



SFMTA
 Municipal
 Transportation
 Agency

Edward M. Lee, *Mayor*
 Tom Nolan, *Chairman*
 Gwyneth Borden, *Director*
 Jerry Lee, *Director*
 Cristina Rubke, *Director*
 Cheryl Brannaman, *Non-Chairman*
 Marjorie Hernandez, *Director*
 José Ramos, *Director*
 Edward D. Felsman, *Director of Transportation*

February 25, 2015

Mr. Steve Espinal
 Senior Utilities Engineer
 Safety and Enforcement Division
 Rail Transit Safety Section
 California Public Utilities Commission
 505 Van Ness Avenue, Room 2-D
 San Francisco, CA. 94102-3298

Re: San Francisco Lighting Project

Dear Mr. Espinal:

I am requesting approval for a Variance to Rule 78.3 of Go 95 "Foreign" Conductors, Decorative Lighting attached to Trolley Span Wires and Rule 78.3 C terminating wires to poles supporting Trolley Contact wires.

The "Illuminate the Arts" "Light Rail Project" on Market Street will be installed as a temporary attachment to the trolley span guys, for approximately three years. They have permission from the SFMTA, for this exhibit. In the interest of the public enjoyment and good. I request that the variances be granted, as a permanent attachment.

Thank you.

Sincerely,

Tim Lipps
 Superintendent
 Overhead Lines
 SFMTA



SFMTA
Municipal
Transportation
Agency

Edwin M. Lee, *Mayor*

Tom Nolan, *Chairman*
Gwyneth Borden, *Director*
Jerry Lee, *Director*
Cristina Rubke, *Director*

Cheryl Brinkman, *Vice-Chairman*
Malcolm Heinicke, *Director*
Joel Ramos, *Director*

Edward D. Reiskin, *Director of Transportation*

December 5, 2014

Mr. Steve Espinal
Senior Utilities Engineer
Safety and Enforcement Division
Rail Transit Safety Section
California Public Utilities Commission
505 Van Ness Avenue, Room 2-D
San Francisco, CA. 94102-3298

Re: San Francisco Lighting Project

Dear Mr. Espinal:

I have reviewed the design for the proposed "Light Rail" public art installation from Parsons Brinckuoff. Also included was their projects maintenance plan.

I received a letter from Mr. Ben Davis of "Illuminate the Arts" dated November 19, 2014. In this letter, he points out how the project will follow CA PUC GO-95 rules (See attached letter).

After reviewing these documents and meetings with their project team, I believe that this project will be safe to install and maintain.

Sincerely,

Tim Lipps
Superintendent
Overhead Lines
SFMTA



November 19, 2014

Tim Lipps
SFMTA
One South Van Ness Ave, 7th Floor
San Francisco, CA 94103

Dear Mr. Lipps,

I am writing to request SFMTA approval and recommendation of the proposed *LightRail* public art installation to the CPUC. The temporary project, lasting four years, will install a continuous string of programmed lights along each side of two miles of Market Street. The lights will visualize the real-time movement of underground trains.

We have studied the CA PUC GO-95 requirements and limitations on attaching “Foreign” conductors, such as decorative lighting, to trolley span wires (Rule 78.3A), and terminating wires to poles supporting Trolley Contact Wires (Rule 78.3C), and believe that we can meet these requirements and limitations. The above Rule states that “Decorative lighting fixtures and decorative lighting circuits of not more than 300 volts may be attached temporarily to trolley span wires provided that such equipment and appurtenances meet all of the following requirements:”

We will meet the stated requirements, however although the installation of the decorative lights is presently planned to be temporary, it is possible that in the future the City of San Francisco may request that the decorative lights remain installed on a permanent basis.

To cover this eventuality we are requesting a waiver of the CPUC requirement that the installation of the lights be temporary in order to mitigate any issues in the future should the City want to keep the lights in place.

The “LightRail” installation along both sides of Market Street will meet all of the requirements of CA PUC GO-95 for the attachment of Foreign conductors, such as decorative lighting, to trolley span wires (Rule 78.3A), and terminating wires to poles supporting Trolley Contact Wires (Rule 78.3 C). Per the requirements of these rules the decorative lighting will be a minimum of 18’ above the road surface, and the supporting messenger and lighting will be terminated on either side of trolley turn-outs to avoid the lighting installation from crossing the trolley conductors.

We will use the existing 208 V ac Street lighting supply as the source of power for the decorative lighting and the actual operating voltage for the decorative lighting supply and control circuits to be installed along Market Street is only 48 V dc.

To further enhance safety, and minimize any possibility of contact with the 600V DC trolley system the decorative lights will be supported by a non-conducting 0.51” diameter PHILLYSTRAN messenger wire which will be attached to the existing trolley span guys

between the in-span insulator adjacent to the trolley conductor and the in-span insulator adjacent to the pole.

We believe that we have proposed a decorative lighting installation that will be both pleasing to the general public and that will be safe to operate and maintain, and we request SFMTA approval and recommendation of our proposed installation to the CPUC.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Davis". The signature is stylized and cursive.

Ben Davis
Founder & CEO
Illuminate the Arts

Espinal, Steven

From: Lipps, Tim <Tim.Lipps@sfmta.com>
Sent: Friday, January 16, 2015 10:18 AM
To: Espinal, Steven
Subject: FW: FW: LightRail - Final Package

From: George Zisiadis [<mailto:george.zisiadis@gmail.com>]
Sent: Monday, December 01, 2014 4:18 PM
To: Balmy, Alec
Cc: Stefano Corazza - Sunflowerrobots (sunflowerrobots@gmail.com); Lombardi, Ken; Lipps, Tim
Subject: Re: FW: LightRail - Final Package

Captain Balmy,

This email is to confirm that the LightRail team and Parsons Brinckerhoff have reviewed and agreed with your requests. We will comply with all of your requested changes and will provide the necessary updated documentation as soon as possible.

Thank You!

PS - The DPW contact to be emailed is Berhane.Gaime@sfdpw.org

On Mon, Dec 1, 2014 at 11:55 AM, Balmy, Alec (FIR) <alec.balmy@sfgov.org> wrote:
Good morning –

Thank you for providing updated drawings. Per my phone message, please revise the drawings to include the following from our understanding at the Nov. 20th meeting (with MTA Tim Lipps) and submit for our approval:

1. The lightrail support and light tubes shall be located on the curb side of the insulator and as close to the insulator as possible (not (4) feet from the insulator as indicated on the drawings). Please indicate and install the lightrail support and light tubes no further than (5) ft. (6) in. from the Muni high-tension wire closest to the curb; this will satisfy Muni overhead wire concerns (the system will be on the curb side of the insulator and at least four feet from the Muni wire) and possibly reduce the number of hook pull release locations required to provide SFFD aerial access.
2. Please explain and provide a detail of the dead-end stops on the messenger wire (including points of attachment) and how it will prevent the tensioned lines from springing when released
3. Please include a detail of the lanyard-hook ring configuration and include specific details of the lanyard composition, visibility characteristics, etc.
4. Please include the following two additional notes on the drawings, and please correct the note numbering:
 - * When the minimum dimension from the curb to light rail support and light tubes is determined to be less than (12) feet, the SFFD shall be consulted and the aerial access condition addressed to the satisfaction of the SFFD during installation.
 - * The SFFD shall not be responsible for any costs or damages for the repair, replacement, or re-installation of the project system or its components that may be affected during fire operations.

Please feel free to contact Mr. Tim Lipps at (415) 554-9227 or on his cell at (415) 819-1068 if you need further clarification or direction regarding the dead-end configuration or project distance from the insulator.

Thank you.

Alec Balmy, Captain

San Francisco Fire Department
Bureau of Fire Prevention
698 02nd Street
San Francisco, CA 94107

Telephone: (415) 558-3643

E-mail: alec.balmy@sfgov.org

-----Original Message-----

From: Stefano Corazza - Sunflowerrobots [<mailto:sunflowerrobots@gmail.com>]

Sent: Tuesday, November 25, 2014 10:02 AM

To: Balmy, Alec (FIR)

Cc: George Zisiadis

Subject: LightRail - Final Package

Dear Captain Balmy,

Please ignore the previous emails, here the complete and final package including the truck drawing as we just discussed over the phone.

If the project passes your approval tomorrow it would be great if you could email or Cc [<Berhane.Gaime@sfdpw.org>](mailto:Berhane.Gaime@sfdpw.org) in your communication so that DPW will know they can move forward with the M.E. permit.

Looking forward to hearing from you.

Thank you for your help and precious feedback.

Best regards,

Stefano

--

GeorgeLovesYou.com
718.216.2111

Overall LightRail Maintenance Plan

STEP 1 - PLAN

- Identify Specific Tasks
- List Each Goal
- Identify Personnel Involved
- List Equipment Needed
- List Time Required

STEP 2 - INSPECT

- Identify Routine Time Period between Inspections
- Visual Inspection of Control Panels, Security Provisions, and Mounting Hardware
 - Dirt
 - Insulation Discoloration
 - Insect/Rodent Presence
 - Moisture accumulation
 - Odor Presence
 - Unusual Presence of Heat in Components
- Use Infrared Viewer
- Once each month, inspect entire length of system for failure of LED lighting fixtures
- Replace with new fixtures where required

STEP 3 - CLEAN

- Consult Manufacturers documentation for specific cleaning requirements
- Clean all components
 - Vacuum dust, dirt, and foreign material from cabinet
 - Use Citrus based, general purpose solvent on all insulators and conductors
 - Avoid any abrasive cleaning mediums
 - Clean all contact surfaces

STEP 4 - TIGHTEN

- Determine recommended torque values from International Electrical Testing Association and manufacturer's recommendations
- Tighten all fasteners on all electrical components and connections

STEP 5 - LUBRICATE

- Evaluate components and determine from manufacturer's recommendations any lubrication requirements and obtain the proper lubrication media.
- Lubrication of Non-Conductor joints or moving members using appropriate material
- Lubricate Conductors, stabs, and other such equipment with "black grease" do not scrub the surface

STEP 6 - TEST

- Where it applies, measure insulation resistance and record
- Test all equipment and devices within the enclosure using the NETA specifications

STEP 7 - RECORD

- Using testing and recording forms from NFPA 70B for recording date, identification
- And all pertinent data for each control panel inspected and tested.

STEP 8 - EVALUATE

- Evaluate Results
- Report anomalies
- Schedule Repair for all defects discovered
- Record all repair activity

FREQUENCY OF MAINTENANCE

- Inspect and test annually for two consecutive years
- Review maintenance and test records and reduce interval if conditions
- Indicate maintenance and testing is required more often.
- Repeat the inspection and review process on a continuous basis for the life of the system

Path of Gold Maintenance Plan

Proposed Scope of Work for the conditions assessment.

Each affected pole will be visually inspected ahead of installation. The conditions of the poles will be documented in a memo with written descriptions of each pole conditions supported by photo back-up. This memo will establish the base condition of each pole before installation.

Methods/Materials to ensure that the metal clamps and the box will not cause damage or corrosion to the poles.

As mentioned in writeup, small rubber barriers will be placed in between the metal clamps and poles to prevent any corrosion.

Plan and schedule for periodic assessments.

The poles will be visually inspected on a quarterly basis along with the inspection of the LightRail piece. The inspection will include looking for discoloration of the light pole (signs of rust, chipping of paint, etc.), the inspection will include comparing the condition of the pole to the documented baseline condition described in the memo. If any unplanned maintenance is required for the LightRail, the contractor performing the maintenance will also include in their activities an assessment of the poles.

Plan for repairing and addressing regular maintenance, vandalism, damage and/or corrosion.

Illuminate the Arts (ITA) and their contractor will repair any damage from corrosion or vandalism discovered during the quarterly assessment at their cost. Maintenance costs will be included in the capital plan for the project.

Staffing responsibilities and contact information for those responsible for the maintenance plan.

ITA and their contractor will be responsible for all maintenance costs of the POG poles as a result of the installation of the LightRail project. ITA will have staff available through their contractor who will have the responsibility for repairs. Their names and contact numbers will be made available to all necessary City officials ahead of the start of project construction.

Removal plan including who is responsible for the removal and who will ensure that the Path of Gold poles are properly restored.

ITA and their contractor will be responsible for removal costs of the LightRail from the POG poles. As part of the installation removal, the poles' condition will be assessed as compared to the baseline condition. Based on the assessment, the ITA contractor will develop a comprehensive POG pole restoration plan that returns the poles to their original condition before the installation of the LightRail. The restoration plan will then be circulated amongst the appropriate City officials, including the HPC, for their review and approval. Once approved, ITA contractor will commence on the repairs including plugging up the hole. Once the repairs are finished, the ITA contractor will be available to make changes and perform additional work on the restoration until City inspectors have signed off on the project. Finally, the ITA contractor will document the final condition of the poles in a memo for City records.

Pkt. Drive - PLTW005

Pender - PFT005

REV	DATE	BY	APP'D	DESCRIPTION

light rail

PARSONS BRINCKERHOFF

ZOON

KADISCH

LIGHTRAIL PROJECT

ELECTRICAL PLAN

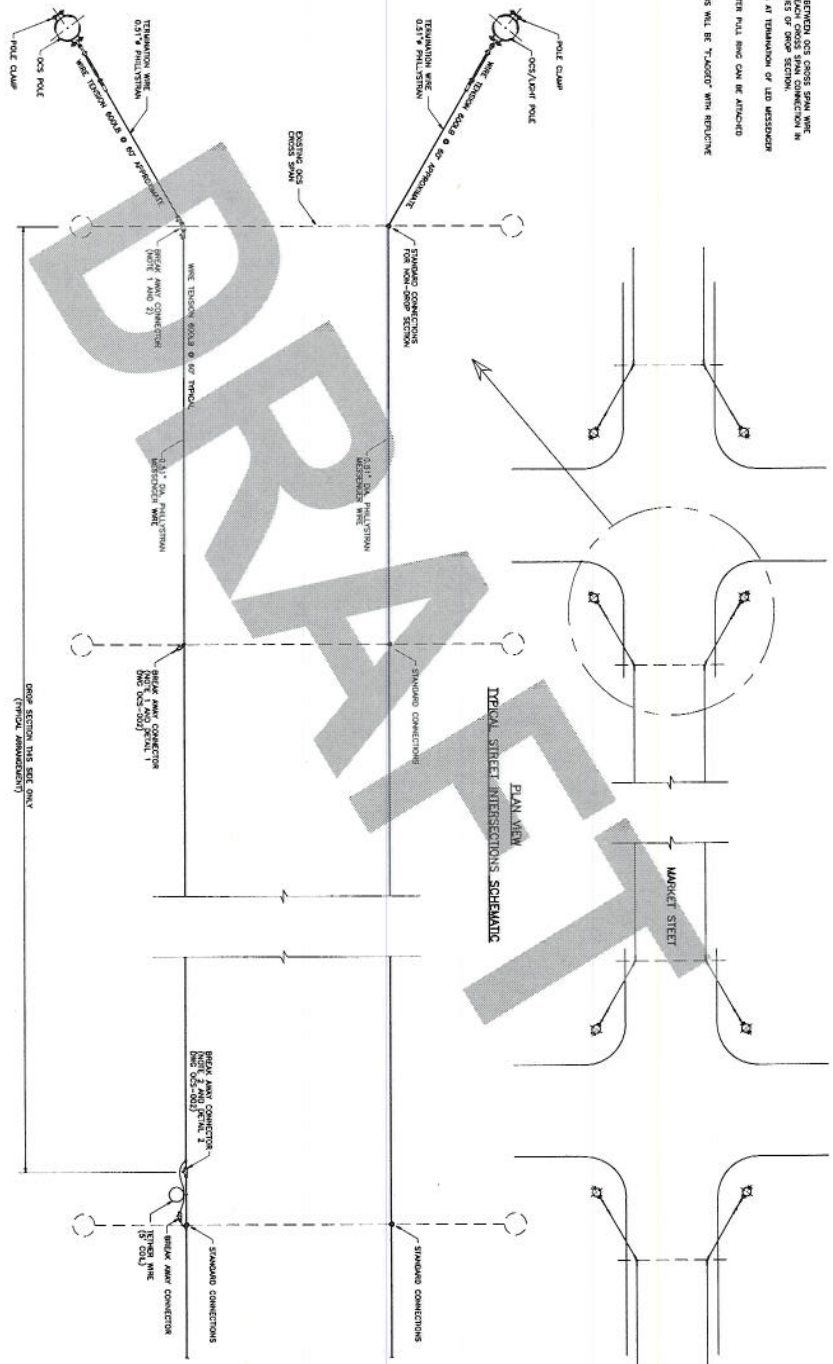
MARKET ST. - MESSENGER WIRE TERMINATION

PROJECT #	CONTRACT #

THIS PLAN ACCOUNTS FOR ELECTRICAL WORK ONLY

PLAN VIEW

LED MESSENGER WIRE TERMINATION DETAIL



- NOTES**
1. INSTALL BREAK-AWAY SHOCKLE BETWEEN 100 CROSS POLE WIRE AND LED MESSENGER WIRE AT EACH CROSS SPAN CONNECTION IN DRIP SECTION OR AT EXTREMES OF DRIP SECTION.
 2. INSTALL BREAK-AWAY SHOCKLES AT TERMINATION OF LED MESSENGER WIRE.
 3. IF NECESSARY A LARGER DIAMETER PULL RING CAN BE ATTACHED TO THE SHOCKLE WIRE.
 4. BREAK AWAY SHOCKLE LOCATIONS WILL BE "TAGGED" WITH REFLECTIVE TAPE.

PHI Drive - FLORISS

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

REV	DATE	BY	APP	REV NO	DESCRIPTION	SCALE

PROJECT #

1. L&L	PROJECT #
2. ZOOM	PROJECT #
3. H&S&O	PROJECT #
4. H&S&O	PROJECT #
5. N&E	PROJECT #
6. N&E	PROJECT #

lightrail

PAUSONS BRUNCKENHOFF

ZOON engineering

Kapsch

LIGHTRAIL PROJECT ELECTRICAL PLAN

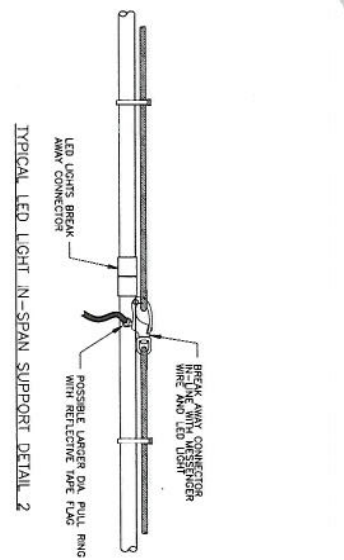
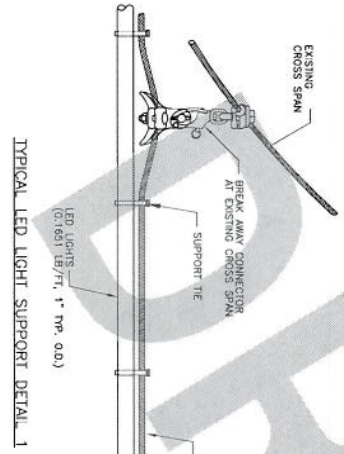
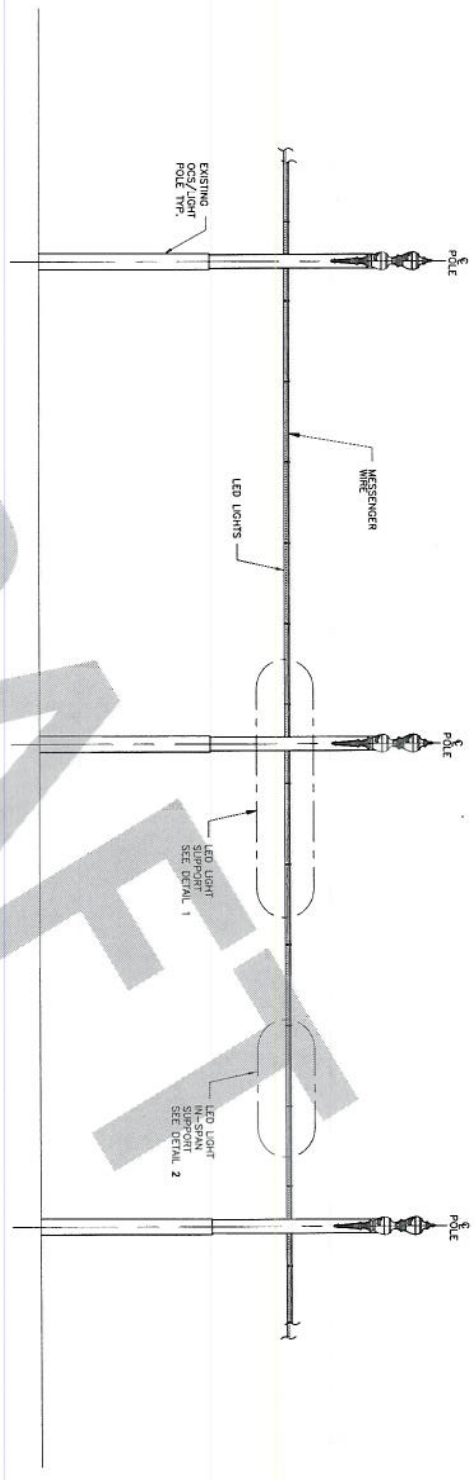
MARKET ST. - LED LIGHT SUPPORT SPANS

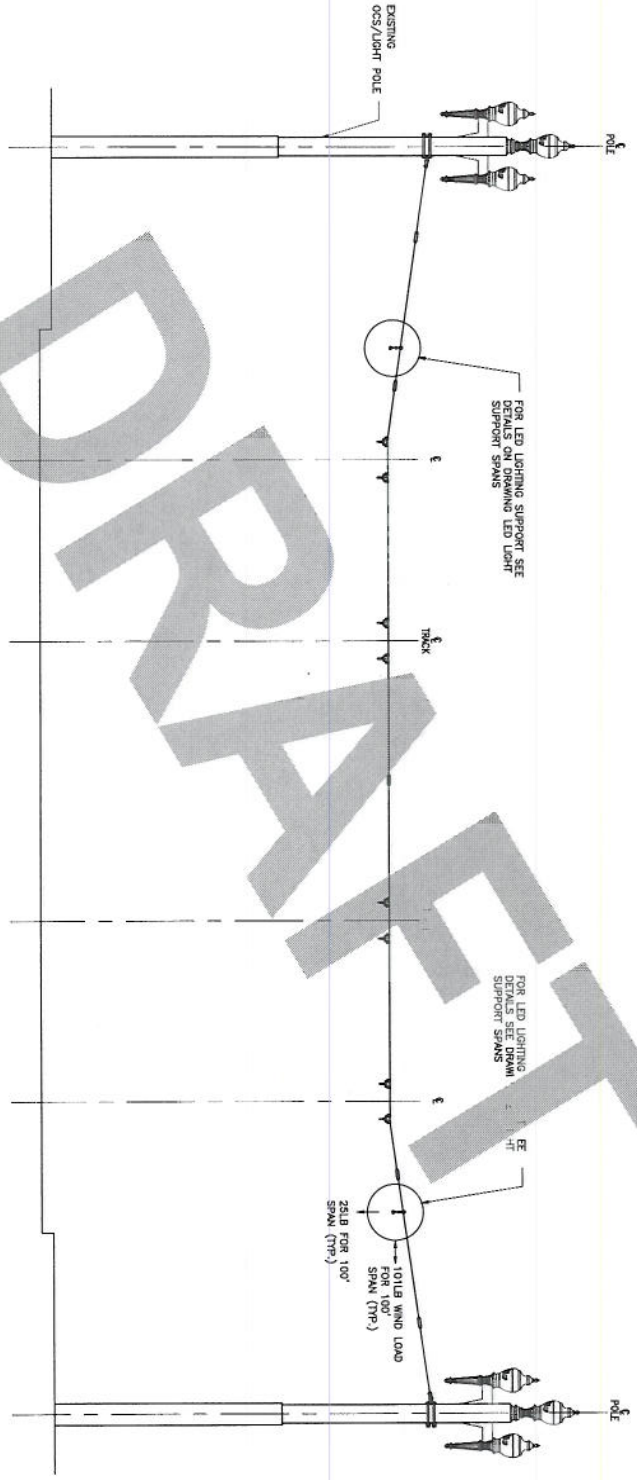
CONTRACT #

DRAWING NO. 002

SCALE NO SCALE

OCS-002





TYPICAL EXISTING MARKET STREET CROSS SPAN ARRANGEMENT

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

REV	DATE	BY	APP	REV. NO.	DESCRIPTION	SCALE

lightrail

PARSONS BRINCKERHOFF

ZOON *engineering*

KAPSCHE

LIGHTRAIL PROJECT ELECTRICAL PLAN

MARKET ST. - CROSS SPAN

CONTRACT # **005-003**

DRAWING NO. **003**

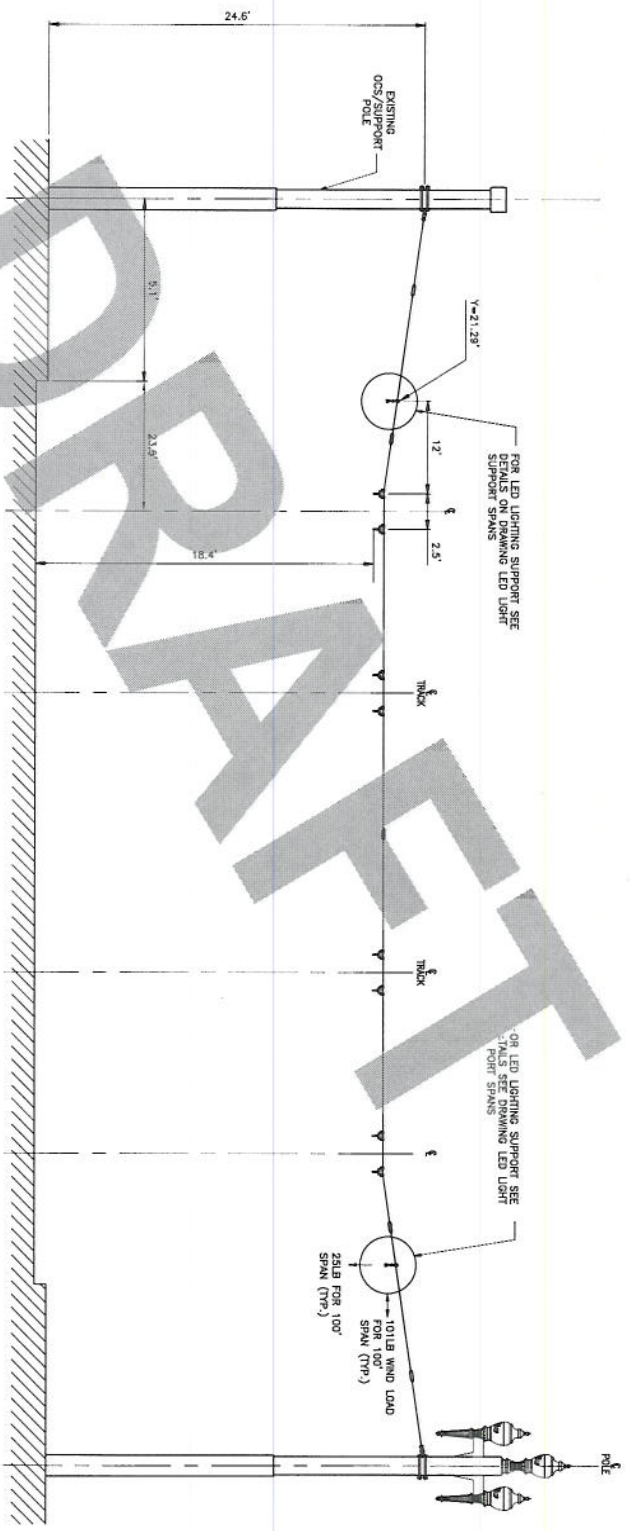
SCALE **NO SCALE**

DATE **10/27/2014**

Proj. Drawn: **PLURINS**

MANAGER: **CEB**

FOR MIN HEIGHT 18'
 DISTANCE AVAILABLE FOR ATTACHMENT AND LIGHTS: 3.29'



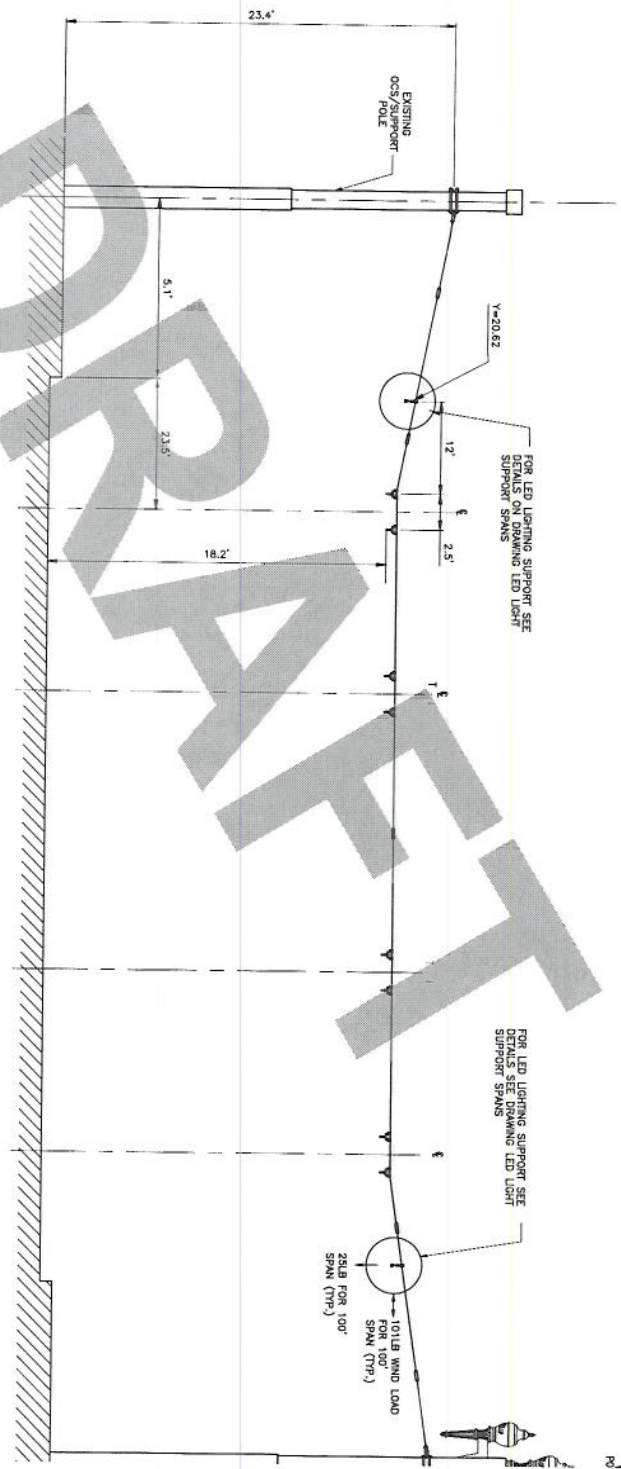
TYPICAL EXISTING MARKET STREET CROSS SPAN ARRANGEMENT

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

PROJECT # CONTRACT # DRAWING 003 SCALE NO SCALE L-003-003-1									
MARKET ST. - CROSS SPAN									
LIGHTRAIL PROJECT ELECTRICAL PLAN									
BLEYCO PARSONS BRINCKERHOFF ZOOM kapsch									
REVISIONS NO. DATE BY APP. REVISIONS									
REVISIONS A. NO. BY DATE REVISIONS									

FOR DRIVER FILTERS

FOR WIND HEIGHT 18'
 DISTANCE AVAILABLE FOR ATTACHMENT AND LIGHTS: 2.82'
 DISTANCE FROM CURB 11.5'

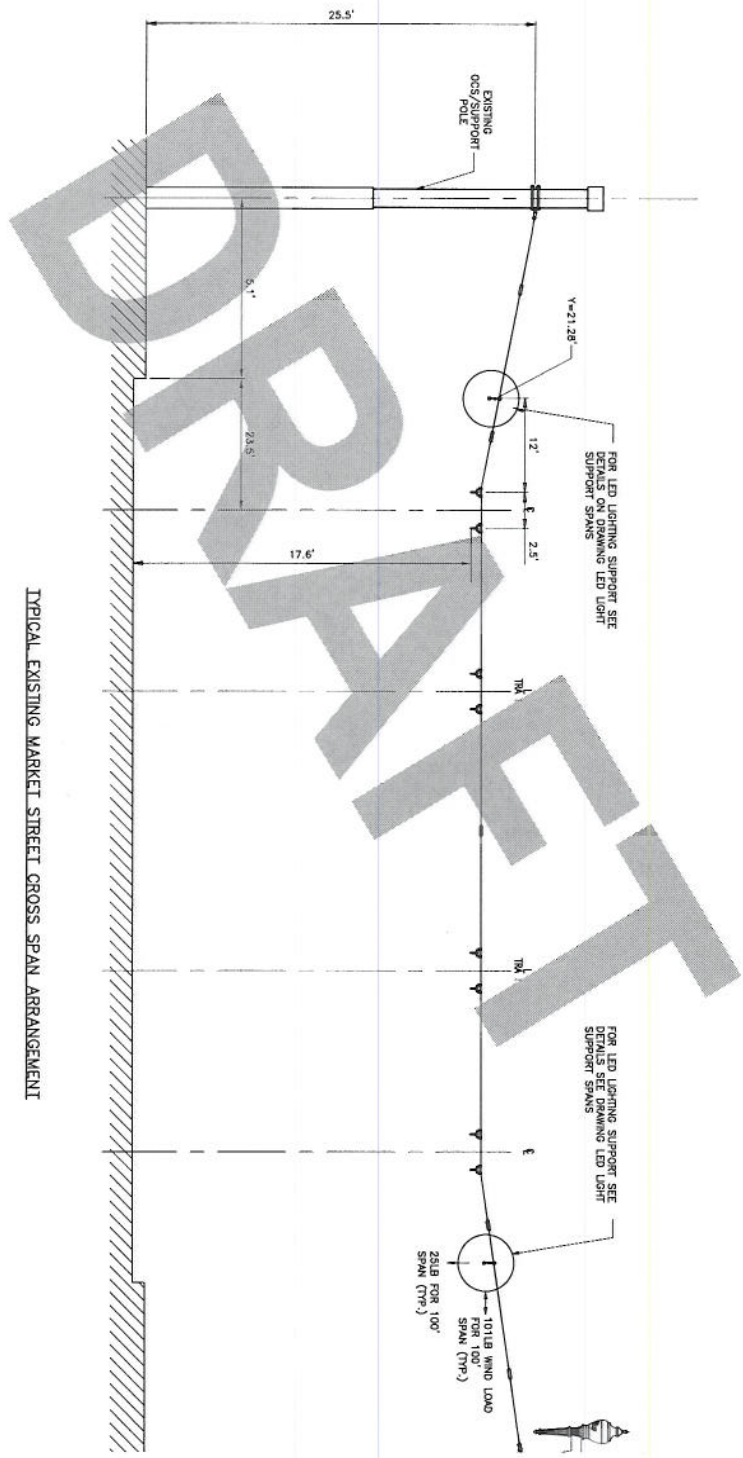
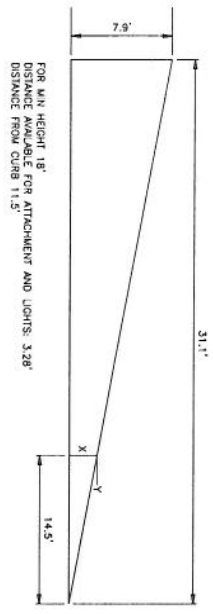


TYPICAL EXISTING MARKET STREET CROSS SPAN ARRANGEMENT

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY.

light rail BLEYCO PANSONS BRINCKERHOFF ZOON KAPSCHE		LIGHTRAIL PROJECT ELECTRICAL PLAN MARKET ST. - CROSS SPAN		CONTRACT # DRAWING NO. SCALE
PROJECT NO. DATE DRAWN BY CHECKED BY IN CHARGE	REVISIONS NO. DATE BY DESCRIPTION	CONTRACT NO. 003	DRAWING NO. 003	SCALE NO SCALE

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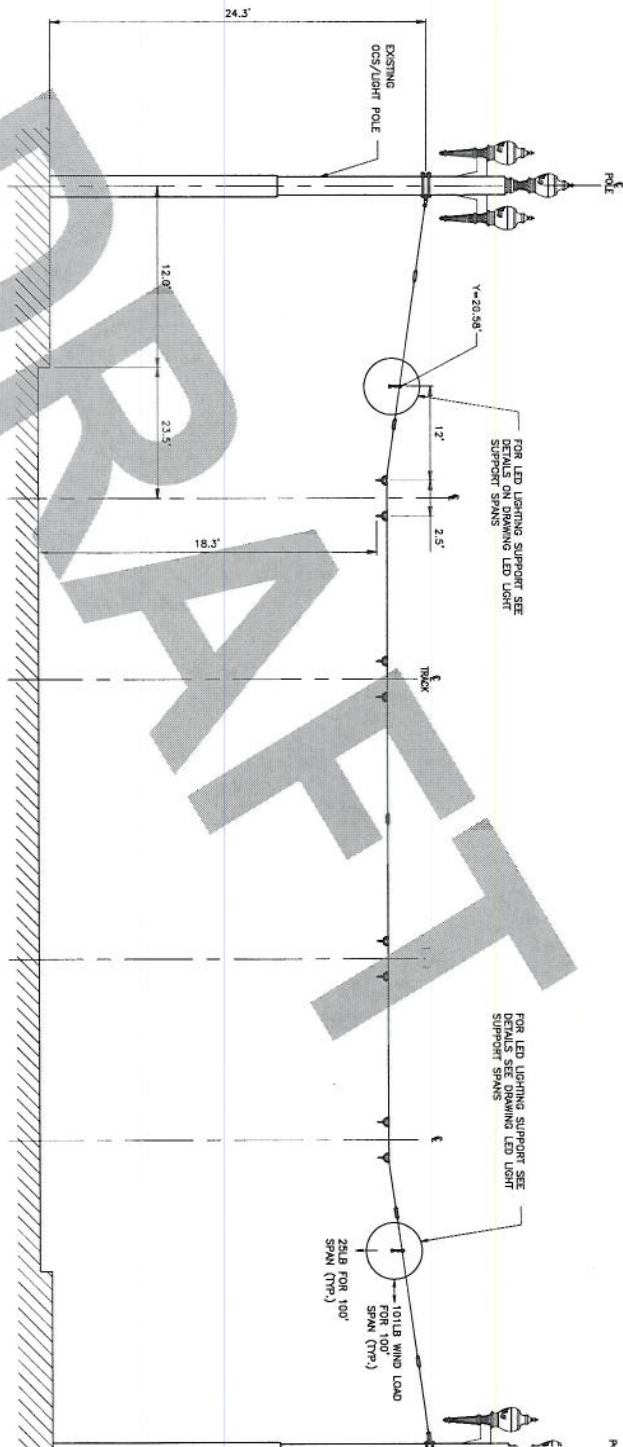
TYPICAL EXISTING MARKET STREET CROSS SPAN ARRANGEMENT

THIS PLAN ACCURATE FOR ELECTRICAL WORK ONLY

PROJECT		DRAWING #		DATE	
LIGHTRAIL PROJECT		DRAWING 003		09/18/2014	
MARKET ST. - CROSS SPAN		SCALE		L-003-003-3	
DESIGNED BY		CHECKED BY		APPROVED BY	
DRAWN BY		DATE		SCALE	
PROJECT NO.		SHEET NO.		SHEET TOTAL	
CONTRACT NO.		JOB NO.		JOB NAME	
CONTRACT NAME		CONTRACT ADDRESS		CONTRACT CITY	
CONTRACT COUNTY		CONTRACT STATE		CONTRACT ZIP	
CONTRACT PHONE		CONTRACT FAX		CONTRACT EMAIL	
CONTRACT WEBSITE		CONTRACT CONTACT		CONTRACT TITLE	
CONTRACT NOTES		CONTRACT TERMS		CONTRACT CONDITIONS	
CONTRACT SPECIFICATIONS		CONTRACT DRAWINGS		CONTRACT SCHEDULE	
CONTRACT BIDDING		CONTRACT AWARD		CONTRACT START DATE	
CONTRACT COMPLETION		CONTRACT CLOSURE		CONTRACT ARCHIVE	

PARSONS BRINCKERHOFF
ZOOM ENGINEERING

FOR LUM. HEIGHT: 18'
 DISTANCE AVAILABLE FOR ATTACHMENT AND LIGHTS: 3.29'
 DISTANCE FROM CURB: 11.5'



TYPICAL EXISTING MARKET STREET CROSS-SPAN ARRANGEMENT

THIS PLAN ACCOMPANY FOR ELECTRICAL WORK ONLY.

REV	DATE	BY	APP	DESCRIPTION	SCALE	DATE

DESIGNED BY	J. WU
CHECKED BY	
DRAWN BY	
SCALE	

lightrail

PARSONS BRINCKERHOFF

ZOON

KAPSCHE

CONTRACT #	L-OCS-003-4
DRAWING NO.	000
SCALE	NO SCALE

LIGHTRAIL PROJECT ELECTRICAL PLAN

MARKET ST. - CROSS SPAN