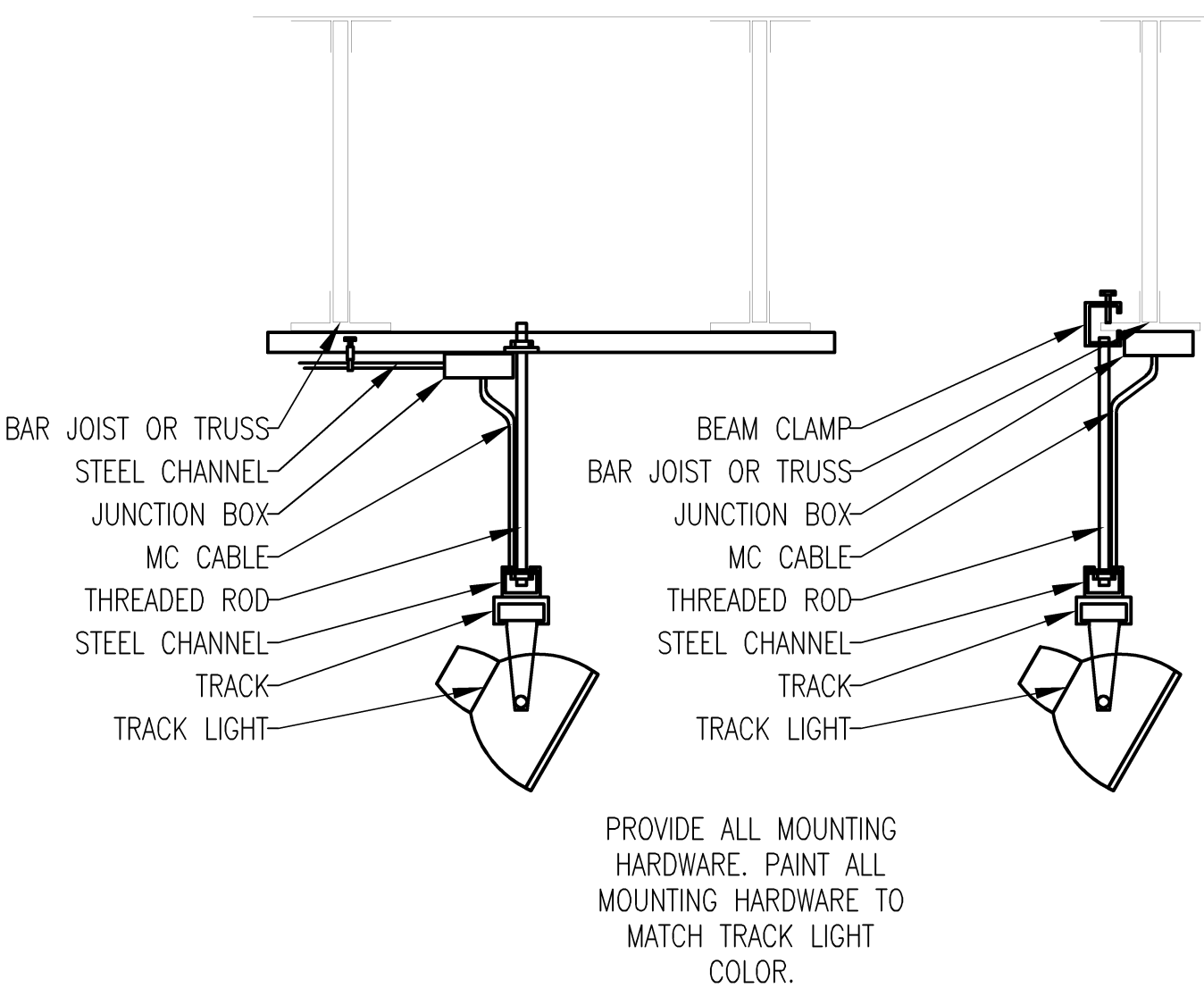


- ALL EXTERIOR LIGHTING AND SIGN CIRCUITS SHALL INCLUDE LIGHT LEVEL SENSOR CONTROL --- SEE EM-5 (CONTROL DRAWING).
- THE EXHAUST HOODS TYPICALLY ARE SUPPLIED WITH THE LIGHT FIXTURE INSTALLED. KROGER TO SUPPLY (1) 23 WATT COMPACT FLUORESCENT FOR EACH LIGHT FIXTURE INSTALLED IN HOOD.
- ALL FLUORESCENT LAMPS TO BE 3500K LAMPS, UNLESS NOTED OTHERWISE.
- FLUORESCENT FIXTURES IN BACKROOM AREAS TO BE INSTALLED 16'-0" ABOVE FLOOR OR ON BOTTOM OF ROOF STRUCTURE. FLUORESCENT FIXTURE IN DOCK AREA TO BE INSTALLED ON BOTTOM OF ROOF STRUCTURE.
- SKYLIGHTS ARE SHOWN FOR REFERENCE ONLY. EXACT LOCATIONS WILL VARY BASED ON PROJECT DESIGN. START WITH 4% SKYLIGHT COVERAGE OF SALES AREA. THEN PROCEED TO ADD ADDITIONAL SKYLIGHTS AS NEEDED TO FILL IN OTHER AREAS SO THAT ALL LIGHTING CAN BE CONTROLLED TO TURN OFF WITH SKYLIGHTS. THIS COULD RESULT IN A SKYLIGHT COVERAGE OF BETWEEN 4-5% OF THE GENERAL SALES AREA, WITH VARED SPACING BASED ON HVAC DUCTWORK. OPTIMAL FRONT TO REAR SPACING TO BE 22' CENTER TO CENTER. OPTIMAL LEFT TO RIGHT SPACING TO BE 30' CENTER TO CENTER. THIS DISTANCE CAN BE ADJUSTED AS NEEDED SO THAT SKYLIGHTS PROPERLY COVER THE SALES FLOOR. SKYLIGHTS TO BE NO CLOSER THAN 6' TO WALLS, PARTITIONS & SOFFIT WALLS TO REDUCE HOT SPOTS. TRY TO COORDINATE 2-4' FAY LOCATION WITH SKYLIGHTS. AVOID PLACING LIGHT FIXTURE UNDER SKYLIGHT. REFER TO CURRENT "SKYLIGHT DESIGN CRITERIA".
- SELF SERVICE AND SERVICE CASES THAT FALL UNDER A SOFFIT ARE NOT DEPICTED ON THIS DRAWING. WHEN THESE CASES HAVE INTERNAL LIGHTS, THEY SHALL BE CIRCUITED PER CROSS HATCHED CASES ON PLAN.
- LIGHT LEVEL SENSOR (s)
 - INDOOR: MOUNT VERTICALLY, LOOKING UP INTO THE SKYLIGHT. MOUNT A MINIMUM OF 12" FROM TWO ADJACENT SIDES INSIDE THE SKYLIGHT, LEVEL WITH THE ROOF DECKING.
 - OUTDOOR: MOUNT FACING NORTH, ENSURING SUNLIGHT CANNOT SHINE DIRECTLY INTO THE PHOTOCELL AND NOT SHADOWED BY ROOFTOP EQUIPMENT.
 - SETPOINTS: THESE ARE RECOMMENDED STARTING SETPOINTS. MODIFY UNTIL PROPER STAGING AND MEAN LIGHT LEVELS ARE REACHED 30" ABOVE FLOOR, AWAY FROM SKYLIGHT.
 - INDOOR STAGE 1 LIGHTS: CUT ON 550 FC, CUT OFF 600 FC.
 - i. MINIMUM 'ON' TIME = 0:10:00
 - ii. MINIMUM 'OFF' TIME = 0:01:00
 - iii. 'ON' DELAY = 0:03:00
 - iv. 'OFF' DELAY = 0:15:00
 - INDOOR STAGE 2 LIGHTS: CUT ON 900 FC, CUT OFF 950 FC.
 - i. MINIMUM 'ON' TIME = 0:10:00
 - ii. MINIMUM 'OFF' TIME = 0:01:00
 - iii. 'ON' DELAY = 0:01:00
 - iv. 'OFF' DELAY = 0:20:00
 - OUTDOOR LIGHTS: CUT ON 15 FC, CUTOFF 25 FC.
- SPECIAL LIGHTING CONDITIONS ---
 - PRODUCE, FLORAL, DEPT'S: STORE AMBIENT LIGHTING REDUCED BY OVER HALF, AND TRACK FIXTURE ADDED AS SHOWN. PRODUCE LIGHTING TRACKS ARE TO BE POSITIONED THROUGHOUT THE DEPARTMENT TO ACCOMMODATE THE MOBILITY OF PRODUCE DEPARTMENT FIXTURES. USE TRACK COMBINATIONS SO ELECTRICAL CIRCUITS COMPLY WITH 2008 NEC 220.43 (B) --- USE WITH CURRENT LIMITERS. USE TRACK COMBINATIONS SO ELECTRICAL CIRCUITS DO NOT EXCEED 1920 WATTS (FOR 20 AMP CIRCUIT), WHEN INCLUDING CURRENT LIMITERS. REFER TO TRACK/CURRENT LIMITER MATRIX FOR REFERENCE ON SITEFOLD. CURRENT LIMITER SHOWN ON EVERY PIECE OF TRACK.
 - THE INTENT IS TO PROVIDE ONLY ENOUGH TRACKS TO ALLOW AN EVEN COVERAGE OF "TR19" FIXTURES THROUGHOUT THE DEPARTMENT TO ACCOMMODATE THE MOBILITY OF THE PRODUCE DEPARTMENT FIXTURES. STARTING AT THE PERIMETER OF THE CASES, POSITION TRACK AND PROCEED INWARD TOWARDS THE CENTER.
 - NO DECOR BEAMS IN FLORAL DEPARTMENT. USING SOME JUDGMENT, TRACK SHOULD PROVIDE COVERAGE TO CASES AND BE AESTHETICALLY PLEASING. NO TRACK SHOULD EXTEND OVER THE SALAD, OR OLIVE BAR, SINCE THE LIGHTS CREATE GLARE ON THE SNEEZE GUARD. ORDER ONLY THREE HEADS PER 8' SECTION AND FOUR PER 12' SECTION OF TRACK, EXCEPT WHEN HIGHLIGHTING PERIMETER CASES.
 - TUBE GUARDS REQUIRED OVER OPEN PRODUCE CASES, FOR LAMP BREAKAGE PROTECTION.
 - PRODUCE STANDARD TRACK MOUNTING HEIGHTS
 - ANY CEILING BELOW 12'-6" AFF DOES NOT GET DECOR BEAMS.
 - ALL TRACK MOUNTED AT 11'-0" AFF
 - 12'-6" TO 14'-0" EXISTING CEILING STAGE 9'-6" AFF TO BOTTOM OF DECOR RINGS 11'-6" AFF TO BOTTOM OF THE BEAMS TRACK MOUNTED AT 12'-2" AFF
 - 14'-1" AND ABOVE EXISTING CEILING OR OPEN CEILING 10'-4" AFF TO BOTTOM OF DECOR RINGS 12'-4" AFF TO BOTTOM FOR THE BEAMS TRACK MOUNTED AT 13'-2" AFF
 - FLORAL STANDARD TRACK MOUNTING HEIGHTS
 - ANY CEILING BELOW 12'-6" AFF
 - ALL TRACK MOUNTED AT 11'-0" AFF
 - 12'-6" AND ABOVE EXISTING CEILING OR OPEN CEILING TRACK TO ALIGN WITH THE TOP OF THE FLORAL DECOR SIGN
 - OTHER TRACK LIGHTING TRACKS NOT RELATED TO DECOR TO BE MOUNTED AT 11'-9" ABOVE FLOOR.

- DECOR ELEMENTS: LARGE DECOR ELEMENTS TO BE HIGHLIGHTED BY WALLWASH TYPE FIXTURES. SEE DECOR DRAWINGS SPECIFIC TO STORE FOR DECOR LOCATIONS.
- WALL WASH (NO GRAPHICS): AA1 & AA2 FIXTURES TO BE WITHIN 4'-0" OF WALL, PROVIDING ILLUMINATION ON WALL. D & F TYPE OF WALL WASH FIXTURES TO BE CIRCUITED TO ALLOW THEM TO STAY ON, LIGHTING THE WALLS, WHILE SALES AREA LIGHTS CYCLE OFF FOR DAYLIGHT SET-BACK. WHERE THERE IS NO SPECIFIC WALL WASH FIXTURES, THE PERIMETER "B" TYPE FIXTURES TO BE CIRCUITED SIMILARLY. UN-LIGHTED WALLS CAN GIVE A DEPARTMENT A DARK APPEARANCE, WHICH CAN LEAD TO PHOTOCELL SET-UP THAT LEAVES THE AMBIENT LIGHTS ON LONGER THAN NECESSARY. ADDITIONALLY, WHERE THERE ARE LARGE EXPANSES OF WALLS, WASH SPECIFIC WALL WASH OR DECOR LIGHTING. THE PERIMETER AMBIENT LIGHTS TO BE WIRED, SO THEY CAN STAY ON FOR THE SAME PURPOSE.
- ARTISAN BREAD: TRACK TO HIGHLIGHT OPEN FRESH PRODUCT ALONG CASELINE.
- KPNR/OTC: TRACK AND TRACKHEAD TYPE "TR17" TO COORDINATE WITH TRELIS HEIGHT. REFER TO DETAIL. DO NOT INDICATE TRELIS WITH TRACK LIGHTING IF AREA WILL BE GETTING NEW HBC INITIATIVE WITH INTEGRAL LIGHTING (BACK UL WALLS, SHELF LIGHTING, PUCK LIGHTING, CANOPY LIGHTING). ALL STORES STARTING 2016 WILL GET INITIATIVE.
- DRY AGED BEEF COOLER: (WHEN APPLICABLE) REFER TO "REF-1T_MurrayCheese" LIGHTING TEMPLATE LOCATED ON SITEFOLD.
- MURRAY'S CHEESE: (WHEN APPLICABLE) ADD "P6" PENDANT IN A ROW OVER SEATING COUNTER. IF NO COUNTER, PLACE PENDANT ON EITHER SIDE OF SIGN. THE BOTTOM OF LIGHT FIXTURE SHOULD BE MOUNTED 8'-0" AFF TO ALIGN WITH THE BOTTOM OF THE SIGN.
- SUSHI: (WHEN FLOATING CEILING IS REQUIRED ONLY)
- PREP, AREAS, SERVICE AREAS, PHARMACY, ETC., SHALL HAVE CEILING LIGHT FIXTURES POSITIONED OVER ALL WORK SURFACES.
 - THESE LIGHT FIXTURES IN THE SERVICE AREAS TYPICALLY PROVIDE BOTH WORK SURFACE LIGHTING AND WALL WASH LIGHTING.
 - "TR2" TRACK LIGHT FIXTURES ARE TO BE PLACED SO THAT ENTIRE LARGE DECOR ELEMENT IS COVERED WITH A WASH OF LIGHT, TYPICALLY 4'-0" ON CENTER. "TR2" WALLWASHERS THAT HIGHLIGHT SIGNAGE NEED TO ALIGN BOTTOM OF TRACKHEAD WITH THE TOP OF THE SIGN, UNLESS SURFACE MOUNTED ON CEILING. THE "TR2" SHOULD BE SPACED 3'-0" FROM THE FRONT FACE OF SIGNAGE. IN LOWER GRID CEILINGS, CONSIDER USE OF RECESSED WALLWASHERS. IF MULTIPLE HEADS ARE NEEDED TO LIGHT SIGN, USE A CONTINUOUS PIECE OF TRACK.
 - TRACK LIGHT FIXTURES AND TRACKS FINISHES:
 - TR2 --- LIGHT FIXTURES & TRACKS IN OPEN CEILING STORE (TYPICAL) TO BE BLACK, WHITE WHEN ATTACHED TO A SUSPENDED CEILING --- TR2 LIGHT FIXTURES ARE NOT AVAILABLE IN ALUMINUM HAZE (SILVER).
 - TR17 & TR19 --- LIGHT FIXTURES TO BE ALUMINUM HAZE & TRACKS TO BE SILVER, IN BOTH OPEN CEILING STORES AND STORES WITH CEILING
 - TYPE "M6" TO BE LOCATED OVER GRINDER IN THE COOLER. CODE MAY VARY BUT REQUIRES AT LEAST 50 FC OVER WORK SURFACE OF GRINDER, SLICER AND SAWS, AND 10 FC THROUGHOUT. IF THE GRINDER IS NOT LOCATED INSIDE THE COOLER, USE ONLY TYPE "M13" TO ACHIEVE LIGHT LEVEL. FIXTURES OVER THIS EQUIPMENT SHOULD BE ON THE LIFE SAFETY.
 - NO SURFACE MOUNTED ELECTRICAL CONDUITS PERMITTED TO BE EXPOSED IN MEAT OR PRODUCE PREP. AREAS.
 - MINIMIZE EXPOSED SURFACE MOUNTED ELECTRICAL CONDUITS LOCATED IN WALK-IN COOLER & FREEZER.
 - MOTION SENSORS ARE TO BE INSTALLED ONLY ON CASES THAT ARE IN AN AISLE. NEVER ON END CAPS OR CASES THAT ARE PERPENDICULAR TO THE END OF AN AISLE SO THAT NO ONE SEES A DARK CASE AND ASSUMES THAT THE CASE IS NOT FUNCTIONING. IF ASSISTANCE IN DETERMINING PROPER PLACEMENT OF MOTION SENSORS AND ALSO FOR CONTRACTORS UNFAMILIAR WITH THE INSTALLATION PROCESS CONTACT THE DIVISION ENERGY ENGINEER. REFER TO INSTALLATION INSTRUCTIONS DOCUMENT LOCATED ON SITEFOLD.
 - LIGHT FIXTURE TRACK FOR TR17 TO BE INSTALLED APPROXIMATELY 30" FROM FRONT EDGE OF SOFFIT, TO REDUCE GLARE ON THE GLASS OF THE OPEN SEAFOOD CASE. SEE SECTION 'A-A' THIS SHEET.
 - ACCENT LIGHT TYPICALLY RELATES TO MERCHANDISE OR DECOR. THE RELATIONSHIP NEEDS TO BE UNDERSTOOD. BUT DIMENSION NEED TO BE TAKEN FROM FIXED ELEMENTS (COLUMNS, WALLS, DROP PARTITION, ETC.).

LIGHTING SENSOR SYMBOL LEGEND:	
** Refer to Sitefold Section 'Sitefold/Files/Capital/Procurement/Direct Buy Owner Furnished Products Information/Lighting _Interior_Fixtures/Interior Lighting Master Fixture Schedule' for Lighting Sensor Manufacturer & Model **	
	TIMER SWITCH
	3-WAY TIMER SWITCH
	SINGLE POLE LIGHT SWITCH -- (3) 3-WAY, (4) 4-WAY, (PL) PILOT --- AS REQUIRED.
	LIGHT LEVEL SENSOR, SEE NOTE No. 7
	ONE WAY CEILING MOUNTED LIGHTING SENSOR WITH SWITCHPACK ABOVE CEILING. CONNECT SENSOR TO SWITCHPACK WITH #18 AWG CLASS 2 CONDUCTORS.
	TWO WAY LIGHTING SENSOR SUSPENDED 12'-6" AB. FL. OR AT CEILING WITH SWITCHPACK MOUNTED AT BAR JOIST. CONNECT SENSOR TO SWITCHPACK WITH #18 AWG CLASS 2 CONDUCTORS.
	TWO WAY LIGHTING SENSOR SUSPENDED 12'-6" AB. FL. OR AT CEILING WITH SWITCHPACK MOUNTED AT BAR JOIST. CONNECT SENSOR TO SWITCHPACK WITH #18 AWG CLASS 2 CONDUCTORS.
	TWO WAY LIGHTING SENSOR SUSPENDED 15'-6" AB. FL. OR AT CEILING WITH SWITCHPACK MOUNTED AT BAR JOIST. CONNECT SENSOR TO SWITCHPACK WITH #18 AWG CLASS 2 CONDUCTORS.
	ONE WAY WIDE ANGLE OCCUPANCY SENSOR.
	MOTION SENSOR - WET LOCATION OCCUPANCY SENSOR.
	MOTION SENSOR - PASSIVE INFRARED OCCUPANCY SENSOR.
	MOTION SENSOR SWITCH **
	OCCUPANCY SENSOR SWITCH
ALL LIGHTING CONTROLS NOT PART OF THE BUILDING EMS TO BE SET WITH A MINIMUM ON TIME OF 15 MINUTES	
** PROVIDE MOTION SENSOR SWITCHES IN AREAS WHERE THERE IS INTERMITTENT OCCUPANCY. EXAMPLES: BREAK ROOMS, CBT, CONFERENCE ROOMS, POS, ECR, PARTY, FILE MANAGEMENT, PRICE CHANGING, ETC.	

LIGHTING FIXTURE KEY:			
** Refer to Sitefold Section 'Sitefold/Files/Capital/Procurement/Direct Buy Owner Furnished Products Information/Lighting _Interior_Fixtures/Interior Lighting Master Fixture Schedule' for Fixture Manufacturer & Lamp Information **			
Type	Symbol	Mounting Height	Fixture Usage
Interior Light Fixtures			
AA1		Bottom of Joist, unless noted otherwise	Wall Wash
AA2		Bottom of Joist, unless noted otherwise	Wall Wash
B2		FBay - Suspended 16'-0"	Sales Area - Note: Tube Guards are Required above Unwrapped Food (i.e. Produce)
B4		FBay - Suspended 16'-0"	Sales Area - Note: Tube Guards are Required above Unwrapped Food (i.e. Produce)
C		Ceiling Grid	Hallways at Restrooms (Parabolic)
C1		Ceiling Grid	Floral, Pharmacy Counsel, Locker Area, Sushi, Cheese/Wine, Coffee Shop, Loss Prevention (Prismatic)
C8		Drywall Ceiling	Restrooms (Prismatic)
C10		Ceiling Grid (2x4 with ProStart Ballast)	CBT Room, Community Room (Parabolic)
C11		Ceiling Grid (2x4 with ProStart Ballast)	Pharmacy, Food Prep. Areas, Conf. Rm., Lunch Rm., Locker Area (Prismatic)
C13		Drywall Ceiling (1x4 with ProStart Ballast)	Restrooms (Prismatic)
C14		Ceiling Grid (with ProStart Ballast)	Manager Office, Human Resource Office (Parabolic)
C22		Ceiling Grid	Prep, Hallways (Prismatic)
C29		Ceiling Grid (2x2 with ProStart Ballast)	Office Area
D		Varies, Refer to Plan	ECR
D1		Varies, Refer to Plan	Cake Supplies, Closet
D4		Refer to Decor Plans for Installation	Decor Wall Sconce, Refer to Decor Plans (BOUNTIFUL)
D10		Above Bottom of Joist (with ProStart Ballast)	Storage, back room, dock area, ECR room
D11		Above Bottom of Joist (with ProStart Ballast)	Storage, back room, dock area, ECR room
F1		Mounted upward	Faces upward for wall wash.
F2		Mounted upward	Faces upward for wall wash.
J3		Wall Mount as noted on Plan	Mezzanine Stairwells
K3		Suspended 7'-6"	Refrigerated Fresh Meat and Deli island cases --- Refer to Plan for Length of Lighting Fixture
L12		Recessed	Recessed in Fitting Room Ceiling
L13		Recessed	Recessed in Fitting Room Ceiling, Beverage Center
L14		Recessed	Recessed in Cart Entry Alcove Ceiling
L16		Surface Mount	Surface Mount on Ceiling of Wine Bar
L17		Recessed	Sushi Department and Prep Area
LL9		Recessed (LED)	Recessed in Ceiling of Canopy, Outdoor Seasonal Patio.
M		Surface Mount	Meat Prep Areas
M1		Surface Mount	Meat Prep Areas
M6		Surface Mount (Vaportight with ProStart Ballast)	Produce Prep Areas
M8		Surface Mount	Meat Cooler over Grinder
M13		Surface Mount	All Refrig. Coolers, Retarders & Freezer Boxes (LED). Floral Cooler (BOUNTIFUL)
P6		Suspended Bottom of Pendant 8'-0"	Sushi department (when floating ceiling is required), Seating Area at Coffee Shop, Wine Tasting
P10		Suspended Bottom of Pendant 8'-0"	Seating Area at Coffee Shop (BOUNTIFUL)
P17		Suspended Bottom of Pendant 9'-0"	Apparel Department
P22		Suspended Bottom of Pendant 7'-0"	Wine Bar
RR		Recessed	Recessed in Ceiling of Canopy
RX		Recessed	Recessed in Ceiling of Canopy
S7		Wall Mount	Dock light fixtures (LED)
TR2		Bottom of trackhead even with Top of Graphic	Accent light for large graphics.
TR17		Trellises, see Detail this Sheet for Track Height	KPNR Trellis Light Track (LED narrow flood) Kitchen Place
TR19		Varies, see Plan	Accent lights for Displays (LED spot)
TR22		Track mounted on dropped ceiling	Wine Bar
2' TRACK		Coordinate Track Height with Fixture Height indicated above	Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
4' TRACK			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
8' TRACK			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
12' TRACK			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
POWER FEED			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
CONNECTOR			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
FLEX CONNECTOR			Track part for trackheads such as TR2's, TR11's, TR12's, TR17's, and TR19's.
CANOPY ADAPTER			Adapter for Single Point Mounting (No Track) for TR2 & TR11, TR12, TR17 and TR19, 5-3/8 inches square, install directly to outlet box.
CURRENT LIMITER			Use with track
V		Suspended at Height as noted on Plan	Vestibule when under Mezzanine
X6			Exit light fixture with universal mount (Dual voltage input 120V/277V)



BIDS & PERMITS
80% OWNER REVIEW
06-28-2015
06-22-2015

PROPOSED INTERIOR REMODEL FOR:

Kroger

STORE NO. D-361

425 N. CENTER STREET
NORTHVILLE, MI 48167

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LIGHTING DETAILS & SCHEDULES

project no. 15100 sheet no. E6.2.5