CITY OF PRESCOTT
Everybody's Hometown

Willow Creek Road Realignment Project

Project Specifications
and
Contract Documents

DESCRIPTION:	The Willow Creek Road Realignment Project scope of work shall generally include the construction of a realigned Willow Creek Road (WCR) between Pioneer Parkway and the Deep Well Ranch Road Roundabout. The work consists of topographic survey of a new alignment. This includes grading of new ROW, drainage facilities, construction of new roadway and approximately 7,500 lf of 12 - inch waterline from intersection of Willow Creek Road / Pioneer Parkway to the existing main at the intersection of McCurdy Drive / Clubhouse Drive.
SPONSOR:	CITY OF PRESCOTT, ARIZONA
PROJECT NUMBER:	16-2157810 8930 14017
BID OPENING:	October 15, 2015 at 2:00 PM Prescott City Council Chambers 201 S. Cortez Street, Prescott, Arizona 86303
PREPARED BY:	Public Works Department

September 2015

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SPECIAL NOTICE

BIDS WILL BE RETURNED UNOPENED IF NOT SUBMITTED PROPERLY SEALED AND PRIOR TO THE TIME SET FORTH IN THE NOTICE INVITING BIDS. ADDENDA SHALL BE ATTACHED INSIDE THE FRONT COVER OF THIS BOOKLET.

BIDS SHALL BE ENCLOSED IN SEALED ENVELOPES, ADDRESSED TO THE CITY OF PRESCOTT AND MARKED ON THE OUTSIDE LOWER RIGHT-HAND CORNER INDICATING:

1. The Bidder's name;
2. The Project Title;
3. The Time and Date bids are to be received;
4. Acknowledgment of Addenda received.

NOTICE INVITING BIDS

PROJECT: Willow Creek Road Realignment Project

DESCRIPTION: The Willow Creek Road Realignment Project scope of work shall generally include the construction of a realigned Willow Creek Road (WCR) between Pioneer Parkway and the Deep Well Ranch Road Roundabout. The work consists of topographic survey of a new alignment. This includes grading of new ROW, drainage facilities, construction of new roadway and approximately 7,500 lf of 12 - inch waterline from intersection of Willow Creek Road / Pioneer Parkway to the existing main at the intersection of McCurdy Drive / Clubhouse Drive.

BID OPENING: October 15, 2015, 2:00 PM

MANDATORY PRE-BID MEETING: Thursday, October 1, 2015 at 10:00am in the Public Works Conference Room.

BID SECURITY REQUIRED: Certified check, cashier's check or bid bond in the amount of not less than 10% (TEN PERCENT) of the bid.

Sealed bids will be received at the Office of the City Clerk, addressed to the attention of the City Clerk, City of Prescott, 201 S. Cortez Street, Prescott, AZ 86303, before 2:00 pm on Thursday, October 15, 2015 for furnishing all plant, materials, and labor and performing work for construction of the Willow Creek Road Realignment Project.

The outside of the bid envelope shall indicate the name and address of the bidder, and shall be marked: "Bid: Willow Creek Road Realignment Project." All bids will be opened and read aloud at 2:00 pm on Thursday, October 15, 2015 in the Office of the City Clerk.

Any bid received at or after 2:00 pm on the above stated date will be returned unopened. The City of Prescott reserves the right to accept or reject any or all bids, and/or some or all of the alternates bid, and waive any informality deemed in the best interest of the City and to reject the bids of any persons who have been delinquent or unfaithful to any contract with the City of Prescott.

Copies of the Notice Inviting Bids, plans and contract documents, specifications, and necessary information are available for public inspection in the office of the Public Works Director, 433 N. Virginia Street, Prescott, Arizona, 86301, (Voice: (928) 777-1130; TDD: 777-1100) and on the City's website: http://www.prescott-az.gov/business/bids/. Those interested in having individual sets of the Contract Documents may obtain them from the City's website or by payment of $435.00 per set, which cost is non-refundable. A non-refundable check for $20.00 will be required for mailing.

Candace Manibusan, Contract Specialist
PUBLISHED: 2TC September 20, 2015 and September 27, 2015

INFORMATION FOR BIDDERS

PROPOSAL. All standard specifications and details referenced unless otherwise noted shall conform to all the City of Prescott Standard Specifications and Detail Drawings, most current revision, and to the most current edition of the Uniform Standard Specifications and Details for Public Works Construction by the Maricopa Association of Governments, Arizona, including revisions thereto.

BIDDING REQUIREMENTS AND CONDITIONS. MAG Specifications, Sections 102.1 through 102.13, including: Bids shall be delivered to the office of the City Clerk, City of Prescott, Arizona, before the day and hour set for the submittal of bids in the Notice Inviting Bids as published. Bids shall be enclosed in a sealed envelope bearing the title of the work and the name of the bidder. 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.

IRREGULAR PROPOSALS. MAG Specifications Section102.7, including: (f) if the bid is mathematically unbalanced, and (g) if the bid is materially unbalanced.

CONFIRMATION OF BID. At any time after the opening of the bids the Public Works Director may require any bidder on the project to confirm such bid in writing prior to contract award. The following certification language shall be submitted by separate letter on company letterhead when requested by the Public Works Director:

I, the undersigned hereby certify the prices bid for the _____ Project have been reviewed and I hereby confirm work can be completed in accordance with the requirements of the contract documents, plans and specifications in the total bid amount of $_____ as stated in the Bidding Schedule.

EXPERIENCE AND QUALIFICATIONS. When requested by the City, the Bidder shall supply a list of all public projects begun within the previous three (3) years prior to contract award. The project list shall contain all public projects entered into by the Bidder and shall include the project name and location, original and final contract amounts, project status and a contact name and information. The Bidder shall provide a description and explanation for any projects that were not completed successfully. Failure to provide complete and factual information may be grounds for rejection of the bid in accordance with City Procurement Code Section 1-27-1.18(K).

SUBCONTRACTORS LIST BID FORM. The Subcontractors List Bid Form must be completed, attached and submitted along with the Bidding Schedule.

BID SECURITY. A bid bond in the amount of 10% of the bid shall be required at the time the bid or proposal is submitted, in accordance with ARS Section 34-201(A)(3).

WITHDRAWAL OF BID. Any bidder may withdraw his bid, either personally, telegraphic, or by written request, at any time prior to the scheduled closing time for receipt of bids.

INTERPRETATION OF PLANS AND DOCUMENTS. MAG Specifications, Section 102.4, including: If any person contemplating submitting a bid for the 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 or Specifications, he shall submit to the City of Prescott Public Works Director a written request for an interpretation or correction thereof no later than five working days before bid or proposal opening. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents will be made or delivered to each person receiving a set of such documents. Interested bidders may call or visit the

office of the City of Prescott Public Works Director with any questions up to 5:00 PM on the last Thursday prior to the bid opening date. The City of Prescott will no longer address or interpret any general questions or comments after 5:00 PM on the last Thursday prior to the bid opening date. Comments or questions received after the above referenced time will not be given consideration by the Department. Should any issue be determined significant to the project by the Public Works Director, appropriate action will be taken. Voice: (928) 777-1130; TDD (928) 777-1100.

PRE-AWARD CONFERENCE. The City may require the apparent low bidder to attend a Pre-award conference in order to establish that the Contractor fully understands the scope, complexity and expectations of the project as described in the Contract Documents; to discuss issues, concerns, risk areas and how to minimize them within the bounds of the contract; and to determine that the apparent low bidder is the most responsible and/or most qualified bidder in accordance with City Procurement Code Section 1-27-1.18(K).

The purpose of the Pre-award Conference is to ensure that all participants are apprised of their responsibilities and obligations regarding all applicable laws, rules, regulations and Ordinances contained in the contract documents prior to entering into a contract.

AWARD AND EXECUTION OF CONTRACT. MAG Specifications, Section 103.1 through 103.8, Award of Contract, first paragraph, 103.1, to be revised as follows:

The Contract will be awarded to the lowest qualified bidder complying with these instructions and with the Notice Inviting Bid. The City, however, reserves the right to accept or reject any or all bids if it deems it best for the public good, and to waive any informality in the bids received. The award, if made, will be within sixty (60) calendar days after the opening of bids.

ASSIGNMENT OF CONTRACT. No partial or full assignment by the Contractor of any contract to be entered into hereunder, or any part thereof, or of funds to be received there under by the Contractor, will be recognized by the City unless such assignment has had prior written approval of the City and the surety has been given due notice of such assignment in writing and has been given due notice of such assignment in writing and has consented thereto in writing.

PLANS AND SPECIFICATIONS TO SUCCESSFUL BIDDER. The successful bidder may obtain six (6) sets of Plans and Specifications for this project at no extra cost. If he desires more than the six (6) sets, he may purchase additional sets of Plans and Specifications from the Public Works Director at the cost set forth in the Notice Inviting Bids.

NON-PERFORMANCE OF WORK TASKS BY THE CONTRACTOR. If the Contractor fails, neglects, or refuses to perform work tasks necessary for the completion of the total job; replace defective work; to repair or resurface, in a manner that is acceptable to the City and Engineer, public rights-of-way disturbed by his work which are a nuisance, hazard, impedes or endangers vehicular traffic and the public; the City may serve written notice upon the Contractor of its intention to have the work performed by others. Unless, within 3 calendar days after the service of such notice, the Contractor has made such arrangement & scheduled the accomplishment of said work tasks to the satisfaction of the City & Engineer, the City will proceed to have the work accomplished by others or by itself & deduct the costs thereof from amounts due to the Contractor.

INDEMNIFICATION OF CITY AGAINST LIABILITY. The Contractor shall defend, indemnify and hold harmless the City of Prescott, its departments, officers, officials, agents, and employees (hereinafter referred to as "Indemnitee") from and against any and all claims, actions, liabilities, damages, losses, or expenses (including court costs, attorneys' fees and costs of claim processing, investigation and litigation) (hereinafter referred to as "Claims") for bodily injury or personal injury (including death), or loss or damage to tangible or intangible property caused, or alleged to be caused,

in whole or in part, by the negligent or willful acts or omissions of the Contractor or any of its owners, officers, directors, agents, employees or subcontractors. This indemnity includes any claim or amount arising out of or recovered under Worker's Compensation Law or arising out of failure of such contractor to conform to any federal, state or local law, statute, ordinance, rule, regulation or court decree. It is the specific intentions of the parties that the Indemnitee shall, in all instances, except for Claims arising solely from the negligent or willful acts of Indemnitee, be indemnified by Contractor from and against any and all claims. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the City of Prescott, its departments, officers, officials, agents, and employees for losses arising from the work performed by the Contractor for the City of Prescott.

DEFINITIONS. According to MAG Specifications, Section 101.2, including:

A. AWARD: The formal action of the governing body in accepting a proposal.

B. BID SECURITY: Refers to the certified check, cashier's check, or surety bond, which is required to be submitted with the proposal to insure execution of the contract and the furnishing of the required bonds.

C. CITY: City of Prescott

D. CITY'S REPRESENTATIVE: The authorized representative of the City, which may be an individual or a firm, or his assistants assigned to the project work, the project site, or any part thereof during the performance of the work by the Contractor and until final acceptance.

E. PUBLIC WORKS DIRECTOR: The City of Prescott Public Works Director or his designee, representative or assistants.

F. DESIGN ENGINEER: The firm or person and his properly authorized assistants, designated by the City to prepare Plans and Specifications for the work.

G. NOTICE TO BIDDERS: Refers to the standard forms inviting proposals or bids.

H. MATERIALLY UNBALANCED BID: A bid that generates a reasonable doubt that award to the bidder submitting a mathematically unbalanced bid will result in the lowest ultimate cost to the City.

I. MATHEMATICALLY UNBALANCED BID: A bid containing lump sum or unit bid prices that do not reflect reasonably anticipated actual costs plus a reasonable proportionate share of the bidder's anticipated profit, overhead costs, and other indirect costs.

ADDENDA. MAG Specifications, Sections 102.1 through 102.13, including: Any Addenda issued during the time of bidding, forming a part of the documents issued to the bidder for the preparation of his bid, shall be covered in the bid and shall be made a part of the contract. Addenda may be issued until noon on the Monday prior to the bid opening date. It is the prospective bidder's responsibility to check for addenda related to this procurement. Addenda will be posted on the City's website at http://www.prescott-az.gov/business/bids/.

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		ROADWAY IMPROVEMENTS				
1	100.4	Public Relations Allowance	LS	1	$8,000.00	$8,000.00
2	104.3	Mobilization	LS	1		
3	105.8	Construction Staking	LS	1		
4	107.1	Storm Water Pollution Prevention Plan Implementation	LS	1		
5	107.1	Storm Water Pollution Prevention Plan Submittal	LS	1		
6	109.1	Contract Allowance	LS	1	$640,000.00	$640,000.00
7	201.1	Clearing & Grubbing	Acre	25		
8	205.1	Earthwork and Roadway Excavation	CY	80,827		
9	205.2	Crown Ditch	LF	1,408		
10	205.3	Topsoil Plating	SY	6,375		
11	206.1	Structural Excavation	CY	1,439		
12	206.2	Structure Backfill	CY	1,739		
13	206.3	Select Material (MAG Spec Sec 702, Type B)	CY	144		
14	220.1	Dumped Riprap w/ Filter Fabric (D50=18")	CY	323		
15	220.3	Dumped Riprap w/ Filter Fabric (D50=6")	CY	47		
16	220.4	Rock Mulch w/ Filter Fabric (D50=4")	CY	2,421		
17	220.5	Riprap (Slope Mattress)	CY	169		
18	220.6	Riprap (Gabion Basket)	CY	46		
19	300.1	Sawcutting (Full Depth AC Pavement)	LF	780		
20	301.1	Furnish Water	LS	1		
21	310.5	Aggregate Base Course (YAG 310)	CY	15,495		
22	310.6	Aggregate Base Course (ADOT Class 2)	CY	169		
23	310.7	Crushed Aggregate (COP Std Det 612P)	CY	7		
24	310.8	Granite Mulch	SY	529		
25	321.1	Asphaltic Concrete Pavement (MAG C-3/4" Gyratory Mix) (High Traffic)	Ton	8,470		

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
26	321.2	Asphaltic Concrete Pavement (ADOT Misc Structural) (3/4" Special Mix)	Ton	227		
27	325.1	Asphalt Rubber Surface Course (MAG 325)	Ton	5,580		
28	328.1	Bituminous Tack Coat (MAG 329)	Ton	17		
29	328.2	Bituminous Tack Coat (ADOT 404)	Ton	1		
30	329.1	Fog Coat (ADOT 404)	Ton	1		
31	331.1	Microseal (Type II)	SY	8,337		
32	340.1	Concrete Single Curb (YAG Std Det 222, Type A)	LF	364		
33	340.1	Concrete Vertical Curb & Gutter (COP Std Det 220P-1)	LF	340		
34	340.1	Concrete Mountable Curb & Gutter (MAG Std Det 220-2, Type E)	LF	20		
35	340.1	Concrete Median Nose Transition (YAG Std Det 223)	SF	36		
36	340.1	Concrete Single Curb (ADOT Std Det C-05.10, Type A)	LF	366		
37	340.2	Concrete Vertical Curb & Gutter (ADOT Std Det C-5.10, Type D)	LF	435		
38	340.2	Concrete Sidewalk (ADOT Std Det C-05.20)	SF	584		
39	340.2	Sidewalk Ramp (ADOT Std Det C-05.30, Type C)	SF	141		
40	350.1	Remove Asphaltic Concrete Pavement (Full Depth)	SY	5,306		
41	350.1	Remove Traffic Sign Panel, Post & Foundation	EA	26		
42	350.2	Remove Guardrail	LF	406		
43	350.3	Remove Tangent End Terminal	EA	2		
44	350.4	Remove Structural Concrete	CY	137		
45	350.5	Remove Riprap	SY	160		
46	350.6	Remove Barbed Wire Fence & Gates	LF	11,011		
47	350.7	Remove Concrete Curb & Gutter	LF	117		
48	350.8	Remove Concrete Sidewalk	SF	10		
49	350.9	Remove Extruded Curb	LF	42		
50	401.7a	Traffic Control Plan	LS	1		
51	401.7b	Flaggers	HR	120		

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
52	401.7c	Certified Police Personnel Allowance	HR	80	$70.00	$5,600.00
53	401.7d	Barricades and Storage	LS	1		
54	401.7e	Message Boards	EA-DAY	800		
55	401.7g	Incidental Traffic Related Items	LS	1		
56	402.1	Obliterate Existing Striping	LF	5,975		
57	402.1	Obliterate Existing Pavement Markings (Arrow, Symbol or Legends)	EA	12		
58	402.2a	Thermoplastic Striping - White	LF	26,830		
59	402.2b	Thermoplastic Striping - Yellow	LF	16,530		
60	402.2c	Thermoplastic Turn Arrow - White	EA	17		
61	402.2d	Thermoplastic Legend - White	EA	6		
62	402.4a	Permanent Striping - Yellow Paint	LF	14,360		
63	402.4b	Permanent Striping - White Paint	LF	24,470		
64	402.4c	Permanent Painted Marking (Arrow, Symbol or Legend)	EA	23		
65	402.4d	Paint Bullnose	EA	3		
66	402.5d	Raised Pavement Markers, Type D	EA	4		
67	402.5e	Raised Pavement Markers, Type G	EA	4		
68	403.1a	Sign Posts and Delineators	EA	47		
69	403.1c	Regulatory, Warning or Marker Sign Panel	SF	373		
70	403.1d	Flat Sheet Aluminum Sign Panel	SF	32		
71	403.1e	Extruded Aluminum Sign Panel	SF	360		
72	403.1f	Foundation for Sign Post (Concrete)	EA	20		
73	403.1g	Slip Base	EA	10		
74	403.1i	Perforated Sign Post (2 1/2 S)	LF	74		
75	403.1j	Perforated Sign Post (2 1/2 T)	LF	38		
76	403.1k	Breakaway Sign Post (S4x7.7)	LF	47		
77	403.1l	Breakaway Sign Post (W6x12)	LF	143		

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
78	403.1m	Type A Barricade	EA	2		
79	403.1n	Relocate Traffic Sign Panel, Remove Post & Foundation	EA	9		
80	404.1	Loop Detector for Traffic Signals (6'x6')	EA	4		
81	405.3	Survey Marker (YAG Std Det 120-1, Type A)	EA	2		
82	405.3	Survey Marker (YAG Std Det 120-1, Type B)	EA	10		
83	405.3	Survey Marker (YAG Std Det 120-1, Type C)	EA	11		
84	415.1	W-Beam Guardrail (ADOT Std Det C-10.02, Type B)	LF	413		
85	415.2	Tangent End Treatment (Det A)	EA	2		
86	415.3	Nested W-Beam Guardrail (ADOT Std Det C-10.06, Type 3)	LF	38		
87	415.4	End Anchor Assembly (ADOT Std Det C-10.08)	EA	2		
88	420.1	Barbed Wire Game Fence (ADOT Std Det C-12.10)	LF	1,926		
89	420.2	24' Double Swing Gate (ADOT Std Det C-12.10, Type 1)	EA	3		
90	420.3	12' Single Swing Gate (ADOT Std Det C-12.10, Type 1)	EA	1		
91	420.4	Flood Gate	LF	50		
92	420.5	Temporary Fence (Install & Remove)	LF	411		
93	432.0	Seeding (Hydraulic)	Acre	18		
94	471.1a	Electrical Conduit (1.5")	LF	465		
95	471.1b	No. 5 Pull Boxes	EA	2		
96	471.1c	Signal Conductors	LS	1		
97	476.1a	Traffic Signal Head (Type F)	EA	4		
98	476.1b	Traffic Signal Mounting Assembly (Type II)	EA	4		
99	505.1.1c	Concrete Catch Basin (ADOT Std C-15.20)(Type 3)	EA	1		
100	505.1.1E	Concrete Box Culvert (10'x10')(ADOT Std Det SD 6.01)	LF	21		
101	505.1.2E	Concrete Box Culvert (12'x12')(ADOT Std Det SD 6.01)	LF	192		
102	505.1.2G	Concrete Retaining Wall (H=14')(ADOT Std Det SD 7.01)	SF	1,638		
103	505.1.3E	Concrete Inlet Wingwall (ADOT Std Det SD 6.08)	SF	1,312		

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
104	505.1.3G	Concrete Retaining Wall (H=16')(ADOT Std Det SD 7.01)	SF	720		
105	505.1.4E	Concrete Outlet Wingwall (ADOT Std Det SD 6.08)	SF	1,578		
106	505.1.5E	Concrete Wingwall (Level) (ADOT Std Det SD 6.10)	SF	228		
107	505.1.6E	Concrete Apron (Det D3)	SF	1,588		
108	505.1.7E	Dowels (ADOT Std Det SD 6.01)	EA	86		
109	505.1d	Concrete Scupper (Det B)	EA	3		
110	520.1	Safety Rail (COP Std Det 145P)	LF	574		
111	610.11d	Private Waterline Removal and Installation (1")	LF	158		
112	615.1a	Sanitary Sewer Protection	EA	1		
113	618.1a	Shallow SD Manhole, Apron and Grated Inlet (Det DB)	EA	1		
114	618.4a	42" RCP Culvert (Class II)	LF	82		
115	618.4b	36" RCP Culvert (Class II)	LF	322		
116	618.4c	24" RCP Culvert (Class III)	LF	389		
117	618.4d	12" RCP Culvert w/1/2 Sack CLSM (Class V)	LF	36		
118	618.4e	23"X14" HERCP Culvert (Class V)	LF	240		
119	618.4f	42" RCP End Section	EA	1		
120	618.4g	36" RCP End Section	EA	6		
121	618.4h	24" RCP End Section	EA	12		
122	618.4h	12" RCP End Section	EA	1		
123	618.4j	23"X14" HERCP End Section	EA	12		
124	731.1	Remove and Salvage Existing Mast arms and Luminaires	EA	2		
125	731.2	Mast Arm (15-Foot)(ADOT Det T.S. 4-27)	EA	4		
126	732.1	Conductor (Insulated Bond) (No. 8)	LF	540		
127	736.1	Luminaire (Horizontal Mount)(HPS)	EA	2		
			Roadway Improvements Sub-Total			

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
		WATER MAIN IMPROVEMENTS				
128	201.1	Clearing & Grubbing	Acre	1		
129	205.1	Earthwork and Roadway Excavation	CY	335		
130	310.5	Aggregate Base Course (YAG 310)	CY	223		
131	310.7	Crushed Aggregate (COP Std Det 612P)	CY	112		
132	505.1.1G	Concrete Retaining Wall (H=5')(ADOT Std Det SD 7.01)	SF	125		
133	602.1a	36" Jacking, Boring or Tunneling Pipe	LF	299		
134	603.1a	8" Steel Sleeve	LF	386		
135	603.2a	5" PVC Utility Sleeve	LF	330		
136	610.1a	12" Water Main & Fittings (DIP CL 350)	LF	3,330		
137	610.1b	8" Water Main & Fittings (Restrained, DIP CL 350)	LF	518		
138	610.1c	12" Water Main & Fittings (Restrained, DIP CL 350)	LF	4,065		
139	610.1d	16" Water Main & Fittings (Restrained, DIP CL 350)	LF	68		
140	610.9a	Fire Hydrant Assembly w/8" Gate Valve	EA	8		
141	610.11b	New 1" Copper Water Service	EA	2		
142	610.11d	Private Water Service Line Removal and Installation (1")	LF	20		
143	610.2	Concrete Encasement	LF	50		
144	610.3	Water Main Abandonment	LS	1		
145	610.4	Water Main Swing-Tie Connection	EA	5		
146	630.3b	8" Gate Valve, Box & Cover	EA	7		
147	630.3c	12" Gate Valve, Box & Cover	EA	15		
148	630.4a	18" x 12" Tapping Sleeve, Valve, Box, and Cover	EA	1		

Bid Schedule

Willow Creek Road Realignment; Pioneer Parkway to Deep Well Ranch Road/State Route 89

Solicitation No. 15PWD000## / Project No. CIP13-030

LINE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
149	630.6a	Air/Vacuum Release Valve Assembly	EA	7		
150	630.6b	Blow-off Assembly	EA	1		
			Water Main Improvements Sub-Total			
			TOTAL BASE BID			

Total Base Bid:

_____ Dollars
(Written Words)

_____ _____
Signature of Company Official Title

_____ _____
Company Name Phone Number

_____ _____
Address Fax Number

_____ _____
City/State Zip Code

City of Prescott Public Works Department

SUBCONTRACTORS LIST BID FORM

Willow Creek Road Realignment Project

	Company Name and License Number	Mailing Address	Phone Number	Bid Item(s)	Total Sub-contract Amount
1					$
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
	Total Sub-Contract Amount				**$**

INSTRUCTIONS FOR PREPARING PROPOSAL

Payment for all work performed under this Contract shall be based on the units as shown in the Bidding Schedule. Payment of the bid items as stated in the Contractor's proposal for the completed work, shall be compensation in full for the furnishing of all overhead, labor, materials, devices, equipment and appurtenances included in the work as are necessary to complete the total work under this Contract in a good, neat, and satisfactory manner as indicated on the Plans, as described in the Specifications, and as otherwise implied or required to fulfill the objective of the work. It is the intent of the contract that maximum payment shall not exceed the agreed unit price without duly authorized contract amendments. Each item, fixture, piece of equipment, work, etc., as indicated on the Plans, or specified anywhere in these Documents shall be completed with all necessary connections and appurtenances for the satisfactory use and operation of said item, and the total system or systems.

Any and all patents, license fees, insurance premiums, etc., for the right to use equipment or processes included in this Contract shall be included in the total bid price.

Cost of testing, and other incidental operations, profit and overhead cost, including the cost of supervision, temporary field offices, move-in, move-out, insurance, taxes, equipment not a permanent part of the job, and other incidental items, shall be included in the total bid price.

The "Total Amount of Bid" must be filled out by the bidder. In case of any discrepancy between the price in figures and price in written words, as written or corrected, the price in written words shall be presumed to be correct unless obviously in error, and shall be considered as the Contractor's correct and intended bid.

Bids shall not contain any recapitulations of the work to be done. Alternative proposals will not be considered unless called for. If anyone is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in or omissions from the Plans or Specifications, he must submit to the Engineer a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery.

Any interpretation or correction of the Contract Documents will be made only by an Addendum duly issued by the City and a copy of such Addendum will be available on the City's website at http://www.prescott-az.gov/business/bids/ or if a mandatory pre-bid meeting was held the Addenda will be mailed, e-mailed, or faxed to each person receiving a set of such Documents. The City will not be responsible for any other explanations or interpretations of the Documents. Addenda may be issued until noon on the Monday prior to the bid opening date. It is the prospective bidder's responsibility to check for Addenda related to this procurement.

If the Proposal is made by an individual, it shall be signed and his full name and address shall be given. If it is made by a partnership, it shall be signed with the partnership name and by a general partner of the firm who shall also sign his own name, and the name and address of each partner shall be given; and, if it is made by a corporation, the name of the corporation shall be signed by its duly authorized officer or officers.

The Subcontractors List Bid Form must be completed, attached and submitted along with the Bidding Schedule.

PROPOSAL

Place: _____

Date: _____

Proposal of _____

(Name)

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 PRESCOTT
PRESCOTT, ARIZONA

Ladies and Gentlemen:

The Undersigned hereby proposes and agrees to furnish any and all required labor, material, construction equipment, transportation, and services for completion of the Willow Creek Road Realignment Project, in strict conformity with the plans and specifications, at the total bid price of:

_____ Dollars

($ _____).

The Undersigned hereby declares that he has visited the site and has carefully examined the Contract Documents relating to the work covered by the above bid or bids.

The Bid Security (Certified Check, Cashier's Check, or Bid Bond) attached, payable to the City of Prescott in the sum of not less than ten percent (10%) of the total bid price bid for the complete project, to insure that the undersigned, if his bid is accepted, shall enter into contract and give the bonds and certificates of insurance required. In the event that the contract and bonds and certificates of insurance required are not furnished to the City within the time required, then and in that event the City may retain from the bid bond an amount, not to exceed the amount of the bid bond, representing the difference between the amount specified in the proposal or bid, and such larger amount that the City in good faith contracts with another party to perform the work covered by the proposal or bid.

The project shall be completed within three hundred thirty (330) calendar days after the starting date set forth in the NOTICE TO PROCEED.

The undersigned hereby declares, as bidder, that the only persons or parties interested in this PROPOSAL as principals are those named herein; that no elected official or employee of the City is in any manner interested directly or indirectly in this PROPOSAL or in the profits to be derived from the Contract proposed to be taken, other than as permitted by law; that this bid is made without any connection with any other person or persons making a separate bid for the same purpose; that the bid is in all respects fair and without collusion or fraud; that he has read the NOTICE INVITING BIDS and the INFORMATION FOR BIDDERS hereto attached, and as more fully described in the

attached contract and specifications, and agrees to furnish the items and perform the work called for in accordance with the provisions of said form of Contract and the Specifications and to deliver the same within the time stipulated herein, and that he will accept in full payment therefore the total bid price named in this Proposal.

The bidder shall be an A-General Engineering contractor properly licensed at the time of bidding to perform construction in connection with fixed works, including streets, roads, power and utilities plants, dams, hydroelectric plants, sewage and waste disposal plants, bridges, tunnels, and overpasses and shall also be licensed to perform work within residential and commercial property lines, or shall be properly licensed to sub-contract residential or commercial work, as may be required in the Scope of Work.

Any bid submitted without the proper contracting license to perform the required work shall be considered non-responsive and rejected.

The bidder further agrees that, upon receipt of written notice of the acceptance of this PROPOSAL, he will execute the Contract in accordance with the PROPOSAL as accepted and furnish the required bonds TEN (10) days from the date of mailing of said notice of award to him at his address as given below, or within such additional time as may be allowed by the City; and that upon his failure or refusal to do so within said time, then the certified or cashier's check or bid bond accompanying this bid shall be cashed or enforced and the money payable pursuant thereto shall be forfeited to and become the property of the City as liquidated damages for such failure or refusal; provided that if said bidder shall execute the Contract and furnish the required bonds within the aforesaid time, his certified or cashier's check, if furnished, shall be returned to him within three (3) days thereafter, and the bid bond, if furnished, shall become void.

Bidder understands and agrees that the City reserves the right to reject any or all bids and to waive any informality in the bidding.

The bidder agrees that this bid shall be good and may not be withdrawn for a period of sixty (60) calendar days after the scheduled closing time for receiving bids.

Bidder acknowledges receipt of the following Addenda: _____

The undersigned is the holder of Arizona State Contractor's License No(s) and Classification(s):

_____

Respectfully submitted,

_____

Bidder

Corporate Seal

By: _____

Title: _____

Address: _____

Telephone No: _____

Fax No: _____

Email: _____

Names and addresses of all members of the firm or names and titles of all officers of the corporation:

_____

_____

_____

_____

_____

_____

_____

_____

BIDDERS AFFIDAVIT

Willow Creek Road Realignment Project

State of _____)
) ss.
County of _____)

_____, being first duly sworn, deposes and says:

That he/she is _____ of _____
(Title) (Bidder)

who submits herewith to the City of Prescott, Arizona, a proposal:

That all statements of fact in such proposal are true;

That said proposal was not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization or corporation;

That said bidder has not, directly or indirectly by agreement, communication or conference with anyone attempted to induce action prejudicial to the interest of the City of Prescott, Arizona, or of any bidder or anyone else interested in the proposed contract; and further,

That prior to the public opening and reading of proposal, said bidder:

1. Did not directly or indirectly, induce or solicit anyone else to submit a false or sham proposal;
2. Did not directly or indirectly collude, conspire, connive or agree with anyone else that said bidder or anyone else would submit a false or sham proposal, or that anyone should refrain from bidding or withdraw his proposals;
3. Did not in any manner, directly or indirectly, seek by agreement, communication or conference with anyone to raise or fix the proposal price of said bidder or of anyone else, or to raise or fix any overhead, profit or cost element of his proposal price, or of that of anyone else;
4. Did not, directly or indirectly, submit his proposed price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association organization, bid depository or to any member or agent thereof, or to any individual or group of individuals, except the City of Prescott, Arizona, or to any person or persons who have a partnership or other financial interests with said bidder in his business.

By: _____

SUBSCRIBED AND SWORN to before me by _____

this _____ day of _____, 2015.

_____ _____
Notary Public Commission Expires

INSURANCE REQUIREMENTS

INSURANCE

A. Contractor and subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees or subcontractors.

The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

The City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, or subcontractors. Contractor is free to purchase such additional insurance as may be determined necessary.

ADDITIONAL INSURANCE REQUIREMENTS: The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the City of Prescott is named as an additional insured, the City of Prescott shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.
2. The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

NOTICE OF CANCELLATION: With the exception of a ten (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance policies above shall require a thirty (30) day written notice.

ACCEPTABILITY OF INSURERS: Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A-VII, unless otherwise approved by the City of Prescott. General liability, automobile liability, and worker's compensation insurance is to be placed with an insurer admitted in the state in which operations are taking place.

VERIFICATION OF COVERAGE:

A. Contractor shall furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Contract. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

All certificates and any required endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to commencement of work under this Contract and remain in effect for the duration of the project and warranty period as set forth in Paragraph 3 of the "Contractor's Affidavit Regarding Settlement of Claims and Certification of Completion of Warranties". Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

All certificates required by this Contract shall be sent directly to the Public Works Department, 433 N. Virginia Street, Prescott, AZ 86301. The City project/contract number and project description shall be noted on the certificate of insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract at any time.

B. MAG Specifications, Sections 103.1 through 103.8, including: Unless otherwise specifically required by the Special Conditions, the minimum limits of public liability and property damage liability shall be as follows:

C. Contractor shall provide coverage with limits of liability not less than those stated below. An excess liability policy or umbrella liability policy may be used to meet the minimum liability requirements provided that the coverage is written on a following form basis.

Commercial General Liability – Occurrence Form –

Policy shall include bodily injury, property damage, broad form contractual liability and XCU coverage.

• General Aggregate	$ 3,000,000
• Products – Completed Operations Aggregate	$ 3,000,000
• Personal and Advertising Injury	$ 1,000,000
• Each Occurrence	$ 1,000,000
• Fire Legal Liability (Damage to Rented Premises)(if applicable)	$ 100,000

The policy shall be endorsed to include the following additional insured language:

"The Contractor agrees to endorse the City of Prescott as an Additional Insured on the Commercial General Liability with the following Additional Insured endorsement, or similar endorsement providing equal or broader Additional Insured coverage, the CG 2010 10 01 Additional Insured - Owners, Lessees, or Contractors, or CG2010 07 04 Additional Insured – Owners, Lessees, or Contractors – Scheduled Person or Organization endorsement in combination with the additional endorsement of GC2037 10 01 Additional Insured – Owners, Lessees, or Contractors – Completed Operations shall be required to provide back coverage for the contractor's "your work" as defined in the policy and liability arising out of the products-completed operations hazard."

Business Automobile Liability: Bodily Injury and Property Damage for any owned, hired, and/or non-owned vehicles used in the performance of this Contract.

Combined Single Limit (CSL) $ 1,000,000

The policy shall be endorsed to include the following additional insured language:

"The City of Prescott shall be named as additional insured with respect to liability arising out of the activities performed by or on behalf of the Contractor, involving automobiles, owned, leased, hired, or borrowed by the Contractor."

Worker's Compensation and Employer's Liability

Workers' Compensation	Statutory
Employer's Liability	
Each Accident -	$1,000,000
Disease – each employee -	$1,000,000

Disease – policy limit -	$1,000,000

Policy shall contain a waiver of subrogation against the City of Prescott for losses arising from work performed by or on behalf of the Contractor.

Professional Liability (Errors and Omissions Liability) – *if applicable*

Each Claim	$ 1,000,000
Annual Aggregate	$ 2,000,000

1. In the event that the professional liability insurance required by this Contract is written on a claims-made basis, Contractor warrants that any retroactive date under the policy shall precede the effective date of this Contract and that either continuous coverage will be maintained or an extended discovery period will be exercised for a period of two (2) years at the time work under this contract is completed.

2. The policy shall cover professional misconduct or lack of ordinary skill for those positions defined in the Scope of Work of this contract.

Notice of Cancellation: With the exception of a ten (10) day notice of cancellation for non-payment of premium, any changes material to compliance with this contract in the insurance policies above shall require a thirty (30) day written notice.

D. Such policy shall not exclude coverage for the following:

1. Injury to or destruction of any property arising out of the collapse of/or structural injury to any building or structure due to grading of land, excavation, borrowing, filling, backfilling, tunneling, pile driving, cofferdam work or caisson work.
2. Injury to or destruction of wires, conduits, pipes, mains, sewers, or other similar property or any apparatus in connection therewith, below the surface of the ground, if such injury or destruction is caused by and occurs during the use of mechanical equipment for the purpose of grading of land, paving, excavating, drilling; or injury to or destruction of any property at any time resulting there from.
3. Injury to or destruction of any property arising out of blasting or explosion.
4. Motor vehicle public liability and property damage insurance to cover each automobile, truck, and other vehicle used in the performance of the Contract in an amount of not less than $1,000,000.00 for one person, and $1,000,000.00 for more than one person, and property damage in the sum of $1,000,000.00 resulting from any one accident which may arise from the operations of the Contractor in performing the work provided for herein.

E. The Contractor shall carry and maintain fire and extended coverage with an endorsement for vandalism and malicious mischief in Contractor's name and also in the name of the City in an amount of at least ONE HUNDRED PERCENT (100%) of the Contract amount (if applicable).

F. The Contractor shall secure "all risk"-type builder's risk insurance for work to be performed. Unless specifically authorized by the City, the amount of such insurance shall not be less than ONE HUNDRED PERCENT (100%) of the contract price. Such policy shall include coverage for earthquake, landslide, flood, collapse, or loss due to the results of faulty workmanship, during the contract time and until final acceptance of work by the City (if applicable).

NOTICE TO PROCEED. The Contractor or subcontractor shall not work on any part of the project or incur any expenses or obligations until a Notice to Proceed has been issued by the City. The Notice to Proceed will be sent to the Contractor by first class mail or delivered to him in person.

ASSIGNMENT OF PAYMENTS. MAG Specifications, Section 109.3, including assignment of contract clause included in the "Information for Bidders" in this set of specifications.

CONSTRUCTION CONTRACT

Willow Creek Road Realignment Project

THIS AGREEMENT, made and entered into this _____ day of _____,

2015, by and between _____, of the city of _____,

county of _____, state of Arizona, hereinafter designated "Contractor", and the

City of Prescott, a municipal corporation, organized and existing under and by virtue of the laws of

the State of Arizona, hereinafter designated "City".

WITNESSETH: That the said Contractor, for and in consideration of the sum to be paid him by the said City, and of the other covenants and agreements herein contained, and under the penalties expressed in the bonds provided, hereby agrees, for himself, his heir, executors, administrators, successors and assigns as follows:

ARTICLE I - SCOPE OF WORK: The Contractor shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities, required to perform all work for the construction of the project described as City of Prescott: Willow Creek Road Realignment Project and install the material therein for the City, in a good and workmanlike and substantial manner and to the satisfaction of the City through its Engineers and under the direction and supervision of the Public Works Director, or his properly authorized agents and strictly pursuant to and in conformity with the Plans and Specifications prepared by the engineers for the City, and with such written modifications of the same and other documents that may be made by the City through the Public Works Director or his properly authorized agents, as provided herein.

ARTICLE II - CONTRACT DOCUMENTS: The Notice Inviting Bids, Plans, Technical Specifications, Special Provisions, Addenda, if any, Proposal and Insurance Requirements as accepted by the Mayor and Council per Council Minutes of _____, 2015, Performance Bond, Payment Bond, Bid Bond, Certificate of Insurance and Contract Amendments, if any, are by this reference made a part of this Contract to the same extent as if set forth herein in full.

ARTICLE III - TIME OF COMPLETION: The Contractor hereby agrees to commence work on or before the tenth (10th) day after written notice to do so, and to fully complete the same within three hundred thirty (330) calendar days after the date of the written notice to commence work, subject to such extensions of time as are provided by the General Conditions.

ARTICLE IV - COMPENSATION: Contractor shall be paid, pursuant to the provisions as set forth in the Contract documents, the total sum of _____ Dollars ($ _____), plus any approved contract amendments, for the full and satisfactory completion of all work as set forth in the Project Specifications and Contract Documents. Retention shall be in accordance with Arizona Revised Statutes Section 34-221.

ARTICLE V - CONFLICT OF INTEREST: Pursuant to ARS Section 38-511, the City of Prescott may cancel this contract, without penalty or further obligation, if any person significantly involved in initiating, negotiation, securing, drafting or creating the contract on behalf of the City of Prescott is, at any time while the contract or any extension of the contract is in effect, an employee or agent of any other party to the contract in any capacity or a consultant to any other party of the contract with respect to the subject matter of the contract. In the event of the foregoing, the City of Prescott further elects to recoup any fee or commission paid or due to any person significantly involved in initiating, negotiation, securing, drafting or creating this contract on behalf of the City of Prescott from any other party to the contract, arising as a result of this contract.

ARTICLE VI - AMBIGUITY: This Agreement is the result of negotiations by and between the parties. Although it has been drafted by the Prescott City Attorney, it is the result of the negotiations between the parties. Therefore, any ambiguity in this Agreement is not to be construed against either party.

ARTICLE VII - NONDISCRIMINATION: The Contractor, with regard to the work performed by it after award and during its performance of this contract, will not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, the Americans With Disability Act (Public Law 101-336, 42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09 as amended.

ARTICLE VIII - INDEPENDENT CONTRACTOR STATUS: It is expressly agreed and understood by and between the parties that the Contractor is being retained by the City as an independent contractor, and as such the Contractor shall not become a City employee, and is not entitled to payment or compensation from the City or to any fringe benefits to which other City employees are entitled other than that compensation as set forth in Article IV - Compensation above. As an independent contractor, the Contractor further acknowledges that he is solely responsible for payment of any and all income taxes, FICA, withholding, unemployment insurance, or other taxes due and owing any governmental entity whatsoever as a result of this Agreement. As an independent contractor, the Contractor further agrees that he will conduct himself in a manner consistent with such status, and that he will neither hold himself out nor claim to be an officer or employee of the City by reason thereof, and that he will not make any claim, demand or application to or for any right or privilege applicable to any officer or employee of the City, including but not limited to workmen's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

ARTICLE IX - CITY FEES: Prior to final payment to the Contractor, the City shall deduct therefrom any and all unpaid privilege, license and other taxes, fees and any and all other unpaid moneys due the City from the Contractor, and shall apply to those moneys to the appropriate account. Contractor shall provide to the City any information necessary to determine the total amount(s) due.

ARTICLE X - LIQUIDATED DAMAGES: All time limits stated in the contract documents are of the essence and should the Contractor fail to complete the work required to be done on or before the time of completion as set forth in these contract documents, including any authorized extension of time, it is mutually agreed and understood by and between the parties that the public will suffer great damages; that such damages, from the nature of the project, will be extremely difficult and

impractical to fix; that the parties hereto wish to fix the amount of said damages in advance; and that the sum of $1420.00 per day for each and every day's delay in completion and acceptance of the work required to be done by the Contractor subsequent to the time of completion, including any authorized extensions of time, is the nearest and most exact measure of damages for such breach that can be fixed now or could be fixed at or after such breach and that, therefore, the Owner and Contractor agree to fix said sum of $1420.00 per day for each and every said day's delay as liquidated damages, and not as a penalty or forfeiture for the breach of the agreement to complete the work required to be done by the Contractor on or before the time of completion and acceptance and, in the case of such breach, the Owner shall deduct said amount from the amount due the Contractor under the contract. In the event the remaining balance due the Contractor is insufficient to cover the full amount of assessed liquidated damages, then the Contractor or the surety on the bonds shall pay the difference due the Owner.

ARTICLE XI - OTHER WORK IN PROJECT AREA

The City of Prescott, any other contractors, whether under contract with the City, a third party, and/or utilities, may be working within the project area while this Contract is in progress. The Contractor herein acknowledges that delays and disruptions may, and in all likelihood, will occur due to other work. The Contractor's bid shall be deemed to have recognized and included costs arising from and associated with other work in the project area disclosed by the Contract Documents or which would be apparent to an experienced contractor exercising due diligence during inspection of the project documents, the question and answer session in the pre-bid process or during site inspection. No payment will be made for any delays or disruptions in the work schedule that are wholly the fault of the contractor, its agents, employees or any of the contractor's subcontractors. In the event that the contractor encounters delay or disruption in the project schedule due to factors not wholly the fault of the contractor or within the contractors control then the Contract may be adjusted pursuant to the Delay's and Extension of Time provisions of this Contract and a timely request submitted for Contract Amendment. Failure to submit a timely request for Contract Amendment shall be deemed a waiver of any entitlement to additional compensation.

ARTICLE XII - BONDS

A. On or before the execution of the contract, the Contractor shall obtain in an amount equal to the full contract price a performance bond pursuant to ARS Section 34-222, conditioned upon the faithful performance of this contract in accordance with the plans, specifications and conditions herein. Such bond shall be solely for the protection of the City of Prescott. A copy of this bond shall be filed with the Prescott City Clerk.

B. Contractor shall also obtain a payment bond, pursuant to the provisions of ARS Section 34-222, in an amount equal to this full contract price herein, said bond to be solely for the protection of claimants supplying labor or materials to the Contractor or his subcontractors in the prosecution of the work provided for in this contract. A copy of this bond shall be filed with the Prescott City Clerk.

C. All bonds must be written by an insurance company authorized to do business in the State of Arizona, to be evidenced by a Certificate of Authority as defined in ARS Section 20-217, a copy of which certificate is to be attached to the applicable bid bond, payment bond and performance bond. In addition, depending upon the nature of the contract and amount thereof, the City Manager may also require insurance companies and/or bonding companies to have an "A" rating or better with Moody's or A.M. Best Company, and/or to be included on the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as

Acceptable Reinsuring Companies" as published in Circular 570 (as amended) by the audit staff, Bureau of Accounts, US Treasury Department.

ARTICLE XIII - MISCELLANEOUS

A. The parties hereto expressly covenant and agree that in the event of a dispute arising from this Agreement, each of the parties hereto waives any right to a trial by jury. In the event of litigation, the parties hereby agree to submit to a trial before the Court. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project, which is the subject of this Agreement.

B. The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorney fees, either pursuant to the Contract, pursuant to ARS Section 12-341.01 (A) and (B), or pursuant to any other state or federal statute, court rule, case law or common law. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project that is the subject of this Agreement.

C. Any notices to be given by either party to the other must be in writing, and personally delivered or mailed by prepaid postage, at the following addresses:

Public Works Director	**
City of Prescott	**
433 N. Virginia Street	**
Prescott, AZ 86301	

D. This Agreement shall be construed under the laws of the State of Arizona.

E. This Agreement represents the entire and integrated Agreement between the City and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both the City and the Contractor. Written and signed amendments shall automatically become part of the Agreement, and shall supersede any inconsistent provision therein; provided, however, that any apparent inconsistency shall be resolved, if possible, by construing the provisions as mutually complementary and supplementary.

F. In the event any provision of this Agreement shall be held to be invalid and unenforceable, the remaining provisions shall be valid and binding upon the parties. One or more waivers by either party of any provision, term, condition or covenant shall not be construed by the other party as a waiver of a subsequent breach of the same by the other party.

G. No oral order, objection, claim or notice by any party to the other shall affect or modify any of the terms or obligations contained in this Agreement, and none of the provisions of this Agreement shall be held to be waived or modified by reason of any act whatsoever, other than by a definitely agreed waiver or modification thereof in writing. No evidence of modification or waiver other than evidence of any such written notice, waiver or modification shall be introduced in any proceeding.

H. In the event of a discrepancy between this Agreement and other documents incorporated into this Agreement, this Agreement shall control over Exhibit "A".

I. Non-Availability of Funds: Fulfillment of the obligation of the City under this Agreement is conditioned upon the availability of funds appropriated or allocated for the performance of such obligations. If funds are not allocated and available for the continuance of this Agreement, this Agreement may be terminated by the City at the end of the period for which the funds are available. No liability shall accrue to the City in the event this provision is exercised, and the City shall not be obligated or liable for any future payments as a result of termination under this paragraph.

IN WITNESS WHEREOF, three (3) identical counterparts of this Contract, each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties herein above named, on the date and year first above written.

ATTEST:

_____

Witness, if Contractor is an Individual

_____

Contractor

By: _____

Title: _____

City of Prescott, a municipal corporation:

_____

Marlin D. Kuykendall, Mayor

Attest:

_____

Dana R. DeLong, City Clerk

Approved as to Form:

_____

Jon M. Paladini, City Attorney

CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AND CERTIFICATION OF COMPLETION OF WARRANTIES

PROJECT: Willow Creek Road Realignment Project

To the City of Prescott, Arizona

Gentlemen:

1. 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.
2. The undersigned, for the consideration of $_____ (total project price) 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 Prescott against any and all liens, claims of liens, suits, actions, damages, charges 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 project.
3. This is to further certify that the project is completed to acceptable standards as defined in the plans and specifications for said Project Contract Agreement. Any changes to the plans have been noted on the Construction As-built Mylar Drawings certified by the Contractor's Registered Land Surveyor, which As-built Drawings have been delivered to the Public Works Director. All materials used and workmanship performed are expressly warranted to be free of defects for a period of twenty-four (24) months from the date of final acceptance by the City of Prescott.

Signed and dated this _____ day of _____, 2015.

_____

Contractor

By: _____

Title: _____

State of _____)
) ss.
County of _____)

SUBSCRIBED AND SWORN to before me this _____ day of _____, 2015, by

_____.

_____ _____

Notary Public Commission Expires

GENERAL CONDITIONS

COMMENCEMENT, PROSECUTION AND PROGRESS

PRECONSTRUCTION CONFERENCE

Within 15 days of the date of the Notice of Award, the Contractor is required to attend a Pre-construction Conference. The City will contact the Contractor to schedule a specific date, time and location for the Pre-construction Conference. The purpose of the meeting is to outline specific construction items and procedures and to address items, which require special attention on the part of the Contractor. The Contractor may also present proposed variations in procedures, which the Contractor believes may be of benefit to the project, reduce cost, or will reduce inconvenience to the public. Communication and coordination issues will be also addressed during the Pre-construction Conference. The Contractor will be required to provide five sets of the following information at the Pre-construction Conference:

A. Names and emergency telephone number of key personnel involved in the project.

B. A copy of each subcontractor's contract or purchase order agreement for each and every item of work under subcontract on the project.

C. The Construction Schedule as defined elsewhere in the General Conditions.

D. A payment schedule showing the estimated dollar volume of work for each calendar month during the life of the project.

E. The Traffic Control and access management plan providing for continuous access to residents and businesses affected by the project.

F. The Contractor's Company Safety Plan.

G. The Contractor's Quality Control Plan.

H. An itemized list of shop drawings, materials, mix designs, equipment submittals and a schedule indicating the dates each of these items will be transmitted to the Public Works Director for review.

Each of the above items is subject to review and approval by the Public Works Director.

COMMENCEMENT

The Contractor shall commence work on or before the tenth (10th) calendar day after receiving the Notice to Proceed, and shall complete all work under the Contract within the period of time specified in the Special Conditions. The City reserves the right to issue Notice to Proceed at any time between zero (0) and sixty (60) days after contract award. Notice to Proceed will be issued not later than sixty (60) calendar days after the Contract has been awarded unless otherwise agreed upon in writing, or as may be specified in the Special Conditions. In addition, Contractor shall not commence work until all required documents, bonds, plans and schedules have been received and approved by the City. These submittals will not affect the issuance of Notice to Proceed by the City.

PUBLIC NOTICE

A. Contractor shall issue written notification to those residents affected by the Willow Creek Road Realignment Project. This notification shall contain at a minimum: (1) Type of Work; (2) Contractor; (3) Contractor's Phone Number and Point of Contact; (4) Duration of Project; (5) Date project commences; (6) Description of project site; (7) Contractor's after-hours Point of Contact and phone number.

B. The Contractor is required to post public notification signs at all entrances to the project specifying the following information: (1) Project Name/Description (2) Construction Calendar (3) Contractor Name/Phone Number Day & Night (4) City of Prescott (928) 777-1130.

C. The sign size and legend shall be appropriate for the intended purpose and be easily read. Sign background shall be blue with white letters. The sign size and legend content shall be approved by the Public Works Department prior to sign manufacture. All signs shall be posted prior to commencement of any work on the project. Signs will be removed by the contractor upon final acceptance of the project. No direct payment shall be made for said signs, cost of such shall be considered incidental to the contract.

SUBCONTRACTORS

MAG Specifications, Section 108.2, including the following:

A. All subcontractors and purchase orders for equipment shall state and establish guaranteed delivery dates, at such times as determined by the Contractor, which will allow the Contractor to complete the project within the Contract time.

B. The Contractor shall perform more than forty percent (40%) of the work (by total contract amount) involved in this project with his own forces. Total subcontracted amounts shall be limited to less than sixty percent (60%) of the total contract amount. For purposes of this requirement, materials purchased directly from suppliers and installed by the Contractor's own forces shall be included in the Contractor's total and materials installed by subcontractors, regardless of who originally purchased them, will be included in the Subcontractors totals.

C. The Contractor shall furnish the form list of subcontractors with his bid including the estimated amount of each subcontract. Additionally, a duplicate copy of each subcontract, including lower tier subcontracts, shall be delivered to the Public Works Director upon award of the project and prior to the issuance of the Notice to Proceed.

CONTRACTOR'S REPRESENTATIVE AND EMERGENCIES

MAG Specifications, Section 105.5, including: Plans and specifications to successful bidder clause in the "Information for Bidders" in this set of specifications.

CONTRACTOR AND SUBCONTRACTOR RECORDS

A. The Contractor shall keep at the work site a copy of the Contract Documents and shall at all times give the Public Works Director access thereto.

B. The Notice Inviting Bids, Information for Bidders, Special Conditions, Specifications, Plans, and all supplementary documents are intended to be complete and complementary and to prescribe a complete work. If any omissions are made of information necessary to carry out the full intent and meaning of the contract documents, the Contractor shall immediately call the matter to the attention of the Public Works Director for furnishing of detailed instructions. In case of discrepancies, the Specifications shall govern over the plans. Figured dimensions shall govern over scaled dimensions.

C. Any drawings or plans listed anywhere in the Specifications or Addenda thereto shall be regarded as a part thereof and of the Contract. Anything mentioned in these Specifications and not indicated on the plans, or anything indicated on the plans and not mentioned in these Specifications, shall be in the same force and effect as if indicated or mentioned in both.

D. The Contractor, subcontractors and all suppliers shall keep and maintain all books, papers, records, files, accounts, reports, bid documents with back-up data, including electronic data, and all other material relating to the contract and project for three years following completion and acceptance of the work. All records shall be accurately maintained in accordance with generally accepted accounting principles and practices uniformly and consistently applied in a format that will permit audit. The Public Works Director or his authorized representative(s) shall have access at all reasonable times to all applicable records of the Contractor and the records of the Contractor's subcontractors.

The Contractor and Subcontractors shall preserve all such materials for a period of three years after all payments to the Contractor or subcontractors, or until the final resolution of all claims made by the Contractor or subcontractor on this contract, whichever is later. The Contractor and subcontractors shall make all of the above materials available to the Public Works Director for auditing, inspection and copying and shall produce such materials upon written request at the office of the Public Works Director located at 433 N. Virginia St., Prescott Arizona.

The Contractor shall insert the above requirement in each subcontract, purchase order, lease agreement, or other document under which goods or services are provided for the performance of this contract and shall also include in all subcontracts a clause requiring subcontractors to include the above requirement in any lower-tier subcontract, purchase order, lease agreement or document under which goods or services are provided for the performance of this contract.

ADDENDA, REVISIONS AND SUPPLEMENTARY DRAWINGS

A. The work shall conform to such other drawings relating thereto as may be furnished by the City prior to the opening of proposals, and to such drawings in the explanation of details or minor modifications as may be furnished from time to time during construction, including such minor modifications as the Public Works Director may consider necessary during the prosecution of the work.

B. Scaled dimensions shall not be used in the construction of the work.

ERROR AND OMISSIONS

The written dimensions, calculations and quantities on the plans are presumed to be correct, but the Contractor shall be required to check carefully all dimensions, calculations and quantities before beginning work. If any errors or omissions are discovered, the Public Works Director shall be so advised in writing and will make the proper corrections. If the Contractor claims that any such errors or omissions should change the cost of any Pay Item or the construction as identified in the plans, the Contractor shall also submit to the Public Works Director a written proposed Contract Amendment. Any such adjustments made by the Contractor that are claimed to change the cost of any Pay Item or the construction as identified in the plans, without prior review and acceptance of a proposed Contract Amendment, shall be at the Contractor's own risk. The settlement of any complications or disputed expenses arising from a Contractor's adjustment shall be borne by the Contractor at his own expense.

CHARACTER OF WORKMEN

MAG Specifications, Section 108.6.

SUSPENSION OF WORK

A. The Public Works Director shall have the authority to suspend the work wholly or in part, for such period as he may deem necessary, due to unsuitable weather, or to such other conditions as are considered unfavorable for the suitable prosecution of the work, or for such time as he may deem necessary due to the failure on the part of the Contractor to carry out orders given, or to perform any provisions of the Contract. The Contractor shall immediately comply with the written order of the Public Works Director to suspend work wholly or in part. The suspended work shall be resumed when conditions are favorable and methods are corrected, as reviewed and accepted in writing by the Public Works Director.

B. In case of suspension of work for any cause whatsoever, the Contractor shall be responsible for all materials and shall properly store them if necessary and shall provide suitable drainage and erect temporary structures where necessary.

C. If the performance of all or any portion of the work is suspended or delayed by the Public Works Director in writing for an unreasonable period of time (not originally anticipated, customary, or inherent to the construction industry) and the contractor believes that additional compensation and/or contract time is due as a result of such suspension or delay, the contractor shall submit to the Public Works Director, in writing, a request for an adjustment within seven (7) calendar days of receipt of the notice to resume work. The request shall set forth the reasons and support for such adjustment.

D. Upon receipt, the Public Works Director will evaluate the contractor's request. If the Public Works Director agrees that the cost and/or time required for the performance of the contract has increased as a result of such suspension and the suspension was caused by conditions beyond the control of and not the fault of the contractor, its suppliers, or subcontractors at any approved tier, and not caused by weather, the Public Works Director will make an adjustment (excluding profit) and modify the contract in writing accordingly. The contractor will be notified of the Public Works Director's determination whether or not an adjustment of the contract is warranted. In the event an adjustment of the contract is warranted a contract amendment shall be executed by both parties evidencing mutual agreement to same.

E. No contract adjustment will be allowed unless the contractor has submitted the request for adjustment within the time limits prescribed.

F. No contract adjustment will be allowed under this clause to the extent that performance would have been suspended or delayed by any other cause, or for which an adjustment is provided or excluded under any other term or condition of this contract.

DELAYS AND EXTENSION OF TIME

MAG Specifications, Section 108.7, including:

A. It is the Contractors responsibility to establish construction methods and a construction schedule, which will facilitate the completion of work required by this Contract within the contract period and with full consideration for the season during which the work is scheduled. Judgment as to hazardous conditions shall be made by the Public Works Director.

B. To receive consideration for an extension of time, a request must be made in writing to the Public Works Director stating the reason for said request, and such request must be received by the Public Works Director as soon as reasonably practicable when the contractor has knowledge or should have known of the delay causing event, condition or circumstances, but in no event later than immediately following the end of the delay-causing condition. The extension of time

allowed shall be as determined by the Public Works Director and approved by the City. In setting the Contract time, it has been assumed that up to five (5) working days may be lost as a result of weather conditions which will slow down the normal progress of work; therefore no extensions in contract time will be allowed for the first five (5) working days lost due to bad weather conditions. An extension of time may be granted by the City after the expiration of the time originally fixed in the Contract or as previously extended, and the extension so granted shall be deemed to commence and be effective from the date of such expiration.

C. Any extension of time shall not release the sureties upon any bond required under the Contract. Extensions of time in and of themselves will not be a basis for a request of additional compensation by the Contractor.

D. Any delays in this project, or extensions of time which may be granted, shall not entitle the Contractor to any additional compensation or monies whatsoever, including but not limited to compensation for loss of anticipated profits, extended overhead, unabsorbed home office overhead, or any other payments, unless expressly agreed to by the City in a duly executed and approved contract amendment.

PAYMENT FOR DELAY

MAG 109.8 except as modified hereafter:

109.8.2, (B) Any compensation paid to the Contractor shall be in accordance with the General Conditions, Payment to Contractors, section of this Contract.

109.8.3 Extension of Contract Time: For any such delays, the contract time will be adjusted in accordance with the General Conditions, Delays and Extension of Time, section of this Contract.

TERMINATION FOR BREACH OF CONTRACT

MAG Specifications, Sections 108.10 and 108.11, including: The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the City.

METHODS AND EQUIPMENT

MAG Specifications, Section 108.6, including: The methods and equipment adopted by the Contractor shall be such as will secure a satisfactory quality of work and will enable the Contractor to complete the work in the time agreed upon. The selection and use of these methods and equipment is the responsibility of the Contractor.

DATE OF ACTUAL COMPLETION

The date upon which the project will be considered as complete shall be that date upon which the work is accepted by the City.

FINAL ACCEPTANCE

MAG Specifications, Section 105.15 (B), including:

A. After all work under the Contract has been completed, as determined by the Public Works Director, the Public Works Director will recommend in writing to the City that final acceptance of the entire work under this Contract be made as of the date of the Public Works Director final inspection. The City will make final acceptance promptly after receiving the Public Works Director's recommendation.

B. Partial Acceptance may be given upon substantial completion of the work at the sole discretion of the Public Works Director in accordance MAG 105.15 and the paragraph entitled PARTIAL ACCEPTANCE OF WORK in these General Conditions.

C. For the purpose of this section, Substantial Completion shall mean that stage in the progress of the Work where the Work or designated portion is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use with only minor work items or cleanup items remaining to be accomplished. Partial Acceptance shall not be given for incomplete major work items nor minor work items affecting public health and safety.

D. Contract Time accounting and/or Assessment of Liquidated Damages shall be suspended on the date of Partial Acceptance and the Contractor shall complete all remaining work items necessary for Final Acceptance within 30 calendar days of the date of Partial Acceptance. The City shall withhold release of retention until all items under the contract have been completed and Final Acceptance has been issued.

SAFETY, HEALTH AND SANITATION PROVISIONS

MAG Specifications, Section 107.5, including:

A. The Contractor shall provide suitable and adequate sanitary conveniences for the use of all persons employed on the project. All sanitary conveniences shall conform to the regulations of the public authority having jurisdiction over such matters. At the completion of the project, all such sanitary conveniences shall be removed and the premises left in a sanitary condition.

B. On all projects, with respect to sanitation facilities, for which Federal funds are allocated, the Contractor shall cooperate with and follow directions of representatives of the Public Health Service and the State. State and County public health service representatives shall have access to the work wherever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection.

TRAFFIC CONTROL

Traffic control is the responsibility of the Contractor and shall be in accordance with MAG Specifications, Section 401. The Contractor shall submit to the City of Prescott, for approval, a traffic control plan for all activities connected with the proposed work.

WATER

A. The Contractor shall supply adequate, pure cool drinking water with individual drinking cups for the use of employees on this construction. The quality of drinking water shall meet the "Standards for Public Water Supplies" specified in the State Health Department Code.

B. It shall be the responsibility of the Contractor to provide and maintain, at his own expense, an adequate supply of water for his use for construction and to install and maintain necessary supply connections and piping for same. Before final acceptance of the completed project, all temporary connections and piping installed by the Contractor shall be removed.

C. The Contractor shall apply for a fire hydrant meter for all construction water used if the Contractor desires to obtain water from the City of Prescott distribution system at any point. All contractors requesting construction water from the City must submit a Construction Water Meter Application to the Water Distribution Department. A $1,000 deposit will be required for hydrant meters. If construction water use occurs during the months of May through September the Contractor shall also include a dust abatement program. Potable water may not be allowed for

dust abatement during these months. Potable water can be used to process embankment fill and base materials year round. However, contractors are encouraged to use treated effluent for construction activities. The City of Prescott has two outlets for effluent, the Sundog Wastewater Treatment Plant and the Airport Wastewater Treatment Plant. The City will provide metered standpipes for effluent at both plants. The Contractor will be required to estimate daily and total potable/effluent water usage for the project as identified on the Construction Water Meter application. The Contractor will be responsible for all costs associated with obtaining and delivering construction water.

PROTECTION OF WORK

MAG Specifications, Section 107.10.

CLEANUP AND DUST CONTROL

MAG Specifications, Sections 104.1.3 and 104.1.4, including: Salvage material shall be stored at areas designated by the Public Works Director.

GUARANTEE OF WORK

MAG Specifications, Section 108.8, shall apply, but modify: Guarantee period is two (2) years. During the two year (2 year) guarantee period, should the Contractor fail to remedy defective material and/or workmanship, or to make replacements within five (5) calendar days after written notice by the City, it is agreed that the City may make such repairs and replacements and the actual cost of the required labor and materials shall be chargeable to and payable by the Contractor.

CONTINGENCIES

All loss or damage arising from obstruction or difficulties which may be encountered in the prosecution of the work, from the action of the elements, or from any act or omission on the part of the Contractor or any person or agent employed by him shall be borne by the Contractor.

NOTICE AND SERVICE THEREOF

Any notice to the Contractor from the City relative to any part of this Contract shall be in writing and considered delivered and the service thereof completed when said Notice is posted, by first class mail, to the said Contractor at his last given address, or delivered in person to said Contractor or his authorized representative on the work.

PROJECT MEETINGS

A. It shall be the responsibility of the Contractor to conduct weekly meetings to be attended by representatives of Subcontractors, utilities, the Public Works Director and other interested parties for the purpose of keeping the project on schedule and to provide for necessary coordination of the work of the various parties. The Contractor shall take minutes at each meeting for distribution to all attendees the following week. The minutes shall be of sufficient detail to accurately recount the meeting discussion, including but not limited to progress, work schedule, submittals and certifications, utilities, construction issues, contract changes, safety and traffic control, action items, resolved and unresolved issues.

B. Additionally the Contractor shall furnish the Public Works Director with written weekly project status reports at the beginning of each weekly project meeting. The report shall cover the work of the preceding work week and shall include the following for each week.

   1. A comprehensive daily list of the Contractor's men and equipment performing the work on the jobsite.

2. A comprehensive daily list of Contractor's subcontractors' men and equipment, if any, performing the work on the jobsite.
3. A brief description of the work performed by the Contractor and Contractor's subcontractors, if any.
4. The estimated percentage of each portion of the work performed for the period together with the total percentage of each portion of the work performed to the date of the report.
5. A detailed summary of each work stoppage, if any, occasioned by the City of Prescott, other contractors, or other designated reasons, which were beyond the contractor's control.
6. Comments or exceptions to prior weekly meeting minutes shall be addressed at each subsequent construction meeting.

CONSTRUCTION SCHEDULE

Per MAG Specifications, Section 108.4 and Section 108.5, including:

A. The Construction schedule shall indicate the time of starting and completing each major phase of the project and such intermediate phases as will serve for well-defined control points. The schedule shall be of sufficient detail to define the Critical Path for project completion. It shall also indicate the scheduled receipt of major items of equipment and the items of equipment installation dates of which is critical to the scheduled progress of the project. Two week look-ahead schedules will be provided by the contractor at each weekly construction meeting. The comprehensive project schedule shall be updated and submitted monthly. Such updates shall include and accurately reflect additional work, changes in the work, delays to individual items of work and reasons therefore along with the extent of delay and any other items affecting the progress of the project.

B. Failure by the contractor to provide the weekly/monthly updates will result in the City withholding an amount equal to 5% of the monthly pay estimate relative to the billing period in which the schedule updates are to be provided. Said 5% withholding will be retained by the City until the required schedule updates are submitted by the Contractor, reviewed by the City and found to be current. When the schedule updates are determined to be in conformance with the provisions herein the 5% retainer will be released with the next monthly payment.

C. The construction schedule shall serve as an index of progress prosecution as contemplated by the Contractor. In the event the actual construction progress varies substantially from the scheduled progress, the Public Works Director will require and the Contractor shall be required, within ten (10) calendar days written notice, to provide a revised construction schedule, giving in detail the particular changes in production as estimated by the Contractor to complete the work within the specified Contract Time. Time is of the essence in this regard.

ACCIDENT PREVENTION

MAG Specifications, Section 107.5 and 107.6 including:

A. Machinery, equipment and other hazards shall be guarded or eliminated in accordance with the safety provisions of the Manual of Accident Prevention in Construction published by the Associated General Contractors of America, and the requirements of the Occupational Safety and Health Administration.

B. First aid facilities and information posters conforming at least to the minimum requirements of the Occupational Safety and Health Administration shall be provided in a readily accessible location or locations.

C. The Contractor shall make all reports as are, or may be, required by the Engineer or any authority having jurisdiction, and permit all safety inspections of the work being performed under this Contract. Before proceeding with any construction work, the Contractor shall take all the necessary action to comply with all provisions for safety and accident prevention. In the event the Contractor fails to comply with said safety provisions or directions of the Public Works Director, the Public Works Director without prejudice to any other rights of the City, may issue an order stopping all or any part of the work.

D. Thereafter, a start order for resumption of the work may be issued at the discretion of the Public Works Director when in his opinion the defection from safety requirements has been corrected. The Contractor shall make no claim for an extension of time or for compensation or damages by reason of or in connection with such work stoppage.

CONSTRUCTION FACILITIES

All construction hoists, elevators, scaffolds, stages, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and/or move the loads to which they will be subjected. All railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

TEMPORARY FACILITIES

The Contractor shall provide all temporary facilities and utilities required for prosecution of the work; protection of employees and the public; protection of the work from damage by fire, weather or vandalism; and such other facilities as may be specified or required by any legally applicable law, ordinance, rule, or regulation.

WARNING DEVICES AND BARRICADES

Per MAG Specifications, Section 107.7.

HAZARDS IN PUBLIC RIGHT-OF-WAY

Per MAG Specifications, Section 107.7.

HAZARDS IN PROTECTED AREAS

Excavations on project sites from which the public is to be excluded shall be marked or guarded in a manner appropriate for the hazard.

PROTECTION OF EXISTING ITEMS

The Contractor shall protect all existing structures, trees, shrubs, and other items on the project site that are to be preserved, by substantial barricades or other devices commensurate with the hazard, from injury or destruction by vehicles, equipment, workmen, or other agents.

PROJECT SECURITY

The Contractor shall make adequate provision, subject to the approval of the Public Works Director, to protect the project and Contractor's facilities from fire, theft, and vandalism, and the public from unnecessary exposure to injury.

FIRE EXTINGUISHER

At least one (1) fire extinguisher, rated at least 2A, shall be provided on the job site.

OFF-SITE ROADS

Except as otherwise shown or specified, off-site access roads shall be adequately maintained, graded-earth roads. Such roads shall be built only in the public right-of-way or easements obtained by the City. If the Contractor elects to build along some other alignment, he shall obtain, without additional cost to the City, necessary rights-of-way or easements.

NOISE ABATEMENT

In inhabited areas, particularly residential, operations shall be performed in a manner to minimize unnecessary noise generation. Particular consideration shall be given to noise generated by repair and service activities during the night hours in residential areas. No repair or service activities shall be conducted between the hours of 6:00 p.m. and 7:00 a.m.

DRAINAGE CONTROL

In excavation, fill, and grading operations, care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways inadequate for the increased flow.

PROJECT CLOSE-OUT

It is the intent of these Specifications and Contract Documents that the Contractor shall deliver a complete and operable facility capable of performing its intended functions and ready for use. The City shall withhold Final Payment and release of retention until ALL of the following items have been completed:

A. Completion of all work, including punch-list items and Final Acceptance of the work by the City.

B. Submittal by Contractor of final pay estimate, which shall show the amount of work performed according to the Contract and approved by the City.

C. Submittal by the Contractor of all Project Record Documents, including As-Built drawings, operation and maintenance manuals, and other records as referenced herein.

D. Submittal by Contractor of CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS & CERTIFICATION OF COMPLETION & WARRANTIES.

E. Closeout of any and all permits issued to the Contractor by the City or any other agency for the work included in the project.

F. Submittal by Contractor of EPA SWPPP Notice of Termination (if applicable).

WASTE DISPOSAL, GRADING AND MATERIAL STORAGE

A. The Contractor shall provide for the disposal of all surplus materials, waste products, debris, etc., and shall make necessary arrangements for such disposal. The Contractor shall obtain written permission from property owners(s) prior to disposing of any surplus materials, waste products, debris, etc., on private property, and shall also obtain the approval of the Public Works Director prior to such disposal.

B. The Public Works Director will not approve the filling of ditches, washes, drainage ways, etc., which may in his opinion create water control problems.

C. The Public Works Director will not approve disposal operations, which will, in his opinion, create unsightly and/or unsanitary nuisances.

D. The Contractor shall maintain the disposal site(s) in a reasonable condition of appearance and safety during the construction period as required by the Public Works Director. Prior to final acceptance of the project, the Contractor shall have completed the leveling and cleanup of the disposal site(s) to the satisfaction of the Public Works Director.

E. The Contractor shall obtain a grading permit or any other permit required by the City, Yavapai County or any other county, or State or federal rules, regulations, laws, ordinances, or any other regulatory authority for all construction operations of the Project, including but not limited to the following:

1. Areas disturbed by the Contractor, including staging areas, borrow areas, waste areas, or material storage areas, located within the City limits that are subject to -any requirements of the City Code or City Land Development Code, including but not limited to Section 6.7 – Site Disturbance, Grading and Restoration Standards, of the City of Prescott Land Development Code; Section 9.6 – Site Disturbance and Grading Permit, or Chapter 16-2: DRAINAGE REGULATIONS;

2. Areas outside of the City limits that are subject to the requirements of Yavapai County for any activities described in this section, "WASTE DISPOSAL;"

3. The disposal of waste material on private property dependent upon site specific conditions at the waste area(s) and characteristics of the fill in accordance with Paragraph 1. The fees for a permit for this activity shall not be waived; said fees are incidental to the appropriate bid item(s);

4. The staging or material storage area(s) that:

   a. Are not City owned property on the project, or
   b. Require clearing or grubbing in excess of 10,000 sf.

   Fees for a permit(s) for this activity shall not be waived; said costs are incidental to the appropriate bid item(s).

5. Site disturbances for infrastructure improvements on City owned property not within the right-of-way for which the disturbance is greater than 50 cubic yards of material or in excess of 10,000 square feet. The associated fees for grading permits for this activity on City owned property shall be waived.

PROJECT RECORD DOCUMENTS

A. The Contractor shall maintain at the site, available to the City and Engineer, one (1) copy of all Drawings, Specifications, Addenda, approved Shop Drawings, Change of Orders, and other modifications in good order and marked to record all changes made during construction. These shall be delivered to the City upon completion of the Project or the earlier termination of the parties' contract.

B. The contractor shall maintain any and all documentation to substantiate all costs on the project, including but not limited to those items included in "Force Account" computations, computations reflecting the actual cost of work on the project and computations substantiating any claimed increases or additional costs incurred in the project by the contractor, and shall make those records available to the City (or provide copies thereof to the City) within 24 hours of request by the City. The failure of the Contractor to maintain and produce the foregoing documentation

will preclude the Contractor from being entitled to any additional payments for any additional work in question.

CONTROL OF WORK

ABBREVIATIONS

MAG Specifications, Section 101.1, including abbreviations as shown on the Plans.

AUTHORITY AND DUTIES OF INSPECTOR

Per MAG Specifications, Section 105.9, including:

A. An inspector is to be assigned to the project by the City to monitor the project and to keep the Public Works Director informed as to the progress of the work and the manner in which it is being done. Additionally, the inspector will call the Contractor's attention to any non-conformance with the Plans and Specifications. He will not be authorized to approve or accept any portion of the work or to act as foreman for the Contractor. Inspection will be done on an as needed or on-call basis.

B. The inspector will exercise such additional authority only as may from time to time be delegated to him by the Public Works Director.

INSPECTION

MAG Specifications, Section 105.10, including:

Inspection is to be done by the City of Prescott Public Works Department. The Contractor shall furnish the Public Works Director with every reasonable facility for ascertaining whether or not the work as performed is in accordance with the requirements and intent of the Specifications and Contract. If the Public Works Director requests it, the Contractor at any time before acceptance of the work shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standards required by the Specifications. Should the work thus exposed or examined prove acceptable, the uncovering or removing and the replacing of the covering or making good of the part removed will be paid for as provided under CHANGES IN THE WORK, but should the work so exposed or examined prove unacceptable, the uncovering or removing and the replacing of the covering or making good of the parts removed shall be at the Contractor's expense. Inspection or supervision by the Public Works Director shall not be considered as direct control of the individual workman and his work. The direct control shall be solely the responsibility of the Contractor's foreman and superintendent.

AUTHORITY OF THE ENGINEER

MAG Specifications, Section 105.1 with the following exception: References to "the Engineer" shall mean Public Works Director.

PLANS

A. The Contract Plans consist of general drawings. These indicate such details as are necessary to give a comprehensive idea of the construction contemplated. All authorized alterations affecting the requirements and information given on the Contract Plans shall be in writing. The Contract Plans shall be supplemented by such working or shop drawings prepared by the Contractor as are necessary to adequately control the work. No change shall be made by the Contractor in any working or shop drawing after it has been accepted by the Public Works Director.

B. The Contractor shall keep a copy of the Plans and Specifications at the job site, and shall at all times give the Public Works Director access thereto. Any drawings or plans listed in the Detailed Specifications shall be regarded as a part thereof and the Public Works Director will furnish from time to time such additional drawings, plans, profiles, and information as he may consider necessary for the Contractor's guidance.

C. All authorized alterations affecting the requirements and information given on the accepted plans shall be in writing. No changes shall be made of any plan or drawing after the same has been accepted by the Public Works Director except by consent of the Public Works Director in writing.

CONFORMITY WITH PLANS AND ALLOWABLE DEVIATIONS

MAG Specifications, Section 105.3.

COORDINATION AND INTERPRETATION OF PLANS AND SPECIFICATIONS

MAG Specifications, Section 105.4, including:

A. In the event of any doubt or question arising regarding the true meaning of these Specifications, Special Provisions, or the Plans, reference shall be made to the Public Works Director, whose decision thereon shall be final. In the event of any discrepancy between any drawing and the figures written thereon, the figures shall be taken as correct.

B. In the event of there being a conflict between one contract document and any of the other contract documents the document highest in precedence shall control and supersede the document which is contrary to it. The order of precedence of the contract documents is as follows:

1. Supplemental Agreements, the last in time being the first in precedence.
2. The formal Contract.
3. Notice Inviting Bids.
4. Information for Bidders.
5. Special Provisions.
6. Technical Specifications.
7. Plans.
8. General Conditions.
9. Contractor Proposal.

ORDER OF WORK

A. When required by the Contract Documents, the Contractor shall follow the sequence of operations as set forth therein.

B. Full compensation for conforming to such requirements will be considered as included in the prices paid for contract items of work and no additional compensation will be allowed therefore.

CONSTRUCTION STAKES, LINES AND GRADES

MAG Specifications, Section 105.8.

REMOVAL OF UNACCEPTABLE AND/OR UNAUTHORIZED WORK

MAG Specification, Section 105.11.

MAINTENANCE DURING CONSTRUCTION

MAG Specifications, Section 105.12.

COOPERATION BETWEEN CONTRACTORS

The City of Prescott reserves the right at any time to contract for and perform other additional work on or near the work covered by the contract.

When separate contracts are let within the limits of any one project, each contractor shall conduct his work so as not to interfere with or hinder the progress or completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.

The Contractor shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operation of the other Contractors within the limits of the same project. He shall join his work with that of others in an acceptable manner and shall perform it in proper sequence to that of others.

The City of Prescott will not honor any claim for extra compensation due to delays, extra work, or extension of time caused by any other Contractors working within the limits of the same project.

COORDINATION OF WORK

A. Prior to starting construction, the Contractor shall submit their construction schedule to the Public Works Director for approval.

B. It shall be the responsibility of the Contractor to maintain overall coordination of the project. Based on the general contract construction schedule prepared in accordance with these Specifications, the Contractor shall obtain from each of his Subcontractors a similar schedule and shall be responsible for all parties maintaining these schedules or for coordinating changes necessitated by unforeseen difficulties.

LINES AND GRADES.

All work under this Contract shall be built in accordance with the detailed scope of work.

MATERIALS AND WORKMANSHIP

GENERAL

MAG Specifications, Section 106.1, including:

A. Where equipment, materials, or articles are referred to in the Specifications as "or equal", or "equal to" any particular standard, the Public Works Director shall decide the question of equality.

B. Wherever any standard published specification is referred to, the latest edition or revision, including all contract amendments, shall be used unless otherwise specified. Materials of a general description shall be the best of their several kinds, free from defects, and adapted to the use for which provided. The physical characteristics of all materials not particularly specified shall conform to the latest standards published by the American Society for Testing and Materials, where applicable. All material shall be new and of the specified quality and equal to the accepted samples, if samples have been submitted.

C. All work shall be done and completed in a thorough, workmanlike manner notwithstanding any omission from these Specifications or from the Plans; and it shall be the duty of the Contractor to call the Public Works Director's attention to apparent errors or omissions and request instructions before proceeding with the work. The Public Works Director may, by appropriate instructions, correct errors and supply omissions, which instructions shall be binding upon the Contractor as though contained in the original Specifications or Plans.

SUBSTITUTION OF MATERIAL OR EQUIPMENT

MAG Specifications, Section 106.4, including: Requests relative to substitutions for materials or equipment specifically designated on the Plans or in the Specifications shall be made in writing, and such requests shall be accompanied by complete data on which the Public Works Director can make determination on the merits of the proposed substitution. The written request shall state how the product proposed for a substitution compares with or differs from the designated product in composition, size, arrangement, performance, etc., and in addition, the request shall be accompanied by documentary evidence of equality in price and delivery or evidence of difference in price and delivery. Data on price shall be in the form of certified quotations from suppliers of both the designated and proposed items. All items accepted for substitution shall be subject to all applicable provisions of the Specifications. Should substitution be allowed under the foregoing provisions, and should the item subsequently prove to be defective or otherwise unsatisfactory for the service for which it was intended, the Contractor, shall without cost to the City, and without obligation on the part of the Public Works Director, replace the item with the material originally specified.

FABRICATED MATERIALS AND SHOP DRAWINGS

Fabricated materials and shop drawings shall be handled as set forth in the Special Conditions.

MATERIALS FURNISHED BY THE CITY

MAG Specifications, Section 106.8.

STORAGE AND HANDLING OF MATERIALS

MAG Specifications, Section 106.5 and 106.6, including: Protection of materials and equipment stored on the site shall be the responsibility of the Contractor. The City reserves the right to direct the Contractor to provide proper means of protection for materials if such is deemed advisable by the Public Works Director; however, the exercise of or failure to exercise this right shall not be deemed to relieve the Contractor of his primary responsibility for protecting the material and equipment. The Contractor shall provide suitable warehouses or other adequate means of protection for such if the materials and equipment require storage and protection. The Contractor shall store and care for the materials and equipment in the most suitable manner to protect them from distortion, rain, dust, or other damage. The cost of replacing any material or equipment damaged in storage shall be borne by the Contractor, and the fact that material or equipment has been damaged after partial payment has been made shall not relieve the Contractor of his primary responsibility. No motor shall be left uncovered or unprotected.

REJECTED MATERIALS

MAG Specifications, Section 106.7.

UTILITIES

MAG Specifications, Section 107.11.

DRIVEWAYS AND WALKS

Inconvenience caused by digging across driveways and sidewalks shall be kept to a minimum by restoring the serviceability of the drive or sidewalk as soon as possible. Before blocking driveways, the Contractor shall notify the property owner. The Contractor shall replace or repair any damage done to driveways and walks to not less than the condition existing prior to the Contractor's work. If it is necessary to leave an excavation open across driveways or sidewalks, the Contractor shall provide temporary relief in the form of steel plates over the excavation. Direct access shall be provided at all times to fire engine houses, fire hydrants, hospitals, police stations, and at all other agencies or services where emergencies may require immediate access to same.

ROADS AND FENCES

Streets and roads subjected to interference by the prosecution of this work shall be kept open and maintained by the Contractor until the work is completed.

TREES AND SHRUBBERY

A. All trees and shrubbery within the right-of-way or easements shall be protected by the Contractor insofar as practicable.

B. In the event shrubbery or trees must be trimmed, or removed, the Contractor shall notify the property owner to do so within a reasonable time prior to construction. All shrubbery or trees not removed by the property owner shall be trimmed or removed by the Contractor and hauled from the job at the Contractor's expense.

C. All trees, shrubs, hedges, brush, etc. designated on the Plans, or by the Public Works Director for removal, shall be completely removed and disposed of as indicated on the Plans or as specified by the Public Works Director.

IRRIGATION DITCHES AND STRUCTURES

The Contractor shall contact the owners of any ditches, irrigation lines, and appurtenances, which interfere with the work and shall make arrangements for dry- up or scheduling of water deliveries. The Contractor shall be liable for any damage due to irrigation facilities damaged by his operations and shall repair such damaged facilities to an "equal or better than" original condition.

SUBMITTALS

Per MAG Specifications, Section 105.2, including:

A. In ample time for each to serve its proper purpose and function, the Contractor shall submit to the Public Works Director such schedules, reports, drawings, lists, literature samples, instructions, directions, and guarantees as are specified or reasonably required for construction, operation, and maintenance of the facilities to be built and/or furnished under this Contract.

B. Shop drawings and data shall be submitted to the Public Works Director in such number of copies as will allow him to retain four (4) copies of each submittal. The submittal shall clearly indicate the specific area of the Specifications or Plans for which the submittal is made. The additional copies received by him will be returned to the Contractor's representative at the job site. The Public Works Director's notations of the action, which he has taken, will be noted on one (1) of these returned copies.

C. The above drawings, lists, prints, samples, and other data shall become a part of the Contract and a copy of the same shall be kept with the job site plans and the fabrications furnished shall be in conformance with the same.

MATERIALS AND EQUIPMENT SCHEDULES

Drawings of minor or incidental fabricated materials and/or equipment may not be required by the Public Works Director. The Contractor shall furnish the Public Works Director tabulated lists of such fabrications, showing the names of the manufacturers and catalog numbers, together with samples of general data as may be required to permit determination by the Public Works Director as to their acceptability for incorporation in the work.

QUALITY CONTROL

A. All material shall be of the specified quality and equal to the approved samples, if samples have been submitted. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from these Specifications or from the Plans; and it shall be the duty of the Contractor to call the Public Works Director's attention to apparent errors or omissions and request instructions before proceeding with the work. The Public Works Director may, by appropriate instructions, correct errors and supply omissions, which instructions shall be as binding upon the Contractor as though contained in the original Specifications or Plans.

B. Materials which will require testing and inspection at the place of origin shall not be shipped prior to such testing and inspection.

SAMPLES AND TESTS

Per MAG Specifications, Sections 106.2 and 106.3, including:

A. At the option of the Public Works Director, the source of supply of each of the materials shall be approved by him before the delivery is started and before such material is used in the work. Representative preliminary samples of the character and quality prescribed shall be submitted by the Contractor or producer of all materials to be used in the work for testing or examination as desired by the Public Works Director.

B. Sieves used in determining the grading of samples of aggregates, select material, and other graded materials, shall conform to ASTM Designation E 11-81.

LEGAL RELATIONS AND RESPONSIBILITY

LAWS TO BE OBSERVED

MAG Specifications, Section 107.1.

ALIEN LABOR

The Contractor shall comply with the Immigration Reform and Control Act of 1996.

CONTRACTOR IMMIGRATION WARRANTY

The Contractor understands and acknowledges the applicability to it of the American with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: The Contractor must also comply with A.R.S. § 34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. § 34-302, as amended, "Residence Requirements for Employees".

Under the provisions of A.R.S. § 41-4401, Contractor hereby warrants to the City that the Contractor and each of its subcontractors ("Subcontractors") will comply with, and are contractually obligated

to comply with all Federal Immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A) (hereinafter "Contractor Immigration Warranty").

A breach of the Contractor Immigration Warranty shall constitute a material breach of this Contract and shall subject the Contractor to penalties up to and including termination of this Contract at the sole discretion of the City.

The City retains the legal right to inspect the papers of any Contractor or Subcontractors employee who works on this Contract to ensure that the Contractor or Subcontractor is complying with the Contractor Immigration Warranty. Contractor agrees to assist the City in regard to any such inspections.

The City may, at its sole discretion, conduct random verification of the employment records of the Contractor and any of subcontractors to ensure compliance with Contractor's Immigration Warranty. Contractor agrees to assist the City in regard to any random verification performed.

Neither the Contractor nor any Subcontractor shall be deemed to have materially breached the Contractor Immigration Warranty if the Contractor or Subcontractor establishes that it has complied with employment verification provisions prescribed by sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. § 23-214, Subsection A.

The provisions of this Article must be included in any contract the Contractor enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.

COMPLIANCE WITH FEDERAL AND STATE LAWS

The Contractor understands and acknowledges the applicability to it of the American with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: The Contractor must also comply with A.R.S. §34-301, "Employment of Aliens on Public Works Prohibited", and A.R.S. §34-302, as amended, "Residence Requirements for Employees".

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The City may, at its sole discretion, conduct random verification of the employment records of the Contractor and any of the subcontractors to ensure compliance with Contractor Immigration Warranty. Contractor agrees to assist the City in regard to any random verification performed.

Neither the Contractor nor any of the Subcontractors shall be deemed to have materially breached the Contractor Immigration Warranty if the Contractor or Subcontractor establishes that it has complied with the employment verification provisions prescribed by sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. §23-214, Subsection A.

The provisions of this Article must be included in any contract the Contractor enters into with any and all of its subcontractors who provide services under this Contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by building or transportation facility or improvement to real property.

EMPLOYMENT PROVISIONS

Subject to existing law, and regulations, illegal or undocumented aliens will not be employed by the Contractor for any work or services to be performed pursuant to this contract. The Contractor will ensure that this provision is expressly incorporated into any and all Subcontracts or subordinate agreements issued in support of this contract. Contractor agrees to comply with the provisions of section 274A(a)(1)(A) and

274A(a)(2) of the Immigration and Nationality Act (8 U.S.C. 1324a(a)(1)(A), 1324a(a)(2)) (the "INA employment provisions"), and any amendments thereto, prohibiting the unlawful employment of illegal or undocumented aliens. Under the terms of this agreement, the contractor shall not knowingly hire or employ for any work performed pursuant to this contract any workers or employees not lawfully authorized to work under the provisions of the Immigration and Nationality Act or any other applicable federal or state laws. Violation of the provisions of this section shall be deemed a material breach of this contract.

INDEPENDENT CONTRACTOR STATUS.

It is expressly agreed and understood by and between the parties that the Contractor is being retained by the City as an independent contractor, and as such the Contractor shall not become a City employee, and is not entitled to payment or compensation from the City or to any fringe benefits to which other City employees are entitled. As an independent contractor, the Contractor further acknowledges that he is solely responsible for payment of any and all income taxes, FICA, withholding, unemployment insurance, or other taxes due and owing any governmental entity whatsoever as a result of this Agreement. As an independent contractor, the Contractor further agrees that he will conduct himself in a manner consistent with such status, and that he will neither hold himself out nor claim to be an officer or employee of the City by reason thereof, and that he will not make any claim, demand or application to or for any right or privilege applicable to any officer or employee of the City, including but not limited to workmen's compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

NONDISCRIMINATION

The Contractor, with regard to the work performed by it after award and during its performance of this contract, will not discriminate on the grounds of race, color, national origin, religion, sex, disability or familial status in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Contractor will not participate either directly or indirectly in the discrimination prohibited by or pursuant to Title VI of the Civil Rights Act of 1964, Section 504 of the Rehabilitation Act of 1973, Section 109 of the Housing and Community Development Act of 1974, the Age Discrimination Act of 1975, the Americans With Disability Act (Public Law 101-336,

42 U.S.C. 12101-12213) and all applicable federal regulations under the Act, and Arizona Governor Executive Orders 99-4, 2000-4 and 2009-09 as amended.

AMERICANS WITH DISABILITIES ACT

Contractor shall comply with all federal, state and local nondiscrimination statues in the operation, implementation and delivery of, including state and federal civil rights and disabilities laws. In particular the contractor shall ensure that the City of Prescott's obligations for program, facility and service accessibility in Title II of the Americans with Disabilities Act are complied with in all activities arising under this contract, and shall hold harmless the City for any and all loss, including but not limited to damages, costs or expenses, incurred or arising from any alleged violations of expenses, incurred or arising from any alleged violation of the Americans with Disabilities Act under the auspices of this contract unless resulting from an intentional or actual negligent act of the City and its employees. Failure to comply with the nondiscrimination or accessibility requirements herein shall be construed as nonperformance and may result in termination of funding, civil action or both.

PERMITS, TAXES AND LICENSES

MAG Specifications, Section 107.2, including: Except as otherwise provided in the Specifications, it is the duty of the Contractor to procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work. All applicable permits, licenses and taxes are the responsibility of the Contractor.

PATENTED DEVICES, MATERIALS AND PROCESSES

MAG Specifications, Section 107.3.

SURVEY LAND MONUMENTS

Survey land monuments and property marks shall not be moved or otherwise disturbed by the Contractor until an authorized agent of the agency having jurisdiction over the land monuments or property marks setting, has witnessed or otherwise referenced their location, and only then in accordance with the requirements of the agency having jurisdiction. Any monuments displaced by the Contractor shall be replaced at the Contractors expense.

PROTECTION OF PERSON AND PROPERTY

MAG Specifications, Sections 107.5 through 107.10, including:

The Contractor shall confine all aspects of his operations within the construction limits as identified in the project plans. Should the Contractor contemplate the use of any private property adjacent to the project, beyond the project limits, for materials and equipment storage or to perform any work, he shall first obtain the written permission of the property owner. The Contractor shall provide a copy of the owner's permission to enter the property and for what purpose to the Public Works Director prior to entering the property. The Contractor will be fully and solely responsible for any and all adverse impacts and / or damages caused by his operations on private property and the settlement of all claims pertaining thereto. Upon completion of his operations the Contractor shall obtain a signed release from the property owner pertaining to his activities on the owner's property and provide a copy of that document to the Public Works Director. The failure of the Contractor to comply with these provisions will result in the retention of some portion of Contractor funds, payable under the contract, until such claims are resolved.

PROTECTION OF ANTIQUITIES

MAG Specifications, Section 107.4.

PERSONAL LIABILITY OF PUBLIC OFFICIALS

MAG Specifications, Section 107.13.

NON-RESPONSIBILITY OF THE CITY

Indebtedness incurred for any cause in connection with this work must be paid by the Contractor, and the City is hereby relieved at all times from any indebtedness or claim other than payments under terms of the Contract.

NO WAIVER OF LEGAL RIGHTS

MAG Specifications, Section 107.14.

PROPERTY RIGHTS IN MATERIAL

Nothing in the Contract shall be construed as vesting in the Contractor any right of property in materials used after they have been attached or affixed to the work or the soil and accepted. All such materials shall become the property of the City upon being so attached or affixed and accepted.

PAYMENT TO CONTRACTORS

GENERAL

A. The basis of payment for construction of this project shall be unit prices for all work actually performed in accordance with the Specifications and Scope of work, and shall include all labor and materials incorporated in the completed work.

B. Upon final inspection and acceptance of the work, the City will pay the Contractor the amount earned under the Contract, as provided herein.

PARTIAL PAYMENT

A. Once each month, the City Project Inspector and the Contractor's Superintendent shall meet or as necessary to jointly measure all work items under the contract to determine pay quantities for each pay period. Quantities of work items shall be documented on the respective plan sheets and separately in tabular fashion with Station to Station measurements noted to assure there is no duplication of payment for work performed. Measurements will be for work actually completed. No projections for expected completion of work will be allowed.

B. Contractor shall submit partial payment requests in a format approved by Public Works together with the City of Prescott Pay Request Application and Certification for Payment (form provided by Public Works) or equal, subject to approval by the Public Works Director.

C. The City will retain ten percent (10%) of the amount of each such estimate to insure full and faithful compliance with the terms of these contract documents. After fifty percent (50%) of the work on this project has been completed, one half (½) of the amount retained shall be paid to the Contractor provided the Contractor is making satisfactory progress on the contract and there is no specific clause or claim requiring a greater amount to be retained. After the contract is fifty percent (50%) completed, only five percent (5%) of the amount of any subsequent progress payments made under the contract shall be retained provided the Contractor is making satisfactory progress on the project, except that if at any time the City determines satisfactory progress is not being made, ten percent (10%) retention shall be reinstated for all progress payments made under the contract subsequent to the determination.

D. The Contractor shall furnish a detailed breakdown showing unit prices and quantities for use in preparing the monthly estimate. No partial payment will be made until this breakdown is presented by the Contractor and has been reviewed and accepted by the Public Works Director. Green-lined plan sheets shall be submitted with each monthly pay request illustrating the line item quantities constructed for the period. The green-lined plan sheets and pay estimate spreadsheets must reconcile with one another.

E. No partial payment for job site delivered material will be made.

PAYMENT

For and in consideration of the faithful performance of the work, the City will pay to the Contractor the amount earned less retention as computed from the actual quantities of work performed under the Contract and to make such payment in the manner and at the time(s) specified, as follows:

A. After final completion under the Contract, the Contractor shall render to the City a final estimate, which shall show the amount of work performed according to the Contract.

B. Before the final payment will be made, the Contractor shall satisfy the City by affidavit that all bills for labor and materials incorporated in the work have been paid. See CONTRACTOR'S AFFIDAVIT REGARDING SETTLEMENT OF CLAIMS AND CERTIFICATION OF COMPLETION OF WARRANTIES, page 22. Additionally, the Contractor shall furnish lien waivers for all completed labor and materials consumed during the project.

C. Final payment constituting the entire unpaid balance of the Contract sum (including all retained moneys) shall be paid by the City to the Contractor within sixty (60) days after completion of the work or filing the Notice of Completion of the Contract unless a specific written finding by the City of the reasons justifying the delay in payment is provided to the Contractor, and further provided that all work has been completed, the Contract fully performed, and any final certificate has been issued by the City's architect, if any. Prior to the final payment to the Contractor, the City shall deduct therefrom any and all unpaid privilege, license and other taxes, fees and any and all other unpaid moneys due the City from the Contractor, and shall apply to those moneys to the appropriate account. Contractor shall provide to the City any information necessary to determine the total amount(s) due. The quantities appearing in the Bidding Schedule are approximate only, and are prepared for the comparison of bids. Payment to the Contractor will be made only by actual quantities of work performed and accepted in accordance with the requirements of the Contract. Only the items listed in the Bidding Schedule are pay items. The scheduled quantities of work to be done and materials to be furnished may each be increased, decreased or omitted.

D. **Final project As-built plans shall verify line item quantities constructed for the project by individual plan sheet.** Contractor shall submit final payment request in a format approved by Public Works together with the City of Prescott Pay Request Application and Certification for Payment (form provided by Public Works).

PAYMENT OF ITEMS IN PROPOSAL

A. Only those items listed in the Proposal under Bidding Schedule are pay items.

B. Compensation for all work necessary for the completion of the project or improvement shall be included by the bidder in the price bid for the items shown in the Proposal.

CHANGES IN THE WORK

A. The City, without invalidating the Contract, may order extra work, make changes by altering, or delete any portion of the work as specified herein, or as deemed necessary or desirable by the

Public Works Director. All such work shall be executed under the conditions of the original Contract except that any claim for extension of time and additional cost caused thereby shall be adjusted at the time of ordering such change or extra work.

B. Extra work shall be that work not indicated or detailed on the Plans and not specified. Such work shall be governed by all applicable provisions on the Contract Document.

C. In giving instructions, the Public Works Director shall have authority to make minor changes in the work, not involving extra cost, and not inconsistent with the purposes of the work, but otherwise, except in an emergency endangering life or property, no extra work or change shall be made unless in pursuance of a written order by the Public Works Director, and no claim for an addition to the total amount of the Contract shall be valid unless so ordered. It is mutually understood that it is inherent in the nature of municipal construction that some changes in the Plans and Specifications may be necessary during the course of construction to adjust them to field conditions, and that it is of the essence of the Contract to recognize a normal and expected margin of change. The Public Works Director shall have the right to make such changes, from time to time, in the Plans, in the character of the work, and in the termination of the completion of the work in the most satisfactory manner without invalidating the Contract.

D. Any change ordered by the Public Works Director which involves installation of work essential to complete the Contract, but for which no basis of payment is provided for herein, said payment therefore shall be subject to agreement prior to said work being performed.

E. The prices agreed upon and any agreed upon adjustment in Contract time shall be incorporated in the written order issued by the Public Works Director, which shall be written so as to indicate acceptance on the part of the Contractor as evidenced by his signature. In the event prices cannot be agreed upon, the City reserves the right to terminate the Contract as it applies to the items in questions and make such arrangements as it may deem necessary to complete the work, or it may direct the Contractor to proceed with the items in question to be reimbursed pursuant to the unit prices in the Contractor's bid or on a force account basis as provided hereinafter, at the City's option.

FORCE ACCOUNT

The compensation for force account work performed by the Contractor shall be approved by the Public Works Director in the following manner:

A. LABOR: The Contractor shall provide monthly certified payroll reports for all labor and for foremen in direct charge of the specific operations. The Contractor will be compensated as follows:

1. The actual cost of wages paid by him but at rates not to exceed those for comparable labor currently employed on the project as determined by Public Works Director.

2. The actual cost of social security taxes and unemployment compensation insurance. There will be no payment for Fringe Benefits unless mandated by Federal Law on Federally funded projects.

3. An amount equal to fifteen percent (15%) of the actual cost of wages and other costs listed above to cover the Contractor's profit and overhead.

4. In case work is performed by a subcontractor, the said fifteen percent (15%) will be added only once to the actual cost of the work, however, the Contractor may add five percent (5%) to the Subcontractor's price to cover his own overhead and supervision.

B. TOOLS AND EQUIPMENT: For any special or heavy equipment, the use of which has been authorized by the Public Works Director, except for small tools and manual equipment, the Contractor shall be reimbursed his actual cost of rental, not to exceed the latest Schedule of Equipment Rental Rates published by the Arizona Department of Transportation. In the event that any of the equipment to be used is not shown in said schedule, the rental rate for such equipment shall be as agreed upon in writing before the work is started. No percentage shall be added to equipment rental rates. In the event said special or heavy equipment is owned by the Contractor, he shall be compensated only for the actual hours said equipment is required for the work under Force Account on the job site, at a rate not to exceed the latest ADOT. Schedule of Equipment Rental Rates.

C. MATERIALS: For all materials accepted by the Public Works Director and used in the work the Contractor shall be paid the actual cost of such material, including transportation charges, to which cost shall be added a sum equal to fifteen percent (15%) thereof.

D. SUPERVISION OVERHEAD and HOME OFFICE OVERHEAD: No allowance shall be made for general superintendence. The cost of supervision and all overhead is presumed to be included in the fifteen percent (15%) added in accordance with the above.

E. RECORDS: The Contractor's representative and the Public Works Director shall compare the records of the work performed as ordered on a force account basis at the end of each day on which such work is performed. Copies of these records shall be made on suitable forms provide for this purpose and signed by both the Public Works Director and the Contractor's representative. All claims for work done on a force account basis shall be certified and submitted to the Public Works Director by the Contractor, and such statements shall be filed with the Public Works Director not later than the fifth (5th) day of the month following that in which the work was actually performed.

F. BONDS AND INSURANCE: The Contractor shall be paid the actual cost for additional bonding and insurance pertaining to Force Account work when the Contractor can provide evidence of additional payment for premiums on required payment and performance bonds. No duplication of payment for Contractors costs associated with labor costs above will be allowed.

G. The Public Works Director authorized representative is in charge of Force Account Work and has the authority to direct which labor and equipment will be used, to suspend operations, and to refuse to pay for any labor or equipment, which he feels is not doing productive work.

EXTRA WORK

New or additional work will be classed as extra work when determined by the Public Works Director that such work is not covered by the Contract.

CONTRACT AMENDMENT

The value of such work or change shall be determined and paid for with a Contract Amendment in one of the following ways according to the Contract Amendment Procedure set down by the Public Works Department, City of Prescott, and at the option of the City:

A. As may be mutually agreed upon by the City and the Contractor.

B. By unit prices in accordance with the Contractor's bid.

C. By lump sum based upon the Contractor's estimate and the Public Works Director's review and acceptance of the estimate.

D. By Force Account in accordance with the requirements of that Section.

E. The Contractor shall do such extra work and furnish material and equipment therefore upon receipt of an accepted Contract Amendment or other written order of the Public Works Director. In no case shall work be undertaken without written notice from the Public Works Director to proceed with the work. In absence of such Contract Amendment or other written order of the Public Works Director, the Contractor shall not be entitled to payment for any extra work. All contract amendments must be approved by the Public Works Director. Contract Amendments over $10,000.00 must be approved by City Council.

F. In the event that the Contractor and the City cannot agree on the compensation to be paid to the Contractor prior to the issuance of a Contract Amendment, then and in that event the City has the option of terminating the Contract with the Contractor or directing the Contractor to proceed and to receive compensation pursuant to the Force Account provisions herein. In the event that this Contract is terminated by the City pursuant to this subsection, the Contractor shall only be paid for those services performed to date of the City's Notice of Termination, said payment to be based upon the unit prices as set forth in the Contractor's bid. In no event shall the Contractor be entitled to additional compensation for lost profits, mobilization or de-mobilization costs, loss of anticipated profits, extended overhead, unabsorbed home office overhead, or any other payments other than for work actually performed as based upon unit prices. In the event that there are no unit prices pertaining to work in question, then and in that event the Contractor's compensation for early termination pursuant to this subsection shall be based upon Force Account as here-in-before described.

G. It is expressly agreed that in the event of a Contract Amendment, any compensation due the Contractor shall be set forth in the Contract Amendment, and shall be considered full and complete payment (if any) for any and all work related costs, including but not limited to labor, materials, equipment, supervision, field office overhead, extended home office overhead, unabsorbed home office overhead, taxes, bonds, insurance and profits. Additionally, the Contractor shall not be entitled to any additional compensation based upon a Contract Amendment (or the accumulation of contract amendments) unless specifically set forth in that Contract Amendment.

H. In the event that the contractor submits a proposed Contract Amendment, the Public Works Director shall have ten (10) days after receipt of the Contractor's written proposed Contract Amendment to either accept or agree to the Contract Amendment under the above provisions or deny such proposed Contract Amendment. If necessary to assess the proper purpose and function of a Contractor's proposed Contract Amendment, because of the proposed Contract Amendment's complexity or scope, the Public Works Director may either accept and agree to the Contract Amendment or deny such proposed Contract Amendment under the above provisions beyond such ten (10) day period and for an additional reasonable period commensurate with the nature of the proposed Contract Amendment. The failure of any party to take any action within the time periods or in the manner specified in the subparagraph shall be deemed a waiver of that party's right to recover for such delay in acting.

CLAIMS FOR EXTRA WORK

If the Contractor claims that any instructions involve extra cost under this Contract, he shall give the Public Works Director written notice thereof within forty-eight (48) hours after the receipt of such instructions, and in any event before proceeding to execute the work, except in emergency endangering life or property, and the procedure shall then be as provided for under CHANGES IN THE WORK. No such claim shall be valid unless so made.

PARTIAL ACCEPTANCE OF WORK

A. After completion of certain units of work under this Contract, including all testing and other preparation necessary for operation of the unit by the City as herein specified, but prior to final project completion, provisions may be made for partial acceptance in writing by the City for these certain units only. The units to be included for partial acceptance prior to final project completion will be noted at the time of the pre-construction conference in accordance with Contractor's schedule, or by written notice to the Contractor at the earliest possible time.

B. The guarantee period for these units shall commence with the date of final acceptance of the entire project by the City. Full payment for these units will not be made until final acceptance of the total work is made.

C. Acceptance of any portion of the project prior to acceptance of the whole shall not be construed as absolving the Contractor of responsibility for any item of construction or incidental work included in the original Contract.

NOTIFICATION OF CHANGED CONDITIONS, FORMAL PROTEST AND DISPUTE RESOLUTION

MAG 110 as modified herein:

110.2.2(A) and 110.3.2, add the following: "In providing the information required by this section, the Contractor shall provide specific factual detail as to each item and show the methods of calculating each item."

110.3.1 shall be amended as follows:

Level I shall mean the Public Works Project Manager as appointed by the Public Works Director

Level II shall mean the Public Works Division Manager as appointed by the Public Works Director

Level III shall mean the Public Works Director

In the event of litigation, the parties hereby agree to submit to a trial before the Court. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project, which is the subject of this Agreement.

The parties hereto expressly covenant and agree that in the event of litigation arising from this Agreement, neither party shall be entitled to an award of attorney fees, either pursuant to the Contract, pursuant to ARS Section 12-341.01 (A) and (B), or pursuant to any other state or federal statute. The Contractor further agrees that this provision shall be contained in all subcontracts related to the project that is the subject of this Agreement.

110.4 The last sentence of the first paragraph shall read: "The arbitration of claims shall be conducted either in Prescott or Phoenix, Arizona as agreed to by the parties, or if the parties cannot agree, to be determined by the arbitrator, taking into consideration the convenience and costs to the parties and their witnesses."

Delete the last two sentences of the section and replace with: "The decision or award of the arbitrator shall be nonbinding."

Any resolution of a dispute in accordance with the applicable sections of MAG110 and this Contract which causes the Contract amount to be exceeded by $10,000.00 or more shall not be final until approved by the City Council.

PUBLICITY RELEASES

The Contractor and their subcontractors and their suppliers, if any, shall not reveal to others through literature, brochures, or other types of publicity releases any information regarding the work or the Contractors activities or participation on the project without prior written approval from the City of Prescott Public Works Director. Any and all jobsite photographs taken by the Contractor, subcontractor or others must be processed in duplicate form with copies provided to the Public Works Director. No project photographs shall be released to others without prior written approval of the Public Works Director.

SCOPE OF WORK

INTENT OF PLANS AND SPECIFICATIONS

A. The intent of the Specifications and Scope of Work is to prescribe a complete work for the CITY OF PRESCOTT: Willow Creek Road Realignment Project which the Contractor shall perform in a manner acceptable to the City Public Works Director and in full compliance with the terms of the Contract.

B. Unless otherwise specified in the Special Conditions, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and incidentals, including, but not limited to, dust and traffic control measures, and to perform all work involved in executing the contract in a satisfactory and workmanlike manner within the specified time.

PROJECT DESCRIPTION AND LOCATION. The Willow Creek Road Realignment Project scope of work shall generally include the construction of a realigned Willow Creek Road (WCR) between Pioneer Parkway and the Deep Well Ranch Road Roundabout. The work consists of topographic survey of a new alignment. This includes grading of new ROW, drainage facilities, construction of new roadway and approximately 7,500 lf of 12 - inch waterline from intersection of Willow Creek Road / Pioneer Parkway to the existing main at the intersection of McCurdy Drive / Clubhouse Drive.

TIME OF COMPLETION

A. The Contractor shall commence the work under this contract on or before the tenth (10th) calendar day after receiving written Notice to Proceed from the Owner. The Contractor shall fully complete all work under this contract within three hundred thirty (330) calendar days beginning with the calendar day of receipt of the Notice to Proceed. The Contractor shall at all times during the continuance of the Contract prosecute the work with such work force and equipment as is sufficient to complete the project within the time specified.

B. Project Milestones are estimated to be as follows:

Award of Contract	October 27, 2015
Pre-Construction Meeting	Week of November 6, 2015
Notice to Proceed	Week of November 9, 2015
Expected Completion Date	October 4, 2016

All milestones are "earliest" dates for planning purposes only, and shall not represent any contractual commitment whatsoever on the part of the City.

Willow Creek Road Realignment
Pioneer Parkway to Deep Well Ranch Road

Project No. CIP 13-030
Prescott, Arizona
Yavapai County

TECHNICAL SPECIFICATIONS
AND SPECIAL PROVISIONS

September 16, 2015

Registered Professional Engineer (Civil)
CERTIFICATE NO.
25015
ANDREW JOHN
SPEAR
Date Signed 9/16/15
ARIZONA, U.S.A.
Expires 06/30/16

Dibble Engineering
7500 N. Dreamy Draw Drive, Suite 200
Phoenix, AZ 85020
602.957.1155

Registered Professional Engineer (Civil)
CERTIFICATE NO.
41956
EZRA M.
PAGE
Date Signed 9/16/15
ARIZONA, U.S.A.
Expires 03/31/17

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TECHNICAL SPECIFICATIONS

100.1 SCOPE OF WORK

A. INTENT OF PLANS AND SPECIFICATIONS

1. The intent of the Specifications and Scope of Work is to prescribe a complete work for the Willow Creek Road Realignment, Pioneer Parkway to Deep Well Ranch Road Project which the Contractor shall perform in a manner acceptable to the City of Prescott and in full compliance with the terms of the Contract.

2. Unless otherwise specified in the Special Conditions, the Contractor shall furnish all materials, labor, tools, equipment, water, light, power, transportation, superintendence, temporary construction of every nature, and incidentals, including, but not limited to, dust and traffic control measures, and to perform all work involved in executing the contract in a satisfactory and workmanlike manner within the specified time.

3. The "Engineer" shall be that person or his designees employed by or contracted by the City of Prescott responsible for all aspects of the project and with the authority to make revisions to and approve changes to the plans or specifications.

B. PROJECT DESCRIPTION AND LOCATION

1. The Willow Creek Road Realignment Project scope shall generally include realigning Willow Creek Road between Pioneer Parkway and Deep Well Ranch Road as a City of Prescott 2-lane rural, non-curbed section, Type C. The project includes roadway grading, drainage improvements, pavement, waterline, utility relocations, cattle pass structures, SWPPP, and striping and signing. The project is located within the jurisdiction of the City of Prescott (City), Yavapai County, and the Arizona Department of Transportation (ADOT).

C. TIME OF COMPLETION

1. The Contractor shall commence the work under this contract on or before the tenth (10th) calendar day after receiving written Notice to Proceed from the Owner. The Contractor shall fully complete all work within **330** calendar days in accordance with the date set forth in the Notice to Proceed. The Contractor shall at all times during the continuance of the Contract prosecute the work with such work force and equipment as is sufficient to complete the project within the time specified.

100.2 STANDARD SPECIFICATIONS & DRAWINGS

A. Standard details and specifications for this project shall be the Central Yavapai County Governments Unified Construction Standards (YAG Standards), latest revision, in conjunction with the latest revisions of the Maricopa Association of Governments Standard Specifications and Details (MAG Standards), except as modified in the plans and by these technical specifications.

B. Other standard specifications and details will be incorporated within the plans, project documents and technical specifications by reference, as necessary. These may include references to Maricopa Association of Governments Uniform Standard Details for Public Works Construction (MAG Standard Details Arizona Department of Transportation Standard Specifications and Standard Drawings for Road and Bridge

Construction (ADOT Specifications or ADOT Standard Details), City of Prescott (COP) revisions to YAG Standards, and others.

100.3 GENERAL NOTES

A. All construction shall conform to Central Yavapai County Governments Unified Construction Standards and Specifications (YAG Standards), latest revisions, unless modified on the plans, in conjunction with the latest revisions of the Maricopa Association of Governments Standard Specifications and Details (MAG Standards) unless specifically modified on the plans.

B. It shall be the Contractor's responsibility to obtain copies of YAG, MAG, and City of Prescott (COP) Standards and Specifications as well as all other standards and specifications necessary to completely and accurately interpret the plans.

C. All plans signed by the Public Works Director are null and void one year from date of signature if construction has not started.

D. All quantities shown on plans are not verified by the Engineer. The Contractor shall verify all quantities shown and make his bid based upon those verifications. If any discrepancy in quantities is found, Contractor shall notify the Engineer of such no later than 24 hours prior to bid opening.

E. A City of Prescott Public Works Department permit will be required for all off-site construction and construction within the public right of way.

F. It is the sole responsibility of the Contractor to obtain, at his own expense, such permits as are required from the appropriate agencies.

G. The Public Works Department shall be notified a minimum of 24 hours prior to beginning any construction in the public right of way at (928) 777-1640.

H. Inspection is to be done by the City of Prescott Public Works Department.

I. Any work performed without the knowledge of the City of Prescott inspector or his representative is subject to removal and replacement of same, to be done at the Contractor's expense.

J. All work and materials, which do not conform to the specifications, are subject to removal and replacement at the Contractor's expense.

K. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until the written final acceptance of a complete and workable unit.

L. The City of Prescott may suspend the work by written notice when, in its judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is a danger to the public health and safety.

M. The Contractor shall provide sufficient men and equipment on the job at all times during construction to comply with specifications and to complete work.

N. Contractor shall be responsible for construction surveying and layout.

O. The Contractor shall notify "Blue Stake" at 811 or 1-800-782-5348 at least 48 hours prior to construction.

P. It is the Contractor's responsibility to locate all underground pipelines, telephone and electric conduits and structures in advance of any construction and will observe all possible precautions to avoid any damage to such. The Engineer and/or City will not guarantee any locations as shown on these plans, or those omitted from it.

Q. The Contractor is to uncover all existing lines being tied into and verify grades before any other construction.

R. Arizona Department of Environmental Quality Requirements shall be complied with.

S. All water lines shall be provided with 14-gauge single strand copper wire. Trace wire shall be subject to traceability test.

T. Water/sewer separation shall be pursuant to AAC R-18-4-502C and YAG specifications.

U. Water mains shall be subject to a pressure and leakage test in accordance with AWWA C-600 Standard.

V. Water mains shall be disinfected in accordance with ADEQ Engineering Bulletin No. 8 "Disinfection of Water Systems".

W. Operation of valves to be done by City personnel only.

X. Ductile Iron Pipe to be installed per manufacturer's requirements.

Y. All materials for water line construction shall meet AAC R-18-4-119.

Z. Arizona Department of Environmental Quality requirements will apply when more stringent than YAG Standard Specifications -- more specifically where they pertain to maximum allowable sewer line/pressure sewer line exfiltration-infiltration rates.

AA. Sewer line low-pressure air tests shall be done on 100% of all lines.

BB. Sewer manholes exfiltration tests shall be done on 100% of all manholes. Vacuum testing in accordance with City of Prescott Standards may be used in lieu of exfiltration test.

CC. Sewer line deflection tests shall be done on 100% of all lines.

DD. Prior to project acceptance, the Contractor shall be responsible for providing the City of Prescott with DVD video of the entire sewer main installed. The video will be previewed and deemed acceptable by the City prior to project release.

EE. Acceptance of the completed water/sewer system will not be given until 3 ml photo Mylar or Xerox graphic "as-built" reproducible plans have been submitted by a Registered Professional Engineer and approved by the Engineer.

FF. Contractor shall warrant all work for a minimum of two years after formal acceptance of the work.

100.4 PUBLIC RELATIONS

Description:

The Contractor shall be required to furnish a private telephone line to be used solely for receiving incoming calls from local citizens with questions or complaints concerning construction operations or procedures. The Contractor shall be required to publish this telephone number and maintain a 24-hour answering service. The answering service shall be manned by Contractor personnel during all hours during the course of construction that there is work being performed on this project. The Contractor shall maintain a log of incoming calls, responses, and action taken, which shall be submitted to the Public Works Director weekly and on request.

The Contractor shall retain the services of a community relations organization for this project. The Contractor shall submit for approval, to the Public Works Director, the resume of the proposed community relations organization. Included in the resume shall be the names and credentials of the staff. The community relations organization shall be proactive and knowledgeable in the means and effectiveness of various notification techniques. The Public Works Director will rely on the organization's experience and suggestions in the presentation of information to the public. The Public Works Director will review the resume and possibly interview the organization. The Public Works Director will notify the Contractor within ten calendar days of the acceptability of the community relations organization. Upon notification by the Public Works Director of an acceptable community relations organization, the Contractor shall hire the organization.

The community relation organization's activities shall include, but not necessarily be limited to:

a. Printing and distribution of public notices.
b. Providing media news releases after review by the Public Works Director.
c. Planning and attending other public meetings as required by the Public Works Director.
d. Planning or otherwise participating in the Dedication Ceremonies as requested by the Public Works Director.
e. Possess the means for the development and fabrication of newsletters, notices, posters and demonstration boards.
f. Providing telephone "Hot Line" 24-hour service.

A pre-construction meeting will be scheduled between the Public Works Director and the Contractor to specifically address the hiring of a community relations organization. This meeting will be scheduled as soon as possible after the Award. The intent is to have a community relations organization on board prior to the pre-construction meeting, a meeting in which the community relations organization will have an important participatory role.

The community relations organization shall develop a community relations program. The program shall include but not necessarily be limited to:

A. Distributing a pre-construction information letter to all residents, businesses, schools and churches within an area determined by the Public Works Director, which shall contain, as a minimum, the following information:
    a. Name of contractor.
    b. A 24-hour informational telephone number.
    c. Brief description of project.
    d. Names of project manager and superintendent (contractor).
    e. Name of project engineer (Public Works Department).
    f. Construction schedule including anticipated work hours.
    g. Traffic regulations including lane restrictions.

h. Time and place for the pre-construction meeting. This notification shall be delivered a minimum of five working days prior to the meeting.

B. Holding a pre-construction community meeting with affected neighbors, businesses, schools, churches, etc., as directed by the Public Works Director.

C. Scheduling and conducting progress meetings, as required, with the affected business tenants and property owners.

D. Printing and mailing of public notices and/or newsletters, including a list of the names, addresses and receipt of postage or delivery for recipients of these newsletters and/or notifications.

E. Holding other public meetings as required by the Public Works Director.

F. The community relations organization shall use the means (Items A through E) or others to inform the local citizens of operations which may create changes to the norm such as high noise levels, road closures, limited access, haul routes, changes to material delivery routes, unusual hours of construction, disruption of bus routes or changes to other passenger delivery/pick-up routes.

G. Newsletters shall be distributed each month. A final draft shall be submitted to the Public Works Director for review and approved at least two days before the planned distribution. Each distribution area shall be approved by the Public Works Director. Each distribution shall include twelve copies for the Public Works Director.

H. The community relations organization shall keep daily personnel time logs which shall include the name of the employee, date of work, amount of time worked, description of work performed and project number.

Method of Measurement and Basis of Payment:
The bid schedule includes an allowance for Public Relations for the purpose of encumbering funds to cover the cost of Public Relations. The amount of the allowance is determined by the Public Works Director and is not subject to individual bid pricing. All bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total bid for this project.

It shall be understood that this allowance item is an estimate only. The allowance shall not be used without approval of the Public Works Director, and in no case exceed the allowance.

Reimbursement for Public Relations shall be based on the community relations organization invoice cost, plus an allowable markup to the prime contractor of 15%, for those services approved by the Public Works Director.

Pay Item: 100.4 Public Relations Allowance **LS**

104.1.4 CLEANUP AND DUST CONTROL

A. The work under this item shall consist of applying water required for dust control per MAG Specifications and as modified herein.

B. If in the opinion of the Public Works Director the Contractor fails to keep dust for his operation under control, the Public Works Director may order by written order suspension of operations until the situation is remedied. No time extension or additional costs will be allowed for this suspension.

C. All contractors requesting construction water from the City must submit a Construction Water Meter Application to the Public Works Department. A $1,000 deposit will be required for hydrant meters. If construction water use occurs during the months of May through September the Contractor shall also include a dust abatement program. Potable water may not be allowed for dust abatement during these months. Potable water can be used to process embankment fill and base materials year round. However, contractors are encouraged to use treated effluent for construction activities. The City of Prescott has two outlets for effluent, the Sundog Wastewater Treatment Plant and the Airport Wastewater Treatment Plant. The City will provide metered standpipes for effluent at both plants. The Contractor will be required to estimate daily and total potable/effluent water usage for the project as identified on the Construction Water Meter application. The Contractor will be responsible for all costs associated with obtaining and delivering construction water.

D. No separate measurement or payment shall be made for dust control. This work shall be considered incidental and included in the unit price bid for construction of the appropriate contract pay items.

104.1.5 FINAL CLEANING UP

MAG Section 104.1.5 is supplemented as follows:

104.1.5.1 RESTORATION Requirements

A. Upon completion of construction and before Final Acceptance can be made by the Engineer, the Contractor shall clean up each individual construction area to the satisfaction of the Engineer. Small trees, weeds, and brush, which were removed as part of construction work, shall be removed from the project site and properly disposed of. Existing landscape improvements, drainage ditches, etc., shall be restored in "like kind" so that the improvement is put back in as close to its prior state as possible. Restoration of incidental items impacted by construction activity shall be in accordance with MAG Section 104.1.3 and 104.1.4. All debris, broken pipe, concrete and other construction debris shall be removed from the project site and properly disposed. The Contractor shall restore each individual work site to grades existing before construction work, including wheel ruts and other scarring. No separate payment will be made for restoration of items impacted by the Contractor's construction operation and the cost of these items shall be included in the unit bid prices in the bid schedule.

B. Mailboxes and traffic signs removed during construction shall be reinstalled in "like kind" and shall be considered incidental to the unit prices for utility work included in the bidding schedule.

104.3 MOBILIZATION

A. Mobilization shall consist of preparatory work and operations, including but not limited to, the movement of personnel, equipment, supplies and incidentals to the project site; the establishment of all office buildings and other facilities necessary for work on the project, and for all other work and operations that must be performed and costs incurred prior to beginning work on the various items on the project site.

B. **Measurement and Payment**

Mobilization will be measured for payment by the lump sum bid as a single complete unit of work. Payment for mobilization will be made as provided herein which shall be full compensation for supplying and furnishing all materials, facilities, and services and performing all the work involved as specified above. The total amount allowed for mobilization during the life of the contract shall not exceed nine percent (9%) of the original contract amount. If the bid price exceeds this percentage the excess amount will be paid to the Contractor upon completion of the contract and nine percent of the contract amount shall be used to determine partial payments. Partial payments under this item will be made in accordance with the following provisions:

C. The first payment of one third of the lump sum price for mobilization may be made provided that all submissions required under Sub-section 108.3 and elsewhere herein are submitted by the Contractor at the pre-construction conference to the satisfaction of the Engineer and when the Engineer has determined that a significant amount of equipment has been mobilized to the project site which will be used to perform portions of the project work.

The second payment of one third of the lump sum price for mobilization shall be made on the first estimate following completion of 13 percent of the contract.

The third payment of one third of the lump sum price for mobilization will be made on the first estimate following completion of 26 percent of the contract.

Pay Item: 104.3 Mobilization **LS**

105.6 COOPERATION WITH UTILITIES

MAG Section 105.6 is supplemented as follows:

105-6A Location of Underground Utilities

A. Contractor shall contact Blue Stake within the time frame specified under Blue Stake law and request field location of underground utilities. At the time these locations have been marked and prior to the commencement of excavation within the affected area, the Contractor shall at his expense manually determine the exact location of all buried facilities.

B. Contractor shall notify all affected utilities prior to the start of construction and shall ascertain the location of the various underground utilities either shown on the plans and/or as may be brought to his attention.

C. Contractor shall perform all operations in accordance with Arizona Blue Stake law.

D. Utility locations shown on the plans are approximate and based on drawings furnished by the respective utility. It shall be the Contractor's responsibility to protect all existing utilities. Should a utility conflict

occur, the Contractor shall cooperate with the said utility to resolve the conflict. No claim for extra costs shall be made against the Owner for delays due to any utility conflict.

E. If performance of the Contractor's work is delayed because the utility owners fail to relocate or adjust their facilities in a timely manner, the Contractor may file for an extension of time. To receive consideration, this request shall contain specific information as to the nature of the delay and the actual loss of time involved.

F. Contractor shall assume full responsibility for damage to all marked utilities due to his operations and shall repair the damaged utilities in accordance with regulatory authority requirements at his own expense.

G. **Measurement And Payment**

1. No separate measurement and payment shall be made for Location of Underground Utilities. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

105.8 CONSTRUCTION STAKING

A. Construction staking shall be the responsibility of the CONTRACTOR. The control for the project is provided in the CONTRACT DOCUMENTS. The CONTRACTOR shall be held responsible for preservation of control monumentation. If any of the control monumentation have been carelessly or willfully destroyed or disturbed by the CONTRACTOR, the cost of replacing them will be charged against him and will be deducted from the payment of work.

B. Staking shall be performed and certified by a Registered Land Surveyor in good standing with the Arizona State Board of Technical Registration.

C. Field notes and record drawings shall be provided to the ENGINEER.

D. The staking shall be performed in such a manner and frequency that the CONTRACTOR is able to construct the project in accordance with the plans and specifications. At a minimum, staking shall include

1. Slope or limit stakes (TCE)

2. Alignment of Pipeline

3. Valves, bends, blow offs, air release valves, tracer wire stations, water meters and hydrant locations.

4. Horizontal and vertical bend locations.

5. Tank and appurtenances.

6. Electrical, instrumentation and control facilities, including, but not limited to, antennae pole.

7. Site improvements including, but not limited to, retaining walls, curbs, fencing, drainage, chain link fence enclosures, protection posts, gates, etc. The original grade of all retaining walls shall be surveyed and established prior to beginning any earthwork.

8. Cross-sections will be required, at no additional expense to the City, should quantity disputes arise pertaining to the following: Earthwork, Sub-grade, ABC or Asphaltic Concrete.

9. Curb stakes at all PC's, PT's, Vertical PI's (grade breaks), Transitions to and from Super Elevated sections and at 50 foot intervals.

10. Blue top of Sub-grade and ABC at intervals specified for curb. Quarter crown blue tops shall be required when the typical section is four lanes or more without median curb.

11. Other staking as needed to complete the work in conformance with the plans and specifications.

E. The ENGINEER and the CONTRACTOR's Superintendent shall meet monthly or as necessary to jointly measure all work items under the contract to determine pay quantities for each pay period. Quantities of work items shall be documented on the respective plan sheets and separately in tabular fashion with Station to Station measurements noted to assure there is no duplication of payment for work performed. Measurements will be for work actually completed. No projections for expected completion of work will be allowed.

F. All survey data will be international feet for horizontal and vertical, NAVD 88 for vertical and City of Prescott coordinates. Please refer to the City of Prescott Survey Datum Requirements below.

City of Prescott Survey Datum Requirements

Coordinate Units:	International Feet
Distance Units:	International Feet
Height Units:	International Feet
Vertical Datum:	NAVD 88
<u>State Plane</u>	
Coordinate System:	US State Plane 1983
Datum:	(WGS 84)
Zone:	Arizona Central 0202
Geoid Model:	Geoid99 (Conus)
<u>City of Prescott - Conversion from State Plane</u>	
Northing:	(State Plane x 1.000329975) - 701,456.0090
Easting:	(State Plane x 1.000329975) + 69,457.2499
<u>State Plane - Conversion from City of Prescott</u>	
Northing:	(City of Prescott + 701,456.0090) x 0.999670134

Easting: (City of Prescott - 69,457.2499) x 0.999670134

G. Measurement And Payment

1. The quantity of "Construction Staking" measured for payment shall be the lump sum bid by the CONTRACTOR. The contract unit price per lump sum paid for "Construction Staking" shall be full compensation for all labor, materials, and equipment to perform the construction staking as described in this section.

Pay Item: 105.8 Construction Staking LS

106 CONTROL OF MATERIALS

Contractor shall submit in writing all materials to be used in the project in accordance with ADOT Specification Section 106 and Subsection 730-4.

106.2 CONTRACTOR QUALITY CONTROL

A. Quality control measures sufficient to produce materials and workmanship of acceptable quality are the responsibility of Contractor. Upon request Contractor shall provide factory certificates of compliance or analysis or both to the Public Works Director. The Contractor shall provide full-time asphaltic concrete laydown compaction testing and adequate plant control for each paving day. The Contractor shall provide an independent geotechnical firm to perform all soils and concrete testing, as required, per these specifications.

B. The weekly reports shall state the type of work performed during the report period and other process control measures taken to assure quality. Type of work must be identified by activity, location, station, and offset, purpose of test, and any other relevant information that the Engineer needs to identify or replicate the quality control testing. Results of all tests, corrective actions, re-tests, and control charts shall be attached to the weekly reports. Although hand written documentation can be included, the quality control report narrative and test results must be typed to insure that clear reproductions of the documents can be made. The report period shall end at midnight each Friday and the report shall be submitted to the Engineer no later than 5:00 pm of the following Wednesday. Payment in the amount of $500.00 per report will be withheld for each individual report that is not delivered to the Engineer by the time and day specified above. Only one half of the withheld payments will be returned on the next regular project progress payment when the delinquent reports have been turned in and all of the above requirements have been met. Any report turned in more than 10 business days beyond the Wednesday due date will not be eligible for withheld payments to be returned.

Minimum Quality Control Sampling Guidelines (may not include all required testing)

MATERIAL TYPE	REQUIRED TEST	SAMPLING POINT	SAMPLING FREQUENCY	REQUIRED RESULT
Embankment	Proctor Optimum Moisture	In-Place	One per Soil Type	
	Compaction	In-Place	One per 500 LF of 8" lift	95% per ASTM D-698
Sub-grade	Proctor Optimum	In-Place	One per Soil Type	

	Moisture			
	Compaction		One per 500 LF	95% per ASTM D-698
Agg. Base	Proctor Optimum Moisture	Crusher belt or Stockpile	At start of production, then as mtl. Changes	
	Compaction	In-Place	One per 500 LF of 6" lift	98% Per ASTM D-698
	Abrasion	Source	One per source	
	Plasticity Index		One per shift	Max. 6 per AASHTO T89 & T90
	Gradation		One per shift	
	Crushed Faces		One per shift	
Asphalt Concrete PG 64-22				
	Bit. Mtl. Content		Two per day (3/day on 1st day)	
	Marshalls		Two per day	
	Rice		One per day	
MATERIAL TYPE	REQUIRED TEST	SAMPLING POINT	SAMPLING FREQUENCY	REQUIRED RESULT
	Voids, VMA		One per day	
	Compaction			95%
	Core		One per 1,000 SY	within 24 hours
Min. Agg.	Gradation		One per 1,200 tons	
	Crushed Faces		One per day	
	Sand Equivalent		One per day	45 or greater
	Abrasion		One	
Asphalt Rubber Concrete				
Open Graded Asphalt Rubber Concrete				
Asphalt Concrete Friction Course Asphalt Rubber				
		Stock pile		
	Gradation		One per day	
	Sand Equivalent		One per day	
	Crushed Faces		One per day	
	Flakiness Index		One per day	
Portland Cement Concrete				
	Air		each sample	5% +/- 1%
	Slump		each sample	max. 3.5"
	Compression		3 per 50 CY per YAG 725 Table 725	1 @ 7 day 1 @ 28 day

			1 @ 60 day if failure

C. No separate payment shall be made for Contractor Quality Control. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items. An independent geotechnical firm shall perform all quality control testing. The Contractor shall furnish copies of all test results to the City on a weekly basis.

106.9 QUALITY ACCEPTANCE TESTING

A. The Engineer may provide quality acceptance sampling and testing. The number of tests and location of each shall be determined by the Engineer. The expense of the initial sampling and testing shall be paid for by the City. Additional sampling and testing required due to failure of the initial test(s) shall be accomplished as provided by the City and these additional expenses shall be deducted from moneys due Contractor.

B. Contractor and the Engineer's representative shall coordinate on a daily basis the following day's work schedule and any testing that may be necessary. The Engineer' quality acceptance testing will generally consist of (1) daily sampling and testing for asphalt extraction/gradation and Marshall density for each paving day; and (2) asphaltic concrete core drilling after placement to verify thickness and density. A minimum of one core per each 1,000 square yards of paving shall be randomly sampled by the Contractor's quality control lab after marking by the City inspector.

C. Construction quality acceptance testing performed by the City of Prescott does not relieve the Contractor or the manufacturer of materials produced for the Contractor, of the obligation to perform and document quality control testing of materials and workmanship.

D. No separate payment shall be made for Quality Acceptance Testing or any related work performed by Contractor.

107.6 PUBLIC CONVENIENCE AND SAFETY

A. Maintenance of Traffic

1. Contractor shall at all times conduct his/her work as to ensure the least possible obstruction to traffic.

2. Unless otherwise provided, the road, while being improved shall be kept open to all traffic by Contractor. When so requested by Contractor and approved by the Public Works Director, Contractor may by-pass traffic over an approved detour route. Regardless of whether it is through or local traffic, Contractor shall keep the portion of the project being used by traffic in such condition that traffic will be adequately accommodated.

3. Contractor shall also provide and maintain in a safe condition temporary approaches or crossings and intersections with trails, roads, streets, businesses, parking lots, driveways residences, garages and farms; however, Contractor will not be required to remove snow.
4. Before any detour is opened to traffic, the Public Works Director shall have been satisfied that traffic is able to proceed in a safe manner.

5. Contractor shall bear all expense of maintaining traffic over the road being improved as well as constructing, maintaining and subsequently removing Contractor requested detours, approaches, crossings, intersections and other features as may be necessary without any direct compensation.

B. Access to Businesses/Residences

Contractor shall provide to all residents and businesses affected by the project, access to one of their driveways at all times except as modified by the following: If Contractor finds it unavoidable to temporarily close off access for any time, the residents/businesses affected shall be contacted a minimum of 48 hours in advance and an alternate procedure for access mutually agreed to. Contractor shall provide the Public Works Director with signed evidence of a mutually accepted agreement between the property owner/business manager/residential manager and Contractor prior to said closure.

C. Safety

1. The safety and convenience of the general public and the residents along the project and the protection of persons and property shall be provided for by the Contractor in accordance with the requirements of this contract.

2. Contractor shall submit a Safety Plan to the Public Works Director at the preconstruction conference. The plan shall detail the procedures The Contractor will implement to satisfy OSHA and the State Occupational Safety Guidelines related to the worker as well as public safety in construction of excavations, structures and confined air spaces as identified by the Public Works Director. Contractor's Safety Plan shall include the requirement that all workers and visitors must wear hard hats while within the project limits.

3. The Safety Plan submitted by Contractor shall include proposed methods to prevent unauthorized persons from gaining access to the work areas.

4. In conjunction with the Safety Plan, Contractor shall furnish and install 72" temporary chain link fencing, or approved equal satisfactory to the Public Works Director, around any unattended excavation deeper than four feet with slopes steeper than 2:1. Temporary fencing shall completely enclose the referenced construction activity and shall be secured after normal working hours to prevent unauthorized access.

5. Unless otherwise approved in writing by the Public Works Director, open utility trenches shall be limited to 50 ft. In length except for cast-in-place pipe installations and during non-working hours shall be covered with steel plate in a manner satisfactory to the Public Works Director.

107.11 STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

This project is subject to the Arizona Pollutant Discharge Elimination System (AZPDES) stormwater requirements for construction sites under the Environmental Protection Agency (EPA) delegation to the Arizona Department of Environmental Quality (ADEQ) for the Construction General Permit for Arizona. The following specifications shall apply:

A. General requirements - The Contractor shall comply with the Arizona Pollutant Discharge Elimination System (AZPDES) Stormwater requirements for construction sites under the Arizona Department of Environmental Quality (ADEQ) Construction General Permit for Arizona. Under provisions of that permit, the Contractor shall be designated as permittee and shall be responsible for providing the necessary labor and materials, and for taking the appropriate measures to assure compliance with the

AZPDES Construction General Permit for Arizona as well as other Federal, State and local requirements pertaining to stormwater discharges. As the permittee, the Contractor is responsible for completing, in a manner acceptable to the ADEQ, all documents required by this regulation including the following:

(1) Stormwater Pollution Prevention Plan shall be sealed by a professional engineer licensed in the State of Arizona.

(2) Stormwater Pollution Prevention Plan (SWPPP) for the project including certification form. The Contractor will be required to update and revise the SWPPP as necessary throughout the construction of the project in order to assure compliance with ADEQ permit requirements. The completed SWPPP shall be kept on the project site at all times during construction of the project.

(3) Notice of Intent (NOI) to be covered by AZPDES Construction General Permit for Arizona including certification of signature.

(4) Notice of Termination (NOT) of coverage under AZPDES Construction General Permit for Arizona (upon project completion).

Copies of necessary forms and guidance for preparing the SWPPP are available at ADEQ's website www.adeq.state.az.us/environ/water/permits/azpdes.html

B. Submittals:

(1) Preliminary Copies of the NOI and SWPPP shall be submitted to the Engineer at the time of the preconstruction meeting. Any necessary revisions to the SWPPP shall be subject to review by the Engineer, prior to implementation.

(2) The Contractor shall submit completed, signed NOI forms at least 48 hours prior to the initial start of construction on the project to ADEQ. One copy of the completed, signed NOI form shall be submitted to Arizona Department of Environmental Quality at the following address: Stormwater Program - Water Permits Section/NOI, ADEQ (5415B-3), 1110 West Washington, Phoenix, AZ 850071.

(3) Failure by the Contractor (or any of its appropriate subcontractors) to submit the NOI forms within the required time frame shall result in delay of the start of construction. The Contractor shall submit a completed copy of the NOI prior to Notice to Proceed. A copy of the completed NOI shall be posted on the construction site and a copy of the SWPPP shall be kept on the construction site.

C. Contractor's Responsibilities:

(1) It is the Contractor's responsibility to perform inspection of all stormwater pollution control devices on the project on a monthly basis and following each rainfall of 0.50 inches or more at the project site and as required under the AZPDES Construction General Permit for Arizona. The Contractor shall prepare reports on these inspections and retain these reports for a period of three years following project completion as required under the AZPDES Construction General Permit for Arizona. Inspection reports shall be submitted monthly to the contracting agency along with payment requests. The Contractor shall maintain all stormwater pollution control devices on the project in proper working order, including cleaning and/or repair during the duration of the project.

(2) No condition of either the AZPDES Construction General Permit for Arizona or the SWPPP shall release the Contractor from any responsibilities or requirements under other environmental statutes and regulations.

D. Upon total project completion, acceptance, and de-mobilization, the Contractor shall submit its completed, signed NOT form to the ADEQ with Copies to the same agencies who received Copies of the NOI, thereby terminating all AZPDES permit coverage for the project.

E. **Measurement and Payment**

Payment shall be at the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs relating to the provision, installation, and maintenance of items relating to this permit during project construction. Such incidental costs shall include Contractor costs in order to assure proper operation of the pollution-control devices installed including all maintenance, cleaning, and disposal costs associated with clean-up and repair following storm events or other runoff or releases on the project.

108.4 CONSTRUCTION SCHEDULE

A. Prior to beginning construction, the Contractor shall submit for review by the Public Works Director a complete construction schedule as stated in the General Conditions of these contract documents.

B. Once this schedule has been accepted by the Public Works Director, Contractor shall not deviate from it until a revised schedule has been submitted and accepted by the Public Works Director.

C. The Public Works Director reserves the right to reject construction schedule submittals when in his opinion the schedule lacks the proper detail.

D. No separate measurement or payment shall be made for work related to these requirements. This work shall be considered incidental and included in the unit price bid for appropriate contract pay items.

109.11 CONTRACT ALLOWANCE

A. Contract allowance items are provided for the purpose of encumbering funds to cover the costs of possible contract amendment work. The amount of the allowance item is determined by the Engineer and is not subject to individual bid pricing. All bidders shall incorporate the amount pre-entered in the bid proposal and shall reflect the same in the total amount bid for this project.

B. This allowance item provides an estimated funding to cover unforeseen changes that may be encountered and corresponding extra work needed to complete the contract per plan. Unforeseen extra work, if any, shall be in accordance with the Contract Amendment section of the General Conditions.

It shall be understood that this allowance item is an estimate only and is based on contract amendment history of similar projects. It shall not be utilized without an approved contract amendment. It is further understood that authorized extra work, if any, may be less than the allowance item. The Contractor, by submittal of his bid, acknowledges that the total bid and individual bid items were prepared without anticipation of use of the contract allowance.

Pay Item: 109.1 Contract Allowance **LS**

200.1 DEWATERING

A. All water encountered during the work shall be disposed of by the Contractor in a manner such that it will not damage public or private property or create a public nuisance or health problem. This work shall consist of furnishing equipment, materials, and labor necessary for the control and removal of water, the construction or installation of all facilities necessary to accomplish the work, and the subsequent removal of such facilities except when designated on the project plans or in the special provisions to remain in place.

B. **Measurement and Payment**

1. No separate measurement or payment shall be made for dewatering. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

205.1 EARTHWORK AND ROADWAY EXCAVATION

A. Work under this item shall be done in accordance with YAG and MAG Specifications Section 205, 211 and 301.

B. If material is encountered during excavation that the Engineer determines to be unsuitable, the following shall apply:

Material which is located in a cut section at an elevation above finished sub-grade shall not be utilized in fill construction but shall be removed and disposed of at a site secured by Contractor.

Material which is located below the natural ground surface in embankment areas and below the finished sub-grade elevation in excavation areas shall be removed to the limits as determined by the Engineer and the resultant cavity backfilled with suitable material as directed.

C. The price bid for roadway excavation shall include all costs for excavating, hauling, placing and constructing fills per YAG and MAG 211, sub-grade preparation, removal and disposal of unsuitable and excess material. There will be no separate payment made for overhaul.

D. The bidding schedule quantities for this item of work will be considered to be the final quantities for payment. Adjustments in the bidding schedule quantities for Earthwork as contained in these specifications may be initiated by Contractor or the Engineer if evidence indicates that the required quantity varies by an amount greater than 5% of the bidding schedule quantity. Contractor shall advise the Engineer, in writing, submitting evidence in the form of a construction survey or photogrammetric survey with measurement for the proposed adjustment and requesting an adjustment in quantities. The Engineer will determine the amount of adjustment, if any. The quantity upon which payment will be based will be the bidding schedule quantity plus or minus only that portion of the adjustment that exceeds 5% of the bidding schedule quantity.

E. Variations caused by shrink of materials shall not be considered for quantity adjustments.

F. Adjustments in earthwork quantities due to revisions ordered by the Engineer will be isolated by measurement or calculations. The bidding schedule quantities will be adjusted by the amount either measured or calculated, regardless of the 5% variation requirement above.

G. Embankment quality control testing frequency shall be one per soil type for proctor density testing and one per 500' per 8" lift for compaction testing. Sub-grade quality control testing shall be one per 500' for compaction testing.

H. **Measurement And Payment**

1. Measurement and Payment shall be in accordance with YAG Section 205.7 and 205.8

Pay Item: 205.1 Earthwork and Roadway Excavation CY

300.1 SAW CUT

A. The work under this item shall consist of saw cutting the existing pavement where new asphalt concrete is to match existing bituminous surfaces with no provisions for overlaying the entire section. This item shall also include saw cutting of existing Portland cement concrete pavement, sidewalks, driveways and parking lots where new construction shall match the grade of existing surfaces that are to remain where called for on the project plans or where designated by the Engineer.

B. Saw cuts shall be made to a full depth of the material to insure a neat vertical joint. Portland cement concrete designated to remain that is damaged by the saw cutting shall be replaced in kind at The Contractor's expense.

C. Measurement of this work will be made horizontally at each location to the nearest foot. Payment for this work will be made at the contract price bid per linear foot for SAWCUTTING, which price shall be full compensation for the work as described and specified herein and on the project plans. Payment will be on the total length of saw cut to the nearest foot.

Pay Item: 300.1 Saw Cutting (Full Depth AC Pavement) LF

310 UNTREATED BASE

MAG Section 310 is supplemented as follows:

310.5 AGGREGATE BASE COURSE

A. This work consists of furnishing, placing and compacting (the thickness specified on the plans or as required by the Engineer) aggregate base course in accordance with the plans and YAG and MAG Sections 310 and 702 and as modified herein.

B. The percent composition by weight shall be within the following limits:

Sieve Size	Percent Passing
$1^1/_8$"	100
No. 4	38- 65
No. 8	25 - 60

No. 30	10 -40
No. 200	3 - 12

C. The maximum plasticity index shall be six when tested in accordance with AASHTO T89 and T-90.

D. The aggregate base course shall be compacted to 98% of the maximum dry density as determined by ASTM D-698. Aggregate base course quality control testing frequency shall be one per source for Abrasion testing, one at start of production and again if source changes. Proctor Density testing shall require one per 500' per 6" lift for compaction and one per shift for crushed faces, PI, and gradation.

E. Aggregate base course shall not be placed on excessively wet or frozen sub-grade materials as determined by the Engineer.

F. Measurement for payment of aggregate base will be calculated by the cubic yard complete in place as follows:

1. Where the plans call out specific base depths, calculations shall be based on plan dimensions.

2. Where the plans are not specific as to depth, calculations shall be based on cross sections of the accepted sub-grade and base elevations as surveyed in the field.

Pay Item: 310.5 Aggregate Base Course (YAG 310) CY

321 ASPHALT CONCRETE PAVEMENT

Asphalt mix design materials, manufacture, and placement shall be in accordance with MAG Specifications, Section 321 and Section 710 with the additions, clarifications and changes herein:

SECTION 321.3 WEATHER AND MOISTURE CONDITIONS: shall be changed as follows:

Asphalt concrete shall be placed only when the surface on which the material is to be placed is dry, unfrozen, the atmospheric temperature in the shade is at 40 degrees F and rising, and the temperature of the road surface or subsurface is at 50 degrees F and rising as measured in the shade. No asphalt concrete shall be placed when the weather is foggy or rainy, when precipitation is eminent, or when the base or sub base on which the material is to be placed is unstable. Asphalt concrete shall be placed only when the Public Works Director or his authorized representative determines that weather conditions are suitable and sub base conditions on which the material is to be placed are acceptable.

SECTION 321.4 APPLICATION OF TACK COAT: is supplemented as follows:

a. The application rate shall be between 0.04 to 0.06 gallons per square yard of diluted material, 50% water and 50% emulsion, using SS-1H.

b. The tack coat shall be applied only as far in advance of placing the asphalt concrete as ordered by the Engineer; however, in no event should the tack coat be applied and not covered by the asphalt concrete in the same day.

SECTION 321.6 MIX PRODUCTION: is supplemented as follows:

1. STOCKPILING

a. Sufficient virgin mineral aggregate material shall be stockpiled at the site of the hot plant to produce the quantity of asphalt concrete required for a minimum of two successive eight hour shifts; however, this requirement will be modified during the last two days production, or under special conditions with the Public Works Director's approval.

b. Mineral aggregate shall be stockpiled so that segregation is minimized. An approved divider of sufficient size to prevent intermingling of stockpiles shall be provided.

2. PROPORTIONING

a. No fine material which has been collected in the dust collection system shall be returned to the mixture unless the Engineer, on the basis of tests, determines that all or a portion of the collected fines can be utilized. If the Engineer so determines, he will authorize in writing the utilization of a specific proportion of the fines; however, authorization will not be granted unless the collected fines are accurately and uniformly metered into the mixture.

b. Mineral aggregate and bituminous material shall be proportioned by volume, by weight, or by a combination of volume and weight.

c. When mineral aggregate and bituminous material are proportioned by weight, all boxes, hopper buckets or similar receptacles used for weighing materials, together with scales of any kind used in batching materials, shall be insulated against the vibration or movement of the rest of the plant due to the operation of any equipment so that the error in weighting with the entire plant operating shall not exceed 2% for any setting nor 1½% for any batch. Bituminous material shall be weighed in a heated, insulated bucket suspended from a springless dial scale system.

d. When mineral aggregate and bituminous material are proportioned by volume, the correct portion of each mineral aggregate size introduced into the mixture shall be drawn from the storage bins by an approved type of continuous feeder which will supply bituminous material and so arranged that the proportion of each mineral aggregate size can be separately adjusted. The continuous feeder for the mineral aggregate shall be mechanically or electrically actuated.

3. DRYING AND HEATING

a. A recording pyrometer or other approved recording thermometric instrument sensitive to a rate of temperature change of not less than 10° F per minute shall be so placed at the discharge chute of the drier in order to record mineral aggregate and to facilitate reading the recorded temperature. A copy of the recording shall be given to the Engineer. The moisture content of the asphalt concrete immediately behind the paver shall not exceed 1%.

4. MIXING

a. The production of the plant shall be governed by the rate required to obtain a thorough and uniform mixture of the materials. Mixing shall continue until the uniformity of coating, when tested in accordance with the requirements of AASHTO T-195, is at least 95%.

b. A positive signal system shall be provided to indicate the low level of mineral aggregate in the bins. The plant will not be permitted to operate unless this signal is in good working condition. Each bin shall have an overflow chute or a divider to prevent material from spilling into adjacent bins.

c. The temperature of asphalt concrete upon discharge from the mixer shall not exceed 325° F. If the asphalt concrete is discharged from the mixer into a hopper, the hopper shall be constructed so that segregation of asphalt concrete will be minimized.

SECTION 321.8 PLACEMENT: is supplemented as follows:

a. Contractor shall stringline finish ABC grade in the presence of the Public Works Director or his representative to verify compliance to specified tolerances prior to the placement of asphalt concrete. Placement of asphalt concrete shall not begin prior to completion and adequate curing of all adjoining Portland cement concrete items.

b. The handling of asphalt concrete shall at all times be such as to minimize segregation. Any asphalt concrete which displays segregation shall be removed and replaced.

c. All wheels and tires of compactors and other equipment shall be wiped when necessary with an approved product in order to prevent the picking up of the asphalt concrete.

d. Before asphalt concrete is placed, the surface to be paved shall be cleaned of objectionable material.

e. The base or sub-grade upon which the asphalt concrete is to be placed shall be prepared in accordance with the applicable requirements for the material involved and maintained in a smooth and firm condition until placement.

f. At any time, the Public Works Director or his designee may require that the work cease or that the work day be reduced in the event of weather conditions either existing or expected which would have an adverse effect upon the asphalt concrete.

g. The temperature of asphalt concrete just prior to compaction shall be at least 250° F but shall not exceed 300° F, unless permitted by the Engineer.

h. The asphalt concrete shall be placed as a surfacing course. Surfacing courses are defined as courses placed to serve either as a traffic surface or as a surface upon which a finishing course or seal coat is to be placed. The thickness of surfacing courses will be shown on the project plans.

i. In order to achieve, as far as practicable, a continuous operation, the speed of the paving machine shall be coordinated with the production of the plant.

j. Tapered sections exceeding eight feet in width or widened sections not exceeding four feet in width may be placed and finished by other means approved by the Public Works Director.

SECTION 321.8.4 Compaction Base and Surface: is supplemented as follows:

a. Compacting and smoothing shall be accomplished by the use of self-propelled equipment. Compactors shall be pneumatic tired and tandem powered (steel wheel) and shall be approved by the Public Works Director.

b. Compactors shall be operated in accordance with the manufacturer's recommendations. Compactors shall be designed and properly maintained so that they are capable of accomplishing the required compaction.

c. Steel wheel compactors shall weigh not less than eight tons and have the vibratory mode option.

d. Pneumatic tired compactors shall be the oscillating type having a width of not less than four feet with pneumatic tires of equal size, diameter and having treads satisfactory to the Public Works Director. Wobble-wheel compactors will not be permitted. The tires shall be spaced so that the gaps between adjacent tires will be covered by the following tires. The tires shall be inflated to 90 lb. per square inch, or such lower pressure will not vary more than five lb. per square inch from the designated pressure.

e. Pneumatic tired compactors shall be constructed so that the total weight of the compactor can be varied to produce an operating weight per tire of not less than 2,000 lb.

f. Steel wheel compactors shall not be used in the vibratory mode when the surface temperature of the asphalt concrete falls below 180 ° F.

g. Asphalt concrete shall be compacted to not less than 95.0% of laboratory density.

h. Compaction control shall be defined as the responsibility of Contractor on the basis of his anticipated rate of production to determine the number and types of compactors and the sequence and manner in which they shall be used in order to achieve the specified percent density.

i. The responsibility for developing and controlling the compaction lies with Contractor.

j. The City reserves the right to test Contractor's percent of density at any time.

k. Core samples shall be taken by Contractor on a random location basis with locations determined by the Public Works Director and consist of one core per every 1,000 square yards of roadway, for each day's production. The asphalt cores shall be taken on the following workday or within 24 hours whichever applies and shall be submitted to the City's Quality Assurance firm for testing.

l. For complete acceptance, all core densities must show a minimum relative density of 95.0% based on a 75 blow Marshall Density, AASHTO T-245. The Marshall Density shall consist of two sets of three specimens averaged for each day's production.

m. If the core densities show inadequate compaction the unit price will be adjusted per the table below:

Percent Compaction	Reduction in Payment
94.0 - 94.9	5%
93.0 - 93.9	10%
92.0 - 92.9	25%

n. When the percent compaction is less than 92.0%, Contractor may be required to remove and replace any portions at the discretion of the Public Works Director at no extra cost to the City.

SECTION 321.8.5 Smoothness: the second sentence is changed as follows:

a. Surfacing course surfaces shall not vary more than 1/8 inch from the lower edge of ten-ft. straightedge when the straightedge is placed parallel to the center of the roadway.

SECTION 321.9 QUALITY CONTROL: shall be changed as follows:

A. Contractor Quality Control

1. General Requirements

a. It shall be the responsibility of Contractor to administer a Quality Control Plan, hereinafter referred to as "Plan", sufficient to assure a product meeting the requirements of these specifications. The Plan may be operated wholly or in part by a subcontractor or an independent organization; however, the Plan's administration, including compliance with the Plan and its modification, shall remain the responsibility of Contractor.

b. Contractor is required to provide and maintain a Quality Control Plan, along with all the personnel, equipment, supplies and facilities necessary to obtain samples, perform tests, and otherwise assure the quality of the project.

c. Contractor shall submit the Quality Control Plan to the Public Works Director or his designee at the preconstruction conference.

e. Contractor shall perform process control sampling, testing and inspection during all phases of the work and shall perform the process control sampling, testing, and inspection at a rate sufficient to assure that the work conforms to the contract requirements. Contractor shall provide the Public Works Director a certification stating that all of the testing equipment to be used is properly calibrated and will meet the specifications applicable for the specified test procedures.

2. Elements of the Plan

a. The Plan shall address all elements which affect the quality of the asphalt concrete including, but not limited to the following: Mix Design, Aggregate Production, Quality of Components, Stockpile Management, Proportioning, Mixing (including addition of Mineral Admixture, if required), Placing and Finishing, Joints, Compaction.

3. Plan Implementation

a. The Contractor shall provide testing at the frequencies listed in Table 321.9.1 during production of the asphalt concrete. A laboratory accredited in each of the listed tests by the AASHTO Materials Laboratory (AMRL) shall perform the testing.

TABLE 321.9.1		
CONTRACTOR QUALITY CONTROL TESTING REQUIREMENTS		
Test	Sample Point	Frequency
Ignition Binder Calibration, ASTM D 6307	Stockpiles or storage tanks	1 per mix design per project
Ignition Binder Test, ASTM D	Plant, truck, or on-	1 per 1000 tons, but

6307, C 117 & C116	grade	not less than 1 per day
Gyratory or Marshall Density, ASTM D 4013 or AASHTO T 166	Plant, truck, or on-grade	1 per 1000 tons, but not less than 1 per day
Maximum Theoretical Density, ASTM D 2041	Plant, truck, or on-grade	1 per 1000 tons, but not less than 1 per day
Temperature	On-grade	Continuous Reading
Aggregate Gradation, ASTM C 117 & C 136	Cold Feed	1 per 1000 tons, but not less than 1 per day

b. Results of each test shall be provided to the Public Works Director or his designee immediately upon completion, and in no case later than the end of the day asphalt was produced. Test results shall be used to control the asphalt concrete production. Production of the asphalt concrete on consecutive paving days shall not commence until the prior day's test results have been submitted to the Public Works Director or his designee and appropriate actions have been taken in accordance with the criteria listed in Table 321.9.1 and Table 321.9.2.

TABLE 321.9.2		
CRITERIA FOR REQUIRED PLANT ADJUSTMENT		
Property	Criteria A (Adjustment)	Criteria S (Stoppage)
Binder Content	±0.4%of Mix Design	±0.5%of Mix Design
Air Voids	4±1.5%	4±2.0%
Gradation	Table 321-3	Table 321-3
Temperature	±10BC of Mix Design	±15BC of Mix Design

c. The guidelines in Table 321.9.2 and Table 321.9.3 shall be used to determine if the plant will require adjustment or stoppage. If the Contractor's test results indicate the mixture does not comply with Criteria A in Table 321.9.2, an adjustment to the plant will be required to bring the production closer to the middle of the specification bands. The Contractor is responsible for determining the extent and the method of adjustment, and shall notify the Public Works Director or his designee in writing of what adjustments were made.

TABLE 321.9.3	
ALLOWABLE GRADATION VARIATION FROM MIX DESIGN TARGET	
Maximum Aggregate Size	100%
Nominal Maximum Aggregate Size (NMAS)	±5%
#8 (2.36 mm) Sieve to NMAS	±4%
#40 (0.425mm)Sieve	±3%
#200 (0.75 mm) Sieve	±1.5%

d. If the Contractor's test results indicate the mixture is at or beyond the range established by Criteria S in

Table 321.9.2, production shall cease immediately, and shall not resume (except as required to produce material for additional samples) until additional test results verify the adjustments will produce test results meeting Criteria A in Table 321.9.2. The Public Works Director or his designee may enforce the adjustment or stoppage criteria if the acceptance tests and the quality control tests are not in agreement.

e. A representative of the City shall secure two representative samples of the mixture for each day's production.

f. Samples will be tested for conformance with the mineral aggregate gradation in accordance with the requirements of AASHTO T27. The gradation of the mineral aggregate will be considered to be acceptable unless the average of any three consecutive tests or the results of a single test varies from the mix design gradation percentages as follows:

	Number of Tests	
Passing Sieve	Three Consecutive	One
Nominal Maximum Aggregate Size	± 6%	± 8%
No. 8	± 4%	± 6%
No. 40	± 4%	± 6%
No. 200	± 1.5%	± 2.0%

g. Samples will be tested for conformance with the sand equivalent in accordance with AASHTO T176 and will be considered acceptable if the result is 45 or greater and does not vary from the design by more than -10 points. At any time that test results indicate that the gradation of the mineral aggregate or sand equivalent does not fall within all of the limits indicated, the production of asphalt concrete shall cease immediately and shall not begin again until calibration tests indicate that the gradation and sand equivalent is within the limits indicated.

SECTION 321.12 MEASUREMENT: shall be supplemented as follows:

a. Measurement under this item shall be to the nearest square yard.

b. No separate measurement shall be given for the thickened edge, COP Standard Detail 201P and as detailed on project drawings. This work shall be considered incidental and included in the unit price bid in the contract documents. Payment shall be made at the unit price bid in the contract documents for the items complete in place, adjusted for compaction and thickness deficiencies as herein provided.

350.1 REMOVAL OF EXISTING IMPROVEMENTS

A. Work under this item shall be performed in accordance with ADOT Specifications Section 202, as designated on the project drawings and as modified herein.

B. ADOT Specifications subsection 202-1 shall be revised by adding the following: All existing utilities not designated for removal shall remain in place and be protected against damage.

C. No item shall be removed if designated by the Public Works Director to remain in place. Such items shall be protected from damage.

D. ADOT Specs subsection 202-3.03, paragraph B shall be revised to read: All bituminous pavements to be removed shall be removed from the job site and disposed of at a site secured by Contractor.

E. Street signs, traffic control signs, traffic signal material and control devices shall be removed as designated on project drawings, salvaged and delivered to the Engineer of Prescott at the site designated by the Engineer.

F. ADOT Specs subsection 202-3.08, paragraph 3 shall be revised to read: In areas where new fence or relocated fence is to be installed, Contractor shall perform the removals in such a manner as to prevent the escape of any livestock and/or domestic pets, including the placement and removal of temporary fence when necessary. This work shall be considered incidental and included in the unit price bid for removals.

G. **No separate measurement or payment** shall be made for removal of existing improvements. This work shall be considered incidental and included in the unit price bid for construction of the appropriate contract pay items.

401 TRAFFIC CONTROL

A. Traffic control during construction shall be performed in accordance with MAG Section 401 and the Manual on Uniform Traffic Control Devices for Streets and Highways, US Department of Transportation Federal Highway Administration, latest edition with the latest revisions, Arizona Department of Transportation Traffic Control Manual, the project plans, and as stated herein.

B. Prior to beginning the project, Contractor shall submit for approval a Traffic Control Plan for the entire project. He must obtain approval from the Director of Public Works for the Traffic Control Plan and Schedule prior to any construction. Contractor shall submit the Traffic Control Plan to the Director of Public Works at or before the project preconstruction conference.

C. Written notice shall be given to the Director of Public Works or his representative on the job 48 hours prior to any changes in detours or routes of access. The notice shall give specific details with maps showing the access to all residences and businesses affected by the project.

D. The Police and Fire Departments shall be continually updated on access routes along and through the site during construction.

E. All traffic control devices required for the project shall be the responsibility of Contractor.

F. When required to cross, obstruct, or close a street, traffic way, or sidewalk for a short duration that is approved by the Director of Public Works, the Contractor shall provide and maintain suitable bridges, detours or other approved temporary means for the accommodation of vehicular and pedestrian traffic.

G. When traffic conditions at the construction site warrant the use of certified police personnel to direct traffic, arrangements shall be made with the City of Prescott Police Department, Yavapai County, or Department of Public Safety for off-duty officers.

H. Payment for traffic control shall be at the applicable unit price bid in the Contract Documents.

1. Preparation of traffic control plan shall be inclusive of all submittals, reviews and if needed, re-submittals.

2. Flaggers shall be per hour for actual time directing traffic. It does not include travel time or time spent setting up or taking down devices.

3. In the event off-duty police personnel are required to direct traffic, the Bid Schedule includes an allowance for Certified Police Personnel for the purpose of encumbering funds to cover the cost of Certified Police Personnel. The amount of the allowance is determined by the Public Works Director and is not subject to individual bid pricing. All bidders shall incorporate the amount in the bid proposal and shall reflect the same in the total bid for this project.

It shall be understood that this allowance is an estimate only. The allowance shall be not used without approval of the Public Works Director.

Reimbursement for Certified Police Personnel shall be based on actual cost, plus an allowable markup to the prime contractor of 15%, for use of Certified Police Personnel approved by the Public Works Director.

4. Barricades and storage shall be at the lump sum bid and shall be inclusive of all temporary concrete barrier, type I, II, and III, barricades, temporary signs, temporary pavement markings and stripes, and other temporary devices in the traffic control plan and as required by the MUTCD and the Public Works Director.

5. Message boards shall be measured by each per day as determined necessary by the approved traffic control plan and the Public Works Director.

6. Pilot car and driver shall be per hour for actual time used as required by the approved traffic control plan and the Public Works Director. It does not include travel time or time spent setting up or taking down devices.

7. Incidental traffic related items shall include all other pertinent tools, equipment, devices and or work required to provide safe and effective traffic control in accordance with the approved traffic control plan, the MUTCD and the Public Works Director.

Pay Item: 401.7a Traffic Control Plan	**LS**
Pay Item: 401.7b Flaggers	**HR**
Pay Item: 401.7c Certified Police Personnel Allowance	
Pay Item: 401.7d Barricades and Storage	**LS**
Pay Item: 401.7e Message Boards	**(EA-DAY)**
Pay Item: 401.7f Pilot Car and Driver	**HR**
Pay Item: 401.7g Incidental Traffic Related Items	**LS**

402.2 THERMOPLASTIC PAVEMENT MARKINGS

A. Work under this item shall be performed per ADOT Specifications Section 704 and 708 and the revised ADOT Stored Specifications 704, 708 and 1001 included in Appendix A.

1. Stop Bars and Crosswalks - Work under this item shall consist of the application of thermoplastic striping material at the locations noted on the project plans. All stop bars shall be 18 inches in width unless otherwise specified. Crosswalks shall be 12 inches in width.

2. Measurement shall be in accordance with ADOT Section 704-5 (Width times Length divided by 4 inches equals LF as shown in bid schedule).

3. Pavement Markings - Pavement markings shall be in accordance with ADOT Section 704-4, ADOT 4-M 1.12 through 4-M 1.17 and as modified herein. Work under this item shall consist of the application of thermoplastic striping material at the locations noted on the project plans.

4. Measurement and payment for pavement markings shall be per each basis for each legend or marking installed in accordance with ADOT Section 704-5.

Pay Item: 402.2a Thermoplastic Striping – White	**LF**
Pay Item: 402.2b Thermoplastic Striping – Yellow	**LF**
Pay Item: 402.2c Thermoplastic Turn Arrow – White	**EA**

402.3 TEMPORARY STRIPING

A. Work under this item, Temporary Striping (paint) where required, shall be performed per ADOT Specifications Section 701-3.05. Measurement and payment shall be per ADOT Section 708-4 and 708-5.

402.4 PERMANENT PAVEMENT MARKINGS

A. Work under this item shall be performed per ADOT Specifications Section 708.

1. Measurement shall be in accordance with ADOT Section 708-4 (Width times Length divided by 4 inches equals LF as shown in bid schedule).

2. Basis for payment shall be in accordance with ADOT Section 708-5.

Pay Item: 402.4a Permanent Striping – Yellow Paint	**LF**
Pay Item: 402.4b Permanent Striping – White Paint	**LF**

403.1 PERMANENT SIGNING, SIGN POSTS AND DELINEATORS

Work under this item shall be done in accordance with the project drawings and requirement of the Manual on Uniform Traffic Control Devices (MUTCD), MAG Detail 131, and ADOT Signing and Marking Standards.

A. General Signing Guidelines

1. All signing shall conform to the most recent editions of the publications shown above with regard to size, color, shape and placement.

2. All signs shall be new (other than those shown to be relocated). All new and relocated signs shall be mounted on new posts with new hardware. Signs designed for installation on existing street light poles shall be mounted with new hardware.

3. Traffic sign dimensions, colors and lettering shall conform to the latest MUTCD specifications. Traffic sign size shall be standard unless otherwise specified here or on the plans.

4. All non mountable curb section signs shall be located at least two (2') feet from the curb face to the nearest edge of the sign. All other roadways signs shall be mounted from six (6') feet to twelve (12') feet from the edge of the pavement to the nearest edge of the sign, unless otherwise noted in the sign summary table or on the plans.

5. Roadways with guardrail signs shall be located at least six (6') feet from the face of the guard rail to the nearest edge of the sign, unless otherwise noted in the sign summary table or on the plans.

6. Sign location shall be coordinated with landscaping plans to ensure sign visibility per AASHTO standards.

7. Signs shall be mounted on street light poles whenever feasible.

8. All signs installed in areas where parking or pedestrian movements occur shall typically be erected at a height of seven (7') feet above the normal edge of pavement or sidewalk to the bottom of the sign or to the lowest sign in a multiple sign installation assembly with the following exceptions:

    a. The height to the bottom of a secondary sign mounted below another sign may be up to two (2') feet less than the height specified above.

    b. If the bottom of a secondary sign that is mounted below another sign is mounted lower than 7 feet above a pedestrian sidewalk or pathway, the secondary sign shall not project more than four (4") inches into the pedestrian facility.

    c. Object markers shall be installed at least four (4') feet above the normal edge of pavement.

9. All R1-1 "STOP" signs and pedestrian warning signs shall be reflective with all reflective sheeting material to be diamond grade.

10. All other signs are to be reflective with all reflective sheeting material to be high intensity prismatic meeting or exceeding ASTM 4956-04.

11. Sign blanks shall be 5052-H38 alloy treated aluminum with Alodine 1200 conversion coating, 0.080" thick with rounded corners.

12. Stop signs are to be shown at all local street intersections within a subdivision unless an engineering study shows that no control or yield control is warranted. Stop signs shall be designed and shown at all collector and non-signalized arterial street intersections.

13. Stop signs and Yield signs shall be a minimum of thirty (30") inches in width. When specified by the City Traffic Engineer thirty-six (36") inch and/or forty-eight (48") inch signs may be required on major collectors and arterial streets.

B. SIGN POSTS

1. Sign posts shall conform to the COP Standard Detail 821P.

2. For new construction the Telspar, Uni-strut or approved equal twelve gauge, galvanized steel, four (4) sided perforated square tubing is required. Two (2") inch tubing shall be used for smaller signs while two and one-half (2½") inch tubing shall be used for the larger signs.

3. The post shall be tall enough to provide the minimum clearances specified in section A (8).

4. The base and sleeve system for the sign shall be anchored in a minimum of a twenty-four (24") inch deep, twelve (12") inch diameter foundation of concrete. The base shall have a breakaway slip base system. The exposed post from the base shall be four (4") inches to six (6") inches high.

5. Signs over forty-eight (48") inches wide shall be mounted on two (2), two and one-half (2½") inch posts with a horizontal support frame.

6. All station locations are approximate. The Contractor shall verify actual sign locations with the Engineer prior to the installation of all signs.

7. The Contractor shall verify post lengths and elevations prior to installation.

C. Measurement and payment shall be the unit price per each for posts and delineators and per square foot for sign panels, complete and in place.

Pay Item: 403.1a Sign Posts and Delineators

Pay Item: 403.1b Sign Panels

403.2 TYPE 2 OBJECT MARKER

Object markers shall be as per MUTCD Section 3-C, OM2-1V. Payment shall be per each complete and in place.

Pay Item: 403.2 Type 2 Object Marker

404 LOOP DETECTORS

A. Loop detectors shall be installed in base course of asphalt concrete pavement and conform to ADOT Specs Section 735 and 732-2.01, ADOT Traffic Signal and Lighting Standard Drawings (1985) 7-1. All loop detectors shall be installed per T.S. 7-1 Detail 2. Installation shall include the home runs and

installation of loop wiring into the existing signal cabinet. The hardwiring in the cabinet will be accomplished by City forces.

B. Prior to bidding the Contractor shall verify the location and layout of the existing detector loops and appurtenant home runs to ensure that home runs are re-established in their original configuration. Loop detectors shall be centered in lanes. Contractor shall verify loop layout with project inspector prior to installation.

C. Payment shall be made on a per each installed basis.

405.3.1 RESET PROPERTY PINS

A. Existing property pins disturbed or covered in the course of the work shall be resurveyed and reset by a certified land surveyor or under direct supervision of a certified land surveyor. Pins shall be COP Standard Detail 120-1, Type C.

B. **Measurement and Payment**

No separate payment shall be made for Resetting Property Pins. This work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay items.

405.3.2 SURVEY MONUMENT

A. Survey monument Type "A" with cast iron frame and cover shall be placed as shown on the plans in accordance with COP Standard Detail 120-1, Type A and YAG and MAG Specifications Section 405.

B. **Measurement and payment**

Payment shall be based on a per each unit complete in place.

405.3.3 SURVEY HANDHOLE FRAMES

A. All efforts shall be made to protect rebar in survey handholes from damage. Rebar shall be resurveyed and reset by a certified land surveyor at the Contractors' expense if damaged or where noted on plans.

432 SEEDING (HYDRAULIC)

A. Seeding consists of furnishing and applying chemical fertilizer; furnishing and planting seed and furnishing, applying and affixing mulch. The areas to be seeded are disturbed or un-vegetated areas. Slopes are required to be seeded immediately upon completion; coordination with grading operations will be required.

Application rates of seed as specified are for Pure Live Seed (PLS). PLS is determined by multiplying the sum of the germination and hard or dormant seed by purity. Weed content of seed shall not exceed 0.5 percent. No substitution of species, strain or origin of seed will be allowed unless evidence is submitted in writing by the Contractor to the Engineer showing that the specified materials are not

reasonably available during the contract period. The substitution of species, strains or origins shall be made only with the written approval of the Engineer, prior to making said substitution.

The seed shall be delivered to the project site in standard, sealed, undamaged containers. Each container shall be labeled in accordance with Arizona Revised Statues and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Labels shall indicate the variety or strain of seed, the percentage of germination, purity and weed content, and the date of analysis, which shall not be more than 9 months prior to the delivery date.

B. SEED MIX

Botanical Name	Common Name	Seed/ Lb.	Rate/Acre-PLS {Pure Live Seed)
Agropyron dasystachym	Thickspike Wheatgrass	154,000	3.0
Bouteloua gracilis	Blue Gramma	825,000	2.0
Koeleria crisata	Prairie Junegrass	825,000	1.0
Mulenbergia wrightii	Spike Muhly	1,000,000	1.5
Festuca arizonica	Arizona Fescue	500,000	2.0
Sitnian hystrix	Squirrel Tail	192,000	4.0
Sporobolus cryptandrus	Sand Dropseed	5,298,000	.75

C. Seed Supply Agreement:

The required species may be in short supply during this project. Therefore, the Contractor shall enter a contractual agreement with a seed collector/supplier that verifies that sufficient supply of specified plant materials will be available on or immediately prior to the seeding dates. This requirement shall be fulfilled within 45 days following the preconstruction conference in order to allow sufficient time for seed collection. The Contractor shall provide written notification to the Engineer verifying that the required species are available and secured for the project. The collection contractor shall test the seed for purity and viability and hold the seed in a manner which maintains its' viability. The Contractor shall submit purity and viability test results to the Engineer for approval prior to the initiation of seeding operations. If it is required to be held for more than a year from initial testing the seed shall be tested again for viability. The Contractor shall compensate the seed supplier a percentage of the seed cost to hold seed material and for the seed tests as identified in Basis for Payment.

D. General:

The slurry for the hydroseed process shall be as follows:

SLURRY MIX	RATE
Hydrofiber: Silva, Conwed, or Spray mulch x-100 wood fiber, or equivalent.	800 lbs./acre
Tackifier:	80 lbs. active ingred./acre
Starter fertilizer: Ammonium Phosphate	16-20-0 200 lbs./acre
Seed mix:	As Specified
Soil conditioner	1000 lbs./acre

The seed shall be applied within 30 minutes after being combined with the slurry mix.

INGREDIENTS FOR SLURRY APPLICATION	PERCENTAGES (MINIMUM)

Nitrogen	5
Phosphoric Acid	3
Water soluble Potash	1
Humas	50
Humic Acids	15
Soluble Metallic Iron	1

E. Wood Cellulose Fibers:

Wood fiber mulch shall consist of a specially prepared wood fiber processed to contain no growth germination inhibiting factors. The mulch shall be virgin wood and be manufactured and processed so the fibers will remain in uniform suspension in water under agitation to form a homogenous slurry. The mulch shall have a pH range between 4.5 to 6.5.

When hydraulically sprayed on the ground, the material will form a blotter-like cover impregnated uniformly with seed. The cover will allow the absorption of moisture and allow rainfall to percolate to the underlying area.

F. Tacking Agent:

Binder shall be free flowing, non-corrosive powder produced from natural plant gum marketed under M-Binder, M145 Binder, AZ-TAC or approved equal. It shall have gelling properties to inhibit the tendency of water and fiber to move downhill as they are sprayed on steep slopes.

G. Construction Requirements:

1. General:

The Engineer will regularly observe the weighing of seed, mixing of slurry mix, and application of seed.

2. Seeding:

Seeding shall be done immediately following the final grading or disking of each cut slope and each fill slope. The soil surface shall be loose. The Contractor will be required to mobilize frequently to accomplish this goal. No seeding shall be carried out under wind conditions exceeding 5 m.p.h. Scheduling of seedings mobilization will be coordinated with the Engineer at the weekly construction meetings. In no case shall a decision by the Engineer relieve the Contractor from the requirement of seeding prior to measurable rainfall. If measurable rain falls prior to seeding, or if the surface of the graded area has formed a crust or slightly hardened surface, the Contractor shall be responsible for ripping, blading or loosening the ground surface, or otherwise repairing and/or preparing the affected areas for seed, after they adequately dry out and prior to seeding, at no cost to the Owner. The use of specialized equipment or manual methods may be required to prepare the surface for seeding, if seeding is not accomplished immediately after grading or disking.

Seed is to be accomplished during the window of June 1 to July 15 and November 1 to January 30. These windows are to allow expected seasonal rains to start germination process.

All areas disturbed by construction are to be seeded. This may be more area than shown on the plans. All areas are to be approved by Engineer. The Contractor shall coordinate seeding operations with slope construction so that the tops of cuts and toes of fills can be reached with hydroseed equipment.

Hoses may be used where heavy equipment cannot access.

3. Tillage:

All slopes steeper than 3:1 shall either have a loose, friable soil depth of 2" or more or be tilled a minimum of 4" in depth as they are constructed.

Tillage shall be accomplished with a ripper bar, chisel plow or harrow tool or with other equipment which will provide thorough soil cultivation.

Tillage shall be performed long the contour. The slopes behind guardrail, and in the ditch line in cut shall be left with roughened surface to aid in water absorption. Seeded areas which are not behind guardrail or between the ditch line and the roadway on a cut shall be left in a Firm surface free of foreign material that would interfere in the seeding operation.

No work shall be done when the moisture content of the soil is unfavorable or the ground is otherwise in a condition not conducive to tillage.

- *Planting:*

The Contractor shall submit a batch (tank) mix for the Engineer's approval prior to mixing any seed/mulch slurry. Batch mixing and coverage will be monitored throughout seeding operations. The Contractor is to coordinate monitoring with the Engineer in advance of mixing.
After the tillage is complete and accepted by the Engineer, seed shall be planted by slurry mix (cut slopes steeper than 3:1).

All areas to be seeded shall have a starter fertilizer of ammonium phosphate 16-20-0 applied at a rate of 200 pounds per acre and soil condition at the rate of 1,000 pounds per acre.

Any material sprayed on non-designated areas shall be immediately removed by the Contractor at his expense. Non-designated areas include pavement, guardrails, signs, plants and existing vegetation.

- *Anchorage by Tacking:*

Mulch shall be anchored by tacking using a slurry consisting of a minimum of 150 pounds of binder, 400 pounds of wood fiber mulch and 700 gallons of water per acre.

- *Preservation of Seeded Areas:*

Any material sprayed on non-designated areas shall be immediately removed by the Contractor at his expense. Non-designated areas include pavement, guard rails, signs, plants, and existing vegetation.

- *Warrantee:*

The Contractor shall guarantee that 75% of the applied tackifier remain in place for a period of 30 days after acceptance of the seeding application. Any areas that have less than 75% of the tackifier remaining shall be reseeded, re-mulched and retacked at the Contractor's expense.

- *Measurement and Payment:*

Seeding will be measured by the acre, to the nearest tenth acre, measured along the ground surface for the areas which have been plated and mulched, as determined by the Engineer. The Contractor may be reimbursed a partial payment based on the invoice amount for the cost to hold and test the seed in conformance with the Seed Supply Agreement.
The accepted quantities of seeding, measured as provided above, will be paid for at the contract price per acre for the full performance of the work herein described, which price shall be full compensation for the work completed including all equipment, labor and materials required.

Areas that require reseeding and re-mulching under the warranty shall be done at no additional cost to the City of Prescott. The 30 day period(s) shall be within the allotted contract time.

PAY ITEM: 432 Seeding (Hydraulic) ACRE

505.1A CONCRETE DRAINAGE OUTLET/STRUCTURE

The work consists of constructing a concrete drainage outlet and structure as designated on the project drawings in accordance with YAG 220 and YAG and MAG Specifications Sections 505, 340 and 725 and as modified herein. All concrete shall be class "A" 3,000 psi. Sub-grade and base materials under the structure shall be compacted to not less than 95% of the maximum dry density as determined by AASHTO T-99. No additional payment will be made for aggregate base materials required under concrete structures. The base material shall be considered incidental to the construction of this item and provided for in the unit price for the work. **Measurement and payment under this item shall be to the nearest square foot complete in place in accordance with the respective detail.**

Pay Item: 505.1a Concrete Drainage Outlet Structure

505.1B CONCRETE HEADWALL

Work under this item shall be in accordance with MAG Specifications Sections 505, 725, 726 and 727; MAG Standard Details 501-1 and 501-2; and the project drawings. Payment shall be made per each headwall installed complete. **Measurement and payment under this item shall be to the nearest square foot of the front facing surface of the headwall complete in place in accordance with the respective detail.**

Pay Item: 505.1b Concrete Headwall

505.1C CONCRETE CATCH BASIN

Work under this item shall be in accordance with MAG Standard Details 534-1 through 540-2, YAG and MAG Specifications Sections 505 and 725 and above mentioned specifications for Portland Cement Concrete. All grates shall be bicycle safe type. **Measurement and payment under this item shall be per each catch basin complete in place in accordance with the respective detail, to include grates.**

Pay Item: 505.1c Concrete Catch Basin

505.1D SCUPPER

Work under this item shall be in accordance with MAG Standard Detail 203. **Measurement and payment under this item shall be per each scupper installed complete in place in accordance with the respective detail.**

Pay Item: 505.1d Scupper

505.1E CONCRETE BOX CULVERT

Work under this item shall be in accordance with ADOT Standard Detail B-01.10 and B-02.10, ADOT Specifications Section 601, 602 and 605 inclusive. Measurement and payment shall be in accordance with ADOT Specifications Section 601-6, 602-5 and 605-4.

Pay Item: 505.1e Concrete Box Culvert

505.1G CONCRETE RETAINING WALL

Work under this item shall be in accordance with the project drawings and the Engineer of Prescott Building Department detail "Concrete Retaining Walls 4' to 8'". **Measurement and payment under this item shall be to the nearest square foot of the front facing surface of the concrete retaining wall complete in place in accordance with the respective detail.**

Pay Item: 505.1g Concrete Retaining Wall

601 TRENCH EXCAVATION, BACKFILLING AND COMPACTION

A. Work under this item shall be performed in accordance with MAG Specifications Section 601 with the following modifications:

B. Unless specifically identified, no investigation of subsurface soil conditions for water or sewer main installation has been made for project limits.

C. Excavation, backfilling and compaction shall be in accordance with YAG and MAG Specification 601 and Standard Details as listed below:

1. In sections where paved roadway surfaces are involved the following shall apply:

   a. Bedding shall be a minimum of six inches and shall be in accordance with COP Standard Detail 2-02P compacted to 95% of maximum standard proctor density and as modified herein. Bedding/shade material shall be of granular consistency such as sand or crushed aggregates conforming to the following gradation and plasticity requirements:

Sieve Size	Percentage Passing By Weight
1"	100
No. 200	< 25
PI	10 Max.

Volcanic cinders or glass materials are not acceptable.

Use of open graded rock i.e., 3/8" pea gravel or 3/4" rock must be approved by the engineer prior to placement and will be considered only in special circumstances.

b. Backfill material shall be in accordance with COP Standard Detail 2-02P compacted to 95% of maximum standard proctor density to twelve inches above top of pipe. From 12" above top of new pipe to existing grade, backfill shall be in accordance with COP Standard Detail 2-01P.

2. In sections where unpaved roadway surfaces and non-roadway surfaces are involved the following shall apply:

a. Bedding shall be a minimum of six inches and shall be in accordance with COP Standard Detail 2-02P compacted to 95% of maximum standard proctor density.

b. Backfill material shall be in accordance with COP Standard Detail 2-02P compacted to 95% of maximum standard proctor density to 12" above top of pipe. From 12" above top of new pipe to 6" below existing grade shall be minus 3" native material compacted to 95% of maximum proctor density. From 6" below existing grade to existing grade shall be material in like kind to material existing before excavation compacted to 95% of maximum standard proctor density.

D. All water encountered during the work shall be disposed of by the Contractor in a manner such that it will not damage public or private property or create a public nuisance or health problem. The costs of furnishing pumps, pipes, special bedding, and over excavation as required to provide a stable foundation, and other equipment and materials shall be incidental to the work in accordance with Section 200-1 of these specifications.

E. Trench backfill quality control testing frequency shall be one per soil type for Proctor Density testing and one per 1' vertical lift per 200 linear feet of trench.

F. **No separate measurement or payment** shall be made for trench excavation, backfilling and compaction. This work shall be included in the unit bid price for water and/or sewer main construction.

602.1 JACKING, BORING OR TUNNELING PIPE

A. Scope

This section provides for furnishing and installing pipe by means of jacking, boring or tunneling as shown on the construction plans, as described in this specification, and as described in MAG Section 602.

B. General

1. Contractor shall be responsible for determining the required thickness of the steel liner or steel casing in accordance with the manufacturer's recommendation. Contractor shall submit this information at the pre-construction conference.

2. Suitable pits or trenches shall be excavated for jacking, boring or tunneling operations.

3. Excavations deeper than 4 feet shall be protected per applicable rules and regulations.

4. Dewater all excavations as required to provide a safe and stable work area and suitable foundations for all pipe.

5. Pipe installed by jacking, boring or tunneling under railroads, highways, streets or other facilities shall not interfere in any way with the normal operation of the railroad, highway, street or facility.

6. Pipe installed by jacking, boring or tunneling under railroads, highways, streets or other facilities shall not weaken or damage any part of the railroad, highway, street or facility.

   a. Furnish and maintain traffic control devices as required during jacking, boring and tunneling operations.

   b. Remove traffic control devices upon completion of jacking, boring and tunneling operations.

7. Remove and replace without additional cost, any pipe damaged during jacking, boring or tunneling operations.

8. The final position of the pipe may vary only 1 inch in 40 feet, laterally or vertically and such variation must be regular and in only one direction.

9. The final grade of the flow line must be in the direction indicated by the construction plans.

10. Over-excavation in excess of 1 inch shall be pressure grouted the entire length of the installation.

11. The pits or trenches excavated to install pipe by jacking, boring or tunneling shall be backfilled immediately after the installation of the pipe has been completed.

C. Jacking

1. Provide heavy-duty jacks suitable for forcing the pipe through the embankment.

2. Apply even operating pressure to all jacks used.

3. Provide a suitable jacking head and suitable bracing between jacks and jacking head to assure that pressure will be applied to the pipe uniformly around the ring of the pipe.

4. Provide a suitable jacking frame or back stop.

5. Set the pipe to be jacked on guides properly braced together to support the pipe section and direct it in the proper line and grade.

6. Line up the jacking assembly with the direction and grade of the pipe.

7. Excavate embankment material just ahead of the pipe, remove excavated material through the pipe and force the pipe through the embankment with jacks into the space provided.

8. Excavate beneath the pipe to conform to contour and grade for at least one-third of its circumference.

9. A 2-inch maximum clearance above the pipe shall taper to zero at the point where the excavation conforms to the contour of the pipe.

10. The distance the excavation extends beyond the end of the pipe depends upon the character of the material, but shall not exceed 2 feet.

11. Jack the pipe from the low or downstream end.

12. A cutting edge of steel plate may be installed around the head end of the pipe.

    a. The cutting edge may extend a short distance beyond the end of the pipe.

    b. Angles or lugs are permitted inside the cutting edge to prevent its slipping back onto the pipe.

13. Once jacking is begun, the operation must continue without interruption, insofar as practicable, to prevent the pipe form becoming firmly set in the embankment.

D. Boring

1. Pilot Hole Method

    a. Bore a 2 inch pilot hole the entire length of the crossing.

    b. From the opposite end, check it for line and grade.

    c. Use pilot hole as centerline for the larger diameter hole to be bored.

2. Auger Method

    a. Provide proper diameter steel encasement pipe equipped with a cutter head to mechanically perform the excavation.

    b. Augers shall be of sufficient diameter to convey the excavated material to the work pit.

3. Use water or other fluids in boring only to lubricate cuttings; jetting will not be permitted.

4. In unconsolidated formations, use a gel-forming colloidal drilling fluid containing at least 10 percent of high-grade, carefully processed bentonite to consolidate the cuttings of the bit, seal the hole walls, and furnish lubrication for subsequent removal of cuttings and immediate installation of the pipe.

E. Tunneling

1. Use tunneling when the characteristics of the soil, the size of the pipe, jacking and boring is not satisfactory or when shown on the construction plans.

2. The tunnel liner shall be of sufficient strength to support the overburden.

3. The Contractor shall submit the proposed tunneling method to the Engineer for approval.

a. Under roadways tunnel liner plate shall be designed in accordance with the AASHTO "Design Specifications for Tunnel Liner Plates," Section 16, HS20 loading.

b. Under railroads tunnel liner plate shall be designed in accordance with the AREA Manual, Chapter 1, Part 4.16, Copper E80 loading.

c. Appropriate safety factors for seam strength, buckling and stiffness shall be used.

d. Tunnel liner plate shall be assembled in accordance with the manufacturer's instructions and recommendations.

4. The space between the liner plate and the limits of the excavation shall be pressure grouted or mud-jacketed in accordance with the Contractor's approved tunneling method.

5. Provide sufficient 2-inch diameter grout holes to properly grout voids between tunnel liner and adjacent soil.

6. Grout

a. Grout shall develop unconfined compressive strength of 2000 psi after 28 days.

b. Contractor shall submit mix design for grout.

F. Measurement and payment shall be made per linear foot of jacking, boring or tunneling pipe at the diameter pipe as indicated on the plans inclusive of all labor, equipment, and materials necessary for full performance of the work.

Pay Item: 602.1a 36" Jacking, Boring or Tunneling Pipe LF

610 WATER MAIN CONSTRUCTION

Water main construction shall be in accordance with all applicable YAG Standard Details and MAG Section 610. All ductile iron water pipe used in fire hydrant installation shall be Class 350. No separate payment will be made for bends and fittings unless otherwise noted and the cost will be included in the water main unit price.

610.1 WATER MAIN PIPING

A. Water Main piping shall be slip joint Class 350 ductile iron unless otherwise noted on the project plans, in accordance with MAG Section 610 and 750. Trace wire per COP Standard Detail 3-19P shall be required for all water main installations. Water main piping shall be furnished new in full lengths with manufacturer, class rating, and all other applicable information clearly marked on the barrel. Water main piping for 2-inch shall be copper in accordance with MAG Section 754 and encased in polyethylene protective wrapping in accordance with YAG Section 610.5.

B. All ductile iron, copper and brass water main and fittings shall be encased in polyethylene protective wrapping in accordance with YAG Section 610.5.

C. All water mains shall have NSF-PW seal clearly marked on each barrel and installed with 14-gauge direct bury trace wire in accordance with COP Standard Detail 3-19P.

D. Thrust restraint shall generally be accomplished through the use of restrained joints in lieu of thrust blocking. The preferred joint restraint system shall be "Field-Lok" gasket or approved equal except that vertical deflections, tees, valves and bends shall be restrained utilizing Mega-Lug, as manufactured by Ebba Iron, or equal.

E. Required minimum lengths of joint restraint shall be per MAG Standard Detail 303. In locations where lines perpendicular to main lines are shown as restrained, the main line piping shall be restrained for a minimum of 10 feet or one joint (whichever is greater) each side of the main line "Tee". Concrete thrust blocking will be required at connections to existing lines at the locations noted on the plans. Thrust blocks placed at these connections shall be in conformance with MAG/YAG Details and shall be adequately braced to allow system operation during curing of the concrete thrust blocks. Heavy plastic sheeting shall be used to wrap fittings to be restrained with thrust blocks to prevent covering with concrete on nuts and threading on fittings.

G. All lateral water main connecting piping, valves and fittings shall be constructed using restrained joints from the main line "Tee" to the connection to the existing water line at the locations shown on the plans.

H. All new fire hydrants and connecting piping shall be constructed per Detail 3-07P using restrained joints from the main line "Tee" to the hydrant.

I. Concrete encased water main crossings of storm drains and/or other utilities which clear the crossed line by less than 12 inches, shall incorporate a 6" sand pad to break the frictional contact.

J. Prior to ordering of materials and scheduling connections to existing water mains and services, the contractor shall complete investigations to verify the size, type and location of the existing water mains and services.

K. All existing water service connections shall be replaced in accordance with the provisions of the COP Technical Specifications for "Water Service Replacement".

L. COP Technical Specifications for "Air Release Valves" is expanded to include Combination Air Release-Vacuum Breaker valves at the locations shown on the plans constructed as shown in Detail 3-17P.

M. The existing water main shall not be taken out of service prior to completion and ADEQ Approval to Operate the replacement water main and connection of all water services and fire hydrants to the replacement system.

N. The existing water system shall not be taken out of service at any time without the approval of the Engineering. With the approval of the Engineer, the existing water main may be taken out of service for limited periods to facilitate project construction.

O. The Contractor shall prepare and submit to the Engineer a plan for each connection to the existing system which demonstrates the ability to complete all work within the allowed period.

P. All temporary connections and/or elements which must be placed in service prior to full system disinfection, testing and approval shall be disinfected in accordance with Paragraph 4.7 of AWWA C651-99 after approval of the engineer.

Q. Payment for water main shall be at the unit price in the bidding schedule and shall include all connections, joints, flanges, thrust restraint and incidentals unless specifically itemized in the bidding schedule.

Pay Item: 610.1a 12" Water Main & Fittings (DIP CL 350) LF

Pay Item: 610.1b 8" Water Main & Fittings (Restrained, DIP CL 350) LF

Pay Item: 610.1c 12" Water Main & Fittings (Restrained, DIP CL 350) LF

Pay Item: 610.1d 16" Water Main & Fittings (Restrained, DIP CL 350) LF

610.9 FIRE HYDRANT INSTALLATION

A. Hydrant installation shall be in accordance with COP Standard Detail 3-07P, YAG Standard Detail 3-08, and as specified on the project plans. Hydrants shall be Waterous or East Jordan, as approved by the Engineer.

B. Payment for hydrant installation shall be at the unit price in the bidding schedule and shall include the hydrant, piping, valve, box and cover, and all appurtenant fittings, as noted for a complete assembly.

610.11A NEW WATER SERVICE AND PRIVATE WATER SERVICE LINE RECONNECTION

A. New Water Service shall be in accordance with COP Standard Detail 3-16P as modified on plans, except as noted herein. All service piping and fittings from main tap to meter box shall be encased in polyethylene protective wrapping in accordance with YAG Section 610.5. Existing water service shall be abandoned in place and existing meter loop, box and cover shall be salvaged and delivered to the COP Maintenance Yard and placed as directed by the Engineer. The Contractor shall supply all necessary materials for new water service including service saddle, corporation stops, piping, meter loops, boxes and covers, plus all appurtenant fittings to connect to customers existing service line. The Contractor shall maintain a minimum three (3) feet of cover material over water service and match grades and cover material at existing meter box location.

B. The Contractor shall take all necessary steps to maintain water service. Residents affected by water service disruption due to water main abandonment shall be notified by written flyer delivered by the Contractor a minimum of 24 hours in advance of scheduled water service disruption. The Contractor shall not disconnect or disrupt water service until new water main and services pass hydrostatic and disinfection tests and is accepted by the Engineer. The Contractor shall notify tenants of schedule water service disruption a minimum of 24 hours in advance of construction. Residents shall not be without water service for a total time period greater than 4 hours inclusive of contract time period from issuance of Notice to Proceed to Final Acceptance by the Engineer. The Contractor shall utilize construction method of water service shut-off at water main corp stop for water meter reconnection work to the new water main if his construction operation progression cannot meet the 4-hour restriction for water service disruption of residents. The Contractor shall supply bottled potable water and temporary water service meeting all state health requirements for periods of water service disruption exceeding 4 hours. No separate payment will be made for water service maintenance or the Contractor written notification of water service disruption.

C. No separate measurement or payment will be made for adjustment of new water valve boxes to finished grade. This work is considered as incidental to the construction of the water main replacement.

D. The Contractor will be required to install private water service line from the new water meter location to a point at the existing water meter location or to a point of connection to the existing service line for the residence. This point of connection shall be a maximum of a 10-foot radius from the meter location. Contractor shall remove existing valves and pressure regulators and replace per specifications. Contractor to furnish and install gate valve and pressure regulator after meter box and PRV to service connection. All private service lines shall be Type "K" copper in accordance with MAG Section 754 and encased in

polyethylene protective wrapping in accordance with YAG 610.5. The Contractor shall maintain a minimum of two (2) feet of cover material, including ditch inverts, over new private water service line and utilize existing in-situ material for backfill. The Contractor shall supply all necessary material for new private water service installation including a gate valve, plus an approved type pressure regulator, in an accessible box per COP Standard Detail 3-16P at the new meter box location and all appurtenant fittings to connect to resident existing service line.

E. The Contractor shall remove the existing water meter and reinstall in the new yoke at the new meter box location with all appurtenant fittings and adapters. The City shall supply the Contractor with new meters for use in new locations that were not previously served or there is no existing meter to remove.

F. The Access Box called out in Standard Detail 3-16P for the shut-off valve and pressure regulator on the customer side of the meter box shall be minimum #1 box or equivalent as approved by the Engineer, and the valve, regulator, box and lid shall be provided and installed by the Contractor.

G. The Contractor will be required to distribute written notices to the approval of the Engineer to all residents 24 hours in advance of proposed private service line reconnection work.

H. Existing improvements disturbed by the Contractor shall be restored in "like kind" to the satisfaction of the Engineer. No extra payment will be made for restoring existing improvements in "like kind" to include concrete walkways, retaining walls, landscape improvements, etc.

I. It shall be the Contractor's responsibility to review existing water meter location and points of private service line reconnection locations and ascertain all work including existing improvement restoration costs to perform the private service line reconnection work as specified. Costs associated for private service line reconnection work shall be at the appropriate unit bid price in the bidding schedule and shall include private service line piping, gate valve and pressure regulator, plus all appurtenant fittings and existing improvement restoration work as specified.

J. The pressure regulators shall be set at 65psi. The Contractor shall bench-test or otherwise provide written verification from the supplier prior to installation that the pressure regulators have been set at the required psi.

K. Payment for new water service and reconnection shall be at the appropriate unit bid price shown in the bidding schedule and shall include service saddle, corporation stops, piping, meter yoke, boxes, pressure regulator, plus all appurtenant fittings for complete assembly for connection to existing water customers service line. Contractor to supply and install all fittings necessary to install meter into new yoke.

Pay Item: 610.11b New 1" Copper Water Service EA

610.11C PRIVATE WATER SERVICE LINE ABANDONMENT

A. Where Water Service Lines are identified for abandonment, the Contractor shall pothole, cut out and remove the corporation stop and saddle, and install full circle, 316 stainless steel, double band repair clamp with stainless steel bolts. The gasket shall be nitrile rubber and have a finely gridded surface to conform to irregularities on rough pipe surfaces or in pitted areas.

B. The minimum width of the repair clamp shall be equal to the outside diameter (O.D.) of the water main plus the diameter of the tap.

C. The service line to be abandoned shall be cut and capped a minimum of 1 foot from the water main and from the meter box, if the meter box is to remain in place.

D. Payment for private water service line abandonment shall be at the appropriate unit bid price in the Bid Schedule and shall include all work and appurtenant fittings necessary for complete abandonment.

Pay Item: 610.11c Private Water Service Line Abandonment

610.11D PRIVATE WATER SERVICE LINE RECONNECTION (COMMERCIAL)

A. The Contractor will be required to install private water service line from the new water meter location to a point at the existing water meter location or to a point of connection to the existing service line for the commercial property. This point of connection shall be a maximum of a ten-foot radius from the meter location. Contractor shall remove existing valves and reduce pressure zone assembly and replace per specifications. Contractor to furnish and install gate valve and pressure Reducing Valve (PRV) after meter box. PRV shall be installed per the International Building Code 2003. This PRV shall be installed above ground and enclosed in an approved ASSE 1060 Type II enclosure (Hot Box or approved equal). All private service lines shall be Type "K" copper in accordance with MAG Section 754 and encased in polyethylene protective wrapping in accordance with MAG 610.5. Sweat fittings will not be allowed. The Contractor shall maintain a minimum of two (2) feet of cover material over new private water service line and utilize existing in-situ material for backfill. The Contractor shall supply all necessary material for new private water service installation including a gate valve, in an accessible box per YAG Standard Detail 3-16 and an approved type PRV in an approved ASSE 1060 enclosure at the new meter box location and include all appurtenant fittings to connect to existing service line.

B. The Contractor will be required to distribute written notices to the approval of the Engineer to all residents 24 hours in advance of proposed private service line reconnection work.

C. Existing improvements disturbed by the Contractor shall be restored in "like-kind" to the satisfaction of the Engineer. However, replacement of existing improvements shall not include any vegetation. No extra payment will be made for restoring existing improvements in "like-kind" to include concrete walkways, retaining walls, landscape improvements, etc.

D. It shall be the Contractor's responsibility to review existing water meter location and points of private service line reconnection locations and ascertain all work including existing improvement restoration costs to perform the private service line reconnection work as specified. Costs associated for private service line reconnection work shall be at the appropriate unit bid price in the bidding schedule and shall include private service line piping, gate valve, PRV and enclosure, plus all appurtenant fittings and existing improvement restoration work as specified.

610.12 TRAFFIC RATED CONCRETE METER BOXES

A. Meter boxes located within traffic areas shall be Christy model B1324 by Christy Concrete Products or approved equal. Contractor shall submit alternative traffic rated meter boxes for approval by the Engineer prior to bid.

B. Pre-cast concrete meter boxes shall have H-20 loading and be constructed of high density reinforced concrete with a minimum compressive strength of 4,000psi. Covers to be furnished with the boxes shall be a steel checker plate, H-20 loading, bolt down lid.

Pay Item: 610.12 Traffic Rated Concrete Meter Box

610.15 TESTING & DISINFECTION OF WATER MAINS

A. Pressure tests and leakage test of water mains and services shall be performed in accordance with AWWA C-600-82 and City Of Prescott Water Line Testing And Acceptance Procedures. Testing shall be performed by the Contractor and shall be witnessed by the Engineer for approval.

B. Water main and services shall be disinfected in accordance with MAG Section 611. The Owner or his representative shall perform the sampling for bacteriological and residual chlorine testing. The Contractor shall notify the Owner 24 hours in advance to coordinate disinfection testing.

C. Payment for Testing and Disinfection of Water Mains shall be included in the unit bid price for water main construction

610.20 CONCRETE ENCASEMENT

A. Concrete encasement for sewer and water crossings shall be in accordance with YAG Standard Detail 4-01 and COP Standard Detail. 4-02P.

B. Payment for concrete encasement shall be at the appropriate unit bid price in the bidding schedule.

Pay Item: 610.20 Concrete Encasement **LF**

610.30 WATER MAIN ABANDONMENT

A. Abandonment of existing water main at connection to new water main shall involve the existing water main to be abandoned upon acceptance by the Engineer of hydrostatic and disinfection test results for the new main. The Contractor shall contact the Engineer a minimum of 48 hours in advance to schedule City water crew to coordinate valve operation of existing mains. Abandonment of existing main shall include removal of valve, saddle, and all appurtenances and installation of full circle stainless steel clamp(s) or the installation of a Mega-Lug cap with thrust blocking per MAG Standard Detail 380.

B. Existing valves to be abandoned shall include removing valve, valve box and cover in its entirety. Removed materials not identified to be salvaged shall become the property of the Contractor to dispose of. Removed materials identified to be salvaged shall be delivered to the City of Prescott Maintenance Yard, and placed as directed by the Engineer. Salvaged materials shall not be used in new main installation.

C. Restoration of water main and valve abandonment shall include excavation, backfilling and compaction in accordance with the Trench Excavation, Backfilling & Compaction section of these Technical Specifications.

D. Payment for water main and valve abandonment shall be at the appropriate unit bid price in the Bid Schedule and shall include all work and appurtenant fittings necessary for complete abandonment.

Pay Item: 610.30 Water Main Abandonment **LS**

618 STORM DRAIN CONSTRUCTION

A. Work under this item shall be in accordance with YAG and MAG Sections 601 and 618 and as modified herein.

B. Excavation, backfill and compaction Bedding and cover shall extend from 6 inches below the pipe to 12 inches over the pipe and shall consist of ABC mechanically compacted in lifts to 95%.

C. Backfill material shall extend from top of cover material to finish sub-grade elevation and be Type I, mechanically compacted to 95%.

D. Pipe materials and installation shall be in accordance with MAG Section 621 and 760, as stated on the project drawings and as modified herein.

E. All CMP shall have $2^2/_3$" x ½" corrugations with a minimum gauge of 14. Steel lined or paved CMP will not be allowed.

F. All joints shall conform to MAG 621.3.1 and shall be watertight.

G. Measurement and payment shall be in accordance with MAG Specs Section 621.5 and 621.6. No separate payment shall be given for materials used for bedding and cover. They shall be considered incidental to the work and included in the contract unit price.

H. If during excavation, the Engineer determines the native soil unsuitable for backfill material, he may direct Contractor to dispose of said materials and to use ABC. This additional work shall be paid for in accordance with section "Payment to Contractor", subsection "Force Account" as contained within the specifications.

Pay Item: 618.1 Storm Sewer Construction

618.2 CORRUGATED METAL PIPE

All CMP shall have minimum $2^2/_3$" x ½" corrugations and a minimum gauge of 14 and shall conform to MAG Specification Section 760 and shall be installed as per MAG Section 621. Measurement and payment shall be to the nearest linear foot completed and in place in accordance with the project plans.

630.3 GATE VALVES

A. Valves shall be resilient wedge gate valves, Waterous 500 series, Clow, Mueller, or equal, suitable for use in line and in wet tapping water main in conjunction with tapping sleeves. Gate valves shall be mechanical joint except where flange joints are specifically detailed in project plans or where required for tapping sleeves and hydrant installation.

B. Thrust restraint shall be provided on all valves in accordance with COP Standard Detail 3-05P, all bends in accordance with MAG Standard Detail 303-1 and 303-2. No separate payment will be made for thrust blocking and the cost shall be included in the water main unit price.

C. Valve boxes shall be in accordance with COP Standard Detail 3-15P.

D. Debris caps shall be installed on all valves within project limits according to MAG Standard Detail 392 and shall be color-coded according to YAG Standard Detail 3-15P. Debris caps shall be SW Services DC600 or approved equal.

E. The Contractor shall notify customers of scheduled water service disruption a minimum of 24 hours in advance of construction. Customers shall not be without water service nor shall the water main line be out of operation for a total time period greater than four (4) hours, inclusive of contract time period from issuance of Notice to Proceed to Final Acceptance by the Engineer.

F. Payment for valves, box and cover shall be at the unit bid price shown in the bidding schedule, except valves on tapping sleeves and hydrant installations shall be included in the appropriate bid item in the bidding schedule.

G. Retrofit Debris Caps on Valves: Debris caps shall be installed on all valves within project limits according to MAG Standard Detail 392 and shall be color-coded according to YAG Standard Detail 3-15P. Debris caps shall be SW Services DC600 or approved equal. Payment shall be per each installed complete and in place.

Pay Item: 630.3b 8" Gate Valve, Box, & Cover **EA**

Pay Item: 630.3c 12" Gate Valve, Box, & Cover **EA**

630.4 TAPPING SLEEVES AND VALVES

A. The City of Prescott Utility Department shall be notified 48 hours in advance to schedule water main tap. If the Contractor is not ready for the tap at the scheduled time, the tap will be rescheduled. City crews will not remain on standby until the Contractor is ready for the tap. The rescheduled tap shall include a new 48 hour notification.

B. The Contractor shall be responsible for payment to the City Utility Department for the quoted costs for the City Water Department to perform water main tap work. The water tap fees are as follows:

1" Tap	$100.00
2" Tap	$130.00
4" Tap	$240.00
6" Tap	$260.00
8" Tap	$325.00
10" Tap	$380.00
12" Tap	$435.00

C. The Contractor shall add the cost of this work to the unit price bid in the bidding schedule for tapping, sleeve, valve, box and cover. Tapping sleeves shall be in accordance with COP Standard Detail 3-05P and MAG Section 630.4.

D. Valves for tapping sleeves shall be resilient wedge gate valves as specified under Valves in these special provisions.

E. Debris caps shall be installed on tapping sleeve valve according to MAG Standard Detail 392 and shall be color-coded according to YAG Standard Detail 3-15P. Debris caps shall be SW Services DC600 or approved equal.

F. Payment for tapping sleeves shall be at the unit price bid in the bidding schedule and include the tapping fee, tapping sleeve, valve, box and cover, and all appurtenant fittings for complete assembly.

Pay Item: 630.4a 18"x12" Tapping Sleeve, Valve, Box, and Cover EA

630.6A AIR/VACUUM RELEASE VALVES

A. Air/vacuum release valves shall be 2" in accordance with COP Standard Detail 3-17P as modified per project drawings.

B. Payment for air/vacuum release valve installation shall be at the unit price bid in the bidding schedule and shall include all materials and appurtenant fittings at noted for a complete installation.

Pay Item: 630.6a Air/Vacuum Release Valve Assembly EA

630.6B BLOW OFF INSTALLATION

A. Blow off installation shall be in accordance with COP Standard Detail 3-18P. Contractor shall be required to provide Mega-Lug restraint for all joints for a distance specified per MAG Section 303.

B. Payment for blow off installation shall be at the unit price bid in the bidding schedule and shall include all materials and appurtenant fittings as noted for complete installation. No extra payment shall be made for Mega-Lug restraint.

Pay Item: 630.6b Blow-Off Assembly EA

710 ASPHALT CONCRETE

SECTION 710.2.1 Asphalt Binder: shall be deleted as replaced as follows:

a. The asphalt binder shall be a Performance Grade (PG) PG 64-22 Asphalt conforming to the requirements of AASHTO M 320-09 Performance-Graded Asphalt Binder. The binder grade shall be as specified in the contract documents or as directed by the Engineer.

b. The Public Works Director may review a request by the Contractor to change from a PG 64-22 binder grade to a PG 64-16 grade. The owner may require the Contractor to provide supporting justification and/or data for changing the grade of binder from PG 64-22 to PG 64-16.

SECTION 710.3.2 Mix Design Criteria: add the following:

a. The intent of this supplement is to use only 1/2 inch or 3/4 inch Marshall or Gyratory Mix Designs within the specification unless specifically called out in the project specifications.

b. The asphalt mix design shall be for high traffic volume, unless otherwise specified.

SECTION 710.3.2.1 Marshall Mix Design: make the following change:

a. In Table 710-3 change the Tensile Strength Ratio minimum percent requirement from 65 to 75. A tensile strength ratio of 75 percent may require more than one percent mineral admixture.

725 PORTLAND CEMENT CONCRETE

A. All Portland cement concrete placed under this contract shall be Class A in accordance with YAG and MAG Specifications Section 725, as designated on the Project drawings, and as modified herein.

B. Subsection 725.6 shall be revised by adding: All Portland cement concrete shall contain 5%, plus or minus 1%, entrained air of evenly dispersed air bubbles at the time of placement. The air-entraining agent shall contain no chlorides. The air-entraining agent shall be added to the batch in a portion of the mixing water. The solution shall be batched by means of a mechanical batcher capable of accurate measurement. Air entrainment in the concrete shall be tested in accordance with AASHTO T-152. Air entrainment shall be tested at time of sampling in accordance with ASTM C143 and C231 respectively. The cost of this testing shall be the responsibility of the Contractor.

C. Subsection 725.10 shall be revised by adding: The slump of Portland cement concrete shall be tested in accordance with the requirements of AASHTO T119, ASTM C143 and ASTM C231 respectively. Concrete that does not meet the specification requirements as to slump shall not be used, but shall be removed from the job at no cost to the Public Works Director. Slump tests will be taken in the field by a representative of the Contractor's quality control firm. The cost of this testing shall be the responsibility of the Contractor.

D. Concrete cylindrical specimens for compression tests will be taken in the field by a representative of the Contractor's quality control firm in accordance with AASHTO T141 and T-23. These samples will be tested for compressive strength in accordance to AASHTO T22. Concrete samples will be taken in accordance with YAG & MAG 725.10 except as noted hereinafter. One set of not less than four (4) cylinders per fifty (50) cubic yards of ½ days pour shall be prepared and retained to verify compressive strength of the mixture. One (1) cylinder shall be tested at seven (7) days and two (2) at twenty-eight (28) days. The fourth (4th) cylinder shall be retained for up to sixty (60) days. If the 28-day test does not meet the minimum strength requirement, cores shall be taken as provided herein and the cost of such will be the responsibility of the Contractor. Acceptance shall be based on minimum 28-day strength requirements. The cost of testing shall be the responsibility of the Contractor.

E. ADVERSE WEATHER CONDITIONS. Placement of all Portland cement concrete shall conform to the requirements of YAG & MAG Section 505.6.2. No separate payment shall be made for adverse weather concreting. The work shall be considered incidental and included in the unit price bid for construction or installation of the appropriate contract pay item.

SPECIAL PROVISIONS

The following Special Provisions shall modify and supersede the various sections of the City of Prescott (COP) Technical Specifications as indicated.

The word "water main" and "waterline" shall be used interchangeably and will be understood to indicate the same.

The Contractor shall obtain an Arizona Department of Transportation (ADOT) Highway Encroachment Permit and "General Permit for Discharge from Construction Activities to the Waters of the United States" as issued by the Arizona Department of Environmental Quality (ADEQ). The Contractor shall obtain these permits and all the applicable stipulations listed below and as required by ADOT and ADEQ.

City of Prescott Standard Details, Yavapai Association of Governments (YAG) Standard Details and YAG Standards 1998, A Supplement to the Uniform Standard Specifications and Details for Public Works Construction Sponsored and Distributed by the Maricopa Association of Governments (MAG) are available online at:
http://www.prescott-az.gov/services/engineering/

The *2008 ADOT Standard Specifications for Road and Bridge Construction* are available at:

Arizona Department of Transportation
Engineering Record Section
1655 W. Jackson St.
Room 175, MD 112F
Phoenix, AZ 85007
Phone: 602.712.8216 or 602.712.7498
Fax: 602.712.3235

ADOT Construction Standard Drawings, May 2012 are available at
http://www.azdot.gov/business/engineering-and-construction/roadway-engineering/roadway-design-standards-and-guidelines/construction-standard-drawings

ADOT Structural Concrete Box Culverts Details SD 6 are available at:
http://azdot.gov/business/engineering-and-construction/bridge/structure-detail-drawings/sd-6-drainage-structures

ADOT Structural Retaining Walls Details SD 7 are available on-line at:
http://azdot.gov/business/engineering-and-construction/bridge/structure-detail-drawings/sd-7-retaining-walls

Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, 2015 Edition are available on-line at:
https://www.azmag.gov/communications/Specs_and_Details/

A soils report is available for this project from the City of Prescott CIP 13-030 project. The soil boring logs contained with the report represents the conditions encountered on the date of drilling at the particular locations. No other warranty is expressed or implied to the actual conditions which may exist within the vicinity of the boring location. The soils report and soil boring logs do not constitute a part of this contract and are included for the Contractor's convenience only. They are not intended to imply that the character of the material is the same as that shown in the logs at any point other than where the boring was made. The Contractor shall satisfy themselves regarding the character and amount of rock, gravel, clay and water to be encountered in the work to be performed.

100.4 PUBLIC RELATIONS: of the City of Prescott Technical Specification is modified to add:

The Contractor shall take the necessary precautions to avoid damaging the ranch lands outside of the new right-of-way or limits of construction as shown on the project plans. In addition to the requirements of MAG Standard Specification 107.9 Protection and Restoration of Property and Landscape, the Contractor shall be responsible for all claims associated with damage to the ranch lands caused by the Contractor or sub-contractors under contract to the Contractor. During the installation of the fence, the Contractor shall not encroach outside of the new right-of-way except on the existing roads and only by permission of the Ranch Manager, Mr. Bob Burris (Cell Phone Number 928-899-3961).

The permanent right-of-way fence and gates for this corridor are being installed under a separate contract. However, there will be some fence removal and new fence and gate installation included in this contract. As much as is reasonable, the Contractor shall install permanent fence and gates at the locations shown in the project plans and minimize the need for temporary fencing during construction. In locations where Temporary Construction Easements are shown on the project plans, the Contractor shall construct temporary fencing which shall fill all perimeter gaps in the permanent fencing under Bid Item 420.5 Temporary Fence (Install & Remove) as directed by the Engineer. At all times during the duration of this project, the Contractor shall ensure that the continuity of fence lines is maintained so that livestock cannot escape into the work zone or onto the roadway. The Contractor shall erect and maintain temporary fence and gates where necessary to provide this continuity of fence line.

105.6 COOPERATION BETWEEN CONTRACTORS of the COP Technical Specifications is modified to add:

Maricopa Association of Governments (MAG) Standard Specification Section 105.6 is modified to add:

The following utility companies have facilities within the project limits and will have utility adjustments and relocations before and during waterline construction:

Arizona Department of Transportation (ADOT)	Randy Blake	928.7775873	rblake@azdot.gov
Arizona Public Service (APS)	Mike Shaw	928.776.3617	michael.shaw@aps.com
Cable One Communications	Johnny Cedillo	928.443.3348	johnny.cedillo@cableone.net
CenturyLink	Karen Prutsman	928.634.7556	karen.prutsman@CenturyLink.com
City of Prescott	Bruce Canavan	928.777.1130	bruce.canavan@prescott-az.gov
Unisource Energy Services	Sara Scott	928.771.7229	sscott@uesaz.com

APS will complete their utility relocations prior to the start of roadway construction. However, the Contractor shall coordinate with the utility companies as necessary.

Unisource Energy Services (UES) – will require coordination during the roadway construction. Coordination costs are considered incidental to this contract.

Potential Conflicts:

- Rdwy Station 109+50 L– Existing 6-inch HPNG in 10-inch steel sleeve - New retaining wall and culvert extension – **Protect in Place, see Dwg. S1.** The Contractor shall notify UES 48 hours prior to excavating around this facility.

- Rdwy Station 115+20 to 121+50 Lt – New cut slope and cut ditches. Potholes confirm no direct conflict however, cover over gas line is reduced to approximately 3.0-feet.

- Waterline Station 110+00 – New water line. Pothole confirms 3.8 feet separation between existing gas pipeline and proposed water line.

- Waterline Station 86+40 – New water line. Pothole confirms 5.9 feet separation between existing gas pipeline and proposed water line.

- Waterline Station 120+88 – New water line. Pothole confirms 4.5 feet separation between existing gas pipeline and proposed water line.

Known Conflicts:

- Unisource Energy Services (UES) will relocated approximately 400 feet of 2-inch steel gas main from Station 194+00 through Station 197+00. The new gas pipe runs on the north side of Willow Creek Road Realignment, crosses the proposed Willow Creek Road at approximately 195+20, and runs on the south side of Willow Creek Road to tie into the existing gas line. UES will maintain a minimum of 36-inches of cover from finish grade and maintain adequate separation from other utilities and drainage infrastructure. UES shall backfill and compact in accordance with the City of Prescott Technical Specification 601.

- UES Pipeline Contractor will remove existing abandoned gas line (approximately 1,000 feet) prior to or during construction of the new roadway, from approximately station 194+00 to 197+00, this portion of gas line is in conflict with the new roadway and cut ditches. Unisource intends to have the existing gas line removals complete by November 15, 2015. However, coordination with Unisource Pipeline Contractor is required to ensure removals are completed prior to roadway construction. The Contractor shall coordinate with UES 96 hours notification prior to grading work in the area and shall provide UES or there contractor access to the site to complete the removals.

Arizona Public Service - will require coordination during the roadway construction. Coordination costs are considered incidental to this contract.

Potential Conflicts:

- Rdwy Station 187+70 – Power pole – This conflict has been resolved by relocating the roadway to avoid conflict with power pole.

Known Conflicts:

- Rdwy Station 108+70 Lt – power pole relocation. SRP will relocate power pole by November 1, 2015.
- Rdwy Station 172+50 – Aerial powerlines. Powerlines were surveyed and found to be approximately 22' above the proposed roadway elevation and will not be in conflict. APS will buttress the poles on either side of the roadway by November 1, 2015. Aerial communication lines (CenturyLink) are underbuilt and in conflict and will be relocated by CenturyLink.

CenturyLink Communications - will require coordination during the roadway construction. Coordination costs are considered incidental to this contract. CenturyLink has both existing fiber optic and copper wire that are predominantly underground.

CenturyLink will be installing conduit for future use during the construction of this project. CenturyLink will require the subgrade constructed to within +/- 6 inches of the finished subgrade elevation prior to installation. The CenturyLink Project No. XXXXXXXX shows the location of the proposed conduits. The Contractor shall provide two week and 72 hours advanced notice of the scheduled CenturyLink construction opening. The area available shall be in 1/2 mile increments minimum or as agreed to by CenturyLink and shall be in logical, adjacent and consecutive segments.

Potential Conflicts:

- Rdwy Station 198+70 Rt New cut Ditch – the fiber optic line is not in conflict based on Century Link as-built elevations.

- Waterline Station 86+90 – Copper and fiber optic. Potholes of these facilities confirm a minimum separation of 2.1-feet between the existing facilities and any proposed facilities.

Known Conflicts:

- Rdwy Station 108+80 to 111+00 Lt – Concrete encased duct back with FO and copper - new retaining wall and culvert extension. **Potholes and designation confirm duct bank is in conflict.** CenturyLink will install conduit supports during the excavation work for the proposed retaining wall. The Contractor shall schedule and conduct a meeting with CenturyLink two (2) weeks prior to excavation. The Contractor excavate to the bottom of the conduits and shall allow 72 hours for CenturyLink to install temporary supports for their conduits prior to excavating beneath the conduits.

- Rdwy Station 115+20 to 121+50 Lt – Concrete encased duct back with FO and copper - New cut slope and cut ditches. **Potholes confirm conflict. To be lowered by CenturyLink during the Roadway Construction Project.** The Contractor shall notify CenturyLink 48 hours prior to roadway excavation work in this area. The Contractor shall rough cut the slopes in the roadway limits and allow CenturyLink 48 hours to trench and lower their conduits no less than 3-feet below the proposed finished grade. CenturyLink shall backfill and compact in accordance with the City of Prescott Technical Specification 601.

- Rdwy Station 112+90 Lt – Adjust Manhole. **Century link shall adjust manhole to grade during the Roadway Construction Project.** The Contractor shall notify CenturyLink 48 hours prior to roadway excavation work in this area and when the finished grade is cut. The Contractor shall allow access for CenturyLink or their contractor to complete the work.
- Rdwy Station 172+50 – Aerial telecommunication line. Telecommunication line was surveyed and found to be approximately 16' above existing ground and 15' above the proposed roadway elevation. **Century Link to underground the telecommunication line across the roadway corridor prior to November 1, 2015.**
-

Cable One - will require coordination during the roadway construction. Coordination costs are considered incidental to this contract.

Potential Conflicts:

- Waterline Station 87+95 – Jack and Bore. Potholes have confirmed a minimum separation of 2.1-feet between the outside edge of the casing pipe and the existing facilities.

Known Conflicts:

- Rdwy Station 109+50 to 110+50 Lt – New retaining wall and culvert extension. Potholes confirm conflict. **Contractor shall Protect in Place, see Detail on Dwg S1.** Cable One will install conduit supports during the excavation work for the proposed retaining wall. The Contractor shall schedule and conduct a meeting with Cable One two (2) weeks prior to excavation. The Contractor excavate to the bottom of the conduits and shall allow 48 hours for Cable One to install temporary supports for their conduits prior to excavating beneath the conduits.
- Rdwy Station 114+50 to 119+50 Lt – New cut slope and cut ditches. **Potholes confirm conflict. Cable One to lower the conduits during the roadway construction.** The Contractor shall notify Cable One 48 hours prior to roadway excavation work in this area. The Contractor shall rough cut the slopes in the roadway limits and allow Cable One 48 hours to trench and lower their conduits no less than 3-feet below the proposed finished grade. Cable One shall backfill and compact in accordance with the City of Prescott Technical Specification 601.

- Rdwy Station 114+15 Lt Junction Box Adjust to Grade. **Cable One shall adjust the junction box to grade during the roadway construction.** The Contractor shall notify Cable One 48 hours prior to roadway excavation work in this area and when the finished grade is cut. The Contractor shall allow access for Cable One or their contractor to complete the work.

City of Prescott Sewer –

Known Conflicts:

- Willow Creek Road CL Station 107+70 Lt – Existing 8-inch sanitary sewer – **Protect in Place, see Dwg S1.**

105.8 CONSTRUCTION STAKING of the COP Technical Specifications is modified as follows:

Section 105.8.G – Measurement and Payment is modified to add:

2. Payment for Construction staking, measured as provided above, will be made at the contract lump sum price. Payment will be made in equal one-third portions. The first payment will be paid with Contractor's initial billing. The second payment will be made when the total payments to Contractor for the bid items, equals one-half of the total bid by Contractor. The remaining one-third will be paid as part of the final payment due to the Contractor. However, final payment will NOT be made unless the Contractor has received approval of as-builts by the Engineer.

Section 105.8 is modified to add:

H. The Survey Control Sheet (Dwg C1) and Geometric Control Plan (Dwg C2) are contractually binding and shall be the basis for the Contractor's horizontal and vertical control.

107.2 PERMITS: of the MAG Standard Specifications is modified to add:

ADOT Encroachment Permit

The Contractor shall comply with the provisions of the ADOT Prescott District Encroachment permit No. XXXXXXXXX. The Contractor shall be a signatory on the permit and shall supply the applicable insurance certificates required by ADOT.

107.6 PUBLIC CONVENIENCE AND SAFETY: of the MAG Standard Specifications is modified to add:

Airport Coordination

The Prescott Municipal Airport (PRC) is in close proximity to the project limits. The Contractor shall coordinate with the airport manager prior to construction activities to avoid impacts to airport operations. The contact information is as follows:

John Cox, Airport Manager
Prescott Municipal Airport
6546 Crystal Lane
Prescott, AZ 86301
Phone: 928-777-1114
Email: john.cox@prescott-az.gov

Per the FAA, any person proposing construction or alteration of objects that affect navigable airspace, as defined in Federal Aviation Regulation Part 77, must notify the FAA. This includes construction equipment and proposed parking areas for this equipment (i.e. cranes, graders, other equipment) on airports. FAA Form 7460-1, Notice of Proposed Construction or Alteration, can be used for this purpose and submitted to the appropriate FAA Airports Regional or District Office. Further guidance is available on the FAA website at https://oeaaa.faa.gov/.

Antelope Hills Golf Course Coordination

The Antelope Hill Golf Course is in close proximity to the project limits and will likely be impacted by the waterline construction. The Contractor shall coordinate with the golf course general manager prior to construction activities to minimize impacts on the golf course operations. The contact information is as follows:

Bill Weller, General Manager
1 Perkins Drive
Prescott, AZ 86301
928-777-1881
bweller@antelopehillsgolf.com

107.10 CONDUCT OF OPERATIONS: of the MAG Specification is modified to add:

Construction Access

The Contractor shall restrict access of his/her equipment and personnel to within the limits of construction as shown on the project plans. In addition, the Contractor shall keep all equipment and debris off of the undisturbed areas between the Right-of-Way limits and the limits of construction. Prior to any ground disturbing activities, the limits of disturbance shall be established during a joint field review of the site between the Engineer and Contractor once the proposed limits of construction as shown on the plans have been staked. Once agreed to, the disturbance limits shall be demarcated by the use of yellow rope (1/4 inch diameter) with posts/lathe or other methods approved by the Engineer. Construction personnel shall be instructed to remain within the approved limits. There is no separate bid item or reimbursement for installing or removing the rope with posts/lathe, the cost being considered as included in the price of other contract items.

Construction Sequencing / Constraints

Regardless of the construction sequence the Contractor chooses to follow to construct the project, the following construction constraints shall be required:

- The Contractor shall not construct the water main improvements extending east from Water Main Station 81+03, new 12-inch gate valve, until the jack and bore operations at Pioneer Parkway are complete and the water main improvements extending north and east to the aforementioned station have passed pressure and bacteriological testing as approved by the Engineer.
- Existing Willow Creek Road shall not be closed until traffic is shifted onto a paved surface for the new Willow Creek Road realignment between Pioneer Parkway and the State Route 89/Deep Well Ranch Road roundabout with a minimum of one travel lane in each direction.
- The jack and bore operations at the State Route 89/MacCurdy Drive intersection shall not occur until existing Willow Creek Road has been closed and two-way traffic is accommodated on the new Willow Creek Road realignment.
- The Contractor shall not construct any of the Southbound Bypass Ramp until a construction schedule has been submitted to and approved by the Engineer.
- The Willow Creek Road embankment prism shall be constructed prior to trenching for utilities (ie, waterline and communication ductbanks). This sequence is critical to protect the new utilities during construction and ensure the roadway embankment is compacted adequately.

107.11 STORM WATER POLLUTION PREVENTION PLAN (SWPPP) of the COP Technical Specifications is modified as follows:

Section 107.11 of the COP Technical Specifications is modified to add:

F. Work under this item shall include furnishing, installing, maintaining, removing and disposing of temporary erosion control measures such as wattles, check dams, erosion control blankets, straw barriers and silt fences, or other erosion control devices or methods as shown in the Storm Water Pollution Prevention Plan (SWPPP) and in the Special Provisions.

Work under this item shall also include furnishing, installing, maintaining permanent erosion control measures such as cut-fill transitions, pipe and box culvert inlet/outlet protection, and other permanent erosion control devices or methods as shown in the SWPPP.

G. Work Inside ADOT Right-of-Way:

Contractor shall comply with these additional requirements by ADOT and the ADOT Highway Encroachment Permit for this project.

The contractor shall give attention to the impact of the construction operations upon natural landscape, and shall take care to maintain natural surroundings undamaged at no additional cost to the City. The contractor shall minimize soil disturbance by implementing Low Impact Development (LID) methods to control erosion as close as possible to the source of disturbance.

The contractor shall use all means necessary to significantly reduce impacts by staging/stockpiling and carrying out project activities in such a way as to minimize the potential for erosion and discharge of pollutants from the project site.

The contractor shall apply perimeter control Best Management Practices (BMPs) (wattles and/or silt fence) on the down-slope perimeter of construction disturbed soil areas, as well as on-site staging, and stockpiling. Perimeter control BMPs shall be installed in accordance with the manufacturer's instructions. The contractor shall adjust the field layout of erosion control and sediment prevention elements as approved by the City/Engineer. The contractor shall also observe ADOT traffic safety standards when installing perimeter control BMPs in the traffic clear zone/recovery area.

During construction the contactor shall minimize vehicular travel or equipment operation on the unpaved soil areas to maximum extent practicable (MEP). The contractor shall develop and implement procedures to avoid earth disturbance, soil compaction, and damage to vegetative cover from vehicular travel or equipment operation during inclement weather or unsuitable soil conditions. The contractor shall stabilize all construction disturbed soil areas at no additional cost to the City.

No grout, concrete or wash water shall be disposed within the project limits or its vicinity. The contractor shall install concrete washout BMP as needed and under the direction of the City/Engineer. This BMP shall include proper disposal of all excess grout, concrete, and wash water.

The contractor shall not use unpaved areas within the project limits for staging or stockpiling without first installing erosion control and sediment prevention BMPs and as directed and approved by the City/Engineer. Staging and stockpiling on the unpaved areas shall be avoided to MEP.

Erosion/Sediment Control beyond the Project Limits:

The contractor shall apply erosion/sediment and water quality protection BMPs as required by the commercial material source owner and environmental permit standard at no additional cost to the City.

The contractor shall apply erosion/sediment and water quality protection BMPs for off-project-site staging, material storage, maintenance yard, disposal spots, and stockpiling areas as required by the facility owner and environmental permit standard at no additional cost to the City.

The contractor shall only use off-project-site staging, material storage, maintenance yard, disposal spots, and stockpiling areas covered with existing environmental permit for operation.

G. Materials and Construction Requirements:

The materials and construction requirements for Stormwater Pollution Prevention Plan shall be in accordance with ADOT Standard Specification Section 810 and the ADOT Approved Product List.

Pay Item: 107.11 Stormwater Pollution Prevention Plan Implementation LS

107.12 STORM WATER POLLUTION PREVENTION PLAN SUBMITTAL is added to the COP Technical Specifications as follows:

A. General

The Contractor shall comply with Section 107.11 Storm Water Pollution Prevention Plan (SWPPP) of the COP Technical Specifications and these Special Provisions for submittals and coordination with ADEQ and the City/Engineer.

B. Measurement and Payment

Storm Water Pollution Prevention Plan Submittal will be measured for payment by the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs relating to the preparation of SWPPP submittals and coordination of SWPPP submittals with ADEQ and the City/Engineer during project construction.

Pay Item: 107.12 Stormwater Pollution Prevention Plan Submittal LS

201 CLEARING AND GRUBBING of the YAG Specifications is modified as follows:

Section 201.6 – Measurement, Removal and Disposal of Trees of the YAG Specifications shall be replaced in its entirety with:

201.6. Measurement

Clearing and grubbing will be measured by the acre. The area will be measured to the nearest tenth of an acre on a horizontal plane. Clearing and grubbing limits shall include the entire new right-of-way width as shown on the project plans, or as directed by the Engineer.

Clearing and grubbing shall include the removal of all trees in conflict with the improvements shown on the project plans and as directed by the Engineer regardless of the trunk diameter.

Section 201.7 – Payment, Removal and Disposal of Trees of the YAG Specifications shall be replaced in its entirety with:

201.7. Payment

Payment for clearing and grubbing, measured as provided above, will be paid for at the contract price per acre, including furnishing, placing and compacting the material required to fill the cavities resulting from the removal of tree stumps or other materials.

No payment will be made for clearing and grubbing outside the specified limits, unless such work is authorized by the Engineer.

No separate bid item will be included for removal of trees, the cost considered inclusive with this bid item.

Pay Item: 201.1 Clearing and Grubbing ACRE

205.1 EARTHWORK AND ROADWAY EXCAVATION of the COP Technical Specifications is modified to add:

Construction Requirements

Earthwork and Roadway Excavation shall be in accordance with the geotechnical design report and addendums prepared by Engineering & Testing Consultants, Inc. (ETC). The Soil Survey and Pavement Thickness Design for Willow Creek Road Realignment report was dated December 3, 2014. The first addendum to that report was dated January 23, 2015 and the second addendum was dated May 1, 2015.

Slope Rounding, Warping and Blending

The intersection of roadway cut slopes with the ground surfaces shall be rounded as shown on the project plans. Rock that is disintegrated to such an extent that it will work and handle as earth shall be considered as earth and the slopes shall be rounded the same as earth slopes. A layer of earth overlaying a rock cut shall be rounded above the rock in the same manner as earth slopes. Final shaping and cleanup may require hand labor.

The Contractor shall be required to round and blend new slopes to match the existing contours and to highlight natural formations.

At the intersections of cuts and fills, slopes shall be adjusted and warped to flow into each other or into the natural ground surfaces without noticeable breaks. Stable outcroppings shall be left protruding for the cut slopes as approved by the Engineer. Rock outcroppings shall be scaled as they are cut in order to remove hazards and blend into the surrounding terrain, at the direction of the Engineer.

The final slope rounding, blending and warping will be discussed in the field at the discretion of the Engineer. Adjustments in slopes shall also be made, as directed by the Engineer, to avoid damage to standing vegetation and other natural features, marring weathered rock or to harmonize with existing landscape features. The transition of such adjusted slopes shall be gradual.

Earth and rock slopes shall be left with a roughened surface as they are being constructed. The slopes shall generally conform to the staked slope ratio, but shall be steepened and flattened intermittently, if directed by the Engineer, to simulate the irregularity of existing, natural terrain. Rock cuts shall generally follow natural faults, seams, or cracks.

Slopes shall be finished to be free from all trash and foreign debris (non-organic). Areas to be seeded shall be prepared with a rough finish, as specified in the project plans and these Special Provisions. Unless otherwise approved by the Engineer, shattered or loosened material shall be removed from the cut slopes.

Subgrade Acceptance

Subgrade soils within two (2) feet of finished subgrade elevation shall meet the following requirements. The Plasticity Index (PI) (AASHTO T90) and the percent passing the No. 200 Sieve (Minus 200) (Arizona Test Method 201) when used in the equation below shall give a value of X that does not exceed **113.**

$$X = (\text{Minus } 200) + 2.83 * (\text{PI})$$

A Subgrade Acceptance Chart using the above formulae is provided in Appendix B of these special provisions to aid in visually determining acceptable subgrade soil properties. As directed by the Engineer, removed subgrade soils which to not meet the above criteria may be placed outside of pavement areas, or in deeper fills of at least 2 feet or more below finished subgrade elevation.

Scarification in Fill Condition

Prior to fill placement, the exposed ground surface shall be scarified, moisture conditioned and thoroughly compacted to a minimum depth of eight (8) inches as shown on the project plans or as directed by the Engineer.

H. Measurement and Payment of the COP Technical Specifications is modified to add:

No measurement or direct payment will be made for the construction and excavation of longitudinal drainage ditches, grader ditches, false cuts, excavation beyond the limits of drainage pipes or structures, drainage dikes or

berms as shown on the project plans. No measurement or direct payment will be made for slope rounding and warping, removal or treatment of subgrade not meeting the requirements herein, or scarification in fill conditions. No measurement or direct payment will be made for the scarification and compaction of fill conditions. Payment for this work shall be considered as included in the cost of the Earthwork and Roadway Excavation item.

205.2 CROWN DITCHES is added to the COP Technical Specifications as follows:

A. General

The work under this item shall include furnishing of all materials, personnel, and equipment necessary for excavating and finishing crown ditches above roadway cut slopes to intercept surface water in accordance with the project plans and these Special Provisions.

B. Construction Requirements

Crown ditches shall be constructed at the locations designated on the project plans or as directed by the Engineer.

B. Measurement

Crown ditches will be measured by the linear foot along the center line of the ditch, parallel to the ground surface.

C. Payment

The accepted quantities of Crown Ditches, measured as provided above, will be paid for at the contract unit price per linear foot.

Pay Item: 205.2 Crown Ditch **LF**

205.3 TOPSOIL PLATING: is added to the COP Technical Specifications as follows:

A. Description:

This item of work consists of the importing or salvaging of on-site topsoil for use on the cut slope wherever the erosion control blanket is used. Topsoil used for Topsoil Plating shall meet the requirements of ADOT Standard Specification Section 804.

B. Materials:

Imported topsoil shall meet the requirements of ADOT Standard Specification Section 804.

The existing surface soil contains seeds and organic materials that are beneficial to the restoration of native vegetation. Sufficient surface soil shall be salvaged from within the top 3 to 6 inches of the on-site soil horizon to redistribute 6 inches of salvaged surface soil over all slopes designated in these Special Provisions for topsoil plating. The salvaged soil may be windrowed or stockpiled within the defined right-of-way. If stockpiling requires an area outside of the defined limits of construction as shown on the Project Plans, The contractor shall identify the area within the right-of-way and the Engineer shall approve the location prior to any construction

disturbance to the area. No stockpiling shall be allowed in drainages, natural or construction related. The stockpiled topsoil can then used for plating cut l slopes as described in Section 205.1 of the Technical Specifications, these Special Provisions and as directed by the Engineer.

Surface soil salvage, including a mixture of the top 3 to 6 inches of soil and vegetative matter, shall be accomplished after all plant material has been salvaged and transplanted and prior to earthwork operations. Surface soil may be salvaged from all proposed excavation (cut) and embankment (fill) areas, except that the surface soil shall not be salvaged from barren areas of existing roadway cut slopes as a determined by the Engineer.

If hard rock is encountered at the salvage locations, the Engineer may abandon soil salvaging in that area and reestablish the soil collection boundaries at other locations within the project limits. Accurate records of the boundaries of the soil salvage and exclusion areas as directed by the Engineer shall be kept by the Contractor.

The salvaged surface soil shall contain minimal amounts of cobble, aggregate, caliche, rock particles or other materials that are inconsistent with the intended use. Particle sizes of the in-situ soil shall be acceptable, except that no material particle greater than four inches in any dimension shall be evident in the finished surface of the distribution area. Excessive amounts of such materials shall be removed from the salvaged soil at the direction of the Engineer.

Vegetative matter allowed to remain in the soil may include leaves, twigs (less than 2 inch diameter), roots, small branches (less than 3 feet in length), slashings, tree bark, and other minor debris generated during the clearing and grubbing operations, provided that these components do not interfere with the erosion control blanket and seeding operations described in these Special Provisions. Stumps shall be removed.

All surface soil salvage operations shall commence only after the clearing limits have been approved and temporary fence and/or suspended ropes have been installed, and prior to the commencement of clearing and grubbing of the slopes.

C. Construction Requirements:

After completion of earthwork, slope mitigation and ripping, but prior to installation of the Erosion Control Blanket and seeding, topsoil shall be redistributed over the cut slopes. Plating shall be compacted ADOT Standard Specification Section 804 or as directed by the Engineer. In no case shall the placed material be compacted to less than 75% of the maximum density as determined in accordance with the requirements of the applicable test methods of the City of Prescott.

Work shall be coordinated between items to minimize conflicts and the need for repeating work. No additional payment will be made for coordination between activities to minimize sequencing the work, or other measures taken to reduce interference between the work of various sections of these Special Provisions.

No scarification is required.

D. Measurement: of the YAG Standard Specifications is modified to add:

Topsoil Plating will be measured by the square yard of 4-inch topsoil material in the final position.

E. Basis of Payment:

The accepted quantities of Topsoil Plating, measured as provided above, will be paid for at the contract unit price bid per square yard, complete in place, including, but not limited to, importing, topsoil salvage, preparing, screening, and placing.

Pay Item: 205.1 Topsoil Plating **SY**

206.1 STRUCTURAL EXCAVATION is added to the COP Technical Specifications as follows:

A. General

The work under this item shall include furnishing of all materials, personnel, and equipment necessary for structural excavation in accordance with the project plans and the requirements of ADOT Standard Specification Section 203-5 and these Special Provisions.

B. Measurement

Structural Excavation will be measured per cubic yard as shown on the project plans.

C. Payment

The accepted quantities of Structural Excavation, measured as provided above, will be paid for at the contract price per cubic yard.

Pay Item: 206.1 Structural Excavation **CY**

206.2 STRUCTURE BACKFILL is added to the COP Technical Specifications as follows:

A. General

The work under this item shall include furnishing of all materials, personnel, and equipment necessary to install structural backfill in accordance with the project plans and the requirements of ADOT Standard Specification Section 203-5 and these Special Provisions.

B. Measurement

Structure Backfill will be measured per cubic yard as shown on the project plans.

C. Payment

The accepted quantities of Structure Backfill, measured as provided above, will be paid for at the contract price per cubic yard.

Pay Item: 206.2 Structure Backfill **CY**

206.3 SELECT MATERIAL (MAG SPEC SEC 702, TYPE B) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall include furnishing of all materials, personnel, and equipment necessary to install select material in accordance with the project plans and the requirements of MAG Standard Specification Section 702 and these Special Provisions.

B. Measurement

Select Material will be measured per cubic yard as shown on the project plans.

C. Payment

The accepted quantities of Select Material (MAG Spec Sec 702, Type B), measured as provided above, will be paid for at the contract price per cubic yard.

Pay Item: 206.3 Select Material (MAG Spec Sec 702, Type B) **CY**

220 RIP RAP CONSTRUCTION of the COP Technical Specifications shall be replaced in its entirety with:

A. General

The work under this item shall include furnishing of all materials, personnel, and equipment necessary to install dumped riprap or rock mulch at locations designated on the project plans with high survivability filter fabric (geosynthetic fabric). Riprap shall be constructed in accordance with MAG Uniform Standard Specification Section 220 and these Special Provisions. Riprap shall be in accordance with the gradation table shown on Drawing D7 of the project plans, unless otherwise specified.

Rock mulch for pipe inlet and outlet protection and headwall and wingwall treatment shall be angular in shape and shall conform to the requirements of ADOT Standard Specification Section 803. Rock mulch shall be in accordance with the gradation table shown on Drawing D7 of the project plans, unless otherwise specified. ADOT Standard Specification Section 803 requirements for use of pre-emergent herbicide and for post-placement watering of rock mulch shall not apply to rock mulch applied under Section 803.

B. Materials

Riprap and rock mulch stone shall comply with MAG Uniform Standard Specifications Sections 701.4 and 703 in their entirety.

Fabric shall be supplied in accordance with and conform to the material requirements of ADOT Standard Specifications Subsections 913-2.05, 1014-1 and 1014-5, respectively. All fabric shall be non-woven, high survivability fabric in accordance with ADOT Standard Specifications Subsection 1014-4.and the revisions included below.

1014-4.03(A) Nonwoven: of the ADOT Standard Specifications is revised to read:

High survivability, nonwoven separation fabric shall meet the following physical requirements:

Property	Requirement (Average Roll Value) (1)	Test Method
Grab Tensile Strength: lbs.	200 min.	ASTM D 4632
Grab Elongation at Break: %	45 min., 115 max. (2)	ASTM D 4632
Puncture Strength: lbs.	75 min.	ASTM D 4833
Burst Strength: psi	320 min.	ASTM D 3786
Trapezoidal Tear: lbs.	50 min.	ASTM D 4533
Permittivity: $second^{-1}$	0.07 min.	ASTM D 4491
Apparent Opening Size: U.S. Standard sieve size	30 – 140	ASTM D 4751
Ultraviolet Stability: %	70 min.	ASTM D 4355

(1) Average roll values represent the average test results for a lot in the weaker direction when sampled according to ASTM D 4354 and tested according to the test method specified above.

(2) If the average grab elongation of the fabric is greater than 115 percent at break, the elongation will be acceptable if the grab tensile strength requirement is met prior to or at 115 percent elongation.

C. Measurement

Dumped riprap and rock mulch with filter fabric shall be measured per cubic yard.

D. Payment

The accepted quantities of dumped riprap and rock mulch with filter fabric, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be full compensation for the item, complete in place, including excavation of existing ground for riprap and rock mulch placement. The cost of labor, equipment and material to install the filter fabric shall be included in the cost.

Pay Item: 220.1 Dumped Riprap w/ Filter Fabric (D_{50}=18") **CY**

Pay Item: 220.3 Dumped Riprap w/ Filter Fabric (D_{50}=6") **CY**

Pay Item: 220.4 Rock Mulch w/ Filter Fabric (D_{50}=4") **CY**

220.5 RIPRAP (SLOPE MATTRESS) and
220.6 RIPRAP (GABION BASKET) are added to the COP Technical Specifications as follows:

A. General

The work under these items shall consist of furnishing all materials, including filter fabric, gabion baskets, gabion mattresses, rock, earthwork required to construct the gabions, gabion connections to adjacent structures, anchoring stakes, bedding material, filter fabric, and any special grading surrounding the gabions as shown on Detail D3 of the project plans. All work shall be in accordance with project plans and the requirements of the ADOT Standard Specifications and these Special Provisions unless noted otherwise. Gabion mattresses and gabion baskets shall be backfilled and compacted with one foot minimum of native material as shown on Detail D3 of the project plans.

B. Materials

(1) Metal Items

At the contractor's option, either woven mesh or welded wire mesh (welded mesh) may be used. For each individual gabion, the same mesh style shall be used for the base, front, ends, back, diaphragms, and lid panels. Each gabion shall be divided into cells of equal length, no greater than 3 feet, by diaphragm panels.

Mesh: Individual wires of either mesh style (woven or welded) shall conform to the definitions and requirements of ASTM A641 for "carbon steel", zinc-coated wire. All zinc coated gabion shall conform to ASTM A975 Style 1 (zinc coated gabions) for woven gabion and ASTM A974 Style 1 for welded gabion and shall meet the following requirements:

Characteristic	Test Designation	Requirement
Minimum tensile strength	ASTM A370	60,000 psi
Zinc Coating	ASTM A641	Class 3
Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	USA Steel Wire Gage ASTM A641 ASTM A641, Table 3 ASTM A641, Table 1 and ASTM A90	11 0.120 inch 0.116 inch 0.85 oz/sf
Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	USA Steel Wire Gage ASTM A641 ASTM A641, Table 3 ASTM A641, Table 1 and ASTM A90	9 0.148 inch 0.144 inch 0.90 oz/sf

Twisted-mesh wires shall form a uniform hexagonal pattern and shall be formed with a nonraveling twist. The area of the hexagonal opening shall not exceed 3¼". Twisted-mesh gabion panels shall be manufactured from 11-gage wires with 9-gage selvage wires.

Welded-mesh wires shall form a grid pattern. Welds shall be made by resistance welding. Welds and panels shall also conform to ASTM A185, "Steel Welded Wire Fabric - Plain for Concrete," except weld shears shall be 600 pounds force for 11-gage wires and 800 pounds force for 9-gage wires.

Joints: Wires used to form joints shall conform to the definitions and requirements of ASTM A641 for "carbon steel", zinc-coated wire and shall meet the following requirements:

Characteristic	Test Designation	Requirement
Minimum tensile strength	ASTM A370	60,000 psi

Zinc Coating	ASTM A641	Class 3
Tie Wire Wire Size (Minimum) Wire Diameter (Minimum) Galvanizing	 USA Steel Wire Gage ASTM A641 ASTM A641, Table 3 ASTM A641, Table 1 and ASTM A90	 13.5 0.086 inch 0.083 inch 0.70 oz/sf
Spirals Wire Size (Maximum) Wire Diameter (Minimum) Galvanizing	 USA Steel Wire Gage ASTM A641 ASTM A641, Table 3 ASTM A641, Table 1 and ASTM A90	 9 0.148 inch 0.144 inch 0.90 oz/sf

Spiral binders shall have a 3-inch separation between continuous, successive loops.

Internal connecting wires or preformed stiffeners shall be at least 13.5-gage. Each wire shall also meet the minimum requirements of the wire in this specification. Internal connecting will be provided on all 3-foot thick gabions and shall be provided on a 1-foot grid.

The contractor shall request acceptance of alternative fasteners. Alternative fasteners for woven and welded gabions must be tested in accordance with ASTM A975 Table 2 panel to panel connection. Contractor shall provide copy of the tests made by a recognized laboratory 15 days prior to construction of gabions. The contractor's request shall describe how and where the proposed alternative fasteners will be used.

Random samples of alternative fasteners shall be submitted for testing at least 15 calendar days prior to construction of gabions. The contractor shall submit 12 formed and 12 unformed alternative fasteners. Formation of the 12 formed alternative fasteners shall be done at the job site by the contractor and shall be witnessed by the Engineer.

Gabions which have been constructed with unacceptable alternative fasteners shall be removed or reconstructed at no additional cost to the City at the discretion of the Engineer.

Certificates of Compliance conforming to the requirements of ADOT Standard Specification Subsection 106.05 shall be submitted.

(2) Soil Anchor Stakes

Soil anchor stakes shall meet the requirements of Subsection 913-2.02 (F) of the ADOT Standard Specifications.

(3) Slope Mattresses and Gabion Baskets

Slope mattresses and gabion baskets are wire mesh, mattress-shaped baskets that are filled on-site with hard, durable rock. A single gabion can be made of square or rectangular panels.

Acceptable slope mattress and gabion basket dimensions of width, height and length are as shown on the project plans. The height, width, or length of individual gabions shall not vary more than 5 percent from the dimensions in these specifications or as shown on the project plans.

For woven mesh wire, mattresses and baskets shall consist of a uniform hexagonal wire mesh woven in a double twist pattern with openings of approximately 2½ inches by 3¼ inches, fabricated in such a manner as to be non-raveling, and designed to provide the required flexibility and strength.

For welded wire, mattresses and baskets shall consist of wire spaced at 3 inches center to center.

Empty gabion baskets shall be manufactured individually in the factory with base, front, ends, back, and diaphragms all connected together on one side minimum. Lids may be assembled on the site. Gabion baskets shall be assembled such that the strength and flexibility along the joints are in accordance with ASTM A975 (woven gabion) and A974 (welded gabion) panels to panels connection.

Mattresses shall be preassembled at the factory with the sides, ends and diaphragms all connected together on one side minimum. Lids may be assembled on the site into rectangular units of the specified sizes. Mattresses are to be of single unit construction, the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit in such a manner that strength and flexibility at the point of connection is at least equal to that if the mesh.

All perimeter edges of the mattresses are to be securely selvedged or bound so that the joints formed by tying the selvedges have at the minimum strength requirement.

(4) Riprap

Riprap shall meet the requirements of Subsection 913-2.01 (E) of the ADOT Standard Specifications.

(5) Bedding Material and Earthwork

Bedding material for gabions shall consist of granular material having a maximum dimension of two inches and shall be free of clay or organic material.

Excavation and backfilling required as shown on the project plans shall be in accordance with ADOT Standard Specifications Section 203. This earthwork/grading shall consist of providing a specific soil cover over the in-place slope mattress and gabion basket bank protection as shown in the project details and plans, excavation and backfilling required to construct the toe-down, and any excavation and backfilling required to attain required compaction.

(6) Filter Fabric

Geotextile filter fabric shall meet the requirements of ADOT Standard Specification Subsection 913-2.05. Fabric shall be supplied in accordance with and conform to the material requirements of ADOT Standard Specifications Subsections 1014-1 and 1014-5, respectively. All fabric shall be non-woven, high survivability fabric in accordance with ADOT Standard Specifications Subsection 1014-4 and the revisions included in Section 220 - Rip Rap Construction, Subsection B - Materials of these special provisions.

C. Construction Requirements

(1) General

Areas on which bank protection is to be constructed shall be cleared, grubbed, and excavated or backfilled in accordance with the requirements of the appropriate sections of these Special Provisions and ADOT Standard Specifications to produce a ground surface in reasonable conformance with the lines and grades shown on the project plans or established by the Engineer.

Placement of slope mattresses or gabion baskets through water will not be permitted unless otherwise approved by the Engineer.

(2) Slope Mattress

The slope mattress bed shall be excavated to the width, line and grade as shown on the project plans. The mattress shall be founded on this bed and laid to the lines and dimensions required.

Mattresses shall be placed to conform to the specifications and dimensions shown on the project plans. Rock shall be placed in close contact within the unit so that maximum fill is obtained. The units may be filled by machine with sufficient handwork to accomplish the requirements of these specifications. Gabions shall be overfilled by 1.5 to 2 inches before closing the lid to compensate for settlement.

Mattresses shall be filled with at least two layers of stone.

Before the mattress units are filled the longitudinal and lateral edge surfaces of adjoining units shall be tightly connected by means of wire ties placed every four inches or by a spiral tie having a complete loop every four inches. The lid edges of each unit shall be connected in a similar manner to adjacent units.

Slope mattresses shall first be manufactured individually as empty units. Each slope mattress shall be manufactured with the necessary panels, properly spaced and secured, so they can be rotated into position at the construction site with no additional tying of the rotation joint. The panels and diaphragms shall be rotated into position and joined along vertical edges.

When 13.5-gage tie wire is used as the joint material, all vertical edges of each gabion panel shall first be constructed to form individual empty gabions. For twisted-mesh, the joint shall be constructed using alternating double and single half hitches (locked loops) of 13.5-gage tie wire at 4-inch nominal spacing, as shown on the project plans. Simple spiraling (looping without locking) of 13.5-gage tie wire is not permitted. For welded-mesh, the joint shall be constructed using alternating single and double half hitches (locked loops) in every mesh opening along the joint.

When 9-gage spiral binders are used, the spiral shall be screwed into position such that it passes through each mesh opening along the joint. Both ends of all 9-gage spiral binders shall be crimped to secure the spiral in place.

Temporary fasteners may be used to hold panels wherever gabion-to gabion joints will be constructed. Temporary fasteners may remain in place.

Interlocking rings or overlapping rings may be used for assembly of individual gabions. There shall be a ring in each mesh opening along the joint in lieu of tie wire or spiral binders. The use of alternative joint fasteners shall be approved by the Engineer in writing.

(3) Gabion Baskets

The gabion bed shall be excavated to the width, line and grade as shown on the project plans. The gabions shall be founded on this bed and laid to the lines and dimensions required. Excavation for toe shall be made to the neat lines of the toe.

Gabions shall be preassembled in the factory with sides, ends, and diaphragms all connected together, on side minimum where they can be assembled at the construction site into rectangular units of the specified sizes. Lids may be assembled on site. Gabions are to be of single unit construction; the base, ends and sides either to be woven into a single unit or one edge of these members connected to the base section of the unit.

Where the length of the gabion exceeds its horizontal width, the gabion is to be equally divided by diaphragms, of the same mesh and gauge as the body of the gabions, into cells whose length does not exceed the horizontal width. The gabion shall be furnished with the necessary diaphragms secured in proper position on the base section in such a manner that no additional tying at this juncture will be necessary. All perimeter edges of gabions are to be securely selvedged or bound so that the joints formed by tying the selvedges have the minimum connection strength.

Gabions shall be placed to conform to the specifications and dimensions shown on the project plans. Rock shall be placed in close contact in the unit so that maximum fill is obtained. The units may be filled by machine with sufficient handwork to accomplish requirements of this specification. Units shall be overfilled by 1.5 to 2 inches before closing the lid to compensate for settlement.

The exposed face or faces shall be hand-placed using selected rocks or prevent bulging of the gabion cell and to improve appearance.

Each cell of the 3 foot (36-inch) deep gabions shall be filled in three (3)-12 inch lifts. Two connecting tie wires shall be placed between each lift in each cell. All connecting tie wires shall be looped around two mesh openings and the ends of the wires shall be securely twisted to prevent loosening. Care shall be taken to protect the vertical panels and diaphragms from being bent during filling operations.

The last lift of stone in each cell shall be level with the top of the gabion in order to properly close the lid and provide an even surface for the next course.

All gabion units shall be tied together each to its neighbor along all contacting edges in order to form a continuous connecting structure.

Empty gabions stacked on filled gabions shall be laced to the filled gabion at the front, side and back.

Interlocking rings or overlapping rings may be used for assembly of individual gabions. There shall be a ring in each mesh opening along the joint in lieu of tie wire or spiral binders. The use of alternative joint fasteners shall be approved by the Engineer in writing.

(4) Filter Fabric

Filter fabric shall be placed on all areas to receive slope mattresses or gabion baskets, as shown on the project plans, prior to placement of the slope mattresses or gabion baskets. The surface to receive the filter fabric shall be free of obstructions, depressions, and debris. The fabric shall be loosely laid and not placed in a stretched condition.

The strips of filter fabric shall be placed to provide a minimum 24-inch overlap along each joint. On horizontal joints, the uphill strip shall overlap the downhill strip. On vertical joints the upstream strip shall overlap the downstream strip. The fabric shall be protected at all times during construction from extensive exposure to sunlight.

Placement of the slope mattresses or gabion baskets shall be done in such a manner as not to damage the fabric. If in the opinion of the Engineer, the fabric is damaged or displaced during the placement of the slope mattresses or gabion baskets to the extent that it cannot function as intended the contractor shall remove the rock and replace the filter fabric.

The filter fabric shall be attached to the bottom and side of the slope mattresses or gabion baskets that make up the outside perimeter of a finished bank protection unit. Typically, this attachment will be made horizontally

along the top-of-bank and end-of-apron, and vertically along the upstream and downstream limits of each continuous unit of bank protection.

(5) Testing

When requested by the Engineer, the gabion manufacturers shall provide a copy of all tests made by an approved laboratory for the following properties:

For woven gabions all tests for zinc coating, mesh tensile strength, panels to panels connection and salt spray test when alternative fastener is used shall be make in accordance with ASTM A975 Standard Specification for Double-Twisted Hexagonal Mesh Gabions and Revert Mattresses.

For welded gabions all tests for zinc coating, welds shear strength and panels to panels connection shall be made in accordance with ASTM A974 Standard Specification for Welded Wire Fabric Gabions and Gabion Mattresses.

All tests shall not be older than 5 years.

(6) Shop and Working Drawings

Prior to fabrication of the mattresses and baskets, the contractor shall prepare shop and working drawings in accordance with the requirements of Subsection 105.03 of the ADOT Standard Specifications. The shop drawings shall show complete fabrication and erection details for the frames including detailed dimensions and sizes of component parts.

D. Measurement

Riprap (Slope Mattress) and Riprap (Gabion Baskets) will be measured by the cubic yard by computing the volume of the rock filled wire slope mattresses and gabion baskets as shown on of the project plans.

E. Basis of Payment

Riprap (Slope Mattress) and Riprap (Gabion Baskets) measured as provided above, will be paid for at the contract unit price per cubic yard for the work unique to Detail D3 of the project plans. This price shall be full compensation for the work, complete in place, including excavation for gabion baskets and slope mattresses, furnishing and installing gabion baskets, slope mattresses, rock, filter fabric, granular beddings, wire ties, anchor stakes, native material backfill and miscellaneous metal items and associated work described herein and as shown on the project plans.

Pay Item: 220.5 Riprap (Slope Mattress)	**CY**
Pay Item: 220.6 Riprap (Gabion Baskets)	**CY**

301 SUB-GRADE PREPARATION of the COP Technical Specifications is modified to add:

301.1 FURNISH WATER

A. General

The work under this item shall consist of furnishing all water required for construction within the project limits in accordance with the requirements of ADOT Standard Specifications Section 209 and these Special Provisions.

Based upon the quantity of aggregate base course and embankment, the Engineer estimates 11,000 M Gal could be required for compaction and dust control.

B. Measurement and Payment

Furnish Water will be measured for payment by the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs and shall be considered full compensation for this bid item in accordance with ADOT Standard Specifications Section 209-5. All costs, labor, equipment, and materials required to secure, transport, and furnish water to the project limits, including but not limited to; hauling, pumping, and piping water to the project site from canals, rivers, lakes and wells, shall be considered as included in the work.

Pay Item: 301.1 Furnish Water **LS**

310 UNTREATED BASE of the COP Technical Specifications is modified to add:

310.6 AGGREGATE BASE COURSE (CLASS 2) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of aggregate base course within the limits of the Southbound Bypass Ramp within ADOT Right-of-Way as shown on the project plans. Aggregate base course shall be Class 2 in accordance with ADOT Standard Specification Section 303, revised ADOT Stored Specification 1001 included in Appendix A, and these Special Provisions.

B. Measurement

This accepted quantity of Aggregate Base Course (Class 2) shall be measured by the cubic yard installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per cubic yard and shall be considered full compensation for this bid item.

Pay Item: 310.6 Aggregate Base Course (ADOT Class 2) **CY**

310.7 CRUSHED AGGREGATE is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of crushed aggregate (gravel) for the water main access road as shown on the project plans. The gradation for crushed aggregate shall be in accordance with COP Standard Detail 612P (Utility Easement Access Road) and these Special Provisions. The work shall also include salvaging existing colored aggregate rock adjacent to the turnout of the APS Antelope Substation access road impacted by the project improvements and reinstalling the rock in a similar condition after completion of the access road tie-in at the APS turnout as directed by the Engineer.

B. Measurement

This accepted quantity of Crushed Aggregate (COP Std Det 612P) shall be measured by the cubic yard installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per cubic yard and shall be considered full compensation for this bid item.

No separate measurement or payment will be made for salvaging and replacing existing colored aggregate rock as described and specified herein, the cost thereof being considered as included in the contract unit price per cubic yard of crushed aggregate.

Pay Item: 310.7 Crushed Aggregate (COP Std Det 612P) CY

310.8 GRANITE MULCH is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of decomposed granite mulch as shown on the project plans. Granite Mulch shall be in conformance with MAG Standard Specification Section 803 and these Special Provisions.

SECTION 803 - LANDSCAPE PLATING MATERIALS:

803-1 Description: of the MAG Standard Specifications is revised to read:

The work under this section shall consist of the following:

- Eradicating existing grasses and weeds with an approved herbicide and by mechanical methods. Also included shall be furnishing and applying herbicide mixed in water.
- Grading surfaces upon which granite mulch and decomposed granite shall be placed to ensure proper drainage.
- Furnishing, placing, and lightly compacting 1 inch minus granite mulch and decomposed granite, which shall include all excavation and back filling.

803-2.02 Decomposed Granite and Granite Mulch: of the MAG Standard Specification is modified to add:

Granite Mulch and Decomposed Granite (and/or other approved colors):

Granite mulch and decomposed granite to be placed at the designated locations shown on the project plans shall be approved for color and gradation requirements prior to placement. The color shall be "Prescott Tan" or approved equivalent. The granite size shall be 1 inch minus.

For color verification and/or for approval of the proposed color the contractor shall provide material sample for each color required on the project for review and approval by the Engineer. The granite mulch shall match what installed for the recent ADOT SR 89A, Deep Well Ranch Road to South Chino Valley limits project (TRACS H8039 01C) within the ADOT Right-of-Way for the roundabout islands.

Each granite mulch and decomposed granite color approved for construction shall be acquired from a single source.

Gradation requirements for the granite mulch are as follows:

Passing Sieve	Percent
1 inch	100
3/4 inch	60-80
1/2 inch	45-65
No. 40	5 -20

803-3 Construction Requirements: of the MAG Standard Specifications is modified to add:

The contractor shall receive approval from the Engineer for alternate granite color(s) and/or color changes for granite mulch prior to installation.

Granite to be used on the project and alternate granite sample(s) prior to placement on the jobsite must meet the following additional requirements, in addition to providing documentation from the contractor to the Engineer:

- Copy of Environmental Permit for granite pit.
- Written acknowledgement from the granite supplier that the material can be provided with the quantity of granite mulch material needed for the project.
- Written acknowledgement that granite supplier material will be provided within the contract construction time frame.
- Granite mulch material to be placed shall be spread and leveled on jobsite away from any traffic recovery areas.
- The cost for alternate granite mulch and decomposed granite color(s) will be paid for at the contract unit price.
- All granite samples provided for review and acceptance are to be clean and washed, leveled covering an approximate spread area of 10 feet x 10 feet, and signed identifying the product and source.
- Alternate granite samples shall have been cleared by the Engineer prior to color(s) submittal and on site placement for review and approval.

The contractor shall remove all non-planted vegetation from all areas designated to receive granite mulch or decomposed granite (by chemical or mechanical means) and maintain the designated areas "vegetation-free" for a minimum period of 40 working days prior to placement of the granite mulch and decomposed granite, or as specified by the Engineer.

Prior to placement of the granite mulch and decomposed granite, designated areas to receive granite mulch and decomposed granite shall be completely free of all grass, weeds, or other miscellaneous vegetation growth.

When using herbicides, the contractor shall comply with all applicable portions of Subsection 803-3.02 of the Standard Specifications. All dead grass and weeds shall be removed and properly disposed of.

Contractor shall be responsible for all erosion repairs on project site that may occur during granite mulch color(s) review and approval process at no addition payment to the contractor.

803-3.02 Decomposed Granite and Granite Mulch: of the MAG Standard Specifications is modified to add:

The subgrade upon which the granite mulch and decomposed granite shall be placed, shall be graded and compacted to promote proper drainage, as approved by the Engineer.

The subgrade shall be compacted to between 85 to 90 percent of the maximum proctor density, as determined in accordance with the requirements of Arizona Test Methods 230 or 235, depending on the test method used to determine the compaction density (Sand Cone or Nuclear Method).

All vehicles used for spreading, grading and raking the granite mulch and decomposed granite shall have one set of wheels with floatation tires having a minimum width of 18 inches to allow equal compaction of the granite mulch.

Granite mulch and decomposed granite shall be placed to a minimum depth of 2 inches, except in planting pits. Granite mulch and decomposed granite within planting pits shall be placed to a minimum depth of 1 inch. After rough spreading and rough grading of the granite mulch within the designated areas, the granite mulch and decomposed granite shall be raked evenly and thoroughly to blend the different gradation sizes.

The use of conveyor belt type of equipment for placing granite mulch and decomposed granite shall not relieve the contractor from the requirements of compacting the granite mulch and decomposed granite with equipment as described herein.

After placement, the granite mulch and decomposed granite shall be saturated with water to an optimum moisture level as recommended by the supplier. The Engineer will approve the amount of water necessary to aid in the compaction of the granite mulch, prior to application.

During the final spreading and final grading operations, all surfaces within the granite mulch and decomposed granite areas shall be passed over by the spreading and grading equipment a minimum of two times.

Equipment operations for spreading, grading, raking, chemical application, water settling, and any other operations shall be done in a manner that uniformly maximizes the vehicle(s) wheel compaction over the surface area.

The pre-emergent herbicide shall be applied in the manner recommended by the manufacturer to prevent germination of noxious weeds, and shall be equivalent to Gallery, or an approved equal, and shall be applied at a rate of one pound per acre.

Pre-emergent herbicide shall be applied to the designated granite mulch and decomposed granite areas, prior to the final water settling operation.

After placing, spreading and grading the granite mulch and decomposed granite, the contractor shall water settle the total thickness of the granite mulch and decomposed granite, to remove the fine material from the surface. The water settling operation, noted above, shall be completed by applying water at minimum depth of one-half inch over the granite mulch placed or as approved by the Engineer.

B. Measurement

This accepted quantity of Granite Mulch shall be measured by the square yard installed complete and accepted in place.

C. Payment

The accepted quantities of Granite Mulch, measured as provided above, will be made at the contract unit price per square yard, which price shall be full compensation for the work complete in place.

No additional measurement or payment will be made for requested samples, grading, compaction, pre-emergent herbicide, all erosion repair work and other related activities as described and specified herein, all costs being considered as included in the cost paid for the contract item.

Pay Item: 310.8 Granite Mulch **SY**

321.1 ASPHALTIC CONCRETE PAVEMENT of the COP Technical Specifications is modified as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of asphaltic concrete as shown on the project plans. Asphaltic concrete shall be in accordance with COP Specification Section 321, MAG Standard Specification Section 321 and these Special Provisions. Material shall be per MAG Standard Specification Section 710 with a Marshall ¾" Mix for high volume roadways.

All material sources must be approved by the Engineer prior to their use. Once approved, material sources shall not be changed without the approval of the Engineer. Contractor shall submit material samples at least (7) seven days prior to start of construction. When requested, additional samples shall be furnished during the construction period at no cost to the City. Material sample submittal is a non-pay item.

B. Measurement

This accepted quantity of Asphaltic Concrete Pavement (C-3/4" Gyratory Mix) (High Traffic) shall be measured by the ton installed complete and accepted in place.

Asphaltic Concrete Pavement (C-3/4" Gyratory Mix) (High Traffic) shall include the construction of the thickened pavement edge (COP Standard Detail 201P) as shown on the project plans.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item. No separate measurement or payment shall be made for work associated with the thickened edge pavement treatment described herein. This work shall be considered incidental and included in the unit price bid for this bid item.

Pay Item: 321.1 Asphaltic Concrete Pavement (MAG C-3/4" Gyratory Mix) (High Traffic) TON

321.2 ASPHALTIC CONCRETE PAVEMENT (ADOT MISC STRUCTURAL)(3/4" SPECIAL MIX) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of asphaltic concrete within the ADOT Right-of-Way as shown on the project plans. Asphaltic concrete shall be in accordance with ADOT Standard Specification Section 409, revised ADOT Stored Specifications included in Appendix A and these Special Provisions.

B. Measurement

This accepted quantity of Asphaltic Concrete Pavement (Misc Structural)(3/4" Special Mix) shall be measured by the ton installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item.

Pay Item: 321.2 Asphaltic Concrete Pavement (ADOT Misc Structural) (3/4" Special Mix) TON

325.1 ASPHALT RUBBER ASPHALT CONCRETE is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of the asphalt rubber asphalt concrete surface course as shown on the project plans. Asphalt rubber asphalt concrete pavement shall be in accordance with MAG Standard Specification Section 325 and these Special Provisions.

B. Measurement

This accepted quantity of Asphalt Rubber Asphalt Concrete Pavement shall be measured by the ton installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item.

Pay Item: 325.1 Asphalt Rubber Asphalt Concrete (MAG 325) TON

328.1 BITUMINOUS TACK COAT (MAG 329) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of bituminous tack coat outside of ADOT Right-of-Way as shown on the project plans. Bituminous Tack Coat (MAG 329) shall be in accordance with MAG Standard Specification Section 329 and these Special Provisions.

B. Measurement

This accepted quantity of Bituminous Tack Coat (MAG 329) shall be measured by the ton installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item.

Pay Item: 328.1 Bituminous Tack Coat (MAG 329) TON

328.2 BITUMINOUS TACK COAT (ADOT 404) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of bituminous tack coat within ADOT Right-of-Way as shown on the project plans. Bituminous Tack Coat (ADOT 404) shall be in accordance with ADOT Standard Specification Section 404 and these Special Provisions.

B. Measurement

This accepted quantity of Bituminous Tack Coat (ADOT 404) shall be measured by the ton installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item.

Pay Item: 328.2 Bituminous Tack Coat (ADOT 404) TON

329.1 FOG COAT (ADOT 404) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of fog coat within ADOT Right-of-Way as shown on the project plans. Fog coat shall be in accordance with ADOT Standard Specification Section 404 and these Special Provisions.

B. Measurement

This accepted quantity of Fog Coat (ADOT 404) shall be measured by the ton installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per ton and shall be considered full compensation for this bid item.

Pay Item: 329.1 Fog Coat (ADOT 404) TON

331.1 MICROSEAL (TYPE II) is added to the COP Technical Specifications as follows:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of Microseal (Type II) as shown on the project plans. Microseal (Type II) shall be in accordance with MAG Standard Specification Section 331 and these Special Provisions.

B. Measurement

This accepted quantity of Microseal (Type II) shall be measured by the square yard installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per square yard and shall be considered full compensation for this bid item.

Pay Item: 331.1 Microseal (Type II) SY

SECTION 340.1 – CONCRETE CURB, GUTTER AND CURB TRANSITIONS of the COP Technical Specifications is modified to add:

340.10 CONCRETE SINGLE CURB (YAG STD DET 222, TYPE A)
340.11 CONCRETE VERTICAL CURB & GUTTER (COP STD DET 220P-1)
340.12 CONCRETE MOUNTABLE CURB & GUTTER (MAG STD DET 220-2, TYPE E)
340.13 CONCRETE MEDIAN NOSE TRANSITION (YAG STD DET 223)

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of concrete curb, curb and gutter, or median nose transitions as shown on the project plans. These bid items shall be in accordance with COP Standard Specification Section 340.1 and these Special Provisions.

B. Measurement

The accepted quantity of curb or curb and gutter shall be measured by the linear foot installed complete and accepted in place.

The accepted quantity of median nose transition shall be measured by the square foot installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per linear foot for curb and curb and gutter and shall be considered full compensation for this bid item.

Payment shall be made at the contract unit bid price per square foot for median nose transition and shall be considered full compensation for this bid item.

Pay Item: 340.10 Concrete Single Curb (YAG Std Det 222, Type A)	**LF**
Pay Item: 340.11 Concrete Vertical Curb & Gutter (COP Std Det 220p)	**LF**
Pay Item: 340.12 Concrete Mountable Curb & Gutter (MAG Std Det 220-2, Type E)	**LF**
Pay Item: 340.13 Concrete Median Nose Transition (YAG Std Det 223)	**SF**

SECTION 340.1 – CONCRETE CURB, GUTTER AND CURB TRANSITIONS of the COP Technical Specifications is modified to add:

340.14 CONCRETE SINGLE CURB (ADOT STD DET C-05.10, TYPE A)
340.15 CONCRETE VERTICAL CURB & GUTTER (ADOT STD DET C-05.10, TYPE D)

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of concrete single curb, and curb and gutter curb within the ADOT Right-of-Way as shown on the project plans. These curb bid items shall be in accordance with ADOT Standard Specification Section 908, ADOT Standard Details and these Special Provisions.

B. Measurement

This accepted quantity of curb or curb and gutter shall be measured by the linear foot installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per linear foot and shall be considered full compensation for this bid item as described herein.

Pay Item: 340.14 Concrete Single Curb (ADOT Std Det C-05.10, Type A)	**LF**
Pay Item: 340.15 Concrete Vertical Curb & Gutter (ADOT Std Det C-05.10, Type D)	**LF**

SECTION 340.2 – CONCRETE SIDEWALK, SIDEWALK LANDING AND RAMP of the COP Technical Specifications is modified to add:

340.21 CONCRETE SIDEWALK (ADOT STD DET C-05.20)
340.22 CONCRETE RAMP (ADOT STD DET C-05.30, TYPE C)

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of concrete sidewalk and sidewalk ramp within the ADOT Right-of-Way as shown on the project plans. These bid items shall be in accordance with ADOT Standard Specification Section 908, ADOT Standard Details and these Special Provisions.

B. Measurement

This accepted quantity of sidewalk and sidewalk ramp shall be measured by the square foot installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per square foot and shall be considered full compensation for this bid item, including furnishing and installing the detectable warning strip. No separate measurement or payment will be made for the ramp curb along the back edge or side of sidewalk ramps, nor for the detectable warning strip, the costs being considered as included in the price of contract items.

Pay Item: 340.21 Concrete Sidewalk (ADOT Std Det C-05.20)	**SF**
Pay Item: 340.22 Concrete Ramp (ADOT Std Det C-05.30, Type C)	**SF**

SECTION 350.1 – REMOVAL OF EXISTING IMPROVEMENTS of the COP Technical Specifications is modified to add:

350.1 REMOVE ASPHALTIC CONCRETE PAVEMENT (FULL DEPTH)
350.2 REMOVE GUARDRAIL
350.3 REMOVE TANGENT END TERMINAL
350.4 REMOVE STRUCTURAL CONCRETE
350.5 REMOVE RIPRAP
350.6 REMOVE BARBED WIRE FENCE & GATES
350.7 REMOVE CONCRETE CURB & GUTTER
350.8 REMOVE CONCRETE SIDEWALK
350.9 REMOVE EXTRUDED CURB
350.10 REMOVE TRAFFIC SIGN PANEL, POST & FOUNDATION

A. General

The work under these items shall consist of furnishing all materials, equipment and labor necessary for the removal and disposal of various existing improvements, such as pavement, guardrail, curb, sidewalks, signs and other items necessary for the accomplishment of the improvements as shown on the project plans. These bid items shall be in accordance with the COP Standard Specification Section 350.1, MAG Standard Specification Section 350, ADOT Standard Specification Section 202 and these Special Provisions.

Removing existing asphaltic concrete shall consist of sawcutting, removal and disposal of existing asphaltic concrete pavement, regardless of thickness, where indicated on the plans.

Removal of existing structural concrete shall be performed with sufficient care as to leave the remaining portion of the structure undamaged. In case of damage to the existing structure, the Contractor shall make all necessary repairs at no additional cost to the City. Reinforcing steel extending from the remaining portion of the structure shall be protected, cleaned and incorporated in the new portion of the structure in accordance with the project plans or as directed by the Engineer. Reinforcing steel exposed from the removed portion of the structure that will not be incorporated in a new or extended structure shall be protected, cleaned, and completely covered with a 2" mortar plaster cap, ½ sack Controlled Low Strength Material (CLSM) cap in accordance with MAG Standard Specification Section 604 or as directed by the Engineer. No additional measurement or payment will be made for the protective cap over existing exposed rebar, the cost being considered included in the contract unit price for Remove Structural Concrete.

Removing of existing concrete curb and sidewalks shall consist of the sawcutting, removal and disposal of existing concrete single curb, roll curb, curb and gutter, extruded curb and sidewalk in accordance with MAG Section 350. The contractor shall sawcut at existing construction joints.

Removing existing traffic sign shall be in accordance with the requirements of ADOT Standard Specifications Section 202-3.06. The Contractor shall dismantle the sign panel, remove the sign post and foundation materials in such a manner as to prevent damage to the posts, backfill the remaining void with acceptable fill material and compact it in accordance with ADOT Materials requirements. The Contractor shall not remove the existing signs prior to completion of the new sign installation. Existing signs shall be removed within five working days after the installation of the new signs or as directed by the Engineer.

B. Salvage and Disposal

The City will determine which items are to be salvaged. Salvaged items shall be removed with care and delivered at no additional cost, by the Contractor, to a location as directed by the Engineer.

All other items shall become the property of the Contractor and shall be legally disposed of by the Contractor. The disposal of all waste materials removed under this item shall be the responsibility of the Contractor.

C. Measurement

Removal items will be measured as shown on the Bid Schedule.

D. Payment

The removal items will be paid at the contract unit price per item shown in Section C - Measurement and shall be considered full compensation for that work complete as described herein.

Pay Item 350.1	**Remove of Asphaltic Concrete Pavement (Full Depth)**	**SY**
Pay Item 350.2	**Remove Guardrail**	**LF**
Pay Item 350.3	**Remove Tangent End Terminal**	**EA**
Pay Item 350.4	**Remove Structural Concrete**	**CY**
Pay Item 350.5	**Remove Riprap**	**SY**

Pay Item 350.6	**Remove Barbed Wire Fence & Gates**	**LF**
Pay Item 350.7	**Remove Concrete Curb & Gutter**	**LF**
Pay Item 350.8	**Remove Concrete Sidewalk**	**SF**
Pay Item 350.9	**Remove Extruded Curb**	**LF**
Pay Item 350.10	**Remove Traffic Sign Panel, Post & Foundation**	**EA**

SECTION 401 – TRAFFIC CONTROL of the COP Technical Specifications is modified as follows:

Section B of the COP Technical Specifications shall be replaced in its entirety with:

B. Prior to beginning the project, Contractor shall submit for approval a Traffic Control Plan for the entire project. The Contractor must obtain approval from the COP Director of Public Works for the Traffic Control Plan and Schedule prior to any construction activities. The Contractor shall submit the Traffic Control Plan to the COP Director of Public Works at or before the project preconstruction conference. The Contractor shall also submit the Traffic Control Plan to ADOT and Yavapai County for approval prior to any construction activities.

Section H, No. 1 of the COP Technical Specifications shall be replaced in its entirety with:

H. 1. The traffic control plan will be measured for payment by the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs relating to the preparation of the traffic control plan, and shall be inclusive of all submittals, reviews and if needed, re-submittals to the COP, ADOT and Yavapai County for approval.

Section H, No. 4 of the COP Technical Specifications shall be replaced in its entirety with:

H. 4. Barricades and storage will be measured for payment by the lump sum unit price bid in the Contract Documents for all material, labor, and other incidental costs relating to the installation, use and removal of all temporary signs, barricades, devices, sign posts, sand bags, warning lights, temporary concrete barrier, temporary concrete barrier or truck mounted attenuators, flashing arrow panels, temporary traffic signals, temporary striping, preformed pavement markings, temporary symbols and legends, chip seal and temporary raised pavement markers, or other traffic control devices as shown in the traffic control plan and as required by the MUTCD and approved by the COP Public Works Director, ADOT and Yavapai County.

402.1 OBLITERATE EXISTING STRIPING of the COP Technical Specifications is modified to add:

A. General

Obliterate Existing Pavement Marking (Arrow, Symbol or Legend) shall conform to ADOT Standard Specification Section 701.

B. Measurement

Obliterate Existing Striping shall be measured per linear foot.

Obliterate Existing Pavement Marking (Arrow, Symbol or Legend) shall be measured per each.

C. Payment

Obliterate Existing Striping, measured as provided above, will be paid for at the unit bid price per linear foot, which price shall be full compensation for the work, complete, including furnishing all labor and equipment required and restoring the pavement surface to a condition acceptable to the Engineer.

The accepted quantities of Obliterate Existing Pavement Marking (Arrow, Symbol or Legend), measured as provided above, will be paid for at the unit bid price each, which price shall be full compensation for the work, complete in place, including adhesive pad.

Pay Item: 402.1 Obliterate Existing Striping	**LF**
Pay Item: 402.11 Obliterate Existing Pavement Marking (Arrow, Symbol or Legend)	**EA**

402.2 THERMOPLASTIC PAVEMENT MARKINGS of the COP Technical Specifications is modified to add:

A. General

Thermoplastic Legend – White shall be in accordance with ADOT Standard Specification Section 704 and ADOT Signing and Marking Standard Drawing M-11.

B. Measurement

Thermoplastic Legend – White shall be measured per each installed complete and accepted in-place.

C. Payment

Thermoplastic Legend - White, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation for the work, complete, including furnishing all labor and equipment.

Pay Item: 402.2d Thermoplastic Legend – White	**EA**

402.3 TEMPORARY STRIPING of the COP Technical Specifications is deleted in its entirety. All temporary striping and temporary pavement marking arrows, symbols and legends shall be included in Bid Item 401.7d Barricades and Storage.

402.4 PERMANENT PAVEMENT MARKINGS of the COP Technical Specifications is modified to add:

A. General

Permanent Painted Marking (Arrow, Symbol or Legend) shall be in accordance with ADOT Standard Specification Section 701 and ADOT Signing and Marking Standard Drawing M-11.

Paint Bullnose shall be in accordance with ADOT Standard Specification Section 701 and ADOT Signing and Marking Standard Drawing M-1.

B. Measurement

Permanent Painted Marking (Arrow, Symbol or Legend) and Paint Bull Nose shall be measured per each installed complete and accepted in-place.

C. Payment

Permanent Painted Marking (Arrow, Symbol or Legend) and Paint Bullnose, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation for the work, complete, including furnishing all labor and equipment.

Pay Item: 402.4c Permanent Painted Marking (Arrow, Symbol or Legend)	**EA**
Pay Item: 402.4d Paint Bullnose	**EA**

402.5 RAISED PAVEMENT MARKERS is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install raised pavement markers in accordance with the ADOT Signing and Marking Standard Drawings, ADOT Standard Specification Section 706, the project plans and these Special Provisions.

B. Measurement

Measurement of Raised Pavement Markers shall be per each installed complete and accepted in-place.

C. Payment

Payment for Raised Pavement Markers will be made at the contract unit price bid per each.

Pay Item: 402.5d Raised Pavement Markers, Type D	**EA**
Pay Item: 402.5e Raised Pavement Markers, Type G	**EA**

403.1 PERMANENT SIGNING, SIGN POSTS AND DELINEATORS of the COP Technical Specifications is to add:

Section A of the COP Technical Specifications is modified to add:

14. The work under Relocate Traffic Sign Panel, Remove Post & Foundation shall include furnishing all materials, tools, equipment, and labor necessary to remove and relocate the sign panel, metal frame, and sign supports onto relocated or new sign supports and relocate the trail markers as specified in the project plans. The Contractor shall safeguard the existing sign panels so they will not be damaged. If the Engineer determines the existing sign panels are damaged due to the Contractor's operations, the Contractor shall repair or replace the damaged sign panels, as directed by the Engineer, at the Contractor's expense.

Section C of the COP Technical Specifications is deleted in its entirety and replaced with:

C. Relocate Traffic Sign Panel, Remove Post & Foundation item shall be in accordance with COP Technical Specifications, and will be measured and paid for at the unit bid price per each. That shall include all materials, tools, equipment, and labor necessary to remove and relocate the sign panels, sign supports, foundations; to relocate the sign panels onto new sign supports with new foundations; and to furnish and provide any temporary sign panels or sign supports to replace existing signing items which would need to be removed due to the Contractor's operations.

Pay Item: 403.1n Relocate Traffic Sign Panel, Remove Post & Foundation EA

New signs installed outside of ADOT Right-of-Way shall be in accordance with COP Technical Specifications, and will measured and paid for at the unit price per each for posts and delineators, which includes sign supports and foundations, and per square foot for sign panels, complete and in place.

Pay Item: 403.1a Sign Posts and Delineators EA

Pay Item: 403.1c Regulatory, Warning or Marker Sign Panel SF

Pay Item: 403.1d Flat Sheet Aluminum Sign Panel SF

Pay Item: 403.1e Extruded Aluminum Sign Panel SF

New signs installed within ADOT Right-of-Way shall be measured and paid in accordance with ADOT Signing and Marking Standard Drawings, ADOT Standard Specification Sections 607 and 608, revisions to Sections 608 and 1007 included in Appendix A of these special provisions, and per the bid items, complete and in place. New sign panels within ADOT Right-of-Way will be measured and paid for with the same bid items listed above (403.1c, 403.1d and 403.e).

Pay Item: 403.1f Foundation for Sign Post (Concrete) EA

Pay Item: 403.1g Slip Base EA

Pay Item: 403.1h Perforated Sign Post (2S) LF

Pay Item: 403.1i Perforated Sign Post (2-1/2 S) LF

Pay Item: 403.1j Perforated Sign Post (2-1/2 T) LF

Pay Item: 403.1k Breakaway Sign Post (S4x7.7) LF

Pay Item: 403.1l Breakaway Sign Post (W6x12) LF

Pay Item: 403.1m Type A Barricade EA

404.1 LOOP DETECTORS of the COP Technical Specifications is modified to add:

D. Bid item 404.1 Loop Detector for Traffic Signals (6'x6') includes the removal of existing loop detectors and associated pull boxes as shown on the project plans.

Pay Item: 404.1 Loop Detector for Traffic Signals (6'x6') EA

405.3.2 SURVEY MONUMENT of the COP Technical Specifications is deleted in its entirety and replaced with:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install survey markers, of the type shown on the project plans, in accordance with MAG Standard Detail 120 and MAG Specification Section 405.

B. Construction Requirements

The land surveyor shall follow the requirements of A.R.S. § 33-103 when establishing, replacing or setting Public Land System Survey monuments at Section or Quarter Section corners and shall follow the requirement in Section 9(C) of the Arizona Boundary Survey Minimum Standards when establishing new or replacement boundary monuments and witness corner monuments. Land surveyors shall also comply with the requirements of A.R.S. § 104 through 106 when establishing, replacing or setting any type of boundary monument. Whenever any monuments are established, including those set to replace missing or damaged monuments of a previous survey, those actions require the surveyor to create and record a survey drawing documenting the new monumentation as established.

C. Measurement

Measurement for survey markers shall be per each installed complete and accepted in-place.

D. Basis of Payment

Payment for survey markers will be made at the unit price bid per each, and such payment shall be compensation in full for the item complete in place.

Pay Item:	**405.31 Survey Marker (YAG Std Det 120-1, Type A)**	**EA**
Pay Item:	**405.32 Survey Marker (YAG Std Det 120-1, Type B)**	**EA**
Pay Item:	**405.33 Survey Marker (YAG Std Det 120-1, Type C)**	**EA**

415.1 GUARDRAIL is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install guardrail in accordance with ADOT Standard Drawing C-10.02, Type B and ADOT Standard Specifications Section 905, revised ADOT Stored Specification 1012 included in Appendix A, and as shown on the project plans, with adding the following:

Materials for guardrail and reflector tabs shall conform to the requirements of ADOT Standard Specifications Section 1012 and the plans. All materials shall be new.

Prismatic guardrail-mounted barrier markers shall conform to the requirements of ADOT Standard

Specifications Section 1008. Prismatic guardrail-mounted barrier markers shall be ultraviolet-resistant and shall have a trapezoidal-shaped body in accordance with ADOT Standard Drawings.

Adhesive materials for applying reflective sheeting to end treatments and metal or plastic guardrail reflector tabs shall be in accordance with the sheeting manufacturer's recommendations.

Guardrail delineator material shall be specifically manufactured to provide roadside delineation. All delineators shall consist of complete units that are precut, pre-drilled as applicable, and ready to be installed in the field. The delineators shall be packaged in such manner as to prevent damage and deterioration during shipping and storage.

Reflective sheeting for object markers on tangent and flared end treatments, and reflective sheeting used for all other guardrail markers, including flexible guardrail markers and reflector tabs, shall conform to the requirements of ADOT Standard Specifications Section 1007.

Transparent colors, inks, and paints used in fabrication shall be of the type and quality recommended by the sheeting manufacturer. Transparent colors shall be applied with screen mesh P.E. 157 using fill pass.

Tangent end treatments, flexible guardrail markers, reflective sheeting products and inks approved for use are shown on the ADOT's Approved Products List (APL). Copies of the most current version of the APL are available on the Internet from the Arizona Transportation Research Center (ATRC), through its PRIDE program.

The various types of guardrail shall be constructed with wood blocks on either steel or wood posts, at the option of the Contractor, except where the post materials to be used are specified on the plans. The same type of post shall be used in any one continuous length of guardrail.

All metal work shall be fabricated in the shop. No punching, drilling, cutting or welding shall be done in the field, except as provided for under ADOT Standard Specifications Subsections 905 3.04 and 905 3.05. All metal cut in the field shall be cleaned and painted with two coats of zinc paint, in accordance with ADOT Standard Specifications Section 1002.

Where field cutting or boring of wood posts and blocks is permitted, the affected areas shall be treated in accordance with the American Wood Preservers Association Standard M4.

Where wood posts with rectangular sections are used, the posts shall be set so that the longest dimension is perpendicular to the rail.

All bolts shall extend beyond the nuts a minimum of two threads and shall be securely tightened unless torque requirements are specified on the plans or manufacturer's drawings.

Guardrail elements shall be spliced by lapping in the direction of traffic in the nearest adjacent lane.

Guardrail posts shall be set to the line, grade, and spacing shown on the plans. Earthwork placement, grading, compacting, and bituminous surfacing shall be completed prior to installation of the guardrail posts.

Wood posts shall be placed in pre-punched or pre-drilled pilot holes and driven the final 10 inches to grade, unless otherwise approved by the Engineer. Steel posts shall either be driven full depth, or placed in manually or mechanically dug holes and driven the final 10 inches to grade. Pre-punched post holes, or full depth post driving shall not be used at locations where damage to the curb, gutter, sidewalk, buried

items, shoulders or pavement might occur. The Engineer will be the sole judge as to whether driving of posts will be allowed.

Driving of posts shall be accomplished in a manner which will prevent battering, burring, separation of the galvanizing from the steel or distortion of the post. Any post which is bent or otherwise damaged to the extent it is unfit for use in the finished work, as determined by the Engineer, shall be removed and replaced at no additional cost to the City.

Where buried items, shoulders or pavement are disturbed in the construction of guardrail, the damage shall be repaired as approved by the Engineer.

The space around and under the posts placed in manually or mechanically dug holes shall be backfilled with moist soils placed in compacted lifts as approved by the Engineer.

Wood blocks shall be toe-nailed to the wood posts with one 16 penny galvanized nail on each side of the top of the block. Blocks shall be set so that the top of the block is no more than 1/2 inch above or below the top of the post, unless otherwise shown on the project plans.

Rail elements shall be spliced at 25 foot intervals or less. Rail elements shall be spliced at posts unless otherwise shown on the project plans. Rail elements at joints shall have full bearing. When the radius of curvature is 150 feet or less, the rail elements shall be shop curved.

When nails are used to secure delineation to the top of wood posts, a minimum of two nails shall be driven at an angle to prevent the post from splitting. Side-mounted flexible vertical delineators shall be secured to wood posts with two 1/8-inch diameter by two-inch long galvanized lag screws and flat washers. Side mounted delineation shall be secured to metal posts by drilling two holes through the post and attaching with two galvanized 1/8-inch diameter by 3/4-inch long bolts, flat washers, and lock nuts.

The color of the retroreflective portion of the barrier markers shall conform to the color of the adjacent edge line. Silver-faced guardrail reflector tabs shall be installed on the right hand side of the roadway. Field application of retroreflective sheeting will not be allowed. The manufacturer shall apply all sheeting in the factory.

Guardrail reflector tabs shall be installed on the W-beam at every sixth post, beginning with the post number shown in Table 2. On radial sections of guardrail, the reflector tabs shall be placed on the W-beam at every other post.

TABLE 2
GUARDRAIL DELINEATION POST PLACEMENT

Terminal Type	Prismatic Barrier Marker Post Numbers	Begin Reflector Tabs With Post Number
SKT-350 or approved equal	2, 4, 6, 8	10

The Contractor shall remove and replace damaged delineation at no additional cost to the City.

The slotted part of reflector tabs shall be installed under the guardrail bolt head with the reflector facing oncoming traffic. The exposed ends of the slotted part of the tab shall be bent up against and then over the top of the bolt head.

Guardrail fasteners, rail elements, posts, blocks, and other components shall conform to the requirements

of ARTBA. Rail elements shall be galvanized after fabrication, with fabrication to include forming, cutting, shearing, punching, drilling, bending, welding, and riveting.

B. Measurement

Guardrail will be measured by the linear foot along the face of the rail element from center to center of the end posts, exclusive of tangent and flared end treatments, end anchors, and guardrail transitions, according to the bid schedule for all work complete and in place. Payment for furnishing and placing earthwork and surfacing material for pavement widening associated with new guardrail and at the flares of end treatments will be measured and paid for under the respective contract items. All other costs associated with this item are incidental to the bid.

C. Payment

The accepted quantities of guardrail, measured as provided above, will be paid for at the contract price per linear foot, complete in place, including all guardrail delineation, excavation, backfill and compaction, and disposal of surplus or unusable materials.

Pay Item: 415.1 W-Beam Guardrail (ADOT Std Det C-10.02, Type B) LF

415.2 GUARDRAIL END TREATMENT is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install guardrail end terminal assemblies as shown on Detail A of the project plans and per ADOT Standard Specifications Section 905 with adding the following:

Tangent end treatments shall be installed in accordance with the manufacturer's specifications and approved drawings. When shown on the plans as alternatives, all tangent-type terminals shall be from the same manufacturer without mixing brands. Prior to starting work, the Contractor shall submit the current version of the manufacturer's approved drawings and installation manuals for each type of end treatment to be installed on the project. In case of discrepancy or conflict, the current manufacturer's specifications and approved drawings shall govern. Manufacturer's dimensions relative to the finished surface shall be measured along a five-foot cord.

Earthwork placement, grading, compacting, and bituminous surfacing shall be completed prior to installation of posts for end treatments. The Contractor shall install the posts in a manner that prevents heaving or other damage to the surface material. If the Engineer determines that heaving or other damage has occurred, the Contractor shall remove and replace surface material at no additional cost to the City.

Delineation for tangent end treatments shall be compatible with the traffic direction shown on the plans. The Contractor shall maintain consistency within the project limits by selecting the same type of delineation for all similar installations.

The Contractor shall use either prismatic barrier markers, L-shaped or T shaped markers on the posts shown in Table 2 of Section 415.1 Guardrail of these Special Provisions.

When using L-shaped or T-shaped markers with the SKT-350 regardless of pavement surface, the Contractor shall substitute U shaped markers or flexible vertical delineators (for steel I-beam posts) for

post number two, regardless of project elevation.

The configuration of reflective sheeting object markers on the approach faces of the SKT-350 or approved equal shall conform to ADOT Standard Drawings. The dimensions of the object marker decals for the approach faces of the SKT-350 or approved equal shall be modified as needed to fully cover the head configuration. The configuration and type of reflective sheeting object markers on the departure sides of the SKT-350 or approved equal shall conform to ADOT Standard Drawings.

Materials for tangent end treatments shall conform to the requirements of the approved manufacturer drawings and specifications. Only those tangent end treatments shown on the plans, included on ADOT's Approved Products List (APL), or as approved by the Engineer will be allowed.

B. Measurement

Tangent end treatments will be measured and paid for by the unit each, including all components and delineation required for a complete installation as shown on the project plans and in the approved manufacturer's drawings and installation manual.

Payment for furnishing and placing earthwork and surfacing material for pavement widening associated with new guardrail and at the flares of end treatments will be measured and paid for under the respective contract items.

C. Payment

The accepted quantities of tangent guardrail terminals, measured as provided above, will be paid for at the contract unit price each, complete in place, including all guardrail delineation, excavation, backfill and compaction, and disposal of surplus or unusable materials.

Pay Item: 415.2 Tangent End Treatment (Det A) EA

415.3 NESTED GUARDRAIL is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install nested guardrail as shown on the project plans in accordance with ADOT Standard Drawing C-10.06, Type 3, ADOT Standard Specifications Section 905, and Section 415.1 Guardrail of these Special Provisions.

Nested guardrail shall be defined as additional steel W-beam sections attached as an appurtenance to the normal guardrail, as shown on the project plans.

B. Measurement

Nested guardrail, Type 1, 2, or 3, attached as an appurtenance to new or reconstructed guardrail, shall be measured by the linear foot of additional steel W beam attached to the normal guardrail to provide a complete installation, as shown on the project plans. Such measurement shall be in accordance with the pay limits shown on the projects plans and ADOT Standard Drawing C-10.06, and shall be separate from and in addition to the quantity of normal guardrail.

C. Payment

The accepted quantities of nested guardrail, Type 1, 2, or 3, comprised of additional steel W-beam attached to the normal guardrail, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place. Such payment for nested guardrail shall be separate from the price paid for the normal guardrail specified above.

Pay Item: 415.3 Nested W-Beam Guardrail (ADOT Std Det C-10.06, Type 3) LF

415.4 END ANCHOR ASSEMBLY is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install end anchor assemblies in accordance with ADOT Standard Drawing C-10.08 and ADOT Standard Specifications Section 905 as shown on the project plans.

B. Measurement

Guardrail end anchors will be measured by the unit each, including delineation, and all other components required for a complete installation as shown on the project plans.

C. Payment

The accepted quantities of guardrail end anchors, measured as provided above, will be paid for at the contract unit price each, complete in place, including all guardrail components and delineation as required, excavation, backfill, disposal of surplus material, and installation of foundation tubes.

Pay Item: 415.4 End Anchor Assembly (ADOT Std Det C-10.08) EA

420.1 BARBED WIRE GAME FENCE AND GATES is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install barbed wire game fence, flood gates and swing gates in accordance with ADOT Standard Drawing C-12.10 and ADOT Standard Specifications Section 903 as shown on the project plans.

Where construction activities will cross existing fence lines in areas where there is livestock of any kind, temporary cattle guards shall be installed by the contractor at each crossing.

The livestock operator or owner shall be contacted prior to the beginning of any operations and effective measures shall be taken and means provided by the contractor to prevent livestock from straying.

In operations where conditions will exist that are dangerous to livestock of any kind, temporary cattle guards and fence shall be installed around the pit area by the contractor to protect livestock.

Temporary cattle guards and fence installed by the contractor shall be removed and existing fence disturbed shall be replaced or reconstructed and all fence shall be left in as good condition as it was prior to the beginning of work.

B. Measurement

Barbed wire game fence and flood gates will be measured by the linear foot, made along the top of the completed fence from outside to outside of end posts, excluding the widths of gate and cattle guard openings. Gate posts and latch posts will be considered as included in the measurement of the completed fence.

Gates will be measured as a complete unit in place by the width of the gate opening. Double gates will be measured as one complete unit by the width of the gate opening. A gate unit complete in place shall include the gate with all necessary fittings, hardware, and gate bracing.

C. Payment

The accepted quantities of barbed wire game fence and flood gates, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place.

The accepted quantities of gates, measured as provided above, will be paid for at the contract unit price per gate, complete in place.

Pay Item: 420.1	**Barbed Wire Game Fence (ADOT Std Det C-12.10)**	**LF**
Pay Item: 420.2	**24' Double Swing Gate (ADOT Std Det C-12.10, Type 1)**	**EA**
Pay Item: 420.3	**12' Double Swing Gate (ADOT Std Det C-12.10, Type 1)**	**EA**
Pay Item: 420.4	**12' Flood Gate**	**EA**

420.4 **TEMPORARY FENCE AND GATES** is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install, maintain and remove temporary protective fencing and temporary gates prior to and during construction activities.

B. Construction Requirements

Temporary fencing and gates shall be installed along temporary access easements and to provide continuous fencing for livestock and ranch land protection, as discussed in the General Requirements of these Special Provisions. The Contractor shall keep equipment and personnel within the permanent and temporary protective fencing limits.

Fence height shall be 4 (four) feet located from top of the ground to top of fence.

Fence material shall be plastic and orange in color, or as approved by the Engineer. Fence material shall be resistant to temperature change and shall be UV protected.

Contractor shall provide posts and accessories necessary to erect fence. Posts shall be either fiberglass or steel, specifically made for the installation of fencing. Fencing shall be secured to the posts through the use of nylon ties or nylon wire (minimum 12 gauge), spaced 12 inches maximum or as directed by the Engineer. Steel wire shall not be used.

Posts shall be installed plumb and in straight alignment, spaced every 6 feet maximum or as directed by the Engineer.

Fabric shall be stretched taut between fence posts.

Contractor shall maintain temporary protective fencing and gates throughout the project duration or as directed by the Engineer.

C. Measurement

Temporary fence will be measured by the linear foot, made along the top of the installed fence from outside to outside of end posts, including the widths of gate openings. No allowance will be made for extra material used in overlapping at splice joints. No separate measurement for the temporary gates shall be made, the cost being considered included in the linear foot measurement for temporary fence.

While the Contractor can choose to use temporary plastic, orange fence with posts for demarcation of the limits of construction as shown on the project plans and as discussed in the General Requirements of these Special Provisions, no separate measurement will be made for that application.

D. Basis of Payment

The accepted quantities of temporary fence, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place, including all labor, materials, and equipment connected with placing the temporary fence as shown on the project plans or as directed by the Engineer. No separate payment will be made for installation of gates or the removal of temporary fence and gates, the cost being considered as included in this contract item. No payment will be made for rejected temporary fence, or for patching, due to damage by the Contractor

No payment will be made for demarcation of the limits of construction as shown on the project plans and as discussed in the General Requirements of these Special Provisions, the cost being considered as included in the price of other contract items.

Pay Item: 420.5 Temporary Fence (Install & Remove) LF

471.1 ELECTRICAL UNDERGROUND INSTALLATION is added to the COP Technical Specifications as follows:

A. General

The work under this section shall consist of furnishing and installing electrical conduit, conductors, and pull boxes for traffic signals and intersection lighting including jacking, drilling, excavating placing and compacting backfill material in accordance with the locations shown on the Traffic Signal Plan, ADOT Standard Specification Section 732, and these Special Provisions.

C. Measurement

Measurement shall be made in accordance with ADOT Standard Specification Section 732-4.

D. Basis of Payment

Basis of payment shall be in accordance with ADOT Standard Specification Section 732-5.

Pay Item: 471.1a	**Electrical Conduit (1.5")**	**LF**
Pay Item: 471.1b	**No. 5 Pull Boxes**	**EA**
Pay Item: 471.1c	**Signal Conductors**	**LS**

476.1 SIGNAL INDICATIONS AND MOUNTINGS INSTALLATION is added to the COP Technical Specifications follows:

A. General

The work under this section shall consist of furnishing and installing vehicular and pedestrian traffic signal indications and mounting assemblies in accordance with the types and locations shown on the Traffic Signal Plan, ADOT Standard Details and these Special Provisions.

B. Materials

1. Vehicular Traffic Signal Heads: Vehicular traffic signal heads shall be assembled of standard 12 inch lens size signal sections with the number of sections or combination of sections specified on the Traffic Signal Plan, ADOT Standard Details T.S. 8-0 thru T.S. 8-7 and the requirements of the Manual on Uniform Traffic Control Devices.

The optical performance and design of signal heads shall conform to the requirements of the Institute of Transportation Engineers Standards for Vehicular Traffic Control Signal Heads (ITE Publication No. ST-008B), the Traffic Signal Plan and the provisions of these Special Provisions.

(A) Housing: A standard 12 inch signal section shall be a one (1) piece housing with hinged door for housing all optical and electrical components.

Both the one (1) piece signal section housing and door shall be fabricated of corrosive resistant die cast aluminum conforming to Institute of Transportation Engineers Standards. The top and bottom of the housing shall have openings to accommodate standard 1½ inch pipe fitting. Each opening shall have a locking "Shurlock" boss integrally cast into the housing section.

A snap-in, swing-out cast aluminum reflector ring, supported by stainless steel hinge pins shall be provided. The hinge pins shall be supported by mounting lugs integrally cast on the left side of the housing.

The housing door shall be hinged to the signal section housing by stainless steel roll pins and hinge lugs integrally cast in the door and housing. The door shall be latched by means of integrally cast door latch slots, housing hinge bolt lugs and stainless steel hinge bolts and wing nuts. The 12-inch sections require two (2) latching bolts.

A gasket groove on the inside of the door shall accommodate a neoprene gasket to form a positive seal between the door and signal housing when the door is closed and latched. Four (4) quick change type lens clips and four (4) stainless steel screws shall be provided for securing the lens and lens gasket in the door lens opening. Four (4) stainless steel washer head type screws shall be provided to secure the signal visor.

Signal section housings shall be fastened together by two (2) stainless steel, (clover leaf type) clamping washers and three (3) carriage bolts and lock washers. Each complete signal head assembly shall be pre-drilled for mounting of signal backplates.

All signal sections and the outside surfaces of visors shall be painted gloss black. The inside of the visor shall be painted dull black. All painting shall be done by the manufacturer.

(B) Visors: Each signal section shall have a tunnel type visor with a 5 to 7 degree downward tilt. Unless otherwise specified the 12-inch signal sections shall be furnished with 12-inch by 12-inch long visors. All visors shall be retained to the housing section door with stainless steel washer head type screws.

(C) Backplates: Louvered backplates and backplate mounting hardware shall be furnished with each vehicular signal head assembly. The backplate shall be fabricated of anodized sheet aluminum. The 5.0 inch border backplates shall be provided for the 12-inch signal head assemblies. All backplates shall be painted dull black. All painting shall be done by the manufacturer.

(D) Mounting Assemblies: An elevator plumbizer conforming to the requirements of ADOT Standard Detail T.S 9-1 shall be installed with all mast arm mounted 12 inch signal heads, as shown on the Traffic Signal Plan.

The types of mounting assemblies used, and the methods of mounting them, shall be as shown on the Traffic Signal Plan and shall conform to ADOT Standard Details.

2. LED Signal Lamps

(A) General: LED traffic signal modules shall be designed to fit traffic signal housings that meet ADOT specifications. The module shall be weather tight and shall fit securely in the housing and shall have wire leads long enough for easy connection to the traffic signal head wire terminal block. The wire shall have crimped on terminal connectors. The LED signal module shall be a single, self-contained device. The power supply shall be integral to the sealed LED module.

(B) Module Identification: The Contractor shall ensure that the date of installation is filled in on the module label on each LED module.

(C) Physical and Mechanical Requirements: The LED lamp unit shall be a single self-contained device, not requiring on site assembly for installation. The assembly and manufacturing process for LED Traffic Signal Lamp unit assembly shall be such as to withstand mechanical shock, and vibration caused by winds up to 80 mph.

Signal lens shall be convex to minimize sunlight reflectance.

(D) Optical and Light Output Requirements: The LED shall be manufactured using AlInGaP Technology or other LEDs with low susceptibility to temperature degradation (AlGaS LEDs will not be allowed).

The LED signal lamps shall be in three colors: red, yellow, and green. Multiple color modules shall not be used.

Each LED traffic signal lamp shall meet the minimum laboratory light intensity values, color (chromatically), and light output distribution as described in ITE Standards as shown in Section 11.04, Table I and Section 8.04, Figure 1 of the Vehicle Traffic Control Signal Head Standard. Each LED traffic

signal lamp shall meet the minimum requirements for light output for the entire range of allowed voltage.

(E) Electrical: Each unit shall incorporate a regulated power supply engineered to electrically protect the LEDs and maintain a safe and reliable operation. The power supply shall provide capacitor filtered DC regulated current to the LEDs per the LEDs manufacturer's specification.

The LED traffic signal lamp shall operate on a 60Hz AC line voltage ranging from 80 volts RMS to 135 volts RMS. The Circuitry shall prevent flickering over this voltage range. Nominal rated voltage for all measurements shall be 117 volts RMS. The LED traffic signal lamp unit shall be operationally compatible with controllers and conflict monitors used by the City of Prescott. Two, captive, color coded, 3 feet long, 600 V, 18 AWG minimum jacketed wires, conforming to the NEC, rated for service at 105° C, are to be provided for an electrical connection. One Schematic diagram shall be provided for each LED lamp unit along with any necessary installation instructions. LEDs shall be arranged in no less than 6 loaded circuits. The LED shall operate with a minimum 0.90 power factor. Total harmonic distortion (current and voltage) induced into an AC power line by a signal module shall not exceed 20 percent. LED modules shall have female quick-disconnect type terminals.

C. Warranties

All LED signal lamps and heads shall be warranted for five (5) years against defects in workmanship and materials and the requirements of MAG Standard Specification Section 108.8.

D. Measurement

Vehicular and pedestrian signal indications completely (including wiring and mounting assemblies) will be measured as a unit for each type of signal installed.

E. Basis of Payment

The accepted quantities of vehicular signal indications, measured as provided above, will be paid for at the contract unit price. Payment shall be full compensation for the work, complete in place, including visors, louvered backplates, LED's and all hardware necessary to provide a complete, and functional signal installation.

Pay Item: 476.1a Traffic Signal Head (Type F)	**EA**
Pay Item: 476.1b Traffic Signal Mounting Assembly (Type II)	**EA**

505.1C CONCRETE CATCH BASIN of the COP Technical Specifications is modified to add:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install guardrail in accordance with ADOT Standard Drawing C-15.20, Type 3 and ADOT Standard Specification Section 503, and as shown on the project plans.

B. Measurement

The accepted quantity of concrete catch basins shall be measured by the unit each installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per each and shall be considered full compensation for this bid item.

Pay Item: 505.1.1c Concrete Catch Basin (ADOT Std C-15.20)(Type 3) EA

505.1D SCUPPER of the COP Technical Specifications is deleted in its entirety and replaced with:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of scuppers as shown on the project plans. This bid item shall be in accordance with MAG Standard Specification Section 505, MAG Standard Detail 206-1, Detail B of the project plans and these Special Provisions.

B. Measurement

The accepted quantity of scuppers shall be measured by the unit each installed complete and accepted in place.

C. Payment

Payment shall be made at the contract unit bid price per each and shall be considered full compensation for this bid item.

Pay Item: 505.1d Concrete Scupper (Detail B) EA

505.1E CONCRETE BOX CULVERT of the COP Technical Specifications is deleted in its entirety and replaced with:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of concrete box culverts as shown on the project plans and to the lines and grades established by the Engineer and in accordance with the ADOT Standard Specifications 601, 602 and 605, ADOT SD Details and these Special Provisions.

B. Materials

Portland concrete cement shall conform to the requirement of ADOT Standard Specification Section 1006, Class S (f'c = 3,000 p.s.i.) and the stored specification revisions for Section 1003 included in Appendix A of these special provisions.

Reinforcing steel shall conform to the requirements of ADOT Standard Specification Section 1003 and the stored specification revisions for Section 1003 included in Appendix A of these special provisions.

C. Construction Requirements

The concrete outlet apron shall be in accordance with ADOT Structural Drawing Detail 6.11 and the modifications as shown on the project plans.

D. Measurement

The accepted quantity of concrete box culvert shall be measured by the linear foot installed complete and accepted in place, including all structural concrete, reinforcing steel, bends, hooks, chamfers, construction joints, headwalls, cutoff walls and such other materials contained within or attached to the unit.

The accepted quantity of concrete inlet and outlet wingwalls shall be measured by the square foot per inlet or outlet wingwall installed complete and accepted in place, including all structural concrete, reinforcing steel, bends, hooks, chamfers, construction joints, footing, cutoff walls and such other materials contained within or attached to the unit. The vertical surface area of wingwall shall be measured from the top of concrete footing to the top of wingwall and from the box culvert to the end of wingwall.

The accepted quantity of concrete apron shall be measured by the square foot installed complete and accepted in place, including all structural concrete, reinforcing steel, bends, hooks, construction joints, cutoff walls, apron drain slots and such other materials contained within or attached to the unit.

The accepted quantity of dowels shall be measured by the unit each installed complete and accepted in place.

Excavation and backfill required for concrete box culvert installation will be measured separately under Pay Item 206.1 Structural Excavation and Pay Item 206.2 Structural Backfill.

E. Payment

Payment for concrete box culverts shall be made at the contract unit bid price per linear foot and shall be considered full compensation for these bid items, including furnishing, placing, and curing concrete and transporting and erecting falsework, forms, reinforcing steel, precast concrete items, metal hinges, and bearing pads to provide a concrete structure complete in place as shown on the project plans, and as directed by the Engineer.

Payment for concrete inlet/outlet wingwalls shall be made at the contract unit bid price per square foot and shall be considered full compensation for this bid item.

Payment for concrete apron shall be made at the contract unit bid price per square foot and shall be considered full compensation for this bid item.

Payment for dowels shall be made at the contract unit bid price per each dowel installed complete and accepted in place and shall be considered full compensation for this bid item, including preparing and submitting the Details of the Anchorage System for approval by the Engineer per ADOT Detail SD 6.01, drilling, epoxy adhesive and dowels.

Excavation and backfill required for concrete box culvert installation will be paid for separately under Pay Item 206.1 Structural Excavation and Pay Item 206.2 Structural Backfill.

Pay Item: 505.1.1E Concrete Box Culvert (10'x10') (ADOT Std Det SD 6.01)	**LF**
Pay Item: 505.1.2E Concrete Box Culvert (12'x12') (ADOT Std Det SD 6.01)	**LF**
Pay Item: 505.1.3E Concrete Inlet Wingwall (ADOT Std Det SD 6.08)	**SF**

Pay Item: 505.1.4E Concrete Outlet Wingwall (ADOT Std Det SD 6.08)	**SF**
Pay Item: 505.1.5E Concrete Wingwall (Level) (ADOT Std Det SD 6.10)	**SF**
Pay Item: 505.1.6E Concrete Apron (Det D3)	**SF**
Pay Item: 505.1.7E Dowels (ADOT Std Det SD 6.01)	**EA**

505.1G CONCRETE RETAINING WALL of the COP Technical Specifications is deleted in its entirety and with:

A. General

The work under this item shall consist of furnishing all materials, equipment and labor necessary for the construction of concrete retaining walls as shown on the project plans and to the lines and grades established by the Engineer and in accordance with the ADOT Standard Specifications 914, ADOT SD Details and these Special Provisions.

B. Materials

Portland concrete cement shall conform to the requirement of ADOT Standard Specification Section 1006, Class S (f'c = 3,000 p.s.i.) and the ADOT Stored Specification revisions for Section 1003 included in Appendix A of these special provisions.

Reinforcing steel shall conform to the requirements of ADOT Standard Specification Section 1003 and the ADOT Stored Specification revisions for Section 1003 included in Appendix A of these special provisions.

C. Measurement

The accepted quantity of concrete box culvert shall be measured by the square foot installed complete and accepted in place, including all structural concrete, reinforcing steel, bends, hooks, chamfers, construction joints, footing, key, drain pipe, geocomposite drain and such other materials contained within or attached to the unit. The vertical surface area of retaining wall shall be measured as the wall height (H) from top of concrete footing to the top of wall times the length of wall.

Excavation and backfill required for concrete retaining wall installation will be measured separately under Pay Item 206.1 Structural Excavation and Pay Item 206.2 Structural Backfill.

D. Payment

Payment for concrete retaining walls shall be made at the contract unit bid price per square foot and shall be considered full compensation for these bid items, including furnishing, placing, and curing concrete and transporting and erecting falsework, forms, reinforcing steel, and bearing pads to provide a concrete retaining wall complete in place as shown on the project plans, and as directed by the Engineer.

Excavation and backfill required for concrete box culvert installation will be paid for separately under Pay Item 206.1 Structural Excavation and Pay Item 206.2 Structural Backfill.

Pay Item: 505.1.1G Concrete Retaining Wall (H=5')(ADOT Std Det SD 7.01)	**SF**
Pay Item: 505.1.2G Concrete Retaining Wall (H=14')(ADOT Std Det SD 7.01)	**SF**
Pay Item: 505.1.3G Concrete Retaining Wall (H=16')(ADOT Std Det SD 7.01)	**SF**

520.1 SAFETY RAIL is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install and paint safety handrail, including railing, posts, fittings and anchorages. The railing shall be installed at the locations shown on the project plans and in accordance with COP Standard Detail 145P, ADOT Standard Specifications 105, 106 and 610, these Special Provisions and as directed by the Engineer.

B. Materials

Steel railing materials shall conform to the requirements specified on the project plans and these Special Provisions.

Welding shall be performed in accordance with the requirements of the current edition of the American Welding Society, Structural Welding Code, D1.1 All butt welds on exposed surfaces shall be ground flush with adjacent surfaces.

C. Construction Requirements

Prior to beginning any work on the fabrication of the railing, the contractor shall submit shop drawings in accordance with Subsection 105.03 of the ADOT Standard Specifications, showing complete details.

The contractor shall furnish complete copies, in triplicate, of all mill reports on steel materials.

Certificate of Compliance shall be submitted to the Engineer in accordance with the requirements of Subsection 106.05 of the ADOT Standard Specifications.

The railing shall be carefully erected, true to line and grade. Posts shall be vertical and parallel with the deviation from the vertical for the full height of the panel not exceeding 1/8 inch.

All exposed metal surfaces shall be painted as shown on project plans and per Section 610 of the ADOT Standard Specifications and these Special Provisions.

After erecting the railing, any damage or abrasion to painted surfaces or exposed steel shall be repaired in accordance with Section 610 of the ADOT Standard Specifications and these Special Provisions.

B. Measurement

Measurement of Safety Rail shall be per linear foot of rail, measured horizontally from end post to end post along the face of the railing to the nearest linear foot, installed complete and accepted in-place.

C. Payment

The accepted quantities of safety rail, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place, including welding, expansion joints, connections and painting.

Pay Item: 520.1 Safety Rail (COP Std Det 145P) LF

603.1 STEEL PIPE SLEEVE is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install steel pipe sleeves in accordance with MAG Standard Specification Section 602.2, and as shown on the project plans. Pipe plugs shall be placed at each end per MAG Standard Detail 427.

B. Measurement

Measurement of Steel Pipe Sleeve shall be per linear foot of pipe per the size indicated on the project plans, installed complete and accepted in-place.

C. Payment

The accepted quantities of steel pipe sleeve, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place, including the pipe, trenching, backfill, pipe plugs and location markers, as noted for a complete assembly.

Pay Item: 603.1a 8" Steel Sleeve LF

603.2 PVC UTILITY SLEEVE is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install PVC sleeves for future utility crossings in accordance with MAG Standard Specification Section 601, and as shown on the project plans.

B. Measurement

Measurement of PVC Sleeve shall be per linear foot of pipe per the size indicated on the project plans, installed complete and accepted in-place.

C. Payment

The accepted quantities of PVC utility sleeves, measured as provided above, will be paid for at the contract unit price per linear foot, complete in place, including the pipe, trenching, backfill and location markers, as noted for a complete assembly.

Pay Item: 603.2a 5" PVC Utility Sleeve LF

610.1 WATER MAIN PIPING of the COP Technical Specifications is modified as follows:

Section C of the COP Technical Specifications shall be replaced in its entirety with:

C. In accordance with Arizona Administrative Code (AAC) R18-4-213, all materials installed after January 4, 2014 which may come into contact with drinking water shall conform to National Science Foundation Standard 60, 61 & 372. All potable waterlines and fittings shall have a NSF-PW seal. All materials shall be lead free as defined in NSF 372, AAC R18-5-504 & R18-4-101. All water mains shall have a NSF-PW seal clearly marked on each barrel and installed with 14-guage direct bury trace wire in accordance with COP Standard Detail 3-19P.

Section M of the COP Technical Specifications shall be replaced in its entirety with:

M. The existing water main shall not be taken out of service prior to project completion, including the replacement water main and connection of all water services and fire hydrants to the replacement system, and the City has approved the water main construction.

610.9 FIRE HYDRANT INSTALLATION of the COP Technical Specifications is modified to add:

C. Hydrant installation shall be modified with a 12-inch x 8-inch tee, an 8-inch gate valve and an 8-inch x 6-inch reducer as shown on the project plans. All hydrant piping shall be installed with 4-foot minimum cover, as measured from the top of pipe to finished grade.

610.11D PRIVATE WATER SERVICE LINE RECONNECTION (COMMERCIAL) of the COP Technical Specifications is modified as follows:

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to remove the existing 1-inch galvanized steel pipe in conflict with the new box culvert extension and install new 1-inch galvanized steel pipe as directed by the Engineer and in accordance with YAG Technical Specification Section 610.11D, these special provisions and as shown on the project plans.

Section A of the COP Technical Specifications shall be modified to read:

A. The Contractor shall maintain a minimum of two (2) feet of cover material over the new private water service line beyond the box culvert limits and utilize existing in-situ material for backfill. The private water service line shall be below the select material installed on the box culvert The Contractor shall supply all necessary material for new private water service installation including a gate valve as appropriate, in an accessible box per YAG Standard Detail 3-16 and include all appurtenant fittings to connect to existing service line.

The Contractor shall coordinate with Ranch Manager, Mr. Bob Burris (Cell Phone Number 928-899-3961) prior to any construction activities associated with the water line removal and installation to discuss schedules, waterline shut down windows, etc.

B. Measurement

Measurement of Private Water Service Line Removal and Installation (1-inch) shall be per linear foot of pipe, installed complete and accepted in-place, including the removal of pipe and fittings and installation of new galvanized steel pipe and fittings as directed by the Engineer.

C. Payment

The accepted quantities of Private Water Service Line Removal and Installation (1-inch), measured as provided above, will be paid for at the contract unit price per linear foot, complete in place, including removal of existing pipe, new pipe, trenching, backfill, pipe plugs and location markers, as noted for a complete assembly.

Pay Item: 610.11d Private Water Service Line Removal and Installation (1") LF

610.35 WATER MAIN SWING-TIE CONNECTION is added to the COP Technical Specifications as follows:

A. General

Water Main Swing-Tie Connection shall include all work necessary to connect to the existing water main to be abandoned upon acceptance by the Engineer of hydrostatic and disinfection test results for the new main. The Contractor shall contact the Engineer a minimum of 48 hours in advance to schedule City water crew to coordinate valve operation of existing mains. Abandonment of existing main shall include closing existing valves, removal of valve boxes and covers, removal of adjacent fire hydrants, air release valves, blow-off valves, and all associated above ground appurtenances, saddles, and all pipeline appurtenances and installation of full circle stainless steel clamp(s) or the installation of a Mega-Lug cap with thrust blocking per MAG Standard Detail 380.

Existing valves to be abandoned shall include full closure of the existing valve and removal of the valve box and cover in its entirety. Removed materials not identified to be salvaged shall become the property of the Contractor to dispose of. Removed materials identified to be salvaged shall be delivered to the City of Prescott Maintenance Yard, and placed as directed by the Engineer. Salvaged materials shall not be used in new main installation.

Restoration of water main and valve abandonment shall include excavation, backfilling and compaction in accordance with the Trench Excavation, Backfilling & Compaction section of these Technical Specifications.

B. Measurement

Measurement of Water Main Swing-Tie Connection shall be measured per each installed complete and accepted in-place.

C. Payment

Water main swing-tie connection, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation for the work, complete, including furnishing all labor and equipment and appurtenant fittings necessary for complete connection as shown in the project plans. Payment also includes full compensation for the proper disposal or salvage of removed materials.

Pay Item: 610.35 Water Main Swing-Tie Connection EA

615.1 SANITARY SEWER MAIN of the COP Technical Specifications is modified to add:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to provide temporary and permanent protection for the existing sanitary sewer pipe that will penetrate a new retaining wall in accordance with COP Technical Specification Section 615.1, and as shown on the project plans.

B. Construction Requirements

The Contractor shall provide an opening in the new retaining wall 2 inches clear of the existing 8-inch sanitary sewer pipe and install reinforcing steel for the penetration as shown on the project plans. During construction of the retaining wall, the Contractor shall provide temporary support of the sanitary sewer pipe through the retaining wall by a method approved by the Engineer. After the retaining wall is cured, the Contractor shall remove the

temporary support and fill the void between the wall and sanitary sewer pipe with polystyrene expanding foam or approved equal.

The Contractor shall at all times conduct its work to prevent any damage to the existing sewer line. Satisfactory precautions shall be taken to protect the sewer line during wall construction, including excavation, forming, installation of reinforcing steel and pouring of concrete. Damage to the existing sewer as a result of the Contractor's work shall be promptly repaired in like kind at the Contractor's expense.

C. Measurement

Measurement of Sanitary Sewer Protection shall be per each installed complete and accepted in-place.

D. Payment

The accepted quantities of Sanitary Sewer Protection, measured as provided above, will be paid for at the contract unit price per each, complete in place, including reinforcing steel, temporary pipe support, permanent polystyrene expanding foam, and any incidentals thereto, in conformance with the project plans and these special provisions.

Pay Item: 615.1a Sanitary Sewer Protection **EA**

618 **STORM DRAIN CONSTRUCTION** of the COP Technical Specifications is modified to add:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install the shallow storm drain manhole, base, shaft, concrete apron, frame and grated inlet in accordance with MAG Standard Specification Sections 505 and 625, pipe removal per MAG Standard Specification Section 350, these special provisions and as shown on Detail DB of the project plans.

B. Materials

Concrete shall be in accordance with MAG Standard Specification Section 725. Concrete for the shallow manhole base and shaft shall be Class A. Concrete for the concrete apron shall be Class B.

Cement mortar for manholes shall be Class D, per MAG Standard Specification Section 776.

Reinforcing steel shall conform to ASTM A615, Grade 40 and MAG Standard Specification Section 727.

C. Construction Requirements

The concentric shallow storm drain manhole shaft, including reinforcing steel, grout, mortar and reinforced concrete adjusting rings, shall be in accordance with MAG Standard Detail 522.

The storm drain manhole base, including reinforcing steel and grout, shall be in accordance with MAG Standard Detail 520.

The Contractor shall install a 30" cast iron frame and cover with a grated inlet above the manhole in accordance with MAG Standard Specification Section 787. The grated inlet shall have three or four rows of slots evenly spaced in the lid with a cumulative total of approximately 2.00-square feet of openings. The Contractor shall use a Neenah Foundry Inlet Frame & Grate, Catalog No R-2557-A4, or approved equal.

Backfilling shall be done in accordance with the requirements for trench backfilling as stated in MAG Standard Specification Section 601.

The installation of manhole requires a partial removal of an existing 42" corrugated metal pipe. The Contractor shall cut the existing pipe with straight and smooth edges on a plane perpendicular to the center line of the pipe to accommodate the manhole base and shaft as shown on Detail DB of the project plans.

D. Measurement

Measurement of shallow storm drain manhole, apron and grated inlet shall be measured per each installed complete and accepted in-place.

E. Payment

Shallow storm drain manhole, apron and grated inlet, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation for the work, with formed or pre-cast inverts, including excavation and backfill, concrete foundation, reinforcing steel, mortar, grout, reinforced concrete adjustment rings, and frame and cover with grated inlet, and any incidentals thereto, in conformance with the project plans and these special provisions.

No separate measurement or payment will be made for partially removing existing pipe as described and specified herein, the cost thereof being considered as included in the contract unit price per each of shallow storm drain manhole.

Pay Item: 618.1a Shallow SD Manhole, Apron and Grated Inlet (Det DB) EA

618.4 REINFORCED CONCRETE PIPE CULVERT is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install Reinforced Concrete Pipe (RCP) and Horizontal Elliptical Reinforced Concrete Pipe (HERCP) and end sections in accordance with ADOT Standard Specification Sections 501 and 1010, these special provisions and as shown on the project plans.

B. Construction Requirements

The 12-inch RCP culvert within ADOT Right-of-Way will require a ½ sack Controlled Low Strength Material (CLSM) backfill, in accordance with MAG Standard Specification Section 604 and as shown on the project plans.

C. Measurement

Measurement of RCP and HERCP culverts shall be measured per linear foot installed complete and accepted in-place. No additional measurement will be made for ½ sack CLSM backfill.

Measurement of RCP and HERCP end sections shall be measured per each installed complete and accepted in-place.

D. Payment

RCP and HERCP culverts, measured as provided above, will be paid for at the contract unit bid price per linear foot, which price shall be full compensation for the work, including excavation, bedding, backfill material, fittings, or collars for complete installation as shown in the project plans. No additional payment will be made for ½ sack CLSM backfill when shown on the project plans, the cost being considered inclusive with the 12" RCP bid item.

RCP and HERCP end sections, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation for the work, for complete installation as shown in the project plans.

Pay Item: 618.4a 42" RCP Culvert (Class II)	**LF**
Pay Item: 618.4b 36" RCP Culvert (Class II)	**LF**
Pay Item: 618.4c 24" RCP Culvert (Class III)	**LF**
Pay Item: 618.4d 12" RCP Culvert w ½ Sack CLSM (Class V)	**LF**
Pay Item: 618.4e 23"x14" HERCP Culvert (Class V)LF	
Pay Item: 618.4f 42" RCP End Section	**EA**
Pay Item: 618.4g 36" RCP End Section	**EA**
Pay Item: 618.4h 24" RCP End Section	**EA**
Pay Item: 618.4i 12" RCP End Section	**EA**
Pay Item: 618.4j 23"x14" HERCP End Section	**EA**

731.1 STRUCTURAL SUPPORTS FOR HIGHWAY LIGHTING is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to remove and install mast arms for street lighting in accordance with ADOT Standard Drawing T.S. 4-27, ADOT Standard Specification Section 731, and as shown on the project plans.

B. Construction Requirements

Mast arms shall be a 15-foot long truss arm, aluminum tapered tube with elliptical cross section manufactured by Valmont Industries and approved by the Engineer. Mast arms shall be double clamped, aluminum alloy with etched satin finish. The mast arm shall match what was furnished and installed for the recent ADOT SR 89A, Deep Well Ranch Road to South Chino Valley limits project (TRACS H8039 01C).

The Contractor shall remove the existing 20-foot mast arm installed on the existing Type G pole within the ADOT Right-of-Way limits as shown on the project plans and install two new 15-foot mast arms in a double mast arm configuration. The Contractor shall drill a second wire entry hole 180 degrees from the existing entry hole. The Contractor shall salvage the existing horizontal mounted luminaire and reinstall on one of the new 15-foot mast arms.

Removing the existing mast arm shall be performed with sufficient care as to leave the pole and luminaire undamaged. In case of damage to the existing pole or luminaire, the Contractor shall make all necessary repairs at no additional cost to the City.

C. Measurement

Measurement of mast arms shall be measured per each installed complete and accepted in-place.

D. Payment

Mast arms, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation, complete and in place, including salvaging and reinstalling the existing luminaire, as required by the project plans and these special provisions.

Pay Item: 731.1 Remove and Salvage Existing Mast Arm EA

Pay Item: 731.2 Mast Arm (15-Foot)(ADOT Det T.S. 4-27) EA

732.1 ELECTRICAL UNDERGROUND MATERIAL is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install conductor for street lighting in accordance with ADOT Standard Specification Section 732 and as shown on the project plans. Each pole shall have two circuits with wiring AWG and type requirements as shown on the plans.

B. Measurement

Measurement of conductor shall be measured per linear foot installed complete and accepted in-place.

C. Payment

Conductor, measured as provided above, will be paid for at the contract unit bid price per linear foot, which price shall be full compensation including, but not limited to, wires, fuses and holders, pulling wires through conduits, splicing, slack, and connectors, complete and in place, as required by the project plans and these special provisions.

Pay Item: 732.1 Conductors LF

736.1 HIGHWAY LIGHTING MATERIALS is added to the COP Technical Specifications as follows:

A. General

The work under this section shall include the furnishing of all equipment, materials, and labor necessary to install luminaires for street lighting in accordance with ADOT Standard Specification Section 736 and as shown on the project plans.

B. Construction Requirements

Luminaires shall be 250-watt horizontally-mounted high pressure sodium in accordance with ADOT Standard Specification Section 736-2.01. The light distribution shall be Type III.

C. Measurement

Measurement of luminaires shall be measured per each installed complete and accepted in-place.

D. Payment

Luminaires, measured as provided above, will be paid for at the contract unit bid price per each, which price shall be full compensation, complete and in place, as required by the project plans and these special provisions.

Pay Item: 736.1 Luminaire (Horizontal Mount)(HPS) EA

APPENDIX A

ADOT STORED SPECIFICATIONS

SECTION 404 BITUMINOUS TREATMENTS

404-2.02(A) General: the first paragraph of the Standard Specifications is revised to read:

The contractor shall provide a source of aggregate material in accordance with the requirements of Section 1001.

404-3.12 Tack Coat: of the Standard Specifications is revised to read:

Tack coat shall be applied prior to placing a bituminous mixture on a primed surface, an existing bituminous surface, or an existing Portland cement concrete pavement surface. Tack coat shall also be applied between layers of bituminous mixtures. A light coat of bituminous material shall also be applied to edges or vertical surfaces against which a bituminous mixture is to be placed.

The contractor shall choose the bituminous material to be used for tack coat. The Engineer must approve the contractor's choice of bituminous material prior to its use.

The bituminous material used for tack coat shall conform to the requirements of Section 1005.

The rate of application for the specific usage will be specified by the Engineer. The following table shows approximate tack coat application rates:

Type of Bituminous Material	**Approximate Tack Coat Application Rates: Gallons / Square Yard**		**Payment Factor**
	Prior to Placing ACFC or AR-ACFC	**All Other Tack Coats**	
Emulsified Asphalt (Special Type) – See Note Below	Not Allowed	0.12	0.7
Emulsified Asphalt (Other than Special Type)	0.08	0.08	1.0
Asphalt Cement	0.06 to 0.08	0.06 to 0.08	1.0
Note: Emulsified Asphalt (Special Type) shall consist of Type SS-1 or CSS-1 emulsified asphalt diluted with water to provide an asphalt content of not less than 26 percent.			

If emulsified asphalt of any type is used, it shall have broken before the bituminous mixture is placed.

If emulsified asphalt of any type is held overnight, it shall be reheated and agitated prior to further application.

The Engineer may either adjust the application rate or, except as specified below, eliminate the use of tack coat in any part of the work if, in the Engineer's judgment, the bituminous mixture to be placed will be effectively bonded to the underlying surface. For asphaltic concrete friction course, asphaltic concrete friction course (asphalt-rubber), or asphaltic concrete (asphalt-rubber), application of the tack coat immediately prior to placing such pavements shall not be eliminated, although the Engineer may adjust the application rate.

Tack coat shall be applied only as far in advance of the placement of the bituminous mixture as is necessary to obtain the proper condition of tackiness. In no event shall more tack coat be applied in one day than will be covered by the bituminous mixture during that same day.

404-4 **Method of Measurement:** the third paragraph of the Standard Specifications is revised to read:

Cover material, when specified, will be measured by the cubic yard. Cover material will be weighed, and the amount in tons of dry material will be converted to cubic yards. The weight of all moisture contained in the cover material will be deducted prior to the conversion of the weight in tons to the volume in cubic yards. The dry weight per cubic yard will be determined in accordance with the requirements of AASHTO T 19 (Shoveling Procedure).

(404BIMAT, 02/10/12)

SECTION 404 BITUMINOUS TREATMENTS

404-5 **Basis of Payment:** of the Standard Specifications is modified to add:

The term "bituminous material" as used herein shall include asphalt cement, liquid asphalt, and emulsified asphalt.

The contract unit price for each item of bituminous material will be considered to include all costs for furnishing, hauling, handling, spreading, and mixing of the material as required, including the "initial cost" of bituminous material, but excluding any difference in the cost of bituminous material that occurs between the date of bid opening and the date that the material is used on the project.

A cost for bituminous material will be determined monthly by the City based on the selling prices of asphalt cement published by the Asphalt Weekly Monitor, a publication of Poten & Partners, Inc. The cost will be the arithmetic average of the high and low selling prices for asphalt cement shown in the previous four reports for the Arizona/Utah and Southern California regions.
This cost will be deemed the "initial cost" (IC) for bituminous material for projects on which bids are opened during the following month. This cost will also be deemed the "current price" (CP) for bituminous material for the following month for projects in construction.

This value will be effective as of the last Wednesday of each month, and will be posted on the Department's website, at http://www.azdot.gov/Highways/cns/bitmat.asp, on or shortly after the last Wednesday of the month.

This information may also be obtained from Contracts and Specifications Services, (602) 712-7221.

For each item of bituminous material for which there is a specific pay item, and for the bituminous material used in Asphaltic Concrete (Miscellaneous Structural), an adjustment will be made as follows for each month that a quantity of bituminous material was used on the project.

The "initial cost" (IC) for the month in which the project was bid will be compared with the "current price" (CP) as specified above for the appropriate current month. The "current price" (CP) will be as posted on the Department's website on the last Wednesday of each month, and will be used to adjust costs for bituminous material incorporated into the job during the following month (for example; bituminous material used in May will be adjusted, as specified herein, based on the "current price" (CP) for May as posted on the last Wednesday of

April). Any difference in price between these two values will be applied to the quantity of eligible bituminous material incorporated into the work.

Determination of the eligible quantities of bituminous material will be based on contractor-furnished invoices, except as modified below.

The tons of emulsified products to which the adjustment will be applicable will be the tons of the emulsified bituminous asphalt prior to dilution.

Adjustments in compensation for emulsified asphalts will be made at 60 percent of either the increase or decrease.

The tons of Bituminous Material (Asphalt Rubber) to which the adjustment will be applicable will be 0.80 multiplied times the total quantity of the item used. The adjustment will not apply to the 20 percent of the material which constitutes the rubber additive.

The tons of bituminous material incorporated in Asphaltic Concrete (Miscellaneous Structural) to which an adjustment will be applicable will be considered to equal five percent of the quantity, measured in tons, of Asphaltic Concrete (Miscellaneous Structural) placed, regardless of the actual percentage of bituminous material incorporated into the mix. If the quantity of Asphaltic Concrete (Miscellaneous Structural) is measured by volume, the supplemental agreement establishing the method of measurement will specify the manner in which the tons of asphalt cement eligible for the adjustment are determined.

The tons of bituminous materials which are paid for on the basis of testing by nuclear asphalt content gauge, ignition furnace, or other approved methods to which the adjustment will be applicable, are the tons which have been incorporated into the mixture.

When reclaimed asphalt pavement (RAP) is used in asphaltic concrete, only the virgin asphalt cement will be subject to a bituminous material price adjustment. RAP binder is not subject to a price adjustment.

No additional compensation will be made for any additional or increased charges, costs, expenses, taxes, etc., which the contractor may have incurred since the time of bidding and which may be the result of any increase in the "initial cost" of bituminous material.

Adjustment in unit prices of items governed by this provision will be made in the next regular monthly progress payment following actual use or application of the bituminous material.

Any adjustment in compensation made for bituminous material incorporated into the work after the expiration of the specified completion time set forth in the contract, or as may be extended in accordance with the provisions of Subsection 108.08, will be on the basis of the price of bituminous material shown on the Department's website and applicable for the date of the expiration of the specified completion time as hereinbefore specified.

(409ACMS, 10/08/10)

SECTION 409 ASPHALTIC CONCRETE (MISCELLANEOUS STRUCTURAL)

409-1 Description: of the Standard Specifications is revised to read:

The work under this section shall consist of constructing Asphaltic Concrete (Miscellaneous Structural), hereinafter asphaltic concrete, by furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, mineral admixture, and bituminous material (asphalt cement) to form a pavement course or to

be used for other specified purposes, in accordance with the details shown on the project plans and the requirements of these specifications, and as directed by the Engineer.

The contractor shall acquire and make all arrangements for a source or sources of material, furnish a mix design which will meet the design criteria specified hereinafter, and provide all the equipment, materials, and labor necessary to complete the work.

409-2 **Materials:** of the Standard Specifications is modified to add:

The bidding schedule quantity of asphaltic concrete is based on an estimated unit weight of 146 pounds per cubic foot.

409-2.02 **Bituminous Material:** the first paragraph of the Standard Specifications is revised to read:

Asphalt cement shall be a performance grade (PG) asphalt binder, conforming to the requirements of Section 1005. The type of asphalt binder shall be PG-76-16.

409-2.03 **Mineral Admixture:** the last paragraph of the Standard Specifications is revised to read:

The certification and acceptance of Portland cement, blended hydraulic cement, and hydrated lime shall be in accordance with Materials Policy and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

409-2.04 **Mix Design:** the third and fourth paragraphs of the Standard Specifications are revised to read:

The mix design shall be prepared by or under the direct supervision of a professional engineer experienced in the development of mix designs and mix design testing. The mix design shall be provided in a format that clearly indicates all the mix design requirements and shall be sealed, signed, and dated by the mix design engineer.

The mix design shall be prepared by a mix design laboratory that has met the requirements of the Materials Policy and Procedure Directive No. 19, "ADOT System for the Evaluation of Testing Laboratories".

The contractor may propose the use of a mix design that has been developed for a previous project. The proposed mix design shall meet the requirements of these specifications. The contractor shall provide evidence that the type and source of bituminous material, the type of mineral admixture, and the source and methods of producing mineral aggregate have not changed since the formulation of the previous mix design. The contractor shall also provide current test results for all specified characteristics of the mineral aggregate proposed for use. The Engineer will determine if the previously used mix design is suitable for the intended use and if the previous use of the mix design was satisfactory to the Engineer. The Engineer will either approve or disapprove the proposed mix design. Should the Engineer disapprove the use of the previously used mix design, the contractor shall prepare and submit a new mix design proposal in accordance with the requirements of these specifications.

A previously used mix design older than two years from the date it was formulated, sealed, signed, and dated shall not be allowed for use. Once approved for use on a project, a previously used mix design may be used for the duration of that project.

409-2.04 **Mix Design:** the last two paragraphs of the Standard Specifications are revised to read:

The mix design shall meet the following criteria when tested in accordance with the requirements of the following test methods:

Criteria	Requirement	Arizona Test Method
1. Voids in Mineral Aggregate: %, Range	14.5 – 18.5	815
2. Effective Voids: %, Range	5.3 – 5.7	815
3. Absorbed Asphalt: %, Range	0 – 1.0	815

The Engineer reserves the right to adjust the asphalt content during production from the mix design value without additional compensation to the contractor in order to obtain desirable effective voids.

409-2.05 **Sampling and Testing:** of the Standard Specifications is revised to read:

Sampling and testing the materials and mixture for quality control purposes shall be the contractor's responsibility. The Engineer reserves the right to sample and test the materials and mixture when necessary to determine that they reasonably conform to the requirements specified herein.

409-3.01 **General:** the ninth, tenth, eleventh, and twelfth paragraphs of the Standard Specifications are revised to read:

All wheels and tires of compactors and other equipment surfaces shall be treated when necessary with a release agent approved by the Engineer in order to prevent the sticking of asphaltic concrete. Release agents which degrade, dissolve, or in any way damage the bituminous material shall not be used. Diesel fuel shall not be used as a release agent.

Asphaltic concrete immediately behind the laydown machine shall be in a thoroughly mixed, free-flowing, and workable condition, be free of lumps and crusts, and have a minimum temperature of 275 degrees F.

All courses of asphaltic concrete shall be placed and finished by means of self-propelled paving machines except under certain conditions or at certain locations where the Engineer deems the use of self-propelled paving machines impractical.

The speed of the paving machine shall be coordinated with the production of the plant and an adequate number of trucks for hauling asphaltic concrete shall be available in order to achieve, as far as practical, a continuous operation.

Self-propelled paving machines shall spread the mixture within the specified tolerances, without segregation or tearing, true to the line, grade, and crown indicated on the project plans. Pavers shall be equipped with hoppers and augers which will distribute the mixture uniformly in front of adjustable screeds.

409-3.01 **General:** the seventeenth paragraph of the Standard Specifications is revised to read:

Before asphaltic concrete is placed, the surface to be paved shall be cleaned of all objectionable material and tacked with bituminous material in accordance with the requirements of Section 404.

409-5.02 **Reduction for Noncompliance:** of the Standard Specifications is revised to read:

A reduction in payment to the contractor for asphaltic concrete will be made for quantities of asphalt cement (bituminous material) that do not meet the requirements of Section 1005 as determined by corresponding test results. Adjustments in payment will be made in accordance with the requirements of Table 1005-1 and the following formula:

$$R=(100-P)\ x\left[\frac{(CP)xT}{100}\right]$$

Where:

R = Amount of Reduction in Payment (dollars)
T = Quantity of asphalt cement in failure (tons, rounded to nearest tenth)
P = Percent of Contract Unit Price allowed (Table 1005-1)
CP = Current Price for asphalt cement (bituminous material), as determined by the Engineer, for the month in which a deficiency was noted. This value will be made known by means of a memorandum issued on the last Wednesday of each month and mailed to those currently receiving copies of the Advertisements for Bids. This information may also be obtained from Contracts and Specifications Services, (602) 712-7221, or from the Department's website.

(608PANEL, 02/02/10)

SECTION 608 **SIGN PANELS**

608-1 **Description:** of the ADOT Standard Specifications is revised to read:

The work under this section shall consist of furnishing and installing sign panels in accordance with the details shown on the plans and the requirements set forth herein.

The sign panels shall be of the following types:

- Extruded Aluminum Sign Panels with Direct-Applied, Digitally-Imaged, or Demountable Characters
- Flat Sheet Aluminum Sign Panels With Direct-Applied, Digitally-Imaged, Electronic-Cut, or Screen-Printed Characters
- Warning, Marker, and Regulatory Sign Panels
- Route Shields for Installation on Sign Panels
- EXIT ONLY Panels for Installation on Sign Panels

608-2.01 **General:** of the ADOT Standard Specifications is modified to add:

Signs shall be fabricated in accordance with the recommendations established by the manufacturer of the sign sheeting. All processes and materials used to make a sign shall in no way impact the performance, uniform appearance (day and night), or durability of the sheeting, or invalidate the sign sheeting manufacturers' warranty.

All sheeting used for background and legend shall be from the same manufacturer, and shall not be covered with a protective or anti-graffiti film. The panels shall not be overlaid.

The Contractor shall not paint the bolts or the washers except as indicated in the addition to subsection 608-3.01 identified in these special provisions.

All text and numerals shall all be installed at the same orientation: either zero degrees or 90 degrees.

Design of letters and numbers shall be in accordance with the project plans with a tolerance of ± 1/16th of an inch.

608-2.02 **Extruded Aluminum Sign Panels With Demountable Characters:** the title of the Standard Specifications is revised to read:

608-2.02 **Extruded Aluminum Sign Panels With Direct-Applied, Digitally-Imaged, or Demountable Characters:**

608-2.02 **Extruded Aluminum Sign Panels With Demountable Characters:** the third paragraph of the Standard Specifications is revised to read:

The letters, numerals, symbols, borders and other features of the sign message shall be direct-applied, digitally-imaged, or demountable, and shall conform to the requirements of Subsection 608-2.14, Demountable Characters, Subsection 608-2.15, Screen-Printed, Direct-Applied, or Electronic-Cut Characters, or Subsection 608-2.16, Digitally-Imaged Characters.

608-2.07 **Flat Sheet Aluminum Sign Panels With Direct-Applied or Silk-Screened Characters:** the title and text of the Standard Specifications are revised to read:

608-2.07 **Flat Sheet Aluminum Sign Panels With Direct-Applied, Digitally-Imaged, Electronic-Cut, or Screen-Printed Characters:**

Panels shall be fabricated from 0.125-inch thick 5052-H36, or 5052-H38 Aluminum Alloy conforming to the requirements of ASTM B 209.

Panel facing shall be prepared and covered with retroreflective sheeting in accordance with the recommendations of the sheeting manufacturer. The color of the sheeting shall be as specified on the plans or as shown in the Manual of Approved Signs.

All surfaces not covered shall be etched to reduce glare from reflected sunlight.

The retroreflective sheeting shall conform to the requirements of Section 1007. Splicing of retroreflective sheeting shall not be allowed on sign panels having a minimum dimension up to and including four feet.

Messages shall be reflectorized white or, if called for on the plans, opaque black, and shall be produced by either screen printing, direct-applying, digital imaging, or electronic cutting, as specified under Subsections 608-2.15 and 608-2.16.

608-2.09 **Warning, Marker, and Regulatory Sign Panels:** of the ADOT Standard Specifications is revised to read:

Panels shall be fabricated from flat sheet aluminum and shall be reflectorized as specified herein.

Panels shall be fabricated in one piece from 0.125-inch thick 5052-H36, 5052-H38, or 6061-T6 Aluminum Alloy conforming to the requirements of ASTM B 209.

All surfaces of panels to be covered with retroreflective sheeting shall be prepared in accordance with the recommendations of the sheeting manufacturer. Surfaces not covered shall be etched to reduce glare from reflected sunlight. Retroreflective sheeting shall conform to the requirements of Section 1007.

Warning signs shall be reflectorized with fluorescent yellow retroreflective sheeting.

Regulatory signs shall be reflectorized with white retroreflective sheeting.

Reflectorized red signs shall be reflectorized with white retroreflective sheeting. The red color shall be produced by screen printing.

Regulatory signs with reflectorized red circles and slashes shall be reflectorized with white retroreflective sheeting. The red color shall be produced by screen printing.

Interstate route markers shall be cut to shape. The colors and legend shall be as shown on the plans and shall be reflectorized with white retroreflective sheeting. The Interstate route colors shall be screen-printed. The numerals may be screen-printed, electronic-cut, or direct-applied characters.

United States, State Route, and Cardinal Direction markers shall be reflectorized with white retroreflective sheeting unless otherwise shown on the plans.

Splicing of retroreflective sheeting shall not be allowed on sign panels having the minimum dimension up to and including four feet.

608-2.11 **Route Shields (For Installation on Sign Panels):** of the ADOT Standard Specifications is revised to read:

Route shields may be may be demountable, direct-applied, or digitally-imaged.

Demountable route shields shall be cut to shape and shall consist of 0.063-inch thick, 5052-H36, or 5052-H38 Aluminum Alloy conforming to the requirements of ASTM B 209. The aluminum shall be degreased and etched in accordance with the recommendations of the sheeting manufacturer. Retroreflective sheeting shall be white and shall conform to the requirements of Section 1007. Route shields shall be attached to the sign panel with self-plugging aluminum blind rivets.

608-2.12 **EXIT ONLY (For Installation on Sign Panels):** the title and text of the Standard Specifications are revised to read:

608-2.12 **EXIT ONLY Panels (For Installation on Sign Panels):**

EXIT ONLY panels may be may be demountable, direct-applied, or digitally-imaged. Demountable EXIT ONLY panels shall be attached to the sign panel with self-plugging aluminum blind rivets.

Demountable EXIT ONLY panels shall be fabricated from 0.063-inch thick, 5052-H36 or 5052-H38 Aluminum Alloy conforming to the requirements of ASTM B 209 with fluorescent yellow retroreflective sheeting adhered to the face side. The aluminum shall be degreased and etched in accordance with the recommendations of the sheeting manufacturer. Retroreflective sheeting shall conform to the requirements of Section 1007.

608-2.13 **Retroreflective Sheeting, Inks and Opaque Film:** the second and third paragraphs of the ADOT Standard Specifications are hereby deleted.

608-2.14(A) **General:** the second paragraph of the ADOT Standard Specifications is revised to read:

Flat sheet aluminum substrates used for characters and borders shall be either aluminum alloy 3105-H14, 3003-H14, 5052-H36, or 5052-H38 as specified in ASTM B 209. Characters produced from the flat sheet aluminum alloy shall sit flat on the face of the sign panel without visible gap or deformation.

608-2.14(B) **Sheeting and Colors:** the third, fourth, and fifth paragraphs of the ADOT Standard Specifications are revised to read:

The color for demountable letters, numbers, symbols, and route shields on green, blue, and brown background signs shall be white, and shall conform to the requirements of Section 1007. Demountable legends on white and yellow background signs shall be black, and shall be opaque and non-reflective. Black characters shall be finished with laminated black opaque acrylic film.

When borders are used with demountable characters, white legend and border shall be used on green, blue, or brown sign backgrounds, and black legend and border shall be used on white or yellow sign backgrounds. Sign sheeting conforming to Section 1007 shall be used for white borders. Black borders shall be laminated black opaque acrylic film.

Laminated black opaque acrylic film to be used for characters or borders, as specified above, shall be applied in accordance with the coating manufacturer's recommendations. The Contractor shall provide copies of any warranties provided by the manufacturer to the Engineer.

608-2.15 **Silk-Screened or Direct-Applied Characters:** the title and text of the ADOT Standard Specifications is revised to read:

608-2.15 **Screen-Printed, Direct-Applied, and Electronic-Cut Characters:**

Screen-printed letters, numerals, arrows, symbols, and borders, shall be applied on the retroreflective sheeting background of the sign by direct or reverse screen process. Messages and borders of a color darker than the background shall be applied to the retroreflective sheeting by direct process. Messages and borders of a color lighter than the sign background shall be produced by the reverse screen process.

Opaque or transparent colors, inks, and paints used in the screen process shall be of the type and quality recommended by the manufacturer of the retroreflective sheeting.

The screening shall be performed in a manner that results in a uniform color and tone, with sharply defined edges of legends and borders and without blemishes on the sign background that will affect intended use.

Signs, after screening, shall be air dried or baked in accordance with the manufacturer's recommendations to provide a smooth hard finish. Any signs on which blisters appear during the drying process will be rejected.

Direct-applied letters, numerals, symbols, borders, and other features of the sign message shall be cut from black opaque or retroreflective sheeting of the color specified and applied to the retroreflective sheeting of the sign background in accordance with the instructions of the manufacturer of the retroreflective sheeting.

Direct-applied legend may be moved vertically 1/2 inch to avoid placing only a small amount of material over the adjacent extruded panel. The bottom of all characters for a line of legend shall line up within 1/8 of an inch.

Electronic-cut characters shall be cut from translucent acrylic sheeting using computerized automated cutting processes.

608-2 **Materials:** of the ADOT Standard Specifications is modified to add:

608-2.16 **Digitally-Imaged Characters:**

Digitally-imaged characters shall consist of characters produced through ultraviolet jet-printing or thermal transfer. Signs with digitally-imaged characters shall be manufactured using matched component ink, transparent electronic-cuttable film, and/or overlay film as supplied by the reflective sheeting manufacturer. For digitally-imaged copy on white sheeting, the coefficient of retroreflection shall be not less than 70 percent of the original values for the corresponding integral color. When characters are spread over two adjacent extruded panels, the characters shall align with each other within 1/16th of an inch.

608-3.01 **Fabrication:** of the ADOT Standard Specifications is modified to add:

During the fabrication of the new sign panels, the Contractor shall ensure the bolt holes on each sign panel are placed so the holes will not coincide with any legend on the sign panel and any bolts, washers, or other hardware used to install the sign panel to sign supports will not cover any portion of the legend on the sign panel. If the bolt holes on a sign panel do not comply with these requirements, the Engineer may reject the sign panel or, at the Engineer's discretion, accept the sign panel but require the Contractor to paint the bolts, washers, and any hardware coinciding with legend on the sign to match the color of the legend.

608-3.02 **Installation of Sign Panels:** of the ADOT Standard Specifications is revised to read:

The sign panels shall be installed on overhead sign structures and roadside sign supports in accordance with the details shown on the plans and in accordance with the recommendations of the manufacturers of the sign panel components.

Minor scratches and abrasions resulting from fabrication, shipping and installation of panels may be patched; however, patching shall be limited to one patch per 50 square feet of sign area with the total patched area being less than five percent of the sign area. Panels requiring more patching than the specified limit will be rejected. Patches shall be edge sealed by a method approved by the retroreflective sheeting manufacturer.

Sign panels shall be attached to the posts with hex head bolts as shown in the Standard Drawings; slotted head bolts shall not be used. A cadmium-plated or zinc-plated fender washer shall be placed between the bolt head and panel face.

For flat sheet panels, bolts shall be fastened with a cadmium-plated or zinc-plated fender washer and two standard nuts; nylon washers shall not be used. The fender washer shall be placed against the sign post, the first nut shall be tightened against the fender washer, and the second nut shall be tightened against the first nut. Bolts shall be tightened from the back by holding the bolt head stationary on the face of the panel. Twisting of the bolt head on the panel face will not be allowed.

The Contractor shall provide two copies of a detailed list of all new signs installed on the project to the Engineer. The list shall include the sign identification code, the date each sign was installed (month and year), the fabricator of the sign, and the materials used to make the sign (manufacturer, type of sheeting, ink and film). The list shall be provided in a commonly used electronic spreadsheet format, such as EXCEL, and the two copies shall be

submitted on CD-ROM disks. Signs shall be listed in numerical order by route, direction, and milepost and, where more than one sign is installed at the same general location, a letter subscript.

Sign panels within the same sign assembly shall be placed at the same orientation along the roadway so that the entire legend of the signs appear uniform under normal viewing conditions, both day and night.

Upon fabrication or installation of each sign, the Contractor shall place information on the back of the sign showing the sign identification code, the sign fabricator, the manufacturer of the sheeting used, and the month and year of the installation. The formatting of the required information shall be as shown on the standard drawings. The information shall be positioned to be readily visible from a vantage point outside the flow of traffic and not obstructed by sign posts, extrusions, stringers or brackets. All letters shall be made of a long life material such as a black opaque acrylic film. Signs not marked as required will not be eligible for payment.

Temporary traffic control signs are exempt from the installation information requirement unless noted otherwise on the project plans.

608-3.04 **Inspection:** the second paragraph of the ADOT Standard Specifications is revised to read:

Each sign panel face shall be cleaned thoroughly just prior to the inspection by a method recommended by the manufacturer. The cleaning material shall in no way scratch, deface or have any adverse effect on the sign panel components.

608-4 **Method of Measurement:** first paragraph of the ADOT Standard Specifications is revised to read:

Sign panels will be measured to the nearest 0.1 square foot for each type or types of sign panels furnished and installed. The area of each sign panel, except for warning, regulatory and marker sign panels, will be measured per plans dimensions. The total area of each type or types of sign panels will be rounded to the nearest square foot.

608-5 **Basis of Payment:** first and second paragraphs of the ADOT Standard Specifications are revised to read:

The accepted quantities of each type of sign panel designated in the bidding schedule, measured as provided above, will be paid for at the contract unit price per square foot, complete in place, regardless of the type of sheeting or type of character used on the sign panel. Payment shall be made on the total area of each type of sign panel to the nearest square foot.

No measurement or payment will be made for Route Shields and EXIT ONLY Panels (for installation on sign panels), the cost being considered as included in the contract unit price for the sign panel.

(704THRMO, 8/24/11)

SECTION 704 THERMOPLASTIC PAVEMENT MARKINGS

704-1 **Description:** of the Standard Specifications is revised to read:

The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion or ribbon dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in

accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

704-2.02 **Composition:** of the Standard Specifications is revised to read:

(A) General:

The thermoplastic composition shall conform to the following requirements:

Component	Percent by Weight	
	White	Yellow
Binder (Min.)	20	20
Titanium dioxide (Min.)	10	-----
Yellow Lead-Free Pigment (Min.)	-----	1.5
Reflective glass inter-mix beads	30 – 45	30 – 45
Calcium carbonate or equivalent filler	20 – 42	20 - 42

The ingredients of the thermoplastic composition shall be thoroughly mixed and in a solid or sectionalized block, or free-flowing granular form. When heated in a melting apparatus, the material shall readily liquefy into a uniform solution. This solution shall be free from all skins, dirt, foreign objects or any other ingredient which would cause bleeding, staining, blotting, or discoloration when applied to the bituminous or concrete pavement surfaces.

The thermoplastic formulation shall utilize an alkyd binder. The alkyd binder shall consist of a mixture of synthetic resins, at least one of which is solid at room temperature, and of high-boiling-point plasticizers. At least one third of the binder composition and no less than eight percent by weight of the entire material formulation shall be solid maleic-modified glycerol ester resin or solid maleic-modified pentaerythritol ester resin. The alkyd binder shall not contain any petroleum-based hydrocarbon resins.

(B) Reflective Glass Beads:

In addition to incorporating glass beads in the thermoplastic mix, glass beads shall be evenly applied to the surface of the molten material as specified in Subsection 704-3.02(G).

(C) Filler:

The filler shall be a white calcium carbonate or equivalent filler with a compressive strength of at least 5,000 pounds per square inch.

(D) Titanium Dioxide:

Titanium Dioxide shall conform to the requirements of ASTM D 476 for Type II (92 percent).

(E) Yellow Pigment:

The yellow pigment shall be heat resistant and lead free. The type of yellow pigment shall be at the option of the manufacturer provided that the material conforms to all color requirements in a stable and durable fashion as specified herein.

704-2.03(C) Retroreflectance: of the Standard Specifications is revised to read:

The white and yellow thermoplastic materials shall have the following minimum retroreflectance values at 86.5 degrees illumination angle and 1.5 degrees observation angle as measured by the Department, using an LTL-X Delta Retrometer or similar device, within 30 days after application to the roadway surface:

Product	Retroreflectance (millicandelas)
White	350
Yellow	200

704-2.03(E) Water Absorption and Specific Gravity: the last paragraph of the Standard Specifications is revised to read:

The specific gravity of the material, as determined by Section 16 of AASHTO T 250, shall be between 1.85 and 2.15.

704-2.03 Physical Characteristics of the Composition: of the Standard Specifications is modified to add:

(P) Color Stability:

Using accelerated weathering per ASTM G 155, Cycle 1, white color stability shall be measured for no color change after 500 hours of exposure, and yellow color stability shall be measured for no color change after 1000 hours of exposure.

704-2.04 Physical Requirements for Glass Beads: the second paragraph of the Standard Specifications is revised to read:

The inter-mix beads shall conform to AASHTO M 247 Type I, and may be coated or uncoated as recommended by the manufacturer. If uncoated beads are used, the thermoplastic formulation shall be configured to minimize settling of the intermix beads when the material is heated and applied.

Drop-on beads shall conform to the gradation requirements of AASHTO M 247 for Type I and Type III beads.

704-3.02(B) Material Selection and Compatibility: the second, third, and fourth paragraphs of the Standard Specifications are revised to read:

All materials shall be properly packaged and stored. Each container to be used on the project shall be clearly labeled to indicate the following information:

Nature, type, and formulation of the material;
Manufacturer, batch number, and date of manufacture;
Application requirements and constraints; and
Compatibility requirements and constraints, particularly those pertaining to equipment, storage, and other materials to be used.

Preparation and application equipment shall be in accordance with the plans and specifications, and shall conform to the recommendations of the materials manufacturer.

704-3.02(G) Thermoplastic Application: the first and second paragraphs of the Standard Specifications are revised to read:

The thermoplastic pavement marking material shall be extruded on to the pavement surface at a material temperature between 385 and 415 degrees F, depending on manufacturer's recommendations, ambient air and pavement temperatures, and the nature of the pavement surface. The contractor shall verify temperature requirements with a non-contact infrared thermometer as directed by the Engineer.

The thermoplastic material temperatures shall not exceed 450 degrees F. Material temperatures exceeding 440 degrees F shall be allowed for short periods of time; however, in no case shall the material be held for more than four hours at temperatures above 440 degrees F. Total heating time for any batch of material shall not exceed six hours. The contractor shall note in the temperature log the time when each batch of thermoplastic material is first heated. The start of heating time shall also be marked on the side of the kettle to which it applies.

704-3.02(G) Thermoplastic Application: the fifth and sixth paragraphs of the Standard Specifications are revised to read:

Drop-on glass beads shall be mechanically deposited into the thermoplastic material immediately after the thermoplastic marking is applied, using a double drop method. Each drop shall be comprised of a minimum of six pounds of glass beads per 100 square feet of line (200 linear feet of six-inch stripe). One drop shall be Type I glass beads and the other drop shall be Type III glass beads. The contractor shall determine which type of glass bead is to be applied in each drop; however, both types shall be used. Double drop methods using all Type I or Type III beads will not be allowed.

The dispensers shall evenly distribute the beads in the thermoplastic material. Both Type I and Type III glass beads shall be embedded in the surface of the thermoplastic to a depth of between 50 and 60 percent of the bead diameter. If the glass beads do not adhere to the thermoplastic marking, operations shall be stopped until the problem has been corrected. All markings which do not meet the requirements of Subsection 704-2.03(C), as determined by the Engineer, shall be removed by the contractor and replaced at no additional cost to the Department.

Unless otherwise specified, all thermoplastic pavement markings shall be extruded, and shall be 0.090 ± 0.002 inches thick. The thermoplastic thickness shall be uniform and consistent throughout the total length of the marking project.

704-3.02(G) Thermoplastic Application: the last two paragraphs of the Standard Specifications are revised to read:

The finished thermoplastic line shall have well defined edges and be free from waviness. Lateral deviation of the thermoplastic line shall not exceed one inch in 100 feet. The longitudinal deviation of a painted segment and gap shall not vary more than six inches in a 40-foot cycle. The actual width of line shall be within the limits specified in the following table, according to the width of line called for on the plans:

Plan Width	Actual Width
4 inches	4 to 4-1/2 inches
8 inches	8 to 9 inches
Over 8 inches	± 1 inch

After application and sufficient drying time, the thermoplastic marking shall show no appreciable deformation or discoloration under local traffic conditions with air and road temperatures ranging from -10 to 180 degrees F. The

drying time shall be defined as the minimum elapsed time, after application, when the thermoplastic pavement markings shall have and retain the characteristics required herein, and after which normal traffic will leave no impression or imprint on the newly applied marking. When applied within a temperature range of 400 ± 15 degrees F and thickness of 0.090 inches, the material shall set to bear traffic in not more than two minutes when the air and pavement surface temperatures are approximately 50 ± three degrees F and not more than 10 minutes when the air and road surface temperatures are approximately 90 ± three degrees. The Engineer may conduct field tests in accordance with ASTM D 711 to verify actual drying times.

(708PPM, 6/15/09)

SECTION 708 PERMANENT PAVEMENT MARKINGS

708-2.02(B) Physical Requirements: of the Standard Specifications is modified to add:

(6) Heavy Metal Concentration:

Heavy metal concentration in glass beads shall be as specified in the following table, when tested by an independent laboratory, approved by the Engineer, using EPA Method 3052 and EPA Method 6010B. A Certificate of Analysis conforming to Subsection 106.05 shall be furnished to the Engineer prior to use.

Heavy Metal	Concentration
Arsenic	< 75 ppm
Antimony	< 75 ppm
Lead	< 100 ppm

708-3.02 Application: the last paragraph of the Standard Specifications is revised to read:

Tolerances for Placing Paint, Beads, and Primer:

The length of painted segment and gap shall not vary more than six inches in a 40-foot cycle.

The finished line shall be smooth, aesthetically acceptable and free from undue waviness.

Painted lines shall be four, eight, or 12 inches wide as shown on the plans with a tolerance of ± 1/8 inch and shall be placed at a minimum rate of 16 gallons per mile for a solid four-inch line and four gallons per mile for a broken four-inch line, based on a 10-foot stripe and a 30-foot gap (40-foot cycle aggregate).

Glass reflectorizing beads shall be applied on the wet paint at a minimum rate of eight pounds per gallon of paint.

Wet thickness shall not be less than 15 mils, unless otherwise shown on the plans.

(810ERCON, 3/24/11)

SECTION 810 - EROSION CONTROL AND POLLUTION PREVENTION:

810-2.06(A) General: the first paragraph of the Standard Specifications is revised to read:

Sediment logs, sediment wattles, and fiber rolls shall be manufactured or constructed rolls of fiber matrix, secured with netting, and used for the purpose of controlling erosion by slowing high flow water velocity and trapping silt sediments. Netting for fiber rolls and sediment wattles shall have a minimum durability of one year after installation, and shall be tightly secured at each end of the individual rolls. All wheat straw used in sediment logs, sediment wattles, and fiber rolls shall comply with the requirements of Subsection 810-2.05(B).

(1001MATL, 12/14/09)

SECTION 1001 MATERIAL SOURCES of the Standard Specifications is revised to read:

1001-1 Description:

The work under this section shall consist of the procuring of borrow, topsoil, subbase and base materials, mineral aggregates for concrete structures, surfacing, and landscape plating, from sources either designated on the project plans or in the Special Provisions or from other sources.

1001-2 General:

The contractor shall determine for itself the type of equipment and work required to produce a material meeting the specifications.

Sites from which material has been removed shall, upon completion of the work, be left in a neat and presentable condition. Where practicable, borrow pits, gravel pits, and quarry sites shall be located so that they will not be visible from the highway.

The contractor shall provide an Environmental Analysis, as specified in Subsection 104.12, for any source proposed for use regardless of whether an approved Environmental Analysis exists for the site.

In accordance with Subsection 104.12, the contractor may incorporate an existing Environmental Analysis approved after January 1, 1999, provided that the analysis is updated as necessary to be in compliance with current regulations and with the contractor's planned activities.

It shall be the responsibility of the contractor to conduct any necessary investigations, explorations, and research, on-site and otherwise, before and after submitting the bid proposal, to satisfy itself that the specified quantity and/or quality of material exists in any proposed material source.

The Department makes no representation regarding quality or quantity of materials in any source.

1001-2.01 Material Sources in Flood Plains:

Any material source located in a flood plain and proposed for use on the project shall be reviewed by the appropriate agency having flood plain management jurisdiction for the area in which the proposed source is located. The contractor shall obtain a letter from the governing flood plain agency addressed to the Engineer, certifying that the location of the proposed source conforms to the requirements of the floodplain management agency.

Contractors seeking a flood plain material source are cautioned that Section 404 of the Clean Water Act may prevent use of the source unless an appropriate permit is first obtained from the U.S. Army Corps of Engineers.

Except for surplus material from agency-administered flood control management projects, borrow material shall not be obtained from any area situated in the 100-year flood plain of any stream or watercourse, and located within one mile upstream and two miles downstream of any highway structure or surfaced roadway crossing. Surplus material from agency-administered flood control management projects may be used as borrow material only if the contractor submits written evidence to the Engineer that the flood control agency project was fully designed and funded prior to the date of advertisement for bids on the Department project.

Material sources in flood plains located on Native American Indian Reservations will be considered for use based on an individual analysis. The analysis shall include a review of applicable land use plans, flood plain management plans, environmental plans, applicable laws and regulations pertaining to Indian Reservations, and an engineering analysis of the effects on any highway facility or structure. The contractor shall obtain from the Native American Tribal Council all permits, licenses, and approvals and present to the Department for review. The Department will review each request on a case by case basis.

1001-2.02 Information Available:

The Department's Materials Group maintains a listing of materials sources for which a completed Environmental Analysis is available and the landowner has allowed the source to be placed on the list. In addition, Materials Group maintains files for those sites for which the Department holds an easement, license, permit, lease, or other right, as well as a General Plan of Operation and Restoration. The contractor may contact the Materials Group at (602) 712-7231 for information and may review the files located at 1221 N. 21st Avenue, Phoenix, Arizona 85009-3740.

Contractors are advised that an agency having jurisdiction over the source, such as the Forest Service, Bureau of Land Management, Bureau of Reclamation, the State Land Department, etc., or the owner, as a condition to the use of the source, may have imposed certain obligations. The contractor who uses such a source shall assume full contractual responsibility for any and all of these obligations imposed either by the agency having jurisdiction or by the owner. Contractors considering such a source shall make themselves fully aware of any and all requirements imposed by the Department and the landowners.

The contractor may propose the use of these or other sources, provided that all requirements of the specifications have been met.

It shall be the responsibility of the contractor to comply with the provisions of the Environmental Analysis and with current laws, rules, and regulations.

The Department makes no representation regarding quality or quantity of materials in any source.

It shall be the responsibility of the contractor to conduct any necessary investigations, explorations and research, on-site and otherwise, to satisfy itself that the specified quantity and/or quality of material exists in any material source.

1001-2.03 Usage of Materials:

Approval of the use of any source shall be limited to the specific contract and purpose for which the use of the source was obtained.

1001-2.04 Royalty Charges:

If the Engineer approves a source for which the Department holds an easement, license, permit, lease, or other right with the landowner or controlling agency that includes requirements for the payment of royalties, the amount

of the royalty charges and the name and address of the party to whom royalties are to be paid will be available from the Materials Group, 1221 N. 21st Avenue, Phoenix, Arizona 85009-3740.

Prior to the time of final payment, the contractor shall furnish the Engineer with evidence that all royalty charges have been paid. Such evidence shall consist of a waiver, release, or other written acknowledgement from the owner that all of the contractor's obligations to the owner have been met. In the event that royalty charges have not been paid, the Department reserves the right to make such payment and to deduct the amount of such payment from monies due the contractor.

The final billing and payment for material extracted from sources under the jurisdiction of the State Land Department will include a small administrative charge based on the total amount of royalties due for materials removed.

Upon receipt of the final billing from the Department of Transportation, the contractor shall mail a check, payable to the State Land Department, addressed as follows:

Arizona Department of Transportation
Field Reports Section
206 South 17th Avenue
Phoenix, Arizona 85007

1001-2.05 Performance Bonds:

If sources are under the jurisdiction of either the State Land Department or the Bureau of Land Management, the contractor shall secure a performance bond. A fully executed copy of the bond shall be furnished to the Engineer along with evidence that a fully executed copy has been sent to the State Land Department or the Bureau of Land Management.

The form of the Performance Bond will be available from the Materials Group, 1221 N. 21st Avenue, Phoenix, Arizona 85009-3740. For pits under the jurisdiction of the Bureau of Land Management, the surety shall be a company listed under "Surety Companies Acceptable on Federal Bonds." This list is published annually as of July 1 in the Federal Register.

Performance bonds shall be conditioned upon the compliance with the requirements of the State Land Department and the Bureau of Land Management and the requirements of the specifications for the clearing of pit sites, the removal of material and the cleaning up of pit sites.

Copies of fully executed performance bonds shall be mailed as follows:

State Land Commission State Land Department 1624 West Adams Street Phoenix, Arizona 85007	Bureau of Land Management Manager, Land Office 222 North Central Avenue Phoenix, Arizona 85004

1001-2.06 Sampling and Testing:

The results of any sampling and testing accomplished by the Department will be available from the Materials Group, 1221 N. 21st Avenue, Phoenix, Arizona 85009-3740.

1001- 2.07 Plan of Operation and Restoration:

The contractor shall determine whether the Department holds an easement, license, permit, lease or other right, for any proposed material source. For such sites, a project-specific Plan of Operation and Restoration will be required. The contractor shall obtain a copy of the related document and the Department's General Plan of Operation and Restoration for the proposed site from the Materials Group. The contractor shall prepare and submit to the Engineer a project-specific Plan of Operation and Restoration which shall follow the format of the Department's General Plan of Operation and Restoration, and shall take into account the requirements of the Environmental Analysis, as well as any restrictions placed on the use of the source by the landowner or agency.

The proposed source will not be approved without an approved project-specific Plan of Operation and Restoration. Approval of the contractor's project-specific plan does not constitute approval of the use of the source.

The contractor shall identify and provide a person in charge of the operation. That person shall maintain copies onsite of the Department's General Plan of Operation and Restoration, the contractor's approved project-specific Plan of Operation and Restoration, the current Environmental Analysis, and the license and permits issued to the Department by the landowner or agency.

1001-3 Proposed Source:

1001-3.01 Approval Requirements:

(A) General:

The contractor shall promptly advise the Engineer as to the source that it proposes to use.

The contractor acknowledges that all the conditions set forth in this subsection shall be met prior to the source being approved for use.

Other than sampling and testing, the requirements of this subsection shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source.

The contractor further acknowledges that no additional compensation will be made on account of any delays in preparing or modifying the Environmental Analysis, obtaining approval for the use of a source, or the failure to obtain approval of a source. An extension of contract time may be granted only in accordance with Subsections 104.12 or 1001-3.01(B)(4).

Regulatory changes, specification changes, or other reasons may preclude the approval of a materials source. The contractor acknowledges that the Department may refuse to approve a material source even if the Department had approved the source for other projects.

If all of the requirements for approval of a materials source have been accomplished for the project, and the Engineer has approved the source for use on the project and, subsequent to that approval, the Environmental Analysis is rescinded, the contractor may request a revision to the contract in accordance with Subsection 104.02 and 108.08. In reviewing the contractor's request, the Department will take into account the following factors. Additional factors may be considered.

(1) Whether the contractor was in compliance with the requirements of the Environmental Analysis and, if applicable, the site-specific Plan of Operations and Restoration.

(2) Whether the reasons for rescinding the approval were reasonably foreseeable.

(3) Whether the action taken was the result of regulatory changes.

(4) Whether deficiencies unrelated to the Environmental Analysis may have rendered the source unacceptable.

(5) Whether rescinding the approval was the sole cause of any impact to controlling activities on the project.

(B) Specific Conditions For Approval:

The use of a source will require written approval by the Engineer. No approval will be given until the contractor has complied with the following conditions:

(1) The contractor has submitted an Environmental Analysis, as specified in Subsection 104.12, of the source proposed for use and the Department has reviewed the analysis and satisfied itself that the use of such source will not have an adverse social, economic or environmental impact. The requirements of Subsection 1001-3.01 shall be completed prior to initiation of any activities that disturb the existing conditions at the proposed source, except for exploring test areas as specified in Subsection 1001-3.02.

(2) The contractor has furnished the Engineer with evidence that he has secured the rights to the source, including ingress and egress.

(3) The Department has determined that the material from the proposed source not only meets the requirements, but is also compatible with the established project design criteria developed by the ADOT Materials Group and based on the soil support value of the embankment; and the sampling and testing as herein specified has been satisfactorily completed.

(4) The contractor has furnished a fully executed copy of the Performance Bond as specified in Subsection 1001-2.05.

(5) When required, the contractor has submitted, and the Department has approved, the site-specific plan of operations and restoration as specified in Subsection 1001-2.07.

The contractor shall also notify the Arizona Department of Agriculture, in accordance with the Arizona Native Plant Law, at least 30 days prior to any clearing operations of less than 40 acres on private land, 60 days prior to clearing operations of 40 or more acres on private land, and 60 days prior to any clearing of state land, regardless of size. If the Engineer is convinced that the contractor has made every effort to comply with the provisions of the Arizona Native Plant Law in contacting the Department of Agriculture, the Engineer will increase the number of contract days by the amount of time required for action by the Department of Agriculture. The increase will not exceed 45 calendar days and will be concurrent with any increase allowed for the preparation of the Environmental Analysis.

(C) Historical and Cultural Resources:

If the Department determines that the proposed use will have major adverse impact on cultural or historic resources, the Department will not allow the use of the source.

(D) Permit from Navajo Nation:

For projects located on the Navajo Reservation, the Navajo Nation has adopted a permitting system for any sources, regardless of whether on or off the Navajo reservation, which are to supply material for projects located within its boundaries. No material source will be approved until the contractor submits a copy of the permit from the Navajo Nation allowing materials from the proposed source to be used on the project. For information concerning the permit, the contractor shall contact the Navajo Nation Historic Preservation Office.

1001-3.02 Testing Requirements:

The contractor shall furnish equipment and personnel and shall obtain representative samples of the material under the supervision of the Engineer. At the option of the contractor, the material shall be tested by either the Department or by a testing laboratory approved by the Department. The cost of all sampling and testing done for the purpose of attaining approval of any source, including the cost of supervision by the Engineer, shall be borne by the contractor.

If testing is performed by a testing laboratory, the contractor shall arrange for the samples to be delivered to the testing laboratory. Tests shall be performed using appropriate test procedures referred to in the sections of the specifications in which the specific material requirements are described.

The contractor shall make the arrangements necessary to see that the testing laboratory submits the results of the tests to ADOT Materials Group. The contractor shall submit to ADOT Materials Group sufficient quantity of material from the samples taken so that ADOT Materials Group may test the materials, at the Department's expense, and verify the results.

Exploratory sampling and testing activities conducted prior to the Department's approval shall be limited so as to cause the minimum amount of vegetation removal and surface disturbance required to obtain representative samples. The contractor shall not produce material, mobilize crushing equipment or clear a worksite prior to approval of the Environmental Analysis.

The contractor may request an exemption from the testing requirements specified in this subsection upon presentation of evidence to the satisfaction of the Engineer that the material that will be produced on the project is sufficiently similar to material that has been previously acceptable to the Department on projects with similar materials specifications.

No approval of the source shall be assumed, nor will it be made, until the Department has determined that the material meets the specified requirements.

The contract time will not be adjusted because of any time required by either the contractor or the Department to sample and test the material and to determine the quality of the material.

1001-4 Special Access:

The contractor may make a request to the Engineer to approve special access to a controlled access highway if special access is not shown on the project plans.

The request by the contractor shall be accompanied by an Environmental Analysis and by documents which specify the point(s) of access, the acquisition of right-of-way, the manner in which access will be attained, the traffic control plan, and crossovers, along with all other appropriate data which will allow the Engineer to evaluate its request. If the request is approved, a supplemental agreement shall be entered into.

All costs associated with the special access requested by the contractor shall be borne by the contractor, including, but not limited to, cattle guards, fences, gates and restoration work.

When access is not being utilized, gates shall be closed and locked. Upon completion of all operations, the area within the right-of-way that has been disturbed shall be restored to the condition existing prior to the contractor's operations.

The decision by the Engineer to deny a request by the contractor will be considered to be final.

1001-5 Operations at Source:

1001-5.01 General Requirements:

The contractor shall conduct its operations in such a manner as to preserve available materials in excess of project requirements.

The contractor shall notify the Engineer in advance of operations at the source. Notice shall be given before and after clearing and grubbing, and before and after cleaning up.

1001-5.02 Clearing and Grubbing:

Before beginning stripping, the contractor shall clear and grub the source as necessary to prevent the contamination of materials to be used in the work. Clearing and grubbing shall be in accordance with the requirements of Section 201, except that the resulting surface need not be leveled and vegetable matter need not be separated from any overburden which the Engineer determines to be unsuitable for any future use and which is to be wasted. Clearing and grubbing shall be limited to the area expected to be excavated and areas used for processing and stockpiling.

In the disposal of all tree trunks, stumps, brush, limbs, roots, vegetation and other debris removed, the contractor shall comply with the requirements of the Arizona Revised Statutes Title 49 Chapter 3 – Air Quality; and with the Arizona Administrative Code Title 18 Chapter 2 – Department of Environmental Quality – Air Pollution Control.

Burning will be permitted only after the contractor has obtained a permit from the Arizona Department of Environmental Quality, and from any other Federal, State, County or City Agency that may be involved.

When stripping is required, overburden shall be removed to the extent necessary to remove all undesirable materials and shall, at all times, be kept stripped at least five feet beyond the working face of the area being excavated.

The contractor shall comply with the requirements of the landowner or agency having jurisdiction over the land.

1001-5.03 Extraction of Materials:

Materials shall be removed from the source in a workmanlike manner and, when required, in accordance with the contractor's project-specific Plan of Operation and Restoration. In order to produce acceptable material in the amount and gradation required, it may be necessary for the contractor to do any or all of the following, along with any other similar operations usually associated with the extraction, processing and production of the particular material being produced:

Move materials from one area to another.
Perform additional screening.
Remove, wash and waste material.
Blend materials.

Revise crushing methods.
Remove deleterious materials such as clay balls, roots and sticks.

If the Engineer determines that the material in a source is stratified, all material except borrow shall be removed for the full depth in such a manner as to produce a uniform blend of the material. Placing the material from different areas and depths into a surge pile and removing material from the surge pile by cutting through the pile will be acceptable provided that a uniformly blended material is obtained.

Material sources located in drainage channels such as washes, riverbeds, etc., may experience seasonal variations in the depth of ground water. In order to produce the quantity of material estimated to be available, the contractor may be required to work below the water table.

1001-6 Fences and Cattle Guards:

Where the haul roads to material sources cross existing fence lines in areas where there is livestock of any kind, temporary cattle guards shall be installed by the contractor at each crossing.

The livestock operator or owner shall be contacted prior to the beginning of any operations and effective measures shall be taken and means provided by the contractor to prevent livestock from straying.

In operations where conditions will exist that are dangerous to livestock of any kind, temporary cattle guards and fence shall be installed around the pit area by the contractor to protect livestock.

Temporary cattle guards and fence installed by the contractor shall be removed and existing fence disturbed shall be replaced or reconstructed and all fence shall be left in as good condition as it was prior to the beginning of work.

1001-7 Cleaning Up:

All overburden and other undesirable materials removed and all piles of waste materials resulting from operations in the source shall be handled in accordance with the requirements of the landowner or agency having jurisdiction over the land, the Environmental Analysis, the project-specific Plan of Operation and Restoration, if applicable, and all laws, rules and regulations. All debris shall be removed and disposed of and, if directed, all open test holes shall be filled. Unless otherwise required, the sides of sources shall be sloped and smoothed so that livestock can enter and leave the excavated area safely. Unless otherwise required, all haul roads shall be obliterated and, as far as practicable, the ground left in as good condition as it was prior to hauling.

1001-8 Method of Measurement and Basis of Payment:

Except as may be otherwise specifically provided for in this section or elsewhere, no measurement or direct payment will be made for any costs involved in the procuring of materials. Such costs shall be considered as included in the cost of contract items.

(1003EPOX, 9/08/11)

SECTION 1003 REINFORCING STEEL

1003-1 General Requirements: the first paragraph of the Standard Specifications is revised to read:

Reinforcing steel shall be furnished in the sizes, shapes, and lengths shown on the plans and in conformance with the requirements of the specifications.

Certificates of Compliance conforming to the requirements of Subsection 106.05 shall be submitted for epoxy coated reinforcing bars, as well as uncoated reinforcing bars, wire, and welded wire fabric. In addition, for epoxy coated reinforcing bars, Certificates of Compliance shall be required from the coating manufacturer and Certificates of Analysis shall be required from the coating applicator.

1003-2 Reinforcing Bars: the first paragraph of the Standard Specifications is revised to read:

Except when used for wire ties or spirals, steel bars used as reinforcement in concrete shall be deformed and shall conform to the requirements of ASTM A 615. Unless otherwise specified, steel bars meeting the requirements of ASTM A 706 may be substituted for ASTM A 615 steel bars. When ASTM A 706 bars are used, tack welding of the reinforcement will not be permitted unless approved in writing by the Engineer.

1003-3 Wire: of the Standard Specifications is revised to read:

Steel wire used as spirals or ties for reinforcement in concrete shall conform to the requirements of ASTM A 82.

1003-5.02 Epoxy for Coating: the fifth paragraph of the Standard Specifications is revised to read:

The contractor shall furnish a Certificate of Compliance from the coating manufacturer, conforming to the requirements of Subsection 106.05. The Certificate of Compliance shall properly identify the batch and/or lot number, material, quantity of batch, date of manufacture, name and address of manufacturer, and a statement that the material is the same composition as the initial sample prequalified for use. The certificate shall also state that production bars and prequalification bars have been identically prepared and applied with epoxy powders.

1003-5.03 Application of Coating: the ninth and tenth paragraphs of the Standard Specifications are revised to read:

The contractor shall furnish a Certificate of Analysis from the coating applicator, conforming to the requirements of Subsection 106.05, with each shipment of coated steel. In addition to the requirements of Subsection 106.05, the Certificate of Analysis shall state that the coated items and coating material have been tested in accordance with the requirements of this subsection and that the entire lot is in a fully-cured condition.

The coating applicator shall be responsible for performing quality control and tests. This will include inspection and testing to determine compliance with the requirements of this subsection for the coating thickness, continuity of coating, coating cure, and flexibility of coating.

(1006PCC, 10/03/14)

SECTION 1006 PORTLAND CEMENT CONCRETE

1006-1 General Requirements: the second paragraph of the Standard Specifications is revised to read:

The contractor shall determine the mix proportions and shall furnish concrete which conforms to the requirements of the specifications. All concrete shall be sufficiently workable, at the slump proposed by the contractor within the specified range, to allow proper placement of the concrete without harmful segregation, bleeding, or incomplete consolidation. It shall be the responsibility of the contractor to proportion, mix, place, finish, and cure the concrete properly in accordance with the requirements of the specifications.

1006-2.01 **Hydraulic Cement:** the second through the fifth paragraphs of the Standard Specifications are revised to read:

Portland cement shall conform to the requirements of ASTM C 150 for Type II, III, or V, and shall be low alkali cement containing not more than 0.60 percent total alkali (Na_2O equivalent).

Portland-pozzolan cement shall conform to the requirements of ASTM C 595 for blended hydraulic cement with moderate sulfate resistance, Type IP (MS).

Cementitious material is defined as an inorganic material or a mixture of inorganic materials that sets and develops strength by chemical reaction with water by formation of hydrates and is capable of doing so under water. In this specification, cementitious materials are defined as: hydraulic cement (Portland cement or Portland-pozzolan cement) and supplementary cementitious material (Fly Ash, Natural Pozzolan, or Silica Fume).

Hydraulic cement shall be approved prior to its use in accordance with Materials Policy and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

1006-2.03 (A) **General Requirements:** the second paragraph of the Standard Specifications is hereby deleted:

1006-2.03(A) **General Requirements:** "Lightweight particles" in the table of the ninth paragraph of the Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (See Note)

1006-2.03(B) **Fine Aggregate:** "Lightweight particles" in the table of the second paragraph of the Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (Except that the percent of lightweight particles shall be reported to the nearest 0.01%.)	1.25% (0.25% Max. Coal and Lignite*)

1006-2.03(B) **Fine Aggregate:** the last paragraph of the Standard Specifications is revised to read:

Fine aggregate shall be made into mortar and subjected to testing under AASHTO T 71, except that the mortar shall develop a compressive strength at seven and 28 days of not less than 90 percent of that developed by a mortar prepared in the same manner with the same Type II cement and graded sand conforming to the requirements of ASTM C 778.

1006-2.03(C) **Coarse Aggregate:** "Lightweight particles" in the table of the second paragraph of the Standard Specifications is revised to read:

Lightweight particles (Specific gravity less than 2.0)	AASHTO T 113 (Except that the percent of lightweight particles shall be reported to the nearest 0.01%.)	1.25% (0.25% Max. Coal and Lignite*)

1006-2.04(A) General Requirements: the first paragraph of the Standard Specifications is hereby deleted:

1006-2.04(B) Air-Entraining Admixtures: the first paragraph of the Standard Specifications is revised to read:

Air-entraining admixtures shall conform to the requirements of ASTM C 260.

Air-entraining admixtures shall be approved prior to their use in accordance with Materials Policy and Procedure Directive No. 2, "Certification and Acceptance of Chemical and Air-Entraining Admixtures for Portland Cement Concrete".

1006-2.04(C) Chemical Admixtures: the first paragraph of the Standard Specifications is revised to read:

Chemical admixtures shall conform to the requirements of ASTM C 494.

Chemical admixtures shall be approved prior to their use in accordance with Materials Policy and Procedure Directive No. 2, "Certification and Acceptance of Chemical and Air-Entraining Admixtures for Portland Cement Concrete".

1006-2.04(D) **Supplementary Cementitious Material (Fly Ash, Natural Pozzolan, and Silica Fume):** the first paragraph of the Standard Specifications is revised to read:

Supplementary cementitious materials may be used in addition to hydraulic cement. Supplementary cementitious materials shall be approved prior to their use in accordance with Materials Policy and Procedure Directive No. 13, "Certification and Acceptance of Hydraulic Cement, Fly Ash, Natural Pozzolan, Silica Fume, and Lime".

1006-2.04(D) **Supplementary Cementitious Material (Fly Ash, Natural Pozzolan, and Silica Fume):** the last two paragraphs of the Standard Specifications are revised to read:

When a supplementary cementitious material with a calcium oxide content greater than 15 percent is proposed, the hydraulic cement/supplementary cementitious material blend shall be tested for sulfate expansion in accordance with ASTM C 1012. The maximum expansion shall be 0.10 percent at six months.

When either moderate or high sulfate resistant concrete is specified in the Special Provisions, the proposed hydraulic cement/supplementary cementitious material blend shall be tested for sulfate expansion in accordance with ASTM C 1012. When moderate sulfate resistance is specified, the maximum expansion shall be 0.10 percent at six months. When high sulfate resistance is specified, the maximum expansion shall be 0.05 percent at six months or 0.10 percent at one year.

1006-2.05 **Concrete Curing Materials:** the second paragraph of the Standard Specifications is revised to read:

Acceptance of concrete curing materials shall be as specified in Materials Policy and Procedure Directive No. 3, "Curing Compounds".

1006-3.01 **Design Criteria:** Table 1006-A of the Standard Specifications is revised to read:

TABLE 1006-A

Class of Concrete	Minimum 28-Day Compressive Strength Required: psi (See Note 1)	Cementitious Material Content: Lbs per Cu Yd Minimum - Maximum (See Notes 2, 3, and 4)	Maximum Water/Cementitious Material Ratio (w/cm): Lb./Lb.	Slump Range: Inches
B	2,500	470 – 658	None	(See Note 6)
S or E	2,500	520 – 752	0.55	
	3,000 (See Note 5)			
	3,500			
	4,000			
	4,500 and greater	564 – 752	0.50	
P	4,000	564 – 658	None	0 – 4.5
H	High performance concrete as specified in project special provisions.			

Note 1: Testing for compressive strength of cylinders for all classes of concrete shall be in accordance with the requirements of Arizona Test Method 314.

Note 2: A supplementary cementitious material (fly ash, natural pozzolan, or silica fume) conforming to the requirements of Subsection 1006-2.04(D) may be used, as specified in paragraphs (a) through (f) below.

(a) When Portland cement is used, a maximum of 25 percent, by weight of the cementitious material, may be an approved fly ash or natural pozzolan, except as specified in paragraphs (d), (e), and (f) below.

(b) When Portland-pozzolan cement [Type lP (MS)] is used, fly ash or natural pozzolan is not allowed, except as specified in paragraphs (d), (e), and (f) below.

(c) When silica fume is used, a maximum of 10 percent, by weight of either Portland cement or Portland-pozzolan cement, may be used.

(d) When a compressive strength greater than 4,500 psi is required, supplementary cementitious material may be added in excess of the maximum cementitious material content. Fly ash or natural pozzolan may exceed 25 percent, by weight of the cementitious material, if approved by the Engineer.

(e) When increased sulfate resistance is specified, the required amount of fly ash or natural pozzolan shall be incorporated into the concrete and may exceed 25 percent, by weight of the cementitious material.

(f) For Class S concrete used in bridge decks, a minimum of 20 percent, by weight of the cementitious material, must be an approved Class F fly ash or natural pozzolan, unless otherwise approved by the Engineer.

Note 3: For any concrete mix, other than for precast and/or prestressed bridge members, with a Portland cement content greater than 545 pounds per cubic yard, **one** of the options specified in paragraphs (a) through (e) below for the mitigation of a potential alkali silica reaction (ASR) shall be used:

(a) A minimum of 20 percent Class F fly ash or natural pozzolan, by weight of the cementitious material, shall be used. The Class F fly ash or natural pozzolan shall have a calcium oxide content of 15 percent or less.

(b) Instead of using Portland cement, Type IP (MS) Portland-pozzolan cement with a Class F fly ash or natural pozzolan content of at least 20 percent, by weight of the cementitious material, shall be used. The Class F fly ash or natural pozzolan shall have a calcium oxide content of 15 percent or less.

(c) Limit the total alkali (Na_2O equivalent) to a maximum of 3.00 pounds per cubic yard of concrete, when calculated as follows:

$$\begin{bmatrix}\text{Pounds of total}\\ \text{alkali per cubic}\\ \text{yard of concrete}\end{bmatrix} = \frac{\begin{bmatrix}\text{Pounds of Portland}\\ \text{cement per cubic}\\ \text{yard of concrete}\end{bmatrix} \times \begin{bmatrix}Na_2O\text{ equivalent (\%)}\\ \text{in Portand cement}\end{bmatrix}}{100}$$

(d) Introduce a lithium nitrate admixture, which has been approved by the Engineer, at a minimum dosage of 0.55 gallons of 30 percent lithium nitrate solution per pound of total alkali (Na_2O equivalent) per cubic yard of concrete. The required amount of lithium nitrate is calculated as follows:

$$\begin{bmatrix}\text{Required gallons}\\ \text{of 30 percent}\\ \text{lithium nitrate}\\ \text{solution}\end{bmatrix} = \frac{\begin{bmatrix}\text{Pounds of}\\ \text{Portland cement}\\ \text{per cubic yard}\\ \text{of concrete}\end{bmatrix} \times \begin{bmatrix}Na_2O\text{ equivalent (\%)}\\ \text{in Portand cement}\end{bmatrix}}{100} \times [0.55]$$

(e) The coarse aggregate and the fine aggregate shall be tested separately in accordance with ASTM C 1260 to determine the potential for alkali silica reaction (ASR). When aggregates show the potential for ASR, as indicated by expansions of 0.10% or greater at 16 days after casting, sufficient mitigation for the expansion shall be determined in accordance with ASTM C 1567. The use of fly ash or natural pozzolan may exceed 25 percent, by weight of the cementitious material.

Note 4: Unless otherwise specified, the cementitious material content shall be as shown.

Note 5: Unless otherwise shown on the plans.

Note 6: The proposed slump shall be chosen by the contractor. Concrete at the proposed slump shall be sufficiently workable to allow proper placement without harmful segregation, bleeding, or incomplete consolidation.

1006-3.01 **Design Criteria:** the second and third paragraphs of the Standard Specifications are revised to read:

Air-entraining admixtures will be required for all classes of concrete placed at an elevation of 3,000 feet or above. The air content of the concrete mixture shall not be less than four percent nor more than seven percent by volume. However, no air-entrainment will be required for minor precast structures, precast pipe, and precast, prestressed structural members supporting a concrete deck slab or impervious overlay. Also, no air-entrainment will be required for any precast items constructed using the dry pack or no-slump method.

For elevations below 3,000 feet, air-entraining admixtures may be used at the option of the contractor. If air-entraining admixtures are used, the air content of the concrete mixture shall not exceed seven percent by volume.

1006-3.01 **Design Criteria:** the first sentence of the seventh paragraph of the Standard Specifications is revised to read:

Coarse aggregate for Class P concrete used to construct Portland cement concrete pavement without load transfer dowels shall be separated into two or more stockpiles.

1006-3.02 **Design Procedures:** the first sentence in the first paragraph of the Standard Specifications are revised to read:

At least two weeks prior to the appropriate concreting operation, the contractor shall furnish a mix design for each class of concrete and each strength of Class S and Class E concrete for review and approval by the Engineer and Arizona Department of Water Resources representative.

1006-3.02 **Design Procedures:** the last two sentences in the first paragraph of the Standard Specifications are revised to read:

Mix designs, for other than precast or prestressed concrete, shall be prepared by or under the direction of, and signed by, a registered professional engineer, a NICET Level III or higher certified technician in the concrete subfield, a NRMCA Level 3 Certified Concrete Technologist, or an ACI certified Concrete Laboratory Testing Technician Level 2 or Grade II. Mix designs for precast or prestressed concrete shall be prepared by or under the direct supervision of, and signed by, either one of the individuals listed above or a PCI Quality Control

Technician/Inspector Level II or higher. Individuals preparing and submitting mix designs shall have experience in the development of mix designs and mix design testing for the respective type of concrete.

1006-3.02 **Design Procedures:** the second and third paragraphs of the Standard Specifications are revised to read:

The complete solid volume mix designs submitted for approval shall include all weights and volumes of all ingredients. The brand, type, and source of hydraulic cement and admixtures, the coarse aggregate size number designation, source of aggregates, the specific gravities of all ingredients, the proposed slump, the water/cementitious material ratio, a product code to identify the mix design, and the intended use of each mix design shall be an integral part of each mix design.

The use of new and previously used mix designs, and the requirements for trial batches, will be as required by Materials Policy and Procedure Directive No. 15, "Submittal and Approval of Portland Cement Concrete Mix Designs".

1006-4.01 **General Requirements:** the second sentence of the second paragraph of the Standard Specifications is revised to read:

The minimum information to be shown on each delivery ticket shall be the date, time batched, truck identification number, name or identification of batch plant, name of contractor, name and location of project, the quantity of concrete, the batch weights or mix design product code, the amount of permissible additional water to meet the design water/cementitious material ratio, and the number of revolutions that the concrete has been mixed at mixing speed in a truck mixer.

1006-4.03(C) **Mixing in Truck Mixers:** the first sentence of the last paragraph of the Standard Specifications is revised to read:

If additional mixing water is required to maintain the mix design water/cementitious material ratio, the concrete shall be mixed by a minimum of 30 revolutions of the drum at mixing speed after the water has been added, prior to discharge of any concrete for placement.

1006-5 **Weather Limitations:** the title of the Standard Specifications is revised to read:

1006-5 **Concrete Temperature and Weather Limitations:**

1006-5.01 **General Requirements:** the first paragraph of the Standard Specifications is revised to read:

The temperature of the concrete mixture immediately before placement shall not be less than 50 degrees F nor greater than 90 degrees F. Concrete that fails to conform to this temperature requirement shall be rejected prior to placement.

Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to cause a flow or wash of the concrete surface or have a detrimental effect on the finished concrete and acceptance parameters.

1006-5.02 **Hot Weather Concreting:** of the Standard Specifications is revised to read:

Forms, subgrade, and reinforcing steel shall be sprinkled with cool water just prior to the placement of concrete.

Mix water may be cooled by refrigeration, liquid nitrogen, or well-crushed ice of a size that will melt completely during the mixing operation. If crushed ice is used, it shall be substituted for part of the mix water on a pound for pound basis.

1006-5.03 **Cold Weather Concreting:** of the Standard Specifications is revised to read:

Concrete shall not be placed on or against ice-coated forms, reinforcing steel, structural steel, conduits or construction joints, nor on or against snow, ice, or frozen earth materials.

Concrete operations shall be discontinued when a descending ambient temperature in the shade and away from artificial heat falls below 40 degrees F nor shall concrete operations be resumed until an ascending ambient temperature in the shade and away from artificial heat reaches 35 degrees F unless otherwise approved by the Engineer.

Mixing and placing concrete shall continue no later in any day than that time which will allow sufficient time to place and protect the concrete already poured before the ambient temperature drops to 35 degrees F.

Concrete shall be protected in a manner to maintain all concrete surface temperatures at not less than 50 degrees F for a period of 72 hours after placement and at not less than 40 degrees F for an additional 96 hours.

The contractor may use equipment to heat the aggregates or water, or both, prior to mixing. If aggregates are heated, the minimum temperature of the heated aggregate shall be 60 degrees F and the aggregates shall have no chunks of ice or frozen aggregate present. Equipment used to heat the aggregates shall be such that consistent temperatures are obtained throughout the aggregate within each batch and from one batch to another. Water shall not be heated in excess of 150 degrees F unless the water is mixed with the aggregate prior to the addition of cement to the batch. During the heating or mixing process, cement shall not be added to water and aggregate combinations which exceed 100 degrees F.

When weather forecasts indicate a probability that ambient temperatures will fall below 35 degrees F during the placement or curing periods, the contractor shall submit a cold weather concreting plan to the Engineer for approval prior to concrete placement. The cold weather concreting plan shall detail methods and equipment which will be used to ensure that the required concrete temperatures are maintained. The contractor shall provide adequate cold weather protection in the form of insulation and/or heated enclosures to protect the concrete after placement. For bridge decks and suspended structures, the cold weather concreting plan shall include protection measures for both the top and bottom surfaces of the concrete. This protection shall maintain concrete surface temperatures as specified above at all locations in the structure. When artificial heating is required, the heating units shall not locally heat or dry the surface of the concrete.

When a cold weather concreting plan is required, the Engineer may require concrete temperatures to be measured and continuously recorded by the use of temperature sensing devices during the entire curing period. The contractor shall provide the temperature sensing devices and recording instruments. The contractor shall install temperature sensing devices near the surface of the concrete at locations and depths designated by the Engineer. When concrete is placed on a bridge deck or suspended structure, both the bottom surface and the top surface shall be monitored with temperature sensing devices. Temperature sensing devices and recording instruments shall be approved by the Engineer. The contractor shall continuously monitor the concrete temperature and provide the recorded data to the Engineer at any time upon request.

If the surface concrete temperature at any location in the structure falls below 35 degrees F during the curing period, the Engineer may direct the contractor to core the areas in question at the locations indicated by the Engineer. The contractor shall submit the cores to a petrographer for examination in accordance with ASTM C 856. Concrete damaged by frost, as determined by the petrographer, shall be removed and replaced at no

additional cost to the Department. All costs associated with coring, transmittal of cores, and petrographic examination shall be born by the contractor regardless of the outcome of the petrographic examination.
The placing of concrete will not be permitted until the Engineer is satisfied that all the necessary protection equipment and materials are on hand at the site and in satisfactory working condition.

Concrete requiring cold weather protection shall have such protection removed at the end of the required curing period in such a manner that will permit a gradual drop in the concrete temperatures.

1006-7.02 Sampling and Testing of Concrete: of the Standard Specifications is modified to add:

If approved by the Engineer, and unless otherwise specified, Arizona Test Method 318 may be used to estimate concrete strength by the maturity method. The maturity method shall not substitute for compressive strength acceptance testing (28-day test cylinder breaks). The contractor shall submit a written request to the Engineer prior to using the maturity method. If its use is approved by the Engineer, the contractor shall be responsible to develop the strength-maturity relationship and shall also be responsible to provide the maturity meter(s) and digital data loggers necessary, as well as performing all required testing, all at no additional cost to the Department.

1006-7.03(A) Class S and Class B Concrete: of the Standard Specifications is revised to read:

For Class S concrete with a compressive strength requirement less than 4000 psi, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken on a daily basis for each 100 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant. For Class S concrete with a compressive strength requirement equal to or greater than 4000 psi, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken on a daily basis for each 50 cubic yards, or fraction thereof, of continuously placed concrete from each batch plant. For Class B concrete, a sample of concrete for the required tests, as specified in Subsection 1006-7.02, will be taken for each 100 cubic yards placed from each batch plant. For Class S or Class B concrete placed at elevations of 3,000 feet or above, air content testing shall be performed for each 50 cubic yards placed, regardless of the compressive strength requirement. An additional sample or samples for any of the required tests may be taken at an interval of less than the sampling frequency specified above, at the discretion of the Engineer, on any batch or load of concrete. A sample for the required tests on daily placements of 10 cubic yards or less may be taken at the discretion of the Engineer.

1006-7.06(A) Class P Concrete: the fourth sentence of the second paragraph of the Standard Specifications is revised to read:

Cores must be obtained under the observation of an ADOT representative and delivered to the Engineer in time to allow complete testing within 48 days of placement. Testing shall be performed by the Department.

1006-7.06(B) Class S and Class B Concrete: the third sentence of the last paragraph of the Standard Specifications is revised to read:

All cores shall be obtained and tested in accordance with the requirements of Arizona Test Method 317. Testing shall be performed by the Department.

1006-7.06(C) Class E Concrete: the fourth sentence of the second paragraph of the Standard Specifications is revised to read:

Cores must be obtained under the observation of an ADOT representative and delivered to the Engineer in time to allow complete testing within 48 days of placement. Testing shall be performed by the Department.

SECTION 1007 RETROREFLECTIVE SHEETING

1007-1 General Requirements: the last two sentences of the first paragraph of the ADOT Standard Specifications are revised to read:

Sheeting shall conform to criteria listed in the most current version of ASTM D 4956 for the applicable type and class, unless otherwise specified.

1007-2 Material Types: of the ADOT Standard Specifications is revised to read:

Sheeting for permanent warning signs, regulatory signs, and overhead-mounted guide signs, including all sign legends and borders, shall be ASTM Type XI.

Sheeting for all warning signs with yellow backgrounds shall be Type XI fluorescent retroreflective yellow.

Sheeting for information signs, ground-mounted guide signs, and marker signs, including all sign legends and borders, shall be ASTM Type IX or XI.

Sheeting for permanent object markers and delineators on a rigid substrate with yellow backgrounds, including guardrail end treatments, guardrail markers, rigid delineators, and impact attenuators, shall be Type XI fluorescent retroreflective yellow.

Sheeting for permanent object markers and delineators on a rigid substrate in colors other than yellow, including guardrail end treatments, guardrail markers, rigid delineators, and impact attenuators, shall be ASTM Type IX or XI.

Sheeting for object markers and delineators on a flexible or plastic substrate, including flexible delineators and sand barrels, shall be ASTM Type VIII, IX or XI.

For temporary regulatory and guide signs on a rigid substrate with fluorescent retroreflective orange sheeting, ASTM sheeting Types VIII, IX, or XI shall be used.

For temporary regulatory and guide signs on a rigid substrate in colors other than fluorescent retroreflective orange, ASTM sheeting Types IV, VIII, IX, or XI shall be used.

For retroreflective orange temporary signs on a flexible or roll-up substrate, ASTM Type VI sheeting shall be used.

All temporary signs (rigid, flexible, or roll-up) with orange backgrounds shall use fluorescent retroreflective orange sheeting, except that non-reflective sign materials may be used for temporary signs where the signs will be clearly visible under available natural light.

For barricades and other temporary channelizing devices, ASTM sheeting Types IV, VIII, IX, or XI shall be used.

Sheeting for Adopt-A-Highway signs shall be ASTM Type I, IV, or XI.

Logo signs shall be ASTM Type I, IX, or XI.

When more than one sheeting type is allowed, the contractor may use any of the types listed, provided that materials used for a particular application shall be of the same ASTM type, manufacturer, and product for all signs of the same type in the project.

Opaque films used with sheeting shall be acrylic type films.

Direct-applied and demountable black characters shall be non-reflective.

1007-3 Visual Appearance, Luminance and Color Requirements: of the ADOT Standard Specifications is revised to read:

Except as specified herein, the color of the sheeting, ink or film shall conform to the ADOT Manual of Approved Signs, the Manual on Uniform Traffic Control Devices (MUTCD), and the plans.

All sheeting, inks and film used shall be uniformly colored so there is no visual variation in their appearance on the same sign or from sign to sign of the same colors.

Standard colors specified for sheeting, processing inks, and films shall, as applicable, match visually and be within the color tolerance limits required by Highway Tolerance Charts issued by the Federal Highway Administration. Additionally, for the retroreflective sheeting, unless otherwise noted, the Luminance Factor (Daytime Luminance) and Color Specification Limits (Daytime) shall conform to the applicable requirements of ASTM D 4956.

In addition to the luminance and color requirements, fluorescent orange sheeting and fluorescent yellow sheeting shall have the capacity to effectively fluoresce outdoors under low light conditions. For all applications requiring fluorescent orange sheeting or fluorescent yellow sheeting, the contractor shall provide a letter to the Engineer from the manufacturer certifying that the sheeting to be used is fluorescent.

1007-6 Adhesive: the first paragraph of the ADOT Standard Specifications is revised to read:

Reflective sheeting and film adhesives shall be Class I as specified in ASTM D 4956 and as modified herein.

1007-6 Adhesive: the third paragraph of the ADOT Standard Specifications is hereby deleted:

1007-8 Durability Requirements: the second and third paragraphs of the ADOT Standard Specifications are revised to read:

Sheeting shall be weather-tested as specified above in Subsection 1007-7. Sheeting weather-testing periods and durability ratings shall be as specified in Table 1007-8. In all cases, the related inks and films shall be tested along with the respective sheeting, and shall be subject to the same durability requirements as the sheeting.

TABLE 1007-8

ASTM Sheeting Type	Color	Weather-testing period, months	Durability rating, years
XI	Fluorescent yellow	42	7
XI	Fluorescent orange	18	3
XI	All other colors	60	10
IX	Fluorescent orange	18	3
IX	All other colors	60	10
VIII	Fluorescent orange	18	3

VIII	All other colors	30	5
VI	Fluorescent orange	18	3
IV	All colors	30	5
I	All colors	30	5

(1012GRDRL, 10/30/08)

SECTION 1012 GUARDRAIL MATERIALS

1012-2 Fasteners, Elements, Posts and Blocks: the title and first paragraph of the Standard Specifications are revised to read:

1012-2 Fasteners, Rail Elements, Posts and Blocks:

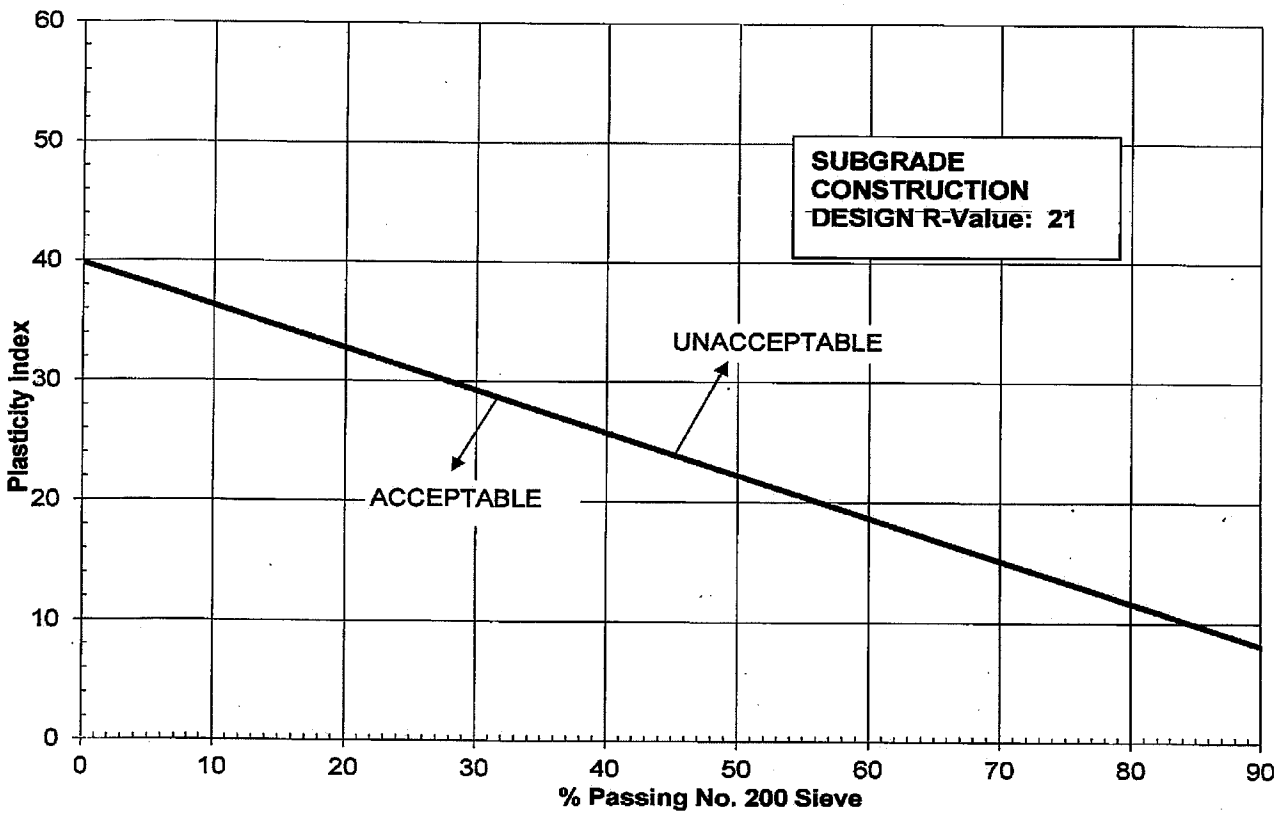
Guardrail fasteners, rail elements, posts, blocks, and other components shall conform to the requirements of ARTBA. Rail elements shall be galvanized after fabrication, with fabrication to include forming, cutting, shearing, punching, drilling, bending, welding, and riveting.

APPENDIX B

SUBGRADE ACCEPTANCE CHART

SUBGRADE ACCEPTANCE CHART

Entire Project



Dibble Engineering

DIBBLE PROJECT NO 101434

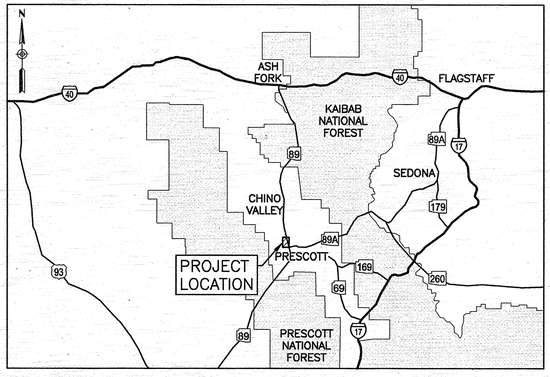
CITY OF PRESCOTT ARIZONA
Everybody's Hometown

WILLOW CREEK ROAD REALIGNMENT

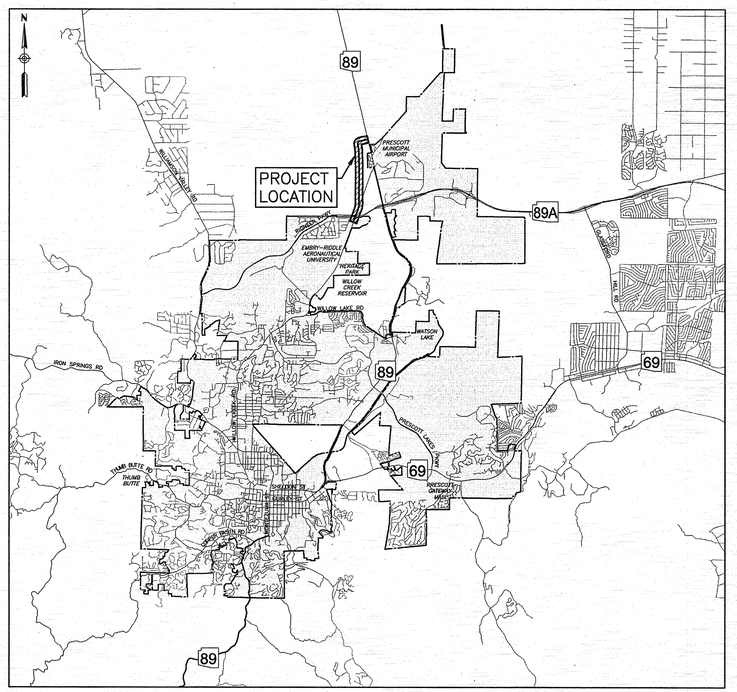
PIONEER PARKWAY TO DEEP WELL RANCH ROAD / STATE ROUTE 89

CITY OF PRESCOTT PROJECT NO CIP13-030

SEPTEMBER 16, 2015



LOCATION MAP
SCALE: NTS



VICINITY MAP
SEC 2, T14N R2W
SEC 26 & 35, T15N R2W
YAVAPAI COUNTY, ARIZONA
SCALE: NTS

CITY OFFICIALS

MAYOR
MARLIN KUYKENDALL

COUNCIL MEMBERS
GREG LAZZELL
STEVE BLAIR
CHRIS KUKNYO
JIM LAMERSON
CHARLIE ARNOLD
JEAN WILCOX

CITY MANAGER
CRAIG MCCONNELL

CITY CLERK
DANA DELONG

OWNER:

CITY OF PRESCOTT
PUBLIC WORKS DEPARTMENT
433 NORTH VIRGINIA STREET
PRESCOTT, ARIZONA 86301
PH: (928) 777–1130
www.prescott–az.gov

ENGINEER:

DIBBLE ENGINEERING
7500 NORTH DREAMY DRAW DRIVE
SUITE 200
PHOENIX, ARIZONA 85020
PH: (602) 957–1155
FAX: (602) 957–2838
www.dibblecorp.com

BENCHMARK / SURVEY DATUM:

UNITS:
INTERNATIONAL FEET

HORIZONTAL DATUM:
NAD83, ARIZONA CENTRAL ZONE, CITY OF PRESCOTT GRID

GEOID MODEL:
GEOID99 (CONUS)

VERTICAL DATUM:
NAVD88

AS-BUILT CERTIFICATION:

I CERTIFY THAT THE "RECORD DRAWING" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF

NAME _____(SEAL)

REGISTRATION NO. _____ DATE_____

EXPIRATION DATE: _____

THE INFORMATION SHOWN ON THIS RECORD DRAWING HAS BEEN PREPARED FROM INFORMATION PROVIDED BY THE CONTRACTOR. THE ENGINEER SHALL NOT BE LIABLE FROM ANY ERROR AND/OR OMISSIONS RESULTING FROM THE USE OF RECORD DRAWINGS SHOWN HEREIN.

UTILITY COORDINATION:

UTILITY COMPANY	REPRESENTATIVE	TELEPHONE NUMBER	DATE SENT
ARIZONA DEPARTMENT OF TRANSPORTATION	RANDY BLAKE	(928) 777–5873	9/10/15
ARIZONA PUBLIC SERVICE	MIKE SHAW	(928) 776–3617	9/10/15
CABLE ONE COMMUNICATIONS	JOHNNY CEDILLO	(928) 443–3348	9/10/15
CENTURYLINK	KAREN PRUTZMAN	(928) 634–7556	9/10/15
CITY OF PRESCOTT	BRUCE CANAVAN	(928) 777–1130	9/3/15
UNISOURCE ENERGY SERVICES	SARA SCOTT	(928) 771–7229	9/10/15
EMBRY–RIDDLE AERONAUTICAL UNIVERSITY	DAVID HALL	(928) 777–3990	11/2/14

APPROVALS:

THE CITY OF PRESCOTT ACCEPTS THESE PLANS FOR CONSTRUCTION, AS BEING IN GENERAL COMPLIANCE WITH PLAN PREPARATION REQUIREMENTS OF THE CITY. RESPONSIBILITY FOR THE COMPLETENESS AND ACCURACY OF THE PLANS AND RELATED DESIGN RESIDES WITH THE ENGINEER AND THE ENGINEERING FIRM OF RECORD.

Charles Andrews — 9/16/15
CITY ENGINEER — DATE

Charles Andrews — 9/16/15
CITY UTILITIES MANAGER — DATE

9-16-15
PROGRAM DEVELOPMENT MANAGER — DATE

YAVAPAI COUNTY DEVELOPMENT SERVICES PERMIT NUMBER

SHEET INDEX:

DRAWING NO	SHEET NO	DESCRIPTION
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E7–E13	112–118	EROSION & SEDIMENT CONTROL DETAILS

Call at least two full working days before you begin excavation.
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Arizona Blue Stake, Inc.
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In Maricopa County: (602) 263-1100

STANDARD ABBREVIATIONS & LEGEND

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABAND	ABANDONED
ABC	AGGREGATE BASE COURSE
AC	ACRES
AC	ASPHALT CONCRETE
ACFC	ASPHALT CONCRETE FRICTION COURSE
ACI	AMERICAN CONCRETE INSTITUTE
ACP	ASBESTOS CEMENT PIPE
ACSC	ASPHALT CONCRETE SURFACE COURSE
ADA	AMERICANS WITH DISABILITIES ACT
ADOT	ARIZONA DEPARTMENT OF TRANSPORTATION
AHD	AHEAD
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
APS	ARIZONA PUBLIC SERVICE
ASLD	ARIZONA STATE LAND DEPARTMENT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AVE	AVENUE
B/C	BACK OF CURB
BC	BRASS CAP
BCF	BRASS CAP FLUSH
BCHH	BRASS CAP IN HANDHOLE
BCR	BEGIN CURB RETURN
BID SCH	BID SCHEDULE
BK	BACK
BKFL	BACKFILL
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCHMARK
BOT	BOTTOM
C	CONCRETE ELEVATION
C	CONDUIT
C&G	CURB AND GUTTER
CAP	CORRUGATED ALUMINUM PIPE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CIP	CAST IRON PIPE
CIP	CAST IN PLACE
CIPP	CURED IN PLACE PIPE
CK	CHECKED
℄	CENTERLINE
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE
CMEP	CORRUGATED METAL ELLIPTICAL PIPE
CO	CLEAN OUT
COMM	COMMUNICATION
CONC	CONCRETE
CONST	CONSTRUCTION
COP	CITY OF PRESCOTT
COR	CORNER
CORR	CORRECTION
CSP	CORRUGATED STEEL PIPE
CTB	CEMENT TREATED BASE
D/W	DRIVEWAY
DB	DUCT BANK
DES	DESIGN
DET	DETAIL
DG	DECOMPOSED GRANITE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DR	DRIVE
DRN	DRAWN
DRNG	DRAINAGE
DWG	DRAWING
E	EAST, EASTING
E/P	EDGE OF PAVEMENT
EA	EACH
EB	ELECTRIC PULLBOX
ECR	END CURB RETURN
EGL	ENERGY GRADE LINE
EL	ELEVATION
ELEC	ELECTRIC
ESMT	EASEMENT
EVAC	EAST VALLEY ASPHALT COMMITTEE
EXST	EXISTING
F	FAX NUMBER
F/C	FACE OF CURB
FF	FINISH FLOOR ELEVATION
FG	FINISH GRADE ELEVATION
FH	FIRE HYDRANT
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FL	FIRE LINE
FL	FLOWLINE
FL	FLANGE
FND	FOUND
FO	FIBER OPTIC
FT	FOOT OR FEET
G	GUTTER ELEVATION
G	GAS
GAF	GRID ADJUSTMENT FACTOR
GB	GRADE BREAK
GM	GAS METER
GND	GROUND
GV	GAS VALVE
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HDWL	HEADWALL
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HGL	HYDRAULIC GRADE LINE
HP	HIGH PRESSURE
HW	HIGH WATER
HWY	HIGHWAY
ID	INSIDE DIAMETER
INV	INVERT
IRR	IRRIGATION
ISD	INTERSECTION SIGHT DISTANCE
IV	IRRIGATION VALVE
K	VERTICAL CURVE COEFFICIENT

L	LENGTH OF CURVE
LF	LINEAR FEET
LS	LUMP SUM
LT	LEFT
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MAX	MAXIMUM
MB	MAILBOX
ME	MATCH EXISTING
MH	MANHOLE
MI	MILES
MIN	MINIMUM
MJ	MECHANICAL JOINT
M	MONUMENT LINE
MOD	MODIFIED
MPH	MILES PER HOUR
N	NORTH, NORTHING
NC	NORMAL CROWN
NE	NORTHEAST
NO	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NPI	NON-PAY ITEM
NSF	NATIONAL SANITATION FOUNDATION
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE
P	PAVEMENT ELEVATION
P	PHONE NUMBER
PB	PULLBOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PE	POLYETHYLENE PIPE
PED	TELEPHONE PEDESTAL
PGL	PROFILE GRADE LINE
PH#	POTHOLE NUMBER
PI	POINT OF INTERSECTION
PIP	PROTECT IN PLACE
ℙ	PROPERTY LINE
PLSS	PUBLIC LAND SURVEY SYSTEM
POC	POINT ON CURVE
POT	POINT ON TANGENT
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PROP	PROPOSED
PS	PAVEMENT SECTION
PSD	PASSING SIGHT DISTANCE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PT	POINT
PUE	PUBLIC UTILITY EASEMENT
PVC	POLY VINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
PVMT	PAVEMENT
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
R	RADIUS
R	RANGE
R/W	RIGHT-OF-WAY
RCBC	REINFORCED CONCRETE BOX CULVERT
RCP	REINFORCED CONCRETE PIPE
RCAP	REINFORCED CONCRETE ARCH PIPE
RD	ROAD
RDWY	ROADWAY
RELOC	RELOCATE
RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE
RR	RAILROAD
RT	RIGHT
S	SLOPE
S	SOUTH
S/W	SIDEWALK
SD	STORM DRAIN
SE	SOUTHEAST
SEC	SECTION
SF	SQUARE FOOT
SG	SUBGRADE ELEVATION
SHLDR	SHOULDER
SHT	SHEET
SPEC	SPECIFICATIONS
SRP	SALT RIVER PROJECT
SS	SANITARY SEWER
SSD	STOPPING SIGHT DISTANCE
ST	STREET
STA	STATION
STD	STANDARD
STL	STEEL
SW	SOUTHWEST
SWG	SOUTHWEST GAS COMPANY
SY	SQUARE YARD
T	TOWNSHIP
T	TANGENT LENGTH
T/W	TOP OF WALL
TBD	TO BE DETERMINED
TBM	TEMPORARY BENCHMARK
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEL	TELEPHONE
TEMP	TEMPORARY
TN	TOP OF NUT
TOE	TOE OF EMBANKMENT
TOP	TOP
TRAN	TRANSITE PIPE
TS	TRAFFIC SIGNAL
TYP	TYPICAL
UNK	UNKNOWN
UPRR	UNION PACIFIC RAILROAD

V	VERTICAL
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VEH/DAY	VEHICLES PER DAY
VG	VALLEY GUTTER
VNAE	VEHICULAR NON ACCESS EASEMENT
W	WEST
W	WATER
W/	WITH
W/O	WITHOUT
WM	WATER METER
WSE	WATER SURFACE ELEVATION
WV	WATER VALVE
XFMR	TRANSFORMER
YAG	YAVAPAI ASSOCIATION OF GOVERNMENTS
YCPWD	YAVAPAI COUNTY PUBLIC WORKS DEPARTMENT

EXISTING

- BENCHMARK
- BRASS CAP FLUSH
- BRASS CAP IN HANDHOLE
- BACKFLOW PREVENTER
- CACTUS
- DRYWELL
- FIRE HYDRANT
- FIRE DEPT CONNECTION
- FLAG POLE
- GATE
- GRATE
- GUY WIRE
- HEADWALL
- MAILBOX
- MANHOLE (TYPE NOTED)
- METER (TYPE NOTED)
- PEDESTAL (TYPE NOTED)
- PULLBOX (TYPE NOTED)
- RIPRAP
- ROCK
- SHRUB
- SIGN
- STREET LIGHT
- TREE
- UTILITY POLE
- VALVE (TYPE NOTED)
- BUILDING SETBACK
- DISTRICT BOUNDARY OR CITY LIMITS
- EASEMENT
- FOREST BOUNDARY LINE
- MID-SECTION
- PROPERTY LINE
- RIGHT-OF-WAY
- SECTION
- CHANNEL
- CURB & GUTTER
- EDGE OF PAVEMENT
- TEMPORARY FENCE
- FENCE WIRE
- FENCE CHAINLINK
- FLOWLINE
- GUARDRAIL
- MASONRY WALL/RETAINING WALL
- MAJOR CONTOUR
- MINOR CONTOUR
- RAILROAD
- SINGLE CURB
- SIDEWALK

NEW

- BENCHMARK
- BRASS CAP FLUSH
- BRASS CAP IN HANDHOLE
- BACKFLOW PREVENTER
- BORING LOCATION
- CACTUS
- DRYWELL
- FIRE HYDRANT
- FIRE DEPT CONNECTION
- FLAG POLE
- GATE
- HEADWALL
- MAILBOX
- MANHOLE
- METER
- PIPE END SECTION
- PIPE PLUG
- POTHOLE LOCATION
- PROPERTY CORNER
- PULLBOX
- REINFORCED CONCRETE BOX CULVERT
- RIPRAP
- ROCK
- SHRUB
- SIGN
- STREET LIGHT
- TREE
- UTILITY POLE
- VALVE
- BUILDING SETBACK
- CENTERLINE
- EASEMENT
- LIMITS OF CONSTRUCTION
- RIGHT-OF-WAY
- BASE FLOOD ELEVATION
- CHANNEL
- CURB & GUTTER
- DAYLIGHT LINE, CUT
- DAYLIGHT LINE, FILL
- EDGE OF PAVEMENT
- FENCE WOOD
- FENCE WIRE
- FENCE CHAINLINK
- FLOWLINE
- GUARDRAIL
- MASONRY WALL/RETAINING WALL
- MAJOR CONTOUR
- MINOR CONTOUR
- SIDEWALK
- SINGLE CURB

EXISTING

- CABLE TV
- COMMUNICATION
- ELECTRIC (UNDERGROUND)
- ELECTRIC (OVERHEAD)
- FIBER OPTIC
- FIRE LINE
- GAS
- IRRIGATION LINE 18" OR SMALLER
- IRRIGATION LINE 21" OR LARGER
- RECLAIMED WATER 18" OR SMALLER
- RECLAIMED WATER 21" OR LARGER
- TELEPHONE
- SEWER LINE 18" OR SMALLER
- SEWER LINE 21" OR LARGER
- STORM DRAIN 18" OR SMALLER
- STORM DRAIN 21" OR LARGER
- WATER LINE 18" OR SMALLER
- WATER LINE 21" OR LARGER

NEW

- STORM DRAIN/PIPE CULVERT
- UTILITY LINE
- GUARD RAIL
- PAVEMENT SECTION 1
- PAVEMENT SECTION 2
- PAVEMENT SECTION 3
- PAVEMENT SECTION 4
- PAVEMENT SECTION 5
- POINT OF VERTICAL INTERSECTION
- POINT OF HORIZONTAL INTERSECTION & POINT ON VERTICAL TANGENT/CURVE

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 (Blue Stake, Inc.) Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
1			

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ABBREVIATIONS & LEGEND

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			G2	2 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-G2.DWG Sep. 17, 2015 11:46 AM

CITY OF PRESCOTT GENERAL NOTES (REVISED 05/15):

1. ALL CONSTRUCTION SHALL CONFORM TO MARICOPA ASSOCIATION OF GOVERNMENTS (MAG), & CITY OF PRESCOTT (COP) CONSTRUCTION STANDARDS & SPECIFICATIONS. LATEST REVISIONS, UNLESS SPECIFICALLY APPROVED BY THE CITY.
2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN COPIES OF MAG AND CITY OF PRESCOTT STANDARDS AND SPECIFICATIONS AS WELL AS ALL OTHER STANDARDS AND SPECIFICATIONS NECESSARY TO COMPLETELY AND ACCURATELY INTERPRET THESE PLANS.
3. ALL PLANS SIGNED BY THE CITY ENGINEER ARE NULL AND VOID ONE YEAR FROM DATE OF SIGNATURE IF CONSTRUCTION HAS NOT STARTED. RESUBMITTAL AND REVIEW SHALL BE REQUIRED, AFTER ONE YEAR.
4. ALL QUANTITIES SHOWN ON THE PLANS ARE APPROXIMATE, ARE NOT VERIFIED BY THE PUBLIC WORKS DIRECTOR, AND ARE FURNISHED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. THEY DO NOT NECESSARILY CORRESPOND TO BID SCHEDULE ITEMS. PAYMENT SHALL BE BASED ON BID SCHEDULE ITEMS FOR ACTUAL QUANTITIES PROVIDED AND INSTALLED. THE CONTRACTOR SHALL NOT BE RELIEVED OF HIS RESPONSIBILITY FOR INDEPENDENTLY ESTIMATING WORK QUANTITIES PRIOR TO BIDDING.
5. CITY OF PRESCOTT PUBLIC WORKS DEPARTMENT PERMIT(S) WILL BE REQUIRED FOR ALL OFF–SITE CONSTRUCTION AND CONSTRUCTION WITHIN THE PUBLIC RIGHT OF WAY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN, AT HIS OWN EXPENSE, SUCH PERMITS AS ARE REQUIRED FROM THE APPROPRIATE AGENCIES.
6. THE PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO BEGINNING ANY CONSTRUCTION IN THE PUBLIC RIGHT OF WAY.
7. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE AND APPROVAL OF THE PUBLIC WORKS DIRECTOR AND/OR ALL WORK MATERIALS NOT IN CONFORMATION WITH THE PLANS AND SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. A THOROUGH ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ALL UNDERGROUND OBSTRUCTIONS AND UTILITY LINES IN THE WORK AREA. THE ENGINEER AND THE CITY OF PRESCOTT WILL NOT GUARANTEE ANY LOCATIONS OR ELEVATIONS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR MAKING A COMPLETE AND ACCURATE ON–SITE DETERMINATION OF THE LOCATIONS, MATERIAL AND SIZE OF ALL UTILITIES, STRUCTURES, AND FIELD CONDITIONS WHICH MAY AFFECT THE PROGRESS OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO STRUCTURES AND UTILITIES ENCOUNTERED DURING CONSTRUCTION AND SHALL FIELD EXPOSE EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING IN THEIR VICINITY.
9. THE CONTRACTOR IS REQUIRED TO CONTACT BLUE STAKE (1–800–STAKEIT) A MINIMUM OF TWO WORKING DAYS (48) HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE APPROPRIATE UTILITY COMPANIES SHALL BE NOTIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE RELOCATION AND/OR SUPPORT OF ALL UTILITIES, POWER POLES, ETC., THAT MAY BE NECESSARY.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL, TRAFFIC CONTROL PLANS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL DETERMINE AND SUBMIT FOR APPROVAL THE EXACT SIGNING/TRAFFIC CONTROL DEVICES NECESSARY AND ALL TRAFFIC CONTROL WORK SHALL BE IN ACCORDANCE WITH THE MOST RECENTLY ADOPTED EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. NO STREET IS TO BE CLOSED, RESTRICTED, OR CONSTRUCTED UPON UNTIL A TRAFFIC CONTROL PLAN IS PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE PUBLIC WORKS DIRECTOR ONE WEEK IN ADVANCE FOR REVIEW AND APPROVAL.
12. APPROPRIATE EMERGENCY AGENCIES AND DEPARTMENTS SHALL BE NOTIFIED A MINIMUM OF 72 HOURS PRIOR TO ANY CLOSING OF STREETS.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SURVEYING AND LAYOUT WITH CONTROL PROVIDED BY THE DESIGN ENGINEER OR HIS DESIGNEE.
14. THE CONTRACTOR IS RESPONSIBLE FOR QUALITY CONTROL MEASURES SUFFICIENT TO PRODUCE MATERIALS AND WORKMANSHIP OF ACCEPTABLE QUALITY. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT A QUALITY CONTROL PLAN. THE CONTRACTOR AT HIS OWN EXPENSE SHALL PROVIDE AN INDEPENDENT GEOTECHNICAL FIRM TO PERFORM QUALITY CONTROL TESTING SUCH AS SOILS AND CONCRETE TESTING, FULL TIME ASPHALTIC CONCRETE LAYDOWN COMPACTION TESTING, AND ADEQUATE PLANT CONTROL FOR EACH PAVING DAY. THE CITY, BY SEPARATE CONTRACT, WILL BE RESPONSIBLE FOR QUALITY ASSURANCE TESTING AS IT MAY DEEM NECESSARY.
15. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS OF TESTING AND INSPECTION, INCLUDING THE PRESENCE OF CITY INSPECTORS, REQUIRED FOR NIGHT AND WEEKEND WORK.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RE–WORK AND/OR REMOVAL AND REPLACEMENT OF ALL MATERIALS REPRESENTED BY FAILING TESTS OR SUBSTANDARD WORKMANSHIP.
17. THE CONTRACTOR SHALL IMPLEMENT BEST–HOUSE–KEEPING MEASURES, EROSION, AND SEDIMENT CONTROL MEASURES, TO PREVENT THE TRANSPORT OF CONSTRUCTION MATERIALS INTO DRAINAGE INLETS, STORM DRAIN MANHOLES, UTILITY STRUCTURES, OR ONTO ADJACENT STREETS AND PROPERTIES.
18. APPROVAL OF A PORTION OF THE WORK IN PROGRESS DOES NOT GUARANTEE ITS FINAL ACCEPTANCE. TESTING AND EVALUATION MAY CONTINUE UNTIL THE WRITTEN FINAL ACCEPTANCE OF A COMPLETE AND WORKABLE UNIT.
19. THE CITY OF PRESCOTT MAY SUSPEND THE WORK BY WRITTEN NOTICE WHEN, IN ITS JUDGMENT, PROGRESS IS UNSATISFACTORY, WORK BEING DONE IS UNAUTHORIZED OR DEFECTIVE, WEATHER CONDITIONS ARE UNSTABLE, OR THERE IS A DANGER TO THE PUBLIC HEALTH AND SAFETY.
20. ALL OBSTRUCTIONS IN THE RIGHT OF WAY SHALL BE REMOVED BEFORE ANY CONSTRUCTION IS PERMITTED.
21. THE CONTRACTOR SHALL GUARD AGAINST DAMAGE DURING CONSTRUCTION TO EXISTING PROPERTIES AND IMPROVEMENTS. ANY ITEMS DAMAGED BY THE CONTRACTOR'S ACTIVITIES SHALL BE REPLACED IN KIND OR BETTER AT THE CONTRACTOR'S EXPENSE.
22. THE CONTRACTOR SHALL KEEP SUITABLE EQUIPMENT ON HAND AT THE JOBSITE FOR MAINTENANCE DUST CONTROL AND SHALL CONTROL DUST AS DIRECTED BY THE APPROPRIATE AGENCY.
23. STREET AND TRAFFIC SIGNS MAY BE RELOCATED BY THE CONTRACTOR IF NECESSARY, AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR.
24. NO PAVING CONSTRUCTION SHALL BE STARTED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE ROADWAY PRISM ARE VERIFIED FOR DETAIL CONFORMANCE, COMPLETED AND TESTED (TO INCLUDE BUT NOT LIMITED TO): SEWER TESTING LOW AIR TESTING OF MAIN LINE AND SERVICES, TRACE WIRE TESTING, DEFLECTION TESTING AND VERIFICATION OF MANHOLES CONFORMING TO COP DETAIL 420P. WATER TESTING CHLORINATION/DISINFECTING OF MAIN LINE AND SERVICES, PRESSURE TESTING, TRACE WIRE TESTING AND VERIFICATION OF VALVE BOXES CONFORMING TO COP DETAIL 391P.
25. CERTIFIED DRAWINGS OF THE SUBSURFACE WORK SHALL BE SUBMITTED TO AND ACCEPTED BY THE CITY ENGINEER PRIOR TO INSTALLING ANY PORTION OF THE PAVEMENT STRUCTURAL SECTION.
26. ACCEPTANCE OF THE COMPLETED PAVING STRUCTURES WILL NOT BE GIVEN UNTIL REPRODUCIBLE "AS–BUILT" PLANS HAVE BEEN SUBMITTED BY THE CONTRACTOR AND APPROVED BY THE CITY.
27. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, PAVEMENT, AND SIDEWALKS HAVE BEEN SWEPT CLEAN OF ALL DIRT AND DEBRIS.
28. THE CONTRACTOR SHALL WARRANT ALL WORK FOR A MINIMUM TWO YEAR PERIOD AFTER FORMAL ACCEPTANCE OF THE WORK BY THE CITY.

ENGINEER'S NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL CONSTRUCTION STAKING FOR THE PROJECT. THE CONSTRUCTION STAKING SHALL BE PERFORMED BY A PROFESSIONAL SURVEYOR, REGISTERED WITH THE STATE OF ARIZONA.
2. ALL DIMENSIONS AND CURVE DATA ARE REPORTED TO THE CONST ℄, EDGE OF PAVEMENT OR FACE OF CURB UNLESS OTHERWISE NOTED.
3. THE CONTRACTOR IS RESPONSIBLE FOR PREPARING AND SUBMITTING FOR APPROVAL, TRAFFIC CONTROL PLANS TO THE CITY OF PRESCOTT AND THE YAVAPAI COUNTY PUBLIC WORKS DEPARTMENT. ALL TRAFFIC CONTROL PLANS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO COMMENCING CONSTRUCTION.
4. WHERE REPLACEMENT AND/OR NEW INSTALLATION OF MONUMENTATION FOR SECTION CORNERS, QUARTER CORNERS AND CENTER OF SECTION IS REQUIRED; THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE STATE OF ARIZONA BOARD OF TECHNICAL REGISTRATION PUBLICATION "ARIZONA BOUNDARY SURVEY MINIMUM STANDARDS" AND THE STATE OF ARIZONA REVISED STATUTES 33–103, 33–104, 33–105 AND 33–106.

CITY OF PRESCOTT WATER NOTES (REVISED 01/09):

1. ALL WORK SHALL CONFORM TO MARICOPA ASSOCIATION OF GOVERNMENTS (MAG), YAVAPAI ASSOCIATION OF GOVERNMENTS (YAG) & CITY OF PRESCOTT (COP) MODIFIED YAG CONSTRUCTION STANDARDS & SPECIFICATIONS, WHICH ARE ON FILE IN THE OFFICE OF THE CITY ENGINEER.
2. ALL FRAMES, COVERS, VALVE BOXES, & MANHOLES SHALL BE ADJUSTED TO FINISH GRADE UPON COMPLETION OF PAVING, UTILITY, OR RELATED CONSTRUCTION.
3. ANY QUANTITIES SHOWN ON PLANS ARE NOT VERIFIED BY THE PUBLIC WORKS UTILITIES DIRECTOR.
4. ACCEPTANCE OF THE COMPLETED WORK WILL NOT BE GIVEN UNTIL 3 MIL MYLAR & CAD FORMAT DIGITAL 'AS–BUILT' PLANS ON CITY OF PRESCOTT SURVEY DATUM & COORDINATES HAVE BEEN SUBMITTED BY A REGISTERED PROFESSIONAL ENGINEER AND APPROVED BY THE PUBLIC WORKS DEPARTMENT.
5. CITY OF PRESCOTT PUBLIC WORKS UTILITIES SHALL BE NOTIFIED 24 HOURS PRIOR TO THE START OF ANY WORK.
6. ALL WORK & MATERIALS WHICH DO NOT CONFORM TO THE SPECIFICATIONS ARE SUBJECT TO REMOVAL & REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
7. ANY WORK PERFORMED WITHOUT THE KNOWLEDGE OF THE AGENCY INSPECTOR OR HIS REPRESENTATIVE IS SUBJECT TO REMOVAL & REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. THE CONTRACTOR SHALL PROVIDE SUFFICIENT MEN & EQUIPMENT ON THE JOB AT ALL TIMES DURING CONSTRUCTION TO COMPLY WITH SPECIFICATIONS & TO COMPLETE THE WORK.
9. INSPECTION TO BE DONE BY THE CITY OF PRESCOTT PUBLIC WORKS UTILITIES DEPARTMENT OR THEIR REPRESENTATIVE.
10. CONTRACTOR TO NOTIFY OWNER 72 HOURS (3 WORKING DAYS) IN ADVANCE OF CONSTRUCTION TO SCHEDULE CONSTRUCTION STAKING.
11. THE CONTRACTOR IS TO UNCOVER ALL EXISTING LINES BEING TIED INTO AND VERIFY GRADES & ELEVATIONS BEFORE ANY OTHER CONSTRUCTION.
12. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UNDERGROUND PIPELINES, TELEPHONE & ELECTRICAL CONDUITS & STRUCTURES IN ADVANCE OF ANY CONSTRUCTION & OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID ANY DAMAGE TO SUCH. THE ENGINEER &/OR OWNER WILL NOT GUARANTEE ANY LOCATIONS AS SHOWN ON THESE PLANS, OR THOSE OMITTED FROM SAME.
13. CONTRACTOR SHALL NOTIFY 'BLUE STAKE' AT 1–800–STAKEIT (1–800–782–5348) AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.
14. CONTRACTOR SHALL VERIFY ALL QUANTITIES SHOWN & MAKE HIS BID BASED UPON THOSE VERIFICATIONS. IF ANY DISCREPANCY IN QUANTITIES IS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SUCH.
15. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY REQUIREMENTS SHALL BE COMPLIED WITH.
16. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY REQUIREMENTS SHALL APPLY WHEN MORE STRINGENT THAN THE MAG OR YAG STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
17. ALL PLANS SIGNED BY THE CITY UTILITY ENGINEER ARE NULL & VOID ONE YEAR FROM DATE OF SIGNATURE IF CONSTRUCTION HAS NOT STARTED.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TRAFFIC CONTROL PLANS WHICH SHALL BE MADE A PART OF THE PLAN REVIEW REQUEST TO THE CITY ENGINEER FOR APPROVAL.
19. ALL WATER LINES & APPURTENANCES SHALL BE PROVIDED WITH 14 GAUGE AWG, INSULATED, SINGLE STRAND, DIRECT BURY, COPPER TRACE WIRE. TRACE WIRE SHALL BE SUBJECT TO A TRACEABILITY TEST, EASILY ACCESSIBLE, & ANY DEFICIENCIES SHALL BE CORRECTED.
20. WATER–SEWER SEPARATION SHALL BE PURSUANT TO AAC R–18–5–502C.
21. WATER MAINS SHALL BE SUBJECT TO A PRESSURE & LEAKAGE TEST IN ACCORDANCE WITH AWWA C–600 STANDARD.
22. WATER MAINS. SHALL BE DISINFECTED IN ACCORDANCE WITH ADEQ ENGINEERING BULLETIN NO. 8 'DISINFECTION OF WATER SYSTEMS'.
23. 23. OPERATION OF VALVES TO BE DONE BY CITY PERSONNEL ONLY.
24. DUCTILE IRON PIPE TO BE INSTALLED PER MANUFACTURER'S REQUIREMENTS. ALL MATERIALS USED IN THE INSTALLATION OF DUCTILE IRON PIPE SHALL BE PURSUANT TO AAC R–18–4–504.
25. ALL MATERIALS & PRODUCTS THAT COME INTO CONTACT WITH DRINKING WATER OR DRINKING WATER TREATMENT CHEMICALS MUST COMPLY WITH NSF STANDARD 61. ANY 'OR EQUAL' SUBSTITUTION SHALL ALSO MEET NSF STANDARD 61.
26. ALL TRENCHES & BEDDING SHALL BE PER MODIFIED COP DETAILS 2–01P & 2–02P & TECHNICAL SPECIFICATIONS.
27. ALL MATERIALS USED IN THE INSTALLATION OF WATER MAINS SHALL BE PURSUANT TO AAC R–18–4–119, & SHALL BE NSF APPROVED FOR POTABLE WATER.
28. ALL REVISIONS TO ORIGINAL PLANS MUST BE APPROVED BY THE PUBLIC WORKS UTILITIES DIRECTOR PRIOR TO CONSTRUCTION. ANY UNAPPROVED REVISIONS ARE SUBJECT TO REMOVAL& REPLACEMENT AT CONTRACTOR'S EXPENSE.
29. ALL DUCTILE IRON, COPPER, & BRASS FITTINGS SHALL BE ENCASED IN POLYETHYLENE PROTECTIVE WRAPPING IN ACCORDANCE WITH MAG SECTION 610.5. UNLESS COUNTERINDICATED BY GEOTECHNICAL REPORT.
30. WATER LINES SHALL BE INSTALLED WITH FIELD LOCK GASKETS & MEGA LUGS WHERE JOINT RESTRAINT IS REQUIRED.
31. WATER SERVICE INTERRUPTION NOTICES SHALL BE GIVEN TO AFFECTED RESIDENTS BY THE CONTRACTOR AT HIS EXPENSE USING A METHOD APPROVED BY THE PUBLIC WORKS UTILITIES DIRECTOR.

EARTHWORK CALCULATIONS:

EXCAVATIONS		EMBANKMENTS	
◧ ROADWAY EXCAVATION	81,080 CY	EMBANKMENT (INCLUDING GROUND COMPACTION)	62,219 CY
SHRINK	15,555 CY	BERMS & DIKES	35 CY
GRADER DITCH (REFER TO NOTE 4)	82 CY	TOTAL EMBANKMENTS	62,254 CY
SHRINK	16 CY	PIPE BACKFILL	348 CY
RIPRAP & GABION EXCAVATION	2,985 CY	◧ STRUCTURAL BACKFILL	1,739 CY
SHRINK	597 CY	WASTE	8,167 CY
PIPE EXCAVATION	292 CY		
SHRINK	58 CY		
◧ STRUCTURAL EXCAVATION	1,439 CY		
SHRINK	288 CY		
PIPELINE EXCAVATION	1,321 CY		
SHRINK	264 CY		
AVAILABLE FOR EMBANKMENTS	70,439 CY		

EARTHWORK NOTES:

1. EARTHWORK ESTIMATED QUANTITIES ARE CALCULATED USING EXISTING GRADE GENERATED FROM THE AERIAL SURVEY CONDUCTED BY KENNEY AERIAL, DATED SEPTEMBER 18, 2014.
2. REFER TO SPECIAL PROVISIONS SEC 205.1 FOR EARTHWORK REQUIREMENTS.
3. PIPE BACKFILL AND STRUCTURAL BACKFILL ASSUMED TO BE FROM OFFSITE SOURCES.
4. GRADER DITCH SHALL BE INCLUDED IN THE QUANTITY OF ITEM NO. 205.1 (EARTHWORK AND ROADWAY EXCAVATION).

◧ INDICATES PAY ITEM

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

DESIGN DATA:

PARAMETER	WILLOW CREEK RD STA LIMITS	VALUE
STREET CLASSIFICATION	STA 110+00 TO 198+80	MINOR RURAL COLLECTOR
POSTED (DESIGN) SPEEDS	STA 110+00 TO 185+00	40 MPH (45 MPH)
	STA 185+00 TO 198+80	25 MPH (30 MPH)
MINIMUM TAPER RATE	STA 110+00 TO 185+00	45:1
	STA 185+00 TO 198+80	$(W*35^2)/60$
CROSS SLOPE	STA 110+00 TO 198+80	REFER TO SUPERELEVATION DIAGRAM
CLEAR ZONE	STA 110+00 TO 185+00	28 FT
	STA 185+00 TO 198+80	18 FT
AVERAGE DAILY TRAFFIC	2013	9,350 VEH/DAY
	2035	18,700 VEH/DAY
STOPPING SIGHT DISTANCE (INTERSECTION SIGHT DISTANCE) [PASSING SIGHT DISTANCE]	STA 110+00 TO 185+00	360 FT (500 FT) [700 FT]
	STA 185+00 TO 198+80	200 FT (335 FT) [500 FT]

EARTHWORK FACTORS:

PARAMETER	WILLOW CREEK RD STA LIMITS	VALUE
ADJUSTMENT FACTOR	STA 110+00 TO 198+80	20% SHRINK*
GROUND COMPACTION	STA 110+00 TO 198+80	0.25 FT/SF*

* EARTHWORK FACTORS BASED UPON "SOIL SURVEY AND PAVEMENT THICKNESS DESIGN FOR WILLOW CREEK ROAD REALIGNMENT" PREPARED BY ENGINEERING & TESTING CONSULTANTS, DATED DECEMBER 3, 2014.

SOIL VALUES:

WILLOW CREEK RD STA	pH	RESISTIVITY SATURATED (OHM–CM)	REDOX POTENTIAL (mV)	SULFIDES	SULFATE (ppm)	CHLORIDE (ppm)
109+25	7.8	4,065	518	NEGATIVE	3	4
123+25	7.3	2,439	541	NEGATIVE	22	19
137+50	7.8	18,425	557	NEGATIVE	4	3
151+00	8.0	5,348	551	NEGATIVE	5	<2
161+00	8.0	5,007	551	NEGATIVE	8	3
WATER MAIN STA	pH	RESISTIVITY SATURATED (OHM–CM)	REDOX POTENTIAL (mV)	SULFIDES	SULFATE (ppm)	CHLORIDE (ppm)
86+08	7.8	1,174	560	NEGATIVE	62	261

* SOIL VALUES BASED UPON "SOIL SURVEY AND PAVEMENT THICKNESS DESIGN FOR WILLOW CREEK ROAD REALIGNMENT" PREPARED BY ENGINEERING & TESTING CONSULTANTS, DATED DECEMBER 3, 2014.

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

GENERAL NOTES & DESIGN DATA

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		G3	3 OF 118

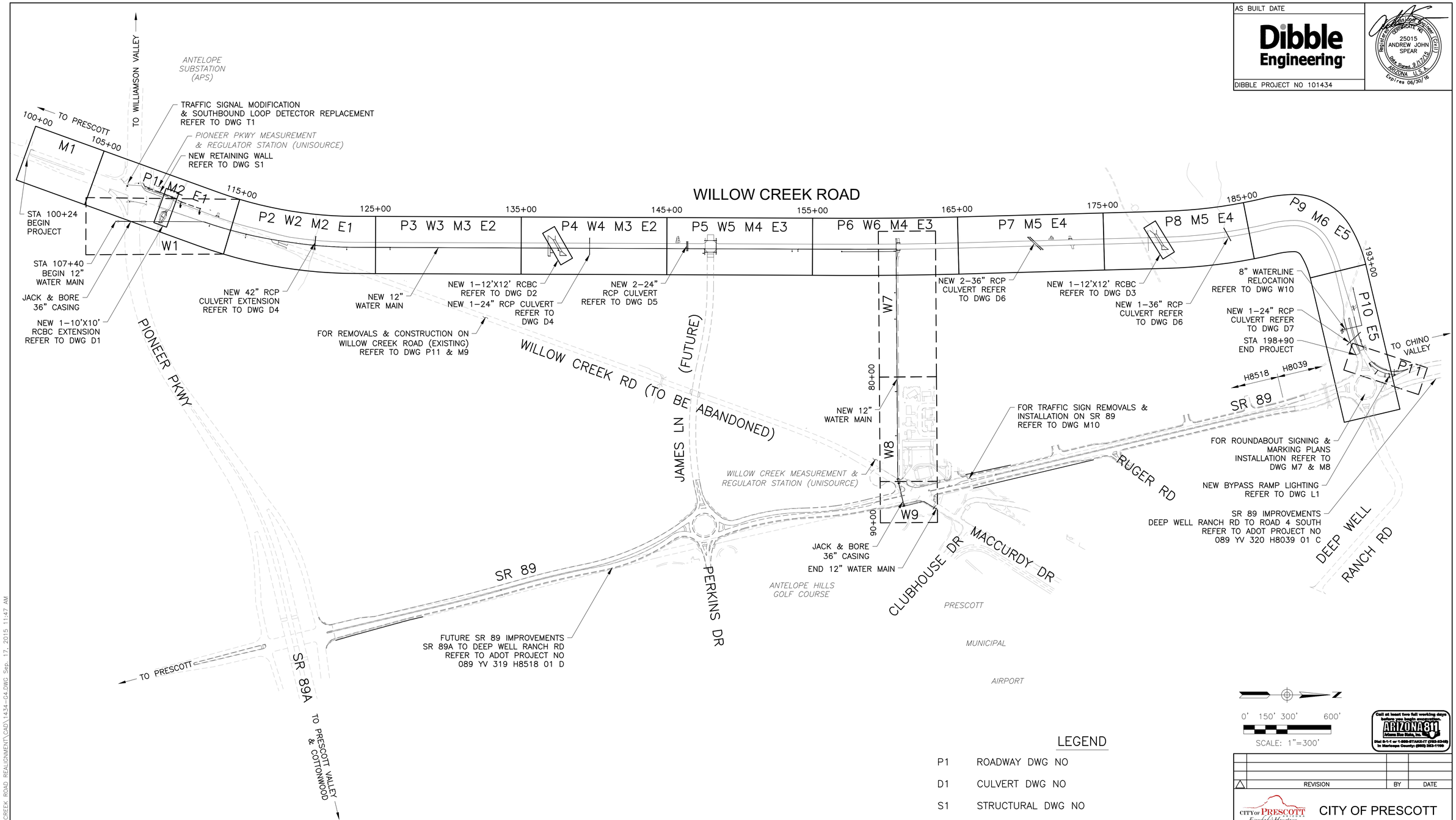
J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-G3.DWG Sep. 17, 2015 11:46 AM

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16



LEGEND

P1	ROADWAY DWG NO
D1	CULVERT DWG NO
S1	STRUCTURAL DWG NO
W1	WATER DWG NO
M1	SIGNING & MARKING DWG NO
T1	TRAFFIC SIGNAL DWG NO
L1	ROADWAY LIGHTING DWG NO
E1	EROSION & SEDIMENT CONTROL DWG NO

0' 150' 300' 600'

SCALE: 1"=300'

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

KEY MAP

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 300' HORIZONTAL VERTICAL			G4	4 OF 118

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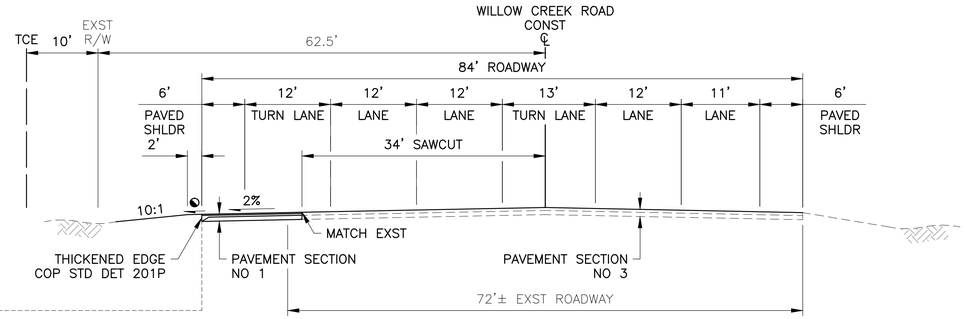
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

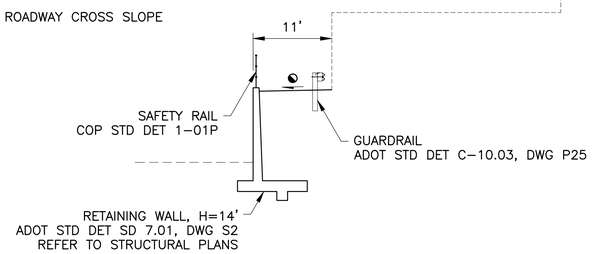


NOTES:

- EXTEND ROADWAY CROSS SLOPE

WILLOW CREEK ROAD TYPICAL SECTION

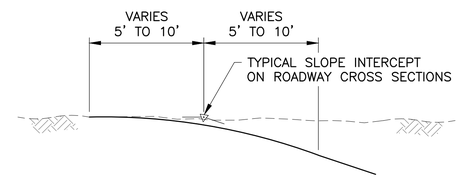
STA 108+27 TO STA 109+80



END CONDITION LT

STA 108+50 TO STA 108+81
STA 109+20 TO STA 110+00

SLOPE TABLE STATION LT				SLOPE TABLE STATION RT			
STATION RANGE		CUT CONDITION	FILL CONDITION	STATION RANGE		CUT CONDITION	FILL CONDITION
BEGIN	END	BACKSLOPE	FORESLOPE	BEGIN	END	BACKSLOPE	FORESLOPE
110+00	110+50	3:1	2:1	110+00	110+50	3:1	2:1
110+50	114+00	3:1	3:1	110+50	186+00	3:1	3:1
114+00	119+00	2:1	3:1	186+00	190+00	2:1	3:1
119+00	185+00	3:1	3:1	190+00	198+58	3:1	3:1
185+00	198+58	2:1	3:1				



NOTES:

1. EXCEPT IN SOLID ROCK, OR AS DIRECTED BY THE ENGINEER, THE INTERSECTION OF ROADWAY CUT SLOPES WITH EXISTING GROUND SURFACES SHALL BE ROUNDED.
2. FOR CUTS UP TO 6' IN HEIGHT, USE 5' SEMI-TANGENTS FOR SLOPE ROUNDING. FOR EACH ADDITIONAL FOOT OF CUT ADD 1' TO SEMI-TANGENT LENGTH UP TO A MAXIMUM OF 10'.

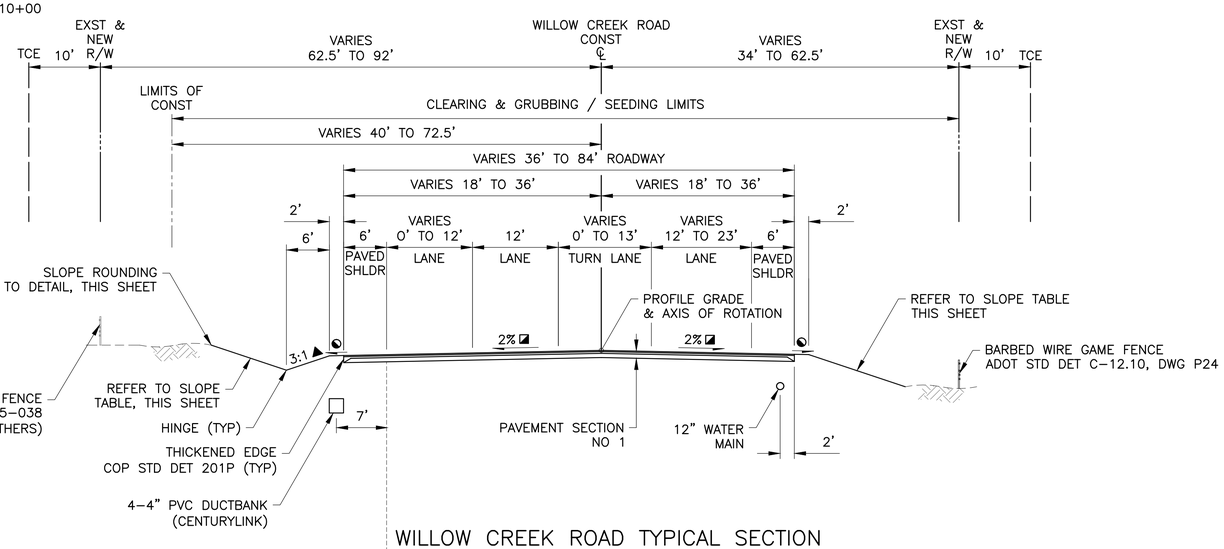
SLOPE ROUNDING DETAIL

NOTES:

- EXTEND ROADWAY CROSS SLOPE
- ▲ CUT DITCH FORESLOPE & FILL SLOPE = 2:1 MAX STA 110+00 TO STA 110+75 LT

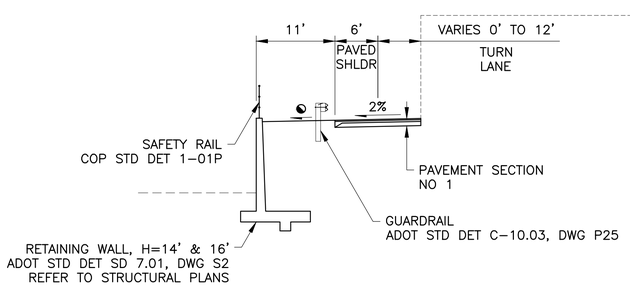
  CUT DITCH FORESLOPE = 6:1, 6' WIDTH, 1' DEPTH STA 115+00 TO STA 118+90
- ◪ TYPICAL TANGENT GRADE SHOWN REFER TO PLAN & PROFILE SHEETS FOR SPECIFIC SUPERELEVATION RATES

  TYPICAL CUT CONDITION SHOWN ON THE LEFT, TYPICAL FILL CONDITION SHOWN ON THE RIGHT. EACH APPLY TO BOTH SIDES OF THE TYPICAL SECTION.



WILLOW CREEK ROAD TYPICAL SECTION

STA 109+80 TO STA 119+00



SOUTHBOUND RIGHT TURN LANE

STA 110+00 TO STA 110+90 (PIONEER PKWY)

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	REVISION	BY	DATE

CITY OF PRESCOTT

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TYPICAL SECTIONS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL	VERTICAL	G5	5 OF 118

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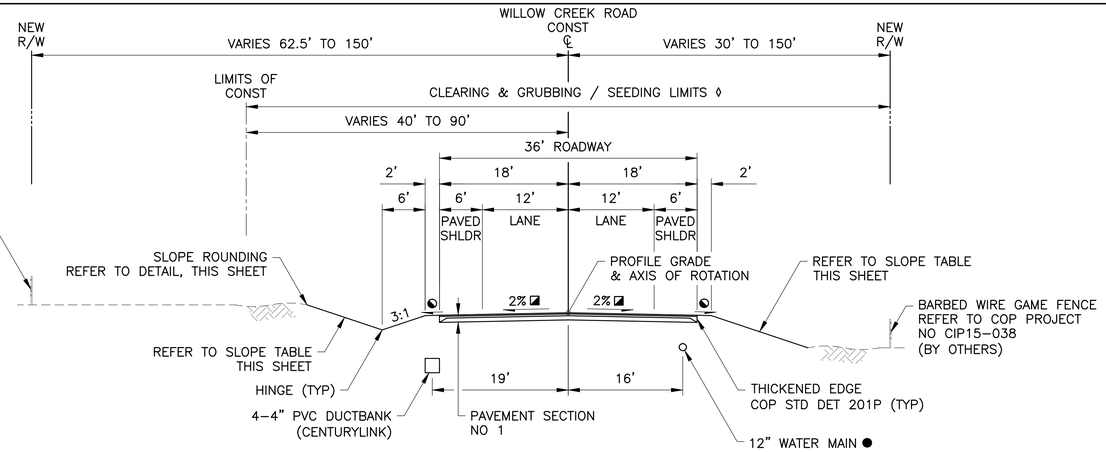


WILLOW CREEK ROAD TYPICAL SECTION

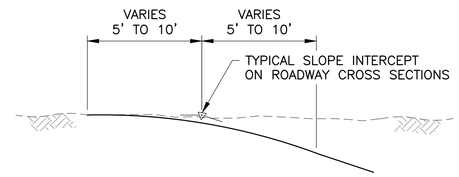
STA 119+00 TO STA 193+60

NOTES:

- ◐ EXTEND ROADWAY CROSS SLOPE
- ◪ TYPICAL TANGENT GRADE SHOWN REFER TO PLAN & PROFILE SHEETS FOR SPECIFIC SUPERELEVATION RATES
- ● 12" WATER MAIN STA 119+00 TO STA 160+89
- ◊ STA 146+05 TO STA 149+95 RT REFER TO LIMITS OF CONSTRUCTION ON DWG P5 FOR LIMITS OF CLEARING & GRUBBING / SEEDING

TYPICAL CUT CONDITION SHOWN ON THE LEFT, TYPICAL FILL CONDITION SHOWN ON THE RIGHT. EACH APPLY TO BOTH SIDES OF THE TYPICAL SECTION.

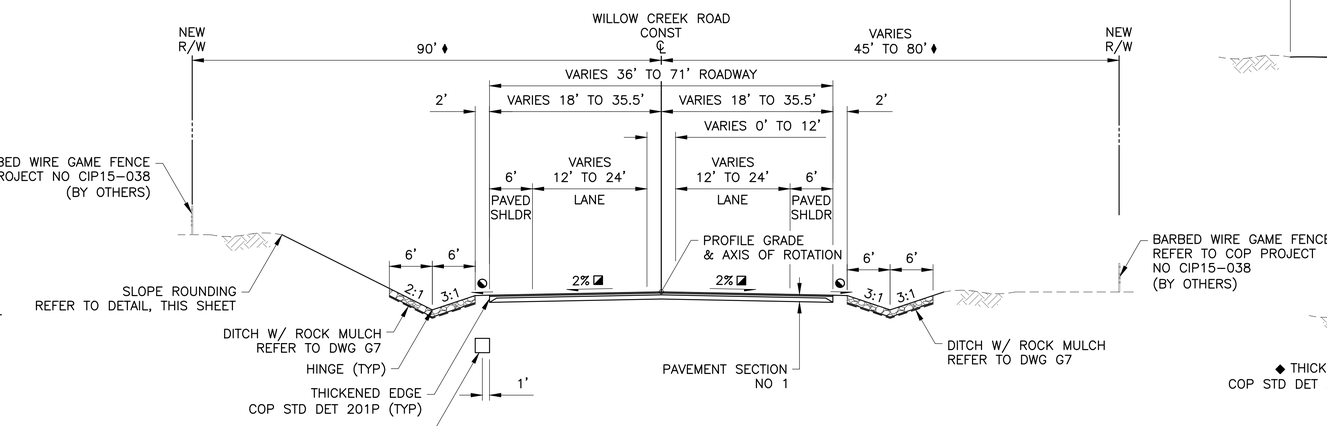
SLOPE TABLE STATION LT				SLOPE TABLE STATION RT			
STATION RANGE		CUT CONDITION	FILL CONDITION	STATION RANGE		CUT CONDITION	FILL CONDITION
BEGIN	END	BACKSLOPE	FORESLOPE	BEGIN	END	BACKSLOPE	FORESLOPE
110+00	110+50	3:1	2:1	110+00	110+50	3:1	2:1
110+50	114+00	3:1	3:1	110+50	186+00	3:1	3:1
114+00	119+00	2:1	3:1	186+00	190+00	2:1	3:1
119+00	185+00	3:1	3:1	190+00	198+58	3:1	3:1
185+00	198+58	2:1	3:1				



NOTES:

1. EXCEPT IN SOLID ROCK, OR AS DIRECTED BY THE ENGINEER, THE INTERSECTION OF ROADWAY CUT SLOPES WITH EXISTING GROUND SURFACES SHALL BE ROUNDED.
2. FOR CUTS UP TO 6' IN HEIGHT, USE 5' SEMI-TANGENTS FOR SLOPE ROUNDING. FOR EACH ADDITIONAL FOOT OF CUT ADD 1' TO SEMI-TANGENT LENGTH UP TO A MAXIMUM OF 10'.

SLOPE ROUNDING DETAIL

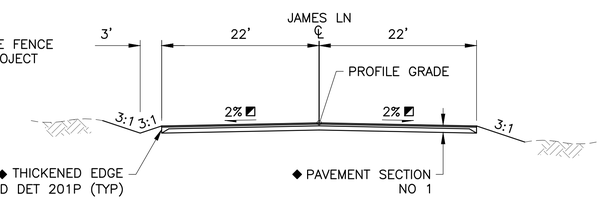


WILLOW CREEK ROAD TYPICAL SECTION

STA 193+60 TO STA 196+30

NOTES:

- ◐ EXTEND ROADWAY CROSS SLOPE
- ◪ TYPICAL TANGENT GRADE SHOWN REFER TO PLAN & PROFILE SHEETS FOR SPECIFIC SUPERELEVATION RATES
- ◊ LIMITS OF CONSTRUCTION (CLEARING & GRUBBING / SEEDING LIMITS) IS COINCIDENT WITH THE NEW R/W WIDTH



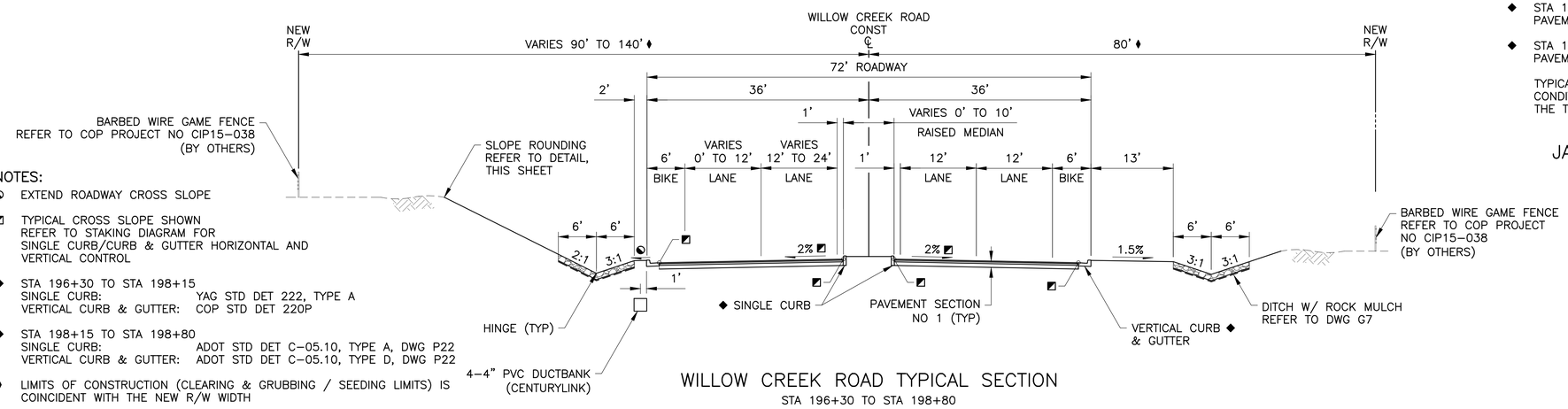
NOTES:

- ◪ TYPICAL TANGENT GRADE SHOWN, TRANSITION CROSS SLOPE FROM TYPICAL CROSS SLOPE OR EXISTING CONDITIONS TO MATCH WILLOW CREEK ROAD LONGITUDINAL SLOPE AROUND RADIUS RETURN PRIOR TO EDGE OF PAVEMENT
- ◆ STA 19+47 TO STA 20+53: PAVEMENT SECTION NO 1 & THICKENED EDGE (COP STD DET 201P)
- ◆ STA 19+20 TO STA 19+47 & STA 20+53 TO STA 20+75: PAVEMENT SECTION NO 4

TYPICAL CUT CONDITION SHOWN ON THE LEFT, TYPICAL FILL CONDITION SHOWN ON THE RIGHT. EACH APPLY TO BOTH SIDES OF THE TYPICAL SECTION.

JAMES LANE TYPICAL SECTION

STA 19+20 TO STA 20+75



WILLOW CREEK ROAD TYPICAL SECTION

STA 196+30 TO STA 198+80

NOTES:

- ◐ EXTEND ROADWAY CROSS SLOPE
- ◪ TYPICAL CROSS SLOPE SHOWN REFER TO STAKING DIAGRAM FOR SINGLE CURB/CURB & GUTTER HORIZONTAL AND VERTICAL CONTROL
- ◆ STA 196+30 TO STA 198+15
  SINGLE CURB: YAG STD DET 222, TYPE A
  VERTICAL CURB & GUTTER: COP STD DET 220P
- ◆ STA 198+15 TO STA 198+80
  SINGLE CURB: ADOT STD DET C-05.10, TYPE A, DWG P22
  VERTICAL CURB & GUTTER: ADOT STD DET C-05.10, TYPE D, DWG P22
- ◊ LIMITS OF CONSTRUCTION (CLEARING & GRUBBING / SEEDING LIMITS) IS COINCIDENT WITH THE NEW R/W WIDTH

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown — CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TYPICAL SECTIONS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		G6	6 OF 118

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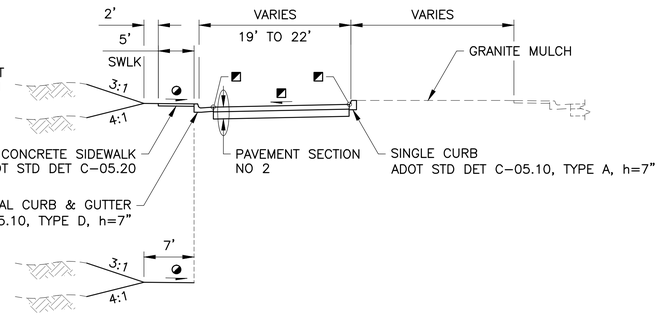
NOTES:

◐ CROSS SLOPE = 0.010'/FT

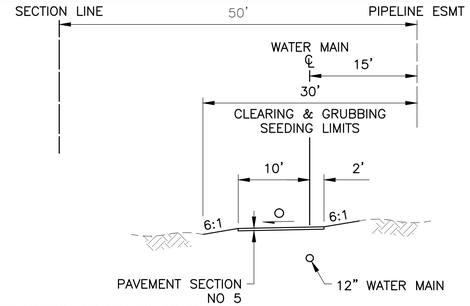
◪ CROSS SLOPE VARIES 0.010'/FT MIN TO 0.030'/FT REFER TO STAKING DIAGRAM FOR SINGLE CURB/CURB & GUTTER HORIZONTAL AND VERTICAL CONTROL



WITHOUT SIDEWALK (REFER TO DWG P11)

SOUTHBOUND BYPASS RAMP TYPICAL SECTION

(LOOKING NORTHEAST)



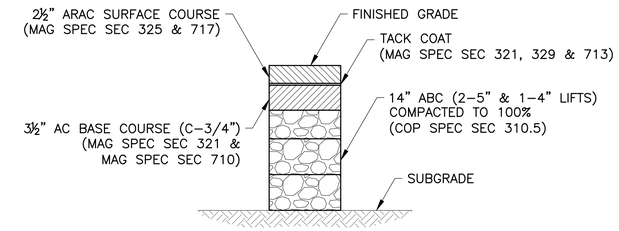
NOTES:

○ SLOPE VARIES, 1% MIN TO 2% MAX

TYPICAL CUT CONDITION SHOWN ON THE LEFT, TYPICAL FILL CONDITION SHOWN ON THE RIGHT. EACH APPLY TO BOTH SIDES OF THE TYPICAL SECTION.

WATER MAIN ACCESS ROAD TYPICAL SECTION

WATER MAIN STA 71+28 TO STA 86+90



PAVEMENT SECTION NO 1

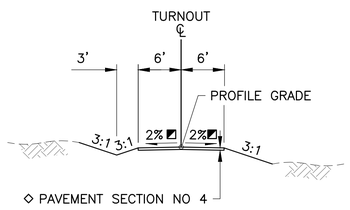
(WILLOW CREEK ROAD)
TOTAL THICKNESS = 20"

NOTES:

◪ TYPICAL TANGENT GRADE SHOWN TRANSITION CROSS SLOPE FROM TYPICAL CROSS SLOPE OR EXISTING CONDITIONS TO MATCH WILLOW CREEK ROAD LONGITUDINAL SLOPE AROUND RADIUS RETURN PRIOR TO EDGE OF PAVEMENT

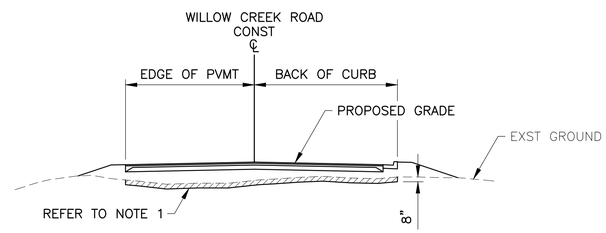
◇ STA 160+90 RT: PAVEMENT SECTION NO 5

TYPICAL CUT CONDITION SHOWN ON THE LEFT, TYPICAL FILL CONDITION SHOWN ON THE RIGHT. EACH APPLY TO BOTH SIDES OF THE TYPICAL SECTION.



TURNOUT TYPICAL SECTION

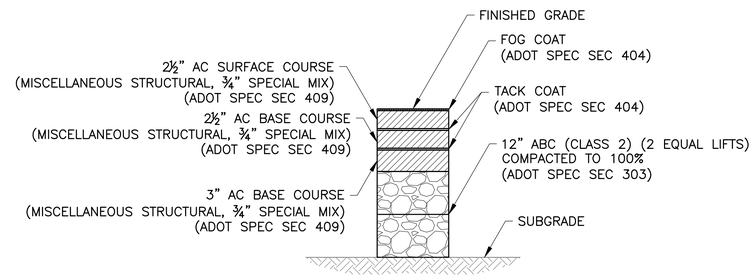
STA 113+85 LT (DW 1 INVESTMENTS)
STA 160+90 LT & RT (COP PIPELINE ESMT)
STA 172+77 LT & RT (APS ELEC ESMT)
STA 195+70 LT & STA 197+03 RT (COP UTILITY ESMT)



NOTES:

1. PRIOR TO FILL PLACEMENT, THE EXPOSED GROUND SURFACE SHALL BE SCARIFIED, MOISTURE CONDITIONED, AND THOROUGHLY COMPACTED TO A DEPTH OF EIGHT (8) INCHES IN ACCORDANCE WITH SPECIAL PROVISIONS SEC 205.1.
2. PAYMENT FOR SCARIFICATION WORK SHALL BE INCLUDED IN THE COST OF ITEM 205.1.
3. TYPICAL RURAL CONDITION SHOWN ON THE LEFT, TYPICAL URBAN CONDITION SHOWN ON THE RIGHT. THEY APPLY TO BOTH SIDES OF THE TYPICAL SECTION.

SCARIFICATION LIMITS – FILL CONDITION

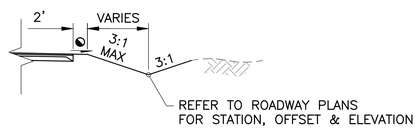


PAVEMENT SECTION NO 2

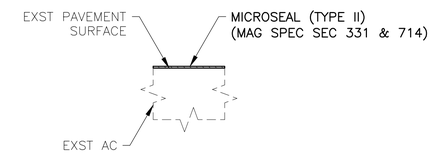
(SOUTHBOUND BYPASS RAMP)
TOTAL THICKNESS = 20"

NOTES:

◐ EXTEND ROADWAY CROSS SLOPE



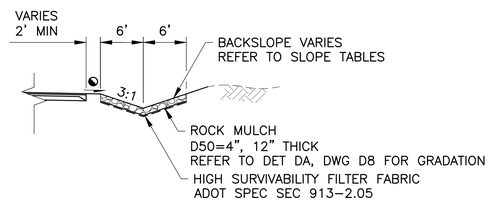
CONTROL GRADE DETAIL



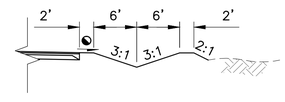
PAVEMENT SECTION NO 3

NOTES:

◐ EXTEND ROADWAY CROSS SLOPE



DITCH W/ ROCK MULCH

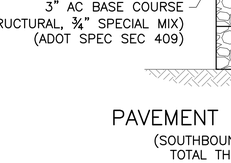


NOTES:

◐ EXTEND ROADWAY CROSS SLOPE

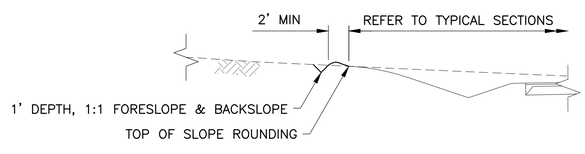
FALSE CUT

STA 157+00 TO STA 160+70



PAVEMENT SECTION NO 4

(TURNOUTS)
TOTAL THICKNESS = 4"



CROWN DITCH

PAVEMENT SECTION NO 5

(WATER MAIN ACCESS ROAD – COP STD DET 612P)
TOTAL THICKNESS = 6"

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△ REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TYPICAL SECTIONS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			G7	7 OF 118

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SURVEY CONTROL SHEET

WILLOW CREEK ROAD RE-ALIGNMENT
LOCATED IN PORTIONS OF SECTIONS 26 AND 35,
TOWNSHIP 15 NORTH, RANGE 2 WEST, GILA & SALT RIVER MERIDIAN,
CITY OF PRESCOTT, YAVAPAI COUNTY, ARIZONA

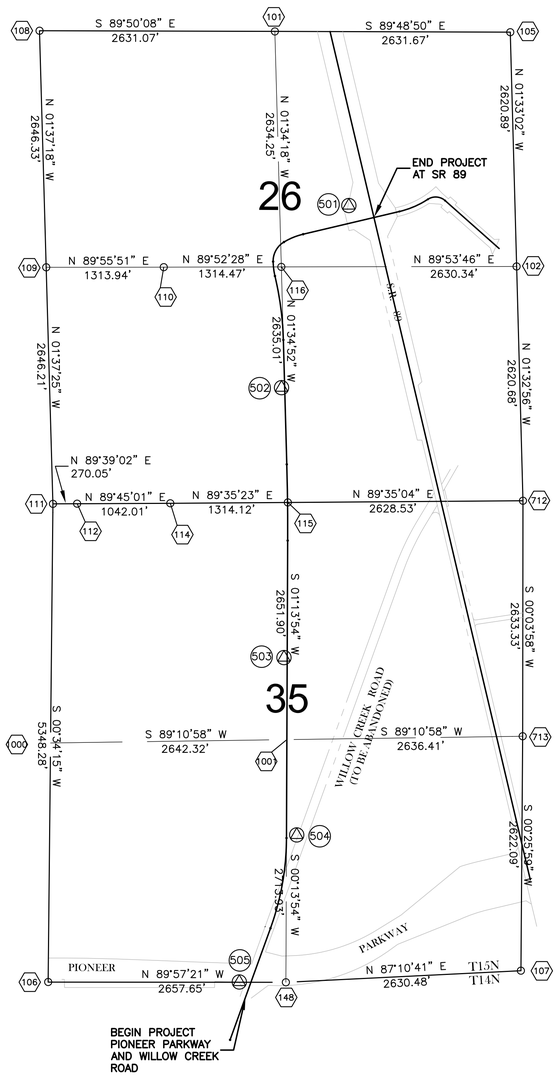
GRANITE BASIN ENGINEERING,INC

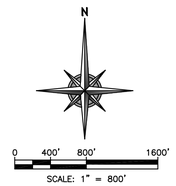
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED LAND SURVEYOR 33861 THOMAS A. LIUZZO ARIZONA, U.S.A. Date Signed 8/31/15 Expires 6/30/17





LEGEND

- HORIZONTAL CONTROL POINT – FOUND
- 102 HORIZONTAL CONTROL POINT NUMBER
- SECTIONAL CONTROL LINES
- WILLOW CREEK ROAD NEW CENTERLINE ALIGNMENT
- VERTICAL CONTROL POINT
- 501 VERTICAL CONTROL POINT NUMBER

HORIZONTAL CONTROL POINT DATA

POINT	NORTHING	EASTING	DESCRIPTION
101	630265.5989	612666.0295	FOUND 1/2" REBAR TAGGED RLS 42014
102	627637.1148	615368.6064	FOUND 3" BRASS CAP STAMPED "AZTEC T15N R2W S26/S25 2008 RLS 42014"
105	630257.0497	615297.683	FOUND STONE MONUMENT – 1 SCRIBE ON EAST FACE; 2 SCRIBES ON SOUTH FACE
106	619634.7114	610131.5621	FOUND 3" BRASS CAP STAMPED "W.J. CHEEK 34/35/3/2 1964 P.E. 2398"
107	619762.0506	615416.5732	FOUND 3" ALUMINUM CAP STAMPED "ABCOR ENG INC S1–S2–S35–S36 T14N R2W 1985"
108	630273.145	610034.9726	FOUND STONE MONUMENT – 2 SCRIBES ON SOUTH AND EAST FACE; X ON TOP OF STONE
109	627627.8733	610109.8686	FOUND 3" ALUMINUM CAP STAMPED "AZTEC T15N R2W 1/4 S27/S26 2006 RLS 42014"
110	627629.4617	611423.8047	FOUND 1/2" REBAR, NO TAG OR CAP – AFFIXED BRASS TAG STAMPED "RLS 13015"
111	624982.729	610184.8447	FOUND 3" ALUMINUM CAP STAMPED "AZTEC T15N R2W S27/S26/S34/S35 2007 LS 42014"
112	624984.376	610454.8937	FOUND 1/2" REBAR WITH PLASTIC CAP STAMPED "HAYWOOD LS 13941"
114	624988.9185	611496.8897	FOUND 1/2" REBAR, NO TAG OR CAP – AFFIXED BRASS TAG STAMPED "RLS 13015"
115	624998.3311	612810.9789	FOUND 1.5" ALUMINUM CAP WITH 2" WASHER STAMPED "YCO GPS/GIS 472"
116	627632.3401	612738.2741	FOUND 1/2", NO TAG OR CAP – AFFIXED BRASS TAG STAMPED "RLS 13015"
712	625017.390	615439.4385	FOUND 1/2" REBAR WITH TAG STAMPED "RLS 42014"
713	622384.0609	615436.3956	FOUND 3" ALUMINUN CAP STAMPED "1/4 S35/S36 AZTEC 2007 RLS 42014"
148	619632.548	612789.281	FOUND 3/4" REBAR, CAP MISSING, AFFIXED BRASS TAG STAMPED "RLS 13015"
1000	622308.769	610158.204	COMPUTED LOCATION – NOTHING FOUND OR SET
1001	622346.459	612800.253	COMPUTED LOCATION – NOTHING FOUND OR SET

PROJECT CONTROL DATA

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 501	628318.066	613493.063	5047.28	SET 3" BRASS CAP IN CONCRETE
CP 502	626281.826	612740.082	5060.24	SET 3" BRASS CAP IN CONCRETE
CP 503	623263.521	612768.617	5076.61	SET 3" BRASS CAP IN CONCRETE
CP 504	621301.374	612935.738	5092.23	FOUND ADOT BRASS CAP IN CONCRETE "YCGIS 359" STA 255+00 WILLOW CREEK ROAD
CP 505	619636.450	612263.786	5091.33	FOUND YAVAPAI COUNTY BRASS CAP IN CONCRETE STA 303+03.69 PIONEER PRKY

SURVEYOR'S CERTIFICATE:

I, THOMAS A. LIUZZO, DO HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR, AND THAT I HOLD LICENSE NUMBER 33861 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF ARIZONA. I FURTHER CERTIFY THAT I HAVE PREPARED THIS MAP FROM THE ORIGINAL FIELD NOTES MADE DURING A SURVEY OF THE TRACT(S) OF LAND SHOWN ON THIS MAP AND THAT THIS MAP IS A TRUE AND ACCURATE REPRESENTATION OF THE LAND SURVEYED AND WAS PERFORMED IN ACCORDANCE WITH THE ARIZONA MINIMUM STANDARDS FOR LAND SURVEY EFFECTIVE FEBRUARY 2002.

GENERAL NOTES

1. THE RECORD OF SURVEY FOR THIS SITE WILL BE RECORDED AFTER THE FINAL RIGHT OF WAY MONUMENTS ARE SET.
2. DATUM IS IN INTERNATIONAL FEET FOR HORIZONTAL AND VERTICAL, NAVD 88 FOR VERTICAL AND CITY OF PRESCOTT COORDINATE SYSTEM FOR HORIZONTAL (UNITS = INTERNATIONAL FEET 1 FOOT = 0.3048 METER EXACTLY)
3. ALL BEARINGS ARE GRID BEARINGS, DISTANCES ARE GROUND DISTANCES AND COORDINATES ARE GROUND COORDINATES.
4. THE COORDINATES SHOWN ARE TO A MINIMUM OF THREE DECIMAL PLACES FOR CALCULATION PURPOSES AND ARE NOT A REPRESENTATION OF THE PRECISION OF THE SURVEY MEASUREMENTS.
5. CONTROL POINTS CP501–CP503 WERE SET BY GRANITE BASIN ENGINEERING ON 11/10/2014.
6. DIFFERENTIAL LEVELING WAS EMPLOYED TO RUN A LEVEL CIRCUIT BETWEEN CONTROL POINTS CP501–CP505. THE VERTICAL CONTROL POINT UTILIZED WAS NGS POINT "H 262 RESET, PID–AE3926" LOCATED IN CONCRETE WALK IN FRONT OF SKYWAY RESTAURANT IN PRESCOTT'S LOVE AIRFIELD. ELEVATION: 5014.70 FEET. LATITUDE 34° 38' 58.86760"(N), 112° 25' 38.30252"(W).
7. REFER TO THE CITY OF PRESCOTT WEBSITE FOR THE OFFICIAL COORDINATE TRANSFORMATION FROM THE LOCAL CITY DATUM TO ARIZONA STATE PLANE CENTRAL ZONE.

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (783-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SURVEY CONTROL

DRN: PWN	DES:	CK: TL	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=800'	HORIZONTAL	VERTICAL	C1	8 OF 118

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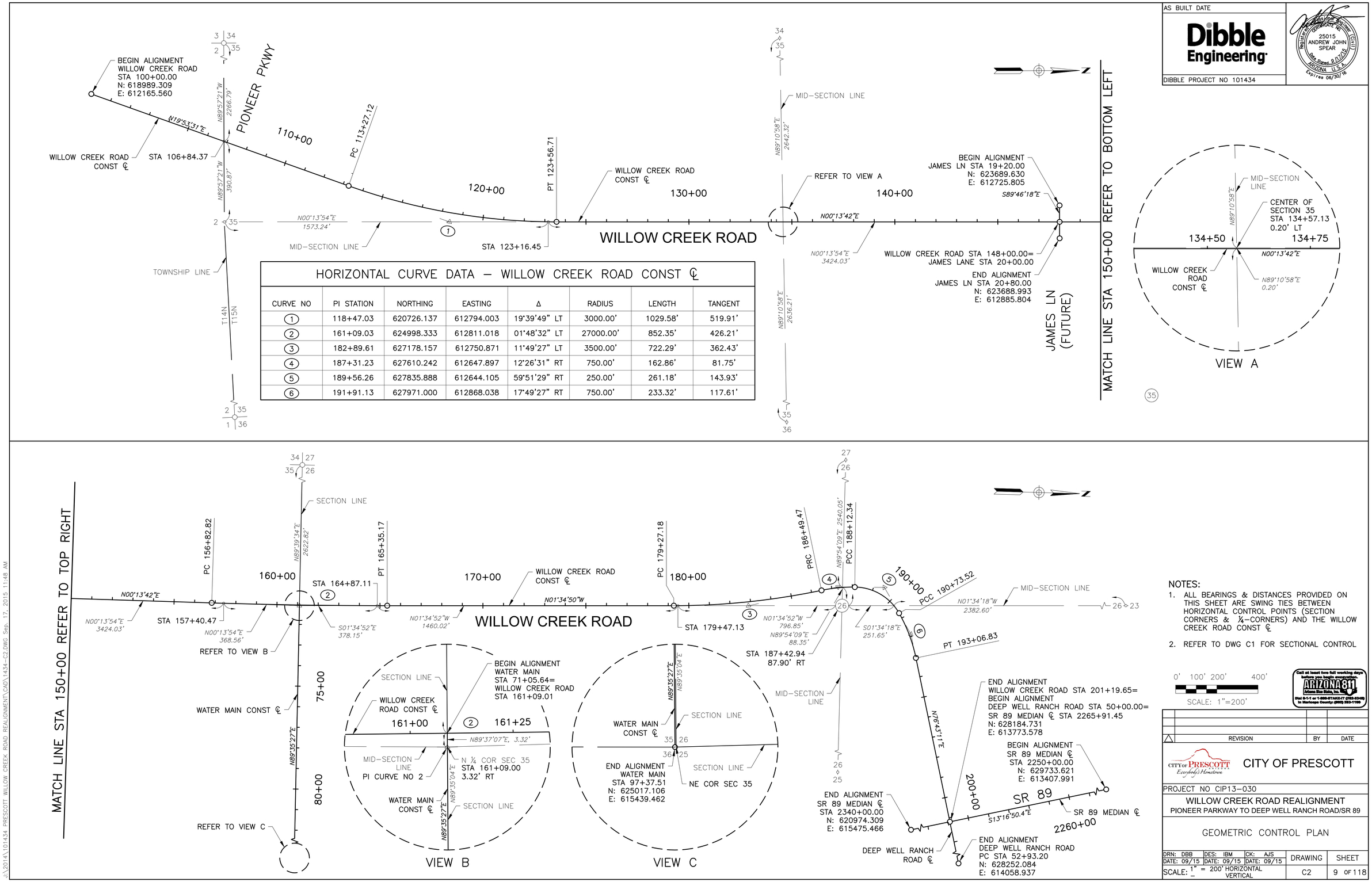
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16



HORIZONTAL CURVE DATA – WILLOW CREEK ROAD CONST ℄

CURVE NO	PI STATION	NORTHING	EASTING	Δ	RADIUS	LENGTH	TANGENT
1	118+47.03	620726.137	612794.003	19°39'49" LT	3000.00'	1029.58'	519.91'
2	161+09.03	624998.333	612811.018	01°48'32" LT	27000.00'	852.35'	426.21'
3	182+89.61	627178.157	612750.871	11°49'27" LT	3500.00'	722.29'	362.43'
4	187+31.23	627610.242	612647.897	12°26'31" RT	750.00'	162.86'	81.75'
5	189+56.26	627835.888	612644.105	59°51'29" RT	250.00'	261.18'	143.93'
6	191+91.13	627971.000	612868.038	17°49'27" RT	750.00'	233.32'	117.61'

NOTES:

1. ALL BEARINGS & DISTANCES PROVIDED ON THIS SHEET ARE SWING TIES BETWEEN HORIZONTAL CONTROL POINTS (SECTION CORNERS & ¼–CORNERS) AND THE WILLOW CREEK ROAD CONST ℄
2. REFER TO DWG C1 FOR SECTIONAL CONTROL

0' 100' 200' 400'

SCALE: 1"=200'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

GEOMETRIC CONTROL PLAN

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 200' HORIZONTAL VERTICAL			C2	9 OF 118

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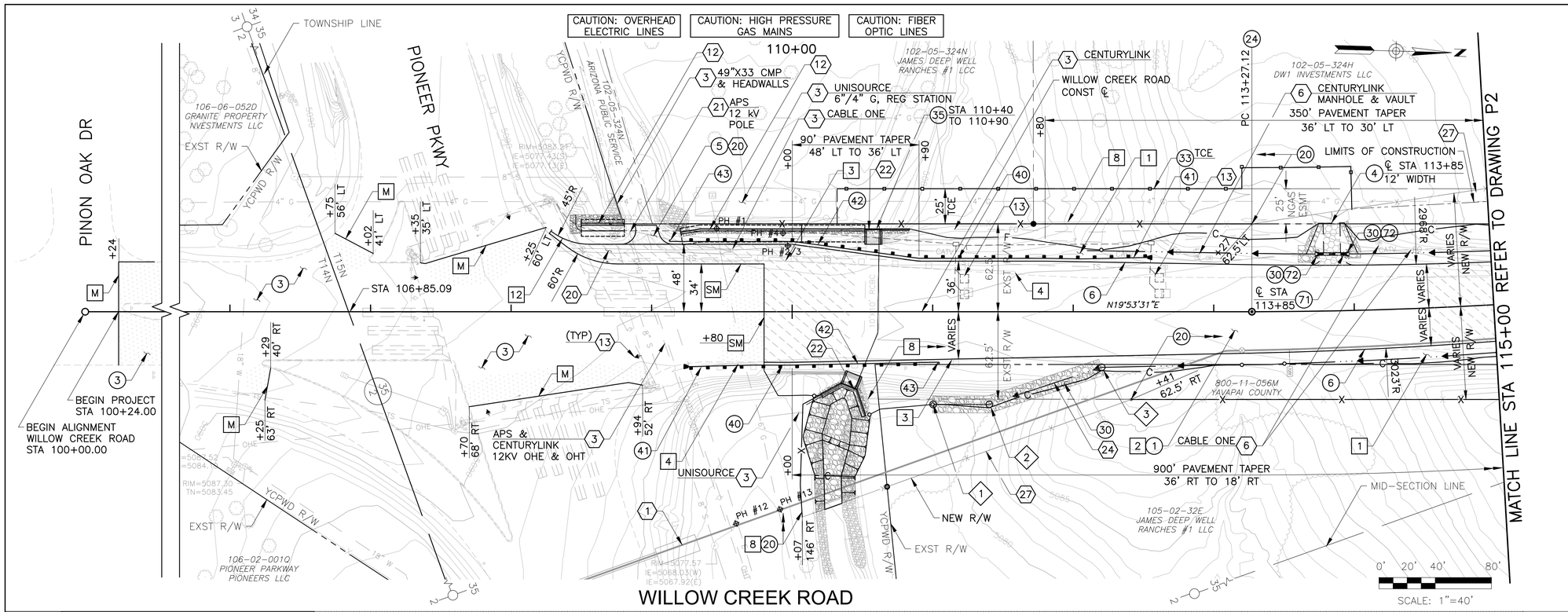
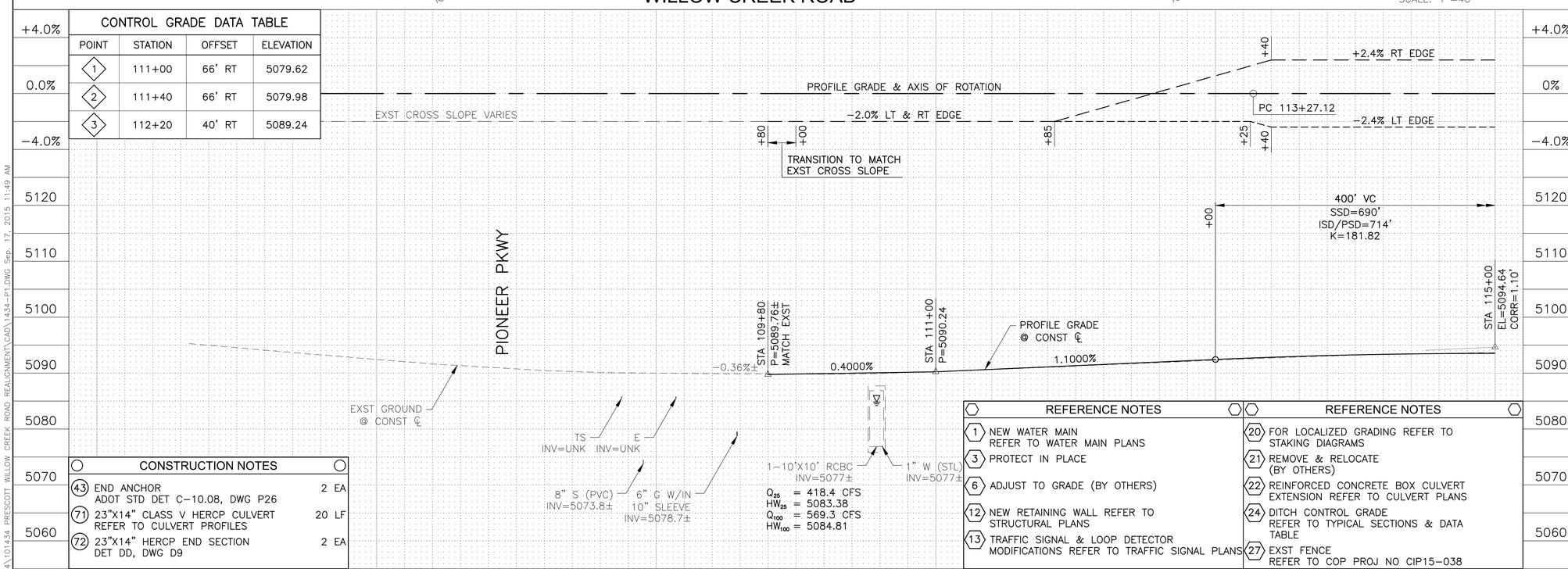


CONTROL GRADE DATA TABLE			
POINT	STATION	OFFSET	ELEVATION
1	111+00	66' RT	5079.62
2	111+40	66' RT	5079.98
3	112+20	40' RT	5089.24



CONSTRUCTION NOTES	
(43) END ANCHOR ADOT STD DET C-10.08, DWG P26	2 EA
(71) 23"X14" CLASS V HERCP CULVERT REFER TO CULVERT PROFILES	20 LF
(72) 23"X14" HERCP END SECTION DET DD, DWG D9	2 EA

REFERENCE NOTES	
(1) NEW WATER MAIN REFER TO WATER MAIN PLANS	
(3) PROTECT IN PLACE	
(6) ADJUST TO GRADE (BY OTHERS)	
(12) NEW RETAINING WALL REFER TO STRUCTURAL PLANS	
(13) TRAFFIC SIGNAL & LOOP DETECTOR MODIFICATIONS REFER TO TRAFFIC SIGNAL PLANS	
(20) FOR LOCALIZED GRADING REFER TO STAKING DIAGRAMS	
(21) REMOVE & RELOCATE (BY OTHERS)	
(22) REINFORCED CONCRETE BOX CULVERT EXTENSION REFER TO CULVERT PLANS	
(24) DITCH CONTROL GRADE REFER TO TYPICAL SECTIONS & DATA TABLE	
(27) EXST FENCE REFER TO COP PROJ NO CIP15-038	

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES		
1	CLEARING & GRUBBING	1.1 AC
2	REMOVE AC PAVEMENT	3409 SY
3	REMOVE GUARDRAIL	406 LF
4	REMOVE TANGENT END TERMINAL	2 EA
8	REMOVE BARBED WIRE FENCE & GATES	1109 LF
12	REMOVE EXTRUDED CURB	42 LF
SM	SAWCUT AC PAVEMENT MATCH EXST	231 LF
M	MATCH EXST	

CONSTRUCTION NOTES	
(1) PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 573 TON 848 TON 1584 CY
(3) MICROSEAL (TYPE II) MAG SPEC SEC 331 & 714	8337 SY
(4) PAVEMENT SECTION NO 4 4" AGGREGATE BASE COURSE REFER TO TURNOUT PROFILES	 5 CY
(5) PAVEMENT SECTION NO 5 2" CRUSHED AGGREGATE 4" AGGREGATE BASE COURSE	 2 CY 4 CY
(6) THICKENED EDGE COP STD DET 201P	1212 LF
(20) BARBED WIRE GAME FENCE ADOT STD DET C-12.10, DWG P24	722 LF
(24) SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
(30) ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	71 CY
(33) TEMPORARY FENCE & GATES REFER TO SPECIAL PROVISIONS	411 LF
(35) FLOOD GATE ADOT STD DET C-12.10, DWG P24	50 LF
(40) STA 109+19 TO 112+06 LT STA 109+73 TO 110+98 RT W-BEAM GUARDRAIL, ADOT STD DET C-10.02, TYPE B, DWG P25	412.5 LF
(41) STA 109+23 TO 109+73 RT STA 112+06 TO 112+56 LT TANGENT END TREATMENT DET A, DWG P18, P19 & P20	2 EA
(42) STA 110+35 TO STA 110+54 RT STA 110+50 TO STA 110+69 LT NESTED GUARDRAIL, ADOT STD DET C-10.06, TYPE 3, DWG P26	38 LF

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 100+00 TO STA 115+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P1	10 OF 118

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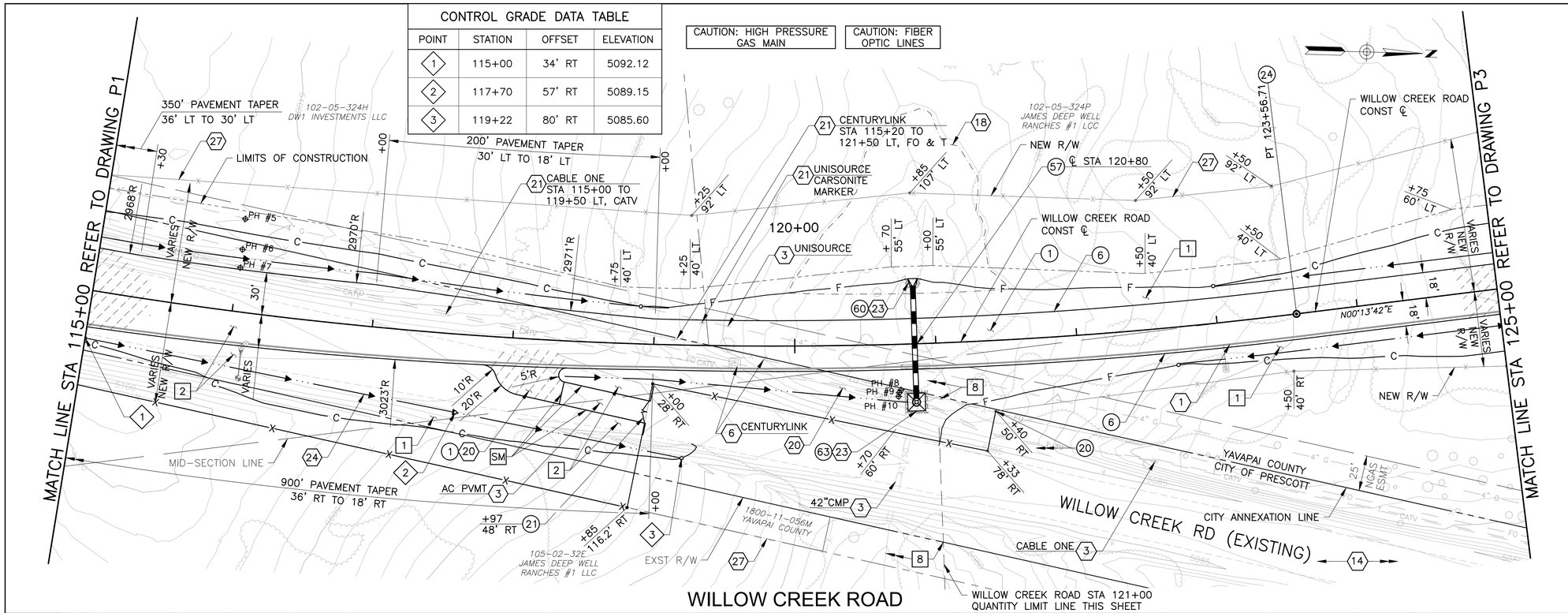
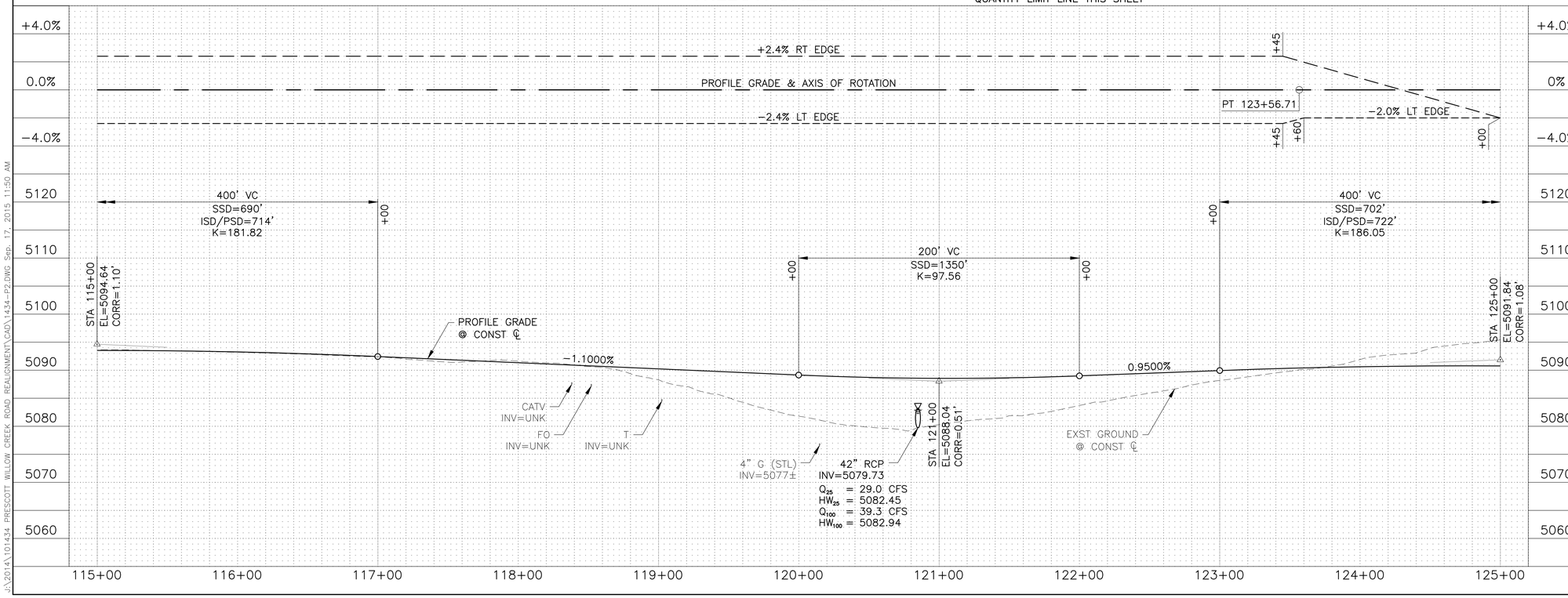
CONTROL GRADE DATA TABLE			
POINT	STATION	OFFSET	ELEVATION
1	115+00	34' RT	5092.12
2	117+70	57' RT	5089.15
3	119+22	80' RT	5085.60





AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.3 AC
2	REMOVE AC PAVEMENT	1863 SY
8	REMOVE BARBED WIRE FENCE & GATES	1254 LF
SM	SAWCUT AC PAVEMENT	330 LF

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 659 TON 999 TON 1823 CY
6	THICKENED EDGE COP STD DET 201P	2036 LF
20	BARBED WIRE GAME FENCE ADOT STD DET C-12.10, DWG P24	744 LF
21	24' DOUBLE SWING GATE, ADOT STD DET C-12.10, TYPE 1, DWG P24	1 EA
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
57	42" CLASS II RCP CULVERT REFER TO CULVERT PROFILES	82 LF
60	42" RCP END SECTION ADOT STD DET C-13.20, DWG D10	1 EA
63	MANHOLE W/ GRATED INLET DET DB, DWG D8	1 EA

REFERENCE NOTES

1. NEW WATER MAIN
   REFER TO WATER MAIN PLANS
3. PROTECT IN PLACE
6. ADJUST TO GRADE (BY OTHERS)
14. FOR REMOVALS ON EXST WILLOW CREEK ROAD REFER TO DRAWING P11
18. APPROXIMATE INUNDATION LIMITS OF 100-YR HIGH WATER
20. FOR LOCALIZED GRADING REFER TO STAKING DIAGRAMS
21. REMOVE & RELOCATE (BY OTHERS)
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP
24. DITCH CONTROL GRADE
    REFER TO TYPICAL SECTIONS & DATA TABLE
27. EXST FENCE
    REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Know the Code, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 115+00 TO STA 125+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P2	11 OF 118

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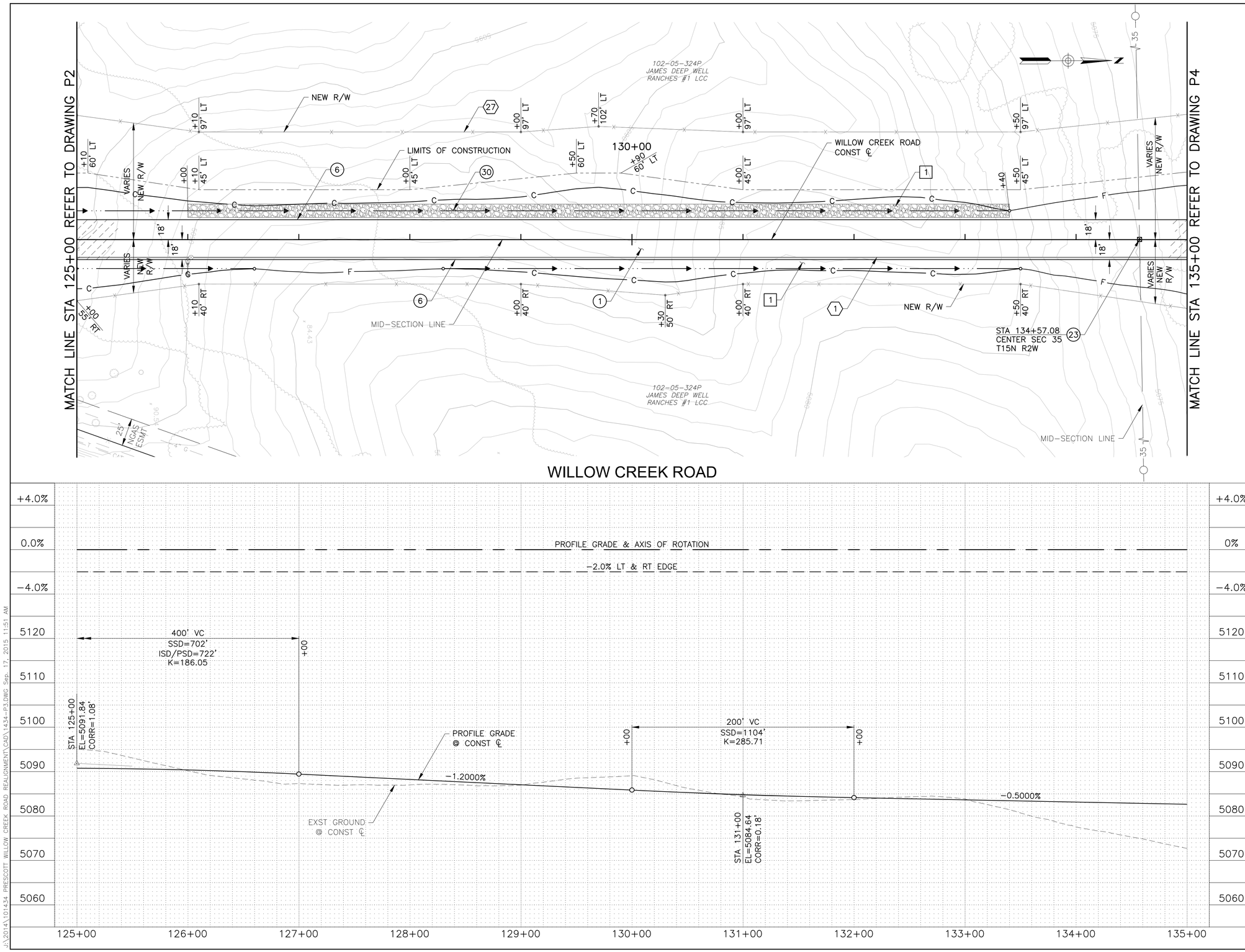

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.1 AC

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 563 TON 863 TON 1556 CY
6	THICKENED EDGE COP STD DET 201P	2000 LF
23	SURVEY MARKER YAG STD DET 120-1, TYPE A REFER TO ENGINEER'S NOTE 4 DWG G3	1 EA
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	329 CY

REFERENCE NOTES

1. NEW WATER MAIN
   REFER TO WATER MAIN PLANS
27. EXST FENCE
   REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'

SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 125+00 TO STA 135+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P3	12 OF 118

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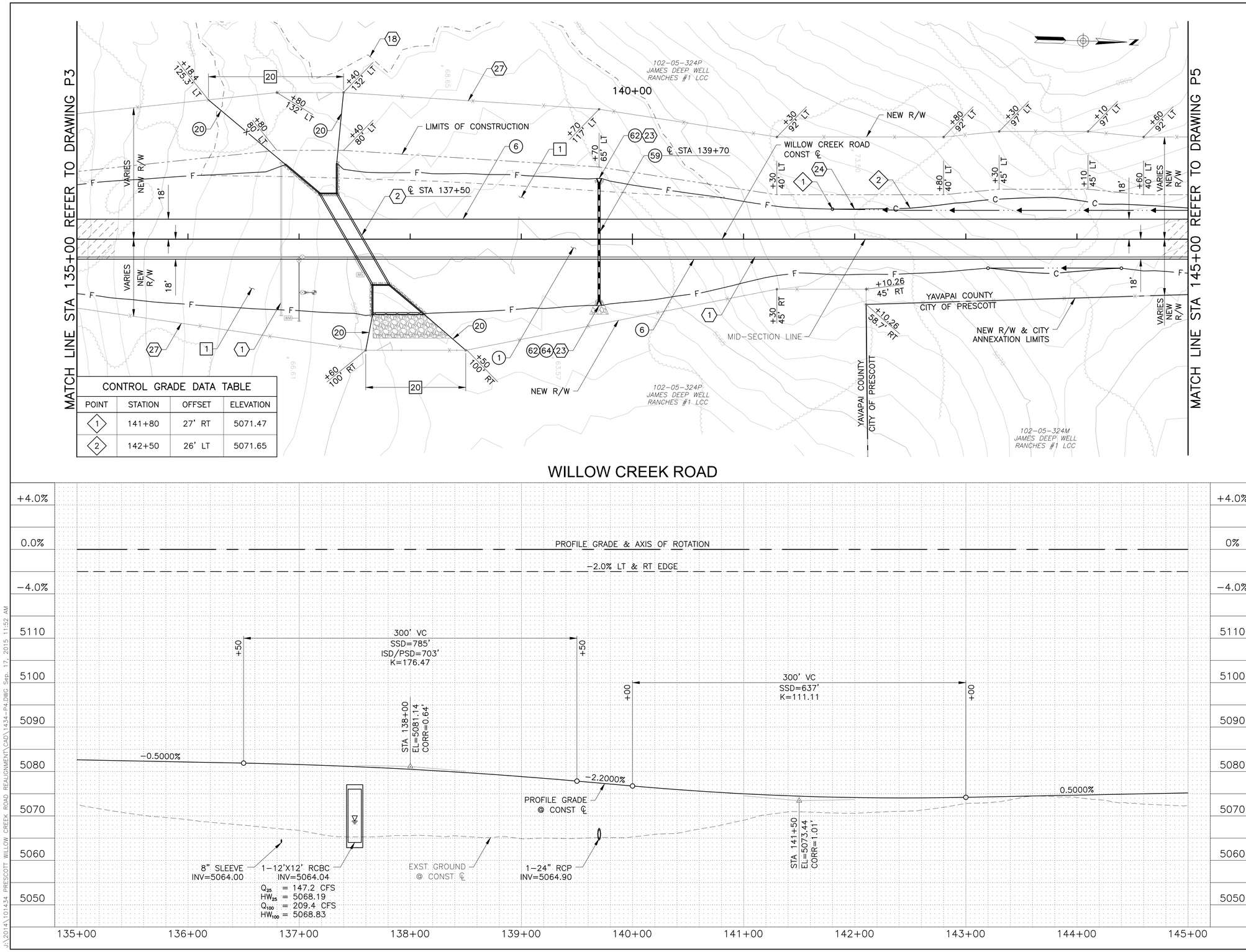

CONTROL GRADE DATA TABLE			
POINT	STATION	OFFSET	ELEVATION
1	141+80	27' RT	5071.47
2	142+50	26' LT	5071.65

WILLOW CREEK ROAD

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.9 AC
20	REMOVE BARBED WIRE FENCE BETWEEN CORNER POSTS	212 LF

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 563 TON 863 TON 1556 CY
6	THICKENED EDGE COP STD DET 201P	2000 LF
20	BARBED WIRE GAME FENCE ADOT STD DET C-12.10, DWG P24	237 LF
59	24" CLASS III RCP CULVERT REFER TO CULVERT PROFILES	107 LF
62	24" RCP END SECTION ADOT STD DET C-13.20, DWG D10	2 EA
64	DUMPED RIPRAP W/ FILTER FABRIC DET DA, DWG D8	7 CY

REFERENCE NOTES

1. NEW WATER MAIN REFER TO WATER MAIN PLANS
2. NEW REINFORCED CONCRETE BOX CULVERT & WINGWALL, REFER TO CULVERT PLANS
18. APPROXIMATE INUNDATION LIMITS OF 100-YR HIGH WATER
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP
24. DITCH CONTROL GRADE REFER TO TYPICAL SECTIONS & DATA TABLE
27. EXST FENCE REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 135+00 TO STA 145+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P4	13 OF 118

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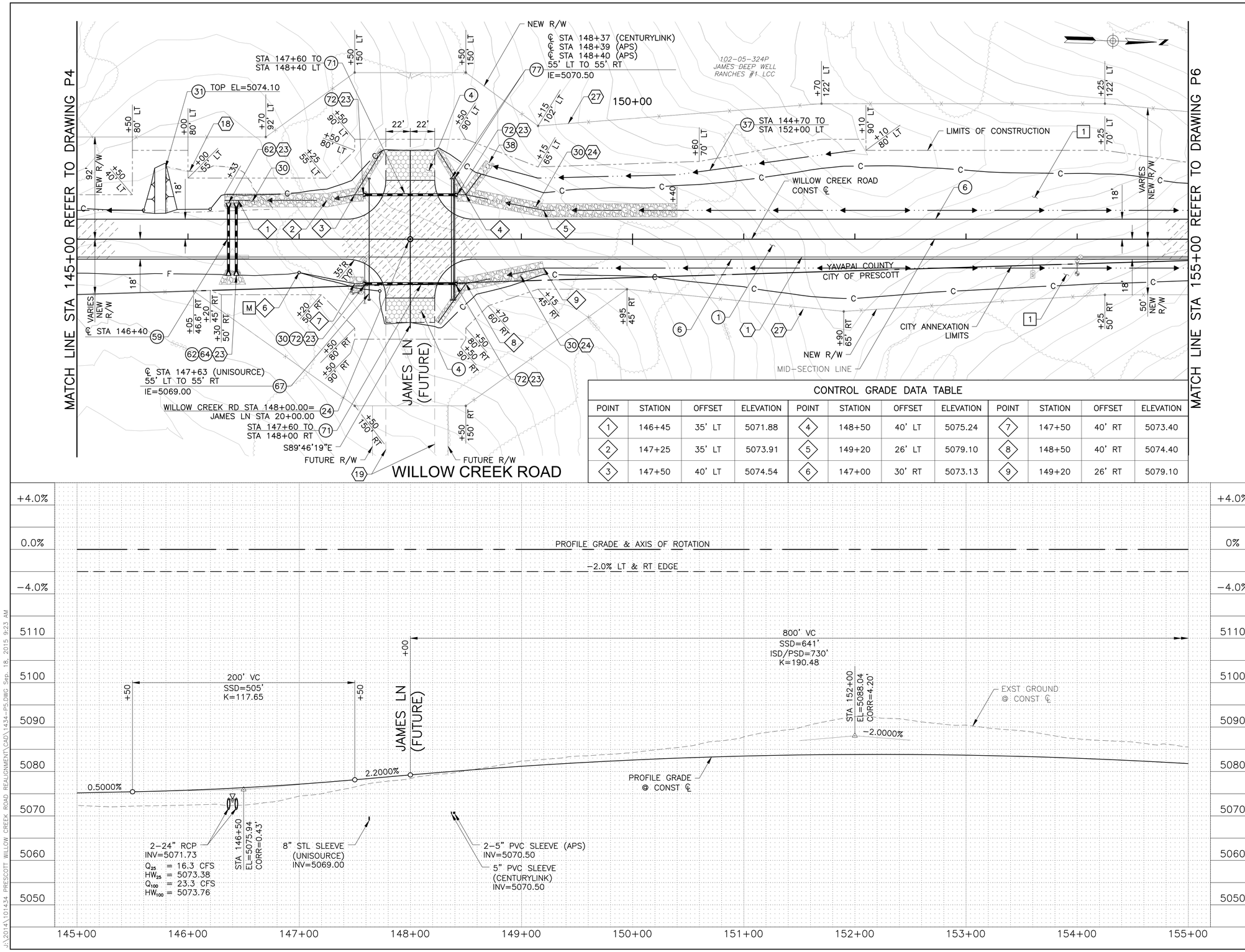

CONTROL GRADE DATA TABLE

POINT	STATION	OFFSET	ELEVATION	POINT	STATION	OFFSET	ELEVATION	POINT	STATION	OFFSET	ELEVATION
1	146+45	35' LT	5071.88	4	148+50	40' LT	5075.24	7	147+50	40' RT	5073.40
2	147+25	35' LT	5073.91	5	149+20	26' LT	5079.10	8	148+50	40' RT	5074.40
3	147+50	40' LT	5074.54	6	147+00	30' RT	5073.13	9	149+20	26' RT	5079.10

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Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/18/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	3.0 AC
M	MATCH EXST	

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 628 TON 956 TON 1734 CY
4	PAVEMENT SECTION NO 4 4" AGGREGATE BASE COURSE REFER TO TURNOUT PROFILES	27 CY
6	THICKENED EDGE COP STD DET 201P	2080 LF
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	207 CY
31	TRANSVERSE DIKE ADOT STD DET C-03.10, DWG P26	
37	CROWN DITCH REFER TO TYPICAL SECTIONS	333 LF
38	INTERCEPTED DRAINAGE RIPRAP (SLOPE MATTRESS) DET DE, DWG D9	11 CY
59	24" CLASS III RCP CULVERT REFER TO CULVERT PROFILES	116 LF
62	24" RCP END SECTION ADOT STD DET C-13.20, DWG D10	4 EA
64	DUMPED RIPRAP W/ FILTER FABRIC DET DA, DWG D8	11 CY
67	8" STEEL SLEEVE 8" PIPE CAP	110 LF 2 EA
71	23"X14" CLASS V HERCP CULVERT REFER TO CULVERT PROFILES	160 LF
72	23"X14" HERCP END SECTION DET DD, DWG D9	4 EA
77	5" PVC SLEEVE 5" PVC CAP	330 LF 6 EA

REFERENCE NOTES

1. NEW WATER MAIN
   REFER TO WATER MAIN PLANS
18. APPROXIMATE INUNDATION LIMITS OF 100-YR HIGH WATER
19. FUTURE ADOT SR 89 IMPROVEMENTS REFER TO ADOT PROJECT NO 089 YV 319 H8518 01 C
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP
24. DITCH CONTROL GRADE
    REFER TO TYPICAL SECTIONS & DATA TABLE
27. EXST FENCE
    REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

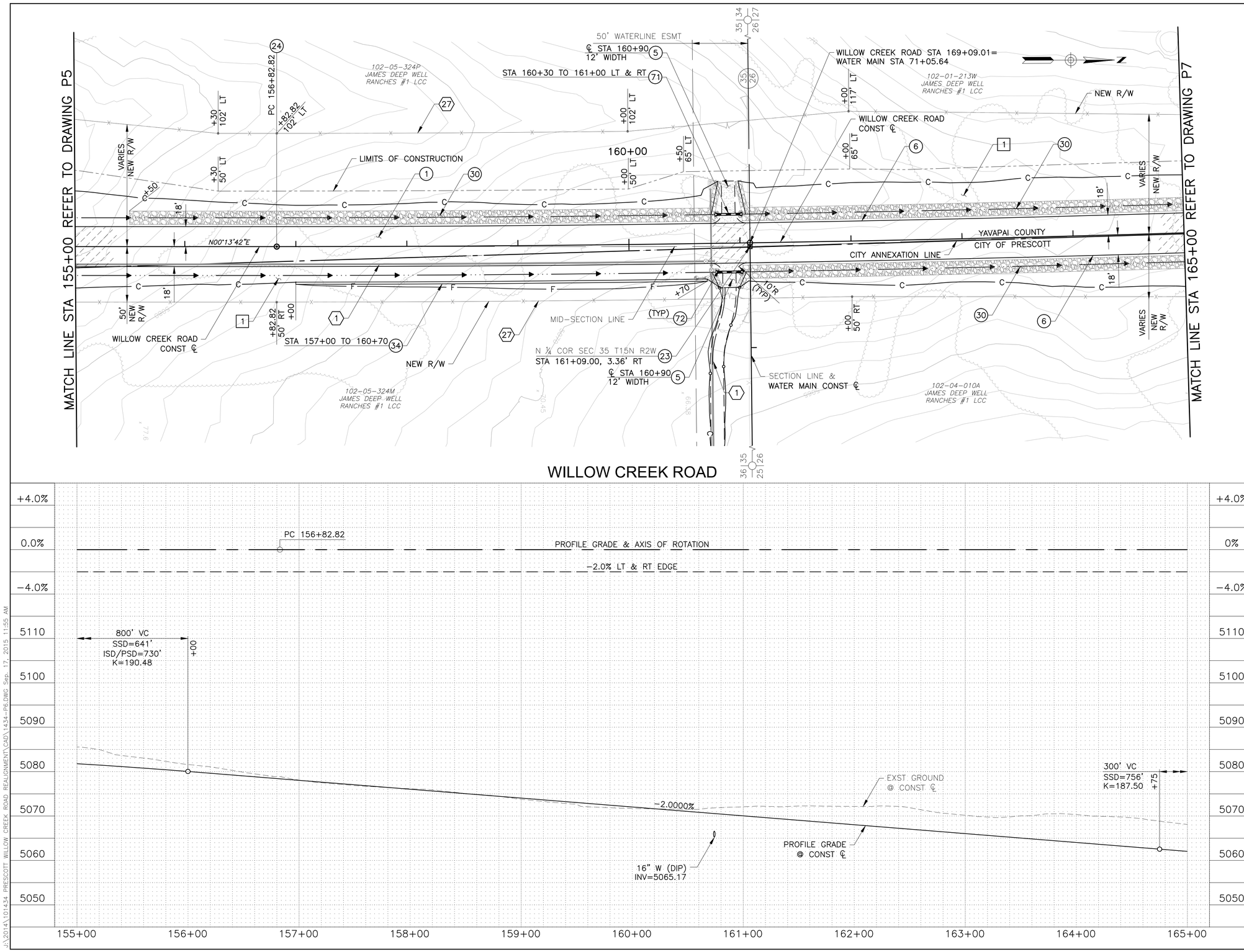
CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 145+00 TO STA 155+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P5	14 OF 118



AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.5 AC

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 563 TON 863 TON 1556 CY
5	PAVEMENT SECTION NO 5 2" CRUSHED AGGREGATE 4" AGGREGATE BASE COURSE	 5 CY 10 CY
6	THICKENED EDGE COP STD DET 201P	2000 LF
23	SURVEY MARKER YAG STD DET 120-1, TYPE A REFER TO ENGINEER'S NOTE 4 DWG G3	1 EA
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	612 CY
34	FALSE CUT REFER TO TYPICAL SECTIONS	
71	23"X14" CLASS V HERCP CULVERT REFER TO CULVERT PROFILES	40 LF
72	23"X14" HERCP END SECTION DET DD, DWG D9	4 EA

REFERENCE NOTES

1. NEW WATER MAIN
   REFER TO WATER MAIN PLANS
27. EXST FENCE
   REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona One Call, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 155+00 TO STA 165+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P6	15 OF 118

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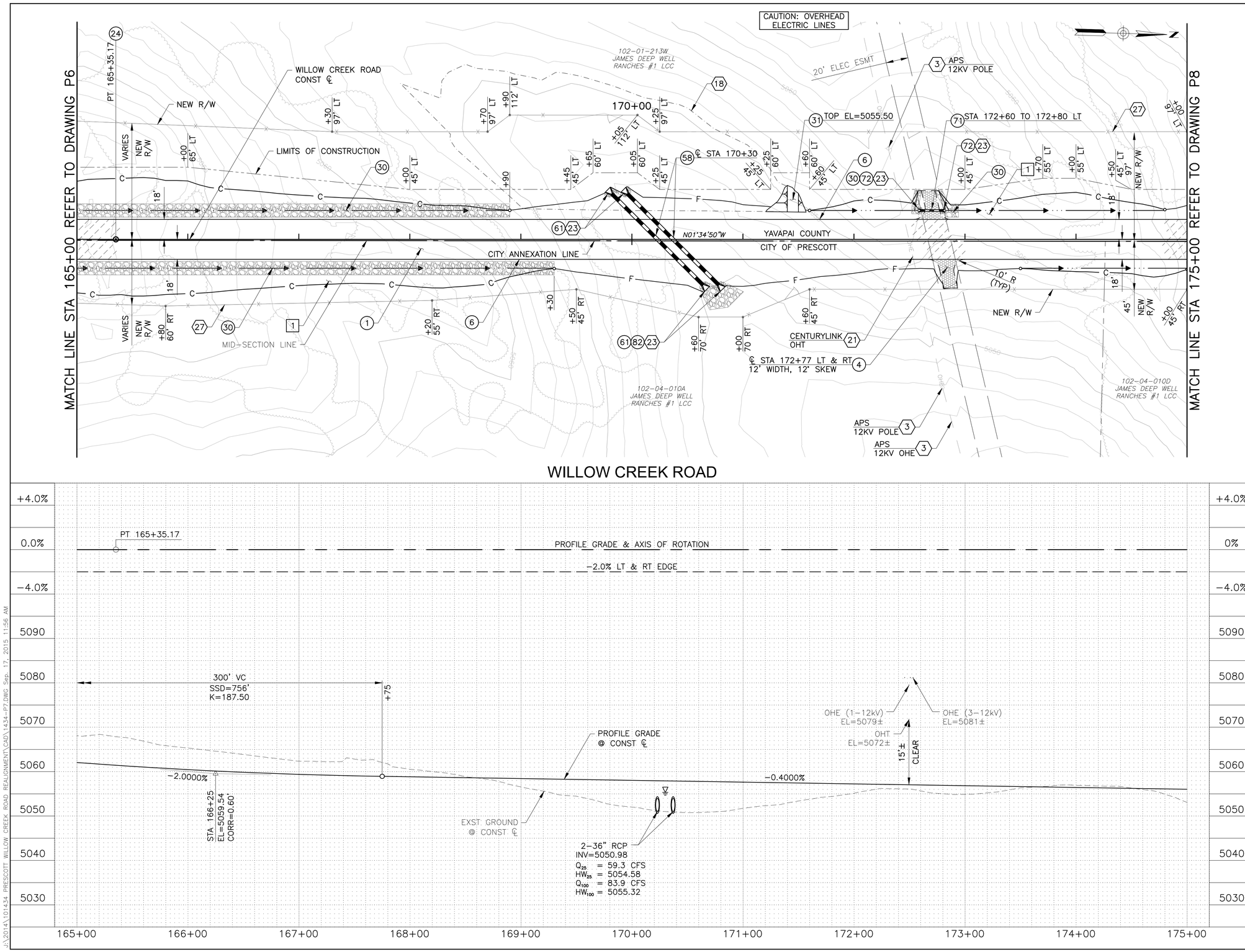

WILLOW CREEK ROAD

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.4 AC

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 563 TON 863 TON 1556 CY
4	PAVEMENT SECTION NO 4 4" AGGREGATE BASE COURSE REFER TO TURNOUT PROFILES	 10 CY
6	THICKENED EDGE COP STD DET 201P	2000 LF
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	378 CY
31	TRANSVERSE DIKE ADOT STD DET C-03.10, DWG P26	
58	36" CLASS II RCP CULVERT REFER TO CULVERT PROFILES	232 LF
61	36" RCP END SECTION ADOT STD DET C-13.20, DWG D10	4 EA
71	23"X14" CLASS V HERCP CULVERT REFER TO CULVERT PROFILES	20 LF
72	23"X14" HERCP END SECTION DET DD, DWG D9	2 EA
82	RIPRAP (SLOPE MATTRESS) DET DA, DWG D8	19 CY

REFERENCE NOTES

3 PROTECT IN PLACE

18 APPROXIMATE INUNDATION LIMITS OF 100-YR HIGH WATER

21 REMOVE & RELOCATE (BY OTHERS)

23 FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP

27 EXST FENCE REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 165+00 TO STA 175+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P7	16 OF 118

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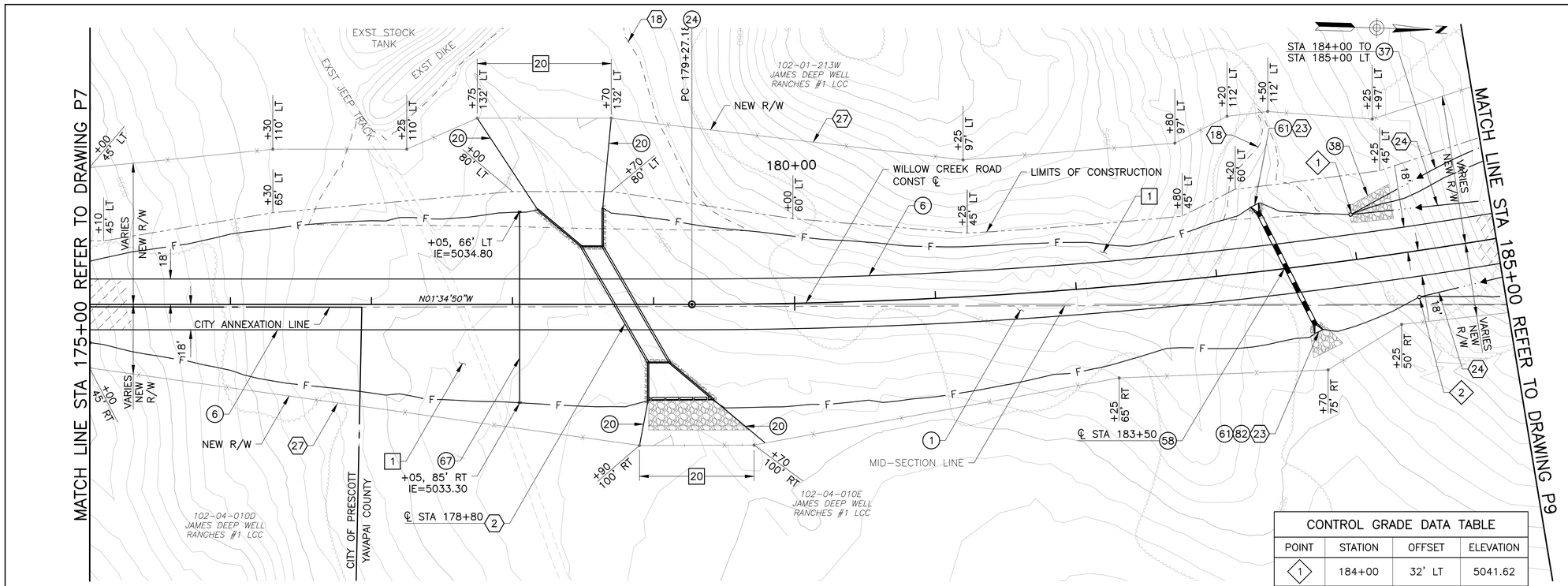
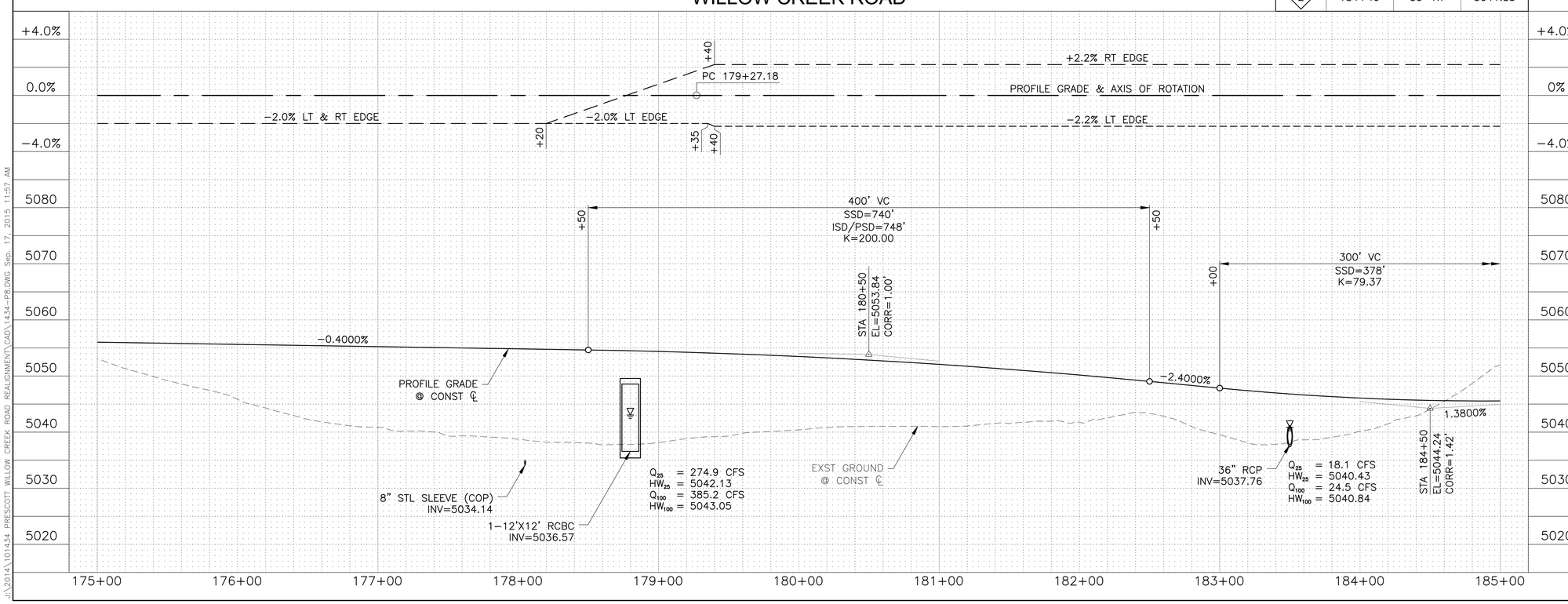


WILLOW CREEK ROAD

CONTROL GRADE DATA TABLE			
POINT	STATION	OFFSET	ELEVATION
1	184+00	32' LT	5041.62
2	184+40	33' RT	5041.85



AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	3.1 AC
20	REMOVE BARBED WIRE FENCE BETWEEN CORNER POSTS	184 LF

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 563 TON 863 TON 1556 CY
6	THICKENED EDGE COP STD DET 201P	2000 LF
20	BARBED WIRE GAME FENCE ADOT STD DET C-12.10, DWG P24	223 LF
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
37	CROWN DITCH REFER TO TYPICAL SECTIONS	104 LF
38	INTERCEPTED DRAINAGE RIPRAP (SLOPE MATTRESS) DET DE, DWG D9	21 CY
58	36" CLASS II RCP CULVERT REFER TO CULVERT PROFILES	90 LF
61	36" RCP END SECTION ADOT STD DET C-13.20, DWG D10	2 EA
67	8" STEEL SLEEVE 8" PIPE CAP	136 LF 2 EA
82	RIPRAP (SLOPE MATTRESS) DET DA, DWG D8	10 CY

REFERENCE NOTES

2. NEW REINFORCED CONCRETE BOX CULVERT & WINGWALL, REFER TO CULVERT PLANS
18. APPROXIMATE INUNDATION LIMITS OF 100-YR HIGH WATER
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP
24. DITCH CONTROL GRADE REFER TO TYPICAL SECTIONS & DATA TABLE
27. EXST FENCE REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 175+00 TO STA 185+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P8	17 OF 118

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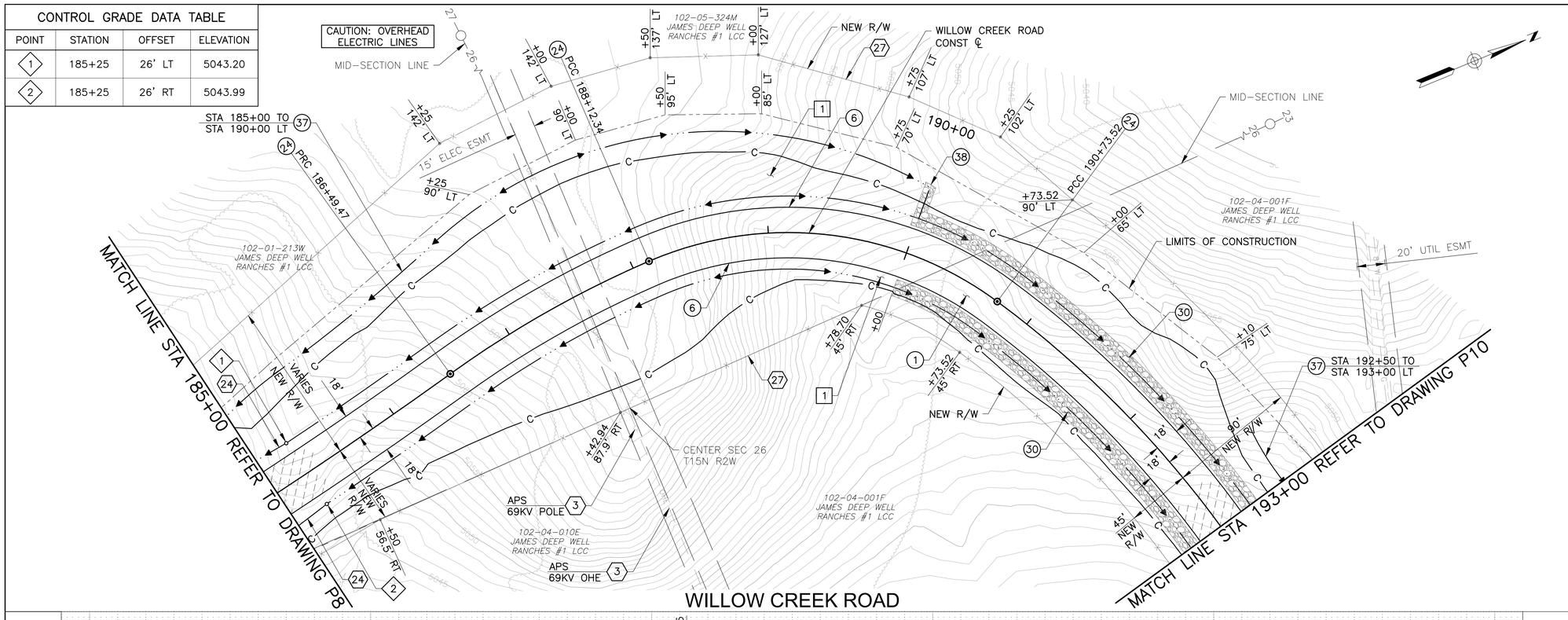
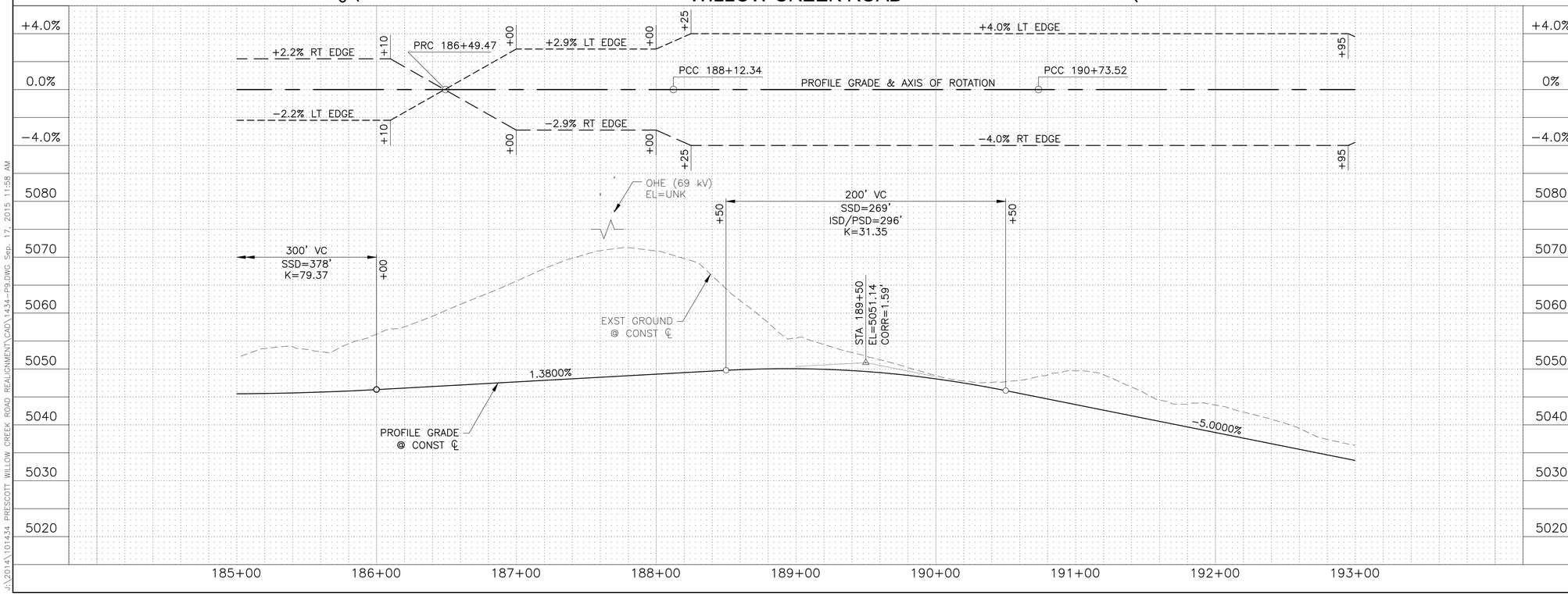
CONTROL GRADE DATA TABLE			
POINT	STATION	OFFSET	ELEVATION
1	185+25	26' LT	5043.20
2	185+25	26' RT	5043.99





AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.7 AC

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 450 TON 690 TON 1245 CY
6	THICKENED EDGE COP STD DET 201P	1600 LF
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	3 EA
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	267 CY
37	CROWN DITCH REFER TO TYPICAL SECTIONS	620 LF
38	INTERCEPTED DRAINAGE RIPRAP (SLOPE MATTRESS) DET DE, DWG D9	9 CY

REFERENCE NOTES

3 PROTECT IN PLACE

24 DITCH CONTROL GRADE
REFER TO TYPICAL SECTIONS & DATA TABLE

27 EXST FENCE
REFER TO COP PROJ NO CIP15-038

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 185+00 TO STA 193+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P9	18 OF 118

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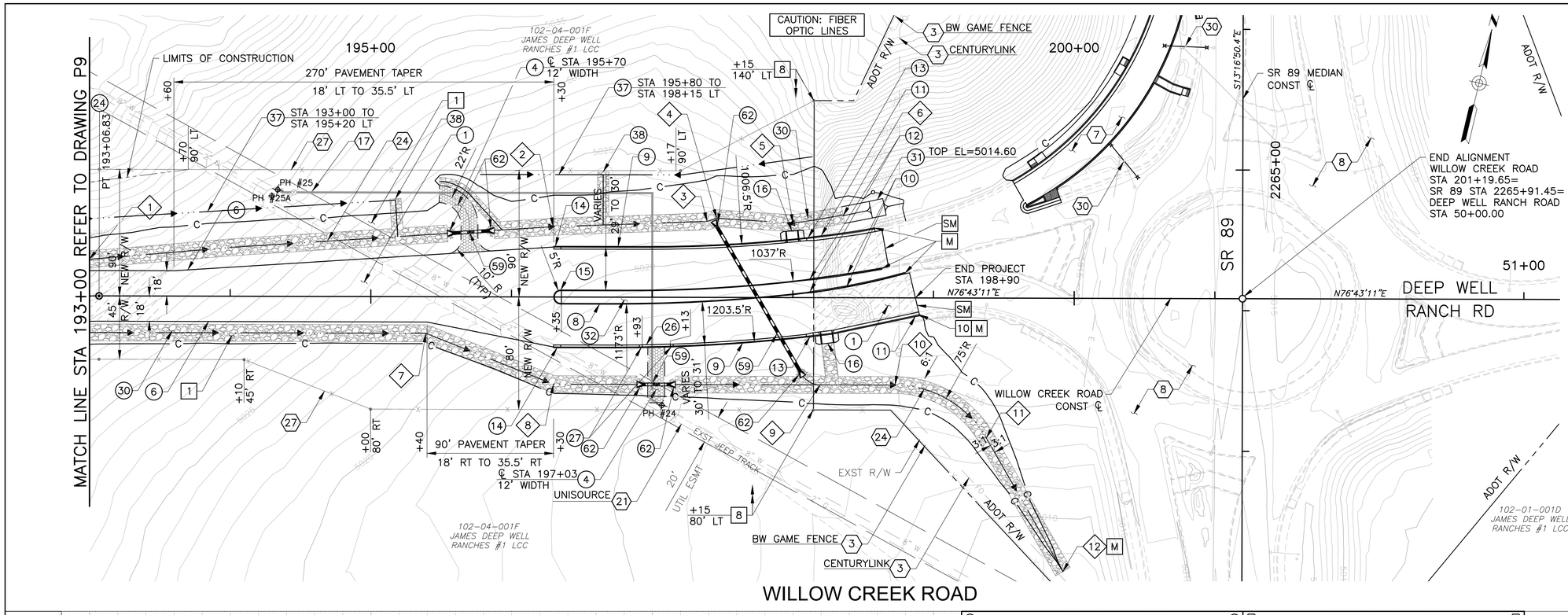
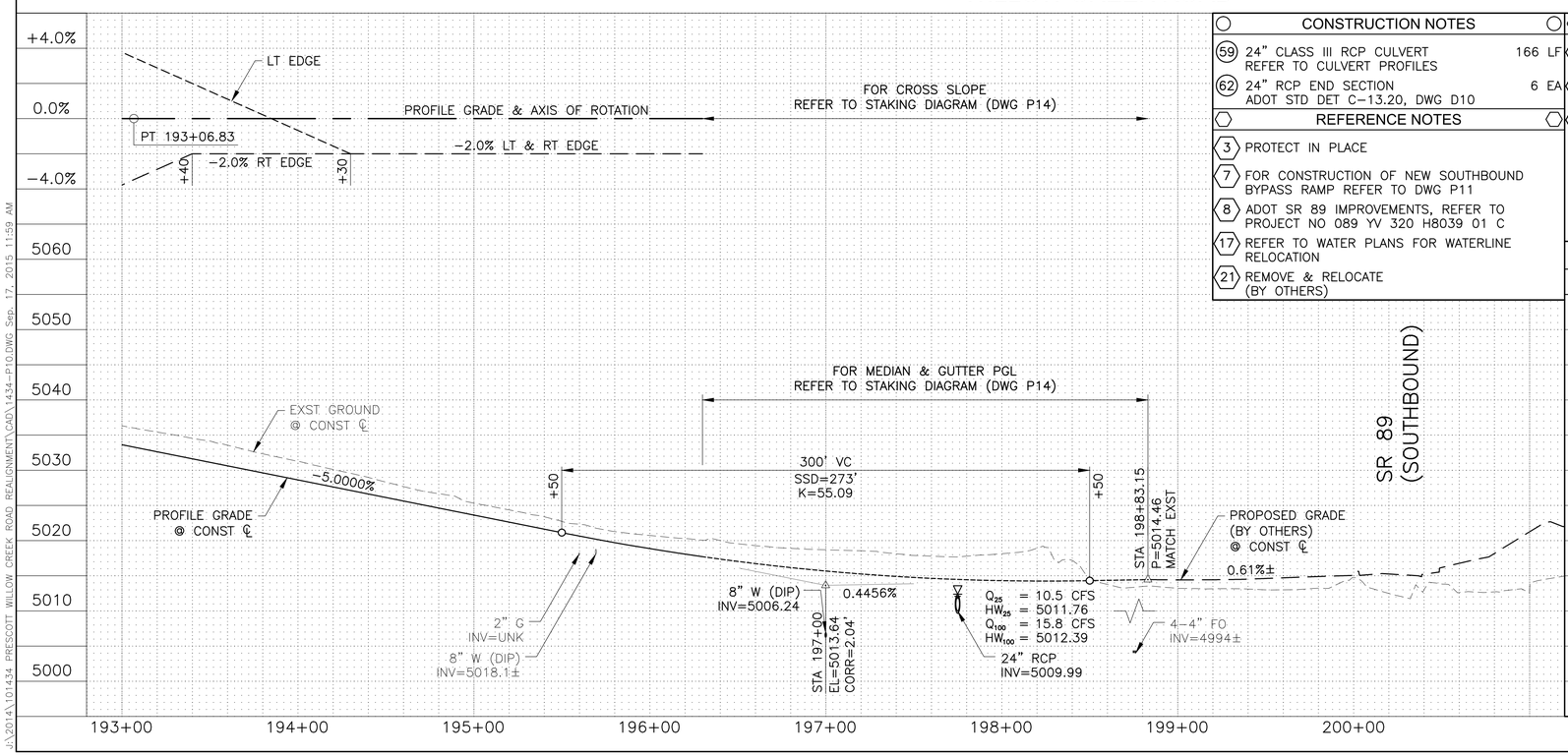


WILLOW CREEK ROAD



CONSTRUCTION NOTES

59	24" CLASS III RCP CULVERT REFER TO CULVERT PROFILES	166 LF
62	24" RCP END SECTION ADOT STD DET C-13.20, DWG D10	6 EA

REFERENCE NOTES

3	PROTECT IN PLACE
7	FOR CONSTRUCTION OF NEW SOUTHBOUND BYPASS RAMP REFER TO DWG P11
8	ADOT SR 89 IMPROVEMENTS, REFER TO PROJECT NO 089 YV 320 H8039 01 C
17	REFER TO WATER PLANS FOR WATERLINE RELOCATION
21	REMOVE & RELOCATE (BY OTHERS)
24	DITCH CONTROL GRADE REFER TO TYPICAL SECTIONS & DATA TABLE
27	EXST FENCE REFER TO COP PROJ NO CIP15-038
30	NEW ROUNDABOUT LIGHTING REFER TO DWG L1

CONTROL GRADE DATA TABLE

POINT	STATION	OFFSET	ELEVATION
1	193+00	26' LT	5032.28
2	196+30	50' LT	5012.80
3	197+40	54' LT	5009.90
4	197+46	56' LT	5009.90
5	198+00	53' LT	5011.40
6	198+36	59' LT	5011.60
7	195+40	26' RT	5019.28
8	196+30	62' RT	5015.16
9	198+20	62' RT	5009.42
10	198+73	62' RT	5009.22
11	199+38	100' RT	5008.93
12	199+93	194' RT	5008.52

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	2.3 AC
8	REMOVE BARBED WIRE FENCE & GATES	220 LF
10	REMOVE CONCRETE CURB & GUTTER TO NEAREST JOINT	4 LF
SM	SAWCUT AC PAVEMENT MATCH EXST	55 LF
M	MATCH EXST	

CONSTRUCTION NOTES

1	PAVEMENT SECTION NO 1 2-1/2" ARAC SURFACE COURSE 3-1/2" AC BASE COURSE 14" AGGREGATE BASE COURSE	 455 TON 662 TON 1258 CY
4	PAVEMENT SECTION NO 4 4" AGGREGATE BASE COURSE REFER TO TURNOUT PROFILES	15 CY
6	THICKENED EDGE COP STD DET 201P	662 LF
8	SINGLE CURB YAG STD DET 222, TYPE A	364 LF
9	VERTICAL CURB & GUTTER COP STD DET 220P-1	340 LF
10	SINGLE CURB, ADOT STD DET C-05.10, TYPE A, h=7", DWG P22	115 LF
11	VERTICAL CURB & GUTTER, ADOT STD DET C-05.10, TYPE D, h=7", DWG P22	127 LF
12	SINGLE CURB TRANSITION DET F, DWG P21	
13	VERTICAL CURB & GUTTER TRANSITION DET E, DWG P21	
14	VERTICAL CURB & GUTTER TERMINATION DET C, DWG P21	
15	MEDIAN NOSE TRANSITION YAG STD DET 223	36 SF
16	CONCRETE SCUPPER DUMPED RIPRAP DET B, DWG P21	2 EA 14 CY
24	SURVEY MARKER YAG STD DET 120-1, TYPE B	1 EA
26	CONCRETE MOUNTABLE CURB, MAG STD DET 220-2, TYPE E, DWG P22	20 LF
27	MOUNTABLE CURB TRANSITION MAG STD DET 220-2, TYPE E TO TYPE A DWG P22	
30	ROCK MULCH W/FILTER FABRIC D50=4", 12" THICK REFER TO TYPICAL SECTIONS	557 CY
31	TRANSVERSE DIKE ADOT STD DET C-03.10, DWG P26	
32	GRANITE MULCH REFER TO SPECIAL PROVISIONS	224 SY
37	CROWN DITCH REFER TO TYPICAL SECTIONS	455 LF
38	INTERCEPTED DRAINAGE RIPRAP (SLOPE MATTRESS) DET DE, DWG D9	23 CY

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY PLAN & PROFILE
STA 193+00 TO STA 200+19.65

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 10' VERTICAL			P10	19 OF 118

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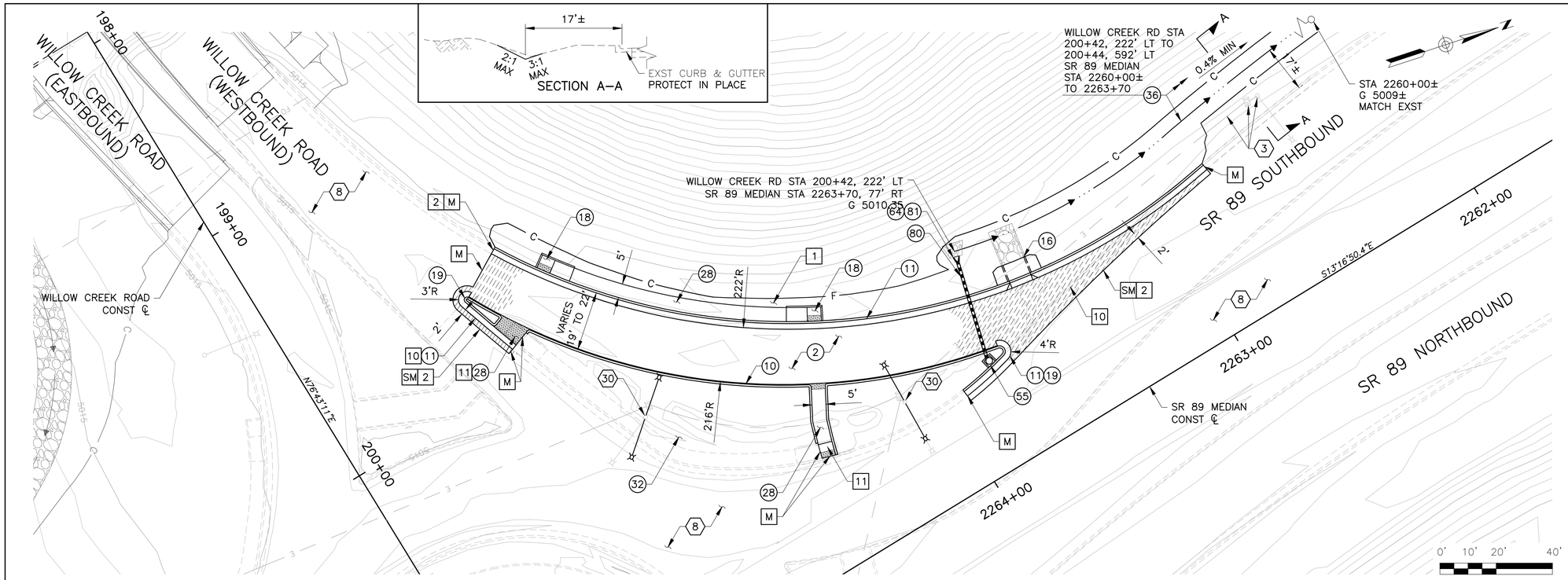
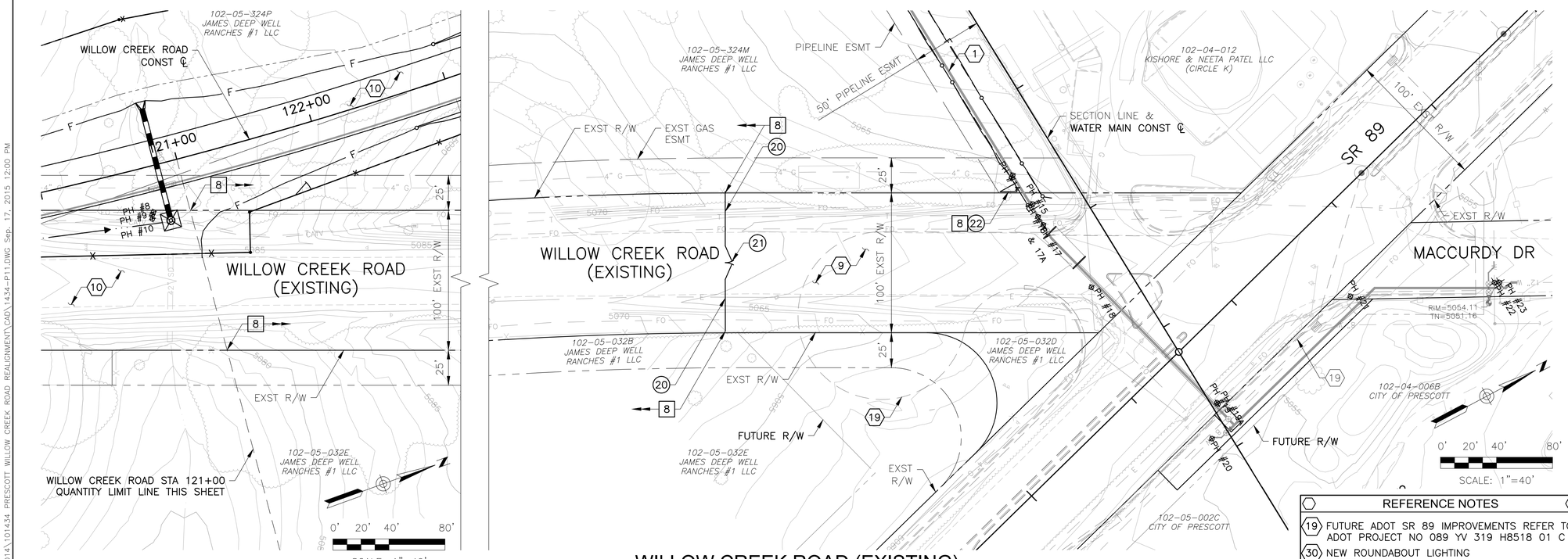


SOUTHBOUND BYPASS RAMP



WILLOW CREEK ROAD (EXISTING)

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

25015 ANDREW JOHN SPEAR Registered Professional Engineer (Civil) Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1	CLEARING & GRUBBING	0.1 AC
2	REMOVE AC PAVEMENT	34 SY
8	REMOVE BARBED WIRE FENCE & GATES	8032 LF
10	REMOVE CONCRETE CURB & GUTTER TO NEAREST JOINT	117 LF
11	REMOVE CONCRETE SIDEWALK TO NEAREST JOINT	10 SF
M	MATCH EXST	
SM	SAWCUT AC PAVEMENT MATCH EXST	164 LF

CONSTRUCTION NOTES

2	PAVEMENT SECTION NO 2 8" AC (MISC STR)(3/4")(SPECIAL MIX) 12" ABC (CLASS 2)	 227 TON 169 CY
10	SINGLE CURB, ADOT STD DET C–05.10, TYPE A, h=7", DWG P22	251 LF
11	VERTICAL CURB & GUTTER, ADOT STD DET C–05.10, TYPE D, h=7", DWG P22	308 LF
16	CONCRETE SCUPPER DUMPED RIPRAP DET B, DWG P21	1 EA 4 CY
18	SIDEWALK RAMP, ADOT STD DET C–05.30, TYPE C, DWG P23	141 SF
19	VERTICAL CURB & GUTTER TO SINGLE CURB TRANSITION, DET G, DWG P21	
20	BARBED WIRE GAME FENCE ADOT STD DET C–12.10, DWG P24	76 LF
21	24' DOUBLE SWING GATE, ADOT STD DET C–12.10, TYPE 1, DWG P24	1 EA
22	12' SINGLE SWING GATE, ADOT STD DET C–12.10, TYPE 1, DWG P24	1 EA
28	CONCRETE SIDEWALK ADOT STD DET C–05.20, DWG P23	584 SF
32	GRANITE MULCH REFER TO SPECIAL PROVISIONS	305 SY
36	GRADER DITCH, GRADE TO DRAIN	
55	CATCH BASIN, TYPE 3, OMIT WING ADOT STD DET C–15.20, DWG D14	1 EA
64	DUMPED RIPRAP W/ FILTER FABRIC DET DA, DWG D8	2 CY
80	12" CLASS V RCP REFER TO CULVERT PROFILES	36 LF
81	12" RCP END SECTION ADOT STD DET C–13.20, DWG D10	1 EA

REFERENCE NOTES

1. NEW WATER MAIN REFER TO WATER MAIN PLANS
3. PROTECT IN PLACE
8. ADOT SR 89 IMPROVEMENTS, REFER TO PROJECT NO 089 YV 320 H8039 01 C
9. FUTURE LOCATION OF MAC CURDY DR CUL–DE–SAC (BY OTHERS)
10. FOR CONSTRUCTION ON NEW WILLOW CREEK ROAD REFER TO DWG P2

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

REFERENCE NOTES

19. FUTURE ADOT SR 89 IMPROVEMENTS REFER TO ADOT PROJECT NO 089 YV 319 H8518 01 C
30. NEW ROUNDABOUT LIGHTING REFER TO DWG L1

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND BYPASS RAMP & EXISTING WILLOW CREEK ROAD PLAN

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL	VERTICAL	P11	20 OF 118

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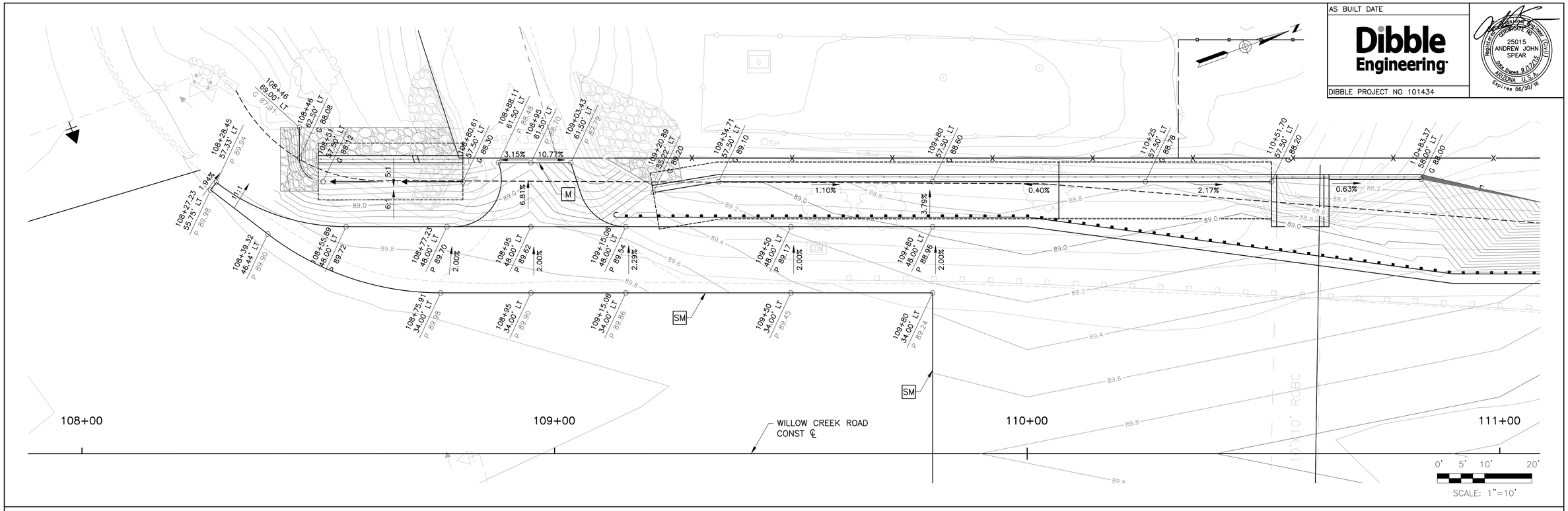
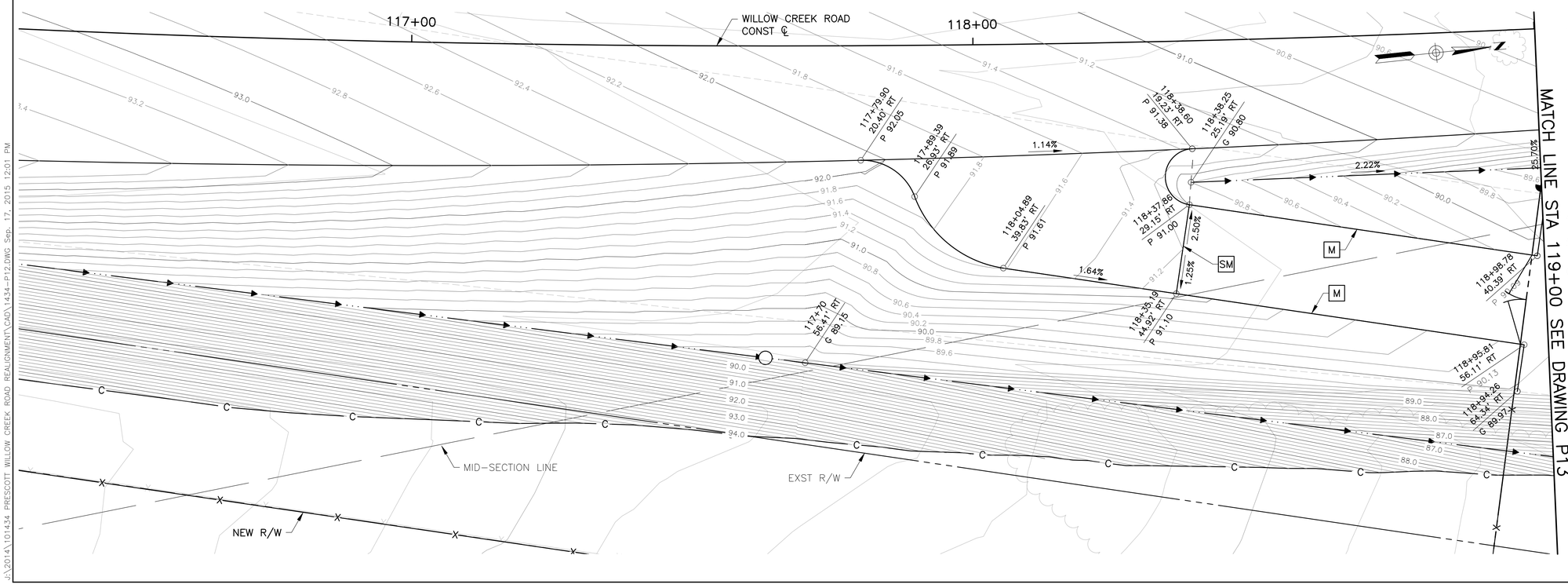
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16





LEGEND

	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	EXISTING CONTOUR (1.0' INTERVAL)
	GRADE BREAK
10	PROPOSED ELEVATION
10	EXISTING ELEVATION (MATCH EXISTING)
SM	SAWCUT MATCH EXISTING
M	MATCH EXISTING

NOTES

ACTUAL ELEVATION = ELEVATION PROVIDED + 5000

ALL STATION AND OFFSETS ARE REFERENCED FROM THE WILLOW CREEK ROAD CONST ℄

CONTOUR INTERVAL = 0.2'

0' 5' 10' 20'

SCALE: 1"=10'

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	REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

STAKING DIAGRAM

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=10'	HORIZONTAL / VERTICAL		P12	21 OF 118

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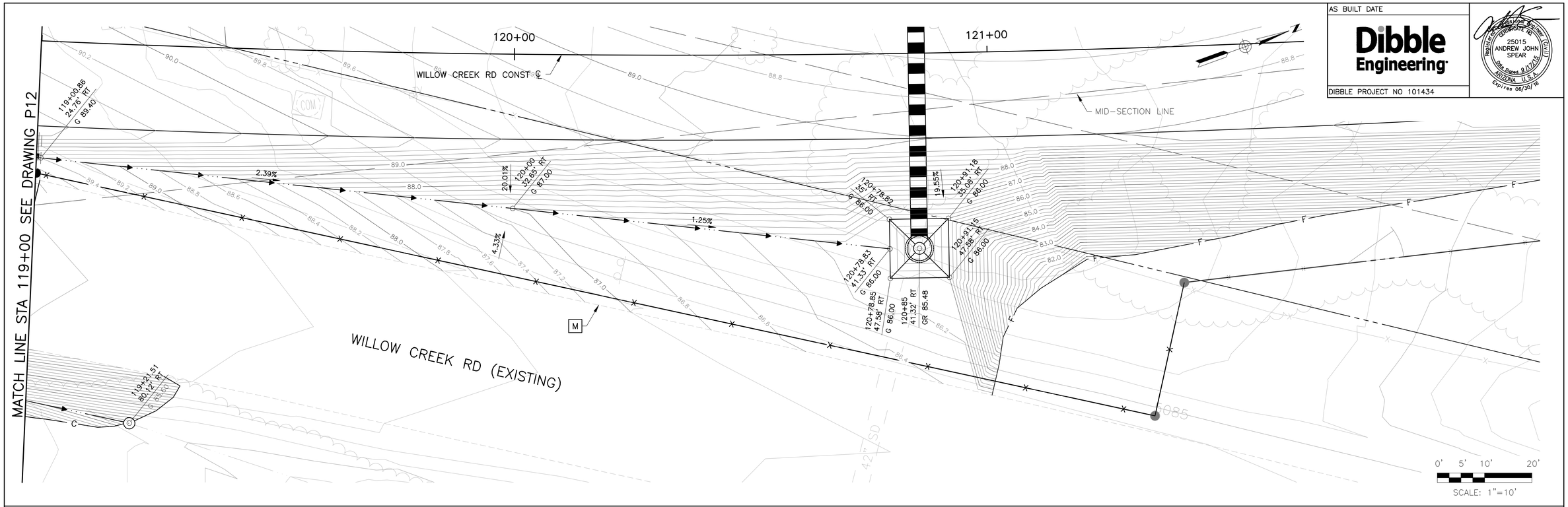

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING CONTOUR (1.0' INTERVAL)
- GRADE BREAK
- 10 PROPOSED ELEVATION
- 10 EXISTING ELEVATION (MATCH EXISTING)
- SM SAWCUT MATCH EXISTING
- M MATCH EXISTING

NOTES

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CONTOUR INTERVAL = 0.2'

0' 5' 10' 20'

SCALE: 1"=10'

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	REVISION	BY	DATE
△			

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

STAKING DIAGRAM

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=10' HORIZONTAL _ VERTICAL			P13	22 OF 118

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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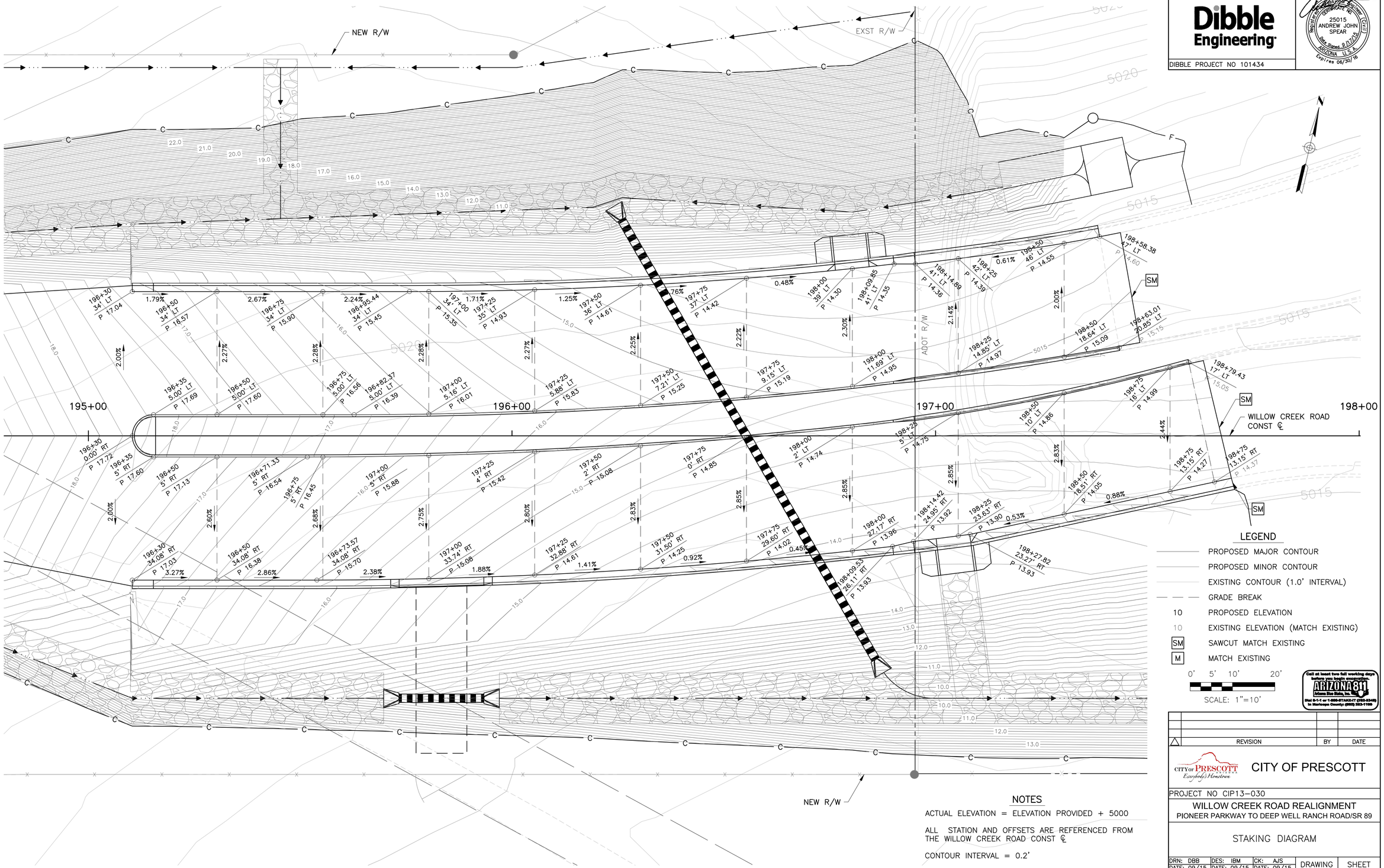

LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING CONTOUR (1.0' INTERVAL)
- GRADE BREAK
- 10 PROPOSED ELEVATION
- 10 EXISTING ELEVATION (MATCH EXISTING)
- SM SAWCUT MATCH EXISTING
- M MATCH EXISTING

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin construction. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

NOTES

ACTUAL ELEVATION = ELEVATION PROVIDED + 5000

ALL STATION AND OFFSETS ARE REFERENCED FROM THE WILLOW CREEK ROAD CONST ℄

CONTOUR INTERVAL = 0.2'

	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

STAKING DIAGRAM

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=10'	HORIZONTAL VERTICAL		P14	23 OF 118

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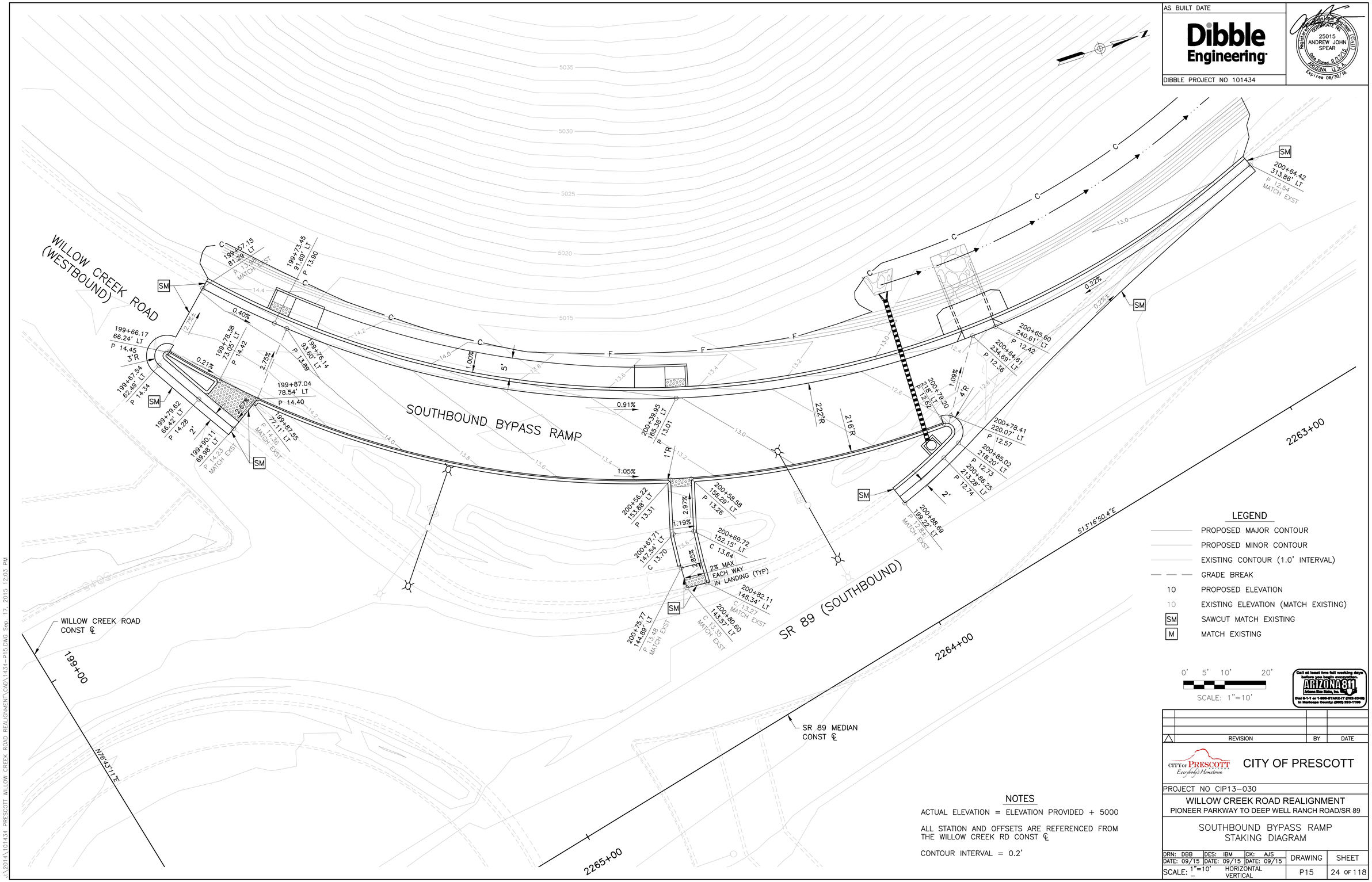
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16



LEGEND

- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING CONTOUR (1.0' INTERVAL)
- GRADE BREAK
- 10 PROPOSED ELEVATION
- 10 EXISTING ELEVATION (MATCH EXISTING)
- SM SAWCUT MATCH EXISTING
- M MATCH EXISTING

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona One Call, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

NOTES

ACTUAL ELEVATION = ELEVATION PROVIDED + 5000

ALL STATION AND OFFSETS ARE REFERENCED FROM THE WILLOW CREEK RD CONST ℄

CONTOUR INTERVAL = 0.2'

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND BYPASS RAMP STAKING DIAGRAM

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=10'	HORIZONTAL / VERTICAL		P15	24 OF 118

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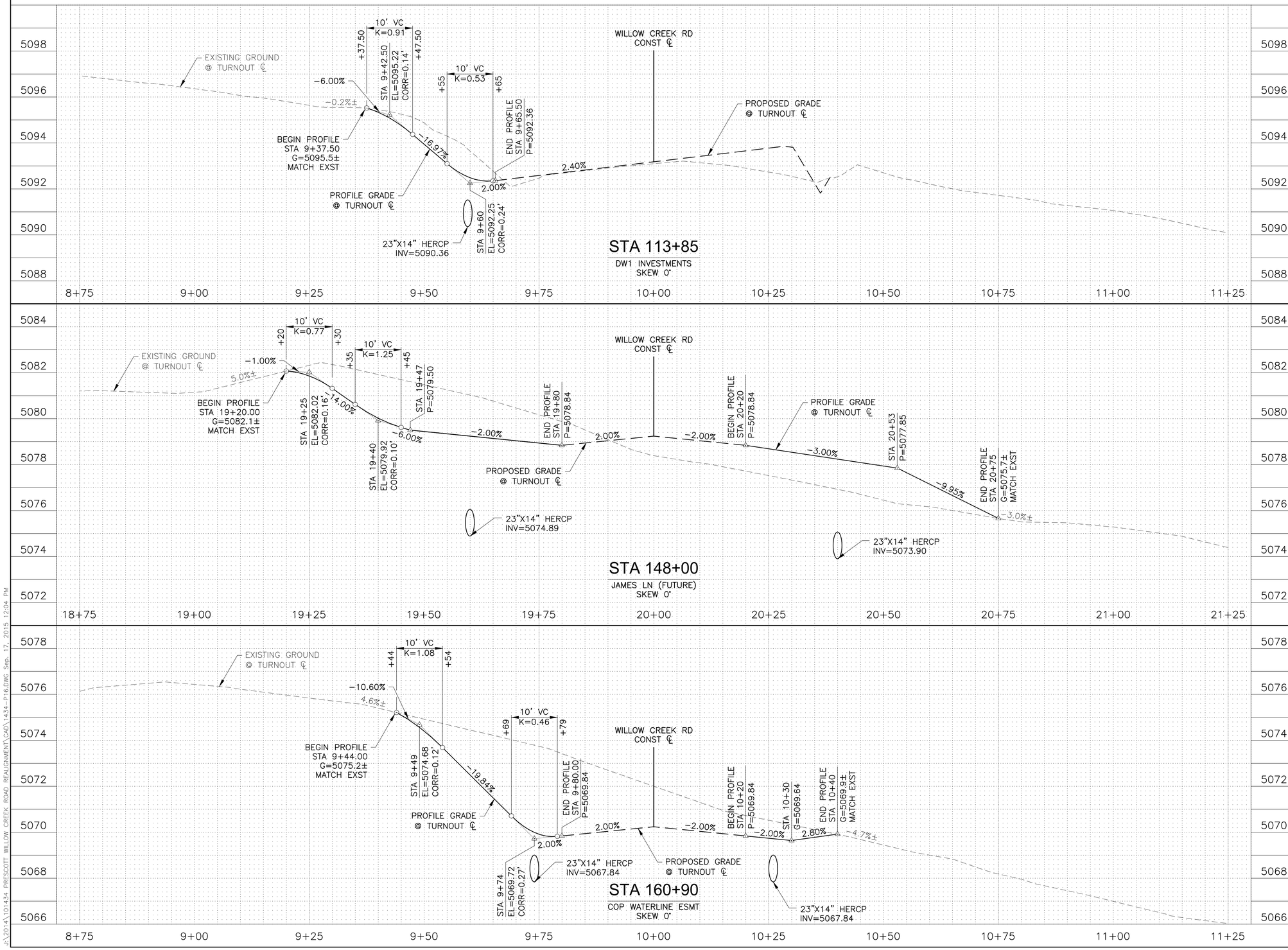

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 5' 10' 20'
SCALE: 1"=10'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TURNOUT PROFILES
STA 113+85, 148+00,
& STA 160+90

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 2' VERTICAL			P16	25 OF 118

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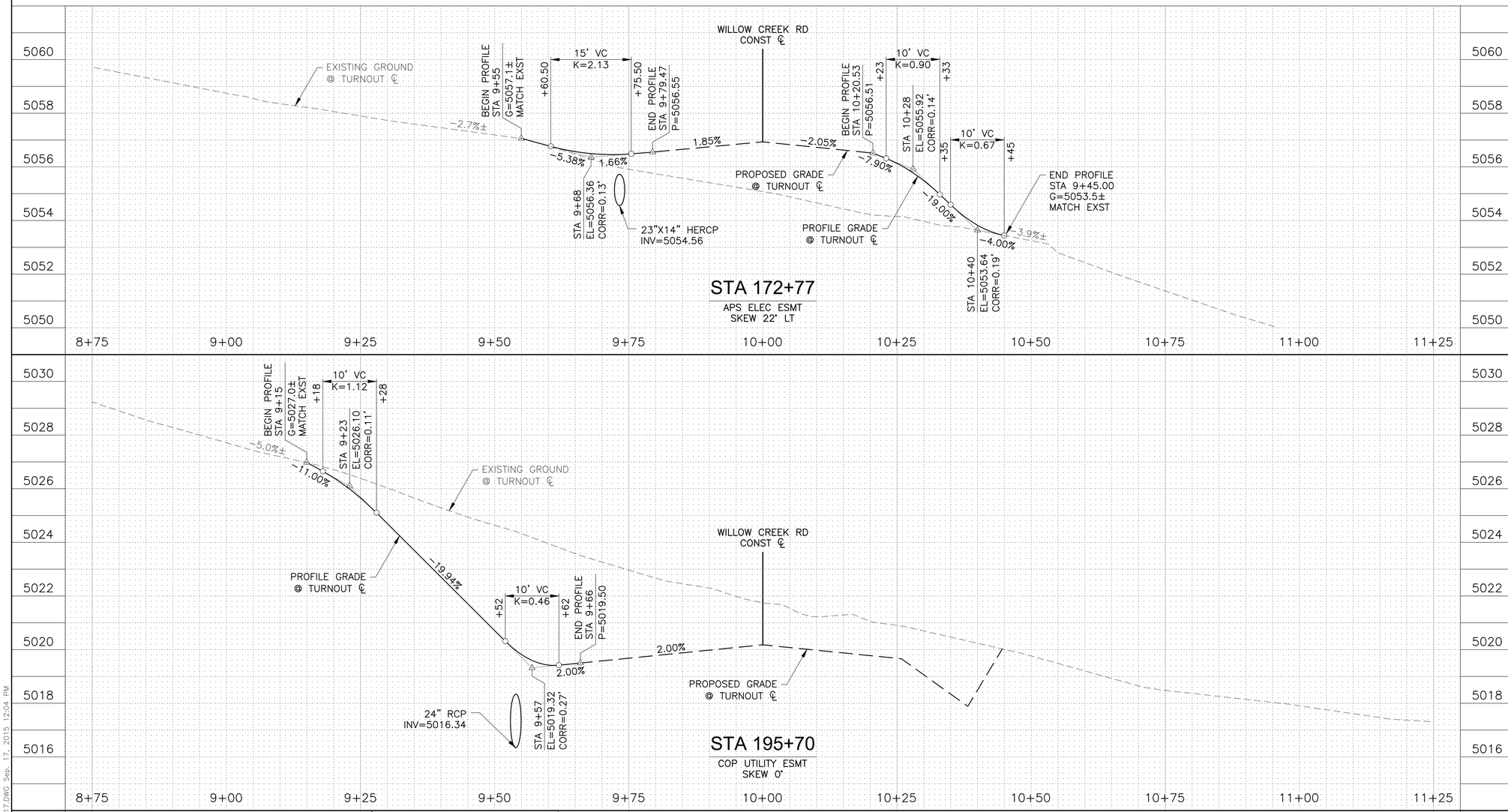

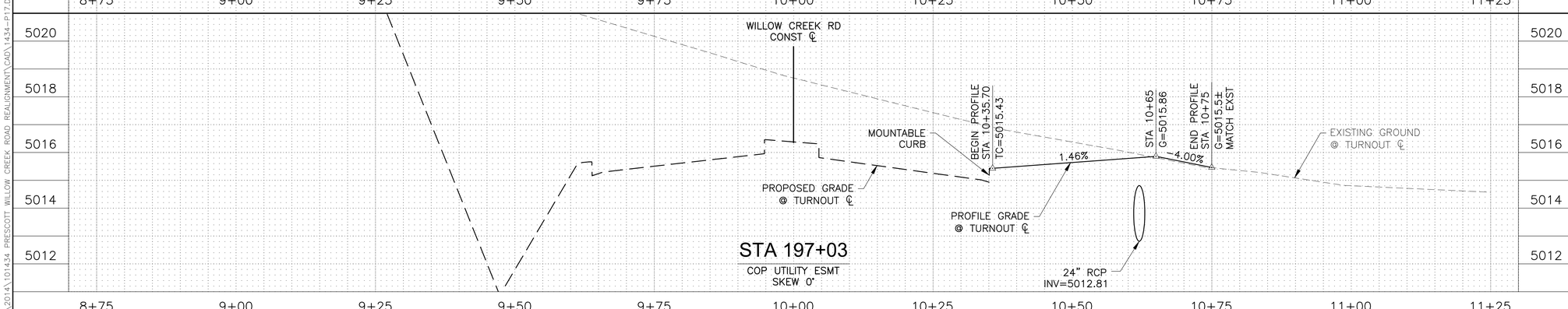

AS BUILT DATE

Dibble Engineering

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Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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SCALE: 1"=10'

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REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TURNOUT PROFILES
STA 172+77, STA 195+70,
& STA 197+03

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 2' VERTICAL			P17	26 OF 118

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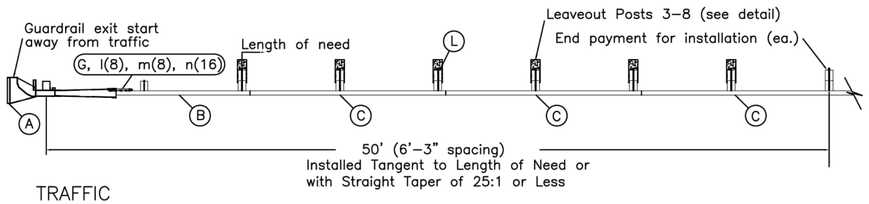
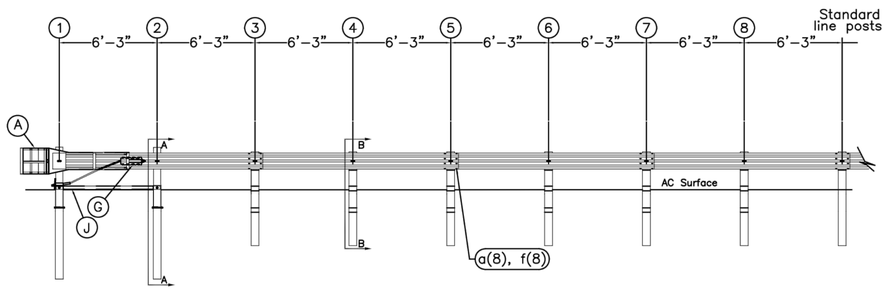


TRAFFIC

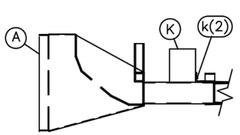
PLAN



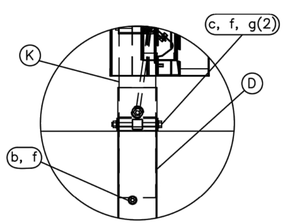
ELEVATION

GENERAL NOTES:
1. Breakaway posts are required with the Sequential Kinking Terminal.
2. All bolts, nuts, cable assemblies, cable anchors and bearing plates shall be galvanized.
3. The SKT can be flared at a rate of 25:1 to prevent the impact head from encroaching on the shoulder. The flare is not required and may be decreased or eliminated for specific installations.
4. The soil tubes shall not protrude more than 4" above ground (measured along a 5' cord). Site grading may be necessary to meet this requirement.
5. The soil tubes may be driven with an approved driving head. Soil tubes should not be driven with the post in the tube. If the tubes are placed in drilled holes, the backfill material must be satisfactorily compacted to prevent settlement.
6. When rock is encountered during excavation, a 12 Dia. post hole, 20" into the rock may be used if approved by the engineer. Granular material will be placed in the bottom of the hole approx. 2.5" deep to provide drainage. The soil tubes will be field cut to length, placed in the hole and backfilled with adequately compacted material excavated from the hole.
7. The breakaway cable assembly must be taut. A locking device, (vice–grips or channel–lock pliers) should be used to prevent the cable from twisting when tightening nuts.
8. A special site evaluation should be considered prior to using the SKT where there is less than 25' between the outlet side of the SKT and any adjacent driving lane.
9. The wood blockouts should be "toe–nailed" to the wood posts to prevent them from turning when the wood shrinks.
10. Guardrail splice shall be overlapped in the direction of adjacent traffic.

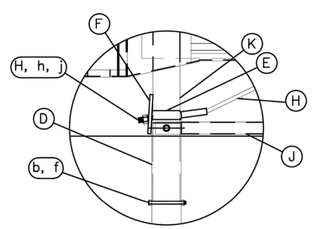
Code	QTY	BILL OF MATERIALS	ITEM #
A	1	IMPACT HEAD	S3000
B	1	W–BEAM GUARDRAIL END SECTION, 12 GA., 12.5'	FS1303
C	3	W–BEAM GUARDRAIL, 12 GA., 12.5' RAIL ELEMENTS	G1203
D	2	FOUNDATION SOIL TUBE, 6" x 8" x 6'–0"	E731
E	1	PIPE SLEEVE	E740
F	1	BEARING PLATE, 8" x 8" x 5/8"	E750
G	1	CABLE ANCHOR BOX	S760
H	1	BCT CABLE ANCHOR ASSEMBLY	E770
J	1	GROUND STRUT	E780
K	2	5.5" x 7.5" x 45" WOOD POSTS	P650
L	6	6" x 8" x 6'–0" WOOD CRT POST	P671
M	6	6" x 8" x 14" TIMBER BLOCKOUT	P675
		HARDWARE	
a	32	5/8" Dia. x 1 1/4" SPLICE BOLT	B580122
b	2	5/8" Dia. x 7 1/2" HEX BOLT	B580754
c	2	5/8" Dia. x 10" HEX BOLT	B581004
d	1	5/8" Dia. x 10" H.G.R. BOLT (Post 2 only)	B581002
e	6	5/8" Dia. x 18" H.G.R. BOLT (Posts 3–8)	B581802
f	43	5/8" Dia. H.G.R. NUT	N050
g	11	H.G.R. WASHER	W050
h	2	1" ANCHOR CABLE HEX NUT	N100
j	2	1" ANCHOR CABLE WASHER	W100
k	2	3/8" x 3" LAG SCREW	E350
l	8	CABLE ANCHOR BOX SHOULDER BOLTS	SB58A
m	8	1/2" A325 STRUCTURAL NUTS	N055A
n	16	1 1/16" OD X 9/16" ID A325 STR. WASHER	W050A



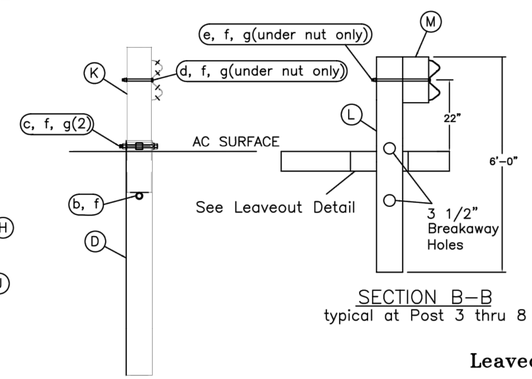
IMPACT HEAD
CONNECTING DETAIL



FRONT VIEW OF POST 1

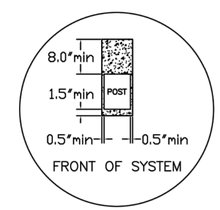


SIDE VIEW OF POST 1



SECTION A–A

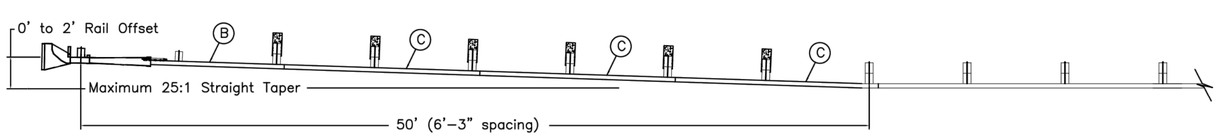
SECTION B–B
typical at Post 3 thru 8



LEAVEOUT DETAIL

Leaveout Requirement:

For posts 3 through 8, leaveouts in the asphaltic concrete pavement, as shown in Section B–B and LEAVEOUT DETAIL, around guardrail posts shall be provided where the asphalt thickness exceeds 1.5" nominal (2" max) and where the asphalt extends more than 18" behind the posts. The leaveouts shall be used at the post locations indicated and the leaveout material shall consist of a 1–sack grout mix or other non–cohesive material as approved by the state.



DETAIL A
optional flared installation, 25:1 maximum flare rate

APPROVED AS NCHRP 350 T3 TERMINAL VIA ADOT PRODUCT EVALUATION PROGRAM 6/04/2011.
THIS DRAWING SUPERCEDES 11/26/02

RSI Road Systems, Inc.
Big Spring, TX
Phone: 915–263–2435
or Phone: 330–346–0721

SEQUENTIAL KINKING TERMINAL
SKT–350 ASSEMBLY
PAVING INSTALLATION

Sheet: A1
Date: 05/22/11
Drawing Name: SKT–W–2US–AZ
Scale: NONE
By: JRR
Rev: 0

ASPHALTIC CONCRETE INSTALLATION

TANGENT TERMINAL LAYOUT
SKT–350 2 FOUNDATION SOIL TUBES
(AC PAVEMENT) – SHEET 1 OF 3
A
NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS
DETAIL A (SHEET 1 OF 3)

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			P18	27 OF 118

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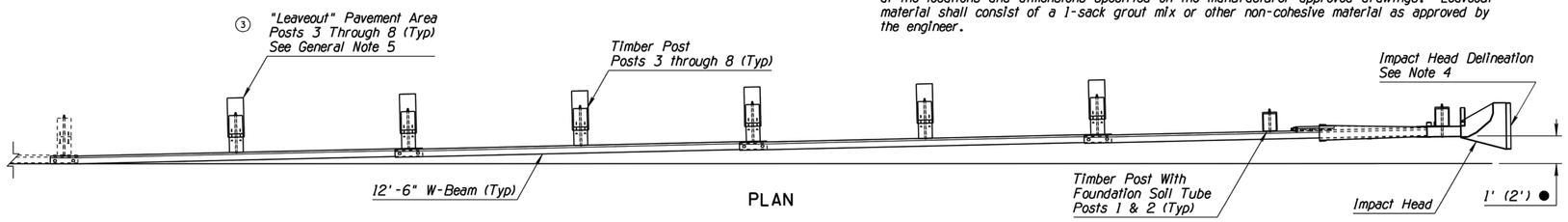
● FOR ELEVATIONS ABOVE 4,000', USE THE VALUES IN PARENTHESES

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				

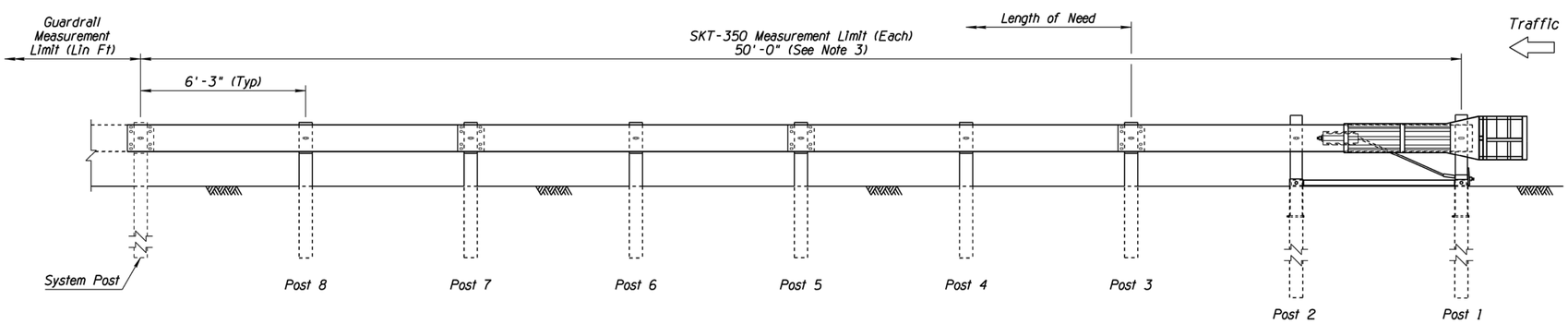
GENERAL NOTES

1. This detail is for roadway layout only.
2. The SKT-350 shall be installed in accordance with the manufacturer's specifications and current approved drawings including all details, hardware, hardware quantities, and other information.

   The current manufacturer's approved drawing is number SKT-W-2US-AZ, 06/04/11. Visit the Roadway Design web site to view and print the drawing.
3. The 50' W-Beam length shall consist of four 12'-6" sections, the end section being a proprietary split rail.
4. See specifications and Traffic Signing and Marking Standard Drawings.
5. ③ "Leaveouts" in asphaltic concrete shall be provided in the AC pavement around the guardrail posts at the locations and dimensions specified on the manufacturer approved drawings. "Leaveout" material shall consist of a 1-sack grout mix or other non-cohesive material as approved by the engineer.



PLAN



ELEVATION

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADWAY GROUP PLANS DETAIL
J.C. Cooper	
APPROVED FOR DISTRIBUTION	
Mary Viparina	
ROUTE / LOCATION	SHEET OF
TRACS NO.	___ OF ___

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TANGENT TERMINAL LAYOUT
SKT-350 2 FOUNDATION SOIL TUBES
(A) (AC PAVEMENT) – SHEET 2 OF 3

NTS

Note to Designer:
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Date: 6/06/11

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED DRAWING WITH MODIFIED APPROACH TAPER	RLF	5/22/07
2	REVISED TITLE BLOCK NAME & DRAWING DATE	RLF	7/09/09
3	ADDED "LEAVEOUT" CALLOUT & NEW GENERAL NOTE 5	RLF	6/06/11
4			

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AS BUILT DATE

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

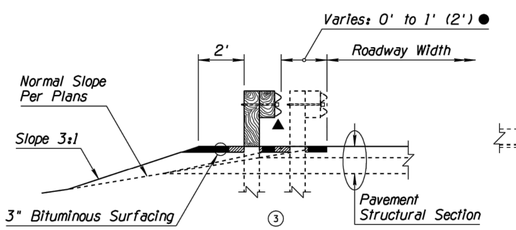
ROADWAY DETAILS
DETAIL A (SHEET 2 OF 3)

DRN: DBB DATE: 09/15	DES: IBM DATE: 09/15	CK: AJS DATE: 09/15	DRAWING	SHEET
SCALE: –	HORIZONTAL VERTICAL		P19	28 OF 118

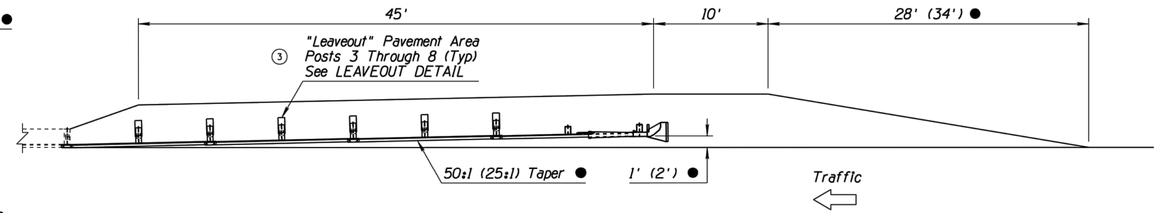
● FOR ELEVATIONS ABOVE 4,000 FT, USE THE VALUES IN PARENTHESES

▲ Top of Rail = 28"
See General Note 1
Std Dwg C-10.03

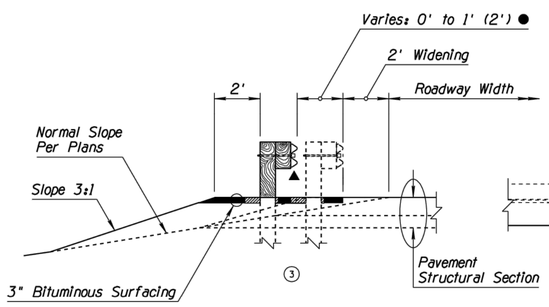
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



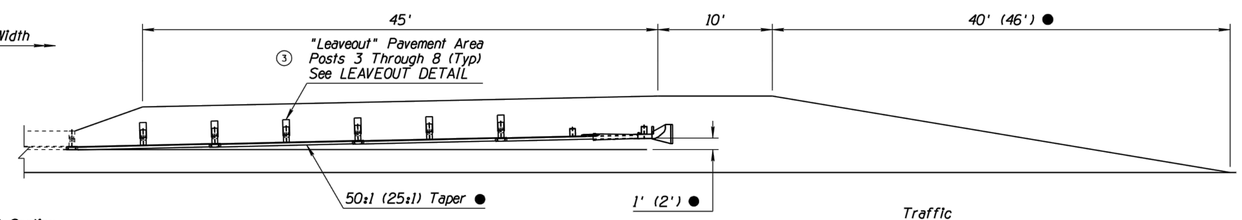
TYPE A SECTION



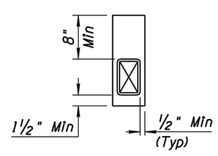
TYPE A GUARDRAIL INSTALLATION
(FACE OF RAIL AT EDGE OF PAVEMENT)



TYPE B SECTION



TYPE B GUARDRAIL INSTALLATION
(FACE OF RAIL OFFSET 2' FROM NORMAL EDGE OF PAVEMENT)



LEAVEOUT DETAIL

④

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED DRAWING WITH MODIFIED APPROACH TAPER	RLF	5/22/07
2	REVISED APPROACH TAPER CRITERIA	RLF	7/09/09
3	ADDED "LEAVEOUT" CALLOUT & REVISED SECTION VIEWS	RLF	6/06/11
4	ADDED "LEAVEOUT" DETAIL	RLF	6/06/11

Note to Designer:
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Date: 6/06/11

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADWAY GROUP PLANS DETAIL
J.C. Cooper	
APPROVED FOR DISTRIBUTION	
Mary Viparina	
ROUTE / LOCATION	SHEET OF
TRACS NO.	___ OF ___

V:/ROADWAY\users\hp026\ 4:01:09 PM 06/06/2011 V:\Roadway\Dev\details\x10402.dgn

TANGENT TERMINAL LAYOUT
SKT-350 2 FOUNDATION SOIL TUBES
(AC PAVEMENT) – SHEET 3 OF 3

A

NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS
DETAIL A (SHEET 3 OF 3)

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: _ HORIZONTAL _ VERTICAL			P20	29 OF 118

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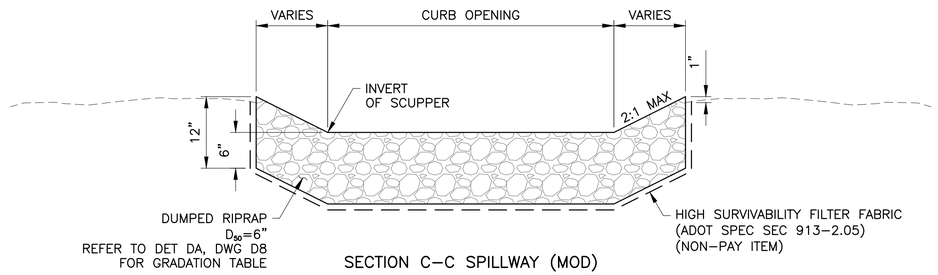
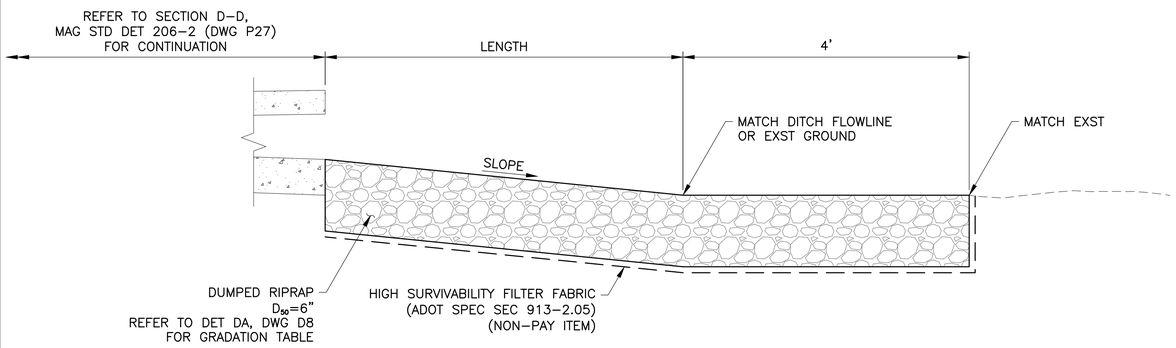


SECTION C–C SPILLWAY (MOD)



SECTION D–D (MOD)

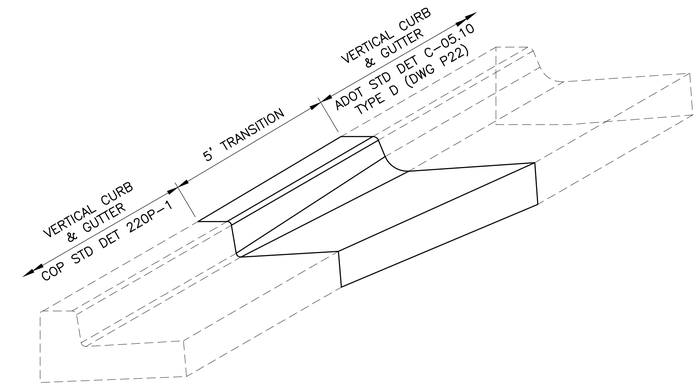
NOTES:

1. MODIFY MAG STD DET 206 (DWG P27) AS SHOWN ABOVE AND IN THE NOTES PROVIDED BELOW.
2. MODIFY DEPRESSION TRANSITION FROM 1'–9" TO 3'–0" AND MATCH ADJOINING CURB AND GUTTER GEOMETRY (GUTTER PAN WIDTH=2'–0").

RIPRAP SPILLWAY SCHEDULE

SCUPPER ℄ REFERENCE LOCATION	CURB OPENING (FT)	LENGTH (FT)	SLOPE ('/FT)	RIPRAP SPILLWAY (CY)
WILLOW CREEK RD CONST ℄ STA 198+00 LT	8	5	0.20	2
WILLOW CREEK RD CONST ℄ STA 198+24 RT	8	30	0.14	12
WILLOW CREEK RD STA 200+63 LT SR 89 MEDIAN ℄ STA 2263+55 RT	8	8	0.11	4

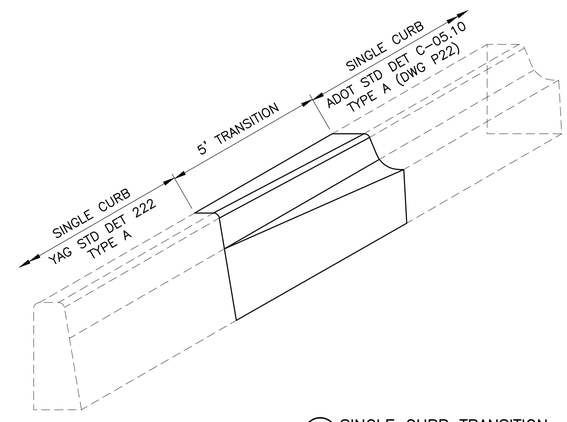
B CONCRETE SCUPPER & RIPRAP SPILLWAY (MAG STD DET 206–1)
1"=10'



E VERTICAL CURB & GUTTER TRANSITION
NO SCALE

NOTES:

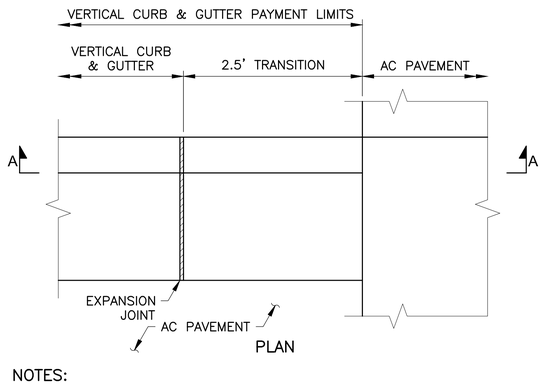
1. FOR NOTES AND DIMENSIONS NOT PROVIDED, REFER TO COP STD DET 220P, TYPE A & ADOT STD DET C–05.10, TYPE D (DWG P22).
2. NO SEPARATE PAYMENT SHALL BE MADE FOR VERTICAL CURB TRANSITION. MEASUREMENT AND PAYMENT SHALL BE INCLUSIVE WITH ADJOINING VERTICAL CURB & GUTTER (ADOT STD DET C–05.10, TYPE D).



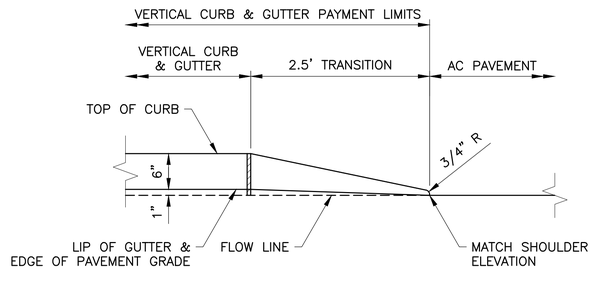
F SINGLE CURB TRANSITION
NO SCALE

NOTES:

1. FOR NOTES AND DIMENSIONS NOT PROVIDED, REFER TO YAG STD DET 222, TYPE A & ADOT STD DET C–05.10, TYPE A (DWG P22).
2. NO SEPARATE PAYMENT SHALL BE MADE FOR SINGLE CURB TRANSITION. MEASUREMENT AND PAYMENT SHALL BE INCLUSIVE WITH ADJOINING SINGLE CURB (ADOT STD DET C–05.10, TYPE A).



PLAN

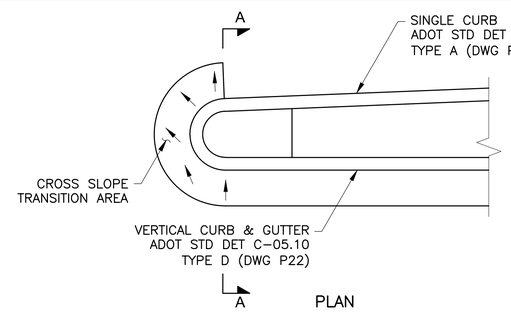


SECTION A–A

NOTES:

1. FOR NOTES AND DIMENSIONS NOT PROVIDED, REFER TO COP STD DET 220P, TYPE A.
2. NO SEPARATE PAYMENT SHALL BE MADE FOR VERTICAL CURB TERMINATION. MEASUREMENT AND PAYMENT SHALL BE INCLUSIVE WITH ADJOINING VERTICAL CURB & GUTTER.

C VERTICAL CURB & GUTTER TERMINATION
1"=10'



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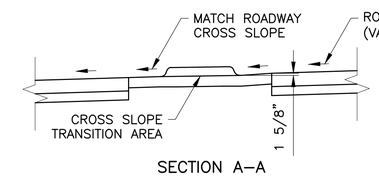


SECTION A–A

NOTES:

1. FOR NOTES AND DIMENSIONS NOT PROVIDED, REFER TO ADOT STD DET C–05.10 (DWG P22).
2. NO SEPARATE PAYMENT SHALL BE MADE FOR VERTICAL CURB & GUTTER TO SINGLE CURB TRANSITION. MEASUREMENT AND PAYMENT SHALL BE INCLUSIVE WITH ADJOINING VERTICAL CURB & GUTTER.

G VERTICAL CURB & GUTTER TO SINGLE CURB TRANSITION
NO SCALE

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△ REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

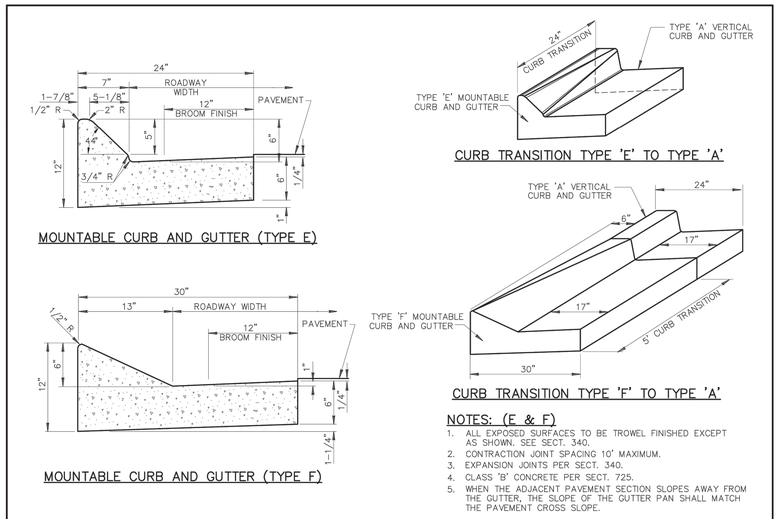
PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS
DETAILS B, C, E, F, & G

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL VERTICAL		P21	30 OF 118

J:\2014\1014434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P21.DWG Sep. 17, 2015 12:05 PM

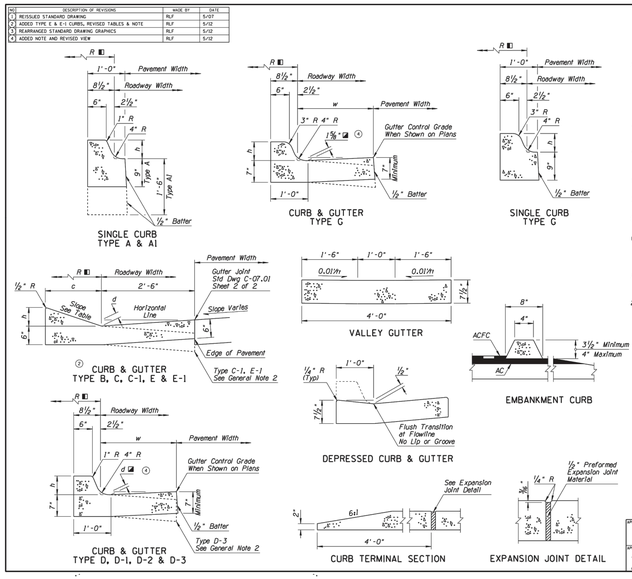


NOTES: (E & F)

1. ALL EXPOSED SURFACES TO BE TROWEL FINISHED EXCEPT AS SHOWN. SEE SECT. 340.
2. CONTRACTION JOINT SPACING 10' MAXIMUM.
3. EXPANSION JOINTS PER SECT. 340.
4. CLASS 'B' CONCRETE PER SECT. 725.
5. WHEN THE ADJACENT PAVEMENT SECTION SLOPES AWAY FROM THE GUTTER, THE SLOPE OF THE GUTTER PAN SHALL MATCH THE PAVEMENT CROSS SLOPE.

DETAIL NO.		STANDARD DETAIL		REVISED	DETAIL NO.
220-2	MARICOPA ASSOCIATION of GOVERNMENTS	ENGLISH	CURB AND GUTTER TYPES E AND F	01-01-2007	220-2

REV	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED STANDARD DRAWING	RLF	5/07
2	ADDED TYPE E & E-1 CURBS, REVISED TABLES & NOTE	RLF	5/12
3	REARRANGED STANDARD DRAWING GRAPHICS	RLF	5/12
4	ADDED NOTE AND REVISED VIEW	RLF	5/12



GENERAL NOTES

SINGLE CURB AND CURB & GUTTER

1. Single curb and curb & gutter may be constructed by the use of forms or the concrete may be extruded.
2. When the pavement section slopes away from the gutter, the slope of the gutter shall match the pavement cross slope. Therefore, the gutter depression is not applicable.
3. Two-inch deep contraction joints shall be placed in the curb and the gutter at locations which match the joints in adjacent PCCP and at approximate 15' centers when adjacent to AC pavement. Joints shall be either hand-tooled or sawn.
4. Expansion joints shall be located at tangent points in curb returns, at structures and at maximum 60' intervals. The ½" joint filler shall extend the full depth of the concrete.
5. Concrete shall be finished with a steel trowel followed by brushing with a fine brush along the length of the curb and gutter.
6. All exposed edges and hand-tooled joints shall be finished with a tool having a ¼" radius, or as noted on the plans.
7. Place AB under single curb, valley gutter, and curb & gutter when shown on plans
4. Gutter Depression shall be reduced at sidewalk ramps (C-05.30) to achieve a maximum gutter cross-slope of 5%.
2. See Plans (6 inch typical)
R Curb Radius when shown on plans

EMBANKMENT CURB

1. No additional finishing will be required after extrusion or removal of the forms when the curb presents a neat appearance and the surface is uniform in texture and color.
2. The curb shall conform to the cross section as shown except that the horizontal dimensions shall not vary more than ½" .

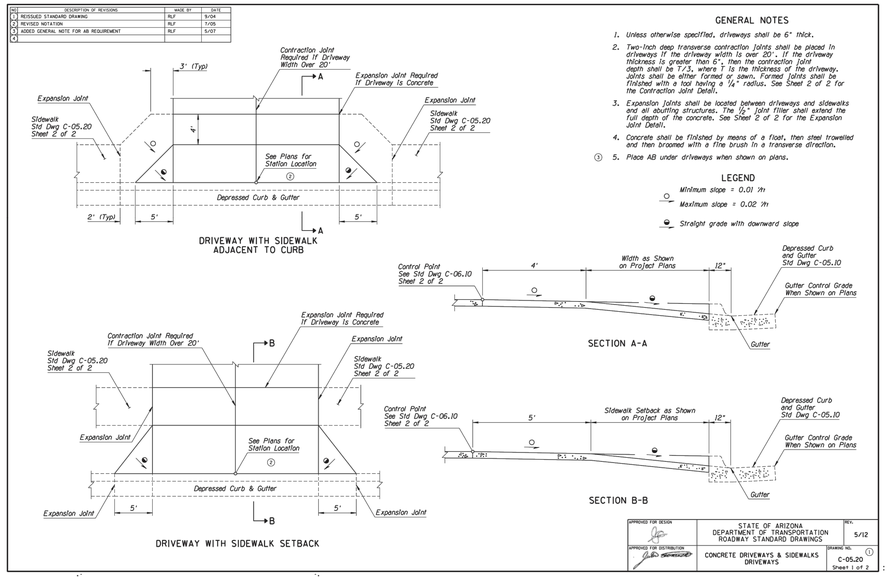
Curb & Gutter Type	Curb Height h	Gutter Width w	Gutter Depression d
D	6"	2'-0"	1⅝"
D-1	6"	2'-6"	1¾"
D-2	4"	4'-6"	1¾"
D-3	6"	2'-0"	N/A
G	6"	2'-0"	1⅝"

URBAN FREEWAY CURB & GUTTER

Curb & Gutter Type	Curb Height h	Curb Width c	Slope	Gutter Depression d
B	6"	1'-6"	3:1	2"
C	3"	1'-6"	6:1	⅝"
C-1	3"	1'-6"	6:1	N/A
E	4"	2'-0"	6:1	⅝"
E-1	4"	2'-0"	6:1	N/A

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	CURB & GUTTER CURB GUTTER	DRAWING NO. C-05.10

REV	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED STANDARD DRAWING	RLF	5/04
2	REVISED NOTATION	RLF	1/05
3	ADDED GENERAL NOTE FOR AB REQUIREMENT	RLF	5/07
4			



GENERAL NOTES

1. Unless otherwise specified, driveways shall be 6" thick.
2. Two-inch deep transverse contraction joints shall be placed in driveways if the driveway width is over 20'. If the driveway thickness is greater than 6", then the contraction joint depth shall be T/3, where T is the thickness of the driveway. Joints shall be either formed or sawn. Formed joints shall be finished with a tool having a ¼" radius. See Sheet 2 of 2 for the Contraction Joint Detail.
3. Expansion joints shall be located between driveways and sidewalks and all abutting structures. The ½" joint filler shall extend the full depth of the concrete. See Sheet 2 of 2 for the Expansion Joint Detail.
4. Concrete shall be finished by means of a float, then steel trowelled and then broomed with a fine brush in a transverse direction.
5. Place AB under driveways when shown on plans.

LEGEND

Minimum slope = 0.01 in
Maximum slope = 0.02 in
Straight grade with downward slope

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	CONCRETE DRIVEWAYS & SIDEWALKS DRIVEWAYS	DRAWING NO. C-05.20 Sheet 1 of 2

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

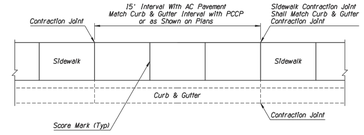
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

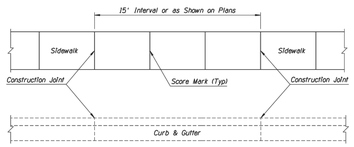
DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		P22	31 OF 118

J:\2014\1014 34 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P22.DWG Sep. 17, 2015 12:05 PM

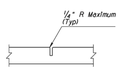
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	NEW GENERAL NOTE 5, REARRANGED 3, 4 & 5	RLF	9/04
2	ADDED SLOPE SPECIFICATIONS & REVISED SECTION VIEWS	RLF	7/06
3	ADDED GENERAL NOTE FOR AB REQUIREMENT	RLF	5/07
4			



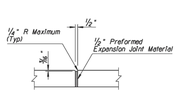
SIDEWALK ADJACENT TO CURB



SIDEWALK SETBACK FROM CURB



CONTRACTION JOINT DETAIL



EXPANSION JOINT DETAIL

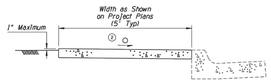
① GENERAL NOTES

1. Unless otherwise specified, sidewalks shall be 4" thick.
2. One-inch deep transverse contraction joints shall be placed in sidewalks at intervals of approximately 15' or at a spacing that matches adjacent curb and gutter. If the sidewalk is over 7' in width, a 2" deep longitudinal contraction joint shall be placed in the center of the sidewalk. The maximum area of sidewalk without contraction joints or scoring lines shall be approximately 30 square feet. Joints shall be either formed or sawn. Formed joints shall be finished with a tool having a 1/4" radius.
3. Score marks shall be 1/4" in depth. They shall be placed at 5' spacing when the contraction joint interval is 15' and at 6' spacing when the contraction joint interval is 12'.
4. Expansion joints shall be located between sidewalks and driveways and all abutting structures. Expansion joints shall match the joints in the adjacent concrete pavement or existing concrete curb and sidewalk. Maximum length of sidewalk without an expansion joint shall be 60 transverse feet. The 1/2" joint filler shall extend the full depth of the concrete.
5. Concrete shall be finished by means of a float, then steel trowelled and then broomed with a fine brush in a transverse direction.
6. ③ Place AB under sidewalks when shown on plans.

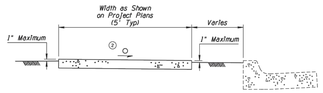
② LEGEND

Minimum slope = 0.01 'rh

Maximum slope = 0.02 'rh



CONCRETE SIDEWALK ADJACENT TO CURB

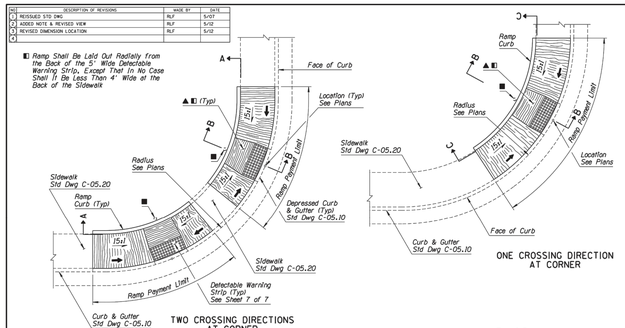


CONCRETE SIDEWALK SETBACK FROM CURB

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	CONCRETE DRIVEWAYS & SIDEWALKS SIDEWALKS	DRAWING NO. C-05.20 Sheet 2 of 2

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	RLF	5/07
2	ADDED NOTE & REVISED VIEW	RLF	5/12
3	REVISED DIMENSION LOCATION	RLF	5/12
4			

■ Ramp Shall Be Laid Out Radially from the Back of the 5' Wide Detectable Warning Strip, Except That In No Case Shall It Be Less Than 4' Wide at the Back of the Sidewalk



TWO CROSSING DIRECTIONS AT CORNER

ONE CROSSING DIRECTION AT CORNER

GENERAL NOTES

1. Ramp centerline shall be radial from the face of the curb at the Sidewalk Ramp Control Point.
2. For ramps 15-ft long or less, the 15:1 slope governs. If a 15:1 slope results in a ramp length longer than 15-ft, the 15:1 slope may be waived and the ramp length held at 15-ft, regardless of the slope.
3. Drainage inlets should not be located within the marked crosswalks, or if crosswalks aren't marked, within the area a standard marked crosswalk would enclose.
4. Concrete shall receive a rough broom finish as shown.
5. See Std Dwgs C-05.10 and C-05.20 for joint details.

● See Note 2

◑ 10" Maximum to Face of Pedestrian Push Button

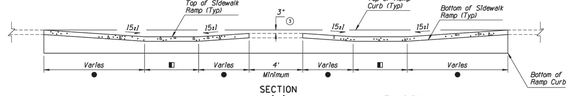
■ Pedestrian Push Button Pole When Shown on Traffic Plans. See Traffic Signal Plans for Additional Information

LEGEND

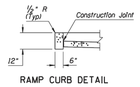
▲ Minimum Slope = 100:1 (0.01 'rh)

Maximum Slope = 50:1 (0.02 'rh)

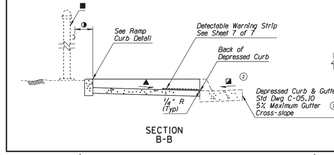
② ◪ Maximum Slope = 20:1 (0.05 'rh)



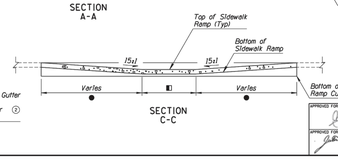
SECTION A-A



RAMP CURB DETAIL



SECTION B-B



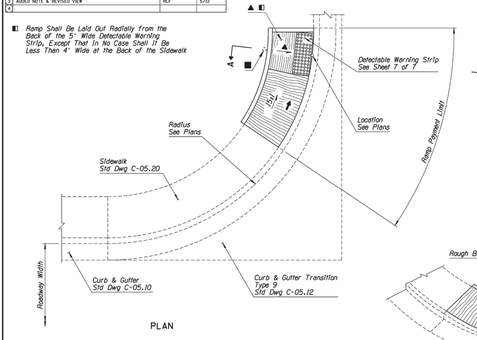
SECTION C-C

PARALLEL SIDEWALK RAMP

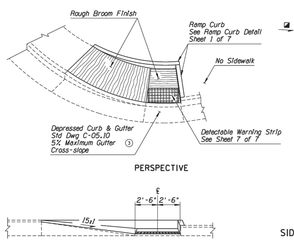
APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. ① 5/12
APPROVED FOR DISTRIBUTION	SIDEWALK RAMP TYPE A	DRAWING NO. C-05.30 Sheet 1 of 7

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED GENERAL NOTE 3; SLOPES & LENGTHS	RLF	11/06
2	DELETED GENERAL NOTE 8	RLF	5/07
3	ADDED NOTE & REVISED VIEW	RLF	5/12
4			

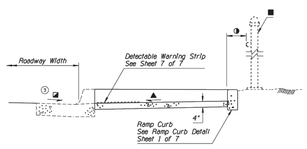
■ Ramp Shall Be Laid Out Radially from the Back of the 5' Wide Detectable Warning Strip, Except That In No Case Shall It Be Less Than 4' Wide at the Back of the Sidewalk



PLAN



PERSPECTIVE



SECTION A-A

ELEVATION
DEPRESSED CURB AT SIDEWALK RAMP

GENERAL NOTES

1. For use where sidewalk is not continuous.
2. Ramp centerline shall be radial from the face of the curb at the Sidewalk Ramp Control Point.
3. ① For ramps 15-ft long or less, the 15:1 slope governs. If a 15:1 slope results in a ramp length longer than 15-ft, the 15:1 slope may be waived and the ramp length held at 15-ft, regardless of the slope.
4. The top of the Ramp Curb along the back of the Sidewalk Ramp shall match the elevation of the adjacent back of sidewalk and run parallel to the Sidewalk Ramp. The Ramp Curb along the side of the Sidewalk Ramp shall match the elevation at the back of the Curb & Gutter and the back of Ramp Curb.
5. Drainage inlets should not be located within the marked crosswalks, or if crosswalks aren't marked, within the area a standard marked crosswalk would enclose.
6. Concrete shall receive a rough broom finish as shown.
7. See Std Dwgs C-05.10 and C-05.20 for joint details.
8. ② ■ Pedestrian Push Button Pole When Shown on Traffic Plans. See Traffic Signal Plans for Additional Information

◑ 10" Maximum to Face of Pedestrian Push Button

LEGEND

▲ Minimum Slope = 100:1 (0.01 'rh)

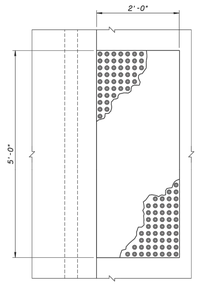
Maximum Slope = 50:1 (0.02 'rh)

◪ Maximum Slope = 20:1 (0.05 'rh) ③

SIDEWALK RAMP AT SIDEWALK TERMINUS

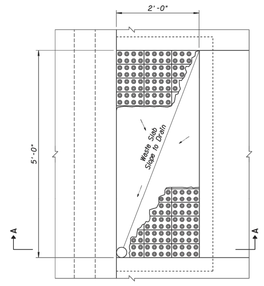
APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	SIDEWALK RAMP TYPE C	DRAWING NO. C-05.30 Sheet 3 of 7

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED VIEW & REISSUED STANDARD DRAWING	RLF	5/12
2			
3			
4			



DETECTABLE WARNING STRIP

PLAN



DETECTABLE WARNING STRIP
BRICK OPTION

PLAN

GENERAL NOTES

1. Drain shall be placed in low corner and filled with coarse aggregate (AASHTO M43 Size 7) securely tied in a long-life geotextile sack.

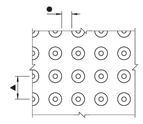
LEGEND

● 7/16" Minimum (Typ) (0.65 In. Minimum ADA Actual)

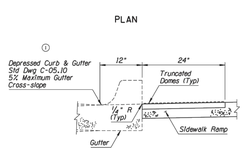
▲ 1 5/8" to 2 3/8" (Typ) (1.6 In. to 2.4 In. ADA Actual)

◧ 7/8" to 1 3/8" (Typ) (0.9 In. to 1.4 In. ADA Actual)

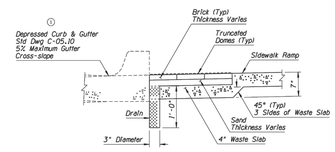
■ 50% to 65% of ◧



TEXTURE PATTERN DETAIL



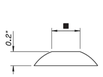
SECTION



DETECTABLE WARNING STRIP
BRICK OPTION

SECTION A-A

TRUNCATED DOME
DETAIL



TRUNCATED DOME
ELEVATION

DETECTABLE WARNING STRIP DETAIL

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	SIDEWALK RAMP DETECTABLE WARNING STRIP	DRAWING NO. ① C-05.30 Sheet 7 of 7

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

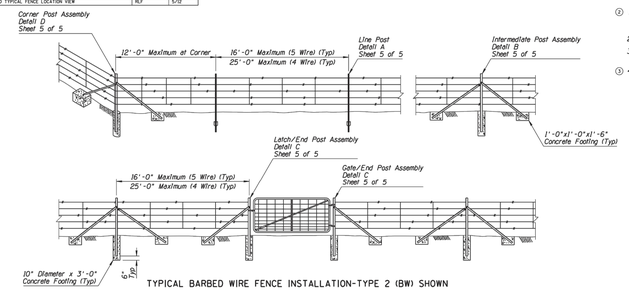
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

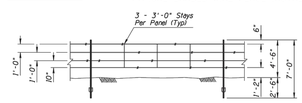
DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		P23	32 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P23.DWG Sep. 17, 2015 12:05 PM

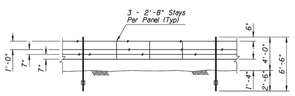
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	PMB	7/94
2	REVISED GENERAL NOTE 1	RLF	7/05
3	ADDED GENERAL NOTE 4	RLF	5/12
4	ADDED TYPICAL FENCE LOCATION VIEW	RLF	5/12



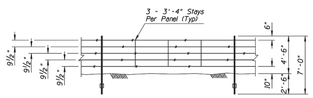
TYPICAL BARBED WIRE FENCE INSTALLATION-TYPE 2 (BW) SHOWN



TYPE 1 BARBED WIRE (BW) (4 WIRE)



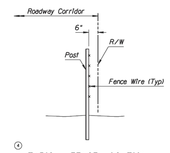
BARBED WIRE GAME FENCE (GF)



TYPE 2 BARBED WIRE (BW) (5 WIRE)

GENERAL NOTES

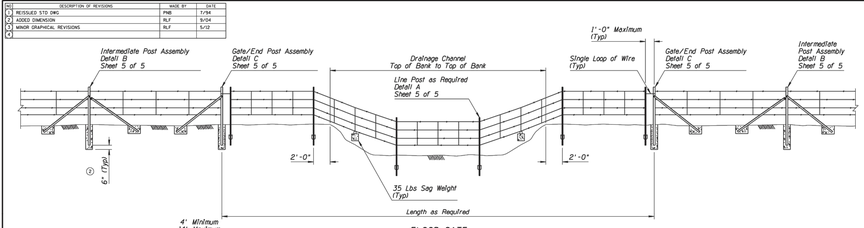
1. Intermediate Post Assemblies shall be located as shown and at intervals not to exceed 650', or midway between all braced posts.
2. For game fence the bottom wire shall be barbless.
3. The stays on game fence shall have their ends turned up to prevent injuries to game.
4. Fence Wire shall be placed on the side of the line posts away from the main roadway except in sharper curve areas where it should be moved to the side with tension against the posts.



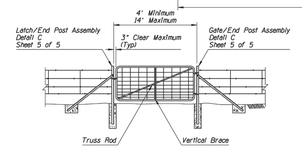
TYPICAL FENCE LOCATION

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	FENCE BARBED WIRE	DRAWING NO. C-12.10 Sheet 2 of 5

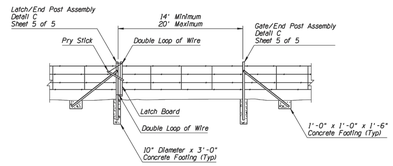
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STD DWG	PMB	7/94
2	ADDED DIMENSION	RLF	9/04
3	MINOR GRAPHICAL REVISIONS	RLF	5/12
4			



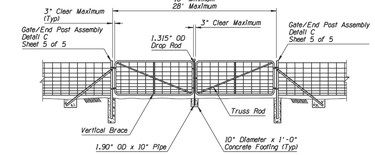
FLOOD GATE



TYPE 1 SINGLE GATE



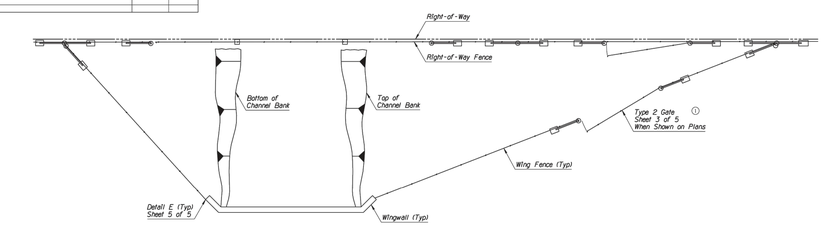
TYPE 2 GATE



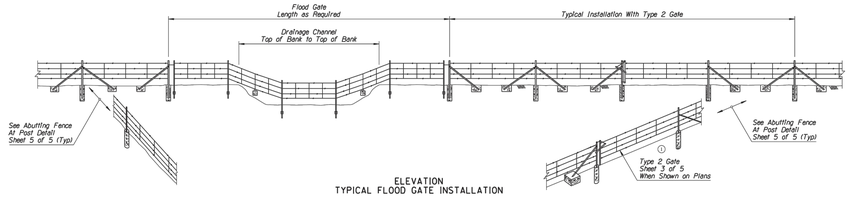
TYPE 1 DOUBLE GATE

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	FENCE TYPE 1 AND 2 GATES FLOOD GATE	DRAWING NO. C-12.10 Sheet 3 of 5

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	ADDED TYPE 2 GATE	RLF	9/04
2	REVISED DRAWING GRAPHICS	RLF	5/12
3			
4			



PLAN



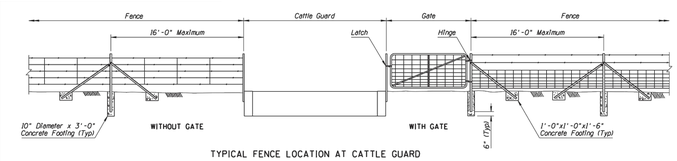
ELEVATION
TYPICAL FLOOD GATE INSTALLATION

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	FENCE FLOOD GATE INSTALLATION	DRAWING NO. C-12.10 Sheet 4 of 5

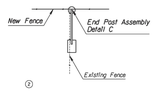
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUE STD	PMB	7/94
2	REVISED VIEW GRAPHICS	RLF	5/12
3	MOVED FENCE LOCATION VIEW TO SHEETS 1 & 2 OF 5	RLF	5/12
4			

GENERAL NOTES

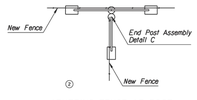
1. Post assemblies shall consist of an upright angle 2½"x2½"x¼" at 4.10 lbs/ft, and brace angles 2"x2"x¼" at 3.19 lbs/ft.



TYPICAL FENCE LOCATION AT CATTLE GUARD

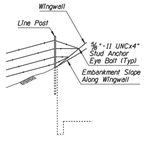


ABUTTING FENCE

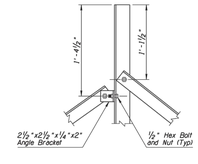


ABUTTING FENCE AT POST

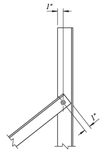
DETAIL A
TYPICAL CROSS SECTIONS
OF LINE POST SHAPES



DETAIL E
FENCE CONNECTION TO WINGWALL



DETAIL B
INTERMEDIATE POST ASSEMBLY



DETAIL C
END POST ASSEMBLY

DETAIL D
CORNER POST ASSEMBLY

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	FENCE MISCELLANEOUS DETAILS	DRAWING NO. C-12.10 Sheet 5 of 5

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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△	REVISION	BY	DATE

CITY OF PRESCOTT
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CITY OF PRESCOTT

PROJECT NO CIP13-030

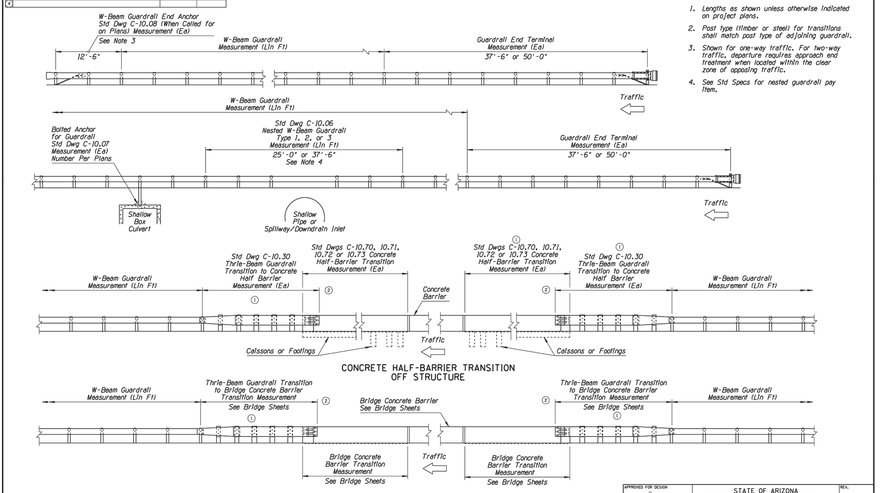
WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		P24	33 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P24.DWG Sep. 17, 2015 12:06 PM

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED BARRIER TRANSITION	RLF	7/05
2	REVISED SYSTEM LIMIT TO INCLUDE END SHOE	RLF	5/07
3			
4			

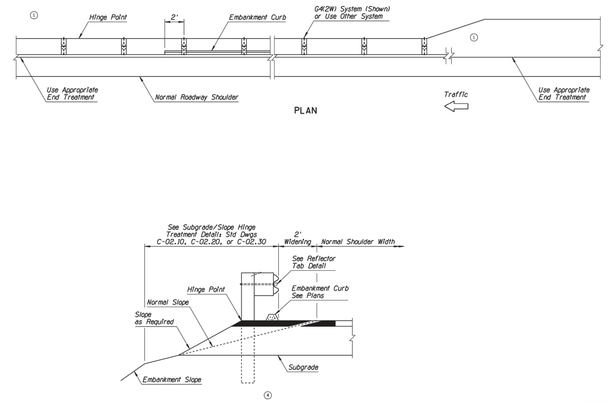


GENERAL NOTES

1. Lengths as shown unless otherwise indicated on project plans.
2. Post type (timber or steel) for transitions shall match post type of adjoining guardrail.
3. Shown for one-way traffic. For two-way traffic, departure requires approach end treatment when located within the clear zone of opposing traffic.
4. See Std Specs for nested guardrail pay item.

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	GUARDRAIL MEASUREMENT LIMITS	DRAWING NO. C-10.00

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED PLAN VIEW GRAPHICS/REMOVED WIDTH DIMENSION	RLF	5/04
2	REVISED GENERAL NOTES 3 & 4	RLF	5/04
3	REVISED STANDARD DRAWING TITLE	RLF	5/04
4	REVISED SECTION VIEW TITLE	RLF	7/05



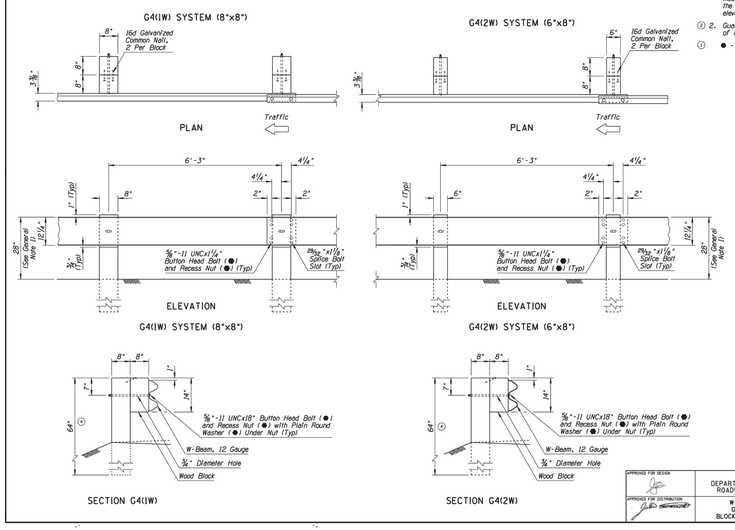
GENERAL NOTES

1. All embankment curb shall be protected by guardrail.
2. Guardrail shall extend beyond the limits of embankment curb.
3. See Std Dwg C-10.00 for measurement limits.
4. See Std Specs 703, 905 and 1012-3 for reflector tab and snow marker materials, reflective sheeting, and spacing requirements.

▲ Top of Rail = 28"
See General Note 1
Std Dwg C-10.03

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	GUARDRAIL INSTALLATION TYPE B AND REFLECTOR TAB	DRAWING NO. C-10.02

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED DESIGNATION	RLF	5/04
2	REVISED GENERAL NOTES 1 & 2	RLF	5/04
3	RENAMED STD DRAWING FROM C-10.20 AND REVISED TITLE	RLF	5/04
4	REMOVED 29 INCH DIMENSION	RLF	7/05



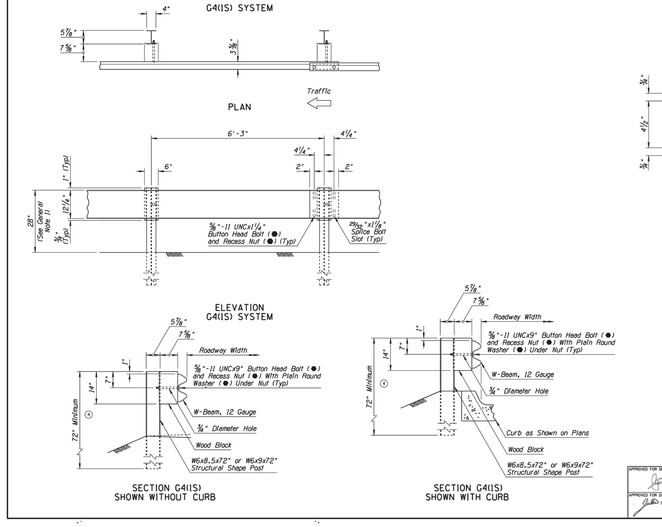
GENERAL NOTES

1. The control height for guardrail system is 28" to the top of rail, measured at the face of rail from the normal finished shoulder elevation.
2. Guardrail shall be lapped in the direction of adjacent traffic.

● - Indicates AASHTO, AGC & ARTBA Task Force 13 Report designation

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	W-BEAM GUARDRAIL G4(1W) AND G4(2W) BLOCKED-OUT TIMBER POST	DRAWING NO. C-10.03

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED DESIGNATION	RLF	5/04
2	REVISED GENERAL NOTES 1 & 2	RLF	5/04
3	RENAMED STD DRAWING FROM C-10.21 & REVISED TITLE	RLF	5/04
4	REMOVED 29 INCH DIMENSION	RLF	7/05



GENERAL NOTES

1. The control height for guardrail system is 28" to the top of rail, measured at the face of rail from the normal finished shoulder elevation.
2. Guardrail shall be lapped in the direction of adjacent traffic.

● - Indicates AASHTO, AGC & ARTBA Task Force 13 Report designation

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	W-BEAM GUARDRAIL G4(1S) BLOCKED-OUT STEEL POST	DRAWING NO. C-10.04

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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	REVISION	BY	DATE
△			

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

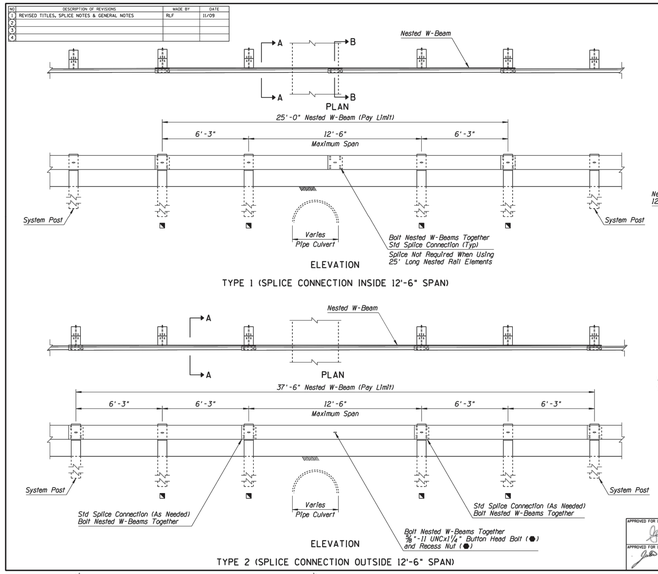
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL	VERTICAL	P25	34 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P25.DWG Sep. 17, 2015 12:06 PM

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED TITLES, SPLICE NOTES & GENERAL NOTES	RLF	11/09
2			
3			
4			

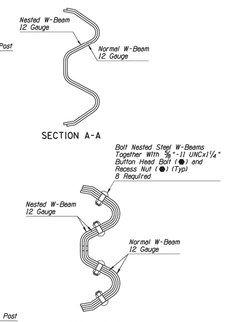


GENERAL NOTES

1. Construct either Type 1 or Type 2 for 12'-6" span.
2. For Type 1 and Type 2, a maximum of one post may be eliminated within a span of nested guardrail.
3. Minimum length of nested guardrail is one 6'-3" post spacing on each side of maximum span.
4. See Std Dwgs C-10.03 and C-10.04 for additional information and dimensions.
5. Guardrail shall be lapped in the direction of adjacent traffic.

● - Indicates AASHTO, AGC & ARTBA Task Force 13 Report designation

◥ 72" Timber Post



APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	W-BEAM GUARDRAIL NESTED TYPES 1 AND 2	DRAWING NO. C-10.06 Sheet 1 of 2

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED TITLES, SPLICE NOTES & GENERAL NOTES	RLF	11/09
2			
3			
4			

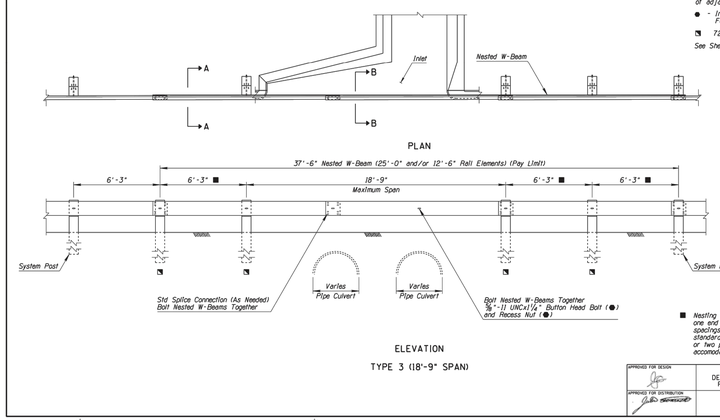
GENERAL NOTES

1. Use Type 3 Nested W-Beam to span downdrain or spillway inlets as shown in the plan view.
2. Use Type 3 Nested W-Beam to span multiple obstructions as shown in the elevation view.
3. For Type 3, a maximum of two posts may be eliminated within a span of nested guardrail.
4. Minimum length of nested guardrail is one 6'-3" post spacing on each side of maximum span.
5. Guardrail shall be lapped in the direction of adjacent traffic.

● - Indicates AASHTO, AGC & ARTBA Task Force 13 Report designation

◥ 72" Timber Post

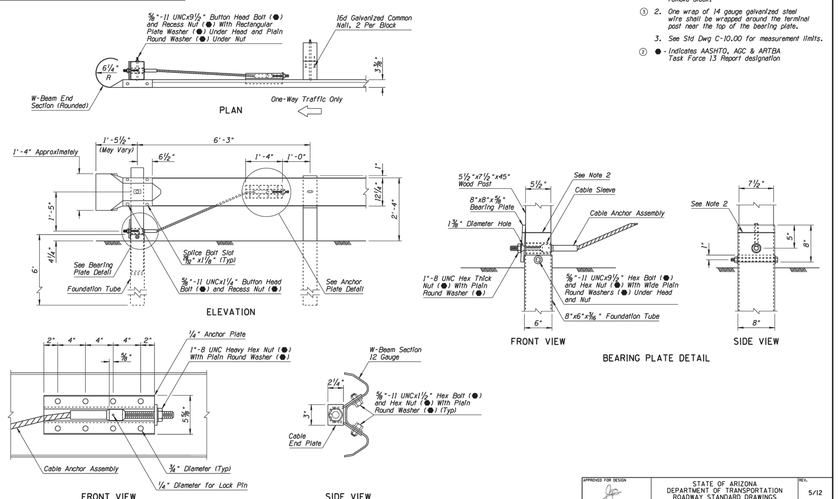
See Sheet 1 of 2 for Sections A-A and B-B



■ Nesting requires one 6'-3" post spacing on one end of the span and two 6'-3" post spacings on the other end of the span for standard length guardrail elements. The one or two post spacings may be reversed to accomodate field conditions.

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	W-BEAM GUARDRAIL NESTED TYPE 3	DRAWING NO. C-10.06 Sheet 2 of 2

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	RENAMED STD DWG FROM C-10.45 & REVISED TITLE	RLF	5/04
2	REVISED DESIGNATION	RLF	5/04
3	REVISED GENERAL NOTE 2	RLF	5/04
4			
5			



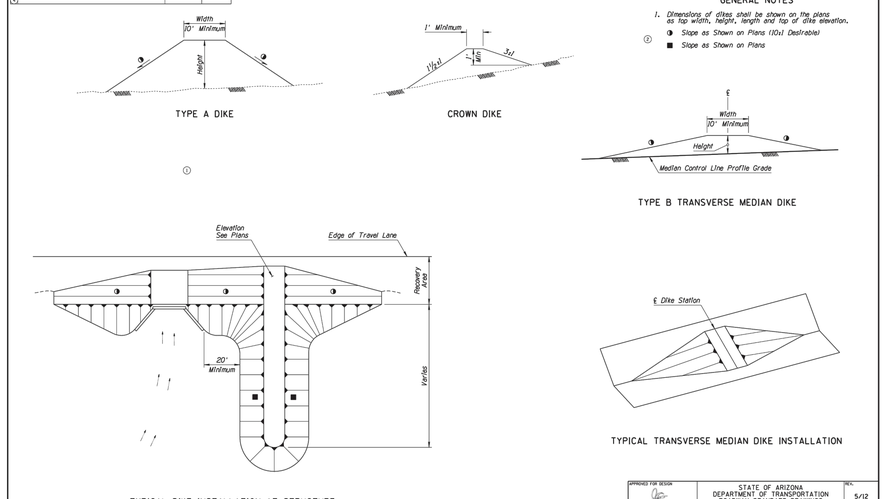
GENERAL NOTES

1. The cable assembly shall be tightened to remove slack.
2. (1) One wrap of 14 gauge galvanized steel wire shall be wrapped around the terminal post near the top of the bearing plate.
3. See Std Dwg C-10.00 for measurement limits.

(2) ● - Indicates AASHTO, AGC & ARTBA Task Force 13 Report designation

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	W-BEAM GUARDRAIL (1) END ANCHOR	DRAWING NO. (1) C-10.08

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	DELETED SLOPE TABLE	RLF	5/04
2	DELETED GENERAL NOTE 2; REVISED SLOPE DESIGNATIONS	RLF	5/04
3			
4			
5			



GENERAL NOTES

1. Dimensions of dikes shall be shown on the plans as top width, height, length and top of dike elevation.

(2) ◑ Slope as Shown on Plans (10:1 Desirable)

■ Slope as Shown on Plans

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	DITCHES, CHANNELS, DIKES AND BERMS DIKES	DRAWING NO. C-03.10 Sheet 2 of 5

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

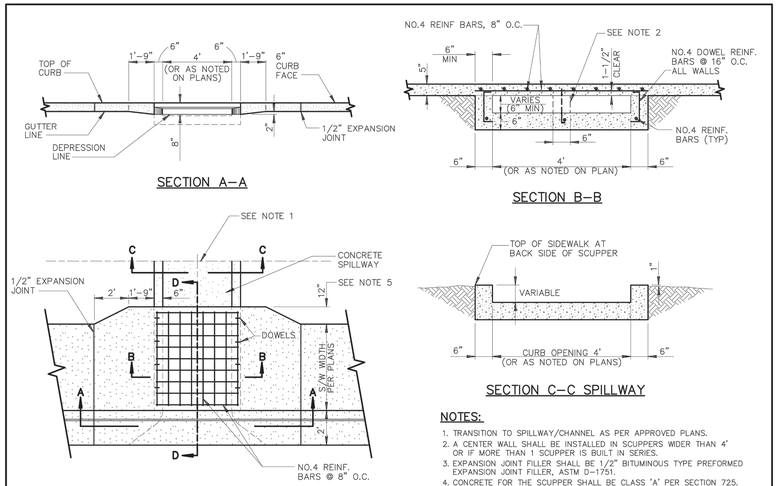
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		P26	35 OF 118

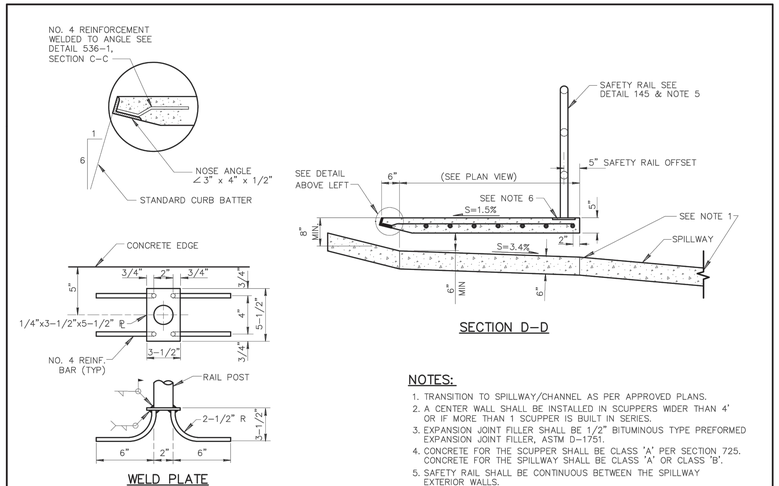
J:\2014\1014434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-P26.DWG Sep. 17, 2015 12:07 PM



NOTES:

1. TRANSITION TO SPILLWAY/CHANNEL AS PER APPROVED PLANS.
2. A CENTER WALL SHALL BE INSTALLED IN SCUPPERS WIDER THAN 4' OR IF MORE THAN 1 SCUPPER IS BUILT IN SERIES.
3. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER, ASTM D-1751.
4. CONCRETE FOR THE SCUPPER SHALL BE CLASS 'A' PER SECTION 725. CONCRETE FOR THE SPILLWAY SHALL BE CLASS 'A' OR CLASS 'B'.
5. 12" OFFSET DISTANCE SHALL BE INCREASED TO 2'-6" FOR DESIGNATED BICYCLE PATHS.

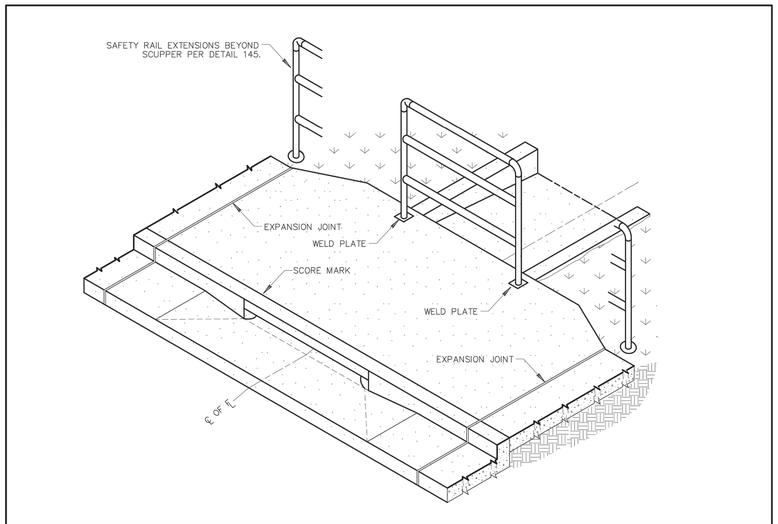
DETAIL NO.	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CONCRETE SCUPPER	REVISED	DETAIL NO.
206-1			01-01-2007	206-1



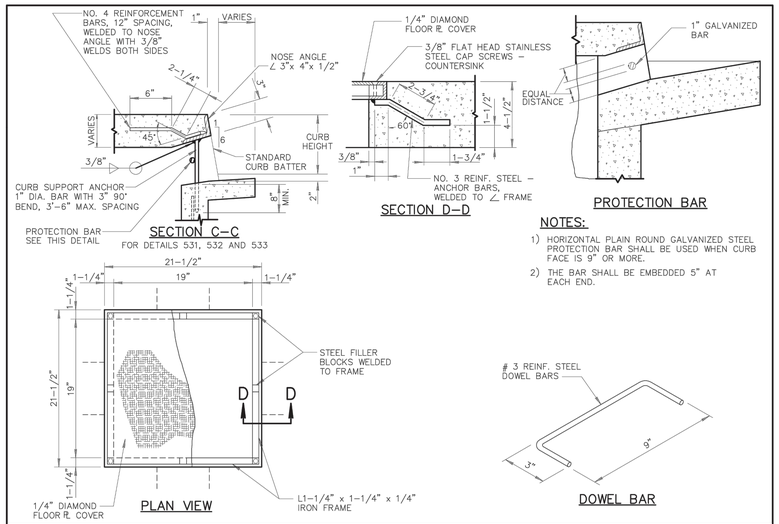
NOTES:

1. TRANSITION TO SPILLWAY/CHANNEL AS PER APPROVED PLANS.
2. A CENTER WALL SHALL BE INSTALLED IN SCUPPERS WIDER THAN 4' OR IF MORE THAN 1 SCUPPER IS BUILT IN SERIES.
3. EXPANSION JOINT FILLER SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER, ASTM D-1751.
4. CONCRETE FOR THE SCUPPER SHALL BE CLASS 'A' PER SECTION 725. CONCRETE FOR THE SPILLWAY SHALL BE CLASS 'A' OR CLASS 'B'.
5. SAFETY RAIL SHALL BE CONTINUOUS BETWEEN THE SPILLWAY EXTERIOR WALLS.
6. USE WELD PLATES FOR SAFETY RAIL ANCHORS LOCATED IN THE 5" THICK CONCRETE.

DETAIL NO.	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CONCRETE SCUPPER	REVISED	DETAIL NO.
206-2			01-01-2007	206-2



DETAIL NO.	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CONCRETE SCUPPER	REVISED	DETAIL NO.
206-3			01-01-2007	206-3



DETAIL NO.	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	COMMON DETAILS AND SECTIONS FOR CURB OPENING CATCH BASINS	REVISED	DETAIL NO.
536-1			01-01-1999	536-1

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		P27	36 OF 118

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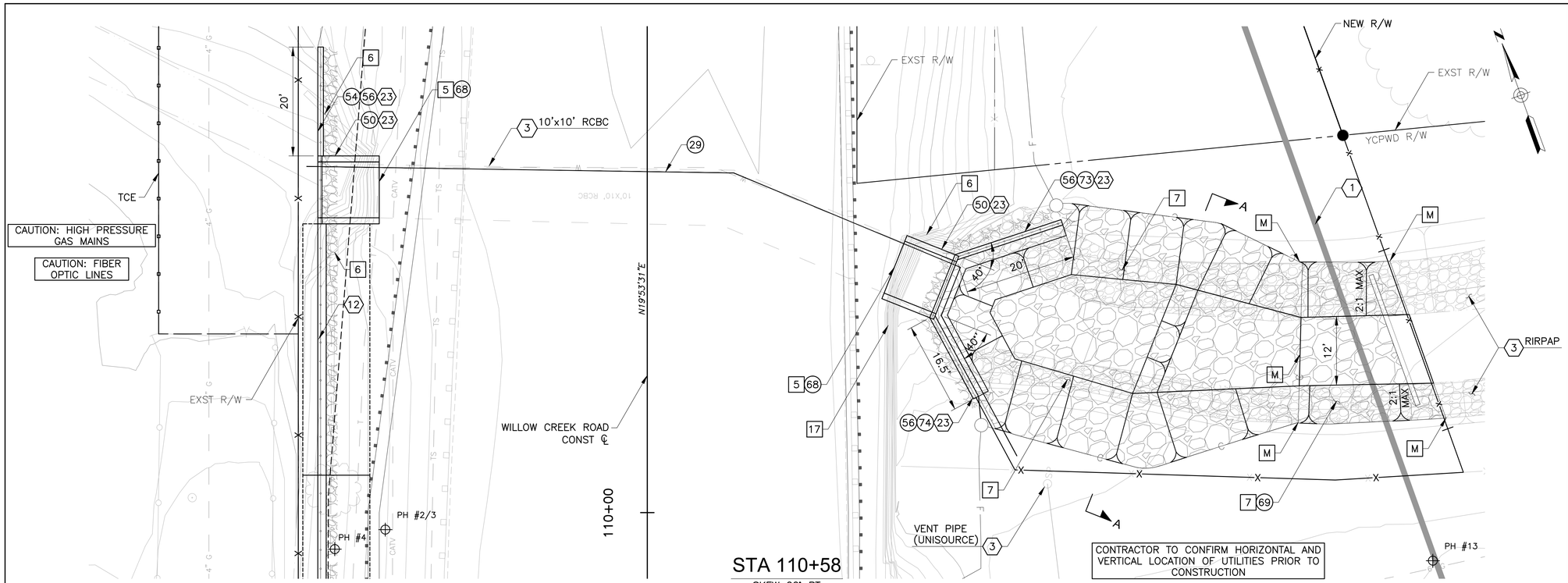
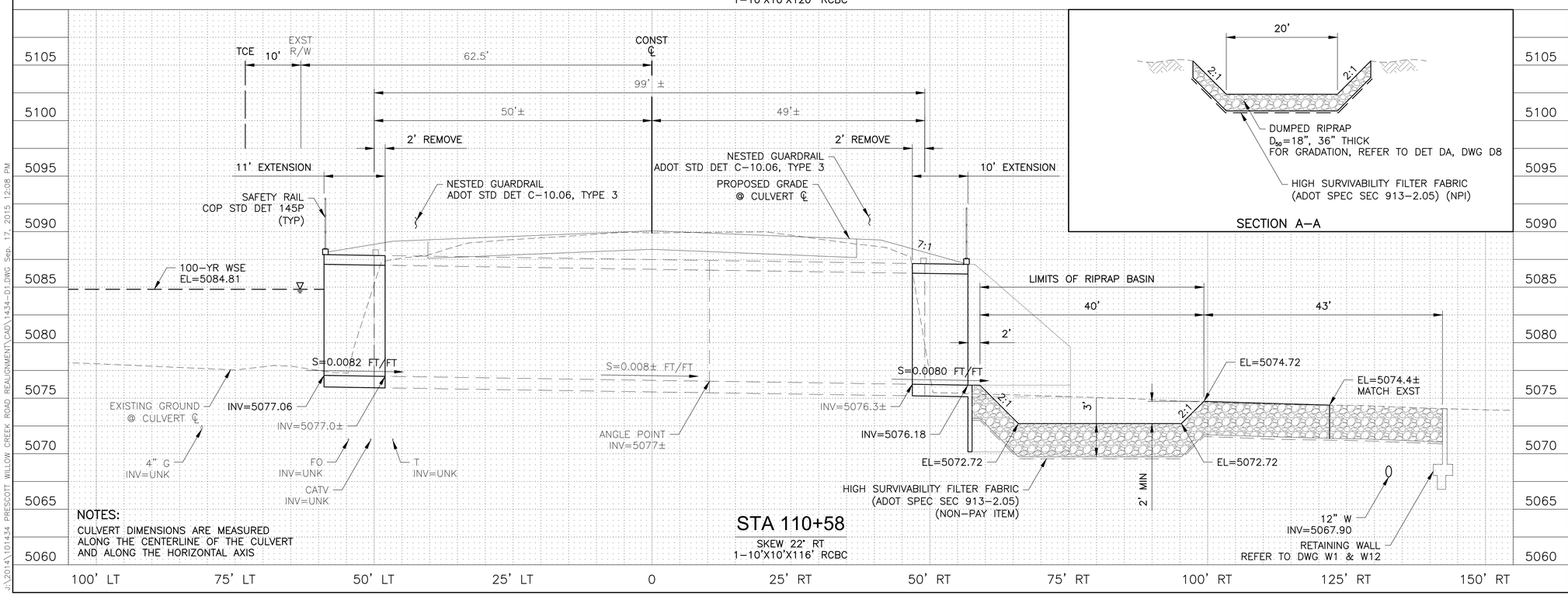


STA 110+58
SKEW 22° RT
1-10'X10'X120' RCBC



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 110+58
SKEW 22° RT
1-10'X10'X116' RCBC

SECTION A-A

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

5	REMOVE STRUCTURAL CONCRETE (RCBC)	8 CY
6	REMOVE STRUCTURAL CONCRETE (WINGWALL)	120 CY
7	REMOVE RIPRAP	142 SY
17	REMOVE STRUCTURAL CONCRETE (TOP 3' EXST LEVEL RETAINING WALL, BACKFILL & COMPACT VOID)	7 CY
M	MATCH EXST	

CONSTRUCTION NOTES

29	PRIVATE WATERLINE REMOVAL & INSTALLATION (1" STEEL W/ FITTINGS)	158 LF
50	1-10'X10' RCBC ADOT STD DET SD 6.01-5 STRUCTURAL EXCAVATION, DWG D12 STRUCTURE BACKFILL, DWG D12	21 LF 115 CY 270 CY
54	LEVEL WINGWALL, TYPE B ADOT STD DET SD 6.10, DWG D14	228 SF
56	SAFETY RAIL COP STD DET 145P	80 LF
68	CONNECT TO EXST RCBC ADOT STD DET SD 6.01, DWG D11 #6X1'-9" DOWEL	64 EA
69	DUMPED RIPRAP W/ FILTER FABRIC D50=18", 36" THICK FOR GRADATION REFER TO DET DA, DWG D8	323 CY
73	OUTLET WINGWALL, 2:1 SLOPE ADOT STD DET SD 6.08, DWG D13	148 SF
74	OUTLET WINGWALL, 2:1 SLOPE ADOT STD DET SD 6.08 (MOD PER PLAN), DWG D13	118 SF

REFERENCE NOTES

1. NEW WATER MAIN REFER TO WATER MAIN PLANS
3. PROTECT IN PLACE
12. NEW RETAINING WALL REFER TO STRUCTURAL PLANS
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP

0' 5' 10' 20'
SCALE: 1"=10'

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PLAN & PROFILE
STA 110+58

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 5' VERTICAL			D1	37 OF 118

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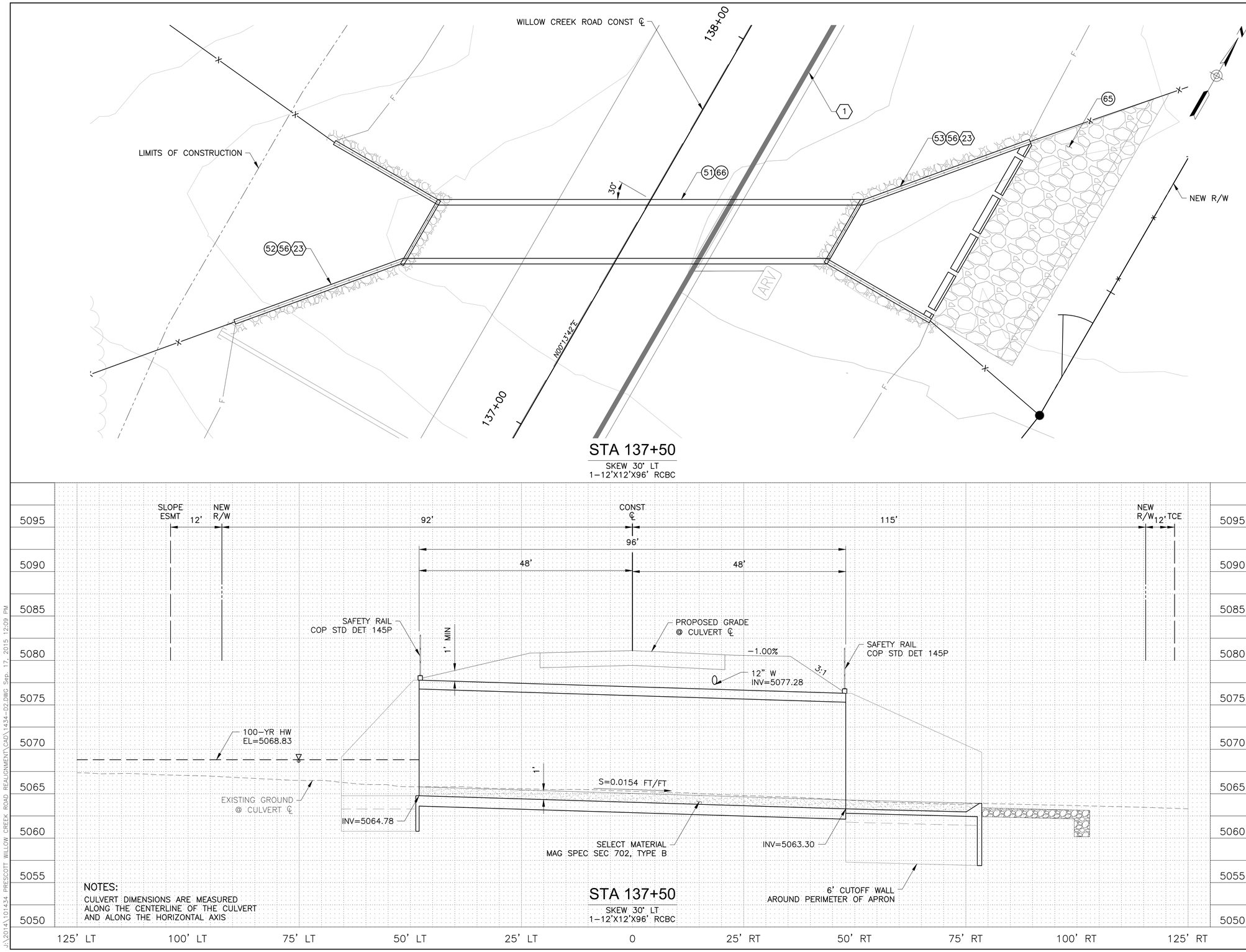

NOTES:

CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

CONSTRUCTION NOTES

51	1–12'X12' RCBC ADOT STD DET SD 6.01–5 STRUCTURAL EXCAVATION, DWG D12 STRUCTURE BACKFILL, DWG D12	96 LF 295 CY 578 CY
52	INLET WINGWALL, 4:1 SLOPE ADOT STD DET SD 6.08, DWG D13	656 SF
53	OUTLET WINGWALL, 4:1 SLOPE ADOT STD DET SD 6.08, DWG D13 W/ CONCRETE APRON DET DC, DWG D9	656 SF 794 SF
56	SAFETY RAIL COP STD DET 145P	166 LF
65	RCBC OUTLET PROTECTION RIPRAP (SLOPE MATTRESS) RIPRAP (GABION BASKET) DET DC, DWG D9	 38 CY 23 CY
66	12" SELECT MATERIAL MAG SPEC SEC 702, TYPE B	72 CY

REFERENCE NOTES

1. NEW WATER MAIN REFER TO WATER MAIN PLANS
23. FOR ROCK MULCH HEADWALL/WINGWALL TREATMENT REFER TO SWPPP

0' 5' 10' 20'

SCALE: 1"=10'

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REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PLAN & PROFILE
STA 137+50

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 5' VERTICAL			D2	38 OF 118

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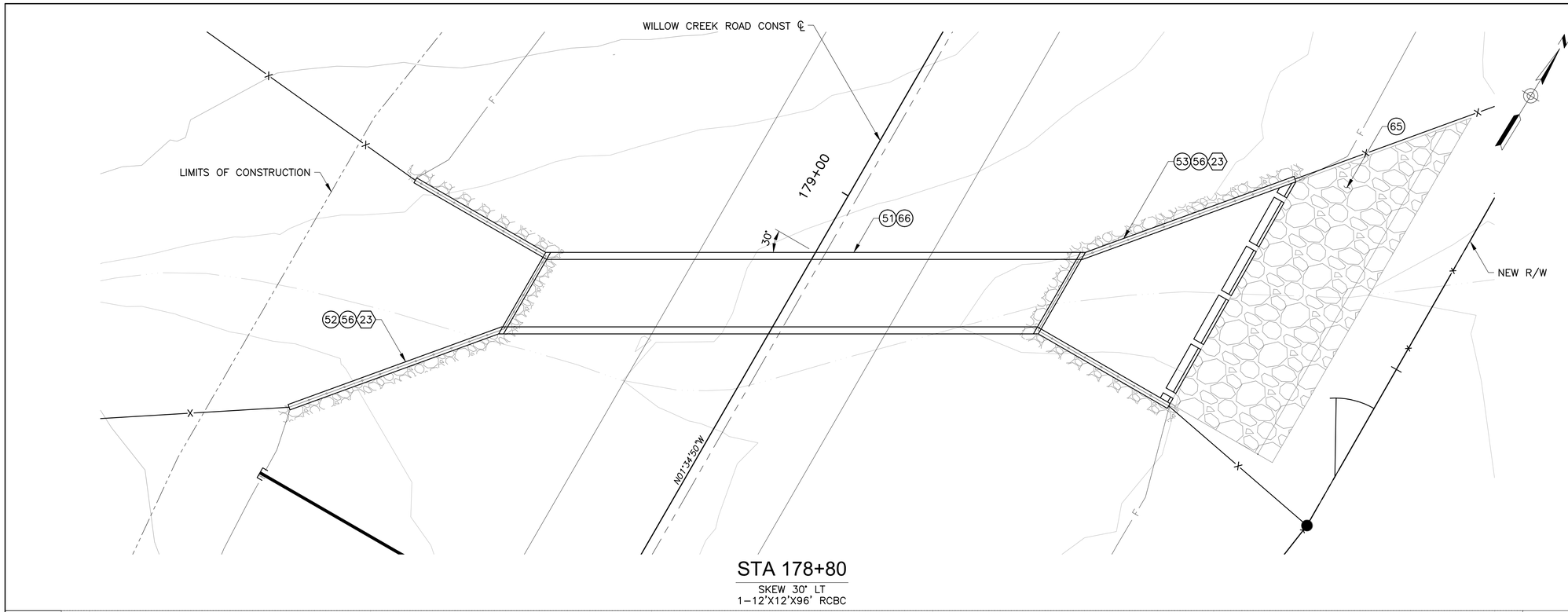

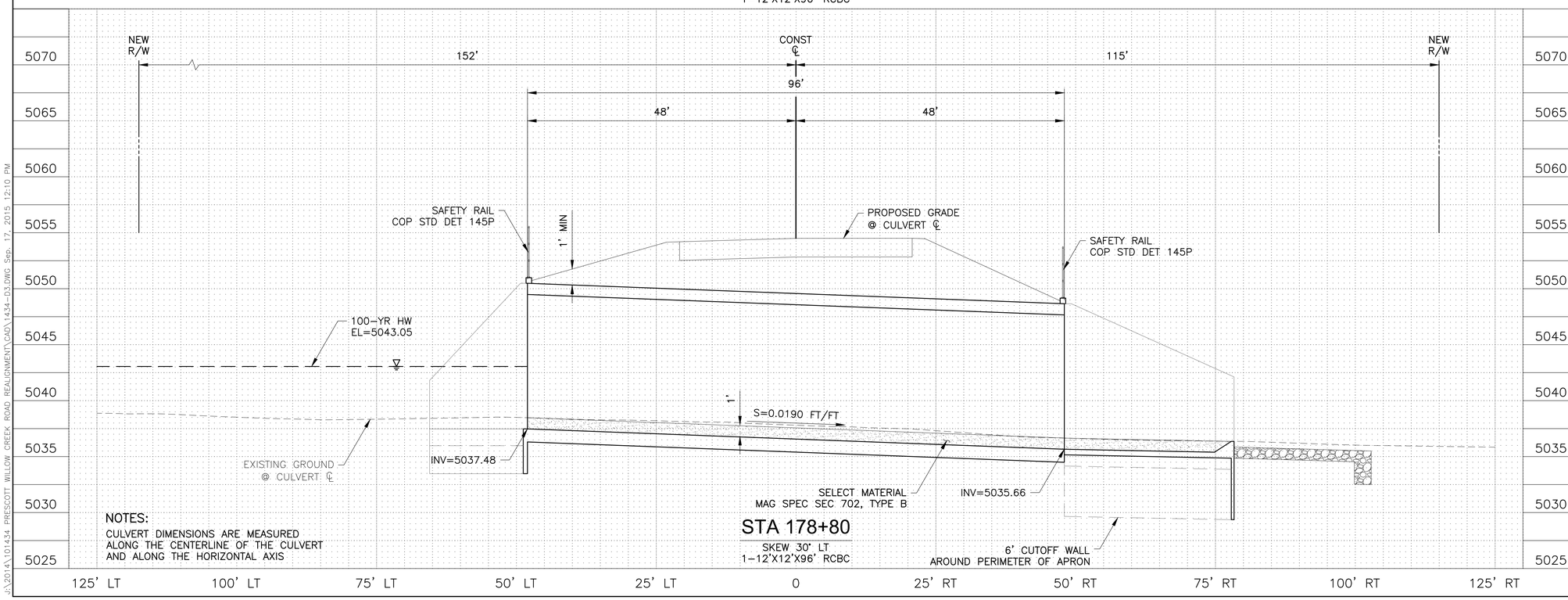

NOTES:
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AS BUILT DATE

Dibble Engineering

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REMOVAL NOTES

CONSTRUCTION NOTES

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REFERENCE NOTES

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0' 5' 10' 20'
SCALE: 1"=10'

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PLAN & PROFILE
STA 178+80

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 5' VERTICAL			D3	39 OF 118

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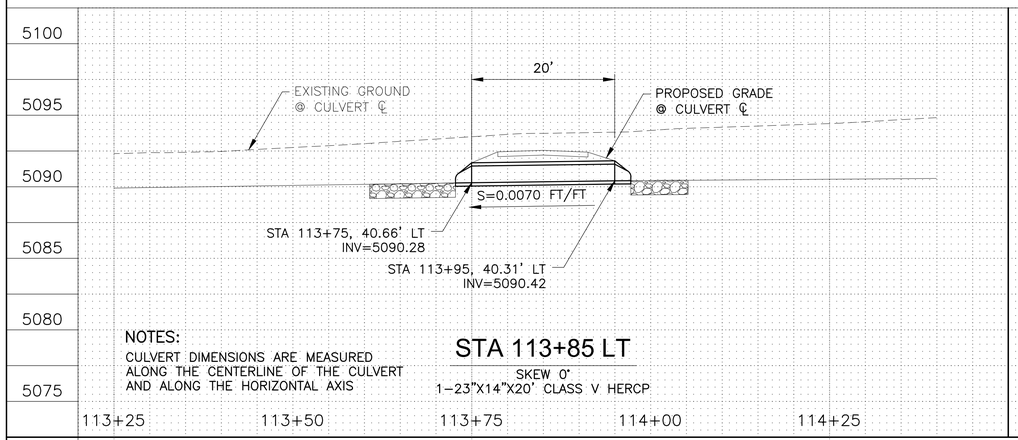

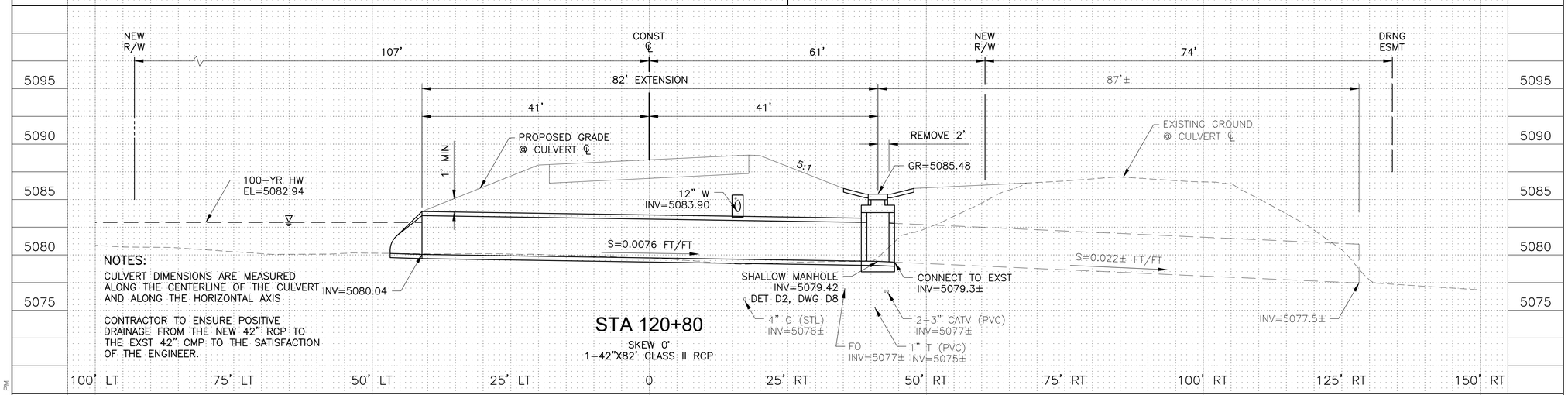

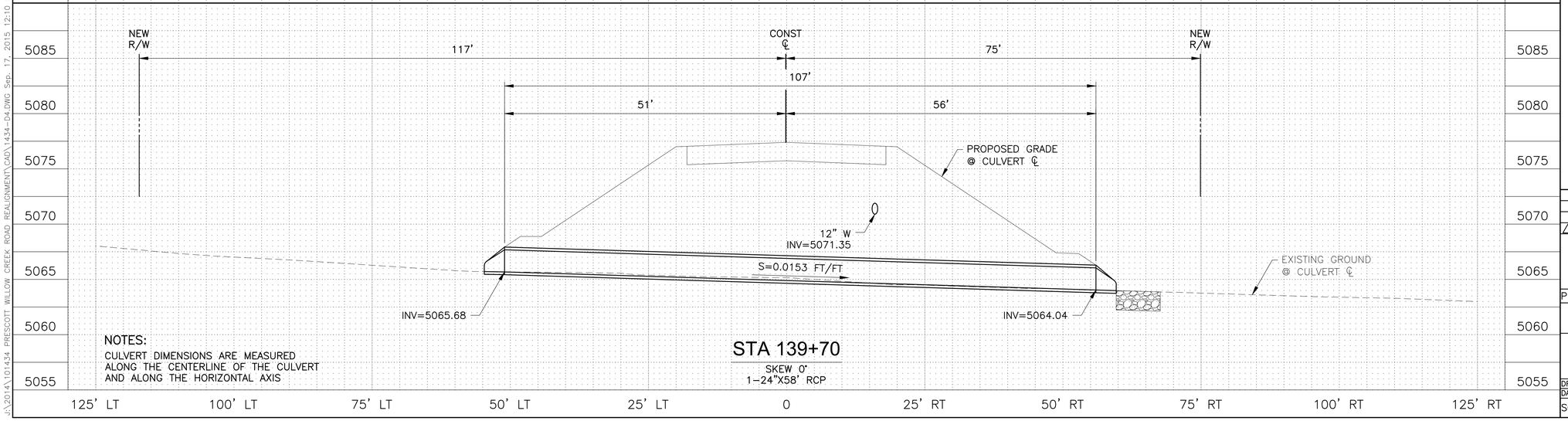

AS BUILT DATE

Dibble Engineering

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CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PROFILES
STA 113+85 LT, STA 120+80,
& STA 139+70

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 5' VERTICAL			D4	40 OF 118

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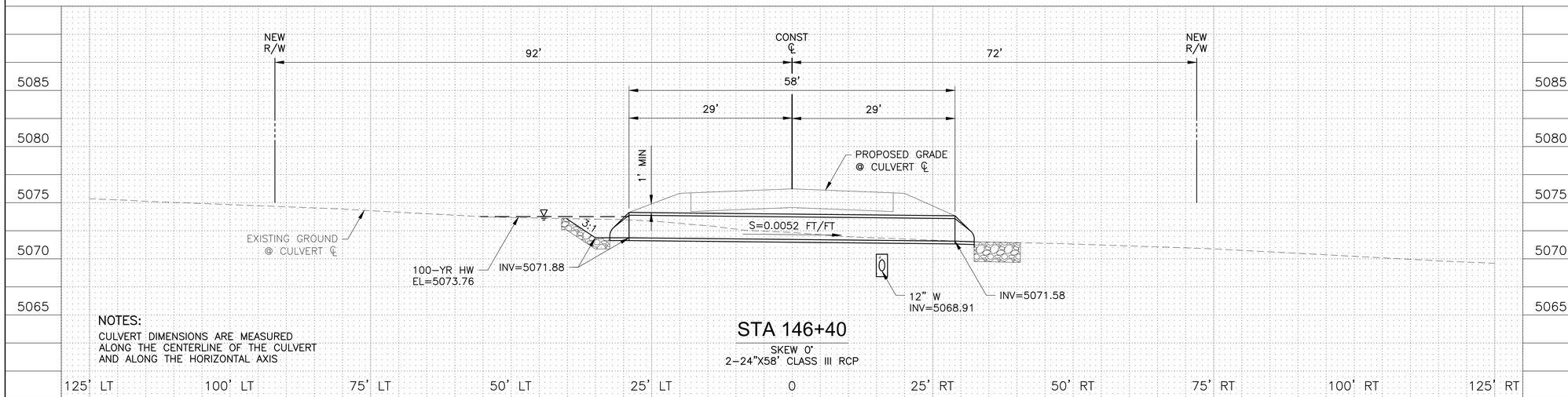
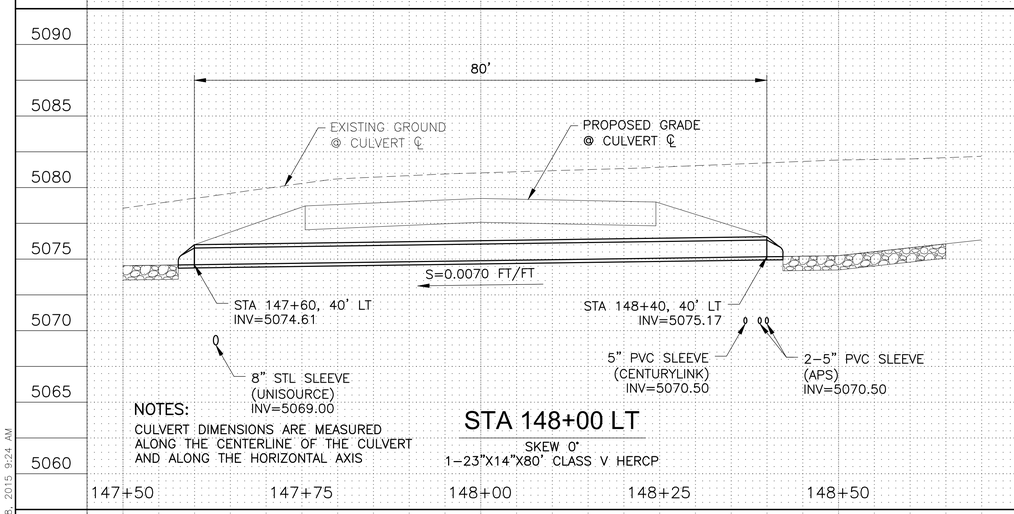


NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 146+40

SKEW 0°
2-24"X58' CLASS III RCP



NOTES:
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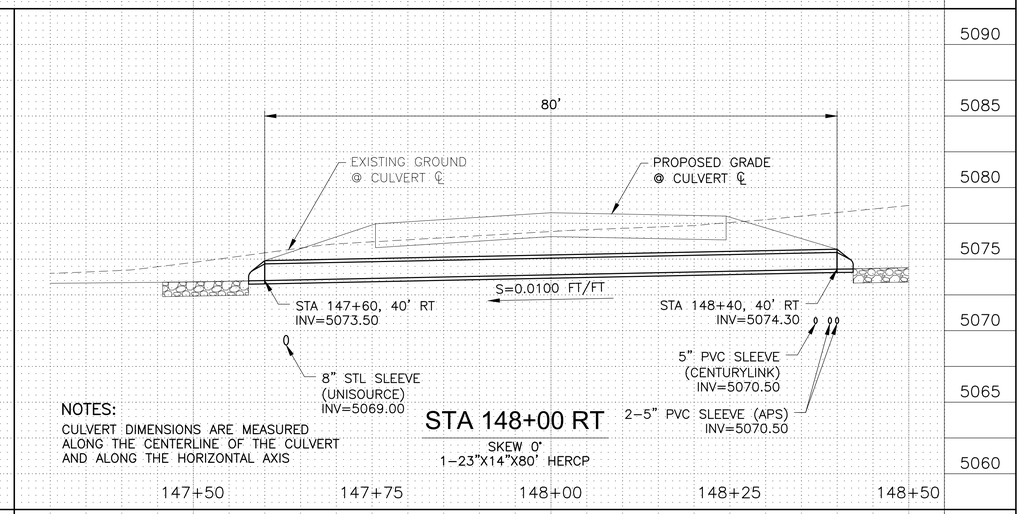
STA 148+00 LT

SKEW 0°
1-23"X14"X80' CLASS V HERCP



NOTES:
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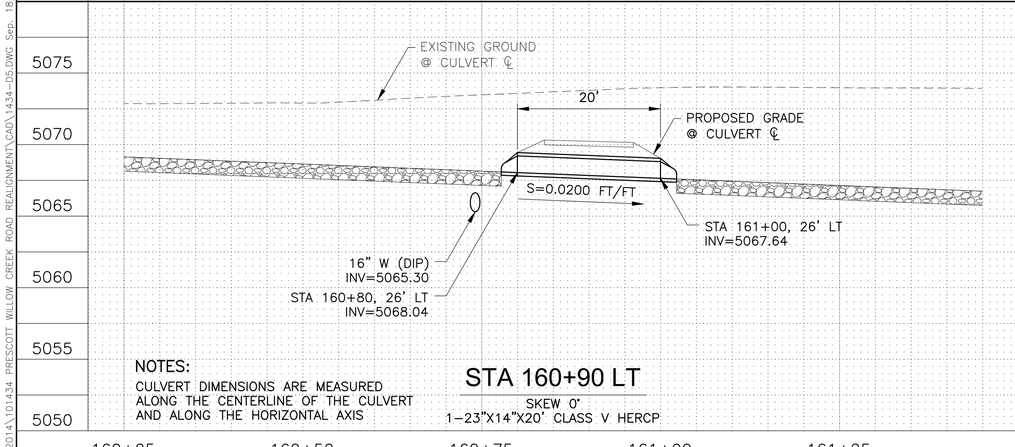
STA 148+00 RT

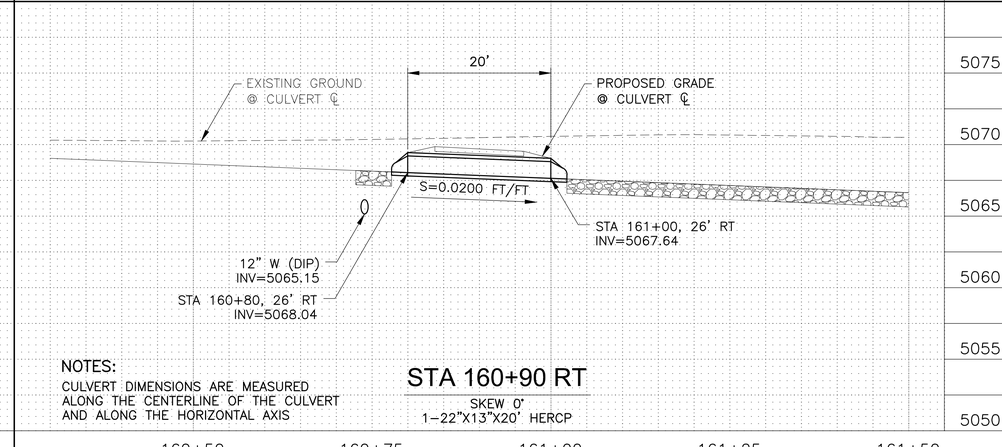
SKEW 0°
1-23"X14"X80' HERCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 160+90 LT

SKEW 0°
1-23"X14"X20' CLASS V HERCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 160+90 RT

SKEW 0°
1-22"X13"X20' HERCP

AS BUILT DATE

Dibble Engineering

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Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/18/15 ARIZONA U.S.A. Expires 06/30/16

0' 5' 10' 20'
SCALE: 1"=10'

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	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PROFILES
STA 146+40, STA 148+00 LT & RT, & STA 160+90 LT & RT

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL, 1" = 5' VERTICAL			D5	41 OF 118

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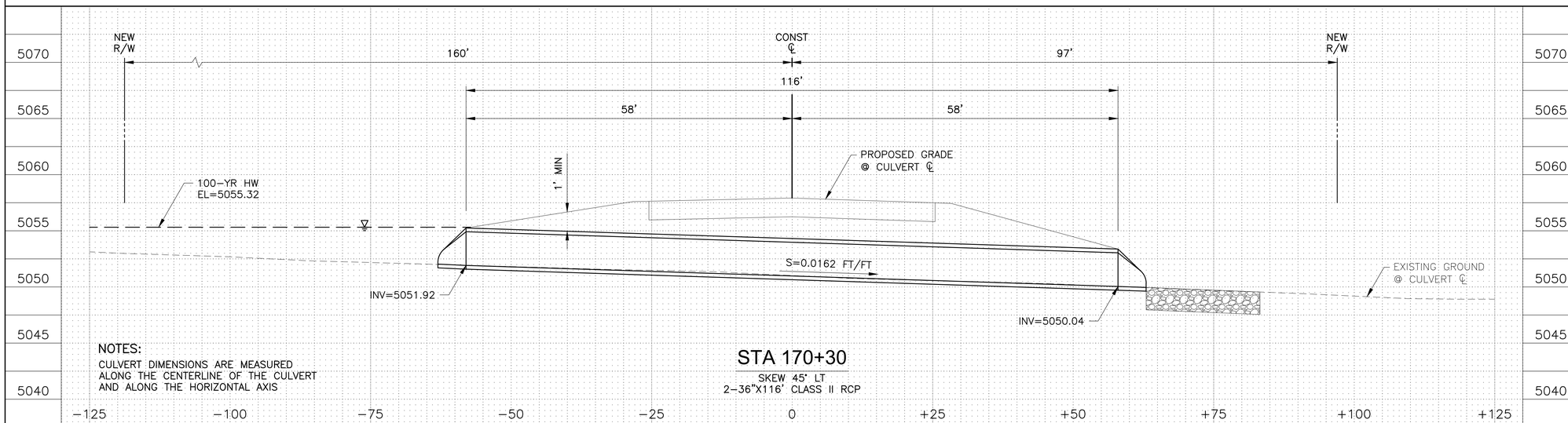
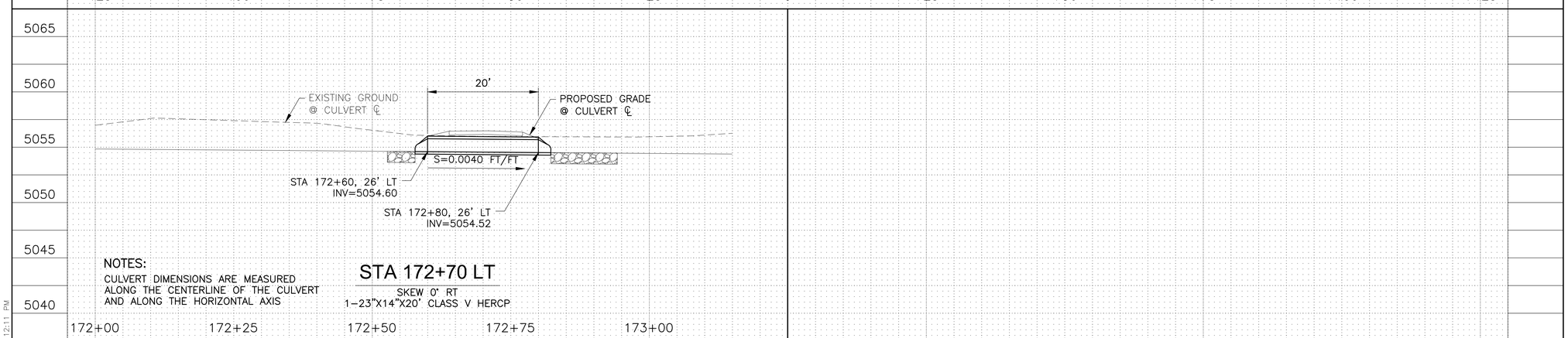


NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 170+30

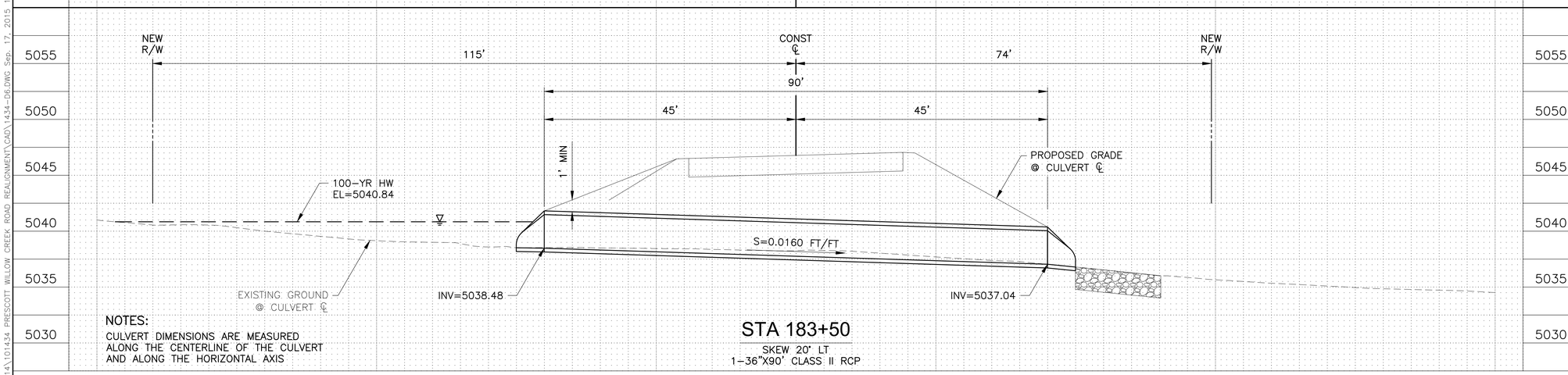
SKEW 45° LT
2-36"X116' CLASS II RCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 172+70 LT

SKEW 0° RT
1-23"X14"X20' CLASS V HERCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 183+50

SKEW 20° LT
1-36"X90' CLASS II RCP

AS BUILT DATE

Dibble Engineering

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0' 5' 10' 20'
SCALE: 1"=10'

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CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

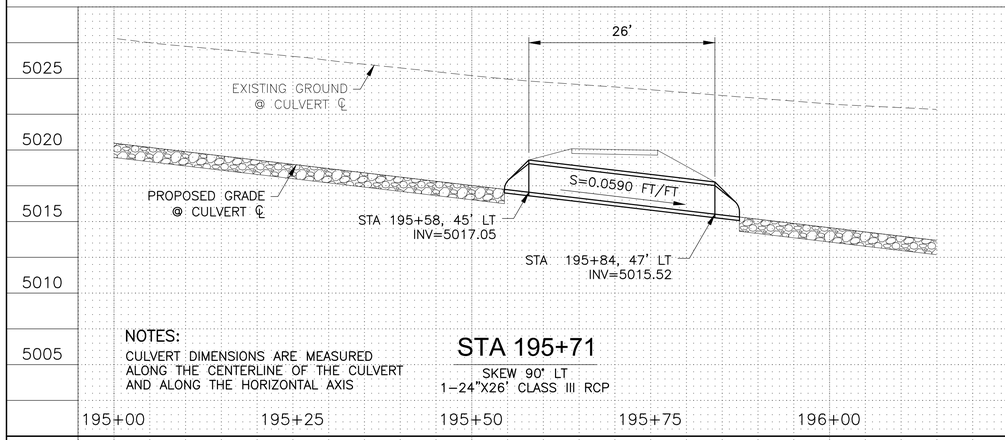
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

CULVERT PROFILES
STA 170+30, STA 172+70 LT,
& STA 183+50

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL, 1" = 5' VERTICAL			D6	42 OF 118

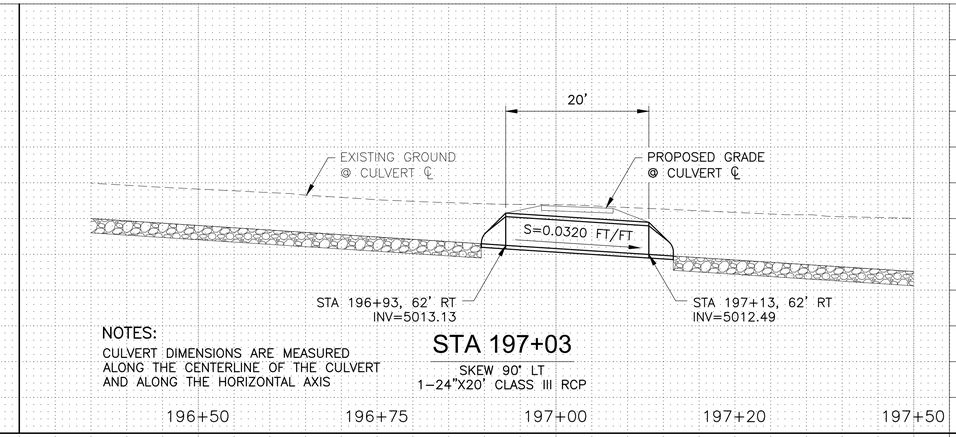
J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-D6.DWG Sep. 17, 2015 12:11 PM



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 195+71

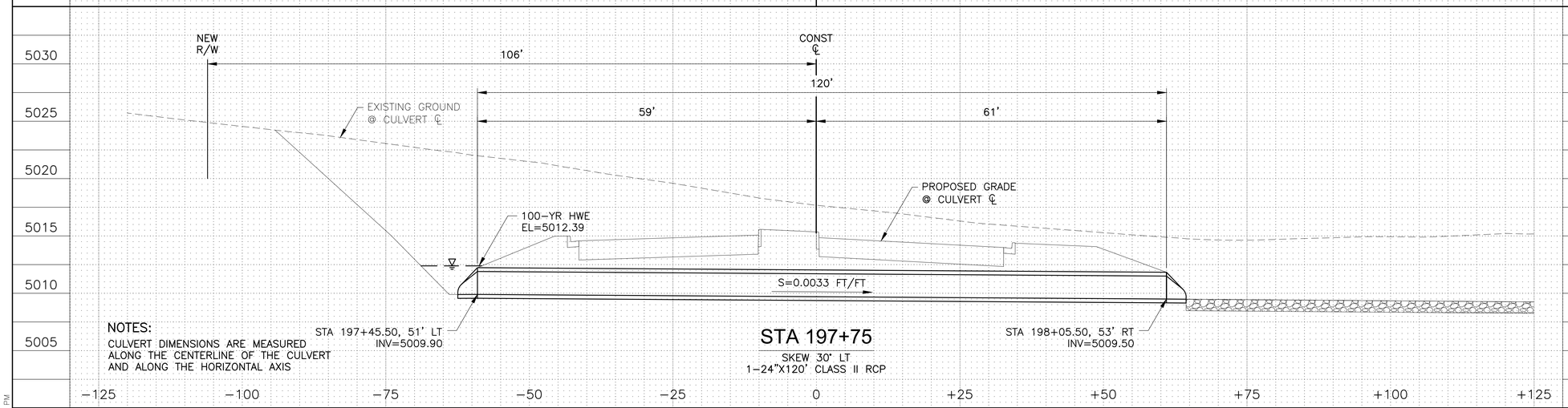
SKEW 90° LT
1–24"X26' CLASS III RCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 197+03

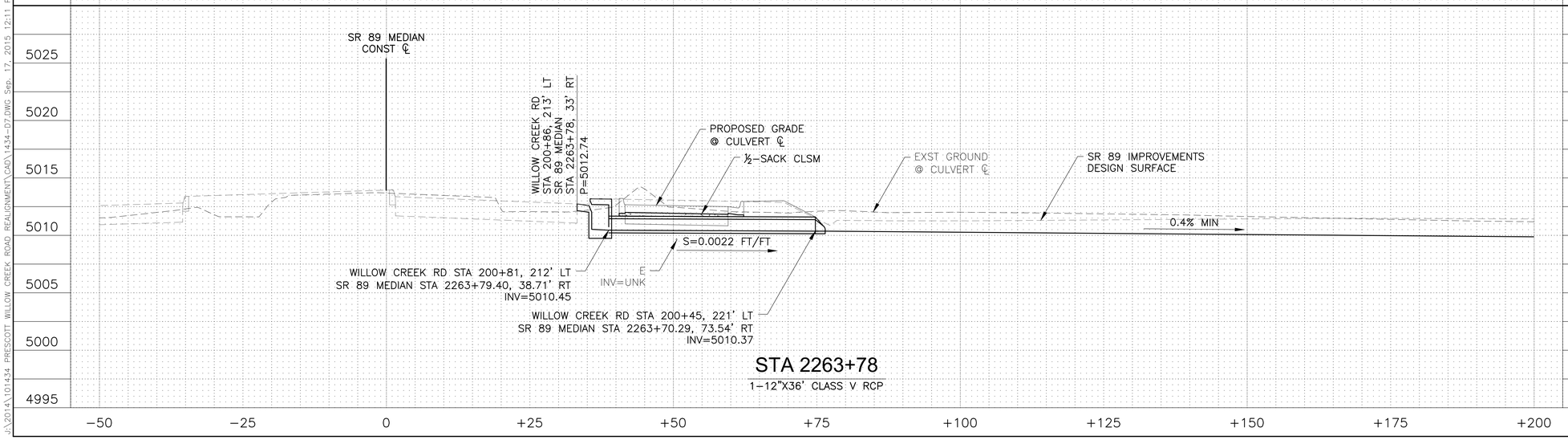
SKEW 90° LT
1–24"X20' CLASS III RCP



NOTES:
CULVERT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE CULVERT AND ALONG THE HORIZONTAL AXIS

STA 197+75

SKEW 30° LT
1–24"X120' CLASS II RCP



STA 2263+78

1–12"X36' CLASS V RCP

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 5' 10' 20'
SCALE: 1"=10'

Call at least two full working days before you begin excavation. ARIZONA 811 Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (783-2348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT

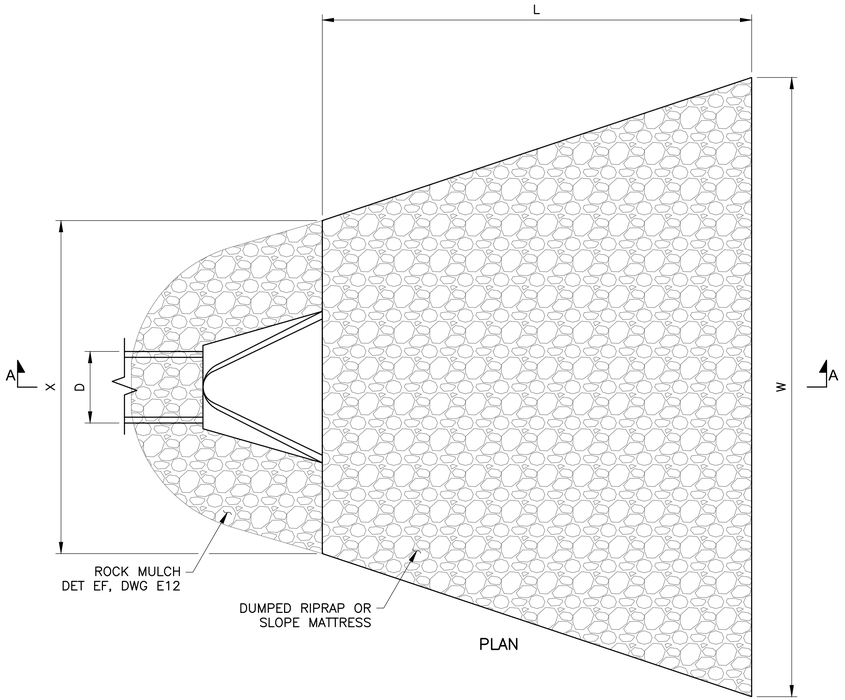
PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

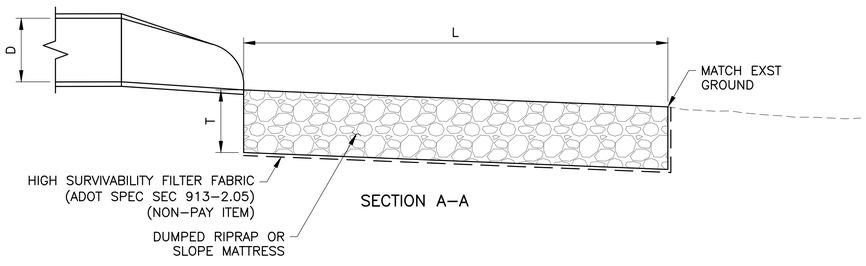
CULVERT PROFILES
STA 195+71, STA 197+03,
STA 197+75, & STA 2263+78

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL, 1" = 5' VERTICAL			D7	43 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-D7.DWG Sep. 17, 2015 12:11 PM



PLAN



SECTION A–A

RIPRAP APRON & GABION MATTRESS SCHEDULE FOR PIPE CULVERTS								
WILLOW CREEK RD STATION	DIAMETER D (NO–IN)	D50 (IN)	WIDTH X (FT)	LENGTH L (FT)	WIDTH W (FT)	THICKNESS T (IN)	DUMPED RIPRAP (CY)	SLOPE MATTRESS (CY)
139+70	1–24	6	10	8	17	21	7	–
146+40	2–24	6	17	8	24	21	11	–
170+30	2–36	◐	23	15	34	12	–	19
183+50	1–36	◐	13	15	23	12	–	10
200+44	1–12	6	4	5	8	21	2	–

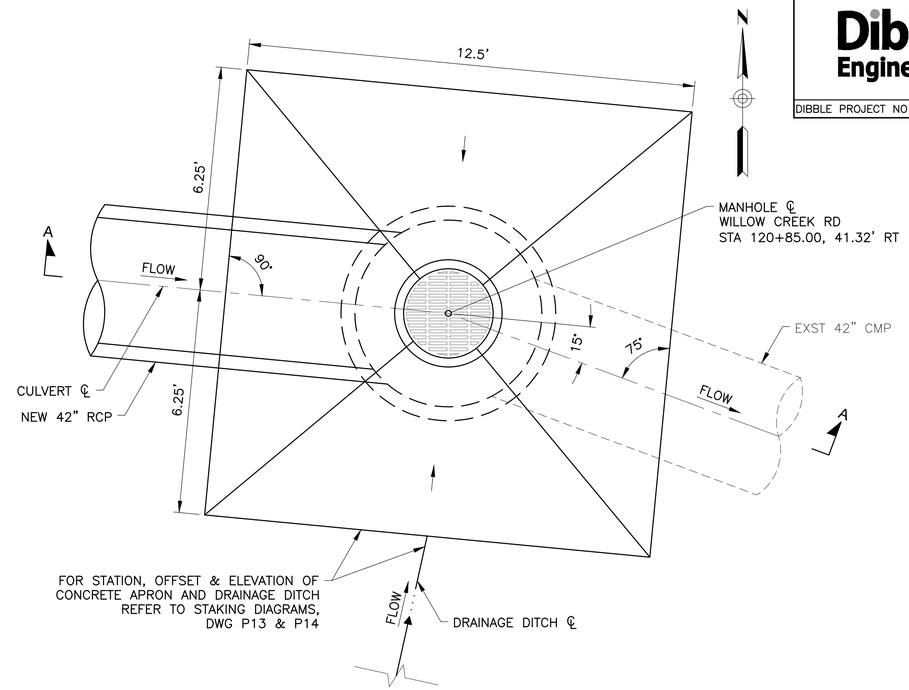
MULCH & RIPRAP DESIGN GRADATION				
GRADATION	D_{50} (IN)			
% PASSING	4	6	12	18
100–90	8	12	24	36
85–70	6	9	18	24
50–30	4	6	12	18
15–5	2	4	8	12
5–0	1	2	4	6

NOTES:

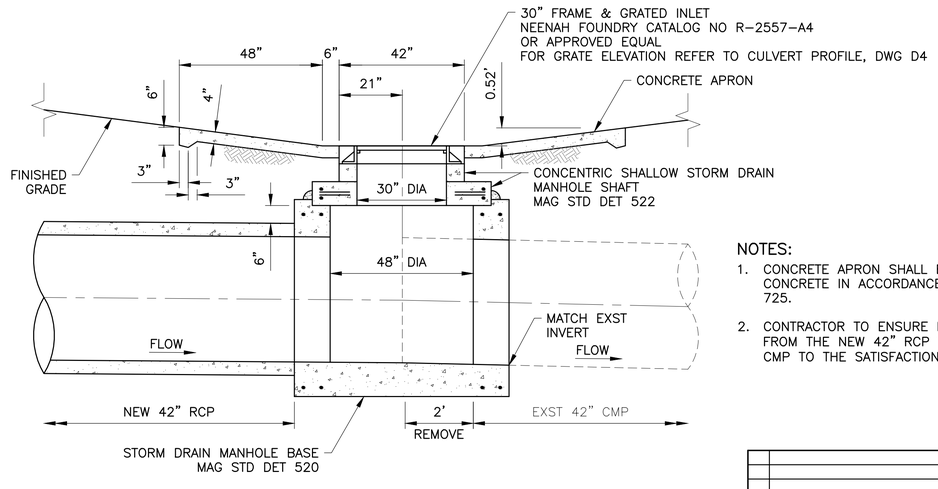
1. RIPRAP DIMENSIONS SHOWN HEREON REPRESENT THE MINIMUM INSTALLATION LIMITS. FIELD CONDITIONS VARY AND MAY REQUIRE ADJUSTMENTS TO DIMENSIONS AND SHAPE.

◐ FOR RIPRAP PLACED WITHIN SLOPE MATTRESS, REFER TO SEC 220.5 & 220.6 OF THE SPECIAL PROVISIONS.

(DA) RIPRAP APRON OR SLOPE MATTRESS FOR PIPE CULVERTS
NO SCALE



PLAN



SECTION A–A

NOTES:

1. CONCRETE APRON SHALL BE CLASS B CONCRETE IN ACCORDANCE WITH MAG SPEC SEC 725.
2. CONTRACTOR TO ENSURE POSITIVE DRAINAGE FROM THE NEW 42" RCP TO THE EXST 42" CMP TO THE SATISFACTION OF THE ENGINEER.

(DB) MANHOLE W/ GRATED INLET
NO SCALE

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS
DETAILS DA & DB

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		D8	44 OF 118

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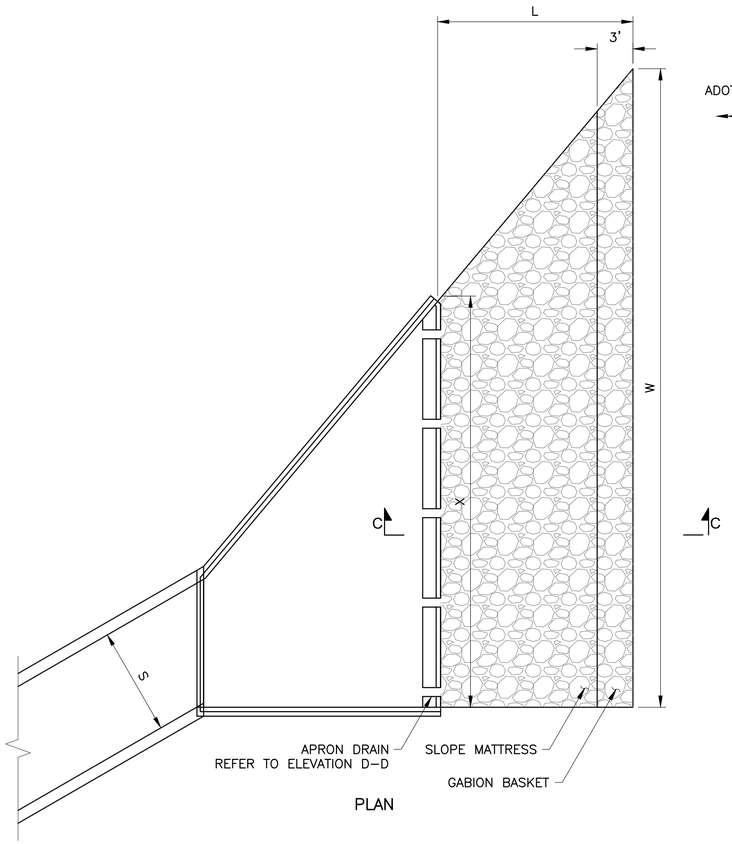
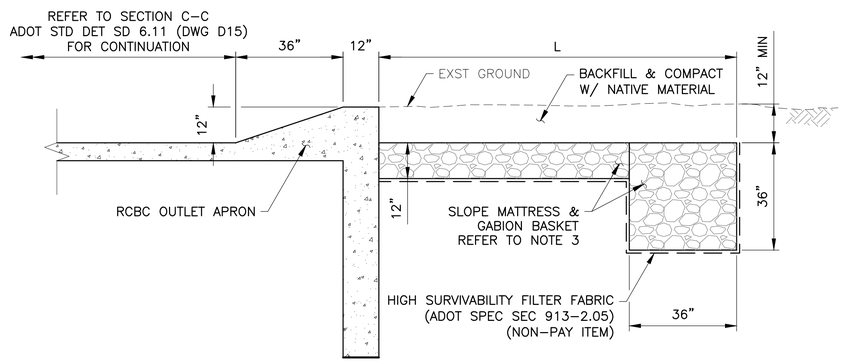
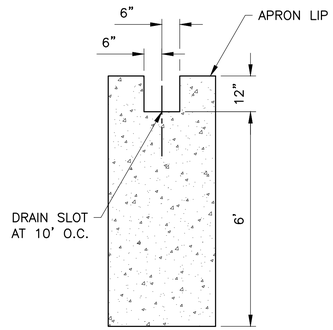


PLAN



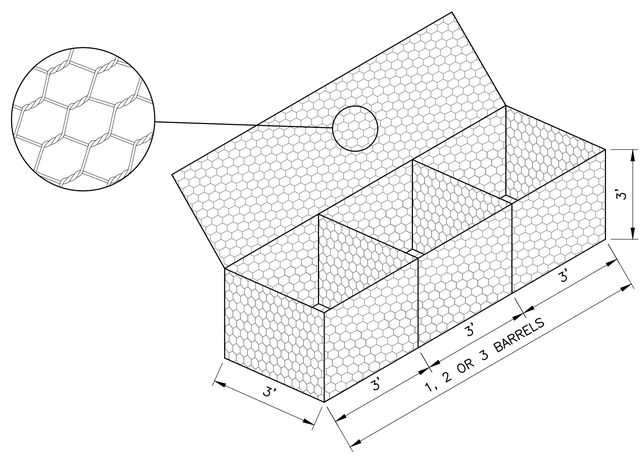
SECTION C–C (SD 6.11 (DWG D15) MOD)



ELEVATION D–D (SD 6.11 (DWG D15) MOD)

APRON DRAIN DETAIL (SD 6.11 (DWG D15) MOD)

SLOPE MATTRESS & GABION BASKET SCHEDULE						
WILLOW CREEK RD STATION	SPAN S (FT)	WIDTH X (FT)	LENGTH L (FT)	WIDTH W (FT)	SLOPE MATTRESS (CY)	GABION BASKET (CY)
137+50	12	45	21	71	38	23
178+80	12	45	21	71	38	23



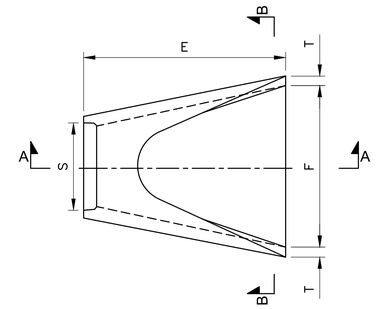
TYPICAL GABION BASKET

NOTES:

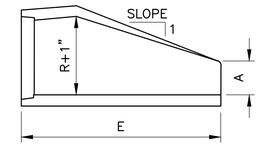
1. SLOPE MATTRESS AND GABION BASKETS DIMENSIONS SHOWN HEREON REPRESENT THE MINIMUM INSTALLATION LIMITS. FIELD CONDITIONS VARY AND MAY REQUIRE ADJUSTMENTS TO DIMENSIONS AND SHAPE.
2. MODIFY ADOT STD DET SD 6.11 (DWG D15) AS SHOWN IN THIS DETAIL.
3. SLOPE MATTRESS AND GABION BASKETS TO BE IN ACCORDANCE WITH SECTION 220.5 & 220.6 OF THE SPECIAL PROVISIONS AND THE MANUFACTURER'S REQUIREMENTS.

(DC) OUTLET APRON W/ SLOPE MATTRESS & GABION BASKET [ADOT STD DET SD 6.11 (DWG D15) MOD] FOR NEW RCBC

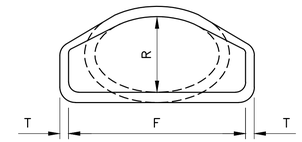
NO SCALE



PLAN



SECTION A–A



SECTION B–B

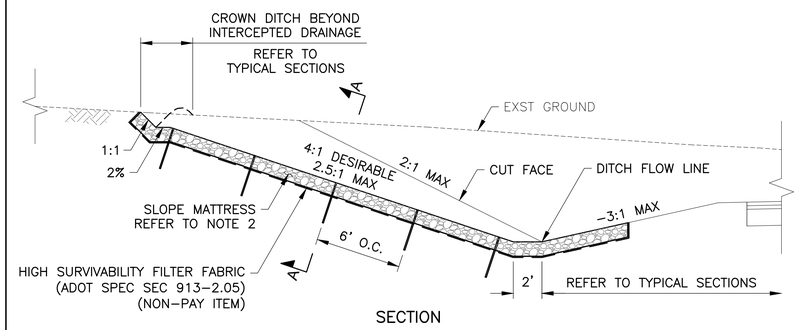
HERCP END SECTION DIMENSIONS						
S X R (IN)	APPROX WEIGHT (LB)	APPROX SLOPE	DIMENSIONS (IN)			
			T	A	E	F
23 X 14	1,050	3	2.5	7	72	36

NOTES:

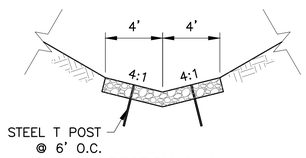
1. REFER TO ADOT STD DET C–13.20 (DWG D10) FOR NOTES AND FIGURES NOT PROVIDED.

(DD) REINFORCED CONCRETE ELLIPTICAL PIPE END SECTION

NO SCALE



SECTION



SECTION A–A

NOTES:

1. SLOPE MATTRESS DIMENSIONS SHOWN HEREON REPRESENT THE MINIMUM INSTALLATION LIMITS. FIELD CONDITIONS VARY AND MAY REQUIRE ADJUSTMENTS TO DIMENSIONS AND SHAPE.
2. SLOPE MATTRESS TO BE IN ACCORDANCE WITH SECTION 220.5 & 220.6 OF THE SPECIAL PROVISIONS AND THE MANUFACTURER'S REQUIREMENTS.

(DE) INTERCEPTED DRAINAGE

NO SCALE

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

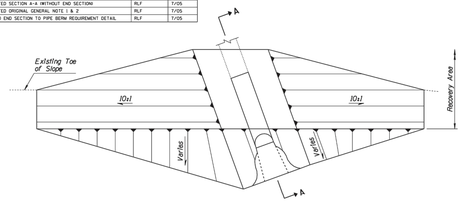
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS
DETAILS DC & DD

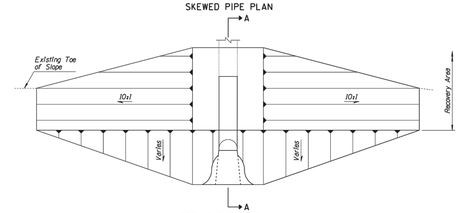
DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL	VERTICAL	D9	45 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-D9.DWG Sep. 17, 2015 12:12 PM

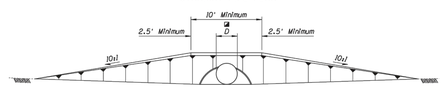
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED SECTION A-A TITLE	RLF	7/05
2	DELETED SECTION A-A (WITHOUT END SECTION)	RLF	7/05
3	DELETED ORIGINAL GENERAL NOTE 1 & 2	RLF	7/05
4	ADDED END SECTION TO PIPE BERM REQUIREMENT DETAIL	RLF	7/05



SKEWED PIPE PLAN



STRAIGHT PIPE PLAN



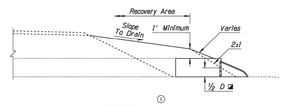
ELEVATION
STRAIGHT PIPE

GENERAL NOTES

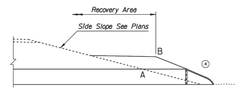
1. Berm construction shown is for pipe extensions. Berm construction similar for new pipe and multiple pipe installations. See Pipe Berm Requirement Detail.
2. If Point A is within the recovery area, then a pipe berm is required and Point B is set at the edge of the recovery area.
3. See Std Dwg C-13.15 for pipe backfill and bedding material limits.

◪ Single Pipe Installation: D = Outside Diameter of Pipe

◪ Multiple Pipe Installation: D = Outside Edge to Outside Edge of Pipes



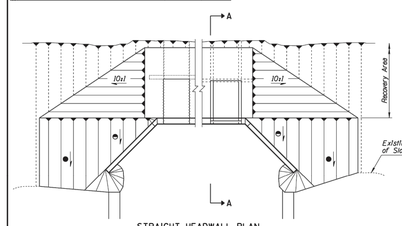
SECTION A-A



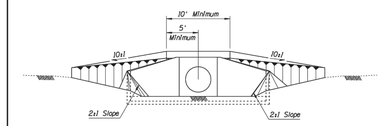
PIPE BERM REQUIREMENT DETAIL

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	DITCHES, CHANNELS, DIKES AND BERMS PIPE BERMS	DRAWING NO. C-03.10 Sheet 4 of 5

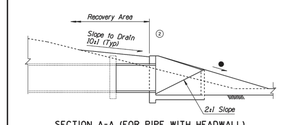
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STANDARD DRAWING	RLF	9/04
2	REMOVED 12 SLOPE REQUIREMENT WITHIN RECOVERY AREA	RLF	5/12
3	REVISED BERM GRAPHICS	RLF	5/12
4			



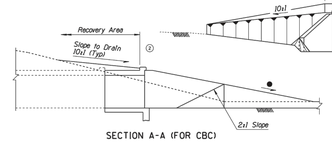
STRAIGHT HEADWALL PLAN
CBC OR PIPE WITH HEADWALL



ELEVATION FOR PIPE ③



SECTION A-A (FOR PIPE WITH HEADWALL)



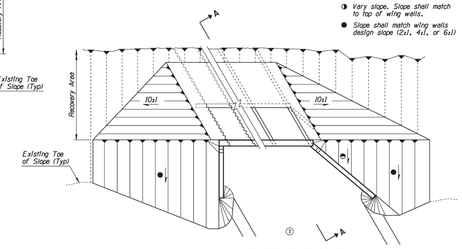
SECTION A-A (FOR CBC)

GENERAL NOTES

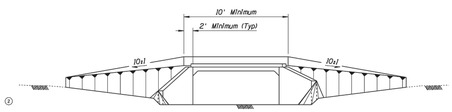
1. Berm construction similar for box culvert and pipe with headwall.
2. Berm construction shown is for extension of existing facilities. Berm construction similar for new facilities.
3. See C-Standards and B-Standards for pipe and structure backfill limits.

◑ Very slope. Slope shall match to top of wing walls.

● Slope shall match wing walls design slope (2:1, 4:1, or 6:1)



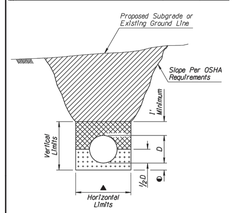
SKEWED HEADWALL PLAN



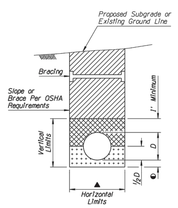
ELEVATION FOR CBC ③

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	DITCHES, CHANNELS, DIKES AND BERMS HEADWALL BERMS	DRAWING NO. C-03.10 Sheet 5 of 5

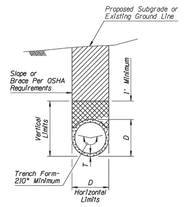
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED SPECIFICATIONS	RLF	5/04
2			
3			
4			



TRENCH CONDITION
IN NATURAL GROUND OR IN EMBANKMENT
WITHOUT BRACING



TRENCH CONDITION
IN NATURAL GROUND OR IN EMBANKMENT
WITH BRACING SHOWN



TRENCH CONDITION
NRCIPCP IN NATURAL GROUND
OR IN EMBANKMENT

GENERAL NOTES

1. Pipes shall be installed either in a trench condition or in a non-trench condition in natural ground or in embankment.
2. In a trench condition, the vertical and horizontal limits shall be maintained. If horizontal limits are exceeded or the vertical limits are not maintained, a non-trench condition exists.
3. Bracing and sloping shall conform to OSHA requirements.
4. Pipe backfill may be bedding material.
5. In a non-trench condition, the embankment for pipe stability shall be constructed in lifts to the limits shown in the detail simultaneously with the bedding material and pipe backfill. If the contractor chooses to construct it as a trench condition, the embankment shall be constructed before excavating the trench.

D - Outside diameter of full circle pipe or outside dimension (span or rise) of arch, arch pipe, elliptical pipe.

T - Minimum wall thickness for NRCIPCP. See Plans.

① ▲ For D < than 4' : D + 6" each side, minimum
D + 2' each side, maximum

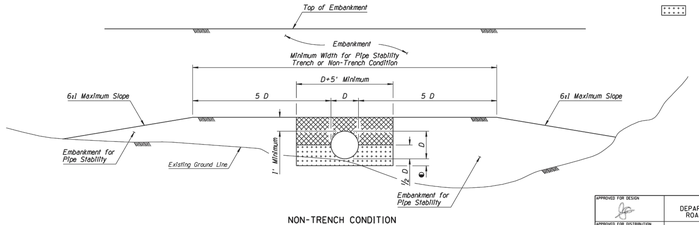
① For D ≥ than 4' : D + 1' each side, minimum
D + 3' each side, maximum

◐ - 6 inches except when on unyielding or unstable material. See Std Specs.

TRENCH BACKFILL

PIPE BACKFILL

BEDDING



NON-TRENCH CONDITION

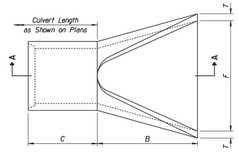
APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	TYPICAL PIPE INSTALLATION	DRAWING NO. C-13.15

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	NEW GENERAL NOTE 1	RLF	5/04
2			
3			
4			

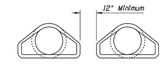
GENERAL NOTES

① 1. End section joint type shall match the pipe joint type.
2. Embankment slope shall be warped to match slope of end section.

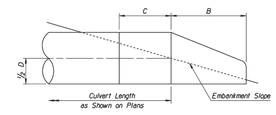
Pipe Diameter (in)	Approximate Weight (Lbs)	Dimensions (in)						Approximate Slope
		T	A	B	C	E	F	
24	1520	3	9½	43½	30	73½	48	3
27	1930	3¼	10½	49½	24	73½	54	3
30	2190	3½	12	54	19¾	73¾	60	3
36	4100	4	15	63	34¾	91¾	72	3
42	5380	4½	21	63	35	98	78	3



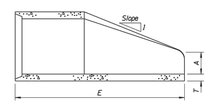
PLAN



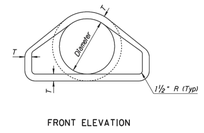
SPACING FOR MULTIPLE INSTALLATION



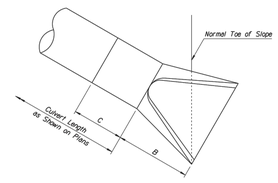
RIGHT-ANGLE CULVERT



SECTION A-A



FRONT ELEVATION



SKEWED CULVERT

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	PIPE REINFORCED CONCRETE END SECTION	DRAWING NO. C-13.20

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin construction.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL VERTICAL		D10	46 OF 118

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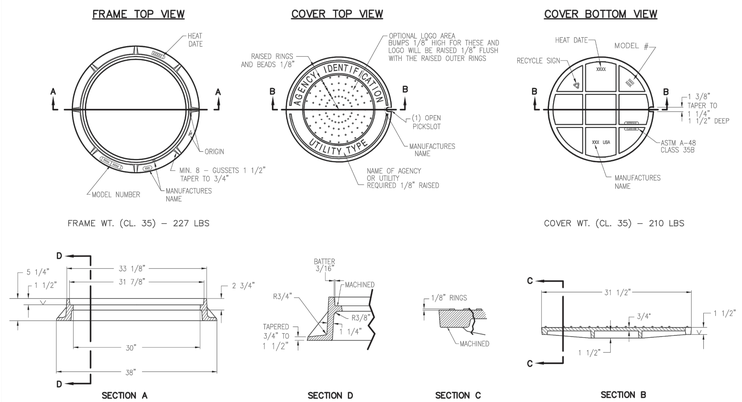
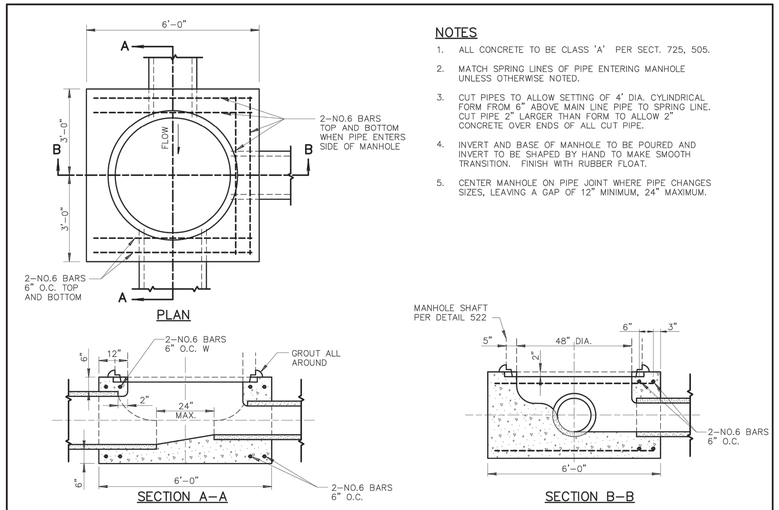


NOTE:

LETTERING ON MANHOLE COVER TO CONTAIN NAME OF AGENCY AND UTILITY FOR WHICH MANHOLE IS NEEDED, (I.E. "PHOENIX SANITARY SEWER"), OR AS DIRECTED. THE TOTAL WIDTH OF INDIVIDUAL LETTERS TO BE SUCH THAT LETTERS AND WORDS ARE EQUALLY SPACED AND BALANCED TO FORM A COMPLETE CIRCLE WITH SPACERS BEFORE AND AFTER THE WORD IDENTIFYING THE AGENCY INVOLVED. LETTERS TO BE 2" IN HEIGHT AND RAISED FLUSH W/ TOP OF COVER. TYPE OF LETTERS TO BE SUBMITTED FOR APPROVAL. WEIGHT OF CASTINGS SHALL BE NO MORE THAN 2% MORE OR LESS THAN THE APPROXIMATE WEIGHT SPECIFIED. CASTINGS SHALL CONFORM TO ASTM A-48, CLASS 35 AND AASHTO M306. THE BEARING SURFACES OF THE FRAMES AND COVERS SHALL BE MACHINED AND THE COVERS SHALL SEAT FIRMLY WITHOUT ROCKING. ALL DIMENSIONS SHALL HAVE A 1/16" TOLERANCE.

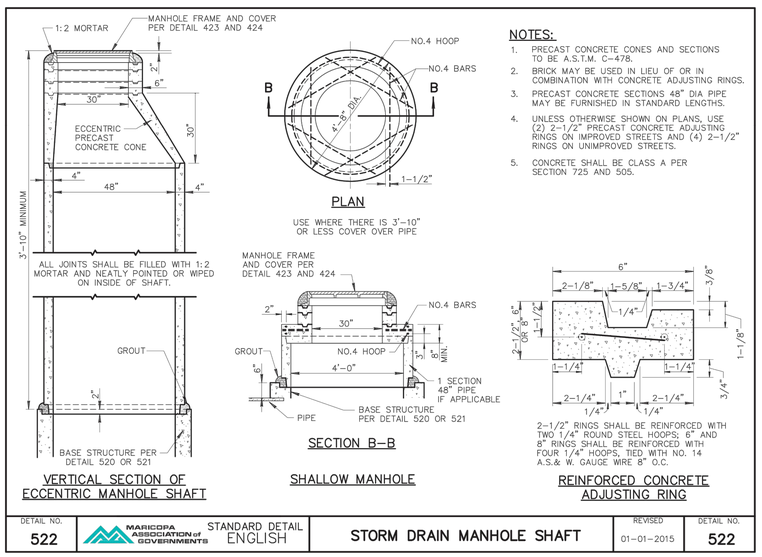
DETAIL NO.			REVISED	DETAIL NO.
423–2	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	30" CAST IRON MANHOLE FRAME AND COVER	01–01–2012	423–2



NOTES

1. ALL CONCRETE TO BE CLASS 'A' PER SECT. 725, 505.
2. MATCH SPRING LINES OF PIPE ENTERING MANHOLE UNLESS OTHERWISE NOTED.
3. CUT PIPES TO ALLOW SETTING OF 4' DIA. CYLINDRICAL FORM FROM 6" ABOVE MAIN LINE PIPE TO SPRING LINE. CUT PIPE 2" LARGER THAN FORM TO ALLOW 2" CONCRETE OVER ENDS OF ALL CUT PIPE.
4. INVERT AND BASE OF MANHOLE TO BE POURED AND INVERT TO BE SHAPED BY HAND TO MAKE SMOOTH TRANSITION. FINISH WITH RUBBER FLOAT.
5. CENTER MANHOLE ON PIPE JOINT WHERE PIPE CHANGES SIZES, LEAVING A GAP OF 12" MINIMUM, 24" MAXIMUM.

DETAIL NO.			REVISED	DETAIL NO.
520	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	STORM DRAIN MANHOLE BASE (48" AND SMALLER)	01–01–1998	520

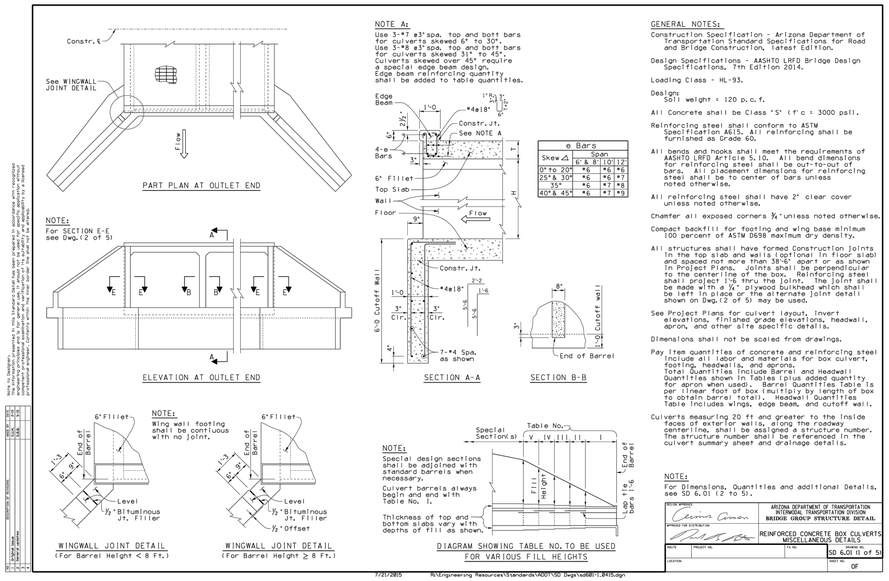


NOTES:

1. PRECAST CONCRETE CONES AND SECTIONS TO BE A.S.T.M. C–478.
2. BRICK MAY BE USED IN LIEU OF OR IN COMBINATION WITH CONCRETE ADJUSTING RINGS.
3. PRECAST CONCRETE SECTIONS 48" DIA PIPE MAY BE FURNISHED IN STANDARD LENGTHS.
4. UNLESS OTHERWISE SHOWN ON PLANS, USE (2) 2–1/2" PRECAST CONCRETE ADJUSTING RINGS ON IMPROVED STREETS AND (4) 2–1/2" RINGS ON UNIMPROVED STREETS.
5. CONCRETE SHALL BE CLASS A PER SECTION 725 AND 505.

2–1/2" RINGS SHALL BE REINFORCED WITH TWO 1/4" ROUND STEEL HOOPS; 6" AND 8" RINGS SHALL BE REINFORCED WITH FOUR 1/4" HOOPS, TIED WITH NO. 14 A.S.& W. GAUGE WIRE 8" O.C.

DETAIL NO.			REVISED	DETAIL NO.
522	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	STORM DRAIN MANHOLE SHAFT	01–01–2015	522



AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK DEEP WELL REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		D11	47 OF 118

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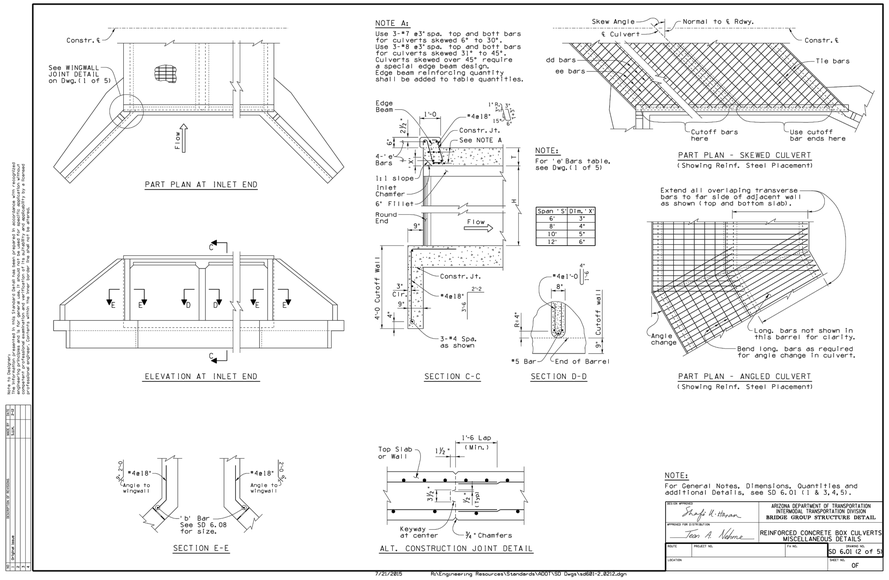

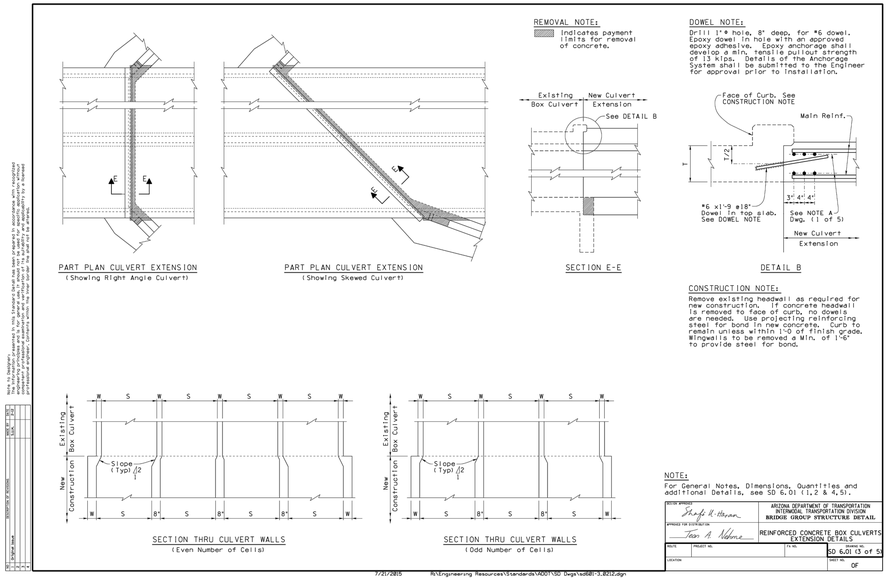

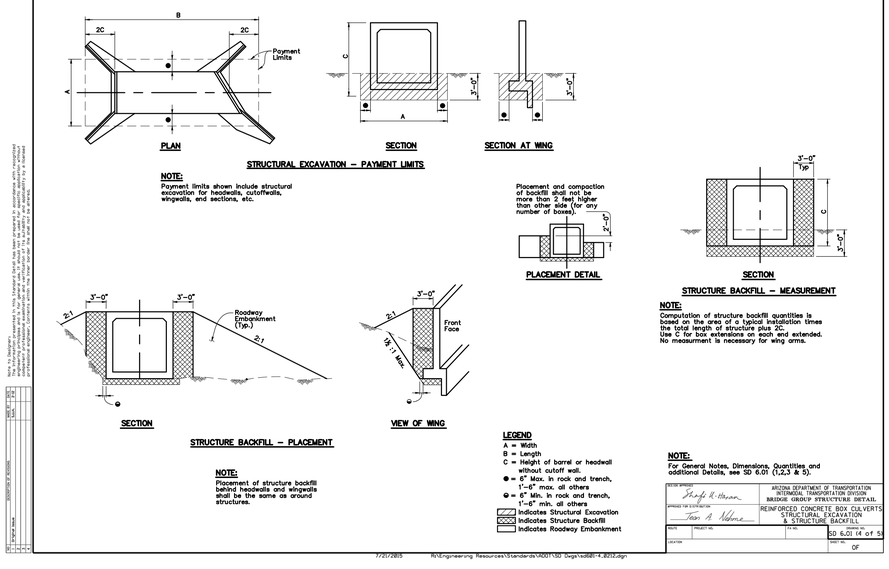

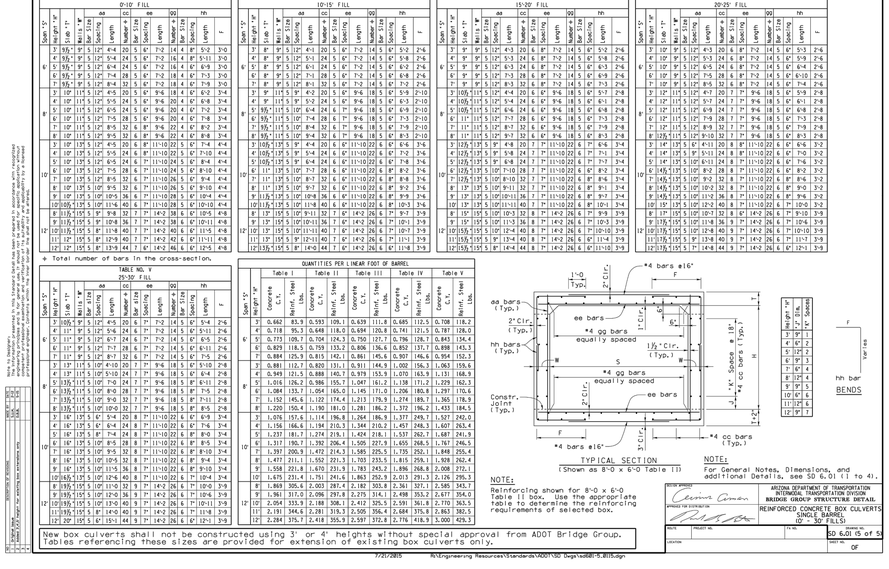

AS BUILT DATE

Dibble Engineering

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Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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CITY OF PRESCOTT Excelente Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15	D12	48 OF 118
SCALE: VARIES –	HORIZONTAL	VERTICAL		

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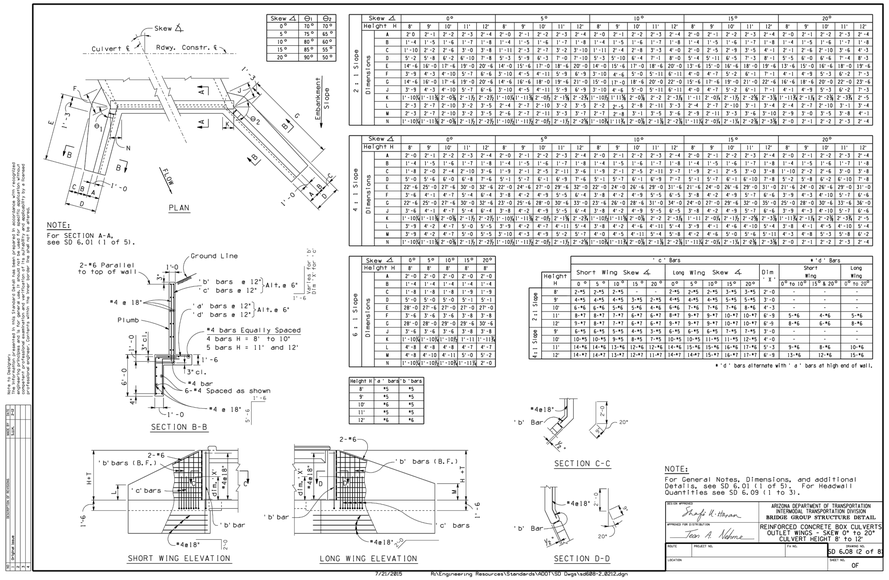

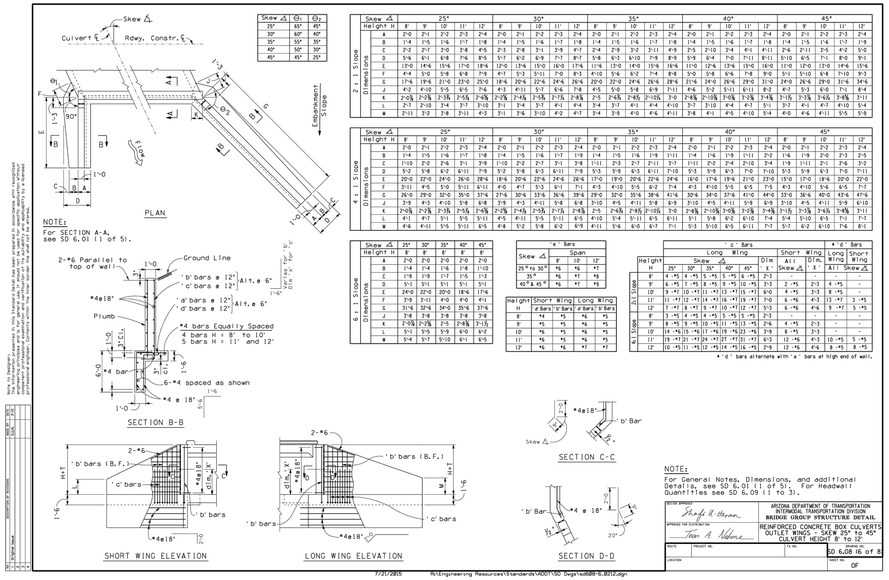

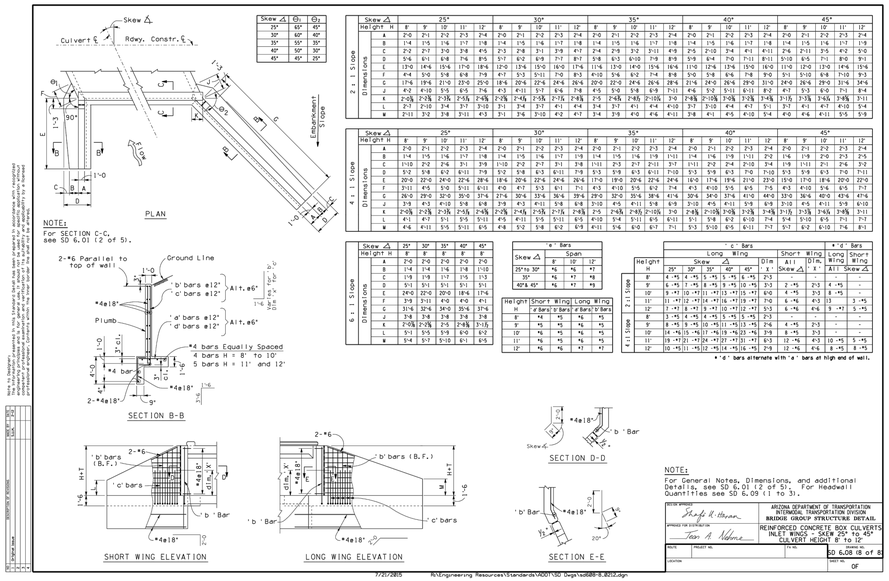

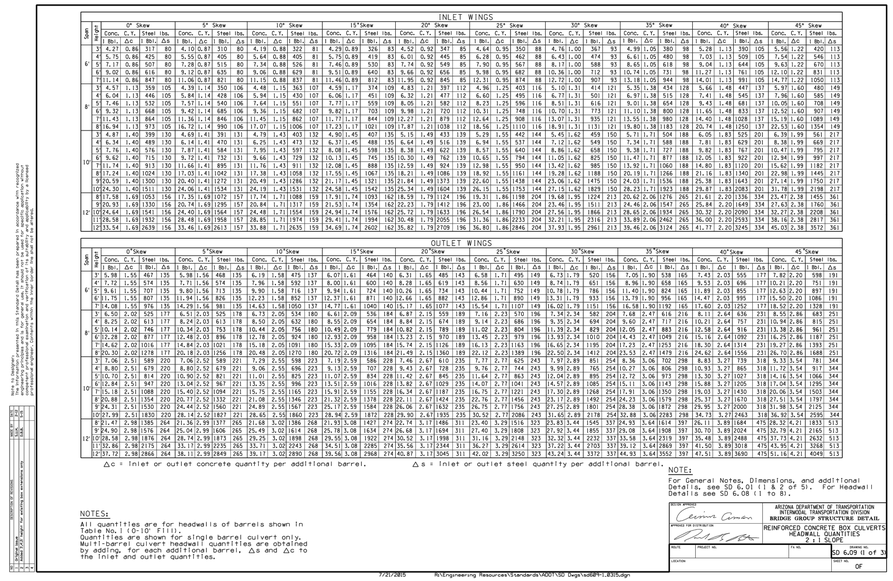

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

	REVISION	BY	DATE
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CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

DRAINAGE DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15	D13	49 OF 118
SCALE: VARIES	HORIZONTAL / VERTICAL			

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INLET WINGS

Span	Height	0°Skew Conc. C.Y.	0°Skew Steel lbs.	5°Skew Conc. C.Y.	5°Skew Steel lbs.	10°Skew Conc. C.Y.	10°Skew Steel lbs.	15°Skew Conc. C.Y.	15°Skew Steel lbs.	20°Skew Conc. C.Y.	20°Skew Steel lbs.	25°Skew Conc. C.Y.	25°Skew Steel lbs.	30°Skew Conc. C.Y.	30°Skew Steel lbs.	35°Skew Conc. C.Y.	35°Skew Steel lbs.	40°Skew Conc. C.Y.	40°Skew Steel lbs.	45°Skew Conc. C.Y.	45°Skew Steel lbs.
6'	3'	5.41	6.86	394	80	5.47	0.87	405	80	5.53	0.88	408	81	5.80	0.89	436	83	6.14	0.92	462	85
	4'	7.11	6.86	516	80	7.46	0.87	540	80	7.97	0.89	583	83	8.38	0.92	602	85	8.81	0.95	640	88
	5'	9.32	6.86	666	80	9.56	0.87	688	80	9.83	0.88	698	81	10.44	0.89	752	83	11.03	0.92	796	85
	6'	11.95	6.86	846	80	12.18	0.87	861	80	12.40	0.88	883	81	13.07	0.89	910	83	14.06	0.92	978	85
	7'	14.99	6.86	1144	80	15.23	0.87	1169	80	15.47	0.88	1191	81	16.32	0.89	1169	83	17.26	0.92	1228	85
8'	3'	5.70	1.13	440	105	5.77	1.14	453	106	5.83	1.15	457	107	6.11	1.17	493	109	6.46	1.22	522	112
	4'	7.41	1.13	541	105	7.76	1.14	565	106	7.88	1.15	570	107	8.28	1.17	613	109	8.71	1.21	635	112
	5'	9.62	1.13	681	105	9.86	1.14	713	106	10.14	1.15	724	107	10.76	1.17	782	109	11.30	1.21	829	112
	6'	12.25	1.13	908	105	12.48	1.14	922	106	12.51	1.15	949	107	13.39	1.17	985	109	14.39	1.21	1058	112
	7'	15.29	1.13	1169	105	15.54	1.14	1194	106	15.99	1.15	1217	107	16.64	1.17	1252	109	17.58	1.21	1272	112
	8'	22.19	1.13	1272	105	22.52	1.14	1341	106	23.44	1.15	1373	107	24.54	1.17	1454	109	26.21	1.21	1536	112
10'	3'	6.01	1.40	484	130	6.08	1.41	497	131	6.15	1.43	502	132	6.43	1.45	532	135	6.79	1.49	563	139
	4'	7.77	1.40	587	130	8.07	1.41	612	131	8.20	1.43	617	132	8.60	1.45	656	135	9.06	1.49	679	139
	5'	9.93	1.40	740	130	10.18	1.41	763	131	10.46	1.43	774	132	11.09	1.45	827	135	11.68	1.49	876	139
	6'	12.56	1.40	960	130	12.80	1.41	974	131	13.23	1.43	1003	132	13.73	1.45	1033	135	14.74	1.49	1109	139
	7'	15.61	1.40	1224	130	15.86	1.41	1250	131	16.32	1.43	1274	132	16.98	1.45	1248	135	17.94	1.49	1326	139
	8'	22.53	1.40	1329	130	23.26	1.41	1400	131	23.78	1.43	1433	132	24.90	1.45	1509	135	26.59	1.49	1594	139
	9'	27.10	1.40	1696	130	27.89	1.41	1777	131	28.51	1.43	1813	132	29.59	1.45	1889	135	31.58	1.49	1994	139
	10'	30.18	1.40	1986	130	30.68	1.41	2024	131	33.64	1.43	2086	132	35.14	1.45	2186	135	37.00	1.49	2309	139
12'	8'	22.90	1.69	1358	156	23.64	1.69	1431	157	24.18	1.71	1464	159	25.30	1.74	1535	162	27.01	1.79	1634	166
	9'	27.51	1.69	1727	156	28.27	1.69	1809	157	28.90	1.71	1836	159	29.99	1.74	1923	162	32.01	1.79	2034	166
	10'	30.56	1.69	2017	156	33.07	1.69	2055	157	34.04	1.71	2118	159	35.55	1.74	2211	162	37.44	1.79	2350	166
	11'	38.57	1.69	2712	156	39.08	1.69	2769	157	40.14	1.71	2826	159	41.99	1.74	2936	162	44.34	1.79	3066	166
	12'	45.28	1.69	3461	156	45.88	1.69	3529	157	47.13	1.71	3648	159	48.97	1.74	3754	162	52.07	1.79	3964	166

Span	Height	35°Skew Conc. C.Y.	35°Skew Steel lbs.	40°Skew Conc. C.Y.	40°Skew Steel lbs.	45°Skew Conc. C.Y.	45°Skew Steel lbs.
6'	3'	6.40	0.95	490	88	6.87	1.13
	4'	9.19	0.98	660	90	9.53	1.15
	5'	11.52	1.05	862	98	12.11	1.13
	6'	14.89	1.00	1041	95	15.07	1.05
	7'	18.28	1.00	1338	93	18.41	1.05
8'	3'	6.96	1.31	559	121	6.96	1.38
	4'	9.40	1.36	697	121	9.40	1.38
	5'	12.30	1.38	880	121	12.30	1.38
	6'	15.45	1.38	1144	128	15.86	1.48
	7'	18.78	1.38	1376	128	19.26	1.48
	8'	26.23	1.38	1690	128	26.87	1.48
10'	3'	6.97	1.62	610	150	7.34	1.71
	4'	9.70	1.62	747	150	9.79	1.71
	5'	12.69	1.62	938	150	12.69	1.71
	6'	15.94	1.62	1179	150	15.94	1.71
	7'	19.19	1.71	1466	188	19.94	1.83
	8'	28.65	1.71	1983	188	29.37	1.83
	9'	34.13	1.71	2161	188	34.99	1.83
	10'	40.08	1.71	2610	188	41.03	1.83
12'	8'	29.55	2.06	1795	265	29.82	2.20
	9'	34.62	2.06	2142	265	35.50	2.20
	10'	42.58	2.06	2674	265	42.13	2.20
	11'	47.71	2.06	3377	265	49.46	2.20
	12'	55.90	2.06	4069	265	57.84	2.20

Span	Height	40°Skew Conc. C.Y.	40°Skew Steel lbs.	45°Skew Conc. C.Y.	45°Skew Steel lbs.
6'	3'	7.26	1.48	573	137
	4'	9.98	1.48	713	137
	5'	12.87	1.48	910	137
	6'	16.63	1.48	1163	137
	7'	20.17	1.48	1397	137
8'	3'	7.28	1.83	658	201
	4'	9.83	1.83	803	201
	5'	12.92	1.83	1003	201
	6'	16.77	1.83	1260	201
	7'	20.51	1.83	1521	201
	8'	29.37	1.83	1856	201
	9'	34.99	1.83	2229	201
	10'	41.03	1.83	2724	201
12'	8'	30.84	2.20	1853	334
	9'	35.50	2.20	2237	334
	10'	42.13	2.20	2733	334
	11'	49.46	2.20	3521	334
	12'	57.84	2.20	4381	334

OUTLET WINGS

Span	Height	0°Skew Conc. C.Y.	0°Skew Steel lbs.	5°Skew Conc. C.Y.	5°Skew Steel lbs.	10°Skew Conc. C.Y.	10°Skew Steel lbs.	15°Skew Conc. C.Y.	15°Skew Steel lbs.	20°Skew Conc. C.Y.	20°Skew Steel lbs.	25°Skew Conc. C.Y.	25°Skew Steel lbs.	30°Skew Conc. C.Y.	30°Skew Steel lbs.	35°Skew Conc. C.Y.	35°Skew Steel lbs.	40°Skew Conc. C.Y.	40°Skew Steel lbs.	45°Skew Conc. C.Y.	45°Skew Steel lbs.
6'	3'	8.58	1.55	639	135	8.74	1.56	657	135	8.75	1.58	658	137	8.96	1.61	667	140	9.17	1.65	685	143
	4'	11.40	1.55	837	135	11.58	1.56	843	135	11.60	1.58	845	137	11.65	1.61	853	140	11.97	1.65	867	143
	5'	14.49	1.55	1043	135	14.71	1.56	1062	135	14.74	1.58	1060	137	14.78	1.61	1062	140	15.34	1.65	1098	143
	6'	17.97	1.55	1281	135	17.99	1.56	1275	135	18.26	1.58	1278	137	18.51	1.61	1281	140	18.92	1.65	1314	143
	7'	21.70	1.55	1493	135	21.82	1.56	1512	135	22.09	1.58	1584	137	22.38	1.61	1611	140	23.06	1.65	1656	143
8'	3'	9.12	2.02	706	177	9.29	2.03	723	178	9.31	2.05	726	180	9.53	2.09	751	184	9.74	2.13	770	189
	4'	11.96	2.02	877	177	12.14	2.03	883	178	12.17	2.05	885	180	12.23	2.09	908	184	12.56	2.13	919	189
	5'	15.06	2.02	1083	177	15.28	2.03	1102	178	15.31	2.05	1100	180	15.36	2.09	1117	184	15.94	2.13	1154	189
	6'	18.55	2.02	1316	177	18.57	2.03	1310	178	18.84	2.05	1360	180	19.11	2.09	1385	184	19.53	2.13	1419	189
	7'	22.28	2.02	1534	177	22.41	2.03	1553	178	22.68	2.05	1625	180	22.99	2.09	1670	184	23.68	2.13	1712	189
	8'	26.52	2.02	1924	177	31.11	2.03	1961	178	31.48	2.05	1930	180	31.62	2.09	1958	184	32.50	2.13	2019	189
10'	3'	9.69	2.51	775	220	9.86	2.52	794	221	9.89	2.55	794	223	10.12	2.59	805	228	10.37	2.67	825	235
	4'	12.54	2.51	949	220	12.72	2.52	956	221	12.76	2.55	958	223	12.83	2.59	967	228	13.73	2.67	980	235
	5'	15.65	2.51	1160	220	15.87	2.52	1178	221	15.91	2.55	1177	223	15.97	2.59	1181	228	16.57	2.67	1218	235
	6'	19.14	2.51	1396	220	19.17	2.52	1389	221	19.44	2.55	1404	223	19.72	2.59	1452	228	20.14	2.67	1488	235
	7'	22.88	2.51	1617	220	23.01	2.52	1636	221	23.29	2.55	1710	223	23.61	2.59	1738	228	24.32	2.67	1784	235
	8'	31.56	2.51	2011	220	31.75	2.52	1988	221	32.13	2.55	2018	223	32.27	2.59	2032	228	33.13	2.67	2072	235
	9'	37.18	2.51	2325	220	37.38	2.52	2357	221	37.48	2.55	2342	223	38.21	2.59	2395	228	39.20	2.67	2454	235
	10'	43.26	2.51	2781	220	43.54	2.52	2767	221	43.61	2.55	2801	223	44.42	2.59	2844	228	45.49	2.67	2910	235
12'	8'	32.22	2.98	2028	264	32.41	2.99	2025	265	32.79	3.02	2054	268	32.95	3.08	2073	274	33.82	3.17	2126	311
	9'	37.85	2.98	2373	264	38.05	2.99	2405	265	38.15	3.02	2390	268	38.30	3.08	2446	274	39.30	3.17	2505	311
	10'	43.94	2.98	2829	264	44.21	2.99	2815	265	44.29	3.02	2850	268	45.12	3.08	2896	274	46.20	3.17	2975	311
	11'	50.88	2.98	3330	264	51.13	2.99	3362	265	51.25	3.02	3360	268	52.34	3.08	3422	274	53.70	3.17	3536	311
	12'	58.80	2.98	4507	264	58.86	2.99	4482	265	59.56	3.02	4558	268	60.40	3.08	4593	274	61.49	3.17	4609	311

Span	Height	35°Skew Conc. C.Y.	35°Skew Steel lbs.	40°Skew Conc. C.Y.	40°Skew Steel lbs.	45°Skew Conc. C.Y.	45°Skew Steel lbs.
6'	3'	9.39	1.70	704	148	9.61	1.74
	4'	12.21	1.70	866	148	12.49	1.74
	5'	15.52	1.70	1105	148	15.86	1.74
	6'	19.32	1.70	1342	148	19.76	1.74
	7'	23.35	1.70	1672	156	23.05	1.90
8'	3'	10.00	2.19	776	204	9.97	2.43
	4'	12.85	2.43	952	216	13.29	2.44
	5'	16.38	2.44	1205	231	16.58	2.44
	6'	20.14	2.44	1470	216	20.48	2.44
	7'	24.14	2.44	1733	216	24.64	2.44
	8'	33.35	2.44	2084	216	33.78	2.44
10'	3'	10.60	3.06	874	298	11.05	3.27
	4'	13.53	3.06	1041	298	14.03	3.27
	5'	17.00	3.06	1289	289	17.32	3.27
	6'	20.90	3.06	1520	254	21.36	3.27
	7'	25.13	3.06	1839	298	25.40	3.27
	8'	34.57	3.06	2193	298	34.99	3.27
	9'	40.04	3.06	2604	298	41.03	3.27
	10'	47.22	3.06	3125	298	47.59	3.27
12'	8'	34.87	3.64	2250	397	35.16	3.89
	9'	40.81	3.64	2641	397	41.83	3.89
	10'	48.13	3.64	3185	397	48.82	3.89
	11'	54.37	3.64	3911	397	56.73	3.89
	12'	63.44	3.64	4747	397	65.55	3.89

$\triangle c$ = Inlet or outlet concrete quantity per additional barrel. $\triangle s$ = Inlet or outlet steel quantity per additional barrel.

NOTES:

All quantities are for headwalls of barrels shown in Table No. 1 (0-10' fill).
Quantities are shown for single barrel culvert only. Multi-barrel culvert headwall quantities are obtained by adding, for each additional barrel, $\triangle s$ and $\triangle c$ to the inlet and outlet quantities.

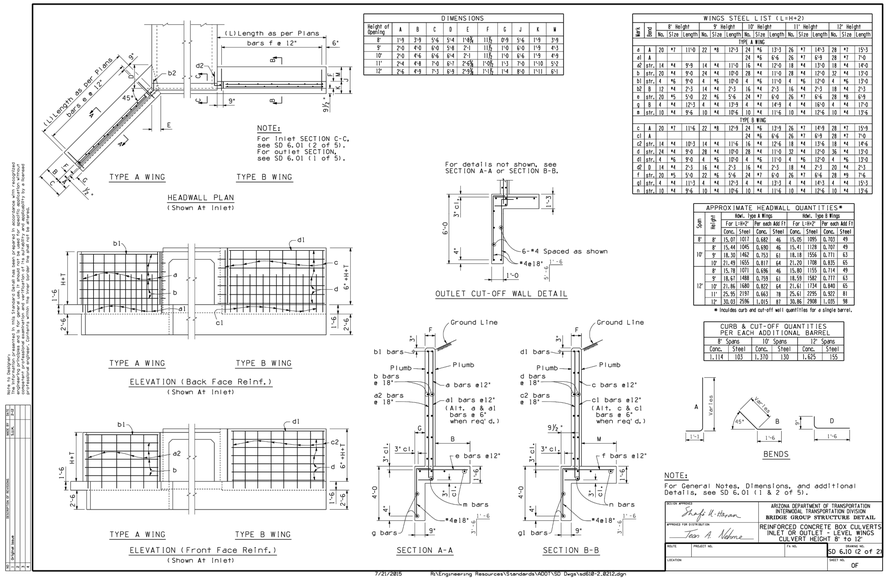
NOTE:

For General Notes, Dimensions, and additional Details, see SD 6.01 (1 & 2 of 5). For Headwall Details see SD 6.08 (1 to 8).

REVIEW APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL		
APPROVED FOR DISTRIBUTION	REINFORCED CONCRETE BOX CULVERTS HEADWALL QUANTITIES 4 : 1 SLOPE		
DATE	PROJECT NO.	FA NO.	DRAWING NO. SD 6.09 (2 of 3)
LOCATION			SHEET NO. OF

7/21/2015 R:\Engineering Resources\Standards\ADOT\SD Dwgs\sd08-2.8035.dgn

NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED NOTES 5, 10 & 11	RLF	5/04
2	DELETED GENERAL NOTE 9	RLF	5/04
3	ADDED CALLOUT	RLF	5/04
4	REVISED SHEET NUMBER REFERENCE	RLF	4/06



Height of Opening	A	B	C	D	E	F	G	J	K	M
8'	1'-9	3'-9	5¼	5'-4	1'-8¾	11½	0'-9	5¼	1'-9	7'-9
9'	2'-0	4'-0	6'-0	5'-8	2'-1	11½	1'-0	6'-0	1'-9	8'-3
10'	2'-0	4'-6	6'-6	6'-4	2'-1	11½	1'-0	6'-6	1'-9	8'-9
12'	2'-6	4'-6	7'-0	6'-7	2'-6¾	1'-0½	1'-3	7'-0	1'-10½	9'-3

DIMENSIONS

Span	Height	8' Height No.	8' Height Size	8' Height Length	9' Height No.	9' Height Size	9' Height Length	10' Height No.	10' Height Size	10' Height Length	11' Height No.	11' Height Size	11' Height Length	12' Height No.	12' Height Size	12' Height Length
TYPE A WING																
6'	3'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	5'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	14'-0
	6'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0
	7'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
8'	3'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	5'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0
	6'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0
	7'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
	8'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
10'	3'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4	#7	11'-0	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	5'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0
	6'	4	#8	14	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0	2'	#4	12'-0
	7'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
	8'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
	9'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
	10'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-0	4	#5	12'-0	4	#5	12'-0
TYPE B WING																
6'	3'	4	#7	11'-6	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4			2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6
8'	3'	4	#7	11'-6	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4	#8	14	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6
	5'	4	#8	14	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6
	6'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
10'	3'	4	#7	11'-6	2'	#4	12'-3	2'	#4	13'-3	2'	#4	14'-3	2'	#4	15'-3
	4'	4	#8	14	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6
	5'	4	#8	14	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6	2'	#4	12'-6
	6'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
12'	8'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
	9'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
	10'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
	11'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6
	12'	4	#9	17'-0	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6	4	#5	12'-6

WINGS STEEL LIST (L+H=2)

Span	Height	Bar Mark	Bar Size	Quantity	Length
6'	3'	1	#4	2	3'-0
	4'	1	#4	2	3'-0
	5'	1	#4	2	3'-0
	6'	1	#4	2	3'-0
	7'	1	#4	2	3'-0
8'	3'	1	#4	2	3'-0
	4'	1	#4	2	3'-0
	5'	1	#4	2	3'-0
	6'	1	#4	2	3'-0
	7'	1	#4	2	3'-0
	8'	1	#4	2	3'-0
10'	3'	1	#4	2	3'-0
	4'	1	#4	2	3'-0
	5'	1	#4	2	3'-0
	6'	1	#4	2	3'-0
	7'	1	#4	2	3'-0
	8'	1	#4	2	3'-0
	9'	1	#4	2	3'-0
	10'	1	#4	2	3'-0
12'	8'	1	#4	2	3'-0
	9'	1	#4	2	3'-0
	10'	1	#4	2	3'-0
	11'	1	#4	2	3'-0
	12'	1	#4	2	3'-0

APPROXIMATE HEADWALL QUANTITIES*

Span	Height	Inlet Conc. C.Y.	Inlet Steel	Inlet Per each Add'l	Outlet Conc. C.Y.	Outlet Steel	Outlet Per each Add'l
6'	3'	15.07	1011	6.682	16.05	1195	6.701
	4'	15.44	1045	6.880	16.41	1228	6.707
	5'	16.32	1142	6.753	16.18	1356	6.711
	6'	21.49	1635	6.817	24	2120	6.835
	7'	25.78	1977	6.896	26.95	2455	6.919
8'	3'	18.61	1488	6.759	18.59	1582	6.777
	4'	21.86	1680	6.822	24	2141	6.848
	5'	25.79	2140	7.19	25.61	2295	6.927
	6'	30.55	2598	7.185	30.86	2908	7.185
10'	3'	21.86	1680	6.822	24	2141	6.848
	4'	25.79	2140	7.19	25.61	2295	6.927
	5'	30.55	2598	7.185	30.86	2908	7.185
12'	3'	25.79	2140	7.19	25.61	2295	6.927
	4'	30.55	2598	7.185	30.86	2908	7.185

* Includes curb and cut-off wall quantities for a single barrel.

CURB & CUT-OFF QUANTITIES PER EACH ADDITIONAL BARREL

8' Opng. Conc.	8' Opng. Steel	10' Opng. Conc.	10' Opng. Steel	12' Opng. Conc.	12' Opng. Steel
1.114	165	1.170	170	1.425	155

NOTE:

For General Notes, Dimensions, and additional Details, see SD 6.01 (1 & 2 of 5).

REVIEW APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL		
APPROVED FOR DISTRIBUTION	REINFORCED CONCRETE BOX CULVERTS INLET OR OUTLET - LEVEL WINGS CULVERT HEIGHT 8' to 12'		
DATE	PROJECT NO.	FA NO.	DRAWING NO. SD 6.09 (2 of 2)
LOCATION			SHEET NO. OF

7/21/2015 R:\Engineering Resources\Standards\ADOT\SD Dwgs\sd08-2.8212.dgn

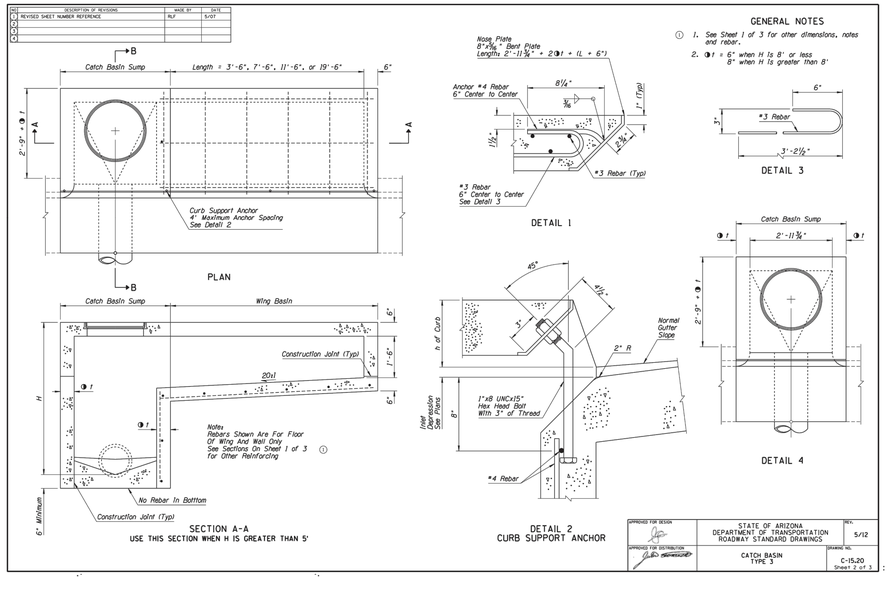
AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

25015 ANDREW JOHN SPEAR ARIZONA U.S.A. Date signed 9/17/15 Expires 06/30/16

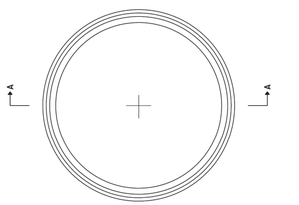
NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REVISED SHEET NUMBER REFERENCE	RLF	5/07
2			
3			
4			


B
Catch Basin Sump
Length = 3'-6", 7'-6", 11'-6", or 19'-6"
6"
2'-9" + ① t
A
Curb Support Anchor
4" Maximum Anchor Spacing
See Detail 2
PLAN
Catch Basin Sump
Wing Basin
Construction Joint (Typ)
20xl
H
Notes
Rebars Shown Are For Floor
Of Wing And Wall Only
See Sections On Sheet 1 of 3
For Other Reinforcing
No Rebar In Bottom
Construction Joint (Typ)
6" Minimum
SECTION A-A
USE THIS SECTION WHEN H IS GREATER THAN 5'
Nose Plate
8"x¼" Base Plate
Lengths 2'-11¾" = 2(①t + (L + 6"))
Anchor *4 Rebar
6" Center to Center
8¼"
¾"
1" (Typ)
1⅛"
2¼"
*3 Rebar

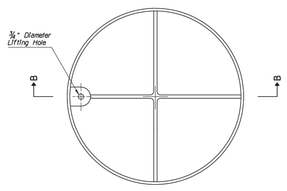
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	RENAMED STANDARD FROM C-15.65 TO C-15.20, SHEET 3 OF 3	RLF	5/04
2			
3			
4			

GENERAL NOTES

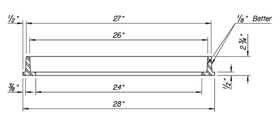
1. Cover shall be non-locking.
2. Frame and cover shall be cast iron or structural steel.
3. Catch basin access frame and cover is for use in sidewalk area only.
4. Cover shall be filled with concrete and broom finished.



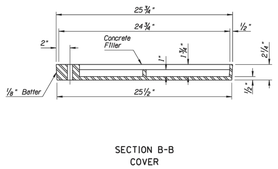
PLAN



PLAN



SECTION A-A
FRAME



SECTION B-B
COVER

APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	CATCH BASIN ACCESS FRAME AND COVER DETAILS	DRAWING NO. C-15.20 (1) Sheet 3 of 3

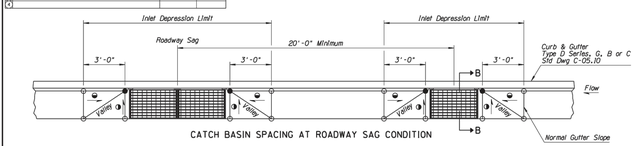
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	REISSUED STANDARD DRAWING	RLF	5/04
2			
3			
4			

GENERAL NOTES

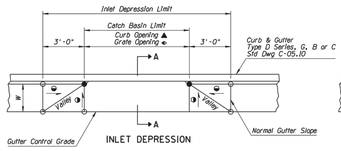
1. No inlet depression shall extend into a traffic lane.
2. Maximum combined inlet and gutter depression is 3". See Section A-A.
3. Maximum distance along curb between catch basins where full gutter depression is used is 10'.
4. See Std Dwg C-15.80 for aprons used with Std Dwg C-15.80 Catch Basin.

LEGEND

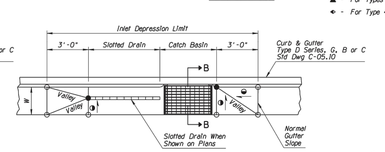
- ○ - Normal pavement or gutter flow line elevation.
- ● - Depressed elevation.
- ⊖ - Straight grade with downward slope.
- W - Normal gutter width per Std Dwg C-05.10.
- ▲ - For Types 1, 3, & 5 Catch Basin.
- ← - For Type 4 Catch Basin & Std Dwg C-15.91.



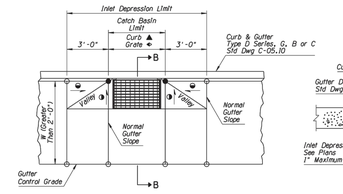
CATCH BASIN SPACING AT ROADWAY SAG CONDITION



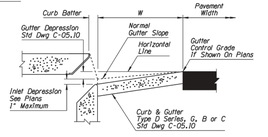
INLET DEPRESSION



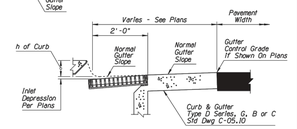
INLET DEPRESSION
CATCH BASIN WITH SLOTTED DRAIN



INLET DEPRESSION
CATCH BASIN WITH WIDE GUTTER

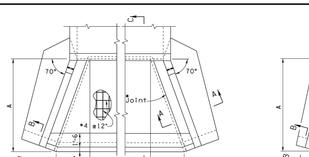


SECTION A-A
(Type D Curb & Gutter Shown)

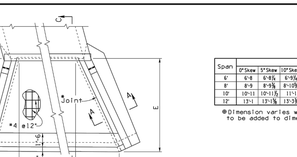


SECTION B-B
(Type D Curb & Gutter Shown)

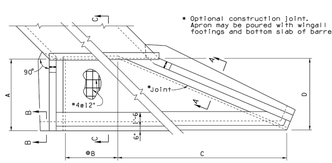
APPROVED FOR DESIGN	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION	CATCH BASIN MISCELLANEOUS DETAILS	DRAWING NO. C-15.70 (1) Sheet 1 of 2



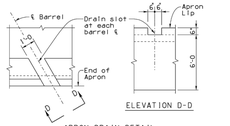
PLAN
Apron for 0° skew box culvert



PLAN
Apron for 0° to 15° skew box culvert



PLAN
Apron for 20° to 45° skew box culvert



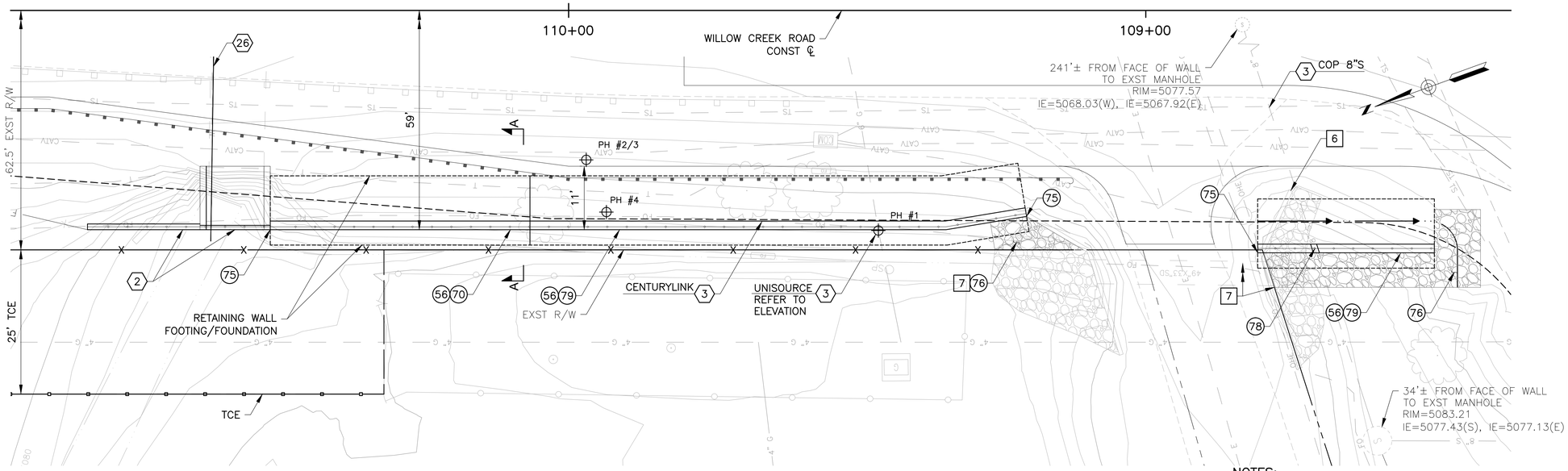
ELEVATION D-D

APRON DRAIN DETAIL

Span	0° Skew			5° Skew			10° Skew			15° Skew			20° Skew			25° Skew			30° Skew			35° Skew			40° Skew			45° Skew		
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
3'	9'-10½	4'-4½	3'-1½	10'-0½	4'-4½	2'-4½	4'-8½	10'-1½	2'-1½	4'-9½	11'-9½	1'-9½	10'-1½	4'-10½	1'-8½	4'-11	9'-10½	1'-0½	4'-11½	9'-9½	1'-1½	9'-9	5'-3½	9'-4½	5'-4½	9'-3½	1'-1½	9'-4½	10'-1½	1'-1½
4'	12'-3½	4'-4½	4'-5½	12'-5½	4'-4½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½	5'-9½	12'-1½	2'-4½
5'	14'-7½	4'-4½	5'-3½	14'-10½	4'-4½	2'-11½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½	6'-10½	14'-4½	3'-4½
6'	16'-11½	4'-4½	6'-3½	16'-11½	4'-4½	3'-4½	7'-10½	16'-11½	3'-9½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½	7'-9½	17'-10½	4'-10½
7'	19'-3½	4'-4½	7'-0½	19'-2½	4'-4½	3'-1½	8'-11½	19'-2½	3'-11½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½	8'-9½	20'-1½	5'-9½
8'	21'-10½	4'-4½	8'-3½	21'-5½	4'-4½	3'-8½	9'-11½	21'-5½	4'-6½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½	9'-10½	22'-3½	6'-7½
9'	24'-6½	4'-4½	9'-3½	24'-0½	4'-4½	4'-2½	10'-10½	24'-0½	5'-1½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½	10'-9½	24'-9½	7'-3½
10'	26'-2½	4'-4½	9'-11½	25'-7½	4'-4½	4'-8½	11'-9½	25'-7½	5'-7½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½	11'-8½	26'-4½	7'-9½
11'	27'-9½	4'-4½	10'-6½	27'-3½	4'-4½	5'-2½	12'-7½	27'-3½	6'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½	12'-6½	28'-0½	8'-0½
12'	29'-5½	4'-4½	11'-2½	28'-11½	4'-4½	5'-8½	13'-4½	28'-11½	6'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½	13'-3½	29'-7½	8'-4½
13'	31'-0½	4'-4½	11'-10½	30'-6½	4'-4½	6'-2½	14'-1½	30'-6½	6'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½	14'-0½	31'-3½	8'-8½
14'	32'-6½	4'-4½	12'-6½	32'-0½	4'-4½	6'-6½	14'-10½	32'-0½	7'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½	14'-9½	32'-10½	9'-0½
15'	34'-1½	4'-4½	13'-2½	33'-6½	4'-4½	6'-10½	15'-7½	33'-6½	7'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½	15'-6½	34'-4½	9'-4½
16'	35'-7½	4'-4½	13'-10½	35'-1½	4'-4½	7'-6½	16'-4½	35'-1½	7'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½	16'-3½	35'-9½	9'-8½
17'	37'-2½	4'-4½	14'-6½	36'-7½	4'-4½	7'-10½	17'-1½	36'-7½	8'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½	17'-0½	37'-3½	10'-0½
18'	38'-8½	4'-4½	15'-2½	38'-2½	4'-4½	8'-2½	17'-10½	38'-2½	8'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½	17'-9½	38'-10½	10'-4½
19'	40'-3½	4'-4½	15'-10½	39'-8½	4'-4½	8'-6½	18'-7½	39'-8½	8'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½	18'-6½	40'-4½	10'-8½
20'	41'-9½	4'-4½	16'-6½	41'-3½	4'-4½	8'-10½	19'-4½	41'-3½	9'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½	19'-3½	41'-9½	11'-0½
21'	43'-3½	4'-4½	17'-2½	42'-9½	4'-4½	9'-2½	20'-1½	42'-9½	9'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½	20'-0½	43'-3½	11'-4½
22'	44'-9½	4'-4½	17'-10½	44'-3½	4'-4½	9'-6½	20'-10½	44'-3½	9'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½	20'-9½	44'-9½	11'-8½
23'	46'-3½	4'-4½	18'-6½	45'-9½	4'-4½	9'-10½	21'-7½	45'-9½	10'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½	21'-6½	46'-3½	12'-0½
24'	47'-9½	4'-4½	19'-2½	47'-3½	4'-4½	10'-2½	22'-4½	47'-3½	10'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½	22'-3½	47'-9½	12'-4½
25'	49'-3½	4'-4½	19'-10½	48'-9½	4'-4½	10'-6½	23'-1½	48'-9½	10'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½	23'-0½	49'-3½	12'-8½

QUANTITIES

Span	0° Skew				5° Skew				10° Skew				15° Skew				20° Skew				25° Skew				30° Skew				35° Skew				40° Skew				45° Skew			
H.F.	Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.		Conc. C.Y.		Steel lbs.	
	Ⓐ△	Ⓑ△	Ⓐ△	Ⓑ△	Ⓐ△	Ⓑ△

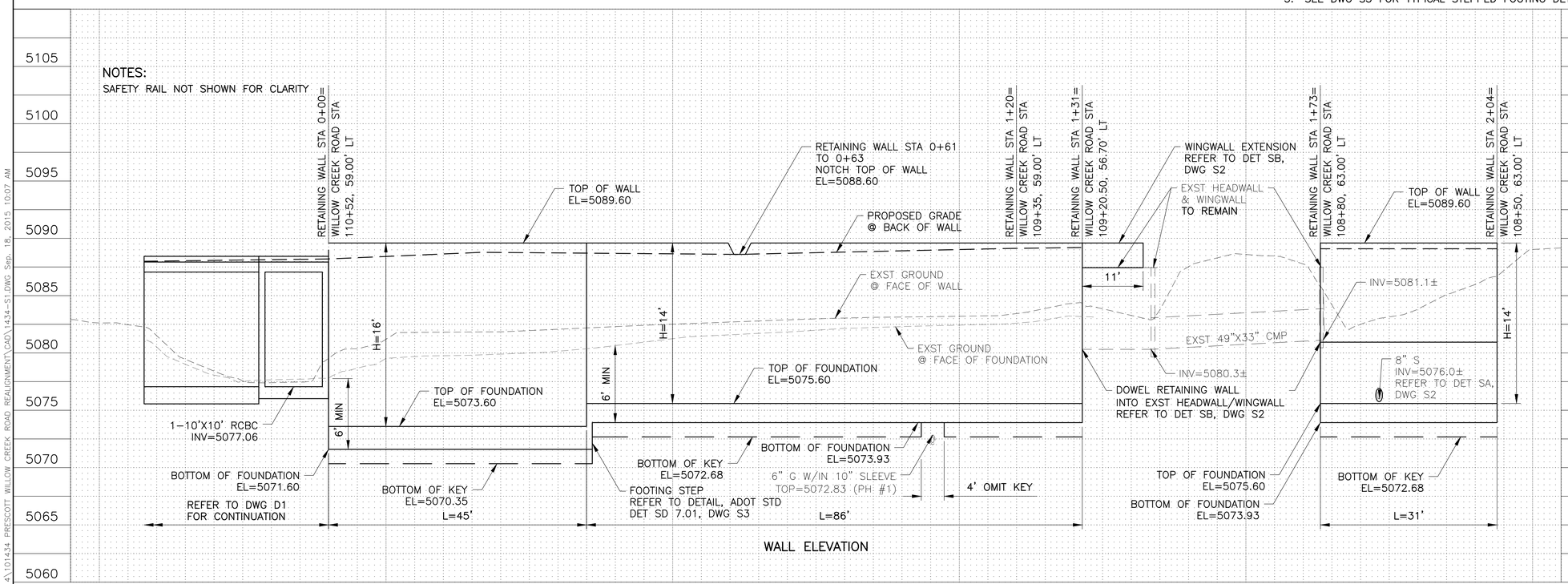


PLAN

NOTES:

1. FOR NEW CONCRETE BONDED TO EXISTING CONCRETE, THE EXISTING SURFACE SHALL BE BUSH-HAMMER TO A ROUGH FINISH OF 1/4" AMPLITUDE AND SHALL BE FREE OF SURFACE RUST, DUST, GREASE, AND ANY CONTAMINANTS THAT MAY COMPROMISE ADHESION.
2. REFER TO ADOT STD DET SD-7.01 (DWG S2) FOR NOTES NOT PROVIDED.
3. SEE DWG S3 FOR TYPICAL STEPPED FOOTING DETAIL.

CAUTION: OVERHEAD ELECTRIC LINES | CAUTION: HIGH PRESSURE GAS MAINS | CAUTION: FIBER OPTIC LINES



WALL ELEVATION

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

25015 ANDREW JOHN SPEAR Date Signed 9/18/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

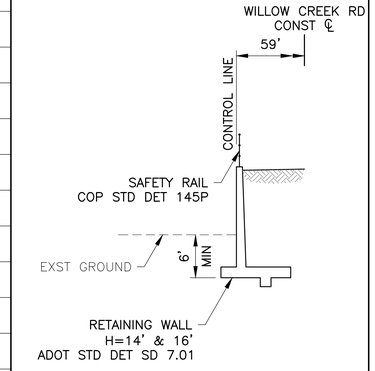
6	REMOVE STRUCTURAL CONCRETE (WINGWALL)	2 CY
7	REMOVE RIPRAP	18 SY

CONSTRUCTION NOTES

56	SAFETY RAIL COP STD DET 145P	162 LF
70	RETAINING WALL, CASE III HEIGHT=16' ADOT STD DET SD 7.01, DWG S2	720 SF
	STRUCTURAL EXCAVATION	225 CY
	STRUCTURE BACKFILL	96 CY
75	CONNECT TO HEADWALL/WINGWALL #6X1'-9" DOWEL DET SB, DWG S2	22 EA
76	DUMPED RIPRAP W/ FILTER FABRIC D50=6", 12" THICK FOR GRADATION REFER TO DET DA, DWG D8	13 CY
78	PROTECT SANITARY SEWER IN PLACE DET SA, DWG S2	1 EA
79	RETAINING WALL, CASE III HEIGHT=14' ADOT STD DET SD 7.01, DWG S2	1638 SF
	STRUCTURAL EXCAVATION	509 CY
	STRUCTURE BACKFILL	217 CY

REFERENCE NOTES

2. NEW REINFORCED CONCRETE BOX CULVERT & WINGWALL, REFER TO CULVERT PLANS
3. PROTECT IN PLACE
26. PRIVATE WATERLINE REFER TO DWG D1



SECTION A-A

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

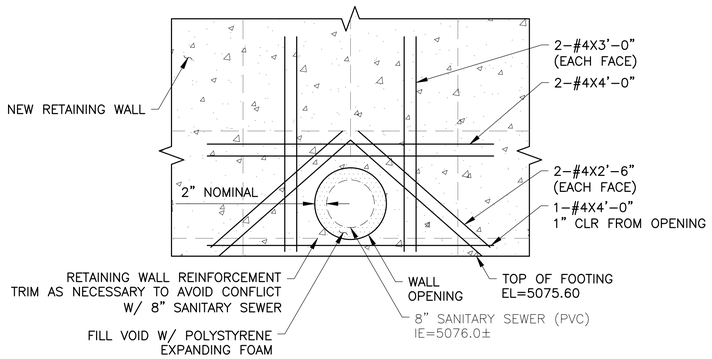
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

RETAINING WALL PLAN & ELEVATION

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL, 1" = 5' VERTICAL			S1	52 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-S1.DWG Sep. 18, 2015 10:07 AM

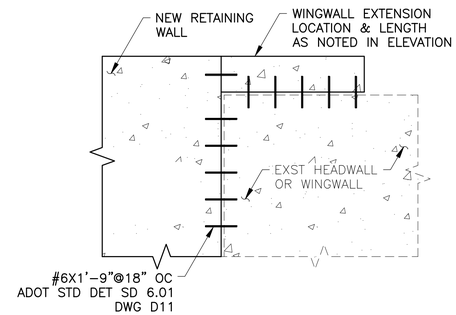


ELEVATION

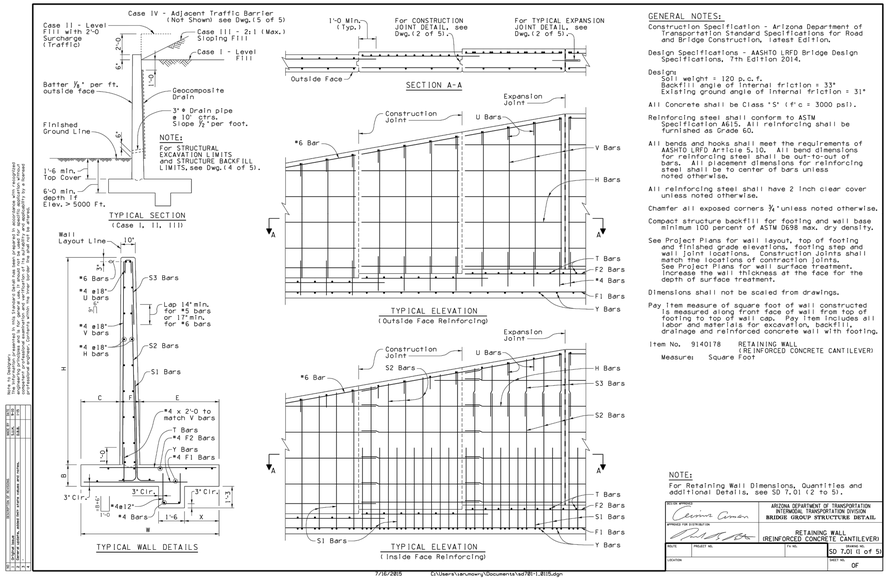
NOTES:

1. DURING CONSTRUCTION OF THE RETAINING WALL, THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF THE SANITARY SEWER PIPE THROUGH THE RETAINING WALL BY A METHOD APPROVED BY THE ENGINEER.
2. AFTER RETAINING WALL IS CURED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY SUPPORT AND FILL THE VOID BETWEEN THE WALL AND SANITARY SEWER PIPE WITH POLYSTYRENE EXPANDING FOAM OR APPROVED EQUAL.

SA SANITARY SEWER PROTECTION
1"=1'



SB WALL CONNECTION DETAIL
1"=1'



GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 7th Edition 2014.

Design
Soil weight = 120 p.c.f.
Backfill angle of internal friction = 33°
Existing ground angle of internal friction = 31°

All Concrete shall be Class "S" (f'c = 3000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60.

All bends and hooks shall meet the requirements of AASHTO LRFD Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

Chamfer all exposed corners 3/4" unless noted otherwise.

Compact structure backfill for footing and wall base minimum 100 percent of ASTM D698 max. dry density.

See Project Plans for wall layout, top of footing and finished grade elevations, footing step and wall joint locations. Construction Joints shall match the locations of contraction joints. See Project Plans for wall surface treatment, increase the wall thickness at the face for the depth of surface treatment.

Dimensions shall not be scaled from drawings.

Pay Item measure of square foot of wall constructed is measured along front face of wall from top of footing to top of wall cap. Pay Item includes all labor and materials for excavation, backfill, drainage and reinforced concrete wall with footing.

Item No. 9140178 RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
Measure: Square Foot

NOTE:
For Retaining Wall Dimensions, Quantities and additional Details, see SD 7.01 (2 to 5).

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
BRIDGE GROUP STRUCTURE DETAIL
RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
SD 7.01 (1 of 5)

7/16/2015 C:\Users\saunsway\Documents\sd701-1.8115.dgn

CASE I - LEVEL FILL

Dimensions							Steel List																								Service Limit State		Strength Limit State	
							S1			S2			S3			H	V		Y			F1			T		F2							
H	W	B	C	F	E	X	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Number *	Length	Bar Size	Spacing	Length	Number *	Bar Size	Spacing	Length	Number *	Bar Size	Spacing	Length	Number *	Qtreq-SERV Lbs./Ft.	Qtprv-SERV Lbs./Ft.	Qtreq-STR Lbs./Ft.	Qtprv-STR Lbs./Ft.
4'	3'-0	1'-0	10"	10"	1'-4	8"	5	12"	5'-6							4	3'-9	5	12"	2'-3	2	5	12"	2'-3	3	840	480	2,46	1130	650	2,36
5'	3'-6	1'-0	1'-0	10"	1'-8	9"	5	12"	6'-6							6	4'-9	5	12"	2'-9	2	5	12"	2'-9	3	920	560	2,31	1240	760	2,79
6'	4'-0	1'-0	1'-2	10"	2'-0	10"	5	12"	7'-6							6	5'-9	5	12"	3'-3	2	5	12"	3'-3	3	1010	650	3,31	1380	900	3,16
7'	4'-6	1'-0	1'-4	10"	2'-4	11"	5	12"	8'-6							8	6'-9	5	12"	3'-9	3	5	12"	3'-9	3	1110	750	3,70	1530	1040	3,52
8'	5'-0	1'-0	1'-6	10"	2'-8	12"	5	12"	9'-9							10	7'-9	5	12"	4'-3	3	5	12"	4'-0	3	1270	850	4,01	1750	1240	3,79
9'	5'-6	1'-2	1'-9	1'-0	2'-9	1'-2	5	12"	10'-9							10	8'-9	5	12"	4'-6	3	5	12"	4'-0	3	1350	970	4,40	1880	1370	4,14
10'	6'-0	1'-2	1'-9	1'-0	3'-3	1'-4	6	12"	11'-9							12	9'-9	5	12"	4'-9	3	5	12"	4'-6	4	1510	1130	4,73	2100	1590	4,45
11'	6'-6	1'-2	2'-0	1'-0	3'-6	1'-6	5	12"	4'-3	5	12"	12'-9				14	10'-9	5	12"	5'-3	4	5	12"	4'-9	4	1590	1210	5,12	2230	1710	4,81
12'	7'-0	1'-3	2'-0	1'-0	4'-0	1'-8	6	12"	5'-3	5	12"	13'-9				14	11'-9	5	12"	5'-6	4	6	12"	5'-6	5	1770	1380	5,42	2490	1960	5,08
13'	7'-6	1'-3	2'-3	1'-0	4'-3	1'-10	7	12"	6'-6	5	12"	14'-9				16	12'-9	5	12"	5'-9	4	6	9"	5'-9	5	1860	1470	5,81	2620	2090	5,43
14'	8'-0	1'-3	2'-3	1'-2	4'-7	2'-0	7	12"	7'-0	5	12"	15'-9				18	13'-9	5	12"	6'-3	4	7	12"	6'-9	5	2020	1630	6,14	2850	2320	5,74
15'	8'-6	1'-3	2'-6	1'-3	4'-9	2'-2	7	12"	8'-0	5	12"	16'-9				18	14'-9	6	12"	6'-6	5	7	12"	7'-0	5	2100	1710	6,53	2970	2450	6,10
16'	9'-0	1'-4	2'-6	1'-4	5'-2	2'-4	7	12"	7'-3	6	12"	8'-9	5	12"	10'-9	20	15'-9	6	12"	6'-9	5	8	12"	8'-3	6	2300	1900	6,82	3250	2710	6,36
17'	9'-6	1'-4	2'-9	1'-5	5'-4	2'-6	7	12"	8'-0	7	12"	9'-9	5	12"	10'-9	22	16'-9	6	9"	7'-3	5	8	12"	8'-6	6	2380	1980	7,21	3380	2840	6,72
18'	10'-0	1'-5	2'-9	1'-6	5'-9	2'-8	7	12"	7'-0	7	12"	10'-6	5	12"	11'-0	22	17'-9	6	9"	7'-6	5	7	8"	8'-6	6	2580	2170	7,50	3660	3110	6,99
19'	10'-6	1'-6	3'-0	1'-7	5'-11	2'-10	8	12"	8'-0	7	12"	10'-3	6	12"	12'-9	24	18'-9	6	9"	8'-0	6	8	9"	9'-3	7	2690	2270	7,86	3830	3260	7,30
20'	11'-0	1'-6	3'-0	1'-8	6'-4	3'-0	8	12"	7'-6	8	12"	11'-6	6	12"	12'-9	26	19'-9	6	8"	8'-3	6	8	8"	9'-6	7	2860	2440	8,19	4070	3500	7,61
21'	11'-6	1'-7	3'-3	1'-9	6'-6	3'-2	8	12"	8'-3	8	12"	12'-6	6	12"	12'-9	26	20'-9	7	12"	8'-9	6	9	9"	10'-6	7	2970	2540	8,54	4240	3660	7,92
22'	12'-0	1'-8	3'-3	1'-10	6'-11	3'-4	9	12"	9'-6	8	12"	13'-6	6	12"	13'-0	28	21'-9	7	12"	9'-0	6	9	9"	11'-0	7	3180	2740	8,83	4530	3940	8,18
23'	12'-6	1'-9	3'-6	2'-0	7'-0	3'-6	10	12"	12'-3	7	12"	14'-0	6	12"	13'-3	30	22'-9	8	12"	9'-3	6	8	6"	10'-3	7	3290	2840	9,18	4700	4100	8,49
24'	13'-0	1'-10	3'-6	2'-2	7'-4	3'-8	9	12"	9'-3	9	12"	15'-6	6	12"	13'-3	30	23'-9	8	12"	9'-6	7	8	6"	10'-6	8	3500	3040	9,47	5000	4380	8,76
25'	13'-6	2'-0	3'-9	2'-4	7'-5	3'-10	9	12"	10'-3	9	12"	16'-6	6	12"	13'-6	32	24'-9	8	12"	10'-0	7	8	6"	10'-9	8	3650	3170	9,78	5220	4580	9,02
26'	14'-0	2'-3	3'-9	2'-6	7'-9	4'-0	10	12"	11'-0	8	12"	17'-6	6	12"	13'-9	34	25'-9	8	12"	10'-3	7	8	6"	11'-0	8	3920	3410	9,99	5630	4940	9,19
27'	14'-6	2'-6	4'-0	2'-8	7'-10	4'-2	10	12"	12'-3	9	12"	18'-6	6	12"	14'-3	34	26'-9	8	12"	10'-6	7	8	6"	11'-0	8	4110	3570	10,26	5910	5180	9,41
28'	15'-0	2'-9	4'-0	2'-10	8'-2	4'-4	10	12"	13'-3	9	12"	19'-9	6	12"	14'-3	36	27'-9	8	12"	11'-0	7	8	6"	11'-6	8	4390	3820	10,41	6350	5550	9,58
29'	15'-6	3'-0	4'-3	3'-0	8'-3	4'-6	10	12"	12'-0	10	12"	21'-0	6	12"	14'-3	38	28'-9	8	12"	11'-3	7	8	6"	11'-9	9	4580	3980	10,73	6610	5800	9,79
30'	16'-0	3'-3	4'-3	3'-2	8'-7	4'-8	10	12"	13'-0	10	12"	22'-3	6	12"	14'-3	38	29'-9	8	12"	11'-6	8	8	6"	11'-9	9	4860	4230	10,94	7040	6180	9,97

* Total number of bars in cross section.

QUANTITIES

CASE I			
H	Concrete C.Y./L.F.	Steel Lbs./L.F.	Steel Lbs./Sq.Yd.
4'	.30	27	10
5'	.35	31	12
6'	.40	33	12
7'	.45	38	14
8'	.53	42	15
9'	.61	44	15
10'	.67	53	17
11'	.72	57	19
12'	.80	66	20
13'	.86	78	21
14'	.96	84	22
15'	1.04	92	23
16'	1.16	108	25
17'	1.25	113	26
18'	1.37	128	26
19'	1.50	153	29
20'	1.61	171	30
21'	1.75	185	30
22'	1.90	203	32
23'	2.05	229	33
24'	2.29	236	34
25'	2.54	248	36
26'	2.84	264	37
27'	3.16	279	37
28'	3.50	294	38
29'	3.85	317	40
30'	4.22	328	41

LIMIT STATE NOTES:

Qtreq-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
Qtprv-SERV = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
B' SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
Qtreq-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
Qtprv-STR = Net equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
B' STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

For other applicable limit states, perform project specific analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

QUANTITIES NOTE:

Quantities are shown for information purposes only. The pay item is measured per square foot of wall.

Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.

Steel quantities for horizontal lap splices shall be added to the quantities shown in the table, and additional lap length equal to 30 feet, for wall lengths greater than 30 feet. Horizontal 1'-0 lap splices occur at construction or contraction joints.

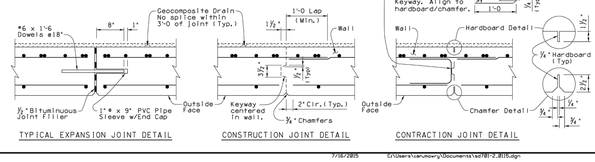
Steel and concrete quantities for footing steps shall be added to those shown in the table.

JOINT NOTES:

All retaining walls shall have construction joints or contraction joints spaced at not more than 30'-0 apart or as shown. Contraction joints may be substituted for construction joints for wall pours longer than 30'-0.

Expansion joints shall be provided at intervals not exceeding 90'-0.

Footings may be continuous with no joints (except at footing step locations).



Bar Size	Dimension A	Dimension D
5	1'-0	3 1/2"
6	1'-0	4 1/2"
7	1'-2	5 1/2"
8	1'-4	6"
9	1'-8	9"
10	1'-10	10"
11	2'-0	11"

NOTE:
For General Notes, Typical Elevations, Sections, and Details see SD 7.01 (1, 3 and 4).

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
BRIDGE GROUP STRUCTURE DETAIL
RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
SD 7.01 (2 of 5)

7/16/2015 C:\Users\saunsway\Documents\sd701-2.8115.dgn

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

RETAINING WALL DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL		S2	53 OF 118
	VERTICAL			

J:\2014\1014434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-S2.DWG Sep. 17, 2015 12:16 PM

CASE II-LEVEL FILL WITH 2' SURCHARGE (TRAFFIC)

Dimensions							Steel List																														Service Limit State		Strength Limit State	
							S1			S2			S3			H	V	Y	F1		T		F2																	
H	W	B	C	F	E	X	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Number*	Number*	Length	Bar Size	Spacing	Length	Number*	Bar Size	Spacing	Length	Number*	Bar Size	Spacing	Length	Number*	Qtveu-SERV Lbs./Ft.²	Qmveu-SERV Lbs./Ft.²	Qtveu-STR Lbs./Ft.²	Qmveu-STR Lbs./Ft.²	B' SERV ft.	B' STR ft.
4'	3'-6	1'-0	1'-0	10"	1'-8	1'-0	5	12"	5'-6							4	3'-9	5	12"	2'-6	2	5	12"	3'-0	3	980	620	2,79	1,620	930	2,64
5'	4'-0	1'-0	1'-0	10"	2'-0	1'-0	5	12"	6'-6							6	4'-9	5	12"	3'-0	2	5	12"	3'-3	3	1090	730	3,18	1,580	1100	2,98
6'	4'-6	1'-0	1'-0	1'-4	10"	2'-4	1'-2	5	12"	7'-6						6	5'-9	5	12"	3'-6	3	5	12"	3'-9	3	1210	850	3,53	1,770	1280	3,29
7'	5'-1	1'-2	1'-4	10"	2'-9	1'-4	6	12"	8'-9							8	6'-9	5	12"	3'-9	3	5	12"	4'-0	3	1370	990	3,93	2010	1490	3,65
8'	5'-8	1'-2	1'-8	10"	3'-2	1'-6	6	9"	9'-9							10	7'-9	5	12"	4'-3	3	5	12"	4'-6	3	1470	1090	4,41	2150	1640	4,10
9'	6'-3	1'-2	1'-10	1'-0	3'-5	1'-8	6	9"	10'-9							10	8'-9	5	12"	4'-9	3	5	12"	4'-9	4	1560	1180	4,89	2280	1770	4,55
10'	6'-10	1'-3	2'-0	1'-0	3'-10	1'-9	7	12"	12'-0							12	9'-9	5	12"	5'-3	4	6	12"	5'-3	4	1690	1300	5,35	2470	1940	4,97
11'	7'-6	1'-3	2'-3	1'-0	4'-3	1'-10	6	12"	4'-9	6	12"	12'-9				14	10'-9	5	12"	5'-9	4	7	12"	6'-3	5	1750	1360	5,99	2550	2020	5,59
12'	8'-0	1'-3	2'-3	1'-2	4'-7	2'-0	6	12"	5'-0	6	12"	13'-9				14	11'-9	5	12"	6'-0	4	7	12"	6'-9	5	1840	1450	6,36	2680	2150	5,92
13'	8'-6	1'-3	2'-6	1'-3	4'-9	2'-2	7	12"	7'-6	5	12"	14'-9				16	12'-9	6	12"	6'-6	4	8	12"	7'-9	5	2000	1610	6,70	2910	2390	6,23
14'	9'-0	1'-3	2'-6	1'-4	5'-2	2'-4	7	12"	7'-3	6	12"	15'-9				18	13'-9	6	12"	6'-9	5	8	12"	8'-3	6	2160	1770	7,02	3150	2620	6,53
15'	9'-6	1'-4	2'-9	1'-5	5'-4	2'-6	8	12"	8'-9	6	12"	17'-0				18	14'-9	6	9"	7'-0	5	8	12"	8'-6	6	2280	1880	7,36	3320	2780	6,83
16'	10'-0	1'-5	2'-9	1'-6	5'-9	2'-8	8	12"	7'-0	7	12"	9'-0	6	12"	10'-9	20	15'-9	6	8"	7'-3	5	7	8"	8'-0	6	2470	2060	7,65	3610	3060	7,08
17'	10'-6	1'-6	3'-0	1'-7	5'-11	2'-10	8	12"	8'-0	7	12"	9'-0	6	12"	10'-9	22	16'-9	6	8"	7'-9	5	7	8"	8'-3	6	2590	2170	7,99	3790	3220	7,38
18'	11'-0	1'-7	3'-0	1'-8	6'-4	3'-0	7	10"	7'-6	7	10"	10'-0	6	10"	11'-9	22	17'-9	7	12"	8'-0	6	9	10"	10'-0	7	2790	2360	8,28	4080	3500	7,64
19'	11'-6	1'-8	3'-3	1'-9	6'-6	3'-2	8	12"	8'-0	8	12"	12'-6	6	12"	10'-9	24	18'-9	7	12"	8'-6	6	8	8"	9'-6	7	2900	2460	8,62	4250	3660	7,93
20'	12'-0	1'-9	3'-3	1'-10	6'-11	3'-4	9	12"	9'-6	8	12"	13'-3	6	12"	11'-0	26	19'-9	7	12"	8'-9	6	9	9"	10'-9	7	3110	2660	8,91	4550	3940	8,20
21'	12'-6	1'-10	3'-6	1'-11	7'-1	3'-6	8	10"	9'-0	8	10"	14'-3	6	10"	11'-3	26	20'-9	7	10"	9'-0	6	10	10"	11'-9	7	3220	2760	9,25	4720	4100	8,49
22'	13'-0	1'-11	3'-6	2'-0	7'-6	3'-8	9	12"	10'-0	9	12"	15'-9	6	12"	11'-0	28	21'-9	8	12"	9'-6	6	8	8"	10'-6	7	3420	2950	9,54	5020	4390	8,76
23'	13'-6	2'-0	3'-9	2'-2	7'-7	3'-10	10	12"	12'-9	8	12"	16'-3	6	12"	11'-3	30	22'-9	8	12"	9'-9	7	8	8"	10'-9	7	3540	3060	9,89	5190	4550	9,05
24'	14'-0	2'-2	3'-9	2'-4	7'-11	4'-0	10	12"	11'-6	9	12"	17'-9	6	12"	11'-3	30	23'-9	8	12"	10'-3	7	8	8"	11'-0	8	3780	3280	10,13	5550	4870	9,27
25'	14'-6	2'-4	4'-0	2'-6	8'-0	4'-2	10	12"	12'-6	9	12"	19'-0	6	12"	11'-3	32	24'-9	8	12"	10'-6	7	8	8"	11'-3	8	3930	3410	10,43	5770	5070	9,53
26'	15'-0	2'-6	4'-0	2'-8	8'-4	4'-4	9	10"	11'-6	9	10"	18'-6	6	10"	13'-0	34	25'-9	8	12"	11'-0	7	10	9"	13'-0	9	4170	3630	10,68	6130	5400	9,73
27'	15'-6	2'-9	4'-3	2'-10	8'-5	4'-6	10	12"	12'-3	10	12"	21'-3	6	12"	11'-9	34	26'-9	8	12"	11'-3	9	10	9"	13'-3	9	4360	3790	10,94	6420	5650	9,93
28'	16'-0	3'-0	4'-3	3'-0	8'-9	4'-8	10	12"	13'-3	10	12"	22'-0	6	12"	12'-3	36	27'-9	8	12"	11'-6	9	10	9"	13'-6	9	4640	4040	11,14	6840	6030	10,10
29'	16'-6	3'-3	4'-6	3'-3	8'-9	4'-10	11	12"	16'-3	9	12"	23'-0	6	12"	12'-3	38	28'-9	8	12"	12'-0	8	10	9"	13'-9	9	4830	4200	11,40	7130	6280	10,29
30'	17'-0	3'-6	4'-6	3'-6	9'-0	5'-0	11	12"	15'-9	10	12"	24'-0	6	12"	12'-3	38	29'-9	8	12"	12'-6	8	10	9"	14'-0	10	5120	4460	11,61	7560	6670	10,46

* Total number of bars in cross section.

QUANTITIES

CASE II		
H	Concrete C.Y./Ft.Ft.	Steel Lbs./Ft.Ft.
4'	.32	28
5'	.37	32
6'	.42	35
7'	.51	43
8'	.56	52
9'	.65	56
10'	.73	65
11'	.79	74
12'	.88	78
13'	.96	93
14'	1,05	105
15'	1,16	121
16'	1,29	127
17'	1,41	138
18'	1,55	162
19'	1,68	169
20'	1,83	195
21'	1,98	223
22'	2,15	233
23'	2,35	248
24'	2,60	264
25'	2,87	276
26'	3,14	305
27'	3,48	326
28'	3,83	337
29'	4,25	355
30'	4,68	383

LIMIT STATE NOTES:

Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qmveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

B' SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qtveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

Qmveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

B' STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

For other applicable limit states, perform project specific analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

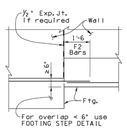
QUANTITIES NOTE:

Quantities are shown for information purposes only. The pay Item is measured per square foot of wall.

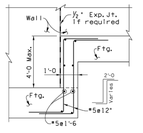
Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.

Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0 lap splices occur at construction or contraction joints.

Steel and concrete quantities for footing steps shall be added to those shown in the table.



FOOTING DETAIL



FOOTING STEP DETAIL

NOTE:
For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1, 2, and 4).

REVIEW APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR CONSTRUCTION	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
DATE / PROJECT NO. / FED. NO.	STANDARD NO. SD 7.01 (3 of 5)
LOCATION	SHEET NO. OF

7/16/2015 C:\Users\cerunowy\Documents\sd781-4_8115.dgn

CASE III - 2:1 (MAX.) SLOPING FILL

Dimensions							Steel List																														Service Limit State		Strength Limit State	
							S1			S2			S3			Y		T				F2																	
H	W	B	C	F	E	X	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length	Number*	Bar Size	Spacing	Length	Number*	Bar Size	Spacing	Length	Number*	Bar Size	Spacing	Length	Number*	Qtveu-SERV Lbs./Ft.²	Qmveu-SERV Lbs./Ft.²	Qtveu-STR Lbs./Ft.²	Qmveu-STR Lbs./Ft.²	B' SERV ft.	B' STR ft.
4'	3'-0	1'-0	1'-0	10"	1'-2	1'-0	5	12"	5'-6							4	3'-9	5	12"	2'-0	2	5	12"	2'-6	3	960	600	2,52	1300	830	2,44
5'	3'-6	1'-0	1'-0	10"	1'-8	1'-0	5	12"	6'-6							6	4'-9	5	12"	2'-6	2	5	12"	3'-0	3	1140	780	2,90	1570	1080	2,80
6'	4'-2	1'-0	1'-0	10"	2'-4	1'-0	5	12"	7'-6							6	5'-9	5	12"	3'-3	2	5	12"	3'-9	3	1300	940	3,46	1810	1320	3,34
7'	5'-0	1'-2	1'-2	10"	3'-0	1'-3	5	12"	8'-9							8	6'-9	5	12"	3'-9	3	5	12"	4'-3	4	1470	1090	4,19	2040	1535	4,05
8'	5'-9	1'-2	1'-4	10"	3'-7	1'-6	6	12"	9'-9							10	7'-9	5	12"	4'-3	3	6	12"	5'-0	4	1600	1220	4,89	2220	1710	4,73
9'	6'-6	1'-2	1'-10	1'-0	4'-5	1'-8	6	9"	10'-9							10	8'-9	5	12"	4'-9	3	6	9"	5'-6	5	1740	1360	5,57	2410	1890	5,37
10'	7'-3	1'-3	1'-8	1'-0	4'-7	2'-0	7	12"	12'-0							12	9'-9	5	12"	5'-3	4	7	12"	6'-9	5	1890	1500	6,25	2640	2110	6,06
11'	8'-3	1'-4	1'-10	1'-2	5'-3	2'-3	7	12"	13'-0							14	10'-9	5	12"	6'-0	4	8	12"	7'-9	6	2030	1630	7,25	2830	2290	7,04
12'	9'-0	1'-4	2'-0	1'-2	5'-10	2'-6	7	12"	14'-0							14	11'-9	5	12"	6'-6	4	8	12"	8'-6	7	2170	1710	7,95	3020	2480	7,73
13'	9'-9	1'-6	2'-2	1'-4	6'-3	2'-9	8	12"	6'-3	6	12"	15'-0				16	12'-9	5	12"	7'-0	5	8	9"	9'-3	8	2360	1940	8,58	3290	2730	8,34
14'	10'-6	1'-6	2'-4	1'-4	6'-10	3'-0	7	12"	6'-6	6	12"	16'-3				18	13'-9	5	12"	7'-6	5	7	6"	9'-0	8	2550	2110	9,22	3560	2970	8,95
15'	11'-3	1'-10	2'-6	1'-4	7'-5	3'-2	7	12"	6'-6	7	12"	17'-6				18	14'-9	6	12"	8'-3	5	8	7"	10'-9	9	2740	2280	9,86	3830	3210	9,56
16'	12'-0	2'-0	2'-8	1'-6	7'-10	3'-4	7	12"	6'-9	7	12"	10'-3	5	12"	10'-0	20	15'-9	5	12"	8'-9	6	8	6"	11'-0	9	2940	2460	10,49	4110	3460	10,18
17'	12'-6	2'-2	2'-8	1'-6	8'-4	3'-6	8	12"	7'-9	8	12"	11'-0	6	12"	11'-0	22	16'-9	6	12"	9'-3	6	9	7"	12'-0	9	3220	2720	10,72	4510	3840	10,31
18'	13'-0	2'-4	2'-10	1'-6	8'-8	3'-8	8	12"	8'-3	8	12"	11'-6	6	12"	11'-6	22	17'-9	6	12"	9'-6	6	9	6"	12'-6	10	3440	2920	11,02	4830	4130	10,64
19'	13'-6	2'-6	2'-10	1'-8	9'-0	3'-10	9	12"	8'-9	9	12"	12'-6	6	12"	11'-0	24	18'-9	6	12"	9'-9	7	9	6"	13'-0	10	3730	3190	11,24	5260	4530	10,83
20'	14'-0	2'-8	3'-0	1'-10	9'-2	4'-0	9	12"	9'-6	9	12"	13'-0	6	12"	11'-3	26	19'-9	6	12"	10'-3	7	10	7"	13'-6	11	3960	3400	11,53	5590	4840	11,10
21'	14'-6	2'-10	3'-2	2'-0	9'-4	4'-2	9	12"	9'-6	9	12"	14'-9	6	12"	11'-3	26	20'-9	6	12"	10'-6	7	10	6"	14'-0	11	4200	3620	11,82	5930	5150	11,36
22'	15'-0	3'-0	3'-2	2'-2	9'-8	4'-4	9	12"	10'-3	9	12"	15'-9	6	12"	12'-3	28	21'-9	7	12"	11'-0	8	10	6"	14'-6	11	4510	3910	12,04	6380	5570	11,54
23'	15'-6	3'-4	3'-4	2'-4	10'-0	4'-6	9	12"	11'-3	9	12"	16'-9	6	12"	12'-6	30	22'-9	7	12"	11'-6	8	10	6"	14'-9	12	4790	4150	12,48	6780	5920	11,96
24'	16'-4	3'-8	3'-6	2'-6	10'-4	4'-8	10	12"	11'-9	10	12"	17'-9	6	12"	12'-6	30	23'-9	7	12"	12'-0	8	11	7"	15'-9	12	5070	4390	12,93	7190	6270	12,37
25'	17'-0	4'-0	3'-8	2'-9	10'-7	4'-10	10	12"	12'-3	10	12"	19'-3	6	12"	12'-9	32	24'-9	7	12"	12'-6	8	11	6"	16'-6	12	5350	4630	13,38	7590	6620	12,78
26'	17'-6	4'-4	3'-10	3'-0	10'-8	5'-0	10	12"	13'-9	9	12"	20'-3	6	12"	13'-0	34	25'-9	7	12"	13'-0	9	11	6"	17'-0	13	5610	4910	13,59	8060	7030	12,96
27'	18'-0	4'-8	4'-0	3'-3	10'-9	5'-2	10	12"	15'-0	9	12"	21'-3	6	12"	13'-3	34	26'-9	7	12"	13'-0	9	11	6"	17'-6	13	6000	5200	13,81	8540	7440	13,14
28'	18'-8	5'-0	4'-3	3'-6	10'-11	5'-4	10	12"	13'-9	10	12"	22'-9	6	12"	13'-6	36	27'-9	7	12"	13'-6	9	11	6"	17'-9	13	6240	5400	14,29	8880	7760	13,59
29'	19'-4	5'-4	4'-6	3'-9	11'-1	5'-6	10	12"	14'-9	10	12"	24'-0	6	12"	13'-9	38	28'-9	7	12"	14'-0	10	11	6"	17'-9	13	6490	5610	14,77	9250	8060	14,03
30'	20'-0	5'-8	4'-9	4'-0	11'-3	5'-8	10	12"	15'-9	10	12"	25'-3	6	12"	13'-9	38	29'-9	7	12"	14'-6	10	11	6"	17'-9	13	6740	5820	15,25	9600	8360	14,48

* Total number of bars in cross section.

QUANTITIES

CASE III		
H	Concrete C.Y./Ft.Ft.	Steel Lbs./Ft.Ft.
4'	.30	27
5'	.35	31
6'	.41	34
7'	.50	40
8'	.56	50
9'	.68	51
10'	.74	71
11'	.88	84
12'	.96	89
13'	1,13	107
14'	1,28	123
15'	1,44	140
16'	1,65	154
17'	1,81	181
18'	1,97	213
19'	2,20	229
20'	2,44	248
21'	2,69	292
22'	2,96	314
23'	3,35	320
24'	3,77	353
25'	4,25	400
26'	4,72	417
27'	5,22	432
28'	5,77	459
29'	6,35	473
30'	6,95	487

LIMIT STATE NOTES:

Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qmveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

B' SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qtveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

Qmveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

B' STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

For other applicable limit states, perform project specific analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

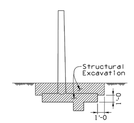
QUANTITIES NOTE:

Quantities are shown for information purposes only. The pay Item is measured per square foot of wall.

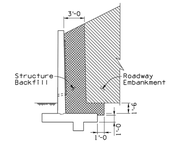
Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.

Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0 lap splices occur at construction or contraction joints.

Steel and concrete quantities for footing steps shall be added to those shown in the table.



STRUCTURAL EXCAVATION LIMITS



STRUCTURE BACKFILL LIMITS

NOTE:
For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1 to 3).

REVIEW APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL
APPROVED FOR CONSTRUCTION	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)
DATE / PROJECT NO. / FED. NO.	STANDARD NO. SD 7.01 (4 of 5)
LOCATION	SHEET NO. OF

7/16/2015 C:\Users\cerunowy\Documents\sd781-4_8115.dgn

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

RETAINING WALL DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: — HORIZONTAL — VERTICAL			S3	54 OF 118

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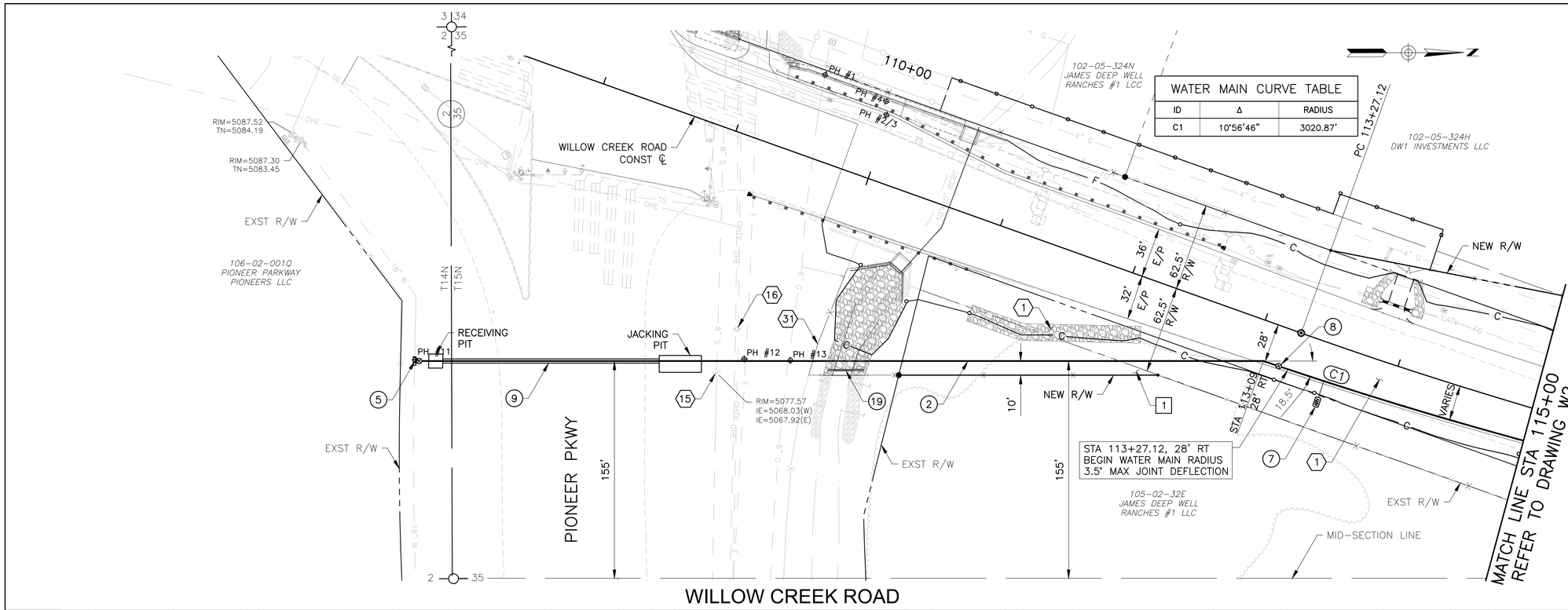
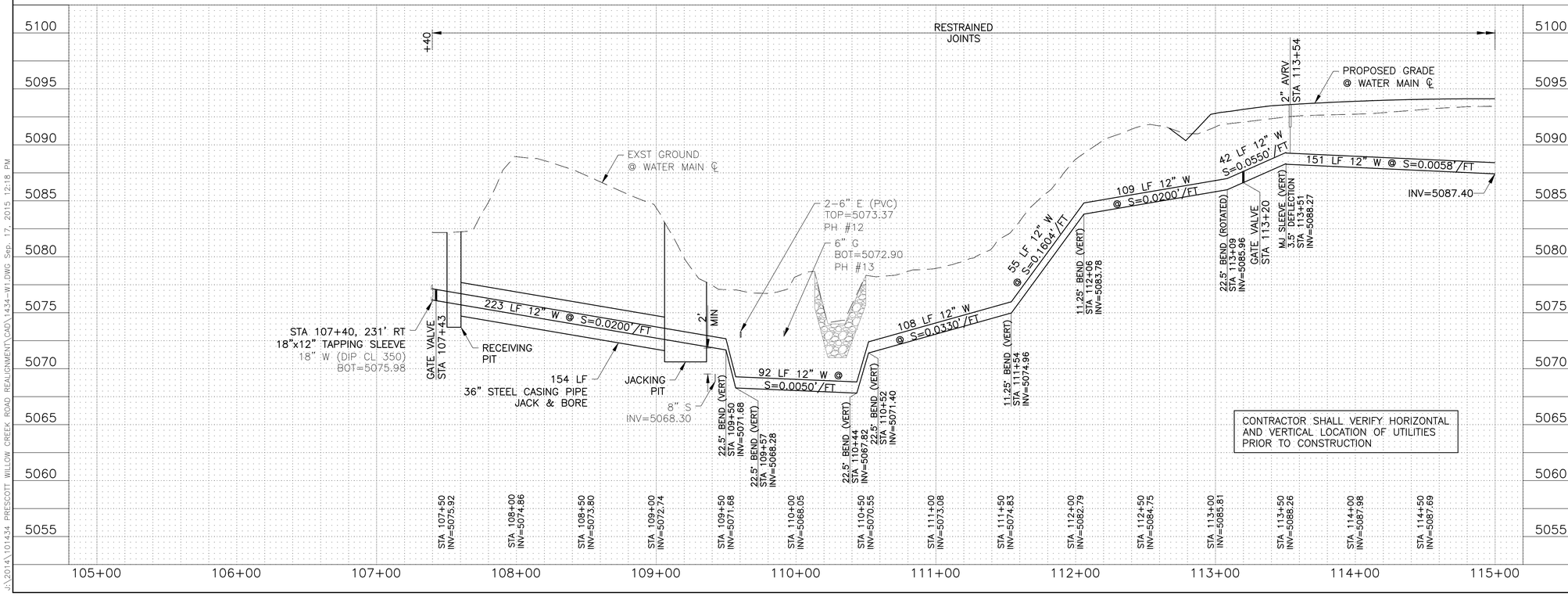


WATER MAIN CURVE TABLE		
ID	Δ	RADIUS
C1	10°56'46"	3020.87'



CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF UTILITIES PRIOR TO CONSTRUCTION

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

1	CLEARING & GRUBBING	0.2 AC

CONSTRUCTION NOTES

2	STA 107+40 TO STA 115+00 12" WATER MAIN (DIP CL 350) (RESTRAINED)	796 LF
5	STA 107+40, 231' RT 18"X12" TAPPING SLEEVE AND VALVE COP STD DET 3-05P 12" GATE VALVE, FLXMJ VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP MAG STD DET 392, DWG W13	1 EA
7	STA 113+54, 41' RT 2" AIR RELEASE VALVE COP STD DET 3-17P	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA
9	STA 107+59 TO STA 109+04 36" STEEL CASING PIPE JACK & BORE DET 1, DWG W11	154 LF
19	STA 110+19 TO STA 110+43 RETAINING WALL ADOT STD DET 7.01 (DWG S3) H=5' DET 4, DWG W12	125 SF

REFERENCE NOTES

1. PAVING IMPROVEMENTS REFER TO ROADWAY PLANS
15. EXST SANITARY SEWER MANHOLE PROTECT IN PLACE
16. EXST POWER POLE PROTECT IN PLACE
31. BARBED WIRE FENCE REFER TO DWG P1

0' 20' 40' 80'
SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 105+00 TO STA 115+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W1	55 OF 118

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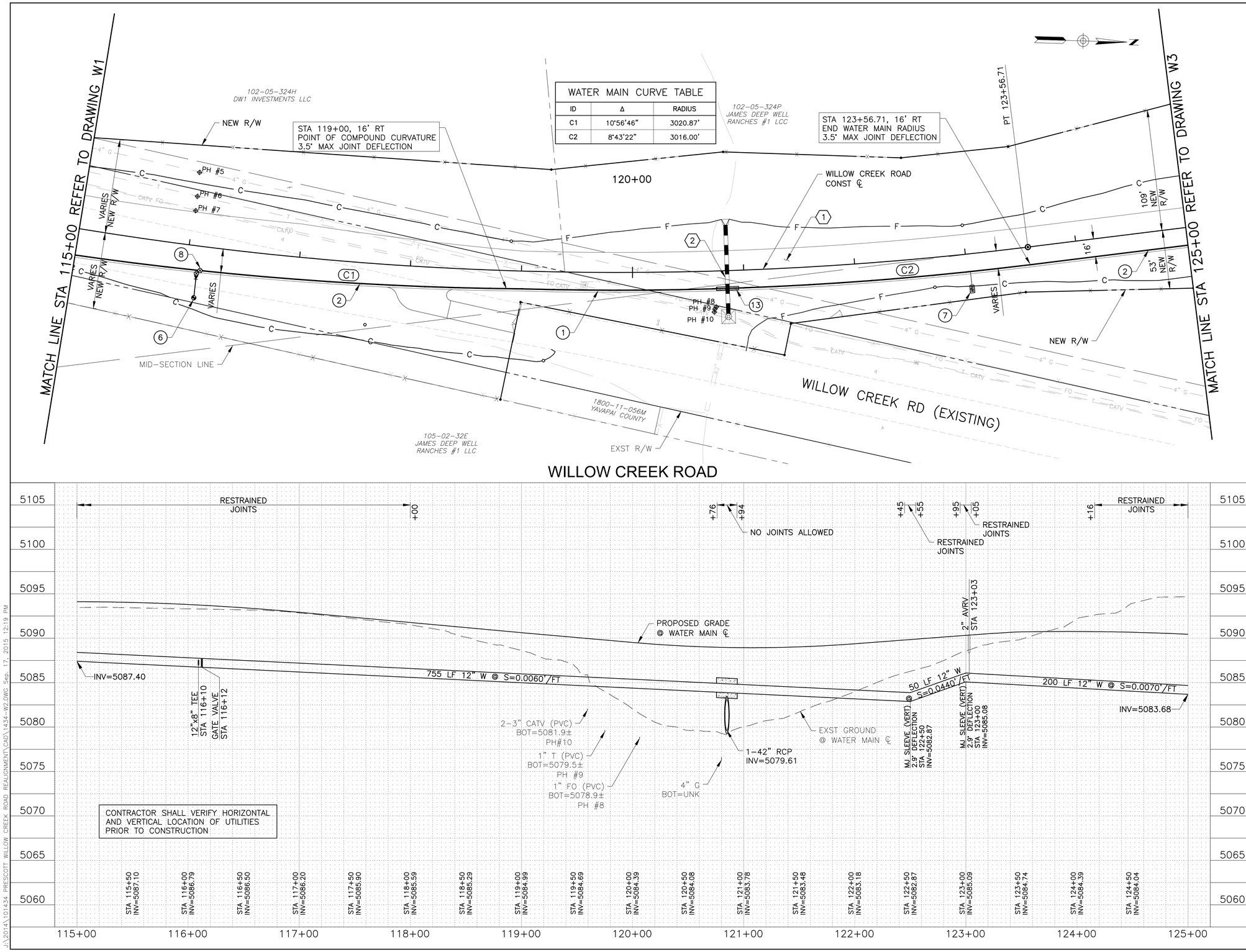

WATER MAIN CURVE TABLE		
ID	Δ	RADIUS
C1	10°56'46"	3020.87'
C2	8°43'22"	3016.00'

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1. STA 118+00 TO STA 124+16 — 619 LF
   12" WATER MAIN (DIP CL 350)
2. STA 115+00 TO STA 118+00 — 386 LF
   STA 124+16 TO STA 125+00
   12" WATER MAIN (DIP CL 350)
   (RESTRAINED)
6. STA 116+10, 47' RT — 1 EA
   FIRE HYDRANT ASSEMBLY
   COP STD DET 3-07P
   MOD W/ 12"x8" TEE, MJxFL
   8" GATE VALVE, FLxFL
   VALVE BOX & COVER
   COP STD DET 3-15P
   DEBRIS CAP, MAG STD DET 392
   8"x6" REDUCER, FLxMJ
   MAINTAIN 4' DEPTH OF COVER
7. STA 123+03, 30' RT — 1 EA
   2" AIR RELEASE VALVE
   COP STD DET 3-17P
8. 12" GATE VALVE, MJXMJ — 1 EA
   VALVE BOX & COVER
   COP STD DET 3-15P
13. STA 120+75 TO STA 120+95 — 20 LF
    CONCRETE ENCASEMENT
    YAG STD DET 4-01

REFERENCE NOTES

1. PAVING IMPROVEMENTS
   REFER TO ROADWAY PLANS
2. STORM DRAIN IMPROVEMENTS
   REFER TO STORM DRAIN PLANS

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 115+00 TO STA 125+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL; 1" = 5' VERTICAL			W2	56 OF 118

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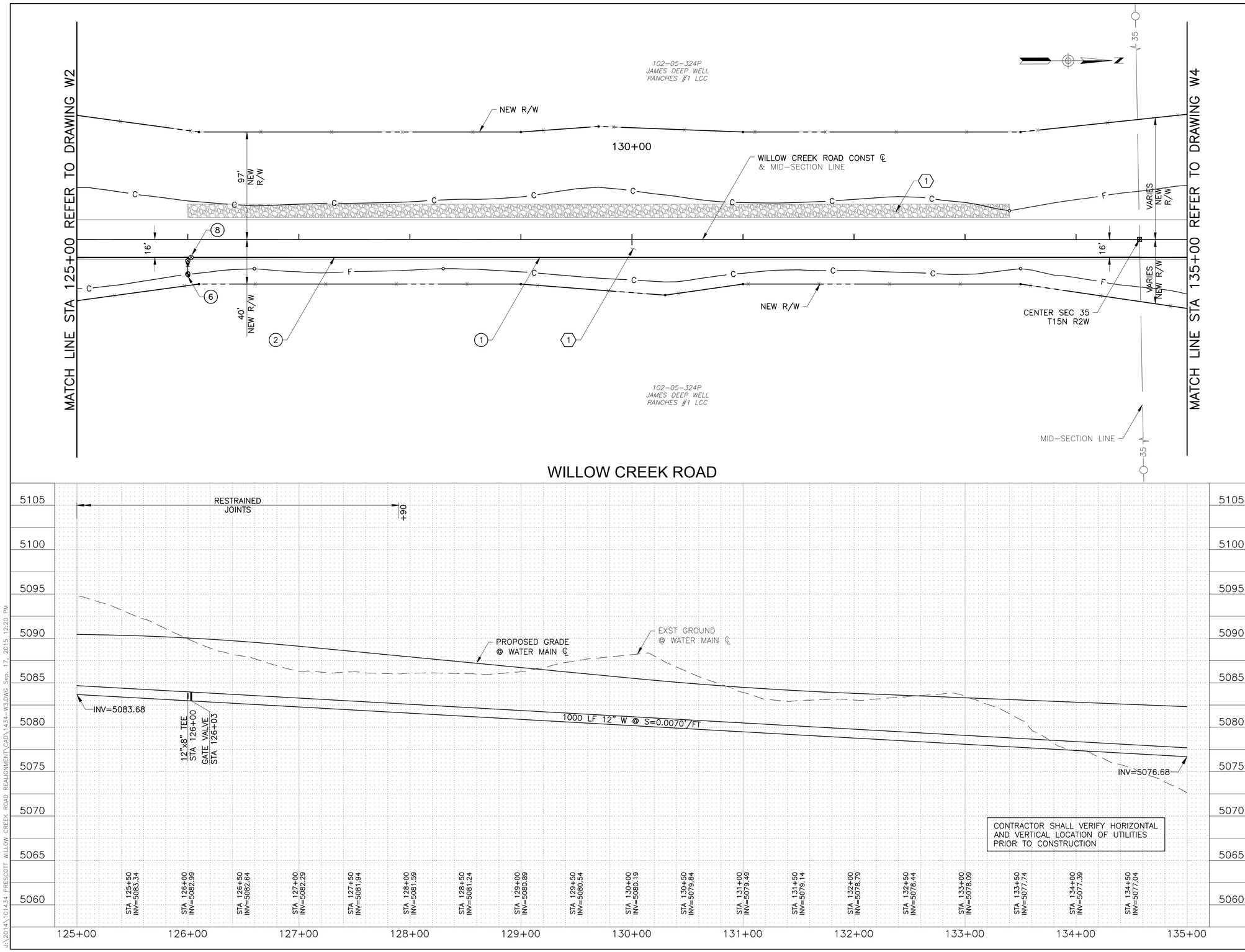

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1	STA 127+90 TO STA 135+00 12" WATER MAIN (DIP CL 350)	710 LF
2	STA 125+00 TO STA 127+90 12" WATER MAIN (DIP CL 350) (RESTRAINED)	290 LF
6	STA 126+00, 31' RT FIRE HYDRANT ASSEMBLY COP STD DET 3-07P MOD W/ 12"x8" TEE, MJxFL 8" GATE VALVE, FLxFL VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP, MAG STD DET 392 8"x6" REDUCER, FLxMJ MAINTAIN 4' DEPTH OF COVER	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA

REFERENCE NOTES

1. PAVING IMPROVEMENTS
REFER TO ROADWAY PLANS

0' 20' 40' 80'

SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 125+00 TO STA 135+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W3	57 OF 118

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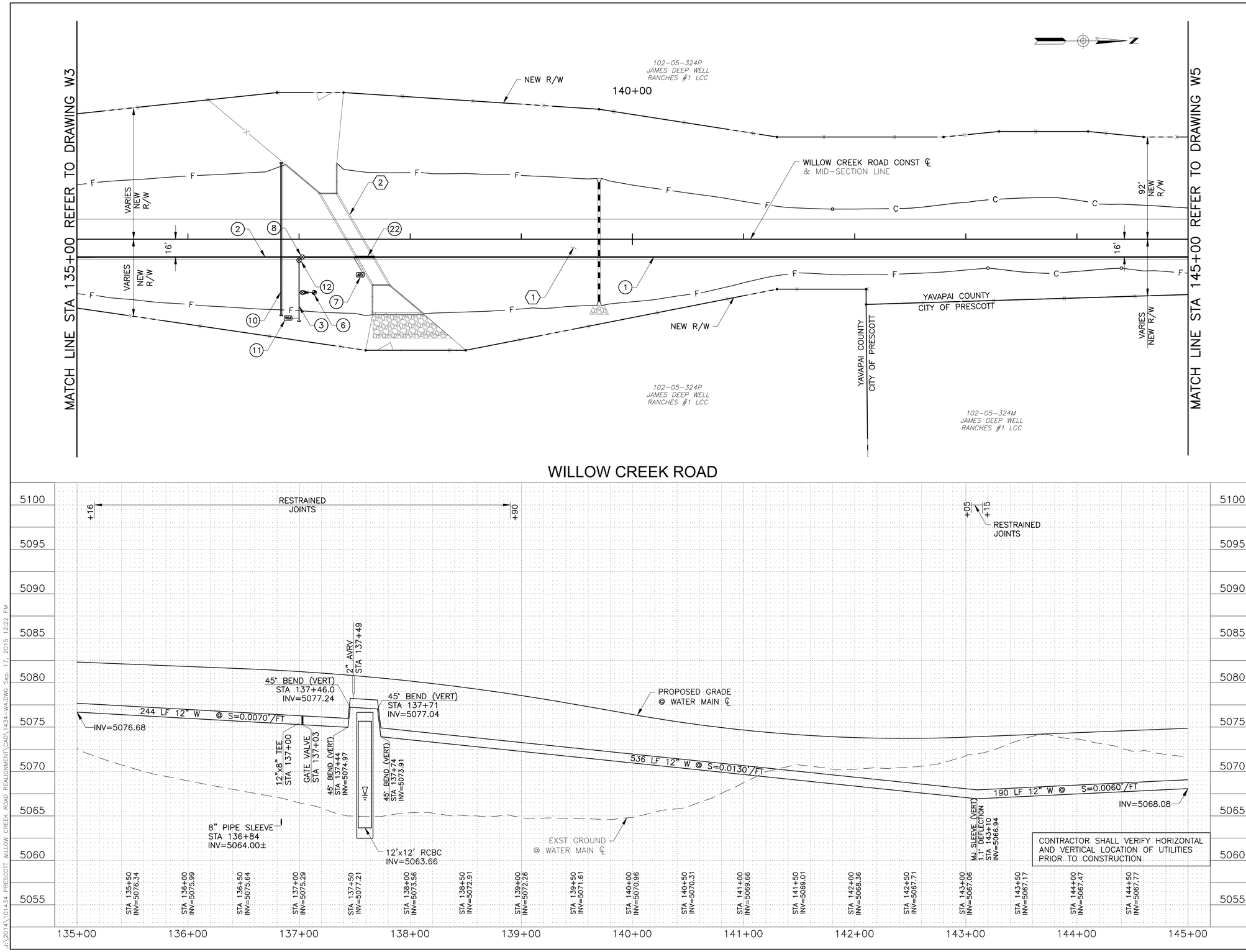

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

41956 EZRA M. PAGE ARIZONA U.S.A. Date Signed 9/17/15 Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1	STA 135+00 TO STA 135+16 STA 138+90 TO STA 145+00 12" WATER MAIN (DIP CL 350)	626 LF
2	STA 135+16 TO STA 138+90 12" WATER MAIN (DIP CL 350) (RESTRAINED)	374 LF
3	STA 137+00, 16' RT TO 74' RT 8" WATER MAIN (DIP CL 350) (RESTRAINED) PROFILE PER DET 7, DWG W13	58 LF
6	STA 137+14, 48' RT FIRE HYDRANT ASSEMBLY COP STD DET 3-07P MOD W/ 8"x8" TEE, MJxFL 8" GATE VALVE, FLxFL VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP, MAG STD DET 392 8"x6" REDUCER, FLxMJ MAINTAIN 4' DEPTH OF COVER	1 EA
7	STA 137+58, 31' RT 2" AIR RELEASE VALVE COP STD DET 3-17P	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA
10	STA 136+84, 70' LT TO 70' RT 8" STEEL CASING PIPE	140 LF
11	STA 136+89, 71' RT 1" WATER SERVICE COP STD DET 3-16P	1 EA
12	8" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA
22	BOX CULVERT SEPARATION DET 6, W12	NPI

REFERENCE NOTES

1. PAVING IMPROVEMENTS
   REFER TO ROADWAY PLANS
2. STORM DRAIN IMPROVEMENTS
   REFER TO STORM DRAIN PLANS

0' 20' 40' 80'
SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

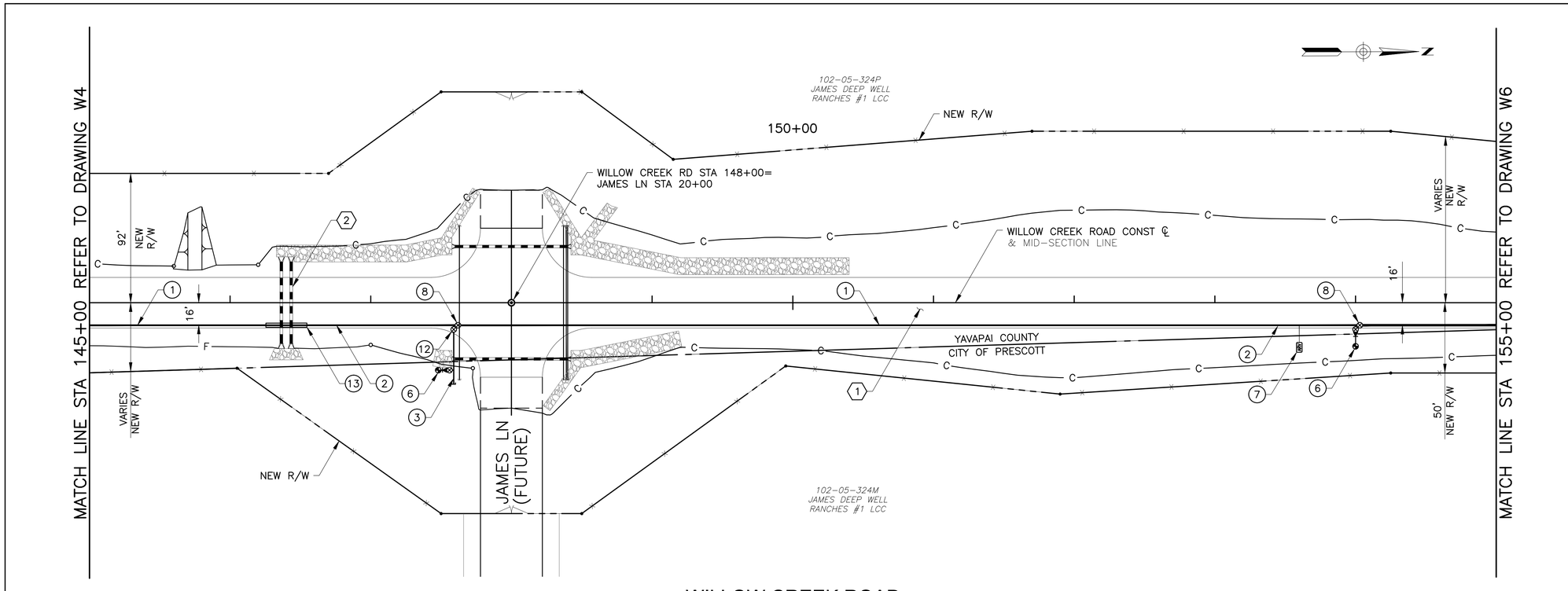
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

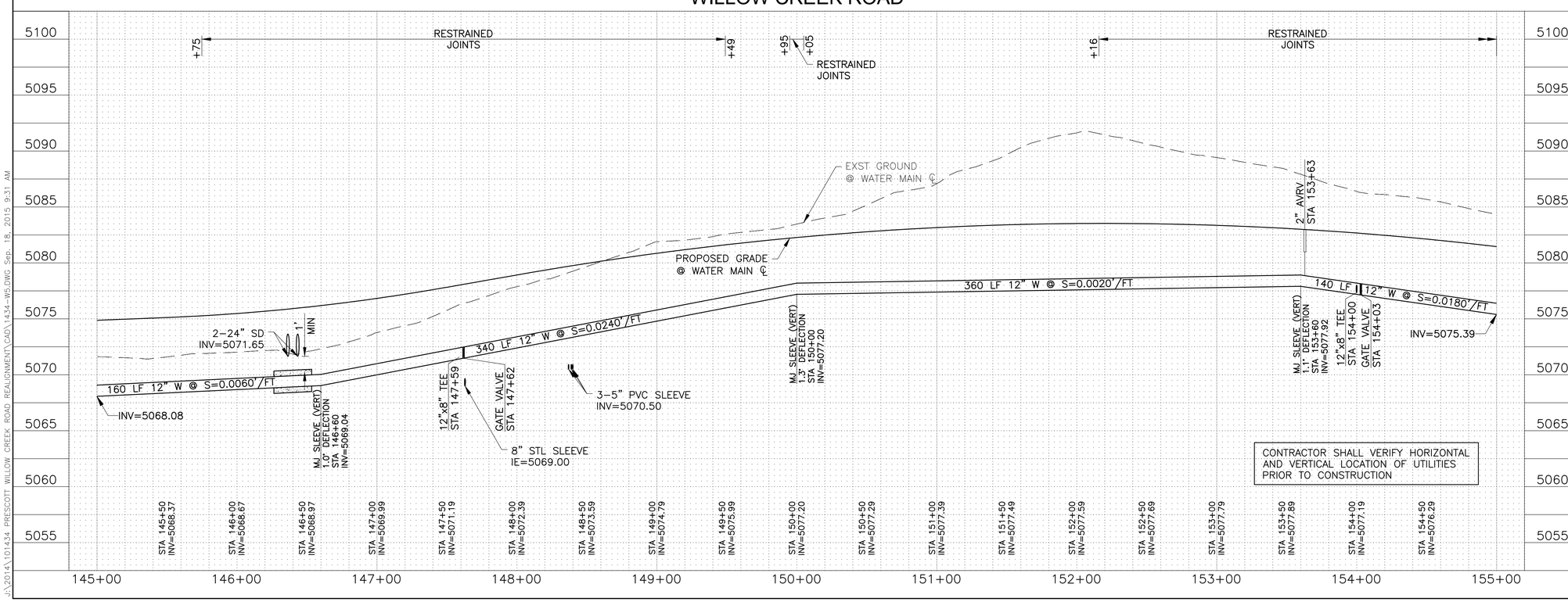
WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 135+00 TO STA 145+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W4	58 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-W4.DWG Sep. 17, 2015 12:22 PM



WILLOW CREEK ROAD



CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF UTILITIES PRIOR TO CONSTRUCTION

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/18/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1	STA 145+00 TO STA 145+75 STA 149+49 TO STA 152+16 12" WATER MAIN (DIP CL 350)	342 LF
2	STA 145+75 TO STA 149+49 STA 152+16 TO STA 155+00 12" WATER MAIN (DIP CL 350) (RESTRAINED)	658 LF
		42 LF
3	STA 147+59, 16' RT TO 58' RT 8" WATER MAIN (DIP CL 350) (RESTRAINED) PROFILE PER DET 8, DWG W13	
6	STA 147+48, 48' RT STA 154+00, 31' RT FIRE HYDRANT ASSEMBLY COP STD DET 3-07P MOD W/ 8"x8" TEE, MJxFL 8" GATE VALVE, FLxFL VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP, MAG STD DET 392 8"x6" REDUCER, FLxMJ MAINTAIN 4' DEPTH OF COVER	2 EA
7	STA 153+63, 31' RT 2" AIR RELEASE VALVE COP STD DET 3-17P	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	2 EA
12	8" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA
13	STA 146+26 TO STA 146+56 CONCRETE ENCASEMENT YAG STD DET 4-01	30 LF

REFERENCE NOTES

1. PAVING IMPROVEMENTS
   REFER TO ROADWAY PLANS
2. STORM DRAIN IMPROVEMENTS
   REFER TO STORM DRAIN PLANS

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 145+00 TO STA 155+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W5	59 OF 118

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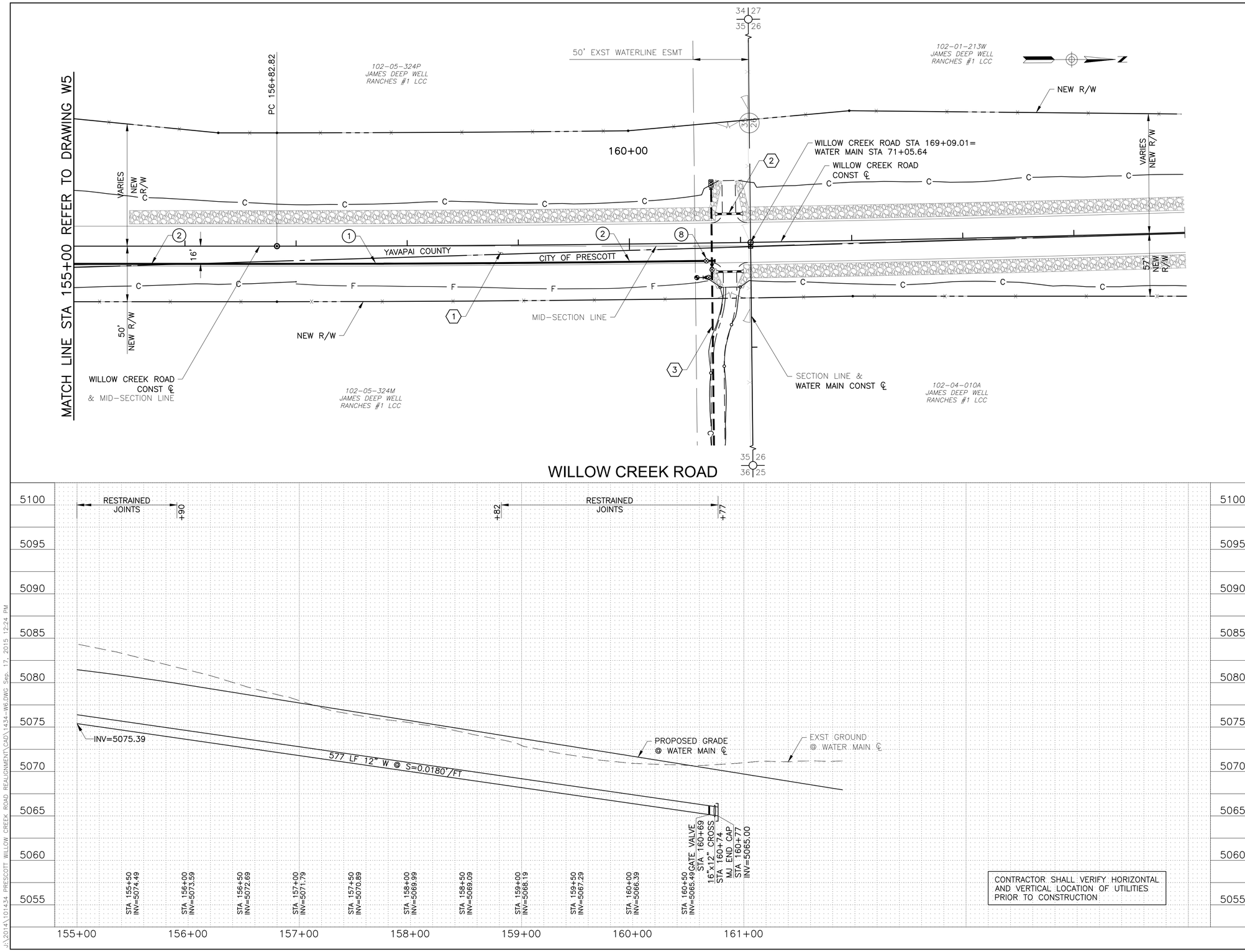

CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF UTILITIES PRIOR TO CONSTRUCTION

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1	STA 155+90 TO STA 158+82 12" WATER MAIN (DIP CL 350)	292 LF
2	STA 155+00 TO STA 155+90 STA 158+82 TO STA 160+77 12" WATER MAIN (DIP CL 350) (RESTRAINED)	285 LF
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA

REFERENCE NOTES

1. PAVING IMPROVEMENTS
   REFER TO ROADWAY PLANS
2. STORM DRAIN IMPROVEMENTS
   REFER TO STORM DRAIN PLANS
3. NEW WATER MAIN
   REFER TO DWG W7

0' 20' 40' 80'

SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 155+00 TO STA 165+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W6	60 OF 118

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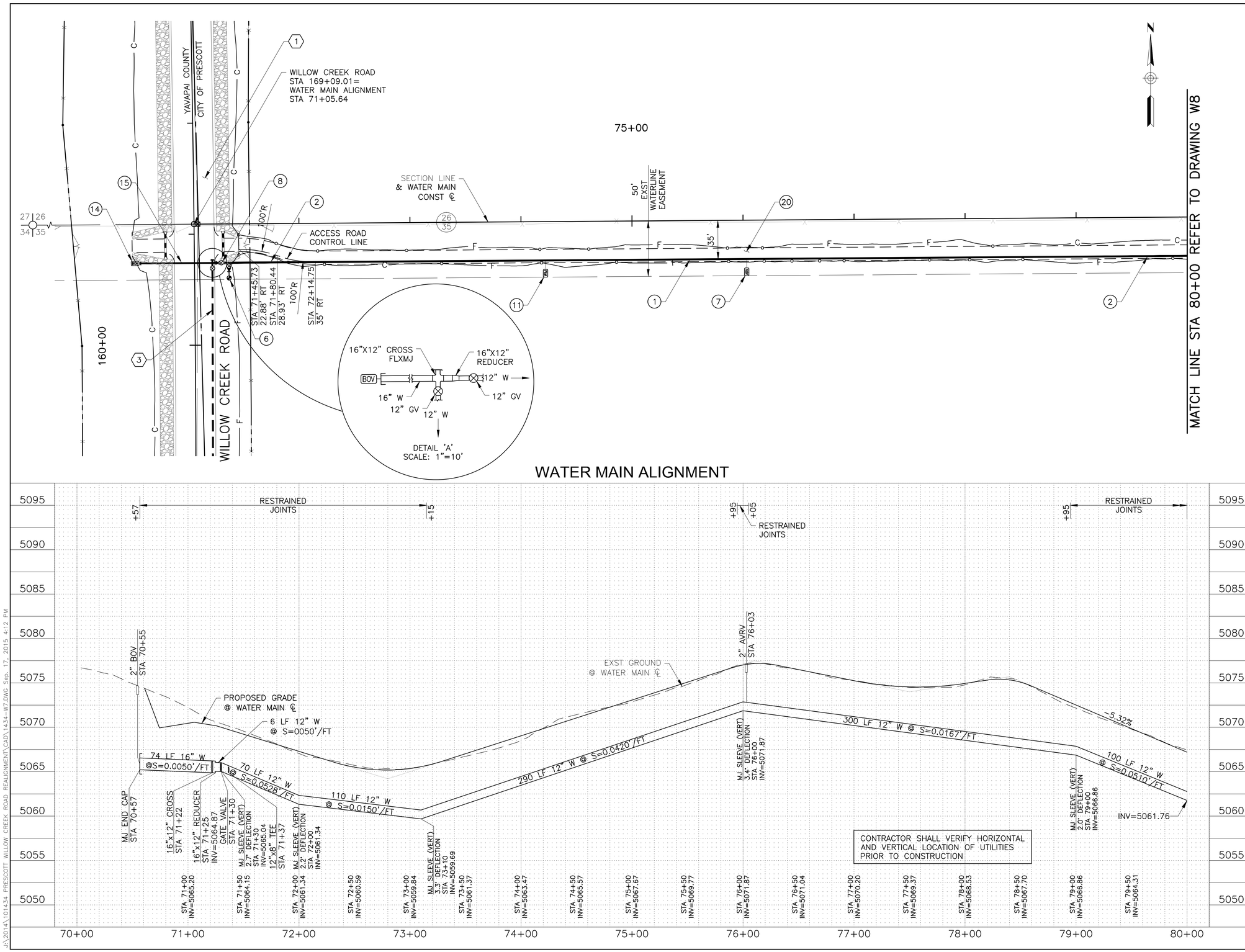

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Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

1	STA 73+15 TO STA 78+95 12" WATER MAIN (DIP CL 350)	580 LF
2	STA 71+25 TO STA 73+15 STA 78+95 TO STA 80+00 12" WATER MAIN (DIP CL 350) (RESTRAINED)	295 LF
6	STA 71+37, 49' RT FIRE HYDRANT ASSEMBLY COP STD DET 3-07P MOD W/ 12"x8" TEE, MJxFL 8" GATE VALVE, FLxFL VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP, MAG STD DET 392 8"x6" REDUCER, FLxMJ MAINTAIN 4' DEPTH OF COVER	1 EA
7	STA 76+03, 30' RT 2" AIR RELEASE VALVE COP STD DET 3-17P W/ CARSONITE MARKER POST CRM3-66-08 OR EQUAL	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	1 EA
11	STA 74+22, 30' RT 1" WATER SERVICE COP STD DET 3-16P W/ CARSONITE MARKER POST CRM3-66-08 OR EQUAL	1 EA
14	STA 70+55 2" BLOW OFF VALVE COP STD DET 3-18P	1 EA
15	STA 70+57 TO STA 71+25 16" WATER MAIN (DIP CL 350) (RESTRAINED)	68 LF
20	STA 71+26 TO STA 80+00 PAVEMENT SECTION NO 5 2" CRUSHED AGGREGATE 4" AGGREGATE BASE COURSE	 61 CY 121 CY

REFERENCE NOTES

1. PAVING IMPROVEMENTS
   REFER TO ROADWAY PLANS
3. NEW WATER MAIN
   REFER TO DWG W6

0' 20' 40' 80'

SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 70+00 TO STA 80+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W7	61 OF 118

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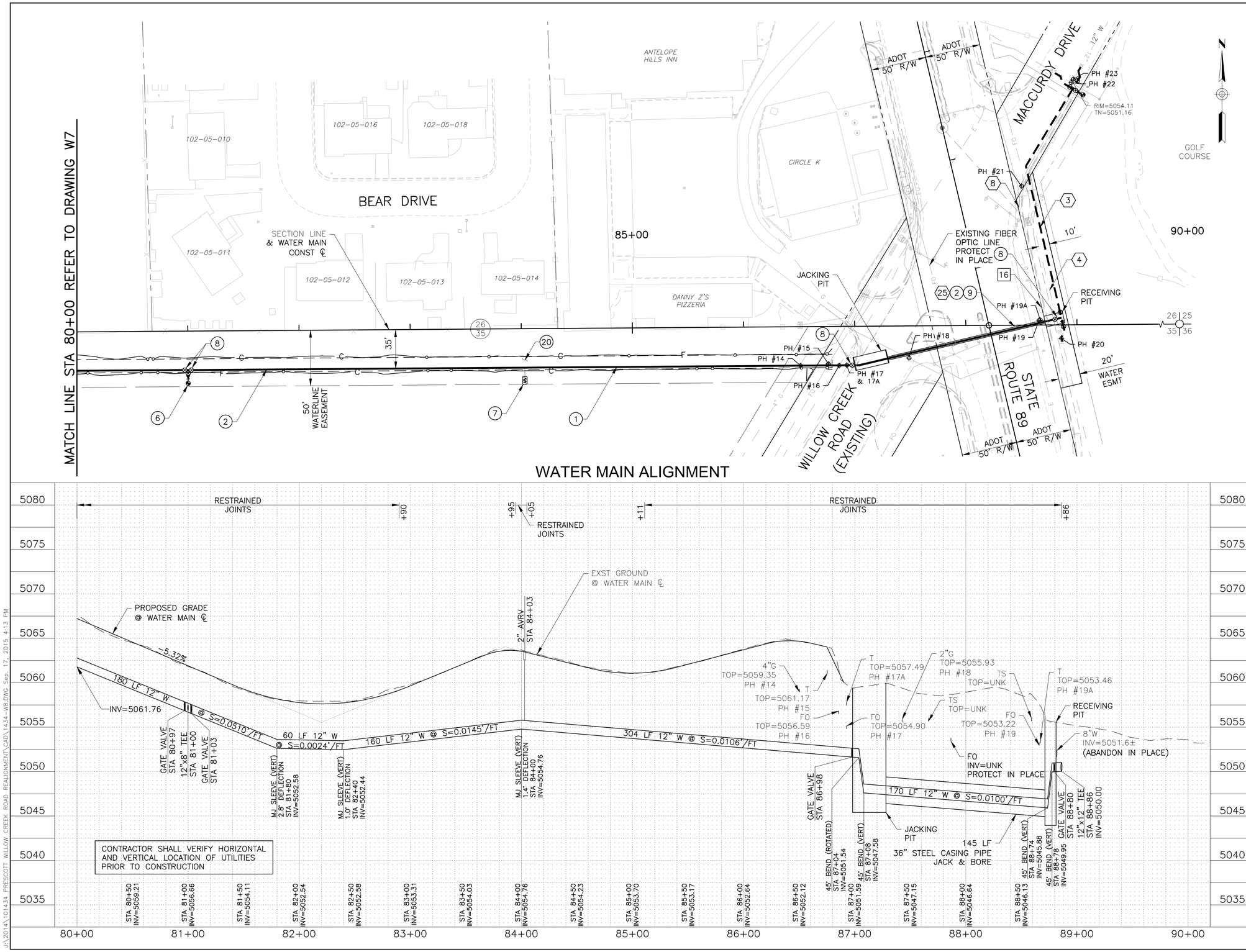

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

16 REMOVE & REPLACE EXST WOOD RAIL FENCE — 20 LF

CONSTRUCTION NOTES

1. STA 82+90 TO STA 85+11 — 221 LF
   12" WATER MAIN (DIP CL 350)
2. STA 80+00 TO STA 82+90 — 665 LF
   STA 85+11 TO STA 88+86
   12" WATER MAIN (DIP CL 350)
   (RESTRAINED)
6. STA 81+00, 47' RT — 1 EA
   FIRE HYDRANT ASSEMBLY
   COP STD DET 3-07P
   MOD W/ 12"x8" TEE, MJxFL
   8" GATE VALVE, FLxFL
   VALVE BOX & COVER
   COP STD DET 3-15P
   DEBRIS CAP, MAG STD DET 392
   8"x6" REDUCER, FLxMJ
   MAINTAIN 4' DEPTH OF COVER
7. STA 84+03, 30' RT — 1 EA
   2" AIR RELEASE VALVE
   COP STD DET 3-17P
   W/ CARSONITE MARKER POST
   CRM3-66-08 OR EQUAL
8. 12" GATE VALVE, MJXMJ — 4 EA
   VALVE BOX & COVER
   COP STD DET 3-15P
9. STA 87+28 TO 88+71 — 145 LF
   36" STEEL CASING PIPE
   JACK & BORE
   DET 1, DWG W11
20. STA 80+00 TO 86+90
    PAVEMENT SECTION NO 5
    2" CRUSHED AGGREGATE — 51 CY
    4" AGGREGATE BASE COURSE — 102 CY

REFERENCE NOTES

3. NEW WATER MAIN
   REFER TO DWG W9
4. EXST WATER MAIN REMOVAL
   REFER TO DWG W9
8. ADOT SR 89 IMPROVEMENTS, REFER TO
   PROJECT NO 089 YV 320 H8039 01 C
25. ADOT ENCROACHMENT PERMIT REQUIRED
    FOR WORK WITHIN ADOT RIGHT OF WAY

0' 20' 40' 80'
SCALE: 1"=40'

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REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 80+00 TO STA 90+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W8	62 OF 118

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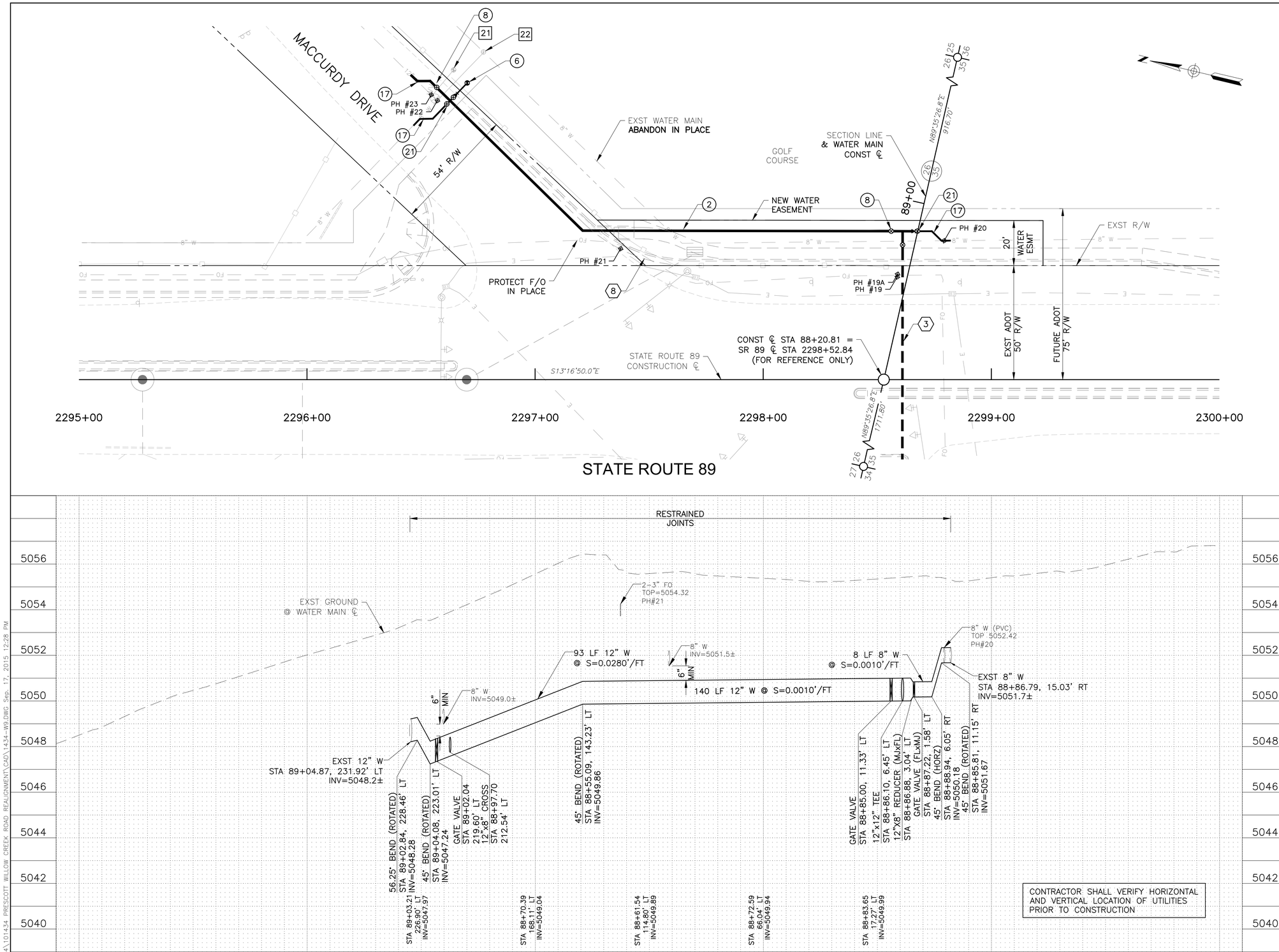

CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF UTILITIES PRIOR TO CONSTRUCTION

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

REMOVAL NOTES

21	REMOVE & SALVAGE EXST FIRE HYDRANT	1 EA
22	ABANDON IN PLACE EXST WATER VALVE IN CLOSED POSITION REMOVE VALVE BOX & COVER DET 3, DWG W11	1 EA

CONSTRUCTION NOTES

2	STA 88+86 TO STA 89+05 12" WATER MAIN (DIP CL 350) (RESTRAINED)	256 LF
6	STA 89+06.92, 206.99' LT FIRE HYDRANT ASSEMBLY COP STD DET 3-07P MOD W/ 12"x8" CROSS, MJxFL 8" GATE VALVE, FLxFL VALVE BOX & COVER COP STD DET 3-15P DEBRIS CAP, MAG STD DET 392 8"x6" REDUCER, FLxMJ MAINTAIN 4' DEPTH OF COVER	1 EA
8	12" GATE VALVE, MJXMJ VALVE BOX & COVER COP STD DET 3-15P	2 EA
17	WATER MAIN SWING CONNECTION DET 3, DWG W11	3 EA
21	8" GATE VALVE, FLXMJ VALVE BOX & COVER COP STD DET 3-15P	2 EA

REFERENCE NOTES

3. NEW WATER MAIN REFER TO DWG W8
8. ADOT SR 89 IMPROVEMENTS, REFER TO PROJECT NO 089 YV 320 H8039 01 C

0' 10' 20' 40'
SCALE: 1"=20'

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REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 88+00 TO STA 89+00

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 20' HORIZONTAL 1" = 2' VERTICAL			W9	63 OF 118

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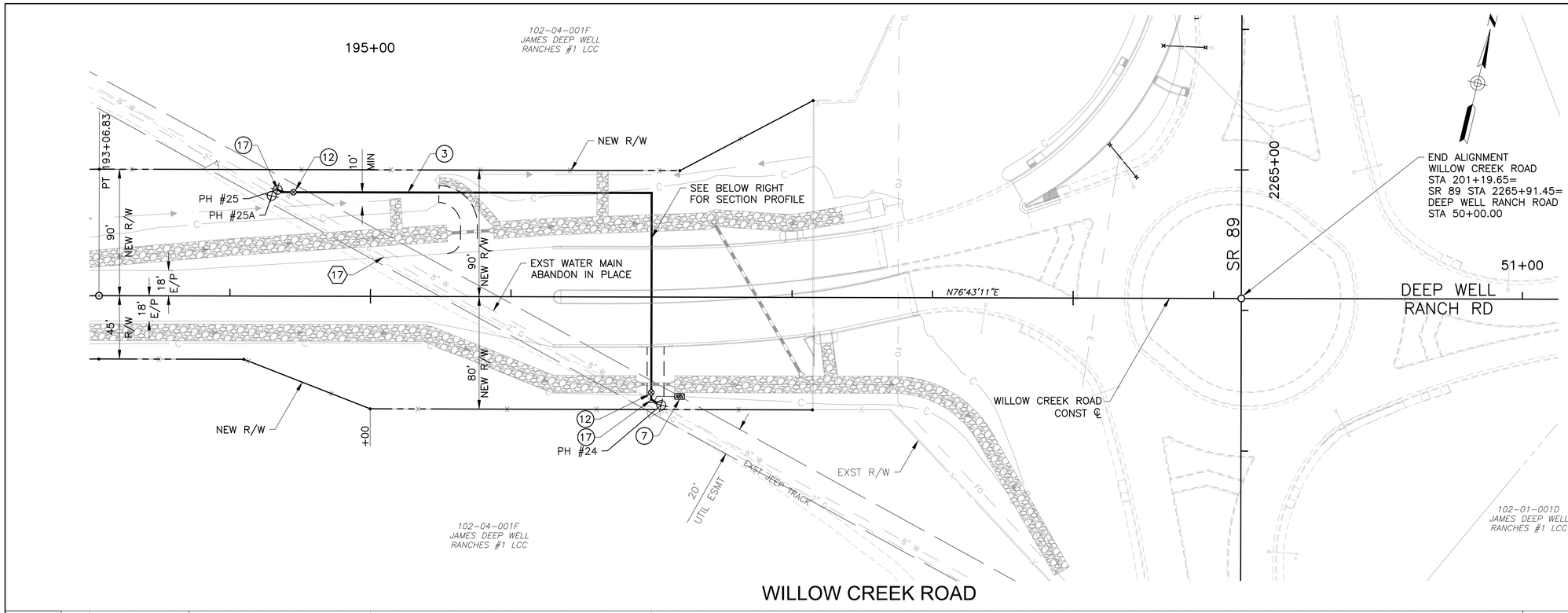

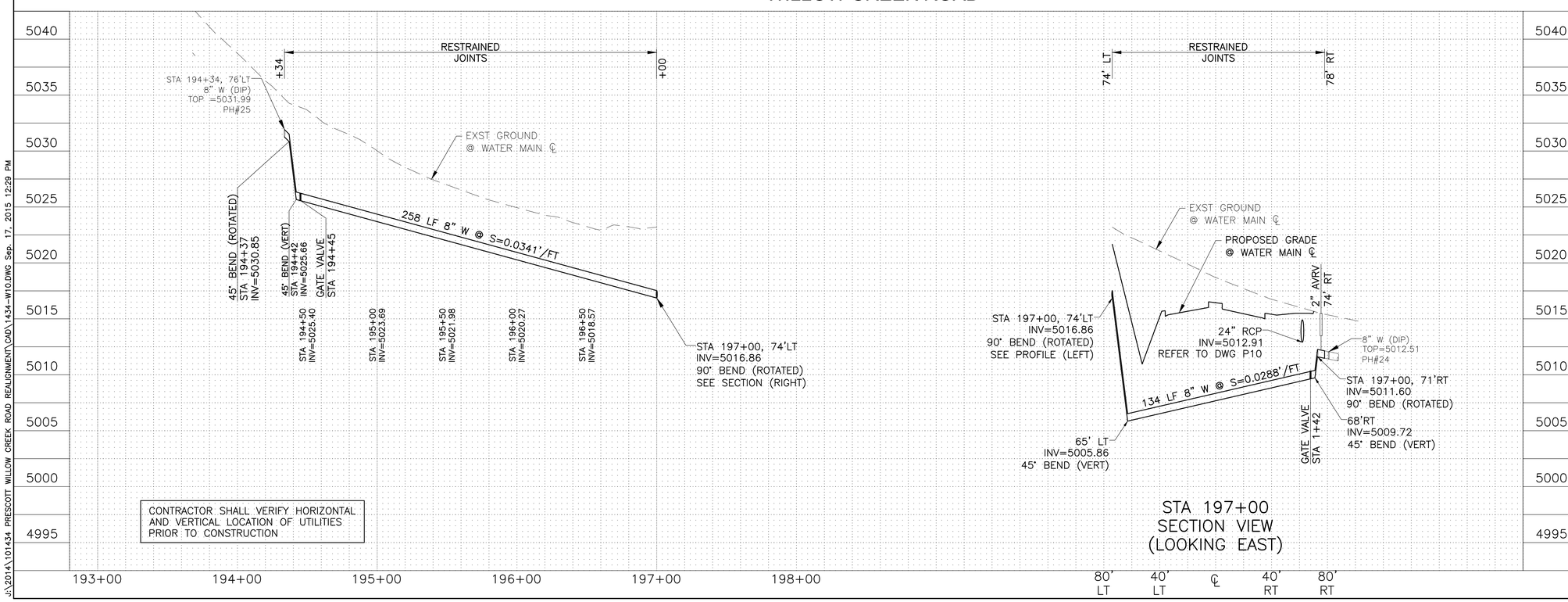

STA 197+00
SECTION VIEW
(LOOKING EAST)

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

41956
EZRA M. PAGE
Date Signed 9/17/15
ARIZONA U.S.A.
Expires 03/31/17

REMOVAL NOTES

CONSTRUCTION NOTES

(3)	STA 194+34 TO STA 197+00 8" WATER MAIN (DIP CL 350) (RESTRAINED)	418 LF
(7)	STA 197+21, 69' RT 2" AIR RELEASE VALVE COP STD DET 3-17P W/ CARSONITE MARKER POST CRM3-66-08 OR EQUAL	1 EA
(12)	8" GATE VALVE, MJxMJ VALVE BOX & COVER COP STD DET 3-15P	2 EA
(17)	WATER MAIN SWING CONNECTION DET 3, DWG W11	2 EA

REFERENCE NOTES

(17) 2" GAS RELOCATION TO BE COMPLETED BY OTHERS

0' 20' 40' 80'
SCALE: 1"=40'

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ARIZONA 811
Arizona Blue Stake, Inc.
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In Maricopa County: (602) 263-1100

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PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
WATER PLAN & PROFILE
STA 194+28 TO STA 197+16

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL 1" = 5' VERTICAL			W10	64 OF 118

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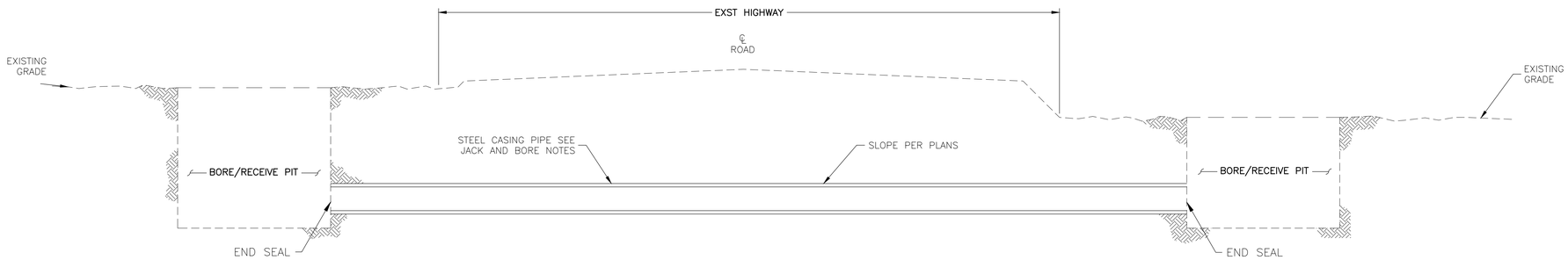
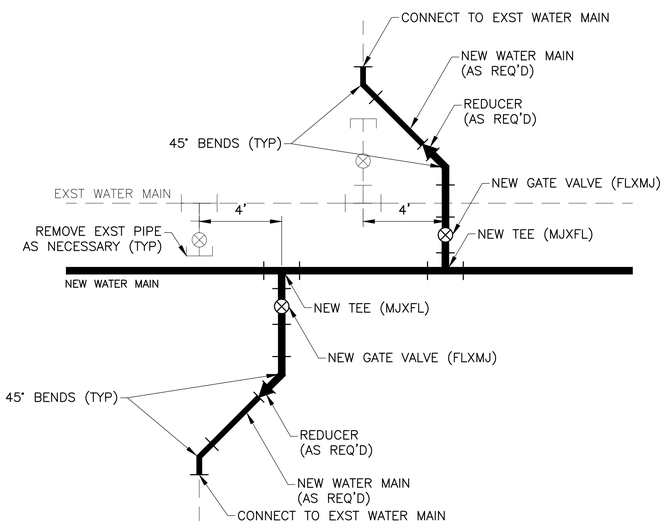


JACK & BORE NOTES

1. JACK AND BORE SHALL BE PER SPECIAL PROVISIONS SECTION 602.1, MODIFIED AS NOTED BELOW:
   A. ADVANCE CASING SPACER OR APPROVED EQUIVALENT.
   B. TWO BLOCK ANGLES VARY TO MAINTAIN REQUIRED CLEARANCES AND PROPER INSTALLATION.
   C. RESTRAIN ALL CARRIER PIPE JOINTS WITH FLEXIBLE JOINT RESTRAINT OPTIONS (AMERICAN FLEX-RING JOINT OR AN EQUIVALENT) OR MECHANICAL JOINT RESTRAINT (MEGA LUGS OR AN EQUIVALENT).
   D. END SEAL SHALL BE A MANUFACTURED NEOPRENE END SEAL DESIGNED TO THE ACTUAL DIMENSIONS OF CASING PIPE AND CARRIER PIPE USED. SEAL SHALL PROVIDE A WATER TIGHT CONNECTION AND SHALL BE APPROVED BY ENGINEER PRIOR TO ORDERING. ALL END SEALS SHALL INCLUDE A BRICK PLUG CONSTRUCTED PER MAG STANDARD DETAIL 427.
2. CASING SPACERS SHALL BE MANUFACTURED STAINLESS STEEL SPACERS WITH POLYETHYLENE FRICTION SURFACES, AS MANUFACTURED BY ADVANCED PRODUCTS AND SYSTEMS, INC. OR CASCADE WATERWORKS MFG., OR APPROVED EQUIVALENT. A MINIMUM OF THREE (3) SPACERS SHALL BE PLACED PER PIPE LENGTH.

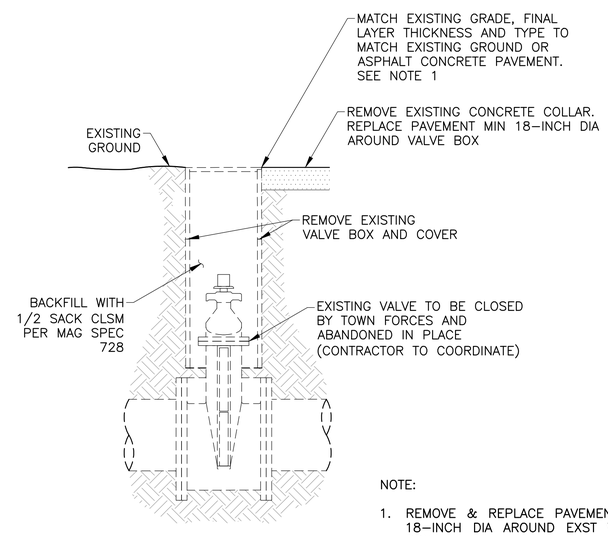
1 JACK/BORE CROSSING
NTS



NOTES:

1. THE CONTRACTOR SHALL MAKE "SWING CONNECTIONS" TO EXISTING WATER MAINS AS INDICATED ON THE APPROVED PLANS, AFTER THE NEW WATER MAINS ARE ACCEPTED FOR SERVICE AND ALL EXISTING SERVICES HAVE BEEN CONNECTED TO NEW WATER MAIN.
2. "SWING CONNECTIONS" SHALL INCLUDE ALL PIPING AND APPURTENANCES (OFFSETS, BENDS, PIPE PLUGS, REDUCERS, TEMPORARY BLOW-OFF, ETC.) AND PIPING REMOVALS REQUIRED TO EFFECT THE CONNECTION OF THE NEW WATER MAIN TO THE EXISTING WATER MAIN.
3. EXISTING VALVES SHALL BE ABANDONED IN PLACE PER DETAIL 3, THIS DRAWING.
4. WATER MAINS SHALL BE DISINFECTED IN ACCORDANCE WITH SECTION 610.15 OF THE TECHNICAL SPECIFICATIONS.
5. UPON ACCEPTANCE OF WATER MAIN, FINAL CONNECTIONS FROM THE TEMPORARY PIPE PLUG TO THE EXISTING WATER MAIN SHALL BE CLEANED AND SWABBED, AS NECESSARY, WITH A 0.005 TO 0.10 PERCENT CHLORINE SOLUTION.
6. SHOP DRAWING SUBMITTAL REQUIRED ON ALL COMPONENTS.
7. CONTRACTOR SHALL VERIFY EXST PIPE MATERIAL AND MAKE APPROPRIATE RESTRAINED TRANSITION COUPLING.
8. "SWING CONNECTIONS" SHALL BE MADE AT 4-FOOT OFFSET FROM EXISTING PIPE, UNLESS OTHERWISE NOTED.
9. EXISTING VALVES SHALL BE CLOSED AND ABANDONED PER DETAIL 3, THIS DRAWING.

2 SWING CONNECTION
NTS



NOTE:

1. REMOVE & REPLACE PAVEMENT TO 18-INCH DIA AROUND EXST VALVE BOX.

3 VALVE ABANDONMENT
NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

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CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WATER DETAILS

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: _	HORIZONTAL _ VERTICAL		W11	65 OF 118

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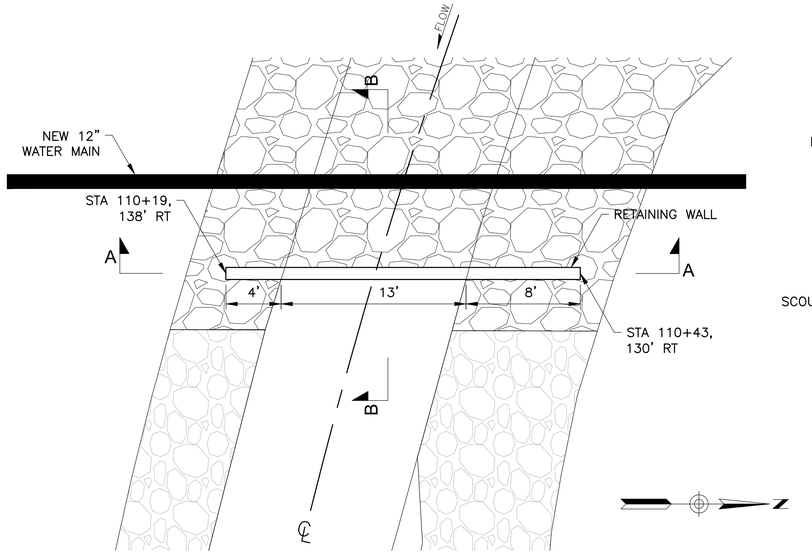
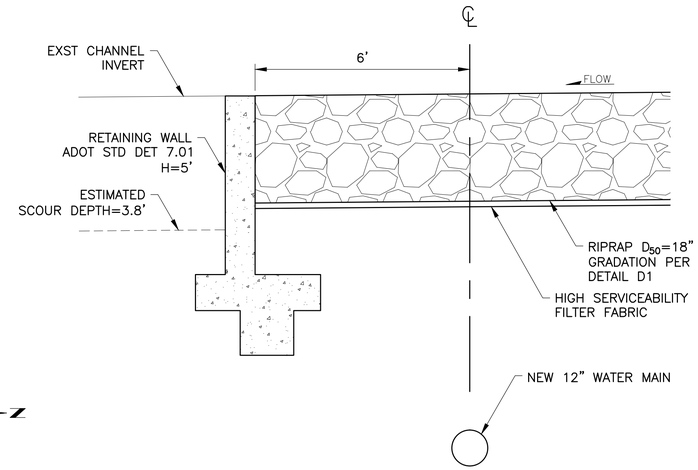
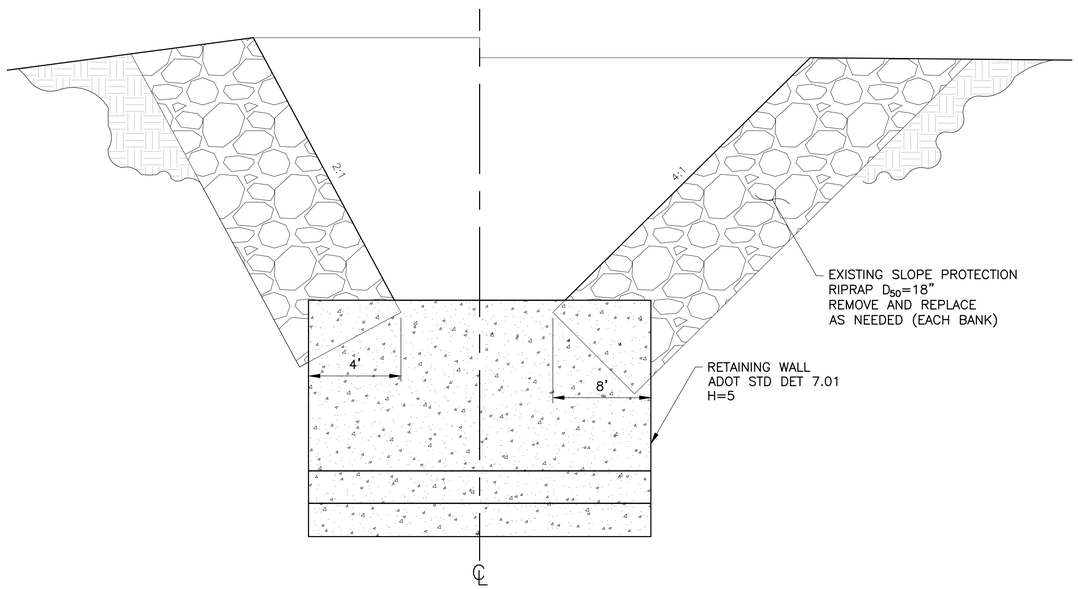


PLAN
1"=5'

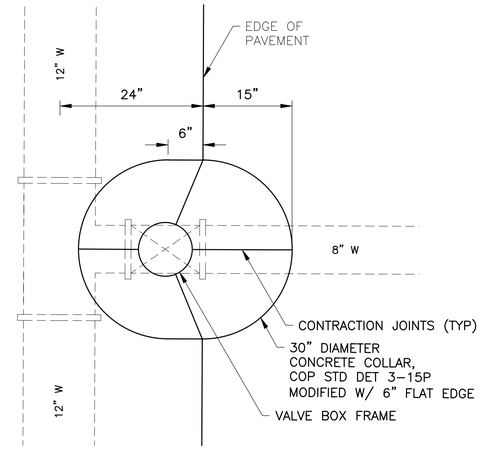


SECTION B–B
1"=2'

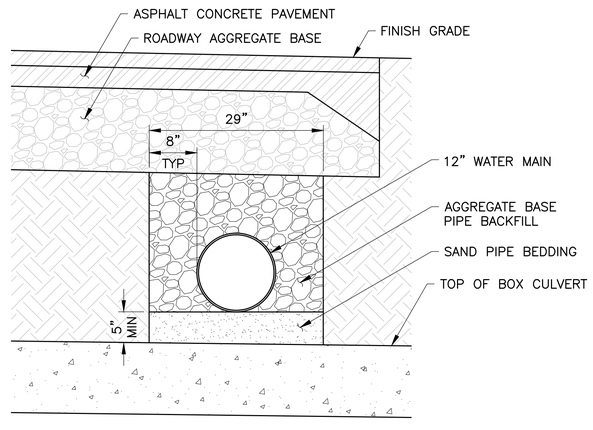


SECTION A–A

4 SCOUR PROTECTION
1"=5'



5 MODIFIED CONCRETE COLLAR
1"=1'



6 BOX CULVERT SEPARATION
1"=1'

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 41956 EZRA M. PAGE Date Signed 9/17/15 ARIZONA U.S.A. Expires 03/31/17

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

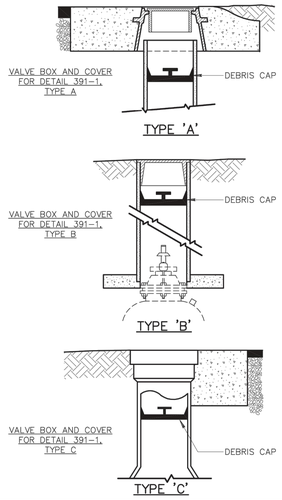
PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WATER DETAILS

DRN: DBB	DES: JWL	CK: EMP	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		W12	66 OF 118

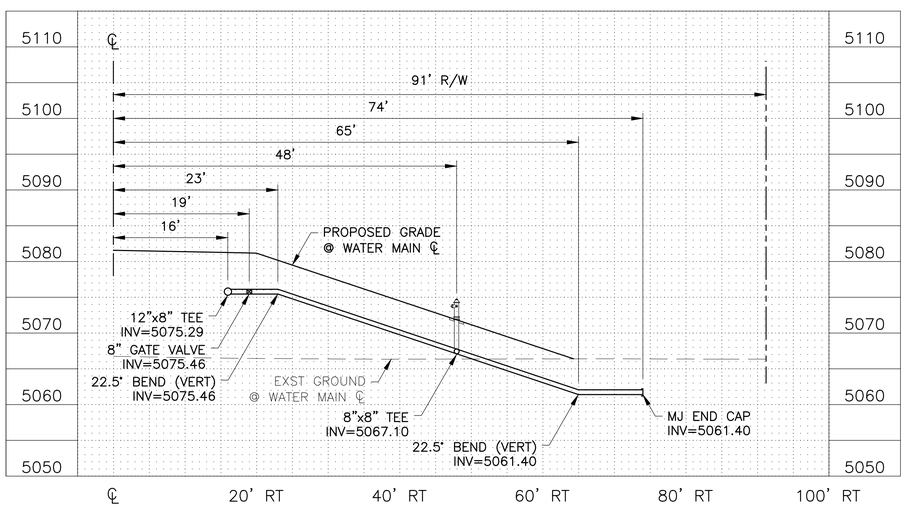
J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434–W11.DWG Sep. 17, 2015 12:31 PM



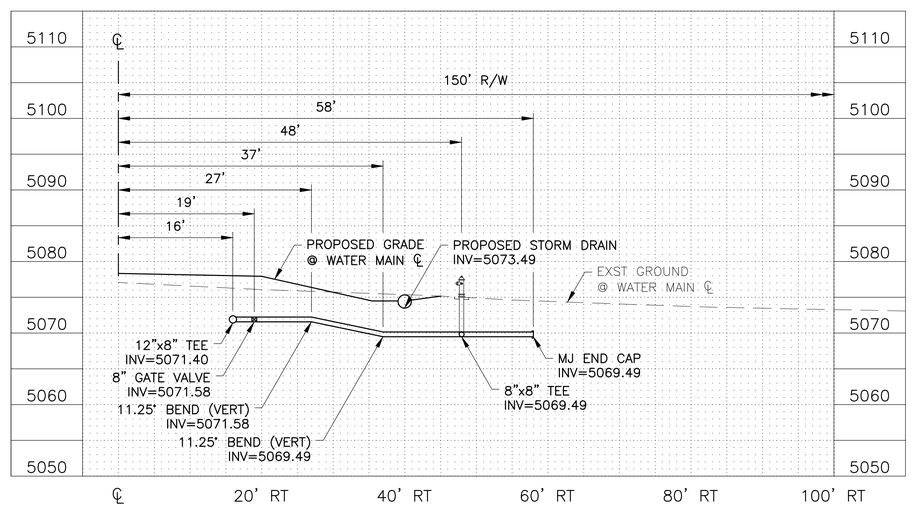
NOTES:

1. THE DEBRIS CAP SHALL BE DESIGNED AND INSTALLED TO PREVENT DEBRIS SUCH AS DIRT, DUST SAND, ETC., FROM PASSING AROUND THE CAP AND DOWN INTO THE VALVE HOUSING. THE CAP SHALL BE HELD IN PLACE BY A MECHANISM WHICH WILL NOT DAMAGE THE VALVE HOUSING.
2. THE CAP SHALL BE MANUFACTURED OF CORROSIVE RESISTANT MATERIALS.
3. DEBRIS CAP SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATION.
4. THE CAP SHALL BE CAPABLE OF SECURELY HOLDING A STANDARD LOCATING COIL, "SCOTCH MARK" 4 DISK MARKER BY 3M OR EQUAL.
5. THE CAP SHALL BE CONSTRUCTED TO ALLOW THE DEVICE TO BE SECURED BY A LOCK. THE LOCK (PAD, BARREL, ETC.) SHALL BE SUPPLIED BY THE AGENCY.
6. THE CAP SHALL BE INSTALLED IN ALL VALVE HOUSINGS AS REQUIRED BY THE CONTRACT DOCUMENTS OR BY THE AGENCY'S POLICIES.

DETAIL NO.			REVISED	DETAIL NO.
392	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	DEBRIS CAP INSTALLATION	01-01-2015	392



7 8" WATER MAIN PROFILE – STA 137+00
1"=10' V&H



7 8" WATER MAIN PROFILE – STA 147+59
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J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-W11.DWG Sep. 17, 2015 12:31 PM

CITY OF PRESCOTT SIGNING & PAVEMENT MARKING NOTES

1. THE CONTRACTOR SHALL SPOT LAYOUT THE ENTIRE PROJECT AND CONTACT THE CITY INSPECTOR TO MAKE ARRANGEMENTS FOR INSPECTION PRIOR TO INSTALLING TRAFFIC SIGNS OR PAVEMENT MARKINGS. ANY SIGNING OR STRIPING INSTALLED BEFORE LAYOUT APPROVAL SHALL BE SUBJECT TO REMOVAL AND REINSTALLATION AT THE CONTRACTOR'S EXPENSE.
2. TRAFFIC SIGN DIMENSIONS, COLORS, AND LETTERING SHALL CONFORM TO THE LATEST MUTCD SPECIFICATIONS. TRAFFIC SIGN SIZE SHALL BE STANDARD UNLESS OTHERWISE SPECIFIED ON THE PLANS.
3. SIGN LOCATION SHALL BE COORDINATED WITH LANDSCAPING PLANS TO ENSURE SIGN VISIBILITY PER AASHTO STANDARDS.
4. ALL R1–1 "STOP" SIGNS AND PEDESTRIAN WARNING SIGNS SHALL BE RETRO–REFLECTIVE WITH SHEETING MATERIAL TO BE DIAMOND VIP GRADE, MEETING OR EXCEEDING ASTM 4956–04.
5. ALL OTHER SIGNS ARE TO BE RETRO–REFLECTIVE WITH SHEETING MATERIAL TO BE HIGH INTENSITY PRISMATIC MEETING OR EXCEEDING ASTM 4956–04.
6. THE SIGN PANEL SHALL BE FLAT SHEET ALUMINUM WITH DIRECT–APPLIED, DIGITALLY–IMAGED, ELECTRONIC–CUT OR SCREEN PRINTED CHARACTERS. SIGN BLANKS SHALL BE FABRICATED FROM 0.125–INCH THICK 5052–H36, OR 5052–H38 ALUMINUM ALLOY CONFORMING TO THE REQUIREMENTS OF ASTM B 209.
7. SIGNS SHALL BE MOUNTED ON STREET LIGHT POLES WHENEVER FEASIBLE.
8. STRIPING SHALL CONFORM TO THE MOST RECENT EDITION OF THE MUTCD WITH REGARD TO SIZE, COLOR, REFLECTIVITY AND PLACEMENT UNLESS OTHERWISE SPECIFIED ON THE PLANS.
9. ALL THERMOPLASTIC APPLICATIONS SHALL CONFORM TO ADOT SPECIFICATION 704. TRANSVERSE MARKINGS, SYMBOLS AND LEGENDS SHALL BE 90 MIL (0.090 INCH) THICK, LONGITUDINAL MARKINGS SHALL BE 60 MIL (0.060 INCH) THICK ALKYD EXTRUDED THERMOPLASTIC.
10. ALL PAINT APPLICATION SHALL CONFORM TO ADOT SPECIFICATION 708.
11. ALL CONFLICTING STRIPING, PAVEMENT MARKINGS, AND CURB PAINT SHALL BE REMOVED BY WET SANDBLASTING OR OTHER APPROVED METHOD PRIOR TO THE INSTALLATION OF NEW STRIPING. SLURRY OR PAINT SHALL NOT BE USED TO COVER EXISTING PAINT. PAVEMENT THAT IS DAMAGED DUE TO THE REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER OR HIS DESIGNEE.

APPROXIMATE PAVEMENT MARKING QUANTITIES

ITEM		UNIT	QUANTITY
STANDARD REFLECTORIZED TRAFFIC PAINT	4" WHITE	LF	24470
	4" YELLOW	LF	14360
	PAVEMENT ARROW	EA	17
	"ONLY" LEGEND	EA	6
	PAINT BULL NOSE	EA	3
WHITE 90 MIL ALKYD EXTRUDED THERMOPLASTIC PAVEMENT MARKING	4" WHITE	LF	26830
	4" YELLOW	LF	16530
	PAVEMENT ARROW	EA	17
	"ONLY" LEGEND	EA	6
RAISED PAVEMENT MARKERS	TYPE D	EA	4
	TYPE G	EA	6

ADOT PAVEMENT MARKING NOTES:

1. FINAL STRIPING SHALL BE 90 MIL (0.090 INCHES) THICK ALKYD EXTRUDED THERMOPLASTIC REFLECTORIZED STRIPING PLACED OVER THE EXISTING STRIPING, PLACED AT A MINIMUM OF 30 CALENDAR DAYS AFTER THE INITIAL STRIPING. ALL OTHER MARKINGS SHALL BE APPLIED AT THE SAME TIME.
2. AT THE COMPLETION OF THE FINAL PAVEMENT SURFACE EACH DAY, CENTER LINES, LANE LINES, EDGE LINES AND STOP BARS SHALL BE STRIPED WITH ONE APPLICATION OF STANDARD REFLECTORIZED TRAFFIC PAINT AT THE LOCATIONS OF THE PERMANENT STRIPING. THE PAINT SHALL HAVE A MAXIMUM THICKNESS OF 15 MILS WET (5 MILS DRY).
3. ALL REFLECTIVE RAISED/RECESSED PAVEMENT MARKERS SHALL HAVE AN ABRASION–RESISTANT COATING ON THE FACE OF THE PRISMATIC REFLECTORS AND SHALL CONFORM TO DETAILS M–18 OR M–19 OF THE ADOT STANDARD DRAWINGS. THEY SHALL BE INSTALLED WITH A BITUMINOUS ADHESIVE WHICH IS ON THE ADOT APPROVED PRODUCTS LIST.
4. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE ENGINEER, BY SWEEPING AND AIR–JET BLOWING, IMMEDIATELY PRIOR TO THE PLACEMENT OF ALL PAVEMENT MARKINGS. THE ROADWAY SURFACE SHALL BE DRY AND THE AIR AND PAVEMENT TEMPERATURES SHALL BE A MINIMUM OF 55 DEGREE F AND RISING FOR THE PLACEMENT OF THERMOPLASTIC STRIPING. THE ROADWAY SURFACE SHALL BE DRY AND THE AIR AND PAVEMENT TEMPERATURES SHALL NOT BE LESS THAN 60 DEGREES F FOR THE INSTALLATION OF TYPE I, II, OR III PAVEMENT MARKING TAPE. TYPE I TAPE SHALL NOT BE INSTALLED IF RAIN IS ANTICIPATED 48 HOURS PRIOR TO OR AFTER INTENDED INSTALLATION DATE.
5. SINGLE ARROW, FREEWAY ARROWS, AND "ONLY" LEGENDS SHALL BE INSTALLED IN ACCORDANCE WITH ADOT STANDARD DRAWINGS.
6. ALL FINAL STOP BARS, CROSSWALK LINES, AND PAVEMENT ARROWS SHALL BE 90 MIL (0.090 INCH) THICK, EXTRUDED THERMOPLASTIC REFLECTORIZED MARKINGS. ALL "ONLY" LEGENDS SHALL BE WHITE TYPE I PREFORMED MARKING TAPE.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE STRIPING IS OFFSET ONE FOOT CLEAR OF ANY CONSTRUCTION JOINT, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. AT THE COMPLETION OF THE FINAL PAVEMENT SURFACE EACH DAY, CENTER LINES, LANE LINES, EDGE LINES AND STOP BARS SHALL BE STRIPED WITH ONE APPLICATION OF STANDARD REFLECTORIZED TRAFFIC PAINT AT THE LOCATIONS OF THE PERMANENT STRIPING. THE PAINT SHALL HAVE A MAXIMUM THICKNESS OF 15 MILS WET (5 MILS DRY).
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS ON THE FINAL SURFACE COURSE FOLLOWING CONTROL POINTS THAT HAVE BEEN SET NO MORE THAN 50 FEET APART ALONG THE LINES TO BE STRIPED.
10. THE CONTRACTOR SHALL BREAK THE CENTER LINES AND EDGE LINES ADJACENT TO TURNOUTS ACROSS ANY INTERSECTIONS WITH DEDICATED ROADWAYS OR AS OTHERWISE DIRECTED BY THE ENGINEER. IN ADDITION, THE CONTRACTOR SHALL NOT PLACE ANY CENTER LINES WITHIN 10 FEET OF THE NEAREST EDGE OF PAVEMENT OF THE INTERSECTING ROADWAY.
11. WHEN STRIPE OBLITERATION IS NECESSARY, IT SHALL BE ACCOMPLISHED BY AN APPROVED METHOD. PAINTING OVER STRIPING, REMOVAL OF PAVEMENT, AND OVERLAYING PAVEMENT DO NOT CONSTITUTE STRIPE OBLITERATION.
12. THE CONTRACTOR SHALL PRESERVE ALL ROADWAY SIGNS, SIGN SUPPORTS, OBJECT MARKERS, AND MILEPOST MARKERS. THE CONTRACTOR SHALL REPLACE ANY SIGNS, SIGN SUPPORTS OR MARKERS DAMAGED AS A RESULT OF THE CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.
13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DEVELOP AN "AS–BUILT" PLAN OF THE EXISTING STRIPING AND HAVE THE PLAN APPROVED BY THE ENGINEER BEFORE ANY CONSTRUCTION ACTIVITIES. THE CENTER LINE STRIPING LOG IS FROM ADOT OFFICE RECORDS WHICH NEEDS TO BE FIELD VERIFIED. LAYOUT OF TRAFFIC MARKINGS WILL BE PART OF THE WORK INCLUDED IN ITEM 9250001–CONSTRUCTION SURVEYING AND LAYOUT.
14. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS AND DETAILS WHEN INSTALLING PAVEMENT MARKINGS.

ADOT SIGNING NOTES:

1. ALL SIGNS SHALL BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD SIGNING AND MARKING STANDARD DRAWINGS, AND THE ADOT TRAFFIC ENGINEERING MANUAL OF APPROVED SIGNS.
2. THE SIGN LOCATIONS AND THE POST LENGTHS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE SIGN LOCATIONS AND ACTUAL POST LENGTHS WITH THE ENGINEER PRIOR TO INSTALLING SIGNS.
3. THE BOTTOM OF EACH SIGN SHALL BE AT LEAST 7 FEET ABOVE THE NEAREST EDGE OF PAVEMENT AND AT LEAST 7 FEET ABOVE THE GROUND UNDER THE SIGN.
4. OFFSETS FOR ALL SIGNS SHALL BE MEASURED FROM THE EDGE OF THE ROADWAY TO THE NEAREST EDGE OF THE SIGN.
5. ALL NEW SIGNS SHALL BE FABRICATED OF FLAT SHEET ALUMINUM AND EXTRUDED ALUMINUM AS INDICATED IN SECTION 608.
6. THE RETROREFLECTIVE SHEETING ON ALL NEW SIGNS SHALL MEET ADOT STANDARD SPECIFICATIONS.
7. THE RETROREFLECTIVE SHEETING ON ALL NEW SIGNS SHALL MEET CRITERIA ESTABLISHED IN SECTION 1007 OF THE STANDARD SPECIFICATIONS AND IN SECTION 380 OF ADOT'S TRAFFIC GUIDELINES AND PROCESSES.
8. ALL NEW SIGNS SHALL BE INSTALLED ON NEW SQUARE TUBE POSTS WITH FOUNDATIONS AS INDICATED IN ADOT STANDARD DRAWINGS.
9. THE ENGINEER MAY MODIFY THE SIGNING PLANS.
10. SHOP DRAWINGS WILL BE REQUIRED.
11. THE CONTRACTOR SHALL REMOVE EXISTING SIGNING WHERE INDICATED IN THE SIGN SUMMARY.
12. THE CONTRACTOR SHALL INVENTORY ALL SIGNS TO BE REMOVED OR COVERED AND NOTE DAMAGED SIGNS TO THE ENGINEER AT THE TIME OF COVERING OR REMOVAL. ALL SIGNS DAMAGED BY COVERING OR REMOVAL SHALL BE REPLACED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING NOTES AND QUANTITIES

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL / – VERTICAL			M1	68 OF 118

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PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M12	NB 96+49	W9-101L					X					THRU TRAFFIC MERGE LEFT						350.10									
M12	NB 98+99	R3-7R					X					RIGHT LANE MUST TURN RIGHT						350.10									
M12	NB 100+30	R4-7						X				Keep Right Symbol						–									
	+	OM1-2						X				(Object Marker)						–									
M12	NB 100+49	WC-1						X				PIONEER PARKWAY ← WILLIAMSON VALLEY RD 4 MI HIGHWAY 89 → 1 MI						–									
M12	NB 103+06	W13-3(25)						X				RAMP 25 M.P.H.						–									
M13	NB 105+56	R3-5R					X					Right Turn Arrow ONLY						350.10									
M13	NB 108+93	W4-2R	X								YL	Right Lane Transition Symbol	36	36	9	RWM	XI	403.1C		**							MOUNT ON SIGNAL MAST ARM
M13	NB 109+50	W4-2R	X						6	7	YL	Right Lane Transition Symbol	36	36	9	RWM	XI	403.1C	1	**	11						MOUNT BEHIND GUARDRAIL
M13	NB 110+81	W4-2R					X					Right Lane Transition Symbol						350.10									
	+	W16-9P(MOD)					X					MERGE						350.10									
M13	NB 111+00	R2-1(40)	X						6	7	WH	SPEED LIMIT 40	30	36	7.5	RWM	XI	403.1C	1	**	11						MOUNT BEHIND GUARDRAIL
M13	NB 118+35	R11-2	X						12	7	WH	ROAD CLOSED	48	30	10	RWM	XI	403.1C	–	–	–	–	–	–			MOUNT ON MAG TYPE A BARRICADE
M13	NB 122+00	R4-2	X						12	7	WH	PASS WITH CARE	24	30	5	RWM	XI	403.1C	1	**	12						
M15	NB 148+45	R1-1	X						12	7	RD	STOP	30	30	6.25	RWM	XI	403.1C	1	**	13						
	+	GUIDE (WC-4)	X								GR	James Ln	42	9	2.625	F-DA	IX	403.1E									MOUNT ABOVE R1-1
	–	GUIDE (WC-5)	X								GR	James Ln	42	9	2.625	F-DA	IX	403.1E									MOUNT BK TO BK WITH SIGN ABOVE
	+	GUIDE (WC-6)	X								GR	Willow Creek Rd	66	9	4.125	F-DA	IX	403.1E					P	9			MOUNT ABOVE R1-1
	–	GUIDE (WC-7)	X								GR	Willow Creek Rd	66	9	4.125	F-DA	IX	403.1E					P	9			MOUNT BK TO BK WITH SIGN ABOVE
M15	NB 150+00	R2-1(40)	X						12	7	WH	SPEED LIMIT 40	24	30	5	RWM	XI	403.1C	1	**	12						
M16	NB 176+00	W3-5aAZ	X						12	7	YL	SPEED REDUCED AHEAD	36	36	9	RWM	XI	403.1C	1	**	12						

NOTES:

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EXT: ALUMINUM EXTRUSIONS

STRINGER TYPES:

P: SQUARE-TUBE POST

T: T-SECTION (WT 3X6)

ADOT POST TYPES:

S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

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CITY OF PRESCOTT

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WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

NORTHBOUND WILLOW CREEK
SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		M2	69 OF 118

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PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M16	NB 181+50	R2-1(25)	X						12	7	WH	SPEED LIMIT 25	24	30	5	RWM	XI	403.1C	1	**	12						
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	+	W13-1P(25)	X								YL	25 M.P.H.	18	18	2.25	RWM	XI	403.1C									
M17	NB 186+95	W1-1aR	X						12	7	YL	Right Turn Symbol - 25 M.P.H.	30	30	6.25	RWM	XI	403.1C	1	**	12						
M17	NB 193+00	W2-6	X						12	7	YL	Roundabout (Symbol)	30	30	6.25	RWM	XI	403.1C	1	**	13						
	+	W13-1(20)	X								YL	20 M.P.H.	18	18	2.25	RWM	XI	403.1C									
M18	NB 196+37	R4-7	X						12	7	WH	Keep Right Symbol	24	30	5	RWM	XI	403.1C	1	**	13						
	+	OM1-2	X								YL	(Object Marker)	18	18	2.25		IX	403.1C									
M18	NB 196+50	GUIDE (WC-8)	X						12	7	GR	(AIRPORT SYM) DEEP WELL RANCH RD NORTH (RDBT SYMBOL) SOUTH 89 89	156	84	91	Ext	IX	403.1E	2	W 6x12	34						
M18	NB 197+50	R3-8LX	X						12	7	WH	Lt Turn Arrow ONLY-Lt/Thru/Rt Turn Arrows	48	36	12	RWM	XI	403.1C	2	2 1/2S	25	2					
M20	-	R2-1(45)					X					SPEED LIMIT 45						350.10									
M20	-	W3-3					X					REMOVE SIGN AND BEACON SIGNAL						350.10									

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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SCALE: -	HORIZONTAL VERTICAL		M3	70 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M3.DWG Sep. 17, 2015 12:32 PM

PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M18	SB 59+00	GUIDE (WC–9)	X						12	7	GR	Willow Creek Rd Use Deep Well Ranch Rd	120	36	30	Ext	IX	403.1E	2	W 6x12	33						
	+	D9–2	X								BL	Hospital	24	24	4	F–DA	IX	403.1D									
	+	M6–3	X								BL	Straight Arrow	24	18	3	RWM	IX	403.1C									
M18	SB 55+15	GUIDE (DW22)						X				DEEP WELL RANCH RD SOUTH (RDBT SYMBOL) NORTH 89 89						–									REMOVE "CLOSED" PLACARD
M18	SB 52+74	R3–8LX	X						12	7	WH	Lt Turn Arrow ONLY–Lt/Thru/Rt Turn Arrows	48	36	12	RWM	XI	403.1C	2	2 1/2S	25	2					
M18	SB 51+58	W11–2						X				Pedestrian Crossing Symbol						–									
	+	W16–7PLAZ						X				Diagonal Arrow						–									
M18	SB 198+82	W4–2R	X						12	7	YL	Right Lane Transition Symbol	36	36	9	RWM	XI	403.1C	1	2 1/2T	12	1					
M18	SB 198+75	W4–2R	X						12	7	YL	Right Lane Transition Symbol	36	36	9	RWM	XI	403.1C	1	2 1/2T	12	1					
M18	SB 196+75	R2–1(25)	X						12	7	WH	SPEED LIMIT 25	24	30	5	RWM	XI	403.1C	1	**	12						
M18	SB 195+50	R4–1	X						12	7	WH	DO NOT PASS	24	30	5	RWM	XI	403.1C	1	**	12						
M17	SB 194+00	W1–1L	X						12	7	YL	Left Turn Symbol	30	30	6.25	RWM	XI	403.1C	1	**	13						
	+	W13–1P(25)	X								YL	25 M.P.H.	18	18	2.25	RWM	XI	403.1C									
M17	SB 192+60	W1–1aL	X						12	7	YL	Left Turn Symbol – 25 M.P.H.	30	30	6.25	RWM	XI	403.1C	1	**	12						
M17	SB 192+55	W1–8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 191+80	W1–8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 191+75	W1–8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 191+00	W1–8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 190+95	W1–8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 190+70	W1–6L	X						12	7	YL	Left Arrow	36	18	4.5	RWM	XI	403.1C	1	**	11						

NOTES:

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SHEETING TYPES:

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REGULATORY, WARNING, AND OVERHEAD GUIDE SIGNS ARE SHEETING TYPE XI.

PANEL TYPES:

RWM: REGULATORY, WARNING, OR MARKER

F–DA: FLAT–SHEET ALUMINUM WITH DIRECT APPLIED OR SILK–SCREENED CHARACTERS

F–DEM: FLAT–SHEET ALUMINUM WITH DEMOUNTABLE CHARACTERS

EXT: ALUMINUM EXTRUSIONS

STRINGER TYPES:

P: SQUARE–TUBE POST

T: T–SECTION (WT 3X6)

ADOT POST TYPES:

S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (253-5348) In Maricopa County: (602) 263-1100

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND WILLOW CREEK SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M4	71 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434–M4.DWG Sep. 17, 2015 12:32 PM

PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M17	SB 190+20	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 190+15	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 189+40	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 189+35	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 189+00	W1-6R	X						12	7	YL	Right Arrow	36	18	4.5	RWM	XI	403.1C	1	**	11						
M17	SB 188+60	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 188+55	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 187+80	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 187+75	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 187+00	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M17	SB 186+95	W1-8	X						12	5	YL	Chevron	18	24	3	RWM	XI	403.1C	1	**	9.1						
M16	SB 184+50	R2-1(40)	X						12	7	WH	SPEED LIMIT 40	24	30	5	RWM	XI	403.1C	1	**	12						
M16	SB 183+00	W14-3	X						12	7	YL	NO PASSING ZONE	48	36	6	RWM	XI	403.1C	2	**	25						
M16	SB 180+00	R4-2	X						12	7	WH	PASS WITH CARE	24	30	5	RWM	XI	403.1C	1	**	12						
M15	SB 147+57	R1-1	X						12	7	RD	STOP	30	30	6.25	RWM	XI	403.1C	1	**	12						
M15	SB 146+00	R2-1(40)	X						12	7	WH	SPEED LIMIT 40	24	30	5	RWM	XI	403.1C	1	**	12						
M13	SB 122+00	W3-3	X						12	7	YL	Signal Ahead Symbol	36	36	9	RWM	XI	403.1C	1	**	12						
M13	SB 120+23	GUIDE (WC-3)					X					PIONEER PARKWAY WILLIAMSON VALLEY RD → 4 MI ← HIGHWAY 89 1 MI						403.1N									REMOVE AND RELOCATE TO STATION 120+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

NOTES:

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STRINGER TYPES:

P: SQUARE-TUBE POST

T: T-SECTION (WT 3X6)

ADOT POST TYPES:

S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

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△	REVISION	BY	DATE

CITY of PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND WILLOW CREEK
SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M5	72 OF 118

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PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M13	SB 120+00	GUIDE (WC-2)		X					12	7	GR	PIONEER PARKWAY WILLIAMSON VALLEY RD → 4 MI ← HIGHWAY 89 1 MI	126	42	36.75	Ext		–	2	**	27						RELOCATED FROM STA 120+23. INSTALL ON NEW POSTS.
M13	SB 116+83	R3-8c					X					Lt Turn Sym ONLY-Thru Sym ONLY-Thru/Rt Turn Sym						350.10									
M13	SB 119+00	W14-3	X						12	7	YL	NO PASSING ZONE	48	36	6	RWM	XI	403.1C	2	**	25						
M13	SB 110+00	R3-5FP	X						6	7	WH	RIGHT LANE	30	12	2.5	RWM	XI	403.1C	1	**	12						MOUNT BEHIND GUARDRAIL
	+	R3-5R	X								WH	Right Turn Arrow ONLY	30	36	7.5	RWM	XI	403.1C									
M13	SB 105+50	R2-1(45)	X						12	7	WH	SPEED LIMIT 45	30	36	7.5	RWM	XI	403.1C	1	**	12						
M20	–	R2-1(45)					X					SPEED LIMIT 45						350.10									
M20	–	D9-2					X					Hospital						350.10									
	+	M6-1					X					Straight Arrow						350.10									
M20	–	W3-3					X					Signal Ahead Symbol						350.10									

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND WILLOW CREEK
SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL VERTICAL		M6	73 OF 118

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PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
	NB																										
M21	2276+00	GUIDE (SR89-5)	X						12	7	GR	Willow Creek Rd Use Deep Well Ranch Rd NEXT LEFT	120	48	40	Ext	IX	403.1E	2	W 6x12	26						
M21	2272+63	GUIDE (N320.55)						X				NORTH 89 Deep Well(RDBT SYMBOL)Deep Well Ranch Rd Ranch Rd						350.10									REMOVE "CLOSED" PLACARD
M18	2267+47	W11-2						X				Pedestrian Crossing Symbol						–									
	+	W16-7pLAZ						X				Diagonal Arrow						–									
M18	2267+07	R1-2						X				YIELD						–									
M18	2267+00	R1-2						X				YIELD						–									
M18	2266+72	W11-2						X				Pedestrian Crossing Symbol						–									
	+	W16-7pLAZ						X				Diagonal Arrow						–									
M18	2266+26	GUIDE (DW13)						X				Airplane Sym. Deep Well ↗ Ranch Rd						–									
M18	2266+02	R1-2						X				YIELD						–									
M18	2265+33	R1-2						X				YIELD						–									
M18	2267+47	W11-2						X				Pedestrian Crossing Symbol						–									
	+	W16-7pLAZ						X				Diagonal Arrow						–									
M18	2264+81	GUIDE (N320.67)						X				89 Shield NORTH ↗						–									
M18	2265+35	R6-1R						X				ONE WAY (Right)						–									
	+	R6-4b						X				Chevron Symbol						–									
M18	2265+72	R6-1R						X				ONE WAY (Right)						–									
	+	R6-4b						X				Chevron Symbol						–									
M18	2266+10	R6-1R						X				ONE WAY (Right)						–									
	+	R6-4b						X				Chevron Symbol						–									
M18	2266+49	R6-1R						X				ONE WAY (Right)						–									
	+	R6-4b						X				Chevron Symbol						–									

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SR 89 – ROUNDABOUT SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M7	74 OF 118

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PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
M18	2258+75	M3-1						X				NORTH						–									
	+	M1-5a(89)						X				ARIZONA 89						–									
	SB																										
M18	2255+00	GUIDE SR89-1	X						12	7	GR	Willow Creek Rd Use Deep Well Ranch Rd NEXT RIGHT	120	48	40	Ext	IX	403.1E	2	W 6x12	26						
	+	D9-2	X								BL	Hospital	24	24	4	F-DA	IX	403.1D									
	+	M6-3	X								BL	Right Arrow	24	18	3	RWM	IX	403.1C									
M18	2259+00	GUIDE S320.74						X				SOUTH 89 Airpt Sym(RDBT SYMBOL)Deep Well Deep Well Ranch Rd Ranch Rd						–									REMOVE "CLOSED" PLACARD
M18	2260+50	GUIDE SR89-3a			X		X		12	7	GR	Embry Riddle Univ NEXT RIGHT	90	30	18.75	Ext		–	2	S 4x7.7	24						RELOCATED FROM STA 2290+00
M18	2262+00	R3-8KS			X				12	7	WH	Thru/Lt Turn Sym – Thru Sym ONLY	48	30	10	RWM		–	2	2 1/2S	24	2					RELOCATED FROM STA 2263+00, INSTALL ON NEW POSTS.
M18	2263+00	R3-8KS					X					Thru/Lt Turn Sym – Thru Sym ONLY	30	30	6.25	RWM		403.1N									RELOCATE TO STA 2262+00
M18	2265+44	GUIDE (SR89-4)	X						12	7	GR	Deep Well Ranch Rd ↗	72	24	12	Ext	IX	403.1E	2	S 4x7.7	23						
M18	2264+16	W11-2	X						12	7	YL	Pedestrian Crossing Symbol	36	36	9	RWM	XI	403.1C	1	2 1/2T	14	1					
	+	W16-7pLAZ	X								YL	Diagonal Arrow	30	18	3.75	RWM	XI	403.1C									
M18	2264+35	W11-2						X				Pedestrian Crossing Symbol	36	36	9	RWM		–									
	–	W16-7pLAZ					X					Diagonal Arrow						403.1N									REMOVE. REPLACE WITH SIGN BELOW.
	+	W16-7p(MOD)	X								YL	Diagonal Arrows (Left and Right)	30	18	3.75	RWM	XI	403.1C									
M18	2264+74	R1-2						X				YIELD						–									
M18	2264+75	R1-2						X				YIELD						–									
M18	2265+14	W11-2						X				Pedestrian Crossing Symbol	36	36	9	RWM		403.1C									
	–	W16-7pLAZ					X					Diagonal Arrow						403.1N									REMOVE. REPLACE WITH SIGN BELOW.
	+	W16-7P(MOD)	X								YL	Diagonal Arrows (Left and Right)	30	18	3.75	RWM	XI	403.1C									
M18	2264+88	W11-2	X						12	7	YL	Pedestrian Crossing Symbol	36	36	9	RWM	XI	403.1C	1	2 1/2T	14	1					
	+	W16-7pLAZ	X								YL	Diagonal Arrow	30	18	3.75	RWM	XI	403.1C									

NOTES:

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SHEETING TYPES:

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F-DEM: FLAT-SHEET ALUMINUM WITH DEMOUNTABLE CHARACTERS

EXT: ALUMINUM EXTRUSIONS

STRINGER TYPES:

P: SQUARE-TUBE POST

T: T-SECTION (WT 3X6)

ADOT POST TYPES:

S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SR 89 – ROUNDABOUT SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M8	75 OF 118

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M8.DWG Sep. 17, 2015 12:33 PM

PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
	SB																										
M18	2265+44	DW29						X				Deep Well Ranch Rd ↗						–									REMOVE "CLOSED" PLACARD
M18	2266+24	W11–2						X				Pedestrian Crossing Symbol						–									
	+	W16–7PLAZ						X				Diagonal Arrow						–									
M18	2265+81	R1–2						X				YIELD						–									
M18	2266+55	R1–2						X				YIELD						–									
M18	2267+20	W11–2						X				Pedestrian Crossing Symbol						–									
	+	W16–7PLAZ						X				Diagonal Arrow						–									
M18	2267+02	S320.62						X				89 Shield SOUTH ↗						–									
M18	2267+75	R4–2R						X				Right Lane Transition Symbol						–									

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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EXT: ALUMINUM EXTRUSIONS

STRINGER TYPES:

P: SQUARE–TUBE POST

T: T–SECTION (WT 3X6)

ADOT POST TYPES:

S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SR 89 – ROUNDABOUT SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M9	76 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434–M9.DWG Sep. 17, 2015 12:33 PM

PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
	NB																										
M21	2303+21	GUIDE (SR89–9)					X					← Willow Creek Rd MacCurdy Dr →						350.10									
	+	D9–2					X					Hospital						350.10									
	+	M6–1L					X					Left Arrow						350.10									
	=	I–5			X		X				GR	Airport Symbol	30	30	6.25	F–DA		403.1N									RE–INSTALL ON POST WITH SR89–9a
	=	M6–1R			X		X				WH	Right Arrow	24	18	3	RWM		403.1N									RE–INSTALL ON POST WITH SR89–9a
M21	2303+21	GUIDE SR89–9a	X						12	7	GR	MacCurdy Dr →	114	24	19	Ext	IX	403.1E	2	W 6x12	24						
	+	I–5		X							GR	Airport Symbol	24	24	4	F–DA		–									REPLACE PANEL ON NEW POSTS W/ABOVE
	+	M6–1R		X							WH	Right Arrow	24	18	3	RWM		–									REPLACE PANEL ON NEW POSTS W/ABOVE
M21	2299+88	R14–1						X				TRUCK ROUTE						–									
	–	M6–6L					X					Left/Straight Arrow						350.10									
	+	M6–3	X								WH	Straight Arrow	21	15	2.188	RWM	IX	403.1C									
M21	2299+19	R3–5bP		X			X				WH	RIGHT LANE	30	12	2.5	RWM		403.1N									REPOSITION SIGN PER PLANS
	+	R3–5R						X				Right Turn Arrow ONLY						–									REPOSITION SIGN PER PLANS
M21	2296+98	GUIDE (SR89–7)					X					← Willow Creek Rd MacCurdy Dr →						350.10									
M21	2296+98	GUIDE (SR89–7a)	X								GR	MacCurdy Dr	102	24	17	Ext	XI	403.1D									MOUNT ON SIGNAL MAST ARM

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S: SINGLE PERFORATED

T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SR 89 – MACCURDY DR SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M10	77 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434–M10.DWG Sep. 17, 2015 12:33 PM

PLAN SHT NO.	SIGN NUMBER	SIGN CODE	WORK: NEW	WORK: EXISTING: REPLACE PANEL	WORK: EXISTING: RELOCATE PANEL	WORK: EXISTING: MODIFY LEGEND	WORK: EXISTING: REMOVE	WORK: EXISTING: TO REMAIN	OFFSET (FT)	MOUNTING HEIGHT (FT)	BACKGROUND COLOR	PANEL: LEGEND	PANEL: WIDTH (IN)	PANEL: HEIGHT (IN)	PANEL: AREA (SQ FT)	PANEL: TYPE	PANEL: MIN SHEETING TYPE	PANEL: BID ITEM NUMBER	GROUND MOUNTED: FOUNDATIONS	GROUND MOUNTED: POSTS: TYPE	GROUND MOUNTED: POSTS: TOTAL LENGTH (FT)	GROUND MOUNTED: NEW SLIPBASES	GROUND MOUNTED: STRINGER: TYPE	GROUND MOUNTED: STRINGER: TOTAL LENGTH (FT)	OVERHEAD: STRUCTURE TYPE	OVERHEAD: # OF LIGHTS	REMARKS
	SB																										
M21	2288+47	GUIDE (SR89–6)					X					← MacCurdy Dr Willow Creek Rd →						350.10									
	+	D9–2					X					Hospital						350.10									
	+	M6–1R					X					Right Arrow						350.10									
M21	2288+47	GUIDE (SR89–6a)	X						12	7	GR	← MacCurdy Dr	114	24	19	Ext	IX	403.1E	2	**	24						
M21	2290+00	GUIDE (SR89–3)					X					Embry Riddle NEXT RIGHT	90	30	18.75	Ext		403.1N									RELOCATE SIGN TO STA 2260+50
M21	2295+97	R14–1						X				TRUCK ROUTE						–		**							
	–	M6–6R					X					Straight/Right Arrow						350.10									
	+	M6–3	X								WH	Straight Arrow	21	15	2.188	RWM	IX	403.1C									
	+	R8–3						X				NO PARKING						–									
M21	2296+XX	R3–5bP		X			X				WH	RIGHT LANE	30	12	2.5	RWM		403.1N		**							REPOSITION SIGN PER PLANS
	+	R3–5R						X				Right Turn Arrow ONLY						–									
	+	R8–3						X				NO PARKING															
M21	2299+76	R11–2	X								WH	ROAD CLOSED	48	30	10	RWM	XI	403.1C		**							MOUNT ON TYPE A BARRICADE (MAG)
M21	2298+72	GUIDE SR89–8					X					← MacCurdy Dr Willow Creek Rd →						350.10									
M21	2298+72	GUIDE (SR89–8a)	X								GR	MacCurdy Dr	102	24	17	Ext	XI	403.1E									MOUNT ON SIGNAL MAST ARM

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T: TELESCOPING PERFORATED

131P: COP STD DET 131P

S & W: BREAKAWAY POSTS

CITY OF PRESCOTT POST TYPES:

** COP STD DET 131P

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13–030

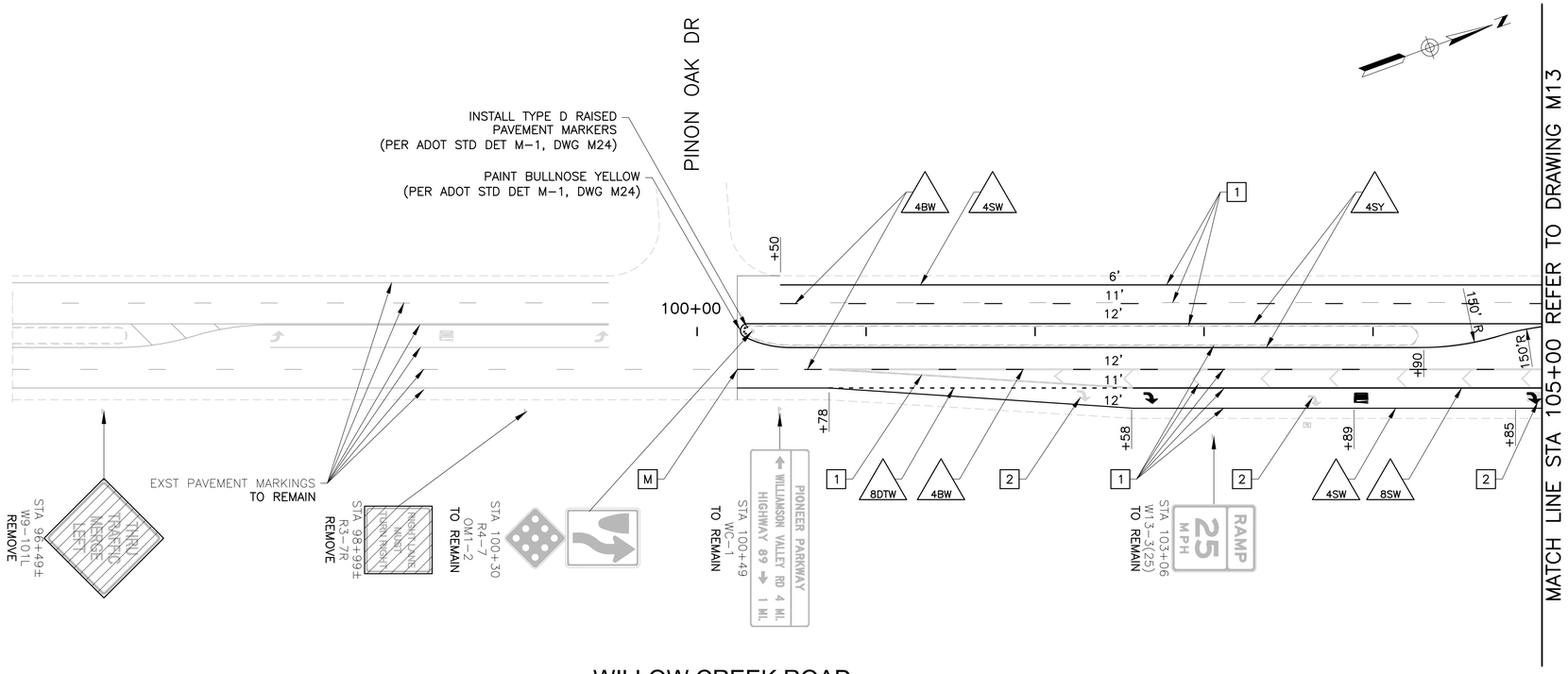
WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SR 89 – MACCURDY DR SIGN SUMMARY

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			M11	78 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\11434–M11.DWG Sep. 17, 2015 12:34 PM

4BW	10' – 30' — 4" BROKEN WHITE LINE W/ A 10' LINE SEGMENT & A 30' GAP
4SW	4" SOLID WHITE LINE
6BW	10' – 30' — 6" BROKEN WHITE LINE W/ A 10' LINE SEGMENT & A 30' GAP
6SW	6" SOLID WHITE LINE
8DTW	2' – 4' — 8" DASHED WHITE LINE W/ A 2' LINE SEGMENT & A 4' GAP
8SW	8" SOLID WHITE LINE
12SW	12" SOLID WHITE LINE
18SW	18" SOLID WHITE LINE
4BY	10' – 30' — 4" BROKEN YELLOW LINE W/ A 10' LINE SEGMENT & A 30' GAP
4DY	2" / 2" — 4" SOLID DOUBLE YELLOW LINE
4SY	4" SOLID YELLOW LINE
6SY	6" SOLID YELLOW LINE
6DY	3" / 3" — 6" SOLID DOUBLE YELLOW LINE



WILLOW CREEK ROAD

AS BUILT DATE

Dibble Engineering

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Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

REMOVAL NOTES

1 OBLITERATE PAVEMENT MARKINGS

2 OBLITERATE PAVEMENT LEGEND

M MATCH EXST PAVEMENT MARKINGS

0' 20' 40' 80'

SCALE: 1"=40'

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD

SIGNING & MARKING LEGEND & PLAN

STA 100+00 TO STA 105+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL / VERTICAL		M12	79 OF 118

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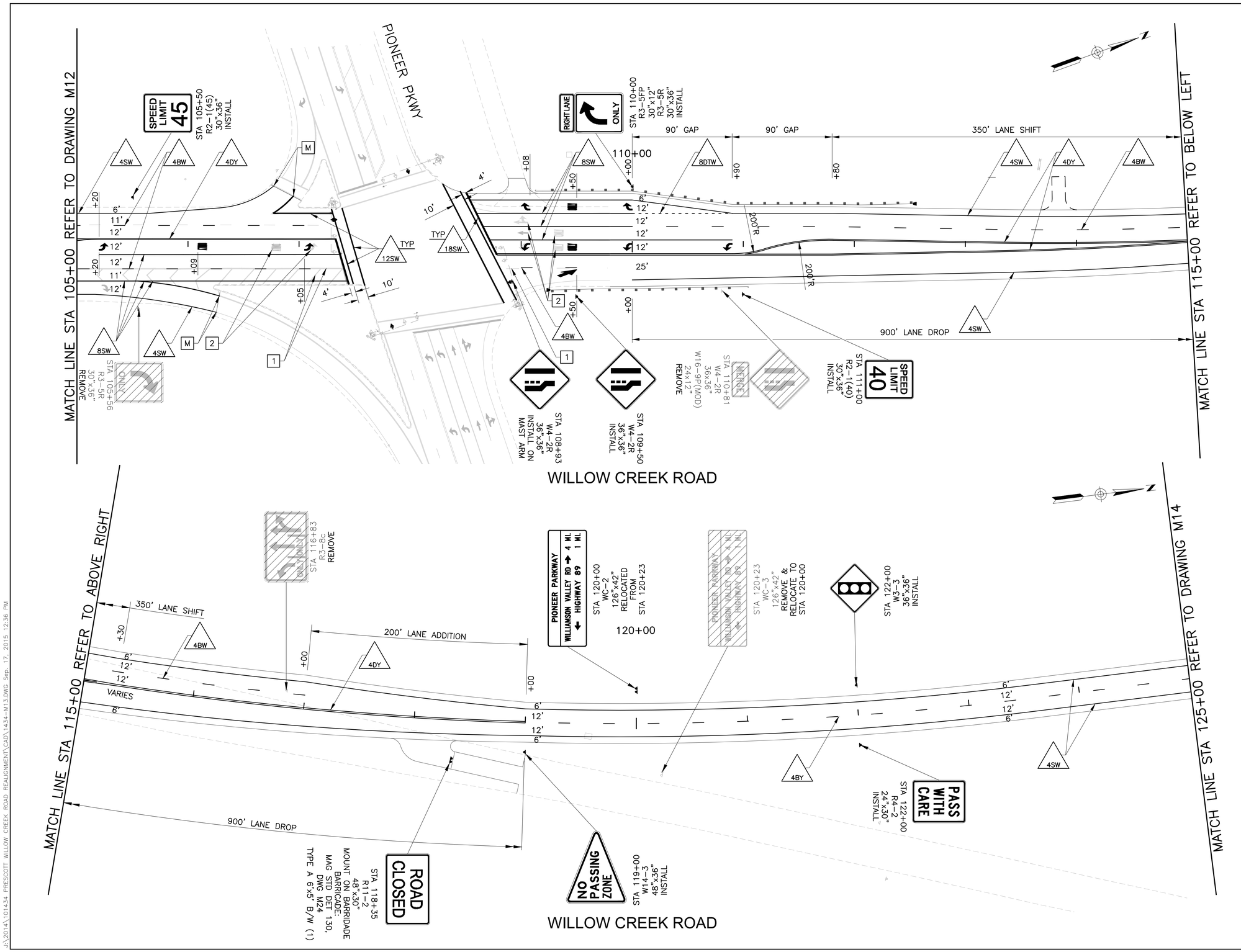

AS BUILT DATE

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1. OBLITERATE PAVEMENT MARKINGS
2. OBLITERATE PAVEMENT LEGEND
3. MATCH EXISTING MARKINGS
M. MATCH EXISTING PAVEMENT MARKINGS

0' 20' 40' 80'
SCALE: 1"=40'

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	REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
SIGNING & MARKING PLAN
STA 105+00 TO STA 125+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL / VERTICAL			M13	80 OF 118

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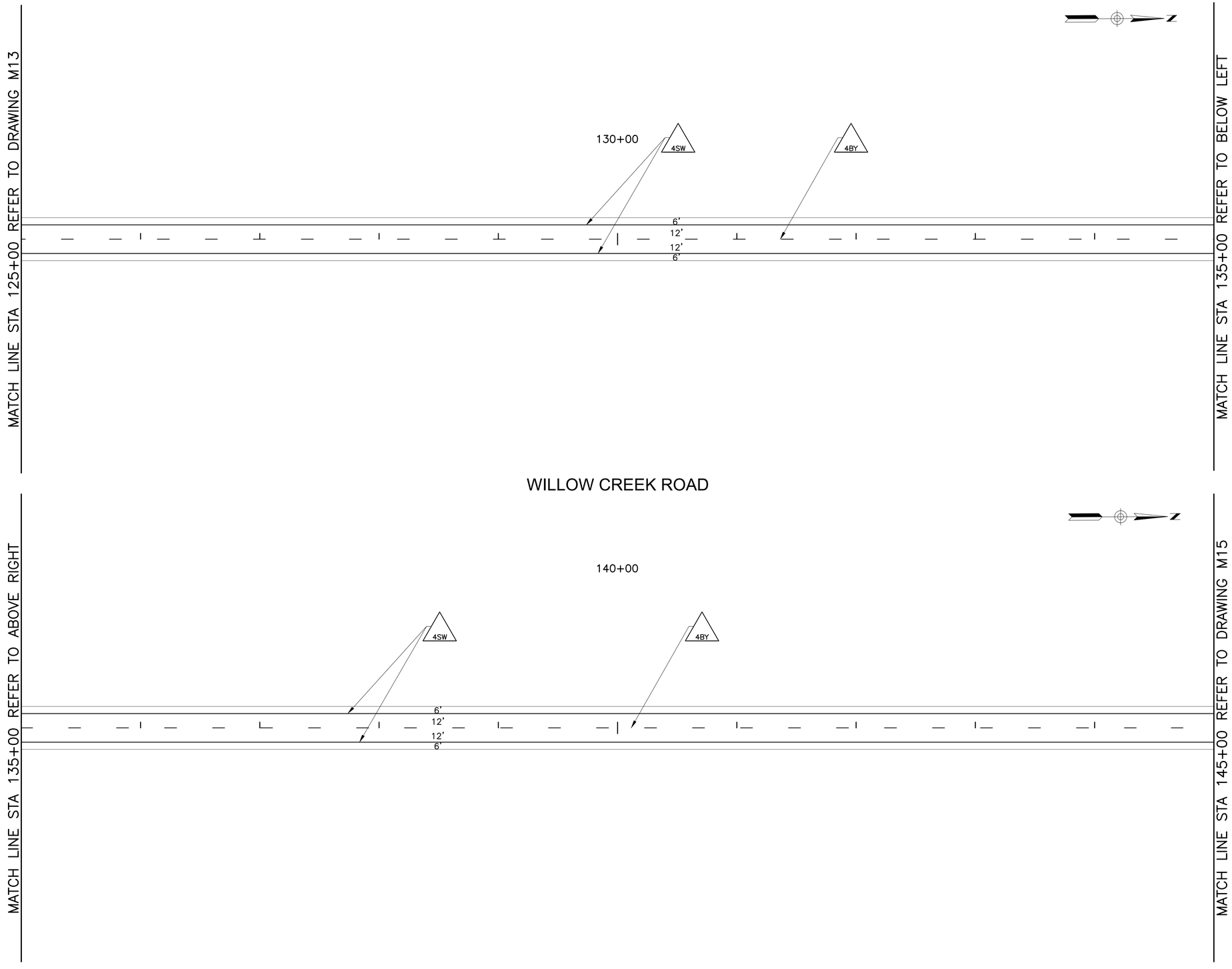

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 20' 40' 80'

SCALE: 1"=40'

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	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
SIGNING & MARKING PLAN
STA 125+00 TO STA 145+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		M14	81 OF 118

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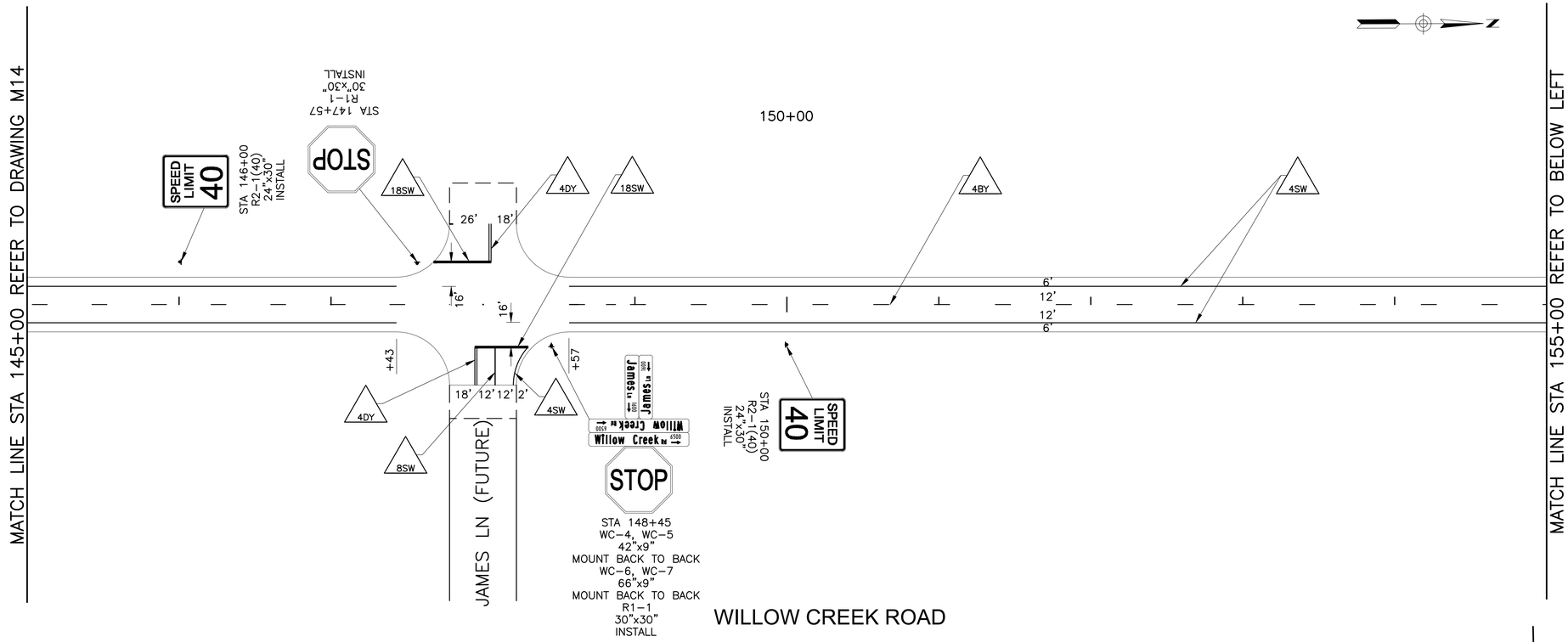

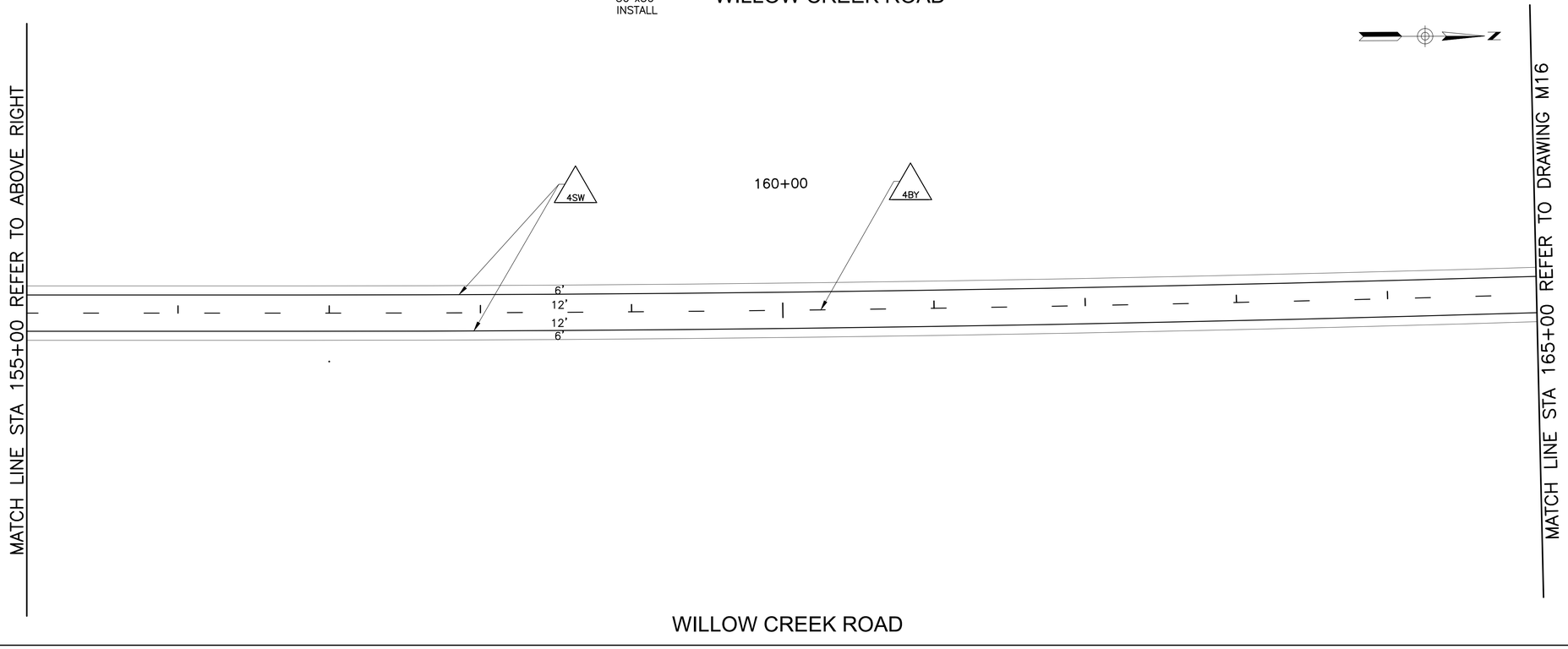

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Dibble Engineering

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0' 20' 40' 80'

SCALE: 1"=40'

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CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
SIGNING & MARKING PLAN
STA 145+00 TO STA 165+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		M15	82 OF 118

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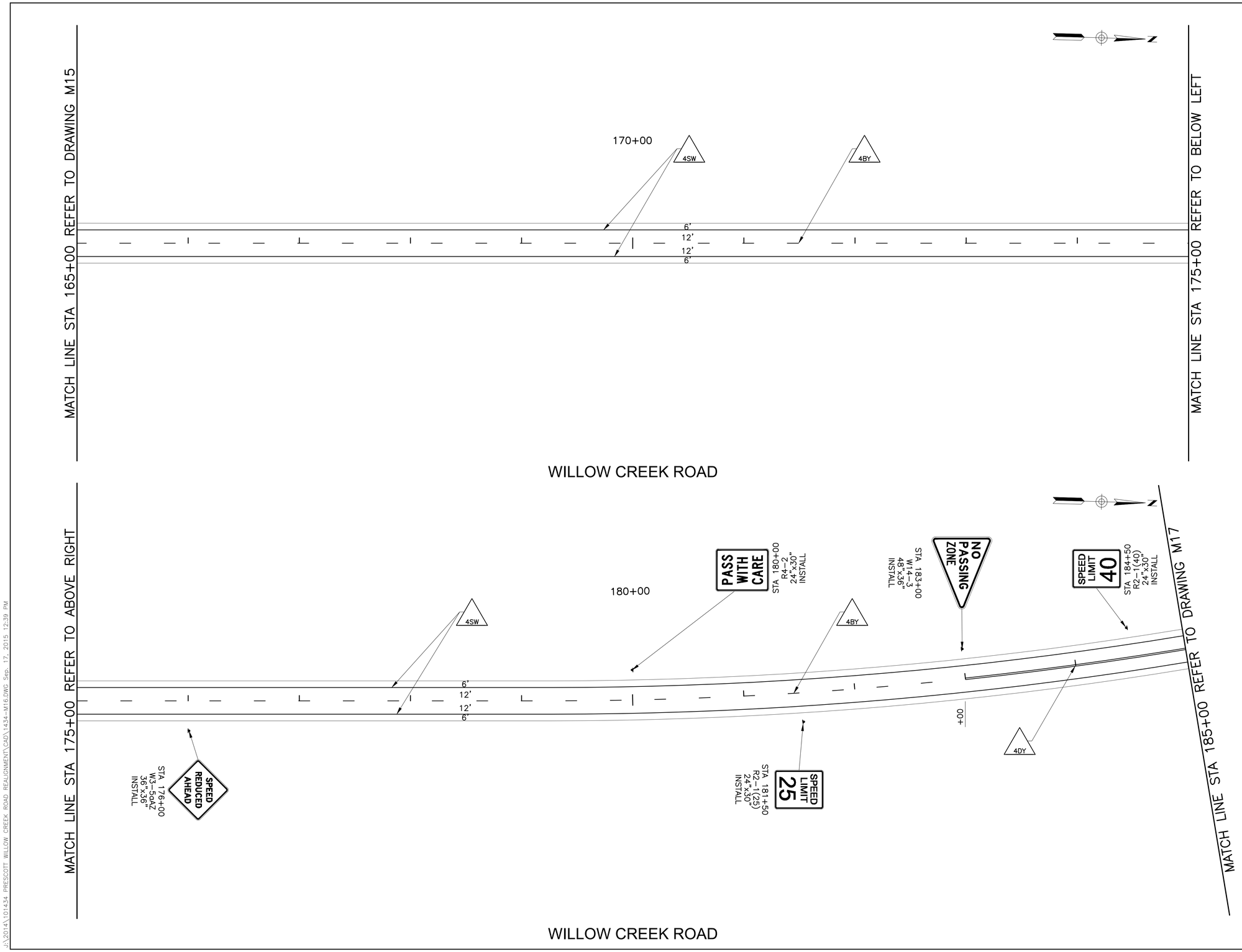

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0' 20' 40' 80'

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	REVISION	BY	DATE
△			

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

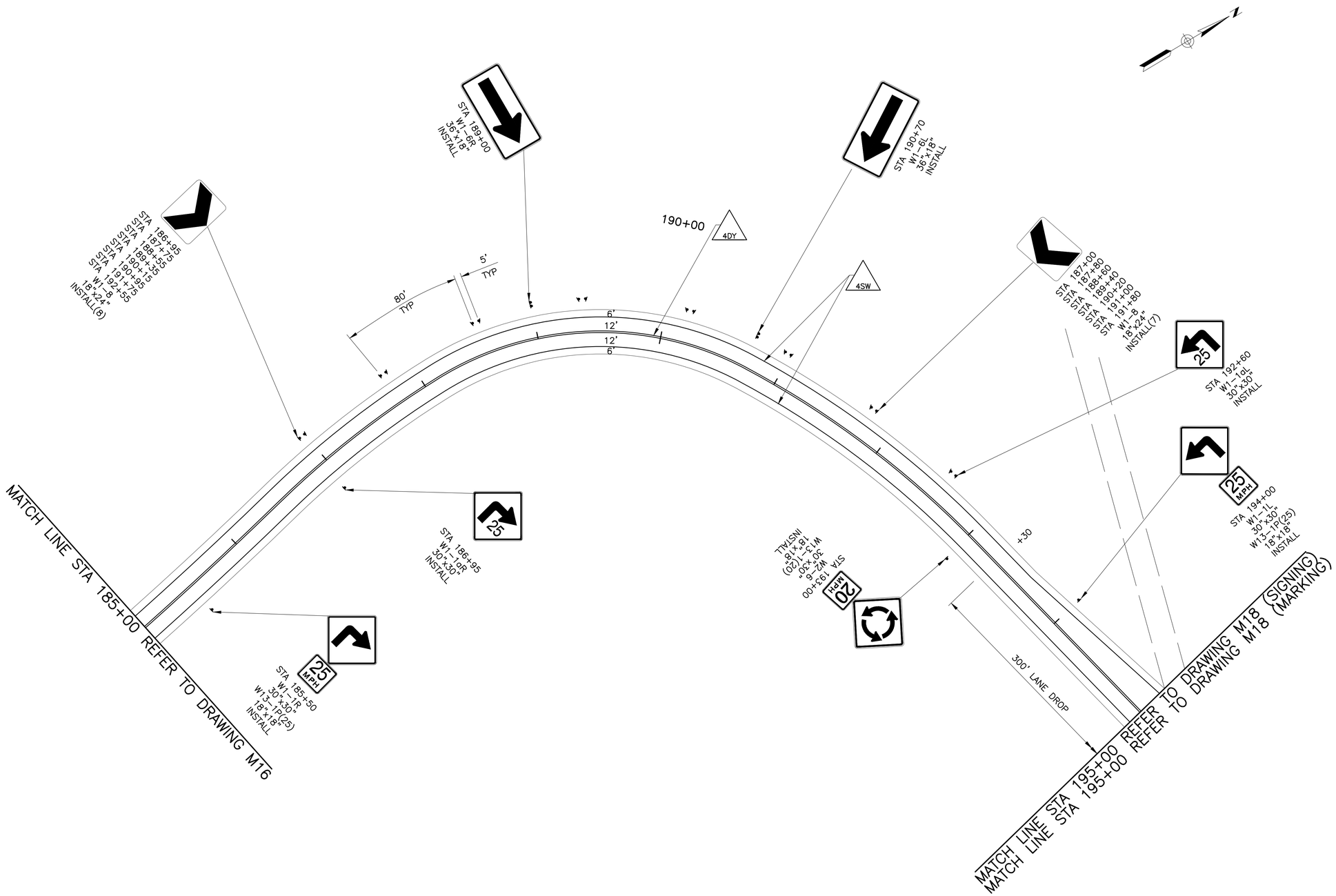
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
SIGNING & MARKING PLAN
STA 165+00 TO STA 185+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		M16	83 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M16.DWG Sep. 17, 2015 12:39 PM



AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 20' 40' 80'

SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

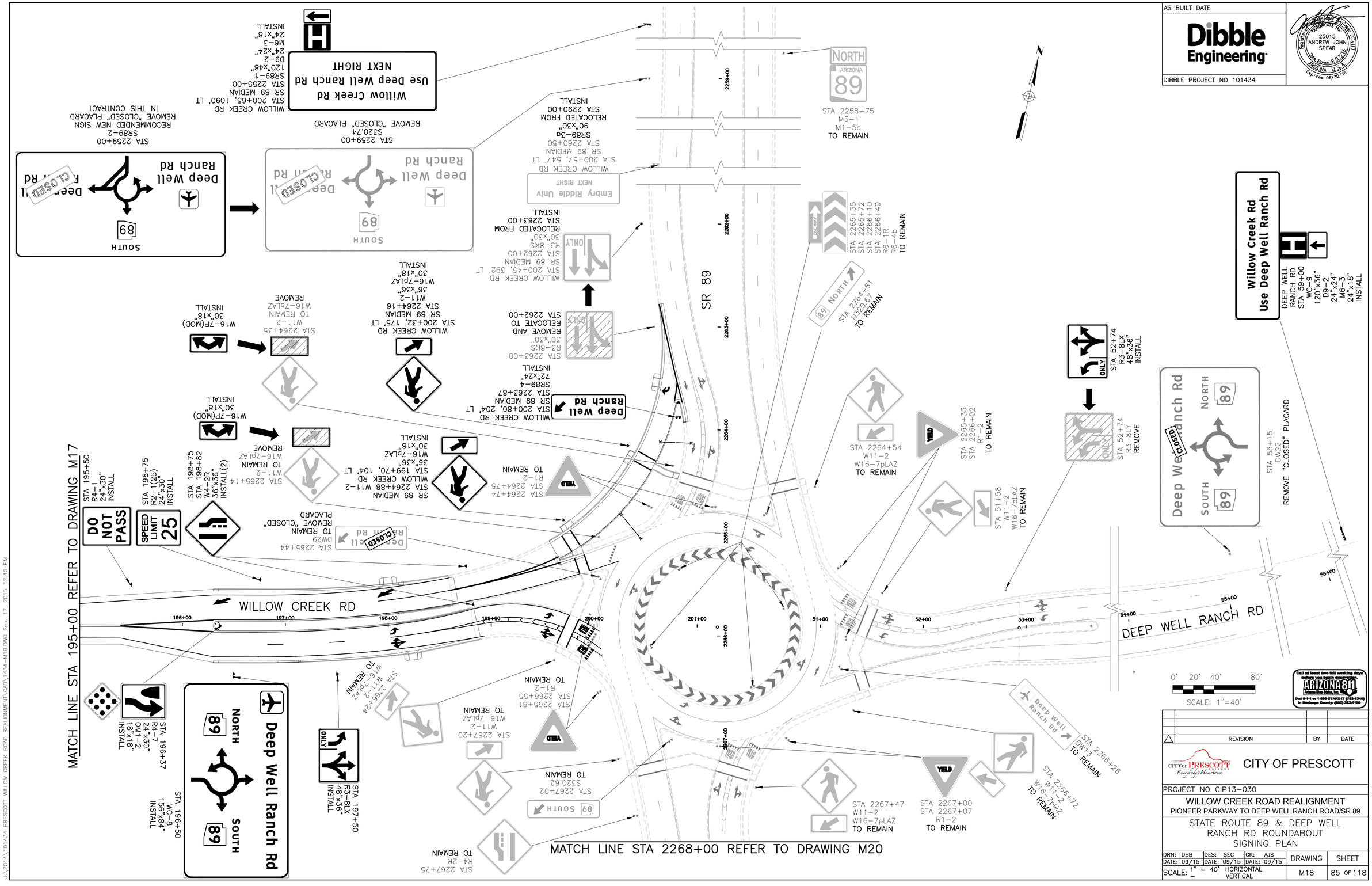
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
SIGNING & MARKING PLAN
STA 185+00 TO STA 195+00

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		M17	84 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M17.DWG Sep. 17, 2015 12:39 PM


AS BUILT DATE
Dibble Engineering
DIBBLE PROJECT NO 101434
25015 ANDREW JOHN SPEAR
Expires 06/30/16
MATCH LINE STA 195+00 REFER TO DRAWING M17
MATCH LINE STA 2268+00 REFER TO DRAWING M20
WILLOW CREEK RD
DEEP WELL RANCH RD
SR 89
Deep Well Ranch Rd
SOUTH 89
Willow Creek Rd
Use Deep Well Ranch Rd
NEXT RIGHT
Embry Riddle Univ
NORTH ARIZONA 89
STA 2258+75
M3-1
M1-5a
TO REMAIN
STA 2265+35
STA 2265+72
STA 2266+10
STA 2266+49
R6-1R
R6-4b
TO REMAIN
STA 2264+81
M320.67
TO REMAIN
STA 2264+54
W11-2
W16-7pLAZ
TO REMAIN
STA 2265+33
STA 2266+02
R1-2
TO REMAIN
STA 51+58
W11-2
W16-7pLAZ
TO REMAIN
STA 52+74
R3-8LY
48"x36"
INSTALL
STA 52+74
R3-8LY
REMOVE
STA 55+15
DW22
REMOVE "CLOSED" PLACARD
DEEP WELL
RANCH RD
STA 59+00
WC-9
120"x36"
D9-2
24"x24"
M6-3
24"x18"
INSTALL
Deep Well Ranch Rd
NORTH 89
SOUTH 89
STA 2266+26
DW13
TO REMAIN
STA 2266+72
W11-2
W16-7pLAZ
TO REMAIN
STA 2267+00
STA 2267+07
R1-2
TO REMAIN
STA 2267+47
W11-2
W16-7pLAZ
TO REMAIN
STA 2265+81
STA 2266+55
R1-2
TO REMAIN
STA 2266+24
W11-2
W16-7pLAZ
TO REMAIN
STA 2267+20
W11-2
W16-7pLAZ
TO REMAIN
STA 2267+02
S320.62
TO REMAIN
STA 2267+75
R4-2R
TO REMAIN
STA 197+50
R3-8LX
48"x36"
INSTALL
STA 196+37
R4-7
24"x30"
OM1-2
18"x18"
INSTALL
STA 196+50
WC-8
156"x84"
INSTALL
Deep Well Ranch Rd
NORTH 89
SOUTH 89
DO NOT PASS
STA 195+50
R4-1
24"x30"
INSTALL
SPEED LIMIT 25
STA 196+75
R2-1(25)
24"x30"
INSTALL
STA 198+75
STA 198+82
W4-2R
36"x36"
INSTALL(2)
STA 2265+14
W11-2
TO REMAIN
W16-7pLAZ
REMOVE
W16-7P(MOD)
30"x18"
INSTALL
STA 2265+44
DW29
REMOVE "CLOSED"
PLACARD
STA 2264+74
STA 2264+75
R1-2
TO REMAIN
SR 89 MEDIAN
STA 2264+88 W11-2
WILLOW CREEK RD
STA 199+70, 104' LT
36"x36"
W16-7pLAZ
30"x18"
INSTALL
WILLOW CREEK RD
STA 200+80, 204' LT
SR 89 MEDIAN
STA 2263+87
SR89-4
72"x24"
INSTALL
STA 2263+00
R3-8KS
30"x30"
REMOVE AND
RELOCATE TO
STA 2262+00
WILLOW CREEK RD
STA 200+32, 175' LT
SR 89 MEDIAN
STA 2264+16
W11-2
36"x36"
W16-7pLAZ
30"x18"
INSTALL
STA 2264+35
W11-2
TO REMAIN
W16-7pLAZ
REMOVE
W16-7P(MOD)
30"x18"
INSTALL
WILLOW CREEK RD
STA 200+57, 547' LT
SR 89 MEDIAN
STA 2260+50
SR89-3a
90"x30"
RELOCATED FROM
STA 2290+00
INSTALL
WILLOW CREEK RD
STA 200+45, 392' LT
SR 89 MEDIAN
STA 2262+00
R3-8KS
30"x30"
RELOCATED FROM
STA 2263+00
INSTALL
STA 2259+00
S320.74
REMOVE "CLOSED" PLACARD
STA 2259+00
SR89-2
RECOMMENDED NEW SIGN
REMOVE "CLOSED" PLACARD
IN THIS CONTRACT
WILLOW CREEK RD
STA 200+65, 1090' LT
SR 89 MEDIAN
STA 2255+00
SR89-1
120"x48"
D9-2
24"x24"
M6-3
24"x18"
INSTALL
0' 20' 40' 80'
SCALE: 1"=40'
Call at least two full working days before you begin excavation
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100
REVISION
BY
DATE
CITY OF PRESCOTT
Everybody's Hometown
CITY OF PRESCOTT
PROJECT NO CIP13-030
WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89
STATE ROUTE 89 & DEEP WELL
RANCH RD ROUNDABOUT
SIGNING PLAN
DRN: DBB
DATE: 09/15
DES: SEC
DATE: 09/15
CK: AJS
DATE: 09/15
DRAWING
M18
SHEET
85 OF 118
SCALE: 1" = 40' HORIZONTAL
VERTICAL
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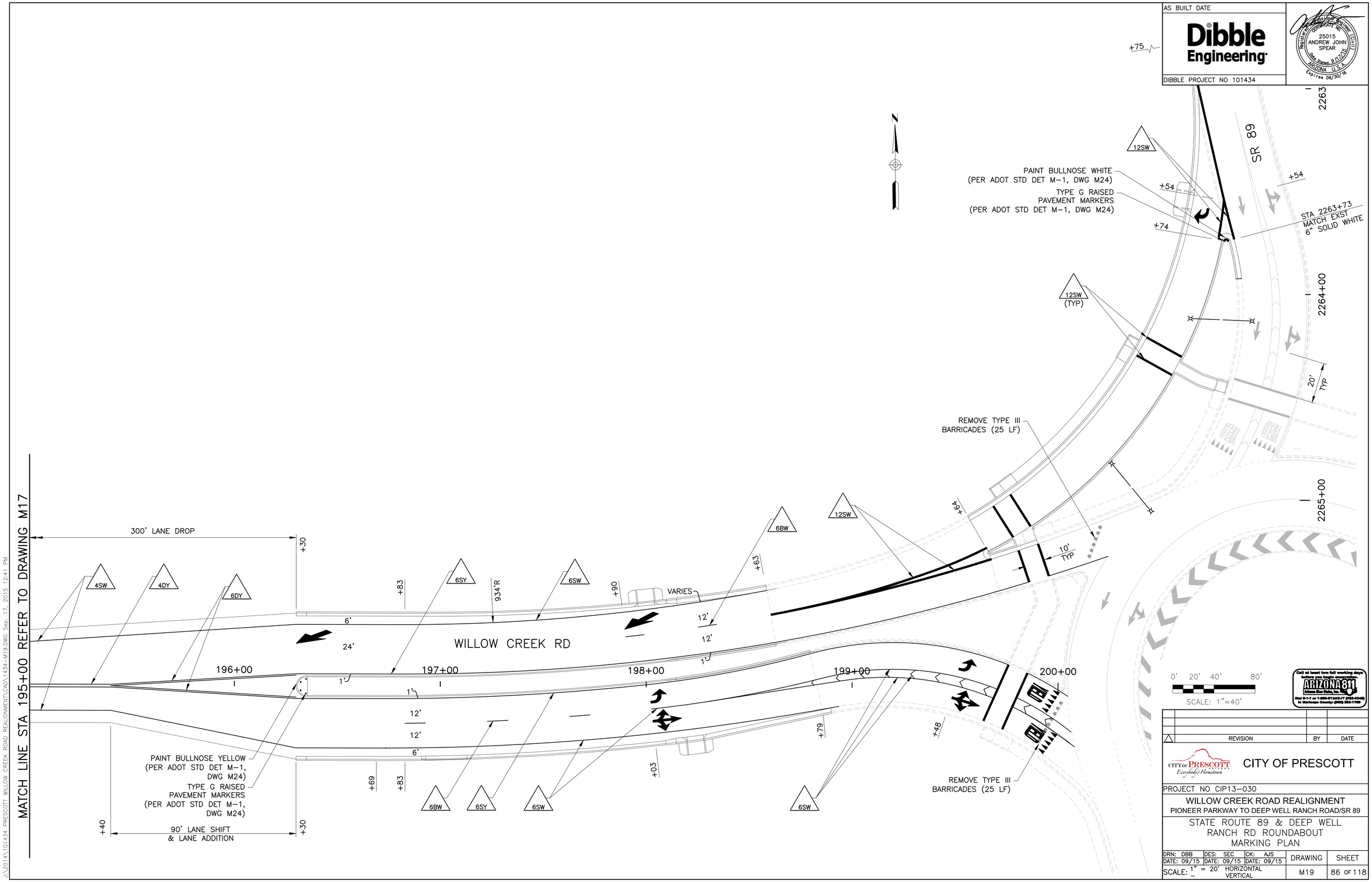

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
1			

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

STATE ROUTE 89 & DEEP WELL RANCH RD ROUNDABOUT MARKING PLAN

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 20' HORIZONTAL, VERTICAL			M19	86 OF 118

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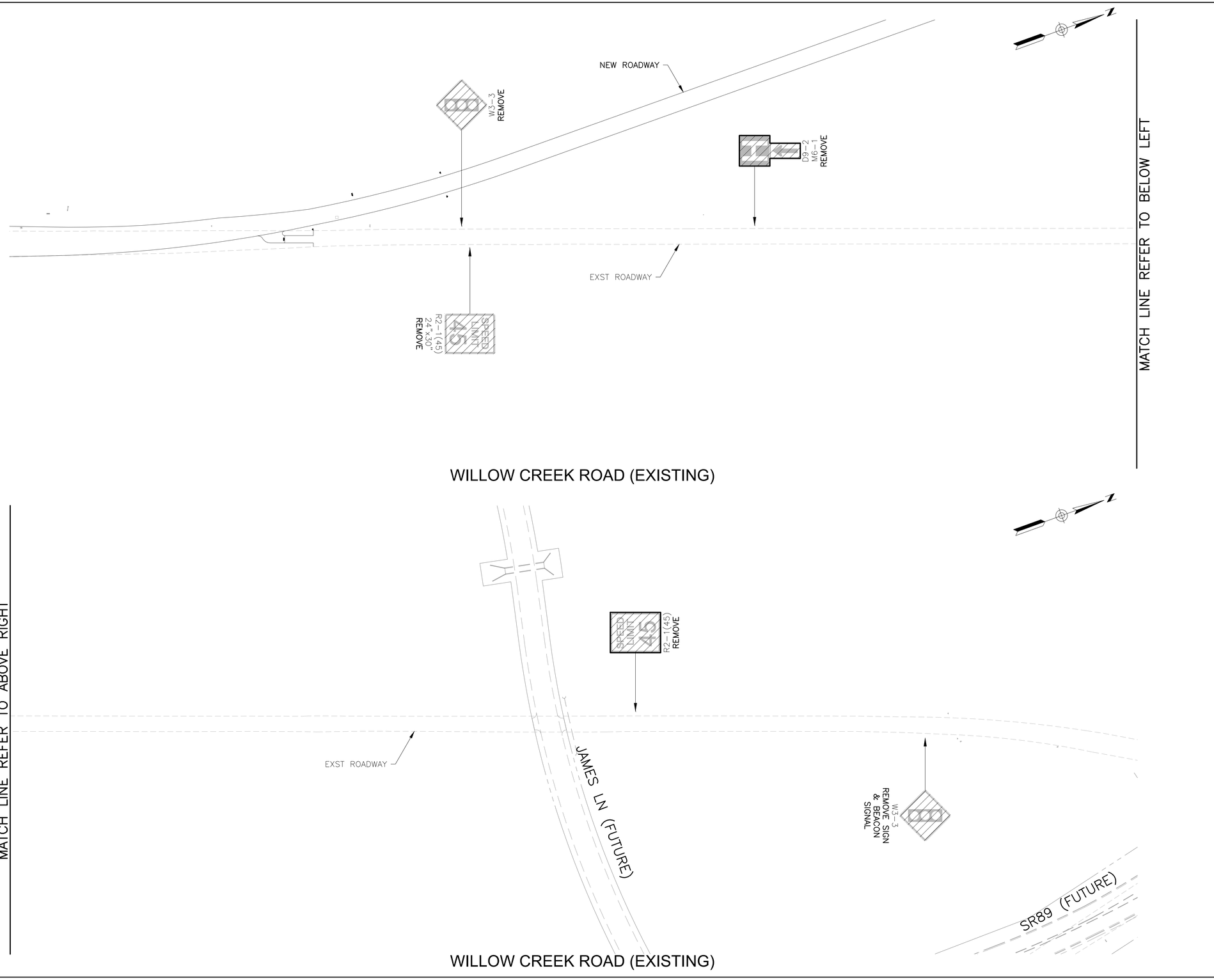

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 50' 100' 200'

SCALE: 1"=100'

Call at least two full working days before you begin excavation: ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD (EXISTING)
SIGNING PLAN

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 100' HORIZONTAL VERTICAL			M20	87 OF 118

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (253-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

STATE ROUTE 89
SIGNING & MARKING PLAN

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL	VERTICAL	M21	88 OF 118

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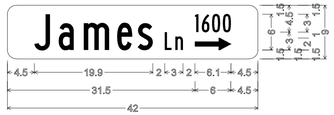
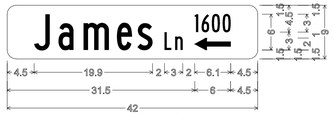


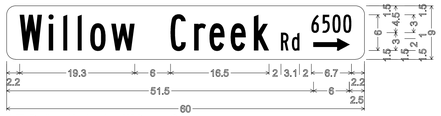
1.5" Radius, No border, White on Green;
[James] B; [Ln] B; [1600] B;
Standard Arrow Custom 6.0" X 2.0" 0";

SIGN NO. WC–4
STA 148+45



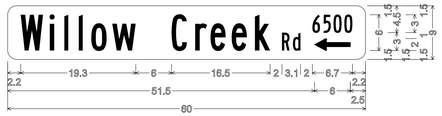
1.5" Radius, No border, White on Green;
[James] B; [Ln] B; [1600] B;
Standard Arrow Custom 6.0" X 2.0" 180";

SIGN NO. WC–5
STA 148+45



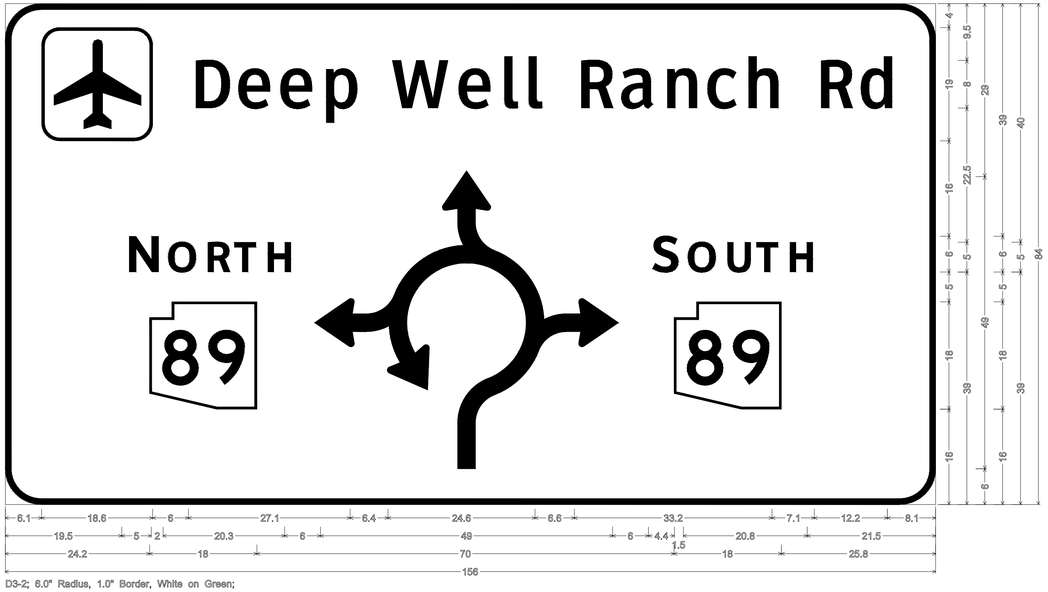
1.5" Radius, No border, White on Green;
[Willow Creek] B; [Rd] B; [6500] B;
Standard Arrow Custom 6.0" X 2.0" 0";

SIGN NO. WC–6
STA 148+45



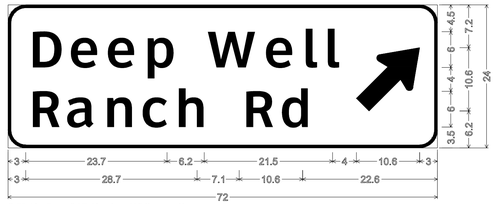
1.5" Radius, No border, White on Green;
[Willow Creek] B; [Rd] B; [6500] B;
Standard Arrow Custom 6.0" X 2.0" 180";

SIGN NO. WC–7
STA 148+45



D3-2; 6.0" Radius, 1.0" Border, White on Green;
Rounded Rectangle 3.0" Radius;
[Deep Well Ranch Rd] Clearview-Hwy-3-W; [N] Clearview-Hwy-5-W; [ORTH] Clearview-Hwy-5-W; State Highway 89 M1-5c; [S] Clearview-Hwy-5-W; [OUTH] Clearview-Hwy-5-W;
State Highway 89 M1-5c;

SIGN NO. WC–8
STA 196+50



3.0" Radius, 0.5" Border, White on Green;
[Deep Well] Clearview-Hwy-5-W; [Ranch Rd] Clearview-Hwy-5-W;
Standard Arrow Custom 13.5" X 8.1" 45";

SIGN NO. SR89–4
STA 2265+44

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/18/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGN FORMATS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: _ HORIZONTAL _ VERTICAL			M22	89 OF 118

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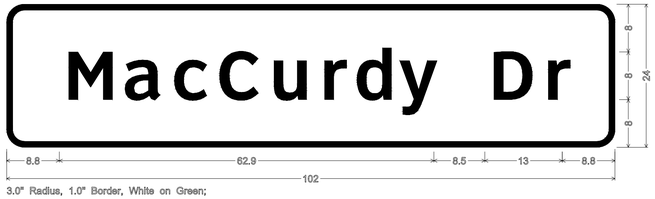
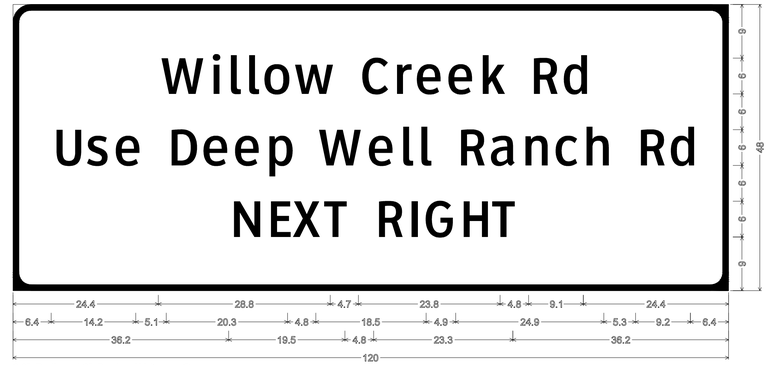


3.0" Radius, 1.0" Border, White on Green;
[MacCurdy Dr] Clearview-Hwy-5-W;

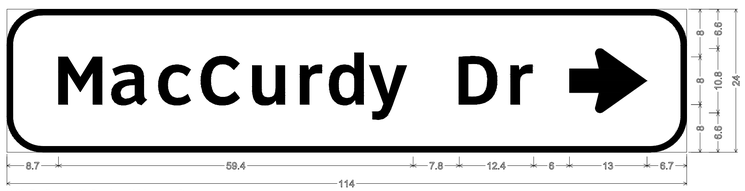
SIGN NO. SR89–7a
STA 2296+98

SIGN NO. SR89–8a
STA 2298+72



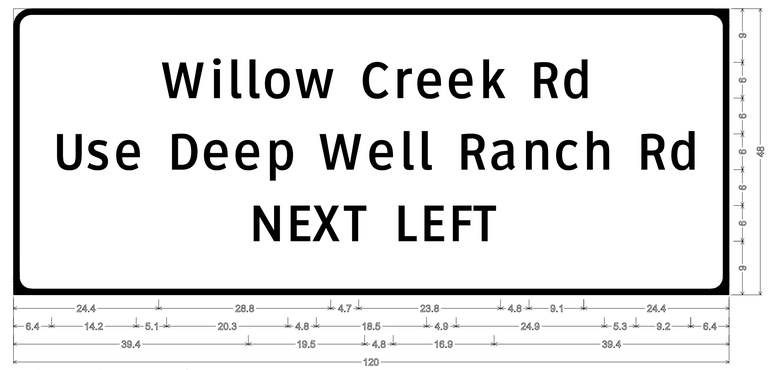
3.0" Radius, 1.0" Border, White on Green;
[Willow Creek Rd] Clearview-Hwy-3-W; [Use Deep Well Ranch Rd] Clearview-Hwy-3-W; [NEXT RIGHT] Clearview-Hwy-3-W;

SIGN NO. 89–1
STA 2255+00



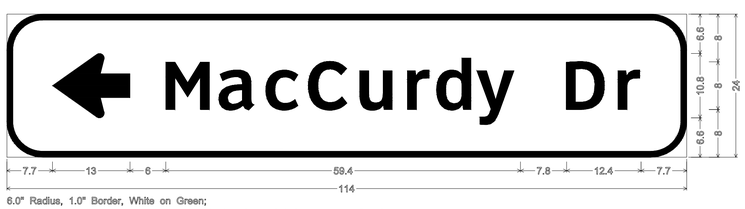
6.0" Radius, 1.0" Border, White on Green;
[MacCurdy Dr] Clearview-Hwy-5-W-R; Standard Arrow Custom 13.0" X 10.8" 0";

SIGN NO. SR89–9a
STA 2303+21



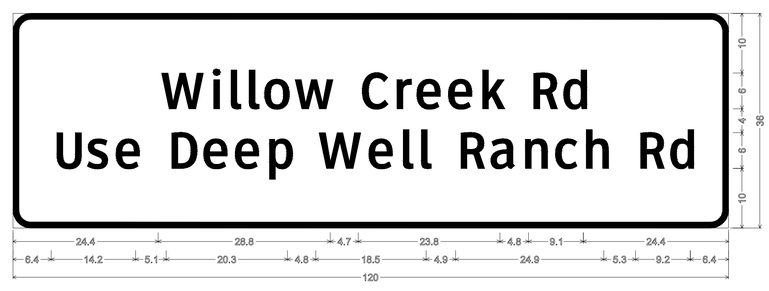
3.0" Radius, 1.0" Border, White on Green;
[Willow Creek Rd] Clearview-Hwy-3-W; [Use Deep Well Ranch Rd] Clearview-Hwy-3-W; [NEXT LEFT] Clearview-Hwy-3-W;

SIGN NO. SR89–5
STA 2276+00



6.0" Radius, 1.0" Border, White on Green;
Standard Arrow Custom 13.0" X 10.8" 180"; [MacCurdy Dr] Clearview-Hwy-5-W-R;

SIGN NO. SR89–6a
STA 2288+47



3.0" Radius, 1.0" Border, White on Green;
[Willow Creek Rd] Clearview-Hwy-3-W; [Use Deep Well Ranch Rd] Clearview-Hwy-3-W;

SIGN NO. WC–9
STA 59+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

25015 ANDREW JOHN SPEAR
Date Signed 9/17/15
ARIZONA U.S.A.
Expires 06/30/16

Call at least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (782-5348)
In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGN FORMATS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL VERTICAL		M23	90 OF 118

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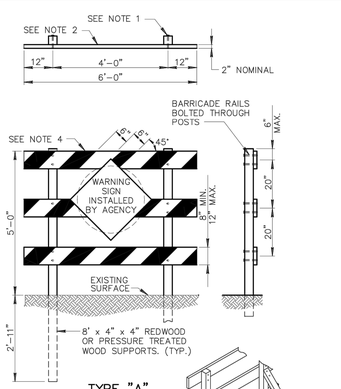
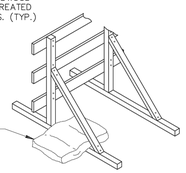
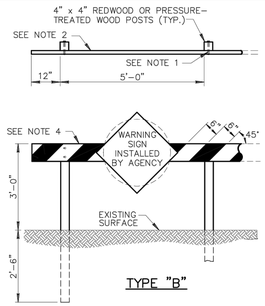


TYPE "A"



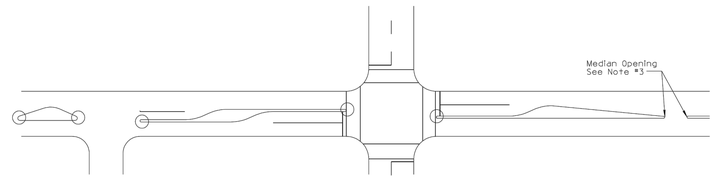


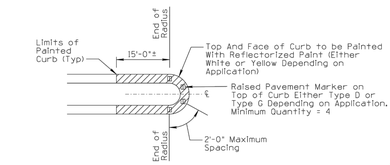
TYPE "B"

NOTES:

1. FASTEN WITH 1/2" x 5" LAG SCREWS WITH 2 FLAT WASHERS OR (2) 5/8" BOLTS, WITH 4 FLAT WASHERS.
2. 2" x 8" DOUGLAS FIR PLANK (LENGTH TO BE DETERMINED ON PLANS.)
3. WHEN BARRICADE (TYPE "A") IS CONSTRUCTED ON BASES INSTEAD OF POSTS SET INTO THE GROUND, IT MAY BE DESIRABLE TO BALLAST THE BASES WITH SAND BAGS OR BY STAKING TO PROVIDE RESISTANCE TO OVERTURNING DURING PERIODS OF HIGH WINDS.
4. TWO COATS OF WHITE PAINT PER SECTION 790 SHALL BE APPLIED TO ALL EXPOSED SURFACES OF THE BARRICADE. AN ADDITIONAL TWO COATS OF ORANGE PAINT PER SECTION 790 SHALL BE APPLIED TO CREATE THE ALTERNATE ORANGE AND WHITE STRIPES FOR TEMPORARY BARRICADES AND TWO COATS OF RED PAINT PER SECTION 790 SHALL BE APPLIED TO CREATE ALTERNATE RED AND WHITE STRIPES FOR PERMANENT BARRICADES. HIGHWAY SAFETY SPHERES (BEADS) PER ADOT 708-2.02 SHALL BE APPLIED BY HAND TO ALL CROSS MEMBERS, FRONT AND BACK AND ON BOTH COLORS, IMMEDIATELY AFTER PAINTING. THE STRIPES SHALL SLOPE DOWNWARD IN THE DIRECTION TRAFFIC IS TO PASS.

DETAIL NO.				REVISED	DETAIL NO.
130	MARICOPA ASSOCIATION of GOVERNMENTS	STANDARD DETAIL ENGLISH	BARRICADES	01-01-2003	130

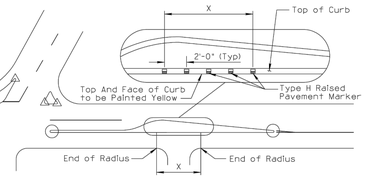




TYPICAL MEDIAN ISLAND END TREATMENT AT CROSS STREETS

NOTES:

1. Median Island end plus 15 feet of curb on each side of the island shall be painted as indicated by the legend.
2. Except as provided in Note #3, curbs of islands 50 square feet or less in area shall be painted.
3. Curbs at openings in a continuous median island shall not be painted unless directed by the Engineer.
4. Raised pavement markers shall be placed so that the reflective face of the marker is facing traffic.

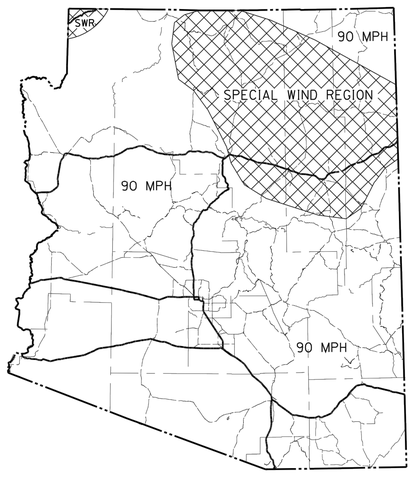


To be painted yellow

To be painted white

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES	CURB MARKINGS FOR RAISED MEDIANS AND ISLANDS	DRAWING NO. M-1
APPROVED FOR DISTRIBUTION ON FILE		SHEET NO. 1 of 1



SPECIAL WIND REGION MAP

NOTES:

1. Post size recommendations for square tube and breakaway posts are derived from calculations based on AASHTO Standard Specifications for Highway Signs, Luminaires and Traffic Signals, using a base wind speed of 90 mph (24.5 psf wind load on sign panel). Sign structures and other supports may use different wind speeds as noted.
2. See the Special Wind Region map for areas of the state that may experience different wind speeds. In these areas, engineering judgment may be used in the selection and design of sign posts and supports.
3. Back to back signs should be installed centered on one another. The edges of a sign mounted back to back with a STOP, YIELD or warning sign should not protrude past the edges of the STOP, YIELD or warning sign. The STOP, YIELD or warning sign size may be increased in order to accommodate the size of a sign mounted back to back with that sign.
4. All signs or sign assemblies mounted at a height where the bottom of the lowest sign panel, plaque or auxiliary is less than 7 feet from the surface under the sign or sign assembly should be located so that the sign does not intrude into any sidewalk or pedestrian path.
5. Extruded panel signs on breakaway (S & W steel shape) posts are intended for use on freeways and expressways, and should not be used on conventional roadways except in the vicinity of freeway interchanges or expressway intersections. Exceptions shall be approved by the Regional Traffic Engineer.
6. Flat sheet panels should not be installed on breakaway posts, and extruded panels should not be installed on square-tube posts, except as specifically allowed by the Engineer.
7. All signing materials shall conform to the Standard Specifications or project special provisions.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES	GENERAL SIGNING NOTES	DRAWING NO. S-1
APPROVED FOR DISTRIBUTION ON FILE		SHEET NO. 1 of 1

S&W SHAPE POST SELECTION CHART - 90 MPH (24.5 psf)

Sign Height (ft)	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	25'	26'	27'	28'	29'	30'	31'	32'	33'
14'	15'	16'	17'																										**	
13'	14'	15'	16'									W10x22																		
12'	13'	14'	15'			Redesign to 10' Width												W10x22									W10x22			
11'	12'	13'	14'																											
10'	11'	12'	13'								W8x18																			
9'	10'	11'	12'															W8x18							W8x18					
8'	9'	10'	11'																											
7'	8'	9'	10'																											
6'	7'	8'	9'						W6x12																					
5'	6'	7'	8'																											
4'	5'	6'	7'													W6x12														
3'	4'	5'	6'																					W6x12						
2'	3'	4'	5'																											
1'	2'	3'	4'	S4x7.7*																										
0'	1'	2'	3'												S4x7.7*							S4x7.7*								
	Two Post												Three Post									Four Post								
X=12'-14'																														
X=10'-12'																														
X=8'-10'																														
X=6'-8'																														

S&W SHAPE POST SELECTION CHART - Special Wind Region (30.0 psf)

Sign Height (ft)	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'	23'	24'	25'	26'	27'	28'	29'	30'	31'	32'	33'
14'	15'	16'	17'									**								**								**		
13'	14'	15'	16'			Redesign to 10' Width					W10x22																			
12'	13'	14'	15'															W10x22												
11'	12'	13'	14'																								W10x22			
10'	11'	12'	13'																											
9'	10'	11'	12'								W8x18																			
8'	9'	10'	11'															W8x18												
7'	8'	9'	10'																							W8x18				
6'	7'	8'	9'																											
5'	6'	7'	8'						W6x12																					
4'	5'	6'	7'													W6x12														
3'	4'	5'	6'																									W6x12		
2'	3'	4'	5'																											
1'	2'	3'	4'	S4x7.7*																										
0'	1'	2'	3'												S4x7.7*							S4x7.7*								
	Two Post												Three Post									Four Post								
X=12'-14'																														
X=10'-12'																														
X=8'-10'																														
X=6'-8'																														

NOTES:

X = Height from the bottom edge of the sign to the ground at the longest post.

* If the longest post is 12 ft or greater from the bottom of the sign to the ground, use W6x12 posts.

** Consider a smaller sign panel, more than four posts behind guardrail or barrier, or a different sign support type.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES	S & W BREAKAWAY POST SELECTION CHART	DRAWING NO. S-2
APPROVED FOR DISTRIBUTION ON FILE		SHEET NO. 1 of 2

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin construction. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

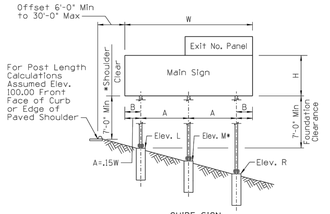
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

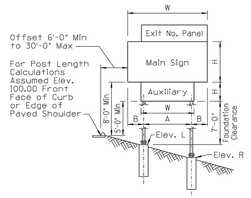
DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		M24	91 OF 118

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M24.DWG Sep. 17, 2015 12:44 PM

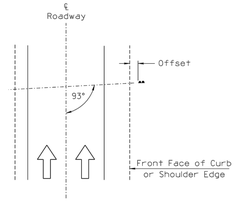
* When sign is 30'-0" or more from edge of paved shoulder, the 7'-0" shoulder clear may be reduced to 5'-0" minimum.



GUIDE SIGN
INSTALLED ON SHOULDER



GUIDE SIGN WITH AUXILIARY PANEL
INSTALLED ON SHOULDER

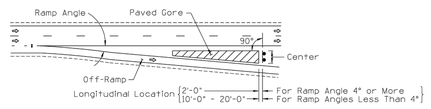


TYPICAL SIGN INSTALLATION
ON SHOULDER

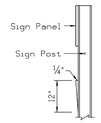
* For post length calculations for four-post signs, use "LM" for the left middle post and "RM" for the right middle post.

SIGN POST SPACING - S & W BREAKAWAY POSTS

Sign Width (ft)	Number of Posts	B	A	Sign Width (ft)	Number of Posts	B	A
4	2	0'-9"	2'-6"	19	3	2'-0"	7'-6"
5	2	1'-3"	2'-6"	20	3	2'-6"	7'-6"
6	2	1'-3"	3'-6"	21	3	3'-0"	7'-6"
7	2	1'-6"	4'-0"	22	3	3'-0"	8'-0"
8	2	1'-6"	5'-0"	23	3	3'-0"	8'-6"
9	2	1'-6"	6'-0"	24	3	3'-0"	9'-0"
10	2	1'-3"	7'-6"	25	4	1'-3"	7'-6"
11	2	1'-9"	7'-6"	26	4	1'-9"	7'-6"
12	2	2'-3"	7'-6"	27	4	2'-3"	7'-6"
13	2	2'-9"	7'-6"	28	4	2'-9"	7'-6"
14	2	3'-0"	8'-0"	29	4	3'-0"	7'-8"
15	2	3'-0"	9'-0"	30	4	3'-0"	8'-0"
16	3	1'-0"	7'-0"	31	4	3'-0"	8'-4"
17	3	1'-0"	7'-6"	32	4	3'-0"	8'-8"
18	3	1'-6"	7'-6"	33	4	3'-0"	9'-0"



EXIT GORE SIGN LOCATION
The location may be shifted by the Engineer to secure a more desirable location.



FOR GORE INSTALLATIONS ONLY

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-2
APPROVED FOR DISTRIBUTION ON FILE	S & W BREAKAWAY POST INSTALLATION DETAILS	SHEET NO. 2 of 2

DESIGNATION OF REVISIONS — ORIGINAL ISSUE — DATE — NAME OF — LEGEND

2:49:58 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign_mark\current.std\S-R3c.dgn

SQUARE TUBE POST TYPES	
2S	2"x2" 12 gauge perforated square tube post
2T	Telescoping assembly of a 1¾"x1¾" 12 gauge square tube post inside a 2"x2" 12 gauge perforated square tube post (typically used only for maintenance activities)
2½S	2½"x2½" 12 gauge perforated square tube post
2½T	Telescoping assembly of a 2¼"x2¼" 12 gauge square tube post inside a 2½"x2½" 12 gauge perforated square tube post

SIGN PANEL BOLT HOLE DRILLING
(SINGLE POST - RECTANGULAR)

Panel Height	6'-12"	18"	18"-36"	48"-60"
Hole Drilling (top or bottom of panel to center of hole)	1"	1½"	3"	6"

NOTES:

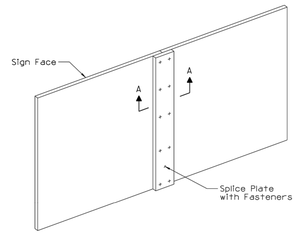
1. Slip bases shall be installed in accordance with the slip base selection chart, except that slip bases may be omitted on signs installed behind guardrail or barrier, or outside the clear zone.
2. The use of splices in aluminum flat-sheet panels should be avoided. If a splice is necessary, it shall be performed in accordance with the panel splice detail.
3. The use of splices in retroreflective sheeting shall only be permitted on signs with a minimum dimension of 54 inches or greater.
4. Where telescoping posts (2T and 2½T) are used in location at elevations above 5,000 feet, the outside post shall extend the entire length of the sign post. In other locations, the outside post may be discontinued between 2 and 6 inches below the bottom edge of the lower sign panel (See Std Dwg S-3, sheet 14).
5. For signs not in the tables in areas outside special wind regions, the following formula may be used:
   Bending Stress (ft-lb) = Total Sign Size (sq-ft) x Weighted Average Centroid Height (ft) x 24.5 psf.
   For calculation purposes, use the following maximum allowable bending stresses per post:

   2S: 1,240 ft-lb

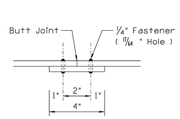
   2½S: 2,130 ft-lb

   2½T: 3,610 ft-lb

   For signs in special wind regions, the wind pressure may be adjusted based on engineering judgement. A default value of 30 psf may be used for special wind regions if a site-specific value is not available.
6. For maintenance activities, 2T posts may be substituted for 2½S posts with the approval of the Regional Traffic Engineer.
7. Mounting holes should be pre-drilled in sign panels intended for mounting on one post. See the chart for spacing. Sign panels mounted on multiple posts may be field drilled to match existing posts and stringer spacing.
8. For post recommendations for special sign assemblies (multiple route markers side by side, divided highway STOP / ONE WAY assemblies, etc.), see sheets 12 and 13.



PANEL SPLICE DETAIL



SECTION A-A

PANEL SPLICE NOTES:

A) Splice plates, if used, shall be fabricated of the same material as the sign panel, with a minimum thickness equal to the sign panel.

B) Fasteners shall be evenly spaced no greater than 15" on centers. The centers of the fasteners on the ends of each splice plate shall be located 1" from the edge of the splice plate.

C) Fasteners may be rivets or bolts. All hardware for fasteners shall be non-corrosive or plated.

SLIP BASE SELECTION CHART

Number of Post in Sign Assembly	2S	2½S	2½T
1 POST	NO	NO	SLIP BASE
2 POST	NO	SLIP BASE	SLIP BASE
3 POST	SLIP BASE	SLIP BASE	SLIP BASE

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	FLAT SHEET SIGNS SQUARE TUBE POST GENERAL NOTES	SHEET NO. 1 of 16

DESIGNATION OF REVISIONS — ORIGINAL ISSUE — DATE — NAME OF — LEGEND

2:48:45 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign_mark\current.std\S-R3c.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

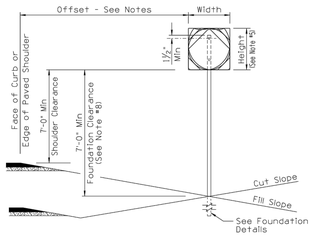
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

12" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R11206	6	2S	10
R11212	12	2S	10
R11218	18	2S	11
R11224	24	2S	11
R11230	30	2S	12
R11236	36	2S	12
R11242	42	2S[a]	13
R11248	48	2S[b]	13
R11254	54	2½S	14

18" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R11806	6	2S	10
R11812	12	2S	10
R11818	18	2S	11
R11824	24	2S	11
R11830	30	2S[b]	12
R11836	36	2S[b]	12
R11842	42	2½S[c]	13
R11848	48	2½S[c]	13
R11854	54	2½S[d]	14
R11860	60	2½T	14
R11866	66	2½T[e]	15
R11872	72	2½T[e]	15

24" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R12406	6	2S	10
R12412	12	2S	10
R12418	18	2S	11
R12424	24	2S[b]	11
R12430	30	2½S	12
R12436	36	2½S[c]	12
R12442	42	2½S[d]	13
R12448	48	2½T	13
R12454	54	2½T[e]	14
R12460	60	2½T[f]	14
R12466	66	2½T[f]	15
R12472	72	2½T[f]	15



NOTES:

1. These tables are to be used for rectangular, square, triangular, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length. See Table Notes.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	SINGLE POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 12, 18 AND 24 INCH WIDTHS	SHEET NO. 2 of 16

DESIGNATION OF REVISIONS — ORIGINAL ISSUE — DATE — NAME OF — LEGEND

2:48:58 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign_mark\current.std\S-R3c.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

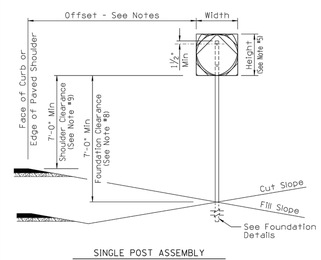
g) Use only with signs in level (less than 6:1) or cut sections.

30" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R13006	6	2S	10
R13012	12	2S[a]	10
R13018	18	2S[b]	11
R13024	24	2½S	11
R13030	30	2½S[c]	12
R13036	36	2½S[d]	12
R13042	42	2½T[e]	13
R13048	48	2½T[e]	13
R13054	54	2½T[f]	14
R13060	60	2½T[f]	14

36" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R13606	6	2S	10
R13612	12	2S	10
R13618	18	2S[b]	11
R13624	24	2½S[c]	11
R13630	30	2½S[d]	12
R13636	36	2½T[e]	12
R13642	42	2½T[f]	13
R13648	48	2½T[f]	13
R13654	54	2½T[g]	12
R13660	60	2½T[g]	12

42" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R14212	12	2S[a]	10
R14218	18	2½S[c]	11
R14224	24	2½S[d]	11
R14230	30	2½T[e]	12
R14236	36	2½T[f]	12
R14242	42	2½T[f]	13
R14248	48	2½T[g]	11
R14254	54	2½T[g]	12

54" WIDTH			
Type	Total Sign Assembly Height (inches)	Post Type	Total Post Length (ft) (See Note 2)
R15418	18	2½S[c]	9



SINGLE POST ASSEMBLY
Rectangular, Square, Octagonal, Pentagonal, Triangular, Circular, or Route Marker

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.
9. The R15418 mounting is intended for 54"x18" R6-1 ONE WAY signs only, and uses a 5 ft shoulder clearance.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	SINGLE POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 30, 36, 42 and 54 INCH WIDTHS	SHEET NO. 3 of 16

DESIGNATION OF REVISIONS — ORIGINAL ISSUE — DATE — NAME OF — LEGEND

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA, U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES	HORIZONTAL	VERTICAL	M25	92 OF 118

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-M25.DWG Sep. 17, 2015 12:44 PM

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

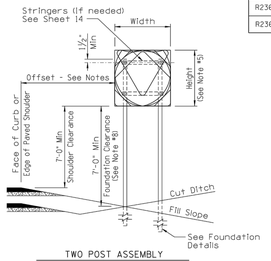
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

36" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R23612	12	2S	21
R23618	18	2S	22
R23624	24	2S	23
R23630	30	2S[a]	24
R23636	36	2S[b]	25
R23642	42	2½S	26
R23648	48	2½S[d]	27
R23654	54	2½S[d]	28
R23660	60	2½T	29
R23666	66	2½T	30
R23672	72	2½T[e]	31

42" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R24212	12	2S	21
R24218	18	2S	22
R24224	24	2S[a]	23
R24230	30	2S[b]	24
R24236	36	2½S	25
R24242	42	2½S[c]	26
R24248	48	2½S[d]	27
R24254	54	2½T	28
R24260	60	2½T[e]	29
R24266	66	2½T[f]	30
R24272	72	2½T[e]	31

48" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R24812	12	2S	21
R24818	18	2S	22
R24824	24	2S[b]	23
R24830	30	2½S	24
R24836	36	2½S[c]	25
R24842	42	2½S[d]	26
R24848	48	2½T	27
R24854	54	2½T[e]	28
R24860	60	2½T[e]	29
R24866	66	2½T[f]	30
R24872	72	2½T[g]	26
R24878	78	2½T[g]	27
R24884	84	2½T[g]	28



TWO POST ASSEMBLY
Rectangular, Square, Octagonal, Pentagonal, Triangular, Pennant, or Circular

POST SPACING - TWO POST RECTANGULAR SIGNS			
Panel Width	36"	42"	48"
Post Spacing	2'-0"	2'-6"	2'-6"

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	TWO POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 36, 42 AND 48 INCH WIDTHS	SHEET NO. 4 of 16

2:23:16 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign.mark\current.std\S-03e.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

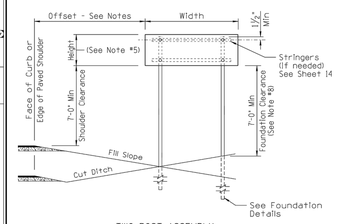
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

54" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R25412	12	2S	21
R25418	18	2S[a]	22
R25424	24	2S[b]	23
R25430	30	2½S[c]	24
R25436	36	2½S[c]	25
R25442	42	2½T	26
R25448	48	2½T[e]	27
R25454	54	2½T[e]	28
R25460	60	2½T[f]	29

60" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R26012	12	2S	21
R26018	18	2S[b]	22
R26024	24	2½S	23
R26030	30	2½S[c]	24
R26036	36	2½S[d]	25
R26042	42	2½T	26
R26048	48	2½T[e]	27
R26054	54	2½T[f]	28
R26060	60	2½T[g]	24

72" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R27212	12	2S	21
R27218	18	2S[b]	22
R27224	24	2½S[c]	23
R27230	30	2½S[d]	24
R27236	36	2½T[e]	25
R27242	42	2½T[e]	26
R27248	48	2½T[f]	27
R27254	54	2½T[g]	23
R27260	60	2½T[g]	24



TWO POST ASSEMBLY
Rectangular

POST SPACING - TWO POST RECTANGULAR SIGNS			
Panel Width	54"	60"	72"
Post Spacing	2'-6"	3'-0"	3'-8"

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	TWO POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 54, 60 AND 72 INCH WIDTHS	SHEET NO. 5 of 16

2:23:52 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign.mark\current.std\S-03e.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

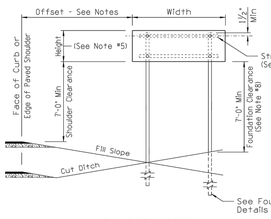
g) Use only with signs in level (less than 6:1) or cut sections.

84" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R28412	12	2S[a]	21
R28418	18	2½S	22
R28424	24	2½S[d]	23
R28430	30	2½T[e]	24
R28436	36	2½T[e]	25
R28442	42	2½T[g]	21
R28448	48	2½T[g]	22
R28454	54	2½T[g]	23

96" - 108" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R29612	12	2S[b]	22
R29618	18	2½S[c]	23
R29624	24	2½T[e]	24
R29630	30	2½T[e]	25
R29636	36	2½T[g]	20
R29642	42	2½T[g]	21

120" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R2X112	12	2½S[c]	22
R2X118	18	2½S[d]	23
R2X124	24	2½T[e]	24
R2X130	30	2½T[f]	25
R2X136	36	2½T[g]	20

132" - 144" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R2X212	12	2½S[c]	22
R2X218	18	2½T[e]	23
R2X224	24	2½T[f]	24
R2X230	30	2½T[g]	19



TWO POST ASSEMBLY
Rectangular

POST SPACING - TWO POST RECTANGULAR SIGNS					
Panel Width	84"	96"	108"	120"	132"	144"
Post Spacing	4'-2"	4'-10"	5'-4"	6'-0"	6'-8"	7'-4"

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	TWO POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 84 - 144 INCH WIDTHS	SHEET NO. 6 of 16

2:46:48 PM 6/3/2014 W:\Traffic\Devlr.dev\english.std\sign.mark\current.std\S-03f.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

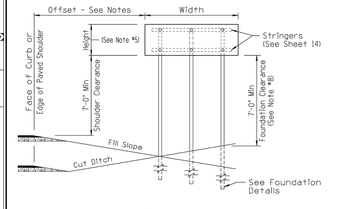
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

48" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R34872	72	2½T	46
R34884	84	2½T[e]	49
R34896	96	2½T[f]	52
R34BX1	108	2½T[g]	48

60" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R36054	54	2½T	42
R36060	60	2½T	43
R36066	66	2½T[e]	45
R36072	72	2½T[e]	46
R36078	78	2½T[f]	48
R36084	84	2½T[g]	42
R36090	90	2½T[g]	44
R36096	96	2½T[g]	45

72" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R37248	48	2½T	41
R37254	54	2½T[e]	42
R37260	60	2½T[e]	44
R37266	66	2½T[f]	45
R37272	72	2½T[g]	39
R37278	78	2½T[g]	41
R37284	84	2½T[g]	42



THREE POST ASSEMBLY
Rectangular Sign

POST SPACING - THREE POST RECTANGULAR SIGNS			
Panel Width	48"	60"	72"
Post Spacing	2'-0"	2'-0"	2'-0"

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
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7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	THREE POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 48, 60 AND 72 INCH WIDTHS	SHEET NO. 7 of 16

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		M26	93 OF 118

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TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½°S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½°S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½°T post.

d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½°T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

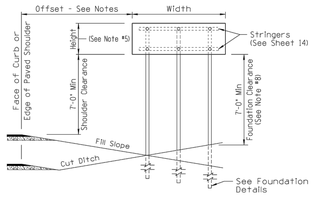
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

84" - 96" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R3963O	30	2½T	36
R3963G	36	2½T	37
R3964Z	42	2½T[e]	39
R3964B	48	2½T[e]	40
R3965Y	54	2½T[g]	35
R3966O	60	2½T[g]	36
R3966G	66	2½T[g]	38

108" - 120" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R3X13O	30	2½T[e]	37
R3X13G	36	2½T[e]	39
R3X14Z	42	2½T[f]	40
R3X14B	48	2½T[g]	33
R3X15Y	54	2½T[g]	35

132" - 144" WIDTH			
Type	Total Sign Assembly Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)
R3X224	24	2½T[e]	36
R3X23O	30	2½T[e]	38
R3X23G	36	2½T[f]	39
R3X24Z	42	2½T[g]	32
R3X24B	48	2½T[g]	33



THREE POST ASSEMBLY
Rectangular Sign

POST SPACING - THREE POST RECTANGULAR SIGNS						
Panel Width	84"	96"	108"	120"	132"	144"
Post Spacing	2'-6"	2'-10"	3'-2"	3'-6"	3'-10"	4'-2"

NOTES:

1. These tables are to be used for rectangular, square, triangular, pennant, pentagonal, octagonal, round and route marker signs, including auxiliaries and plaques. For diamond-shape warning signs, use charts for warning signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope away from pavement. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. For multi-sign assemblies (including signs with auxiliaries and/or plaques), the height in the table is the cumulative height of all signs, auxiliaries and plaques in the assembly.
6. For multi-sign assemblies, the width table to be used should be defined by the widest sign panel in the assembly.
7. For special sign assemblies (multiple route markers side by side, divided highway STOP, ONE WAY assemblies, etc.), see sheets 12 and 13.
8. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	THREE POST FLAT SHEET RECTANGULAR SIGN ASSEMBLY 84" - 144 INCH WIDTHS	SHEET NO. 8 of 16

4:22:24 PM 6/3/2014 W:\Traffic\Dev\tr.dev\english.std\sign.mark\current.std\S-03.dgn

TABLE NOTES:

a) For fill slopes 2:1 or greater at a 12 ft offset, use 2½S post.

b) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½S post.

c) For fill slopes 2:1 or greater at a 12 ft offset, use 2½T post.

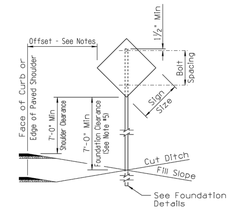
d) For fill slopes 4:1 or greater, or offset greater than 12 ft, use 2½T post.

e) May not be advisable for fill slopes 2:1 or greater at a 12 ft offset, or in special wind regions.

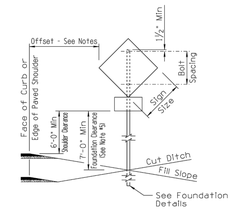
f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft, or in special wind regions.

g) Use only with signs in level (less than 6:1) or cut sections.

h) Use only where a two-post assembly cannot be accommodated.



SINGLE POST WARNING SIGN



SINGLE POST WARNING SIGN
WITH SMALL PLAQUE

SINGLE POST WARNING SIGN - NO PLAQUE				
Type	Sign Size Along Edges (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W124	24	2S[b]	11	24
W130	30	2½S[d]	11	30
W136	36	2½T[e]	12	30
W148	48	2½T[h]	13	30

SINGLE POST WARNING SIGN - WITH SQUARE OR SMALL RECTANGULAR PLAQUE					
Type	Sign Size Along Edges (Inches)	Square Plaque Size (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W124a	24	18	2½S[c]	12	24
W130a	30	24	2½T[e]	14	30
W136a	36	24	2½T[e]	14	30
W130b	36	30	2½T[g]	13	30

NOTES:

1. These tables are to be used for diamond-shape warning signs, along with associated plaques. For other sign shapes, use the charts for rectangular signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Lateral offset may be adjusted to improve visibility, to not obstruct other signs, or for other reasons. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	WARNING SIGN ASSEMBLY SINGLE POST	SHEET NO. 9 of 16

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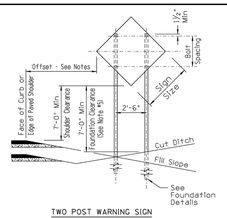
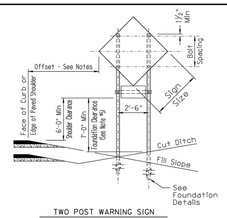


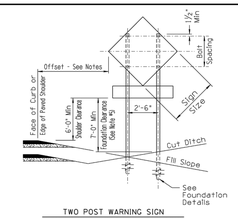
TWO POST WARNING SIGN
WITHOUT PLAQUE

TWO POST WARNING SIGN - WITHOUT PLAQUE				
Type	Sign Size Along Edges (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W236	36	2½S	27	18
W248	48	2½T	30	30



TWO POST WARNING SIGN
WITH SMALL AUXILIARY PLAQUE

TWO POST WARNING SIGN WITH SQUARE OR SMALL RECTANGULAR PLAQUE					
Type	Sign Size Along Edges (Inches)	Plaque Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W236a	36	24	2½S[c]	29	12
W236b	36	30	2½T	30	18
W248a	48	30	2½T[f]	33	18
One Stringer - 2'-8" Length					



TWO POST WARNING SIGN
WITH LARGE RECTANGULAR PLAQUE

TWO POST WARNING SIGN WITH LARGE RECTANGULAR PLAQUE					
Type	Sign Size Along Edges (Inches)	Plaque Width (Inches)	Plaque Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W224c*	24	36	18	2S[b]	25	10
W230c	30	36	18	2½S	27	12
W236c	36	36	18	2½S[c]	28	18
W248c	48	48	24	2½T[f]	32	18
* Use 2'-0" Post Spacing For This Assembly						

NOTES:

1. These tables are to be used for diamond-shape warning signs, along with associated plaques. For other sign shapes, use the charts for rectangular signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Lateral offset may be adjusted to improve visibility, to not obstruct other signs, or for other reasons. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	WARNING SIGN ASSEMBLY TWO POST	SHEET NO. 10 of 16

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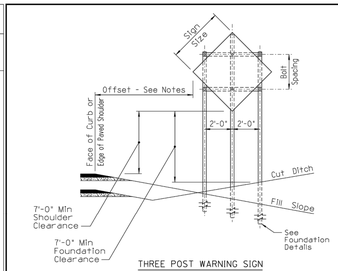
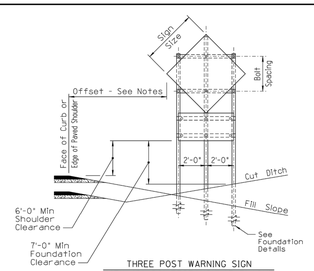


THREE POST WARNING SIGN



THREE POST WARNING SIGN
WITH 48"x24" RECTANGULAR PLAQUE

THREE POST WARNING SIGN - WITHOUT PLAQUE				
Type	Sign Size Along Edges (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W348	48	2½T	46	30
Two Stringers - 4'-2" Length Each				

THREE POST WARNING SIGN WITH LARGE RECTANGULAR PLAQUE						
Type	Sign Size Along Edges (Inches)	Plaque Width (Inches)	Plaque Height (Inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (Inches)
W348d	48	48	24	2½T	49	30
Four Stringers - 4'-2" Length Each						

NOTES:

1. These tables are to be used for diamond-shape warning signs, along with associated plaques. For other sign shapes, use the charts for rectangular signs.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope. Different offsets or slopes may affect post type and length.
4. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Lateral offset may be adjusted to improve visibility, to not obstruct other signs, or for other reasons. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical, in which case an offset of as small as 2 ft may be used.
5. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	WARNING SIGN ASSEMBLY THREE POST	SHEET NO. 11 of 16

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL / VERTICAL		M27	94 OF 118

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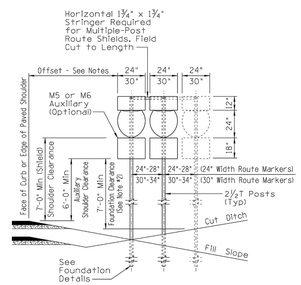
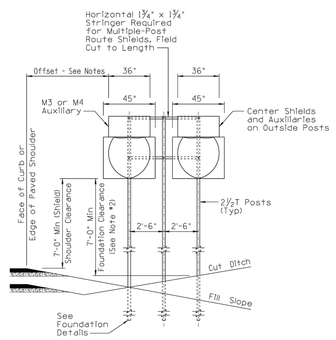


MULTIPLE ROUTE MARKER
Conventional Road (Including Freeway Ramp or Crossroad) 24 and 30 Inch Width Route Markers



MULTIPLE ROUTE MARKER
Freeway or Expressway Mainline 36 and 45 Inch Width Route Markers

NOTE:

1. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Lateral offset may be adjusted to improve visibility, to not obstruct other signs, or for other reasons. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical. In which case an offset of as small as 2 ft may be used.
2. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	MULTIPLE ROUTE MARKER ASSEMBLIES	SHEET NO. 12 of 16

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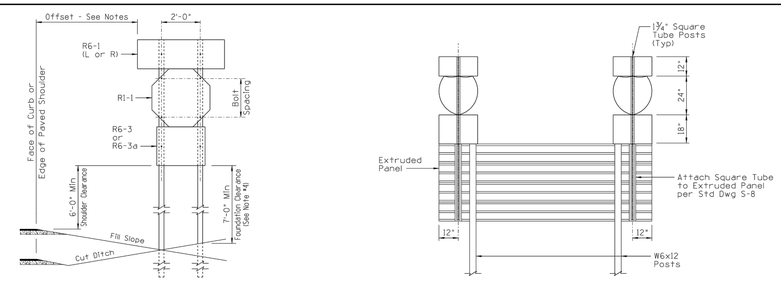

STOP / ONE WAY SIGN ASSEMBLY
FOR DIVIDED HIGHWAY INTERSECTIONS

COMBINATION ROUTE MARKER/DESTINATION ASSEMBLY
Rear View

Type	R6-1 Size (inches)	R1-1 Size (inches)	R6-3 Size (inches)	Post Type	Total Post Length (ft) (See Note 2)	Bolt Spacing (inches)
D1	36x12	30	30x24	2½T	30	24
D2	54x18	36	30x24	2½T[f]	33	24

f) May not be advisable for fill slopes 4:1 or greater, or offset greater than 12 ft or in special wind regions.

NOTES:

1. Sign offset is generally a minimum of 12 ft from edge of pavement to near edge of sign, but may be as close as 6 ft based on site conditions. Signs behind guardrail are generally placed 6 ft behind the face of guardrail. Lateral offset may be adjusted to improve visibility, to not obstruct other signs, or for other reasons. Signs generally should not be placed closer than 6 ft from the edge of paved shoulder or face of curb, except on urban streets where such an offset is impractical. In which case an offset of as small as 2 ft may be used.
2. Post lengths in tables are for estimating purposes only. Post lengths will be determined in field at the sign location to satisfy minimum mounting height requirements. Actual post length will vary depending on offset, ground slope and other factors.
3. Calculations in table are based on a 12 ft offset from near edge of sign to edge of pavement and a 6:1 fill slope. Different offsets or slopes may affect post type and length.
4. The foundation clearance may be reduced if the shoulder clearance is greater than 10 ft and the sign does not overhang any sidewalk or pedestrian path.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	SPECIAL SIGN ASSEMBLIES	SHEET NO. 13 of 16

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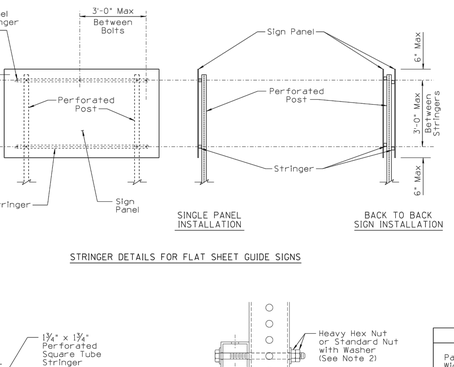
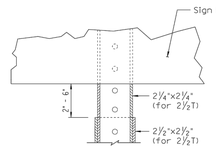


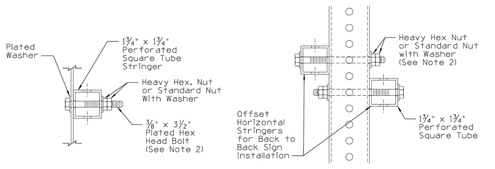
STRINGER DETAILS FOR FLAT SHEET GUIDE SIGNS

NOTES:

1. 2 inch square tubes may be substituted for 1¾ inch square tubes on stringers with the approval of the Engineer.
2. Double-nutting is required for all flat sheet signs and sign assemblies. The nuts shall be tightened firmly against each another. The bolt length shall be sufficient for a minimum of ⅜ inch to extend beyond the outermost nut.



TELESCOPING POST INSTALLATION
(See Note *4 on Sheet 1)



PANEL TO STRINGER OR POST CONNECTION
TOP VIEW

STRINGER TO POST CONNECTION
TOP VIEW

STRINGER INFORMATION									
Panel Width	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"
Stringer Length	4'-2"*	4'-6"	5'-0"	6'-0"	6'-8"	7'-4"	8'-0"	8'-8"	9'-4"
Bolts to Panel per Stringer	2	3	3	3	3	4	4	4	4

* Only needed on three-post signs to support panel.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	STRINGER DETAILS FOR SQUARE TUBE POSTS	SHEET NO. 14 of 16

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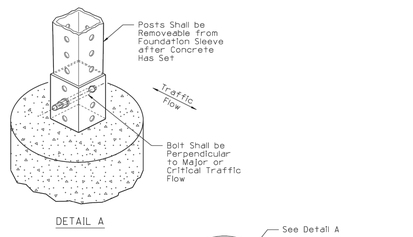
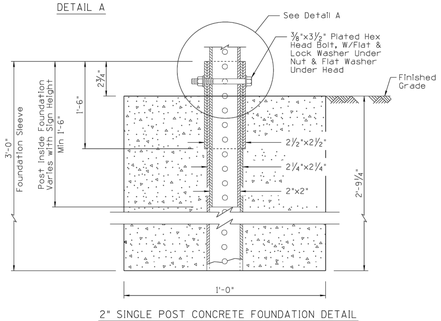


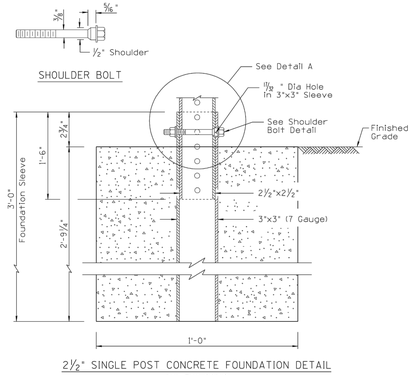
DETAIL A

NOTES:

1. For estimating purposes; concrete quantity per post is 0.09 cubic yards for 1 foot diameter foundations.



2" SINGLE POST CONCRETE FOUNDATION DETAIL
IN WEAK SOILS



2½" SINGLE POST CONCRETE FOUNDATION DETAIL
IN WEAK SOILS

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	SQUARE TUBE SIGN POST FOUNDATION	SHEET NO. 15 of 16

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		M28	95 OF 118

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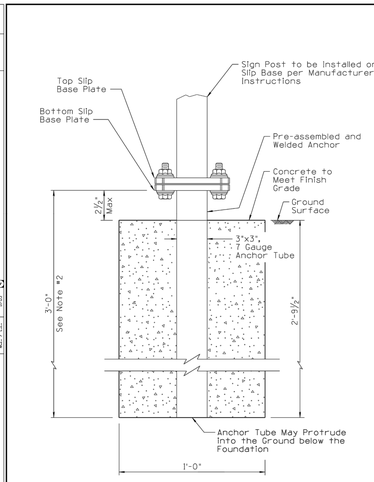
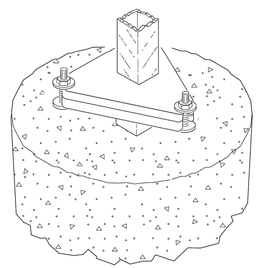


FOUNDATION DETAILS

Pre-assembled Slip Base Unit. Exact Configuration Varies. Contact Manufacturer or ADOT Approved Product List for Information and Requirements.

NOTES:

1. All slip bases shall be pre-assembled by the manufacturer. The slip base shall be installed according to the manufacturer's instructions.
2. Anchor tube and bottom slip base shall be welded together into a one-piece assembly installed in the foundation.



NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-3
APPROVED FOR DISTRIBUTION ON FILE	SQUARE TUBE POST SLIP BASE DETAILS	SHEET NO. 16 of 16

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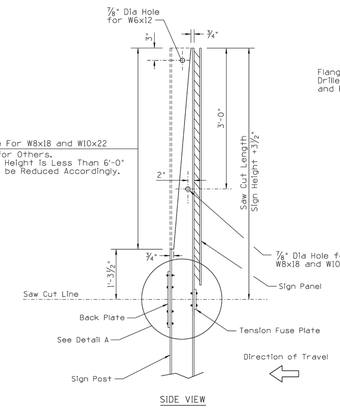
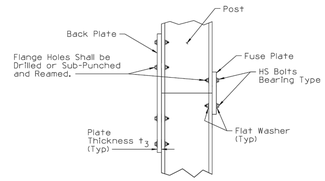
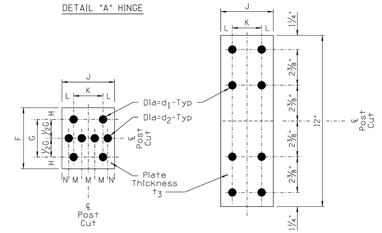


SIDE VIEW



DETAIL "A" HINGE



TENSION FUSE PLATE BACK PLATE

(SEE TABLE FOR DIMENSIONS)

All plate holes shall be drilled. All plate cuts shall preferably be saw cuts; flame cutting will be permitted, provided all edges are ground.

BACK PLATE AND TENSION FUSE PLATE DATA

POST SIZE	DIMENSION FOR NEW POST SIZES												
	F	G	H	J	K	L	M	N	d_1	d_2	t_3	BOLT Dia	BOLT LENGTH
W6x12	4¾"	2½"	1⅛"	4"	2¼"	⅞"	1"	½"	9/16"	¾"	¼"	½"	1½"
W8x18	5"	2½"	1¼"	5¼"	2¾"	1¼"	1¼"	¾"	7/16"	11/16"	⅜"	⅝"	1⅞"
W10x22	5½"	2½"	1½"	5¾"	2¾"	1½"	1⅜"	15/16"	15/16"	1⅛"	½"	¾"	2⅛"
W12x26	5½"	2½"	1½"	6½"	3½"	1½"	1⅝"	15/16"	15/16"	1⅛"	½"	¾"	2⅛"

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-4
APPROVED FOR DISTRIBUTION ON FILE	W SHAPE BREAKAWAY POST FUSE PLATE AND HINGE DETAILS	SHEET NO. 1 OF 1

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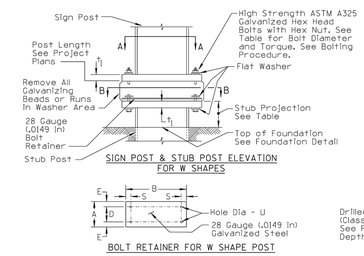
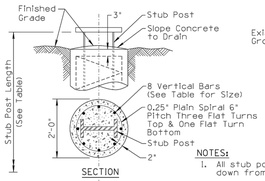
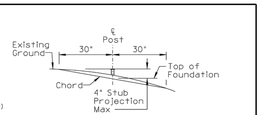


SIGN POST & STUB POST ELEVATION FOR W SHAPES

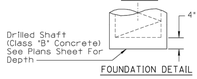
BOLT RETAINER FOR W SHAPE POST



SECTION



STUB PROJECTION LIMITS



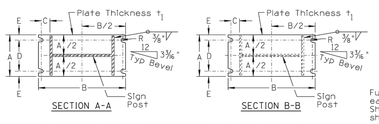
FOUNDATION DETAIL

NOTES:

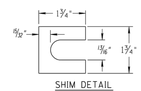
1. All stub posts shall be galvanized a minimum of 12" down from the base of plate.
2. Where solid rock is encountered, foundation shall be plan depth or extended 2' minimum into the rock.
3. All plates shall be ASTM A572 Grade 50. All plate holes shall be drilled. All plate cuts shall preferably be sawcuts; flame cutting will be permitted, provided all edges are ground smooth.

PROCEDURE FOR BOLTING & ASSEMBLY OF BASE CONNECTION

1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post. (4 shims per bolt maximum).
3. Tighten all bolts the maximum possible with 12" to 15" wrench to bed washers and shims and to clean bolt threads, then loosen each bolt in turn and retighten bolts in a systematic order to the prescribed torque (see table). Tighten the bolts in the base connection to the torque shown. DO NOT OVERTIGHTEN.
4. Do not deform threads.



Sections shown are for installations on right shoulder and gore. For installation on left shoulder, plate slot bevels are reversed.



SHIM DETAIL

Furnish 2 each 0.012"± thick and 2 each 0.032"± thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to the requirements of ASTM B36. Four shims per bolt maximum.

BASE CONNECTION DATA TABLE

POST SIZE	BOLT SIZE AND TORQUE	DIMENSIONS FOR POST SIZES								
		A	B	C	D	E	R	t_1	S	U
W6x12	⅝" Dia x 3" Torque = 19 to 29 Foot-Lbs	5¾"	10"	1¼"	2¾"	1½"	11/32"	¾"	¾"	11/16"
W8x18	⅝" Dia x 3" Torque = 19 to 29 Foot-Lbs	5¾"	12⅛"	1¼"	2¾"	1½"	11/32"	¾"	¾"	11/16"
W10x22	¾" Dia x 3" Torque = 31 to 46 Foot-Lbs	6½"	14⅝"	1⅜"	3½"	1½"	13/32"	1"	⅞"	13/16"

FOUNDATION DATA

POST SIZE	STUB LENGTH	STUB PROJECTION	VERTICAL BAR SIZE	APPROXIMATE QUANTITIES PER LINEAR FT: CONC. CU. YD.	STEEL LBS.	FOUNDATION DEPTH (SEE NOTE 2 ALSO): SLOPES ≤ 4:1 TWO,THREE OR FOUR POSTS	SLOPES > 4:1 TWO,THREE OR FOUR POSTS
W6x12	2'-0"	3"	#5	0.116	8.9	6'-0"	6'-0"
W8x18	2'-6"	3"	#7	0.116	16.3	7'-0"	7'-6"
W10x22	3'-0"	2½"	#9	0.116	26.5	8'-0"	8'-6"

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-5
APPROVED FOR DISTRIBUTION ON FILE	W SHAPE BREAKAWAY POST DETAILS	SHEET NO. 1 OF 1

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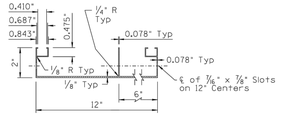
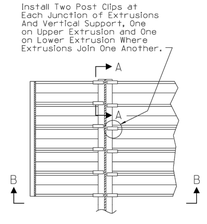
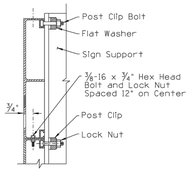


Weight per Linear ft = 2.69 Lbs Minimum 12" Extrusion

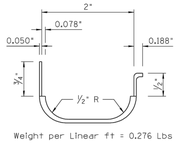
SECTION VIEW OF EXTRUSION



BACK ELEVATION OF SIGN PANEL

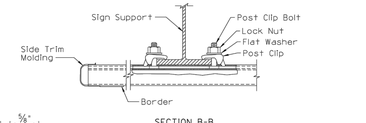


SECTION A-A
INSTALLATION DETAIL

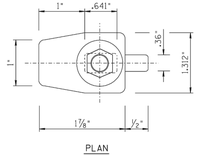


Weight per Linear ft = 0.276 Lbs

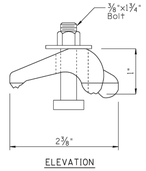
SIDE TRIM MOLDING DETAIL



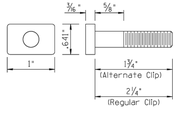
SECTION B-B
INSTALLATION DETAIL



PLAN



ELEVATION



POST CLIP BOLT DETAIL

NOTE:

All bolts, washers and lock nuts shall be aluminum alloy, stainless steel, or plated steel.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-7
APPROVED FOR DISTRIBUTION ON FILE	ALUMINUM EXTRUSION SIGN PANEL DETAILS	SHEET NO. 1 of 3

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

	REVISION	BY	DATE

CITY OF PRESCOTT Excerpt(s) Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		M29	96 OF 118

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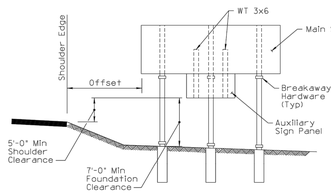
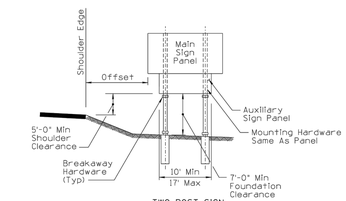


THREE POST SIGN

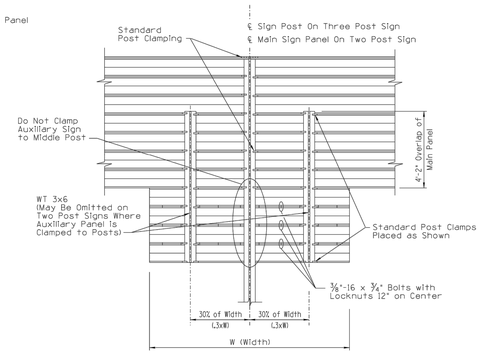
Use Also for Auxiliary Signs That Do Not Overlap Outside Posts



TWO POST SIGN

Where Auxiliary Signs Overlap Posts

WT 3x6 shall be ASTM A36/A36M-00 steel galvanized to conform to the requirements of ASTM A123/A123M-97A(1999)E1



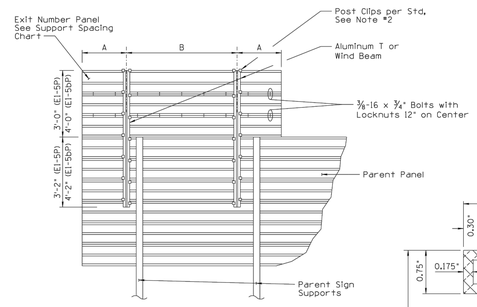
REAR ELEVATION

NOTE:

Do not clamp auxiliary sign to the middle post on three post signs.

NOT TO SCALE

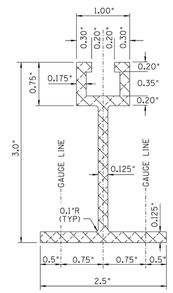
DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 6/14
SIGNATURES		DRAWING NO. S-7
APPROVED FOR DISTRIBUTION ON FILE	ALUMINUM EXTRUSION AUXILIARY SIGN INSTALLATION DETAILS	SHEET NO. 2 of 3



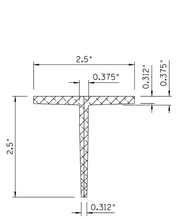
ALUMINUM EXTRUSION PANEL

REAR ELEVATION

EXIT NUMBER PANEL SUPPORT SPACING CHART		
EXIT PANEL WIDTH	DIMENSION A	DIMENSION B
10'-0"	2'-0"	6'-0"
11'-0"	2'-6"	6'-0"
12'-0"	2'-6"	7'-0"
13'-0"	2'-6"	8'-0"
14'-0"	2'-6"	9'-0"
16'-0"	3'-0"	10'-0"



WINDBEAM CROSS SECTION



ALUMINUM T SECTION

NOTES:

1. A right exit number panel (EI-5P) shall be mounted with two uprights so that its right edge is flush with the right edge of the parent sign. A left exit number panel (EI-5bP) shall be mounted with two uprights so that its left edge is flush with the left edge of the parent sign.
2. Install two post clips at each junction of extrusions and vertical support, one on upper extrusion and one on lower extrusion where extrusions join one another.
3. The exit panel support may be moved a maximum of 6 inches either direction if it conflicts with the parent sign support.
4. All bolts, washers and lock nuts shall be aluminum alloy, stainless steel, or plated steel.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNING & MARKING STANDARD DRAWINGS	REVISION 5/15
SIGNATURES		DRAWING NO. S-7
APPROVED FOR DISTRIBUTION ON FILE	ALUMINUM EXTRUSION EXIT PANEL INSTALLATION DETAILS	SHEET NO. 3 of 3

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SIGNING & MARKING DETAILS

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		M30	97 OF 118

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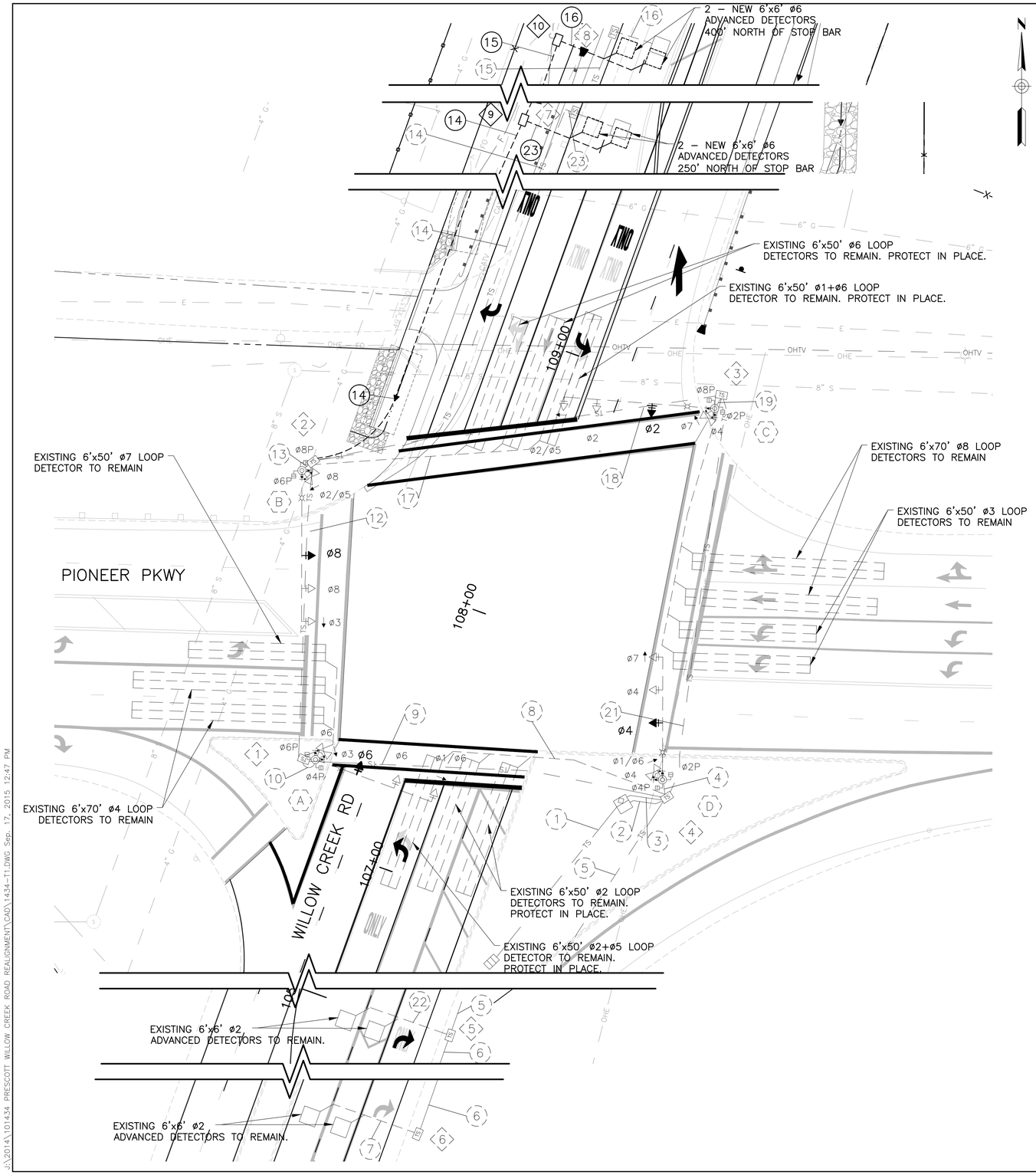

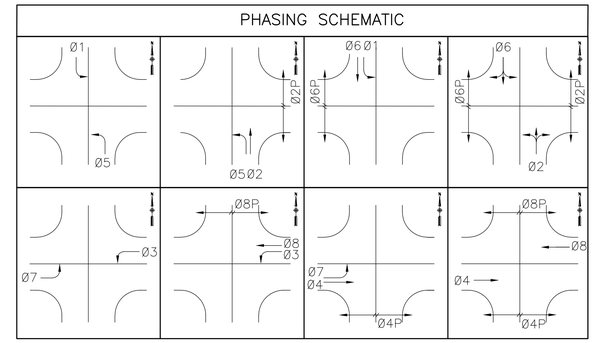

NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO THE 2008 ARIZONA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, THE CURRENT "TRAFFIC SIGNALS AND LIGHTING" STANDARD DRAWINGS, THE SPECIAL PROVISIONS, AND THESE DRAWINGS.
2. THE LOCATION OF THE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE. ALL INVOLVED UTILITIES MAY NOT BE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITIES FOR EXACT LOCATIONS PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. THE CONTRACTOR SHALL MAINTAIN AT LEAST 10 FEET OF CLEARANCE BETWEEN THE OVERHEAD POWER LINES AND THE SIGNAL EQUIPMENT.
4. FOR SERVICE REQUIREMENTS CONTACT MIKE SHAW AT ARIZONA PUBLIC SERVICE, (928) 776–3617.
5. THE ADVANCE LOOP DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH ADOT STD DWG T.S. 7–1. THE LOOP SAW CUT SEALANT SHALL BE HOT APPLIED RUBBERIZED TYPE. THE SEALANT SHALL BE APPLIED WITH A PRESSURE FEED MELTER UNIT. POUR POT APPLICATION IS NOT ACCEPTABLE. LOOP DETECTORS SHALL BE CENTERED IN THE TRAFFIC LANES AS SHOWN ON THE PLANS.
6. ALL CONDUIT SHALL BE SCHEDULE 40 PVC. EXCEPT ON RUNS OVER 150 L.F. WHERE GALVANIZED, RIGID, TAPER SWEEPS SHALL BE USED PER ADOT SPECIFICATIONS.
7. THE CONTRACTOR SHALL SUPPLY ALL EQUIPMENT, MATERIALS, TOOLS, AND LABOR.
8. SEE THE STRIPING AND SIGNING PLAN SHEETS FOR ALL NEW PAVEMENT MARKING AT THE INTERSECTION.

CONSTRUCTION NOTES:

1. REMOVE TWO EXISTING 6'x6' ø6 (SOUTHBOUND) ADVANCE LOOP DETECTORS AND ASSOCIATED NO. 5 PULL BOXES.
2. INSTALL FOUR NEW 6'x6' ø6 (SOUTHBOUND) ADVANCE LOOP DETECTORS WITH LEAD–INS CONTINUOUS TO CONTROLLER.
3. INSTALL TWO NEW NO. 5 PULL BOXES. TOP OF PULL BOX SHALL BE PLACED AT THE EDGE OF PAVEMENT ELEVATION.

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

0' 10' 20' 40'

SCALE: 1"=20'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK RD & PIONEER PKWY TRAFFIC SIGNAL PLAN

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=10' HORIZONTAL _ VERTICAL			T1	98 OF 118

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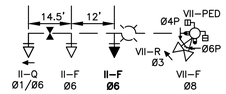
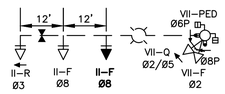
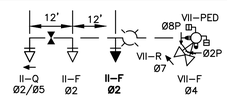
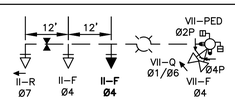
POLE SCHEDULE

TABLE								REMARKS	LOCATION
CABINET		TYPE	CONTROLLER		AUX. CONTROL				
◇		IV (EXISTING)	ECONOLITE ASC/2-2100 (EXISTING)		PEC AND 20 AMP FUSED LIGHTING CONTACTOR (EXISTING)			EXISTING TO REMAIN	PIONEER PKWY STA 305+26 57' RT
POLE			MAST ARM		SIGNALS		PPB	REMARKS	LOCATION
NO.		TYPE	SIG	LUM	MTG	FACE			
A		R (EXISTING)	45' (EXISTING)	15' (EXISTING)	1-II 1-II **1-II** 1-VII 1-VII	1-Q 1-F **1-F** 1-R, I-F 2-M/H	2 PED P.B. WITH T.S. 11-1 R10-4b (L) & (R)	EXISTING TO REMAIN. **DRILL AND INSTALL TENON ON MAST ARM. INSTALL TYPE F SIGNAL HEAD WITH A TYPE II MOUNT AS SHOWN ON PLANS.**	WILLOW CREEK RD STA 107+29 40' LT
B		R (EXISTING)	55' (EXISTING)	15' (EXISTING)	1-II 1-II **1-II** 1-VII 1-VII	1-R 1-F **1-F** 1-Q, I-F 2-M/H	2 PED P.B. WITH T.S. 11-1 R10-4b (L) & (R)	EXISTING TO REMAIN. **DRILL AND INSTALL TENON ON MAST ARM. INSTALL TYPE F SIGNAL HEAD WITH A TYPE II MOUNT AS SHOWN ON PLANS.**	WILLOW CREEK RD STA 108+26 81' LT
C		R (EXISTING)	55' (EXISTING)	15' (EXISTING)	1-II 1-II **1-II** 1-VII 1-VII	1-Q 1-F **1-F** 1-R, I-F 2-M/H	2 PED P.B. WITH T.S. 11-1 R10-4b (L) & (R)	EXISTING TO REMAIN. **DRILL AND INSTALL TENON ON MAST ARM. INSTALL TYPE F SIGNAL HEAD WITH A TYPE II MOUNT AS SHOWN ON PLANS.**	WILLOW CREEK RD STA 108+99 53' RT
D		R (EXISTING)	45' (EXISTING)	15' (EXISTING)	1-II 1-II **1-II** 1-VII 1-VII	1-R 1-F **1-F** 1-Q, I-F 2-M/H	2 PED P.B. WITH T.S. 11-1 R10-4b (L) & (R)	EXISTING TO REMAIN. **DRILL AND INSTALL TENON ON MAST ARM. INSTALL TYPE F SIGNAL HEAD WITH A TYPE II MOUNT AS SHOWN ON PLANS.**	WILLOW CREEK RD STA 107+65 81' RT

NOTES:

1. THE CONTROL CABINET SHALL BE WIRED AND LABELED WITH THE SAME PHASE NUMBER DESIGNATIONS AS SHOWN IN THE PHASE MOVEMENT DIAGRAM. EACH CONNECTOR SHALL HAVE ALL PINS WITHIN THE CONNECTOR BROUGHT TO CABINET TIE POINTS.
2. BACKPLATES FOR THE MAST ARM MOUNTED SIGNAL FACES SHALL BE LOUVERED.

IMSA CABLE 19-1, #14 AWG, 4 CONDUCTOR & 7 CONDUCTOR

SIGNAL HEADS OUTBOARD & FAR LEFT		SIGNAL HEADS INBOARD & SIDE MOUNT		PEDESTRIAN HEADS		PUSH BUTTON	
7 CONDUCTOR CABLE		4 CONDUCTOR CABLE		4 CONDUCTOR CABLE		4 CONDUCTOR CABLE	
BASIC COLOR	SIGNAL INTERVAL	BASIC COLOR	SIGNAL INTERVAL	BASIC COLOR	SIGNAL INTERVAL	BASIC COLOR	SIGNAL INTERVAL
RED	RED	RED	RED	RED	DON'T WALK	RED	PUSH BUTTON
BLACK	YELLOW	BLACK	YELLOW	GREEN	WALK	WHITE	P.B. COMMON
GREEN	GREEN	GREEN	GREEN	WHITE	PED COM	GREEN	SPARE
ORANGE	YELLOW ARROW	WHITE	VEH COM	BLACK	SPARE	BLACK	SPARE
BLUE	GREEN ARROW	THE CABLE SHALL BE TAGGED AS TO ASSIGNED PHASE					
WHITE	VEH COM						
WHITE/BLACK	VEH COM						

PULL BOX SCHEDULE

NO.	TYPE	LOCATION	REMARKS
1	NO. 7	APPROXIMATE AS SHOWN	TO REMAIN
2	NO. 7	APPROXIMATE AS SHOWN	TO REMAIN
3	NO. 7	APPROXIMATE AS SHOWN	TO REMAIN
4	NO. 7	APPROXIMATE AS SHOWN	TO REMAIN
5	NO. 5	APPROXIMATE AS SHOWN	TO REMAIN
6	NO. 5	APPROXIMATE AS SHOWN	TO REMAIN
7	NO. 5	APPROXIMATE AS SHOWN	**TO BE REMOVED**
8	NO. 5	APPROXIMATE AS SHOWN	**TO BE REMOVED**
9	**NO. 5**	**WILLOW CREEK ROAD STA 111+20, 48.0' LT**	**INSTALL NEW**
10	**NO. 5**	**WILLOW CREEK ROAD STA 112+70, 48.0' LT**	**INSTALL NEW**

IMSA CABLE 19-1, #14 AWG, 20 CONDUCTOR

PHASE	CONDUCTOR COLOR		SIGNAL INTERVAL
	BASIC COLOR	TRACER STRIPE	
□1 or □5	RED	WHITE	RED
	BLACK	WHITE	YELLOW
	GREEN	WHITE	GREEN
□2 or □6	RED	--------	RED
	ORANGE	--------	YELLOW
	GREEN	--------	GREEN
□3 or □7	BLACK	RED	RED
	ORANGE	RED	YELLOW
	BLUE	RED	GREEN
□4 or □8	RED	BLACK	RED
	ORANGE	BLACK	YELLOW
	GREEN	BLACK	GREEN
□2 PED or □6 PED	BLUE	--------	WALK
	BLACK	--------	DON'T WALK
	WHITE	BLACK	PUSH BUTTON
□4 PED or □8 PED	BLUE	WHITE	WALK
	RED	GREEN	DON'T WALK
	WHITE	RED	PUSH BUTTON
ALL Φ'S	WHITE	--------	P.B. COMMON
	BLUE	BLACK	SPARE

FLASH SEQUENCE

PHASES 2, 4, 6, 8	RED
PHASES 1, 3, 5, 7	BLANK

CONDUCTOR SCHEDULE **

	CONDUIT RUN NUMBER		1	2	3	4	5	6	7	8	9	10	11	12	13	~~14~~	14	~~15~~	15	~~16~~	16	17	18	19	20	21	22	~~23~~	23
	CONDUIT SIZE IN INCHES		2.5" EX	2" EX	2" EX	3" EX	1.5" EX	1.5" EX	1.5" EX	1.5" EX	3" EX	3" EX	3" EX	2" EX	2" EX	~~1.5" EX~~	1.5"	~~1.5" EX~~	1.5"	~~1.5" EX~~	1.5"	1.5" EX	2" EX	3" EX	1.5" EX	3" EX	1.5" EX	~~1.5" EX~~	1.5"
AWG	CIRCUIT		NUMBER OF WIRES																										
IMSA #14	SIGNAL	20 CONDUCTOR CABLE														REMOVE		REMOVE		REMOVE								REMOVE	
	SIGNAL	7 CONDUCTOR CABLE																											
	SIGNAL	4 CONDUCTOR CABLE				1						1			1									1					
	DETECTOR	Φ 2																											
	DETECTOR	Φ 4																											
	DETECTOR	Φ 6			O2												O2		O1		Δ2		O2			O2			Δ2
	DETECTOR	Φ 8																											
#12	LIGHTING	240V																											
	IISNS	120V																											
	SERVICE	120/240V (APS)																											
#8		INSULATED BOND																											
	SIGNAL	COMMON																											
	EVD	EMERGENCY VEH DET																											

○ = NUMBER OF 2 CONDUCTOR SHIELDED COMMUNICATION CABLES, IMSA 50–2

△ = LOOP DUCT #14 THWN IN ORANGE PVC TUBING, IMSA 51–5

● = A CRIMP CONNECTION SHALL BE USED FOR SPLICING IN PULL BOX

** EXISTING WIRING TO REMAIN EXCEPT AS NOTED ABOVE.

NOTES

1. CONDUCTORS USED FOR TRAFFIC SIGNAL AND INTERSECTION LIGHTING SHALL CONFORM TO THE REQUIREMENTS OF THE CONDUCTOR TABLE IN SECTION 732–2.01(A) OF THE 2008 ADOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE IMSA COLOR CHART.
2. IMSA 20–CONDUCTORS SHALL BE #14 AWG IMSA 19–1. THE IMSA 4–CONDUCTOR AND 7–CONDUCTOR CABLE SHALL BE #14 AWG IMSA 19–1. ALL IMSA CONDUCTORS SHALL BE SOLID.
3. ALL NEW WIRE (BOTH UNDERGROUND AND OVERHEAD) SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
4. A #14 AWG, IMSA 19–1, 7–CONDUCTOR CABLE SHALL BE PROVIDED FROM THE PULL BOX TO EACH TYPE Q SIGNAL FACE IN THE MAST ARM AND THE SIDE MOUNT.
5. INSTALL #8 BARE BOND IN ALL EMPTY CONDUITS.
6. ALL CONDUIT RUNS ARE SHOWN SYMBOLICALLY FOR CLARITY. ACTUAL CONDUIT RUN LOCATIONS WILL EXTEND BETWEEN POLES, PULL BOXES, ETC. IN A STRAIGHT FASHION.

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

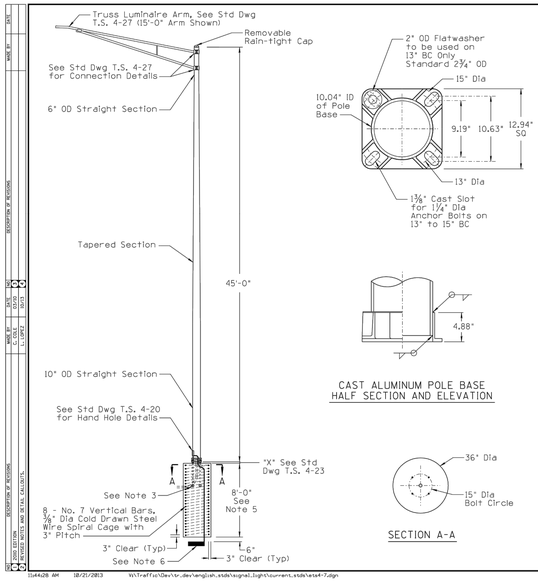
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK RD & PIONEER PKWY POLE & CONDUCTOR SCHEDULE

DRN: DBB	DES: SEC	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		T2	99 OF 118

J:\2014\1014434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434–T2.DWG Sep. 17, 2015 12:48 PM



CAST ALUMINUM POLE BASE
HALF SECTION AND ELEVATION

SECTION A-A

NOTES:

1. All materials and construction shall conform to the requirements of the Standard Specifications.
2. Pole shall comply with 1994 AASHTO loading requirements in the Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals.
3. See Std Dwg T.S. 4-23 for anchor bolt details.
4. The foundation hole shall be augered and Class "S" (3000 psi) concrete, poured against undisturbed compacted earth.
5. Unstable soil and/or a steep slope may require a deeper foundation. See Standard Specifications.
6. A 25 ft coil of #4 AWG bare copper conductor or a 14 inch square copper ground plate shall be installed before the concrete is poured and connected to pole grounding lug in the hand hole. The ground or coil shall be covered with 6 inches of fill.
7. Pole is suitable for use with a single luminaire that has a maximum weight of 55 pounds and a projected area of 1.6 square feet.
8. The length of straight and tapered sections on the pole shaft will vary between manufacturers.
9. Once the pole installation is completed the open space between the base plate and foundation shall be grouted.
10. If pole foundation is within or adjacent to sidewalk, top of pole foundation shall be flush with the abutting or adjacent sidewalk.
11. All dimensions are nominal.

PLAN SYMBOLS

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 10/13
SIGNATURE		DRAWING NO. T.S. 4-7
APPROVED FOR DISTRIBUTION ON FILE	ALUMINUM TYPE "1" POLE	SHEET NO. 1 OF 1

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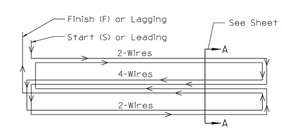
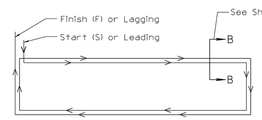
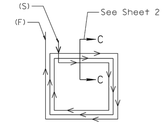


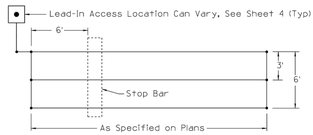
WINDING DIAGRAM
(For 2 Turns Quad)



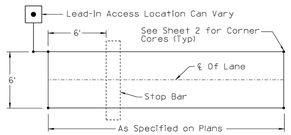
WINDING DIAGRAM
(For 2 Turns Std)



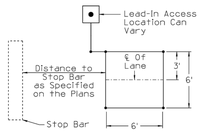
WINDING DIAGRAM
(For 3 Turns Std)



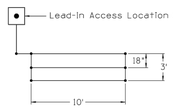
QUADRUPOLE (QUAD) VEHICLE DETECTOR



STANDARD (STD) VEHICLE DETECTOR



STANDARD ADVANCE VEHICLE DETECTOR



BICYCLE QUAD DETECTOR
(Winding Diagram Same as Above)

NOTES:

1. All materials and constitution shall conform to the requirements of the standard specifications
2. See other sheets within this drawing series for other details and requirements.
3. Detector loop saw cutting and installation shall be subjected to full-time inspection by the Engineer. Detector loops that are not inspected full-time may not be eligible for payment. Therefore, the contractor shall coordinate with the Engineer at least 72 hours in advance to schedule oversight.
4. Prior to cutting and coring, the contractor shall meet with the Engineer and determine the final loop layouts. Upon completion of this meeting the contractor shall measure out and mark the proposed lead-in and loop locations with white, silver or black spray paint or chalk. Marked lines shall be straight and exact to the loop locations and sizes as show on the plans. Locations shall be adjusted as directed by the Engineer. Marks not to be used shall be removed or obscured in an acceptable fashion. The exact marking color and material used shall be approved by the Engineer. However, paint should not be used on the finished pavement or riding surface.

Standard 6' x 6' Loop Detector
Standard Loop Detector
Quadrupole Loop Detector

PLAN SYMBOLS

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
SIGNATURE		DRAWING NO. T.S. 7-1
APPROVED FOR DISTRIBUTION ON FILE	LOOP DETECTOR LOCATION SAW CUT PATTERNS AND INSTALLATION DETAILS	SHEET NO. 1 OF 5

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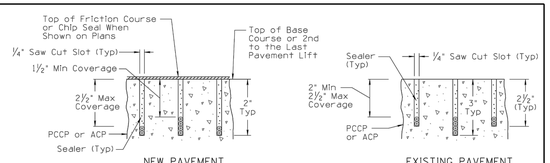
NOTES CONTINUED:

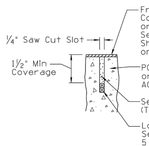
5. The detector loops installed shall be the proper shape and size for the intended application. Care shall be taken to insure that they are located in proper relation to the stop lines, lane line, and/or cross walks.
6. The edge of a detector loop shall never be closer than two feet from the adjacent lane, except for bike lanes.
7. If there is a manhole or water valve cover that is in the way of the proposed loop then the Engineer and contractor shall confer to develop a solution. (e.g. cut around pattern)
8. The standard size loops, unless otherwise noted on the plans, shall be 6 ' by 70' quadrupole (quad) for thru movement presence, 6 ' by 50' quad for left turn presence and 6' x 6' for advance loops.
9. Once the locations have been reviewed and approved, the contractor shall utilize the marks to saw cut in the lead-in slots first, and then saw cut the loop slots second. The junction of loop cuts shall be core drilled.
10. The saw cuts slots and the drilled cores shall be completely cleaned with clean water and blown dry by means of an air stream free of oil or water. Excess material created by sawing and coring shall be removed from the roadway and disposed of in a manner which is acceptable to the Engineer. All cuts and cores and slots shall be closely inspected for jagged edges or protrusions prior to the placement of the wire. All jagged edges and protrusions shall be grounded or re-cut and cleaned again.
11. The wire shall be placed as far down in the saw cut as possible and in such a manner that the tube or insulation is not damaged. The bend in the wire at any one point shall not exceed 90 degrees. The wire shall be held in place during installation by strips of polyethylene (PE) foam sealant backer rods two inches in length, placed approximately every two feet closer spacing is to be used if need be. Wires crossing pavement joints or larger pavement cracks shall be protected with plastic sleeving extending a minimum of four inches either side of the joint or crack. Slots crossing joints or cracks are to be widened and deepened as necessary to accommodate the bridging sleeve.



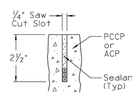
NEW PAVEMENT

SECTION A-A
(Loop Installation, See Sheet 1)

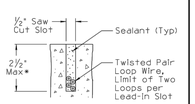
EXISTING PAVEMENT



SECTION B-B
(See Sheet 1)

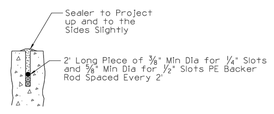


SECTION C-C
(See Sheet 1)



* Except when Lead-In is Tapered Down to Lead-In Access Conduit, See Sheet 4 for Details.

SECTION D-D
(Loop Lead-In Installation See Sheet 3)



TYPICAL FINISHED SLOT

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
SIGNATURE		DRAWING NO. T.S. 7-1
APPROVED FOR DISTRIBUTION ON FILE	SAW CUT AND CORING DETAILS	SHEET NO. 2 OF 5

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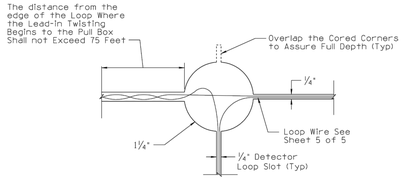
NOTES CONTINUED:

12. Vehicle loops shall be located in the center of the traveled lane unless specified otherwise on the project plans. Bicycle loops shall be located in the center of the bike lane unless otherwise noted on the plans.
13. All loop wire, shield cable and sealant shall be inspected and approved for use by the Engineer.
14. If new pavement is being installed at the proposed location of detector loops the loops shall be installed under the non-structural riding course (ARAC-FC, Chip Seal, or Slurry Seal. The saw cut depths shall be adjusted according to assure a minimum of 1-1/2 inches of cover (pavement surface plus sealed saw cut). The maximum allowable cover shall not exceed 3 inches.
15. All loop wire shall be twisted at a minimum rate of two turns per foot from the loop back to the pull box. The maximum number of turns in a foot shall not exceed five. The start (or leading) and finish (or lagging) wire for each loop shall be permanently labeled in the pull box. The label shall also include note of the lane position, use and phase.
16. The loops shall be wired per the winding pattern and number of turns specified. A wooden paddle or similar blunt object shall be used to install and seat loop wires in slots. The contractor shall take the necessary time to work the loop wire into all slots so it lays flat and is secure.
17. Loops in ACP pavement shall be sealed with an approved crack filler sealant per the Standard Specifications. Loops in concrete pavement or top/top most ACP course shall be sealed with an approved elastomeric-premix loop sealant, hot rubber sealant (ACP only), or an approved two-part epoxy loop sealant. Sealants shall be used in a manner that is consistent with the manufacturer's instructions, these drawings and the specifications. The sealant shall seal the loop wire and fill the slot accordingly without gaps or voids and to the specified minimum cover.
18. Loop sealants shall be handled in a safe manner. This includes the use of personal protection equipment such as safety glasses, gloves, and respirators if and as necessary. Excessive or waste materials shall be handled and disposed of in an approved fashion.
19. Loops shall not be installed when the weather is outside those conditions recommended by the sealant manufacturer.
20. Loops shall be protected from traffic until the sealant has sufficient time to dry, cool or cure so no tracking of sealant is possible.
21. Once the loops and lead-in wires have been installed, the contractor shall perform the following tests on each loop in the presence of the Engineer before and after the sealant has been placed.

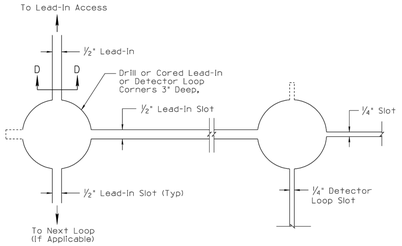
- Insulation Resistance-to-Ground (or Insulation Resistance): The insulation resistance to ground for each loop shall be measured with a megohm meter connected to either loop lead in and to the nearest reliable electrical ground, such as a metal light pole or fire hydrant, or to a metal rod driven three feet into the ground between the roadway and the pull box. The insulation resistance to ground shall not measure less than 50 megohms at 500 volts DC. A high resistance of greater than 100 megohms is desired.

- Series Resistance: The series resistance of each six by six foot loop, measured by an ohmmeter, shall be between 0.1 and 0.5 ohm and the maximum resistance of any size loop, including lead-ins, shall typically be less than 5 ohms but not more than 100 ohms.

Test results for each loop shall be documented and the contractor shall submit two copies of the loop test reports to the Engineer.



CORE WITH WIRING



TYPICAL SAW CUTTING AND DRILLING OR CORING DETAIL

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/15
SIGNATURE		DRAWING NO. T.S. 7-1
APPROVED FOR DISTRIBUTION ON FILE	SAW CUT AND CORING DETAILS	SHEET NO. 3 OF 5

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT
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CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TRAFFIC SIGNAL DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		T3	100 OF 118

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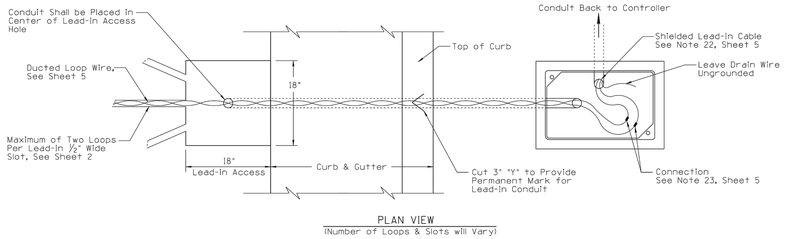
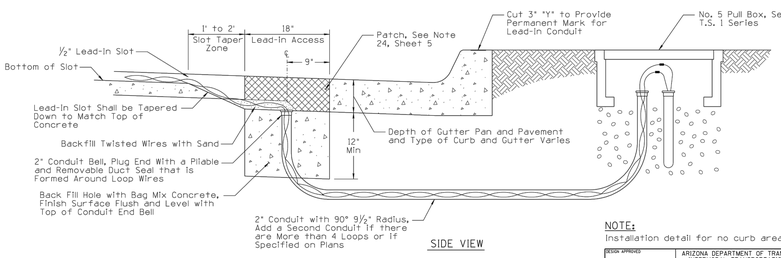


PLAN VIEW
(Number of Loops & Slots will Vary)



SIDE VIEW

NOTE:
Installation detail for no curb area is to be similar.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
SIGNATURE		DRAWING NO. T.S. 7-1
APPROVED FOR DISTRIBUTION ON FILE	TYPICAL DETECTOR LOOP LEAD-IN ROAD TO PULL BOX DETAIL	SHEET NO. 4 OF 5

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NOTES CONTINUED:

22. The lead-in cable from the pull box back to the controller shall conform to the applicable requirements of IMSA Specification 50-2 with the exception that the cable can include up to 4 twisted pairs, not just one. The wire size shall be #14 copper stranded. The cable drain wire and shield shall be grounded at only one end (in the controller). The lead-in cable shall run continuously between the pull box and the controller without splices.

23. Lead-in cable to loop detector connections shall be soldered using an appropriate resin core solder. The solder connection shall then be made completely liquid-tight with an approved heat shrink connection kit that is specifically applicable to loop detector applications. Care shall be taken to heat the connection kit to the correct temperature without damaging the loop wire or lead-in wire insulation. Other types of connection are allowable if approved by the Engineer.

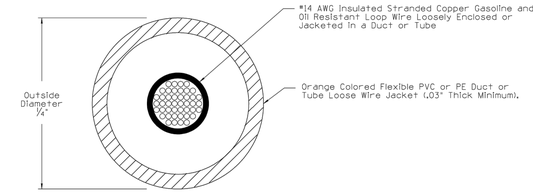
24. The lead-in access hole shall be backfilled and patched according to the detail shown on sheet 4. The contractor shall patch the existing pavement with an approved patch material (UPM or approved equal) in an acceptable manner. Care shall be taken not to damage loop wires. The patch shall be at least ¼-inch (but not more than ½-inch) higher than existing pavement or it can be compacted flush if approved by the Engineer.

25. The final testing of each loop will involve a repeat of the tests specified per Note 21 and the following additional tests:

- Inductance: The inductance of each loop will be measured with an inductance tester. The inductance for a six by six foot loop with an 11 foot lead in shall be in the range between 50 and 80 microhenries. The inductance may be greater with larger loops and longer lead-ins but in no case shall the total inductance exceed 700 microhenries.

- Operation Test: Each loop will be connected at the controller cabinet and the response observed per an operational loop amplifier unit under real or simulated traffic conditions (vehicle shall drive on to or over installed loops).

Problems or failures shall be correct as directed by the Engineer.



DUCTED OR TUBED DETECTOR LOOP WIRE
(Note: Shall Conform to Applicable Requirements of IMSA 51-7)

NOTES FOR THIS SHEET ONLY:

1. The Polyethylene (PE) or Polyvinyl (PVC) tube shall have a temperature rating of at least 100°.

2. Tube and wire shall be assembled by the manufacture. Contractor assembly is not acceptable.

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
SIGNATURE		DRAWING NO. T.S. 7-1
APPROVED FOR DISTRIBUTION ON FILE	LOOP DETECTOR LOCATION AND INSTALLATION DETAILS	SHEET NO. 5 OF 5

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

TRAFFIC SIGNAL DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		T4	101 OF 118

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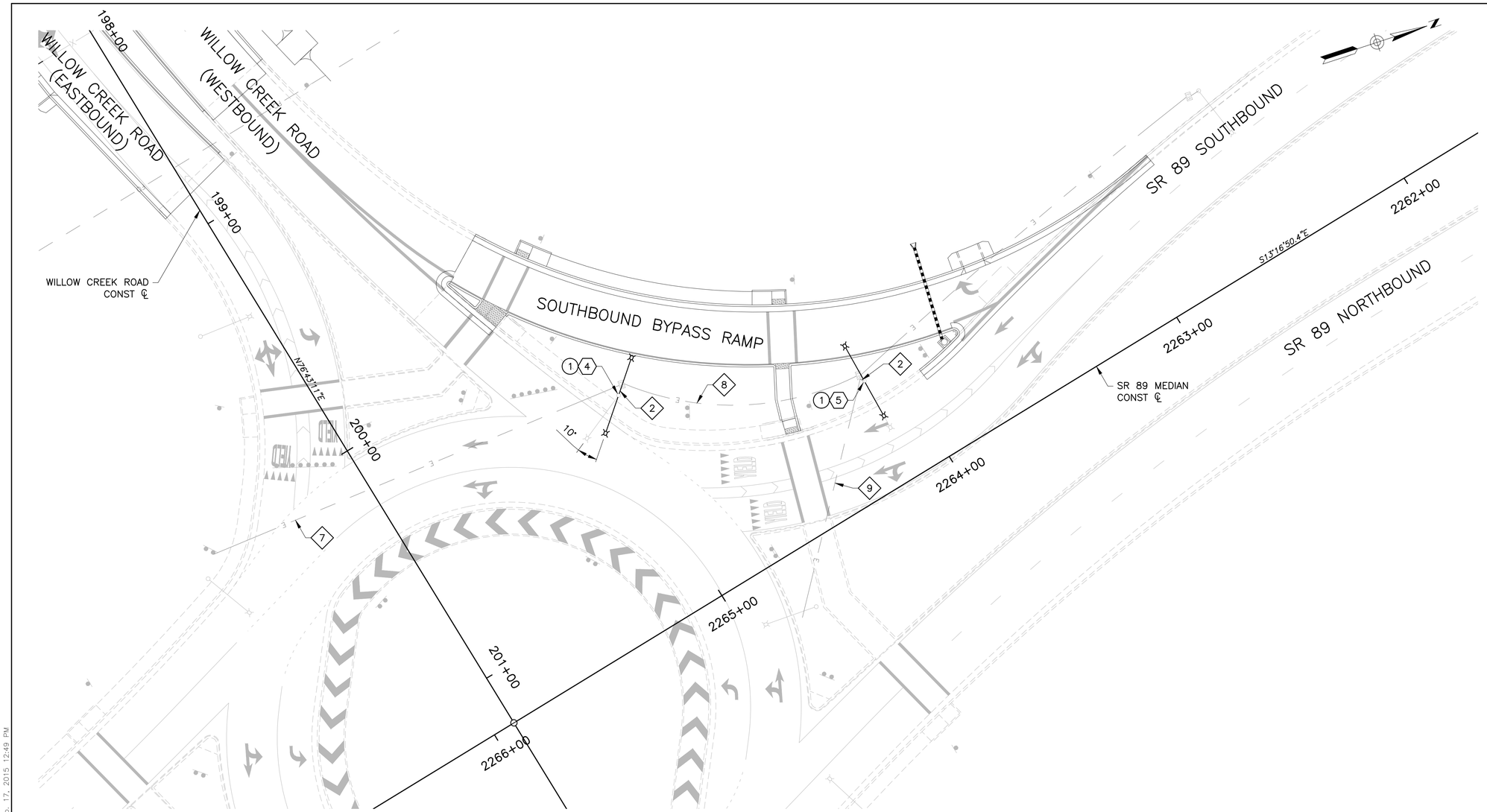

ROADWAY LIGHTING POLE & LUMINAIRE SCHEDULE

POLE NO	WILLOW CREEK RD STATION	WILLOW CREEK RD OFFSET	CIRCUIT	POLE TYPE	POLE MAST ARM	FOUNDATION TYPE	LUMINAIRE TYPE	LUMINAIRE WATT	LUMINAIRE DIST. TYPE	REMARKS
4	200+35	98' LT		G – ALUMINUM EXST	20' EXST	STANDARD EXST	HZ EXST	250	III	REMOVE MAST ARM & LUMINAIRE, SALVAGE LUMINAIRE
			A		15' NEW		HZ EXST	250	III	INSTALL ON EXST POLE W/ SALVAGED LUMINAIRE
			B		15' NEW		HZ NEW	310	II	INSTALL ON EXST POLE
5	200+79	179' LT		G – ALUMINUM EXST	20' EXST	STANDARD EXST	HZ EXST	250	III	REMOVE MAST ARM & LUMINAIRE, SALVAGE LUMINAIRE
			D		15' NEW		HZ EXST	250	III	INSTALL ON EXST POLE W/ SALVAGED LUMINAIRE
			C		15' NEW		HZ NEW	250	II	INSTALL ON EXST POLE

ROADWAY LIGHTING NOTES:

1. THE HORIZONTAL LOCATION OF EXISTING UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE TO ADHERE TO ALL CURRENT BLUE STAKE LAWS.
2. THE CONTRACTOR SHALL CONTACT THE ADOT PRESCOTT DISTRICT ELECTRICAL INSPECTOR TEN (10) WORKING DAYS PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITY.
3. ALL WORK SHALL CONFORM TO THE SPECIAL PROVISIONS, ADOT 2008 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE ADOT SIGNALS AND LIGHTING STANDARD DRAWINGS. THE CONTRACTOR SHALL VERIFY THAT ALL MATERIALS INSTALLED ON THIS PROJECT ADHERE TO THE CURRENT ADOT APPROVED PRODUCTS LIST.
4. ALL HORIZONTAL MOUNT LUMINAIRES SHALL BE MARKED WITH THEIR LAMP WATTAGE ("31" FOR 310 WATTS). THESE MARKINGS SHALL BE PLACED ON THE LUMINAIRE HOUSING NEXT TO THE GLASS LENS AND SHALL BE CLEARLY VISIBLE FROM THE GROUND.
5. EACH POLE MOUNTED LUMINAIRE SHALL BE INDIVIDUALLY FUSED WITH IN–LINE CONNECTORS IN THE NEAREST ADJACENT PULL BOX.
6. ALL MAST ARMS SHALL BE ALUMINIUM.
7. ALL LUMINAIRES SHALL BE 310 WATT HPS 240V.

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1. REMOVE 20' MAST ARM & BACK CLAMP — 2 EA
   SALVAGE LUMINAIRE — 2 EA
   DRILL HOLE
   INSTALL 15' MAST ARM & CONNECT CLAMPS ADOT STD DET T.S. 4–27, DWG L2 — 4 EA
   INSTALL 2–#10 XHHW FROM PULLBOX TO LUMINAIRE — 500 LF
   INSTALL 1–#8 FROM POLE TO LUMINAIRE — 40 LF
   INSTALL NEW LUMINAIRE — 2 EA
   INSTALL SALVAGED LUMINAIRE — 2 EA

LIGHTING CONDUCTOR SCHEDULE

AWG	CONDUIT	2	7	8	9
#10 XHHW		2			
#10 CIRCUIT A			X		
#10 CIRCUIT B			2		
#10 CIRCUIT C					X
#10 CIRCUIT D					X

X = EXISTING

0' 10' 20' 40'
SCALE: 1"=20'

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REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

SOUTHBOUND BYPASS RAMP
ROADWAY LIGHTING PLAN

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1"=20' HORIZONTAL / VERTICAL			L1	102 OF 118

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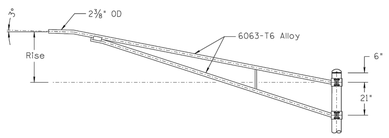
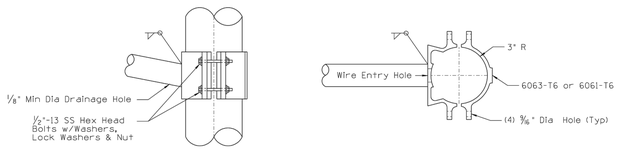


MAST ARM INFORMATION			
Length	Rise		* Min Thick
	Min	Max	
6'	2'-0"	4'-0"	0.125"
10'	2'-0"	4'-0"	0.125"
15'	2'-0"	4'-0"	0.125"
20'	4'-0"	6'-0"	0.125"

* Min Thickness of Vertical Member in Mast Arm = 0.1563"

NOTES:

1. Truss arm shall be heat treated after fabrication to T6 condition.
2. All hardware is 300 series stainless steel.



ALUMINUM POLE CLAMP DETAIL (6" ID)

NOT TO SCALE

DESIGN APPROVED	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION TRAFFIC SIGNALS AND LIGHTING STANDARD DRAWINGS	REVISION 03/10
SIGNATURE		DRAWING NO. T.S. 4-27
APPROVED FOR DISTRIBUTION ON FILE	ALUMINUM TRUSS ARM DETAILS TYPE G, H, AND I POLES	SHEET NO. 1 OF 1

05 2008 EDITION SECTION 'B' ALUMINUM SECTION 'A' STEEL

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Dibble Engineering

DIBBLE PROJECT NO 101434

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CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ROADWAY LIGHTING DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: VARIES –	HORIZONTAL VERTICAL		L2	103 OF 118

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TRAFFIC CONTROL NOTES

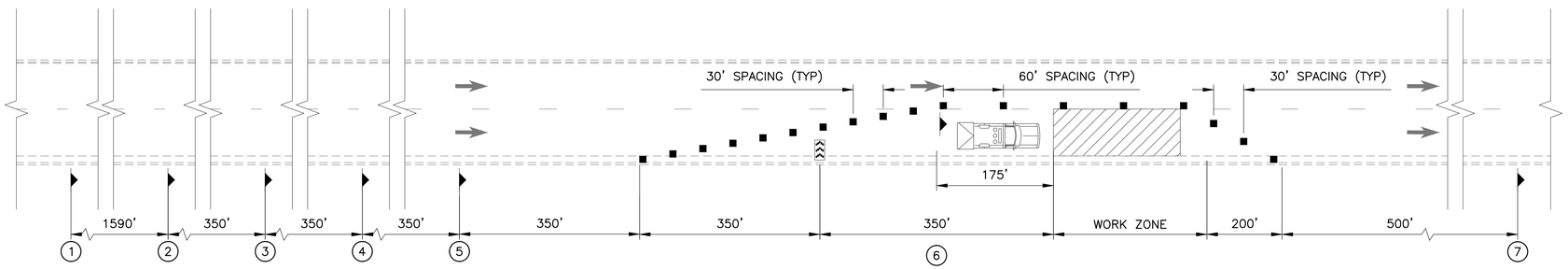
1. ADJUSTMENTS TO THE DETAILS OF THESE TRAFFIC CONTROL PLANS AND REQUIREMENTS MAY BE NECESSARY DUE TO CONSTRUCTION ACTIVITIES, AS DIRECTED BY THE ENGINEER.
2. ALL EXISTING SIGNS IN CONFLICT WITH THE CONSTRUCTION SIGNS SHALL BE REMOVED, RELOCATED OR COVERED IN PLACE, AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL STORE AND REINSTALL ITEMS WHICH HAVE BEEN REMOVED OR RELOCATED IN A MANNER APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL REPLACE ANY SIGNS THAT ARE DAMAGED DURING STORAGE AND REINSTALLATION.
3. THE TRAFFIC CONTROL PLANS REPRESENT A SUGGESTED METHOD FOR TRAFFIC CONTROL DURING CONSTRUCTION. THE CONTRACTOR MAY PREPARE ANOTHER TRAFFIC CONTROL PLAN IN WHICH ALL SIGNING, STRIPING, BARRIER, BARRICADES, SHOULDER CLOSURES, AND LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) CURRENT EDITION, SECTION 701 OF THE ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CURRENT EDITION, AND THE ADOT TRAFFIC CONTROL DESIGN GUIDELINES CURRENT EDITION. ALL TRAFFIC CONTROL PLANS ARE SUBJECT TO THE APPROVAL OF THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE OVERALL PROJECT SEQUENCE OF ACTIVITIES IN ADDITION TO THOSE SHOWN IN THE TRAFFIC CONTROL PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A DETAILED TRAFFIC CONTROL PLAN AND/OR DETOUR PLAN THAT IS APPROVED TWO (2) WEEKS PRIOR TO ANY CONSTRUCTION ACTIVITY BY ADOT AND ANY AFFECTED LOCAL AGENCY. SEE THE REMAINING PROJECT PLANS FOR DETAILS.
5. ALL SIGNS SHOWN ON THE PLANS SHALL BE MOUNTED ON EMBEDDED POSTS, SPRING STANDS, OR AS DIRECTED BY THE ENGINEER. FOR SIGNS INSTALLED ON EMBEDDED POSTS, SIGN MOUNTING HEIGHT IS A MINIMUM OF SEVEN (7) FEET AS MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF PAVEMENT.
6. THE NEAREST EDGE OR CORNER OF A SIGN SHALL BE APPROXIMATELY 12–FEET FROM THE NEAREST EDGE OF PAVEMENT FOR ALL SIGNS MOUNTED ON EMBEDDED POSTS.
7. FLAGS AND TYPE 'A' FLASHING WARNING LIGHTS SHALL BE MOUNTED ON TOP OF ALL ADVANCE WARNING SIGNS. FLAGS AND TYPE 'A' FLASHING WARNING LIGHTS SHALL BE MOUNTED ON TOP OF ALL OTHER CONSTRUCTION SIGNS EXCEPT THE "END ROAD WORK THANK YOU" SIGN.
8. CHANNELIZING DEVICES SHALL BE PLACED 30–FEET O.C. ON TAPERS AND 60–FEET O.C. ON TANGENTS, EXCEPT AS OTHERWISE NOTED ON PLANS.
9. ALL BARRICADES SHALL HAVE SAND BAG BALLASTING FOR EACH LEG TO BE CONSIDERED COMPLETE AND APPROVED FOR PAYMENT.
10. WHEN CONSTRUCTION ACTIVITIES ARE LIMITED AND NO LANE CLOSURES ARE NECESSARY, CONTRACTOR SHALL UTILIZE "CONSTRUCTION NEXT XX MILE(S)" AND "SHOULDER WORK" SIGNAGE. WHERE THERE IS CONSTRUCTION ALONGSIDE A ROADWAY UNDER CONSTRUCTION THE CONTRACTOR SHALL PLACE 48–INCH BY 48–INCH "ROAD WORK AHEAD" SIGNAGE AS DIRECTED BY THE ENGINEER TO ALERT PUBLIC TO THE CONSTRUCTION ACTIVITIES.
11. A TYPE 'C' STEADY–BURNING YELLOW LIGHT SHALL BE MOUNTED ON EVERY BARRICADE ON TAPERS AND ALTERNATING BARRICADES ALONG TANGENT SECTIONS.
12. CONSTRUCTION SIGNS SHALL NOT BE DISPLAYED TO TRAFFIC MORE THAN 24–HOURS PRIOR TO THE ACTUAL START OF CONSTRUCTION. THESE SIGNS MAY BE INSTALLED SOONER BUT THEY MUST BE COVERED OR TURNED AWAY FROM TRAFFIC. THE COST FOR COVERING OR TURNING SHALL BE INCIDENTAL TO THE SIGN INSTALLATION COST. NO FURTHER COMPENSATION SHALL BE MADE. CONSTRUCTION SIGNS SHALL BE REMOVED WITHIN 24–HOURS AFTER THE COMPLETION OF CONSTRUCTION ACTIVITIES.
13. SPEED LIMIT SIGNAGE IS PRELIMINARY AND IS SUBJECT TO REVIEW AND CHANGE BY THE ENGINEER AS DICTATED BY FIELD CONDITIONS.
14. WHEN TRAFFIC CONTROL DEVICES ARE NOT IN USE, THEY SHALL BE MOVED FROM THE ROADWAY SUCH THAT THE SIGN FACES ARE NOT VISIBLE TO TRAFFIC.
15. ALL CONSTRUCTION SIGNS SHALL HAVE BLACK LETTERS ON A RETROREFLECTIVE ORANGE BACKGROUND, EXCEPT AS OTHERWISE NOTED.
16. NIGHTTIME CONSTRUCTION ACTIVITIES SHALL BE APPROVED BY ADOT PRESCOTT DISTRICT AND THE ENGINEER.

AS BUILT DATE

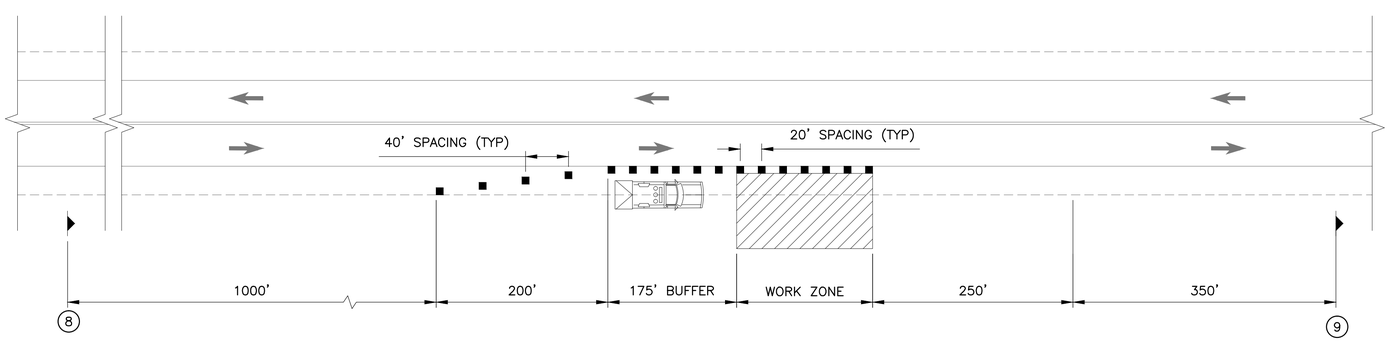
Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

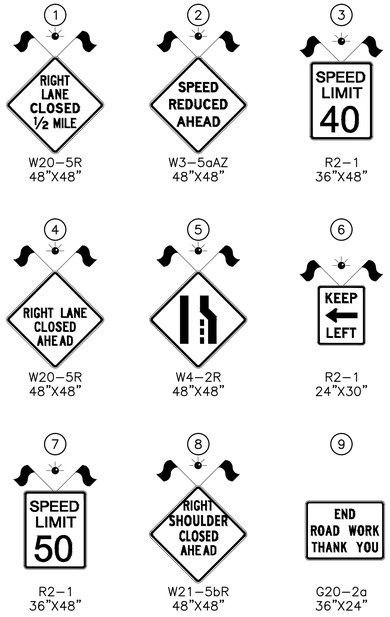


LANE CLOSURE



SHOULDER CLOSURE

SIGN LEGEND



LEGEND

- WORK ZONE
- CHANNELIZING DEVICE
- SIGN ON PORTABLE SPRING STANDS
- FLASHING ARROW PANEL
- TRUCK–MOUNTED ATTENUATOR (RECOMMENDED)
- DIRECTION OF TRAVEL

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CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ADOT TRAFFIC CONTROL
GENERAL NOTES & DETAILS

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: – HORIZONTAL – VERTICAL			TC1	104 OF 118

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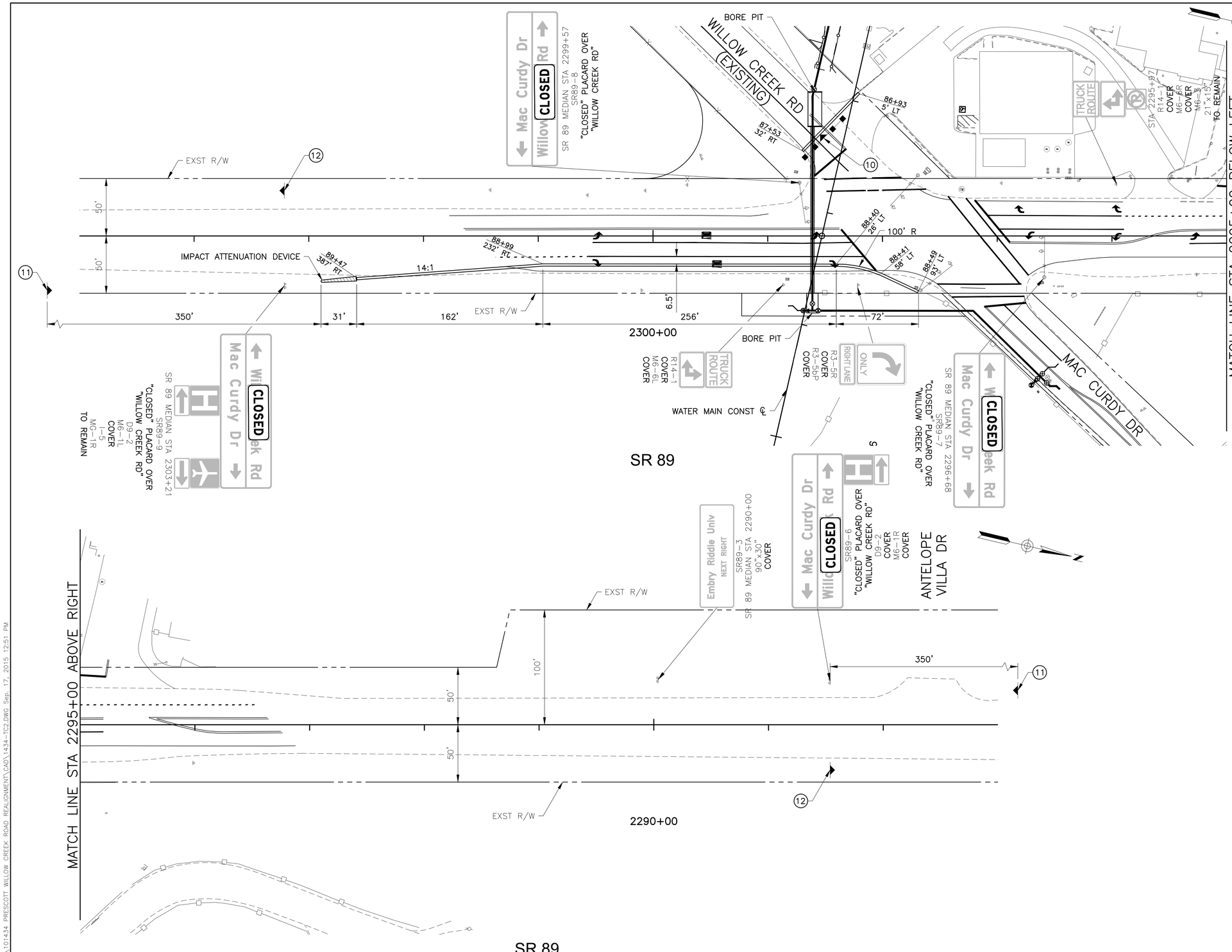

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

NOTE

STATIONS & OFFSETS REFERENCE THE WATER MAIN CONST ℄ UNLESS OTHERWISE NOTED

SIGN LEGEND

LEGEND

- TYPE III BARRICADE WITH LIGHTS
- SIGN ON PORTABLE SPRING STANDS
- SIGN ON PORTABLE RIGID STAND
- CONCRETE BARRIER, TYPE F

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	REVISION	BY	DATE

CITY OF PRESCOTT — Everybody's Hometown

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PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

ADOT TRAFFIC CONTROL PLAN
SR 89 & MACCURDY DR

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: _ HORIZONTAL _ VERTICAL			TC2	105 OF 118

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PART 1 – To be completed by the Landscape Architect or Design Engineer

I. PROJECT DESCRIPTION

A. Owner Name and Address:

Public Works Department
433 North Virginia Street
Prescott, Arizona 86301

B. Project Number: CIP13–030

C. Project Location: Prescott, Arizona

City: Prescott County: Yavapai

Beginning Latitude (NAD 83): 34° 37' 44.8" N
Beginning Longitude (NAD 83): 112° 26' 21.6" W

Ending Latitude (NAD 83): 34° 39' 8.7" N
Ending Longitude (NAD 83): 112° 26' 9.8" W

To obtain the project latitude/longitude data, refer to the Flash Earth web link below (Bing Maps with labels): http://www.flashearth.com/

D. Project Description:
Roadway realignment of Willow Creek Road from Pioneer Parkway to the roundabout on State Route 89 & Deep Well Ranch Road

II. HYDROLOGIC INFORMATION

A. Project Size:
Length (Mi.) 2.0
Area (Ac.) 36.7

B. Area to be Graded (Ac.): 25.6

C. Percentage of the site that is impervious before and after construction:
Percentage before Construction: 3%
Percentage after Construction: 22%

D. Receiving Water(s), refer to the Arizona Department of Water Resources Web Link below (USGS Topo) : https://gisweb.azwater.gov/WellRegistry/Default.aspx

Granite Creek

III. PRESERVATION OF EXISTING VEGETATION

A. In accordance with the specifications, existing vegetation will be preserved. Clearing limits shall be confined to areas that require grading. Existing vegetation outside the boundaries of the cleared area shall be protected from damage by construction activities. Existing trees within the area to be cleared shall be preserved and protected, wherever possible.

IV. SOIL STABILIZATION MEASURES

A. All disturbed soil, which will not be paved, riprapped or otherwise covered to prevent erosion, will be revegetated and/or landscaped in accordance with the project plans and specifications.

B. Scheduling of the revegetation effort can be found on PART 2 of this sheet under SCHEDULE OF MAJOR ACTIVITIES.

V. MEASURES TO CONTROL EROSION AND SEDIMENT

A. Temporary Erosion and Sediment Controls: (Refer to the Following SWPPP Site Plan and Specifications)

___ Erosion Control Mattings
___ Temporary Diversion Dikes
X Check Dams
X Rock Inlet/Outlet Protection
___ Sediment Control Berms
___ Silt Fences
X Wattles (Excelsior/Straw)
___ Excelsior Logs / Sediment Logs
X Seeding (Class II with mulch)
___ Others Describe:

B. Permanent Erosion and Sediment Controls and Post–construction Storm Water Management Measures: (Refer to SWPPP Site Plan and Specifications)

X Crown Ditch/Dike
___ Rock Protection
X Rock Riprap Channel Lining
___ Sediment Basin
___ Embankment Curb
___ Spillways and Downdrains
___ Minibenching
X Seeding established as a perennial vegetative cover with a density of 70% of the native background vegetative cover.
___ Others Describe:

VI. MAINTENANCE AND INSPECTIONS

A. Frequency of Inspections:

___ At least once every 7 calendar days, OR
X Every 14 calendar days and within 24 hours after a rainfall of 0.5 inches (12.7 mm) or more.

NOTE: RAINFALL GAUGE TO BE KEPT ON–SITE TO DETERMINE DEPTH OF RAINFALL

B. Inspection Procedure:

A Contractor's Inspection Log and Compliance Evaluation Report (CER) will be completed by the contractor or his representative and will be kept on file for 3 years. A signed copy of the CER will be sent to the City's Representative. If repairs are necessary, they shall be initiated within 24 hours of the inspection report.

PART 2 – To be completed by City of Prescott & Contractor

http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/Docs/swppp_construction_template.dot

I. SCHEDULE OF MAJOR ACTIVITIES

A. Project Schedule:
Start Date:
End Date:

B. Construction Sequencing Schedule: (Attach Additional Sheets)
Construction Activities

II. INVENTORY OF POLLUTANTS

A. The materials or substances checked below are expected to be onsite during construction:

___ Concrete ___ Asphalt
___ Paints ___ Fertilizer
___ Herbicides ___ Wood
___ Fuel ___ Oil
___ Others, List:

III. POLLUTION CONTROL MEASURES

A. Other Best Management Practices:
___ Wind Erosion and Dust Control
___ Solid Waste Management
___ Equipment Maintenance Procedures
___ Designated Washout Areas
___ Stabilized Construction Entrance
___ Protected Chemical and Material Storage Area
___ Other, Describe:

IV. SPILL PREVENTION AND RESPONSE

A. Spill Prevention:
The procedures outlined in the Best Management Practices listed under Pollution Control Measures will be followed to prevent and contain spills of hazardous material. These preventative action include BMP's on equipment maintenance and proper handling, storage and disposal of chemicals and materials. All manufacturer's recommendations for usage, clean–up and disposal shall be followed.

B. Spill Response:
In the event of any accidental spill of chemicals or hazardous materials, contact the City of Prescott Public Works Department at (928) 777–1130. If a reportable quantity is discharged into the storm water, the City shall contact the National Response Center and document the spill to the EPA.

V. CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

A. This Storm Water Pollution Prevention Plan (SWPPP) has been prepared in accordance with the latest updated version of ADOT's EROSION AND POLLUTION CONTROL MANUAL FOR HIGHWAY DESIGN AND CONSTRUCTION, published by ADOT Intermodal Transportation Division.

___ SWPPP is in compliance with other Federal, State Laws, or Local Regulations.

VI. POLLUTION PREVENTION PLAN CERTIFICATION

A. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Applies to VI. B., C., and D)

B. The operator/contractor as defined in AZPDES should sign the SWPPP in accordance with CGP Part VII. K, and retain the SWPPP on–site at the construction site or other location easily accessible during normal business hours.

Signature: (operator/contractor)
Date:
Name:
Title:
Company:

C. City's Representative
Signature: (owner)
Date:
Name:
Title:
ADOT District:

D. MUNICIPALITY for Municipal Separate Storm Sewer System (MS4)
Signature:
Date:
Name:
Title:
MS4 Name:

VII. OTHER REQUIREMENTS

A. A copy of the General Permit and NOI are attached in accordance to AZPDES General Permit for Storm Water Discharges From Construction Activities To The Water Of The United States.

B. Projects that are within ¼ mile of impaired or unique waters require the SWPPP to be sent to ADEQ in combination with the NOI. Refer to the Arizona Outstanding, Impaired and Not–Attaining Waters *.PDF Maps by County web link: http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/outstanding_unique_waters_maps_by_county.asp

C. For further requirements, check the ADEQ's Smart NOI Web Page: https://az.gov/webapp/noi/smartnoi/menu.do

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13–030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL
AZPDES SWPPP INDEX SHEET

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		E1	106 OF 118

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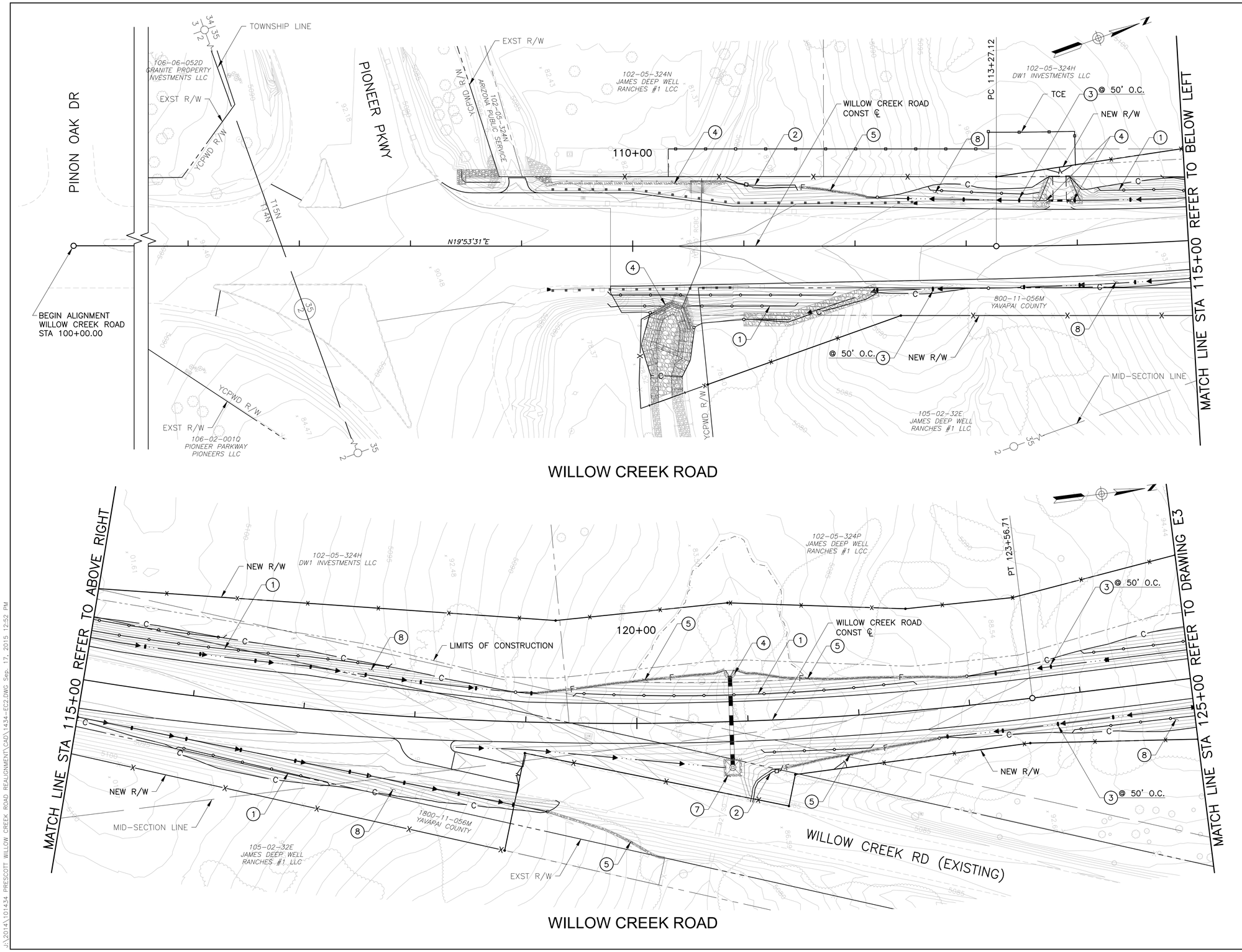

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1	9" SEDIMENT WATTLE DET EA, DWG E7	1724 LF
2	20" SEDIMENT WATTLE DET EB, DWG E7	115 LF
3	ROCK CHECK DAM DET EC, DWG E8	33 EA
4	INLET/OUTLET PROTECTION DET ED, DWG E9	20 CY
5	CUT/FILL TRANSITION DET EE, DWG E10	52 CY
7	ROCK MULCH INLET PROTECTION DET EG, DWG E12	4 CY
8	SEEDING (HYDRAULIC)	2.7 AC

LEGEND

- 9" DIA SEDIMENT WATTLE
- 20" DIA SEDIMENT WATTLE
- ROCK CHECK DAM
- 1' CONTOUR INTERVAL

0' 20' 40' 80'

SCALE: 1"=40'

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
EROSION & SEDIMENT CONTROL PLAN
STA 105+00 TO STA 125+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		E2	107 OF 118

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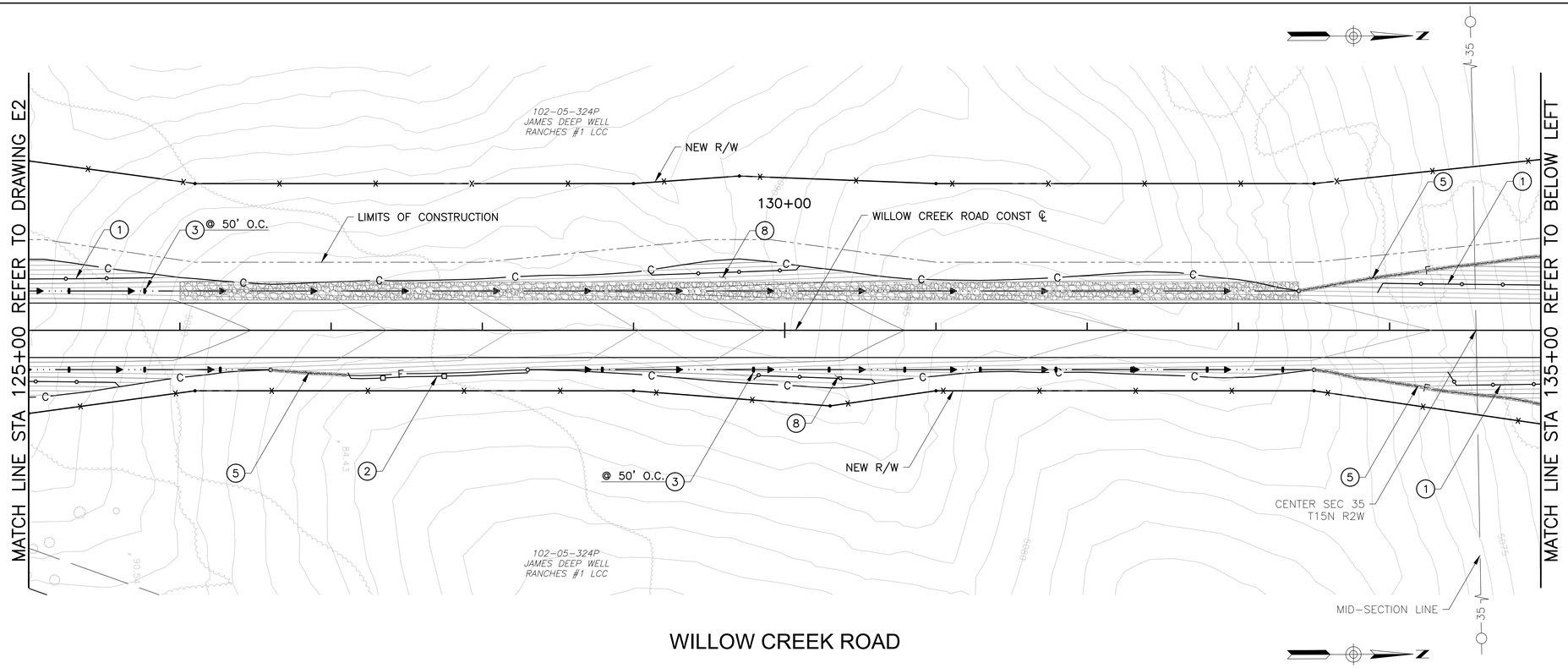
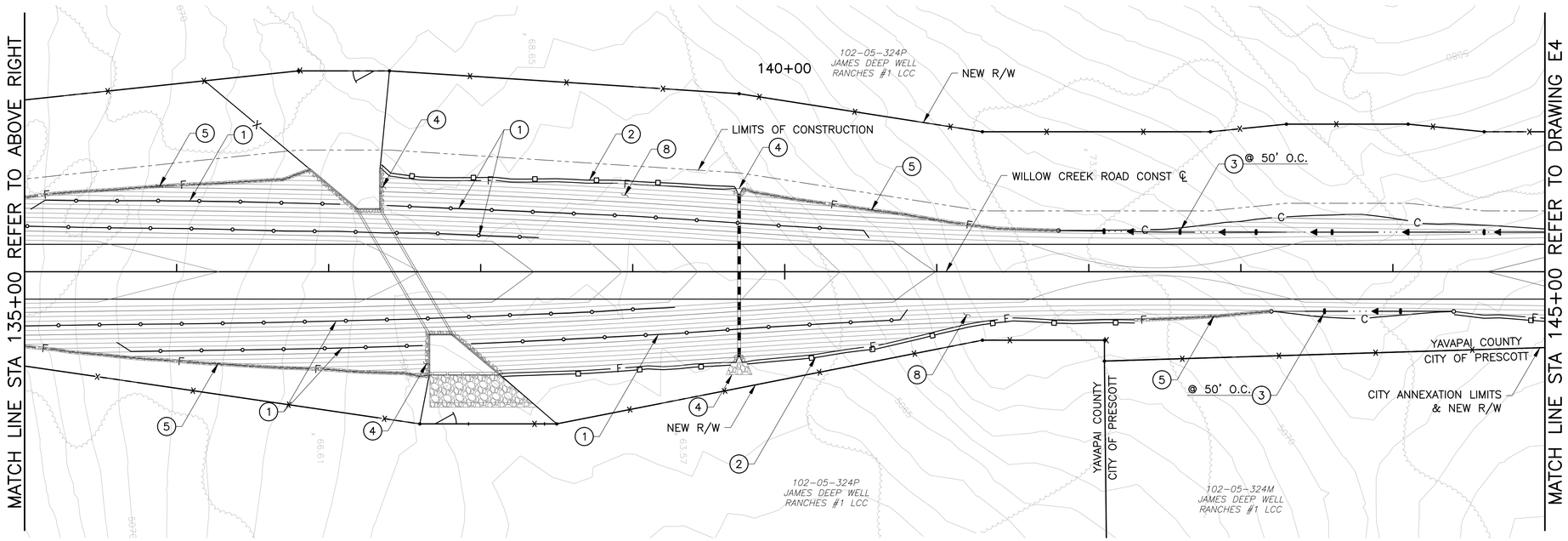


WILLOW CREEK ROAD



WILLOW CREEK ROAD

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1	9" SEDIMENT WATTLE DET EA, DWG E7	2294 LF
2	20" SEDIMENT WATTLE DET EB, DWG E7	824 LF
3	ROCK CHECK DAM DET EC, DWG E8	23 EA
4	INLET/OUTLET PROTECTION DET ED, DWG E9	16 CY
5	CUT/FILL TRANSITION DET EE, DWG E10	83 CY
8	SEEDING (HYDRAULIC)	3.4 AC

LEGEND

- 9" DIA SEDIMENT WATTLE
- 20" DIA SEDIMENT WATTLE
- ROCK CHECK DAM
- 1' CONTOUR INTERVAL

0' 20' 40' 80'

SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY of PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
EROSION & SEDIMENT CONTROL PLAN
STA 125+00 TO STA 145+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL VERTICAL			E3	108 OF 118

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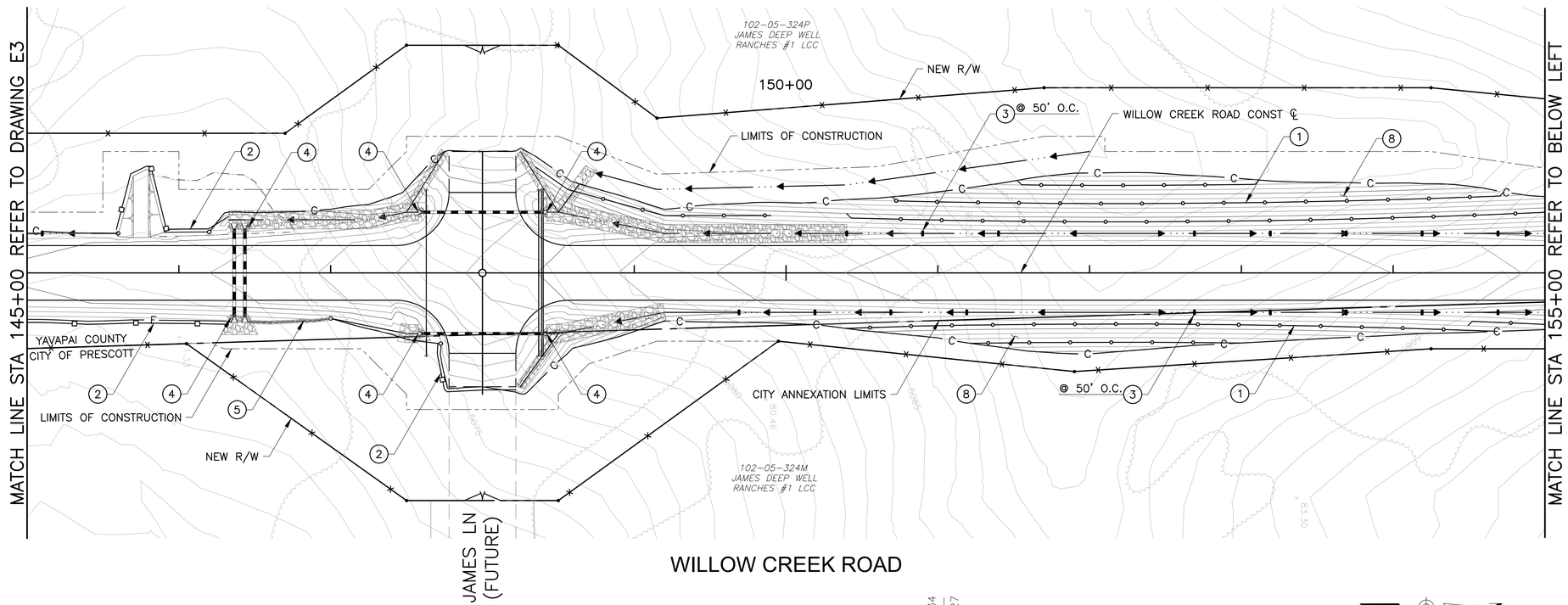

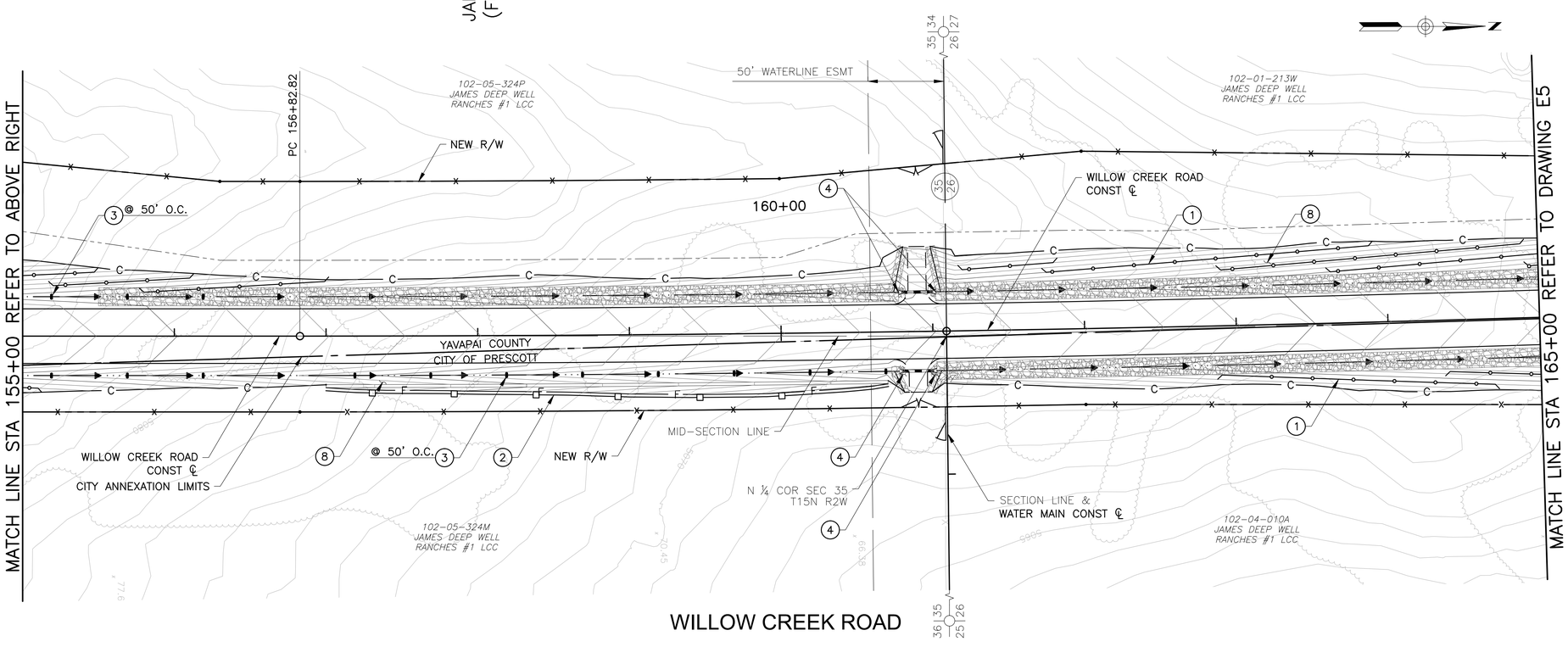

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

REGISTERED PROFESSIONAL ENGINEER (CIVIL) 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1	9" SEDIMENT WATTLE DET EA, DWG E7	2940 LF
2	20" SEDIMENT WATTLE DET EB, DWG E7	721 LF
3	ROCK CHECK DAM DET EC, DWG E8	38 EA
4	INLET/OUTLET PROTECTION DET ED, DWG E9	9 CY
5	CUT/FILL TRANSITION DET EE, DWG E10	4 CY
8	SEEDING (HYDRAULIC)	3.7 AC

LEGEND

- 9" DIA SEDIMENT WATTLE
- 20" DIA SEDIMENT WATTLE
- ROCK CHECK DAM
- 1' CONTOUR INTERVAL

0' 20' 40' 80'
SCALE: 1"=40'

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT ARIZONA Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
EROSION & SEDIMENT CONTROL PLAN
STA 145+00 TO STA 165+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		E4	109 OF 118

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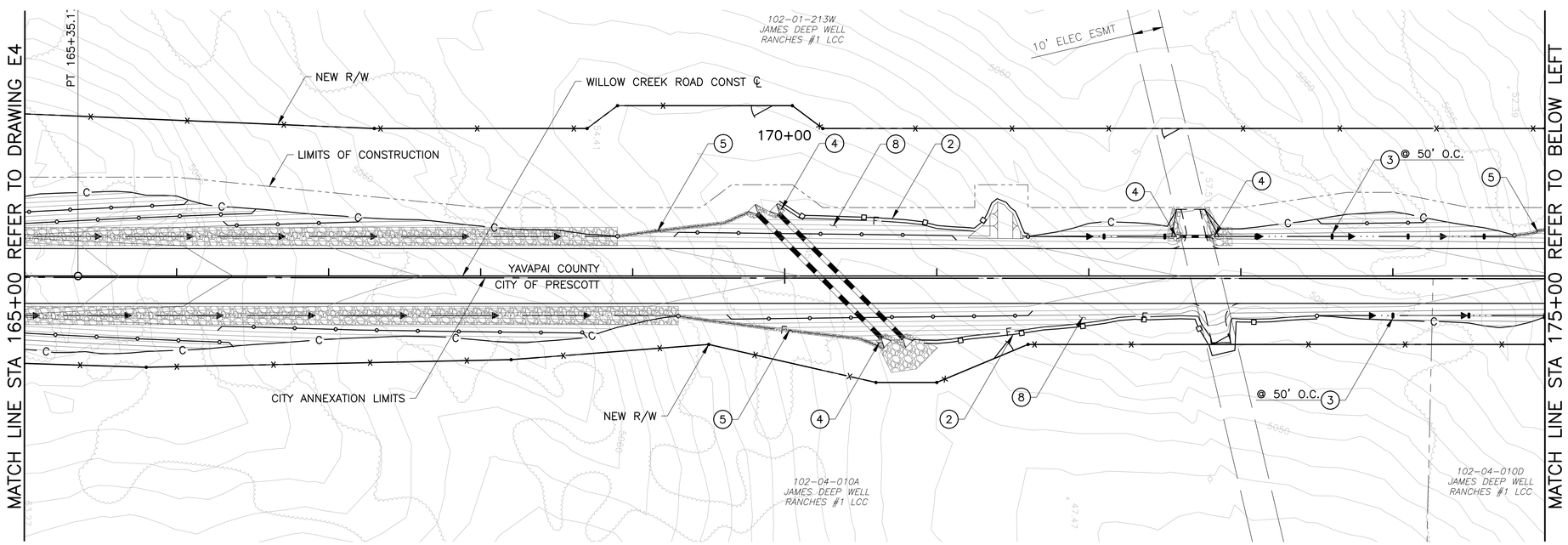
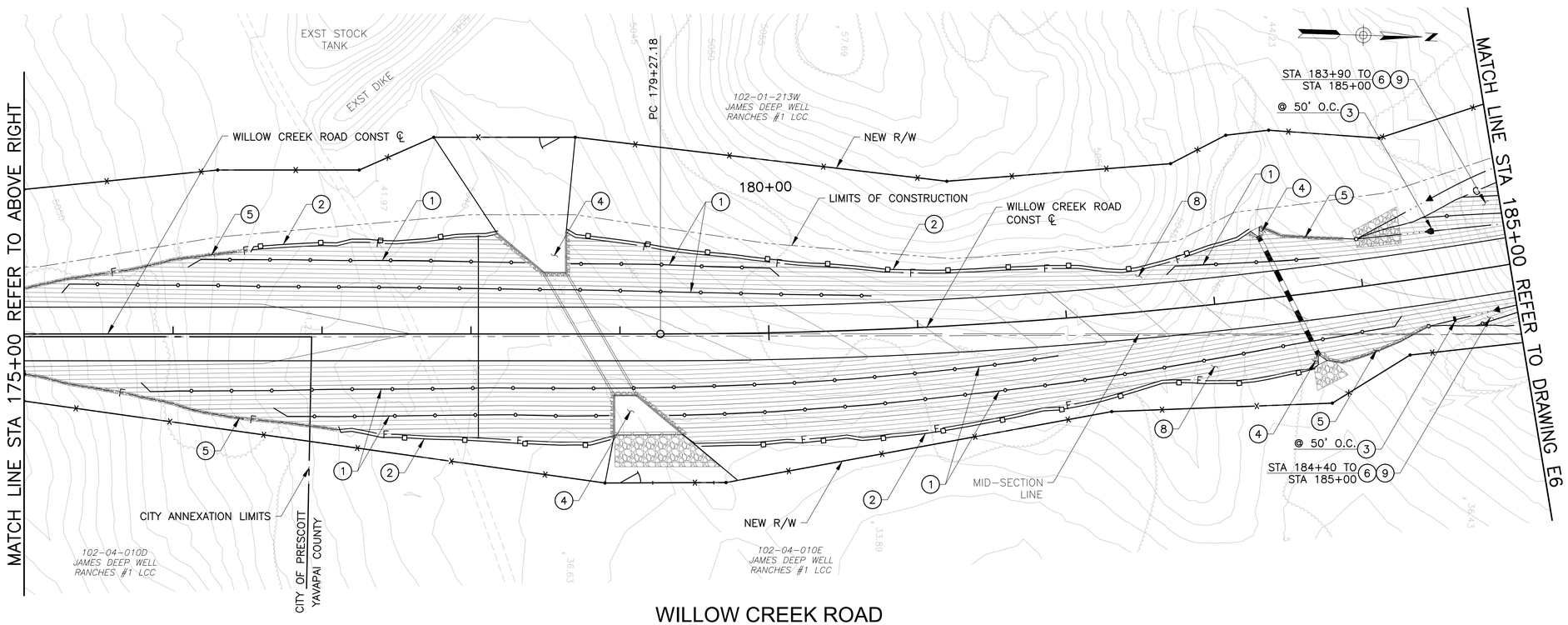


WILLOW CREEK ROAD



WILLOW CREEK ROAD

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1	9" SEDIMENT WATTLE DET EA, DWG E7	3682 LF
2	20" SEDIMENT WATTLE DET EB, DWG E7	1718 LF
3	ROCK CHECK DAM DET EC, DWG E8	11 EA
4	INLET/OUTLET PROTECTION DET ED, DWG E9	23 CY
5	CUT/FILL TRANSITION DET EE, DWG E10	55 CY
6	EROSION CONTROL BLANKET DET EF, DWG E11	252 SY
8	SEEDING (HYDRAULIC)	3.8 AC
9	TOPSOIL PLATTING DET EE, DWG E11 REFER TO SPECIAL PROVISIONS SEC 205.3	252 SY

LEGEND

- 9" DIA SEDIMENT WATTLE
- 20" DIA SEDIMENT WATTLE
- ROCK CHECK DAM
- 1' CONTOUR INTERVAL

0' 20' 40' 80'

SCALE: 1"=40'

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD

EROSION & SEDIMENT CONTROL PLAN

STA 165+00 TO STA 185+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40'	HORIZONTAL VERTICAL		E5	110 OF 118

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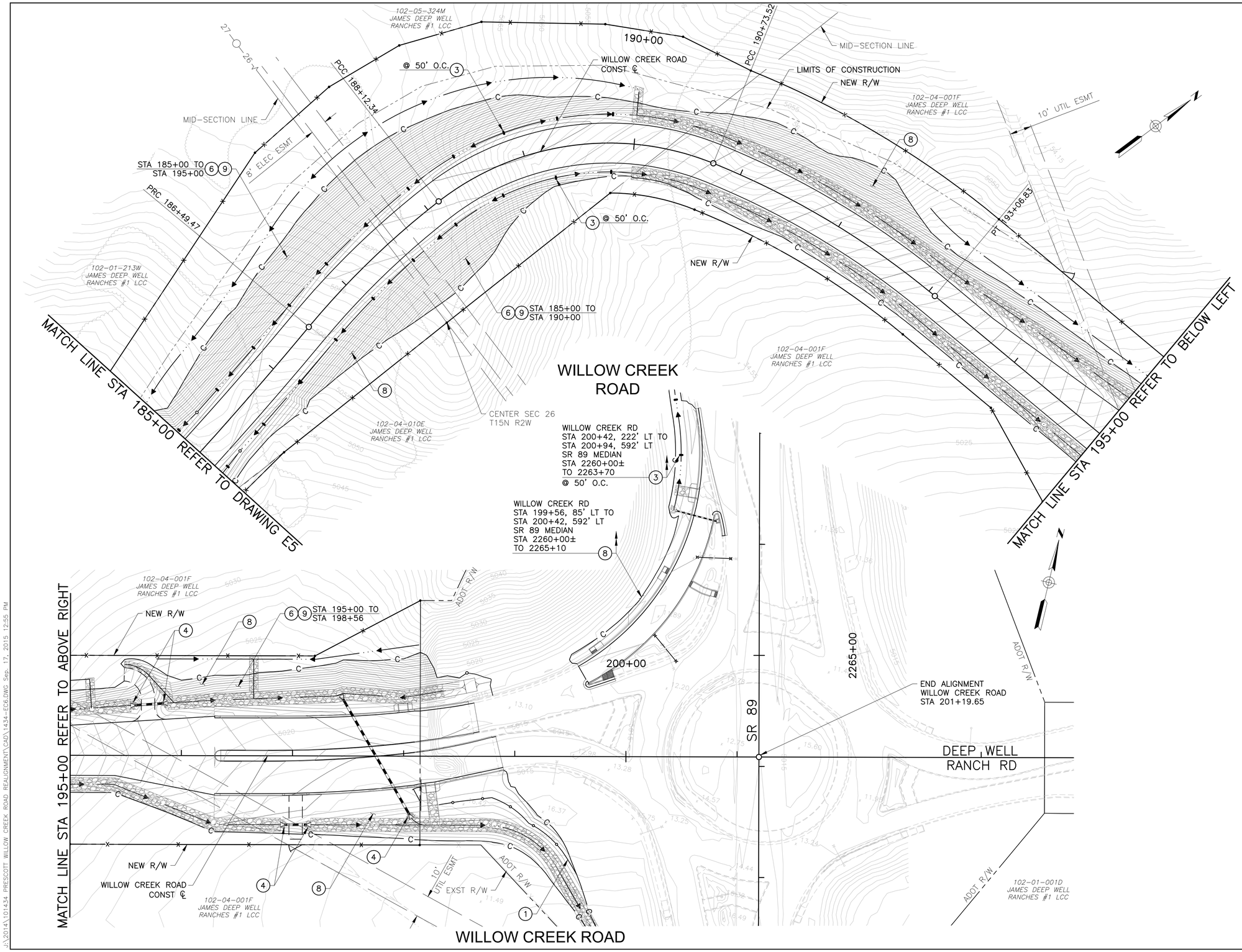

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

CONSTRUCTION NOTES

1	9" SEDIMENT WATTLE DET EA, DWG E7	153 LF
3	ROCK CHECK DAM DET EC, DWG E8	24 EA
4	INLET/OUTLET PROTECTION DET ED, DWG E9	5 CY
6	EROSION CONTROL BLANKET DET EF, DWG E11	6123 SY
8	SEEDING (HYDRAULIC)	3.9 AC
9	TOPSOIL PLATTING DET EE, DWG E11 REFER TO SPECIAL PROVISIONS SEC 205.3	6123 SY

LEGEND

- 9" DIA SEDIMENT WATTLE
- 20" DIA SEDIMENT WATTLE
- ROCK CHECK DAM
- 1' CONTOUR INTERVAL

0' 20' 40' 80'

SCALE: 1"=40'

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
EROSION & SEDIMENT CONTROL
STA 185+00 TO STA 201+19.65

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 40' HORIZONTAL VERTICAL			E6	111 OF 118

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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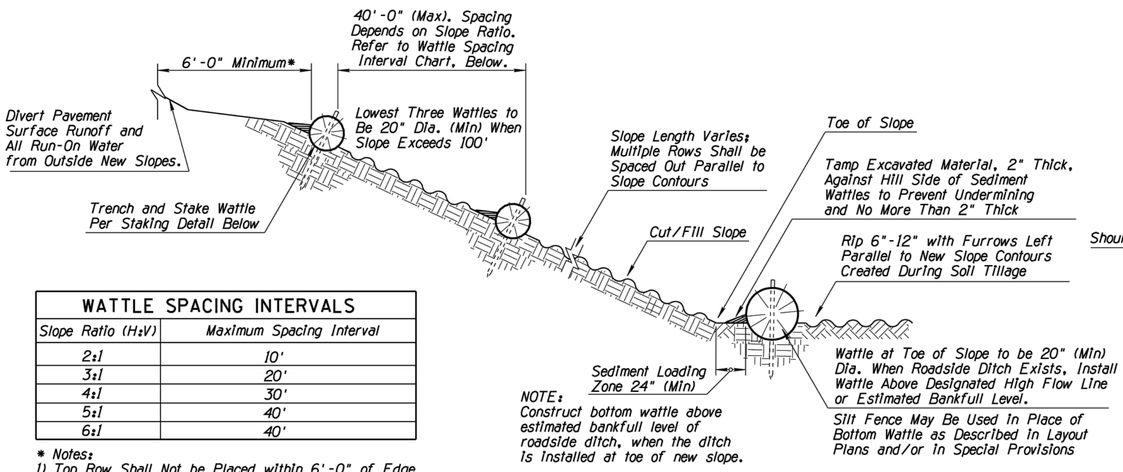
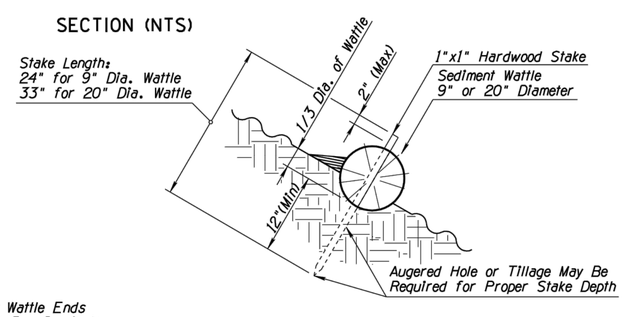


NOTE:
Construct bottom wattle above estimated bankfull level of roadside ditch, when the ditch is installed at toe of new slope.

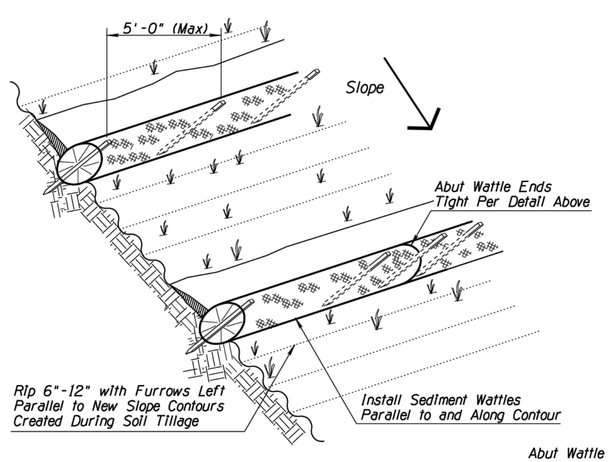
SECTION (NTS)

WATTLE SPACING INTERVALS	
Slope Ratio (H:V)	Maximum Spacing Interval
2:1	10'
3:1	20'
4:1	30'
5:1	40'
6:1	40'

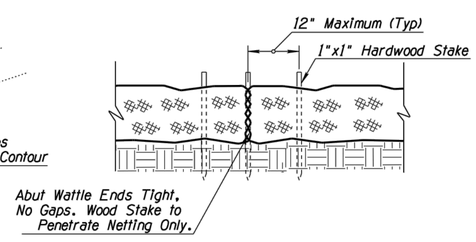
* Notes:
1) Top Row Shall Not be Placed within 6'-0" of Edge of Pavement and 9'-0" from Outside Surface of Barrier.
2) For erosive soils, place rows of wattles closer together.
3) For soils with low erosive potential, place rows of wattles further apart.



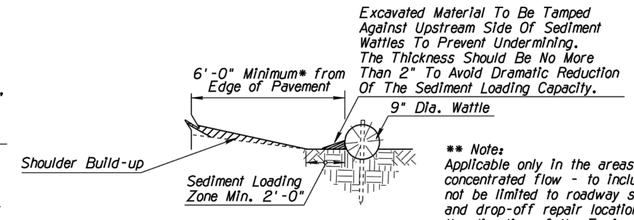
SEDIMENT WATTLE STAKING DETAIL (NTS)



SEDIMENT WATTLE LAYOUT (NTS)



SEDIMENT WATTLE OVERLAP (NTS)



NEW SHOULDER BUILDUP ** PROTECTION SECTION (NTS)

** Note:
Applicable only in the areas of concentrated flow - to include but not be limited to roadway sag spots and drop-off repair locations as per the direction of the Engineer.

NOTES:

1. Install Sediment Wattles as slopes are constructed to grade or as directed by the Engineer. Select, Install and maintain in conformance with manufacturers' specifications to meet site conditions for slope protection and in accordance with good engineering practices. No Sediment Wattles shall be installed in urban freeway medians, nor where cable barrier systems are employed.
2. Sediment Wattles shall be in continuous contact with trench bottom and sides. Do not overlap wattle ends on top of each other. A 20" Dia. wattle may be made from 2-3 rolled excelsior or straw blankets.
3. Butt adjoining wattles tightly against each other. Drive the first end stake of the second wattle at an angle toward the first wattle to help abut them tightly.
4. Repair any rills or gullies promptly. Make field adjustments and corrections of Wattle BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
5. Construction of cut slopes 2:1 and steeper in soil and rock materials that can be ripped shall be constructed, whenever possible, by Minibenching. Refer to Slope Minibenching BMP Detail.
6. Loosening surface soil is not required where Minibenches are used. For seeded areas, tillage shall be performed to form minor ridges and furrows parallel to new slope contours and as specified in Section 805 of the Standard Specifications and these special provisions.
7. Divert and direct run-on water from outside of the slopes to the spillways and/or rock riprap/rock mulch. Diversion dikes and/or ditches are necessary on natural undisturbed slopes beyond the top limits of new slopes to divert run-on water.
8. Installation and maintenance of Sediment Wattle BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities.
9. Install and maintain Sediment Wattle BMPs to carry the stormwater of at least 2-year, 24-hour events.
10. The Sediment Wattle BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
11. Refer to Standard Specification Section 810-2.06(C) for Sediment Wattle material specifications.
12. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

	NAME	DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADSIDE DEVELOPMENT SECTION
DESIGN	TAO ZI FONG	7-2014	
DESIGN	HAN MENG	7-2014	
DRAWN	TAO ZI FONG	7-2014	STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS
DRAWN	HAN MENG	7-2014	
CHECKED	E LEROY BRADY	7-2014	
TEAM LEADER	E LEROY BRADY	7-2014	
ROUTE	MP		LOCATION

SHEET ___ OF ___

TRACS NO.

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EA SEDIMENT WATTLE
NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL DETAIL EA

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: _	HORIZONTAL _ VERTICAL		E7	112 OF 118

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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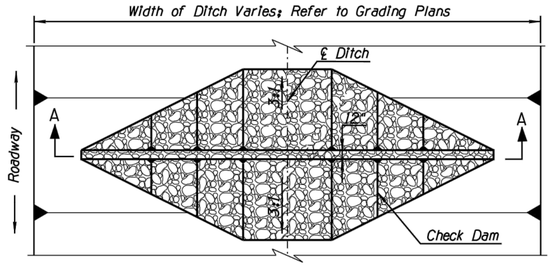
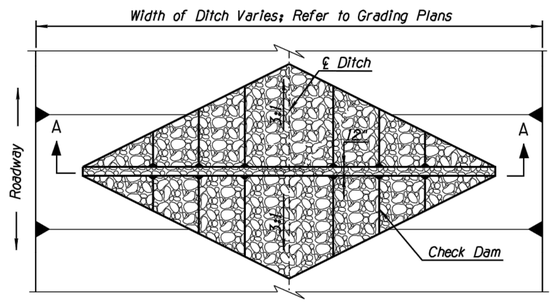
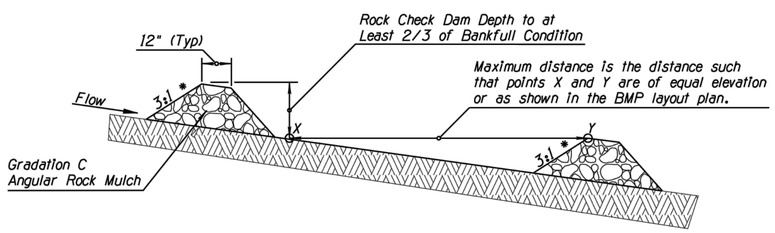


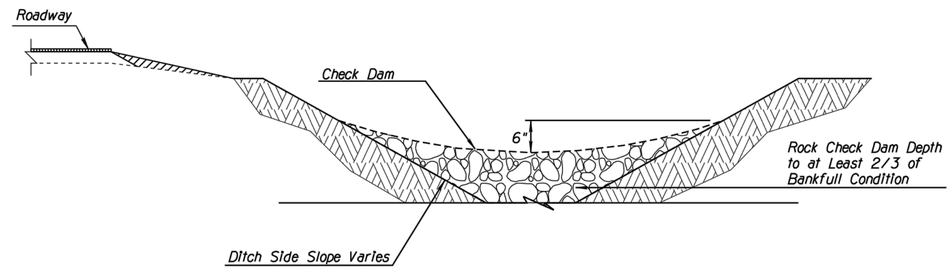
TRAPEZOIDAL DITCH PLAN (NTS)



V-DITCH PLAN (NTS)



ELEVATION ALONG DITCH SLOPE
(NTS)



SECTION A-A
TRAPEZOIDAL- OR V-DITCH
(NTS)

NOTES:

1. Construct Rock Check Dams with angular-shaped Gradation C Rock Mulch as defined in Section 810-2.03 of the Standard Specifications and these special provisions. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. * Slope shall be 1(V) : 6(H) or flatter if Check Dam is within the traffic clear zone/recovery areas as defined in ADOT Roadway Design Guidelines (303.2 to 303.3 Roadside Recovery Area).
3. Make field adjustments of sizing and spacing of Rock Check Dams as necessary for traffic safety as well as proper functioning of the drainage facilities.
4. Flatten and re-grade Rock Check Dams to the finished grade, level within the ditch, as soon as practicable after Final Stabilization.
5. Make field adjustments and corrections of Rock Check Dam BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
6. Make field adjustments to ensure the top of the Rock Check Dam is approximately 2/3 height of the estimated ditch bankfull level.
7. When paid separately, the Rock Check Dam BMP pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, flattening/grading back to the finished grade, as well as returning the area to an acceptable condition as approved by the Engineer.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

	NAME	DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADSIDE DEVELOPMENT SECTION
DESIGN	TAO ZI FONG	7-2014	
DESIGN	HAN MENG	7-2014	
DRAWN	TAO ZI FONG	7-2014	STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS
DRAWN	HAN MENG	7-2014	
CHECKED	E LEROY BRADY	7-2014	
TEAM LEADER	E LEROY BRADY	7-2014	
ROUTE	LOCATION		SHEET OF
TRACS NO.			___ OF ___

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EB ROCK CHECK DAM
NTS

NO.	DESCRIPTION OF REVISION	DATE	MADE BY
NO.	DESCRIPTION OF REVISION	DATE	MADE BY

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-EC8.DWG Sep. 17, 2015 12:55 PM

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Dial 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

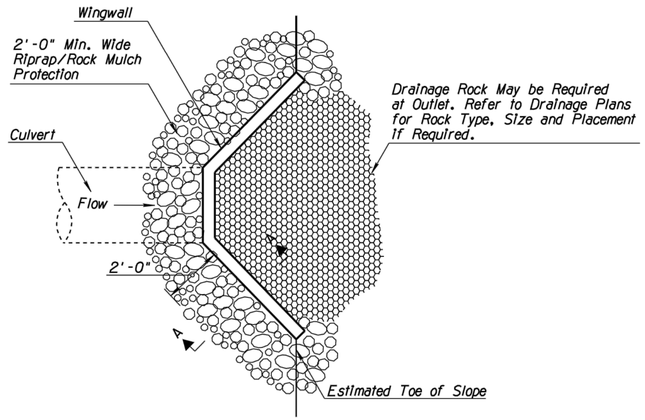
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

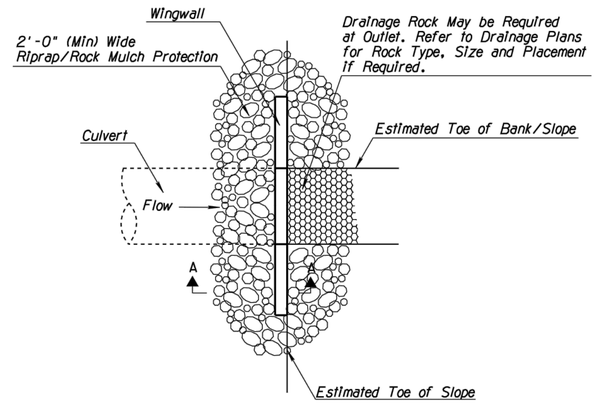
EROSION & SEDIMENT CONTROL
DETAIL EB

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: —	HORIZONTAL / VERTICAL		E8	113 OF 118

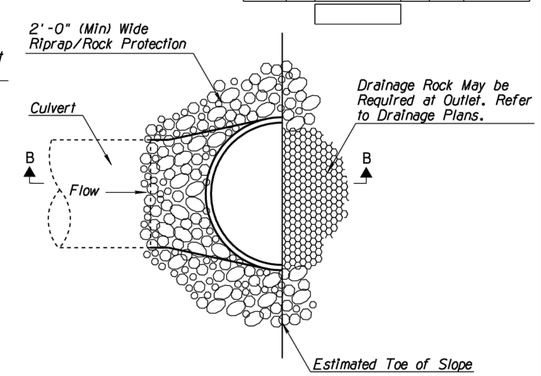
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



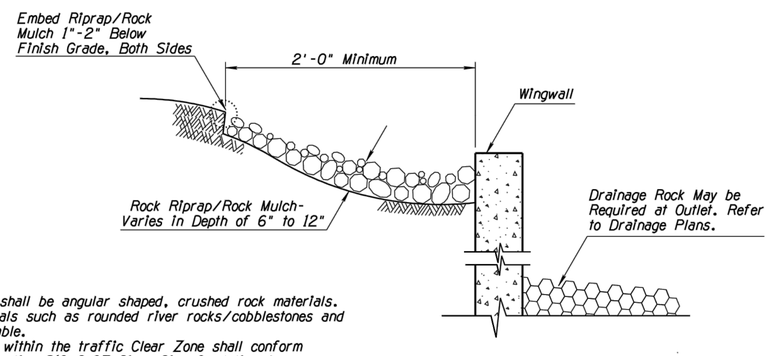
ANGLED HEADWALL
PLAN VIEW (NTS)



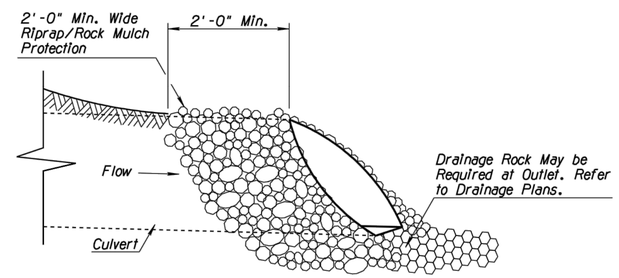
FLUSH HEADWALL
PLAN VIEW (NTS)



FLARED END
PLAN VIEW (NTS)



WINGWALL
SECTION A-A (NTS)



FLARED END
SECTION B-B (NTS)

NOTES:

1. Rock Riprap/Rock Much shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications.
3. Embed rock within traffic recovery area/clear zone into the finished grade so that any portion of the rock above the grade will be less than 4" in height.
4. The Installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Make field adjustments and corrections of Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
6. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintaining as well as returning the area to an acceptable condition as approved by the Engineer.
7. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

	NAME	DATE
DESIGN	TAO ZI FONG	7-2014
DESIGN	HAN MENG	7-2014
DRAWN	TAO ZI FONG	7-2014
DRAWN	HAN MENG	7-2014
CHECKED	E LEROY BRADY	7-2014
TEAM LEADER	E LEROY BRADY	7-2014
ROUTE	MP	LOCATION

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS

SHEET OF

TRACS NO.

___ OF ___

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ROCK PROTECTION FOR INLETS, OUTLETS & HEADWALL TRANSITIONS

EC

NTS

NO.1	DESCRIPTION OF REVISION	MADE BY	DATE	NO.2	DESCRIPTION OF REVISION	MADE BY	DATE

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-EC9.DWG Sep. 17, 2015 12:55 PM

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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	REVISION	BY	DATE
△			

CITY OF PRESCOTT
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CITY OF PRESCOTT

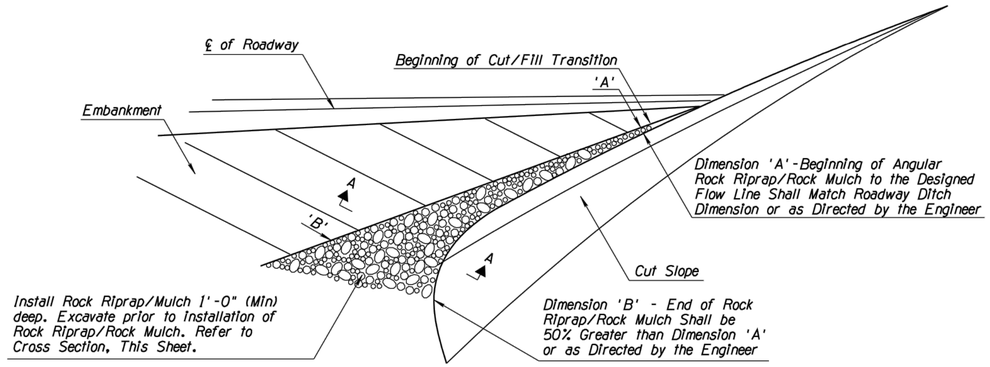
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

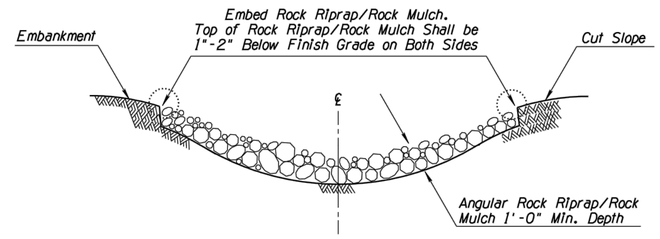
EROSION & SEDIMENT CONTROL
DETAIL EC

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		E9	114 OF 118

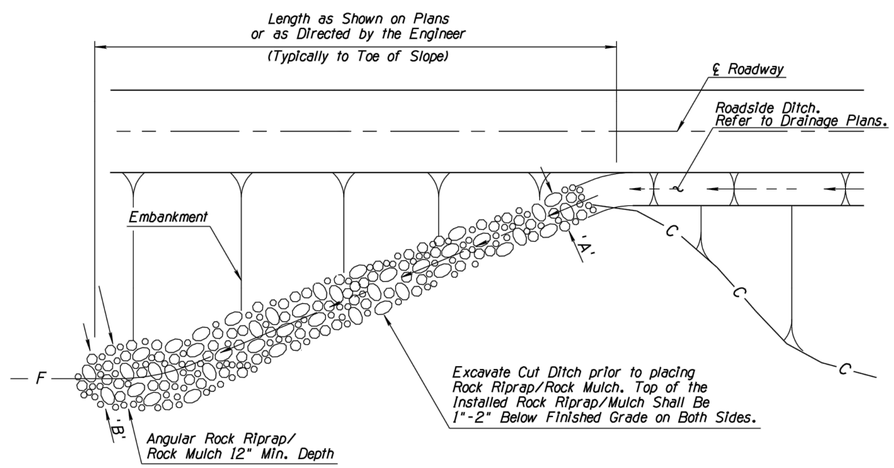
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



PERSPECTIVE (NTS)



ROCK RIPRAP/ROCK MULCH EMBEDMENT
SECTION A-A (NTS)



PLAN VIEW (NTS)

NOTE:
Cut and fill transition shall be placed as shown on plans or where the length of the roadside ditch is 50 feet or greater. Field adjust per direction of Engineer.

NOTES:

1. Rock Riprap/Rock Mulch shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone/Recovery Area shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications and these special provisions.
3. Install Rock Riprap/Rock Mulch to a minimum depth of 12" for Channel Lining and Cut/Fill Transition. Excavate ground surface to a depth that the top of Rock is 1"-2" below the grade of the ditch.
4. Embed any rock into the finished grade so that any portion of the Rock is less than 4" above grade, within traffic recovery area/clear zone.
5. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
6. Make field adjustments and corrections of Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Make field adjustments to ensure the top surface of Rock Riprap/Rock Mulch is graded lower than the surrounding finished grade to collect surface stormwater runoff and concentrated flow.
8. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintaining, as well as returning the area to an acceptable condition as approved by the Engineer.
9. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

	NAME	DATE
DESIGN	TAO ZI FONG	7-2014
DESIGN	HAN MENG	7-2014
DRAWN	TAO ZI FONG	7-2014
DRAWN	HAN MENG	7-2014
CHECKED	E LEROY BRADY	7-2014
TEAM LEADER	E LEROY BRADY	7-2014
ROUTE	MP	LOCATION

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS

SHEET ___ OF ___

TRACS NO.

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ROCK PROTECTION FOR CUT & FILL TRANSITION AND CHANNEL LINING
(ED) NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

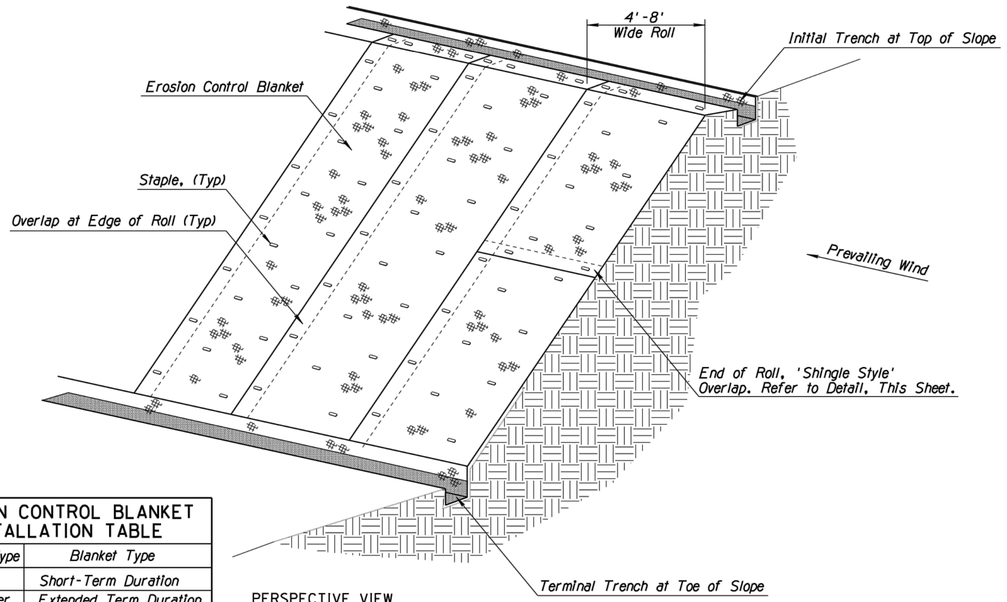
WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL
DETAIL ED

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		E10	115 OF 118

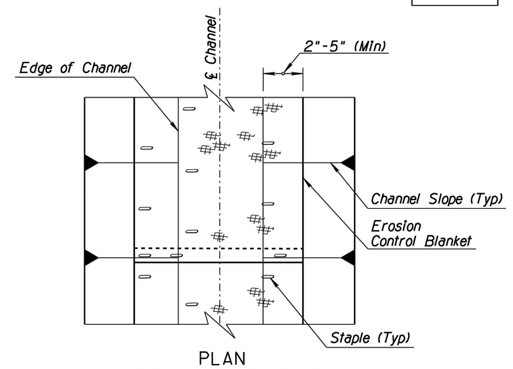
J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-EC10.DWG Sep. 17, 2015 12:55 PM

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



PERSPECTIVE VIEW

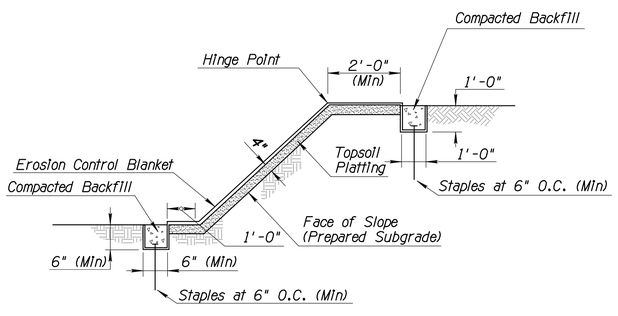
EROSION CONTROL BLANKET INSTALLATION TABLE	
Slope Ratio/Type	Blanket Type
4:1 - 2:1	Short-Term Duration
2:1 - Steeper	Extended Term Duration
Channel Install	Extended Term Duration



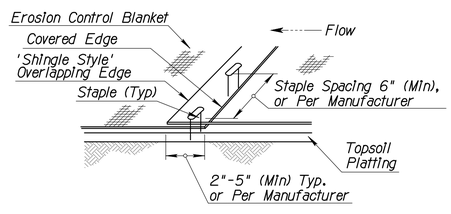
PLAN
CHANNEL INSTALLATION
(N.T.S.)

NOTES:

1. Grade and compact area to receive Erosion Control Blanket as directed and approved by Engineer. Subgrade shall be uniform and smooth. Remove all rocks, clods, vegetation and other objects to ensure Erosion Control Blanket will have direct contact with soil surface.
2. If seeding and/or amendments are to be used on soil surface, prepare soil as described in Special Provisions. Apply seeding to soil surface before installing blanket. Disturbed areas shall be reseeded.
3. Excavate trenches at top and toe of slopes to bury edges of Blanket.
4. Install Blanket at the downstream end of prevailing winds, place roll end into trench and secure with stapling devices, spaced according to manufacturer's recommendations. Position adjacent rolls and secure in trench in same manner. Backfill and compact soil into trench as directed and approved by Engineer. Unroll Blanket up the slope over the compacted trench. Continue installation as described above, overlapping adjacent blanket rolls according to manufacturer's recommendations.
5. Secure Blanket using U-shaped staples, 11 ga. steel wire, 1" x 6" or 2" x 8". Install staples at the manufacturer's recommended frequency and pattern, paying close attention to slope length and grade, which may change staple spacing and frequency.
6. Staple, backfill and compact end of Blanket in trench at toe of slope.
7. Metal staples shall be driven flush to the soil surface and have sufficient ground penetration to resist pullout. Refer to Specifications.
8. Tracked equipment shall not be allowed on the Blanket.
9. Refer to Standard Specification Section 810-2.05(A) for Erosion Control Blanket material specifications.
10. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.



TRENCH AT TOE OF SLOPE



OVERLAP AT ROLL END DETAIL

	NAME	DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADSIDE DEVELOPMENT SECTION
DESIGN	TAO ZI FONG	7-2014	
DESIGN	HAN MENG	7-2014	
DRAWN	TAO ZI FONG	7-2014	STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS
DRAWN	HAN MENG	7-2014	
CHECKED	E LEROY BRADY	7-2014	
TEAM LEADER	E LEROY BRADY	7-2014	
ROUTE	MP	LOCATION	
TRACS NO.			SHEET OF ___ OF ___

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EE EROSION CONTROL BLANKET
NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

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△	REVISION	BY	DATE

CITY OF PRESCOTT
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CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL
DETAIL EE

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		E11	116 OF 118

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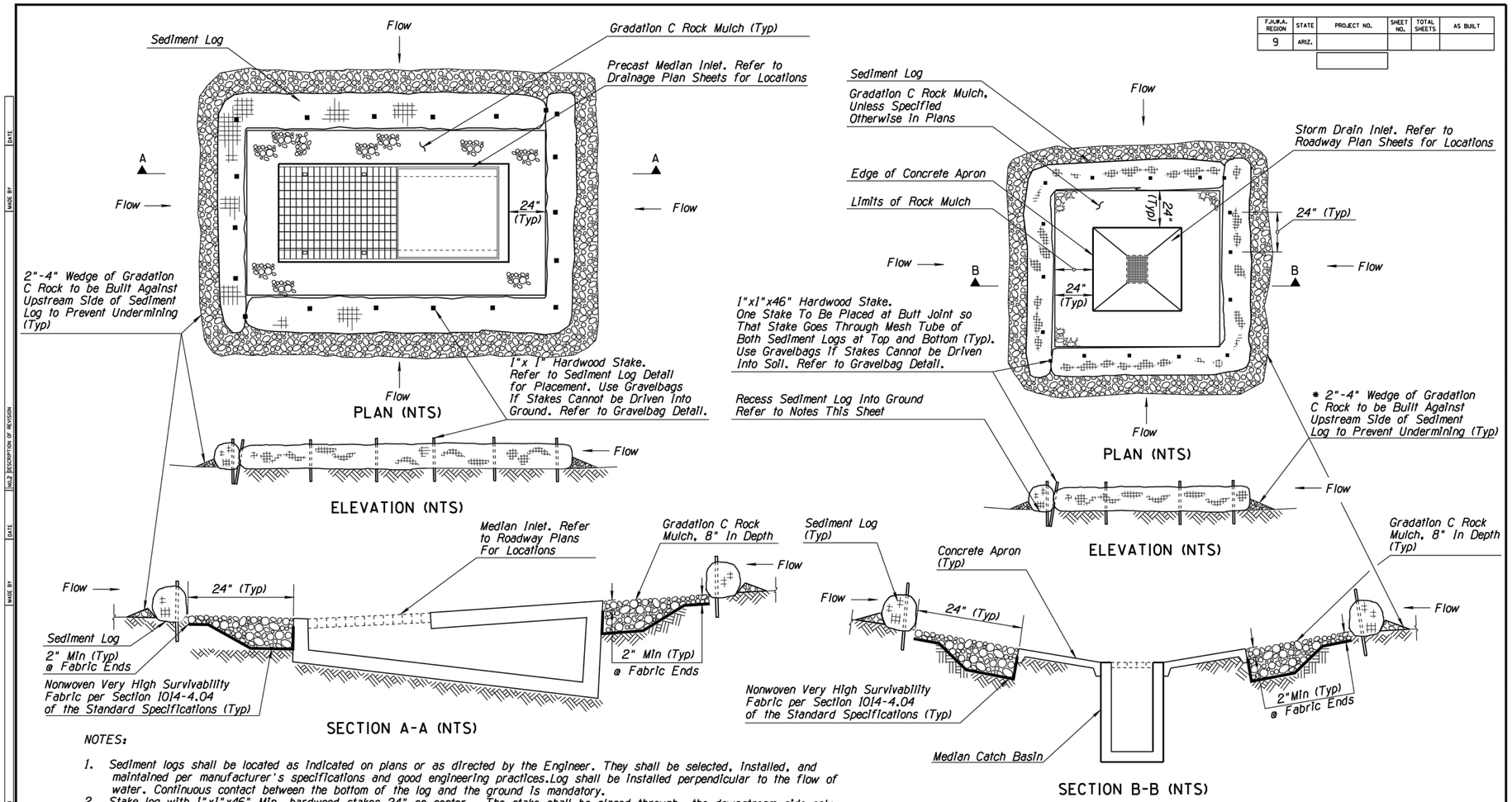
NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.2	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1	DESCRIPTION OF REVISION	MADE BY	DATE

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				



NOTES:

1. Sediment logs shall be located as indicated on plans or as directed by the Engineer. They shall be selected, installed, and maintained per manufacturer's specifications and good engineering practices.Log shall be installed perpendicular to the flow of water. Continuous contact between the bottom of the log and the ground is mandatory.
2. Stake log with 1"x1"x46" Min. hardwood stakes 24" on center. The stake shall be placed through the downstream side only. It is necessary for the stakes to grab one or two inches of netting. Do not drive stake through center of log. The stakes must be driven into the ground 24". Stakes at corners shall be placed in an "X" pattern.
3. Make sure no gaps exist between subgrade and sediment log. Runoff must not pass under sediment log. May require subgrade preparation as directed by Engineer.
4. Repair any rills or gullies promptly.
5. Remove Sediment Log and stakes once construction activities are complete. Dispose of sediment logs and trapped sediment material and fill trench created by sediment log.
6. Refer to Roadway and Drainage Plans and Details for Locations of Inlets and Catch Basins.
7. Make field adjustments and corrections of Inlet Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.
9. * Construct Rock Wedge with angular-shaped Gradation C Rock Mulch as defined in Section 810-2.03 of the Standard Specifications and these special provisions. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.

	NAME	DATE
DESIGN	TAO ZI FONG	7-2014
DESIGN	HAN MENG	7-2014
DRAWN	TAO ZI FONG	7-2014
DRAWN	HAN MENG	7-2014
CHECKED	E LEROY BRADY	7-2014
TEAM LEADER	E LEROY BRADY	7-2014
ROUTE	MP	LOCATION

ARIZONA DEPARTMENT OF TRANSPORTATION
INTERMODAL TRANSPORTATION DIVISION
ROADSIDE DEVELOPMENT SECTION

STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS

SHEET OF

TRACS NO.

___ OF ___

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EF ROCK MULCH INLET PROTECTION
NTS

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

△	REVISION	BY	DATE

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CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL DETAIL EF

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: –	HORIZONTAL – VERTICAL		E12	117 OF 118

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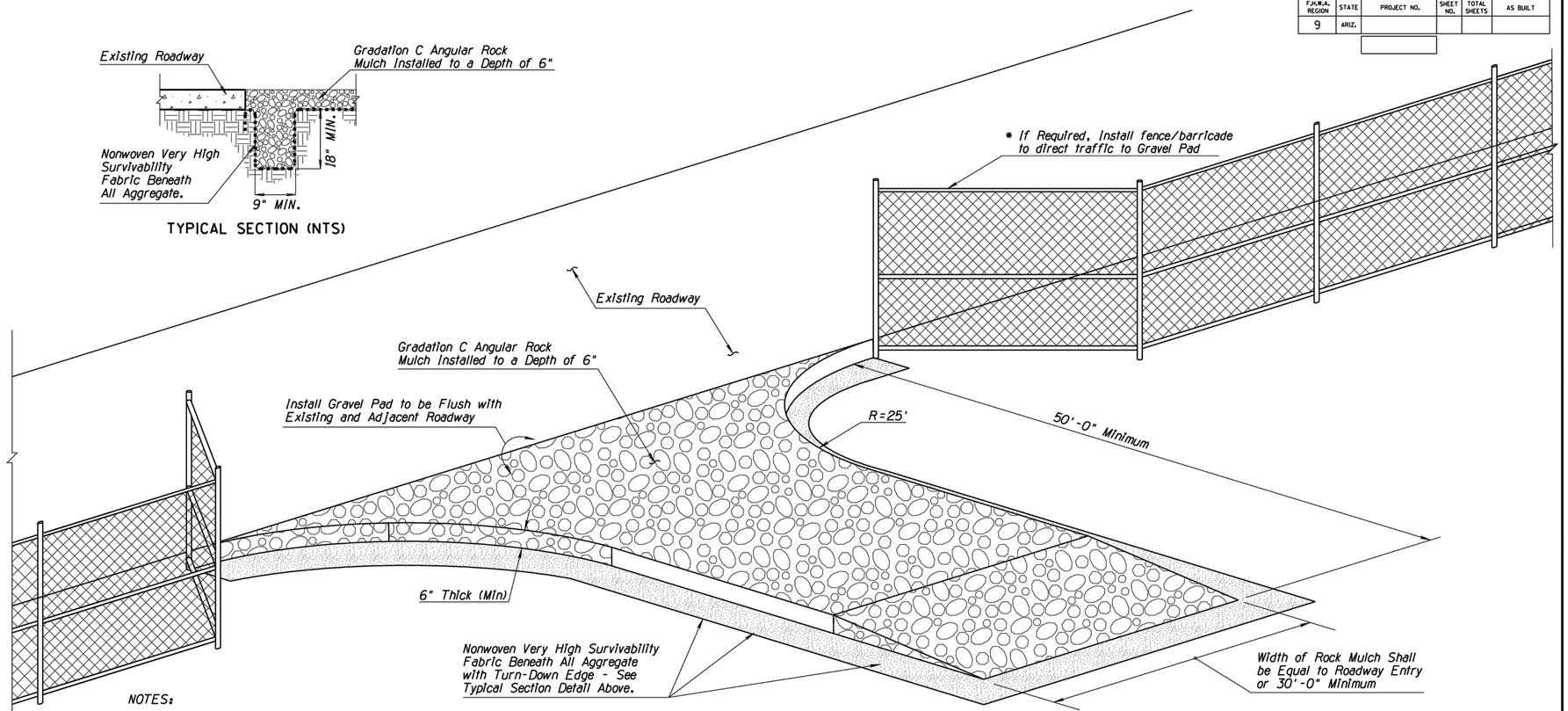
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.				

TYPICAL SECTION (NTS)



BIRD'S EYE VIEW (NTS)

NOTES:

1. Install Stabilized Construction Entrance/Exit Gravel Pad BMP for traffic entering or exiting a construction site where sedimentation, clay, silt or other pollutants can be tracked onto public roads and/or adjacent water bodies, as approved by the Engineer. It may also be applied for construction entrance/exit wind erosion/dust control, as approved by the Engineer.
2. Locate new Construction Entrance(s)/Exit(s) at appropriate project entrance/exit points as determined in field with the approval of the Engineer. Relocate Stabilized Construction Entrance/Exit Gravel Pad BMP as needed as project progresses. Replace Rock Mulch materials in drive paths when dirt or mud accumulates.
3. Nonwoven Very High Survivability Fabric shall conform to the standards of Sub-section 1014-4.04 of the Standard Specifications.
4. Rock Mulch materials shall be fractured/crushed rocks in angular shape and as defined in the Sub-section 810-2.03 of the Standard Specifications. Natural river-run materials, especially rounded natural river rocks are not acceptable.
5. Make field adjustments and corrections of Construction Entrance/Exit Gravel Pad BMP immediately if it is causing flooding and/or affecting roadway safety.
6. When paid separately, the Stabilized Construction Entrance/Exit Gravel Pad BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
7. * Fence/barricade pay/bid item shall not be included as a component of the Stabilized Construction Entrance/Exit Gravel Pad BMP pay/bid item.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

	NAME	DATE	ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION ROADSIDE DEVELOPMENT SECTION
DESIGN	TAO ZI FONG	7-2014	
DESIGN	HAN MENG	7-2014	
DRAWN	TAO ZI FONG	7-2014	STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS
DRAWN	HAN MENG	7-2014	
CHECKED	E LEROY BRADY	7-2014	
TEAM LEADER	E LEROY BRADY	7-2014	
ROUTE	MP		LOCATION

TRACS NO.

SHEET ___ OF ___

V:/ROADWAY\users\a3956\ 9:34:02 AM 7/14/2014 V:\Roadside\RdsdDev\ERO_BMPs\2014_Updated_BMPs\ES11_Stabilized_Const_Entrance_Exit-2.dgn

STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD

EG

NTS

NO.	DESCRIPTION OF REVISION	MADE BY	DATE
NO.2	DESCRIPTION OF REVISION	MADE BY	DATE
NO.1	DESCRIPTION OF REVISION	MADE BY	DATE

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

Registered Professional Engineer (Civil) CERTIFICATE NO. 25015 ANDREW JOHN SPEAR Date Signed 9/17/15 ARIZONA U.S.A. Expires 06/30/16

Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County: (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

EROSION & SEDIMENT CONTROL DETAIL EG

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: —	HORIZONTAL — VERTICAL		E13	118 OF 118

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO
DEEP WELL RANCH ROAD / STATE ROUTE 89

CITY OF PRESCOTT PROJECT NO CIP13-030

SEPTEMBER 16, 2015

SHEET NO 1 TOTAL SHEETS 34

Dibble Engineering

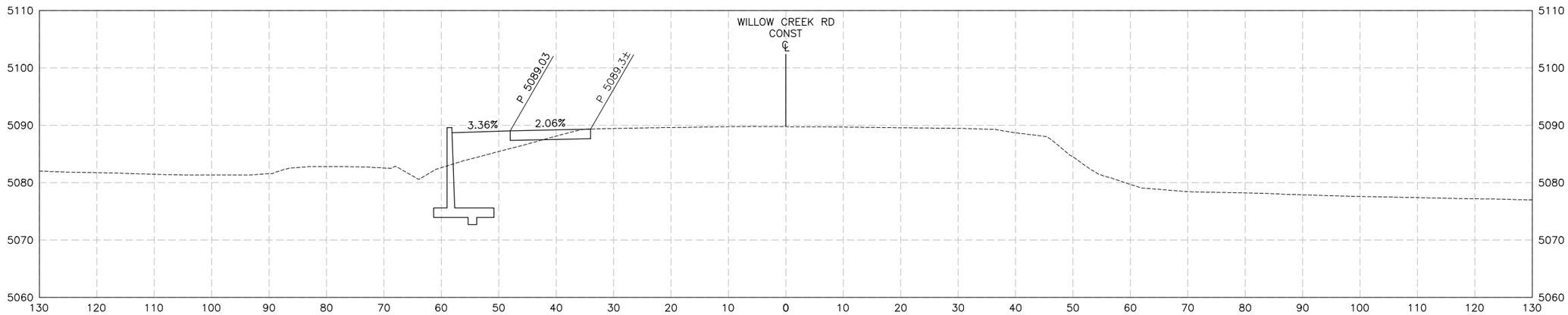
DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

ROADWAY CROSS SECTIONS

PROJECT: WILLOW CREEK ROAD REALIGNMENT PROJECT NUMBER: CIP13-030 ROADWAY CROSS SECTIONS SEPTEMBER 16, 2015



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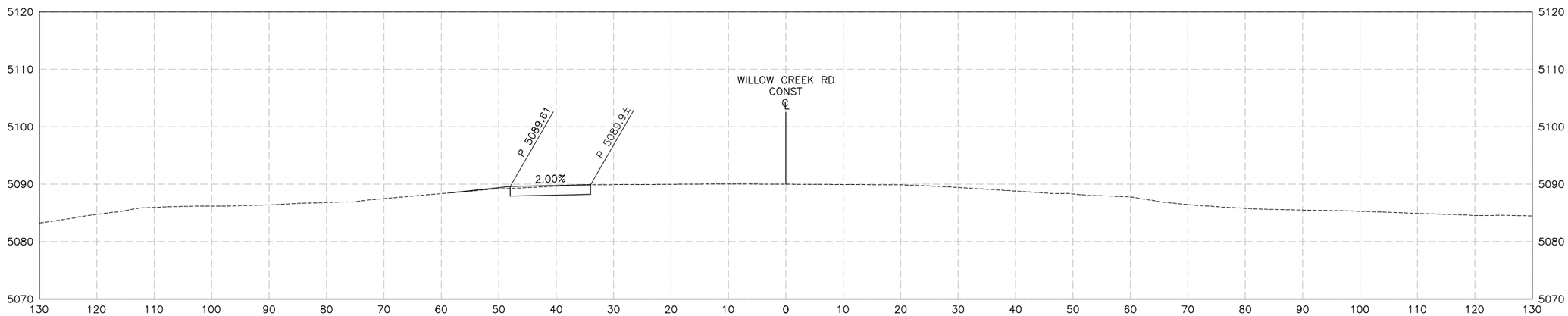
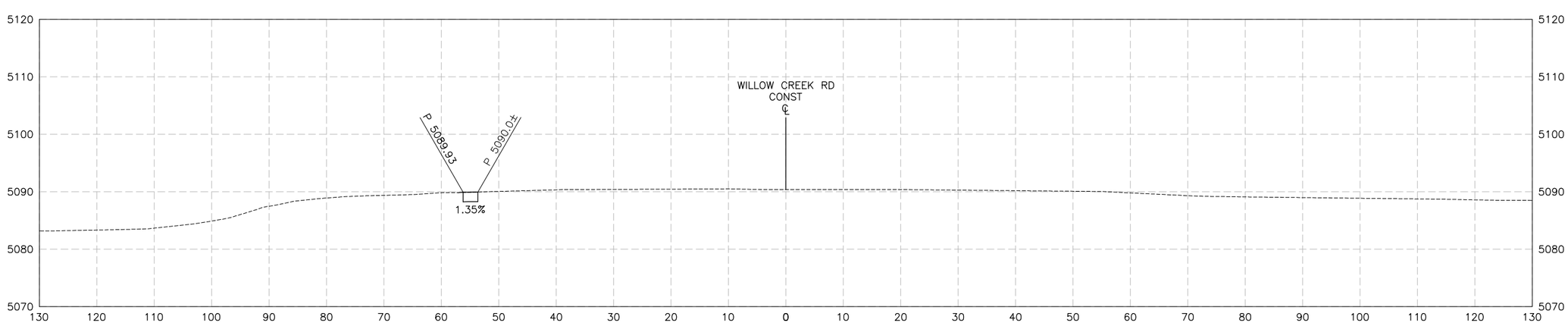


109+00



108+30

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

ARIZONA 811

	REVISION	BY	DATE

CITY OF PRESCOTT

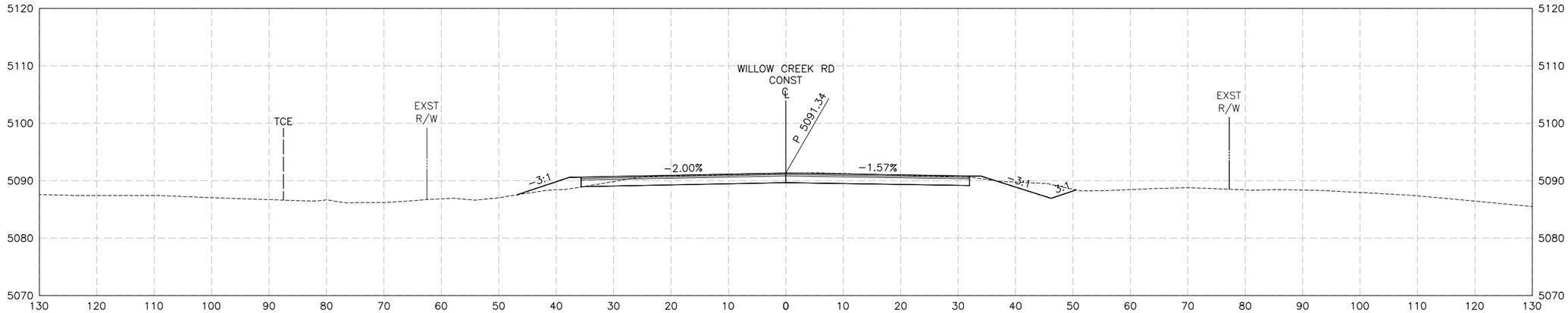
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

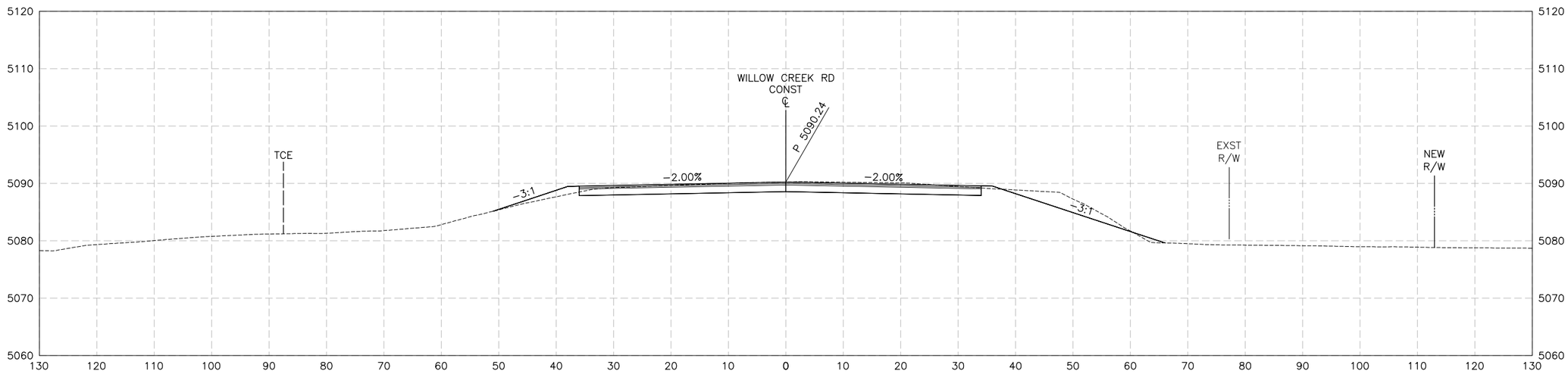
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 108+30 TO STA 109+90

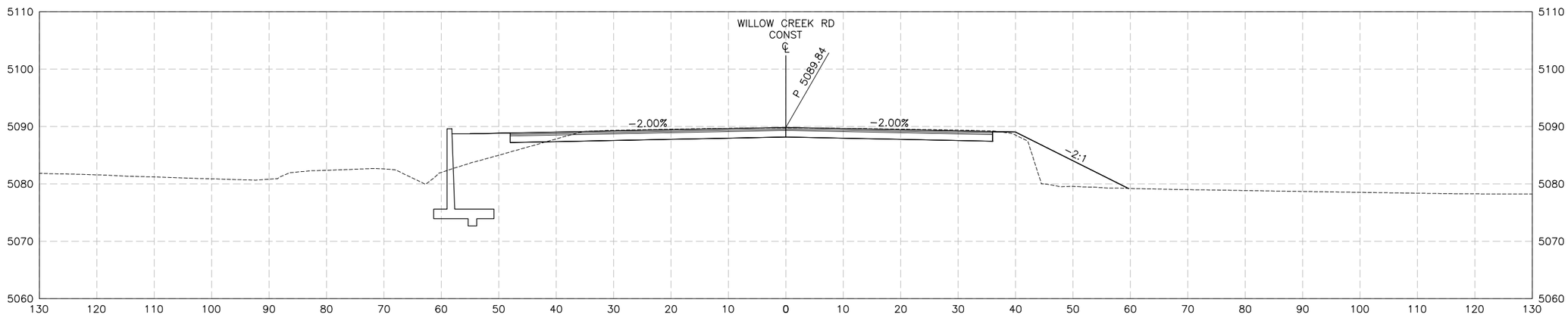
DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X2	2 OF 34



112+00



111+00



110+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation. Arizona Blue Stake, Inc. Dial 8-1-1 or 1-800-Blue-Stake (1-800-282-7817) In Maricopa County (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 110+00 TO STA 112+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X3	3 OF 34

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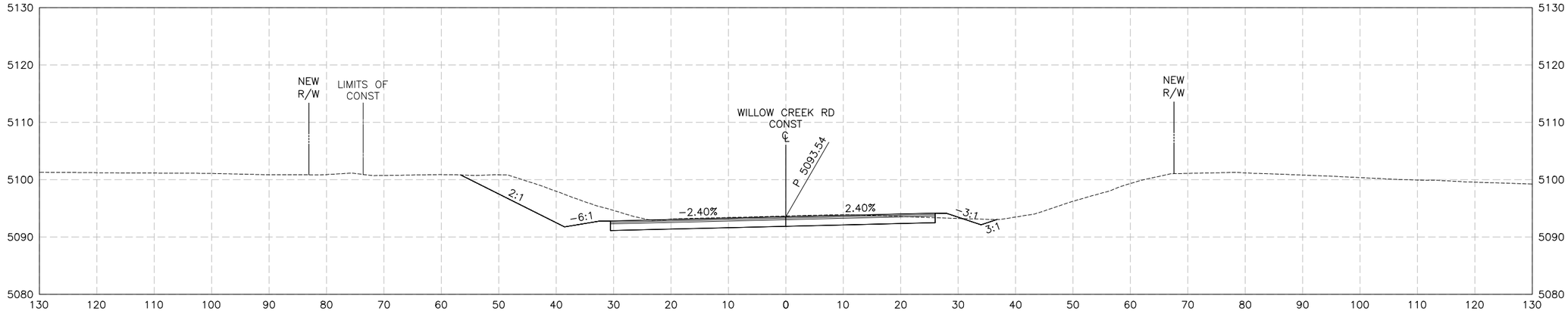

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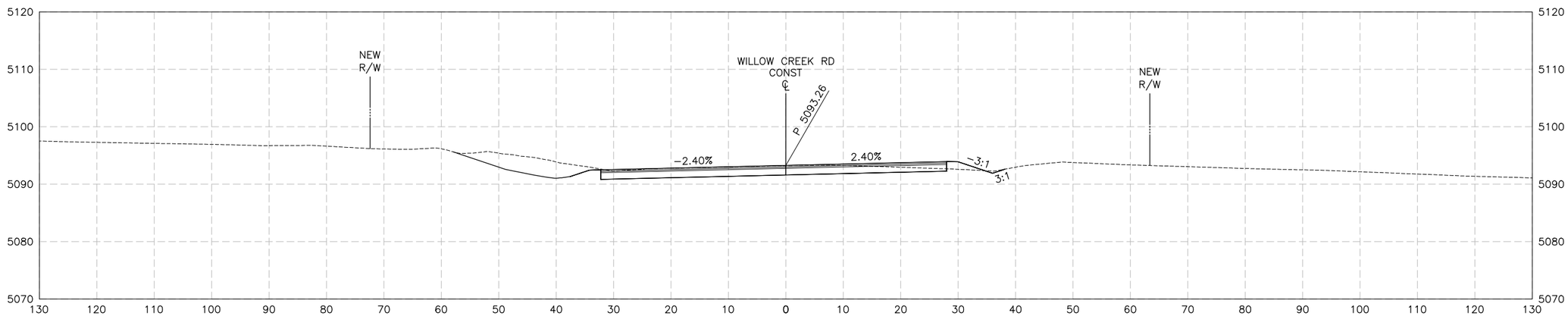
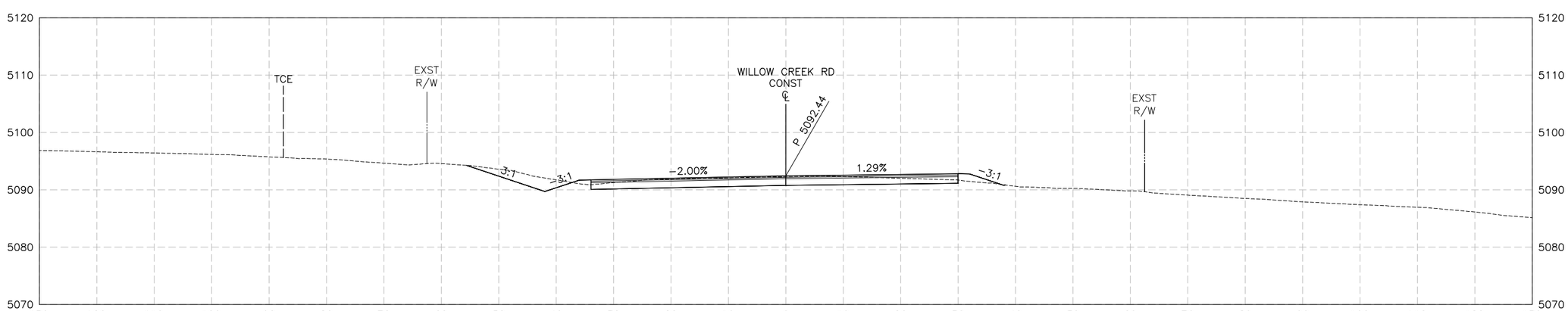


114+00



113+00

AS BUILT DATE

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DIBBLE PROJECT NO 101434

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△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 113+00 TO STA 115+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X4	4 OF 34

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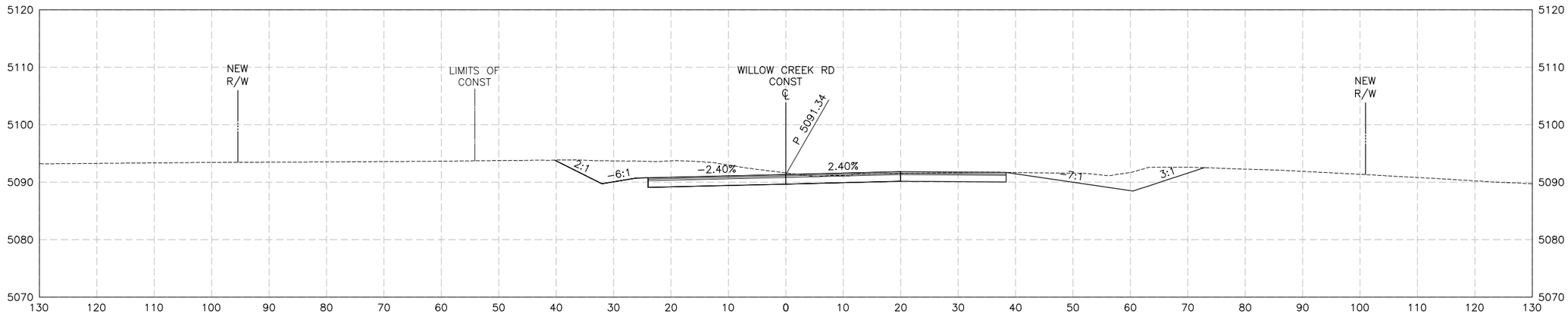

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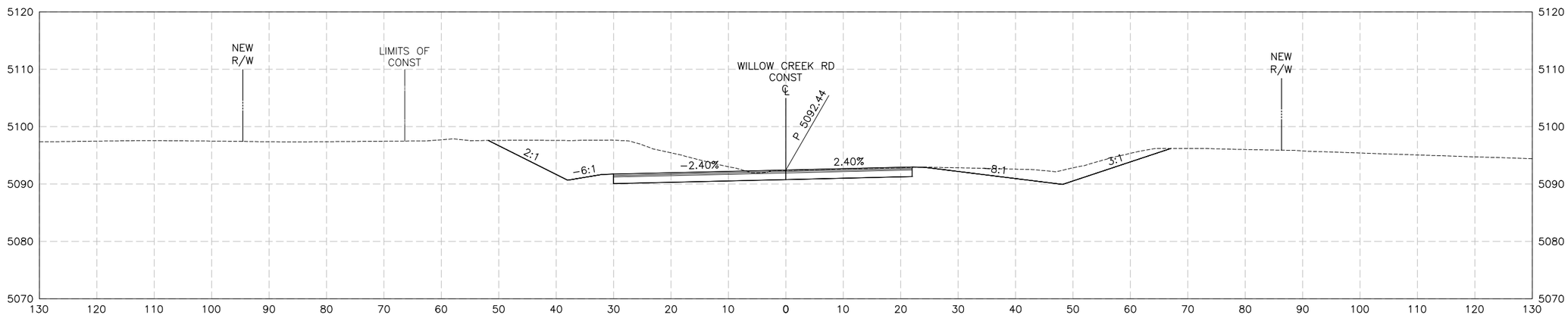

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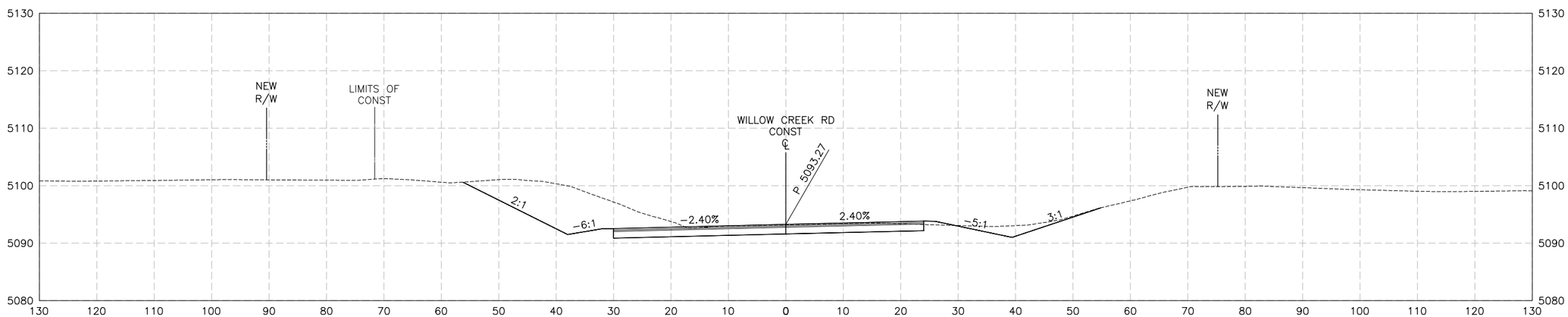

116+00

AS BUILT DATE

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FOR INFORMATION ONLY

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△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 116+00 TO STA 118+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X5	5 OF 34

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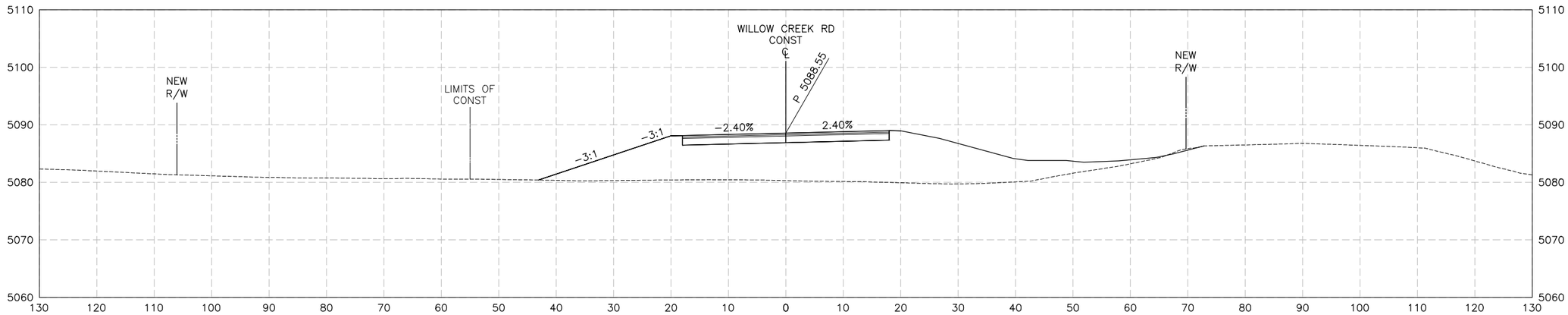

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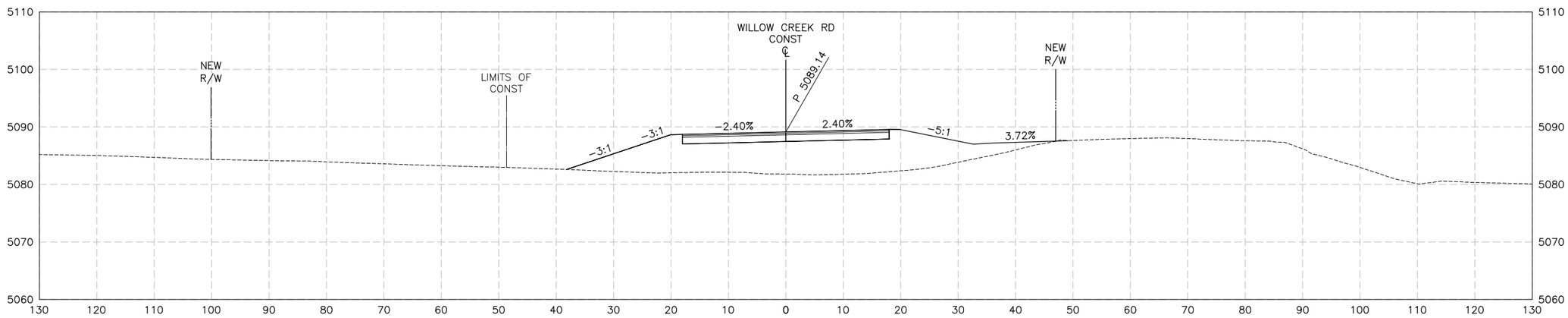

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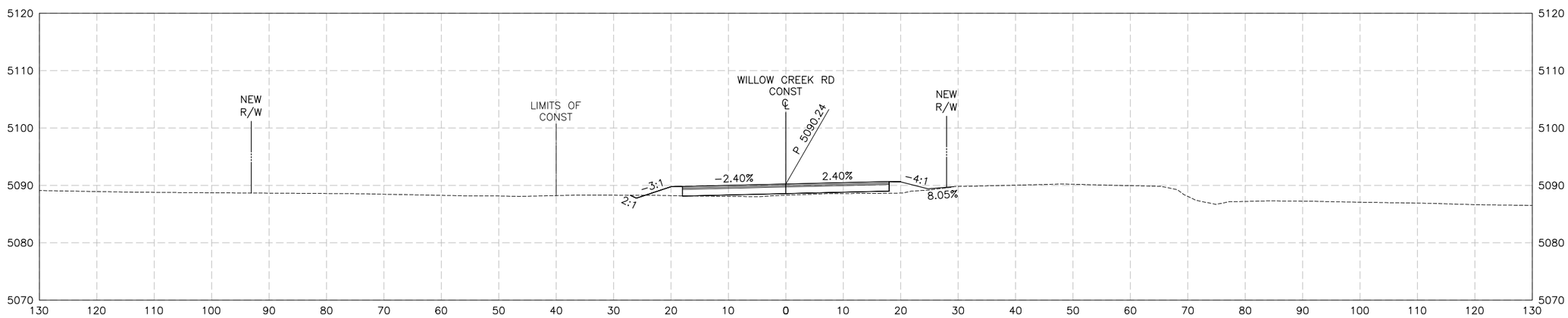

119+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

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	REVISION	BY	DATE

CITY OF PRESCOTT

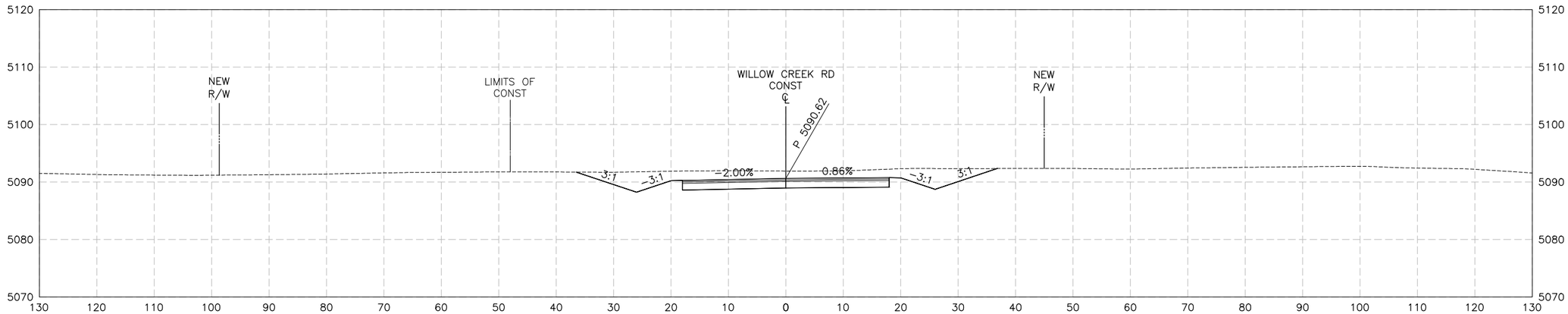
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

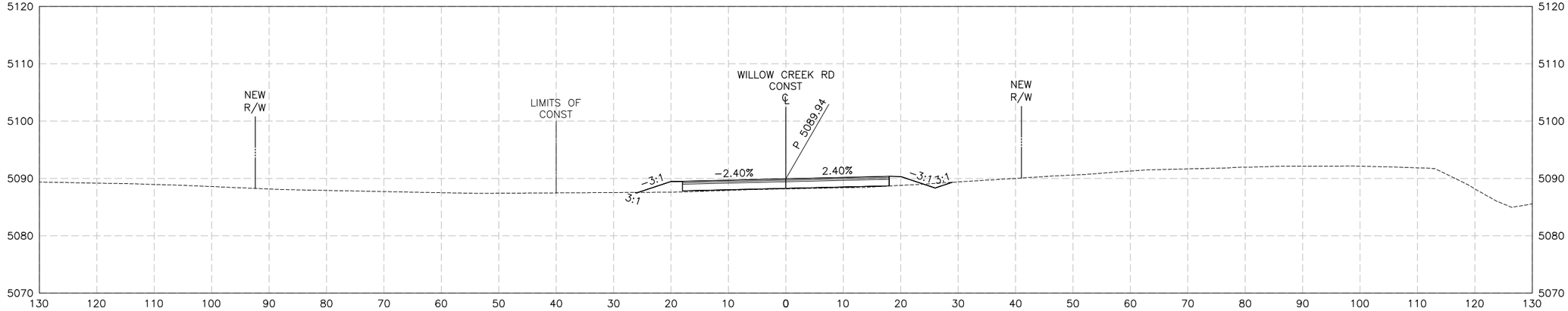
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 119+00 TO STA 121+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X6	6 OF 34



124+00



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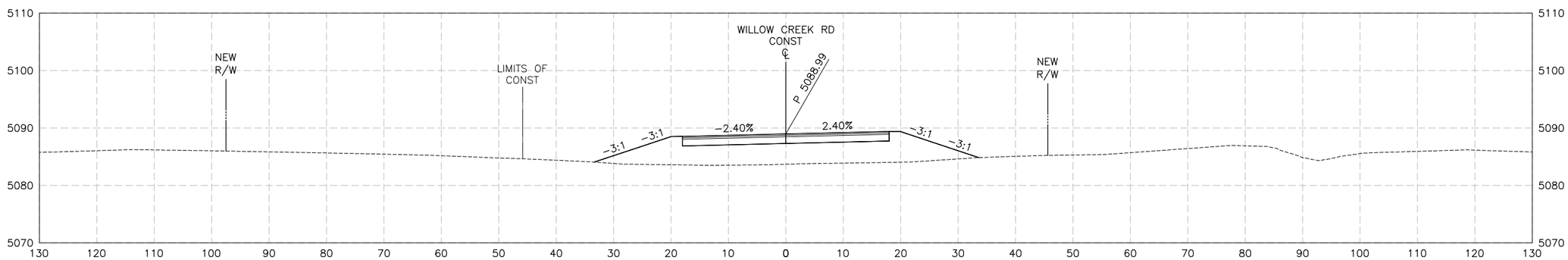

122+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

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△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 122+00 TO STA 124+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X7	7 OF 34

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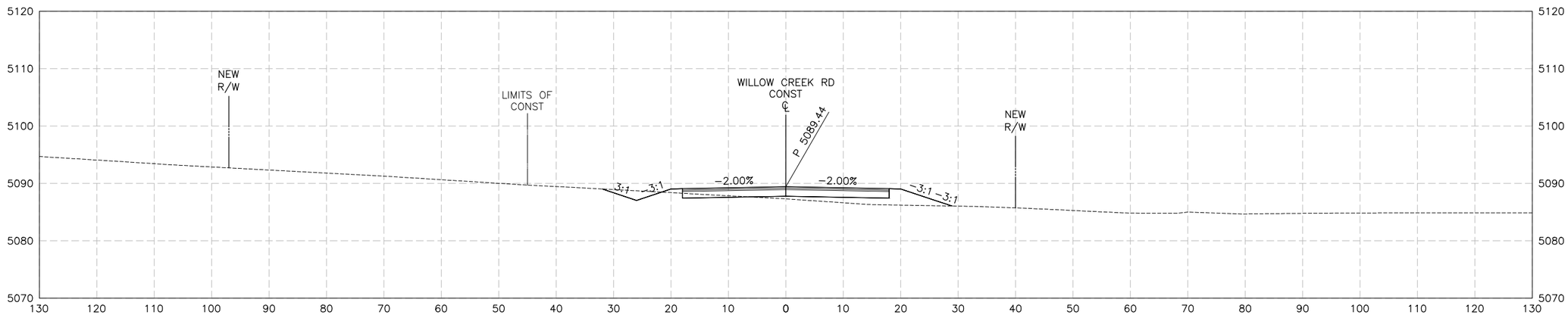

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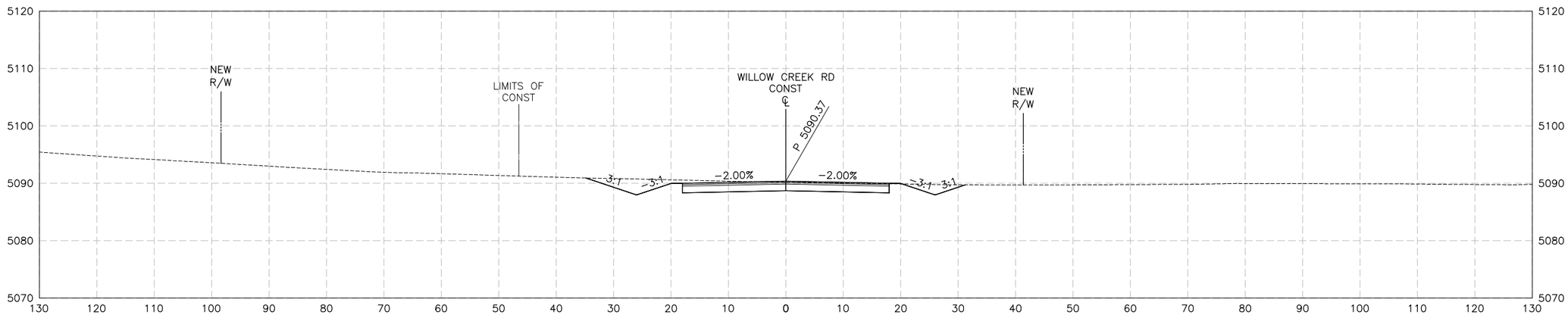

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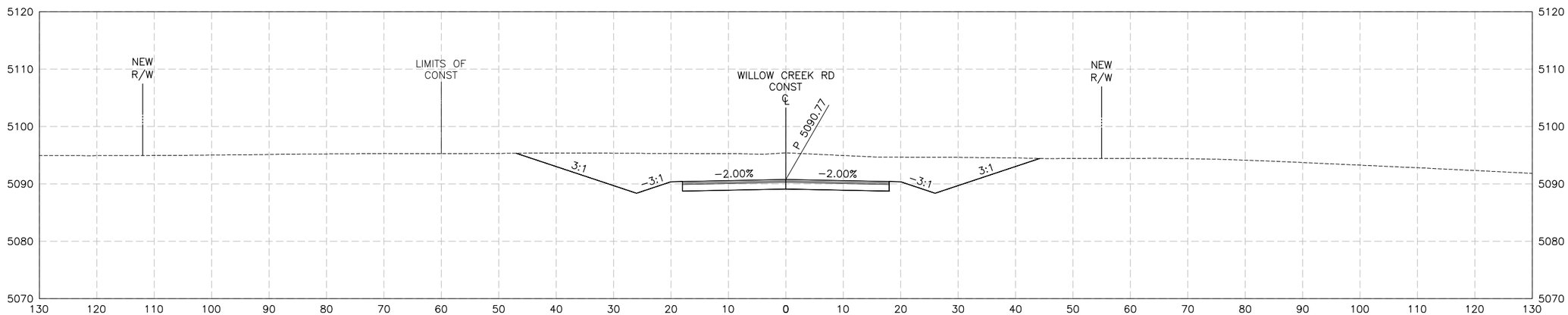

125+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

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	REVISION	BY	DATE

CITY OF PRESCOTT

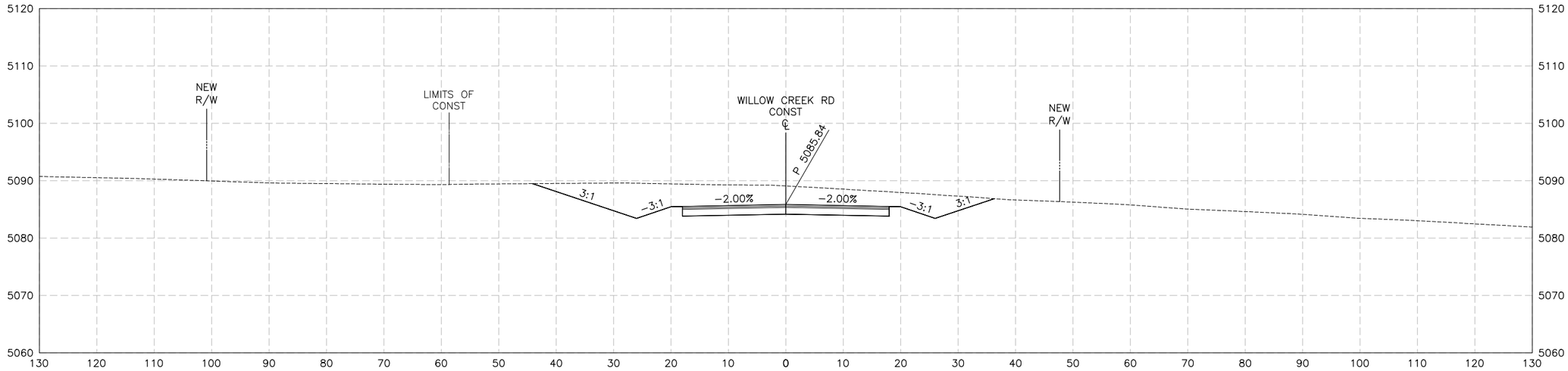
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

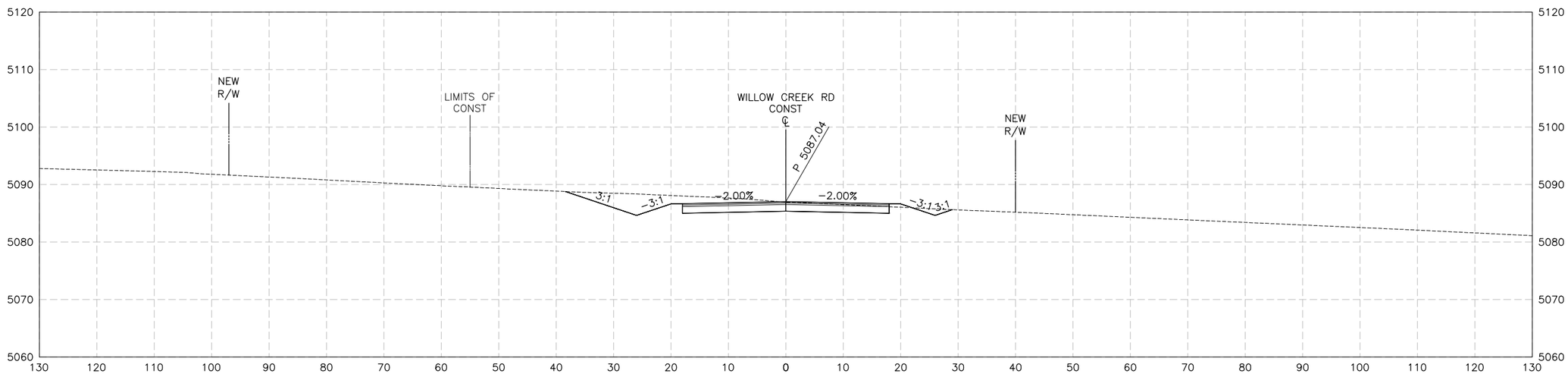
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 125+00 TO STA 127+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X8	8 OF 34



130+00



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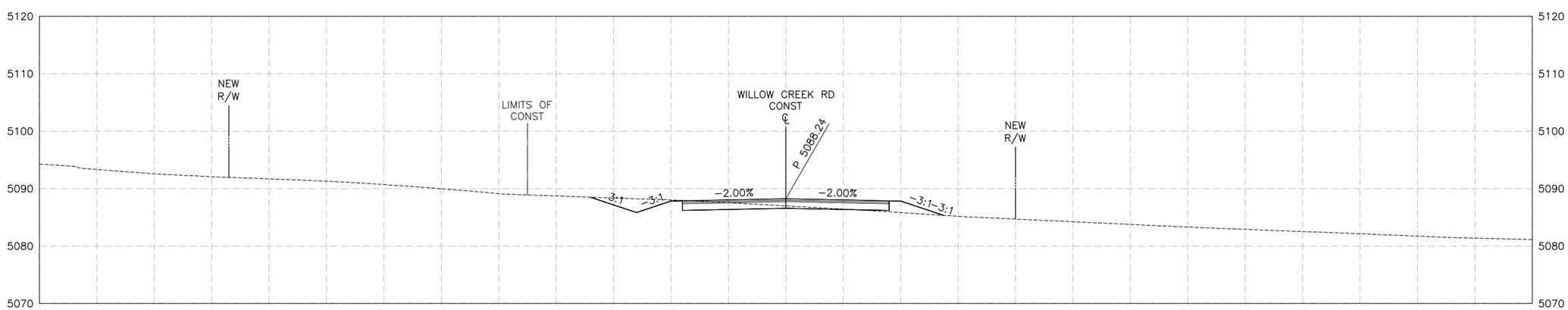

128+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 128+00 TO STA 130+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X9	9 OF 34

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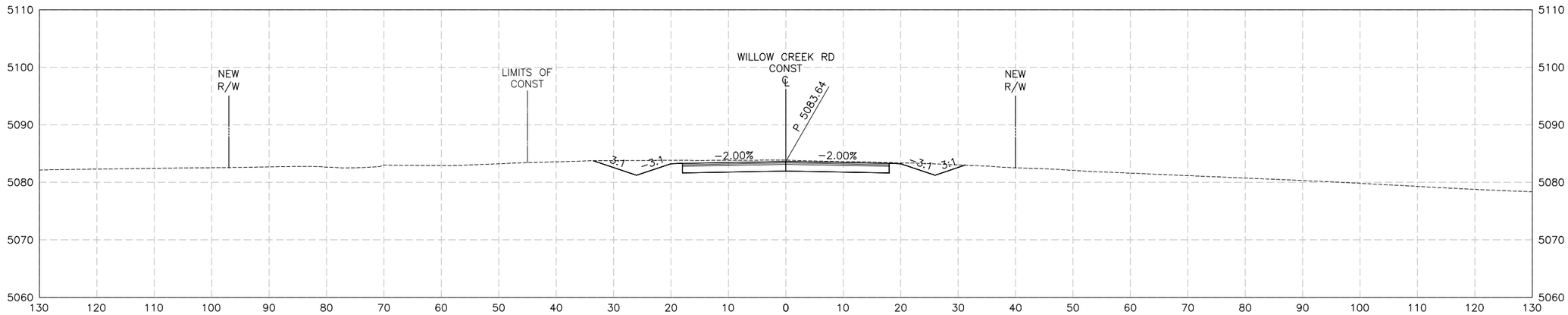

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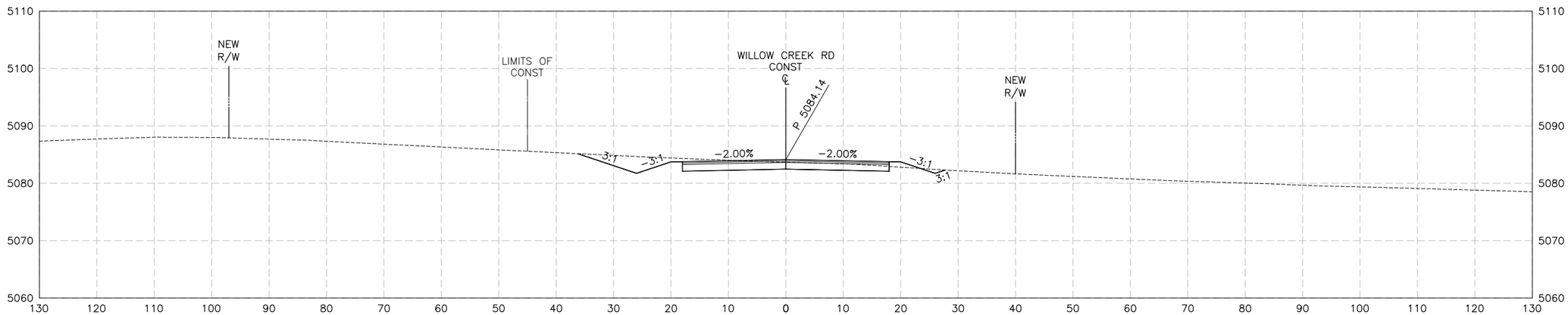

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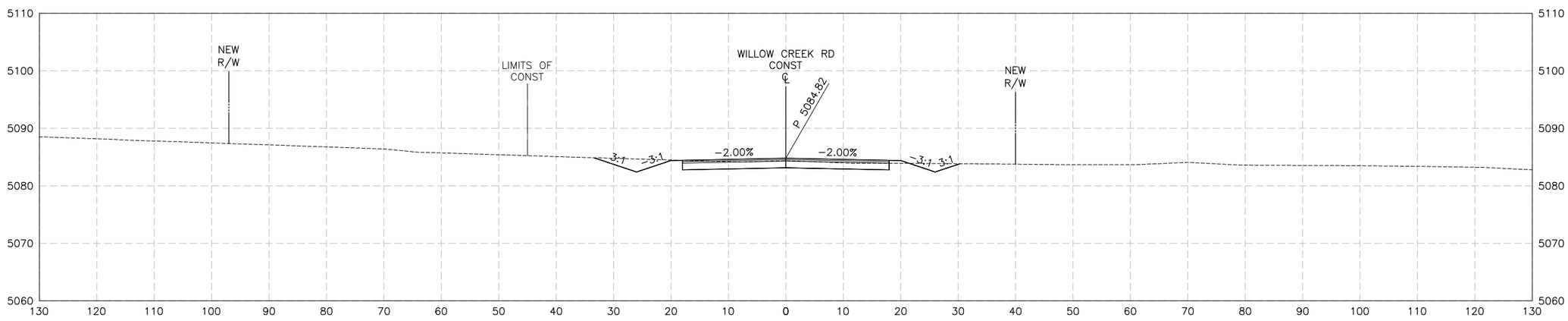

131+00

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AS BUILT DATE

Dibble Engineering

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ARIZONA 811

	REVISION	BY	DATE

CITY OF PRESCOTT

Everybody's Hometown

CITY OF PRESCOTT

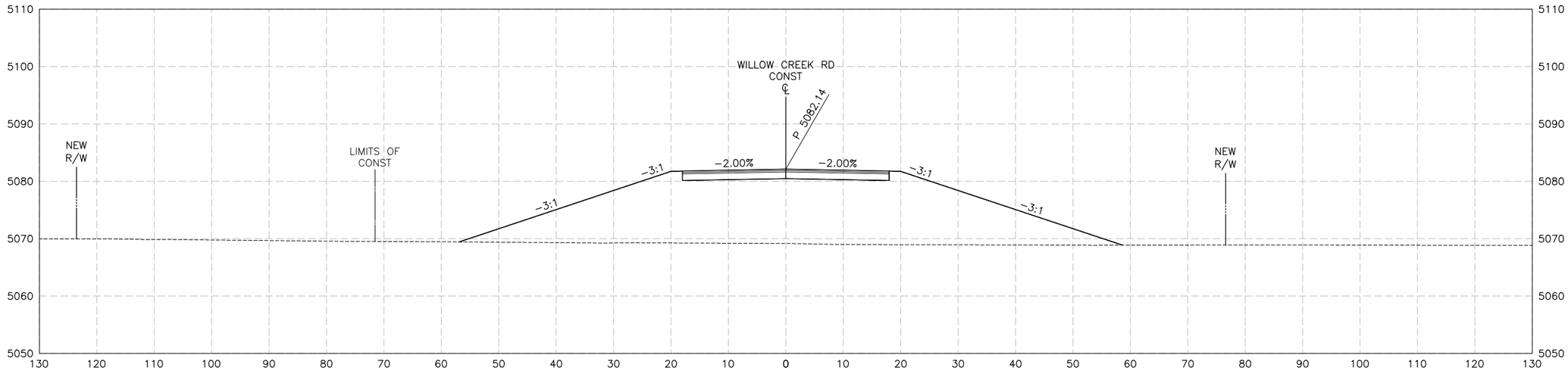
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

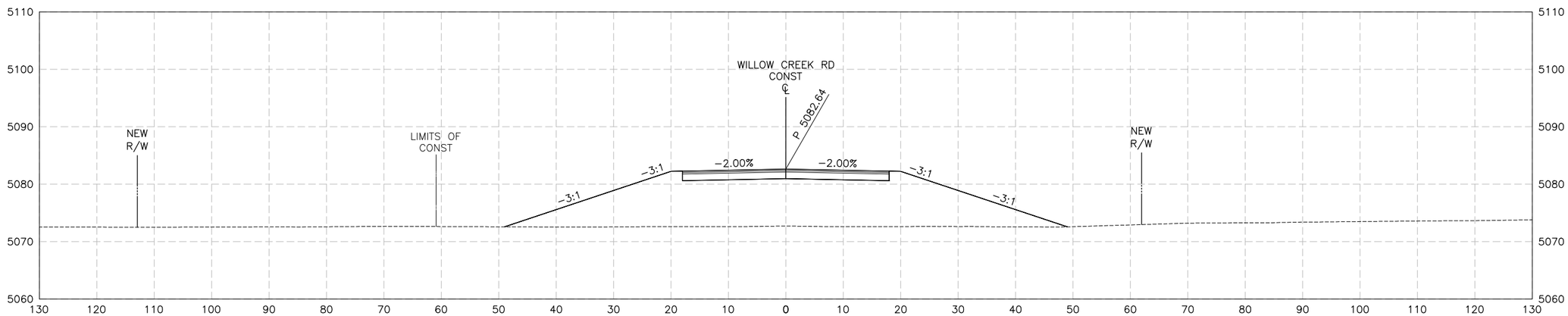
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 131+00 TO STA 133+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X10	10 OF 34



136+00



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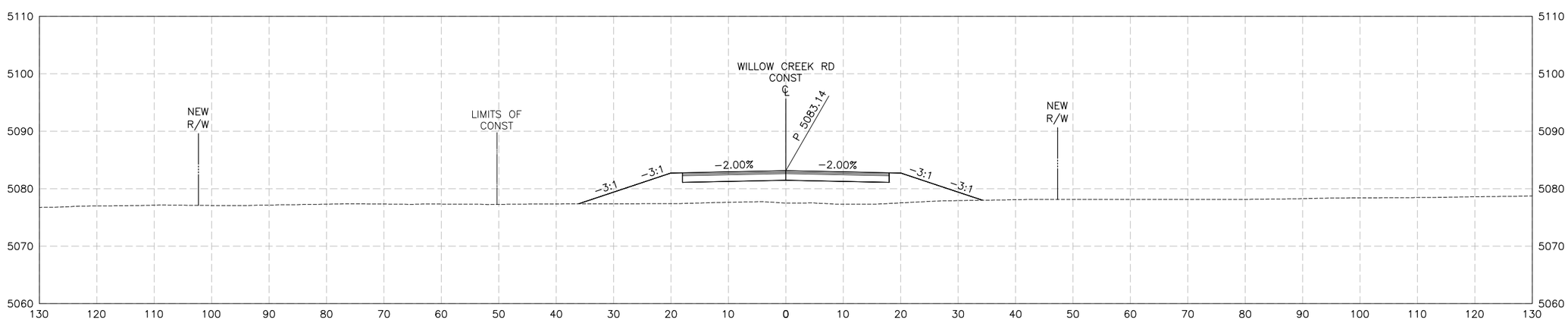


134+00

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-XS.DWG Sep. 17, 2015 2:32 PM

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation
ARIZONA 811
Blue Stake, Inc.
Dial 8-1-1 or 1-800-STAKE-IT (1-800-782-5348)
In Maricopa County (602) 263-1100

	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

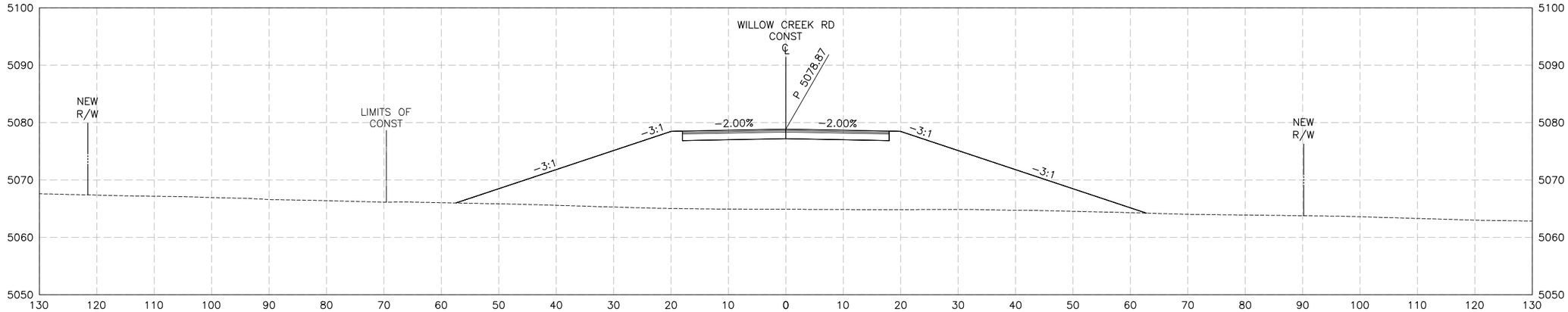
CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 134+00 TO STA 136+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X11	11 OF 34



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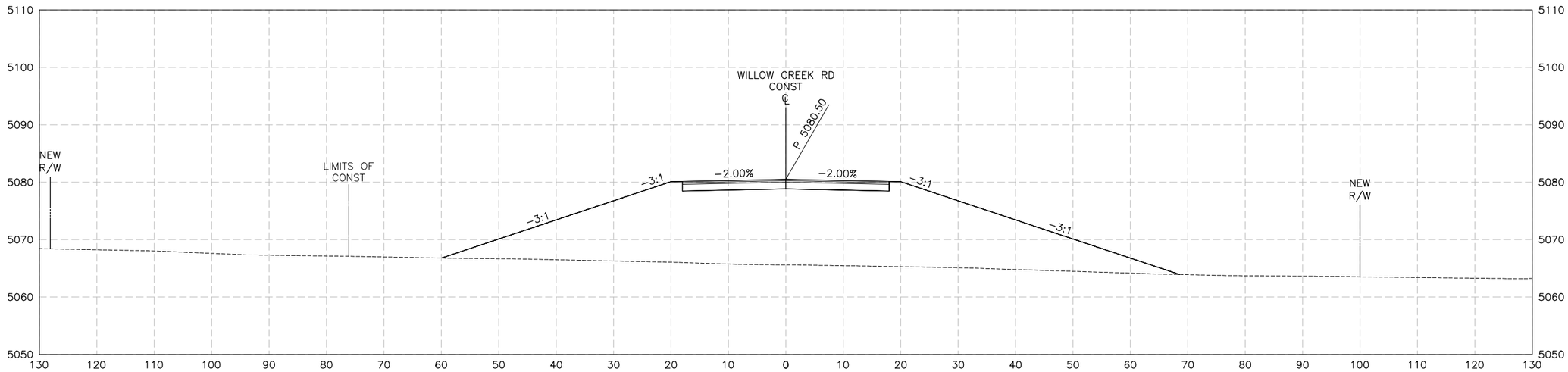
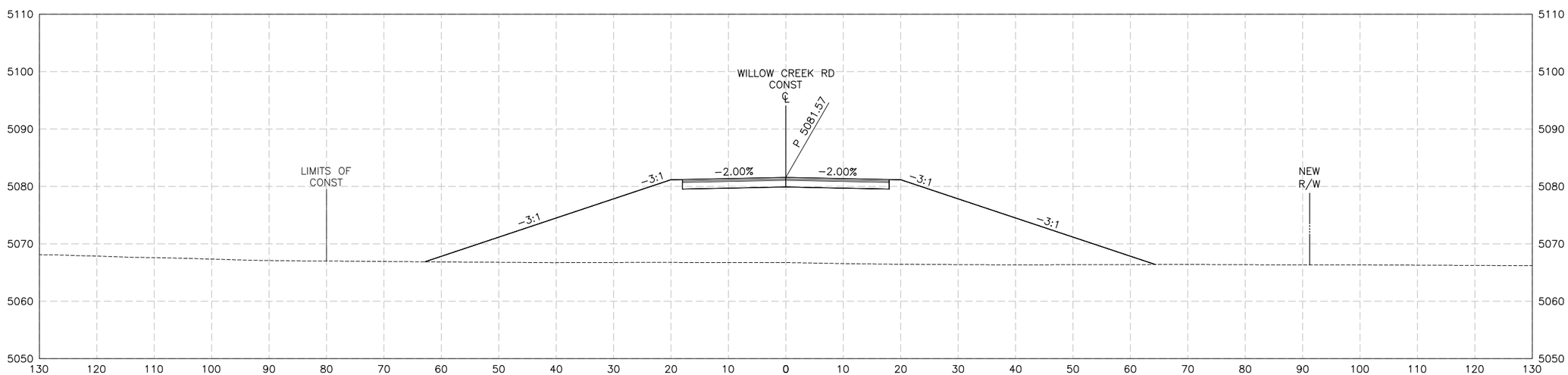


138+00



137+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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0' 5' 10' 20'

SCALE: 1"=10'

ARIZONA 811

	REVISION	BY	DATE

CITY OF PRESCOTT

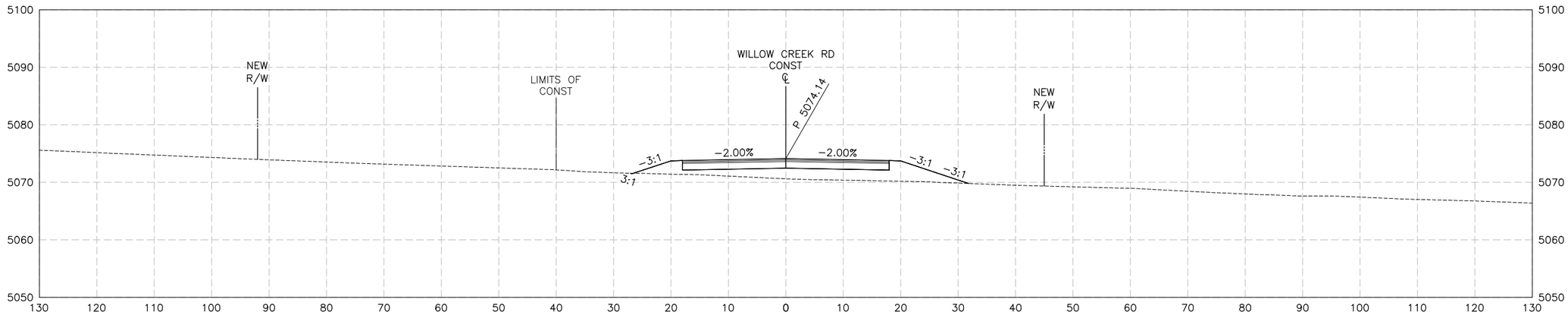
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 137+00 TO STA 139+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X12	12 OF 34



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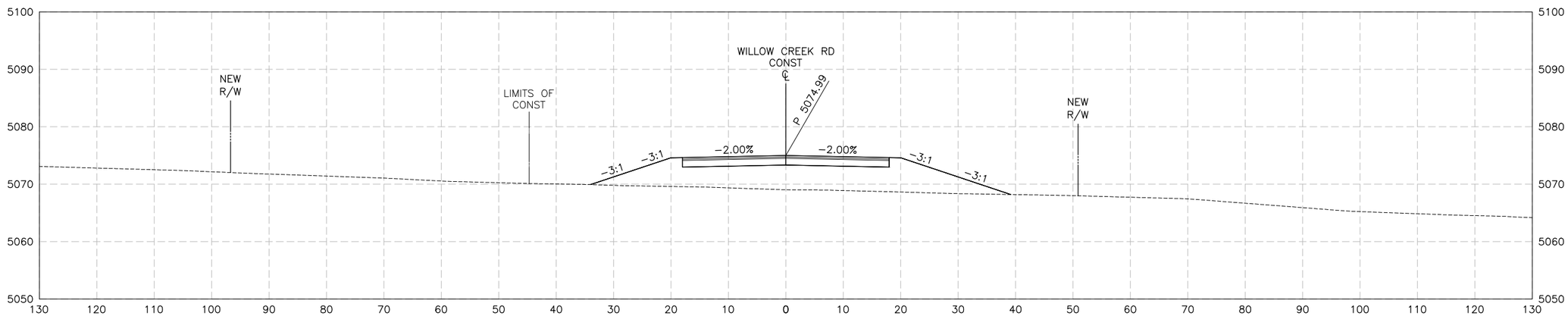

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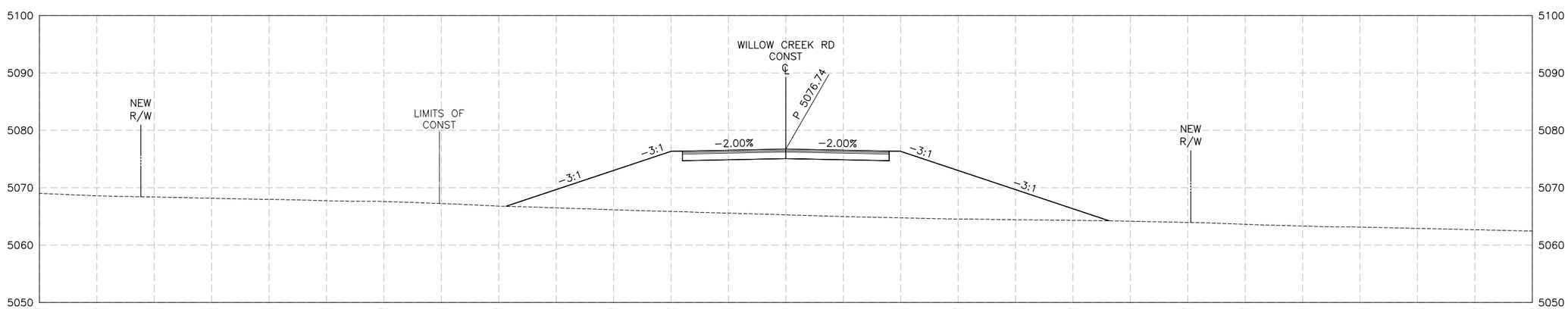

140+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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	REVISION	BY	DATE

CITY OF PRESCOTT

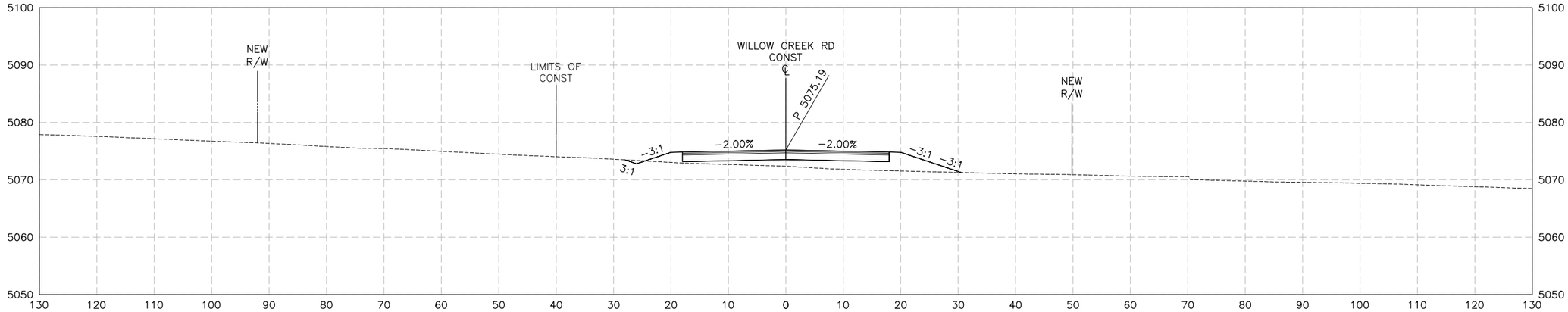
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

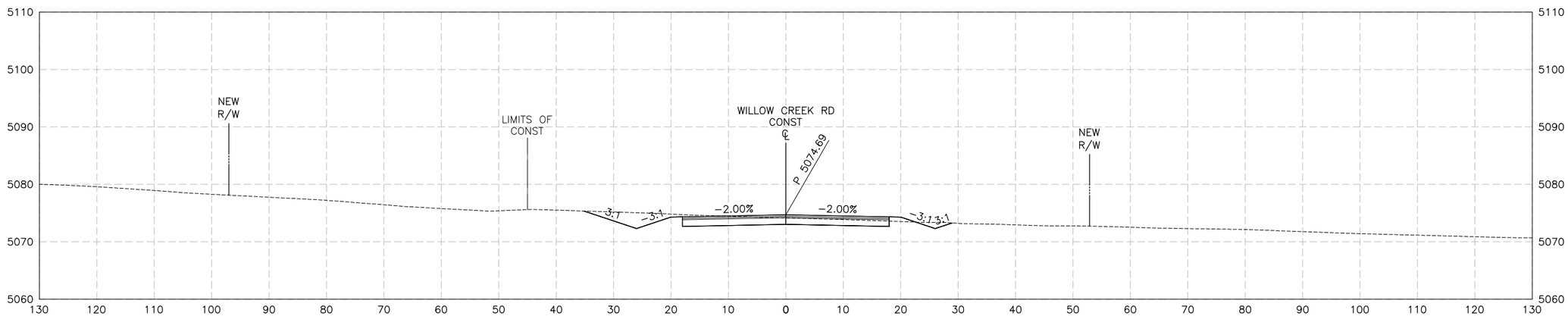
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 140+00 TO STA 142+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X13	13 OF 34



145+00



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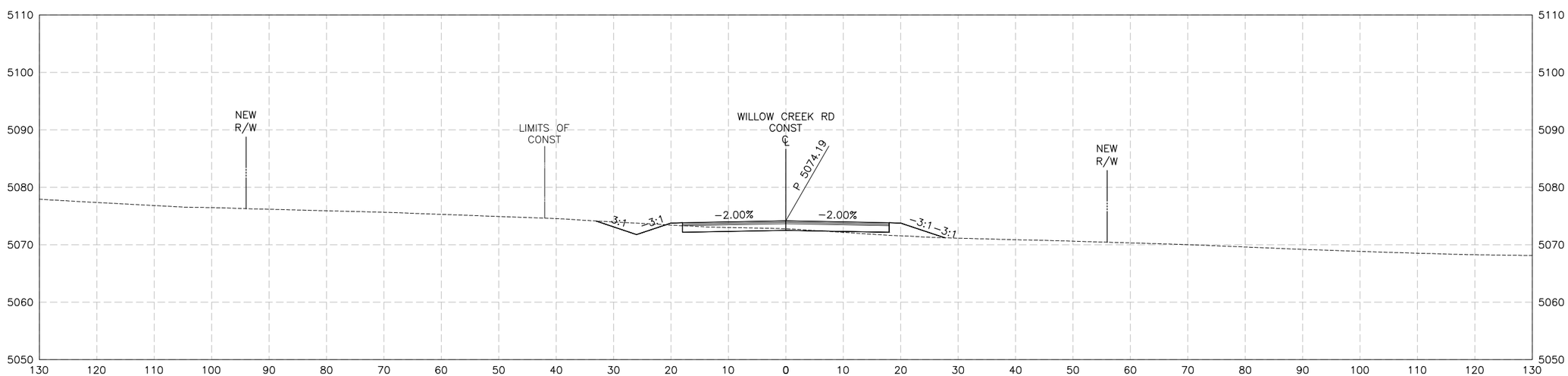

143+00

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Dibble Engineering

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	REVISION	BY	DATE

CITY OF PRESCOTT

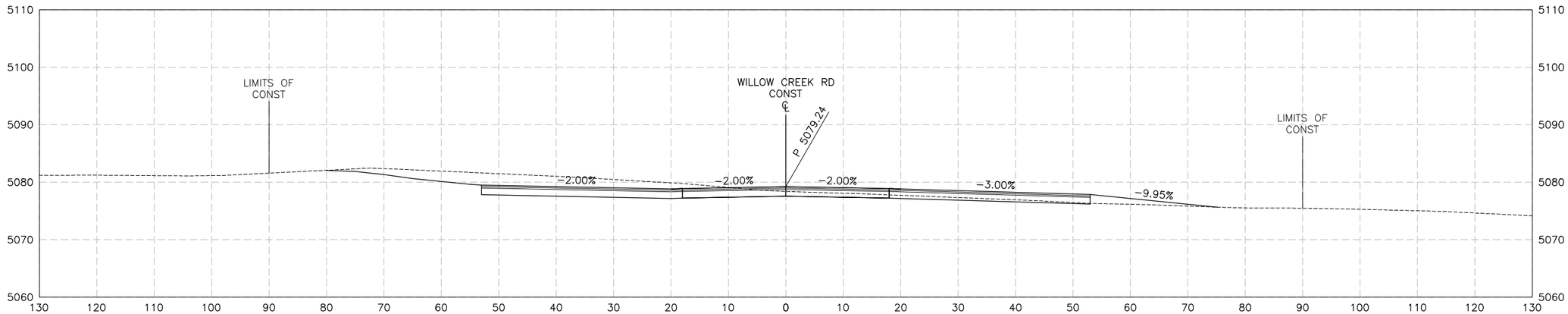
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 143+00 TO STA 145+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X14	14 OF 34



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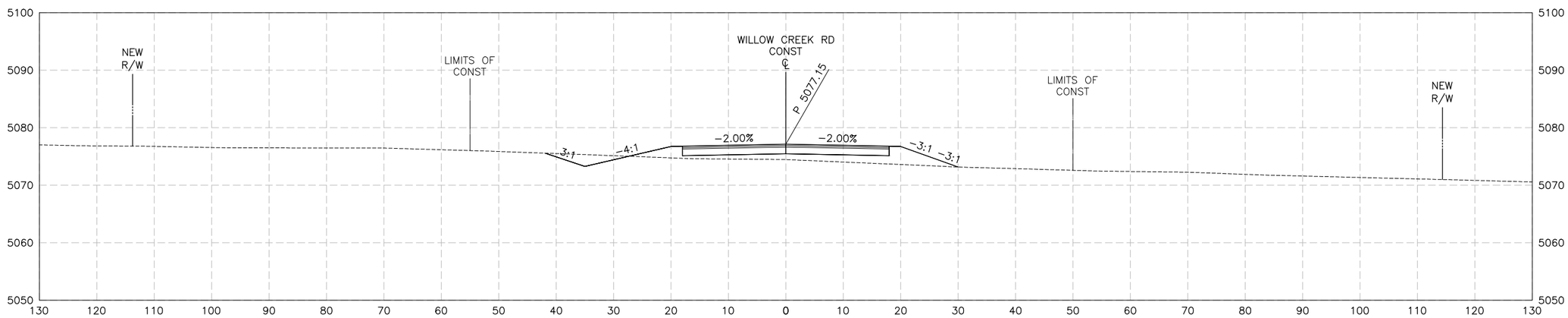

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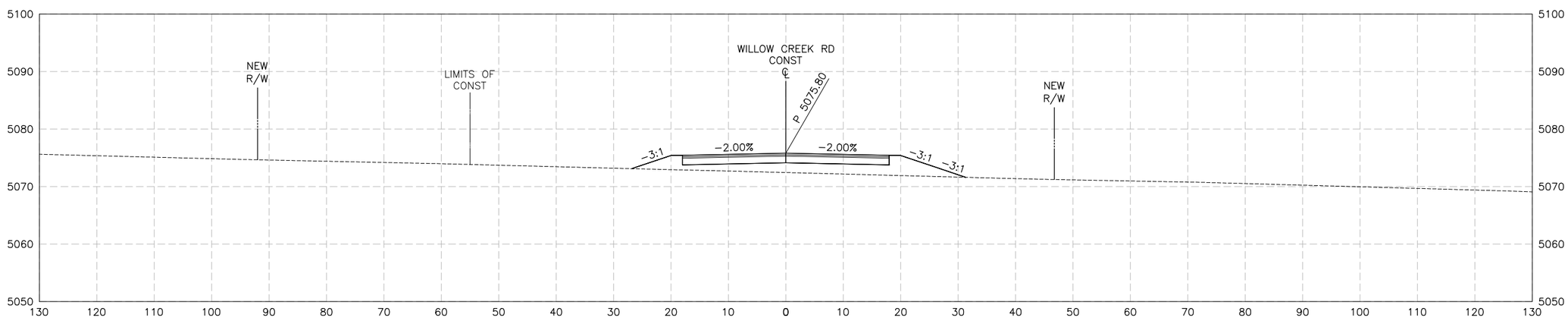

146+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

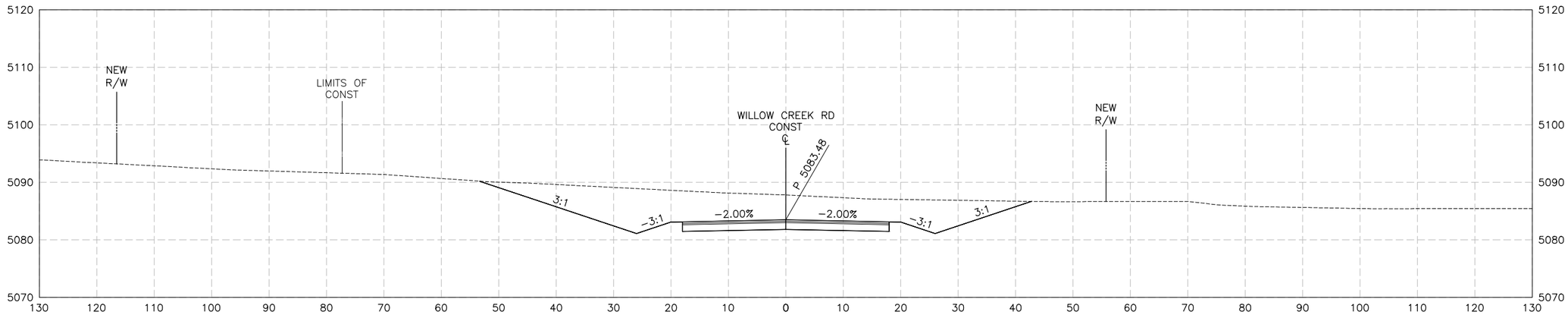
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 146+00 TO STA 148+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X15	15 OF 34



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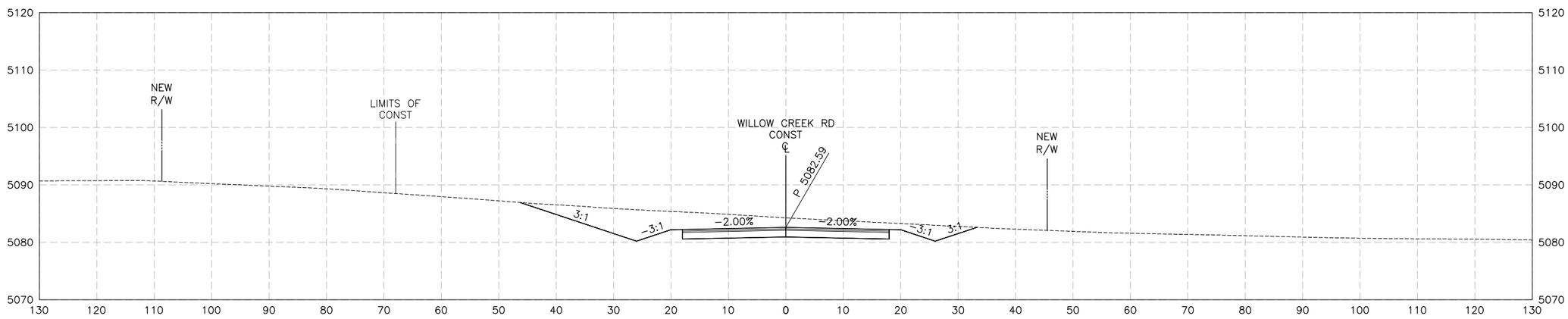

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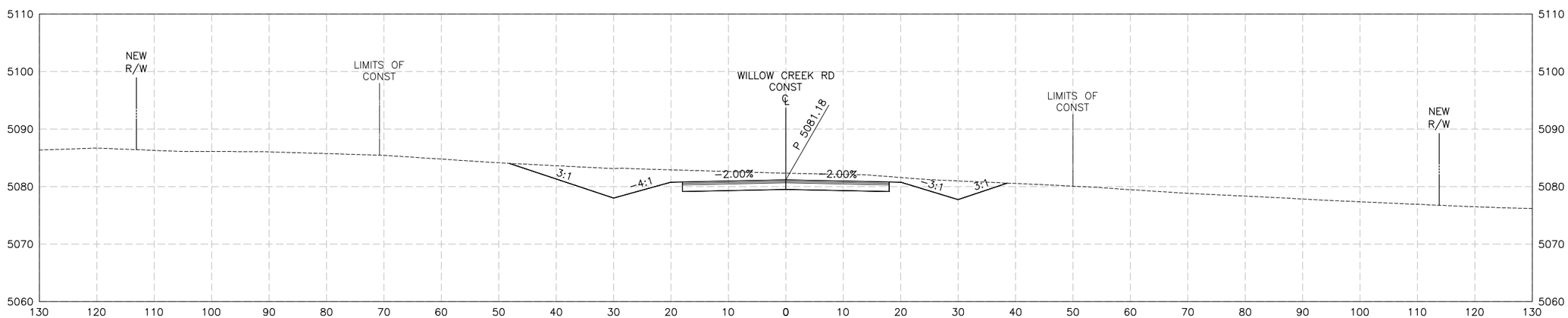

149+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 149+00 TO STA 151+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X16	16 OF 34

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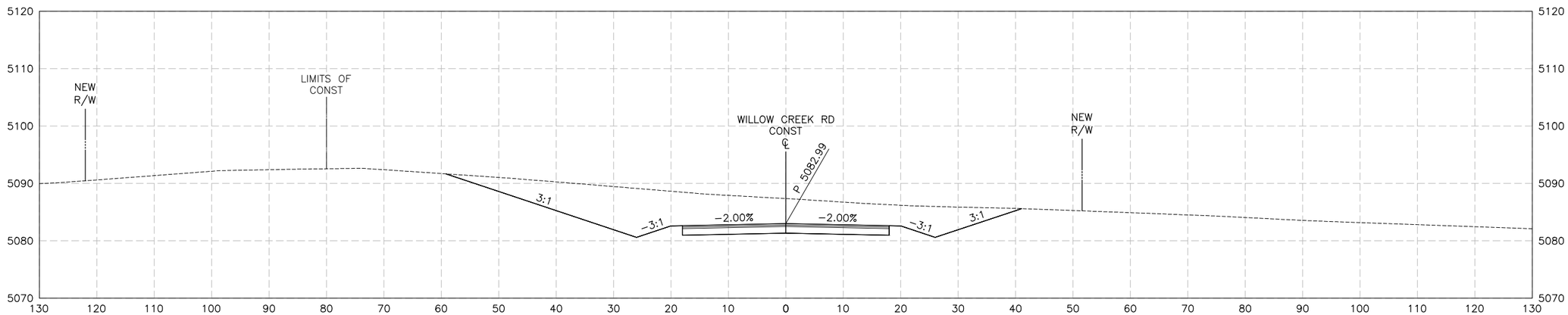

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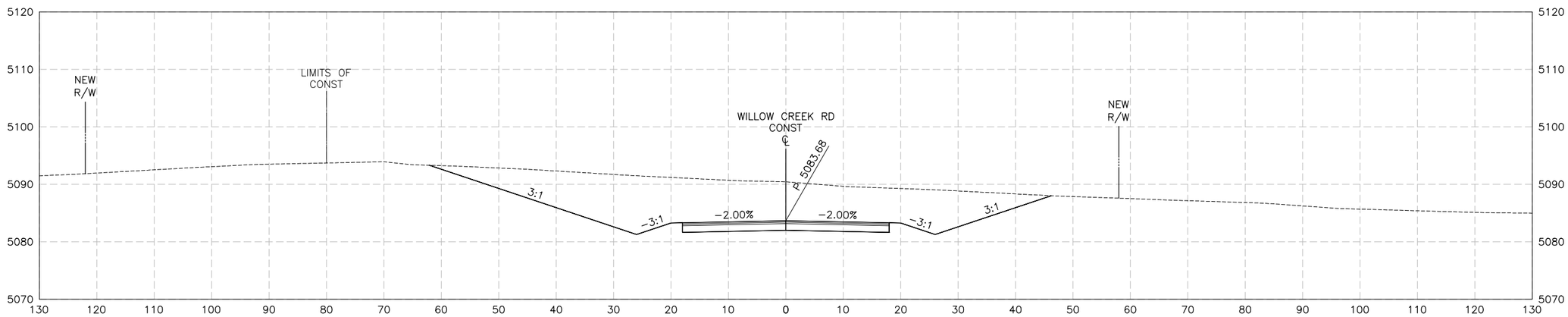
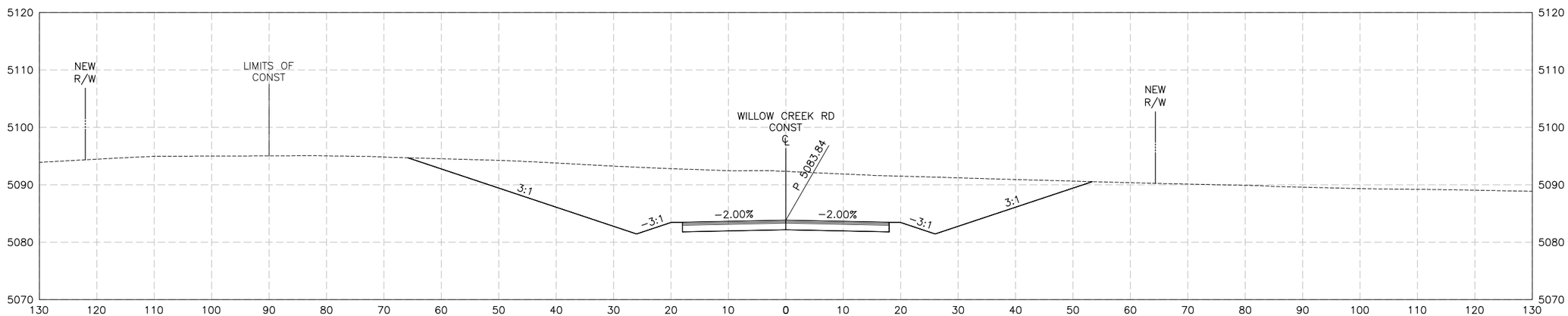


153+00



152+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

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0' 5' 10' 20'

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△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 152+00 TO STA 154+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X17	17 OF 34

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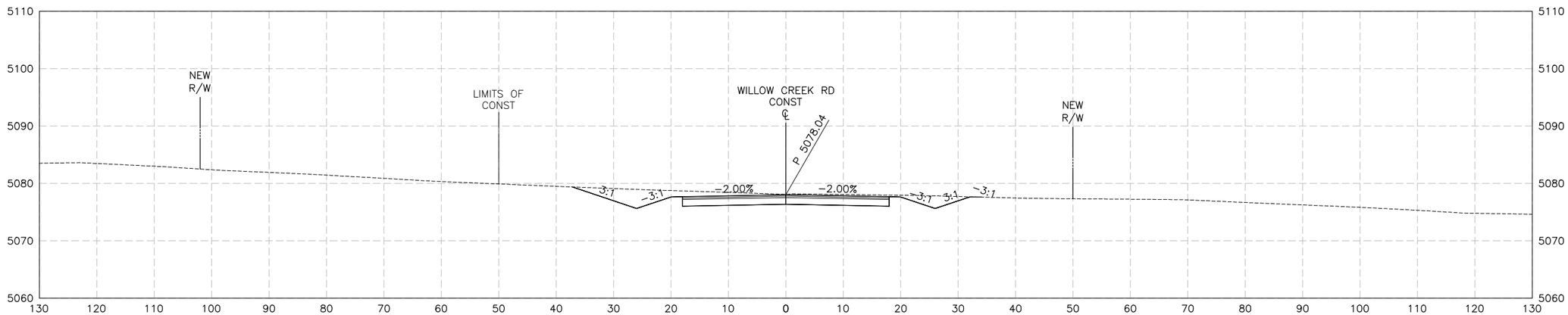
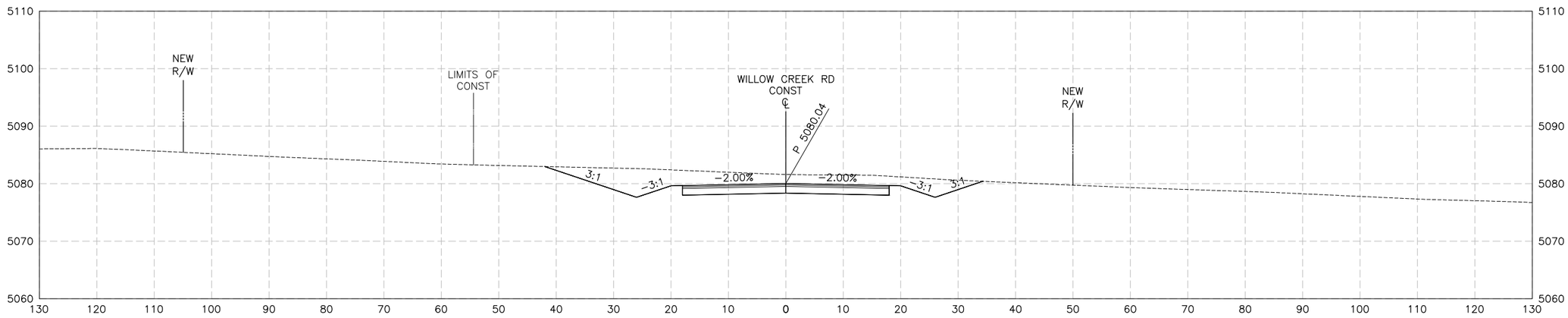


157+00



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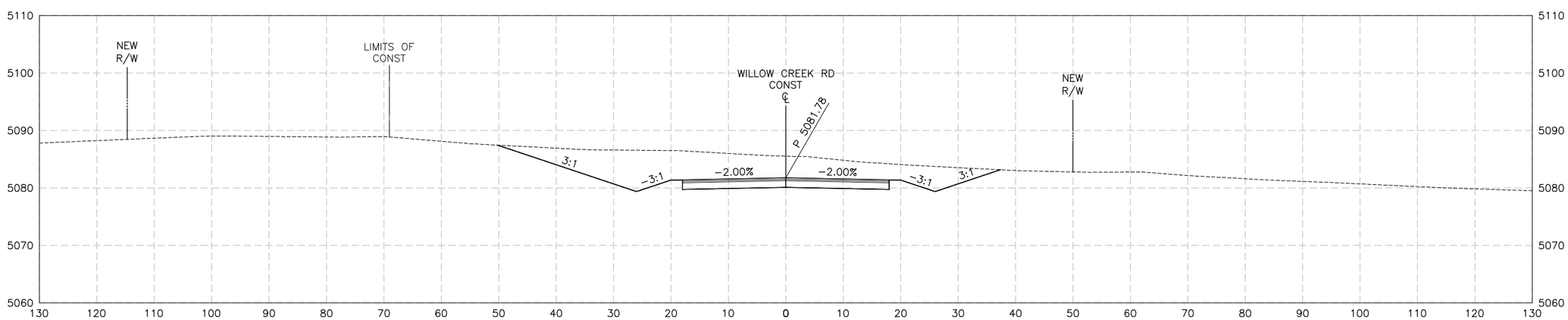

155+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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	REVISION	BY	DATE

CITY OF PRESCOTT

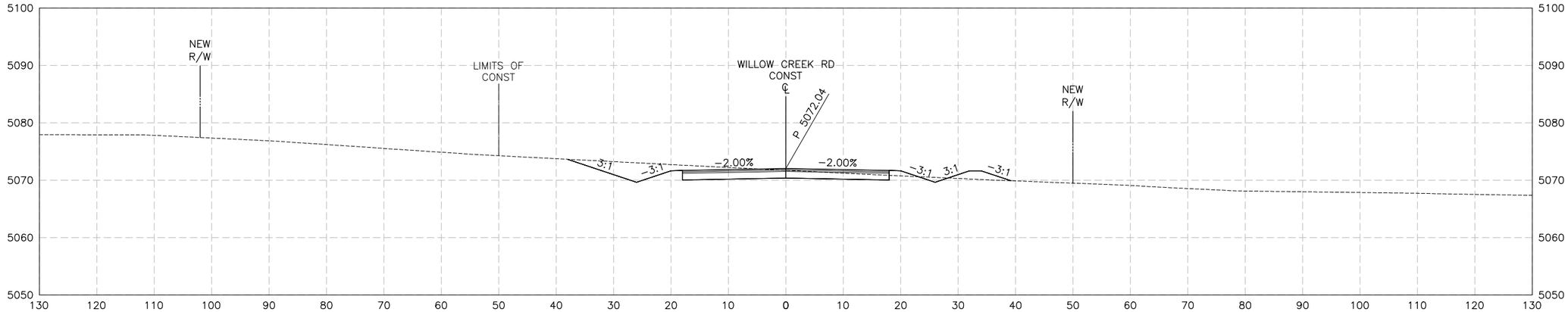
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

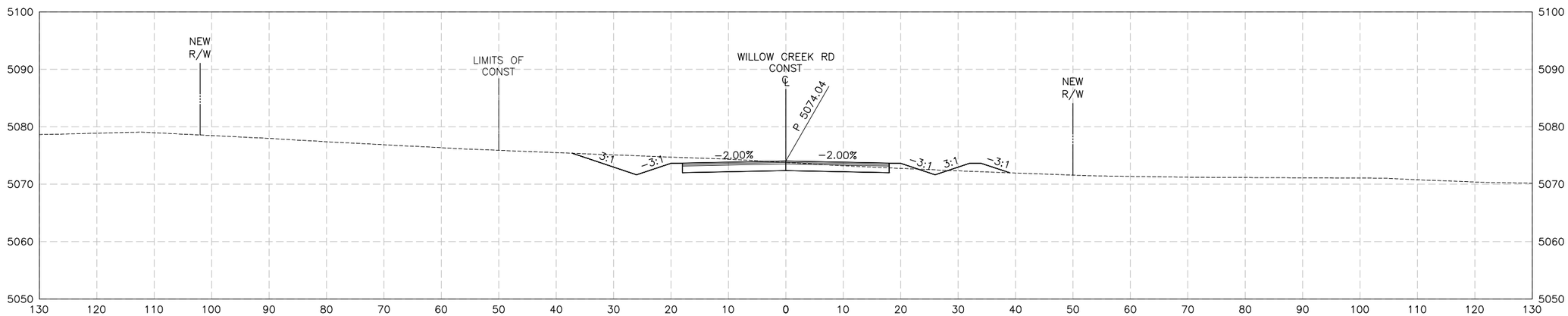
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 155+00 TO STA 157+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X18	18 OF 34



160+00



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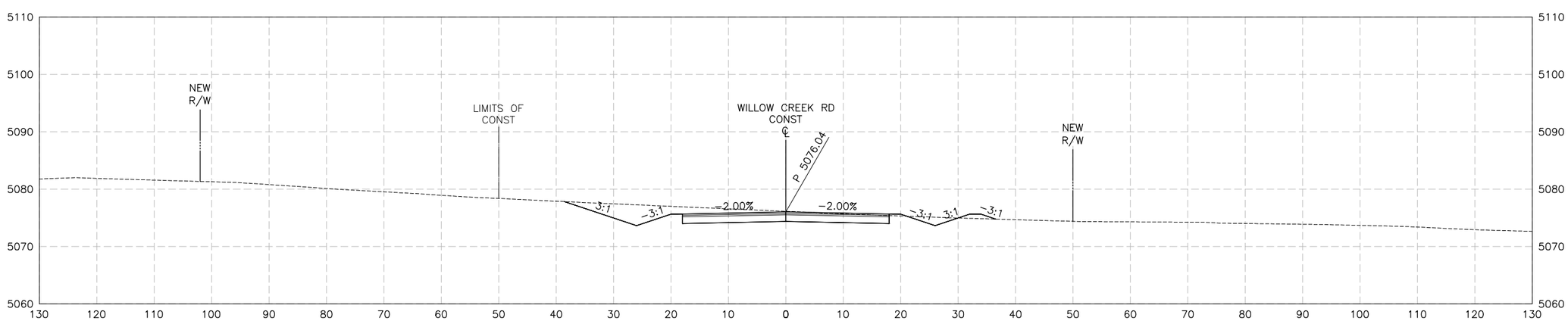

158+00

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	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 158+00 TO STA 160+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X19	19 OF 34

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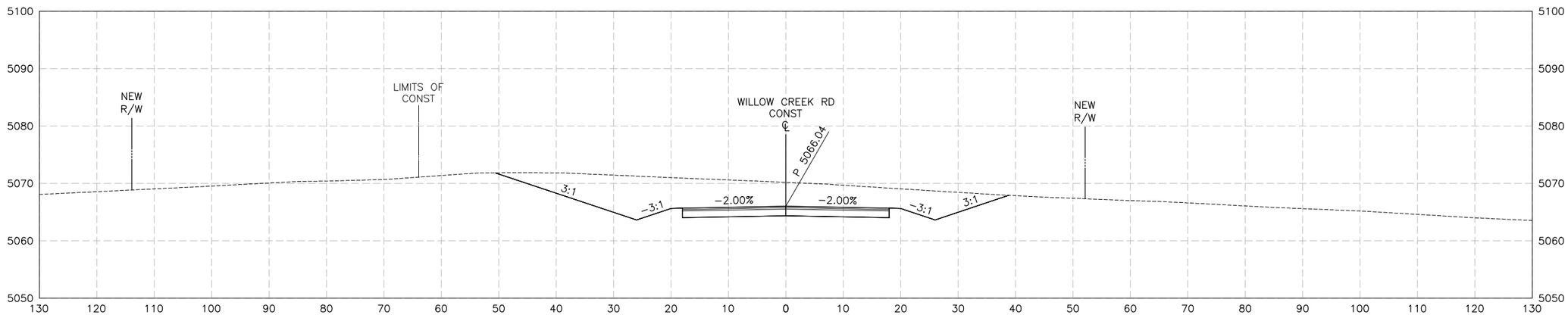

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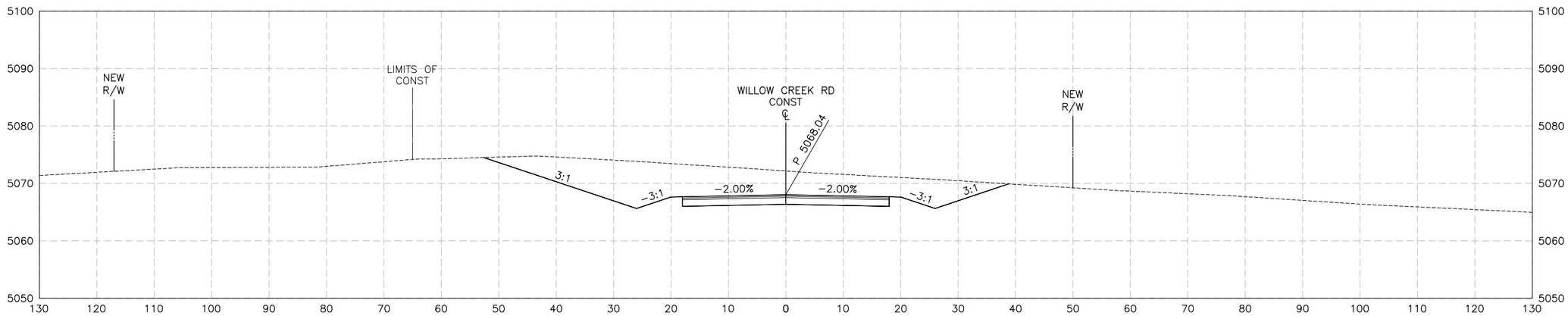

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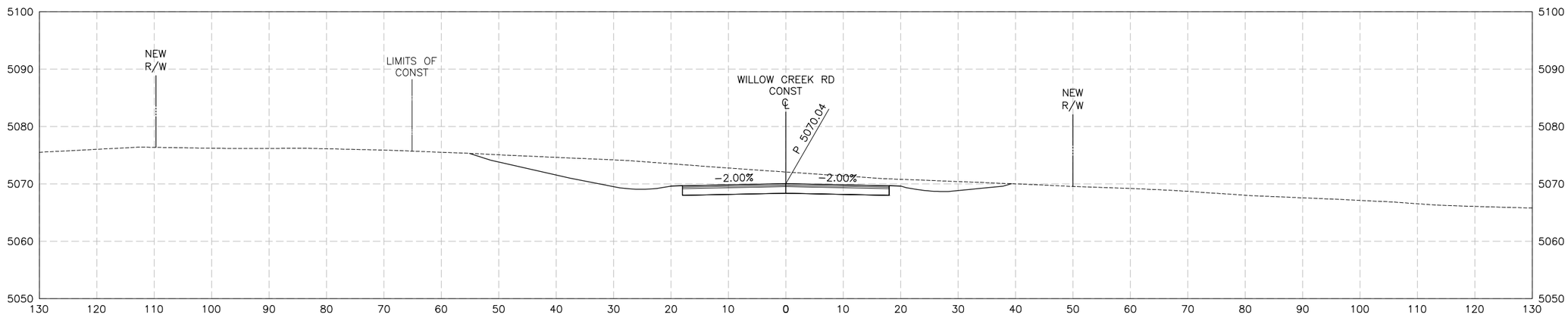

161+00

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

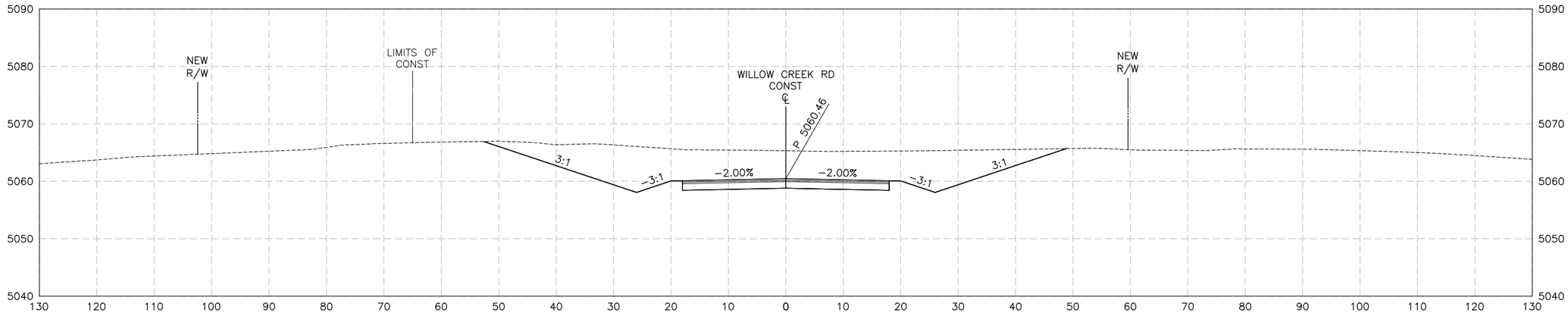
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 161+00 TO STA 163+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X20	20 OF 34



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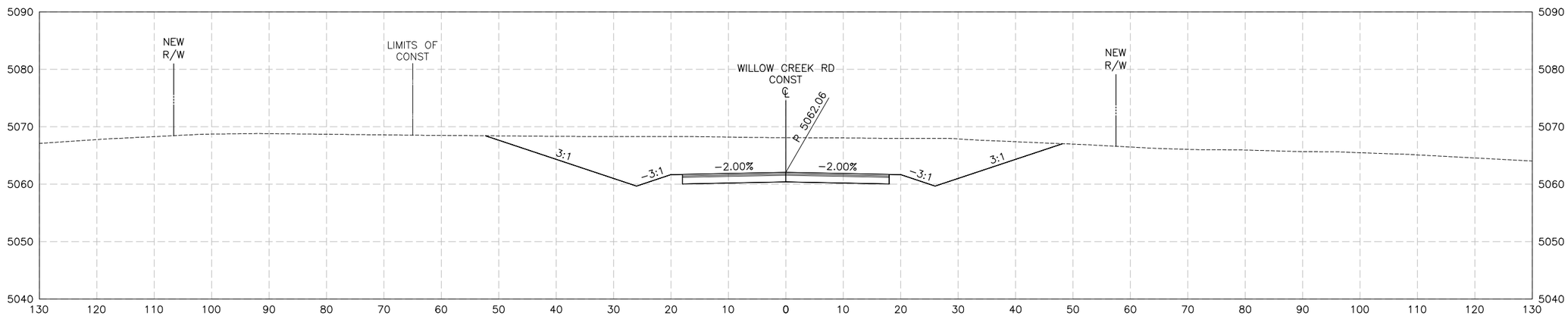

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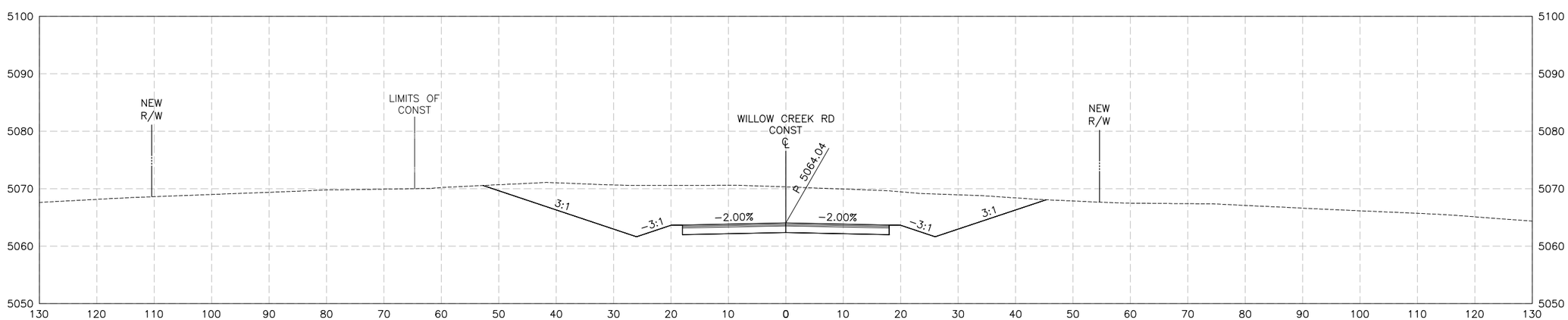

164+00

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CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 164+00 TO STA 166+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X21	21 OF 34

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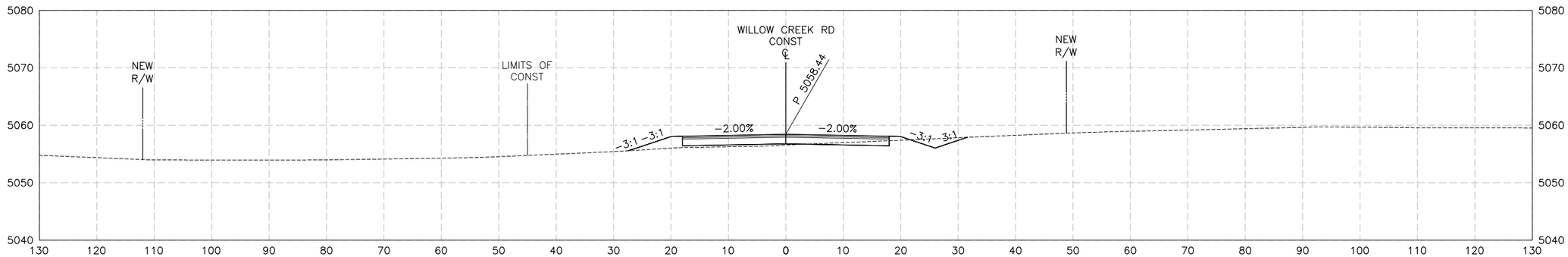
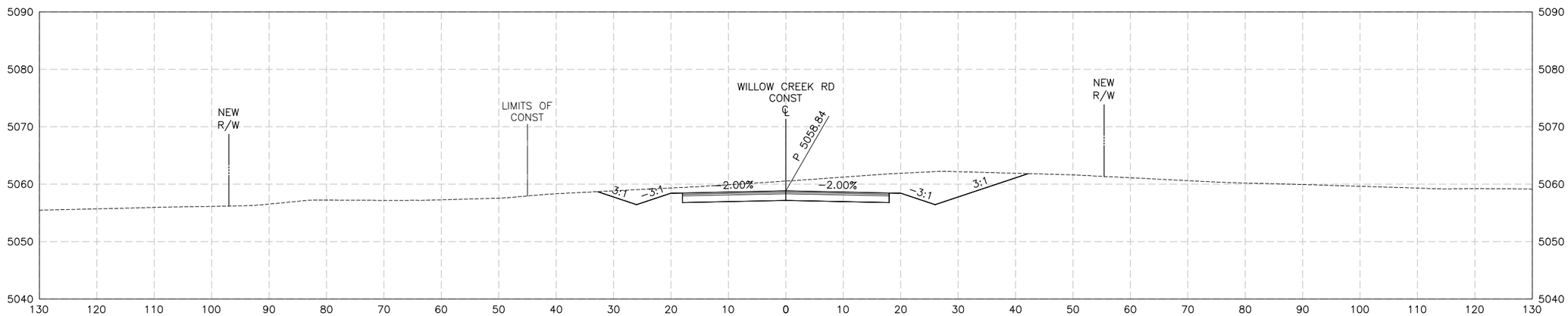
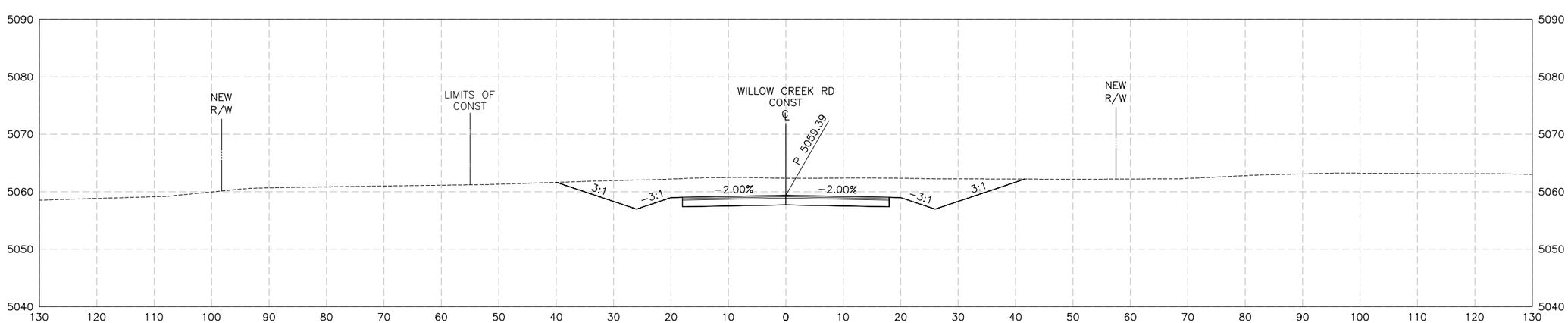


169+00



168+00



167+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation. ARIZONA 811 Blue Stake, Inc. 1-(602)-263-1100 Out of State or 1-(800)-Arizona811 (1-(800)-271-9811) In Maricopa County (602)-263-1100

△ REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

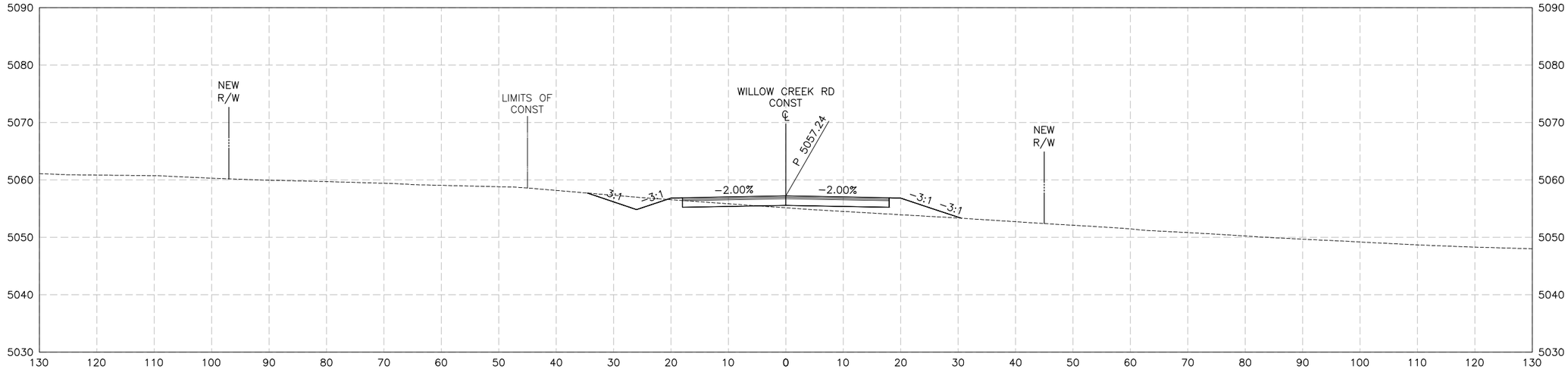
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

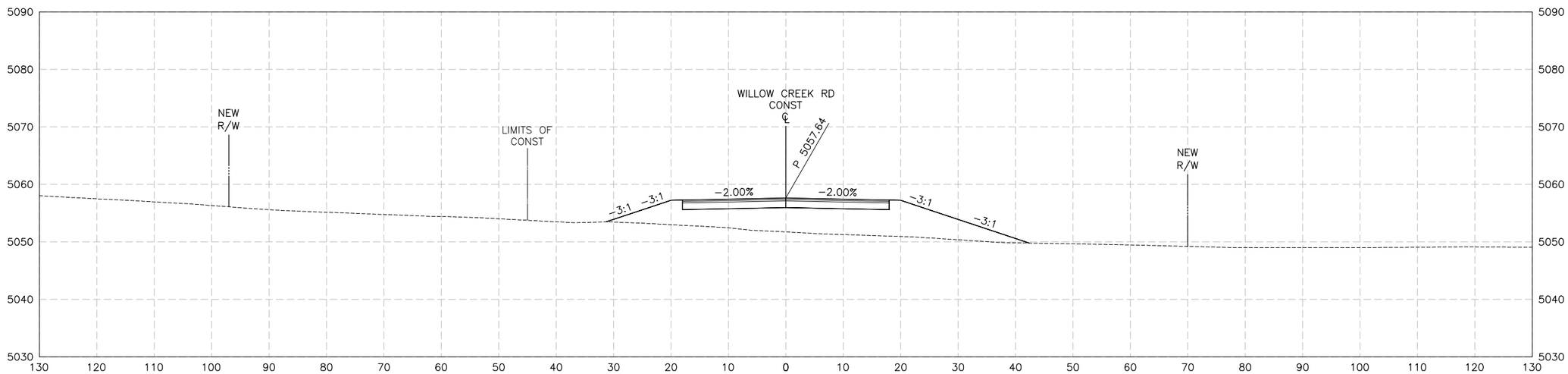
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 167+00 TO STA 169+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X22	22 OF 34



172+00



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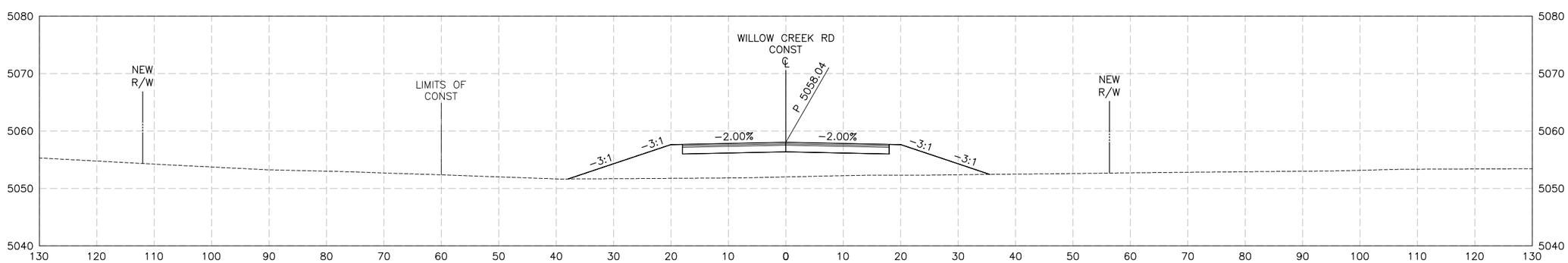

170+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 170+00 TO STA 172+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X23	23 OF 34

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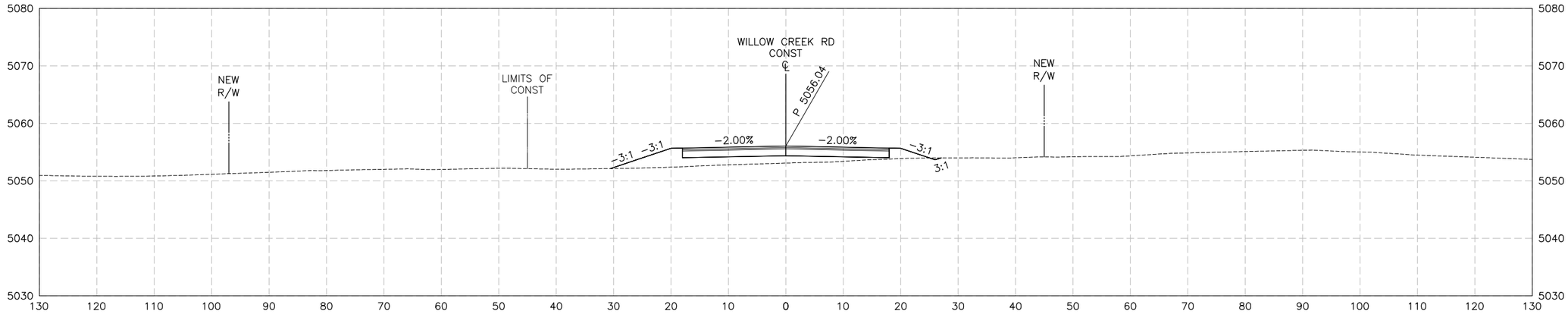

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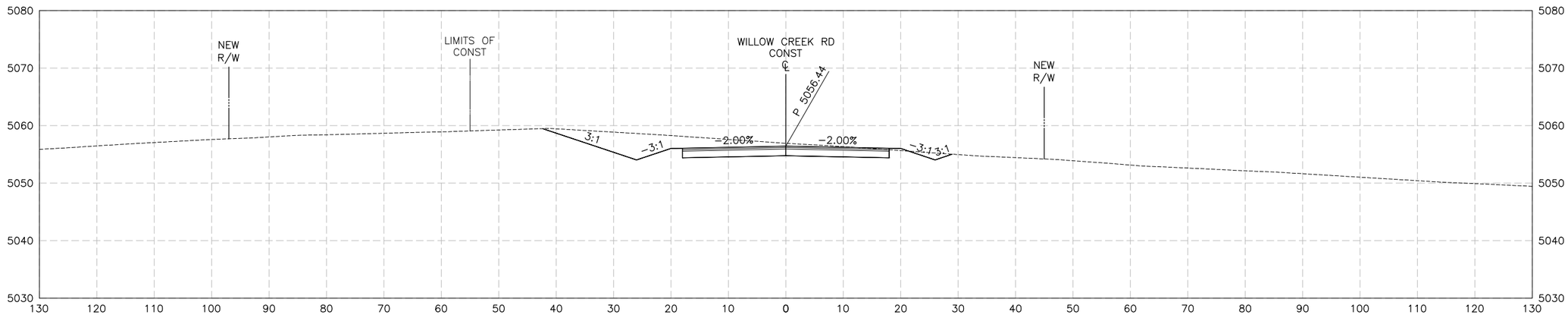

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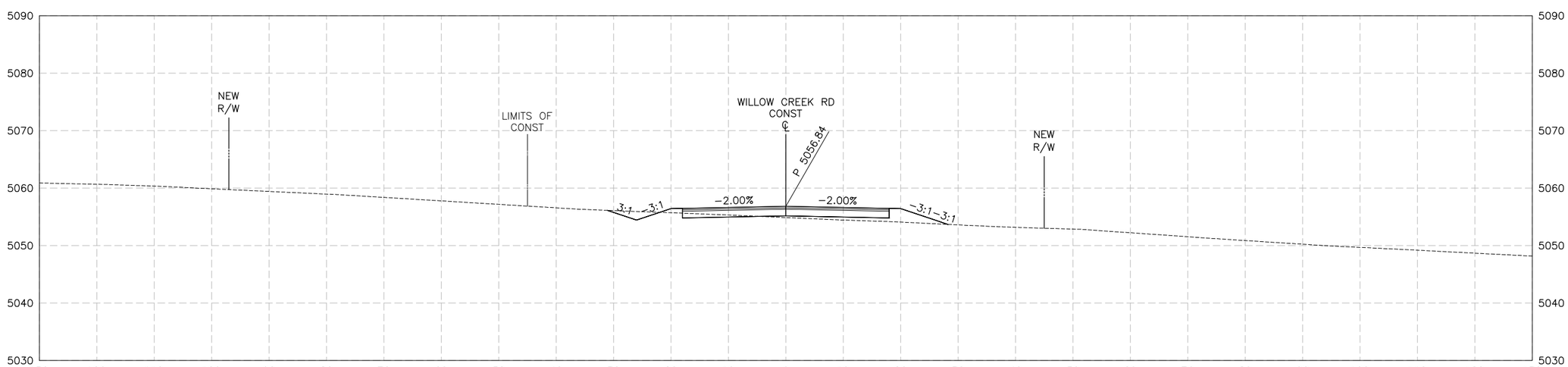

173+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

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△	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 173+00 TO STA 175+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X24	24 OF 34

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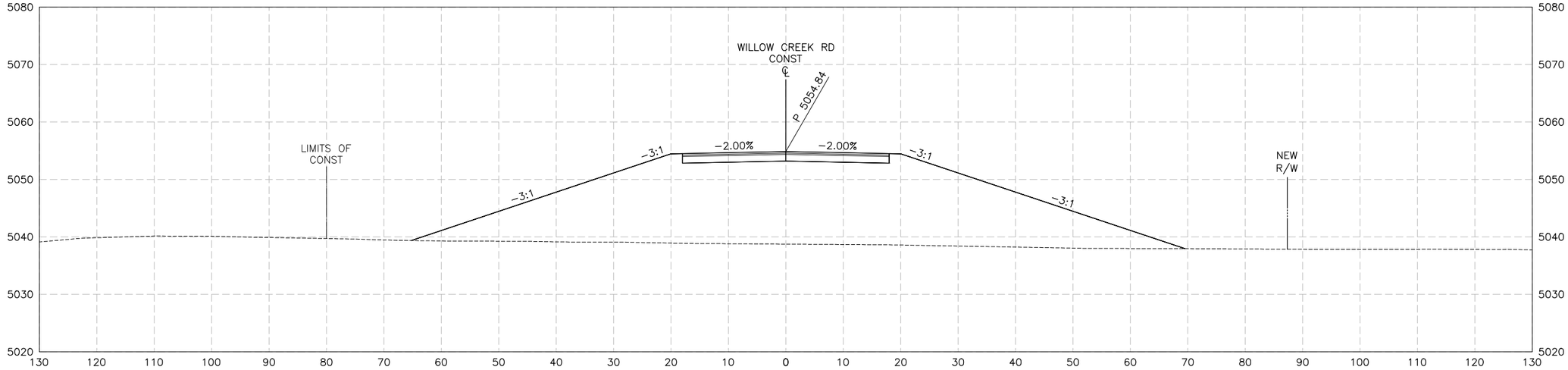

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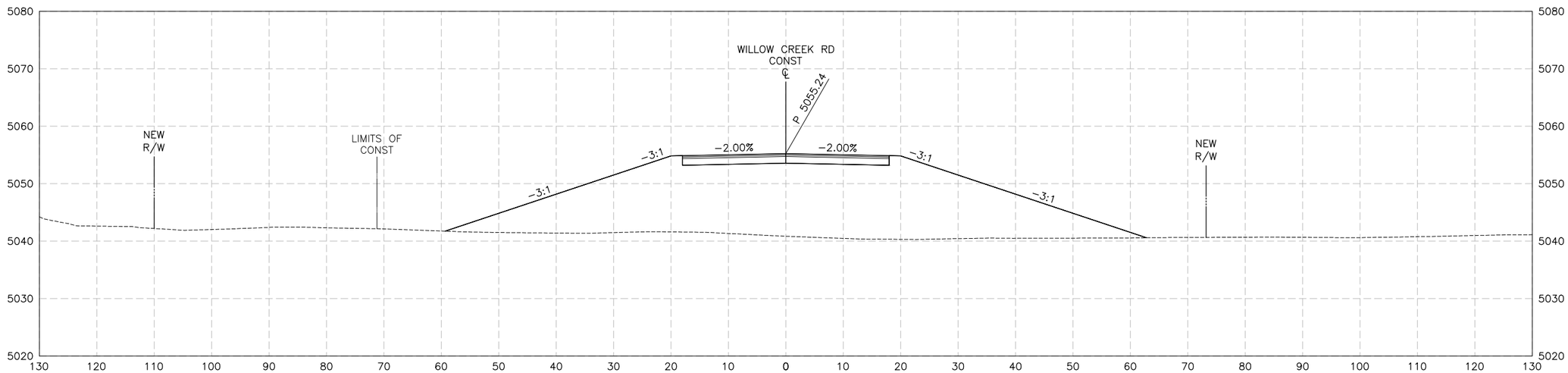

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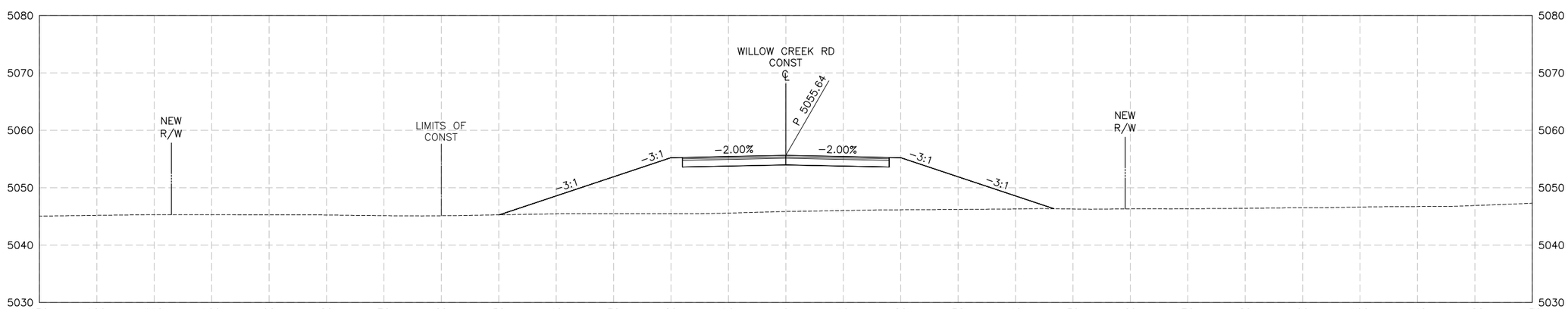

176+00

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AS BUILT DATE

Dibble Engineering

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	REVISION	BY	DATE

CITY OF PRESCOTT
Everybody's Hometown

CITY OF PRESCOTT

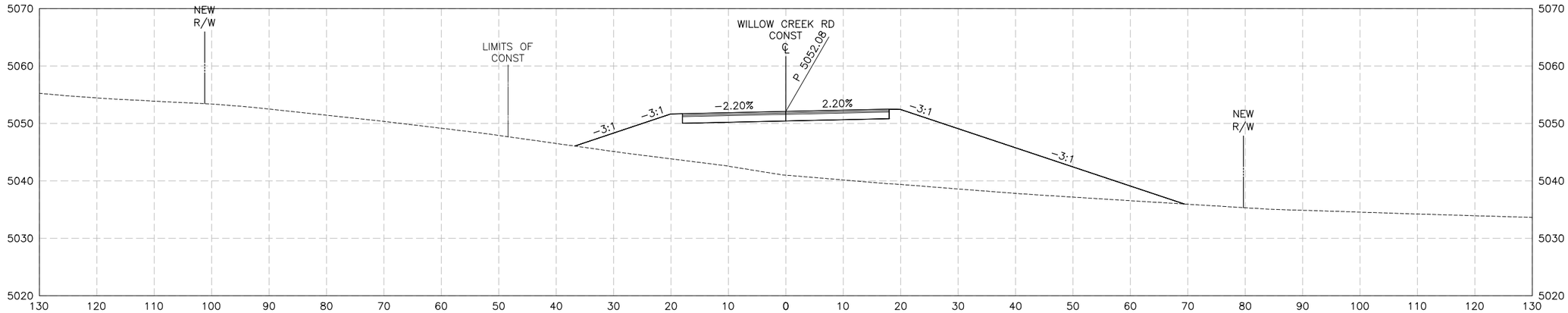
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 176+00 TO STA 178+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X25	25 OF 34



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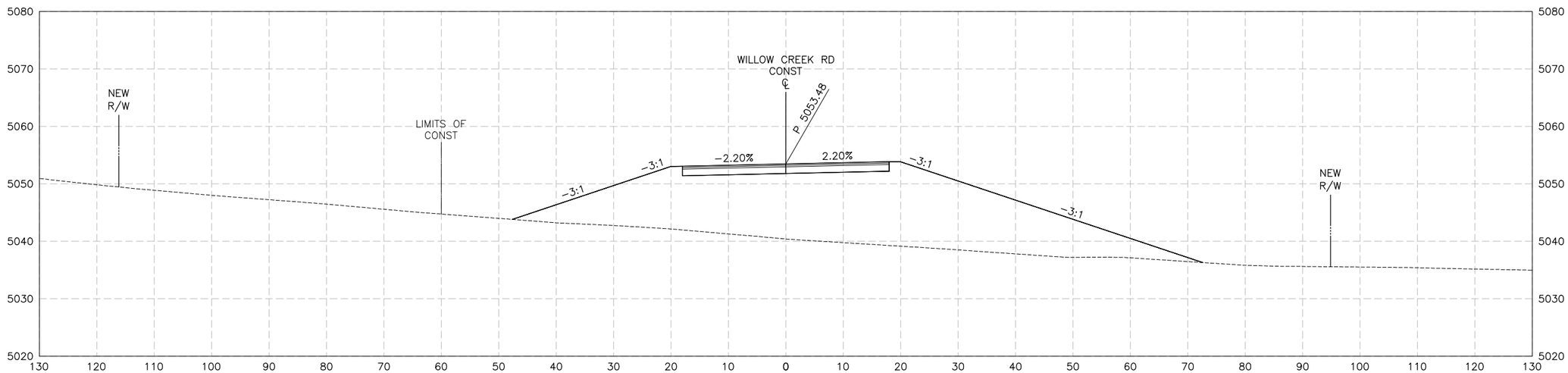

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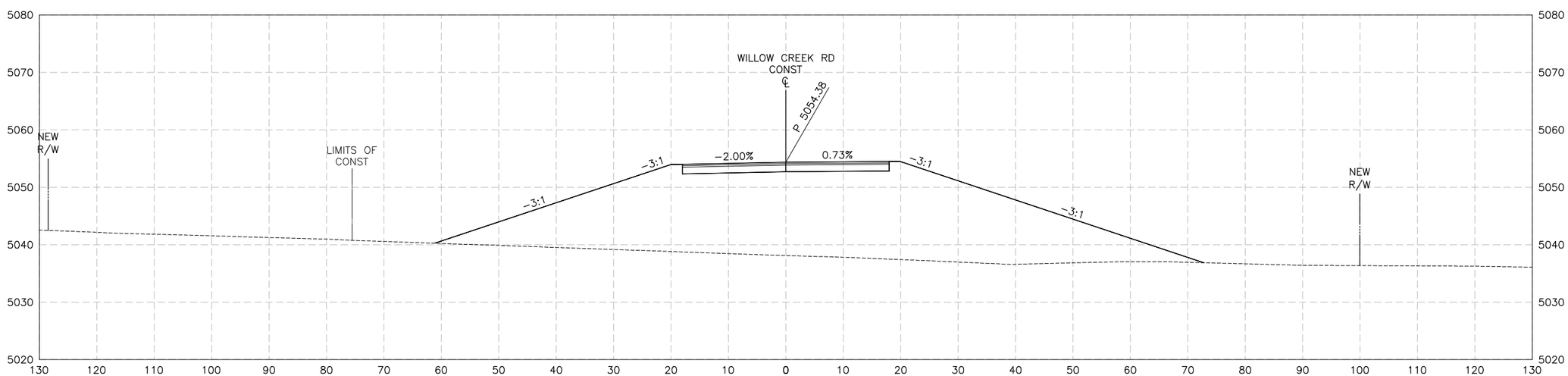

179+00

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AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

ARIZONA 811

	REVISION	BY	DATE

CITY OF PRESCOTT

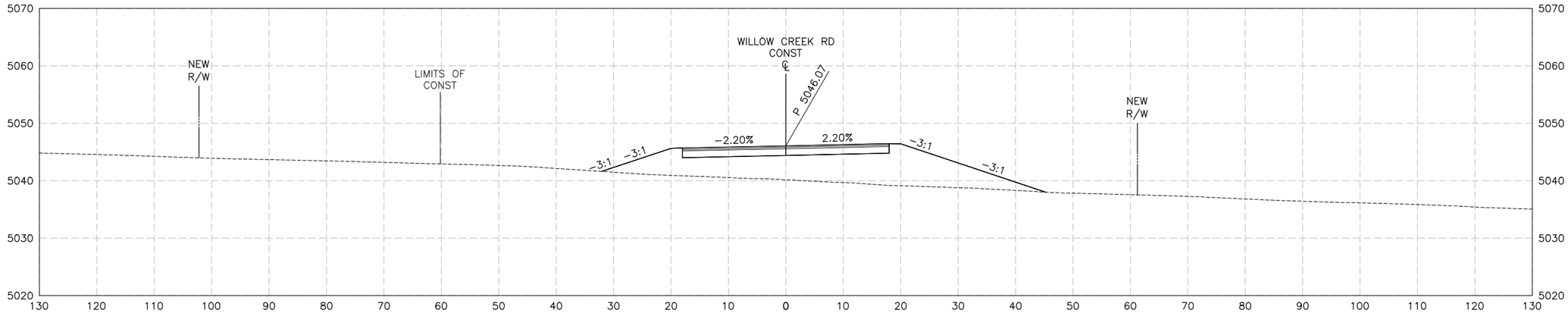
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 179+00 TO STA 181+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X26	26 OF 34



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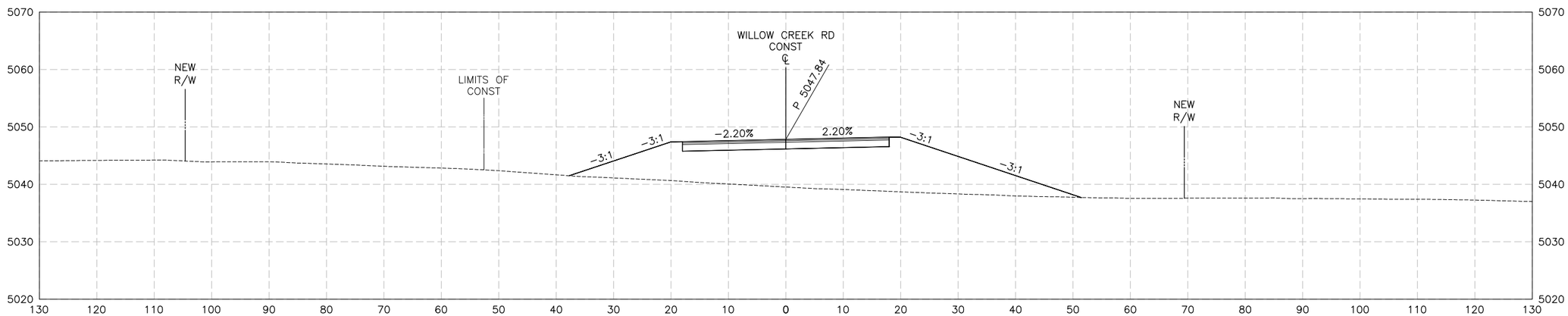
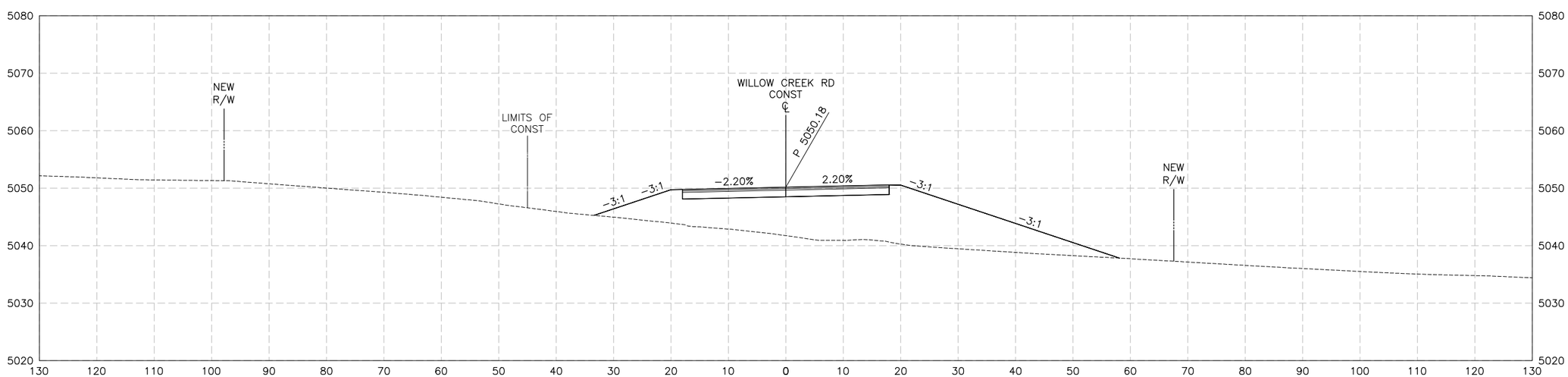


183+00



182+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

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△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 182+00 TO STA 184+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X27	27 OF 34

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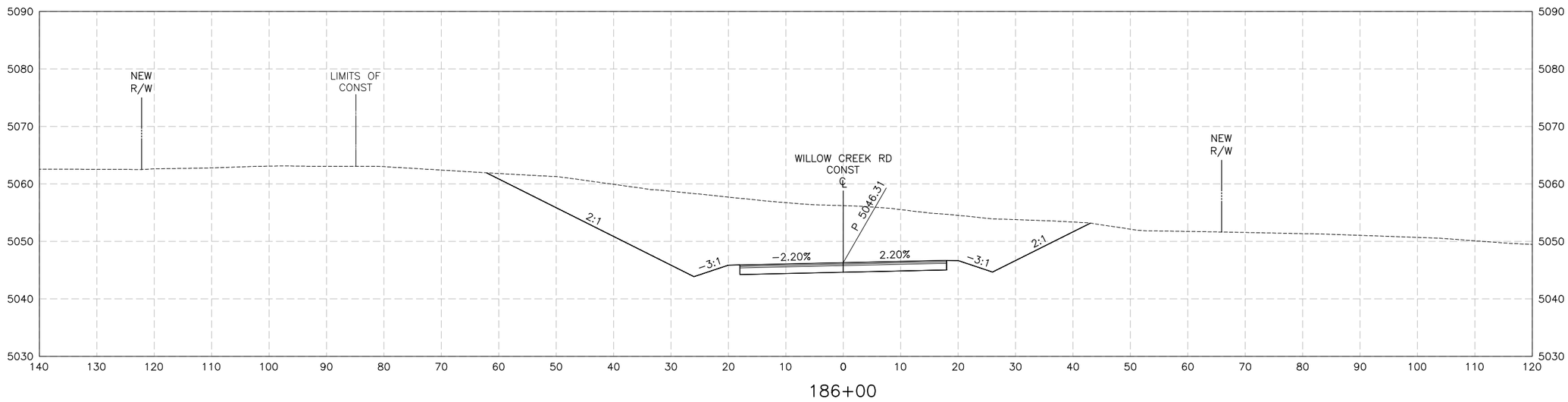

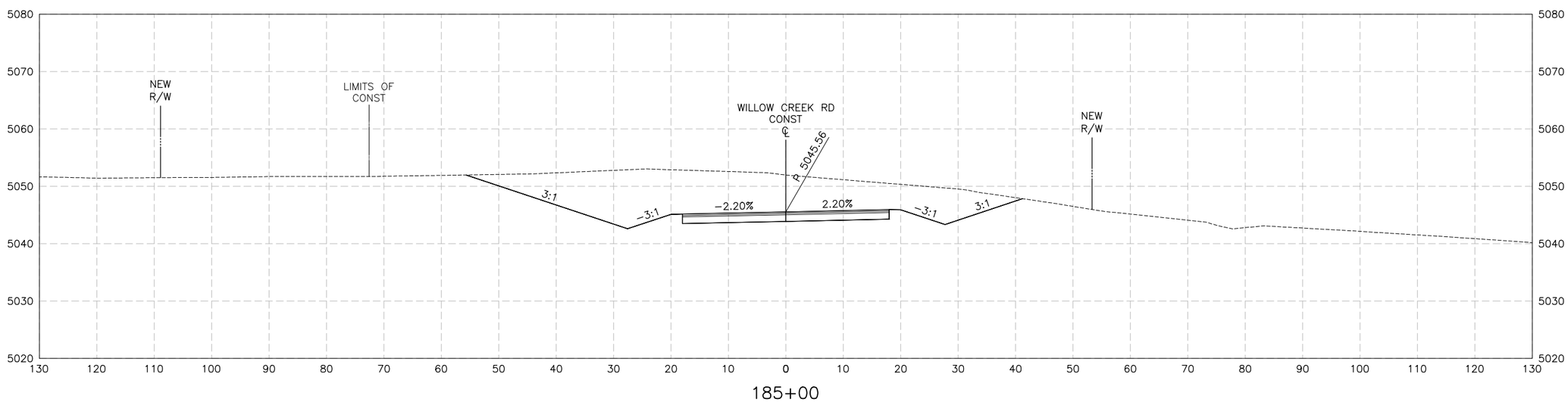

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

ARIZONA 811

	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 185+00 TO STA 186+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X28	28 OF 34

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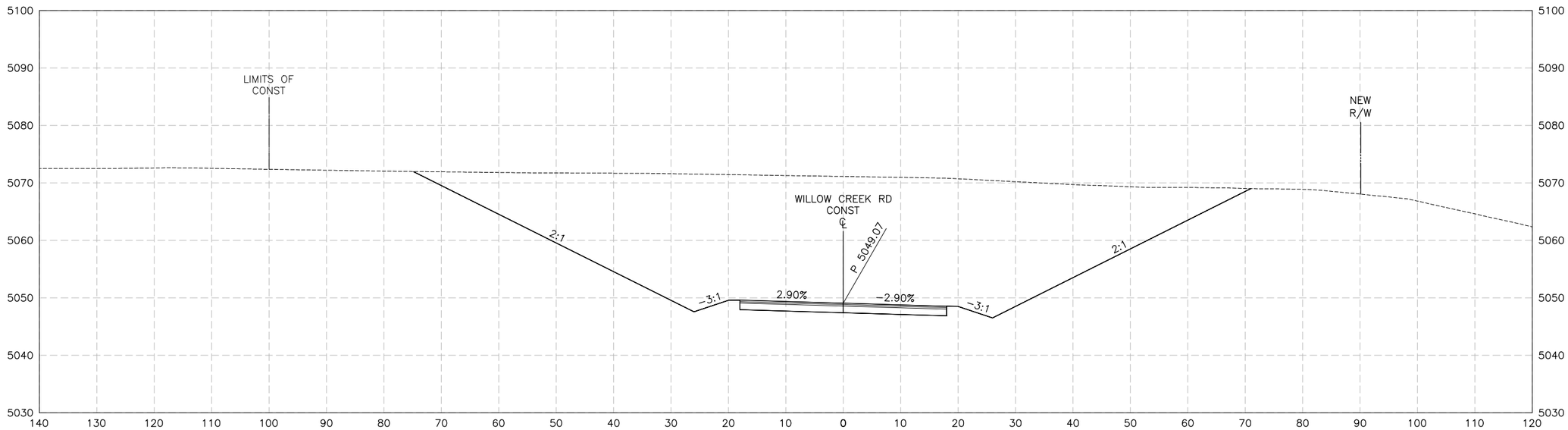

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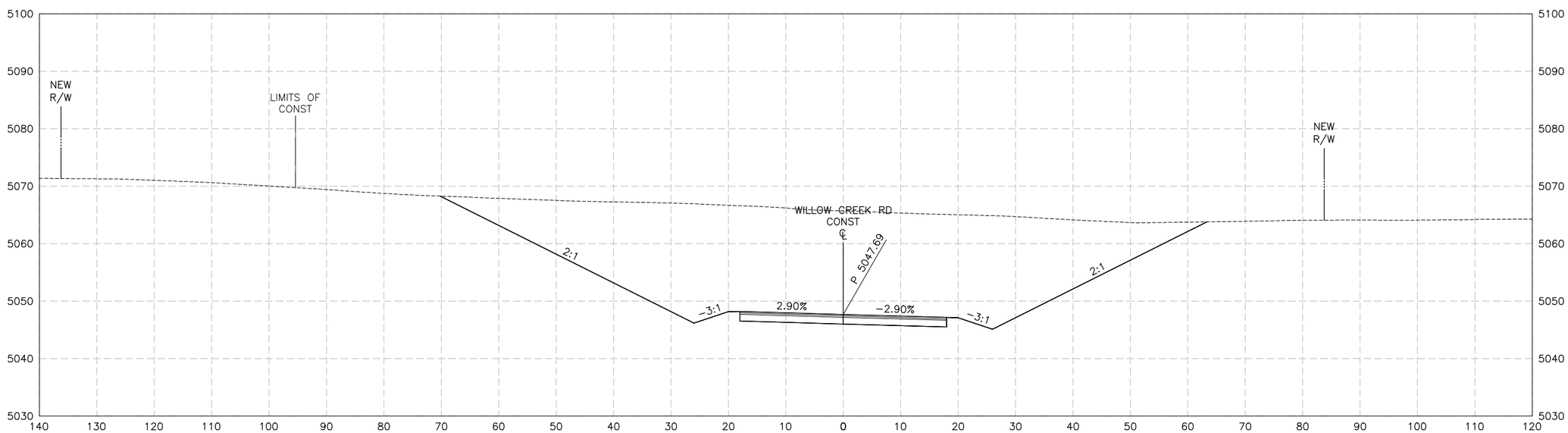

187+00

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Dibble Engineering

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0' 5' 10' 20'

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Call at least two full working days before you begin excavation. ARIZONA 811 Arizona Blue Stake, Inc. For 8-1-1 or 1-800-STAKE-IT (1-800-782-5348) in Maricopa County (602) 263-1100

△	REVISION	BY	DATE

CITY OF PRESCOTT

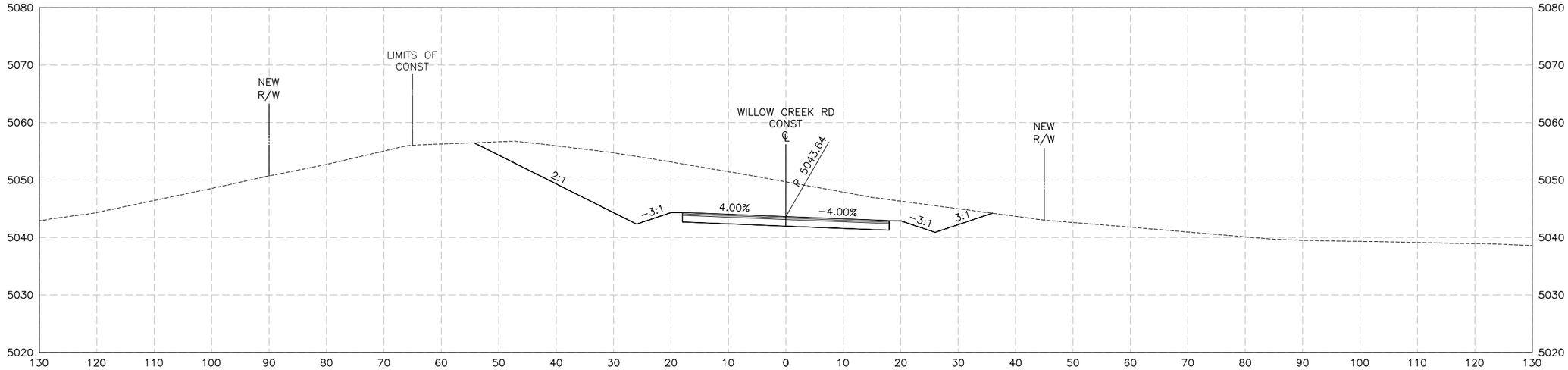
PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

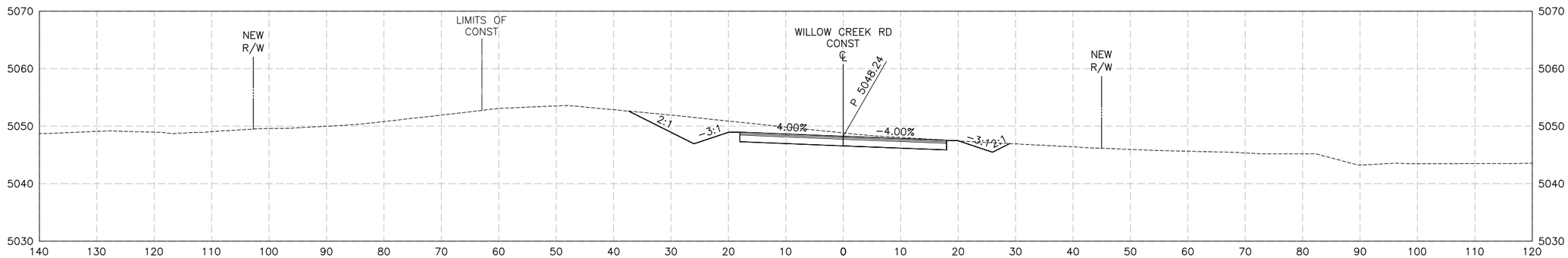
PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 187+00 TO STA 188+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X29	29 OF 34



191+00



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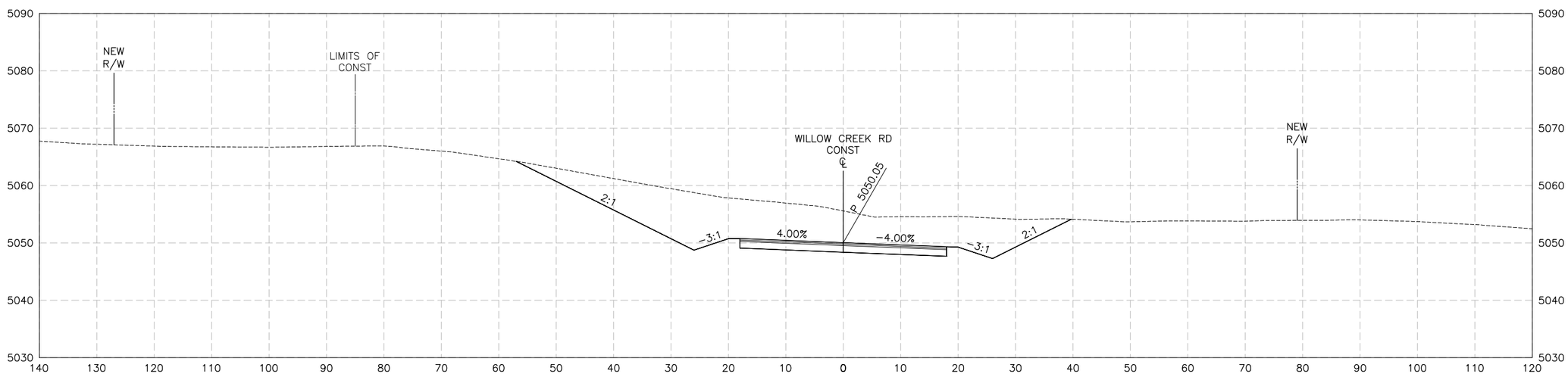

189+00

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Dibble Engineering

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	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 189+00 TO STA 191+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X30	30 OF 34

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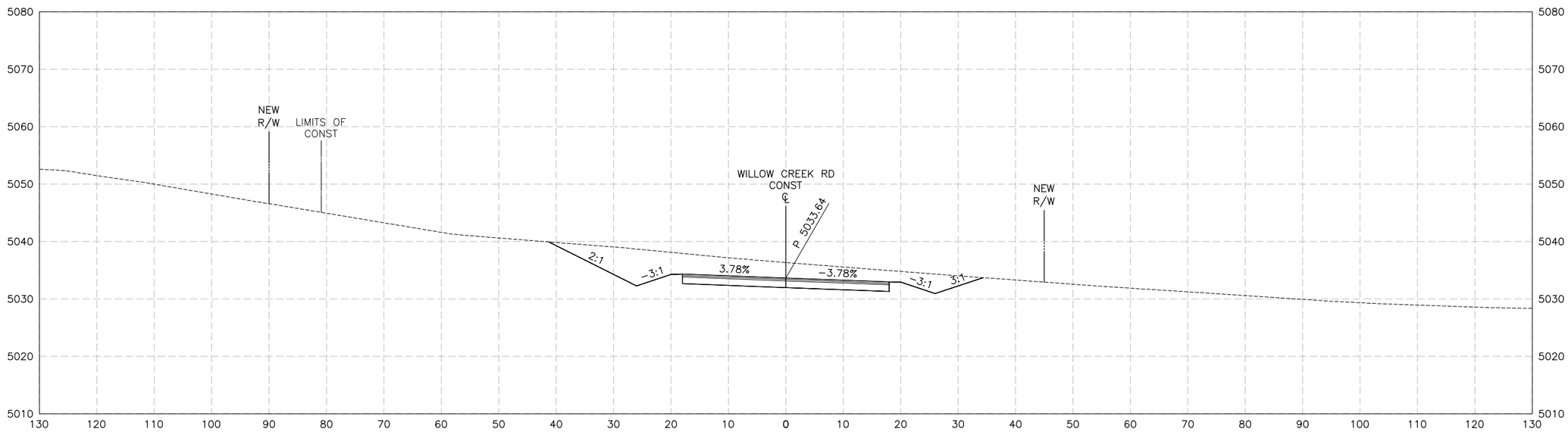
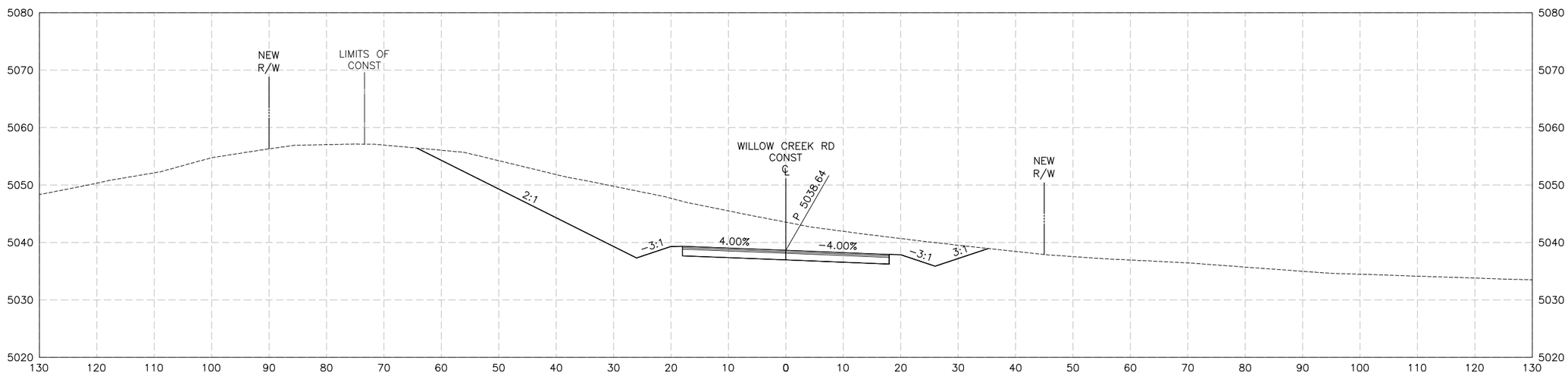


193+00



192+00

AS BUILT DATE

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0' 5' 10' 20'

SCALE: 1"=10'

ARIZONA811

	REVISION	BY	DATE

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 192+00 TO STA 193+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X31	31 OF 34

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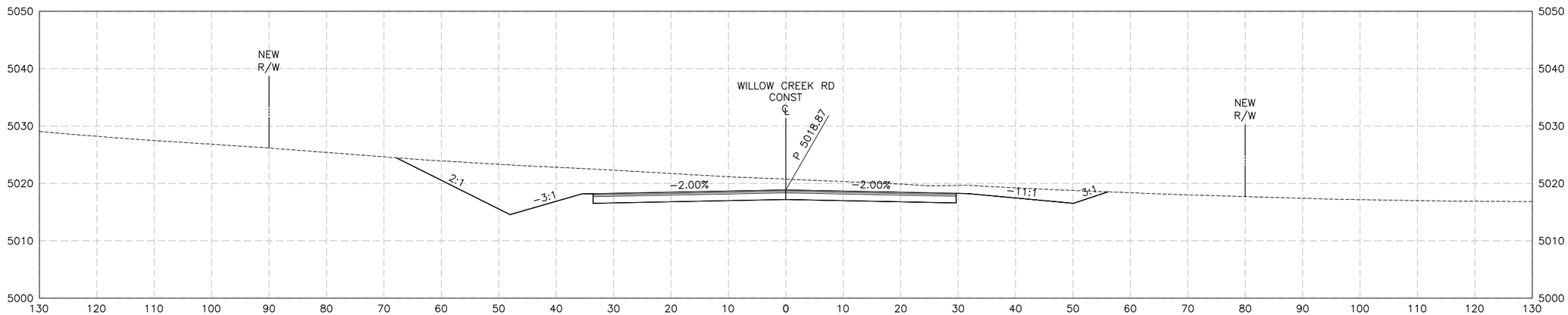

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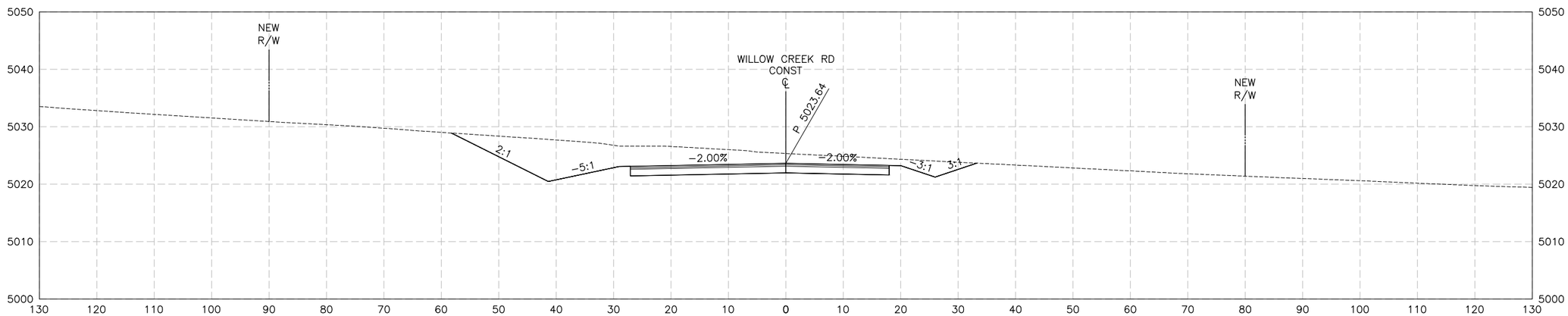

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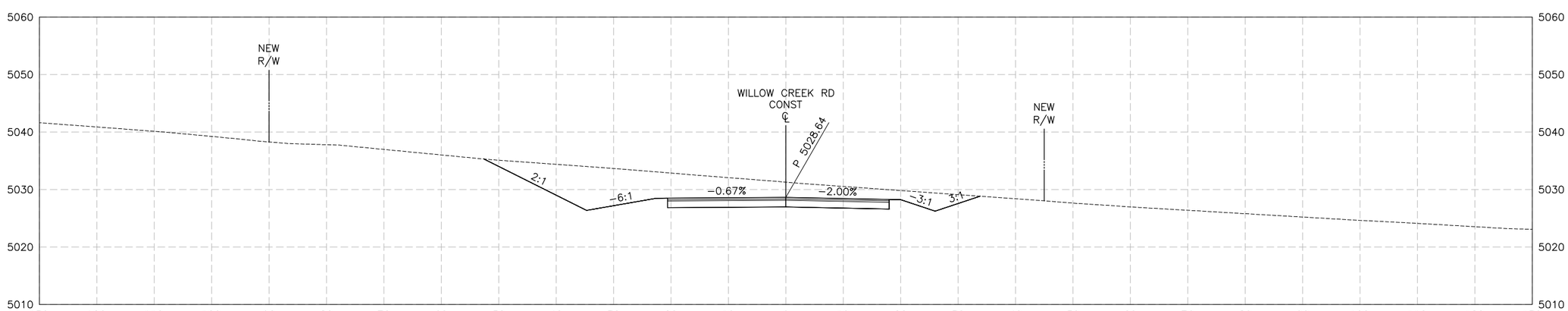

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△ REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

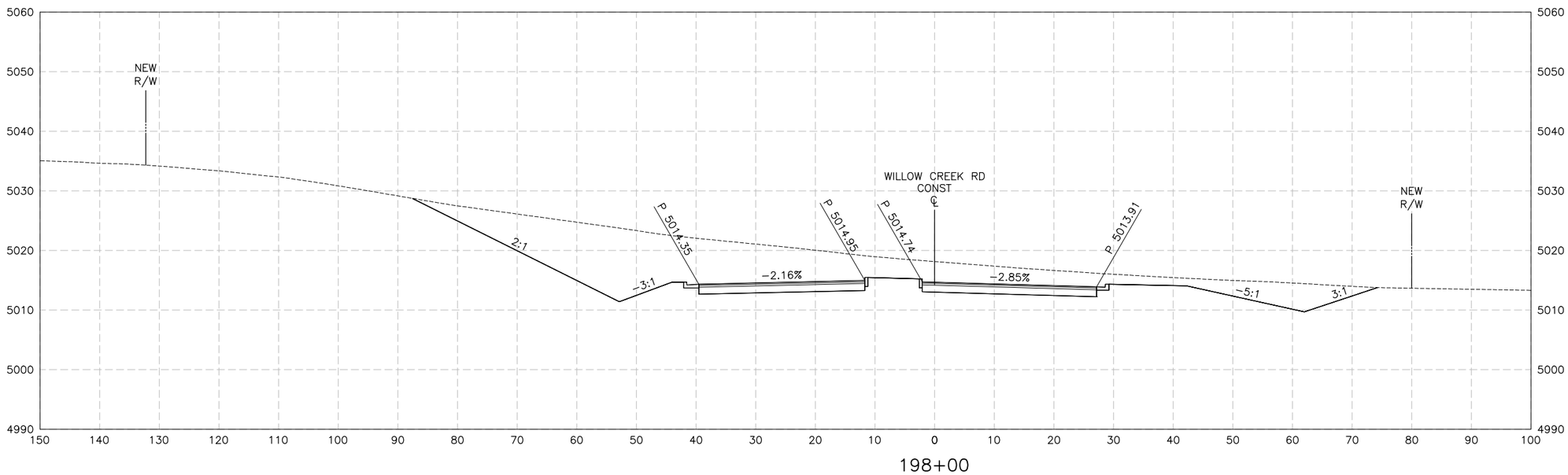
WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

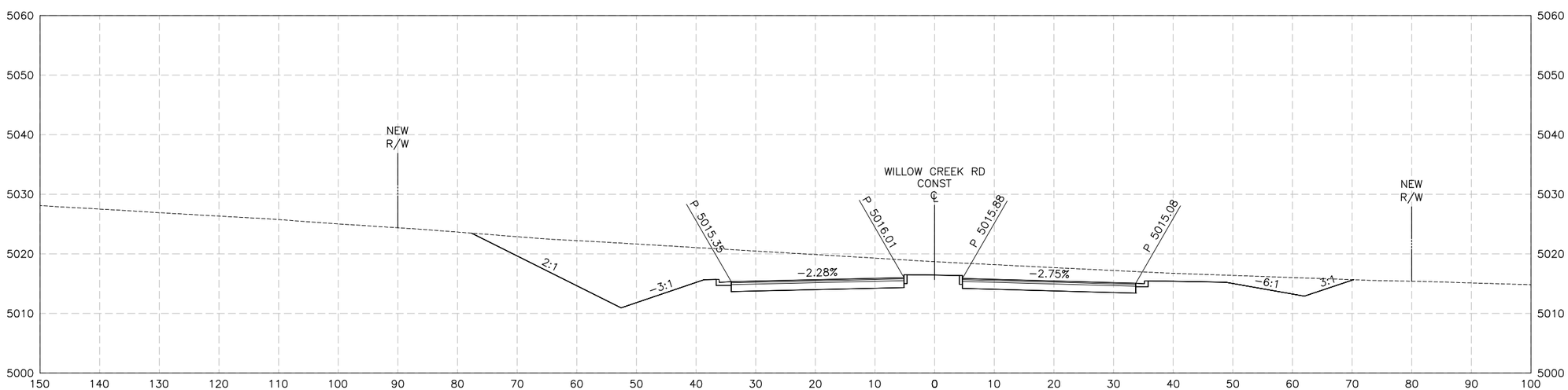
WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 194+00 TO STA 196+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X32	32 OF 34

J:\2014\101434 PRESCOTT WILLOW CREEK ROAD REALIGNMENT\CAD\1434-XS.DWG Sep. 17, 2015 2:34 PM



198+00



197+00

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavating. ARIZONA 811 Blue Stake, Inc. 1-(8-8-1-7-7-5-5-4-6-4) or 1-(8-0-0-2-2-0-1-1-6-5) In Maricopa County (6-0-2) 2-5-4-1-1-0.

△	REVISION	BY	DATE

CITY OF PRESCOTT Everybody's Hometown

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 197+00 TO STA 198+00

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X33	33 OF 34

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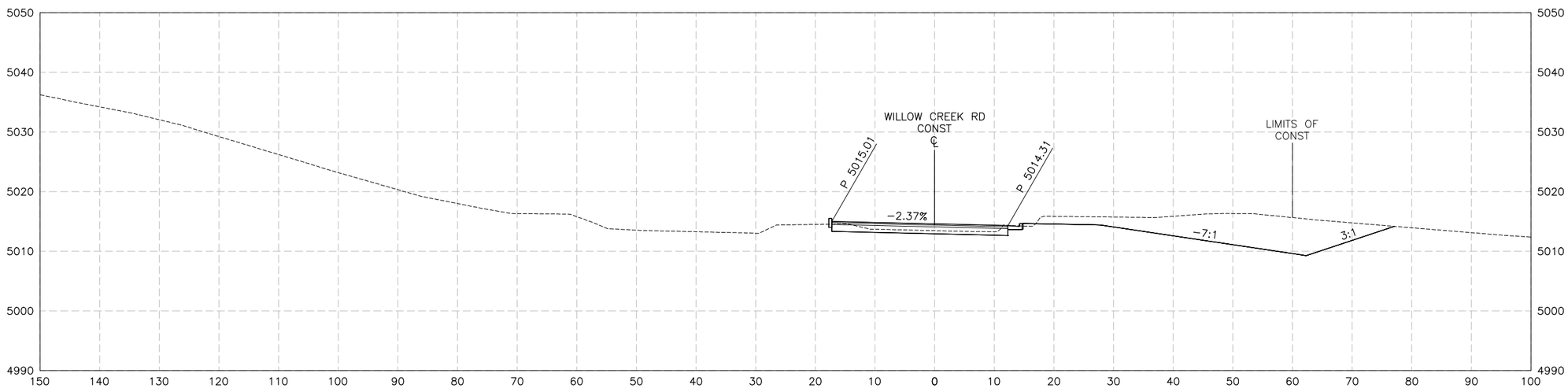

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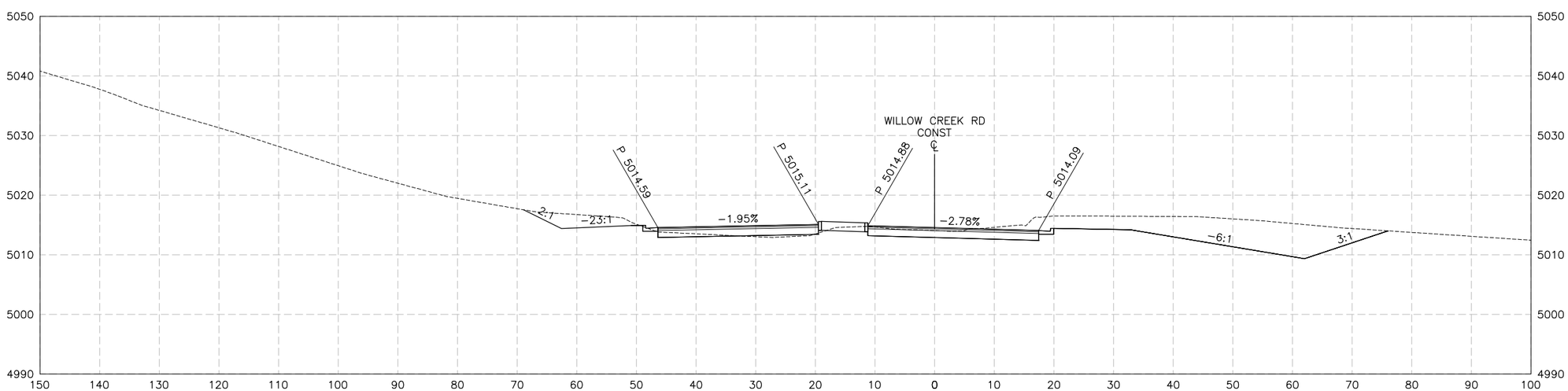

198+55

AS BUILT DATE

Dibble Engineering

DIBBLE PROJECT NO 101434

FOR INFORMATION ONLY

NOT PART OF CONTRACT DOCUMENTS

0' 5' 10' 20'

SCALE: 1"=10'

Call at least two full working days before you begin excavation ARIZONA 811 Blue Stake, Inc. Call 8-1-1 or 1-(602)-263-1100 (Maricopa County) or 1-(520)-imsafe (1-(520)-(602)-263-1100 in Maricopa County) or 1-(520)-(602)-263-1100

	REVISION	BY	DATE
△			

CITY OF PRESCOTT

PROJECT NO CIP13-030

WILLOW CREEK ROAD REALIGNMENT

PIONEER PARKWAY TO DEEP WELL RANCH ROAD/SR 89

WILLOW CREEK ROAD
ROADWAY CROSS SECTIONS
STA 198+55 TO STA 198+79

DRN: DBB	DES: IBM	CK: AJS	DRAWING	SHEET
DATE: 09/15	DATE: 09/15	DATE: 09/15		
SCALE: 1" = 10' HORIZONTAL 1" = 10' VERTICAL			X34	34 OF 34

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