F.H.W.A. REGION	STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	1	7	

DESIGNED_BY	DRAWN_BY	CHECKED_BY
M. TRUITT	R. WILLIAMS	E. WILLIAMS
DATE: 02/19/15	DATE: 02/19/15	DATE: 02/19/15

Registered Professional Engineer (Civil) CERTIFICATE NO. 48287 MATTHEW A. TRUITT Date Signed 02-20-15 ARIZONA, U.S.A. Expires 9/30/2017

2/20/2015 12-019.1 - G01.dwg Layout1

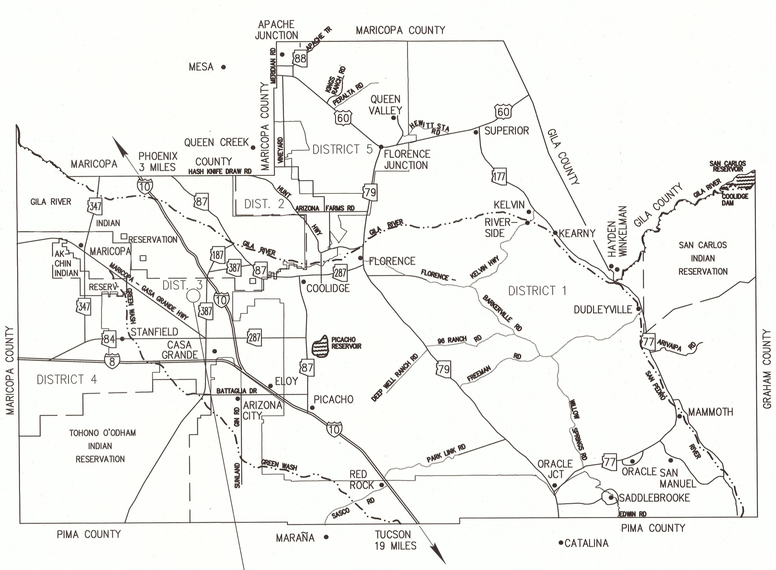
EPS GROUP
2045 S. Vineyard Ave, Ste 101
Mesa, AZ 85210
T:480.503.2250|F:480.503.2258
www.epsgroupinc.com

HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

18800 W. TANGERINE ROAD, PINAL COUNTY, AZ
TOWNSHIP 5 SOUTH, RANGE 6 EAST, SECTION 20

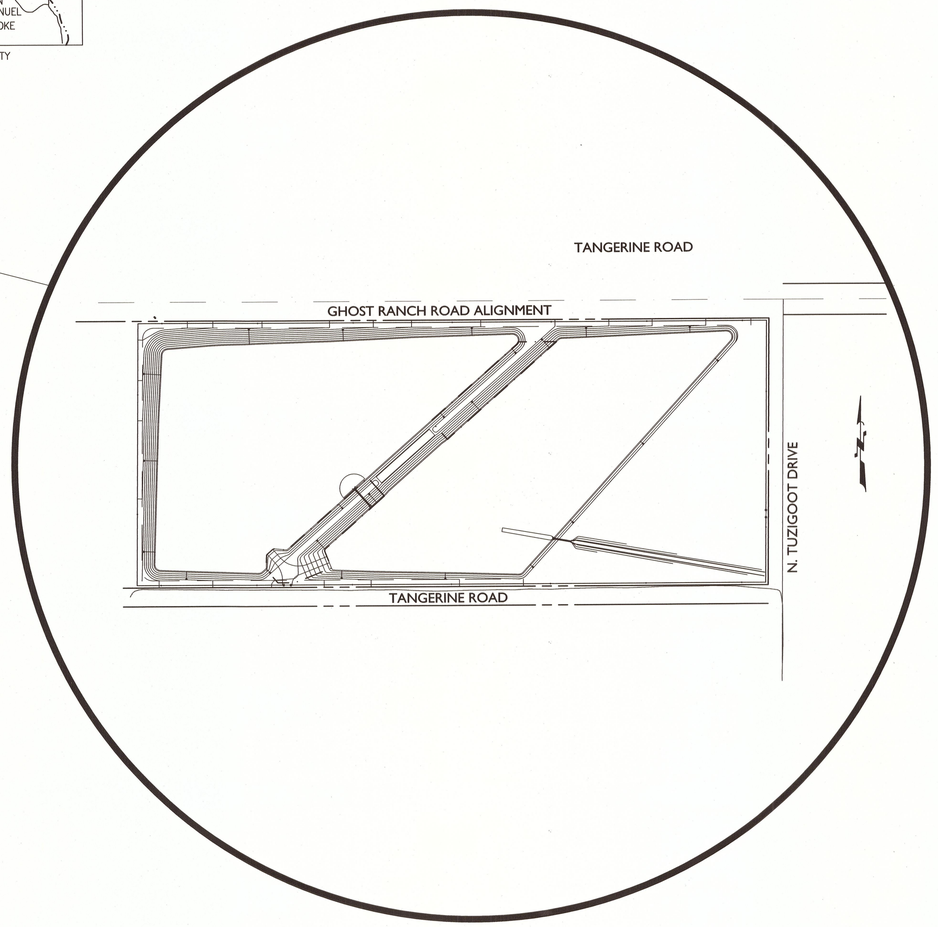
TANGERINE BASIN

PROJECT_NO. 60684219



PINAL COUNTY

PROJECT AREA



PROJECT ENGINEER

MATT TRUITT, P.E., C.F.M.
EPS GROUP INC.
2045 S. VINEYARD AVE
SUITE 101
MESA, AZ 85210
TEL: 480-503-2250
FAX: 480-503-2258

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER / LAND SURVEYOR DATE

REGISTRATION NUMBER

PINAL • COUNTY
wide open opportunity

PINAL COUNTY BOARD OF SUPERVISORS

DISTRICT ONE – PETE RIOS
DISTRICT TWO – CHERYL CHASE
DISTRICT THREE – STEPHEN MILLER
DISTRICT FOUR – ANTHONY SMITH
DISTRICT FIVE – TODD HOUSE

MANAGEMENT

COUNTY MANAGER – GREG STANLEY
COUNTY ENGINEER – SCOTT BENDER, P.E., C.F.M.
PUBLIC WORKS DIRECTOR – LOUIS M. ANDERSEN

INDEX TO SHEETS

DRAWING NO	DESCRIPTION	SHEET NO
G01	COVER SHEET	1
G02	GENERAL NOTES, INDEX SHEET,	2
DT01	DETAIL SHEET	3
DT02	GRADING CROSS SECTIONS	4
DT03	GRADING CROSS SECTIONS	5
GD01	PLAN SHEET	6
GD02	PLAN SHEET	7

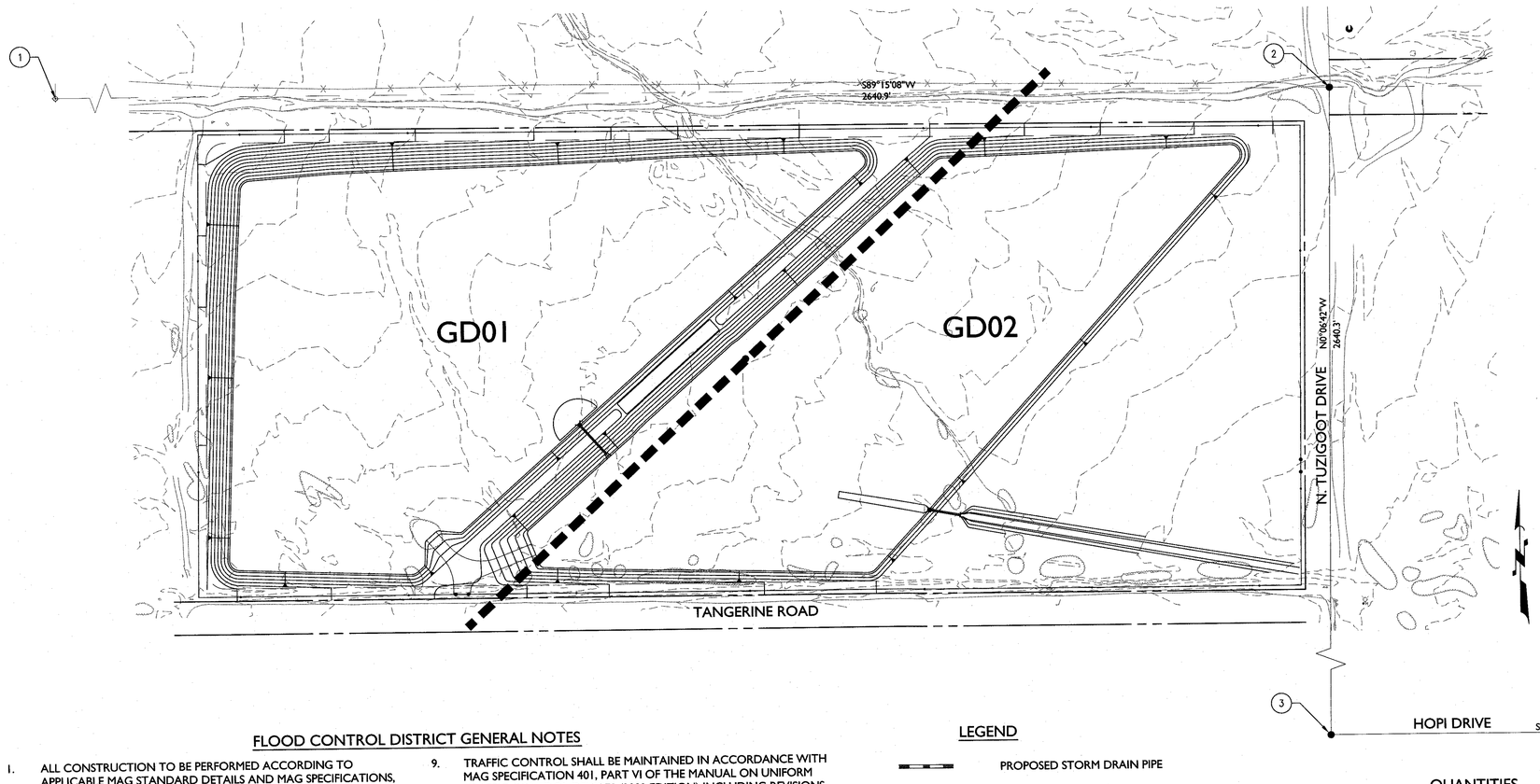
APPROVED Scott E Bender 2/24/2015
COUNTY ENGINEER DATE

2/20/2015 12-019.1 - 002.dwg EPS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	2	7	

PINAL COUNTY GENERAL NOTES

1. THE CONTRACTOR SHALL OBTAIN A PINAL COUNTY RIGHT OF WAY USE PERMIT PRIOR TO ANY WORK BEING PERFORMED WITHIN THE COUNTY RIGHT OF WAY. CONTACT PINAL COUNTY PUBLIC WORKS INSPECTION SECTION AT LEAST SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK.
2. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO PINAL COUNTY PUBLIC WORKS INSPECTION SECTION AT LEAST THREE (3) WORKING DAYS PRIOR TO WORK FOR REVIEW AND APPROVAL.
3. ANY WORK ON ARTERIAL OR COLLECTOR ROADS SHALL REQUIRE AN OFF-DUTY PINAL COUNTY SHERIFF'S OFFICER FOR TRAFFIC CONTROL. CONTACT SHALL BE MADE THROUGH THE PCSO REPRESENTATIVE.
4. ALL WORK REQUIRED TO COMPLETE THE CONSTRUCTION COVERED BY THESE PLANS SHALL BE IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS AND DETAILS.
5. ALL PLANS REVISED AFTER THE ORIGINAL APPROVAL SHALL BE SUBMITTED TO PINAL COUNTY PUBLIC WORKS FOR RE-APPROVAL. CHANGES ON EACH PLAN SHEET SHALL BE HIGHLIGHTED WITH "CLOUDING" AND BE LABELED WITH A NUMERAL WITHIN A TRIANGLE (DELTA REVISIONS). THE ORIGINAL PLAN SHEET SHALL REMAIN THE SAME SHEET NUMBER AND THE PLAN SHEET SHOWING THE REVISIONS SHALL BE LABELED WITH THE SAME NUMBER BUT WITH AN "A" AFTER THE NUMBER. PINAL COUNTY ENGINEER'S RE-APPROVAL BLOCK INDICATING THE DELTA REVISION SHALL BE PLACED ON THE COVER SHEET.
6. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKE MARKING DAILY AS CONSTRUCTION IS IN PROGRESS.
7. ALL RESIDENTS TO BE NOTIFIED IN PERSON 24 HOURS PRIOR TO DRIVEWAY CROSSING.
8. TRAFFIC CONTROL AND BARRICADING SHALL BE ACCORDING TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR PINAL COUNTY REQUIREMENTS.
9. ALL FRAMES, COVERS, VALVE BOXES, AND MANHOLE COVERS SHALL BE ADJUSTED TO FINISHED GRADE PRIOR TO COMPLETION OF PAVING OR RELATED CONSTRUCTION.
10. DRAINAGE PLAN SHALL BE IN ACCORDANCE WITH PINAL COUNTY DRAINAGE ORDINANCE EFFECTIVE NOVEMBER 7, 1998, DRAINAGE MANUAL, AUGUST 2004 AND FLOODPLAIN ORDINANCE, AUGUST 2006.
11. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN EARTH MOVING PERMIT FROM PINAL COUNTY AIR QUALITY CONTROL AND THE EPA, AND FOR COMPLYING WITH THEIR REQUIREMENTS FOR DUST CONTROL.
12. A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE SUBMITTED TO PINAL COUNTY PUBLIC WORKS PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
13. ANY WORK DONE IN A DRAINAGE CHANNEL OR WASH MUST COMPLY WITH STATE AND FEDERAL REGULATIONS.



BENCHMARK

NATIONAL GEODETIC SURVEY MONUMENT, STAMPED "CG AIR1", PID DK4640.
NAVD ELEV=1452.2
N: -571.732
E: 14110.1

MONUMENT #1

FOUND IRON PIPE
N: 10016.64
E: 9983.34

MONUMENT #2

FOUND REBAR
N: 10051.10
E: 12624.01
ELEV=1523.97

MONUMENT #3

FOUND REBAR
N: 7410.82
E: 12629.16

MONUMENT #4

FOUND BRASS CAP
INTERSECTION HOPI DRIVE & PINAL AVE (387)
N: 7444.79
E: 15275.20

STRUCTURAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO MAG STANDARDS DETAILS, SPECIFICATIONS, CURRENT VERSION, INCLUDING ALL REVISIONS THRU 2014.
2. DESIGN IS IN ACCORDANCE WITH ASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, DIVISION I 15TH EDITION, 1992.
3. REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A615 GRADE 60.
4. STRESSES - fs =24,000 PSI - GRADE 60 REINFORCING STEEL.
5. ALL REINFORCING STEEL PLACEMENT DIMENSIONS SHALL BE TO THE CENTER OF BARS UNLESS OTHERWISE NOTED.
6. ALL REINFORCING STEEL SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE NOTED.
7. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN WELDING SOCIETY, STRUCTURAL WELDING CODE, REVISION 1996.
8. DIMENSIONS SHALL NOT BE SCALED FROM DRAWING.
9. CONCRETE COMPRESSIVE STRENGTH SHALL BE 3,000 PSI MAG, UNLESS OTHERWISE NOTED.

OTHER NOTES

1. PRIOR TO EXCAVATION, CONTRACTOR SHALL SUBMIT A HAUL ROUTE PLAN AND DISPOSAL SITE PLAN TO THE ENGINEER OF RECORD FOR APPROVAL. IF THE DISPOSAL SITE IS LOCATED IN A FEMA FLOODPLAIN OR AND ADMINISTRATIVE FLOODPLAIN AS DESIGNATED BY THE COUNTY, A FLOODPLAIN USE PERMIT SHALL BE OBTAINED BY THE CONTRACTOR.

FLOOD CONTROL DISTRICT GENERAL NOTES

1. ALL CONSTRUCTION TO BE PERFORMED ACCORDING TO APPLICABLE MAG STANDARD DETAILS AND MAG SPECIFICATIONS, DATED 1998 AND REVISIONS THROUGH 2014.
2. FACILITIES WHICH ARE NOT SPECIFICALLY LOCATED WITH ACTUAL HORIZONTAL AND VERTICAL CONTROLS ARE APPROXIMATE AND TO THE BEST AVAILABLE INFORMATION.
3. EXISTING UTILITIES AND OTHER FACILITIES HAVE BEEN PLACED ON THE PLANS FROM FIELD SURVEYS, EXISTING MAPS AND OTHER CURRENT PLANS WITHIN THE AREA OF THIS PROJECT. THE CONTRACTOR WILL DETERMINE THE EXACT LOCATION AND/OR ELEVATION OF EXISTING UTILITIES WHICH PERTAIN TO AND AFFECT THE CONSTRUCTION OF THIS PROJECT.
4. TWO (2) WORKING DAYS PRIOR TO EXCAVATING, THE CONTRACTOR SHALL CALL FOR BLUE STAKES AT THE BLUE STAKE CENTER (PHONE: 1-800-STAKEIT).
5. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
6. THE FLOOD CONTROL DISTRICT OF PINAL COUNTY IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGE TO UTILITIES IN CONJUCTION WITH THIS CONSTRUCTION.
7. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE FLOOD CONTROL DISTRICT AND/OR THE ENGINEER, AS WELL AS ALL WORK AND MATERIALS NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
8. THE ENGINEER WILL DETERMINE THE NUMBER AND LOCATION OF THE REQUIRED COMPACTION TESTS FOR STRUCTURAL BACKFILL MINIMUM ONE (1) PER LOCATION.
9. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH MAG SPECIFICATION 401, PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (2009 EDITION) INCLUDING REVISIONS THRU 2014.
10. CONTRACTOR SHALL REPLACE PAVEMENT TO THE EXISTING GRADES SHOWN ON THE PLANS.
11. EXACT POINT OF MATCHING TERMINATION AND OVERLAY WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
12. NO JOB WILL BE CONSIDERED COMPLETED UNTIL CURBS, PAVEMENT AND SIDEWALKS HAVE BEEN SWEPT CLEAN OF ALL DIRT AND DEBRIS.
13. PRIOR TO FINAL APPROVAL AND ACCEPTANCE OF THE WORK, THE CONTRACTOR WILL BE REQUIRED TO CLEAN ADJACENT (OFF-PROJECT) ROADWAYS USED DURING THE COURSE OF CONSTRUCTION AND RETURN TO PRECONSTRUCTION CONDITIONS.
14. CULVERT PIPES SHALL BE LAID ON A STRAIGHT ALIGNMENT AND SLOPE UNLESS OTHERWISE SPECIFIED. IF BREAKS IN ALIGNMENT AND SLOPE ARE NECESSARY TO MEET FIELD CONDITIONS, THE MAXIMUM DEFLECTION SHALL BE 22.5 DEGREES. CONTRACTOR SHALL PROVIDE A PIPE COLLAR PER MAG DETAIL 505 AT EACH DEFLECTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR COLLARS.
15. CONNECTOR PIPES SHALL CONNECT TO CATCH BASIN WALLS AT AN ANGLE NOT TO EXCEED 22.5 DEGREES FROM PERPENDICULAR.

LEGEND

- PROPOSED STORM DRAIN PIPE
- PROPOSED HEADWALL
- 1532 — PROPOSED CONTOUR
- PROPOSED FENCE
- SECTION LINE
- EXISTING MONUMENT
- EXISTING FENCE
- EXISTING RIGHT-OF-WAY
- EXISTING SHRUBBERY
- 1532 — EXISTING CONTOUR
- x 32.29 — EXISTING SPOT ELEVATION
- LIMIT OF SOIL STABILIZATION
- LIMIT OF 3" RIPRAP
- 6" RIPRAP

QUANTITIES

QUANTITIES ARE FOR ESTIMATING PURPOSES ONLY. ENGINEER MAKES NO GUARANTEE OF ACCURACY.

1A	RIPRAP, 12" THICK. D50=6" PER DTL SHEET DT01	873 CY
1B	RIPRAP, 6" THICK. D50=3" PER DTL SHEET DT01	2352 CY
2	HEADWALL PER MAG STD DTL 502-1 W/TRASHRACK	4 EA
3	24" RGRCP STORM DRAIN PIPE, CLASS III	79 LF
4	WIRE FENCE PER DTL SHEET DT01	3695 LF
5	GATE PER DTL SHEET DT01	2 EA
6	"NO TRESPASSING" SIGN PER DTL SHEET DT01	18 EA
7	GEOTEXTILE FILTER FABRIC PER DTL SHEET DT01	18996 SY
8	DRAINAGE EXCAVATION	102873 CY
9	DEPTH GAUGE PER ADOT STD DTL C-19.10	2 EA
10	PINEBIND SOIL STABILIZATION	3605 SY

	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

EPS GROUP
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www.epsgroupinc.com

HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

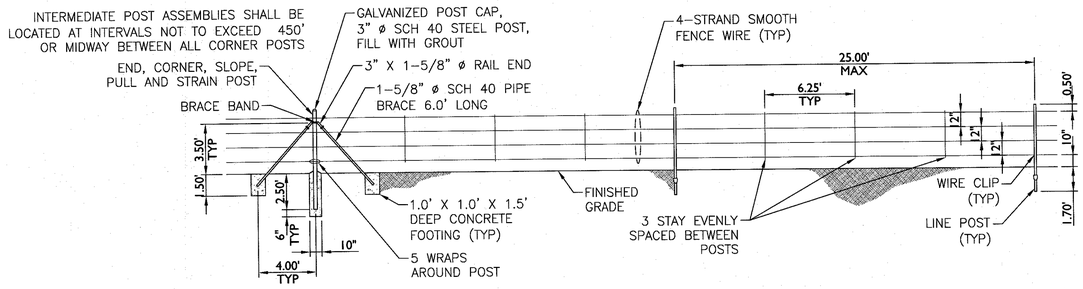
LOCATION: TANGERINE BASIN

Registered Professional Engineer (Civil)
CERTIFICATE NO. 48287
MATTHEW A. TRUITT
Date Signed 02-19-15
ARIZONA, U.S.A.
Expires 9/30/2017

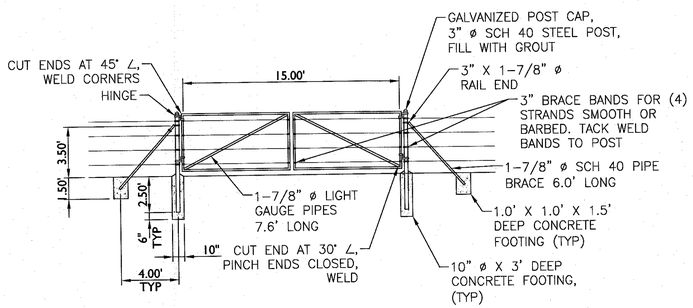
DRAWING NO: G02

2/20/2015 12-019.1 - DT01.dwg EPS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	3	7	



4-STRAND SMOOTH WIRE FENCE
NTS



4-STRAND SMOOTH WIRE GATE
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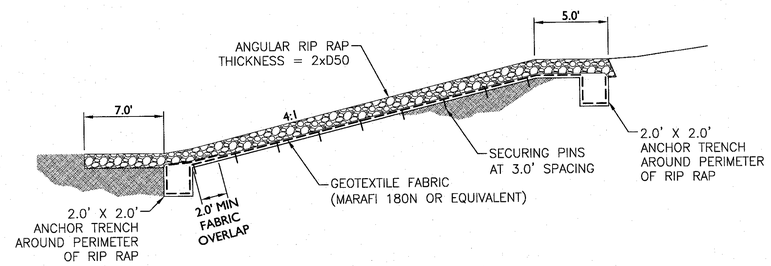
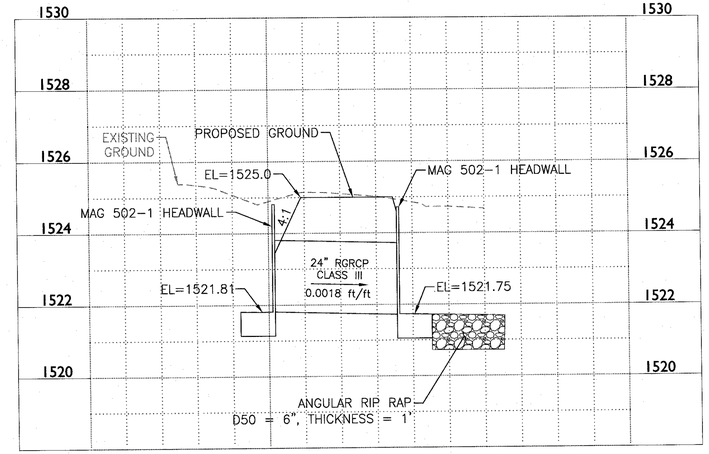


RIP RAP AND FILTER FABRIC
NTS



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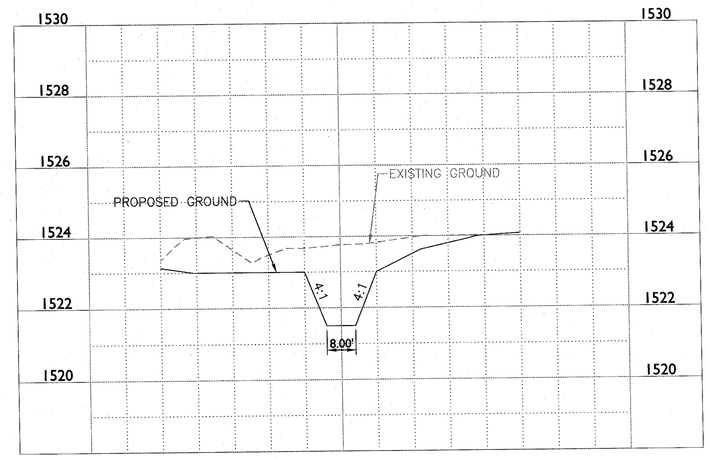

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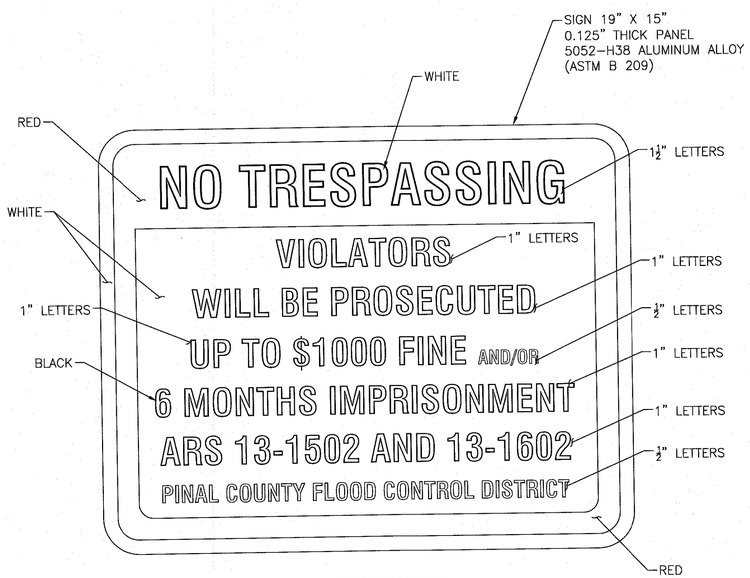
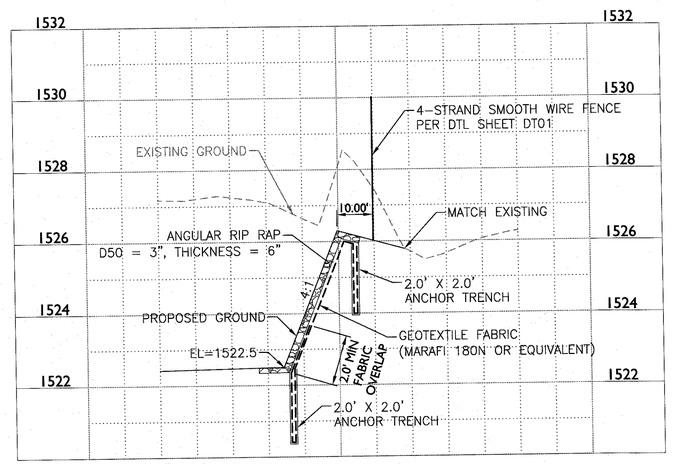


NO TRESPASSING SIGN
NTS



CROSS SECTION #8
SCALE: 1"=20' HORZ, 1'=2' VERT

	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

EPS GROUP
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www.epsgroupinc.com

HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

LOCATION
TANGERINE BASIN

Registered Professional Engineer (Civil) CERTIFICATE NO. 48287 MATTHEW A. TRUITT Date Signed 02-06-15 ARIZONA, U.S.A.
Expires 9/30/2017

DRAWING NO: DT01

2/20/2015 12-019.1 - DT02.dwg EPS

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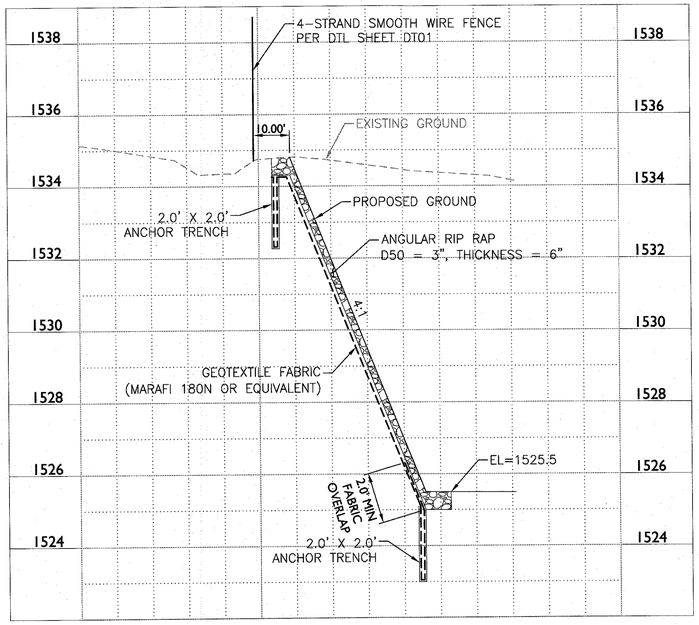

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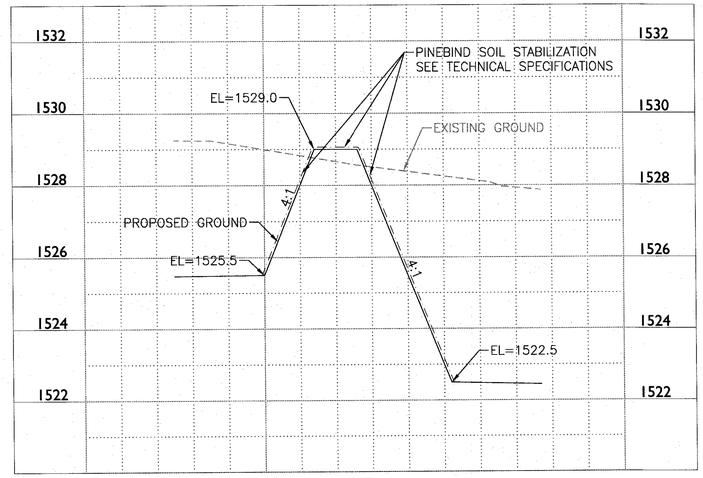

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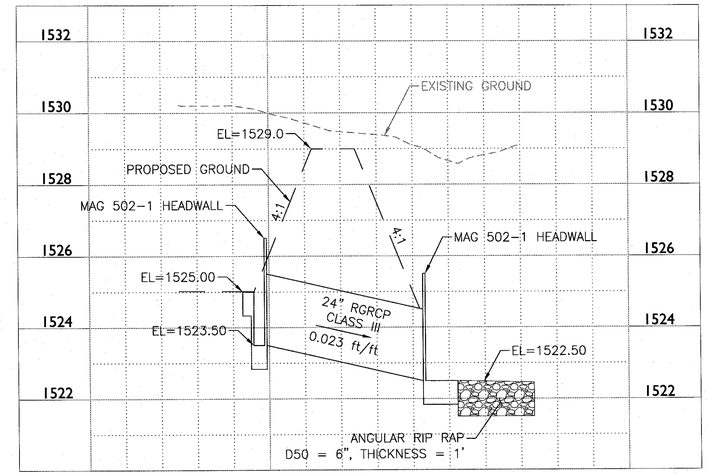

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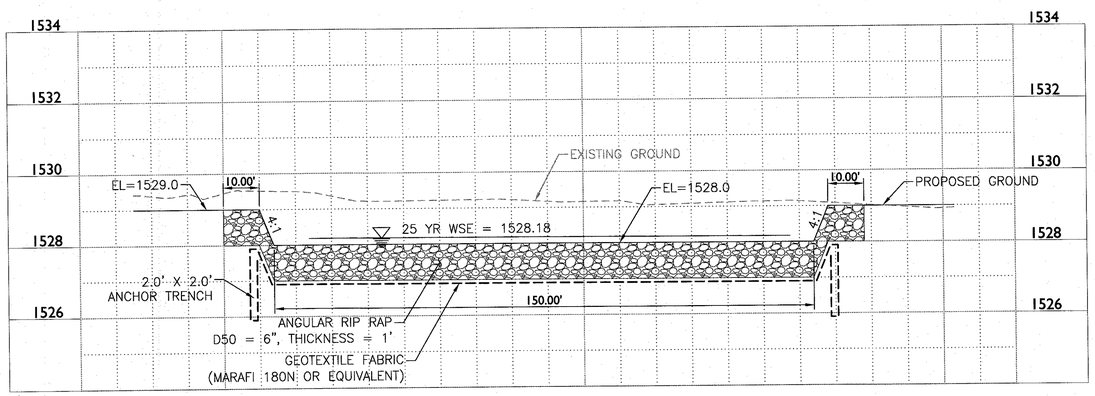

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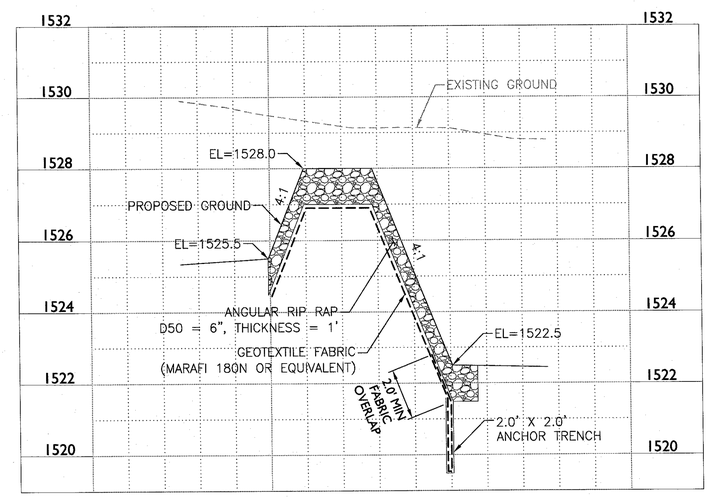

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SCALE: 1"=20' HORZ, 1'=2' VERT

	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

EPS GROUP
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HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

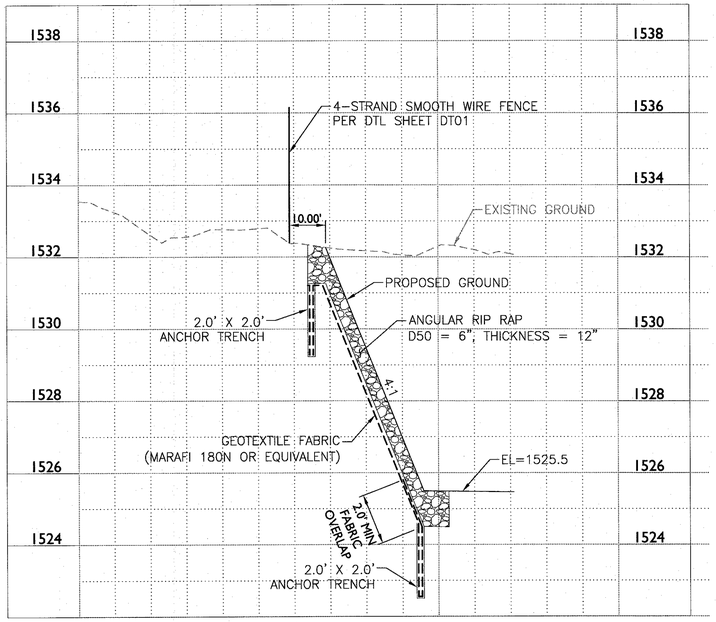
LOCATION: TANGERINE BASIN

Registered Professional Engineer (Civil)
CERTIFICATE NO. 48287
MATTHEW A. TRUITT
Date Signed 02-19-15
ARIZONA, U.S.A.
Expires 9/30/2017

DRAWING NO: DT02

2/20/2015 12-019.1 - DT03.dwg EPS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	5	7	



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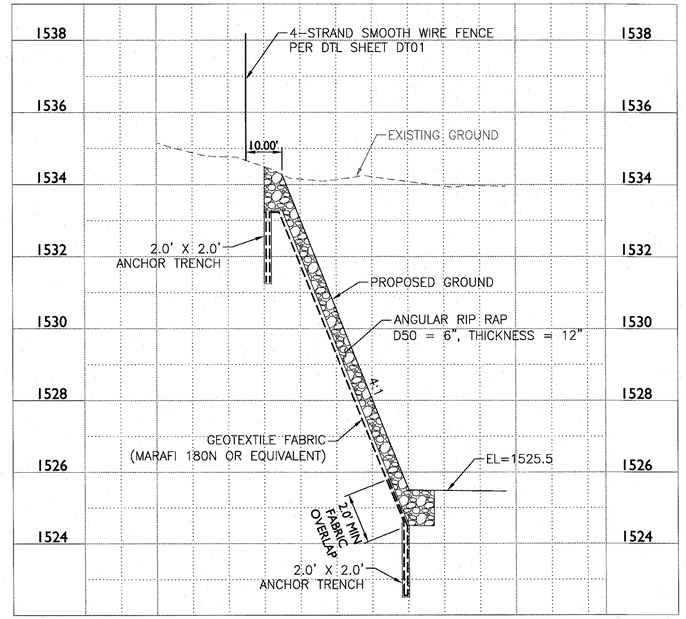

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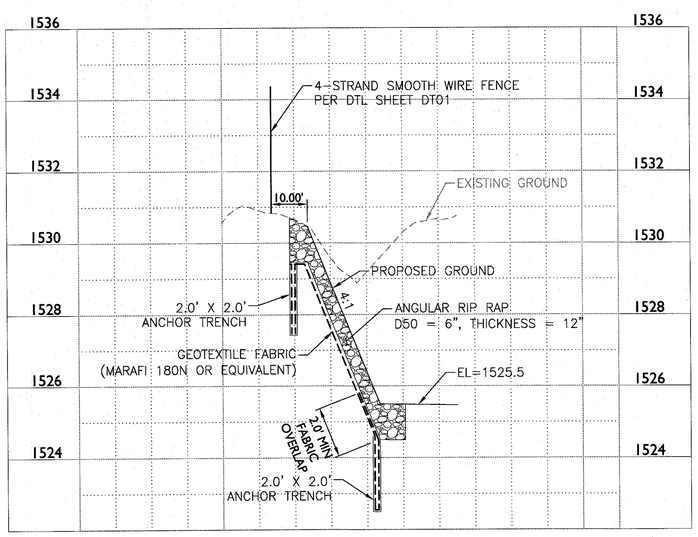

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	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

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HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

LOCATION: TANGERINE BASIN

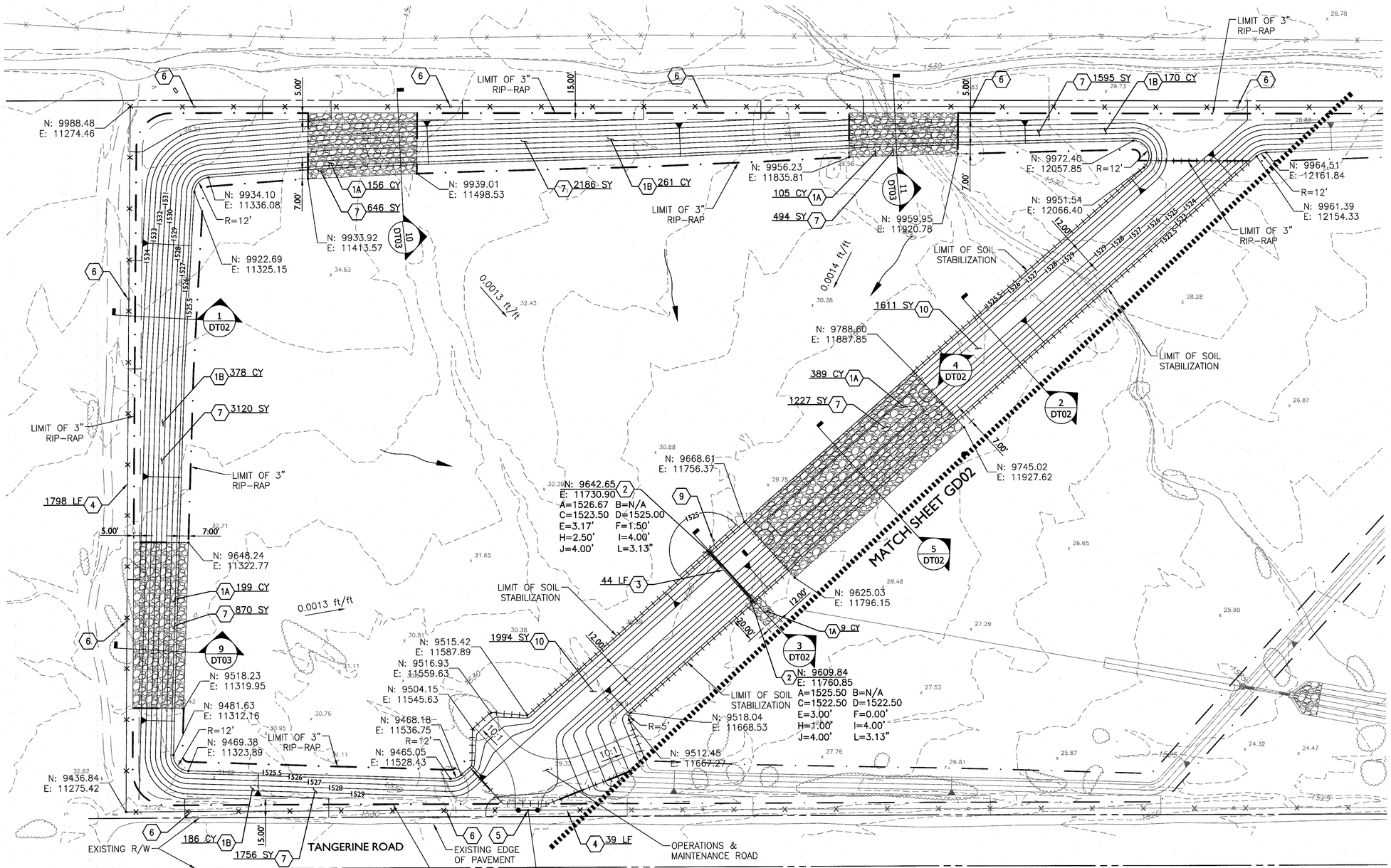
Registered Structural Engineer (Civil) CERTIFICATE NO. 48287 MATTHEW A. TRUITT Date Signed 02-20-15 ARIZONA, U.S.A.
Expires 9/30/2017

DRAWING NO: DT03

1A	RIPRAP, 12" THICK. D50=6" PER DTL SHEET DT01	858 CY	4	WIRE FENCE PER DTL SHEET DT01	1837 LF
1B	RIPRAP, 6" THICK. D50=3" PER DTL SHEET DT01	995 CY	5	GATE PER DTL SHEET DT01	1 EA
2	HEADWALL PER MAG STD DTL 502-1 W/TRASHRACK	2 EA	6	"NO TRESPASSING" SIGN PER DTL SHEET DT01	9 EA
3	24" RGRCP STORM DRAIN PIPE, CLASS III	44 LF	7	GEOTEXTILE FILTER FABRIC PER DTL SHEET DT01	11894 SY
8	DRAINAGE EXCAVATION	102873 CY			
9	DEPTH GAUGE PER ADOT STD DTL C-19.10	1 EA			
10	PINEBIND SOIL STABILIZATION	3605 SY			

2/20/2015 12-019.1 - GD01.dwg EPS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	6	7	



	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

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HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

LOCATION
TANGERINE BASIN

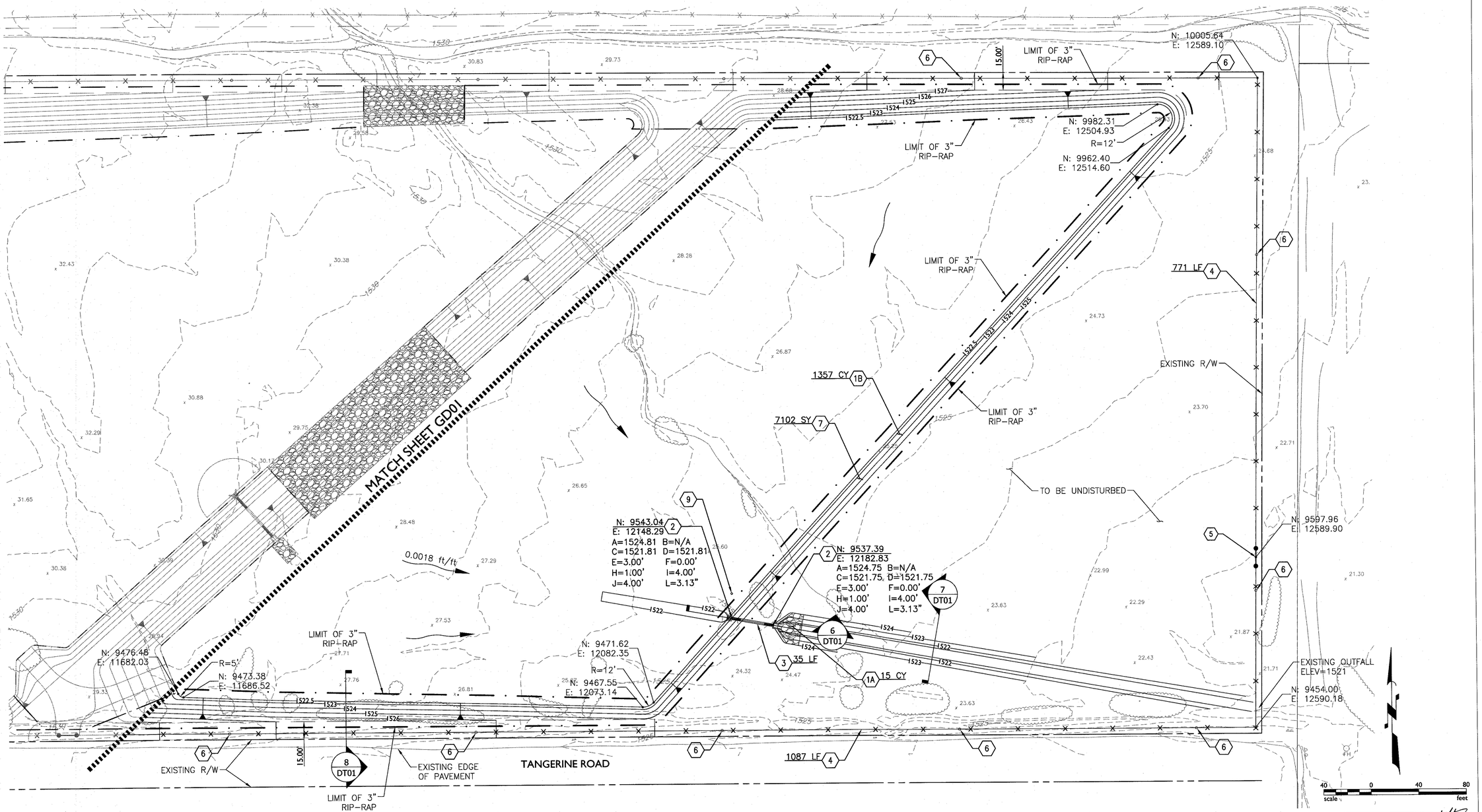
Registered Professional Engineer (Civil) CERTIFICATE NO. 48287 MATTHEW A. TRUITT Date Signed 02-19-15 ARIZONA, U.S.A.
Expires 9/30/2017

DRAWING NO: GD01

1A RIPRAP, 12" THICK. D50=6" PER DTL SHEET DT01	15 CY	3 24" RGRCP STORM DRAIN PIPE, CLASS III	35 LF	6 "NO TRESPASSING" SIGN PER DTL SHEET DT01	9 EA
1B RIPRAP, 6" THICK. D50=3" PER DTL SHEET DT01	1357 CY	4 WIRE FENCE PER DTL SHEET DT01	1858 LF	7 GEOTEXTILE FILTER FABRIC PER DTL SHEET DT01	7102 SY
2 HEADWALL PER MAG STD DTL 502-1 W/TRASHRACK	2 EA	5 GATE PER DTL SHEET DT01	1 EA	9 DEPTH GAUGE PER ADOT STD DTL C-19.10	1 EA

2/20/2015 12-019.1 - GD02.dwg EPS

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	AZ	60684219	7	7	



	NAME	DATE
DESIGN	M. Truitt	2/19/15
DRAWN	R. Williams	2/19/15
CHECKED	E. Williams	2/19/15

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HOPI DRIVE FLOOD HAZARD MITIGATION IMPROVEMENTS

LOCATION

TANGERINE BASIN

Registered Professional Engineer (Civil)
CERTIFICATE NO. 48287
MATTHEW A. TRUITT
Date Signed 02-19-15
ARIZONA, U.S.A.
Expires 9/30/2017

DRAWING NO: GD02