

May 27, 2022

Development Services
City of Chandler
215 E. Buffalo St.
Chandler, Arizona 85225

**SUBJECT: Crossroads Nazarene Church Sports Fields
2950 W Ray Rd., Chandler, AZ 85224
Narrative Letter/ Planning Division Comment Response PLH22-0014**

To whom it may concern,

The Crossroads Nazarene Church in Chandler plans to develop the northwest corner of their property. North of the existing buildings and south of Mission Park Boulevard. There is an ADOT frontage road west of the property that runs north to south. Project site is a vacant lot about 4.11 acres. Current zoning is PAD. The lot was initially planned for parking in the previous ultimate phasing plan but is now planned for a multi-use field as discussed below and shown in the revised phasing plan from PL98-150. Project improvements include three small new sports fields, a decomposed granite walking trail around the perimeter of the field, and new path lighting. See civil plan showing the project scope and limits. Sports field lighting, seating nodes, and playground area noted as future on the plans are requested under this request but part of a later phase. The development and use of this site conform with all applicable codes and ordinances. See attached for the revised phasing plan from PL98-150 for the revised Crossroads Nazarene Church's ultimate built-out phasing plan.

Crossroads Nazarene Church's vacant lot on the north side of their property was initially planned to be a parking lot in a future phase. A new vision for this lot now aims to create a community space that will promote membership growth and retention for the church. The space will be part of the next phase of improvements (Phase II) which includes:

- 3 sports fields
- 8' wide surface trail
- New solar path lighting
- Future sports lighting
- Future play area
- Future seating

Sports fields will be multi-use (e.g., baseball, soccer, etc.) and used for Junior League competitions hosted by the Church on Saturdays. Landscaping and irrigation will be installed for the new sports fields. See site plan and final layout submitted. Concrete curb will be placed around the perimeter of the sports fields between the surface trail and grass. The surface trail will consist of stabilized decomposed granite adequate for wheelchair use. For security lighting at night, solar area lights will be placed around the trail. Due to

lack of budget, sports lighting and hardscape called out as future are requested under this request but part of a later phase. These future additions will be constructed in the next 5 to 10 years. See attached for future playground and shade structure concepts.

Lighting Details:

- **Area Lights** - First Light Technologies IPL solar LED area lights by surface trail will be 15 ft in height. They will be warm white LED lights that shall provide enough security lighting along path. Lights shall be installed facing path and be Type 2 distribution. See electrical plans submitted for solar lighting details. Spill light is anticipated to extend 15 ft behind solar light. Area lights will be placed so that there is no light spillage across the adjacent property block wall east of the field. See electrical plans attached. All lighting will be off by 9pm.
- **Future Sports Lighting** - Future Musco sports field lighting shall be added to the site in a few years. About 10 lights are anticipated with pole heights of 70 ft max. Each light will provide about 50 footcandles. Based on Musco's analysis, spill light does not extend to residential – See Musco's calculations attached. All lighting will be off by 9pm.

Other Improvements:

- The existing driveway entrance along Price Rd will be reconstructed per MAG STD 251 to provide access to the Fire Department. Sidewalk will be reconstructed at the driveway to tie into the existing sidewalk along Price Rd. All new sidewalks will meet ADA requirements.
- A future area with power access will be provided for setting up sound equipment. Sound equipment will only be used during sport events. Hours of use will be Saturdays from 8am to 8pm. All live entertainment shall begin no earlier than 8am and shall end no later than 8pm. Speaker system set up during competitions will point away from the adjacent residential. New trees will be added as a noise buffer by property wall. Noise levels will be kept to a minimum.

Space will be open to the surrounding community. Residents will be able to access the space along Mission Park Blvd. Fields will not be fenced along the streets. ADA access to the fields will be on the south side. Existing sidewalk running along Mission Park Blvd. and Price Road will take residents to the Church entrance along Price Rd where new ADA ramps and sidewalk are being provided for access. See site plan and final layout submitted.

Shared Parking Schedule for Crossroads Nazarene Church:

According to the City of Chandler Code of Ordinance Section 35-1807, parking reductions can be applied to this project's atypical parking needs. Per the shared parking calculations table from the code of ordinance 35-1807.2d, churches and places of worship's time of use can be calculated during six time periods with 100% use on weekends from 7:00 am to 6:00 pm. With input from the church regarding the different facility uses, we anticipate

the shared parking time use percentages summarized below. During weekdays, very few people are on Church grounds including people in the administration office. The critical times of use are on Saturday and Sunday; therefore, the shared parking schedule will only look at the weekends and special holidays and events.

USE		TIME OF USE					
		WEEKDAYS			WEEKENDS		
		12:00 a.m. - 7:00 a.m.	7:00 a.m. - 6:00 p.m.	6:00 p.m. - 12:00 a.m.	12:00 a.m. - 7:00 a.m.	7:00 a.m. - 6:00 p.m.	6:00 p.m. - 12:00 a.m.
CHURCH	ADMINISTRATION	0%	100%	0%	0%	30%	0%
	WORSHIP CENTER	0%	0%	0%	0%	100%	0%
	YOUTH CENTER	0%	0%	0%	0%	30%	0%
	CLASSROOMS	0%	30%	0%	0%	30%	0%
	SPORTS FIELDS	0%	0%	0%	0%	100%	100%
	GYMNASIUM	0%	0%	0%	0%	30%	30%

BUILDING	USE	SQ FOOTAGE	SEATS	SCHEDULED SPACES	SPACES
BLDG. A: ADMIN	OFFICES	4,405	-	1/250 SF	18
BLDG. B: WORSHIP CENTER	CHURCH	-	1060 MAX	1/4 SEATS	265
BLDG. C: YOUTH CENTER	COMMUNITY CENTER	9,876	-	1/200 SF	50
BLDG. D: CLASSROOMS	SCHOOL	7,080	-	1/200 SF	36
SPORTS FIELDS	FIELDS	-	200	1/2 SEATS	100
(FUTURE) BLDG. E: GYMNASIUM	GYMNASIUM	26,000	-	1/200 SF	130
SHARED PARKING TOTAL REQ'D:					302
EXISTING PARKING TOTAL PROVIDED:					397

Saturdays:

SATURDAY PARKING SCHEDULE				
USE		WEEKENDS		
		12:00 a.m. - 7:00 a.m.	7:00 a.m. - 6:00 p.m.	6:00 p.m. - 12:00 a.m.
CHURCH	ADMINISTRATION	0	0	0
	WORSHIP CENTER	0	0	0
	YOUTH CENTER	0	0	0
	CLASSROOMS	0	0	0
	SPORTS FIELDS	0	100	100
	GYMNASIUM	0	39	39
TOTAL:		0	139	139

The Church has no church services on Saturdays. All the attendance on Saturday will be people attending the sport events occurring at the fields and gymnasium from 9am to 9pm. No other buildings will be in use. Note that these sporting day events will not occur every Saturday but maybe once a month. The rest of the Saturdays will be the occasional evening practices. The critical time of use will be during the special events. Only 3 outdoor fields can be used at a time for a total of 14 players (7 player teams) per field/ game and their families. Competitions will be for soccer, baseball, and basketball. A maximum of 200 people will be on the sports fields on Saturdays. During that time, a basketball game (total of 14 players on the court and approximately 30 spectators) will be occurring in the

gymnasium at the same time. A total of about 250 people will be on the property on Saturday events. Assuming a conservative 2 person per parking space, that is less than 150 parking spaces in use. There are currently a total of 397 parking spaces available to the church. See site plan submitted.

Sundays:

SUNDAY SHARED PARKING SCHEDULE				
USE		WEEKENDS		
		12:00 a.m. - 7:00 a.m.	7:00 a.m. - 6:00 p.m.	6:00 p.m. - 12:00 a.m.
CHURCH	ADMINISTRATION	0	0	0
	WORSHIP CENTER	0	265	0
	YOUTH CENTER	0	15	0
	CLASSROOMS	0	22	0
	GYMNASIUM	0	0	0
	TOTAL:	0	302	0

The Church has in-person Sunday services in the Worship Center at 9am and 10:45am. On Sundays, attendance ranges between 150 to 200 people per service. On holidays such as Christmas and Easter, those numbers can increase up to 250 people per service. The 9am service ends 30 minutes before the start of the next service. During that time, people from the 9am service are leaving and people attending the 10:45am service are arriving. While there is some overlap, no more than 400 people would be on Church grounds during that overlap. Those numbers include people using the Administration offices, Youth Center, and Classrooms. While in service, there are daycare and bible study classes happening at the same time. However, many of the people in the classrooms, youth centers, and other buildings are attending either the 9am or 10:45am service; therefore, the critical use of the building is during those two morning services from 9am to noon.

It is important to note that these last 2 years due to the transition from in-person to virtual events, physical seating during service has reduced. With the accessibility of livestreaming and advancing technology, the church plans to continue offering virtual accommodations moving forward. Even with those limitations, the church still plans to increase membership and member retention in the next 10 years. The church foresees growing attendance up to 400 people per service in the next few years. Churches require 1 parking space per 4 church seats. The total 397 parking spaces available to the church allow up to 1588 church seats available to people. That is more than enough for current and future attendance.

Future Gymnasium:

There is a vision to add a new gymnasium building farther in the future. About 20+ years down the road. See site plan attached. With the addition of the building, a maximum of 49 parking spaces will be lost. However, there is room in the property to build 43 additional parking spaces to offset the spaces lost. See site plan. As shown on the parking use above, the Church does not anticipate future demand of the gymnasium will require more than the 397 parking spaces due to the minimal use of the building in combination with the worship center or the sports fields.

Conclusions:

The Crossroads Nazarene Church is very much open and flexible to community input. As such, all live entertainment as stated will begin no earlier than 8am and end no later than 8pm. Until the field lights are constructed in the next 5 years, no night sport competitions will occur. After the construction of the field lights, all night competitions will end no later than 9pm. The neighborhood can expect that those field lights once constructed will not be lit past 9pm. This includes the solar area lights by the path.

Sincerely,

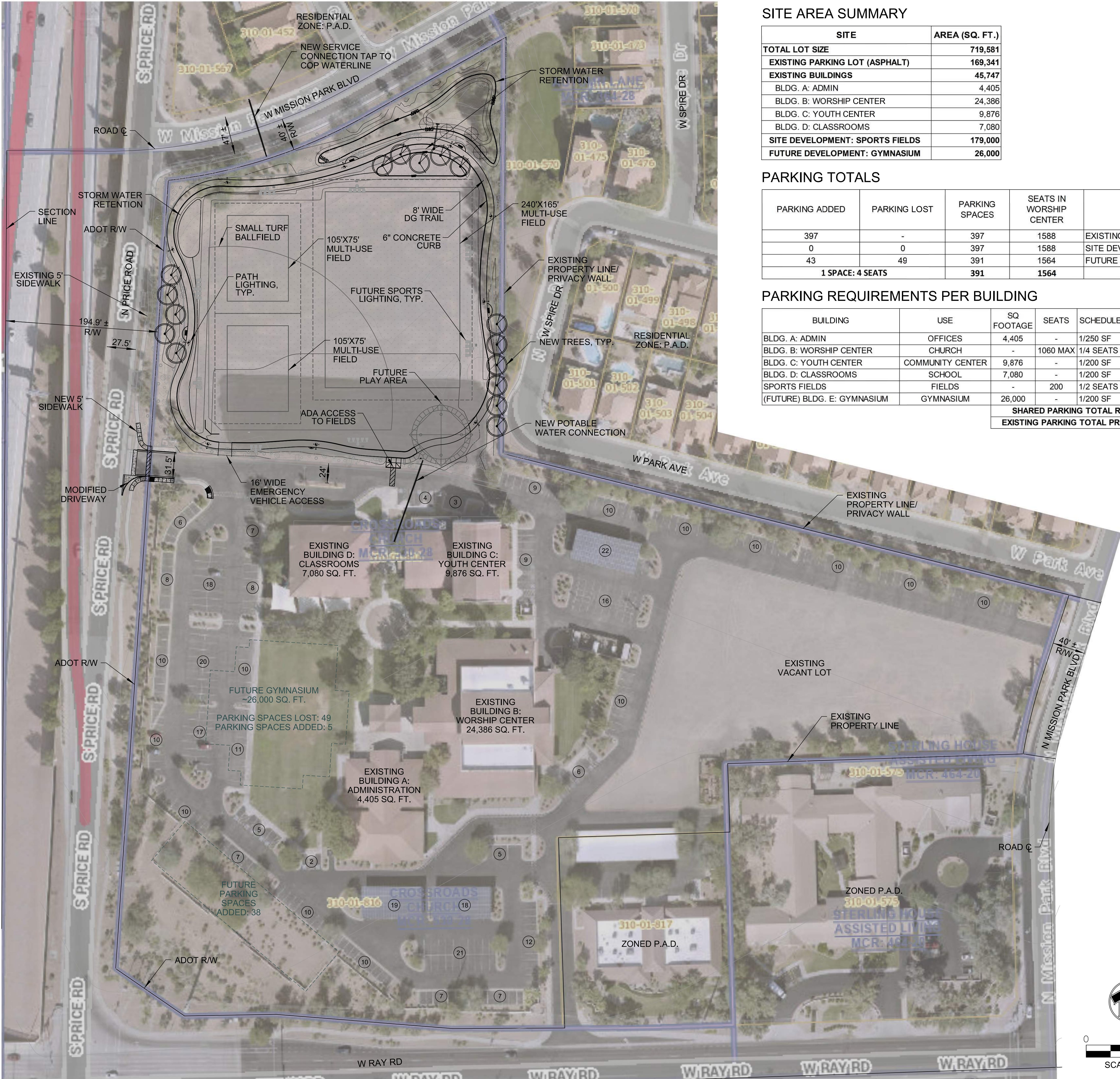
ETHOS ENGINEERING LLC



Sergio Oliden, PE
Principal | Senior Structural Engineer

Encl: Site Plan, Final Layout

SITE PLAN



SITE AREA SUMMARY

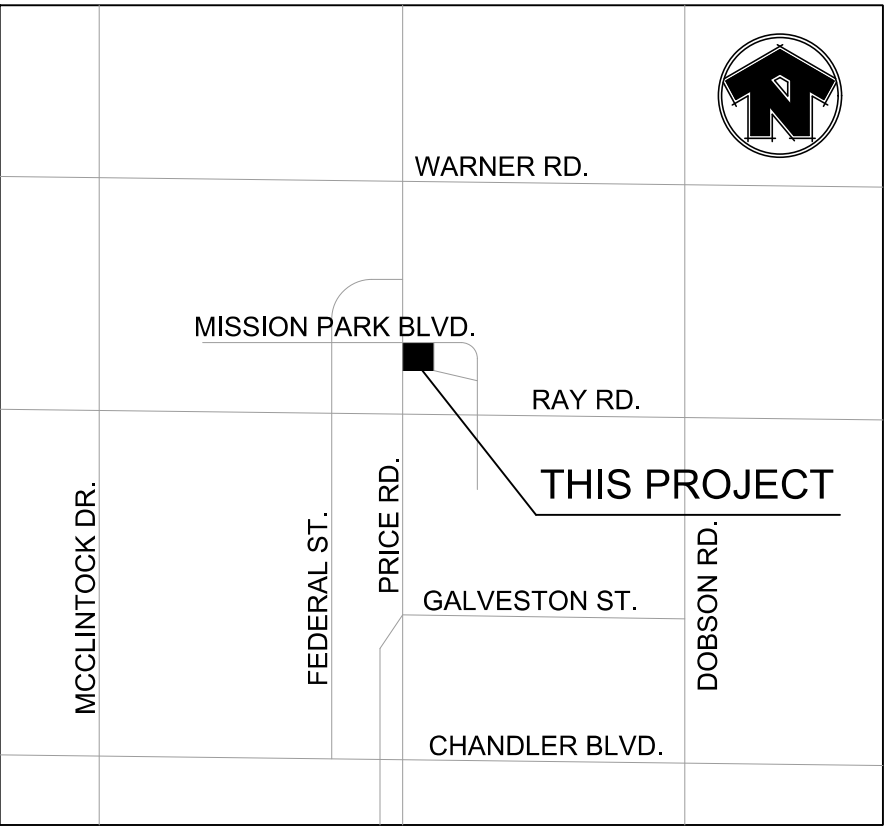
SITE	AREA (SQ. FT.)
TOTAL LOT SIZE	719,581
EXISTING PARKING LOT (ASPHALT)	169,341
EXISTING BUILDINGS	45,747
BLDG. A: ADMIN	4,405
BLDG. B: WORSHIP CENTER	24,386
BLDG. C: YOUTH CENTER	9,876
BLDG. D: CLASSROOMS	7,080
SITE DEVELOPMENT: SPORTS FIELDS	179,000
FUTURE DEVELOPMENT: GYMNASIUM	26,000

PARKING TOTALS

PARKING ADDED	PARKING LOST	PARKING SPACES	SEATS IN WORSHIP CENTER	
397	-	397	1588	EXISTING SITE
0	0	397	1588	SITE DEVELOPMENT
43	49	391	1564	FUTURE DEVELOPMENT
1 SPACE: 4 SEATS		391	1564	TOTAL

PARKING REQUIREMENTS PER BUILDING

BUILDING	USE	SQ FOOTAGE	SEATS	SCHEDULED SPACES	SPACES
BLDG. A: ADMIN	OFFICES	4,405	-	1/250 SF	18
BLDG. B: WORSHIP CENTER	CHURCH	-	1060 MAX	1/4 SEATS	265
BLDG. C: YOUTH CENTER	COMMUNITY CENTER	9,876	-	1/200 SF	50
BLDG. D: CLASSROOMS	SCHOOL	7,080	-	1/200 SF	36
SPORTS FIELDS	FIELDS	-	200	1/2 SEATS	100
(FUTURE) BLDG. E: GYMNASIUM	GYMNASIUM	26,000	-	1/200 SF	130
SHARED PARKING TOTAL REQ'D:				302	
EXISTING PARKING TOTAL PROVIDED:				397	



VICINITY MAP: NTS

NOTES:

- TOTAL PARKING SPACES AVAILABLE: 397 (NOT INCLUDING THE FUTURE ADDITION OF THE GYMNASIUM OR THE ADDITION OF FUTURE PARKING SPACES.)
- TOTAL REQUIRED PARKING SPACED BASED ON SHARED PARKING CALCULATIONS.

CROSSROADS NAZARENE CHURCH SPORTS FIELDS
2950 W. RAY ROAD, CHANDLER, AZ 85224

SITE PLAN

DESIGNED BY: MC	DRAWN BY: MC
CHECKED BY: SEO	APPROVED BY:
SCALE: AS SHOWN	DATE: 02/22/2022
DRAWING NO.:	SHEET NO.:

OF

FINAL LAYOUT

CONSULTANT(S)

CLIENT

CROSSROADS NAZARENE CHURCH SPORTS FIELDS
2950 W. RAY ROAD, CHANDLER, AZ 85224

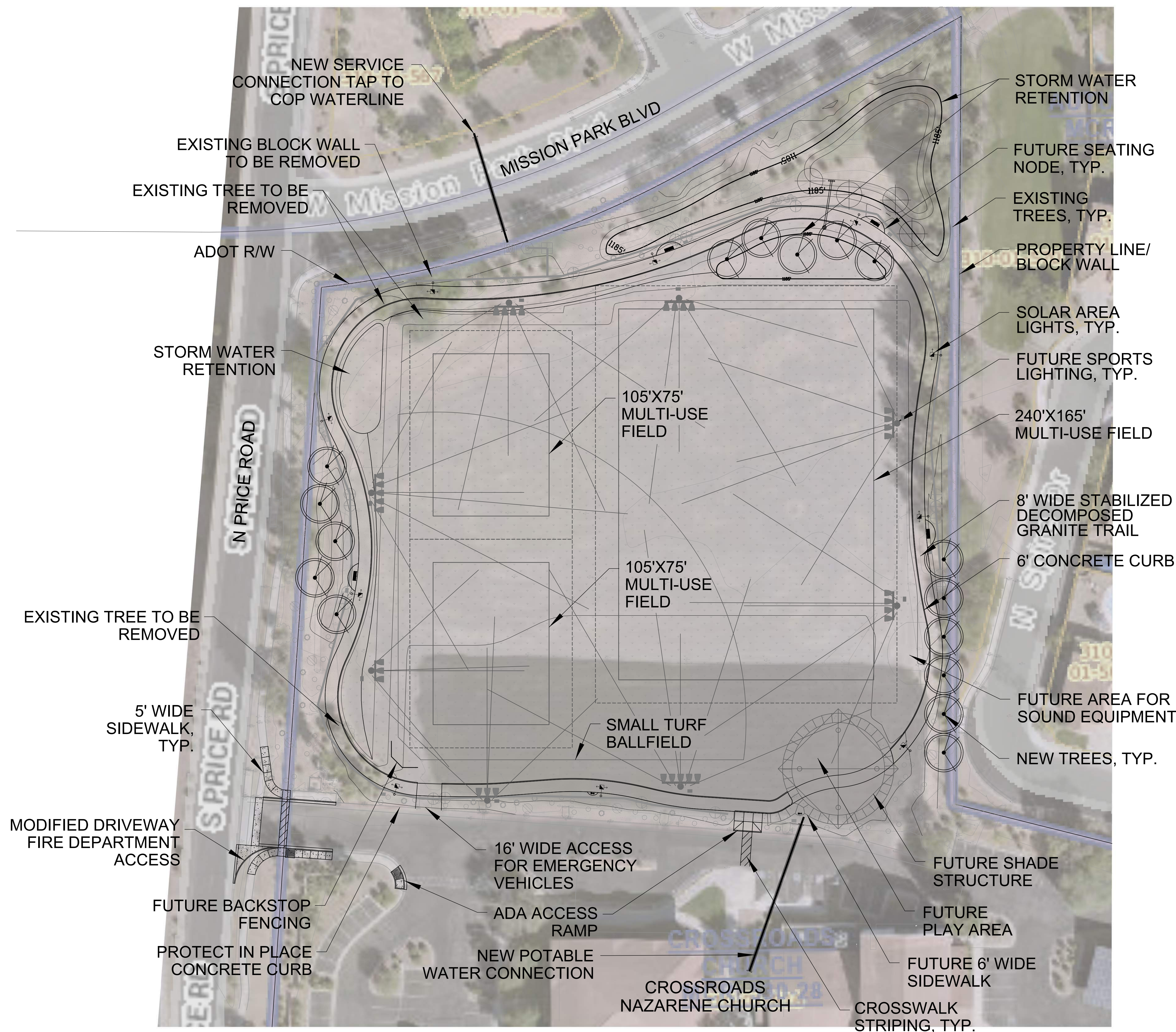
FINAL LAYOUT

#	DATE	DESCRIPTION
REVISIONS		



DESIGNED BY: MC	DRAWN BY: MC
CHECKED BY: SEO	APPROVED BY:
SCALE: AS SHOWN	DATE: 02/22/2022
DRAWING NO :	SHEET NO :

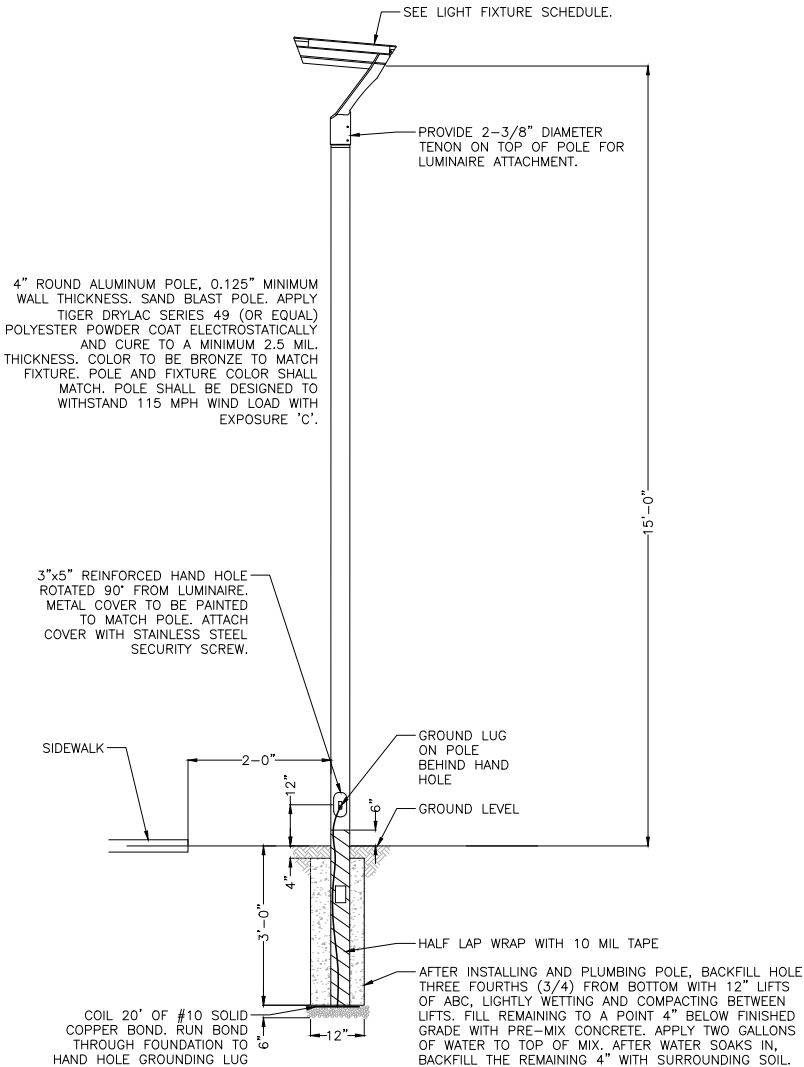
OE



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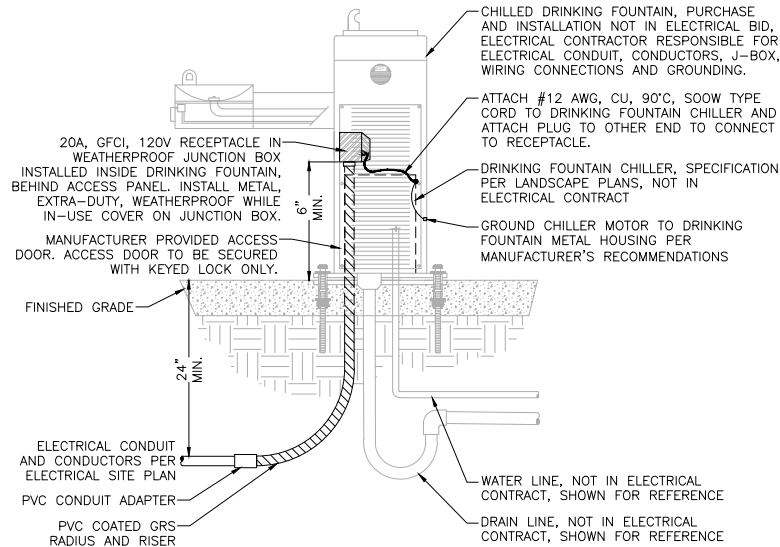
SCALE: 1" = 30'

SOLAR AREA LIGHTS



3A SOLAR AREA LIGHT DETAIL

NO SCALE



NOTE: DETAIL OF FOUNTAIN MAY NOT EXACTLY REPRESENT ACTUAL FOUNTAIN SPECIFICATION, BUT IS SHOWN FOR ELECTRICAL EQUIPMENT INSTALLATION ONLY.

4 DRINKING FOUNTAIN ELECTRICAL CONNECTION

NO SCALE

FIRSTLIGHT TECHNOLOGIES

IPL Series
SOLAR LED INTEGRATED ARCHITECTURAL AREA LIGHT

Project: _____
Type: _____ Quantity: _____

The IPL series solar LED luminaire is an ideal choice for architectural, commercial, recreational pathway and public space lighting applications. The self-contained, contemporary, rectangular design smartly embraces modern solar power, adaptive control and LED technologies. With robust construction and unequalled performance, the IPL series is an excellent fit wherever high-quality, full-cutoff lighting and minimal visual clutter is required.

Using solar power and LEDs, the IPL is completely self-contained and offers significant benefits over grid-based lights including:

- Cost-effective design that ships fully assembled and installs in minutes
- Wireless control & communication with your light
- Low installation cost and minimal site impact with no trenching, cabling or wiring
- Minimal ongoing costs with no electrical bills or bulbs to change
- Operates entirely independent from the grid and is immune to power outages
- A sustainable choice without recurring carbon emissions

All of our solar powered lights are enabled by our innovative Solar Lighting Controller (SLC). The SLC in each light is "self-learning" and allows the lights to predictively adapt to their surroundings, providing a level of lighting performance and reliability unavailable in other solar lighting products.

TECHNICAL SPECIFICATIONS

Solar Module:

- High-efficiency monocrystalline cells
- Inconspicuously integrated into the top of luminaire
- Used for daylight detection (no photocell required)

Solar Lighting Controller (SLC):

- High-efficiency Maximum Power Point Tracking (MPPT)
- Micro-controller based technology
- Includes high-efficiency LED driver
- Multiyear data logging
- Integrated into luminaire housing
- Designed to automatically manage lighting performance based on environmental conditions and lighting requirements
- Potted weatherproof construction

Battery:

- High-performance lithium (LiFePO₄)
- Exceptional 10-year life cycle
- High-temperature tolerance
- Contains within luminaire housing
- Designed for easy battery changes

LEDs and Optics:

- 100,000 hour L70 lifetime
- Warm White (3000K), Neutral White (4000K), and Amber (6000K) LEDs available
- High-efficiency type 2, 3, 4, 4S, and 5, full cut-off optics
- Typical lumen output from 800 to 1250 lumens
- Optional backlight shield
- Wildlife-friendly amber option available

Mechanical Construction:

- Cast, low copper aluminum design
- Stainless fasteners with security fastener option
- Architectural grade, anodized, TBC powder coat
- Four standard colors with custom colors available

Lighting Profiles:

- 11 standard profiles options
- Real-time based lighting profiles available
- See lighting profile sheet for all options
- Motion sensing capabilities optimize performance based usage
- Lighting profiles and motion sensing options are field configurable with app

Wireless Control:

- Bluetooth low energy interface with iOS app
- Provide configuration and control of lighting profiles
- Adjustment over dusk and dawn thresholds
- Motion sensing capabilities optimize performance based on usage

Fixture to be Bronze Color

3B SOLAR AREA LIGHT SPECIFICATION SHEET

NO SCALE

FIRSTLIGHT TECHNOLOGIES

IPL Series
SOLAR LED INTEGRATED ARCHITECTURAL AREA LIGHT

SPL: 0.65lm/ (0.06m²) | Weight: 24.7 lbs (11.2 kg) including battery

Front View: 18.5in (46.9cm) x 18.5in (46.9cm) x 3.5in (8.9cm)
Side View: 18.5in (46.9cm) x 3.5in (8.9cm) x 18.5in (46.9cm)

PHOTOMETRICS (IES files available on website)

Type 2, Type 3, Type 4, Type 4F, Type 5

ORDER MATRIX

Series	Mounting	Finish	Distribution	LED	Lighting Profile (link list on website)	Options
IPL	PTM - Post Top Mount	BK - Black	T2 - Type 2	NW - 3000K	00 - Dusk till dawn	SEC - Security Fasteners
		BZ - Bronze	T3 - Type 3	NW - 4000K	01 - On at dusk, 100% for 3 hours, dim to 30%, brightest to 100% one hour before dawn, off at dawn (DEFAULT)	MBO - Motion Sensor Off
		SV - Silver	T4 - Type 4	AMB - Amber		BLG - Backlight Shield
		WH - White	T4F - Type 4F		T30000 - On at dusk until time between 1800 & 0600, 1x = 0 (OFF) or 0 (ON), 000 = time to dim or turn off.	
		CC - Custom	T5 - Type 5			

CONSULTANT(S):

WRIGHT
engineering corporation
ELECTRICAL ENGINEERING AND DESIGN

165 EAST CHILTON DRIVE
CHANDLER, ARIZONA 85225
PHONE: 480.497.5825
FAX: 480.497.5807
www.wrightengineering.us

Wright Project # 21597

CLIENT:

CROSSROADS NAZARENE

CHURCH

SITE ELECTRICAL DETAILS

1 2-15-22 1ST SUBMITTAL

REVISIONS



DESIGNED BY: CDC DRAWN BY: CDC

CHECKED BY: APPROVED BY:

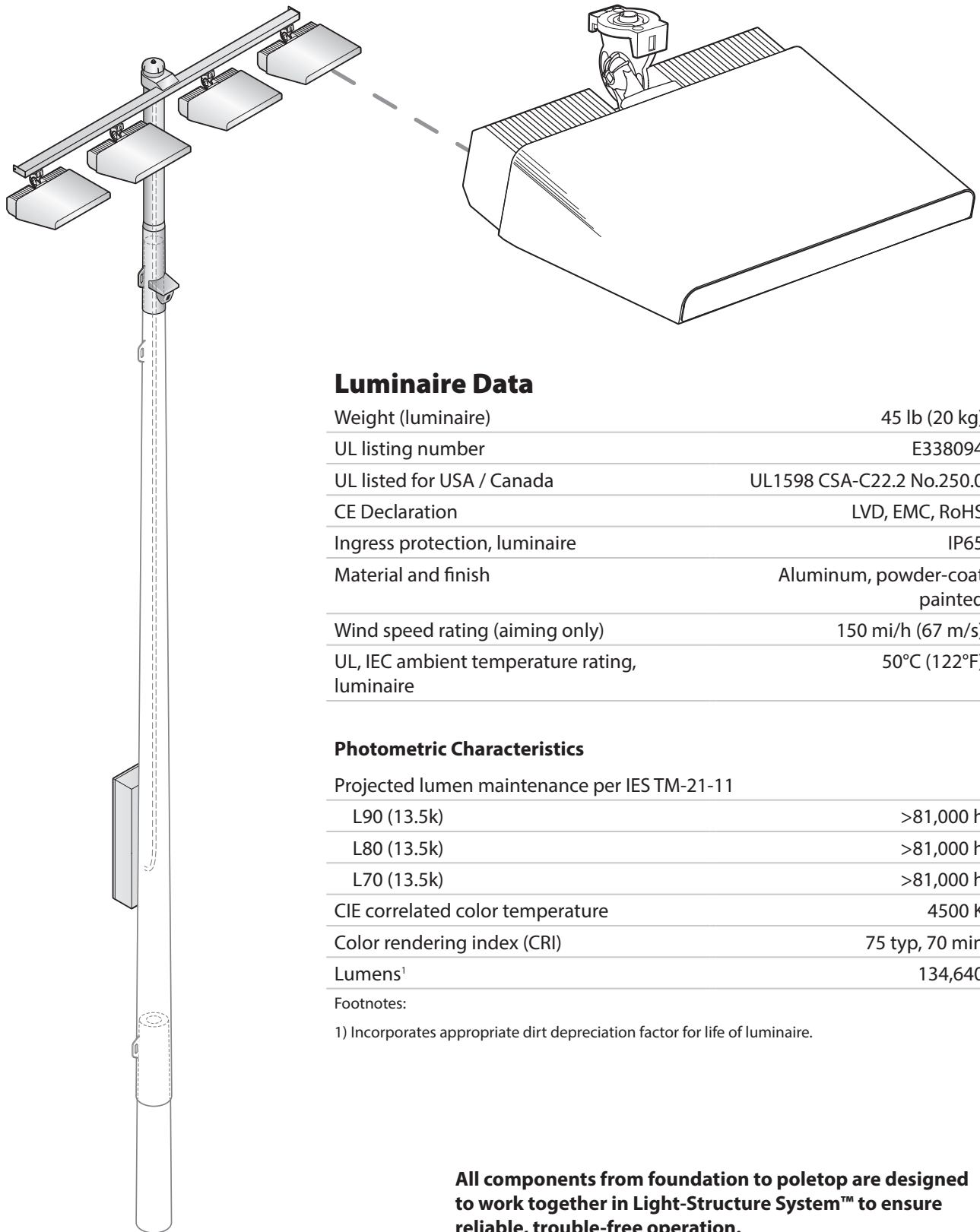
SCALE: DATE: 02/2022

DRAWING NO: SHEET NO:

SE3.2 OF 8

MUSCO FIELD LIGHTS

Luminaire and Driver – TLC-LED-1200



Luminaire Data

Weight (luminaire)	45 lb (20 kg)
UL listing number	E338094
UL listed for USA / Canada	UL1598 CSA-C22.2 No.250.0
CE Declaration	LVD, EMC, RoHS
Ingress protection, luminaire	IP65
Material and finish	Aluminum, powder-coat painted
Wind speed rating (aiming only)	150 mi/h (67 m/s)
UL, IEC ambient temperature rating, luminaire	50°C (122°F)

Photometric Characteristics

Projected lumen maintenance per IES TM-21-11

L90 (13.5k)	>81,000 h
L80 (13.5k)	>81,000 h
L70 (13.5k)	>81,000 h
CIE correlated color temperature	4500 K
Color rendering index (CRI)	75 typ, 70 min
Lumens ¹	134,640

Footnotes:

1) Incorporates appropriate dirt depreciation factor for life of luminaire.

All components from foundation to poletop are designed to work together in Light-Structure System™ to ensure reliable, trouble-free operation.

Luminaire and Driver – TLC-LED-1200

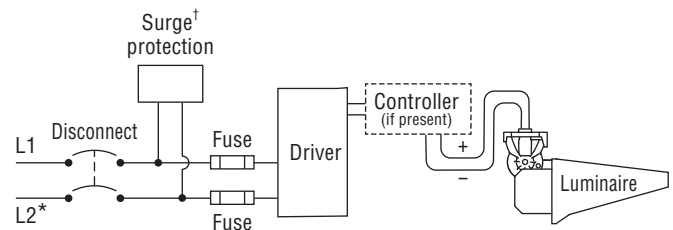
Driver Data

Electrical Data

Rated wattage¹

Per driver	1170 W
Per luminaire	1170 W
Number of luminaires per driver	1
Starting (inrush) current	<40 A, 256 μ s
Fuse rating	15 A
UL, IEC ambient temperature rating, electrical components enclosure	50°C (122°F)
Ingress protection, electrical components enclosure	IP54
Efficiency	95%
Dimming mode	optional
Range, energy consumption	14 – 100%
Range, light output	19 – 100%

Typical Wiring



* If L2 (com) is neutral then not switched or fused.

† Not present if indoor installation.

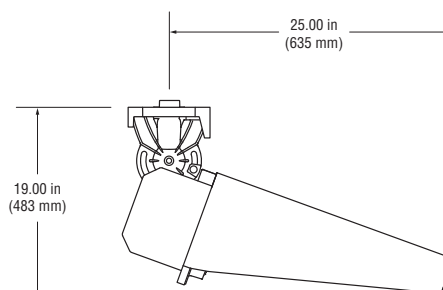
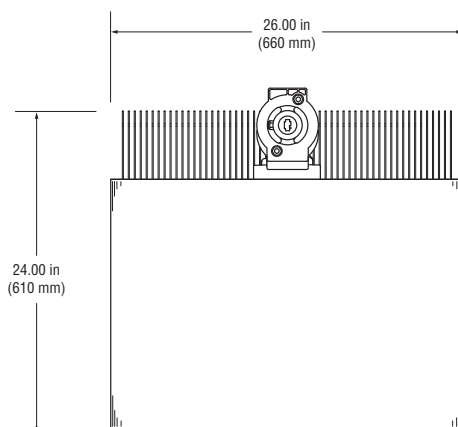
	200 Vac 50/60 Hz	208 Vac 60 Hz	220 Vac 50/60 Hz	230 Vac 50 Hz	240 Vac 50/60 Hz	277 Vac 60 Hz	347 Vac 60 Hz	380 Vac 50/60 Hz	400 Vac 50 Hz	415 Vac 50 Hz	480 Vac 60 Hz
Max operating current per luminaire ²	7.26 A	6.98 A	6.60 A	6.31 A	6.05 A	5.24 A	4.18 A	3.82 A	3.63 A	3.50 A	3.03 A

Footnotes:

- 1) Rated wattage is the power consumption, including driver efficiency losses, at stabilized operation in 25°C ambient temperature environment.
- 2) Operating current includes allowance for 0.90 minimum power factor, operating temperature, and LED light source manufacturing tolerances.

Notes

1. Use thermal magnetic HID-rated or D-curve circuit breakers.
2. See *Musco Control System Summary* for circuit information.



FUTURE PLAYGROUND CONCEPTS



Model View

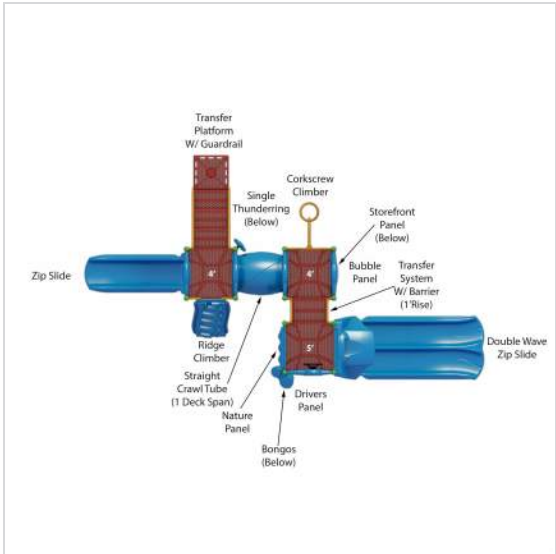
ACTIVE

Newberg

\$23,898

Model # 11925

Welcome to Newberg, the playground with fun activities to get kids moving and using their imaginations. Two slides offer multiple sliding activities, while the interactive Bongos and Drivers Panel give children the chance to be creative and socialize with others.



Top View

Specifications

Product Line	PrimeTime	Number of Children	30-35
Length	27'	System Features	Crawl Tubes Zip Slide
Width	37'		
Age Range	2 to 5 or 5 to 12 Years		
Fall Height	5'		



Model View

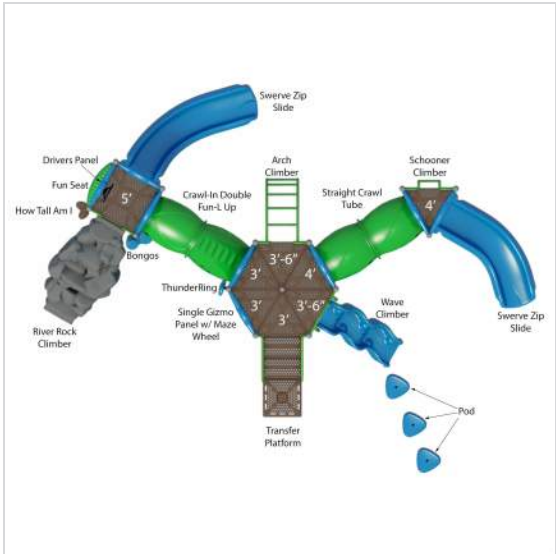
ACTIVE

Fairview

\$30,505

Model # 11927

Fairview gives kids the perfect place for their imaginations to soar! It features two slides and multiple climbing elements



Top View

Specifications

Product Line	PrimeTime
Length	34'
Width	40'
Age Range	2 to 5 or 5 to 12 Years
Fall Height	5'

Number of Children	35-40
System Features	Crawl Tubes Zip Slide



Model View

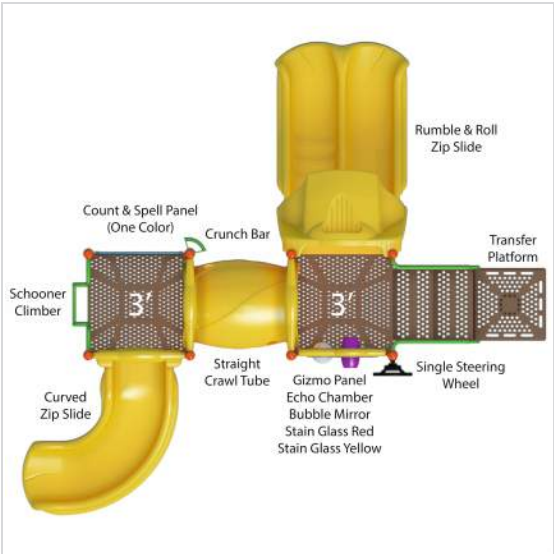
ACTIVE

Bailey's Burrow

\$15,356

Model # 11929

PrimeTime is a perfect choice for schools, early learning centers, faith-based organizations and more. With a full range of climbers, slides, ladders and play activities, PrimeTime systems can be configured for any space and any budget, without compromising play or play value.



Top View

Specifications

Product Line	PrimeTime	Number of Children	20-25
Length	28'	System Features	Crawl Tubes Zip Slide
Width	26'		
Age Range	2 to 5 Years		
Fall Height	3'		

FUTURE SHADE STRUCTURE CONCEPT

