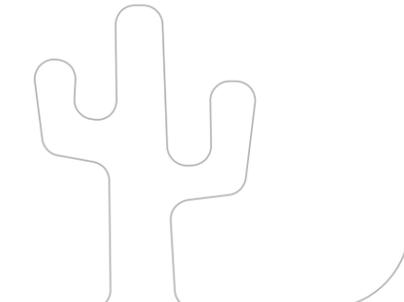




# CITY OF SCOTTSDALE

## PUBLIC IMPROVEMENTS



### COUNCIL

W.J. "JIM" LANE, MAYOR  
 VIRGINIA KORTE  
 SUZANNE KLAPP  
 KATHY LITTLEFIELD  
 LINDA MILHAVEN  
 GUY PHILLIPS  
 DAVID N. SMITH  
**CITY MANAGER**  
 FRITZ BEHRING  
**CITY ATTORNEY**  
 BRUCE WASHBURN  
**CITY CLERK**  
 CAROLYN JAGGER

### "AS-BUILT" CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" IMPROVEMENTS AS SHOWN HEREON ARE LOCATED AS NOTED, AND THE LOCATIONS ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR \_\_\_\_\_ DATE \_\_\_\_\_

### CITY OF SCOTTSDALE

REVIEWED AND RECOMMENDED APPROVAL BY:

PAVING	STRUCTURES
GRADING & DRAINAGE	BUILDING
WATER & SEWER	PLUMBING
TRAFFIC	MECHANICAL
PLANNING IMPROVEMENTS	ELECTRICAL
PLANNING FACILITIES	FIRE IMPROVEMENTS
LANDSCAPE	FIRE FACILITIES
NATIVE PLANT	

ENGINEERING COORDINATION MANAGER (OR DESIGNEE) \_\_\_\_\_ DATE \_\_\_\_\_

BUILDING OFFICIAL (OR DESIGNEE) \_\_\_\_\_ DATE \_\_\_\_\_



ENGINEER  
**URS**  
 7720 N. 16th Street, Suite 100  
 Phoenix, AZ 85020  
 (602) 371-1100

## SHEA TUNNEL ACCESS SHARED USE PATHWAY

### SHEA BLVD TO CAP CANAL

### BID NO. 16BP020

NO CONFLICT SIGNATURE BLOCK				
Utility	Utility Company	Name of Company Representative	Telephone Number	Date Signed
Electric	APS	Stacy Rankin	602-493-4130	12/17/2015
Telephone	CenturyLink	Karen Brown	480-768-4398	16/2016
Natural Gas	Southwest Gas	Bernadette Smith	480-730-3857	16/2016
Cable TV	Cox	Travis Curry	623-328-3519	1/14/16
Water	EPCOR Water	Josh Vig	623-445-2495	16/2016
Sewer	City of Scottsdale Sewer	-	-	-
Water	City of Scottsdale Water	-	-	-
Water	Central Arizona Project	Tom Fitzgerald	623-869-2209	1/1/2016
Fiber	City of Scottsdale	Khamchong Ratsavong	480-312-4347	-
Fiber	Zayo	Rob Garcia	623-210-8806	1/5/2016
Fiber	Crown Castle	Bryant Lowe	724-416-2193	16/2015

Engineer's Certification  
 I, Ella Ely Reinert, as the Engineer of Record for this development, hereby certify that all utility companies listed above have been provided final improvement plans for review, and that all conflicts identified by the utilities have been resolved. In addition, "No Conflict" forms have been obtained from each utility company and are included in this submittal.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Certificate of Approval to Construct Maricopa County Environmental Services Department  
 Water and Waste Management Division

MCESD # \_\_\_\_\_

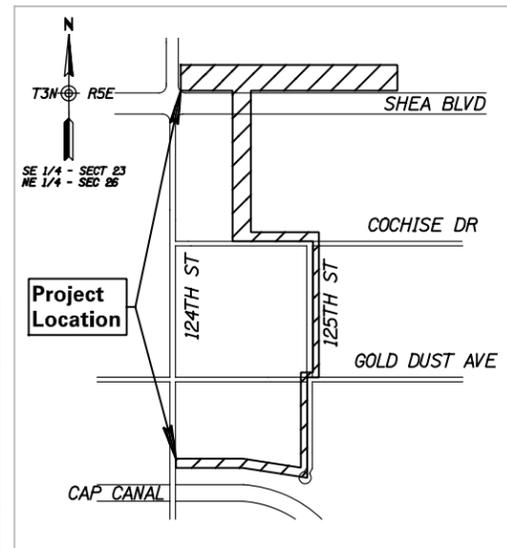
Public Water System ID Number 0407- (and/or) Waste Water System ID Number 0437-  
 Project Description: \_\_\_\_\_

Project Location: \_\_\_\_\_  
 Project Owner: \_\_\_\_\_

Pursuant to AAC Title 18, Chapter 4, Article 5; or AAC Title 18, Chapter 9, Article 6; and/or Maricopa County Environmental Health Code Chapters II or V. This certificate of approval to construct the above described facilities as represented in the attached plan is valid upon review and signature by a Maricopa County Environmental Services Department's representative given the following provisions:  
 1.) A Request for Certificate of Approval of Construction, together with an Engineer's Certificate of Completion, and sealed engineer as-built plans, shall be submitted to this Department prior to Approval of Construction and startup.  
 2.) The Approval to Construct is valid if major modifications occur to the plans without the knowledge and consent of the department.  
 If Construction has not started within one year of the approval date, this certificate will be void. An extension of time may be available upon written request.

Approved By: \_\_\_\_\_ Date Approved: \_\_\_\_\_

CC: MCESD FILE; ADEQ  
 Engineer; AZ. Corp. Commission



Vicinity Map  
 N.T.S.

### BENCH MARKS (COS NAVD '88)

- | No. | Description  |
|-----|--|
| 1.  | City of Scottsdale Datum<br>At the intersection of<br>Shea Boulevard & 124th Street<br>Northing 939449.06802<br>Easting 731462.52366<br>Elevation 1543.07    |
| 2.  | City of Scottsdale Datum<br>At the intersection of<br>124th Street & Mountain View Rd<br>Northing 936807.91924<br>Easting 731465.40123<br>Elevation 1506.912 |
| 3.  | City of Scottsdale Vertical Datum Only<br>At the intersection of<br>Shea Boulevard & 128th Street<br>Elevation 1568.169                                      |

## ADOT Project No.: 0000 MA SCT SZ161 01C/01D

## Federal Project No.: SCT-0(226)D

City of Scottsdale approved plans shall be kept on the job site at all times during the course of construction.

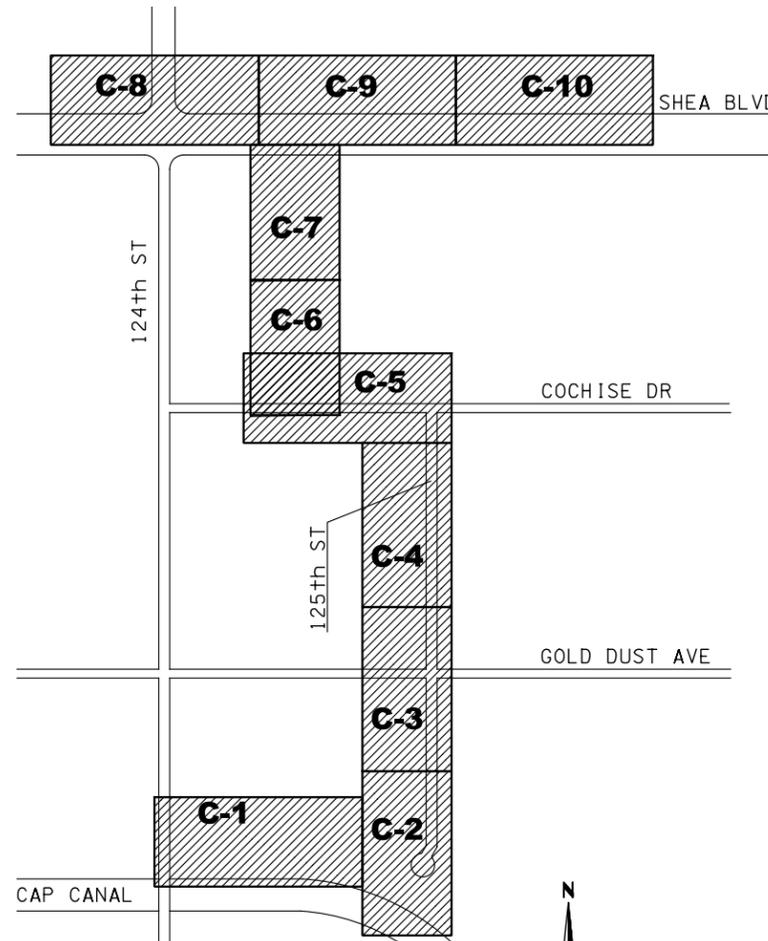
SHEA TUNNEL ACCESS SHARED USE PATHWAY  
 BID NO. 16BP020

DRSTAFF APPROVAL NO.

PLAN REVIEW NO.

**GENERAL CONSTRUCTION NOTES FOR CAPITAL PROJECTS**

- All Improvement construction shall comply with the latest Maricopa County Association of Governments Standard Specifications and Details for Public Works Construction as amended by the latest version of the City of Scottsdale Supplemental Standard Specifications and Details and City of Scottsdale's Design Standards & Policies Manual (DS&PM). If there is a conflict, the latter shall apply. All facilities construction shall comply with the 2006 IBC, 2006 IPC, 2006 IMC, 2006 IFC and the 2005 NEC.
- The engineering designs on these plans are approved by the City in scope and not in detail. If construction quantities are shown on these plans, they are not verified by the City.
- Based on the information submitted on the plans and associated documents, the City has reviewed and found them to be in accordance with the City's Municipal Code and are acceptable for permit issuance. This acceptance by the City does not authorize violations of any applicable code, ordinance or standard as adopted by the Municipal Code.
- Approval of the plans by the City is valid for six months. If a permit for the construction has not been issued within six months of review, the plans shall be resubmitted to the City for reapproval.
- Any deviation from the approved plans shall be reviewed and approved by the City prior to that change being incorporated into the project.
- A City Capital Projects Inspector will inspect all work within the City rights-of-way, easements and facilities.
- Any special inspection required shall be in addition to any routine inspection by the City.
- City encroachment and building permits are required for work in public rights-of-way, easements granted for public purposes and facilities. Permits will be issued by the City through the City's One Stop Shop. Copies of all permits shall be retained on-site and shall be available for inspection at all times. Failure to produce the required permits will result in immediate work stoppage until the proper permit documentation is obtained.
- The contractor shall be responsible for obtaining all necessary permits for salvaging protected native plants prior to the start of construction.
- Wherever excavation is done contact the Blue Stake Center at (602) 263-1100 two working days before excavation is to begin. The Center will see that the location of the underground utility lines is identified for the project.
- All excavation and grading which is not in public rights-of-way or in easements granted for public purposes must conform to Section 1803 and Appendix J of the 2006 edition of the International Building Code prepared by the International Code Council. A permit for this grading must be secured from the City.
- Thrust restraint, where required, on all City water lines shall be provided using mechanical joint restraints approved by the City.
- Any asphalt mix design used on City projects shall have been approved for that use per Section 5-10 the City's DS&PM and appear on the "Approved List of Asphalt Mixes" as distributed by the East Valley Asphalt Committee (EVAC).
- The Contractor shall be responsible to remove and replace, at no additional cost to the City, any and all pavement, sidewalk, curb and gutter, drainage structures, etc. outside the pay limit that are damaged due to their activities on the project. This includes, but is not limited to, the removal and replacement of newly cracked roadway infrastructure, the removal and replacement of existing cracked roadway infrastructure where the cracks have been enlarged due to the Contractor's operations, the removal and replacement of deformed roadway infrastructure. All sawcuts used for the removal of these items shall be perpendicular and parallel to the centerline controlling that item, or at the direction of the City's Capital Projects Inspector.
- All Capital Improvement Projects shall meet the procedures and standards for the use of temporary/security fencing around the perimeter of construction sites, as defined in the City's Zoning Ordinance, Article VII, Section 7.700.



**KEY MAP  
N.T.S.**

**SHEET INDEX**

Sht. No.	Dwg. No.	Description
1	G-1	COVER SHEET
2	G-2	GENERAL NOTES
3	G-3	QUANTITY SUMMARY SHEET
4-8	G-4 to G-8	TYPICAL SECTIONS
9-10	G-9 to G-10	DETAIL SHEETS
11-13	GS-1 to GS-3	GEOMETRIC PLAN SHEETS
14-15	GD-1 to GD-2	GEOMETRIC DATA SHEETS
16-25	C-1 to C-10	SHARED USE PATH PLAN & PROFILE
26-27	SD-1 to SD-2	DRAINAGE DETAILS
28-36	SD6.01 to SD7.01	ADOT STANDARD DETAILS 6.01, 6.08, & 7.01
37	C-13.75	ADOT STORM DRAIN OUTLET BARRIER GATE
38-42	S-1 to S-5	WALL NOTES, PLANS & PROFILES
43-44	S-6 to S-7	LIGHTWELL DETAILS
45-46	T-1 to T-2	TRAFFIC CONTROL
47	T-3	SIGN SUMMARY & FORMAT
48	NPS01	NATIVE PLANT INVENTORY & NOTES
49-50	NPD01 to NPD02	NATIVE PLANT DETAILS
51-59	NP01 to NP09	NATIVE PLANT PLANS
60-75	ECS01 to EC09	EROSION CONTROL
76-77	LS01 to LS02	LANDSCAPE NOTES & SUMMARY
78-81	LD01 to LD04	LANDSCAPE DETAILS
82-90	LP01 to LP09	LANDSCAPE PLANS
91-99	HP01 to HP09	HARDSCAPE PLANS
100-105	SE1.1 to SE3.2	ELECTRICAL & LIGHTING

**SYMBOL LEGEND**

Existing		New	
	Sewer Manhole		Right of Way
	Fiber Optic Telephone		Sign
	Water		Riprap
	Underground Power		Fire Hydrant
	Overhead Power		Shotcrete
	Gas		Non-Slip Treatment
	Sewer		Grey Exposed Aggregate Concrete
	Right of Way		Ribbon Curb, MAG 220 Type B
	Easement		New Retaining Wall, See Wall Sheets for Type
	Junction Box		Ditch Flowline
	Fire Hydrant		Safety Rail
	Sign		
	Block Fence		
	Rock Edging		
	Mailbox		
	Light Pole		
	Guardrail		

ARIZONA BLUE STAKE  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
PUBLIC WORKS		CAPITAL PROJECT MANAGEMENT
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		Expires 12/31/2018
SHEET TITLE		
GENERAL NOTES		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. N/A	EE	6/15
VERT. N/A	BP	AS-BUILT
	BID NO.	DWG.
	16BP020	G-2
	PROJECT NO.	
		2 OF 105

DESIGN FILE: P:\projects\City of Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_Notes.dgn PLOT DATE: 1/16/2016 11:16:32 AM

XXX-XX

QUANTITY SUMMARY SHEET



7720 N. 16th Street, Suite 100  
Phoenix, AZ 85020  
(602) 371-1100

11:16:33 AM

PLOT DATE: 1/16/2016

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\_SZ1610\_etusheet\_2.dgn

PLAN REF. NO.	ITEM NO.	DESCRIPTION	UNIT	DWG NUMBER										TOTAL								
				C-1	C-2	C-3	C-4	C-5	C-6	C-7	C-8	C-9	C-10									
1	201001	Clearing & Grubbing	AC	0.3	0.1	0.1	0.2	0.2	0.5	0.5	0.3	0.5	0.6									4
7	350604	Remove Sign, Post & Post Base	EA	1							1	1										3
8	610803	Fire Hydrant Relocation, MAG 360 & 362	EA			1																1
9	350115	Remove and Reinstall Trail Access Gate	EA	1																		1
10	350661	Remove and Salvage Landscape Light	EA			4																4
11	350111	Remove Fence	LF											76								76
12	350716	Remove Structural Concrete	CY							5	6											11
16	345003	Frame & Cover Grade Adjustment, COS 2270	EA									1										1
1	430003	Decomposed Granite (Stabilized)	SY	426	296	340	356	303	115	51	108	312	395									2,702
2	340205	Concrete Sidewalk, MAG 230 (5" Thick)	SF											3,100	2,844	2,918						8,862
3	340290	Non Slip Treatment (Path Treatment)	SF		175	939	218								2,642	1,421						5,395
5	multi #	Install Sign, Trail Marker Sign, COS 2683	EA	1		2	2							1								6
6	220406	Dumped Riprap (D50=6")	CY												73	90						163
7	505402	Box Culverts	LF									22										22
8	220409	Dumped Riprap (D50=9")	CY									25										25
9	520001	Steel Handrails, COS 2508	LF																		115	115
10	505826	Retaining Wall (ADOT SD 7.01)	SF																		569	569
11	505462	Box Culvert Wings	EA												2							2
12	340021	Ribbon Curb, MAG 220 Type B	LF																		41	41
13	multi #	Install Sign, Trail Crossing Sign, COS 2683	EA			4	1	1														6
14	505103	Lightwell	EA																		1	1
15	multi #	Install Sign, W08-103 Do Not Enter When Flooded	EA												1	1						2
16	340295	Non Slip Treatment (Shoulder Treatment)	SF												120							120
17	220500	Shotcrete	CY												56							56
18	505827	Retaining Wall (Gabion)	CY																		1,093	1,157
19	420012	Steel Rail Fence COS 2682	LF																		546	679
20	340243	Exposed Aggregate Sidewalk	SF																		194	194
21	multi #	Install Sign, W8-17P Shoulder Drop Off	EA																		2	2
22	220412	Dumped Riprap (D50=12")	CY												53							53
23	618740	Storm Drain Outlet Barrier Gate (ADOT C-13.75)	EA												1	1						2
24	multi #	Install Sign, W11-7 Equestrian	EA																		1	1
25	340066	Single Curb MAG 222 Type B, Modified	LF																		35	35
26	220422	Wire Enclosed Riprap (D50=12")	CY																		48	48
27	618018	18" Storm Drain Pipe	LF																		118	118
28	multi #	Install Sign, Right Turn 10 MPH	EA																		1	1
29	340065	Single Curb MAG 222 Type A, Modified	LF																		50	50

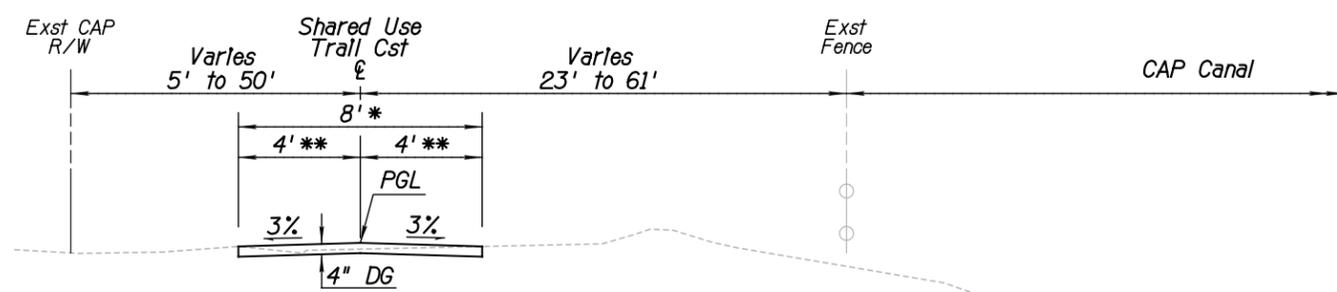
DATE	REVISION	BY
ENGINEER ELLA ELY REINERT 50247 ARIZONA, U.S.A.		PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
Expires 12/31/2018		
SHEET TITLE <b>QUANTITY SUMMARY</b>		
PROJECT TITLE <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N/A	EE	6/15
VERT. N/A	BP	AS-BUILT
	BID NO.	DWG.
	16BP020	G-3
	PROJECT NO.	
		3 OF 105

XXX-XX

11:16:33 AM

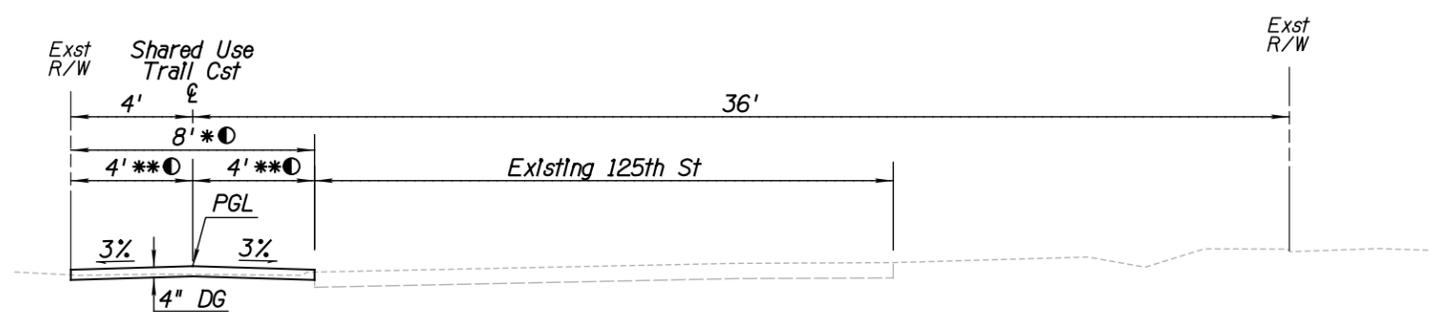
PLOT DATE: 1/16/2016

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_tup1.dgn



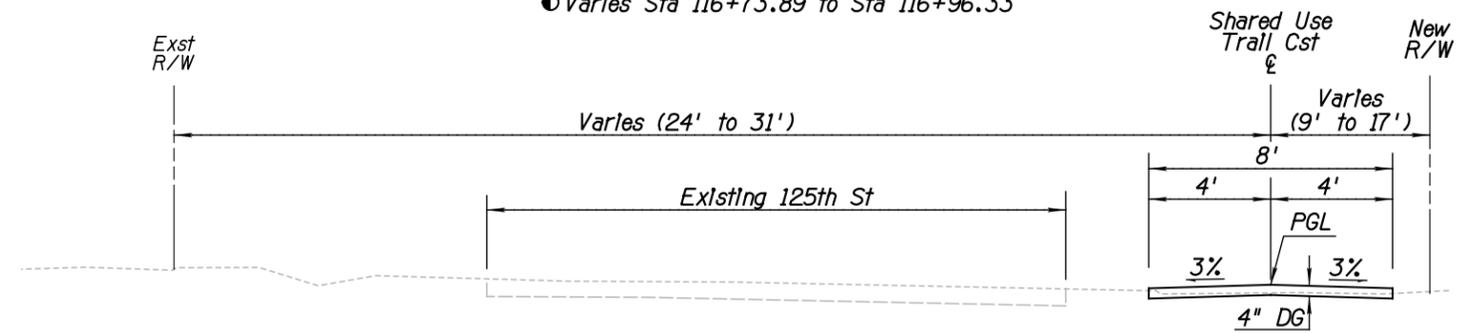
**TYPICAL SECTION**

Adjacent to CAP Canal  
 Sta 110+00.80 to 116+25.29  
 \* Varles 8' to 6' Sta 116+05.29 to Sta 116+25.29  
 \*\* Varles 4' to 3' Sta 116+05.29 to Sta 116+25.29



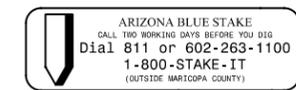
**TYPICAL SECTION**

CAP Canal to Gold Dust Ave  
 Sta 116+25.29 to 121+15.30  
 \* 6' Sta 116+25.29 to Sta 116+73.89  
 \*\* 3' 116+25.29 to Sta 116+73.89  
 ● Varles Sta 116+73.89 to Sta 116+96.33



**TYPICAL SECTION**

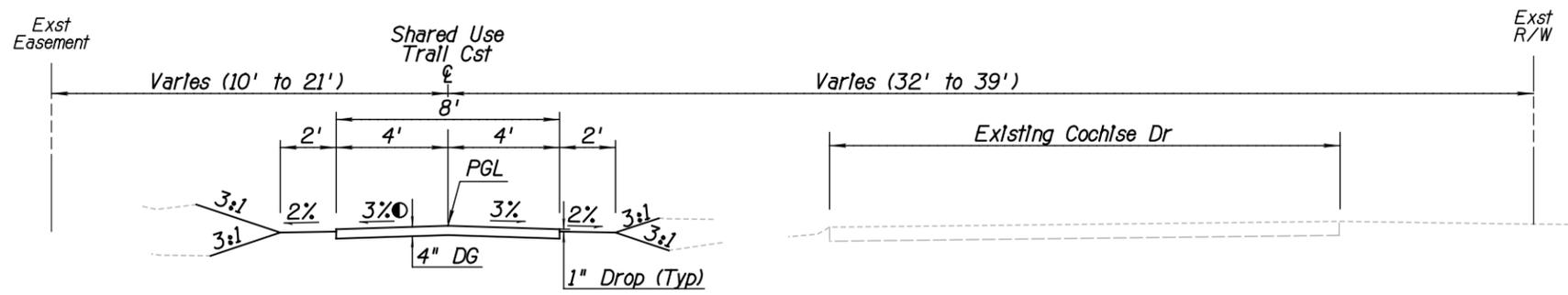
Gold Dust Ave to Cochise Dr  
 Sta 121+15.30 to 127+75.63



DATE	REVISION	BY
<b>PUBLIC WORKS</b>		
<b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
<b>TYPICAL SECTION</b>		
PROJECT TITLE		
<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N.T.S.	EE	6/15
VERT. N.T.S.	BP	AS-BUILT
BID NO.		DWG.
16BP020		G-4
PROJECT NO.		
		4 OF 105

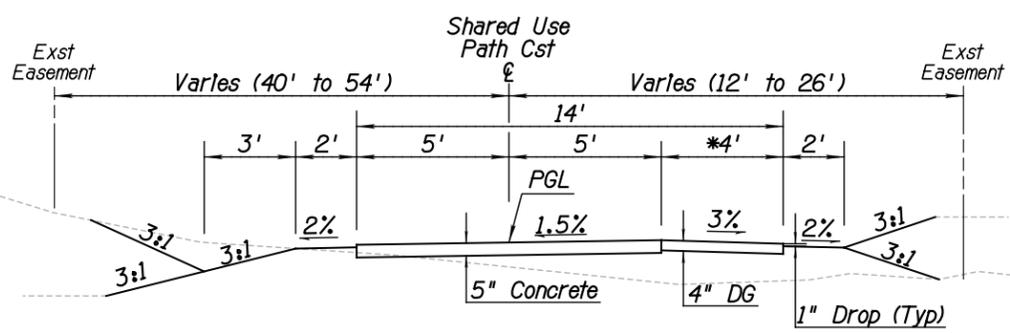
XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_tup2.dgn PLOT DATE: 1/16/2016 11:16:34 AM



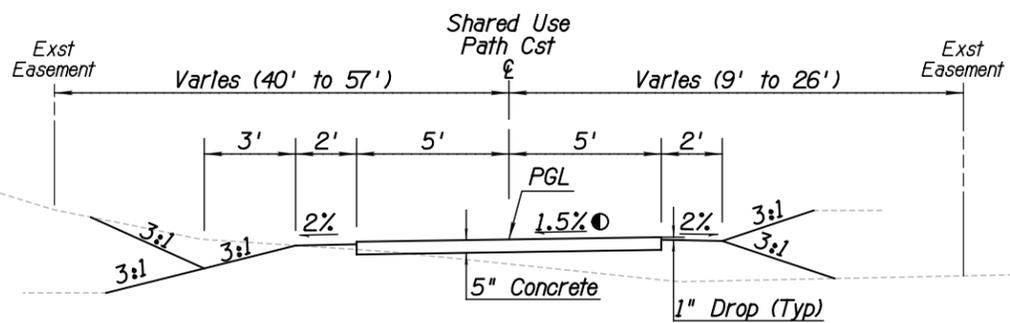
**TYPICAL SECTION**

Adjacent to Cochise Dr  
 Sta 210+68.29 to 213+96.71  
 ● Cross Slope Varies, See Plans  
 Sta 210+68.29 to Sta 210+93.29



**TYPICAL SECTION**

From Cochise Dr to Shea Tunnel  
 Sta 310+00.00 to 314+45.00  
 \* Varies 4' to 0' from Sta 314+05.00 to Sta 314+45.00



**TYPICAL SECTION**

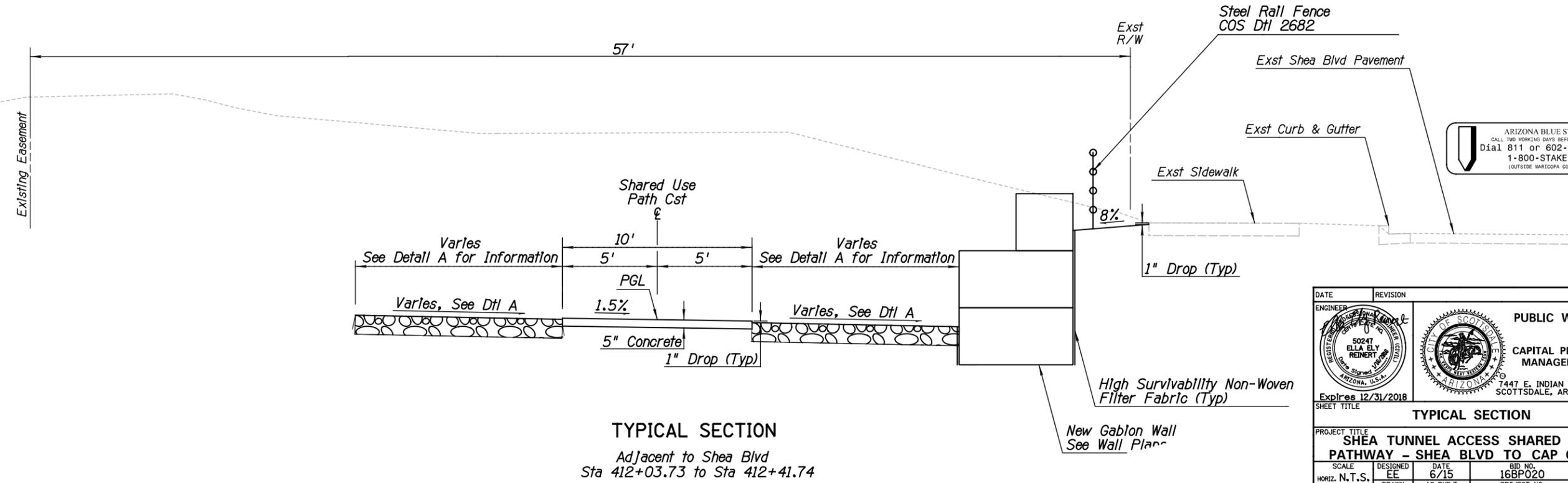
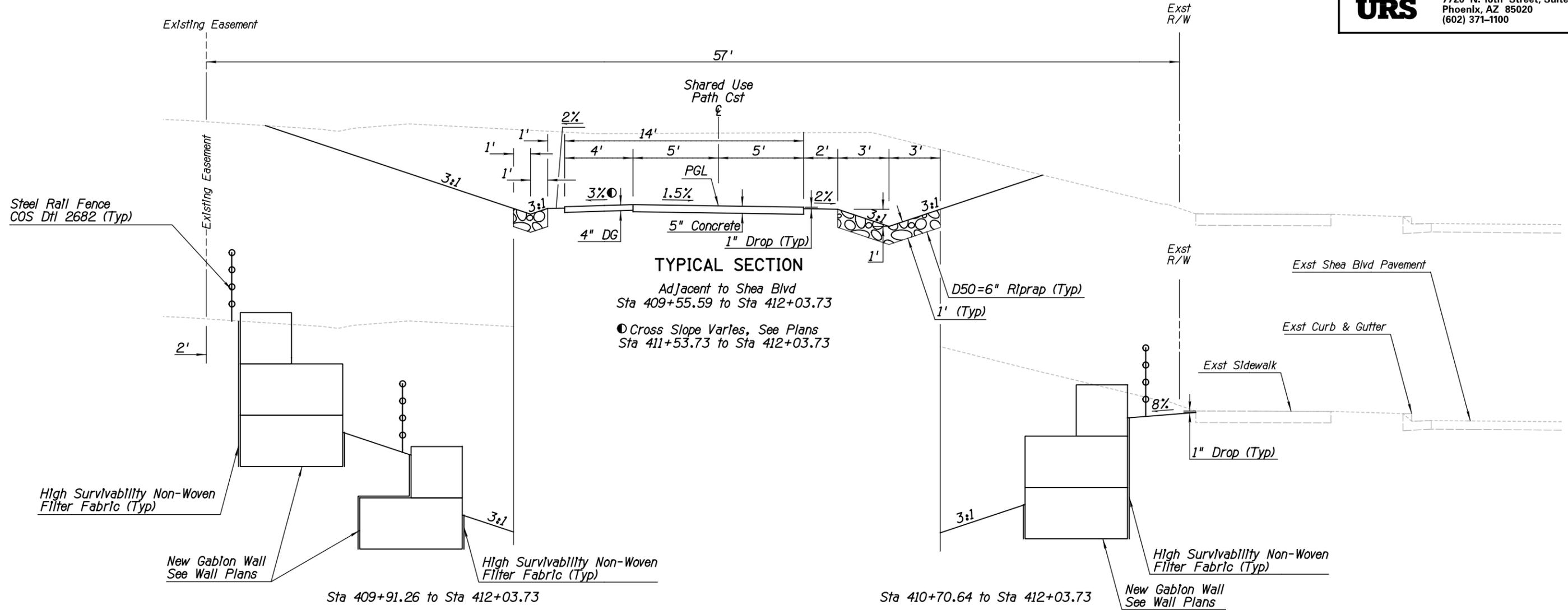
From Cochise Dr to Shea Tunnel  
 Sta 314+45.00 to 316+06.52  
 ● Cross Slope Varies, See Plans  
 Sta 314+90.00 to Sta 315+40.00



DATE	REVISION	BY
		PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
Expires 12/31/2018		
SHEET TITI F		
<b>TYPICAL SECTION</b>		
PROJECT TITLE		
<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N.T.S.	EE	6/15
VERT. N.T.S.	BP	AS-BUILT
BID NO.		DWG.
16BP020		G-5
PROJECT NO.		
		5 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_tup3.dgn  
 PLOT DATE: 1/16/2016 11:16:35 AM



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

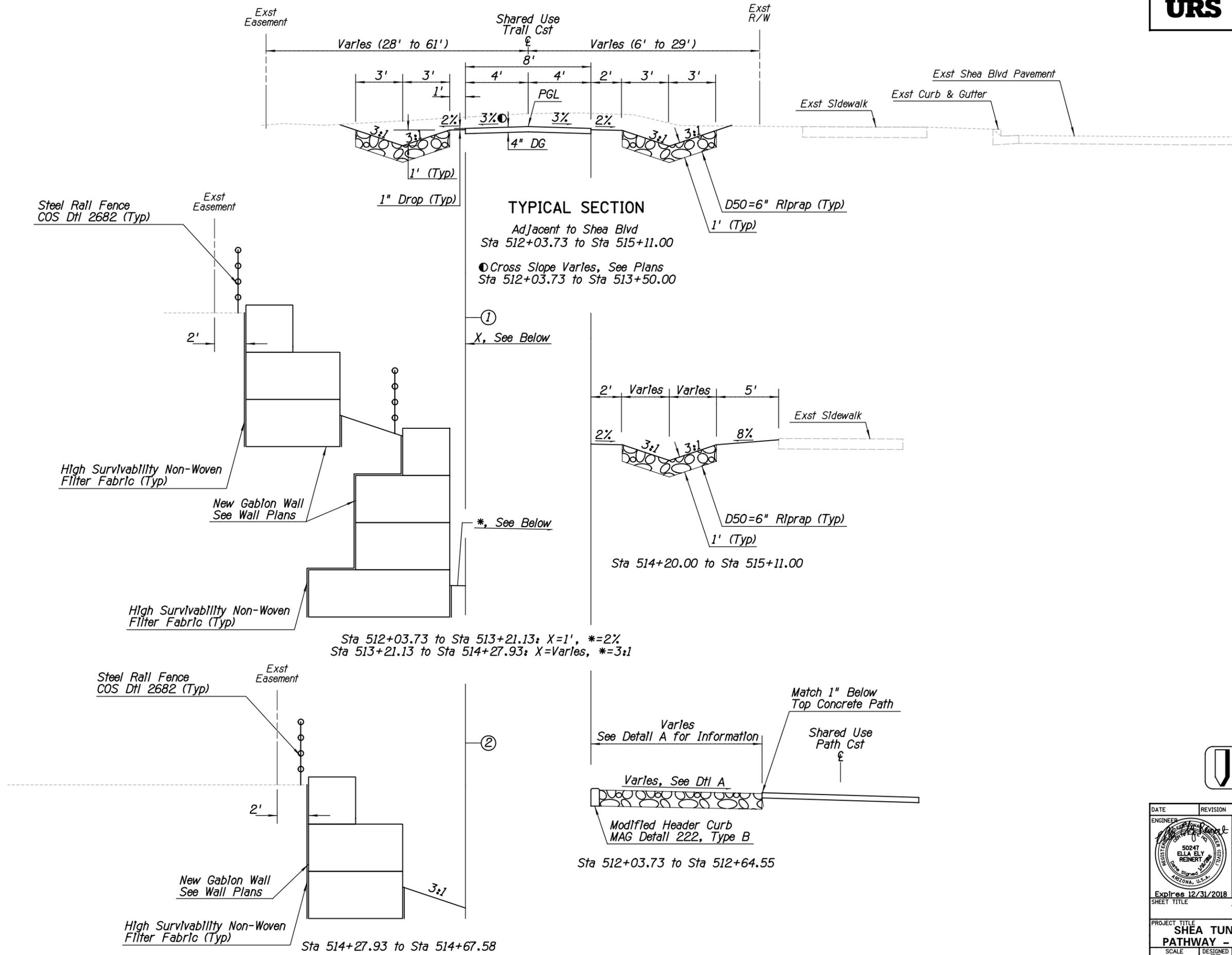
Expires 12/31/2018

SHEET TITLE: **TYPICAL SECTION**

PROJECT TITLE	<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE	BID NO.
HORIZ. N.T.S.	EE	6/15	16BP020
VERT. N.T.S.	BP	AS-BUILT	PROJECT NO.
			6 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_tup4.dgn PLOT DATE: 1/16/2016 11:16:36 AM



DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

Expires 12/31/2018

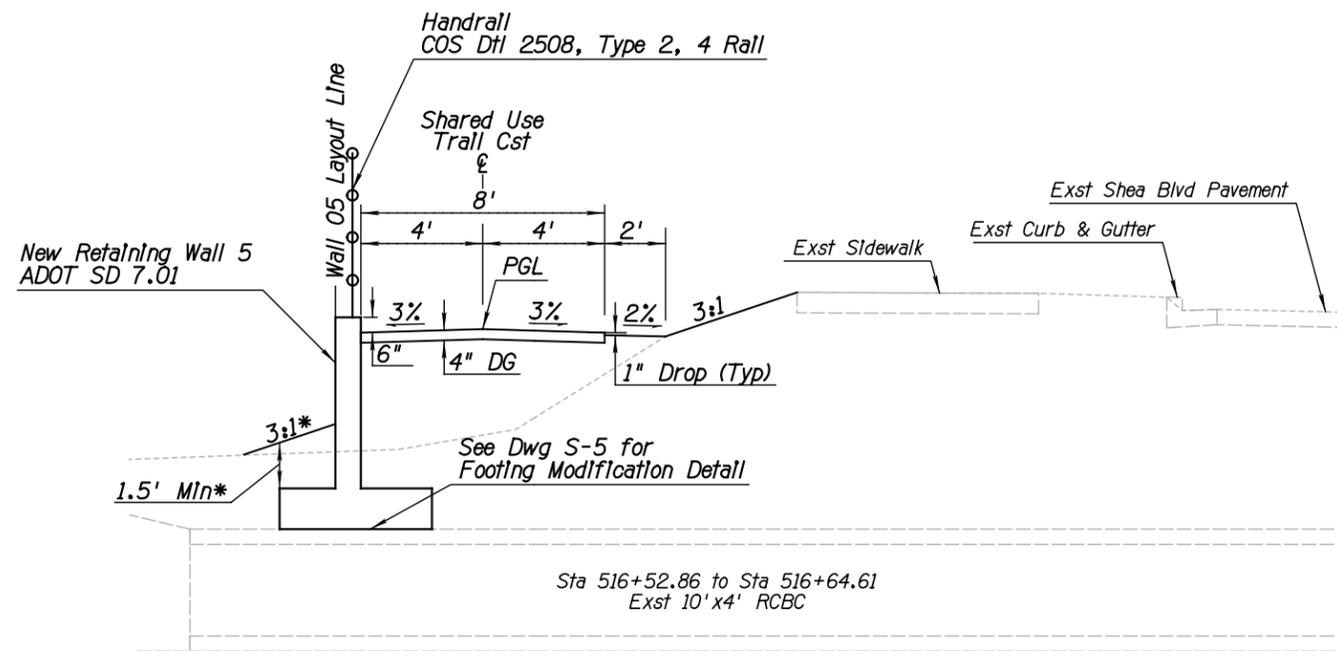
SHEET TITLE: **TYPICAL SECTION**

PROJECT TITLE: **SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL**

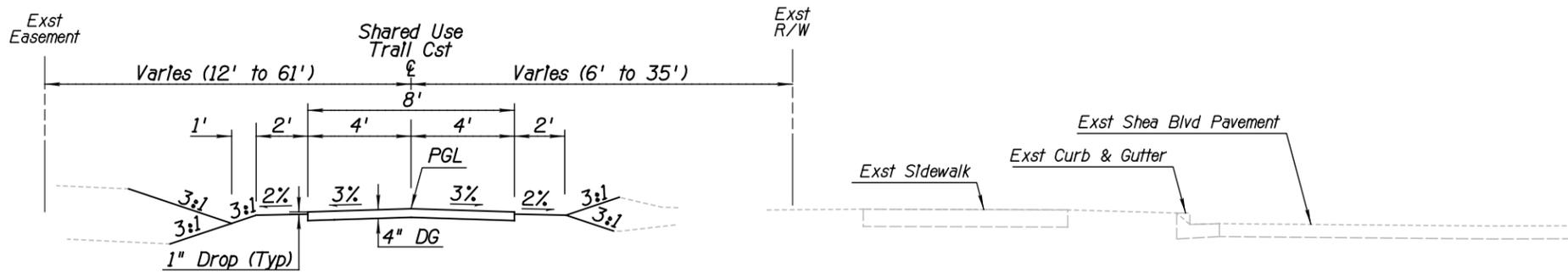
SCALE	DESIGNED	DATE	BID NO.	DWG.
HORIZ. N.T.S.	EE	6/15	16BP020	G-7
VERT. N.T.S.	BP	AS-BUILT	PROJECT NO.	7 OF 105

XXX-XX

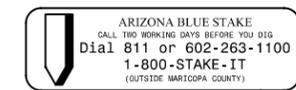
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_tup5.dgn PLOT DATE: 1/16/2016 11:16:37 AM



**TYPICAL SECTION**  
 Sta 516+35.20 to Sta 517+50.47  
 \*See Dwg S-5 for Footing Modification Over Existing RCBC



**TYPICAL SECTION**  
 Adjacent to Shea Blvd  
 Sta 515+11.00 to Sta 516+35.20  
 Sta 517+50.47 to Sta 519+94.70



DATE	REVISION	BY

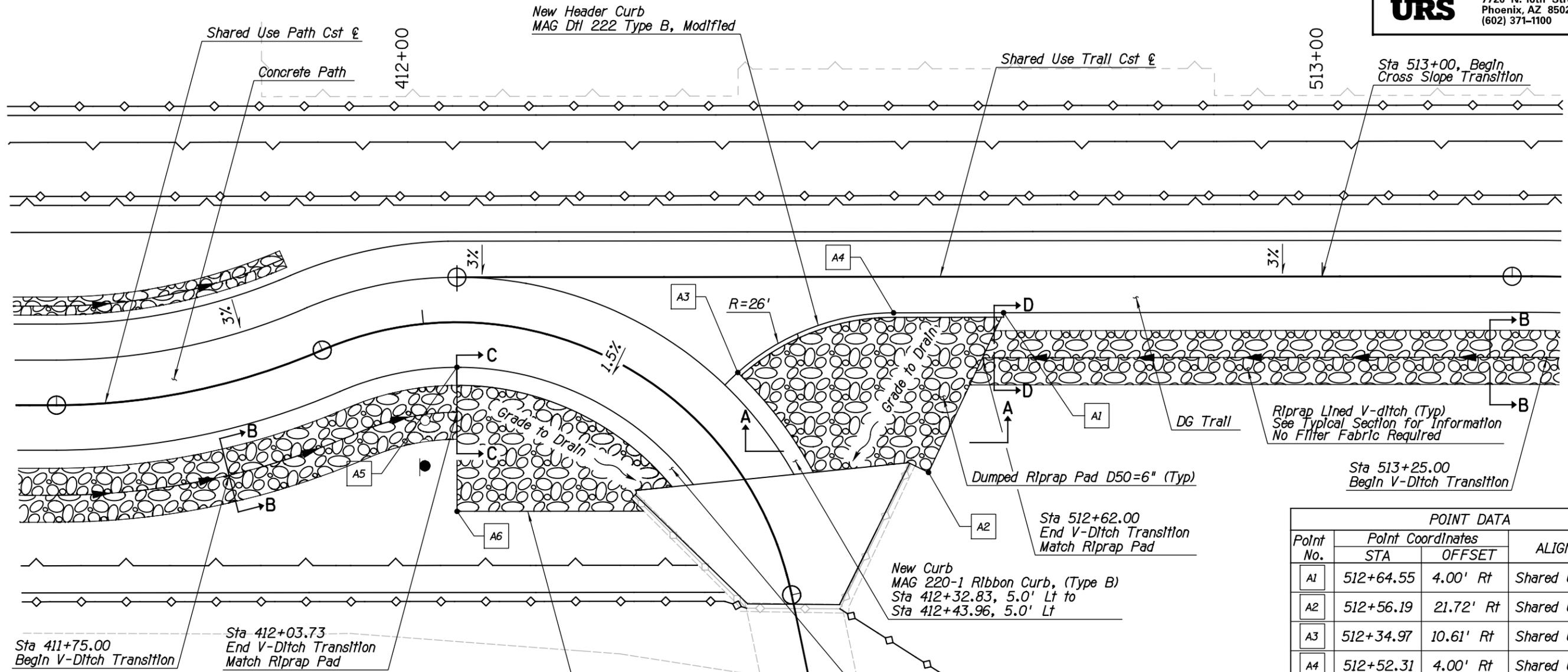
		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>
Expires 12/31/2018		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

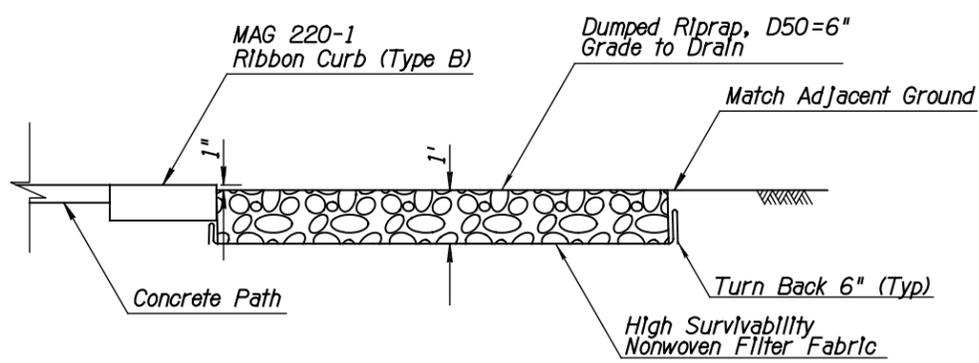
SHEET TITLE: <b>TYPICAL SECTION</b>				
PROJECT TITLE: <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>				
SCALE	DESIGNED	DATE	BID NO.	DWG.
HORIZ. N.T.S.	EE	6/15	16BP020	G-8
VERT. N.T.S.	BP	AS-BUILT	PROJECT NO.	8 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_DtlA.dgn PLOT DATE: 1/16/2016 11:16:38 AM

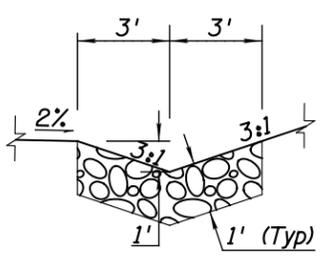


POINT DATA			
Point No.	Point Coordinates		ALIGNMENT
	STA	OFFSET	
A1	512+64.55	4.00' Rt	Shared Use Trail
A2	512+56.19	21.72' Rt	Shared Use Trail
A3	512+34.97	10.61' Rt	Shared Use Trail
A4	512+52.31	4.00' Rt	Shared Use Trail
A5	412+03.73	5.00' Rt	Shared Use Path
A6	412+03.73	21.00' Rt	Shared Use Path

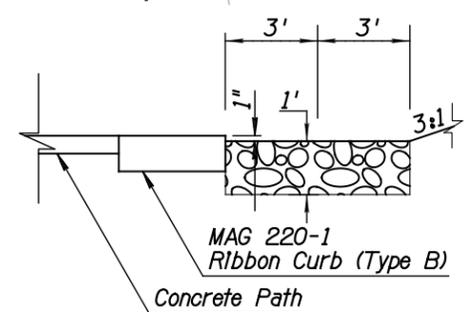


**Riprap Pad Section A-A**

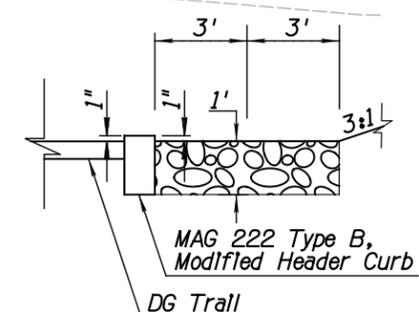
- Notes:**
- 1) Riprap and DG Trall shall be 1" below top of curb or concrete sidewalk from Shared Use Path Sta 411+53.73 to Shared Use Trail Sta 512+64.55. Top of DG Trall shall match top of concrete Shared Use Path from Shared Use Path Sta 409+60.70 to Sta 411+53.73 as shown on Typical Section.
  - 2) Top of curb shall match top of Shared Use Path concrete.
  - 3) Modified Header curb shall be 13" total height and shall meet requirements specified in notes 1 & 2.
  - 4) The cost of high survivability non-woven filter fabric is included in the cost of the riprap.



**Section B-B**



**Section C-C**  
**V-Ditch Transitions**



**Section D-D**

# DETAIL A

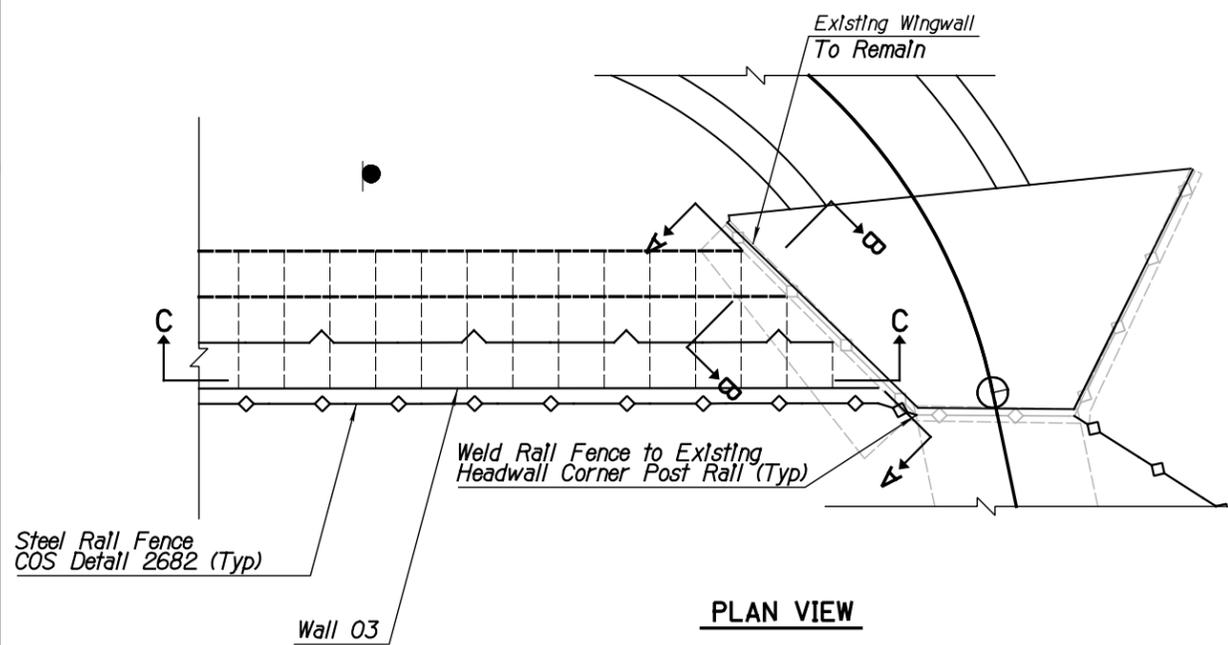
**RIPRAP STAKING, HEADER CURB AND GRADING DETAIL**



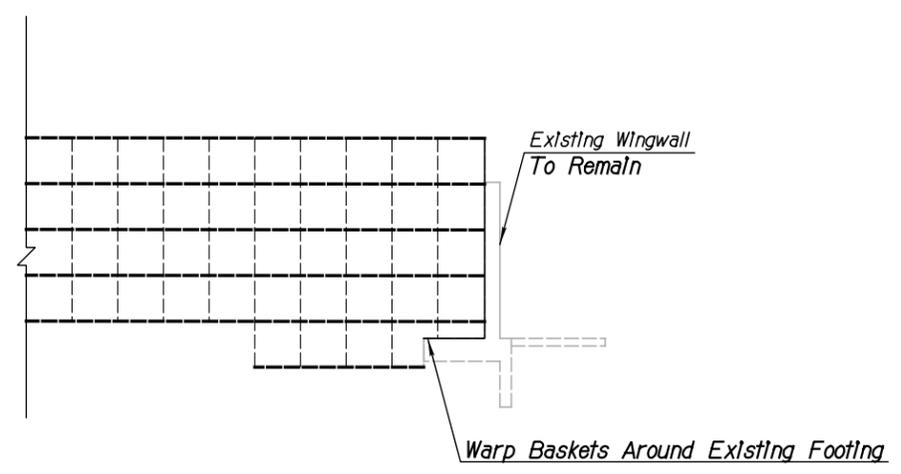
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018 SHEET TITLE <b>RIPRAP PAD LAYOUT &amp; HEADER CURB</b>		
PROJECT TITLE <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. AS-BUILT	EE	6/15
VERT. AS-BUILT	BP	AS-BUILT
BID NO. 16BP020		DWG. G-9
PROJECT NO.		9 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_Dt1B.dgn PLOT DATE: 1/16/2016 11:16:39 AM

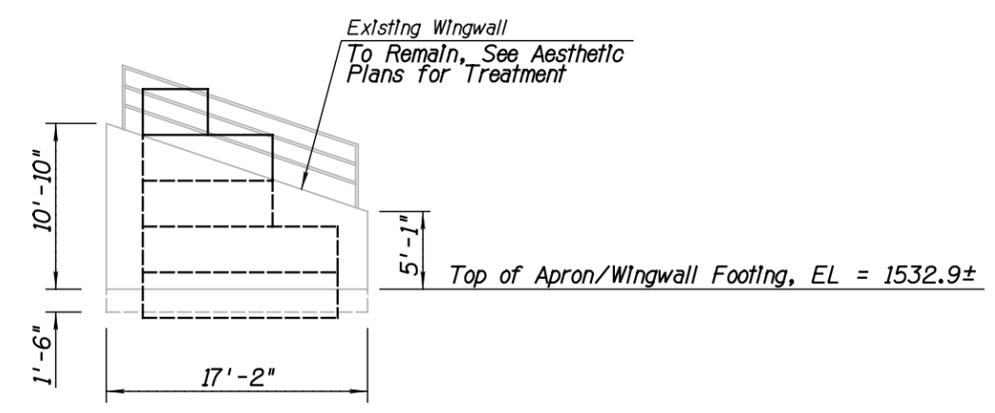


**PLAN VIEW**

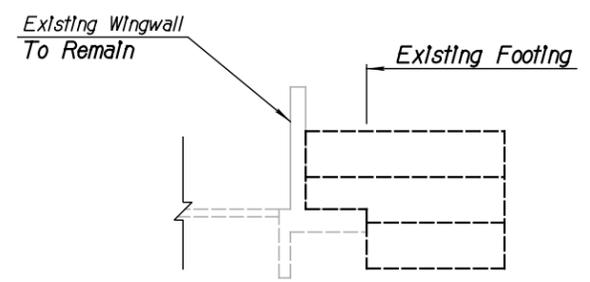


**SECTION VIEW C-C**

See Wall 03 Dwg S-4 for Wall Profile



**SECTION VIEW A-A**



**SECTION VIEW B-B**

**Notes:**

- 1) Cost to weld new rail fence to existing safety rail is considered incidental to the cost of the steel rail fence and no additional payment will be made for this work.

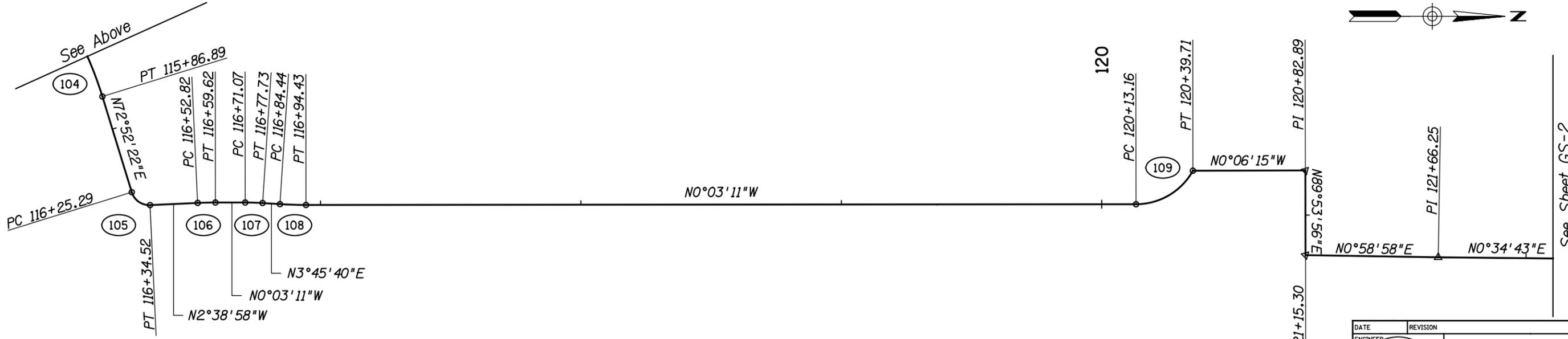
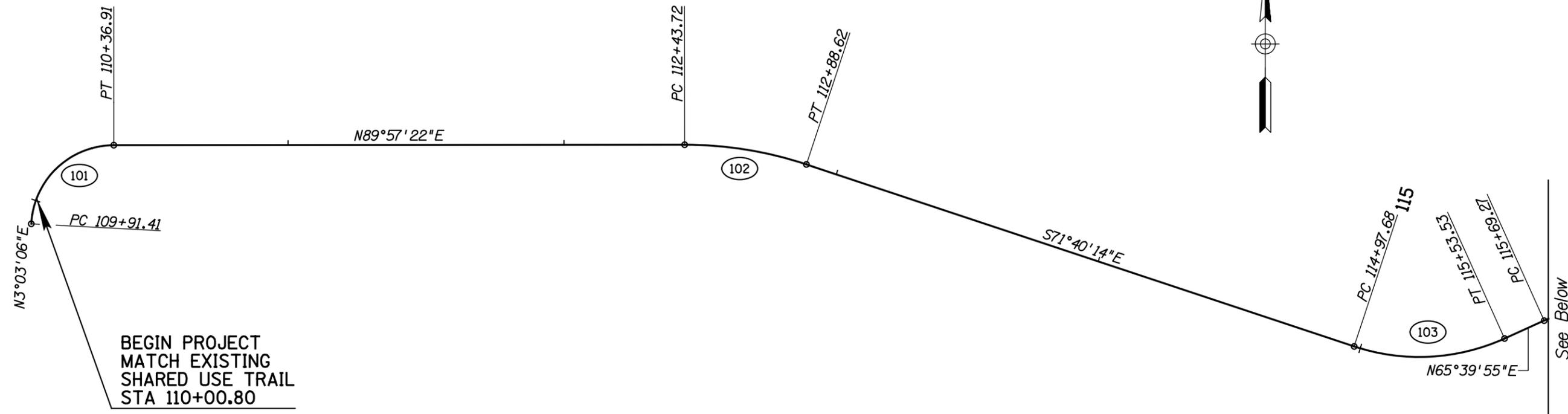
**DETAIL B**  
 WALL 03 WINGWALL CONNECTION



DATE	REVISION	BY
<p><b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>                  7447 E. INDIAN SCHOOL RD.                  SCOTTSDALE, ARIZONA 85251</p>		
Expires 12/31/2018 SHEET TITLE: <b>GABION WALL CONNECTION</b>		
PROJECT TITLE: <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. AS-BUILT	EE	6/15
VERT. AS-BUILT	BP	AS-BUILT
BID NO. 16BP020 PROJECT NO.		DWG. G-10 10 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_GS-1.dgn PLOT DATE: 1/16/2016 11:16:39 AM

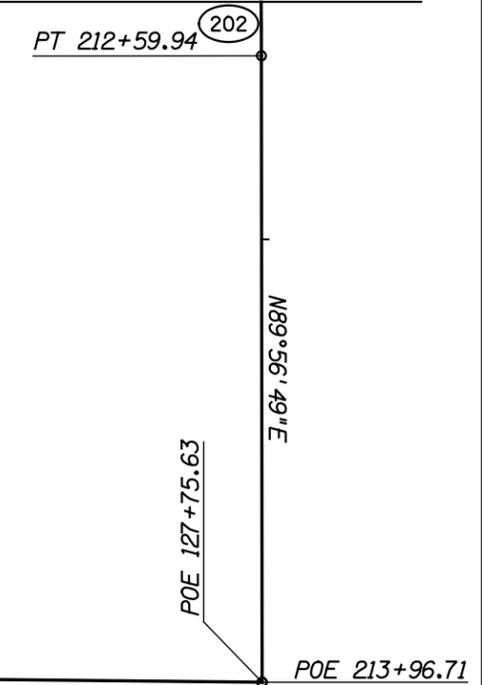


DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
Expires 12/31/2018		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE		
GEOMETRIC PLAN SHEET		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. AS-BUILT	EE	6/15
VERT.	BP	AS-BUILT
BID NO.		DWG.
16BP020		GS-1
PROJECT NO.		11 OF 105

**ARIZONA BLUE STAKE**  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

XXX-XX

Match Below

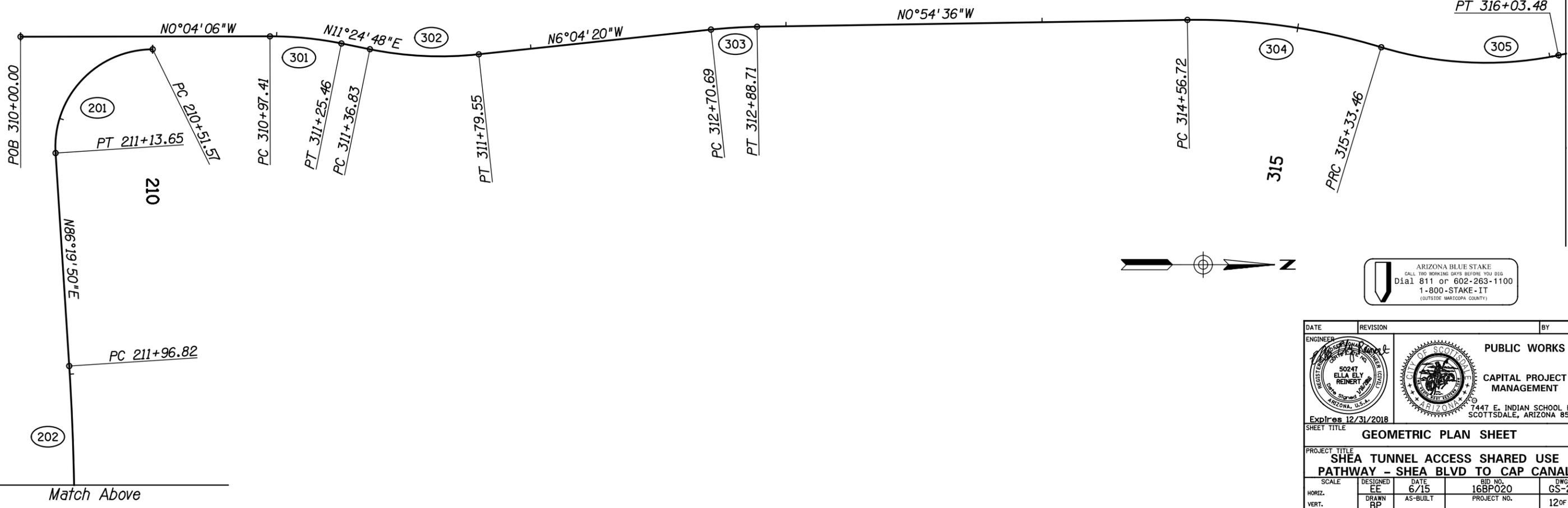


See Sheet GS-1

N0°34'43"E

POE 213+96.71

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_GS-2.dgn PLOT DATE: 1/16/2016 11:16:40 AM



ARIZONA BLUE STAKE  
 CALL 100 WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

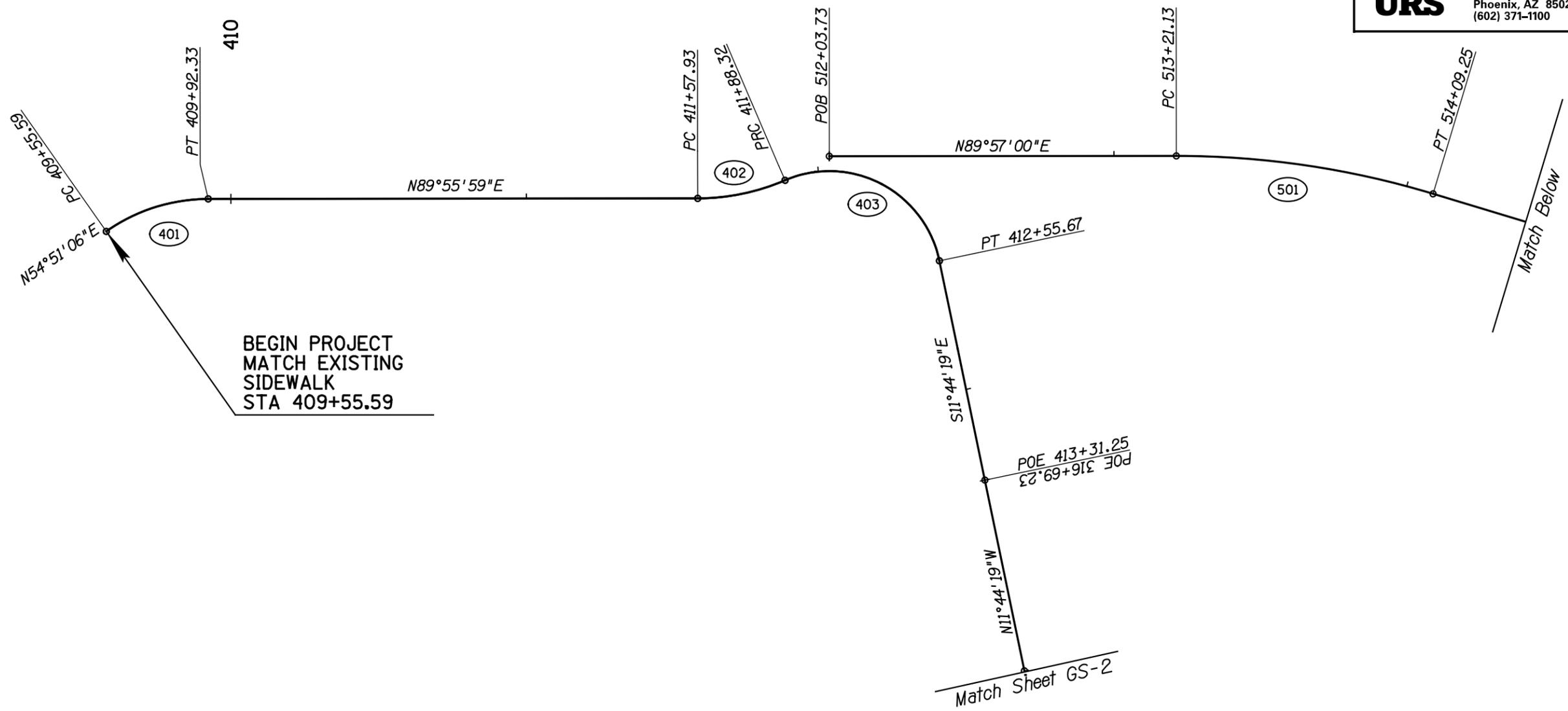
DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
Expires 12/31/2018 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>GEOMETRIC PLAN SHEET</b>		
PROJECT TITLE		
<b>SHEA TUNNEL ACCESS SHARED USE          PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	EE	6/15
VERT.	BP	AS-BUILT
BID NO.		DWG.
16BP020		GS-2
PROJECT NO.		12 OF 105

See Sheet GS-3

XXX-XX

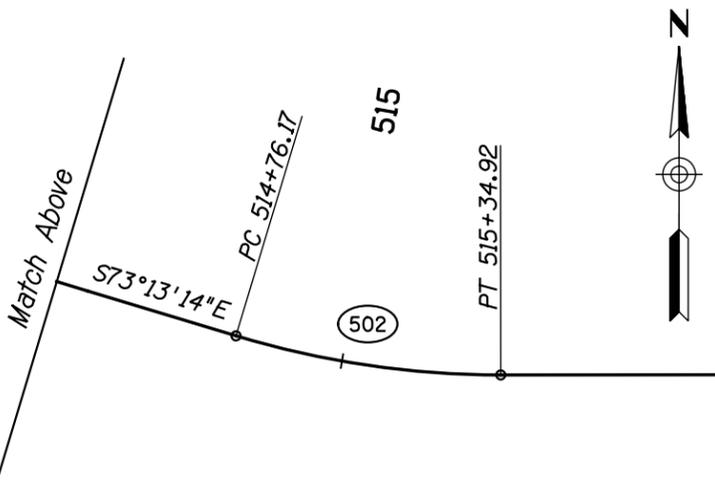
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS\_0n-Call\_Contract\23446725\_Shea\_Tunnel\_Access\CADD\Plans\SZ1610\_GS-3.dgn PLOT DATE: 1/16/2016 11:16:40 AM

**URS** 7720 N. 16th Street, Suite 100  
Phoenix, AZ 85020  
(602) 371-1100



BEGIN PROJECT  
MATCH EXISTING  
SIDEWALK  
STA 409+55.59

END PROJECT  
MATCH EXISTING  
SHARED USE TRAIL  
STA 519+94.70



ARIZONA BLUE STAKE  
CALL THE WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
Expires 12/31/2018		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE		
GEOMETRIC PLAN SHEET		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. VERT.	EE	6/15
	BP	AS-BUILT
BID NO.		DWG.
16BP020		GS-3
PROJECT NO.		13 OF 105

XXX-XX



DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_GD-2.dgn PLOT DATE: 1/16/2016 11:16:42 AM

PLAN REF NO	Point Type	STATION	COORDINATES		SPIRAL TOTAL					SPIRAL MAIN OR CIRCULAR CURVE							SPIRAL CURVE		
			Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o
	Shared Use Trall Cst	PC	210+51.57	938838.81	731810.54														
201	Shared Use Trall Cst	PI	210+92.04	938798.35	731810.59					93°36'05"	150°46'42"	38	62.08	40.47	17.51				
	Shared Use Trall Cst	PT	211+13.65	938800.94	731850.97														
	Shared Use Trall Cst	PC	211+96.82	938806.26	731933.97					3°37'15"	5°43'46"	1000	63.12	31.57	0.5				
202	Shared Use Trall Cst	PI	212+28.39	938808.28	731965.48														
	Shared Use Trall Cst	PT	212+59.94	938808.31	731997.05														
	Shared Use Trall Cst	POE	213+96.71	938808.44	732133.82														

PLAN REF NO	Point Type	STATION	COORDINATES		SPIRAL TOTAL					SPIRAL MAIN OR CIRCULAR CURVE							SPIRAL CURVE		
			Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o
	Shared Use Path Cst	POB	310+00.00	938787.24	731805.60														
	Shared Use Path Cst	PC	310+97.41	938884.64	731805.49														
301	Shared Use Path Cst	PI	311+11.48	938898.72	731805.47					11°28'54"	40°55'32"	140	28.05	14.07	0.71				
	Shared Use Path Cst	PT	311+25.46	938912.51	731808.26														
	Shared Use Path Cst	PC	311+36.83	938923.65	731810.5														
302	Shared Use Path Cst	PI	311+58.36	938944.76	731814.77					17°29'08"	40°55'32"	140	42.73	21.53	1.65				
	Shared Use Path Cst	PT	311+79.55	938966.17	731812.49														
	Shared Use Path Cst	PC	312+70.69	939056.79	731802.85														
303	Shared Use Path Cst	PI	312+79.71	939065.76	731801.89					5°09'44"	28°38'52"	200	18.02	9.02	0.2				
	Shared Use Path Cst	PT	312+88.71	939074.77	731801.75														
	Shared Use Path Cst	PC	314+56.72	939242.76	731799.08														
304	Shared Use Path Cst	PI	314+95.40	939281.44	731798.47					17°49'44"	23°14'02"	246.6	76.74	38.68	3.02				
	Shared Use Path Cst	PRC	315+33.46	939318.45	731809.72														
305	Shared Use Path Cst	PI	315+69.22	939352.66	731820.13					28°39'27"	40°55'32"	140	70.02	35.76	4.49				
	Shared Use Path Cst	PT	316+03.48	939387.67	731812.86														
	Shared Use Path Cst	POE	316+69.23	939452.05	731799.48														

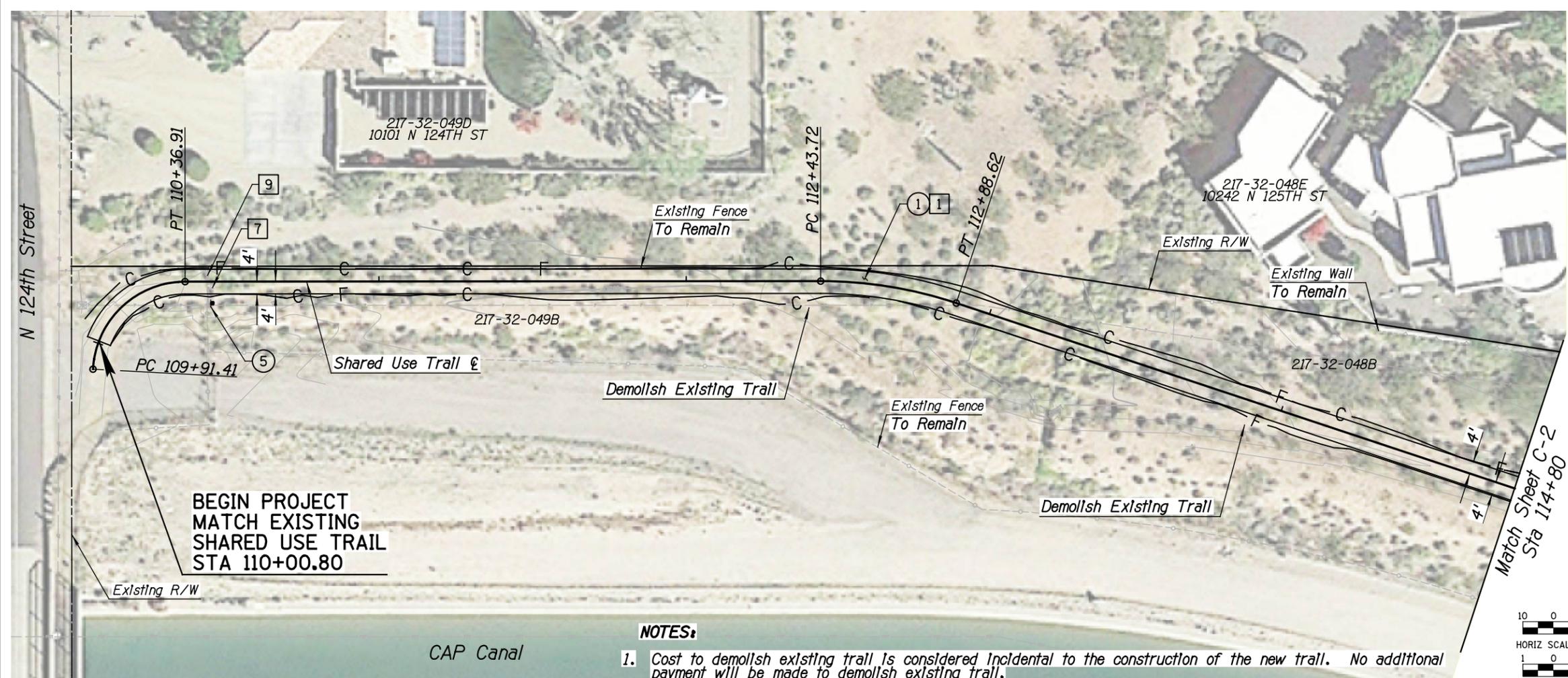
PLAN REF NO	Point Type	STATION	COORDINATES		SPIRAL TOTAL					SPIRAL MAIN OR CIRCULAR CURVE							SPIRAL CURVE		
			Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o
	Shared Use Path Cst	PC	409+55.59	939535.98	731502.24														
401	Shared Use Path Cst	PI	409+74.55	939546.90	731517.75					35°04'52"	95°29'35"	60	36.74	18.96	2.93				
	Shared Use Path Cst	PT	409+92.33	939546.92	731536.71														
	Shared Use Path Cst	PC	411+57.93	939547.11	731702.32														
402	Shared Use Path Cst	PI	411+73.34	939547.13	731717.72					23°13'04"	76°23'40"	75	30.39	15.41	1.57				
	Shared Use Path Cst	PRC	411+88.32	939553.22	731731.88														
403	Shared Use Path Cst	PI	412+34.87	939571.62	731774.63					101°32'47"	150°46'42"	38	67.35	46.55	22.09				
	Shared Use Path Cst	PT	412+55.67	939526.05	731784.10														
	Shared Use Path Cst	POE	413+31.25	939452.05	731799.48														

PLAN REF NO	Point Type	STATION	COORDINATES		SPIRAL TOTAL					SPIRAL MAIN OR CIRCULAR CURVE							SPIRAL CURVE		
			Northing	Easting	Total Delta	T	L	R+o	Ext	Δ	D	R	L	T	Ext	Super	Δ	L	o
	Shared Use Trall Cst	POB	512+03.73	939561.32	731746.86														
	Shared Use Trall Cst	PC	513+21.13	939561.42	731864.26														
501	Shared Use Trall Cst	PI	513+65.51	939561.46	731908.64					16°49'46"	19°05'55"	300	88.12	44.38	3.26				
	Shared Use Trall Cst	PT	514+09.25	939548.65	731951.13														
	Shared Use Trall Cst	PC	514+76.17	939529.33	732015.20														
502	Shared Use Trall Cst	PI	515+05.76	939520.79	732043.53					16°49'52"	28°38'52"	200	58.75	29.59	2.18				
	Shared Use Trall Cst	PT	515+34.92	939520.81	732073.12														
	Shared Use Trall Cst	PC	518+37.21	939521.09	732375.40														
503	Shared Use Trall Cst	PI	518+62.63	939521.11	732400.82					37°26'42"	76°23'40"	75	49.02	25.42	4.19				
	Shared Use Trall Cst	PT	518+86.22	939536.58	732420.99														
	Shared Use Trall Cst	PC	518+86.84	939536.96	732421.48														
504	Shared Use Trall Cst	PI	519+12.27	939552.43	732441.65					37°27'07"	76°23'40"	75	49.02	25.42	4.19				
	Shared Use Trall Cst	PT	519+35.87	939552.45	732467.08														
	Shared Use Trall Cst	POE	519+94.70	939552.50	732525.91														

DATE	REVISION	BY
 		
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
SHEET TITLE		
GEOMETRIC DATA		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
6/15	EE	6/15
BID NO.	DWG.	
16BP020	GD-2	
PROJECT NO.		15 OF 105

XXX-XX

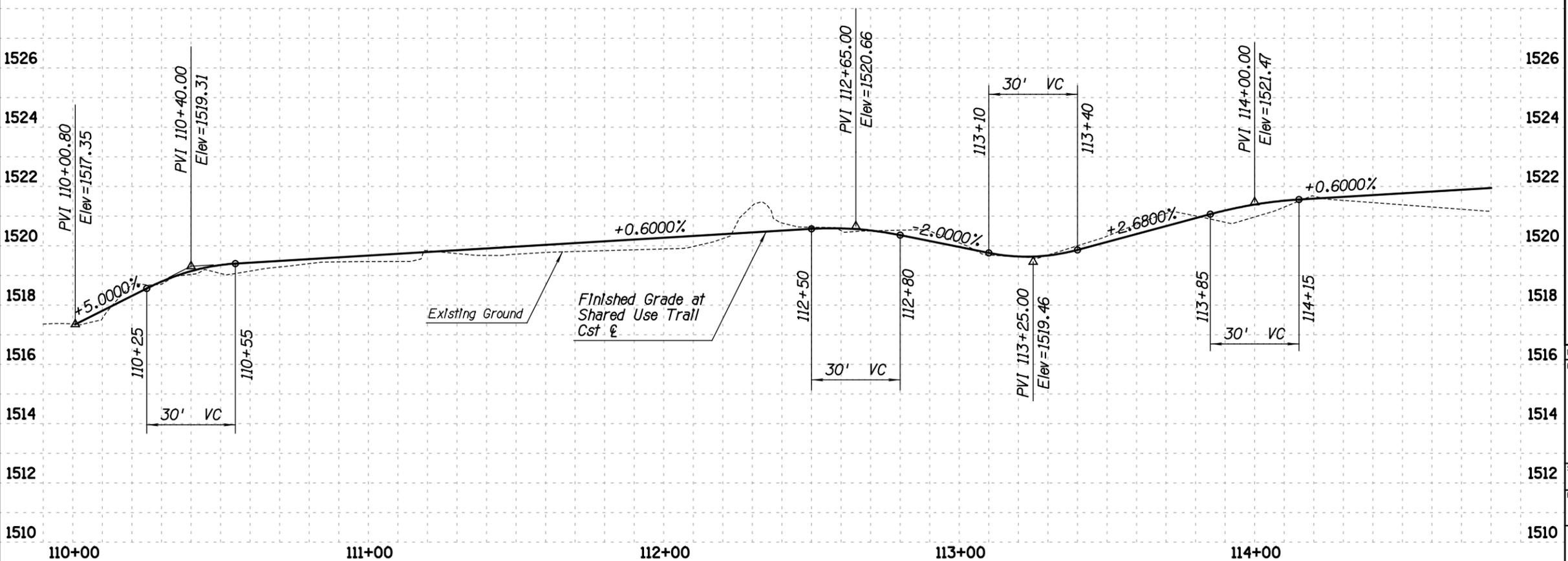
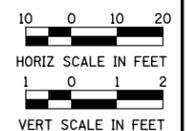
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p1.dgn PLOT DATE: 1/16/2016 11:16:44 AM



**BEGIN PROJECT MATCH EXISTING SHARED USE TRAIL STA 110+00.80**

**NOTES:**

1. Cost to demolish existing trail is considered incidental to the construction of the new trail. No additional payment will be made to demolish existing trail.

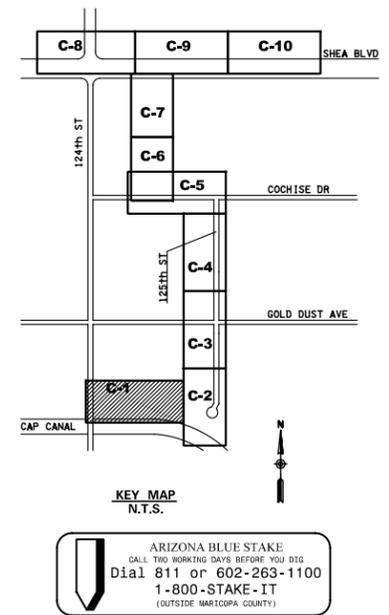


**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.3
7 Remove Sign, Post & Post Base	EA	1
9 Remove & Reinstall Trail Access Gate	EA	1

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	426
5 Install Sign, Trail Marker Sign, COS 2683	EA	1



DATE	REVISION	BY
<p><b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b></p> <p>7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251</p>		
<p>Expires 12/31/2018</p>		
<p><b>SHEET TITLE</b> <b>SHARED USE TRAIL PLAN &amp; PROFILE</b></p>		
<p><b>PROJECT TITLE</b> <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b></p>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
<p>BID NO. 16BP020</p>		<p>DWG. C-1</p>
<p>PROJECT NO.</p>		<p>16 OF 105</p>

XXX-XX

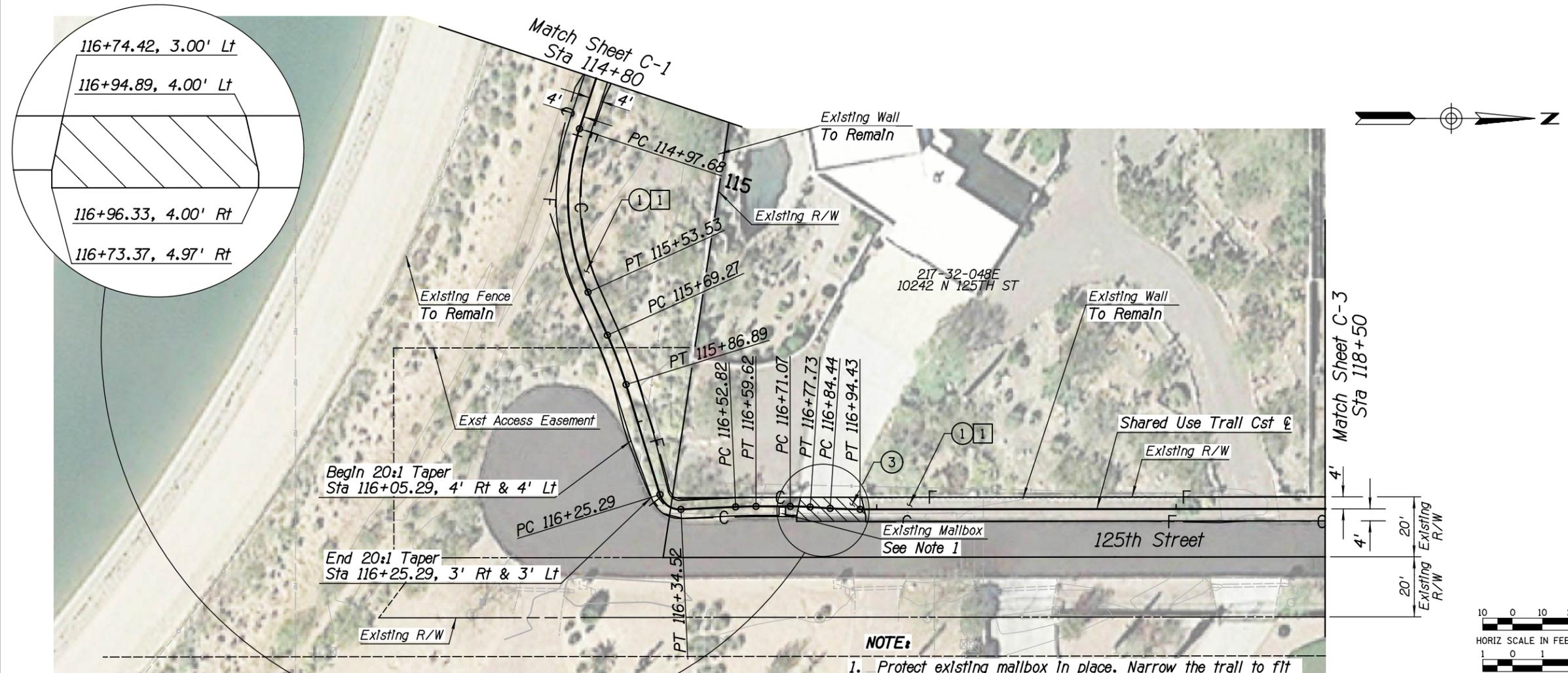
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p2.dgn PLOT DATE: 1/16/2016 11:16:46 AM

**REMOVAL & RELOCATION NOTES**

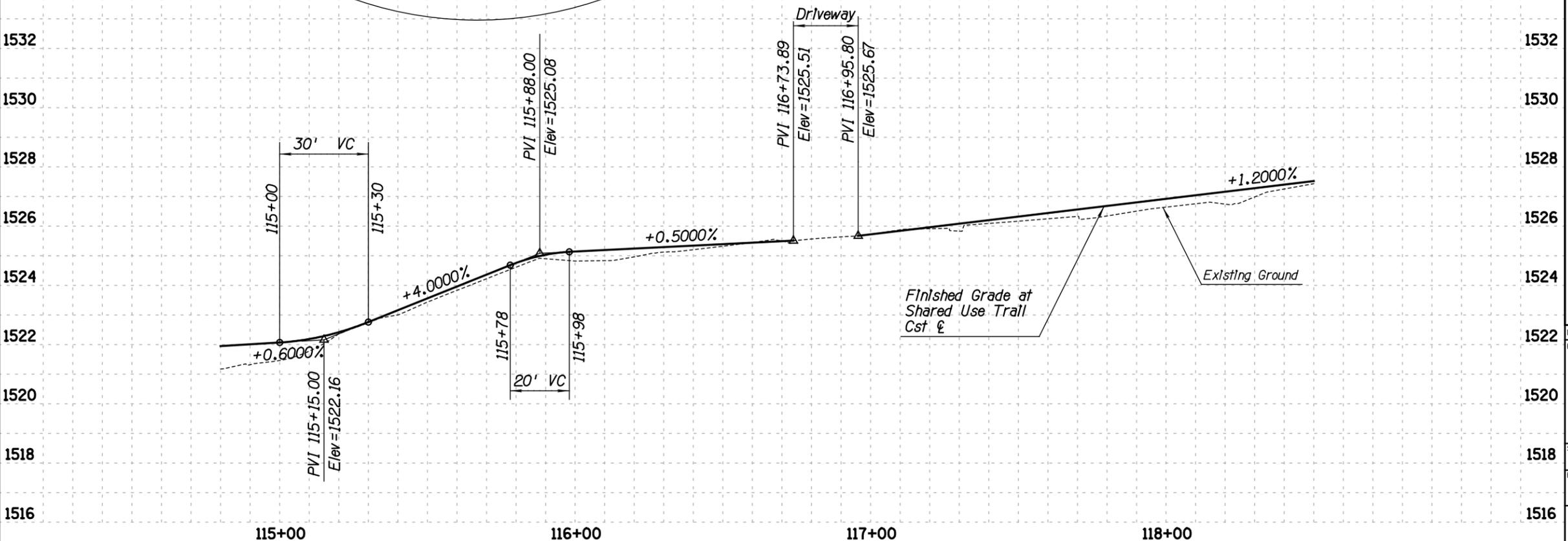
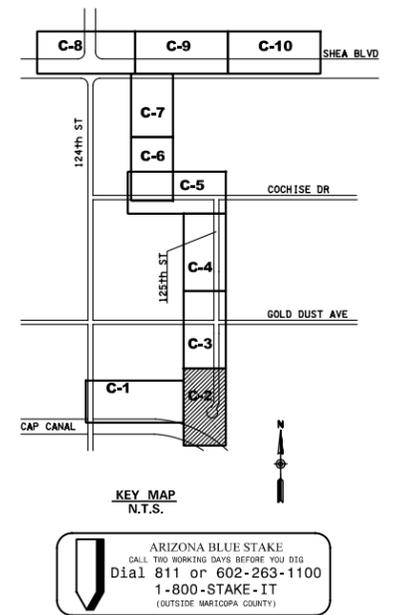
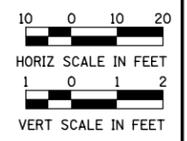
Description	Unit	Quan
① Clearing & Grubbing	AC	0.1

**CONSTRUCTION NOTES**

Description	Unit	Quan
① Decomposed Granite (Stabilized)	SY	296
③ Non Slip Treatment (Path Treatment)	SF	175



**NOTE:**  
1. Protect existing mailbox in place. Narrow the trail to fit around existing mailbox. Adjust trail at the direction of the City.



DATE	REVISION	BY
1522		
1520		
1518		
1516		

ENGINEER: PUBLIC WORKS  
CAPITAL PROJECT MANAGEMENT  
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

Expires 12/31/2018

SHEET TITLE: **SHARED USE TRAIL PLAN & PROFILE**

PROJECT TITLE: **SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED	DATE	BID NO.	DWG.
HORIZ. 1"=20'	EE	6/15	16BP020	C-2
VERT. 1"=2'	BP	AS-BUILT	PROJECT NO.	17 OF 105

XXX-XX

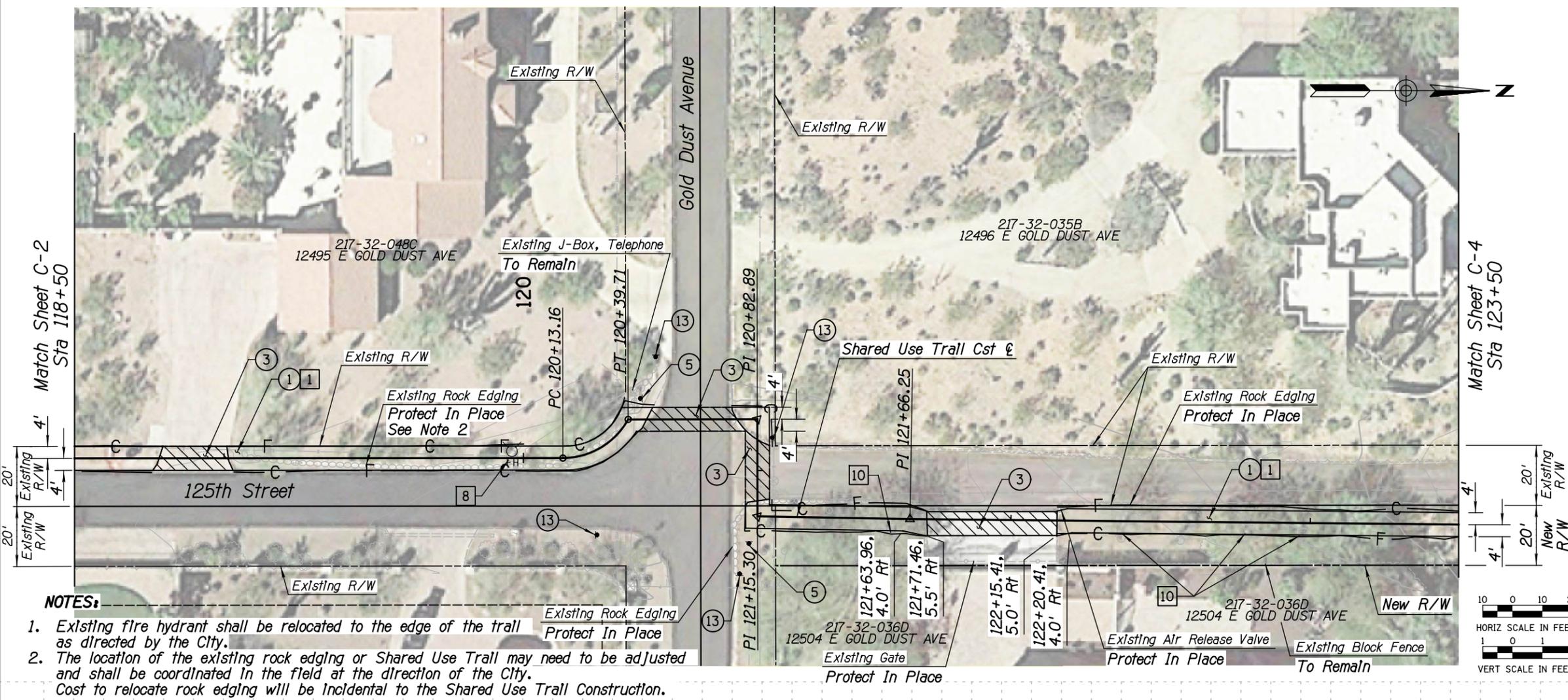
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p3.dgn PLOT DATE: 1/16/2016 11:16:48 AM

**REMOVAL & RELOCATION NOTES**

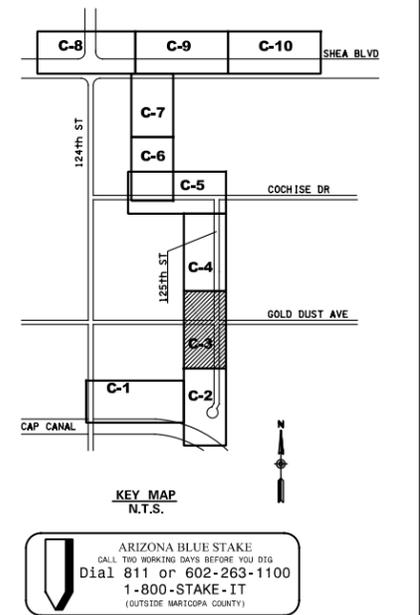
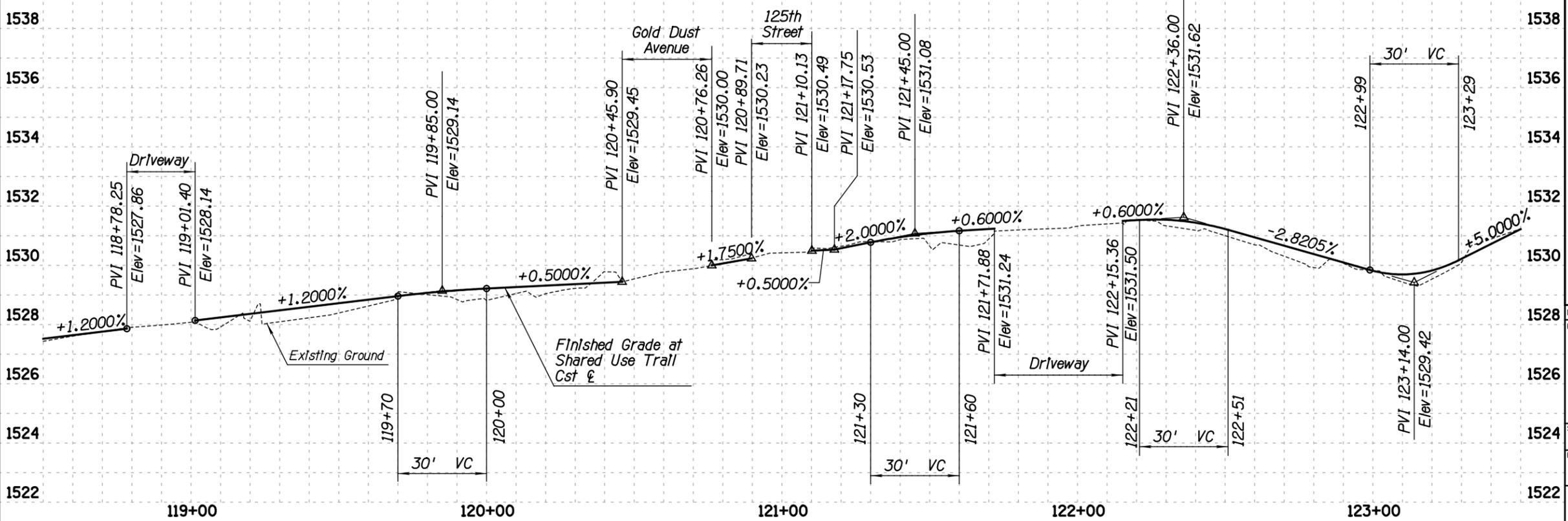
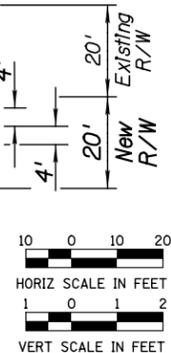
Description	Unit	Quan
1 Clearing & Grubbing	AC	0.1
8 Fire Hydrant Relocation, MAG 360 & 362, See Note 1	EA	1
10 Remove and Salvage Landscape Light	EA	4

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	340
3 Non Slip Treatment (Path Treatment)	SF	939
5 Install Sign, Trail Marker Sign, COS 2683	EA	2
13 Install Sign, Trail Crossing Sign, COS 2683	EA	4



- NOTES:**
- Existing fire hydrant shall be relocated to the edge of the trail as directed by the City.
  - The location of the existing rock edging or Shared Use Trail may need to be adjusted and shall be coordinated in the field at the direction of the City. Cost to relocate rock edging will be incidental to the Shared Use Trail Construction.



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
<b>SHEET TITLE</b> SHARED USE TRAIL PLAN & PROFILE		
<b>PROJECT TITLE</b> SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
PROJECT NO.		BID NO.
16BP020		16BP020
DWG.		DWG.
C-3		C-3
18 OF 105		XXX-XX

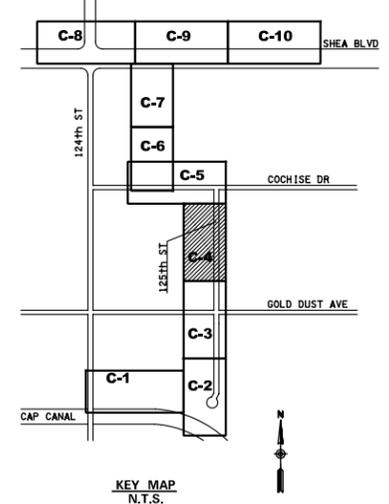
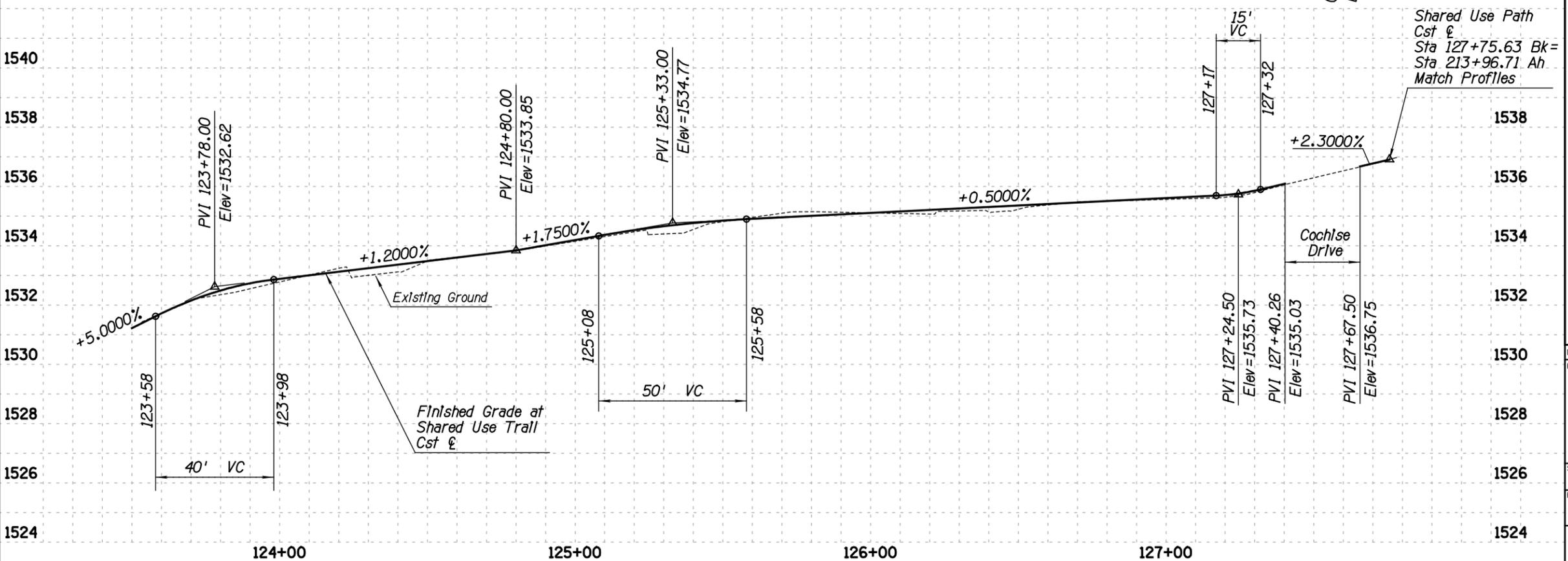
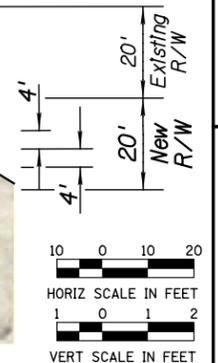
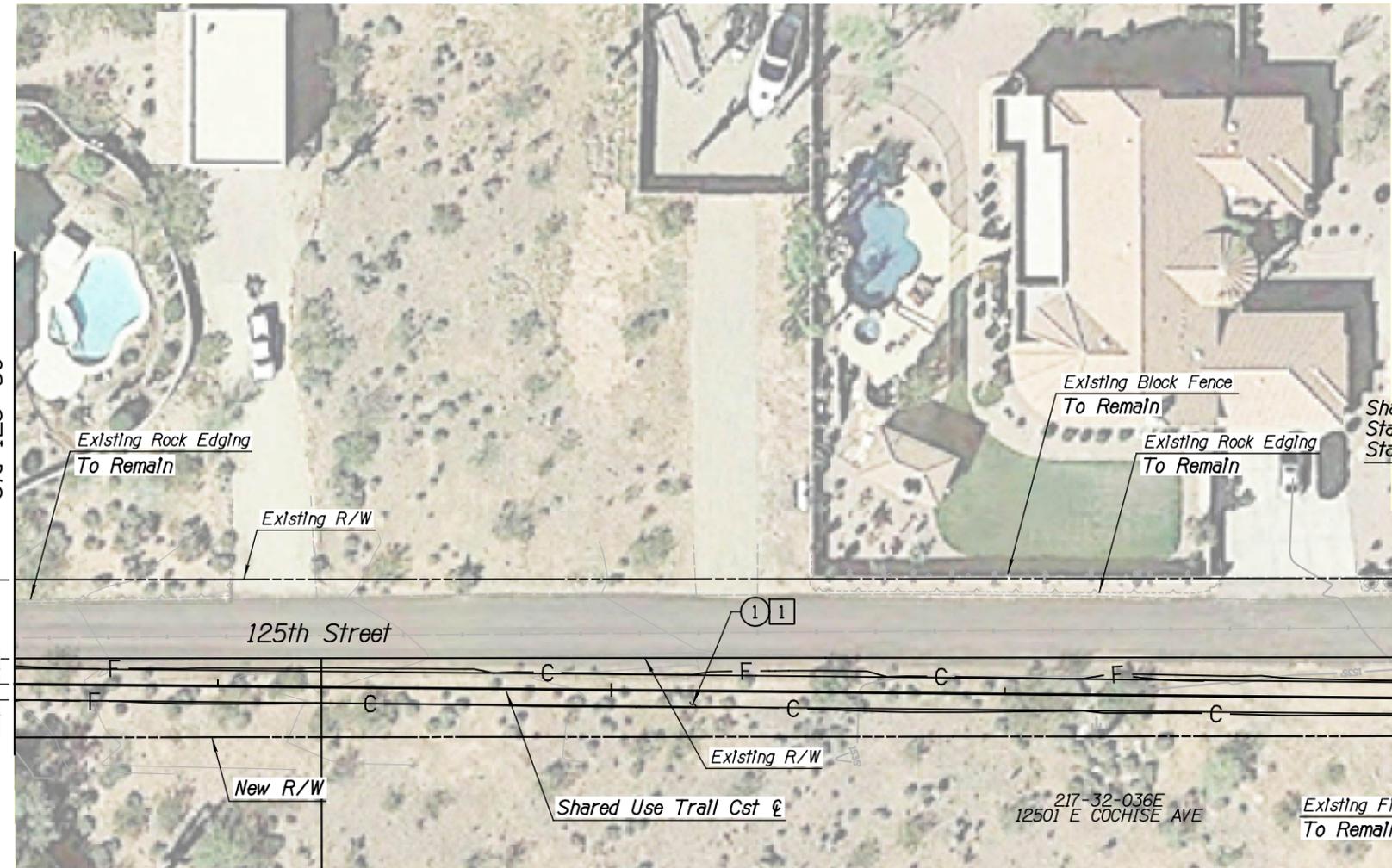
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p4.dgn PLOT DATE: 1/16/2016 11:16:49 AM

**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.2

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	356
3 Non Slip Treatment (Path Treatment)	SF	218
5 Install Sign, Trall Marker Sign, COS 2683	EA	2
13 Install Sign, Trall Crossing Sign, COS 2683	EA	1



ARIZONA BLUE STAKE  
CALL 700 WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
SHEET TITLE		
<b>SHARED USE TRAIL PLAN &amp; PROFILE</b>		
PROJECT TITLE		
<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
PROJECT NO.		BID NO.
168P020		168P020
DWG.		19 OF 105
C-4		

XXX-XX

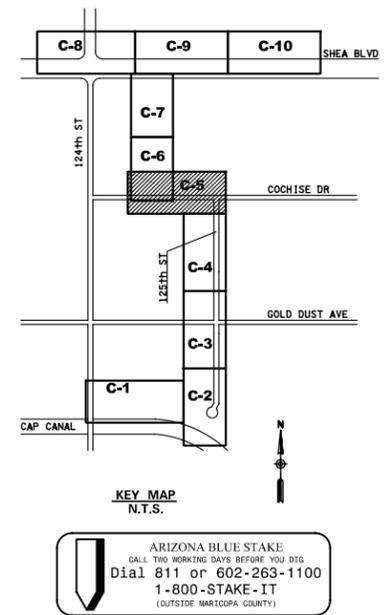
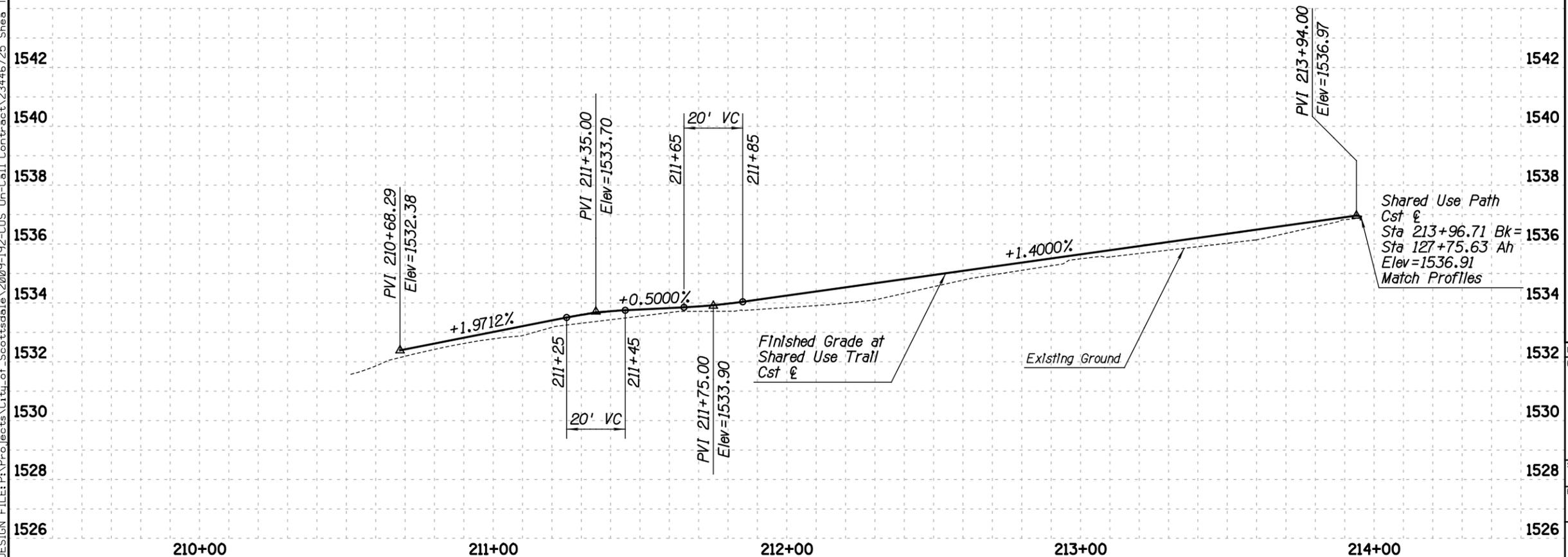
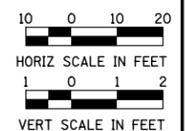
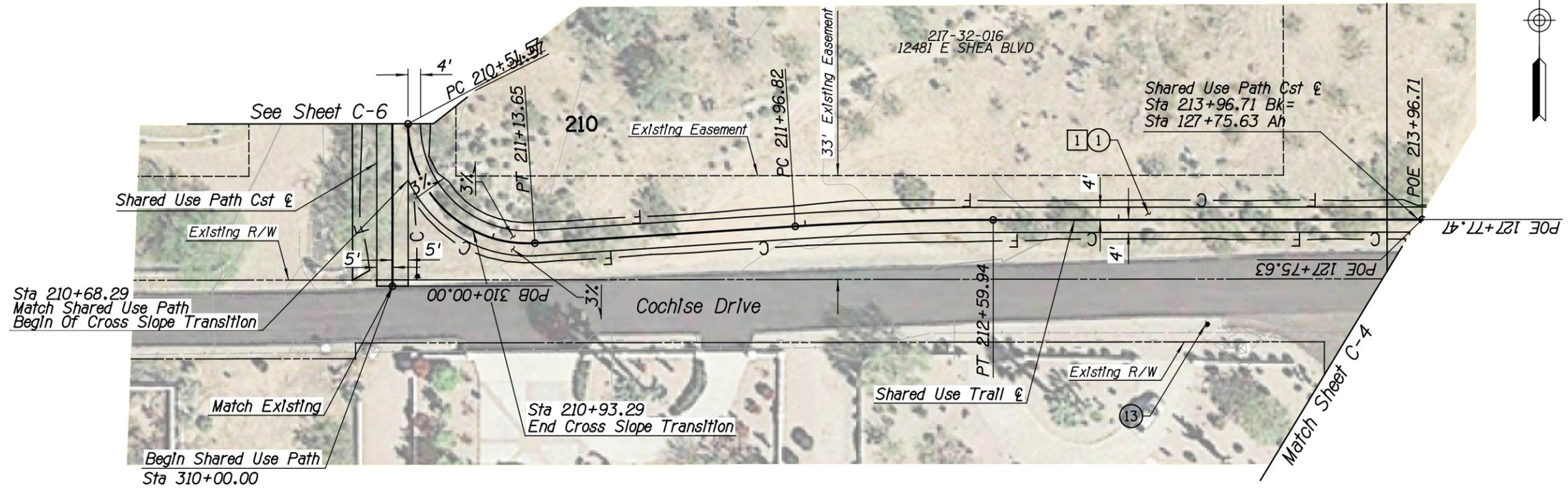
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p5.dgn PLOT DATE: 1/16/2016 11:16:51 AM

**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.2

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	303
13 Install Sign, Trail Crossing Sign, COS 2683	EA	1



DATE	REVISION	BY
<p><b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b></p> <p>7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251</p>		
Expires 12/31/2018		
SHEET TITLE		
<p><b>SHARED USE TRAIL PLAN &amp; PROFILE</b></p>		
PROJECT TITLE		
<p><b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b></p>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
PROJECT NO.		BID NO.
16BP020		16BP020
DWG.		DWG.
C-5		C-5
20 OF 105		

XXX-XX

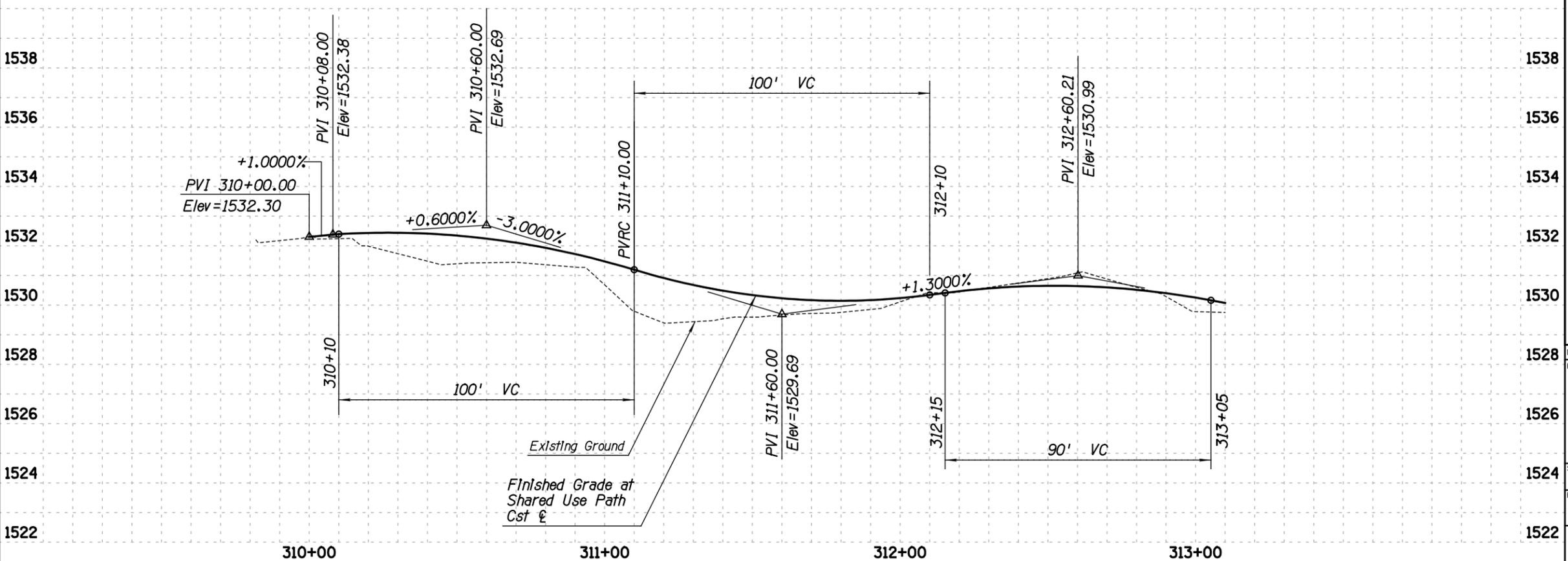
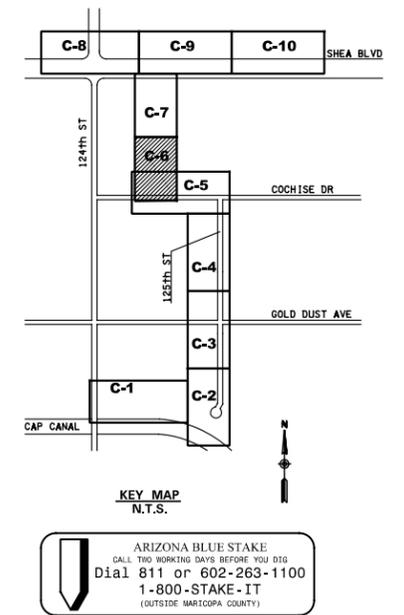
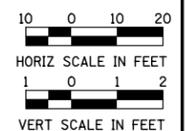
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p6.dgn PLOT DATE: 1/16/2016 11:16:52 AM

**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.5

**CONSTRUCTION NOTES**

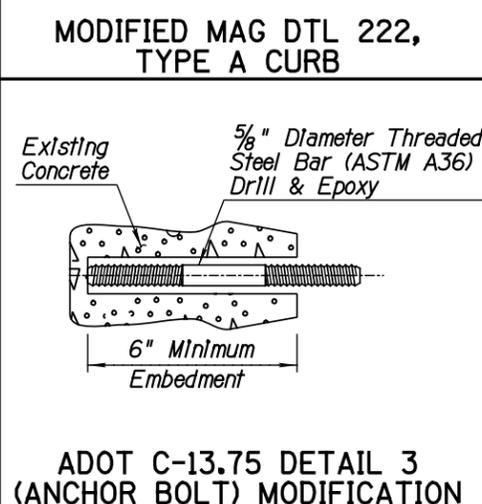
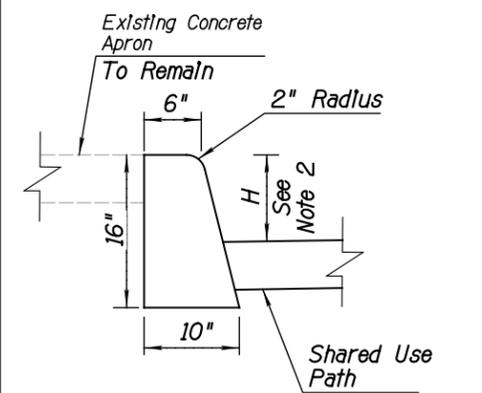
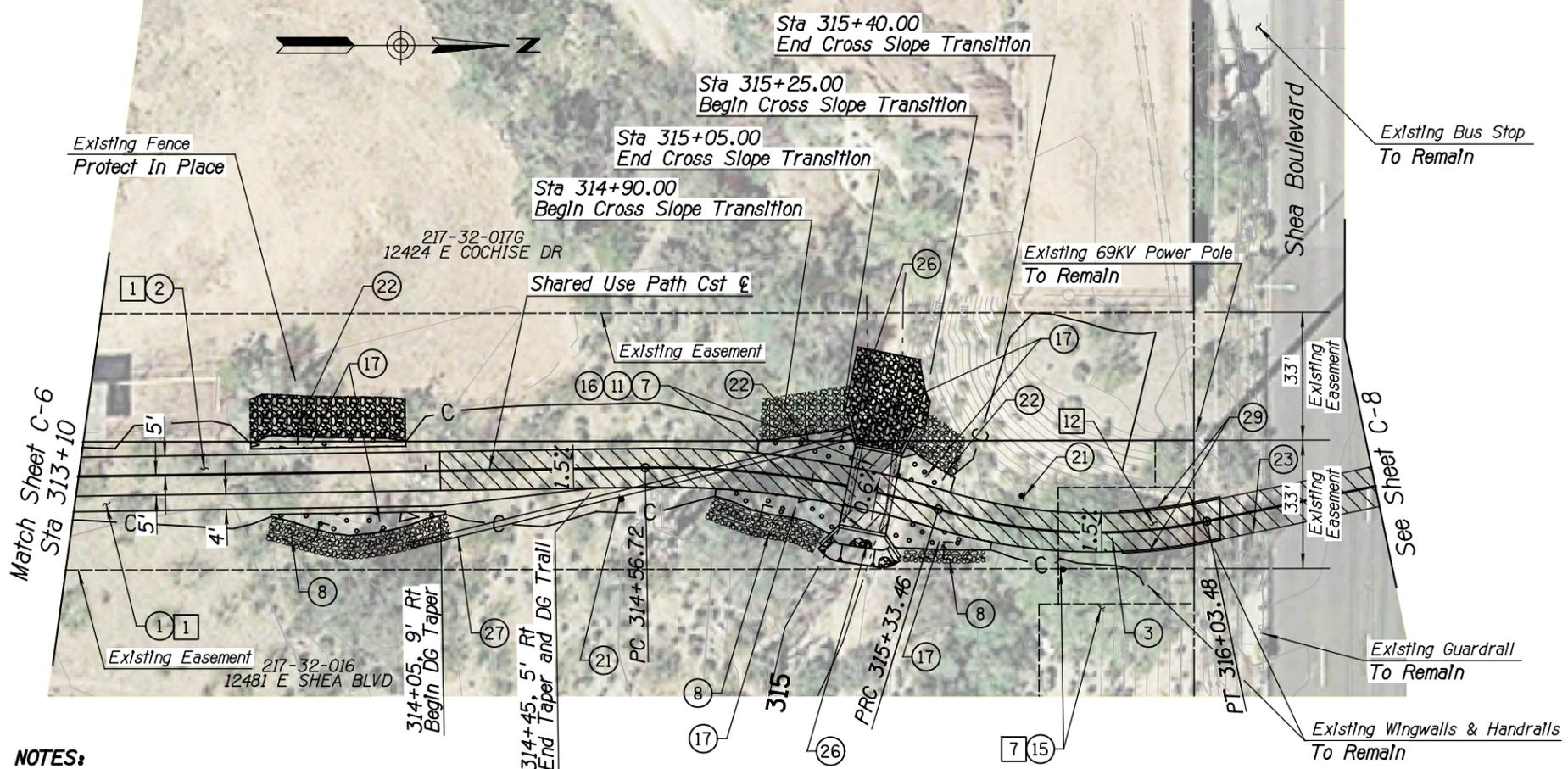
Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	115
2 Concrete Sidewalk, MAG 230 (5" Thk)	SF	3,100
5 Install Sign, Trail Marker Sign, COS 2683	EA	1



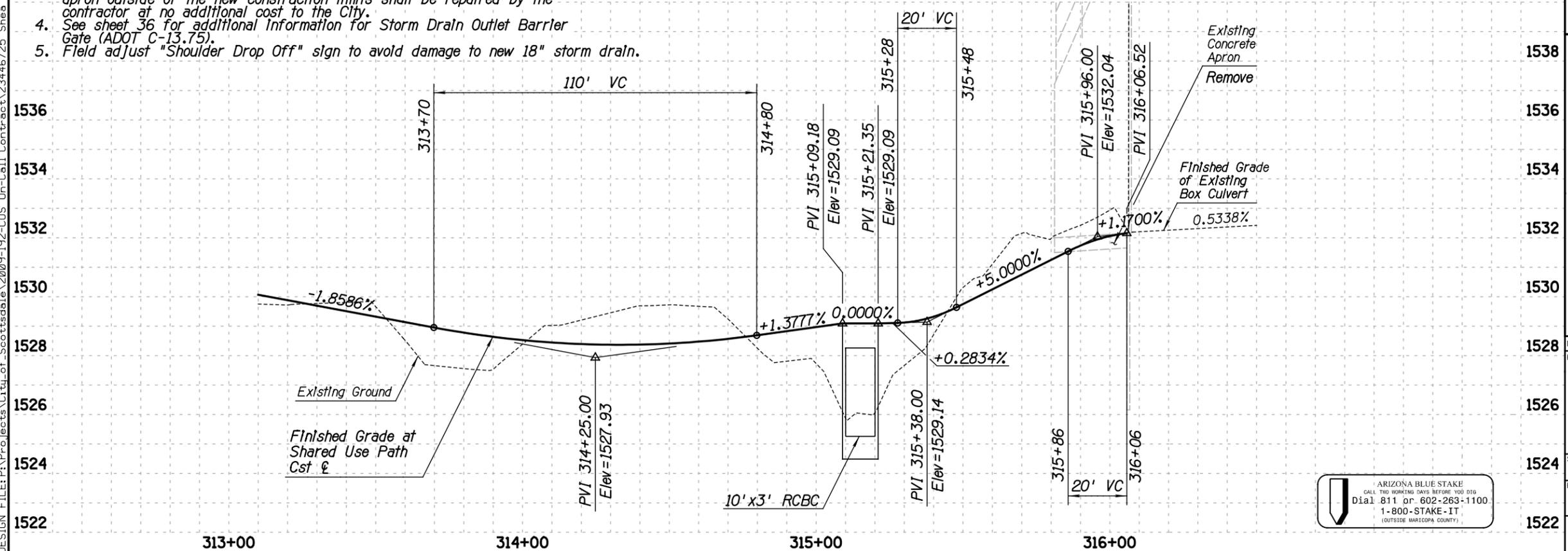
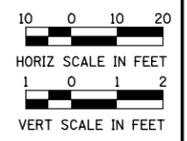
DATE	REVISION	BY
<p><b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b></p> <p>7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251</p>		
Expires 12/31/2018		
SHEET TITLE		
<b>SHARED USE PATH PLAN &amp; PROFILE</b>		
PROJECT TITLE		
<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DATE	BID NO.
HORIZ. 1"=20'	DESIGNED EE 6/15	16BP020
VERT. 1"=2'	DRAWN BP AS-BUILT	PROJECT NO.
		DWG. C-6
		21 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p7.dgn PLOT DATE: 1/16/2016 11:16:54 AM



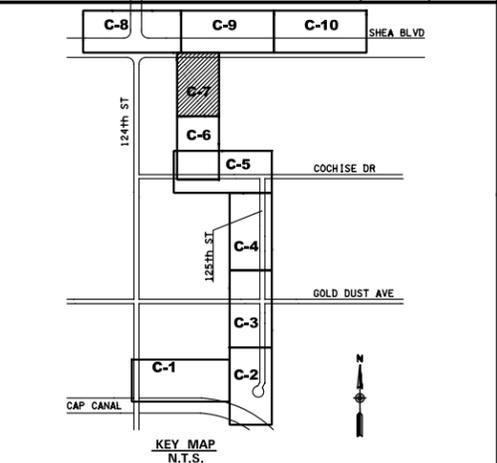
- NOTES:**
- Use 15' cross slope transition for shared use path at new RCBC to match proposed slope of RCBC.
  - H varies from 9" to 0". Top of curb shall match elevation of existing concrete apron.
  - Existing apron shall be cleanly sawcut and removed to the limits of the new curb and path construction. Any damage to the existing apron outside of the new construction limits shall be repaired by the contractor at no additional cost to the City.
  - See sheet 36 for additional information for Storm Drain Outlet Barrier Gate (ADOT C-13.75).
  - Field adjust "Shoulder Drop Off" sign to avoid damage to new 18" storm drain.



**URS** 7720 N. 16th Street, Suite 100  
Phoenix, AZ 85020  
(602) 371-1100

REMOVAL & RELOCATION NOTES		
Description	Unit	Quan
1 Clearing & Grubbing	AC	0.5
7 Remove Sign, Post & Post Base	EA	1
12 Remove Structural Concrete	CY	5

CONSTRUCTION NOTES		
Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	51
2 Concrete Sidewalk, MAG 230 (5" Thk)	SF	2,844
3 Non Slip Treatment (Path Treatment)	SF	2,642
7 10' x 3' Concrete Box Culvert See Dwg SD-1	LF	22
8 Dumped Riprap (D50=9") See Dwg SD-1	CY	25
11 Box Culvert Wings	EA	2
15 Install Sign, W08-103, Do Not Enter When Flooded	EA	1
16 Non Slip Treatment (Shoulder Treatment)	SF	120
17 Shotcrete, See Dwg SD-1	CY	56
21 Install Sign, W08-17P, Shoulder Drop Off, See Note 5	EA	2
22 Dumped Riprap (D50=12") See Dwg SD-1	CY	53
23 Storm Drain Outlet Barrier Gate (ADOT C-13.75), ID=30" Install Over Exst 24" SD Outlet	EA	1
26 Wire Enclosed Riprap (D50=12")	CY	48
27 18" Storm Drain Pipe, See Dwg SD-2	LF	118
29 Single Curb MAG 222 Type A, Modified, See Detail this Dwg	LF	50



DATE	REVISION	BY
ENGINEER	PUBLIC WORKS	
CAPITAL PROJECT MANAGEMENT		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
SHEET TITLE		
SHARED USE PATH/TRAIL PLAN & PROFILE		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
SCALE	EE	6/15
HORIZ. 1"=20'	DRAWN	AS-BUILT
VERT. 1"=2'	BP	
PROJECT NO.		BID NO.
168P020		168P020
PROJECT NO.		DWG.
22 OF 105		C-7

ARIZONA BLUE STAKE  
CALL THIS NUMBER 7 DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

XXX-XX

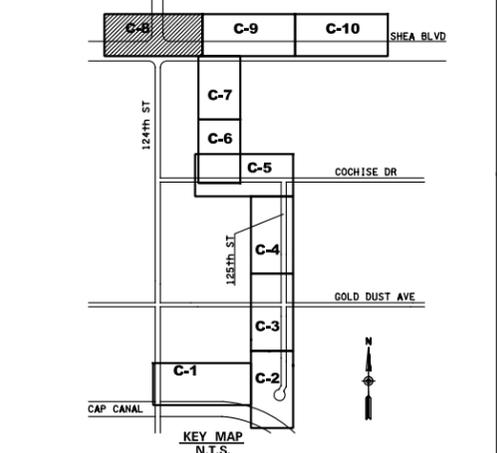
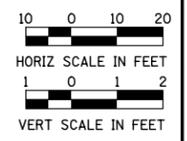
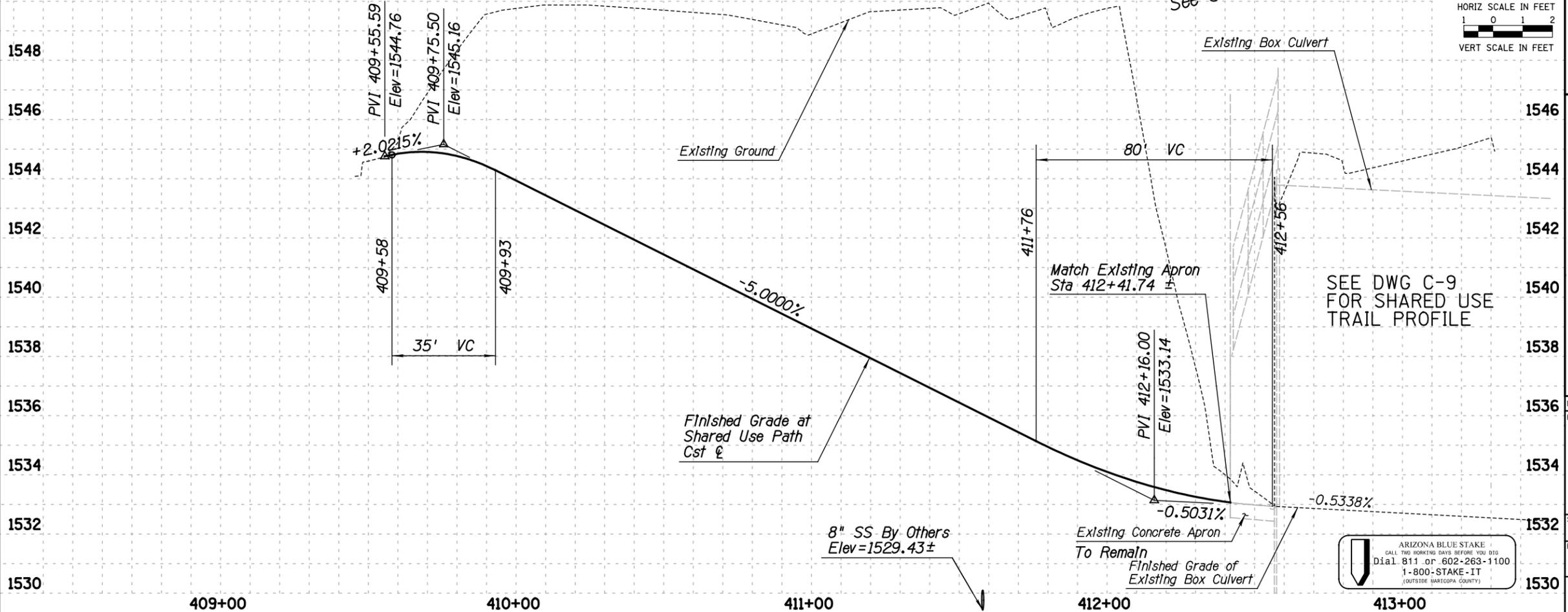
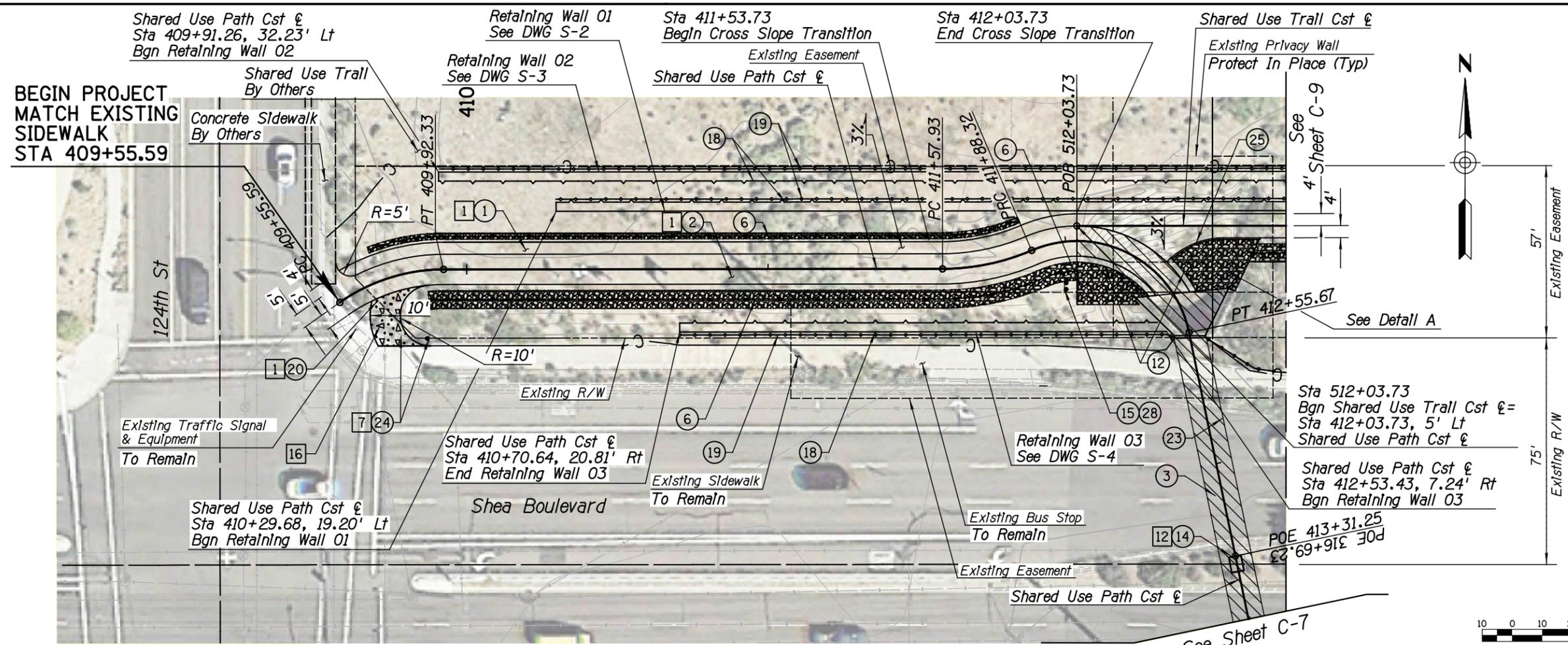
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p8.dgn PLOT DATE: 1/16/2016 11:16:55 AM

**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.3
7 Remove Sign, Post & Post Base	EA	1
12 Remove Structural Concrete, Lightwell, See S-6	CY	6
16 Frame & Cover Grade Adjustment, COS 2270	EA	1

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	108
2 Concrete Sidewalk, MAG 230 (5" Thk)	SF	2,918
3 Non Slip Treatment (Path Treatment)	SF	1,421
6 Dumped Riprap (D50=6"), See Detail A	CY	73
12 MAG 220-1 Ribbon Curb (Type B), See Detail A	LF	41
14 Lightwell See DWG S-6 & S-7	EA	1
15 Install Sign, W08-103 Do Not Enter When Flooded	EA	1
18 Retaining Wall (Gablon)	CY	1,093
19 Steel Rail Fence COS Detail 2682	LF	546
20 Exposed Aggregate Sidewalk	SF	194
23 Storm Drain Outlet Barrier Gate (ADOT C-13.75), ID=30" Install Over Exst 24" SD Outlet	EA	1
24 Install Sign, W11-7 Equestrian	EA	1
25 Single Curb MAG 222 Type B, Modified, See Detail A	LF	35
28 Install Sign, W1-1a Turn & 10 MPH Advisory Speed	EA	1



DATE	REVISION	BY
<p><b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b></p> <p>Expires 12/31/2018 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251</p>		
<p><b>SHARED USE PATH PLAN &amp; PROFILE</b></p>		
<p>PROJECT TITLE <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b></p>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
<p>PROJECT NO. 16BP020</p>		
<p>DWG. C-8</p>		
<p>23 OF 105</p>		

XXX-XX

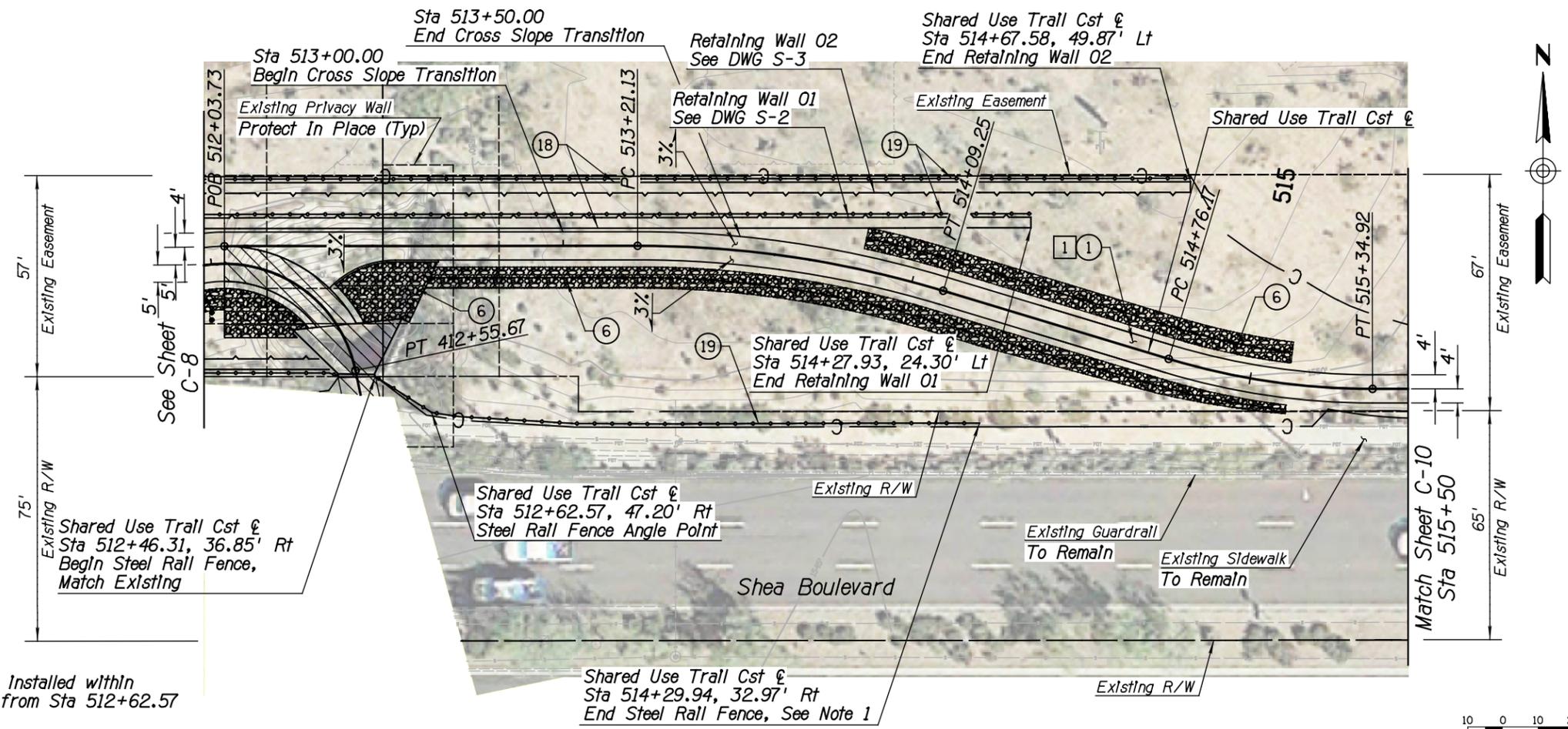
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p9.dgn PLOT DATE: 1/16/2016 11:16:57 AM

**REMOVAL & RELOCATION NOTES**

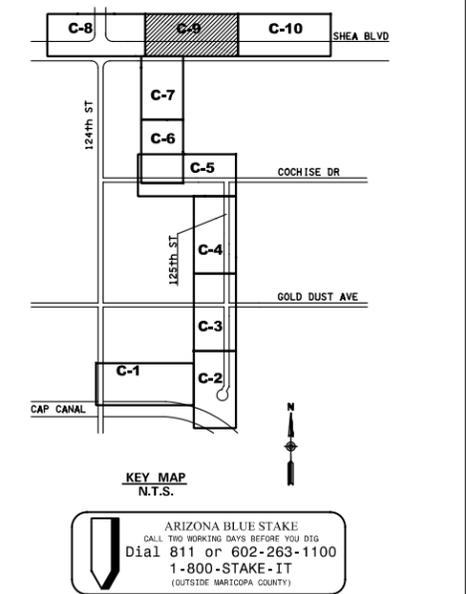
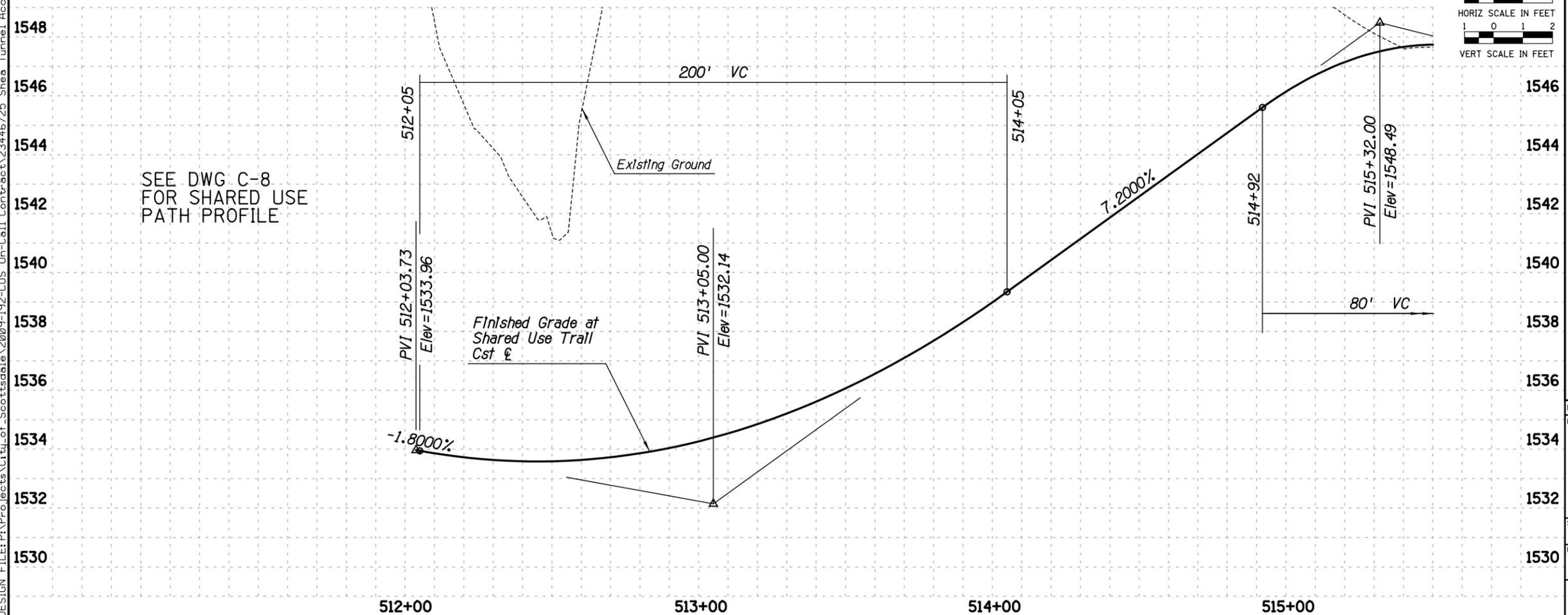
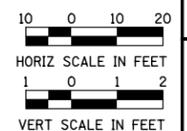
Description	Unit	Quan
1 Clearing & Grubbing	AC	0.5

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	312
6 Dumped Riprap (D50=6") See Detail A and Typical Sections	CY	90
18 Retaining Wall (Gablon)	CY	1,157
19 Steel Rail Fence COS Detail 2682	LF	679



**NOTE:**  
1. Steel Rail Fence shall be installed within 12" of existing sidewalk from Sta 512+62.57 to Sta 514+29.94



ARIZONA BLUE STAKE  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
1534		
1532		
1530		

ENGINEER: [Signature]  
PUBLIC WORKS  
CAPITAL PROJECT MANAGEMENT  
7447 E. INDIAN SCHOOL RD.  
SCOTTSDALE, ARIZONA 85251  
Expires 12/31/2018

SHEET TITLE: **SHARED USE TRAIL PLAN & PROFILE**

PROJECT TITLE: **SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED	DATE	BID NO.	DWG.
HORIZ. 1"=20'	EE	6/15	16BP020	C-9
VERT. 1"=2'	BP	AS-BUILT	PROJECT NO.	24 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\_SZ1610\_p10.dgn PLOT DATE: 1/16/2016 11:16:59 AM

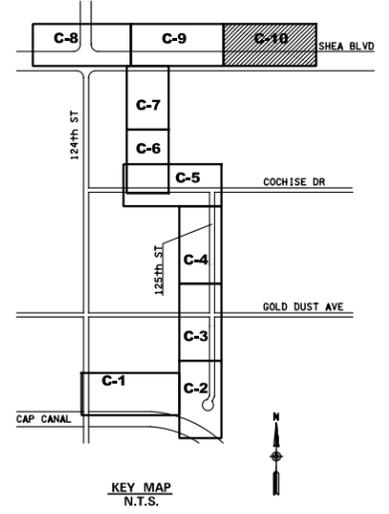
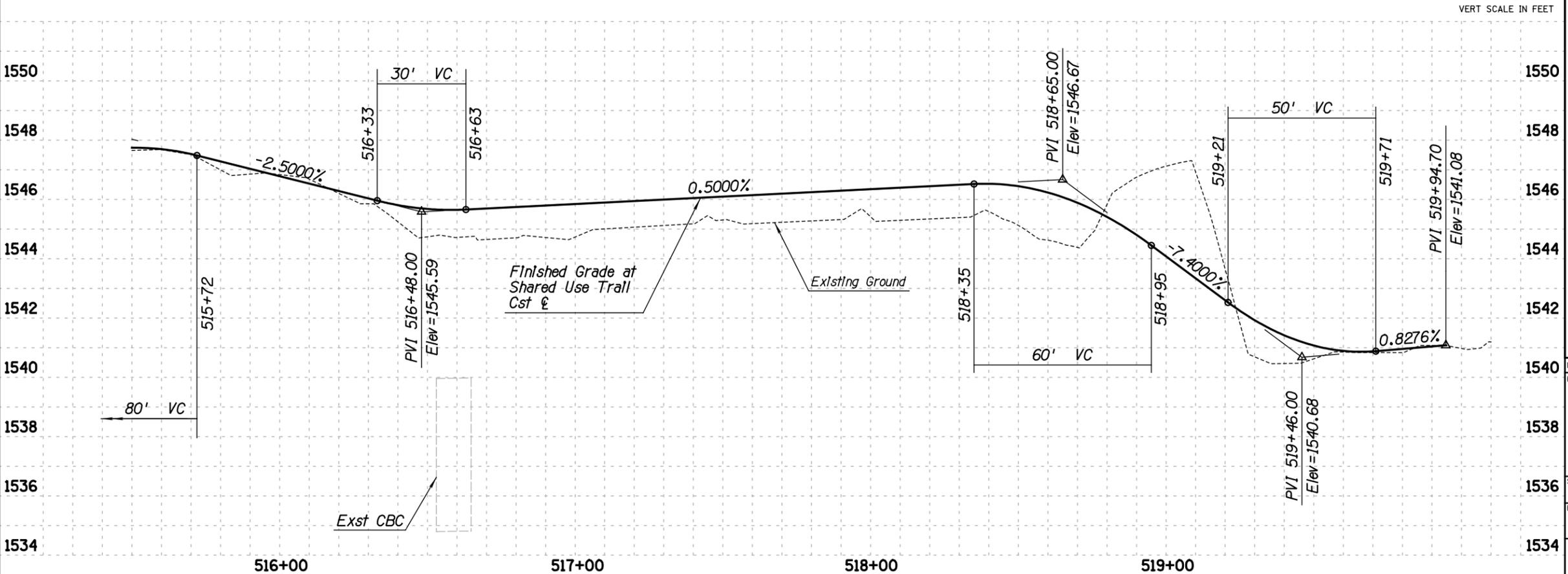
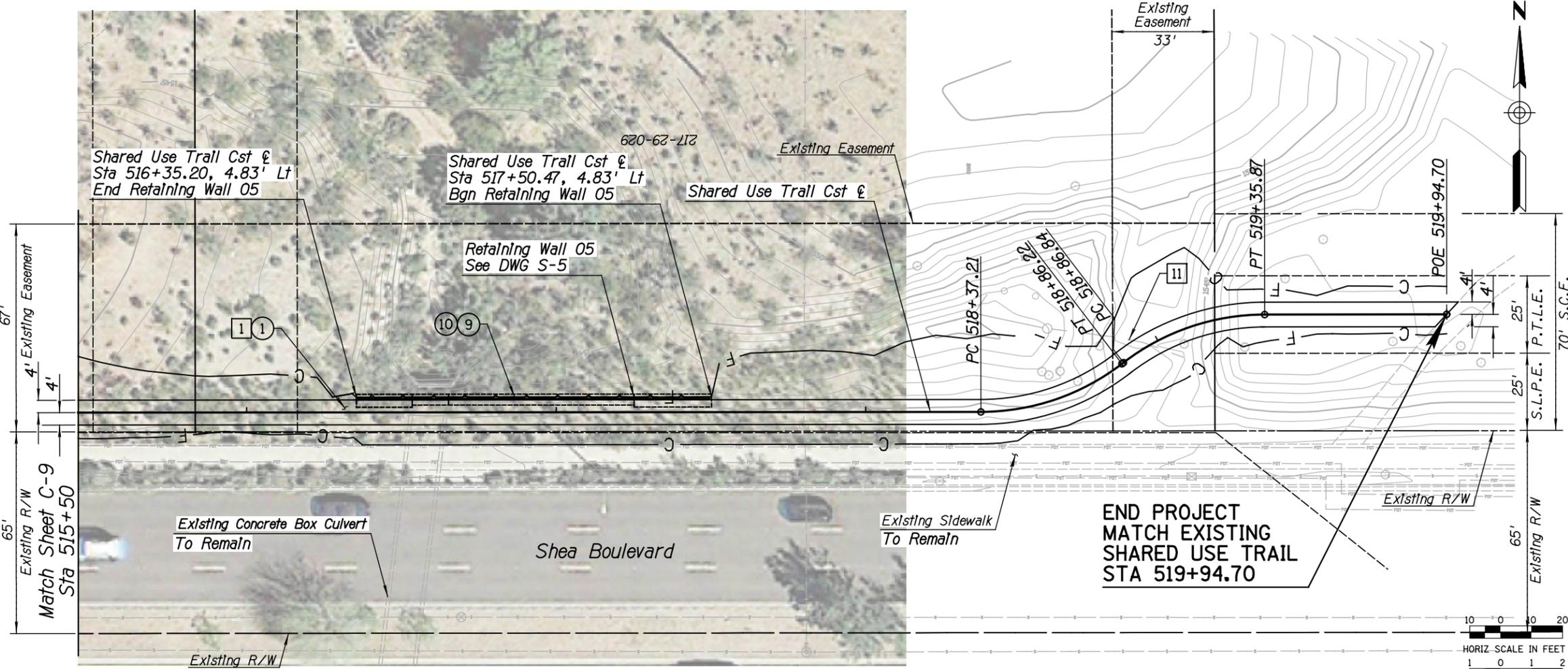
**URS** 7720 N. 16th Street, Suite 100  
Phoenix, AZ 85020  
(602) 371-1100

**REMOVAL & RELOCATION NOTES**

Description	Unit	Quan
1 Clearing & Grubbing	AC	0.6
11 Remove Fence	LF	76

**CONSTRUCTION NOTES**

Description	Unit	Quan
1 Decomposed Granite (Stabilized)	SY	395
9 Steel Handrails, COS 2508	LF	115
10 Retaining Wall (ADOT SD 7.01)	SF	569



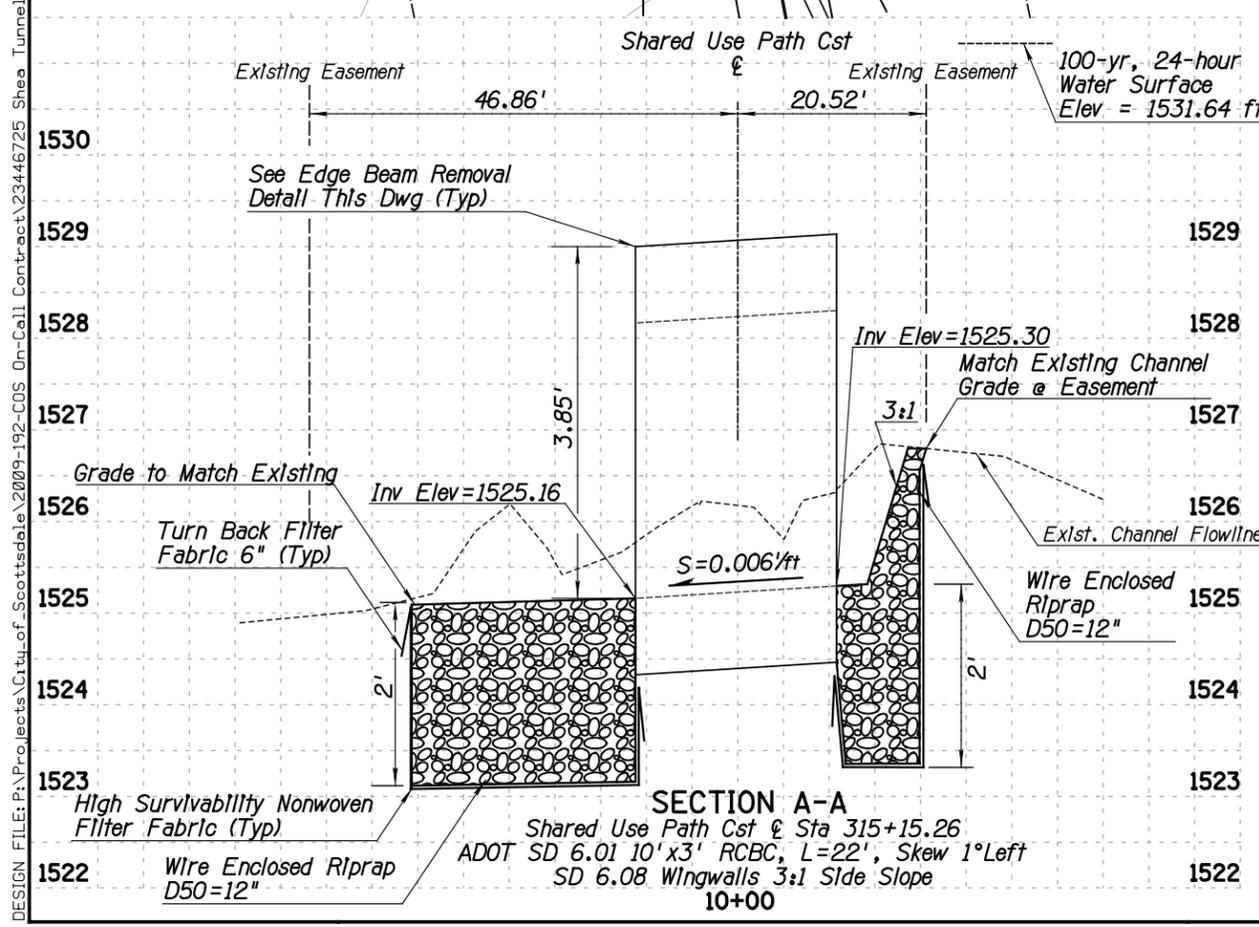
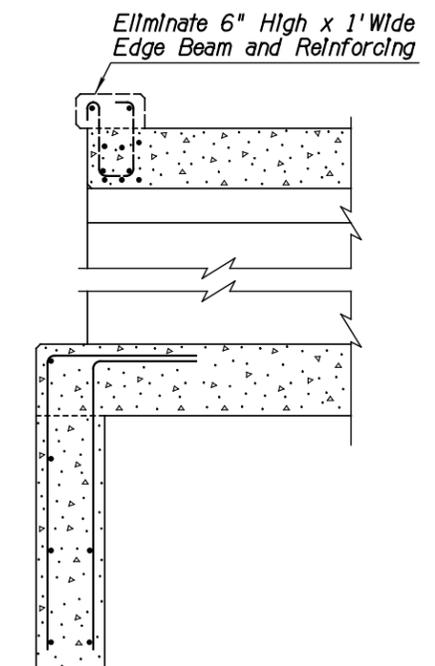
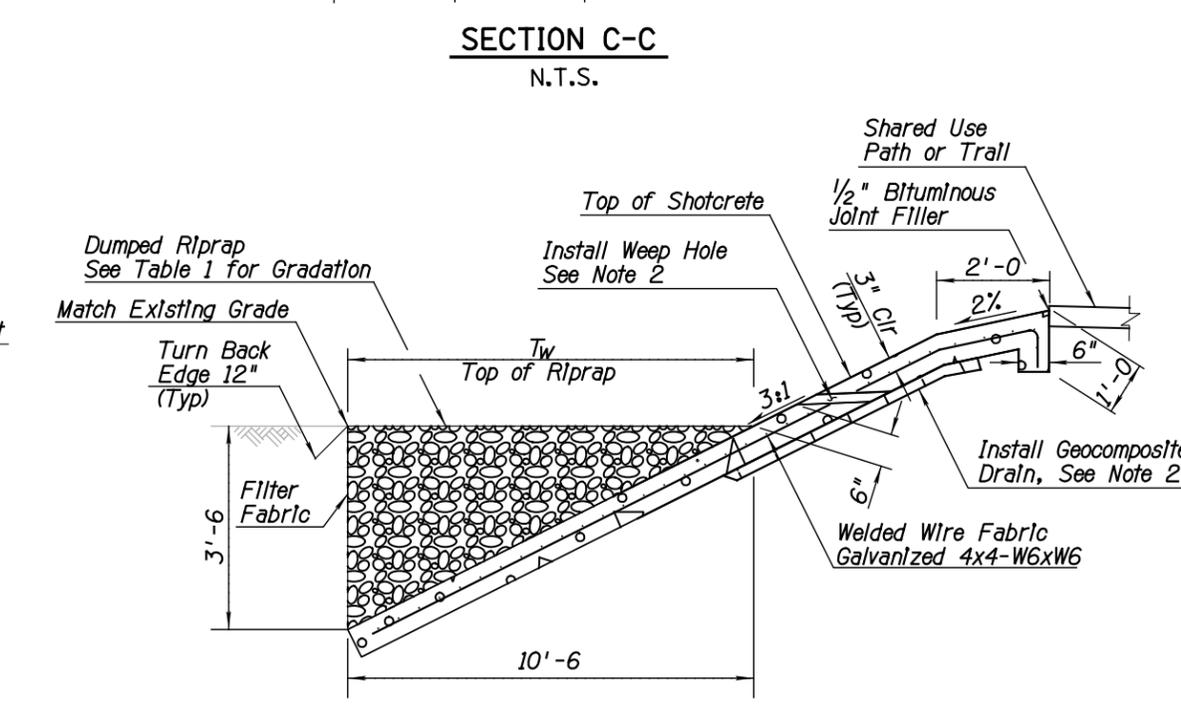
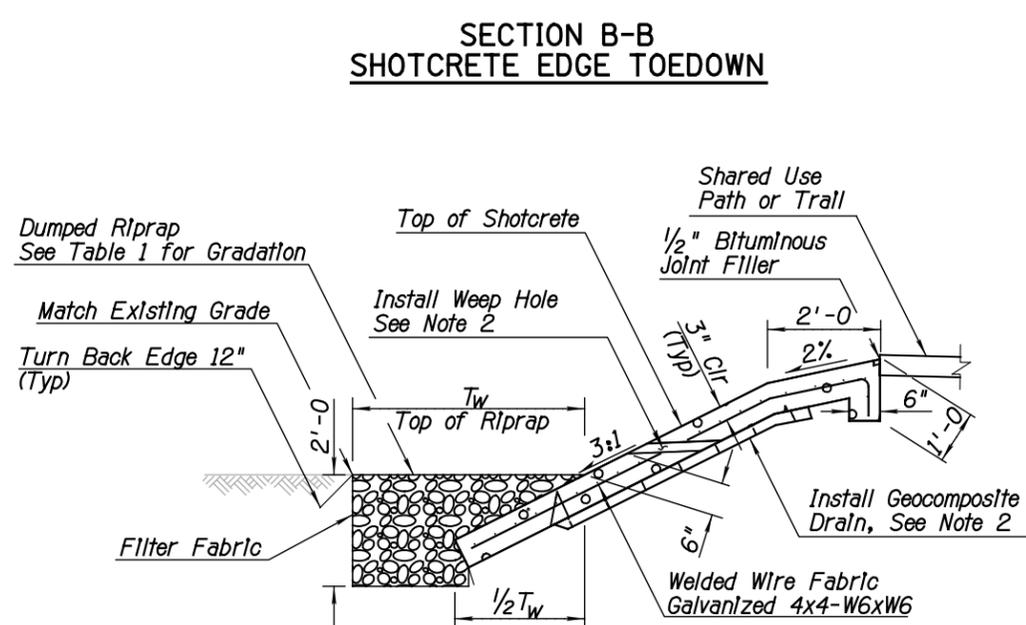
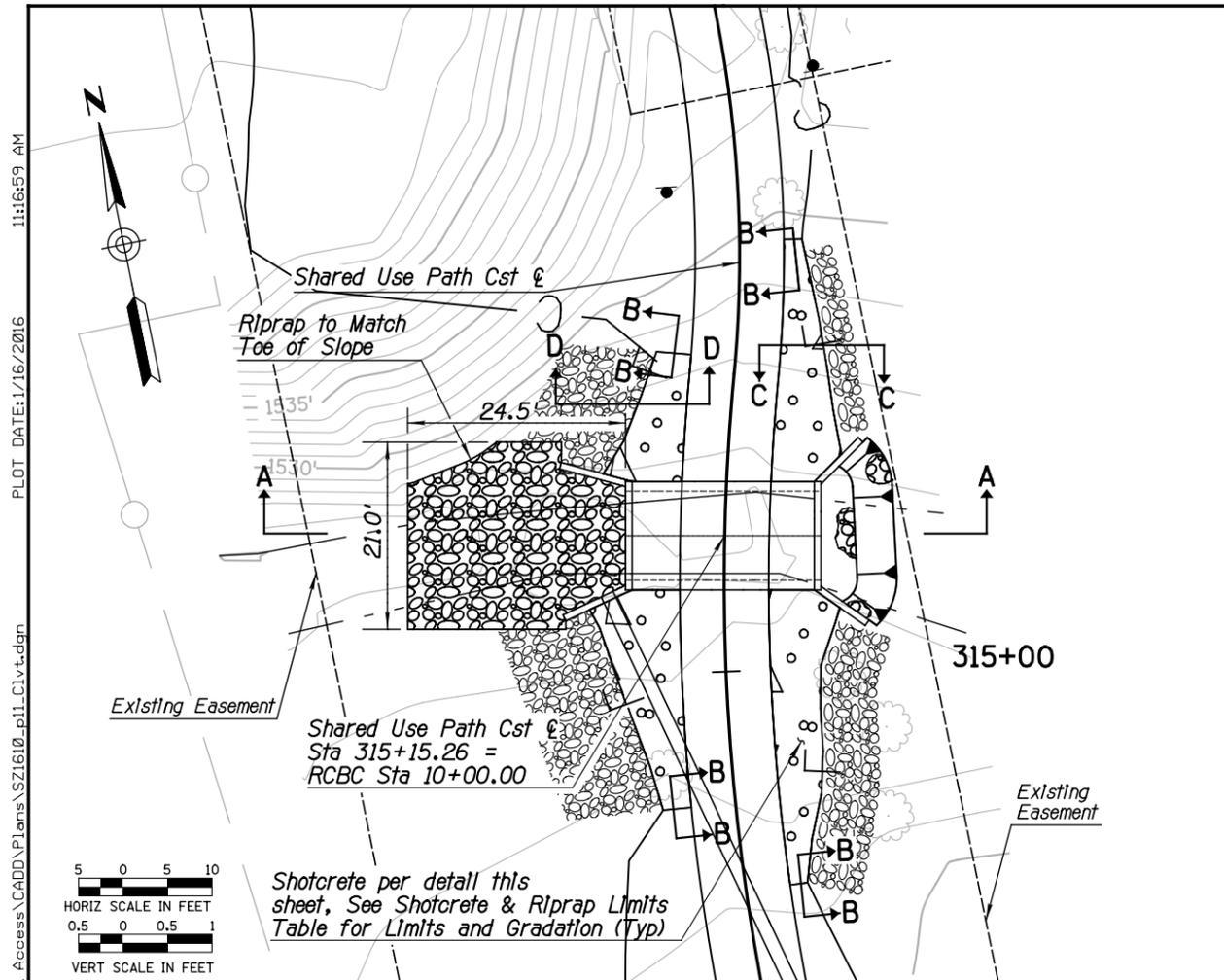
**ARIZONA BLUE STAKE**  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 12/31/2018		
<b>SHEET TITLE</b> SHARED USE TRAIL PLAN & PROFILE		
<b>PROJECT TITLE</b> SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DATE	BID NO.
DESIGNED	6/15	16BP020
DRAWN	AS-BUILT	PROJECT NO.
1"=20'		
1"=2'		
		DWG. C-10
		25 OF 105

XXX-XX

RIPRAP GRADATION			
% Passing	D <sub>50</sub> =6"	D <sub>50</sub> =9"	D <sub>50</sub> =12"
100	9"-10"	14"-15"	18"-21"
50	6"-7"	9"-11"	12"-14"
15	3"-4"	4"-6"	5"-8"

SHOTCRETE & RIPRAP LIMITS				
Bgn Sta	End Sta	T <sub>w</sub>	Gradation	Cross Section
313+55, Lt	313+95, Lt	10'-6"	D <sub>50</sub> =12"	D-D
313+60, Rt	314+05, Rt	6'-0"	D <sub>50</sub> =9"	C-C
314+75, Rt	315+09, Rt	6'-0"	D <sub>50</sub> =9"	C-C
314+85, Lt	315+09, Lt	10'-6"	D <sub>50</sub> =12"	D-D
315+21, Lt	315+35, Lt	10'-6"	D <sub>50</sub> =12"	D-D
315+21, Rt	315+48, Rt	3'-0"	D <sub>50</sub> =9"	C-C



- NOTES:**
1. Minimum 6" thick pneumatically placed reinforced shotcrete bank lining per ADOT standard specification, section 912.
  2. Install new 3-inch diameter drain pipe at 10' max. centers and new geocomposite drain material per SD 7.01 (1 of 5).
  3. Shotcrete edge toedown shall be implemented at all beginning and ending locations where the shotcrete edge matches existing ground. The cost of the edge toedown is considered incidental to the cost of the shotcrete.
  4. Contractor shall confirm that a sufficient quantity of riprap is available so that the entire area will be of the same composition and appearance, and shall furnish a sample to the Engineer for approval.
  5. See ADOT Std SD 6.01 for box culvert details.

ARIZONA BLUE STAKE  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires 3/31/2018		
SHEET TITLE		
DRAINAGE DETAILS		
PROJECT TITLE		
SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
PROJECT NO.		BID NO.
16BP020		SD-1
DWG.		26 OF 105

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p11\_Clv.dgn PLOT DATE: 1/16/2016 11:16:59 AM

DESIGN FILE: P:\Projects\Civil\of\_Scottsdale\2009-192-C05 On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_p12\_Civt.dgn PLOT DATE: 1/16/2016 11:17:00 AM

**NOTES:**

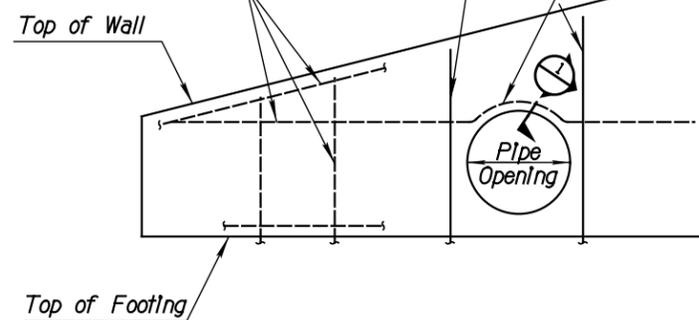
1. Reinforcing steel shall be ASTM A615 Grade 60.
2. Reinforcing bars shall have 2" clear cover unless otherwise noted.
3. The cost of the pipe wall penetration shall be included in the cost of the concrete headwall. No additional payment shall be made.
4. Size and shape of additional bars shall match the size and shape of the interrupted bars.
5. Place additional reinforcing in the same plane as the reinforcing it is replacing.
6. Provide 2" minimum clear concrete cover between reinforcing bars and perimeter of pipe opening.
7. Contractor to verify minimum of 1 foot of cover along length of pipe.
8. 18" Pipe is intended to provide an outfall for the existing sump located immediately upstream of path.

Provide One Additional Vertical Bar on Each Side of Pipe Opening to Replace Typical Bars Interrupted by Pipe Opening, Front Face and Back Face

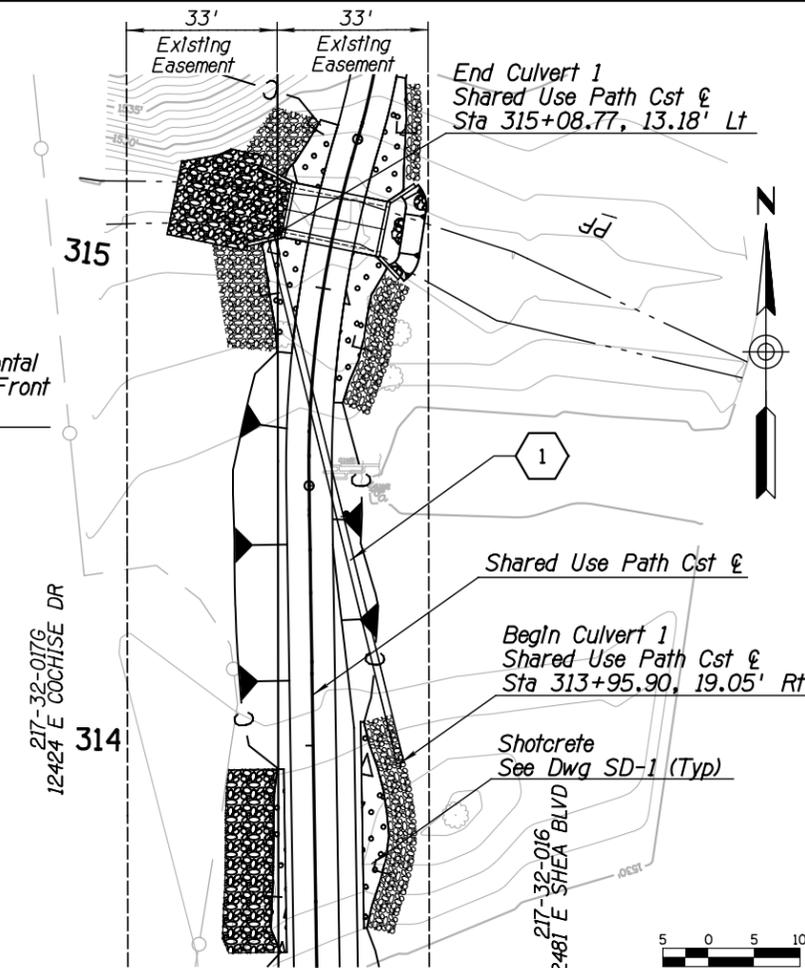
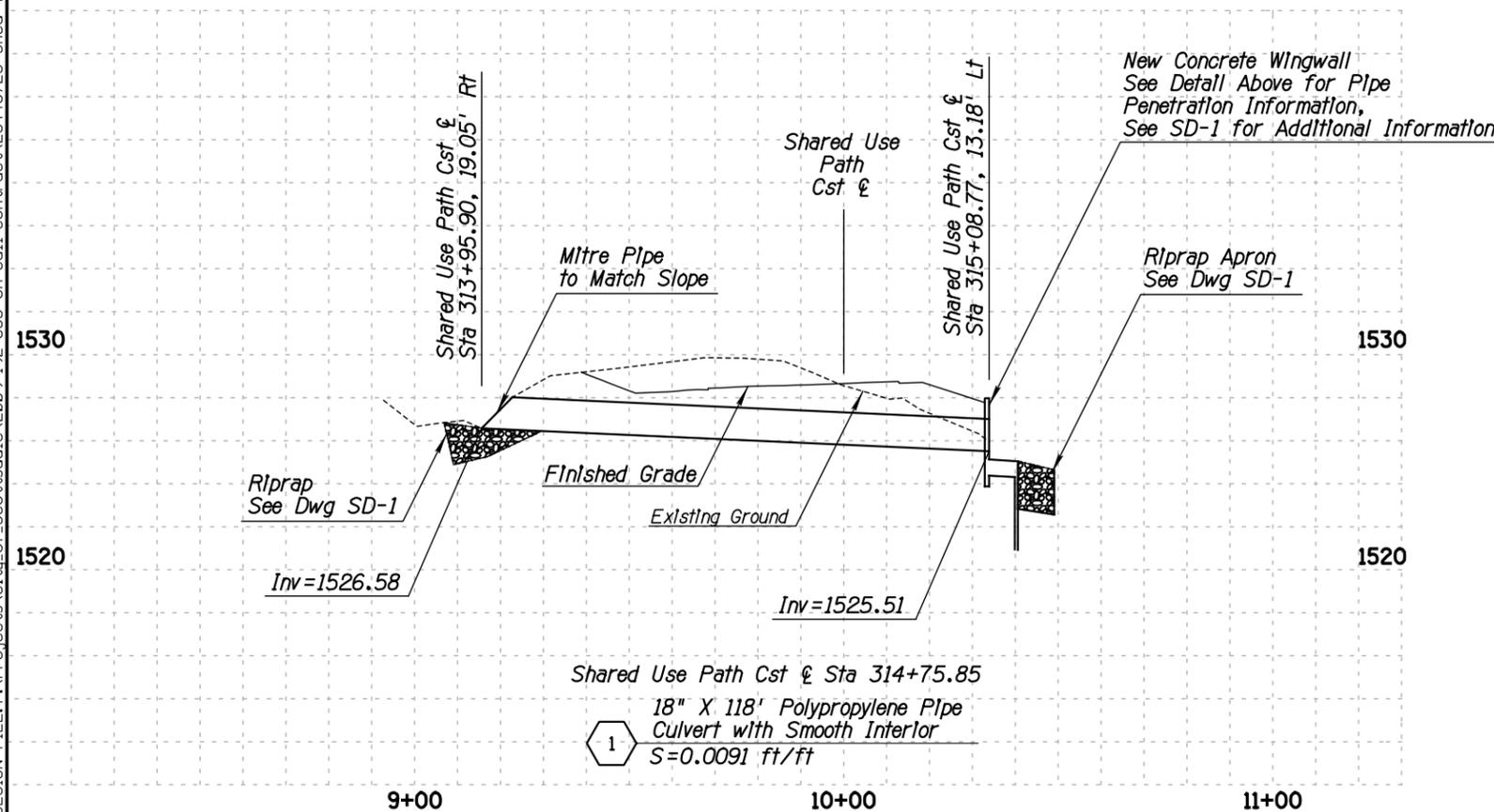
**DETAIL** ①

Field Bend Typ Horizontal Bar Around Opening, Front Face and Back Face

Typical Wall Reinforcing See ADOT Std. SD 6.08 (1 of 8)

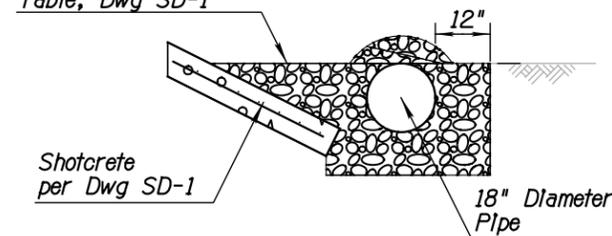


**PIPE PENETRATION AT RCBC WINGWALL**  
NTS

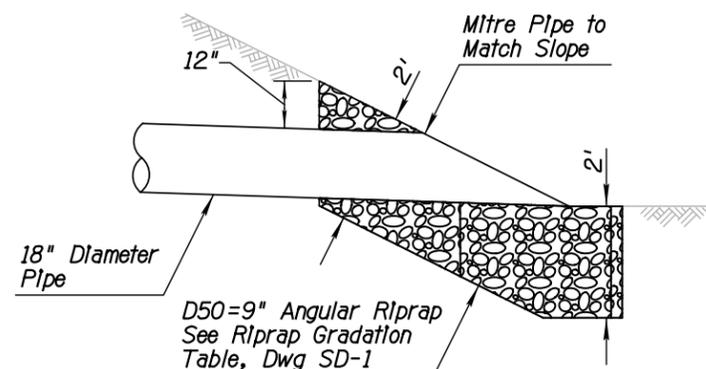


**PLAN**

D50=9" Angular Riprap See Riprap Gradation Table, Dwg SD-1

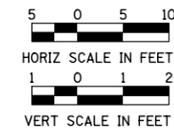


**Culvert Inlet Section**



**Culvert Inlet Profile**

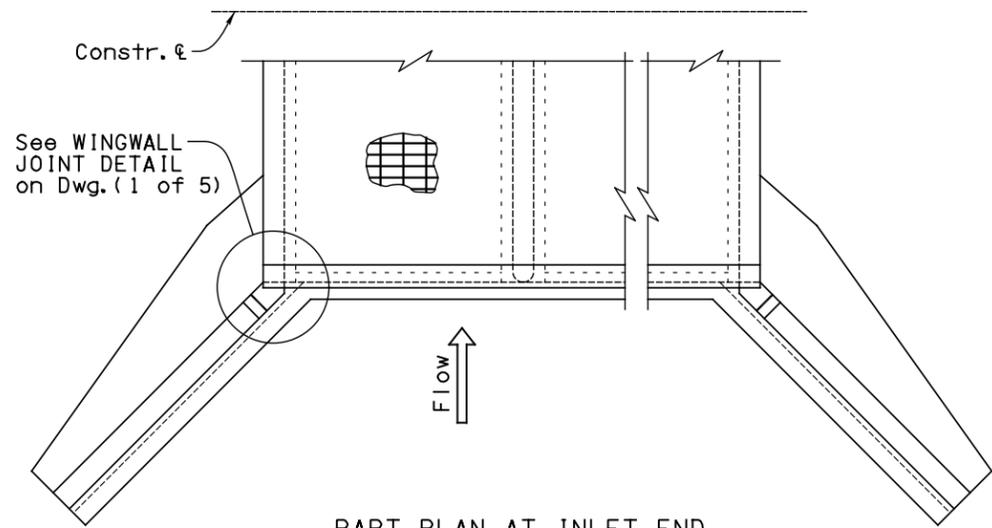
① Install 18 Inch Diameter Polypropylene Pipe at Inverts Shown



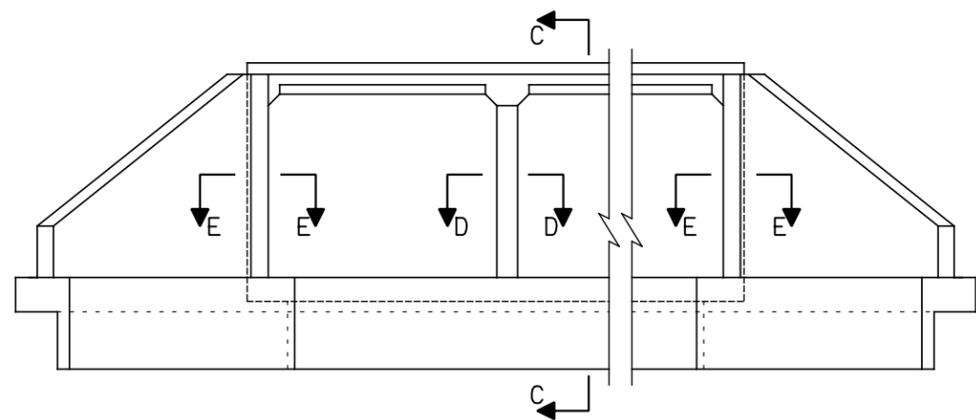
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
PROJECT TITLE <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
PROJECT NO. 16BP020		DWG. SD-2
		27 OF 105

XXX-XX





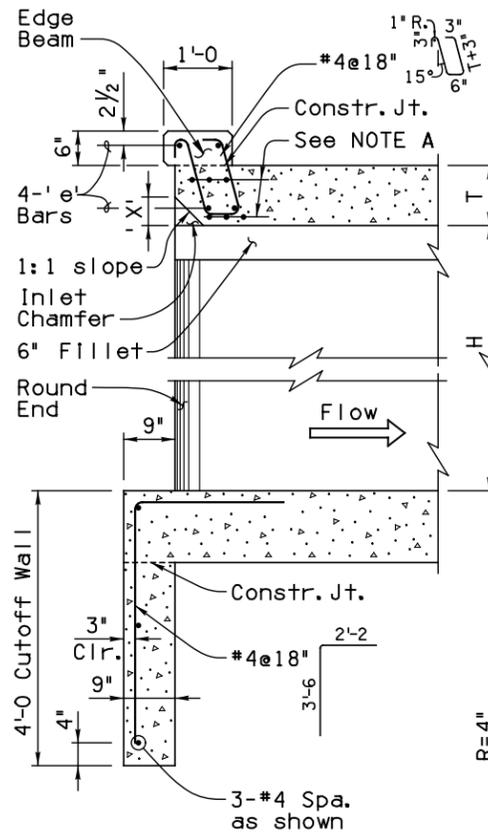
PART PLAN AT INLET END



ELEVATION AT INLET END

**NOTE A:**

Use 3-#7 @3" spa. top and bott bars for culverts skewed 6° to 30°. Use 3-#8 @3" spa. top and bott bars for culverts skewed 31° to 45°. Culverts skewed over 45° require a special edge beam design. Edge beam reinforcing quantity shall be added to table quantities.

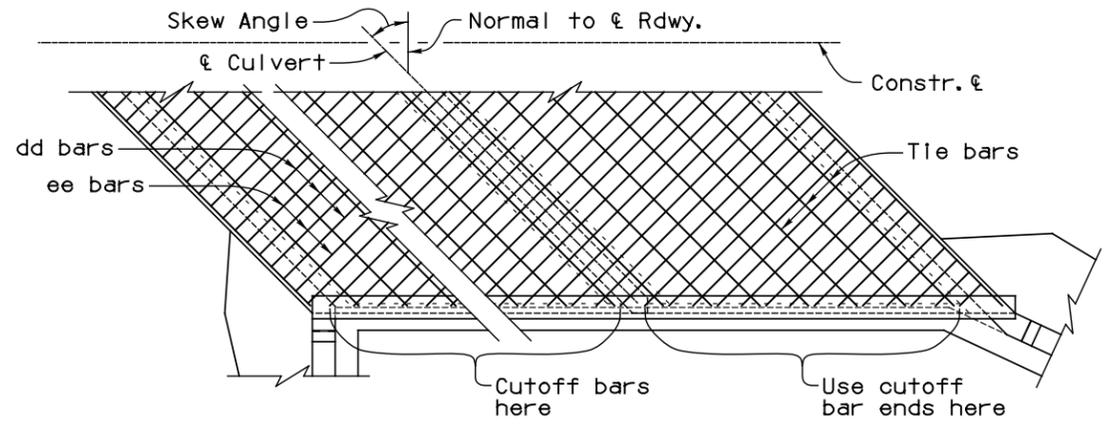
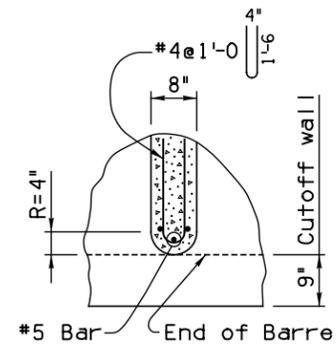


SECTION C-C

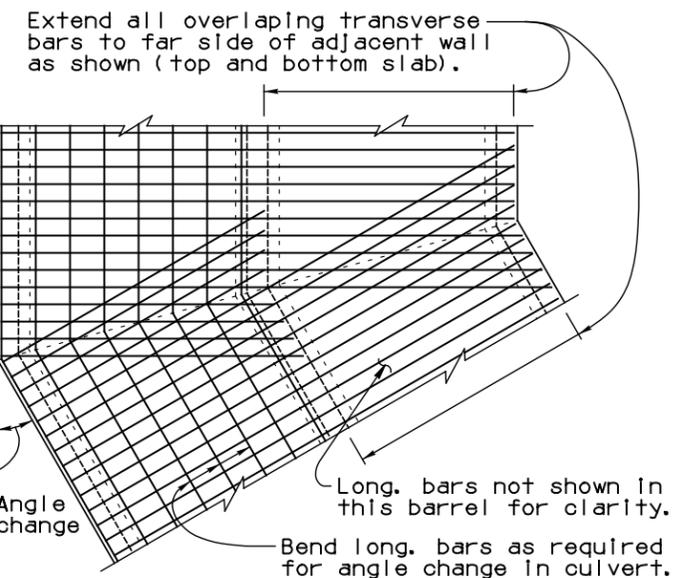
SECTION D-D

Span 'S'	Dim. 'X'
6'	3"
8'	4"
10'	5"
12'	6"

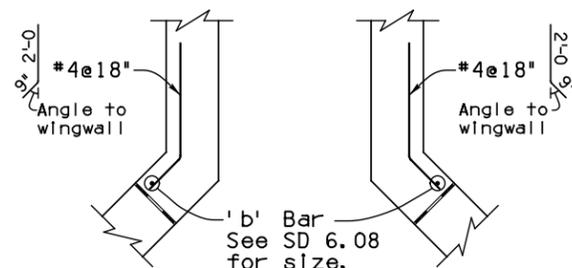
**NOTE:**  
For 'e' Bars table, see Dwg. (1 of 5)



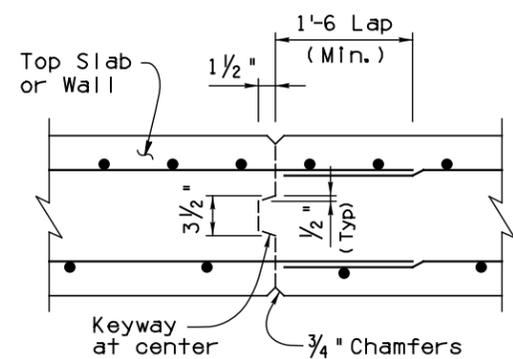
PART PLAN - SKEWED CULVERT  
(Showing ReInf. Steel Placement)



PART PLAN - ANGLED CULVERT  
(Showing ReInf. Steel Placement)



SECTION E-E



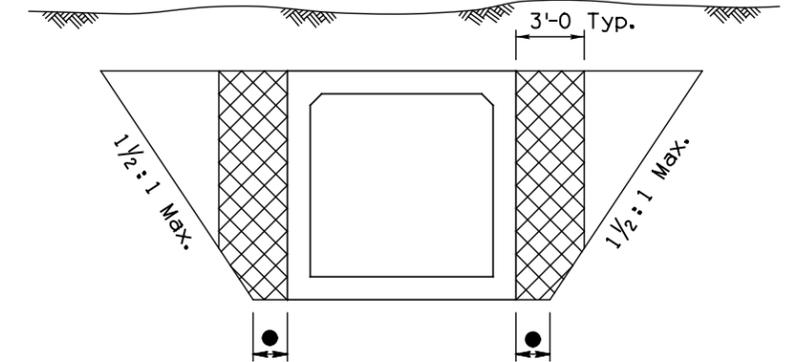
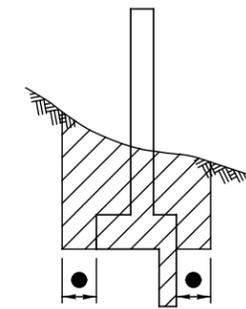
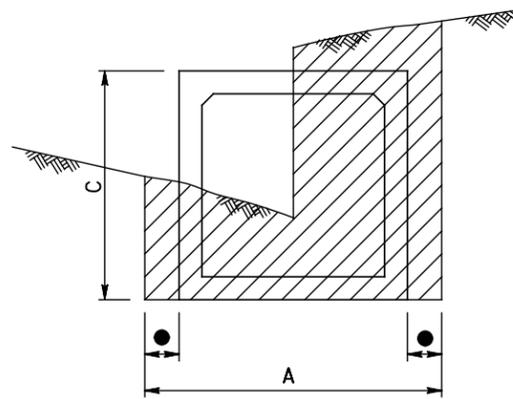
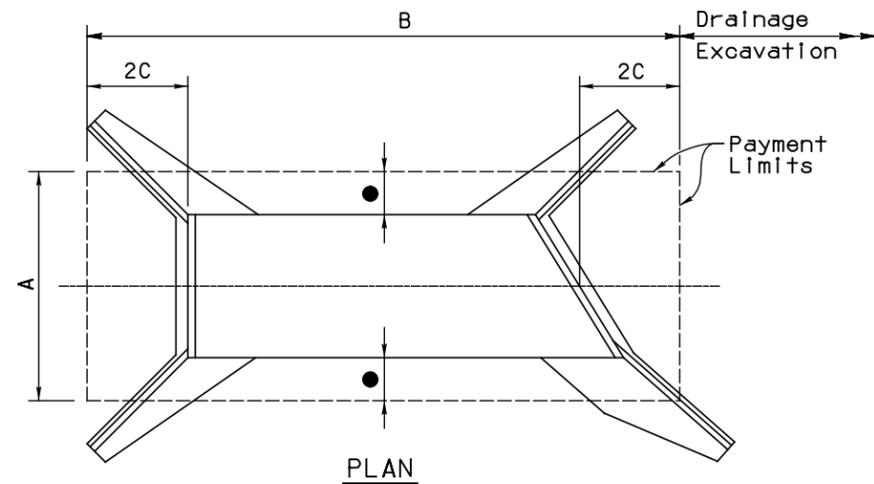
ALT. CONSTRUCTION JOINT DETAIL

**NOTE:**

For General Notes, Dimensions, Quantities and additional Details, see SD 6.01 (1 & 3, 4, 5).

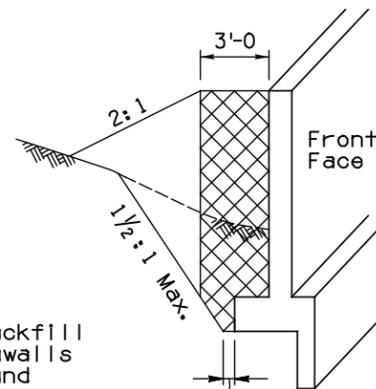
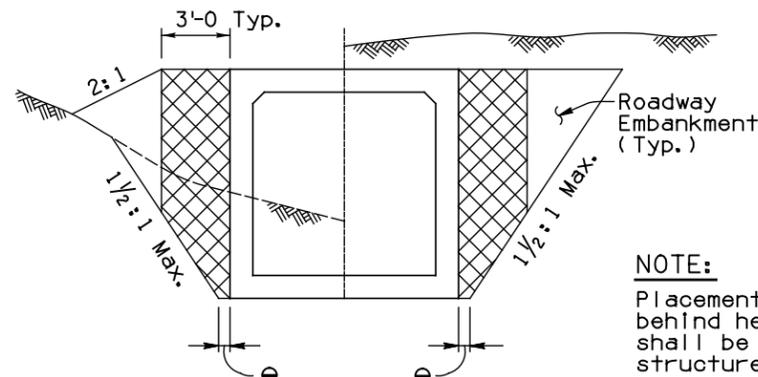
<i>Shafiq U. Hasan</i> ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION <b>BRIDGE GROUP STRUCTURE DETAIL</b>			
<i>Tean A. Nehme</i> REINFORCED CONCRETE BOX CULVERTS MISCELLANEOUS DETAILS			
ROUTE	PROJECT NO.	FA NO.	DRAWING NO. SD 6.01 (2 of 5)
LOCATION	SHEET NO.		29 OF 105

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.U.H.	2-12
2			
3			
4			

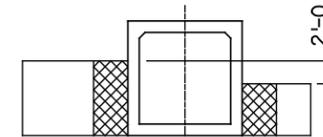


**STRUCTURAL EXCAVATION - PAYMENT LIMITS**

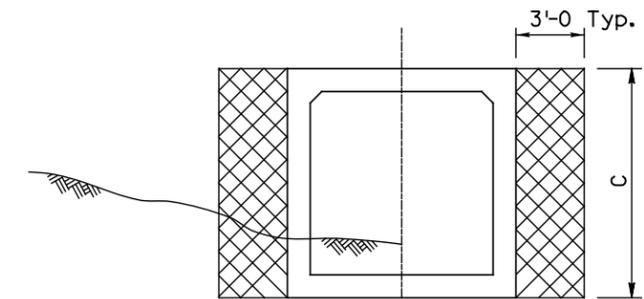
**NOTE:**  
Payment limits shown include structural excavation for headwalls, cutoffwalls, wingwalls, end sections, etc.



Placement and compaction of backfill shall not be more than 2 feet higher than other side (for any number of boxes).



**PLACEMENT DETAIL**



**NOTE:**  
Placement of structure backfill behind headwalls and wingwalls shall be the same as around structures.

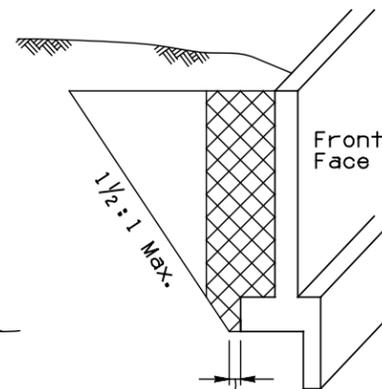
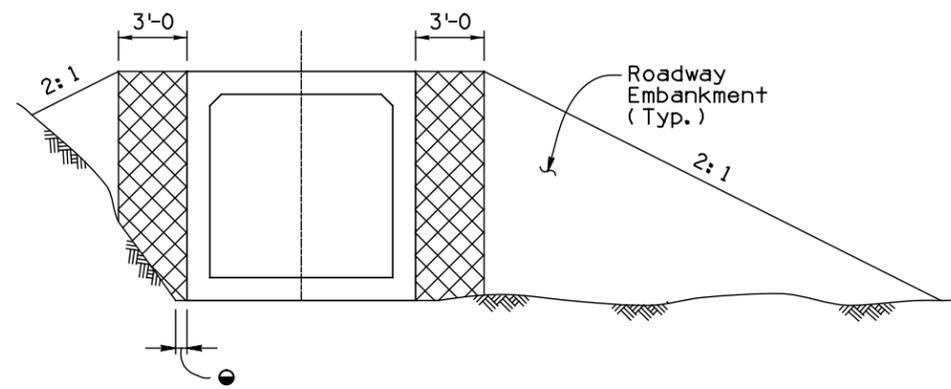
**SECTION**

**VIEW OF WING**

**STRUCTURE BACKFILL - MEASUREMENT**

**NOTE:**  
Computation of structure backfill quantities is based on the area of a typical installation times the total length of structure plus 2C. Use C for box extensions on each end extended. No measurement is necessary for wing arms.

**SECTION**



**STRUCTURE BACKFILL - PLACEMENT**

**LEGEND**

- A = Width
- B = Length
- C = Height of barrel or headwall without cutoff wall.
- = 6" Max. in rock and trench, 1'-6 max. all others
- = 6" Min. in rock and trench, 1'-6 min. all others
- ▨ Indicates Structural Excavation
- ▩ Indicates Structure Backfill
- Indicates Roadway Embankment

**NOTE:**

For General Notes, Dimensions, Quantities and additional Details, see SD 6.01 (1, 2, 3 & 5).

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.U.H.	2-12
2			
3			
4			

<i>Shafiq U. Hasan</i> ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION <b>BRIDGE GROUP STRUCTURE DETAIL</b>			
<i>Tean A. Nehme</i> REINFORCED CONCRETE BOX CULVERTS STRUCTURAL EXCAVATION & STRUCTURE BACKFILL			
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
LOCATION			SD 6.01 (4 of 5)
			SHEET NO. 30 OF 105

NO.	DESCRIPTION OF REVISIONS	DATE
1	Original Issue	2-12
2	Added 3'-4.5' height for existing box extensions only	5-15
3		
4		

Span 'S'	Height 'H'	Slab 'T'	Walls 'W'	aa		cc		ee		gg		hh		F	
				Bar Size	Spacing	Length	Number	Bar Size	Spacing	Length	Number	Bar Size	Spacing		Length
6'	3'	9 1/2"	9"	5	12"	4'-4"	20	5	6"	7'-2"	14	4	8"	5'-2"	3'-0"
	4'	9 1/2"	9"	5	12"	5'-4"	24	5	6"	7'-2"	16	4	8"	5'-11"	3'-0"
	5'	9 1/2"	9"	5	12"	6'-4"	24	5	6"	7'-2"	16	4	6"	6'-9"	3'-0"
	6'	9 1/2"	9"	5	12"	7'-4"	28	5	6"	7'-2"	18	4	6"	7'-3"	3'-0"
	7'	9 1/2"	9"	5	12"	8'-4"	32	5	6"	7'-2"	18	4	6"	7'-9"	3'-0"
8'	3'	10"	11"	5	12"	4'-5"	20	5	6"	9'-6"	18	4	6"	6'-2"	3'-4"
	4'	10"	11"	5	12"	5'-5"	24	5	6"	9'-6"	20	4	6"	6'-8"	3'-4"
	5'	10"	11"	5	12"	6'-5"	24	5	6"	9'-6"	20	4	6"	7'-2"	3'-4"
	6'	10"	11"	5	12"	7'-5"	28	5	6"	9'-6"	20	4	6"	7'-8"	3'-4"
	7'	10"	11"	5	12"	8'-5"	32	6	8"	9'-6"	22	4	6"	8'-2"	3'-4"
10'	3'	10"	13"	5	12"	4'-5"	20	6	8"	11'-10"	22	5	6"	7'-4"	4'-4"
	4'	10"	13"	5	12"	5'-5"	24	6	8"	11'-10"	22	5	6"	7'-10"	4'-4"
	5'	10"	13"	5	12"	6'-5"	24	6	7"	11'-10"	24	5	6"	8'-4"	4'-4"
	6'	10"	13"	5	12"	7'-5"	28	6	7"	11'-10"	24	5	6"	8'-10"	4'-4"
	7'	10"	13"	5	12"	8'-5"	32	6	7"	11'-10"	26	5	6"	9'-4"	4'-4"
12'	8'	11 1/2"	15"	5	9"	9'-8"	32	7	7"	14'-2"	38	6	6"	10'-5"	4'-8"
	9'	11 1/2"	15"	5	9"	10'-8"	36	7	7"	14'-2"	38	6	6"	10'-11"	4'-8"
	10'	11 1/2"	15"	5	8"	11'-8"	40	7	7"	14'-2"	40	6	6"	11'-5"	4'-8"
	11'	12"	15"	5	8"	12'-9"	40	7	7"	14'-2"	42	6	6"	11'-11"	4'-8"
	12'	12"	15"	5	8"	13'-9"	44	7	6"	14'-2"	46	6	6"	12'-5"	4'-8"

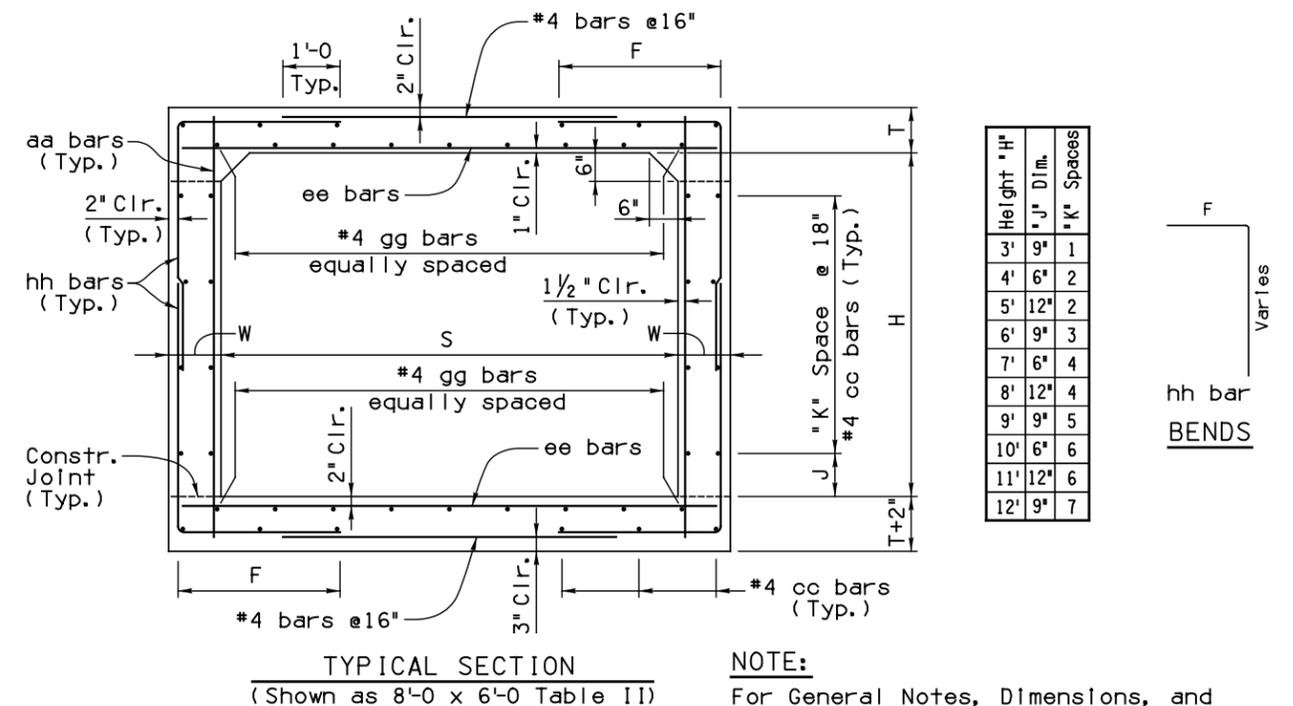
⊕ Total number of bars in the cross-section.

Span 'S'	Height 'H'	Slab 'T'	Walls 'W'	aa		cc		ee		gg		hh		F	
				Bar size	Spacing	Length	Number	Bar size	Spacing	Length	Number	Bar size	Spacing		Length
6'	3'	10 1/2"	9"	5	12"	4'-5"	20	6	7"	7'-2"	14	5	6"	5'-4"	2'-6"
	4'	11"	9"	5	12"	5'-6"	24	6	7"	7'-2"	14	5	6"	5'-11"	2'-6"
	5'	11"	9"	5	12"	6'-7"	24	6	7"	7'-2"	14	5	6"	6'-5"	2'-6"
	6'	11"	9"	5	12"	7'-7"	28	6	7"	7'-2"	14	5	6"	6'-11"	2'-6"
8'	3'	13"	11"	5	10"	4'-10"	20	7	7"	9'-6"	18	5	6"	5'-10"	2'-8"
	4'	13"	11"	5	10"	5'-10"	24	7	7"	9'-6"	18	5	6"	6'-4"	2'-8"
	5'	13 1/2"	11"	5	10"	7'-0"	24	7	7"	9'-6"	18	5	8"	6'-11"	2'-8"
	6'	13 1/2"	11"	5	10"	8'-0"	28	7	7"	9'-6"	18	5	8"	7'-5"	2'-8"
10'	3'	13 1/2"	11"	5	10"	9'-0"	32	7	7"	9'-6"	18	5	8"	7'-11"	2'-8"
	4'	13 1/2"	11"	5	10"	10'-0"	32	7	7"	9'-6"	18	5	8"	8'-5"	2'-8"
	5'	16"	13"	5	6"	5'-4"	20	8	7"	11'-10"	22	6	6"	6'-9"	3'-4"
	6'	16"	13"	5	6"	6'-4"	24	8	7"	11'-10"	22	6	6"	7'-6"	3'-4"
	7'	16"	13"	5	8"	7'-4"	24	8	7"	11'-10"	22	6	8"	8'-0"	3'-4"
12'	8'	16"	13"	5	8"	8'-5"	28	8	7"	11'-10"	22	6	8"	8'-5"	3'-4"
	9'	16"	13"	5	10"	10'-5"	32	8	7"	11'-10"	22	6	8"	9'-4"	3'-4"
	10'	16 1/2"	13"	5	10"	12'-6"	40	8	7"	11'-10"	22	6	7"	10'-4"	3'-4"
	8'	19 1/2"	15"	5	10"	11'-0"	32	9	7"	14'-2"	26	6	7"	10'-0"	3'-9"
	9'	19 1/2"	15"	5	10"	12'-0"	36	9	7"	14'-2"	26	6	7"	10'-6"	3'-9"

New box culverts shall not be constructed using 3' or 4' heights without special approval from ADOT Bridge Group. Tables referencing these sizes are provided for extension of existing box culverts only.

Span 'S'	Height 'H'	Slab 'T'	Walls 'W'	aa		cc		ee		gg		hh		F	
				Bar Size	Spacing	Length	Number	Bar Size	Spacing	Length	Number	Bar Size	Spacing		Length
6'	3'	8"	9"	5	12"	4'-1"	20	5	6"	7'-2"	14	5	6"	5'-2"	2'-6"
	4'	8"	9"	5	12"	5'-1"	24	5	6"	7'-2"	14	5	6"	5'-8"	2'-6"
	5'	8"	9"	5	12"	6'-1"	24	5	6"	7'-2"	14	5	6"	6'-2"	2'-6"
	6'	8"	9"	5	12"	7'-1"	28	5	6"	7'-2"	14	5	6"	6'-8"	2'-6"
	7'	8"	9"	5	12"	8'-1"	32	5	6"	7'-2"	14	5	6"	7'-2"	2'-6"
8'	3'	9"	11"	5	9"	4'-2"	20	5	6"	9'-6"	18	5	6"	5'-9"	2'-10"
	4'	9"	11"	5	9"	5'-2"	24	5	6"	9'-6"	18	5	6"	6'-3"	2'-10"
	5'	9 1/2"	11"	5	10"	6'-4"	24	6	7"	9'-6"	18	5	6"	6'-9"	2'-10"
	6'	9 1/2"	11"	5	10"	7'-4"	28	6	7"	9'-6"	18	5	6"	7'-3"	2'-10"
	7'	9 1/2"	11"	5	10"	8'-4"	32	6	7"	9'-6"	18	5	6"	7'-9"	2'-10"
10'	3'	10 1/2"	13"	5	9"	4'-4"	20	6	6"	11'-10"	22	6	6"	6'-6"	3'-6"
	4'	10 1/2"	13"	5	9"	5'-4"	24	6	6"	11'-10"	22	6	6"	7'-2"	3'-6"
	5'	10 1/2"	13"	5	9"	6'-4"	24	6	6"	11'-10"	22	6	6"	7'-8"	3'-6"
	6'	11"	13"	5	10"	7'-7"	28	6	6"	11'-10"	22	6	8"	8'-2"	3'-6"
	7'	11"	13"	5	10"	8'-7"	32	6	6"	11'-10"	22	6	8"	8'-8"	3'-6"
12'	8'	11 1/2"	13"	5	10"	10'-8"	36	6	6"	11'-10"	22	6	8"	9'-9"	3'-6"
	9'	11 1/2"	13"	5	10"	11'-8"	40	6	6"	11'-10"	22	6	8"	10'-3"	3'-6"
	8'	13"	15"	5	10"	9'-11"	32	7	6"	14'-2"	26	6	7"	9'-7"	3'-9"
	9'	13"	15"	5	10"	10'-11"	36	7	6"	14'-2"	26	6	7"	10'-1"	3'-9"
	10'	13"	15"	5	10"	11'-11"	40	7	6"	14'-2"	26	6	7"	10'-7"	3'-9"

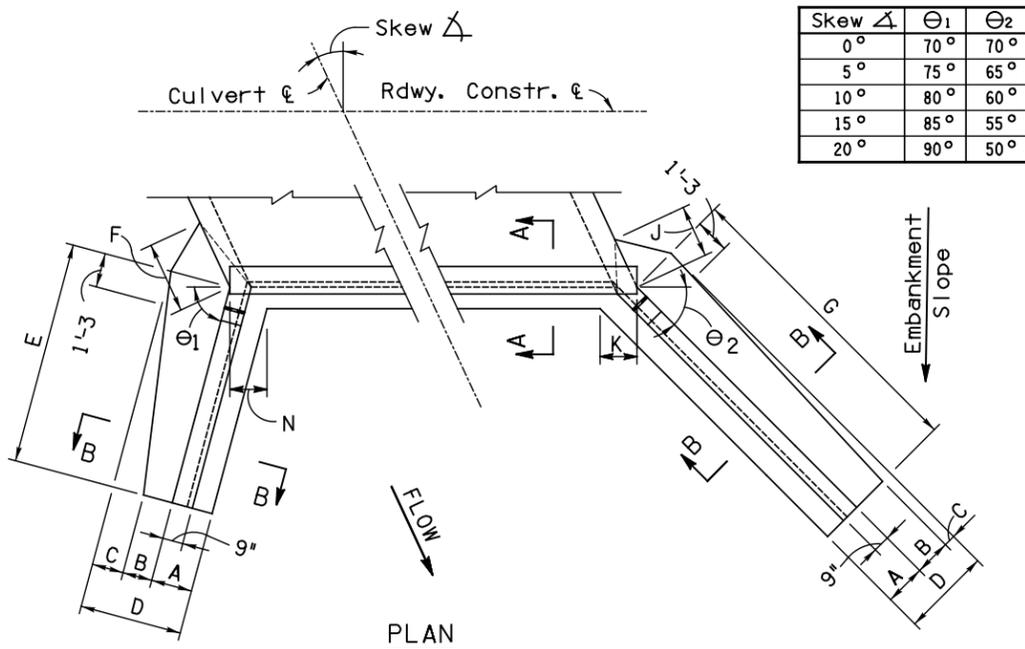
Span 'S'	Height 'H'	Table I		Table II		Table III		Table IV		Table V	
		Concrete C. Y.	Reinf. Steel Lbs.								
6'	3'	0.662	83.9	0.593	109.1	0.639	111.8	0.685	112.5	0.708	118.2
	4'	0.718	95.3	0.648	118.0	0.694	120.8	0.741	121.5	0.787	128.0
	5'	0.773	109.7	0.704	124.3	0.750	127.7	0.796	128.7	0.843	134.4
	6'	0.829	118.5	0.759	133.2	0.806	136.6	0.852	137.7	0.898	143.3
8'	3'	0.881	112.7	0.820	131.1	0.911	144.9	1.002	156.3	1.063	159.6
	4'	0.949	121.5	0.888	140.7	0.979	153.9	1.070	163.9	1.131	168.9
	5'	1.016	126.2	0.986	155.7	1.047	161.2	1.138	171.2	1.229	162.3
	6'	1.084	133.7	1.054	165.0	1.145	171.0	1.206	180.8	1.297	170.6
10'	7'	1.152	145.6	1.122	174.4	1.213	179.9	1.274	189.7	1.365	178.9
	8'	1.220	150.4	1.190	181.0	1.281	186.2	1.372	196.2	1.433	184.5
	3'	1.076	157.6	1.114	196.8	1.264	186.9	1.377	249.7	1.527	242.0
	4'	1.156	166.6	1.194	210.3	1.344	210.2	1.457	248.3	1.607	263.4
	5'	1.237	181.7	1.274	219.1	1.424	218.1	1.537	262.7	1.687	241.9
12'	6'	1.317	190.7	1.392	206.4	1.505	227.9	1.655	268.5	1.767	246.5
	7'	1.397	200.9	1.472	214.3	1.585	225.5	1.735	252.1	1.848	255.4
	8'	1.477	211.1	1.552	221.3	1.703	233.5	1.815	259.1	1.928	262.4
	9'	1.558	221.8	1.670	231.9	1.783	243.2	1.896	268.8	2.008	272.1
	10'	1.675	231.4	1.751	241.6	1.863	252.9	2.013	291.3	2.126	295.3



NOTE: Reinforcing shown for 8'-0 x 6'-0 Table II box. Use the appropriate table to determine the reinforcing requirements of selected box.

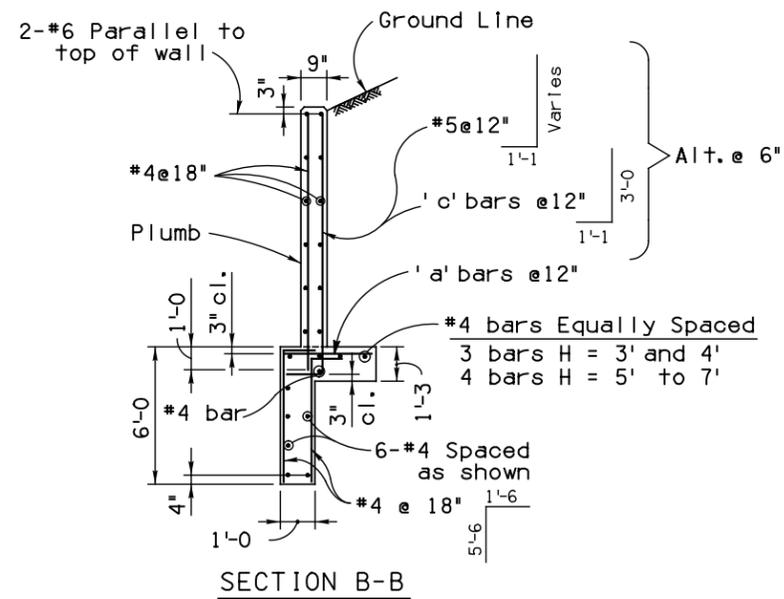
NOTE: For General Notes, Dimensions, and additional Details, see SD 6.01 (1 to 4).

		ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION <b>BRIDGE GROUP STRUCTURE DETAIL</b>	
		<b>REINFORCED CONCRETE BOX CULVERTS          SINGLE BARREL          (0' - 30' FILLS)</b>	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
LOCATION			SD 6.01 (5 of 5)
			SHEET NO. 31 OF 105

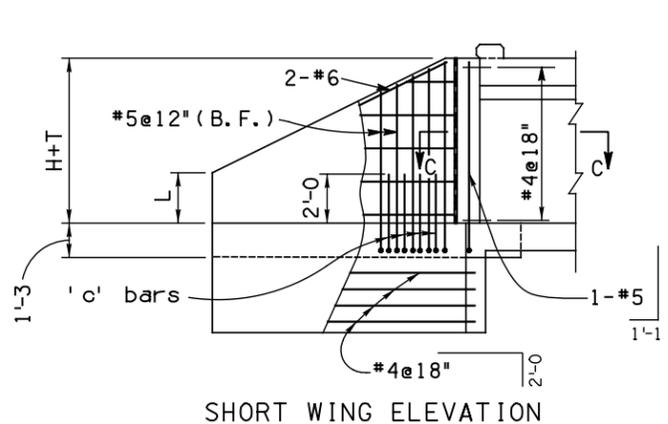


Skew $\Delta$	$\Theta_1$	$\Theta_2$
0°	70°	70°
5°	75°	65°
10°	80°	60°
15°	85°	55°
20°	90°	50°

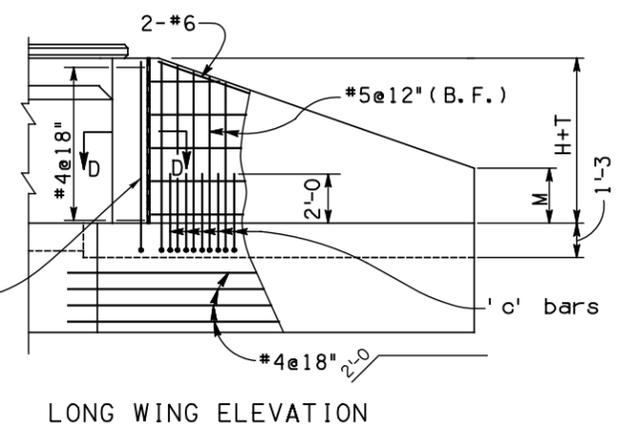
**NOTE:**  
For SECTION A-A,  
see SD 6.01 (1 of 5).



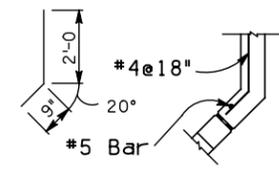
SECTION B-B



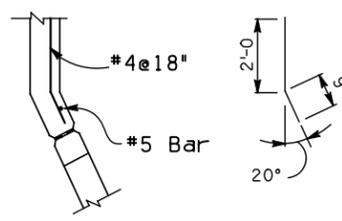
SHORT WING ELEVATION



LONG WING ELEVATION



SECTION C-C



SECTION D-D

Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
2 : 1 Slope	Dimensions	A	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"
		B	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"
		C	4"	7"	1'0"	1'4"	1'5"	4"	7"	1'0"	1'4"	1'5"	4"	7"	1'0"	1'4"	1'5"	4"	7"	1'0"	1'4"	1'5"	4"	7"	1'0"	1'4"	1'5"
		D	2'7"	3'1"	3'7"	4'1"	4'7"	2'7"	3'1"	3'7"	4'1"	4'7"	2'8"	3'2"	3'8"	4'2"	4'8"	2'8"	3'2"	3'8"	4'2"	4'8"	2'9"	3'3"	3'9"	4'3"	4'9"
		E	6'6"	8'0"	9'6"	11'0"	12'6"	6'6"	8'0"	9'6"	11'0"	12'6"	6'6"	8'0"	9'6"	11'0"	12'6"	6'6"	8'0"	9'6"	11'0"	12'6"	6'6"	8'0"	9'6"	11'0"	12'6"
		F	1'1"	1'9"	2'4"	3'0"	3'8"	1'1"	1'9"	2'4"	3'0"	3'8"	1'2"	1'10"	2'6"	3'1"	3'9"	1'2"	1'10"	2'6"	3'1"	3'10"	1'3"	1'11"	2'7"	3'3"	4'0"
		G	6'6"	8'0"	9'6"	11'0"	12'6"	6'6"	8'0"	10'0"	11'6"	13'0"	7'0"	8'6"	10'0"	12'0"	13'6"	7'0"	9'0"	10'6"	12'6"	14'0"	7'6"	9'6"	11'0"	13'0"	14'6"
		J	1'1"	1'9"	2'4"	3'0"	3'8"	1'1"	1'9"	2'4"	3'0"	3'8"	1'2"	1'10"	2'6"	3'1"	3'9"	1'2"	1'10"	2'6"	3'1"	3'10"	1'3"	1'11"	2'7"	3'3"	4'0"
		K	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"
		L	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"
		M	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"	1'4"	1'4"	1'7"	1'11"	2'2"
		N	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	

Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
4 : 1 Slope	Dimensions	A	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"
		B	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"
		C	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"
		D	2'7"	3'0"	3'6"	4'0"	4'5"	2'6"	3'0"	3'6"	4'0"	4'6"	2'6"	3'0"	3'6"	4'0"	4'6"	2'6"	3'0"	3'6"	4'0"	4'6"	2'6"	3'0"	3'6"	4'0"	4'7"
		E	10'0"	12'6"	15'0"	17'6"	20'0"	10'0"	12'6"	15'0"	17'6"	19'6"	10'0"	12'6"	15'0"	17'6"	19'6"	10'0"	12'6"	15'0"	17'6"	19'6"	10'0"	12'6"	15'0"	17'6"	19'6"
		F	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"
		G	10'0"	12'6"	15'0"	17'6"	20'0"	10'6"	13'0"	15'6"	18'0"	20'6"	10'6"	13'0"	15'6"	18'0"	20'6"	10'6"	13'0"	15'6"	18'0"	20'6"	10'6"	13'0"	15'6"	18'0"	20'6"
		J	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"
		K	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	
		L	1'9"	2'2"	2'6"	2'11"	3'4"	1'8"	2'1"	2'5"	2'11"	3'4"	1'7"	2'0"	2'6"	2'11"	3'3"	1'7"	2'1"	2'5"	2'10"	3'2"	1'7"	2'1"	2'5"	2'10"	3'2"
		M	1'9"	2'2"	2'6"	2'11"	3'4"	1'8"	2'1"	2'7"	3'0"	3'5"	1'9"	2'3"	2'7"	3'1"	3'6"	1'10"	2'4"	2'9"	3'2"	3'8"	1'10"	2'5"	2'10"	3'4"	3'9"
		N	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"		

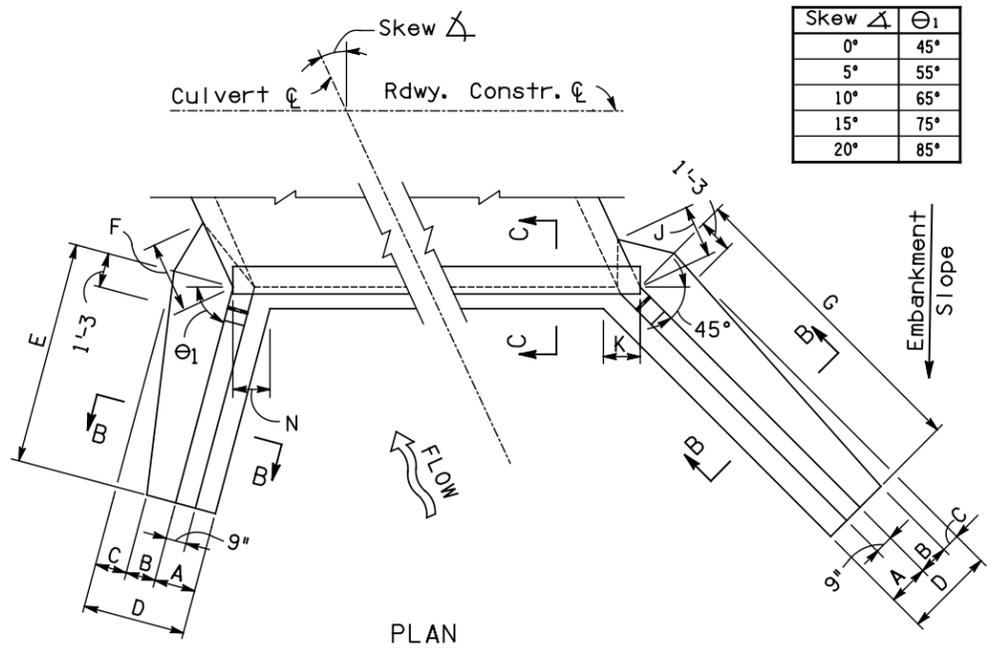
Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
6 : 1 Slope	Dimensions	A	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	1'6"	
		B	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"	9"	1'0"	1'1"	1'2"	1'3"
		C	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"	4"	6"	11"	1'4"	1'8"
		D	2'6"	3'0"	3'6"	4'0"	4'5"	2'6"	3'0"	3'6"	4'0"	4'5"	2'6"	3'0"	3'6"	4'0"	4'5"	2'6"	3'0"	3'6"	4'0"	4'5"	2'6"	3'0"	3'6"	4'0"	4'6"
		E	12'6"	15'6"	18'6"	21'6"	24'6"	12'6"	15'6"	18'6"	21'6"	24'6"	12'0"	15'0"	18'0"	21'0"	24'0"	12'0"	15'0"	18'0"	21'0"	24'0"	12'0"	15'0"	18'0"	21'0"	24'0"
		F	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"
		G	12'6"	15'6"	18'6"	21'6"	24'6"	12'6"	16'0"	19'0"	22'0"	25'0"	13'0"	16'0"	19'6"	22'6"	25'6"	13'6"	16'6"	20'0"	23'0"	26'6"	13'6"	17'0"	20'6"	23'6"	27'0"
		J	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"	1'4"	1'7"	2'3"	2'11"	3'5"
		K	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"		
		L	2'1"	2'8"	3'2"	3'8"	4'3"	2'1"	2'7"	3'1"	3'7"	4'1"	2'1"	2'7"	3'1"	3'7"	4'1"	2'1"	2'7"	3'1"	3'7"	4'1"	2'1"	2'7"	3'1"	3'7"	4'1"
		M	2'1"	2'8"	3'2"	3'8"	4'3"	2'2"	2'8"	3'2"	3'9"	4'3"	2'2"	2'9"	3'3"	3'10"	4'5"	2'3"	2'10"	3'4"	3'11"	4'5"	2'4"	2'11"	3'5"	4'1"	4'7"
		N	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'3 3/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'4 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"	1'5 1/4"			

Height H	Slope	'c' bars	
		Short Wing	Long Wing
7'	2 : 1	3 - #5	3 - #5
	4 : 1	5 - #5	5 - #5

Height H	'a' bars		
	Short Wing	Long Wing	
3'	0° to 20°	0° & 5°	10° to 20°
	3'	*4	*4
4'	0° to 20°	0° & 5°	10° to 20°
	4'	*4	*4
5'	0° to 20°	0° & 5°	10° to 20°
	5'	*4	*4
6'	0° to 20°	0° & 5°	10° to 20°
	6'	*4	*4
7'	0° to 20°	0° & 5°	10° to 20°
	7'	*4	*4

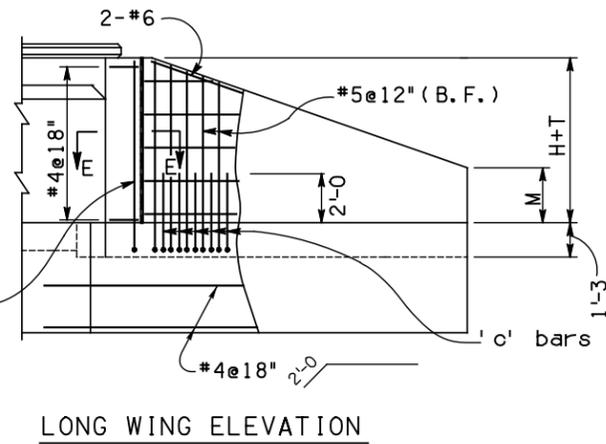
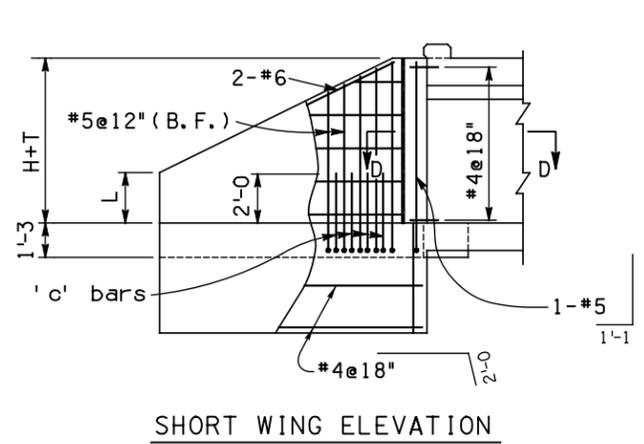
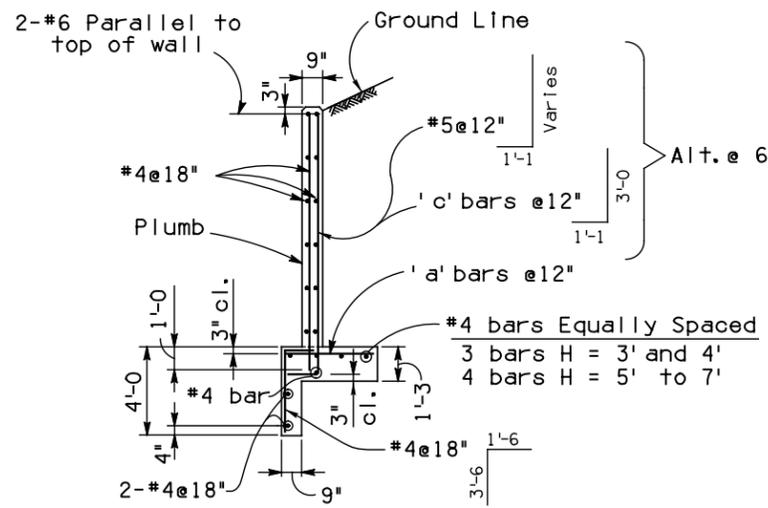
**NOTE:**  
For General Notes, Dimensions, and additional  
Details, see SD 6.01 (1 of 5). For Headwall  
Quantities see SD 6.09 (1 to 3).

		ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION <b>BRIDGE GROUP STRUCTURE DETAIL</b>	
		<b>REINFORCED CONCRETE BOX CULVERTS          OUTLET WINGS - SKEW 0° to 20°          CULVERT HEIGHT 3' to 7'</b>	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.



Skew $\Delta$	$\Theta_1$
0°	45°
5°	55°
10°	65°
15°	75°
20°	85°

NOTE:  
For SECTION C-C,  
see SD 6.01 (2 of 5).



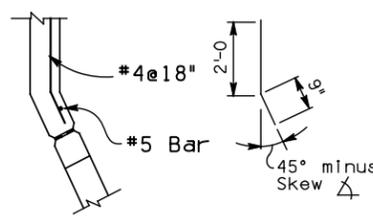
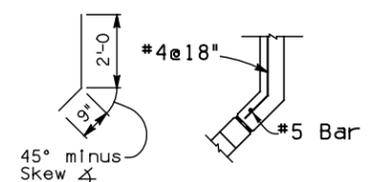
Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
2 : 1 Slope	Dimensions	A	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
		B	9"	1'-0"	1'-1"	1'-2"	1'-3"	9"	1'-0"	1'-1"	1'-2"	1'-3"	9"	1'-0"	1'-1"	1'-2"	1'-3"	9"	1'-0"	1'-1"	1'-2"	1'-3"	9"	1'-0"	1'-1"	1'-2"	1'-3"
		C	6"	9"	9"	1'-3"	1'-4"	6"	9"	9"	1'-3"	1'-4"	6"	9"	9"	1'-3"	1'-4"	6"	9"	9"	1'-3"	1'-4"	6"	9"	9"	1'-3"	1'-4"
		D	2'-9"	3'-3"	3'-10"	4'-4"	4'-10"	2'-9"	3'-3"	3'-10"	4'-4"	4'-10"	2'-9"	3'-3"	3'-10"	4'-4"	4'-10"	2'-9"	3'-3"	3'-10"	4'-4"	4'-10"	2'-9"	3'-3"	3'-10"	4'-4"	4'-10"
		E	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"
		F	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"
		G	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"	6'-0"	7'-6"	8'-6"	10'-0"	11'-6"
		J	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"	1'-5"	2'-2"	3'-0"	3'-8"	4'-5"
		K	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"
		L	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"
		M	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"	1'-11"	2'-5"	3'-1"	3'-6"	4'-0"
		N	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"

Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
4 : 1 Slope	Dimensions	A	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
		B	9"	1'-0"	1'-1"	1'-4"	1'-8"	9"	1'-0"	1'-1"	1'-3"	1'-7"	9"	1'-0"	1'-1"	1'-2"	1'-6"	9"	1'-0"	1'-1"	1'-2"	1'-5"	9"	1'-0"	1'-1"	1'-2"	1'-3"
		C	4"	7"	1'-0"	1'-3"	1'-5"	4"	7"	1'-0"	1'-4"	1'-6"	4"	7"	1'-0"	1'-5"	1'-7"	4"	7"	1'-0"	1'-5"	1'-8"	4"	7"	1'-0"	1'-5"	1'-10"
		D	2'-7"	3'-1"	3'-7"	4'-1"	4'-7"	2'-7"	3'-1"	3'-7"	4'-1"	4'-7"	2'-7"	3'-1"	3'-7"	4'-1"	4'-7"	2'-7"	3'-1"	3'-7"	4'-1"	4'-7"	2'-7"	3'-1"	3'-7"	4'-1"	4'-7"
		E	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"
		F	1'-3"	1'-11"	2'-8"	3'-4"	4'-1"	1'-3"	1'-11"	2'-7"	3'-4"	4'-0"	1'-2"	1'-10"	2'-7"	3'-3"	4'-0"	1'-2"	1'-10"	2'-6"	3'-3"	3'-11"	9'-0"	1'-10"	2'-5"	3'-1"	3'-9"
		G	8'-0"	9'-6"	11'-6"	13'-6"	15'-6"	8'-6"	10'-6"	12'-6"	14'-6"	16'-6"	9'-0"	11'-0"	13'-0"	15'-6"	17'-6"	9'-6"	12'-0"	14'-6"	16'-6"	19'-0"	10'-6"	13'-0"	15'-6"	18'-6"	21'-0"
		J	1'-3"	1'-11"	2'-8"	3'-4"	4'-1"	1'-3"	1'-11"	2'-7"	3'-4"	4'-0"	1'-2"	1'-11"	2'-7"	3'-3"	4'-0"	1'-2"	1'-10"	2'-6"	3'-3"	3'-11"	1'-2"	1'-10"	2'-5"	3'-1"	3'-9"
		K	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"
		L	2'-8"	3'-5"	4'-0"	4'-8"	5'-4"	2'-5"	3'-0"	3'-8"	4'-4"	4'-11"	2'-3"	2'-10"	3'-4"	3'-11"	4'-5"	2'-0"	2'-6"	3'-1"	3'-7"	4'-1"	1'-10"	2'-4"	2'-8"	3'-2"	3'-8"
		M	2'-8"	3'-5"	4'-0"	4'-8"	5'-4"	2'-7"	3'-2"	3'-10"	4'-6"	5'-2"	2'-6"	3'-1"	3'-9"	4'-4"	5'-0"	2'-5"	2'-11"	3'-6"	4'-2"	4'-8"	2'-2"	2'-9"	3'-4"	3'-10"	4'-4"
		N	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"

Skew $\Delta$	0°					5°					10°					15°					20°						
	Height H	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	3'	4'	5'	6'	7'	
6 : 1 Slope	Dimensions	A	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"	1'-6"
		B	9"	1'-0"	1'-3"	1'-7"	2'-0"	9"	1'-0"	1'-2"	1'-7"	1'-11"	9"	1'-0"	1'-1"	1'-6"	1'-10"	9"	1'-0"	1'-1"	1'-4"	1'-8"	9"	1'-0"	1'-1"	1'-3"	1'-7"
		C	3"	6"	9"	11"	1'-0"	3"	6"	10"	11"	1'-1"	3"	6"	11"	1'-0"	1'-2"	3"	6"	11"	1'-2"	1'-4"	3"	6"	11"	1'-3"	1'-5"
		D	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
		E	8'-6"	11'-0"	13'-0"	15'-0"	17'-0"	9'-0"	11'-0"	13'-6"	15'-6"	17'-6"	9'-6"	11'-6"	14'-0"	16'-6"	18'-6"	10'-0"	12'-6"	15'-0"	17'-6"	19'-6"	11'-0"	13'-6"	16'-0"	19'-0"	21'-6"
		F	1'-1"	1'-10"	2'-6"	3'-3"	3'-11"	1'-1"	1'-10"	2'-6"	3'-3"	3'-11"	1'-1"	1'-9"	2'-6"	3'-2"	3'-10"	1'-1"	1'-9"	2'-5"	3'-1"	3'-9"	1'-0"	1'-8"	2'-4"	3'-0"	3'-8"
		G	8'-6"	11'-0"	13'-0"	15'-0"	17'-0"	9'-6"	11'-6"	14'-0"	16'-0"	18'-6"	10'-0"	12'-6"	15'-0"	17'-6"	20'-0"	11'-0"	14'-0"	16'-6"	19'-6"	22'-0"	12'-6"	15'-6"	18'-6"	21'-6"	24'-6"
		J	1'-1"	1'-10"	2'-6"	3'-3"	3'-11"	1'-1"	1'-10"	2'-6"	3'-3"	3'-11"	1'-1"	1'-9"	2'-6"	3'-2"	3'-10"	1'-1"	1'-9"	2'-5"	3'-1"	3'-9"	1'-0"	1'-8"	2'-4"	3'-0"	3'-8"
		K	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"
		L	3'-1"	3'-9"	4'-6"	5'-4"	6'-1"	2'-10"	3'-7"	4'-3"	4'-11"	5'-8"	2'-8"	3'-4"	3'-11"	4'-7"	5'-3"	2'-5"	3'-1"	3'-8"	4'-3"	4'-11"	2'-3"	2'-10"	3'-5"	3'-11"	4'-6"
		M	3'-1"	3'-9"	4'-6"	5'-4"	6'-1"	2'-11"	3'-8"	4'-5"	5'-2"	5'-11"	2'-11"	3'-7"	4'-4"	5'-0"	5'-8"	2'-9"	3'-5"	4'-1"	4'-9"	5'-6"	2'-7"	3'-3"	3'-11"	4'-6"	5'-2"
		N	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-4 1/2"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"	1'-3 3/4"

Height H	Slope	'c' bars	
		Short Wing	Long Wing
7'	0° to 10°	3 - #5	3 - #5
	10° to 20°	5 - #5	5 - #5

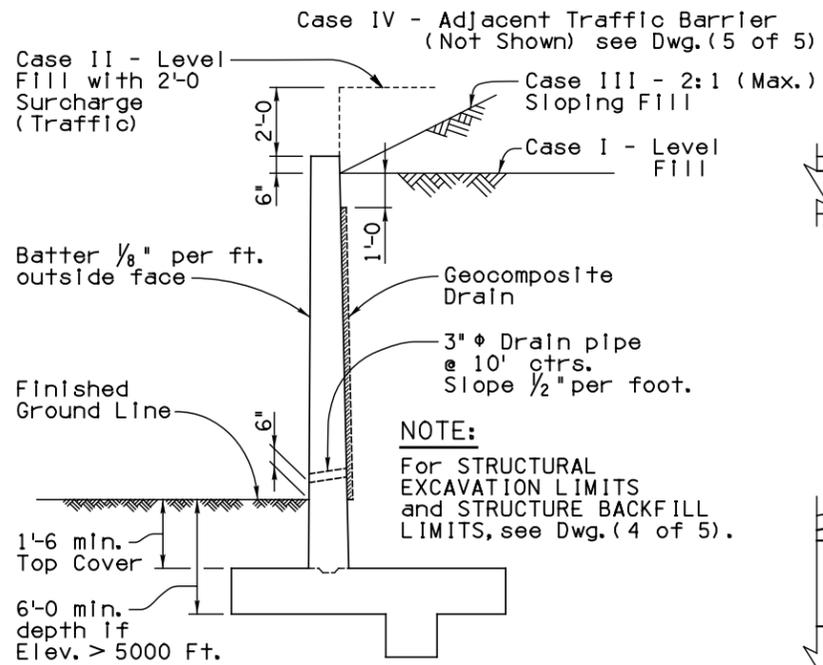
Height H	'a' bars	
	Short Wing	Long Wing
3'	*4	*4
4'	*4	*4
5'	*4	*4
6'	*5	*4
7'	*6	*4



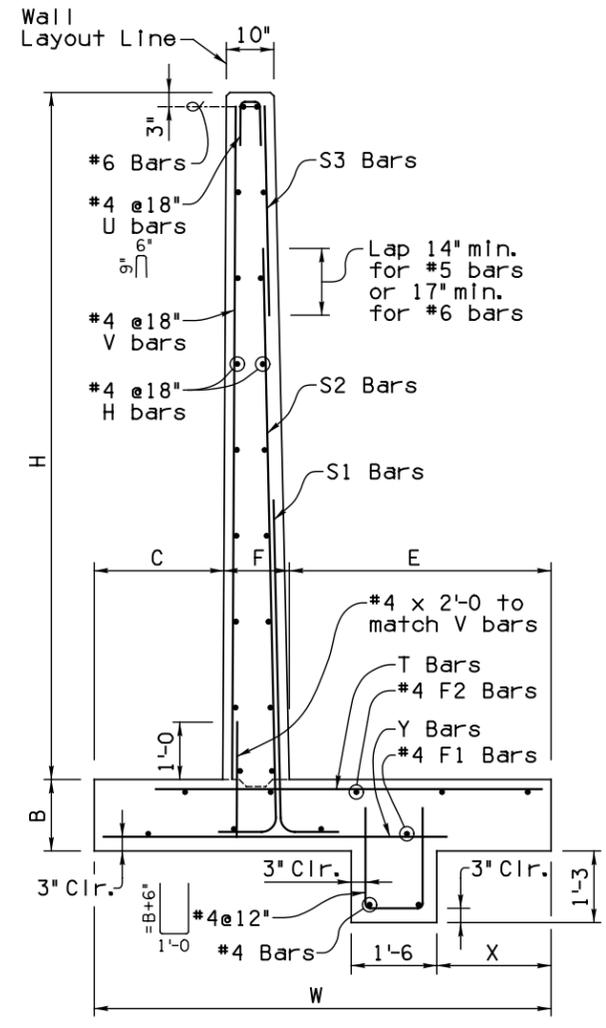
NOTE:  
For General Notes, Dimensions, and additional  
Details, see SD 6.01 (2 of 5). For Headwall  
Quantities see SD 6.09 (1 to 3).

		ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION <b>BRIDGE GROUP STRUCTURE DETAIL</b>	
		<b>REINFORCED CONCRETE BOX CULVERTS          INLET WINGS - SKEW 0° to 20°          CULVERT HEIGHT 3' to 7'</b>	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
			SD 6.08 (3 of 8)
LOCATION			SHEET NO.
			33 OF 105

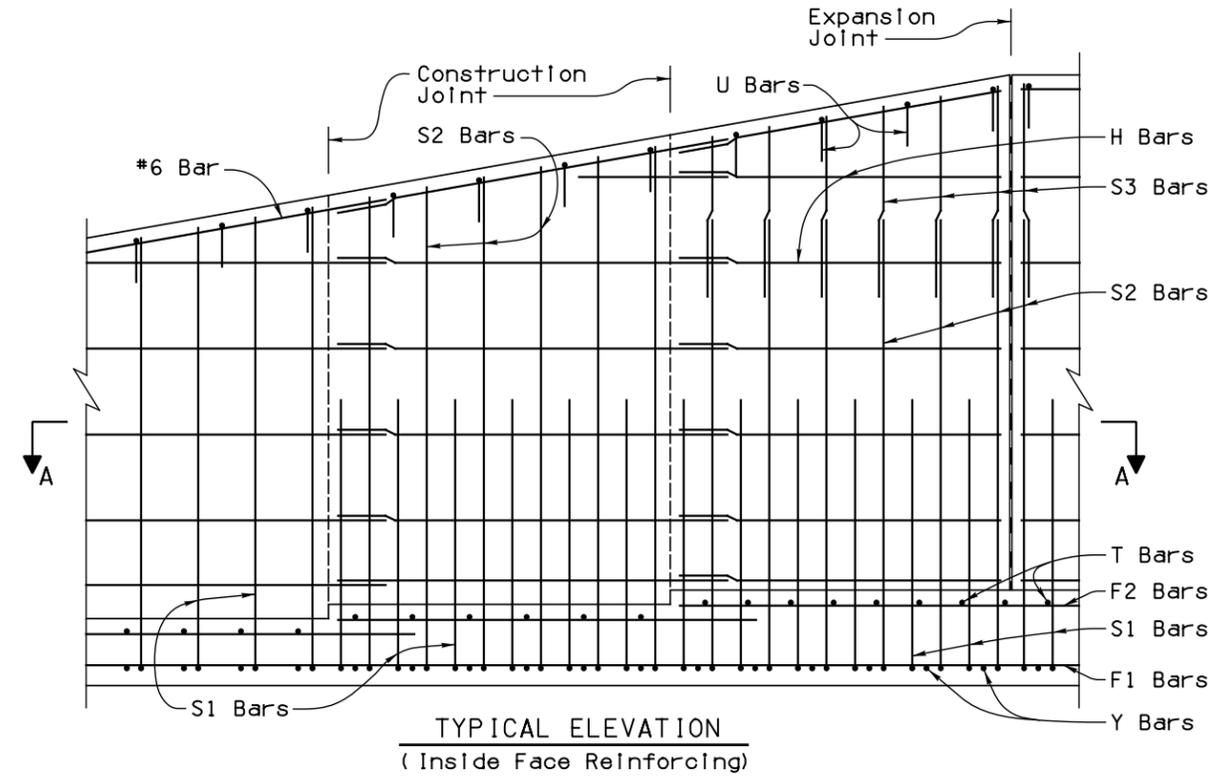
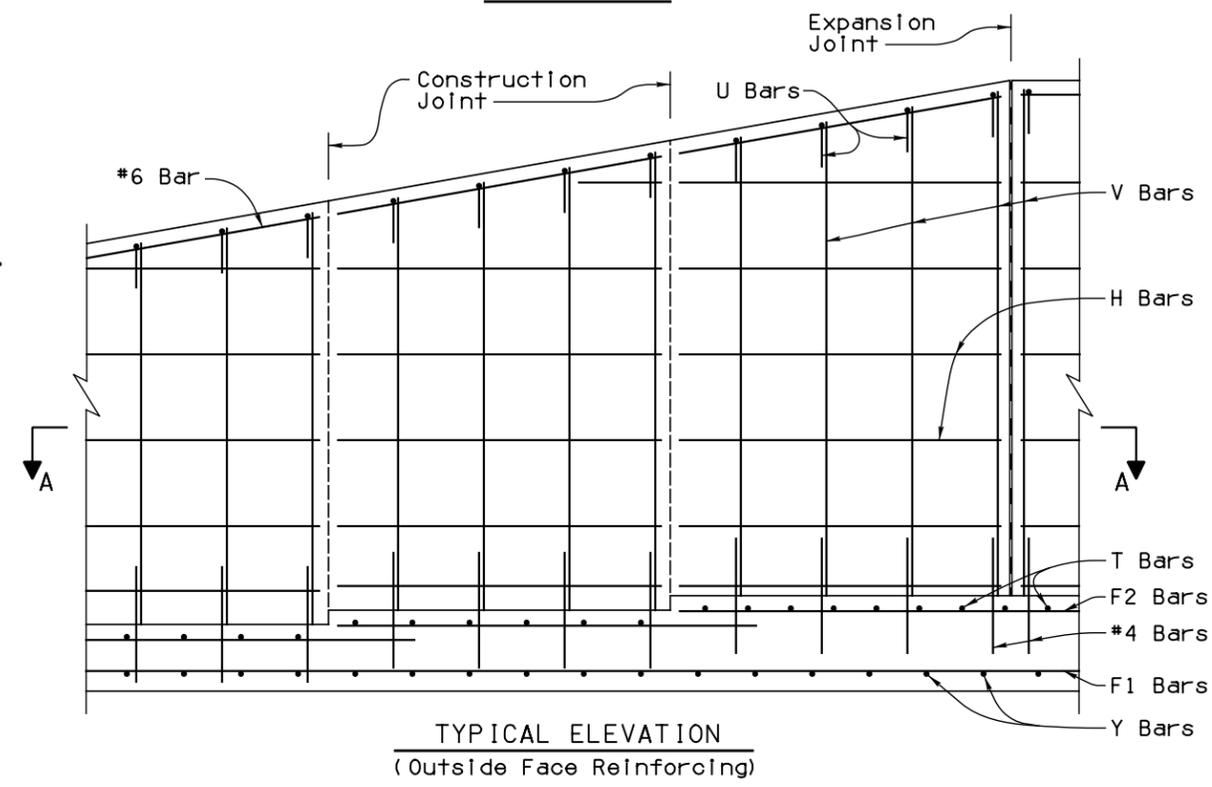
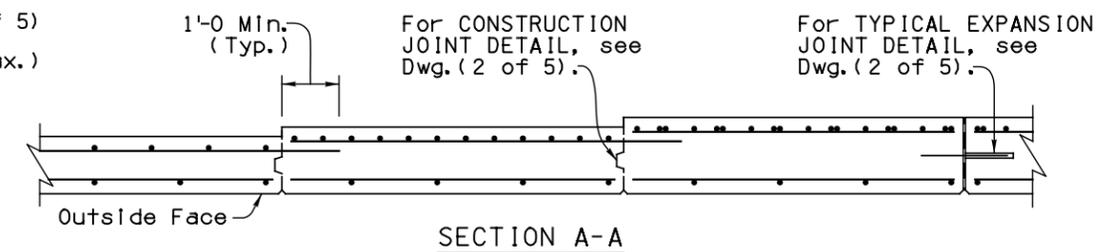
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.U.H.	2-12
2	Added 3' height for existing box extensions only	D.A.B.	5-15
3			
4			



TYPICAL SECTION (Case I, II, III)



TYPICAL WALL DETAILS



**GENERAL NOTES:**  
Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 7th Edition 2014.

Design:  
Soil weight = 120 p.c.f.  
Backfill angle of internal friction = 33°  
Existing ground angle of internal friction = 31°

All Concrete shall be Class "S" (f'c = 3000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60.

All bends and hooks shall meet the requirements of AASHTO LRFD Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

Chamfer all exposed corners 3/4" unless noted otherwise.

Compact structure backfill for footing and wall base minimum 100 percent of ASTM D698 max. dry density.

See Project Plans for wall layout, top of footing and finished grade elevations, footing step and wall joint locations. Construction Joints shall match the locations of construction joints. See Project Plans for wall surface treatment. Increase the wall thickness at the face for the depth of surface treatment.

Dimensions shall not be scaled from drawings.

Pay Item measure of square foot of wall constructed is measured along front face of wall from top of footing to top of wall cap. Pay Item includes all labor and materials for excavation, backfill, drainage and reinforced concrete wall with footing.

Item No. 9140178 RETAINING WALL (REINFORCED CONCRETE CANTILEVER)  
Measure: Square Foot

NOTE:  
For Retaining Wall Dimensions, Quantities and additional Details, see SD 7.01 (2 to 5).

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.U.H.	9-10
2	General updates, added limit state values and notes.	D.B.B.	1-15
3			
4			

<i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL	
<i>Paul J. ...</i>		RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO. SD 7.01 (1 of 5)
LOCATION			SHEET NO. 34 OF 105



CASE II-LEVEL FILL WITH 2' SURCHARGE (TRAFFIC)

Dimensions							Steel List											Service Limit State			Strength Limit State										
H	W	B	C	F	E	X	S1			S2			S3			H	V	Y			F1			T	F2	Qtveu-SERV Lbs./Sq. Ft.	Qnveu-SERV Lbs./Sq. Ft.	B'SERV Ft.	Qtveu-STR Lbs./Sq. Ft.	Qnveu-STR Lbs./Sq. Ft.	B'STR Ft.
							Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length			Number	Length	Bar Size	Spacing	Length	Number								
4'	3'-6"	1'-0"	1'-0"	10"	1'-8"	1'-0"	5	12"	5'-6"						4	3'-9"	5	12"	2'-6"	2	5	12"	3'-0"	3	980	620	2.79	1420	930	2.64	
5'	4'-0"	1'-0"	1'-2"	10"	2'-0"	1'-0"	5	12"	6'-6"						6	4'-9"	5	12"	3'-0"	2	5	12"	3'-3"	3	1090	730	3.18	1580	1100	2.98	
6'	4'-6"	1'-0"	1'-4"	10"	2'-4"	1'-2"	5	12"	7'-6"						6	5'-9"	5	12"	3'-6"	3	5	12"	3'-9"	3	1210	850	3.53	1770	1280	3.29	
7'	5'-1"	1'-2"	1'-6"	10"	2'-9"	1'-4"	6	12"	8'-9"						8	6'-9"	5	12"	3'-9"	3	5	12"	4'-0"	3	1370	990	3.93	2010	1490	3.65	
8'	5'-8"	1'-2"	1'-8"	10"	3'-2"	1'-6"	6	9"	9'-9"						10	7'-9"	5	12"	4'-3"	3	5	12"	4'-6"	3	1470	1090	4.41	2150	1640	4.10	
9'	6'-3"	1'-2"	1'-10"	1'-0"	3'-5"	1'-8"	6	9"	10'-9"						10	8'-9"	5	12"	4'-9"	3	5	12"	4'-9"	4	1560	1180	4.89	2280	1770	4.55	
10'	6'-10"	1'-3"	2'-0"	1'-0"	3'-10"	1'-9"	7	12"	12'-0"						12	9'-9"	5	12"	5'-3"	4	6	12"	5'-3"	4	1690	1300	5.35	2470	1940	4.97	
11'	7'-6"	1'-3"	2'-3"	1'-0"	4'-3"	1'-10"	6	12"	4'-9"	6	12"	12'-9"			14	10'-9"	5	12"	5'-9"	4	7	12"	6'-3"	5	1750	1360	5.99	2550	2020	5.59	
12'	8'-0"	1'-3"	2'-3"	1'-2"	4'-7"	2'-0"	6	12"	5'-0"	6	12"	13'-9"			14	11'-9"	5	12"	6'-0"	4	7	12"	6'-9"	5	1840	1450	6.36	2680	2150	5.92	
13'	8'-6"	1'-3"	2'-6"	1'-3"	4'-9"	2'-2"	7	12"	7'-6"	5	12"	14'-9"			16	12'-9"	6	12"	6'-6"	4	8	12"	7'-9"	5	2000	1610	6.70	2910	2390	6.23	
14'	9'-0"	1'-3"	2'-6"	1'-4"	5'-2"	2'-4"	7	12"	7'-3"	6	12"	15'-9"			18	13'-9"	6	12"	6'-9"	5	8	12"	8'-3"	6	2160	1770	7.02	3150	2620	6.53	
15'	9'-6"	1'-4"	2'-9"	1'-5"	5'-4"	2'-6"	8	12"	8'-9"	6	12"	17'-0"			18	14'-9"	6	9"	7'-0"	5	8	12"	8'-6"	6	2280	1880	7.36	3320	2780	6.83	
16'	10'-0"	1'-5"	2'-9"	1'-6"	5'-9"	2'-8"	7	12"	7'-0"	7	12"	9'-0"	6	12"	10'-9"	20	15'-9"	6	8"	7'-3"	5	7	8"	8'-0"	6	2470	2060	7.65	3610	3060	7.08
17'	10'-6"	1'-6"	3'-0"	1'-7"	5'-11"	2'-10"	8	12"	8'-0"	7	12"	9'-0"	6	12"	10'-9"	22	16'-9"	6	8"	7'-9"	5	7	8"	8'-3"	6	2590	2170	7.99	3790	3220	7.38
18'	11'-0"	1'-7"	3'-0"	1'-8"	6'-4"	3'-0"	7	10"	7'-6"	7	10"	10'-0"	6	10"	11'-9"	22	17'-9"	7	12"	8'-0"	6	9	10"	10'-0"	7	2790	2360	8.28	4080	3500	7.64
19'	11'-6"	1'-8"	3'-3"	1'-9"	6'-6"	3'-2"	8	12"	8'-0"	8	12"	12'-6"	6	12"	10'-9"	24	18'-9"	7	12"	8'-6"	6	8	8"	9'-6"	7	2900	2460	8.62	4250	3660	7.93
20'	12'-0"	1'-9"	3'-3"	1'-10"	6'-11"	3'-4"	9	12"	9'-6"	8	12"	13'-3"	6	12"	11'-0"	26	19'-9"	7	12"	8'-9"	6	9	9"	10'-9"	7	3110	2660	8.91	4550	3940	8.20
21'	12'-6"	1'-10"	3'-6"	1'-11"	7'-1"	3'-6"	8	10"	9'-0"	8	10"	14'-3"	6	10"	11'-3"	26	20'-9"	7	10"	9'-0"	6	10	10"	11'-9"	7	3220	2760	9.25	4720	4100	8.49
22'	13'-0"	1'-11"	3'-6"	2'-0"	7'-6"	3'-8"	9	12"	10'-0"	9	12"	15'-9"	6	12"	11'-0"	28	21'-9"	8	12"	9'-6"	6	8	6"	10'-6"	7	3420	2950	9.54	5020	4390	8.76
23'	13'-6"	2'-0"	3'-9"	2'-2"	7'-7"	3'-10"	10	12"	12'-9"	8	12"	16'-3"	6	12"	11'-3"	30	22'-9"	8	12"	9'-9"	7	8	6"	10'-9"	7	3540	3060	9.89	5190	4550	9.05
24'	14'-0"	2'-2"	3'-9"	2'-4"	7'-11"	4'-0"	10	12"	11'-6"	9	12"	17'-9"	6	12"	11'-3"	30	23'-9"	8	12"	10'-3"	7	8	6"	11'-0"	8	3780	3280	10.13	5550	4870	9.27
25'	14'-6"	2'-4"	4'-0"	2'-6"	8'-0"	4'-2"	10	12"	12'-6"	9	12"	19'-0"	6	12"	11'-3"	32	24'-9"	8	12"	10'-6"	7	8	6"	11'-3"	8	3930	3410	10.43	5770	5070	9.51
26'	15'-0"	2'-6"	4'-0"	2'-8"	8'-4"	4'-4"	9	10"	11'-6"	9	10"	18'-6"	6	10"	13'-0"	34	25'-9"	8	12"	11'-0"	7	10	9"	13'-0"	9	4170	3630	10.68	6130	5400	9.73
27'	15'-6"	2'-9"	4'-3"	2'-10"	8'-5"	4'-6"	10	12"	12'-3"	10	12"	21'-3"	6	12"	11'-9"	34	26'-9"	8	12"	11'-6"	8	10	9"	13'-3"	9	4360	3790	10.94	6420	5650	9.93
28'	16'-0"	3'-0"	4'-3"	3'-0"	8'-9"	4'-8"	10	12"	13'-3"	10	12"	22'-0"	6	12"	12'-3"	36	27'-9"	8	12"	11'-6"	8	10	9"	13'-6"	9	4640	4040	11.14	6840	6030	10.10
29'	16'-6"	3'-3"	4'-6"	3'-3"	8'-9"	4'-10"	11	12"	16'-3"	9	12"	23'-0"	6	12"	12'-3"	38	28'-9"	8	12"	12'-0"	8	10	9"	13'-9"	9	4830	4200	11.40	7130	6280	10.29
30'	17'-0"	3'-6"	4'-6"	3'-6"	9'-0"	5'-0"	11	12"	15'-9"	10	12"	24'-0"	6	12"	12'-9"	38	29'-9"	8	12"	12'-6"	8	10	9"	14'-0"	10	5120	4460	11.61	7560	6670	10.46

⊕ Total number of bars in cross section.

QUANTITIES

CASE II				
H	Concrete C.Y./Ln.Ft.	Steel Lbs./Ln.Ft.	Steel (Horiz. Lap) Lbs./Splice	
4'	.32	28	10	
5'	.37	32	12	
6'	.42	35	12	
7'	.51	43	14	
8'	.56	52	15	
9'	.65	56	16	
10'	.73	65	18	
11'	.79	74	20	
12'	.88	78	20	
13'	.96	93	21	
14'	1.05	105	24	
15'	1.16	121	24	
16'	1.29	127	25	
17'	1.41	138	26	
18'	1.55	162	28	
19'	1.69	169	29	
20'	1.83	195	30	
21'	1.99	223	30	
22'	2.15	233	32	
23'	2.35	248	34	
24'	2.60	264	34	
25'	2.87	276	36	
26'	3.14	305	38	
27'	3.48	326	38	
28'	3.83	337	40	
29'	4.25	355	41	
30'	4.68	383	42	

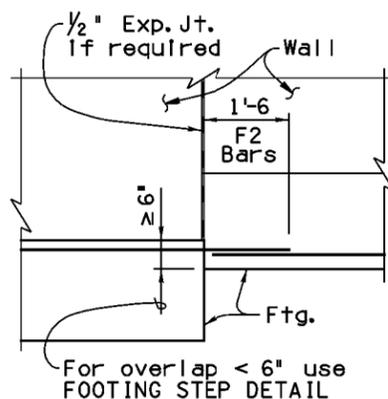
LIMIT STATE NOTES:

- Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- Qnveu-SERV = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- B'SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- Qtveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
- Qnveu-STR = Net equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
- B'STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

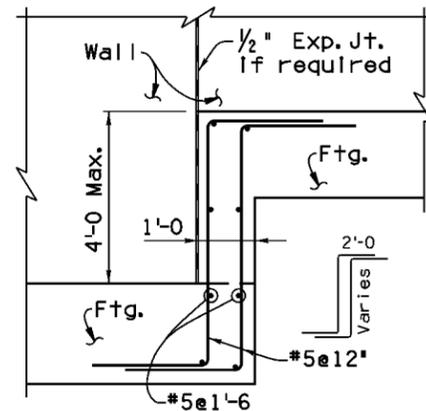
For other applicable limit states, perform project specific analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

QUANTITIES NOTE:

- Quantities are shown for information purposes only. The pay item is measured per square foot of wall.
- Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.
- Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0" lap splices occur at construction or contraction joints.
- Steel and concrete quantities for footing steps shall be added to those shown in the table.



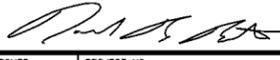
FOOTING DETAIL



FOOTING STEP DETAIL

NOTE:

For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1, 2, and 4).

 ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL			
 RETAINING WALL (REINFORCED CONCRETE CANTILEVER)			
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
LOCATION			SD 7.01 (3 of 5)
			SHEET NO.
			36 OF 105

CASE III - 2:1 (MAX.) SLOPING FILL

QUANTITIES

LIMIT STATE NOTES:

Dimensions							Steel List											Service Limit State			Strength Limit State										
H	W	B	C	F	E	X	S1			S2			S3			H	V	Y			F1			T	F2	Qtveu-SERV Lbs./Sq.Ft.	Qnveu-SERV Lbs./Sq.Ft.	B'SERV Ft.	Qtveu-STR Lbs./Sq.Ft.	Qnveu-STR Lbs./Sq.Ft.	B'STR Ft.
							Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length			Number	Length	Bar Size	Spacing	Length	Number								
4'	3'-0	1'-0	1'-0	10"	1'-2	1'-0	5	12"	5'-6						4	3'-9	5	12"	2'-0	2	5	12"	2'-6	3	960	600	2.52	1320	830	2.44	
5'	3'-6	1'-0	1'-0	10"	1'-8	1'-0	5	12"	6'-6						6	4'-9	5	12"	2'-6	2	5	12"	3'-0	3	1140	780	2.90	1570	1080	2.80	
6'	4'-2	1'-0	1'-0	10"	2'-4	1'-0	5	12"	7'-6						6	5'-9	5	12"	3'-3	2	5	12"	3'-9	3	1300	940	3.46	1810	1320	3.34	
7'	5'-0	1'-2	1'-2	10"	3'-0	1'-3	5	12"	8'-9						8	6'-9	5	12"	3'-9	3	5	12"	4'-3	4	1470	1090	4.19	2040	1530	4.05	
8'	5'-9	1'-2	1'-4	10"	3'-7	1'-6	6	12"	9'-9						10	7'-9	5	12"	4'-3	3	6	12"	5'-0	4	1600	1220	4.89	2220	1710	4.73	
9'	6'-6	1'-3	1'-6	1'-0	4'-0	1'-9	6	12"	10'-9						10	8'-9	5	12"	4'-9	3	6	9"	5'-6	5	1760	1370	5.55	2450	1930	5.37	
10'	7'-3	1'-3	1'-8	1'-0	4'-7	2'-0	7	12"	12'-0						12	9'-9	5	12"	5'-3	4	7	12"	6'-9	5	1890	1500	6.25	2640	2110	6.06	
11'	8'-3	1'-4	1'-10	1'-2	5'-3	2'-3	7	12"	13'-0						14	10'-9	5	12"	6'-0	4	8	12"	7'-9	6	2030	1630	7.25	2830	2290	7.04	
12'	9'-0	1'-4	2'-0	1'-2	5'-10	2'-6	7	12"	14'-0						14	11'-9	5	12"	6'-6	4	8	12"	8'-6	7	2170	1770	7.95	3020	2480	7.73	
13'	9'-9	1'-6	2'-2	1'-4	6'-3	2'-9	6	12"	6'-3	6	12"	15'-0			16	12'-9	5	12"	7'-0	5	8	9"	9'-3	8	2360	1940	8.58	3290	2730	8.34	
14'	10'-6	1'-8	2'-4	1'-4	6'-10	3'-0	7	12"	8'-6	6	12"	16'-3			18	13'-9	5	12"	7'-6	5	7	6"	9'-0	8	2550	2110	9.22	3560	2970	8.95	
15'	11'-3	1'-10	2'-6	1'-4	7'-5	3'-2	7	14"	6'-6	7	14"	17'-6			18	14'-9	6	14"	8'-3	5	8	7"	10'-9	9	2740	2280	9.86	3830	3210	9.56	
16'	12'-0	2'-0	2'-8	1'-6	7'-10	3'-4	7	12"	6'-9	7	12"	10'-3	5	12"	20	15'-9	5	12"	8'-9	6	8	6"	11'-0	9	2940	2460	10.49	4110	3460	10.18	
17'	12'-6	2'-2	2'-8	1'-6	8'-4	3'-6	8	14"	7'-9	8	14"	11'-0	6	14"	22	16'-9	6	14"	9'-3	6	9	7"	12'-0	9	3220	2720	10.72	4510	3840	10.37	
18'	13'-0	2'-4	2'-10	1'-6	8'-8	3'-8	8	12"	8'-3	8	12"	11'-6	6	12"	22	17'-9	6	12"	9'-6	6	9	6"	12'-6	10	3440	2920	11.02	4830	4130	10.64	
19'	13'-6	2'-6	2'-10	1'-8	9'-0	3'-10	9	14"	8'-9	9	14"	13'-6	6	14"	24	18'-9	6	12"	9'-9	7	9	6"	13'-0	10	3730	3190	11.24	5260	4530	10.83	
20'	14'-0	2'-8	3'-0	1'-10	9'-2	4'-0	9	14"	9'-6	9	14"	14'-3	6	14"	26	19'-9	6	12"	10'-3	7	10	7"	13'-6	11	3960	3400	11.53	5590	4840	11.10	
21'	14'-6	2'-10	3'-2	2'-0	9'-4	4'-2	9	12"	9'-6	9	12"	14'-9	6	12"	26	20'-9	6	12"	10'-6	7	10	6"	14'-0	11	4200	3620	11.82	5930	5150	11.36	
22'	15'-0	3'-0	3'-2	2'-2	9'-8	4'-4	9	12"	10'-3	9	12"	15'-9	6	12"	28	21'-9	7	12"	11'-0	8	10	6"	14'-6	11	4510	3910	12.04	6380	5570	11.54	
23'	15'-8	3'-4	3'-4	2'-4	10'-0	4'-6	9	12"	11'-3	9	12"	16'-9	6	12"	30	22'-9	7	12"	11'-6	8	10	6"	14'-9	12	4790	4150	12.48	6780	5920	11.96	
24'	16'-4	3'-8	3'-6	2'-6	10'-4	4'-8	10	14"	11'-9	10	14"	19'-0	6	14"	30	23'-9	7	12"	12'-0	8	11	7"	15'-9	12	5070	4390	12.93	7190	6270	12.37	
25'	17'-0	4'-0	3'-8	2'-9	10'-7	4'-10	10	12"	13'-0	9	12"	19'-3	6	12"	32	24'-9	7	12"	12'-6	8	11	6"	16'-6	12	5350	4630	13.38	7590	6620	12.79	
26'	17'-6	4'-4	3'-10	3'-0	10'-8	5'-0	10	12"	13'-9	9	12"	20'-3	6	12"	34	25'-9	7	12"	13'-0	9	11	6"	17'-0	13	5670	4910	13.59	8060	7030	12.96	
27'	18'-0	4'-8	4'-0	3'-3	10'-9	5'-2	10	12"	15'-0	9	12"	21'-3	6	12"	34	26'-9	7	12"	13'-0	9	11	6"	17'-6	13	6000	5200	13.81	8540	7460	13.14	
28'	18'-8	5'-0	4'-3	3'-6	10'-11	5'-4	10	12"	13'-9	10	12"	22'-9	6	12"	36	27'-9	7	12"	13'-6	9	11	6"	17'-9	13	6240	5400	14.29	8890	7760	13.59	
29'	19'-4	5'-4	4'-6	3'-9	11'-1	5'-6	10	12"	14'-9	10	12"	24'-0	6	12"	38	28'-9	7	12"	14'-0	10	11	6"	17'-9	13	6490	5610	14.77	9250	8060	14.03	
30'	20'-0	5'-8	4'-9	4'-0	11'-3	5'-8	10	12"	15'-9	10	12"	25'-3	6	12"	38	29'-9	7	12"	14'-6	10	11	6"	18'-0	13	6740	5820	15.25	9600	8360	14.48	

H	Concrete C.Y./Ln.Ft.		Steel Lbs./Ln.Ft.		Steel (Horiz. Lap) Lbs./Splice
	Concrete	Steel	Steel	Steel	
4'	.30	27	10	10	
5'	.35	31	12	12	
6'	.41	34	12	12	
7'	.50	40	14	14	
8'	.56	50	16	16	
9'	.68	57	16	16	
10'	.74	71	18	18	
11'	.88	84	20	20	
12'	.96	89	21	21	
13'	1.13	107	24	24	
14'	1.28	123	25	25	
15'	1.44	140	26	26	
16'	1.65	154	28	28	
17'	1.81	181	29	29	
18'	1.97	213	30	30	
19'	2.20	229	32	32	
20'	2.44	248	34	34	
21'	2.69	292	34	34	
22'	2.96	314	36	36	
23'	3.35	320	38	38	
24'	3.77	353	38	38	
25'	4.25	400	39	39	
26'	4.72	417	42	42	
27'	5.22	432	42	42	
28'	5.77	459	43	43	
29'	6.35	473	45	45	
30'	6.95	487	45	45	

Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qnveu-SERV = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

B' SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

Qtveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

Qnveu-STR = Net equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

B' STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

For other applicable limit states, perform project specific analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

QUANTITIES NOTE:

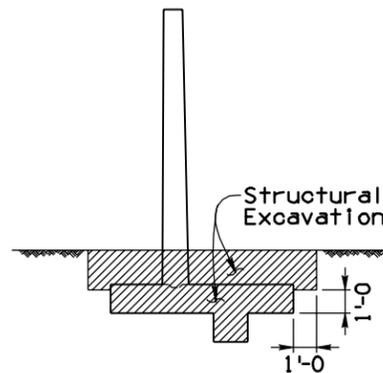
Quantities are shown for information purposes only. The pay item is measured per square foot of wall.

Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.

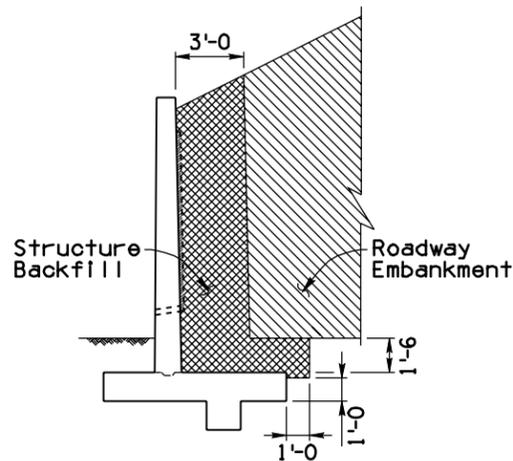
Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0 lap splices occur at construction or contraction joints.

Steel and concrete quantities for footing steps shall be added to those shown in the table.

⊕ Total number of bars in cross section.



STRUCTURAL EXCAVATION LIMITS



STRUCTURE BACKFILL LIMITS

NOTE:

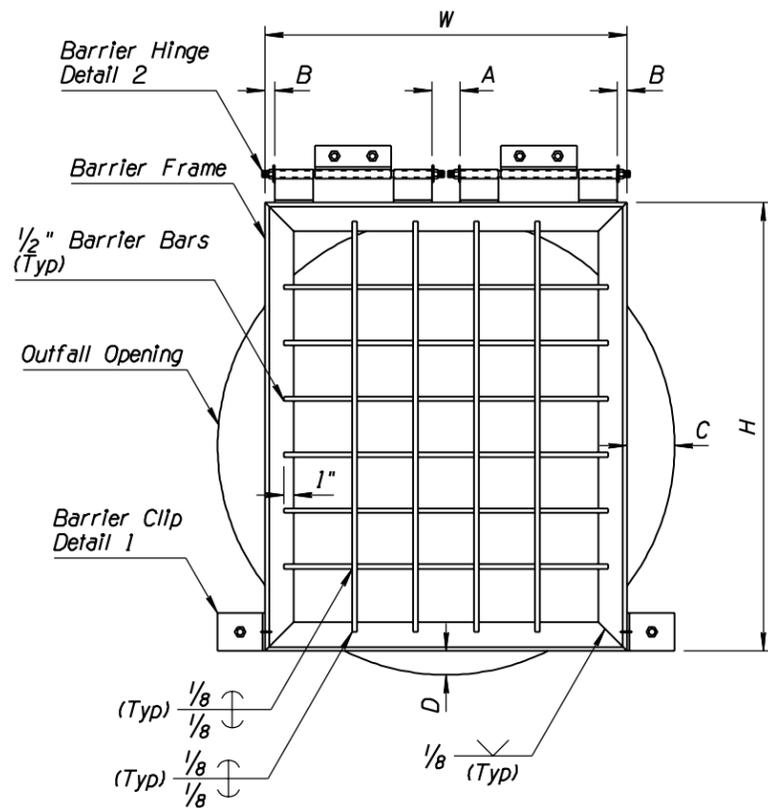
For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1 to 3).

DESIGN APPROVED <i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INTERMODAL TRANSPORTATION DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>		RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO. SD 7.01 (4 of 5)
LOCATION	SHEET NO.		OF

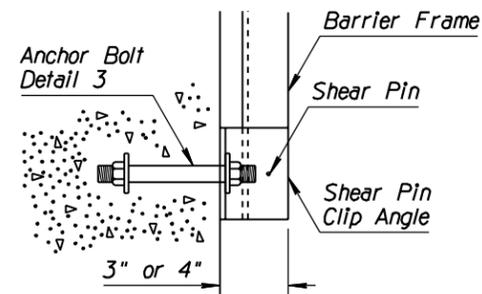
Note to Designer: This Standard Detail has been prepared in accordance with recognized engineering principles and is for general use, it should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO.	DESCRIPTION OF REVISIONS	DATE	MADE BY	DATE
1	Original Issue	9-10	SJH	9-10
2	General updates, added limit state values and notes.	1-15	D.B.B.	1-15
3				
4				

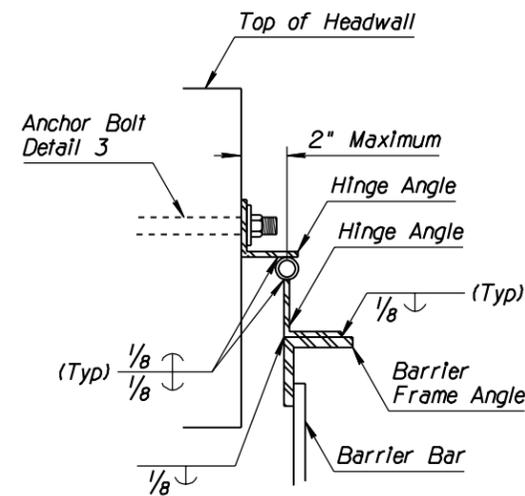
NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	RENAMED STANDARD	RLF	9/04
2	MODIFIED TABLE MEASUREMENT FORMAT	RLF	9/04
3	MODIFIED STEEL QUANTITIES	RLF	9/04
4			



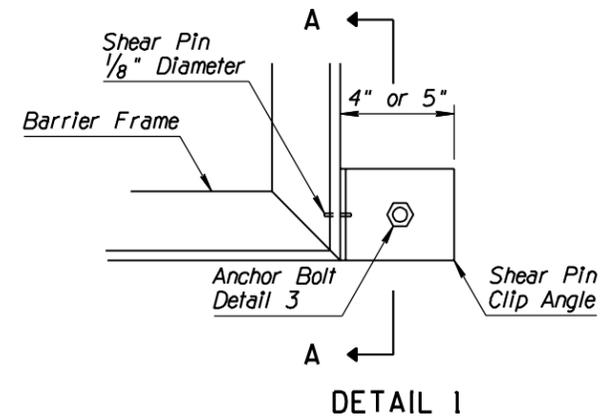
PIPE ACCESS BARRIER FRONT ELEVATION



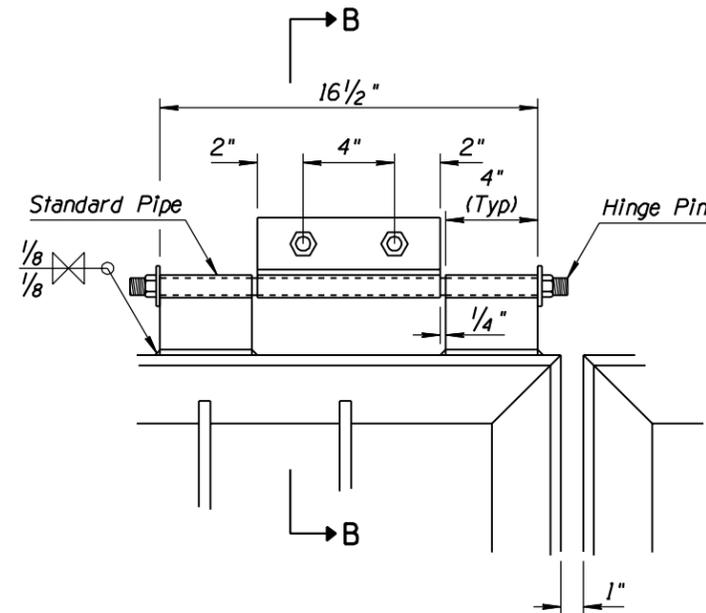
SECTION A-A



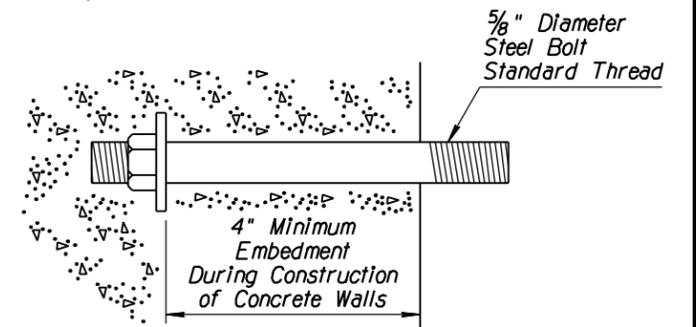
SECTION B-B



DETAIL 1



DETAIL 2



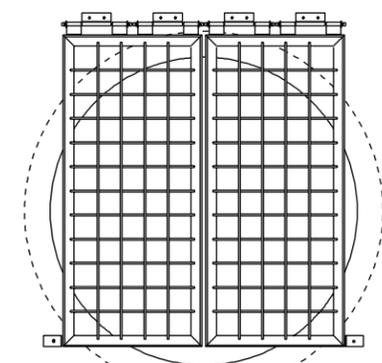
DETAIL 3

- ### GENERAL NOTES
- All shear pin angles shall fit snug and true to face. Cover with waterproof grease prior to installation of pin.
  - Shear pin holes in the angle shall be drilled for a tight fit of the pins.
  - Both ends of the shear pins shall be peened after installation.
  - Shear pin material shall be commercially pure aluminum wire alloy 1100, Temper O, Federal Spec QQ-A411.
  - Galvanize all ferrous parts after fabrication.
  - Frame and hinge angles shall have the outstanding legs out.
  - All steel shall be in accordance with ASTM A36.
  - Barrier bars shall be equally spaced.
  - Hinge pin material shall be bolt stock and threaded on both ends so nut and lock washer are flush with the lower angle. Cover pin with waterproof grease prior to installation. Upset or damage exposed threads after installation.
  - All welding shall be in accordance with Std Spec 604-3.06.

ACCESS BARRIER GATE DIMENSION SCHEDULE

Outfall Pipe ID (In)	Number of Barrier Gates	Frame Angles	Shear Pin Clip Angles	Hinge Pin Diameter (In)	Hinge Angles	Hinge Std Pipe Diameter (In)	Number & Length of Vertical Bars	Number & Length of Horizontal Bars	H (In)	W (In)	A (In)	B (In)	C (In)	D (In)	③ Structural Steel (Lbs)
30	1	2 x2 x 1/4	4 x4 x 1/4	1/2	2 x2 x 1/4	3/4	4-31	4-34	33	36	3	0	-3	2	80
36	1	2 x2 x 1/4	4 x4 x 1/4	1/2	2 x2 x 1/4	3/4	4-31	4-34	33	36	3	0	0	3.5	80
42	1	2 x2 x 1/4	4 x4 x 1/4	1/2	2 x2 x 1/4	3/4	4-41	5-34	43	36	3	0	3	0.5	90
48	1	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	4-46	6-34	50	38	3	1	5	1	180
54	1	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	5-52	7-40	56	44	5	3	5	2	205
60	1	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	6-58	8-46	62	50	9	4	5	3	235
66	1	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	7-64	9-52	68	56	11	6	5	4	265
72	2	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	4-69 *	9-34 *	73	38	3	1	-2.5	5	445
78	2	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	4-75 *	10-34 *	79	38	3	1	0.5	5	470
84	2	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	4-81 *	11-34 *	85	38	3	1	3.5	5	495
90	2	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	4-87 *	12-36 *	91	40	3	2	4.5	5	525
96	2	3 x3 x 7/16	5 x3 x 1/4	3/4	2 1/2 x2 1/2 x 1/4	1	5-93 *	13-39 *	97	43	4	3	4.5	5	580

\* Per Gate



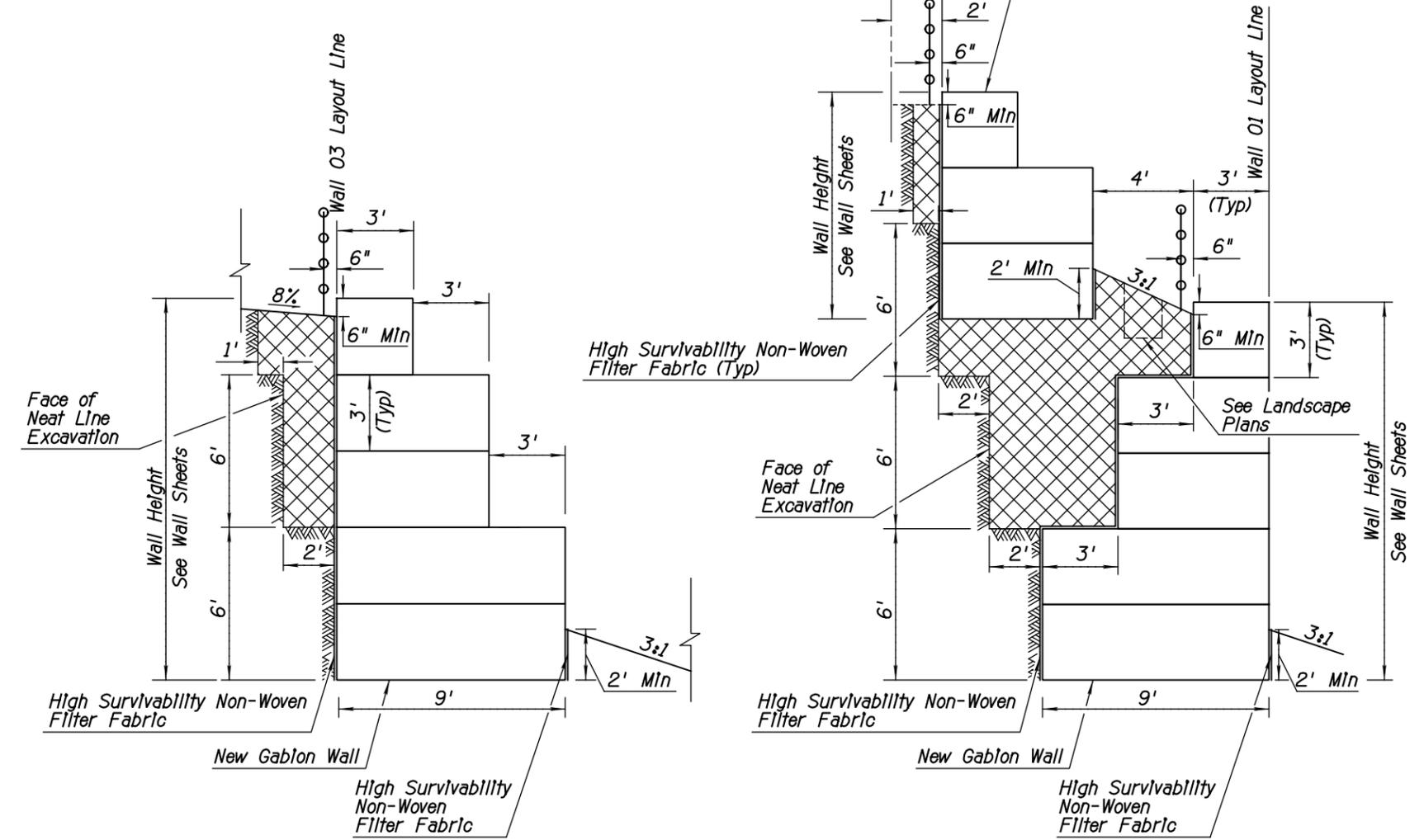
INSTALLATION DETAIL FOR DOUBLE GATES

APPROVED FOR DESIGN <i>[Signature]</i>	STATE OF ARIZONA DEPARTMENT OF TRANSPORTATION ROADWAY STANDARD DRAWINGS	REV. 5/12
APPROVED FOR DISTRIBUTION <i>[Signature]</i>	STORM DRAIN OUTLET BARRIER GATE	DRAWING NO. C-13.75

*Tiered Gablon Wall When Necessary,  
See Wall Plans for Required Locations*

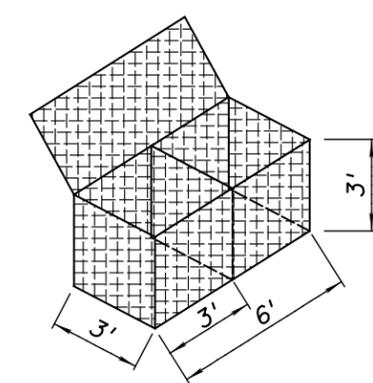
**GENERAL CONSTRUCTION NOTES FOR RETAINING WALLS**

1. Contractor shall exercise caution with wall stationing in relation with Path/Trail Cst & stationing. The wall stationing increases from left to right while looking at the exposed face of wall. Offsets are to the wall layout line.
2. Right of Way is limited to 2' behind Wall 02. Temporary shoring may be required for excavation and construction of some walls. The Contractor shall determine the exact limits and type of necessary shoring systems required. The shoring system shall be approved by the Engineer prior to installation.
3. For Gablon Walls the metallic-coated mesh and wire characteristics shall be in accordance with ASTM A975-11 Table 1, Mesh type 8x10.
4. High survivability non-woven filter fabric shall be installed at the face of each gablon wall as shown. The cost for the filter fabric is considered incidental to the cost of the gablon wall. No additional payment will be made for the filter fabric.
5. Lengths of wall segments are measured along the Wall Layout Line.
6. Contractor is responsible for maintaining temporary slopes in a safe manner.
7. Moisture may impact the cementitious nature of the existing soil. It is recommended that construction be performed during extended periods of dry weather.
8. Contractor to submit gablon wall product data to the Engineer for review and approval.



**Gablon Detail**

 Structural Backfill



**Gablon Basket**

ARIZONA BLUE STAKE  
CALL 100 WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
5/15/18	1	BP

 ENGINEER ELLA ELY REINERT 50247 ARIZONA, U.S.A.	 PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
---	---

Expires 12/31/2018

**RETAINING WALL GENERAL NOTES**

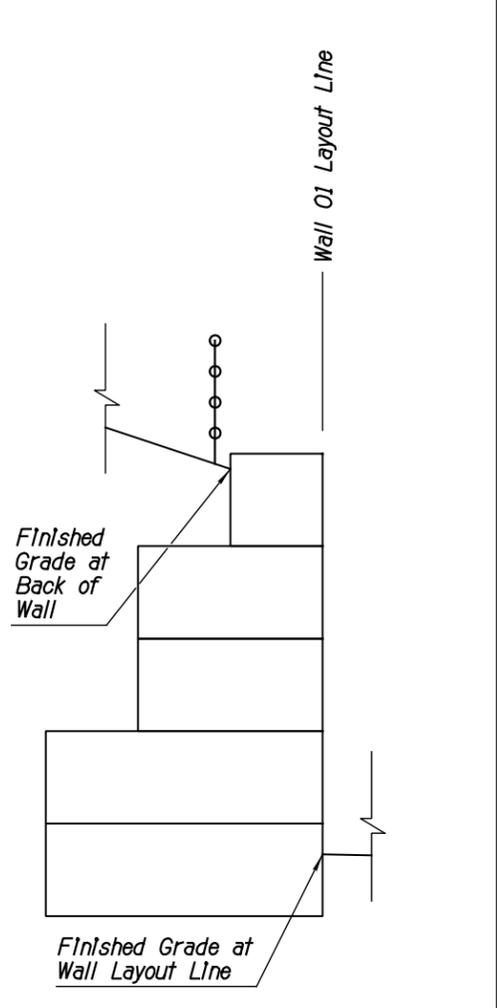
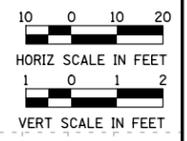
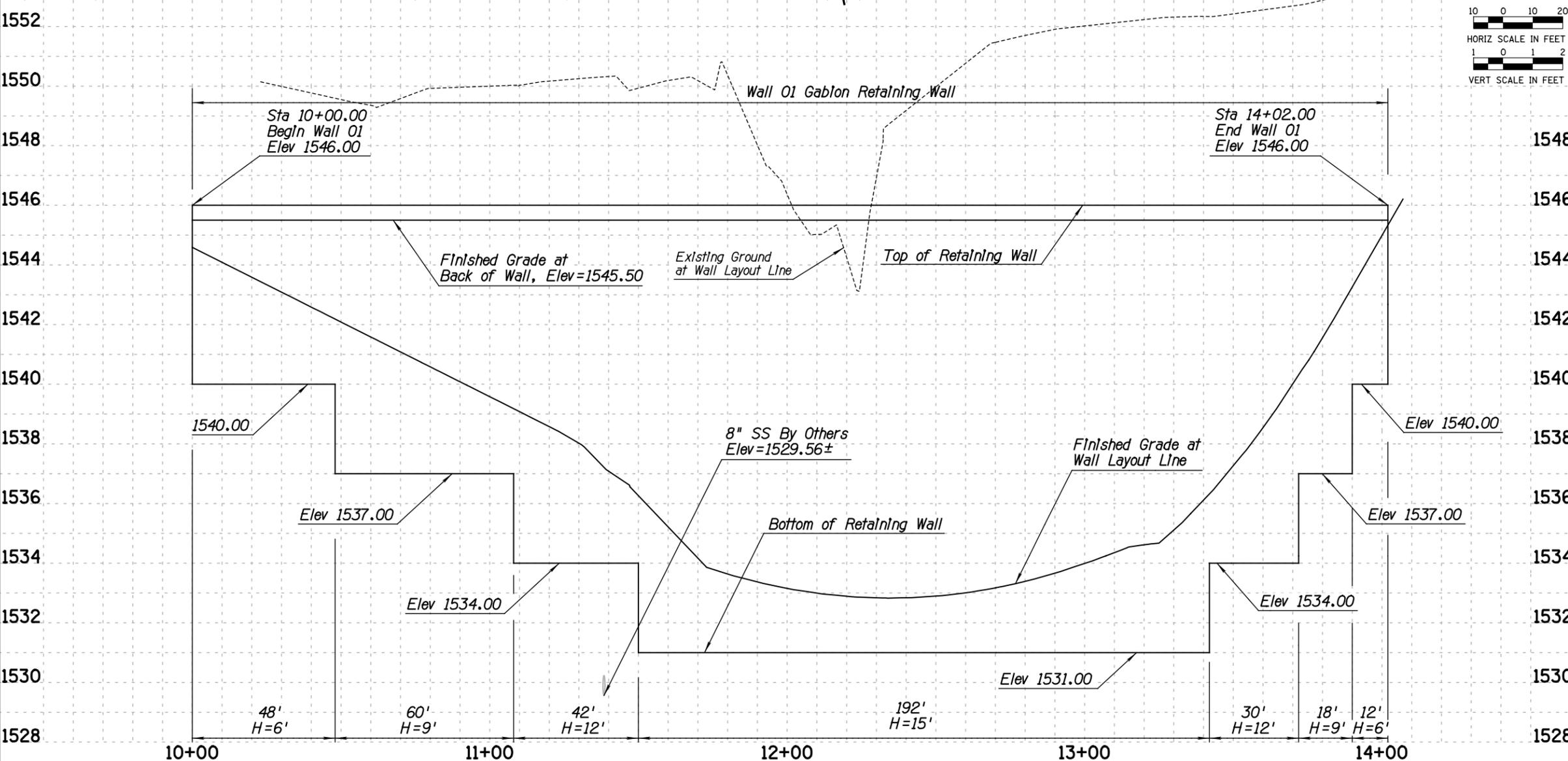
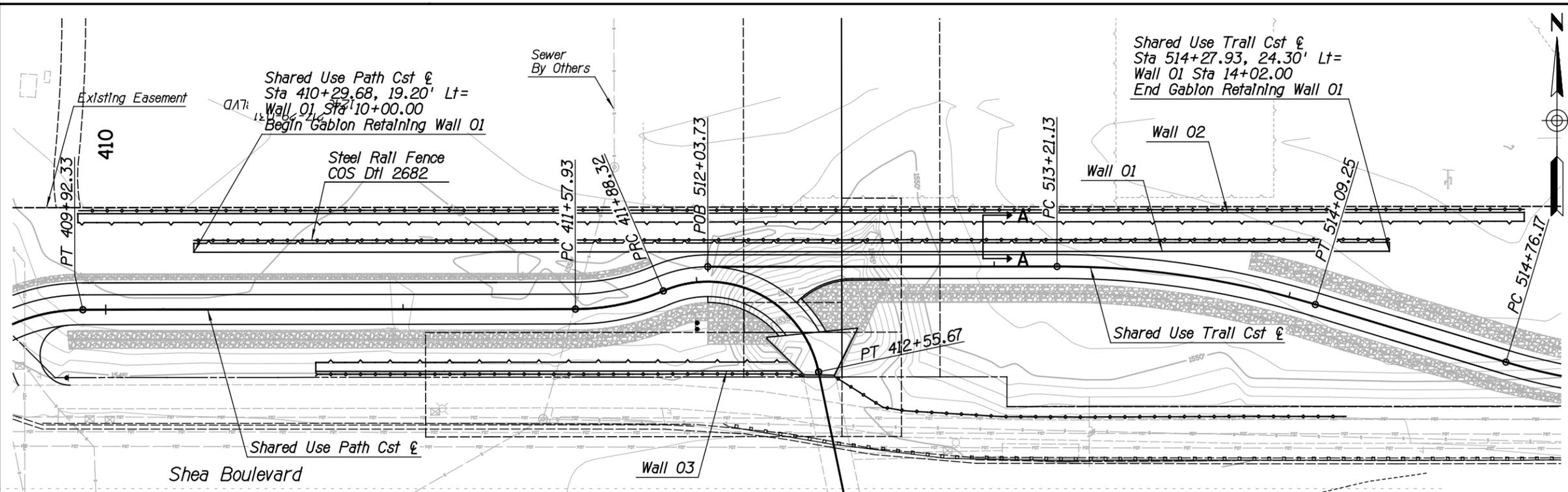
PROJECT TITLE  
**SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED	DATE	BID NO.	DWG.
HORIZ. N/A	EE	6/15	16BP020	S-1
VERT. N/A	BP	AS-BUILT	PROJECT NO.	38 OF 105

DESIGN FILE: \$FILES\$ PLOT DATE: \$DATE\$ \$TIME\$

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_wal101.dgn PLOT DATE: 1/16/2016 11:17:45 AM



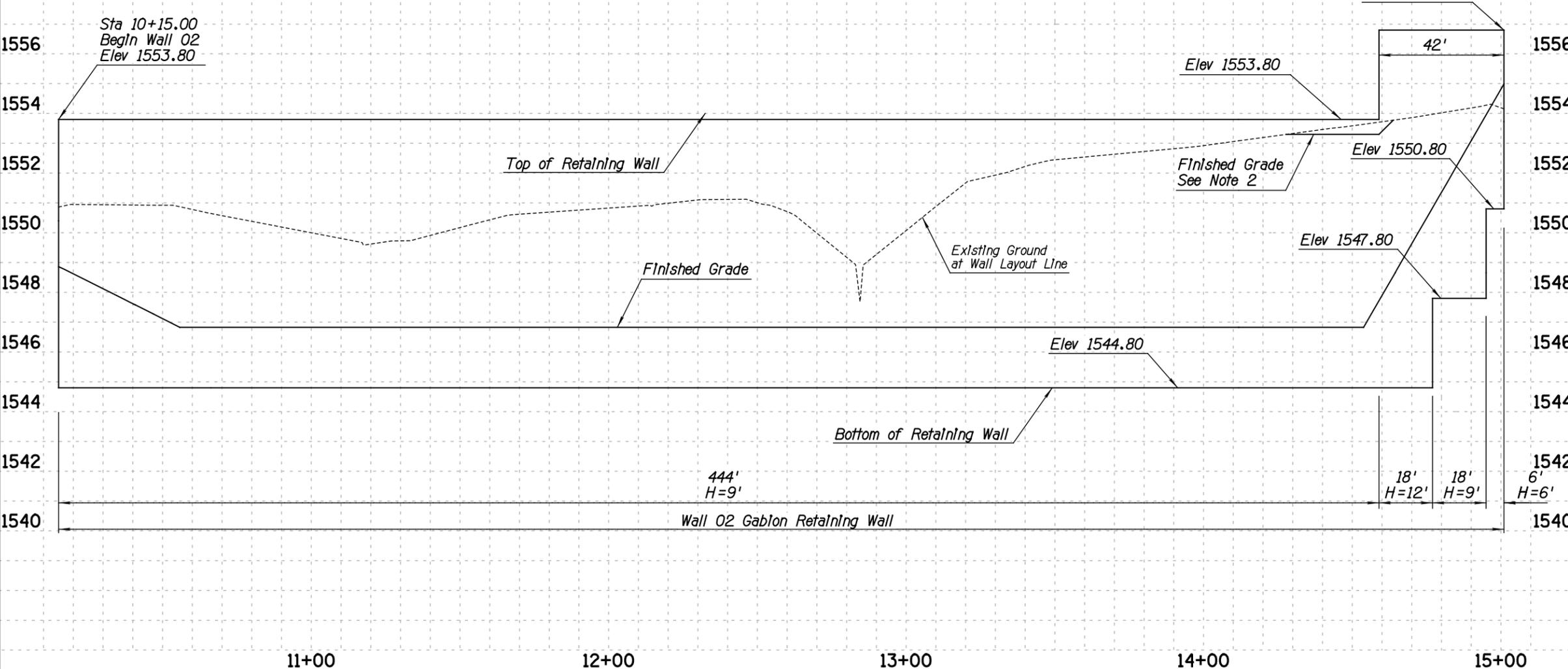
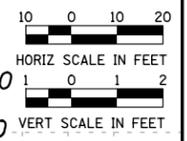
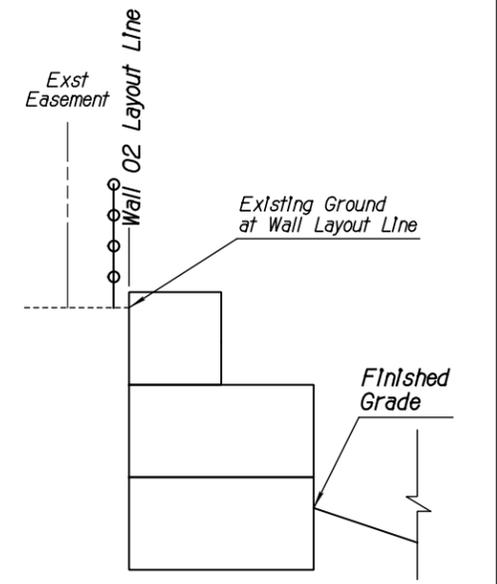
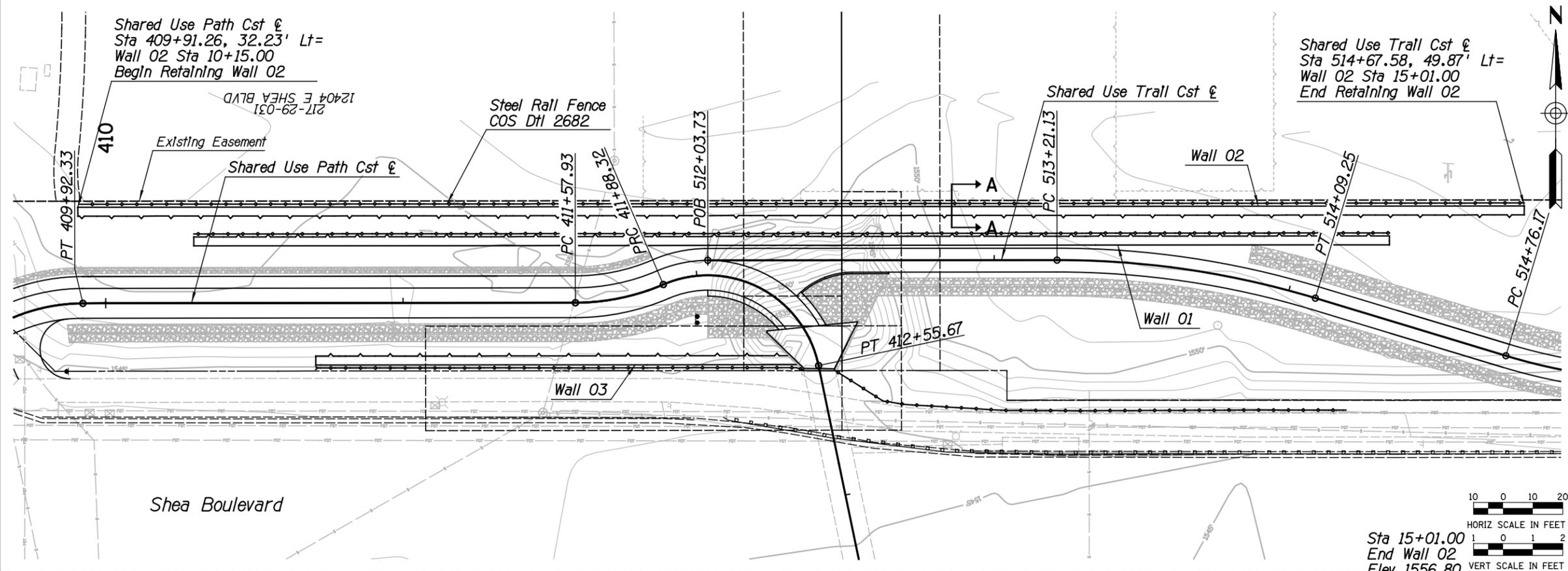
DATE	REVISION	BY
12/31/2018		

ENGINEER		<b>PUBLIC WORKS</b>
DRAWN		<b>CAPITAL PROJECT MANAGEMENT</b>
DATE	6/15	7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
BID NO.	16BP020	
DWG.	S-2	
PROJECT NO.		
SHEET NO.	39 OF 105	

XXX-XX

DESIGN FILE: P:\Projects\City of Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_wal102.dgn PLOT DATE: 1/16/2016 11:17:46 AM



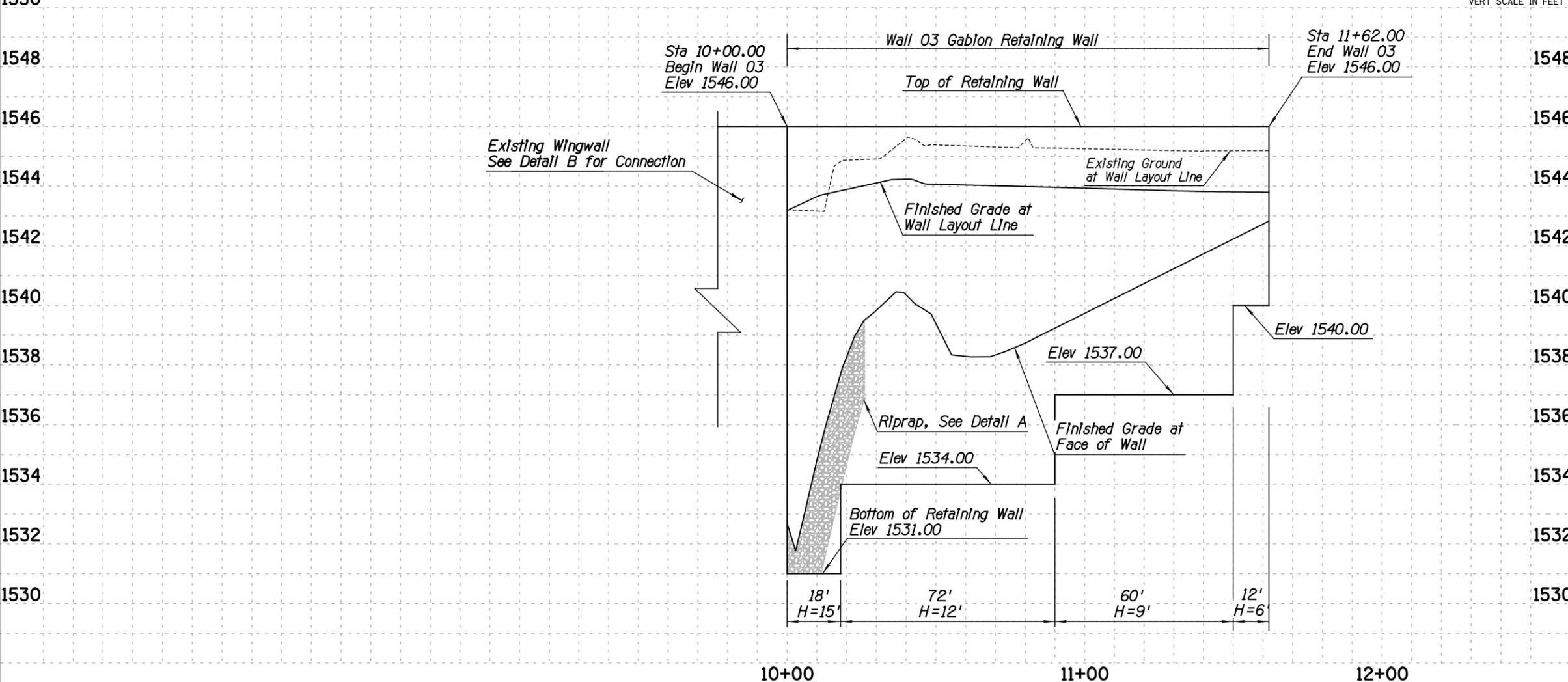
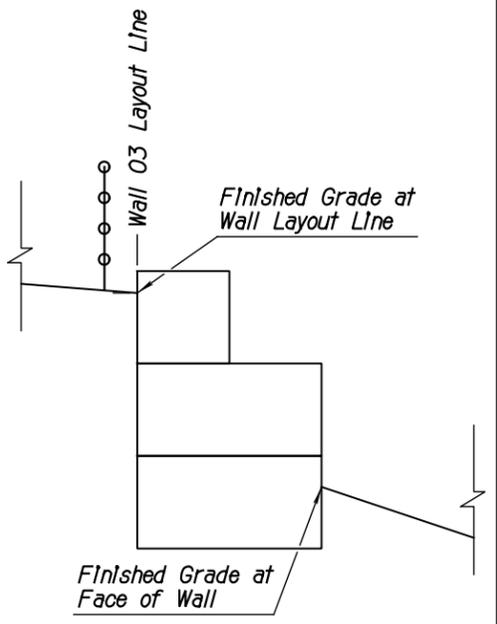
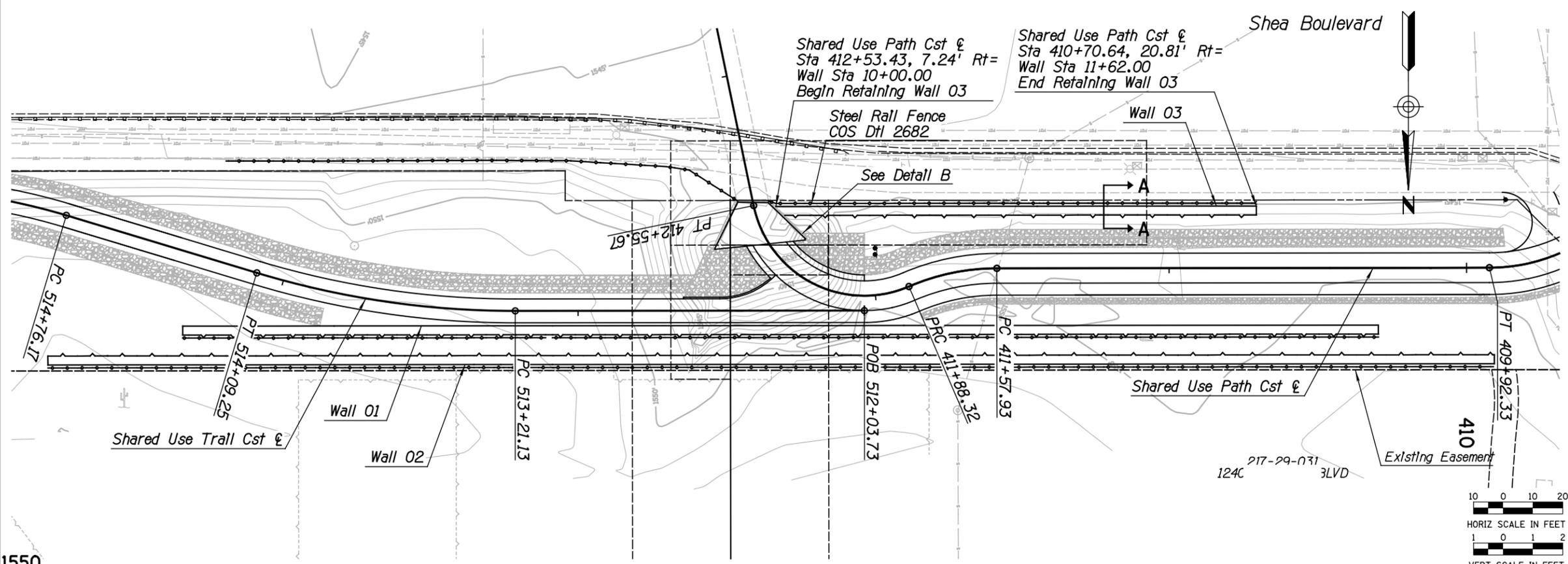
- NOTES:**
- See Dwg S-1 for Additional Wall Information
  - Regrade between Wall 02 Layout Line and Existing Easement From Wall 02 Sta 14+28 to Sta 14+64 To ensure top 6" of Gabion Wall is exposed



DATE	REVISION	BY
ENGINEER		
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>
Expires 12/31/2018 SHEET TITLE: <b>WALL 02</b>		
PROJECT TITLE: <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	EE	6/15
VERT. 1"=2'	BP	AS-BUILT
BID NO. 16BP020 PROJECT NO.		DWG. S-3 40 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_wal103&04.dgn PLOT DATE: 1/16/2016 11:17:47 AM



NOTE:  
1. See Dwg S-1 for Additional Wall Information

ARIZONA BLUE STAKE  
CALL 100 WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

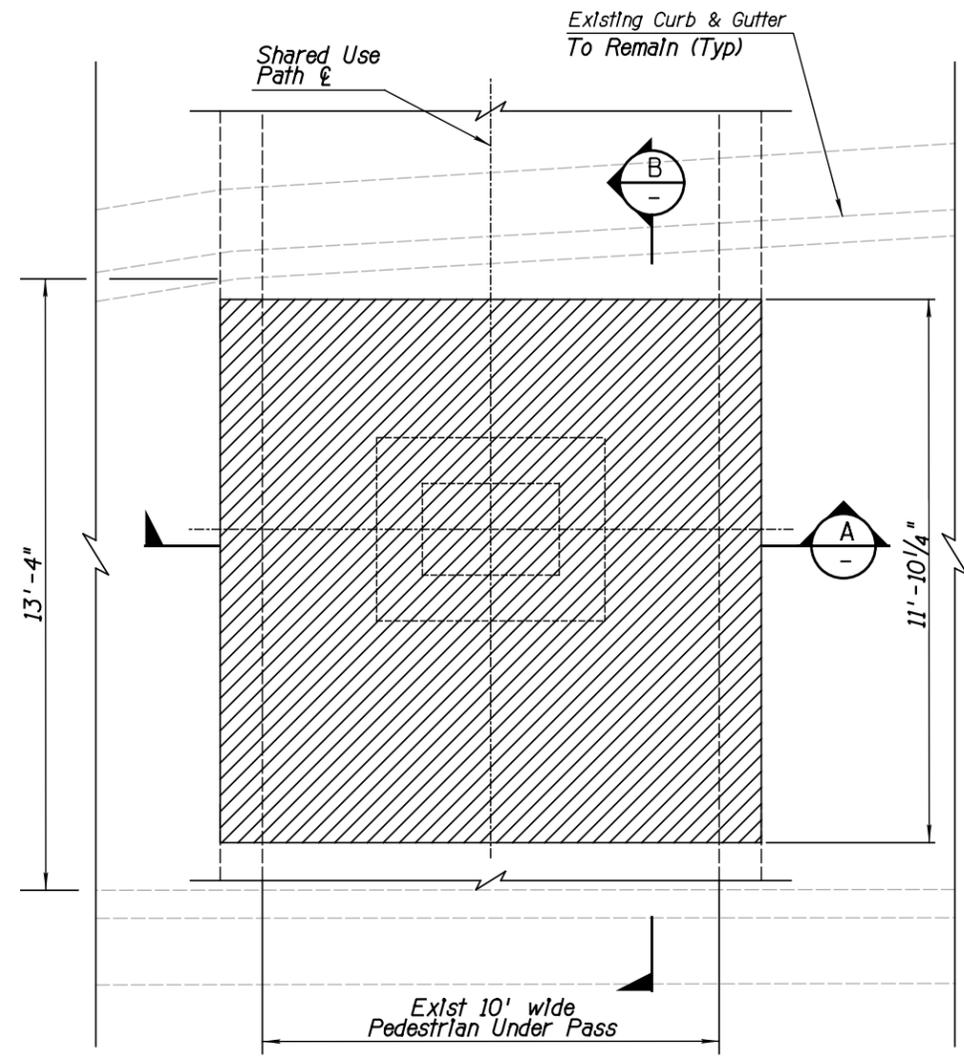
DATE	REVISION	BY
1534		
1532		
1530		

ENGINEER: [Signature] 50247 ELLA ELY REINERT  
PUBLIC WORKS  
CAPITAL PROJECT MANAGEMENT  
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251  
Expires 12/31/2018

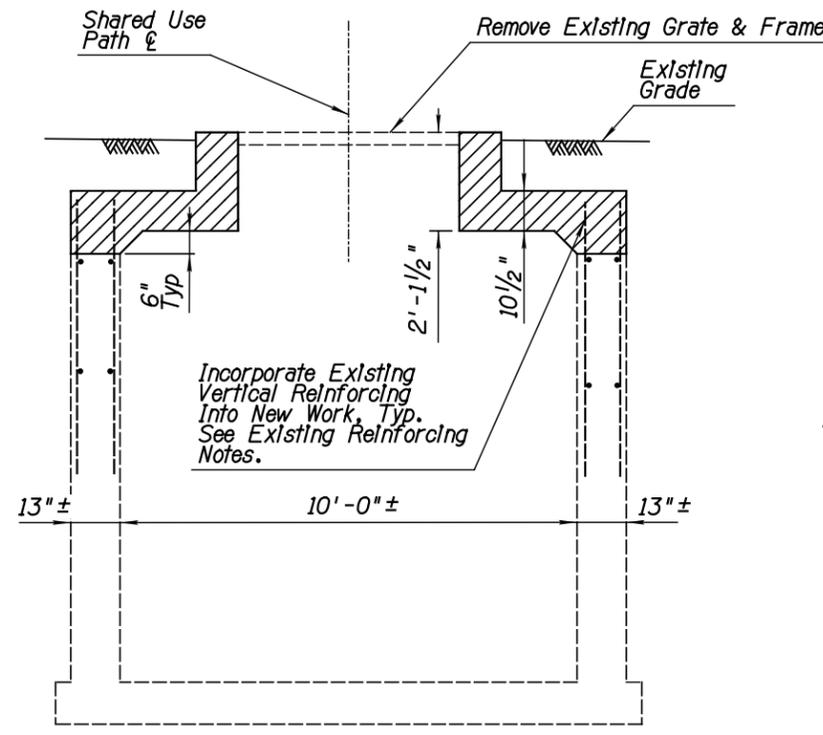
PROJECT TITLE: SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL  
SCALE: HORIZ. 1"=20', VERT. 1"=2'  
DESIGNED: EE, DATE: 6/15, BID NO.: 16BP020, DWG. S-4  
DRAWN: BP, AS-BUILT, PROJECT NO.: 41 OF 105



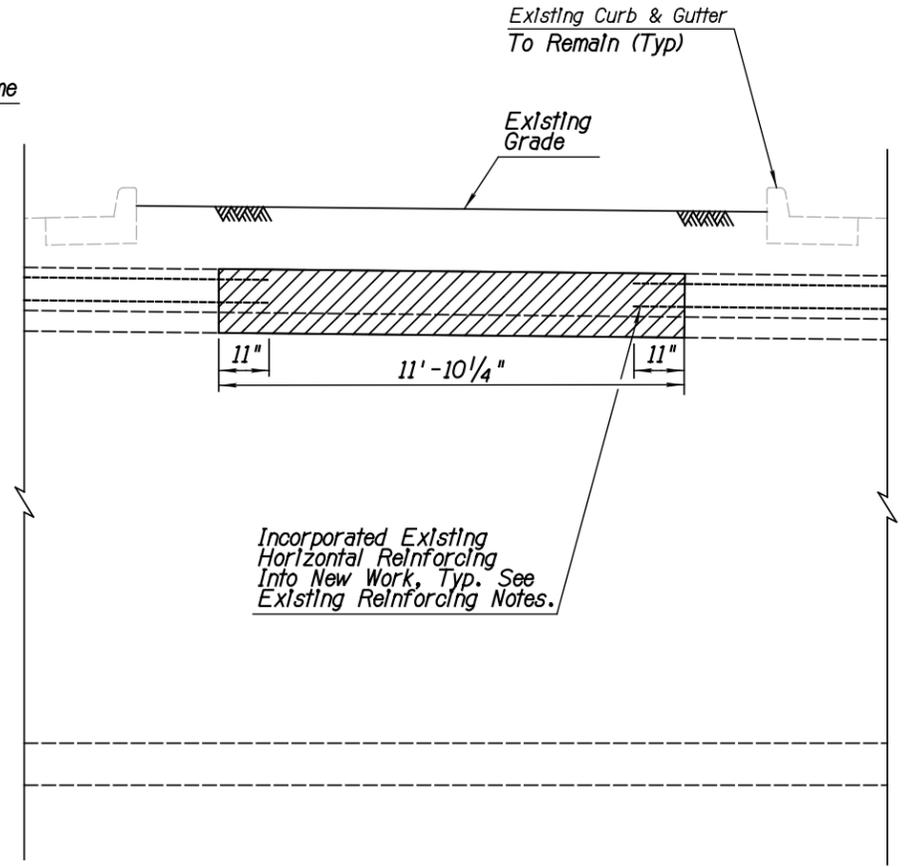
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_strdetails.p2.dgn PLOT DATE: 1/18/2016 5:18:13 PM



**REMOVAL PLAN**  
Scale: 1/4" = 1'-0"



**TRANSVERSE SECTION A**  
Scale: 1/4" = 1'-0"



**LONGITUDINAL SECTION B**  
Scale: 1/4" = 1'-0"

**EXISTING REINFORCING NOTES**

1. The Contractor shall take all necessary measures to protect the reinforcing which is to remain after the removal of the concrete. Any damaged reinforcing shall be replaced as directed by the Engineer at no additional cost to the City.
2. All existing reinforcing that is to be incorporated into the new work shall be clean and free of all loose and deleterious materials prior to the placement of the new concrete.

**LEGEND:**

Removal Limits

**Note**

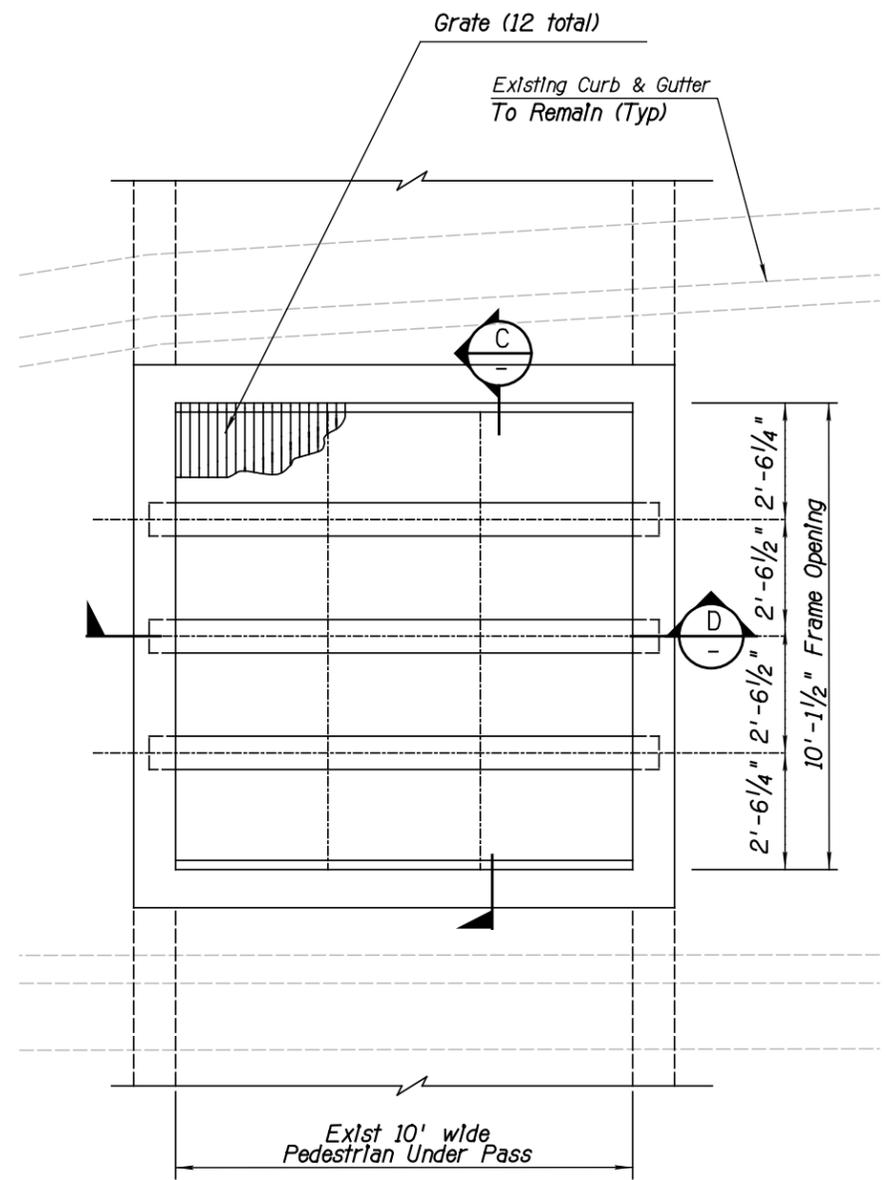
1. Removal of Lightwell shall be paid for using Item 350716, Removal of Structural Concrete. This includes removal of Lightwell per plans and specifications. No additional payment will be made to remove any incidental items.



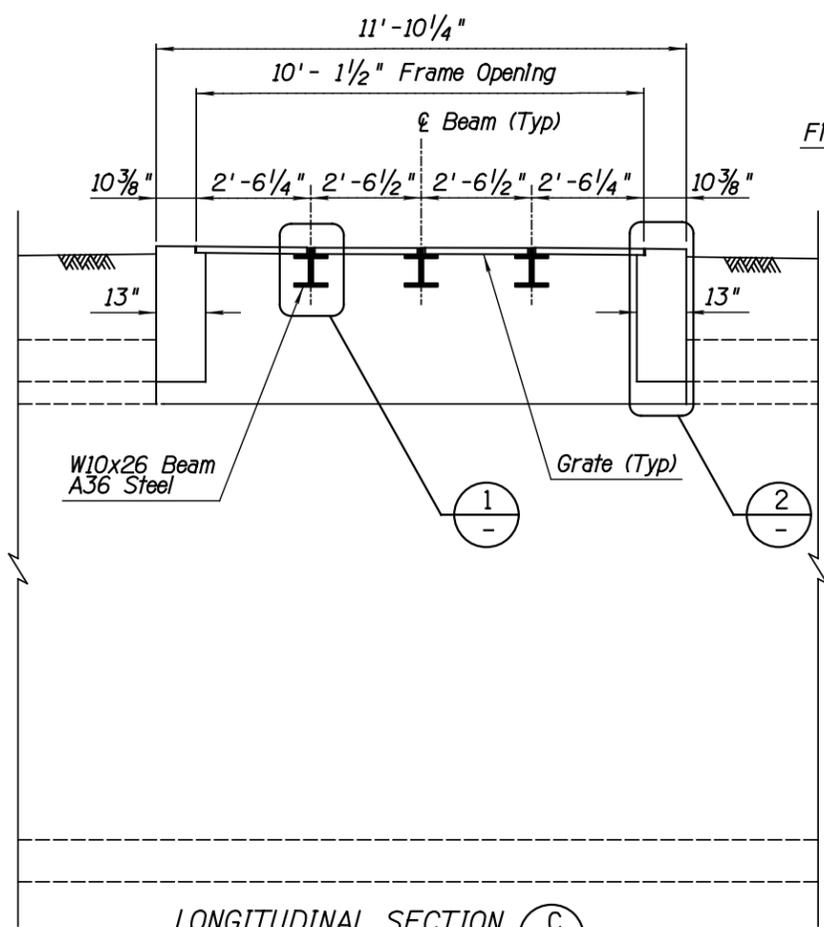
DATE	REVISION	BY
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>
SHEET TITLE: <b>LIGHTWELL REMOVAL DETAILS</b>		
PROJECT TITLE: <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N/A	MH	6/15
VERT. N/A	BP	AS-BUILT
BID NO. 16BP020 PROJECT NO.		DWG. S-6 43 OF 105

XXX-XX

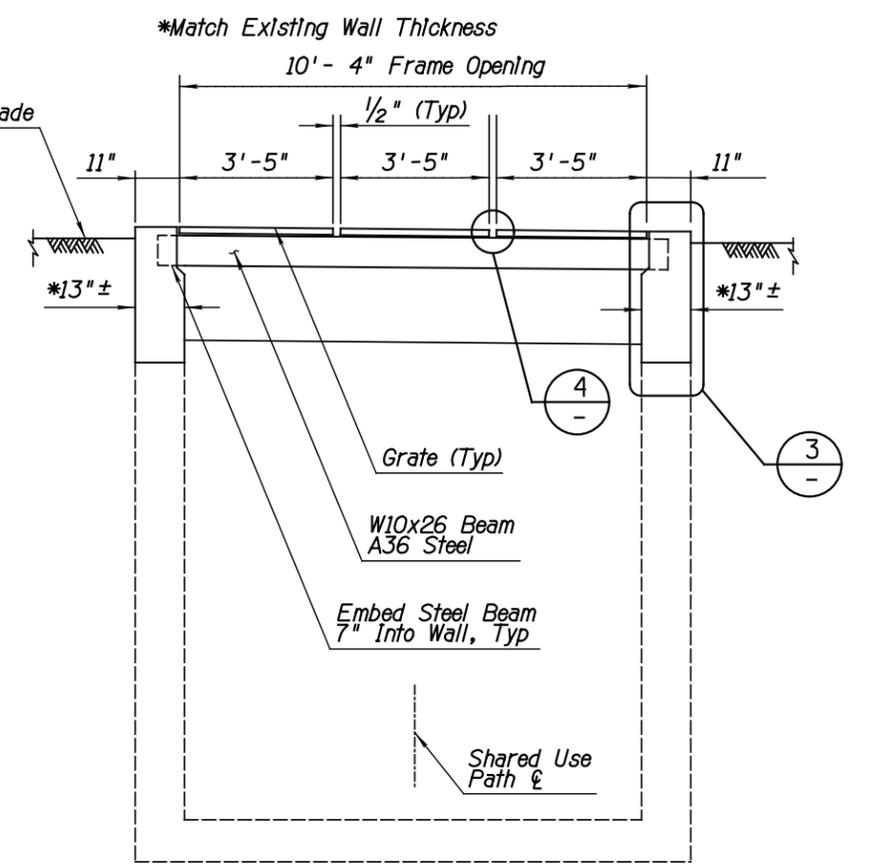
DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_str\_details.plt.dgn PLOT DATE: 1/18/2016 5:18:13 PM



**LIGHTWELL PLAN**  
Scale: 1/2" = 1'-0"



**LONGITUDINAL SECTION C**  
Scale: 1/2" = 1'-0"



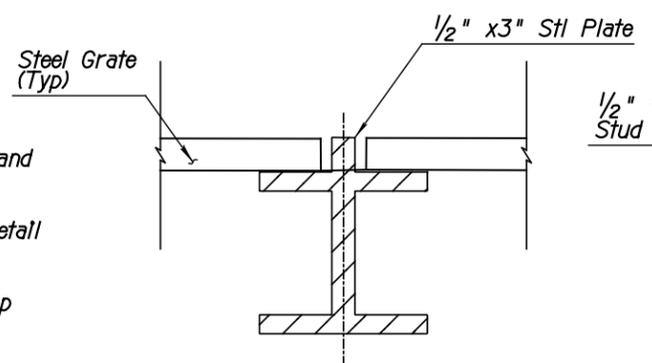
**TRANSVERSE SECTION D**  
Scale: 1/2" = 1'-0"

**FRAME AND GRATE NOTES**

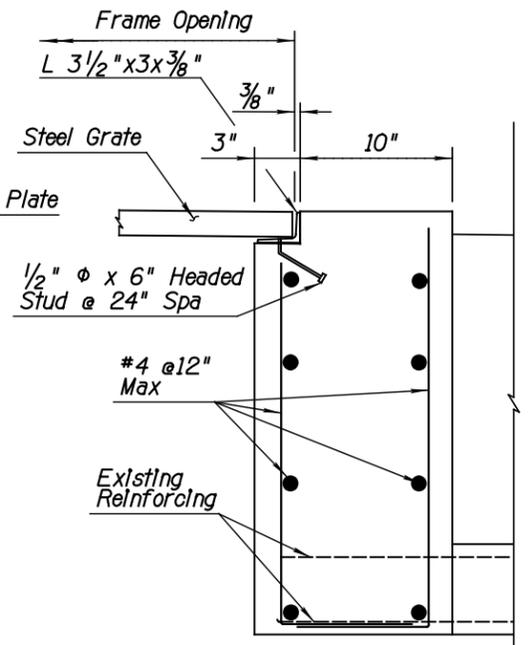
1. The Contractor shall submit shop drawings of the frame and grate to the Engineer for review and approval prior to fabrication.
2. Grates shall be fabricated in accordance with COS Std Detail 2535, Type F.
3. Frame shall be structural steel ASTM A-36.
4. Grates, frame, and beams shall be given one coat of shop paint. Cost is incidental to Lightwell.

**GENERAL NOTES:**

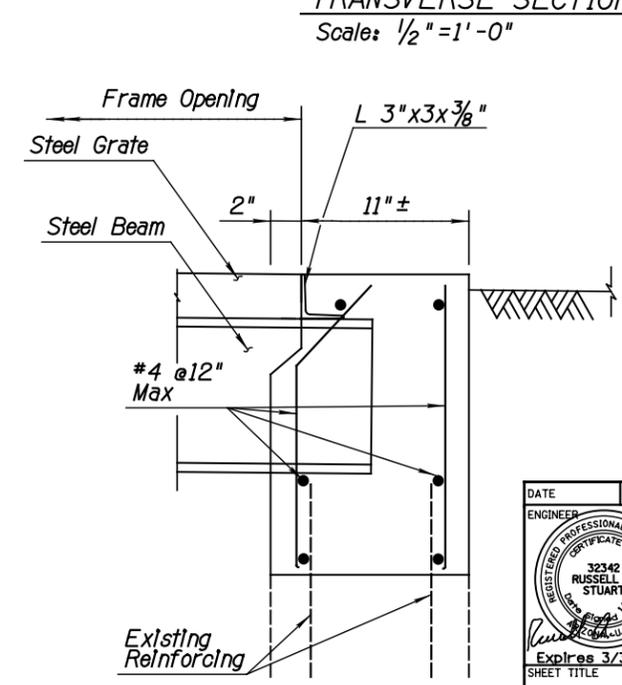
1. All concrete shall be class A ( $f'_c = 3000$  psi).
2. Reinforcing steel shall conform to ASTM Specification A615, Grade 60.
3. All reinforcing steel shall have 2" clear cover unless noted otherwise.
4. All bends and hooks shall meet the requirements of AASHTO LRFD article 5.10.2.



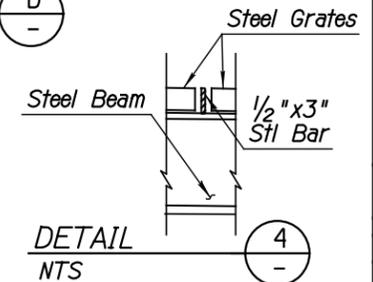
**DETAIL 1**  
NTS



**DETAIL 2**  
NTS



**DETAIL 3**  
NTS



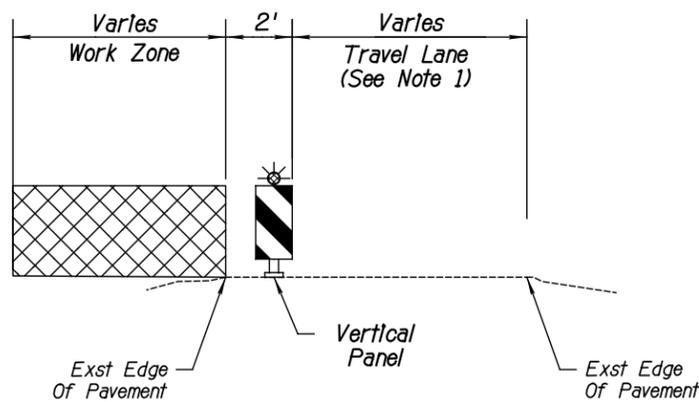
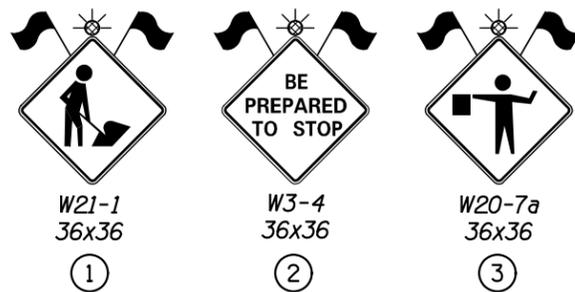
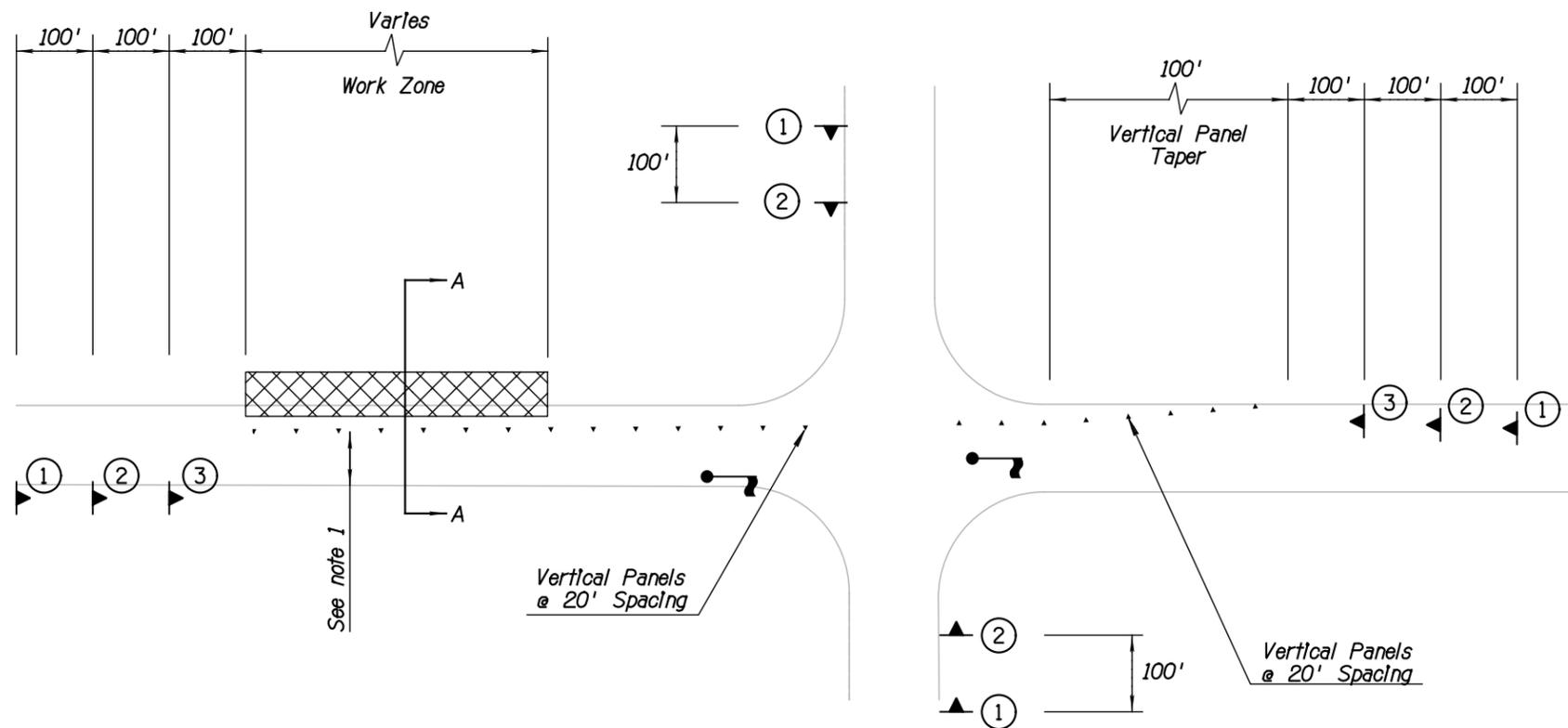
**DETAIL 4**  
NTS



DATE	REVISION	BY
<b>PUBLIC WORKS</b>		
<b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>LIGHTWELL DETAILS</b>		
<b>PROJECT TITLE</b>		
<b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N/A	MH	6/15
VERT. N/A	DRAWN	AS-BUILT
	BP	
	BID NO.	DWG.
	16BP020	S-7
	PROJECT NO.	
		44 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_IC-1.dgn PLOT DATE: 1/16/2016 11:17:50 AM



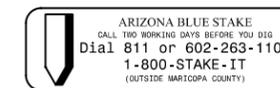
SECTION A-A

**LEGEND:**

- Vertical Panel
- Sign on Spring Stand
- Flagger
- Work Zone

**Notes:**

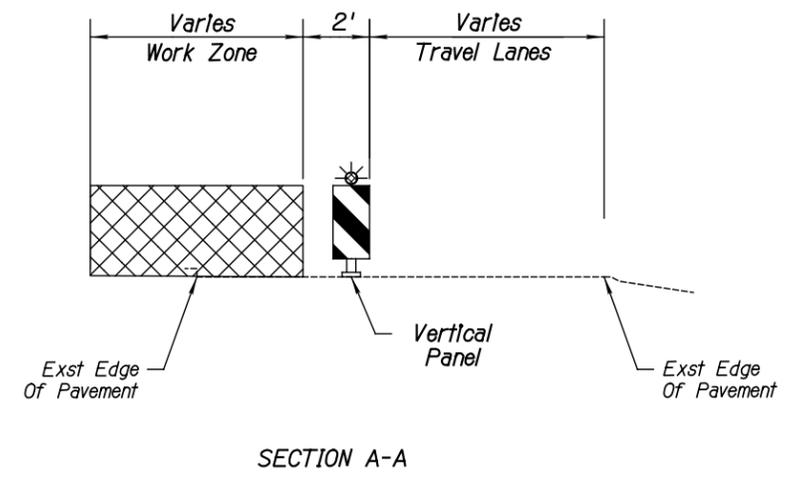
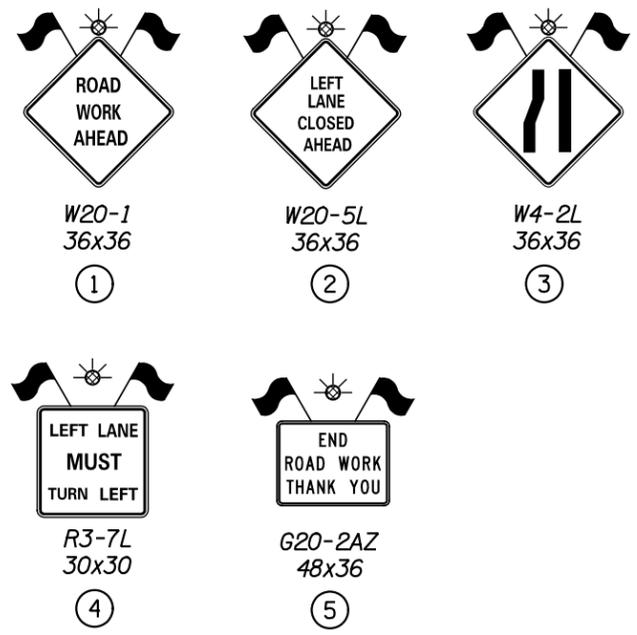
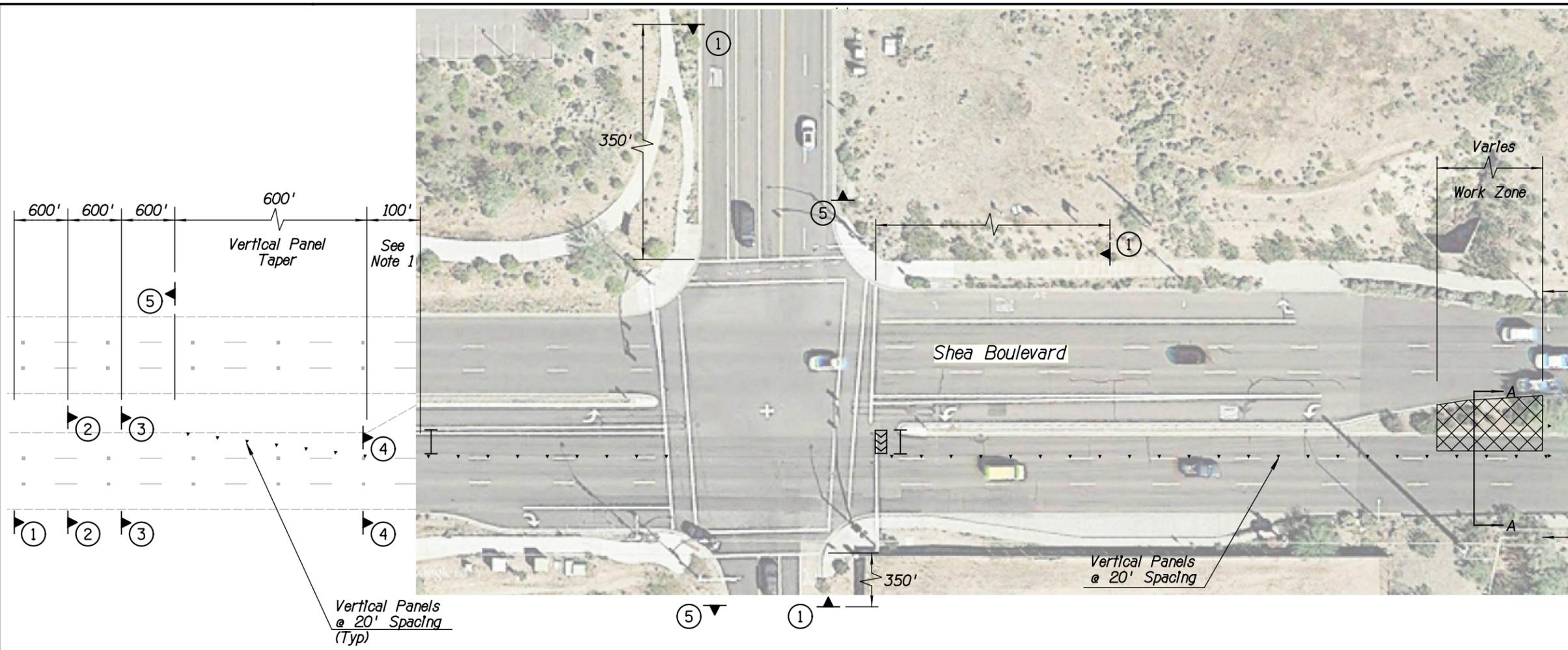
1. Minimum opening shall be 22' when Flaggers are not present, an 11' opening is permissible when Flaggers are present. No Flaggers or Flagging signs are required when gap is at least 22'.
2. This detail is only applicable to locations where speed limit is under 25 MPH.
3. Right shoulder closure is shown on this sheet. Left shoulder closure is similar.



DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
Expires 12/31/2018		
SHEET TITLE: <b>DETAIL - TYPICAL LANE CLOSURE</b>		
PROJECT TITLE: <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N.T.S.	AS-BUILT	6/15
VERT. N.T.S.		
BID NO.	PROJECT NO.	DWG.
16BP020		T-1
		45 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_IC-2.dgn PLOT DATE: 1/16/2016 11:17:51 AM



**Notes:**  
1. The 100' gap for the left turn lane shall match with the existing left turn lane on Shea Blvd at this location.

- LEGEND:**
- ▲ Vertical Panel
  - ◀ Sign on Spring Stand
  - ▨ Work Zone
  - ▧ Flashing Arrow Panel
  - ⊥ Type 3 Barricade

ARIZONA BLUE STAKE  
CALL TOO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
Expires 12/31/2018 <b>SHEET TITLE</b> <b>DETAIL - INTERIOR LANE CLOSURE</b>		
<b>PROJECT TITLE</b> <b>SHEA TUNNEL ACCESS SHARED USE</b> <b>PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N.T.S.	AS-BUILT	6/15
VERT. N.T.S.		
BID NO.	PROJECT NO.	DWG.
16BP020		T-2
		46 OF 105

XXX-XX

DESIGN FILE: P:\Projects\City\_of\_Scottsdale\2009-192-COS On-Call Contract\23446725 Shea Tunnel Access\CADD\Plans\SZ1610\_IC\_3.dgn PLOT DATE: 1/16/2016 11:17:53 AM

Plan Sht No.	Plan Ref Number	Sign Code/Detail	Work					Offset (ft)	Mounting Height (ft)	Background Color	Panel					Ground Mounted				Remarks		
			New	Existing							Width (in)	Height (in)	Area (sq. ft.)	Type	Bid Item Number	Foundations	Posts		Stringer			
				Replace Panel	Relocate Panel	Modify Legend	Remove To Remain										Type	Total length (ft)	New Sillbases		Type	Total Length (ft)
C-1	7	-				X															Remove Sign, Post & Post Base	
C-1	5	COS 2683	X					- 2.5	BR													Sta 110+45, 7' Rt
C-3	13	COS 2683	X					- 7	BR													Sta 120+18, 28' Rt
C-3	5	COS 2683	X					- 2.5	BR													Sta 120+44, 7' Lt
C-3	13	COS 2683	X					- 7	BR													Sta 120+49, 21' Lt
C-3	13	COS 2683	X					- 7	BR													Sta 120+79, 52' Rt
C-3	5	COS 2683	X					- 2.5	BR													Sta 120+80, 41' Rt
C-3	13	COS 2683	X					- 7	BR													Sta 120+88, 5' Lt
C-4	5	COS 2683	X					- 2.5	BR													Sta 127+35, 7' Rt
C-4	5	COS 2683	X					- 2.5	BR													Sta 127+69, 7' Rt
C-4	13	COS 2683	X					- 7	BR													Sta 127+69, 11' Rt
C-5	13	COS 2683	X					- 7	BR													Sta 213+28, 34' Rt
C-6	5	COS 2683	X					- 2.5	BR													Sta 310+04, 8' Rt
C-7	21	W8-17P	X					- 7	YL													Sta 314+50, 8' Rt
C-7	21	W8-17P	X					- 7	YL													Sta 315+55, 8' Lt
C-7	15	W08-103	X					- 7	YL													Sta 315+66, 10' Rt
C-7	7	-				X																Remove Sign, Post & Post Base
C-8	7	-				X																Remove Sign, Post & Post Base
C-8	28	W1-1a	X					- 7	YL													Sta 411+97, 14' Rt (Double Stack-Top)
C-8	15	W08-103	X					- 5	YL													Sta 411+97, 14' Rt (Double Stack-Bottom)
C-8	24	W11-7	X					- 7	YL													Sta 409+84, 22' Rt

- Notes:
- The engineer shall verify post lengths and elevations.
  - The engineer may shift a sign in order to achieve a more desirable location.
  - Quantities are approximate and for the contractor's information only.
  - Installation of sign on left or right side determined by direction of stationing.
  - See COS Detail 2131 for Sign Post Information.
  - See COS Detail 2683 and 2684 for Additional Sign Information.



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
Expires 12/31/2018		
SHEET TITLE <b>SIGN SUMMARY &amp; FORMAT</b>		
PROJECT TITLE <b>SHEA TUNNEL ACCESS SHARED USE PATHWAY - SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. N.T.S.	AS-BUILT	6/15
VERT. N.T.S.		
BID NO.	DWG.	
16BP020	T-3	
PROJECT NO.		
		47 OF 105

XXX-XX

**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (In)/ HEIGHT (ft)	STATUS	COMMENTS
1	Foothills Palo Verde	7	PIP	
2	Ironwood	4	PIP	
3	Barrel	3	PIP	
4	Barrel	4	PIP	
5	Saguaro	8	PIP	
6	Mesquite	4	PIP	
7	Saguaro	10	PIP	
8	Mesquite	6	PIP	
9	Mesquite	22	PIP	
10	Foothills Palo Verde	10	PIP	
11	Foothills Palo Verde	12	PIP	
12	Mesquite	12	PIP	Prune as Necessary for Clearance
13	Mesquite	9	PIP	* Prune as Necessary for Clearance
14	Mesquite	4	PIP	* Prune as Necessary for Clearance
15	Mesquite	8	PIP	* Prune as Necessary for Clearance
16	Hybrid Palo Verde	9	PIP	* Prune as Necessary for Clearance
17	Blue Palo Verde	9	S	
18	Barrel	3	PIP	
19	Whitethorn Acacia	6	NS	Wide Base / Cambium Damage
20	Saguaro	13	PIP	
21	Foothills Palo Verde	8	PIP	Prune as Necessary for Clearance
22	Foothills Palo Verde	8	PIP	Prune as Necessary for Clearance
23	Foothills Palo Verde	14	PIP	Prune as Necessary for Clearance
24	Foothills Palo Verde	4	PIP	Prune as Necessary for Clearance
25	Hackberry	60	PIP	Prune as Necessary for Clearance
26	Foothills Palo Verde	20	PIP	Prune as Necessary for Clearance
27	Foothills Palo Verde	19	PIP	Prune as Necessary for Clearance
28	Ironwood	20	PIP	Prune as Necessary for Clearance
29	Foothills Palo Verde	24	PIP	Prune as Necessary for Clearance
30	Ironwood	9	PIP	
31	Barrel	5	PIP	
32	Saguaro	11	S	
33	Saguaro	55	PIP	
34	Ironwood	24	S	
35	Ironwood	20	NS	Exposed Roots / Mistletoe
36	Ironwood	24	NS	Exposed Roots / Cambium Damage
37	Blue Palo Verde	8	PIP	Prune as Necessary for Clearance
38	Mesquite	18	PIP	Prune as Necessary for Clearance
39	Blue Palo Verde	12	PIP	
40	Hackberry	30	PIP	
41	Foothills Palo Verde	28	PIP	
42	Catclaw Acacia	6	PIP	
43	Foothills Palo Verde	20	PIP	
44	Blue Palo Verde	10	NS	Trunk Form / In Wash
45	Blue Palo Verde	18	NS	Branch Dieback / In Wash
46	Blue Palo Verde	5	PIP	
47	Blue Palo Verde	7	PIP	
48	Blue Palo Verde	4	PIP	
49	Blue Palo Verde	16	NS	Trunk Form / Poor Structure
50	Foothills Palo Verde	4	PIP	
51	Foothills Palo Verde	8	PIP	
52	Foothills Palo Verde	6	PIP	
53	Blue Palo Verde	10	PIP	
54	Foothills Palo Verde	6	S	
55	Saguaro	48	NS	5 arms / Declining
56	Foothills Palo Verde	4	S	
57	Mesquite	4	S	
58	Foothills Palo Verde	4	S	
59	Foothills Palo Verde	4	NS	In Wash / On Slope
60	Foothills Palo Verde	10	PIP	Prune as Necessary for Clearance
61	Foothills Palo Verde	5	PIP	Prune as Necessary for Clearance
62	Foothills Palo Verde	4	S	
63	Foothills Palo Verde	4	S	
64	Foothills Palo Verde	4	S	
65	Foothills Palo Verde	4	S	
66	Foothills Palo Verde	4	S	
67	Foothills Palo Verde	4	PIP	Prune as Necessary for Clearance
68	Foothills Palo Verde	4	PIP	Prune as Necessary for Clearance
69	Foothills Palo Verde	22	PIP	Prune as Necessary for Clearance
70	Foothills Palo Verde	6	PIP	Prune as Necessary for Clearance

NATIVE PLANT STATUS LEGEND	TREE	CACTI
S = SALVAGE	11	1
NS = NON-SALVAGE	7	1
PIP = PROTECT-IN-PLACE	42	8

\* Adjust Guy Wires & Tree Stakes as Necessary for Clearance

**GENERAL NOTES**

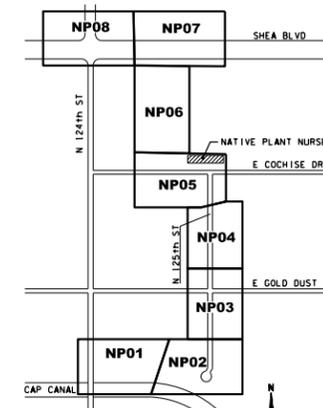
1. THE SALVAGING CONTRACTOR SHALL REVIEW THIS PROJECT WITH THE CITY ENGINEER PRIOR TO STARTING WORK.
2. ALL SALVAGING OPERATIONS WORK SHALL CONFORM TO M.A.G. STANDARD SPECIFICATIONS AND DETAILS AND THE CITY OF SCOTTSDALE M.A.G. SUPPLEMENTAL SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS (MAG).
3. SHOULD THE SALVAGING CONTRACTOR HAVE ANY QUESTIONS REGARDING THESE PLANS AND SPECIFICATIONS OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER FOR CLARIFICATION BEFORE PROCEEDING FURTHER WITH ANY OTHER WORK.
4. THE SALVAGING CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH THE UNDERGROUND UTILITIES, PIPES AND STRUCTURES. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.
5. THE SALVAGING CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
6. THE SALVAGING CONTRACTOR SHALL VERIFY AND ACCEPT ALL SITE CONDITIONS AND ROUGH GRADES PRIOR TO STARTING ANY WORK.
7. THE SALVAGE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON THESE PLANS.

**SALVAGE OPERATIONS NOTES**

1. THE CONTRACTOR SHALL SUBMIT A SALVAGE OPERATIONS PLAN FOR REVIEW AND APPROVAL BY THE CITY ENGINEER AND LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY GROUND BREAKING WORK BY THE CONTRACTOR. THE SALVAGE OPERATIONS PLAN SHALL BE CONTAINED IN A THREE RING BINDER(S) AND SHALL BE TYPED ON 8 INCH x 11 INCH SHEETS. THE CONTRACTOR SHALL SUBMIT FOUR (4) COPIES OF THE SALVAGE OPERATIONS PLAN TO THE CITY ENGINEER AT THE PRE-CONSTRUCTION MEETING.
2. THE SALVAGE OPERATIONS PLAN SHALL CONTAIN AS A MINIMUM THE FOLLOWING ITEMS AND THE PLAN SHALL CONFORM TO THE DETAILS SHOWN ON THE PROJECT PLANS .
  - A. THE SALVAGE OPERATIONS PLAN SHALL CLEARLY DEMONSTRATE TO THE CITY HOW THE CONTRACTOR'S SALVAGE OPERATIONS METHODS AND APPROACH WILL BE ACCOMPLISHED FROM APRIL 1 THROUGH 30.
  - B. METHODS FOR THE COORDINATING THE SALVAGE AND SALVAGE PLANTING OF ALL LOCAL STOCK WITH ANTICIPATED PHASING AND SEQUENCING OF CONSTRUCTION PER STATIONING LIMITS AND THE DEVELOPMENT OF TEMPORARY NURSERY.
  - C. EXISTING AND FINAL LOCATION OF EACH LOCAL STOCK (IF DIFFERENT THAN SHOWN ON THE PLANS).
  - D. IDENTIFICATION NUMBERS OF EACH LOCAL STOCK ITEM (IF DIFFERENT THAN SHOWN ON THE PLANS).
  - E. SOURCES OF COLLECTED/OPEN STOCK (IF REQUIRED TO SUPPLY REPLACEMENTS OF THE MATERIALS THAT ARE LOST DUE TO EXCESSIVE MORTALITY ON THE PROJECT).
  - F. A SECTION THAT IDENTIFIES ALL PROPOSED NURSERY LOCATIONS. THIS SECTION SHALL INCLUDE A PHOTO INVENTORY OF THE EXISTING CONDITIONS OF THE NURSERY LOCATION AND THE CONTRACTORS PROPOSED RE-ESTABLISHMENT OF THE AREAS DISTURBED AS PART OF THE NURSERY DEVELOPMENT.
  - G. A LIST OF ALL MATERIALS AND EQUIPMENT PROPOSED FOR INCORPORATION INTO THE WORK. THE CONTRACTOR SHALL HAVE MATERIALS AND EQUIPMENT CORRECTLY MARKED ON EACH COPY OF THE LIST. THE LIST SHALL SHOW THE CATALOGUE NUMBERS, MANUFACTURER'S NAMES MODEL NUMBERS, SIZES, CAPACITY, COMPLETE SPECIFICATIONS, INSTRUCTIONS, DESIGN DATA AND/OR DRAWINGS TO DETERMINE WHETHER OR NOT EACH PIECE OF MATERIAL OR EQUIPMENT IS ACCEPTABLE.
3. THE CITY ENGINEER WILL BE THE SOLE JUDGE OF THE ACCEPTABILITY OF THE RECOMMENDATIONS WITHIN THE SALVAGE OPERATIONS PLAN AND WILL NOTIFY THE CONTRACTOR WITHIN 21 DAYS OF THE ACCEPTABILITY OF THE PLAN.
4. THE CITY RESERVES THE RIGHT TO REJECT AT ANY TIME THE CONTRACTORS SALVAGE OPERATIONS PLAN BASED ON THE REVIEW OF THE QUALIFICATIONS STATEMENT AND/OR PERFORMANCE OF THE WORK HEREIN.
5. THE WORK SHALL ALSO INCLUDE:
  - A. THE MACHINERY, EQUIPMENT, LABOR AND MATERIALS REQUIRED TO PROVIDE AND SUPPLY ALL BOXING MATERIALS, IRRIGATION WATER, CONSTRUCT AND MAINTAIN THE NURSERY.
  - B. TRANSPORTING THE LOCAL STOCK TO THE NURSERY.
  - C. DISTRIBUTING WATER TO THE PLANTS FROM THE INITIATION OF THE SALVAGING OPERATIONS AND/OR FROM THE TIME OF PLACEMENT OF THE PLANTS IN THE NURSERY AS APPLICABLE.
  - D. PREPARATION OF PLANTING PITS IN THE NURSERY AND AT THE FINAL PLANTING LOCATION, INCLUDING EXCAVATING AND BACK FILLING.
  - E. THE DOCUMENTATION, MEASUREMENT, AND INSPECTION OF LOCAL STOCK AS IDENTIFIED HEREIN.
  - F. THE PREPARATION, MODIFICATIONS AND REPRODUCTION OF A SALVAGE OPERATIONS PLAN.
  - G. SUPPLY AND INSTALLATION OF ANY REQUIRED CHEMICAL SOLUTIONS, FERTILIZERS AND AMENDMENTS.

**NATIVE PLANTS, EROSION CONTROL, LANDSCAPE, AND HARDSCAPE SHEET INDEX**

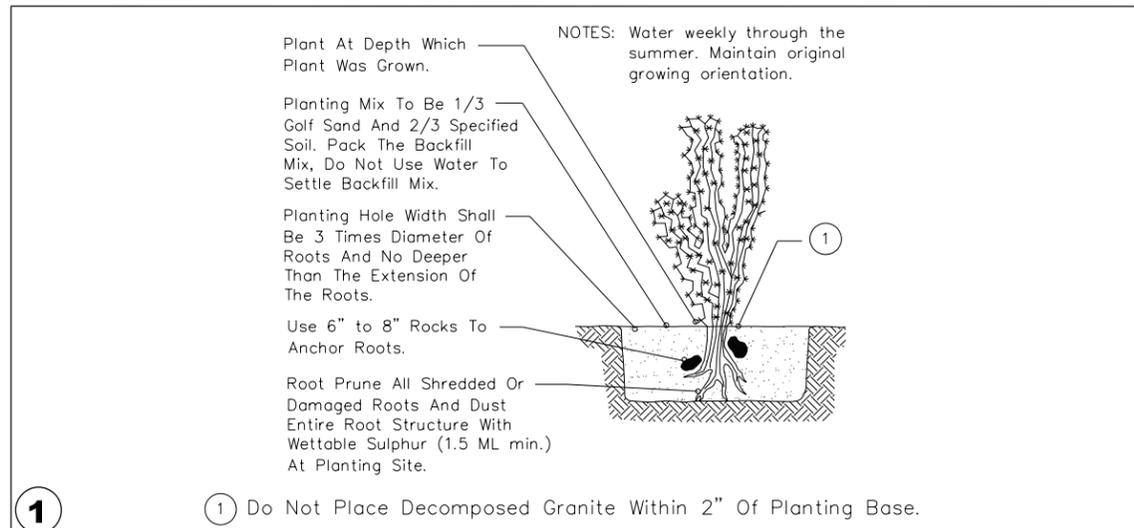
NATIVE PLANT INVENTORY AND NOTES	NPS01
NATIVE PLANT DETAILS	NP01 - NP02
NATIVE PLANT INVENTORY PLANS	NP01 - NP09
AZPDES SWPPP INDEX SHEET	ECS01
EROSION CONTROL SUMMARY	ECS02
EROSION CONTROL DETAILS	EC01 - EC05
EROSION CONTROL PLANS	EC01 - EC09
LANDSCAPE NOTES AND SUMMARY	LS01
LANDSCAPE NOTES AND SUMMARY	LS02
LANDSCAPE DETAILS	LD01 - LD04
LANDSCAPE PLANS	LP01 - LP09
HARDSCAPE PLANS	HP01 - HP09



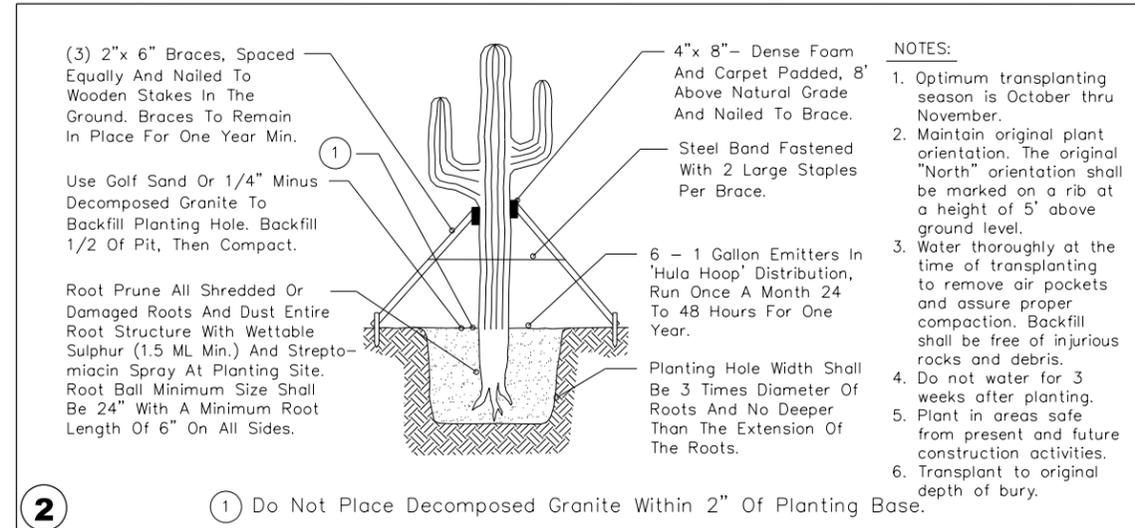
**KEY MAP**



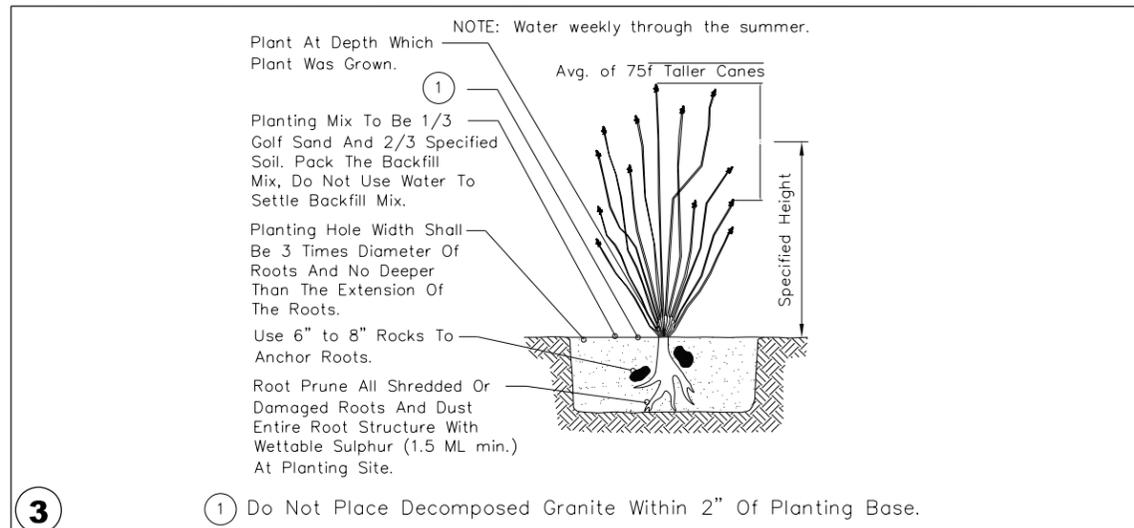
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017		
<b>SHEET TITLE</b> <b>NATIVE PLANT INVENTORY AND NOTES</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		NPS01
PROJECT NO.		48 OF 105



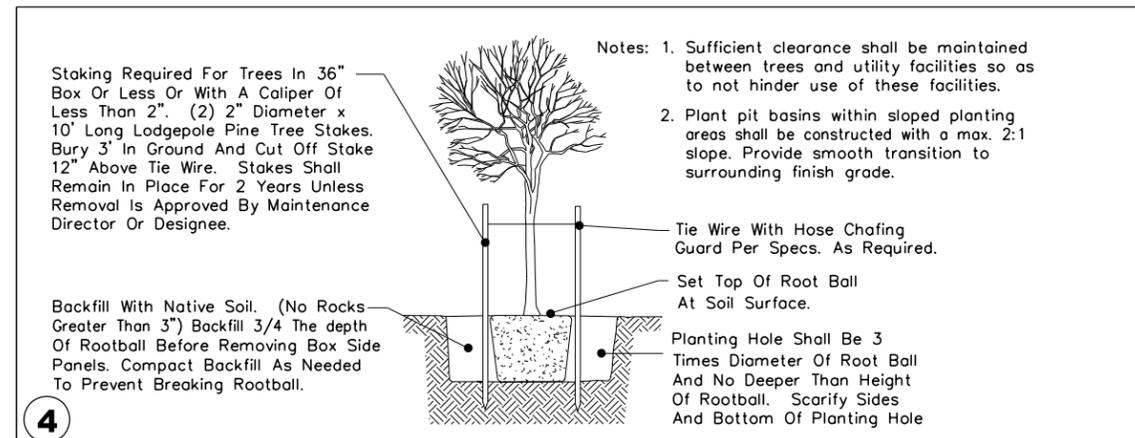
DETAIL NO. 2620-2 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Cactus Planting



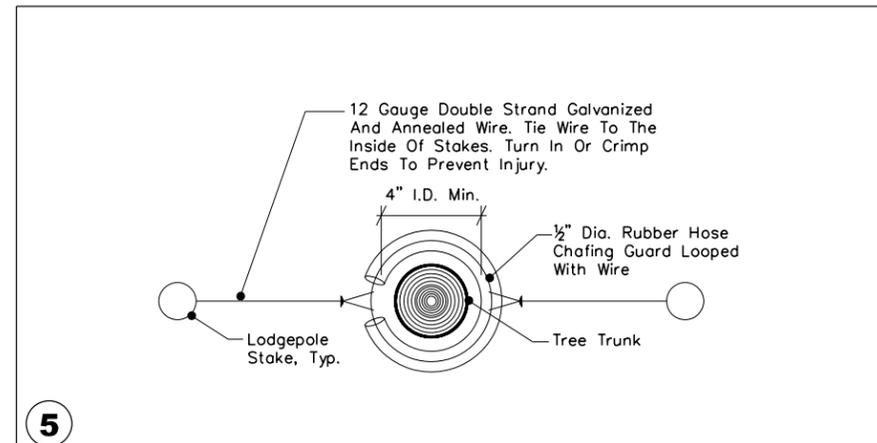
DETAIL NO. 2620-2 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Saguaro Planting Type B



DETAIL NO. 2620-2 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Ocotillo Planting



DETAIL NO. 2620-3 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Salvaged Tree Planting



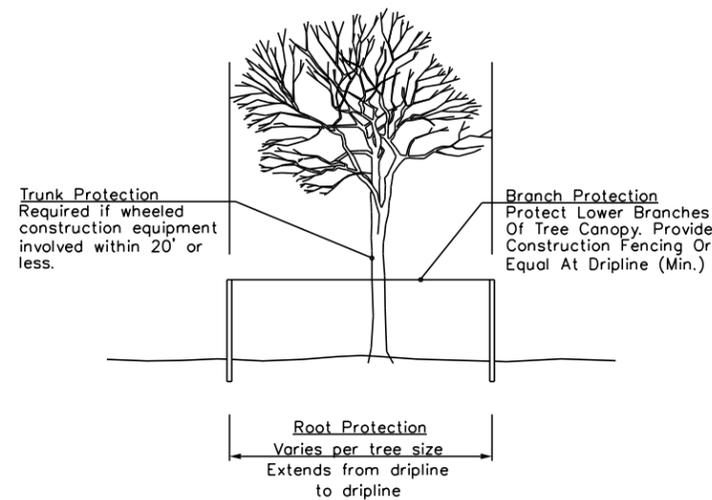
DETAIL NO. 2620-3 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Tree Staking-Plan View

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
Expires: 9/30/2017 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
NATIVE PLANT DETAILS		
PROJECT TITLE		
SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
PROJECT NO.		SHT.
16BP020		NPDOI
49 OF 105		

Note:  
 No Materials Shall Be  
 Stored Within The Tree  
 Protection Areas

Place Signs:  
 KEEP OUT  
 TREE PROTECTION  
 AREA  
 Every 50' Attached To Fencing



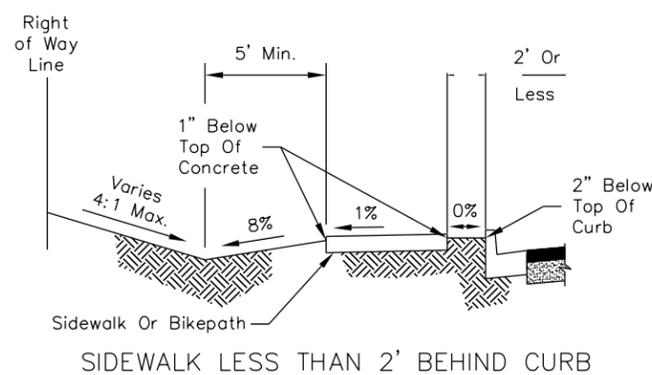
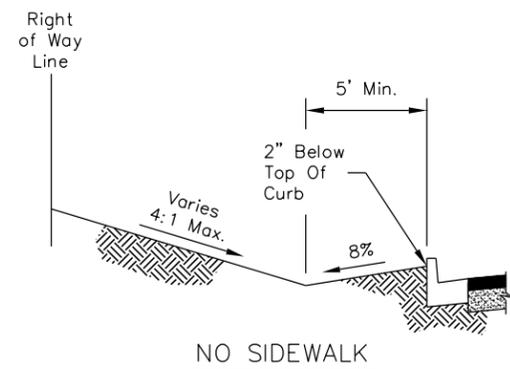
NOTES:

1. All trees to be protected within the construction area shall be identified with white survey tape wrapped around the trunk. Grouping of more than one tree within the tree protection zone may occur.
2. To prevent tree root smothering, soil stockpiles, supplies, equipment or any other material shall not be placed or stored within a tree drip line or within 25 feet of a tree trunk, whichever is greater.
3. Trenches shall be hand dug within the drip line in areas where roots two inches in diameter and greater are present, or when in close proximity to low branching trees. Whenever possible, roots two inches or greater in diameter shall be tunneled or bored under and shall be covered to prevent dehydration.
4. Tree roots shall not be cut unless cutting is unavoidable. When root cutting is unavoidable, a clean sharp cut with an approved pruning saw shall be made to avoid shredding or smashing. Root cuts should be made back to a lateral root. Whenever possible, tree roots should be cut between late fall and bud opening, when root energy supplies are high and conditions are least favorable for disease-causing agents. Exposed roots shall be covered immediately to prevent dehydration. Roots shall be covered with soil or burlap and kept moist. Backfill material around damaged roots shall be a light mulch/sand mixture to promote root recovery.
5. Watering of protected trees in which roots were cut shall be provided by the contractor. Watering schedule to be established by City arborist.
6. Horizontal boring rather than trenching should be used for utility placement within drip line of tree whenever possible.
7. Fencing material shall encircle any tree whose outer drip line edge is within 25 feet of any construction activities.
8. Fencing material shall be orange construction fence a minimum of 4 feet in height.
9. Fencing material shall be set at the drip line or 25 feet from tree trunk, whichever is greater, and maintained in an upright position throughout the duration of construction activities.
10. Any grade changes or retaining wall/tree well installation within the drip line shall be approved by City arborist.

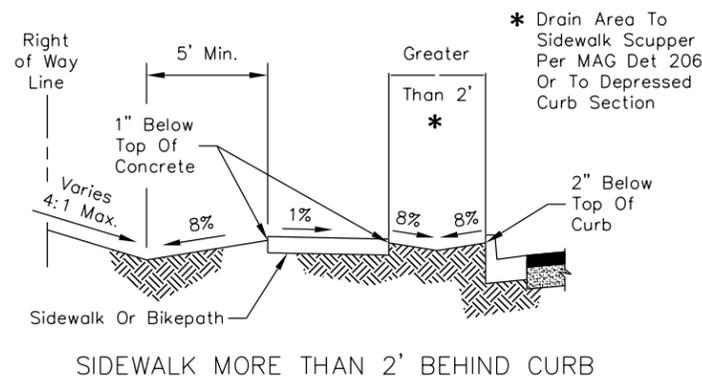
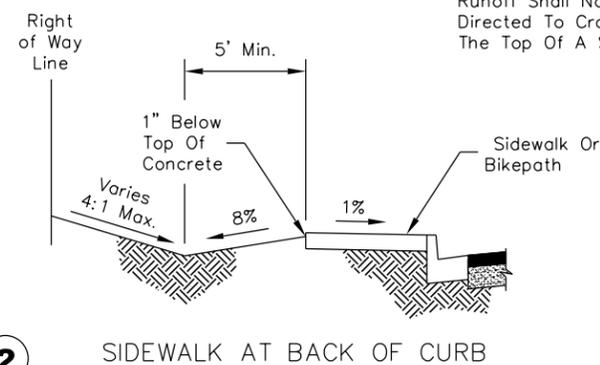
Tree Protection

1

DETAIL NO. 2620-4 City of Scottsdale Standard Details APPROVED BY: Scottsdale Standards & Specifications Committee LANDSCAPE DETAILS DETAIL NO. 2620-4



NOTE:  
 Runoff Shall Not Be Directed To Cross Over The Top Of A Sidewalk.



2

DETAIL NO. 2210 City of Scottsdale Standard Details APPROVED BY: Scottsdale Standards & Specifications Committee GRADING BEHIND THE CURB DETAIL NO. 2210

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017		
<b>SHEET TITLE</b> <b>NATIVE PLANT DETAILS</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		NPD02
PROJECT NO.		50 OF 105

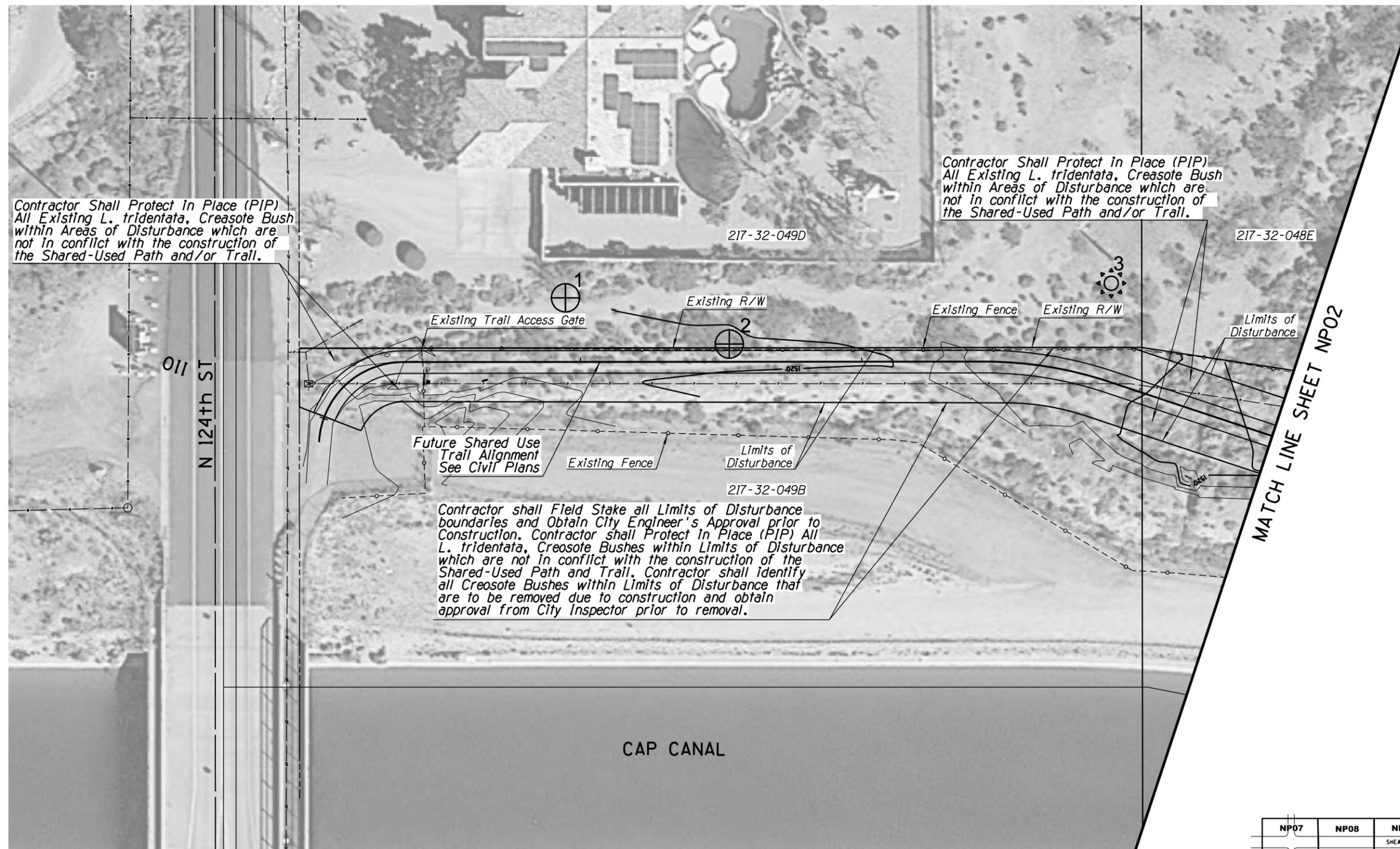
**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
1	Foothills Palo Verde	7	PIP
2	Ironwood	4	PIP
3	Barrel	3	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	0	0
NS = NON-SALVAGEABLE	0	0
PIP = PROTECT-IN-PLACE	2	1

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.



Contractor Shall Protect In Place (PIP) All Existing *L. tridentata*, Creosote Bush within Areas of Disturbance which are not in conflict with the construction of the Shared-Used Path and/or Trail.

Contractor Shall Protect in Place (PIP) All Existing *L. tridentata*, Creosote Bush within Areas of Disturbance which are not in conflict with the construction of the Shared-Used Path and/or Trail.

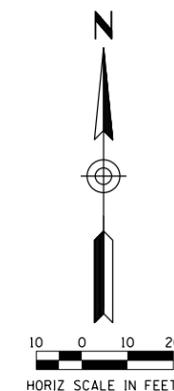
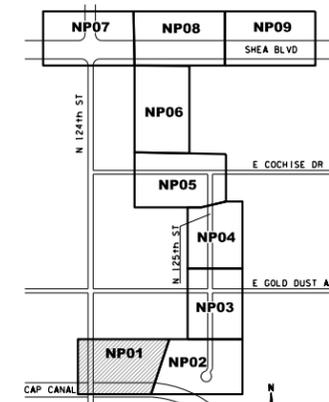
Contractor shall Field Stake all Limits of Disturbance boundaries and Obtain City Engineer's Approval prior to Construction. Contractor shall Protect In Place (PIP) All *L. tridentata*, Creosote Bushes within Limits of Disturbance which are not in conflict with the construction of the Shared-Used Path and Trail. Contractor shall identify all Creosote Bushes within Limits of Disturbance that are to be removed due to construction and obtain approval from City Inspector prior to removal.

MATCH LINE SHEET NP02



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY

		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

SHEET TITLE			
<b>NATIVE PLANT INVENTORY</b>			
PROJECT TITLE			
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ. 1"=20'	RC	1/16	16BP020
VERT.	DRAWN	AS-BUILT	PROJECT NO.
	J2		
			SHT. NP01
			51 OF 105

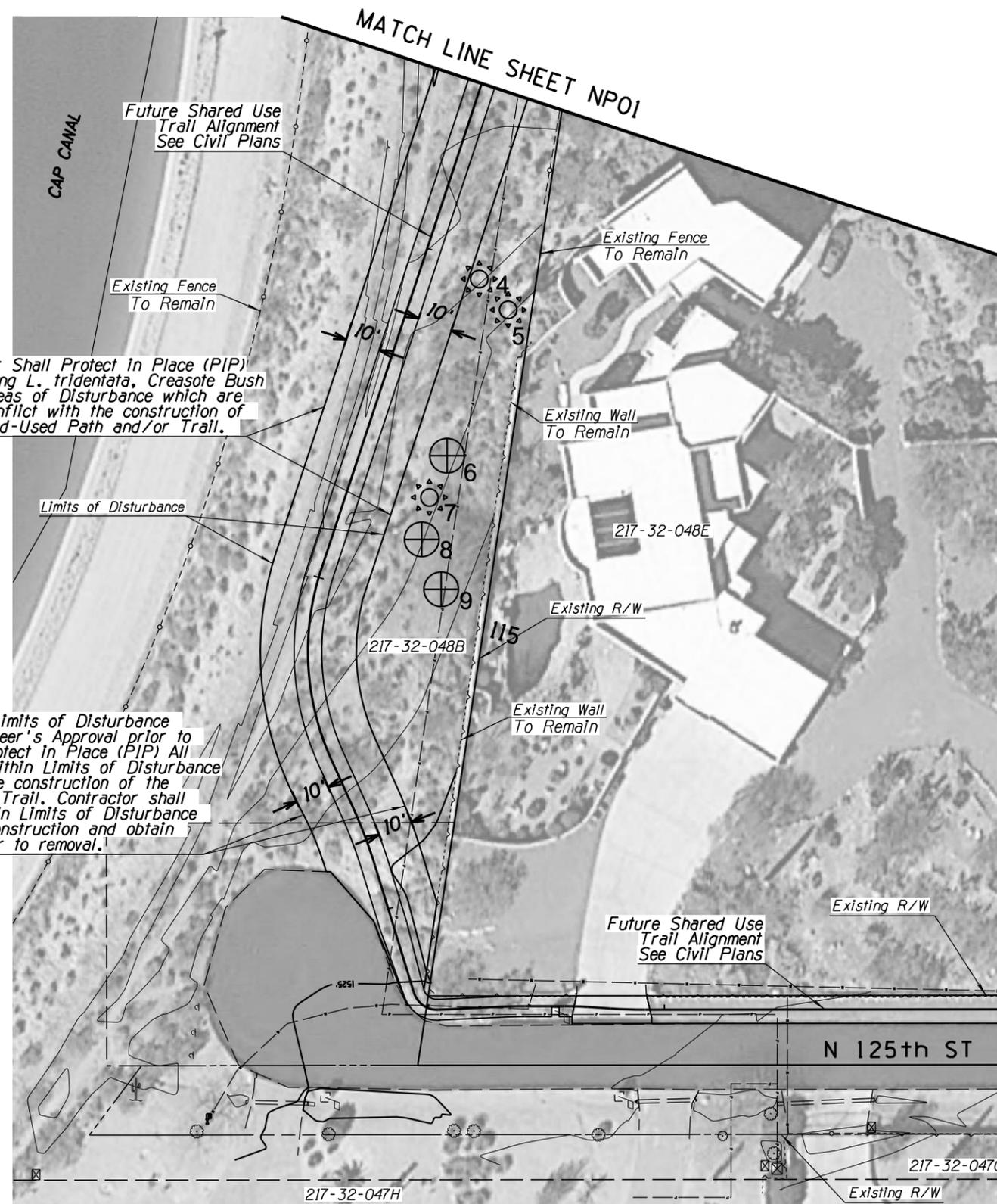
**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
4	Barrel	4	PIP
5	Saguaro	80	PIP
6	Mesquite	4	PIP
7	Saguaro	10	PIP
8	Mesquite	6	PIP
9	Mesquite	22	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	0	0
NS = NON-SALVAGEABLE	0	0
PIP = PROTECT-IN-PLACE	3	3

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.

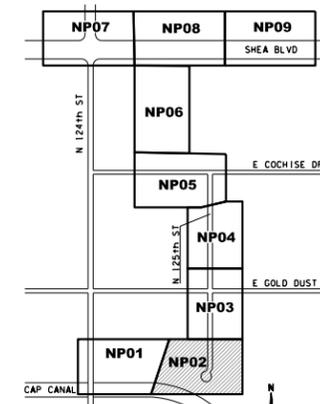


Contractor shall Field Stake all Limits of Disturbance boundaries and Obtain City Engineer's Approval prior to Construction. Contractor shall Protect in Place (PIP) All *L. tridentata*, Creosote Bushes within Limits of Disturbance which are not in conflict with the construction of the Proposed Shared-Used Path and Trail. Contractor shall identify all Creosote Bushes within Limits of Disturbance that are to be removed due to construction and obtain approval from City Inspector prior to removal.



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>NATIVE PLANT INVENTORY</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		NP02
PROJECT NO.		52 OF 105

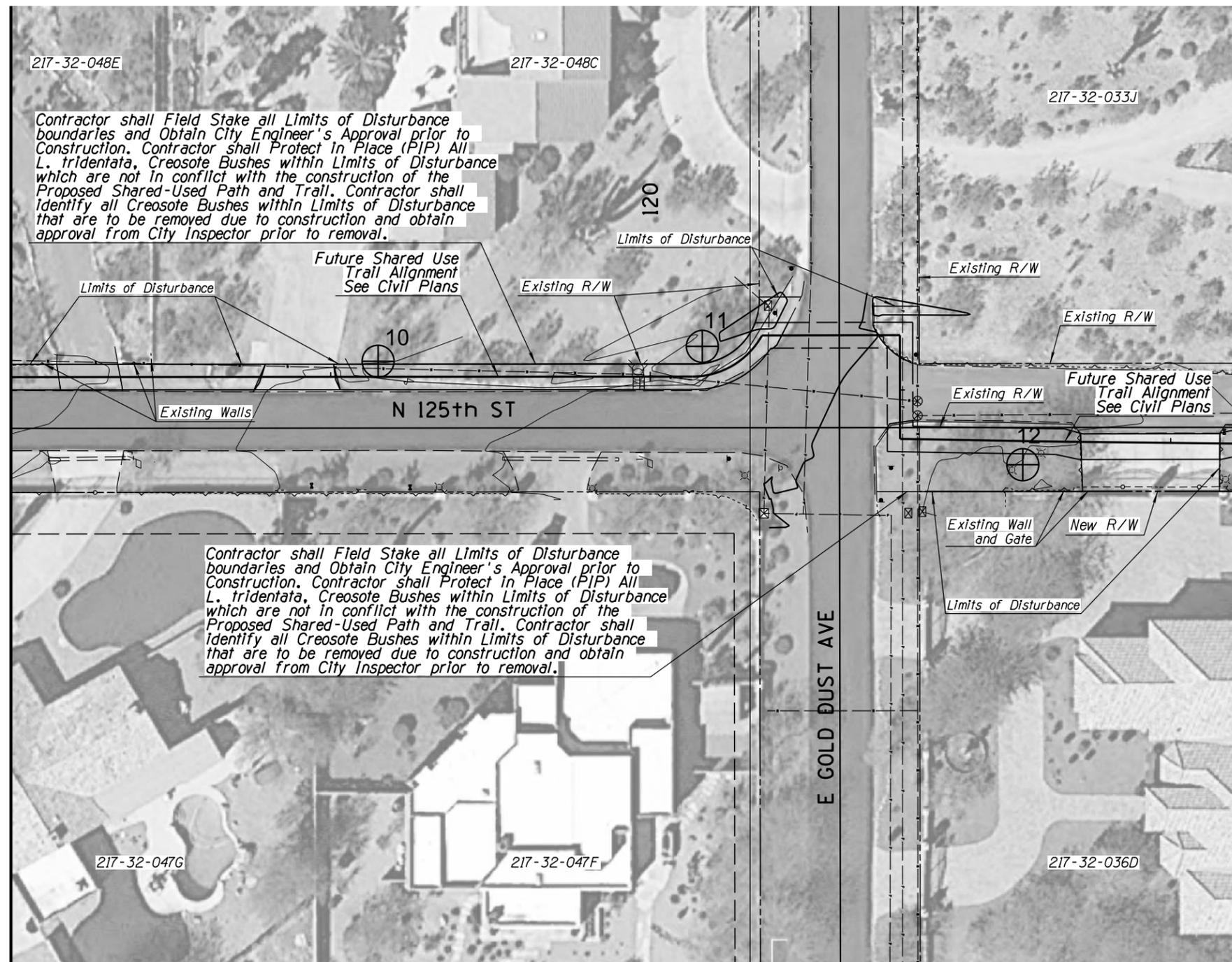
**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
10	Foothills Palo Verde	10	PIP
11	Foothills Palo Verde	12	PIP
12	Mesquite	12	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	0	0
NS = NON-SALVAGEABLE	0	0
PIP = PROTECT-IN-PLACE	3	0

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.



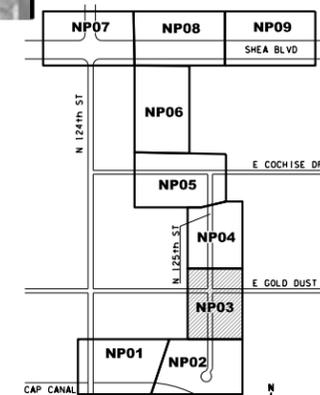
MATCH LINE SHEET NP02

MATCH LINE SHEET NP04



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

SHEET TITLE				
<b>NATIVE PLANT INVENTORY</b>				
PROJECT TITLE				
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>				
SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ. 1"=20'	RC	1/16	16BP020	NP03
VERT.	DRAWN	AS-BUILT	PROJECT NO.	
	J2			53 OF 105

XXX-XX

**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
13	Mesquite	9	PIP
14	Mesquite	4	PIP
15	Mesquite	8	PIP
16	Hybrid Palo Verde	9	PIP
17	Blue Palo Verde	9	S

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	1	0
NS = NON-SALVAGEABLE	0	0
PIP = PROTECT-IN-PLACE	4	0

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.



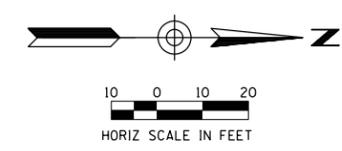
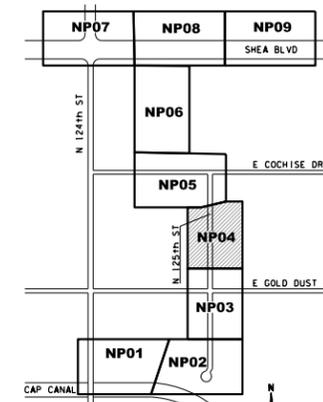
MATCH LINE SHEET NP03

MATCH LINE SHEET NP05



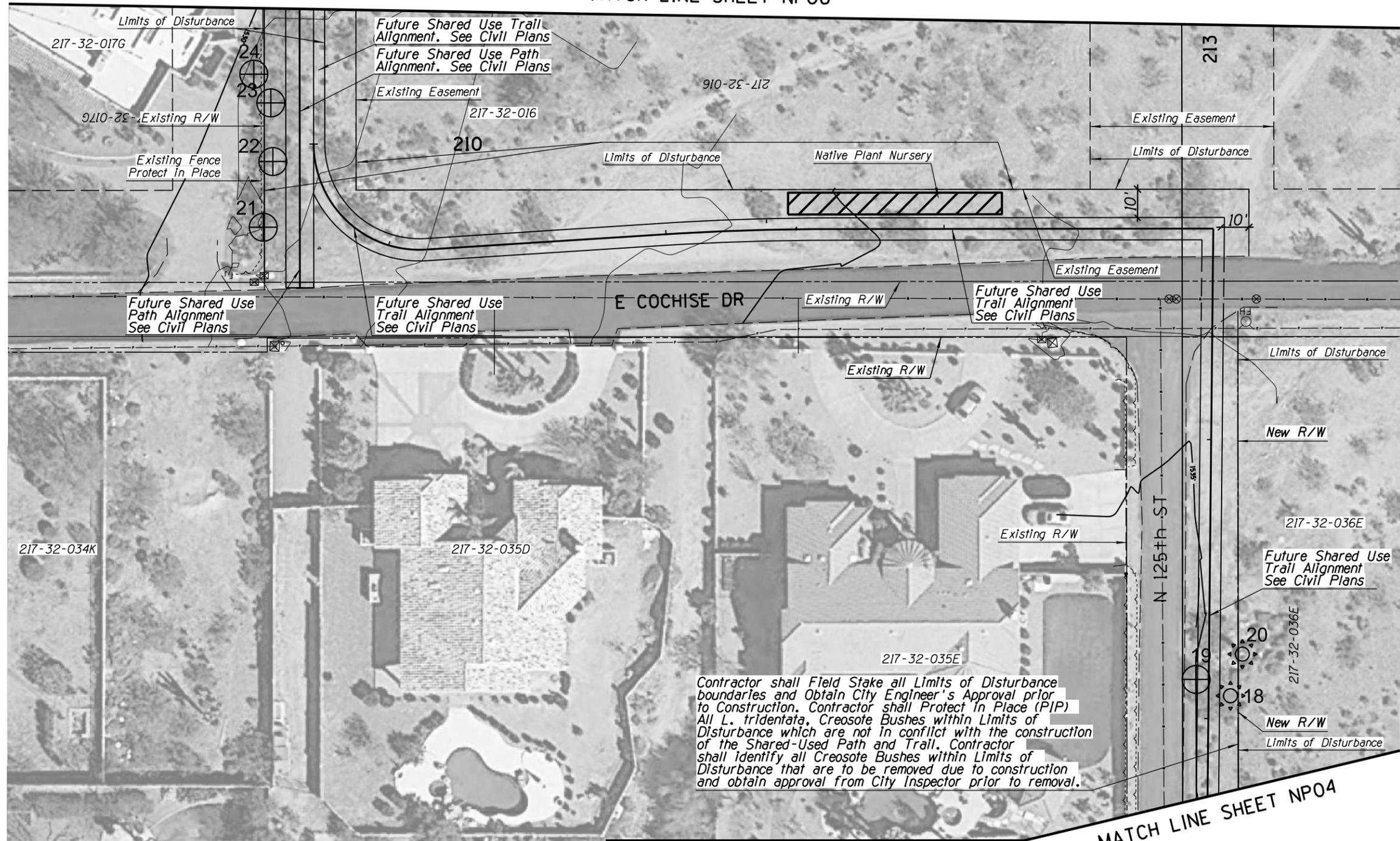
**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>NATIVE PLANT INVENTORY</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	J2	AS-BUILT
PROJECT NO.		SHT.
16BP020		NP04
PROJECT NO.		54 OF 105

MATCH LINE SHEET NP06



**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
18	Barrel	3	PIP
19	Whitethorn Acacia	6	NS
20	Saguaro	13	PIP
21	Foothills Palo Verde	8	PIP
22	Foothills Palo Verde	8	PIP
23	Foothills Palo Verde	14	PIP
24	Foothills Palo Verde	4	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	0	0
NS = NON-SALVAGEABLE	1	0
RIP = PROTECT-IN-PLACE	4	2

**NOTES:**

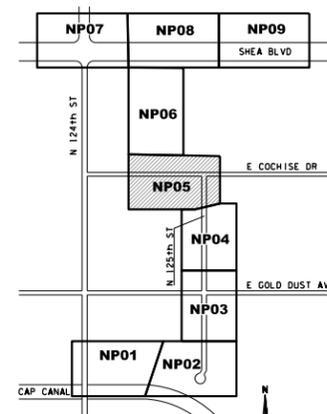
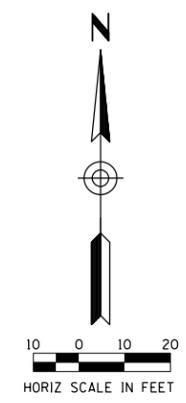
1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.

MATCH LINE SHEET NP04



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ, 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY
ENGINEER		
PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
NATIVE PLANT INVENTORY		
PROJECT TITLE		
SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		NP05
OF 105		55

XXX-XX

**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
25	Hackberry	60	PIP
26	Foothills Palo Verde	20	PIP
27	Foothills Palo Verde	19	PIP
28	Ironwood	20	PIP
29	Foothills Palo Verde	24	PIP
30	Ironwood	9	PIP
31	Barrel	5	PIP
32	Saguaro	11	S
33	Saguaro	55	PIP
34	Ironwood	24	S
35	Ironwood	20	NS
36	Ironwood	24	NS
37	Blue Palo Verde	8	PIP
38	Mesquite	18	PIP
39	Blue Palo Verde	12	PIP
40	Hackberry	30	PIP
41	Foothills Palo Verde	28	PIP
42	Catclaw Acacia	6	PIP
43	Foothills Palo Verde	20	PIP
44	Blue Palo Verde	10	NS
45	Blue Palo Verde	18	NS
46	Blue Palo Verde	5	PIP
47	Blue Palo Verde	7	PIP
48	Blue Palo Verde	4	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	1	1
NS = NON-SALVAGEABLE	4	0
PIP = PROTECT-IN-PLACE	16	2

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.



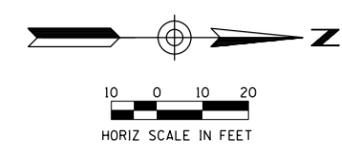
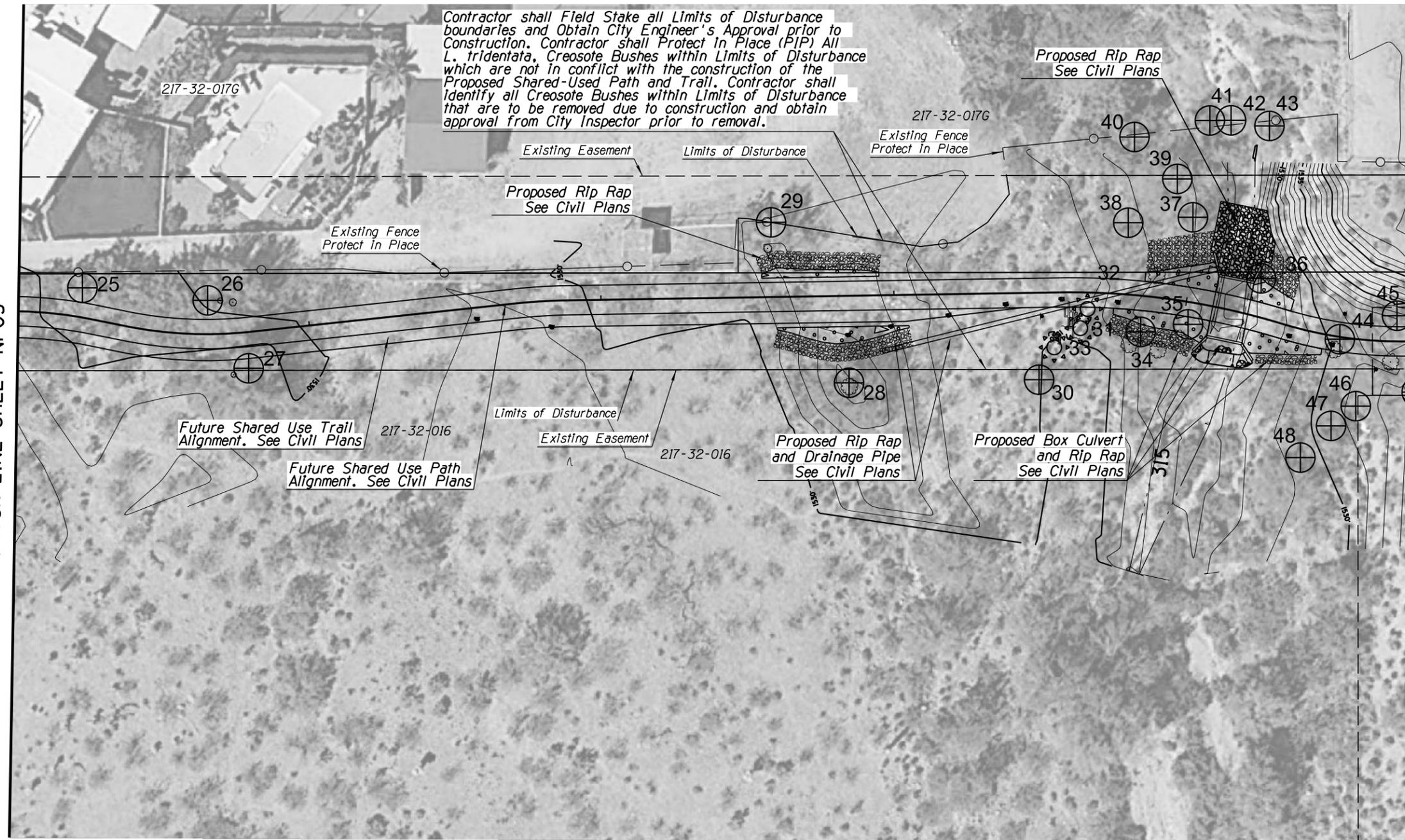
**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>NATIVE PLANT INVENTORY</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		NP06
OF 105		56

MATCH LINE SHEET NP08

MATCH LINE SHEET NP05



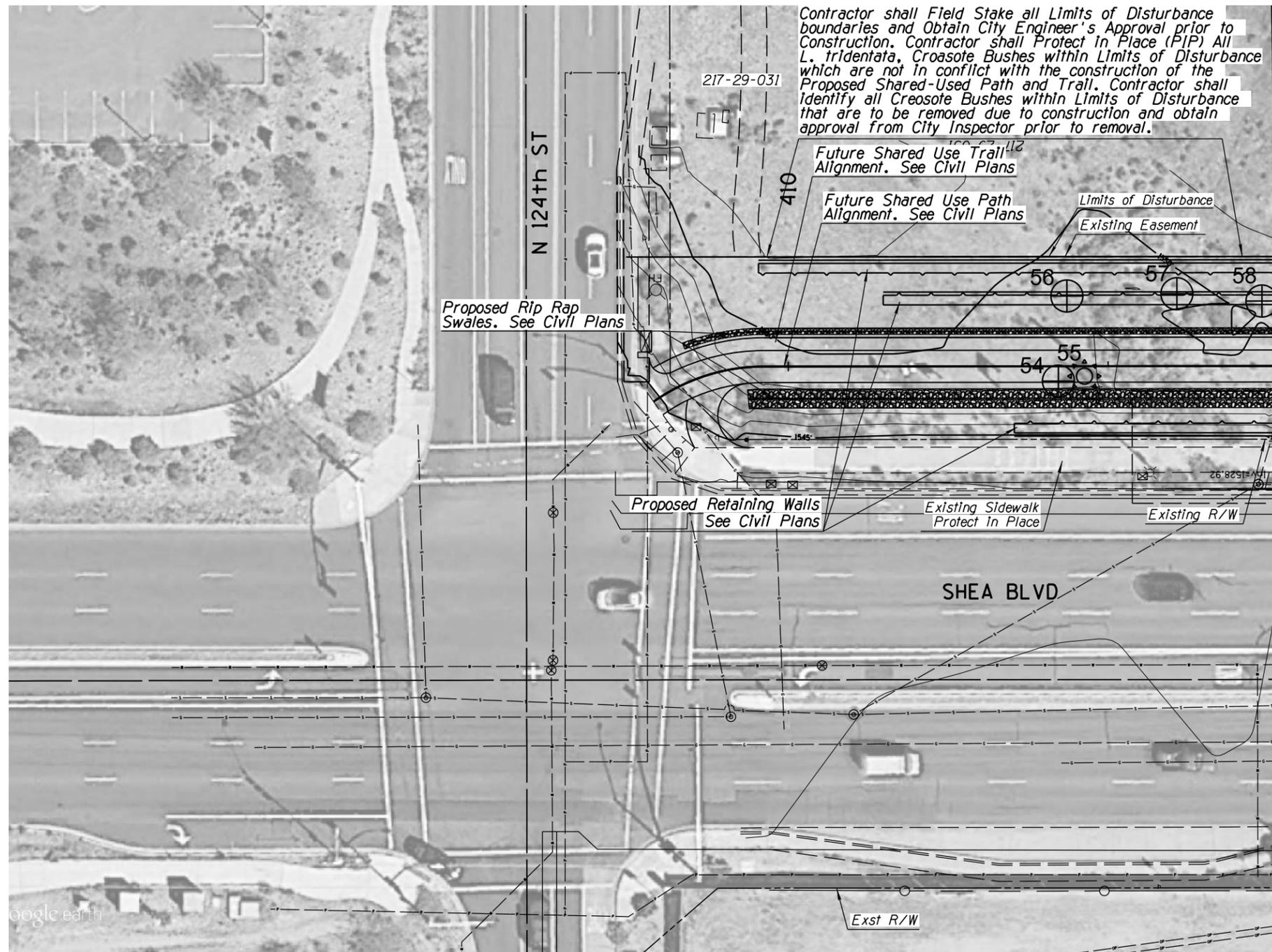
**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
54	Foothills Palo Verde	6	S
55	Saguaro	48	NS
56	Foothills Palo Verde	4	S
57	Mesquite	4	S
58	Foothills Palo Verde	4	S

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	4	0
NS = NON-SALVAGEABLE	0	1
PIP = PROTECT-IN-PLACE	0	0

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.

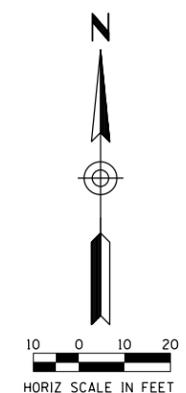
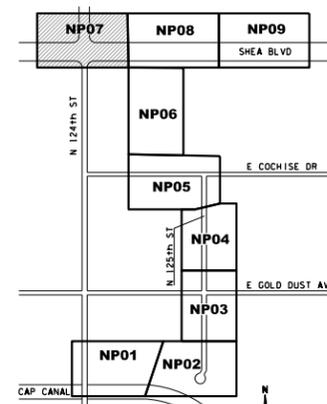


Contractor shall Field Stake all Limits of Disturbance boundaries and Obtain City Engineer's Approval prior to Construction. Contractor shall Protect In Place (PIP) All *L. tridentata*, *Croasote Bushes* within Limits of Disturbance which are not in conflict with the construction of the Proposed Shared-Used Path and Trail. Contractor shall Identify all *Croasote Bushes* within Limits of Disturbance that are to be removed due to construction and obtain approval from City Inspector prior to removal.



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ, 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

SHEET TITLE				
NATIVE PLANT INVENTORY				
PROJECT TITLE				
SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL				
SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ. 1"=20'	RC	1/16	16BP020	NP07
VERT.	DRAWN	AS-BUILT	PROJECT NO.	
	J2			57 OF 105

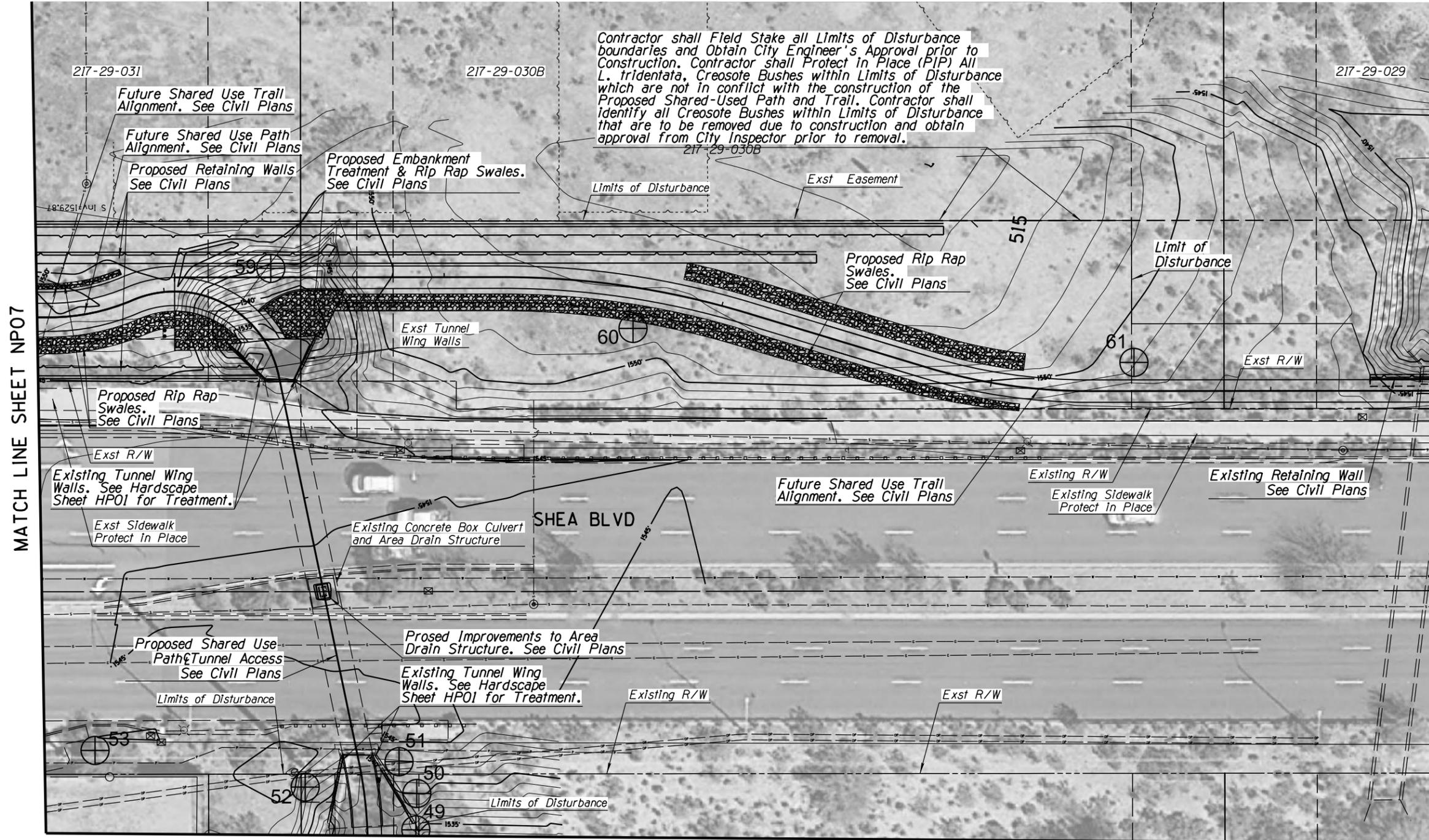
**NATIVE PLANT INVENTORY**

PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
49	Blue Palo Verde	16	PIP
50	Foothills Palo Verde	4	PIP
51	Foothills Palo Verde	8	PIP
52	Foothills Palo Verde	6	PIP
53	Blue Palo Verde	10	PIP
59	Foothills Palo Verde	4	NS
60	Foothills Palo Verde	10	PIP
61	Foothills Palo Verde	5	PIP

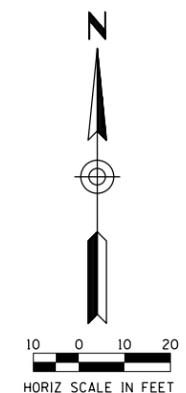
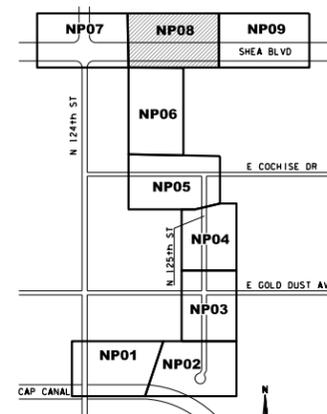
STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	0	0
NS = NON-SALVAGEABLE	1	0
PIP = PROTECT-IN-PLACE	7	0

**NOTES:**

1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.



MATCH LINE SHEET NP06



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY

ENGINEER: PUBLIC WORKS  
 CAPITAL PROJECT MANAGEMENT  
 7447 E. INDIAN SCHOOL RD.  
 SCOTTSDALE, ARIZONA 85251

Expires: 9/30/2017

SHEET TITLE: **NATIVE PLANT INVENTORY**

PROJECT TITLE: **SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ. 1"=20'	RC	1/16	16BP020	NP08
DRAWN	AS-BUILT	PROJECT NO.		
J2	AS-BUILT		58 OF 105	

**NATIVE PLANT INVENTORY**

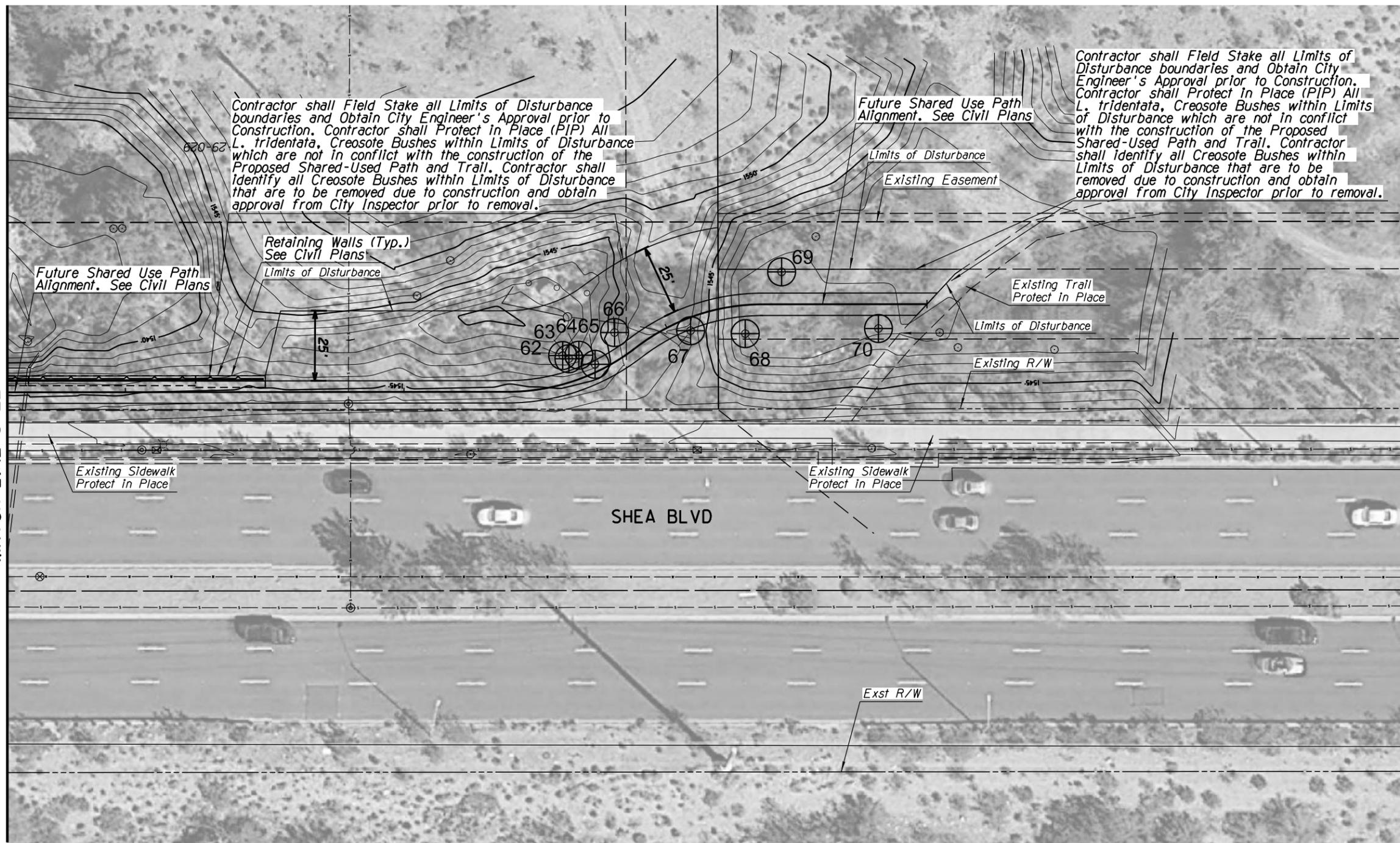
PLANT #	COMMON NAME	CALIPER (in)/ HEIGHT (ft)	STATUS
62	Foothills Palo Verde	4	S
63	Foothills Palo Verde	4	S
64	Foothills Palo Verde	4	S
65	Foothills Palo Verde	4	S
66	Foothills Palo Verde	4	S
67	Foothills Palo Verde	4	S
68	Foothills Palo Verde	4	PIP
69	Foothills Palo Verde	22	PIP
70	Foothills Palo Verde	6	PIP

STATUS LEGEND	TREE	CACTI
S = SALVAGEABLE	6	0
NS = NON-SALVAGEABLE	0	0
PIP = PROTECT-IN-PLACE	3	0

**NOTES:**

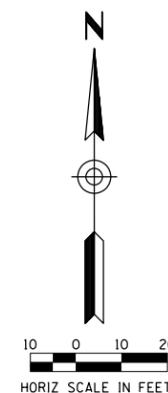
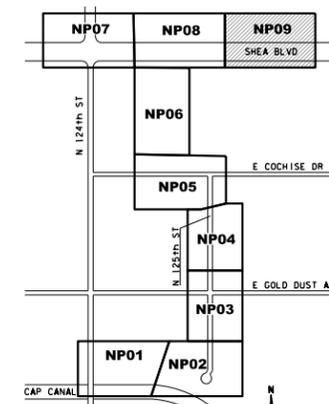
1. NATIVE PLANTS SHALL BE SALVAGED AND STORED WITHIN TEMPORARY NURSERY AS PART OF THIS PROJECT.
2. SEE SHEET NP05 FOR TEMPORARY NURSERY LOCATION.

MATCH LINE SHEET NP08



**Native Resources Intl.**  
 1540 W Happy Valley Rd.  
 Phoenix, AZ. 85085  
 Phone (623) 869-6757  
 Fax (623) 869-6769

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

SHEET TITLE				
<b>NATIVE PLANT INVENTORY</b>				
PROJECT TITLE				
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>				
SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ. 1"=20'	RC	1/16	16BP020	NP09
VERT.	DRAWN	AS-BUILT	PROJECT NO.	
	J2			59 OF 105

XXX-XX

**PART 1 - To be completed by the Landscape Architect or Design Engineer**

**PART 2 - To be completed by OWNER & CONTRACTOR**

[http://www.azdot.gov/inside\\_adot/OES/Water\\_Quality/Stormwater/Docs/swppp\\_construction\\_template.dot](http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/Docs/swppp_construction_template.dot)

**I. PROJECT DESCRIPTION**

A. Owner Name and Address:  
 City of Scottsdale  
 7447 E. Indian School Rd.  
 Scottsdale, Arizona 85251

B. City Project Number: 410-TB02A-56047

C. Project Location: Shea Blvd. & 124th St.  
 City: Scottsdale County: Maricopa  
 Beginning Latitude (NAD 83): 33° 34' 40"  
 Beginning Longitude (NAD 83): 111° 48' 48"  
 Ending Latitude (NAD 83): 33° 34' 58"  
 Ending Longitude (NAD 83): 111° 48' 48"

To obtain the project latitude/longitude data, refer to the Flash Earth web link below (Bing Maps with labels):  
<http://www.flashearth.com/>

D. Project Description: Construction of a New Shared Use Path, Construction of Concrete Retaining Walls, Plant Salvage and Relocation, Installation of New Plants and Irrigation, and Installation of Temporary and Permanent Erosion and Sediment Control Measure.

**II. HYDROLOGIC INFORMATION**

A. Project Size:  
 Length (MI.) 0.80  
 Area (Ac.) 2.84

B. Area to be Graded (Ac.): 2.84

C. Percentage of the site that is impervious before and after construction:  
 Percentage before Construction: 0%  
 Percentage after Construction: 15%

D. Receiving Water(s), refer to the Arizona Department of Water Resources Web Link below (USGS Topo):  
<http://gisweb.azwater.gov/WellRegistry/Default.aspx>  
Salt River

**III. PRESERVATION OF EXISTING VEGETATION**

A. In accordance with the specifications, existing vegetation will be preserved. Clearing limits shall be confined to areas that require grading. Existing vegetation outside the boundaries of the cleared area shall be protected from damage by construction activities. Existing trees within the area to be cleared shall be preserved and protected, wherever possible.

**IV. SOIL STABILIZATION MEASURES**

A. All disturbed soil, which will not be paved, riprapped or otherwise covered to prevent erosion, will be revegetated and/or landscaped in accordance with the project plans and specifications.

B. Scheduling of the revegetation effort can be found on PART 2 of this sheet under SCHEDULE OF MAJOR ACTIVITIES.

**V. MEASURES TO CONTROL EROSION AND SEDIMENT**

A. Temporary Erosion and Sediment Controls:  
 (Refer to the Following SWPPP Site Plan and Specifications)

Erosion Control Mattings  
 Temporary Diversion Dikes  
 Check Dams  
 Rock Inlet/Outlet Protection  
 Sediment Control Berms  
 Silt Fences  
 Wattles (Excelsior/Straw)  
 Excelsior Logs / Sediment Logs  
 Seeding (Class II with mulch)  
 Others Describe: Stabilized Construction Entrance / Exit Gravel Pad

B. Permanent Erosion and Sediment Controls and Post-construction Storm Water Management Measures:  
 (Refer to SWPPP Site Plan and Specifications)

Crown Ditch/Dike  
 Rock Protection  
 Rock Riprap Channel Lining  
 Sediment Basin  
 Embankment Curb  
 Spillways and Downdrains  
 Minibenching  
 Seeding established as a perennial vegetative cover with a density of 70% of the native background vegetative cover.  
 Others Describe: \_\_\_\_\_

**VI. MAINTENANCE AND INSPECTIONS**

A. Frequency of Inspections:  
 At least once every 7 calendar days, OR  
 Every 14 calendar days and within 24 hours after a rainfall of 0.5 inches (12.7 mm) or more.

NOTE: RAINFALL GAUGE TO BE KEPT ON-SITE TO DETERMINE DEPTH OF RAINFALL

B. Inspection Procedure:  
 ADOT's Contractor's Inspection Log and Compliance Evaluation Report (CER) will be completed by the contractor or his representative and will be kept on file for 3 years. A signed copy of the CER will be sent to the ADOT resident engineer. If repairs are necessary, they shall be initiated within 24 hours of the inspection report.

**I. SCHEDULE OF MAJOR ACTIVITIES**

A. Project Schedule: \_\_\_\_\_  
 Start Date: \_\_\_\_\_  
 End Date: \_\_\_\_\_

B. Construction Sequencing  
 Schedule: (Attach Additional Sheets) \_\_\_\_\_  
 Construction Activities \_\_\_\_\_

**II. INVENTORY OF POLLUTANTS**

A. The materials or substances checked below are expected to be onsite during construction:

Concrete  Asphalt  
 Paints  Fertilizer  
 Herbicides  Wood  
 Fuel  Oil  
 Others, List: \_\_\_\_\_

**III. POLLUTION CONTROL MEASURES**

A. Other Best Management Practices:  
 Wind Erosion and Dust Control  
 Solid Waste Management  
 Equipment Maintenance Procedures  
 Designated Washout Areas  
 Stabilized Construction Entrance  
 Protected Chemical and Material Storage Area  
 Other, Describe: \_\_\_\_\_

**IV. SPILL PREVENTION AND RESPONSE**

A. Spill Prevention:  
 The procedures outlined in the Best Management Practices listed under Pollution Control Measures will be followed to prevent and contain spills of hazardous material. These preventative action include BMP's on equipment maintenance and proper handling, storage and disposal of chemicals and materials. All manufacturer's recommendations for usage, clean-up and disposal shall be followed.

B. Spill Response:  
 In the event of any accidental spill of chemicals or hazardous materials, contact the ADOT Traffic Operations Center at 800-379-3701. If a reportable quantity is discharged into the storm water, ADOT shall contact the National Response Center and document the spill to the EPA. ADOT's Hazardous Materials Specialist shall provide instructions.

**V. CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS**

A. This Storm Water Pollution Prevention Plan (SWPPP) has been prepared in accordance with the latest updated version of ADOT's EROSION AND POLLUTION CONTROL MANUAL FOR HIGHWAY DESIGN AND CONSTRUCTION, published by ADOT Intermodal Transportation Division.

SWPPP is in compliance with other Federal, State Laws, or Local Regulations.

**VI. POLLUTION PREVENTION PLAN CERTIFICATION**

A. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Applies to VI. B., C., and D)

B. The operator/contractor as defined in AZPDES should sign the SWPPP in accordance with CGP Part VII. K, and retain the SWPPP on-site at the construction site or other location easily accessible during normal business hours.

Signature: (operator/contractor) \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 Company: \_\_\_\_\_

**C. City of Scottsdale Resident Engineer**

Signature: (owner) \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 ADOT District: \_\_\_\_\_

**D. MUNICIPALITY for Municipal Separate Storm Sewer System (MS4)**

Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Title: \_\_\_\_\_  
 MS4 Name: \_\_\_\_\_

**VII. OTHER REQUIREMENTS**

A. A copy of the General Permit and NOI are attached in accordance to AZPDES General Permit for Storm Water Discharges From Construction Activities To The Water Of The United States.

B. Projects that are within 1/4 mile of impaired or unique waters require the SWPPP to be sent to ADEQ in combination with the NOI. Refer to the Arizona Outstanding, Impaired and Not-Attaining Waters \*.PDF Maps by County web link:  
[http://www.azdot.gov/inside\\_adot/OES/Water\\_Quality/Stormwater/outstanding\\_unique\\_waters\\_maps\\_by\\_county.asp](http://www.azdot.gov/inside_adot/OES/Water_Quality/Stormwater/outstanding_unique_waters_maps_by_county.asp)

C. For further requirements, check the ADEQ's Smart NOI Web Page: <https://az.gov/webapp/noi/smartnoi/menu.do>



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
SHEET TITLE: <b>AZPDES SWPPP INDEX SHEET</b>		
PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO. <b>16BPO20</b>		SHT. <b>ECS01</b>
PROJECT NO.		60 OF 105

# EROSION CONTROL TYPE INSTALLATION & QUANTITY

LOCATION	Sediment Wattle Slope Protection (LF)		12" Sediment Wattle Storm Drain Protection (LF)	20" Sediment Log Check Dam (LF)	Curb Inlet Protection (LF)	Rock Protection at Headwall (CY)	Cut & Fill Transition (CY)	QUANTITIES							REMARKS
	9"	20"						9" Sediment Wattle Slope Protection (LF)	20" Sediment Wattle Slope Protection (LF)	12" Sediment Wattle Storm Drain Protection (LF)	20" Sediment Log Check Dams (LF)	Curb Inlet Protection (LF)	Rock Protection at Headwall (CY)	Cut & Fill Transition (CY)	
SR 101L - Shea Ave to SR 202L															
EC01	0	748	0	0	0	0	0	748	0	0	0	0	0	0	
EC02	0	700	0	0	0	0	0	700	0	0	0	0	0	0	
EC03	0	706	0	0	0	0	0	706	0	0	0	0	0	0	
EC04	0	618	0	0	0	0	0	618	0	0	0	0	0	0	
EC05	0	1,250	0	0	0	0	0	1,250	0	0	0	0	0	0	
EC06	165	741	0	0	0	0	165	741	0	0	0	0	0	0	
EC07	0	0	0	40	0	0	0	0	0	40	0	0	0	0	
EC08	862	0	25	50	55	17	862	0	25	50	55	17	0	0	
EC09	253	0	0	0	0	10	253	0	0	0	0	0	10	0	
<b>TOTAL (THIS SHEET):</b>								1,280	4,763	25	90	55	17	10	

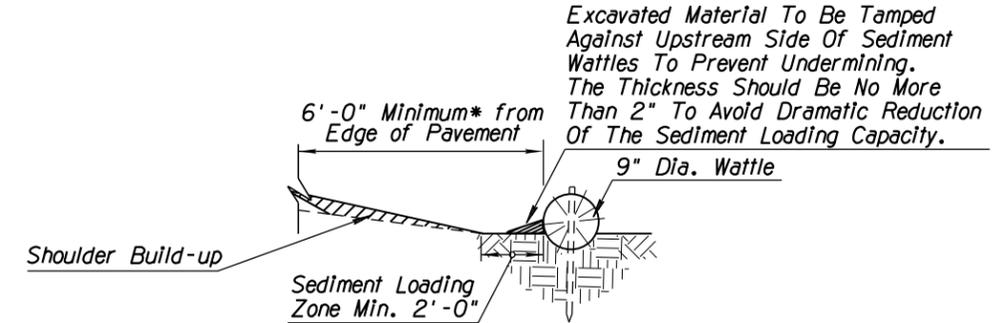
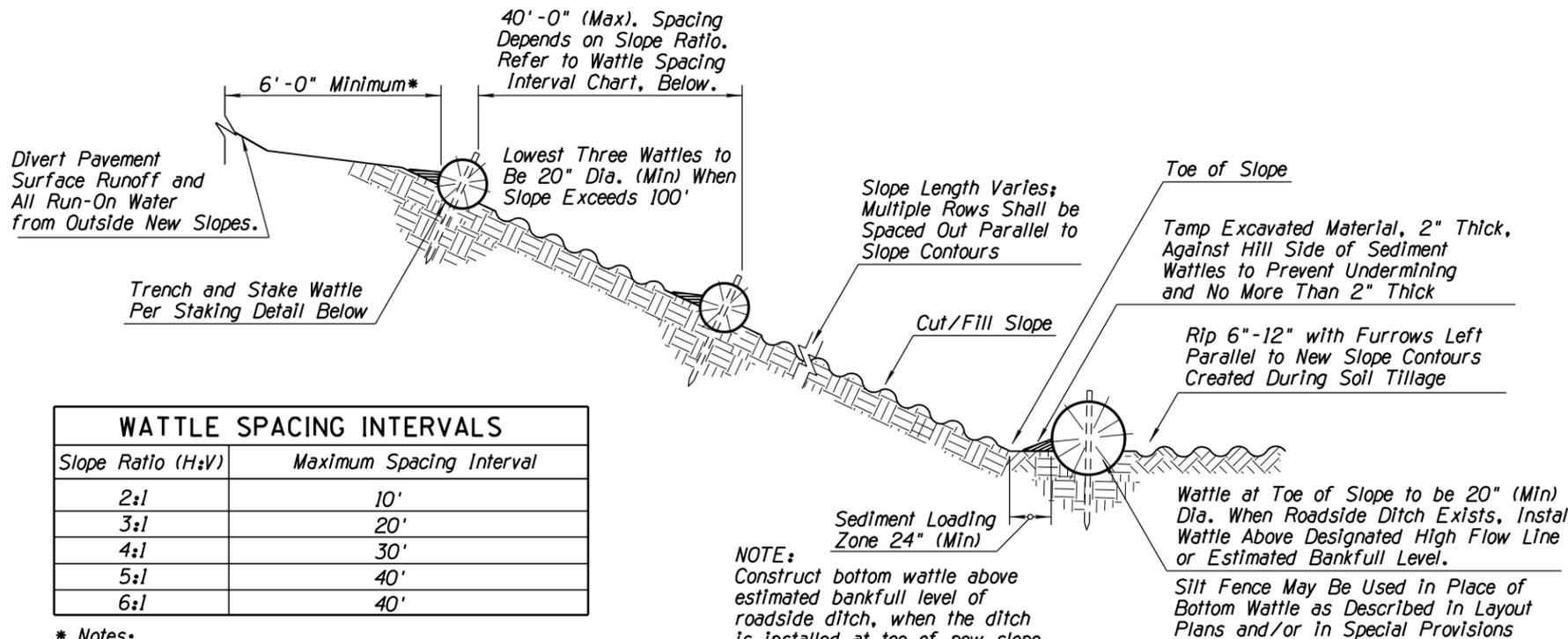
- SW - 9" & 20" Sediment Wattle Slope Protection
- SD - 12" Sediment Wattle Storm Drain Area Inlet Protection
- CD - 20" Sediment Log Check Dam
- IP - 12" Sediment Wattle Storm Drain Curb Inlet Protection
- RP - Rock Protection
- CF - Cut & Fill Transition
- CE - Construction Entrance

SD Reference letters 'SD' correspond to the type of installation.  
E2 'E2' corresponds to the plan detail number.

**NOTES:**  
 1. The placement of all Erosion Control Devices listed above will be subject to change and may be adjusted by the Field Engineer.

DATE	REVISION	BY	
			<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>
Expires: 9/30/2017		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251	
<b>SHEET TITLE</b> <b>EROSION CONTROL SUMMARY</b>			
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ.	RC	1/16	16BP020
VERT.	J2	AS-BUILT	PROJECT NO.
			SHT. <b>ECS02</b> 61 OF 105

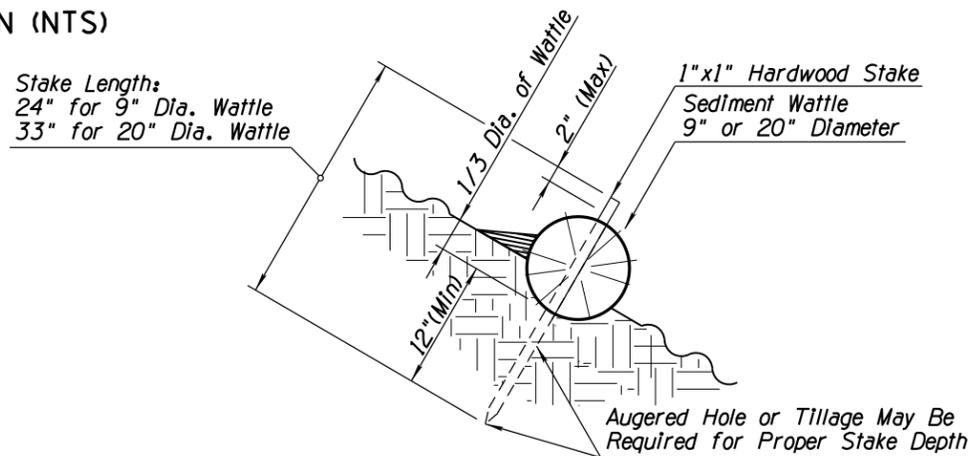
XXX-XX



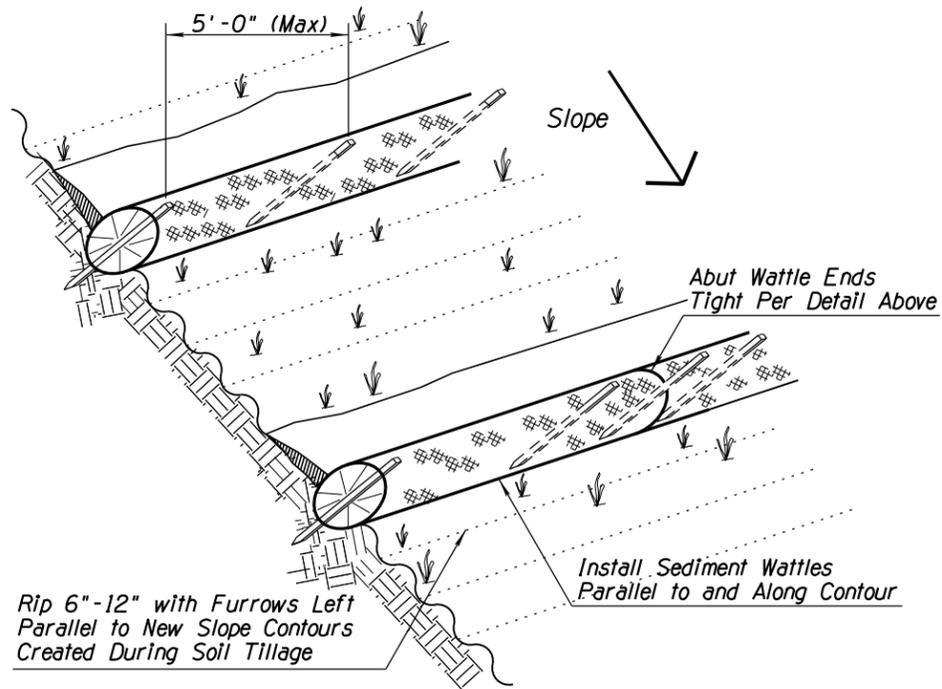
WATTLE SPACING INTERVALS	
Slope Ratio (H:V)	Maximum Spacing Interval
2:1	10'
3:1	20'
4:1	30'
5:1	40'
6:1	40'

- \* 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.

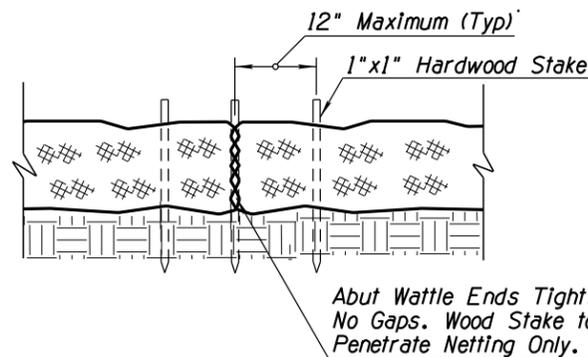
SECTION (NTS)



SEDIMENT WATTLE STAKING DETAIL (NTS)



SEDIMENT WATTLE LAYOUT (NTS)



SEDIMENT WATTLE OVERLAP (NTS)

NEW SHOULDER BUILDUP PROTECTION SECTION (NTS)

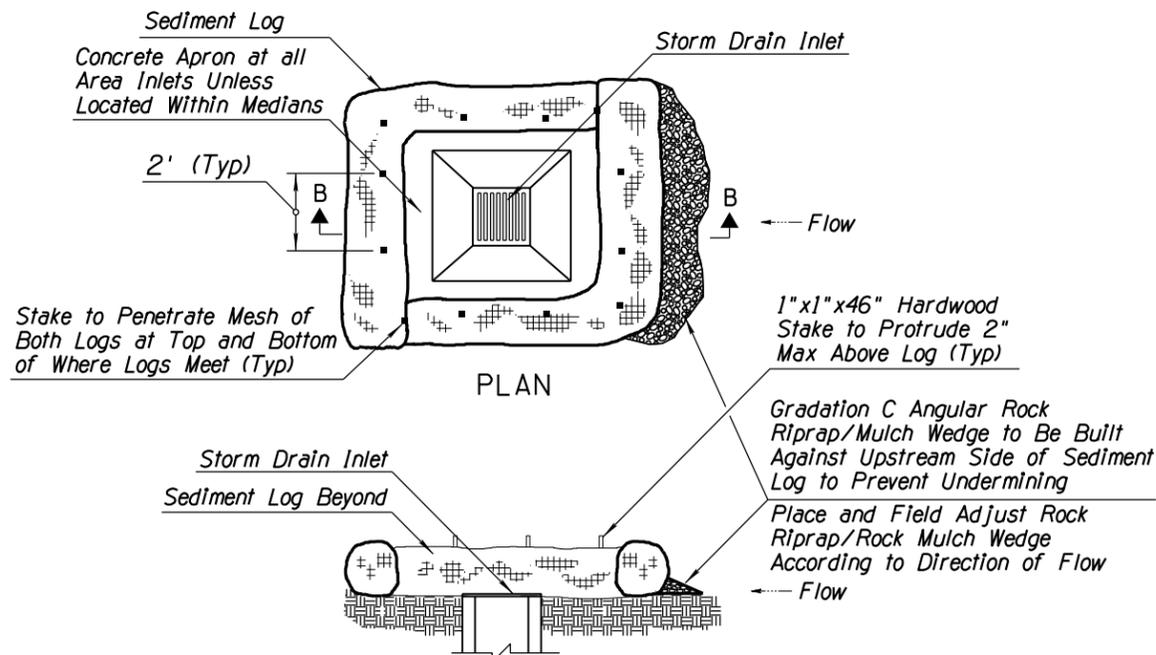
- NOTES:
1. Install Sediment Wattles as slopes are constructed to grade or as directed by the Engineer. Select, Install and maintain in conformance with manufacturers' specifications to meet site conditions for slope protection and in accordance with good engineering practices. No Sediment Wattles shall 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.

SW-X  
E1

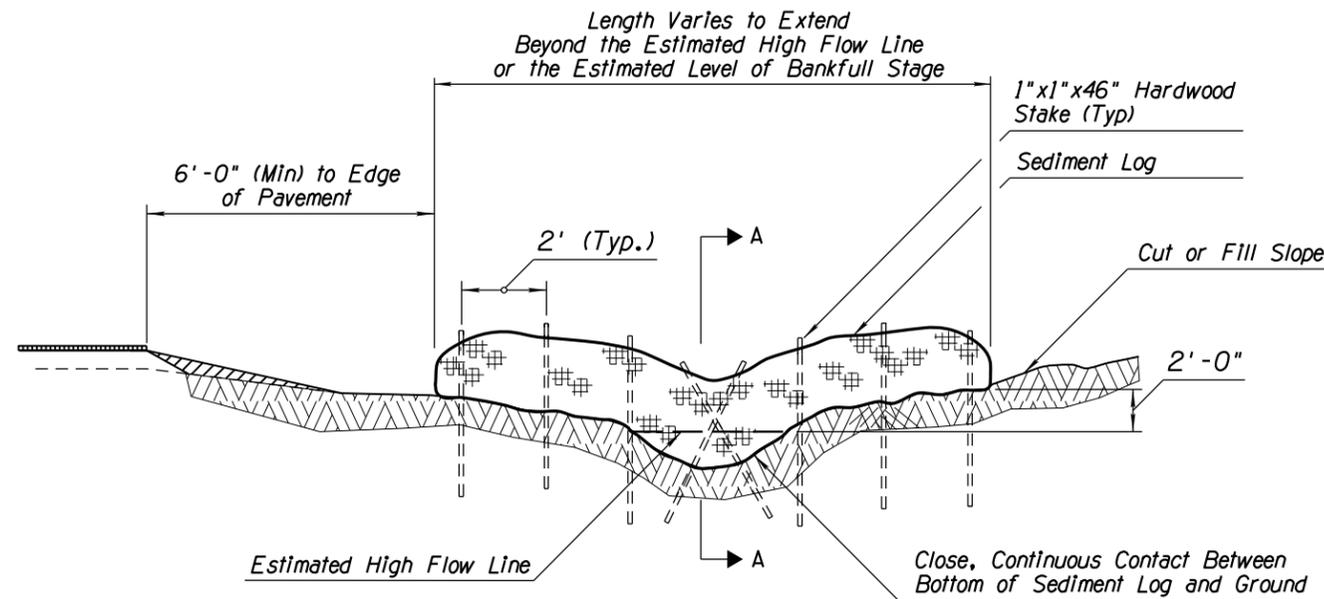
DETAIL E1  
 SEDIMENT WATTLE NTS  
 SLOPE PROTECTION

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

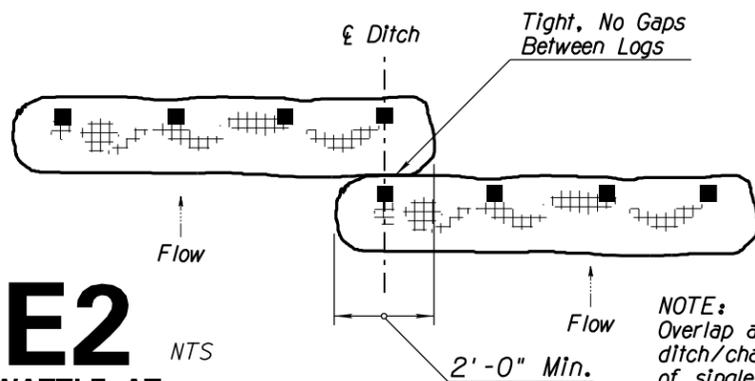
DATE	REVISION	BY
ENGINEER		
		PUBLIC WORKS CAPITAL PROJECT MANAGEMENT 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE EROSION CONTROL DETAILS		
PROJECT TITLE SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
	BID NO.	SHT.
	16BP020	ECD01
	PROJECT NO.	62 OF 105



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



SEDIMENT LOG IN DITCH/CHANNEL SECTIONAL ELEVATION (NTS)



TYPICAL OVERLAP PLAN (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.

SD  
E2

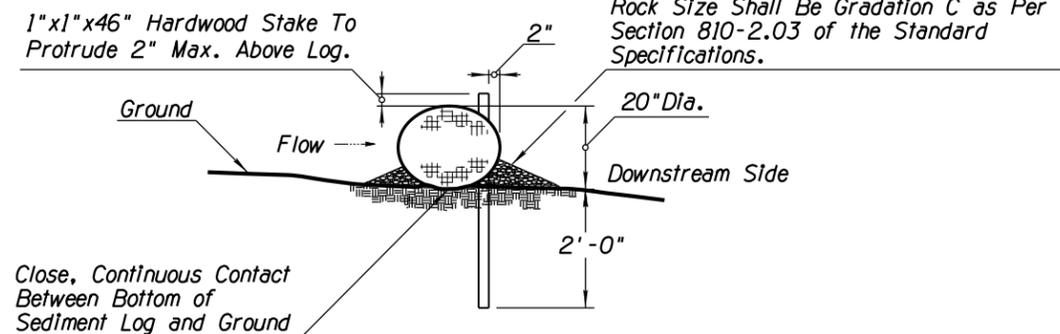
# DETAIL E2

NTS

SEDIMENT LOG / WATTLE AT STORM DRAIN AREA INLETS- TEMPORARY PROTECTION

NOTES:

- Sediment Logs shall not be installed in the urban freeway medians, nor where cable barrier systems are employed.
- Locate Sediment Logs as indicated in plans, SWPPP or as directed by the Engineer.
- Select, install and maintain Logs per manufacturers' specifications and good engineering practices.
- 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.
- Stake Log as shown. Stakes shall be placed through downstream side only as shown.
- DO NOT drive stakes through center of the log. Stakes must be driven into the ground as shown.
- Ensure that no gaps exist between soil and bottom of Sediment Log. Repair any rills or undercuts promptly.
- Placement of Sediment Logs shall be evaluated by the Engineer in rocky soil conditions.
- 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.
- Dispose of Sediment Logs and trapped sediment material and fill trench created by Sediment Log.
- 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.
- Field adjust and correct Sediment Log BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
- 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.
- 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.
- Refer to Standard Specification Section 810-2.06(B) for Sediment Log material specifications.



SECTION A-A (NTS)

CD  
E3

# DETAIL E3

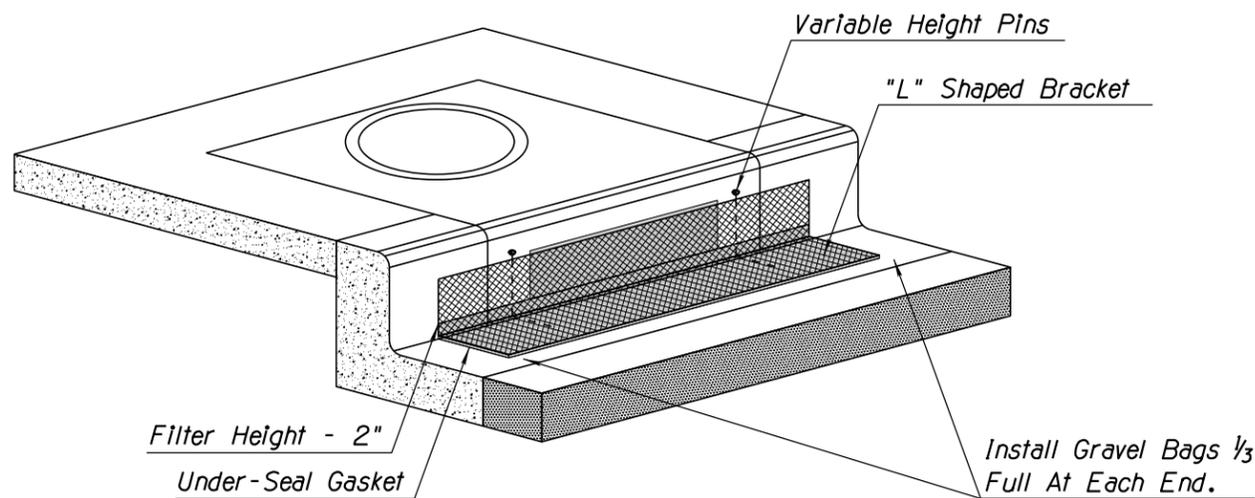
NTS

20" SEDIMENT LOG CHECK DAM

Rock Riprap/Mulch Wedge (approx. 12" wide x 5" high) to be Tamped Against Both Upstream and Downstream Sides of Sediment Log to Prevent Undermining. Rock Size Shall Be Gradation C as Per Section 810-2.03 of the Standard Specifications.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017 SHEET TITLE: <b>EROSION CONTROL DETAILS</b> PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		ECD02
PROJECT NO.		63 OF 105



**Construction Details**

- \* Minimum 2 Integrated "L" Brackets
- \* Minimum 2 Variable-Height Pins for Curb
- \* Filter Height = 2 Inches
- \* UV Resistant HDEP Outer Jacket
- \* Under-Seal Gasket to Prevent Underflow
- \* CIG Height = 8 Inches (min)
- \* CIG Length = 6.25 Feet

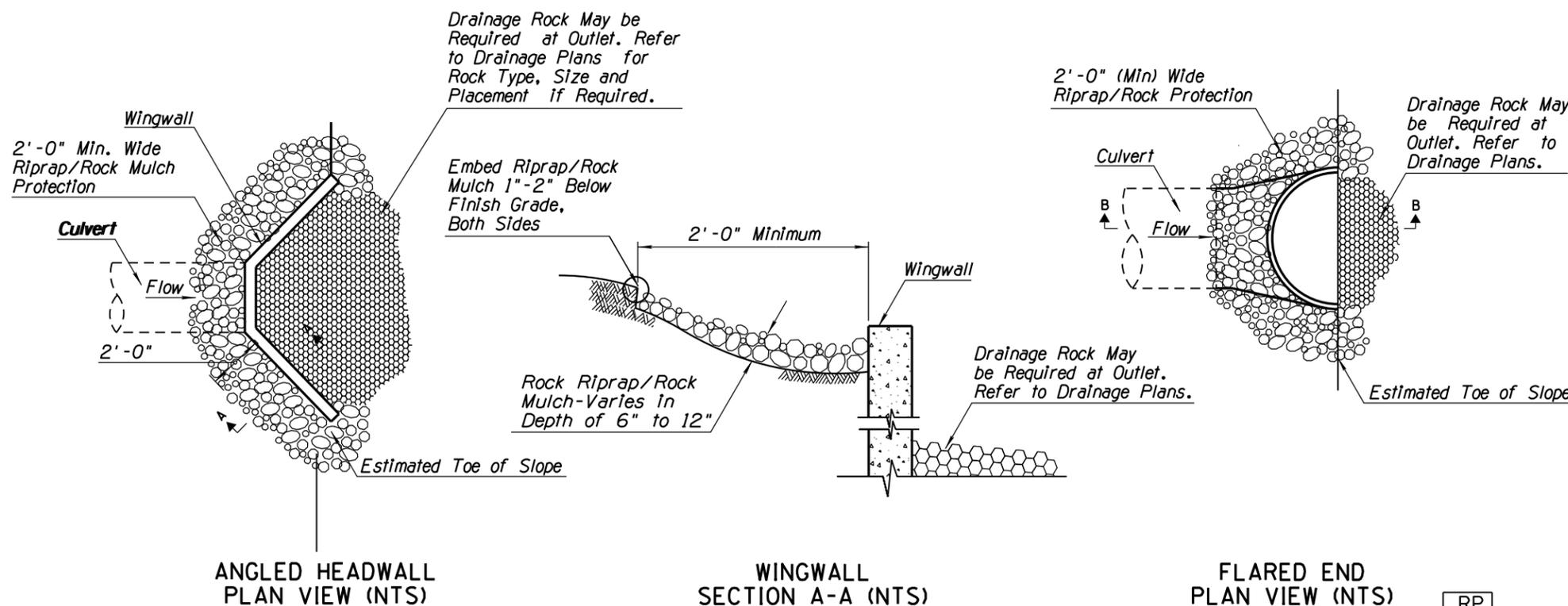
**Installation Details**

1. Placement: Place CIG tightly against drain opening with metal variable height pins at top.
2. Change height for high openings: extend variable height pins upward if necessary.
3. Interconnecting for long curb openings: overlap segments so the bottom gasket provides a continuous seal (one side has a cut-out). each 6.25" segment fits a 5 foot opening or smaller. use 2 segments for 8 to 10 feet. use 3 segments for 15 feet, etc.
4. Anchoring: install gravel bags at each end and at overlaps. use 1/3 full gravel bags for low profile and best traffic avoidance. use clean gravel at drain inlets - not sand. select bags with long term uv exposure and toughness for resistance to traffic. where not possible to install gravel bags due to traffic proximity, it is acceptable to anchor with concrete anchors, or masonry nails - one at each end. anchor curb inlet guard so that water cannot flow behind it. use 1" washers.

Inlet Size	# of CIG Segments
5'	1
10'	2
15'	3
20'	4
25'	5
30'	6

IP  
E4

**DETAIL E4** NTS  
**CURB INLETS PROTECTION**



**NOTES:**

1. Rock Riprap/Rock Mulch shall be angular shaped, crushed rock materials.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications.
3. Embed rock within traffic recovery area/clear zone into the finished grade so that any portion of the rock above the grade will be less than 4" in height.
4. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Field adjust and correct Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
6. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP; all ground preparation, furnishing, installing, maintaining as well as returning the area to an acceptable condition as approved by the Engineer.

RP  
E5

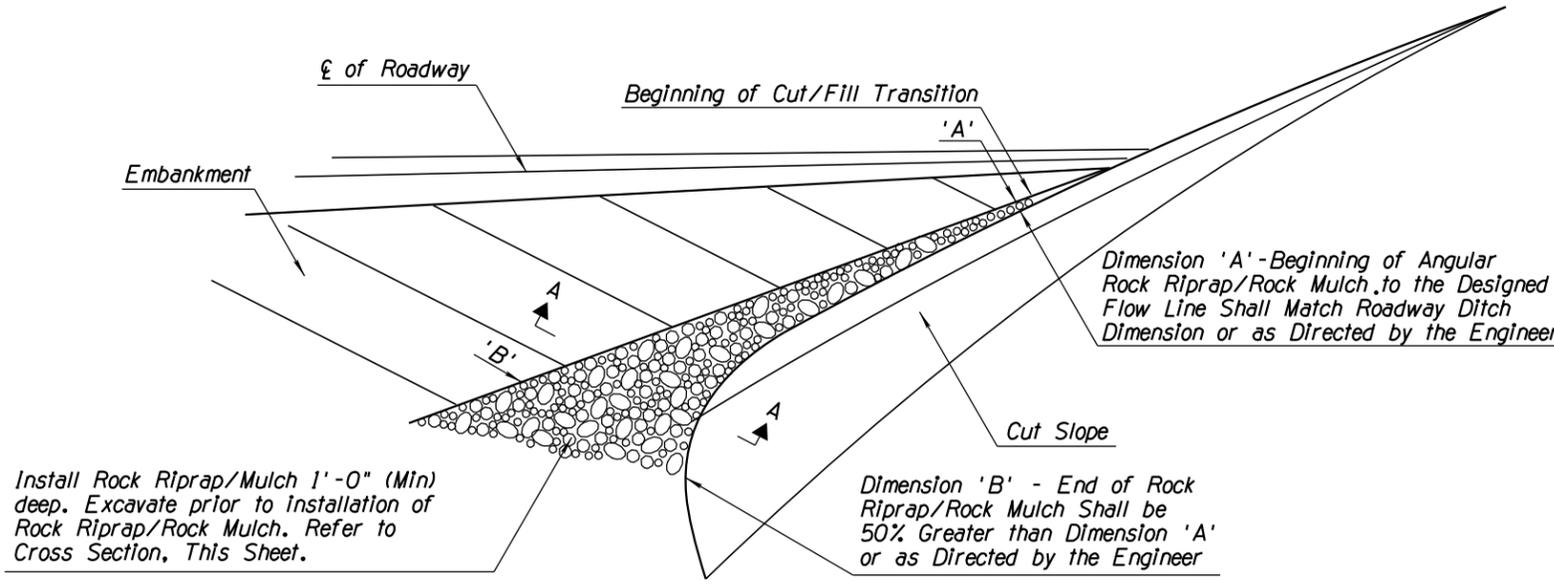
**DETAIL E5** NTS  
**ROCK PROTECTION**  
**AT HEADWALL TRANSITIONS-**  
**PERMANENT PROTECTION**

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

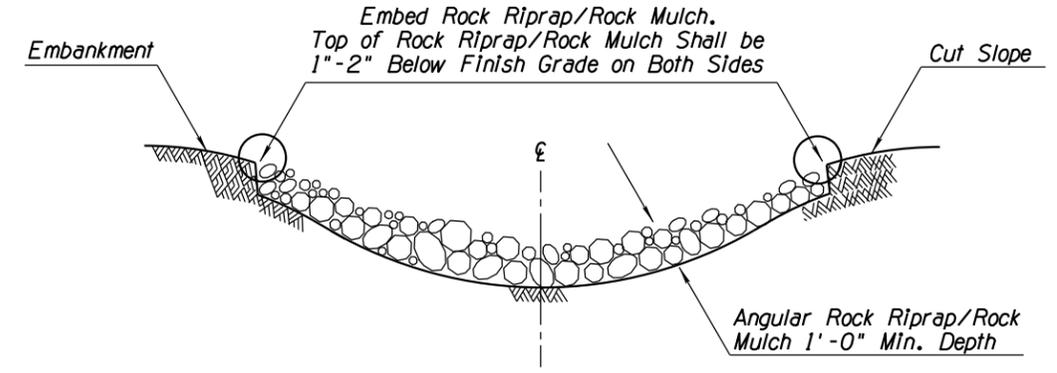
DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
Expires: 9/30/2017		
SHEET TITLE: <b>EROSION CONTROL DETAILS</b>		
PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE: DESIGNED RC 1/16	DATE: 1/16	BID NO.: 16BP020
HORIZ. DRAWN: J2	AS-BUILT	SHT. ECD03
VERT.		PROJECT NO. 64 OF 105



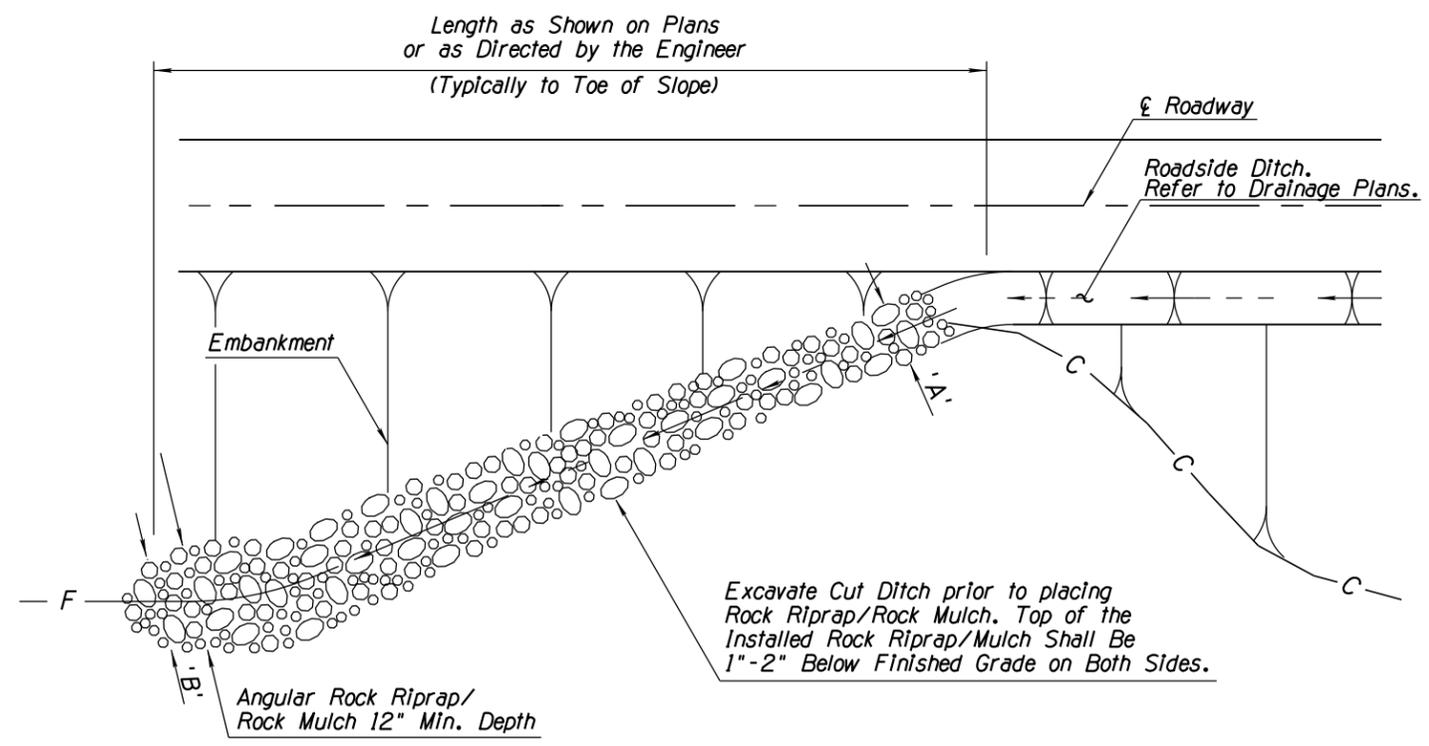
PERSPECTIVE (NTS)



ROCK RIPRAP/ROCK MULCH EMBEDMENT SECTION A-A (NTS)

NOTES:

1. Rock Riprap/Rock Mulch shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone/Recovery Area shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Standard Specifications and these special provisions.
3. Install Rock Riprap/Rock Mulch to a minimum depth of 12" for Channel Lining and Cut/Fill Transition. Excavate ground surface to a depth that the top of Rock is 1"-2" below the grade of the ditch.
4. Embed any rock into the finished grade so that any portion of the Rock is less than 4" above grade, within traffic recovery area/clear zone.
5. The installation and maintenance of Rock Protection BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
6. Make field adjustments and corrections of Rock Protection BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
7. Make field adjustments to ensure the top surface of Rock Riprap/Rock Mulch is graded lower than the surrounding finished grade to collect surface stormwater runoff and concentrated flow.
8. The Rock Protection BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, maintaining, as well as returning the area to an acceptable condition as approved by the Engineer.
9. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.



PLAN VIEW (NTS)

NOTE:  
 Cut and fill transition shall be placed as shown on plans or where the length of the roadside ditch is 50 feet or greater. Field adjust per direction of Engineer.

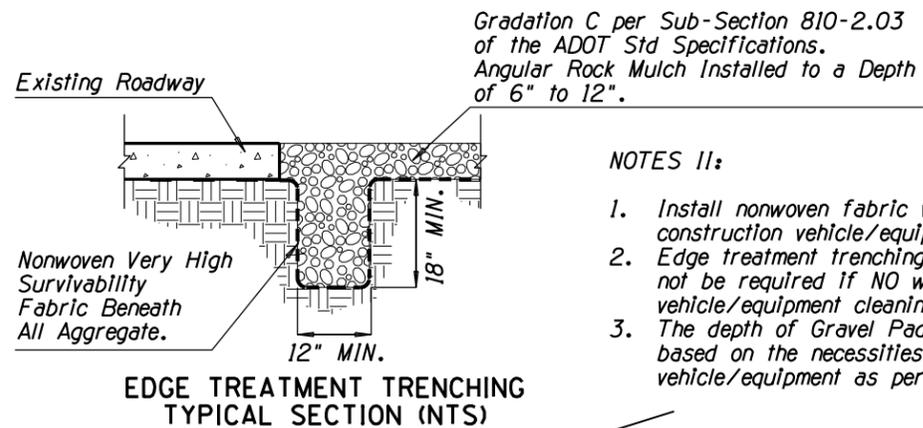
CF  
E6

**DETAIL E6** NTS

**ROCK PROTECTION FOR CUT & FILL TRANSITION AND CHANNEL LINING**

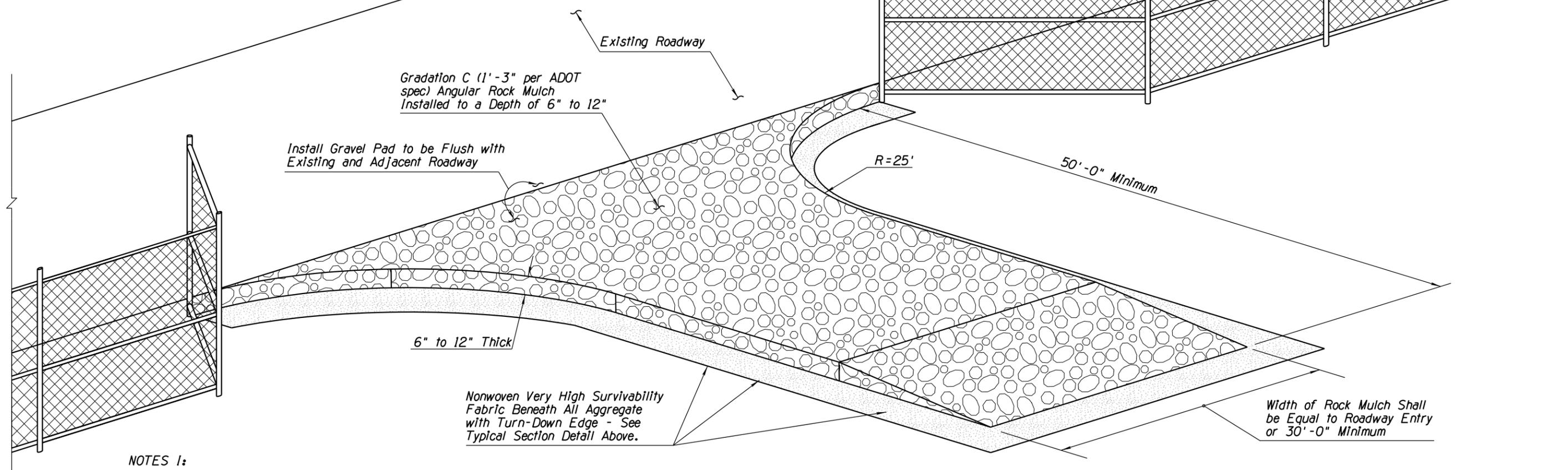
ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
ENGINEER		
		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE: <b>EROSION CONTROL DETAILS</b>		
PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
PROJECT NO.		SHT.
16BP020		ECD04
65 OF 105		



**NOTES II:**

1. Install nonwoven fabric when water is applied for construction vehicle/equipment cleaning on Gravel Pad.
2. Edge treatment trenching and nonwoven fabric shall not be required if NO wash water is used for vehicle/equipment cleaning.
3. The depth of Gravel Pad varies from 6" to 12" based on the necessities of construction vehicle/equipment as per the approval of the Engineer.



**BIRD'S EYE VIEW (NTS)**

**NOTES I:**

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 ADOT Standard Specifications.
4. Rock Mulch (Gradation C) materials shall be fractured/crushed rocks in angular shape and as defined in the Sub-section 810-2.03 of the ADOT Standard Specifications. Natural river-run materials, especially rounded natural river rocks are not acceptable.
5. Make field adjustments and corrections of Construction Entrance/Exit Gravel Pad BMP immediately if it is causing flooding and/or affecting roadway safety.
6. When paid separately, the Stabilized Construction Entrance/Exit Gravel Pad BMP's pay/bid item shall include all materials used for this BMP: all ground preparation, furnishing, installing, final removal, and disposal of this temporary BMP, as well as returning the area to an acceptable condition as approved by the Engineer.
7. \* Fence/barricade pay/bid item shall not be included as a component of the Stabilized Construction Entrance/Exit Gravel Pad BMP pay/bid item.
8. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>
Expires: 9/30/2017	7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251	

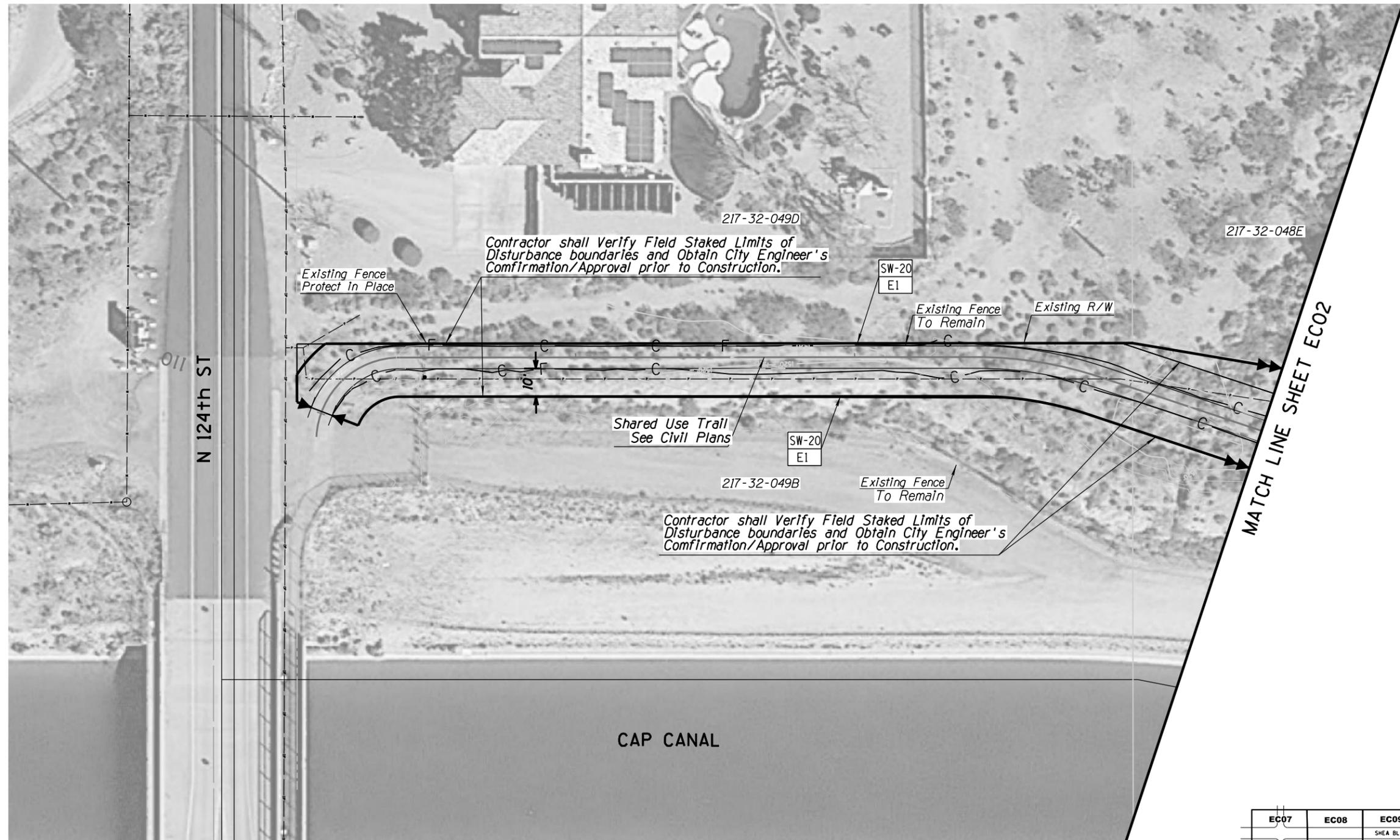
  

SHEET TITLE: <b>EROSION CONTROL DETAILS</b>			
PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE: RC	DESIGNED: 1/16	BID NO.: 16BP020	SHT. ECD05
HORIZ. DRAWN: J2	AS-BUILT	PROJECT NO.	66 OF 105
VERT.			

CE E7 **DETAIL E7**  
**CONSTRUCTION ENTRANCE**  
 CONSTRUCTION ENTRANCE TOTAL SQUARE YARD: 3,000

NTS

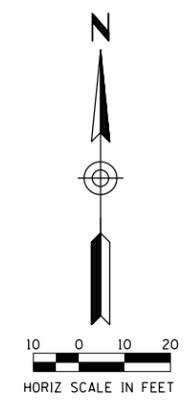
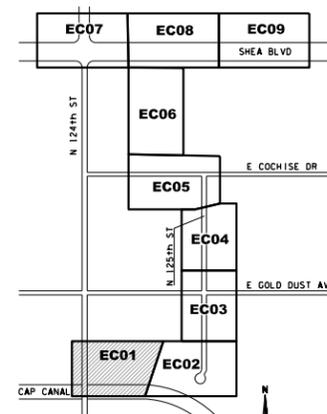
- Erosion Control Method**
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference**



Contractor shall Verify Field Staked Limits of Disturbance boundaries and Obtain City Engineer's Confirmation/Approval prior to Construction.

Contractor shall Verify Field Staked Limits of Disturbance boundaries and Obtain City Engineer's Confirmation/Approval prior to Construction.

MATCH LINE SHEET EC02

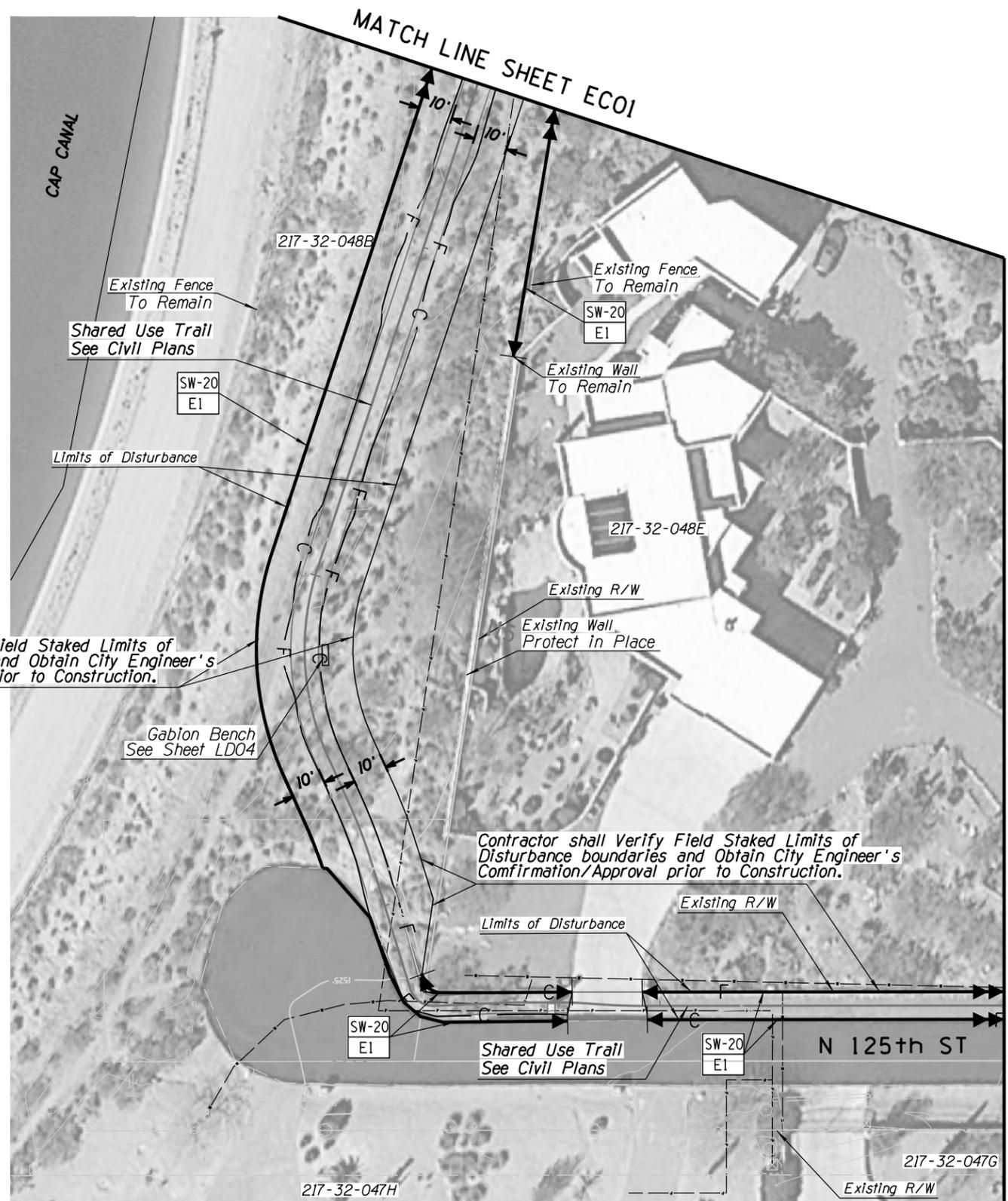


ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>SHEET TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS</b> <b>FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		EC01
PROJECT NO.		67 OF 105

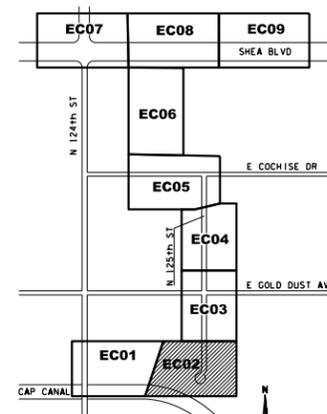
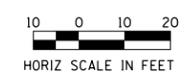
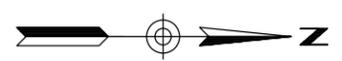
XXX-XX

- Erosion Control Method
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference



Contractor shall Verify Field Staked Limits of Disturbance boundaries and Obtain City Engineer's Confirmation/Approval prior to Construction.

Contractor shall Verify Field Staked Limits of Disturbance boundaries and Obtain City Engineer's Confirmation/Approval prior to Construction.

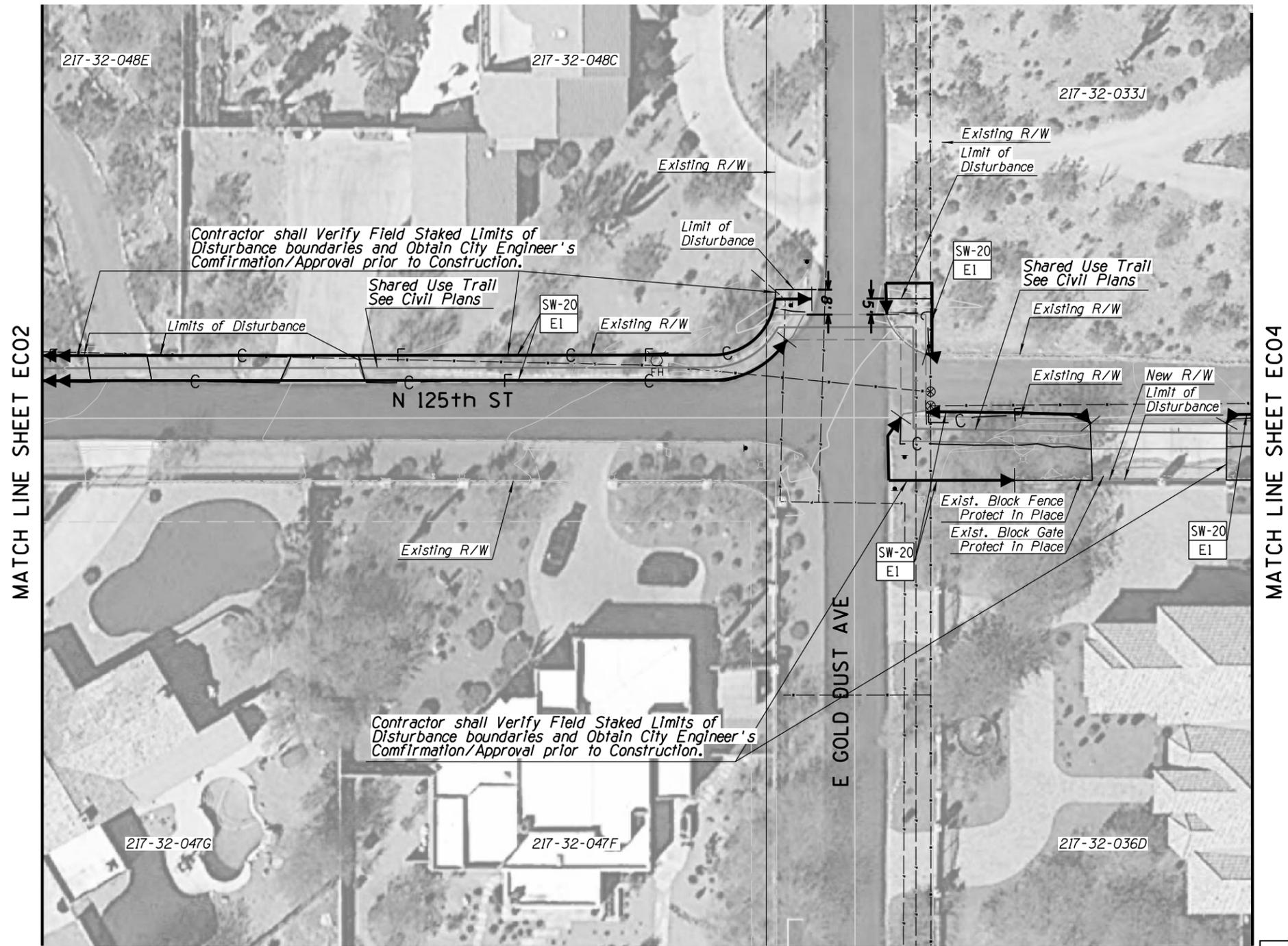


DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b> <b>EROSION CONTROL</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
PROJECT NO. 16BP020		SHT. EC02
PROJECT NO. 16BP020		68 OF 105

**Erosion Control Method**

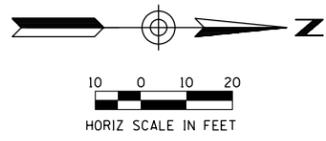
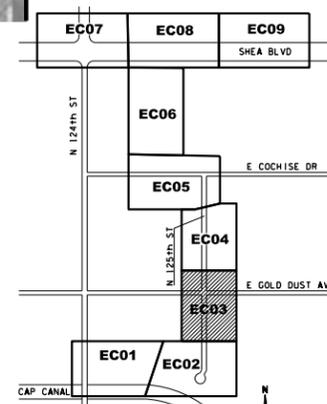
- SW-20 = 20" Sediment Wattles
- SW-9 = 9" Sediment Wattles
- SD = Storm Drain Protection
- CD = Check Dam
- IP = Inlet Protection
- RP = Rock Protection
- CF = Cut & Fill Transition
- CE = Construction Entrance

**Detail Number Reference**



MATCH LINE SHEET EC02

MATCH LINE SHEET EC04



DATE	REVISION	BY

		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
--	--	--

SHEET TITLE			
<b>EROSION CONTROL</b>			
PROJECT TITLE			
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ. 1"=20'	RC	1/16	16BP020
VERT.	DRAWN	AS-BUILT	PROJECT NO.
	J2		
			SHT. EC03
			69 OF 105

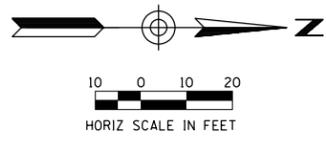
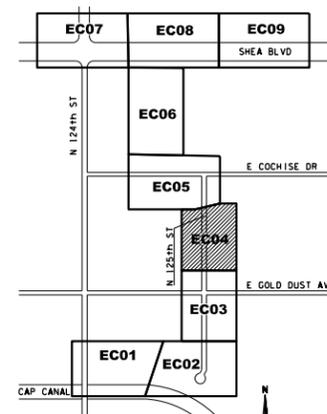
XXX-XX



- Erosion Control Method**
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference**

MATCH LINE SHEET EC03

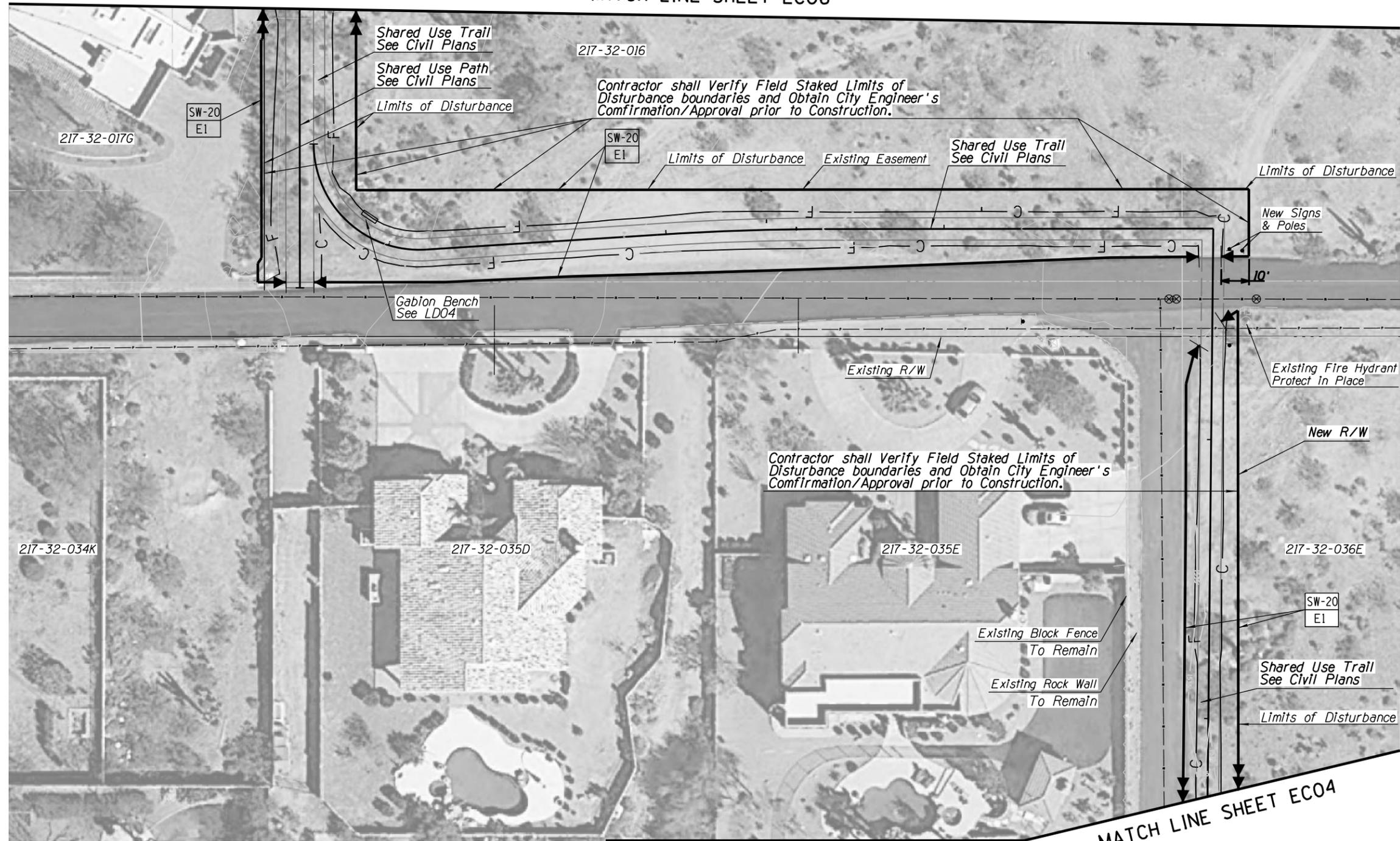
MATCH LINE SHEET EC05



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

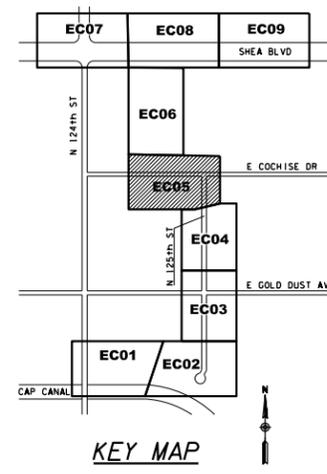
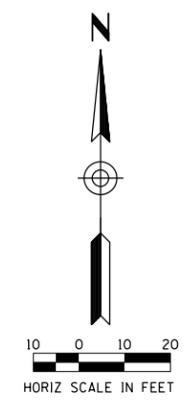
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b> <b>EROSION CONTROL</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO. 16BP020 PROJECT NO.		SHT. EC04 70 OF 105

MATCH LINE SHEET EC06



- Erosion Control Method**
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference**
- CD
  - E3

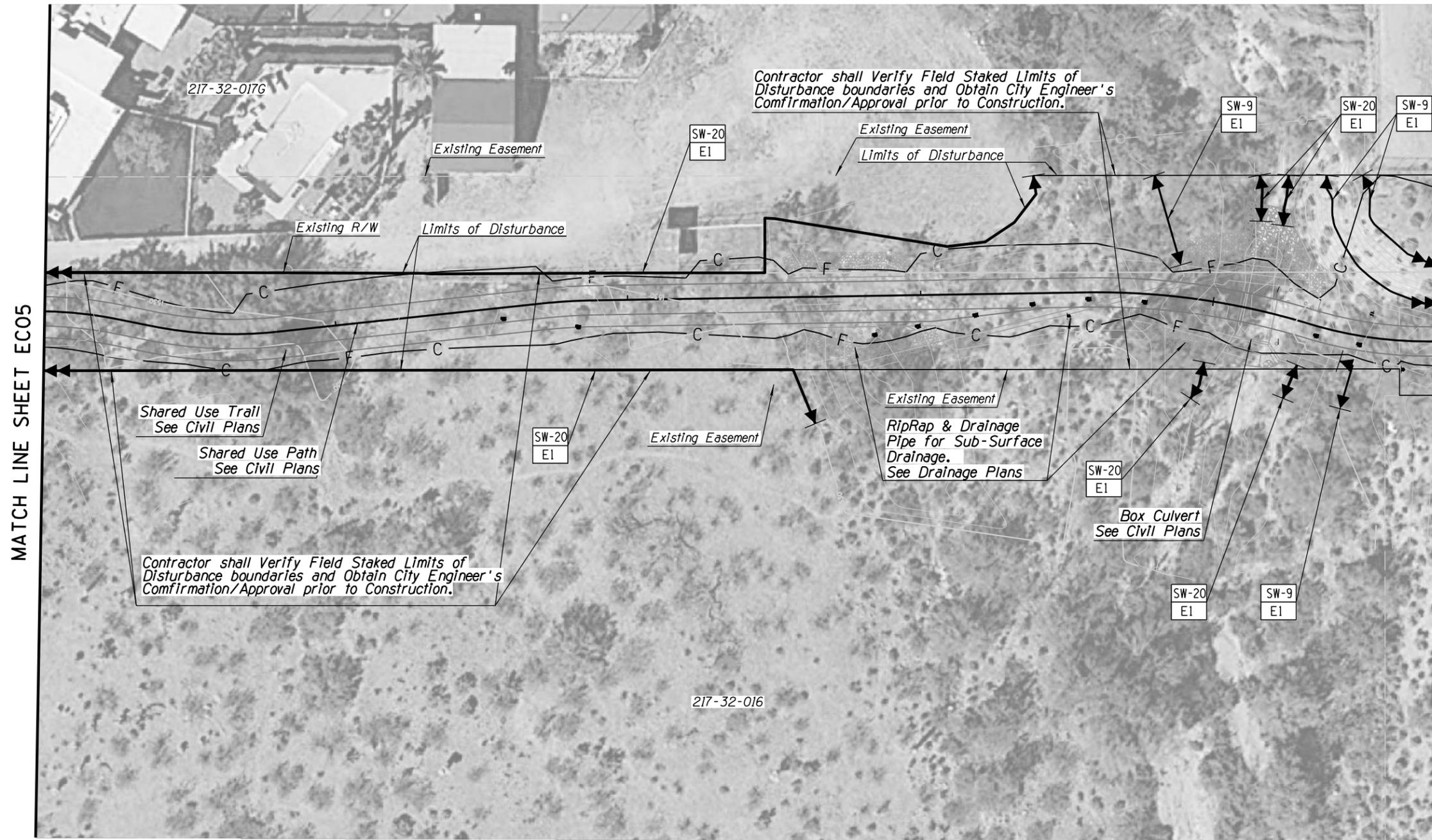
MATCH LINE SHEET EC04



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

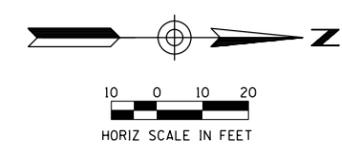
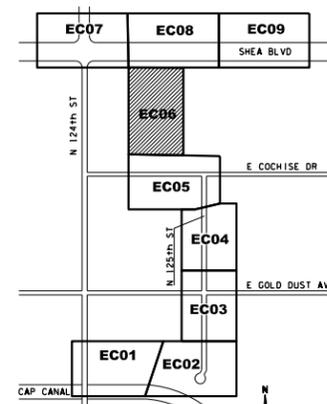
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>PROJECT TITLE</b> SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. EC05 71 OF 105

**Erosion Control Method**  
 SW-20 = 20" Sediment Wattles  
 SW-9 = 9" Sediment Wattles  
 SD = Storm Drain Protection  
 CD = Check Dam  
 IP = Inlet Protection  
 RP = Rock Protection  
 CF = Cut & Fill Transition  
 CE = Construction Entrance  
**Detail Number Reference**



MATCH LINE SHEET EC05

MATCH LINE SHEET EC08



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

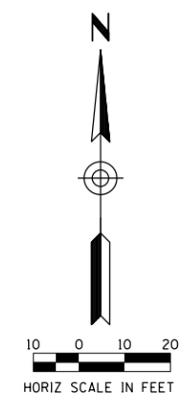
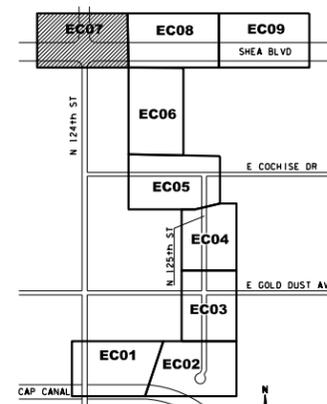
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>SHEET TITLE</b>		
<b>PROJECT TITLE</b>		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. EC06
PROJECT NO. 16BP020		72 OF 105

XXX-XX



- Erosion Control Method**
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference**

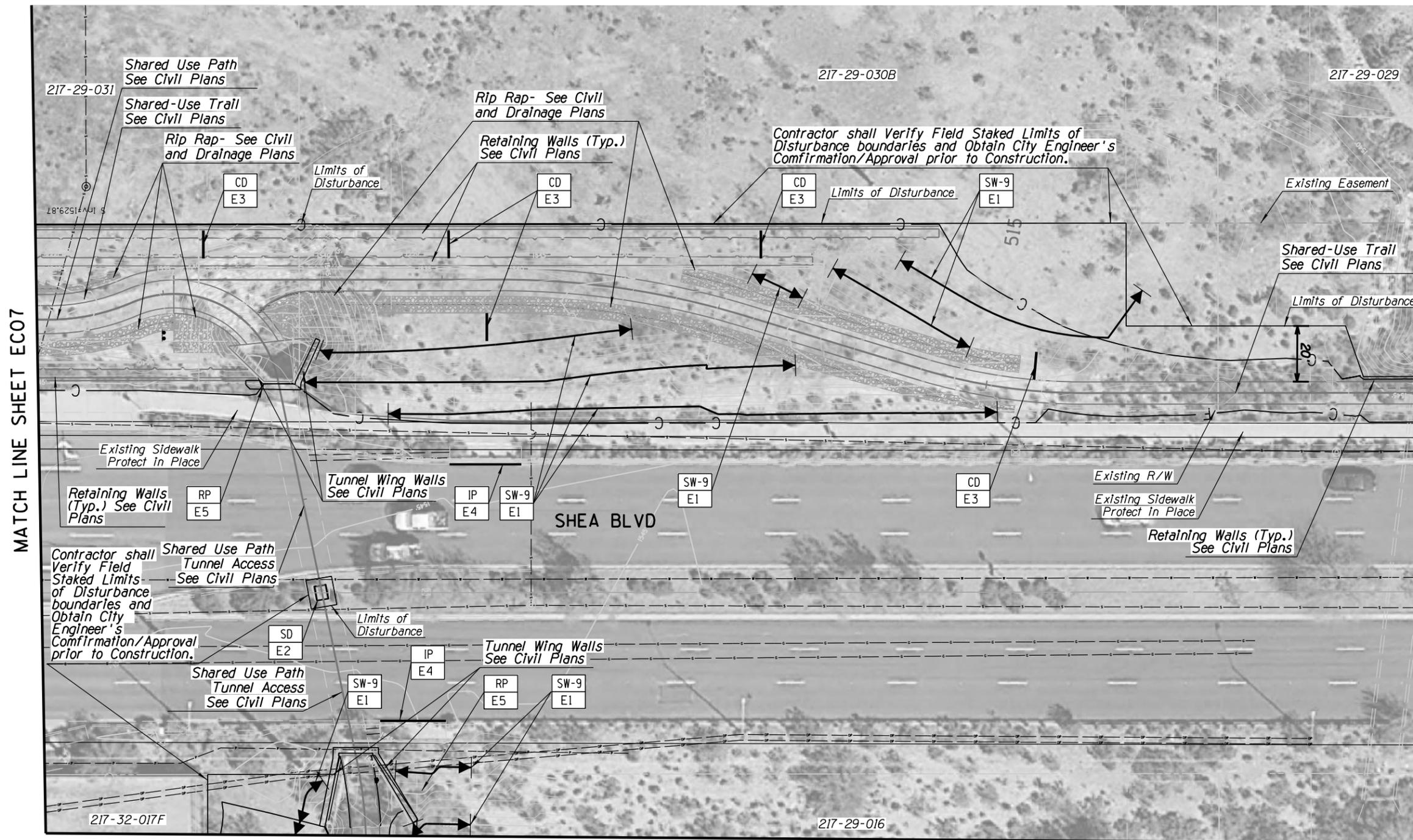
MATCH LINE SHEET EC08



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		EC07
PROJECT NO.		73 OF 105

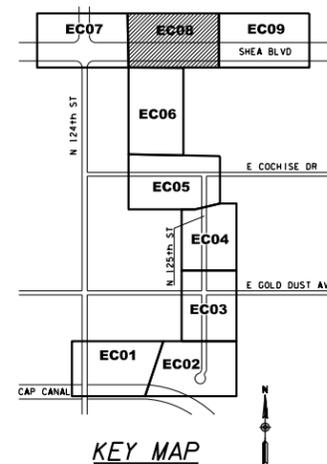
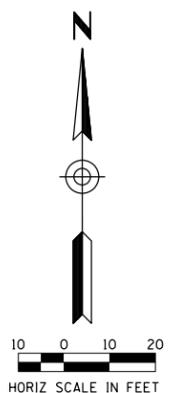
- Erosion Control Method**
- SW-20 = 20" Sediment Wattles
  - SW-9 = 9" Sediment Wattles
  - SD = Storm Drain Protection
  - CD = Check Dam
  - IP = Inlet Protection
  - RP = Rock Protection
  - CF = Cut & Fill Transition
  - CE = Construction Entrance
- Detail Number Reference**
- CD E3



MATCH LINE SHEET EC07

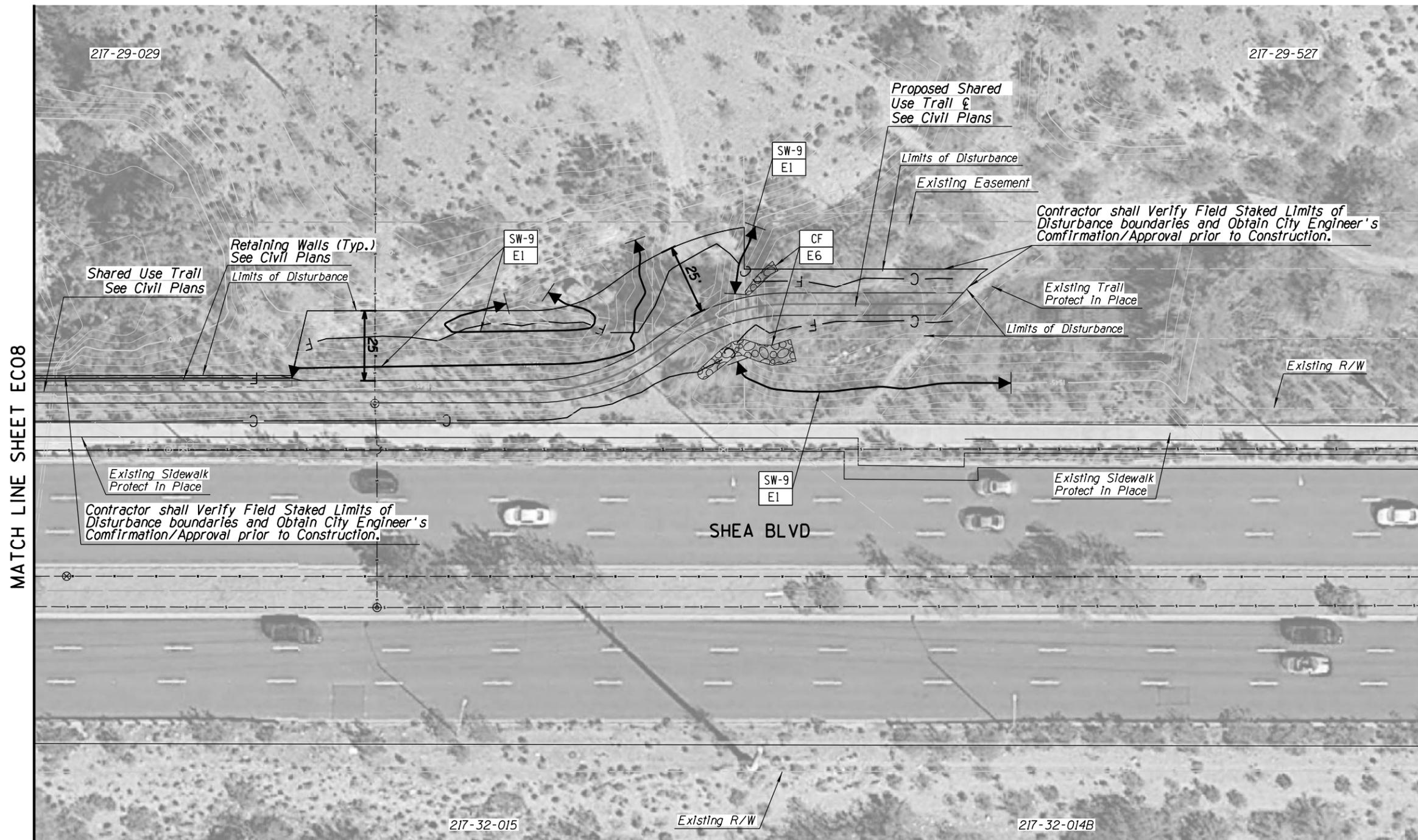
MATCH LINE SHEET EC09

MATCH LINE SHEET EC06



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. EC08 OF 105



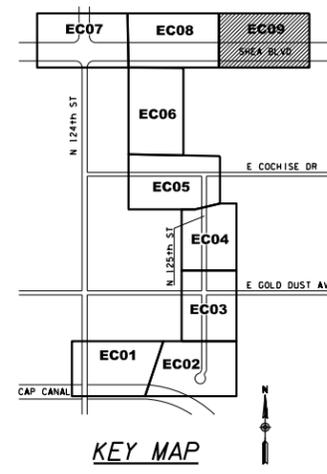
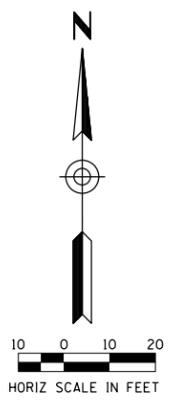
**Erosion Control Method**

- SW-20 = 20" Sediment Wattles
- SW-9 = 9" Sediment Wattles
- SD = Storm Drain Protection
- CD = Check Dam
- IP = Inlet Protection
- RP = Rock Protection
- CF = Cut & Fill Transition
- CE = Construction Entrance

**Detail Number Reference**

CD  
E3

MATCH LINE SHEET EC08



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>EROSION CONTROL</b>		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		EC09
PROJECT NO.		75 OF 105

**LANDSCAPE GENERAL NOTES**

**CITY OF SCOTTSDALE LANDSCAPE NOTES**

1. ALL RIGHTS-OF-WAY AND ADJACENT PROPERTY AREAS DAMAGED AND RESTORED SHALL BE MAINTAINED BY THE PROPERTY OWNER ONCE FINAL ACCEPTANCE HAS BEEN ISSUED BY THE INSPECTING COS ENGINEER.
2. NEW LANDSCAPING AND LANDSCAPING INDICATED TO REMAIN, WHICH IS DESTROYED, DAMAGED, OR EXPIRES DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE SIZE, KIND, AND QUANTITY PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY/ LETTER OF ACCEPTANCE TO THE SATISFACTION OF THE INSPECTING ENGINEER.
3. ALL LANDSCAPING SHALL BE INSTALLED PER THE MOST CURRENT VERSION OF THE COS SUPPLEMENT TO MAG SPECIFICATIONS AND DETAILS SECTION 430 AND COS DESIGN STANDARDS AND POLICY MANUAL.

**LANDSCAPE PLANTING NOTES**

1. THE LANDSCAPE CONTRACTOR SHALL REVIEW THIS PROJECT WITH THE CITY ENGINEER PRIOR TO STARTING WORK.
2. SHOULD THE LANDSCAPE CONTRACTOR HAVE ANY QUESTIONS REGARDING THESE PLANS AND SPECIFICATIONS OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER FOR CLARIFICATION BEFORE PROCEEDING FURTHER WITH ANY OTHER WORK.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH THE UNDERGROUND UTILITIES, PIPES AND STRUCTURES. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.
4. THE LANDSCAPE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
5. THE LANDSCAPE CONTRACTOR SHALL VERIFY AND ACCEPT ALL SITE CONDITIONS AND ROUGH GRADES PRIOR TO STARTING ANY WORK.
6. ALL NEW TREES SHALL MEET THE ARIZONA NURSERY ASSOCIATION STANDARD TREE SPECIFICATIONS FOR HEIGHT, WIDTH AND CALIPER UNLESS INDICATED OTHERWISE ON THESE PLANS.
7. THE CITY ENGINEER RESERVES THE RIGHT TO REFUSE ANY PLANT MATERIAL DEEMED UNACCEPTABLE UPON DELIVERY TO THE SITE. SEE SPECIFICATIONS.
8. ANY AND ALL SUBSTITUTIONS SHALL BE APPROVED BY THE CITY ENGINEER.
9. ALL PLANTING AREAS SHALL BE COVERED TO A MINIMUM DEPTH OF 2 INCHES WITH EITHER EXISTING DECOMPOSED GRANITE OR EXISTING DESERT PAVEMENT SURFACE MATERIALS AS PER THESE PLANS AND SPECIFICATIONS.
10. EXISTING DECOMPOSED GRANITE OR EXISTING DESERT PAVEMENT SURFACE MATERIALS SHALL BE EXTENDED UNDER TREES, SHRUB AND CACTUS ENDING NO LESS THAN 2 INCHES FROM TREE TRUNKS, SHRUB AND CACTUS TRUNKS/BASES.
11. LANDSCAPE CLEARANCE SHALL BE PROVIDED (3' MINIMUM DISTANCE) TO PREVENT CONFLICT WITH SIGNS, LIGHT POLES, FIRE HYDRANTS OR MEDIAN CROSSINGS.
12. COORDINATE SHRUB AND TREE PLANTING INSTALLATION WITH CITY ENGINEER. FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
13. STAKE ALL TREES WHEN PLANTED. MAINTAIN LANDSCAPING INCLUDING: WEEDING AND FERTILIZING. SEE SPECIFICATIONS.
14. APPLY PRE-EMERGENT HERBICIDE AS PER THE SPECIFICATIONS TO ALL NEW PLANTING AREAS.
15. THE PLANTING DESIGN MAY BE MODIFIED TO ADAPT TO WALK CONFIGURATION CHANGES AND GRADE VARIATIONS ON-SITE ONLY WITH THE CITY ENGINEERS APPROVAL.
16. THE FINISH GRADE OF ALL EXISTING DECOMPOSED GRANITE OR EXISTING DESERT PAVEMENT SURFACE MATERIALS PLANTING AREAS SHALL BE 2 INCHES BELOW TOP OF CURBS AND 1 INCH BELOW TOP OF SIDEWALKS (PER COS DETAIL #2210).
17. THE LANDSCAPE CONTRACTOR SHALL PROVIDE ALL AGRONOMY AND MATERIAL TESTING AND SHALL COMPLY WITH THE TESTING LABS RECOMMENDATIONS AS PER THE SPECIFICATIONS. SUBMIT ALL TESTING REPORTS TO THE CITY ENGINEER FOR REVIEW.
18. WATER TEST ALL TREE PLANTING HOLES PRIOR TO PLANTING. IF PLANTING HOLES DO NOT DRAIN AS PER THE SPECIFICATIONS, DO NOT PLANT AND CONTACT THE CITY ENGINEER TO APPROVE THE USE OF HARDPAN PLANTING PROCEDURES AND DETAILS.
19. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR 100 PERCENT IRRIGATION COVERAGE TO ALL EXISTING, SALVAGED, PROTECT IN PLACE AND NEW PLANT MATERIAL WITHIN THE PROJECT LIMITS OF DISTURBANCE DURING CONSTRUCTION AND THROUGHOUT PLANT ESTABLISHMENT AND MAINTENANCE PERIODS.
20. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE FINE GRADING (+0.1. FOOT) OF ALL MOUNDS AND SWALES.
21. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS NOT SHOWN ON THESE PLANS.
22. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING, MAINTAINING AND THE GUARANTEE OF ALL LANDSCAPING AS PER THE PLANS AND SPECIFICATIONS.
23. SEE IRRIGATION SUPPLEMENTAL WATER DETAIL (DRI-WATER) ON LANDSCAPE DETAIL SHEET LD03 PLANS FOR A COMPLETE DRI-WATER IRRIGATION SCHEDULE.

HARDSCAPE LEGEND						
DESCRIPTION	QTY.	MANUFACTURER	MODEL	MATERIAL	COLOR	DETAIL
Bench	2 EA.	Custom		Gabion Basket/ Rip Rap/ Integral Concrete	San Diego Buff- Davis Color #5237	See Special Provisions

LANDSCAPE LEGEND							
SYM	ABV	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS	QNT
TREES:							
	Pm	Parkinsonia microphylla	Foothills Palo Verde	15 gal	As Per Plans	Standard Trunk	1
	Pv	Prosopis velutina	Velvet Mesquite	15 gal	As Per Plans	Multi-Trunk	1
SHRUBS:							
	Ad	Ambrosia deltoidea	Bursage	5 gal	As Per Plans	Container Full	47
	Bm	Baileya multiradiata	Desert Marigold	1 gal	As Per Plans	Container Full	40
	Ef	Encelia farinosa	Brittlebush	5 gal	As Per Plans	Container Full	61
	Lt	Larrea tridentata	Creosote	5 gal	As Per Plans	Container Full	37
	Sa	Sphaeralcea ambigua	Globe Mallow	5 gal	As Per Plans	Container Full	61
CACTI:							
	Cg	Carnegiea gigantea	Saguaro	Spear	As Per Plans	6' Min. Ht.	10
	Ee	Echinocereus englemanni	Hedgehog Cactus	5 gal	As Per Plans	Container Full	23
	Fw	Ferocactus wislizenii	Fishhook Barrel	5 gal	As Per Plans	18" Min. Ht.	12
	Fs	Fouquieria splendens	Ocotillo	15 gal	As Per Plans	8 Cane Min. 7' Min. Ht.	12
	Oa	Opuntia acanthocarpa	Buckhorn Cholla	5 gal	As Per Plans	Container Full	9
	Oe	Opuntia engelmannii	Engelmann's Prickly Pear	5 gal	As Per Plans	6 Pad Min.	15
	Ov	Opuntia bigelovii	Teddy-bear Cholla	5 gal	As Per Plans	18" Min. Ht.	16

SALVAGE AND PROTECT IN PLACE LEGEND <i>XX=Salvage &amp; *XX=Protect In Place</i> See Inventory Plans & Summary Tables						
SYM	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS	QNT
	Cercidium species	Foothills Palo Verde Blue Palo Verde	Varies	As Per Plans	Salvage See Native Plant Inventory	5
	Prosopis species	Velvatina Mesquite	Varies	As Per Plans	Salvage See Native Plant Inventory	1
	Carnegiea gigantea Ferocactus acanthodes Ferocactus wislizenii	Saguaro Compass Barrel Fish-hook Barrel	Varies	As Per Plans	Salvage See Native Plant Inventory	2
	Cercidium microphyllum Olneya tesota Prosopis species	Foothills Palo Verde Ironwood Velvatina Mesquite	Varies	As Per Plans	Protect In Place See Native Plant Inventory	49
	Carnegiea gigantea Ferocactus acanthodes Ferocactus wislizenii	Saguaro Compass Barrel Fish-hook Barrel	Varies	As Per Plans	Protect In Place See Native Plant Inventory	8

LANDSCAPE PLAN APPROVAL		
Case #	Approved by	Date
CONSTRUCTION AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE PLAN AND ALL DEVIATIONS WILL REQUIRE REAPPROVAL. THE CITY WILL NOT ISSUE A CERTIFICATE OF OCCUPANCY UNTIL INSPECTION SERVICES STAFF APPROVES THE LANDSCAPE INSTALLATION		

SEED MIX  
 Desert Restoration  
 1.6 Acres



DATE	REVISION	BY
ENGINEER		
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE <b>LANDSCAPE NOTES &amp; SUMMARY</b>		
PROJECT TITLE <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.	PROJECT NO.	SHT.
16BP020		LS01
		76 OF 105

# GENERAL NOTES

## CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL REVIEW THIS PROJECT WITH THE CITY ENGINEER PRIOR TO STARTING WORK.
2. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS REGARDING THESE PLANS OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE CITY ENGINEER FOR CLARIFICATION BEFORE PROCEEDING FURTHER WITH ANY OTHER WORK.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING FAMILIAR WITH THE UNDERGROUND UTILITIES, PIPES AND STRUCTURES. THE CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES.
4. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONARY MEASURES TO PROTECT THE PUBLIC AND ADJACENT PROPERTIES FROM DAMAGE THROUGHOUT CONSTRUCTION.
5. THE CONTRACTOR SHALL VERIFY AND ACCEPT ALL SITE CONDITIONS AND ROUGH GRADES PRIOR TO STARTING ANY WORK.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE FINE GRADING (+0.1. FOOT) OF ALL AREAS (MIN. 15 FEET FROM STRUCTURES).
7. ALL NEW PLANTING, REPLANTING OF SALVAGE PLANT MATERIAL, DESERT RESTORATION, AND HYDROSEEDING RESTORATION WORK SHALL CONFORM TO M.A.G. STANDARD SPECIFICATIONS AND DETAILS AND THE CITY OF SCOTTSDALE M.A.G. SUPPLEMENTAL SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAILS (MAG).
8. COORDINATE CACTI AND TREE PLANTING INSTALLATION WITH CITY ENGINEER. FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
9. STAKE ALL TREES WHEN PLANTED PER THE CITY OF SCOTTSDALE M.A.G. SUPPLEMENTAL SPECIFICATIONS AND SUPPLEMENTAL STANDARD DETAIL (MAG). MAINTAIN TEMPORARY NURSERY INCLUDING: WEEDING AND FERTILIZING.

## CITY OF SCOTTSDALE LANDSCAPE NOTES

1. ALL RIGHTS-OF-WAY AND ADJACENT PROPERTY AREAS DAMAGED AND RESTORED SHALL BE MAINTAINED BY THE PROPERTY OWNER ONCE FINAL ACCEPTANCE HAS BEEN ISSUED BY THE INSPECTING COS ENGINEER.
2. ALL LANDSCAPING SHALL BE INSTALLED PER THE MOST CURRENT VERSION OF THE COS SUPPLEMENT TO MAG SPECIFICATIONS AND DETAILS SECTION 430 AND COS DESIGN STANDARDS AND POLICY MANUAL.

## DESERT RESTORATION

### HYDROSEEDING/RESTORATION AREA NOTES

- DESERT RESTORATION AND HYDROSEEDING NATIVE SEED MIX PER M.A.G. STD SPECIFICATIONS & DETAILS AND COS M.A.G. SUPPLEMENTAL SPECIFICATIONS & STD DETAILS.
  1. INTERGRATE NEW & SALVAGED PLANT MATERIAL WITH HYDROSEEDING AS PART OF THE NATIVE DESERT REVEGETATION RESTORATION SEEDING OPERATIONS.
  4. APPLIED TO ALL UNPAVED DISTURBED SOIL AREAS AS SHOWN IN THE LANDSCAPE PLANTING PLANS. THIS INCLUDES ALL AREAS OF DISTURBANCE INCLUDING BUT NOT LIMITED TO CT-FILL SLOPES, NEW SLOPES DOWN TO THE LIMITS OF THE TOE OF SLOPE OF UNPAVED DISTURBED AREAS AS SHOWN ON LANDSCAPE PLANS OR AS DIRECTED BY THE CITY ENGINEER.
  5. THE APPLICATION OF THIS SEED MIX WILL BE IN AREAS WHERE NO SUPPLEMENTAL IRRIGATION WATER WILL BE REQUIRED TO IRRIGATE THE SEED MIX AREAS.
  6. CONTRACTOR SHALL FIELD STAKE LIMIT OF DISTURBANCE (CONSTRUCTION WORK) AND OBTAIN CITY ENGINEER'S APPROVAL PRIOR TO ANY CONSTRUCTION WORK.

## DESERT RESTORATION

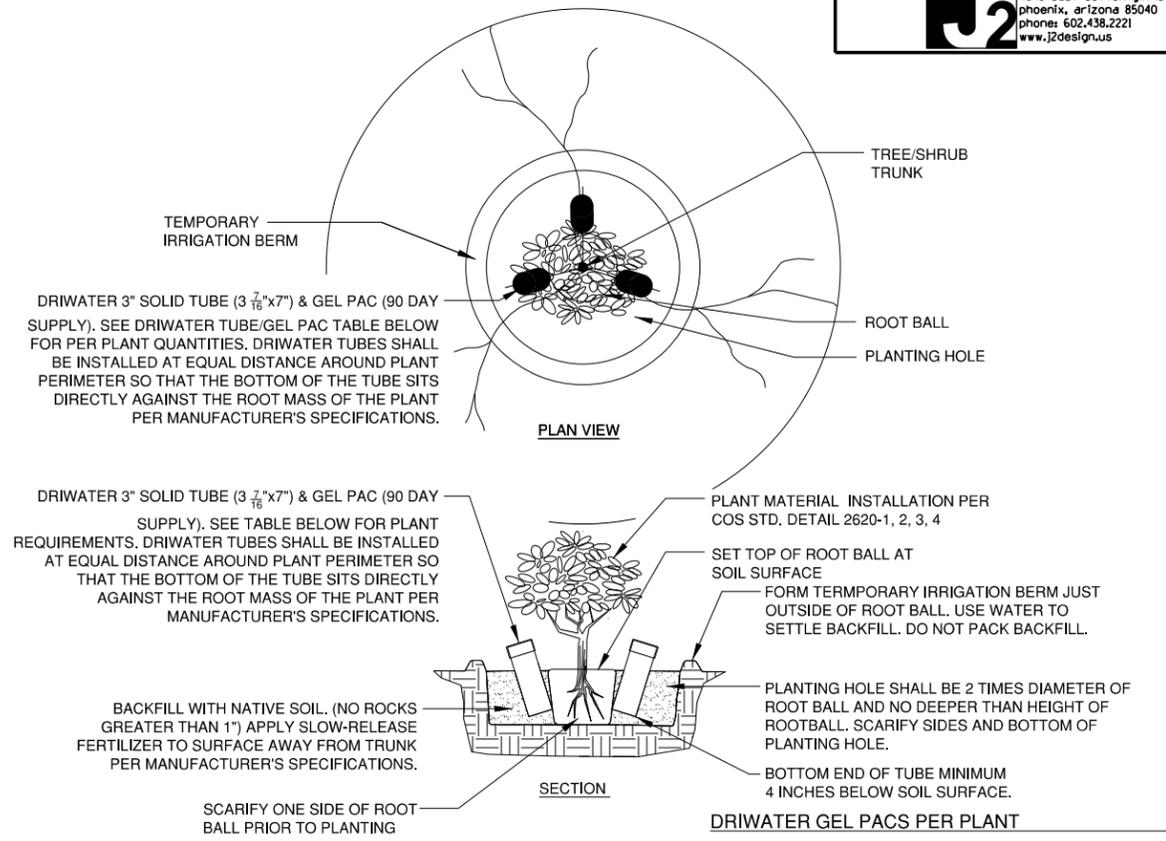
### NATIVE SEED MIX DESCRIPTION

BOTANICAL NAME	COMMON NAME	BOTANICAL NAME	COMMON NAME
<b>GRASSES</b>			
ARISTIDA PURPUREA	PURPLE THREE AWN	<b>SHRUBS (SUFRFRUTESCENT)</b>	
BOUTELOUA ARISTIDOIDES	NEEDLE GRAMA	AMBROSIA DELTOIDS	TRIANGLE LEAF BURSAGE
BOUTELOUA ROTHROCKII	SIX WEEKS GRAMA	AMBROSIA DUMOSA	WHITE BURSAGE
SPOROBOLUS AIROIDES	ALKALI SACATON	ENCELIA FARINOSA	BRITTLEBUSH
<b>WILDFLOWERS/FORBES</b>			
BAILEYA MULTIRADIATA	DESERT MARIGOLD	<b>WOODY SHRUBS AND TREES</b>	
CASSIA COUESII	DESERT SENNA	ACACIA CONSTRICTA	WHITE THORN ACACIA
LESQUERELLA GORDONII	GORDONS BLADDERPOOL	ACACIA GREGGII	CATCLAW ACACIA
PHACELIA CRENULATA	DESERT PHACELIA	ATRIPLEX LENTIFORMIS	QUAIL BUSH
PLANTAGO OVATA	DESERT INDIAN WHEAT	CERCIDIUM FLORIDUM	BLUE PALO VERDE
SPHAERALCEA AMBIGUA	DESERT GLOBEMALLOW	PROSOPIS VELUTINA	VELVET MESQUITE

# LANDSCAPE GENERAL NOTES

## LANDSCAPE PLANTING NOTES

1. ALL NEW PLANT MATERIAL SHALL MEET THE ARIZONA NURSERY ASSOCIATION STANDARD SHRUB SPECIFICATIONS FOR HEIGHT AND WIDTH UNLESS INDICATED OTHERWISE ON THESE PLANS.
2. THE CITY ENGINEER RESERVES THE RIGHT TO REFUSE ANY PLANT MATERIAL DEEMED UNACCEPTABLE UPON DELIVERY TO THE SITE.
3. ANY AND ALL SUBSTITUTIONS SHALL BE APPROVED BY THE CITY ENGINEER.
4. COORDINATE PLANTING INSTALLATION WITH CITY ENGINEER. FINAL LOCATION OF ALL PLANT MATERIALS SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
5. THE PLANTING DESIGN MAY BE MODIFIED TO ADAPT TO CONCRETE PATH AND DG TRAIL. CONFIGURATION CHANGES AND GRADE VARIATIONS ON-SITE ONLY WITH THE CITY ENGINEERS APPROVAL.
6. A SINGLE TRUNK TREE'S CALIPER SIZE, THAT IS EQUAL TO OR LESS THAN 4-INCHES, SHALL BE DETERMINED BY UTILIZING THE SMALLEST DIAMETER OF THE TRUNK 6-INCHES ABOVE FINISHED GRADE ADJACENT TO THE TRUNK. A TREE'S CALIPER SIZE, FOR A SINGLE TREE TRUNK THAT IS TO HAVE A DIAMETER GREATER THAN 4-INCHES, SHALL BE DETERMINED BY UTILIZING THE SMALL DIAMETER OF THE TRUNK 12-INCHES ABOVE FINISH GRADE ADJACENT TO THE TRUNK. A MULTIPLE TRUNK TREE'S CALIPER SIZE IS MEASURED AT 6-INCHES ABOVE THE LOCATION THAT THE TRUNK SPLITS ORIGINATES, OR 6-INCHES ABOVE FINISHED GRADE IF ALL TRUNKS ORIGINATE FROM THE SOIL.
7. AREA WITHIN THE SIGHT DISTANCE TRIANGLES IS TO BE CLEAR OF LANDSCAPING, SIGNS, OR OTHER VISIBILITY OBSTRUCTIONS WITH A HEIGHT GREATER THAN 1.5 FEET. TREES WITHIN THE SIGHT TRIANGLE SHALL HAVE A SINGLE TRUNK AND A CANOPY THAT BEGINS AT 8 FEET IN HEIGHT UPON INSTALLATION. ALL HEIGHTS ARE MEASURED FROM NEAREST STREET LINE ELVATION.
8. NEW LANDSCAPING, INCLUDING SALVAGED PLANT MATERIAL AND LANDSCAPING INDICATED TO REMAIN, WHICH IS DESTROYED, DAMAGED, OR EXPIRES DURING CONSTRUCTION SHALL BE REPLACED WITH LIKE SIZE, KIND, AND QUANTITY PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY / LETTER OF ACCEPTANCE TO THE SATISFACTION OF THE CITY'S INSPECTION STAFF.



- NOTES:
1. PLANT PIT BASINS WITHIN SLOPED PLANTING AREA SHALL BE CONSTRUCTED WITH A MAX. 2:1 SLOPE. PROVIDE SMOOTH TRANSITION TO SURROUNDING FINISH GRADE.
  2. SOIL SHALL BE WATERED AT THE TIME OF INTIAL DRIEWATER APPLICATION.
  3. REMOVE DRIEWATER GEL FROM PACKAGE PRIOR TO PLACEMENT IN TUBE.

## SUPPLEMENTAL IRRIGATION DETAILS

### SECTION AND PLAN VIEWS

**DRIEWATER GEL PACS PER PLANT**

GENERAL USE GUIDE FOR IN-GROUND PLANTS

CONTAINER SIZE	HEIGHT	90 DAY SUPPLY	ZONE
1 GAL.	1' to 3'	1 TUBE / 2 GEL PACS	5
5 GAL.	3' - 5'	2 TUBES / 4 GEL PACS	5
15 GAL.	7' - 8'	3 TUBES / 6 GEL PACS	5
SAGUARO	6' to 7'	1 TUBE / 2 GEL PACS	5
OCOTILLO	6' to 7'	1 TUBE / 2 GEL PACS	5

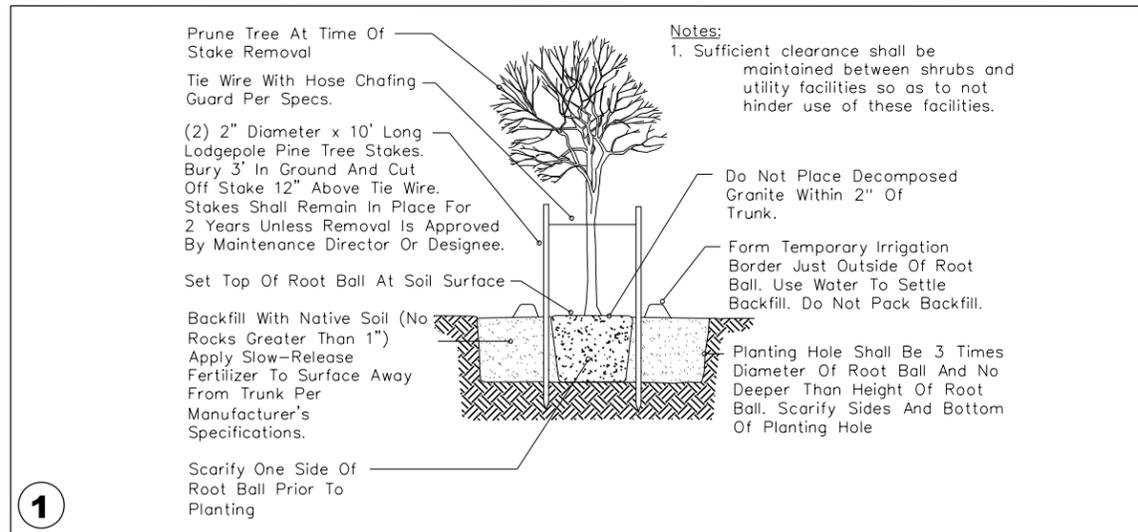
CLIMATE ZONE: 5 - SOUTHWEST

## 1 TREE / SHRUB PLANTING & DRIEWATER INSTALLATION

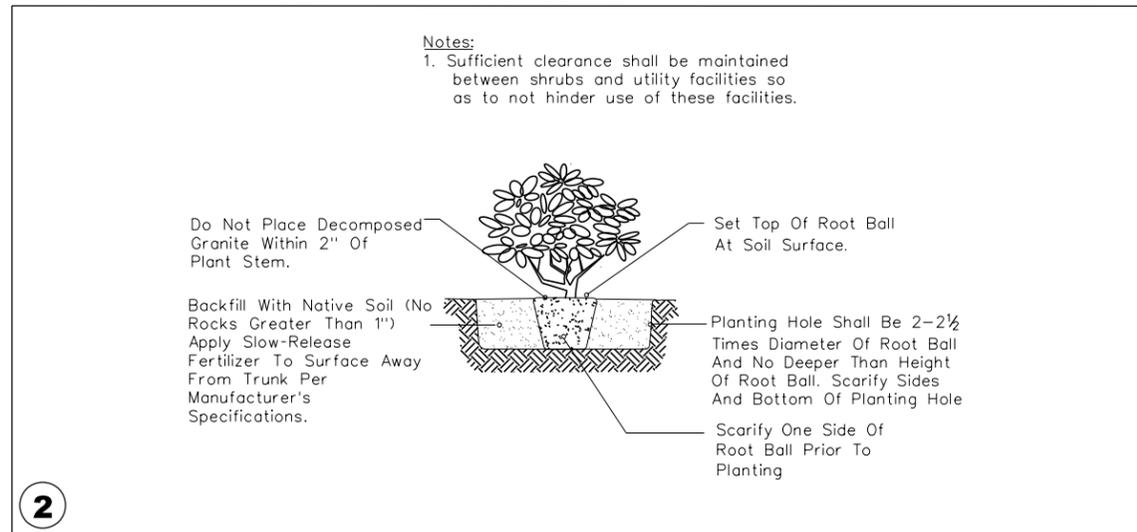
SHRUB INSTALLATION PER COS STD. DETAIL 2620-1 & DRIEWATER EXTENDED SOLID TUBES & GEL PACS SCALE: NTS

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

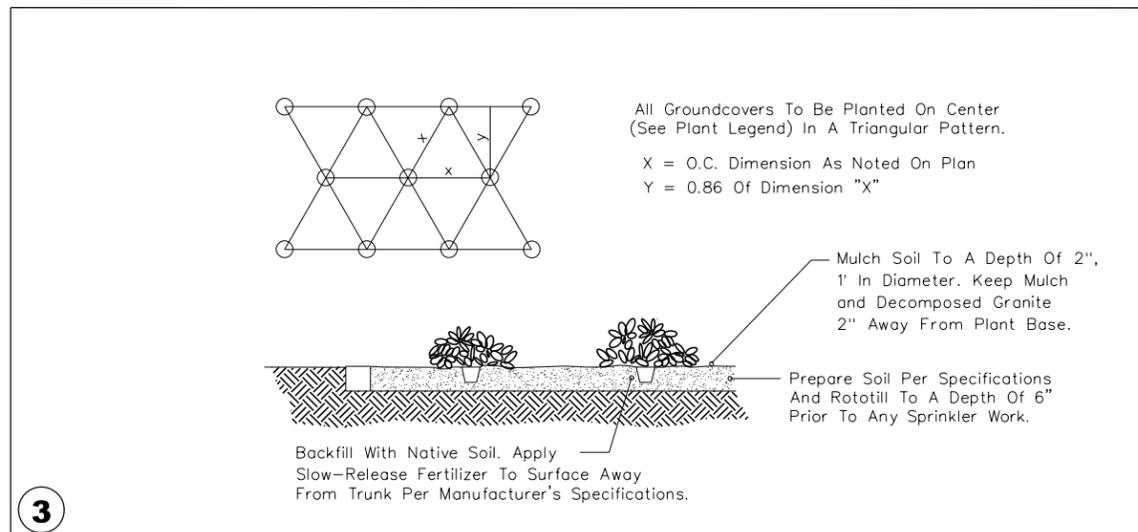
DATE	REVISION	BY
PUBLIC WORKS		
CAPITAL PROJECT MANAGEMENT		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
LANDSCAPE NOTES & SUMMARY		
PROJECT TITLE		
SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		LS02
PROJECT NO.		77 OF 105



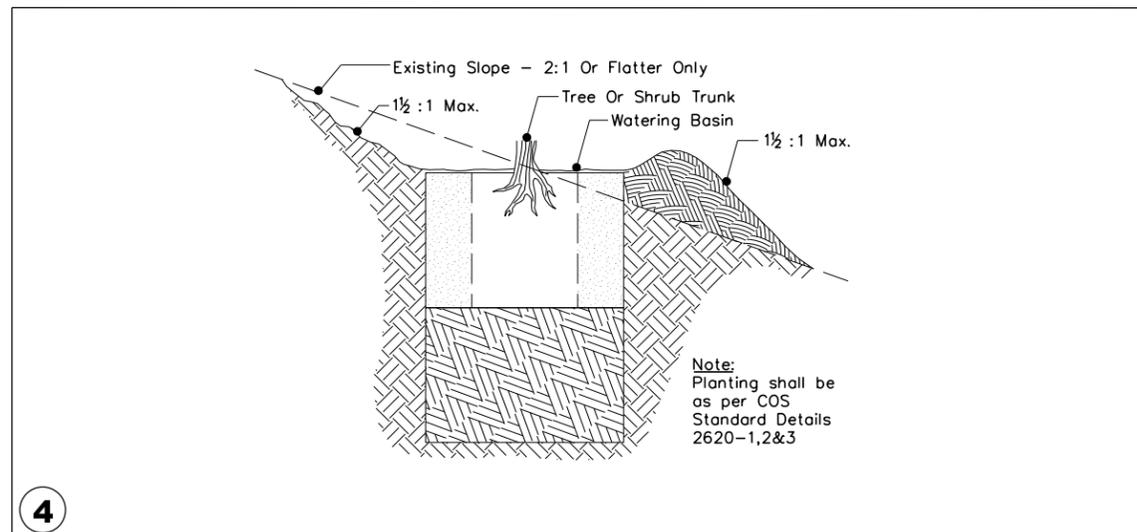
1  
 DETAIL NO. 2620-1 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Tree Planting and Staking - 36\"/>



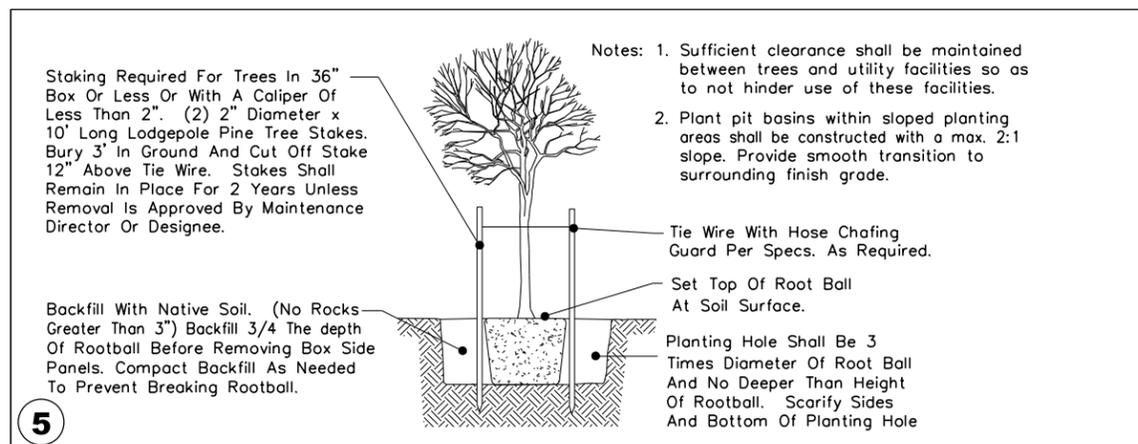
2  
 DETAIL NO. 2620-1 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Shrub Planting



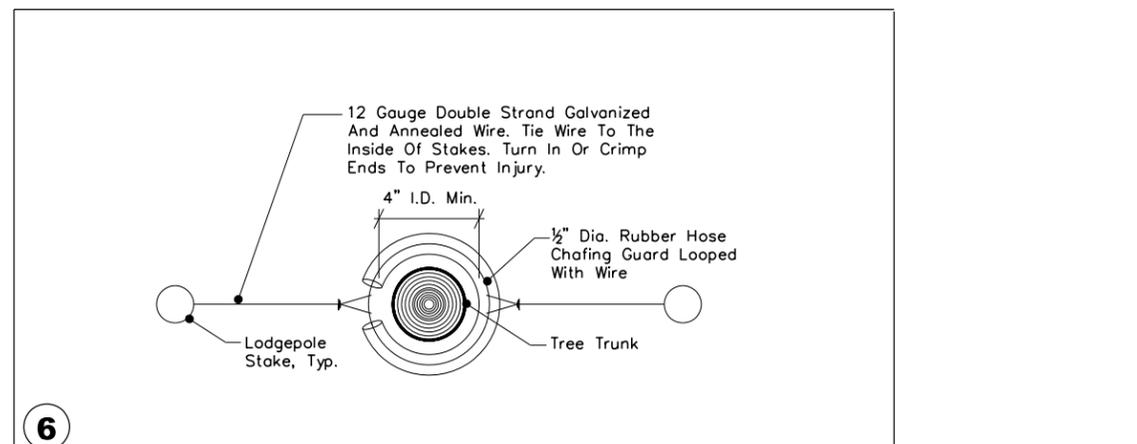
3  
 DETAIL NO. 2620-1 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Groundcovers



4  
 DETAIL NO. 2620-2 City of Scottsdale Standard Details  
 APPROVED BY: Scottsdale Standards & Specifications Committee  
 Tree & Shrub On Slope Planting



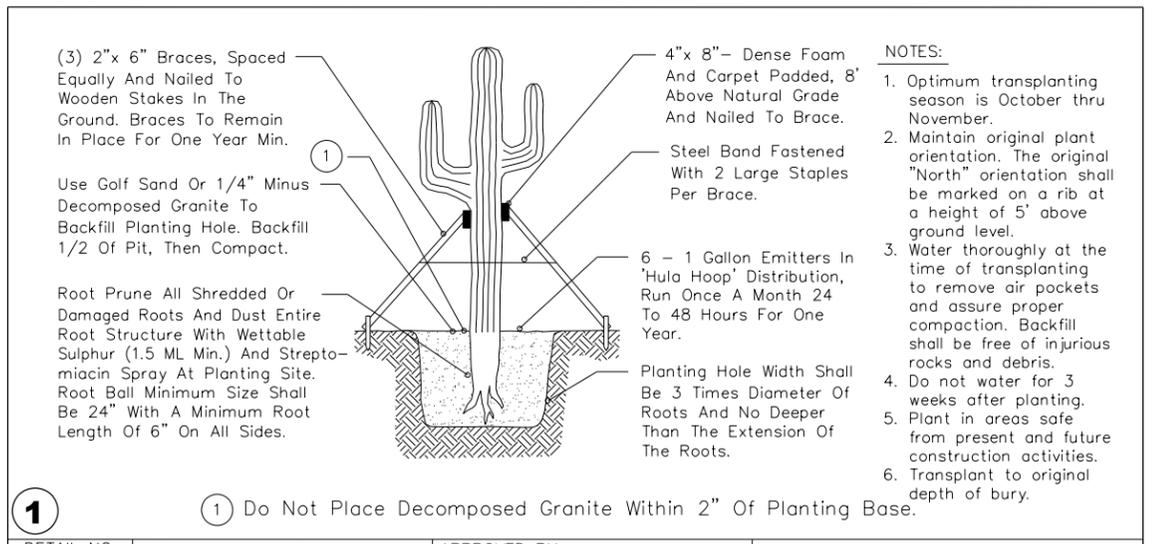
5  
 DETAIL NO. 2620-3 City of Scottsdale Standard Details  
 Salvaged Tree Planting



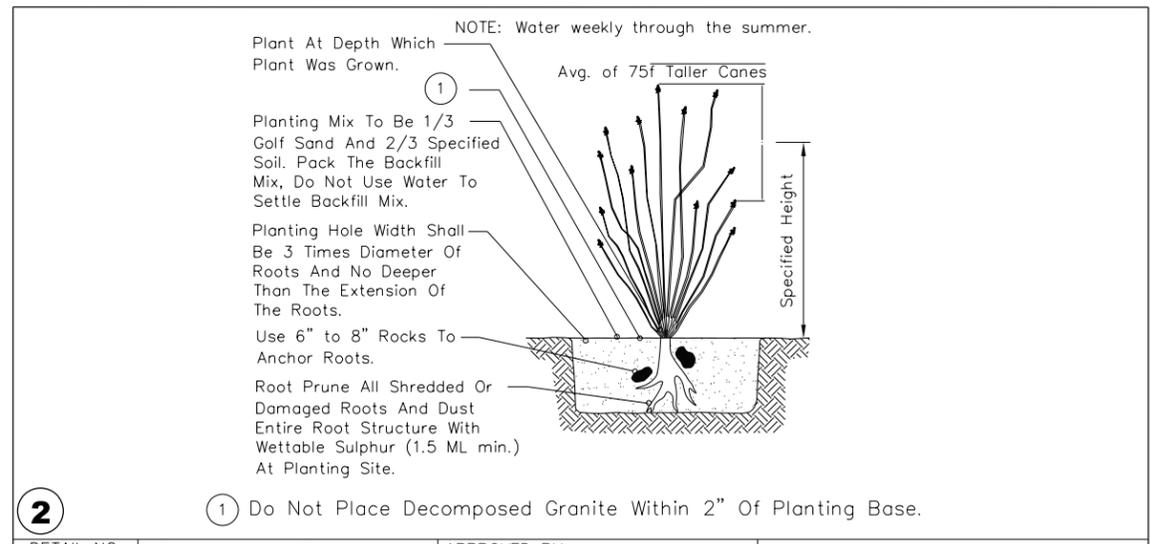
6  
 DETAIL NO. 2620-3 City of Scottsdale Standard Details  
 Tree Staking - Plan View

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

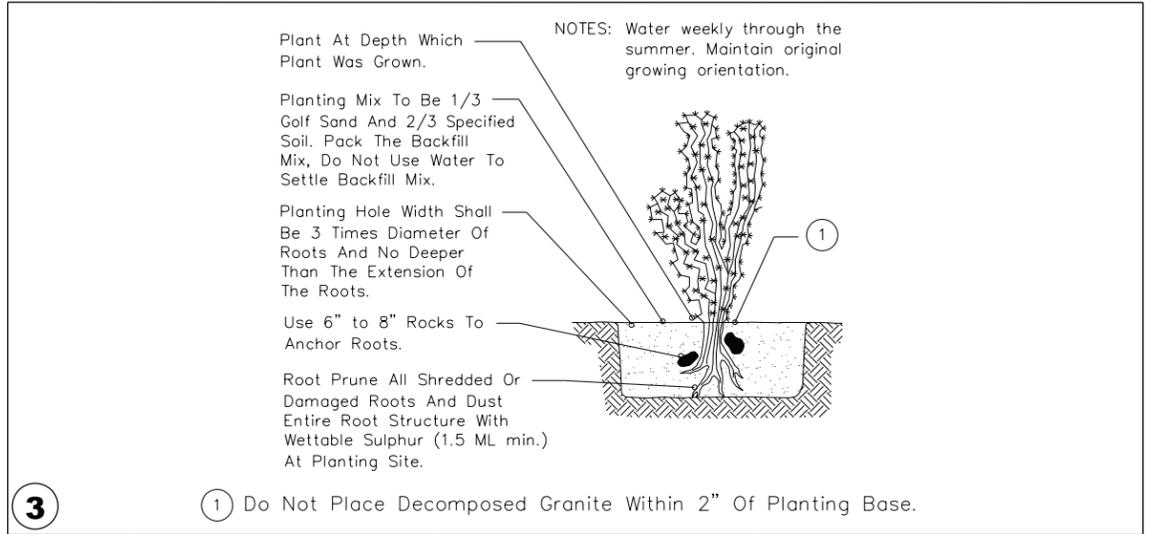
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017		
SHEET TITLE		
<b>LANDSCAPE DETAILS</b>		
PROJECT TITLE <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		LD01
PROJECT NO.		78 OF 105



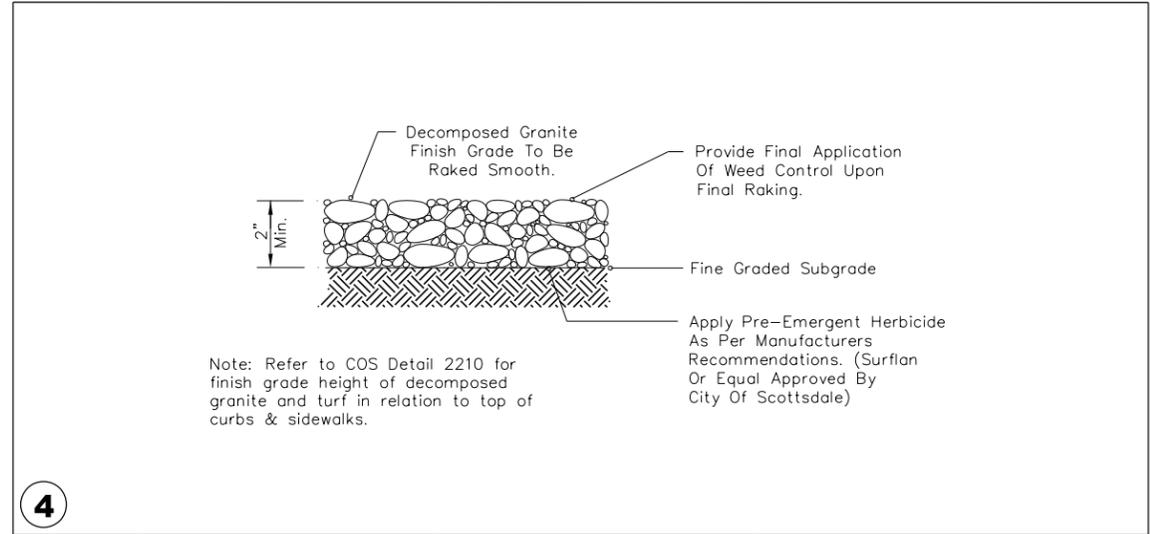
**1** Do Not Place Decomposed Granite Within 2" Of Planting Base.  
 DETAIL NO. 2620-2 City of Scottsdale Standard Details Specifications Committee APPROVED BY: Scottsdale Standards & Specifications Committee Saguaro Planting Type



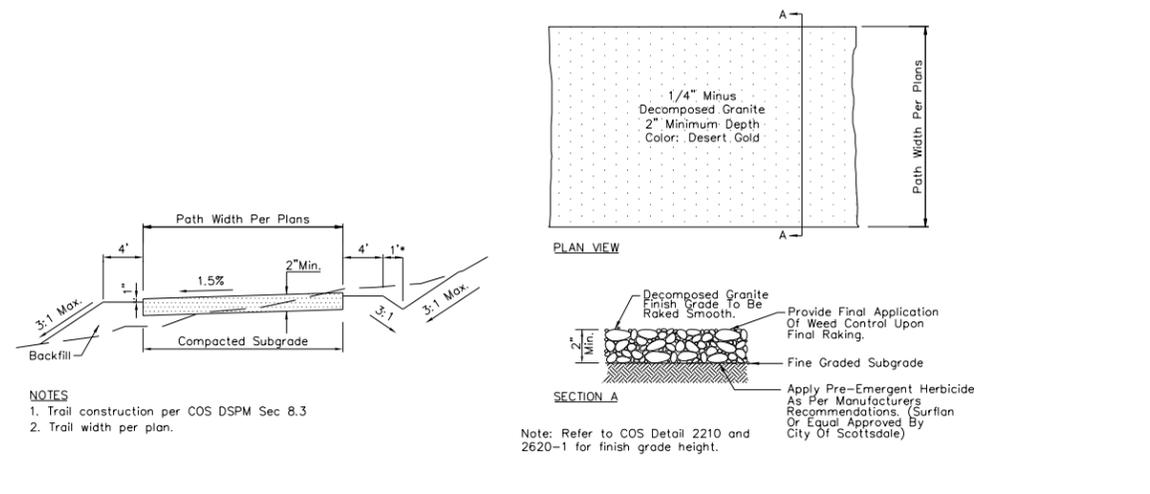
**2** Do Not Place Decomposed Granite Within 2" Of Planting Base.  
 DETAIL NO. 2620-2 City of Scottsdale Standard Details Specifications Committee APPROVED BY: Scottsdale Standards & Specifications Committee Ocotillo Planting



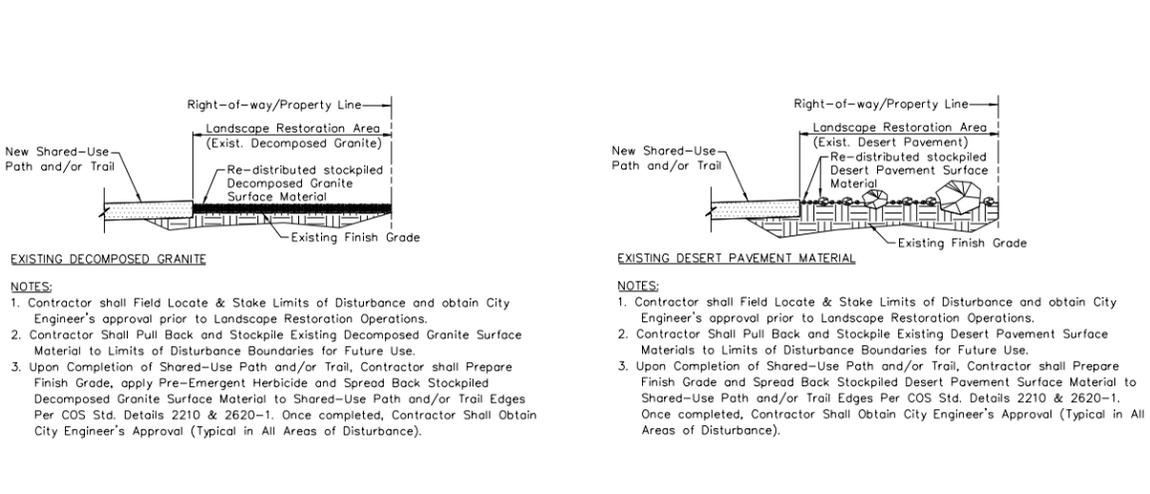
**3** Do Not Place Decomposed Granite Within 2" Of Planting Base.  
 DETAIL NO. 2620-2 City of Scottsdale Standard Details Specifications Committee APPROVED BY: Scottsdale Standards & Specifications Committee Cactus Planting



**4** DETAIL NO. 2620-1 City of Scottsdale Standard Details Specifications Committee APPROVED BY: Scottsdale Standards & Specifications Committee Decomposed Granite



**5** TRAIL CONSTRUCTION SCALE: NTS



**6** LANDSCAPE RESTORATION: EXISTING DESERT PAVEMENT & DECOMPOSED GRANITE SCALE: NTS

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY

ENGINEER: JEFFREY M. ENGELMANN, 23430, ARIZONA, U.S.A. Expires: 9/30/2017

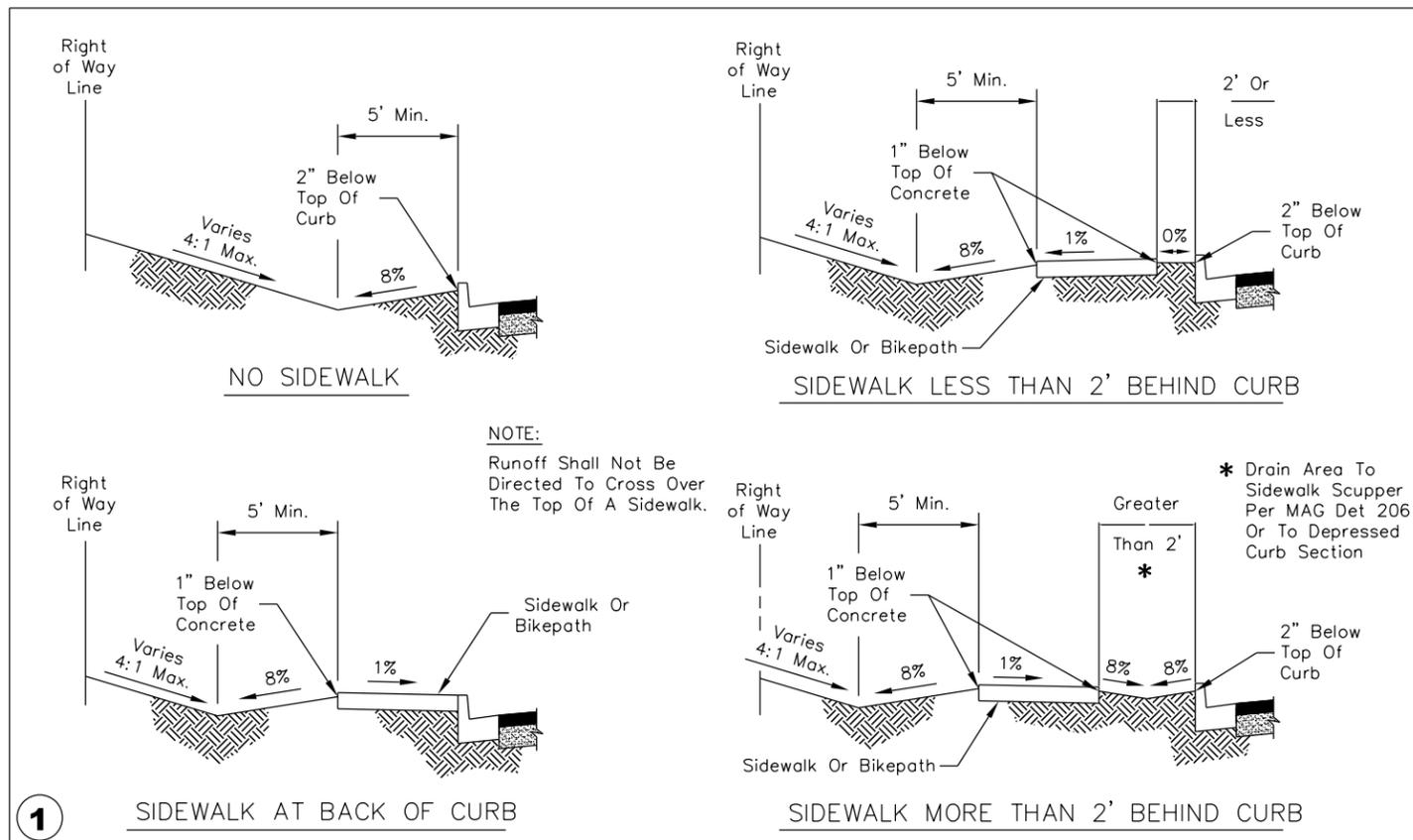
CITY OF SCOTTSDALE, ARIZONA, U.S.A. 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

**PUBLIC WORKS**  
**CAPITAL PROJECT MANAGEMENT**

SHEET TITLE: LANDSCAPE DETAILS

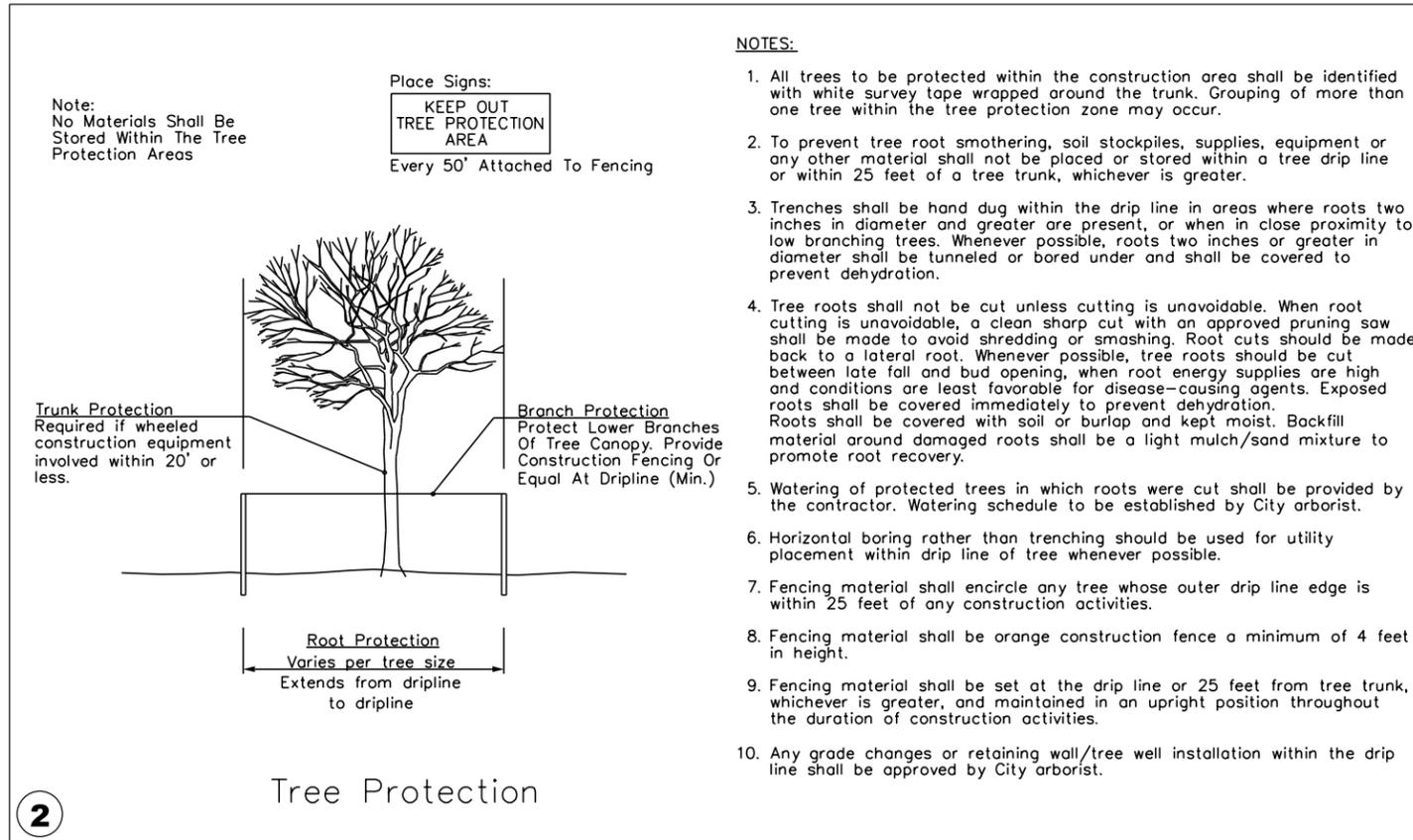
PROJECT TITLE: SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL

SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ.	RC	1/16	16BP020	LD02
VERT.	J2	AS-BUILT	PROJECT NO.	79 OF 105



**NOTE:**  
 Runoff Shall Not Be Directed To Cross Over The Top Of A Sidewalk.

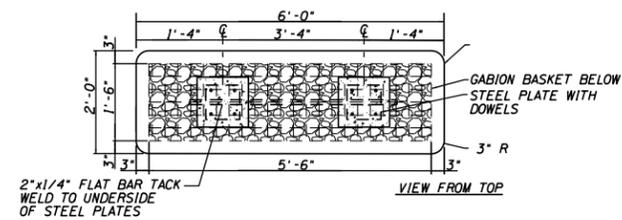
DETAIL NO. 2210	City of Scottsdale Standard Details	APPROVED BY: Scottsdale Standards & Specifications Committee	GRADING BEHIND THE CURB	DETAIL NO. 2210
--------------------	--	---	-------------------------	--------------------



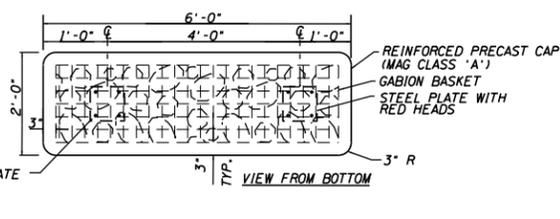
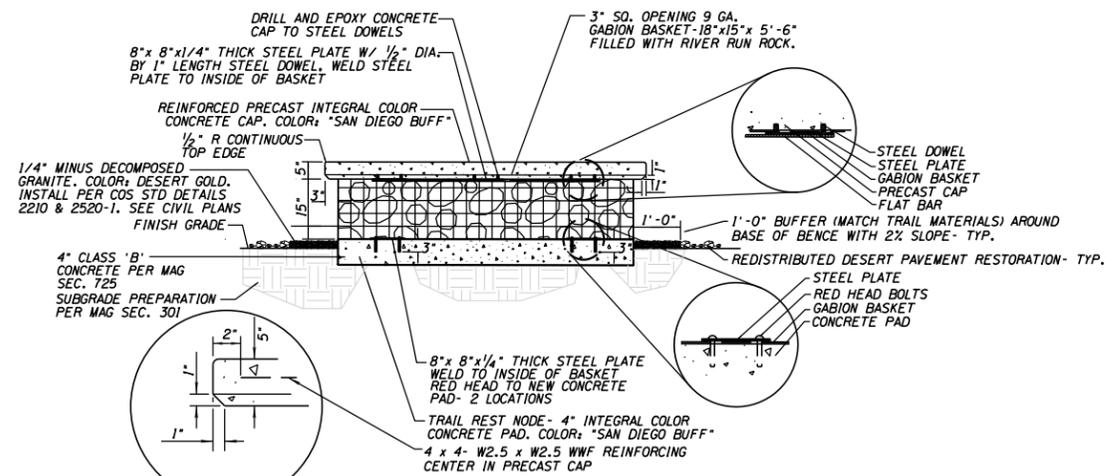
DETAIL NO. 2620-4	City of Scottsdale Standard Details	APPROVED BY: Scottsdale Standards & Specifications Committee	LANDSCAPE DETAILS	DETAIL NO. 2620-4
----------------------	--	---	-------------------	----------------------

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
PROJECT TITLE <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		LD03
PROJECT NO.		80 OF 105



- NOTES:
1. ALL WELDS SHALL BE GROUND SMOOTH AND BE FREE OF ANY SHARP POINTS, EDGES, OR BURRS.
  2. ALL WELDS SHALL CONFORM TO AWS STANDARDS.
  3. CAPS ARE TO BE LEVEL. LEVELING METHOD SHALL BE APPROVED BY CITY ENGINEER PRIOR TO PLACEMENT.



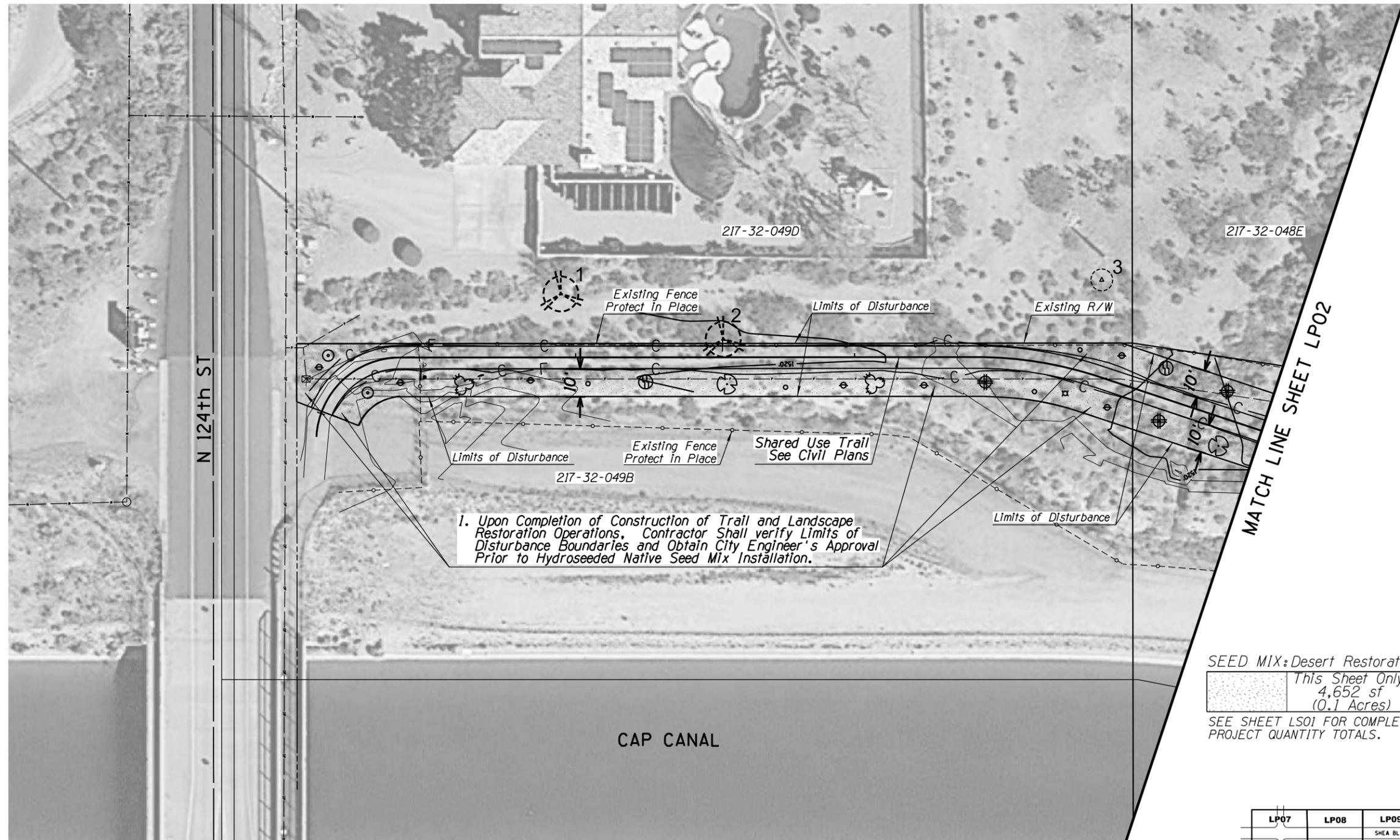
- NOTES:
1. ALL STEEL SHALL BE NON-GALVANIZED AND ALLOWED TO RUST AFTER CONSTRUCTION OF STRUCTURE.
  2. ALL WELDS SHALL BE GROUND SMOOTH AND BE FREE OF ANY SHARP POINTS, EDGES, OR BURRS.
  3. ALL WELDS SHALL CONFORM TO AWS STANDARDS.
  4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO CITY ENGINEER FOR REVIEW PRIOR TO FABRICATION.
  5. ALL STEEL SHALL CONFORM TO ASTM SPECIFICATION A588.

**1 TRAIL REST NODE GABION BENCH**

SCALE: NTS

DATE	REVISION	BY
		<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>LANDSCAPE DETAILS</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ.	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		LD04
PROJECT NO.		OF 105
		81

XXX-XX



**LANDSCAPE LEGEND**

SYM	ABV	QTY
<b>TREES</b>		
	Pm	N/A
	Pv	N/A
<b>SHRUBS</b>		
	Ad	7
	Bm	4
	Ef	2
	Lt	2
	Sa	0
<b>CACTI</b>		
	Cg	0
	Ee	1
	Fw	0
	Fs	0
	Oa	2
	Oe	2
	Ov	3
<b>SALVAGE/PROTECT IN PLACE</b>		
	SAL	0
	PIP	2
	PIP	1

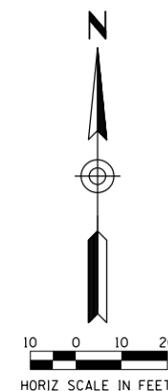
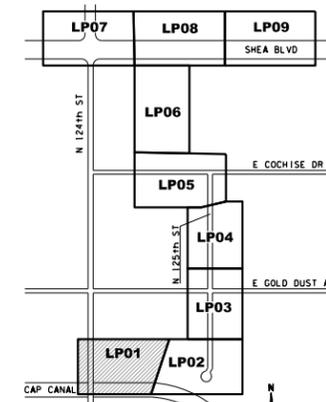
SEE SHEET LS01 FOR TOTAL PROJECT PLANT QUANTITIES

SEED MIX: Desert Restoration  
 This Sheet Only:  
 4,652 sf  
 (0.1 Acres)  
 SEE SHEET LS01 FOR COMPLETE PROJECT QUANTITY TOTALS.

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)



DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>LANDSCAPE PLAN</b> <b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO.		SHT.
16BP020		LP01
PROJECT NO.		
		82 OF 105

LANDSCAPE LEGEND

SYM	ABV	QTY
TREES		
	Pm	0
	Pv	1
SHRUBS		
	Ad	4
	Bm	7
	Ef	4
	Lt	6
	Sa	4
CACTI		
	Cg	1
	Ee	3
	Fw	2
	Fs	2
	Oa	1
	Oe	1
	Ov	0
SALVAGE / PROTECT IN PLACE		
	SAL	0
	PIP	3
	PIP	3

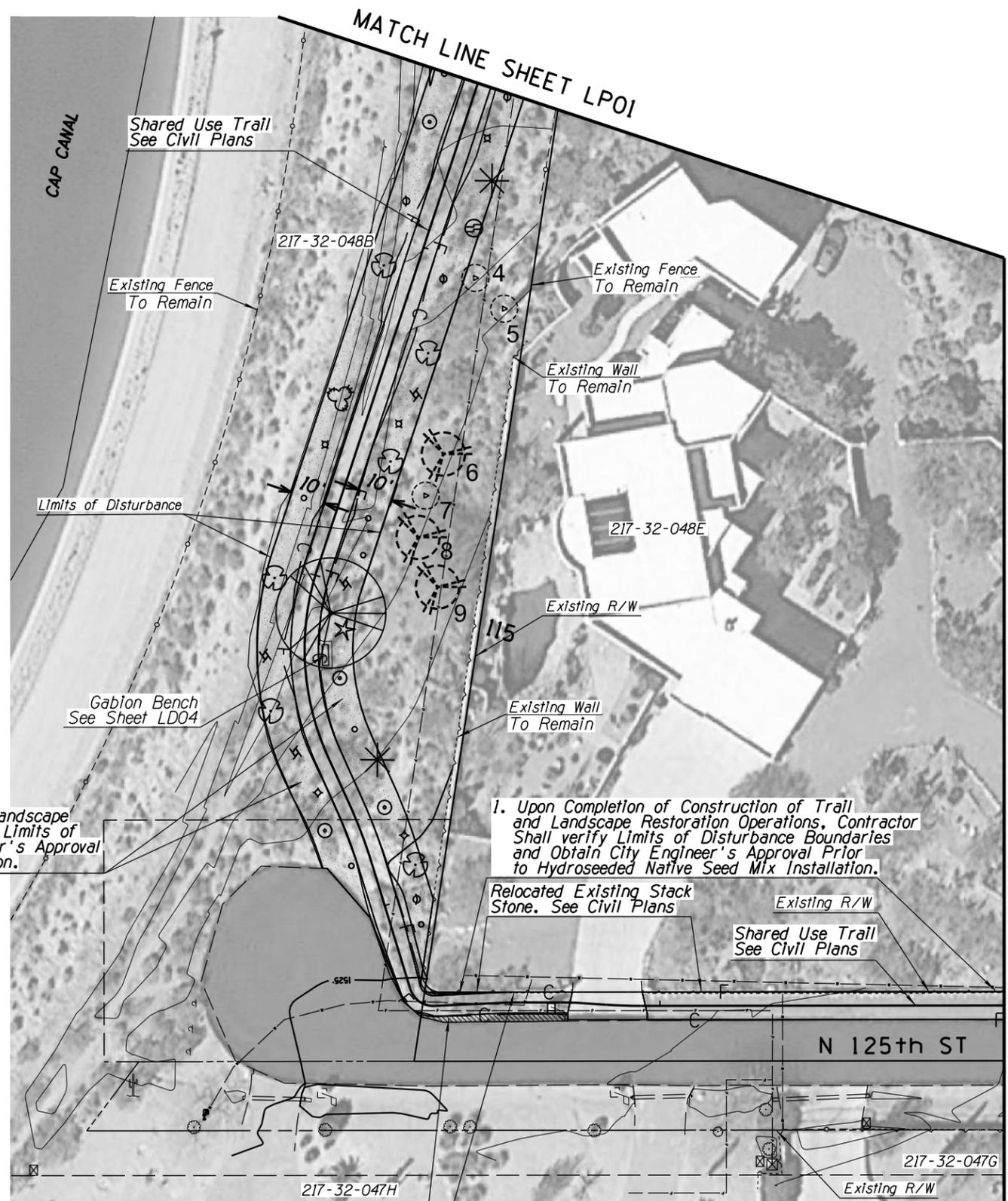
SEE SHEET LS01 FOR TOTAL PROJECT PLANT QUANTITIES

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017 SHEET TITLE <b>LANDSCAPE PLAN</b>		
PROJECT TITLE <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. <b>16BP020</b>		SHT. <b>LP02</b>
		83 OF 105

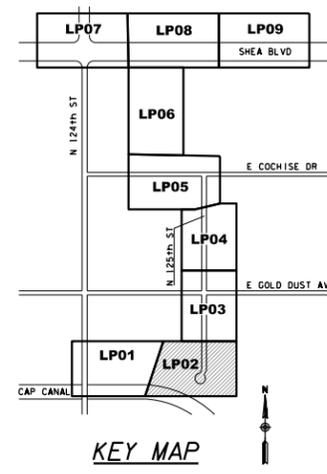


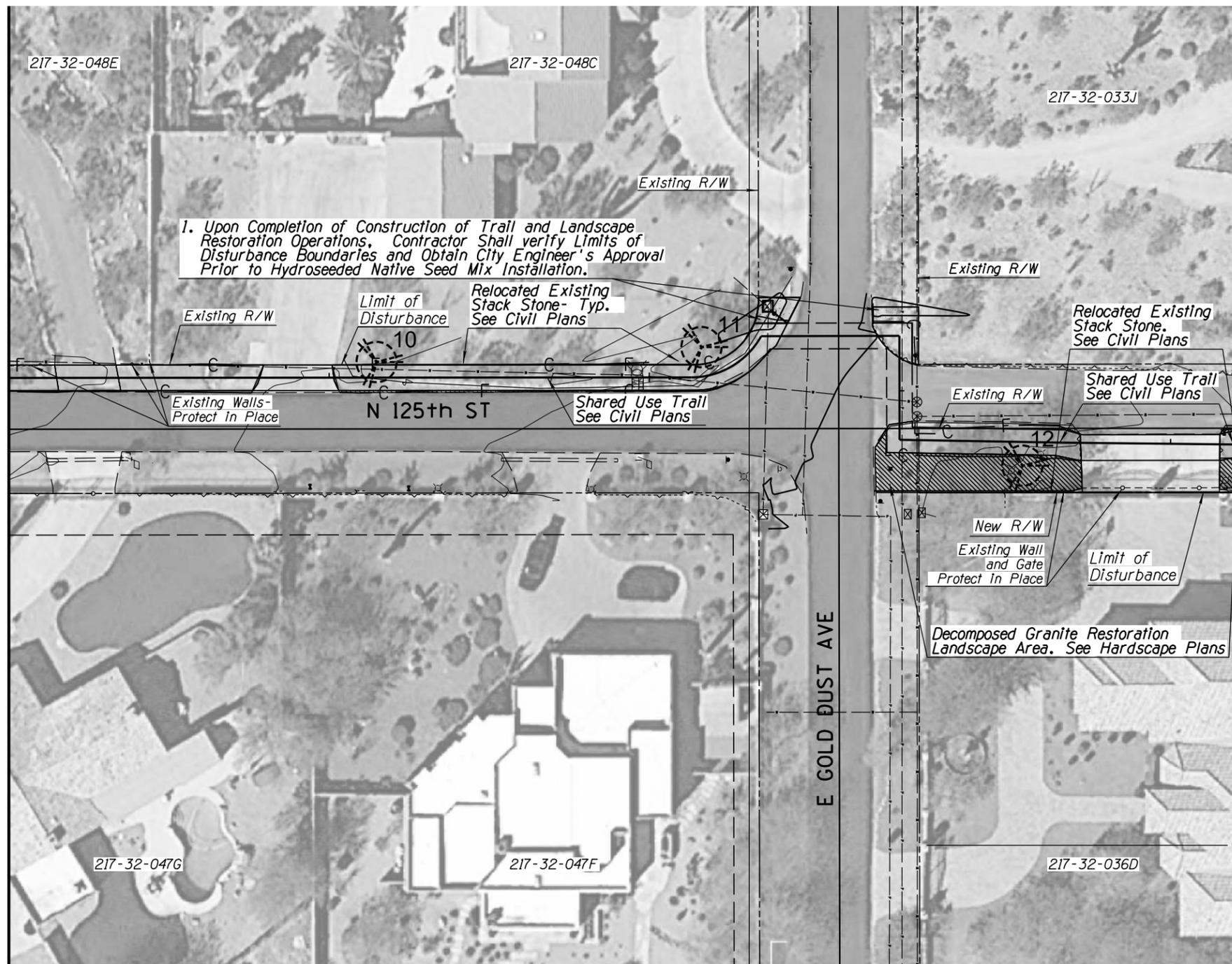
1. Upon Completion of Construction of Trail and Landscape Restoration Operations, Contractor Shall verify Limits of Disturbance Boundaries and Obtain City Engineer's Approval Prior to Hydroseeded Native Seed Mix Installation.

1. Upon Completion of Construction of Trail and Landscape Restoration Operations, Contractor Shall verify Limits of Disturbance Boundaries and Obtain City Engineer's Approval Prior to Hydroseeded Native Seed Mix Installation.

1. Upon Completion of Construction of Trail and Landscape Restoration Operations, Contractor Shall verify Limits of Disturbance Boundaries and Obtain City Engineer's Approval Prior to Hydroseeded Native Seed Mix Installation.

SEED MIX: Desert Restoration  
 This Sheet Only:  
 5,211sf  
 0.12 Acres  
 SEE SHEET LS01 FOR COMPLETE PROJECT QUANTITY TOTALS.





MATCH LINE SHEET LP02

MATCH LINE SHEET LP04

**LANDSCAPE LEGEND**

SYM	ABV	QTY
<b>TREES</b>		
	Pm	0
	Pv	0
<b>SHRUBS</b>		
	Ad	0
	Bm	0
	Ef	0
	Lt	0
	Sa	0
<b>CACTI</b>		
	Cg	0
	Ee	0
	Fw	0
	Fs	0
	Oa	0
	Oe	0
	Ov	0
<b>SALVAGE / PROTECT IN PLACE</b>		
	SAL	0
	PIP	3
	PIP	0

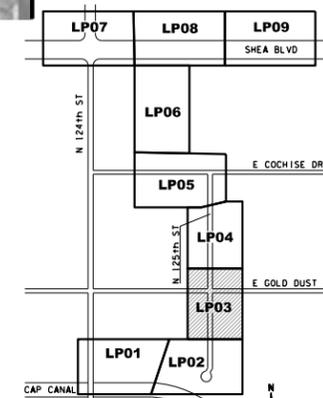
SEE SHEET LSO1 FOR TOTAL PROJECT PLANT QUANTITIES

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

SEED MIX: Desert Restoration

This Sheet Only:  
 186sf  
 0.01 Acres  
 SEE SHEET LSO1 FOR COMPLETE PROJECT QUANTITY TOTALS.



KEY MAP

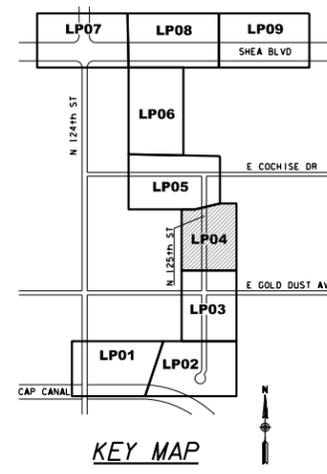
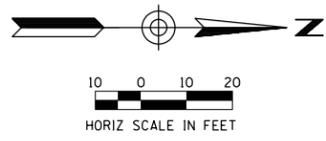
ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE		
<b>LANDSCAPE PLAN</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO.		SHT.
16BP020		LP03
PROJECT NO.		84 OF 105



1. Upon Completion of Construction of Trail and Landscape Restoration Operations, Contractor Shall verify Limits of Disturbance Boundaries and Obtain City Engineer's Approval Prior to Hydroseeded Native Seed Mix Installation.

SEED MIX: Desert Restoration  
 This Sheet Only:  
 3,028sf  
 0.07 Acres  
 SEE SHEET LS01 FOR COMPLETE PROJECT QUANTITY TOTALS.



**LANDSCAPE LEGEND**

SYM	ABV	QTY
<b>TREES</b>		
	Pm	0
	Pv	0
<b>SHRUBS</b>		
	Ad	0
	Bm	0
	Ef	0
	Lt	0
	Sa	0
<b>CACTI</b>		
	Cg	0
	Ee	0
	Fw	0
	Fs	0
	Oa	0
	Oe	0
	Ov	0
<b>SALVAGE / PROTECT IN PLACE</b>		
	SAL	1
	SAL	0
	PIP	4
	PIP	0

SEE SHEET LS01 FOR TOTAL PROJECT PLANT QUANTITIES

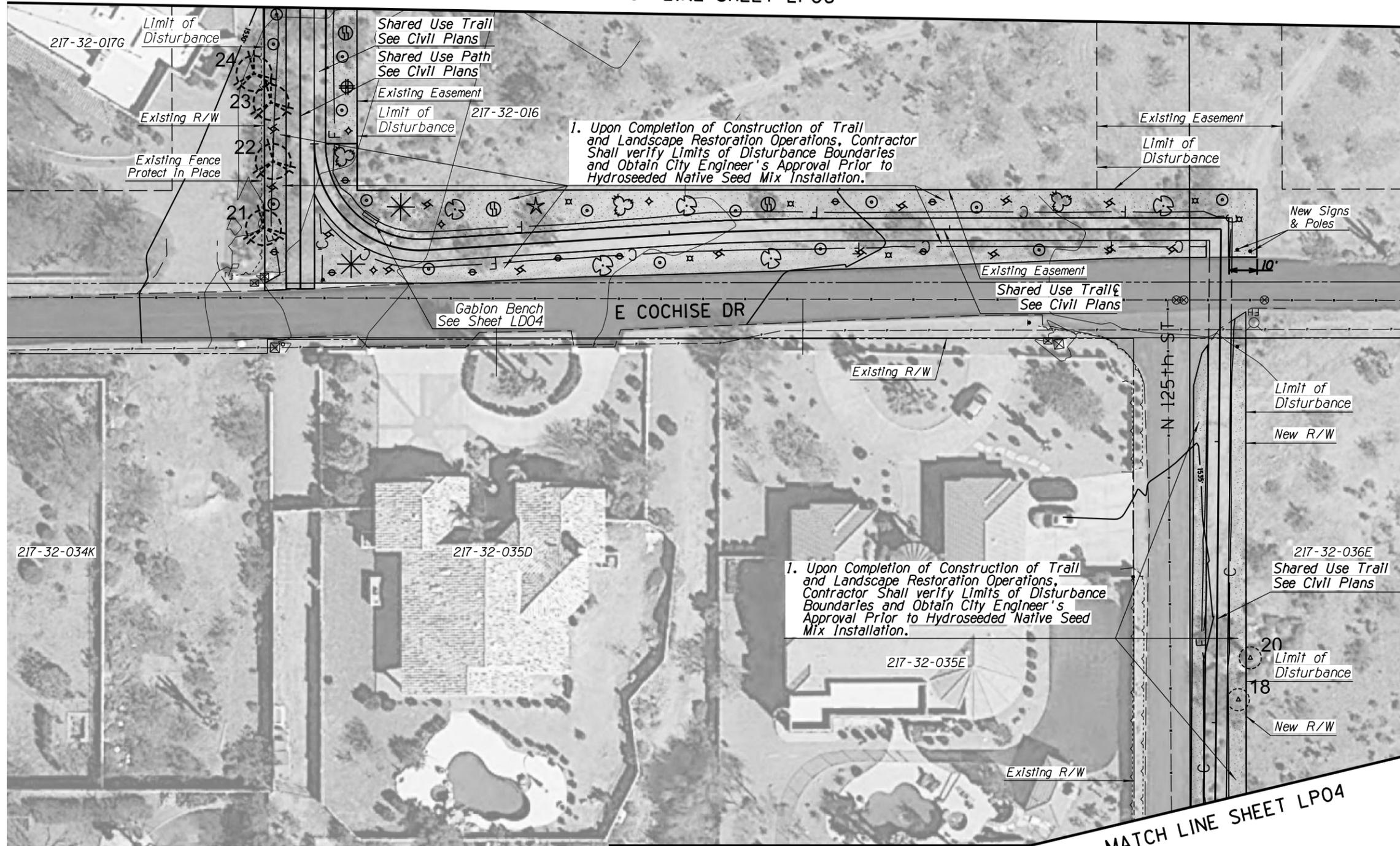
SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
<b>LANDSCAPE PLAN</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO.		SHT.
16BP020		LP04
PROJECT NO.		85 OF 105

MATCH LINE SHEET LP06



LANDSCAPE LEGEND

SEE SHEET LSO1 FOR TOTAL PROJECT PLANT QUANTITIES

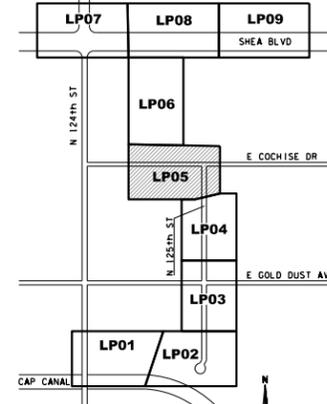
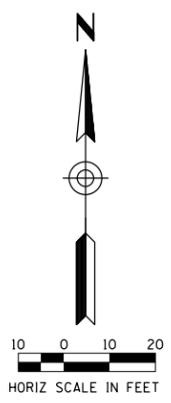
SYM	ABV	QTY
<b>TREES</b>		
	Pm	0
	Pv	0
<b>SHRUBS</b>		
	Ad	9
	Bm	0
	Ef	15
	Lt	5
	Sa	14
<b>CACTI</b>		
	Cg	1
	Ee	6
	Fw	4
	Fs	2
	Oa	3
	Oe	3
	Ov	1
<b>SALVAGE/PROTECT IN PLACE</b>		
	SAL	0
	PIP	4
	PIP	2

SAL = SALVAGE  
PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

SEED MIX: Desert Restoration  
This Sheet Only:  
10,229sf  
0.23 Acres  
SEE SHEET LSO1 FOR COMPLETE PROJECT QUANTITY TOTALS.



DATE	REVISION	BY
<p><b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251</p>		
<p><b>LANDSCAPE PLAN</b></p>		
<p><b>PROJECT TITLE</b> SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</p>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	J2	AS-BUILT
<p>BID NO. 16BP020</p>		<p>SHT. LP05</p>
<p>PROJECT NO.</p>		<p>86 OF 105</p>

**LANDSCAPE LEGEND**

SYM	ABV	QTY
<b>TREES</b>		
	Pm	0
	Pv	0
<b>SHRUBS</b>		
	Ad	7
	Bm	0
	Ef	10
	Lt	8
	Sa	12
<b>CACTI</b>		
	Cg	1
	Ee	3
	Fw	1
	Fs	2
	Oa	2
	Oe	0
	Ov	5
<b>SALVAGE / PROTECT IN PLACE</b>		
	SAL	0
	PIP	18
	PIP	2

SEE SHEET LS01 FOR TOTAL PROJECT PLANT QUANTITIES

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

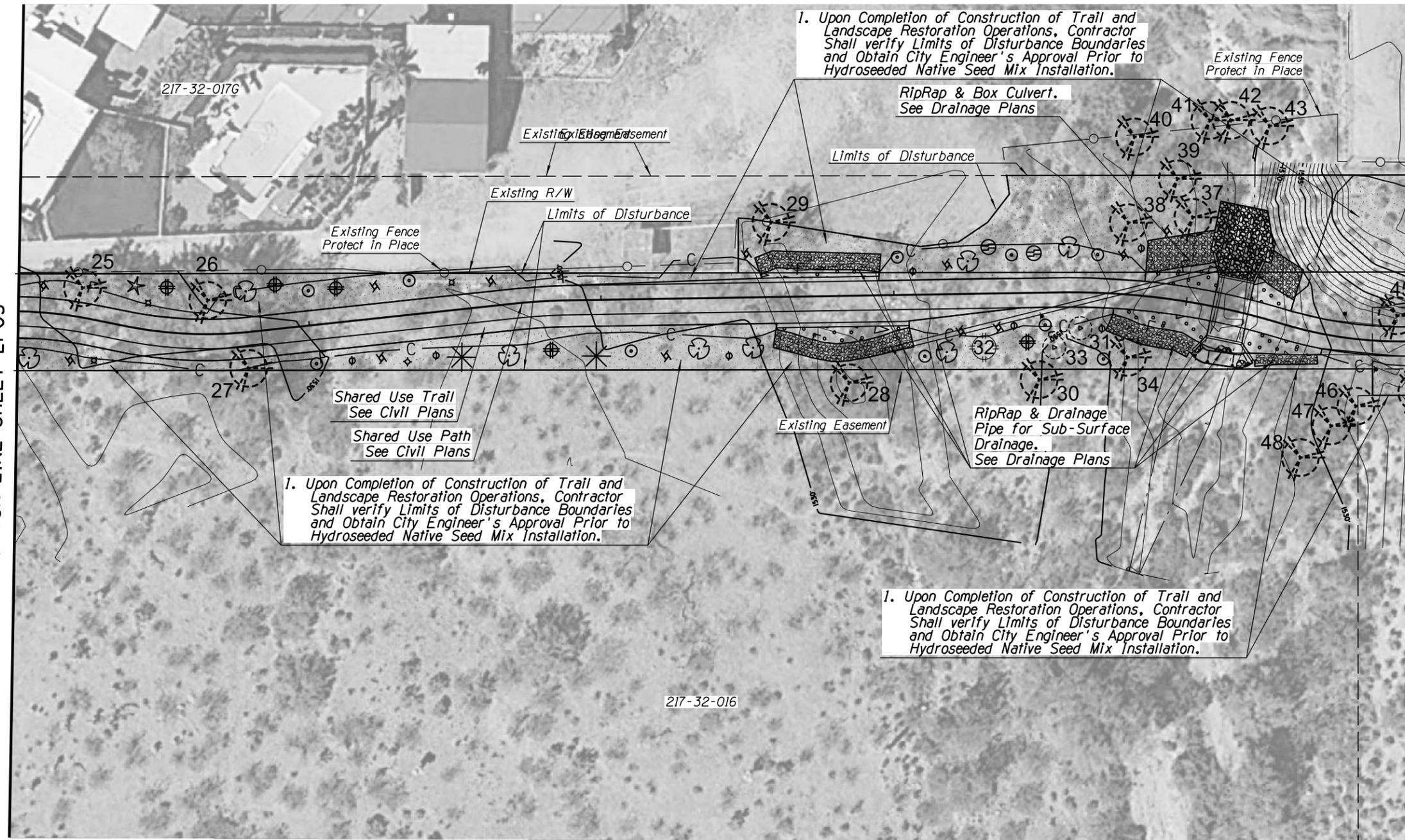
SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

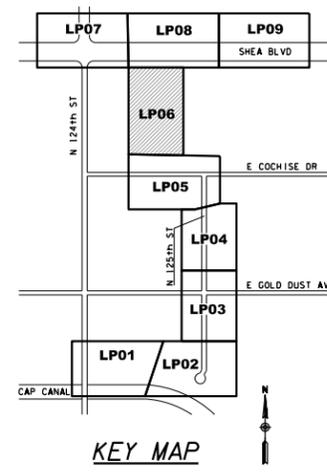
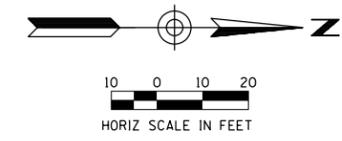
DATE	REVISION	BY
<b>PUBLIC WORKS</b>		
<b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>LANDSCAPE PLAN</b>		
<b>PROJECT TITLE</b>		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	J2	AS-BUILT
BID NO.		SHT.
16BP020		LP06
PROJECT NO.		87 OF 105

MATCH LINE SHEET LP08

MATCH LINE SHEET LP05



**SEED MIX: Desert Restoration**  
 This Sheet Only:  
 12,667sf  
 0.3 Acres  
 SEE SHEET LS01 FOR COMPLETE PROJECT QUANTITY TOTALS.





MATCH LINE SHEET LP08

**LANDSCAPE LEGEND**

SYM	ABV	QTY
<b>TREES</b>		
	Pm	0
	Pv	0
<b>SHRUBS</b>		
	Ad	8
	Bm	9
	Ef	8
	Lt	3
	Sa	6
<b>CACTI</b>		
	Cg	2
	Ee	0
	Fw	3
	Fs	2
	Oa	0
	Oe	2
	Ov	1
<b>SALVAGE / PROTECT IN PLACE</b>		
	SAL	1
	SAL	0
	PIP	0
	PIP	0

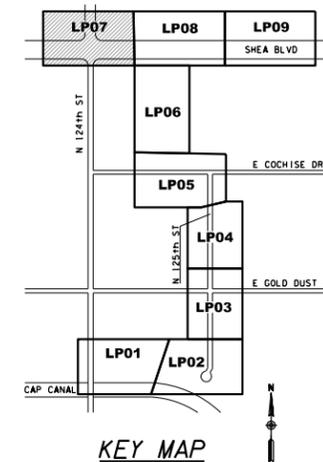
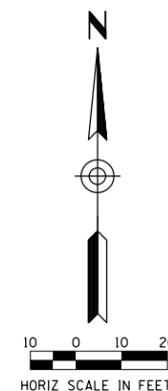
SEE SHEET LSO1 FOR TOTAL PROJECT PLANT QUANTITIES

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

**SEED MIX: Desert Restoration**

This Sheet Only:  
 5,467sf  
 (0.13 Acres)  
 SEE SHEET LSO1 FOR COMPLETE PROJECT QUANTITY TOTALS.



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>LANDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO. 16BP020 PROJECT NO.		SHT. LP07 88 OF 105

LANDSCAPE LEGEND

SYM ABV QTY

SEE SHEET LSO1 FOR TOTAL PROJECT PLANT QUANTITIES

TREES

	Pm	0
	Pv	0

SHRUBS

	Ad	11
	Bm	14
	Ef	14
	Lt	10
	Sa	16

CACTI

	Cg	5
	Ee	10
	Fw	2
	Fs	3
	Oa	1
	Oe	6
	Ov	5

SALVAGE/PROTECT IN PLACE

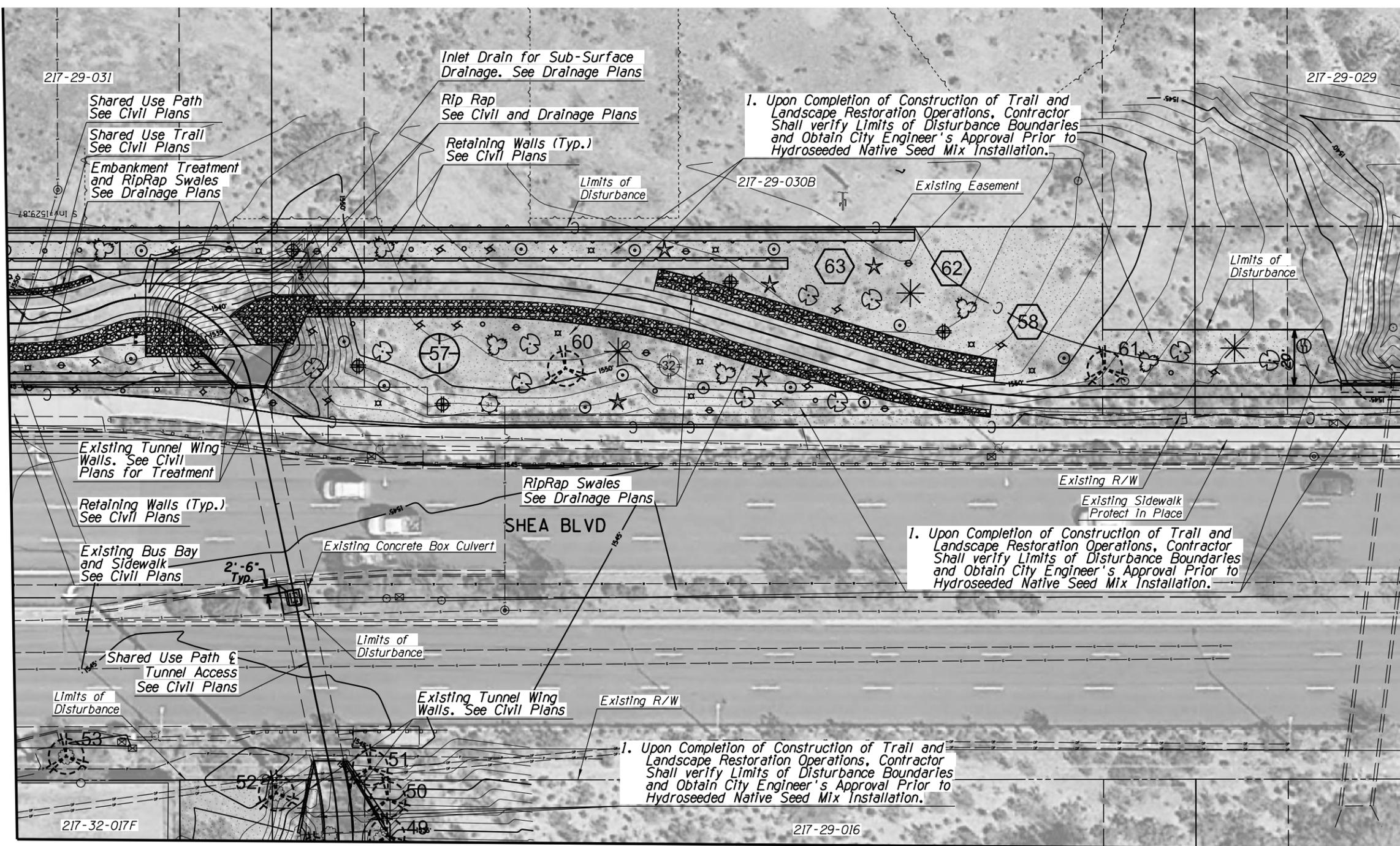
	SAL	2
	SAL	0
	SAL	1
	SAL	1
	SAL	0
	PIP	7
	PIP	0

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>LANDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO. 16BP020 PROJECT NO.		SHT. LP08 89 OF 105

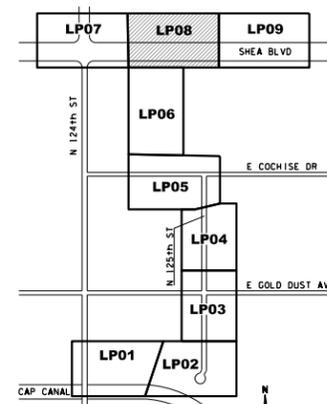
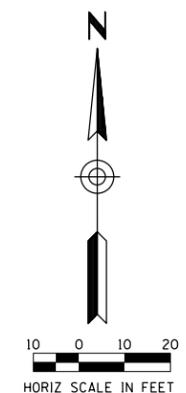


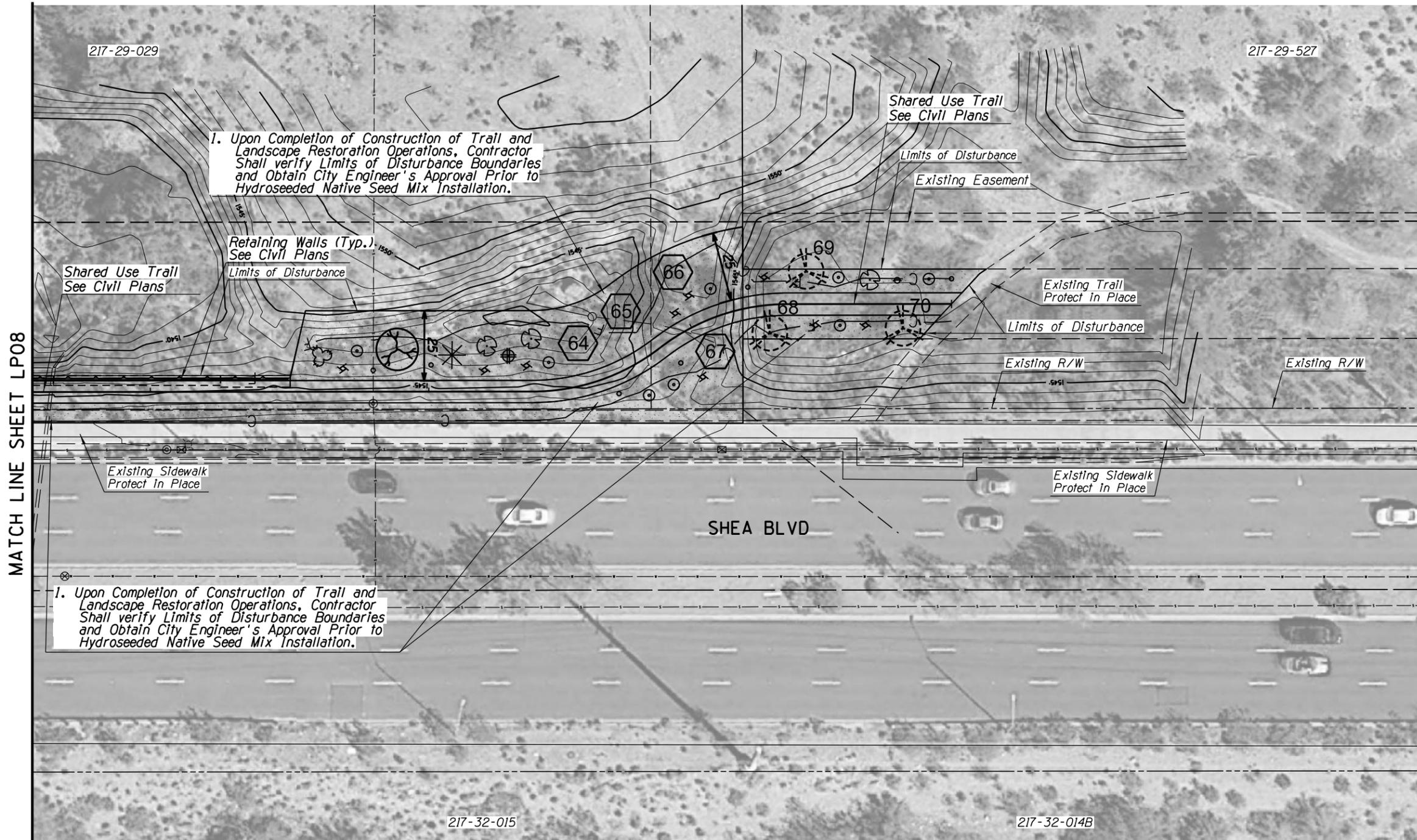
MATCH LINE SHEET LP08

MATCH LINE SHEET LP09

MATCH LINE SHEET LP06

SEED MIX: Desert Restoration  
 This Sheet Only:  
 19,684sf  
 (0.45 Acres)  
 SEE SHEET LSO1 FOR COMPLETE PROJECT QUANTITY TOTALS.





**LANDSCAPE LEGEND**

SYM ABV QTY

SEE SHEET LSO1 FOR TOTAL PROJECT PLANT QUANTITIES

**TREES**

	Pm	1
	Pv	0

**SHRUBS**

	Ad	1
	Bm	6
	Ef	8
	Lt	3
	Sa	9

**CACTI**

	Cg	0
	Ee	0
	Fw	0
	Fs	1
	Oa	0
	Oe	1
	Ov	1

**SALVAGE/PROTECT IN PLACE**

	SAL	4
	PIP	3

SAL = SALVAGE  
 PIP = PROTECT IN PLACE

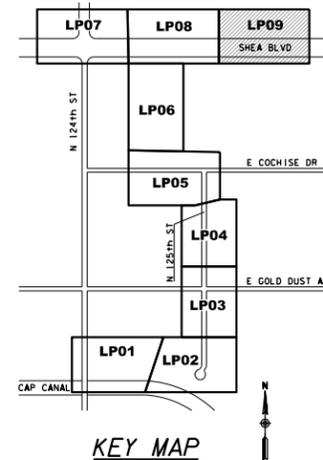
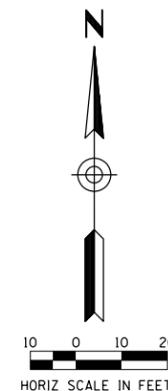
SEE PLANT INVENTORY PLANS AND SUMMARY TABLES FOR SALVAGE AND PROTECT IN PLACE PLANT INFORMATION.

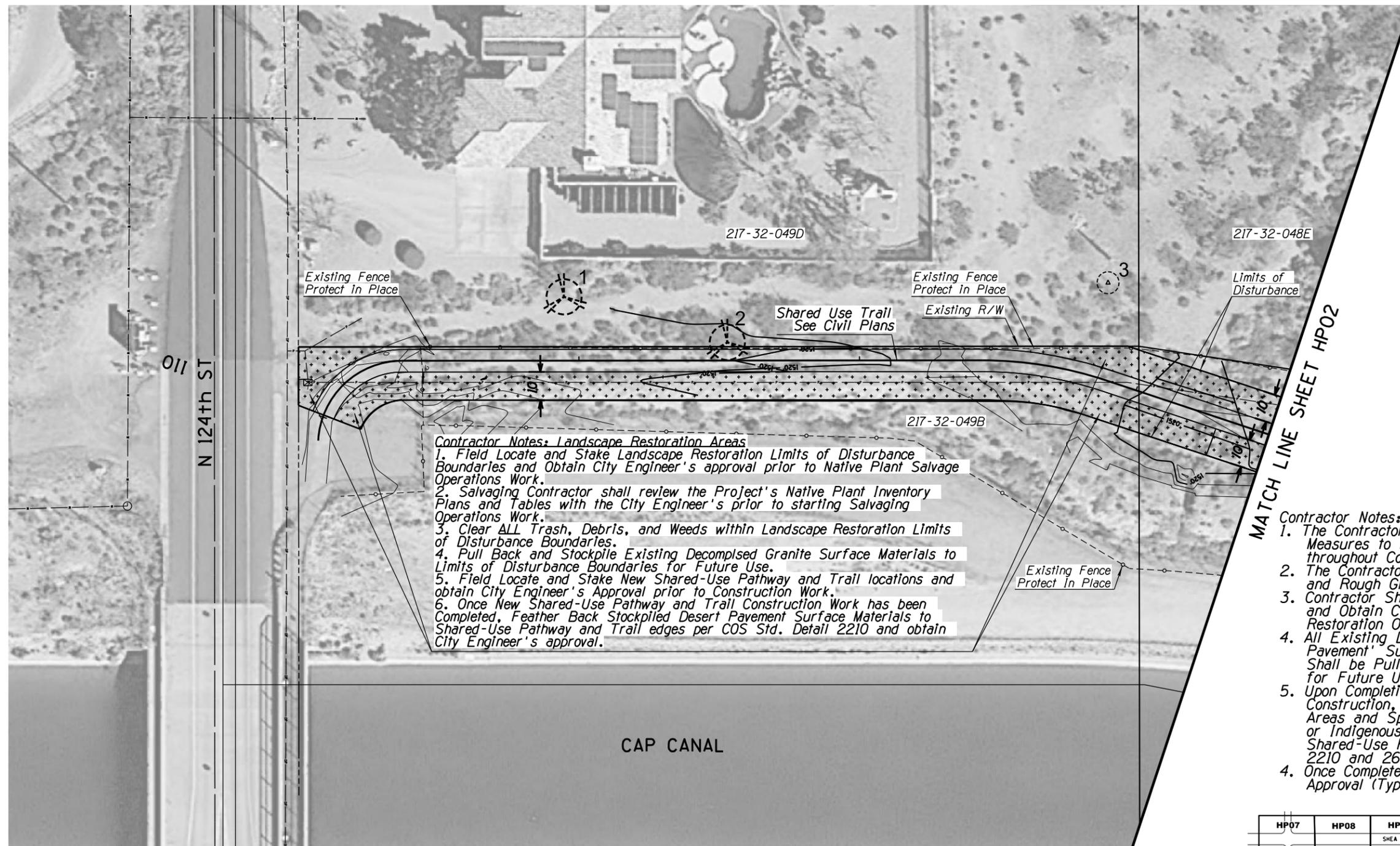
ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>LANDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO. 16BP020 PROJECT NO.		SHT. LP09 90 OF 105

MATCH LINE SHEET LP08

SEED MIX: Desert Restoration  
 This Sheet Only:  
 8,207sf  
 (0.2 Acres)  
 SEE SHEET LSO1 FOR COMPLETE PROJECT QUANTITY TOTALS.

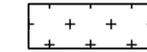




**SURFACE MATERIAL LEGEND**



Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.



Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

**Notes:**

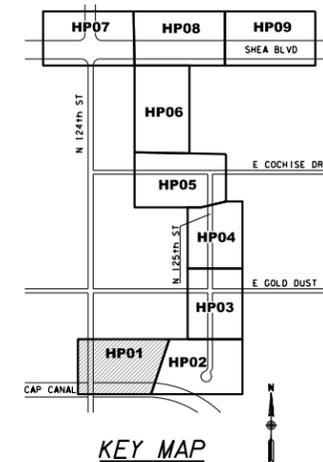
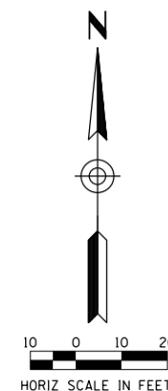
1. See Surface Material Schedule; this Sheet, Lower Left Corner.
2. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables

**Contractor Notes: Landscape Restoration Areas**  
 1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.  
 2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.  
 3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.  
 4. Pull Back and Stockpile Existing Decomposed Granite Surface Materials to Limits of Disturbance Boundaries for Future Use.  
 5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.  
 6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

- Contractor Notes:**
1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
  2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
  3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
  4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
  5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
  4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

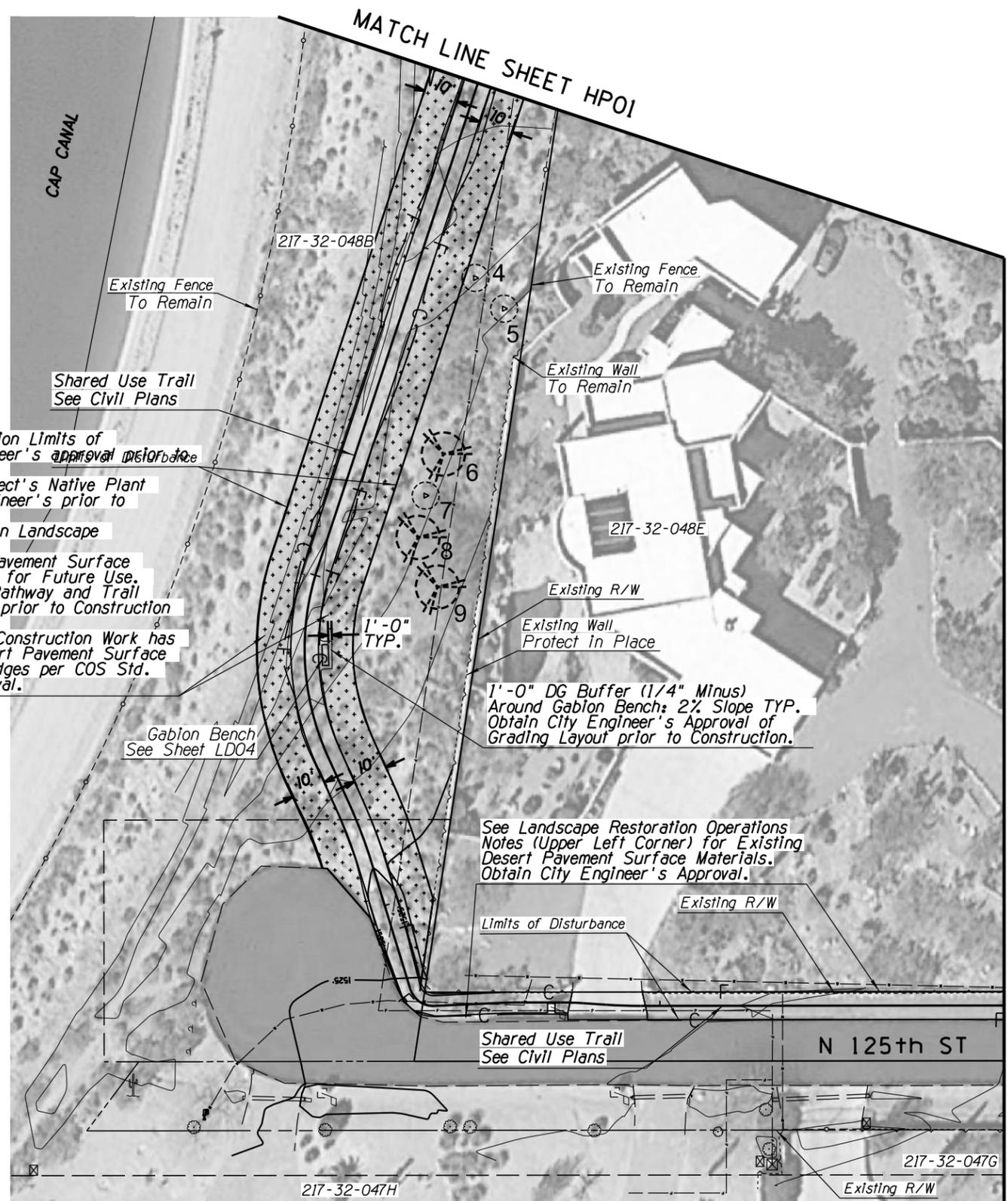
**SURFACE MATERIAL SCHEDULE - OVERALL QUANTITIES**

Description	Qty	Supplier	Color	Detail
Existing Areas of Decomposed Granite within R/W and TCE Areas. See Plans for Locations.	EXISTING	Existing Areas; Pull back, Stockpile and Re-Use.	Existing	Detail 6, Sheet LD02
Existing Areas of 'Desert Pavement' within R/W and TCE Areas. See Plans for Locations.	EXISTING	Existing Areas; Pull back, Stockpile and Re-Use.	Existing	Detail 6, Sheet LD02
8' Gabion Basket Bench with 4" Integral Color Concrete Cap and Pad See Plans for Locations.	2	Contractor	Color: No. 5237 San Diego Buff	Detail 1, Sheet LD04
Existing Shea Blvd. Access Tunnel Wing Walls See Plans for Locations.	4	Paint MFG; Davis Color	Color: No. 5237 San Diego Buff	See Special Provisions



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
Expires: 9/30/2017 SHEET TITLE: <b>HARDSCAPE PLAN</b>		
PROJECT TITLE: <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. HP01
		91 OF 105



**Contractor Notes: Landscape Restoration Areas**

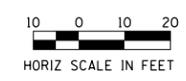
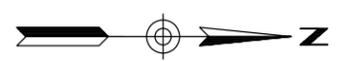
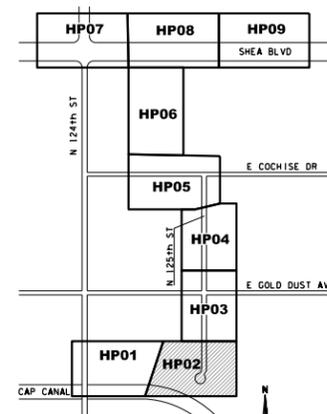
1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**SURFACE MATERIAL LEGEND**

- Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.
- Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

- Notes:**
1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
  2. See Sheet HP01 for Overall Surface Material Quantities

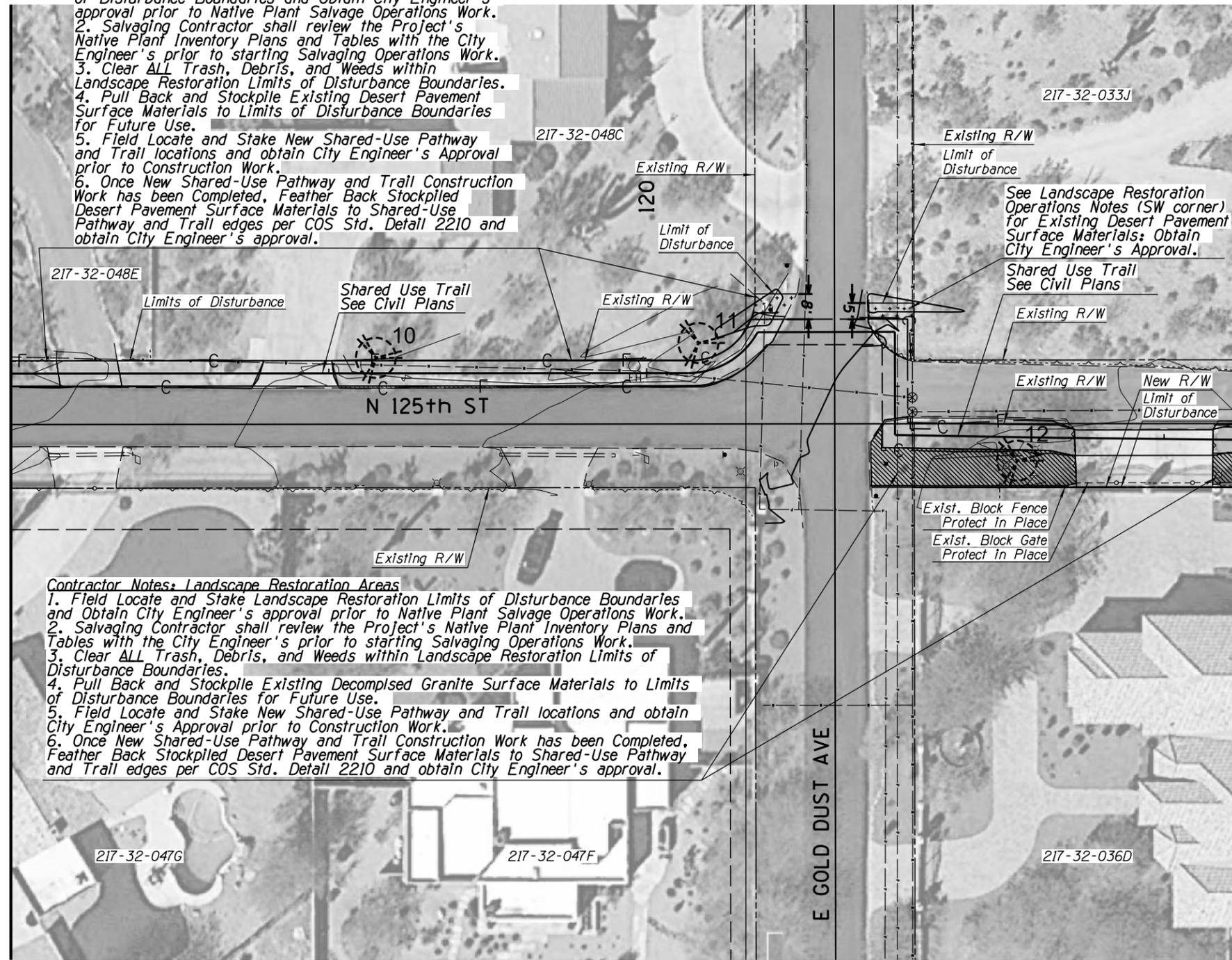
- Contractor Notes:**
1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
  2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
  3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
  4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
  5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
  4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).



ARIZONA BLUE STAKE CALL TWO WORKING DAYS BEFORE YOU DIG Dial 811 or 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)	
DATE	REVISION
ENGINEER	BY
PUBLIC WORKS	
CAPITAL PROJECT MANAGEMENT	
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251	
SHEET TITLE	
HARDSCAPE PLAN	
PROJECT TITLE	
SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL	
SCALE	DESIGNED
HORIZ. 1"=20'	RC
DATE	BID NO.
1/16	16BP020
VERT.	PROJECT NO.
AS-BUILT	92 OF 105

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.



MATCH LINE SHEET HP02

MATCH LINE SHEET HP04

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Decomposed Granite Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

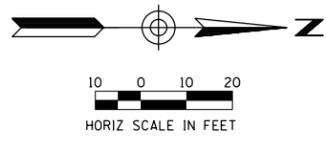
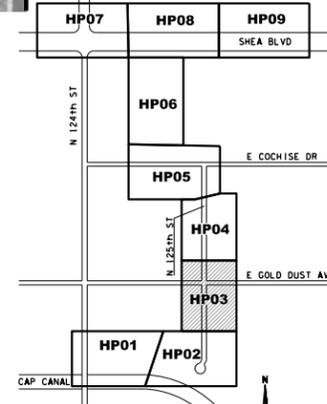
**SURFACE MATERIAL LEGEND**

 Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.

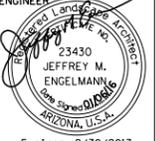
 Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

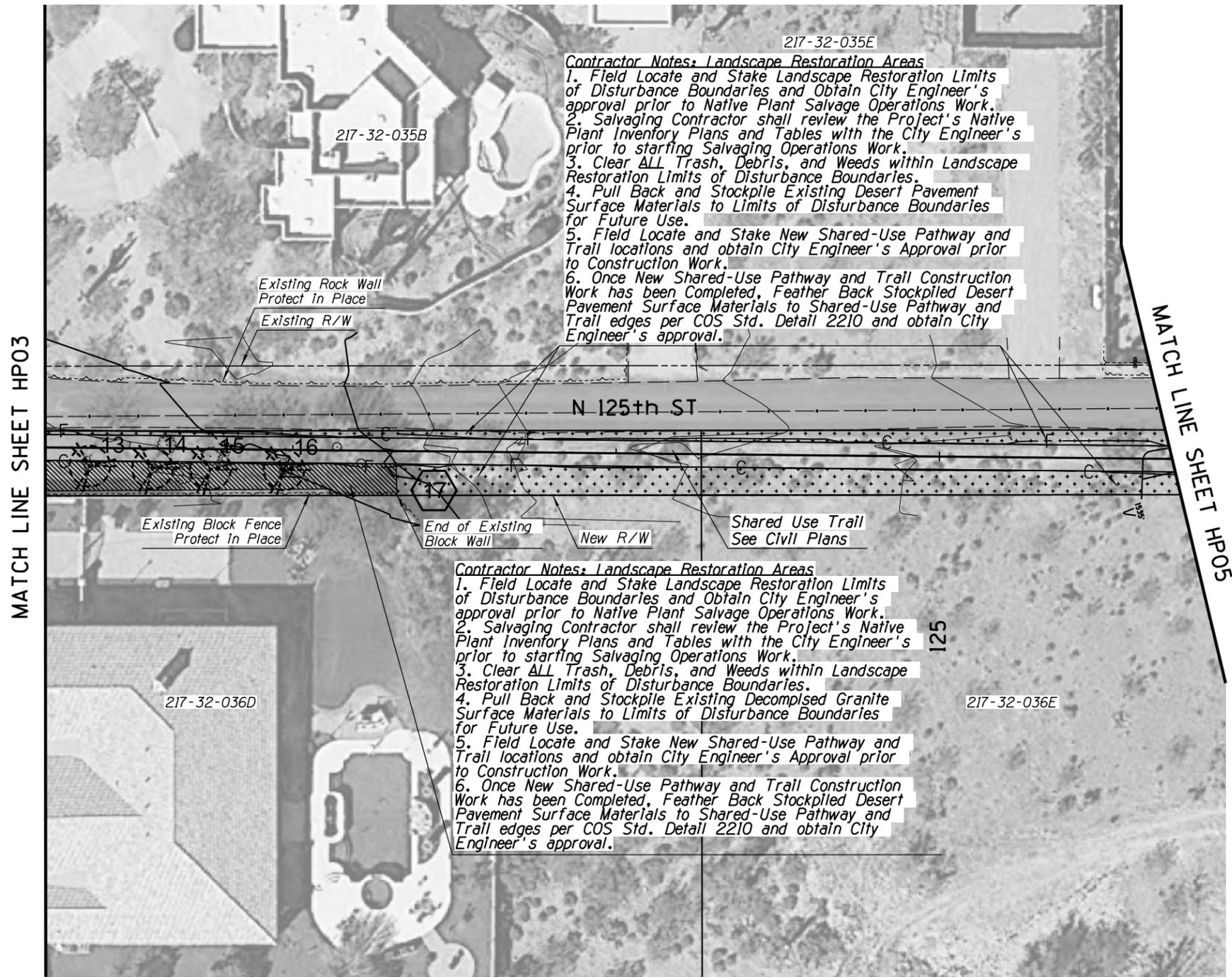
- Notes:**
1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
  2. See Sheet HP01 for Overall Surface Material Quantities

- Contractor Notes:**
1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
  2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
  3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
  4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
  5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
  4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
 		
<b>PUBLIC WORKS</b>		
<b>CAPITAL PROJECT MANAGEMENT</b>		
7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b>		
<b>HARDSCAPE PLAN</b>		
<b>PROJECT TITLE</b>		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO.		SHT.
16BP020		HP03
PROJECT NO.		
		93 OF 105



217-32-035E

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

217-32-036D

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Decomposed Granite Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**SURFACE MATERIAL LEGEND**

 Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.

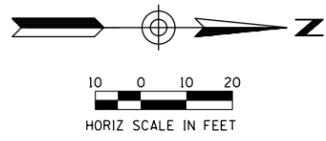
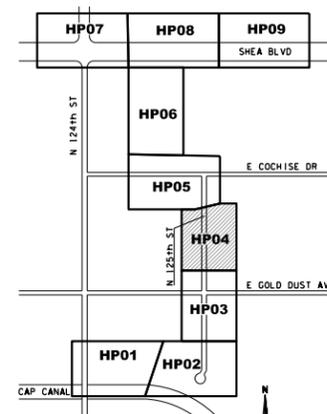
 Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

**Notes:**

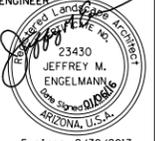
1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
2. See Sheet HP01 for Overall Surface Material Quantities

**Contractor Notes:**

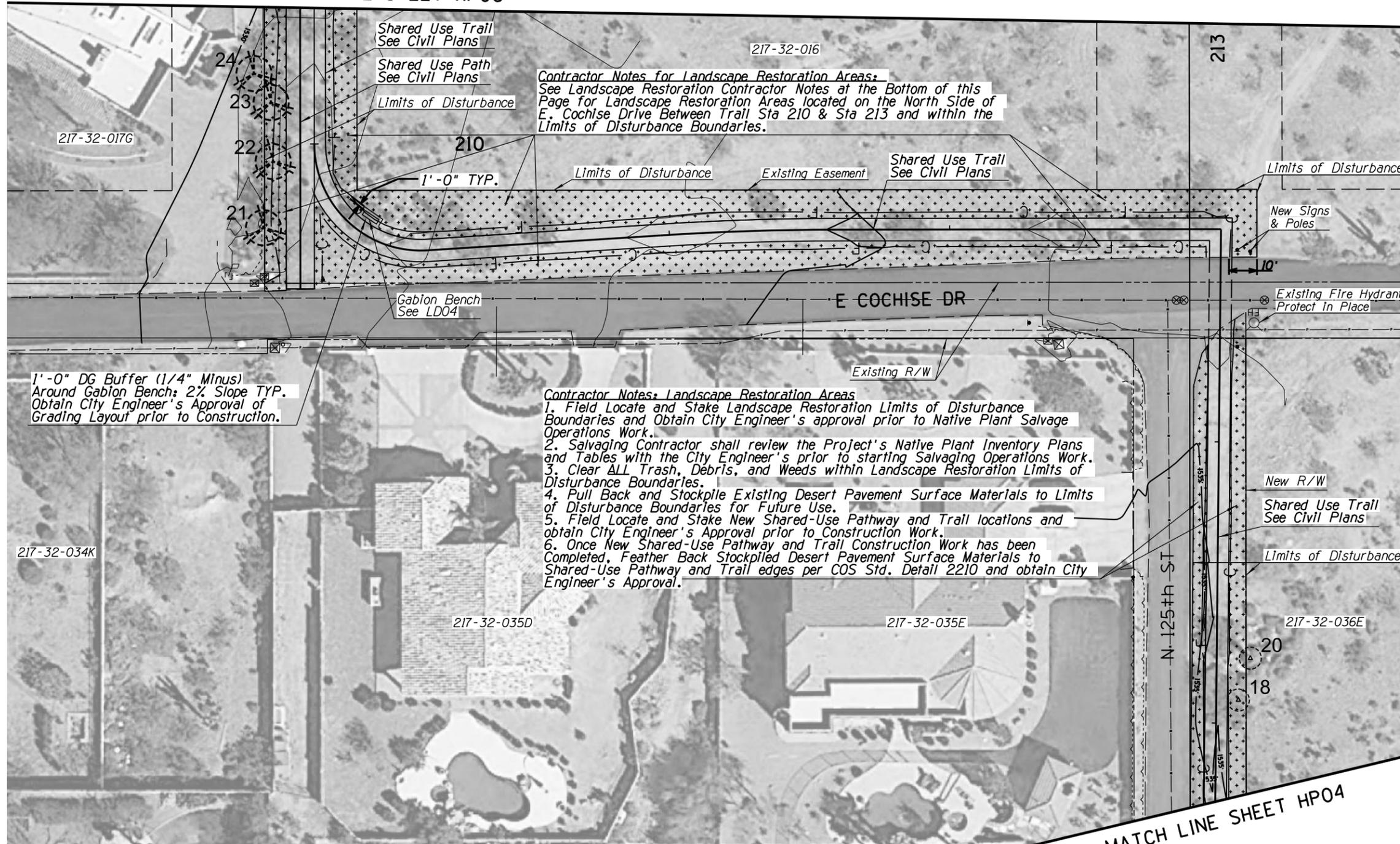
1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
 		
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>HARDSCAPE PLAN</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO.		SHT.
16BP020		HP04
PROJECT NO.		94 OF 105

MATCH LINE SHEET HP06



**Contractor Notes for Landscape Restoration Areas:**  
 See Landscape Restoration Contractor Notes at the Bottom of this Page for Landscape Restoration Areas located on the North Side of E. Cochise Drive Between Trail Sta 210 & Sta 213 and within the Limits of Disturbance Boundaries.

**Contractor Notes: Landscape Restoration Areas**  
 1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.  
 2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.  
 3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.  
 4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.  
 5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.  
 6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's Approval.

1'-0" DG Buffer (1/4" Minus) Around Gabion Bench; 2% Slope TYP. Obtain City Engineer's Approval of Grading Layout prior to Construction.

**SURFACE MATERIAL LEGEND**

Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.

Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

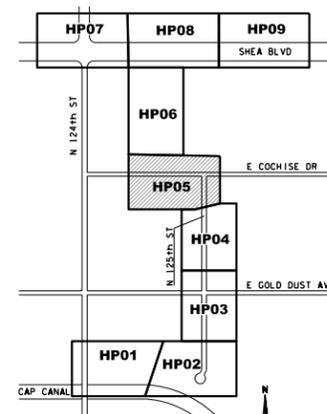
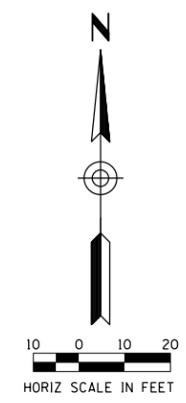
- Notes:**  
 1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables  
 2. See Sheet HP01 for Overall Surface Material Quantities

- Contractor Notes:**  
 1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.  
 2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.  
 3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.  
 4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.  
 5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.  
 4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

**Landscape Restoration Contractor Notes:**  
 Landscape Restoration Areas located on the North Side of E. Cochise Drive Between Trail Sta 210 & Sta 213 and within the Limits of Disturbance Boundaries.

- Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
- Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Summary Tables with the City Engineer's prior to starting Salvaging Operations Work.
- Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
- Within Landscape Restoration Limits of Disturbance Boundaries along the North side of E. Cochise Drive, Protect In Place ALL Existing Native Plants, Including Creosote Bushes and Cacti NOT INCLUDED in Native Plant Inventory Plans and Summary Tables.
- Pull Back "NO BLADING" and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
- Field Locate and Stake New Shared-Use Pathway, Trail and Native Plant Nursery locations and obtain City Engineer's Approval prior to Construction Work.
- Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's Approval.

MATCH LINE SHEET HP04



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b> <b>HARDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
BID NO. 16BP020 PROJECT NO.		SHT. HP05 95 OF 105

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**SURFACE MATERIAL LEGEND**



Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.



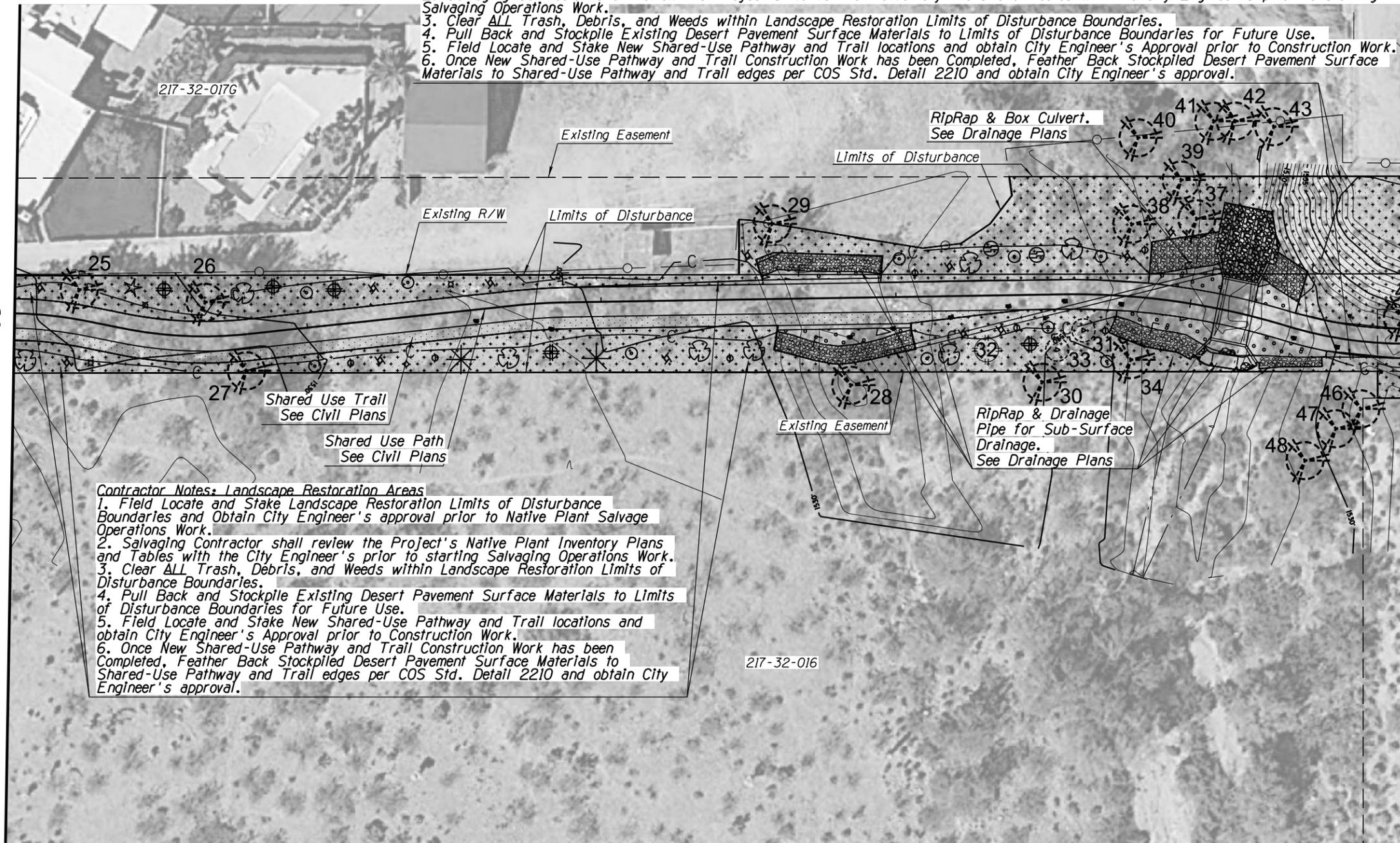
Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

**Notes:**

1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
2. See Sheet HP01 for Overall Surface Material Quantities

MATCH LINE SHEET HP05

MATCH LINE SHEET HP08



**Contractor Notes: Landscape Restoration Areas**

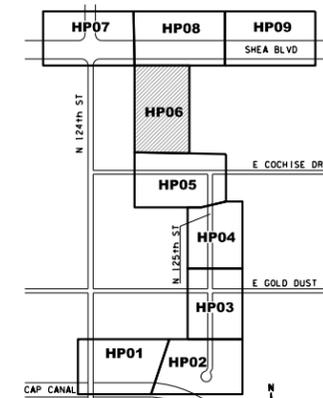
1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**Contractor Notes:**

1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

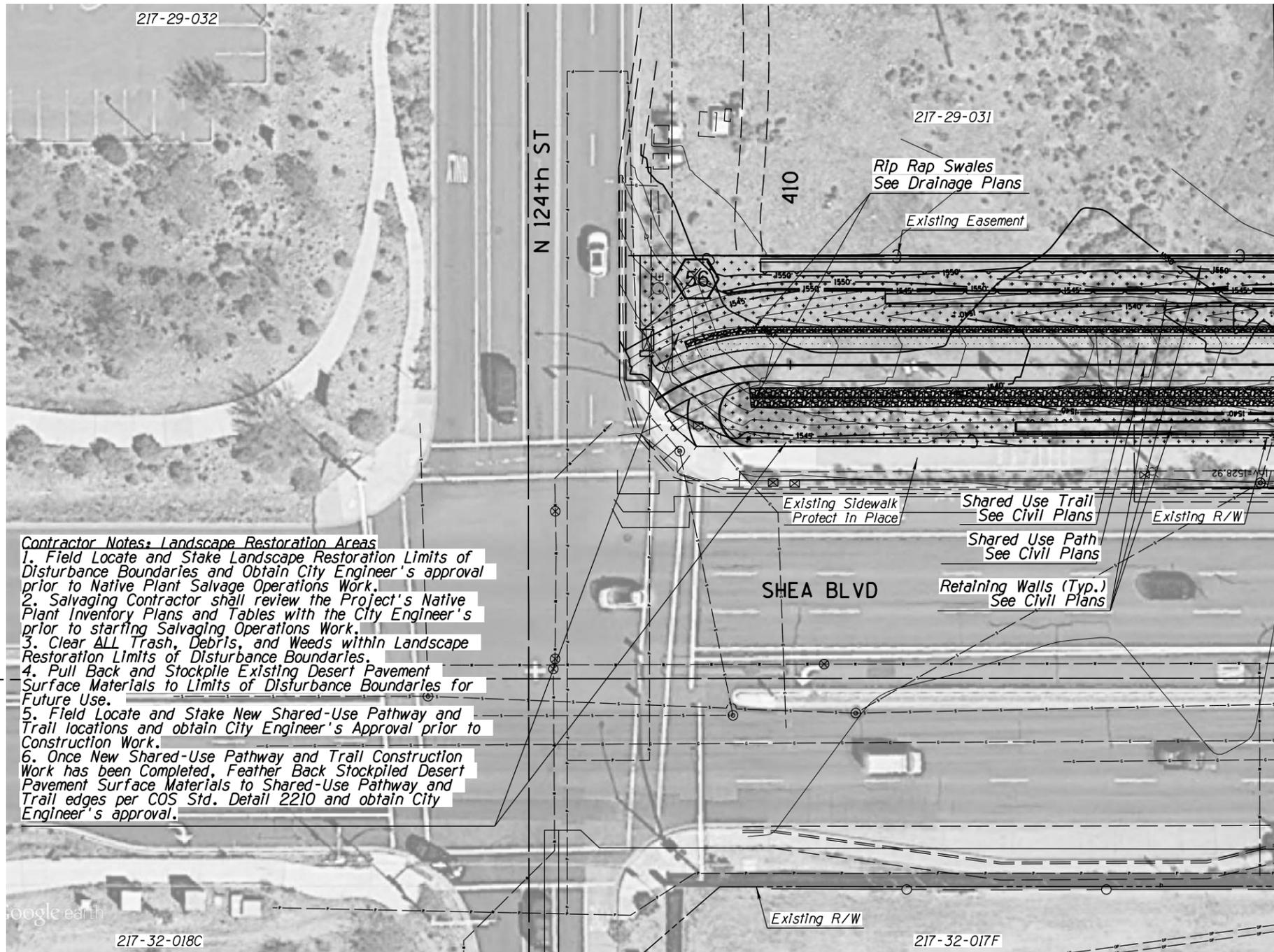
217-32-016

217-32-017G



KEY MAP

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
Expires: 9/30/2017 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b> <b>HARDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. HP06
OF 96		96 OF 105



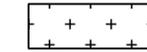
**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**SURFACE MATERIAL LEGEND**



Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.



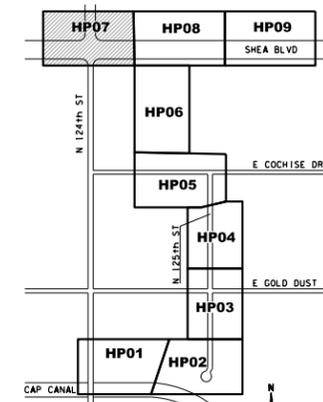
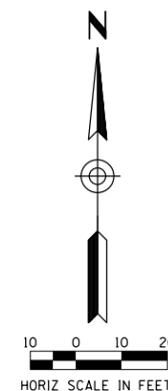
Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

- Notes:
1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
  2. See Sheet HPO1 for Overall Surface Material Quantities

MATCH LINE SHEET HP08

- Contractor Notes:**
1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
  2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
  3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
  4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
  5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail edges Per COS Details 2210 and 2620.1.
  4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

google earth



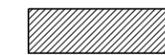
KEY MAP

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

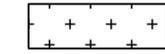
DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		
Expires: 9/30/2017 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
<b>SHEET TITLE</b> <b>HARDSCAPE PLAN</b>		
<b>PROJECT TITLE</b> <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO. 16BP020		SHT. HP07
PROJECT NO.		97 OF 105

XXX-XX

**SURFACE MATERIAL LEGEND**



Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.



Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

**Notes:**

1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
2. See Sheet HP01 for Overall Surface Material Quantities

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

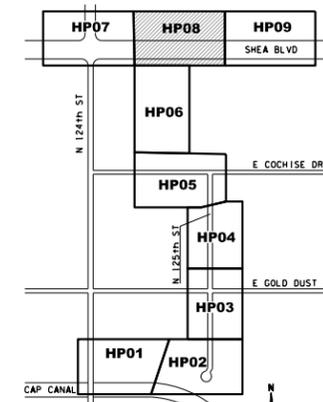
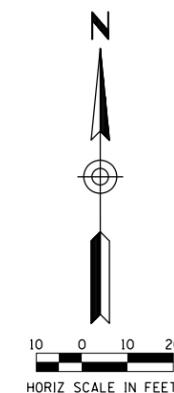
**Contractor Notes:**

1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail edges Per COS Details 2210 and 2620.1.
4. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

MATCH LINE SHEET HP08

MATCH LINE SHEET HP09

MATCH LINE SHEET HP06



 ARIZONA BLUE STAKE CALL TWO WORKING DAYS BEFORE YOU DIG Dial 811 or 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)		
DATE	REVISION	BY
 23430 JEFFREY M. ENGELMANN ARIZONA, U.S.A.	 CITY OF SCOTTSDALE ARIZONA	<b>PUBLIC WORKS</b>  <b>CAPITAL PROJECT MANAGEMENT</b>  7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE		
<b>HARDSCAPE PLAN</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		HP08
98 OF 105		

217-29-029

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

217-29-527

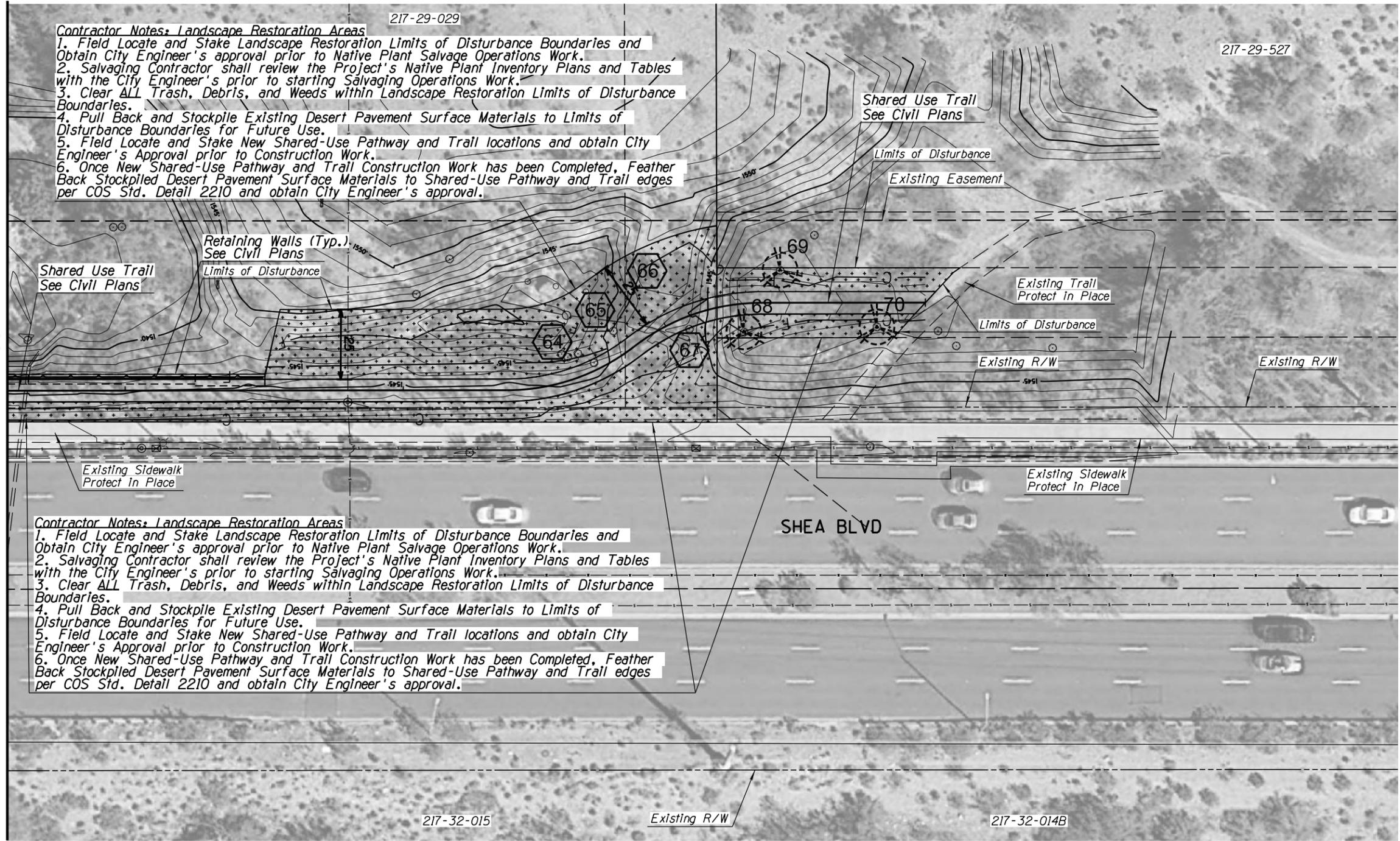
**SURFACE MATERIAL LEGEND**

-  Existing Areas of Decomposed Granite within R/W and TCE areas. Apply Pre-Emergent Per COS Std Dtl 2620 See Plans for Locations.
-  Existing Areas of 'Desert Pavement' within R/W and TCE areas. See Plans for Locations.

**Notes:**

1. See Sheet NPS01 for Complete Native Plant Inventory Survey Tables
2. See Sheet HPO1 for Overall Surface Material Quantities

MATCH LINE SHEET HPO8



217-32-015

**Contractor Notes: Landscape Restoration Areas**

1. Field Locate and Stake Landscape Restoration Limits of Disturbance Boundaries and Obtain City Engineer's approval prior to Native Plant Salvage Operations Work.
2. Salvaging Contractor shall review the Project's Native Plant Inventory Plans and Tables with the City Engineer's prior to starting Salvaging Operations Work.
3. Clear ALL Trash, Debris, and Weeds within Landscape Restoration Limits of Disturbance Boundaries.
4. Pull Back and Stockpile Existing Desert Pavement Surface Materials to Limits of Disturbance Boundaries for Future Use.
5. Field Locate and Stake New Shared-Use Pathway and Trail locations and obtain City Engineer's Approval prior to Construction Work.
6. Once New Shared-Use Pathway and Trail Construction Work has been Completed, Feather Back Stockpiled Desert Pavement Surface Materials to Shared-Use Pathway and Trail edges per COS Std. Detail 2210 and obtain City Engineer's approval.

SHEA BLVD

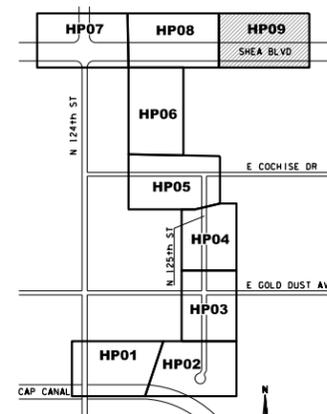
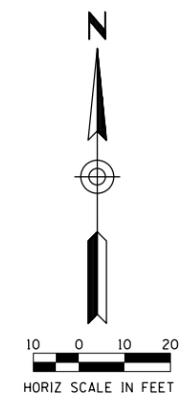
**Contractor Notes:**

1. The Contractor shall take all Necessary Precautionary Measures to Protect Adjacent Properties from damage throughout Construction.
2. The Contractor shall Verify and Accept all Site Conditions and Rough Grades prior to starting any Construction Work.
3. Contractor Shall Field Locate and Stake Limits of Disturbance and Obtain City Engineer's Approval prior to Landscape Restoration Operations.
4. All Existing Decomposed Granite and Indigenous 'Desert Pavement' Surface Materials within Limits of Disturbance Shall be Pulled Back to Limits of Disturbance Boundaries for Future Use.
5. Upon Completion of Shared-Use Path and/or Trail Construction, the Contractor Shall Fine Grade Disturbed Areas and Spread Back Stockpiled Decomposed Granite or Indigenous 'Desert Pavement' Surface Materials to Shared-Use Path and/or Trail Edges Per COS Details 2210 and 2620.1.
6. Once Completed, Contractor Shall Obtain City Engineer's Approval (Typical All Areas of Disturbance).

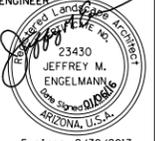
217-32-015

Existing R/W

217-32-014B



ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARIQUA COUNTY)

DATE	REVISION	BY
		
		
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		
SHEET TITLE		
<b>HARDSCAPE PLAN</b>		
PROJECT TITLE		
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>		
SCALE	DESIGNED	DATE
HORIZ. 1"=20'	RC	1/16
VERT.	DRAWN	AS-BUILT
	J2	
PROJECT NO.		SHT.
16BP020		HP09
99 OF 105		

## GENERAL ELECTRICAL NOTES

- ELECTRICAL WORK SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE (LATEST EDITION), FEDERAL, STATE AND LOCAL JURISDICTION CODES.
- ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE, FINISHED AND SAFE MANNER, ACCORDING TO THE LATEST PUBLISHED NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION STANDARDS OF INSTALLATION, UNDER COMPETENT SUPERVISION.
- VISIT THE SITE PRIOR TO BIDDING TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND ALL OTHER FACTORS WHICH MAY AFFECT THE EXECUTION OF THIS WORK. INCLUDE ALL RELATED COSTS IN THE INITIAL BID PROPOSAL.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING LOCATIONS OF ALL EXISTING UTILITIES AND AVOIDING DAMAGE TO SAME. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES CAUSED AS A RESULT OF HIS WORK. CALL (602) 263-1100 FOR BLUE STAKES. IRRIGATION LINES LESS THAN 2" WILL NOT BE MARKED AND SHALL BE REPAIRED IN KIND BY THE CONTRACTOR.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING WALKS, WALLS, DRIVES, CURBS, ETC. DAMAGES SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER.
- PROPER PROTECTION OF THE CONSTRUCTION AREA FOR SAFETY SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. COVER ALL TRENCHES AT THE END OF EACH WORK DAY. BARRICADES SHALL BE INSTALLED AS DIRECTED BY THE OWNER OR THE PROJECT INSPECTOR. THE SITE AND ALL WORK SHALL CONFORM TO OSHA REQUIREMENTS.
- ALL EXISTING LANDSCAPE, HARDSCAPE AND SPRINKLER SYSTEMS DAMAGED OR DISTURBED DURING THE CONSTRUCTION OF THIS PROJECT BY THE CONTRACTOR SHALL BE REPLACED IN KIND.
- CONTRACTOR SHALL PAY FOR PERMITS AND INSPECTIONS AS MAY BE REQUIRED AND PROVIDE A CERTIFICATE OF INSPECTION TO THE OWNER.
- PROTECT ALL MATERIAL AND EQUIPMENT INSTALLED AGAINST DAMAGE BY OTHER TRADES. WEATHER CONDITIONS OR ANY OTHER CAUSES. EQUIPMENT FOUND DAMAGED OR IN OTHER THAN NEW CONDITION WILL BE REJECTED AS DEFECTIVE. ALL COMPONENTS SHALL BE FREE OF DUST, GRIT AND FOREIGN MATERIALS, AND LEFT AS NEW BEFORE FINAL ACCEPTANCE OF WORK.
- LEAVE THE SITE CLEAN, REMOVE ALL DEBRIS, EMPTY CARTONS, TOOLS, CONDUIT, WIRE SCRAPS AND ALL MISCELLANEOUS SPARE EQUIPMENT AND MATERIALS USED IN THE WORK DURING CONSTRUCTION.
- IT IS THE OBLIGATION OF THE CONTRACTOR TO ORGANIZE HIS WORK SO THAT A COMPLETE ELECTRICAL, INSTRUMENTATION, AND/OR CONTROL SYSTEM FOR THE FACILITY WILL BE PROVIDED AND SUPPORTED BY ACCURATE SHOP AND RECORD DRAWINGS, AND ALL O & M MANUALS.
- ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 40 PVC, BURIED 24" MINIMUM BELOW FINISHED GRADE, UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS.
- PROVIDE EMT INDOOR AND GRS OUTDOOR FOR ABOVE GROUND CONDUIT. WHERE METALLIC CONDUITS COME IN CONTACT WITH DIRT, THEY SHALL BE HALF LAP WRAPPED WITH SCOTCH 50 TAPE TO 12" AFG. FITTINGS SHALL BE STEEL, THREADED TYPE WITH INSULATED THROATS. SECURELY ATTACH ALL SURFACE MOUNTED CONDUIT EVERY 10 FEET AND WITHIN 3 FEET OF EACH JUNCTION BOX, PER NEC ARTICLE 344.30.
- MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS.
- ALL FEEDERS AND BRANCH CIRCUIT WIRE SHALL BE COPPER TYPE XHHW (75 DEGREE C) FOR BELOW GRADE INSTALLATIONS (AND CONDUIT RISERS) AND THHN/THWN (75 DEGREE C) FOR ABOVE GRADE INSTALLATIONS. MINIMUM SIZE SHALL BE #12 AWG, UNLESS SPECIFICALLY NOTED OTHERWISE ON PLANS OR IN DETAILS. ALL WIRING SHALL BE IN CONDUIT. PER MARICOPA COUNTY AMENDMENT TO NEC ARTICLE 334.10 AND 334.12, MARICOPA COUNTY DOES NOT PERMIT TYPES NM, NMC, NMS (ROMEX) CABLES IN COMMERCIAL APPLICATIONS.
- A SEPARATE GREEN INSULATED EQUIPMENT GROUNDING CONDUCTOR (BOND) SHALL BE INSTALLED WITHIN EACH RACEWAY PER NEC CODE.
- WHEN A PANEL IS SUPPLIED BY A FEEDER OR BRANCH CIRCUIT, ANY INSTALLED GROUNDED CONDUCTOR SHALL NOT BE CONNECTED TO THE EQUIPMENT GROUNDING CONDUCTOR (GEC) OR TO THE GROUNDING ELECTRODE(S) PER NEC ARTICLE 250.32(B).
- BOND ALL ENCLOSURES PER NEC ARTICLE 250.96.
- CONTRACTOR SHALL PLAN AND INSTALL WORK IN SUCH A MANNER AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTIONS, PRESERVE HEADROOM AND KEEP OPENINGS AND PASSAGEWAYS CLEAR.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIAL, ETC. NECESSARY FOR A COMPLETE AND WORKABLE ELECTRICAL SYSTEM WHETHER OR NOT THESE ITEMS ARE SPECIFICALLY NOTED ON THESE DRAWINGS. INCIDENTAL ITEMS NOT INDICATED ON THE DRAWINGS, NOR MENTIONED IN SPECIFICATIONS THAT CAN BE LEGITIMATELY AND REASONABLY INFERRED TO BELONG TO THE WORK DESCRIBED OR BE NECESSARY IN GOOD PRACTICE TO PROVIDE A COMPLETE SYSTEM, SHALL BE FURNISHED AND INSTALLED AS THOUGH ITEMIZED HERE IN EVERY DETAIL.
- CONTRACTOR IS RESPONSIBLE FOR AND SHALL PROVIDE ALL LABOR, MATERIAL, TRENCHING, CONDUIT, TRANSFORMER PAD AND OTHER REQUIRED EQUIPMENT PER UTILITY COMPANY PLANS AND SPECIFICATIONS NECESSARY FOR A COMPLETE UNDERGROUND CONDUIT SYSTEM FROM THE UTILITY POINT OF SERVICE TO THE UTILITY CO. TRANSFORMER AND FROM THE UTILITY CO. TRANSFORMER TO THE ELECTRICAL SERVICE ENTRANCE SECTION.
- ALL TRENCHING, CONDUITS, ETC. SHALL BE ROUTED AND INSTALLED IN SUCH A MANNER THAT WILL NOT DAMAGE EXISTING FACILITIES. SHOULD DAMAGE OCCUR, IT WILL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR DAMAGE TO THE SATISFACTION OF THE OWNER OR INSPECTOR.
- ALL CONDUIT RUNS SHOWN ON THIS PLAN ARE SCHEMATIC IN NATURE. THE CONTRACTOR SHALL MAKE SURE THAT ALL CONDUIT, ETC. FALLS WITHIN THE CONSTRUCTION AREA/RIGHT OF WAY. (THIS INCLUDES MAINTAINING ALL REQUIRED CLEARANCES.)
- WHEN CROSSING PATHWAYS OR SIDEWALKS, CONTRACTOR SHALL BORE UNDER EXISTING CONCRETE WALKS AND SAWCUT ASPHALT WALKS. ASPHALT WALKS SHALL BE REPLACED IN KIND.
- CONTRACTOR SHALL GUARANTEE WORK INSTALLED UNDER THE CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS, USUAL WEAR EXPECTED, AND SHOULD ANY SUCH DEFECTS DEVELOP WITHIN A PERIOD OF ONE YEAR ACCEPTANCE OF THE PROJECT BY THE OWNER, THE CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTIVE ITEMS AND DAMAGE RESULTING FROM FAILURE OF THESE ITEMS, AT NO EXPENSE WHATSOEVER TO THE OWNER.
- CONTRACTOR SHALL IDENTIFY SERVICE ENTRANCE SECTION MAIN SERVICE DISCONNECT(S) WITH 3/32-INCH THICK LAMINATED PHENOLIC TYPE NAMEPLATES WITH 1/4-INCH MINIMUM HEIGHT LETTERS. NAMEPLATE TO BE BLACK MATTE FINISH SURFACE WITH WHITE LETTER ENGRAVING. ATTACH NAMEPLATE TO THE OUTSIDE PANEL FACE WITH TWO STAINLESS STEEL SELF-TAPPING SCREWS. NAMEPLATE SHALL READ "SERVICE DISCONNECT" PER NEC ARTICLE 230.70(B).
- ALL CIRCUITS SHALL BE LEGIBLY IDENTIFIED AT THE PANEL, JUNCTION BOXES AND AT ALL EQUIPMENT IN A PERMANENT MANNER (I.E. ETCHED PLATES, CONDUCTOR TAG, PERMANENT MARKER, ETC.). THE LABELING SHALL INCLUDE PANEL CIRCUIT NUMBER, "TO" AND "FROM" IDENTIFICATION, AND MARKED "SPARE" WHERE APPLICABLE.
- CONTRACTOR SHALL TEST ELECTRICAL SYSTEM FOR SHORT CIRCUITS AND MEGGER TEST FEEDERS AND BRANCH CIRCUIT WIRING. CONTRACTOR SHALL INSURE LOW IMPEDANCE GROUND PATH SYSTEM.
- CONTRACTOR SHALL PERFORM HIGH POTENTIAL (HIPOT) TESTING WHEN REQUIRED BY LOCAL JURISDICTION OR OWNER.
- CONTRACTOR SHALL PROVIDE A GROUND-FAULT COORDINATION STUDY AND PERFORM RECOMMENDED SETTINGS ON OVERCURRENT PROTECTION DEVICES, AS NEEDED OR WHEN REQUIRED BY LOCAL JURISDICTION OR OWNER. PROVIDE LABELS ON EQUIPMENT INDICATING SETTINGS.
- CONTRACTOR SHALL PROVIDE AN ARC-FLASH STUDY WHEN REQUIRED BY LOCAL JURISDICTION OR OWNER. PROVIDE ALL APPLICABLE LABELS ON EQUIPMENT AFTER STUDY IS COMPLETED.
- ALL CONDUIT AND J-BOXES SHOWN SHALL BE CONCEALED WHEN POSSIBLE. WHEN NOT POSSIBLE, CONDUIT AND J-BOXES MAY BE SURFACE MOUNTED WITH PERMISSION OF THE OWNER OR OWNER'S REPRESENTATIVE.
- CONTRACTOR SHALL COORDINATE ALL EQUIPMENT CONNECTIONS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN. PROVIDE ADDITIONAL FUSED DISCONNECT SWITCHES AND CONTROLS IF OVERCURRENT PROTECTION OR CONTROLS IS NOT INTEGRAL WITH UNITS.
- ALL EQUIPMENT SHALL BE FUSE SIZED PER MANUFACTURES RECOMMENDATIONS AND U.L. APPROVAL.
- ELECTRICAL DEVICES, DISCONNECT SWITCHES, ETC., SHALL BE SUPPORTED INDEPENDENT OF AND ISOLATED FROM EQUIPMENT VIBRATIONS.
- FULL LOAD AMPS (FLA) SIZES, AS NOTED IN THESE DRAWINGS, ARE BASED ON SPECIFIED EQUIPMENT DATA. CONTRACTOR SHALL VERIFY NAMEPLATE FLA OF EQUIPMENT SUPPLIED AND COORDINATE ACCORDINGLY PER EQUIPMENT SUPPLIERS RECOMMENDATIONS.
- ALL OUTDOOR ELECTRICAL EQUIPMENT SHALL BE NEMA-3R OR NEMA-4 ENCLOSURES.
- CONDUITS OR RACEWAYS ROUTED FROM INDOORS TO OUTDOORS OR AS DESCRIBED IN NEC 300.7(A), SHALL BE SEALED WITH A PLIABLE SEALING COMPOUND AT A CONDUIT BODY OR AT A JUNCTION BOX BEFORE THE CONDUIT ENTERS THE COLDER ENVIRONMENT.
- CONDUITS OR RACEWAYS INSTALLED IN AREAS WHERE ELEVATION CHANGES MAY CAUSE WATER OR MOISTURE TO ENTER THE ELECTRICAL EQUIPMENT THROUGH THE CONDUIT SHALL BE SEALED WITH A HERMETIC CONDUIT SEAL AT BOTH ENDS OF THE CONDUIT OR RACEWAY.
- INSTALL FIRE SEALS IN ALL CONDUITS PENETRATING THE FIRE WALL TO MAINTAIN THE FIRE RESISTANCE RATING OF THE WALL, AS REQUIRED BY NEC 300.21.
- ALL POLE LIGHTS SHALL BE PROVIDED WITH A TWO POLE FUSE HOLDER BUSSMANN #HEX OR A SINGLE POLE FUSE HOLDER BUSSMANN #HEB OR EQUAL FOR INLINE FUSING, PROVIDE 5A FUSING IN FUSEHOLDER.
- PRIOR TO POURING THE POLE BASES OR COVERING ANY ELECTRICAL CONDUITS, CONTACT THE INSPECTION DEPARTMENT 24 HOURS IN ADVANCE FOR APPROVAL.
- MATERIALS SHALL BE NEW AND OF THE BEST QUALITY WITH MANUFACTURER'S NAME PRINTED THEREON. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH NEMA, ANSI, UNDERWRITER'S LABORATORY OR OTHER APPLICABLE STANDARDS AND RATED FOR HEAVY DUTY SERVICE.
- ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE. ALL 15 AND 20 AMP, 125 AND 250 VOLT, NONLOCKING RECEPTACLES INSTALLED OUTDOORS SHALL BE LISTED WEATHER-RESISTANT TYPE. ALL WEATHERPROOF WHILE IN-USE RECEPTACLE COVERS SHALL BE METAL.
- SELECTION OF MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE DRAWINGS AND/OR SPECIFICATIONS. THE USE OF MANUFACTURER'S NAME, MODEL, AND NUMBER IS INTENDED TO ESTABLISH STYLE, QUALITY, APPEARANCE, USEFULNESS AND BID PRICE. CONTRACTOR SHALL SUBMIT TO THE OWNER OR OWNER'S REPRESENTATIVE FOR REVIEW AND APPROVAL (PRIOR TO ORDERING MATERIALS) COPIES OF EQUIPMENT SHOP DRAWINGS AS FOLLOWS: 1) LIGHT FIXTURES, 2) POLES, 3) POLE BASES, 4) SERVICE ENTRANCE SECTION, 5) ELECTRICAL EQUIPMENT, 6) DISCONNECT SWITCHES, 7) TIME CLOCKS AND OTHER CONTROLS, 8) LIGHTING CONTACTORS AND 9) PULL BOXES. AT THE TIME OF EACH SUBMITTAL, THE CONTRACTOR SHALL DEFINE AND DELINEATE IN WRITING ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. THE REVIEW WILL BE ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT OF THE WORK AND FOR COMPLIANCE WITH THE INFORMATION CONTAINED IN THE CONTRACT DOCUMENTS. THE REVIEW OF A SPECIFIED ITEM, AS SUCH, WILL NOT INDICATE REVIEW OF THE ASSEMBLY IN WHICH THE ITEM FUNCTIONS. REVIEW BY THE OWNER OR OWNER'S REPRESENTATIVE WILL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR ANY ERRORS OR OMISSIONS IN THE SUBMITTALS NOR FROM HIS RESPONSIBILITY FOR COMPLYING WITH THE CONTRACT DOCUMENTS.
- THE SUBMITTALS SHALL BE NEATLY GROUPED AND ORGANIZED. PERTINENT INFORMATION SHALL BE HIGHLIGHTED, AND THE SPECIFIC PRODUCT SHALL BE IDENTIFIED. ALL SUBMITTALS SHALL BE COMPLETE, AND PRESENTED IN ONE PACKAGE. THE SUBMITTAL SHALL INCLUDE A COMPLETE LIST OF THE EQUIPMENT AND MATERIALS, INCLUDING THE MANUFACTURER'S NAME, PRODUCT SPECIFICATION, DESCRIPTIVE DATA, TECHNICAL LITERATURE, PERFORMANCE CHARTS, CATALOG CUTS, INSTALLATION INSTRUCTIONS, AND SPARE PART RECOMMENDATIONS FOR EACH DIFFERENT ITEM OF THE EQUIPMENT SPECIFIED.

**J2** engineering and environmental design  
4649 east cotton gln loop, suite B2  
phoenix, arizona 85040  
phones: 602.438.2221  
www.j2design.us

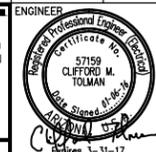
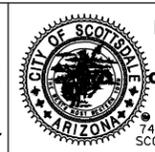
## CONSTRUCTION NOTES

- PROPOSED SINGLE PHASE TRANSFORMER LOCATION. COORDINATE WITH POWER CO. PLANS. LOCATION SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF TRANSFORMER AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- PROPOSED POWER CO. SECONDARY CONDUIT. INSTALL PER POWER CO. REQUIREMENTS AND SPECIFICATIONS. EXTEND FROM PROPOSED TRANSFORMER LOCATION TO PROPOSED ELECTRICAL SERVICE. LOCATIONS SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF CONDUIT AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- 100 AMP, 120/240V, 1ø, 3W, METERED ELECTRIC PEDESTAL (SEE DETAILS ON SHEET SE3.2).
- #5 CONCRETE PULL BOX, SEE DETAIL 3 ON SHEET SE3.2.
- AREA LIGHT SEE DETAIL 1 SHEET SE3.1.
- CEILING MOUNTED TUNNEL LIGHT SEE DETAIL 2 SHEET SE3.1.
- 1" CONDUIT (2) #12 [A-1], (2) #12 [A-3], (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- 1" CONDUIT (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- REFER TO SHEET 3.1 DETAIL 2 FOR CONDUIT ROUTING.
- 1" CONDUIT WITH PULL ROPE AS SPARE.
- ROUTE CONDUIT AROUND LIGHT WELL OPENING.

## LEGEND:

-  UNDERGROUND CONDUIT
-  ABOVE GROUND CONDUIT
-  UTILITY COMPANY TRANSFORMER
-  ELECTRICAL SERVICE
-  PULL BOX
-  AREA LIGHT
-  CEILING MOUNTED TUNNEL LIGHT

**WRIGHT**  
engineering corporation  
ELECTRICAL ENGINEERING AND DESIGN  
165 EAST CHILTON DRIVE  
CHANDLER, ARIZONA 85225  
PHONE: 480.497.5829  
FAX: 480.497.5807  
www.wrightengr.com  
Wright Project # 14324

DATE	REVISION	BY
ENGINEER		
		<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT</b> <b>MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

ARIZONA BLUE STAKE  
CALL TWO WORKING DAYS BEFORE YOU DIG  
Dial 811 or 602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

SHEET TITLE			
ELECTRICAL COVER SHEET			
PROJECT TITLE			
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ.	DVG	1/16	
VERT.	DVG	AS-BUILT	
PROJECT NO.		SHT. OF	
410-TB02A-56047		100 OF 105	

XXX-XX



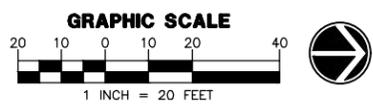
MATCHLINE A-SEE SHEET SE2.3

**CONSTRUCTION NOTES**

- ① PROPOSED SINGLE PHASE TRANSFORMER LOCATION. COORDINATE WITH POWER CO. PLANS. LOCATION SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF TRANSFORMER AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ② PROPOSED POWER CO. SECONDARY CONDUIT. INSTALL PER POWER CO. REQUIREMENTS AND SPECIFICATIONS. EXTEND FROM PROPOSED TRANSFORMER LOCATION TO PROPOSED ELECTRICAL SERVICE. LOCATIONS SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF CONDUIT AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ③ 100 AMP, 120/240V, 1ø, 3W, METERED ELECTRIC PEDESTAL (SEE DETAILS ON SHEET SE3.2).
- ④ #5 CONCRETE PULL BOX, SEE DETAIL 3 ON SHEET SE3.2.
- ⑤ AREA LIGHT SEE DETAIL 1 SHEET SE3.1.
- ⑥ CEILING MOUNTED TUNNEL LIGHT SEE DETAIL 2 SHEET SE3.1.
- ⑦ 1" CONDUIT (2) #12 [A-1], (2) #12 [A-3], (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑧ 1" CONDUIT (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑨ REFER TO SHEET 3.1 DETAIL 2 FOR CONDUIT ROUTING.
- ⑩ 1" CONDUIT WITH PULL ROPE AS SPARE.
- ⑪ ROUTE CONDUIT AROUND LIGHT WELL OPENING.

**LEGEND:**

- UNDERGROUND CONDUIT
- ABOVE GROUND CONDUIT
- UTILITY COMPANY TRANSFORMER
- ELECTRICAL SERVICE
- PULL BOX
- AREA LIGHT
- CEILING MOUNTED TUNNEL LIGHT



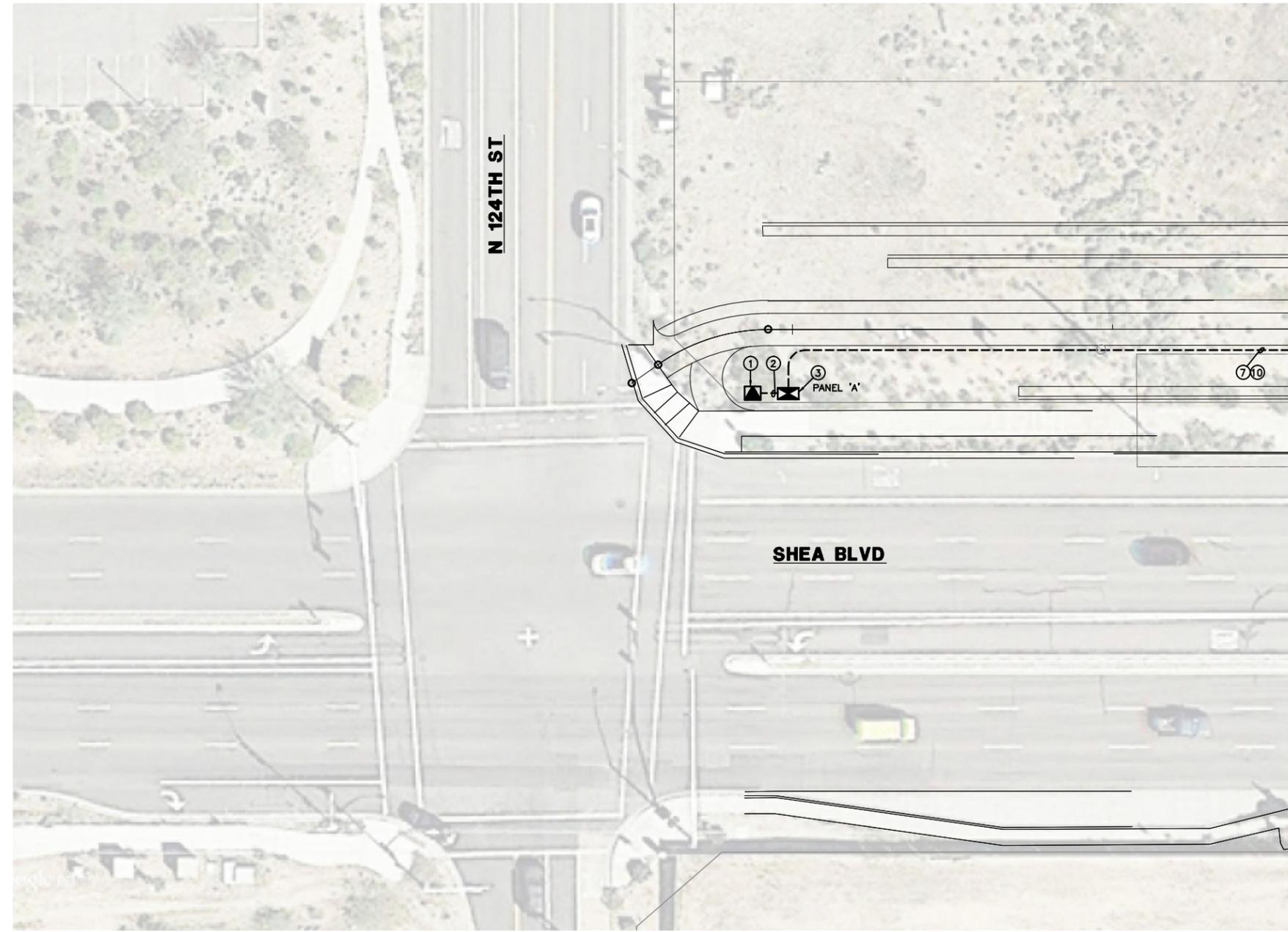
**WRIGHT**  
 engineering corporation  
 ELECTRICAL ENGINEERING AND DESIGN  
 165 EAST CHILTON DRIVE  
 CHANDLER, ARIZONA 85225  
 PHONE: 480.497.5829  
 FAX: 480.497.5807  
 www.wrightengr.com  
 Wright Project # 14324

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b>		7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251

ARIZONA BLUE STAKE  
 CALL 780 WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

SHEET TITLE			
ELECTRICAL SITE PLAN			
PROJECT TITLE			
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ.	DVG	1/16	
VERT.	DVG	AS-BUILT	
PROJECT NO.		SHT. OF	
410-TB02A-56047		101 OF 105	

XXX-XX



MATCHLINE B-SEE SHEET SE2.3

**CONSTRUCTION NOTES**

- ① PROPOSED SINGLE PHASE TRANSFORMER LOCATION. COORDINATE WITH POWER CO. PLANS. LOCATION SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF TRANSFORMER AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ② PROPOSED POWER CO. SECONDARY CONDUIT. INSTALL PER POWER CO. REQUIREMENTS AND SPECIFICATIONS. EXTEND FROM PROPOSED TRANSFORMER LOCATION TO PROPOSED ELECTRICAL SERVICE. LOCATIONS SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF CONDUIT AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ③ 100 AMP, 120/240V, 1ϕ, 3W, METERED ELECTRIC PEDESTAL (SEE DETAILS ON SHEET SE3.2).
- ④ #5 CONCRETE PULL BOX, SEE DETAIL 3 ON SHEET SE3.2.
- ⑤ AREA LIGHT SEE DETAIL 1 SHEET SE3.1.
- ⑥ CEILING MOUNTED TUNNEL LIGHT SEE DETAIL 2 SHEET SE3.1.
- ⑦ 1" CONDUIT (2) #12 [A-1], (2) #12 [A-3], (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑧ 1" CONDUIT (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑨ REFER TO SHEET 3.1 DETAIL 2 FOR CONDUIT ROUTING.
- ⑩ 1" CONDUIT WITH PULL ROPE AS SPARE.
- ⑪ ROUTE CONDUIT AROUND LIGHT WELL OPENING.

**LEGEND:**

- UNDERGROUND CONDUIT
- ABOVE GROUND CONDUIT
- UTILITY COMPANY TRANSFORMER
- ELECTRICAL SERVICE
- PULL BOX
- AREA LIGHT
- CEILING MOUNTED TUNNEL LIGHT

**WRIGHT**  
 engineering corporation  
 ELECTRICAL ENGINEERING AND DESIGN  
 165 EAST CHILTON DRIVE  
 CHANDLER, ARIZONA 85225  
 PHONE: 480.497.5829  
 FAX: 480.497.5807  
 www.wrightengr.com  
 Wright Project # 14324

DATE	REVISION	BY

ENGINEER:

**CITY OF SCOTTSDALE**  
**CAPITAL PROJECT MANAGEMENT**  
 7447 E. INDIAN SCHOOL RD.  
 SCOTTSDALE, ARIZONA 85251

**GRAPHIC SCALE**  
 20 10 0 10 20 40  
 1 INCH = 20 FEET

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

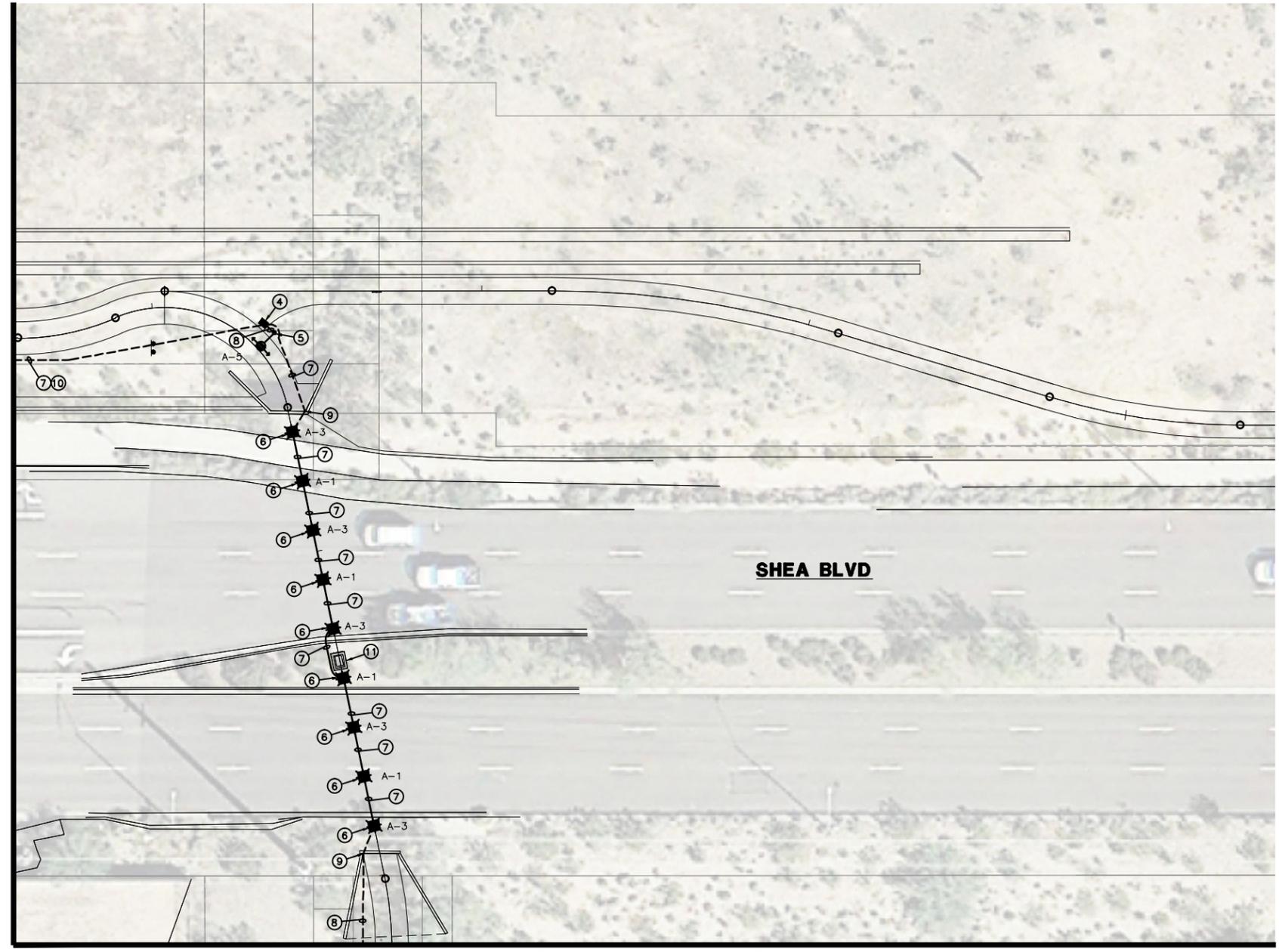
SHEET TITLE  
**ELECTRICAL SITE PLAN**

PROJECT TITLE  
**SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ.	DVG	1/16		SE2.2
VERT.	DVG	AS-BUILT	PROJECT NO. 410-TB02A-56047	102 OF 105

XXX-XX

MATCHLINE B-SEE SHEET SE2.2



MATCHLINE A-SEE SHEET SE2.1

**CONSTRUCTION NOTES**

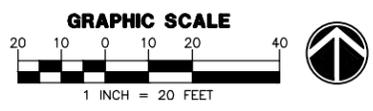
- ① PROPOSED SINGLE PHASE TRANSFORMER LOCATION. COORDINATE WITH POWER CO. PLANS. LOCATION SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF TRANSFORMER AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ② PROPOSED POWER CO. SECONDARY CONDUIT. INSTALL PER POWER CO. REQUIREMENTS AND SPECIFICATIONS. EXTEND FROM PROPOSED TRANSFORMER LOCATION TO PROPOSED ELECTRICAL SERVICE. LOCATIONS SHOWN FOR CONTRACTOR CONVENIENCE ONLY. POWER CO. PLANS WILL DETERMINE EXACT LOCATION OF CONDUIT AND TAKE PRECEDENCE OVER THESE DRAWINGS.
- ③ 100 AMP, 120/240V, 1ø, 3W, METERED ELECTRIC PEDESTAL (SEE DETAILS ON SHEET SE3.2).
- ④ #5 CONCRETE PULL BOX, SEE DETAIL 3 ON SHEET SE3.2.
- ⑤ AREA LIGHT SEE DETAIL 1 SHEET SE3.1.
- ⑥ CEILING MOUNTED TUNNEL LIGHT SEE DETAIL 2 SHEET SE3.1.
- ⑦ 1" CONDUIT (2) #12 [A-1], (2) #12 [A-3], (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑧ 1" CONDUIT (2) #12 [A-5] TYPE XHHW CU CONDUCTORS & (1) #12 BARE 7-STRAND CU BOND.
- ⑨ REFER TO SHEET 3.1 DETAIL 2 FOR CONDUIT ROUTING.
- ⑩ 1" CONDUIT WITH PULL ROPE AS SPARE.
- ⑪ ROUTE CONDUIT AROUND LIGHT WELL OPENING.

**LEGEND:**

- UNDERGROUND CONDUIT
- ABOVE GROUND CONDUIT
- UTILITY COMPANY TRANSFORMER
- ELECTRICAL SERVICE
- PULL BOX
- AREA LIGHT
- CEILING MOUNTED TUNNEL LIGHT

**WRIGHT**  
 engineering corporation  
 ELECTRICAL ENGINEERING AND DESIGN  
 165 EAST CHILTON DRIVE  
 CHANDLER, ARIZONA 85225  
 PHONE: 480.497.5829  
 FAX: 480.497.5807  
 www.wrightengr.com  
 Wright Project # 14324

DATE	REVISION	BY
<b>PUBLIC WORKS</b> <b>CAPITAL PROJECT MANAGEMENT</b> 7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251		

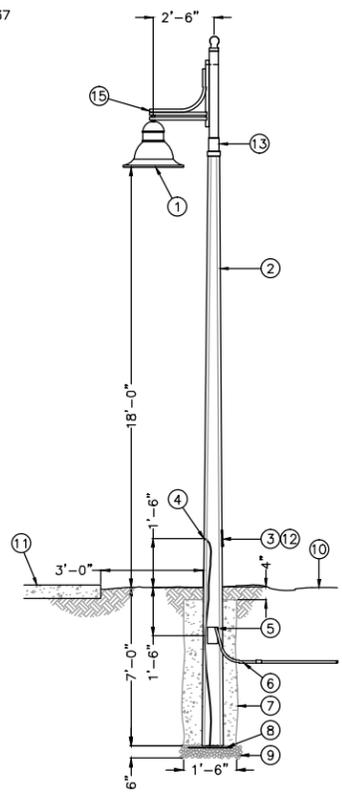


ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

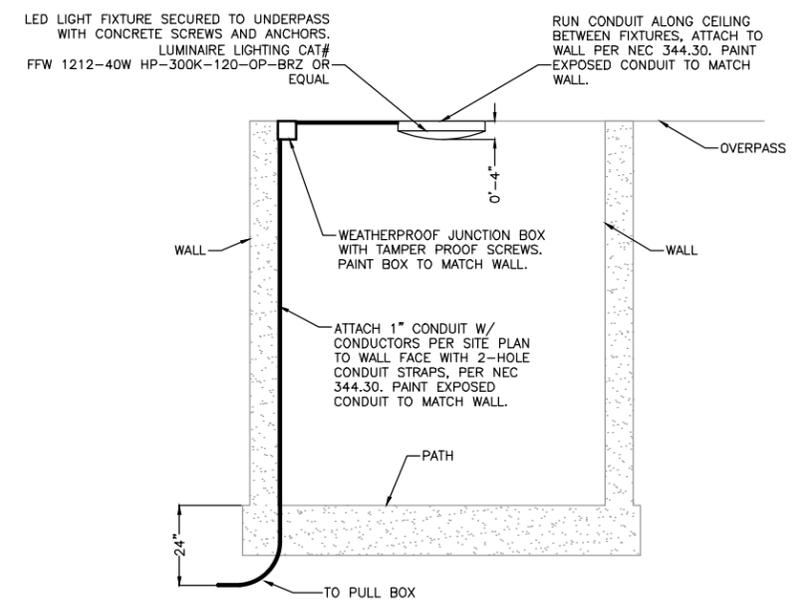
SHEET TITLE			
ELECTRICAL SITE PLAN			
PROJECT TITLE			
<b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>			
SCALE	DESIGNED	DATE	BID NO.
HORIZ. DVG	DVG	1/16	
VERT. DVG	AS-BUILT		
PROJECT NO.			SHT.
410-TB02A-56047			SE2.3
103 OF 105			

XXX-XX

- ① LED LIGHT FIXTURE, WITH TYPE II IES PHOTOMETRIC DISTRIBUTION. COLOR TO BE DAVIS COLOR #5237 ("SAN DIEGO BUFF").  
 AAL LIGHTING 75 WATT DECORATIVE LED FIXTURE:  
 CAT# UCM-FLR-T2-32LED-3K-700.
- ② DIRECT-BURIED, TAPERED, ROUND, PRE-STRESSED, REINFORCED, SPUN CONCRETE POLE. AMERON CAT# SER-6. POLE SHALL HAVE "BUFF NATURAL" EVERETT-ANNISTON COLOR #313 WITH ACRYLIC COATING, EXPOSED AGGREGATE FINISH. ALL POLES ARE TO BE PROVIDED FROM THE SAME MANUFACTURER.
- ③ FLUSH MOUNTED HANDHOLE WITH FLUSH, TAMPERPROOF, STAINLESS STEEL SECURITY SCREWS (BUTTON TORX WITH CENTER PIN). POLE MANUFACTURER TO PLACE HANDHOLE SO THAT IT WILL BE LOCATED ABOVE FINISHED GRADE, AT HEIGHT NOTED IN DETAIL TO CENTER OF HANDHOLE AFTER INSTALLATION. INSTALL POLE WITH HANDHOLE FACING AWAY FROM PATH/SIDEWALK, WHERE POSSIBLE. WHERE POLE IS INSTALLED AGAINST WALL, HANDHOLE TO FACE PATH/SIDEWALK.
- ④ POLE MANUFACTURER TO PROVIDE A FACTORY INSTALLED GROUND WIRE WHICH IS CONNECTED TO THE STEEL REINFORCING IN THE POLE. CONNECT THE ELECTRICAL SYSTEM GROUND WIRE TO THIS POLE GROUND WIRE.
- ⑤ APERTURE IN POLE BASE FOR UNDERGROUND WIRING. APERTURE SIZED 1-1/2" BY 5" MINIMUM. PROVIDE TWO (2) EACH POLE AT 180 DEGREES FROM EACH OTHER AND 90 DEGREES FROM HANDHOLE. TAPE OPENINGS PRIOR TO BACKFILLING THE DRILLED HOLE.
- ⑥ PVC SCHEDULE 40 CONDUIT INTO POLE BASE FOR ELECTRICAL BRANCH CIRCUIT. SEE LIGHTING SITE PLAN FOR SIZES AND QUANTITIES. CONDUITS ARE TO BE INSTALLED IN POLE TO A POINT 12" ABOVE GRADE MINIMUM.
- ⑦ AFTER POLE HAS BEEN ALIGNED AND IS PLUMB, BLOCK POLE IN PLACE UNDERGROUND, BACKFILL HOLE WITH CEMENTIOUS EARTH BACKFILL TO A POINT 4" BELOW FINISHED GRADE. BACKFILL THE REMAINING 4" WITH SURROUNDING SOIL. CEMENTIOUS EARTH BACKFILL - MIX ONE PART DRY CEMENT POWDER TO FIFTEEN PARTS CLEAN, WASHED SAND.
- ⑧ COIL 20' OF #8 SOLID COPPER BOND. RUN BOND THROUGH POLE TO FACTORY INSTALLED GROUND WIRE IN HAND HOLE.
- ⑨ 1" WASHED RIVER ROCK FOR DRAINAGE, COMPACT BEFORE SETTING POLE.
- ⑩ FINISHED GRADE.
- ⑪ WHERE LIGHTS ARE INSTALLED NEXT TO PATHWAY OR SIDEWALK, MAINTAIN CLEARANCE FROM EDGE TO FACE OF POLE AS SHOWN IN DETAIL.
- ⑫ PROVIDE BUSSMAN #HEB FUSE HOLDER, ON EACH UNGROUNDED CONDUCTOR, WITH 5 AMP FUSES FOR INLINE FUSING. WHERE CIRCUIT IS SPLICED IN HANDHOLE, MAKE ALL SPLICES WITH UL486D WET LISTED WIRE NUTS, EQUAL TO DRYCONN AQUA WATERPROOF CONNECTORS. PROVIDE 18" MINIMUM OF SLACK IN THE CONDUCTORS.
- ⑬ CONTRACTOR TO ENSURE THAT ARM MOUNTS TIGHTLY AND SECURELY TO TOP OF POLE.
- ⑭ POLYCARBONATE VANDAL SHIELD LENS INSTALLED BY MANUFACTURER.
- ⑮ AAL LIGHTING DECORATIVE ARM. CAT# SLA16, COLOR TO MATCH FIXTURE.



**1 AREA LIGHT DETAIL**  
 NO SCALE



**2 LED CEILING MOUNTED LIGHT**  
 NO SCALE

**WRIGHT**  
 engineering corporation  
 ELECTRICAL ENGINEERING AND DESIGN  
 165 EAST CHILTON DRIVE  
 CHANDLER, ARIZONA 85225  
 PHONE: 480.497.5829  
 FAX: 480.497.5807  
 www.wrightengr.com  
 Wright Project # 14324

DATE	REVISION	BY
ENGINEER		

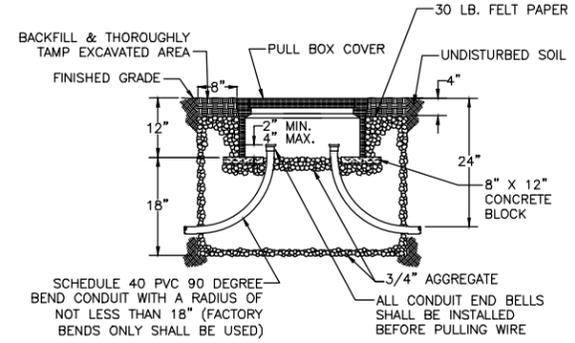
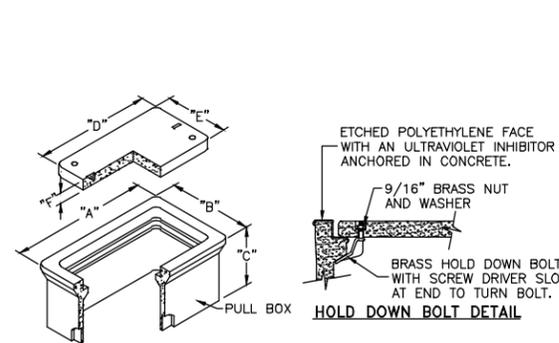
Professional Engineer  
 57159  
 CLIFFORD M. TOLMAN  
 State of Arizona  
 License 3-31-17

**CITY OF SCOTTSDALE**  
**PUBLIC WORKS**  
**CAPITAL PROJECT MANAGEMENT**  
 7447 E. INDIAN SCHOOL RD.  
 SCOTTSDALE, ARIZONA 85251

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

SHEET TITLE <b>ELECTRICAL DETAILS</b>				
PROJECT TITLE <b>SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL</b>				
SCALE	DESIGNED	DATE	BID NO.	SHT.
HORIZ.	DVG	1/16		SE3.1
VERT.	DVG	AS-BUILT	PROJECT NO. 410-TB02A-56047	104 OF 105

XXX-XX

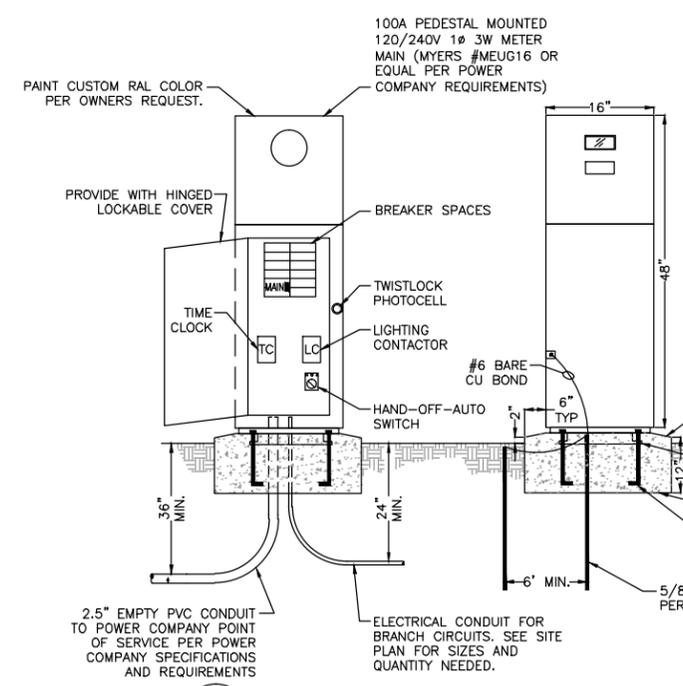


DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"

- GENERAL NOTES:**
- THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
  - STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
  - COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
  - THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.
  - ALL CABLE & CONDUCTOR SPLICES SHALL BE CONNECTED WITH TYCO ELECTRONICS GELCAP-SL, NSI INDUSTRIES ESSLK-2/0, OR COPPER COMPRESSION HI-TAP CONNECTOR OR APPROVED EQUAL & INSULATED WITH 3M SCOTCHCAST SPLICE KIT 85 SERIES, TYCO ELECTRONICS GELCAP SL, NSI INDUSTRIES GSS SERIES OR APPROVED EQUAL.

### 3 PULL BOX INSTALLATION

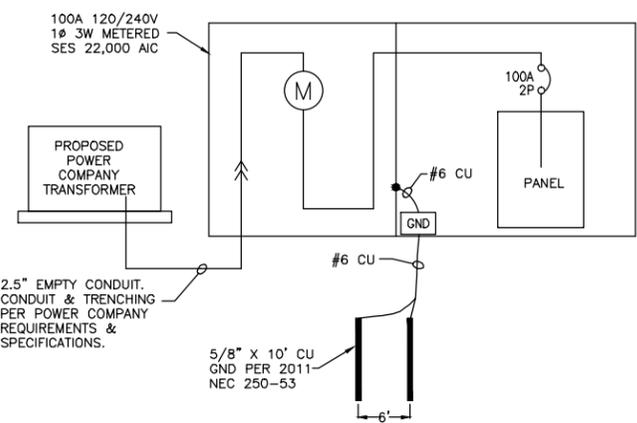
NO SCALE



- PEDESTAL NOTES**
- APPROVED EQUAL MANUFACTURERS: MILBANK, PACIFIC UTILITY PRODUCTS
  - SUBMIT SHOP DRAWINGS TO POWER COMPANY FOR APPROVAL PRIOR TO ORDERING EQUIPMENT.
  - PEDESTAL SHALL BE INSTALLED IN ACCORDANCE WITH ALL NEC CODE AND POWER COMPANY CLEARANCE REQUIREMENTS.
  - ALL WIRING SHALL BE INSTALLED IN AN ORGANIZED AND NEAT MANNER.
  - ALL EQUIPMENT SHALL HAVE LAMICOID NAMEPLATES WITH 1/4" LETTERING.
  - PANEL SCHEDULE SHALL BE NEATLY & ACCURATELY TYPED AND PLACED ON THE INSIDE DOOR ON A LAMINATED SHEET.
  - PEDESTAL SHALL BE COMMERCIAL RATED WITH APPROVED TEST BLOCKS PER POWER COMPANY REQUIREMENTS.

### 4 100A PEDESTAL MOUNTED SERVICE

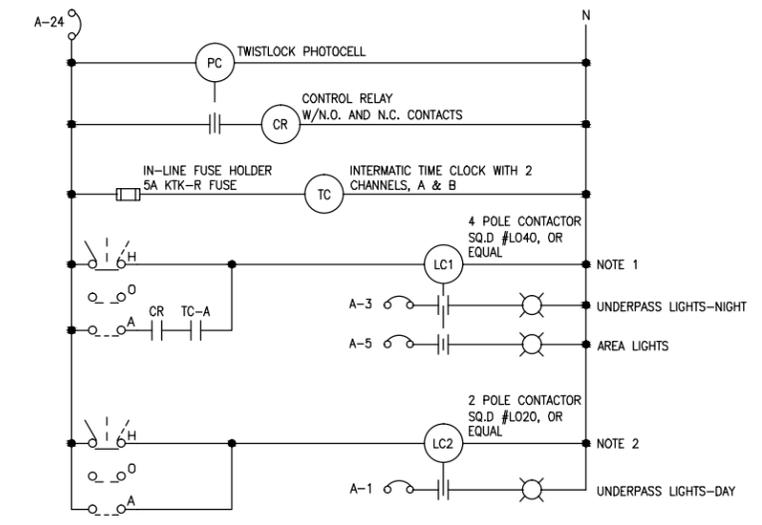
NO SCALE 120/240V 1Ø 3W



### 5 100A SINGLE LINE DIAGRAM

NO SCALE 120/240V 1Ø 3W

PANEL NAME: A		120/240V, 1Ø, 3W			100A MAIN BREAKER				
LOCATION: SEE SITE PLAN		TYPE: PLUG-IN			PEDESTAL MTD., NEMA 3R				
CKT NO.	BKR SIZE	DESCRIPTION	LOAD	AØ	BØ	LOAD	DESCRIPTION	BKR SIZE	CKT NO.
1	20/1	* TUNNEL LIGHTS-DAY	200	200		0	SPARE	20/1	2
3	20/1	* TUNNEL LIGHTS-NIGHT	250		250	0	SPARE	20/1	4
5	20/1	* AREA LIGHTS	188	188		0	SPARE	20/1	6
7	20/1	SPARE	0		0	0	SPARE	20/1	8
9	20/1	SPARE	0	0		0	SPARE	20/1	10
11	20/1	SPARE	0		0	0	SPARE	20/1	12
13	20/1	SPARE	0	0		0	SPARE	20/1	14
15	20/1	SPARE	0		0	0	SPARE	20/1	16
17	20/1	SPARE	0	0		0	SPARE	20/1	18
19	20/1	SPARE	0		0	0	SPARE	20/1	20
21	20/1	SPARE	0	200		200	IRRIGATION CONTROLLER	20/1	22
23	20/1	SPARE	0		200	200	LIGHTING CONTROL	20/1	24
CODE TOTAL VA/Ø			588	450	*INDICATES LOAD @ 125%				
CODE TOTAL AMPS/Ø			4.9	3.8	22,000 AIC BREAKERS				



### CONTROL SCHEMATIC LEGEND

- HAND-OFF-AUTO SWITCH
- PHOTOCELL RELAY
- CONTROL RELAY
- TIME CLOCK
- LIGHTING CONTACTOR
- NORMALLY OPEN CONTACT
- CIRCUIT BREAKER

### CONTROLLER NOTES

- THIS CIRCUIT TO BE ACTIVATED FROM DUSK TO DAWN.
- THIS CIRCUIT TO BE ACTIVATED ALL DAY AND NIGHT.

### 6 LIGHTING CONTROL SCHEMATIC

NO SCALE 120V

**WRIGHT** engineering corporation  
 ELECTRICAL ENGINEERING AND DESIGN  
 165 EAST CHILTON DRIVE  
 CHANDLER, ARIZONA 85225  
 PHONE: 480.497.5829  
 FAX: 480.497.5807  
 www.wrightengr.com  
 Wright Project # 14324

DATE REVISION BY  
 ENGINEER  
 57159 CLIFFORD M. TOLMAN  
 PUBLIC WORKS  
 CAPITAL PROJECT MANAGEMENT  
 7447 E. INDIAN SCHOOL RD.  
 SCOTTSDALE, ARIZONA 85251

ARIZONA BLUE STAKE  
 CALL TWO WORKING DAYS BEFORE YOU DIG  
 Dial 811 or 602-263-1100  
 1-800-STAKE-IT  
 (OUTSIDE MARICOPA COUNTY)

SHEET TITLE  
**ELECTRICAL DETAILS**

PROJECT TITLE  
**SHEA BLVD UNDERPASS ACCESS FROM SHEA BLVD TO CAP CANAL**

SCALE	DESIGNED DVG	DATE	BID NO.	SHT.
HORIZ.	DVG	1/16		SE3.2
VERT.	DVG	AS-BUILT	PROJECT NO.	OF
			410-TB02A-56047	105 OF 105

XXX-XX