TANQUE VERDE RD AT TANQUE VERDE LOOP RD

INTERSECTION

PROJECT NO: 4TVTVL

ADOT TRACS: 0000PM PPM T0139 01 C

FEDERAL NO: STP PPM-0(262)D

PIMA COUNTY
TRANSPORTATION

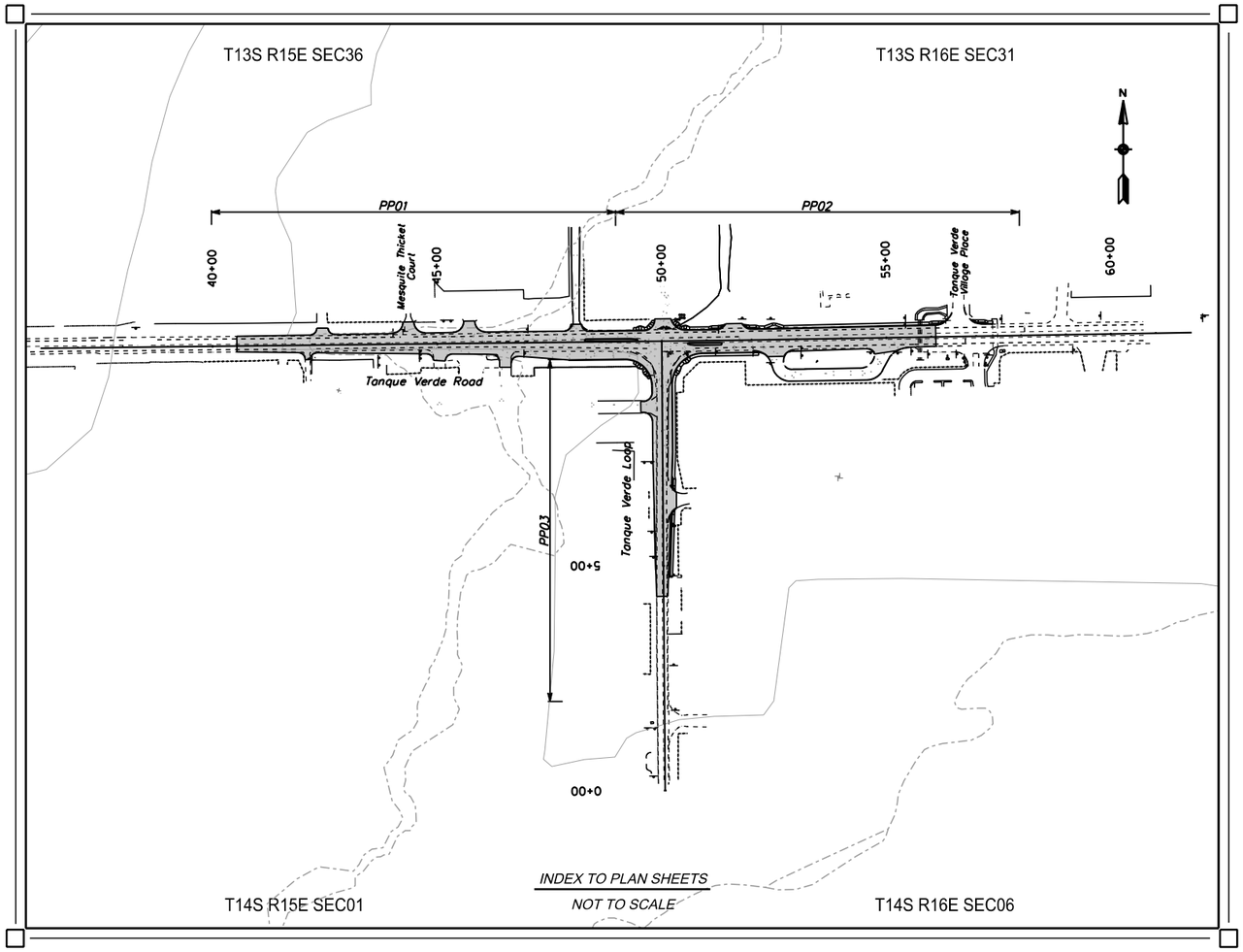
PIMA COUNTY BOARD OF SUPERVISORS

RICHARD ELÍAS, CHAIR, DISTRICT 5

ALLY MILLER, DISTRICT 1 SHARON BRONSON, DISTRICT 3

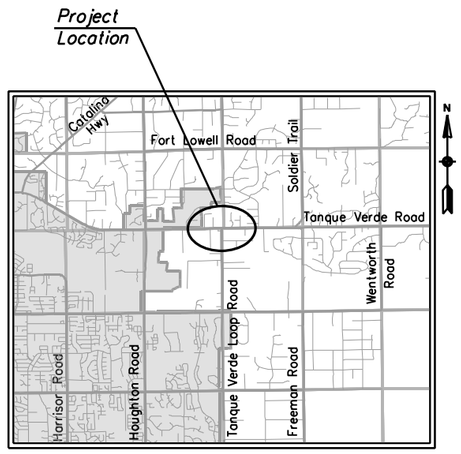
RAMÓN VALADEZ, DISTRICT 2 STEVE CHRISTY, DISTRICT 4

THIS PROJECT IS LOCATED WITHIN SUPERVISOR DISTRICT 4



INDEX TO PLAN SHEETS

NOT TO SCALE



Location Map

NOT TO SCALE

Section 36 T-13-S, R-15-E, Section 31 T-13-S, R-16-E,

Section 01 T-14-S, R-15-E, Section 06 T-14-S, R-16-E,

G & S R B & M

Pima County, Arizona

Tanque Verde Rd at Tanque Verde Loop Rd Intersection

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UPC-2018-075

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

File name: COVER1.dgn

EPS GROUP
8710 N. Thornydale Road, Suite 140, Tucson, AZ 85742
T:520.408.1400 F:520.408.1403 www.epsgroupinc.com

No.	Revisions	Engineer	Date

No.	As Built	Engineer	Date

Registered Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 9/13/19 ARIZONA, U.S.A. Expires 09/30/19

Project No. 4TVTVL

Pima County
Department of Transportation
201 N. Stone Ave. 4th floor Tucson, Arizona 85701
Phone Number: 520-724-6410
Ana M. Olivares, P.E. Director

Approved: _____20__

Director

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

GENERAL NOTES:

1. CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS AND DETAILS LISTED IN THE SPECIAL PROVISIONS.

2. UTILITY LOCATIONS SHOWN ON THE PLANS WERE COMPILED BASED ON THE BEST INFORMATION AVAILABLE TO THE DEPARTMENT. UTILITY LOCATIONS ARE NOT INTENDED TO BE EXACT OR COMPLETE. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES WITH THE APPROPRIATE ORGANIZATIONS. CONTACT "ARIZONA 811" AT 1-800-782-5348 TWO FULL WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION (SATURDAYS AND SUNDAYS ARE NOT CONSIDERED WORKING DAYS).

3. RIGHT-OF-WAY ENCROACHMENTS SHALL BE REMOVED ONLY BY ORDER OF PIMA COUNTY, UNLESS OTHERWISE NOTED.

4. REMOVAL OF ALL CACTI AND NATIVE PLANTS SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE "ARIZONA NATIVE PLANT LAW", A.R.S. CHAPTER 7.

5. BASIS OF BEARING IS THE SOUTH LINE OF THE SOUTHWEST ONE-QUARTER OF SECTION 31, T14S,R16E, G.&S.R.M. PIMA COUNTY, ARIZONA, FROM A BRASS CAP SURVEY MONUMENT AT THE SOUTHWEST CORNER, WHICH LIES IN THE CENTER OF TANQUE VERDE ROAD AND IS APPROXIMATELY 158 FEET EAST OF THE INTERSECTION WITH TANQUE VERDE LOOP ROAD, TO A BRASS CAP SURVEY MONUMENT AT THE SOUTH ONE-QUARTER OF SECTION 31, SAID BEARING BEING N89°01'49"E.

   NOTE THAT THE BEARINGS SHOWN HEREON (OR IMPLIED BY GROUND COORDINATES) DO NOT EQUAL GEODETIC BEARINGS DUE TO MERIDIAN CONVERGENCE. THE REFERENCE MERIDIAN IS GRID NORTH.

6. BASIS OF ELEVATION FOR THIS PROJECT IS PIMA COUNTY OPUS CONTROL POINT "14S16E_A01" HAVING A PUBLISHED NAVD88 ELEVATION OF 2624.44 FEET.

   NOTE: ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DERIVED FROM GPS ELLIPSOID HEIGHT MEASUREMENTS AND THE APPLICATION OF A HIGH-RESOLUTION HYBRID GEOID MODEL, GEOID 12B.

7. BASIS OF STATIONING: THE STATIONS FOR TANQUE VERDE ROAD INCREASE FROM WEST TO EAST AND THE STATIONS FOR TANQUE VERDE LOOP ROAD INCREASE FROM SOUTH TO NORTH. THE STATIONING FOR THESE ROADS IS BASED ON PIMA COUNTY PLANS FOR THE TANQUE VERDE ROAD AT EMILY GRAY JR HIGH SCHOOL (TUCSON) PEDESTRIAN CROSSING, PROJECT #4TAEGH. AT THE INTERSECTION, TANQUE VERDE ROAD IS AT STATION 50+00.00, WHILE TANQUE VERDE LOOP ROAD IS AT STATION 10+00.00.

8. SOILS INFORMATION WILL BE MADE AVAILABLE TO PROSPECTIVE BIDDERS IN THE GEOTECHNICAL REPORT. SOILS INFORMATION SO PROVIDED SHALL BE FOR INFORMATION PURPOSES ONLY. THIS INFORMATION WAS DEVELOPED AS ACCURATELY AS POSSIBLE BY THE METHODS USED. PIMA COUNTY ACCEPTS NO RESPONSIBILITY FOR ANY CONDITIONS ENCOUNTERED WHICH VARY FROM THE INFORMATION PROVIDED.

9. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS, ALLEYS, AND MAILBOXES DURING CONSTRUCTION. THE CONTRACTOR WILL NOT RESTRICT EMERGENCY VEHICLES, U.S. POSTAL DELIVERY, SOLID WASTE COLLECTIONS, AND/OR ACCESS TO THE ADJACENT PROPERTIES, EXCEPT AS APPROVED BY THE ENGINEER.

10. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.

11. ALL STATIONING SHOWN ON THE PLANS AND PROFILES IS ALONG THE CONSTRUCTION CENTERLINE UNLESS OTHERWISE NOTED.

12. EXISTING UTILITIES INCLUDE, BUT MAY NOT BE LIMITED TO, OVERHEAD AND UNDERGROUND ELECTRIC, TELEPHONE, TELEVISION, SEWER, GAS, WATER, AND SHALL BE MOVED BY OTHERS UNLESS OTHERWISE NOTED AND SHOWN IN THESE PLANS.

13. THE CONTRACTORS ATTENTION IS CALLED TO THE LIMITED AREA AVAILABLE ON THE SITE FOR EXCAVATION, EMBANKMENT AND OTHER CONSTRUCTION ACTIVITIES.

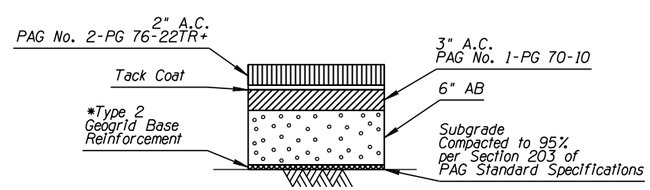
14 EXISTING TOPOGRAPHIC CONDITIONS SHOWN ON THE PLAN SHEETS REFLECT CONDITIONS AS OF APRIL, 2017.

Pavement Structural Section No. 1

Tanque Verde Road
Sta 40+54 to Sta 56+10

Dwy Sta. 52+54 Rt.
Dwy Sta. 54+93 Rt.

Total Thickness = 11"



*Geogrid Required for Tanque Verde Road Sta. 48+50 to Sta. 53+00.

LENGTH OF PROJECT

Tanque Verde Road Sta. 40+54 to Sta. 56+10
Gross Length = 1,556' (0.29 Miles)

Tanque Verde Loop Road Sta. 4+32 to Sta. 10+00
Gross Length = 568' (0.11 Miles)

DESIGN DATA (TANQUE VERDE ROAD)

DESIGN TRAFFIC

WEST OF TANQUE VERDE LOOP ROAD
2017 ADT 9,969 veh/day

EAST OF TANQUE VERDE LOOP ROAD
2017 ADT 10,330 veh/day

DESIGN DATA (TANQUE VERDE LOOP ROAD)

DESIGN TRAFFIC

SOUTH OF TANQUE VERDE ROAD
2017 ADT 2,644 veh/day

DESIGN & POSTED SPEED

Tanque Verde Road - 45 mph & 45 mph
Tanque Verde Loop Road - 40 mph & 35 mph

DESIGN YEAR

2040

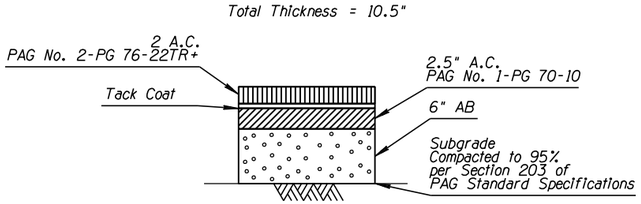
DESIGN VEHICLE

WB - 62
WB - 50 (North Leg of Intersection)

Pavement Structural Section No. 2

Tanque Verde Loop Road
Sta 4+32 to Sta 9+73

Total Thickness = 10.5"

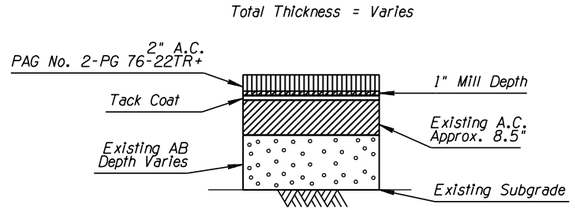


Pavement Structural Section No. 3

Tanque Verde Road
Sta 40+59 to Sta 56+10

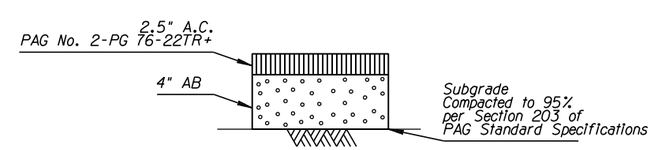
Tanque Verde Loop Road
Sta 4+32 to Sta 10+00

Total Thickness = Varies



Pavement Structural Section No. 4

Driveways
Total Thickness = 6.5"



No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Pima County Department of Transportation

GENERAL NOTES
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

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FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\2.General Notes\4TVTVL_GN01.dgn DATE: 1/18/2019 TIME: 4:27:56 PM $USER$

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9	ARIZ.	STP-PPM-0(262)D			

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GENERAL SEWER NOTES FOR UPC-2018-075:

1. ALL DESIGN STANDARDS, MATERIALS AND WORKMANSHIP FOR PUBLIC SANITARY SEWERS SHALL BE IN ACCORDANCE WITH THE PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT (PCRWRD) ENGINEERING DESIGN STANDARDS 2016 (EDS 2016) AND THE STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION 2016 (SSDC 2016). SAID DOCUMENTS ARE AVAILABLE THROUGH THE PCRWRD WEBSITE (www.pima.gov/wastewaterreclamation).

2. THE CONTRACTOR SHALL CONTACT 7/32 ARIZONA 811 9/32 (DIAL 811 OR 1-800-782-5348) A MINIMUM OF TWO (2) BUSINESS DAYS PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL KEEP ALL UNDERGROUND FACILITY LOCATION REQUESTS UP-TO-DATE AND COMPLY WITH ARIZONA REVISED STATUTES (A.R.S.), TITLE 40, CHAPTER 1, ARTICLE 6.3, SECTION 40-360.22. CONCERNS REGARDING THE ACCURACY BETWEEN THE UNDERGROUND FACILITY MARKINGS AND THE PROJECT PLANS SHALL BE IMMEDIATELY REPORTED TO THE DESIGN ENGINEER.

3. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL SANITARY SEWER MANHOLES AT ALL TIMES.

4. ANY HOUSE CONNECTION SEWER (HCS) OR BUSINESS CONNECTION SEWER (BCS) LINES ENCOUNTERED DURING CONSTRUCTION SHALL BE PROTECTED, REPAIRED, OR REROUTED, AS THE SITUATION DICTATES, PER PCRWRD SSDC 2016 DETAIL NO. RWRD 400 AND AT NO EXPENSE TO THE PROPERTY OWNER OR PCRWRD. HCS AND BCS LINES ARE NOT OWNED OR MAINTAINED BY PCRWRD. PRIVATE CONNECTION SEWERS CONSTRUCTED PRIOR TO JANUARY 2006 ARE NOT REQUIRED TO BE LOCATED AND MARKED.

5. IMMEDIATELY REPORT ANY OF THE FOLLOWING TO THE PCRWRD OPERATIONS CONTROL CENTER (OCC) AT (520) 724-6500: ANY RELEASE OF SEWAGE, ANY DAMAGE TO THE PUBLIC SANITARY SEWER SYSTEM, OR THE DROPPING OF DEBRIS INTO A PUBLIC SANITARY SEWER MANHOLE. A PCRWRD REPRESENTATIVE WILL BE DISPATCHED TO THE SITE. THE CONTRACTOR SHALL TAKE IMMEDIATE ACTION TO CONTAIN A SANITARY SEWAGE OVERFLOW (SSO). THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR THE SYSTEM, MITIGATE THE RELEASE OF SEWAGE, DISINFECT THE RELEASE AREAS, AND ANY REGULATORY PENALTIES LEVIED ON PCRWRD FOR SEWAGE ENTERING A NATURAL DRAINAGE WAY OR STORM WATER DRAINAGE SYSTEM. THE CONTRACTOR SHALL REPAIR ALL DAMAGE AS DIRECTED AND APPROVED BY THE PCRWRD FIELD REPRESENTATIVE.

6. MODIFICATION TO OR ADJUSTMENT OF EXISTING PIMA COUNTY SEWER FACILITIES SHALL NOT COMMENCE UNTIL: (A) THE CONTRACTOR HAS OBTAINED A PCRWRD PUBLIC SEWER CONSTRUCTION PERMIT (CONTACT THE PCRWRD PERMITS SECTION AT (520) 724-6649 FOR PERMIT APPLICATION REQUIREMENTS); (B) THE CONTRACTOR 5/32 S FLOW MANAGEMENT PLAN HAS BEEN SUBMITTED THIRTY (30) CALENDAR DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING AND APPROVED BY PCRWRD FIELD ENGINEERING; AND (C) A PRE-CONSTRUCTION MEETING WITH THE ASSIGNED PIMA COUNTY PROJECT FIELD INSPECTOR IS SCHEDULED AT LEAST THREE (3) FULL BUSINESS DAYS PRIOR TO COMMENCING WITH SEWER CONSTRUCTION.

7. THE CONTRACTOR SHALL ADJUST OR RECONSTRUCT ALL SANITARY SEWER MANHOLES TO FINISHED GRADE. ALL FRAMES AND COVER ADJUSTMENTS SHALL BE IN ACCORDANCE WITH PCRWRD SSDC 2016, DETAIL NOS. RWRD 211, 212, 304 OR 305 (AS APPLICABLE). THE CONTRACTOR SHALL PROTECT THE BENCH AND FLOW CHANNELS WITH A COVER PER PCRWRD SSDC 2016, DETAIL NO. RWRD 306. PRIOR TO COMMENCING ANY WORK TO THE MANHOLE AND REMOVE THE COVER AFTER ALL WORK IS COMPLETED. THE CONTRACTOR SHALL ENSURE THAT FRAMES AND COVERS ARE CLEAN AND FREE FROM ANY AND ALL ATTACHED MATERIALS (ASPHALT, CONCRETE, ETC.) AND THAT ALL VENT HOLES ARE OPEN AND CLEAR OF OBSTRUCTIONS, AS APPROVED BY THE PCRWRD FIELD ENGINEER. EXISTING FRAMES AND/OR COVERS THAT ARE DAMAGED OR CANNOT BE COMPLETELY CLEANED SHALL BE REPLACED WITH A NEW FRAME AND COVER IN ACCORDANCE WITH PCRWRD SSDC 2016, DETAIL NO. RWRD 213 218. COSTS ASSOCIATED WITH EXISTING FRAMES AND COVERS THAT ARE LOST OR DAMAGED DUE TO THE CONTRACTOR 5/32 S OPERATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

8. THE CONTRACTOR SHALL SUBMIT A FLOW MANAGEMENT PLAN (FMP) TO PCRWRD FIELD ENGINEERING FOR APPROVAL BEFORE PROCEEDING WITH ANY WORK THAT MAY AFFECT LIVE SEWERS. THE FMP SHALL IDENTIFY AND INCLUDE ALL FLOW MANAGEMENT COSTS IN THE CONSTRUCTION BID. THE FMP SHALL BE SUBMITTED THIRTY (30) CALENDAR DAYS PRIOR TO THE SEWER PRE-CONSTRUCTION MEETING. FIELD ENGINEERING WILL REVIEW THE FMP WITHIN TEN (10) BUSINESS DAYS TO ACCOMMODATE REVIEW AND REVISION CYCLES. REFER TO PCRWRD SSDC 2016, SECTION 2 FOR FMP REQUIREMENTS. PLEASE CONTACT PCRWRD FIELD ENGINEERING AT (520) 724-2651 FOR ANY QUESTIONS REGARDING FLOW MANAGEMENT.

9. STORM WATER AND SEDIMENT CONTROL MEASURES SHALL BE PROPERLY INSTALLED TO PROTECT PCRWRD MANHOLES AT THE BEGINNING OF CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONSTANTLY MAINTAIN STORM WATER AND SEDIMENT CONTROL MEASURES THAT PROTECT PCRWRD FACILITIES UNDER ALL CONDITIONS FOR THE DURATION OF THE PROJECT. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR ALLOW STORM WATER, SEDIMENT, OR POTENTIAL POLLUTANTS FROM A CONSTRUCTION SITE TO ENTER A PCRWRD MANHOLE. THE CONTRACTOR SHALL ENSURE THAT THEIR FLOW MANAGEMENT OPERATIONS INCLUDE CONTROLS TO PREVENT ANY INTRODUCTION OF STORM WATER, SEDIMENT, OR POLLUTANTS INTO THE PUBLIC SANITARY SEWER SYSTEM. FAILURE TO CONFORM TO THESE REQUIREMENTS SHALL RESULT IN CANCELLATION OF THE SEWER CONSTRUCTION PERMIT.

10. PRIOR TO THE PRECONSTRUCTION MEETING WITH PCRWRD, THE CONTRACTOR SHALL IDENTIFY ALL EXISTING SANITARY SEWER MANHOLE COVERS HAVING FOREIGN MATERIALS ATTACHED. FOREIGN MATERIALS SHALL BE REMOVED FROM THE EXISTING MANHOLE COVERS REGARDLESS OF EXISTING OR NEW CONDITIONS. IF BUILD-UP IS TOO HEAVY TO BE REMOVED, THE CONTRACTOR SHALL REPLACE THE MANHOLE FRAME AND COVER AND SALVAGED ITEMS SHALL BE DELIVERED TO PIMA COUNTY CONVEYANCE AT 3355 N. DODGE BLVD., TUCSON, AZ. THE CONTRACTOR SHALL COORDINATE WITH THE PCRWRD INSPECTOR TO SCHEDULE A TIME TO DELIVER THE SALVAGED FRAMES AND COVERS. AFTER THE COMPLETION OF PAVEMENT WORK, THE CONTACTOR SHALL VERIFY THAT ALL SANITARY SEWER MANHOLE COVERS AND PICK HOLES ARE CLEAN AND FREE OF ANY CONSTRUCTION MATERIALS, DEBRIS, AND/OR OBSTRUCTIONS.

11. ANY WORK INSIDE OR AROUND AN EXISTING SANITARY SEWER MANHOLE, INCLUDING MANHOLES THAT ARE LOCATED WITHIN THE ROUGH GRADING LIMITS FOR A PROJECT, SHALL BE PROTECTED FROM FALLING DEBRIS BY INSTALLING A TEMPORARY FLOW CHANNEL COVER PER PCRWRD STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, STANDARD DETAIL RWRD-306. THE CONTRACTOR SHALL REMOVE ANY DEBRIS THAT ENTERS A MANHOLE DURING CONSTRUCTION. FAILURE BY THE CONTRACTOR TO PROMPTLY REMOVE DEBRIS FROM A MANHOLE SHALL RESULT IN PCRWRD TAKING CORRECTIVE ACTION THAT WILL THEN BE BILLED TO THE CONTRACTOR.

12. EXISTING MANHOLE FRAMES AND COVERS MAY NOT MATCH EXISTING PAVEMENT GRADES AND/OR ARE COVERED WITH PAVEMENT MATERIAL. PRIOR TO COMMENCING PAVEMENT WORK, THE CONTRACTOR SHALL CONTACT PCRWRD FIELD ENGINEERING AT (520-724-2651) TO INSPECT EACH OF THE EXISTING MANHOLES AND IDENTIFY WHICH REQUIRE GRADE ADJUSTMENTS PER STANDARD DETAIL RWRD-304 OR -305. PCRWRD RESERVES THE RIGHT TO REQUIRE MANHOLE GRADE ADJUSTMENTS AT THE DISCRETION OF THE PCRWRD FIELD ENGINEER. IF MANHOLE GRADE ADJUSTMENTS ARE REQUIRED, THIS WORK SHALL NOT COMMENCE UNTIL: (A) CONTRACTOR HAS OBTAINED A PUBLIC SEWER CONSTRUCTION PERMIT FROM PCRWRD (520-724-6369) AND (B) A PRE-CONSTRUCTION MEETING WITH THE ASSIGNED PIMA COUNTY PROJECT INSPECTOR IS SCHEDULED, AT LEAST THREE (3) FULL WORKING DAYS PRIOR TO THE START OF SEWER CONSTRUCTION. FLOW MANAGEMENT PLANS SHALL BE SUBMITTED TO FIELD ENGINEERING THIRTY (30) DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING.

13. PRIOR TO COMMENCING WITH MANHOLE ADJUSTMENT WORK (I.E., REMOVAL OF THE MANHOLE FRAME AND COVER), THE CONTRACTOR SHALL VISUALLY INSPECT THE CONDITION OF THE MANHOLE FRAME, COVER, AND GRADE RINGS TO IDENTIFY ANY SPECIAL COATINGS, LININGS OR OTHER CONDITIONS THAT MAY REQUIRE ADDITIONAL WORK AND INSPECTION BY PCRWRD. IF SUCH CONDITIONS ARE IDENTIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY FIELD ENGINEERING AT (520) 724-2651 FOR FURTHER DIRECTION.

WATER VALVE ADJUSTMENT SUMMARY

ITEM NO.	LOCATION DESCRIPTION or STATION OFFSET	RIM ELEVATION		
		EXISTING	PROPOSED	DIFFERENCE
1	Tanque Verde Rd Sta 42+05, 24' Lt ±	2611.00	2611.45	0.45
2	Tanque Verde Rd Sta 49+71, 18' Rt ±	2621.67	2621.75	0.08
3	Tanque Verde Rd Sta 50+10, 30' Lt ±	2622.16	2622.25	0.09
4	Tanque Verde Rd Sta 50+11, 14' Rt ±	2622.49	2622.57	0.08
5	Tanque Verde Rd Sta 50+14, 14' Rt ±	2622.53	2622.61	0.08
6	Tanque Verde Rd Sta 51+61, 33' Lt ±	2623.64	2623.75	0.11
7	Tanque Verde Loop Rd Sta 8+44, 18' Lt ±	2619.65	2619.66	0.01

SANITARY SEWER MANHOLE SUMMARY

ITEM NO.	PCRWRD MH ID NO.	LOCATION DESCRIPTION or STATION OFFSET	RIM ELEVATION			ADJUST, RECONSTRUCT, OR REBUILD
			EXISTING	PROPOSED	DIFFERENCE (+/-)	
1	3103-02	Tanque Verde Loop Rd Sta 7+02, 12' Rt ±	2616.30	2616.40	0.10	ADJUST
2	3253-01	Tanque Verde Loop Rd Sta 8+54, 42' Lt ±	2620.57	2620.72	0.15	ADJUST
3	4408-07	Tanque Verde Rd Sta 49+61, 51' Rt ±	2621.87	2621.15	-0.72	ADJUST
4	4408-08	Tanque Verde Rd Sta 50+02, 44' Lt ±	2622.07	2621.97	-0.10	ADJUST
5	4408-09	Tanque Verde Rd Sta 51+71, 44' Lt ±	2624.13	2623.96	-0.17	ADJUST

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) No. 51304 JAMES D. BEIER Date Signed 10/30/18 ARIZONA, U.S.A. Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

GENERAL NOTES
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: N.T.S. | Sheet GN02 of GN02 | Page 3 of 67

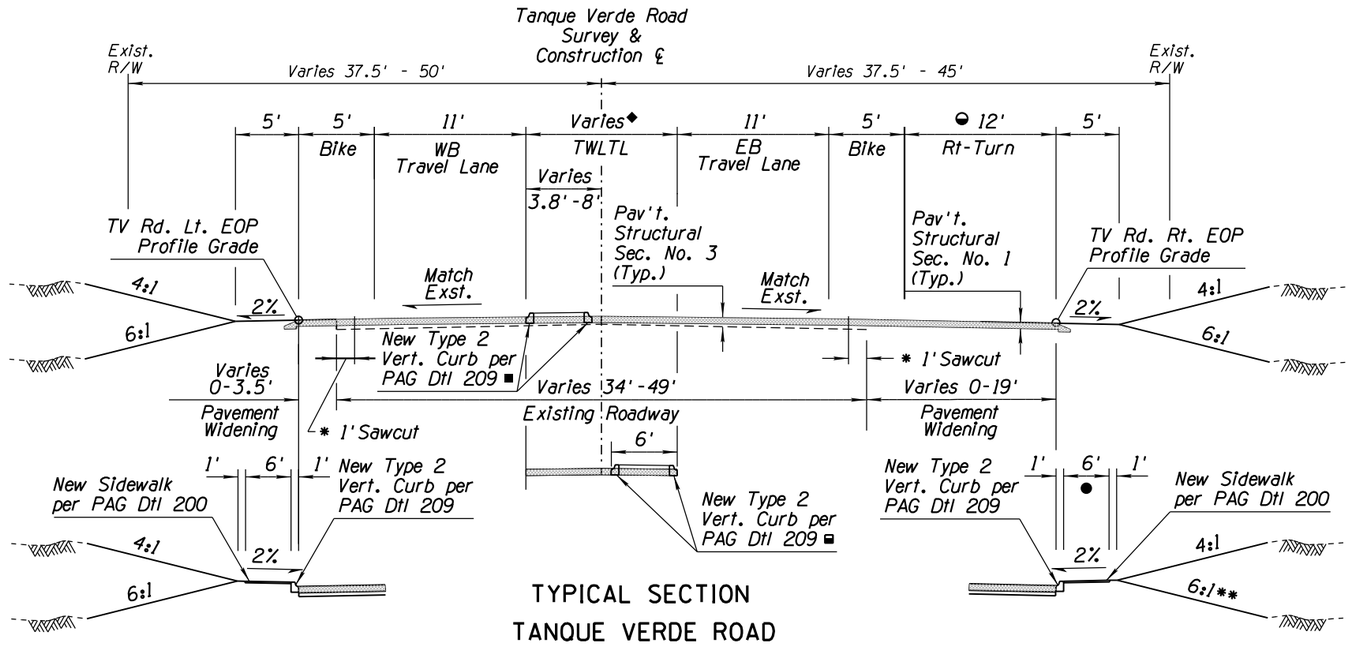
Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\2.General Notes\4TVTVL_GN02.dgn DATE: 1/18/2019 TIME: 4:28:40 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

NOTES:

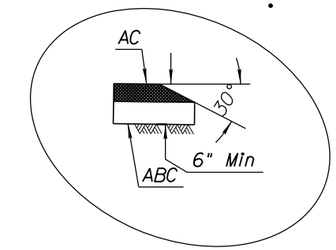
- ◆ TWLTL width varies from 0-18'
  0' @ Sta. 40+53.84
  12' @ Sta. 44+49.84
  18' from Sta. 47+91.41 to Sta. 52+52.54
  12' @ Sta. 56+10.02
- ◒ EB Rt.-Turn Lane width
  0' @ Sta. 46+11.41
  12' @ Sta. 47+91.41
- ● Sidewalk from Sta. 49+25 to Sta. 52+15.
- ■ Concrete Curb from Sta. 48+29 to Sta. 49+47
- ▣ Concrete Curb from Sta. 50+58 to Sta. 51+34
- ◆ NB Lt.-Turn Lane width
  0' @ Sta. 4+32.06
  12' @ Sta. 7+54.06 to Sta. 9+73
- ○ Distance from ℄ varies from 3.1' at Sta. 4+32.06 to 6' at Sta. 7+54.06.
- □ Pavement Tapers from existing pavement at Sta. 4+32.06 to full bike lane width at Sta. 7+54.06.
- * Sawcut 1' from existing edge of pavement.



Sta. 49+37 to Sta. 56+10

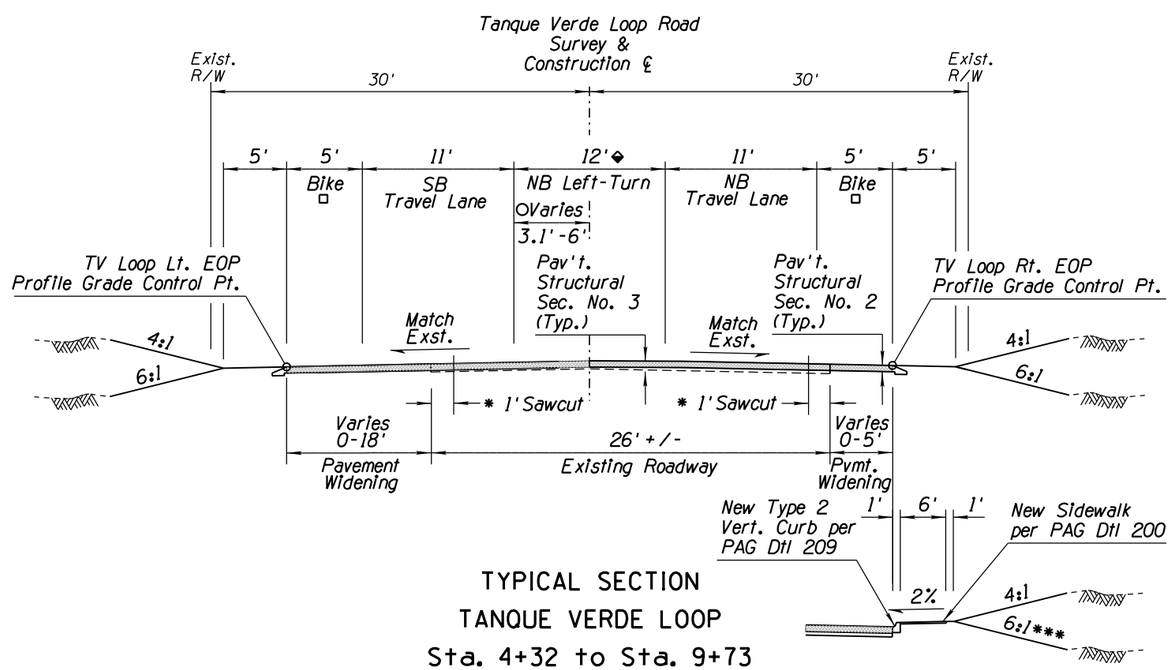
TYPICAL SECTION
TANQUE VERDE ROAD
Sta. 40+54 to Sta. 56+10

Sta. 47+91 to Sta. 52+15



SAFETY EDGE
Typical Where AC Pvmt Is Not Adjacent To Concrete

** From Sta. 15+58 to Sta. 52+15
There is a Hinge Point 15' from EOP
Changing Fill Slope from 6:1 to 3:1.



TYPICAL SECTION
TANQUE VERDE LOOP
Sta. 4+32 to Sta. 9+73

Sta. 4+74 to Sta. 9+73

*** From Sta. 7+35 to Sta. 8+55
Fill Slope is 4:1.

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Pima County Department of Transportation

TYPICAL SECTIONS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

EPS GROUP

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: N.T.S. | Sheet TP01 of TP01 | Page 4 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\3.Typical Sections\4TVTVL_TP01.dgn | DATE: 1/21/2019 | TIME: 10:58:59 AM | $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

1. ACCESS RAMP CONTROL POINT. (SEE TABLE ON THIS SHEET FOR LOCATION (TYP.))
2. DETECTABLE WARNING STRIP 6' x 2' (TYP.) SEE PAG STD. DETAIL 207
3. ROUGH BROOM FINISH (TYP.)
4. SEE PLANS FOR RADIUS
5. BLENDED TRANSITION (TYP.)
6. MID-POINT CURB RADII. (LOCATE RAMP LIMIT A MIN. 2' FROM MID-POINT (TYP.))

◪ PROVIDE MINIMUM OF 6' OF SIDEWALK ALONG CURB LINE (TYP.)

◑ SLOPE 5% MIN. & 8.33% (12:1) MAX.

✳ PUSH BUTTON TO BE PLACED WITH MAXIMUM 10" REACH. SEE REACH RANGES IN A.D.A. GUIDELINES

◆ IF TRAFFIC POLE - DIA. IS 3', IF PUSH BUTTON POLE - DIA. IS 2'

✧ TRANSITION FOR FULL CURB TO DEPRESSED CURB

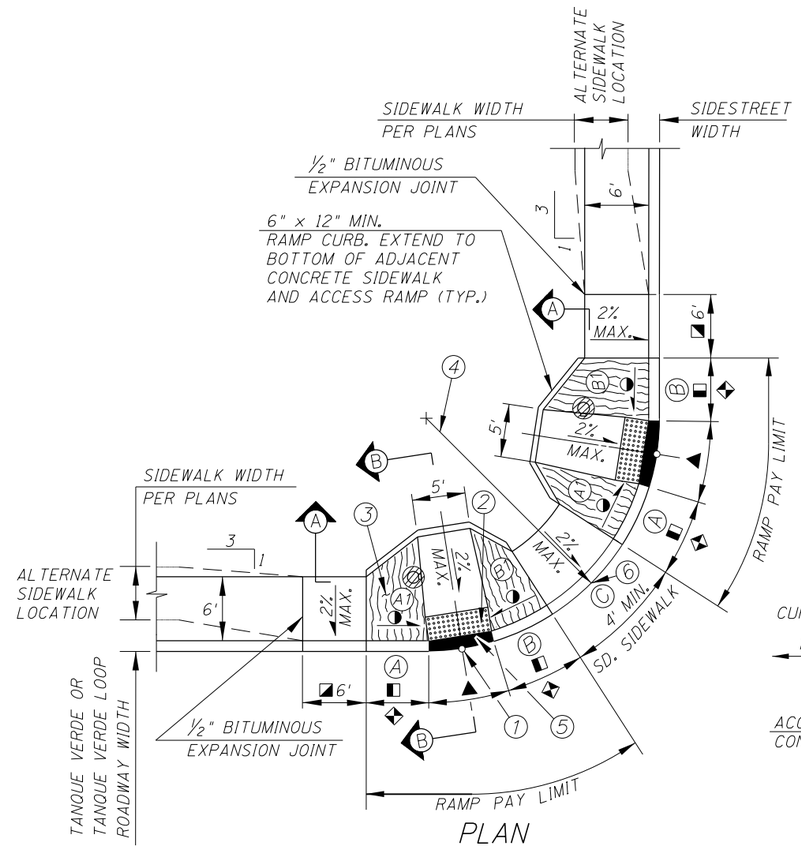
◧ 6' MINIMUM, 15' MAXIMUM

▲ 6' AT BACK OF CURB

■ 1' FOR CURB ACCESS RAMP AT TANQUE VERDE RD. STA. 49+78.64, 32.13' LT.

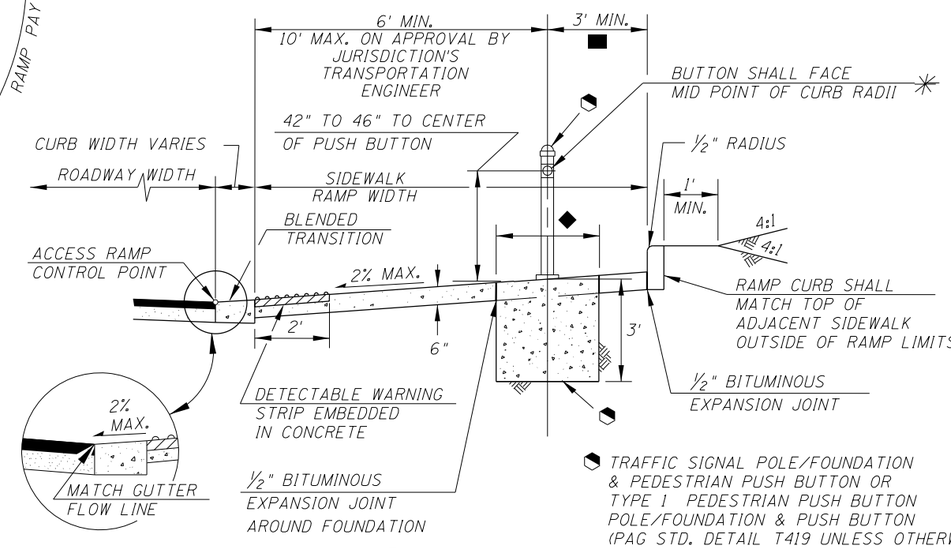
GENERAL NOTES:

1. TRAFFIC SIGNAL POLE OR PEDESTRIAN PUSH BUTTON POLE. SEE TRAFFIC SIGNAL PLANS FOR ADDITIONAL INFORMATION.
2. SEE, PAG STD. DETAIL 200 FOR JOINT REQUIREMENTS.
3. RAMP JOINTS ALONG RETURNS SHALL BE RADIAL FROM THE BACK OF CURB OR BACK OF DETECTABLE WARNING STRIP.
4. DRAINAGE INLETS ARE NOT PERMITTED WITHIN CROSSWALKS OR WITHIN 10' OF AN ACCESS RAMP.
5. TYPE 1 DOUBLE CURB ACCESS RAMP SHALL BE PAID FOR UNDER BID ITEM NO. 9080280, CURB ACCESS RAMP, PAG STD. DTL. 207 (TYPE 1)
6. SEE TABLE ON THIS SHEET FOR RAMP LOCATION. CURB ACCESS RAMP SHALL BE ORIENTED TO ALIGN WITH THE CROSSWALK OR STOP BAR, MEDIAN REFUGE AREA, AND WITH THE OPPOSITE ACCESS RAMP IN THE DIRECTION OF PEDESTRIAN TRAVEL.
7. LENGTHS ALONG EDGE OF PAVEMENT
8. REFER TO STAKING SHEETS FOR ADDITIONAL GRADING
9. CURB ACCESS RAMP LOCATION IS NOT RESTRICTED WITHIN CURB RADII ON LOCAL STREETS AND RESIDENTAIL COLLECTORS WITH A MAXIMUM 2,500 VEHICLES PER DAY AND WHICH IS NOT ADJACENT TO A MAJOR ARTERIAL.
10. SEE PAG STD. DETAIL 207 (SHEET 11) FOR ADDITIONAL CONSTRUCTION NOTES.
11. FOR USE AT THE INTERSECTION OF TWO MAJOR ARTERIAL ROADWAYS.



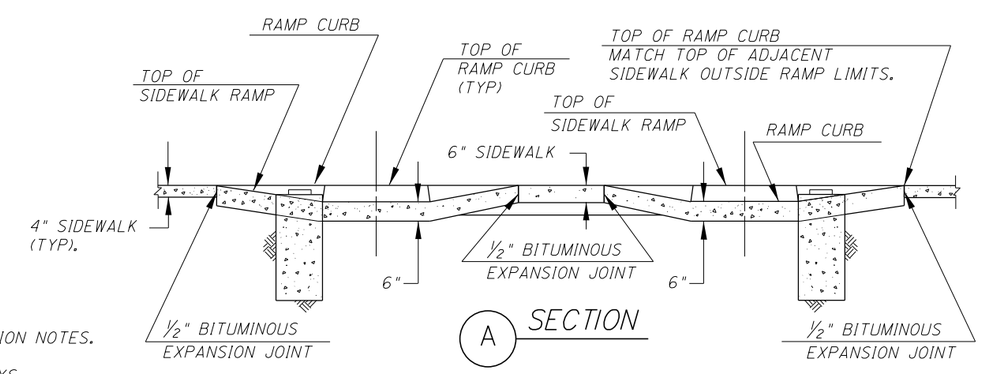
PLAN

DOUBLE CURB ACCESS RAMP					
RAMP CONTROL POINT (1)	(A)	(A1)	(B)	(B1)	(C)
LOCATION STA. & OFFSET	LENGTH (FT.)	SLOPE (%)	LENGTH (FT.)	SLOPE (%)	LENGTH (FT.)
TANQUE VERDE RD. 49+52.17, 24.00' Lt.	6	6.2	7	8.0	7.9
TANQUE VERDE RD. 49+78.64, 32.13' Lt.	7	7.4	6	7.5	
TANQUE VERDE RD. 50+30.75, 33.04' Lt.	7	8.3	6	6.6	4.0
TANQUE VERDE RD. 50+52.15, 24.06' Lt.	7	8.1	6	6.6	
TANQUE VERDE RD. 50+51.92, 39.35' Rt.	7	7.3	6	5.3	11.5
TANQUE VERDE RD. 50+29.13, 65.47' Rt.	11	8.3	6	2.2	
TANQUE VERDE RD. 49+68.11, 66.59' Rt.	6	8.3	7	8.1	4.0
TANQUE VERDE RD. 49+52.00, 49.83' Rt.	6	6.2	7	7.7	



B SECTION

◆ TRAFFIC SIGNAL POLE/FOUNDATION & PEDESTRIAN PUSH BUTTON OR TYPE 1 PEDESTRIAN PUSH BUTTON POLE/FOUNDATION & PUSH BUTTON (PAG STD. DETAIL T419 UNLESS OTHERWISE NOTED) PLACED ONLY WHEN APPLICABLE & APPROVED BY THE JURISDICTION'S TRANSPORTATION ENGINEER. SEE TRAFFIC SIGNAL PLANS.



A SECTION

DETAIL RD01

Type 1 Double Curb Access Ramp

Scale:	N.T.S.	Sheet RD01 of RD02	Page 5 of 67

Pima County Department of Transportation

ROADWAY DETAILS

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

EPS GROUP

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEER Date Signed 01/31/19 ARIZONA, U.S.A. Expires 6/30/19

Call at least two full working days before you begin excavation ARIZONA BLUE STAKE, INC. (Maricopa County (602) 263-1100) (Outside Maricopa County (800) 782-5348)

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	1/2018
Drawn	ERM/ES	1/2018
Checked	JDS	1/2018
Proj. Engr.	JDB	1/2018

Ana M. Olivares, P.E., Director

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Roadway Details\4TVTVL_RD01.dgn DATE: 1/18/2019 TIME: 5:10:00 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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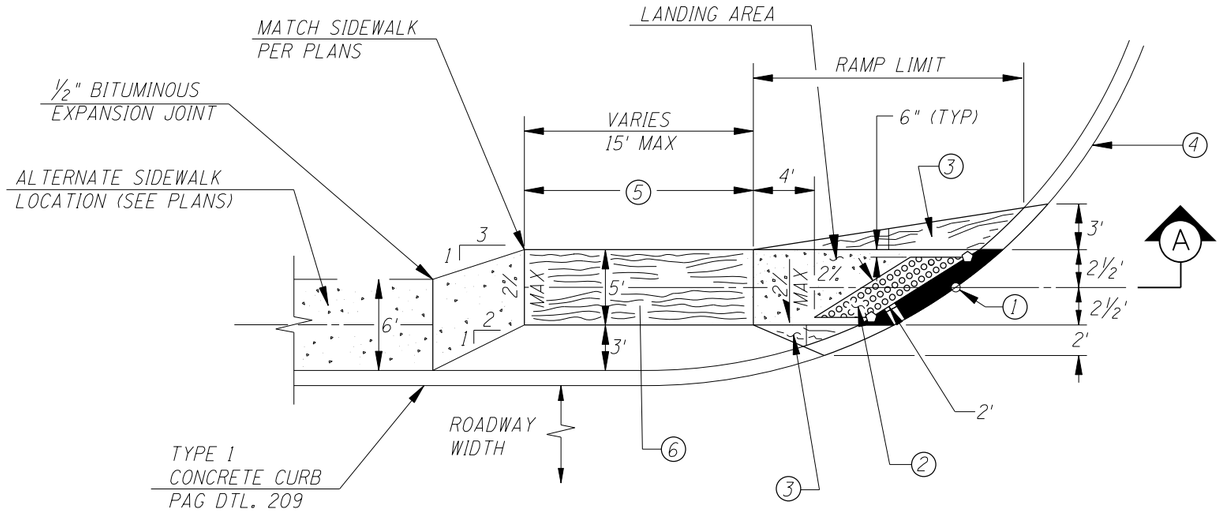
		0000PM PPM T0139 01C			



TYPE II DIRECTIONAL CURB ACCESS RAMP	
CONTROL POINT (1) LOCATION-STA, & OFFSET	RADIUS (FT)
TANQUE VERDE RD. 51+37.39, 30.29' LT.	25'
TANQUE VERDE RD. 51+84.40, 30.29' LT.	25'
TANQUE VERDE RD. 56+30.23, 32.78' LT.	40'
TANQUE VERDE RD. 56+92.00, 33.99' LT.	40'
TANQUE VERDE LOOP RD. 6+24.66, 23.24' RT.	20'
TANQUE VERDE LOOP RD. 6+67.42, 24.91' RT.	20'

NOTES:

1. SEE PAG STD. DTL. 200 FOR JOINT REQUIREMENTS
2. DRAINAGE INLETS ARE NOT PERMITTED WITHIN CROSSWALKS OR WITHIN 10' OF AN ACCESS RAMP
3. REFER TO THE STAKING SHEETS FPR ADDITIONAL GRADING
4. THIS TYPE 2 DIRECTIONAL CURB ACCESS RAMP SHALL BE PAID FOR UNDER BID ITEM NO. 9080282, CURB ACCESS RAMP, PAG STD. DTL. 207 (TYPE 2)

◑ SLOPE: 5% MIN. AND 8.33% (12:1) MAX.

■ BLENDED TRANSITION.

⬠ LEADING EDGE OF DETECTABLE WARNING STRIP SHALL BE PLACED AT BACK OF CURB.

TRANSITION FROM FULL CURB TO DEPRESSED CURB.

(1) ACCESS RAMP CONTROL POINT. SEE PLANS FOR LOCATION. (SIDEWALK MID-POINT).

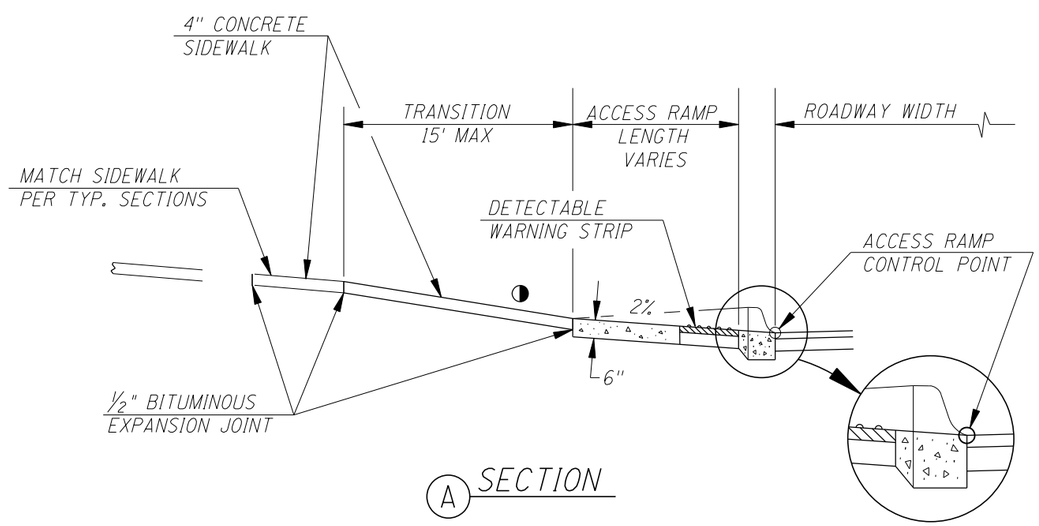
(2) DETECTABLE WARNING STRIP. SEE SHT. 11 OF 11. FOR LENGTH SEE DETAILS ABOVE.

(3) ROUGH BROOM FINISH. 1/4" DEEP SCORED JOINT SHALL BE PLACED PERPENDICULAR TO DIRECTION OF TRAVEL AT THE MIDWAY POINT OF ACCESS RAMP LENGTH. WINGS NOT REQUIRED IF RAMP IS ON CONCRETE HEADER

(4) SEE PLANS FOR RADIUS.

(5) TRANSITION GRADE TO MATCH TYPICAL SECTION.

(6) ROUGH BROOM FINISH.



(A) SECTION

DETAIL RD02

Type 2 Directional Curb Access Ramp

Scale:	N.T.S.	Sheet RD02 of RD02	Page 6 of 67

Pima County Department of Transportation

ROADWAY DETAILS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

EPS GROUP

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Roadway Details\4TVTVL_RD02.dgn DATE: 1/18/2019 TIME: 5:10:01 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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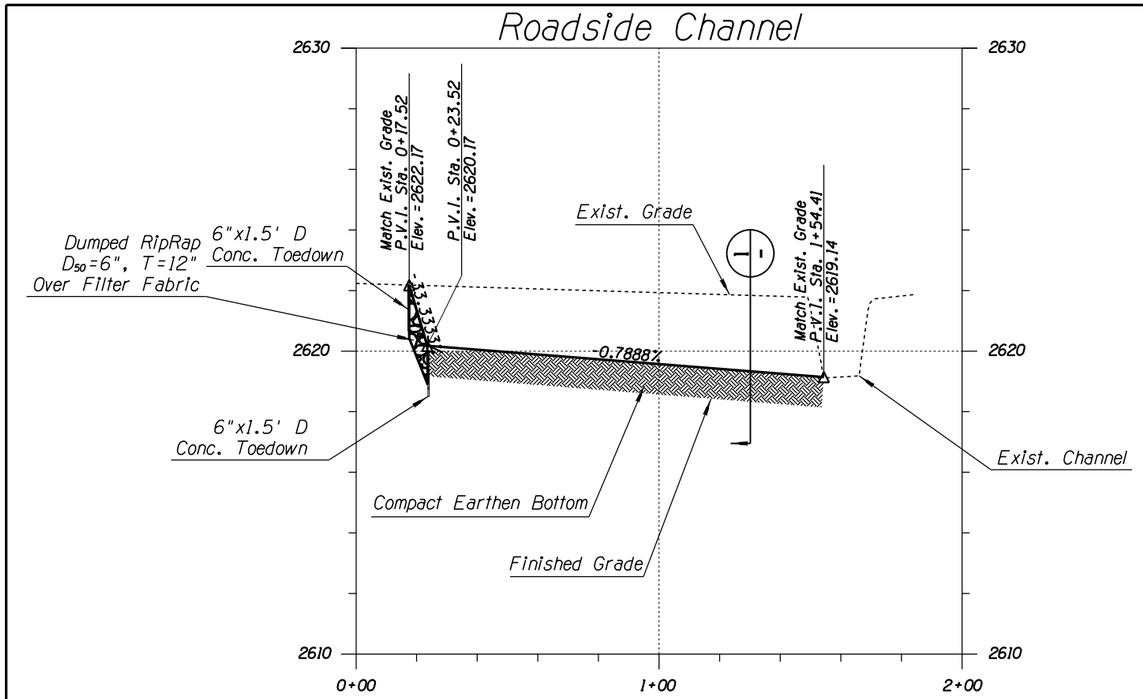


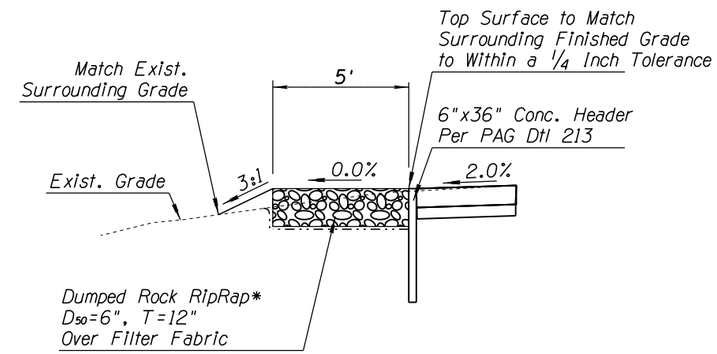
CHANNEL (1)

N.T.S.

CHANNEL Sta. 0+17.52 to 1+54.41

(See Roadside Channel Profile Above)

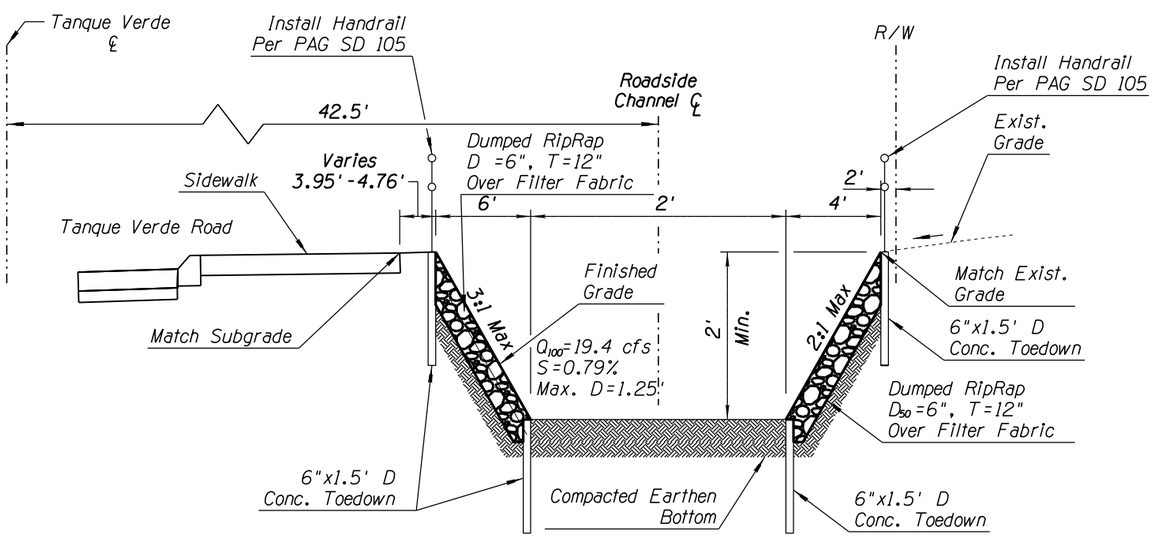
TV Sta. 54+32.93 to Sta. 55+69.82 (42.5' Lt)

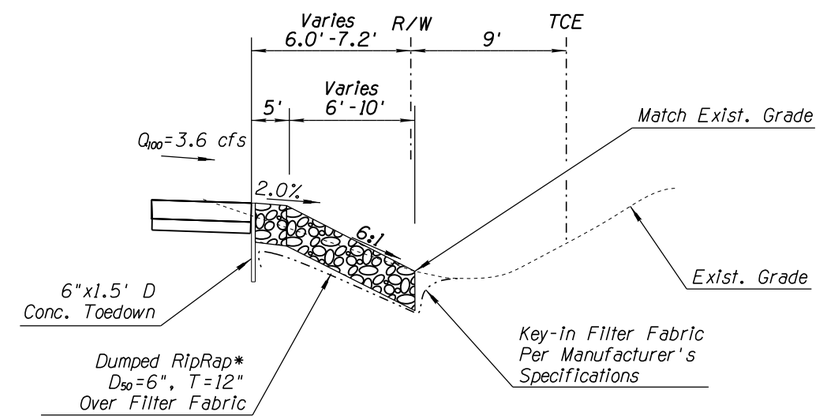


ROADSIDE DRAINAGE EDGE (3)

N.T.S.

TVL Sta. 4+90.35 to Sta. 6+29.30





ROADSIDE SLOPE TREATMENT (2)

N.T.S.

TV Sta. 47+76.40 to Sta. 47+91.41

DETAIL DD01

CHANNEL & DITCH DETAIL

Scale:	N.T.S.	Sheet DD01 of DD01	Page 7 of 67

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 10/30/19 ARIZONA, U.S.A. Expires 6/30/20

EPS GROUP

ARIZONA811 Call Before You Dig! Call at least two full working days before you begin excavation. Arizona Blue Stake, Inc. (602) 263-1100 (Maricopa County) (800) 253-9860 (Outside Maricopa County)

Pima County Department of Transportation

DRAINAGE DETAILS

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Drainage Details\4TVTVL_DD01.dgn DATE: 1/21/2019 TIME: 11:06:45 AM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

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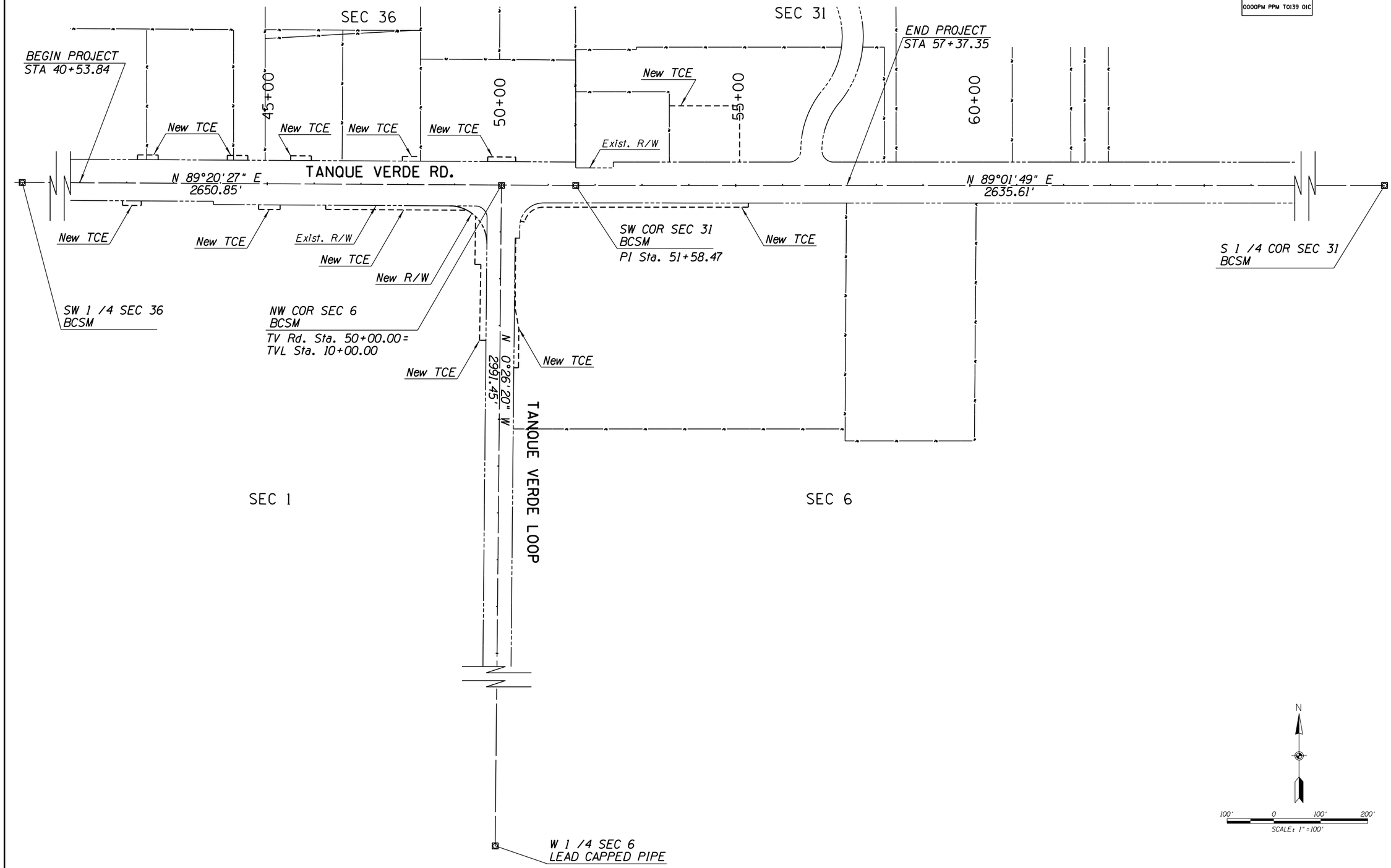

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 57304 JAMES D. BEIER Date Signed 01/30/19 ARIZONA, U.S.A. Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

GEOMETRIC CONTROL SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale:

Sheet GC01 of GC01

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\4.Geometric Control\4TVTVL_GC01.dgn DATE: 1/18/2019 TIME: 4:31:48 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

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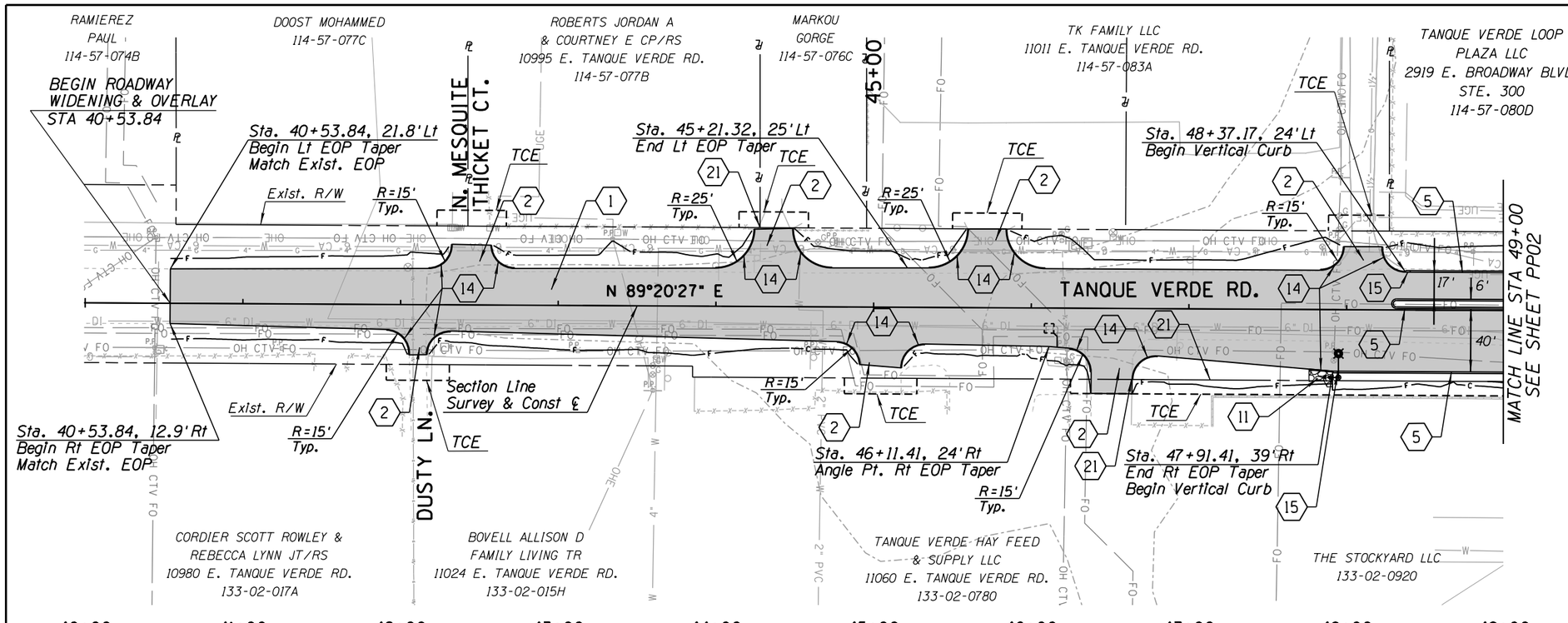

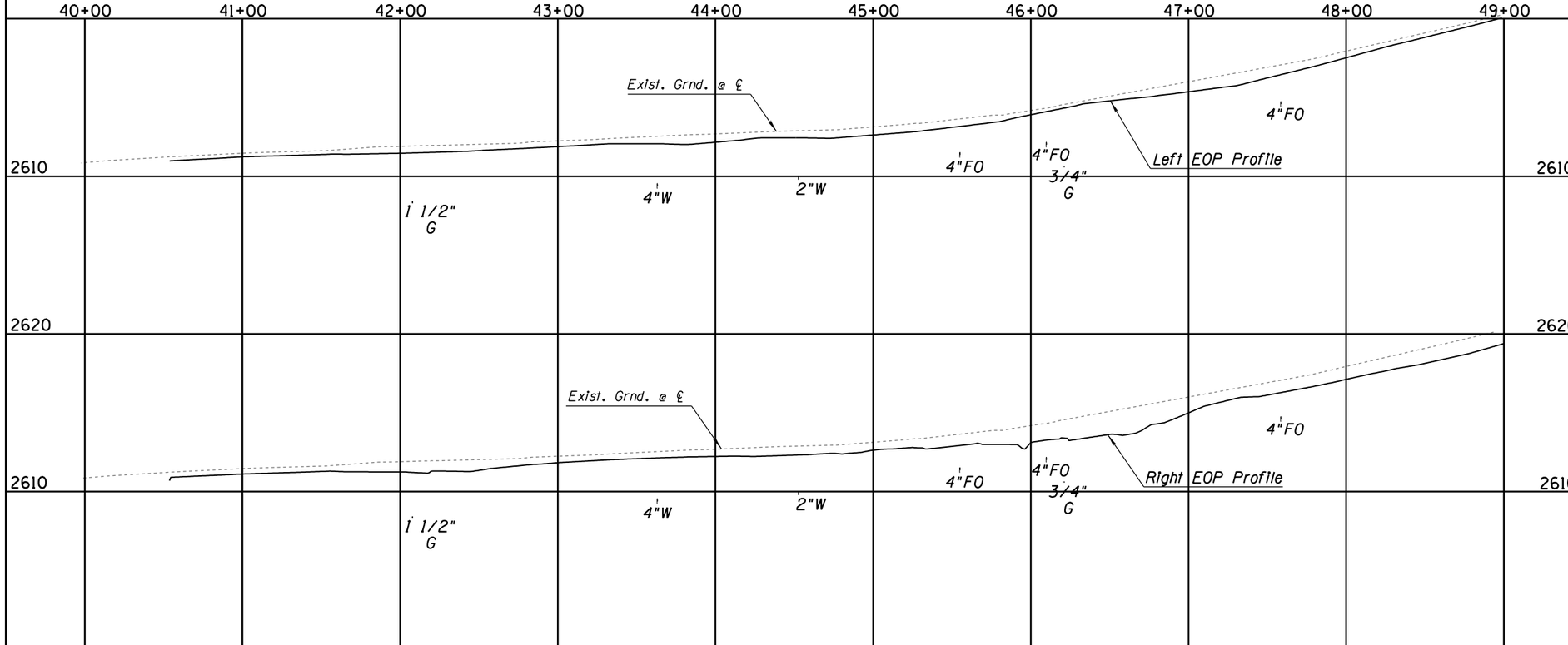

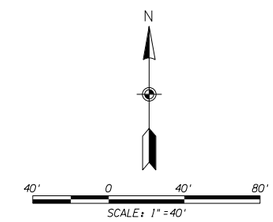

Keynotes

1. New AC Pavement
   = 10,081 S.F. PSS #1
   = 30,239 S.F. PSS #3
2. New AC Driveway
   = 4,200 S.F. PSS #4
5. New Type 1 Vertical Curb per PAG Dtl 209
   = 312 LF
11. Roadside Slope Treatment (See Dtl 2, DD01) D50=6", TH=12", D Min.=1'
   = 2 CY
14. New 6"x12" Concrete Header per PAG Dtl 213
   = 410 LF
15. New Concrete Curb Terminal Section per PAG Dtl 212
   = 2 EA
21. Reset Property Corner Monument

*Note: See Staking Sheet ST01 for Elevations Along New EOP.

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 5/17/19 ARIZONA, U.S.A.

EPS GROUP

Pima County Department of Transportation

ROADWAY PLAN & PROFILE

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet PP01 of PP03 | Page 9 of 67

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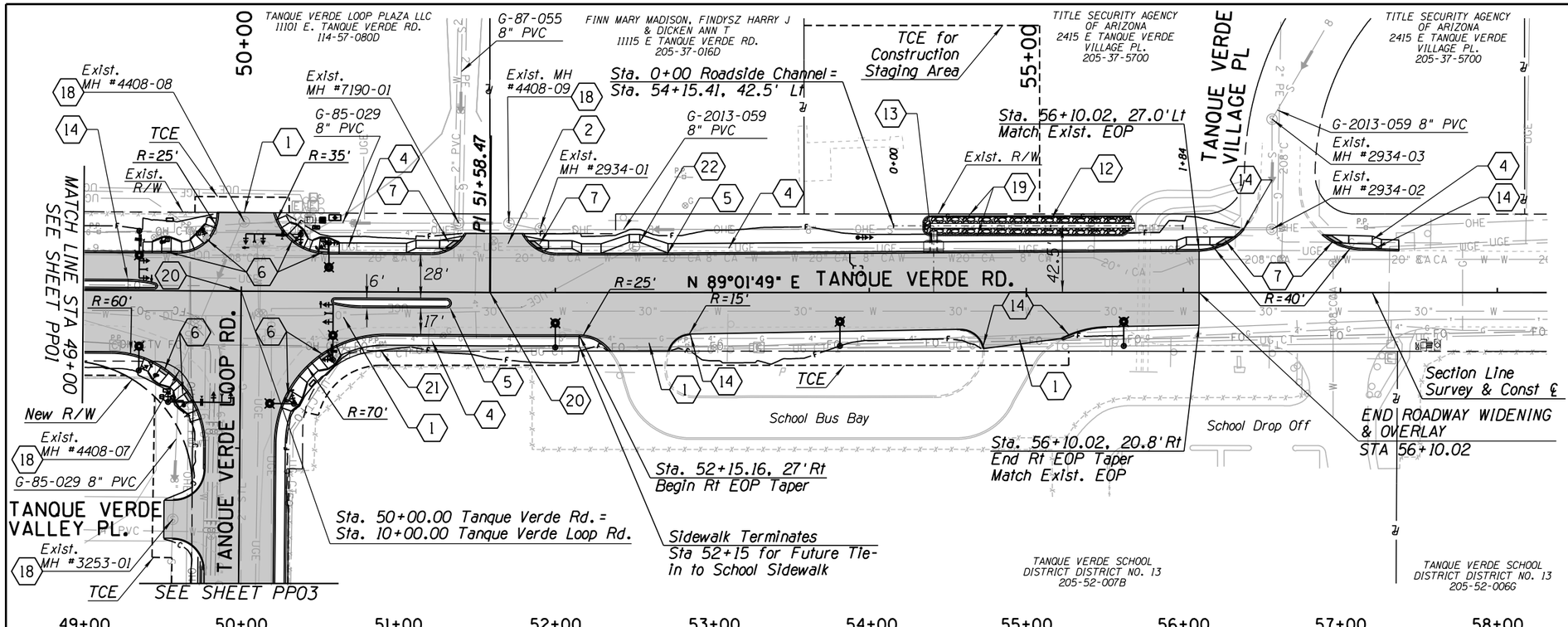
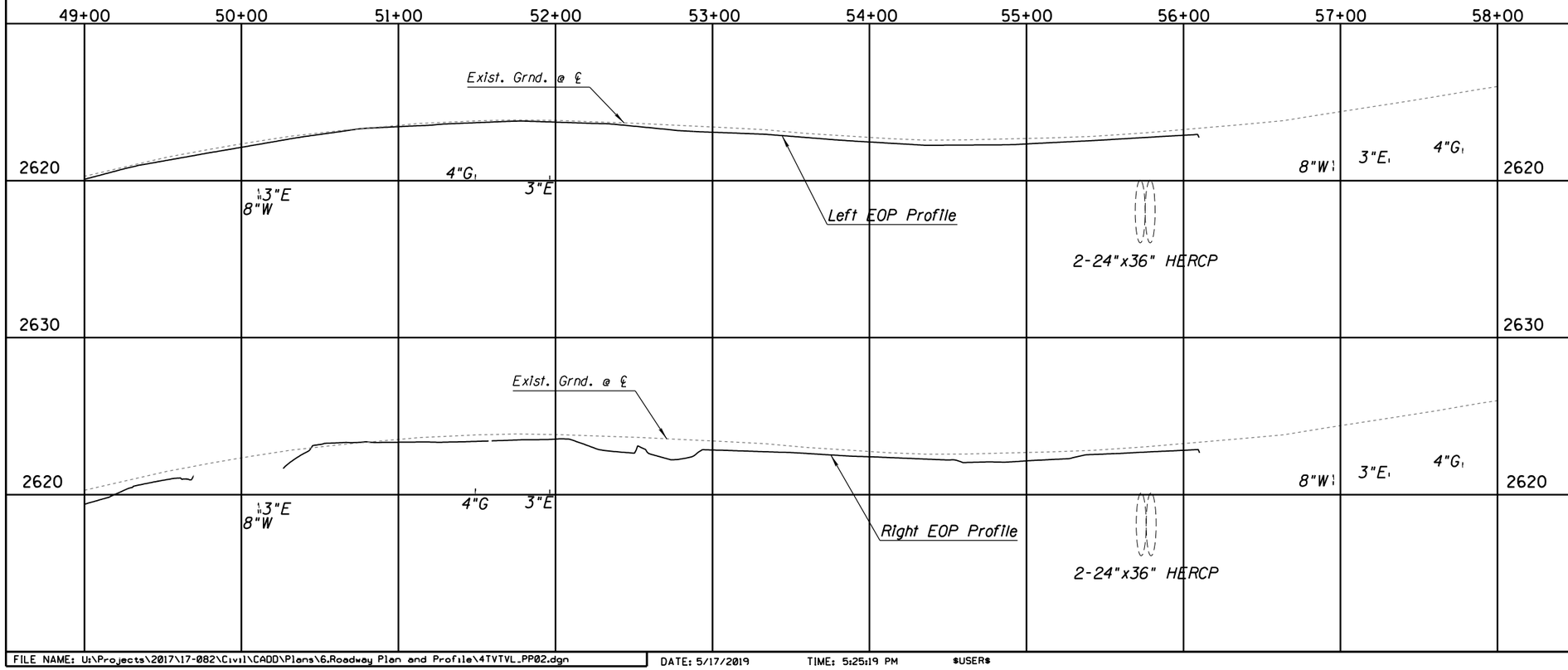




F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

Keynotes

1. New AC Pavement
   = 6,865 S.F. PSS #1
   = 33,643 S.F. PSS #3
2. New AC Driveway
   = 647 S.F. PSS #4
4. New Sidewalk per PAG Dtl 200
   = 4,241 S.F.
5. New Type 1 Vertical Curb per PAG Dtl 209
   = 1,224 LF
6. New Type 1 Curb Access Ramp per PAG Dtl 207
   See RD01
7. New Type 2 Curb Access Ramp per PAG Dtl 207
   See RD02
12. Roadside Drainage Channel Riprap (See Dtl 1, DD01)
    D50=6", TH=12",
    D Min.=2' 39 CY
13. 1-Cell 4' Scupper (Type 3) per PAG Dtl 205.5 @
    Sta 54+40.93, 25.25' Lt
    Install Handrail per PAG Dtl 105 (9 LF)
14. New 6"x12" Concrete Header per PAG Dtl 213
    = 129 LF
18. New Concrete Collar per Dtl RWRD 211
    = 4 EA
19. New Handrail Around Channel and On Exist. Culvert Headwall per PAG Dtl 105
    = 293 LF
20. New Survey Monument with Frame and Cover per PAG Dtl 103
    = 2 EA
21. Reset Property Corner Monument
22. Construct Sidewalk Around TEP Pullbox

*Note: See Staking Sheet ST02 for Elevations Along New EOP.

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet PP02 of PP03

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 10/19 ARIZONA U.S.A. Expires 6/30

EPS GROUP

ARIZONA811 BLUE STAKE, INC. Call at least two full working days before you begin excavation. Dial 8-1-1 or 1-800-782-5348 (1-Call) Maricopa County (602) 263-1069

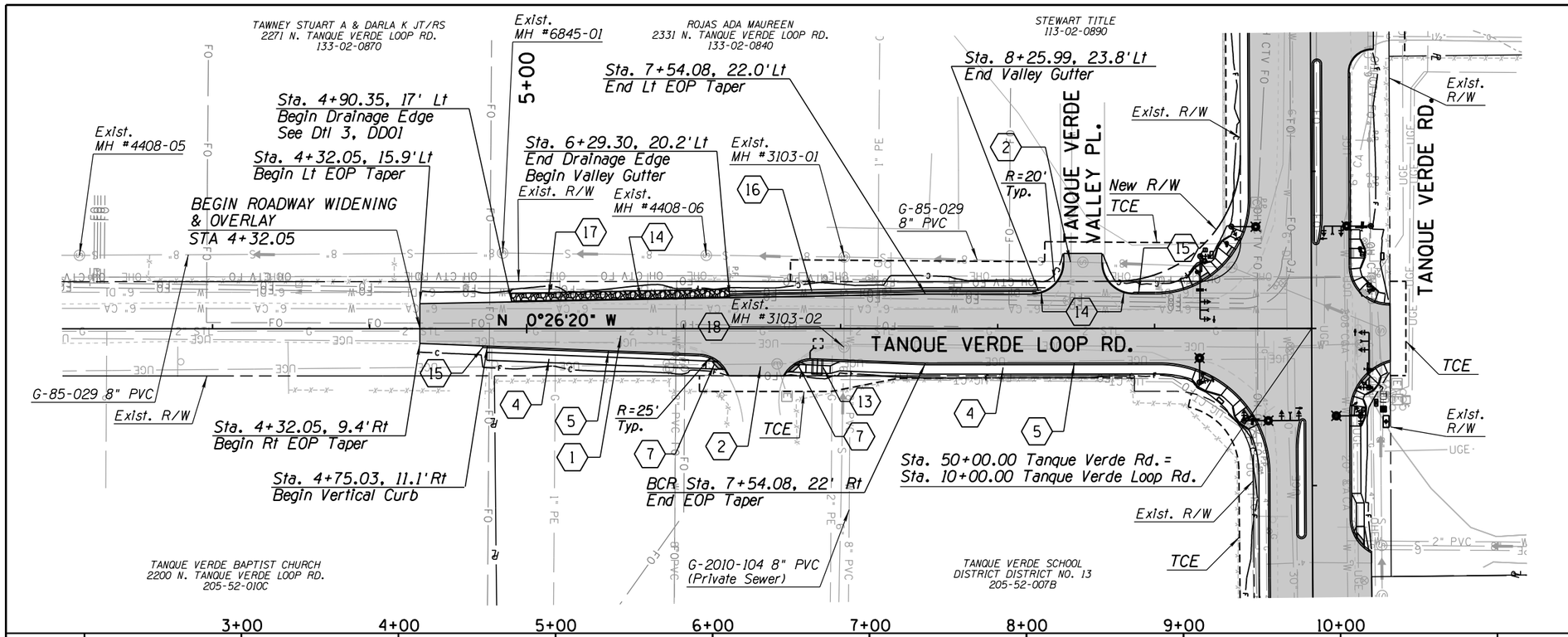
Pima County Department of Transportation

ROADWAY PLAN & PROFILE

TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\6.Roadway Plan and Profile\4TVTVL_PP02.dgn DATE: 5/17/2019 TIME: 5:25:19 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

Keynotes

1. New AC Pavement
   = 7,526 S.F. PSS #2
   = 12,704 S.F. PSS #3
2. New AC Driveway
   = 1,353 S.F. PSS #4
4. New Sidewalk per PAG Dtl 200
   = 2,198 S.F.
5. New Type 1 Vertical Curb per PAG Dtl 209
   = 510 LF
7. New Type 2 Curb Access Ramp per PAG Dtl 207, See RD02
13. 1-Cell 2.5' Scupper (Type 2) per PAG Dtl 205 @ Sta 6+85.33, 19.31' Rt
    Install Handrail per PAG Dtl 105
    (7 LF)
14. New 6"x12" Concrete Header per PAG Dtl 213
    = 209 LF
15. New Concrete Curb Terminal Section per PAG Dtl 212
    = 2 EA
16. New Concrete Valley Gutter per PAG Dtl 208
    = 788 SF
17. Roadside Drainage Edge Riprap (See Dtl 3, DD01) D50=6", TH=12",
    = 26 CY
18. New Concrete Collar per Dtl RWRD 211
    = 1 EA

*Note: See Staking Sheet ST03 for Elevations Along New EOP.

Scale: 1" = 40' Horiz. 1" = 4' Vert.

Sheet PP03 of PP03

Page 11 of 67

Pima County Department of Transportation

ROADWAY PLAN & PROFILE

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

EPS GROUP

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

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F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
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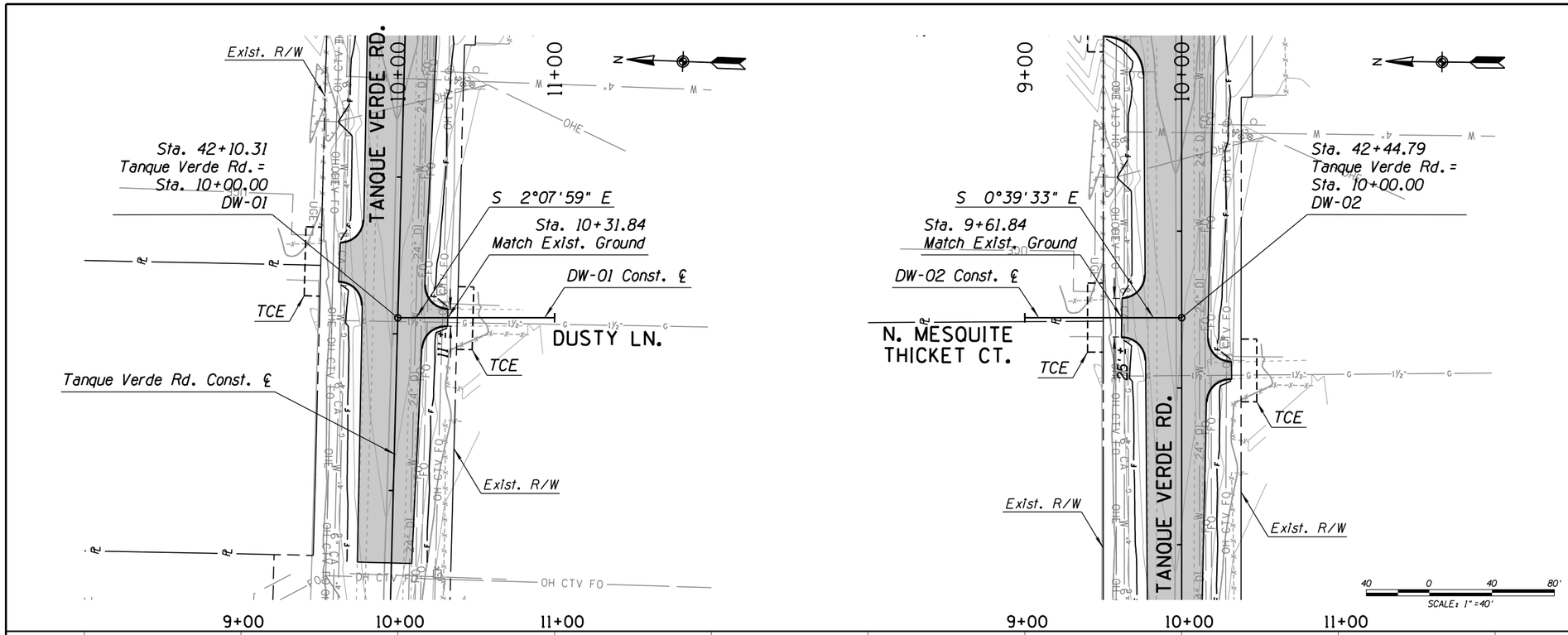

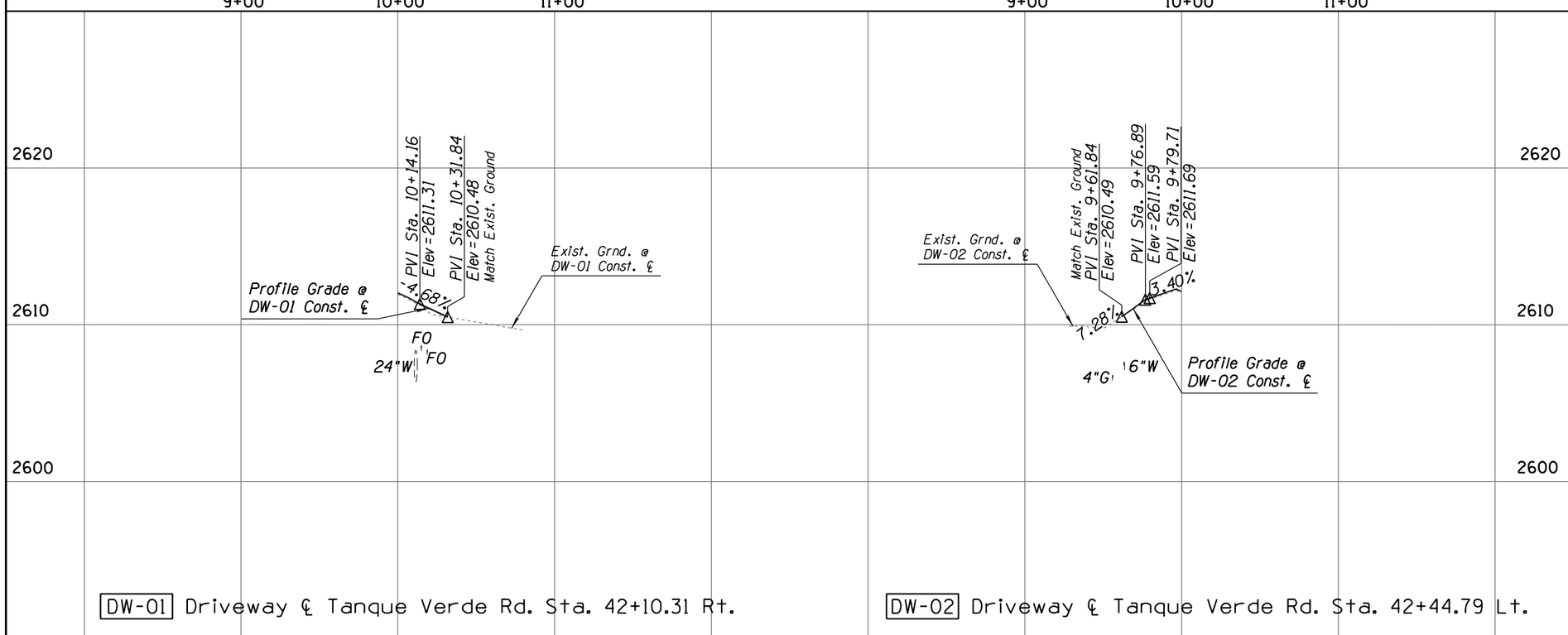

DW-01 Driveway ℄ Tanque Verde Rd. Sta. 42+10.31 Rt.

DW-02 Driveway ℄ Tanque Verde Rd. Sta. 42+44.79 Lt.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) — James D. Beier — 51394 — Date Signed 07/18/19 — Arizona U.S.A. — Expires 09/30/19

EPS GROUP

Pima County Department of Transportation

DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW01 of DW07 | Page 12 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

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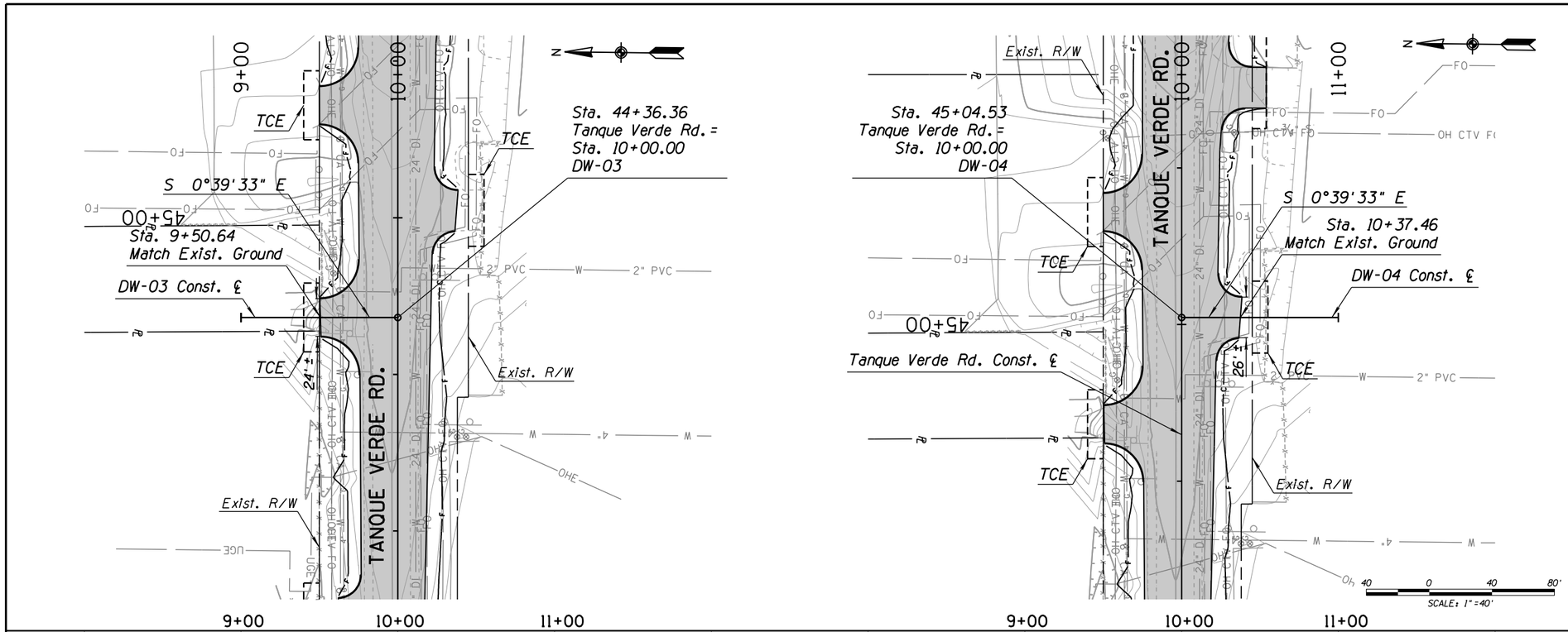
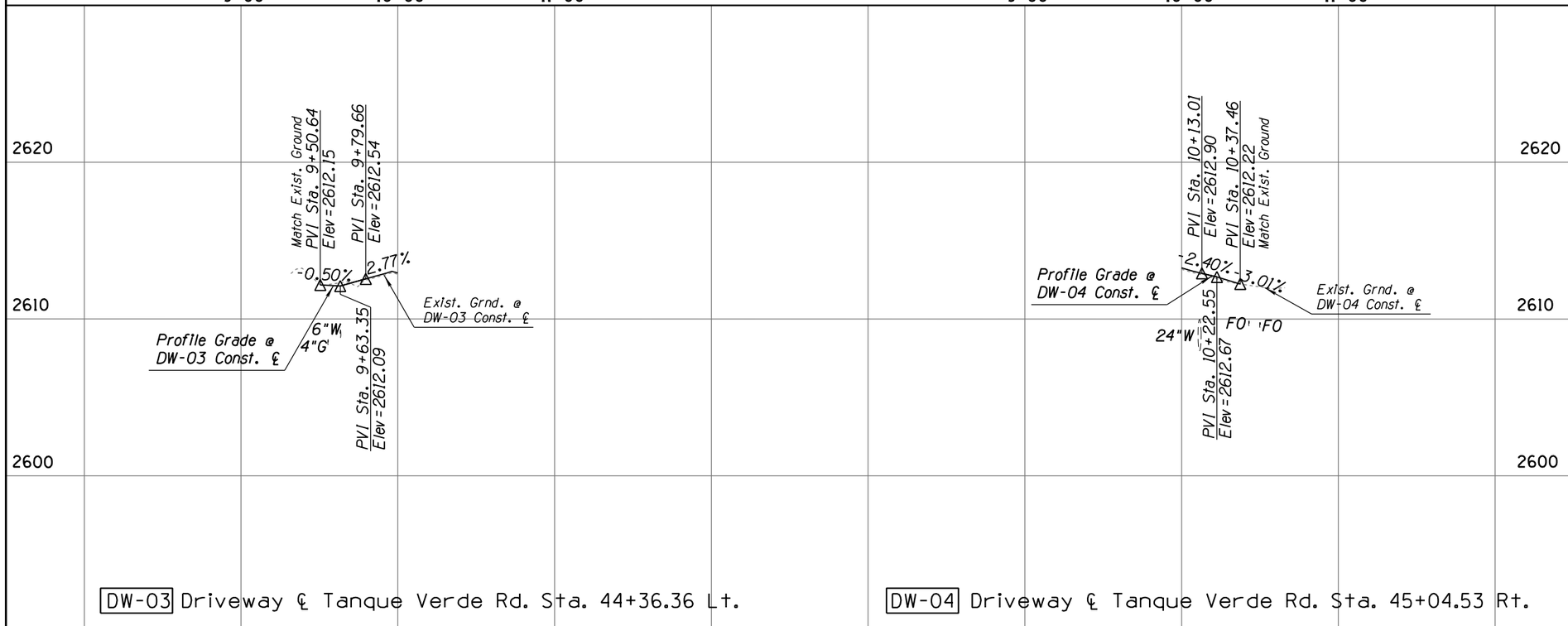




DW-03 Driveway ℄ Tanque Verde Rd. Sta. 44+36.36 Lt.

DW-04 Driveway ℄ Tanque Verde Rd. Sta. 45+04.53 Rt.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) — Date Signed 07/18/19 — 57594 JAMES D. BEER — ARIZONA U.S.A. — Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

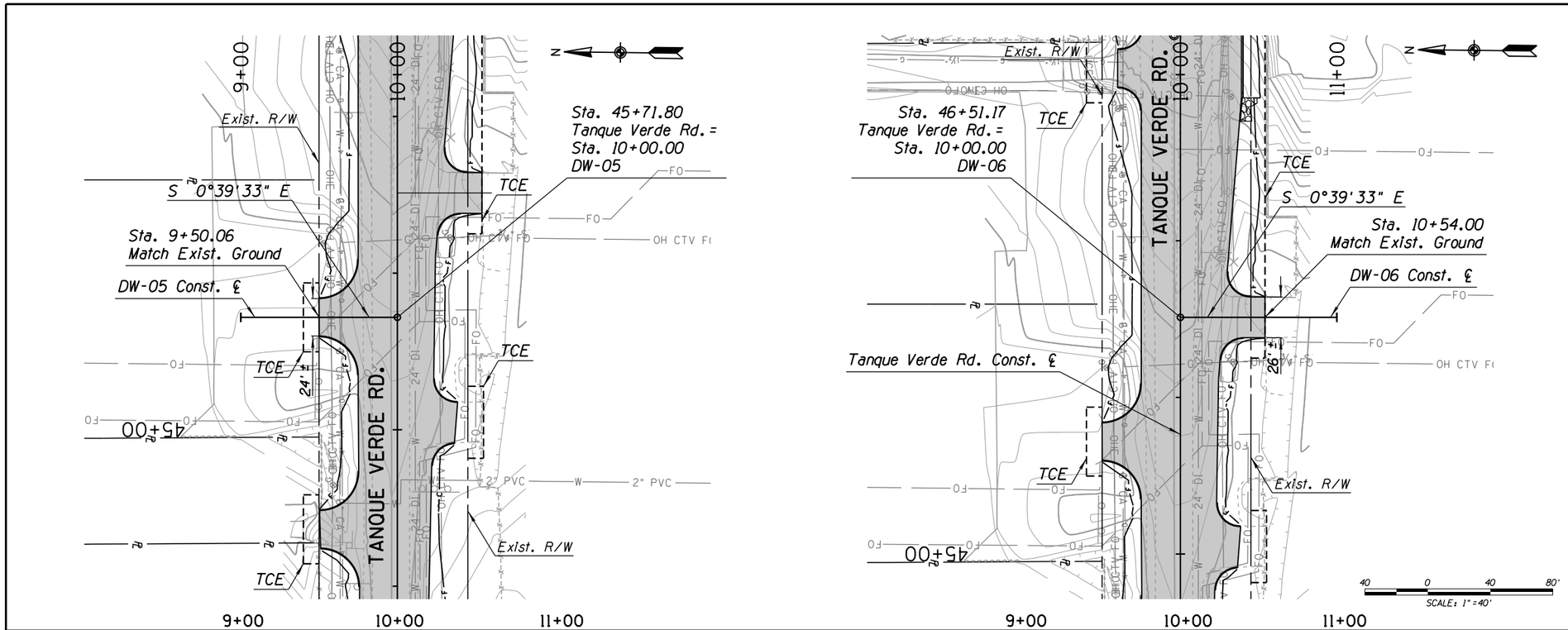
DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

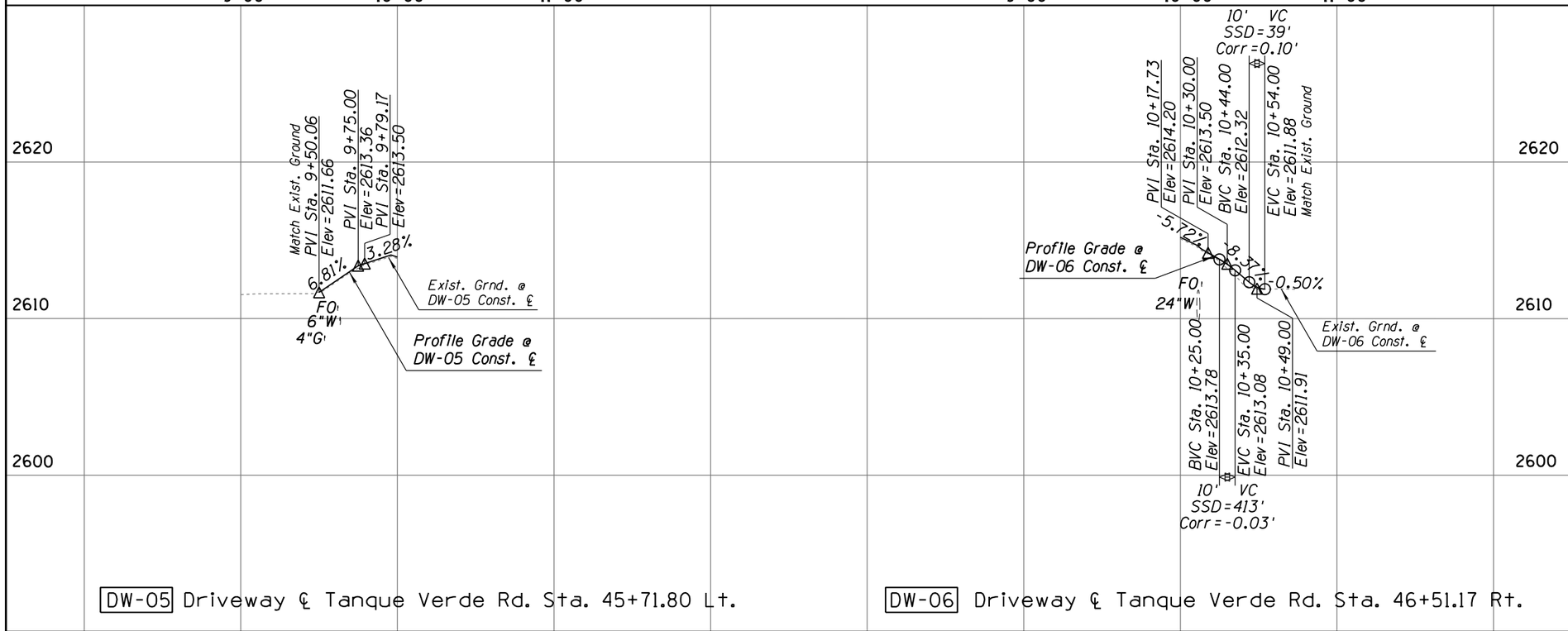
Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW02 of DW07 | Page 13 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW02.dgn DATE: 1/18/2019 TIME: 5:07:34 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			





DW-05 Driveway ℄ Tanque Verde Rd. Sta. 45+71.80 Lt.

DW-06 Driveway ℄ Tanque Verde Rd. Sta. 46+51.17 Rt.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) — Registered in Arizona — Date Signed 01/18/19 — 51394 JAMES D. BEER — Expires 09/30/19

EPS GROUP

Pima County Department of Transportation

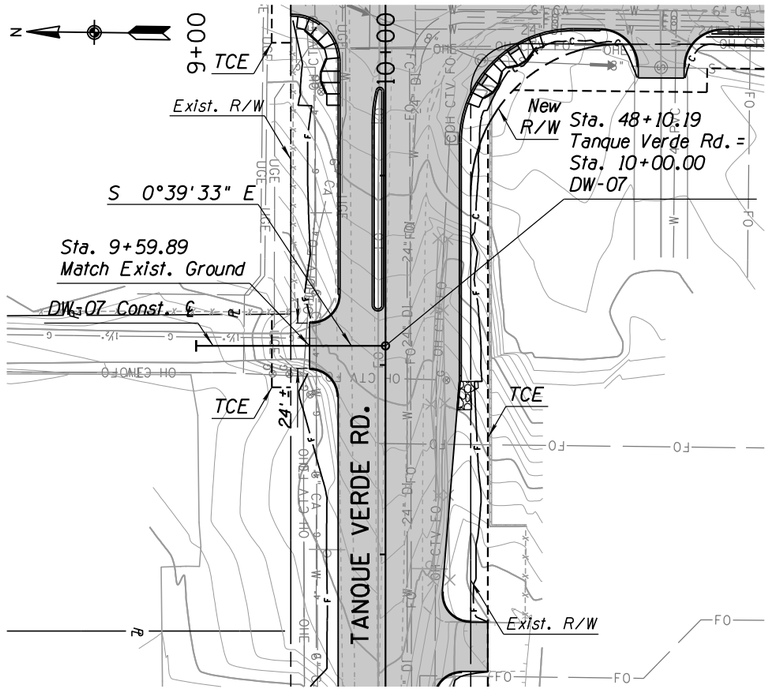
DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

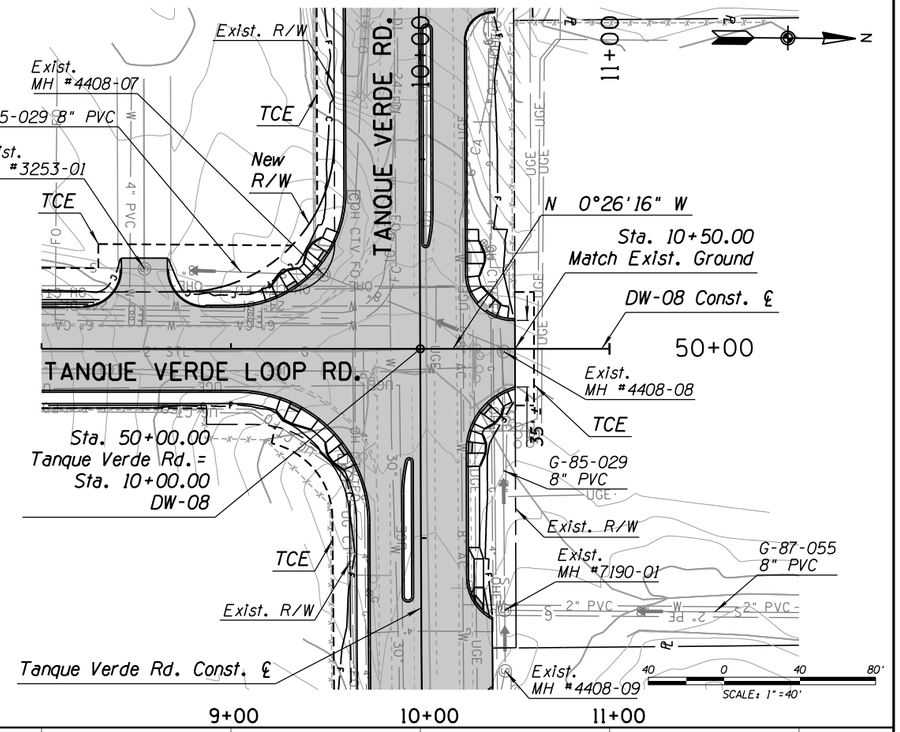
Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW03 of DW07 | Page 14 of 67

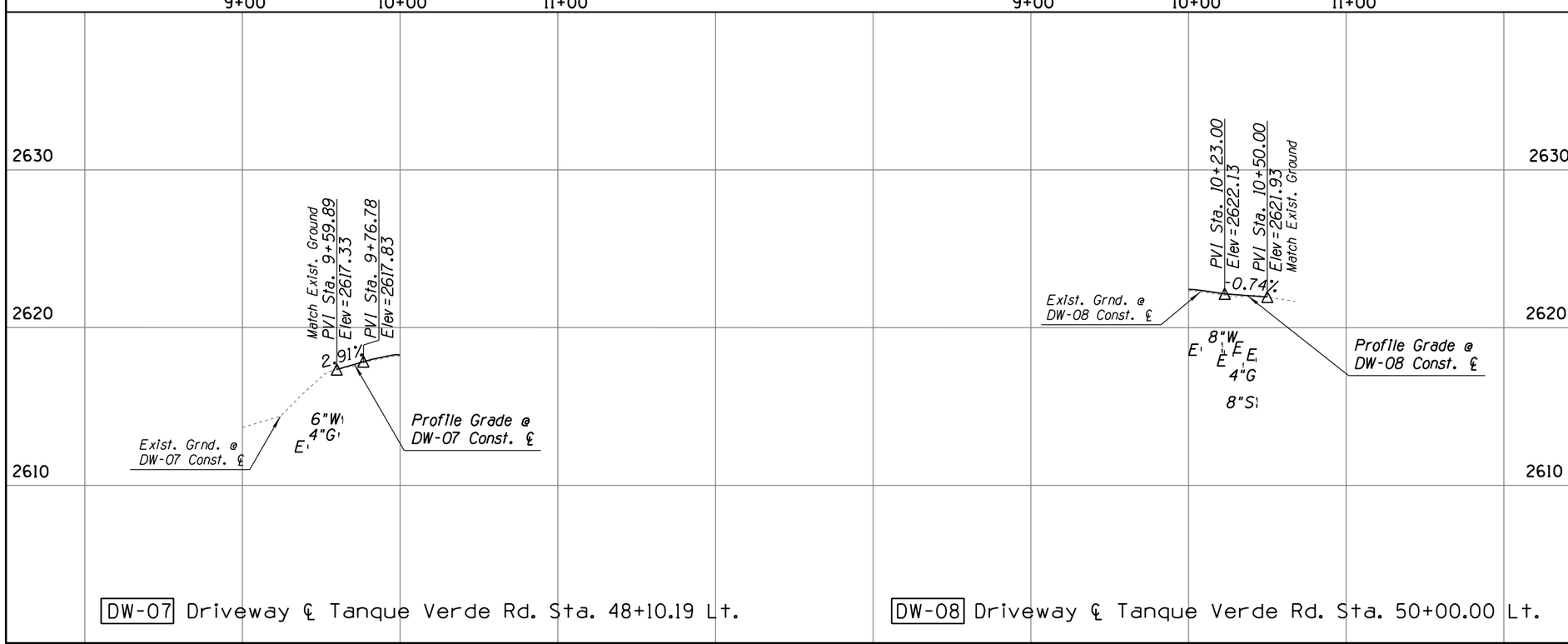
Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW03.dgn DATE: 1/18/2019 TIME: 5:07:35 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			







DW-07 Driveway ℄ Tanque Verde Rd. Sta. 48+10.19 Lt.

DW-08 Driveway ℄ Tanque Verde Rd. Sta. 50+00.00 Lt.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) — Date Signed 01/18/19 — 51394 JAMES D. BEER — ARIZONA U.S.A. — Expires 09/30/19

EPS GROUP

Call at least two full working days before you dig in Arizona. ARIZONA BLUE STAKE, INC. (602) 263-1100 In Maricopa County (602) 263-6283

Pima County Department of Transportation

DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

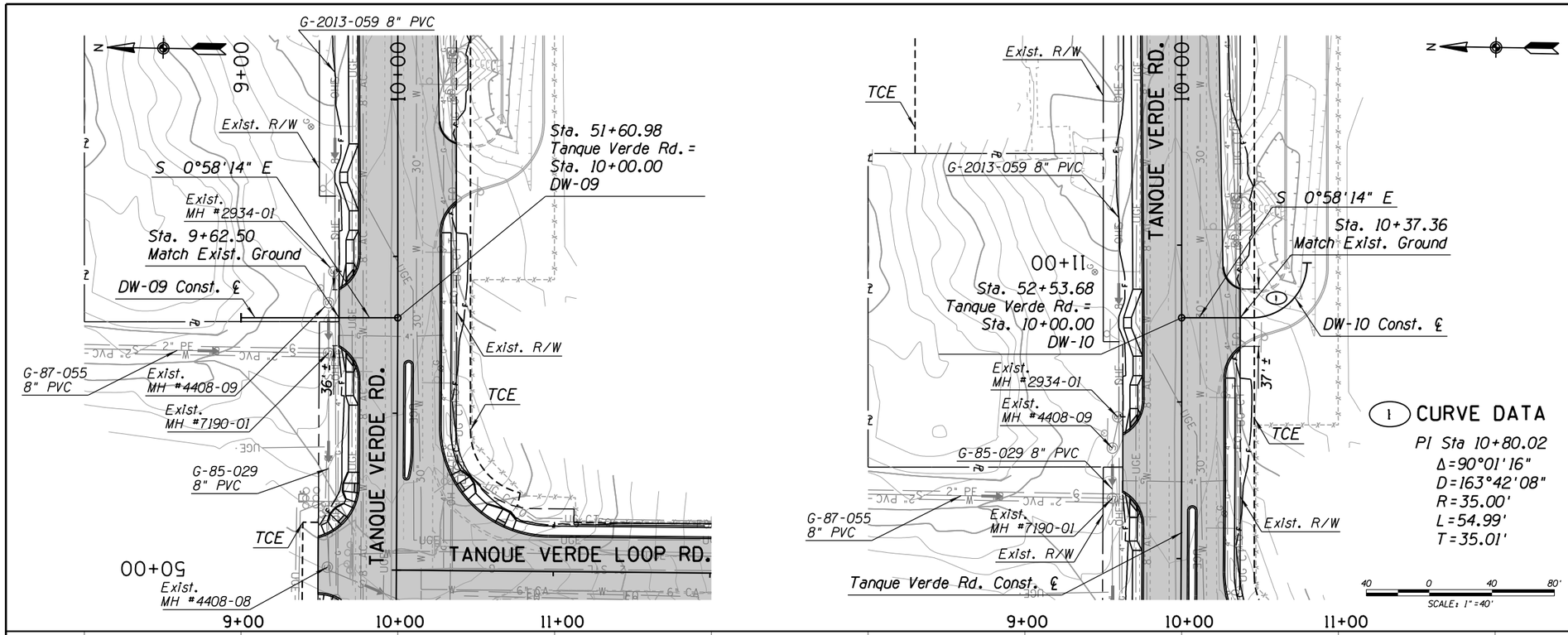
Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW04 of DW07 | Page 15 of 67

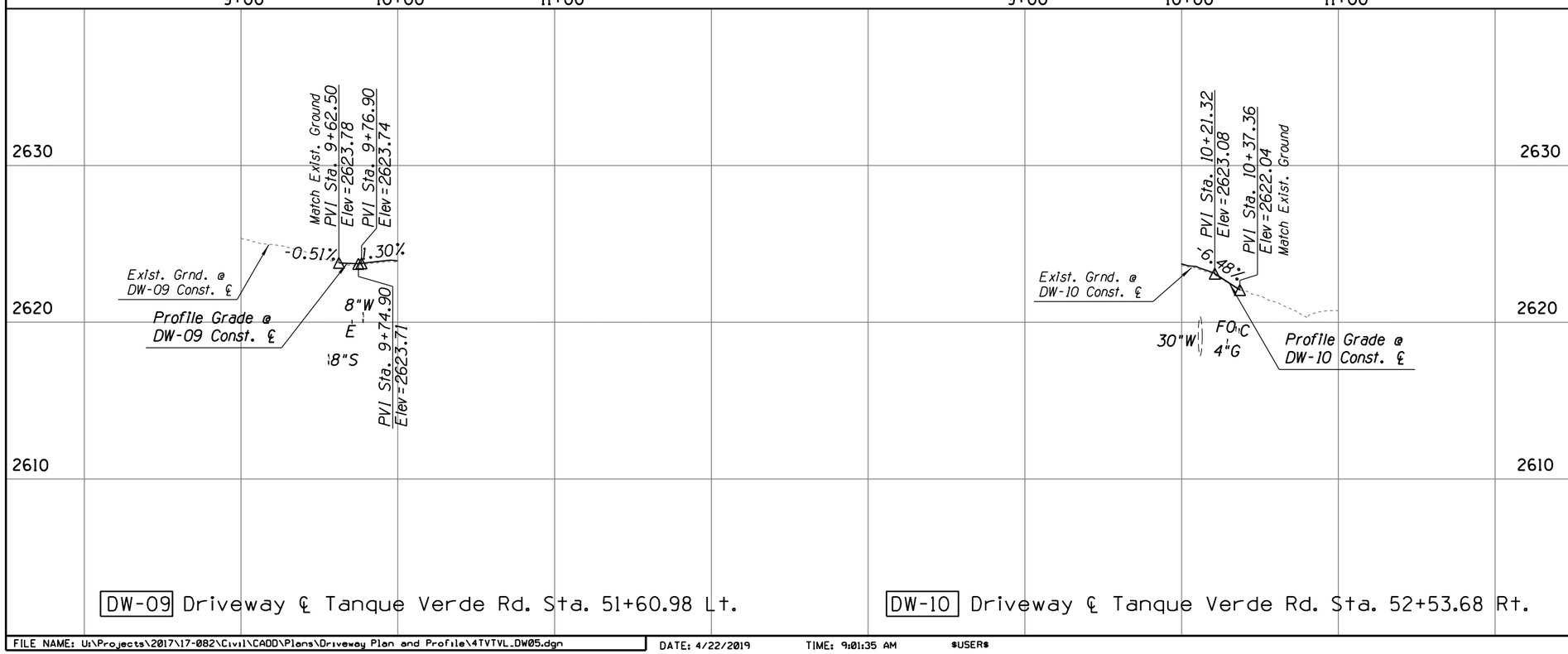
Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW04.dgn DATE: 1/18/2019 TIME: 5:07:36 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C





DW-09 Driveway ℄ Tanque Verde Rd. Sta. 51+60.98 Lt.

DW-10 Driveway ℄ Tanque Verde Rd. Sta. 52+53.68 Rt.

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 10/01/19 ARIZONA U.S.A. Expires 09/30/20

EPS GROUP

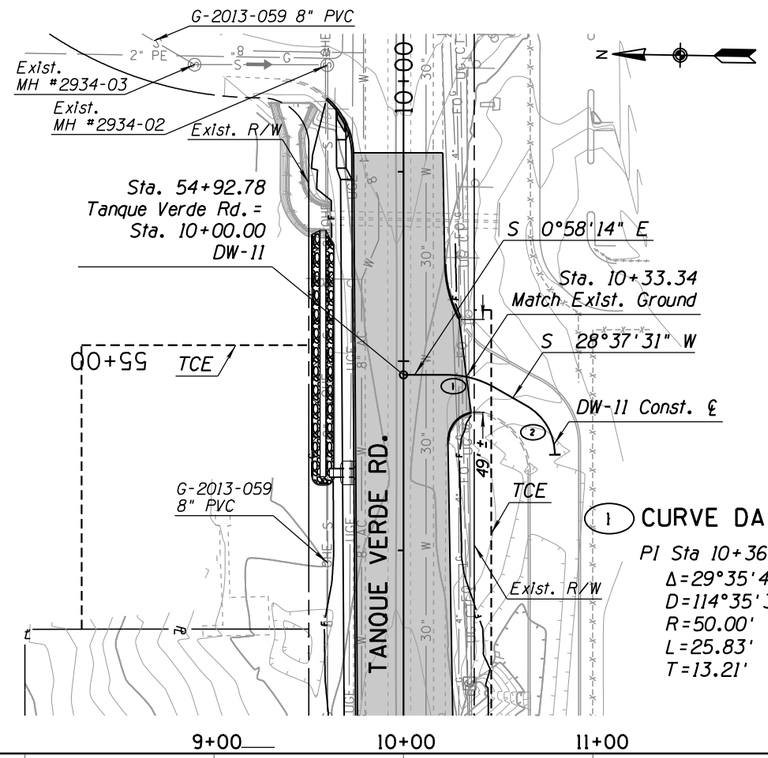
Pima County Department of Transportation

DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW05 of DW07 | Page 16 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW05.dgn DATE: 4/22/2019 TIME: 9:01:35 AM $USER$



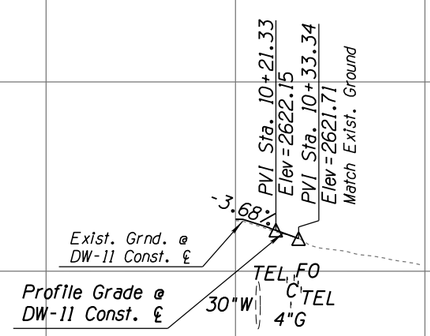
1 CURVE DATA

PI Sta 10+36.20
Δ=29°35'45"
D=114°35'30"
R=50.00'
L=25.83'
T=13.21'

2 CURVE DATA

PI Sta 10+85.86
Δ=60°13'58"
D=190°59'09"
R=30.00'
L=31.54'
T=17.40'

40 0 40 80'
SCALE: 1"=40'



DW-11 Driveway ℄ Tanque Verde Rd. Sta. 54+92.78 Rt.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) JAMES D. BEER 51394 Date Signed 07/18/19 ARIZONA U.S.A. Expires 09/30/19

EPS GROUP

Pima County Department of Transportation

DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE ROAD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW06 of DW07 | Page 17 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW06.dgn DATE: 1/18/2019 TIME: 5:07:40 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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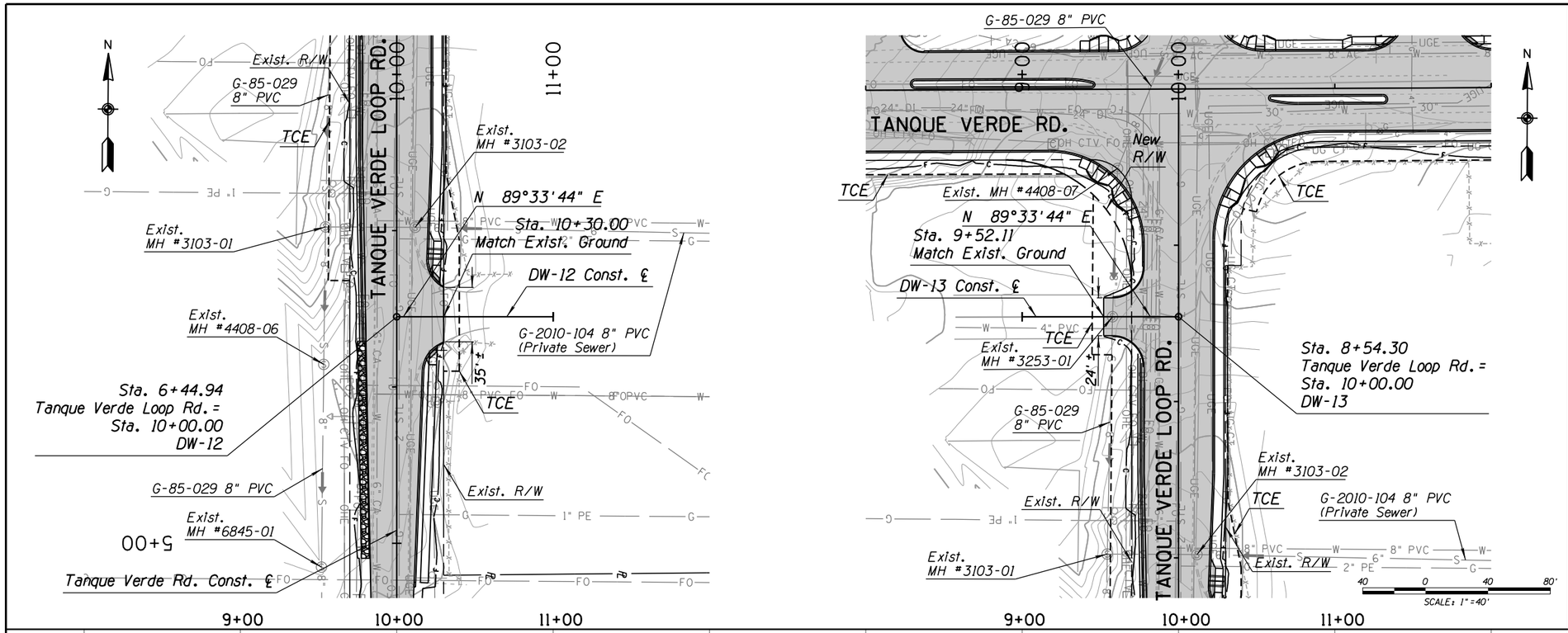
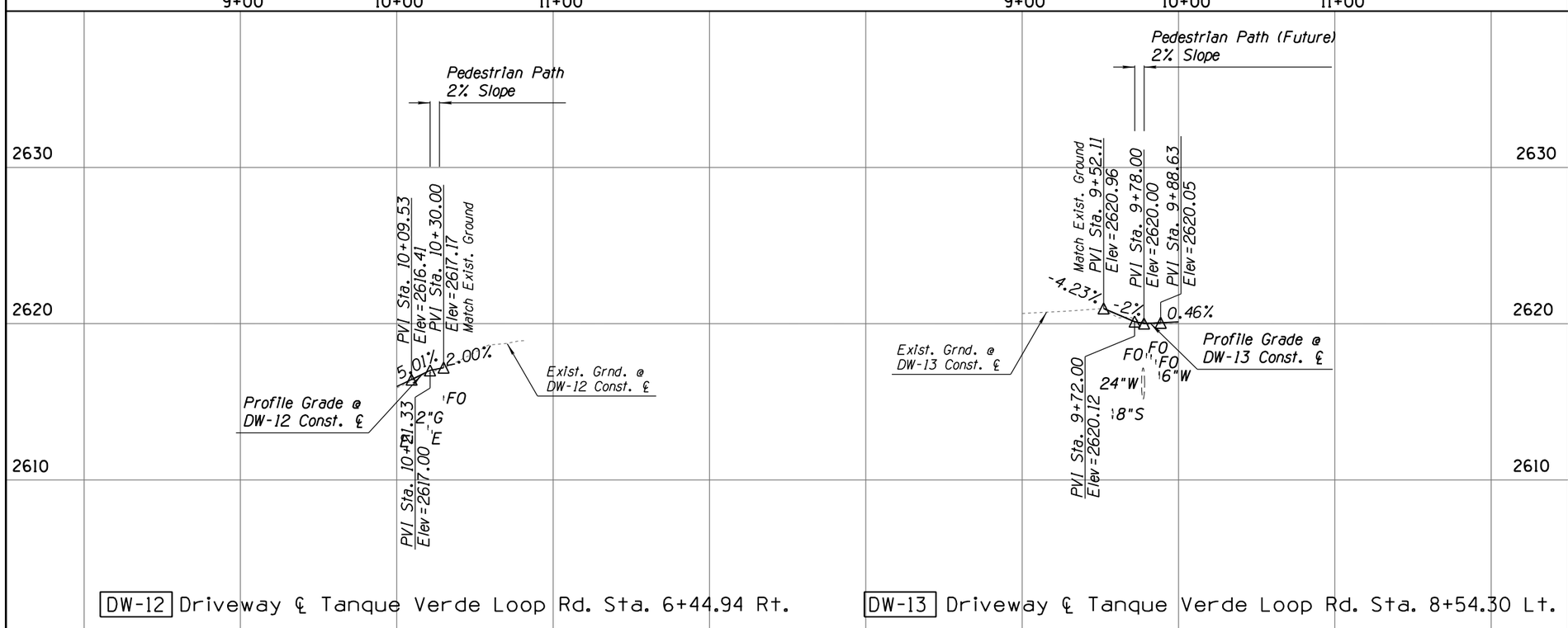
		0000PM PPM T0139 01C			





DW-12 Driveway ℄ Tanque Verde Loop Rd. Sta. 6+44.94 Rt.

DW-13 Driveway ℄ Tanque Verde Loop Rd. Sta. 8+54.30 Lt.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 37594 JAMES D. BEER Date Signed 07/18/19 ARIZONA U.S.A. Expires 09/30/19

EPS GROUP

Call at least two full working days before you begin excavation ARIZONA BLUE STAKE, INC. (602) 263-1100 Outside Maricopa County (800) 782-5348

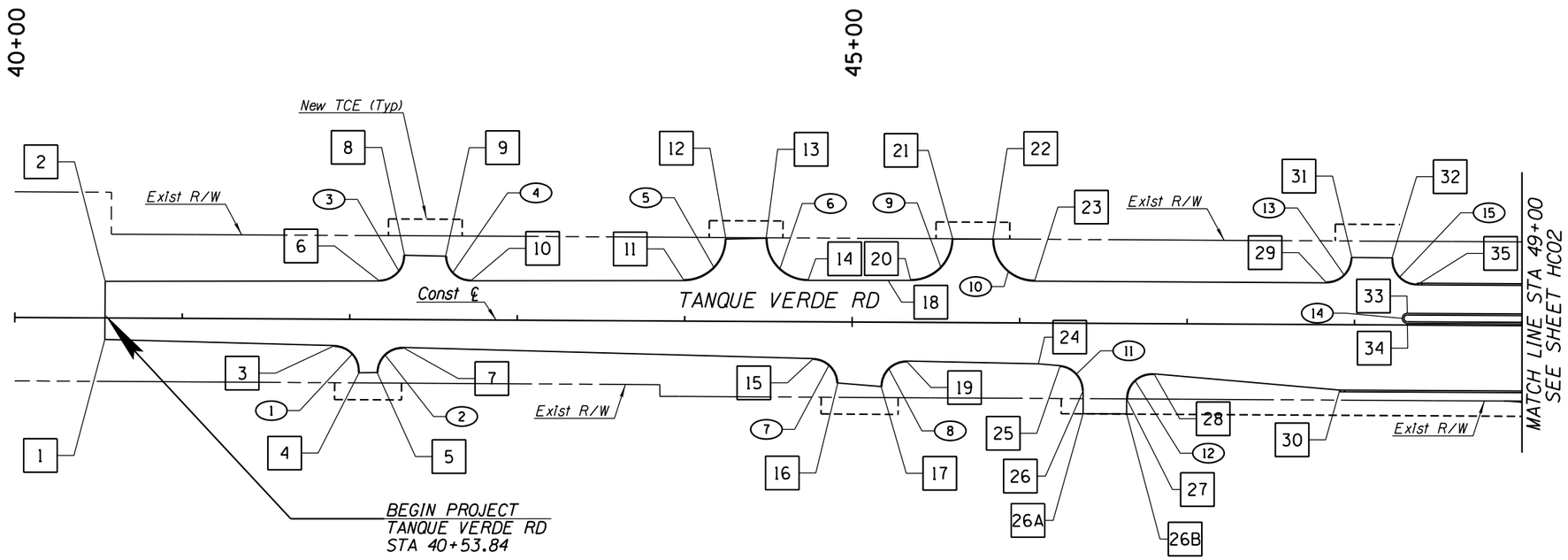
Pima County Department of Transportation

DRIVEWAY PLAN & PROFILE SHEET
TANQUE VERDE LOOP RD DRIVEWAYS
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DW07 of DW07 | Page 18 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Driveway Plan and Profile\4TVTVL_DW07.dgn DATE: 1/18/2019 TIME: 5:07:41 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

HORIZONTAL CONTROL POINT SUMMARY TABLE

#	Station	Offset	Description
1	40+53.84	12.88' Rt	PT
2	40+53.84	21.80' Lt	PT
3	41+91.13	15.82' RT	PC
4	42+05.77	31.88' RT	PT
5	42+16.49	31.78' RT	PC
6	42+17.62	22.92' LT	PC
7	42+31.81	16.69' RT	PT
8	42+32.51	38.37' LT	PT
9	42+57.07	37.95' LT	PC
10	42+72.17	23.29' LT	PT
11	43+99.54	24.17' LT	PC
12	44+24.36	49.04' LT	PT
13	44+48.36	49.67' LT	PC
14	44+73.53	24.67' LT	PT
15	44+76.94	21.94' RT	PC
16	44+91.57	36.48' RT	PT
17	45+17.48	38.44' RT	PC

HORIZONTAL CONTROL POINT SUMMARY TABLE

#	Station	Offset	Description
18	45+21.33	25.00 'LT	PI
19	45+32.70	23.17' LT	PT
20	45+34.85	25.00 'LT	PC
21	45+59.85	49.88 'LT	PT
22	45+83.75	50.00' LT	PC
23	46+08.75	25.00' LT	PT
24	46+11.41	24.33' RT	PI
25	46+24.38	25.39' RT	PC
26	46+38.16	40.35' RT	PT
26A	46+38.16	54.00' RT	PI
26B	46+64.18	54.00' RT	PI
27	46+64.18	44.90' RT	PC
28	46+80.40	29.95' RT	PT
29	47+83.20	25.00' LT	PC
30	47+91.41	39.00' RT	PI
31	47+98.20	40.11' LT	PT
32	48+22.18	40.11' LT	PC
33	48+31.53	7.00' LT	PT
34	48+31.53	1.00' LT	PT
35	48+37.17	24.00' LT	PT

HORIZONTAL CONTROL CURVE SUMMARY TABLE

#	Radius (ft)	Arc Length (ft)	Delta Angle	Tangent Length (ft)
1	15.00	24.31	92°50'20"	15.76
2	15.00	23.97	91°34'19"	15.42
3	15.00	23.91	91°19'45"	15.35
4	15.00	23.33	89°05'42"	14.76
5	25.00	38.98	89°19'33"	24.71
6	25.00	39.44	90°23'33"	25.17
7	15.00	22.75	86°54'14"	14.21
8	15.00	24.05	91°52'43"	15.50
9	25.00	39.15	89°43'05"	24.88
10	25.00	39.27	90°00'00"	25.00
11	15.00	22.35	85°21'34"	13.83
12	15.00	24.78	94°38'26"	16.27
13	15.00	23.67	90°24'09"	15.11
14	3.00	9.42	180°00'00"	-
15	15.00	23.64	90°16'55"	15.07

*Note: See Staking Sheets for Elevations Along New EOP. All Dimensions are to Edge of Pavement.

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Pima County Department of Transportation

EPS GROUP

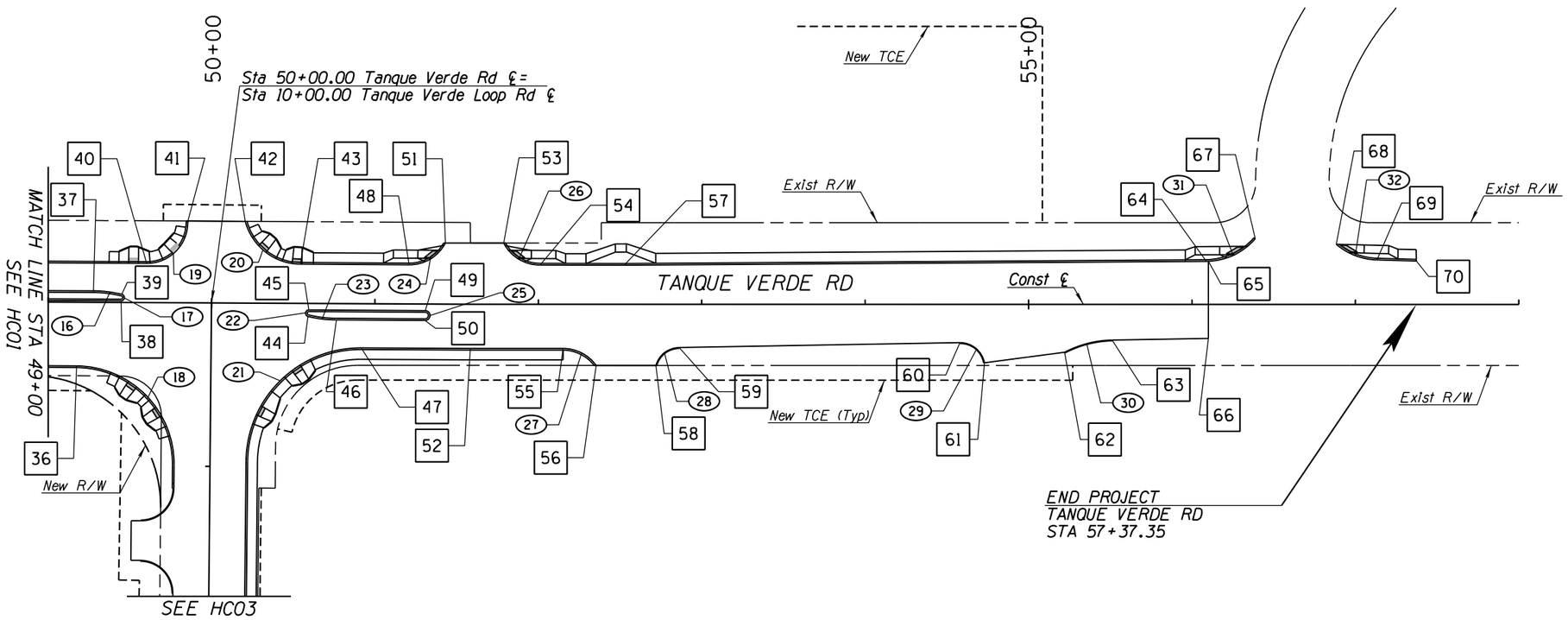
HORIZONTAL CONTROL PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet HC01 of HC03 | Page 19 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Horizontal Control\4TVTVL_HC01.dgn DATE: 1/18/2019 TIME: 5:08:47 PM $USER$



HORIZONTAL CONTROL POINT SUMMARY TABLE

▪	Station	Offset	Description
36	49+17.61	39.00' RT	PC
37	49+27.63	7.00' LT	PC
38	49+44.60	1.00' LT	PC
39	49+45.06	4.95' LT	PCC
40	49+60.19	24.00' LT	PC
41	49+85.19	50.00' LT	PT
42	50+20.40	50.00' LT	PC
43	50+54.23	24.00' LT	PT
44	50+59.06	7.95' RT	PCC
45	50+59.53	4.00' RT	PT
46	50+76.50	10.00' RT	PT
47	50+91.65	27.00' RT	PT
48	51+20.81	24.00' LT	PC
49	51+30.76	4.00' RT	PC
50	51+30.76	10.00' RT	PC
51	51+42.97	37.42 LT	PT
52	51+58.58	27.00' RT	PI

HORIZONTAL CONTROL POINT SUMMARY TABLE

▪	Station	Offset	Description
53	51+78.83	37.50' LT	PC
54	52+00.98	24.00' LT	PT
55	52+15.16	27.00' RT	PC
56	52+35.56	37.36' RT	PT
57	52+52.54	24.00' LT	PI
58	52+71.94	37.36' RT	PC
59	52+86.12	26.42' RT	PT
60	54+57.95	23.43' RT	PC
61	54+72.96	35.71' RT	PT
62	55+22.00	29.30' RT	PC
63	55+51.18	21.81' RT	PT
64	56+08.77	26.37' LT	PC
65	56+10.03	26.37' LT	PT
66	56+10.03	20.79' RT	PI
67	56+38.72	40.15' LT	PT
68	56+88.30	36.81' LT	PC
69	57+12.64	27.17' LT	PT
70	57+37.35	26.53' LT	PT

HORIZONTAL CONTROL CURVE SUMMARY TABLE

●	Radius (ft)	Arc Length (ft)	Delta Angle	Tangent Length (ft)
16	75.00	17.60	13°26'34"	8.84
17	2.00	5.81	166°33'26"	16.97
18	60.00	94.48	90°13'17"	60.23
19	25.00	39.17	89°46'43"	24.90
20	35.00	45.88	75°05'58"	26.90
21	70.00	109.71	89°47'54"	69.75
22	2.00	5.81	166°33'26"	16.97
23	75.00	17.60	13°26'34"	8.84
24	25.00	27.23	62°23'50"	15.14
25	3.00	9.42	180°00'00"	-
26	25.00	27.32	62°36'43"	15.20
27	25.00	23.63	54°08'44"	12.78
28	15.00	19.20	73°19'20"	11.16
29	15.00	21.09	80°34'34"	12.72
30	65.00	30.41	26°48'27"	15.49
31	40.00	33.99	48°40'51"	18.09
32	40.00	27.36	39°11'42"	14.24

*Note: See Staking Sheets for Elevations Along New EOP. All Dimensions are to Edge of Pavement.

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'
SCALE: 1" = 40'

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) No. 51304 JAMES D. BEIER Date Signed 8/30/18 ARIZONA, U.S.A. E-ARIZ.U.S. (96)

EPS GROUP

ARIZONA 811 Call at least two full working days before you begin excavation. (Arizona Law) (Mon-Fri 7:00AM-4:30PM) 1-800-STAKE-IT (782-5348) In Maricopa County (602) 263-1084

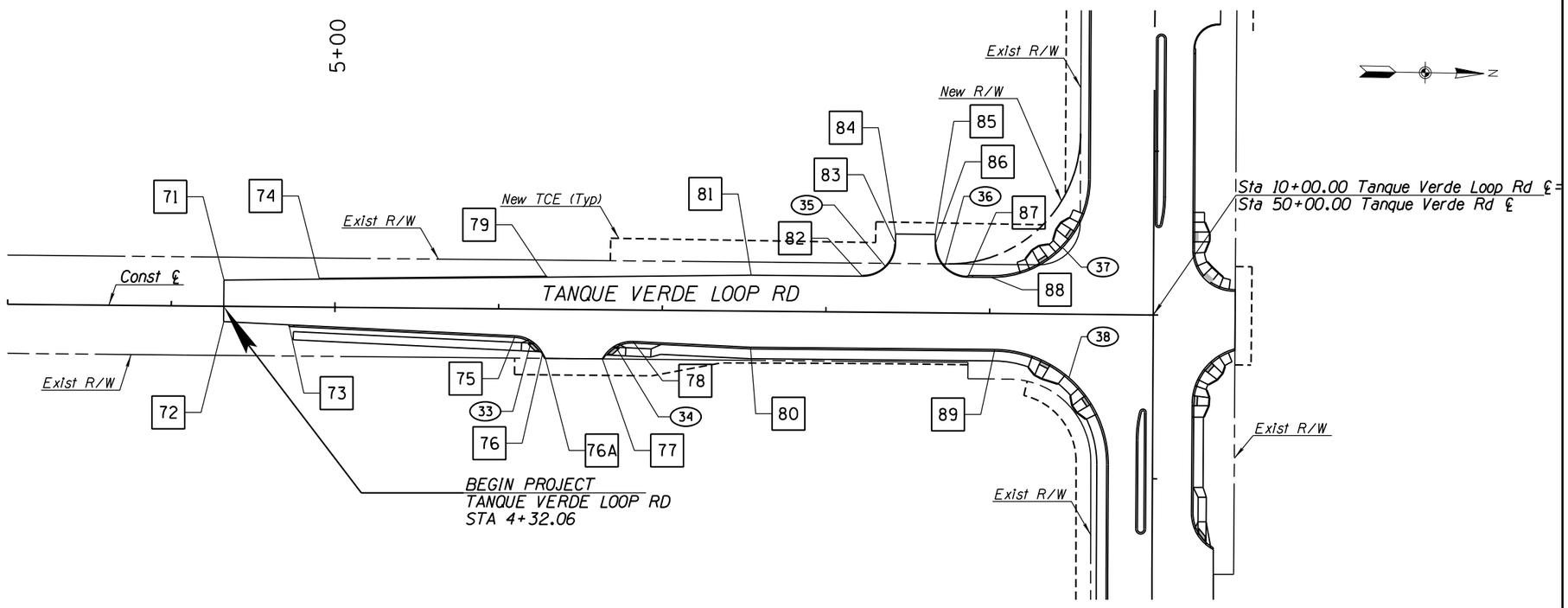
Pima County Department of Transportation

HORIZONTAL CONTROL PLAN
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet HC02 of HC03 | Page 20 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Horizontal Control\4TVTVL_HC02.dgn DATE: 4/22/2019 TIME: 10:27:09 AM $USER$



HORIZONTAL CONTROL POINT SUMMARY TABLE

#	Station	Offset	Description
71	4+32.07	15.94' LT	PT
72	4+32.04	9.39' RT	PT
73	4+72.04	10.96' RT	PI
74	4+90.36	17.04' LT	PI
75	6+10.35	16.37' RT	PC
76	6+27.15	26.83' RT	PT
76A	6+28.87	30.00' RT	PI
77	6+63.67	30.00' RT	PC
78	6+82.23	19.19' RT	PT
79	6+29.31	19.65' LT	PI
80	7+54.03	22.00' RT	PI
81	7+54.08	22.00' LT	PI
82	8+22.16	22.00' LT	PC
83	8+42.16	42.00' LT	PT
84	8+42.13	47.89' LT	PI
85	8+66.39	47.89' LT	PI
86	8+66.39	42.00' LT	PC
87	8+86.39	22.00' LT	PT
88	9+00.68	22.00' LT	PC
89	9+03.35	22.00' RT	PC

HORIZONTAL CONTROL CURVE SUMMARY TABLE

#	Radius (ft)	Arc Length (ft)	Delta Angle	Tangent Length (ft)
33	20.00	20.70	59°18'40"	11.39
34	20.00	22.67	64°56'30"	12.73
35	20.00	31.42	90°00'00"	20.00
36	20.00	31.42	90°00'00"	20.00
37	60.00	94.48	90°13'17"	60.23
38	70.00	109.71	89°47'54"	69.75

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

40' 0 40' 80'
SCALE: 1" = 40'

*Note: See Staking Sheets for Elevations Along New EOP. All Dimensions are to Edge of Pavement.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEEER 51304 Date Signed 07/30/19 ARIZONA, U.S.A. Expires 6/30/20

EPS GROUP

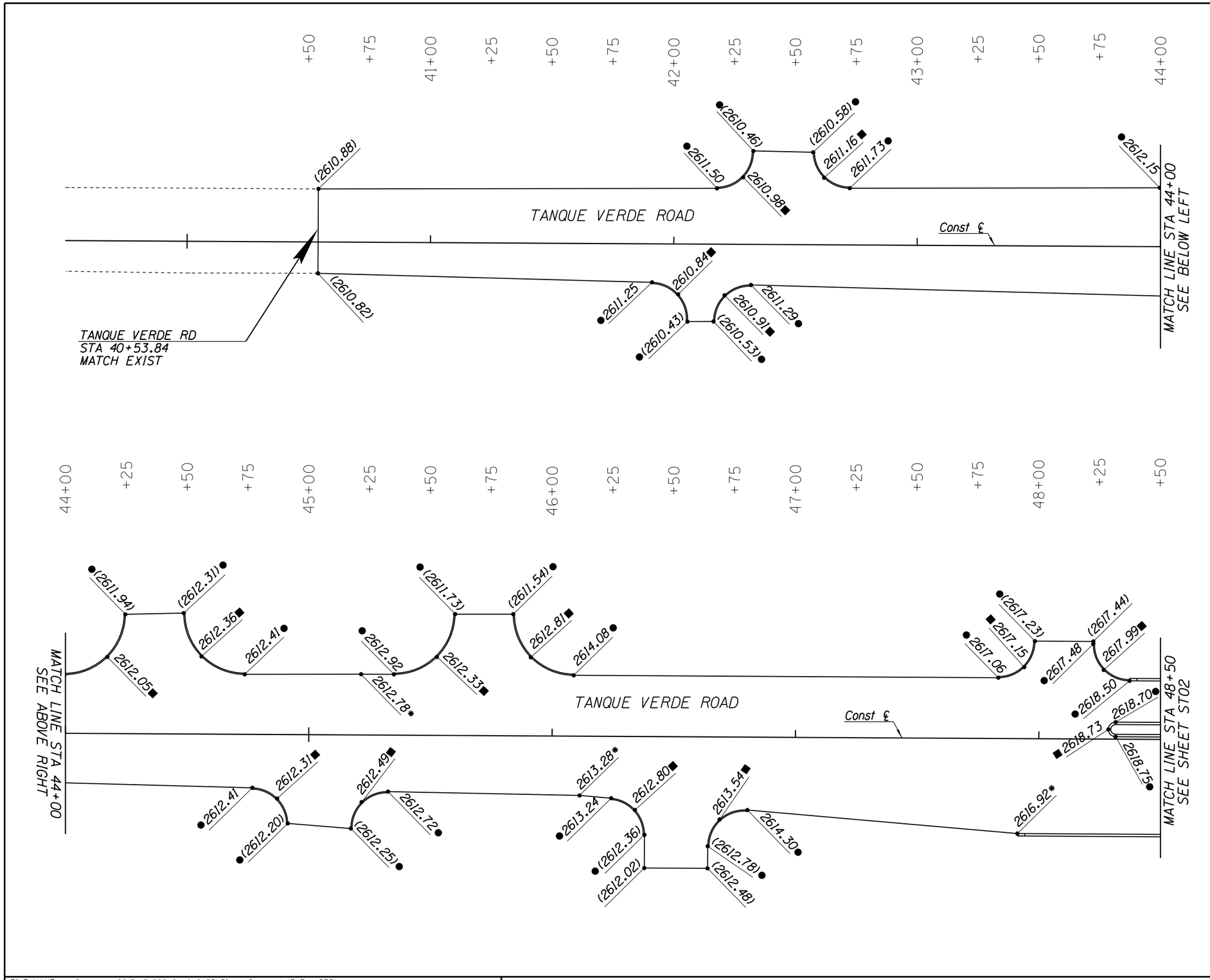
Pima County Department of Transportation

HORIZONTAL CONTROL PLAN
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet HC03 of HC03 | Page 21 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Horizontal Control\4TVTVL_HC03.dgn DATE: 1/18/2019 TIME: 5:08:49 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

20' 0 20' 40'

SCALE: 1" = 20'

NOTES:

(1) Elevations Denoted in Parentheses Refer to Existing Ground/Pavement.
(2) Elevations Shown are to Finished Grade of Edge of Pavement at Angle Breaks and PIs.
(3) Refer to Side Street Driveway Plan & Profile Sheets for Additional Grading Information.
(4) See Horizontal Control Sheets for Stations and Offsets of PCs, PTs, PIs, etc.

● Denotes PC, PT, BCR, or ECR.
■ Denotes Mid-Radius of Curve.
* Denotes Angle Point.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) Certificate No. 31304 JAMES D. BEER Date Signed 01/30/19 Expires 6/30/19 ARIZONA, U.S.A.

EPS GROUP

Pima County Department of Transportation

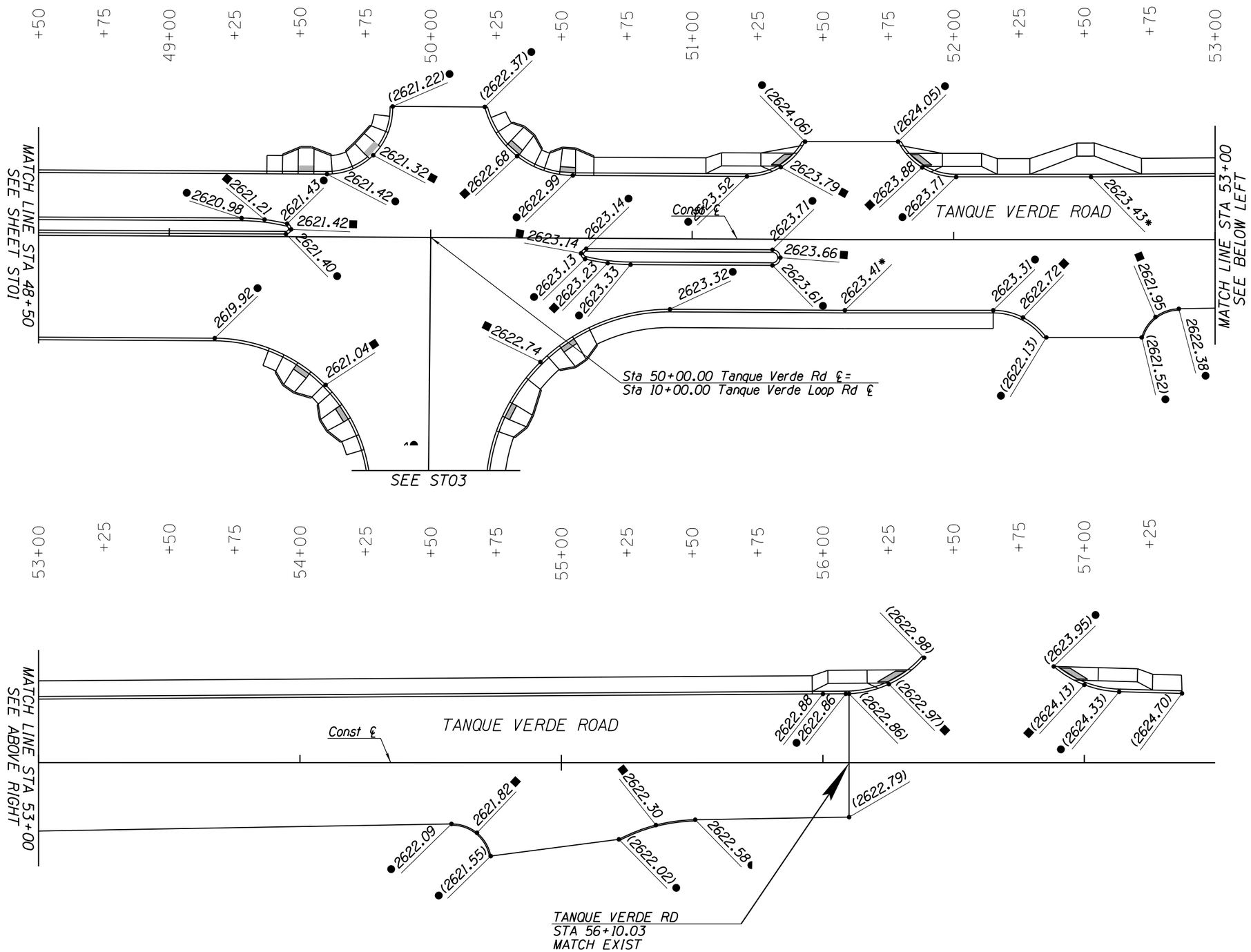
STAKING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 20' Horiz. | Sheet ST01 of ST03 | Page 22 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Staking\4TVTVL_ST01.dgn DATE: 1/21/2019 TIME: 11:17:13 AM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

20' 0 20' 40'

SCALE: 1" = 20'

NOTES:

(1) Elevations Denoted In Parentheses Refer to Existing Ground/Pavement.
(2) Elevations Shown are to Finished Grade of Edge of Pavement at Angle Breaks and PIs.
(3) Refer to Side Street Driveway Plan & Profile Sheets for Additional Grading Information.
(4) See Horizontal Control Sheets for Stations and Offsets of PCs, PTs, PIs, etc.

● Denotes PC, PT, BCR, or ECR.
■ Denotes Mid-Radius of Curve.
* Denotes Angle Point.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 8/30/18 ARIZONA, U.S.A. EXPIRES 6/30/19

EPS GROUP

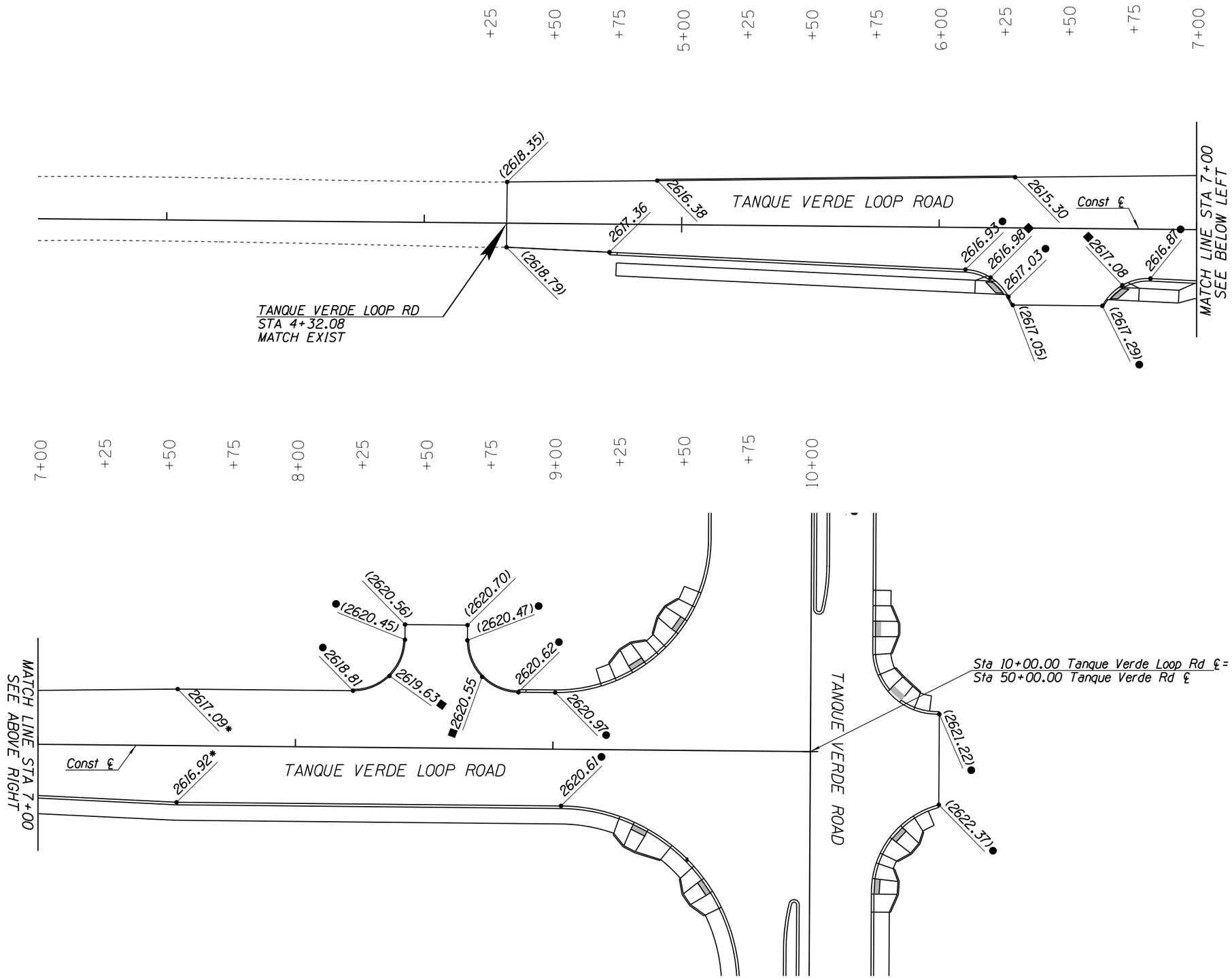
Pima County Department of Transportation

STAKING PLAN
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 20' Horiz. | Sheet ST02 of ST03 | Page 23 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Staking\4TVTVL_ST02.dgn DATE: 4/22/2019 TIME: 10:29:25 AM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

(1) Elevations Denoted In Parentheses Refer to Existing Ground/Pavement.
(2) Elevations Shown are to Finished Grade of Edge of Pavement at Angle Breaks and PIs.
(3) Refer to Side Street Driveway Plan & Profile Sheets for Additional Grading Information.
(4) See Horizontal Control Sheets for Stations and Offsets of PCs, PTs, PIs, etc.

● Denotes PC, PT, BCR, or ECR.
■ Denotes Mid-Radius of Curve.
* Denotes Angle Point.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 10/19/18 ARIZONA EXPIRES 6/30/19

EPS GROUP

Call at least two full working days before you dig in Arizona 1-800-STAKE-IT (Outside Maricopa County (602) 263-1100)

Pima County Department of Transportation

STAKING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 20' Horiz. | Sheet ST03 of ST03 | Page 24 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\Staking\4TVTVL_ST03.dgn DATE: 1/21/2019 TIME: 11:17:14 AM $USER$

Demolition General Notes:

1. See Signing Plans for removal of Signs and Delineators and associated features.

2. Item #2020029 covers removal of pavement outside of the existing edge lines.

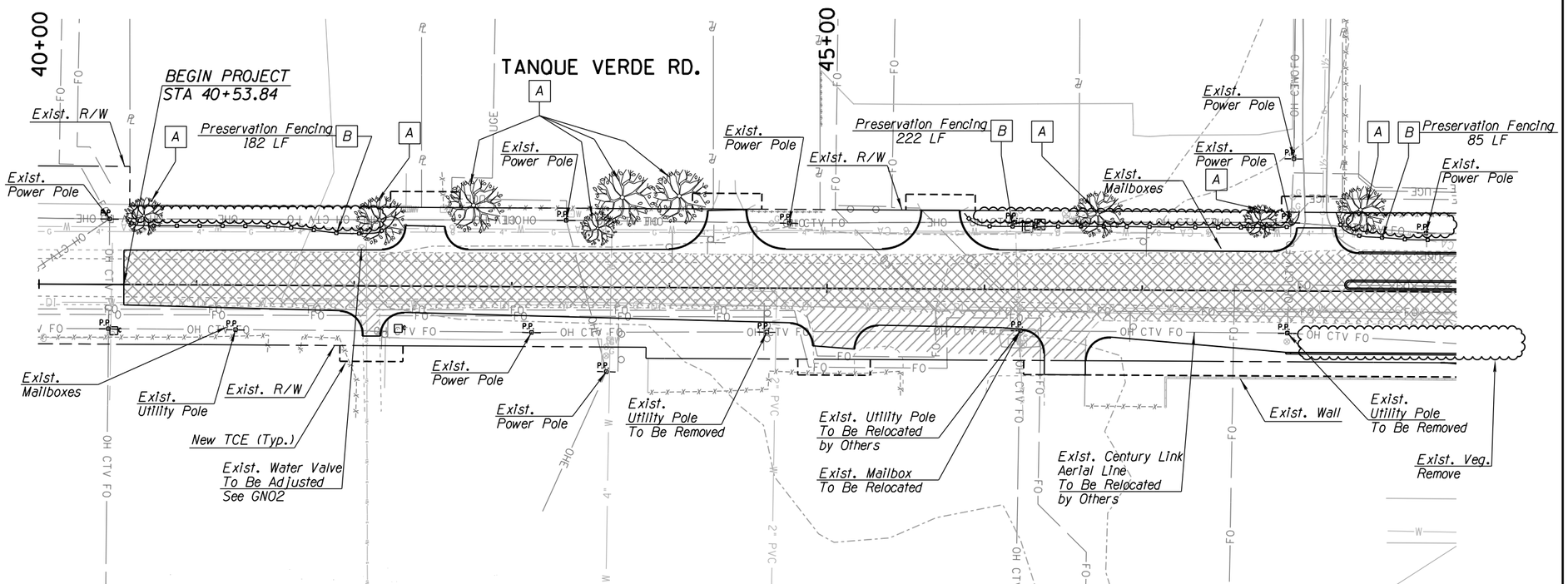
3. Item #2020030 covers the pavement to be removed by 1" milling.

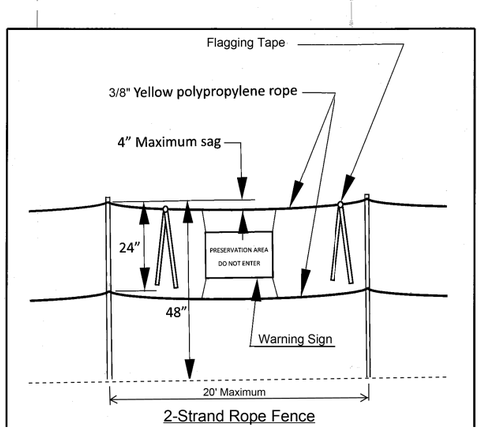
4. Item #2020001 (Removal of Structures and Obstructions) covers removal of all obstructions not covered by a dedicated removal item, and includes but is not limited to removal of; Rip-Rap, Concrete Header, Concrete Curb, Concrete Sidewalk, Access Ramps, Misc Concrete, Culverts/Storm Drain and associated drainage features, Signs & Delineators, and Fence/Walls. This item includes the work associated with relocating signs.

5. Roadway construction to impact existing landscape within Existing or New R/W and/or construction and drainage easements. Contractor shall coordinate the capping of irrigation to plants that will be removed and coordinate with the adjacent owner to ensure irrigation remains active to existing plantings to remain.

6. Preservation Fencing is for existing landscape and vegetation within and adjacent to the project that is to be preserved.

7. Contractor is responsible for the preservation of existing plant material according to Section 201-3.02. Overhanging branches from plants to be preserved that may be obstructing construction shall be removed according to Special Provision 201-3.05.





2-Strand Rope Fence

NOTES:

1. POSTS TO BE EITHER HARDWOOD STAKES OR METAL T-POSTS SIX FEET (6') LONG MINIMUM WITH A MINIMUM EMBEDMENT OF 2-FEET INTO THE GROUND.
2. ROPE TO BE ATTACHED TO FENCE POSTS USING PLASTIC OR WIRE TIES.
3. WARNING SIGN SHALL BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERING TO BE TIMES NEW ROMAN OR AERIAL FONT, RED IN COLOR, MINIMUM OF 1" IN HEIGHT, SECURELY ATTACHED IN THE UPPER HALF OF THE FENCE, AND PLACED AT 50-FOOT MAXIMUM INTERVALS.
4. FLAGGING TAPE SHALL BE 1-3/16 INCH, 4-MIL THICKNESS, NO-ADHESSIVE VINYL, FLUORESCENT SOLID COLOR, AND ATTACHED TO THE TOP ROPE ON BOTH SIDES OF THE WARNING SIGN.
5. CONSTRUCTION FENCE (PC STD DTL 12') MAY BE USED IN LIEU OF PRESERVATION WHEN DIRECTED BY THE ENGINEER OR SPECIFIED ON THE PROJECT PLANS.

ISSUED:	STANDARD DETAIL	DETAIL NO.
12/16	Preservation Fence (Type A)	120
REVISED:		SHEET 1 of 1

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

NOTES

A. Existing vegetation with overhanging branches that may impact contruction. Prune in accordance with Special Provision 201-3.05 and Item #8061700

B. Preservation Fencing- Item #2010004

LEGEND

Removal of Pavement By Milling

Removal of Bituminous Pavement

Existing Tree

Existing Vegetation

Preservation Fencing Bid Item 2010004

Ana M. Olivares, P.E., Director

Designed	JOB	7/2018
Drawn	EHR/ES	7/2018
Checked	JOS	7/2018
Proj. Engr.	JOB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 01/09/19 ARIZONA, U.S.A. Expires 09/30/19

EPS GROUP

ARIZONA 811 Call at least two full working days before you dig in Arizona. 1-800-STAKE-IT (782-5348) In Maricopa County (602) 263-1100

Pima County Department of Transportation

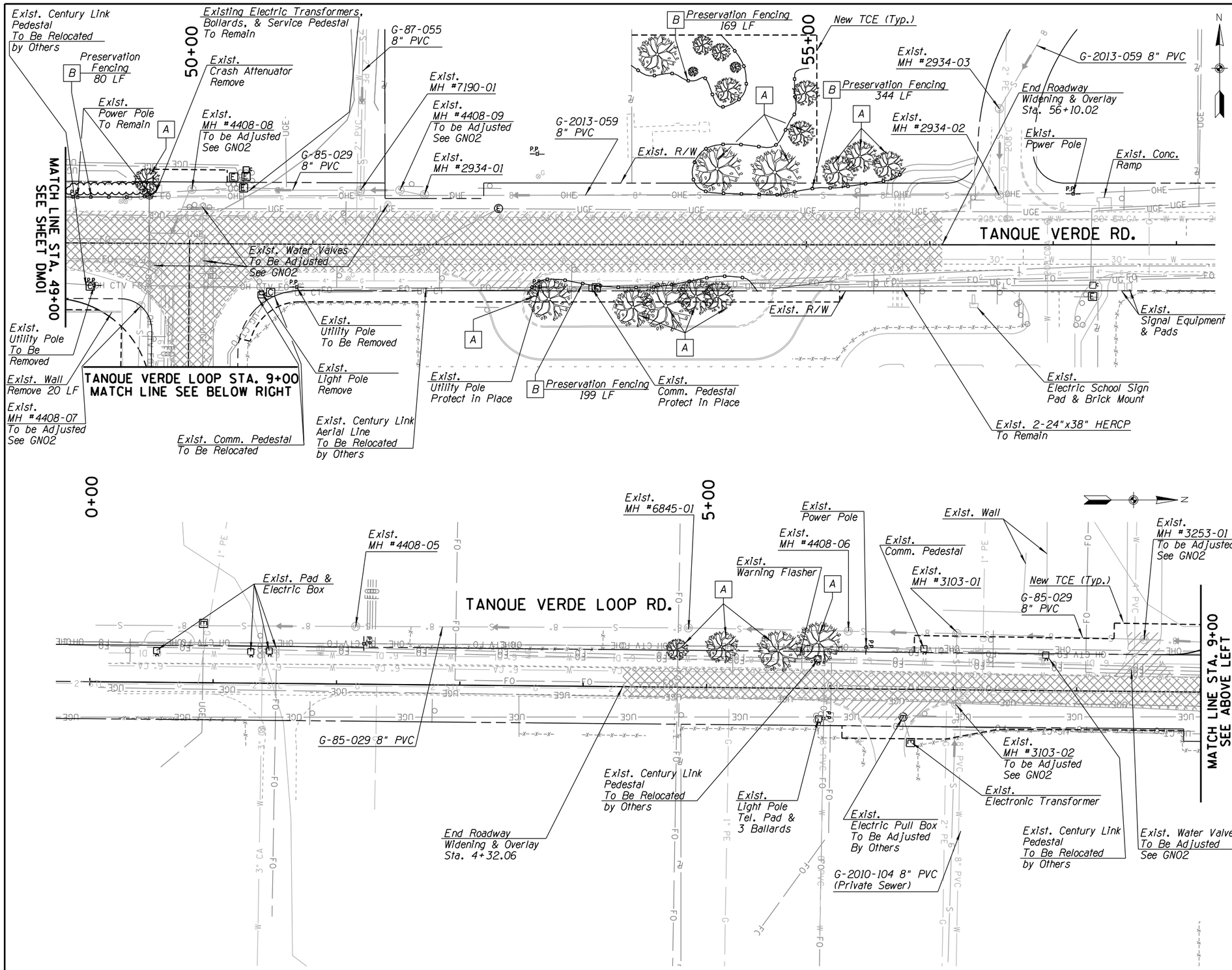
DEMOLITION PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DM01 of DM02 | Page 25 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\5.Existing Conditions and Removals\4TVTVL_RM01.dgn DATE: 1/21/2019 TIME: 3:07:23 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
0000PM PPM T0139 01C					

40' 0 40' 80'
SCALE: 1" = 40'

NOTES

A. Existing vegetation with overhanging branches that may impact contruction. Prune in accordance with Special Provision 201-3.05 and Item #8061700

B. Preservation Fencing- Item #2010004

LEGEND

- Removal of Pavement By Milling
- Removal of Bituminous Pavement
- Existing Tree
- Existing Vegetation
- Preservation Fencing Bid Item 2010004

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Professional Engineer (Civil) CERTIFICATE NO. 57304 JAMES D. BEEER Date Signed 8/20/19 ARIZONA, U.S.A. Expires 6/30/20

EPS GROUP

Pima County Department of Transportation

DEMOLITION PLAN
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet DM02 of DM02 | Page 26 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\5. Existing Conditions and Removals\4TVTVL_RM02.dgn DATE: 4/22/2019 TIME: 9:22:45 AM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

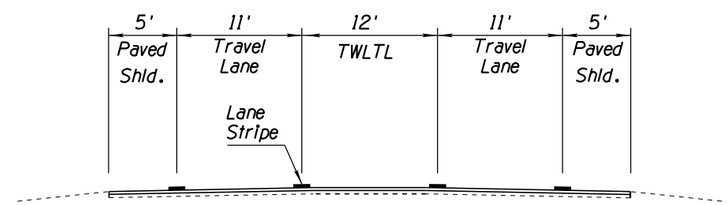
PAVEMENT MARKING GENERAL NOTES

1. ALL EQUIPMENT/MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA Association (PAG) STANDARD SPECIFICATIONS AND THE STANDARD DETAILS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS AND THE APPROVED PLANS. ALL PAVEMENT MARKING SHALL BE INSTALLED IN ACCORDANCE WITH THE PC/COT PAVEMENT MARKING DESIGN MANUAL AND APPLICABLE AMENDMENTS.
2. THE STRIPING CONTRACTOR SHALL CONTACT THE PIMA COUNTY TRAFFIC ENGINEER AT LEAST THREE WORKING DAYS IN ADVANCE OF ANY PAVEMENT MARKING LAYOUT BEING INSTALLED TO SCHEDULE INSPECTION AND APPROVAL OF PAVEMENT MARKINGS DURING NORMAL BUSINESS HOURS MONDAY THROUGH FRIDAY, STATE HOLIDAYS EXCLUDED.
3. UPON APPROVAL OF THE PAVEMENT MARKING LAYOUT, THE PIMA COUNTY TRAFFIC ENGINEER WILL ISSUE WRITTEN AUTHORIZATION TO THE CONTRACTOR TO PROCEED WITH INSTALLING ALL PAVEMENT MARKINGS AND ASSOCIATED REFLECTIVE RAISED PAVEMENT MARKERS.
4. THE PERMANENT PAVEMENT MARKINGS MAY BE MODIFIED AS DIRECTED AND APPROVED BY THE TRAFFIC ENGINEER OR THEIR DESIGNEE.
5. THE DESIGN SPEED FOR TANQUE VERDE ROAD IS 45 M.P.H. THE POSTED SPEED LIMIT IS 45 M.P.H. THE DESIGN SPEED ON TANQUE VERDE LOOP ROAD IS 40 M.P.H. THE POSTED SPEED LIMIT IS 35 M.P.H. THE DESIGN VEHICLE IS WB-62 AND PASSENGER CAR.
6. ALL LANE DIMENSIONS ARE MEASURED FROM THE CENTER OF LANE LINE, CENTER OF DOUBLE LANE LINE, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.
7. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, APPLICABLE MARKING DETAILS, AND SPECIFIED PIMA COUNTY STANDARDS WHEN INSTALLING PAVEMENT STRIPING, SYMBOLS, LEGENDS AND MARKERS.
8. PAINTED LAYOUT STRIPING SHALL BE 15 MILS (0.015") THICK, WATER BASED PAINT PLACED ON THE FINAL PAVEMENT SURFACE WITH 8 POUNDS PER GALLON OF AASHTO M 247-13 TYPE I GLASS BEADS WITH ADHESION/MOISTURE PROOF COATING. PAINTED LAYOUT STRIPING SHALL BE INSTALLED WITHIN FIVE WORKING DAYS OF THE FINAL PAVEMENT SURFACE BEING COMPLETED.
9. PAINTED SYMBOLS AND LEGENDS SHALL BE APPLIED AT THE SAME TIME AS PAINTED LAYOUT STRIPING, WITH THE EXCEPTION OF BIKE LANE SYMBOLS AND WORDS (SUCH AS STOP, AHEAD, ONLY ETC.).
10. THE FINAL LONGITUDINAL STRIPING SHALL BE 90 MIL (0.090") RIBBON EXTRUDED THERMOPLASTIC REFLECTORIZED STRIPING PLACED OVER THE PAINTED LAYOUT STRIPING WITH A SINGLE DROP OF 10 POUNDS PER 100 SQUARE FEET OF AASHTO M 247-13 TYPE I GLASS BEADS. THE FINAL LONGITUDINAL STRIPING SHALL BE PLACED WITHIN 21 TO 30 CALENDAR DAYS OF THE FINAL PAVEMENT SURFACE BEING COMPLETED. ALL PREVIOUSLY EXEMPTED LONG-LINE MARKINGS SHALL BE APPLIED DURING THE FINAL LONGITUDINAL STRIPING.
11. ALL FINAL TRANSVERSE STRIPING, INCLUDING SYMBOLS AND LEGENDS, SHALL BE 90 MIL (0.090") ALKYD HAND CART EXTRUDED THERMOPLASTIC WITH 10 POUNDS PER 100 SQUARE FEET OF AASHTO M 247-13 TYPE I GLASS BEADS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LAYOUT AND INSTALLATION OF PAVEMENT MARKINGS ON THE FINAL SURFACE COURSE.
13. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE FINAL SURFACE COURSE IS PLACED SO THAT THE CONSTRUCTION JOINT IS NO MORE THAN ONE FOOT OFFSET FROM THE FINAL STRIPING.
14. ALL RETROREFLECTIVE RAISED PAVEMENT MARKERS (RPMs) SHALL BE INSTALLED SO THAT THE REFLECTIVE FACE OF EACH MARKER IS FACING THE DIRECTION OF TRAFFIC AND IS PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW. TYPE C OR G PAVEMENT MARKERS SHALL BE INSTALLED SO THAT THE CLEAR (OR WHITE) REFLECTIVE FACE OF EACH MARKER IS FACING APPROACHING TRAFFIC AND PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW TO WHICH IT APPLIES.
15. ALL RETROREFLECTIVE RAISED PAVEMENT MARKERS (RRPMs or RPMs) SHALL BE INSTALLED PER THE CURRENT EDITION OF THE PC/COT PAVEMENT MARKING MANUAL AND APPLICABLE AMENDMENTS.
16. ALL REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH SECTION 701 OF THE PAG STANDARD SPECIFICATIONS. PAINTING OVER EXISTING STRIPING DOES NOT CONSTITUTE APPROVED STRIPING OBLITERATION.
17. FOR PRIVATE DEVELOPMENT PROJECTS, THE DESIGN CONSULTANT/PROJECT MANAGER SHALL BE REQUIRED TO PRODUCE AS-BUILT STRIPING PLANS WITHIN 90 DAYS OF STRIPING COMPLETION.
18. UNLESS OTHERWISE NOTED, ALL PAVEMENT MARKINGS SHALL BE INSTALLED BY THE CONTRACTOR.
19. UPON FINAL INSPECTION A WRITTEN ACCEPTANCE OR ITEMIZED PUNCHLIST OF MISSING OR UNACCEPTABLE PAVEMENT MARKINGS SHALL BE SUBMITTED TO THE CONTRACTOR AND THE PIMA COUNTY BY THE TRAFFIC ENGINEER OR DESIGNATED REPRESENTATIVE.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL STRIPING UNTIL THE PROJECT IS APPROVED FOR "CONSTRUCTION ACCEPTANCE" BY PIMA COUNTY (FULLY OPEN TO TRAFFIC, ALL PUNCHLIST ITEMS COMPLETED, AND THE ONE YEAR MINIMUM WARRANTY BEGIN). IF THE PAVEMENT MARKING MATERIAL MANUFACTURER OFFERS A LONGER WARRANTY THE CONTRACTOR SHALL TRANSFER THAT WARRANTY TO PIMA COUNTY.
21. THE PC/COT PAVEMENT MARKING MANUAL IS AVAILABLE ONLINE.

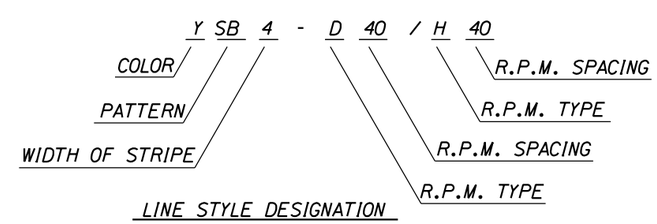
APPROXIMATE PAVEMENT MARKING QUANTITIES

ITEM	BID #	UNIT	TOTAL QUANTITIES
PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC) (0.090")	7040005	L.F.	6,668
PAVEMENT MARKING (YELLOW EXTRUDED THERMOPLASTIC) (0.090")	7040006	L.F.	5,201
PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC) SINGLE ARROW (0.090")	7040032	EACH	8
PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC) (ONLY) (0.090")	7040062	EACH	3
PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC) (TRANSVERSE) (0.090")	7040130	L.F.	1,926
PAVEMENT MARKING (YELLOW EXTRUDED THERMOPLASTIC) (TRANSVERSE) (0.090")	7040140	L.F.	135
PAVEMENT LEGEND, PREFORMED, TYPE I, BIKE LANE LEGEND AND SYMBOL	7050080	EACH	2
PAVEMENT MARKER, REFLECTIVE, (TYPE C, CLEAR, RED)	7060020	EACH	19
PAVEMENT MARKER, REFLECTIVE, (TYPE D, YELLOW, TWO-WAY)	7060025	EACH	71
PAVEMENT MARKER, REFLECTIVE, (TYPE H, YELLOW, ONE-WAY)	7060035	EACH	48
PAVEMENT MARKING PAINTED	7080001	L.F.	13,929
PAINTED PAVEMENT SYMBOL OR LEGEND	7080010	EACH	11
PAINT BULL NOSE	7080301	EACH	4

ALL PAVEMENT MARKING LENGTHS ARE 4" EQUIVALENT QUANTITIES



TANQUE VERDE ROAD TYPICAL PAVEMENT MARKING SECTION



LINE STYLE DESIGNATION

SEE PIMA COUNTY AND CITY OF TUCSON (PC/COT) PAVEMENT MARKING DESIGN MANUAL FOR FURTHER DESCRIPTIONS.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) — CERTIFICATE NO. 51304 — JAMES D. BEIER — Date Signed 01/18/19 — ARIZONA U.S.A. — Expires 6/30/20

EPS GROUP

Call at least two full working days before you dig in Arizona. ARIZONA 811 BLUE STAKE, INC. Call 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County (602) 263-1100

Pima County Department of Transportation

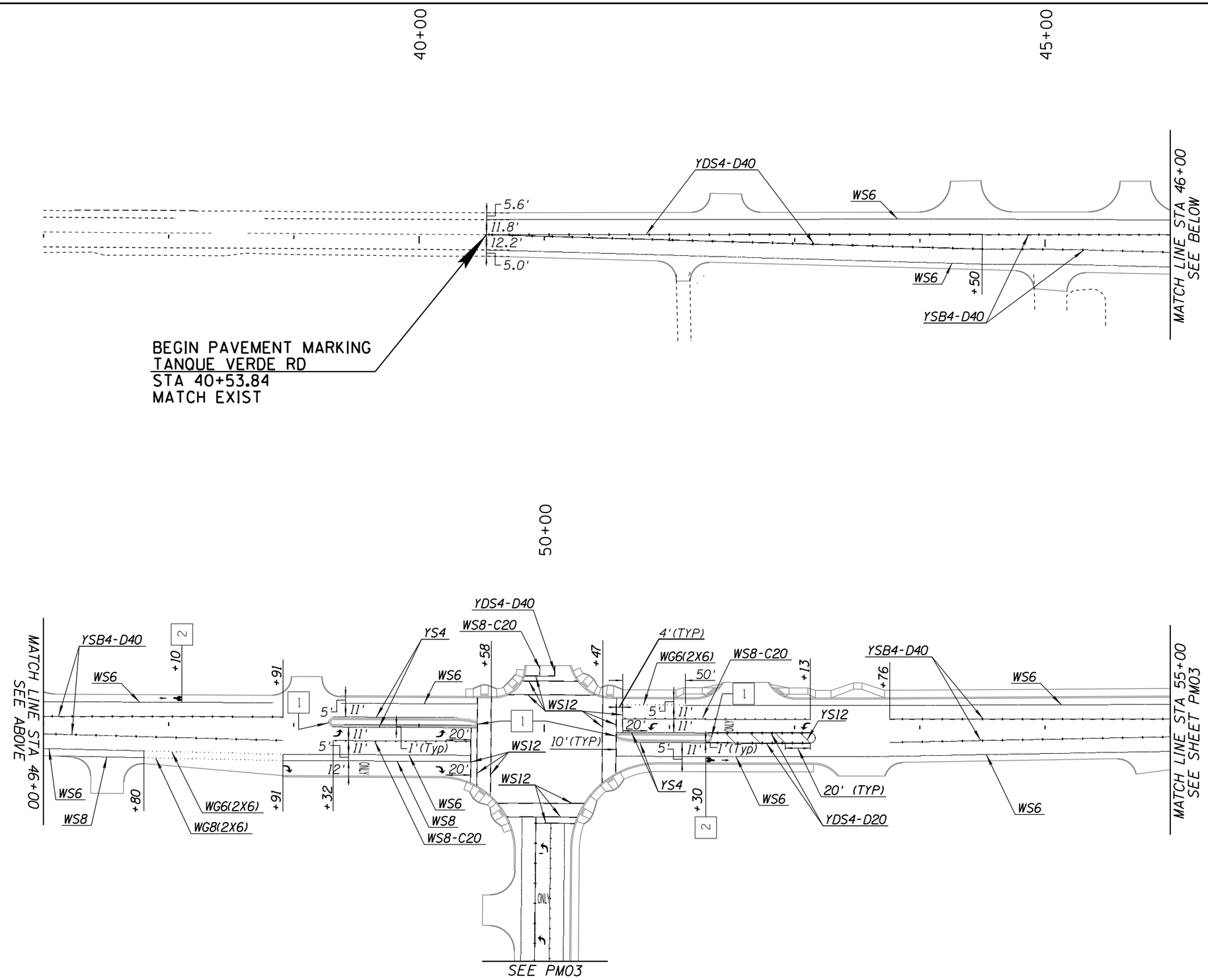
PAVEMENT MARKING GENERAL NOTES

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: | Sheet PM01 of PM03 | Page 27 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\4TVTVL_PM01.dgn DATE: 1/18/2019 TIME: 4:52:35 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

Notes:

1. Paint Bull Noses per ADOT Std. Dtl. M-1 and Install Type H RPMs per PCDOT/TDOT Pavement Marking Design Manual, Sheets 5-13.
2. Bike Lane Lengend and Symbol per PCDOT/TDOT Pavement Marking Design Manual, Sheet 2-9.1.

FH Existing Fire Hydrant

■ Blue Raised Pavement Marker for Fire Hydrants PC/COT Pavement Marking Design Manual Sht. 7-1.

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 8/20/2019 ARIZONA, U.S.A. Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

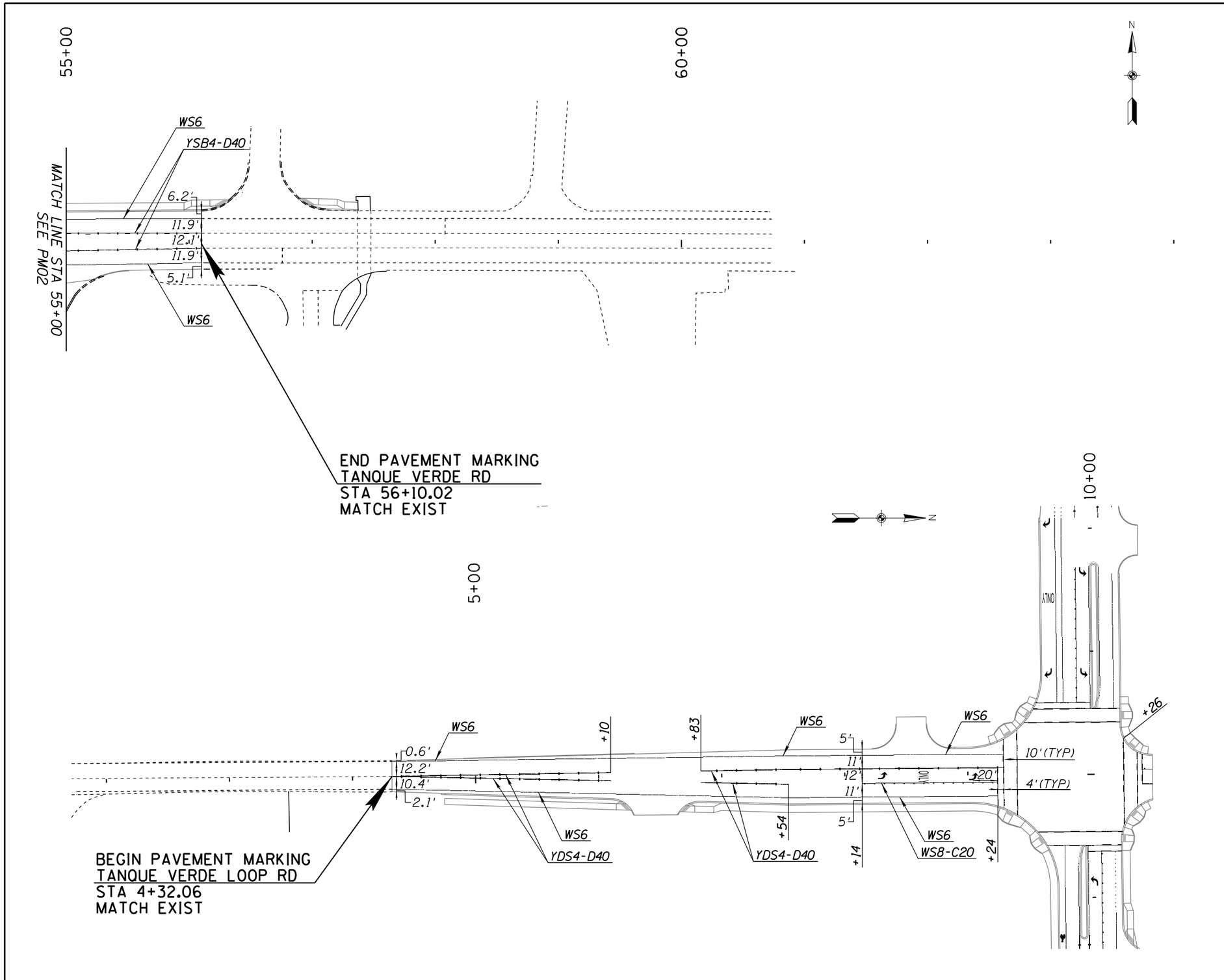
PAVEMENT MARKING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet PM02 of PM03 | Page 28 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\4TVTVL_PM02.dgn DATE: 4/22/2019 TIME: 10:30:37 AM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

40' 0 40' 80'
SCALE: 1" = 40'

FH Existing Fire Hydrant

■ Blue Raised Pavement Marker for Fire Hydrants PC/COT Pavement Marking Design Manual Sht. 7-1.

Scale: 1" = 40' Horiz. | Sheet PM03 of PM03

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEEER 51304 Date Signed 01/30/19 Expires 4/17/2019

EPS GROUP

ARIZONA 811 Call at least two full working days before you begin excavation. Call 8-1-1 or 1-800-STAKE-IT (782-5348) in Maricopa County (602) 263-1100

Pima County Department of Transportation

PAVEMENT MARKING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\4TVTVL_PM03.dgn DATE: 1/18/2019 TIME: 4:52:38 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

SIGNING GENERAL NOTES:

1. ALL EQUIPMENT, MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA ASSOCIATION OF GOVERNMENTS (PAG) STANDARD SPECIFICATIONS AND THE STANDARD DETAILS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS AND THE APPROVED PLANS.
2. ALL SIGNS SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, THE LATEST EDITION OF THE PIMA COUNTY/CITY OF TUCSON TRAFFIC SIGNING DESIGN MANUAL, THE PAG STANDARD SPECIFICATIONS, THE PIMA COUNTY SUPPLEMENTAL SPECIFICATIONS, ANY REQUIRED SPECIAL PROVISIONS, AND THESE PLANS.
3. SIGNS MAY BE MODIFIED AND LOCATIONS ADJUSTED TO FIT CONDITIONS IN THE FIELD AT THE DISCRETION OF THE TRAFFIC ENGINEER.
4. THE DESIGN SPEED FOR TANQUE VERDE ROAD IS 45 MPH. THE POSTED SPEED LIMIT IS 45 MPH. SIGN PLACEMENT SHALL BE BASED ON THE POSTED SPEED LIMIT. THE DESIGN SPEED FOR TANQUE VERDE LOOP ROAD IS 40 MPH. THE POSTED SPEED LIMIT IS 35 MPH. SIGN PLACEMENT SHALL BE BASED ON THE POSTED SPEED LIMIT.
5. POST LENGTHS INDICATED ON SIGN SUMMARY SHEETS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ACTUAL POST LENGTHS.
6. ALL PERFORATED POSTS SHALL BE INSTALLED IN A CONCRETE FOUNDATION, UNLESS OTHERWISE DIRECTED BY THE TRAFFIC ENGINEER.
7. ALL SIGN STATION LOCATIONS ARE APPROXIMATE, THE CONTRACTOR SHALL VERIFY ACTUAL SIGN LOCATIONS WITH THE TRAFFIC ENGINEER PRIOR TO THE INSTALLATION OF ANY SIGNS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH ARIZONA 811 FOR INSTALLING ALL TRAFFIC SIGNS IN THE FIELD AND FOR MAINTAINING ALL SIGNING UNTIL PROJECT IS APPROVED FOR "CONSTRUCTION ACCEPTANCE" BY PIMA COUNTY (FULLY OPEN TO TRAFFIC, ALL PUNCH LIST ITEMS ARE COMPLETED, AND ONE YEAR WARRANTEES BEGIN).
9. ALL SIGNS SHALL HAVE TYPE XI SHEETING, OR AN EQUIVALENT. ALL WARNING SIGNS HAVING YELLOW BACKGROUNDS SHALL USE FLUORESCENT YELLOW SHEETING. ALL SCHOOL SIGNS SHALL USE FLUORESCENT YELLOW/GREEN SHEETING. ALL GROUND MOUNTED SIGNS SHALL HAVE AN ANTI GRAFFITI COATING APPLIED TO SIGN FACE. 3M #1160 FILM OR EQUIVALENT.
10. A 3" X 2" PRESSURE SENSITIVE, UV RESISTANT LABEL INDICATING THE SIGN MANUFACTURERS NAME AND DATE OF MANUFACTURE SHALL BE PLACED IN THE UPPER RIGHT CORNER OF THE BACK OF ALL SIGNS EXCEPT STREET NAME SIGNS AT THE TIME OF INSTALLATION. STREET NAME SIGNS SHALL INCLUDE A SIGN IDENTIFICATION DECAL AS SHOWN ON PIMA COUNTY SIGNING DEATIL 9-33A
11. ALL NEW SIGNS SHALL HAVE 0.080 GUAGE, RADIUS CORNER, ALUMINUM BACKING UNLESS OTHERWISE NOTED.
12. PRIOR TO DISTURBING ANY TRAFFIC SIGNS, A SIGN CONDITION INVENTORY OF ALL EXISTING SIGNING SHALL BE CONDUCTED BY THE CONTRACTOR AND PROVIDED TO THE PIMA COUNTY SIGN SHOP SUPERVISOR (520-724-2630). INVENTORY SHALL INDICATE CURRENT SIGN LOCATION AND CONDITION, INCLUDING ANY EXISTING DAMAGE OR DEFICIENCIES.
13. ANY SIGNS AND POSTS BEING RE-USED ON THIS PROJECT SHALL BE STOCKPILED IN A MANNER TO AVOID DAMAGE AND MAINTAIN THE INTEGRITY OF THE SIGNS. SAFE STORAGE OF STOCKPILE AND PAYMENT FOR DAMAGE TO THE STOCKPILE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
14. ALL SIGNS AND POSTS NOT BEING RE-USED ON THIS PROJECT SHALL BE DISMANTLED, STACKED AND DELIVERED TO THE OWNER (CITY OR COUNTY) BY THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR THE SAFE STORAGE AT THE CONSTRUCTION SITE UNTIL DELIVERY, AND THE SAFE UNLOADING OF THE SALVAGED MATERIAL. NOTIFICATION OF DELIVERY SHALL BE MADE AT LEAST 2 WORKING DAYS PRIOR TO DELIVERY. PIMA COUNTY SIGN SHOP. PIMA COUNTY SIGN SHOP 1313 S. MISSION ROAD (520-724-2630). NO FRIDAY DELIVERIES.

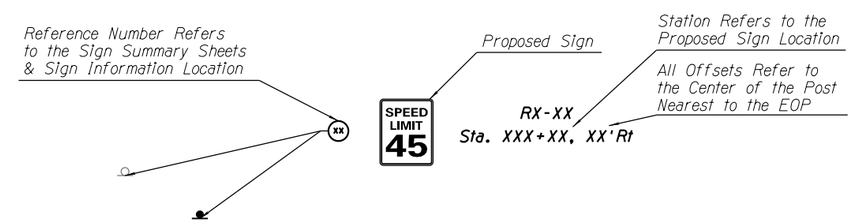
APPROXIMATE SIGNING QUANTITIES

	ITEM	ITEM NO.	UNIT	QUANTITY
SIGN POST	SIGN POST (PERFORATED) (SINGLE)	6070010	L.F.	311
	SIGN POST (U-CHANNEL) (GALVANIZED STEEL)	6070020	EA.	-
	FOUNDATION FOR SIGN POST (PERFORATED)	6070110	EA.	27
SIGN PANEL SHEETING TYPE	SIGN PANEL (TRAFFIC CONTROL) (PERMANENT) (TYPE IV)	6080016	S.F	-
	SIGN PANEL (TRAFFIC CONTROL) (PERMANENT) (DIAMOND GRADE) (TYPE XI)	6080020	S.F	245

SIGN PLAN LEGEND

- Sign(s) to Remain
- Sign to be Removed
- New Sign
- New Single Post Sign
- New Back-to-Back Sign
- New Multi-Post Sign
- New Street Name/ Stop Sign Assembly
- Existing Street Name/ Stop Sign Assembly
- Existing Single Post Sign
- Existing Back-to-Back Sign
- Existing Multi-Post Sign

TYPICAL PLAN CALL-OUT



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

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Registered Professional Engineer (Civil) CERTIFICATE NO. 37304 JAMES D. BEERER Date Signed 5/30/19 ARIZONA U.S.A. Expires 6/30

EPS GROUP

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

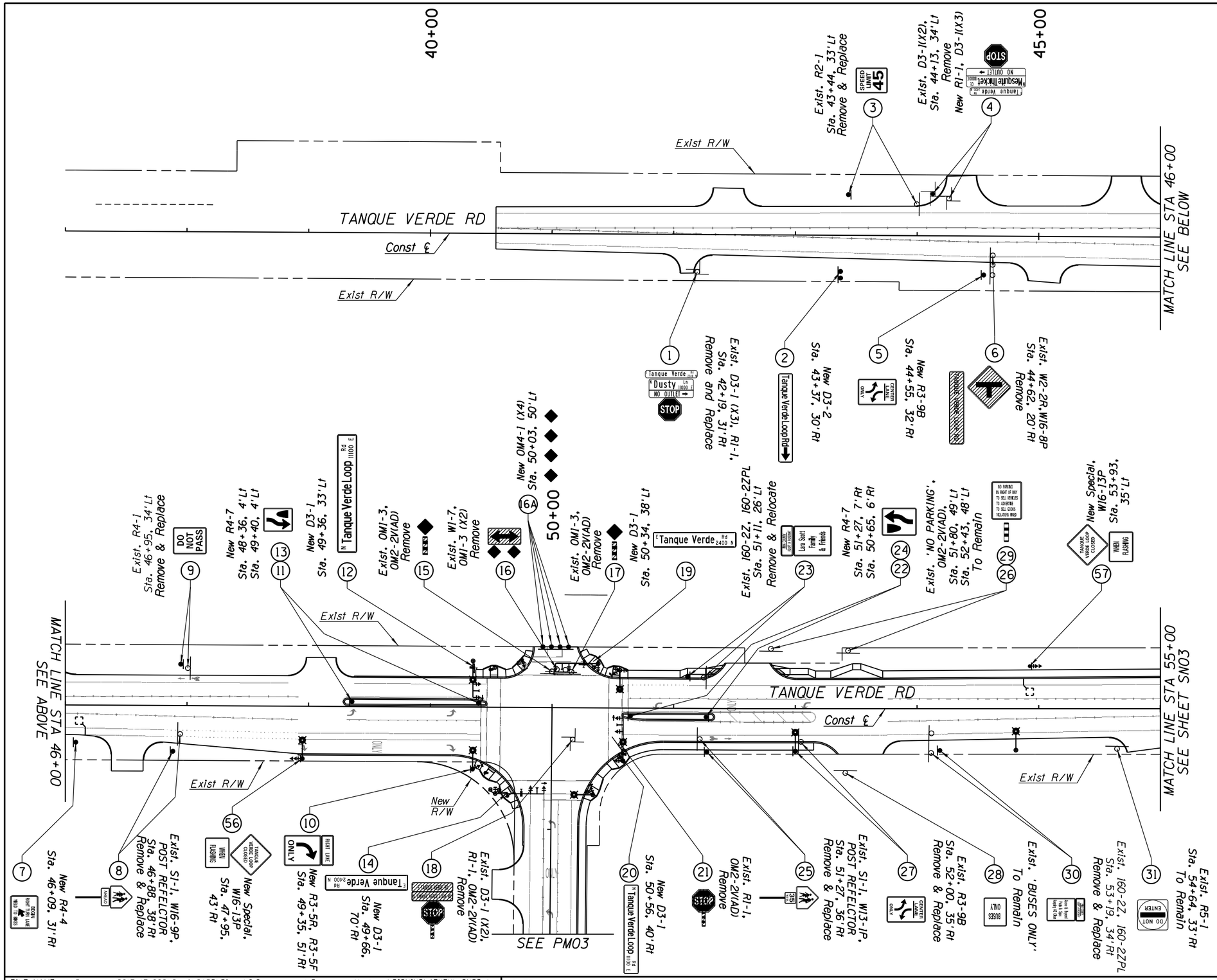
Pima County Department of Transportation

SIGNING GENERAL NOTES
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: | Sheet SN01 of SN10 | Page 30 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN01.dgn DATE: 5/17/2019 TIME: 5:28:47 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

N

40' 0 40' 80'

SCALE: 1" = 40'

Notes:

1 See Sign Summary Sheets SN04-SN06 For Corresponding Sign Information

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Registered Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 5/17/19 Expires 6/30/19 ARIZONA, U.S.A.

EPS GROUP

Call at least two full working days before you begin excavation NOTIFY ARIZONA BLUE STAKE, INC. (602) 263-1100 In Maricopa County (602) 263-6629

Pima County Department of Transportation

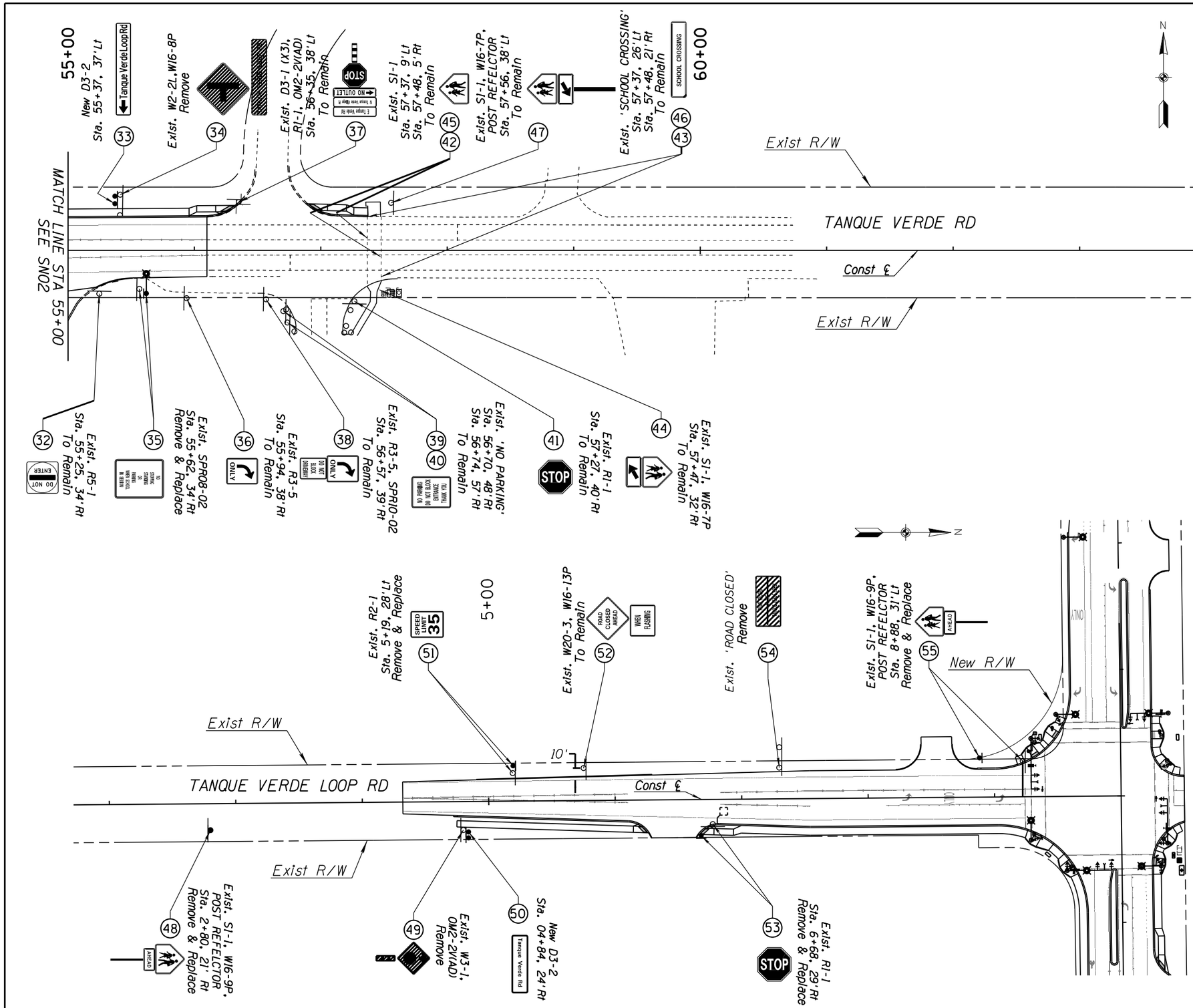
SIGNING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet SN02 of SN10 | Page 31 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN02.dgn DATE: 5/17/2019 TIME: 5:02:19 PM $USER$



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

40' 0 40' 80'

SCALE: 1" = 40'

Notes:

1. See Sign Summary Sheets SN06-SN08 For Corresponding Sign Information

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Pima County Department of Transportation

SIGNING PLAN

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

EPS GROUP

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: 1" = 40' Horiz. | Sheet SN03 of SN10 | Page 32 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN03.dgn DATE: 1/18/2019 TIME: 5:02:15 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Note:
Stations are along Tanque Verde Road Construction ℄.

Sign Number	Sign Code	Work: New	Work: Existing: Replace Panel	Work: Existing: Relocate Panel	Work: Existing: Remove	Work: Existing: Remain	Sta (ft.)	Offset (ft.)	Panel	Panel: Provider	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: Retrofit Slipbases	Ground Mounted: Stringer Type	Ground Mounted: Stringer Length (ft.)	Overhead: Structure Type	Overhead: Number of Lights	Remarks
1	R1-1	X					42+19	31' RT	STOP	CONTR	30	30	6.3	RMW	XI	6080020	1	2S	13							
	D3-1	X							N DUSTY LN 11000E/NO OUTLET(RIGHT)	CONTR	36	15	3.9	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1	X							N DUSTY LN 11000E/NO OUTLET(LEFT)	CONTR	36	15	3.9	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1	X							E TANQUE VERDE RD 2300N	CONTR	42	6	1.8	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1				X		42+19	31' RT	N DUSTY LN 11000E/NO OUTLET(DOUBLE SIDED)	N/A																
	D3-1				X				E TANQUE VERDE RD 2300N	N/A																
	R1-1				X				STOP	N/A																
2	D3-2	X					43+37	30' RT	TANQUE VERDE LOOP RD(WITH RIGHT ARROW)	CONTR	72	12	6.0	F-DA	XI	6080020	2	2S	20							SEE SIGN DETAIL ON SN10
3	R2-1	X					43+44	33' LT	SPEED LIMIT 45 MPH	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							
	R2-1				X		44+00	26' LT	SPEED LIMIT 45 MPH	N/A																
4	R1-1	X					44+13	34' LT	STOP	CONTR	30	30	6.3	RMW	XI	6080020	1	2S	13							
	D3-1	X							N MESQUITE THICKET CT 11000E/NO OUTLET(RIGHT)	CONTR	42	15	4.4	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1	X							N MESQUITE THICKET CT 11000E/NO OUTLET(LEFT)	CONTR	42	15	4.4	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1	X							E TANQUE VERDE RD 2400N	CONTR	42	6	1.8	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN09
	D3-1				X		44+26	31' LT	N MESQUITE THICKET CT 11000E	N/A																
	D3-1				X				E TANQUE VERDE RD 2400N	N/A																
5	R3-9B	X					44+55	32' RT	TWO-WAY LEFT TURN ONLY	CONTR	24	36	6.0	RMW	XI	6080020	1	2S	12							
6	W2-2R				X		44+62	20' RT	ADVANCED TRAFFIC CONTROL(RIGHT)	N/A																
	W16-8P				X				TANQUE VERDE LOOP RD	N/A																
7	R4-4	X					46+09	31' RT	BEGIN RIGHT TURN LANE YIELD TO BIKES	CONTR	36	30	7.5	RMW	XI	6080020	1	2S	12							
8	S1-1	X					46+88	38' RT	SCHOOL(SYMBOL)	CONTR	36	36	6.8	RMW	XI	6080020	1	2S	12							
	W16-9P	X							AHEAD	CONTR	24	12	2.0	RMW	XI	6080020	0									
	SPECIAL	X							POST REFLECTOR	CONTR																POST REFLECTOR IS REFLECTIVE ADHESIVE MATERIAL
	S1-1				X		46+94	23' RT	SCHOOL(SYMBOL)	N/A																
	W16-9P				X				AHEAD	N/A																
	SPECIAL				X				POST REFLECTOR	N/A																
9	R4-1	X					46+95	34' LT	DO NOT PASS	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							
	R4-1				X		47+01	30' LT	DO NOT PASS	N/A																
10	R3-5F	X					49+35	51' RT	RIGHT LANE	CONTR	30	12	2.5	RMW	XI	6080020	0									MOUNT TO SIGNAL POLE
	R3-5R	X							RIGHT TURN ONLY	CONTR	30	36	7.5	RMW	XI	6080020	0									

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
RWM: Regulatory, Warning, or Marker
F-DA: Flat-sheet Aluminum with Direct Applied Characters
Notes:
Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.

Provider:
CONTR- Contractor
Post Type:
2S- 2 Inch Square Tube Post (Perforated)
Stringer Type:
P- Square Tube Post

Scale:

Sheet SN04 of SN10

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN04.dgn DATE: 5/17/2019 TIME: 5:02:21 PM $USER$

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 5/17/19 ARIZONA, U.S.A. "Expires 6/30"

EPS GROUP

Pima County Department of Transportation

SIGN SUMMARY SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Note:
Stations are along Tanque Verde Road Construction ℄.

Sign Number	Sign Code	Work: New	Work: Existing: Replace Panel	Work: Existing: Relocate Panel	Work: Existing: Remove	Work: Existing: Remain	Sta (ft.)	Offset (ft.)	Panel:	Panel: Provider	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: Retrofit Slipbases	Ground Mounted: Stringer Type	Ground Mounted: Stringer Length (ft.)	Overhead: Structure Type	Overhead: Number of Lights	Remarks
11	R4-7	X					48+36	4' LT	KEEP RIGHT	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							FACING WEST
12	D3-1	X					49+36	33' LT	N TANQUE VERDE LOOP RD 11100E	CONTR	96	16	10.4	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN10; MOUNT TO SIGNAL POLE
13	R4-7	X					49+40	4' LT	KEEP RIGHT	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							FACING EAST
14	D3-1	X					49+66	70' RT	E TANQUE VERDE RD 2400N	CONTR	84	16	9.1	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN10; MOUNT TO SIGNAL POLE
15	OM1-3				X		50+00	30' LT	TYPE 1 OBJECT MARKER(YELLOW)	N/A																
	OM2-2V(AD)				X				REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
16	W1-7				X		50+04	31' LT	TWO DIRECTION LARGE ARROW	N/A																
	OM1-3				X				TYPE 1 OBJECT MARKER(YELLOW)	N/A																
	OM1-3				X				TYPE 1 OBJECT MARKER(YELLOW)	N/A																
16A	OM4-1 (X4)	X					50+03	50' LT	TYPE 4 (RED) OBJECT MARKER (X4)	CONTR	24	24	16.0	RMW	XI	6080020	4	2S	44							
17	OM1-3				X		50+16	30' LT	TYPE 1 OBJECT MARKER(YELLOW)	N/A																
	OM2-2V(AD)				X				REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
18	D3-1				X		50+17	26' RT	N TANQUE VERDE LOOP RD 11100E	N/A																
	D3-1				X				E TANQUE VERDE RD 2400N	N/A																
	R1-1				X				STOP	N/A																
	OM2-2V(AD)				X				REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
19	D3-1	X					50+34	38' LT	E TANQUE VERDE RD 2400N	CONTR	84	16	9.1	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN10; MOUNT TO SIGNAL POLE
20	D3-1	X					50+56	40' RT	N TANQUE VERDE LOOP RD 11100E	CONTR	96	16	10.4	F-DA	XI	6080020	0									SEE SIGN DETAIL ON SN10; MOUNT TO SIGNAL POLE
21	R1-1				X		50+57	31' RT	STOP	N/A																
	OM2-2V(AD)				X				REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
22	R4-7	X					50+65	6' RT	KEEP RIGHT	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							FACING WEST
23	I60-2Z			X			51+11	26' LT	PIMA COUNTY ADOPT A ROADWAY	CONTR							1	2S	12							EXISTING BRAND NEW SIGN
	I60-2ZPL			X					LARA SCOTT FAMILY & FRIENDS	CONTR							0									
	I60-2Z				X		51+25	26' LT	PIMA COUNTY ADOPT A ROADWAY	N/A																
	I60-2ZPL				X				LARA SCOTT FAMILY & FRIENDS	N/A																

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
RWM: Regulatory, Warning, or Marker
F-DA: Flat-sheet Aluminum with Direct Applied Characters
Notes:
Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.

Provider:
CONTR- Contractor
Post Type:
2S- 2 Inch Square Tube Post (Perforated)
Stringer Type:
P- Square Tube Post

Scale:

Sheet SN05 of SN10

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 07/30/19 ARIZONA, U.S.A. Expires 6/30/20

EPS GROUP

Pima County Department of Transportation

SIGN SUMMARY SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN05.dgn DATE: 1/18/2019 TIME: 5:02:17 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0126210			

0000PM PPM T0139 01C

Sign Number	Sign Code	Work: New	Work Existing: Replace Panel	Work Existing: Relocate Panel	Work Existing: Remove	Work Existing: Remain	Sta (ft.)	Offset (ft.)	Panel	Provider	Width (in.)	Height (in.)	Area (sq. ft.)	Type	Min. Sheeting Type	Bid Item Number	Ground Mounted: Foundations	Posts: Type	Posts: Total length (ft.)	New Slipbases	Retrofit Slipbases	Stringer Type	Stringer Length (ft.)	Overhead: Structure Type	Number of Lights	Remarks (Note: Stations are along Tanque Verde Road Construction ℄.)
24	R4-7	X					51+27	7' RT	KEEP RIGHT	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							FACING EAST
25	S1-1	X					51+27	36' RT	SCHOOL(SYMBOL)	CONTR	36	36	6.8	RMW	XI	6080020	1	2S	13							
	W13-1P	X							ADVISORY SPEED 35MPH	CONTR	24	24	4.0	RMW	XI	6080020	0									
	SPECIAL	X							POST REFLECTOR	CONTR																
	S1-1				X		51+21	25' RT	SCHOOL(SYMBOL)	N/A																
	W13-1P				X				AHEAD	N/A																
	SPECIAL				X				POST REFLECTOR	N/A																
26	SPECIAL					X	51+80	49' LT	NO PARKING IN RIGHT OF WAY TO SELL VEHICLES	N/A																
									TO ADVERTISE TO SELL GOODS VIOLATORS FINED																	
	OM2-2V(AD)					X			REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
27	R3-9B	X					52+00	33' RT	TWO-WAY LEFT TURN ONLY	CONTR	24	36	6.0	RMW	XI	6080020	0									MOUNT TO LIGHT POLE
	R3-9B				X		52+05	27' RT	TWO-WAY LEFT TURN ONLY	N/A																
28	SPECIAL					X	52+41	53' RT	BUSES ONLY	N/A																
29	SPECIAL					X	52+43	48' LT	NO PARKING IN RIGHT OF WAY TO SELL VEHICLES	N/A																
									TO ADVERTISE TO SELL GOODS VIOLATORS FINED																	
	OM2-2V(AD)					X			REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
30	160-2Z	X					53+19	34' RT	PIMA COUNTY ADOPT A ROADWAY	CONTR	24	12	2.0	F-DA	XI	6080020	1	2S	12							
	160-2ZPL	X							ABOVE & BEYOND POOLS & SPAS KEEPING AZ CLEAN	CONTR	24	24	4.0	F-DA	XI	6080020	0									
	160-2Z				X		53+12	37' RT	ADOPT A ROADWAY	N/A																
	160-2ZPL				X				ABOVE & BEYOND POOLS & SPAS KEEPING AZ CLEAN	N/A																
31	R5-1					X	54+64	33' RT	DO NOT ENTER	N/A																POST REFLECTOR IS REFLECTIVE ADHESIVE MATERIAL
32	R5-1					X	55+25	34' RT	DO NOT ENTER	N/A																
33	D3-2	X					55+37	37' LT	TANQUE VERDE LOOP RD(WITH LEFT ARROW)	CONTR	72	12	6.0	F-DA	XI	6080020	2	2S	20							SEE SIGN DETAIL ON SN10
34	W2-2L				X		55+41	44' LT	ADVANCED TRAFFIC CONTROL(LEFT)	N/A																
	W16-8P				X				TANQUE VERDE LOOP RD	N/A																
35	SPR08-02	X					55+62	34' RT	NO STOPPING STANDING OR PARKING WHEN SCHOOL IN SESSION	CONTR	12	18	1.5	RMW	XI	6080020	0									MOUNT TO LIGHT POLE
	SPR08-02				X		52+57	30' RT	NO STOPPING STANDING OR PARKING WHEN SCHOOL IN SESSION	N/A																

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
RWM: Regulatory, Warning, or Marker
F-DA: Flat-sheet Aluminum with Direct Applied Characters

Notes:
Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.

Provider:
CONTR- Contractor
Post Type:
2S- 2 Inch Square Tube Post (Perforated)
Stringer Type:
P- Square Tube Post

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Pima County Department of Transportation

SIGN SUMMARY SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: | Sheet SN06 of SN10

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN06.dgn DATE: 1/18/2019 TIME: 5:02:18 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Sign Number	Sign Code	Work: New	Work: Existing: Replace Panel	Work: Existing: Relocate Panel	Work: Existing: Remove	Work: Existing: Remain	Sta (ft.)	Offset (ft.)	Panel: Panel	Panel: Provider	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: Retrofit Slipbases	Ground Mounted: Stringer Type	Ground Mounted: Stringer Length (ft.)	Overhead: Structure Type	Overhead: Number of Lights	Remarks
36	R3-5					X	55+94	38' RT	RIGHT TURN ONLY	N/A																
37	R1-1					X	56+35	38' LT	STOP	N/A																
	D3-1					X			N TANQUE VERDE VILLAGE PL 11150E/NO OUTLET(RIGHT)	N/A																
	D3-1					X			N TANQUE VERDE VILLAGE PL 11150E/NO OUTLET(LEFT)	N/A																
	D3-1					X			E TANQUE VERDE RD 2400N	N/A																
	OM2-2V(AD)					X			REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
38	R3-5					X	56+57	39' RT	RIGHT TURN ONLY	N/A																
	SPR10-02					X			DO NOT BLOCK DRIVEWAY	N/A																
39	SPECIAL					X	56+70	48' RT	NO PARKING DO NOT BLOCK ENTRANCE THANK YOU	N/A																
40	SPECIAL					X	56+74	57' RT	NO PARKING DO NOT BLOCK ENTRANCE THANK YOU	N/A																
41	R1-1					X	57+27	40' RT	STOP	N/A																
42	S1-1					X	57+37	9' LT	SCHOOL(SYMBOL)	N/A																MOUNTED ON HAWK SIGNAL MAST ARM
43	SPECIAL					X	57+37	26' LT	SCHOOL CROSSING	N/A																MOUNTED ON HAWK SIGNAL MAST ARM
44	S1-1					X	57+47	32' RT	SCHOOL(SYMBOL)	N/A																MOUNTED ON HAWK SIGNAL POLE
	W16-7P					X			DOWNWARD DIAGONAL ARROW	N/A																MOUNTED ON HAWK SIGNAL POLE
45	S1-1					X	57+48	5' RT	SCHOOL(SYMBOL)	N/A																MOUNTED ON HAWK SIGNAL MAST ARM
46	SPECIAL					X	57+48	21' RT	SCHOOL CROSSING	N/A																MOUNTED ON HAWK SIGNAL MAST ARM
47	S1-1					X	57+56	38' LT	SCHOOL(SYMBOL)	N/A																
	W16-7P					X			DOWNWARD DIAGONAL ARROW	N/A																
	SPECIAL					X			POST REFLECTOR	N/A																
48	S1-1		X				02+80	21' RT	SCHOOL(SYMBOL)	CONTR	36	36	6.8	RMW	XI	6080020	0									
	W16-9P		X						AHEAD	CONTR	24	12	2.0	RMW	XI	6080020	0									
	SPECIAL		X						POST REFLECTOR	CONTR																POST REFLECTOR IS REFLECTIVE ADHESIVE MATERIAL
	S1-1				X		02+80	21' RT	SCHOOL(SYMBOL)	N/A																
	W16-9P				X				AHEAD	N/A																
	SPECIAL				X				POST REFLECTOR	N/A																

Note:
Stations are along Tanque Verde Road or Tanque Verde Loop Rd Construction ℄.

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
RWM: Regulatory, Warning, or Marker
F-DA: Flat-sheet Aluminum with Direct Applied Characters
Notes:
Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.

Provider:
CONTR- Contractor
Post Type:
2S- 2 Inch Square Tube Post (Perforated)
Stringer Type:
P- Square Tube Post

Scale:

Sheet SN07 of SN10

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEER 51304 Date Signed 07/30/19 ARIZONA, U.S.A. Expires 6/30/20

EPS GROUP

Pima County Department of Transportation

SIGN SUMMARY SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN07.dgn DATE: 1/18/2019 TIME: 5:02:19 PM $USER$

Sign Number	Sign Code	Work: New	Work: Existing: Replace Panel	Work: Existing: Relocate Panel	Work: Existing: Remove	Work: Existing: Remain	Sta (ft.)	Offset (ft.)	Panel:	Panel: Provider	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: Retrofit Slipbases	Ground Mounted: Stringer Type	Ground Mounted: Stringer Length (ft.)	Overhead: Structure Type	Overhead: Number of Lights	Remarks
49	W3-1				X		04+80	25' RT	ADVANCED TRAFFIC CONTROL(STOP)	N/A																
	OM2-2V(AD)				X				REFLECTIVE PVC OBJECT MARKER (VERTICAL)	N/A																
50	D3-2	X					04+84	24' RT	TANQUE VERDE RD	CONTR	60	12	5.0	F-DA	XI	6080020	2	2S	20							SEE SIGN DETAIL ON SN09
51	R2-1	X					05+19	28' LT	SPEED LIMIT 35	CONTR	24	30	5.0	RMW	XI	6080020	1	2S	12							
	R2-1				X		05+19	22' LT	SPEED LIMIT 35	N/A																
52	W20-3					X	05+76	25' LT	ROAD CLOSED AHEAD	N/A																MOUNTED ON ELECTRONIC WARNING SIGN; COLOR:YELLOW
	W16-13P					X			WHEN FLASHING	N/A																MOUNTED ON ELECTRONIC WARNING SIGN; COLOR:YELLOW
53	R1-1	X					06+68	29' RT	STOP	CONTR	30	30	6.3	RMW	XI	6080020	1	2S	12							
	R1-1				X		06+77	19' RT	STOP	N/A																
54	SPECIAL				X		07+30	25' LT	ROAD CLOSED AT THE TANQUE VERDE CREEK	N/A																
55	S1-1	X					08+88	31' LT	SCHOOL(SYMBOL)	CONTR	36	36	9.0	RMW	XI	6080020	1	2S	12							
	W16-9P	X							AHEAD	CONTR	24	12	2.0	RMW	XI	6080020	0									
	SPECIAL	X							POST REFLECTOR	CONTR																POST REFLECTOR IS REFLECTIVE ADHESIVE MATERIAL
	S1-1				X		09+22	28' LT	SCHOOL(SYMBOL)	N/A																
	W16-9P				X				AHEAD	N/A																
	SPECIAL				X				POST REFLECTOR	N/A																
56	SPECIAL						47+95	43' RT	TANQUE VERDE LOOP CLOSED	CONTR	36	36	9.0	RMW	XI	6080020										MOUNT TO LIGHT POLE, WARNING SIGN - COLOR: YELLOW
	W16-13P								WHEN FLASHING	CONTR	24	18	3.0	RMW	XI	6080020										
57	SPECIAL						53+93	35' LT	TANQUE VERDE LOOP CLOSED	CONTR	36	36	9.0	RMW	XI	6080020										MOUNT TO SIGNAL POLE, WARNING SIGN - COLOR: YELLOW
	W16-13P								WHEN FLASHING	CONTR	24	18	3.0	RMW	XI	6080020										

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

Note:
Stations are along Tanque Verde Loop Road Construction ℄.

Notes:
1. The Engineer shall verify post lengths and elevations.
2. The Engineer may shift a sign in order to achieve a more desirable location.
3. Quantities are approximate and for the contractor's information only.

Panel Types:
RWM: Regulatory, Warning, or Marker
F-DA: Flat-sheet Aluminum with Direct Applied Characters
Notes:
Stations are along Tanque Verde Rd or Tanque Verde Loop Rd Construction Centerlines.

Provider:
CONTR- Contractor
Post Type:
2S- 2 Inch Square Tube Post (Perforated)
Stringer Type:
P- Square Tube Post

Scale:

Sheet SN08 of SN10

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN08.dgn DATE: 5/17/2019 TIME: 5:02:22 PM $USER$

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 5/30/19 ARIZONA, U.S.A. "Expires 6/30/20"

EPS GROUP

ARIZONA 811 Call at least two full working days before you begin excavation. Arizona Blue Stake, Inc. (602) 263-1069 (Maricopa County) (800) 253-9860 (Outside Maricopa County)

Pima County Department of Transportation

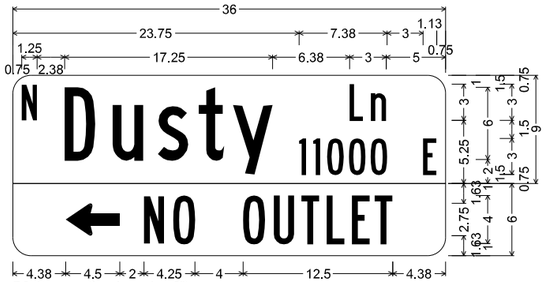
SIGN SUMMARY SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

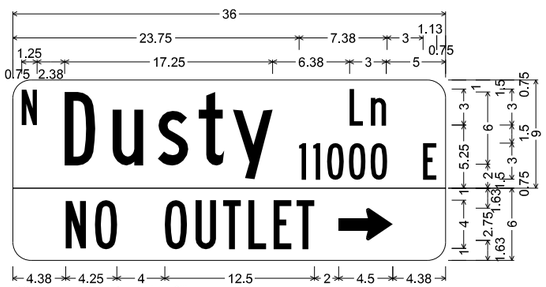
0000PM PPM T0139 01C

SIGN 1, QUANTITY:1, SINGLE SIDED



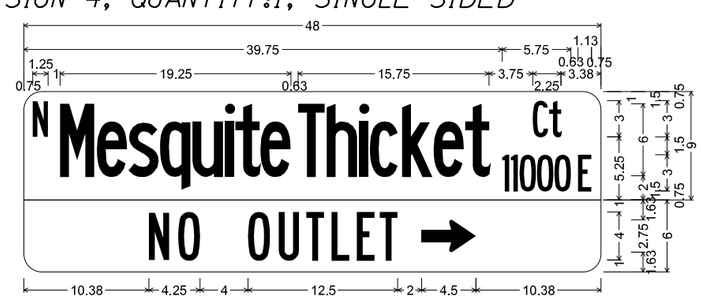
D3-1(conventional road - 6");
1.50" Radius, No border, White on Green;
[N] B specified length; [Dusty] B; [Ln] B; [11000 E] B;
D1-1 (bikeway); 1.50" Radius, No border, Yellow on Yellow;
Arrow 2" Type D2 - 4.50" 180° Black; [NO OUTLET] Black B;

SIGN 1, QUANTITY:1, SINGLE SIDED



D3-1(conventional road - 6");
1.50" Radius, No border, White on Green;
[N] B specified length; [Dusty] B; [Ln] B; [11000 E] B;
D1-1 (bikeway); 1.50" Radius, No border, Yellow on Yellow;
[NO OUTLET] Black B; Arrow 2" Type D2 - 4.50" 0° Black;

SIGN 4, QUANTITY:1, SINGLE SIDED

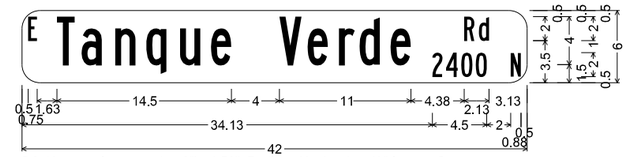


D3-1(conventional road - 6"); 1.50" Radius, No border, White on Green;
[N] B specified length; [Mesquite Thicket] B 10% spacing; [Ct] B 20% spacing;
[11000 E] B 20% spacing;
D1-1 (bikeway); 1.50" Radius, No border, Yellow on Yellow;
[NO OUTLET] Black B; Arrow 2" Type D2 - 4.50" 0° Black;

SIGN 4, QUANTITY:1, SINGLE SIDED

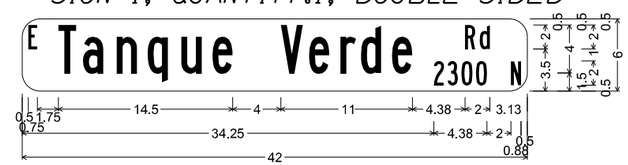
D3-1(conventional road - 6"); 1.50" Radius, No border, White on Green;
[N] B specified length; [Mesquite Thicket] B 10% spacing; [Ct] B 20% spacing;
[11000 E] B 20% spacing;
D1-1 (bikeway); 1.50" Radius, No border, Yellow on Yellow;
Arrow 2" Type D2 - 4.50" 180° Black; [NO OUTLET] Black B;

SIGN 4, QUANTITY:1, DOUBLE SIDED



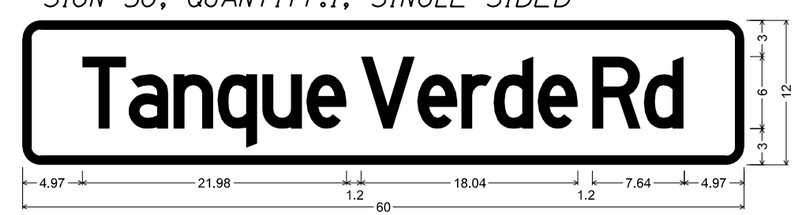
D3-1(conventional road - 6"); 1.50" Radius, No border, White on Green;
[E] B; [Tanque Verde] B; [Rd] B; [2400 N] B;

SIGN 1, QUANTITY:1, DOUBLE SIDED



D3-1(conventional road - 6"); 1.50" Radius, No border, White on Green;
[E] B; [Tanque Verde] B; [Rd] B; [2300 N] B;

SIGN 50, QUANTITY:1, SINGLE SIDED



D1-1 (conventional road); 1.50" Radius, 0.75" Border, White on Green;
[Tanque Verde Rd] D 20% spacing;

Scale:	NTS	Sheet SN09 of SN10	Page 38 of 67

Pima County Department of Transportation

SIGN FORMAT SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

EPS GROUP

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

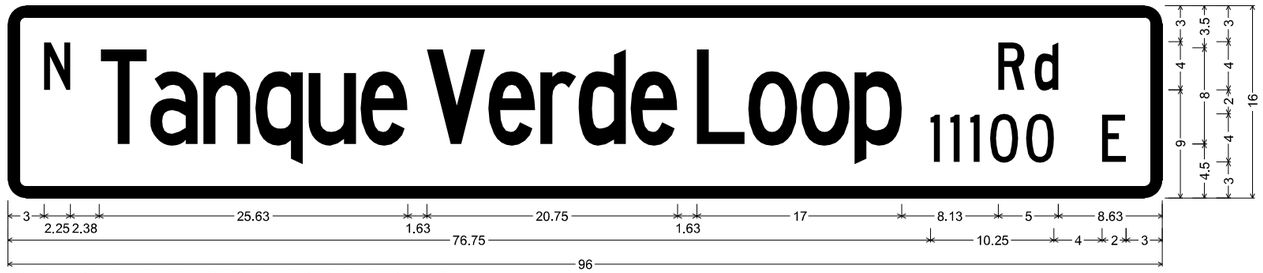
Ana M. Olivares, P.E., Director

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN09.dgn DATE: 1/18/2019 TIME: 5:02:20 PM $USER$

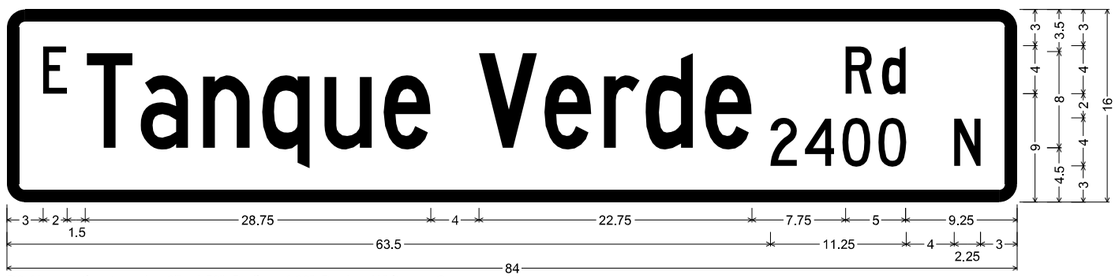
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0126210			
		0000PM PPM T0139 01C			

SIGN 12 & 20, QUANTITY:2, SINGLE SIDED



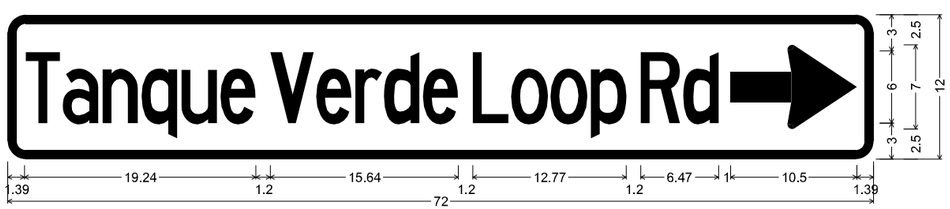
D3-1(conventional road - 6"); 1.50" Radius, 1.00" Border, White on Green;
[N] C; [Tanque Verde Loop] C 20% spacing; [Rd] C; [11100 E] C;

SIGN 14 & 19, QUANTITY:2, SINGLE SIDED



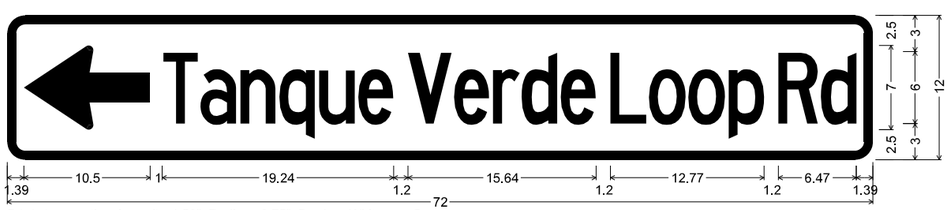
D3-1(conventional road - 6"); 1.50" Radius, 1.00" Border, White on Green;
[E] C; [Tanque Verde] C 50% spacing; [Rd] C; [2400 N] C;

SIGN 2, QUANTITY:1, SINGLE SIDED



D1-1 (conventional road); 1.50" Radius, 0.75" Border, White on Green;
[Tanque Verde Loop Rd] C 20% spacing; Arrow Custom - 10.50" 0°;

SIGN 33, QUANTITY:1, SINGLE SIDED



D1-1 (conventional road); 1.50" Radius, 0.75" Border, White on Green;
Arrow Custom - 10.50" 180°; [Tanque Verde Loop Rd] C 20% spacing;

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Registered Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 09/06/19 ARIZONA U.S.A. Expires 09/30/19

EPS GROUP

Pima County Department of Transportation

SIGN FORMAT SHEET
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale:	NTS	Sheet SN10 of SN10	Page 39 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\8.Signing and Pavement Marking\SIGNING\4TVTVL_SN10.dgn DATE: 1/18/2019 TIME: 5:02:20 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

TRAFFIC SIGNAL GENERAL NOTES:

1. ALL EQUIPMENT / MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA ASSOCIATION OF GOVERNMENTS (PAG) STANDARD SPECIFICATIONS AND THE STANDARD DETAILS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS AND THE APPROVED PLANS.
2. ALL PEDESTRIAN PUSH BUTTON ASSEMBLIES SHALL MEET CURRENT ADA REQUIREMENTS. THE SIGNS THAT SHALL BE USED ARE IDENTIFIED IN THE LATEST EDITION OF THE MUTCD AS ADOPTED BY PCDOT TRAFFIC ENGINEERING DIVISION. THE SPECIFIC SIGN FACE SHALL BE VERIFIED WITH THE TRAFFIC ENGINEER.
3. METRO STREET NAME SIGNS SHALL BE INSTALLED SUCH THAT THE BOTTOM OF THE SIGN IS NO LESS THAN 17 FEET ABOVE THE ROADWAY PAVEMENT OR NO LESS THAN 16 FEET ABOVE THE FINISHED GRADE BEYOND THE SHOULDER, BIKE LANE OR MULTI-USE LANE.
4. THE EXACT LOCATION OF EACH NEW POLE FOUNDATION, PULL BOX, CONTROLLER, CABINET FOUNDATION, UPS CABINET FOUNDATION OR ELECTRIC SERVICE PEDESTAL FOUNDATION SHALL BE APPROVED BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.
5. THE TOP OF THE POLE FOUNDATION SHALL BE LEVEL WITH THE SURROUNDING FINISHED GRADE. IF THE SLOPE OR SHOULDER DROPS OFF FROM FINISHED GRADE, THE CONTRACTOR SHALL GRADE AROUND POLE FOUNDATION. THE TOP OF THE FOUNDATION SHALL EXTEND NO MORE THAN 4 INCHES ABOVE SURROUNDING FINISHED GRADE.
6. ONLY NEW CONDUIT, CONDUCTORS AND CABLE SHALL BE INSTALLED.
7. ALL CONDUITS SHALL BE CLEANED BY COMPRESSED AIR AND A PROPERLY SIZED CONDUIT PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CONDUCTOR AND CABLE INSTALLATION.
8. CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS, WHICH ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.
9. PULL BOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS OR LANDINGS. IN ADDITION, ANY PULL BOXES INSTALLED BEHIND CURBS SHALL BE INSTALLED BETWEEN THE CURB AND THE PROPOSED / FUTURE SIDEWALK OR BEYOND THE PROPOSED / FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE WOULD BE PULL BOXES INSTALLED IN A MEDIAN. ANY PULL BOXES INSTALLED ALONG AN UNCURBED ROADWAY SHALL BE INSTALLED 10 FEET FROM EDGE OF PAVEMENT TO EDGE OF PULL BOX WHERE RIGHT-OF-WAY PERMITS OR AS FAR FROM PAVEMENT AS PRACTICAL WHEN THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE THE 10 FOOT OFFSET.
10. A THREE QUARTER (3/4) IN. X 10 FT. GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX (WITH THE EXTENSION) ADJACENT TO THE CONTROLLER CABINET. TWO GROUND ROD CLAMPS SHALL BE FURNISHED AND INSTALLED FOR CLAMPING THE GROUND WIRE.
11. THE HIGH VOLTAGE CABLES SHOULD BE SEPARATED FROM THE LOW VOLTAGE CABLES AS MUCH AS POSSIBLE. SEPARATE CONDUIT SHOULD BE USED FOR HIGH VOLTAGE AND LOW VOLTAGE CABLES BETWEEN THE CONTROLLER CABINET AND THE NO. 7 PULL BOXES LOCATED ON EACH CORNER OF THE INTERSECTION.
12. A #14 AWG IMSA 19-1-1984 7-CONDUCTOR SOLID WIRE CABLE SHALL BE INSTALLED FROM EACH TRAFFIC SIGNAL TERMINAL STRIP TO THE CONCRETE PULL BOX ADJACENT TO THE POLE FOUNDATION LEAVING THREE FEET OF SLACK FOR EACH CABLE (MEASURED FROM THE TOP OF THE PULL BOX) IN THE PULL BOX.
13. TWO #10 AWG-XHHW CONDUCTORS SHALL BE INSTALLED FROM EACH LUMINAIRE TO THE CONCRETE PULL BOX ADJACENT TO THE POLE FOUNDATION, LEAVING THREE FEET OF SLACK FOR EACH CONDUCTOR (MEASURED FROM THE TOP OF THE PULL BOX) IN THE PULL BOX. ROUTE FOUR #10 AWG CONDUCTORS TO THE LUMINAIRE WITH THE PHOTOELECTRIC CELL. AN IN-LINE FUSE SHALL BE INSTALLED FOR EACH LUMINAIRE IN THE ASSOCIATED PULL BOX.
14. POLES WITH PEDESTRIAN SIGNALS AND PUSH BUTTON STATIONS SHALL USE ONE 7-CONDUCTOR #14 AWG IMSA CABLE FOR BOTH THE PUSH BUTTON STATION AND THE PEDESTRIAN SIGNAL. THE OUTER CABLE JACKET SHALL BE REMOVED AT THE HAND HOLE HEIGHT. TWO CONDUCTORS SHALL BE ROUTED TO THE PUSH BUTTON STATION AND THE REMAINING CONDUCTORS SHALL BE ROUTED TO THE PEDESTRIAN SIGNAL.
15. ALL VEHICLE ROADWAY DETECTION LOOP CABLES SHALL BE #14 AWG IMSA 51-5-1985 CABLE. LEAD-IN CABLES SHALL BE #16 AWG IMSA 50-2-1984 CABLE. NO SPLICES SHALL BE ALLOWED IN THE ROADWAY DETECTION LOOP CABLE EXCEPT AT THE PULL BOX ADJACENT TO LOOP.
16. THE DETECTOR LEAD-IN CABLE SHALL NOT BE SPLICED.
17. DETECTION LOOP SAW CUTS SHALL BE FLUSHED WITH WATER UNDER PRESSURE AND THEN DRIED WITH AIR UNDER PRESSURE.
18. THE EMERGENCY VEHICLE PRE-EMPTION SENSOR CABLE SHALL BE OPTICOM DETECTOR CABLE MODEL NO. 138. THE CABLE SHALL NOT BE SPLICED.
19. THE ECONOLITE TERRA BRANCH CABLE (PART NO. 1175-01X) SHALL BE INSTALLED FOR THE VIDEO CAMERA, UNSPLICED, FROM THE VIDEO CAMERA TO THE TRAFFIC SIGNAL CONTROLLER CABINET.
20. THE TUCSON ELECTRIC POWER COMPANY CONSTRUCTION DEPARTMENT (918-8300) SHALL BE CONTACTED BY THE CONTRACTOR TO VERIFY THE LOCATION OF THE ELECTRIC SERVICE CONNECTION AT THE INTERSECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND BACKFILLING THE TRENCH AND INSTALLING ANY NECESSARY SLEEVES UNDER SIDEWALKS OR DRIVEWAYS IN WHICH THE ELECTRIC SERVICE CABLE IN CONDUIT (CIC) IS TO BE INSTALLED BY TEP.
21. PCDOT SHALL CONTRACT SEPARATELY WITH SMARTWAVE TECHNOLOGIES, INC., TO PROVIDE AND INSTALL WIRELESS COMMUNICATIONS DEVICES AND PTZ CAMERAS AT ALL NEW SIGNALIZED INTERSECTIONS. SMARTWAVE TECHNOLOGIES STAFF SHALL INSTALL THE WIRELESS COMMUNICATIONS DEVICES AND PTZ CAMERAS AFTER THE CONTRACTOR'S ELECTRICAL WORK IS COMPLETE AND SIGNALS AT THE INTERSECTION ARE OPERATIONAL. AT EXISTING SIGNALIZED INTERSECTIONS THAT ALREADY HAVE WIRELESS COMMUNICATIONS AND PTZ CAMERAS, PCDOT SHALL ARRANGE TO HAVE THE EXISTING EQUIPMENT REMOVED OR RELOCATED BY SMARTWAVE TECHNOLOGIES, AND SUBSEQUENTLY INSTALLED ON THE NEW POLES AND MAST ARMS AFTER THE CONTRACTOR'S WORK IS FINISHED.
22. ALL VEHICLE AND PEDESTRIAN INDICATIONS SHALL BE LED. ALL VEHICLE AND PEDESTRIAN LED SIGNAL INDICATIONS SHALL BE THE GE LUMINATION GTX OR GTI SERIES WITH TINTED LENSES TO THE COLOR OF THE INDICATION AND BE ETL CERTIFIED OR APPROVED EQUAL UNLESS OTHERWISE SPECIFIED ON PLANS. ALL PEDESTRIAN SIGNAL FACES SHALL BE GTI SERIES PEDESTRIAN COUNT DOWN INDICATIONS.
23. THE CONTRACTOR SHALL CONTACT BLUE STAKE AT 1-800-782-5348, A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION.
24. THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS TO ALL PIMA COUNTY WASTE WATER MANHOLES LOCATED WITHIN THE ROW. ACCESS MUST BE MAINTAINED 24 HOURS PER DAY, SEVEN DAYS PER WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN SIX (6) FEET OF A FORCE MAIN.
25. ANY EQUIPMENT AND/OR UTILITIES WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DESTROYED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.
26. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT WITH EXISTING, TEMPORARY, OR NEW TRAFFIC SIGNAL EQUIPMENT.
27. CONDUITS FOR FUTURE USE SHALL BE SEALED WITH A PROPERLY SIZED TAPERED POLYETHYLENE DUCT PLUG AT EACH TERMINATION POINT. THE #8 BARE BOND WIRE SHALL BE LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.
28. THE FACE OF ANY VEHICLE OR PEDESTRIAN SIGNAL HEAD THAT IS NOT IN SERVICE SHALL BE COVERED WITH A PREFABRICATED NYLON COVER DESIGNED TO COMPLETELY COVER THE VISORS AND LENSES. THE COVERS SHALL BE SECURELY HELD IN PLACE BY INTEGRAL NYLON STRAPS AND BUCKLES. THE COVER SHALL HAVE A FINE MESH STRIP THROUGH THE CENTER TO PERMIT TESTING OF THE SIGNALS WITHOUT REMOVING THE COVER. OUT OF SERVICE SIGNAL HEADS SHALL NOT BE TURNED, COVERED WITH BURLAP, CARDBOARD OR OTHER MATERIAL.
29. THE LOCATION OF UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING / POTHOLING UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED POLE FOUNDATIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR VERIFYING CLEARANCE BETWEEN OVERHEAD LINES AND TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION OF POLES AND FOUNDATIONS.

TRAFFIC SIGNAL GENERAL NOTES:

30. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH A TIME AS THE WORK IS COMPLETE. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY PIMA COUNTY AND APPROVED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES ON FEDERALLY FUNDED PROJECTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY ADOT AND APPROVED BY THE ENGINEER.
31. THE RECOMMENDED LUMINAIRES ARE THE AMERICAN ELECTRIC LIGHTING LED, AUTOBAHN SERIES, ATB2, WITH 60BLEDE10 PERFORMANCE PACKAGE, R4 DISTRIBUTION, 3000K CCT, MVOLT, P7 PHOTOCONTROL RECEPTACLE, 20kV/10KA SPD SURGE PROTECTION, OR APPROVED EQUAL.
32. PEDESTRIAN PUSH BUTTONS SHALL BE ADA ACCESSIBLE VIBROTACTILE AUDIBLE TYPE POLARA IN2 - INAVIGATOR 2-WIRE ACCESSIBLE PEDESTRIAN SYSTEM. THE CONTROLLER CABINET SHALL BE ORDERED WITH ALL INTERFACE PANELS AND NECESSARY WIRING HARNESSES INSTALLED IN THE CABINET BY THE CONTRACTOR.
33. THE NORTH LEG OF THE TANQUE VERDE ROAD / TANQUE VERDE LOOP ROAD INTERSECTION WILL NOT BE OPENED UNTIL AFTER THE CONSTRUCTION OF THIS PROJECT. THE SIGNAL EQUIPMENT SPECIFIC FOR THE SOUTHBOUND APPROACH OF TRAFFIC, SPECIFICALLY THE MAST ARM, O AND F SIGNAL HEADS, VIDEO DETECTION CAMERA, PRE-EMPT SENSOR AND BEACON FOR SIGNAL POLE "I" WILL NOT BE INSTALLED WITH THIS PROJECT. THESE SIGNAL EQUIPMENT COMPONENTS SHALL BE DELIVERED TO THE PCDOT MAINTENANCE YARD, 1313 S. MISSION ROAD, TUCSON, AZ 85713.

RESPONSIBILITIES:

1. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT AND MATERIALS FOR THE INSTALLATION OF THE TRAFFIC SIGNAL AS SPECIFIED ON THE APPROVED PLANS AND IN THE PROJECT SPECIFICATIONS.
2. THE CONTRACTOR SHALL DELIVER THE CONTROLLER ASSEMBLY(S) WHICH INCLUDES THE CONTROLLER CABINET, THE CONTROLLER(S), THE OPTICOM MODEL 764 MULTIMODE PHASE SELECTOR, THE OPTICOM MODEL 768 AUXILIARY INTERFACE PANEL, AND OTHER AUXILIARY EQUIPMENT SPECIFIED IN THE APPROVED PLANS AND PROJECT SPECIFICATIONS TO THE PCDOT MAINTENANCE YARD, 1313 S. MISSION ROAD, BLDG. #28 FOR TESTING. THIS SHALL OCCUR A MINIMUM OF TWO WEEKS PRIOR TO THE INSTALLATION(S) AT THE INTERSECTION(S). CONTACT SIGNAL SHOP SUPERVISOR (724-5887) AT LEAST 2 WORKING DAYS PRIOR TO THE DELIVERY OF THE CONTROLLER ASSEMBLY(S) TO PCDOT. PCDOT STAFF SHALL TRANSPORT THE CONTROLLER ASSEMBLY(S) FROM THE PCDOT MAINTENANCE YARD TO THE INTERSECTION(S) AFTER THE PCDOT STAFF HAS TESTED THE EQUIPMENT.
3. PCDOT STAFF SHALL INSTALL EACH TRAFFIC CONTROLLER CABINET ON ITS FOUNDATION AND ROUTE ALL OF THE CONDUCTORS INTO THE CONTROLLER CABINET. THE PCDOT STAFF SHALL TERMINATE THE FIELD CONDUCTORS IN THE CONTROLLER CABINET.
4. THE CONTRACTOR SHALL CAREFULLY DISASSEMBLE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL EQUIPMENT THAT IS NOT TO REMAIN OR BE RELOCATED, EXCEPT EXISTING WIRELESS COMMUNICATIONS AND PTZ CAMERA EQUIPMENT. ALL OF THE EQUIPMENT DESIGNATED FOR SALVAGE SHALL BE SAFELY STORED AT THE CONSTRUCTION SITE UNTIL IT IS REINSTALLED OR SAFELY RETURNED TO THE PCDOT MAINTENANCE YARD, 1313 S. MISSION RD. EQUIPMENT DESIGNATED FOR SALVAGE, AND DAMAGED IN THE CONTRACTOR'S REMOVAL, STORAGE OR DELIVERY SHALL BE REPLACED BY NEW EQUIPMENT FROM THE CONTRACTOR. THE EQUIPMENT SHALL BE SAFELY UNLOADED BY THE CONTRACTOR AT THE LOCATION DESIGNATED BY THE SIGNAL SHOP SUPERVISOR. CONTACT SIGNAL SHOP SUPERVISOR (724-5887) AT LEAST 2 WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT. THIS WORK SHALL BE INCIDENTAL TO THE OTHER ITEMS OF WORK IN THE CONTRACT.
5. THE CONTRACTOR SHALL PROVIDE ALL TRAFFIC SIGNS EXCEPT FOR OVERHEAD METRO STREET NAME SIGNS. THE CONTRACTOR SHALL ALSO PROVIDE ALL SIGN MOUNTING HARDWARE, EXCEPT THE HARDWARE FOR MOUNTING THE OVERHEAD METRO STREET NAME SIGNS. PCDOT SHALL FABRICATE ALL OVERHEAD METRO STREET NAME SIGNS FOR THE DESIGNATED INTERSECTION(S) AND PROVIDE THE MOUNTING HARDWARE FOR THESE SIGNS. THE CONTRACTOR SHALL INSTALL ALL GROUND MOUNTED SIGNS. PCDOT SHALL INSTALL ALL OVERHEAD SIGNS ON TRAFFIC SIGNAL MAST ARMS.
6. THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AND INSTALL ALL PAVEMENT MARKINGS REQUIRED TO COMPLETE THE PROJECT.
7. THE TRAFFIC SIGNAL SHALL NOT BE ENERGIZED UNTIL ALL SIGNAL RELATED SIGNS HAVE BEEN INSTALLED AND VERIFIED IN PLACE.
8. UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL AS PART OF THIS PROJECT, IT IS THE CONTRACTORS RESPONSIBILITY TO REPAIR/RESTORE ANY LANDSCAPING, IRRIGATION, OR HARDSCAPE THAT MAY HAVE BEEN DAMAGED OR DISTURBED BY THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE OPERATIONS DIVISION PUBLIC WORKS SUPERVISOR (724-2639) BEFORE ANY PLANTS ARE REMOVED.
9. THE CONTRACTOR'S ATTENTION IS DIRECTED TO A.R.S. 40-360.41 THRU 360.44 FOR RESTRICTIONS ON WORK IN THE VICINITY OF OVERHEAD POWER LINES. THE CONTRACTOR SHALL NOT OPERATE POWER EQUIPMENT PLACED SO THAT ANY EXTENSION OF THE EQUIPMENT AND/OR LOAD CARRIED BY THE EQUIPMENT CAN REACH TO WITHIN 10 FEET OF ACTIVE POWER LINES RATED AT OR UNDER 50 kV (KILIVOLTS). GREATER CLEARANCES APPLY FOR HIGHER VOLTAGE POWER LINES. WHERE WORK WITHIN THE CLEARANCE LIMITS IS NECESSARY, THE CONTRACTOR SHALL CONTACT TEP 10 WORKING DAYS IN ADVANCE OF THE PROPOSED WORK. GO TO www.tep.com/resources/safety/overhead TO ARRANGE FOR TEMPORARY DEACTIVATION, OR OTHER MEASURES DEEMED NECESSARY TO PERMIT SAFE OPERATION NEAR THE OVERHEAD LINES. WHERE EXCAVATION NEAR EXISTING POWER POLES IS PLANNED, THE CONTRACTOR SHALL CONTACT TEP 10 WORKING DAYS IN ADVANCE, TO ARRANGE FOR BRACING AND SHORING. GO TO www.tep.com/resources/safety/overhead. BEFORE THE END OF THE WORK SHIFT EACH DAY, THE CONTRACTOR SHALL PROVIDE DRIVABLE ACCESS TO ALL TEP FACILITIES.

TRAFFIC SIGNAL LEGEND:

EXISTING	NEW	
		SIGNAL OR LIGHT POLE.ARM.LUMINAIRE
		NO. 3½ PULL BOX
		NO. 7 PULL BOX
		NO. 7 PULL BOX W/ EXTENSION
		TRAFFIC CONTROLLER CABINET
		ELECTRICAL SERVICE PEDESTAL
		BATTERY BACKUP SYSTEM CABINET (UPS)
		TRAFFIC SIGNAL HEAD, TYPE F
		TRAFFIC SIGNAL HEAD, TYPE O
		TRAFFIC SIGNAL HEAD, TYPE D (2)

EXISTING	NEW	
		PEDESTRAIN SIGNAL HEAD
		PRE-EMPT SENSOR
		VIDEO DETECTION CAMERA
		PRE-EMPT BEACON
		PED PUSH BUTTON POST
		STREET NAME SIGN
		CONDUIT . UNDERGROUND
	(16)	CONDUIT RUN
(K)	(K)	SIGNAL POLE

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Registered Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 04/22/19 ARIZONA, U.S.A. Expires 09/30/19

EPS GROUP

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

Pima County Department of Transportation

TRAFFIC SIGNAL GENERAL NOTES AND LEGEND TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: Horiz. = None Vert. = None | Sheet TS01 of TS07

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-Notes.dgn DATE: 5/17/2019 TIME: 5:09:28 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

STREET LIGHTING GENERAL NOTES:

1. ALL EQUIPMENT/MATERIALS AND CONSTRUCTION SHALL MEET OR EXCEED THE REQUIREMENTS CONTAINED IN THE CURRENT PIMA ASSOCIATION OF GOVERNMENTS (PAG) STANDARD SPECIFICATIONS AND THE STANDARD DETAILS FOR PUBLIC IMPROVEMENTS, THE SPECIAL PROVISIONS AND THE APPROVED PLANS.

2. THE EXACT LOCATION OF EACH NEW POLE FOUNDATION, PULLBOX, OR ELECTRIC SERVICE PEDESTAL FOUNDATION SHALL BE APPROVED BY THE TRAFFIC ENGINEER PRIOR TO INSTALLATION.

3. THE TOP OF THE POLE FOUNDATION SHALL BE LEVEL WITH THE SURROUNDING FINISHED GRADE. IF THE SLOPE OR SHOULDER DROPS OFF FROM FINISHED GRADE, THE CONTRACTOR SHALL GRADE AROUND POLE FOUNDATION. THE TOP OF THE FOUNDATION SHALL EXTEND NO MORE THAN FOUR (4) INCHES ABOVE THE SURROUNDING FINISHED GRADE.

4. SPREAD FOUNDATIONS, IF REQUIRED BY FIELD INSPECTION OR AS IDENTIFIED ON THE APPROVED PLANS, SHALL BE CONSTRUCTED IN ACCORDANCE WITH PAG STD. DTL. T-433. THE CONTRACTOR SHALL VERIFY POLE BOLT PATTERN & DIMENSIONS REQUIRED FOR THE PROJECT. POLE LOCATIONS OF SUCH FOUNDATIONS SHALL BE FIELD IDENTIFIED BY THE INSPECTOR.

5. POLE FOUNDATIONS SHALL MAINTAIN A MINIMUM OF SIX (6) FEET HORIZONTAL DISTANCE FROM EXISTING WATER MAINS, MEASURED FROM OUTSIDE OF THE FOUNDATION WALL TO THE OUTSIDE OF PIPE WALL.

6. THE PULLBOXES SHOWN ON THE PLANS ARE DIAGRAMMATIC REPRESENTATIONS. THE EXACT LOCATION OF THE PULLBOXES SHALL BE ADJACENT TO STREETLIGHT POLE AT LOCATIONS PRE-APPROVED BY THE INSPECTOR.

7. PULLBOXES SHALL NOT BE INSTALLED WITHIN CONCRETE CURB ACCESS RAMPS OR LANDINGS. IN ADDITION, ANY PULLBOXES INSTALLED BEHIND CURBS SHALL BE INSTALLED BETWEEN THE CURB AND THE PROPOSED/FUTURE SIDEWALK OR BEYOND THE PROPOSED/FUTURE SIDEWALK. AN EXCEPTION TO THIS NOTE WOULD BE BOXES INSTALLED IN A MEDIAN. ANY PULLBOXES INSTALLED ALONG AN UNCURBED ROADWAY SHALL BE INSTALLED TEN (10) FEET FROM EDGE OF PAVEMENT TO EDGE OF PULLBOX WHERE RIGHT-OF-WAY PERMITS OR AS FAR FROM PAVEMENT AS PRACTICAL WHEN THERE IS INSUFFICIENT RIGHT-OF-WAY TO PROVIDE THE TEN (10) FOOT OFFSET.

8. A THREE QUARTER (3/4) INCH BY 10 FOOT GROUND ROD SHALL BE INSTALLED IN THE NO. 7 PULL BOX (WITH THE EXTENSION) ADJACENT TO THE CONTROLLER CABINET. A 3/4 INCH BY 10 FOOT GROUND ROD SHALL BE INSTALLED IN THE NO. 3 1/2 PULL BOX AT THE END OF EACH STREET LIGHT CIRCUIT. TWO GROUND ROD CLAMPS SHALL BE FURNISHED AND INSTALLED FOR EACH GROUND ROD FOR CLAMPING THE GROUND WIRE.

9. ONLY NEW CONDUIT, CONDUCTORS, AND CABLE SHALL BE INSTALLED.

10. THE CONDUIT LOCATIONS SHOWN ON THE APPROVED PLANS ARE DIAGRAMMATIC REPRESENTATIONS ONLY. THE LOCATION OF THE CONDUIT MAY BE ADJUSTED IN THE FIELD TO AVOID ANY CONFLICTS. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO INSTALLATION. ALL CONDUITS SHALL BE INSTALLED WITHIN EXISTING RIGHT-OF-WAY UNLESS OTHERWISE APPROVED.

11. CONDUIT INSTALLED UNDER EXISTING PAVED DRIVEWAYS, THAT ARE NOT SCHEDULED TO BE RECONSTRUCTED AS PART OF THIS PROJECT, SHALL BE INSTALLED BY MEANS OF BORING.

12. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 36 INCHES, TO TOP OF CONDUIT, BELOW FINISHED GRADE, EXCEPT WHEN CONDUITS CROSS CULVERTS OR ARE ROUTED ALONG BRIDGE AND WINGWALLS. ANY CONDUIT INSTALLED LESS THAN 36 INCHES DEEP SHALL BE ENCASED IN CONCRETE PER PAG STANDARD SPECIFICATIONS 732-3.01.

13. ALL ROADWAY STREET LIGHT SYSTEM CONDUITS SHALL BE PVC SCHEDULE 40 UNLESS NOTED OTHERWISE. CONDUIT ADJACENT TO CURB SHALL BE INSTALLED 6 INCHES BACK OF CURB AND 36 INCHES BELOW TOP OF CURB.

14. ALL CONDUITS SHALL BE CLEANED BY COMPRESSED AIR. A PROPERLY SIZED CONDUIT PISTON OR MANDREL SHALL BE PULLED THROUGH THE CONDUIT PRIOR TO CONDUCTOR AND CABLE INSTALLATION.

15. CONDUITS FOR FUTURE USE SHALL BE SEALED WITH A PROPERLY SIZED TAPERED POLYETHYLENE DUCT PLUG AT EACH TERMINATION POINT. THE #8 BARE BOND WIRE SHALL BE LOOPED THROUGH THE PLUG PULL TAB AND TWO FEET OF SLACK DOUBLED BACK INTO THE CONDUIT.

16. AVOID PLACING UNDERGROUND CONDUIT OVER EXISTING WATER MAINS AND MAINTAIN A SIX (6) FOOT MINIMUM HORIZONTAL SEPARATION, TYPICAL FOR ALL CONDUIT INSTALLATIONS THROUGHOUT THE PROJECT.

17. ALL POLES SHALL BE WIRED AND GROUNDED PER PAG STD. DTL. T-107, WITH THE EXCEPTION OF THE WIRE TYPE. REFER TO NOTE 18 BELOW FOR WIRE SIZE AND TYPE UNLESS OTHERWISE NOTED ON THE PLANS.

18. TWO #10 AWG-XHHW CONDUCTORS SHALL BE INSTALLED FROM EACH LUMINAIRE TO THE CONCRETE PULL BOX ADJACENT TO THE POLE FOUNDATION, LEAVING THREE (3) FEET OF SLACK FOR EACH CONDUCTOR (MEASURED FROM THE TOP OF THE PULL BOX) IN THE PULL BOX. ROUTE FOUR CONDUCTORS TO THE LUMINAIRE WITH THE PHOTOELECTRIC CELL. AN IN-LINE FUSE SHALL BE INSTALLED FOR EACH LUMINAIRE IN THE ASSOCIATED PULL BOX.

19. DUAL ARC TUBE LAMPS SHALL BE USED ON ALL LUMINAIRES.

STREET LIGHTING GENERAL NOTES (CONT.):

20. ALL LUMINAIRES SHALL HAVE PHOTOCELL RECEPTACLES. THE STREET LIGHTING PHOTOELECTRIC CELL SHALL BE MOUNTED ON THE LUMINAIRE POLE CLOSEST TO THE STREET LIGHTING CONTROLLER OR, IF A CONTROLLER IS NOT REQUIRED, THE LUMINAIRE POLE CLOSEST TO THE METER PEDESTAL. ALL OTHER LUMINAIRES SHALL HAVE SHORTING CAPS.

21. THE TUCSON ELECTRIC POWER COMPANY CONSTRUCTION DEPARTMENT (918-8300) SHALL BE CONTACTED BY THE CONTRACTOR TO VERIFY LOCATION OF THE ELECTRIC SERVICE CONNECTION AT THE INTERSECTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXCAVATING AND BACKFILLING THE TRENCH AND INSTALLING ANY NECESSARY SLEEVES UNDER SIDEWALKS OR DRIVEWAYS IN WHICH THE ELECTRIC SERVICE CABLE IN CONDUIT (CIC) IS TO BE INSTALLED BY TEP.

    (NOTE: IF NOT TEP, MODIFY NAME OF ELECTRIC UTILITY AND PROVIDE THE CORRECT NUMBER FOR THE UTILITY CONTACT PHONE NUMBER).

22. A MINIMUM OF TEN FOOT RADIAL CLEARANCE SHALL BE MAINTAINED BETWEEN ALL METALLIC PARTS AND OVERHEAD ELECTRIC CONDUCTORS WHILE INSTALLING POLES AND LUMINAIRES. BLUE STAKE SHALL BE CONTACTED IF THE CONTRACTOR REQUIRES OVERHEAD PROTECTION.

23. A MINIMUM HORIZONTAL SEPARATION OF 24 INCHES SHALL BE MAINTAINED FROM ALL GAS LINES.

24. THE TRAFFIC SIGNAL OPERATION AT EXISTING SIGNALIZED INTERSECTIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

25. UPON COMMENCEMENT OF WORK, TRAFFIC CONTROL DEVICES SHALL BE POSTED AND MAINTAINED BY THE CONTRACTOR UNTIL SUCH A TIME AS THE WORK IS COMPLETE. ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY PIMA COUNTY & APPROVED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES ON FEDERALLY FUNDED PRJECTS SHALL BE IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AS ADOPTED BY ADOT AND APPROVED BY THE ENGINEER.

RESPONSIBILITIES:

1. THE CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY ALL GOVERNMENTAL AGENCIES.

2. THE CONTRACTOR SHALL CONTACT THE BLUE STAKE AT 1-800-782-5348, A MINIMUM OF 2 WORKING DAYS PRIOR TO ANY EXCAVATION.

3. THE CONTRACTOR SHALL MAINTAIN AND ALLOW ACCESS TO ALL PIMA COUNTY WASTEWATER MANHOLES LOCATED WITHIN THE RIGHT -OF-WAY. ACCESS MUST BE MAINTAINED 24 HOURS PER DAY, 7 DAYS A WEEK. NO ELECTRICAL UTILITIES MAY BE PLACED WITHIN 6 FEET OF A FORCE MAIN.

4. THE LOCATION OF THE UTILITIES SHOWN ON THE PLANS IS APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING/ POTHOLING UNDERGROUND UTILITIES IN THE VICINITY OF THE PROPOSED POLE FOUNDATIONS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR VERIFYING THE CLEARANCE BETWEEN OVERHEAD LINES AND STREET LIGHTING EQUIPMENT PRIOR TO INSTALLATION OF POLES AND FOUNDATIONS.

5. ANY EQUIPMENT AND/OR UTILITIES WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DESTROYED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE SOLE EXPENSE OF THE CONTRACTOR.

6. THE CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT AND MATERIALS FOR THE INSTALLATION OF THE STREET LIGHTS AS SPECIFIED ON THE APPROVED PLANS AND IN THE PROJECT SPECIFICATIONS.

7. THE CONTRACTOR SHALL CAREFULLY DISASSEMBLE AND SALVAGE ALL EXISTING TRAFFIC SIGNAL AND STREET LIGHTING EQUIPMENT THAT IS NOT TO REMAIN, EXCEPT EXISTING WIRELESS COMMUNICATIONS AND PTZ CAMERA EQUIPMENT. ALL OF THE EQUIPMENT SHALL BE SAFELY STORED AT THE CONSTRUCTION SITE UNTIL IT IS REINSTALLED OR SAFELY RETURNED TO THE PCDOT MAINTENANCE YARD, 1313 S. MISSION ROAD. THE EQUIPMENT SHALL BE SAFELY UNLOADED BY THE CONTRACTOR. CONTACT THE SIGNAL SHOP SUPERVISOR (724-5887) AT LEAST TWO (2) WORKING DAYS PRIOR TO RETURNING THE EQUIPMENT.

8. UNLESS SPECIFICALLY IDENTIFIED FOR REMOVAL AS PART OF THIS PROJECT, IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR /RESTORE ANY LANDSCAPING, IRRIGATION, OR HARDSCAPE THAT MAY HAVE BEEN DAMAGED OR DISTURBED BY THE CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE OPERATIONS DIVISION PUBLIC WORKS SUPERVISOR (724-2639) BEFORE ANY PLANTS ARE MOVED.

9. THE CONTRACTOR'S ATTENTION IS DIRECTED TO A.R.S. 40-360.41 THRU 360.44 FOR RESTRICTIONS ON WORK IN THE VICINITY OF OVERHEAD POWER LINES. THE CONTRACTOR SHALL NOT OPERATE POWER EQUIPMENT PLACED SO THAT ANY EXTENSION OF THE EQUIPMENT AND/OR LOAD CARRIED BY THE EQUIPMENT CAN REACH TO WITHIN 10 FEET OF ACTIVE POWER LINES RATED AT OR UNDER 50 kV (KILIWOLTS). GREATER CLEARANCES APPLY FOR HIGHER VOLTAGE POWER LINES. WHERE WORK WITHIN THE CLEARANCE LIMITS IS NECESSARY, THE CONTRACTOR SHALL CONTACT TEP 10 WORKING DAYS IN ADVANCE OF THE PROPOSED WORK. GO TO www.tep.com/resources/safety/overhead TO ARRANGE FOR TEMPORARY DEACTIVATION, OR OTHER MEASURES DEEMED NECESSARY TO PERMIT SAFE OPERATION NEAR THE OVERHEAD LINES. WHERE EXCAVATION NEAR EXISTING POWER POLES IS PLANNED, THE CONTRACTOR SHALL CONTACT TEP 10 WORKING DAYS IN ADVANCE, TO ARRANGE FOR BRACING AND SHORING. GO TO www.tep.com/resources/safety/overhead. BEFORE THE END OF THE WORK SHIFT EACH DAY, THE CONTRACTOR SHALL PROVIDE DRIVABLE ACCESS TO ALL TEP FACILITIES.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 31304 JAMES D. BEER Date Signed 6/20/19 ARIZONA, U.S.A. Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

STREET LIGHTING GENERAL NOTES
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

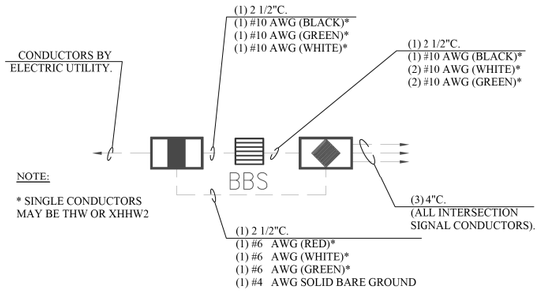
Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: Horiz. = None Vert. = None | Sheet TS.02 of TS.07 | Page 41 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-Notes_2.dgn DATE: 4/22/2019 TIME: 10:19:28 AM $USER$

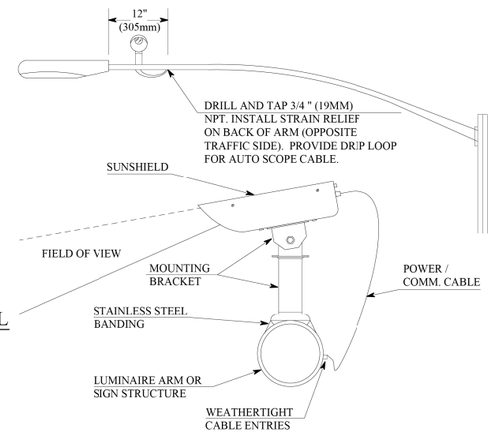
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C



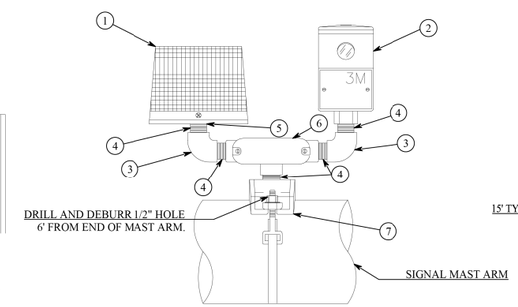
BATTERY BACK-UP POWER SUPPLY (BBS) SCHEMATIC DETAIL

N.T.S.



VIDEO DETECTION SYSTEM AUTO SCOPE INSTALLATION

N.T.S.



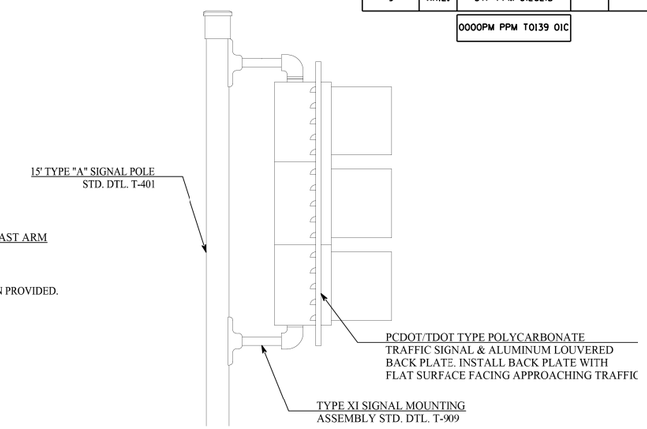
LOCATE EVP ASSEMBLY 8' 6" FROM END TENON, USE FACTORY WELDED 1" NPT NIPPLE WHEN PROVIDED.

LIST OF MATERIALS		
ITM.	QU.	DESCRIPTION
1	1	WHELEN STROBE LIGHT (P/N 1S3220LC OR 1S3220L)*
2	1	3M OPTICOM DETECTOR (P/N 711, 721 OR 722)*
3	2	3/4" GALVANIZED 90 ELBOWS
4	5	3/4" GALVANIZED CLOSE NIPPLE
5	1	1" - 3/4" REDUCER
6	1	3/4" TB CONDULET
7	1	PELCO AB0155-29

* - AS PER PLAN

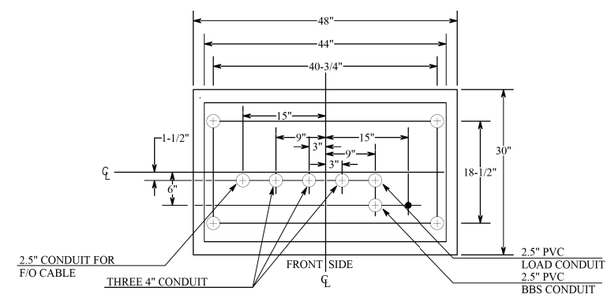
PRE-EMPTION MOUNTING ASSEMBLY DETAIL

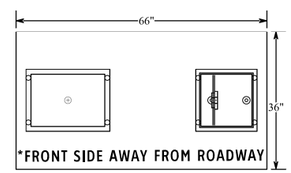
N.T.S.

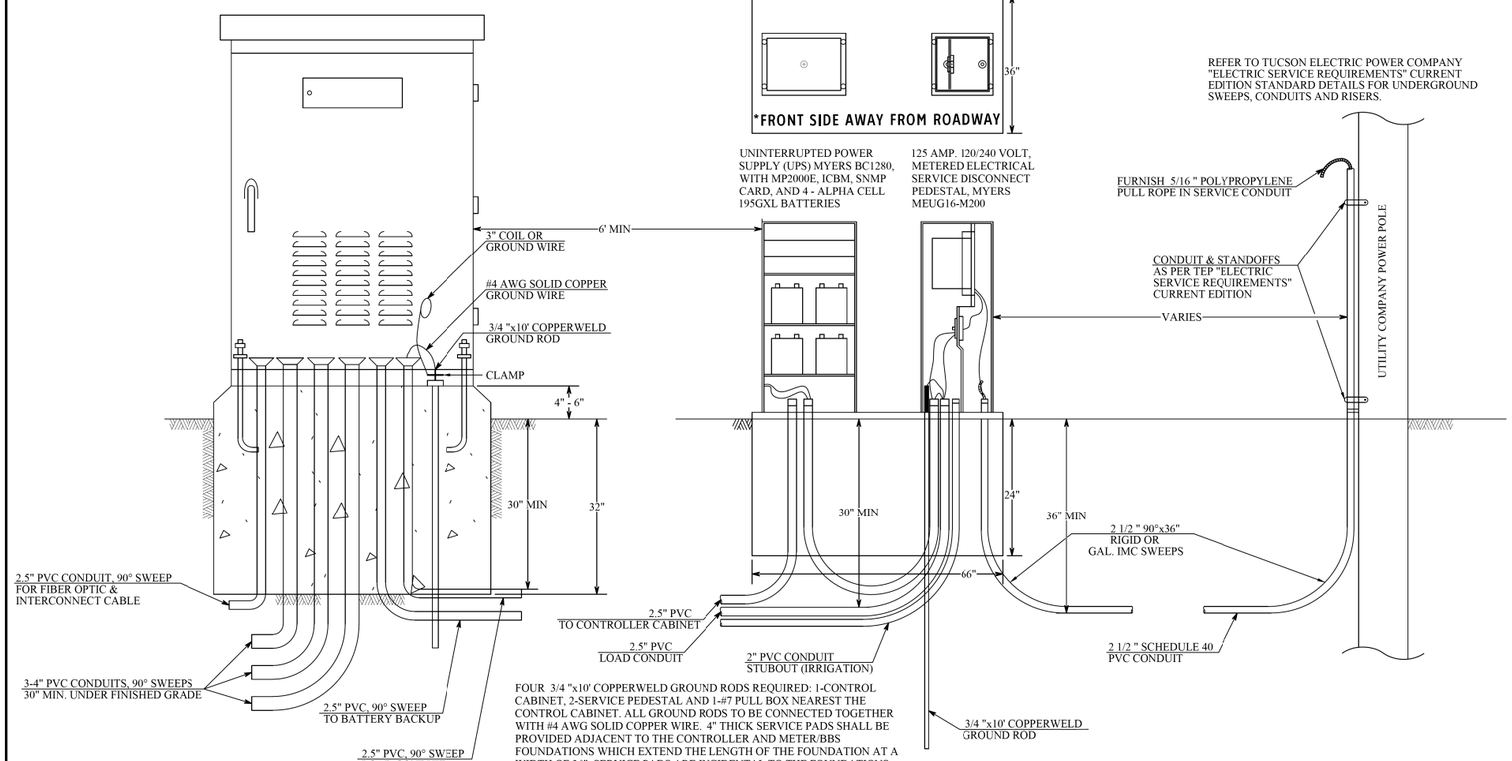


PCDOT A POLE SIGNAL MOUNTING ASSMBLY & BACKPLATE OREINTATION

N.T.S.



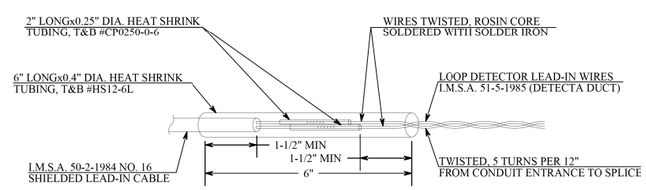




FOUR 3/4 "x10' COPPERWELD GROUND RODS REQUIRED: 1-CONTROL CABINET, 2-SERVICE PEDESTAL AND 1-#7 PULL BOX NEAREST THE CONTROL CABINET. ALL GROUND RODS TO BE CONNECTED TOGETHER WITH #4 AWG SOLID COPPER WIRE. 4" THICK SERVICE PADS SHALL BE PROVIDED ADJACENT TO THE CONTROLLER AND METER/BBS FOUNDATIONS WHICH EXTEND THE LENGTH OF THE FOUNDATION AT A WIDTH OF 36". SERVICE PADS ARE INCIDENTAL TO THE FOUNDATIONS.

TRAFFIC SIGNAL ELECTRICAL SERVICE

N.T.S.

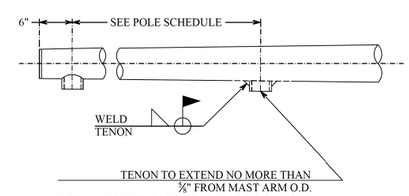


LOOP DETECTOR SPLICE

N.T.S.

1. LOOPS INSTALLED IN THE FINAL LIFT OF PAVEMENT SHALL BE SEALED WITH BLACK 3M DETECTOR LOOP SEALANT 5000 OR APPROVED EQUAL. LOOPS IN THE LEVELING COURSE MAY USE AN APPROVED ASPHALTIC EMULSION
2. ALL 5'x6' SHALL BE WOUND IN A CLOCKWISE DIRECTION.
3. TAG EACH LOOP WIRE AT THE PULL BOX AS START (S) , OR FINISH (F). LOOPS SHALL BE IDENTIFIED PER LANE AND DIRECTION AS PER STANDARD SPECIFICATIONS.
4. ALL SIDE BY SIDE 6'x6' LOOPS TO BE CONNECTED IN SERIES (START TO FINISH TO START TO FINISH, ETC.)

LOOP INSTALLATION NOTES



TENON DETAIL

N.T.S.

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) Arizona, U.S.A. 51504 JAMES D. BEIER Date Signed 07/20/19 Expires 6/30/20

EPS GROUP

Call at least two full working days before you dig in Arizona. ARIZONA BLUE STAKE, INC. (602) 263-1100 Outside Maricopa County (800) 782-5348

Pima County Department of Transportation

TRAFFIC SIGNAL DETAILS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: Horiz. = None Vert. = None | Sheet TS03 of TS07 | Page 42 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-Detail.dgn DATE: 1/18/2019 TIME: 4:47:22 PM $USER$

INTERSECTION SIGNAL

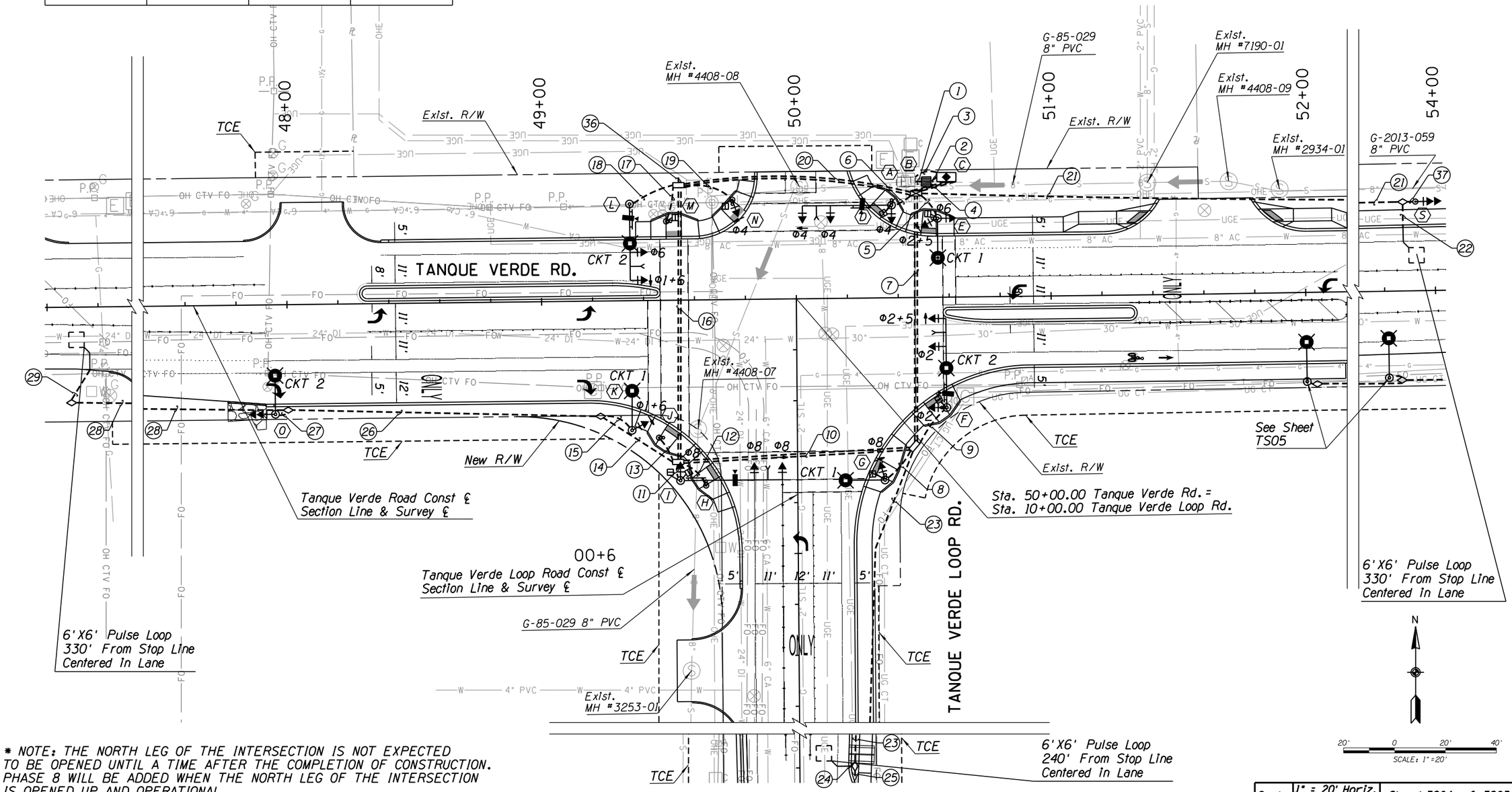
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

PROPOSED PHASING DIAGRAM

1+5	2+6	4	8 (ULTIMATE)*
1, 5	6 PED, 6, 2, 2 PED	4 PED, 4, 4 PED	8 PED, 8

STOPLINE AND LOOP DETECTOR LOCATIONS

Item by Approach	Station	Offsett from Const. ℄ to ℄ of Item
Eastbound Tanque Verde Rd: Φ2 PULSE LOOP 6' x 6'	46+11.4	12.8' RT
Westbound Tanque Verde Rd: Φ6 PULSE LOOP 6' x 6'	53+92.7	14.0' LT
Northbound Tanque Verde Loop Rd: Φ4 PULSE LOOP 6' x 6'	6+85.7	9.5' RT



* NOTE: THE NORTH LEG OF THE INTERSECTION IS NOT EXPECTED TO BE OPENED UNTIL A TIME AFTER THE COMPLETION OF CONSTRUCTION. PHASE 8 WILL BE ADDED WHEN THE NORTH LEG OF THE INTERSECTION IS OPENED UP AND OPERATIONAL.

Scale: 1" = 20' Horiz. Vert = None

Sheet TS04 of TS07

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-010.dgn DATE: 5/17/2019 TIME: 5:10:13 PM $USER$

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Pima County Department of Transportation

TRAFFIC SIGNAL PLAN VIEW

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

INTERSECTION A

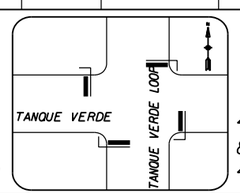
CABINET AND POLE SCHEDULE

TRAFFIC SIGNAL CONTROLLER					
CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A)	EXISTING MYERS 125 AMP 120/240 V MUEG16-M125 WTB	EXISTING METERED SERVICE PEDESTAL WITH TWO SINGLE-POLE 50 AMP CIRCUIT BREAKERS	1 - 30A SINGLE POLE BREAKER FOR SIGNALS; 1 - 50A SINGLE POLE BREAKER FOR LIGHTING;	EXISTING METER PANEL TO BE REPLACED WITH A METER TYPE- TEP SR-409/452	EXISTING METERED SERVICE PEDESTAL ADDRESS: 11149 E. TANQUE VERDE RD.	T 1801
(B) UPS	MYERS BC1280 W/MP 2000E OR EQUIVALENT WITH PULL OUT SHELVES	ICBM SNMP CARD & 4 ALPHA CELL 195 GXL BATTERIES			LOCATE ADJACENT TO ELECTRIC SERVICE PEDESTAL ON A SHARED OR COMMON FOUNDATION. (66"L X 36"W X 24"D)	
(C)	NEMA TS-2 1998 TYPE IV TS-2 SIZE 6, DETECTOR RACK CONFIGURATION 1	NEMA TS-2 TYPE 2, ECONOLITE COBALT MODEL	16-CHANNEL MMU, RACK-MTD LOOP DETECTORS. NEMA SOLID STATE NEMA LOAD SWITCHES, VIDEO DETECTION. 3-POLE LIGHTING CONTACTOR, 3 - 20A BREAKERS	USE TYPE 11 DOUBLE DOOR CABINET.	LOCATE BY ENGINEEER IN THE FIELD. MIN 10 FEET FROM FACE OF CURB TO THE STREET SIDE OF FOUNDATION AND MIN 21 FEET FROM NEAR EDGE OF THROUGH LANE.	T 203 T 312

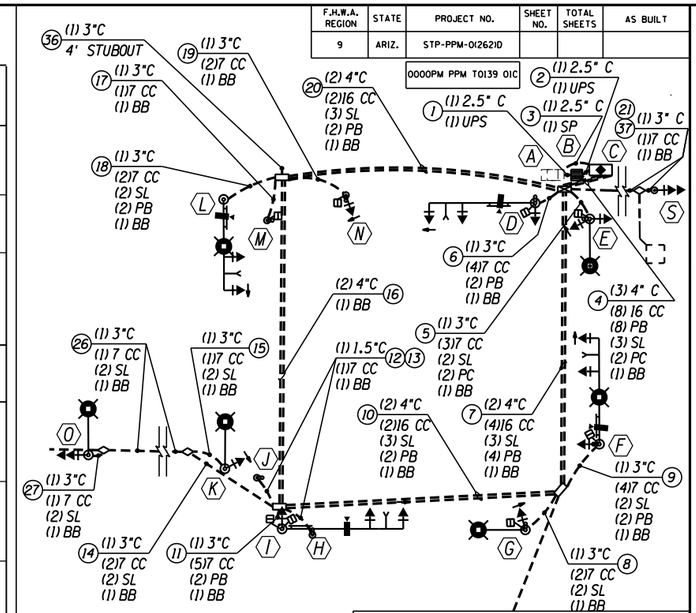
POLE		MAST ARM		SIGNALS						
NUMBER	TYPE	SIG.	LUM.	MTG.	FACE	LUMINAIRE	P.B. SIGN	REMARKS	LOCATION	STANDARDS
(D) 11'	J	35'	-	(2) ASTRO-BRAC (1) V (1) X1	(1) Q (2) F (1) PED	-	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	INSTALL CAMERA ON MAST ARM WITH EXTENSION. SEE NOTE 5.	(D) 50+37.75, 36.36' Lt	T 410 T 803 T 1104 T 417 T 804 T 1901 T 418 T 903 T 1902 T 801 T 909 T 1903 T 802 T 1101 T 1905
(E)	2B	-	20'	(2) V (1) X1	(1) Q (1) F (1) PED	ATB2 (SEE NOTE 31 ON SHEET TS01)	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	INSTALL PHOTOCELL ON POLE. SEE NOTE 5.	(E) 50+55.74, 31.00' Lt	T 417 T 802 T 909 T 418 T 803 T 1101 T 445 T 804 T 1104 T 801 T 903
(F) 11'	Q	35'	20'	(2) ASTRO-BRAC (1) V (1) X1	(1) Q (2) F (1) PED	ATB2 (SEE NOTE 31 ON SHEET TS01)	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	INSTALL CAMERA ON LIGHTING MAST ARM. SEE NOTE 5.	(F) 50+58.58, 43.36' Rt	T 412 T 803 T 1104 T 417 T 804 T 1901 T 418 T 903 T 1902 T 801 T 909 T 1903 T 802 T 1101 T 1905
(G)	G	-	20'	(1) V (1) X1	(1) Q (1) PED	ATB2 (SEE NOTE 31 ON SHEET TS01)	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	SEE NOTE 5.	(G) 50+34.00, 71.54' Rt	T 407 T 802 T 909 T 417 T 803 T 1101 T 418 T 804 T 1104 T 801 T 903
(H)(J)	PED TYPE I	-	-	-	-	-	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	SEE NOTE 5.	(H) 49+63.75, 72.91' Rt (J) 49+45.46, 53.90' Rt	T 417 T 1101 T 418 T 1104 T 419
(I) 11'	J	40'	-	(2) ASTRO-BRAC (1) V (2) X1	(1) Q (2) F (2) PED	-	-	INSTALL CAMERA ON MAST ARM WITH EXTENSION. SEE NOTE 6.	(I) 49+53.72, 70.83' Rt	T 410 T 803 T 1901 T 417 T 804 T 1902 T 418 T 903 T 1903 T 801 T 909 T 1905 T 802
(K)	G	-	20'	(1) V	(1) Q	ATB2 (SEE NOTE 31 ON SHEET TS01)	-	-	(K) 49+34.93, 50.89' Rt	T 407 T 802 T 417 T 803 T 418 T 903 T 801
(L) 11'	Q	30'	20'	(2) ASTRO-BRAC	(1) Q (1) F	ATB2 (SEE NOTE 31 ON SHEET TS01)	-	INSTALL CAMERA ON LIGHTING MAST ARM.	(L) 49+34.92, 38.00' Lt	T 412 T 802 T 1903 T 417 T 803 T 1905 T 418 T 1901 T 801 T 1902
(M)	A, 10' (W/ 17" FRANGIBLE BASE)	-	-	(1) X1	(1) PED	-	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	SEE NOTE 5.	(M) 49+49.20, 31.00' Lt	T 401 T 804 T 417 T 909 T 418 T 1101 T 419 T 1104
(N)	A, 15' (W/ 17" FRANGIBLE BASE)	-	-	(2) X1	(1) Q (1) PED	-	TYPE I 2" ADA PB & PPB SIGN R10-3eAZ	SEE NOTE 5.	(N) 49+75.29, 39.20' Lt	T 401 T 801 T 909 T 417 T 802 T 1101 T 418 T 803 T 1104 T 419 T 804
(O)	G	-	20'	(2) X1	(2) D	ATB2 (SEE NOTE 31 ON SHEET TS01)	-	WASH WARNING FLASHER. SEE SIGNING SHEETS.	(O) 47+95.00, 43.00' Rt	T 407 T 801 T 909 T 417 T 802 T 418 T 803
(S)	A, 15' (W/ 17" FRANGIBLE BASE)	-	-	(2) X1	(2) D	-	-	WASH WARNING FLASHER. SEE SIGNING SHEETS.	(S) 53+93.00, 35.00' Lt	T 401 T 801 T 909 T 417 T 802 T 418 T 803

NOTES:

1. Astro-Brac mounting shall be Pelco Astro-Brac part number AB-0116, or equivalent.
2. All luminiares shall have photocell receptacles. All photocell receptacles shall have shorting cap, except for the luminaire with photocell.
3. Pedestrian push button to be at 42 inches above finish grade to center of push button.
4. Furnish and install pedestrian push button sign R10-3eAZ with appropriate arrow per ADOT Manual of Approved Signs.
5. Pedestrian Push Buttons shall be ADA accessible vibrotactile audible type Polara iN2 - iNavigator 2-wire Accessible Pedestrian System.
6. Some components of signal equipment for southbound approach not installed as part of this project. See Traffic Signal General Note 33.



Note: Street Name Signs shall be Pelco mounted to signal mast arm..
Aluminum Sign Panel w/ White Type XI Sheeting
Background: Transparent Green
Legend: Reflectorized White, "D" Alphabet
Border: Reflectorized 1" White

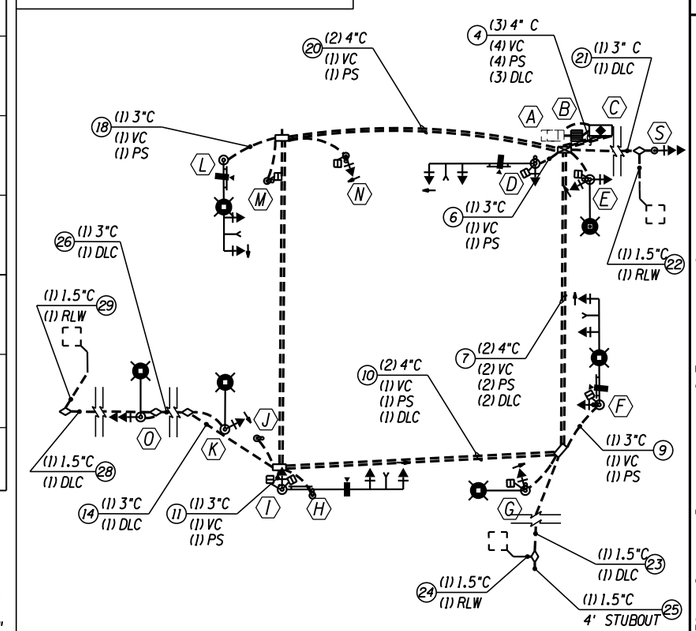


HIGH VOLTAGE CIRCUIT

(X)Y"C = NUMBER & SIZE OF CONDUIT
(X) = NUMBER OF CABLES
*CC = *14 AWG IMSA OF CONDUIT
BB = BARE BOND, *8, SOLID
PB = PRE-EMPT BEACON, *14 THW
SP = SIGNAL POWER, SEE TS02
SL = STREET LIGHTING, *10 AWG XHHW
PC = PHOTO CELL, *10 AWG ZHHW
UPS = UPS POWER, SEE TS02

LOW VOLTAGE CIRCUIT

(X)Y"C = NUMBER & SIZE OF CONDUIT
(X) = NUMBER OF CABLES
VC = VIDEO DETECTION CABLE, ECONOLITE TERRA BRANCH CABLE PART NO. 1175-01X
PS = PRE-EMPT SENSOR, OPTICOM *20 3 CG SHIELD CABLE (MODEL 138)
DLC = DETECTOR LEAD IN CABLE, *16 AWG IMSA 50-2-1984
RLW = ROADWAY LOOP DWIRE *14 AWG IMSA 51-5-1985



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Ana M. Olivares, P.E., Director

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 5/17/19 Expires 6/30/20 ARIZONA U.S.A.

EPS GROUP

ARIZONA 811 Call 811 Before You Dig Arizona Blue Stake, Inc. (602) 263-1100 (Maricopa County) (800) 253-9860 (Outside Maricopa County)

Pima County Department of Transportation

TANQUE VERDE RD AND TANQUE VERDE LOOP ROAD
TRAFFIC POLE SCHEDULE
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

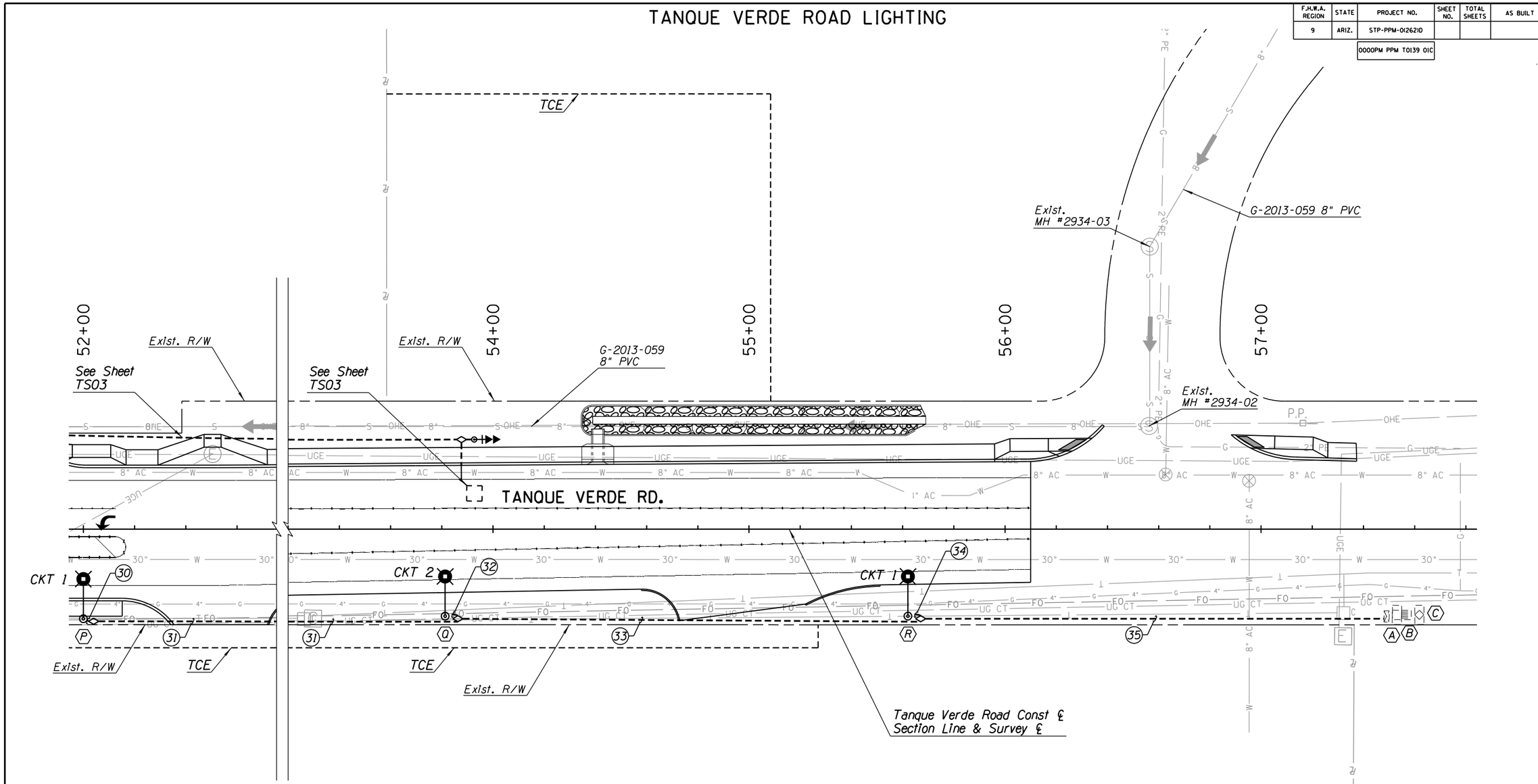
Scale: 1" = 40' Horiz. Vert. = None | Sheet TS05 of TS07 | Page 44 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-011.dgn DATE: 5/17/2019 TIME: 5:48:35 PM $USER$

TANQUE VERDE ROAD LIGHTING

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			



Scale: 1" = 20' Horiz. Vert = None

Sheet TS06 of TS07

Page 45 of 67

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEIER 51304 Date Signed 07/20/19 Expires 4/17/2021 ARIZONA U.S.A.

EPS GROUP

ARIZONA 811 Call at least two full working days before you begin excavation. Call 8-1-1 or 1-800-STAKE-IT (782-5348) In Maricopa County (602) 263-1100

Pima County Department of Transportation

STREET LIGHTING PLAN VIEW

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\7.Traffic Signal Plans\4TVTVL_TS-020.dgn DATE: 5/17/2019 TIME: 5:49:51 PM $USER$

TANQUE VERDE ROAD LIGHTING

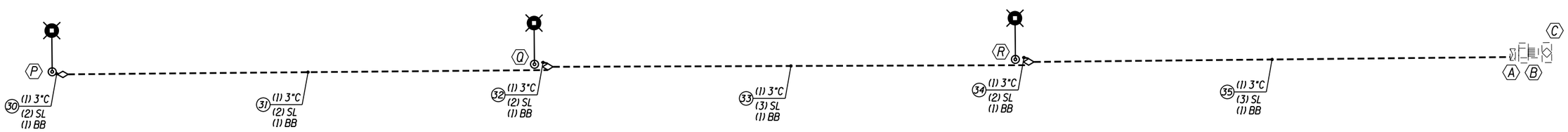
CABINET AND POLE SCHEDULE

TRAFFIC SIGNAL CONTROLLER					
CABINET	TYPE	CONTROLLER	AUX. CONTROL	REMARKS	LOCATION	STANDARDS
(A)	EXISTING MYERS 125 AMP 120/240 V MUEG16-M125 WTB	EXISTING METERED SERVICE PEDESTAL WITH TWO SINGLE-POLE 50 AMP CIRCUIT BREAKERS	1 - 30A SINGLE POLE BREAKER FOR SIGNALS; 1 - 50A SINGLE POLE BREAKER FOR LIGHTING;	EXISTING METERED SERVICE PEDESTAL ADDRESS: 11174 E. TANQUE VERDE RD.	EXISTING LOCATION STA 57+54, 33' Rt	
(B) UPS	EXISTING MYERS BC1280 W/MP 2000E	EXISTING ICBM SNMP CARD & 4 ALPHA CELL 195 GXL BATTERIES			EXISTING LOCATION STA 57+57, 33' Rt	
(C)	EXISTING NEMA TS-2 1998 TYPE IV TS-2 SIZE 6	EXISTING NEMA TS-2 TYPE 2, ECONOLITE COBALT MODEL	EXISTING 16-CHANNEL MMU, RACK-MTD LOOP DETECTORS. NEMA SOLID STATE NEMA LOAD SWITCHES, VIDEO DETECTION. 3-POLE LIGHTING CONTACTOR, 3 - 20A BREAKERS	NEW STREET LIGHTING CONDUCTORS SHALL BE LANDED ON THE HIGHWAY LIGHTNING PANEL IN THE EXISTING CONTROLLER CABINET.	EXISTING LOCATION STA 57+62, 33' Rt	

POLE		MAST ARM		SIGNALS						
NO.	TYPE	SIG.	LUM.	MTG.	FACE	LUMINAIRE	P.B. SIGN	REMARKS	LOCATION	
(P)(Q)(R)	G	-	20'	-	-	ATB2 (SEE NOTE 31 ON SHEET TS01)	-	-	(P) 52+00.00, 35.00' Rt (Q) 53+81.30, 34.00' Rt (R) 55+62.06, 34.00' Rt	T 407 T 417 T 418

NOTES:

1. All luminiares shall have photocell receptacles. All photocell receptacles shall have shorting cap, except for the luminaire with photocell.



HIGH VOLTAGE CIRCUIT

(X) Y"C = NUMBER & SIZE OF CONDUIT
(X) = NUMBER OF CABLES
#CC = #14 AWG IMSA OF CONDUIT
BB = BARE BOND, #8, SOLID
PB = PRE-EMPT BEACON/PED PUSH BUTTON, #14 THW
SP = SIGNAL POWER, SEE TS02
SL = STREET LIGHTING, #10 AWG XHHW
PC = PHOTO CELL, #10 AWG ZHHW
UPS = UPS POWER, SEE TS02

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	ERM/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) CERTIFICATE NO. 31304 JAMES D. BEIER Date Signed 07/20/19 ARIZONA, U.S.A. Expires 6/30/20

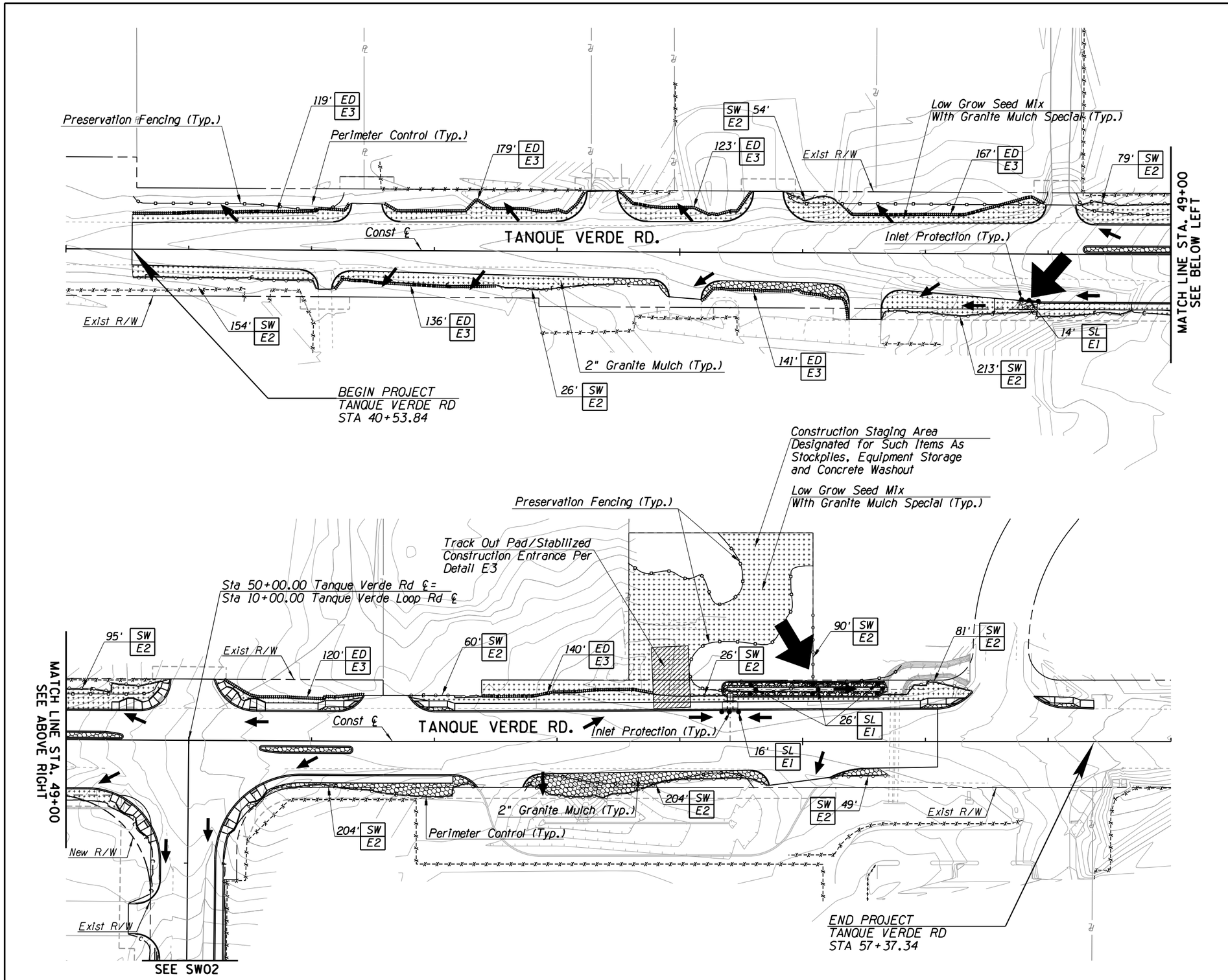
EPS GROUP

Pima County Department of Transportation

TANQUE VERDE RD STREET LIGHT
POLE SCHEDULE
TANQUE VERDE RD AT TANQUE VERDE
LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Scale: 1" = 40' Horiz. Vert. = None | Sheet TS07 of TS07 | Page 46 of 67

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

LEGEND

(Items in Legend Not to Scale)

- RIP RAP FOR REFERENCE ONLY - SEE ROADWAY PLANS (Permanent Structural Erosion Control Method)
- EARTH DIKE/SEDIMENT BERM-ED (E4)
- SEDIMENT WATTLE-SW (9") (E2)
- SEDIMENT LOG-SL (20") (E1)
- DRAINAGE FLOW DIRECTION
- PRESERVATION FENCE FOR REFERENCE ONLY-SEE DEMOLITION PLANS Fencing to be installed around perimeter of Preserve In Place plants, prior to demolition, to protect drip line.
- GRANITE MULCH SPECIAL (WITH LOW GROW SEED MIX)-See Detail. Item #8030044
- 2" GRANITE MULCH- Size: 3/4". Color: Apache Brown. Item #8030040
- TRACK OUT PAD/STABILIZED CONSTRUCTION SURFACE- Size: 1"-3" Course Aggregate-See Detail. Item #

NOTES:

(1) Disturbed areas where construction halts for a period greater than 14 days require temporary stabilization measures.
(2) No BMP shall be placed such that ingress and egress access to individual lots is restricted.
(3) Right-of-Way and easements are the project Limits of Disturbance. Areas outside of designated "Limits of Disturbance" shall remain undisturbed.
(4) There are no wetlands within the project Limits of Disturbance and no wetlands located offsite with the potential to receive stormwater runoff from this site.
(5) Field modifications to this plan are expected to be made throughout the life of this project under the direction of the Stormwater Team,in accordance with Permit No. AZG2013-001.
(6) Erosion/sediment controls shall be placed on all side slope boundaries only when adjacent side slope is at lower elevation than project area and has potential to receive stormwater runoff. Adjacent slopes at higher elevation than project area do not require perimeter control.

SYMBOL	ITEM	QTY/SHEET
	GRANITE MULCH SPECIAL (WITH LOW GROW SEED MIX)	30,144 SF
	2" GRANITE MULCH	5,443 SF
ED	EARTH DIKE (ED) (E4)	1,125 LF
SW	SEDIMENT WATTLE (SW) (9") (E2)	1,335 LF
SL	SEDIMENT LOG (SL) (20") (E1)	56 LF

N

40' 0 40' 80'

SCALE: 1" = 40'

Scale: 1" = 40' Horiz. 1" = 4' Vert. | Sheet SW01 of SW06

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Registered Professional Engineer (Civil) CERTIFICATE NO. 37304 JAMES D. BEER Date Signed 10/30/18 ARIZONA U.S.A. Expires 6/30/19

EPS GROUP

CAD or Basic Data CAD exchange form is a Microsoft Excel file. Data is in an ASCII format and is in Pima County, ARIZ. 2011 State Plane Coordinates.

Pima County Department of Transportation

STORMWATER POLLUTION PREVENTION PLANS

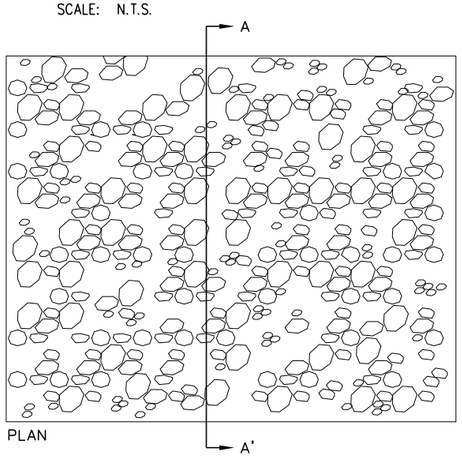
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW01.dgn DATE: 3/18/2019 TIME: 4:42:32 PM $USER$

GRANITE MULCH SPECIAL – BID ITEM 8030044

SCALE: N.T.S.



PLAN

50% OF GROUND SURFACE TO BE COVERED WITH 1 1/2" GRANITE MULCH IN A RANDOM PATTERN. INTENT IS TO IMITATE NATURAL DESERT GROUND SURFACE.

50% OF GROUND SURFACE TO BE LEFT BARE.

GRANITE MULCH COLOR = APACHE BROWN OR APPROVED EQUAL

50% OF GROUND SURFACE TO BE LEFT BARE.

50% OF GROUND SURFACE TO BE COVERED WITH 1" GRANITE MULCH.

GROUND SURFACE TO BE PREPARED FOR CLASS II SEEDING SEE SPECIAL PROVISION SECTION 805.

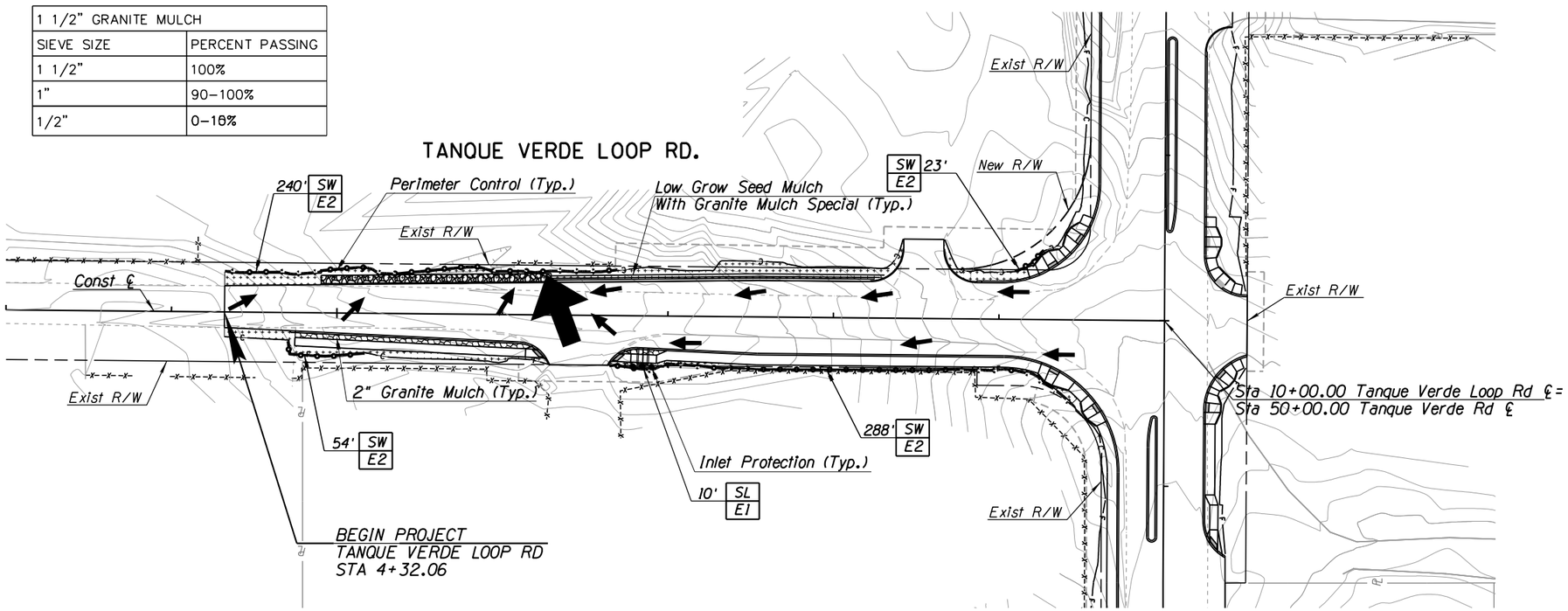
SECTION A–A'

NOTES:
1.NO PRE–EMERGENT HERBICIDES TO BE USED IN SEEDED AREAS.
2.GROUND SURFACE TO BE PREPARED FOR CLASS II SEEDING SEE SPECIAL PROVISION SECTION 805.
3.SEEDING TO BE APPLIED AFTER APPLICATION OF ROCK MULCH

1 1/2" GRANITE MULCH	
SIEVE SIZE	PERCENT PASSING
1 1/2"	100%
1"	90–100%
1/2"	0–10%

LOW GROW MIX

BOTANICAL NAME	COMMON NAME	PLS/ACRE
AMBROSIA DELTOIDEA	TRIANGLELEAF BURSAGE	2
ARISTIDA PURPUREA	PURPLE THREEAWN	1.5
BAILEYA MULTIRADIATA	DESERT MARIGOLD	1.5
BOUTELOUA ARISTIDOIDES	NEEDLE GRAMA	1
BOUTELOUA CURTIPENDULA "VAUGHN"	SIXWEEKS GRAMA	1
BOUTELOUA ROTHROCKI	ROTHROCK GRAMA	1
CALLIANDRA CALLIFORNICA	FAIRYDUSTER	1
ENCELIA FARINOSA	BRITTLEBUSH	1
ERIOGONUM FASCICULATUM	FLATTOP BUCKWHEAT	1
ERICAMERIA LARICIFOLIA	TURPENTINE BUSH	1
ESCHOLTZIA MEXICANA	MEXICAN POPPY	1
ISOCOMA TENUISECTA	BURROWEED	1
HILARIA BELANGERI	CURLY MESQUITE	0.5
LUPINUS SPARSIFLORUS	DESERT LUPINE	1
PHACELIA CRENULATA	NOTCH-LEAVED PHACELIA	0.5
PLANTAGO INSULARIS	INDIAN WHEAT	2.5
SALVIA COLUMBARIAE	CHIA	1
SENNA COVESII	DESERT SENNA	2
SPHAERLECEA SPP	GLOBEMALLOW	2
THYMOPHYLLA PENTACHAETA	DOGWEED	1.5
		25



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

LEGEND

(Items in Legend Not to Scale)

- RIP RAP FOR REFERENCE ONLY - SEE ROADWAY PLANS (Permanent Structural Erosion Control Method)
- EARTH DIKE/SEDIMENT BERM-ED (E4)
- SEDIMENT WATTLE-SW (9") (E2)
- SEDIMENT LOG-SL (20") (E1)
- DRAINAGE FLOW DIRECTION
- PRESERVATION FENCE FOR REFERENCE ONLY-SEE DEMOLITION PLANS Fencing to be installed around perimeter of Preserve In Place plants, prior to demolition, to protect drip line.
- GRANITE MULCH SPECIAL (WITH LOW GROW SEED MIX)-See Detail. Item #8030044
- 2" GRANITE MULCH- Size: 3/4". Color: Apache Brown. Item #8030040
- TRACK OUT PAD/STABILIZED CONSTRUCTION SURFACE- Size: 1"-3" Course Aggregate-See Detail. Item #

NOTES:

(1) Disturbed areas where construction halts for a period greater than 14 days require temporary stabilization measures.
(2) No BMP shall be placed such that ingress and egress access to individual lots is restricted.
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(6) Erosion/sediment controls shall be placed on all side slope boundaries only when adjacent side slope is at lower elevation than project area and has potential to receive stormwater runoff. Adjacent slopes at higher elevation than project area do not require perimeter control.

SYMBOL	ITEM	QTY/SHEET
	GRANITE MULCH SPECIAL (WITH LOW GROW SEED MIX)	4,820 SF
	2" GRANITE MULCH	482 SF
ED	EARTH DIKE (ED) (E4)	0 LF
SW	SEDIMENT WATTLE (SW) (9") (E2)	605 LF
SL	SEDIMENT LOG (SL) (20") (E1)	10 LF

N

40' 0 40' 80'

SCALE: 1" = 40'

Scale: 1" = 40' Horiz. 1" = 4' Vert.

Sheet SW02 of SW06

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 37304 JAMES D. BEIER Date Signed 3/18/19 ARIZONA, U.S.A. EXPIRES 6/30/19

EPS GROUP

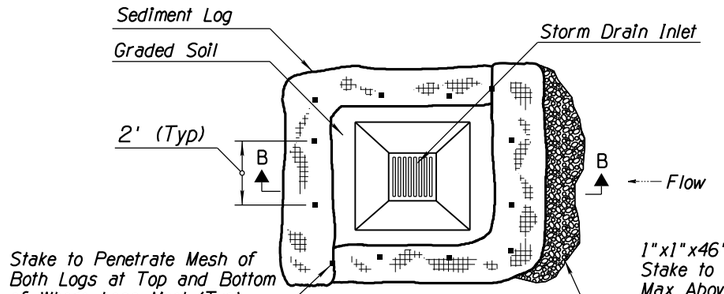
Pima County Department of Transportation

STORMWATER POLLUTION PREVENTION PLANS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

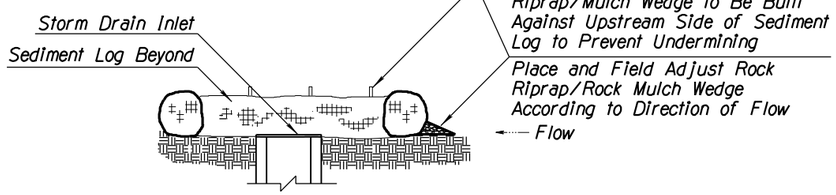
Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW02.dgn DATE: 3/18/2019 TIME: 4:42:33 PM $USER$

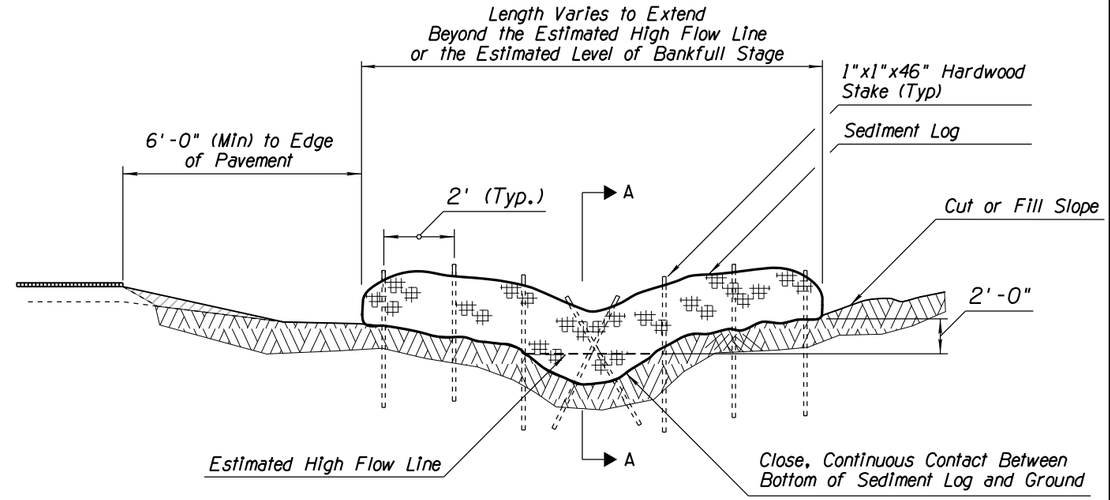
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			



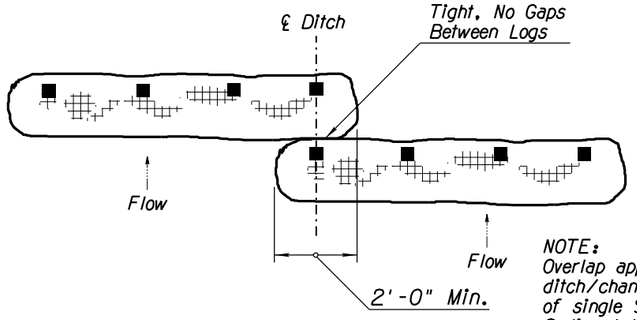
PLAN



SEDIMENT LOG AT STORM DRAIN
SECTION B-B (NTS)

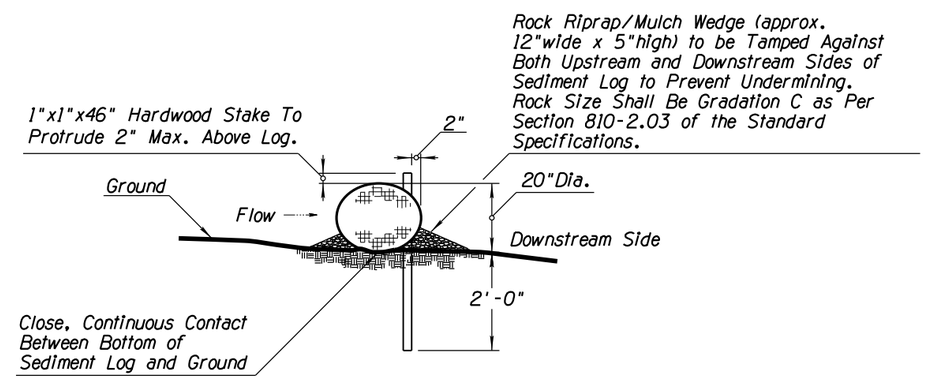


SEDIMENT LOG IN DITCH/CHANNEL
SECTIONAL ELEVATION (NTS)



NOTE:
Overlap applies to situations where ditch/channel is wider than length of single Sediment Log. Two or multiple Sediment Logs may be necessary.

TYPICAL OVERLAP
PLAN (NTS)



SECTION A-A (NTS)

NOTES:
1. Sediment Logs shall not be installed in the urban freeway medians, nor where cable barrier systems are employed.
2. Locate Sediment Logs as indicated in plans, SWPPP or as directed by the Engineer.
3. Select, install and maintain Logs per manufacturers' specifications and good engineering practices.
4. Lay sediment log across prepared ditch or channel. Trenching or burial of Sediment Logs is not required. The close, continuous contact between the bottom of the Log and the ground is mandatory. The Logs shall be installed in the ditch, swale or channel bottom perpendicular to the flow of water as shown on detail this sheet.
5. Stake Log as shown. Stakes shall be placed through downstream side only as shown.
6. DO NOT drive stakes through center of the log. Stakes must be driven into the ground as shown.
7. Ensure that no gaps exist between soil and bottom of Sediment Log. Repair any rills or undercuts promptly.
8. Placement of Sediment Logs shall be evaluated by the Engineer in rocky soil conditions.
9. Remove Sediment Log BMPs within the ditches/channels and around the storm drain inlets as per the Direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
10. Dispose of Sediment Logs and trapped sediment material and fill trench created by Sediment Log.
11. The installation and maintenance of Sediment Log BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Sediment Logs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
12. Field adjust and correct Sediment Log BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
13. Install rock mulch/riprap for channel/ditch lining or rock check dams for longitudinal ditch slopes that exceed 5% and/or for soil conditions not suitable for log installation.
14. The Sediment Log BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintenance, final removal, and disposal, as well as returning the area to an acceptable condition as approved by the Engineer.
15. Refer to Standard Specification Section 810-2.06(B) for Sediment Log material specifications.

DETAIL E1
SEDIMENT LOG

Scale:	N.T.S.	Sheet SW03 of SW06	Page 49 of 67

Ana M. Olivares, P.E., Director

No.	Revision Description	Engineer	Date

		Date
Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

Professional Engineer (Civil) JAMES D. BEER 51394 Date Signed 4/17/2019 Expires 6/30/19

EPS GROUP

CALL at least two full working days before you begin excavation. ARIZONA BLUE STAKE, INC. (602) 263-1100 (Outside Maricopa County (800) 782-5348)

Pima County Department of Transportation

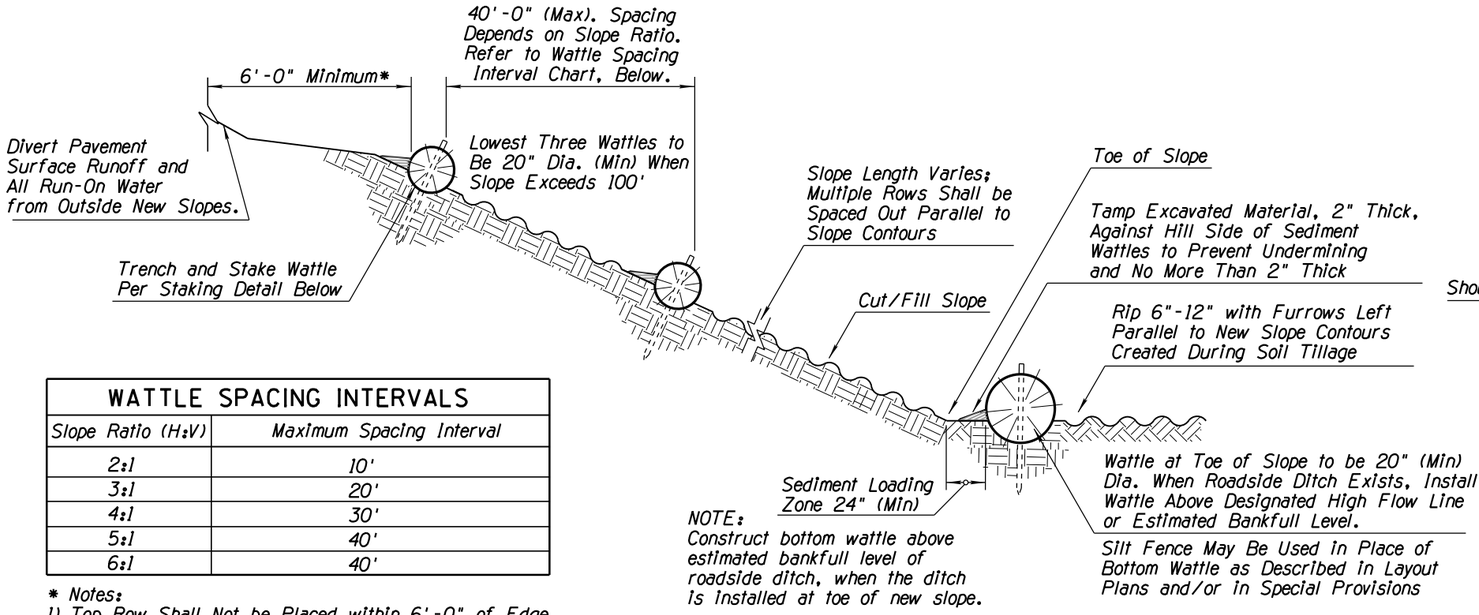
STORMWATER POLLUTION PREVENTION PLANS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW03.dgn DATE: 3/18/2019 TIME: 4:42:39 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			

0000PM PPM T0139 01C

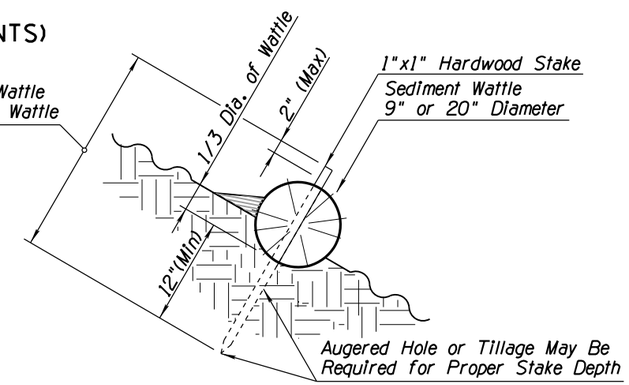


NOTE:
Construct bottom wattle above estimated bankfull level of roadside ditch, when the ditch is installed at toe of new slope.

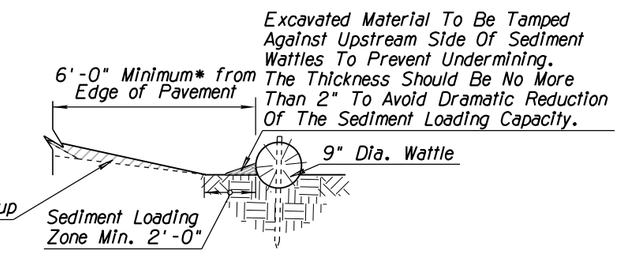
SECTION (NTS)

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'

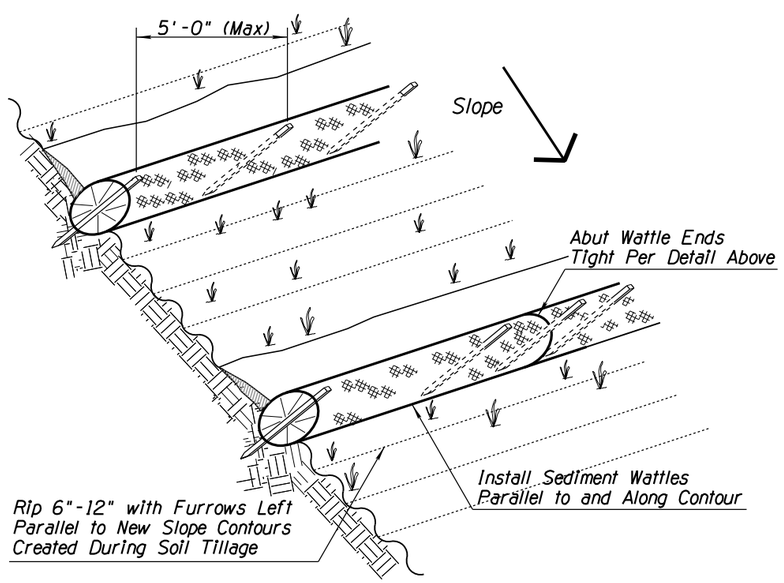
* Notes:
1) Top Row Shall Not be Placed within 6'-0" of Edge of Pavement and 9'-0" from Outside Surface of Barrier.
2) For erosive soils, place rows of wattles closer together.
3) For soils with low erosive potential, place rows of wattles further apart.



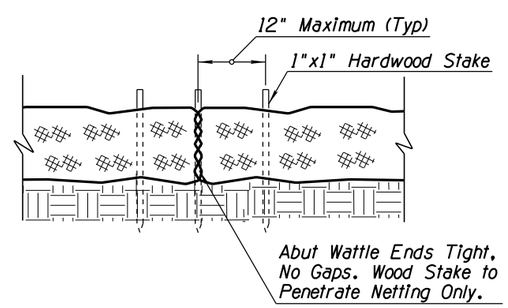
SEDIMENT WATTLE STAKING DETAIL (NTS)



NEW SHOULDER BUILDUP PROTECTION SECTION (NTS)



SEDIMENT WATTLE LAYOUT (NTS)



SEDIMENT WATTLE OVERLAP (NTS)

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. Field adjust and correct 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 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.
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.

DETAIL E2
SEDIMENT WATTLE

Scale:	N.T.S.	Sheet SW04 of SW06

Ana M. Olivares, P.E., Director

Designed	JOB	7/2018
Drawn	EMR/ES	7/2018
Checked	JOS	7/2018
Proj. Engr.	JOB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 51304 JAMES D. BEIER Date Signed 3/18/19 ARIZONA, U.S.A. Expires 6/30/19

EPS GROUP

Call at least two full working days before you begin excavation 1-800-STAKE-IT (1-800-782-5348) Outside Pima County (602) 263-1285

Pima County Department of Transportation

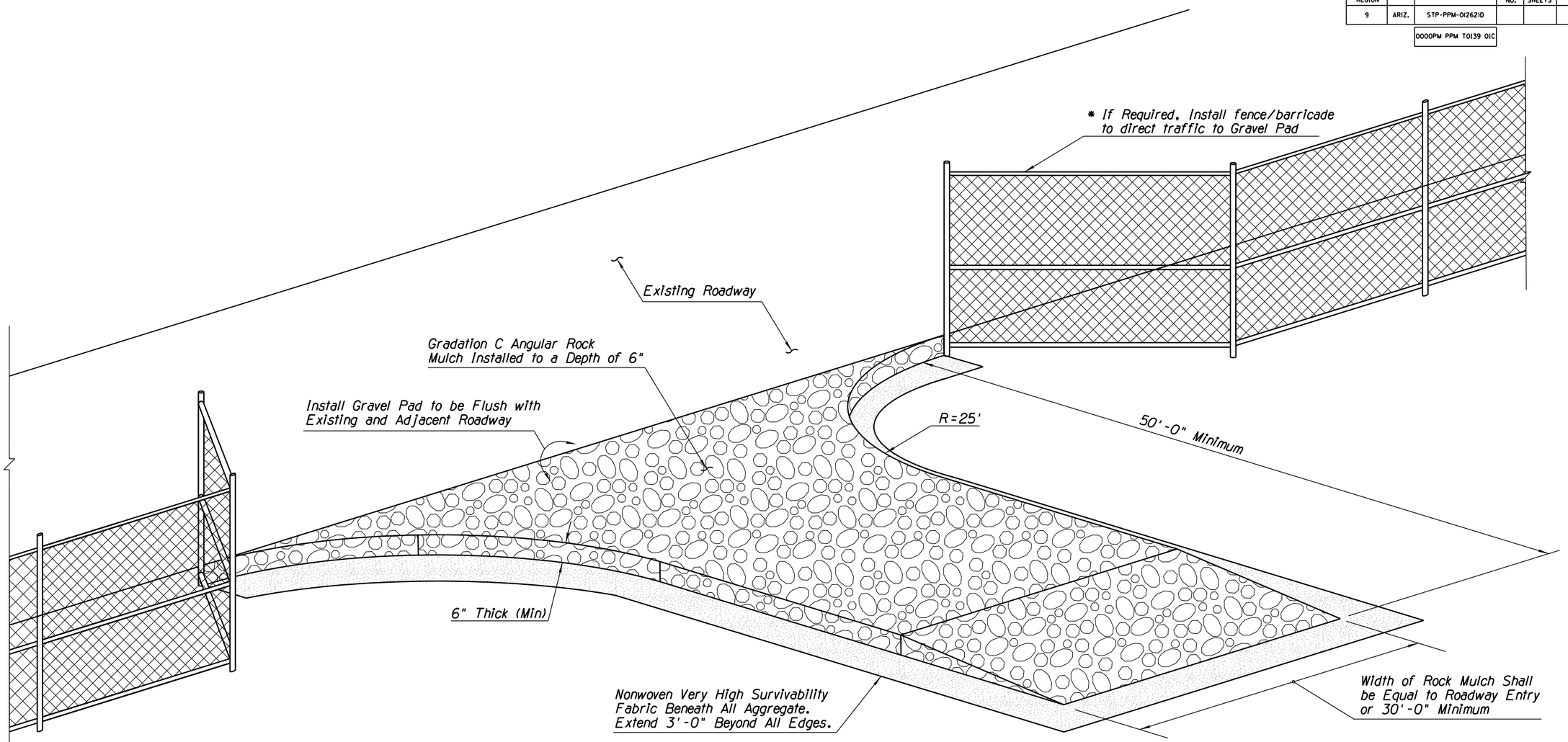
STORMWATER POLLUTION PREVENTION PLANS

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW04.dgn DATE: 3/18/2019 TIME: 4:42:40 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			



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. Field adjust and correct 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.

DETAIL E3

STABILIZED CONSTRUCTION ENTRANCE/EXIT GRAVEL PAD

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EMR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) JAMES D. BEER 51304 Date Signed 6/20/19 ARIZONA U.S.A. Expires 6/30/19

EPS GROUP

Pima County Department of Transportation

STORMWATER POLLUTION PREVENTION PLANS

TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

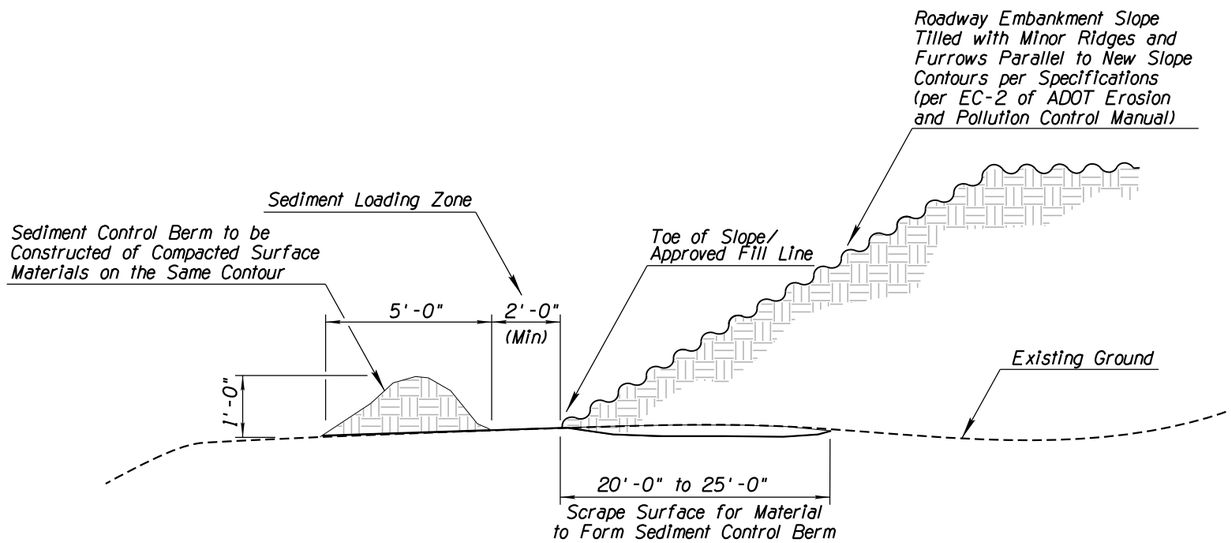
Scale: | Sheet SW05 of SW06 | Page 51 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW05.dgn DATE: 3/18/2019 TIME: 4:42:40 PM $USER$

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	STP-PPM-0(262)D			
		0000PM PPM T0139 01C			

TOTALS

ITEM	ITEM DESCRIPTION	UNIT	SHEET SW01 EST.	SHEET SW02 EST.	TOTAL EST.
8030040	2" GRANITE MULCH	S.F.	5,443	482	5,925
8030044	GRANITE MULCH SPECIAL (WITH LOW GROW SEED MIX)	S.F.	30,144	4,820	34,964
8100005	SEDIMENT LOG-SL (E1)	L.F.	56	10	66
8100006	SEDIMENT WATTLE-SW (E2)	L.F.	1,335	605	1,940
--	EARTH DIKE/SEDIMENT BERM-ED (E4)	L.F.	1,125	0	1,125



EARTH DIKE/SEDIMENT CONTROL BERM SECTION (NTS)

NOTES:

1. Locate Sediment Control Berms as indicated on plans or as directed by the Engineer.
2. Surface materials i.e. soil, rock, branches, leaves, slash and chips shall be scraped from the existing grade as needed to construct the berm prior to placement of roadway embankment. After scraping material into berm, compact berm as shown. Rock and slash shall extend no more than 4" above the surface.
3. Construct Sediment Control Berm on the same contour as the toe of new slope and a miniumum of 2'-0" beyond the toe of new slope. For the seeded areas, till to form minor ridges and furrows parallel to new slope contours and as specified in Section 805 of the Standard Specifications.
4. The installation and maintenance of Sediment Control Berm BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. For erosion/sediment control purposes, Sediment Control Berm BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Remove Sediment Control Berms per the direction of the Engineer or as soon as practicable upon stabilization of the construction disturbed area.
6. Field adjust and correct Sediment Control Berm BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Sediment Control Berms may be paid as a part of slope construction/ roadway excavation. When paid separately, the Sediment Control Berm 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.
8. OPTION TO SEDIMENT CONTROL BERM: When shown on layout plans and/or called for in Special Provisions, for urban situations, or where surface materials are not available, use wattles. Wattles shall be selected, installed, and maintained in accordance with manufacturers' specifications and good engineering practices. Refer to Sediment Wattle BMP.

DETAIL E4

BMP SUMMARY/EARTH DIKE

Ana M. Olivares, P.E., Director

Designed	JDB	7/2018
Drawn	EHR/ES	7/2018
Checked	JDS	7/2018
Proj. Engr.	JDB	7/2018

No.	Revision Description	Engineer	Date

Professional Engineer (Civil) CERTIFICATE NO. 37304 JAMES D. BEEER Date Signed 03/06/19 ARIZONA, U.S.A. Expires 9-30-19

EPS GROUP

Pima County Department of Transportation

STORMWATER POLLUTION PREVENTION PLANS
TANQUE VERDE RD AT TANQUE VERDE LOOP RD INTERSECTION
PROJECT NO. 4TVTVL

Tanque Verde Rd at Tanque Verde Loop Rd Intersection - Project No. 4TVTVL

Scale: | Sheet SW06 of SW06 | Page 52 of 67

FILE NAME: U:\Projects\2017\17-082\Civil\CADD\Plans\StormWater Pollution Prevention Plans\4TVTVL_SW06.dgn DATE: 3/18/2019 TIME: 4:42:41 PM $USER$

RIGHT-OF-WAY SURVEY

FOR

TANQUE VERDE ROAD AND TANQUE VERDE LOOP

GENERAL NOTES

1) THE BASIS OF BEARINGS

THE BASIS OF BEARINGS IS THE SOUTH LINE OF THE SOUTHWEST ONE-QUARTER OF SECTION 31, T14S, R16E, G.&S.R.M. PIMA COUNTY, ARIZONA, FROM A BRASS CAP SURVEY MONUMENT AT THE SOUTHWEST CORNER, WHICH LIES IN THE CENTER OF TANQUE VERDE ROAD AND IS APPROXIMATELY 158 FEET EAST OF THE INTERSECTION WITH TANQUE VERDE LOOP ROAD, TO A BRASS CAP SURVEY MONUMENT AT THE SOUTH ONE-QUARTER OF SECTION 31, SAID BEARING BEING N 89° 01' 49" E.

BASIS OF ELEVATION

THE BASIS OF ELEVATION FOR THIS PROJECT IS PIMA COUNTY OPUS CONTROL POINT "14S16E_A01" HAVING A PUBLISHED NAVD88 ELEVATION OF 2624.44 FEET. NOTE: ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DERIVED FROM GPS ELLIPSOID HEIGHT MEASUREMENTS AND THE APPLICATION OF A HIGH-RESOLUTION HYBRID GEOID MODEL, GEOID 12B.

BASIS OF COORDINATES

THIS PROJECT UTILIZES THE ARIZONA COORDINATE SYSTEM (ACS83), NAD83 2011, INTERNATIONAL FEET, AND IS LOCATED IN CENTRAL ZONE. THE CONTROL NETWORK WAS SURVEYED IN FEBRUARY, 2017 USING TRIMBLE GPS UNITS UTILIZING RTK METHODS AND INCORPORATED THE FOLLOWING PIMA COUNTY OPUS CONTROL POINTS:

14S16E_A01 2" ALUMINUM CAP ON STEEL PIN STAMPED "RLS 31030 WC 1.00"
14S16E_A21 1/2" STEEL PIN W/ TAG "PCDOT REF"

THE SURFACE COORDINATES WERE DERIVED FROM STATE PLANE VALUES BY USING THE FOLLOWING FORMULAS. THE PUBLISHED COMBINED SCALE FACTOR FOR PIMA COUNTY OPUS CONTROL POINT 14S16E_A01 WAS USED TO CONVERT GRID COORDINATES TO SURFACE FOR THIS PROJECT.

SURFACE NORTHING COORDINATES ARE DERIVED BY DIVIDING THE GRID COORDINATES BY 0.99992652, THEN SUBTRACTING 400,000.

SURFACE EASTING COORDINATES ARE DERIVED BY DIVIDING THE GRID COORDINATES BY 0.99992652, THEN SUBTRACTING 900,000.

FOR PIMA COUNTY OPUS CONTROL POINT 14S16E_A01 THE SURFACE COORDINATES ARE:

NORTHING: (456935.48/0.99992652) – 400,000 = 56969.06

EASTING: (1059036.92/0.99992652) – 900,000 = 159114.75

2) ALL BEARINGS/DISTANCES ARE DERIVED FROM FIELD MEASUREMENTS UNLESS OTHERWISE NOTED.

3) ALL PUBLIC RECORDS REFERENCED BY THIS SURVEY ARE RECORDED IN THE OFFICE OF THE PIMA COUNTY RECORDER, PIMA COUNTY, ARIZONA UNLESS OTHERWISE NOTED.

4) THE SUM OF COMPONENT DISTANCES MAY NOT EQUAL THE OVERALL DISTANCE SHOWN DUE TO ROUNDING.

5) THIS SURVEY DEPICTS EXISTING RIGHT-OF-WAY CONDITIONS, BUT DOES NOT ADDRESS POSSIBLE BOUNDARY CONFLICTS, ENCROACHMENTS, PRESCRIPTIVE RIGHTS, EASEMENTS, AND/OR OTHER POSSIBLE BONA FIDE RIGHTS.

6) THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A LICENSED LAND SURVEYOR IN THE PRACTICE OF LAND SURVEYING OR THE PREPARATION OF MAPS, PLATS, REPORTS, DESCRIPTIONS OR OTHER SURVEYING DOCUMENTS ONLY CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THOSE FACTS OR FINDINGS WHICH ARE THE SUBJECT OF THE CERTIFICATIONS AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE EITHER EXPRESSED OR IMPLIED.

7) ACCORDING TO ARIZONA STATUTES IT IS UNLAWFUL TO KNOWINGLY DISTURB OR DESTROY A SURVEY MONUMENT THAT BEARS THE REGISTRATION NUMBER OF A LAND SURVEYOR OR AN AGENCY'S NAME.

8) NO INVESTIGATION OF UNDERGROUND UTILITIES WAS INCLUDED IN THIS SURVEY.

9) THE BRASS CAP SURVEY MONUMENT(#14) LOCATED AT THE NORTHWEST CORNER OF SECTION 1, TOWNSHIP 14 SOUTH, RANGE 15 EAST, IS A CLOSING CORNER AND IS SOUTH OF THE TOWNSHIP LINE BY 0.76 FEET. SOME PREVIOUS SURVEYS IN THIS AREA HAVE ERRONEOUSLY USED THIS POINT AS THE SECTION CORNER RESULTING IN THE INCORRECT PLACEMENT OF THE SOUTHERLY RIGHT OF WAY LINE OF TANQUE VERDE ROAD. SEE DETAIL ON PAGE 2 OF THIS SURVEY.

10) THE BENCHMARK ELEVATIONS SHOWN ON THIS SURVEY WERE ESTABLISHED BY 3-WIRE DIFFERENTIAL LEVELING BASED UPON THE CITY OF TUCSON BENCHMARK 595E, FIELD BOOK 1989-E-1, PAGE 52, DESCRIBED AS AN "X" AT THE WEST EDGE OF A CONCRETE WALK, EAST OF THE SIGN FOR TANQUE VERDE BAPTIST CHURCH, SAID ELEVATION BEING 2621.105 FEET. CLOSED LEVELING LOOPS WERE RUN THROUGH THE BENCHMARKS AND OTHER POINTS, INCLUDING THE PIMA COUNTY OPUS CONTROL POINT A01(#1). A DIFFERENCE OF –0.07 FT. FROM THE LEVELED ELEVATION TO THE GPS DERIVED ELEVATION WAS OBSERVED AT THIS POINT.

REFERENCES

1) RECORDS OF SURVEY:
BK. 6, PG. 83
BK. 10, PG. 05
BK. 14, PG. 94
BK. 15, PG. 95
BK. 24, PG 86
BK. 25, PG. 84
BK. 30, PG. 17
BK. 48, PG. 28
BK. 53, PG. 07
BK. 70, PG. 03
BK. 70, PG. 67
BK. 75, PG. 40
BK. 76, PG 58
BK. 77, PG 60
BK. 83, PG. 99
BK. 84, PG. 05

2) MAP & PLATS:
BK. 63, PG. 26
BK. 21, PG. 22
BK. 42, PG. 24
BK. 61, PG. 09
BK. 62, PG. 88

3) ROAD MAPS
BK. 1, PG. 74
BK. 3, PG. 103

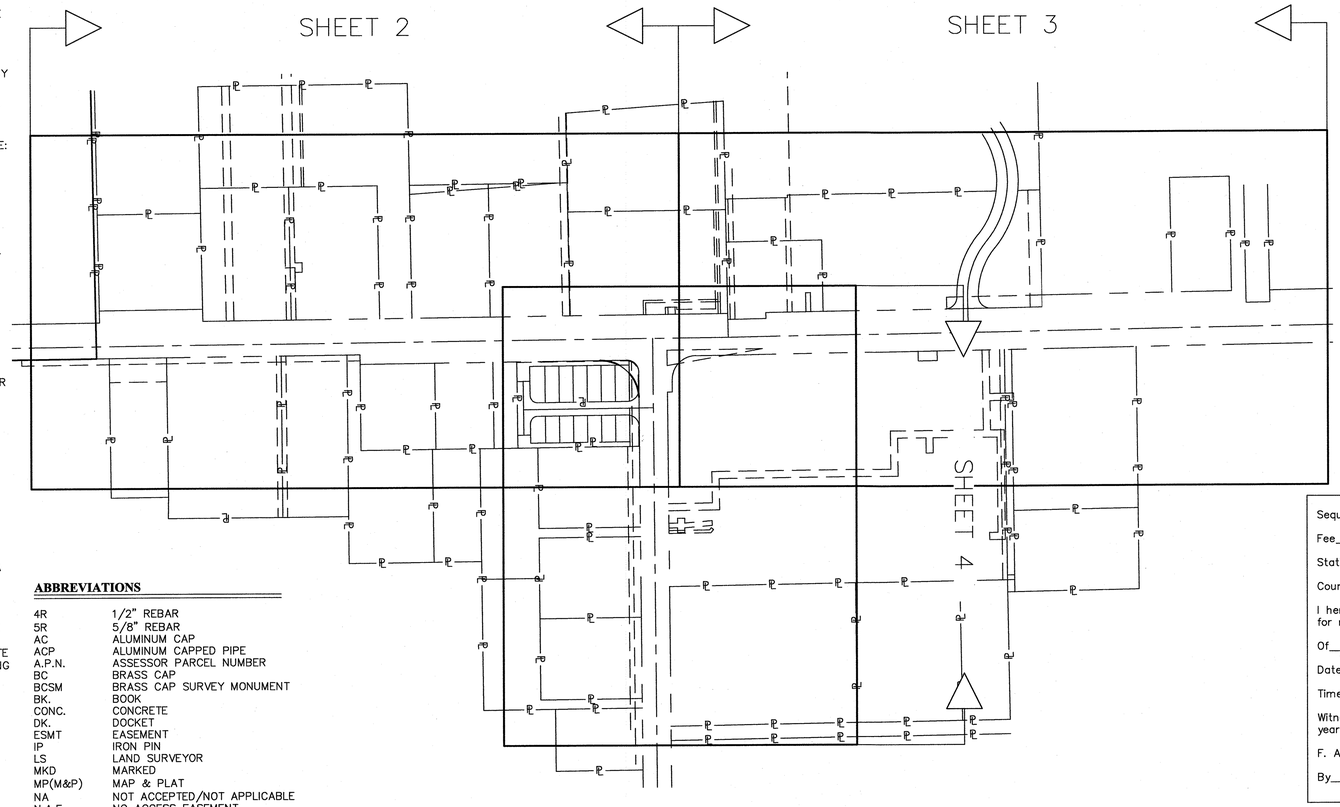
4) MISCELLANEOUS SURVEY:
BK. 0, PG. 820
BK. 1, PG. 273

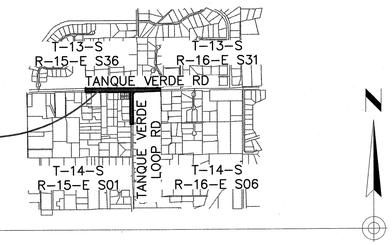
5) ASSESSOR MAPS:
114-57
133-02
205-52
205-37

5) SEWER PLANS:
G-85-029
G-87-055
G-2013-059

6) DEEDS
DKT. 9894 PG. 471
DKT. 10008, PG. 2129
DKT. 12549, PG. 4429
DKT. 13008, PG. 4405
SEQ. 20111300187
SEQ. 20161170115

7) MISC RECORDS
BK. 70, PG. 153
BK. 70, PG. 158
COT FIELD BK. 1989-E-1
PGS, 50-52





LOCATION MAP

3" = 1 MILE

LOCATED ON THE NORTHERN BORDERS OF SECTION 1 T14S, R15E, AND SECTION 6 T14S, R16E; AND THE SOUTHERN BORDERS OF SECTION 36T13S, R15E, AND SECTION 31 T13S, R16E G&SRM, PIMA COUNTY, ARIZONA

N

0 150
Scale: 1"=150'

ABBREVIATIONS

4R	1/2" REBAR
5R	5/8" REBAR
AC	ALUMINUM CAP
ACP	ALUMINUM CAPPED PIPE
A.P.N.	ASSESSOR PARCEL NUMBER
BC	BRASS CAP
BCSM	BRASS CAP SURVEY MONUMENT
BK.	BOOK
CONC.	CONCRETE
DK.	DOCKET
ESMT	EASEMENT
IP	IRON PIN
LS	LAND SURVEYOR
MKD	MARKED
MP(M&P)	MAP & PLAT
NA	NOT ACCEPTED/NOT APPLICABLE
N.A.E	NO ACCESS EASEMENT
PCHD	PIMA COUNTY HIGHWAY DEPT.
PG.	PAGE
PE	PROFESSIONAL ENGINEER
RLS	REGISTERED LAND SURVEYOR
RM	ROAD MAP
RP	REFERENCE POINT
RS	RECORD OF SURVEY
R/W	RIGHT-OF-WAY

SURVEYOR'S CERTIFICATION

I CERTIFY THAT THE FIELD SURVEY AND PREPRATION OF THIS MAP WAS PREFORMED UNDER MY DIRECTION

REGISTERED LAND SURVEYOR 49459 PATRICK McGARRITY ARIZONA U.S.A. Date Signed 10/9/18 Expires 03/31/2018

PATRICK MCGARRITY, R.L.S.
ARIZONA REGISTERED LAND SURVEYOR NO. 49459

LEGEND

SYMBOLS

- FOUND MONUMENT AS NOTED
- FOUND MONUMENT (PIMA COUNTY SURVEY)
- CALCULATED POINT – NOTHING FOUND OR SET
- 000 POINT NUMBER; SEE TABLE FOR MONUMENT DESC.
- BENCHMARK
- PARCEL TABLE CALLOUT
- XXX PROPOSED EASEMENT DIMENSIONS
- XXX EXISTING DIMENSIONS

LINETYPES

- EXISTING RIGHT-OF-WAY
- PROPRETY LINE
- SECTION LINE
- CENTERLINE
- EASEMENT LINE
- MATCHLINE
- TEMPORARY CONSTRUCTION EASEMENT AREA
- RIGHT-OF-WAY AREA

Sequence_____
Fee_____
State of Arizona
County of Pima
I hereby certify that the instrument was filed for record at the request
Of_____
Date_____
Time_____
Witness my hand and Official Seal, day and year above written.
F. ANN RODRIGUEZ, County Recorder
By_____
Deputy

Two working days before you dig, CALL FOR THE BLUE STAKES
1-800-STAKE-IT
Blue Stake Center CALL COLLECT

SCALES: HORIZ. VERT.

NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

DESIGN INFORMATION
DESIGNED:
DRAWN:
CHECKED:
PROJECT ENGR:
DATE

REGISTERED LAND SURVEYOR 49459 PATRICK McGARRITY ARIZONA U.S.A. Expires 03/31/2018

PIMA COUNTY TRANSPORTATION

RIGHT-OF-WAY SURVEY
FOR
TANQUE VERDE RD.
AT TANQUE VERDE LOOP

PAGE RW01 of RW04

SEQ. No.

PIMA COUNTY W.O. 4TVTVL

SEQ. No. _____

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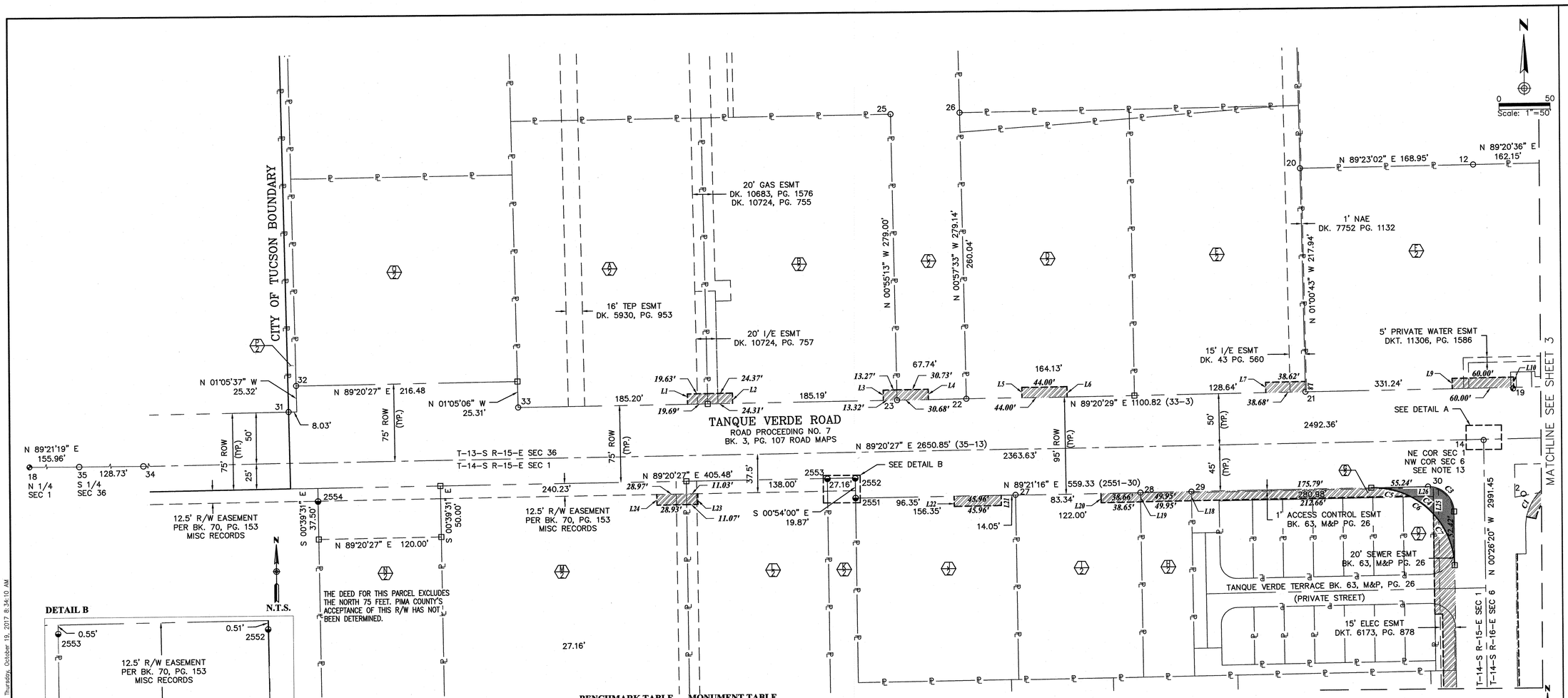
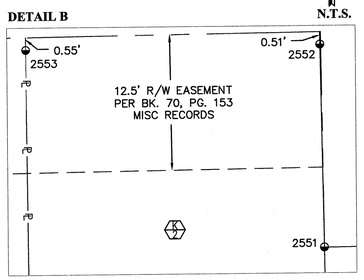
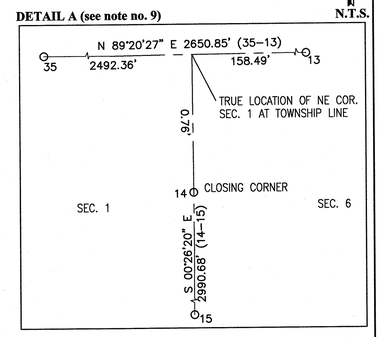


DETAIL B



DETAIL A (see note no. 9)



N.T.S.

BENCHMARK TABLE

Point#	Elevation
18 (580E)	2608.00
19 (584E)	2623.25
22	2610.28
29	2612.75

MONUMENT TABLE

Point#	Northing	Easting	Description
2	56951.96	159062.69	5/8" IP BENT NO TAG
12	57273.50	159015.35	1/2" IP W/TAG RLS 31030
13	57007.59	159182.38	2" BCSM W/PUNCH
14	57005.00	159023.90	2" BCSM W/PUNCH
15	54014.41	159046.82	1 1/4" LCP
18	56975.34	156375.76	2" BCSM MKD. "FA23" COT BM 580E
19	57055.02	159053.18	OIP 2IN COT BM 584E
20	57271.68	158846.41	1/2" IP W/TAG RLS 31030
21	57053.81	158850.26	2" ACP ON 4R "LS 1052"
22	57050.03	158518.83	2" ACP ON 4R "LS 1052"
23	57049.35	158451.09	1/2" IP NO TAG
25	57328.14	158446.61	1/2" IP NO TAG
26	57329.07	158514.15	1/2" ACP ON 4R "LS 1052"
27	56955.62	158566.26	1/2" IP NO TAG
28	56957.03	158688.26	1/2" IP W/TAG RLS 19316
29	56957.53	158738.21	1/2" IP NO TAG
30	56960.10	158969.23	1/2" IP NO TAG
31	57042.40	157856.23	1/2" IP NO TAG
32	57067.74	157863.78	1/2" IP W/TAG "LS 5568"
33	57044.91	158080.73	2" ACP ON 4R "LS 1052"
34	56978.60	156660.42	2" BCSM MKD. "RLS 26923"
35	56977.10	156531.70	2" BCSM IN CONC "1/4 SEC 36"
2551	56953.83	158409.93	1/2" REBAR
2552	56973.19	158409.63	5/8" REBAR
2553	56972.83	158382.46	1/2" REBAR
2554	56954.76	157884.30	1 1/2" ACP "RLS 13019"

Line Table

LINE	BEARING	LENGTH
L1	S0°39'33"E	10.00'
L2	S0°39'33"E	10.00'
L3	S0°39'33"E	10.00'
L4	S0°39'33"E	10.00'
L5	S0°39'33"E	10.00'
L6	S0°39'33"E	10.00'
L7	S0°39'33"E	10.00'
L8	S1°00'43"E	10.00'
L9	N0°26'16"W	10.00'
L10	N0°26'16"W	10.00'
L18	S0°35'57"E	9.00'

Line Table

LINE	BEARING	LENGTH
L19	S0°35'57"E	9.00'
L20	S0°39'33"E	9.00'
L21	S0°39'33"E	10.00'
L22	S0°39'33"E	10.00'
L23	S0°39'33"E	10.50'
L24	S0°39'33"E	10.50'
L25	S0°26'18"E	17.30'
L26	N89°21'56"E	21.69'

Curve Table

CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	78.08'	50.00'	89°28'15"	49.54'
C3	39.28'	25.00'	90°02'00"	25.01'
C4	123.18'	80.00'	88°13'23"	77.56'
C4	123.18'	80.00'	88°13'23"	77.56'
C5	40.09'	80.00'	28°42'50"	20.48'
C6	27.84'	80.00'	19°56'13"	14.06'
C7	55.25'	80.00'	39°34'20"	28.78'

PARCEL TABLE

ID	Parcel No.	Owner	Recording Information	Title Report #	Gross Area (SF)	R/W (SF)	TCE (SF)	Net Area (SF)
A/2	114-57-077C	DOOST, MOHAMMED	SEQ. 20041390288	*	51,836	-	197	51,836
B/2	114-57-077B	ROBERTS, JORDAN	SEQ. 20170740324	05504-32404	51,836	-	376	51,836
C/2	114-57-076C	MARKOU, GORGE	DKT. 13126, PG. 5072	05504-29960	112,385	-	307	112,385
D/2	114-57-084A	TK FAMILY LLC	SEQ. 20172300391	05504-32405	43,976	-	440	43,976
E/2	114-57-083A	TK FAMILY LLC	SEQ. 20172300391	05504-32405	45,542	-	387	45,542
F/2	114-57-080D	TANQUE VERDE LOOP PLAZA L.L.C.	DKT. 13695, PG. 3135	05504-32406	72,310	-	600	72,310
G/2	133-02-1030	STEWART TITLE	SEQ. 20162840369	5504-29957	18,799	1,081	4127	17,718
H/2	133-02-0800	TANQUE VERDE HAY FEED & SUPPLY LLC	SEQ. 20132380716	*	9,000	-	450	9,000
I/2	133-02-0790	TANQUE VERDE HAY FEED & SUPPLY LLC	SEQ. 20132380716	*	21,960	-	348	21,960
J/2	133-02-0780	TANQUE VERDE HAY FEED & SUPPLY LLC	SEQ. 20132380716	*	28,197	-	460	28,197
K/2	133-02-015H	BOVELL, ALLISON FAMILY LIVING TR	SEQ. 20112410190	*	47,916	-	-	47,916
L/2	133-02-017A	CORDIER, SCOTT	DKT. 11730. PG. 949	*	48,787	-	116	48,787
M/2	133-02-019E	VEDRON, DONALD	DKT. 13857, PG. 621	*	92,347	-	304	92,347
N/2	133-02-021B	UNTIVEROS, HUGO	SEQ. 20130460796	*	28,750	-	-	28,750
O/2	133-02-0890	STEWART TITLE	SEQ. 20162840369	5504-29957	2,236	165	-	2,071
P/2	114-57-0700	NOVAK, RAYMOND & FOGLE, LISA	DKT. 10596, PG. 2956	*	7,405	-	-	7,405
Q/2	114-57-074B	RAMIREZ, PAUL	SEQ. 20153080495	*	43,560	-	-	43,560

* TITLE REPORT NOT AVAILABLE

Two working days before you dig. CALL FOR THE BLUE STAKES
1-800-STAKE-IT
Blue Stake Center CALL COLLECT

SCALES: HORIZ.: 1"=50' VERT.: N/A

PIMA COUNTY TRANSPORTATION

RIGHT-OF-WAY SURVEY FOR TANQUE VERDE RD. AT TANQUE VERDE LOOP

NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

DESIGN INFORMATION
DESIGNED:
DRAWN:
CHECKED:
PROJECT ENGR:
DATE

SEQ. No.

PIMA COUNTY W.O. 4TVTVL

PAGE RW02 of RW04

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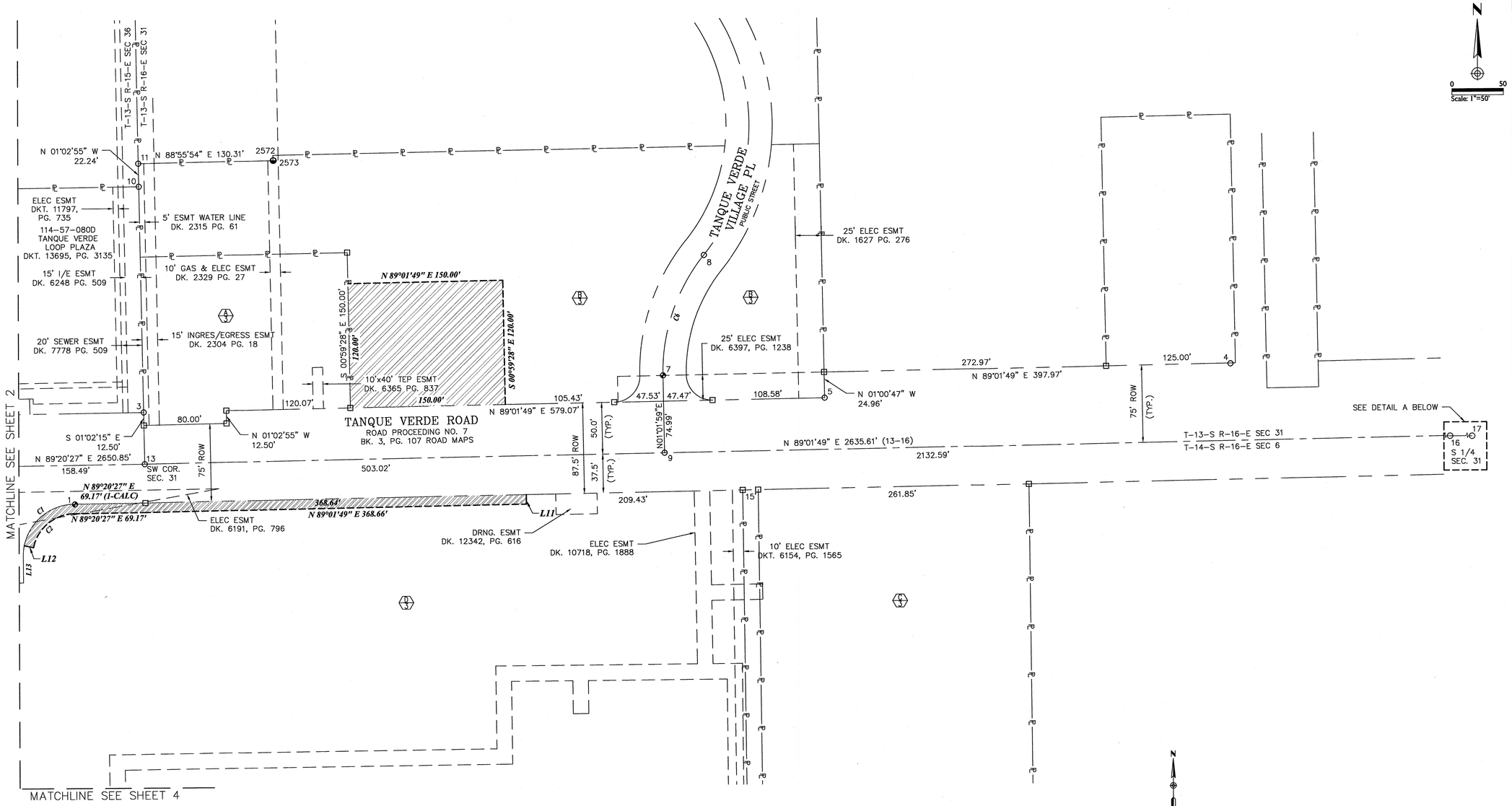


MONUMENT TABLE

Point#	Northing	Easting	Description
1	56969.06	159114.75	2" ACP MKD. "RLS 31030 WC 1.00"
3	57057.67	159181.47	1/2" IP W/TAG "RLS 19316"
4	57099.90	160233.14	5/8" IP BENT NO TAG
5	57068.77	159840.45	1/2" IP W/TAG "PE 4670"
7	57091.14	159683.97	BCSM "PLS 22245 EL. 2623.40'
8	57207.14	159723.86	BCSM "PLS 22245"
9	57016.16	159685.33	BCSM "PLS 22245"
10	57275.36	159177.49	1/2" IP W/TAG RLS 31030
11	57297.60	159177.05	1/2" REBAR NO TAG
13	57007.59	159182.38	2" BCSM W/PUNCH
16	57052.20	161817.62	2" BCSM
17	57052.20	161818.03	RR SPIKE
2572	57300.03	159307.37	1/2" REBAR
2573	57300.05	159307.76	1/2" REBAR

BENCHMARK TABLE

Point#	Elevation
1	2624.51 *
7	2623.39

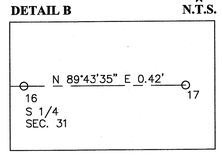
* LEVELLED ELEVATION DIFFERS FROM GPS ELEVATION BY +0.07'

Line Table		
LINE	BEARING	LENGTH
L11	N0°57'59"W	9.25'
L12	S78°03'20"E	9.25'
L13	N0°26'18"W	25.55'

Curve Table				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	78.08'	50.00'	89°28'15"	49.54'
C2	55.05'	40.75'	77°24'06"	32.65'
C6	125.19'	180.00'	39°51'02"	65.25'

DETAIL B

N.T.S.



PARCEL TABLE

ID	Parcel No.	Owner	Recording Information	Title Report #	GROSS AREA (SF)	R/W (SF)	TCE (SF)	NET AREA (SF)
A/3	205-37-016D	FINN, ET AL	SEQ. 20161170115	05504-29959	30,000	-	-	30,000
B/3	205-37-5700	TITLE SECURITY AGENCY OF ARIZONA	SEQ. 20151800439	05504-32409	95,559	-	18000	95,559
C/3	205-52-006G	TANQUE VERDE SCHOOL DISTRICT NO 13	DKT. 13870, PG. 1546	05504-32408	87,991	-	-	87,991
D/3	205-52-007B	TANQUE VERDE SCHOOL DISTRICT NO 13	DKT. 155, PG. 294	05504-32408	339,768	-	5483	339,768

Two working days before you dig, CALL FOR THE BLUE STAKES
1-800-STAKE-IT
Blue Stake Center CALL COLLECT

SCALES: HORIZ.: 1"=50' VERT.: N/A

NO.	REVISION DESCRIPTION	DIV. NGINEER	DATE

DESIGN INFORMATION
DESIGNED:
DRAWN:
CHECKED:
PROJECT ENGR:
DATE

REGISTERED LAND SURVEYOR
PAUL A. MCCARRITY
49459
ARIZONA U.S.A.
Expires 03/31/2018

PIMA COUNTY TRANSPORTATION

RIGHT-OF-WAY SURVEY
FOR
TANQUE VERDE RD.
AT TANQUE VERDE LOOP

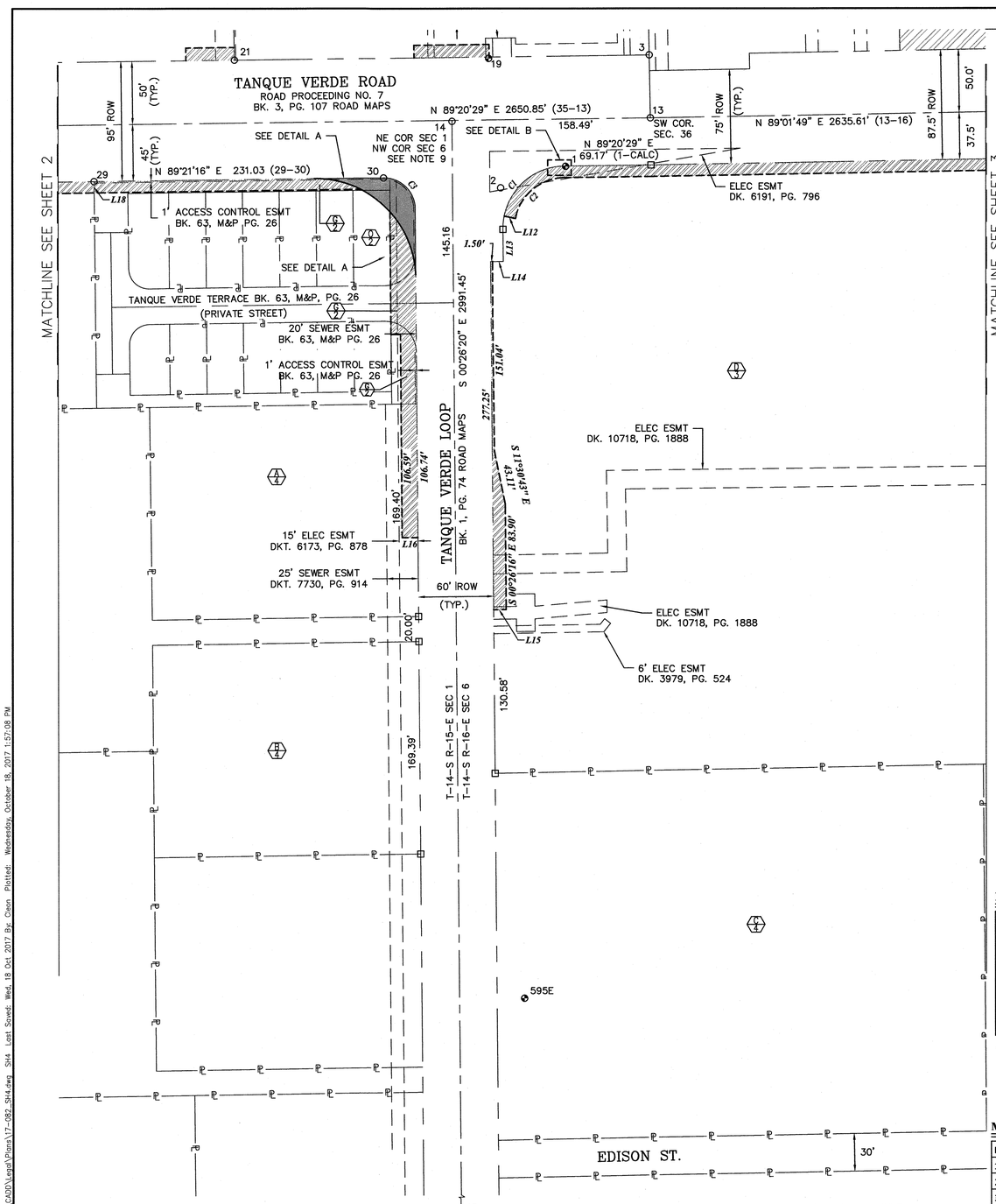
PAGE RW03 of RW04

SEQ. No.

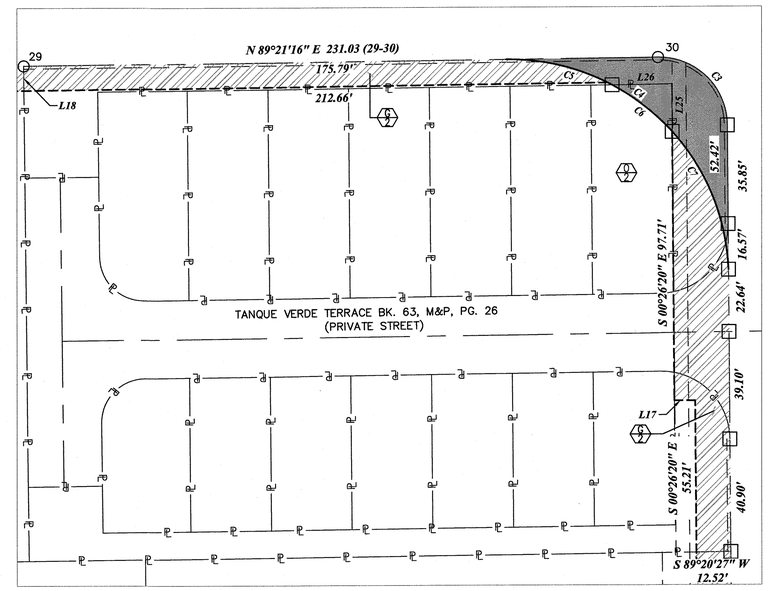
PIMA COUNTY W.O. 4TVTVL

SEQ. No. _____

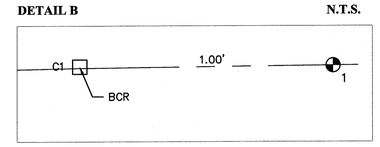
U:\Projects\2017\17-082\Survey\CADD\Legal\Plans\17-082_SH3.dwg SH3 Last Saved: Wed, 18 Oct 2017 By: Clean Plotted: Wednesday, October 18, 2017 1:56:55 PM



DETAIL A



DETAIL B



PARCEL TABLE

ID	Parcel No.	Owner	Recording Information	Title Report #	Gross Area (SF)	R/W (SF)	TCE (SF)	Net Area (SF)
G/2	133-02-1030	STEWART TITLE	SEQ. 20162840369	5504-29957	18,799	1,081	5,810	17,718
O/2	133-02-0890	STEWART TITLE	SEQ. 20162840369	5504-29957	2,236	165	-	2,071
D/3	205-52-007B	TANQUE VERDE SCHOOL DISTRICT NO 13	DKT. 155, PG. 294	05504-32408	339,768	-	5,483	339,768
A/4	133-02-0840	ROJAS, ADA	DKT. 12281, PG. 6126	*	36,155	-	1,424	36,155
B/4	133-02-0870	TAWNEY, STUART	DKT. 11730, PG. 949	*	36,155	-	-	36,155
C/4	205-52-010C	TANQUE VERDE BAPTIST CHURCH	DKT. 3784. PG. 208	*	114,127	-	-	114,127

* TITLE REPORT NOT AVAILABLE

BENCHMARK TABLE

Point#	Elevation
1	2624.51 *
19 (584E)	2623.25
595E	2621.105

* LEVELLED ELEVATION DIFFERS FROM GPS ELEVATION BY +0.07'

MONUMENT TABLE

Point#	Northing	Easting	Description
1	56969.06	159114.75	2" ACP "RLS 31030 WC 1.00"
2	56951.96	159062.69	5/8" IP BENT NO TAG
3	57057.67	159181.47	1/2" IP W/TAG RLS 19316
13	57007.59	159182.38	2" BCSM W/PUNCH
14	57005.00	159023.90	2" BCSM W/PUNCH
15	54014.41	159046.82	1 1/4" LCP
19	57055.02	159053.18	OIP 2IN COT BM 584E
21	57053.81	158850.26	1/2" ACP ON 4R "LS 1052"
29	56957.53	158738.21	1/2" IP NO TAG
30	56960.10	158969.23	1/2" IP NO TAG

Line Table		
LINE	BEARING	LENGTH
L12	S78°03'20"E	9.25'
L13	N0°26'18"W	25.55'
L14	N89°33'44"E	10.02'
L15	S89°33'44"W	10.04'
L15	S89°33'44"W	10.04'
L16	N90°00'00"W	12.52'
L17	N90°00'00"E	7.59'
L18	S0°35'57"E	9.05'
L25	S0°26'18"E	17.30'
L26	N89°21'56"E	21.69'

Curve Table				
CURVE	LENGTH	RADIUS	DELTA	TANGENT
C1	78.08'	50.00'	89°28'15"	49.54'
C2	55.05'	40.75'	77°24'06"	32.65'
C3	39.28'	25.00'	90°02'00"	25.01'
C4	123.18'	80.00'	88°13'23"	77.56'
C5	40.09'	80.00'	28°42'50"	20.48'
C6	27.84'	80.00'	19°56'13"	14.06'
C7	55.25'	80.00'	39°34'20"	28.78'

Two working days before you dig, CALL FOR THE BLUE STAKES
1-800-STAKE-IT
Blue Stake Center CALL COLLECT

SCALES: HORIZ. VERT.

NO.	REVISION DESCRIPTION	DIV. NGINEER	DATE

DESIGN INFORMATION
DESIGNED:
DRAWN:
CHECKED:
PROJECT ENGR:
DATE

REGISTERED LAND SURVEYOR
JAMES PATRICK McGARRITY
ARIZONA U.S.A.
Expires 03/31/2018

PIMA COUNTY TRANSPORTATION

RIGHT-OF-WAY SURVEY
FOR
TANQUE VERDE RD.
AT TANQUE VERDE LOOP

PAGE RW04 of RW04

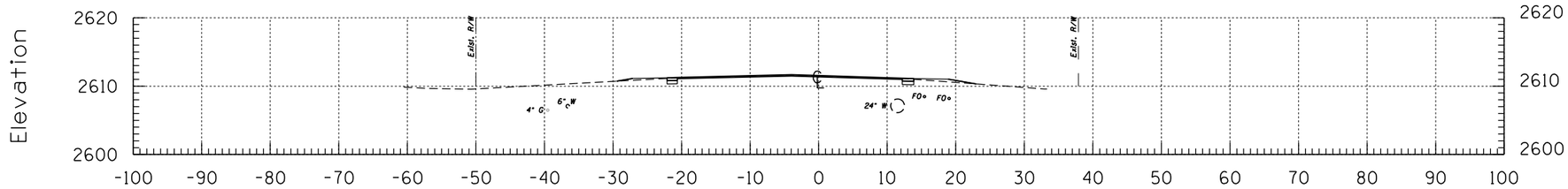
SEQ. No.

PIMA COUNTY W.O. 4TVTVL

SEQ. No.

I:\Projects\2017\17-082\Survey\CADD\Legal\Plans\17-082_SH4.dwg SH4 Last Saved: Wed, 18 Oct 2017 By: Cleon Plotted: Wednesday, October 18, 2017 1:57:08 PM

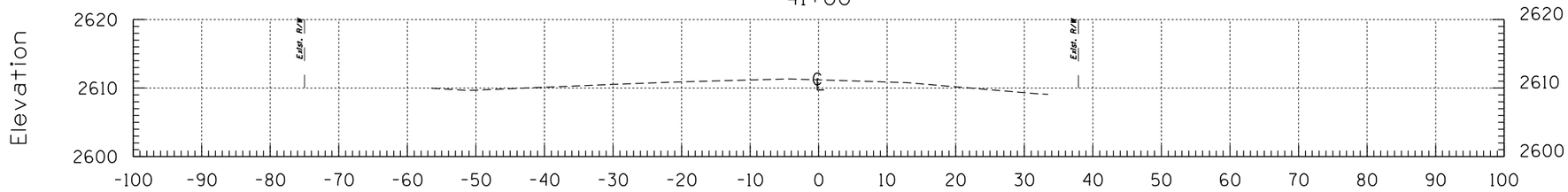
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 2.63 SQ FT
Area Fill = 4.01 SQ FT
Volume Fill = 100.32 CU YDS
Volume Cut = 65.72 CU YDS

41+00

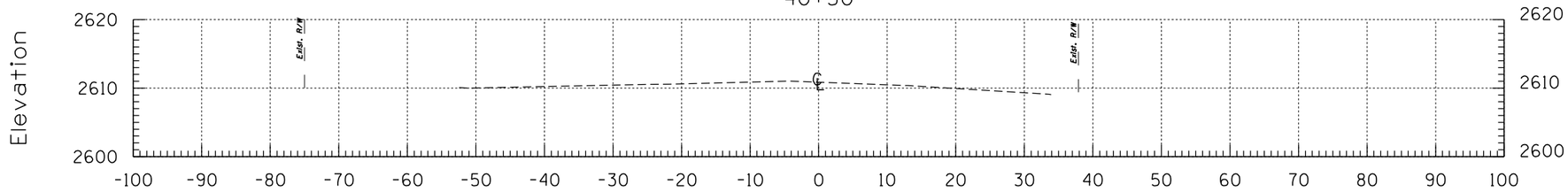
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

40+50

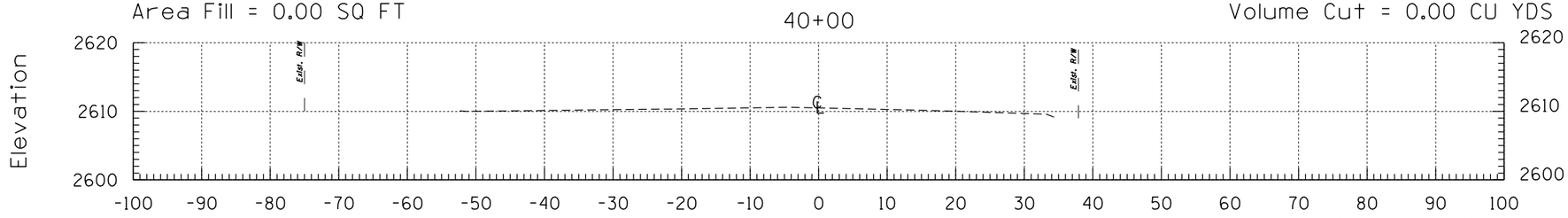
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

40+00

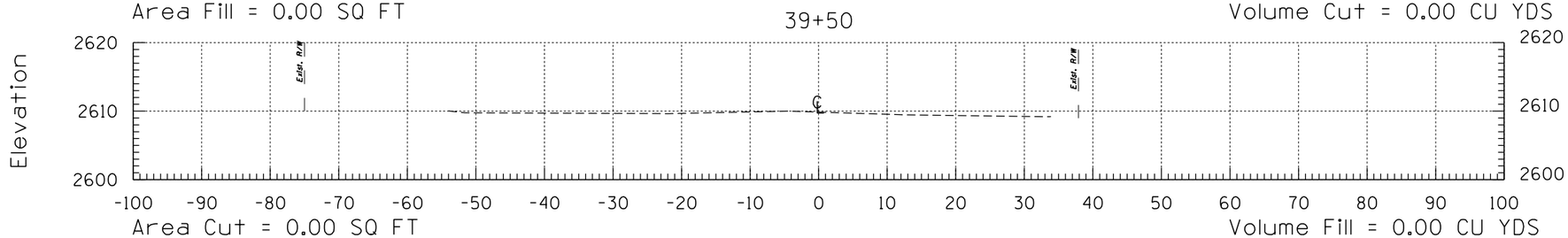
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

39+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



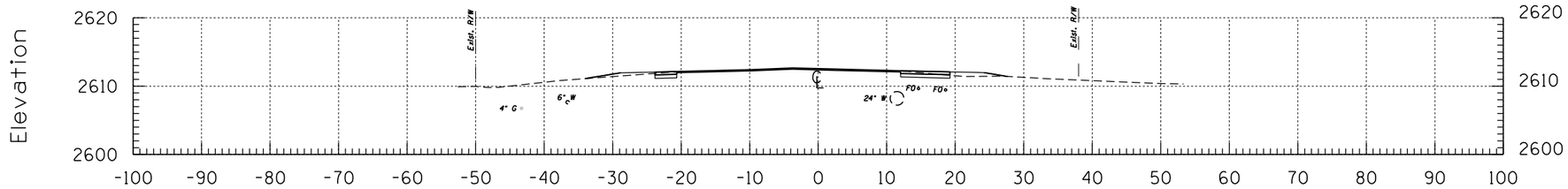
Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

39+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

Sta 39+00 to Sta 41+00

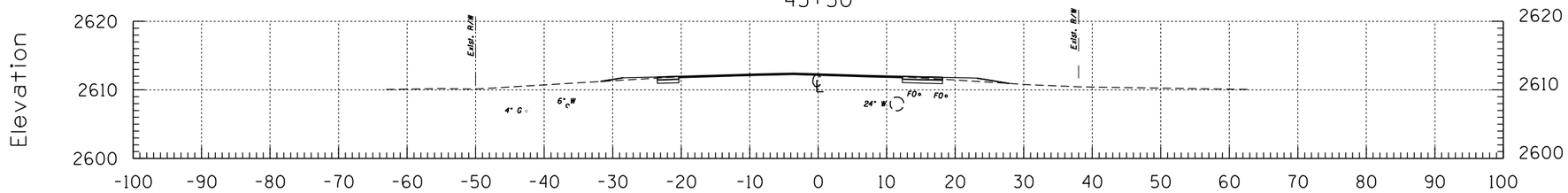
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 7.54 SQ FT
Area Fill = 8.20 SQ FT
Volume Fill = 361.10 CU YDS
Volume Cut = 367.68 CU YDS

43+50

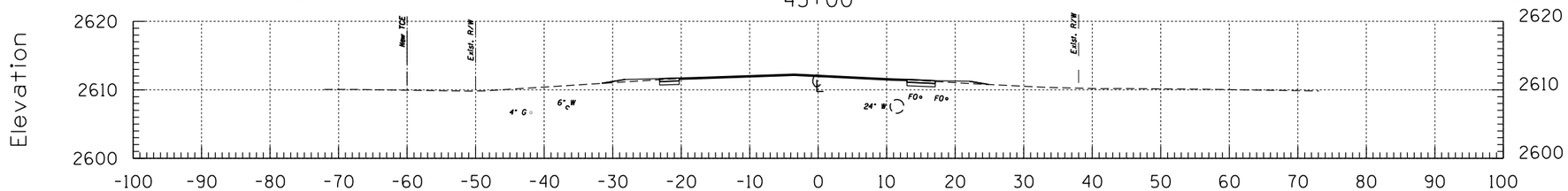
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 7.17 SQ FT
Area Fill = 6.25 SQ FT
Volume Fill = 259.46 CU YDS
Volume Cut = 329.00 CU YDS

43+00

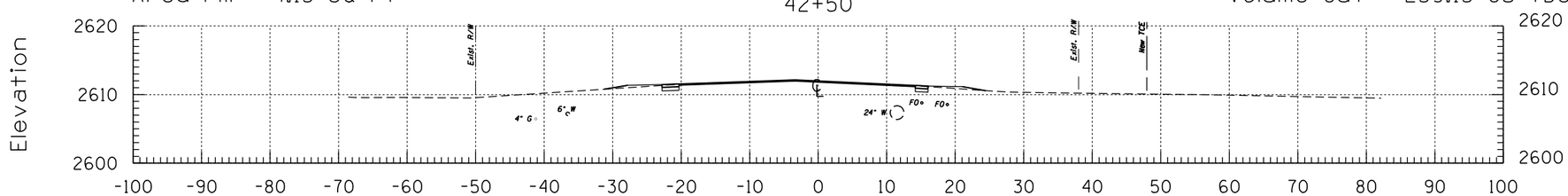
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 5.99 SQ FT
Area Fill = 4.13 SQ FT
Volume Fill = 216.31 CU YDS
Volume Cut = 239.13 CU YDS

42+50

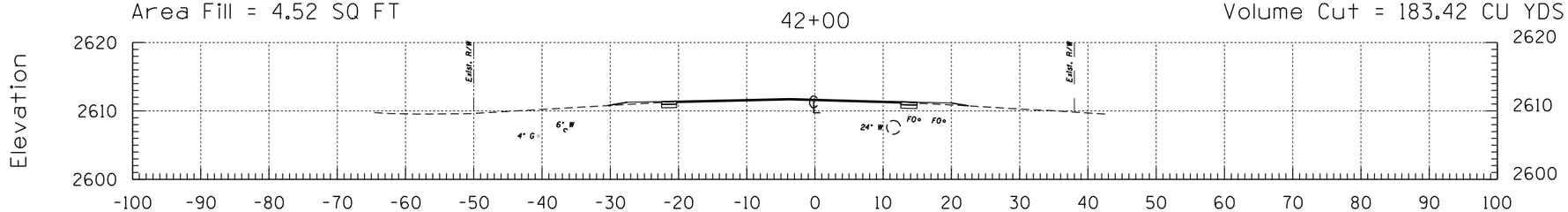
LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 3.57 SQ FT
Area Fill = 4.52 SQ FT
Volume Fill = 207.37 CU YDS
Volume Cut = 183.42 CU YDS

42+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



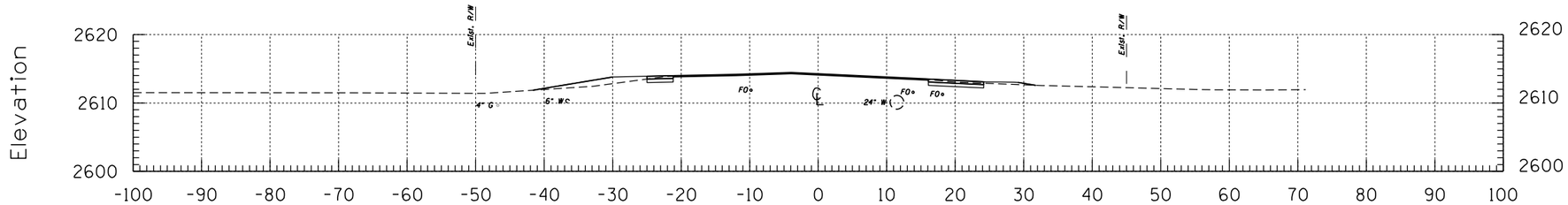
Area Cut = 3.76 SQ FT
Area Fill = 3.77 SQ FT
Volume Fill = 194.62 CU YDS
Volume Cut = 159.81 CU YDS

41+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

Sta 41+50 to Sta 43+50

F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		

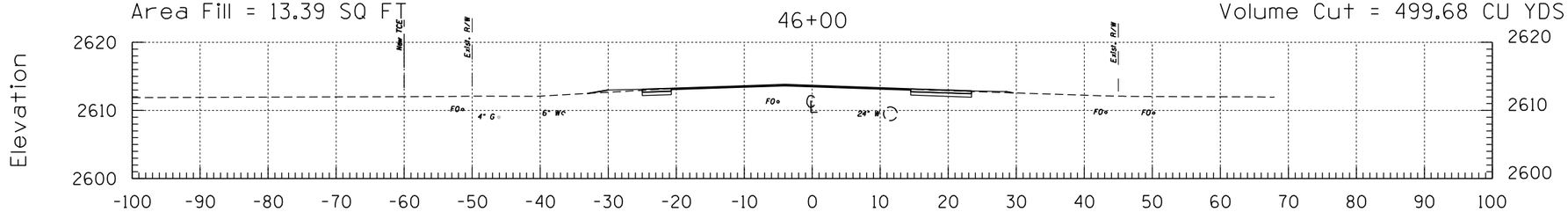


Area Cut = 8.90 SQ FT
Area Fill = 13.39 SQ FT

Volume Fill = 405.88 CU YDS
Volume Cut = 499.68 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

46+00

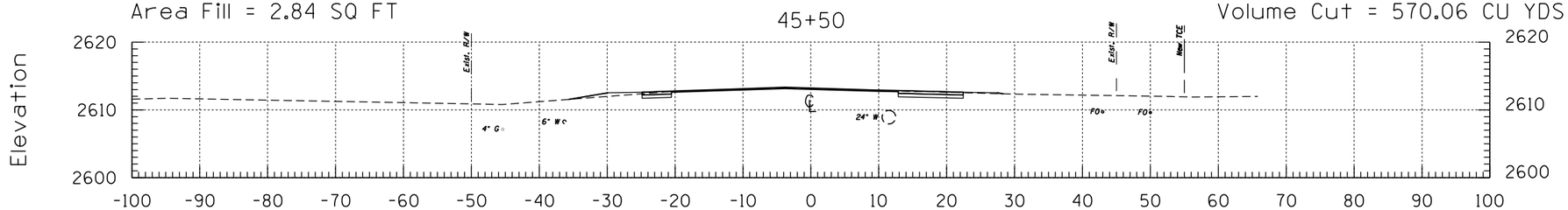


Area Cut = 11.09 SQ FT
Area Fill = 2.84 SQ FT

Volume Fill = 194.61 CU YDS
Volume Cut = 570.06 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

45+50

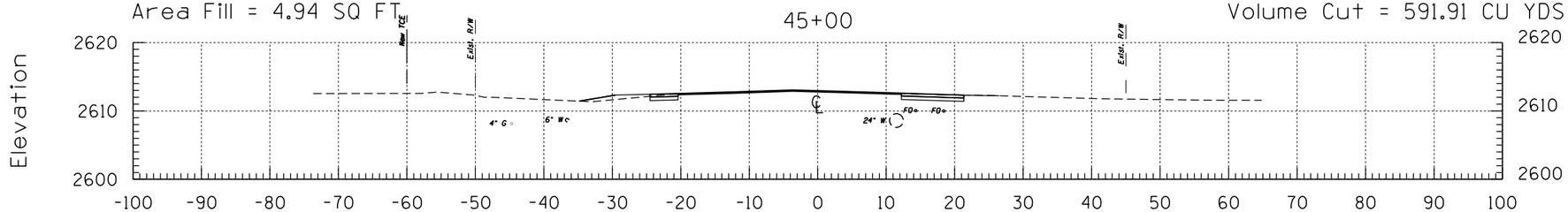


Area Cut = 11.71 SQ FT
Area Fill = 4.94 SQ FT

Volume Fill = 250.23 CU YDS
Volume Cut = 591.91 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

45+00

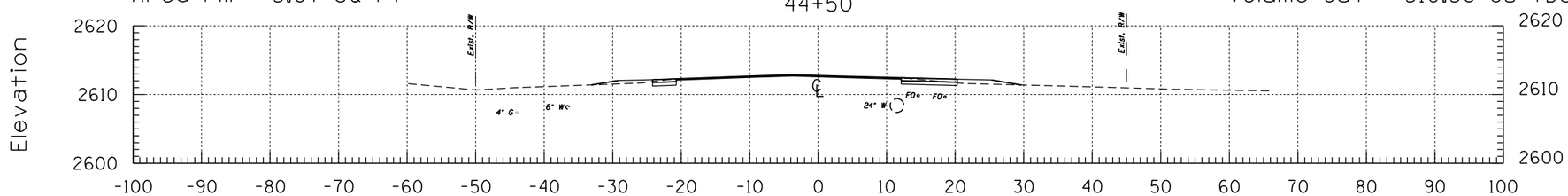


Area Cut = 11.96 SQ FT
Area Fill = 5.07 SQ FT

Volume Fill = 346.14 CU YDS
Volume Cut = 510.36 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

44+50



Area Cut = 8.45 SQ FT
Area Fill = 8.78 SQ FT

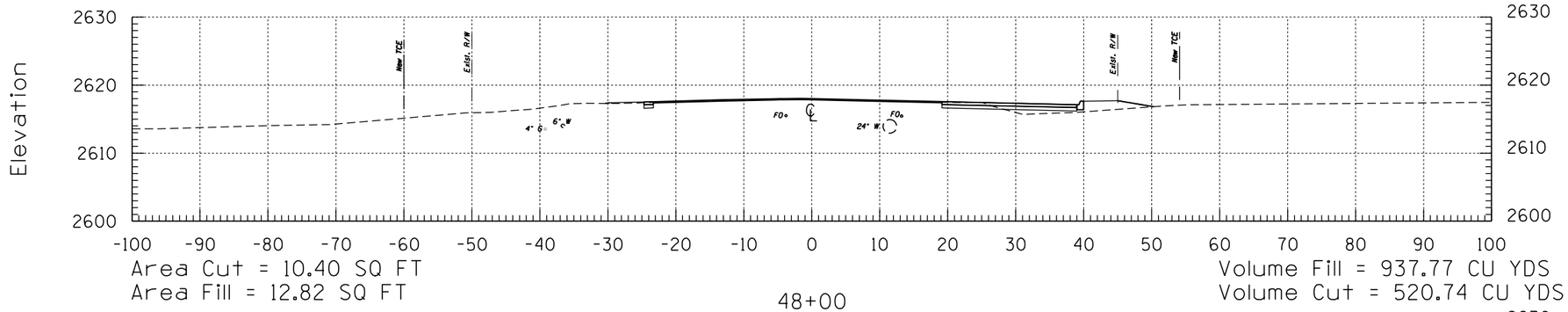
Volume Fill = 424.28 CU YDS
Volume Cut = 399.80 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

44+00

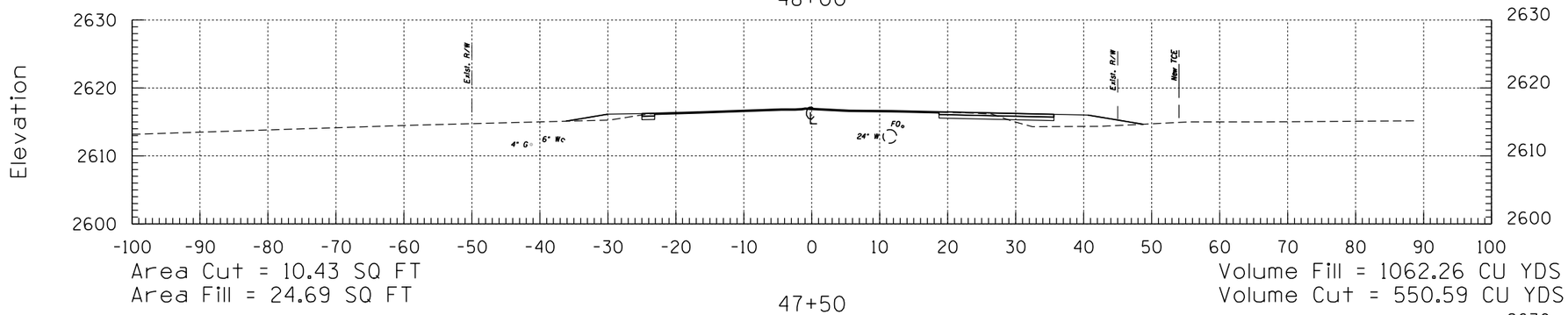
Sta 44+00 to Sta 46+00

F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



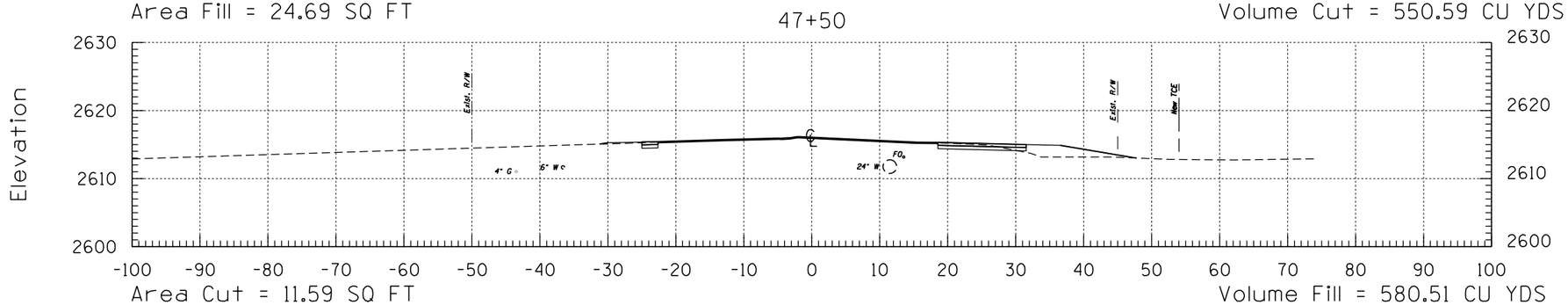
48+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



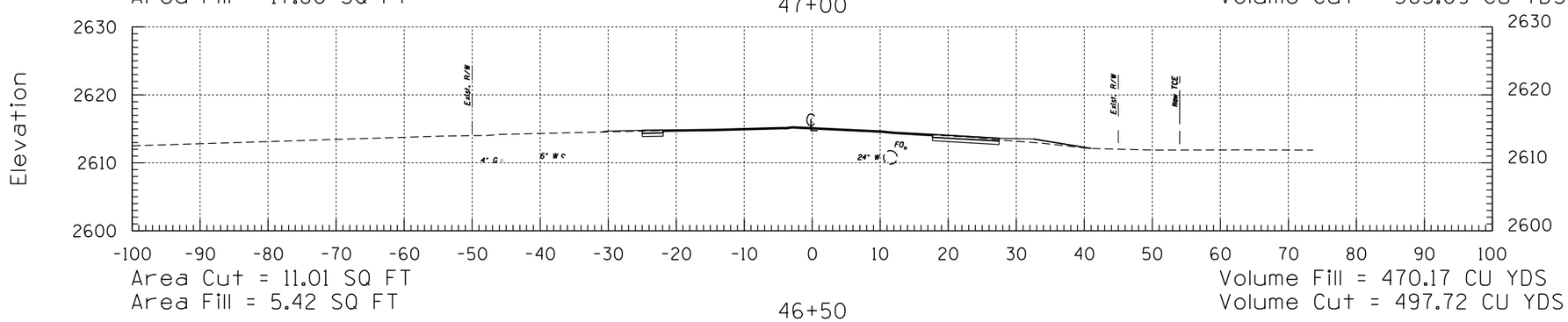
47+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



47+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

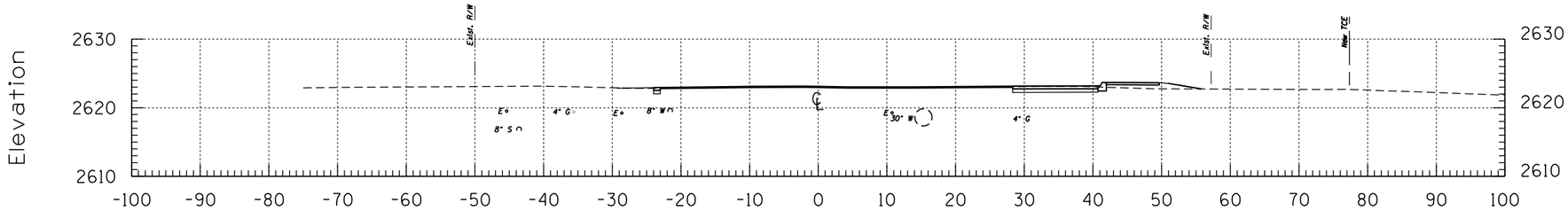


46+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

Sta 46+50 to Sta 48+00

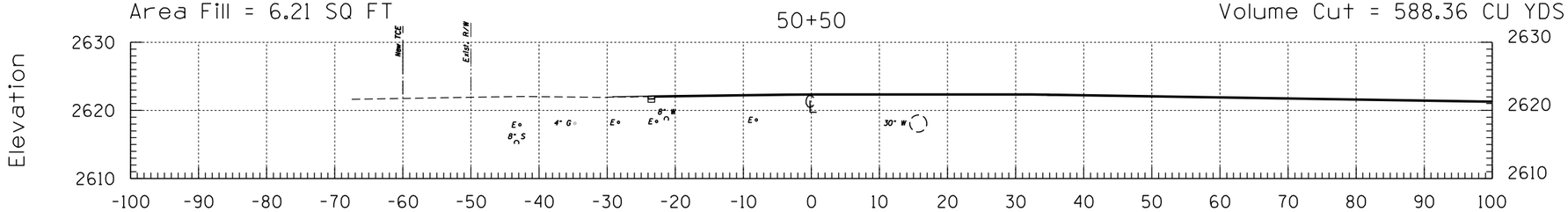
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 22.69 SQ FT
Area Fill = 6.21 SQ FT
Volume Fill = 163.70 CU YDS
Volume Cut = 588.36 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

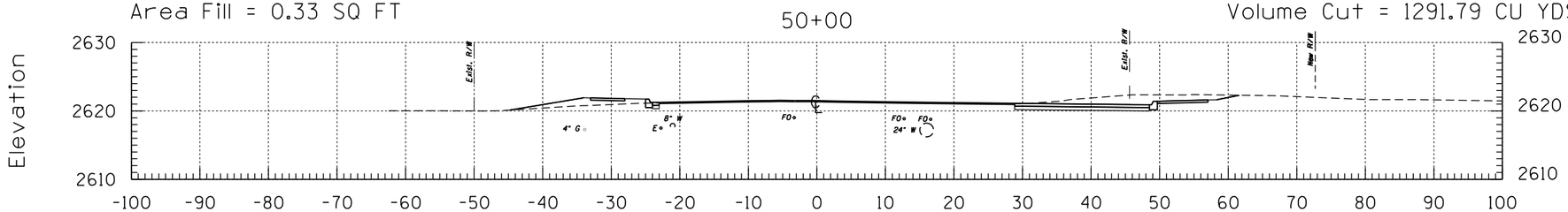
50+50



Area Cut = 0.85 SQ FT
Area Fill = 0.33 SQ FT
Volume Fill = 454.77 CU YDS
Volume Cut = 1291.79 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

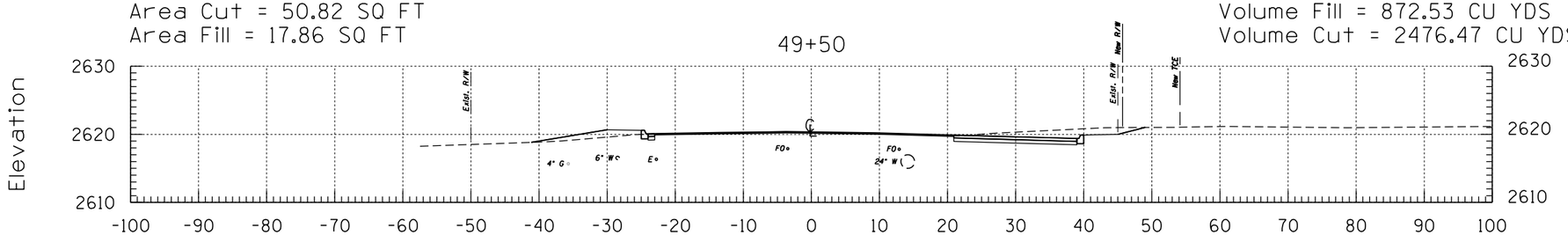
50+00



Area Cut = 50.82 SQ FT
Area Fill = 17.86 SQ FT
Volume Fill = 872.53 CU YDS
Volume Cut = 2476.47 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

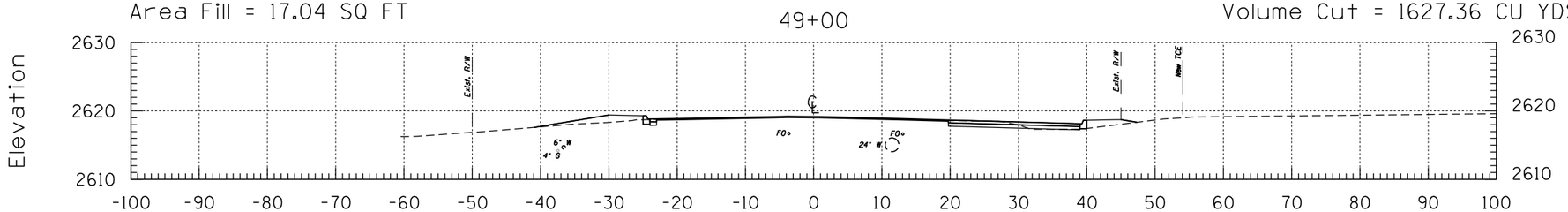
49+50



Area Cut = 48.23 SQ FT
Area Fill = 17.04 SQ FT
Volume Fill = 950.91 CU YDS
Volume Cut = 1627.36 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

49+00



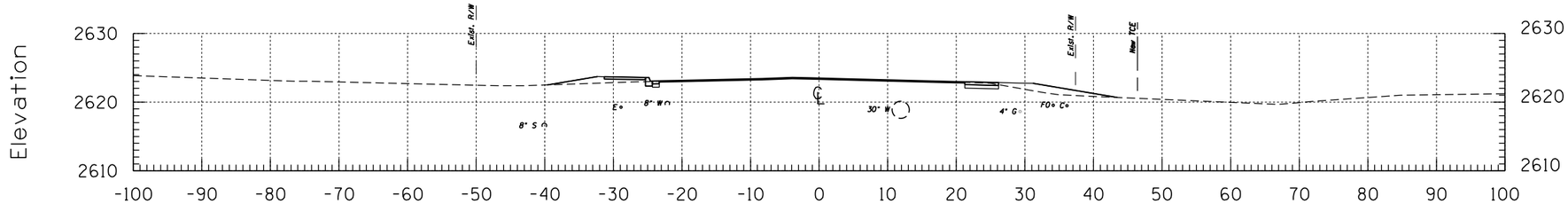
Area Cut = 16.86 SQ FT
Area Fill = 20.99 SQ FT
Volume Fill = 845.42 CU YDS
Volume Cut = 681.51 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

48+50

Sta 48+50 to Sta 50+50

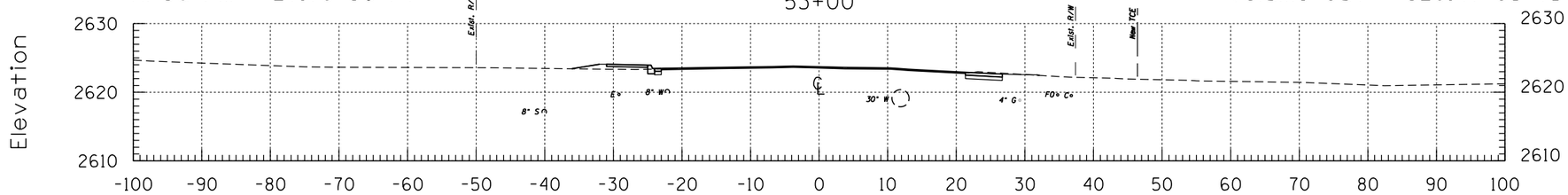
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 5.41 SQ FT
Area Fill = 27.76 SQ FT
Volume Fill = 842.74 CU YDS
Volume Cut = 326.47 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

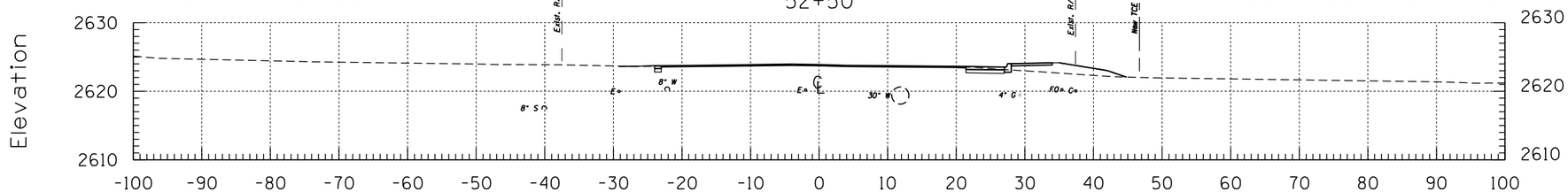
53+00



Area Cut = 7.65 SQ FT
Area Fill = 5.95 SQ FT
Volume Fill = 828.12 CU YDS
Volume Cut = 321.12 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

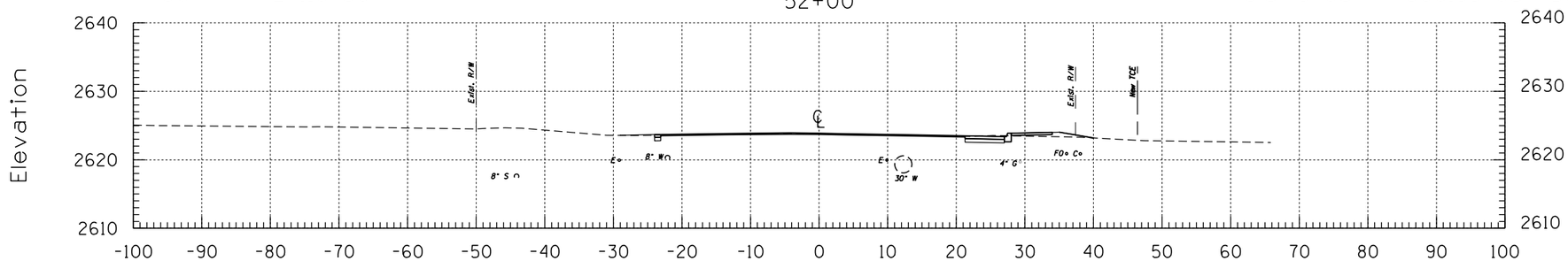
52+50



Area Cut = 5.20 SQ FT
Area Fill = 27.18 SQ FT
Volume Fill = 808.52 CU YDS
Volume Cut = 308.35 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

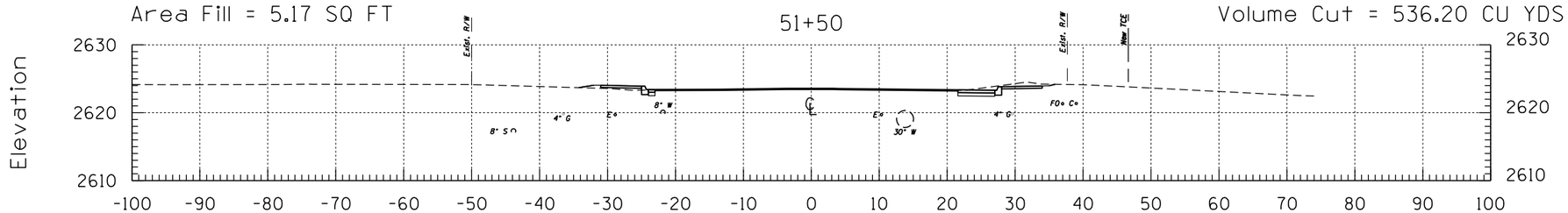
52+00



Area Cut = 7.14 SQ FT
Area Fill = 5.17 SQ FT
Volume Fill = 198.30 CU YDS
Volume Cut = 536.20 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

51+50



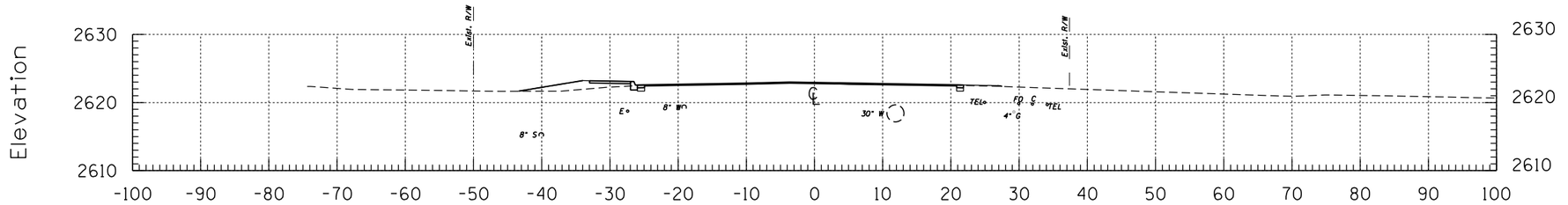
Area Cut = 14.31 SQ FT
Area Fill = 2.77 SQ FT
Volume Fill = 224.52 CU YDS
Volume Cut = 924.90 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

51+00

Sta 51+00 to Sta 53+00

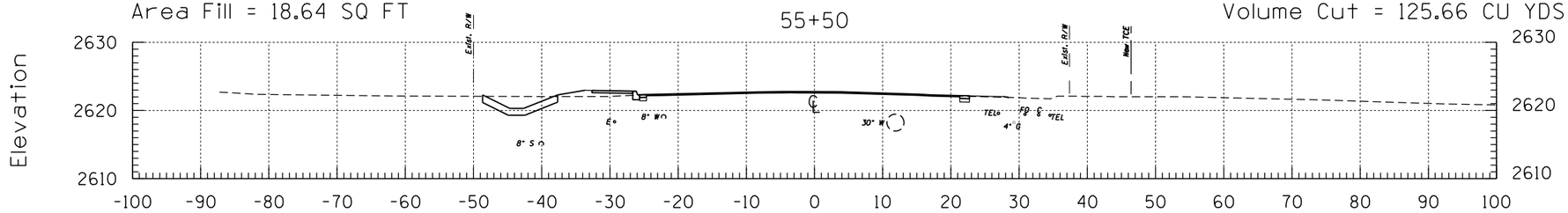
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 2.36 SQ FT
Area Fill = 18.64 SQ FT
Volume Fill = 637.93 CU YDS
Volume Cut = 125.66 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

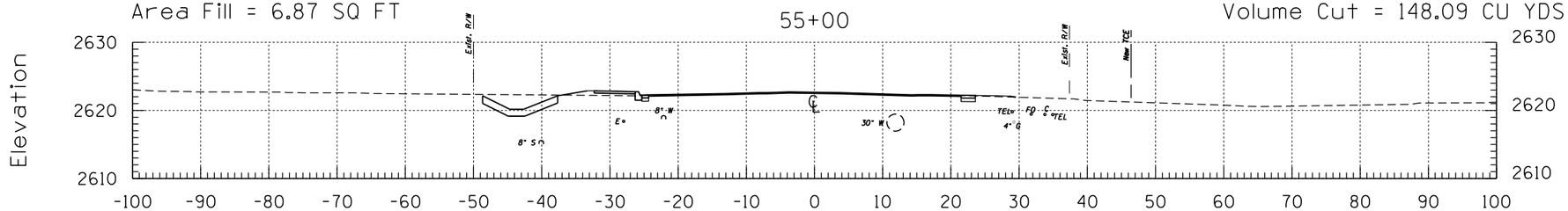
55+50



Area Cut = 2.67 SQ FT
Area Fill = 6.87 SQ FT
Volume Fill = 284.03 CU YDS
Volume Cut = 148.09 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

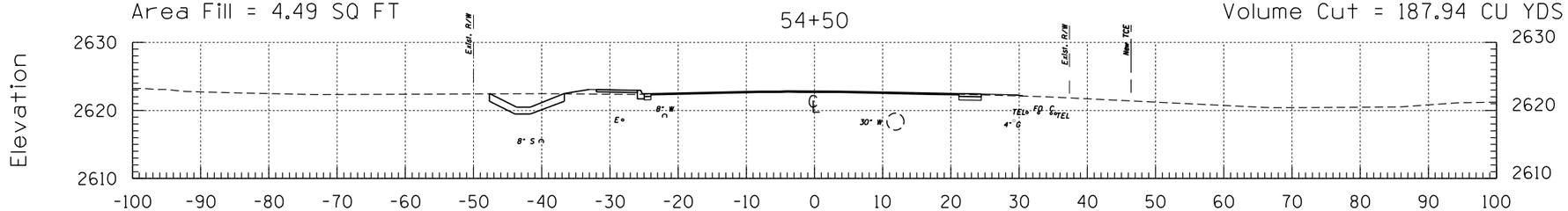
55+00



Area Cut = 3.25 SQ FT
Area Fill = 4.49 SQ FT
Volume Fill = 242.34 CU YDS
Volume Cut = 187.94 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

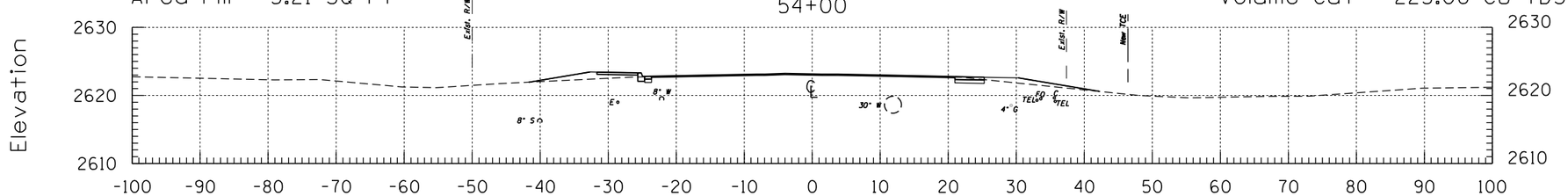
54+50



Area Cut = 4.26 SQ FT
Area Fill = 5.21 SQ FT
Volume Fill = 696.64 CU YDS
Volume Cut = 223.06 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

54+00



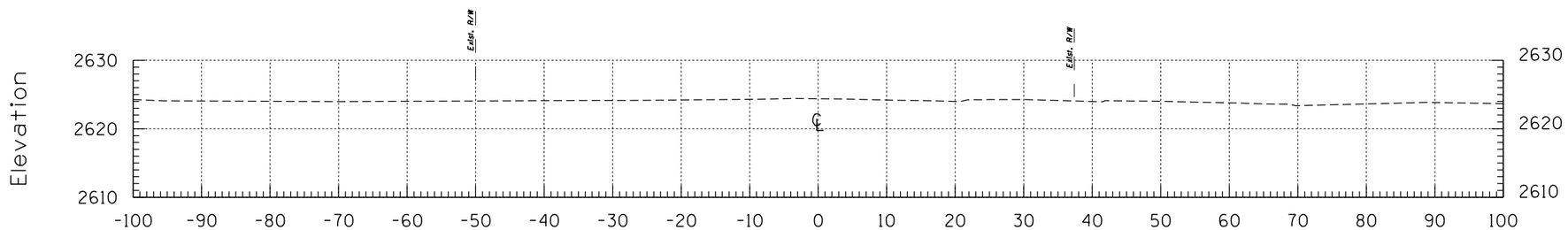
Area Cut = 4.66 SQ FT
Area Fill = 22.66 SQ FT
Volume Fill = 1260.49 CU YDS
Volume Cut = 251.73 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

53+50

Sta 53+50 to Sta 55+50

F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		

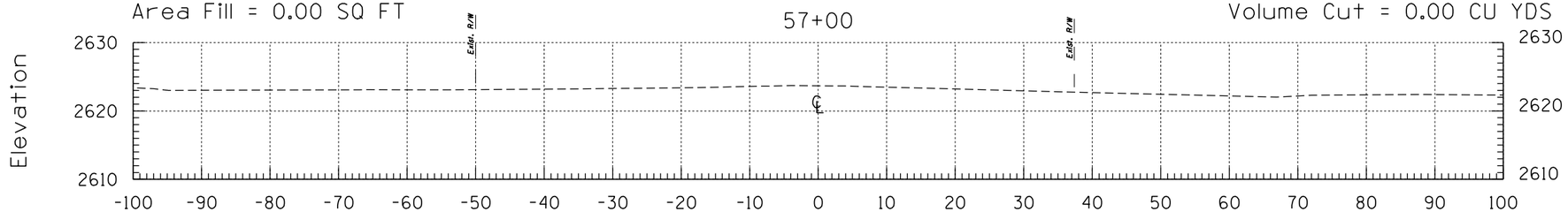


Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT

Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

57+00

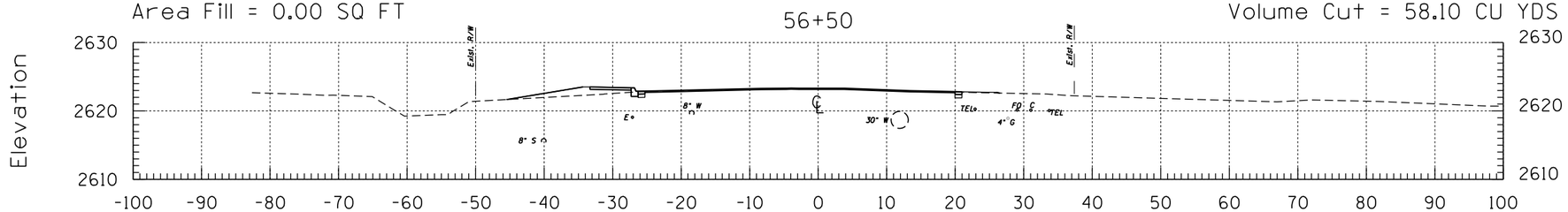


Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT

Volume Fill = 469.24 CU YDS
Volume Cut = 58.10 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

56+50



Area Cut = 2.32 SQ FT
Area Fill = 18.77 SQ FT

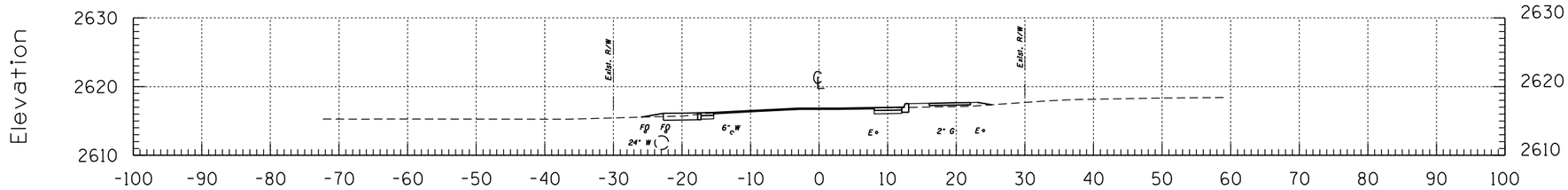
Volume Fill = 935.32 CU YDS
Volume Cut = 117.05 CU YDS

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

56+00

Sta 56+00 to Sta 57+00

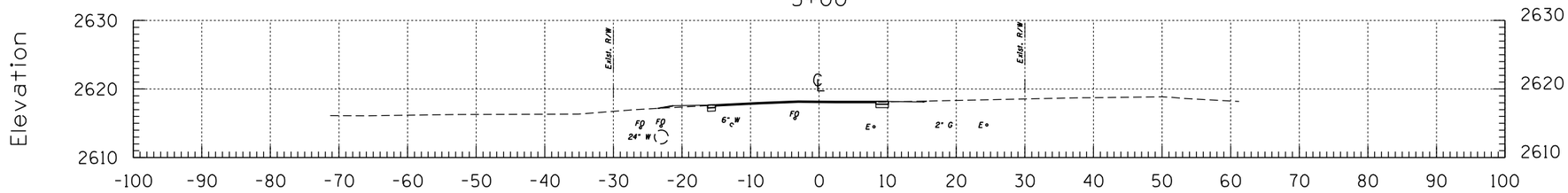
F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



Area Cut = 6.27 SQ FT
Area Fill = 7.65 SQ FT
Volume Fill = 249.59 CU YDS
Volume Cut = 239.33 CU YDS

5+00

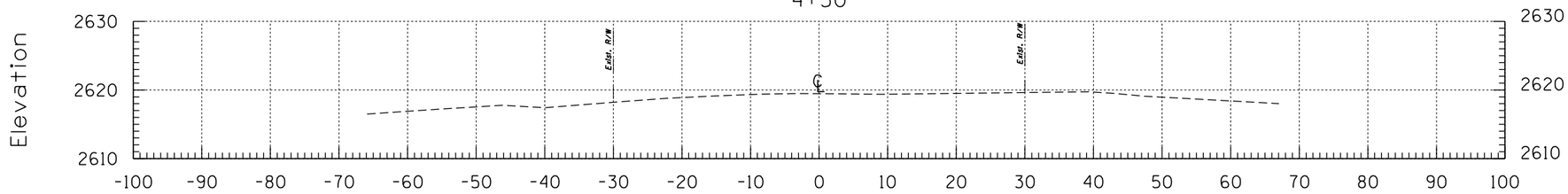
LINE	SURFACE
————	Sawcut LEOP TV
————	Sawcut REOP TV To TVL
————	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 3.30 SQ FT
Area Fill = 2.33 SQ FT
Volume Fill = 58.30 CU YDS
Volume Cut = 82.55 CU YDS

4+50

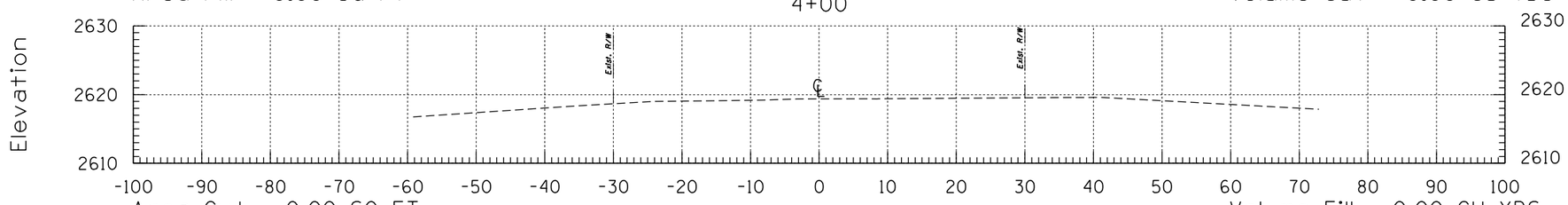
LINE	SURFACE
————	Sawcut LEOP TV
————	Sawcut REOP TV To TVL
————	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

4+00

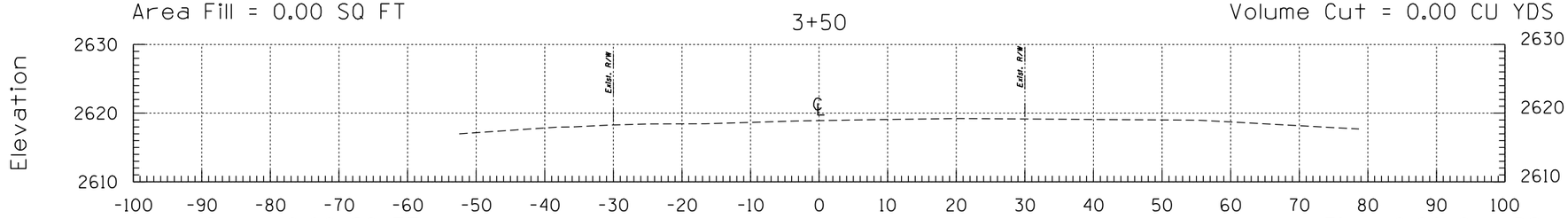
LINE	SURFACE
————	Sawcut LEOP TV
————	Sawcut REOP TV To TVL
————	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

3+50

LINE	SURFACE
————	Sawcut LEOP TV
————	Sawcut REOP TV To TVL
————	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



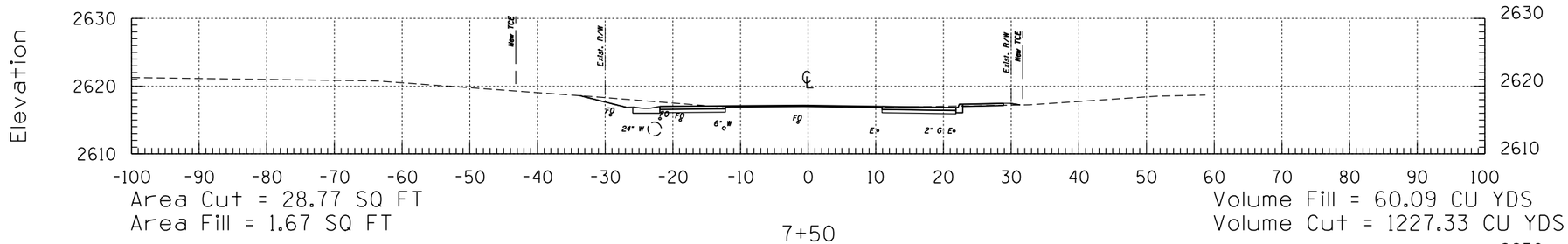
Area Cut = 0.00 SQ FT
Area Fill = 0.00 SQ FT
Volume Fill = 0.00 CU YDS
Volume Cut = 0.00 CU YDS

3+00

LINE	SURFACE
————	Sawcut LEOP TV
————	Sawcut REOP TV To TVL
————	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

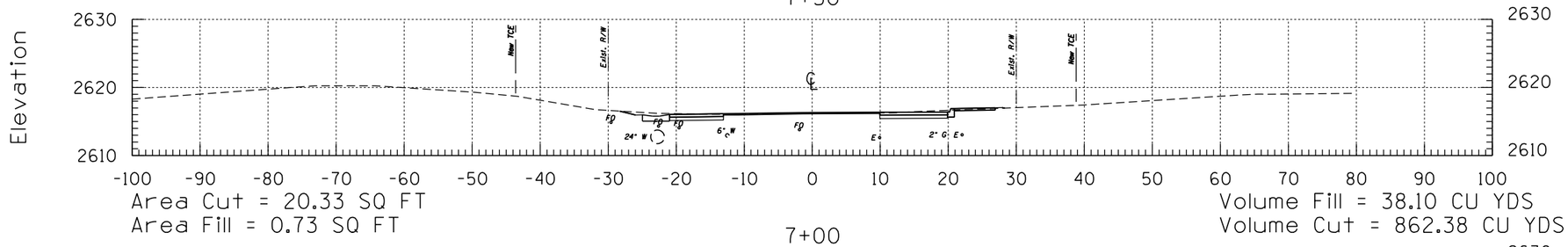
Sta 3+00 to Sta 5+00

F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



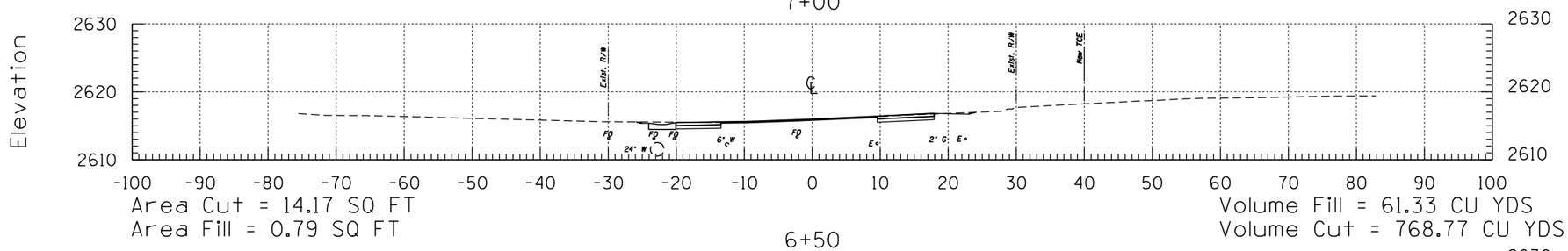
7+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



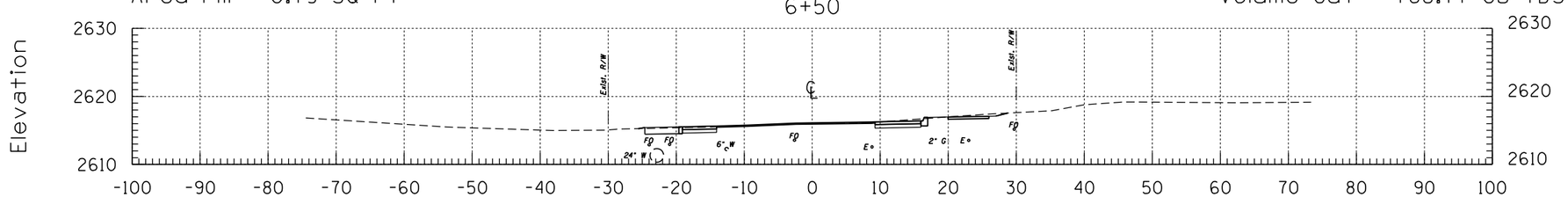
7+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



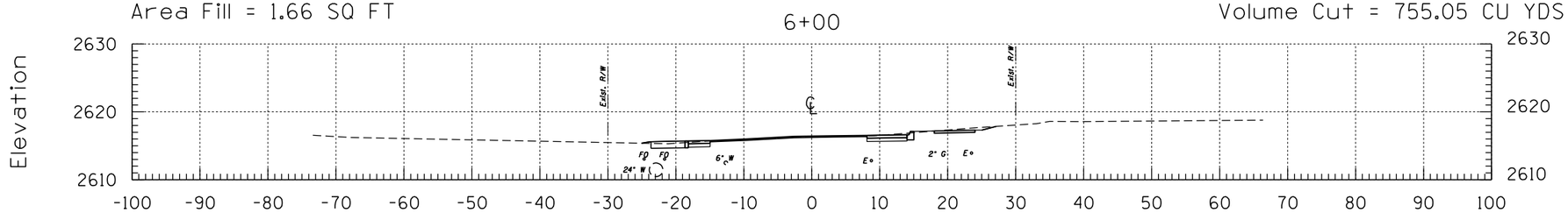
6+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	



6+00

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

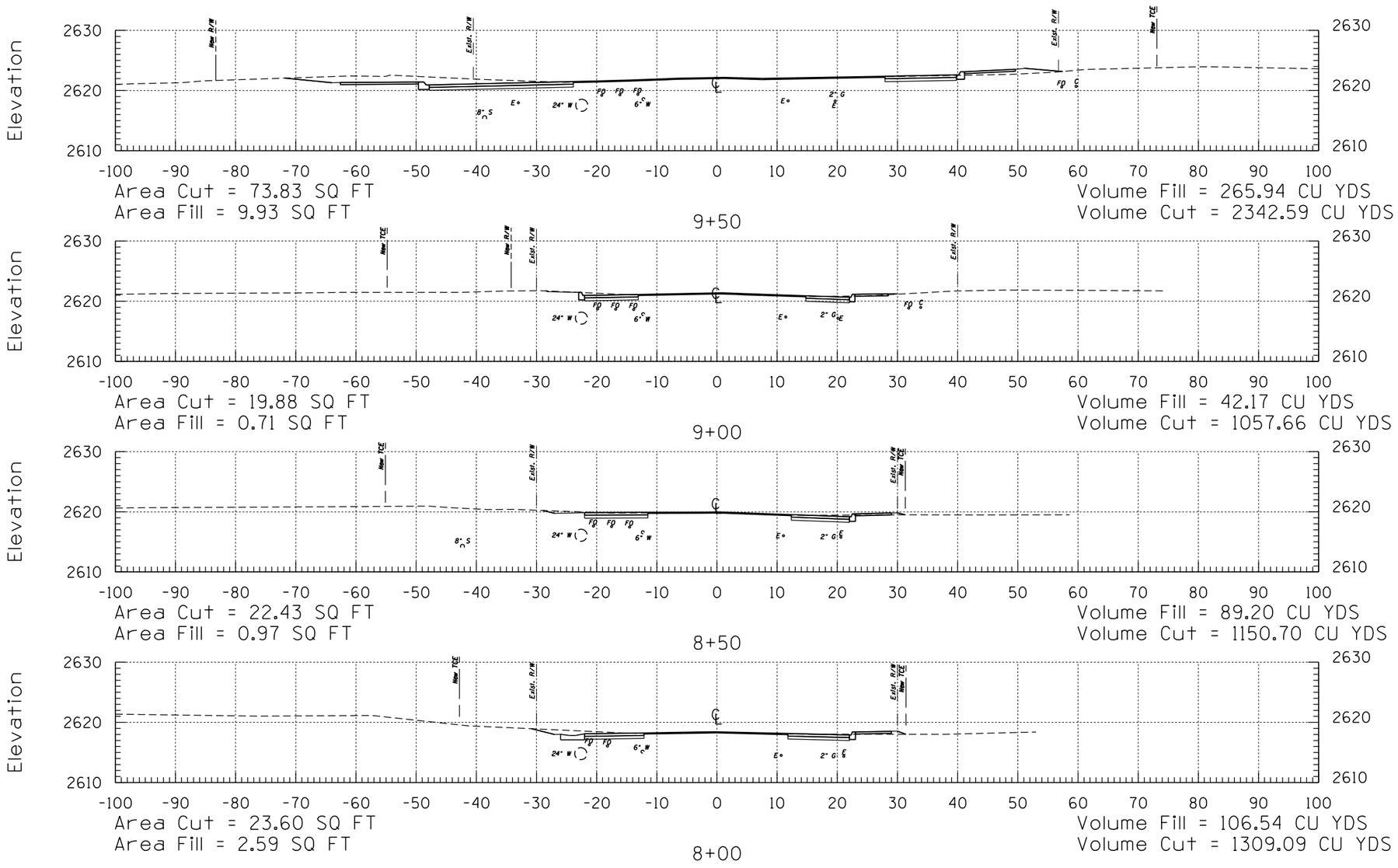


5+50

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

Sta 5+50 to Sta 7+50

F.H.W.A. REGION	STATE	PROJECT NO.	TRACS NO.
9	ARIZ.		



LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

LINE	SURFACE
———	Sawcut LEOP TV
———	Sawcut REOP TV To TVL
———	Sawcut REOP TVL To TV
- - - - - -	EXIST
Scaled 1 Times	

Sta 8+00 to Sta 9+50