ELECTRICAL LEGEND

POWER

SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +18" AFF.
	QUADRAPLEX RECEPTACLE, NEMA 5-20R, MOUNT AT +18" AFF.
J	JUNCTION BOX.
	DISCONNECT SWITCH, FUSIBLE AND NON-FUSIBLE.
	MOTOR CONNECTIONS.
	COMBINATION TELEPHONE/DATA OUTLET MOUNTED 18" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED OR REQUIRED BY SITE CONDITIONS. MOUNT FLUSH IN FINISHED SPACES OR SURFACE IN UNFINISHED SPACES. ROUTE A 3/4" CONDUIT TO A POINT ABOVE AN ACCESSIBLE CEILING.

LIGHTING

SYMBOL	DESCRIPTION
S , S_3	SINGLE POLE AND 3-WAY LIGHT SWITCH, RATED 120/277 VOLT, 20A. MOUNT AT +48" AFF.
	2X4 FLUORESCENT LIGHTING FIXTURE.
	EXIT FIXTURE ON EMERGENCY POWER OR WITH FACTORY EQUIPPED BATTERY, CEILING MOUNTED. DIRECTIONAL ARROWS INDICATED.
	WALL-MOUNTED LIGHT FIXTURE.

PROJECT INFORMATION

USE GROUP: M

CONSTRUCTION TYPE: 2B

FLOOD PLAIN: NO

CODE INFORMATION:
2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE
2011 NATIONAL ELECTRICAL CODE

SCOPE AREA: 1,500 SQ. FT.

ABBREVIATION LEGEND

1Ø	SINGLE PHASE
3Ø	THREE PHASE
A	AMPS
AFF	ABOVE FINISHED FLOOR
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
BFC	BELOW FINISHED CEILING
BFG	BELOW FINISHED GRADE
C	CONDUIT
CATV	COMMUNITY ANTENNA TELEVISION (CABLE)
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CLR	CLEAR
CO.	COMPANY
COMB	COMBINATION
COMM	COMMUNICATIONS
CU	COPPER
DIA	DIAMETER
DISC	DISCONNECT
DIV	DIVISION
DWG	DRAWING
EC	EMPTY CONDUIT
ELEC	ELECTRICAL
EQ	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EX	EXISTING
EXT	EXTERIOR
FLA	FULL LOAD AMPS
G	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPT
HP	HORSE POWER
IG	ISOLATED GROUND
J-BOX	JUNCTION BOX
KVA	KILO VOLT AMPS
KW	KILO WATTS
LED	LIGHT EMITTING DIODE
LTG	LIGHTING
LTS	LIGHTS
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUG ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
N	NEUTRAL
NO.	NUMBER
P/BD	PANEL BOARD
RCPT	RECEPTACLE
REC	RECEPTACLE
SEC	SECURITY
SPEC.	SPECIFICATION(S)
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UNO	UNLESS NOTED/INDICATED OTHERWISE
V	VOLTS
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER

CONTACT INFORMATION:

- OWNER'S REP - DCP (CONTACT: SCOT RYAN)
(804)246-2600 ext 102, sryan@dcpgc.com
1804 West Broad Street, Suite 300, Richmond, VA 23220
- Engineer - Lu+Smith Engineers (CONTACT: DAWEN LU)
(804)925-2600, dlu@lsengineers.net,
5243 Hickory Park Dr., Ste C., Glen Allen, VA 23059

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP NO.	LAMP WATTS	LAMP TYPE	BALLAST NO.	BALLAST TYPE	INPUT WATTS	VOLTS	MOUNTING	REMARKS	COUNT
A	2X4 FLUORESCENT	EXISTING	EXISTING	3	32	T8	1	ELECTRONIC	89	120	RECESSED	NOTES 1,2	25
B	WALL SCONCE	COLUMBIA	W2-2-17-E-U	2	17	T8	1	ELECTRONIC	40	120	SURFACE	NOTE 1	1
-	-	-	-	-	-	-	-	-	-	-	-	-	-
X	EXIT SIGN	DUAL LITE	LXURWE	1	3	LED	-	-	3	120	WALL	NOTE 4 SEE PLAN FOR DIRECTION	3

REMARKS:
1. PROVIDE ALL COMPONENTS FOR A COMPLETE INSTALLATION.
2. FIXTURE TYPE 'AE' IS SAME FIXTURE WITH 1400 LUMEN OUTPUT EMERGENCY BATTERY. (ADD #ELL14 TO CATALOG NUMBER).
3. NOT USED.
4. PROVIDE FACES AND ARROWS AS NEEDED.

Annex D: Checklist to Submit to City of Richmond

Project Address: 7023 Forest Hill Avenue, Richmond, VA 23235

Project Name: Gamestop #2444

Section A: General Requirements for All Projects

01	X	02	X	03	X	04	X	05	X	06	X	07	X	08	X	09	X	10	X
11	X	12	X	13	X	14	X	15	N/A	16	N/A	17	X	18	N/A	19	N/A	20	N/A
21	N/A	22	N/A	23	N/A	24	N/A	25	N/A										

Section B-1: General Requirements

01	X	02		03		04		05		06		07		08		09		10	
11		12		13		14		15											

Section B-2: Code Requirements

01	X	02	N/A	03	N/A	04	N/A	05	N/A	06	N/A	07	N/A	08	N/A	09	X	10	X
11	N/A	12	N/A	13	N/A	14	N/A	15	N/A	16	N/A	17	N/A	18	N/A	19	X	20	X
21	X	22	X	23	N/A	24	N/A	25	X	26	X	27	X	28	X	29	X	30	X
31	N/A	32	N/A	33	N/A	34	X	35	N/A	36	N/A	37	X	38	N/A	39	X	40	X
41	X	42	X	43	X	44	N/A	45	N/A	46	X	47	N/A	48	N/A	49	N/A	50	N/A
51	N/A	52	N/A	53	N/A	54	X	55	X	56	X	57	X	58	X	59	X	60	X
61	X	62	X	63	N/A	64	X	65	X	66	N/A	67	N/A	68	N/A	69	N/A	70	N/A
71	N/A	72	N/A	73	N/A	74	N/A	75	N/A	76	N/A	77	X	78	X	79	X	80	N/A
81	X	82	X	83	X	84	X	85	X	86	N/A	87	X	88	X	89	X	90	N/A
91	N/A	92	N/A	93	N/A	94	N/A	95	N/A	96	N/A	97	N/A						

Annex D: Checklist to Submit to City of Richmond (Cont.)

Section C-1: General Requirements

01	X								

Section D-1: Coordination Study

01	N/A	02	N/A	03	N/A	04	N/A	05	N/A	06	N/A	07	N/A	08	N/A	09	N/A	10	N/A
11	N/A	12	N/A	13	N/A														

Section D-2: Photovoltaic Requirements

01	N/A	02	N/A	03	N/A	04	N/A	05	N/A	06	N/A	07	N/A	08	N/A

Section D-3: Seismic Requirements

01	N/A	02	N/A	03	N/A								

Contractor/Master Electrician Sign-off:

Contractor License #: _____

Master License #: _____

Print Name: _____

Signature: _____

Date: _____

Engineer's Signed/Seal:

COMcheck Software Version 4.0.2.2
Interior Lighting Compliance Certificate

Project Information

Energy Code: 2012 IECC
Project Title:
Project Type: Alteration

Construction Site:

Owner/Agent:

Designer/Contractor:
Steven W. Sharp
Lu+Smith Engineers
5243 Hickory Park Drive
Suite C
Glen Allen, VA 23059
(804)683-2750
ssharp@lsengineers.net

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Retail:Sales area	1500	1.60	2400
		Total Allowed Watts =	2400

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Retail:Sales area (1500 sq.ft.)				
Linear Fluorescent 1: A: 2X4: 48" T8 32W: Electronic:	3	25	89	2225
Linear Fluorescent 2: B: SCONCE: 24" T8 17W: Electronic:	2	1	40	40
			Total Proposed Watts =	2265

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2012 IECC requirements in COMcheck Version 4.0.2.2 and to comply with the mandatory requirements listed in the Inspection Checklist.

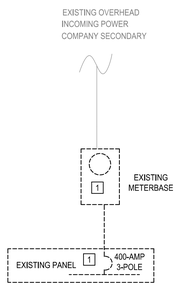
Steven W. Sharp - Senior Electrical Designer
Name - Title

Signature: SW.Sharp

06/07/16
Date

Project Title:
Data filename: Untitled.cck

Report date: 06/07/16
Page 1 of 6

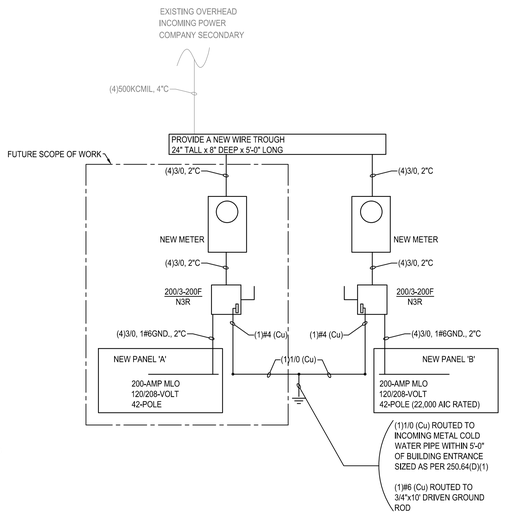


EXISTING SERVICE INSTALLATION DEMOLITION

NO SCALE

PLAN KEYNOTES:

1. EXISTING 400-AMP, MCB, 120/208-VOLT, 3-PHASE, 4-WIRE, 42-POLE PANELBOARD AND ASSOCIATED METERBASE SHALL BE DEMOLISHED. DEMOLITION INCLUDES TEMPORARILY DISCONNECTING THE EXISTING INCOMING SECONDARY AND EXTENDING/REROUTE/RERUN AS NECESSARY.



NEW SERVICE INSTALLATION NEW WORK

NO SCALE

Sheet List Table	
Sheet Number	Sheet Title
E0.1	LEGEND, DETAILS AND NOTES
E0.2	SPECIFCATIONS AND DETAILS
E2.1	NEW WORK ELECTRICAL FLOOR PLANS

CLIENT

GameStop

Lu+Smith ENGINEERS
5243 HICKORY PARK DRIVE,
SUITE C
GLEN ALLEN, VA 23059
P: 804.925.2600 F: 804.925.2170
WWW.LSENGINEERS.NET

SEAL

COMMONWEALTH OF VIRGINIA
DAWEN LU
Lic. No. 035702
06/09/16
PROFESSIONAL ENGINEER

PROJECT NAME AND ADDRESS

GAMESTOP #2444
THE SHOPS AT STRATFORD HILLS

7017 FOREST HILL AVENUE
RICHMOND, VIRGINIA 23235

No.	Revision/Issue	Date

LEGEND, DETAILS AND NOTES

Project NO. 16036
Date 06/09/2016
Scale AS NOTED
Sheet E0.1

036-E01.dwg

DIVISION 16 - ELECTRICAL SPECIFICATIONS

SECTION 16010 - ELECTRICAL GENERAL PROVISIONS

THE WORK TO BE PERFORMED UNDER THIS DIVISION CONSISTS OF PROVIDING ALL ELECTRICAL WORK INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREINAFTER. IT IS INTENDED THAT ALL WORK TO BE PERFORMED UNDER THIS DIVISION BE IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS GOVERNING STANDARDS OF DESIGN, CONSTRUCTION, WORKMANSHIP AND MATERIAL, INCLUDING BUT NOT LIMITED TO, THE 2008 NEC, NESC AND, NECA WORKMANSHIP STANDARDS.

LU + SMITH ENGINEERS HAS NOT PERFORMED ANY ASBESTOS INSPECTION AND IS NOT AWARE OF, NOR WILL BE RESPONSIBLE FOR ANY ASBESTOS RELATED ITEMS. ASBESTOS RELATED ITEMS WILL BE HANDLED UNDER A SEPARATE CONTRACT WITH THE BUILDING OWNER. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OWNERS ASBESTOS ABATEMENT CONTRACTOR FOR TESTING AND REMOVAL PRIOR TO ANY CONSTRUCTION.

SHOP DRAWINGS AND ENGINEERING DATA

COMPLETE SHOP DRAWINGS AND ENGINEERING DATA ON ALL EQUIPMENT AND MATERIALS TO BE USED IN THE WORK OF THIS DIVISION SHALL BE SUBMITTED FOR THE ARCHITECT/ENGINEER'S REVIEW IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

UNDERWRITER'S LABEL AND LISTING

ALL ELECTRICAL APPARATUS FURNISHED UNDER THIS DIVISION SHALL BE APPROVED BY UL AND SHALL BE SO LABELED AND LISTED WHERE SUCH IS APPLICABLE. WHERE CUSTOM BUILT EQUIPMENT IS SPECIFIED AND THE UL LABEL OR LISTING IS NOT APPLICABLE TO THE COMPLETED PRODUCT, ALL COMPONENTS USED IN THE CONSTRUCTION OF SUCH EQUIPMENT SHALL BE LABELED OR LISTED BY UL.

TESTS
AT THE COMPLETION OF THE ELECTRICAL INSTALLATION AND AT SUCH TIME AS THE ARCHITECT OR OWNER MAY DIRECT, THE CONTRACTOR FOR THE DIVISION SHALL CONDUCT AN OPERATING TEST FOR APPROVAL. ALL EQUIPMENT SHALL BE DEMONSTRATED TO OPERATE IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AS INTENDED, PROVING SYSTEM INTEGRITY.

FINAL INSPECTION
WHEN THE WORK ON THE PROJECT HAS BEEN COMPLETED AND IS READY FOR FINAL INSPECTION, SUCH AN INSPECTION WILL BE MADE. AT THIS TIME THE CONTRACTOR SHALL DEMONSTRATE THAT THE REQUIREMENTS OF THIS DIVISION HAVE BEEN MET.

SECTION 16110 - RACEWAYS AND FITTINGS

A. ALL WIRING THAT IS REQUIRED TO BE INSTALLED IN RACEWAY SHALL BE ELECTRICAL METALLIC TUBING (EMT), SUBJECT TO THE RESTRICTIONS OF THE NEC. INTERMEDIATE METAL CONDUIT (IMC), (HOT DIP GALVANIZED) SHALL BE USED IN LOCATIONS EXPOSED TO THE WEATHER. THE USE OF TYPE MC CABLE SHALL BE LIMITED TO LIGHTING AND RECEPTACLE BRANCH CIRCUITS, AS ALLOWABLE BY THE NEC. ALL HOMERUNS TO PANELBOARDS SHALL BE IN CONDUIT. TERMINATE TYPE MC CABLE OUTSIDE OF ELECTRICAL ROOM AND TRANSITION TO CONDUIT BEFORE ENTERING ELECTRICAL ROOM.
B. RACEWAYS SHALL BE INSTALLED AS A COMPLETE SYSTEM AND SHALL BE CONTINUOUS FROM OUTLET TO OUTLET, UNLESS NOTED OTHERWISE. RACEWAYS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO ALL BOXES AND FITTINGS. RACEWAYS AND BOXES SHALL BE SUPPORTED FROM STRUCTURAL STEEL AND NOT SUPPORTED FROM THE CEILING GRID OR ROOF DECKING PER NEC. DEFLECTION AND EXPANSION COUPLINGS SHALL BE USED WHEN RACEWAYS CROSS EXPANSION JOINTS.
C. IN GENERAL, CONDUITS 2 INCHES OR LARGER, AND CONDUIT IN FLOOR SLABS SHALL BE HEAVY WALL RIGID TYPE. THE MINIMUM SIZE CONDUIT USED SHALL BE 3/4 INCH. LARGER SIZES SHALL BE USED PER FILL REQUIRED BY THE NATIONAL ELECTRICAL CODE.
D. CONDUIT MAY BE RUN EXPOSED IN MECHANICAL EQUIPMENT AND UTILITY SPACES. ELSEWHERE, IT SHALL BE CONCEALED ABOVE CEILINGS, IN SHAFTS, AND IN FURRED SPACES.
E. A NYLON PULL CORD SHALL BE INSTALLED IN ALL CONDUITS IN WHICH CONDUCTORS ARE NOT INSTALLED. A 10 INCH MINIMUM LENGTH OF THE CORD SHALL EXTEND OUT OF EACH END OF THE CONDUIT.
F. FLEXIBLE LIQUID-TIGHT CONDUIT SHALL BE USED FOR CONNECTIONS TO ALL MOTORS, DRY-TYPE TRANSFORMERS AND ANY EQUIPMENT WHERE REQUIRED BECAUSE OF VIBRATION OR RELATIVE MOTION. ALL RACEWAYS SHALL BE CONCEALED WHEREVER POSSIBLE. CONDUIT SHALL BE THE SIZE REQUIRED FOR THE CONDUCTORS BUT IN NO CASE SHALL IT BE SMALLER THAN 3/4 INCH TRADE SIZE.
G. PVC RACEWAYS SHALL BE ALLOWED BELOW FLOOR SLAB AND SITE ELECTRICAL ONLY. PVC NOT ALLOWED ABOVE FINISHED FLOOR OR FINISHED GRADE.
H. GROUNDING CONDUCTORS SHALL BE INSTALLED WHEREVER WIRING IS INSTALLED IN ALL RACEWAYS. NO EXCEPTIONS!
I. ALL METALLIC CONDUITS SHALL TERMINATE WITH INSULATED THROAT CONNECTORS OR PLASTIC BUSHINGS TO PROTECT WIRING INSULATION BEFORE WIRING IS PULLED IN.

SECTION 16120 - WIRE AND CABLE (600 VOLTS AND BELOW)

A. BRANCH CIRCUIT WIRING INSULATION FOR POWER AND LIGHTING SHALL GENERALLY BE TYPE THW OR THWN.
B. ALL CONDUCTORS SHALL BE SOLID COPPER. ALL CONDUCTORS SHALL BE INSULATED FOR 600 VOLTS.
C. TYPE AC AND ACL ARMORED CABLE MAY BE USED FOR BRANCH CIRCUITS SERVING SERVICES WITHIN INTERIOR PARTITIONS AND EXTERIOR WALLS. INSTALLATION SHALL CONFORM WITH ARTICLE 320 OF THE NEC.
D. ALL WIRE IN CONDUIT FILL SIZING SHALL BE BASED UPON THE USE OF TYPE OF WIRE AND INSULATION USED PER NEC.
E. ALL CABLING NOT IN RACEWAYS OR ARMORED SHALL BE PLENUM RATED.

SECTION 16131 - PULL AND JUNCTION BOXES

A. PULL BOXES SHALL BE INSTALLED AT ALL NECESSARY POINTS, WHETHER INDICATED ON THE DRAWINGS OR NOT, TO PREVENT INJURY TO THE INSULATION OR OTHER DAMAGES THAT MIGHT RESULT FROM PULLING RESISTANCE OR FOR OTHER REASONS NECESSARY FOR PROPER INSTALLATION. MINIMUM DIMENSIONS SHALL NOT BE LESS THAN NEC REQUIREMENTS AND SHALL BE INCREASED IF NECESSARY FOR PRACTICAL REASONS OR, WHERE REQUIRED TO FIT A JOB CONDITION.
B. ALL BOXES SHALL BE GALVANIZED STEEL, RIGIDLY SECURED IN POSITION TO THE STRUCTURE.
C. CABINETS REQUIRED FOR USE IN VARIOUS SYSTEMS FOR THE MOUNTING OF ACCESSORIES OR TERMINALS, RELAYS AND THE LIKE SHALL BE CONSTRUCTED OF CODE GAUGE GALVANIZED STEEL. BACKBOARDS SHALL BE PROVIDED FOR THE MOUNTING OF ALL ACCESSORIES, OF MINIMUM 3/4" PLYWOOD AND PAINTED TO MATCH THE CABINET.
D. WIREWAYS SHALL BE PROVIDED AS REQUIRED. WIREWAYS USED SHALL BE UL LISTED AS WIREWAYS OR AUXILIARY GUTTERS.

SECTION 16134 - SWITCH AND OUTLET BOXES

A. PROVIDE BOXES, COMPLETE WITH COVER OR DEVICE PLATE FOR SWITCHES, RECEPTACLES, OR OTHER DEVICES SPECIFIED.
B. CONDUIT BODIES MAY BE USED ON EXPOSED CONDUIT, WHERE ALLOWED BY THE NEC.

SECTION 16140 - WIRING DEVICES

A. WIRING DEVICES SHALL BE COMPLETE WITH ALL MOUNTING DEVICES AND OTHER APPURTENANCES WHERE REQUIRED. ALL WIRING DEVICES SHALL BE THE PRODUCT OF A SINGLE MANUFACTURER EXCEPT AS SPECIFICALLY STATED OTHERWISE.
B. LIGHT SWITCHES
ALL LIGHT SWITCHES SHALL BE TOGGLE TYPE, RATED 20 AMPS, 120 VOLT AC, SPECIFICATION GRADE, INSTALLED 48 INCHES ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED. SWITCHES SHALL BE SINGLE POLE, 3-WAY OR 4-WAY AS INDICATED.
C. RECEPTACLES
ALL RECEPTACLES SHALL BE DUPLEX OUTLETS, 125 VOLT AC. 20 AMP, TWO POLE, THREE WIRE GROUNDING TYPE, SPECIFICATION GRADE, INSTALLED 18 INCHES ABOVE FINISHED FLOOR.
SPECIAL AND HEAVY-DUTY TYPE RECEPTACLES SHALL BE PROVIDED AS SUITABLE FOR THE INTENDED USE.
E. OUTLET BOXES
PRESSED GALVANIZED STEEL OUTLET BOXES SHALL BE USED FOR INDOOR AND DRY LOCATIONS. CAST IRON WITH THREADED HUB OUTLET BOXES SHALL BE USED FOR OUTDOOR, EXPOSED AND WET LOCATIONS.

SECTION 16150 - MOTORS AND APPLIANCES

A. MOUNT ALL CONTROL DEVICES AND PROVIDE THE ELECTRICAL CONNECTIONS REQUIRED TO PROPERLY OPERATE, PROTECT AND CONTROL ALL ELECTRICALLY OPERATED EQUIPMENT AND DEVICES FURNISHED UNDER THIS AND OTHER SECTIONS OF THE SPECIFICATIONS.

SECTION 16190 - SUPPORTING DEVICES

A. ALL CONDUITS SHALL BE PROPERLY SUPPORTED IN ACCORDANCE WITH THE 2008 NEC.
B. LAYOUT EQUIPMENT TO MAINTAIN HEADROOM AND NEAT MECHANICAL APPEARANCE. TO SUPPORT EQUIPMENT LOADS AS REQUIRED SAFELY AND SECURELY AND TO PROVIDE FOR ADEQUATE ACCESS AND WORKING CLEARANCES REQUIRED BY THE NEC.

SECTION 16420 - ELECTRICAL SERVICE

A. ELECTRICAL SERVICE IS EXISTING AND SHALL BE REWORKED. COORDINATE WITH DOMINION VA POWER.
B. SERVICE TO THE BUILDING IS 400-AMPS AT 120/208 VOLT, THREE PHASE, 4 WIRE, 60 HZ, OVERHEAD.

SECTION 16440 - SAFETY SWITCHES

A. FUSED AND UNFUSED SAFETY SWITCHES SHALL BE PROVIDED AS REQUIRED. SUCH SWITCHES SHALL BE OF THE PROPER SIZE AND NUMBER OF POLES FOR USE WITH THE EQUIPMENT REQUIRING THE SWITCH.
B. SAFETY SWITCHES SHALL BE THE ENCLOSED HEAVY-DUTY TYPE WITH QUICK-MAKE, QUICK-BREAK MECHANISM AND EXTERNAL PAD-LOCKING OPERATING HANDLE.
C. ALL SWITCH ENCLOSURES SHALL BE SHALL BE OF THE APPROPRIATE NEMA RATING FOR THE INTENDED USE AND AS SPECIFIED ON THE DRAWINGS.

SECTION 16450 - GROUNDING

A. A COMPLETE GROUNDING AND BONDING SYSTEM SHALL BE PROVIDED. GROUNDING SHALL BE PROVIDED AND TESTED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND AS INDICATED ON THE DRAWINGS.

SECTION 16470 - PANELBOARDS

A. PANELBOARDS SHALL BE DEAD FRONT, AUTOMATIC CIRCUIT BREAKER TYPE.
B. ALL PANELBOARDS SHALL CONFORM TO THE REQUIREMENTS ESTABLISHED BY UL, NEMA AND THE NEC. SERIES RATED PANELBOARDS ARE NOT ACCEPTABLE BUS BARS SHALL BE COPPER. LOADCENTER TYPE PANELBOARDS ARE NOT ACCEPTABLE

SECTION 16475 - MOLDED CASE CIRCUIT BREAKERS

A. CIRCUIT BREAKERS SHALL CONFORM TO THE LATEST APPLICABLE EDITION OF NEMA PUBLICATION ABI, ANSI, UL AND NEC.
B. THIS SECTION APPLIES TO ALL MCCB's WHETHER INDIVIDUALLY ENCLOSED, GROUP MOUNTED OR, AS A PART OF OTHER EQUIPMENT.
C. INTERRUPTING RATINGS SHALL BE AS SCHEDULED BUT SHALL NOT BE LESS THAN 10,000 AMPS RMS SYMMETRICAL AT THE APPLIED VOLTAGE.
D. TRIPS SHALL BE THERMAL-MAGNETIC WITH INVERSE TIME DELAY AND INSTANTANEOUS TIME-CURRENT CHARACTERISTICS.

SECTION 16476 - FUSES

A. FUSES SHALL CONFORM TO THE LATEST APPLICABLE EDITIONS OF NEMA, UL AND NEC.
B. FURNISH AND INSTALL COMPLETE SETS OF FUSES FOR ALL SWITCHES.

SECTION 16501 - LIGHTING FIXTURES AND ACCESSORIES

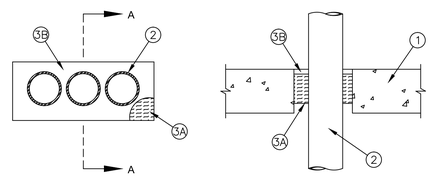
A. LIGHTING SHALL BE INSTALLED IN ACCORDANCE WITH THE IES RECOMMENDED STANDARDS.
B. ALL FIXTURES SHALL BE FURNISHED COMPLETE WITH SOCKETS, INTERNAL WIRING, LEADS, TRIM, HANGERS, SUPPORTS, FRAMES, BALLASTS, ETC., AS APPLICABLE.
C. ALL FIXTURES SHALL BE SUPPORTED BY MEANS OF ADEQUATE HANGERS WITH ATTACHMENTS TO BUILDING CONSTRUCTION INDEPENDENT OF ANY CEILING SYSTEM OR WITH ATTACHMENT CLIPS IF THE CEILING IS RATED FOR SUPPORT.
D. INTERIOR LIGHTING
A COMPLETE SYSTEM OF ARTIFICIAL INTERIOR LIGHTING SHALL BE PROVIDED FOR ALL SPACES AS SHOWN IN DRAWINGS. IN GENERAL, ALL INTERIOR LIGHTING SHALL BE FLUORESCENT WITH THE EXCEPTION OF, CERTAIN AREAS WHERE INCANDESCENT LIGHTING SHALL BE INDICATED ON DRAWINGS FOR SPECIAL LIGHTING APPLICATIONS. FLUORESCENT LAMPS AND BALLASTS SHALL BE ENERGY SAVING TYPES WHERE AVAILABLE.
LOCAL SWITCHES FOR CONTROL OF LIGHTING SHALL BE PROVIDED TO SERVE EACH INDIVIDUAL SPACE.
E. EMERGENCY EGRESS LIGHTING
EMERGENCY LIGHTING AND EXIT LIGHTING SHALL BE PROVIDED FOR ALL PATHS OF EGRESS FROM THE BUILDING. ALL EGRESS AND EXIT FIXTURES SHALL BE SUPPLIED BY BATTERY BACKED UP BALLAST AS INDICATED ON DRAWINGS.

SECTION 16740 - DATA/TELEPHONE SYSTEM

A. TELEPHONE INSTRUMENTS, AND CONNECTIONS SHALL BE PROVIDED BY LOCAL TELEPHONE COMPANY. BUILDING CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM OF EMPTY CONDUIT, OUTLETS AND BACKBOARDS AS INDICATED ON PLANS.

System No. C-AJ-1208

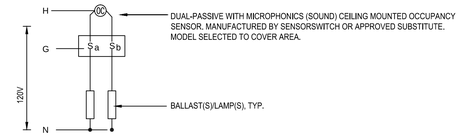
F Rating - 3 Hr
T Rating - 0 Hr



Section A-A

1. Floor or Wall Assembly - Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks* . Max area of opening is 87 sq in. (561 cm2) with max dimension of 14-1/2 in. (368 mm).
   See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants - One or more pipes, conduits or tubing may be installed within the opening. The annular space between pipes, conduits or tubing and periphery of opening shall be min 1 in. (25 mm) to max 1-1/2 in. (38 mm). The space between pipes, conduits or tubing shall be min 1/2 in. (13 mm) to max 1-1/2 in. (38 mm). Pipes, conduits or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe - Nom 3 in. (76 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Conduit - Nom 3 in. (76 mm) diam (or smaller) steel electrical metallic tubing, nom 3 in. (76 mm) diam (or smaller) rigid steel conduit or nom 1 in. (25 mm) diam (or smaller) flexible steel conduit.
   C. Copper Tubing - Nom 3 in. (76 mm) diam (or smaller) Type M (or heavier) copper tubing.
   D. Copper Pipe - Nom 3 in. (76 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Firestop System - The firestop system shall consist of the following:
   A. Packing Material - Min 3 in. (76 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* - Sealant - Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall assembly.
   SPECIFIED TECHNOLOGIES INC - SpecSeal LC150 Sealant, SpecSeal LE600 Sealant
   *Bearing the UL Classification Mark

Specified Technologies Inc10 Evans Way Somerville, NJ 08876
Reproduced courtesy of Underwriters Laboratories, Inc.
Created or Revised: June 07, 2007
(800)992-1180 (908)526-8700 FAX (908)231-8215 Mail:techserv@stifirestop.com Website:www.stifirestop.com
CAJ1208
PAGE 1 OF



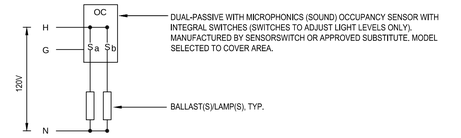
CEILING MOUNTED OCCUPANCY SENSOR (OC)

NOTES:

1. LINE VOLTAGE WIRING SHALL BE #12 MIN., INSTALLED IN CONDUIT.
2. CONTROL WIRING SHALL BE AS RECOMMENDED BY LIGHTING CONTROLLER MANUFACTURER, AND SHALL BE INSTALLED IN CONDUIT.
3. FOR AREAS WITH THREE-WAY SWITCHING OR DIMMING CONNECT CONTROLLER(S) TO LINE SIDE OF SWITCHES.
4. PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION.
5. WIRE AS PER MANUFACTURER'S SPECIFICATIONS.

TYPICAL OCCUPANCY SENSOR SCHEMATIC WIRING DIAGRAM

SCALE: NONE



COMBINATION OCCUPANCY SENSOR/WALL SWITCH UNIT OC

NOTES:

1. LINE VOLTAGE WIRING SHALL BE #12 MIN., INSTALLED IN CONDUIT.
2. CONTROL WIRING SHALL BE AS RECOMMENDED BY LIGHTING CONTROLLER MANUFACTURER, AND SHALL BE INSTALLED IN CONDUIT.
3. FOR AREAS WITH THREE-WAY SWITCHING OR DIMMING CONNECT CONTROLLER(S) TO LINE SIDE OF SWITCHES.
4. PROVIDE ALL NECESSARY COMPONENTS FOR A COMPLETE INSTALLATION.
5. WIRE AS PER MANUFACTURER'S SPECIFICATIONS.

TYPICAL OCCUPANCY SENSOR SCHEMATIC WIRING DIAGRAM

SCALE: NONE

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SEAL

COMMONWEALTH OF VIRGINIA
DAWEN LU
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06/09/16
PROFESSIONAL ENGINEER

PROJECT NAME AND ADDRESS

GAMESTOP #2444
THE SHOPS AT STRATFORD HILLS

7017 FOREST HILL AVENUE
RICHMOND, VIRGINIA 23235

No.	Revision/Issue	Date

SPECIFCATIONS AND DETAILS

Project NO. 16036	Sheet
Date 06/09/2016	E0.2
Scale AS NOTED	

036-E01.dwg

GENERAL NOTES:

A. THE SCOPE OF WORK FOR THIS PROJECT IS ADDING A NEW DEMISING WALL AND PROVIDING A NEW TENANT IN EXISTING MULTI-TENANT COMMERCIAL SPACE.

B. EXIT LIGHTING AND EMERGENCY LIGHTING SHALL BE WIRED AHEAD OF LOCAL SWITCHING.

C. EXTERIOR LIGHTING IS EXISTING TO REMAIN.

D. NO EXPOSED CONDUIT ALLOWED UNLESS DIRECTED BY GAMESTOP PROJECT MANAGER.

E. ALL NEW LIGHT SWITCHES TO BE INSTALLED IN STOCK ROOM NEXT TO STOCK/SALES DOOR.

F. ALL NEW TELEPHONE, DATA, & ELECTRICAL OUTLETS TO BE MOUNTED 18" A.F.F., UNLESS OTHERWISE NOTED.

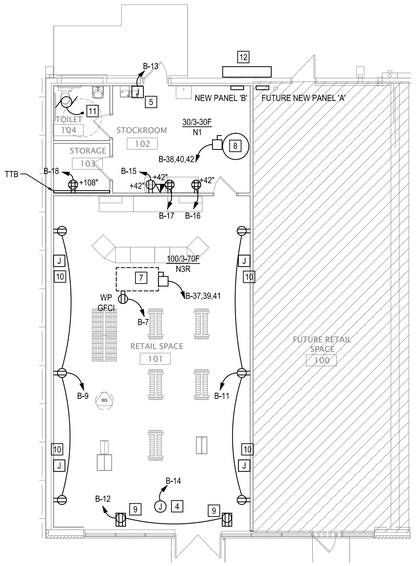
PLAN KEYNOTES:

1. THE CIRCUITS USED TO POWER THESE RECEPTACLES SHALL NOT BE USED FOR ANY OTHER PURPOSE. CIRCUITS SHALL NOT SHARE NEUTRAL OR GROUND WITH OTHER EQUIPMENT. SEPARATE POWER NEUTRAL AND INSULATED GROUND WIRES. MINIMUM SIZE #12 AWG SHALL BE RUN TO CIRCUIT BREAKER PANEL BOARD WHERE GROUND WIRE SHALL BE TIED TO THE GROUND TERMINAL ISOLATED FROM NEUTRAL. DO NOT USE CONDUIT FOR GROUNDING AS THIS MAY NOT BE CONTINUOUS. RECEPTACLES SHALL BE HUBBELL #16-5362.
2. PROVIDE 3/4" CONDUIT AND WIRE FOR POWER TO P.O.S. AND GENERAL RECEPTACLES AND 1" CONDUIT WITH PULL STRING FOR TELEPHONE OUTLETS TO BE LOCATED AT CABINET BOTTOM ROUTED BACK TO THE TELEPHONE BOARD. ROUTE CONDUITS UNDER CONCRETE FLOOR AND LEAVE A 12'-0" FLEX WHIP FOR EACH POWER CIRCUIT CONDUIT REQUIRED. STUB CONDUIT INTO CABINET BASE AND RUN THROUGH CABINET BASE TO EACH RECEPTACLE. COORDINATE EXACT CONFIGURATION WITH TENANT REP. AND LOCATION WITH FIXTURE INSTALLER. REFER TO PROTOTYPE DRAWINGS FOR EXACT INFORMATION.
3. QUAD RECEPTACLE FLUSH MOUNTED IN WALL AT 48" AFF & A DUPLEX RECEPTACLE FLUSH MOUNTED IN WALL AT 108" AFF ON BOTH SIDES OF CASHWRAP IN CONTINUOUS CONDUIT RUN.
4. PROVIDE CONNECTION FOR SIGN CIRCUIT. FIELD VERIFY EXACT LOCATION PRIOR TO ROUGH-IN.
5. CONTRACTOR TO INSTALL A J-BOX ABOVE THE HINGE SIDE OF THE REAR EXIT DOOR MOUNT POWER SUPPLY FOR TRIDENT SYSTEM. G.C. TO PLACE J-BOX ON DEDICATED CIRCUIT.
6. PROVIDE TORK 24-HOUR TIMECLOCK MODEL #1101 FOR CONTROL OF LIGHTING CIRCUITS.
7. BASIS OF DESIGN MECHANICAL UNIT LOCATED ON THE ROOF. FIELD VERIFY EXACT LOCATION/REQUIREMENTS PRIOR TO ROUGH-IN.
8. BASIS OF DESIGN WATER HEATER. FIELD VERIFY EXACT LOCATION/REQUIREMENTS PRIOR TO ROUGH-IN.
9. DUPLEX RECEPTACLE FLUSH MOUNTED IN CEILING PER NEC 210-62.
10. PROVIDE JUNCTION BOX AND EMPTY CONDUIT WITH PULLSTRING STUBBED ABOVE THE CEILING. FIELD VERIFY EXACT LOCATION/REQUIREMENTS PRIOR TO ROUGH-IN.
11. WIRE EXHAUST FAN VIA CIRCUIT/SWITCHING THAT CONTROL THE LIGHTING IN THIS AREA.
12. LOCATION FOR NEW ELECTRICAL SERVICE. REFER TO SHEET E0.1 FOR MORE INFORMATION.

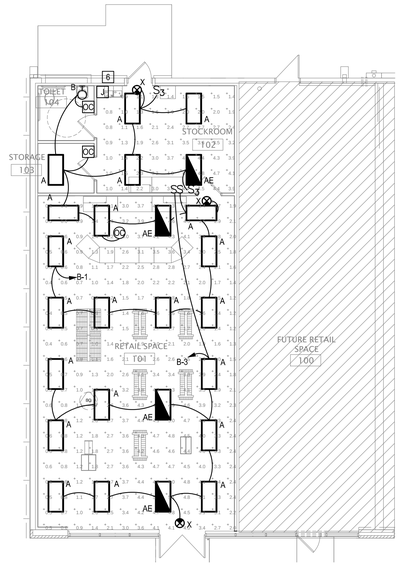
EGRESS LIGHTING COMPLIANCE

THE CONTRACTOR SHALL HIRE THE SERVICES OF A THIRD PARTY MASTER ELECTRICIAN OR PROFESSIONAL DESIGN ENGINEER TO CONDUCT A FIELD TEST MEASURING THE EGRESS LIGHTING OUTPUT DURING NON-SUNLIGHT HOURS. A REPORT SHALL BE GENERATED FROM THIS TEST AND PROVIDED TO THE CITY OF RICHMOND SHOWING THE EMERGENCY LIGHTING MEETS OR EXCEEDS THE IBC 2009 SECTION 1006.

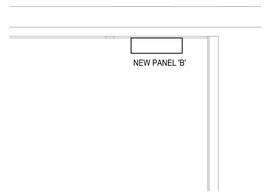
WHERE THE THIRD PARTY INSPECTION DETERMINES THAT THE MINIMUM FOOT-CANDLE LEVEL HAS NOT BEEN MET, PROVIDE ADDITIONAL EMERGENCY LIGHTING TO MEET MINIMUM REQUIREMENTS.



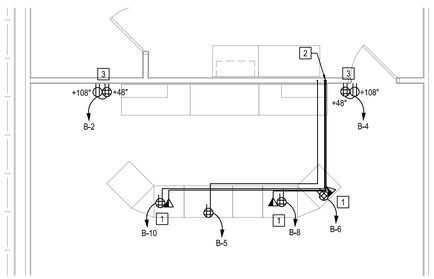
1 E2.1 NEW WORK FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"



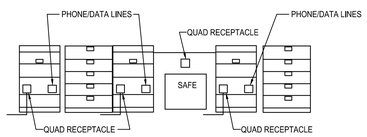
2 E2.1 NEW WORK FLOOR PLAN - POWER
SCALE: 1/8" = 1'-0"



5 E2.1 ENLARGED ELECTRICAL AREA
SCALE: 1/2" = 1'-0"



3 E2.1 NEW WORK FLOOR PLAN - ENARGED CASHWRAP
SCALE: 1/4" = 1'-0"



4 E2.1 CASHWRAP ELEVATION
SCALE: NONE

PANELBOARD SCHEDULE

B

SERVICE DISCONNECT

200	AMP	MLO		208	Y /	120	V	3PH	4	W			MOUNT:		SURFACE		PANEL ASSEMBLY RATED:				22	KAIC
CCT	BRKR	WIRE SIZE	LOAD	ILTG	ELTG	REC	MECH	KIT	MISC	A	B	C	CCT	BRKR	WIRE SIZE	LOAD	ILTG	ELTG	REC	MECH	KIT	MISC
1	20/1	2#12,1#12GND.,3/4"C.	LIGHTING	1.4	-	-	-	-	-	1.9			2	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP RECS	-	-	0.5	-	-	-
3	20/1	2#12,1#12GND.,3/4"C.	LIGHTING	0.9	-	-	-	-	-		1.4		4	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP RECS	-	-	0.5	-	-	-
5	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP GENERAL RECS	-	-	0.4	-	-	-			0.8	6	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP RECS	-	-	0.4	-	-	-
7	20/1	2#12,1#12GND.,3/4"C.	ROOFTOP WP REC	-	-	0.2	-	-	-	0.6			8	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP RECS	-	-	0.4	-	-	-
9	20/1	2#12,1#12GND.,3/4"C.	GENERAL RECS	-	-	0.5	-	-	-		0.9		10	20/1	2#12,1#12GND.,3/4"C.	CASHWRAP RECS	-	-	0.4	-	-	-
11	20/1	2#12,1#12GND.,3/4"C.	GENERAL RECS	-	-	0.5	-	-	-			0.9	12	20/1	2#12,1#12GND.,3/4"C.	CEILING RECS	-	-	0.4	-	-	-
13	20/1	2#12,1#12GND.,3/4"C.	SECURITY SYSTEM CONNECTION	-	-	-	-	-	0.2	0.4			14	20/1	2#12,1#12GND.,3/4"C.	CEILING SIGN	-	-	-	-	-	0.2
15	20/1	2#12,1#12GND.,3/4"C.	DESK RECS	-	-	0.5	-	-	-		0.9		16	20/1	2#12,1#12GND.,3/4"C.	STOCKROOM REC	-	-	0.4	-	-	-
17	20/1	2#12,1#12GND.,3/4"C.	DESK RECS	-	-	1.0	-	-	-			2.0	18	20/1	2#12,1#12GND.,3/4"C.	TTB REC	-	-	1.0	-	-	-
19	20/1	-	SPARE	-	-	-	-	-	-	-			20	20/1	-	SPARE	-	-	-	-	-	-
21	20/1	-	SPARE	-	-	-	-	-	-		-		22	20/1	-	SPARE	-	-	-	-	-	-
23	20/1	-	SPARE	-	-	-	-	-	-			-	24	20/1	-	SPARE	-	-	-	-	-	-
25	-		SPACE ONLY	-	-	-	-	-	-	-			26	-		SPACE ONLY	-	-	-	-	-	-
27	-		SPACE ONLY	-	-	-	-	-	-		-		28	-		SPACE ONLY	-	-	-	-	-	-
29	-		SPACE ONLY	-	-	-	-	-	-			-	30	-		SPACE ONLY	-	-	-	-	-	-
31	-		SPACE ONLY	-	-	-	-	-	-	-			32	-		SPACE ONLY	-	-	-	-	-	-
33	-		SPACE ONLY	-	-	-	-	-	-		-		34	-		SPACE ONLY	-	-	-	-	-	-
35	-		SPACE ONLY	-	-	-	-	-	-			-	36	-		SPACE ONLY	-	-	-	-	-	-
37				-	-	-	6.3	-	-	7.1			38				-	-	-	-	-	0.8
39	70/3	3#4,1#8GND.,1-1/4"C.	ROOFTOP UNIT (15KW)	-	-	-	6.3	-	-		7.1		40	20/3	3#12,1#12GND.,3/4"C.	WATER HEATER (2KW)	-	-	-	-	-	0.8
41				-	-	-	6.3	-	-			7.1	42				-	-	-	-	-	0.8
				2.3	-	3.1	19	-	0.2	A	B	C					-	-	4.0	-	-	2.6

LOAD TYPE		CONNECTED LOAD KVA	DEMAND KVA
INTERIOR LTG		2	3
EXTERIOR LTG		-	-
RECEPTACLES		7	7
AC / HEAT PUMP		19	19
ELECTRIC HEAT		-	-
KITCHEN:		-	-
MISC:		3	3
25% OF LARGEST MOTOR (XXX. XX HP):			-

PHASE A KVA	10			83 PHASE A AMPS
PHASE B KVA		10		86 PHASE B AMPS
PHASE C KVA			11.	90 PHASE C AMPS

TOTAL CONNECTED KVA:	31
TOTAL DEMAND KVA:	32
TOTAL CONNECTED AMPS:	86
TOTAL DEMAND AMPS:	88

SCALE: 1/2" = 1'-0"
0 1' 2' 4' 8' 12'

SCALE: 1/8" = 1'-0"
0 2' 4' 8' 16' 24'

PLAN NORTH

CLIENT

GameStop

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PROJECT NAME AND ADDRESS

GAMESTOP #2444
THE SHOPS AT STRATFORD HILLS

7017 FOREST HILL AVENUE
RICHMOND, VIRGINIA 23235

No.	Revision/Issue	Date

NEW WORK ELECTRICAL FLOOR PLANS

Project NO. 16036	Sheet E2.1
Date 06/09/2016	
Scale AS NOTED	

036-E21.dwg