reports shall be submitted monthly to the City along with progress payment requests. Additionally, Contractor shall maintain all stormwater pollution control devices on the project in proper working order, which shall include cleaning and/or repair during the duration of the project.

E. Contractor warrants that its employees and Subcontractors of any tier and their employees shall at all times comply with all applicable laws, ordinances, statutes, rules and regulations set forth by all federal, state and local governments and the Arizona Department of Environmental Quality in connection with AZPDES Permitting requirements and laws and regulations pertaining to air, groundwater and surface water quality.

Fines and penalties imposed by the ADEQ against the City of Glendale or the Contractor, for Contractor's failure to comply with any of the requirements of AZPDES General Permit of Arizona, shall be borne by the Contractor.

F. Upon project completion, acceptance and demobilization, Contractor shall use the SMART NOI web-based service to complete the NOT process and also provide a copy of the NOT to **the City of Glendale** thereby terminating all AZPDES permit coverage for the project. Contractor shall then surrender to the City all inspection information and other documents prepared and maintained by the Contractor in compliance of the AZPDES General Permit. Contractor shall retain the originals of such documents for a period of three (3) years following the completion of the project.

G. Copies of all required forms and guidance for preparing the SWPPP are available at the ADEQ website <http://www.adeq.gov/envirom/water/permits/stormwater.html>.

H. The Lump Sum price for the SWPPP shall include all material, labor, and all other costs relating to the preparation, installation and maintenance of the SWPPP during project construction, including assuring proper operation of the pollution control devices installed, and all maintenance, cleaning, and disposal costs associated with clean-up and repair following storm events, runoff or releases on the project. The Lump Sum price for the SWPPP shall be inclusive of all costs, and no additional claims shall be made by Contractor under any other specification provision of these documents, including Change Conditions. Payment for this bid item shall be upon final completion and acceptance of the project, as per Section 109.1.

Payment for AZPDES / SWPPP permit requirements shall be made on the basis of lump sum for all work described in Subsection 107.2.1 for **ITEM M1070110- ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES)**. Payment shall include installation of inlet markers, supplied by the City, on all catch basins, scuppers, drywells and elsewhere as directed by the City. Markers shall be installed using a suitable 2-part epoxy as approved by the City.

END OF SUPPLEMENTAL SPECIFICATIONS - AZPDES PERMIT REQUIREMENTS

Project Life Cycle Cash Flow Schedule



Project No.: _____ Date: _____

Project Name: _____

Company Name: _____

Project Start Date: _____ Project Completion Date: _____

Original Updated Revised

Qtr.	Fiscal Yr.	Estimated		Actual	
		Amount	Accum.	Amount	Accum.
1st	07/06 - 09/06	\$ -			
2nd	10/06 - 12/06				
3rd	01/07 - 03/07				
4th	04/07 - 06/07				
1st	07/07 - 09/07			\$ -	\$ -
2nd	10/07 - 12/07				
3rd	01/08 - 03/08				
4th	04/08 - 06/08				
1st	07/08 - 09/08		\$ -	\$ -	\$ -
2nd	10/08 - 12/08				
3rd	01/09 - 03/09				
4th	04/09 - 06/09				
1st	07/09 - 09/09	\$ -	\$ -	\$ -	\$ -
2nd	10/09 - 12/09				
3rd	01/10 - 03/10				
4th	04/10 - 06/10				
1st	07/10 - 09/10				
2nd	10/10 - 12/10	\$ -	\$ -	\$ -	\$ -
3rd	01/11 - 03/11				
4th	04/11 - 06/11				
Totals		\$ -		\$ -	

* COG's fiscal year is July 1, (current year) through June 30, (following year)

For Engineering Use Only:

Account No: _____ PO No: _____

CONSTRUCTION SIGN DETAIL

CONSTRUCTION SIGNS ARE TO BE IN PLACE BEFORE PHYSICAL CONSTRUCTION BEGINS

SIGNS SHALL BE MADE OF 3/4" AC EXTERIOR PLYWOOD OR OTHER MATERIAL APPROVED BY THE ENGINEER

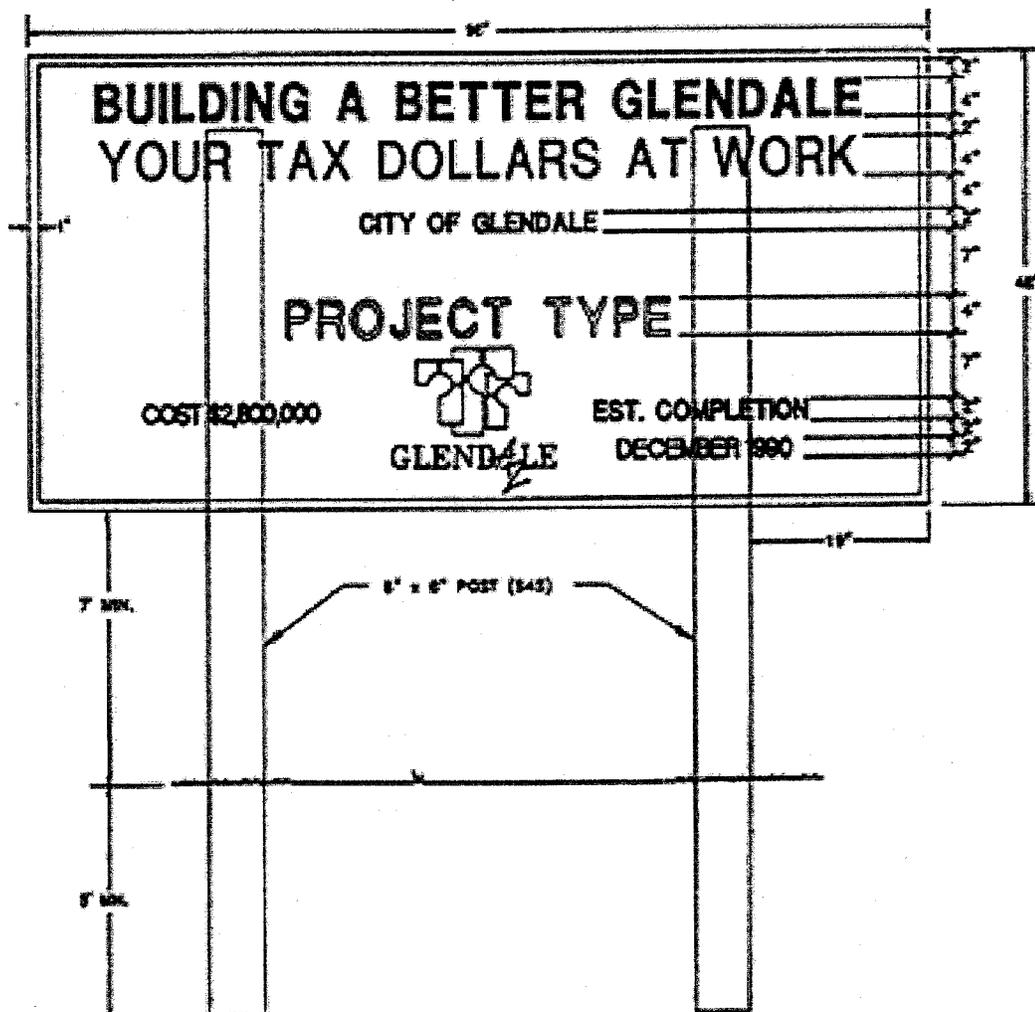
BACKGROUND TO BE PAINTED WHITE WITH STENCIL BLACK LETTERS, NUMERALS AND BORDER.

POSTS SHALL BE PAINTED WHITE. ALL MOUNTING HARDWARE TO BE RUST PROOF MATERIAL

SIGNS SHALL BE SO PLACED THAT THEY WILL NOT OBSCURE OR DETRACT FROM OTHER SIGNING.

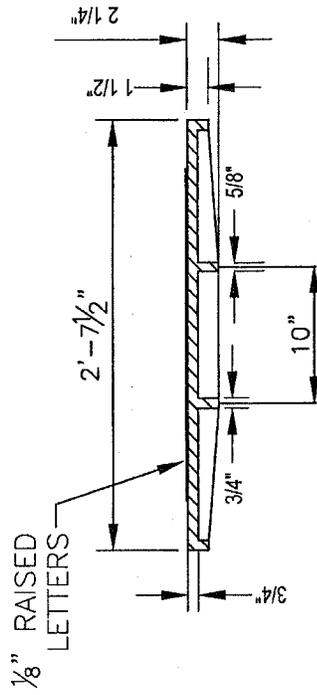
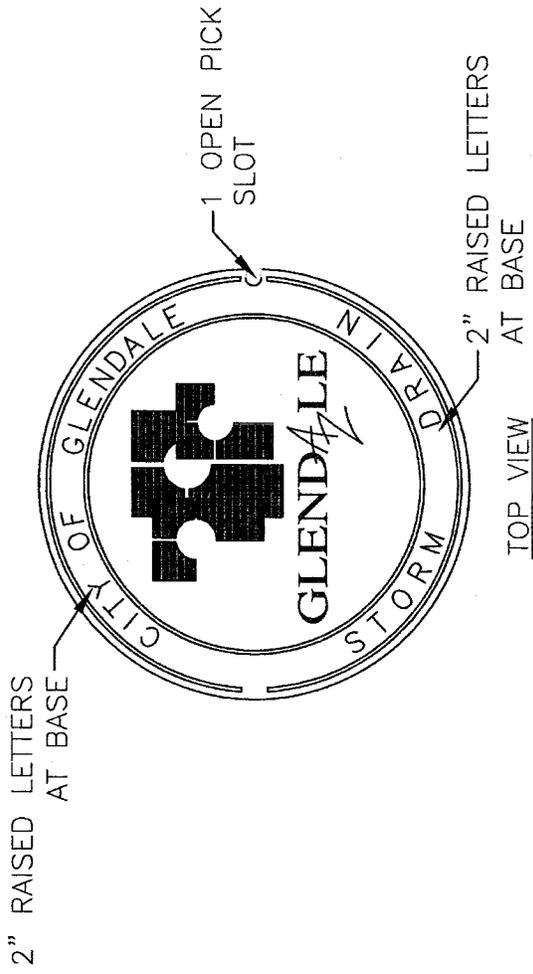
CONTRACTOR TO FILL IN THE PROJECT TYPE, COMPLETION DATE, AND COST AS DIRECTED.

THE 12"X13" TWO COLOR GLENDALE LOGO IS AVAILABLE BY CONTACTING THE CITY OF GLENDALE ENGINEERING DEPT. COST \$16.00





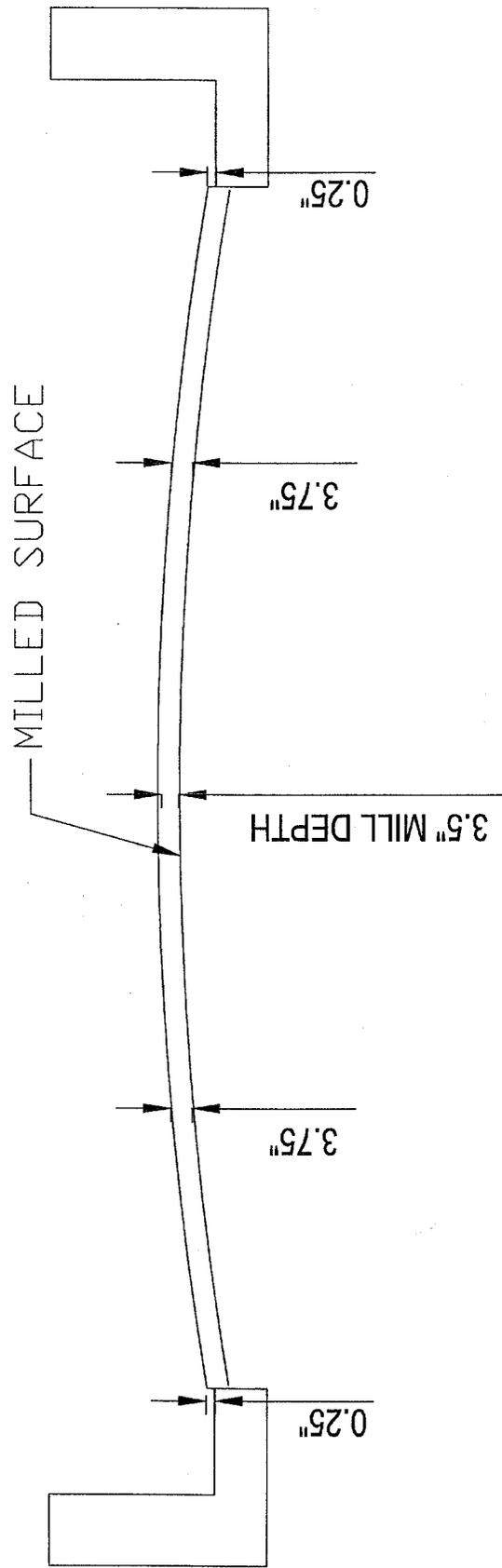
67th Ave - Orangewood Ave to Northern Ave



CITY OF GLENDALE  STANDARD DETAIL	STORM DRAIN MANHOLE COVER	
	APPROVED BY: CITY ENGINEER	DATE REVISED: JULY 2010
		DETAIL NO. 1

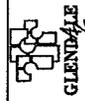
DETAIL #2

OVERLAY DETAIL - 67TH AVENUE ORANGEWOOD TO FRIER DRIVE



OVERLAY USING 2.5" AC AND 1.25" AR

CITY OF GLENDALE
STANDARD DETAIL



OVERLAY DETAIL

APPROVED BY:
CITY
ENGINEER

DATE

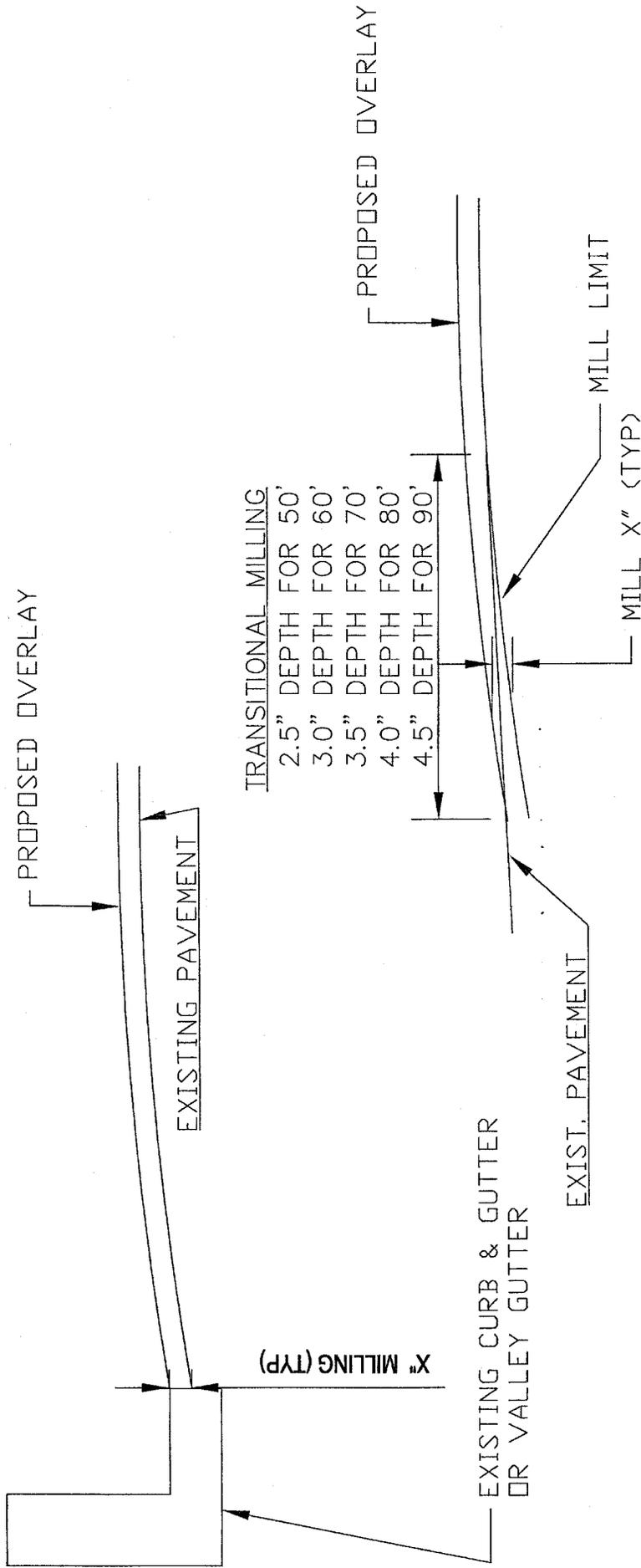
REVISED: JUNE 2011

DETAIL NO.

2

MILLING DETAIL No. 3

X" = SEE MILLING DETAIL



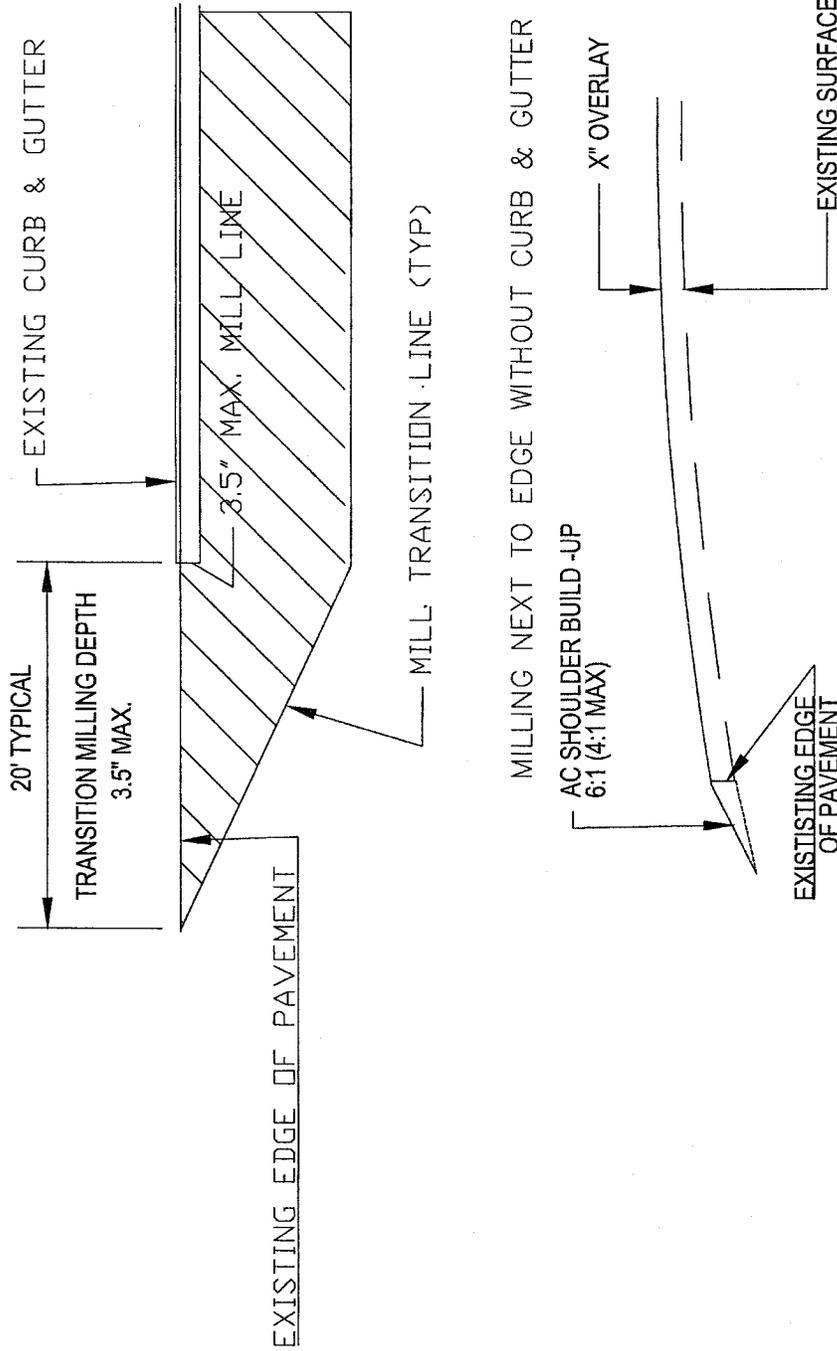
NOTE: REFER TO TYPICAL PAVING SECTIONS FOR DETAILED THICKNESS INFORMATION.



TYPICAL MILLING & AC
OVERLAY DETAILS
N.T.S.

APPROVED BY:	DATE	DETAIL NO.
CITY ENGINEER	REVISED: JUNE 2011	3

EDGE MILLING DETAIL No. 4

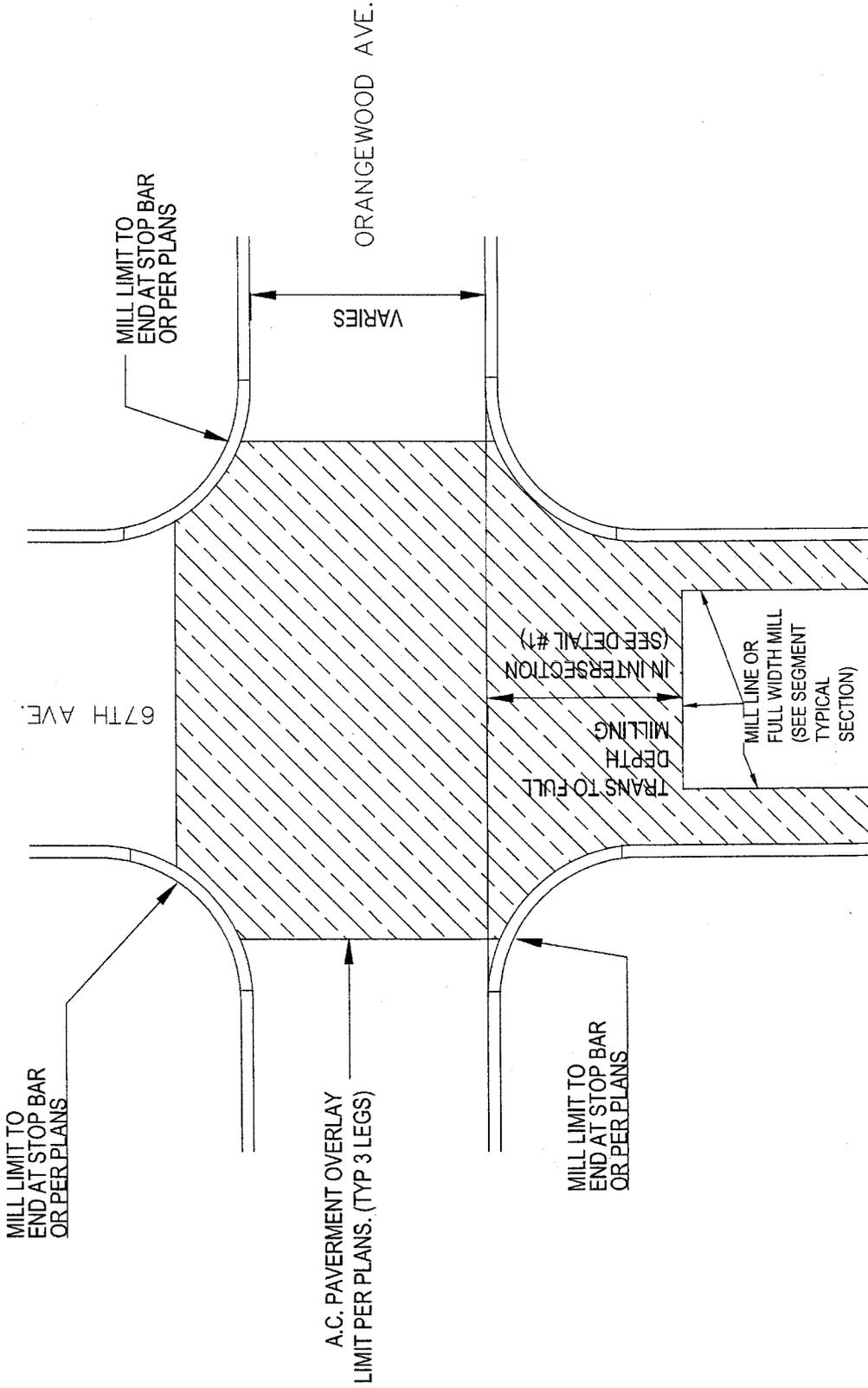


NOTES:

1. MILL DEPTH TO BE 3.5" MAX AT LIP OF GUTTER OR VALLEY GUTTER UNLESS OTHERWISE NOTED.
- 2 REFER TO TYPICAL PAVEMENT SECTIONS FOR DETAILED MILLING THICKNESS INFORMATION.
3. FOR SECTIONS WITHOUT CURB AND GUTTER, MAX DROPOFF AT EDGE OF PAVEMENT IS 2 INCHES. CONTRACTOR TO CONSTRUCT SHOULDER BUILD-UP TO MEET THIS REQUIREMENT FOR ALL SEGMENTS WITHOUT CURB AND GUTTER.

CITY OF GLENDALE STANDARD DETAIL 	TYPICAL MILLING & AC OVERLAY DETAILS N.T.S.		DATE REVISOR: JUNE 2011	DETAIL NO. 4
	APPROVED BY: CITY ENGINEER			

MILLING DETAIL No. 5



CITY OF GLENDALE
STANDARD DETAIL



MILLING AT MAJOR
INTERSECTIONS (N.T.S.)

APPROVED BY:
CITY
ENGINEER

DATE

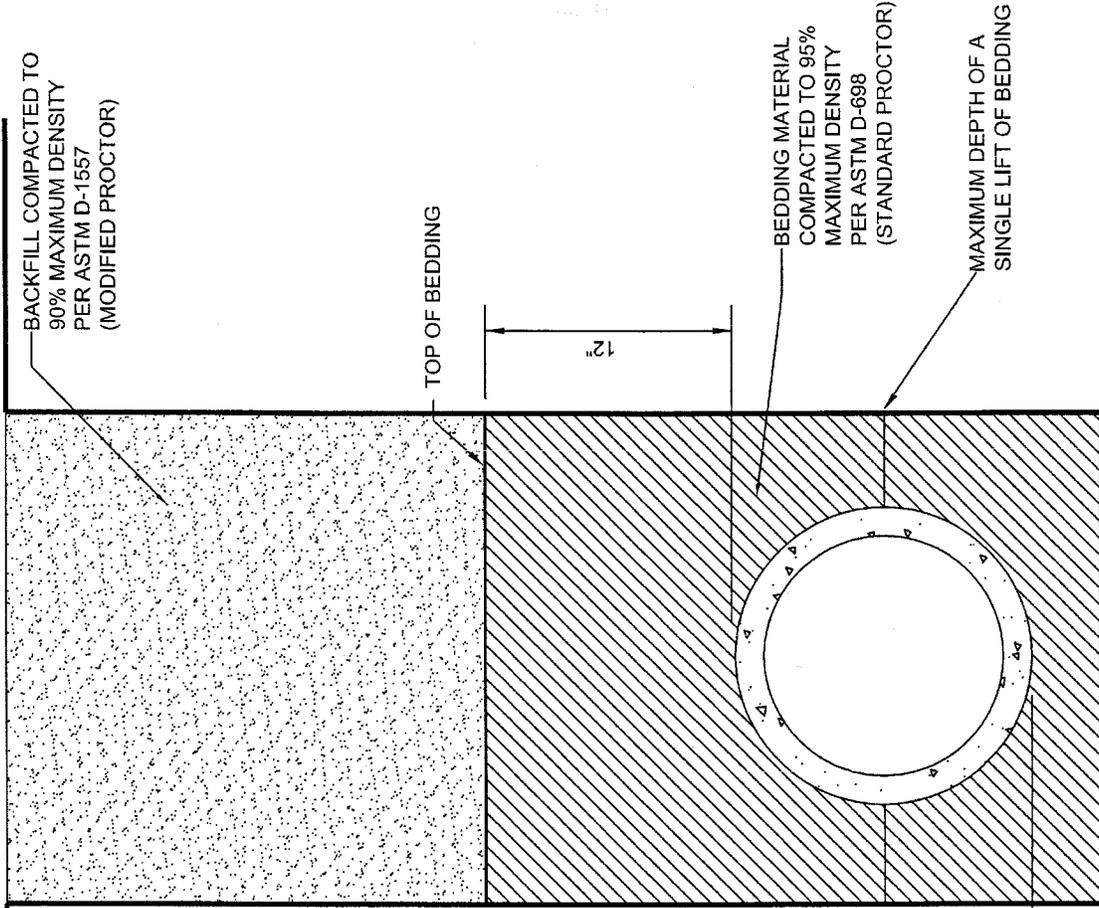
REVISED: JUNE 2011

DETAIL NO.

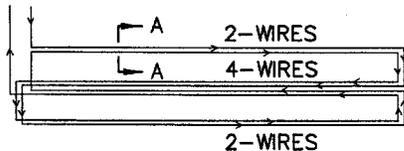
5

NOTES:

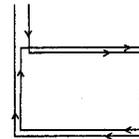
1. BEDDING FOR PIPES 6" AND LARGER SHALL BE SHAPED TO CONFORM TO THE BOTTOM OF PIPE PRIOR TO PLACEMENT OF THE PIPE
2. IF ROCK/ ROCKY SOIL IS ENCOUNTERED IN THE TRENCH BOTTOM, IT SHALL BE OVEREXCAVATED BY 6" AND GRANULAR MATERIAL PLACED WITH MINIMUM COMPACTION.
3. BEDDING TO BE PLACED WITH A MAXIMUM LIFT THICKNESS OF 8"
4. BACKFILL TO BE PLACED WITH A MAXIMUM LIFT THICKNESS OF 12", COMPACTED.
5. BEDDING MATERIAL SHALL CONFORM TO M.A.G. SEC. 601
6. WATER CONSOLIDATION SHALL NOT BE PERMITTED FOR THE TRENCH BACKFILL IN CITY OF GLENDALE RIGHTS OF WAY OR EASEMENTS.



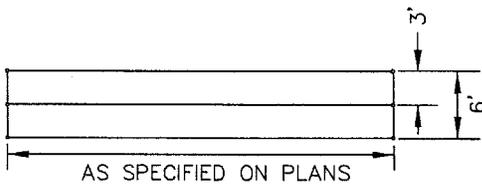
 CITY OF GLENDALE STANDARD DETAIL	BEDDING AND BACKFILL FOR UNDERGROUND FACILITIES IN CITY RIGHT-OF-WAY	DETAIL NO. G-690	DATE REVISED: DECEMBER 2004
APPROVED BY: CITY ENGINEER			



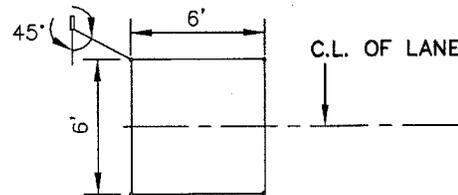
WIRING DIAGRAM FOR QUADRUPOLE DETECTOR (2 TURNS)



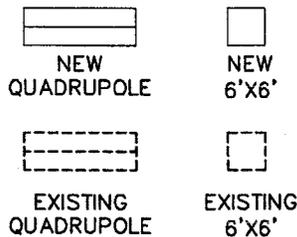
WIRING DIAGRAM FOR 6'X6' DETECTOR



SAW CUT PATTERN FOR QUADRUPOLE DETECTOR



SAW CUT PATTERN FOR 6'X6' DETECTOR



PLAN SYMBOLS

NOTES:

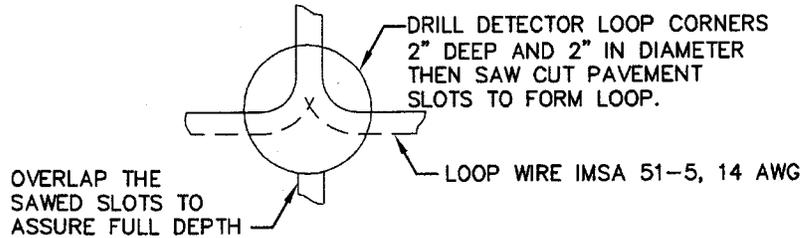
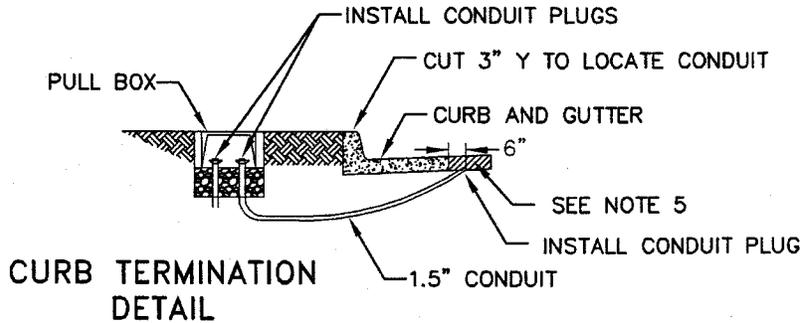
1. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE TRAFFIC SIGNAL SUPERVISOR.
2. BLOW OUT ALL SAW CUTS BEFORE INSTALLING THE LOOP WIRE.
3. SAW CUTS SHALL BE FILLED WITH "CRAFCO LOOP SEALER". SURFACE OF SEALER SHALL BE KEPT BELOW WEARING SURFACE OF ROADWAY.
4. ALL DETECTOR LOOPS SHALL BE GIVEN A CONTINUITY AND INSULATION TEST BEFORE AND AFTER PLACING THE SEALER IN THE SAW CUTS. MINIMUM READING TO GROUND SHALL BE AT LEAST 100 MEG-OHMS.
5. USE SAME MATERIAL (OR APPROVED EQUAL) FOR PATCHING EXISTING PAVEMENT. PATCH TO AT LEAST 1/4" GREATER THICKNESS THAN EXISTING PAVEMENT
6. LOOP DETECTORS SHALL BE LOCATED IN CENTER OF TRAVELED LANE AND SHALL BE APPROVED BY THE TRAFFIC SIGNAL SUPERVISOR.
7. NUMBER OF TURNS NEED TO BE APPROVED BY TRAFFIC SIGNAL SUPERVISOR.
8. LEAD IN LOOP CONNECTION SHALL BE SOLDERED WIRE NUTTED, TAPE WRAPPED, AND SCOTCH KOTED.

SIGNATURES
ON FILE

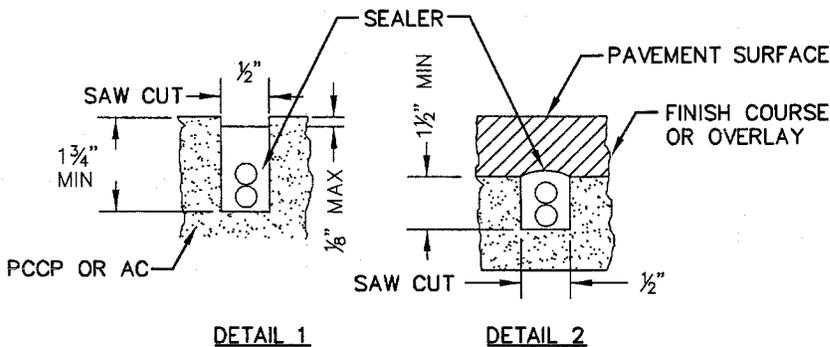


CITY OF GLENDALE
TRAFFIC SIGNAL AND ITS STANDARDS
LOOP DETECTOR INSTALLATION

REVISION:
2/2008
T6-1
1 OF 2



DRILLING DETAIL



DETAIL 1
 DETAIL 2
 SECTION A-A
 LOOP INSTALLATIONS

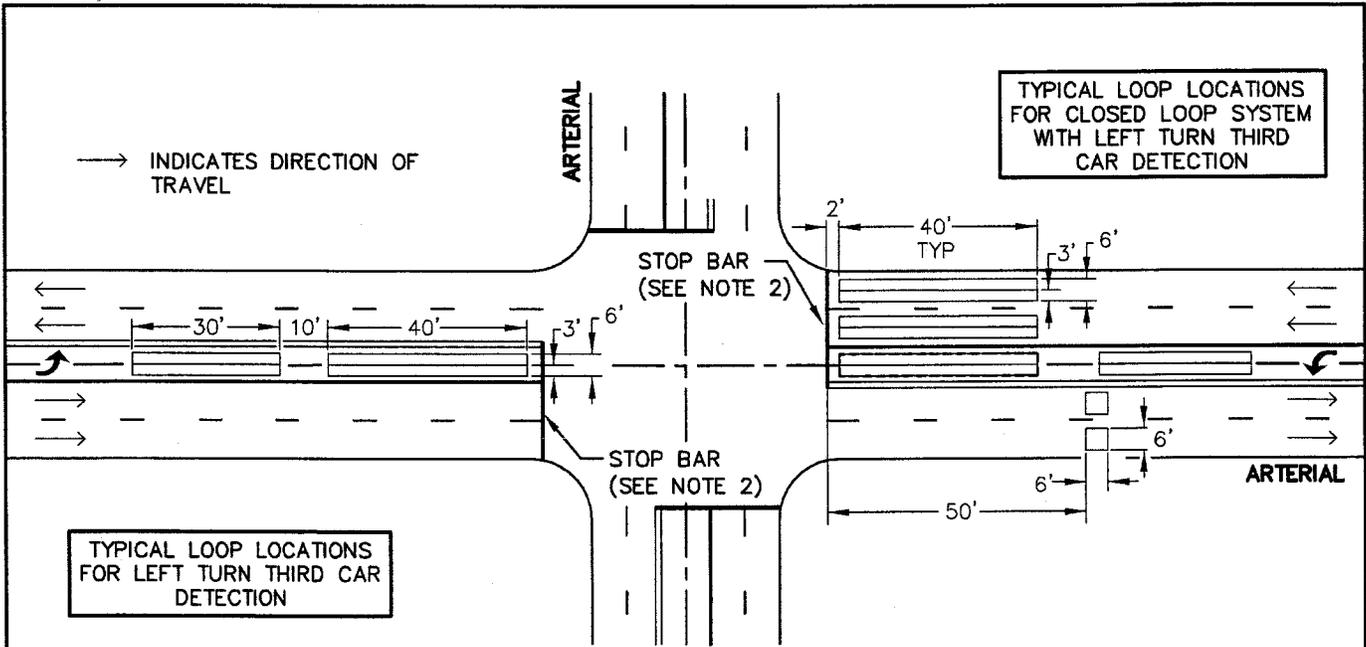
LOOP INDUCTANCE REQUIREMENTS:

THE INDUCTANCE VALUE OF A LOOP SHALL BE AT LEAST 4 TIMES THE INDUCTANCE VALUE OF THE LEAD-IN CABLE. TO DETERMINE THE NUMBER OF TURNS OF WIRE IN A LOOP USE THE FOLLOWING AS A RULE OF THUMB:

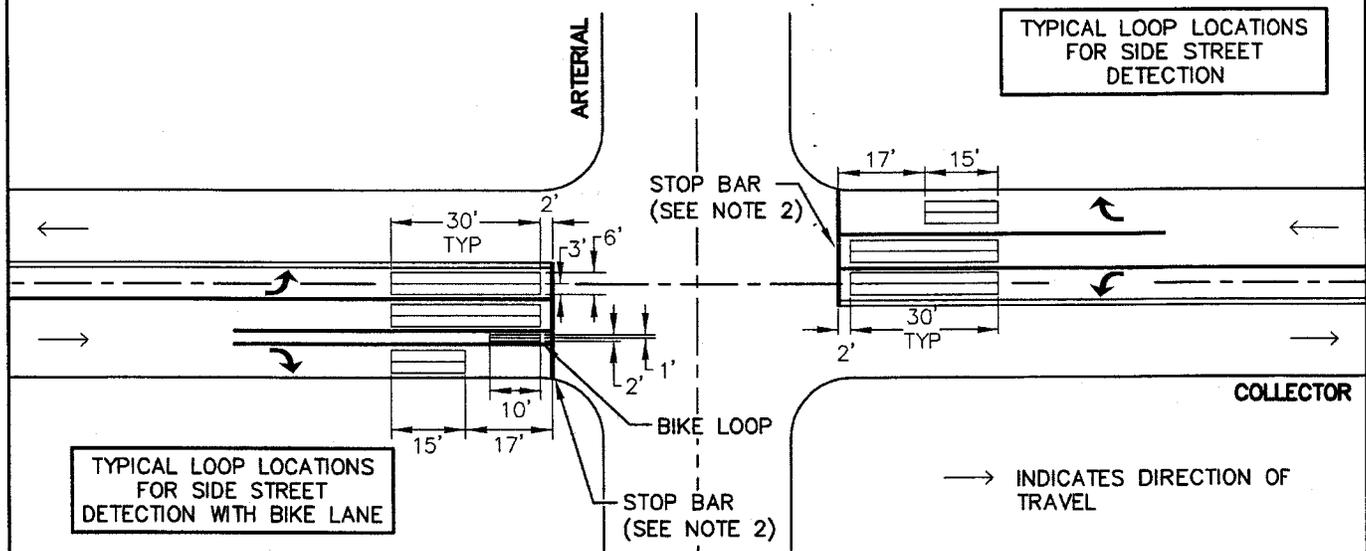
LEAD-IN CABLE HAS APPROXIMATELY .15uh PER FOOT, AND LOOP INDUCTANCE = (P/4)X(N²+N) WHERE:
 P=PERIMETER OF LOOP.
 N=NUMBER OF TURNS IN WHOLE NUMBERS.

FIND THE NUMBER OF FEET OF LEAD-IN NEEDED TO GET TO THE CONTROLLER CABINET AND MULTIPLY THAT TIMES .15uh, NEXT FIND THE LOOP INDUCTANCE OF THE LOOP USING A MINIMUM OF TWO TURNS. IF THE LOOP INDUCTANCE IS NOT FOUR TIMES OR MORE GREATER THAN THE LEAD IN INDUCTANCE, ADD THE NEEDED EXTRA TURNS OF WIRE TO THE LOOP TO ACHIEVE THIS 4 TO 1 RATIO. EACH LOOP SHALL HAVE A MINIMUM OF 2 TURNS OF WIRE. SEE NOTE 7 (PREVIOUS SHEET).

SIGNATURES ON FILE	 GLENDALE	CITY OF GLENDALE TRAFFIC SIGNAL AND ITS STANDARDS	REVISION: 6/2007
		LOOP DETECTOR INSTALLATION	T6-1 2 OF 2



TYPICAL ARTERIAL LOOP LOCATIONS

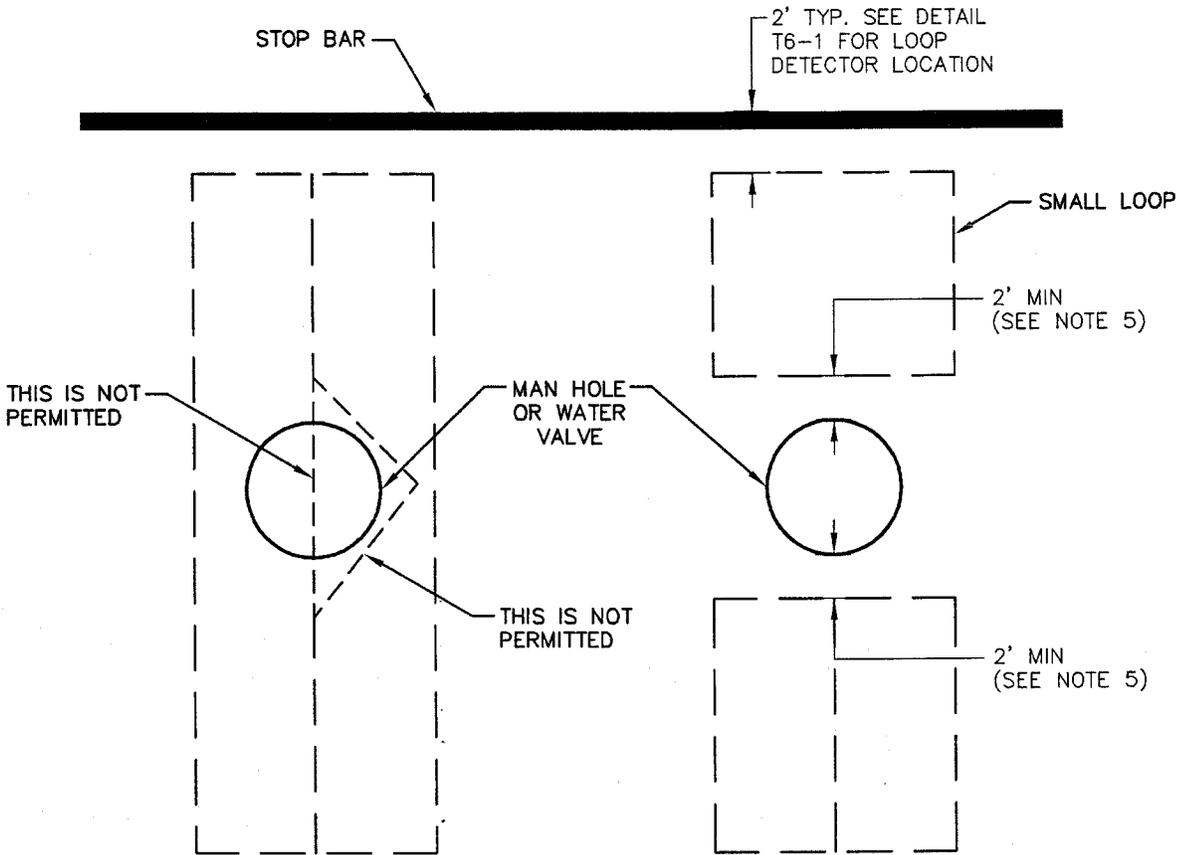


TYPICAL COLLECTOR LOOP LOCATIONS

NOTES:

1. ALL LOOPS ARE TO BE CENTERED IN THE MIDDLE OF THE STRIPED VEHICLE LANE.
2. WHERE NO STOP BAR OR STRIPING EXISTS, CONTRACTOR TO CALL THE TRAFFIC SIGNAL SUPERVISOR AT (623) 930-2762 TO HAVE STOP BAR AND STRIPING MARKED BEFORE LOOP INSTALLATION.

SIGNATURES ON FILE	 GLENDALE	CITY OF GLENDALE	REVISION:
		TRAFFIC SIGNAL AND ITS STANDARDS LOOP DETECTOR INSTALLATION LOCATION	6/2007
			T6-2



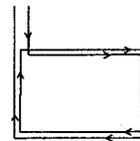
NOTES:

1. CONTRACTOR SHALL MAINTAIN ADEQUATE CLEARANCE BETWEEN LOOPS AND ANY MAN HOLE COVERS OR WATER VALVE LIDS IN THE STREET. ALL LOOP WIRES SHALL BE OUTSIDE OF THE CONCRETE PAD COVERS.
2. IF THERE IS LESS THAN 4 FEET BETWEEN COVER LOCATION AND THE STOP BAR, NO LOOP SHALL BE INSTALLED.
3. IF THERE IS MORE THAN 7 FEET BETWEEN COVER LOCATION AND THE STOP BAR, A QUADRUPOLE LOOP SHALL BE INSTALLED.
4. SEE DETAIL T6-1 FOR ADDITIONAL LOOP INSTALLATION INFORMATION.
5. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 2 FEET OF CLEARANCE BETWEEN LOOP DETECTORS AND MANHOLES/WATER VALVES.

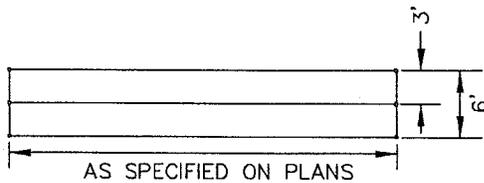
<p>SIGNATURES ON FILE</p>	 <p>GLENDALE</p>	<p>CITY OF GLENDALE TRAFFIC SIGNAL AND ITS STANDARDS LOOP DETECTOR INSTALLATION WITH MANHOLE CONFLICT</p>	REVISION:
			<p>6/2007</p> <hr/> <p>T6-3</p>



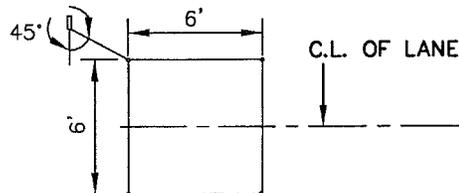
WIRING DIAGRAM FOR QUADRUPOLE DETECTOR (2 TURNS)



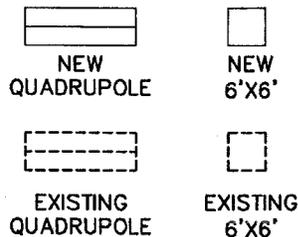
WIRING DIAGRAM FOR 6'X6' DETECTOR



SAW CUT PATTERN FOR QUADRUPOLE DETECTOR



SAW CUT PATTERN FOR 6'X6' DETECTOR



PLAN SYMBOLS

NOTES:

1. ALL MATERIAL AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE TRAFFIC SIGNAL SUPERVISOR.
2. BLOW OUT ALL SAW CUTS BEFORE INSTALLING THE LOOP WIRE.
3. SAW CUTS SHALL BE FILLED WITH "CRAFCO LOOP SEALER". SURFACE OF SEALER SHALL BE KEPT BELOW WEARING SURFACE OF ROADWAY.
4. ALL DETECTOR LOOPS SHALL BE GIVEN A CONTINUITY AND INSULATION TEST BEFORE AND AFTER PLACING THE SEALER IN THE SAW CUTS. MINIMUM READING TO GROUND SHALL BE AT LEAST 100 MEG-OHMS.
5. USE SAME MATERIAL (OR APPROVED EQUAL) FOR PATCHING EXISTING PAVEMENT. PATCH TO AT LEAST 1/4" GREATER THICKNESS THAN EXISTING PAVEMENT
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7. NUMBER OF TURNS NEED TO BE APPROVED BY TRAFFIC SIGNAL SUPERVISOR.
8. LEAD IN LOOP CONNECTION SHALL BE SOLDERED WIRE NUTTED, TAPE WRAPPED, AND SCOTCH KOTED.

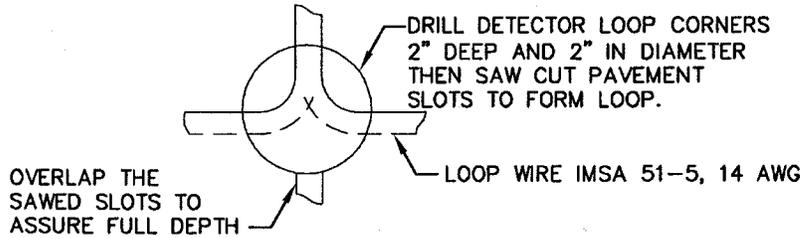
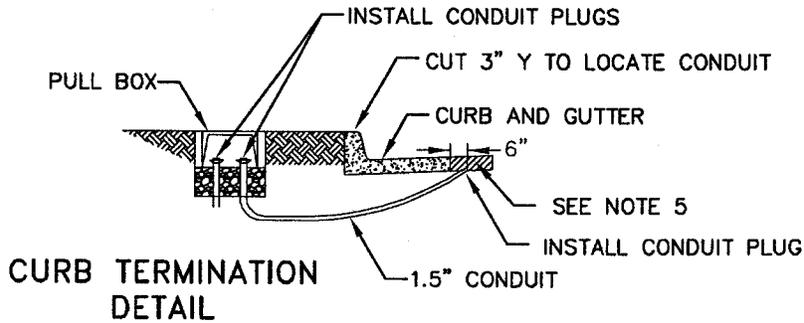
SIGNATURES
ON FILE



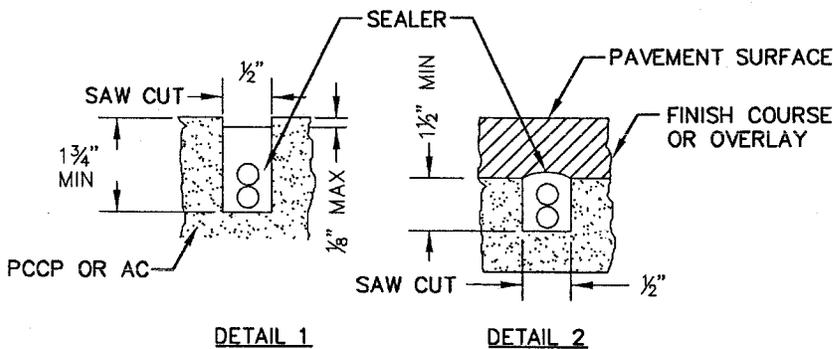
CITY OF GLENDALE
TRAFFIC SIGNAL AND ITS STANDARDS
LOOP DETECTOR INSTALLATION

REVISION:
2/2008

T6-1
1 OF 2



DRILLING DETAIL



DETAIL 1

DETAIL 2

SECTION A-A
LOOP INSTALLATIONS

LOOP INDUCTANCE REQUIREMENTS:

THE INDUCTANCE VALUE OF A LOOP SHALL BE AT LEAST 4 TIMES THE INDUCTANCE VALUE OF THE LEAD-IN CABLE. TO DETERMINE THE NUMBER OF TURNS OF WIRE IN A LOOP USE THE FOLLOWING AS A RULE OF THUMB:

LEAD-IN CABLE HAS APPROXIMATELY .15uh PER FOOT, AND LOOP INDUCTANCE = $(P/4) \times (N^2 + N)$ WHERE:
 P=PERIMETER OF LOOP.
 N=NUMBER OF TURNS IN WHOLE NUMBERS.

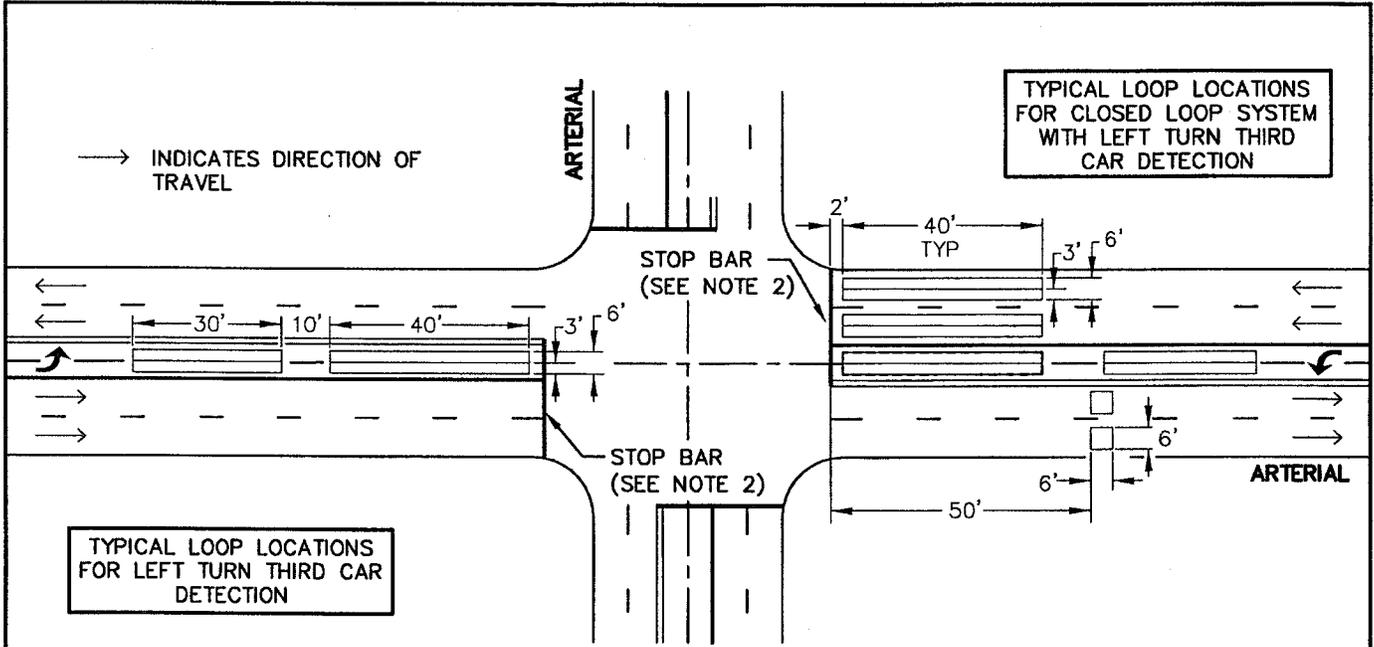
FIND THE NUMBER OF FEET OF LEAD-IN NEEDED TO GET TO THE CONTROLLER CABINET AND MULTIPLY THAT TIMES .15uh, NEXT FIND THE LOOP INDUCTANCE OF THE LOOP USING A MINIMUM OF TWO TURNS. IF THE LOOP INDUCTANCE IS NOT FOUR TIMES OR MORE GREATER THAN THE LEAD IN INDUCTANCE, ADD THE NEEDED EXTRA TURNS OF WIRE TO THE LOOP TO ACHIEVE THIS 4 TO 1 RATIO. EACH LOOP SHALL HAVE A MINIMUM OF 2 TURNS OF WIRE. SEE NOTE 7 (PREVIOUS SHEET).

SIGNATURES
ON FILE

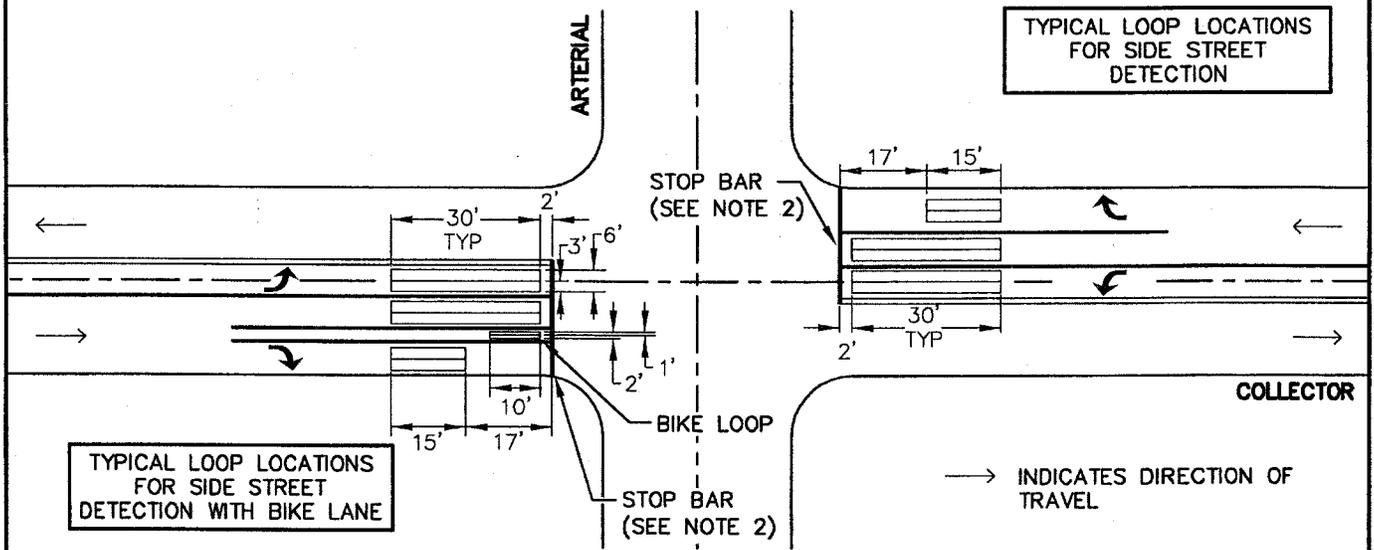


CITY OF GLENDALE
TRAFFIC SIGNAL AND ITS STANDARDS
LOOP DETECTOR INSTALLATION

REVISION:
6/2007
T6-1
2 OF 2



TYPICAL ARTERIAL LOOP LOCATIONS



TYPICAL COLLECTOR LOOP LOCATIONS

NOTES:

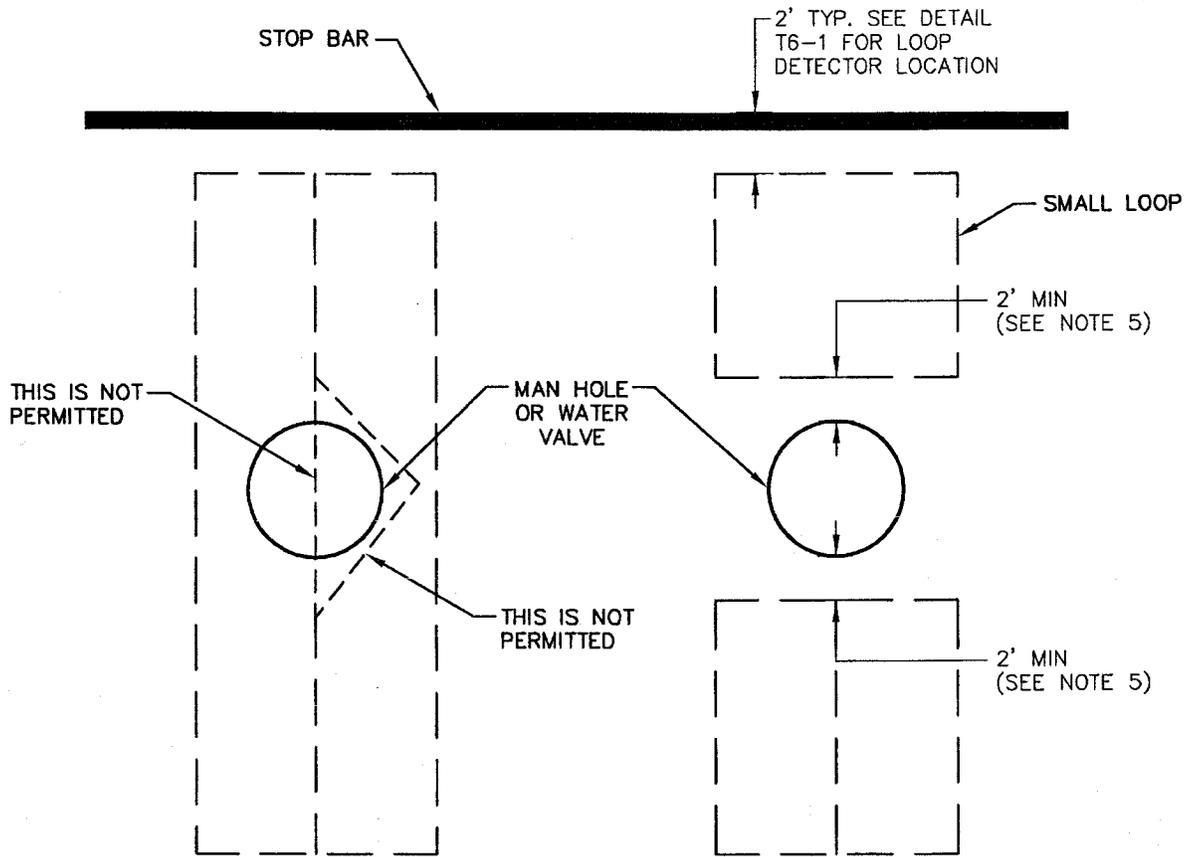
1. ALL LOOPS ARE TO BE CENTERED IN THE MIDDLE OF THE STRIPED VEHICLE LANE.
2. WHERE NO STOP BAR OR STRIPING EXISTS, CONTRACTOR TO CALL THE TRAFFIC SIGNAL SUPERVISOR AT (623) 930-2762 TO HAVE STOP BAR AND STRIPING MARKED BEFORE LOOP INSTALLATION.

SIGNATURES
ON FILE



CITY OF GLENDALE
TRAFFIC SIGNAL AND ITS STANDARDS
LOOP DETECTOR INSTALLATION
LOCATION

REVISION:
6/2007
T6-2



NOTES:

1. CONTRACTOR SHALL MAINTAIN ADEQUATE CLEARANCE BETWEEN LOOPS AND ANY MAN HOLE COVERS OR WATER VALVE LIDS IN THE STREET. ALL LOOP WIRES SHALL BE OUTSIDE OF THE CONCRETE PAD COVERS.
2. IF THERE IS LESS THAN 4 FEET BETWEEN COVER LOCATION AND THE STOP BAR, NO LOOP SHALL BE INSTALLED.
3. IF THERE IS MORE THAN 7 FEET BETWEEN COVER LOCATION AND THE STOP BAR, A QUADRUPOLE LOOP SHALL BE INSTALLED.
4. SEE DETAIL T6-1 FOR ADDITIONAL LOOP INSTALLATION INFORMATION.
5. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 2 FEET OF CLEARANCE BETWEEN LOOP DETECTORS AND MANHOLES/WATER VALVES.

SIGNATURES
ON FILE



CITY OF GLENDALE
TRAFFIC SIGNAL AND ITS STANDARDS
LOOP DETECTOR INSTALLATION
WITH MANHOLE CONFLICT

REVISION:
6/2007

T6-3