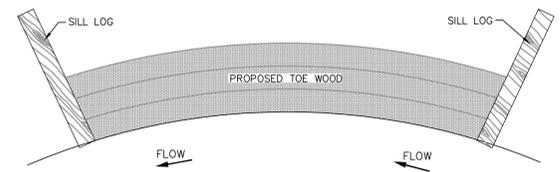


PROFILE VIEW

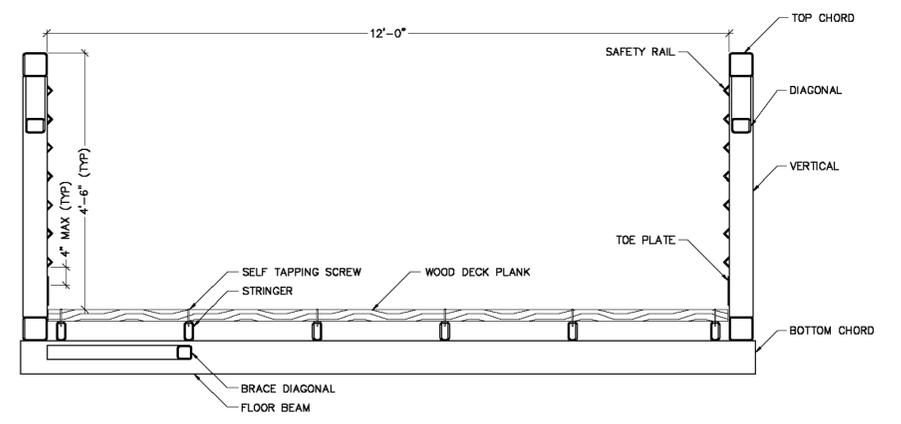


PLAN VIEW

- NOTE:
1. LIVE STAKING TO CONSIST OF BLACK WALNUT OR LITTLE WALNUT SPECIES. COORDINATE WITH ENGINEER IS NECESSARY TO DETERMINE ALTERNATE IF SPECIES IS NOT AVAILABLE.
 2. BRUSHY MATERIAL TO CONSIST OF TREE BRANCHES WITH TWIGS TIPS STILL ATTACHED (6 FT. TO 12 FT. LONG) MATERIAL SHOULD BE OBTAINED FROM AIRPORT RUNWAY SITE.
 3. TWO OR MORE LAYERS OF SOD MAY BE NECESSARY TO REACH BANKFULL ELEVATION. SOD MATS SHALL HAVE A MINIMUM THICKNESS OF 6".
 4. BACKFILL PLACED ON TOP OF LAYER OF ROOTWAD AND ON TOP OF LAYER OF CUTTINGS NOT SHOWN ON DETAIL BUT REQUIRED PER SPECIFICATION.
 5. INTERWEAVE SHROUD LINE BETWEEN STAKES TO SECURE SOD.
 6. SOD TO BE HARVESTED FROM ON-SITE MATERIAL SELECTED BY ENGINEER. IF THE AMOUNT OF SOD IS NOT SUFFICIENT TO COVER THE ENTIRE TOEWOOD AREA, ENGINEER IS TO SELECT ALTERNATIVE MATERIAL. SELECTION OF SOD MATERIAL IS TO BE FIELD COORDINATED AT THE TIME OF CONSTRUCTION.

NOTE:
SILL LOGS ARE BURIED FLUSH WITH TOP OF BANKFULL BENCH, PLACED AT THE BEGINNING AND END OF TOE WOOD STRUCTURE, PERPENDICULAR TO FLOW.

13 TOE WOOD OPTION 1-SOD WITH SALVAGED MATERIAL
(NOT TO SCALE)



14 BRIDGE CROSS SECTION DETAIL
(NOT TO SCALE)

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**FOR
CONSTRUCTION**

**SAN ANTONIO
AIRPORT SYSTEM**

**PAPE-DAWSON
ENGINEERS**

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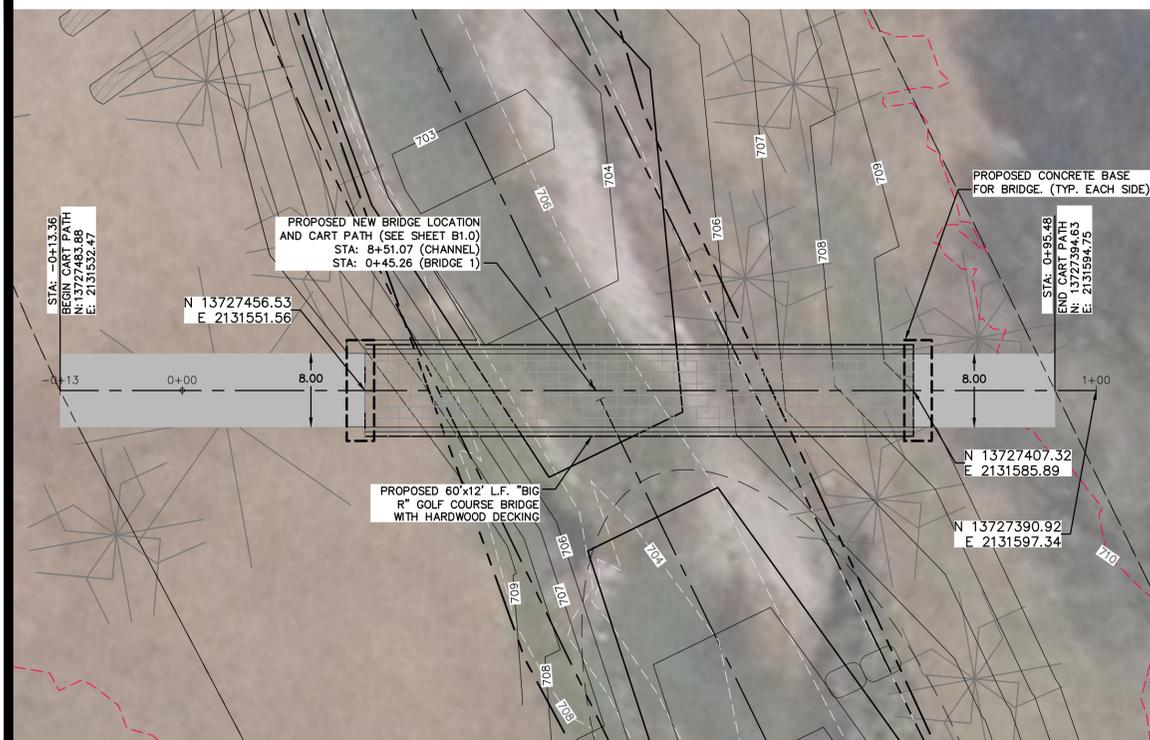
BRICE MOCZYNGEMBA
65747
LICENSED PROFESSIONAL ENGINEER
7/25/2011

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Drawn By:	FG
Checked By:	CVH
Date:	FEB. 2013
Scale:	AS SHOWN

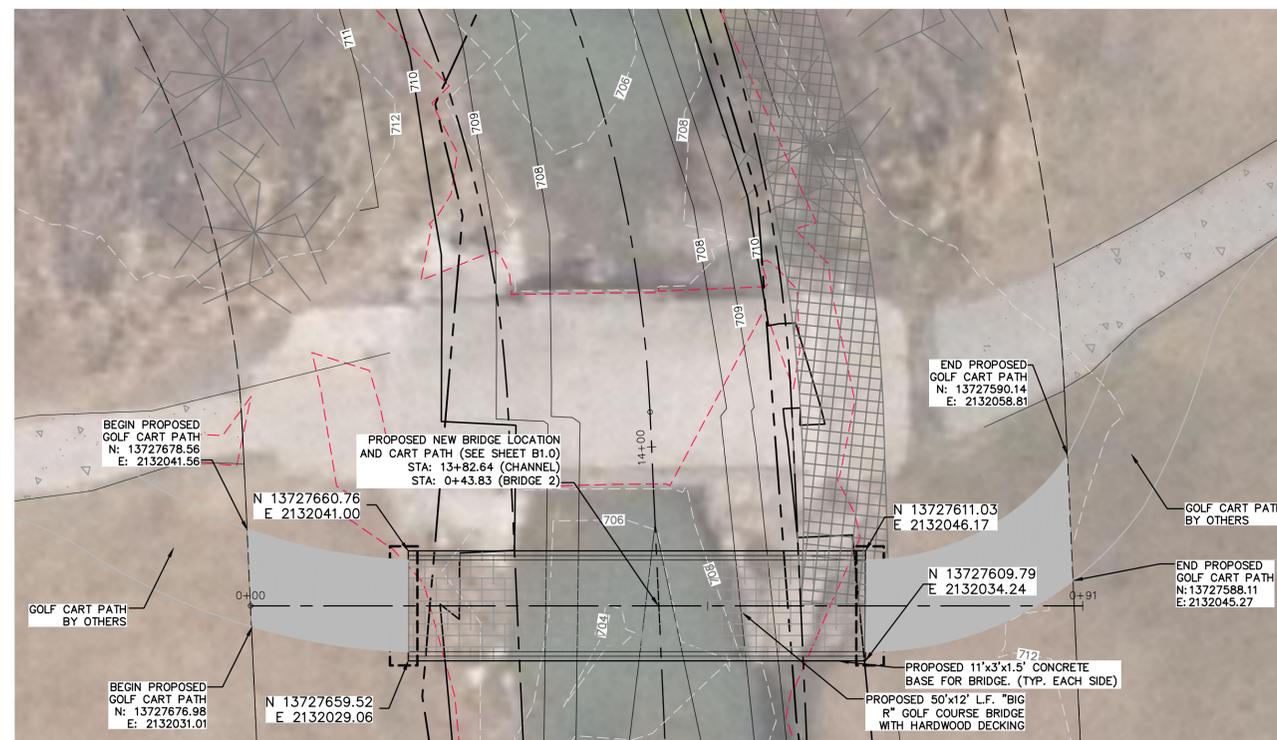
**SAN ANTONIO INTERNATIONAL AIRPORT
RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION
AND TREE PLANTING PLANS**

CHANNEL STRUCTURE DETAILS

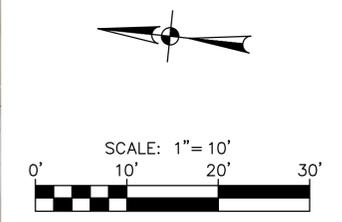
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BRIDGE 1



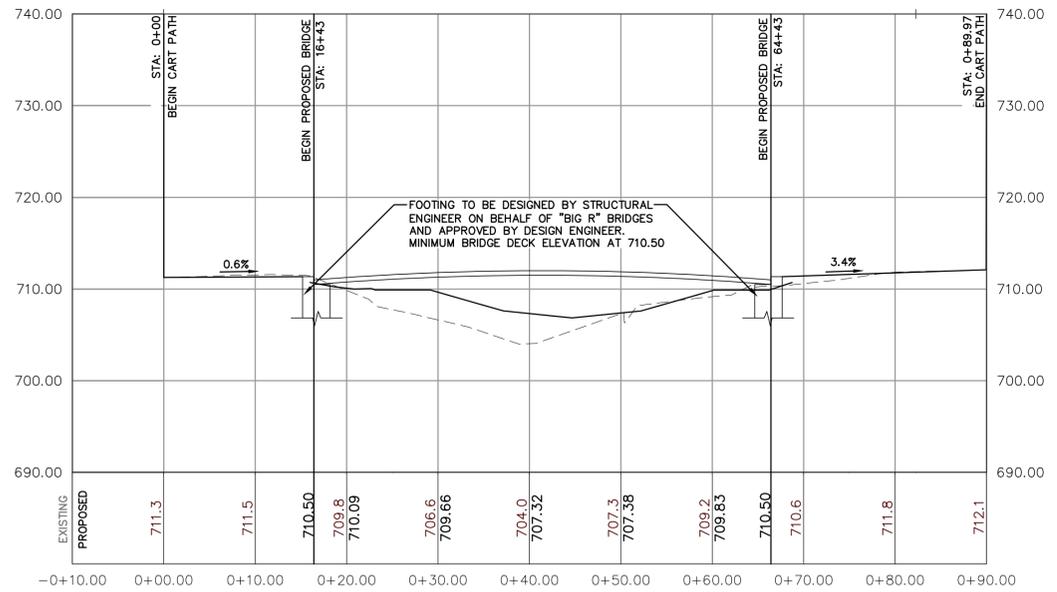
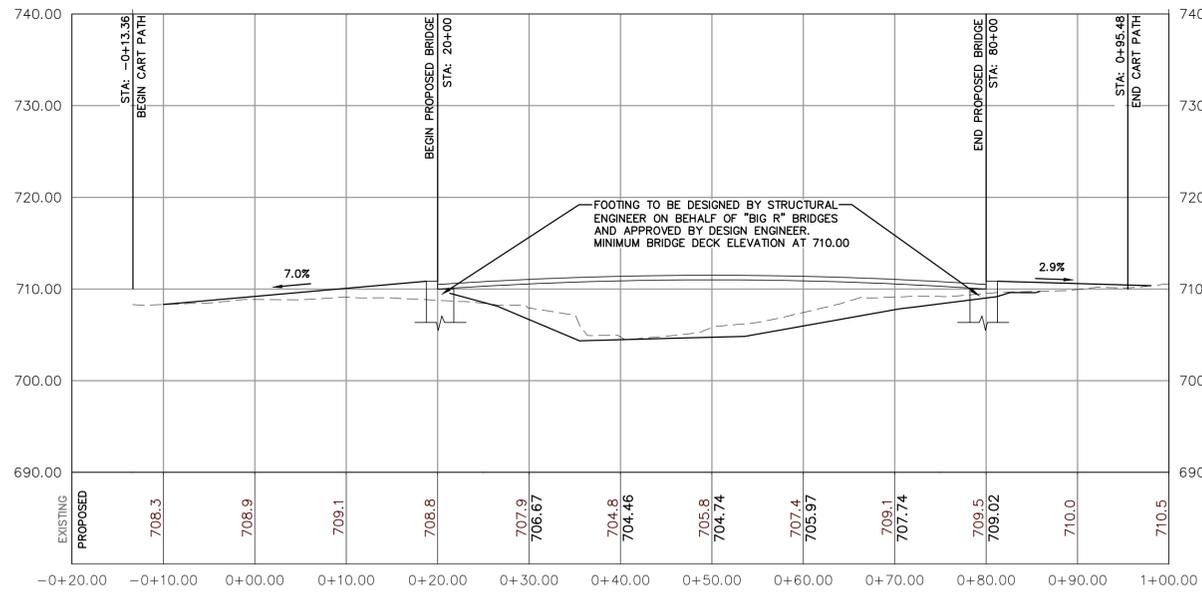
BRIDGE 2



LEGEND

- PROPOSED CONSERVATION EASEMENT
- LIMITS OF JURISDICTIONAL WATERS
- - - 710 - - - EXISTING CONTOURS
- 710 --- PROPOSED CONTOURS
- [Hatched Box] PROPOSED BRIDGE

- NOTES:
- CONTRACTOR IS TO PROVIDE A SMOOTH TRANSITION TO EXISTING GOLF CART PATHS.
 - GOLF CART PATHS SHALL CONSIST OF 4" THICK FIBERMESH CONCRETE WITH SAW CUT JOINTS AT 5' SPACING. PATH WIDTH IS A MINIMUM OF 8 FEET. CONTRACTOR WILL PROVIDE THE MIX DESIGN OF THE FIBERMESH CONCRETE FOR APPROVAL BY THE ENGINEER.
 - EXPANSION JOINTS FOR THE GOLF CART PATHS SHALL BE INSTALLED EVERY 15' AND EXTEND ALONG THE FULL WIDTH OF THE BRIDGE.
 - EXISTING GOLF CART PATHS TO BE REMOVED WITHIN THE PROPOSED CONSERVATION EASEMENT.
 - SEE "BIG R" GOLF COURSE BRIDGE SHOP DRAWINGS FOR SPECIFIC BRIDGE DETAILS AND SPECIFICATIONS.
 - ALL CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 3,000 PSI IN 28 DAYS.
 - "HIGH-EARLY-STRENGTH" CONCRETE MAY BE USED FOR THE BRIDGES FOUNDATIONS TO ENSURE MINIMUM DOWN-TIME IN TERMS OF BRIDGE USE.
 - BRIDGES WILL BE A U-FRAME SHAPE CONSISTING OF A PARALLEL CHORD TRUSS SYSTEM WITH AN UNDERHUNG FLOOR BEAM AND A SINGLE DIAGONAL PER BAY (PRATT CONFIGURATION). THE BRIDGES SHALL HAVE SAFETY RAILS PLACED LONGITUDINALLY ON THE INSIDE OF THE STRUCTURE SPACED SO AS TO PREVENT A 4-INCH SPHERE FROM PASSING THROUGH THE SIDE TRUSS FOR THE FULL HEIGHT OF THE SIDE TRUSS, OR 54-INCHES, WHICHEVER IS LESS. ADDITIONALLY, THE BRIDGE SHALL BE EQUIPPED WITH STEEL TOE PLATES FOR A WEATHERING STEEL BRIDGE SHALL CONSIST OF ASTM A588 1/4"X6" PLATE MATERIAL, AND SHALL BE WELDED TO THE TRUSS VERTICALS. BRIDGE DECKING SHALL CONSIST OF NATURALLY DURABLE HARDWOOD IN 2" X 10" PLANKS. EACH PLANK SHALL HAVE TWO SCREWS AT EACH END AND ONE SCREW AT EACH INTERIOR SUPPORTING STRINGER. DECK PLANKS SHALL BE PLACED TIGHT TOGETHER WITH NO GAPS.
 - BRIDGE SHALL BE DESIGNED TO SUPPORT THE FOLLOWING:
 - A. PEDESTRIAN LOADING (PL)
 - THE BRIDGE STRUCTURE SHALL BE DESIGNED FOR A UNIFORM PEDESTRIAN LOADING OF 85 PSF. THIS LOADING SHALL BE PATTERNED TO PRODUCE THE MAXIMUM LOAD EFFECTS. CONSIDERATION OF DYNAMIC LOAD ALLOWANCE IS NOT REQUIRED WITH THIS LOADING. AREA REDUCTION ALLOWANCE SHALL BE AS PERMITTED BY THE IBC INTERNATIONAL BUILDING CODE, BUT AT NO TIME SHALL THE DESIGN LOAD BE LESS THAN 65 PSF.
 - B. VEHICLE LOAD (VL)
 - A CONCENTRATED LOAD OF 1000 POUNDS PLACED ON ANY AREA 2.5 FT BY 2.5 FT SQUARE.
 - A 1200 POUND TWO-WHEEL VEHICLE WITH A WHEELBASE OF 60", WITH THE LOAD EQUALLY DISTRIBUTED TO TWO AXLES WITH A TIRE FOOTPRINT OF 1.5" IN THE DIRECTION OF TRAFFIC AND 4" TRANSVERSE TO THE DIRECTION OF TRAFFIC.
 - A LOAD OF 10,000 POUND VEHICLE, WITH 60% OF THE LOAD DISTRIBUTED TO THE REAR TWO WHEELS AND 40% OF THE LOAD DISTRIBUTED TO THE FRONT TWO WHEELS.
 - C. WIND LOAD (WS)
 - THE BRIDGES SHALL BE DESIGNED FOR WIND LOADS AS SPECIFIED IN ASCE/SEI 7 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES BUT SHALL NOT BE LESS THAN 35 PSF APPLIED OVER THE EXPOSED AREA IN FRONT ELEVATION INCLUDING ALL ENCLOSURES.
 - CONTRACTOR SHALL COORDINATE WITH BIG R BRIDGES SO THAT THE BRIDGE IS DELIVERED TO THE SITE AND IS INSTALLED SHORTLY THEREAFTER. BRIDGE PLACEMENT SHALL BE PERFORMED BASED ON STANDARD TYPICAL WRITTEN PROCEDURES FOR LIFTING AND SPLICING THE BRIDGE.



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SAN ANTONIO AIRPORT SYSTEM

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BRUCE MOCZYNGEMBA
65747
LICENSED PROFESSIONAL ENGINEER
7/25/1991

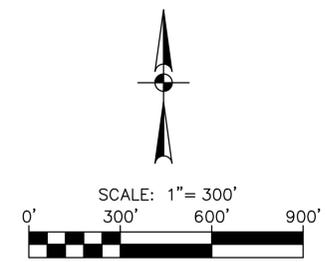
Designed By: RE	SAN ANTONIO INTERNATIONAL AIRPORT RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION AND TREE PLANTING PLANS
Drawn By: FG	
Checked By: CVH	
Date: FEB. 2013	
Scale: AS SHOWN	BRIDGE LAYOUT AND PROFILES
Project No. 33-00160	C.I.P. No. 0000 A.I.P. No. 0000
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CONSTRUCTION ENTRANCE. CONTRACTOR TO PROVIDE TEMPORARY GATE AND STABILIZED CONSTRUCTION ENTRANCE FOR DURATION OF CONSTRUCTION. (NOT SEPERATE PAY ITEM)

OVERHEAD ELECTRICAL TRANSMISSION LINES

U.S. HWY 281



LEGEND

- CREEK CENTERLINE
- PROJECT SITE
- GOLF HOLE NUMBERS
- EXISTING SEWER MAIN
- EXISTING WATER LINE
- EXISTING ELECTRICAL LINE
- EXISTING GAS LINE
- EXISTING RECYCLED WATER LINE
- 100yr FLOODPLAIN
- CONTRACTOR ACCESS ROAD
- BENCHMARK
- PROPOSED TREES

CONTRACTOR STAGING/STORAGE AREAS

- A STAGING/LAYDOWN/STORAGE (PROVIDES AREA OUT OF 100yr FLOODPLAIN)
- B CONTRACTOR EQUIPMENT STORAGE (WITHIN 100yr FLOODPLAIN)
- C DAILY STORAGE AREA
- D SPOILS STORAGE (TEMPORARY)
- E POTENTIAL TREE STORAGE (IF NEEDED)

NOTE:
1) CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF HIS EQUIPMENT AND MATERIALS AT ALL TIMES.

NOTE: THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM THE RECORDS AVAILABLE AND ARE NOT GUARANTEED, BUT SHALL BE INVESTIGATED AND VERIFIED BY THE CONTRACTOR BEFORE STARTING WORK. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY DAMAGE TO, AND FOR MAINTENANCE AND PROTECTION OF THE EXISTING UTILITIES WHETHER THEY ARE SHOWN ON THE PLANS OR NOT.

BENCHMARK POINT LIST

#	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	13727482.64	2132139.16	715.76	"SIRCTV"
11	13727562.99	2131601.63	711.23	"SIRCTV"
12	13727217.98	2131360.85	711.69	"SIRCTV"
13	13726747.73	2131242.14	709.32	"SIRCTV"

SIRCTV - SET IR WITH RED CAP (CONTROL)

TREE STOCKPILE REMOVAL NOTES:

- 1) THERE ARE CURRENTLY TWO STOCKPILES CONSISTING OF TREE DEBRIS FROM THE SALADO CREEK RELOCATION WORK. CONTRACTOR TO REMOVE STOCKPILES FROM AIRPORT PROPERTY. STOCKPILE MATERIAL TO BE USED IN CONSTRUCTION OF THIS PROJECT OR DISPOSED OF IN ACCORDANCE WITH LOCAL REGULATIONS.
- 2) ONE STOCKPILE IS WITHIN THE AIRCRAFT OPERATIONS AREA (AOA) WHICH IS A RESTRICTED AREA. CONTRACTOR SHALL COORDINATE ACCESS TO THE SITE WITH THE AIRPORT A MINIMUM OF 72 HOURS BEFORE THE INTENDED ACCESS DATE.
- 3) CONTRACTOR SHALL NOT DEVIATE FROM THE FOLLOWING UNLESS PRIOR WRITTEN APPROVAL IS GRANTED BY THE OWNER.
 - A) CONTRACTOR TO FOLLOW THE HAUL ROUTE FROM THE AIRPORT PROPERTY TO THE OLMOS BASIN GOLF COURSE AS SHOWN HEREIN.
 - B) WHILE ON PUBLIC STREETS CONTRACTOR TO PROVIDE A SECONDARY VEHICLE AT ALL TIMES TO FOLLOW THE HAUL TRUCKS. PURPOSE OF THIS VEHICLE IS TO PICK UP ANY DEBRIS, LOGS OR STUMPS COMING OUT FROM THE HAUL TRUCKS.
 - C) CONTRACTOR TO UTILIZE TEMPORARY CONSTRUCTION ENTRANCE OFF OF BASIN ROAD TO ACCESS THE OLMOS BASIN SITE.
 - D) MATERIAL CAN BE TEMPORARILY STOCKPILED AT OLMOS BASIN GOLF COURSE BEHIND THE TREE LINE TO SCREEN FROM PUBLIC VIEW. TEMPORARY STOCKPILE SHALL HAVE 30' BUFFER BETWEEN BUILDINGS, SAWS FACILITIES, AND OTHER EQUIPMENT; INCLUDING MGASA WEATHER STATION.
 - F) EXISTING AND TEMPORARY STOCKPILE SITES SHALL BE RETURNED TO NATURAL CONDITION OR BETTER. IF NECESSARY THE AREAS SHALL BE GRADED TO PREVENT PONDING.
 - G) CONTRACTOR IS RESPONSIBLE FOR THE CLEANUP AND REPAIR OF OLMOS BASIN HAUL ROUTE. CLEANUP SHALL TAKE PLACE WITHIN TWO DAYS OF MUD OR DEBRIS BEING DEPOSITED ON THE GOLF COURSE

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SAN ANTONIO AIRPORT SYSTEM

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BRICE MOCZYGEMBA
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LICENSED PROFESSIONAL ENGINEER
7/25/13

Designed By:	RE
Drawn By:	FG
Checked By:	CVH
Date:	FEB. 2013
Scale:	AS SHOWN

SAN ANTONIO INTERNATIONAL AIRPORT RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION AND TREE PLANTING PLANS

OVERALL UTILITY & STAGING AREA PLAN

Project No.	33-00160	C.I.P. No.	0000	Sheet	U1.0
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LEGEND

- EXISTING PROPERTY LINE
- PROPOSED STREAM MITIGATION
- IRRIGATION ZONES
- CONSTRUCTION PHASING ZONES
- PROPOSED TREES**
- CYPRESS
- RED OAK
- ELM
- PECAN
- LIVE OAK

NOTES:

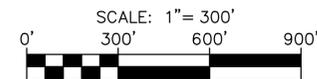
1. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE REVIEWED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
3. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OR ENGINEER OF ANY DISCREPANCIES IN PLANS OR SPECIFICATION PRIOR TO BEGINNING WORK.
4. THE IRRIGATION CONTRACTOR SHALL MAKE NO SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN WITHOUT APPROVAL OF THE LANDSCAPE ARCHITECT OR ENGINEER.
5. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
6. THIS PLAN IS SCHEMATIC. DUE TO THE NATURE OF CONSTRUCTION, SLIGHT FIELD MODIFICATIONS MAY BE NECESSARY TO IMPLEMENT PLAN. CONTRACTOR SHALL COORDINATE WITH ALAMO CITY GOLF TRAIL REPRESENTATIVE ON FINAL LOCATION OF FACILITIES.
7. THIS IRRIGATION SYSTEM WAS DESIGNED BASED ON THE FOLLOWING EXISTING CONDITIONS: 100 P.S.I. AT 30 G.P.M.
8. ALL IRRIGATION HEADS ARE TO BE ADJUSTED FOR COMPLETE COVERAGE WITHOUT OVERSPRAY BEYOND LANDSCAPE AREAS.
9. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
10. ALL IRRIGATION PIPING AND WIRING INSTALLED UNDER PAVEMENT SHALL BE INSTALLED IN SLEEVES AS PER SLEEVING DETAIL. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. ELECTRICAL WIRES FOR REMOTE VALVES SHALL BE IN A SEPARATE SLEEVE FROM THE IRRIGATION PIPING (SEE SLEEVING DETAIL).
11. IRRIGATION CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OR ENGINEER IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN DESIGN WATER PRESSURE.
12. ALL IRRIGATION HEADS AT THE LOWER ELEVATIONS OF EACH CONTROL VALVE ZONE SHALL HAVE POP-UP BODIES WITH BUILT-IN CHECK VALVES TO PREVENT LOW HEAD DRAINAGE.
13. ALL PLANT MATERIAL IN TREE HOLDING AREAS SHALL BE MANUALLY WATERED OR IRRIGATED UNTIL PLANTED.
14. CONTRACTOR MUST HAVE A TEXAS LANDSCAPE IRRIGATORS LICENSE.
15. ALL VALVE BOX LIDS, SPRINKLERS, AND QUICK COUPLING VALVE COVERS SHALL HAVE PURPLE MARKINGS INDICATING SYSTEM IS UTILIZING RECYCLE WATER. ALL PIPING SHALL BE TINTED PURPLE.
16. THE PROPOSED TRENCH ALIGNMENT SHALL BE PAINTED ON THE GROUND, INSPECTED AND APPROVED BY THE APPROPRIATE OFFICIALS BEFORE TRENCHING ACTIVITIES COMMENCE.
17. BEFORE IRRIGATION LINES ARE BURIED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LINE'S INSPECTION BY THE APPROPRIATE OFFICIALS.
18. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN IRRIGATION PERMIT FROM THE CITY.
19. LEE MANGUM, A LICENSED IRRIGATOR IN THE STATE OF TEXAS, DOES CERTIFY THAT THIS IRRIGATION PLAN CONFORMS TO THE IRRIGATION DESIGN EQUIPMENT STANDARDS SET FORTH IN SECTIONS 35-510(J) AND 35-511(C)(6) OF THE CITY OF SAN ANTONIO UNIFIED DEVELOPMENT CODE AND ALSO COMPLIES WITH THE REQUIREMENTS OF CHAPTER 344, 344.72-344.77 OF THE TEXAS ADMINISTRATIVE CODE.
20. SEE SHEETS M2.0 AND M3.0, "LANDSCAPE AND IRRIGATION PLANS" FOR IRRIGATION CHANGES NEAR CONSERVATION EASEMENT.

TREE TABLE

SPECIES	3" QUANTITY	4" QUANTITY	TOTAL	% OF SPECIES
* ELM	12	64	76	17.35%
* CYPRESS	12	88	100	22.8%
* RED OAK	10	89	99	22.6%
* LIVE OAK	10	98	108	24.7%
* PECAN	10	45	55	12.6%
TOTAL	54	384	438	

TREE PLANTING NOTES

1. PLANS SHOW THE GENERAL LOCATION OF TREES TO BE PLANTED BUT THE MUNICIPAL GOLF ASSOCIATION OF SAN ANTONIO (ALAMO CITY GOLF TRAIL REPRESENTATIVE), ENGINEER WILL APPROVE FINAL LOCATION.
2. THE TOTAL NUMBER OF TREE CALIPER INCHES REQUIRED TO SATISFY COSA TREE MITIGATION ON THIS PROJECT IS 1698.
3. TREES SHALL BE PLANTED IN PHASE AREAS AS SHOWN ON THIS SHEET AND SHALL PROGRESS IN A LOGICAL MANNER FROM PHASE 1 THROUGH PHASE 4. TREE PLANTINGS SHALL BE LIMITED TO A MAXIMUM OF THREE TREE GROUPS WITHIN A GIVEN PHASE. THE TREE GROUPS ARE DEFINED AS AN AREA BEING SERVED BY A SINGLE IRRIGATION CONTROL VALVE. NO DISTURBANCE IS ALLOWED IN AN ADDITIONAL TREE GROUP UNTIL WORK IS COMPLETE IN ONE OF THE THREE TREE GROUPS. THIS WORK INCLUDES PLANTING ALL TREES AND AN OPERATIONAL IRRIGATION SYSTEM.



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**SAN ANTONIO
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LEE F. MANGUM
5493

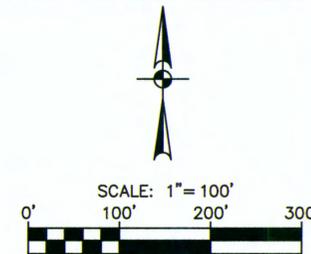
Lee Mangum 7/24/13

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Date:	FEB. 2013
Scale:	AS SHOWN

**SAN ANTONIO INTERNATIONAL AIRPORT
RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION
AND TREE PLANTING PLANS**

**OVERALL TREE PLANTING AND
IRRIGATION PLAN**

Project No.	33-00160	C.I.P. No.	0000	Sheet	11.0
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LEGEND

- EXISTING IRRIGATION LINE
- EXISTING IRRIGATION HEAD
- ⊙ EXISTING SPLICE BOX
- ▲ EXISTING QUICK COUPLING VALVE
- ☑ EXISTING SATELLITE CONTROLLER
- ⊕ EXISTING SPARE WIRES
- ⚡ PROPOSED ELECTRIC REMOTE CONTROL VALVE, TORO MODEL P220-27
- PROPOSED BUBBLER (2 PER TREE) TORO MODEL FB-50-PC WITH 570Z-4P 4" POP-UP SPRINKLER
- PROPOSED LATERAL PIPE, PVC, CLASS 200, PURPLE, SOLVENT WELD (SEE PIPE SIZING CHART)
- 1 IRRIIGATION ZONE
- IRRIIGATION TIE-IN
- PROPERTY BOUNDARY
- ⊗ CYPRESS
- ⊗ RED OAK
- ⊗ ELM
- ⊗ PECAN
- ⊗ LIVE OAK

PIPE SIZING CHART

NO. OF TREES	MAX NO. OF BUBBLERS	PIPE SIZE
0-10	20	1"
11-20	40	1 1/2"
+20	60	2"

MATCHLINE; SEE SHEET I3.0

FOR CONSTRUCTION



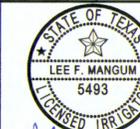
SAN ANTONIO AIRPORT SYSTEM

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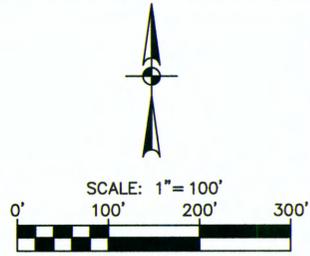
Lee Mangum 9/4/12

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Drawn By: FG
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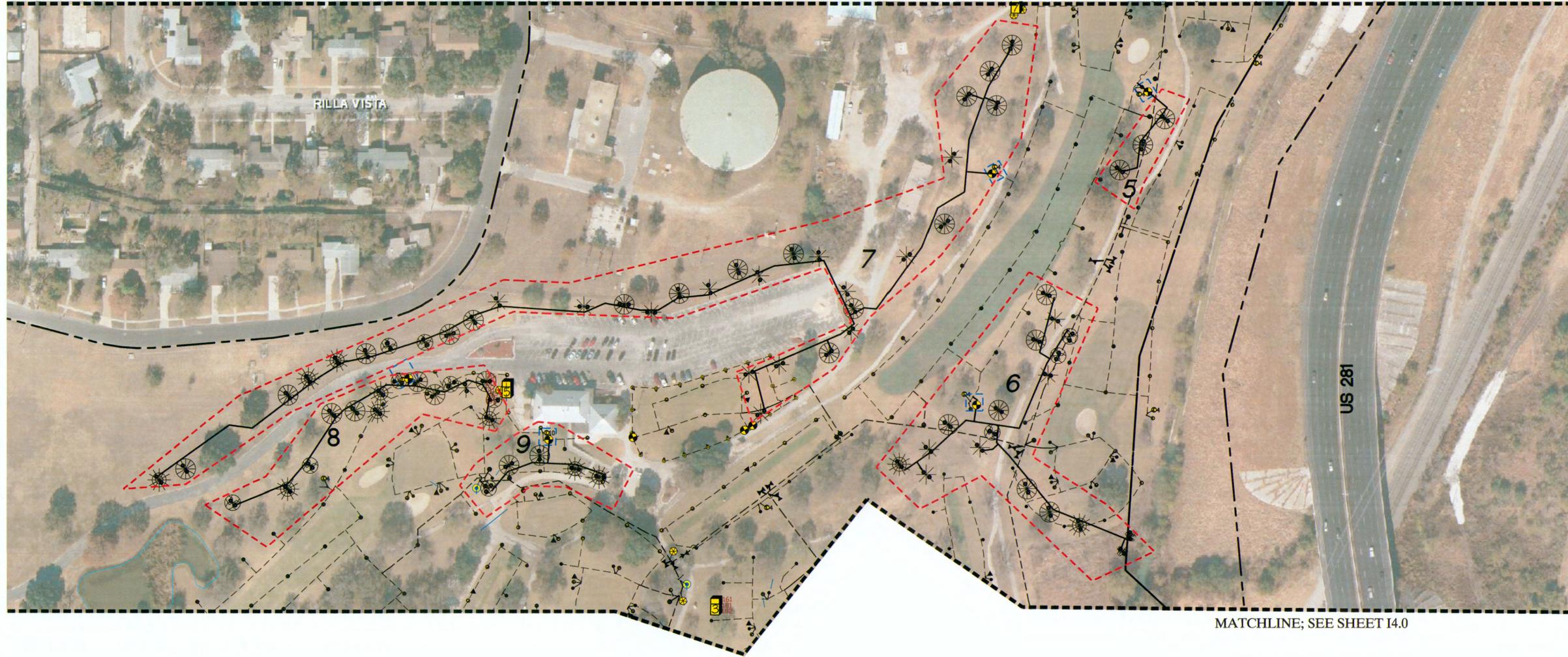
SAN ANTONIO INTERNATIONAL AIRPORT
RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION AND TREE PLANTING PLANS
DETAILED TREE PLANTING AND IRRIGATION PLAN

Project No. 33-00160 C.I.P. No. 0000 A.I.P. No. 0000 Sheet 12.0

No.	Revision	By	App.	Date



MATCHLINE; SEE SHEET I2.0



MATCHLINE; SEE SHEET I4.0

LEGEND

- EXISTING IRRIGATION LINE
- EXISTING IRRIGATION HEAD
- ⊙ EXISTING SPLICE BOX
- ▲ EXISTING QUICK COUPLING VALVE
- Ⓜ EXISTING SATELLITE CONTROLLER
- Ⓜ EXISTING SPARE WIRES
- Ⓜ PROPOSED ELECTRIC REMOTE CONTROL VALVE, TORO MODEL P220-27
- PROPOSED BUBBLER (2 PER TREE) TORO MODEL FB-50-PC WITH 570Z-4P 4" POP-UP SPRINKLER
- PROPOSED LATERAL PIPE, PVC, CLASS 200, PURPLE, SOLVENT WELD (SEE PIPE SIZING CHART)
- 1 IRRIIGATION ZONE
- IRRIIGATION TIE-IN
- PROPERTY BOUNDARY
- Ⓜ CYPRESS OAK
- Ⓜ RED OAK
- Ⓜ ELM
- Ⓜ PECAN
- Ⓜ LIVE OAK

PIPE SIZING CHART

NO. OF TREES	MAX NO. OF BUBBLERS	PIPE SIZE
0-10	20	1"
11-20	40	1 1/2"
+20	60	2"

FOR CONSTRUCTION



SAN ANTONIO AIRPORT SYSTEM

PAPE-DAWSON ENGINEERS

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Lee Mangum 9/4/12

Designed By: RE
 Drawn By: FG
 Checked By: CVH
 Date: AUGUST 2012
 Scale: AS SHOWN

SAN ANTONIO INTERNATIONAL AIRPORT
 RUNWAY 3/21 EXTENSION - JURISDICTIONAL WATERS MITIGATION
 AND TREE PLANTING PLANS

DETAILED TREE PLANTING AND IRRIGATION PLAN

Project No. 33-00160 C.I.P. No. 0000 A.L.P. No. 0000 Sheet 13.0

Date: Sep 04, 2012, 4:55pm User: ID: F041herrez File: P:\YZ\64\00\Design\Civil\IR726400_GLFORS.dwg

No.	Revision	By	App.	Date