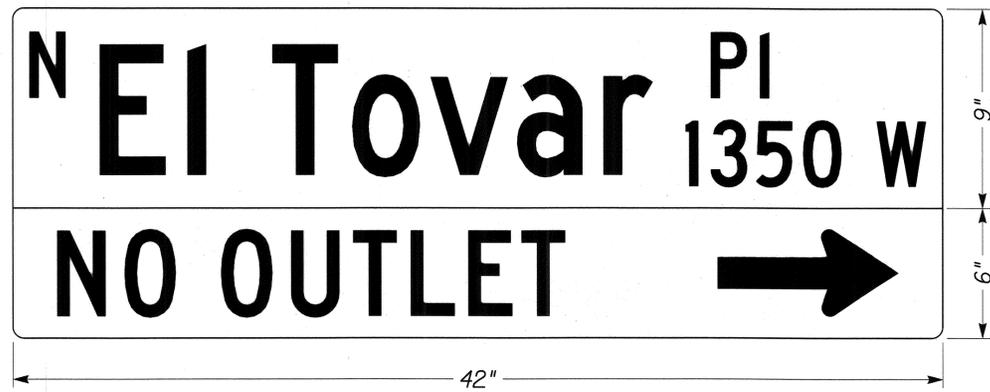
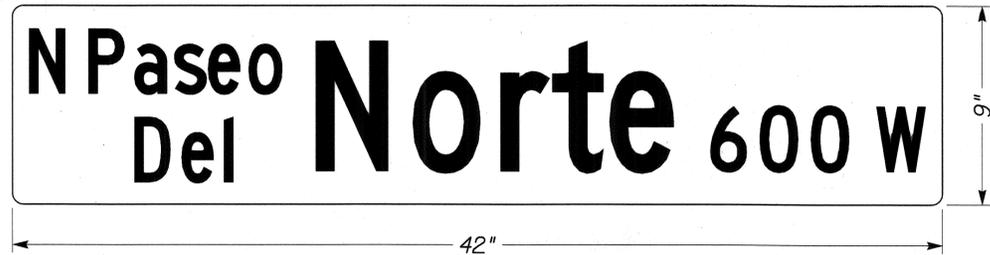
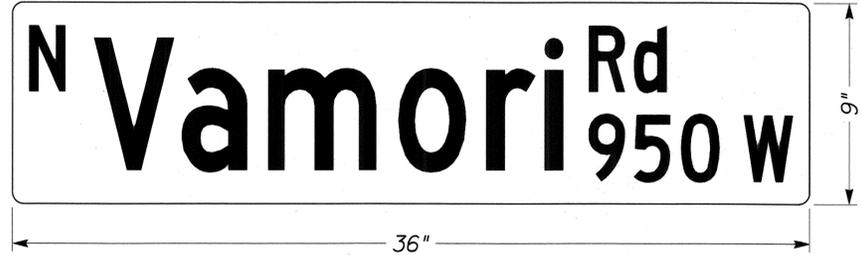
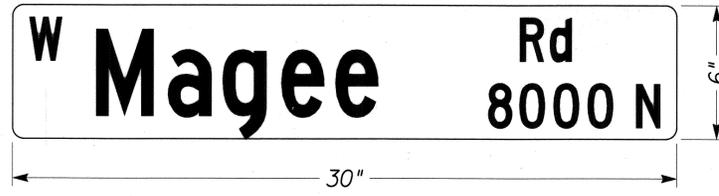


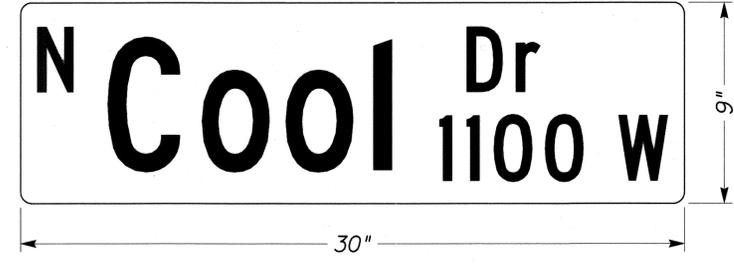
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	171	273	

SS693 01C

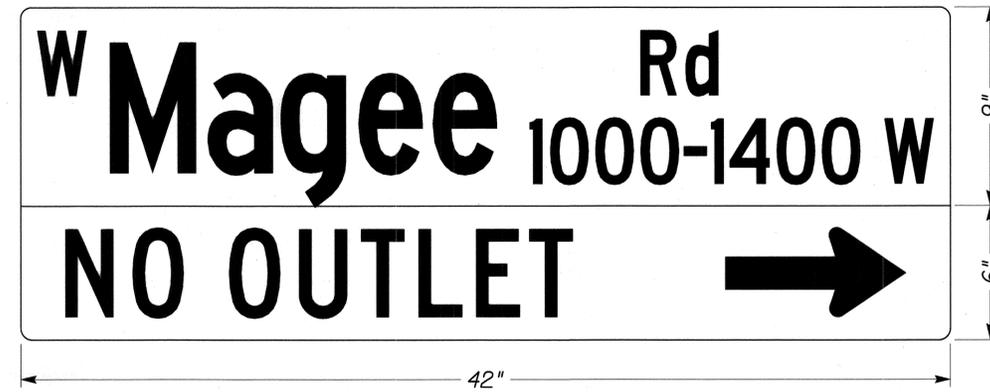
W-2  
E-5  
W-11  
E-13  
W-18  
W-22  
E-24  
W-41



W-11



W-18



W-22



W-41



- NOTES:
- All signs shown on this sheet shall be PCDOT Provided and Contractor Installed.
  - All Sign Dimensions are in Inches.

Priscilla S. Cornello, P.E., Director

Date	Designed	Drawn	Checked	Proj. Engr.
11/11	MDC/JDB/SGN	MDC/JDB/SGN	JDS	AJH
11/11				
11/11				

No.	Revision Description	Engineer	Date



**gepsgroup, inc.**  
Engineers, Planners & Surveyors  
1-800-STAKE-IT  
1-800-782-5348  
P.O. Box 1000, Phoenix, AZ 85001

Pima County Department of Transportation



MAGEE RD. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 4MRLCO

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	172	273	
SS693 OIC					

No.	Revision Description	Engineer	Date



Pima County Department of Transportation

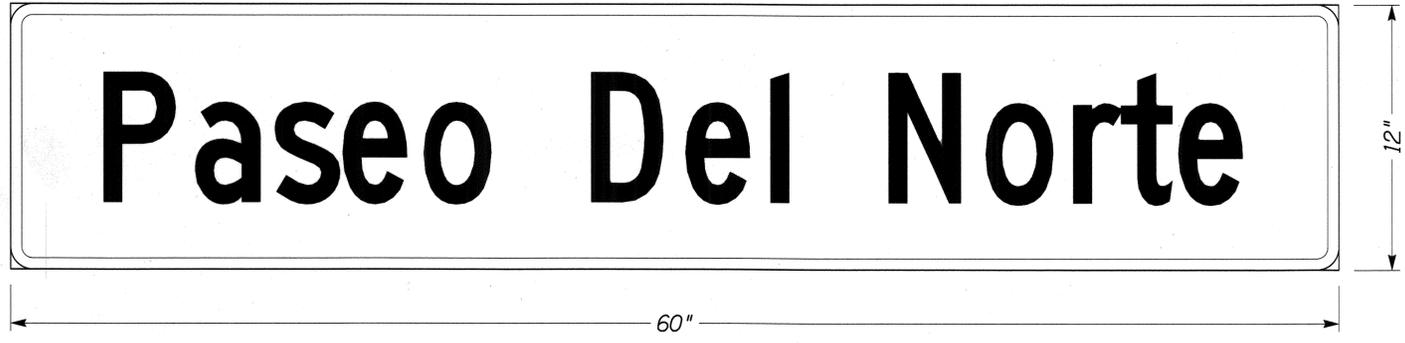
MAGEE RD. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

**Geps group, Inc.**  
 Engineers, Planners & Surveyors  
 1000 N. Oracle Rd., Suite 100, Oracle, AZ 85050  
 Phone: (408) 861-1100 Fax: (408) 861-1101

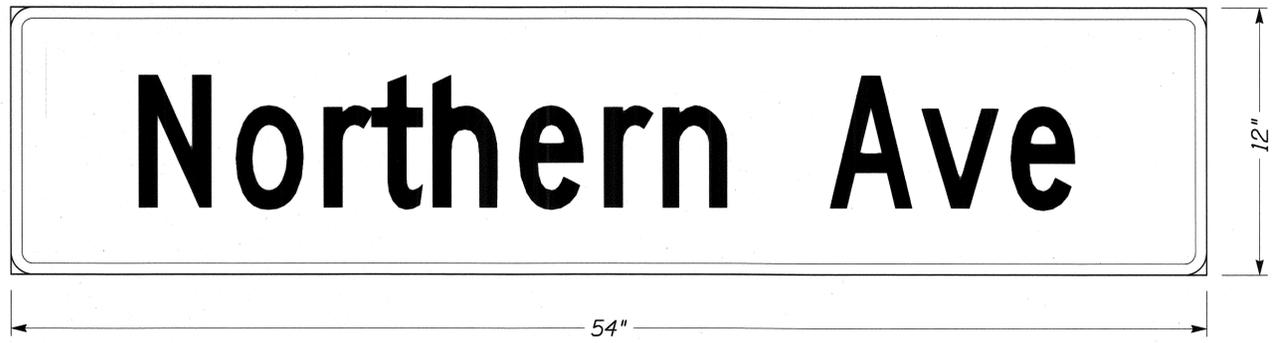
MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 4MRLCO

Priscilla S. Cornello, P.E., Director

E-19  
W-36



E-29  
W-49



E-40  
W-64



- NOTES:
- All signs shown on this sheet shall be PCDOT Provided and Contractor Installed.
  - All Sign Dimensions are In Inches.

**TRAFFIC SIGNAL GENERAL NOTES - MAGEE RD AT NORTHERN AVE (INTERSECTION A)**

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	173	273	
SS693 OIC					

- ALL EQUIPMENT/MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA COUNTY/CITY OF TUCSON "STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS" AND "STANDARD DETAILS FOR PUBLIC IMPROVEMENTS", THE SPECIAL PROVISIONS AND THE PLANS.
- ALL PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL MEET CURRENT ADA REQUIREMENTS. PEDESTRIAN PUSH BUTTON SIGNS SHALL BE RIO-4b SERIES, PER PCDOT STANDARD DETAIL T1104.
- METRO STREET NAME SIGNS SHALL BE INSTALLED SUCH THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 17 FEET ABOVE THE ROADWAY PAVEMENT OR NO LESS THAN 16 FEET ABOVE THE FINISHED GRADE BEYOND THE SHOULDER, BIKE LANE OR MULTI-USE LANE.
- THE EXACT LOCATION OF EACH NEW POLE FOUNDATION, PULL BOX, CONTROLLER, CABINET FOUNDATION, UPS CABINET FOUNDATION OR ELECTRIC SERVICE PEDESTAL FOUNDATION SHALL BE APPROVED BY THE TOWN OF ORO VALLEY PRIOR TO INSTALLATION.
- THE TOP OF THE POLE FOUNDATION SHALL BE LEVEL WITH THE SURROUNDING FINISHED GRADE. IF THE SLOPE OR SHOULDER DROPS OFF FROM FINISHED GRADE, THE CONTRACTOR SHALL GRADE AROUND POLE FOUNDATION. THE TOP OF THE FOUNDATION SHALL EXTEND NO MORE THAN 4 INCHES ABOVE SURROUNDING FINISHED GRADE.
- ONLY NEW CONDUIT, CONDUCTORS AND CABLE SHALL BE INSTALLED.
- ALL CONDUITS SHALL BE CLEANED BY COMPRESSED AIR AND A PROPERLY SIZED CONDUIT PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CABLE INSTALLATION.
- CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS, WHICH ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.
- PULL BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS OR LANDINGS. IN ADDITION, ANY PULL BOXES INSTALLED BEHIND CURBS SHALL BE INSTALLED BETWEEN THE CURB AND THE PROPOSED/FUTURE SIDEWALK, OR BEHIND THE PROPOSED FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE WOULD BE PULL BOXES INSTALLED IN A MEDIAN. ANY PULL BOXES INSTALLED ALONG AN UNCURBED ROADWAY SHALL BE INSTALLED 10 FEET FROM EDGE OF PAVEMENT TO EDGE OF PULL BOX WHERE RIGHT-OF-WAY PERMITS, OR AS FAR FROM PAVEMENT AS PRACTICAL WHEN THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE THE 10 FOOT OFFSET.
- A 3/4 IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX (WITH THE EXTENSION) ADJACENT TO THE CONTROLLER CABINET. TWO GROUND ROD CLAMPS SHALL BE FURNISHED FOR GROUNDING THE GROUND WIRE.
- THE HIGH VOLTAGE CABLES SHOULD BE SEPARATED FROM THE LOW VOLTAGE CABLES AS MUCH AS POSSIBLE. SEPARATE CONDUIT SHOULD BE USED FOR HIGH VOLTAGE AND LOW VOLTAGE CABLES BETWEEN THE CONTROLLER CABINET AND THE NO. 7 PULL BOXES LOCATED ON EACH CORNER OF THE INTERSECTION.
- A #14 AWG IMSA 19-1-1984 7-CONDUCTOR SOLID WIRE CABLE SHALL BE INSTALLED FROM EACH TRAFFIC SIGNAL TERMINAL STRIP TO THE CONCRETE PULL BOX ADJACENT TO THE POLE FOUNDATION, LEAVING THREE FEET OF SLACK FOR EACH CABLE (MEASURED FROM THE TOP OF THE PULL BOX) IN THE PULL BOX.
- TWO #10 AWG XHHW CONDUCTORS SHALL BE INSTALLED FROM EACH LUMINAIRE TO THE CONCRETE PULL BOX ADJACENT TO THE POLE FOUNDATION, LEAVING THREE FEET OF SLACK FOR EACH CONDUCTOR (MEASURED FROM THE TOP OF THE PULL BOX) IN THE PULL BOX. PHOTOELECTRIC CELL SHALL BE FURNISHED AND INSTALLED ON TOP OF THE TRAFFIC SIGNAL CONTROLLER CABINET. AN IN-LINE FUSE SHALL BE INSTALLED FOR EACH LUMINAIRE IN THE ASSOCIATED PULL BOX.
- POLES WITH PEDESTRIAN SIGNALS AND PUSH BUTTON STATIONS SHALL USE ONE 7-CONDUCTOR CABLE FOR BOTH THE PUSH BUTTON STATION AND THE PEDESTRIAN SIGNAL. THE OUTER CABLE JACKET SHALL BE REMOVED AT THE HAND HOLE HEIGHT. TWO CONDUCTORS SHALL BE ROUTED TO THE PUSH BUTTON STATION, AND THE REMAINING CONDUCTORS SHALL BE ROUTED TO THE PEDESTRIAN SIGNAL.
- ALL VEHICLE ROADWAY DETECTION LOOP CABLES SHALL BE #14 AWG IMSA 51-5-1985 CABLE. LEAD-IN CABLES SHALL BE #16 AWG IMSA 50-2-1984 CABLE. NO SPLICES SHALL BE ALLOWED IN THE ROADWAY DETECTION LOOP CABLE, EXCEPT AT THE PULL BOX, ADJACENT TO THE LOOP(S).
- THE DETECTOR LEAD-IN CABLE SHALL NOT BE SPLICED.
- THE EMERGENCY VEHICLE PRE-EMPTION SENSOR CABLE SHALL BE OPTICOM DETECTOR CABLE MODEL 138. THE CABLE SHALL NOT BE SPLICED.
- THE ECONOLITE TERRA BRANCH CABLE (PART NO. 1175-01X) SHALL BE INSTALLED FOR THE VIDEO CAMERA, UNSPLICED, FROM THE TRAFFIC SIGNAL POLE HAND HOLE, TO THE TRAFFIC SIGNAL CONTROLLER CABINET. THE AUTOSCOPE CAMERA CABLE SHALL EXTEND FROM THE MOUNTED CAMERA TO THE HAND HOLE. THE CAMERA CABLE AND HOME RUN CABLE SHALL BE SPLICED IN THE POLE HAND HOLE WITH SCOTLOK UAL CONNECTORS, WITH A 3M E9Y CRIMPING TOOL, OR EQUAL.
- DETECTION LOOP SAW CUTS SHALL BE FLUSHED WITH WATER UNDER PRESSURE, AND THEN DRIED WITH AIR UNDER PRESSURE.
- THE TUCSON ELECTRIC POWER COMPANY CONSTRUCTION DEPARTMENT (918-8300) SHALL BE CONTACTED BY THE CONTRACTOR TO VERIFY THE LOCATION OF THE ELCTRIC SERVICE CONNECTION AT THE INTERSECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND BACKFILLING THE TRENCH AND INSTALLING ANY NECESSARY SLEEVES UNDER SIDEWALKS OR DRIVEWAYS IN WHICH THE ELECTRIC SERVICE CABLE IN CONDUIT (CIC) IS TO BE INSTALLED BY TEP.
- THE TOWN OF ORO VALLEY SHALL CONTRACT SEPARATELY WITH SMARTWAVE TECHNOLOGIES TO REMOVE AND RELOCATE WIRELESS COMMUNICATIONS DEVICES AND THE PAN TILT ZOOM (PTZ) CAMERA AT MAGEE RD/NORTHERN AVE FROM EXISTING SIGNAL POLES TO THE NEW SIGNAL POLES. SMARTWAVE STAFF SHALL REINSTALL THE WIRELESS COMMUNICATIONS DEVICES AND PTZ CAMERA AFTER THE CONTRACTOR'S ELECTRICAL WORK IS COMPLETE AND SIGNALS AT THE INTERSECTION ARE OPERATIONAL. COORDINATE REMOVAL AND RELOCATION OF THESE DEVICES THROUGH G.J. ANDERSON, TOWN OF ORO VALLEY, AT (520) 229-4890.
- ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED. ALL VEHICLE INDICATIONS SHALL BE 12". ALL VEHICLE AND PEDESTRIAN LED SIGNAL INDICATIONS SHALL BE THE GE LUMINATION GT1 SERIES WITH TINTED LENSES TO THE COLOR OF THE INDICATION AND BE ETL CERTIFIED OR APPROVED EQUAL (GT) SERIES INCLUDE PEDESTRIAN COUNTDOWN INDICATIONS).
- THE CONTRACTOR SHALL CONTACT BLUE STAKE AT 1-800-782-5348 A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY EXCAVATION.

- THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS TO ALL PIMA COUNTY WASTE WATER MANHOLES LOCATED WITHIN THE ROW. ACCESS MUST BE MAINTAINED 24 HOURS PER DAY, SEVEN DAYS PER WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN SIX FEET OF A FORCE MAIN.
- ANY EQUIPMENT AND/OR UTILITIES WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DESTROYED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.
- THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT WITH EXISTING, TEMPORARY, OR NEW TRAFFIC SIGNAL EQUIPMENT.
- CONDUITS FOR FUTURE USE SHALL BE SEALED WITH A PROPERLY SIZED TAPERED POLYETHYLENE DUCT PLUG AT EACH TERMINATION POINT. THE #8 BARE BOND WIRE SHALL BE LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.
- THE FACE OF ANY VEHICLE OR PEDESTRIAN SIGNAL HEAD THAT IS NOT IN SERVICE SHALL BE COVERED WITH A PREFABRICATED NYLON COVER DESIGNED TO COMPLETELY COVER THE VISORS AND LENSES. THE COVERS SHALL BE SECURELY HELD IN PLACE BY INTEGRAL NYLON STRAPS AND BUCKLES. THE COVER SHALL HAVE A FINE MESH STRIP THROUGH THE CENTER TO PERMIT TESTING OF THE SIGNALS WITHOUT REMOVING THE COVER. OUT OF SERVICE SIGNAL HEADS SHALL NOT BE TURNED, COVERED WITH BURLAP, CARBOARD OR OTHER MATERIAL.
- THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING/POTHOLING UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED POLE FOUNDATIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR VERIFYING CLEARANCE BETWEEN OVERHEAD LINES AND TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION OF POLES AND FOUNDATIONS.
- UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH TIME AS THE WORK IS COMPLETE. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY PIMA COUNTY AND APPROVED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES ON FEDERALLY FUNDED PROJECTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY ADOT AND APPROVED BY THE ENGINEER.

**RESPONSIBILITIES:**

- THE CONTRACTOR SHALL SUPPLY AND INSTALL THE FOLLOWING EQUIPMENT AND MATERIALS AS SPECIFIED IN THE PLANS: STEEL POLE ANCHOR BOLTS (WITH NUTS AND WASHERS), CONCRETE POLE FOUNDATIONS WITH REINFORCEMENT (WHERE SPECIFIED), TRAFFIC SIGNAL CONTROLLER CABINET(S) WITH CONTROLLER(S) AND ALL AUXILIARY EQUIPMENT, CONTROLLER CABINET CONCRETE FOUNDATION(S), CONCRETE PULL BOXES, ELECTRICAL CONDUIT, GROUND RODS AND CONNECTORS, BARE BOND WIRE AND ALL OTHER CONDUCTORS, POLES, MAST ARMS, TRAFFIC SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN PUSH BUTTON STATIONS WITH SIGNS, LUMINAIRES, PHOTOCELLS, ELECTRIC SERVICE PEDESTALS(S) AND CONCRETE FOUNDATION(S), BATTERY BACKUP UNITS AND CONCRETE FOUNDATION, EMERGENCY VEHICLE PRE-EMPTION SENSORS & INDICATOR LIGHTS AND CABINET COMPONENTS, VIDEO DETECTION SYSTEM EQUIPMENT, VEHICLE DETECTION LOOPS, AND ALL OTHER APPURTENANCES NECESSARY FOR THE OPERATION OF THE TRAFFIC SIGNAL INSTALLATION(S), EXCEPT AS MODIFIED IN THE PLANS.
- THE CONTRACTOR SHALL DELIVER THE CONTROLLER CABINET WITH THE CONTROLLER AND AUXILIARY EQUIPMENT SPECIFIED IN THE PLANS TO THE TOWN OF ORO VALLEY MAINTENANCE YARD, 680 W. CALLE CONCORDIA, ORO VALLEY, AZ 85704, FOR TESTING. THIS SHALL OCCUR A MINIMUM OF TWO WEEKS PRIOR TO THE INSTALLATION AT THE INTERSECTION. CONTACT GJ ANDERSON AT (520-229-4890 OR 520-940-6577) AT LEAST 2 WORKING DAYS PRIOR TO THE DELIVERY OF THE CONTROLLER CABINET TO THE TOWN. TOWN STAFF SHALL TRANSPORT THE CONTROLLER CABINET FROM THE TOWN MAINTENANCE YARD TO THE INTERSECTION AFTER THE TOWN STAFF HAS TESTED THE EQUIPMENT.
- TOWN OF ORO VALLEY STAFF SHALL INSTALL THE TRAFFIC CONTROLLER CABINET ON ITS FOUNDATION AND ROUTE ALL OF THE CONDUCTORS INTO THE CONTROLLER CABINET. THE TOWN STAFF SHALL TERMINATE THE FIELD CONDUCTORS IN THE CONTROLLER CABINET.
- THE CONTRACTOR SHALL CAREFULLY DISASSEMBLE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT THAT IS NOT TO REMAIN OR BE RELOCATED, EXCEPT EXISTING WIRELESS COMMUNICATIONS AND PTZ CAMERA EQUIPMENT. ALL OF THE EQUIPMENT SHALL BE SAFELY STORED AT THE CONSTRUCTION SITE UNTIL IT IS SAFELY RETURNED TO THE TOWN OF ORO VALLEY MAINTENANCE YARD, 680 W. CALLE CONCORDIA, ORO VALLEY. THE EQUIPMENT SHALL BE SAFELY UNLOADED BY THE CONTRACTOR. CONTACT GJ ANDERSON (520-229-4890 OR 520-940-6577) AT LEAST 2 WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT.
- PIMA COUNTY DOT WILL FABRICATE THE OVERHEAD METRO STREET NAME SIGNS FOR THE NORTHERN AVENUE INTERSECTION. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND SHALL INSTALL METRO STREET NAME SIGNS.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND INSTALL ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS REQUIRED TO COMPLETE THE PROJECT.
- THE TRAFFIC SIGNAL SHALL NOT BE ENERGIZED UNTIL ALL SIGNAL RELATED SIGNS HAVE BEEN INSTALLED AND VERIFIED IN PLACE.
- THE CONTRACTOR'S MAINTAINING OF THE EXISTING TRAFFIC SIGNALS AND LIGHTING AT NORTHERN AVENUE (INTERSECTION A) SHALL BE COVERED UNDER BID ITEM 7370001.
- IN THE EVENT A TEMPORARY TRAFFIC SIGNAL IS REQUIRED AND DEPLOYED AT NORTHERN AVENUE (INTERSECTION A), IT SHALL BE COVERED UNDER BID ITEM 7370101.
- UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL AS PART OF THIS PROJECT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR/RESTORE ANY LANDSCAPING, IRRIGATION OR HARDSCAPE THAT MAY HAVE BEEN DAMAGED OR DISTURBED BY THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE OPERATIONS DIVISION PUBLIC WORKS SUPERVISOR (740-5969) BEFORE ANY PLANTS ARE MOVED.

Date	DB	DB/JP	JP	AH
EZ/12				
Designated	Checked	Checked	Checked	Checked
Drawn	Drawn	Drawn	Drawn	Drawn
Proj. Engr.				



3033 N. 44<sup>th</sup> Street  
Suite 375  
Phoenix, AZ 85018  
602956-7506 FAX 602956-7948

**LEE ENGINEERING**

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TRAFFIC SIGNAL GENERAL NOTES  
NORTHERN AVE/MAGEE RD  
MAGEE RD.  
LA CANADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

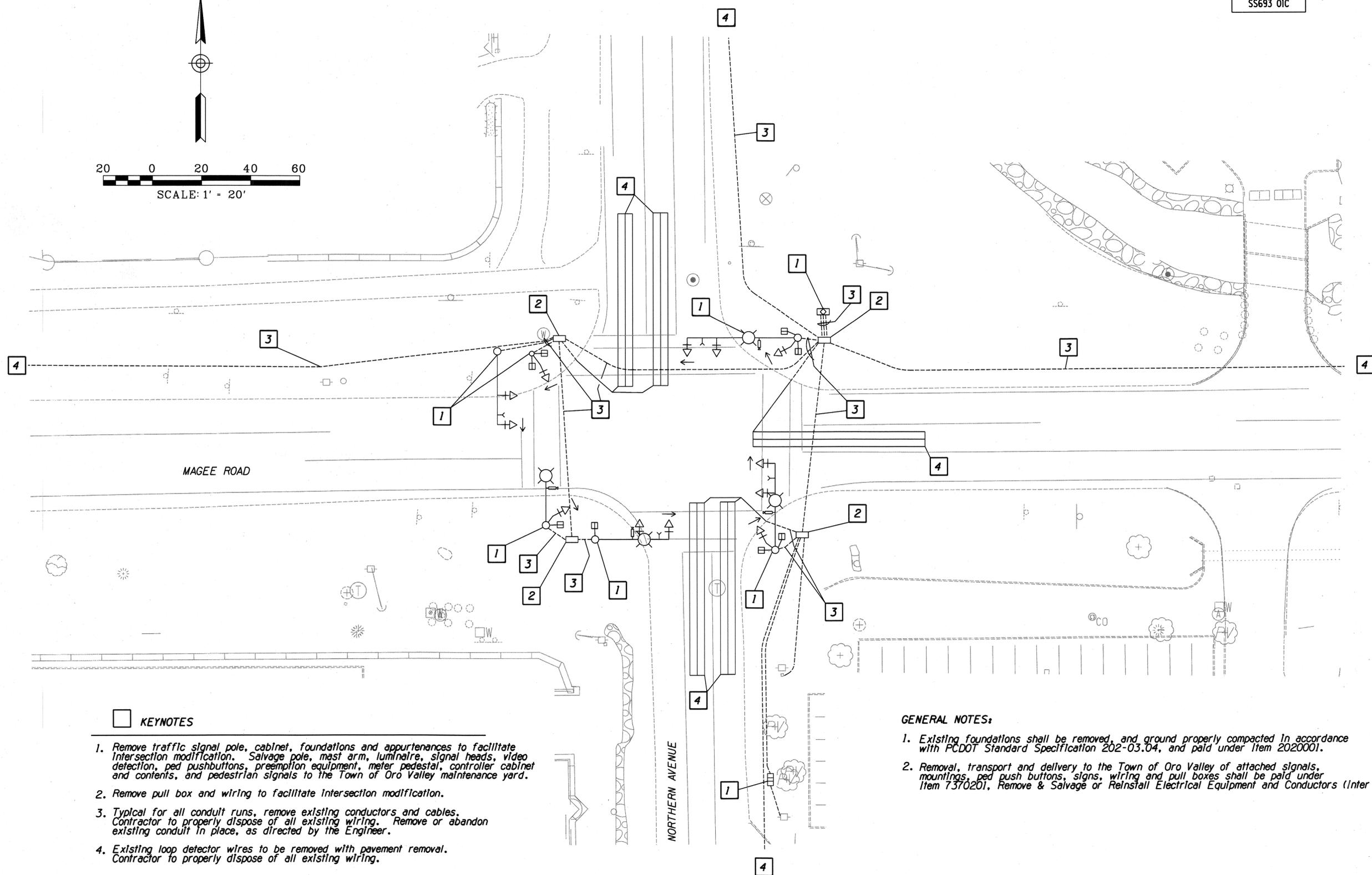
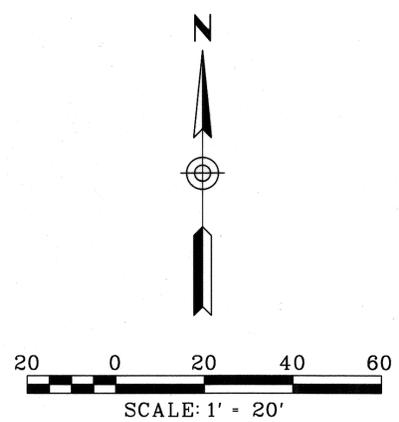
Priscilla S. Cornelio, P.E., Director

Pima County Department of Transportation

MAGEE RD. IMPROVEMENTS - LA CANADA DR. TO ORACLE RD. (SR 77) - Project No. 4MRLCO

EXPIRES 3-31-14

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	174	273	
SS693 OIC					



**KEYNOTES**

1. Remove traffic signal pole, cabinet, foundations and appurtenances to facilitate intersection modification. Salvage pole, mast arm, luminaire, signal heads, video detection, ped pushbuttons, preemption equipment, meter pedestal, controller cabinet and contents, and pedestrian signals to the Town of Oro Valley maintenance yard.
2. Remove pull box and wiring to facilitate intersection modification.
3. Typical for all conduit runs, remove existing conductors and cables. Contractor to properly dispose of all existing wiring. Remove or abandon existing conduit in place, as directed by the Engineer.
4. Existing loop detector wires to be removed with pavement removal. Contractor to properly dispose of all existing wiring.

**GENERAL NOTES:**

1. Existing foundations shall be removed, and ground properly compacted in accordance with PC DOT Standard Specification 202-03.04, and paid under Item 2020001.
2. Removal, transport and delivery to the Town of Oro Valley of attached signals, mountings, ped push buttons, signs, wiring and pull boxes shall be paid under Item 7370201. Remove & Salvage or Reinstall Electrical Equipment and Conductors (Inter A).

**MAGEE RD at NORTHERN AVENUE - INTERSECTION A**

**Priscilla S. Cornello, P.E., Director**

Date	DB	DB/JP	JP	AH
12/12				
12/12				
12/12				

Date	Engineer

No.	Revision Description

Professional Engineer Seal: DAVID WILLIAM BRUGGEMAN, License No. 15223, State of Arizona, Expires 3-31-14.

LEE ENGINEERING  
3033 N. 44<sup>th</sup> Street, Suite 375, Phoenix, AZ 85018  
602/955-7206 FAX 602/955-7949

Arizona Blue Sticker: 1-800-STAKE-IT, 1-800-782-5346

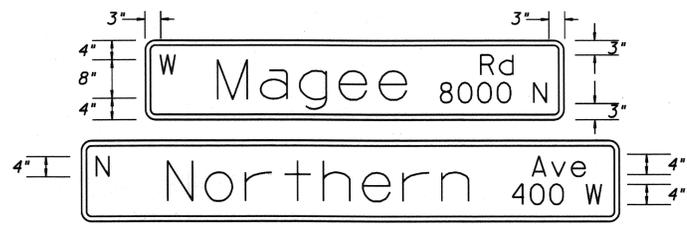
TRAFFIC SIGNAL DEMOLITION SHEET  
NORTHERN AVE/MAGEE RD  
MAGEE RD.  
LA CANADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO



POLE SCHEDULE

CABINET AND CONTROLLER											
CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS					
A		MYERS 125 AMP 120/240 V MUEG16-M125 WTB OR EQUAL	METERED SERVICE PEDESTAL WITH TWO SINGLE-POLE 50 AMP BREAKERS	1 - 30A SINGLE-POLE BREAKER FOR SIGNALS 1 - 50A SINGLE-POLE BREAKER FOR LIGHTING 1 - 20A SINGLE-POLE BREAKER FOR IRRIGATION	LOCATE BY ENGINEER IN FIELD, AS FAR FROM ROADWAY AS POSSIBLE, WITHIN R/W	T 1801					
B		DIMENSION 24M11 WITH TWO 105 AHR BATTERIES		MOUNT TO SIDE OF CONTROLLER CABINET AS DIRECTED BY TOWN OF ORO VALLEY							
C		NEMA TS-2 1998 TYPE IV TS-2 SIZE 6, DETECTOR RACK CONFIGURATION 1	NEMA TS-2, TYPE 2 ECONOLITE MODEL ASC/3-2100 OR APPROVED EQUAL	16-CHANNEL MMU, RACK-MTD LOOP DETECTORS, NEMA SOLID-STATE NEMA LOAD SWITCHES, VIDEO DETECTION, 3-POLE LIGHTING CONTACTOR, 3 - 20A BREAKERS	ADD CONCRETE MAINTENANCE PAD 48" L X 36" W X 4" D ON DOOR SIDE OF FOUNDATION & 21" MIN FROM NEAR EDGE OF THROUGH LANE	T 203 T 312					
POLE		MAST ARM		SIGNALS		LUMINAIRE	PED. P.B. TYPE/SIGN	REMARKS	LOCATION	STANDARDS	
NUMBER	TYPE	SIGNAL	LUM	MTG.	FACE						
D		Q	30'	20'	(1) ASTRO* (1) ASTRO* (1) XI	(1) Q (1) F (1) PED	400W/120V HPS W/ CUTOFF CKT 1	TYPE 1 2" ADA PB & PPB SIGN R10-4b(L)	INSTALL PHOTOCCELL ON LUMINAIRE INSTALL CAMERA ON LUMINAIRE MAST ARM	468+13.7, 78.3' Lt Elev=2562.70	T 412 T 909 T 417 T 1101 T 418 T 1505 T 801 T 1901 T 802 T 1902 T 803 T 1903 T 804 T 1905
E		G		20'	(1) VII (1) XI	(1) Q (1) F (1) PED	400W/120V HPS W/ CUTOFF CKT 2			468+35.6, 69.0' Lt Elev=2564.05	T 407 T 803 T 417 T 804 T 418 T 905 T 801 T 909 T 802
F		TYPE I PPB POST						TYPE 1 2" ADA PB & PPB SIGN R10-4b(R)		468+30.6, 64.3' Lt Elev=2563.18	T 419 T 1101
G		TYPE I PPB POST						TYPE 1 2" ADA PB & PPB SIGN R10-4b(B)		468+39.4, 9.1' Rt Elev=2564.14 467+15.3, 9.1' Lt Elev=2561.74	T 419 T 1101 T 1105
H		Q	45'	20'	(1) ASTRO* (2) ASTRO* (1) XI	(1) Q (2) F (1) PED	400W/120V HPS W/ CUTOFF CKT 1	TYPE 1 2" ADA PB & PPB SIGN R10-4b(L)	INSTALL CAMERA ON LUMINAIRE MAST ARM	468+40.9, 53.4' Rt Elev=2563.52 467+17.2, 54.9' Lt Elev=2561.20	T 412 T 901 T 417 T 909 T 418 T 1101 T 801 T 1901 T 802 T 1902 T 803 T 1903 T 804 T 1905
I		G		20'	(1) VII (1) XI	(1) Q (1) F (1) PED	400W/120V HPS W/ CUTOFF CKT 2	TYPE 1 2" ADA PB & PPB SIGN R10-4b(R)		468+25.1, 69.6' Rt Elev=2562.93 467+20.6, 52.2' Rt Elev=2561.28 467+31.2, 78.5' Lt Elev=2561.78	T 407 T 803 T 417 T 804 T 418 T 905 T 801 T 909 T 802 T 1101
J		Q	30'	20'	(1) ASTRO* (1) ASTRO* (1) XI	(1) Q (1) F (1) PED	400W/120V HPS W/ CUTOFF CKT 1	TYPE 1 2" ADA PB & PPB SIGN R10-4b(L)	INSTALL CAMERA ON LUMINAIRE MAST ARM	467+43.6, 71.5' Rt Elev=2562.06	T 412 T 901 T 417 T 909 T 418 T 1101 T 801 T 1901 T 802 T 1902 T 803 T 1903 T 804 T 1905

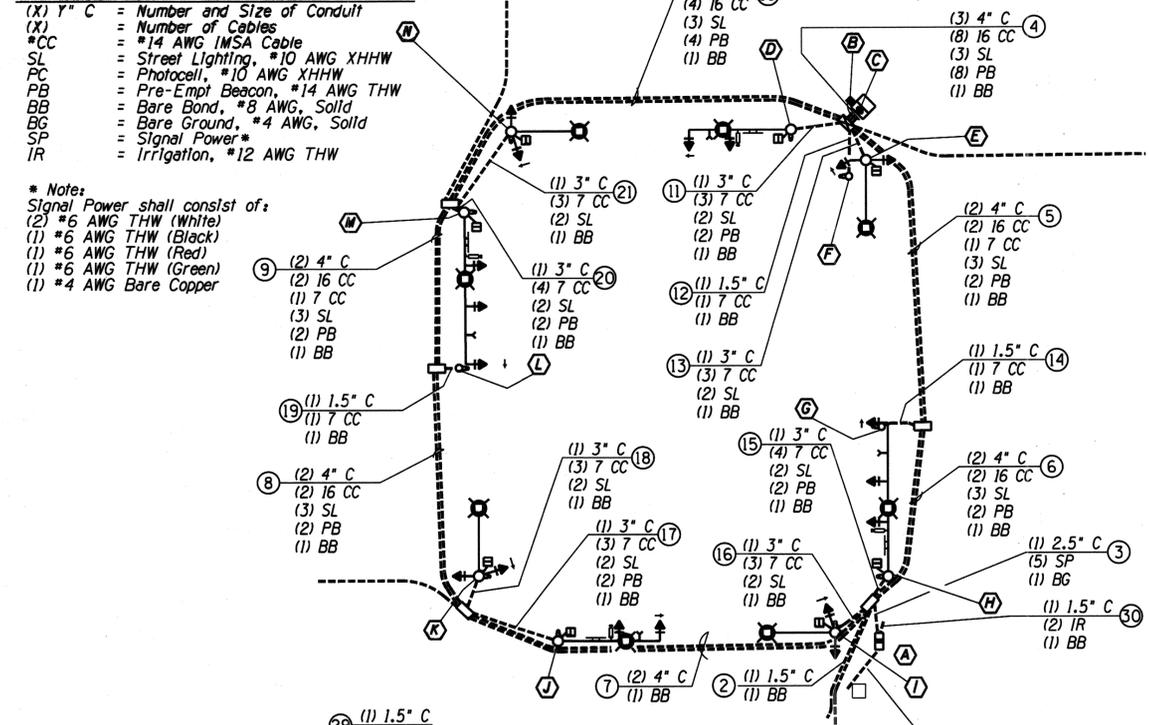
- NOTES:
- \* Astro-Brac mounting assemblies shall be Pelco Astro-Brac Part No. AS-0116, or approved equal.
  - All luminaires shall have photocell receptacles. All photocell receptacles shall have shorting caps.
  - Pedestrian push button shall be mounted 42 inches above finish grade, at pedestrian side of pole, to center of 2" ADA style button, and as directed by the Engineer.
  - Furnish & install pedestrian push button sign R10-4b(L), (R), or (B), as designated in schedule, and per PCDOT Standard Detail T1104.
  - The welded tenon at end of mast arm for Astro-Brac shall be located 6 inches from tip of mast arm to center hole of tenon.



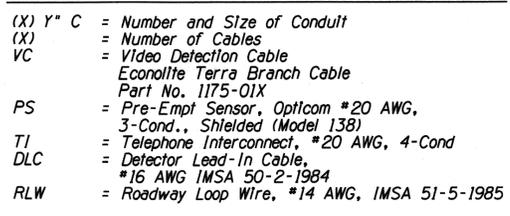
Aluminum Sign Panel with White Diamond Grade Sheeting  
Background: Transparent Green  
Legend: Reflectorized White, 8" D or 8" C on longer names  
Border: Reflectorized 1" White Diamond Grade Sheeting

The overhead Metro street name signs at the Magee Rd/Northern Ave intersection shall be fabricated by PCDOT. Contractor shall furnish mounting hardware and install signs on signal poles.

HIGH VOLTAGE CIRCUIT



LOW VOLTAGE CIRCUIT



F.M.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	176	273	

Priscilla S. Cornello, P.E., Director

DESIGNED: [Signature] DATE: 12/12/12  
 CHECKED: [Signature] DATE: 12/12/12  
 PROJECT ENG'G: [Signature] DATE: 12/12/12

Engineer: [Signature]

Revision Description: [Table]

PLUMA COUNTY CIVIL ENGINEERING  
 1523 N. 44th Street  
 Suite 375  
 Phoenix, AZ 85018  
 602/955-7206 FAX 602/955-7349

LEE ENGINEERING  
 3023 N. 44th Street  
 Suite 375  
 Phoenix, AZ 85018  
 602/955-7206 FAX 602/955-7349

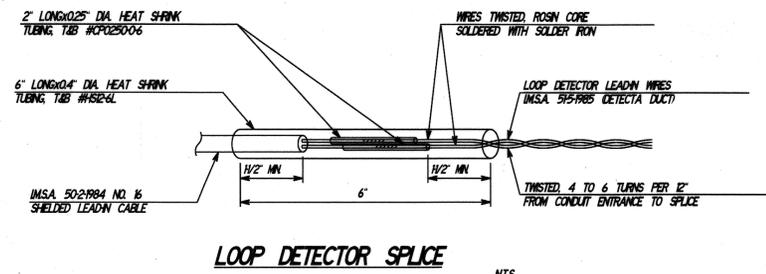
PLUMA COUNTY DEPARTMENT OF TRANSPORTATION  
 TRAFFIC SIGNAL POLE SCHEDULE  
 NORTHERN AVE/MAGEE RD  
 MAGEE RD  
 LA CANADA DR - ORACLE RD. (SR 77)  
 PROJECT NO. 4MRLCO

MAGEE RD IMPROVEMENTS - LA CANADA DR TO ORACLE RD. (SR 77) - Project No. 4MRLCO  
 EXPIRES 3-31-14

Scale: n/a Sheet TS04 of TS10 Page 176 of 273

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-01209ID	177	273	

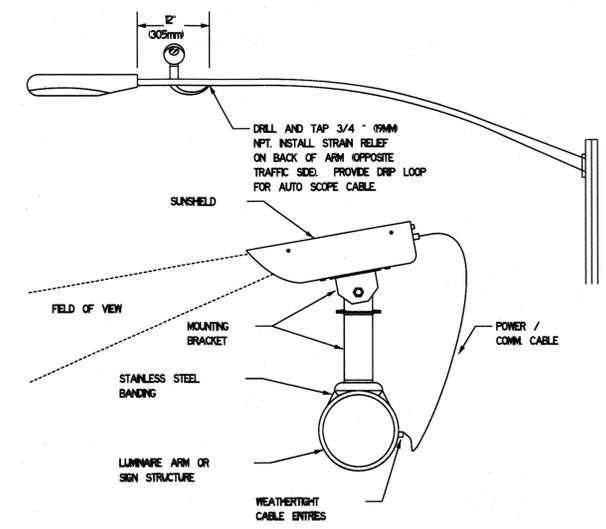
SS693 OIC



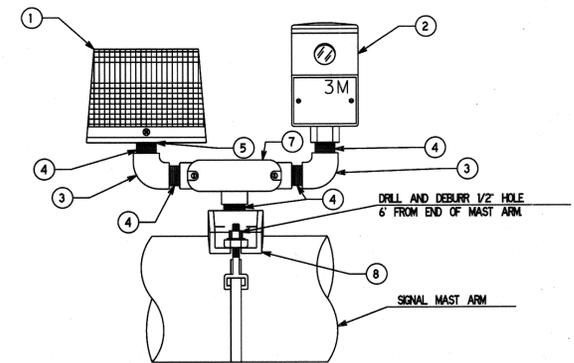
LOOP DETECTOR SPLICE N.T.S.

- LOOP INSTALLATION NOTES**
1. LOOPS INSTALLED IN THE FINAL LIFT OF PAVEMENT SHALL BE SEALED WITH BLACK 3M DETECTOR LOOP SEALANT 5000 OR APPROVED EQUAL. LOOPS IN THE LEVELING COURSE MAY USE AN APPROVED ASPHALTIC EMULSION.
  2. ALL 6x6" LOOPS SHALL BE WOUND IN A CLOCKWISE DIRECTION.
  3. TAG EACH LOOP WIRE AT THE PULL BOX AS START (S) OR FINISH (F). LOOPS SHALL BE IDENTIFIED PER LANE AND DIRECTION AS PER STANDARD SPECIFICATIONS.
  4. ALL SIDE BY SIDE 6x6" LOOPS TO BE CONNECTED IN SERIES (START TO FINISH TO START TO FINISH, ETC).

LOOP INSTALLATION NOTES



VIDEO DETECTION SYSTEM AUTO SCOPE INSTALLATION N.T.S.



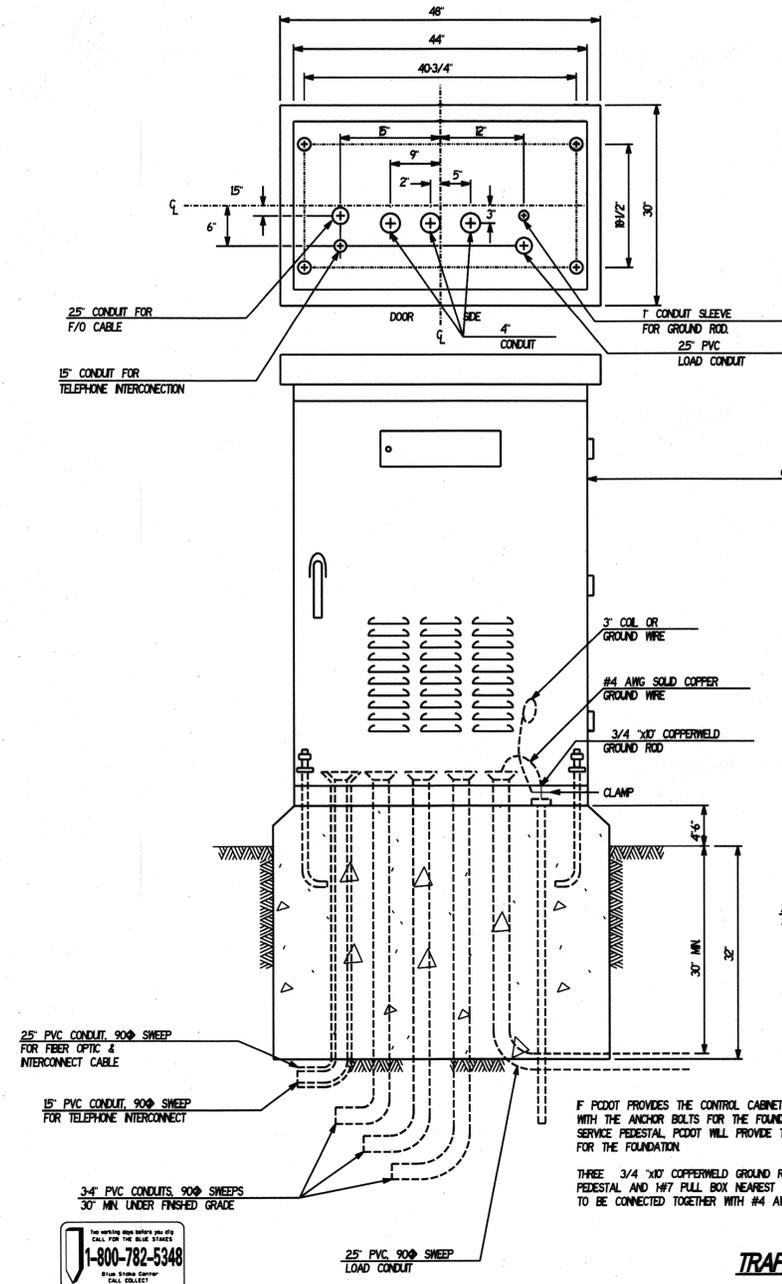
Locate EVP assembly 8' 6" from end tenon, use factory welded T NPT nipple when provided.

LIST OF MATERIALS

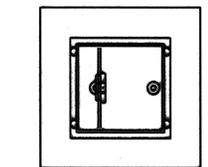
ITEM	QTY	DESCRIPTION
1	1	WHELEN STROBE LIGHT P/N 153220LC OR 153220L*
2	1	3M OPTICOM DETECTOR P/N 721 OR 722*
3	2	3/4" GALVANIZED 90 ELBOWS
4	5	3/4" GALVANIZED CLOSE NIPPLE
5	1	1" 3/4" REDUCER
6	10	3/4" LOCKNUTS
7	1	3/4" TB CONDULET
8	1	PELCO AB06529

\* - AS PER PLAN

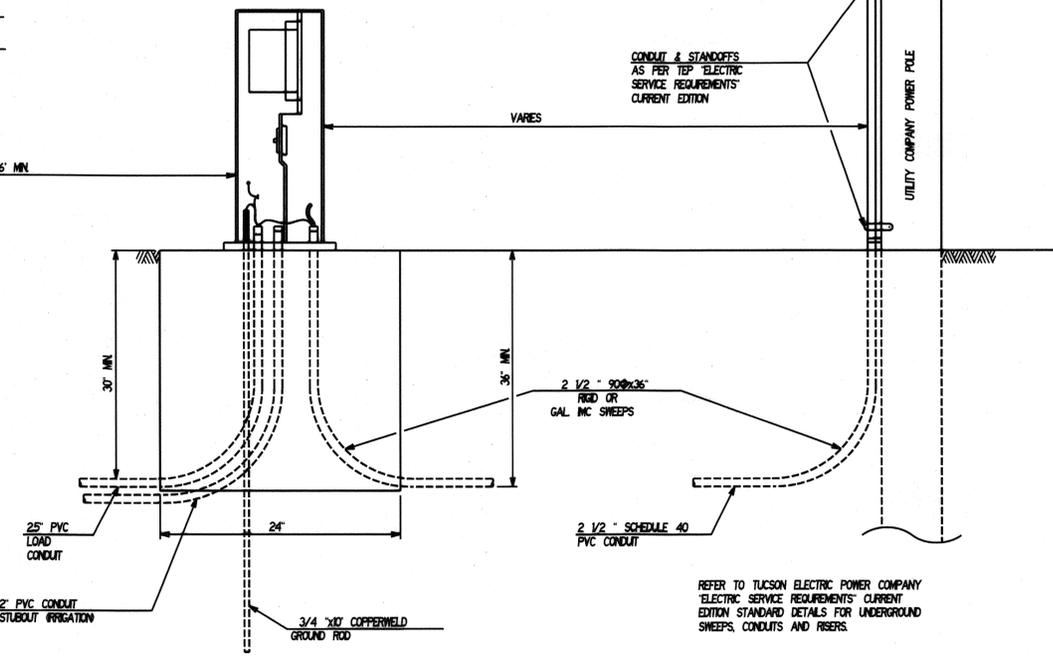
PRE-EMPTION MOUNTING ASSEMBLY DETAIL N.T.S.



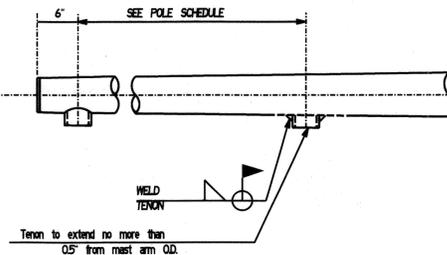
TRAFFIC SIGNAL ELECTRICAL SERVICE N.T.S.



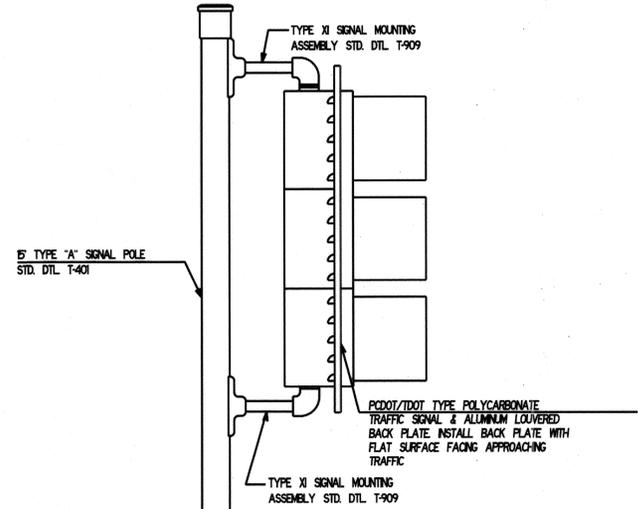
20/240 VOLT, 125 AMP, METERED ELECTRICAL SERVICE DISCONNECT PEDESTAL, MYERS HELIX/MES W/7B



REFER TO TUCSON ELECTRIC POWER COMPANY "ELECTRIC SERVICE REQUIREMENTS" CURRENT EDITION STANDARD DETAILS FOR UNDERGROUND SWEEPS, CONDUITS AND RISERS.



TENON DETAIL N.T.S.



PCDOT A POLE SIGNAL MOUNTING ASSEMBLY & BACKPLATE ORIENTATION N.T.S.

NOTE: THIS DETAIL SHEET CONTAINS ITEMS SPECIFIC FOR THE MAGEE ROAD IMPROVEMENTS PROJECT - LA CANADA DR TO ORACLE RD (SR 77), AND HAS BEEN REVISED FROM THE CURRENT PCDOT DETAIL SHEET.

Priscilla S. Cornello, P.E., Director

Date	By	Checked	Proj. Eng'r.
02/12	DR/JP	02/12	02/12
02/12	DR/JP	02/12	02/12

Engineer

Revision Description

No.	Date	Description

Lee Engineering  
2028 N. 44th Street  
Suite 975  
Phoenix, AZ 85018  
602995-7206 FAX 602995-7349

Arizona Blue Stakes  
1-800-STAKE-IT  
1-800-782-5348  
1-800-782-5348

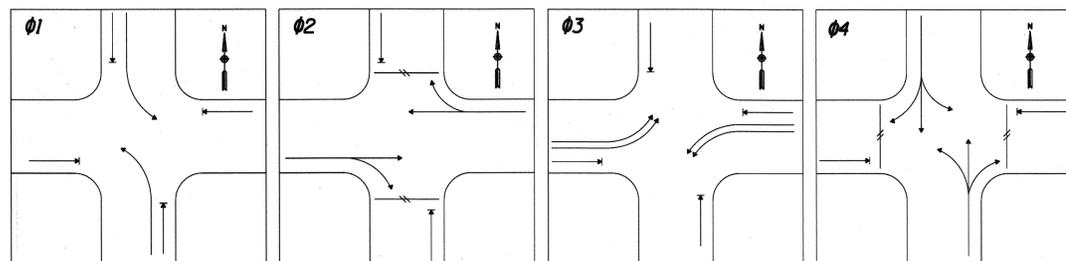
TRAFFIC SIGNALS  
DETAIL SHEET  
MAGEE RD.  
LA CANADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

EXPIRES 3-31-14

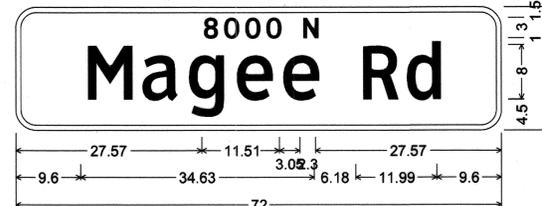
MAGEE RD. IMPROVEMENTS - LA CANADA DR. TO ORACLE RD. (SR 77) - Project No. 4MRLCO

**TRAFFIC SIGNAL GENERAL NOTES - MAGEE RD AT ORACLE RD (SR 77) - INTERSECTION B**

- ALL MATERIALS AND INSTALLATION SHALL CONFORM TO THE 2008 ADOT STANDARD SPECIFICATIONS AND THE 2012 ADOT "TRAFFIC SIGNALS AND LIGHTING" STANDARD DRAWINGS.
- THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. ALL INVOLVED UTILITIES MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE, PER SECTION 730-6 OF THE ADOT STANDARD SPECIFICATIONS, FOR CONTACTING ALL UTILITIES FOR EXACT LOCATION PRIOR TO ANY CONSTRUCTION ACTIVITY.
- ELECTRICAL SERVICE TO BE FROM TEP POLE ON THE NE CORNER. UTILITY CONTACT: TUCSON ELECTRIC POWER COMPANY, WARREN McELYEA AT (520) 918-8268.
- BACKPLATES FOR ALL SIGNAL FACES SHALL BE 5" LOUVERED BACKPLATES.
- LED SIGNALS, CONFORMING TO ADOT SPECIFICATIONS, SHALL BE USED FOR ALL FACES.
- ALL NEW POLE FOUNDATIONS SHALL BE INSPECTED BY THE ADOT TRAFFIC SIGNAL INSPECTOR PRIOR TO PLACEMENT OF CONCRETE. PLACEMENT OF ALL STEEL POLES SHALL PROVIDE 10' MINIMUM CLEAR FROM STEEL POLE/ARMS/FIXTURES TO ANY ELECTRICAL OVERHEAD POWER LINES. ELEVATION OF BOTTOM OF POLE BASE PLATE SHALL BE FIELD DETERMINED BY CONTRACTOR SURVEY TO BE FLUSH WITH ADJACENT SIDEWALK SURFACE.
- CONTRACTOR SHALL PERFORM A GROUND RESISTANCE TEST FOR EACH INSTALLED GROUND ROD AND POLE FOUNDATION GROUNDING COIL IN ACCORDANCE WITH SUBSECTION 732-3.03. WRITTEN LEGIBLE DOCUMENTATION OF RESULTING VALUES SHALL BE PROVIDED TO ADOT, ANTHONY BARCELO (520-349-0133).
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO PUBLIC OR PRIVATE PROPERTY.
- ALL SIGNAL MOUNTING LOCATIONS SHALL BE INSPECTED AND APPROVED BY THE ADOT TRAFFIC SIGNAL INSPECTOR, PRIOR TO DRILLING POLES. MOUNTING NIPPLES MAY REQUIRE ADDITIONAL LENGTH, IF REQUIRED BY INSPECTOR, AT NO ADDITIONAL COST.
- ALL PULL BOXES SHALL BE LEFT IN A CLEAN CONDITION, FREE OF DIRT AND DEBRIS UPON COMPLETION OF THE WORK.
- CONTRACTOR SHALL CONTACT ANTHONY BARCELO (520-349-0133) A MINIMUM OF 10 WORKING DAYS IN ADVANCE TO SCHEDULE THE SWITCH-OVER DATE PER SECTION 734-2.01 (F) (7) OF THE ADOT STANDARD SPECIFICATIONS. SWITCH-OVER LIMITED TO TUESDAY, WEDNESDAY & THURSDAY ONLY. THE EXISTING TRAFFIC SIGNALS AND LIGHTING SHALL REMAIN OPERATIONAL THROUGHOUT CONSTRUCTION, UNTIL THE DAY OF SWITCH-OVER, UNLESS SPECIFICALLY PRE-APPROVED BY THE ADOT TUCSON REGIONAL TRAFFIC ENGINEER.
- ALL CONDUIT INSTALLED UNDER EXISTING PAVED ROADWAYS AND DRIVEWAYS SHALL BE INSTALLED BY JACKING OR DIRECTIONAL DRILLING, PER ADOT STANDARD SPECIFICATIONS, SECTION 732-3.01, AT NO ADDITIONAL COST TO THE PROJECT.
- THE EXISTING ADVANCE LOOP DETECTORS ON ORACLE ROAD SHALL BE REUSED. CONTRACTOR SHALL INTERCEPT THE EXISTING HOME RUN CONDUITS IN THE CENTER MEDIAN AND REROUTE TO THE NEW PULL BOXES, FURNISH AND INSTALL NEW HOME RUN CABLES, UNSPLICED, FROM THE CONTROLLER CABINET TO THE LOOPS.
- CONTRACTOR SHALL VERIFY LANE STRIPE LOCATIONS AND EXACT LOCATION AND ANGLE OF STOP LINES PRIOR TO LAYING OUT NEW DETECTOR LOOPS. NEW LOOPS SHALL BE CENTERED IN LANES. LAYOUT SHALL BE INSPECTED AND APPROVED BY THE ADOT TRAFFIC SIGNAL INSPECTOR PRIOR TO LOOP INSTALLATION.
- NEW LOOPS SHALL BE INSTALLED PRIOR TO FINAL PAVEMENT LIFT, SO FINAL LIFT ENCASES LOOPS UNDER SURFACE. LOOP DETECTORS SHALL BE INSTALLED PER ADOT STANDARD DRAWING T.S. 7-1, EXCEPT THAT ALL LOOP DUCTS WITH CONDUCTORS, INCLUDING LEAD-IN RUNS TO STUB-OUT, SHALL HAVE A MINIMUM OF 2" OF SEALANT COVERING. LOOP SAWCUT SEALANT SHALL BE AN EMULSIFIED TYPE MEETING ADOT SPECIFICATIONS, AND SHALL BE PREMIXED WITH SAND PRIOR TO APPLICATION. SAW CUT SLOTS SHALL BE CLEANED OUT WITH WATER, AND BLOWN DRY BY MEANS OF AN AIR STREAM FREE OF OIL AND WATER PRIOR TO INSTALLATION AND SEALING OF THE LOOP DUCT.
- UPON SUCCESSFUL SWITCH-OVER TO NEW SIGNAL SYSTEM, LIGHTING & CABINET, ALL EXISTING TRAFFIC SIGNAL POLES, MAST ARMS, SIGNALS, MOUNTINGS, PEDESTRIAN BUTTONS, LUMINAIRES, METER PEDESTAL AND EXISTING CONTROLLER CABINET SHALL BE REMOVED AND SALVAGED TO ADOT. CONTRACTOR SHALL DISASSEMBLE ALL COMPONENTS, TRANSPORT TO ADOT GRANT ROAD YARD, AND UNLOAD ALL EQUIPMENT AS DIRECTED BY THE ADOT TRAFFIC SIGNAL INSPECTOR. COORDINATE REMOVAL, INVENTORY AND DELIVERY OF EXISTING SIGNAL EQUIPMENT WITH ANTHONY BARCELO (520-349-0133) AT LEAST 3 WORKING DAYS PRIOR TO REMOVAL.
- THE CONTRACTOR SHALL HAVE AT LEAST ONE IMSA LEVEL ONE AND ONE IMSA LEVEL TWO CERTIFIED TRAFFIC SIGNAL TECHNICIAN ON SITE DURING ALL PHASES OF ANY TRAFFIC SIGNAL WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE VERIFICATION OF CERTIFICATION. IF THE JOB SITE IS INSPECTED AND NO CERTIFIED TECHNICIANS ARE PRESENT AT THE JOB SITE, TRAFFIC SIGNAL WORK SHALL BE SUSPENDED UNTIL THIS REQUIREMENT IS MET.

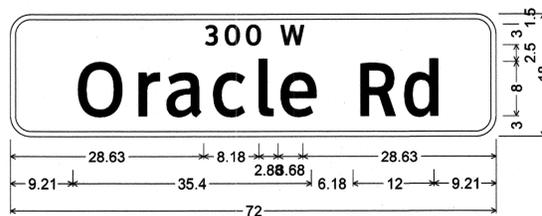


**PHASE MOVEMENTS**



D3 Tucson; 3.00" Radius, 0.75" Border, White on Green;  
[8000 N] ClearviewHwy-4-W;  
[Magee Rd] ClearviewHwy-3-W 90% spacing;

**D3 SIGNS (D) & (K)**  
TYPE IX SHEETING



D3 Tucson; 3.00" Radius, 0.75" Border, White on Green;  
[300 W] ClearviewHwy-4-W;  
[Oracle Rd] ClearviewHwy-3-W 90% spacing;

**D3 SIGNS (H) & (N)**  
TYPE IX SHEETING

**RESPONSIBILITIES:**

- THE CONTRACTOR SHALL SUPPLY AND INSTALL THE FOLLOWING EQUIPMENT AND MATERIALS AS SPECIFIED IN THE PLANS: STEEL POLE ANCHOR BOLTS (WITH NUTS AND WASHERS), CONCRETE POLE FOUNDATIONS WITH REINFORCEMENT, TRAFFIC SIGNAL CONTROLLER CABINET WITH CONTROLLER AND ALL AUXILIARY EQUIPMENT, CONTROLLER CABINET CONCRETE FOUNDATION, PULL BOXES, ELECTRICAL CONDUIT, GROUND RODS AND CONNECTORS, ALL CONDUCTORS, POLES, MAST ARMS, TRAFFIC SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN SIGNALS AND MOUNTING ASSEMBLIES, PEDESTRIAN PUSH BUTTON STATIONS WITH SIGNS, LUMINAIRES, PHOTOCELL, ELECTRIC SERVICE PEDESTALS AND CONCRETE FOUNDATION, BATTERY BACKUP UNIT AND CONCRETE FOUNDATION, RELOCATE EXISTING EMERGENCY VEHICLE PRE-EMPTION SENSORS & INDICATOR LIGHT, VEHICLE DETECTION LOOPS, AND ALL OTHER APPURTENANCES NECESSARY FOR THE OPERATION OF THE TRAFFIC SIGNAL INSTALLATION, EXCEPT AS MODIFIED IN THE PLANS.
- THE CONTRACTOR SHALL DELIVER THE CONTROLLER CABINET ASSEMBLY, WITH THE CONTROLLER AND AUXILIARY EQUIPMENT SPECIFIED IN THE PLANS TO JAY WERNE, ADOT TRAFFIC SIGNAL SHOP, 2104 S. 22ND AVENUE, PHOENIX, AZ 85009, FOR TESTING, IN COMPLIANCE WITH SECTION 734 OF THE ADOT STANDARD SPECIFICATIONS. CONTROLLER CABINET ASSEMBLY FOR ORACLE ROAD (SR 77) INTERSECTION COVERED UNDER BID ITEM 7340042.
- THE CONTRACTOR SHALL CAREFULLY DISASSEMBLE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT THAT IS NOT TO REMAIN OR BE RELOCATED. ALL OF THE EQUIPMENT SHALL BE SAFELY STORED AT THE CONSTRUCTION SITE UNTIL IT IS SAFELY RETURNED TO THE ADOT MAINTENANCE YARD, 1444 W. GRANT ROAD, TUCSON. THE EQUIPMENT SHALL BE SAFELY UNLOADED BY THE CONTRACTOR. CONTACT ANTHONY BARCELO (520-349-0133) AT LEAST 2 WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT.
- THE CONTRACTOR'S MAINTAINING OF THE EXISTING TRAFFIC SIGNAL AND LIGHTING AT ORACLE ROAD (INTERSECTION B) SHALL BE COVERED UNDER BID ITEM 7370002, AND SHALL BE COORDINATED WITH AND AS DIRECTED BY ANTHONY BARCELO, ADOT TRAFFIC SIGNALS (520-349-0133).
- CONTRACTOR SHALL FURNISH THE OVERHEAD METRO STREET NAME SIGNS. CONTRACTOR SHALL PROVIDE ALL MOUNTING HARDWARE AND SHALL INSTALL METRO STREET NAME SIGNS, AS DIRECTED BY ADOT, ALL UNDER BID ITEM 6080024.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND INSTALL ALL TRAFFIC CONTROL SIGNS AND PAVEMENT MARKINGS REQUIRED TO COMPLETE THE PROJECT.
- THE TRAFFIC SIGNAL SHALL NOT BE ENERGIZED UNTIL ALL SIGNAL RELATED SIGNS HAVE BEEN INSTALLED AND VERIFIED IN PLACE.
- BATTERY BACKUP SYSTEM AND FOUNDATION SHALL BE COVERED UNDER BID ITEMS 7310377 AND 7360160.
- ALL PULL BOXES AT THE ORACLE ROAD (SR 77) INTERSECTION SHALL BE POLYMER CONCRETE, CONFORMING TO ADOT SPECIFICATIONS AND STANDARD DRAWINGS, AND COVERED UNDER BID ITEMS 7320409, 7320419, AND 7320422. LID MARKINGS SHALL BE "ADOT ELECTRICAL HIGH VOLTAGE".
- RELOCATION OF EXISTING PRE-EMPT SENSORS AND PRE-EMPT BEACON SHALL BE COVERED UNDER BID ITEMS 7330501 AND 7330511.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0120910	178	273	

SS693 OIC

Date	DB	DB/P	JP	AH
12/12				
12/12				
12/12				
12/12				

Priscilla S. Cornejo, P.E., Director



3033 N. 44<sup>th</sup> Street  
Suite 375  
Phoenix, AZ 85018  
602955-7206 FAX 602955-7349

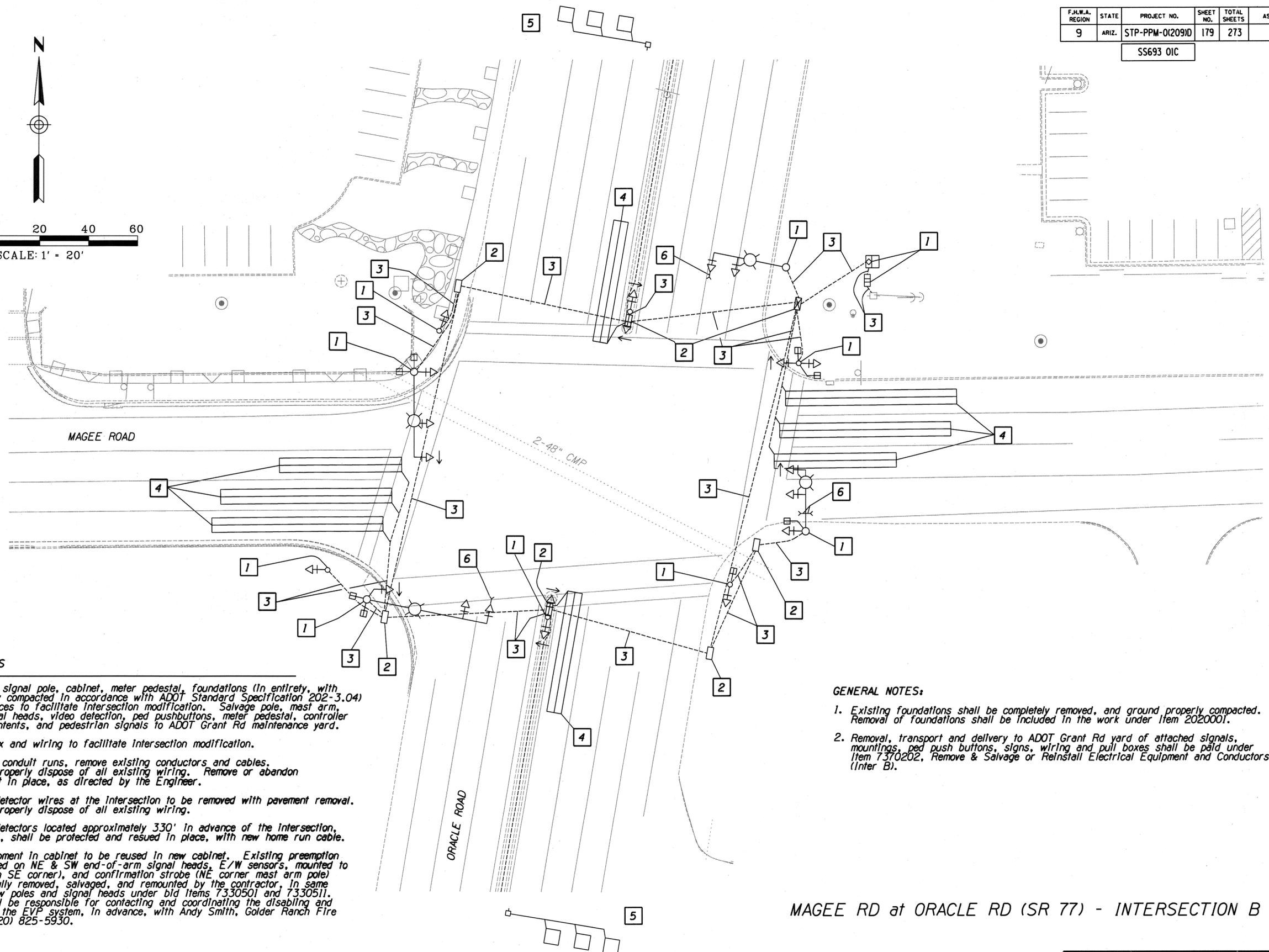
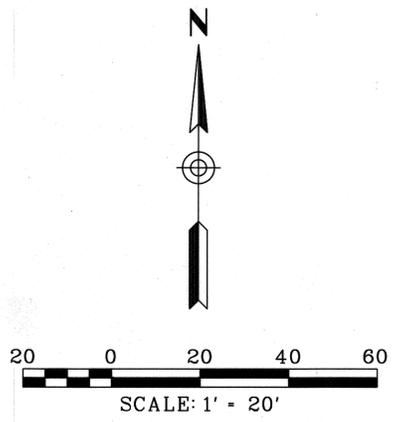
**LEE ENGINEERING**

Arizona State Seals  
1-800-STAKE-IT  
1-800-782-6348  
1275 W. WASHINGTON AVENUE, SUITE 300

Plima County Department of Transportation

TRAFFIC SIGNAL NOTES & DETAILS  
ORACLE RD (SR 77)/MAGEE RD  
MAGEE RD  
LA CANADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	179	273	
SS693 OIC					



**KEYNOTES**

1. Remove traffic signal pole, cabinet, meter pedestal, foundations (in entirety, with ground properly compacted in accordance with ADOT Standard Specification 202-3.04) and appurtenances to facilitate intersection modification. Salvage pole, mast arm, luminaire, signal heads, video detection, ped pushbuttons, meter pedestal, controller cabinet and contents, and pedestrian signals to ADOT Grant Rd maintenance yard.
2. Remove pull box and wiring to facilitate intersection modification.
3. Typical for all conduit runs, remove existing conductors and cables. Contractor to properly dispose of all existing wiring. Remove or abandon existing conduit in place, as directed by the Engineer.
4. Existing loop detector wires at the intersection to be removed with pavement removal. Contractor to properly dispose of all existing wiring.
5. Existing loop detectors located approximately 330' in advance of the intersection, on Oracle Road, shall be protected and resued in place, with new home run cable.
6. Preemption equipment in cabinet to be reused in new cabinet. Existing preemption sensors (mounted on NE & SW end-of-arm signal heads, E/W sensors, mounted to pole-top cap on SE corner), and confirmation strobe (NE corner mast arm pole) shall be carefully removed, salvaged, and remounted by the contractor. In same fashion, on new poles and signal heads under bid items 7330501 and 7330511. Contractor shall be responsible for contacting and coordinating the disabling and re-enabling of the EVP system. In advance, with Andy Smith, Golder Ranch Fire District, at (520) 825-5930.

**GENERAL NOTES:**

1. Existing foundations shall be completely removed, and ground properly compacted. Removal of foundations shall be included in the work under Item 2020001.
2. Removal, transport and delivery to ADOT Grant Rd yard of attached signals, mountings, ped push buttons, signs, wiring and pull boxes shall be paid under Item 7370202. Remove & Salvage or Reinstall Electrical Equipment and Conductors (Inter B).

**MAGEE RD at ORACLE RD (SR 77) - INTERSECTION B**

Priscilla S. Cornello, P.E., Director

Date	By	Checked	Project Engr.
02/12	DB/JP	JP	AH
02/12			
02/12			

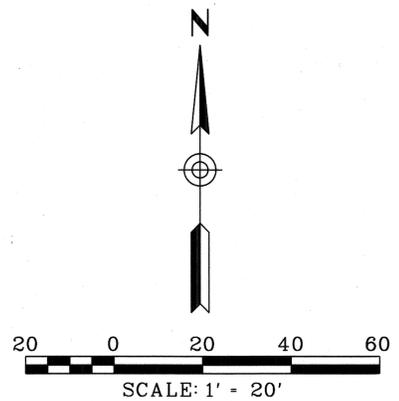
No. \_\_\_\_\_ Revision Description \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Date \_\_\_\_\_  
 Expires 3-31-14

PLIMA COUNTY DEPARTMENT OF TRANSPORTATION  
 TRAFFIC SIGNAL DEMOLITION SHEET  
 ORACLE RD (SR 77)/MAGEE RD  
 MAGEE RD,  
 LA CANADA DR., ORACLE RD, (SR 77)  
 PROJECT NO. 4MRLCO

3033 N. 44<sup>th</sup> Street  
 Suite 375  
 Phoenix, AZ 85018  
 602/955-7206 FAX 602/955-7349  
**LEE ENGINEERING**

PROFESSIONAL ENGINEER  
 No. 18229  
 DAVID WILLIAM BRUGGEMAN  
 EXPIRES 3-31-14

MAGEE RD IMPROVEMENTS - LA CANADA DR. TO ORACLE RD. (SR 77) - Project No. 4MRLCO



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0120910	180	273	
SS693 OIC					

Date	12/12
DB	
DB/JP	
Checked	JP
Proj. Engr.	AH

No.	Revision Description	Engineer	Date



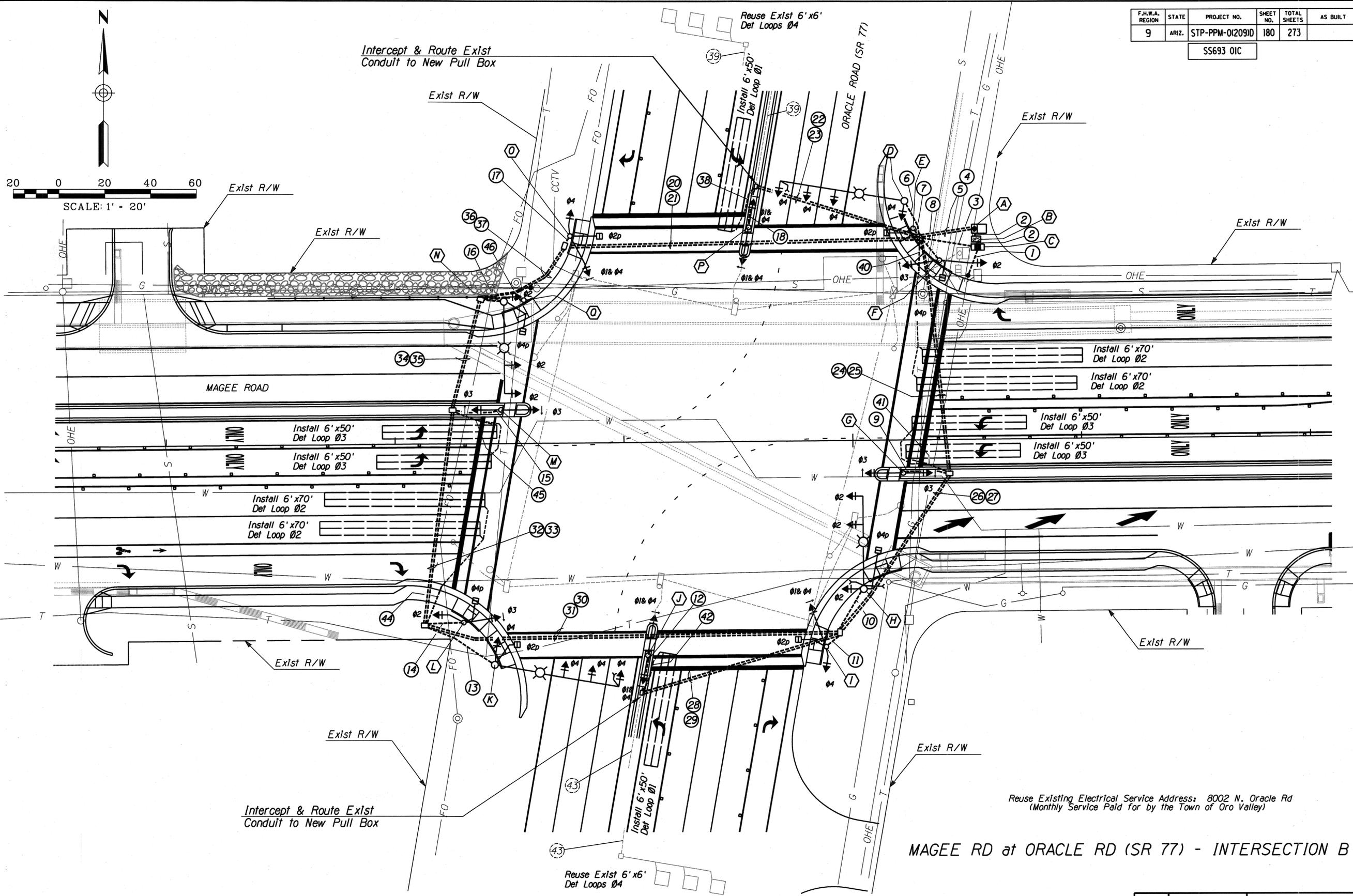
3033 N. 44<sup>th</sup> Street  
 Suite 375  
 Phoenix, AZ 85018  
 602985-7206 FAX 602985-7949

Alcon Blue Shirts  
 1-800-STAKE-IT  
 1-800-782-5948

Pima County Department of Transportation  
 TRAFFIC SIGNAL PLAN VIEW  
 ORACLE RD/MAGEE RD  
 MAGEE RD  
 I-17 CANADA DR - ORACLE RD (SR 77)  
 PROJECT NO. 4MRLCO

MAGEE RD IMPROVEMENTS - LA CANADA DR TO ORACLE RD (SR 77) - Project No. 4MRLCO

Priscilla S. Cornello, P.E., Director



Reuse Existing Electrical Service Address: 8002 N. Oracle Rd  
 (Monthly Service Paid for by the Town of Oro Valley)

MAGEE RD at ORACLE RD (SR 77) - INTERSECTION B

POLE SCHEDULE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0120910	181	273	
SS693 OIC					

CABINET	TRAFFIC SIGNAL CONTROLLER		REMARKS	AUX. CONTROL	LOCATION			
	TYPE	CONTROLLER						
(A)	TYPE IV W/ELEVATOR BASE & MAINT PAD	MPS, 8-PHASE MENU DRIVEN W/LCD DISPLAY SEE NOTES	T.S. 2-4 T.S. 3-9 T.S. 3-10	ECONOLITE ASC3 CONTROLLER IN 2-DOOR EAGLE CABINET	ADOT TS INSPECTOR TO FIELD LOCATE APPROX AS SHOWN			
(B)	UPS CABINET	UPS SYSTEM TO PROTECT 120 VAC CIRCUITS	T.S. 2-7	BATTERIES TO BE CAPABLE OF 4 HR OF FULL TS CYCLING	ADOT TS INSPECTOR TO FIELD LOCATE APPROX AS SHOWN			
(C)	METER PEDESTAL W/BYPASS	FULLY-METERED SERVICE 120/240 VAC	T.S. 3-5 TYPE I	FURNISH & INSTALL 20-AMP FUSED LIGHTING CONTACTOR & PEC	ADOT TS INSPECTOR TO FIELD LOCATE APPROX AS SHOWN			
POLE	TYPE	MAST ARM		SIGNALS		PPB SIGN	REMARKS	LOCATION
		SIG.	LUM.	MTG.	FACE			
(D)	R	55'	20'	3-11 V	3-F F		250W HPS, 240V LUMINAIRE, TYPE III MEDIUM CUTOFF	STA. 480+23.5 104.4' LT
(E)	A 8'			IV	M/H	R10-3b (L)		STA. 480+27.2 92.2' LT
(F)	A 10'			VI V	R,F M/H	R10-3b (R)		STA. 480+38.6 78.2' LT
(G)	A 10'			X	R,R			STA. 480+21.9 15.0' RT
(H)	Q	40'	20'	2-11 V	2-F F M/H	R10-3b (L)	250W HPS, 240V LUMINAIRE, TYPE III MEDIUM CUTOFF	STA. 480+04.1 64.8' RT
(I)	A 10'			VI V	G,F M/H	R10-3b (R)		STA. 479+87.5 89.8' RT
(J)	A 10'			X	G,G			STA. 479+09.4 93.1' RT
(K)	R	55'	20'	3-11 V	3-F F M/H	R10-3b (L)	250W HPS, 240V LUMINAIRE, TYPE III MEDIUM CUTOFF	STA. 478+42.6 96.5' RT
(L)	A 10'			VI V	R,F M/H	R10-3b (R)		STA. 478+29.2 77.9' RT
(M)	A 10'			X	R,R			STA. 478+46.4 15.0' LT
(N)	Q	40'	20'	2-11 V	2-F F M/H		250W HPS, 240V LUMINAIRE, TYPE III MEDIUM CUTOFF	STA. 478+48.1 62.0' LT
(O)	A 10'			VI V	G,F M/H	R10-3b (R)		STA. 478+77.3 90.2' LT
(P)	A 10'			X	G,G			STA. 479+55.4 93.3' LT

- NOTES:
- THE CONTROL CABINET SHALL BE WIRED AND LABELED WITH THE SAME PHASE NUMBER DESIGNATIONS, FOR INITIAL AND FUTURE PHASES, AS SHOWN IN THE PHASE MOVEMENT DIAGRAM OR AS NOTED ON THE PLANS. EACH CONNECTOR SHALL HAVE ALL PINS WITHIN THE CONNECTOR BROUGHT TO CABINET TIE POINTS. ANY CONTROL CABINET NOT WIRED ACCORDINGLY WILL BE REJECTED BY THE ENGINEER. CABINET SHALL BE DELIVERED TO THE ADOT TRAFFIC OPERATIONS CENTER AT 2104 S 22ND AVE, PHOENIX, FOR TESTING & TRANSPORTED TO PROJECT SITE BY CONTRACTOR.
  - THE MPS 8-PHASE CONTROLLER SHALL HAVE ALL THE SPECIAL PROGRAM APPLICATIONS PER STANDARD SPECIFICATIONS SUBSECTION 734-2.02 (C) (3) (a), EXCEPT FOR THE ARTERIAL MASTER CONTROLLER APPLICATIONS.
  - POLE, CABINET, & PULL BOX LOCATIONS, ELEVATIONS & ORIENTATIONS SHALL BE FIELD VERIFIED WITH THE ADOT TRAFFIC SIGNAL INSPECTOR PRIOR TO EXCAVATION. THE ADOT TRAFFIC SIGNAL INSPECTOR MAY MAKE FIELD ADJUSTMENTS TO LOCATIONS OF TRAFFIC SIGNAL FACILITIES, IN RESPONSE TO FIELD CONDITIONS.
  - ELECTRICAL SERVICE SHALL BE FULLY METERED FOR SIGNALS AND LIGHTING, COVERED UNDER BID ITEM 7320812.
  - SEE SIGN DETAILS FOR STREET NAME SIGNS TO BE MOUNTED ON SIGNAL MAST ARM POLES, UNDER BID ITEM 6080024.
  - THE LOOP DETECTORS SHALL EACH HAVE A SEPARATE CHANNEL IN THE CONTROL CABINET AND DETECTOR RACK. THE CABINET AND DETECTOR RACK SHALL BE WIRED FOR DELAY TIMING CAPABILITY. LOOPS SHALL BE FUNCTIONAL AT TURN-ON.
  - TERMINAL COMPARTMENTS SHALL BE ASSEMBLED IN THE MOUNTING BRACKETS AS SHOWN IN THE STANDARD DRAWINGS. THE TERMINAL COMPARTMENT SHALL BE MANUFACTURED OF BRONZE. PIPE NIPPLES MAY REQUIRE ADDITIONAL LENGTH TO ACHIEVE DESIRED SIGNAL HEAD AIMING, AT NO ADDITIONAL COST, WITHOUT CONFLICTING WITH POLE OR MAST ARM.
  - INSTALL 30-AMP SINGLE-POLE DISCONNECT FOR SIGNALS.
  - ALL EXPOSED CONDUIT & FITTINGS INSTALLED ABOVE GROUND SHALL BE RIGID METAL, PER STANDARD SPECIFICATIONS.
  - THE CONTRACTOR SHALL CONTACT THE ADOT TRAFFIC SIGNAL INSPECTOR FOR REVIEW AND APPROVAL BEFORE DRILLING POLES FOR PED BUTTONS & SIGNAL MOUNTINGS.
  - A GPS TIME SOURCE, COMPATIBLE WITH THE SPECIFIC BRAND OF TRAFFIC SIGNAL CONTROLLER, SHALL BE FURNISHED, INSTALLED AND ACTIVATED BY THE CONTRACTOR. TIME SOURCE SHALL INCLUDE ALL ANTENNAS, CABLING AND TIME SOURCE UNIT, AS PART OF BID ITEM 7340042.
  - EXISTING EVP SENSORS SHALL BE RELOCATED TO NEW SIGNAL, RECONNECTED AND REUSED. NB AND SB SENSORS SHALL BE MOUNTED ON TOP OF THE END-OF-ARM SIGNAL HEADS ON THE MAST ARM POLES. EB AND WB SENSORS SHALL BE ATTACHED TO THE TOP OF THE MAST ARM POLE ON THE SE CORNER. CONFIRMATION STROBE SHALL BE ATTACHED TO THE END-OF-ARM SIGNAL HEAD ON THE MAST ARM POLE ON THE NE CORNER, ALL SIMILAR TO EXISTING MOUNTING ARRANGEMENTS. ALL COMPONENTS INTERNAL TO THE CONTROLLER CABINET SHALL BE SALVAGED AND REINSTALLED IN THE NEW CONTROLLER CABINET AND REUSED.
  - LED COUNTDOWN PEDESTRIAN SIGNALS SHALL BE USED.

POLE	TYPE	MAST ARM		SIGNALS		PPB SIGN	LOCATION
		SIG.	LUM.	MTG.	FACE		
(Q)	PPB POST					R10-3b (L)	STA. 478+56.8 62.6' LT

Priscilla S. Cornello, P.E., Director

Date	12/12	12/12	12/12	12/12
Designed	DB	DB	DB	DB
Drawn	JP	JP	JP	JP
Checked	JP	JP	JP	JP
Proj. Engr.	JP	JP	JP	JP

No. \_\_\_\_\_

Revision Description

Engineer

EXPIRES 3-31-14

3033 N. 44<sup>th</sup> Street  
Suite 975  
Phoenix, AZ 85016  
602985-7206 FAX 602985-7349

LEE ENGINEERING

Arizona Blue State  
+800-574KELT  
+800-782-5348  
CALL CENTER (Mon-Fri 9am-5pm)

Pima County Department of Transportation

TRAFFIC SIGNAL POLE SCHEDULE  
ORACLE RD (SR 77)/MAGEE RD  
MAGEE RD  
LA CANADA DR - ORACLE RD (SR 77)  
PROJECT NO. 44R1C0

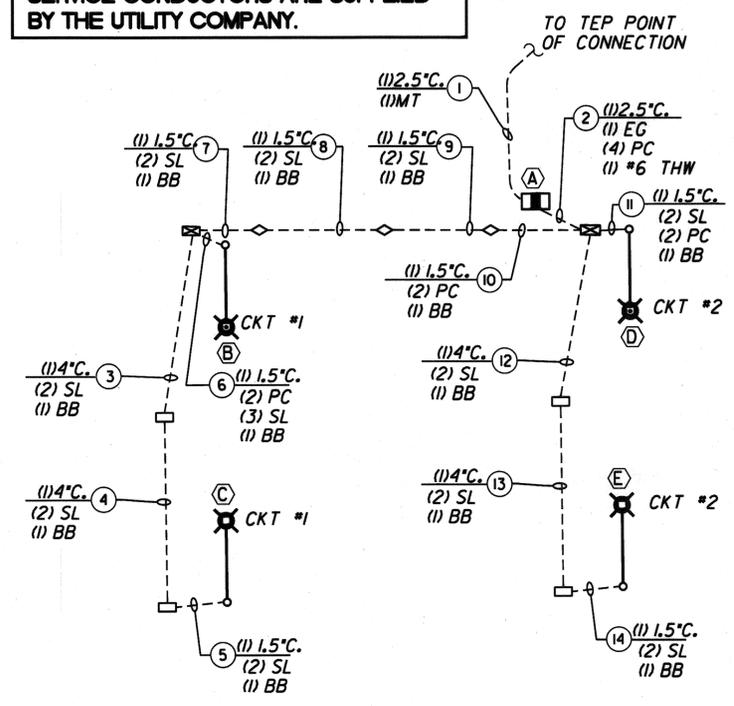
MAGEE RD IMPROVEMENTS - LA CANADA DR TO ORACLE RD (SR 77) - Project No. 44R1C0





POLE SCHEDULE								
STREET LIGHTING CONTROLLER								
CABINET	TYPE	CONTROLLER	AUX. CONTROLLER	REMARKS	LOCATION			
(A)	MYERS 125 AMP 120/240V MUEG 16 - 125WTB	METERED SERVICE PEDESTAL WITH (2) 20 AMP SINGLE POLE CIRCUIT BREAKERS.	(1) 30 AMP SINGLE POLE BREAKER FOR SIGNAL CONTROLLER (FUTURE PEDESTRIAN CROSSING).	PEDESTAL ADDRESS IS XXXX MAGEE	LOCATE BY ENGINEER IN FIELD, MIN. 10 FEET FROM FACE OF CURB TO STREET SIDE OF FOUNDATION AND MIN. 2 FEET FROM NEAR EDGE OF THROUGH LANE. PEDESTAL ADDRESS IS TO BE PROVIDED IN FINAL DRAWINGS AFTER COORDINATION WITH PIMA COUNTY DEVELOPMENT SERVICES.			
POLE NUMBER	TYPE	SIGNAL LUMIN	MTG FACE	LUM.	REMARKS	Station (Road)	Offset	STANDARDS
(B)	TYPE 2B	20'		250W/ 240V HPS W/CUT OFF		(B) 441+47.4	59.0' LT	T-107, T-417, T-445
	NOTE 1,3					NOTE 4		
(C)	TYPE 2B	20'		250W/ 240V HPS W/CUT OFF		(C) 441+28.4	56.8' RT	T-107, T-417, T-445
	NOTE 1,2					NOTE 4		
(D)	TYPE R	20'		250W/ 240V HPS W/CUT OFF		(D) 454+45.3	57.4' LT	T-107, T-413, T-417
	NOTE 1,3,5				NOTE 5	NOTE 4		
(E)	TYPE R	20'		250W/ 240V HPS W/CUT OFF		(E) 454+24.9	55.4' RT	T-107, T-413, T-417
	NOTE 1,2,5				NOTE 5	NOTE 4		

**NOTE: PER TEP SERVICE REQUIREMENTS, SERVICE CONDUCTORS ARE SUPPLIED BY THE UTILITY COMPANY.**



**HIGH VOLTAGE CIRCUIT**  
 (X) Y\* \*C = NUMBER AND SIZE OF CONDUIT  
 (X) = NUMBER OF CABLES  
 EG = EQUIPMENT GROUND #6 AWG, STRANDED (GREEN INSULATION)  
 BB = BARE BOND, #8, SOLID  
 SL = STREET LIGHTING, #10 AWG XHHW  
 PC = PHOTO CELL, #8 AWG XHHW  
 MT = 2500# MULETAPE

- NOTES:**
1. ALL LUMINAIRES SHALL HAVE PHOTOCELL RECEPTACLES.
  2. ALL PHOTOCELL RECEPTACLES SHALL HAVE SHORTING CAP.
  3. PROVIDE PHOTOCELL ON LUMINAIRE.
  4. FIELD VERIFY PROPOSED FOUNDATION ELEVATION MATCHES TOP OF GROUND/SIDEWALK/MEDIAN-PAVING PRIOR TO INSTALLING POLE BASE
  5. PROVIDE BLANK COVER AND GASKET TO COVER MAST ARM MOUNTING PLATE OPENING AND KEEP MOISTURE OUT OF THE INSIDE OF THE POLE.
  6. CONTRACTOR TO PROVIDE (1) EXTRA 250W HPS LAMP FOR EACH FIXTURE.

- ELECTRICAL SYMBOL LEGEND**
- NO. 3.5 FLUSH CONCRETE PULL BOX.
  - NO. 7 FLUSH CONCRETE PULL BOX.
  - NO. 7 FLUSH CONCRETE PULL BOX WITH EXTENSION.
  - SIGNAL POLE OR EQUIPMENT DESIGNATION, REFER TO POLE SCHEDULE.
  - CONDUIT RUN NUMBER, REFER TO CONDUCTOR SCHEDULE.
  - CONDUIT RUN, REFER TO CONDUCTOR SCHEDULE.
  - LUMINAIRE ON STEEL POLE, REFER TO POLE SCHEDULE.
  - LUMINAIRE ON STEEL POLE WITH PHOTOELECTRIC CELL, REFER TO POLE SCHEDULE.
  - NEW SERVICE CABINET WITH FOUNDATION

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	184	273	

SS693 01C

Priscilla S. Cornelio, P.E., Director

Date	M/I	M/I	M/I	M/I
Designed	FG	BD	FC	A.H.
Drawn				
Checked				
Pr. J. Engr.				

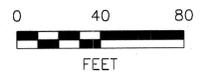
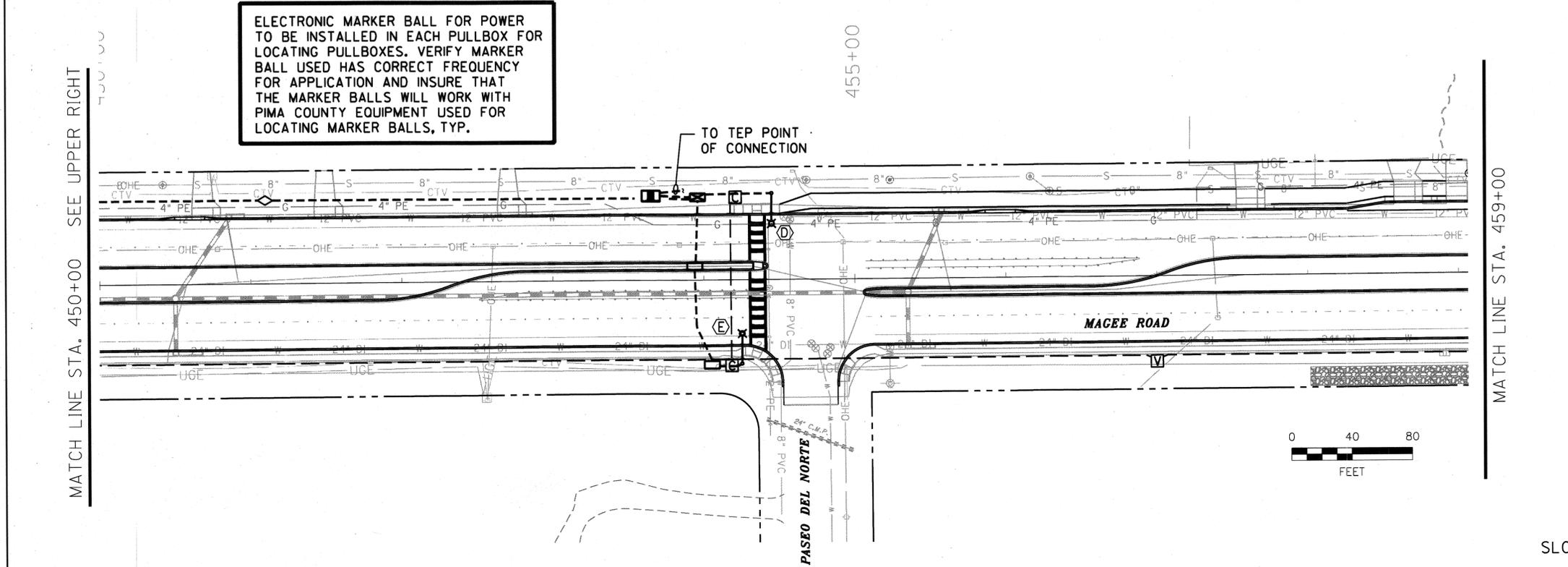
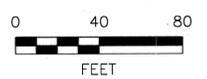
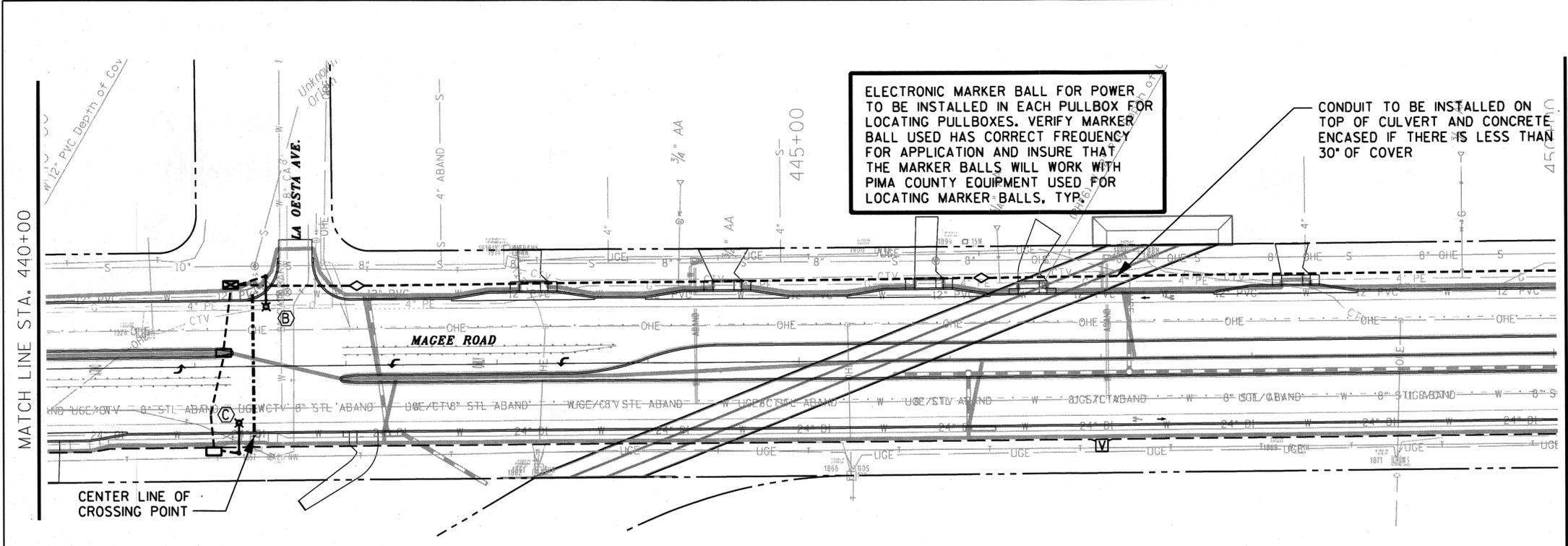
Pima County Department of Transportation

GENERAL NOTES AND CONDUIT SCHEDULE  
 MAGEE RD.  
 LA CAÑADA DR. - ORACLE RD. (SR 77)  
 PROJECT NO. 44R1C0

MONRAD ENGINEERING INC.  
 CONSULTING ELECTRICAL ENGINEERS  
 TUCSON, ARIZONA 85719-2391  
 (602) 884-0045 MI0058

EXPRES 12-31-14

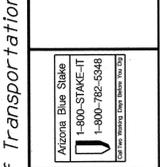
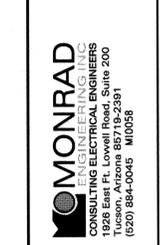
MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 44R1C0



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	185	273	
SS693 OIC					

No.	Revision Description	Engineer	Date

No.	Revision Description	Engineer	Date



Pima County Department of Transportation  
 STREET LIGHTING PLAN SHEET  
 STA. 440+00 TO STA. 459+00  
 MAGEE RD.  
 LA CAÑADA DR. - ORACLE RD. (SR 77)  
 PROJECT NO. 4MRLCO

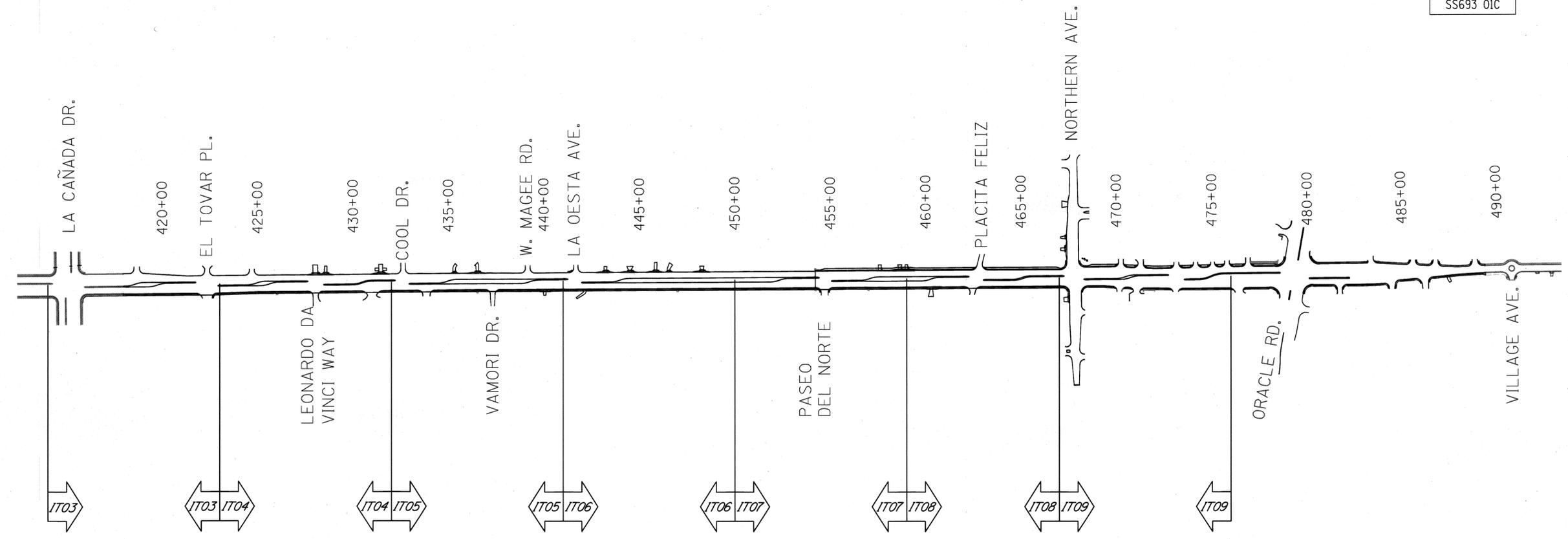
SL03

Scale: 1" = 40' - 0"  
 1" = 40' - 0" Sheet SL03 of SL03

Priscilla S. Cornello, P.E., Director

MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 4MRLCO

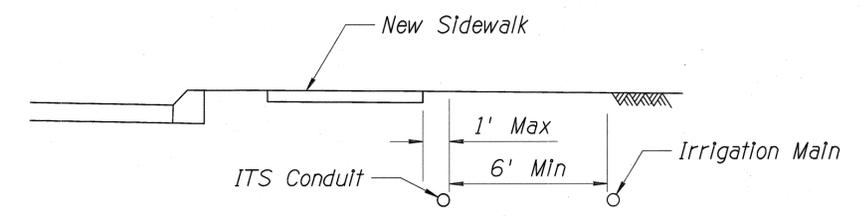
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	186	273	
SS693 OIC					



**ITS SYSTEM SHEET INDEX**  
N.T.S.

- LEGEND:**
- ☐ ITS Vault
  - ⊞ ITS Pull Box (30" x 48")
  - Conduit, Underground

ITEM NUMBER	ITEM DESCRIPTION	UNIT	QUANTITY PER SHEET							TOTAL
			IT03	IT04	IT05	IT06	IT07	IT08	IT09	
7320044	Electrical Conduit (4") (PVC) (Telecommunications)	L.F.	732	900	900	900	1,010	800	44	5,286
7320150	Tracer Wire	L.F.	732	900	900	900	1,010	800	44	5,286
7320459	Vault (Fiber Optic)	EA.	0	1	1	1	1	0	1	5
7320440	Pull Box (Fiber Optic)	EA.	0	0	0	0	2	0	0	2



**TYPICAL CONDUIT SPACING DETAIL**  
N.T.S.

**NOTE:**  
A SIX FOOT MINIMUM SEPARATION IS REQUIRED BETWEEN THE IRRIGATION MAIN AND ITS CONDUIT.

Priscilla S. Cornello, P.E., Director

Date	12/2/12
Designed	MJC/JDB/BN
Drawn	MJC/JDB/BN
Checked	JDS
Proj. Engr.	A.J.H.

Pima County Department of Transportation

ITS SYSTEM SHEET INDEX, SUMMARY & DETAIL SHEET  
MAGEE RD.  
LA CAÑADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

Scale: N.T.S. Sheet IT01 of IT09 Page 186 of 273

**ITS CONDUIT GENERAL NOTES:**

1. ALL EQUIPMENT / MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA COUNTY/ CITY OF TUCSON (PC/COT) STANDARD SPECIFICATIONS AND STANDARD DETAILS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS AND THE APPROVED PLANS.
2. PULLBOXES AND VAULTS SHOWN ON THE PLANS ARE DIAGRAMMATIC REPRESENTATIONS. THE EXACT LOCATION OF EACH VAULT OR PULLBOX SHALL BE APPROVED BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
3. VAULTS SHALL BE USED FOR LONG RUNS OF CONDUIT. THE MAXIMUM SPACING BETWEEN VAULTS IS 1500 FEET. A VAULT SHALL BE INSTALLED ON ONE CORNER OF EVERY SIGNALIZED OR FUTURE SIGNALIZED INTERSECTION AS SHOWN ON APPROVED PLANS.
4. EVERY SIGNALIZED INTERSECTION OR FUTURE SIGNALIZED INTERSECTION SHALL BE RINGED WITH INTERCONNECT CONDUIT. ON THE THREE CORNERS OF THE INTERSECTION NOT CONTAINING THE VAULT, ITS PULLBOXES SHALL BE UTILIZED. THE MAXIMUM SPACING BETWEEN ITS PULLBOXES OR BETWEEN AN ITS PULLBOX AND A VAULT SHALL BE 600 FEET.
5. AT ALL SIGNALIZED INTERSECTIONS, A 1.5 INCH PVC CONDUIT SHALL BE INSTALLED FROM THE TRAFFIC SIGNAL CONTROLLER TO THE ADJACENT ITS PULLBOX OR VAULT.
6. THE TOP OF THE VAULTS AND PULLBOXES SHALL BE LEVEL WITH THE SURROUNDING FINISHED GRADE. IF THE SLOPE OR SHOULDER DROPS OFF FROM FINISHED GRADE, THE CONTRACTOR SHALL GRADE AROUND POLE FOUNDATION. THE TOP OF THE FOUNDATION SHALL EXTEND NO MORE THAN 4 INCHES ABOVE SURROUNDING FINISHED GRADE.
7. VAULTS SHALL MAINTAIN A MINIMUM OF SIX (6) FEET HORIZONTAL DISTANCE FROM EXISTING WATER MAINS, MEASURED FROM OUTSIDE OF THE WALL OF THE VAULT TO THE OUTSIDE OF PIPE WALL.
8. ITS PULLBOXES SHALL BE A 30 INCHES X 48 INCHES PENCELL BOX OR APPROVED EQUAL.
9. VAULTS SHALL BE PRECAST CONCRETE WITH A MINIMUM OUTSIDE DIMENSION OF 48 INCHES LONG BY 48 INCHES WIDE BY 50 INCHES HIGH.
10. PULLBOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS OR LANDINGS. IN ADDITION, ANY PULLBOXES INSTALLED BEHIND CURBS SHALL BE INSTALLED BETWEEN THE CURB AND THE PROPOSED / FUTURE SIDEWALK OR BEYOND THE PROPOSED/FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE WOULD BE PULLBOXES INSTALLED IN A MEDIAN. ANY PULLBOXES INSTALLED ALONG AN UNCURBED ROADWAY SHALL BE INSTALLED 10 FEET FROM EDGE OF PAVEMENT TO EDGE OF PULLBOX WHERE RIGHT-OF-WAY PERMITS OR AS FAR FROM PAVEMENT AS PRACTICAL WHEN THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE THE 10 FOOT OFFSET.
11. A THREE-QUARTER (¾) INCH X TEN (10) FOOT GROUND ROD SHALL BE INSTALLED IN EVERY ITS VAULT AND ITS PULLBOX. TWO (2) GROUND ROD CLAMPS SHALL BE FURNISHED AND INSTALLED FOR EACH GROUND ROD FOR CLAMPING THE GROUND WIRE.
12. THE CONDUIT LOCATIONS SHOWN ON THE APPROVED PLANS ARE DIAGRAMMATIC REPRESENTATIONS ONLY. THE LOCATION OF THE CONDUIT MAY BE ADJUSTED IN THE FIELD TO AVOID CONFLICTS. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO INSTALLATION. ALL CONDUITS SHALL BE INSTALLED WITHIN EXISTING RIGHT-OF-WAY UNLESS OTHERWISE APPROVED.
13. CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS, THAT ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.

14. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 36 INCHES BELOW FINISHED GRADE, EXCEPT WHEN CONDUITS CROSS CULVERTS OR ARE ROUTED ALONG BRIDGE AND WING WALLS. ANY CONDUIT INSTALLED LESS THAN 36 INCHES DEEP SHALL BE ENCASED IN CONCRETE PER PC/COT STANDARD SPECIFICATIONS.
15. ONLY NEW CONDUIT SHALL BE INSTALLED. ALL ITS INTERCONNECT CONDUIT SHALL BE FOUR (4) INCH PVC SCHEDULE 40 UNLESS NOTED OTHERWISE. CONDUIT ADJACENT TO CURB SHALL BE INSTALLED SIX (6) INCHES BEHIND THE BACK OF CURB AND 42 INCHES BELOW THE TOP OF CURB.
16. ALL CONDUITS SHALL BE CLEANED BY COMPRESSED AIR. A PROPERLY SIZED CONDUIT PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO INNERDUCT INSTALLATION.
17. WHEN SHOWN ON THE PLANS, FOUR (4) EACH – ONE (1) INCH INNERDUCTS SHALL BE INSTALLED WITHIN INTERCONNECT CONDUIT.
18. WHEN INCLUDED ON THE PLANS, INNERDUCTS SHALL BE PRE-LUBRICATED WITH SMOOTH EXTERIOR WALLS AND LONGITUDINALLY RIBBED INTERIOR WALLS. INTERNAL SPACERS WHICH EXPAND AND CONTRACT AT THE SAME RATE AS THE INTERCONNECT CONDUIT SHALL BE INSTALLED. ANTI-REVERSING GASKETS AND AN O-RING GASKET AT THE BELL BASE ARE REQUIRED. INNERDUCTS SHALL BE CLARON TELECOM SYSTEMS MULTI-GARD BRAND OR EQUIVALENT. EACH INNERDUCT WITHIN A SINGLE CONDUIT SHALL BE OF A DIFFERENT COLOR (ORANGE, BROWN, BLUE, AND BLACK).
19. IF INNERDUCTS ARE INSTALLED, ALL INTEGRAL INNERDUCTS SHALL HAVE A CONTINUOUS NON-SPLICED, UNKNOTTED DETECTABLE 1,250 POUND TEST MULE TAPE INSTALLED.
20. CONDUITS FOR FUTURE USE SHALL BE SEALED WITH A PROPERLY SIZED TAPERED POLYETHYLENE DUCT PLUG AT EACH TERMINATION POINT. THE #8 BARE BOND WIRE SHALL BE LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.
21. WHEN THE CONDUIT IS INSTALLED BY OPEN TRENCHING AN ELECTRONICALLY DETECTABLE SIX (6) INCH FIBER WARNING TAPE SHALL BE INSTALLED 18 INCHES ABOVE THE INTERCONNECT CONDUIT. THE TAPE SHALL BE ORANGE AND HAVE THE INSCRIPTION "CAUTION – FIBER OPTIC CABLE BURIED BELOW".
22. A GREEN TRACER CONDUCTOR SHALL BE INSTALLED WITHIN EACH INTERCONNECT CONDUIT. THE CONDUCTOR SHALL BE A CONTINUOUS UNSPLICED STRANDED CU 6 AWG, RATED FOR 600 VOLTS, AND SHALL HAVE THW OR XHHW INSULATION. TRACER CONDUCTOR SHALL BE INSTALLED ON THE OUTSIDE OF THE INNERDUCTS IF INNERDUCTS ARE INSTALLED.
23. FOR ALL CONDUIT INSTALLED, A MINIMUM HORIZONTAL SEPARATION OF 6 FEET SHALL BE MAINTAINED FROM LANDSCAPE IRRIGATION MAINLINES OR WATER LINES..
24. A MINIMUM HORIZONTAL SEPARATION OF 24 INCHES SHALL BE MAINTAINED FROM ALL GAS LINES.
25. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.
26. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH A TIME AS THE WORK IS COMPLETE. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY PIMA COUNTY AND APPROVED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES ON FEDERALLY FUNDED PROJECTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY ADOT AND APPROVED BY THE ENGINEER.
27. PAYMENT FOR ITS VAULTS SHALL BE COMPENSATED UNDER BID ITEM NO. 7320459 – VAULT (FIBER OPTIC).

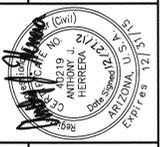
28. PAYMENT FOR CONDUIT, UNDERGROUND SHALL BE COMPENSATED UNDER BID ITEM NO. 7320044 – ELECTRICAL CONDUIT (4") (PVC) (TELECOMMUNICATIONS).
29. PAYMENT FOR NO. 6 TRACER WIRE SHALL BE COMPENSATED UNDER BID ITEM NO. 7320150 – TRACER WIRE.
30. PAYMENT FOR ITS PULL BOXES SHALL BE COMPENSATED UNDER BID ITEM NO. 7320440 – PULL BOX (FIBER OPTIC).

**RESPONSIBILITIES:**

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY ALL GOVERNMENTAL AGENCIES.
2. THE CONTRACTOR SHALL CONTACT BLUE STAKE AT 1-800-782-5348, A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY EXCAVATION.
3. THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS TO ALL PIMA COUNTY WASTE WATER MANHOLES LOCATED WITHIN THE ROW. ACCESS MUST BE MAINTAINED 24 HOURS PER DAY, SEVEN DAYS PER WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN SIX FEET OF A FORCE MAIN.
4. THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING/POTHOLING UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED POLE FOUNDATIONS.
5. ANY EQUIPMENT AND/OR UTILITIES WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DESTROYED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.
6. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT AND MATERIALS AS SPECIFIED ON THE APPROVED PLANS AND IN THE PROJECT SPECIFICATIONS.
7. UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL AS PART OF THIS PROJECT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR/RESTORE ANY LANDSCAPING, IRRIGATION, OR HARDSCAPE THAT MAY HAVE BEEN DAMAGED OR DISTURBED BY THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE OPERATIONS DIVISION PUBLIC WORKS SUPERVISOR (740-5969) BEFORE ANY PLANTS ARE MOVED.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	187	273	
SS693 01C					

Date	MDC/DOB/BBN	MDC/DOB/BBN	JDS	A/H
Designed				
Drawn				
Checked				
Proj. Engr.				



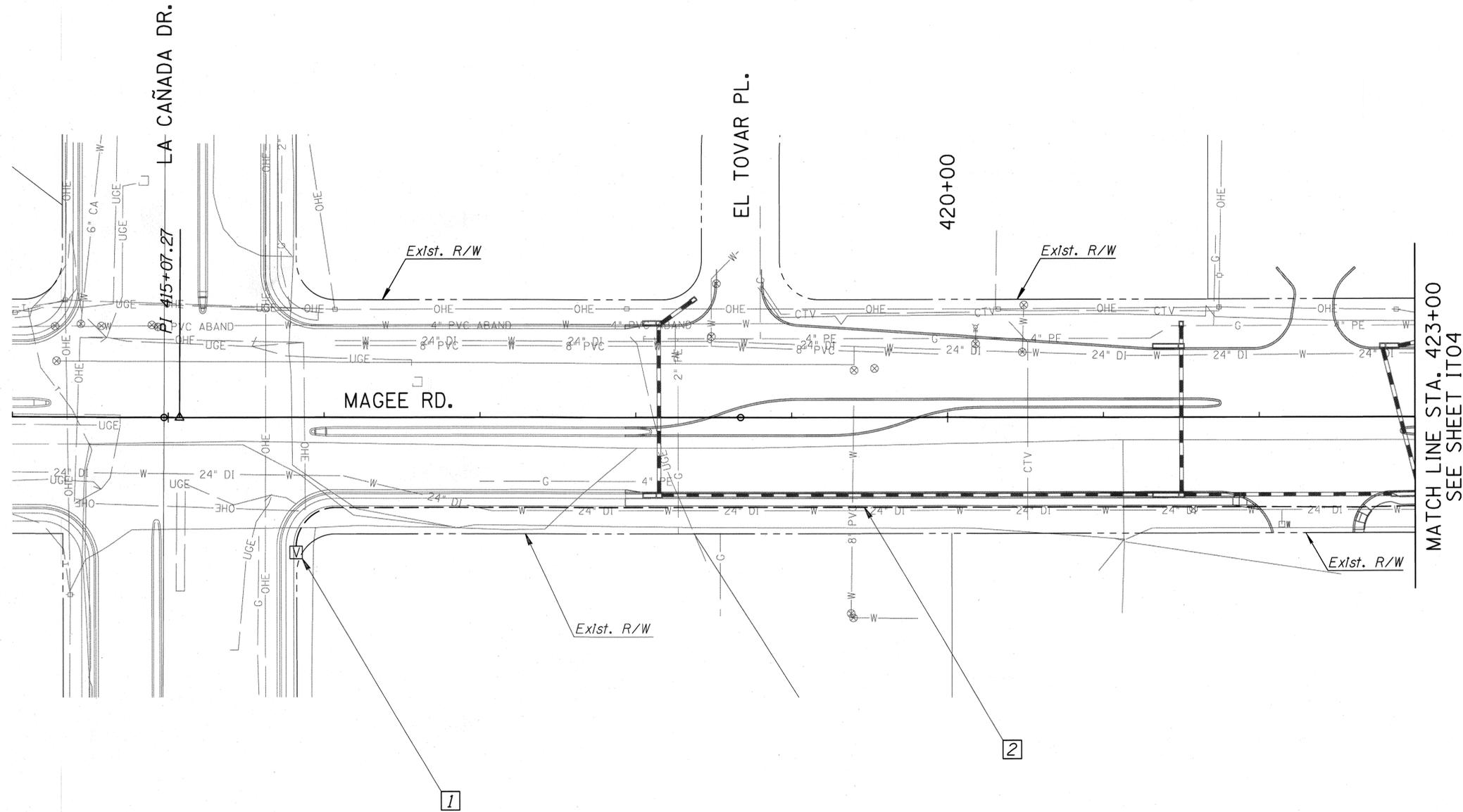
Pima County Department of Transportation  
 ITS SYSTEM SHEET  
 ITS CONDUIT GENERAL NOTES  
 MAGEE RD.  
 LA CAÑADA DR. - ORACLE RD. (SR 77)  
 PROJECT NO. 4MRLCO

Priscilla S. Cornello, P.E., Director

MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 4MRLCO

**KEYNOTES**

- 1 Connect new ITS conduit to existing fiber optic vault (Sta. 415+82, 87' Rt.) per sheet No. 7-04 of the PCDOT Street Lighting and ITS Conduit Design Manual.
- 2 Install new 4 inch fiber optic conduit with a No. 6 tracer wire - 732 L.F. of conduit and 732 L.F. of tracer wire.



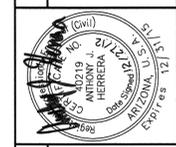
MATCH LINE STA. 423+00  
SEE SHEET IT04

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(209)D	188	273	

SS693 OIC



No.	Revision Description	Engineer	Date



**geps group, inc.**  
Engineers, Planners & Surveyors  
6700 N. Thompson Rd., Ste. 100, Tucson, Arizona 85748  
Phone: (520) 404-0000

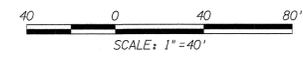
Arizona Blue Stamp  
Professional Engineer  
ANTHONY J. HERRERA  
#21700

ITS SYSTEM SHEET  
MAGEE RD.  
LA CAÑADA DR. - ORACLE RD. (SR 77)  
PROJECT NO. 4MRLCO

Priscilla S. Cornello, P.E., Director

Plima County Department of Transportation

MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE RD. (SR 77) - PROJECT NO. 4MRLCO



**KEYNOTES**

- 1 Install new fiber optic vault (Sta. 426+00, 54.5' Rt.) per Sheet No. 7-04 of the PCDOT Street Lighting and ITS Conduit Design Manual - 1 EA.
- 2 Install new 4 Inch fiber optic conduit with a No. 6 tracer wire - 900 L.F. of conduit and 900 L.F. of tracer wire.
- 3 The Contractor may be required to encase the fiber optic conduit in concrete in this area.

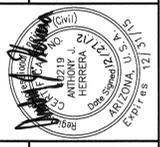
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	189	273	
SS693 01C					



Priscilla S. Cornello, P.E., Director

Date	Checked	Drawn	Designed
12/12	AJH	JDS	MDC/JDB/BGN
12/12	AJH	JDS	MDC/JDB/BGN
12/12	AJH	JDS	MDC/JDB/BGN

No.	Revision Description	Engineer	Date



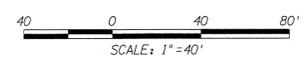
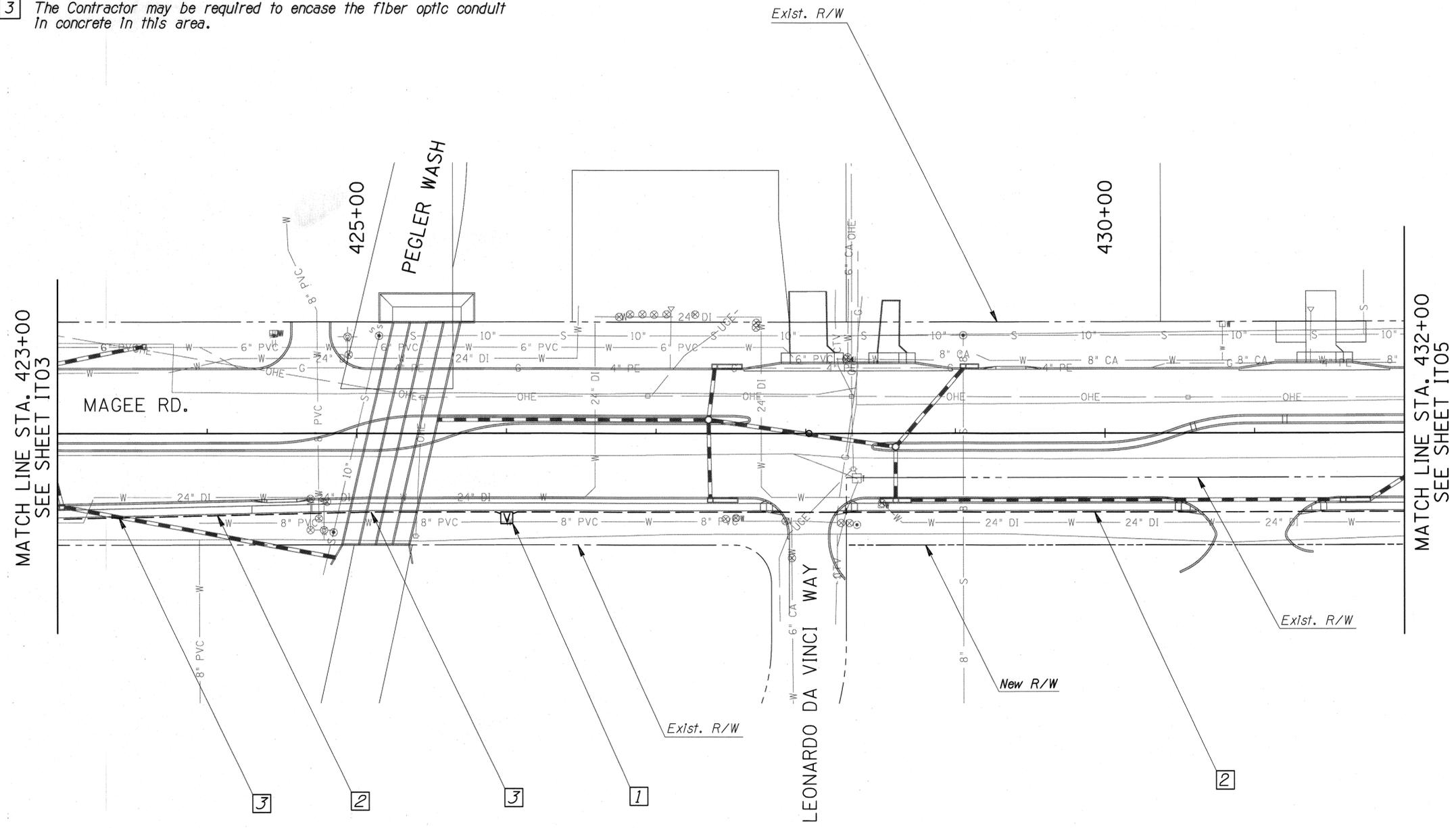
**eps group, inc.**  
 Engineers, Planners & Surveyors  
 1-800-STAKE-IT  
 1-800-782-5945  
 1000 W. WINDY HOLLOW DRIVE, SUITE 100  
 TUCSON, ARIZONA 85719

Pima County Department of Transportation



ITS SYSTEM SHEET  
 MAGEE RD. - ORACLE RD. (SR 77)  
 PROJECT NO. 4MRLCO

MAGEE RD. IMPROVEMENTS - LA CAÑADA DR. TO ORACLE DR. (SR 77) - PROJECT NO. 4MRLCO



**KEYNOTES**

- 1 Install new fiber optic vault (Sta. 436+50, 54.5' Rt.) per Sheet No. 7-04 of the PCDOT Street Lighting and ITS Conduit Design Manual - 1 EA.
- 2 Install new 4 Inch fiber optic conduit with a No. 6 tracer wire - 900 L.F. of conduit and 900 L.F. of tracer wire.
- 3 The Contractor may be required to encase the fiber optic conduit in concrete in this area.

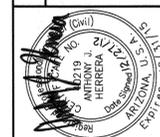
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-012091D	190	273	

SS693 01C



Priscilla S. Cornello, P.E., Director

No.	Revision Description	Engineer	Date



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Pima County Department of Transportation

ITS SYSTEM SHEET  
 MAGEE RD.  
 LA CAÑADA DR. - ORACLE RD. (SR 77)  
 PROJECT NO. 4MRLCO

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