CIVIL SITE PLANS
FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ
PART OF THE SOUTH HALF OF SECTION 6, T1N, R1W

VICINITY MAP
N.T.S.

ENGINEERS NOTES

1. THESE PLANS ARE SUBJECT TO THE INTERPRETATION OF INTENT BY THE ENGINEER. ALL QUESTIONS REGARDING THESE PLANS SHALL BE PRESENTED TO THE ENGINEER. ANYONE WHO TAKES IT UPON THEMSELF THE INTERPRETATION OF THE DRAWINGS OR MAKES REVISIONS TO THE SAME WITHOUT CONFERRING WITH THE ENGINEER OF RECORD SHALL BE RESPONSIBLE FOR THE CONSEQUENCES THEREOF.
2. THE ESTIMATED QUANTITIES SHOWN ARE FOR INFORMATION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETENESS AND ACCURACY OF A DETAILED ESTIMATE BASED ON THESE PLANS, CURRENT CODES, AND SITE VISITATION.
3. ALL EARTHWORK CONSTRUCTION SHALL CONFORM TO THE LOCAL JURISDICTION OR GOVERNMENT STANDARD DETAILS AND/OR SPECIFICATIONS INCLUDING ANY SUPPLEMENTS THERETO, AND ALL ADDENDA.
4. PRIOR TO BIDDING THE WORK, THE CONTRACTOR SHALL THOROUGHLY SATISFY HIMSELF AS TO THE ACTUAL CONDITIONS, REQUIREMENTS OF THE WORK AND EXCESS OR DEFICIENCY IN QUANTITIES. NO CLAIMS SHALL BE MADE AGAINST THE OWNER/DEVELOPER OR ENGINEER FOR ANY EXCESS OR DEFICIENCY THEREIN, ACTUAL OR RELATIVE.
5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES OR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR COORDINATING THE RELOCATION OF UTILITIES, POWER POLES, ETC.
7. THE CONTRACTOR SHALL MAKE NO CLAIM AGAINST THE OWNER OR THE SURVEYOR REGARDING ALLEGED INACCURACY OF CONSTRUCTION STAKES SET BY THE SURVEYOR UNLESS ALL SURVEY STAKES SET BY THE ENGINEER ARE MAINTAINED INTACT AND CAN BE VERIFIED AS TO THEIR ORIGIN. IF, IN THE OPINION OF THE SURVEYOR, THE STAKES ARE NOT MAINTAINED INTACT AND CANNOT BE VERIFIED AS TO THEIR ORIGIN, ANY REMEDIAL WORK REQUIRED TO CORRECT ANY ITEM OF IMPROPER CONSTRUCTION WORK SHALL BE PERFORMED AT THE SOLE EXPENSE OF THE RESPONSIBLE CONTRACTOR OR SUBCONTRACTOR.
8. THE SURVEYOR WILL MAKE FIELD AS-BUILT MEASUREMENTS OF THE WORK UPON NOTIFICATION BY THE CLIENT OR HIS REPRESENTATIVE THAT THE WORK IS COMPLETE AND READY FOR AS-BUILT SURVEY. FOR PIPE WORK, THE CONTRACTOR IS RESPONSIBLE FOR LEAVING TRENCHES OPEN SO THAT AS-BUILTS CAN BE PERFORMED TO COMPLY WITH THE LOCAL JURISDICTION REQUIREMENTS. IF THE TRENCHES ARE BACKFILLED AND OBSCURED TO THE POINT THAT AS-BUILT MEASUREMENTS CANNOT BE PERFORMED, IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO POTHOLE UTILITY TRENCHES AS NECESSARY TO COMPLETE AN AS-BUILT SURVEY.
9. THE CONTRACTOR IS TO VERIFY THE LOCATION, ELEVATION, CONDITION, AND PAVEMENT CROSS-SLOPE OF ALL EXISTING SURFACES AT POINTS OF TIE-IN AND MATCHING, PRIOR TO COMMENCEMENT OF GRADING, PAVING, CURB AND GUTTER OR OTHER SURFACE CONSTRUCTION. SHOULD EXISTING LOCATIONS, ELEVATIONS, CONDITION, OR PAVEMENT CROSS-SLOPE DIFFER FROM THAT SHOWN ON THESE PLANS, RESULTING IN THE DESIGN INTENT REFLECTED ON THE PLANS NOT ABLE TO BE CONSTRUCTED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AGENT IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR ACCEPTS RESPONSIBILITY FOR ALL COSTS ASSOCIATED WITH CORRECTIVE ACTION IF THESE PROCEDURES ARE NOT FOLLOWED.
10. EXISTING UTILITIES SHOWN ON THESE PLANS HAVE BEEN LOCATED ACCORDING TO INFORMATION PROVIDED BY THE AGENCY OPERATING EACH UTILITY. LOCATIONS SHOWN ARE APPROXIMATE ONLY, AND ARE NOT RELIABLE FOR CONSTRUCTION PURPOSES. CALL 811 FOR FIELD LOCATION. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN KIND.
11. THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION, OR VARIANCE FROM THESE PLANS. ANY VARIATIONS FROM THESE PLANS SHALL BE PROPOSED ON CONSTRUCTION FIELD PRINTS AND TRANSMITTED TO THE ENGINEER.
12. ANY INSPECTION BY THE CITY, COUNTY, ENGINEER, OR OTHER JURISDICTIONAL AGENCY, SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH APPLICABLE CODES AND AGENCY REQUIREMENTS.
13. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL STORM DRAIN PIPES, STORM WATER RETENTION PIPES AND DRAINAGE FACILITIES FROM DAMAGE DURING ALL STAGES OF CONSTRUCTION. THE DEPTH OF COVER ON THE STORM DRAIN PIPE IS DESIGNED FOR FINAL GRADE. THEREFORE, EXTRA CARE SUCH AS BERMING OVER PIPES, FLAGGING OR SIGNAGE SHOULD BE USED DURING CONSTRUCTION TO MAINTAIN COVER OR PROTECT THE PIPES.
14. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO THE VARYING FIELD CONDITIONS, CHANGING SOIL TYPES, ALLOWABLE CONSTRUCTION TOLERANCES AND CONSTRUCTION METHODS THAT ARE BEYOND THE CONTROL OF THE ENGINEER.
15. IF PAD CERTIFICATIONS ARE PERFORMED, IT IS UNDERSTOOD THAT THE CERTIFICATION PROVIDES ONLY A REPRESENTATIVE ELEVATION OF THE AVERAGE GRADE OF EACH LOT, BUILDINGS OR UNIT PAD, AND SHALL NOT BE CONSTRUED TO INCLUDE YARD AND STREET SUB-GRADE CERTIFICATION OR CERTIFICATION THAT THE ENTIRE PAD IS LEVEL, THAT IT WAS CONSTRUCTED IN THE DESIGNED LOCATION OR WAS GRADED TO THE CROSS-SECTION SET FORTH ON THE PLANS OR AS DESIGNATED IN THE SOILS REPORT.
16. FINISH GRADES SHOWN ON THESE PLANS ARE THE FINAL FINISH GRADES. CONTRACTOR IS RESPONSIBLE FOR OVER-EXCAVATING LANDSCAPE AREAS TO ALLOW FOR PLANTING AND UTILITY TRENCHING SPOILS AND FOR THE FINAL LANDSCAPE TREATMENT (DECOMPOSED GRANITE, LAWN, ETC.).
17. OWNER OF PROPERTY SHALL INSPECT AND MAINTAIN ALL DRAINAGE STRUCTURES AND DRAINAGE APPURTENANCES ANNUALLY AND AFTER ANY MEASURABLE RAINFALL TO ENSURE PROPER FUNCTION OF DRAINAGE SYSTEM.
18. ALL DRAINAGE SHALL FLOW TO AN ACCEPTABLE DISCHARGE LOCATION UNLESS SPECIFICALLY NOTED OTHERWISE. PONDING (BIRD BATH) IS NOT INTENDED IN PAVEMENT AREAS. CONTRACTOR SHALL CONTACT CIVIL ENGINEER IMMEDIATELY AND AWAIT A RESPONSE IN THE EVENT THAT SUCH AREAS ARE ENCOUNTERED DURING THE COURSE OF STAKING OR CONSTRUCTION.

LEGAL DESCRIPTION

PARCEL NO. 1:

THAT PART OF THE SOUTH HALF OF SECTION 6, TOWNSHIP 1 NORTH, RANGE 1 WEST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS
FOLLOWS:

COMMENCING AT THE BRASS CAP FLUSH MARKING THE WEST QUARTER CORNER OF SAID SECTION 6, FROM WHICH THE MARICOPA COUNTY BRASS CAP IN HAND HOLE, MARKING THE SOUTHWEST CORNER
OF SAID SECTION 6 BEARS SOUTH 00 DEGREES11 MINUTES 19 SECONDS WEST, A DISTANCE OF 2,639.96 FEET;

THENCE SOUTH 89 DEGREES 23 MINUTES 27 SECONDS EAST, ALONG THE NORTH LINE OF THE SOUTHWEST QUARTER OF SAID
SECTION 6, A DISTANCE OF 2,259.36 FEET TO A POINT ON THE EAST LINE OF THAT CERTAIN PROPERTY DESCRIBED IN INSTRUMENT NO. 87-750743, MARICOPA COUNTY RECORDS;

THENCE SOUTH 00 DEGREES 15 MINUTES 40 SECONDS WEST, ALONG SAID EAST LINE, A DISTANCE OF 50.00 FEET TO A POINT ON
A LINE WHICH IS PARALLEL WITH AND 50.00 FEET SOUTHERLY, AS MEASURED AT RIGHT ANGLES, FROM THE NORTH LINE OF THE SOUTHWEST QUARTER OF SAID SECTION 6;

THENCE SOUTH 89 DEGREES 23 MINUTES 27 SECONDS EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 65.24 FEET TO THE
TRUE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 89 DEGREES 23 MINUTES 27 SECONDS EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 261.00
FEET TO A POINT ON A LINE WHICH IS PARALLEL WITH AND 50.00 FEET SOUTHERLY, AS MEASURED AT RIGHT ANGLES, FROM THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 6;

THENCE SOUTH 89 DEGREES 30 MINUTES 40 SECONDS EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 500.75 FEET TO THE
BEGINNING OF A TANGENT CURVE OF 280.00 FOOT RADIUS, CONCAVE SOUTHERLY;

THENCE EASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 09 DEGREES 00 MINUTES 00 SECONDS, A DISTANCE OF
43.98 FEET;

THENCE SOUTH 80 DEGREES 30 MINUTES 40 SECONDS EAST, A DISTANCE OF 79.88 FEET TO THE BEGINNING OF A TANGENT
CURVE OF 330.00 FOOT RADIUS, CONCAVE NORTHERLY;

THENCE EASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 09 DEGREES 00 MINUTES 00 SECONDS, A DISTANCE OF
51.84 FEET TO A POINT ON A LINE WHICH IS PARALLEL WITH AND 70.01 FEET SOUTHERLY, AS MEASURED AT RIGHT ANGLES, FROM THE NORTH LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 6;

THENCE SOUTH 89 DEGREES 30 MINUTES 40 SECONDS EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 124.78 FEET TO THE
BEGINNING OF A TANGENT CURVE OF 25.00 FOOT RADIUS, CONCAVE SOUTHWESTERLY;

THENCE SOUTHEASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 90 DEGREES 00 MINUTES 00 SECONDS, A
DISTANCE OF 39.27 FEET;

THENCE SOUTH 00 DEGREES 29 MINUTES 20 SECONDS WEST, A DISTANCE OF 5.00 FEET TO THE BEGINNING OF A TANGENT
CURVE OF 470.00 FOOT RADIUS, CONCAVE NORTHWESTERLY;

THENCE SOUTHWESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 27 DEGREES 26 MINUTES 44 SECONDS, A
DISTANCE OF 225.14 FEET;

THENCE SOUTH 27 DEGREES 56 MINUTES 04 SECONDS WEST, A DISTANCE OF 100.00 FEET TO THE BEGINNING OF A TANGENT
CURVE OF 530.00 FOOT RADIUS, CONCAVE SOUTHEASTERLY;

THENCE SOUTHWESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 27 DEGREES 33 MINUTES 48 SECONDS, A
DISTANCE OF 254.97 FEET;

THENCE SOUTH 00 DEGREES 22 MINUTES 16 SECONDS WEST, A DISTANCE OF 329.66 FEET;

THENCE SOUTH 06 DEGREES 57 MINUTES 39 SECONDS EAST, A DISTANCE OF 342.48 FEET;

THENCE NORTH 89 DEGREES 24 MINUTES 58 SECONDS WEST, A DISTANCE OF 706.62 FEET TO THE SOUTHEAST CORNER OF THE
NORTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION 6;

THENCE NORTH 89 DEGREES 24 MINUTES 58 SECONDS WEST, ALONG THE SOUTH LINE OF THE NORTH HALF OF THE SOUTHWEST
QUARTER OF SAID SECTION 6, A DISTANCE OF 300.88 FEET TO A POINT ON A LINE WHICH IS PARALLEL WITH AND 25.00 FEET EASTERLY, AS MEASURED AT RIGHT ANGLES, FROM THE EAST LINE OF THAT CERTAIN PROPERTY DESCRIBED IN INSTRUMENT NO. 87-750743, MARICOPA COUNTY RECORDS;

THENCE NORTH 00 DEGREES 15 MINUTES 40 SECONDS EAST, ALONG SAID PARALLEL LINE, A DISTANCE OF 1,268.96 FEET TO THE
BEGINNING OF A TANGENT CURVE OF 40.00 FOOT RADIUS, CONCAVE SOUTHEASTERLY;

THENCE NORTHEASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 90 DEGREES 20 MINUTES 52 SECONDS, A
DISTANCE OF 63.07 FEET TO THE TRUE POINT OF BEGINNING.

LEGEND

95.50 FS	SPOT ELEVATION	1.0%	SLOPE
	PROPERTY LINE	→	FLOW ARROW
1581	EXISTING MINOR CONTOUR	□	WATER SERVICE
1580	EXISTING MAJOR CONTOUR	Ⓢ	EXISTING MANHOLE
W	WATER	▸	GRADING ARROW
SS	SANITARY SEWER	C	SPOT ELEVATION NEW CONCRETE
E	CONCEPTUAL ELECTRICAL LINE	GR	GRATE
G	CONCEPTUAL GAS LINE	INV	INVERT
W	EXISTING WATER	IE	INVERT ELEVATION
G	EXISTING GAS	LF	LINEAL FEET
SS	EXISTING SEWER	S	SLOPE
	SAWCUT LINE	TC	TOP OF CURB ELEVATION
		FS	FINISHED SURFACE ELEVATION
		GB	GRADE BREAK
		C	SPOT ELEVATION NEW CONCRETE
		TC	TOP OF CURB
		C	CONCRETE
		P	PAVEMENT
		FFE	FINISH FLOOR ELEVATION
		EX. TC	EXISTING TOP OF CURB
		EX. P	EXISTING PAVEMENT
		EX. SW	EXISTING SIDWALK

CIVIL ENGINEER

TTG ENGINEERS
4300 N. MILLER ROAD, SUITE 122
SCOTTSDALE, AZ 85251
PHONE: 602-371-1333
FAX: 602-371-0675
CONTACT: MIKE JACKSON

OWNER

FUSARO LLC
15839 W. ROOSEVELT ST
GOODYEAR, AZ 85338
CONTACT:JAMES RINEHART AND DONNIE FETTERS

SHEET INDEX

APN & ADDRESS

15839 W. ROOSEVELT ST.
GOODYEAR, AZ 85338
APN #500-05-972

SITE AREA

1,280,877 S.F. = 29.404 AC.

FEMA FLOOD ZONE

ACCORDING TO FEMA FLOOD INSURANCE RATE MAP, MAP NUMBER 04013C2135L, DATED OCTOBER 16, 2013, THE SUBJECT PROPERTY IS LOCATED IN ZONE X (SHADED). ZONE X (SHADED) IS DEFINED AS "AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD."

BENCHMARKS

COG BM G347 3 IN MCHD BRASS CAP IN HAND HOLE
SARIVAL AND VAN BUREN ELEVATION 994.44 NAVD 88 DATUM

COG BM G335 3 IN MCHD BRASS CAP IN SOUTH HAND HOLE
SARIVAL ½ MI NORTH OF YUMA ELEVATION 981.88 NAVD 88 DATUM

FIRE ACCESS NOTE

A 20-FOOT FIRE ACCESS LANE SHALL BE MAINTAINED AT ALL TIMES. THE SURFACE SHALL MEET THE CITY OF GOODYEAR STANDARD DETAILS G-3244-1 TO G-3244-3

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

REVISIONS

Description	Date	By

DESIGNED MG
CHECKED MAJ
APPROVED MAJ

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO.
38775
MIKE A. JACKSON
Date Signed
ARIZONA, U.S.A.
EXPIRES 3/31/2018

FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ

COVER SHEET

TTG

JOB NO. 061600210.00
SCALE N.T.S.
DATE MARCH 2017
SHEETS
SHEET C1.0

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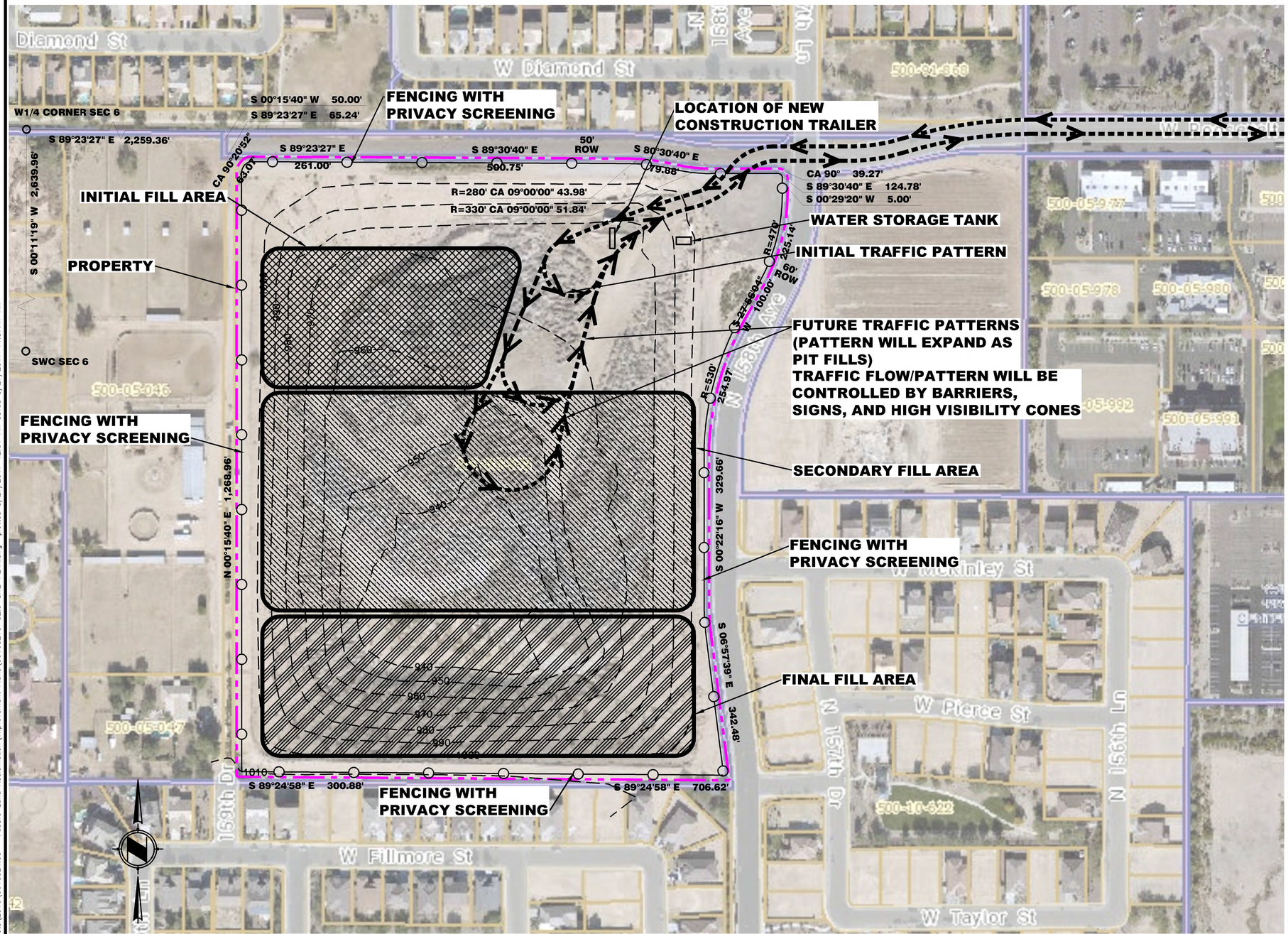
PRELIMINARY SITE PLAN
FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ



GRAPHIC SCALE
100 0 50 100 200 300
(IN FEET)
1 inch = 100 ft.

VICINITY MAP
N.T.S.

CIVIL ENGINEER
TTG ENGINEERS
4300 N. MILLER ROAD, SUITE 122
SCOTTSDALE, AZ 85251
PHONE: 602-371-1333
FAX: 602-371-0675
CONTACT: MIKE JACKSON

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FUSARO LLC
15839 W. ROOSEVELT ST
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CONTACT:JAMES RINEHART AND DONNIE FETTERS

APN & ADDRESS
15839 W. ROOSEVELT ST.
GOODYEAR, AZ 85338
APN #500-05-972

SITE AREA
1,280,877 S.F. = 29.404 AC.

PROJECT DATA
15839 W. ROOSEVELT ST.
GOODYEAR, AZ 85338
APN #500-05-972

PROJECT DATA

SITE AREA (GROSS=NET):	1,280,877 SF
GENERAL PLAN LAND USE:	NEIGHBORHOOD
ZONING:	AG
OVERLAY DISTRICT:	
BUILDING AREA:	1,100 SQ. FT. CONSTRUCTION TRAILER, WATER TANK
LOT COVERAGE:	.0011%
BUILDING HEIGHT:	13'-6"
NUMBER OF STORIES:	1
CONSTRUCTION TYPE:	TRAILER
AUTOMATIC FIRE SPRINKLER:	
PROPOSED USE:	NEIGHBORHOOD
TOTAL PARKING REQUIRED:	5 SPACES
TOTAL PARKING PROVIDED:	5 SPACES
ACCESSIBLE REQUIRED:	1 SPACES
ACCESSIBLE PROVIDED:	1 SPACES
LANDSCAPE REQUIRED:	NONE
LANDSCAPE PROVIDED:	NONE

NOTE
MINIMUM PERIMETER CONSTRUCTION TRAILER SETBACK = 50 FEET" RIGHT UNDER THE PROJECT DATA INFO.

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

REVISIONS

Description	Date	By

DESIGNED MG
CHECKED MAJ
APPROVED MAJ

REGISTERED PROFESSIONAL ENGINEER CERTIFICATE NO. 38775 MIKE A. JACKSON ARIZONA, U.S.A.
EXPIRES 3/31/2018

FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ

SITE PLAN

TTG

JOB NO. 061600210.00
SCALE 1" = 100'
DATE MARCH 2017
SHEETS
SHEET C2.0

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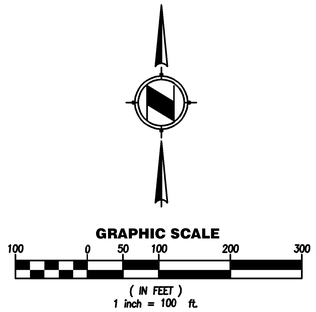
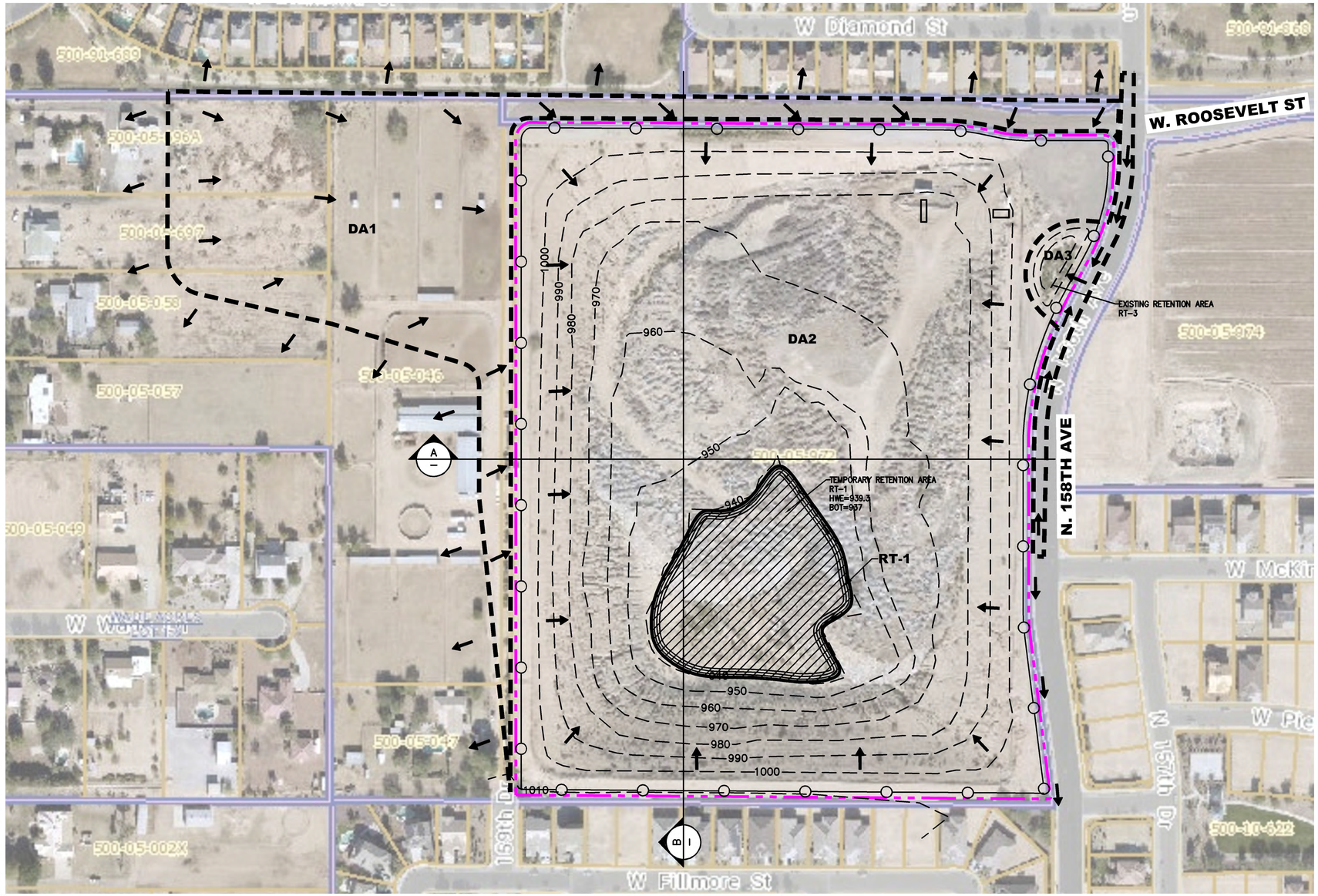
PRELIMINARY GRADING & DRAINAGE PLAN
FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ





LEGEND

- APPROXIMATE LIMITS OF CONTRIBUTING AREA
- 661.00 P — SPOT ELEVATION
- PROPERTY BOUNDARY
- —1581— EXISTING MINOR CONTOUR
- —1580— EXISTING MAJOR CONTOUR
- EXISTING FLOW DIRECTION

DRAINAGE SUMMARY

THE SITE IS AN EXISTING INERT MATERIAL FILL OPERATION. THE SITE RETAINS ALL ON–SITE RUNOFF AT THE LOW POINT OF THE PIT. A SMALL AMOUNT OF OFF–SITE RUNOFF ENTERS THE SITE FROM THE NORTHWEST AND IS CAPTURED AT THE LOW POINT OF THE PROPERTY. A SMALL AMOUNT OF THE STREET FRONTAGE IS ALSO CAPTURED IN AN EXISTING BASIN ADJACENT TO THE STREET.

RETENTION REQUIRED

$V = C \times P_{100\text{-}YR6\text{-}HR} \times A$
C=RUNOFF COEFFICIENT
$P_{100\text{-}YR6\text{-}HR}$=2.50 INCHES / 12
A=DRAINAGE AREA
V=REQUIRED VOLUME

DRAINAGE AREA ID	AREA (SF)	C	V (CF)	
DA–1	342,541	0.60	42,818	REQ'D
DA–2	1,264,533	0.60	158,067	REQ'D
			200,885	REQ'D
DA–3 (STREET)	37,616	0.95	7,534	REQ'D

RETENTION PROVIDED

TWO SURFACE BASINS SERVE THE SITE.

BASIN ID	BASIN DEPTH (FT)	VOLUME PROVIDED (CF)	NUMBER OF DRYWELLS	DRAIN TIME HR
RT–1*	2.3	203,236	0	21.7
RT–3**	–	–	–	

*THE AVAILABLE VOLUME AND SHAPE OF THE BASIN IS BASED UPON AVAILABLE EXISTING TOPOGRAPHIC INFORMATION. THE BASIN AREA WILL CHANGE DURING THE COURSE OF THE PROJECT. HOWEVER, DUE TO THE DEPTH OF THE SITE, THE AVAILABLE STORAGE VOLUME WILL BE PROVIDED UNTIL THE PROJECT FILLS THE AREA TO WITHIN SEVERAL FEET OF THE ADJACENT GRADE. THE PERCOLATION RATE WAS BASED UPON USDA SOIL TYPE ANTICIPATED PERCOLATION RATES RANGE FROM 0.57 TO 1.98 IN/HR. 1.27 IN/HR WAS USED TO BE CONSERVATIVE.
**RT–3 WAS PREVIOUSLY CONSTRUCTED AS PART OF 158TH AVE CONSTRUCTION AND IS NOT PART OF THIS SCOPE OF WORK. WE HAVE ASSUMED THAT IT WAS ADEQUATELY SIZED TO PROVIDE RETENTION FOR THE RUNOFF THAT ENTERS FROM 158TH AVENUE.

RETENTION DISCHARGE NOTE

THE SITE RETENTION BASIN WILL BE ADJUSTED THROUGHOUT THE PROJECT AS INDICATED ABOVE. THE OPERATOR WILL MONITOR THE RETENTION BASIN TO COMFIRM THAT THE BASIN DISCHARGES WITHIN 36–HOURS. IN THE EVENT THAT THE DISCHARGE RATES DO NOT ALLOW FOR THE BASIN TO DRAIN WITHIN 36 HOURS, THE BASIN WILL BE WIDENED AS NECESSARY TO ACHIEVE THE 36–HOUR REQUIREMENT.

BENCHMARKS

COG BM G347 3 IN MCHD BRASS CAP IN HAND HOLE
SARIVAL AND VAN BUREN ELEVATION 994.44 NAVD 88 DATUM

COG BM G335 3 IN MCHD BRASS CAP IN SOUTH HAND HOLE
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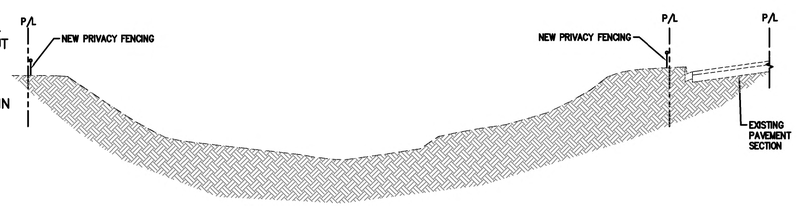
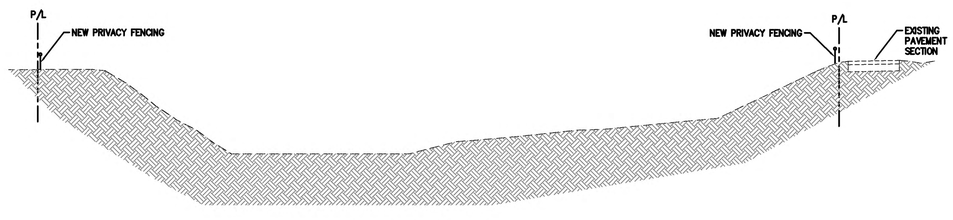


A — CROSS SECTIONS
NOT TO SCALE



B — CROSS SECTIONS
NOT TO SCALE

REVISIONS

Description	Date	By

DESIGNED MG
CHECKED MAJ
APPROVED MAJ

REGISTERED PROFESSIONAL ENGINEER — CERTIFICATE NO. 38775 — MIKE A. JACKSON — ARIZONA, U.S.A.
EXPIRES 3/31/2018

FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ
PRELIMINARY GRADING & DRAINAGE PLAN

TTG

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SHEET C3.0

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STORM WATER POLLUTION PREVENTION PLAN
FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ

EROSION CONTROL NOTES:

1. A COPY OF THE APPROVED GRADING AND DRAINAGE PLAN FOR THIS PROJECT SHALL BE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW.
2. THE OPERATOR SHALL PERFORM, AT A MINIMUM, A VISUAL INSPECTION OF THE CONSTRUCTION SITE ONCE EVERY WEEK AND WITHIN 24 HOURS OF RAINFALL GREATER THAN OR EQUAL TO A HALF OF AN INCH OR MORE. THE OPERATOR SHALL PREPARE A REPORT DOCUMENTING HIS/HER FINDINGS ON THE CONDITIONS OF THE EROSION PROTECTION PLAN AND NOTE ANY EROSION PROBLEM AREAS. THE OPERATOR'S REPORT IS TO BE SUBMITTED TO THE DEVELOPMENT SERVICES DEPARTMENT PROJECT ENGINEERING DIVISION CONSTRUCTION INSPECTOR FOR REVIEW AND APPROVAL. FACILITIES SHALL BE MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED.
3. THE OPERATOR SHALL AMEND THIS PLAN AS NECESSARY DURING THE COURSE OF CONSTRUCTION TO RESOLVE ANY PROBLEM AREAS, WHICH BECOME EVIDENT DURING THE CONSTRUCTION AND/OR DURING RAINFALLS.
4. THE PERMITTEE SHALL SAVE ALL RECORDS, INCLUDING INSPECTION REPORTS AND EROSION PROTECTION PLAN ON FILE FOR A MINIMUM OF THREE YEARS.
5. THE IMPLEMENTATION OF THESE PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
6. THE FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO INSURE THAT SEDIMENT–LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS, AND MUST BE INSTALLED AND IN OPERATION PRIOR TO ANY GRADING OR LAND CLEARING. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
7. CONTRACTOR SHALL REMOVE EROSION CONTROL MEASURES AFTER CONSTRUCTION ACTIVITIES HAVE TERMINATED AND AFTER THE SITE'S SURFACE HAS BEEN SUCCESSFULLY STABILIZED.
8. CONTRACTOR SHALL INSTALL ALL EROSION PROTECTION MEASURES IN ACCORDANCE WITH MARICOPA COUNTY SPECIFICATIONS AND THE STATE OF ARIZONA.
9. A SEPARATE TC PERMIT MAY BE REQUIRED BY MCDOT FOR TEMPORARY CONSTRUCTION ACCESS. COORDINATE WITH THE MCDOT INSPECTOR.

LEGEND

(1) STABILIZED CONSTRUCTION ENTRANCE SEE DETAIL #1 SHEET C4.1

STONE TRACKING MAT (EC-5)

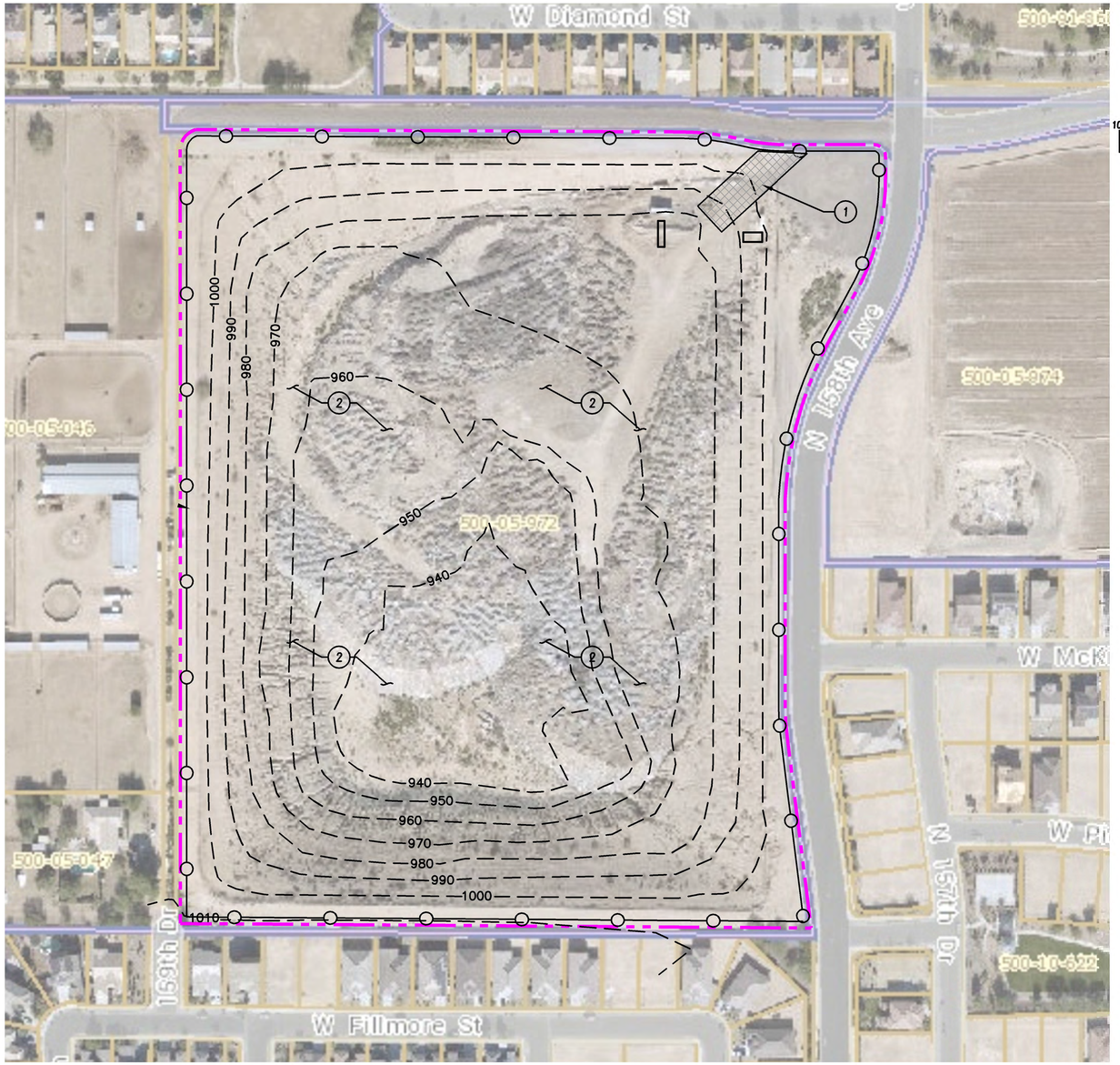
(2) DUST CONTROL – SEE EC–7 ON SHEET C4.1

DIRECTION OF FLOW

SWALE

GRADE BREAK

STORM DRAIN PIPE



GRAPHIC SCALE
100 0 50 100 200 300
(IN FEET)
1 inch = 100 ft.

SEQUENCE OF CONSTRUCTION

1. DETERMINE THE DISTURBANCE LIMITS.
2. INSTALL THE BMP'S WITHIN THESE LIMITS
3. INSTALL PRIVACY FENCING
4. THEN INSTALL TRACKING PAD
5. CONTINUE DUST CONTROL MEASURES IN WORKING AREAS

SWPPP CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THIS SYSTEM, OR THOSE PERSONS DIRECTION RESPONSIBLE FOR GATHERING THE INFORMATION, I BELIEVE THE INFORMATION SUBMITTED IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. IN ADDITION I CERTIFY THAT THE PERMITTEE WILL COMPLY WITH ALL TERMS AND CONDITIONS STIPULATED IN GENERAL PERMIT NO. AZG2013–001 ISSUED BY THE DIRECTOR.

SITE OWNER OR AUTHORIZED REPRESENTATIVE DATE

CONTRACTOR CERTIFICATION

I _____ ACTING AS _____ FOR THE _____, AN AUTHORIZED REPRESENTATIVE, HAVING REVIEWED THIS STORMWATER MANAGEMENT PLAN (SWPPP) AND ALL OF THE RELEVANT DOCUMENTS, DO HEREBY CERTIFY THAT I UNDERSTAND ALL COMPONENTS OF THIS PLAN AND WILL PERFORM ALL REQUIRED INSPECTIONS AND MAINTENANCE ACTIVITIES AS REQUIRED.; AND THAT I WILL MAINTAIN ALL NECESSARY AND REQUIRED RECORDS AT THE JOB SITE AND UP TO DATE.

REVISIONS

By	Date	Description

DESIGNED MG
CHECKED MAJ
APPROVED MAJ

REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO.
38775
MIKE A. JACKSON
Date Signed
ARIZONA, U.S.A.
EXPIRES 3/31/2018

FUSARO LAND RECLAMATION
SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ

STORM WATER POLLUTION PREVENTION PLAN

TTG

JOB NO. 061600210.00
SCALE 1" = 100'
DATE MARCH 2017
SHEETS
SHEET C4.0

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

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of the biggest advantages to using vegetation is that once properly established, it is self-maintaining, limiting the amount of human care required.

3.2.3 Dust Control Methodology

A third component of erosion and sediment control is dust control. In semi-arid regions, control of wind-borne sediment (dust) is an important part of pollutant source control. Once these fine sediments leave a site by wind, they are often re-dispersed into the atmosphere or into the public storm sewer systems by subsequent vehicular traffic, wind, and rainfall. Control measures that minimize the generation of fugitive dust from construction sites help limit the quantity of sediments in stormwater.

Dust is defined as solid particles or particulate matter small enough to remain suspended in the air for an extended period of time. Dust from a construction site originates as inorganic particulates from rock and soil surfaces, material storage piles, and construction materials. The majority of dust generated and emitted into the air at a construction site is related to earth moving, demolition, construction traffic on unpaved surfaces, and wind over disturbed soil surfaces. Measures for addressing the most common sources of fugitive dust generated by construction activities are listed in Table 3.3.

TABLE 3.3
GENERAL DUST CONTROL MEASURES

Pave or gravel travel surfaces such as:
- Temporary parking lots and staging areas
- Construction access driveways.

Treat exposed areas with soil binders or water:
- Construction sites, bare ground areas.
- Land clearing and grubbing activities.
- Earthwork, dozing, grading, scraping.
- Soil and debris piles.
- Tilling.

Limit exposure during materials handling:
- Batch drop, dumping.
- Conveyor transfer and stacking.
- Material transfer points.
- Crushing, milling, and screening operations.
- Spilled materials.
- Sawing/sanding concrete or wood.
- Demolition and debris disposal.

EC-7 Dust Control Table

TABLE 5.2
COMMONLY USED DUST SUPPRESSANTS

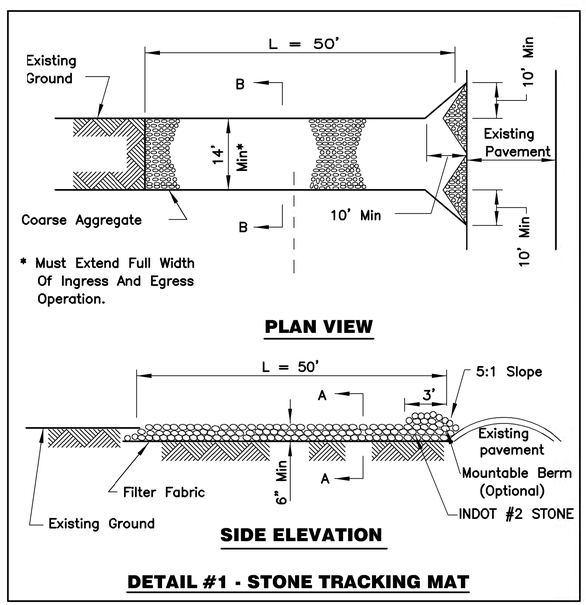
Types	Functional Mechanism	Advantages	Limitations
Freshwater	Moisture wets particles, thereby increasing their mass and binding them together.	Usually readily available, low material cost, and easy to apply	Frequent light applications may be necessary during hot dry weather and can be labor intensive. Over application may result in loss of traction, erosion, or points of road failure.
Calcium Chloride	At a relative humidity greater than approximately 30% (77 F), the salts within the soil will pull moisture from the air above and retain it in the soil.	Reduces evaporation rate of surface moisture, lowers the freezing point of water, which reduces frost heave and freeze-thaw cycles, thereby reducing required road maintenance. Calcium Chloride also increases the compacted density of existing road base material. Effectiveness is retained after reblading.	Effectiveness in arid and semi-arid regions may be limited due to low relative humidity. It is very corrosive to aluminum alloys and slightly corrosive to steel. Solubility of calcium chloride results in leaching during heavy precipitation. Releases heat when mixed with water.
Magnesium Chloride	At a relative humidity greater than approximately 30% (77° F), the salts within the soil will pull moisture from the air above and retain it in the soil.	Reduces evaporation rate of surface moisture, lowers the freezing point of water, which reduces frost heave and freeze-thaw cycles, thereby reducing required road maintenance. Magnesium Chloride increases the compacted density of existing road base material more than Calcium Chloride. Effectiveness is retained after reblading.	Effectiveness in arid and semi-arid regions may be limited due to low relative humidity. It is very corrosive to aluminum alloys and slightly corrosive to steel. Solubility of calcium chloride results in leaching during heavy precipitation.
Lignin Derivatives	Act as adhesives by binding soil particles together and curing.	Greatly increases dry strength of soil, not humidity-dependent, imparts some plasticity to road surfaces, and lowers freezing point of road surface and base. Effectiveness is retained after reblading.	High solubility results in leaching during heavy precipitation. It is corrosive to aluminum alloys due to acidity ($CaCO_3$ can neutralize the acidity). Proper aggregate mix is important to performance. Becomes slippery when wet and brittle when dry.
Tree Resin Emulsions (tall oil)	Act as adhesives by binding soil particles together and curing.	Low solubility after curing minimizes leaching and provides degree of surface waterproofing. Imparts some plasticity to road surfaces, has a high bonding strength, and is non-corrosive.	Requires proper weather and time to cure. No residual effectiveness after reblading. Equipment requires prompt cleanup to avoid curing of resin in hoses and pipes.
Synthetic Polymer	Bind soil particles together by forming a polmerizing matrix; a function similar to adhesives.	Applicable to a range of emission sources and function well in sandy soil conditions. Some types allow seeded vegetation to grow through the polymer matrix.	Requires proper weather and time to cure. Water repellant. May be subject to UV (sunlight) degradation. Application equipment requires timely cleaning. Thre is no residual effectiveness after reblading.
Bituments, Tars, and Resins	Asphalt and resinous products are adhesive binding soil particles together. Petroleum oil products coat soil particles, increasing their mass and binding them together.	Water insoluble when dry; provide a degree of surface waterproofing. Good residual effectiveness.	Surface crusting fracturing arid potholing may develop. Long-term application may cause road to become too hard for reblading. Bituments won't lower freezing point and petroleum oil products lack adhesive characteristics.
Cementitious Based Binders	High purity gypsum mixes with water and mulch to form a thin cement-like crust on the soil surface.	Flexible, durable, water permeable, arid resists soil chemicals. Reduces amount of aggregate required during initial construction and has lower maintenance costs than other dust suppressants.	Cementitious based binders are only effective for dust control in non-traffic areas. Instead, consider mixing cementitious based binders with sub-base soils for greater soil strength.

EC-7 Dust Control Table

TABLE 5.2
COMMONLY USED DUST SUPPRESSANTS (CONT.)

Types	Ideal Soil Characteristics	Relative Cost Comparison (average life expectancy)	Environmental Considerations
Freshwater	None	Low initial cost, high long-term maintenance cost (0 months)	Minimal environmental hazard. If applied excessively, may result in erosion and sediment runoff . Supply may be limited in some areas and, depending on the source, may require a water right permit.
Calcium Chloride	Plasticity index>8 10-20 percent fines passing the No. 200 sieve (by weight)	Low initial cost, medium long-term maintenance cost (1-6 months)	Repeated applications and long term use may harm adjacent vegetation (See the manufacturer's product information).
Magnesium Chloride	Plasticity index>8 10-20 percent fines passing the No. 200 sieve (by weight)	Low initial cost, medium long-term maintenance cost (1-6 months)	Repeated applications and long term use may harm adjacent and nearby vegetation (See the manufacturer's product information).
Lignin Derivatives	Plasticity index>8 10-30 percent fines passing the No. 200 sieve (by weight)	Medium initial cost, low long-term maintenance cost (3-12 months)	Lignin products have high BOD (biological oxygen demand) in aquatic systems. Spills or runoff into surface or groundwaters may create low dissolved oxygen conditions resulting in fish kills or increases in ground water concentrations of iron, sulfur compounds arid other pollutants. (See the product MSDS for specific information).
Tree Resin Emulsions (tall oil)	Plasticity index<3 10-20 percent fines passing the No. 200 sieve (by weight)	Medium initial cost, low long-term maintenance cost (1-6 months)	(See the manufacturer's product information)
Synthetic Polymer	Plasticity index<3 5-20 percent fines passing the No. 200 sieve (by weight)	High initial cost, low long-term maintenance cost (1-3 months)	(See the manufacturer's product information)
Bituments, Tars, and Resins	Plasticity index<3 <20 percent fines passing the No. 200 sieve (by weight)	High initial cost, high long-term maintenance cost (1-3 months)	Use of used oils prohibited. Some petroleum based products may contain carcinogenic polycyclic aromatic hydrocarbons (PAHs). (See the manufacturer's product information)
Cementitious Based Binders	Depending on the type of cementitious based binder, will work with both high and low plasticity index soils.	Low initial cost, medium long-term maintenance cost (3-6 months)	None

DUST CONTROL - EC-7



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CERTIFICATE NO.
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MIKE A. JACKSON
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SWC OF W. ROOSEVELT ST. & N. 158TH AVE, GOODYEAR, AZ

STORM WATER POLLUTION PREVENTION DETAILS

TTG

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SHEETS
SHEET C5.0

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