



CITY OF DEL RIO, TEXAS
DEPARTMENT OF PUBLIC WORKS

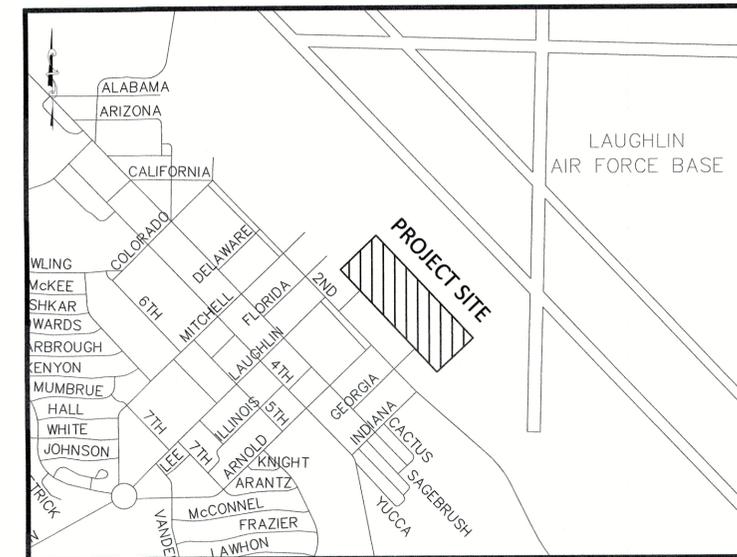
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LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES PHASE 1

FINAL DESIGN
NOVEMBER 2016



VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.



Carl Bain
11/27/2016

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FILE NAME: W:\Work\C-1239.22 WA 22 - Laughlin est Rio Sunshades\Design\Civil\Construction Documents\C-1 Cover.dwg

PERFORMANCE WORK STATEMENT FOR T-6 PREFABRICATED AIRCRAFT SUN SHADES, LAUGHLIN AFB, TX

1. Background:

The scope of the procurement shall include the design and installation of prefabricated steel aircraft sun shades with electrical distribution and lighting on the T-6 aircraft parking ramp located at Laughlin AFB, Del Rio, TX. This is an initial design and procurement that calls for the purchase and installation of up to 7 rows of prefabricated steel sun shades. Each sun shade must accommodate 7 aircraft per row to cover up to 42 T-6 aircraft parking spaces.

2. Personnel:

The sun shade installation contractor personnel shall present a neat appearance and be easily recognized. This may be accomplished by wearing distinctive clothing bearing the name of the company or by wearing appropriate badges, which contain the company and employee's name. Contractor's personnel shall be responsible for wearing appropriate personal protection equipment (PPE) in and around the airfield. The Contractor assumes responsibility for the actions of all their employees, subcontractors, and suppliers when on Laughlin AFB.

3. Security and Access Requirements:

3.1. The aircraft sun shade installation area is within a designated Laughlin AFB controlled area. Therefore, the contractor's work area will be designated a "Free Zone". Free zones are established within controlled areas when projects and/or similar activities make it inappropriate or impractical to apply normal circulation controls. The Air Force establishes such free zone corridors to permit access of contractor personnel and equipment to project sites located within controlled areas. Upon award of the contract, appropriate actions will be initiated to obtain the required approvals for this designation. Contractor supervisory representatives will be required to attend a pre-installation meeting prior to mobilization, where applicable Free Zone requirements and local base access procedures will be discussed.

3.2. The Contractor shall comply with security regulations imposed by the Installation Commander and the agency occupying the space where work is to be performed, including any necessary security clearances. Prior to mobilization, the Contractor shall provide the City a list with 24 hour contact numbers of two on-site key personnel—normally the Project Manager and/or Project Superintendent, authorized to act as Trusted Agents. Trusted Agents are authorized to sign-in contractor and subcontractor personnel requiring access to work on Laughlin AFB and must be able to be contacted by phone at all times. The list shall be kept current and the City or authorized representative shall be notified immediately of any changes in the list.

3.3. All Contractor and subcontractor's employees entering Laughlin AFB in the performance of this contract will be required to obtain and display employee identification as prescribed by local, AETC and Air Force Instructions only during the period of contract. This identification must be visibly displayed at all times.

Contractor personnel will be made aware of the necessity for safeguarding identification cards issued and the requirement for reporting any identification cards lost.

3.4. Contractor shall obtain base access and vehicle passes for each vehicle used on Laughlin AFB during the performance period. Upon contract award, the necessary applications for passes can be obtained by contacting the Laughlin AFB Security Forces Squadron (830) 298-5100. The completed applications are then processed through the Laughlin AFB Security Forces Visitor Control Center at (830) 298-5349. The contractor will also be responsible for obtaining flight line Privately-Owned Vehicle (POV) passes from the Airfield Management Office at (830) 298-4309. The contractor will provide make, model, color, and state tag information. The contractor will need to provide names, social security numbers, photo I.D. and valid driver's licenses of all individuals working on the flight line to the City and Laughlin AFB in order to complete background checks.

3.5. If an employee is dismissed from employment, resigns, or if there is no longer a contractual requirement for the employee to enter Laughlin AFB, the Contractor Project Superintendent shall ensure that the employee identification cards and any other identification, i.e., vehicle passes, issued to the employee are expeditiously returned to Laughlin AFB prior to final invoicing and payment. If all identification is not provided, a portion of the final payment (to be determined by the City) will be withheld pending its submission.

3.6. At the close of each work period, facilities, equipment and materials shall be secured. If any government property is provided the contractor shall be responsible for safeguarding said property.

3.7. The contractor shall prohibit the use of any government issued keys by any persons other than the contractor's employees. The contractor shall prohibit the opening of locked areas by his employees to permit entrance of persons other than the contractor's employees engaged in the performance of assigned work in those areas. When the contractor is given the number to any combination lock, he shall ensure that those combinations are not revealed to unauthorized persons.

3.8. Contractor identification cards may be issued for the performance period of the contract only. Contractor personnel will be made aware of the necessity for safeguarding identification cards issued and the requirement for reporting any identification cards lost.

3.9. All contractor personnel will comply with all Antiterrorism/Force Protection measures in the event there is a threat to the installation. Although not required for contractor personnel they shall be afforded the opportunity to complete the Antiterrorism (AT) Level I awareness training. For personnel who do not have access to the Air Force's Advance Distance Learning System (ADLS) they can receive this training from the following web site: <http://jko.jten.mil/courses/at1/launch.html>

4. Base Fire Regulation:

4.1. The contractor must comply with Base Fire Regulations in LAFBI 32-2001, 23 May 2013. The contractor must use no explosives or fire in performing the work. The contractor must understand and comply with current Occupational Safety and Health Administration welding and cutting requirements, and receive a welding permit from the base fire department prior to welding or cutting operations.

4.2. Do not tamper with, disable or alter any fire protection suppression or detection systems without prior coordination with the base fire department and appropriate Civil Engineering shop.

5. Site Maintenance:

5.1. Foreign Object Debris (FOD) Prevention: Aircraft safety is paramount, therefore, during sun shade installation aircraft will not operate within the sun shade installation area. The sun shade installation contractor will take all necessary precautions, to include any necessary screening, to settle debris, cover dumpsters to prevent blowing of dust and papers, and if necessary wet down materials as needed. The contractor shall be required to submit both a FOD Plan and Dust Control Plan for approval. Contractor shall maintain work areas in a neat, clean, and safe condition.

5.2. Site Maintenance: The sun shade installation work site is located within an active aircraft operations parking apron. It is imperative that the contractor protect adjacent aircraft parking areas, property, buildings, and their contents from dust, dirt, or other materials. The site will be maintained to prevent material or debris from migrating outside of the work area due to normal activity and normal wind conditions. If notified of material or debris outside of the work area due to unusual activity or weather conditions, the contractor will remove the debris and coordinate with Airfield Management to ensure aircraft movement and aircraft maintenance operations are not effected.

5.2.1. The Contractor shall dispose of all trash and debris generated during the contract. Disposal shall be by sanitary landfill or other approved methods and shall conform to all local, state, and federal guidelines and regulations.

5.2.2. The Contractor shall store all refuse in appropriate trash containers on the jobsite. Location of a dumpster at the site shall be as directed by Laughlin AFB. The dumpster shall be covered to prevent possible use by base personnel.

5.2.3. All mud, dirt, debris, foreign objects, or spills of any kind from the Contractor's operations (including subcontractors and suppliers) on the aircraft parking apron or streets and parking lots used as access to the work or staging areas, shall be cleaned off the same day. Taxiways, runways, parking aprons and hard surfaces used as access to the work or staging areas, shall be kept clean at all times.

5.2.4. The Contractor shall have all refuse removal trucks covered and secured prior to leaving the jobsite. If any materials are observed falling off the trucks, the truck shall be stopped and reloaded to prevent damage to any other vehicles caused directly/indirectly by falling debris. The Contractor shall bear the monetary responsibility to repair all damage associated with falling debris.

5.2.5. There are no approved concrete truck cleanout sites on base. The Contractor may instruct the truck to wash out into the Contractor's dumpster only. If the concrete truck cleans out anywhere else on base, the clean up charges will be billed back to the Contractor.

5.2.6. The base refuse contract supplies dumpsters for Government produced refuse only. The Contractor shall not dump refuse from this project in the Government dumpsters. If base personnel discovers project refuse in Government dumpsters, the Contractor must immediately remove the refuse, or have Government resources remove it at the Contractor's expense.

5.2.7. The Contractor's dumpster shall be removed prior to Final Inspection. The Contractor shall repair any damage the dumpster causes to concrete, asphalt paving or lawns.

5.3. Protection of Contractor's Equipment and Government Property: All Contractor supplied equipment is the sole responsibility of the Contractor. The Government is not liable for the theft, vandalism, or damage of any Contractor supplies, equipment or property. The Contractor shall secure his materials and protect all equipment from damage. Any equipment/material the Contractor removes and which requires reinstallation as part of the job requirements shall be the responsibility of the Contractor. All damaged material shall be replaced with equipment/material of equal quality and function by the Contractor at his own expense.

5.4. Cleanup: The contractor shall ensure daily cleanup is accomplished to ensure possible FOD material is secured to prevent migration outside of the work site. The contractor must maintain work areas in a neat and safe condition. All materials shall be neatly stacked and secured to prevent wind gusts from blowing materials around the parking apron and associated taxiways. The contractor must collect all trash, debris, refuse, garbage, etc., which the contractor generates and place it in appropriate containers with lids or approved covers (whether blown in or Contractor generated). These materials must be hauled from the site by appropriate means as directed by the city. Disposal must be outside the limits of government property. Disposal must be at a municipal solid waste landfill or by other approved methods and must conform to all local, state and federal guidelines, criteria and regulations. If the City deems the site is unsightly the Contractor may be instructed to halt installation work and clean up the site.

5.5. Barricades: Contractor shall furnish, install, and maintain lighted barricades approved by the City. The preferred barricade for Laughlin Airfield is a low profile (12" high) barricade that has dual red lights and can be water filled. The entire work area must be outlined in a contiguous line of low profile barricades. Sand bags are not used to weight down barricades because of the FOD potential these create. The red lights on the barricades (typically 2 per barricade) shall be inspected daily by Airfield Management. Contractor will ensure that barricade lighting is maintained in operational conditions at all times.

5.6. Vegetation Control: Dependent on location, if the contractor's storage site requires mowing and trimming these operations will be provided at no additional cost to the government. Vegetation shall be mowed and trimmed when it reaches the height of five (5) inches. Mowing and trimming shall be to a height of three (3) inches. Mowing shall be accomplished with a rotary mower that leaves the clippings evenly distributed on the soil surface. Mowing shall be accomplished during normal duty hour periods and in such a manner that the soil and grass will not be damaged. Towed mowers and self-propelled riding mowers shall not be operated within three (3) feet of trees and shrubs. Areas next to trees and shrubs shall be mowed with hand-propelled mowers.

5.7. Digging Permit/AF FORM 103: The Base CES will assist the contractor with efforts to fully complete AF 103 Base CE Work Clearance Request (Digging Permit). The Base CES will locate underground utilities and issue the AF Form 103 to the contractor. It is the contractor's responsibility to have a completed and approved Form 103 prior to beginning any construction activities including clearing, grubbing, exploratory geophysical work, etc. Process these requests early to allow sufficient base coordination time for prudent planning and scheduling. The Government will require 30 days to process each Form 103. Contractor will submit the FORM 103 to CE Customer Service (803-298-5489).

6. Storage and Parking:

6.1. Storage Areas: The Contractor shall store all supplies and equipment on the project site as much as practicable so as to prevent theft, mechanical/climatic damage and/or to lessen material delivery delays. Laughlin AFB will determine storage area location(s). The contractor shall keep to the designated location(s). The contractor will inform the base of the requested size or dimensions required for construction. The contractor must keep all storage areas free of debris, refuse, spills, leaks, stains, splashes and excessive materials. All storage areas must be maintained in a neat, clean and safe condition. The contractor must clean up any areas contaminated by any hazardous material or substances immediately at no additional expense to the government. Remediation may include subsequent soil analysis if directed by the government. The contractor must store all hazardous materials in a trailer or storage unit the contractor supplies, which must be leak proof or contain secondary containment devices. The storage unit must be secured when the contractor's personnel are not present.

6.2. Petroleum Storage: The contractor must store all fuel or petroleum products, whether new or used, in appropriate containers and within a concrete, or earthen berm area with an impermeable liner (40 Mil), or other containment as approved by the pollution prevention section. All storage areas must be marked with appropriate signs (i.e., Flammable Storage - No Smoking Within 50 ft). The contractor's fuel tanks and petroleum storage containers must be structurally sound and in good condition, be kept sealed when not in use, and be grounded and bonded in accordance with NFPA guidelines. The containment area must be sized to hold fluid volume equal to 110% of the largest storage container, with a minimum of one foot of freeboard for earthen berms. The contractor must maintain the containment area to its original conditions throughout the duration of use. The contractor must immediately clean up and dispose of any evidence of a fuel or oil spill in conformance with all federal and state regulations. Contaminated soil from petroleum product storage/spills must be considered special waste as specified in 30 TAC 324, 330-335 and must be handled, stored, transported, and disposed as such in accordance with Laughlin AFB Hazardous Waste Management Plan. Costs of all soil tests because of spills are the contractor's responsibility. The contractor must drain any accumulation of rainwater from the containment area in accordance with Laughlin AFB Stormwater Pollution Prevention Plan (SWPPP).

6.3. Storm Water Discharges: The contractor must comply with the EPA's National Pollutant Discharge Elimination System (NPDES) 40 CFR 122.26, dated 8 Dec 99, Texas Pollutant Discharge Elimination System (TPDES) multi-sector general permit number TXR05M285, dated 29 May 02, and the TPDES general permit number TXR150000 relating to discharges from installation activities, dated 5 Mar 03, for permit requirements for storm water discharges associated with installation activities, and must comply with all provisions of Laughlin AFB SWPPP, dated October 2011.

6.3.1. Activity Disturbing equal to or greater than 1 Acre: Clean Water Act storm water regulations require permit(s). The contractor must comply with all federal, state, and local storm water permit requirements to include Notice of Intent; (NOI), Notice of Change; (NOC), Notice of Termination; (NOT), Site Notices, SWPPP, pre and post storm water run-off mitigation plans, soil erosion and control requirements, best management practices, pollution prevention measures, and storm water run-off monitoring. The storm water permit requirements are mandatory on any project equal to or greater than one acre. Copies of all storm water notices, SWPPP and monitoring data must be submitted on an Air Force Form 3000 to the Laughlin AFB Environmental Flight for review, (830) 298-5058.

6.3.2. SPCC Plans: A contractor who temporarily stores a tank >1,320 gallons (cumulative capacity of all tanks > 55 gallons in size) and the tank(s) store oil of any kind in any form on-site to fuel equipment and vehicles must comply with 40 CFR 112, requirement to have a stand alone Spill Prevention, Countermeasures and Control (SPCC) plan. The contractor must have a plan even if the tank(s) have secondary containment. This plan must be submitted to 47 CES/CEIE through the City prior to placing the tank in place on.

7. Safety:

7.1. All work shall comply with applicable state and local safety and health requirements. Where there is a conflict between applicable regulations, the most stringent shall apply. The Contractor or any of his subcontractors who are responsible for handling hazardous and toxic materials shall have the necessary certification before doing so, and shall provide evidence of certification to the City prior to installation. The contractor is also required to comply with the American General Contractors' Safety Manual and the Occupational Safety and Health Act (OSHA).

7.2. The Contractor shall assume full responsibility and liability for compliance with the applicable regulations pertaining to the health and safety of personnel during the execution of work, and shall hold the Government harmless for any action on his part or that of his employee or subcontractors, which results in illness, injury or death.

7.3. The contractor must obtain authorization to bring any nonexempt radioactive material (such as density gauges or moisture meters) onto Laughlin AFB by contacting the Nuclear Regulatory Commission, Region IV Office, using the NRC Form 241. Before bringing any radioactive material onto Laughlin AFB, the contractor must forward a copy of the NRC Form 241 to:

Bio-environmental Engineer
590 Mitchell Blvd., Bldg 375
Laughlin AFB TX 78840
(830) 298-6859

7.4. Contractor's Use of Electromagnetic Emission Devices: Electromagnetic emission devices include: radio/RADAR transmitters, navigational aids, instrumentation's, signaling, intrusion detection and identification devices, mobile and fixed business radio communication equipment, and MARS, CB's and amateur radio stations. The Contractor shall comply with the AFMTC Regulation Sup 1 to Air Force Instruction 33-118. This regulation is available for inspection at the Communications Squadron, Building 348, Laughlin AFB TX (830-298-5339).

7.5. Hazardous Materials: The Contractor shall bring to the attention of the City and Laughlin AFB any material classified as hazardous which will be used during contract execution. Hazardous Material will need to be documented on LAFB Short Term Contractor HAZMAT Usage Report (Mar 2015).

7.6. Hazardous Material Spills: The Contractor is required to take all precautions in the prevention of a hazardous material spill. If such a spill does occur, the contractor will immediately provide spill containment and notify the Laughlin Fire Department by dialing x911 (on base line) or 298-5633 (off base/cellular phone line). The Contractor will be held responsible for reimbursing Laughlin AFB for all spill containment and clean up accomplished by Laughlin Air Force Base.

8. Hours of Operation:

8.1 Normal work hours are Monday through Friday from 7:30 A.M. to 4:30 P.M. except days observed as federal holidays as listed below:

New Year's Day	1 January
Martin Luther King's Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

8.2 Holidays falling on Saturday are observed on the preceding Friday. Holidays falling on Sunday are observed on the succeeding Monday. The Contractor may request to work on a weekend, after hours, or on a holiday. All such requests must be submitted in writing to the City and Laughlin AFB with a description of the type of work to be accomplished on that date. Any request to work a weekend shall be submitted by close of business on the prior Wednesday. Requests to work other than weekends shall be submitted a minimum of 36 hours prior to the requested date. The City reserves the right to approve or deny the request.

8.3 In the event the base holds an air show during the installation of the sunshades, the base reserves the right to stop work on the project for a period of time during which they hold the air show. Work on this project will not occur during the air show.



B. R. B.
11/22/2016

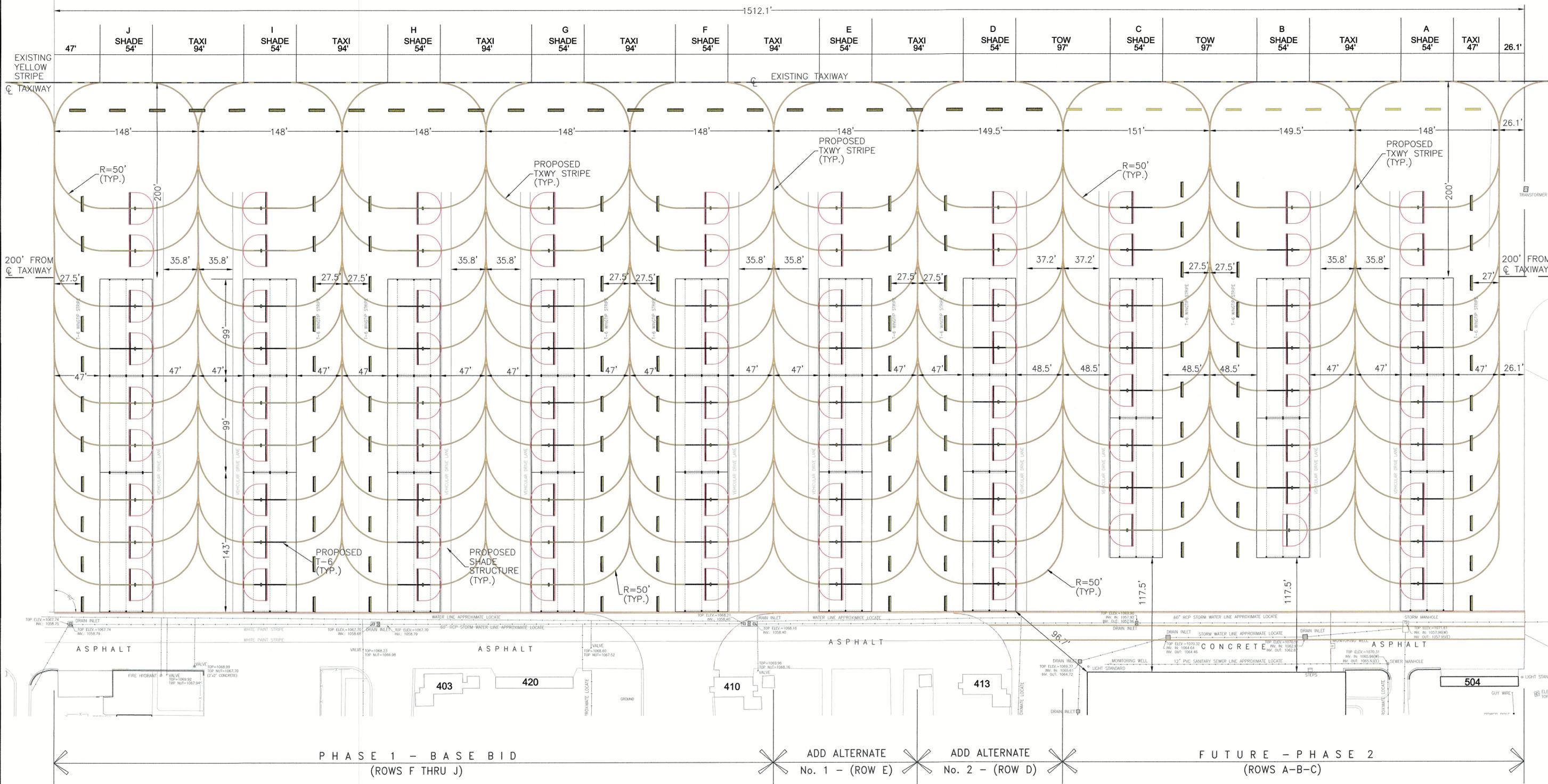
REVISIONS		
NO	DATE	DESCRIPTION

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GENERAL NOTES		DATE: 11/22/16
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		DRAWN BY: REM
		CHECKED BY: CB
		SHEET
		C-2

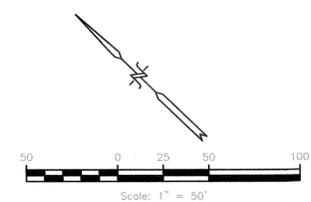
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FILE NAME: W:\Work\C-1239.22 WA.22 - Laughlin del Rio Sunshade\Design\Civil\Construction Documents\C-3.1 Ultimate Plan.dwg PRINTED: 11/22/2016 @ 10:21AM



- SYMBOLS**
- VALVE
 - FIRE HYDRANT
 - GRATE INLET
 - TIE DOWN / GROUND ROD
 - ELECTRIC MANHOLE
 - TELEPHONE MANHOLE
 - POWER POLE
 - LIGHT STANDARD
 - EXISTING ELEVATION
 - WATER LINE
 - STORM DRAIN
 - SANITARY SEWER
 - OVERHEAD ELECTRIC
 - EDGE OF PAVEMENT
 - EDGE OF GRAVEL
 - WIRE FENCE



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PHASE 1 - BASE BID
(ROWS F THRU J)

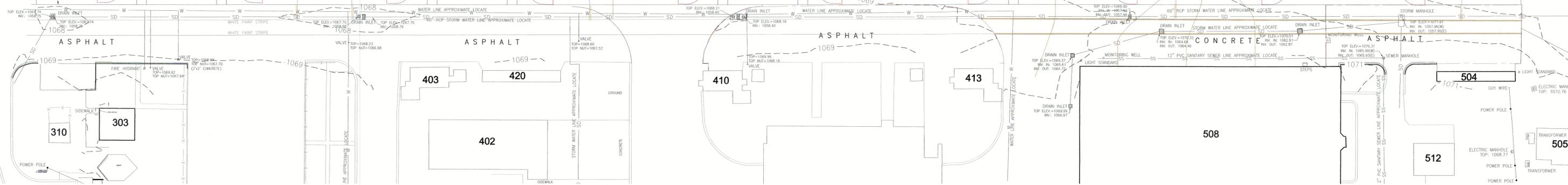
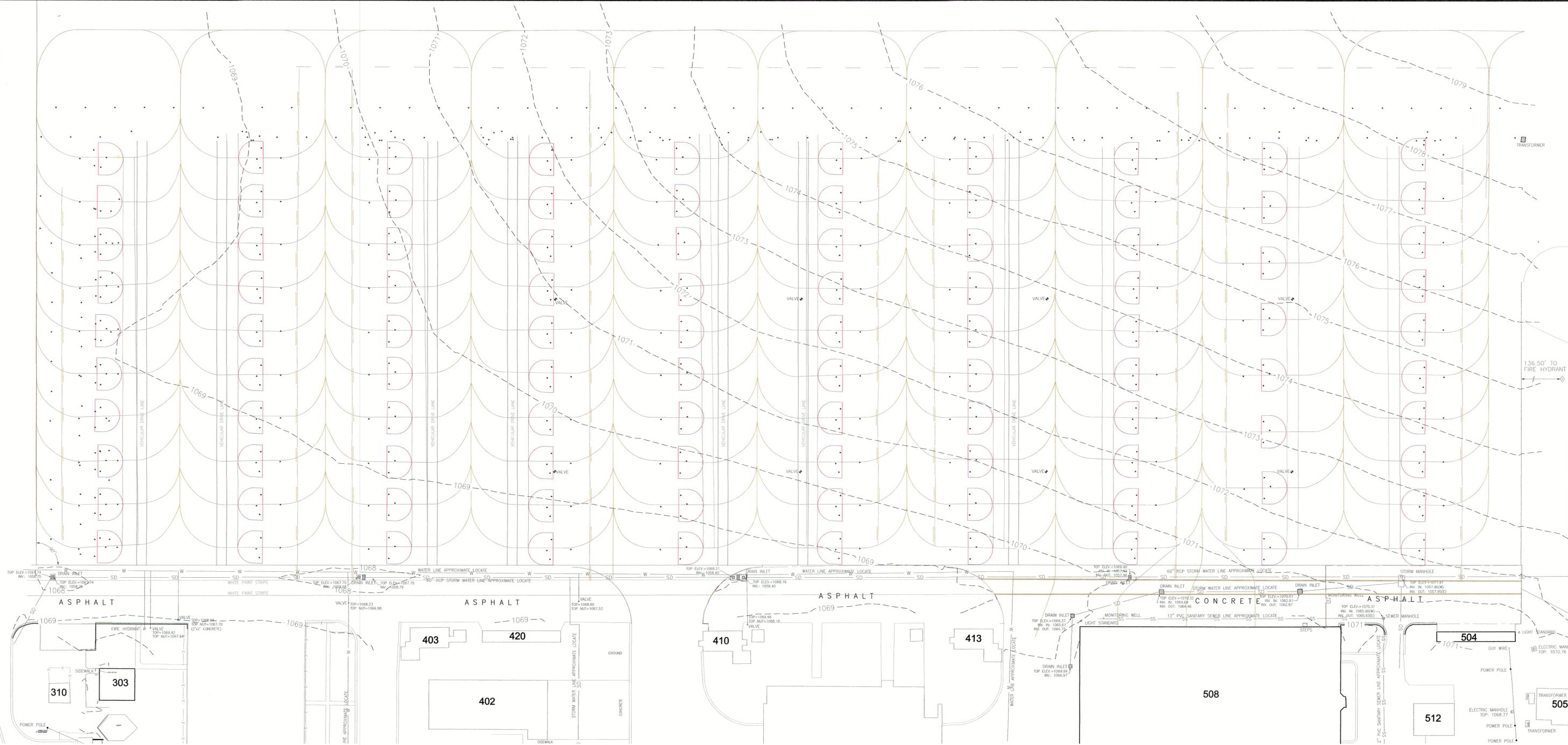
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ADD ALTERNATE
No. 2 - (ROW D)

FUTURE - PHASE 2
(ROWS A-B-C)

REVISIONS		
NO	DATE	DESCRIPTION

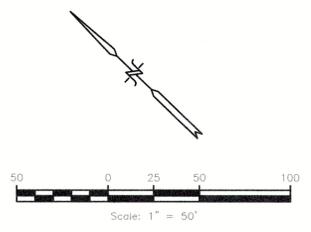
CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES		JOB No: C-1239.22
ULTIMATE LAYOUT		DATE: 11/22/16
DRAWN BY: REM		CHECKED BY: CB
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		SHEET C-3.1

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SYMBOLS

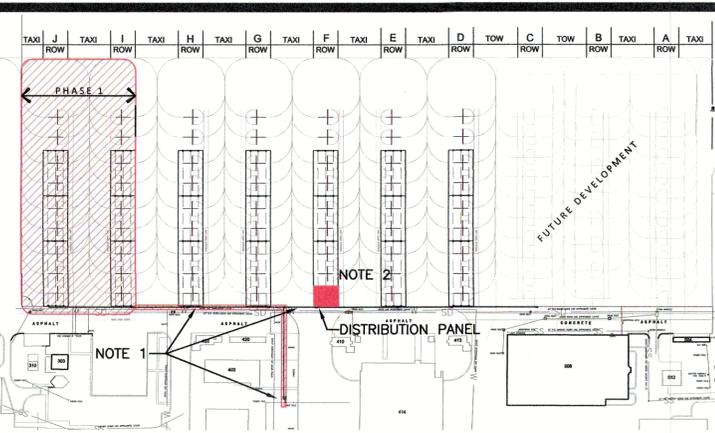
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- TIE DOWN / GROUND ROD
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- POWER POLE
- LIGHT STANDARD
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- SANITARY SEWER
- OVERHEAD ELECTRIC
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- WIRE FENCE



REVISIONS		
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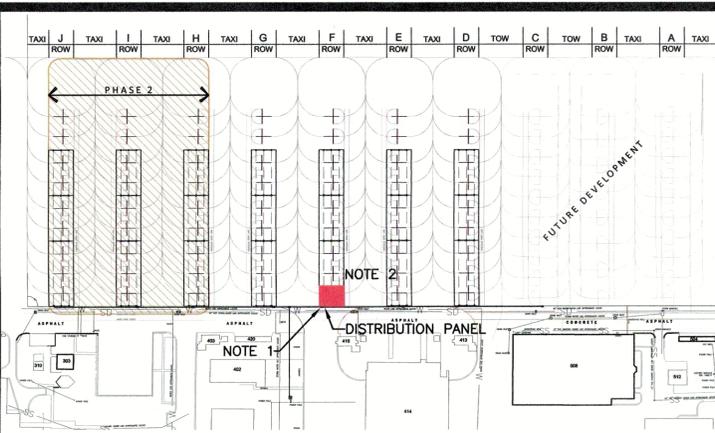
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PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		THIS DRAWING IS THE PROPERTY OF BAIN MEDINA BAIN, INC. AND SHALL NOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF AN AUTHORIZED AGENT OF BAIN MEDINA BAIN, INC. BAIN MEDINA BAIN, INC. ACCEPTS NO RESPONSIBILITY FOR THE USE OF THIS DRAWING FOR ANY PURPOSE AFTER SIX MONTHS FROM THE DATE INDICATED ON THIS DRAWING. ALL RIGHTS RESERVED. COPYRIGHT 2016 BAIN MEDINA BAIN, INC. ©

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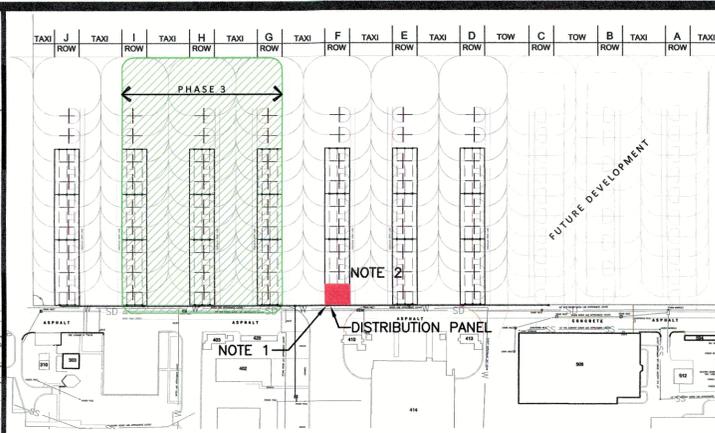
NOTE:
 1. PHASE 1 SHALL INCLUDE INSTALLATION ON THE PRIMARY ELECTRIC DISTRIBUTION SYSTEM. THE PRIMARY SYSTEM SHALL BE PROTECTED BY LOW PROFILE BARRIERS UNTIL THE APPROPRIATE INSTALLATION IS COMPLETE.
 2. AIRCRAFT PARKING SPACE SHALL BE BARRICADED WITH LOW PROFILE BARRIERS FOR THE DURATION OF PHASES 1, 2, AND 3.

PHASE 1 - ROW "J"
 SCALE: 1" = 200'



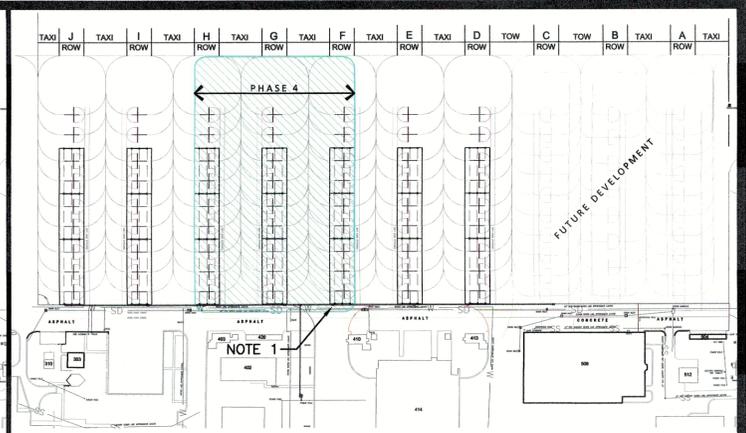
NOTE:
 1. DISTRIBUTION PANEL TO BE PROTECTED BY LOW PROFILE BARRIERS THRU THE COMPLETION OF THIS PHASE.
 2. AIRCRAFT PARKING SPACE SHALL BE BARRICADED WITH LOW PROFILE BARRIERS FOR THE DURATION OF PHASES 1, 2, AND 3.

PHASE 2 - ROW "I"
 SCALE: 1" = 200'



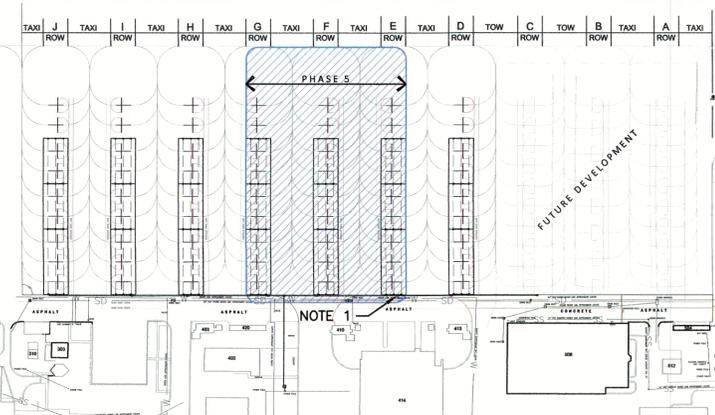
NOTE:
 1. DISTRIBUTION PANEL TO BE PROTECTED BY LOW PROFILE BARRIERS THRU THE COMPLETION OF THIS PHASE.
 2. AIRCRAFT PARKING SPACE SHALL BE BARRICADED WITH LOW PROFILE BARRIERS FOR THE DURATION OF PHASES 1, 2, AND 3.

PHASE 3 - ROW "H"
 SCALE: 1" = 200'



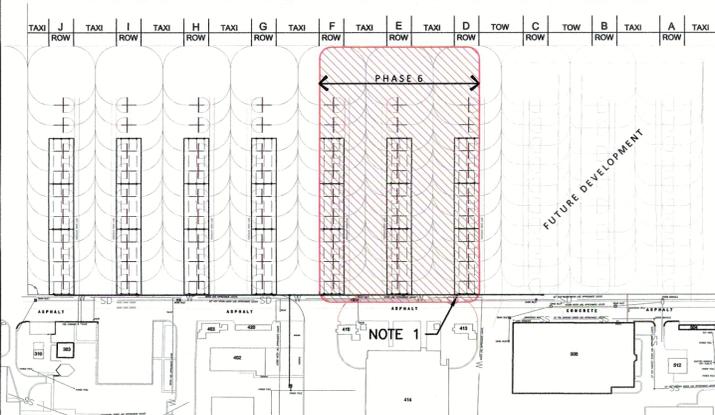
NOTE:
 1. PRIMARY ELECTRIC SHALL EXTENDED TO LIMITS OF CONSTRUCTION FOR SEQUENTIAL PHASED EXTENSION.

PHASE 4 - ROW "G"
 SCALE: 1" = 200'



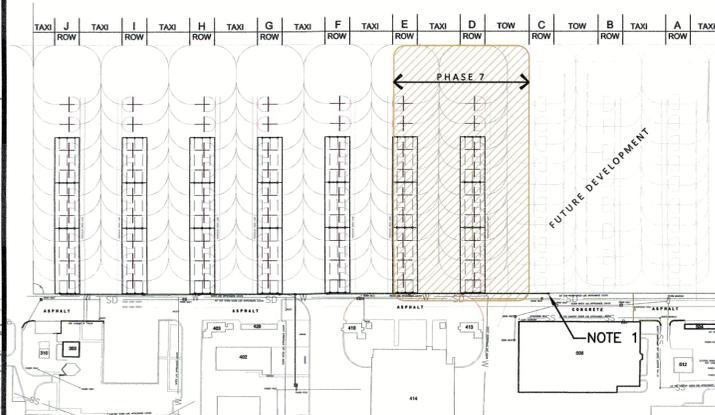
NOTE:
 1. PRIMARY ELECTRIC SHALL EXTENDED TO LIMITS OF CONSTRUCTION FOR SEQUENTIAL PHASED EXTENSION.

PHASE 5 - ROW "F"
 SCALE: 1" = 200'



NOTE:
 1. PRIMARY ELECTRIC SHALL EXTENDED TO LIMITS OF CONSTRUCTION FOR SEQUENTIAL PHASED EXTENSION.

PHASE 6 - ROW "E" (ADD ALT. 1)
 SCALE: 1" = 200'



NOTE:
 1. PRIMARY ELECTRIC SHALL EXTENDED TO LIMITS OF CONSTRUCTION FOR SEQUENTIAL PHASED EXTENSION.

PHASE 7 - ROW "D" (ADD ALT. 2)
 SCALE: 1" = 200'

- SITE WORK GENERAL NOTES**
- ALL CONSTRUCTION SHALL CONFORM TO THE PROJECT PLANS, SPECIFICATIONS, AND ADDENDA (IF ISSUED). IF THERE IS NO REFERENCE TO A TASK IN THESE DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE CIVIL ENGINEER FOR GUIDANCE/ CLARIFICATION IN THE FORM OF A WRITTEN REQUEST FOR INFORMATION (RFI) NUMBERED SEQUENTIALLY.
 - ANY CHANGES IN THE SCOPE OF WORK SHALL BE APPROVED BY THE OWNER AND ENGINEER BEFORE THE CONTRACTOR COMMENCES WITH THE CHANGES.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL, OR BETTER, CONDITION, ANY DAMAGE DONE TO EXISTING FENCES, CONCRETE ISLANDS, STREET PAVING, CURBS, STRIPING, SHRUBS, BUSHES OR DRIVEWAYS. (NO SEPARATE PAY ITEM).
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL SIGNS AND BARRICADES ARE PROPERLY INSTALLED AND MAINTAINED. ALL LOCATIONS AND DISTANCES WILL BE DECIDED UPON IN THE FIELD BY THE CONTRACTOR, USING THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" 2011 EDITION OR LATEST REVISION. THE CITY'S CONSTRUCTION INSPECTOR AND TRAFFIC ENGINEERING REPRESENTATIVE WILL ONLY BE RESPONSIBLE TO INSPECT BARRICADES AND SIGNS. IF, IN THE OPINION OF THE TRAFFIC ENGINEERING REPRESENTATIVE AND THE CONSTRUCTION INSPECTOR, THE BARRICADES AND SIGNS DO NOT CONFORM TO ESTABLISHED STANDARDS OR ARE INCORRECTLY PLACED OR ARE INSUFFICIENT IN QUANTITY TO PROTECT THE GENERAL PUBLIC, THE CONSTRUCTION INSPECTOR SHALL HAVE THE OPTION TO STOP OPERATIONS UNTIL SUCH TIME AS THE CONDITIONS ARE CORRECTED.
 - IF THE NEED ARISES, ADDITIONAL BARRICADES AND DIRECTIONAL DEVICES MAY BE ORDERED BY THE TRAFFIC ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN DEVELOPMENT.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING ALL CONSTRUCTION STAKES, MARKS, ETC. THE CIVIL ENGINEER SHALL PROVIDE CONTROL INFORMATION TO BE VERIFIED BY THE CONTRACTOR.
 - ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE PLACED PRIOR TO COMMENCING CONSTRUCTION AND REMOVED BY THE CONTRACTOR AFTER FINAL ACCEPTANCE OF THE PROJECT.
 - A SITE SURVEY WAS PERFORMED AND IS INCLUDED AS A PROJECT DRAWING FOR INFORMATION PURPOSES. THIS INFORMATION IS BY NO MEANS COMPLETE AND NO GUARANTEES MADE OR IMPLIED AS TO ITS COMPLETENESS. THE LOCATION, DEPTH, SIZE OR OTHER FEATURE OF THE IMPROVEMENTS DEPICTED HEREON SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING CONSTRUCTION. UNLESS IDENTIFIED FOR DEMOLITION OR REMOVAL THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF SAID IMPROVEMENTS OR FEATURES.
 - THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE IMMEDIATE WORK AREA AND SHALL PROVIDE SAFETY OF PERSONS AND PROPERTY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE WITHIN WORK AREAS, AND ANY REPAIRS OR REPLACEMENT SHALL NOT BE CONSIDERED A SEPARATE PAY ITEM.
 - CONSTRUCTION SHALL PASS ALL TESTS/INSPECTIONS BY THE APPROVING AGENCIES BEFORE FINAL PAYMENT. ANY COSTS INCURRED FROM FAILED AND/OR RE-INSPECTIONS WILL BE PAID BY THE CONTRACTOR.
 - ALL NATURAL GROUND DISTURBED AREAS SHALL BE SODDED UPON COMPLETION OF CONSTRUCTION.
 - CONTRACTOR IS REQUIRED TO CLEAN UP DAILY AND MAINTAIN CONCRETE AND PAVED WORK AREAS FREE OF MUD, DIRT, AND DEBRIS.
 - CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN AND SHALL SUBMIT A NOTICE OF INTENT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NPDES GENERAL PERMIT TO THE EPA.
 - CONTRACTOR SHALL NOTIFY OWNER AND CIVIL ENGINEER FOR INSPECTION OF WORK BEFORE CONTINUING AND COMPLETION. (IE. CONCRETE POURS, BASE PLACEMENT ETC.).
 - PRECISE BARRICADE PLACEMENT SHALL BE DETERMINED BETWEEN THE CONTRACTOR, MAINTENANCE, CIVIL ENGINEER, AND AIRFIELD MANAGEMENT FOR EACH PHASE IN ORDER TO MAXIMIZE AIRCRAFT OPERATIONS.
 - VEHICULAR CONTROL SIGNS AFFECTING VEHICULAR TRAFFIC SHALL COMPLY WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" 2011 EDITION OR LATEST REVISION AND BE APPROVED BY THE AIRFIELD MANAGEMENT BEFORE PLACEMENT.

SUBMITTAL AND MOBILIZATION PHASE

THE SUBMITTAL AND MOBILIZATION PHASE SHALL HAVE A PERIOD OF PERFORMANCE OF UP TO 60 CALENDAR DAYS. THE CONTRACTOR SHALL PROVIDE SUBMITTALS ON MATERIALS, MATERIAL SAFETY DATA SHEET, FAA AND FREE ZONE WAIVERS, DIG PERMITS, THE SCHEDULE, AND PLANS FOR CITY AND GOVERNMENT REVIEW, AS APPLICABLE. CONTRACTOR SHALL SUBMIT SUNSHADE STRUCTURE AND PIER DETAILED PLANS SIGNED AND SEALED BY A REGISTERED STRUCTURAL ENGINEER IN THE STATE OF TEXAS. ALL CONSTRUCTION MATERIALS AND SUBMITTALS SHALL BE APPROVED PRIOR TO ISSUANCE OF A NOTICE TO PROCEED WITH INSTALLATION PHASE.

INSTALLATION PHASE

THE INSTALLATION PHASE SHALL HAVE A PERFORMANCE PERIOD AS SET OUT IN THE CONTRACTORS BID PROPOSAL BUT FINAL COMPLETION WILL BE NO LATER THAN AUGUST 31, 2017. INSTALLATION SHALL CONSIST OF SEPARATE CONSTRUCTION PHASES. THE AREA OF EACH CONSTRUCTION PHASE SHALL CONSIST OF THREE PARKING APRON ROWS. ALL WORK SHALL BE COMPLETED IN A GIVEN ROW, ALL INSTALLATION OF THE SYSTEM, AND ALL NECESSARY TESTING OF MATERIALS AND CONSTRUCTION SHALL BE PERFORMED BEFORE ACCEPTANCE OF THAT GIVEN ROW. NO WORK SHALL COMMENCE ON ANY OTHER ROWS OF CONSTRUCTION BEFORE THE PREVIOUS ROW OF CONSTRUCTION HAS BEEN ACCEPTED.

PHASING REQUIREMENTS:

THE OVERALL PHASING OF THIS CONTRACT WILL INCLUDE THE CONTRACTOR HAVING THREE ADJACENT ROWS AT ANY GIVEN TIME TO PROVIDE FOR PREPARATION AND FALL PROTECTION. AS THE CENTER ROW OF THE THREE IS COMPLETE THE ROWS WILL SHIFT ONE ROW TO PROVIDE A NEW CENTER ROW FOR BUILDING THE SUN SHADES. AT ANY GIVEN TIME, THE CONTRACTOR CAN COMPLETE WORK ON ANY OF THE THREE ROWS AS LONG AS IT WILL NOT IMPEDE OR THREATEN AIRCRAFT TAXIING OR PARKED ON THE T-6 APRON. THE CONTRACTOR WILL HAVE TO COORDINATE WITH THE CITY OR THEIR REPRESENTATIVE IF ANY ADDITIONAL AREAS NEED TO BE CORDONED OFF FOR SAFETY. UPON SUCCESSFUL INSTALLATION AND ACCEPTANCE OF THE FIRST ROW OF SUN SHADES, THE PROJECT WILL PROCEED TO THE SECOND ROW, AND THEN PROCEED TO THE THIRD ROW, AND THEN IN SEQUENCE TO THE FOURTH ROW, etc. THE GOVERNMENT RESERVES THE RIGHT TO DIRECT PHASING AS REQUIRED TO ACCOMPLISH THE MISSION.

PHASING SEQUENCE:

EACH PHASE SHALL CONSIST OF DEMOLITION OF EXISTING TIE-DOWNS, GROUND RODS AND PAVEMENT REPAIRS. REMOVAL OF EXISTING STRIPING. INSTALLATION OF PROPOSED PREFABRICATED STRUCTURES AND POWER UNITS BASES. CONTRACTOR TO INSTALL STRIPING OF TAXIWAY LANES, VEHICULAR LANES, WING TIP LANES, NOSE WHEEL STOPS AND PROPELLER WARNING STRIPES. ALL IMPROVEMENTS SHALL BE SUBSTANTIALLY COMPLETE ON EACH ROW FOR THAT PHASE BEFORE COMMENCING ON NEXT PHASE.

BASE BID PHASING:

- PHASE 1: ROW "J" TO BE SUBSTANTIALLY COMPLETE BEFORE COMMENCING PHASE 2.
- PHASE 2: ROW "I" TO BE SUBSTANTIALLY COMPLETE BEFORE COMMENCING PHASE 3.
- PHASE 3: ROW "H" TO BE SUBSTANTIALLY COMPLETE BEFORE COMMENCING PHASE 4.
- PHASE 4: ROW "G" TO BE SUBSTANTIALLY COMPLETE BEFORE COMMENCING PHASE 5.
- PHASE 5: ROW "F" TO BE SUBSTANTIALLY COMPLETE BEFORE COMMENCING ADD ALTERNATE 1.

ADD ALTERNATE PHASING:

- PHASE 6: ADD ALTERNATE 1 ROW "E" COMMENCES AFTER SUBSTANTIAL COMPLETION OF PHASE 5 ROW "F".
- PHASE 7: ADD ALTERNATE 2 ROW "D" COMMENCES AFTER SUBSTANTIAL COMPLETION OF PHASE 6 ROW "E".



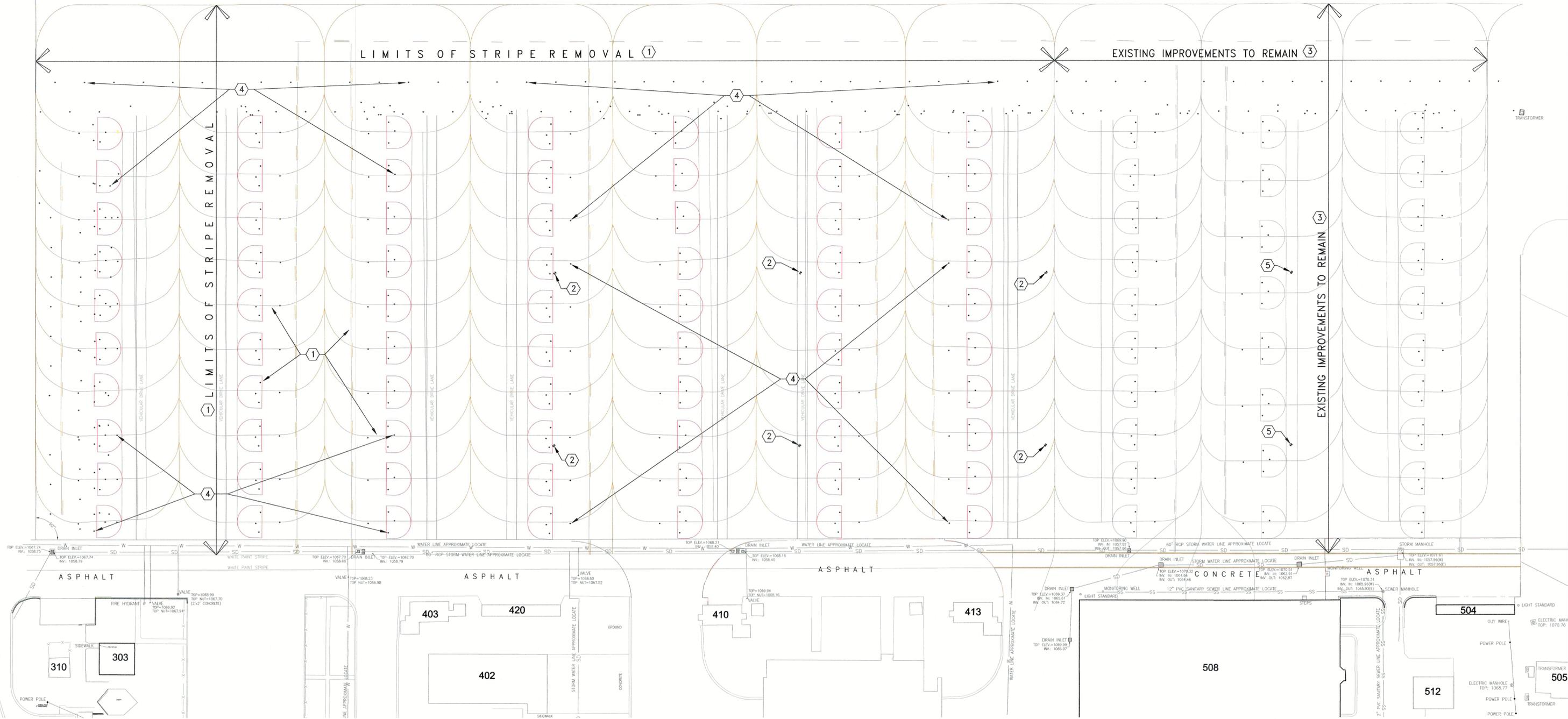
Carl Bain PE
 11/22/2016

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REVISIONS		NO	DATE	DESCRIPTION

CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES		JOB No: C-1239.22
PHASING PLAN		DATE: 11/22/16
DRAWN BY: REM		CHECKED BY: CB
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		SHEET C-4

FILE NAME: W:\Work\C-1259.22 WA.22 - Laughlin del Rio_Sunshade_Design\Civil\Construction Documents\C-5 Demo.dwg PRINTED: 11/22/2016 @ 11:30AM



SYMBOLS

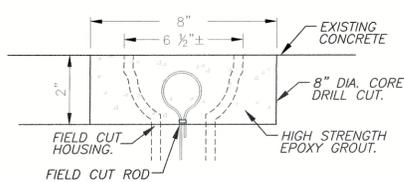
- VALVE
- FIRE HYDRANT
- GRATE INLET
- TIE DOWN / GROUND ROD
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- POWER POLE
- LIGHT STANDARD
- EXISTING ELEVATION
- WATER LINE
- STORM DRAIN
- SANITARY SEWER
- OVERHEAD ELECTRIC
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- WIRE FENCE

GENERAL SITE DEVELOPMENT NOTES

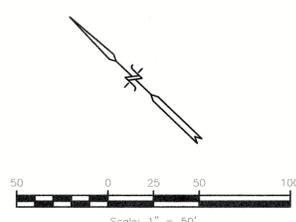
1. SITE INFORMATION, INCLUDING REQUIREMENTS FOR INTERIM CONSTRUCTION CONDITIONS, IS INCLUDED IN THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL COORDINATE REQUIREMENTS OF ALL CONSTRUCTION WITH EXISTING CONDITIONS.
2. BEFORE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITY IS COMMENCED, CONTRACTOR SHALL INSTALL CONSTRUCTION LIMIT FENCING. CONTRACTOR SHALL THEN STAKE ENTIRE BUILDING FOOTPRINT AND VERIFY STRIPING FOR ALL VEHICULAR ROADWAYS, WING TIPS, AND TOW LANES FOR REVIEW BY ENGINEER AND OWNER'S REPRESENTATIVE.
3. VEHICULAR OR PEDESTRIAN TRAFFIC IS NOT PERMITTED WITHIN THE LIMIT OF CONSTRUCTION OF A PHASED AREA INDICATED ON THE DRAWINGS.
4. CONSTRUCTION SITE PARKING, EQUIPMENT, AND/OR CONSTRUCTION MATERIAL STORAGE IS STRICTLY LIMITED TO THE AREA DESIGNATED ON THE DRAWINGS OR AS DIRECTED BY THE OWNER IN WRITING.
5. THIS SITE ADJOINS AN ACTIVE RUNWAY AND TAXIWAYS THAT WILL BE IN OPERATION AND OTHER DEVELOPED PROPERTY. CONTRACTOR SHALL COORDINATE THE TIMING AND SEQUENCE OF DEMOLITION AND CONSTRUCTION ACTIVITIES AND ADHERE TO L.A.F.B. AIRPORT REGULATIONS (INCLUDING TRAFFIC, NOISE, DUST, AND TRASH) TO MINIMIZE INCONVENIENCE TO ADJOINING LAND USES. CONSTRUCTION TRAFFIC THROUGH ADJOINING PROPERTY OR PARKING AREAS IS STRICTLY PROHIBITED.
6. DEMOLITION OF AREAS SHALL BE LIMITED TO THE PHASE AREAS AS DEFINED BY THESE PLANS. NO DEMOLITION SHALL BE PERMITTED OUTSIDE OF ANY PHASED AREA WITHOUT WRITTEN PERMISSION OF THE OWNER AND L.A.F.B.
7. ALL EXISTING AIRCRAFT TIE-DOWNS AND GROUND ROD ASSEMBLIES ARE TO BE REMOVED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
8. ANY DEMOLITION OR STRIPING WITHIN 25 FEET OF TAXIWAY "G" SHALL BE MADE DURING NON FLIGHT HOURS, WEEKENDS, OR AFTER FLIGHT HOURS. ANY WORK IN THIS AREA SHALL BE COORDINATED WITH AIRFIELD MANAGER BEFORE WORK IS PERMITTED.

KEY NOTES

- 1 ALL EXISTING STRIPING TO BE REMOVED WITH PHASE CONSTRUCTION. (TYPICAL) REFER TO SPECIFICATIONS.
- 2 EXISTING VALVE BOX TO BE REMOVED AND CONCRETE BACKFILLED FLUSH WITH SURROUNDING AREA.
- 3 EXISTING IMPROVEMENTS AND STRIPE TO REMAIN. (TYPICAL)
- 4 EXISTING AIRCRAFT TIE-DOWN TO BE REMOVED. SEE TYPICAL DETAIL THIS SHEET.
- 5 EXISTING ABANDONED VALVE TO REMAIN.



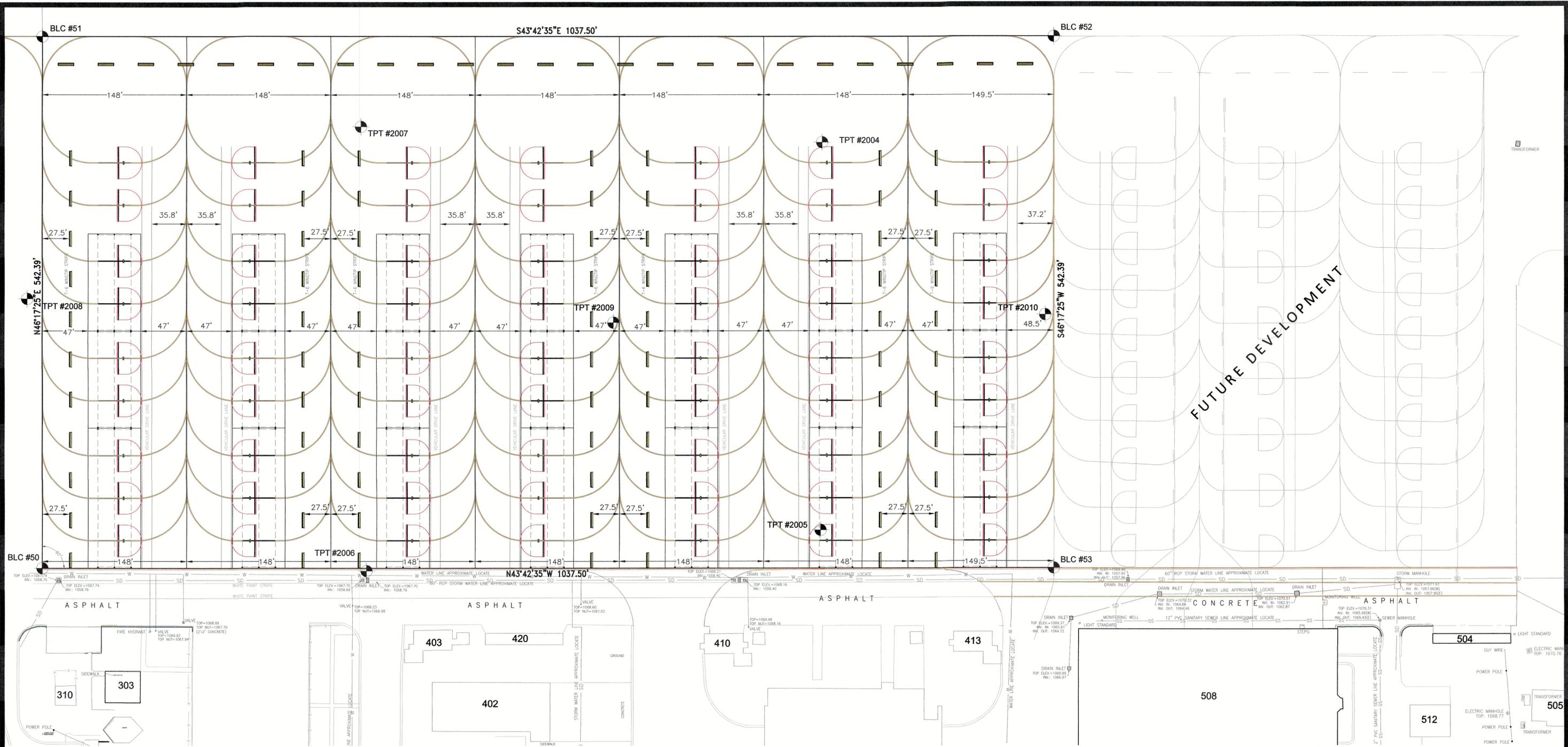
1 TYPICAL TIE-DOWN DEMOLITION DETAIL N.T.S.



REVISIONS		NO	DATE	DESCRIPTION

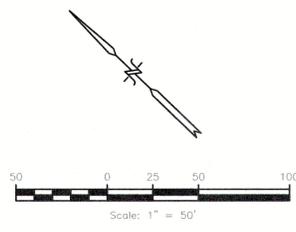
CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES		JOB No: C-1259.22
DEMOLITION PLAN		DATE: 11/22/16
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		DRAWN BY: REM
		CHECKED BY: CB
		SHEET C-5

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FUTURE DEVELOPMENT

SEE SUN SHADE DETAILS SHEET 10 FOR ADDITIONAL DIMENSIONING.



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NO	DATE	
		C-1239.22
		DATE: 11/22/16
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		CHECKED BY: CB
		SHEET

CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES DIMENSION CONTROL PLAN		PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223
JOB No: C-1239.22		

CONTROL COORDINATES - (TPT)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
2004	13684051.73	1401302.65	1074.79	"X" IN CONC.
2005	13683779.67	1401015.47	1069.33	"X" IN CONC.
2006	13684087.49	1400663.56	1068.30	NAIL IN ASPH.
2007	13684404.77	1400987.26	1069.96	"X" IN CONC.
2008	13684531.02	1400623.68	1068.84	"X" IN CONC.
2009	13684079.46	1401021.77	1071.21	"X" IN CONC.
2010	13683764.61	1401333.50	1073.66	"X" IN CONC.

BASELINE CONTROL COORDINATES - (BLC)

POINT	NORTHING	EASTING	ELEVATION
50	13684329.81	1400435.91	---
51	13684704.61	1400827.97	---
52	13683954.65	1401544.89	---
53	13683579.86	1401152.82	---

SYMBOLS

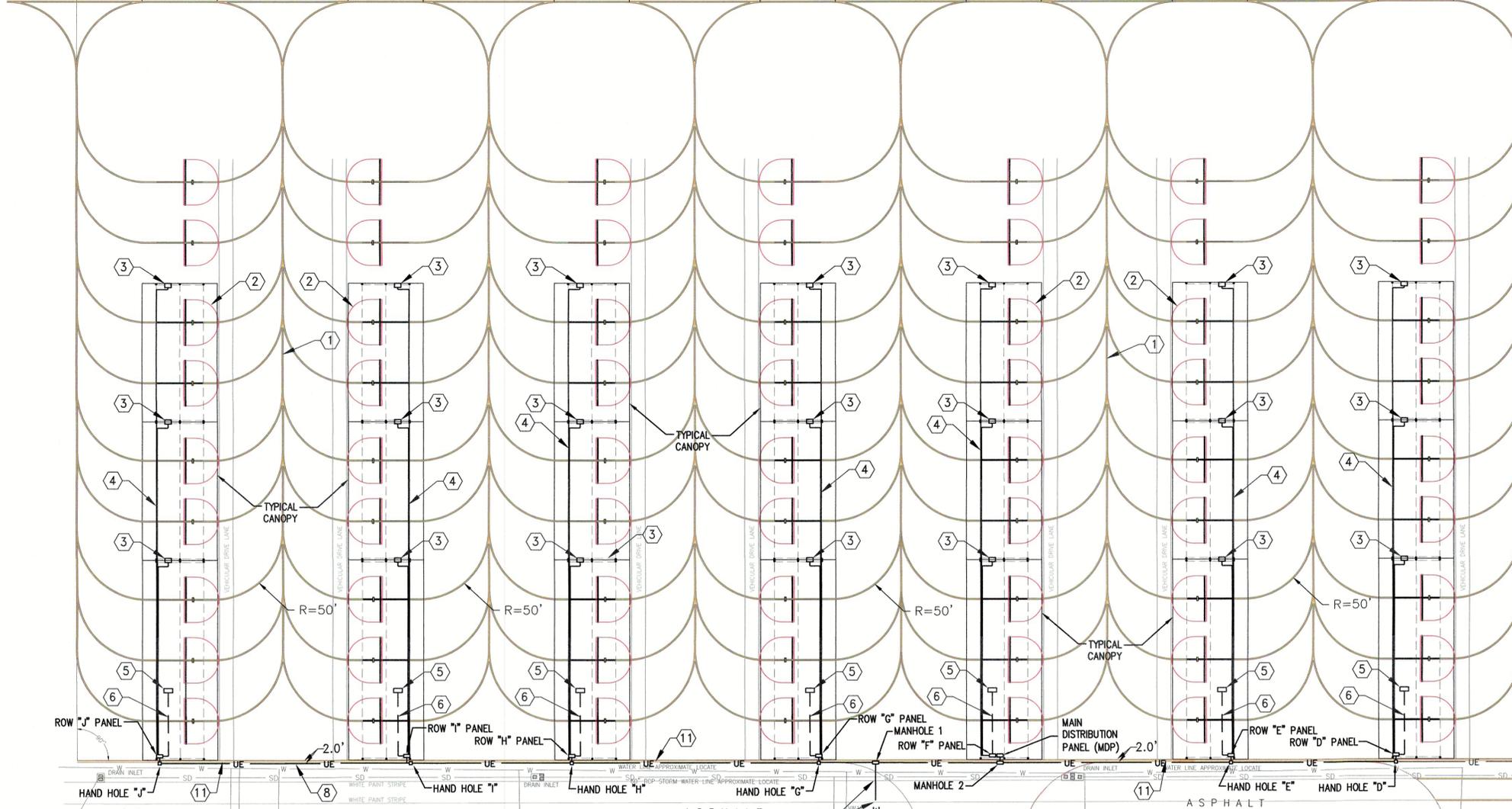
- VALVE
- FIRE HYDRANT
- GRATE INLET
- TIE DOWN / GROUND ROD
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- POWER POLE
- LIGHT STANDARD
- EXISTING ELEVATION
- WATER LINE
- STORM DRAIN
- SANITARY SEWER
- OVERHEAD ELECTRIC
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- WIRE FENCE

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1512.1'

47'	J SHADE 54'	TAXI 94'	I SHADE 54'	TAXI 94'	H SHADE 54'	TAXI 94'	G SHADE 54'	TAXI 94'	F SHADE 54'	TAXI 94'	E SHADE 54'	TAXI 94'	D SHADE 54'	TOW 97'	C SHADE 54'	TOW 97'	B SHADE 54'	TAXI 94'	A SHADE 54'	TAXI 47'	26.1'
											ALTERNATE #1		ALTERNATE #2								



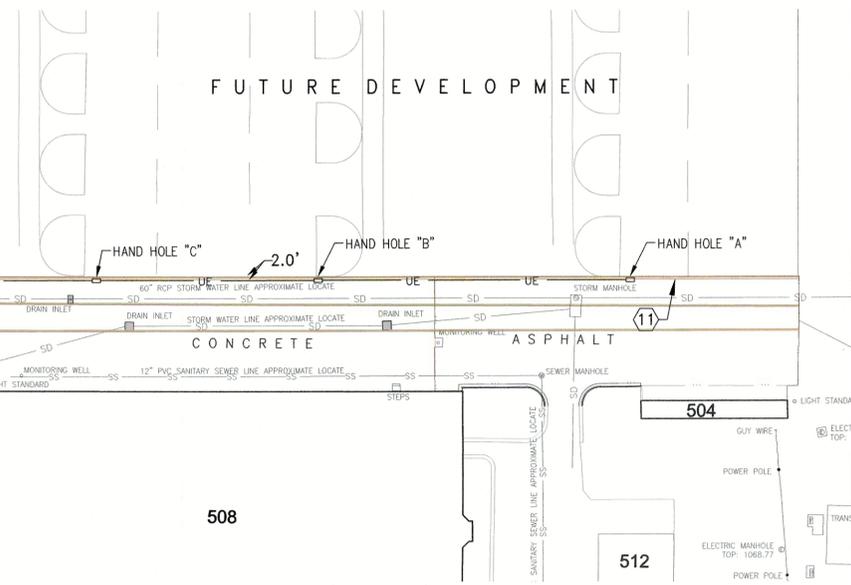
CONDUITS IN TRENCH RUNS

CONDUIT RUN FROM	CONDUIT RUN TO	CONDUIT(S) / SIZE(S)	CONDUIT RUN FROM	CONDUIT RUN TO	CONDUIT(S) / SIZE(S)
TRANSFORMER	MANHOLE 1	(5) 4"	---	---	---
MANHOLE 1	MANHOLE 2	(5) 4" (4) 3"	---	---	---
MANHOLE 2	MDP	(5) 4" (9) 3"	MDP	ROW "F" PANEL	(1) 3"
MANHOLE 1	H/H "G"	(4) 3"	H/H "G"	ROW "G" PANEL	(1) 3"
H/H "G"	H/H "H"	(3) 3"	H/H "H"	ROW "H" PANEL	(1) 3"
H/H "H"	H/H "I"	(2) 3"	H/H "I"	ROW "I" PANEL	(1) 3"
H/H "I"	H/H "J"	(1) 3"	H/H "J"	ROW "J" PANEL	(1) 3"
MANHOLE 2	H/H "E"	(5) 3"	H/H "E"	ROW "E" PANEL	(1) 3"
H/H "E"	H/H "D"	(4) 3"	H/H "D"	ROW "D" PANEL	(1) 3"

FUTURE DEVELOPMENT

H/H "D"	H/H "C"	(3) 3"	H/H "C"	ROW "C" PANEL	(1) 3"
H/H "C"	H/H "B"	(2) 3"	H/H "B"	ROW "B" PANEL	(1) 3"
H/H "B"	H/H "A"	(1) 3"	H/H "A"	ROW "A" PANEL	(1) 3"

H/H DENOTES HANDHOLE AT SPECIFIED ROW.
MDP DENOTES MAIN DISTRIBUTION PANEL AT ROW "F".
CONTRACTOR TO LABEL ALL CONDUITS IN MANHOLES AND HANDHOLES.

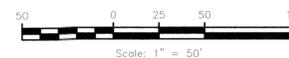


KEY NOTES

- 1 PROPOSED 6" YELLOW STRIPE TYPICAL WITH 6" BLACK STRIPE OUTLINE. SEE CIVIL DETAILS.
- 2 PROPOSED 6" RED STRIPE TYPICAL. SEE SPECIFICATIONS.
- 3 CONCRETE PAD (56"x36"x3") W/ DISCONNECT RACK (TYPICAL). SEE CIVIL DETAILS.
- 4 OVERHEAD ELECTRIC CONDUITS SUPPORTED ON STRUCTURE. (TYPICAL)
- 5 CONCRETE PAD (75"x36"x3") W/ DISCONNECT RACK (TYPICAL). SEE CIVIL DETAILS.
- 6 UNDERGROUND ELECTRIC IN CONDUIT (TYPICAL).
- 7 PROPOSED NEW POWER POLE. SEE ELECTRICAL PLANS.
- 8 PRIMARY UNDERGROUND ELECTRIC IN CONDUIT. SEE ELECTRICAL PLANS.
- 9 CUT AND REPLACE EXISTING CONCRETE CURB. SEE CIVIL DETAILS.
- 10 CUT AND REPLACE EXISTING SIDEWALK. SEE CIVIL DETAILS.
- 11 EXISTING STRIPE(S) TO BE RE-STRIPED AFTER UTILITY INSTALLATION. MATCH EXISTING COLOR AND WIDTH.

SYMBOLS

- VALVE
- FIRE HYDRANT
- GRATE INLET
- TIE DOWN / GROUND ROD
- E ELECTRIC MANHOLE
- T TELEPHONE MANHOLE
- P POWER POLE
- LIGHT STANDARD
- EXISTING ELEVATION
- W WATER LINE
- SD STORM DRAIN
- SS SANITARY SEWER
- OE OVERHEAD ELECTRIC
- EDGE OF PAVEMENT
- EDGE OF GRAVEL
- X WIRE FENCE



Carl B. Bain
11/22/2016

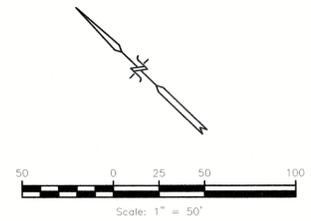
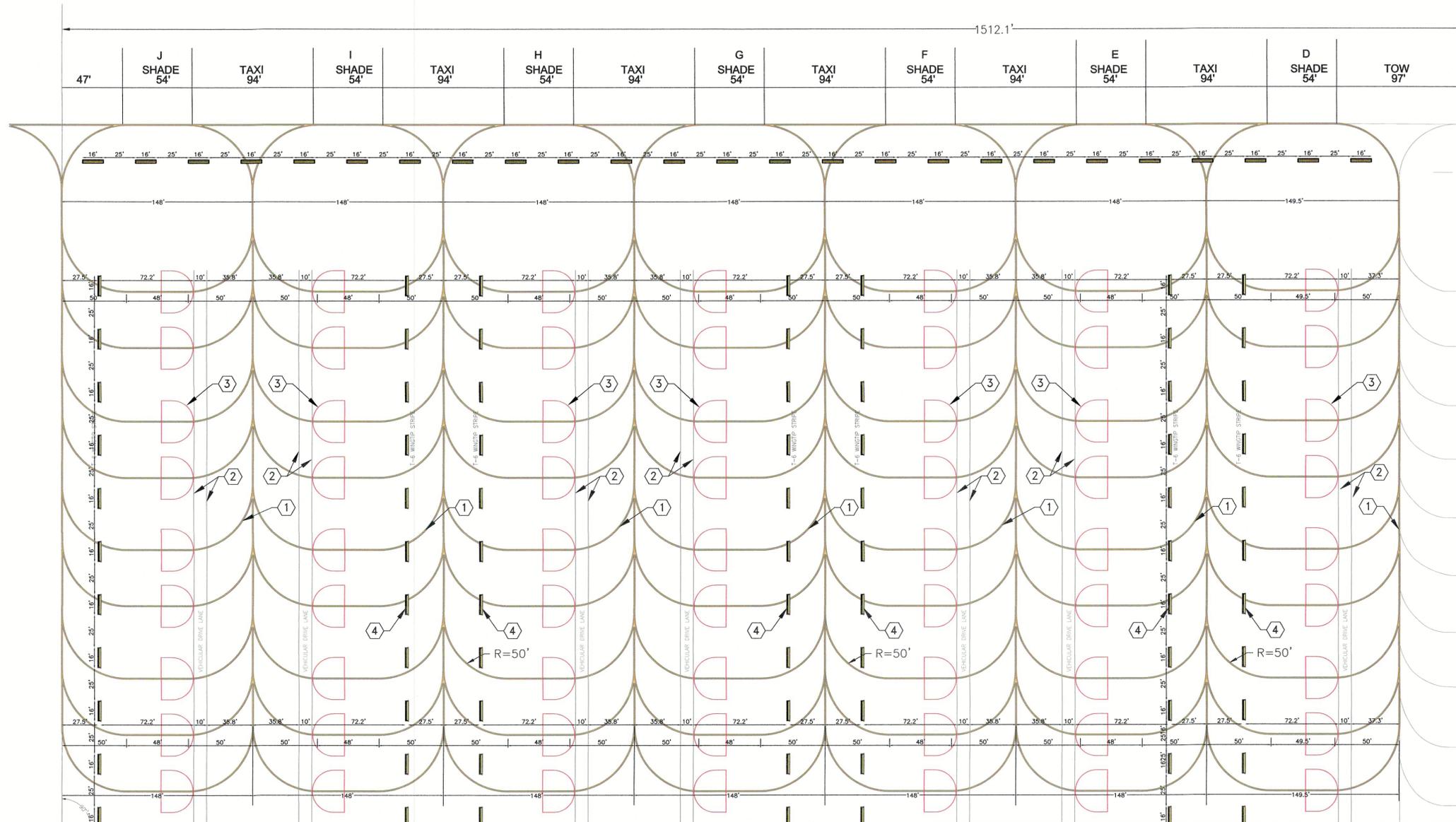
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NO	DATE	
		DATE: 11/22/16
		DRAWN BY: REM
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		SHEET

CITY OF DEL RIO, TEXAS
LAUGHLIN AIR FORCE BASE
T-6 PREFABRICATED AIRCRAFT SUN SHADES

UTILITY PLAN

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro
San Antonio, Texas 78216
210/494-7223

FILE NAME: W:\Work\1239.22 WA 22 - Laughlin del Rio Sunshade\Design\Civil\Construction Documents\C-8 Stripe Plan.dwg PRINTED: 11/22/2016 @ 11:56AM



SYMBOLS

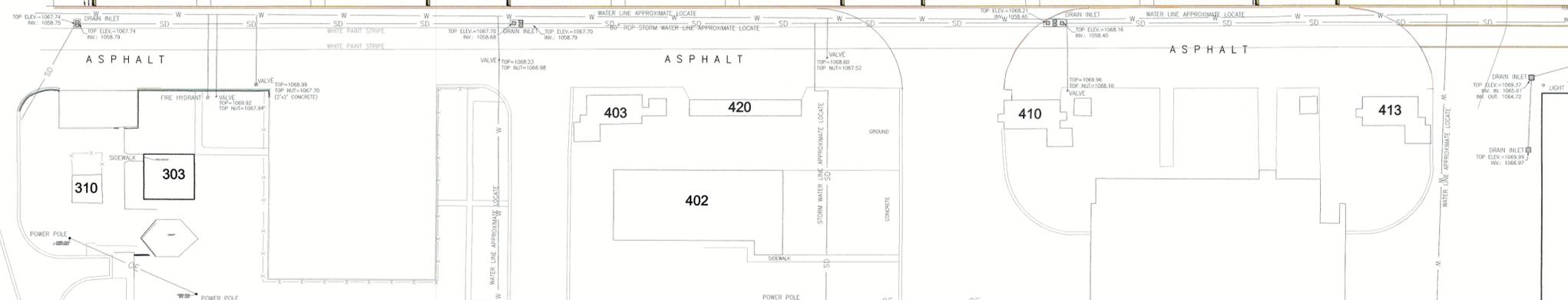
- VALVE
- FIRE HYDRANT
- GRATE INLET
- TIE DOWN / GROUND ROD
- ELECTRIC MANHOLE
- TELEPHONE MANHOLE
- POWER POLE
- LIGHT STANDARD
- EXISTING ELEVATION
- W WATER LINE
- SD STORM DRAIN
- SS SANITARY SEWER
- OE OVERHEAD ELECTRIC
- ... EDGE OF PAVEMENT
- EDGE OF GRAVEL
- X- WIRE FENCE

SPECIAL NOTE / CONDITIONS:

1. ALL STRIPING SHALL BE LIMITED TO THE PHASE AREAS AS DEFINED BY THESE PLANS. NO STRIPING SHALL BE PERMITTED OUTSIDE OF ANY PHASED AREA WITHOUT WRITTEN PERMISSION OF THE OWNER AND L.A.F.B.
2. ANY DEMOLITION OR STRIPING WITHIN 25 FEET OF TAXIWAY "G" SHALL BE MADE DURING NON FLIGHT HOURS, WEEKENDS, OR AFTER FLIGHT HOURS. ANY WORK IN THIS AREA SHALL BE COORDINATED WITH AIRFIELD MANAGER BEFORE WORK IS PERMITTED.

KEY NOTES

- ① PROPOSED 6" YELLOW STRIPE TYPICAL. SEE SPECIFICATIONS.
- ② PROPOSED 6" WHITE STRIPE TYPICAL. SEE SPECIFICATIONS.
- ③ PROPOSED 6" RED STRIPE TYPICAL. SEE SPECIFICATIONS.
- ④ PROPOSED WING TIP STRIPE TYPICAL. SEE CIVIL DETAIL.



SEE SUN SHADE DETAILS SHEET 10 FOR ADDITIONAL STRIPING.



REVISIONS		
NO	DATE	DESCRIPTION

CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES		JOB No: C-1239.22
STRIPING PLAN		DATE: 11/22/16
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		DRAWN BY: REM
		CHECKED BY: CB
		SHEET C-8

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A. GENERAL SITE DATA

LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED SUNSHADE STRUCTURES DEL RIO, TEXAS.

- Project Location: N 29°21'27.5" Project Longitude: W 100°46'58.7"
Project Location Map: Shown on This Sheet
Drainage Patterns: Shown on SW3P Plan below.

Laughlin AFB T-6 Prefabricated Sunshades Project collects runoff in existing drainage system. No change in impervious cover is being made.

- 1. Install controls down-slope of work area and initiate inspection and maintenance activities.
2. Begin phased construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions as directed/approved by the Engineer.

Description of existing vegetative cover: Entire area is asphalt or concrete.

Percentage of existing vegetative cover: 0%
Existing vegetative cover (near area): None or minimal cover

Description of soils: Entire area is asphalt or concrete.
Site Acreage: 12.92 Acres
Site runoff coefficient (pre-construction): 0.90

- A classified stream does not pass through project.
A classified stream passes through project. Name: Segment Number:
Name of receiving waters that will receive discharges from disturbed areas of the project:

B. BEST MANAGEMENT PRACTICES

General timing or sequence for Implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls.

- (Select T = Temporary or P = Permanent, as applicable)
SEEDING
MULCHING (Hay or Straw)
BUFFER ZONES
PLANTING
COMPOST MULCH FILTER BERM
SOILING

- SILT FENCES
GRAVEL FILTRATION BAGS
ROCK FILTER DAMS
DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
PIPE SLOPE DRAINS
PAVED FLUMES
ROCK BEDDING AT CONSTRUCTION EXIT
TIMBER MATTING AT CONSTRUCTION EXIT
CHANNEL LINERS
SEDIMENT TRAPS
SEDIMENT BASINS
STORM INLET SEDIMENT TRAP
STONE GULLET STRUCTURES
CURBS AND GUTTERS
STORM SEWERS
VELOCITY CONTROL DEVICES
OTHER:

The proposed facility was designed in consideration of hydraulic design standards to convey stormwater in a manner that is protective of public safety and property.

- Existing or new vegetation provides natural filtration.
The design includes provisions for permanent erosion controls provided by strategically placed pervious and impervious surfaces.
Project includes permanent sedimentation controls (other than grass).
Velocity-dispersion devices included in the design.

- Off-site discharges are prohibited except as follows:
1. Discharges from fire fighting activities and fire hydrant flushings.
2. Vehicle, exterior building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).

Concrete truck wash water discharges on the site should be prohibited or minimized. If allowed by the Engineer, they must be managed in a manner so as not to contaminate surface water.

C. OTHER REQUIREMENTS & PRACTICES

All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed before the next anticipated storm event but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment.

For areas of the construction site that have not been finally stabilized, areas used for storage of materials, structural control measures, and locations where vehicles enter or exit the site, personnel provided by the permittee and familiar with the SW3P must inspect disturbed areas at least once every seven (7) calendar days.

All non-hazardous municipal waste materials such as litter, rubbish, trash and garbage located on or originating from the project shall be collected and stored in a securely fitted metal dumpster, provided by the contractor.

Off-site vehicle tracking of sediments and the generation of dust must be minimized. Excess sediments on road shall be removed on a regular basis as directed/approved by the Engineer.

See the EPIC sheet for additional environmental information.

TEXAS DEPARTMENT OF TRANSPORTATION
STORM WATER POLLUTION PREVENTION PLAN (SW3P)
FED. NO. 6 FEDERAL AID PROJECT NO. HIGHWAY NO.
STATE DISTRICT COUNTY
TEXAS SAT
CONTROL SECTION JOB SHEET NO.

I. STORMWATER POLLUTION PREVENTION-CLEAN WATER ACT SECTION 402

Texas Pollutant Discharge Elimination System (TPDES) Title 150000 Stormwater Discharge Permit or Construction General Permit (CGP) required for projects with 1 or more acres of disturbed soil.

- 1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with TPDES Permit 150000.
2. Comply with the Stormwater Pollution Prevention Plan (SWPPP) and revise when necessary to control pollution or required by the Engineer.
3. Post Construction Site Notice (CSN) with SW3P information on or near the site, accessible to the public and Texas Commission on Environmental Quality (TCEQ), Environmental Protection Agency (EPA) or other inspectors.
4. When Contractor project specific locations (PSPs) increase disturbed soil area to 5 acres or more, Contractor shall submit Notice of Intent (NOI) to TCEQ and the Engineer.
5. NOI Required: Yes No

Note: If amount of soil disturbance changes, permit requirements may change.

II. National Pollutant Discharge Elimination System (NPDES)

- NPDES required for projects disturbing 1 or more acres of land but is part of a common plan of development or sale that will ultimately disturb 1 or more acres of land.
1. Prevent stormwater pollution by controlling erosion and sedimentation in accordance with NPDES.
2. Comply with Storm Water Pollution Prevention Plan (SW3P) and revise when necessary to control pollution or required by the Engineer.
3. A notice must be posted which should include the NPDES tracking number, contact name and phone number for obtaining additional project information.
4. EPA NOI required: Yes No

III. WORK IN OR NEAR STREAMS, WATERBODIES AND WETLANDS CLEAN WATER ACT SECTIONS 401 AND 404

US Army Corps of Engineers (USACE) Permit required for filling, dredging, excavating or other work in any potential USACE jurisdictional water, such as rivers, creeks, streams, or wetlands.

- No Permit Required
Nationalwide Permit (NWP) 14
Nationalwide Permit 14 - P/N Required (1/10 to 1/2 acre, 1/3 in tidal waters)
Individual 404 Permit Required
Other Nationwide Permit Required: N/A
Required Actions: List waters of the US permit applies to, location in project and check Best Management Practices (BMPs) guidelines to control erosion, sedimentation and post-project total suspended solids (TSS).

Contractor is to disturb areas only shown within the project limits. If additional area is to be disturbed, the Contractor is to notify the City Project Engineer prior to commencing. Absolutely no work shall be performed within the limits of the jurisdictional waters of the United States except in areas shown on this plan.

Best Management Practices

- Erosion: Temporary Vegetation, Blankets/Matting, Mulch, Sodding, Interceptor Swale, Diversion Dike, Erosion Control Compost, Mulch Filter Berm and Socks, Coapost Filter Berm and Socks.
Sedimentation: Silt Fence, Rock Berm, Triangular Filter Dike, Sand Bag Berm, Straw Bale Dike, Brush Berm, Erosion Control Compost, Mulch Filter Berm and Socks, Stone Outlet Sediment Traps, Sediment Basins.
Post-Construction TSS: Vegetative Filter Strips, Retention/Irrigation Systems, Extended Detention Basin, Constructed Wetlands, Net Basin, Erosion Control Compost, Mulch Filter Berm and Socks, Coapost Filter Berm and Socks, Vegetation Lined Ditches, Sand Filter Systems, Sedimentation Chambers.

IV. CULTURAL RESOURCES

Cultural resources fall under the Antiquities Code of Texas and/or the National Historic Preservation Act, as amended in 1966. If a previously unidentified archeological site is encountered during construction work, activities should be immediately stopped in the vicinity and the City Archeologist (210-207-7306) notified and/or the SHPO.

- No Action Required: Required Action
Action No. 1, 2, 3, 4

V. VEGETATION RESOURCES

Preserve native vegetation to the extent practical.
No Action Required: Required Action
Action No. 1, 2, 3, 4

VI. FEDERAL LISTED, PROPOSED THREATENED, ENDANGERED SPECIES, CRITICAL HABITAT, STATE LISTED SPECIES, CANDIDATE SPECIES AND MIGRATORY BIRDS.

- No Action Required: Required Action
Action No. 1, 2, 3
1. MIGRATORY BIRD NESTS: Schedule construction activities as needed to meet the following requirements:
A. Do not remove or destroy any active migratory bird nests (nests containing eggshells or flightless birds) at any time of year. If there are any active nests, they shall not be removed until the nests have become inactive.
B. On/in structures, if there are any active nests, they shall not be removed until all nests have become inactive. After inactive nests are removed and/or before nest activity begins, deterrent materials may be applied to the structures to prevent future nest building.

If any of the listed species are observed, cease work in the immediate area, do not disturb species or habitat and contact the Engineer immediately. The work may not resume until the species and/or habitat has been protected and the nesting season of the birds associated with the nests. If coveys or skinkholes are discovered, cease work in the immediate area, and contact the Engineer immediately.

VII. HAZARDOUS MATERIALS OR CONTAMINATION ISSUES

General (applies to all projects): Comply with the Hazard Communication Act (the Act) for personnel who will be working with hazardous materials by conducting safety meetings prior to beginning construction and making workers aware of potential hazards in the workplace.

Obtain and keep on-site Material Safety Data Sheets (MSDS) for all hazardous products used on the project, which may include, but are not limited to the following categories: Paints, oils, solvents, asphalt products, chemical additives, fuels and concrete curing compounds or additives.

Maintain an adequate supply of on-site spill response materials, as indicated in the MSDS. In the event of a spill, take actions to mitigate the spill as indicated in the MSDS, in accordance with safe work practices, and contact the OSHA Inspector immediately. The Contractor shall be responsible for the proper containment and cleanup of all product spills.

Contact the Project Architect or Inspector if any of the following are detected:
Lead or distressed vegetation that identified as normal
Trash piles, drums, containers, barrels, etc.
Undesirable smells or odors
Evidence of leaching or seepage of substances

Hazardous Materials or Contamination Issues Specific to this Project

- No Action Required: Required Action
Action No. 1, 2, 3
Does the project involve the demolition of a span bridge?
Yes No (No further action required)

If "Yes", a pre-demolition notification must be submitted to the Texas Department of State Health Services, 20 calendar days prior to the demolition of the bridge(s) on the project.

VIII. OTHER ENVIRONMENTAL ISSUES

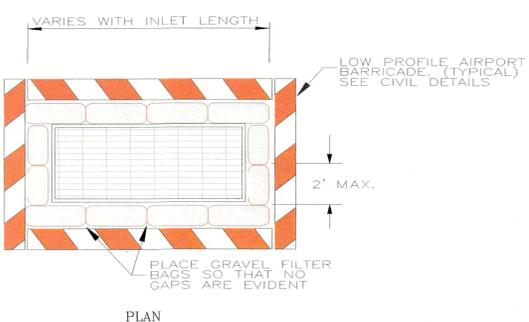
(Includes regional issues such as Edwards Aquifer District, etc.)
No Action Required: Required Action
Action No. 1, 2

TEXAS DEPARTMENT OF TRANSPORTATION
ENVIRONMENTAL PERMITS ISSUES AND COMMITMENTS
EPIC
FILE: 05-10-09T Date Filed: 05-10-09 Date Issued: 05-10-09
PROJECT: 110007 - JANUARY 7, 2012 DATE: 05-10-09 JOB: 0100000
REVISIONS:
10-10-2011 001

KEYNOTES

1 GRAVEL FILTER BAGS AND LOW PROFILE BARRICADES AROUND GRATE STRUCTURE. SEE DETAIL THIS SHEET.

NOTE: PLACE GRAVEL FILTER BAGS OUTSIDE AND AROUND EXISTING GRATE INLET. PLACE LOW PROFILE AIRPORT BARRICADE ALONG THE OUTER EDGE OF FILTER BAG. ALLOW 2" TO 4" GAP FOR VISUAL INSPECTION OF ANY SEDIMENT COLLECTED. SEE DETAILS FOR BARRICADES AND FLASHING WARNING LIGHTS. SEE BARRICADE CONSTRUCTION SIGN DETAILS.



NOTE: 3/4\"/>

DRAIN INLET GRAVEL FILTER

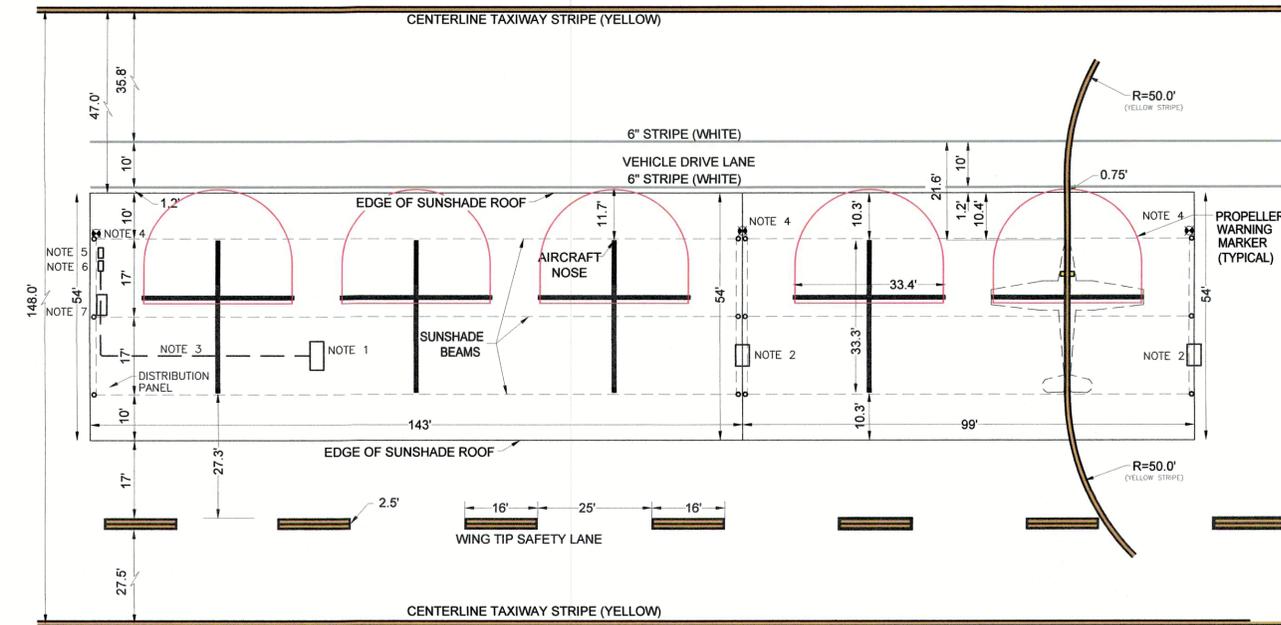
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SYMBOLS

- VALVE
FIRE HYDRANT
GRATE INLET
TIE DOWN / GROUND ROD
ELECTRIC MANHOLE
TELEPHONE MANHOLE
POWER POLE
LIGHT STANDARD
EXISTING ELEVATION
WATER LINE
STORM DRAIN
SANITARY SEWER
OVERHEAD ELECTRIC
EDGE OF PAVEMENT
EDGE OF GRAVEL
WIRE FENCE

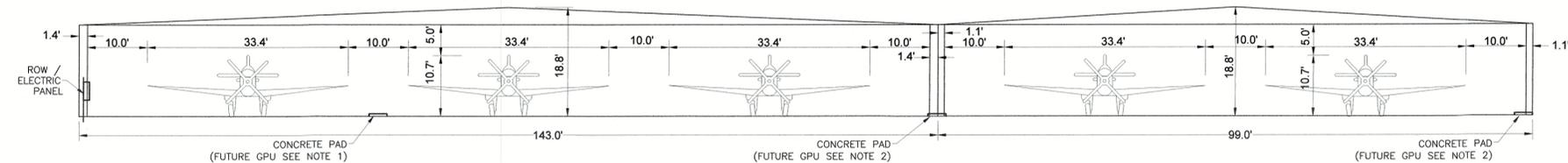


REVISIONS
NO DATE DESCRIPTION
CITY OF DEL RIO, TEXAS
LAUGHLIN AIR FORCE BASE
T-6 PREFABRICATED AIRCRAFT SUN SHADES
STORMWATER POLLUTION PREVENTION PLAN
JOB No: C-1239.22
DATE: 11/22/16
DRAWN BY: REM
CHECKED BY: CB
SHEET C-9
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS
7073 San Pedro
San Antonio, Texas 78216
210/494-7223

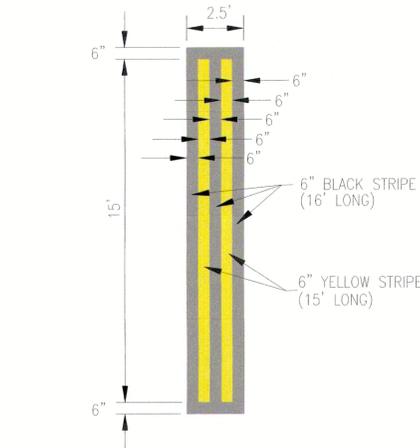


- KEY NOTES**
1. CONCRETE PAD (75"x36"x3") W/ DISCONNECT RACK (TYPICAL).
 2. CONCRETE PAD (56"x36"x3") W/ DISCONNECT RACK (TYPICAL).
 3. UNDERGROUND ELECTRIC IN CONDUIT (TYPICAL).
 4. GROUNDING ROD AT SUN SHADE COLUMN.
 5. ROW PANEL, REFER TO ELECTRICAL PLANS.
 6. LIGHTING PANEL, REFER TO ELECTRICAL PLANS.
 7. MAIN DISTRIBUTION PANEL, ROW "F" ONLY, REFER TO ELECTRICAL PLANS.

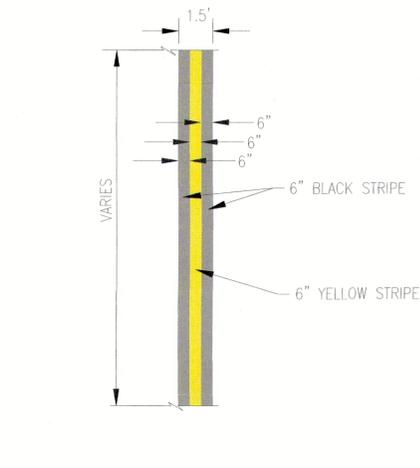
1 TYPICAL 3 & 2 CANOPY LAYOUT DETAIL
N.T.S.



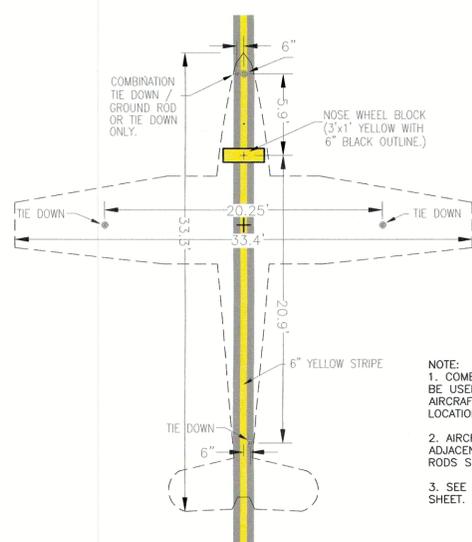
3 TYPICAL 3 & 2 CANOPY ELEVATION DETAIL
N.T.S.



2 TYPICAL WING TIP SAFETY STRIPE DETAIL
N.T.S.



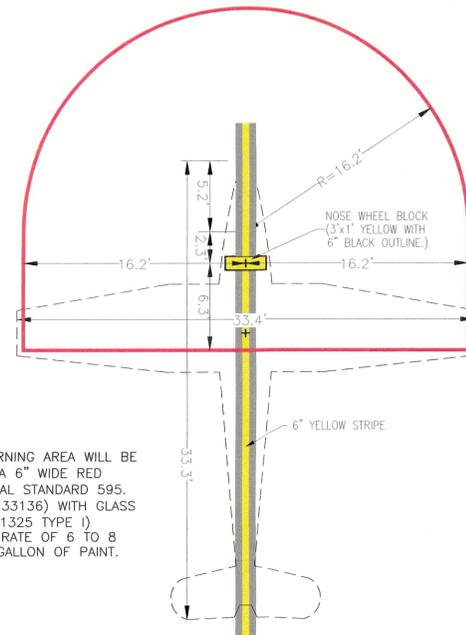
4 TYPICAL TAXI LANE / APRON STRIPING DETAIL
N.T.S.



5 TYPICAL T-6 TIE DOWN DETAIL
N.T.S.

- NOTE:**
1. COMBINATION TIE DOWN / GROUND ROD SHALL BE USED ON THE CENTER AIRCRAFT OF A (3) AIRCRAFT HANGER AND ALL UNSHADED AIRCRAFT LOCATIONS.
 2. AIRCRAFTS TIED DOWN IN SHADE STRUCTURES ADJACENT TO COLUMNS SHALL USE GROUND RODS SET AT COLUMNS.
 3. SEE OVERALL SPECIFICATIONS NOTE 9.9 THIS SHEET.

PROP ARC WARNING AREA WILL BE MARKED WITH A 6" WIDE RED STRIPE (FEDERAL STANDARD 595, CHIP NUMBER 33136) WITH GLASS BEADS (TT-B-1325 TYPE I) APPLIED AT A RATE OF 6 TO 8 POUNDS PER GALLON OF PAINT.



6 TYPICAL T-6 PROP WARNING STRIPE DETAIL
N.T.S.

9. Overall Specifications:
 - 9.1. The prefabricated steel aircraft sun shades are to be stand-alone column structures with open ends and sides to accommodate the footprint of seven T-6 aircraft with a minimum wingtip clearance of 10 ft between aircraft and between the aircraft wingtips and sun shade structures. The T-6 aircraft is 33.42 ft wide, 33.33 ft long and 10.67 ft high. All shade structures shall provide 5 ft clearance above the highest point of the aircraft. The front and back of the sun shade shall have a cantilever over hang to provide maximum coverage while moving the support columns inward, thus lessening the potential for obstruction with aircraft movements.
 - 9.2. The sun shade framework, including accessories, shall be hot dipped galvanized steel and include a 20-year warranty against defects, corrosion, and deterioration. Galvanized sun shade framework shall be overcoated with a finish coat of paint (dry film thickness of finish coat of paint shall be of a thickness capable of hiding color of galvanized steel below but under no circumstances shall the dry film thickness of the finish coat be less than 1 mil).
 - 9.3. The sun shade roof covering shall be galvanized steel and shall include a minimum 20-year warranty against any material defects, corrosion, and deterioration. The sun shade roof covering shall consist of minimum 24 gage thick roof panels (exception: 26 gage thick roof panels will also be considered an acceptable sun shade roof covering if submitted engineering design load calculations permit its use) with corrosion resistant fasteners with rubber-backed washers and shall include a guarantee against water leaks for a period of 2 years. Galvanized steel sun shade roof covering shall be overcoated with a manufacturer's 20-year warranty finish coat of paint. Sun shade roofing shall be built to shed water away from the parked aircraft and not between parked aircraft on the same row.
 - 9.4. Both ends of each row of sun shades shall be covered with vertical shades to aid in protection from elements. Vertically, these end shades should start at the top of the structure and extend to approximately 7 feet above ground. Laterally, these end shades should extend from support pillar to support pillar. These end shades should be constructed of material resistant to the damaging effects of wind and sun. Structural Engineer shall provide load calculations for anchor bolts, columns and/or footings.
 - 9.5. Sun shades are to be free standing and typically bolted to the existing airfield apron. In cases where sun shade columns are positioned over existing pavement joints or other cases where bolting of sun shade columns to the concrete pavement is not feasible, contractor shall be responsible for installing new concrete column footings extending through the existing airfield apron. The bolting to the concrete shall have a 5 year warranty against any material defects, corrosion, and deterioration.
 - 9.6. All painted components of the sun shades will be painted with colors that will comply with LAFB Architectural Compatibility Guide.
 - 9.7. The aircraft sun shades are to be designed with both obstacle and security/maintenance lighting. All the lighting should utilize an energy efficient LED light source with a ten year lifespan. The light fixture and intensity shall be provided to the government for approval during the submittal phase. Security and maintenance lighting should provide 360 degree illumination of the aircraft to eliminate the need for secondary lighting during the majority of night operations. This lighting should be permanently affixed to the structure and not be capable of swaying during high wind conditions. The obstacle lighting will comply with UFC 3-535-01 requirements as well as be capable of withstanding the same wind loads as the rest of the sun shade.
 - 9.8. This project will require pavement striping work to include the removal of current taxi lines and installation of new taxi lines to the entire parking row after the spots have been repositioned (for parking spots inside and outside the shades). Also, the red lines which identify the propeller hazard areas will be removed and new lines installed as part of the re-striping process. The new hazard areas will meet the standards in Engineering Technical Letter (ETL) 04-2 Change 1, "Standard Airfield Pavement Marking Schemes" and AETC T-6 Prop Arc Memorandum. The removal of the ground markings will not be destructive to the pavement as an effort to maximize pavement life span. Also, the work will use retro reflective beads for all apron and taxi lane markings near aircraft sun shades. Paint removal shall follow the guidance and specifications in ETL 97-17 "Paint and Rubber Removal from Roadways and Airfield Pavements" and UFGS Division 32 Section 32-01-11.51 "Rubber and Paint Removal from Airfield Pavements". Any re-striping requires simultaneous installation of aircraft tie-down and grounding points.
 - 9.9. The work will include the installation of new aircraft tie-down points (4 per aircraft parking spot). See T-6 Tie-Down Detail for dimensions. Aircraft grounding points will be installed when the current points are not co-located with the new parking positions. Existing tie-down and grounding points will need to be saw cut 2" below top of pavement and remove housing and rod, and fill with a high strength cement or epoxy. The material the contractor shall use will require being submitted for government approval during the submittal phase.
 - 9.10. The sun shades must meet the following minimum clearance requirements during design and installation. The lateral wing tip clearance will meet the following: clearance of 10 feet between aircraft or aircraft to structure in the parking positions, 20 feet within the T-6 parking apron (in between the parking rows) and 30 feet when operating on the main taxiway. The vertical tail to structure clearance requirement is 5 feet. The sunshades must also be a minimum of 200 feet from taxiway centerline.
 - 9.11. Sun shade design and installation shall mitigate bird roosting or nesting within the sun shade structure.
 - 9.12. The aircraft sun shade contract includes infrastructure for the future permanent electrical ground power units (GPUs) capable of providing adequate support for reoccurring T-6 operations. The minimum requirements will be 28 to 28.5 VDC, 1000 amps for 5 seconds, 500 amps for 2 minutes, and 300 amps of continuous operation. The GPUs are to be designed while operating to these specifications during temperatures up to, and including, an ambient temperature of 43 degrees Celsius. Aircraft power cords shall be of length to reach aircraft on both sides of the GPU. The electrical grid design will eliminate the ability of a single GPU failure to impact the functionality of the remaining GPUs. The GPUs shall have a minimum of two 110V convenience outlets with a "Type B" socket. The overall height of the GPUs shall be no higher than 36 inches. However, the installation of the GPU's will not be included in this contract. Only the designing the electrical capacity for future installation of the GPU's.
 - 9.13. The sunshade and GPUs' electrical power shall be designed to be brought to the equipment from the primary distribution system. The primary electrical distribution systems on Laughlin AFB is privatized and owned by Rio Grande Electric Company (RGE). If any work is required on RGE infrastructure, the contractor will need to coordinate with and sub-contract RGE in order to perform the necessary electrical support required.
 - 9.14. Any pavement trenching performed shall be replaced with pavement providing equivalent structural functionality as the adjacent, existing pavement.
 - 9.15. On-site Field Oversight: The contractor shall provide the manpower, equipment, material, services, and transportation necessary to ensure oversight services throughout accomplishment of this contract. A superintendent and Quality Control "QC Manager" approved by the City must be on site whenever work is being performed. The superintendent and the QC Manager shall not be the same person. It is the responsibility of the contractor to establish and maintain open communications between salient authorities associated with accomplishment of this contract. Also, the on-site supervisor(s) will submit for review their credentials and verifiable experience with LAFB Civil Engineer Squadron.
10. Ground Collision Mitigation:

Protection devices for highlighting or illuminating column posts will be utilized. Sun shade columns will either be wrapped with 2 to 3 inch wide tape meeting Federal Specification L-S-300C or a self-adhesive, self illuminating tape which stores energy, or "recharges" with exposed UV-illuminated visible light. When there is no light source, the photoluminescent material "gives off" the stored energy for an extended period of time - up to 36 hours.
11. Engineering Design Specification:
 - 11.1. The dead load shall consist of the weight of the structural frame and all other materials of the aircraft sun shade system.
 - 11.2. Roof areas shall be designed for a minimum live load in accordance with the American Society of Civil Engineers (ASCE) 7, but under no circumstances less than 20 pounds per square foot in addition to calculated dead loads. Roof areas shall also be designed with both positive and negative wind loads in accordance with ASCE.
 - 11.3. The contractor will be responsible for researching all historical weather conditions within the local area and designing the sun shade to withstand these conditions.
 - 11.3.1. Wind pressures shall be computed and applied in accordance with ASCE 7 using a basic wind speed of 110 miles per hour (fastest mile).
 - 11.3.2. Seismic loads shall be based on ASCE 7.
 - 11.4. A licensed Professional Engineer (PE) in structural engineering shall sign and seal their work and provide a copy of engineering calculations and with two reproducible, 36 inches by 24 inches, copies of design drawings. In cases where existing apron pavement is used for structure foundation, the registered structural engineer shall design the aircraft sun shade foundation. The registered structural engineer will provide credentials to LAFB Civil Engineer Squadron for review.
12. Grounding and Bonding:

If the existing apron pavement is used for structure foundation each steel column of the structure shall be connected to a ground rod at its base with 1/0 bare copper conductor. The ground rods shall be constructed of copper clad steel and must be a minimum of 10 feet long, and not less than 0.75 inches in diameter. Ground rods shall be driven within 3 inches of the column base on the north or south side and the top of the ground rod shall be 3 inches above concrete apron. If drilled concrete piers 5 feet deep or greater are used for structure foundation a 1/0 bare copper conductor shall be bonded to a main reinforcing bar and one of the anchor bolts and brought out for connection to each steel column. A ground rod shall be used in addition to this at any lightning protection down conductors.

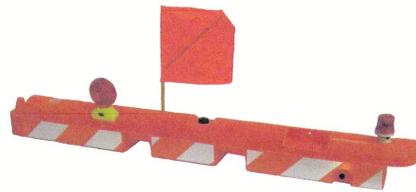


Paul R. Ope
11/22/2016

REVISIONS		NO.	DATE	DESCRIPTION

CITY OF DEL RIO, TEXAS LAUGHLIN AIR FORCE BASE T-6 PREFABRICATED AIRCRAFT SUN SHADES		JOB No: C-1239.22
SUN SHADE DETAILS		DATE: 11/22/16
PREPARED BY: BAIN MEDINA BAIN, INC. ENGINEERS & SURVEYORS 7073 San Pedro San Antonio, Texas 78216 210/494-7223		CHECKED BY: REM CB
		SHEET C-10

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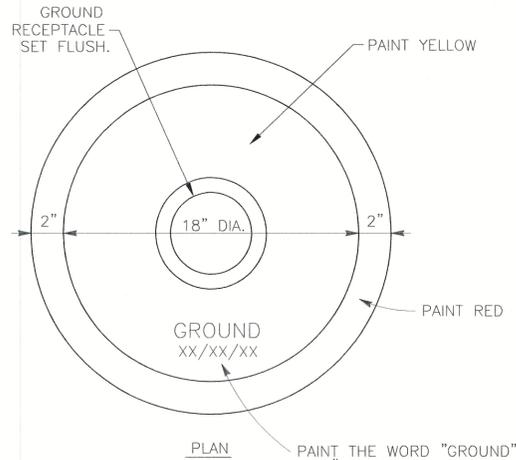


5.5. BARRICADES: CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN LIGHTED BARRICADES APPROVED BY THE CITY. THE PREFERRED BARRICADE FOR LAUGHLIN AIRFIELD IS A LOW PROFILE (12" HIGH) BARRICADE THAT HAS DUAL RED LIGHTS AND CAN BE WATER FILLED. THE ENTIRE WORK AREA MUST BE OUTLINED IN A CONTIGUOUS LINE OF LOW PROFILE BARRICADES. SAND BAGS ARE NOT USED TO WEIGHT DOWN BARRICADES BECAUSE OF THE FOD POTENTIAL THESE CREATE. THE RED LIGHTS ON THE BARRICADES (TYPICALLY 2 PER BARRICADE) SHALL BE INSPECTED DAILY BY AIRFIELD MANAGEMENT. CONTRACTOR WILL ENSURE THAT BARRICADE LIGHTING IS MAINTAINED IN OPERATIONAL CONDITIONS AT ALL TIMES.

NOTE: RRM LOW PROFILE AIRPORT BARRIER MODEL No. 1008-25 OR APPROVED EQUAL.

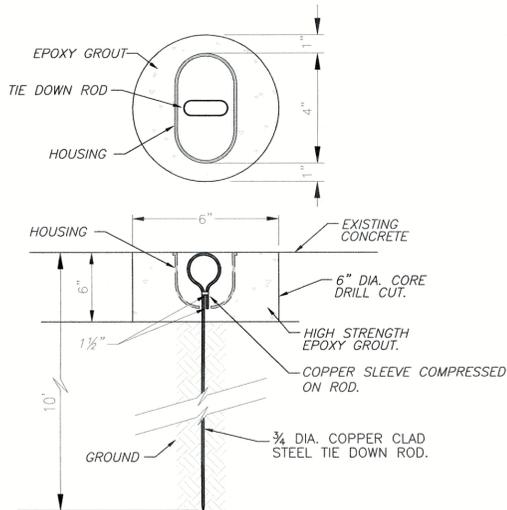
1 LOW PROFILE AIRPORT BARRICADE DETAIL

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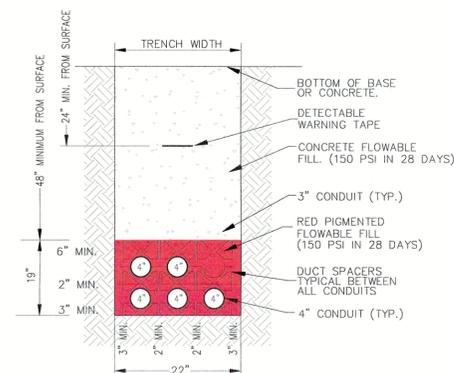
2 GROUND POINT IDENTIFICATION

N.T.S.



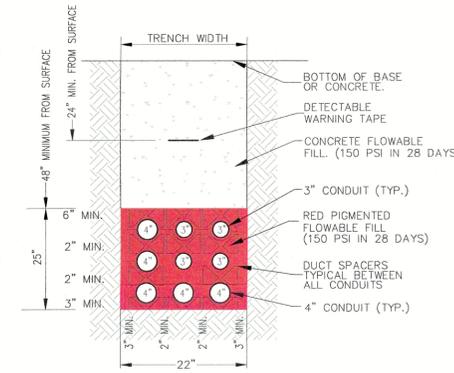
3 COMBINATION TIE-DOWN / GROUNDING RECEPTACLE

N.T.S.



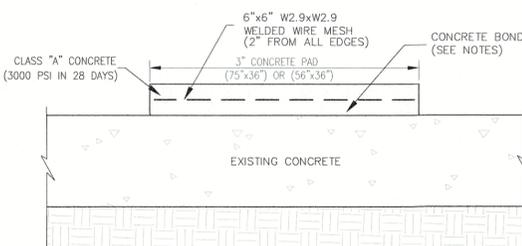
4 DUCT BANK TRENCH SECTION DETAIL TRANSFORMER TO MANHOLE 1

N.T.S.



5 DUCT BANK TRENCH SECTION DETAIL MANHOLE 1 TO MANHOLE 2

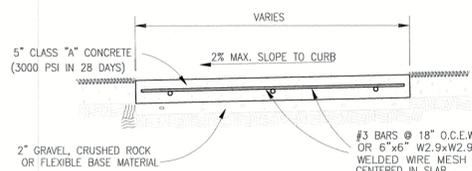
N.T.S.



NOTE:
1. CONCRETE PAD SHALL BE FORMED AND DIMENSIONS VERIFIED PRIOR TO CONCRETE PLACEMENT.
2. PLACE CONCRETE BOND ON CLEAN SURFACE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. APPLY CONCRETE BOND AT RATE RECOMMENDED BY MANUFACTURER.

6 TYPICAL CONCRETE PAD DETAIL

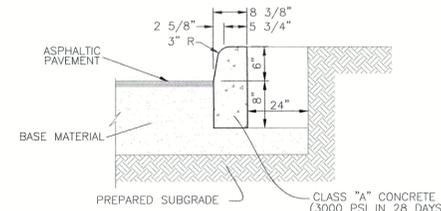
N.T.S.



NOTE:
1. EXPANSION JOINTS SHALL NOT EXCEED 50 L.F. SEE SPECIFICATIONS.
2. CONTRACTION JOINT SPACING TO EQUAL WIDTH OF SIDEWALK.

7 CONCRETE SIDEWALK DETAIL

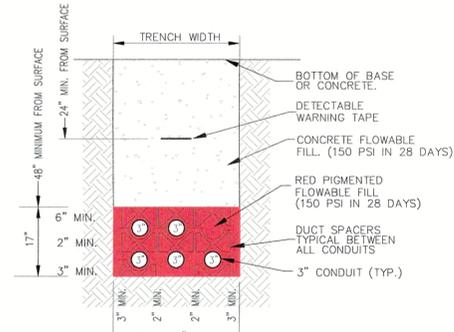
N.T.S.



NOTE:
1. EXPANSION JOINTS AT 50'-0" AND SHALL EXTEND THE FULL DEPTH OF CURB.
2. DUMMY JOINTS SHALL BE 10' INTERVALS AND SHALL BE 1/2" DEEP THE FULL CURB PATTERN.
3. PROVIDE 12" DOWEL AND COLD JOINT AT ALL CURB TIE-INS.

8 STANDARD CONCRETE CURB DETAIL

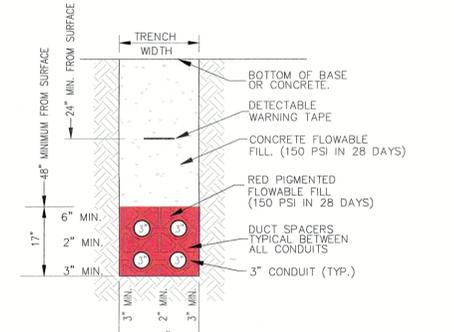
N.T.S.



NOTE:
1. DROP (1) 3" CONDUIT FROM HANDHOLE "G" TO HANDHOLE "H".
2. DROP (1) ADDITIONAL 3" CONDUIT FROM HANDHOLE "H" TO HANDHOLE "I".
3. DROP (1) ADDITIONAL 3" CONDUIT FROM HANDHOLE "I" TO HANDHOLE "J".

9 DUCT BANK TRENCH SECTION DETAIL MANHOLE 2 TO HANDHOLE "E"

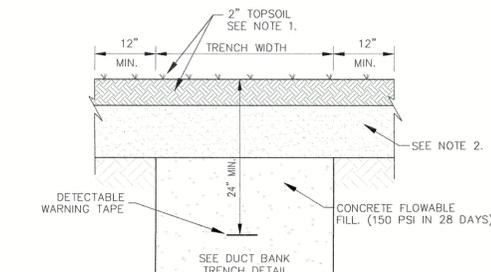
N.T.S.



NOTE:
1. DROP (1) 3" CONDUIT FROM HANDHOLE "E" TO HANDHOLE "D".

10 DUCT BANK TRENCH SECTION DETAIL MANHOLE 1 TO HANDHOLE "G"

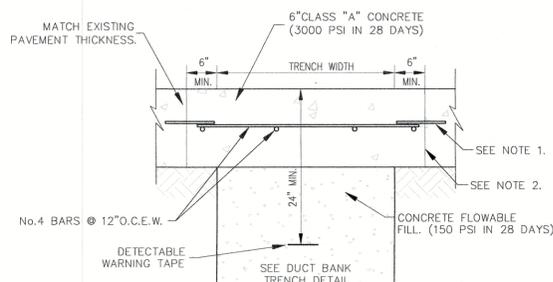
N.T.S.



NOTE:
1. PROVIDE 2" TOPSOIL AND SOLID SOD ON TRENCHED AREA AND ALL DISTURBED AREAS. SEE SPECIFICATIONS.
2. 4" EXCAVATED EARTHEN MATERIAL. 90% COMPACTED DENSITY. SEE SPECIFICATIONS FOR SUITABLE MATERIAL.

11 EARTHEN SECTION DETAIL

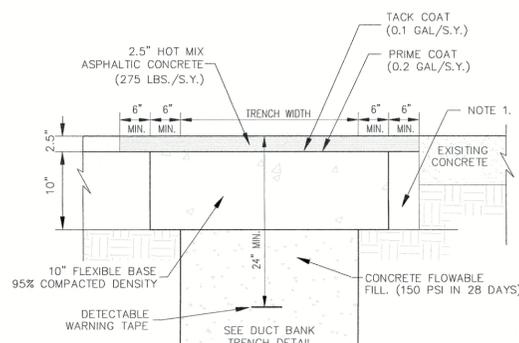
N.T.S.



NOTE:
1. WHEN TRENCH WIDTH IS 12" OR GREATER, PROVIDE 12" DOWELS AT 24" O.C. EACH SIDE OF TRENCH. DOWELS SHALL BE STAGGARD TO EACH SIDE.
2. WHEN TRENCH WIDTH IS LESS THAN 12", PROVIDE CONCRETE BOND TO SAW CUT EDGES BEFORE PLACING CONCRETE.
3. CONTRACTION JOINTS SHALL BE HAND TOOLED TO MATCH EXISTING PAVEMENT.

12 CONCRETE PAVEMENT SECTION DETAIL

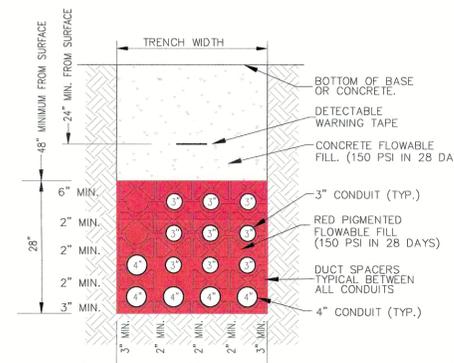
N.T.S.



NOTE:
1. WHEN ADJACENT TO CONCRETE APRON, PROVIDE BASE MATERIAL TO EDGE OF CONCRETE THE FULL DEPTH AS SHOWN.

13 ASPHALT PAVEMENT SECTION DETAIL

N.T.S.



14 DUCT BANK TRENCH SECTION DETAIL MANHOLE 2 TO MDP

N.T.S.



Carl B. Bain
11/22/2016

REVISIONS		
NO.	DATE	DESCRIPTION

CITY OF DEL RIO, TEXAS
LAUGHLIN AIR FORCE BASE
T-6 PREFABRICATED AIRCRAFT SUN SHADES

JOB No.: C-1239.22
DATE: 11/22/16
DRAWN BY: REM
CHECKED BY: CB
SHEET

CIVIL DETAILS

PREPARED BY:
BAIN MEDINA BAIN, INC.
ENGINEERS & SURVEYORS
7073 San Pedro
San Antonio, Texas 78216
210/494-7223

C-11

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