



690 Chesterfield Pkwy W • Chesterfield MO 63017-0760
Phone: 636-537-4000 • Fax 636-537-4798 • www.chesterfield.mo.us

Planning Commission Staff Report

Project Type: Amended Site Development Plan

Meeting Date: January 27, 2014

From: Purvi Patel
Project Planner

Location: 18500 Edison Avenue

Applicant: Farnsworth Group, on behalf of Monsanto Company

Description: **Spirit of St. Louis Airpark, Monsanto Hangar:** An Amended Site Development Plan, Amended Lighting Plan, Amended Architectural Elevations and an Architect's Statement of Design for an 11 acre tract of land zoned "M-3" Planned Industrial District located on the south side of Edison Avenue, east of Spirit of St. Louis Boulevard.

PROPOSAL SUMMARY

Farnsworth Group, on behalf of Monsanto Company, has submitted an Amended Site Development Plan, Amended Lighting Plan, Amended Architectural Elevations and an Architect's Statement of Design for a proposed hangar building.

The request is for a 28,800 square foot aircraft storage and light maintenance hangar building located within the Spirit of St. Louis Airpark development. The proposed exterior building materials are primarily painted metal panel siding (more specifically pre-engineered steel) and expansive windows. Additionally, the proposal includes a flat painted metal panel roof.

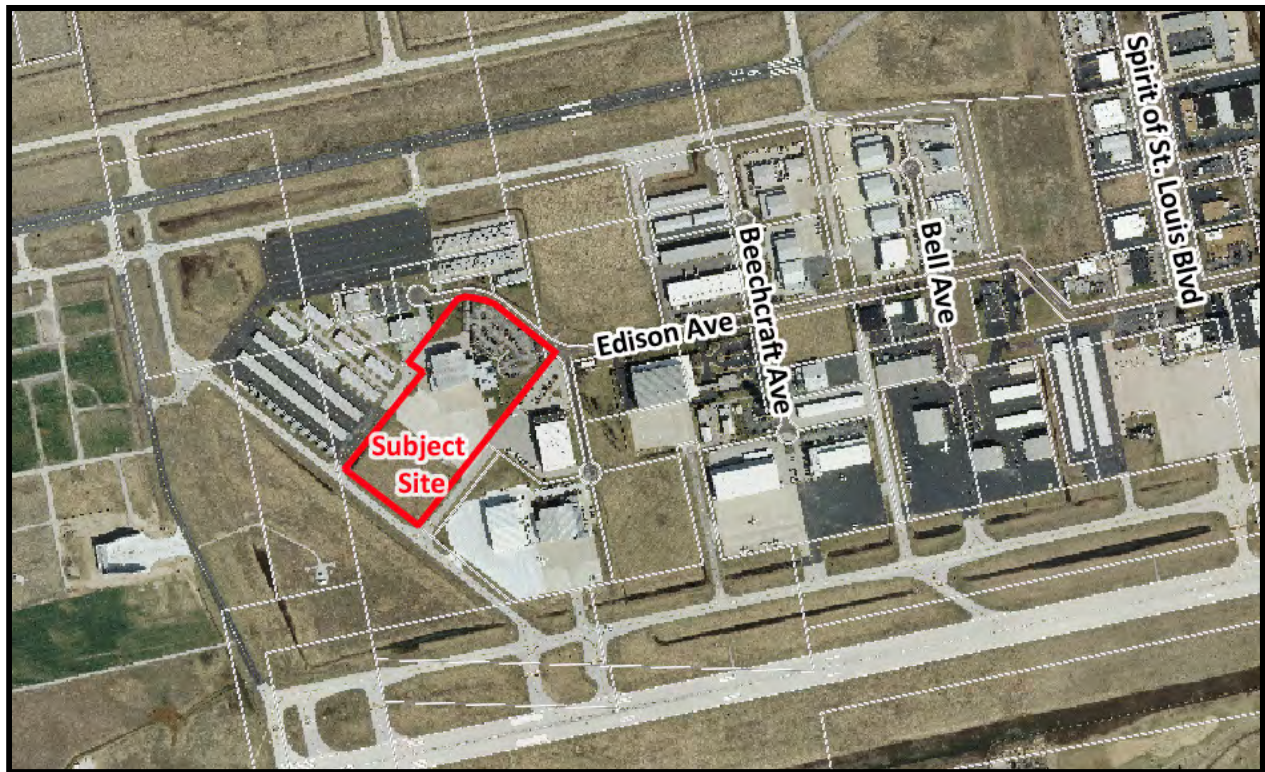
HISTORY OF SUBJECT SITE

St. Louis County approved a zoning map amendment from an "NU" Non-Urban District to an "M-3" Planned Industrial District for Spirit of St. Louis Airport via Ordinance 2212 prior to the incorporation of the City of Chesterfield. This ordinance was subsequently amended nine times to allow for additional uses, amend setbacks, and amend the boundaries of the "M-3" Planned Industrial District. The current ordinance governing the site is City of Chesterfield Ordinance 1430.

There is an existing building with an attached hangar on the subject site which was constructed in 1998 and since that time, there have been no alterations to the subject site. There are no changes proposed to the existing buildings on site. The proposed hangar addition is a stand-alone building and will not be physically attached to the existing buildings.

Land Use and Zoning of Surrounding Properties

Direction	Land Use	Zoning
North	Airport / Hangar	"M-3" Planned Industrial District
South	Airport / Runway	"M-3" Planned Industrial District
East	Airport / Office / Hangar	"M-3" Planned Industrial District
West	Airport / Office / Hangar	"M-3" Planned Industrial District



STAFF ANALYSIS

Zoning

The subject site is currently zoned "M-3" Planned Industrial District under the terms and conditions of City of Chesterfield Ordinance Number 1430. The submittal was reviewed against the requirements of Ordinance Number 1430, the Lighting Ordinance, the Tree Preservation and Landscape Requirements, the Architectural Review Requirements and all other applicable sections of the City Code.

Traffic Access and Circulation

There are two existing entrances to the site off of Edison Avenue on the northern portion of the site and no changes are proposed to these entrances. A taxiway is proposed on the southern portion of the site with the circulation being governed by the Spirit of St. Louis Airport. Additionally, the access to the taxiway will be restricted to the public.

Similar to vehicular traffic, the pedestrian traffic near the proposed building will be strictly controlled and monitored due to the proximity of the building to the proposed taxiway.

proposed here. Based on this and the location and extent of the current project, this variance was approved by the Planning and Development Services Director on January 21, 2014.

Lighting

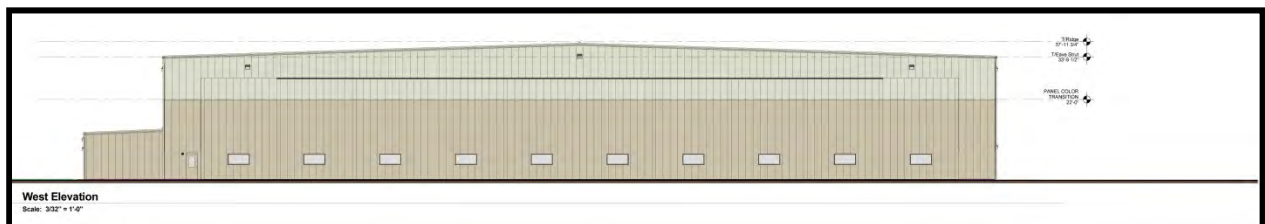
The Photometric Plan proposes two different light fixtures attached to the proposed building. The first fixture, noted as SA on the plan, is a fully-shielded metal halide flood light with a cut-off shield. The purpose of this fixture is to illuminate the tarmac and will be mounted at approximately thirty (30) feet from grade on the building. The applicant is also adding a cut-off shield in order ensure there is no light trespass. The second fixture, noted as SB on the plan, is a fully enclosed metal halide wall pack. This fixture will be mounted at approximately eleven (11) feet from grade on the building. Both fixtures adhere to the City of Chesterfield Lighting Ordinance and cut-sheets for both fixture types are included in the packet.

The lighting levels for this project are dictated by the Federal Aviation Administration (FAA) regulations to ensure safety and efficiency of operations. As such, the Lighting Ordinance includes a section pertaining to this which states “airport lighting which is required for the safe and efficient movement of aircraft during flight, take off, landing, loading, unloading, servicing areas and taxiing is exempt from the provisions of this Code”.

Architectural Elevations

The building will be primarily comprised of painted metal siding—more specifically pre-engineered steel—which is typical for this building type. The design also includes expansive windows to allow natural light into the space. Additionally, large door openings are proposed in order to promote cross-ventilation. The proposed materials and colors are chosen to match the existing Monsanto Hangar on the site and other buildings within the airport complex.

Furthermore, the applicant is proposing a building of similar height and size as the adjacent structures. The tallest point on the proposed building is approximately 37 feet 11 inches. This height is required to ensure that the building can shelter a variety of aircrafts and perform the necessary maintenance to the aircrafts. Additionally, as seen on the East and West Elevations below, portion of the hangar is shortened to 12 feet and is set back from the rest of hangar to avoid potential gusts of air from the engines being directed towards people entering and exiting the hangar.



In addition, the proposal includes ground-mounted equipment that will be screened from the public view by a six (6) foot tall masonry wall. Rooftop equipment is not being proposed for this facility.

The project was reviewed by the Architectural Review Board (ARB) on December 12th, 2013. At that meeting, a motion to forward the project to the Planning Commission as presented was made by the ARB by a vote of 6-0.

DEPARTMENT INPUT

Staff has reviewed the Amended Site Development Plan, Amended Lighting Plan, Amended Architectural Elevations and Architect's Statement of Design and has found the proposal to be in compliance with the site specific ordinance and all City Code requirements. Staff recommends approval of the proposed project of Spirit of St. Louis Airpark, Monsanto Hangar.

MOTION

The following options are provided to the Planning Commission for consideration relative to this application:

- 1) "I move to approve (or deny) the Amended Site Development Plan, Amended Lighting Plan, Amended Architectural Elevations and Architect's Statement of Design for the Spirit of St. Louis Airpark, Monsanto Hangar.

- 2) "I move to approve the Amended Site Development Plan, Amended Lighting Plan, Amended Architectural Elevations and Architect's Statement of Design for the Spirit of St. Louis Airpark, Monsanto Hangar, with the following conditions..." (Conditions may be added, eliminated, altered or modified)

CC: Aimee Nassif, Planning and Development Services Director

Attachments: Amended Site Development Plan
Amended Lighting Plan
Architect's Statement of Design
Amended Architectural Elevations

AMENDED SITE DEVELOPMENT PLAN MONSANTO SPIRIT OF ST. LOUIS HANGAR

PROJECT NAME

MONSANTO SPIRIT OF ST. LOUIS HANGAR

PROPOSED HANGAR ADDRESS

18510 EDISON AVENUE
CHESTERFIELD, MISSOURI
63005

SITE INFORMATION

LOCATOR NUMBER
ZONING DISTRICT
PAVED AREA
BUILDING AREA

EXISTING HANGAR ADDRESS

18500 EDISON AVENUE
CHESTERFIELD, MISSOURI
63005

17W310222
M-3 PLANNED INDUSTRIAL DISTRICT
240,535 SQ. FT. OR 5.52 ACRES (49.5%)
71,397 (GROUND FLOOR) SQ. FT.
OR 1.64 ACRES (14.6%)
175,790 SQ. FT. OR 4.03 ACRES (36%)
487,722 SQ. FT. OR 11.20 ACRES (100%)
85,541 S.F. / 487,722 S.F. (17.5)

4.2 ACRES
NONE
ROCKWOOD
FIRE DISTRICT
LEVEE DISTRICT

EMERGENCY CONTACT

MONSANTO COMPANY
NORTH CAMPUS, LAKESIDE 2, 2281 BALL DR.
MARYLAND HEIGHTS, MISSOURI 63146
CONTACT : DAN KERKEMEYER
314-694-4619

ENGINEERING FIRM

FARNSWORTH GROUP, INC. C/O BOB POLK
20 ALLEN AVE SUITE 200
ST. LOUIS, MISSOURI 63119
314-962-7900

GEOTECHNICAL ENGINEER'S STATEMENT OF COMPLIANCE

THESE PLANS HAVE BEEN REVIEWED BY THE UNDERSIGNED FOR GEOTECHNOLOGY, INC. REGARDING COMPLIANCE WITH OUR GEOTECHNICAL RECOMMENDATIONS. IT IS OUR PROFESSIONAL OPINION THAT EARTH SLOPES AND GRADES CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS WILL BE STABLE WITH AN ADEQUATE FACTOR OF SAFETY. GEOTECHNOLOGY MUST BE INVOLVED DURING THE CONSTRUCTION PHASE TO DETERMINE THAT SUBSURFACE CONDITIONS ARE AS ANTICIPATED AND THAT RECOMMENDATIONS RELATIVE TO CONSTRUCTION ARE IMPLEMENTED.

J. FRANK CALLANAN, P.E. (GEOTECHNOLOGY, INC.)

BENCHMARK

BM: 12-22 "STANDARD TABLET" STAMPED U.S.G.S. GAGING STATION SET IN NORTHEAST WINGWALL OF BRIDGE OVER BONHOMME CREEK; 24' NORTH OF WILD HORSE CREEK ROAD AND 100' EAST OF LONG ROAD. ELEVATION = 470.31

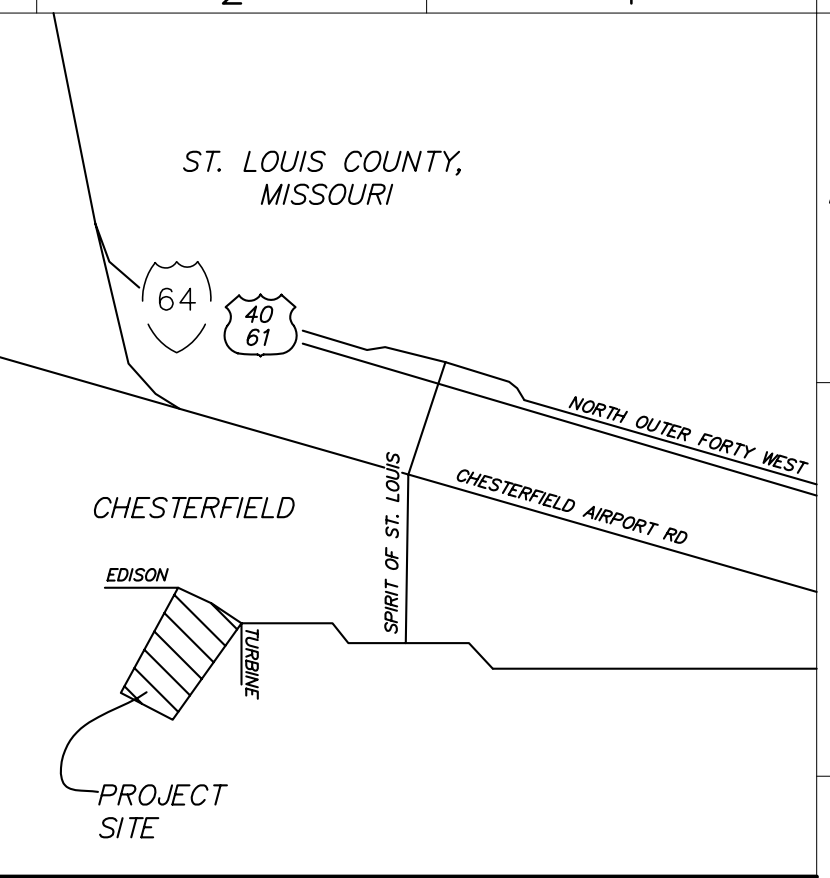
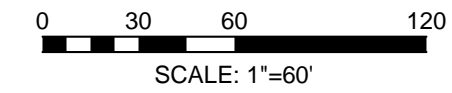
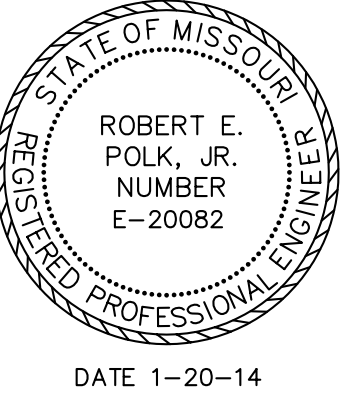
FLOOD NOTE

PER SURVEY BY GRAPHIC PLOTTING AND SCALED MAP LOCATION THIS PROPERTY LIES WITHIN "ZONE X" (AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEAVES FROM 100-YEAR FLOOD). "ZONE AH" FLOOD DEPTHS OF 1 TO 3 FEET (USUALLY AREAS OF PONDING); BASE FLOOD ELEVATIONS DETERMINED, PER FLOOD INSURANCE RATE MAP COMMUNITY PANEL NO. 25189C0120 H, PANEL NO. 120 OF 420, EFFECTIVE DATE AUGUST 2, 1995 "ZONE X" AREA IS PROTECTED FROM THE ONE PERCENT (1%) ANNUAL CHANCE (100 YEAR) FLOOD BY LEVEE, DIKE, OR OTHER STRUCTURES SUBJECT TO POSSIBLE FAILURE OR OVERTOPPING DURING LARGER FLOODS.

PER CHESTERFIELD VALLEY STORMWATER MASTER PLAN THIS DEVELOPMENT IS IN WATERSHED #7. THE NEAREST NODE IN THE MODEL IS NAP-1CC, THE 100 YEAR FLOOD ELEVATION = 461.07 NGVD, ALL NEW STRUCTURES WILL NEED TO BE 1' ABOVE THIS ELEVATION.

LANDSCAPING NOTE

NO EXISTING LANDSCAPING IS EFFECTED BY THIS PROJECT AND NO NEW LANDSCAPING IS PROPOSED FOR THIS PROJECT



Location Plan

Scale: Not To Scale

Name of Owner _____
In connection with a change of zoning for the following described property from _____ to _____ (prior zoning) (present zoning)

A tract of land being all of Lot 4 of Spirit of St. Louis Airport Lease Lots Plat 1, recorded in Plat Book 258 page 74 of the St. Louis County Recorder's Office, and being more particularly described as follows: Beginning at the northeast corner of said Lot 4; thence South 38 degrees 25 minutes 44 seconds West, 1036.07 feet; thence North 51 degrees 34 minutes 16 seconds West, 440.00 feet; thence North 38 degrees 25 minutes 44 seconds East, 577.05 feet; thence North 51 degrees 34 minutes 07 seconds West, 76.54 feet; thence North 38 degrees 25 minutes 53 seconds East, 382.95 feet to a point on a curve being the Southern line of Edison Avenue; thence 194.61 feet along the Southern line of said Edison Avenue along said curve to the right, having a radius of 230 feet and a central angle of 48 degrees 28 minutes 43 seconds to the Southern line of said Edison Avenue; thence South 51 degrees 36 minutes 04 seconds East, 336.50 feet; thence South 39 degrees 08 minutes 19 seconds East, 8.05 feet to the point of beginning and containing 487,722 square feet or 11.20 acres more or less.

_____, the owner(s) of the property shown on this plan for and in consideration of being granted a permit to develop property under the provisions of Chapter 100.3, _____ of City of Chesterfield Ordinance #624, do hereby (applicable subsection) (present zoning) agree and declare that said property from the date of recording this plan shall be developed only as shown hereon, unless said plan is amended by the Planning Commission, or voided or vacated by order of ordinance of the City of Chesterfield Council.
(Signature): _____
(Name Typed): _____
State of _____) SS.
County of _____
On this _____ day of _____, A.D., 20____, before me personally appeared _____, to me known, who, being by me sworn in, did say (Officer of Corporation) that he/she is the _____ of the _____ a (Title) (Name of Corporation) corporation in the State of _____ and that the seal affixed to the foregoing instruments is the corporate seal of said corporation, and that said instrument was signed on behalf of said corporation by authority of its Board of Directors, and the said _____ (Officer of Corporation) acknowledged said instrument to be the free act and deed of said corporation.

This Site (Development) Plan was approved by the City of Chesterfield Planning Commission and duly verified on the _____ day of _____, 20____, by the Chairperson of said Commission, authorizing the recording of this Site Plan pursuant to Chesterfield Ordinance Number 200, as attested to by the Planning and Development Services Director and the City Clerk.

Planning and Development Services Director _____

City Clerk _____

PARKING CALCULATIONS

OFFICE SPACE 3-1/3 SPACES PER 1,000 S.F.
HANGAR SPACE 1 SPACE PER 10,000 S.F.
OFFICE 28,288 S.F. / 1,000 x 3.33 = 94.19 SPACES
CITY HAS INDICATED THAT THEY WILL APPLY WAREHOUSE PARKING CRITERIA TO THE HANGARS, PARKING WILL BE REQUIRED AT 2 SPACES FOR EVERY 3 EMPLOYEES
EXISTING PLUS PROPOSED HANGARS = 28 EMPLOYEES
28 x .67 = 18.76

TOTAL REQUIRED = 94.19 + 18.76 = 112.95

TOTAL PROVIDED = 152 SPACES INCLUDING 5 HANDICAP SPACES

ABBREVIATIONS LEGEND

N	NORTH	MSD	METROPOLITAN ST. LOUIS
S	SOUTH	EX	EXISTING
E	EAST	TR	TO REMAIN
W	WEST OR WIDE	(TYP)	TYPICAL
DB	DEED BOOK	SA	SANITARY
PG	PAGE	ST	STORM
ESMT	EASEMENT	S.F.	SQUARE FEET
UG	UNDERGROUND		

REV 3	-	JPB	1-6-14	RESPOND TO 12-30-13 COMMENT LETTER FROM CITY PLANNER	REP 1-6-14
REV 2	-	JPB	12-16-13	HANGAR BUILDING AREA INCREASED FOR 22' WIDE LEAN TO	REP 12-16-13
REV 1	-	JPB	12-11-13	RESPOND TO 11-3-13 COMMENT LETTER FROM CITY PLANNER	REP 12-11-13

MONSANTO

GLOBAL ENGINEERING DEPARTMENT
800 NORTH LINDBERGH BOULEVARD
ST. LOUIS, MISSOURI 63167

PLANT

THIS DRAWING IS THE PRIVATE PROPERTY OF MONSANTO COMPANY AND MUST BE RETURNED UPON REQUEST. THIS DRAWING MUST NOT BE COPIED OR REPRODUCED, IN WHOLE OR PART, WITHOUT THE EXPRESSED WRITTEN CONSENT OF MONSANTO COMPANY.

Monsanto Spirit of St. Louis Hangar Amended Site Development Plan

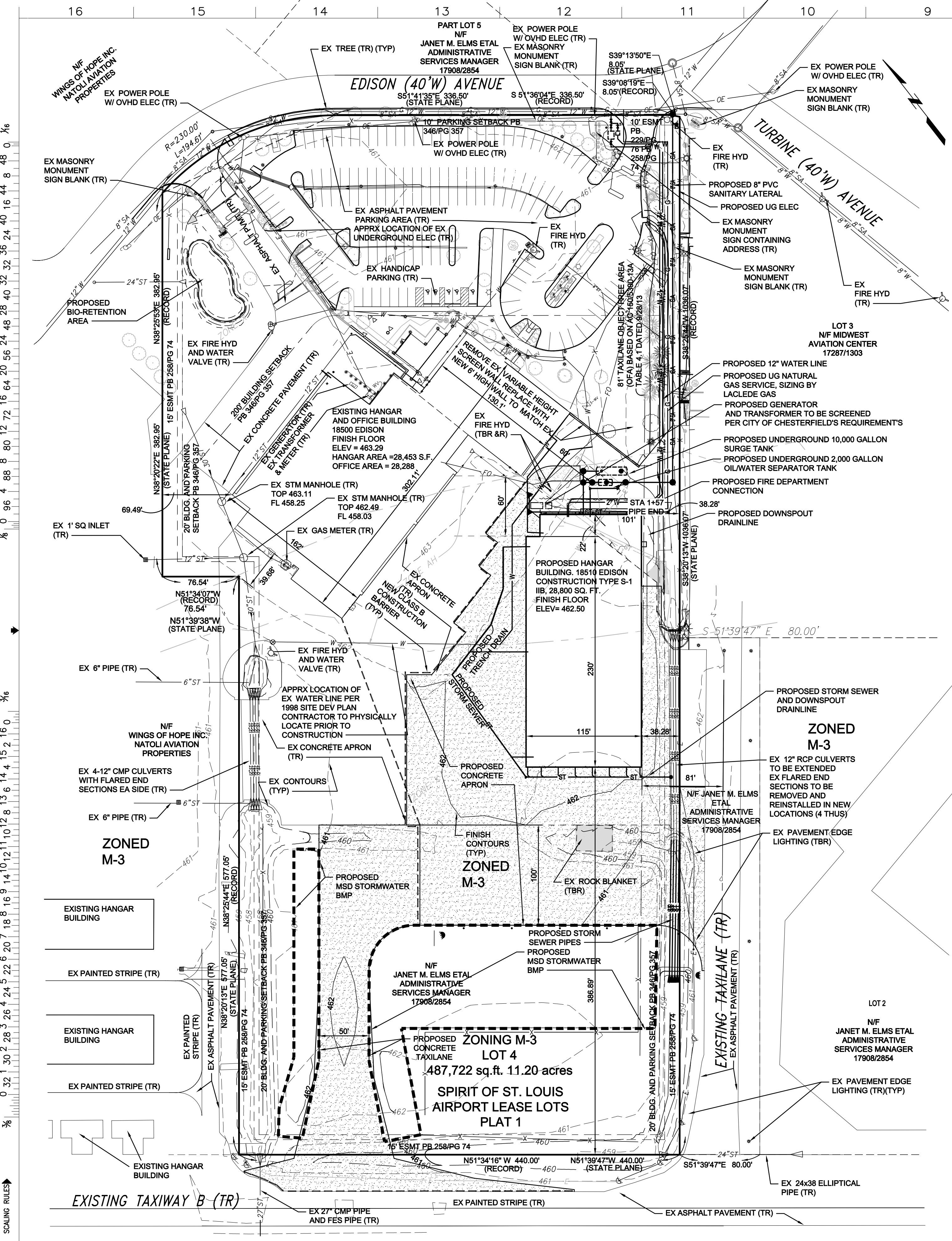
18510 Edison Ave, Chesterfield, Mo 63005

DRAWN	CHECKED	DESIGNED	PROJECT NO.	PLANT	ZONE	TYPE	NUMBER
JPB	REP	REP					

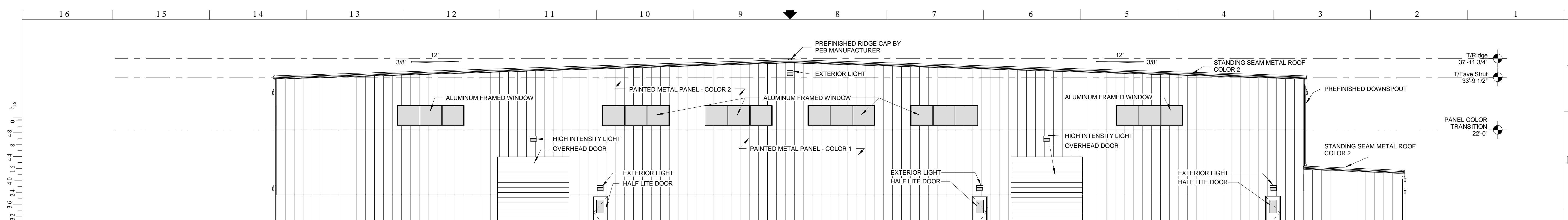
DATE	APPROVED	DATE	APPROVED	DATE	APPROVED
10-28-13	REP	10-28-13	REP	10-28-13	REP

SCALE: As Indicated

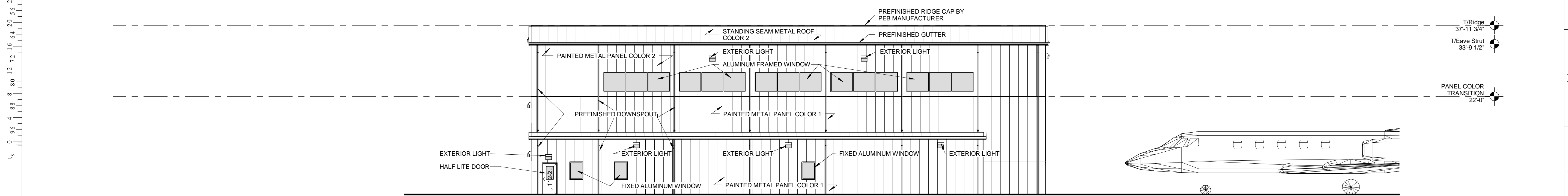
SIZE	PLANT DRAWING NO.	REV
D	ASDP-1	



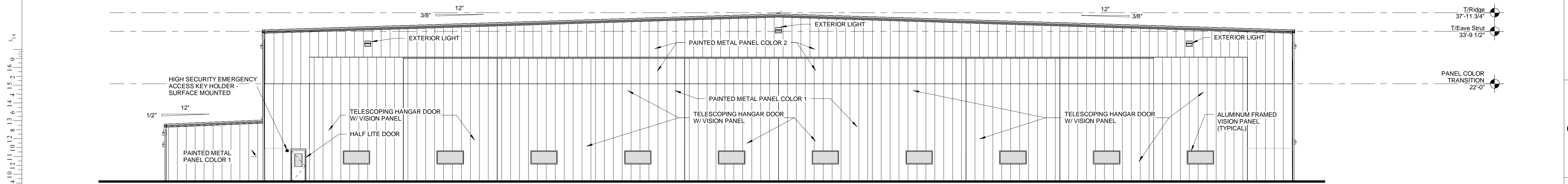
SOUNDING RULES: 1/8" = 10'-0" (VERTICAL), 1/4" = 10'-0" (HORIZONTAL)



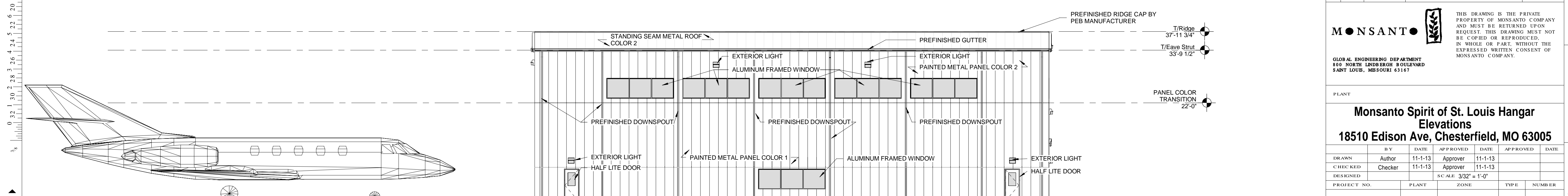
4 East Elevation
Scale: 3/32" = 1'-0"



3 North Elevation
Scale: 3/32" = 1'-0"



2 West Elevation
Scale: 3/32" = 1'-0"



1 South Elevation
Scale: 3/32" = 1'-0"

REV	PROJ.	BY	DATE	DESCRIPTION	CHKD	APPD

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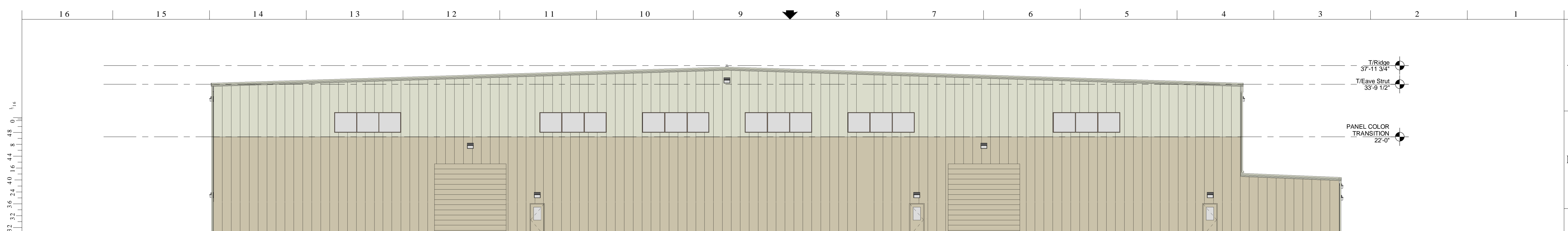
Monsanto Spirit of St. Louis Hangar Elevations
18510 Edison Ave, Chesterfield, MO 63005

DRAWN	CHECKED	DESIGNED	PROJECT NO.	PLANT	ZONE	TYPE	NUMBER
Author	Checker						

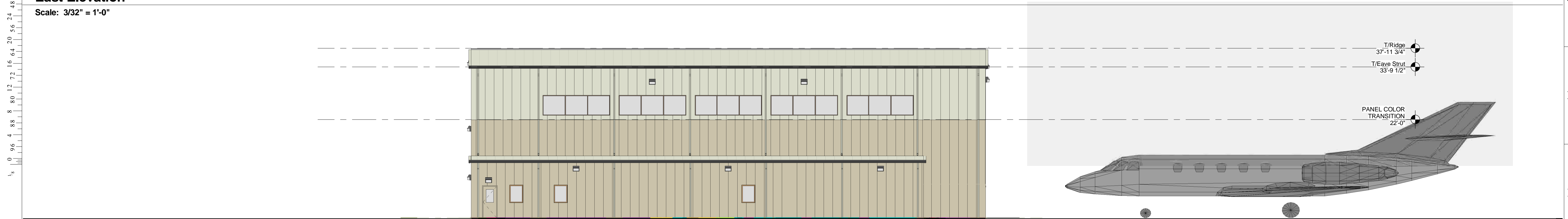
DATE	APPROVED	DATE	APPROVED
11-1-13		11-1-13	

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 SIZE: PLANT DRAWING NO. **A3.1b**

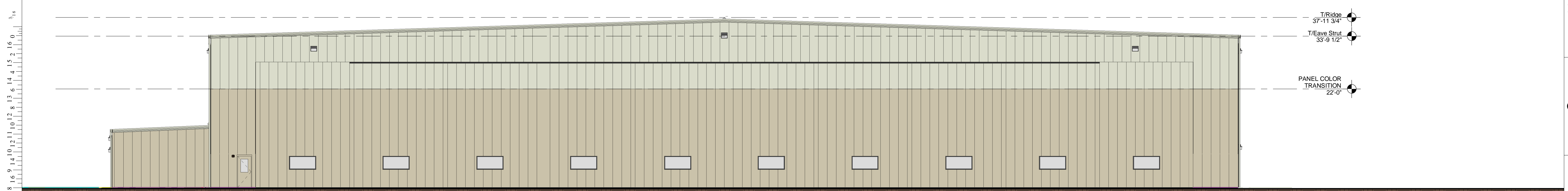
PRINTS ISSUED TO FIELD BY: **D** DATE: **11/21/2013 11:18:14 AM**



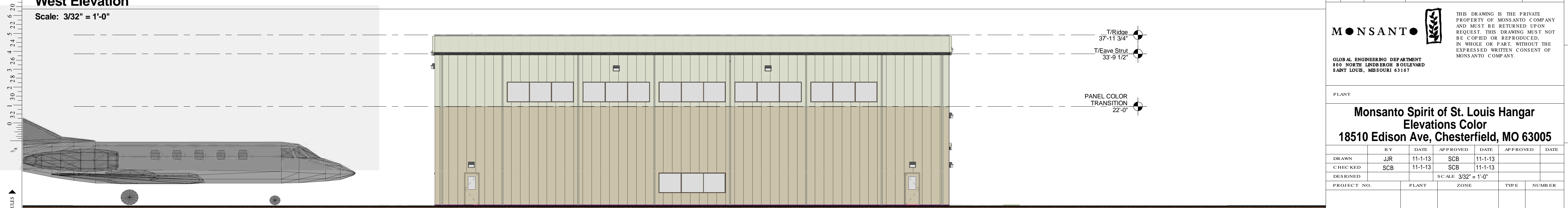
East Elevation
Scale: 3/32" = 1'-0"



North Elevation
Scale: 3/32" = 1'-0"



West Elevation
Scale: 3/32" = 1'-0"



South Elevation
Scale: 3/32" = 1'-0"

REV	PROJ.	BY	DATE	DESCRIPTION	CHKD	APPD

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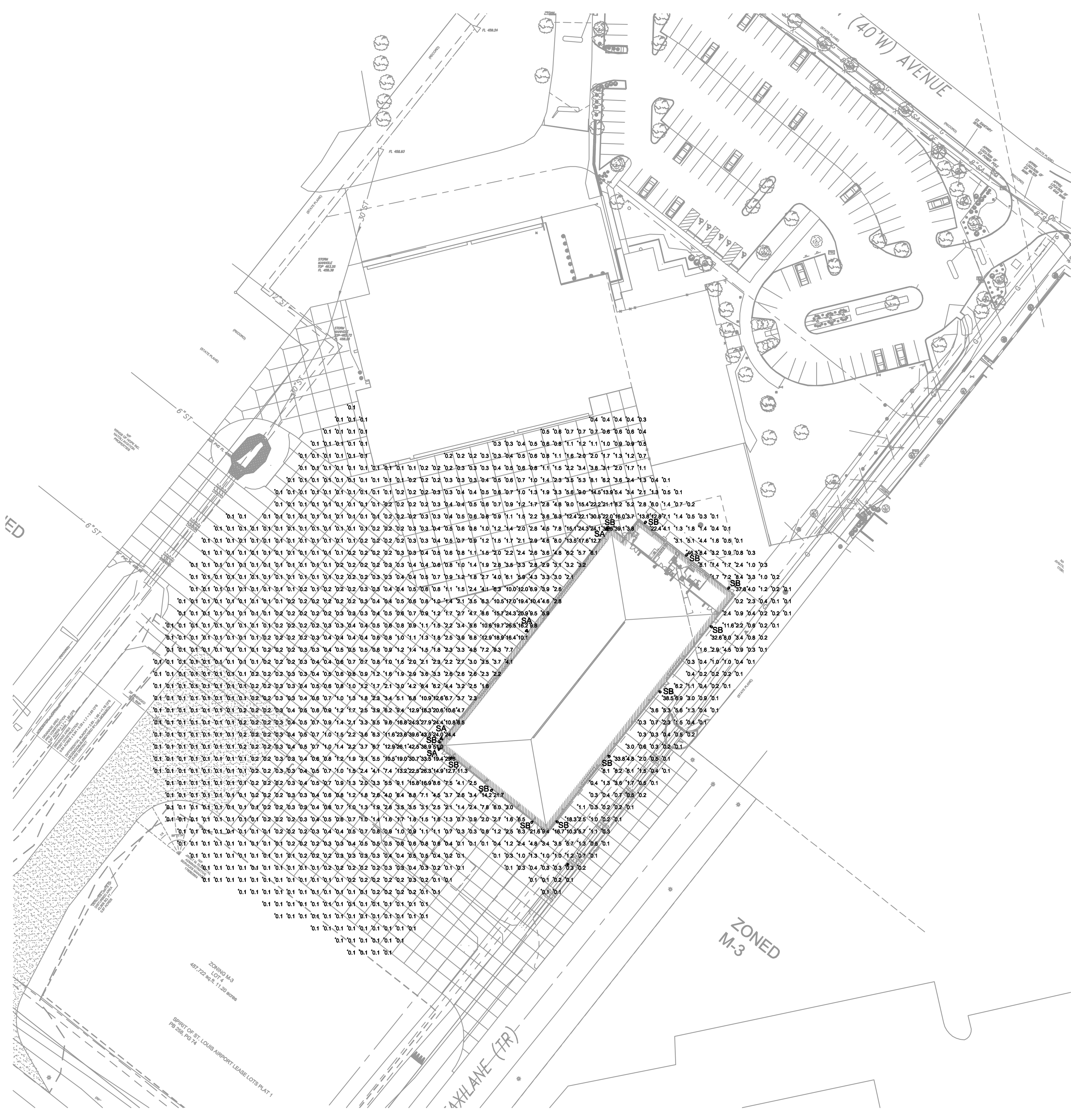
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PLANT
Monsanto Spirit of St. Louis Hangar
Elevations Color
18510 Edison Ave, Chesterfield, MO 63005

BY	DATE	APPROVED	DATE	APPROVED	DATE
DRAWN: JUR	11-1-13	SCB	11-1-13		
CHECKED: SCB	11-1-13	SCB	11-1-13		
DESIGNED: SCB	11-1-13				

PROJECT NO. PLANT ZONE TYPE NUMBER
 SCALE: 3/32" = 1'-0"

SIZE	PLANT DRAWING NO.	REV
D	A3.1c	



LUMINAIRE SCHEDULE							
FIXTURE NUMBER	MANUFACTURER	CATALOG NUMBER	NO. OF LAMPS	LAMP TYPE	VOLTAGE	MOUNTING HEIGHT	DESCRIPTION
SA	WIDELITE	FM-1500 C 277 TDB WB-1(F) ALF-10-F-L-LENS-(F) SK-100-(F)	1	1500W METAL HALIDE	277	VARIABLES	INDUSTRIAL FLOODLIGHT
SB	COOPER LIGHTING	WKP 40 M CWI 7 FC BZ	1	400W METAL HALIDE	277	VARIABLES	WALL MOUNTED LUMINAIRE

LIGHT FIXTURE SCHEDULE NOTES:

- COORDINATE WITH SUPPLIER ON LENGTH AND REQUIRED FITTINGS FOR CONTINUOUS FIXTURE AS SHOWN ON DRAWINGS WITH UNIFORM ILLUMINATION ALONG FIXTURE INCLUDING CORNERS.
- CONTRACTOR SHALL REMOVE ALL FINGER PRINTS FROM LENSES, REFLECTORS, AND LOUVERS FOLLOWING LIGHT FIXTURE INSTALLATION.
- FOR APPROVAL OF FIXTURES FROM MANUFACTURERS OTHER THAN THOSE LISTED, PROPOSED FIXTURE CUTS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER TEN (10) BUSINESS DAYS PRIOR TO BID FOR REVIEW. FINAL DETERMINATION OF 'EQUAL' STATUS FOR BIDDING SHALL BE THE SOLE DETERMINATION OF THE ARCHITECT/ENGINEER.

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
Calc Zone #3	+	2.4 fc	51.0 fc	0.1 fc	510.0:1	24.0:1	0.0:1

FC = Foot candles (unit of luminance)

Site Photometrics
 Scale: 1"=50'

REV	PROJ.	BY	DATE	DESCRIPTION	CHKD
					APPD

MONSANTO

GLOBAL ENGINEERING DEPARTMENT
 800 NORTH LINDBERGH BOULEVARD
 SAINT LOUIS, MISSOURI 63167

PLANT

Monsanto Spirit of St. Louis Hangar
Site Photometrics
18510 Edison Ave, Chesterfield, Mo 63005

DRAWN	BY	DATE	APPROVED	DATE	APPROVED	DATE
CHECKED	BPH	11-27-13				
DESIGNED	BAS	11-27-13				

PROJECT NO. 0130858.00

PLANT ZONE TYPE NUMBER

SIZE PLANT DRAWING NO. **ES1.1P**

REV

October 31, 2013

City of Chesterfield Architectural Review Board
690 Chesterfield Parkway West
Chesterfield, MO 63017-0760

Re: **Architect's Statement of Design – Monsanto Spirit of St. Louis Hangar**

Dear Architectural Review Board,

This document shall serve as the Architect's Statement of Design, which will identify how each section of the City of Chesterfield's design standards have been addressed for the above referenced project.

1. General Requirements for Site Design

a) Site Relationships

The proposed building will match the architectural components of other buildings adjacent to the proposed site. The building is a stand-alone structure that will not be physically attached to any existing structures. The building is intended to fit into the existing airport context, and will be part of an overall campus of airport structures. It does not sit directly adjacent to the vehicular street, but sits directly adjacent to the airport runways. For the safety of the public and the airport, the building will be off-limits to the public and pedestrian traffic. The public side of the airport and the off-limits side is separated by a fence. Since the building and grounds are not accessible to the public, the following site elements have not been provided: plazas, courtyards, assembly areas, scenic views, fountains, or artwork.

The Federal Aviation Administration (FAA) dictates the orientation of the building. The building is required to be positioned in such a way to not impede visual inspection of the runways from the air traffic control tower. As a result, almost all of the passive building orientation could not be considered. The building does contain a significant amount of glazing to provide natural daylighting. The building doors have large door openings on the long axis to promote cross ventilation.

b) Circulation System and Access

Circulation System is governed by the Spirit of Saint Louis Airport. Pedestrian traffic shall remain within close proximity of the building and the ramp. Pedestrian traffic is strictly controlled and monitored on taxiways. Pedestrian traffic is deemed normal on nearby Edison Ave. Most pedestrian traffic will be from the neighboring building and it will fulfill two roles: maintenance of aircraft and boarding / deplaning aircraft. For the safety of the public and the airport, the building will be off-limits to the public and pedestrian traffic.

All utilities for the site are below grade.

Service and loading areas are not within main circulation. Access for trash shall utilize the existing system. Trash generated by the hangar shall be staged and transported as necessary to the existing building.

Bicycle Traffic is not allowed on working surfaces of the airport. Cyclists shall be served by the existing building.

Vehicular traffic is restricted to aircraft support services. All public vehicular parking will be served by existing areas. Landscaping is limited to grassy areas in locations not occupied by taxiway, runways, and aircraft staging zones.

Public transportation will utilize existing amenities in the surrounding area.

c) Topography

All grading and surface improvements are dictated by water shedding capability of the hangar and the surrounding area. Grading is also designed for aircraft maneuverability. All surrounding areas of the hangar are improved surfaces. Therefore, a trench drain shall be installed between the existing hangar and the new hangar to drain surface runoff from precipitation. The site is nearly flat, minor cut and fill will be used to gain additional elevation under the building footprint to allow proper drainage. The cut and fill shall present a smooth appearance and shall be rounded to the extent as to appear flat.

d) Retaining Walls

There are no new retaining walls in the project.

2. General Requirements for Building Design

a) Scale

Hangar design is dictated by the sheltering and maintenance of the aircraft. The proposed hangar is designed to be visually neutral for pilots on approach. The hangar pattern shall match existing buildings and give a cohesive sightline. Hangars dominate the area and they use light color schemes. The proposed hangar shall visually meld in the existing fabric. The ancillary addition portion of the hangar design shall be designed to the human scale and by scale provides a strong visual cue for entry. The ancillary addition shall also be setback from the main West elevation of the building to avoid potential gusts of air from engines affecting people exiting the hangar.

b) Design

The design shall incorporate colors from existing cues and are intended to match the existing Monsanto building colors.

The proposed hangar shall not incorporate any overt signage of ownership, nor shall it impinge on the existing area with a stylized exterior of corporate branding.

The proposed hangar is designed in accordance with the International Energy Conservation Code of 2009 with an insulated envelope. The design also incorporates extensive windows. This character encourages energy efficiency with natural daylight. The building has large door openings on the long axis to promote cross-ventilation.

The entry is noted by the ancillary addition and its recessed position. Overt protection from elements is not necessary, but geometrically the position offers significant protection from the environment by being a recessed alcove on the Northwest side. Prevailing winds are from the South.

Painting and trim of temporary barriers shall be in accordance with the guidelines as set forth by the Spirit of Saint Louis Airport.

An emergency generator will be present on-site. This will be screened with natural vegetation. All other exterior equipment will be screened naturally.

c) Materials and Colors

The materials and colors of the building will match the existing Monsanto hangar and other buildings within the airport context. Finish is a durable and high-performance paint. Color shall be coordinated with the existing hangar and shall blend in with other hangars on-site.

The design incorporates a pre-engineered steel building, which is typical solution for this building type. It is a highly durable hangar material and structure.

Aircraft needs shall dictate the paving surface construction. Pedestrian traffic areas in public zones already in place are designated by different pavements to clearly delineate pedestrian areas.

Landscaping is limited to grassy areas in locations not occupied by taxiway, runways, and aircraft staging zones. The exterior equipment and emergency generator shall be screened with natural landscaping.

Additional fencing is not proposed.

d) Signage

Signage is minimized to areas where it is required by local code. As mentioned above, the building shall not utilize any corporate branding or signage.

e) Lighting

Lighting is used for safety and security. The exterior lighting will adhere to the local code as governed within the limits of the City of Chesterfield. Exterior lighting will be utilized and selected in such a way to eliminate or reduce light pollution.

End of Statement

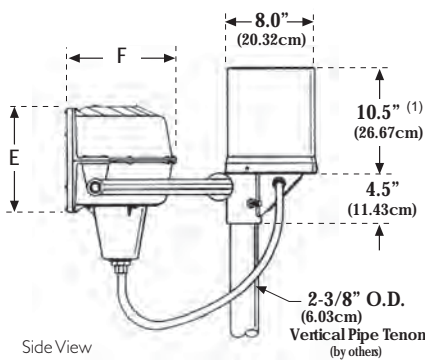
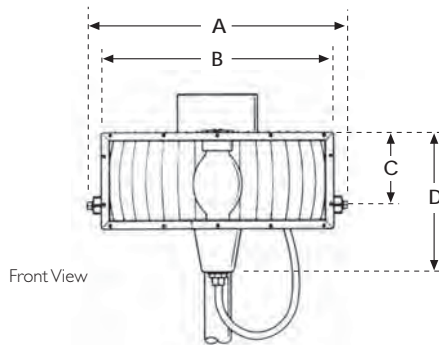
F Series (available MF Series: Marine Listed with optional hazardous location listing)

Industrial Floodlight - 250-1500 watt HID

Type: SA	Job: Monsanto Hangar	Approvals:				
Catalog Number:		WB-1, ALF-10-F-L/LENS, SK-100				
FM-1500	C - 277		TDB			
Series/Source - Wattage (Include M prefix to designate Marine Listed series)	Optics (Reflector / Distribution)	Voltage	Options (Factory Installed)	Finish	Accessories (Field Installed)	Date: 11/27/13
						Page 1 of 6

Overall Dimensions

For Reference Only



1) With certain dimming options, height of ballast container increases to 14.5" (36.83 cm).

Weight: 66 lbs (29.9 kg)

400 Watt (max) and 1000W PS unit - 23" housing

Note: 23" housing is standard for F series 1000W PS units with BB7 lamp for best lamp stability. 26" housing is required on MF series 1000W PS units with HAZ option (hazardous location listed).

A	B	C	D	E	F
25.5" (64.77cm)	23.0" (58.42cm)	7.3" (18.42cm)	13.8" (34.93cm)	9.5" (24.13cm)	10.0" (25.40cm)

1000-1500 Watt - 26" housing

Exception: Standard F series 1000W PS unit with BB7 lamp requires 23" housing for socket stability. See note above.

A	B	C	D	E	F
27.5" (69.85cm)	26.0" (66.04cm)	9.3" (23.50cm)	18.0" (45.72cm)	13.3" (33.66cm)	11.5" (29.21cm)

EPA data shown on page 3.

Specifications



Housing

Die-cast aluminum housing shall be of marine-grade alloy with integrally cast, heat dissipating fins and a built-in aiming device. Dust-Tite housing shall be totally sealed from particulate entry. Standard unit constructed to IP65. MF Series, with Marine Listing, constructed to IP66.

Optical Assembly

High purity, 94% minimum reflectivity anodized aluminum reflectors, assembled without machine forming to assure maximum efficiency.

Lamp Access

A gasketed and removable socket assembly provides lamp access from below. Allows re-lamping without re-aiming. High temperature gasket provides positive, weatherproof seal.

Lens

Lens shall be 7/32" clear tempered glass to withstand thermal and physical shock, held in place by an aluminum (extruded: 400W, die-cast: 1000/1500W) lens frame and sealed to housing flange by one extruded, high temperature gasket and stainless steel screws to provide a sealed optical assembly.

Socket

Pre-wired grip-type mogul base socket. Glass end of the lamp is held in precise photometric alignment and protected from breakage by a Stabilux socket.

Ballast

SilentGuard high power factor ballast with reliable starting down to -29°C (-20°F) for Metal Halide, -34°C (-30°F) for Pulse Start Metal Halide, and -40°C (-40°F) for High Pressure Sodium. Ballast has Class H, 180°C (356°F) rated insulation. Crest factor does not exceed 1.8. Core and coil are encapsulated in a polyester resin compound (standard SilentGuard feature) with the capacitor located outside the encapsulation for ease of maintenance. Ballast components are enclosed in a drawn aluminum container. The fixture and ballast are arranged as separate but integral components.

Mounting

Standard cast aluminum ballast base provides integral mastfitter; suitable for mounting to a 2-3/8" O.D. vertical tenon. Alternate mounting accessories available.

Finish

Standard finish shall be textured gray UltraClad polyester powder coating, 2.5 mil nominal thickness, electrostatically applied and oven cured. All components shall be thoroughly cleaned by a 5 stage pre-treatment process including iron phosphate bath and non-chromic acid etching stages, ensuring optimum performance characteristics. Other colors may be specified.

Listings

Standard unit is ETL/cETL listed to the UL 1598 standard, suitable for Wet Locations. Available ETL/cETL listed to the UL 1598A standard - Marine Listing option (MF Series). Available ETL/cETL listed to the UL 844 standard - Hazardous Location Listing (HAZ option for MF Series).

The quality systems of this facility have been registered by UL to the ISO 9001 Series Standards.

Warranty / Terms and Conditions

7 Year Limited Warranty

The current Philips Wide-Lite's Warranty may be found at www.wide-lite.com (keyword: warranty) as well as current Standard Terms and Conditions of Sale (keyword: terms).

All sales of items in this catalogue shall be subject to the Philips Wide-Lite Standard Terms and Conditions of Sale current at the time of shipment. If you do not have a copy of the Philips Wide-Lite Warranty and Standard Terms, please contact the factory for same prior to ordering.



Some luminaires use fluorescent or high intensity discharge (HID) lamps that contain small amounts of mercury. Such lamps are labeled 'Contain Mercury' and/or with the symbol 'Hg'. Lamps that contain mercury must be disposed of in accordance with local requirements. Information regarding lamp recycle and disposal can be found at www.lamprecycle.org.

F Series (available MF Series: Marine Listed with optional hazardous location listing)

Industrial Floodlight - 250-1500 watt HID



Series/Source-Wattage	Optics (Reflector/Distribution) ⁵	Voltage
<input type="checkbox"/> M Marine Type UL1598A Floodlight ¹ <i>Metal Halide</i> ² <input type="checkbox"/> EM-1000 <input checked="" type="checkbox"/> EM-1500 <i>Pulse Start Metal Halide</i> ³ <input type="checkbox"/> FP-250 <input type="checkbox"/> FP-350 <input type="checkbox"/> FP-400 <input type="checkbox"/> FP-1000 Standard unit with BB7 lamp uses 23" ho using. HAZ unit requires 26" ho using. <i>High Pressure Sodium</i> <input type="checkbox"/> FS-400 <input type="checkbox"/> FS-1000 ⁴	<input type="checkbox"/> A Specular Reflector Wide <input type="checkbox"/> B Specular Reflector Medium <input checked="" type="checkbox"/> C Diffused Reflector Very Wide <input type="checkbox"/> D Diffused Reflector Wide	<input type="checkbox"/> 120 <input type="checkbox"/> 208 <input type="checkbox"/> 240 <input checked="" type="checkbox"/> 277 <input type="checkbox"/> 480 <input type="checkbox"/> QV ⁶



Options (Factory Installed)	Finish	Accessories (Ordered Separately)
<input type="checkbox"/> BL ⁷ Be-Level <input type="checkbox"/> IQ Hot/Cold Quartz Restrike <input type="checkbox"/> IQ40 Hot/Cold Quartz Restrike for Cold Weather starts to -40°C (-40°F) <input type="checkbox"/> F-F1 ⁸ Single Fuse (120/277V) <input type="checkbox"/> F-F2 ⁸ Double Fuse (208/240/480V) <input type="checkbox"/> IB ⁹ Less Ballast (remote mount ballast) <input type="checkbox"/> CO ¹⁰ Cutoff optic <input type="checkbox"/> HAZ ¹¹ Hazardous Location listed <input type="checkbox"/> 50HZ 50 Hz Ballast operation (consult factory) <input type="checkbox"/> TG Teflon bonded to glass lens <input type="checkbox"/> PBX Pre-wired ballast (X) = SO cord length in feet: 3, 6 or 10 <input type="checkbox"/> EPXY-C/D-WHT White Epoxy coated <input type="checkbox"/> EPXY-C/D-GR Gray Epoxy coated	<input type="checkbox"/> TGR Textured Gray <input type="checkbox"/> TBK Textured Black <input checked="" type="checkbox"/> TDB Textured Dark Bronze <input type="checkbox"/> TSA Textured Satin Aluminum <input type="checkbox"/> TWHT Textured White <input type="checkbox"/> TGN Textured Green <input type="checkbox"/> M(F) Marine Grade finish; Two-part epoxy primer and a polyurethane top coat especially suited for marine environments and coastal applications. (F) = Specify color. Example: M WHT = Marine Grade White finish Consult factory for color availability.	<input type="checkbox"/> F-F1-KIT (F) Single Fuse Kit (120/277V) <input type="checkbox"/> F-F2-KIT (F) Double Fuse Kit (208/240/480V) <input type="checkbox"/> MF-1-(F) ⁹ Mastfitter <input type="checkbox"/> TH-1-(F) ⁹ Lowering Adapter (Tie-on Hanger) <input type="checkbox"/> HV-1-(F) ⁹ Tuning Base <input checked="" type="checkbox"/> WB-1-(F) Wall Bracket <input type="checkbox"/> WB-5-(F) Wiring Box (used with WB-1 & surface mounted conduit feed) <input type="checkbox"/> PX-1-(F) Cross-Arm Bracket <input type="checkbox"/> AL-4-F Auxiliary Polymer Lens (23" ho using) <input type="checkbox"/> AL-10-F Auxiliary Polymer Lens (26" ho using) <input type="checkbox"/> AIF-4-F/L/IENS-(F) Auxiliary Lens Frame (23" ho using) <input checked="" type="checkbox"/> AIF-10-F/L/IENS-(F) Auxiliary Lens Frame (26" ho using) <input type="checkbox"/> AIF-10-F/L/GLASS-IV8-(F) 26" Lens Frame with lower, <input type="checkbox"/> IENS-AIF-F-4-GLASS-(color) Colored Lens (23" ho using); (color) = lens color <input type="checkbox"/> IENS-AIF-F-10-GLASS-(color) Colored Lens (26" ho using); (color) = lens color <input type="checkbox"/> PM-1 Wood Pole Mounting Kit (with one U-ams) <input type="checkbox"/> PM-2 Wood Pole Mounting Kit (with two U-ams) <input type="checkbox"/> PM-3 Wood Pole Mounting Kit (with three U-ams) <input type="checkbox"/> PM-4 Wood Pole Mounting Kit (with four U-ams)

- "M" prefix along with series designates UL1598A Marine Listed option which includes additional Marine Grade gasketing. Unit is specially constructed with low copper content alloy (less than 0.4%) for corrosion control in harsh coastal and industrial environments or wherever marine type units are required. Meets U.S. Coast Guard specifications for marine type applications.
- Wattages listed assume the use of clear lamps. Coated lamps also available for 1000W metal halide.
- For acceptable performance, no tie position orientation specific nature of Pulse Start Lamps. Operation of Pulse Start lamps in other than recommended burning positions may result in significantly reduced performance. Consult factory to determine if a suitable Pulse Start lamp is available for the intended application.
- In 1000W HPS units, the standard SO cord from ballast to optic head is replaced with flex conduit. Less ballast options and accessories are not available.
- A and B reflectors are of Specular Miro 4 aluminum; C and D reflectors are of Hammer Tone Miro 9 aluminum. Curves reflect coated lamp performance.
- Allows field selection of 120/208/240/277V. (No 480V). Certain options may require voltage selection as well.
- Suitable for HPS in any aiming position.
- Fusing not available on MF series (marine listed) units.
- Remote mount ballast options and accessories are not available with 1000W HPS or on MF series (marine listed) units.
- Available with Band D reflectors only.
- HAZ listing available on MF units only, 400W and 1000W only.

F Series (available MF Series: Marine Listed with optional hazardous location listing)

Industrial Floodlight - 250-1500 watt HID

Type: SA	Job: Monsanto Hangar	Page 3 of 6
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Beam Spread Data

Reflector Type	Source	Wattage	Max Candle Power	Hx V NEMA	Horizontal X Vertical		
					10% Field Angle	50% Beam Angle	
A	Specular Wide	MHcoated	1000W	43,000	7 x 7	147° x 140°	90° x 49°
			1500W	351,000	3 x 4	38° x 62°	14° x 34°
B	Specular Medium	MHclear	1000W	249,000	3 x 4	38° x 62°	14° x 34°
			1500W	351,000	3 x 4	38° x 62°	14° x 34°
		MHcoated	1000W	79,000	6 x 7	127° x 133°	36° x 44°
			1500W	351,000	3 x 4	38° x 62°	14° x 34°
		PSclear	250W	52,000	3 x 4	38° x 62°	14° x 34°
			400W	90,000	3 x 4	38° x 62°	14° x 34°
			1000W	260,000	3 x 4	38° x 62°	14° x 34°
		HPSclear	400W	117,000	3 x 4	39° x 53°	15° x 26°
			1000W	236,000	5 x 5	88° x 87°	13° x 41°
		C	Diffused Very Wide	MHclear	1000W	58,000	7 x 6
1500W	82,000				7 x 6	137° x 129°	83° x 37°
MHcoated	1000W			37,000	7 x 7	150° x 144°	93° x 55°
	1500W			351,000	3 x 4	38° x 62°	14° x 34°
PSclear	250W			52,000	7 x 6	137° x 129°	83° x 37°
	400W			90,000	7 x 6	137° x 129°	83° x 37°
	1000W			260,000	7 x 6	137° x 129°	83° x 37°
HPSclear	400W			26,000	7 x 6	137° x 125°	105° x 35°
	1000W			50,000	7 x 7	138° x 135°	85° x 58°
D	Diffused Wide			MHclear	1000W	133,000	5 x 5
		1500W	187,000		5 x 5	93° x 76°	28° x 36°
		MHcoated	1000W	37,000	7 x 7	150° x 144°	93° x 55°
			1500W	351,000	3 x 4	38° x 62°	14° x 34°
		PSclear	250W	52,000	5 x 5	93° x 76°	28° x 36°
			400W	90,000	5 x 5	93° x 76°	28° x 36°
			1000W	260,000	5 x 5	93° x 76°	28° x 36°
		HPSclear	400W	26,000	7 x 6	137° x 125°	105° x 35°
			1000W	50,000	7 x 7	138° x 135°	85° x 58°

Distribution Guide & Ballast Data^{1,4,5}

Source Type ⁽¹⁾	Catalog Number	Reflector Type	Lamp Envelope	ies File Name	ANSI Code	Line Current				Line Wats
						120 / 208 / 240 / 277 / 480				
MH Clear Lamps	EM-1000	B	B156	fm100bss.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1000	C	B156	fm100css.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1000	D	B156	fm100dss.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1500	B	B156	fm150bss.ies	M48	14.0 / 8.0 / 7.1 / 6.1 / 3.5				1625
	EM-1500	C	B156	fm150css.ies	M48	14.0 / 8.0 / 7.1 / 6.1 / 3.5				1625
	EM-1500	D	B156	fm150dss.ies	M48	14.0 / 8.0 / 7.1 / 6.1 / 3.5				1625
MH Coated Lamps	EM-1000	A	B156	fmc10ass.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1000	B	B156	fmc10bss.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1000	C	B156	fmc10css.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
	EM-1000	D	B156	fmc10dss.ies	M47 / H36	9.2 / 5.6 / 4.7 / 4.1 / 2.4				1080
FS Clear Lamps	FP-400	B	B137	fp40bss.ies	M135 / M155	4.0 / 2.2 / 1.9 / 1.8 / 1.0				456
	FP-400	C	B137	fp40css.ies	M135 / M155	4.0 / 2.2 / 1.9 / 1.8 / 1.0				456
	FP-400	D	B137	fp40dss.ies	M135 / M155	4.0 / 2.2 / 1.9 / 1.8 / 1.0				456
	FP-1000	B	B137	fp100bss.ies	M141	9.0 / 5.2 / 4.5 / 3.9 / 2.4				1080
	FP-1000	C	B137	fp100css.ies	M141	9.0 / 5.2 / 4.5 / 3.9 / 2.4				1080
	FP-1000	D	B137	fp100dss.ies	M141	9.0 / 5.2 / 4.5 / 3.9 / 2.4				1080
HPS Clear Lamps	FS-400	B	ED18	fs40bss.ies	S51	4.1 / 2.5 / 2.1 / 1.9 / 1.1				467
	FS-400	C	ED18	fs40css.ies	S51	4.1 / 2.5 / 2.1 / 1.9 / 1.1				467
	FS-400	D	ED18	fs40dss.ies	S51	4.1 / 2.5 / 2.1 / 1.9 / 1.1				467
	FS-1000	B	E25	fs100bss.ies	S52	9.5 / 5.5 / 4.8 / 4.2 / 2.5				1100
	FS-1000	C	E25	fs100css.ies	S52	9.5 / 5.5 / 4.8 / 4.2 / 2.5				1100
	FS-1000	D	E25	fs100dss.ies	S52	9.5 / 5.5 / 4.8 / 4.2 / 2.5				1100

- The F Series can accommodate a variety of other wattages and lamps. Consult factory.
- MH = Metal Halide, PS = Pulse Start Metal Halide, HPS = High Pressure Sodium.
- All ballasts are CWA (Constant Wattage Auto transformer).
- LER values and efficiencies are not published. See NEMA Standard IE5B.
- Intended aiming and possible lamp orientation restrictions should be considered when selecting floodlight.

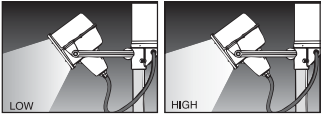
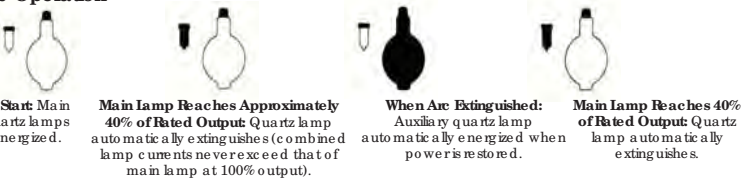
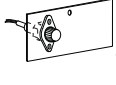
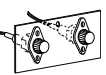
EPA Effective Projected Area in Ft ²	
23" housing	1.85
26" housing	2.93

F Series (available MF Series: Marine Listed with optional hazardous location listing)

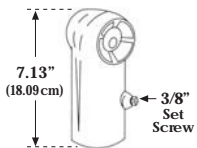
Industrial Floodlight - 250-1500 watt HID

Type: SA	Job: Monsanto Hangar	Page 4 of 6
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Option Details (Factory Installed)

BL	Bi-Level <i>Note: Suitable for HPS in any aiming position. Consult factory when specifying dimming with Metal Halide.</i>	Bi-Level provides high / low level of lamp output with up to 50% power consumption. Zero cross-over network avoids strobing and lamp dropout.																													
IQ	Hot/Cold Quartz Restrike <i>Note: Standard 150 watt (120V) double contact bayonet base socket. Combined Quartz wattage may not exceed HID lamp wattage.</i>	IQ - Provides LiteMatic operation for fixtures with 120V or multi-tap ballasts. LiteMatic Operation																													
IQ40	Hot/Cold Quartz Restrike for Cold Weather Starts to -40°C (-40°F)																														
F-F1	Single Fuse (120V/277V)	Fuses are KIK/KIK30 amp unless otherwise specified.																													
F-F2	Double Fuse (208V/240V/480V) <i>Note: Fusing not available on MF series (marine listed) units. If ordering QV ballast, voltage must be specified.</i>																														
IB	Remote Ballast (remote mount ballast) <i>Note: Remote mount ballast options and accessories are not available with 1000W HPS or on MF series (marine listed) units.</i>	Optic unit with mounting arms shipped without standard integral mastfitter and ballast assembly. Requires mounting accessory MF-1, TH-1, HV-1, SMB-400 or SMB-1000 (shipped separately).																													
CO	Cutoff Optics <i>Note: Available with Band Deflectors only.</i>	For applications where glare control is needed. Requires use of proper cutoff shield accessory: SK-40-(F) or SK-100-(F) (shipped separately).																													
HAZ	Hazardous Location Listed <i>Limited to 400W and 1000W units only.</i> Available on MF (marine listed) units only. (See Listing on page 1.) Class I, Division 2, Groups A, B, C and D.	Class I Division 2, Groups A, B, C, D <table border="1"> <thead> <tr> <th>Catalog No.</th> <th>Measured Max. Internal Operating Temperature</th> <th>Measured Max. External Operating Temperature</th> <th>Rating</th> </tr> </thead> <tbody> <tr> <td>MFM-1000</td> <td>339°C</td> <td>163°C</td> <td>T1</td> </tr> <tr> <td>MFP-400</td> <td>316°C</td> <td>131°C</td> <td>T1</td> </tr> <tr> <td>MFP-1000*</td> <td>339°C</td> <td>163°C</td> <td>T1</td> </tr> <tr> <td colspan="4"><i>*The max limits require 26" housing for MF Series 1000W PS unit with UL844 listed HAZ option rating.</i></td> </tr> <tr> <td>MFS-400</td> <td>374°C</td> <td>110°C</td> <td>T1</td> </tr> <tr> <td>MFS-1000</td> <td>373°C</td> <td>123°C</td> <td>T1</td> </tr> </tbody> </table> <i>Data supplied by Texas Research Institute, Inc., connected to 23°C. Note: The classification of an area as to class, division and groups and the use of UL844 listed luminaires in such areas is solely the judgement of the owner, insurance carrier and the authority having jurisdiction.</i>	Catalog No.	Measured Max. Internal Operating Temperature	Measured Max. External Operating Temperature	Rating	MFM-1000	339°C	163°C	T1	MFP-400	316°C	131°C	T1	MFP-1000*	339°C	163°C	T1	<i>*The max limits require 26" housing for MF Series 1000W PS unit with UL844 listed HAZ option rating.</i>				MFS-400	374°C	110°C	T1	MFS-1000	373°C	123°C	T1	
Catalog No.	Measured Max. Internal Operating Temperature	Measured Max. External Operating Temperature	Rating																												
MFM-1000	339°C	163°C	T1																												
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MFP-1000*	339°C	163°C	T1																												
<i>*The max limits require 26" housing for MF Series 1000W PS unit with UL844 listed HAZ option rating.</i>																															
MFS-400	374°C	110°C	T1																												
MFS-1000	373°C	123°C	T1																												
50HZ	50 Hz Ballast Operation (consult factory)	Specified for applications (outside the US) where 50 Hertz operation is standard.																													
TG	Teflon Bonded to Glass Lens	5 MIL Teflon® bonded to standard glass lens.																													
PBX	Pre-wired ballast, specify length of SO cord in ft: (X = 3, 6 or 10)	Allows wiring connections to be made in remote mounted junction box. Useful with various mounting accessories such as WB1 wall bracket.																													
EPXY-CID-WHT	White Epoxy Coated	Durable coating offers protection against mildly acidic or alkaline conditions.																													
EPXY-CID-GR	Gray Epoxy Coated																														

Accessory Details (Field Installed - Shipped Separately)

F-F1-KIT-(F)	Single Fuse Kit (120V/277V)	Consists of 1 or 2 fuse holders and 1 or 2 KIK30 amp fuses. Field installed on wiring access plate. Fusing not available with MF series (marine listed) units. (F) = specify finish	
F-F2-KIT-(F)	Double Fuse Kit (208V/240V/480V)		
MF-1-(F)	Mastfitter <i>Note: Remote mount ballast options and accessories are not available with 1000W HPS or on MF series (marine listed) units.</i>	Cast aluminum mastfitter for 2-3/8" O.D. pipe tenon. For use with remote mounted ballast on all F Series models. (Require a vertical tenon height of 4-5/8" minimum) (F) = specify finish	

F Series (available MF Series: Marine Listed with optional hazardous location listing)

Industrial Floodlight - 250-1500 watt HID

Type:	SA	Job:	Monsanto Hangar	Page 5 of 6
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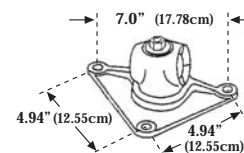
TH-1-(F) Lowering Adapter (*Tenon Hanger*)
Note: Remote mount ballast options and accessories are not available with 1000W HPS or on MF series (marine listed) units.
(F) = specify finish

Cast aluminum hanger tapped for 1-1/4" NPT conduit or pipe. Equips floodlights with remote mounted ballasts for use on standard lowering devices.
 Mounting arms provided with fixture.
 (Requires a vertical tenon length of 4-5/8" minimum)



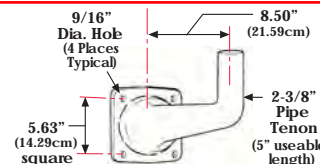
HV-1-(F) Trunion Base
Note: Remote mount ballast options and accessories are not available with 1000W HPS or on MF series (marine listed) units.
(F) = specify finish

Cast aluminum trunion base bracket calibrated for horizontal adjustment.
 For use with remote mounted ballast.



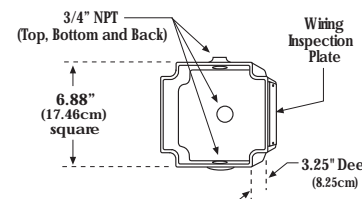
WB-1-(F) Wall Bracket
(F) = specify finish

Cast aluminum wall bracket for vertical surfaces only. Designed to permit mounting of floodlights on flat vertical surfaces.
 Use in conjunction with WB-5 for surface mounted wiring.



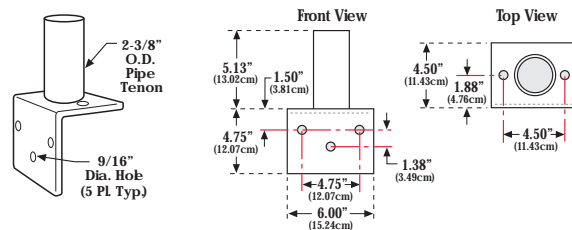
WB-5-(F) Wiring Box for WB-1 and surface mounted conduit feed
(F) = specify finish

Used in conjunction with WB1 for surface mounted wiring. Tapped top, back and bottom for 3/4" conduit or pipe.
 Gasket provided for sealing surface wiring box to WB-1 (wall mounting bracket).



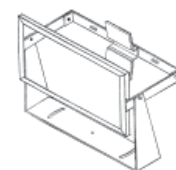
PX-1-(F) Cross-arm Bracket
 For installing floodlights on wooden or steel cross-arms.
(F) = specify finish

Cast aluminum angle bracket with 2" pipe stub.
 "L" base.



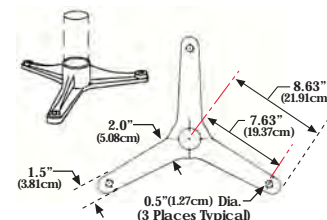
SMB-400 Shock Mounting Bracket (23" ho using)
SMB-1000 Shock Mounting Bracket (26" ho using)

Shock Mounting Bracket for use in applications where severe vibration may be present. Secures floodlight with a remote mounted ballast less mounting arms or mast fitter. Constructed of hot-dip galvanized steel with neoprene pads to absorb shock. Common resistant assembly hardware is furnished.
Note: Not available with 1000W HPS or on MF series (marine listed) units.



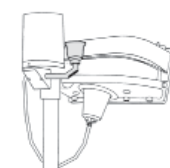
FB-1 Flat Base Mount

Cast aluminum mounting bracket for installing floodlights on flat horizontal surfaces.
 For use with 2-3/8" OD pipe tenon (by others).
 Limit tenon height to 8.0" (20.32cm).



PCM-1 Photo Cell Receptacle Mounting Bracket

Bracket with standard twist-lock receptacle for models with integral ballasts.
 Threads into 1/2" NPT hole in ballast base or mast fitter.
 (Photo Cell not included.)



F Series (available MF Series: Marine Listed with optional hazardous location listing)

Industrial Floodlight - 250-1500 watt HID

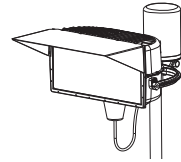
Type: SA	Job: Monsanto Hangar	Page 6 of 6
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SK 40- (F) Cutoff Shield for 23" housing

SK 100- (F) Cutoff Shield for 26" housing

Cutoff shield provides precise vertical cutoff without distortion of lateral pattern.

(F) = Specify finish.



AL 4-F Auxiliary Polymer Lens for 23" housing

AL 10-F Auxiliary Polymer Lens for 26" housing

1/4" thick impact-resistant polymer lens provides additional protection of the glass lens.

Furnished with mounting hardware and standoffs.



AL 4-F/L/ IENS- (F) Auxiliary Lens Frame for 23" housing

AL 10-F/L/ IENS- (F) Auxiliary Lens Frame for 26" housing

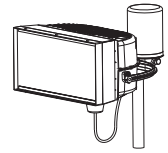
Designed for use with colored lenses. Formed aluminum frame isolates the auxiliary lens from heat source for longer life.

Gasketed to minimize particulate and moisture entry.

May be used as a snoot when installed without a lens.

Mounting hardware included.

(F) = Specify finish.



AIF 10-F/L/ GLASS- IV8- (F) Auxiliary Lens Frame with 8-lite internal louver

For additional narrow beam glare control, specify the auxiliary lens frame with the 8-lite internal louver. Available for 26" housing only. (F) = Specify finish.

IENS-AIF-F-4-GLASS- (color) Colored Auxiliary Lens for 23" housing

Colored auxiliary lens (fully tempered glass). Requires the use of the auxiliary lens frame.

IENS-AIF-F-10-GLASS- (color) Colored Auxiliary Lens for 26" housing

(color) = Lens color. (Consult factory to specify color of glass lens.)
Note: Colored lenses reduce efficiency.

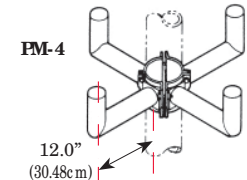
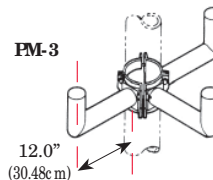
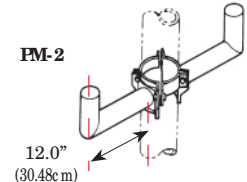
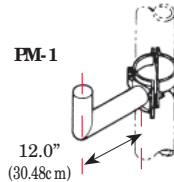
PM-1 Wood Pole Mounting Kit with one U-arm
Shipping wt.: 6 lbs (2.7 kg)

PM-2 Wood Pole Mounting Kit with two U-arms
Shipping wt.: 9 lbs (4.05 kg)

PM-3 Wood Pole Mounting Kit with three U-arms
Shipping wt.: 12 lbs (5.4 kg)

PM-4 Wood Pole Mounting Kit with four U-arms
Shipping wt.: 15 lbs (6.8 kg)

For mounting luminaires with mast fittings to 6.0" to 12.0" O.D. wood poles.



Notes



DESCRIPTION

The Streetworks Wal-Pak Series of wall luminaires provides traditional architectural style with high performance energy efficient illumination. Rugged die-cast aluminum construction, stainless steel hardware along with a sealed and gasketed optical compartment make the Wal-Pak virtually impenetrable to contaminants. IP65 Rated. UL and cUL wet location listed. The Wal-Pak wall luminaire is ideal for pathway illumination, building entrances, vehicle ramps, schools, tunnels, stairways and loading docks.

Catalog #	WKP-40-M-CWI-7-FC-BZ	Type	SB
Project	MONSANTO HANGAR	Date	11/18/13
Comments			
Prepared by	BASIT SYED		

SPECIFICATION FEATURES

Housing

Rugged one-piece die-cast aluminum housing and hinged, removable die-cast aluminum door. One-piece silicone gasket seals the optical chamber. UL 1598 wet location listed and IP65 ingress protection rated. Not recommended for car wash applications.

Electrical

Ballasts, LED driver and related electrical components are hard mounted to the die-cast housing for optimal heat sinking and operating efficiency. Wiring is extended through a silicone gasket at the back of the housing. Three 1/2" threaded conduit entry points allow for thru-branch wiring. LED thermal management system incorporates both conduction and natural convection to transfer heat rapidly away from LED source. Integral LED electronic driver incorporates internal fusing designed to withstand a 3kV surge test and is Class 2 rated for 120-

277V with an operating temperature of -30° to 60°C. Wal-Pak LED systems maintain greater than 70% of the initial light output after 50,000 hours of operation. UL listed HID high power factor ballasts are Class H insulation rated (metal halide: 150, 175, 200, 250, 320, 350, 400W [-30°C / -20°F], (high pressure sodium: 50, 70, 100, 150, 250, 400W [-40°C / -40°F]). High efficiency HID ballasts are available in 120V, 208V, 240V, 277V, 347V and 480V. Compact fluorescent high power factor ballasts are Class P insulation rated for 120-277V and have a starting temperature of -18°C / 0°F.

Optical

Highly reflective anodized aluminum reflectors provide high efficiency illumination. Optical assemblies include impact resistant borosilicate refractive glass, Solite™ flat diamond patterned glass and full cutoff IESNA compliant configurations. Patent pending, solid state LED luminaires

are thermally optimized with 2400 or 4000 lumen package modules. HID models are offered in horizontal medium or mogul-based metal halide or high pressure sodium lamps. T6 ceramic metal halide and 4-pin compact fluorescent lamp models offer high efficiency energy-saving illumination.

Door Assembly

Single point, captive stainless steel hardware secures the removable hinged door allowing for ease of installation and maintenance. Door assembly is hinged at the bottom for easy removal, installation and re-lamping.

Finish

Housing and door are protected with 5-stage TGIC dark bronze polyester powder coat paint. Premium TGIC power coat finishes withstand extreme climate changes while providing optimal color and gloss retention. Optional premium colors are available.



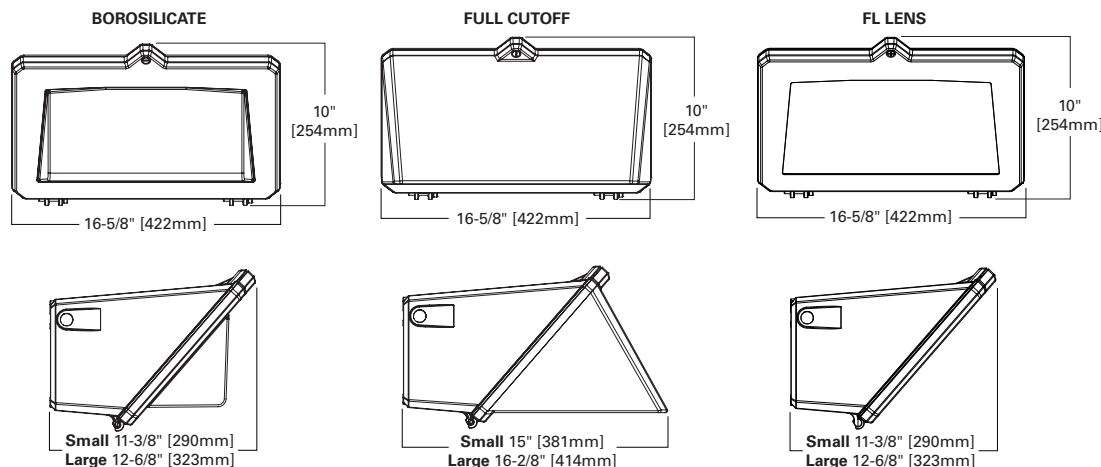
WKP WAL-PAK

- 2400 - 4000 Lumen LED**
- 39 - 400W**
- High Pressure Sodium**
- Pulse Start Metal Halide**
- Metal Halide**
- Ceramic Metal Halide**
- 32 - 140W**
- Compact Fluorescent**



WALL MOUNT LUMINAIRE

DIMENSIONS



TECHNICAL DATA

UL and cUL Wet Location Listed
 IP65 Rated
 40°C Maximum Ambient Temperature
 External Supply Wiring 90°C Minimum
 EISA ©, ARRA, Title 20 Compliant

ENERGY DATA

- Reactor Ballast Input Watts**
- 50W HPS NPF (58 Watts)
- 70W HPS NPF (82 Watts)
- 100W HPS NPF (118 Watts)
- 150W HPS NPF (175 Watts)
- High Reactance Ballast Input Watts**
- 50W MP HPF (69 Watts)
- 70W MP HPF (94 Watts)
- 100W MP HPF (129 Watts)
- 150W MP HPF (185 Watts)
- CWA Ballast Input Watts**
- 200W HPS HPF (250 Watts)
- 200W MP HPF (227 Watts) ©
- 250W MP HPF (283 Watts) ©
- 320W MP HPF (365 Watts) ©
- 350W MP HPF (400 Watts) ©
- 400W HPS HPF (465 Watts)
- 400W MP HPF (452 Watts) ©

SHIPPING DATA

Approximate Net Weight: 32-42 lbs. (15-19 kgs.) ADW100024
 2012-05-23 13:21:15

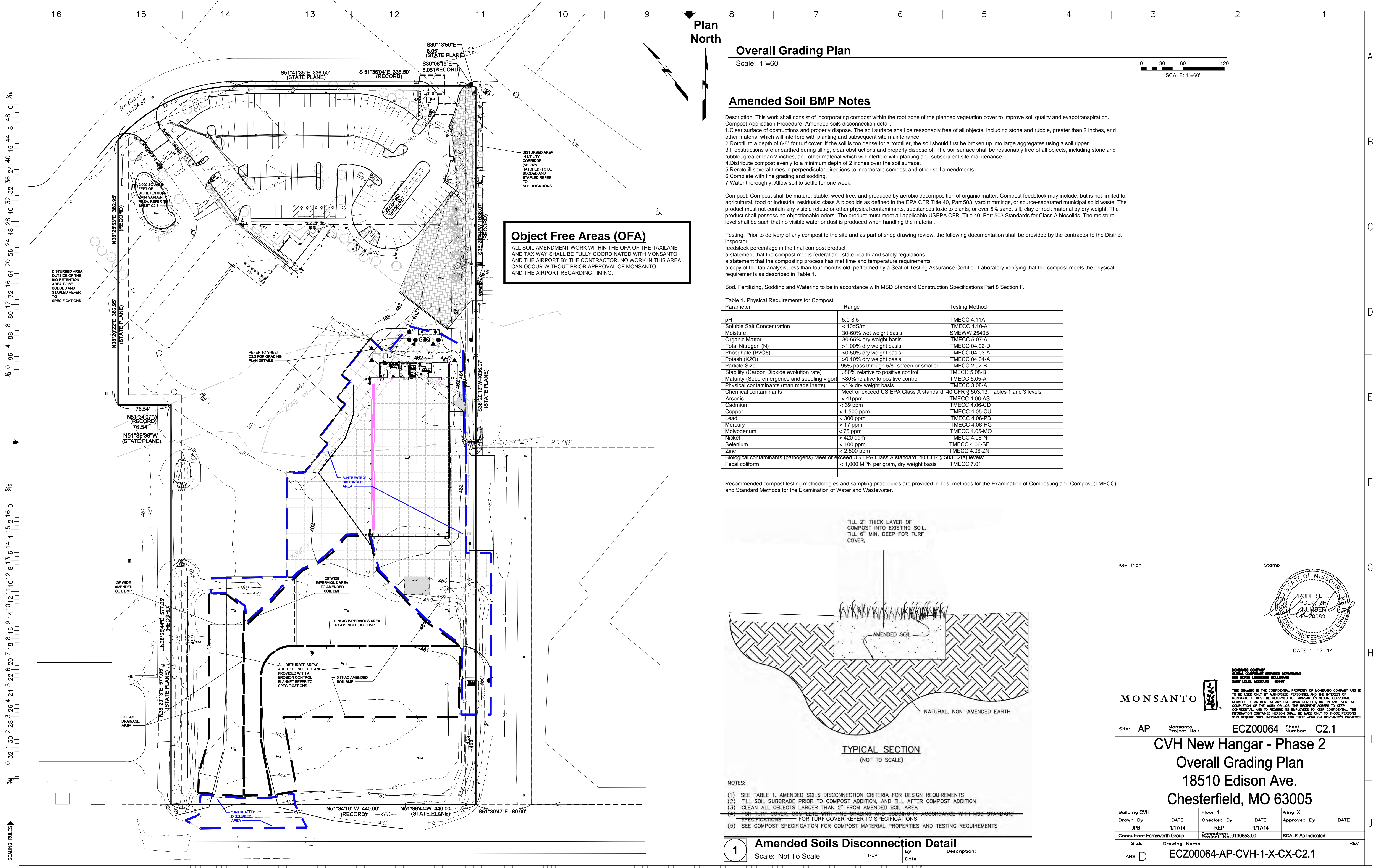
ORDERING INFORMATION

Sample Number: WKP10PC2GL

WKP	40	M	CWI	7	FC	BZ	
Product Family WKP= Wal-Pak	Lamp Wattage LED ¹ 2A=2 Package 28W 4A=4 Package 40W <u>Metal Halide</u> ^{2,3} 17=175W 25=250W 40=400W <u>Pulse Start Metal Halide</u> 39=39W 50=50W 70=70W 10=100W 20=200W 15=150W 25=250W 32=320W 35=350W 40=400W <u>High Pressure Sodium</u> 50=50W 70=70W 10=100W 15=150W 20=200W 25=250W 40=400W <u>Ceramic Metal Halide</u> 39=39W 70=70W 100=100W 150=150W <u>Compact Fluorescent</u> ⁴ 32=32W 42=42W 57=57W 70=70W 64=(2-32W) 84=(2-42W) 114=(2-57W) 140=(2-70W)	Lamp Type M= Metal Halide P= Pulse Start Metal Halide S=High Pressure Sodium LED=Solid State Light Emmitting Diodes CM= Ceramic Metal Halide CF= Compact Fluorescent	Ballast Type C=CWI H=Reac./HPF N=Hi Reac./NPF P=Hi Reac./HPF R=Reac./NPS W=CWA E=Electronic ⁵	Voltage 2=120V 0=208V 4=240V 7=277V 8=480V W=Multi-tap wired 120V N=Multi-tap wired 277V V=Multi-tap wired 240V U=Universal (120-277V)	Door/Lens Type ⁶ GL=Borosilicate Glass Door FL=Flat Solite Glass Door (150-175W max) FC= Full Cutoff Door PL= Polycarb Refractor Door (175W max)	Color AP=Gray BK=Black BZ=Bronze WH=White	Options 1=Single Fuse (120, 277 or 347V) ⁷ 2=Double Fuse, (208, 240, 480V) ⁷ 5=Non NEMA Photocontrol ⁷ B=Two Position Terminal Block SGL=Solite Glass Lens - for HID and CF Models ⁸ CGL=Clear Glass Lens ⁹ L=Lamp Included

- NOTES:** 1 LED Packages are 67 CRI/5000K
 2 MH products available for non-US markets only.
 3 MH and MP 175W and below are medium base all others are mogul base. 250 and 350W MP are not Title 20 Compliant. 400W MP must be ordered with Lamp option to be Title 20 Compliant.
 4 Electronic Ballast Standard with CF.
 5 Available with 70-150W Pulse Start or CM Lamps.
 6 Small housing offered for 175W and below, CF and LED Models. Large Housing for 200-400W. FL Door not available with CF or 200-400W Models.
 Polycarbonate lens available in models up to 175W max including LED. Polycarbonate lens not available with full cutoff door or FL models. Solite stipple glass is standard for FL lens. Clear glass is standard for full cutoff door types except for LED. LED full cutoff door is standard with solite glass.
 7 Specify voltage. 1 - 120, 277 or 347V, 2 - 208 or 240V
 8 SGL optional on HID and CF models only.
 9 Clear Glass not available with LED.

LAMP TYPE	WATTAGE
Pulse Start Metal Halide	50, 70, 100, 150, 200, 250, 320, 350, 400W
Metal Halide	175, 250, 400W
High Pressure Sodium	50, 70, 100, 150, 250, 400W
T6 Ceramic Metal Halide	39, 70, 100, 150W
Compact Fluorescent	(1) 32, (1) 42, (1) 57, (1) 70, (2) 32, (2) 42, (2) 57, (2) 70
LED	2A=28W, 4A=40W



Overall Grading Plan

Scale: 1"=60'



Amended Soil BMP Notes

- Description: This work shall consist of incorporating compost within the root zone of the planned vegetation cover to improve soil quality and evapotranspiration. Compost Application Procedure. Amended soils disconnection detail.
1. Clear surface of obstructions and properly dispose. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
 2. Rototill to a depth of 6-8" for turf cover. If the soil is too dense for a rototiller, the soil should first be broken up into large aggregates using a soil ripper.
 3. If obstructions are unearthed during tilling, clear obstructions and properly dispose of. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
 4. Distribute compost evenly to a minimum depth of 2 inches over the soil surface.
 5. Retotill several times in perpendicular directions to incorporate compost and other soil amendments.
 6. Complete with fine grading and sodding.
 7. Water thoroughly. Allow soil to settle for one week.

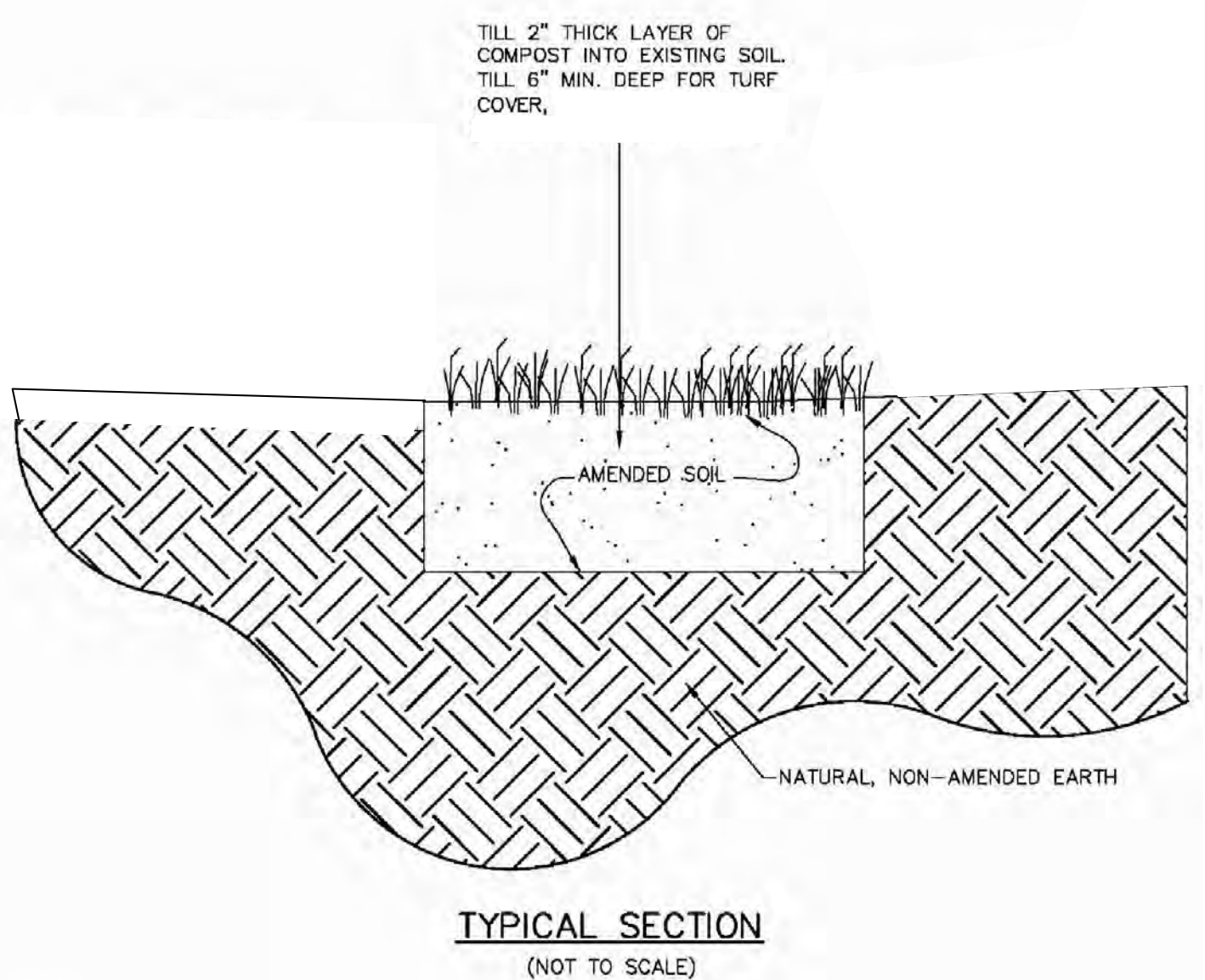
Compost. Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include, but is not limited to: agricultural, food or industrial residuals; class A biosolids as defined in the EPA CFR Title 40, Part 503; yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids. The moisture level shall be such that no visible water or dust is produced when handling the material.

Testing. Prior to delivery of any compost to the site and as part of shop drawing review, the following documentation shall be provided by the contractor to the District Inspector:
 feedstock percentage in the final compost product
 a statement that the compost meets federal and state health and safety regulations
 a statement that the composting process has met time and temperature requirements
 a copy of the lab analysis, less than four months old, performed by a Seal of Testing Assurance Certified Laboratory verifying that the compost meets the physical requirements as described in Table 1.

Sod, Fertilizing, Sodding and Watering to be in accordance with MSD Standard Construction Specifications Part 8 Section F.

Parameter	Range	Testing Method
pH	5.0-8.5	TMECC 4.11A
Soluble Salt Concentration	< 10dS/m	TMECC 4.10-A
Moisture	30-60% wet weight basis	SMEVWV 2540B
Organic Matter	30-65% dry weight basis	TMECC 5.07-A
Total Nitrogen (N)	>1.00% dry weight basis	TMECC 04.02-D
Phosphate (P2O5)	>0.50% dry weight basis	TMECC 04.03-A
Potash (K2O)	>0.10% dry weight basis	TMECC 04.04-A
Particle Size	95% pass through 5/8" screen or smaller	TMECC 2.02-B
Stability (Carbon Dioxide evolution rate)	>80% relative to positive control	TMECC 5.08-B
Maturity (Seed emergence and seedling vigor)	>80% relative to positive control	TMECC 5.05-A
Physical contaminants (man made inerts)	<1% dry weight basis	TMECC 3.08-A
Chemical contaminants	Meet or exceed US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels:	
Arsenic	< 41ppm	TMECC 4.05-AS
Cadmium	< 39 ppm	TMECC 4.06-CD
Copper	< 1,500 ppm	TMECC 4.05-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.05-MO
Nickel	< 400 ppm	TMECC 4.06-NI
Selenium	< 100 ppm	TMECC 4.06-SE
Zinc	< 2,800 ppm	TMECC 4.06-ZN
Biological contaminants (pathogens)	Meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) levels:	
Fecal coliform	< 1,000 MPN per gram, dry weight basis	TMECC 7.01

Recommended compost testing methodologies and sampling procedures are provided in Test methods for the Examination of Composting and Compost (TMECC), and Standard Methods for the Examination of Water and Wastewater.



- NOTES:
- (1) SEE TABLE 1. AMENDED SOILS DISCONNECTION CRITERIA FOR DESIGN REQUIREMENTS
 - (2) TILL SOIL SUBGRADE PRIOR TO COMPOST ADDITION, AND TILL AFTER COMPOST ADDITION
 - (3) CLEAN ALL OBJECTS LARGER THAN 2" FROM AMENDED SOIL AREA
 - (4) FOR TURF COVER, COMPLETE WITH FINE GRADING AND SODDING IN ACCORDANCE WITH MSD STANDARD CONSTRUCTION SPECIFICATIONS FOR TURF COVER REFER TO SPECIFICATIONS
 - (5) SEE COMPOST SPECIFICATION FOR COMPOST MATERIAL PROPERTIES AND TESTING REQUIREMENTS

1 Amended Soils Disconnection Detail

Scale: Not To Scale

Object Free Areas (OFA)
 ALL SOIL AMENDMENT WORK WITHIN THE OFA OF THE TAXILANE AND TAXIWAY SHALL BE FULLY COORDINATED WITH MONSANTO AND THE AIRPORT BY THE CONTRACTOR. NO WORK IN THIS AREA CAN OCCUR WITHOUT PRIOR APPROVAL OF MONSANTO AND THE AIRPORT REGARDING TIMING.

Key Plan

Stamp

DATE 1-17-14

MONSANTO

MONSANTO COMPANY
 GLOBAL CORPORATE SERVICES DEPARTMENT
 612 SOUTH LEXINGTON BOLLINGER
 SAINT LOUIS, MISSOURI 63167

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Site: AP Monsanto Project No.: ECZ00064 Sheet Number: C2.1

CVH New Hangar - Phase 2
Overall Grading Plan
 18510 Edison Ave.
 Chesterfield, MO 63005

Building CVH	Floor 1	Wing X
Drawn By	DATE	Checked By
JFB	1/17/14	REP
Consultant Farnsworth Group	Project No. 0130858.00	SCALE As Indicated

ANSI D Drawing Name: ECZ00064-AP-CVH-1-X-CX-C2.1

PRINTS ISSUED TO FIELD BY: DATE: REV:

