# OWNER / DEVELOPER

## CBE, LLC

221 W. WEBSTER AVENUE, SUITE 507 MUSKEGON, MI 49440 **OWNER'S REPRESENTATIVE** 

DEREK MARINE 231.557.7417 TENANT

TRACTOR SUPPLY COMPANY

5401 VIRGINIA WAY BRENTWOOD, TN 37027 DEVELOPMENT MANAGER **KEVIN KURTOCK** 412.477.3788

# ARCHITECT



OXFORD ARCHITECTURE

2934 SIDCO DRIVE, SUITE 120 NASHVILLE, TN 37204

ARCHITECT OF RECORD BRETT GREENE, AIA 615.256.3455 brett@oxfordarchitecture.com

# CIVIL ENGINEER

# NEDERVELD

217 GRANDVILLE AVENUE, SUITE 302 GRAND RAPIDS, MI 49503

PROJECT MANAGER STEVE WITTE, PE 800.222.1868 switte@nederveld.com

# STRUCTURAL ENGINEER

BENNETT & PLESS, INC. 565 MARRIOTT DRIVE, SUITE 300

NASHVILLE, TN 37214

ENGINEER OF RECORD FRED WEIS, P.E. 615.450.0834 fweis@bennett-pless.com

PROJECT MANAGER JARROD FINGER 615.450.1020 jfinger@bpl-enclosure.com

PROJECT MANAGER

LEE MORRISETTE

615.256.3455 x 12

lee@oxfordarchitecture.com

# MECHANICAL AND PLUMBING

SCHELTON ENGINEERING 1163 WEST MAIN STREET FRANKLIN, TN 37064

ENGINEER OF RECORD GARY W. SCHELTON, P.E., LEEP AP 615.730.9111 gary@scheltonengineering.com

# ELECTRICAL CONSULTANT

PARSONS ENGINEERING 4751 TROUSDALE DRIVE, SUITE 202 NASHVILLE, TN 37203

ENGINEER OF RECORD RODNEY RUNIONS 615.386.9396 rrunions@parsonsengineering.com

# PROJECT SUMMARY

TRACTOR SUPPLY COMPANY IS A RETAILER TARGETING THE HOBBY FARMER. ITEMS SOLD AT TSC INCLUDE CLOTHING, FENCING, HARDWARE, BIRD FEED AND EQUINE PRODUCTS.



(9) COLUMN LINE 9 DOOR NUMBER 16 DETAIL SCALE: 3/4 " = 1'-0" DRAWING NO. 1 A5.0 INTERIOR ELEVATION INDICATOR

LARGE SCALE DETAIL

# WALL TYPES

CMU WALL PET WASH WALL, SEE A5.1



NORTH

NORTH

**REVISION-**

**REVISION MARKER**-

ROOM NUMBER

SECTION CUT



- \_\_\_\_\_ METAL STUDS AND FINISH TO 6" ABOVE CEILING
  - METAL STUDS AND FINISH EXTEND TO ROOF DECK
  - WALL TO HAVE BATT INSULATION
    - \*SEE A5.0 FOR WALL FINISH AND THICKNESS TYPES

# ABBREVIATIONS

- ABOVE ABV: ACT: ACCOUSTICAL CEILING TILE AMERICANS WITH ADA: DISABILITIES ACT ADJACENT ADJ: ABOVE FINISH FLOOR AFF: ALUM: ALUMINUM APPROX: APPROXIMATE BLDG: BUILDING BEARING BRG: BRICK BRK: BOTTOM BTM: CERAMIC CER: CONTROL JOINT CJ: CENTER LINE CL: CLG: CEILING CMU: CONCRETE MASONRY UNIT
- C.O.: CASED OPENING CO: CLEANOUT CONC: CONCRETE COOR: CORRIDOR
- CT: CERAMIC TILE D.F.: DRINKING FOUNTAIN
- DIA: DIAMETER DIM: DIMENSION
- DWG: DRAWING EXTERIOR INSULATION EIFS: & FINISH SYSTEM

MECHANICAL

MANUFACTURER

- INSUL: INSULATION JANITOR
- JAN: MECH:
- MFG: MH:
- MANHOLE MASONRY OPENING MO:
- EXPANSION JOINT FIRE DEPARTMENT FD: FINISH FLOOR ELEVATION
- FFE FH:
- FIRE HYDRANT FIN: FINISH FLR:
- FLOOR FRP: FIBERGLASS REINFORCED PANEL
- FT: FEET FTG: FOOTING
- GALV: GALVANIZED GENERAL CONTRACTOR GRADE BD: GYPSUM BOARD ACCESSIBLE HEIGHT HOLLOW METAL HT: HEIGHT HVAC: HEATING, VENTILATING & AIR CONDITIONING HIGHWAY HWY: MOUNTED MTD: ON CENTER PROPERTY LINE PLYWD: PLYWOOD PP: POWER POLE PR: PAIR POUNDS PER SQUARE INCH PAINT PTD: PAINTED PAVEMENT PVMT: RAD: RADIUS REFLECTED CEILING PLAN RCP: REQUIRED REQ: ROW: RIGHT OF WAY SAN: SANITARY SCHED: SCHEDULE SPECS: SPECIFICATIONS SQ: SQUARE STD: STANDARD STRUCT: STRUCTURAL TRANS: TRANSFORMER VCT: VINYL COMPOSITION TIL VEST: VESTIBULE WITH W/: WITHOUT W/O: WOOD WD:

GC:

GD:

GYP

HC:

HGT:

HM:

OC:

PSI:

PT:

WH:

YD:

- WATER HEATER WWF: WELDED WIRE FABRIC YARD



I, BRETT GREENE, AM THE DESIGN PROFESSIONAL ON THE "TSC - BELLEVILLE, MI" PROJECT

DRAWING INDEX		
\$`\$`\$`\$` \$`\$`\$`\$`		
12 1	i ki B	
~~~~~~~	ISSUED FOR REVIEW	
	02.07.2025	
	A0.0 TENANT CRITERIA & VENDOR INFORMATION	
	A0.1 DOOR & FINISH SCHEDULES	
	A0.2 ACCESSIBILITY STANDARDS	
	A1.0 ARCHITECTURAL FLOOR PLAN	
	A2.0 ARCHITECTURAL ELEVATIONS	
	A2.2 COLOR ELEVATIONS	
	A3.0 REFLECTED CEILING PLAN	
	A4.0 SECTIONS & DETAILS	
	A4.1 SECTIONS & DETAILS	
	A4.2 SECTIONS & DETAILS	
	A5.0 INTERIOR PLANS, ELEVATIONS, & DETAILS	
	A5.2 INTERIOR ELEVATIONS	
	A6.0 SECTIONS, DETAILS, & ELEVATIONS	
	A6.1 RECEIVING / SERVICE COUNTER DETAILS	
	A7.0 ROOF PLAN	
	A8.0 LIFE SAFELY / FIXTURE PLAN	
	STRUCTURAL	
	S1.0 FOUNDATION PLAN	
	S2.1 BOOF FRAMING PLAN	
	S3.0 DETAILS	
	S3.1 DETAILS	
	S4.0 DETAILS	
	S4.1 DETAILS	
	S4.2 DETAILS	
	S5.0 GENERAL NOTES	
	S5.1 GENERAL NOTES CONT.	
	S5.2 QUALITY ASSURANCE AND SPECIAL INSPECTIONS	
	S5.3 QUALITY ASSURANCE AND SPECIAL INSPECTIONS CONT.	
	S5.4 CONCRETE SPECIFICATIONS	
	MECHANICAL	
	M1.0 MECHANICAL FLOOR PLAN	
	M2.0 MECHANICAL SCHEDULES, DETAILS AND SPECIFICATIONS	
	PLUMBING	
	P1.0 PLUMBING FLOOR PLAN	
	P2.0 PLUMBING SCHEDULES AND DETAILS P3.0 PLUMBING BISERS AND SPECIFICATIONS	
	EST.0 SHE ELECTRICAL PLAN E1.0 GENERAL LIGHTING PLAN	
	E2.0 GENERAL POWER PLAN	
	E3.1 ELECTRICAL SYSTEM VENDOR DETAILS	
	E3.2 ELECTRICAL SYSTEM VENDOR DETAILS	
	E4.0 ELECTRICAL LEGENDS AND DETAILS	
	E5.0 SYSTEM FLOOR NOTES	



2021	
2021	MICHIGAN MECHANICAL CODE

JNS:	Aa = At + [At x If] + [At x IS]
	$Aa = 12,500 + [12,500 \times 0] + [12,500]$
	Aa = 12,500 + [0] + [37,500]
	Aa = 50,000 SQ. FT.
	Aa = 50,000 SQ. FT. > 22,129 SQ. F

MICHIGAN BELLEVILLE 2023 |C|ကြ **O** BELLEVILLE, MICHIGAN



### SIDE WALL 0.100 TOP WALL 0.070 FENCE SLEEVES ARE USED POSTS ARE TO BE ADHERED WITH EPOXY. ARE USED POSTS ARE TO BE ADHERED WITH EPOXY. SPACING BETWEEN PICKETS 3.75" HORIZONTAL RAILS: (4) LOCATED 1 @ 6" ABOVE FINISH GRADE (A.F.G.), 2 @ 18' A.F.G., 3 @ 6'-6" A.F.G., AND 4 @ 7'-6" A.F.G.. FASTENERS SHALL BE 302 STAINLESS STEEL WITH SELF-DRILLING HEAD. ALL SCREWS

6. PICKET SPACING 4.5" O.C.

SHALL BE PAINTED TO MATCH FENCE.

SHALL BE MANUALLY OPERATED.

10. GATE LATCHES SHALL ACCEPT PADLOCKS

VERIFY ALL UTILITY LOCATIONS ON SITE.

BE MIN. OF 36" IN TRUCK POURED CONCRETE. WHEN PRESET GALVANIZED FENCE SLEEVES

9A. SWING GATES: DESIGN AS PER THE MANUFACTURERS DESIGN STANDARDS. GATES

SEEDING WARRANTY DOES NOT PERMIT HYDRO SEED ALONE, PROVIDE STRAW AND

NORTH

0 10' 20' 30'

- TERMINAL AND GATE POSTS 6' X 6" X 0.125 WALL, DEPTH OF TERMINAL AND GATE POSTS TO
- 4. LINE POSTS 2.5" X 2.5" X 0.075 WALLS. LINE POSTS TO BE SET@10'-0" MAX. SPACING. DEPTH OF POST TO BE MIN. OF 30" IN TRUCK POURED CONCRETE. WHEN PRESET GALVANIZED

- PICKETS 1" X 1" X 0.065 WALL
- 2

- SPECIFICATIONS ARE AS FOLLOWS:

TWO COATS.

9.

NECESSARY.

LANDSCAPING NOTES

GENERAL SITE NOTES:

SITE PLAN

SCALE: 1" - 30'

PROPERTY LINE

\_\_\_\_\_

2. SEE CIVIL FOR ALL SITE WORK.

SITE STRIPING GUIDELINES:

AND POSITIONED.

I. STRIPING ON CONCRETE TO BE YELLOW.

APPLICATION OF MARKING MATERIALS.

APPLY PAINT OVER EXISTING TAPE MARKINGS.

FENCED OUTDOOR DISPLAY AREA FIXTURE INSTALLATION GUIDELINES:

FIELD THE MOST APPROPRIATE SIZE REQUIRED TO ANCHOR RACKS.

4. FOLLOWING INSTALLATION, REMOVE ANY RESIDUAL DEBRIS AND CLEAN AREA.

1. NEW PAVEMENT SURFACE TO CURE FOR A PERIOD OF NOT LESS THAN 14 DAYS BEFOR

2. STRIPING ON ASPHALT TO BE WHITE.

EXPIRATION OF THE (1) ONE YEAR CONSTRUCTION WARRANTY.

5. PROVIDE PRIMER AND SEALER TO BE APPLIED PER THE MANUFACTURER'S

MORE THAN TWO YEARS OLD, OXIDIZED AND/OR HAVE AGGREGATE EXPOSED.

- 8' HIGH BLACK ALUMINUM TUBE FENCE SPECIFICATIONS:1.CONTRACTOR TO SUBMIT CUT SHEET TO ARCHITECT FOR APPROVAL. GENERAL

- 3. STRINGERS 1.625" X 1.625" X 1.625"



# 

INEVV STORE - TIIVIE F	AND ACTION OF		Q4 2023
TASK	(WEEKS TO CONSTRUCTION TURNOVER DATE)	CONTACT	RESPONSIBILITY
ARCHITECT TO EMAIL FLOOR PLAN BASE SHEET AND BASE PLAN REVIEW CHECKLIST TO TSC STORE PLANNING AND SECURITY SYSTEMS VENDOR	UPON COMMENCEMENT OF CONSTRUCTION DOCUMENTS	TSC - CARL ADLER - caadler@tractorsupply.com TSC - PEYTON HOWARD - pehoward@tractorsupply.com JCI - GAIL DRAKE - gail.drake@jci.com OR ADT - DUKE DAUGHTREY - ddaughtrey@adt.com	ARCHITECT
ARCHITECT TO OBTAIN PROPANE LOCATION APPROVAL STAMP AND DATE FROM TSC	PRIOR TO SCHEDULE I SUBMISSION	TSC - CLINT WEAVIL - cweavil@tractorsupply.com	ARCHITECT
DEVELOPER TO OBTAIN STATE AND LOCAL PERMITS, INCLUDING SEISMIC ANCHOR PERMITS FOR FIXTURES WHEN REQUIRED	PRIOR TO SCHEDULE II SUBMISSION	TSC - CARL ADLER - caadler@tractorsupply.com TSC - PEYTON HOWARD - pehoward@tractorsupply.com	DEVELOPER
ARCHITECT TO UPLOAD PLANS TO PLAN EXPRESS	LATEST REVISED DOCUMENTS AT BID AT PERMIT APPROVAL	PLAN EXPRESS - #866.404.2614 customerservice@planexpress.net	ARCHITECT
CONTRACTOR TO CONTACT SECURITY SYSTEMS CONTRACTOR AND SCHEDULE ALARM INSTALLATION	7 WEEKS	JCI - GAIL DRAKE - gail.drake@jci.com OR ADT - DUKE DAUGHTREY - ddaughtrey@adt.com	CONTRACTOR
FINAL FIXTURE PLAN PROVIDED BY TSC	6 WEEKS	TSC - CARL ADLER - caadler@tractorsupply.com TSC - PEYTON HOWARD - pehoward@tractorsupply.com	TSC FIXTURE PLANNING
BACKBOARD (4X8 HORIZONTAL) PAINTED WHITE	4 WEEKS	TSC - STAN KOLIC - #615,440,4824	CONTRACTOR
SECURITY SYSTEMS CONTRACTOR - HAS TO BEGIN INSTALLATION (PHONE BOARD UP)	3 WEEKS	JCI - GAVIN ELLIS - gavin.1.ellis@jci.com ADT - DUKE DAUGHTREY - ddaughtrev@adt.com	TSC LOSS PREVENTION
CONTRACTOR - CONDUITS FOR IT AND PHONE WITH PULL STRINGS	4 WEEKS	TSC - STAN KOLIC - #615.440.4824	CONTRACTOR
QSI / DURA-RAMP OR LOADING DOCK ACCESS, FORKLIFT, PROPANE GAS AND PROPANE DIS. TANK (PROPANE FOR FORKLIFT AND HEAT IF NECESSARY)	4 WEEKS	AMERIGAS - SCOTT PIERCE (317.709.2339) scott.pierce@amerigas.com CHRIS SAUER (610.768.7612) christopher.sauer@amerigas.com MOLLIE TRELOAR (615.440.4230) mtreloar@tractorsupply.com MARIAH CRAYTON (615.647.2639) mcrayton@tractorsupply.com	TSC STORE ADMINISTRATION & CONTRACTOR
CONSTRUCTION TRUCK ARRIVES	3 WEEKS BY TUESDAY	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	
IMPRESSIONS TRUCK ARRIVES	3 WEEKS BY TUESDAY	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	
INSTALL DATE FOR PHONE LINES NEED #6 GROUND AT BOARD	3 WEEKS	TSC - STAN KOLIC - #615.440.4824	Т
IT / ELECT. CLOS. AND MANAGERS OFFICE FINISHED - DUPLEX BOXES AND DEDICATED POWER	3 WEEKS	TSC - STAN KOLIC - #615.440.4824	CONTRACTOR
CONTRACTOR - ALL DOORS TO BE INSTALLED WITH LOCKS	3 WEEKS	DH PACE - NATIONAL ACCOUNTS CONSTRUCTION TEAM (NAC) - #888.722.3667 X 10031 tscdoors@dhpace.com	CONTRACTOR
PERMANENT POWER TO BUILDING	3 WEEKS	SITE SUPERVISOR	CONTRACTOR
METER INFORMATION	15 DAYS PRIOR TO FIXTURE DATE	ECOVA - TractorSupplyOPCL.insight@engie.com	CONTRACTOR
UNIFIRST - MOPS AND MATS	1 WEEK	UNIFIRST - #888.851.2474 X 5 BRAD COOPER (615.440.4965) bcooper@tractorsupply.com	TSC STORE ADMINISTRATION
TERMINIX - (PEST CONTROL)	1 WEEK	TERMINIX - #866.818.4573 BRAD COOPER (615.440.4965) bcooper@tractorsupply.com	TSC STORE ADMINISTRATION
ROCK-TENN WASTE MANAGEMENT DUMPSTER SERVICE (40 YARD DUMPSTER)	1 WEEK	ROCK-TENN WASTE MANAGEMENT - #800.333.8879 BRAD COOPER (615.440.4965) bcooper@tractorsupply.com	TSC STORE ADMINISTRATION
SERVICE DESK, RECEIVING DESK, REGISTER COUNTERS WITH POWER POLES SET IN PLACE	1 WEEK	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	CONTRACTOR
CABELING INSTALLED TO REGISTER COUNTERS, SERVICE DESK AND RECEIVING DESK CONNECT TO PERMANENT POWER	1 WEEK	TSC - STAN KOLIC - #615.440.4824	IT
PLAY NETWORK INSTALLED BY TSC	1 WEEK	PLAY NETWORK - #800.342.0105 BRAD COOPER (615.440.4965) bcooper@tractorsupply.com	TSC STORE ADMINISTRATION
PROPANE PROVIDER TO FILL PROPANE DISTRIBUTION TANK	1 WEEK	MOLLIE TRELOAR (615.440.4230) mtreloar@tractorsupply.com MARIAH CRAYTON (615.647.2639) mcrayton@tractorsupply.com	TSC STORE ADMINISTRATION
CONTRACTOR TO COORDINATE INSTALLATION OF FIXTURES PRIOR TO THIS WEEK, INCLUDING SEISMIC ANCHORING FOR FIXTURES WHEN REQUIRED.	FIXTURE WEEK		CONTRACTOR
TRANSITION WEEK - ALL CONSTRUCTION ACTIVITIES ARE TO BE COMPLETED PRIOR TO THIS WEEK.	FIXTURE WEEK		CONTRACTOR
SOS (FULL TRUCK)	5 DAYS (WEDNESDAY)	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	TSC STORE ADMINISTRATION
LIS - BACKROOM AND SIDELOT FIXTURES (1/2 TRUCK)	4 DAYS (THURSDAY)	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	TSC STORE ADMINISTRATION
NATIONAL CART - CART CORRAL (1/2 TRUCK)	4 DAYS (THURSDAY)	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	TSC STORE ADMINISTRATION
MEG - FIXTURES (3/4 OF A TRUCK)	3 DAYS (FRIDAY)	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	TSC STORE ADMINISTRATION
LOZIER - FIXTURES - FULL TRUCK	3 DAYS (FRIDAY)	CAROLINE RICE (615.440.4705) crice@tractorsupply.com	TSC STORE ADMINISTRATION
ROCK-TENN WASTE MANAGEMENT - RETURN 40 YARD DUMPSTER AND GET REGULAR SERVICE	SOFT OPENING	ROCK-TENN WASTE MANAGEMENT (800.333.8879) BRAD COOPER (615.440.4965) bcooper@tractorsupply.com	TSC STORE ADMINISTRATION
TELECHECK MACHINES	2 WEEKS TO SOFT OPENING	TELECHECK - MAX PUENTE - #713.331.7018 max.puente@firstdata.com	TSC STORE ADMINISTRATION

# LVW RESPONSIBILITY AND TIMING PLAN

PROTOTYPES			
ACTION	BY WHO	WHEN	SPECIAL NOTES
TORE ADDED TO SOS	TSC REAL ESTATE	1ST MONDAY OF EACH MONTH	
CODES AND BUILDING TYPE (CONTACT TSC PM AS NECESSARY) RESEARCHED, A AND FA PLANS COMPLETED	JCI/ADT	WITHIN 30 DAYS AFTER ADDED TO THE SOS	VERIFY HVAC SYSTEMS (GROUND MOUNTED VS. ROOF MOUNTED, ETC.)
ECURITY SYSTEMS CONTRACTOR COMPLETES PLANS SENDS TO RICH WOOD ND TSC PM	JCI/ADT	ON 30TH DAY AFTER ADDED TO SOS	
LANS FORWARDED TO LL AND/OR HIS ARCHITECT IF KNOWN	TSC PM	31 DAYS	
SC TO REVIEW LL PLANS FOR ACCURACY	TSC PM	WHEN SENT BY LL PRIOR TO CONSTRUCTION START	
L TO COMPLETE ALL LVW SOW PER PLANS USING TSC VENDOR	MERCURY TECH	NO LESS THAN 2 WEEKS PRIOR TO FD FROM 2 WEEKS	
ECURITY SYSTEMS CONTRACTOR TO INSTALL THEIR EQUIPMENT AND MAKE ERMINATIONS	JCI/ADT	STARTING APPROXIMATELY 3 WEEKS FROM FD TO BE DONE LAST AS LVW VENDOR COMPLETES NO LATER THAN 2 WEEKS PRIOR TO FD.	
NSTALLATION OF PA SYSTEM, PHONE SYSTEM, SPEAKERS, OUTSIDE HORNS, HONES, PATCH PANEL, AP'S W/ ANTENNAS	STAN KOLIC / MERCURY TECH	MONDAY AND TUESDAY BEFORE FD	
ISTALLATION OF POS SYSTEMS AT ALL LOCATIONS AND TESTING OF AP SYSTEM	STAN KOLIC / AGILYSIS	TUESDAY BEFORE FD	
N DEVELOPER OWNED PROJECTS, DEVELOPER IS RESPONSIBLE FOR 100 % OF COST OF LVW VENDOR AND WIRING.			



# GENERAL NOTES:

ALL CONSTRUCTION AND DETAILS SHALL COMPLY WITH ALL APPLICABLE
DRAWINGS. ANY DEVIATIONS FROM BUILDING CODES REQUIRES NOTIFIC
THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS OF THE SITE. DI
PROCEEDING WITH CONSTRUCTION.
REMOVE ALL CONSTRUCTION AND DEMOLITION DEBRIS FROM JOB SITE I

- FIRE EXTINGUISHERS SHALL BE INSTALLED IN ACCORDANCE WITH THE LOCA 5. ALL DIMENSIONS ARE FACE OF DRYWALL AT NEW WALLS AND TO FINISHED 6. NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS. IF DISCREPANCIES ARE FOUL 8. THRESHOLDS SHALL NOT EXCEED 1/2 INCH IN HEIGHT.
- 9. DRYWALL TO BE HELD UP 1/2" ABOVE CONCRETE FLOOR. THE FOLLOWING ITEMS ARE FURNISHED BY T.S.C. AND INSTALLED BY THE C QUANTITY ITEM
  - 1 SET RESTROOM ACCESSORIES (NOT INCLUDING MIRRORS) FIRE EXTINGUISHERS BRAILLE SIGNAGE

11. THE FOLLOWING ITEMS ARE FURNISHED AND INSTALLED BY T.S.C. QUANTITY ITEM "OPEN" SIGN 1

> "CUB CADET" SIGN T.S.C. ROAD SIGN, GENERAL CONTRACTOR TO PROVIDE POWER

1

- COORDINATE WITH SIGN COMPANY ASSIGNED TO THIS LOCATIO 1 SECURITY VENDOR WORK (NOT INCLUDING LVW) PAID BY TSC 12. SPECIFIC MANUFACTURERS AND PRODUCTS ARE NAMED ON THE DRAWINGS BETTER PRODUCTS WILL BE CONSIDERED. SUBSTITUTES MUST BE APPROVE
- 13. ALL OFFICE WALLS TO BE INSULATED. 14. CONCEAL ALL PIPING IN WALLS. WHERE PIPING IS TOO LARGE WALLS ARE T PROVIDE WATER RESISTANT GYPSUM BOARD BEHIND ALL PLUMBING FIXTUR
- ALL COUNTERTOPS TO BE 2'-0" IN DEPTH UNLESS OTHERWISE NOTED. 17. PROVIDE SOLID BLOCKING FOR WALL HUNG CABINETS, PLUMBING FIXTURES
- 18. ALL MATERIALS USED BY ALL TRADES SHALL BE LISTED AND LABELED BY AN TSC RESERVES THE RIGHT TO REVIEW THE BUILDING ON OR BEFORE THE EXP ITEMS ARE FOUND THE LL SHALL IMMEDIATELY CORRECT THE CONDITION A
- 20. WHEN SOS TRUCK COMES AS SCHEDULED, GENERAL CONTRACTOR TO ASSI TRUCK CONTENTS. IF GENERAL CONTRACTOR REQUESTS SOS TRUCK EARLY REQUIRED TO UNLOAD AND PROPER PLACEMENT AND STORAGE OF CONTEI
- 21. GENERAL CONTRACTOR TO PROVIDE 2 COPIES OF SITE PLAN AND ELEVATION TSC. 1 COPY OF ELEVATIONS TO POP SOLUTIONS, RICK TOWNE @ 901.795.59 THPAYNE@TRACTORSUPPLY.COM), NO LATER THAN TWO WEEKS OF STARTIN 22. GENERAL CONTRACTOR SHALL COORDINATE ENTIRE PROJECT AND SCHEDU
- INSPECTIONS. CONTACT TSC, RICH WOOD @ 615.440.4721 FOR THE ALARM C CONSTRUCTION START. REFER TO THE SECURITY VENDOR PRE-CONSTRUCTI 23. CLOSE-OUT REQUIREMENTS, REFER TO LEASE / CONTRACT. FOR QUESTIONS
- 24. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ANY DUCT SM ALARM COMPANY. 25. THE GENERAL CONTRACTOR SHALL PAY FOR ALL UTILITY COST DURING CON TWO WEEKS PRIOR TO FIXTURE DATE FOR TRANSFER TO TSC.
- 26. DOCK ACCESS FROM ROAD MUST BE ACHIEVED 3 WEEKS PRIOR TO FIXTURE 27. THE GENERAL CONTRACTOR OR LANDLORD SHALL SUBMIT A REPORT, ON A THE SCHEDULE USING THE TSC WEEKLY PROGRESS REPORT ALONG WITH P
- 28. THE GENERAL CONTRACTOR SHALL PROVIDE FOR INDEPENDENT INSPECTION AND STRENGTH. THE RESULTS ARE TO BE SUBMITTED TO THE OWNER THE INSTALLATION OF THE STRUCTURAL STEEL OR PRE-ENGINEERED METAL BUIL
- 29. FOR RED STRIPING, CONTACT POP SOLUTIONS AT 901-795-5936, ACCOUNT F 30. LANDLORD/LANDLORD GENERAL CONTRACTOR TO VERIFY WITH LOCAL POST INSTALL MAILBOX TYPE AND LOCATION PER THE POSTMASTER RECOMMEND 31. 'J' MOLD TO BE USED AT ALL INTERSECTIONS OF GYPSUM BOARD AND ANY
- 32. CORNER GUARDS TO BE USED AT ALL INTERIOR 'OUTSIDE' CORNER CONDITIO 33. DURING CONSTRUCTION, ANY PARTIALLY COMPLETED MASONRY WALLS (CM MATERIAL DURING ALL TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS A
- DRAPED OVER THE WALL AND EXTEND A MINIMUM OF (2) TWO FEET DOWN F 34. FOR SOS TRUCK DELIVERIES ON RELO STORES, COORDINATE WITH TSC STOF RENTAL TOW-MOTOR DROP. RENTAL TOW-MOTOR SHOULD ARRIVE NO LATE
- WILL BE PICKED-UP THE MONDAY FOLLOWING THE STORE'S SOFT OPENING 35. FINISHED SPACE SHALL BE PROVIDED IN A MANNER THAT PREVENTS RODE AN AEROSOL, MOISTURE-CURING POLYURETHANE FOAM SIMILAR TO "PUR
- CONCRETE MASONRY UNITS AND EXTERIOR CONCRETE MOISTURE CONTEN SHALL PROVIDE MOISTURE TESTING OF ALL CMU AND CONCRETE EXTERIOR 37. TSC PROJECT MANAGER MUST APPROVE THE APPLICATION OF PAINT IN WRI
- 38. GENERAL CONTRACTOR TO HAVE A LOCAL CONTACT WITHIN 2-HOURS FOR 39. ADD STEEL WOOL AT ALL CONDUIT/PIPE PENETRATIONS AT EXTERIOR WALL EDGES TO PREVENT RODENT INTRUSION.
- 40. AT EXISTING HVAC CURBS, CONTRACTOR TO INSTALL STEEL WOOL AND CLC INTRUSION. CONTRACTOR TO VERIFY ALL WARRANTIES REMAIN INTACT AND

FINAL FIXTURE PLAN TO BE RECEIVED BY CONTRACTOR AND/OR LL APPROXIMATE ALL COUNTERS, POWER POLES, AND WOOD GRAIN FLOORING.

# **CLOSE-OUT BINDER REQU**

			STORE # CITY/STATE
X =	REQU	JIRED	
PROTO	RETRO		CONTRACTOR SHALL PROVIDE OWNER WITH ONE ELECTRONIC THE CLOSE-OUT BINDER SHALL BE SENT ATTN TO THE CONSTR BRENTWOOD, TN 37027.
X	Х	1.	NAME, ADDRESS AND TELEPHONE NUMBER OF THE CONTRAC
Х	Х	2.	THE FINAL CERTIFICATE OF OCCUPANCY OR THE EQUIVALENT
Х	X	3.	AN ASSIGNMENT BY THE CONTRACTOR OF ALL GUARANTEES A MANUFACTURERS, TOGETHER WITH ORIGINALS OF ALL SUCH O DOORS, WATER HEATER, ETC. AS APPLICABLE).
Х	Х	4.	COMPLETE LIST OF EQUIPMENT - COMPLETE TEMPLATE.
Х	X	5.	CONFIRMATION IN WRITING FROM THE INSTALLER OF THE HVA START-UP PROCEDURES WERE FOLLOWED.
N/A	Х	6.	COMPLETE RETROFIT HVAC BREAKDOWN OF COSTS - COMPLE
Х	N/A	7.	COMPLETE PROTOTYPE HVAC INFORMATION - COMPLETE TEM
N/A	Х	8.	CERTIFICATE OF SEWER CLEAN-OUT BY THE PERSON WHO PEF
Х	Х	9.	DISABILITY ACCESSIBILITY INSPECTION REPORTS SENT TO THE
Х	X	10.	A COPY OF THE PUNCH LIST ITEMS SIGNED BY THE OWNER (OF ITEMS ARE COMPLETED.
Х	X	11.	(1) PDF CONTAINING WORKING DRAWINGS AND PLANS AND SF CHANGES, INCLUDING IN .PDF FORMAT.
X	Х	12.	A COMPLETE SET OF FIRE SPRINKLER SHOP DRAWINGS, IF APP
N/A	X	13.	A CERTIFICATE EVIDENCING THAT INSURANCE REQUIRED UND AND SHALL NOT BE CANCELED, REDUCED, OR ALLOWED TO E OWNERS.
Х	X	14.	CERTIFICATION OF WATER WELLS AN/OR SEPTIC SYSTEMS THA SHOULD INCLUDE ANY ONGOING TESTING AND/OR INSPECTION INSPECTION MUST BE COMPLETED.
N/A	Х	15.	DIGITAL PHOTOGRAPHS OF THE 'BEFORE' AND 'AFTER' OF THE F
Х	X	16.	ROOFING INSPECTION REPORT FROM THE ROOFING MANUFAC 100% IN TACT).
Х	N/A	17.	CERTIFICATION FROM THE PROJECT CIVIL ENGINEER THAT THE ACCORDANCE WITH THE APPROVED PLANS AND ALL APPLICAE

TSC PM - SIGNATURE

Q4 2023

NOTE: GENERAL CONTRACTOR / LANDLORD TO SEE LEASE / CONTRACT FOR SPEC

## EXHIBIT H-1: TRAINI

COPY OF THIS EXECUTED DOCUMENT TO BE INCLUDED IN THE CLOSE OUT (FOR RETRO FIT BY TENANT) OR LANDLORD (RETRO FIT BY LL AND GROUND UP PI INITIAL TSC. INITIAL TRAINING HAS BEEN COMPLETED WITH THE STO

STORE MANAGER	GC	AND MAINTAIN:
		THE IRRIGATION SYSTEM. ALSO, THE TSC STOP ALL LANDSCAPING STARTING AT EITHER FIXTU
		THE LIGHT TIMER SYSTEM INCLUDING REVIEW
		THE HVAC SYSTEM OPERATION INCLUDING H
		THE AUTOMATIC FRONT DOORS OPERATIONS
		THE OVERHEAD DOORS OPERATIONS INCLUE
		THE DELAY EGRESS DOOR (THE RESET BUTTO

STORE #	
CITY/STATE	
STORE MANAGER	

GENERAL CONTRACTOR

Q4 2023	TSC & VENDOR CONT	<u>ACT INFORMATION</u>
BLE STATE AND LOCAL BUILDING CODES AND ORDINANCES AS OF THE DATE OF THE FICATION AND APPROVAL FROM TSC PROJECT MANAGER. DISCREPANCIES SHALL BE REPORTED TO THE ARCHITECT & OWNER PRIOR TO	(CLOSED SPECIFICATIONS) TRACTOR SUPPLY FIXTURE PLANS	UTILITY TRANSFER INFORMATION JAMES MASTERS, TSC ENERGY MANAGER
E DAILLY MARE SOB PREMISES CLEAN AT COMPLETION OF PROSECT. ELOCAL FIRE DEPARTMENT PRIOR TO COMPLETION OF CONSTRUCTION. SHED FACE AT MASONRY WALLS UNLESS NOTED OTHERWISE.	#615.647.2641 caadler@tractorsupply.com	ENGIE #615.440.4396
E FOUND, THE ARCHITECT AND OWNER SHALL BE NOTIFIED IMMEDIATELY.	PEYTON HOWARD, RETAIL STORE PLANNER	jmasters@tractorsupply.com tractorsupplyopcl.insight@engie.com (FOB LP ACCOUNTS FOB BUILDING HEAT CALL AMERICA
THE CONTRACTOR.	DOORS, FRAMES, & DOOR HARDWARE NATIONAL ACCOUNTS CONSTRUCTION TEAM (NAC) DH BACE	FIRE ALARM & SECURITY SYSTEMS RON KING, NATIONAL ACCOUNTS MANAGER
	#888.722.3667 X 10031 tscdoors@dhpace.com LEAD TIME: 2 WEEKS - HOLLOW METAL FRAMES	ADT ronaldking@adt.com DUKE DAUGHTREY, PROJECT MANAGER ADT
OWER TO SIGN BASE.	3 WEEKS - PRE-PAINTED & HPI DOORS 6-8 WEEKS - WIND RATED ASSEMBLIES & COASTAL	#229.896.5041 ddaughtrey@adt.com
	*DH PACE UNCRATING DOOR PACKAGE QR CODE: SCAN WITH SMARTPHONE OR TABLET TO WATCH VIDEO	ELECTRIC PANEL
WINGS TO INDICATE THE MINIMUM ACCEPTABLE LEVEL OF QUALITY. EQUAL OR PROVED BY TSC PM.	SECTIONAL DOORS NATIONAL ACCOUNTS CONSTRUCTION TEAM (NAC)	CAMERON KEANE, ACCOUNT MANAGER CAROLINA PRODUCTS, INC. (CPI) #704.364.9029 OFFICE
ARE TO BE FURRED OUT A MINIMUM TO CONCEAL PIPING. FIXTURES. TURES. ACCESSORIES AND MILLWORK.	DH PACE #888.722.3667 X 10031 tscdoors@dhpace.com LEAD TIME:	#919.621.9038 CELL cameronk@cpipanels.com LEAD TIME: 6 WEEKS
BY AN APPROVED AGENCY AND INSTALLED PER THE MANUFACTURES INSTRUCTIONS. HE EXPIRATION OF THE LL'S ONE YEAR WARRANTY. IF ANY WARRANTY OR PUNCH LIST ION AT ITS' EXPENSE.	5-6 WEEKS - SECTIONAL & COILING DOORS *USE COILING DOORS IN HIGH IMPACT REGIONS	EMS GAGE PERRY
O ASSIST TSC STORE MANAGER WITH THE UNLOADING AND STORAGE OF ALL SOS EARLY, GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL LABOR AND EQUIPMENT ONTENTS ONCE OFF SOS TRUCK.	STOREFRONT DOORS BILL GERARDIN, NATIONAL ACCOUNT MANAGER ALLEGION ACCESS TECHNOLOGIES	#603.716.0636 g.perry@brainboxai.com
VATIONS TO SIGN COMPANY ASSIGNED TO THIS PROJECT. VERIFY SIGN COMPANY W/ 795.5936 ARCHITECT TO E-MAIL CAD BASE OF FLOOR PLAN TO THOMAS PAYNE, TARTING CONSTRUCTION	#480.257.0619 william.gerardin@allegion.com	LOW VOLTAGE PROVIDER
CHEDULE THE ALARM COMPANY FOR ALL ROUGH-IN AND FINAL CONNECTIONS AND ARM COMPANY ASSIGNED TO THIS LOCATION NO LATER THAN TWO WEEKS AFTER RUCTION AND PRE-INSTALLATION CHECKLIST.	SAMANTHA FAULSTICK, NATIONAL ACCOUNTS PM ALLEGION ACCESS TECHNOLOGIES #843.962.0996 samantha.faulstick@allegion.com	TERRY L CORPENING MERCURY TECH PARTNERS, INC. #828.465.7348 x 4221 terry@gomtp.com
JCT SMOKE DETECTOR FOR NEW WORK ONLY. COORDINATE WITH THE ASSIGNED G CONSTRUCTION AND CONTACT DEEANA GHOLSON AT ECOVA, INC. #509.329.7516	LEAD TIME: 6 WEEKS	DUANE MULLINS MERCURY TECH PARTNERS, INC. #828.465.7348 x 4344 duane@gomtp.com
XTURE DATE. , ON A WEEKLY BASIS INDICATING THE PERCENT COMPLETE FOR EACH LINE ITEM ON	BRYAN BIRDWELL VILLA LIGHTING SUPPLY, INC. #314.633.0546	RESTROOM DRYERS
/ITH PHOTOS PER PHOTO LOG ON THE BLANK REPORTS PROVIDED BY TSC. ECTION AND CERTIFICATION FOR FOOTING COMPACTION, AND CONCRETE QUALITY THE G.C. SHALL LIKEWISE PROVIDE AN INDEPENDENT INSPECTOR TO CERTIFY PROPER AL BUILDING SYSTEM.	bryan.birdwell@villalighting.com ADAM CARRIER, NATIONAL ACCOUNTS MANAGER VILLA LIGHTING SUPPLY, INC.	ASHLEY MAY WORLD DRYERS DISTRIBUTOR #800.459.7099 ashley may@bicinc.com
DUNT REP.: RICK TOWNE. L POSTMASTER IF A MAILBOX IS REQUIRED. IF SO, GENERAL CONTRACTOR TO IMENDATION AND PER USPS STANDARDS.	#314.633.0532 adam.carrier@villalighting.com	BALER
DANY OTHER NON-GYPSUM MATERIAL. NDITIONS. LS (CMU, BRICK, ETC.) SHALL BE COVERED WITH STRONG WEATHER RESISTIVE RESS AND ESPECIALLY AT THE END OF EACH WORK DAY. THE COVER SHALL BE	VILLA LIGHTING SUPPLY, INC. #314.633.0554 tractorsupply@villalighting.com	CORY GARDNER, NATIONAL ACCOUNTS MANAGER JWR, INC. 888.699.2848
OWN FROM BOTH SIDES AND SECURELY HELD IN PLACE. C STORE SERVICES SPECIALIST [CAROLINE RICE (CRICE@TRACTORSUPPLY.COM)] FOR O LATER THAN THE WEDNESDAY PRIOR TO FIXTURE DATE. THE BENTAL TOW-MOTOR	LEAD TIME: 3-5 DAYS - INT/EXT LIGHTING 3-4 WEEKS - SITE POLE LIGHTING	
NING DATE. RODENT INTRUSION. SEAL PENETRATIONS THROUGH EXTERIOR WALL SURFACES WITH PUB BLACK' BY TODOL PRODUCTS INC @ 508 651 3818 OB APPROVED FQUAL		MOLLIE TRELOAR BUYER - HEATING AND COOLING TRACTOR SUPPLY COMPANY
NTENT CRITERIA. GENERAL CONTRACTOR, OR, THE OWNERS TESTING COMPANY ERIOR WALL PER ASTM D4263 PRIOR TO APPLICATION OF PAINT. N WRITING. IF THE MOISTURE CONTENT IS ABOVE 15%.	LENNOX #404.403.7083	#615.440.4230 mtreloar@tractorsupply.com
FOR ALL (NON)WARRANTY ELECTRICAL AND/OR PLUMBING CALL BACK REPAIRS. WALLS AND ADD ESCUTCHEON PLATE AND PROVIDE SEALANT AT ALL ESCUTCHEON	GARRY BAKER LENNOX	MARIAH CRAYTON ASSOCIATE BUYER - HEATING AND COOLING TRACTOR SUPPLY COMPANY
ID CLOSED-CELL SPRAY FOAM AT ALL CURB PENETRATIONS TO PREVENT RODENT OT AND APPROVED BY LANDLORD. IMATELY & WEEKS PRIOR TO FIXTURE DATE TO ESTABLISH PROPER PLACEMENT OF	#800.367.6285 lennoxnationalaccounts@lennoxind.com LEAD TIME: 20 WEEKS	#615.647.2639 mcrayton@tractorsupply.com
	DAVID ARPS, ACCOUNT MANAGER YORK / JOHNSON CONTROLS #414.687.7101 DIRECT	PARKING SIGNS / BOLLARD COVERS STEPHEN COATS MCCUE #404.405.8101
QUIREMENTS Q4 2023	david.w.arps@jci.com be-na-tractorsupply@jci.com	SCOATS@MCCUE.COM
SO IC CLOSE-OUT BINDER ON A CD. ALL INFORMATION BELOW MUST BE INCLUDED. TRUCTION COORDINATOR AT THE OWNER'S ADDRESS: 5401 VIRGINIA WAY,	JOE RAY, PRODUCT APPLICATION ENGINEER YORK / JOHNSON CONTROLS #405.419.6631 DIRECT #800.481.9738 TECH SUPPORT	SPENCER BRATTON VERSATUBE BUILDING SYSTEMS #901.614.2192
CTOR AND ALL SUBCONTRACTORS.	joe.ray@jci.com be-na-tractorsupply@jci.com LEAD TIME: 15-24 WEEKS	
AND WARRANTIES FROM ALL SUBCONTRACTORS, VENDORS, SUPPLIERS, AND GUARANTEES, WARRANTIES, AND OPERATING MANUALS (E.G. HVAC, ROOF,	METAL RAMP DISTRIBUTOR TONY HAMILTON	LIFTONE #615.220.5320 ctolley@liftone.net
AC SYSTEM OR COMPONENTS THEREOF CONFIRMING THAT THE PROPER	QSI ENVIRONMENTAL & INDUSTRIAL STEEL FABRICATORS #334.793.6878 thamilton@qsisteel.com	MIKE ZECK LIFTONE #615 205 0012
LETE TEMPLATE. MPLATE.	ANDREW STREUTKER	
ERFORMED THE SAME. E TEXAS DEPARTMENT OF LICENSING AND REGULATION (FOR TEXAS STORES ONLY). DR STORE MANAGER, IF SO AUTHORIZED BY OWNER) CONFIRMING ALL PUNCH LIST	DURA-RAMP, INC. #604.795.9799 andrew@duraramp.com	HYSTER YALE GROUP #252.364.6382 branden.harrison@hyster-yale.com
SPECIFICATIONS REFLECTING 'AS-BUILT' CONDITIONS, WITH A SUMMARY LIST OF	LIVE GOODS CENTER	SIGNS
PPLICABLE. DER THE CONTRACT DOCUMENTS SHALL REMAIN IN FORCE AFTER FINAL PAYMENT EXPIRE LINTIL AT LEAST 30 DAYS PRIOR WRITTEN NOTICE HAS BEEN GIVEN TO THE	JALIYAH SANFORD MERCHNEY GREENHOUSES #864.314.0603	MICHELLE WENDLING, ACCOUNT MANAGER YUNKER SIGNAGE #414.339.5349
AT DEMONSTRATE INSPECTION AND ACCEPTANCE BY THE MUNICIPALITY. THIS	jaliyah@merchneygreenhouses.com	mwendling@yunker.com
DNS THAT ARE REQUIRED AS WELL AS THE INTERVAL AT WHICH TESTING AND/OR FRONT VIEW OF THE STORE.	DANIEL CHAISSON, REGIONAL ACCOUNT EXECUTIVE THE SHERWIN-WILLIAMS COMPANY #901.484.3409	PAT PATTERSON SIGN RESOURCES #727.669.6877 X 305
E STORM WATER DRAINAGE SYSTEM HAS BEEN CONSTRUCTED AND INSTALLED IN ABLE LAWS (SEE LEASE EXHIBIT).	daniel.chaisson@sherwin.com TOM KERR, CORPORATE ACCOUNT MANAGER PPG PAINTS #614.580.8305	ppatterson@tsrfl.com BUTCH JACKSON SIGN RESOURCES #727.669.6877 X 301 biackson@tsrfl.com
DATE	Thomas.kerr@ppg.com	
AINING CERTIFICATION OUT DOCUMENTS PROVIDED BY THE GENERAL CONTRACTOR	BRENDON COLLINS, PROJECT MANAGER TAMARACK GROVE #208.908.7874 brendon.collins@tamarackgrove.com	MEGAN HUFFMAN NORTHSTAR FLOORING #717.903.7085 megan.huffman@northstarflooring.com
UP PROJECTS) <b>TO TRACTOR SUPPLY COMPANY!</b> HE STORE MANAGER BY THE GENERAL CONTRACTOR (GC) ON HOW TO USE, OPERATE		ແລວເວເຣນຊາຍາຍເພົາເວເເນີຍເລັ້າເອີ້ອີ້ນີ້ ເອົາການເປັນເປັນເຊັ່ງເປັນເປັນເປັນເປັນເປັນເປັນເປັນເປັນເປັນເປັນ
TORE MANAGER HAS BEEN ADVISED THAT THE STORE IS RESPONSIBLE FOR MAINTAINING	FIRE SPRINKLER SYSTEMS	RED STRIPING
TURE DATE OR COMPLETION DATE, THE LATTER OF THE TWO DATES.	JCI #317.710.5137 karen.patrick@jci.com	POP SOLUTIONS GROUP #901.795.5936 x 19 OFFICE #901.483.5929 CELL
G HOW TO ADJUST THE PROGRAMMABLE THERMOSTATS.	WASTE AND RECYCLING VENDOR	rtowne@popsolutionsgroup.com
LUDING TIMER, TIMER OVERIDE, AND SAFETY EDGE. TTON IS IN THE CONTROL BOX AND HAS TO BE RESET ANY TIME POWER IS LOST).	DIANE HUEFFMEIER, PROGRAM MANAGER ROCKTENN COMPANY #314.292.3313 dhueffme@rocktenn.com	PRINTING SHERI RYDER PLAN EXPRESS #866.404.2614
	SUSAN FLANAGAN VELUX COMMERCIAL DAYLIGHTING #864.813.6896 susan.flanagan@velux.com	customerservice@planexpress.net





# DRAIN MANAGEMENT PROGRAM

## ALL DRAINS, VENTS, ETC. MUST BE TAPED OVER DURING CONSTRUCTION TO PREVENT DEBRIS FROM INFILTRATING THE LINES 2. GC/DEVELOPER IS REQUIRED TO SUBMIT PHOTOS OF TAPED DRAINS 3. GC WILL BE FINED \$150 PER DAY IF PHOTOS ARE NOT SUBMITTED BY THE BEGINNING OF WEEK TWO OF THE PROJECT OR IF ANY DRAIN IS DISCOVERED UNCOVERED DURING A PM SITE VISIT. FINES WILL TERMINATE ON THE DAY THAT PHOTOGRAPHIC EVIDENCE OF COMPLETION IS SUBMITTED TO AND VERIFIED BY THE TRACTOR SUPPLY PM. 4. GC/DEVELOPER WILL BE REQUIRED TO JET AND CAMERA ANY LINE IN WHICH THE DRAIN IS DISCOVERED UNCOVERED. RECEIPTS AND VIDEO MUST BE SUBMITTED TO TRACTOR SUPPLY FOR VERIFICATION. X 5. DRAIN MANAGEMENT SIGNAGE WILL BE PROVIDED BY TRACTOR SUPPLY AND INSTALLED BY THE GC/DEVELOPER. X 6. IF SIGNAGE IS NOT INSTALLED @ PUNCH, CLEANING/CAMERA POLICY WILL APPLY. 2. GC WILL BE FINED \$150 PER DAY IF SIGNAGE IS NOT INSTALLED AT PUNCH. FINES WILL TERMINATE ON THE DAY THAT PHOTOGRAPHIC EVIDENCE OF COMPLETION IS SUBMITTED TO AND VERIFIED BY THE TRACTOR SUPPLY PM.



FXPOSED DECK & JOISTS

INNER CORE AREAS

METAL DOOR FRAMES

VINYL BASE PLASTIC LAMINATE TOILET PARTITIONS

SUBCONTRACTOR. FLOOR IN STOCKROOM, IT ROOM 1 CUT GRIND THEN SEALED WITH GUARD/ SEALER INSTALLED BY FLOORING SUBCONTRACTOR.

FLOOR IN PET WASH TOLERANCES", PARAGRAPH A "GENERAL FINISHES". CURE USING 'KUREZ DR VOX" OR "KUREZ DR 100" AT AN APPLICATION RATE OF 400 SF/GALLON

- THE MIX.

- APPEARANCE.

BOARD.

6" REVEAL HARDIE BOARD LAP SIDING - PAINTED SW7513 SANDERLING		
VESTIBULE GABLE ROOF AND AWNINGS - STANDING SEAM METAL ROOFING UNACLAD COLONIAL RED		
COMMODORE VEL (22-52). SEE ELEVATIONS AN SECTIONS FOR BRICK TYPE LOCATIONS.		
RED STRIPE (AROUND VESTIBULE BUMP OUT) - TO MATCH SW 7585 SU	JNDRIED TOMATO. THE GOOSE	NECK FIXTURES TO MATCH COLOR.
LIGHTING POLE BASES	LOADING DOCK GUARDRAILS	, HOLLOW METAL DOOR FRAMES,
1ST COAT: S-W LOXON ACRYLIC BLOCK SURFACER, LX01W0200 (50-100 SQ FT/ GAL @ 16 MILS WET; 8 MILS DRY)	GLOSS FINISH - COLOR T 1ST COAT: S-W KEM B50Z SEF	O MATCH SW1012 POWER GREY KROMIK UNIVERSAL METAL PRIMER, IES - OMIT FOR H.M. DOOR FRAMES
2ND COAT: S-W CONFLEX XL SMOOTH HIGH BUILD ACRYLIC	(6.0 - 8.0	MLS WET / 3.0 -4.0 MLS DRY PER COAT)
3RD COAT: S-W CONFLEX XL SMOOTH HIGH BUILD ACRYLIC COATING, CF11 SERIES (APPLY AS NEEDED FOR COMPLETE COVERAGE)	3RD COAT: S-W INDU 3RD COAT: S-W INDU (2.0 - 4.0 NEEDED	ISTRIAL ENAMEL HS, B542400 SERIES ISTRIAL ENAMEL HS, B542400 SERIES MILS DRY PER COAT) (APPLY AS FOR COMPLETE COVERAGE)
PRODUCT IS PACKAGE SAFETY YELLOW; COLOR ACCEPTANCE SHOULD BE APPROVED BY TSC.	EXTERIOR METAL DOORS FACTORY FINISHED SHEF TOUCH-UP PAINT PROVID	CRYL HPA SW1012 POWER GREY DED BY DH PACE
PIPE BOLLARDS AND COVERS 6" SCHEDULE 40 CONCRETE FILLED PIPE BOLLARD WITH MCCUE POST COVER CSPC-6-307 (SEE MANUFACTURER FOR BOLLARD SIZES OTHER THAN 6" DIA.) COLOR TO BE STANDARD YELLOW		
STOREFRONT FINISH CLEAR ANODIZED ALUMINUM		
STOREFRONT GLAZING VESTIBULE EXTERIOR: 1" TEMP. INSULATED GREY TINTED GLASS INTERIOR: 1/4" TEMP. CLEAR GLASS		
INTERIOR FINISHES:		
MASONRY (CONCRETE, SCORED, SMOOTH, HIGH/LOW DENSITY) SEMI-GLOSS FINISH - COLOR TO MATCH SW7005 PURE WHITE 1ST COAT: S-W PREPRITE BLOCK FILLER B25W25 (75-125 SQ. FT./GAL @ 16 MILS WET; 8 MILS DRY) 2ND COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES 3RD COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES (4 MILS WET, 1.3 MILS DRY PER COAT)		
RED ACCENT STRIPE (IN RETAIL SALES AREA - 10'-3" TO BOTTOM OF STRIPE, 12" STRIPE) SEMI-GLOSS FINISH - SW 4081 SAFETY RED 1ST COAT: S-W PROMAR 200 ZERO VOC INTERIOR LATEX PRIMER, B28W02600 (4 MILS. WET, 1.2 MILS DRY) 2ND COAT: S-W PROMAR 200 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31R02658 3RD COAT: S-W PROMAR 200 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31R02658 INTERIOR COLUMNIS (METAL)		
GLOSS FINISH - COLOR TO MATCH SW1012 POWER GREY		

1ST COAT: S-W KEM KROMIK UNIVERSAL METAL PRIMER, B50Z SERIES (6.0 - 8.0 MILS WET / 3.0 - 4.0 MILS DRY PER COAT) 2ND COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES 3RD COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS. B31W04651 SERIES (4 MILS WET. 1.3 MILS DRY PER COAT)

PRE-PRIMED GREY PREFERRED OR AS APPROVED BY TRACTOR SUPPLY COMPANY EXPOSED CONDUIT IN RETAIL SALES PAINT CONDUIT TO MATCH WALL FINISH

EXPOSED CONDUIT IN CLOTHING AREA PAINT CONDUIT RUST-OLEUM UNIVERSAL HAMMERED ALL SURFACE PAINT + PRIMER BROWN OUTER CORE AREAS - DRYWALL (WALLS, GYPSUM BOARD, PLASTER BOARD, ETC.)

SEMI-GLOSS FINISH - COLOR TO MATCH SW7005 PURE WHITE 1ST COAT: S-W PROMAR 200 ZERO VOC INTERIOR LATEX PRIMER, B28W02600 (4 MILS WET, 1.3 MILS DRY PER COAT)

2ND COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES 3RD COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES (4 MILS WET, 1.3 MILS DRY PER COAT)

SEMI-GLOSS FINISH - COLOR TO MATCH SW7036 ACCESSIBLE BEIGE 1ST COAT: S-W PROMAR 200 ZERO VOC INTERIOR LATEX PRIMER, B28W02600 (4 MILS WET, 1.3 MILS DRY PER COAT) 2ND COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES

3RD COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX SEMI-GLOSS, B31W04651 SERIES (4 MILS WET, 1.3 MILS DRY PER COAT)			
TAL DOOR FRAMES	METAL DOOR FRAMES - OPTION (HARDER FINISH AND BETTER		
GLOSS FINISH - COLOR TO MATCH SW1012 POWER GREY	COLOR/GLOSS RETENTION)		
1ST COAT: FACTORY PRIMED	GLOSS FINISH - COLOR TO MATCH SW1012 POWER GREY		
2ND COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX	1ST COAT: FACTORY PRIMED		
SEMI-GLOSS, B31W04651 SERIES	2ND COAT: S-W PRO INDUSTRIAL WATERBASED ALKYD		
3RD COAT: S-W PROMAR 400 ZERO VOC INTERIOR LATEX	URETHANE ENAMEL B53W01051 SERIES		
SEMI-GLOSS, B31W04651 SERIES (4 MILS WET,	3RD COAT: S-W PRO INDUSTRIAL WATERBASED ALKYD		
1.3 MILS DRY PER COAT)	URETHANE ENAMEL B53W01051 SERIES (4 MILS		
ERIOR WOOD DOORS	WET, 1.6 MILS DRY PER COAT)		

FACTORY FINISHED SHER-CRYL HPA SW1012 POWER GREY

SWIFF-TRAIN COMPANY EARTHWERKS WOOD CLASSIC IN SENORA GWC 9812 OR NORTH STAR FLOORING SOMA IN RUSSET. SEE TERRITORY MAP A0.0 FOR VENDOR SELECTION JOHNSONITE VINYL #40 BLACK IN ALL SPACES W/ PREFORMED INSIDE AND OUTSIDE CORNERS WILSONART 4857-60 SHADOW ZEPHYR AT EMPLOYEE LOUNGE COUNTERTOP PROVIDED BY TSC GLOBAL INDUSTRIES PLASTIC LAMINATE FLOOR MOUNTED TOILET PARTITIONS TO BE FINISHED WITH WILSONART LAMINATE, 4857-60 SHADOW ZEPHYR OR EQUAL AS REQUIRED BY LOCAL CODE. FIBERGLASS REINFORCED PANEL (FRP) WAINSCOT TO 4' A.F.F. ON NON-MASONRY WALLS IN RESTROOMS AND WALLS ADJACENT TO THE WATER FOUNTAIN. SEE DETAILS A5.0 FOR MOP SINK CONDITION & DETAILS A5.1 FOR PET WASH WALL CONDITION. FRP BY GLASTEEL, GLASLINER FRP, COLOR: XA WHITE, FINISH: TEXTURED. LAY-IN CEILING & GRID (VESTIBULE) GRID STONE GYPSUM CEILING PANELS 1/2" X 2' X 4'

LAY-IN CEILING & GRID (OFFICE CORE) ARMSTRONG DUNE 1776 2X4, WHITE, SQUARE LAYIN, OR EQUAL FLOOR IN VESTIBULE, SALES, RESTROOMS, CORRIDOR, MANAGER'S OFFICE, EMPLOYEE LOUNGE

CONCRETE FLOORING SPECIFICATIONS, PROVIDE THE FOLLOWING:

 ANY FLOOR AREAS OVER 3" ROUND WILL BE PREPPED BY THE "GC". MECHANICALLY GROUND AND POLISHED FLOOR SURFACE TO A 400 GRIT RESIN DIAMOND FOLLOWED BY 800 GRIT DIAMOND PAD BURNISH FOR A MID LEVEL GLOSS. INCLUDED IN THIS PROCESS IS CONCRETE DENSIFICATION, JOINT/CRACK FILLING UP TO 1150 LF AND PATCHING OF HOLES SMALLER THAN 3" THAT POSE A TRIP HAZARD. PROCESS TO BE INSTALLED BY FLOORING

CONCRETE FLOORING SPECIFICATIONS, PROVIDE THE FOLLOWING:

CONCRETE AND EPOXY FLOORING SPECIFICATIONS, PROVIDE THE FOLLOWING: DO NOT BROOM FINISH THIS AREA. PLACE AND FINISH CONCRETE AS SPECIFIED IN SECTION 3.04 "CONCRETE FINISHES AND

 JOINT FILLING: FILL ALL CONTROL JOINTS AS SPECIFIED IN SECTION 3.07 'INTERIOR CONCRETE JOINT FILLER", PARAGRAPH B. SURFACE PREPARATION: EPOXY FLOOR COATING SYSTEM IS DESIGNED FOR APPLICATION ON CONCRETE SUBSTRATES. NEWLY PLACED CONCRETE SURFACES SHOULD BE CURED FOR A MINIMUM OF 28 DAYS PRIOR TO COATING. CONCRETE SURFACES MUST BE STRUCTURALLY SOUND, FREE OF LOOSE OR DETERIORATED CONCRETE AND FREE OF DUST, DIRT, PAINT, EFFLORESCENCE, OIL AND OTHER CONTAMINANTS. MECHANICALLY ABRADE THE SURFACE TO ACHIEVE A SURFACE PROFILE EQUAL TO CSP 2-3 IN ACCORDANCE WITH ICRI GUIDELINE 310.2. PROPERLY CLEAN PROFILED AREA. THE pH OF THE SURFACE SHOULD BE CHECKED ACCORDING TO ASTM D 4262. FOLLOWING SURFACE PREPARATION, THE CLEANED SURFACE SHOULD HAVE A MINIMUM SURFACE-TENSILE STRENGTH OF 200 PSI WHEN TESTED WITH AN ELCOMETER OR SIMILAR PULL TESTER (ASTM D 4541). INITIAL COAT MIXING: PRE-MIX "INCRETE HIGH PERFORMANCE EPOXY" (GRAY) PART A AND PART B, THEN COMBINE 2 PARTS BY VOLUME OF PART A WITH ONE PART BY VOLUME OF PART B, AND THEN MIX THOROUGHLY USING A LOW-SPEED DRILL MOTOR AND A 'JIFFY" TYPE MIXER. MIX ONLY THE AMOUNT OF MATERIAL THAT CAN BE APPLIED DURING THE POT LIFE. DO NOT AERATE

 INITIAL COAT APPLICATION: APPLY "INCRETE HIGH PERFORMANCE EPOXY" (GRAY) AT 120 SF/GALLON. SPREAD THE MIXED EPOXY WITH A NOTCHED SQUEEGEE WHILE WEARING SPIKED SHOES. START FROM ONE END OF THE FLOOR AND WORK BACKWARDS AND SIDEWAYS TRYING TO KEEP A WET-TO-WET EDGE. THE COATING SHOULD THEN BE ROLLED IN ONE DIRECTION USING A 3/8" NAP, SHED-RESISTANT ROLLER. MAKE SURE THE MATERIAL IS APPLIED AS QUICKLY AS POSSIBLE WITHOUT LEAVING PUDDLES. PIGMENTED CHIP APPLICATION: BROADCAST UNTIL REFUSAL, "INCRETE GRANITE COAT CHIPS" (MICA) IN A HIGH ARCING MOTION INTO THE WET EPOXY. ALLOW TO CURE. ONCE DRY, VACUUM/SCRAPE OFF EXCESS FLAKES. ALLOW TO DRY.

• GROUT COAT: APPLY "INCRETE HIGH PERFORMANCE EPOXY" (CLEAR) AT 120 SF/GALLON. ALLOW TO DRY. WEAR COAT: APPLY A FINAL COAT OF 'INCRETE POLYSEAL POLYASPARTIC'' (CLEAR) AT 120 SF/GALLON. ALLOW TO DRY. COVE BASE: IN ADDITION TO THE SEAMLESS INTEGRAL FLOOR, PROVIDE A 4" COVE BASE FROM THE FLOOR TO THE FRP WALL TRANSITION. COVE BASE SHALL CONSIST OF A MIXTURE OF "INCRETE HIGH PERFORMANCE EPOXY" AND FINELY GRADED, CLEAN DRY, TROWELABLE AGGREGATES, TROWELED TO THE PREVIOUSLY INSTALLED VERTICAL CEMENT BOARD SURFACE, TO A HEIGHT OF 4 INCHES. CREATE A COVED, SEAMLESS, INTEGRAL TRANSITION AT JOINT BETWEEN WALL AND FLOOR. BROADCAST UNTIL REFUSAL, "INCRETE GRANITE COAT CHIPS" (MICA) INTO THE WET EPOXY. FINISH COVE BASE DETAIL WITH THE GROUT COAT AND WEAR COAT AS SPECIFIED HEREIN, ONCE COMPLETED, THE FLOOR AND COVE BASE SHALL BE SEAMLESS IN FUNCTION AND

a. INSTALL CEMENT WALL BOARD SO THAT THE BOTTOM EDGE IS FLUSH WITH THE FLOOR AS SPECIFIED. b. INSTALL CEMENT WALL BOARD TAPE, SIMILAR TO GOLDBLATT PROFESSIONAL CEMENT BOARD TAPE, TO ALL JOINT OF CEMENT

C. INSTALL FIBER REINFORCED PANELS (FRP) AS REQUIRED. DO NOT APPLY ADHESIVE TO ANY AREAS CONTACTING THE 4" COVE BASE INSTALLATION. DO NOT APPLY WATER TO ANY OF THESE SURFACES PRIOR TO INSTALLATION OF THE EPOXY FLOOR OR COVE SYSTEM. d. INSTALL 4" COVE BASE DIRECTLY TO CEMENT BOARD. COVE BASE SHALL COME IN DIRECT CONTACT WITH THE BOTTOM EDGE OF THE FIBER REINFORCED PANELS SO THAT THE FLOOR AND COVE BASE SHALL BE SEAMLESS IN FUNCTION AND APPEARANCE.

# 

DO	OR SCI	1ED	ULE				HA	KUVVA	ARE S	CHEDULE	
MARK	SIZE	TYPE	MATERIAL	FRAME	HARDWARE SET	REMARKS	SET #	DOORS	QUANTITY	ITEM	MANUFACTU
1	PKG. 14'-0" X 7'-8"	А	STORE FRONT	ALUM.	1A	SEE NOTES 10, 13 & 14	<b>1</b> A	1	1 EA.	MORTISE CYLINDER 28107-1-26D	ILC
2	PKG. 14'-0" X 7'-8"	А	STORE FRONT	ALUM.	1B	SEE NOTES 10, 13 & 14			1 EA.   1 EA	1CC7A2 (GREEN CONSTRUCTION CORE)-GREEN	BEST
3	NOT USED									BALANCE OF HARDWARE BY DOOR SUPPLIER	
4	NOT USED						1B	2	2 EA.	DUMMY CYLINDER 7160DC-26D	ILC
5A	PR 3'-0"X7'-0"	В	STORE FRONT	ALUM.	1C	SEE NOTES 4, 10, 17 & 21				BALANCE OF HARDWARE BY DOOR SUPPLIER	
5B	NOT USED						10	5A	1 EA. 1 EA	THUMB TURN -CYLINDER -26D MORTISE CYLINDER 28107-1-26D	
6*	PR 3'-0" X 7'-0"	D	ALUM. / GLASS	MTL.	2	SEE NOTE 18			1 EA.	DRIP CAP 16A X 76 - A	NAT
7	CASED OPENING					FURR DOWN TO 7'-10" A.F.F.				BALANCE OF HARDWARE BY DOOR SUPPLIER	
8	3'-0" X 7'-0"	С	S.C. WOOD	H. MTL.	8	SEE NOTE 5	1D	17	1 EA.	MORTISE CYLINDER 28107-1-26D	
9	3'-0" X 7'-0"	С	S.C. WOOD	H. MTL.	8	SEE NOTE 5			1 EA.	CYLINDER CORE 1CC7A2 (GREEN CONSTRUCTION CORE)	BEST
10	3'-0" X 7'-0"	С	S.C. WOOD	H. MTL.	6	SEE NOTE 16				BALANCE OF HARDWARE BY DOOR SUPPLIER	
11	3'-0" X 7'-0"	С	S.C. WOOD	H. MTL.	7	SEE NOTE 16	2	6, 13A, 13B		ALL HARDWARE BY DOOR SUPPLIER	
12	3'-0" X 7'-0"	С	INSUL MTL.	INSUL. MTL.	5	SEE NOTES 2, 3 & 10	3	NOT USED	3 EA.	HINGES MPB79 4 1/2 X 4 1/2 NRP- 26D	
13A	10'-0" X 10'-0 <b>'</b>	E	INSUL MTL.	MTL.	2	SEE NOTES 1, 12 & 15			1 EA.	STOREROOM LOCKSET T581BD X D X 23981145 X 5164 X 1 3/4	FAL
13B	10'-0" X 10'-0"	E	INSUL MTL.	MTL.	2	SEE NOTES 1, 12 & 15			1 EA.	WALL STOP WS407 - CCV-US32D	IVE
14	3'-0" X 7'-0"	G	S.C. WOOD	H. MTL.	6	SEE NOTE 20			3 EA.		IVE
15	3'-0" X 7'-0"	С	INSUL MTL.	INSUL. MTL.	5B	SEE NOTES 2, 10 & 11	4	NOT USED	1 EA.	PRIVACY LOCK T301S X D X 23981137 X 5164 X 1 3/4- 626	FAL
16	3'-0" X 7'-0"	С	S.C. WOOD	H. MTL.	7	SEE NOTE 16			3 EA.	SILENCER SR64- GRY	IVE
17	3'-0" X 7'-0"	F	STORE FRONT	ALUM.	1D	SEE NOTES 4. 10. 19 & 21	5	12	3 EA.	HINGES MPB79 4 1/2 X 4 1/2 NRP- 26D	MCK
18	3'-0" X 3'-0"	С	INSUL MTL.	MTL.		SEE NOTE 22			1 EA. 2 EA.	ALARMED EXIT DEVICE ECL-230D-GRAY RIM CYLINDER B28207-9	
* FRA	I I I I I I I I I I I I I I I I I I I	C. INSTALL		TOR		10.5" 3'-0" 10.5"			1 EA.	SURFACE PULL 8N US28	HAG
		-,							1 EA. 1 FA	CLOSER, PARALLEL ARM SC81 A X DS X SLIM-689	FAL NAT
									1 EA.	DOOR BOTTOM 795WH- MILL	NAT
									1 EA.	WEATHERSTRIP 160V - MILL	NAT
			$\mathbb{Z}$						1 EA.	VIEWER U698 B26D (MOUNT 60" CL/A.F.F.) (DOOR 12 ONLY)	IVE
Ē	╮╅║┻╢┇╇┣						5B	15	3 EA.	HINGES MPB79 4 1/2 X 4 1/2 NRP- 26D	МСК
Ť	╧╇└ <sub>┢┥</sub> ┙╬┶	 'B'		╤╄ <u>╶╄</u> ╵	J L'E'	└ <u>└└</u> ───┴└┘─╤╋ ╋└───┘ 'F 'G'			1 EA,	RIM EXIT DEVICE V40 X DC X EE X TSC- 711	DET
		TEC							1 EA.		
D O		IEO							1 EA.	CLOSER, PARALLEL ARM SC81A X DS X SLIM-689	FAL
1 101									1 EA.	THRESHOLD 896 V- MIL	NAT
SAF	ETY EDGE. OVERRID	E BUTTON	TO BE SUPPLIED	BY OVERHEAD	DOOR VENDOR AND	INSTALLED BY GENERAL CONTRACTOR'S ELECTRICIAN.			1 EA.	WEATHER STRIPING 160V- MILL	
COL	OR TO BE FACTORY	FINISHED	WHITE; IMPACT R	ESISTANT CO	LING DOOR IN HIGH IN	IPACT ZONES.		10.14			MOK
2. KEY 3 DOC	OUTSIDE. B #12 TO HAVE DO(					SH REGISTER "BIG EVE" VIEWER IN DOOR	0	10, 14	1 EA.	PUSH PLATE 8200 X 4 X 16 - US32D	IVE
4. DOC	OR #5A & #17 TO HA	/E 4" ALUI/	1. HEAD AND THR	ESHOLD		Sintegioren, bid ere viewen in boon.			1 EA.	PULL PLATE 8302-0 X 4 X 16- US 32D	IVE
5. SIGI	NAGE TO BE PROVID	ED BY TSC							1 EA.	CLOSER SC81A X RW/PA X SLIM-689	FAL
6. NOT 7 ALL	E THAT DOORS REQ		VIMUM 10" BOTTC	OM RAIL TO RE	CEIVE KICK PLATES.				3 EA.	SILENCERS SR64- GRY	IVE
8. GEN	IERAL CONTRACTOR		GE OUT CONSTRU	JCTION CORES	S OF ALL HARDWARE F	PRIOR TO TURNOVER OF STORE. KEY AND TURNOVER	7	11, 16	3 EA.	HINGES MPB79 4 1/2 X 4 1/2 NRP- 26D	MCK
DOC	UMENT TO BE SIGN	ED BY G.C.	AND STORE MAN	NAGER.					1 EA.	OFFICE LOCKSET T511 X D X 23981137 X 5164 X 1 3/4-626	FAL
9. ALL	LOCKSETS KEYED T		SH TSC GRANDM	ASTER KEY. E	ESTABLISH A NEW MAS	ITER KEY AND KEY INDIVIDUALLY AS DIRECTED TO			1 EA.	CLOSER SC81A X RW/PA X SLIM-689 (DOOR 11 ONLY)	
10. DOC	)R #1, #2 , #5A, #5B	#15 & #17	7 KEYED ALIKE. D	OOR #12 KEYE	ED SEPARATELY.	NOTZ REISTER LOOK.			3 EA.	SILENCERS SR64- GRY	IVE
11. ELE(	CTRICIAN RESPONSI	BLE FOR M	1AKING FINAL CO	NNECTION BE	TWEEN SECURITY VEN	DOR WORK AND DOOR WIRING.	8	8, 9	3 EA.	HINGES MPB79 4 1/2 X 4 1/2 NRP- 26D	MCK
12. CON	ITRACTOR TO INSTA	LL PLASTIC	CAIR CURTAIN W	ITH 50% PANEL	L OVERLAP @ NEW MA	SONRY OPENING INSIDE NEW DOOR. AIR CURTAIN			1 EA.	PRIVACY LOCKSET T301S X D 23981137 X 5164 X 1 3/4 -626	FAL
13. CON	ITRACTOR TO PROV	DE AND IN	ISTALL DOOR SW	EEPS.		is in hemorit stones.			1 EA.	CLOSER SC81A X RW/PA X SLIM-689	
14. DOC	ORS TO HAVE FLAT T	HRESHOLD	PROVIDED BY D	OOR MANUFA	CTURER.				3 EA.	SILENCERS SR64-GRY	IVE
15. THE		AKE UP TH	E JAMBS AND HE		ROLLING SERVICE DOO		GABLE	FACADE	1 EA.	ACCESS PANEL BXTM-36X36-C	BAB
	WITH THE JAMBS T	HAT EXTEN	IDS ABOVE THE C	OPENING FOR	A MINIMUM OF 30" FOF	ATTACHMENT POINTS. STRUCTURAL SURFACE TO BE	ACCES	S PANEL	1 EA.	DUMMY CYLINDER 7160DC-26D	
CAP	ABLE OF WITHSTAN	DING 1850	LB. POINT FORCE	E IN EITHER TE	NSION, COMPRESSION	NOR SHEAR.			1 EA. 1 FA	GYLINDER CORE 1CC7A2 (GREEN CONSTRUCTION CORE) BALANCE OF HARDWARE BY DOOR SUPPLIER	
16. PRO	VIDE AND INSTALL "	EMPLOYEE	S ONLY" SIGN WH	HERE INDICATI	ED.						



- W/ 2 EACH CRASH RAILS ON INSIDE OF EACH DOOR 18. 72" X 96". 72" X 84" OR 36" X 96" OPENINGS TO BE PROVIDED AS: P11PLUS. WITH 10" X 30" ADA COMPLIANT WINDOWS. 18" TALL BUMPERS.
- COLOR: RED. (OR) OPENINGS 96" X 120" TO BE: DURULITE STANDARD DOORS WITH 20" X 30" ADA COMPLIANT WINDOWS, 36" TALL BUMPERS, COLOR: RED 19. INSTALL CLEAR ANODIZED STOREFRONT FRAMING WITH 1/4" TEMP. CLEAR GLASS SIDELIGHTS. DOOR TO SWING OPEN TO SALES AREA.
- SIDELIGHT GLASS TO ACCEPT 6.25" X 48.85" VINYL FILM, NARROW STILE DOOR WINDOW GLASS TO ACCEPT 30.25" X 57.825" VINYL FILM. 20. ANEMOSTAT WINDOW KIT WITH CLEAR TEMPERED 1/4" GLASS WITH GLAZING TAPE APPLIED (BOTH SHIPPED LOOSE). BY DH PACE.
- 21. SFIC COMPATIBLE HARDWARE. 22. ACCESS PANEL TO BE SUPPLIED AND INSTALLED BY GC.

## FINISH SCHEDULE

ROOM NO.	ROOM	WALLS	CEILING	BASE	FLOOR	REMARKS
101	VESTIBULE	PTD. C.M.U. / STOREFRONT	GYP. BD. CEILING PANELS @ 10'-0" A.F.F.	-	POLISHED CONC.	6, 9
102	RETAIL SALES	PTD. GYP. / C.M.U. (SEMI-GLOSS. WHITE)	EXP. STRUCTURE FACTORY PRIMED (GRAY)	VINYL	POLISHED CONC./ VINYL PLANK	2, 3, 9
103	NOT USED	,				
104	DRESSING ROOM	PRE-FABRICATED WALLS	OPEN TO DECK ABOVE	VINYL	VINYL PLANK	2, 8
105	STOCKROOM	PTD. GYP. / C.M.U. / PLYWOOD (SEMI-GLOSS, WHITE) TO DECK	EXP. STRUCTURE FACTORY PRIMED (GRAY)	-	POLISHED CONC.	9
106	CORRIDOR	PTD. GYP. / F.R.P.	A.C.T. @ 8'-0" A.F.F.	VINYL	POLISHED CONC.	1, 4, 7, 9
107	MANAGER'S OFFICE	PTD. GYP.	A.C.T. @ 8'-0" A.F.F.	VINYL	POLISHED CONC.	1, 4, 9
108	EMPLOYEE LOUNGE	PTD. GYP.	A.C.T. @ 8'-0" A.F.F.	VINYL	POLISHED CONC.	1, 4, 9
109	MEN	PTD. GYP. / C.M.U. / F.R.P.	A.C.T. @ 8'-0" A.F.F.	VINYL	POLISHED CONC.	1, 4, 5, 9
110	WOMEN	PTD. GYP. / C.M.U. / F.R.P.	A.C.T. @ 8'-0" A.F.F.	VINYL	POLISHED CONC.	<b>1</b> , 4, 5, 9
111	IT / ELECTRICAL	PTD. C.M.U. / PLYWOOD (SEMI-GLOSS, WHITE) TO DECK	EXP. STRUCTURE FACTORY PRIMED (GRAY)	-	POLISHED CONC.	9
112	PET WASH	F.R.P. / ALUMINUM MESH	ALUMINUM MESH SCREEN @ 10'-0" A.F.F.	EPOXY	EPOXY	
1. CEILING TIL	.E: 2' x 4' X 3/4" MINER/	AL BOARD, NON-DIRECTIONAL F	ISSURED, MEDIUM TEXTURE, FLAME RESI	STANCE	CLASS A, FLAME	SPREAD

CLASS I 2. VINYL PLANK: TO BE DELIVERED BY TSC; SUPPLIED, PURCHASED AND INSTALLED BY CONTRACTOR. BEVELED EDGE VINYL PLANK TO BE USED AT

EXPOSED TRANSITION OF VINYL PLANK FLOORING TO CONCRETE.

3. RED ACCENT STRIPE @ 10'-3" FROM FINISH FLOOR TO BOTTOM OF STRIPE - 1'-0" STRIPE 4. WALL COLOR TO BE (SW7036 ACCESSIBLE BEIGE). TRIM AND DOORS TO BE (SW1012 POWER GRAY).

5. FRP WAINSCOT TO BE INSTALLED ON ALL NON-MASONRY WALLS 4'-0" A.F.F. COLOR: XA WHITE, FINISH: TEXTURED. 6. GRID STONE GYPSUM CEILING PANELS 1/2" X 2' X 4'

7. FRP WAINSCOT TO BE INSTALLED BEHIND AND ON ALL SIDES OF THE WATER COOLER ALCOVE TO 4'-0" A.F.F. COLOR: XA WHITE, FINISH: TEXTURED.

8. DRESSING ROOM IS PURCHASED AND INSTALLED BY TSC. 9. GENERAL CONTRACTOR RESPONSIBLE FOR ALL CONCRETE REPLACEMENT, TRENCH POUR BACKS AND FILLING/PATCHING BACK OF HOLES 3" OR LARGER AND IN-GROUND ELECTRICAL BOXES NOT IN USE.

HARDWARE SCHEDULE
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\*IF SECONDARY EXIT IS REQUIRED IN STOCKROOM ALARMED EXIT DEVICE ECL-230D-GRAY IS TO BE INSTALLED. ALL LOCKSETS WILL BE FURNISHED CONSTRUCTION KEYED. AT THE END OF THE CONSTRUCTION PERIOD NEW PERMANENT CORES BY INSTAKEY WILL BE FURNISHED TO THE CONTRACTOR WHO WILL THEN CHANGE THEM OUT AND RETURN THE CONSTRUCTION CORES TO THE SUPPLIER.

THERE WILL BE A SEALED CARTON WITH THE SHIPMENT. THE CONTRACTOR IS TO TURN THAT SEALED CARTON OVER TO THE TSC STORE MANAGER AND GET THEIR SIGNATURE ON THE ENCLOSED RECEIPT. FORWARD THAT RECEIPT ALONG WITH THE CONSTRUCTION CORES AND CONTROL KEYS TO THE SUPPLIER "DH PACE". THE ITEMS IN THE SEALED CARTON ARE FOR FUTURE STORE OPERATIONS AND ARE NOT CONSTRUCTION RELATED.

NOTE: TRACTOR SUPPLY COMPANY HAS A NATIONAL ACCOUNT WITH DH PACE FOR DOOR HARDWARE. CONTACT: CHARLES GIRTMAN @ TSCDOORS@DHPACE.COM OR #816.221.0543

DOOR-OPENING FORCE - FIRE DOORS SHALL HAVE THE MINIMUM OPENING FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY. THE FORCE FOR PUSHING OR PULLING OPEN DOORS OTHER THAN FIRE DOORS SHALL BE AS FOLLOWS: 1. INTERIOR HINGED DOOR: 5.0 POUNDS MAXIMUM

2. SLIDING OR FOLDING DOOR: 5.0 POUNDS MAXIMUM THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR DISENGAGE OTHER DEVICES THAT HOLD THE DOOR IN A CLOSED POSITION.

ALL LOCKSETS WILL BE FURNISHED CONSTRUCTION KEYED. AT THE END OF THE CONSTRUCTION PERIOD, NEW PERMANENT CORES BY INSTAKEY WILL BE FURNISHED TO THE CONTRACTOR WHO WILL THEN CHANGE THEM OUT AND RETURN THE CONSTRUCTION CORES TO THE SUPPLIER. THERE WILL BE A SEALED CARTON WITH THE SHIPMENT. THE CONTRACTOR IS TO TURN THAT SEALED CARTON OVER TO THE TSC STORE MANAGER AND GET THEIR SIGNATURE ON THE ENCLOSED RECEIPT. FORWARD THAT RECEIPT ALONG WITH THE CONSTRUCTION CORES AND CONTROL KEYS TO THE SUPPLIER 'MJW'. THE ITEMS IN THE SEALED CARTON ARE FOR FUTURE STORE OPERATIONS AND ARE NOT CONSTRUCTION RELATED.





ELEMENT AS PART OF A CLEAR FLOOR SPACE, THE KNEE CLEARANCE SHALL BE 11 INCHES (280 MM) DEEP MINIMUM AT 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND, AND 8 INCHES (205 MM) DEEP MINIMUM AT 27 INCHES (685 MM) ABOVE THE FINISH FLOOR OR GROUND.

UNDER AN ELEMENT AT 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND. 306.3.3 MINIMUM REQUIRED DEPTH. WHERE KNEE CLEARANCE IS REQUIRED UNDER AN

306.3.2 MAXIMUM DEPTH. KNEE CLEARANCE SHALL EXTEND 25 INCHES (635 MM) MAXIMUM

306.3 KNEE CLEARANCE 306.3.1 GENERAL. SPACE UNDER AN ELEMENT BETWEEN 9 INCHES (230 MM) AND 27 INCHES (685 MM) ABOVE THE FINISH FLOOR OR GROUND SHALLL BE CONSIDERED KNEE CLEARANCE AND SHALL COMPLY WITH 306.3.



FLOOR OR GROUND SHALL NOT BE CONSIDERED TOE CLEARANCE 306.2.5 WIDTH. TOE CLEARANCE SHALL BE 30 INCHES (760 MM) WIDE MINIMUM.

INCHES (430 MM) MINIMUM UNDER THE ELEMENT. 306.2.4 ADDITIONAL CLEARANCE. SPACE EXTENDING GREATER THAN 6 INCHES (150 MM) BEYOND THE AVAILABLE KNEE CLEARANCE AT 9 INCHES (230 MM) ABOVE THE FINISH

306.2.3 MINIMUM REQUIRED DEPTH. WHERE TOE CLEARANCE IS REQUIRED AT AN ELEMENT AS PART OF A CLEAR FLOOR SPACE, THE TOE CLEARANCE SHALL EXTEND 17

AND 9 INCHES (230 MM) ABOVE THE FINISH FLOOR OR GROUND SHALL BE CONSIDERED TOE CLEARANCE AND SHALL COMPLY WITH 306.2. 306.2.2 MAXIMUM DEPTH. TOE CLEARANCE SHALL EXTEND 25 INCHES (635 MM) MAXIMUM UNDER AN ELEMENT.

306.2.1 GENERAL. SPACE UNDER AN ELEMENT BETWEEN THE FINISH FLOOR OR GROUND

306.2 TOE CLEARANCE

FIGURE 305.7.2 MANEUVERING CLEARANCE IN AN ALCOVE PARALLEL APPROACH 306 KNEE AND TOE CLEARANCE





FIGURE 305.7.1 MANEUVERING CLEARANCE IN AN ALCOVE, FORWARD APPROACH



FIGURE 305.5 POSITION OF CLEAR FLOOR OR GROUND SPACE 305.7.1 FORWARD APPROACH . ALCOVES SHALL BE 36 INCHES (915 MM) WIDE MINIMUM WHERE THE DEPTH EXCEEDS 24 INCHES (610 MM).

(A) FORWARD

(B) PARALLEL



60 MIN. 1525

ACCESSIBILITY STANDARDS

302.2 CARPET . CARPET OR CARPET TILE SHALL BE SECURELY ATTACHED AND SHALL HAVE

SHALL HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL CUT/UNCUT PILE

PILE HEIGHT SHALL BE 1/2 INCH (13 MM) MAXIMUM. EXPOSED EDGES OF CARPET SHALL BE

FASTENED TO FLOOR SURFACES AND SHALL HAVE TRIM ON THE ENTIRE LENGTH OF THE

FIGURE 302.2 CARPET PILE HEIGH

PASSAGE OF A SPHERE MORE THAN 1/2 INCH (13 MM) DIAMETER EXCEPT AS ALLOWED IN

407.4.3, 409.4.3, 410.4, 810.5.3 AND 810.10. ELONGATED OPENINGS SHALL BE PLACED SO

THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL.

FIGURE 302.3 ELONGATED OPENINGS IN FLOOR OR GROUND SURFACES

FIGURE 303.2 VERTICAL CHANGE IN LEVEL

303.3 BEVELED. CHANGES IN LEVEL BETWEEN 1/4 INCH (6.4 MM) HIGH MINIMUM AND 1/2

INCH (13 MM) HIGH MAXIMUM SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2

FIGURE 303.3 BEVELED CHANGE IN LEVEL

303.2 VERTICAL. CHANGES IN LEVEL OF 1/4 INCH (6.4 MM) HIGH MAXIMUM SHALL BE

302.3 OPENINGS. OPENINGS IN FLOOR OR GROUND SURFACES SHALL NOT ALLOW

DOMINANT DIRECTION OF TRAVEL-

LONG DIMENSION—

OF TRAVEL

PERMITTED TO BE VERTICAL.

304 TURNING SPACE

PERPENDICULAR TO

DOMINANT DIRECTION

EXPOSED EXPOSED EDGE. CARPET EDGE TRIM SHALL COMPLY WITH 303.

A FIRM CUSHION, PAD, OR BACKING OR NO CUSHION OR PAD. CARPET OR CARPET TILE

CHAPTER 3: BUILDING BLOCKS

302 - FLOOR OR GROUND SURFACES

TEXTURE.



INCH (1525 MM) SQUARE MINIMUM WITH ARMS AND BASE 36 INCHES (915 MM) WIDE MINIMUM, EACH ARM OF THE T SHALL BE CLEAR OF OBSTRUCTIONS 12 INCHES (305 MM) MINIMUM IN EACH DIRECTION AND THE BASE SHALL BE CLEAR OF OBSTRUCTIONS 24 INCHES (610 MM) MINIMUM. THE SPACE SHALL BE PERMITTED TO INCLUDE KNEE AND TOE CLEARANCE COMPLYING WITH 306 ONLY AT THE END OF EITHER THE BASE OR ONE ARM.



304.3.2 T-SHAPED SPACE. THE TURNING SPACE SHALL BE A T-SHAPED SPACE WITHIN A 60



308.2.1 UNOBSTRUCTED. WHERE A FORWARD REACH IS UNOBSTRUCTED, THE HIGH FORWARD REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM AND THE LOW FORWARD REACH SHALL BE 15 INCHES (380 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND. 510-635



FIGURE 308.2.1 UNOBSTRUCTED

308.3 SIDE REACH

10 MAX 7/ \*

**309 OPERABLE PARTS** 

SHALL BE PROVIDED.

RANGES SPECIFIED IN 308.

403 WALKING SURFACES

COMPLY WITH 403.

403.5

PERFORMED.

CHAPTER 4 : ACCESSIBLE ROUTES

COMPLY WITH THE APPLICABLE REQUIREMENTS OF CHAPTER 4.

403.4 CHANGE IN LEVEL. CHANGES IN LEVEL SHALL COMPLY WITH 303.

WALKING SURFACES SHALL BE 36 INCHES (915 MM) MINIMUM.

MINIMUM AND 36 INCHES (915 MM) WIDE MINIMUM.

FIGURE 308.3.1 UNOBSTRUCTED

SIDE REACH

DEPTH OF 24 INCHES (610 MM) MAXIMUM.

SIDE REACH

HIGH FORWARD REACH 308.2.2 OBSTRUCTED HIGH REACH. WHERE A HIGH FORWARD REACH IS OVER AN OBSTRUCTION. THE CLEAR FLOOR SPACE SHALL EXTEND BENEATH THE ELEMENT FOR A DISTANCE NOT LESS THAN REQUIRED REACH DEPTH OVER THE OBSTRUCTION. THE HIGH FORWARD REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM WHERE THE REACH DEPTH IS 20 INCHES (510 MM) MAXIMUM. WHERE THE REACH DEPTH EXCEEDS 20 INCHES (510 MM), THE HIGH FORWARD REACH SHALL BE 44 INCHES (1120 MM) MAXIMUM AND THE REACH DEPTH SHALL BE 25 INCHES (635 MM) MAXIMUM.

BE 15 INCHES (380 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND.

10 MAX

309.3 HEIGHT. OPERABLE PARTS SHALL BE PLACED WITHIN ONE OR MORE OF THE REACH

FIGURE 308.2.2 OBSTRUCTED HIGH FORWARD REACH



307 PROTRUDING OBJECTS

PATH.

<del>\*/\*</del>

(A) ELEVATION

EXCEPTION: HANDRAILS SHALL BE PERMITTED TO PROTRUDE  $4\frac{1}{2}$  INCHES (115 MM)

(B) PLAN

FIGURE 306.3 KNEE CLEARANCE



FINISH FLOOR OR GROUND. EXCEPTION: DOOR CLOSERS AND DOOR STOPS SHALL BE PERMITTED TO BE 78 INCHES



FIGURE 307.2 LIMITS OF PROTRUDING OBJECTS



307.4 VERTICAL CLEARANCE. VERTICAL CLEARANCE SHALL BE 80 INCHES (2030 MM) HIGH MINIMUM. GUARDRAILS OR OTHER BARRIERS SHALL BE PROVIDED WHERE THE VERTICAL CLEARANCE IS LESS THAN 80 INCHES (2030 MM) HIGH. THE LEADING EDGE OF SUCH GUARDRAIL OR BARRIER SHALL BE LOCATED 27 INCHES (685 MM) MAXIMUM ABOVE THE







42 MIN

FIGURE 403.5.2 CLEAR WIDTH AT TURN

403.5.3 PASSING SPACES. AN ACCESSIBLE ROUTE WITH A CLEAR WIDTH LESS THAN 60

INCHES (1525 MM) SHALL PROVIDE PASSING SPACES AT INTERVALS AT 200 FEET (61 M)

MM) MINIMUM. CLEAR OPENINGS OF DOORWAYS WITH SWINGING DOORS SHALL BE

404.2.3 CLEAR WIDTH. DOOR OPENINGS SHALL PROVIDE A CLEAR WIDTH OF 32 INCHES (815

MEASURED BETWEEN THE FACE OF THE DOOR AND THE STOP, WITH THE DOOR OPEN 90

OPENING OF 36 INCHES (915 MM) MINIMUM. THERE SHALL BE NO PROJECTIONS INTO THE

FLOOR OR GROUND. PROJECTIONS INTO THE CLEAR OPENING WIDTH BETWEEN 34 INCHES

(B) SLIDING DOOR

FIGURE 404.2.3 CLEAR WIDTH OF DOORWAYS

AND GATES SHALL COMPLY WITH 404.2.4. MANEUVERING CLEARANCES SHALL EXTEND THE

404.2.4 MANEUVERING CLEARANCES. MINIMUM MANEUVERING CLEARANCES AT DOORS

FULL WIDTH OF THE DOORWAY AND THE REQUIRED LATCH OR HINGE SIDE CLEARANCE.

404.2.4.3 RECESSED DOORS AND GATES. MANEUVERING CLEARANCES FOR FORWARD

APPROACH SHALL BE PROVIDED WHEN ANY OBSTRUCTION WITHIN 18 INCHES (455 MM) OF

THE LATCH SIDE OF A DOORWAY PROJECTS MORE THAN 8 INCHES (205 MM) BEYOND THE

(C) PUSH SIDE, DOOR PROVIDED WITH BOTH CLOSER AND LATCH

FIGURE 404.2.4.3 MANEUVERING CLEARANCES AT RECESSED DOORS AND GATES

404.2.6 DOORS IN SERIES AND GATES IN SERIES, THE DISTANCE BETWEEN TWO HINGED OR

PIVOTED DOORS IN SERIES AND GATES IN SERIES SHALL BE 48 INCHES (1220 MM) MINIMUM

1220

FIGURE 404.2.4.6 DOORS IN SERIES AND GATES IN SERIES

404.2.7 DOOR AND GATE HARDWARE. HANDLES, PULLS, LATCHES, LOCKS, AND OTHER

OPERABLE PARTS ON DOORS AND GATES SHALL COMPLY WITH 309.4. OPERABLE PARTS

OF SUCH HARDWARE SHALL BE 34 INCHES (865 MM) MINIMUM AND 48 INCHES (1220 MM)

MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. WHERE SLIDING DOORS ARE IN THE

FULLY OPEN POSITION, OPERATING HARDWARE SHALL BE EXPOSED AND USABLE FROM

404.2.8.1 DOOR CLOSERS AND GATE CLOSERS. DOOR CLOSERS AND GATE CLOSERS

REQUIRED TO MOVE THE DOOR TO A POSITION OF 12 DEGREES FROM THE LATCH IS 5

404.2.8.2 SPRING HINGES. DOOR AND GATE SPRING HINGES SHALL BE ADJUSTED SO THAT

404.2.9 DOOR AND GATE OPENING FORCE. FIRE DOORS SHALL HAVE A MINIMUM OPENING

FORCE ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY. THE FORCE FOR

PUSHING OR PULLING OPEN A DOOR OR GATE OTHER THAN FIRE DOORS SHALL BE AS

THESE FORCES DO NOT APPLY TO THE FORCE REQUIRED TO RETRACT LATCH BOLTS OR

404.2.10 DOOR AND GATE SURFACES. SWINGING DOOR AND GATE SURFACES WITHIN 10

A SMOOTH SURFACE ON THE PUSH SIDE EXTENDING THE FULL WIDTH OF THE DOOR OR

GATE. PARTS CREATING HORIZONTAL OR VERTICAL JOINTS IN THESE SURFACE SHALL BE

WITHIN  ${\cal X}_6$  INCH (1.6 MM) OF THE SAME PLANE AS THE OTHER. CAVITIES CREATED BY

404.2.11 VISION LIGHTS. DOORS, GATES, AND SIDE LIGHTS ADJACENT TO DOORS OR

GATES, CONTAINING ONE OR MORE GLAZING PANELS THAT PERMIT VIEWING THROUGH

THE PANELS SHALL HAVE THE BOTTOM OF AT LEAST ONE GLAZED PANEL LOCATED 43

404.3 AUTOMATIC AND POWER-ASSISTED DOORS AND GATES. AUTOMATIC DOORS AND

"REFERENCED STANDARDS" IN CHAPTER 1). LOW-ENERGY AND POWER-ASSISTED DOORS

SHALL COMPLY WITH ANSI/BHMA A156.19 (1997 OR 2002 EDITION) (INCORPORATED BY

404.3.2 MANEUVERING CLEARANCE. CLEARANCES AT POWER-ASSISTED DOORS AND

WITHOUT STANDBY POWER AND SERVING AN ACCESSIBLE MEANS OF EGRESS SHALL

404.3.7 REVOLVING DOORS. REVOLVING GATES, AND TURNSTILES. REVOLVING DOORS,

REVOLVING GATES, AND TURNSTILES SHALL NOT BE A PART OF AN ACCESSIBLE ROUTE.

GATES SHALL COMPLY WITH 404.2.4. CLEARANCES AT AUTOMATIC DOORS AND GATES

AUTOMATIC GATES SHALL COMPLY WITH 404.3, FULL-POWERED AUTOMATIC DOORS

SHALL COMPLY WITH ANSI/BHMA A156.10 (INCORPORATED BY REFERENCE, SEE

INCHES (255 MM) OF THE FINISH FLOOR OR GROUND MEASURED VERTICALLY SHALL HAVE

DISENGAGE OTHER DEVICES THAT HOLD THE DOOR OR GATE IN A CLOSED POSITION.

1. INTERIOR HINGED DOORS AND GATES: 5 POUNDS (22.2. N) MAXIMUM.

2. SLIDING OR FOLDING DOORS: 5 POUNDS (22.2 N) MAXIMUM.

FROM THE OPEN POSITION OF 70 DEGREES, THE DOOR OR GATE SHALL MOVED TO THE

SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME

X > 8

FACE OF THE DOOR, MEASURED PERPENDICULAR TO THE FACE OF THE DOOR OR GATE.

REQUIRED CLEAR OPENING WIDTH LOWER THAN 34 INCHES (865 MM) ABOVE THE FINISH

(865 MM) AND 80 INCHES (2030 MM) ABOVE THE FINISH FLOOR OR GROUND SHALL NOT

DEGREES, OPENINGS MORE THAN 24 INCHES (610 MM) DEEP SHALL PROVIDE A CLEAR

36 MIN.

X < 48

(B) 180 DEGREE TURN

(C) FOLDING DOOR

(B) PUSH SIDE

36 MIN.

42 MIN.

MAXIMUM.

X < 48

404 DOORS, DOORWAYS, AND GATES

EXCEED 4 INCHES (100 MM).

815

(A) HINGED DOOR

(A) PULL SIDE

X > 8

48 MIN.

1220

(A) 180 DEGREE TURN





### 308.3.1 UNOBSTRUCTED, WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE SIDE REACH IS UNOBSTRUCTED, THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM AND THE LOW SIDE REACH SHALL



308.3.2 OBSTRUCTED HIGH REACH. WHERE A CLEAR FLOOR OR GROUND SPACE ALLOWS A PARALLEL APPROACH TO AN ELEMENT AND THE HIGH SIDE REACH IS OVER AN DBSTRUCTION, THE HEIGHT OF THE OBSTRUCTION SHALL BE 34 INCHES (865 MM) MAXIMUM AND THE DEPTH OF THE OBSTRUCTION SHALL BE 24 INCHES (610 MM) MAXIMUM. THE HIGH SIDE REACH SHALL BE 48 INCHES (1220 MM) MAXIMUM FOR A REACH DEPTH OF 10 INCHES (255 MM) MAXIMUM. WHERE THE REACH DEPTH EXCEEDS 10 INCHES (255 MM), THE HIGH SIDE REACH SHALL BE 46 INCHES (1170 MM) MAXIMUM FOR A REACH

BOTH SIDES.

FOLLOWS:

SECONDS MINIMUM.

CLOSED POSITION IN 1.5 SECONDS MINIMUM.

ADDED KICK PLATES SHALL BE CAPPED

INCHES (1090 MM) MAXIMUM ABOVE THE FINISH FLOOR.

REFERENCE, SEE 'REFERENCED STANDARDS" IN CHAPTER 1),

CHAPTER 6 : PLUMBING ELEMENTS AND FACILITIES

309.2 CLEAR FLOOR SPACE. A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305

309.4 OPERATION. OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE OPERABLE PARTS SHALL BE 5 POUNDS (22. 2 N) MAXIMUM.

402.2 COMPONENTS. ACCESSIBLE ROUTES SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING COMPONENTS: WALKING SURFACES WITH A RUNNING SLOPE NOT STEEPER THAN 1:20, DOORWAYS, RAMPS, CURB RAMPS EXCLUDING THE FLARED SIDES, ELEVATORS, AND PLATFORM LIFTS. ALL COMPONENTS OF AN ACCESSIBLE ROUTE SHALL

ADVISORY 402.2 COMPONENTS. WALKING SURFACES MUST HAVE RUNNING SLOPES NOT STEEPER THAN 1:20, SEE 403.3. OTHER COMPONENTS OF ACCESSIBLE ROUTES, SUCH AS RAMP (405) AND CURB RAMPS (406), ARE PERMITTED TO BE MORE STEEPLY SLOPED.

403.1 GENERAL. WALKING SURFACES THAT ARE A PART OF AN ACCESSIBLE ROUTE SHALL 403.2 FLOOR OR GROUND SURFACE. FLOOR OR GROUND SURFACE SHALL COMPLY WITH

403.3 SLOPE. THE RUNNING SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:20. THE CROSS SLOPE OF WALKING SURFACES SHALL NOT BE STEEPER THAN 1:48.

403.5 CLEARANCES. WALKING SURFACE SHALL PROVIDE CLEARANCES COMPLYING WITH EXCEPTION : WITHIN EMPLOYEE WORK AREAS, CLEARANCES ON COMMON USE

CIRCULATION PATHS SHALL BE PERMITTED TO BE DECREASED BY WORK AREA EQUIPMENT PROVIDED THAT THE DECREASE IS ESSENTIAL TO THE FUNCTION OF THE WORK BEING

403.5.1 CLEAR WIDTH. EXCEPT AS PROVIDED IN 403.5.2 AND 403.5.3, THE CLEAR WIDTH OF EXCEPTION : THE CLEAR WIDTH SHALL BE PERMITTED TO BE REDUCED TO 32 INCHES (815

MM) MINIMUM FOR A LENGTH OF 24 INCHES (610 MM) MAXIMUM PROVIDED THAT REDUCED WIDTH SEGMENTS ARE SEPARATED BY SEGMENTS THAT ARE 48 INCHES (1220 MM) LONG

**602 DRINKING FOUNTAINS** 

COMPLY WITH 404.2.4.

602.2 CLEAR FLOOR SPACES. UNITS SHALL HAVE A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305 POSITIONED FOR A FORWARD APPROACH AND CENTERED ON THE UNIT. KNEE AND TOE CLEARANCE COMPLYING WITH 306 SHALL BE PROVIDED. EXCEPTION: A PARALLEL APPROACH COMPLYING WITH 305 SHALL BE PERMITTED AT UNITS FOR CHILDREN'S USE WHERE THE SPOUT IS 30 INCHES (760 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND AND IS 3 1/2 INCHES (90 MM) MINIMUM FROM THE FRONT EDGE OF THE UNIT, INCLUDING BUMPERS

602.3 OPERABLE PARTS. OPERABLE PARTS SHALL COMPLY WITH 309.

602.4 SPOUT HEIGHTS. SPOUT OUTLETS SHALL BE 36 INCHES (915 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 602.5 SPOUT LOCATION. THE SPOUT SHALL BE LOCATED 15 INCHES (380 MM) MINIMUM

FROM THE VERTICAL SUPPORT AND 5 INCHES (125 MM) MAXIMUM FROM THE FRONT EDGE OF THE UNIT, INCLUDING BUMPERS.



602.6 WATER FLOW. THE SPOUT SHALL PROVIDE A FLOW OF WATER 4 INCHES (100 MM) HIGH MINIMUM AND SHALL BE LOCATED 5 INCHES (125 MM) MAXIMUM FROM THE FRONT FACE OF THE UNIT. THE ANGLE OF THE WATER STREAM SHALL BE MEASURED HORIZONTALLY RELATIVE TO THE FRONT FACE OF THE UNIT. WHERE SPOUTS ARE LOCATED LESS THAN 3 INCHES (75 MM) OF THE FRONT OF THE UNIT, ANGLE OF THE WATER STREAM SHALL BE 30 DEGREE MAXIMUM. WHERE SPOUTS ARE LOCATED BETWEEN 3 INCHES (75 MM) AND 5 INCHES (125 MM) MAXIMUM FROM THE FRONT OF THE UNIT, THE ANGLE OF THE WATER STREAM SHALL BE 15 DEGREES MAXIMUM.

602.7 DRINKING FOUNTAINS FOR STANDING PERSON. SPOUT OUTLETS OF DRINKING FOUNTAINS FOR STANDING PERSONS SHALL BE 38 INCHES (965 MM) MINIMUM AND 43 INCHES (1090 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 603 TOILET AND BATHING ROOMS

603.2 CLEARANCE. CLEARANCES SHALL COMPLY WITH 603.2

603.2.1 TURNING SPACE. TURNING SPACE COMPLYING WITH 304 SHALL BE PROVIDED WITHIN THE ROOM.

603.2.2 OVERLAP. REQUIRED CLEAR FLOOR SPACES, CLEARANCE AT FIXTURES, AND TURNING SPACE SHALL BE PERMITTED TO OVERLAP.

603.2.3 DOOR SWING. DOORS SHALL NOT SWING INTO THE CLEAR FLOOR SPACE OR CLEARANCE REQUIRED FOR ANY FIXTURE. DOORS SHALL BE PERMITTED TO SWING INTO THE REQUIRED TURNING SPACE.

603.3 MIRRORS. MIRRORS LOCATED ABOVE LAVATORIES OR COUNTERTOPS SHALL BE INSTALLED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 40 INCHES (1015 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. MIRRORS NOT LOCATED ABOVE LAVATORIES OR COUNTERTOPS SHALL BE INSTALLED WITH THE BOTTOM EDGE OF THE REFLECTING SURFACE 35 INCHES (890 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. 603.4 COAT HOOKS AND SHELVES. COAT HOOKS SHALL BE LOCATED WITHIN ONE OF THE

REACH RANGES SPECIFIED IN 308. SHELVES SHALL BE LOCATED 40 INCHES (1015 MM) MINIMUM AND 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR.

604 WATER CLOSETS AND TOILET COMPARTMENTS 604.2 LOCATION. THE WATER CLOSET SHALL BE POSITIONED WITH A WALL OR PARTITION TO THE REAR AND TO ONE SIDE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 16 INCHES (405 MM) MINIMUM TO 18 INCHES (455 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION, EXCEPT THAT THE WATER CLOSET SHALL BE 17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION IN THE AMBULATORY ACCESSIBLE TOILET COMPARTMENT SPECIFIED IN 604.8.2. WATER CLOSETS SHALL BE ARRANGED FOR A LEFT- HAND OR RIGHT- HAND APPROACH.



FIGURE 604.2 LOCATION AT WATER CLOSETS

FIGURE 604.3.1 SIZE OF CLEARANCE AT WATER CLOSETS 604.3.1 SIZE. CLEARANCE AROUND A WATER CLOSET SHALL BE 60 INCHES (1525 MM)

MINIMUM MEASURED PERPENDICULAR FROM THE SIDE WALL AND 60 INCHES (1525 MM MINIMUM MEASURED PERPENDICULAR FROM THE REAR WALL 604.3.2 OVERLAP. THE REQUIRED CLEARANCE AROUND THE WATER CLOSET SHALL BE PERMITTED TO OVERLAP THE WATER CLOSET, ASSOCIATED GRAB BARS, DISPENSERS,

SANITARY NAPKIN DISPOSAL UNITS, COAT HOOKS, SHELVES, ACCESSIBLE ROUTES, CLEAR FLOOR SPACE AND CLEARANCES REQUIRED AT OTHER FIXTURES, AND THE TURNING SPACE. NO OTHER FIXTURES OR OBSTRUCTIONS SHALL BE LOCATED WITHIN THE REQUIRED WATER CLOSET CLEARANCE. 604.4 SEATS. THE SEAT HEIGHT OF A WATER CLOSET ABOVE THE FINISH FLOOR SHALL BE

17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM MEASURED TO THE TOP OF THE SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION. 604.5 GRAB BARS. GRAB BARS FOR WATER CLOSETS SHALL COMPLY WITH 609. GRAB BARS SHALL BE PROVIDED ON THE SIDE WALL CLOSEST TO THE WATER CLOSET AND ON THE REAR WALL.

604.5.1 SIDE WALL. THE SIDE WALL GRAB BAR SHALL BE 42 INCHES (1065 MM) LONG MINIMUM, LOCATED 12 INCHES (305 MM) MAXIMUM FROM THE REAR WALL AND EXTENDING 54 INCHES (1370 MM) MINIMUM FROM THE REAR WALL.



BAR AT WATER CLOSETS 604.5.2 REAR WALL. THE REAR WALL GRAB BAR SHALL BE 36 INCHES (915 MM) LONG MINIMUM AND EXTEND FROM THE CENTERLINE OF THE WATER CLOSET 12 INCHES (305 MM)

FIGURE'604.5.2 REAR WALL GRAB BAR AT WATER CLOSETS

MINIMUM ON ONE SIDE AND 24 INCHES (610 MM) MINIMUM ON THE OTHER SIDE. 604.6 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET EXCEPT IN AMBULATORY ACCESSIBLE COMPARTMENTS COMPLYING WITH 604.8.2 604.7 DISPENSERS. TOILET PAPER DISPENSERS SHALL COMPLY WITH 309.4 AND SHALL BE 7 INCHES (180 MM) MINIMUM AND 9 INCHES (230 MM) MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE

DISPENSER SHALL BE 15 INCHES (380 MM) MINIMUM AND 48 INCHES (1220 MM) MAXIMUM ABOVE THE FINISH FLOOR AND SHALL NOT BE LOCATED BEHIND GRAB BARS. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW.



FIGURE 604.7 DISPENSER OUTLET LOCATION

604.8 TOILET COMPARTMENTS. WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS SHALL MEET THE REQUIREMENTS OF 604.8.1 AND 604.8.3. COMPARTMENTS CONTAINING MORE THAN ONE PLUMBING FIXTURE SHALL COMPLY WITH 603. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL COMPLY WITH 604.8.2 AND 604.8.3. 604.8.1 WHEELCHAIR ACCESSIBLE COMPARTMENTS. WHEELCHAIR ACCESSIBLE

COMPARTMENTS SHALL COMPLY WITH 604.8.1 604.8.1.1 SIZE. WHEELCHAIR ACCESSIBLE COMPARTMENTS SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM MEASURED PERPENDICULAR TO THE SIDE WALL, AND 56 INCHES (1420 MM) DEEP MINIMUM FOR WALL HUNG WATER CLOSETS AND 59 INCHES (1500 MM) DEEP MINIMUM FOR FLOOR MOUNTED WATER CLOSETS MEASURED PERPENDICULAR TO THE

REAR WALL. WHEELCHAIR ACCESSIBLE COMPARTMENTS FOR CHILDREN'S USE SHALL BE 60 INCHES (1525 MM) WIDE MINIMUM MEASURED PERPENDICULAR TO THE SIDE WALL, AND 59 INCHES (1500 MM) DEEP MINIMUM FOR WALL HUNG AND FLOOR MOUNTED WATER CLOSETS MEASURED PERPENDICULAR TO THE REAR WALL.



FIGURE 604.8.1.1 SIZE OF WHEELCHAIR ACCESSIBLE TOILET COMPARTMENTS 604.8.1.2 DOORS. TOILET COMPARTMENT DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 404 EXCEPT THAT IF THE APPROACH IS TO THE LATCH SIDE OF THE COMPARTMENT DOOR, CLEARANCE BETWEEN THE DOOR SIDE OF THE COMPARTMENT AND ANY OBSTRUCTION SHALL BE 42 INCHES (1065 MM) MINIMUM. DOORS SHALL BE LOCATED IN THE FRONT PARTITION OR IN THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE FRONT PARTITION. THE DOOR OPENING SHALL BE 4 INCHES (100 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION FARTHEST FROM THE WATER CLOSET. WHERE LOCATED IN THE SIDE WALL OR PARTITION, THE DOOR OPENING SHALL BE 4 INCHES (100 MM) MAXIMUM FROM THE FRONT PARTITION. THE DOOR

SHALL BE SELF-CLOSING, A DOOR PULL COMPLYING WITH 404.2.7 SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH. TOILET COMPARTMENT DOORS SHALL NOT SWING INTO THE MINIMUM REQUIRED COMPARTMENT AREA.

PLUS THE WIDTH OF DOORS OR GATES SWINGING INTO THE SPACE. 48 MIN. 1220





FIGURE 604.8.1.2 WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT DOORS 604.8.1.3 APPROACH. COMPARTMENTS SHALL BE ARRANGED FOR LEFT- HAND OR RIGHT-HAND APPROACH TO THE WATER CLOSET.

604.8.1.4 TOE CLEARANCE. THE FRONT PARTITION AND AT LEAST ONE SIDE PARTITION SHALL PROVIDE A TOE CLEARANCE OF 9 INCHES (230 MM) MINIMUM ABOVE THE FINISH FLOOR AND 6 INCHES (150 MM) DEEP MINIMUM BEYOND THE COMPARTMENT - SIDE FACE OF THE PARTITION, EXCLUSIVE OF PARTITION SUPPORT MEMBERS. COMPARTMENTS FOR CHILDREN'S USE SHALL PROVIDE A TOE CLEARANCE OF 12 INCHES (305 MM) MINIMUM ABOVE THE FINISH FLOOR.

EXCEPTION: TOE CLEARANCE AT THE FRONT PARTITION IS NOT REQUIRED IN A COMPARTMENT GREATER THAN 62 INCHES (1575 MM) DEEP WITH A WALL - HUNG WATER CLOSET OR 65 INCHES (1650 MM) DEEP WITH A FLOOR - MOUNTED WATER CLOSET. TOE CLEARANCE AT THE SIDE PARTITION IS NOT REQUIRED IN A COMPARTMENT GREATER THAN 66 INCHES (1675 MM) WIDE. TOE CLEARANCE AT THE FRONT PARTITION IS NOT REQUIRED IN A COMPARTMENT FOR CHILDREN'S USE THAT IS GREATER THAN 65 INCHES (1650 MM) DEEP.



FIGURE 604.8.1.4 WHEELCHAIR ACCESSIBLE TOILET COMPARTMENT TOE CLEARANCE 604.8.1.5 GRAB BARS. GRAB BARS SHALL COMPLY WITH 609. A SIDE-WALL GRAB BAR COMPLYING WITH 604.5.1 SHALL BE PROVIDED AND SHALL BE LOCATED ON THE WALL CLOSEST TO THE WATER CLOSET. IN ADDITION, A REAR-WALL GRAB BAR COMPLYING WITH

604.5.2 SHALL BE PROVIDED. 604.8.1.2 AMBULATORY ACCESSIBLE COMPARTMENTS. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL COMPLY WITH 604.8.2.

604.8.1.2.1 SIZE. AMBULATORY ACCESSIBLE COMPARTMENTS SHALL HAVE A DEPTH OF 60 INCHES (1525 MM) MINIMUM AND A WIDTH OF 35 INCHES (890 MM) MINIMUM AND 37 INCHES (940 MM) MAXIMUM.

604.8.2.2 DOORS. TOILET COMPARTMENT DOORS, INCLUDING DOOR HARDWARE, SHALL COMPLY WITH 404, EXCEPT THAT IF THE APPROACH IS TO THE LATCH SIDE OF THE COMPARTMENT DOOR, CLEARANCE BETWEEN THE DOOR SIDE OF THE COMPARTMENT AND ANY OBSTRUCTION SHALL BE 42 INCHES (1065 MM) MINIMUM. THE DOOR SHALL BE SELF-CLOSING. A DOOR PULL COMPLYING WITH 404.2.7 SHALL BE PLACED ON BOTH SIDES OF THE DOOR NEAR THE LATCH. TOILET COMPARTMENT DOORS SHALL NOT SWING INTO THE MINIMUM REQUIRED COMPARTMENT AREA.

604.8.2.3 GRAB BARS, GRAB BARS SHALL COMPLY WITH 609, A SIDE - WALL GRAB BAR COMPLYING WITH 604.5.1 SHALL BE PROVIDED ON BOTH SIDE OF THE COMPARTMENT.



FIGURE 604.8.2 AMBULATORY ACCESSIBLE TOILET COMPARTMENT

604.8.3 COAT HOOKS AND SHELVES. COAT HOOKS SHALL BE LOCATED WITHIN ONE OF THE REACH RANGES SPECIFIED IN 308. SHELVES SHALL BE LOCATED 40 INCHES (1015 MM)

MINIMUM AND 48 INCHES (1220MM) MAXIMUM ABOVE THE FINISH FLOOR. 604.9 WATER CLOSETS AND TOILET COMPARTMENTS FOR CHILDREN'S USE. WATER CLOSETS AND TOILET COMPARTMENTS FOR CHILDREN'S USE SHALL COMPLY WITH 604.9. 604.9.1 LOCATION. THE WATER CLOSET SHALL BE LOCATED WITH A WALL OR PARTITION TO THE REAR AND TO ONE SIDE. THE CENTERLINE OF THE WATER CLOSET SHALL BE 12 INCHES (305 MM) MINIMUM AND 18 INCHES (455 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION, EXCEPT THAT THE WATER CLOSET SHALL BE 17 INCHES (430 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM FROM THE SIDE WALL OR PARTITION IN THE AMBULATORY ACCESSIBLE TOILET COMPARTMENT SPECIFIED IN 604.8.2. COMPARTMENTS SHALL BE ARRANGED FOR LEFT-HAND OR RIGHT-HAND APPROACH TO THE WATER CLOSET.

604.9.2 CLEARANCE. CLEARANCE AROUND A WATER CLOSET SHALL COMPLY WITH 604.3. 604.9.3 HEIGHT. THE HEIGHT OF WATER CLOSETS SHALL BE 11 INCHES (280 MM) MINIMUM AND 17 INCHES (430 MM) MAXIMUM MEASURED TO THE TOP OF THE SEAT. SEATS SHALL NOT BE SPRUNG TO RETURN TO A LIFTED POSITION

604.9.4 GRAB BARS. GRAB BARS FOR WATER CLOSETS SHALL COMPLY WITH 604.5. 604.9.5 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.2 AND 309.4 AND SHALL BE INSTALLED 36 INCHES (915 MM) MAXIMUM ABOVE THE FINISH FLOOR. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET EXCEPT IN AMBULATORY ACCESSIBLE COMPARTMENTS COMPLYING WITH 604.8.2.

604.9.6 DISPENSERS. TOILET PAPER DISPENSERS SHALL COMPLY WITH 309.4 AND SHALL BE 7 INCHES (180 MM) MINIMUM AND 9 INCHES (230 MM) MAXIMUM IN FRONT OF THE WATER CLOSET MEASURED TO THE CENTERLINE OF THE DISPENSER. THE OUTLET OF THE DISPENSER SHALL BE 14 INCHES (355 MM) MINIMUM AND 19 INCHES (485 MM) MAXIMUM ABOVE THE FINISH FLOOR. THERE SHALL BE A CLEARANCE OF 1  $\frac{1}{2}$  INCHES (38 MM) MINIMUM BELOW THE GRAB BAR. DISPENSERS SHALL NOT BE OF A TYPE THAT CONTROLS DELIVERY OR THAT DOES NOT ALLOW CONTINUOUS PAPER FLOW.

605 URINALS 605.2 HEIGHT AND DEPTH. URINALS SHALL BE THE STALL-TYPE OR THE WALL-HUNG TYPE

WITH THE RIM 17INCHES (430 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. URINALS SHALL BE 13 ½ INCHES (345 MM) DEEP MINIMUM MEASURED FROM THE OUTER FACE OF THE URINAL RIM TO THE BACK OF THE FIXTURE.



605.3 CLEAR FLOOR SPACE. A CLEAR FLOOR OR GROUND SPACE COMPLYING WITH 305 POSITIONED FOR FORWARD APPROACH SHALL BE PROVIDED. 605.4 FLUSH CONTROLS. FLUSH CONTROLS SHALL BE HAND OPERATED OR AUTOMATIC. HAND OPERATED FLUSH CONTROLS SHALL COMPLY WITH 309.

606 LAVATORIES AND SINKS 606.2 CLEAR FLOOR SPACE. A CLEAR FLOOR SPACE COMPLYING WITH 305, POSITIONED FOR A FORWARD APPROACH , AND KNEE AND TOE CLEARANCE COMPLYING WITH 306 SHALL BE

PROVIDED. 606.3 HEIGHT. LAVATORIES AND SINKS SHALL BE INSTALLED WITH THE FRONT OF THE

FINISH FLOOR OR GROUND. 606.4 FAUCETS. CONTROLS FOR FAUCETS SHALL COMPLY WITH 309. HAND-OPERATED

606.5 EXPOSED PIPES AND SURFACES. WATER SUPPLY AND DRAIN PIPES UNDER

LAVATORIES AND SINKS.

702 FIRE ALARM SYSTEMS

702.1 GENERAL. FIRE ALARM SYSTEMS SHALL HAVE PERMANENTLY INSTALLED AUDIBLE AND VISIBLE ALARMS COMPLYING WITH NFPA 72 (1999 OR 2002 EDITION) (INCORPORATED BY REFERENCE, SEE "REFERENCED STANDARDS" IN CHAPTER 1), EXCEPT THAT THE MAXIMUM ALLOWABLE SOUND LEVEL OF AUDIBLE NOTIFICATION APPLIANCES COMPLYING WITH SECTION 4-3.2.1 OF NFPA 72 (1999 EDITION) SHALL HAVE A SOUND LEVEL NO MORE THAN 110 DB AT THE MINIMUM HEARING DISTANCE FROM THE AUDIBLE APPLIANCE. IN ADDITION, ALARMS IN GUEST ROOMS REQUIRED TO PROVIDE COMMUNICATION FEATURES SHALL COMPLY WITH SECTIONS 4-3 AND 4-4 OF NFPA 72 (1999 EDITION) OR SECTIONS 7.4 AND 7.5 OF NFPA 72 (2002 EDITION).

703 SIGNS 703.1 GENERAL. SIGNS SHALL COMPLY WITH 703. WHERE BOTH VISUAL AND TACTILE CHARACTERS ARE REQUIRED, EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS OR TWO SEPARATE SIGNS, ONE WITH VISUAL AND ONE WITH TACTILE CHARACTERS, SHALL BE PROVIDED.

703.2 RAISED CHARACTERS. RAISED CHARACTERS SHALL COMPLY WITH 703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 703.4.

703.2.1 DEPTH. RAISED CHARACTERS SHALL BE 1/32 INCH (0.8 MM) MINIMUM ABOVE THEIR BACKGROUND. 703.2.2 CASE. CHARACTERS SHALL BE UPPERCASE.

703.2.3 STYLE. CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. 703.2.4 CHARACTER PROPORTIONS, CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "0" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I". 703.2.5 CHARACTER HEIGHT. CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (16MM) MINIMUM AND 2 INCHES (51 MM)



FIGURE 703.2.5 HEIGHT OF RAISED CHARACTERS 703.2.6 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

703.2.7 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM. WHERE CHARACTERS HAVE OTHER CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/16 INCH (1.6 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE BASE OF THE CROSS SECTIONS, AND 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE TOP OF THE

CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8 INCH (9.5 MM) MINIMUM. 703.2.8 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT

MAXIMUM OF THE RAISED CHARACTER HEIGHT. 703.3 BRAILLE. BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH 703.3 AND 703.4.

703.3.1 DIMENSIONS AND CAPITALIZATION. BRAILLE DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 703.3.1. THE INDICATION OF AN JPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS AND ACRONYMS.

DISTANCE BETWEEN CORRESPONDING	;/		-DISTANCE BETWEEN DOTS IN THE SAME CELL
			- SINGLE BRAILLE CELL
SAME CELL	00 00		BLANK CELL SPACE BETWEEN
			WORDS
	0000	J õõ 🛌	-RAISED DOT
		$\backslash$	BASE DIAMETER
			-NO BAISED DOT

FIGURE 703.3.1 BRAILLE MEASUREMENT 703.3.2 POSITION. BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT. IF FEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8 INCH (9.5 MM) MINIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8 INCH (9.5 MM) MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.



FIGURE 703.3.2 POSITION OF BRAILLE 703.4 INSTALLATION HEIGHT AND LOCATION. SIGNS WITH TACTILE CHARACTERS SHALL

COMPLY WITH 703.4. 703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND. TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1220 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE TO THE LOWEST TACTILE CHARACTER AND 60 INCHES (1525 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST TACTILE CHARACTER



703.4.2 LOCATION. WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18 INCHES (455 MM) MINIMUM BY 18 INCHES (455 MM) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE LOSED POSITION AND 45 DEGREE OPEN POSITION.

FIGURE 703.4.1 HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND



FIGURE 703.4.2 LOCATION OF TACTILE SIGNS AT DOORS

703.5 VISUAL CHARACTERS. VISUAL CHARACTERS SHALL COMPLY WITH 703.5. 703.5.1 FINISH AND CONTRAST. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.

703.5.2 CASE. CHARACTERS SHALL BE UPPERCASE OR LOWERCASE OR A COMBINATION OF BOTH 703.5.3 STYLE. CHARACTERS SHALL BE CONVENTIONAL IN FORM. CHARACTERS SHALL NOT

BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS. 703.5.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "0" IS 55 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

703.5.5 CHARACTER HEIGHT. MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH TABLE 703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPERCASE LETTER "!".

703.5.6 HEIGHT FROM FINISH FLOOR OR GROUND. VISUAL CHARACTERS SHALL BE 40 INCHES (1015 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND. 703.5.7 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LETTER "|" SHALL BE

10 PERCENT MINIMUM AND 30 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER. 703.5.8 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT CHARACTERS, EXCLUDING WORD SPACES. SPACING BETWEEN INDIVIDUAL CHARACTERS SHALL BE 10 PERCENT MINIMUM AND 35 PERCENT MAXIMUM OF CHARACTER HEIGHT.

703.5.9 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE CHARACTER HEIGHT.

703.6 PICTOGRAMS. PICTOGRAMS SHALL COMPLY WITH 703.6. 703.6.1 PICTOGRAM FIELD. PICTOGRAMS SHALL HAVE A FIELD HEIGHT OF 6 INCHES (150MM) MINIMUM. CHARACTERS AND BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD.

SYMBOL ON A LIGHT BACKGROUND.



------ NOT IN PICTOGRAM FIELD

FIGURE 703.6.1 PICTOGRAM FIELD DARK-ON-LIGHT 703.6.2 FINISH AND CONTRAST. PICTOGRAMS AND THEIR FIELD SHALL HAVE A NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST WITH THEIR FIELD WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A LIGHT FIELD. 703.6.3 TEXT DESCRIPTORS. PICTOGRAMS SHALL HAVE TEXT DESCRIPTORS LOCATED

DIRECTLY BELOW THE PICTOGRAM FIELD. TEXT DESCRIPTORS SHALL COMPLY WITH 703.2, 703.3, AND 703.4. 703.7 SYMBOLS OF ACCESSIBILITY. SYMBOLS OF ACCESSIBILITY SHALL COMPLY WITH

703.7. 703.7.1 FINISH AND CONTRAST. SYMBOLS OF ACCESSIBILITY AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. SYMBOLS OF ACCESSIBILITY SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER A LIGHT SYMBOL ON A DARK BACKGROUND OR A DARK

13.5 MIN

FIGURE 605.2 HEIGHT AND DEPTH OF URINALS

(A) WALL HUNG TYPE (B) STALL TYPE

HIGHER OF THE RIM OR COUNTER SURFACE 34 INCHES (865 MM) MAXIMUM ABOVE THE

METERING FAUCETS SHALL REMAIN OPEN FOR 10 SECONDS MINIMUM.

LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER

CHAPTER 7: COMMUNICATION ELEMENTS AND FEATURES

604.9.7 TOILET COMPARTMENTS. TOILET COMPARTMENTS SHALL COMPLY 604.8.





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![](_page_6_Figure_0.jpeg)

![](_page_6_Picture_2.jpeg)

	UNACLAD COLONIAL RED STANDING SEAM METAL ROOFING SYSTEM	
	NON-CORROSIVE METAL SNOW GUARDS	
30'-0" A.F.F.		
TOP OF MASONRY		
26'-0" A.F.F.	GOOSENECK FIXTURES (3 TYPICAL) MOUNTED @ 24'-10" A.F.F., TYP.	
	6" EXPOSURE HARDIE PLANK SIDING	
	TSC SIGNAGE FBO, IBC.	
	UNACLAD COLONIAL RED STANDING SEAM METAL AWNING OVER PAINTED STEEL SUPPORT STRUCTURE.	
	POP SOLUTIONS COLONIAL RED	
FIN FI R	32" SQ. BELDEN BRICK MODULAR COMMODORE VEL (22-52) VENEER COLUMNS	

![](_page_7_Figure_1.jpeg)

![](_page_7_Figure_2.jpeg)

![](_page_7_Picture_3.jpeg)

![](_page_8_Figure_0.jpeg)

![](_page_9_Figure_0.jpeg)

![](_page_10_Figure_0.jpeg)

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![](_page_11_Figure_0.jpeg)

![](_page_12_Figure_0.jpeg)

![](_page_12_Figure_1.jpeg)

![](_page_12_Figure_2.jpeg)

![](_page_12_Figure_3.jpeg)

![](_page_12_Figure_4.jpeg)

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![](_page_13_Figure_0.jpeg)

TOTYPCAL PET WASH         SCALE: NO SCALE	GYP. BD. TO DECK BOTH SIDES. PAINT PURE WHITE ALUMINUM MESH CEILING INSTALLED FRONT TO BACK AT BOTTOM OF METAL STUDS FRP TO 10'-0" A.F.F. CONTRACTOR TOINSTALL 10' SHEETS OF FRP AS REQUIRED, NO HORIZONTAL SEAMS ALLOWED. FRP SEAMS TO HAVE CLEAR SEALANT TO PROVIDE WATER TIGHT SEAL EPOXY FLOOR AND BASE TO BE FINISHED PRIOR TO FRP INSTALLATION HOLD FRP 3" A.F.F. EPOXY FLOOR FINISH TO WRAP UP WALL 4" COVE BASE FIN. FL. 0'-0"
	11 ELEVATIC SCALE: 1/4" = 1'-0"
15 NOT USED	
14 NOT USED	GYP. BD. TO DECK THIS SIDE. PAINT PURE WHITE 3 5/8' MTL. FRAMING @ 16' O.C. TO RUN FRONT TO BACK ALUMINUM MESH CEILING INSTALLED FRONT TO BACK AT BOTTOM OF METAL STUDS FRP TO 10'-0" A.F.F. CONTRACTOR TO INSTALL 10' SHEETS OF FRP AS REQUIRED, NO HORIZONTAL SEAMS ALLOWED. FRP SEAMS TO HAVE CLEAR SEALANT TO PROVIDE WATER TIGHT SEAL EPOXY FLOOR AND BASE TO BE FINISHED PRIOR TO FRP INSTALLATION PET WASH TUB HOLD FRP 3" A.F.F. EPOXY FLOOR FINISH TO WRAP UP WALL 4" COVE BASE FIN. FL. 0'-0" CLEEVACTOR SCALE: 1/4' = 1'-0"
13 NOT USED	GYP. BD. TO DECK THIS SIDE. PAINT PURE WHITE ALUMINUM MESH CEILING INSTALLED FRONT TO BACK AT BOTTOM OF METAL STUDS FRP TO 8'-0" A.F.F. NO HORIZONTAL SEAMS ALLOWED. FRP SEAMS TO HAVE CLEAR SEALANT TO PROVIDE WATER TIGHT SEAL EPOXY FLOOR AND BASE TO BE FINISHED PRIOR TO FRP INSTALLATION HOLD FRP 3" A.F.F. EPOXY FLOOR FINISH TO WRAP UP WALL 4" COVE BASE FIN. FL. 0'-0" CLEEVATION

![](_page_14_Figure_1.jpeg)

BOTTOM OF 12" PAINTED RED -------STRIPE TO BE @ 10'-3" A.F.F.

CONTRACTOR TO PAINT CONDUIT ON EXTERIOR WALLS IN CLOTHING AREA RUST-OLEUM UNIVERSAL HAMMERED ALL SURFACE PAINT + PRIMER BROWN

		$\overline{\}$	
		<u> </u>	

![](_page_15_Figure_4.jpeg)

PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO FLOOR WITH 1ST COAT. PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO 7'-0" A.F.F. WITH REMAINING 2 COATS. PAINT 12'-0" WIDE AROUND ALL OPENINGS FROM FINISH FLOOR TO ROOF DECK IN SALES FLOOR AREA WITH ALL 3 COATS. SEE COLOR & FINISH SCHEDULE ON A0.1.				BOTTOM OF 12" PAINTED RED STRIPE	AT CONVENTIONALLY FRAMED BUILDINGS, LED LIGHTING FIXTURES MOUNT LED FIXTURE ON TO BE MOUNTED FROM BAR JOISTS NOT TO EXCEED 16'-0" A.F.F. ABOVE CEILING FRAMIN MOUNT DIRECTLY TO BAR JOISTS WHEN STRUCTURE IS BELOW 16'-0" A.F.F., SEE A3.0 FOR MOUNTING DETAILS.		
			8" SMOOTH FAC	E C.M.U.			

AND WALL. FIRE EXTINGUISHER, MOUNT PER AHJ. COOR. LOCATION W/ ROOM SIGNAGE

TO DECK AS POSSIBLE BOTTOM OF LOWEST CONSTRUCTION ELEMENT	PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO FLOOR WITH 1ST COAT. PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO 7'-0" A.F.F. WITH REMAINING 2 COATS. PAINT 12'-0" WIDE AROUND ALL OPENINGS FROM FINISH FLOOR TO ROOF DECK IN SALES FLOOR AREA WITH ALL 3 COATS. SEE COLOR & FINISH SCHEDULE ON A0.1.		BOTTOM OF 12" PAINTED RED STRIPE TO BE @ 10'-3" A.F.F.	AT CONVENTIONALLY FRAMED BUILDINGS, LED LIGHTIN FROM BAR JOISTS NOT TO EXCEED 16'-0" A.F.F. MOUNT WHEN STRUCTURE IS BELOW 16'-0" A.F.F., SEE A3.0 FOF	AT CONVENTIONALLY FRAMED BUILDINGS, LED LIGHTING FIXTURES TO BE MOUNTED FROM BAR JOISTS NOT TO EXCEED 16'-0" A.F.F. MOUNT DIRECTLY TO BAR JOISTS WHEN STRUCTURE IS BELOW 16'-0" A.F.F., SEE A3.0 FOR MOUNTING DETAILS.	
		8" SMOOTH F/	CE C.M.U.			

![](_page_15_Figure_9.jpeg)

	MOUNT LED FIXTURES IN STO AS TIGHT TO DECK AS POSSI	DCKROOM	٨	BOTTOM OF LOWEST CONSTRUCTION ELEM TO BE A MINIMUM OF 13'-6' A.F.F.	ENT-	
ITED RED STRIPE TO BE @						THE TOP OF THE O.H. DOOR OPENING AND 12" FROM END OF TRACK. PAINT YELLOW AND STENCIL "MAX LOAD HT"
DPENING						<ul> <li>PAINT INTERIOR FACE OF C.M.U. WALL FROM FLOOR TO DECK IN STOCKROOM. SEE COLOR SCHEDULE ON A0.1.</li> <li>10'-0" X 10'-0" INSULATED DOOR, G.C. TO COOR. W/ OVERHEAD DOOR MANUF. FOR ADDITIONAL STRUCTURE @ DOOR.</li> <li>6" CONCRETE FILLED PIPE BOLLARDS</li> </ul>

# 2 INTERIOR ELEV/SECTION REAR WALL SCALE: 3/16"=1'-0"

# 3 INTERIOR ELEV/SECTION LEFT WALL SCALE: 3/16"=1'-0"

![](_page_15_Picture_13.jpeg)

![](_page_15_Figure_14.jpeg)

	PRE INS COT FLO 24" A.F.	-FAB DRESSING ROOM FALLED BY CONTRACTOR. ISTRUCT AND ANCHOR TO OR AND WALL. X 60" MIRROR MOUNTED AT 18" F. OUTSIDE DRESSING ROOM.

PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO FLOOR WITH 1ST COAT. PAINT INTERIOR FACE OF CMU FROM ROOF DECK DOWN TO 7'-0" A.F.F. WITH REMAINING 2 COATS. PAINT 12'-0" WIDE AROUND ALL OPENINGS FROM FINISH FLOOR TO ROOF DECK IN SALES FLOOR AREA WITH ALL 3 COATS. SEE COLOR & FINISH SCHEDULE ON A0.1.

![](_page_15_Figure_18.jpeg)

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![](_page_16_Figure_0.jpeg)

![](_page_17_Figure_0.jpeg)

![](_page_17_Figure_1.jpeg)

![](_page_17_Picture_2.jpeg)

![](_page_18_Figure_0.jpeg)

SECTION 07500 MEMBRANE ROOFING 2.03 TPO MEMBRANE MATERIALS (THIS PROJECT REQUIRES 45 MIL. MEMBRANE) PART 1 GENERAL 1.01 SUMMARY A. PROJECT NAME: TRACTOR SUPPLY B. FURNISH AND INSTALL ELASTOMERIC SHEET ROOFING SYSTEM, INCLUDING: 1. ROOFING MANUFACTURER'S REQUIREMENTS FOR THE SPECIFIED WARRANTY. 2. PREPARATION OF ROOFING SUBSTRATES. WOOD NAILERS FOR ROOFING ATTACHMENT. 4. INSULATION. 5. ELASTOMERIC MEMBRANE ROOFING. METAL ROOF EDGING AND COPINGS. 7. FLASHINGS. 8. WALKWAY PADS. 9. OTHER ROOFING-RELATED ITEMS SPECIFIED OR INDICATED ON THE DRAWINGS OR OTHERWISE NECESSARY TO PROVIDE A COMPLETE WEATHERPROOF ROOFING SYSTEM. C. DISPOSAL OF DEMOLITION DEBRIS AND CONSTRUCTION WASTE IS THE RESPONSIBILITY OF CONTRACTOR. PERFORM DISPOSAL IN MANNER COMPLYING WITH ALL APPLICABLE FEDERAL. STATE, AND LOCAL REGULATIONS. D. COMPLY WITH THE PUBLISHED RECOMMENDATIONS AND INSTRUCTIONS OF THE ROOFING MEMBRANE MANUFACTURER, AT HTTP://MANUAL.FSBP.COM E. COMMENCEMENT OF WORK BY THE CONTRACTOR SHALL CONSTITUTE ACKNOWLEDGEMENT BY THE CONTRACTOR THAT THIS SPECIFICATION CAN BE SATISFACTORILY EXECUTED, UNDER THE PROJECT CONDITIONS AND WITH ALL NECESSARY PREREQUISITES FOR WARRANTY ACCEPTANCE BY ROOFING MEMBRANE MANUFACTURER. NO MODIFICATION OF THE CONTRACT AGING SUM WILL BE MADE FOR FAILURE TO ADEQUATELY EXAMINE THE CONTRACT DOCUMENTS OR THE PROJECT CONDITIONS. 1.02 REFERENCES AGING A. REFERENCED STANDARDS: THESE STANDARDS FORM PART OF THIS SPECIFICATION ONLY TO THE EXTENT THEY ARE REFERENCED 5. COLOR: WHITE. AS SPECIFICATION REQUIREMENTS. B. ASTM C 1289 - STANDARD SPECIFICATION FOR FACED RIGID CELLULAR POLYISOCYANURATE THERMAL INSULATION BOARD; 2004. C. ASTM C 1549 - STANDARD TEST METHOD FOR DETERMINATION OF SOLAR REFLECTANCE NEAR AMBIENT TEMPERATURE USING A PORTABLE SOLAR REFLECTOMETER; 2004. D. ASTM D 751 - STANDARD TEST METHODS FOR COATED FABRICS E. ASTM D 1079 - STANDARD TERMINOLOGY RELATING TO ROOFING, WATERPROOFING, AND BITUMINOUS MATERIALS; 2005A. F. ASTM D 6878 - STANDARD SPECIFICATION FOR THERMOPLASTIC POLYOLEFIN BASED SHEET ROOFING; 2003. G. CAN-ULC-S770 - STANDARD TEST METHOD DETERMINATION OF L-TERM THERMAL RESISTANCE OF CLOSED-CELL THERMAL INSULATING FOAMS; 2003. H. FM 1-28 - DESIGN WIND LOADS; FACTORY MUTUAL SYSTEM; 2002. I. FM 1-29 - ROOF DECK SECUREMENT AND ABOVE DECK ROOF COMPONENTS; FACTORY MUTUAL SYSTEM; 2005. K. SPRI ES-1 - WIND DESIGN STANDARD FOR EDGE SYSTEMS USED WITH LOW SLOPE ROOFING SYSTEMS; 2003. (ANSI/SPRI ES-1). 1.03 DEFINITIONS A. ROOFING TERMINOLOGY: REFER TO ASTM D 1079 FOR DEFINITION OF TERMS RELATED TO ROOFING WORK NOT OTHERWISE DEFINED IN THE SECTION. B. LTTR: LONG TERM THERMAL RESISTANCE, AS DEFINED BY CAN-ULC \$770. 1.04 SUBMITTALS A. PRODUCT DATA 1. PROVIDE MEMBRANE MANUFACTURER'S PRINTED DATA SUFFICIENT TO SHOW THAT ALL COMPONENTS OF ROOFING SYSTEM, CHARACTERISTICS: INCLUDING INSULATION AND FASTENERS, COMPLY WITH THE SPECIFIED REQUIREMENTS AND WITH THE MEMBRANE MANUFACTURER'S REQUIREMENTS AND RECOMMENDATIONS FOR THE SYSTEM TYPE SPECIFIED; INCLUDE DATA FOR EACH PRODUCT USED IN CONJUNCTION WITH ROOFING MEMBRANE. 2. WHERE UL OR FM REQUIREMENTS ARE SPECIFIED, PROVIDE DOCUMENTATION THAT SHOWS THAT THE ROOFING SYSTEM TO BE INSTALLED IS UL-CLASSIFIED OR FM-APPROVED, AS APPLICABLE; INCLUDE DATA ITEMIZING THE COMPONENTS OF THE 3. R-VALUE (LTTR): CLASSIFIED OR APPROVED SYSTEM. 3. INSTALLATION INSTRUCTIONS: PROVIDE MANUFACTURER'S INSTRUCTIONS TO INSTALLER, MARKED UP TO SHOW EXACTLY HOW ALL COMPONENTS WILL BE INSTALLED; WHERE INSTRUCTIONS ALLOW INSTALLATION OPTIONS, CLEARLY INDICATE WHICH OPTION WILL BE USED. B. SAMPLES: SUBMIT SAMPLES OF EACH PRODUCT TO BE USED. C. SHOP DRAWINGS: PROVIDE: 1. THE ROOF MEMBRANE MANUFACTURER'S STANDARD DETAILS CUSTOMIZED FOR THIS PROJECT FOR ALL RELEVANT CONDITIONS, INCLUDING FLASHINGS, BASE TIE-INS, ROOF EDGES, TERMINATIONS, EXPANSION JOINTS, PENETRATIONS, AND DRAINS. D. SPECIMEN WARRANTY: SUBMIT PRIOR TO STARTING WORK. E. PRE-INSTALLATION NOTICE: COPY TO SHOW THAT MANUFACTURER'S REQUIRED PRE INSTALLATION NOTICE (PIN) HAS BEEN ACCEPTED AND APPROVED BY THE MANUFACTURER. 2.05 METAL ACCESSORIES F. EXECUTED WARRANTY. 1.05 QUALITY ASSURANCE A. APPLICATOR QUALIFICATIONS: ROOFING INSTALLER SHALL HAVE THE FOLLOWING: 1. CURRENT FIRESTONE MASTER CONTRACTOR STATUS. 2. AT LEAST FIVE YEARS EXPERIENCE IN INSTALLING SPECIFIED SYSTEM. 1.06 DELIVERY, STORAGE AND HANDLING A. DELIVER PRODUCTS IN MANUFACTURER'S ORIGINAL CONTAINERS, DRY AND UNDAMAGED, WITH SEALS AND LABELS INTACT AND LEGIBLE. B. STORE MATERIALS CLEAR OF GROUND AND MOISTURE WITH WEATHER PROTECTIVE COVERING. C. KEEP COMBUSTIBLE MATERIALS AWAY FROM IGNITION SOURCES.

1.07 WARRANTY

A. COMPLY WITH ALL WARRANTY PROCEDURES REQUIRED BY MANUFACTURER, INCLUDING NOTIFICATIONS, SCHEDULING, AND INSPECTIONS.

- B. WARRANTY: FIRESTONE 15 YEAR RED SHIELD LIMITED WARRANTY COVERING MEMBRANE, ROOF INSULATION, AND MEMBRANE ACCESSORIES. 1. LIMIT OF LIABILITY: NO DOLLAR LIMITATION.
- 2. SCOPE OF COVERAGE: REPAIR LEAKS IN THE ROOFING SYSTEM CAUSED BY:
- a. ORDINARY WEAR AND TEAR OF THE ELEMENTS. b. MANUFACTURING DEFECT IN FIRESTONE BRAND MATERIALS.
- c. DEFECTIVE WORKMANSHIP USED TO INSTALL THESE MATERIALS.
- d. DAMAGE DUE TO WINDS UP TO 55 MPH (88 KM/H). 3. NOT COVERED:
- a. DAMAGE DUE TO WINDS IN EXCESS OF 55 MPH (88 KM/H). b. DAMAGE DUE HURRICANES OR TORNADOES.
- c. HAIL.
- d. INTENTIONAL DAMAGE. e. UNINTENTIONAL DAMAGE DUE TO NORMAL ROOFTOP INSPECTIONS, MAINTENANCE, OR SERVICE.
- PART 2 PRODUCTS
- 2.01 MANUFACTURERS A. ACCEPTABLE MANUFACTURER - ROOFING SYSTEM: FIRESTONE BUILDING PRODUCTS CO., INDIANAPOLIS, IN.
- WWW FIRESTONEBPCO.COM. 1. ROOFING SYSTEMS MANUFACTURED BY OTHERS ARE ACCEPTABLE PROVIDED THE ROOFING SYSTEM IS COMPLETELY
- EQUIVALENT IN MATERIALS AND WARRANTY CONDITIONS AND THE MANUFACTURER MEETS THE FOLLOWING QUALIFICATIONS:
- a. SPECIALIZING IN MANUFACTURING THE ROOFING SYSTEM TO BE PROVIDED. b. MINIMUM TEN YEARS OF EXPERIENCE MANUFACTURING THE ROOFING SYSTEM TO BE PROVIDED.
- c. ABLE TO PROVIDE A NO DOLLAR LIMIT, SINGLE SOURCE ROOF SYSTEM WARRANTY THAT IS BACKED BY CORPORATE ASSETS IN EXCESS OF ONE BILLION DOLLARS.
- d. ISO 9002 CERTIFIED.
- e. ABLE TO PROVIDE ISOCYANURATE INSULATION THAT IS PRODUCED IN OWN FACILITIES.
- f. ROOFING SYSTEMS MANUFACTURED BY THE COMPANIES LISTED BELOW ARE ACCEPTABLE PROVIDED THEY ARE COMPLETELY EQUIVALENT IN MATERIALS AND WARRANTY CONDITIONS:
- 1) VERSICO 2) CARLISLE SYNTEC SYSTEMS.
- 3) GAF
- B. MANUFACTURER OF INSULATION AND COVER BOARDS: SAME MANUFACTURER AS ROOF MEMBRANE. C. MANUFACTURER OF METAL ROOF EDGING: SAME MANUFACTURER AS ROOF MEMBRANE.
- 1. METAL ROOF EDGING PRODUCTS BY OTHER MANUFACTURERS ARE NOT ACCEPTABLE
- D. SUBSTITUTION PROCEDURES: SEE INSTRUCTIONS TO BIDDERS. 1. SUBMIT EVIDENCE THAT THE PROPOSED SUBSTITUTION COMPLIES WITH THE SPECIFIED REQUIREMENTS.
- 2.02 ROOFING SYSTEM DESCRIPTION
- A. ROOFING SYSTEM: 1. MEMBRANE: THERMOPLASTIC OLEFIN (TPO).
- 2. THICKNESS: AS SPECIFIED ELSEWHERE.
- MEMBRANE ATTACHMENT: MECHANICALLY ATTACHED WITH PLATES IN SEAMS. 4. COMPLY WITH APPLICABLE LOCAL BUILDING CODE REQUIREMENTS.
- 5. PROVIDE ASSEMBLY HAVING UNDERWRITERS LABORATORIES, INC. (UL) CLASS A FIRE HAZARD CLASSIFICATION.
- 6. PROVIDE ASSEMBLY COMPLYING WITH FACTORY MUTUAL CORPORATION (FM) ROOF ASSEMBLY CLASSIFICATION, FM DS 1-28 AND 1-29, AND MEETING MINIMUM REQUIREMENTS OF FM 1-75 WIND UPLIFT RATING.
- 7. PROVIDE ASSEMBLY TO MEET THE FOLLOWING MINIMUM DESIGN UPLIFT-RESISTANCE CAPACITIES:
- -SEE STRUCTURAL SHEET S5.0. B. INSULATION:
- 1. TOTAL R VALUE: 30, MINIMUM.
- 2. MAXIMUM BOARD THICKNESS: 3.25 INCHES (63 MM); USE AS MANY LAYERS AS NECESSARY; STAGGER JOINTS IN ADJACENT
- 3. BASE LAYER: POLYISOCYANURATE FOAM BOARD, NON-COMPOSITE.
- a. ATTACHMENT: LOOSE LAID, NO ATTACHMENT. 4. TOP LAYER: POLYISOCYANURATE FOAM BOARD, NON-COMPOSITE.
- a. ATTACHMENT: MECHANICAL FASTENING

A. MEMBRANE: FLEXIBLE, HEAT WELDABLE SHEET COMPOSED OF THERMOPLASTIC POLYOLEFIN POLYMER AND ETHYLENE PROPYLENE RUBBER; COMPLYING WITH ASTM D 6878, WITH POLYESTER WEFT INSERTED REINFORCEMENT AND THE FOLLOWING ADDITIONAL CHARACTERISTICS: 1. THICKNESS: 0.045 INCH (1.14 MM) PLUS/MINUS 10 PERCENT, WITH COATING THICKNESS OVER REINFORCEMENT OF

0.015 INCH (0.38 MM) FOR 45 MIL PLUS/MINUS 10 PERCENT. REFER TO ASTM D7635 STANDARD TEST METHOD FOR MEASUREMENT OF THICKNESS OF COATINGS OVER FABRIC REINFORCEMENT. 2. SHEET WIDTH: PROVIDE SHEETS OF WIDTH NECESSARY TO ACCOMMODATE BATTEN SPACING REQUIRED BY MANUFACTURER FOR PROJECT CONDITIONS.

3. PUNCTURE RESISTANCE: 265 LBF (1174 N), MINIMUM, WHEN TESTED IN ACCORDANCE FTM 101C METHOD 2031. 4. SOLAR REFLECTANCE: 0.79, MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM C 1549. 5. COLOR: WHITE.

6. ACCEPTABLE PRODUCT: ULTRAPLY TPO BY FIRESTONE.

B. MEMBRANE FASTENERS: TYPE AND SIZE AS REQUIRED BY ROOF MEMBRANE MANUFACTURER FOR ROOFING SYSTEM AND WARRANTY TO BE PROVIDED; USE ONLY FASTENERS FURNISHED BY ROOF MEMBRANE MANUFACTURER. C. CURB AND PARAPET FLASHING: SAME MATERIAL AS MEMBRANE, WITH ENCAPSULATED EDGE WHICH ELIMINATES NEED FOR SEAM SEALING THE FLASHING-TO-ROOF SPLICE; PRECUT TO 18 INCHES (457 MM) WIDE. D. FORMABLE FLASHING: NON-REINFORCED, FLEXIBLE, HEAT WELDABLE SHEET, COMPOSED OF THERMOPLASTIC POLYOLEFIN POLYMER AND ETHYLENE PROPYLENE RUBBER.

1. THICKNESS: 0.045 INCH (1.14 MM) PLUS/MINUS 10 PERCENT. 2. TENSILE STRENGTH: 1550 PSI (10.7 MPA), MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM D 638 AFTER HEAT

3. ELONGATION AT BREAK: 650 PERCENT, MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM D 638 AFTER HEAT 4. TEARING STRENGTH: 12 LBF (53 N), MINIMUM, WHEN TESTED IN ACCORDANCE WITH ASTM D 1004 AFTER HEAT AGING.

6. ACCEPTABLE PRODUCT: ULTRAPLY TPO FLASHING BY FIRESTONE

E. TAPE FLASHING: 5-1/2 INCH (140 MM) NOMINAL WIDE TPO MEMBRANE LAMINATED TO CURED RUBBER POLYMER SEAMING TAPE, OVERALL THICKNESS 0.065 INCH (1.6 MM) NOMINAL; TPO QUICKSEAM FLASHING BY FIRESTONE. F. POURABLE SEALER: TWO-PART POLYURETHANE, TWO-COLOR FOR RELIABLE MIXING; POURABLE SEALER BY FIRESTONE. G. SEAM PLATES: STEEL WITH BARBS AND GALVALUME COATING; CORROSION-RESISTANCE COMPLYING WITH FM 4470. H. TERMINATION BARS: ALUMINUM BARS WITH INTEGRAL CAULK LEDGE; 1.3 INCHES (33 MM) WIDE BY 0.10 INCH (2.5 MM) THICK; FIRESTONE TERMINATION BAR BY FIRESTONE. I. CUT EDGE SEALANT: SYNTHETIC RUBBER-BASED, FOR USE WHERE MEMBRANE REINFORCEMENT IS EXPOSED; ULTRAPLY TPO CUT EDGE SEALANT BY FIRESTONE.

J. GENERAL PURPOSE SEALANT: EPDM-BASED, ONE PART, WHITE GENERAL PURPOSE SEALANT; ULTRAPLY TPO GENERAL PURPOSE SEALANT BY FIRESTONE. K. MOLDED FLASHING ACCESSORIES: UNREINFORCED TPO MEMBRANE PRE-MOLDED TO SUIT A VARIETY OF FLASHING DETAILS, INCLUDING PIPE BOOTS, INSIDE CORNERS, OUTSIDE CORNERS, ETC.; ULTRAPLY TPO SMALL AND LARGE PIPE

FLASHING BY FIRESTONE. L. ROOF WALKWAY PADS: NON-REINFORCED TPO WALKWAY PADS, 0.130 INCH (3 MM) BY 30 INCHES (760 MM) BY 50 FEET (15.24 M) LONG WITH PATTERNED TRAFFIC BEARING SURFACE; ULTRAPLY TPO WALKWAY PADS BY FIRESTONE.

2.04 ROOF INSULATION AND COVER BOARDS

A. POLYISOCYANURATE BOARD INSULATION: CLOSED CELL POLYISOCYANURATE FOAM WITH BLACK GLASS REINFORCED MAT LAMINATED TO FACES, COMPLYING WITH ASTM C 1289 TYPE I CLASS 1, WITH THE FOLLOWING ADDITIONAL 1. THICKNESS: AS INDICATED ELSEWHERE.

2. SIZE: 48 INCHES (1220 MM) BY 96 INCHES (2440 MM), NOMINAL a. EXCEPTION: INSULATION TO BE ATTACHED USING ADHESIVE OR ASPHALT MAY BE NO LARGER THAN 48 INCHES (1220 MM) BY 48 INCHES (1220 MM), NOMINAL.

a. 1.0 INCH (25 MM) THICKNESS: 5.6, MINIMUM. b. 1.5 INCH (38 MM) THICKNESS: 8.5, MINIMUM.

c. 2.0 INCH (51 MM) THICKNESS: 11.4, MINIMUM.

d. 2.5 INCH (64 MM) THICKNESS: 14.4, MINIMUM. 4. COMPRESSIVE STRENGTH: 20 PSI (138 KPA) WHEN TESTED IN ACCORDANCE WITH ASTM C 1289.

5. OZONE DEPLETION POTENTIAL: ZERO; MADE WITHOUT CFC OR HCFC BLOWING AGENTS. RECYCLED CONTENT: 19 PERCENT POST-CONSUMER AND 15 PERCENT POST-INDUSTRIAL, AVERAGE. B. INSULATION FASTENERS: TYPE AND SIZE AS REQUIRED BY ROOF MEMBRANE MANUFACTURER FOR ROOFING SYSTEM

AND WARRANTY TO BE PROVIDED; USE ONLY FASTENERS FURNISHED BY ROOF MEMBRANE MANUFACTURER.

A. METAL ROOF EDGING AND FASCIA: CONTINUOUS METAL EDGE MEMBER SERVING AS TERMINATION OF ROOF MEMBRANE AND RETAINER FOR METAL FASCIA; WATERTIGHT WITH NO EXPOSED FASTENERS; MOUNTED TO ROOF EDGE NAILEH 1. WIND PERFORMANCE:

a. MEMBRANE PULL-OFF RESISTANCE: 100 LBS/FT (1460 N/M), MINIMUM, WHEN TESTED IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHOD RE-1, CURRENT EDITION. b. FASCIA PULL-OFF RESISTANCE: AT LEAST THE MINIMUM REQUIRED WHEN TESTED IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHOD RE-2, CURRENT EDITION. C. PROVIDE PRODUCT LISTED IN CURRENT FACTORY MUTUAL RESEARCH CORPORATION APPROVAL GUIDE WITH AT

LEAST FM 1-270 RATING. 2. DESCRIPTION: TWO-PIECE; EXTRUDED ALUMINUM T-SHAPED EDGE MEMBER SECURING TOP AND BOTTOM EDGES OF FLAT-FACED FORMED METAL FASCIA; FIRESTONE ANCHORGARD. 3. FASCIA FACE HEIGHT: VERIFY WITH THICKNESS OF INSULATION.

4. EDGE MEMBER HEIGHT ABOVE NAILER: 1-1/4 INCHES (31 MM).

5. FASCIA MATERIAL AND FINISH: 0.040 INCH (1.0 MM) THICK FORMED ALUMINUM, NATURAL MILL FINISH; MATCHING CONCEALED JOINT SPLICE PLATES; FACTORY-INSTALLED PROTECTIVE PLASTIC FILM. 6. LENGTH: 120 INCHES (3048 MM).

7. FUNCTIONAL CHARACTERISTICS: FASCIA RETAINER SUPPORTS WHILE ALLOWING FOR FREE THERMAL CYCLING OF 8. ALUMINUM BAR: CONTINUOUS 6063-T6 ALLOY ALUMINUM EXTRUSION WITH PRE-PUNCHED SLOTTED HOLES; MITERS WELDED; INJECTION MOLDED EPDM SPLICES TO ALLOW THERMAL EXPANSION. 9. ANCHOR BAR CLEAT: 20 GAGE, 0.036 INCH (0.9 MM) G90 COATED COMMERCIAL TYPE GALVANIZED STEEL WITH

PRE-PUNCHED HOLES. 10. CURVED APPLICATIONS: FACTORY MODIFIED.

11. FASTENERS: FACTORY-PROVIDED CORROSION RESISTANT FASTENERS, WITH DRIVERS; NO EXPOSED FASTENERS PERMITTED.

12. SPECIAL SHAPED COMPONENTS: PROVIDE FACTORY-FABRICATED PIECES NECESSARY FOR COMPLETE INSTALLATION, INCLUDING MITERS, SCUPPERS, AND END CAPS; MINIMUM 14 INCH (355 MM) LONG LEGS ON CORNER PIECES. 13. SCUPPERS: WELDED WATERTIGHT

14. ACCESSORIES: PROVIDE MATCHING BRICK WALL CAP, DOWNSPOUT, EXTENDERS, AND OTHER SPECIAL FABRICATIONS AS SHOWN ON THE DRAWINGS. B. PARAPET COPINGS: FORMED METAL COPING WITH GALVANIZED STEEL ANCHOR/SUPPORT CLEATS FOR CAPPING ANY PARAPET WALL: WATERTIGHT, MAINTENANCE FREE, WITHOUT EXPOSED FASTENERS: BUTT TYPE JOINTS WITH CONCEALED SPLICE PLATES; MECHANICALLY FASTENED AS INDICATED; FIRESTONE PTCF.

1. WIND PERFORMANCE: a. AT LEAST THE MINIMUM REQUIRED WHEN TESTED IN ACCORDANCE WITH ANSI/SPRI ES-1 TEST METHOD RE-3, CURRENT EDITION.

b. PROVIDE PRODUCT LISTED IN CURRENT FACTORY MUTUAL RESEARCH CORPORATION APPROVAL GUIDE WITH AT LEAST FM 1-180 RATING. 2. DESCRIPTION: COPING SECTIONS ALLOWED TO EXPAND AND CONTRACT FREELY WHILE LOCKED IN PLACE ON

ANCHOR CLEATS BY MECHANICAL PRESSURE FROM HARDENED STAINLESS STEEL SPRINGS FACTORY ATTACHED TO ANCHOR CLEATS; 8 INCH (200 MM) WIDE SPLICE PLATES WITH FACTORY APPLIED DUAL NON-CURING SEALANT STRIPS CAPABLE OF PROVIDING WATERTIGHT SEAL. 3. MATERIAL AND FINISH: 24 GA. THICK FORMED ALUMINUM, CLEAR ANODIZED FINISH; MATCHING CONCEALED JOINT

SPLICE PLATES; FACTORY-INSTALLED PROTECTIVE PLASTIC FILM. 4. DIMENSIONS: a. WALL WIDTH: AS INDICATED ON THE DRAWINGS.

b. PIECE LENGTH: MINIMUM 120 INCHES (3048 MM).

c. CURVED APPLICATION: FACTORY FABRICATED IN TRUE RADIUS. 5. ANCHOR/SUPPORT CLEATS: 20 GAGE, 0.036 INCH (0.9 MM) THICK PREPUNCHED GALVANIZED CLEAT WITH 12 INCH (305 MM) WIDE STAINLESS STEEL SPRING MECHANICALLY LOCKED TO CLEAT AT 72 INCHES (1820 MM) ON CENTER. 6. SPECIAL SHAPED COMPONENTS: PROVIDE FACTORY-FABRICATED PIECES NECESSARY FOR COMPLETE INSTALLATION, INCLUDING MITERS, CORNERS, INTERSECTIONS, CURVES, PIER CAPS, AND END CAPS; MINIMUM 14 INCH (355 MM) LONG LEGS ON CORNER, INTERSECTION, AND END PIECES.

7. FASTENERS: FACTORY-FURNISHED; ELECTROLYTICALLY COMPATIBLE; MINIMUM PULL OUT RESISTANCE OF 240 POUNDS (109 KG) FOR ACTUAL SUBSTRATE USED; NO EXPOSED FASTENERS.

PART 3 INSTALLATION 3.01 GENERAL

FASCIA

A. INSTALL ROOFING, INSULATION, FLASHINGS, AND ACCESSORIES IN ACCORDANCE WITH ROOFING MANUFACTURER'S PUBLISHED INSTRUCTIONS AND RECOMMENDATIONS FOR THE SPECIFIED ROOFING SYSTEM. WHERE MANUFACTURER PROVIDES NO INSTRUCTIONS OR RECOMMENDATIONS, FOLLOW GOOD ROOFING PRACTICES AND INDUSTRY STANDARDS. COMPLY WITH FEDERAL, STATE, AND LOCAL REGULATIONS. B. OBTAIN ALL RELEVANT INSTRUCTIONS AND MAINTAIN COPIES AT PROJECT SITE FOR DURATION OF INSTALLATION PERIOD.

## 3.02 EXAMINATION

- A. EXAMINE ROOF DECK TO DETERMINE THAT IT IS SUFFICIENTLY RIGID TO SUPPORT INSTALLERS AND THEIR MECHANICAL EQUIPMENT AND THAT DEFLECTION WILL NO STRAIN OR RUPTURE ROOF COMPONENTS OR DEFORM DECK.
- B. VERIFY THAT SURFACES AND SITE CONDITIONS ARE READY TO RECEIVE WORK. CORRECT DEFECTS IN THE SUBSTRATE BEFORE COMMENCING WITH ROOFING WORK.
- C. EXAMINE ROOF SUBSTRATE TO VERIFY THAT IT IS PROPERLY SLOPED TO DRAINS.
- D. VERIFY THAT THE SPECIFICATIONS AND DRAWING DETAILS ARE WORKABLE AND NOT IN CONFLICT WITH THE ROOFING MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS; START OF WORK CONSTITUTES ACCEPTABLE OF PROJECT CONDITIONS AND REQUIREMENTS.
- E. VERIFY THAT WOOD NAILERS HAVE BEEN PROPERLY INSTALLED.
- 3.03 PREPARATION A. TAKE APPROPRIATE MEASURES TO ENSURE THAT FUMES FROM ADHESIVE SOLVENTS ARE NOT DRAWN INTO THE
- BUILDING THROUGH AIR INTAKES. B. PRIOR TO PROCEEDING, PREPARE ROOF SURFACE SO THAT IT IS CLEAN, DRY, AND SMOOTH, AND FREE OF SHARP EDGES, FINS, ROUGHENED SURFACES, LOOSE OR FOREIGN MATERIALS, OIL, GREASE AND OTHER MATERIALS THAT
- MAY DAMAGE THE MEMBRANE. C. FILL ALL SURFACE VOIDS IN THE IMMEDIATE SUBSTRATE THAT ARE GREATER THAN 1/4 INCH (6 MM) WIDE WITH FILL
- MATERIAL ACCEPTABLE INSULATION TO MEMBRANE MANUFACTURER. D. SEAL, GROUT, OR TAPE DECK JOINTS, WHERE NEEDED, TO PREVENT BITUMEN SEEPAGE INTO BUILDING.
- 3.04 INSULATION AND COVER BOARD INSTALLATION A. INSTALL INSULATION IN CONFIGURATION AND WITH ATTACHMENT METHOD(S) SPECIFIED IN PART 2, UNDER ROOFING
- SYSTEM. B. INSTALL ONLY AS MUCH INSULATION AS CAN BE COVERED WITH THE COMPLETED ROOFING SYSTEM BEFORE THE END OF THE DAY'S WORK OR BEFORE THE ONSET OF INCLEMENT WEATHER.
- C. LAY ROOF INSULATION IN COURSES PARALLEL TO ROOF EDGES. D. NEATLY AND TIGHTLY FIT INSULATION TO ALL PENETRATIONS, PROJECTIONS, AND NAILERS, WITH GAPS NOT GREATER THAN 1/4 INCH (6 MM). FILL GAPS GREATER THAN 1/4 INCH (6 MM) WITH ACCEPTABLE INSULATION. DO NOT LEAVE THE ROOFING MEMBRANE UNSUPPORTED OVER A SPACE GREATER THAN 1/4 INCH (6 MM). E. LOOSE LAID INSTALLATION: INSTALL INSULATION BY LAYING LOOSE OVER SUBSTRATE WITHOUT MECHANICAL
- SECUREMENT OF ANY KIND. F. MECHANICAL FASTENING: USING SPECIFIED FASTENERS AND INSULATION PLATES ENGAGE FASTENERS THROUGH INSULATION INTO DECK TO DEPTH AND IN PATTERN REQUIRED BY FACTORY MUTUAL FOR FM CLASS SPECIFIED IN
- PART 2 AND MEMBRANE MANUFACTURER, WHICHEVER IS MORE STRINGENT. 3.05 ELASTOMERIC MEMBRANE INSTALLATION
- A. BEGINNING AT LOW POINT OF ROOF, PLACE MEMBRANE WITHOUT STRETCHING OVER SUBSTRATE AND ALLOW TO RELAX AT LEAST 30 MINUTES BEFORE ATTACHMENT OR SPLICING; IN COLDER WEATHER ALLOW FOR LONGER RELAX TIME.
- B. LAY OUT THE MEMBRANE PIECES SO THAT FIELD AND FLASHING SPLICES ARE INSTALLED TO SHED WATER. C. INSTALL MEMBRANE WITHOUT WRINKLES AND WITHOUT GAPS OR FISHMOUTHS IN SEAMS; BOND AND TEST SEAMS
- AND LAPS IN ACCORDANCE WITH MEMBRANE MANUFACTURER'S INSTRUCTIONS AND DETAILS. D. EDGE SECUREMENT: SECURE MEMBRANE AT ALL LOCATIONS WHERE MEMBRANE TERMINATES OR GOES THROUGH AN ANGLE CHANGE GREATER THAN 2 IN 12 INCHES (1:6 ) USING MECHANICALLY FASTENED REINFORCED PERIMETER FASTENING STRIPS, PLATES, OR METAL EDGING AS INDICATED OR AS RECOMMENDED BY ROOFING MANUFACTURER.
- EXCEPTIONS: ROUND PIPE PENETRATIONS LESS THAN 18 INCHES (460 MM) IN DIAMETER AND SQUARE PENETRATIONS LESS THAN 4 INCHES (200 MM) SQUARE.
- 2. METAL EDGING IS NOT MERELY DECORATIVE; ENSURE ANCHORAGE OF MEMBRANE AS INTENDED BY ROOFING MANUFACTURER.
- 3.06 FLASHING AND ACCESSORIES INSTALLATION

A. INSTALL FLASHINGS, INCLUDING LAPS, SPLICES, JOINTS, BONDING, ADHESION, AND ATTACHMENT, AS REQUIRED BY MEMBRANE MANUFACTURER'S RECOMMENDATIONS AND DETAILS. B. METAL ACCESSORIES: INSTALL METAL EDGINGS, GRAVEL STOPS, AND COPINGS IN LOCATIONS INDICATED ON THE DRAWINGS, WITH HORIZONTAL LEG OF EDGE MEMBER OVER MEMBRANE AND FLASHING OVER METAL ONTO MEMBRANE.

- 1. FOLLOW ROOFING MANUFACTURER'S INSTRUCTIONS. REMOVE PROTECTIVE PLASTIC SURFACE FILM IMMEDIATELY BEFORE INSTALLATION.
- INSTALL WATER BLOCK SEALANT UNDER THE MEMBRANE ANCHORAGE LEG.
- FLASH WITH MANUFACTURER'S RECOMMENDED FLASHING SHEET UNLESS OTHERWISE INDICATED WHERE SINGLE APPLICATION OF FLASHING WILL NOT COMPLETELY COVER THE METAL FLANGE, INSTALL
- ADDITIONAL PIECE OF FLASHING TO COVER THE METAL EDGE. 6. IF THE ROOF EDGE INCLUDES A GRAVEL STOP AND SEALANT IS NOT APPLIED BETWEEN THE LAPS IN THE METAL
- EDGING, INSTALL AN ADDITIONAL PIECE OF SELF-ADHESIVE FLASHING MEMBRANE OVER THE METAL LAP TO THE TOP OF THE GRAVEL STOP; APPLY SEAM EDGE TREATMENT AT THE INTERSECTIONS OF THE TWO FLASHING SECTIONS. 7. WHEN THE ROOF SLOPE IS GREATER THAN 1:12, APPLY SEAM EDGE TREATMENT ALONG THE BACK EDGE OF THE FLASHING.
- C. SCUPPERS: SET IN SEALANT AND SECURE TO STRUCTURE; FLASH AS RECOMMENDED BY MANUFACTURER. D. ROOFING EXPANSION JOINTS: INSTALL AS SHOWN ON DRAWINGS AND AS RECOMMENDED BY ROOFING MANUFACTURER.
- E. FLASHING AT WALLS, CURBS, AND OTHER VERTICAL AND SLOPED SURFACES: INSTALL WEATHERTIGHT FLASHING AT ALL WALLS, CURBS, PARAPETS, CURBS, SKYLIGHTS, AND OTHER VERTICAL AND SLOPED SURFACES THAT THE ROOFING MEMBRANE ABUTS TO; EXTEND FLASHING AT LEAST 8 INCHES (200 MM) HIGH ABOVE MEMBRANE SURFACE.
- 1. USE THE LONGEST PRACTICAL FLASHING PIECES. 2. EVALUATE THE SUBSTRATE AND OVERLAY AND ADJUST INSTALLATION PROCEDURE IN ACCORDANCE WITH MEMBRANE MANUFACTURER'S RECOMMENDATIONS.
- 3. COMPLETE THE SPLICE BETWEEN FLASHING AND THE MAIN ROOF SHEET WITH SPECIFIED SPLICE ADHESIVE BEFORE ADHERING FLASHING TO THE VERTICAL SURFACE. 4. PROVIDE TERMINATION DIRECTLY TO THE VERTICAL SUBSTRATE AS SHOWN ON ROOF DRAWINGS.
- F. ROOF DRAINS: TAPER INSULATION AROUND DRAIN TO PROVIDE SMOOTH TRANSITION FROM ROOF SURFACE TO DRAIN. USE SPECIFIED PRE-MANUFACTURED TAPERED INSULATION WITH FACER OR SUITABLE BONDING SURFACE TO
- ACHIEVE SLOPE; SLOPE NOT TO EXCEED MANUFACTURER'S RECOMMENDATIONS. 2. POSITION MEMBRANE, THEN CUT A HOLE FOR ROOF DRAIN TO ALLOW 1/2 TO 3/4 INCH (12 TO 19 MM) OF MEMBRANE TO EXTEND INSIDE CLAMPING RING PAST DRAIN BOLTS.
- 3. MAKE ROUND HOLES IN MEMBRANE TO ALIGN WITH CLAMPING BOLTS; DO NOT CUT MEMBRANE BACK TO BOLT HOLES.
- 4. APPLY SEALANT ON TOP OF DRAIN BOWL WHERE CLAMPING RING SEATS BELOW THE MEMBRANE 5. INSTALL ROOF DRAIN CLAMPING RING AND CLAMPING BOLTS; TIGHTEN CLAMPING BOLTS TO ACHIEVE
- CONSTANT COMPRESSION. G. FLASHING AT PENETRATIONS: FLASH ALL PENETRATIONS PASSING THROUGH THE MEMBRANE; MAKE FLASHING SEALS DIRECTLY TO THE PENETRATION.
- 1. PIPES, ROUND SUPPORTS, AND SIMILAR ITEMS: FLASH WITH SPECIFIED PRE-MOLDED PIPE FLASHINGS WHEREVER PRACTICAL; OTHERWISE USE SPECIFIED SELF-CURING ELASTOMERIC FLASHING.
- 2. PIPE CLUSTERS AND UNUSUAL SHAPED PENETRATIONS: PROVIDE PENETRATION POCKET AT LEAST 2 INCHES (50
- MM) DEEP, WITH AT LEAST 1 INCH (25 MM) CLEARANCE FROM PENETRATION, SLOPED TO SHED WATER. 3. STRUCTURAL STEEL TUBING: IF CORNER RADII ARE GREATER THAN 1/4 INCH (6 MM) AND LONGEST SIDE OF TUBE DOES NOT EXCEED 12 INCHES (305 MM), FLASH AS FOR PIPES; OTHERWISE, PROVIDE A STANDARD CURB WITH
- FLASHING. 4. FLEXIBLE AND MOVING PENETRATIONS: PROVIDE WEATHERTIGHT GOOSENECK SET IN SEALANT AND SECURED TO DECK, FLASHED AS RECOMMENDED BY MANUFACTURER.
- HIGH TEMPERATURE SURFACES: WHERE THE IN-SERVICE TEMPERATURE IS, OR IS EXPECTED TO BE, IN EXCESS OF 180 DEGREES F (82 DEGREES C), PROTECT THE ELASTOMERIC COMPONENTS FROM DIRECT CONTACT WITH THE HOT SURFACES USING AN INTERMEDIATE INSULATED SLEEVE AS FLASHING SUBSTRATE AS RECOMMENDED BY MEMBRANE MANUFACTURER.

3.07 FINISHING AND WALKWAY INSTALLATION

- A. INSTALL WALKWAYS AT ACCESS POINTS TO THE ROOF, AROUND ROOFTOP EQUIPMENT THAT MAY REQUIRE MAINTENANCE, AND WHERE INDICATED ON THE DRAWINGS.
- B. WALKWAY PADS: ADHERE TO THE ROOFING MEMBRANE, SPACING EACH PAD AT MINIMUM OF 1.0 INCH (25 MM) AND MAXIMUM OF 3.0 INCHES (75 MM) FROM EACH OTHER TO ALLOW FOR DRAINAGE.
- C. DO NOT START WORK UNTIL PRE-INSTALLATION NOTICE HAS BEEN SUBMITTED TO MANUFACTURER AS NOTIFICATION THAT THIS PROJECT REQUIRES A MANUFACTURER'S WARRANTY.
- PERFORM WORK USING COMPETENT AND PROPERLY EQUIPPED PERSONNEL TEMPORARY CLOSURES, WHICH ENSURE THAT MOISTURE DOES NOT DAMAGE ANY COMPLETED SECTION OF THE NEW
- ROOFING SYSTEM, ARE THE RESPONSIBILITY OF THE APPLICATOR. COMPLETION OF FLASHINGS, TERMINATIONS, AND TEMPORARY CLOSURES SHALL BE COMPLETED AS REQUIRED TO PROVIDE A WATERTIGHT CONDITION.
- F. INSTALL ROOFING MEMBRANE ONLY WHEN SURFACES ARE CLEAN, DRY, SMOOTH AND FREE OF SNOW OR ICE; DO NOT APPLY ROOFING MEMBRANE DURING INCLEMENT WEATHER OR WHEN AMBIENT CONDITIONS WILL NOT ALLOW PROPER APPLICATION; CONSULT MANUFACTURER FOR RECOMMENDED PROCEDURES DURING COLD WEATHER. DO NOT WORK WITH SEALANTS AND ADHESIVES WHEN MATERIAL TEMPERATURE IS OUTSIDE THE RANGE OF 60 TO 80
- DEGREES F (15 TO 25 DEGREES C). G. PROTECT ADJACENT CONSTRUCTION, PROPERTY, VEHICLES, AND PERSONS FROM DAMAGE RELATED TO ROOFING WORK; REPAIR OR RESTORE DAMAGE CAUSED BY ROOFING WORK. PROTECT FROM SPILLS AND OVERSPRAY FROM BITUMEN, ADHESIVES, SEALANTS AND COATINGS.
- 2. PARTICULARLY PROTECT METAL, GLASS, PLASTIC, AND PAINTED SURFACES FROM BITUMEN, ADHESIVES, AND SEALANTS WITHIN THE RANGE OF WIND-BORNE OVERSPRAY.
- 3. PROTECT FINISHED AREAS OF THE ROOFING SYSTEM FROM ROOFING RELATED WORK TRAFFIC AND TRAFFIC BY OTHER TRADES.
- H. UNTIL READY FOR USE, KEEP MATERIALS IN THEIR ORIGINAL CONTAINERS AS LABELED BY THE MANUFACTURER. CONSULT MEMBRANE MANUFACTURER'S INSTRUCTIONS, CONTAINER LABELS, AND MATERIAL SAFETY DATA SHEETS (MSDS) FOR SPECIFIC SAFETY INSTRUCTIONS. KEEP ALL ADHESIVES, SEALANTS, PRIMERS AND CLEANING MATERIALS AWAY FROM ALL SOURCES OF IGNITION.
- 1. IF INSTALLATION OF WALKWAY PADS OVER FIELD FABRICATED SPLICES OR WITHIN 6 INCHES (150 MM) OF A SPLICE EDGE CANNOT BE AVOIDED. ADHERE ANOTHER LAYER OF FLASHING OVER THE SPLICE AND EXTENDING BEYOND THE WALKWAY PAD A MINIMUM OF 6 INCHES (150 MM) ON EITHER SIDE. 2. PRIME THE MEMBRANE, REMOVE THE RELEASE PAPER ON THE PAD, PRESS IN PLACE, AND WALK ON PAD TO ENSURE PROPER ADHESION.

NOTE: TRACTOR SUPPLY COMPANY REQUIRES

THE ROOFING MEMBRANE TO BE WHITE

3.08 FIELD QUALITY CONTROL

A. INSPECTION BY MANUFACTURER: PROVIDE FINAL INSPECTION OF THE ROOFING SYSTEM BY A TECHNICAL REPRESENTATIVE EMPLOYED BY ROOFING SYSTEM MANUFACTURER SPECIFICALLY TO INSPECT INSTALLATION FOR WARRANTY PURPOSES (I.E. NOT A SALES PERSON). B. PERFORM ALL CORRECTIONS NECESSARY FOR ISSUANCE OF WARRANTY.

BITUMEN, ADHESIVES, SEALANTS, AND COATINGS.

3.09 CLEANING A. CLEAN ALL CONTAMINANTS GENERATED BY ROOFING WORK FROM BUILDING AND SURROUNDING AREAS, INCLUDING B. REPAIR OR REPLACE BUILDING COMPONENTS AND FINISHED SURFACES DAMAGED OR DEFACED DUE TO THE WORK

OF THIS SECTION; COMPLY WITH RECOMMENDATIONS OF MANUFACTURERS OF COMPONENTS AND SURFACES. C. REMOVE LEFTOVER MATERIALS, TRASH, DEBRIS, EQUIPMENT FROM PROJECT SITE AND SURROUNDING AREAS.

3.10 PROTECTION A. WHERE CONSTRUCTION TRAFFIC MUST CONTINUE OVER FINISHED ROOF MEMBRANE, PROVIDE DURABLE PROTECTION AND REPLACE OR REPAIR DAMAGED ROOFING TO ORIGINAL CONDITION.

END OF SECTION

![](_page_19_Picture_195.jpeg)

![](_page_20_Figure_0.jpeg)

## MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT 2015 IBC - TABLE 1004.1.2

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
BUSINESS AREAS	100 GROSS
MERCANTILE	60 GROSS

300 GROSS

STORAGE, STOCK, SHIPPING AREAS

## EGRESS WIDTH PER OCCUPANT LOAD 2015 IBC - SECTION 1005.3.2

	WITHOUT SPRINKLER SYSTEM		WITH SPRINKLER SYSTEM		
OCCUPANCY	STAIRWAYS (INCHES PER OCCUPANT)	OTHER EGRESS COMPONENTS (INCHES PER OCCUPANT)	STAIRWAYS (INCHES PER OCCUPANT)	OTHER EGRESS COMPONENTS (INCHES PER OCCUPANT)	
OCCUPANCIES OTHER THAN THOSE LISTED BELOW	0.3	0.2	0.2	0.15	
HAZARDOUS: H-1, H-2, H-3 AND H-4	0.7	0.4	0.3	0.2	
INSTITUTIONAL: I-2	N/A	N/A	0.3	0.2	

## EGRESS ACCESS TRAVEL DISTANCE 2015 IBC - TABLE 1017.2

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (FEET)	WITH SPRINKLER SYSTEM (FEET)
М	200	250
В	200	300

### PROJECT DATA 2021 MICHIGAN PLUMBING CODE

2021 MICHIGAN MECHAN 2023 MICHIGAN ELECTRI 2015 MICHIGAN ENERGY	ICAL CODE C CODE CONSERV/	E ATION CODE	
OCCUPANCY CLASSIFIC/		M / S-1 - NON-SEPARATED	MIXED USE
CONSTRUCTION TYPE		llB	
FIRE SUPRESSION		SPRINKLERED	
BUILDING AREA LIMITS			OCCUPANCY LOAD
VESTIBULE RETAIL SALES OFFICE CORE & WALLS STOCKROOM TOTAL BUILDING AREA TOTAL OCCUPANT LOAD	= = = =	228 SQ. FT. / 60 15,416 SQ. FT. / 60 1,621 SQ. FT. / 150 4,864 SQ. FT. / 300 22,129 SQ. FT.	= 3.80 OR 4 = 256.9 OR 257 = 10.8 OR 11 = 16.21 OR 17 = 289
BUILDING HEIGHT: 1 STO	RY - 26'-0" /	A.F.F. @ FRONT MASONRY WAL	L, 30'-0' @ GABLE FACADE
ALLOWABLE AREA CALC	ULATIONS:	Aa = At + [At x lf] + [At x ls] $Aa = 12,500 + [12,500 x 0] + [Aa = 12,500 + [0] + [37,500]$ $Aa = 50,000  SQ. FT.$ $Aa = 50,000  SQ. FT. > 22,129$	[12,500 x 3] SQ. FT.

## LIFE SAFETY DATA

ITEM	REQUIRED
EXIT / EGRESS	289 X 0.15
MAX. TRAVEL DISTANCE	250'-0"
NUMBER OF SALES EXITS	2
NUMBER OF TENANT EXITS	3
MIN. EXIT SEPARATION	70'-5"

)	PROVIDED
= 44"	216
	240'-0"
	3
	4
	97'-6"

GATE 'E' UTILIZES ALARMED DETEX PANIC HARDWARE

### FIXTURE/LIFE SAFETY PLAN SCALE: 1/8"=1'-0"

![](_page_20_Picture_14.jpeg)

![](_page_21_Figure_0.jpeg)

	STRUCTURAL SHEET INDEX
SHEET NO.	SHEET NAME
S1.0	FOUNDATION PLAN
S2.0	ROOF FRAMING PLAN
S2.1	ROOF FRAMING PLAN, CONT.
S3.0	DETAILS
S3.1	DETAILS
S4.0	DETAILS
S4.1	DETAILS
S4.2	DETAILS
S4.3	DETAILS
S5.0	STRUCTURAL GENERAL NOTES
S5.1	STRUCTURAL GENERAL NOTES, CONT.
S5.2	QUALITY ASSURANCE / PROPOSED STATEMENT OF SPECIAL INSPECTIONS
S5.3	QUALITY ASSURANCE / PROPOSED STATEMENT OF SPECIAL INSPECTIONS CONT.
S5.4	CONCRETE SPECIFICATIONS

![](_page_21_Figure_3.jpeg)

DUMPSTER, SEE ARCH. FOR LOCATION

– 2- #6's @ WALL TERMINATION, TYP. 8" CMU REINF. w/ #6's @ 24" o.c. w/ 9 GA. LADDER TYPE JOINT

REINF. @ 16" o.c. VERT., TYP. SEE NOTE #4, TYP. @ EXTERIOR WALLS

3- #6's @ EXT. CORNERS, TYP.

# FOUNDATION PLAN - PARTIAL 2 DUMPSTER ENCLOSURE SCALE: 1/8" = 1'-0"

	FOOTING SCHEDULE				
MARK		SIZE		REBAR	REMARK
	LENGTH	WIDTH	THICK.		
F4	4'-0"	4'-0"	1'-4"	5- #5's, EA. WAY, TOP & BTM.	
F6	6'-0"	6'-0"	1'-4"	6- #6's, EA. WAY, TOP & BTM.	
F7	7'-0"	7'-0"	1'-4"	7- #6's, EA. WAY, TOP & BTM.	

## NOTE:

UNDERCUT, FILL, PREPARE, TEST, AND REMEDIATE ALL SUBGRADE AS 1. RECOMMENDED IN THE GEOTECHNICAL REPORT.

VERIFY SOIL BELOW FOOTINGS WITH GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT. SEE GEOTECHNICAL REPORT.

## FOUNDATION PLAN

1/8'' = 1'-0''

- TOP OF FOOTING: A. EXTERIOR ISOLATED FOOTINGS = -44" MINIMUM BELOW FINISH FLOOR OR GRADE, WHICHEVER IS LOWER. CONTINUOUS WALL FOOTING = -44" MINIMUM BELOW FINISH В. FLOOR OR FINISH GRADE, WHICHEVER IS LOWER. C. INTERIOR ISOLATED FOOTINGS = -16" BELOW FINISH FLOOR.
- D. NOTE: G.C. SHALL VERIFY REQUIRED FROST DEPTH AND EXISTING BEARING MEDIA WITH AHJ PRIOR TO COMMENCING WORK. SEE GEOTECHNICAL REPORT.
- THE CONTRACTOR SHALL COORDINATE ANY UNDER SLAB PIPING 2. CONDUITS, AND/ OR UTILITIES PRIOR TO PLACING FOOTINGS. IMMEDIATELY REPORT ANY CONFLICTS TO THE ENGINEER. SEE DETAIL 1 / S3.0 FOR SLAB CONTROL JOINTS.
- DOWELS SHOWN ON PLAN INDICATE GROUT FILLED REINFORCED CORES. SEE DETAIL 13 / S3.0 & 11 / S3.0.
- SEE 12 / S3.0 & 16 / S3.0 FOR ADDITIONAL REINFORCING AT WALL JOINTS. SEE ARCHITECTURAL DRAWINGS FOR CONTROL JOINT LOCATIONS.
- INDICATES FOOTING STEP. G.C. SHALL COORDINATE REQUIRED STEPS WITH GRADING AND SUBGRADE SYSTEM REQUIREMENTS SEE 3 / S3.0.
- 7. SEE DETAILS 7 / S4.2 , 8 / S4.2 , AND 9 / S4.2 FOR FOOTING CONDITIONS ADJACENT TO PLUMBING, ELECTRICAL, AND FIRE
- PROTECTION SYSTEMS. 8. SEE CONCRETE SPEC FOR MACRO FIBER ALTERNATE TO REINFORCING INDICATED ON PLAN.

![](_page_21_Picture_24.jpeg)

![](_page_22_Figure_0.jpeg)

![](_page_22_Figure_2.jpeg)

TYP. @ SLOPED BOND BEAM

![](_page_22_Figure_4.jpeg)

# ROOF FRAMING PLAN

SCALE: 1/8" = 1'-0" NOTES:

- JOIST BEARING ELEVATION VARIES.
- ALL ROOF JOISTS TO HAVE 2 1/2" DEEP SEATS (U.N.O.) HORIZONTAL BRIDGING REQUIRED FOR ALL BAR JOISTS PER SJI
- CODE OF STANDARD PRACTICE SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF BEARING
- WALLS AND DIMENSIONS NOT SHOWN. BAR JOISTS SUPPORTING ROOF TOP UNITS HAVE BEEN DESIGNED TO CARRY THE ADDITIONAL LOAD INDICATED ON THE PLAN. PRIOR TO ORDERING JOISTS, VERIFY THE RTU EQUIPMENT COMPLIES WITH THE DESIGN ASSUMPTIONS SHOWN ON THE DRAWINGS.
- 6. SEE DETAIL 17 / S4.0 FOR RTU SUPPORT FRAMING.
- SEE DETAIL 18 / S4.0 FOR ROOF OPENING FRAMING. REFER TO SHEET S5.0 FOR WIND UPLIFT PRESSURES FOR JOIST AND 8.
- JOIST GIRDER DESIGNS. 9. STRUCTURAL DESIGN IS BASED ON THE MAIN BUILDING INCLUDING PARAPETS FOR ALL FOUR WALLS. IF PROVISIONS CHANGE, NOTIFY ARCHITECT IN WRITING PRIOR TO COMMENCING WORK. 10. SEE DETAIL 19 / S4.0 FOR ADDITONAL REINFORCING @ NON-PANEL
- POINTS JOIST LOADING.
- 11. LOADS ON JOIST GIRDERS ARE PROVIDED AS ASD VALUES. 12. SEE 13 / S2.1 FOR STANDARD LINTEL SCHEDULE.

![](_page_22_Picture_16.jpeg)

	WA
	WA ٤
	W/
	8
	W
	8
	13 LINTEL SCHE SCALE: NONE

			8 40G S SCALE: 1/8
VERT. REINF., SEE PLAN			END WALL 600S200-43 @ 16" o.c. — NOTE:
BOND	BEAM LINTEL		1. SEE 1 / WF BEA BELOW ROOF DECK: APA SPAN-RA THICK EXPOS PLYWOOD SHEATHING, U.N.O., SEE 4 FOR SHEATH CONNECTION
OPENINGS	UP TO 6'-0" . TYPE	REMARKS	6 HIGH SCALE: 1/8
" BLOCK 8" x 8" BOND BM.	w/ 1- #5, TOP & BTM.		
OPENINGS	6'-1" TO 8'-	0"	
ALL SIZE LINTE	L TYPE	REMARKS	
" BLOCK 8" x 16" BOND BM	. w/ 1- #6, TOP & BTM.		
OPENINGS 8	'-1" TO 10'-0		
		MIN. BRG -	
BLOCK 8" x 24" BOND BM TOP, MIDDLE, & B	. w/ 2- #5's TM.	16", EA. SIDE FEED ROOM OPENING IS LIMITED TO 10'-0"	
OPENINGS 1	0'-1" TO 12'	-0"	
ALL SIZE LINTEL " BLOCK 8" x 40" BOND BM MIDDLE & BTM.	<b>_ TYPE</b> . w/ 2- #6's, TOP,	MIN. BRG - 16", EA. SIDE EXTERIOR OPENINGS ONLY	
DULE			LOW E

![](_page_23_Figure_2.jpeg)

![](_page_23_Figure_3.jpeg)

## 5 LOW ENTRY FRAMING PLAN SCALE: 1/8" = 1'-0"

![](_page_23_Picture_5.jpeg)

![](_page_24_Figure_0.jpeg)

![](_page_24_Picture_1.jpeg)

![](_page_25_Figure_0.jpeg)

![](_page_25_Picture_1.jpeg)

![](_page_26_Figure_0.jpeg)

![](_page_26_Picture_1.jpeg)

	P.E. TRUS
	P.E. BY T
	DIET
	ATTA w/ 4 TEKS STUE
	TEKS L5x5
	SEE / 6005
	س 40 TYI
	DIET ATTA 4- 1/ TO S
	TEKS L5x5
	600S BLO0
	600S @ 16
	<b>SECTION</b> (a) SCALE: 1" = 1'-0"
BOUNDARY CONNECTION	N, SEE 4 / S4.3 —
600S162-43 [33] OUTRIGERS @ 24" o.c	
P.E. CFS DROPPED CHORD TRUSS (2" MIN. LEG LENGTH) ———	
4- #10 TEKS TYP. $> \frac{1/8}{1/8} > \frac{3@12}{3@12}$	
DIETRICH UNICLIP, ATTA TO ANGLE w/ 4- 1/4"x 3' TEKS AND TO STUDS w/ #12 TEKS, TYP.	ACH "8-
EXT. SHEATHING, SEE ARCH.	
600S200-43 [33] @ 16"	0.C.
TYP. $\frac{1/8}{1/2}$	3@12 3@12
1/8 ۲ DIETRICH UNICLIP, ATTA TO ANGLE w/ 4- 1/4"x 3 TEKS AND TO STUDS w/	
8-#12 TEKS, TYP.	
600S200-43 [33]	

![](_page_27_Figure_1.jpeg)

![](_page_27_Picture_2.jpeg)

![](_page_28_Figure_0.jpeg)

![](_page_28_Picture_1.jpeg)

![](_page_29_Figure_0.jpeg)

![](_page_29_Picture_1.jpeg)

### **DESIGN AND CODE INFORMATION**

- 1. ALL CONTRUCTION SHALL CONFORM TO THE MICHIGAN STATE BUILDING CODE, 2015 EDITION (BASED ON THE INTERNATIONAL BUILDING CODE, 2015 EDITION). APPLICABLE LOADING CRITERIA IS BASED ON THE ASCE 7-10.
- VERIFY EXISTING CONDITIONS AND ALL DIMENSIONS AND NOTIFY ARCHITECT OF ANY CONDITIONS WHICH CONFLICT WITH OTHER PLANS AND SPECIFICATIONS. STRUCTURAL DRAWINGS MUST BE COORDINATED WITH ARCHITECTURAL DRAWINGS. STRUCTURAL DRAWINGS ARE NOT INTENDED FOR BUILDING LAYOUT.
- SHOP DRAWINGS WILL NOT BE REVIEWED BY THE DESIGNER UNTIL AFTER THE GENERAL CONTRACTOR HAS THOROUGHLY REVIEWED THE SHOP DRAWINGS, VERIFIED EXISTING CONDITIONS, AND COORDINATED THE SHOP DRAWINGS WITH OTHER AFFECTED TRADES. SUBMIT FOUR COPIES OF REVIEWED DRAWINGS FOR ENGINEER'S REVIEW. ONLY THREE SETS OF MARKED UP SHOP DRAWINGS SHALL BE RETURNED BY THE DESIGNER. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
- 4. THE STRUCTURE IS UNSTABLE UNTIL ALL LOAD BEARING WALLS ARE ERECTED AND STEEL MEMBERS ARE ERECTED, CONNECTIONS ARE COMPLETELY BOLTED AND/OR WELDED AND INSPECTED, THE STEEL DECK ATTACHED TO THE STEEL FRAMING, AND THE CONCRETE FLOORS PLACED AND ATTAINS 75% OF 28-DAY STRENGTH. UNTIL SUCH TIME, TEMPORARY BRACING IS REQUIRED. THE DESIGN ADEQUACY OF TEMPORARY BRACING AND SHORING IS THE SOLE **RESPONSIBILITY OF THE CONTRACTOR.**
- DO NOT SCALE STRUCTURAL DRAWINGS, AND FOR LOCATION OF MISCELLANEOUS ITEMS (OPENINGS, BENT PLATES, INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.

RISK CATEGORY: II

- 7. LIVE LOADS:
- FLOORS: STOCKROOM FLOOR:
- ROOFS:
- ROOF LOADS:
  - GROUND SNOW LOAD:
  - SNOW EXPOSURE Ce: SNOW IMPORTANCE I:
  - THERMAL FACTOR: D.
  - E. FLAT ROOF SNOW LOAD: 20 PSF
- 9. WIND LOADS:
  - BASIC WIND SPEED:
  - IMPORTANCE FACTOR: C.
  - OCCUPANCY CATEGORY: II
  - EXPOSURE CATEGORY: BASE SHEAR:
  - a. MAIN BUILDING:

115 MPH (3-SEC GUST) I = 1.0

Vx = 164.8 K VY = 130.6 K

100 PSF

250 PSF

20 PSF

20 PSF

1.0

1.0

1.0

C

COMPONENTS & CLADDING (WALLS)				
AREA		GCp +	/- GCpi	
	10 SF	100 SF	200 SF	500 SF
NEGATIVE ZONE 4	-1.17	-1.01	-0.96	-0.90
NEGATIVE ZONE 5	-1.44	-1.12	-1.03	-0.90
POSITIVE ZONE 4 & 5	1.08	0.92	0.87	0.81
AREA	S	URFACE PF	RESSURE	(PSF)
	10 SF	100 SF	200 SF	500 SF
NEGATIVE ZONE 4	-28.9	-25.0	-23.8	-22.3
NEGATIVE ZONE 5	-35.6	-27.7	-25.4	-22.3
POSITIVE ZONE 4 & 5	26.7	22.8	21.6	20.0

![](_page_30_Figure_24.jpeg)

![](_page_30_Figure_25.jpeg)

COMPONENTS & CLADDING (ROOF)		
AREA	SURFACE PRESSURE (PSF)	
	100 SF	
NEGATIVE ZONE 1	-26.7	
NEGATIVE ZONE 2	-31.6	
NEGATIVE ZONE 3	-31.6	
POSITIVE ZONE 1	16.0	
POSITIVE ZONES 2 & 3	22.7	

**ROOF - NET - WIND UPLIFT** PRESSURES

BASIC WIND SPEED: 115 MPH (3-SECOND GUST) EXPOSURE CATEGORY: C, Aeff > 100 SF FOR DL OF ROOF, USE 10 PSF "W" IS PROVIDED PER ASCE 7-10

## STRUCTURAL GENERAL NOTES

### **DESIGN AND CODE INFORMATION, CONT.**

- 10. SEISMIC DESIGN LOADS:
- IMPORTANCE FACTOR: I = 1.0RISK CATEGORY: II
- C. MAPPED SPECTRAL RESPONSE ACCELERATIONS: a. Ss = 0.099
- b. S1 = 0.048
- D. SITE CLASS: D DESIGN SPECTRAL RESPONSE ACCELERATIONS:
- a. SDs = 0.106
- SD1 = 0.077DESIGN CATEGORY:
- В BASIC SEISMIC FORCE RESISTING SYSTEM: MAIN BUILDING:
- a. INTERMEDIATE REINFORCED MASONRY SHEAR WALLS **DESIGN BASE SHEAR:** 54.2 K
- RESPONSE MODIFICATION FACTOR: R = 3.5**REDUNDANCY FACTOR:** P = 1.0
- 0.03 K. RESPONSE COEFFICIENT Cs:

### SPECIAL INSPECTIONS AND TESTING

1. THE OWNER SHALL EMPLOY AN INDEPENDENT TESTING COMPANY TO PERFORM THE ON SITE INSPECTIONS AND TESTING AS INDICATED ON SHEETS S5.2 & S5.3.

### STRUCTURAL OBSERVATIONS

THE CONTRACTOR/OWNER SHALL EMPLOY A LICENSED STRUCTURAL ENGINEER OR ARCHITECT TO PERFORM PERIODIC VISUAL OBSERVATIONS OF THE STRUCTURE DURING CONSTRUCTION FOR GENERAL CONFORMANCE TO THE DESIGN DRAWINGS.

### FOUNDATION NOTES

- FOUNDATION DESIGN IS BASED ON A REPORT BY SOILS & STRUCTURES, DATED FEBRUARY 8, 2024 (PROJECT NO. 2023.2100).
- 2. THE CONTINUOUS AND ISOLATED FOOTINGS ARE DESIGNED TO BEAR ON NATIVE SOILS, SAND STONE OR COMPACTED FILL CAPABLE OF SUPPORTING 2,500 PSF. THE ISOLATED FOOTINGS ARE DESIGNED TO BEAR ON NATIVE SOILS, SAND STONE OR COMPACTED FILL CAPABLE OF SUPPORTING 3,000 PSF. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 58" MINIMUM BELOW FINISHED GRADE. DESIGN ASSUMES DIFFERENTIAL AND TOTAL SETTLEMENT ARE WITHIN ACCEPTED TOLERANCES FOR CONSTRUCTION USED.
- WHERE FOOTING EXCAVATIONS ARE TO REMAIN OPEN AND MAY BE EXPOSED TO RAINFALL, THE EXCAVATIONS SHALL BE UNDERCUT AND A 3 INCH THICK MUD MAT OF 2000 PSI CONCRETE SHALL BE PLACED IN THE BOTTOM TO PROTECT THE BEARING SOILS.
- 4. WHERE FOOTING STEPS ARE NECESSARY, THEY SHALL BE NO STEEPER THAN 1 VERTICAL TO 2 HORIZONTAL, UNLESS SHOWN OTHERWISE ON PLANS.

### DELEGATED DESIGN

- THE FOLLOWING ELEMENTS SHALL BE CONSIDERED DELEGATED DESIGN AND SHALL REQUIRE SIGNED AND SEALED SHOP DRAWINGS AND CALCULATIONS PREPARED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROJECT STATE.
- A. PRE-ENGINEERED METAL BUILDING
- B. PRE-ENGINEERED TRUSSES C. STOREFRONT OPENING SYSTEMS.
- D. LIVE GOODS FRAMING AND FOUNDATION

### STRUCTURAL SUBMITTALS

- CONCRETE MIX DESIGNS
- CONCRETE REINFORCING FOR ALL FOUNDATION COMPONENTS CONCRETE MASONRY UNIT (CMU) REINFORCING FOR ALL MASONRY PORTIONS OF THE WORK.
- CONCRETE MASONRY UNIT (CMU) AND ACCESSORY PRODUCT DATA INCLUDING: COMPOSITION AND LEGACY TESTING DATA FOR CMU
  - COMPOSITION AND LEGACY TESTING DATA FOR MORTAR
  - COMPOSITION AND LEGACY TESTING DATA FOR GROUT LADDER-TYPE JOINT REINFORCING
- JOINT AND JOINT COVER MATERIAL e.
- STRUCTURAL STEEL COLUMNS, BASE PLATES, CAP PLATES, SHEAR PLATES, CONNECTIONS BETWEEN / AMONG ALL STRUCTURAL STEEL MEMBERS. STRUCTURAL STEEL JOIST AND DECK, INCLUDING LAYOUT, COMPOSITION, AND CONNECTIONS.
- COLD FORMED STEEL (CFS) PRE-ENGINEERED TRUSSES: a. MATERIALS
- DESIGN DRAWINGS, STAMPED BY THE TRUSS DESIGNER, LICENSED IN THE PROJECT
- STATE 8. NON-LOAD BEARING COLD FORMED STEEL (CFS) PRE-ENGINEERED STUDS AND JOISTS.

### **REINFORCED CONCRETE**

- ALL CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-16.
- 2. REINFORCING STEEL SHALL BE DEFORMED BARS ASTM A-615 (GRADE 60).
- THE COMPRESSIVE STRENGTH AT 28 DAYS OF ALL CAST IN PLACE CONCRETE SHALL BE 4000 PSI USING TYPE I, II, I/II, OR IL PORTLAND CEMENT. SEE CIVIL DRAWINGS FOR SITE CONCRETE. FOUNDATION CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
- LAP SPLICES FOR REINFORCING BARS SHALL BE CLASS B IN ACCORDANCE WITH ACI 318-16, UNLESS NOTED OTHERWISE.
- CLEAR CONCRETE COVER FOR REINFORCING STEEL:

Α.	WALLS	1 1/2" FOR #5 AND SMALLER BARS
		2" FOR #6 AND LARGER BARS
В.	MASONRY WALLS	LOCATE IN CENTER OF WALL (U.N.O.)
C.	SLAB ON GRADE	3/4" TOP STEEL

- 1 1/2" BOTTOM STEEL 2" FORMED EDGES
- D. FOOTINGS
- THE LONGITUDINAL REINFORCING STEEL IN BOND BEAMS, WALLS, AND FOOTINGS SHALL BE CONTINUOUS AROUND CORNERS. SEE TYPICAL DETAILS.
- 7. MECHANICAL VIBRATORS SHALL VIBRATE ALL CONCRETE.
- UNLESS OTHERWISE DIRECTED BY THE OWNER, CONCRETE SLABS SHALL BE FINISHED TO THE FLATNESS CRITERIA NOTED IN THE CONCRETE SPECIFICATIONS ON SHEET S5.4, UNDER SECTION 3.04 - "CONCRETE FLOOR FINISHES AND TOLERANCES"
- CONCRETE TESTING REPORTS SHALL BE KEPT ON FILE AT THE JOB SITE.

STRUCTURAL STEEL
------------------

- 1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE ANSI/AISC 360-16 SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
- 2. STRUCTURAL STEEL ROLLED SHAPES SHALL BE ASTM A-992 GRADE 50 UNLESS NOTED OTHERWISE. STRUCTURAL STEEL PLATES AND ANGLES SHALL BE ASTM A-36.
- STRUCTURAL PIPE COLUMNS SHALL BE ASTM A500 ROUND, TYPE E OR S, GRADE C. STRUCTURAL TUBES SHALL BE ASTM A500, GRADE C.
- NON-SHRINK GROUT FOR PLACEMENT BELOW ALL STRUCTURAL STEEL BASE PLATES SHALL **BE NON-SHRINK GROUT PROVIDED SPECIFICALLY FOR USE BELOW STRUCTURAL STEEL BASE** PLATES AND ACHIEVE A COMPRESSIVE STRENGTH OF 10,000 PSI AT 28 DAYS. GROUT **BELOW BASE PLATES SHALL CONFORM TO ASTM C-109.**
- FRAMED BEAM CONNECTIONS SHALL DE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER EMPLOYED BY THE FABRICATOR TO DEVELOP THE BEAM REACTIONS SHOWN ON STRUCTURAL PLANS. IN NO CASE SHALL THE LENGTH OF THE FRAMED CONNECTION BE LESS THAN 1/2 THE "T" DIMENSION OF THE BEAM WEB. WHERE REACTIONS ARE NOT SHOWN, THE BEAM END CONNECTIONS SHALL DEVELOP ONE HALF THE MAXIMUM ALLOWABLE UNIFORM LOAD FOR THE BEAM ASSUMING THE BEAM IS CONTINUOUSLY SUPPORTED LATERALLY.
- 6. STEEL FRAMING CONNECTIONS SHALL BE BOLTED OR WELDED. BOLTS SHALL BE 3/4 INCH DIAMETER MINIMUM AND SHALL BE ASTM A-325-N, UNLESS NOTED OTHERWISE.
  - 7. USE CALIBRATED WRENCHES OR DIRECT TENSION INDICATORS AND HARDENED WASHERS WITH ALL HIGH STRENGTH BOLTS OR USE LOAD INDICATOR BOLTS.
  - STEEL JOISTS SHALL BE CAMBERED PER STEEL JOIST INSTITUTE SPECIFICATIONS. STEEL JOIST SHALL ALSO BE DESIGNED TO RESIST THE NEW WIND UPLIFT LOADS INDICATED ON UPLIFT PRESSURES DIAGRAM, THIS SHEET. FOR UPLIFT CALCULATIONS, DEAD LOAD OF ROOFING SYSTEM AND STEEL DECK IS ASSUMED TO BE 10 PSF. STEEL JOIST WEBS SHALL BE DESIGNED FOR A MINIMUM VERTICAL SHEAR EQUAL TO 25 PERCENT OF THE END REACTION.
  - METAL DECK SHALL BE INSTALLED IN ACCORDANCE WITH THE STEEL DECK INSTITUTE SPECIFICATIONS, LATEST EDITION.
- 10. WELD WASHERS SHALL BE USED WITH METAL DECK THINNER THAN 22 GAUGE.
- 11. ANCHOR BOLTS SHALL BE F1554, GR 55 SUPPLEMENT 1 (WELDABLE) HEADED BOLTS. MINIMUM ANCHOR BOLT EMBEDMENT SHALL BE 12 BOLT DIAMETERS UNLESS NOTED OTHERWISE. CLEAN ANCHOR BOLTS OF ALL GREASE, DIRT, ETC., BEFORE INSTALLATION.
- 12. FRAMED BEAM CONNECTIONS SHALL DEVELOP ONE HALF OF THE ALLOWABLE UNIFORM LOAD FOR LATERALLY SUPPORTED BEAMS AS SHOWN IN PART 2 OF THE AISC MANUAL. IN NO CASE SHALL THE LENGTH OF THE CONNECTION BE LESS THAN THE "T" DIMENSION.
- 13. WELDS SHOWN ON THE STRUCTURAL DRAWINGS ARE THE MINIMUM REQUIRED BY DESIGN. THE FABRICATOR'S DRAWINGS SHALL SHOW WELDS AND THEY SHALL CONFORM TO AWS D1.1 STRUCTURAL WELDING CODE BY THE AMERICAN WELDING SOCIETY. ALL WELDING SHALL BE DONE WITH E-70 SERIES ELECTRODES.
- 14. HARDENED WASHERS SHALL BE INSTALLED OVER SHORT SLOTTED OR OVERSIZE HOLES OCCURRING IN AN OUTER PLY OF A CONNECTION.
- 15. THE STEEL JOIST & JOIST GIRDER MANUFACTURER SHALL DESIGN THE JOISTS & JOIST GIRDERS FOR A NET UPLIFT FORCE AS SHOWN ON THE UPLIFT DIAGRAM ON THIS SHEET, AND SHALL FURNISH THE NECESSARY FRAMING TO ENSURE PROPER JOIST & JOIST GIRDER PERFORMANCE UNDER UPLIFT DUE TO WIND AS WELL AS GRAVITY LOADING CONDITIONS.
- 16. PROVIDE SPECIAL JOIST SEATS WHERE REQUIRED BY NARROW BEARING CONDITIONS.
- 17. PAINT ALL STRUCTURAL STEEL WITH ONE COAT OF RUST-INHIBITIVE PRIMER 2.5 MILS IN THICKNESS. THE COMPATIBILITY OF PRIMER AND ANY TOP COAT SHALL BE VERIFIED BEFORE ANY PAINTING IS PERFORMED. TOUCH-UP ALL EXPOSED METAL AFTER FIELD INSTALLATION. ALL STRUCTURAL STEEL WHICH IS EXPOSED TO THE ELEMENTS SHALL RECEIVE TWO COATS OF EXTERIOR ENAMEL WHICH IS COMPATIBLE WITH THE PRIMED SURFACE.
- **18. STRUCTURAL STEEL SHOP DRAWINGS SHALL INCLUDE COMPLETE DETAILS, CONNECTIONS,** AND SCHEDULES FOR FABRICATION AND ASSEMBLY OF STRUCTURAL STEEL MEMBERS. STRUCTURAL STEEL SHOP DRAWINGS SHALL NOT INCLUDE MISCELLANEOUS STEEL. SHOP DRAWINGS WILL NOT BE REVIEWED BY THE DESIGNER UNTIL AFTER THE GENERAL CONTRACTOR HAS THOROUGHLY REVIEWED THE SHOP DRAWINGS, AND COORDINATED THE SHOP DRAWINGS WITH OTHER AFFECTED TRADES. ONLY THREE SETS OF MARKED UP SHOP DRAWINGS SHALL BE RETURNED BY THE DESIGNER. REPRODUCTION OF STRUCTURAL DRAWINGS FOR SHOP DRAWINGS IS NOT PERMITTED.
- 19. STEEL JOISTS AND JOIST GIRDER SHOP DRAWINGS SHALL BEAR THE SEAL AND SIGNATURE OF A REGISTERED ENGINEER IN THE PROJECT STATE CONFIRMING THE DESIGN OF JOISTS AND JOIST GIRDERS TO SJI SPECIFICATIONS AND FOR ALL LOADINGS SPECIFIED ON THE DRAWINGS. STEEL JOISTS SHOP DRAWINGS SHALL BE REVIEWED BY THE STRUCTURAL STEEL SUBCONTRACTOR PRIOR TO ENGINEER'S REVIEW.

![](_page_30_Picture_107.jpeg)

## POST INSTALLED ANCHORS IN CONCRETE, CONCRETE MASONRY, AND ADHESIVE ANCHOR REINFORCING

- 1. POST-INSTALLED ANCHORS AND ADHESIVE ANCHORED REINFORCING STEEL SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. THE GENERAL CONTRACTOR SHALL OBTAIN APPROVAL FROM THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USING POST INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REINFORCING. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.
- 2. ALL POST INSTALLED ANCHORS AND ADHESIVES SHALL HAVE VALID AND CURRENT ICC-ESR REPORTS.
- 3. SUBSTITUTION REQUESTS, FOR PRODUCTS OTHER THAN THOSE SPECIFIED, SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER OF RECORD WITH CALCULATIONS THAT ARE PREPARED AND SEALED BY A REGISTERED DESIGN PROFESSIONAL IN THE STATE IN WHICH THE PROJECT IS LOCATED SHOWING THAT THE SUBSTITUTED PRODUCT WILL ACHIEVE AN EQUIVALENT CAPACITY USING THE APPROPRIATE DESIGN PROCEDURE REQUIRED BY THE REFERENCED BUILDING CODE.
- MECHANICAL ANCHORS FOR CONCRETE AS SHOWN ON THE CONSTRUCTION DOCUMENTS SHALL BE 4. PROVIDED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS.
- IN ADDITION TO THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, THE FOLLOWING GUIDELINES SHALL BE FOLLOWED FOR INSTALLATION OF ADHESIVE ANCHORS: A. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION.
  - ADHESIVE ANCHORS SHALL BE INSTALLED IN DRY CONCRETE, AND DURING DRY CONDITIONS.
- ADHESIVE ANCHORS SHALL BE INSTALLED WITHIN THE TEMPERATURE RANGE SPECIFIED IN THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, BUT NOT OUTSIDE OF THE DESIGN TEMPERATURE RANGE. (ADHESIVE ANCHOR DESIGN TEMPERATURE RANGE IS 75 DEGREES FAHRENHEIT (LONG TERM) AND 104 DEGREES FAHRENHEIT (SHORT TERM)) LOADS SHALL NOT BE APPLIED TO ADHESIVE ANCHORS UNTIL THE FULL CURING TIME ASSOCIATED WITH THE INSTALLATION TEMPERATURE HAS ELAPSED.
- 6. INSTALLATION OF ADHESIVE ANCHORS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHORS INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT.
- CONTINUOUS SPECIAL INSPECTIONS SHALL BE PROVIDED FOR POST-INSTALLED ANCHORS IN ACCORDANCE WITH THE ANCHOR MPII AND/OR EVALUATION REPORT, UNLESS MORE SPECIFIC REQUIREMENTS ARE SPECIFIED IN THE CONSTRUCTION DOCUMENTS.

#### **CONCRETE MASONRY**

- 1. CONCRETE MASONRY SHALL CONFORM TO TMS 402-16, "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES," AND TMS 602-16, "SPECIFICATIONS FOR MASONRY STRUCTURES," AND SHALL HAVE A MINIMUM PRISM STRENGTH (F'M) OF 2,000 PSI.
- MASONRY WALL CONTROL JOINTS SHALL BE LOCATED AS SHOWN ON THE ARCHITECTURAL DRAWINGS. 2.
- MASONRY UNITS SHALL CONFORM WITH ASTM C90-14 "SPECIFICATION FOR LOADBEARING CONCRETE MASONRY UNITS" AND HAVE MINIMUM AVERAGE NET-AREA COMPRESSIVE STRENGTH OF 2150 PSI. MASONRY UNITS SHALL HAVE AN AVERAGE DENSITY WITHIN THE RANGE OF 105 TO 125 POUNDS PER CUBIC FEET.
- GROUT FOR FILLING CONCRETE MASONRY CELLS SHALL CONFORM TO ASTM C476-09, "STANDARD SPECIFICATION FOR GROUT FOR MASONRY," AND SHALL HAVE A COMPRESSIVE PRISM STRENGTH (F'M) OF 3000 PSI AT 28 DAYS. THE SLUMP SHALL BE BETWEEN 9 INCHES AND 11 INCHES. WHERE THE MINIMUM DIMENSION OF ANY CONTINUOUS VERTICAL CELL IS 3 INCHES OR LESS, USE FINE GROUT. OTHERWISE, USE COARSE (PEA GRAVEL) GROUT.
- MORTAR FOR CONCRETE MASONRY SHALL BE TYPE "S" AND SHALL CONFORM TO ASTM C270-14a, "SPECIFICATION FOR MORTAR FOR UNIT MASONRY" AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI.
- 6. MASONRY CONSTRUCTION SHALL BE BUILT IN LIFTS NOT TO EXCEED 4 FEET PRIOR TO GROUTING CORES. KEY NEXT GROUT LIFT INTO PRIOR LIFT BY STOPPING FIRST LIFT 2" BELOW TOP OF BLOCK.
- 7. ALL REINFORCING BARS IN FILLED CELLS SHALL BE DOWELED INTO FOOTINGS WITH STANDARD 90-DEGREE HOOKS AND DOWELED 7 INCHES INTO BOND BEAMS AT TOP OF WALLS.
- REINFORCEMENT IN WALLS SHALL BE PLACED IN THE CENTER OF THE WALL UNLESS NOTED OTHERWISE. SEE PLANS FOR REINFORCING.
- 9. MASONRY LAP SPLICES: SEE TABLE BELOW.

MINIMUM E DIAMETE	SONRY G LAP DULE	ETE MA ORCINO TH SCHE	CONCR REINF LENG
MIN. DIA. 6d	12" WALL	8" WALL	BAR SIZE
NOTE:	16"	16"	#3
1.       d= BAR DIAMETER         REQUIRED TO BE	21"	21"	#4
TO THE MINIMUM	26"	26"	#5
IN EXCESS OF A 9	40"	43"	#6
DENU IS PROHIBI	46"	60"	#7

### NOTE

\*WHERE DROPPED WEB MASONRY IS INDICATED , MASONRY BOND BEAMS WITH U-NOTCHES OR BOTTOMS REMOVED FOR PASSAGE OF GROUT & REINFORCING MAY BE SUBSTITUTED. WHERE DROPPED WEB MASONRY IS USED, PROVIDE ACI APPROVED SCREENING/GROUT RETENTION MATERIAL TO ENSURE STOPPAGE OF GROUT TO CELLS BELOW WHERE LIMIT OF GROUTED CELLS ARE INDICATED.

## STRUCTURAL GENERAL NOTES, CONT.

ADHESIVE ANCHORS SHALL BE INSTALLED IN HOLES PREDRILLED WITH A CARBIDE TIPPED DRILL BIT.

![](_page_31_Picture_41.jpeg)

#### PRE-ENGINEERED COLD FORMED STEEL TRUSSES

- ROOF TRUSSES SHALL BE DESIGNED TO SUPPORT THE FOLLO A. TOP CHORD: DEAD LOAD - 17 PSF LIVE LOAD BOTTOM CHORD: DEAD LOAD - 8 PSF
- 2. IN ADDITION TO UNIFORM LOADING SPECIFIED FOR TRUSS D ANY CONCENTRATED LOADS CAUSED BY ARCHITECTURAL FEA TRUSS DESIGN.
- SEE ARCHITECTURAL DRAWINGS FOR TRUSS PROFILES, DIME
- 4. A REGISTERED ENGINEER IN THE PROJECT STATE SHALL DESI THE SUPPORTING STRUCTURES. SHOP DRAWINGS, INCLUDI ENGINEER'S SEAL AND SIGNATURE, SHALL BE SUBMITTED FO
- TRUSSES SHALL BE DESIGNED, FABRICATED, AND ERECTED OF THE AMERICAN IRON AND STEEL INSTITUTE "SPECIFICAT STRUCTURAL MEMBERS" AND "DESIGN OF COLD-FORMED STI TRUSS ENGINEER'S ASSOCIATION "FIELD INSTALLATION GU

### COLD FORMED STEEL (CFS) STUDS

- ALL WORK SHALL CONFORM WITH THE FOLLOWING STANDAR AISI S100-16, "NORTH AMERICAN SPECIFICATION FOR
- STRUCTURAL MEMBERS." AISI S202-16, "CODE OF STANDARD PRACTICE FOR CO
- AISI S220-16, "NORTH AMERICAN STANDARD FOR COL
- STRUCTURAL MEMBERS" AISI S240-16, "NORTH AMERICAN STANDARD FOR COL FRAMING."
- AISI S400-15/S1-16, "NORTH AMERICAN STANDARD F STEEL STRUCTURAL SYSTEMS, WITH SUPPLEMENT 1, D
- COMPONENTS SHALL BE MADE OF COLD FORMED STEEL COM WITH A GALVANIZED COATING. COATING SHALL BE G60 COA WITH ASTM C955. MINIMUM YIELD STRENGTH SHALL BE AS GAUGE) AND LIGHTER; 50 KSI FOR 5 MIL (16 GAUGE) AND H
- COMPONENT SECTION PROPERTIES INCLUDING, BUT NOT LIN INERTIA (IX AND Iy) AND RADIUS OF GYRATION (Rx, Ry) SH VALUES BY CLARKDIETRICH BUILDING SYSTEMS FOR MEMBE
- PROVIDE FRAMING ACCESSORIES THAT MEET OR EXCEED BA CLARKDIETRICH BUILDING SYSTEMS. THESE PRODUCTS MAY A. SUPPLEMENTARY FRAMING.
  - BRACING, BRIDGING, AND SOLID BLOCKING.
  - ANCHOR CLIPS.
  - END CLIPS.
  - FOUNDATION CLIPS. GUSSET PLATES.
  - STUD KICKERS AND KNEE BRACES.
  - JOIST HANGERS AND END CLOSURES.
  - HOLE REINFORCING PLATES. BACKER PLATES.
- OTHER CONNECTORS FROM SIMPSON STRONG-TIE COMPAN DRAWINGS.
- SCREWS SHALL BE SELF-DRILLING, SELF-TAPPING STEEL SC GALVANIZED, PLATED OR OIL-PHOSPHATE COATING SHALL PROVIDED AS NEEDED FOR REQUIRED CORROSION RESISTA
- WELDING IS PERMITTED ON 18 GAUGE OR HEAVIER MATERIA OPERATORS SHALL BE QUALIFIED IN ACCORDANCE WITH AW CODE-SHEET METAL." TOUCH UP ALL WELDS WITH ZINC RI A780.
- THE JOIST ENDS SHALL BE REINFORCED TO ADEQUATELY ST LOADS TO THE SUPPORTS. MINIMUM END BEARING SHALL B
- STUDS SHALL SIT SQUARELY IN THE TOP AND BOTTOM RUN AGAINST TRACK WEBS. STUDS SHALL BE ALIGNED OR PLUM FLANGES OF BOTH TOP AND BOTTOM RUNNER TRACK. STUD RUNNER TRACK SO AS TO BE ALIGNED DIRECTLY BELOW FLO MEMBERS OVERHEAD. IF UNABLE TO CENTER AND DIRECTLY ROOF FRAMING (SUCH AS AT OPENINGS) TO THE STUDS, LI
- JOINING OF FRAMING MEMBERS SHALL BE MADE WITH SELF WIRE TYING OF FRAMING MEMBERS IN STRUCTURAL APPLICA
- 11. SPLICES IN STEEL JOISTS OR STUDS SHALL NOT BE PERMIT
- 12. DURING ERECTION, THE CONTRACTOR SHALL PROVIDE MEAI CONCENTRATED LOADS SO THAT THE LOAD CARRYING CAPA EXCEEDED.
- 13. PERFORMANCE REQUIREMENTS
- A. CALCULATE STRUCTURAL PROPERTIES PER AISI SPEC COLD-FORMED STEEL STRUCTURAL MEMBERS, 2007.
- 14. SUBMITTALS SUBMIT DOCUMENTATION.
  - PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON I INCLUDING: a. PREPARATION INSTRUCTIONS AND RECOMMENDA b. STORAGE AND HANDLING REQUIREMENTS AND R
  - c. INSTALLATION METHODS.
  - C. STRUCTURAL CALCULATIONS: a. ALL SHOP DRAWING SUBMITTALS SHALL BE SEAL REGISTERED IN THE PROVINCE OF THE PROJECT MINIMUM OF 5 YEARS EXPERIENCE WITH PROJECT DESCRIPTION OF DESIGN CRITERIA.
  - SELECTION OF FRAMING COMPONENTS, ACCESSO REQUIREMENTS.
  - d. VERIFICATION OF ATTACHMENTS TO STRUCTURE COMPONENTS.

		ABBREVIATIONS
	ARCH	ARCHITECT, ARCHITECTURAL
	BRG	BEARING
20 PSF SNOW LOAD - 13.6 PSF	C/L	CENTERLINE
	CFS	
IGN, THE TRUSS SUPPLIER SHALL INCLUDE RES OR MECHANICAL EQUIPMENT IN THE	CONC	CONCRETE
	CONT	CONTINUOUS
SIONS AND BEARING CONDITIONS.	DIA	DIAMETER
N THE TRUSSES AND THEIR CONNECTIONS TO	DWGS	DRAWINGS
RUSS DESIGN AND LAYOUT, BEARING THE REVIEW.	EL	ELEVATION
ACCORDANCE WITH APPLICABLE STANDARDS	FDN	FOUNDATION
IS FOR THE DESIGN OF COLD FORMED STEEL	FFE	FINISHED FLOOR ELEVATION
E FOR COLD-FORMED STEEL TRUSSES".	FIG	
	INFO	INFORMATION
ς.	JST	JOIST
HE DESIGN OF COLD-FORMED STEEL	PEMB	PRE-ENGINEERED METAL BUILDING
O-FORMED STEEL FRAMING."	PL	PLATE
FORMED STEEL FRAMING - NON-	REINF	REINFORCING
FORMED STEEL STRUCTURAL	RTU	ROOF TOP UNIT
SEISMIC DESIGN OF COLD-FORMED	SHT	SHEET
ED 2016."	SPC	
YING WITH ASTM A1003/A1003M NG WEIGHT MINIMUM, COMPLYING LLOWS: 33 KSI FOR 43 MIL (19	&	AND
ED TO, AREA (A), MOMENT OF MEET OR EXCEED PUBLISHED		
SIZES INDICATED.		
S OF DESIGN PRODUCTS BY		
NCLUDE BUT ARE NOT LIMITED TO:		
1AY BE SPECIFIED ON THE		
WS COMPLYING WITH ASTM C1513. MPLY WITH ASTM B633 AND BE		
CE.		
ONLY. QUALITY WELDING		
D1.3-2008, "STRUCTURAL WELDING PAINT IN COMPLIANCE WITH ASTM		
FEN THE JOIST WEB AND TRANSFER		
R TRACK WITH FIRM ABUTMENT D AND SECURELY FASTENED TO THE		
SHALL BE POSITIONED IN THE		
RANSFER LOADS FROM FLOOR OR		
ELS SHALL BE PROVIDED.		
RILLING SCREWS OR WELDING.		
IONS SHALL NOT BE PERMITTED.		
D.		
OF ADEQUATE DISTRIBUTION OF		
TYOF ANY STEEL MEMBER IS NOT		
CATIONS FOR THE DESIGN OF		
CH PRODUCT TO BE USED,		
ONS.		
OMMENDATIONS.		
BY A PROFESSIONAL ENGINEER CATION. ENGINEER SHALL HAVE A OF SIMILAR SCOPE.		
ES AND WELDED CONNECTION		
ND ADJACENT FRAMING		
•		

![](_page_31_Picture_81.jpeg)

## STRUCTURAL SPECIAL INSPECTION STATEMENT

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION AND STRUCTURAL TESTING REQUIREMENTS OF THE BUILDING CODE. IT INCLUDES A SCHEDULE OF SPECIAL INSPECTION SERVICES APPLICABLE TO THIS PROJECT AS WELL AS THE NAME OF THE SPECIAL INSPECTOR TO BE RETAINED FOR CONDUCTING THESE INSPECTIONS AND TESTS. THIS STATEMENT OF SPECIAL INSPECTIONS ENCOMPASSES STRUCTURAL DISCIPLINE.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS AND SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE OF SPECIAL INSPECTION. DISCOVERED DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF SUCH DISCREPANCIES ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE IN CHARGE OF SPECIAL INSPECTION. THE SPECIAL INSPECTION PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES.

INTERIM REPORTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE OF SPECIAL INSPECTION AND THE ENGINEER OF RECORD.

A FINAL REPORT OF SPECIAL INSPECTIONS DOCUMENTING COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS, TESTING AND CORRECTION OF ANY DISCREPANCIES NOTES IN THE INSPECTIONS SHALL BE SUBMITTED BY ALL SPECIAL INSPECTORS AND THE DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE OF SPECIAL INSPECTIONS PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

JOB SITE SAFETY MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

THIS STATEMENT OF SPECIAL INSPECTIONS INCLUDES THE FOLLOWING BUILDING SYSTEMS: ☑ FABRICATORS 🖾 SOILS □ PILE FOUNDATIONS □ PIER FOUNDATIONS

 $\boxtimes$  CONCRETE CONSTRUCTION

□ PRECAST CONCRETE □ MASONRY LEVEL 1 MASONRY LEVEL 2 STRUCTURAL STEEL □ COLD-FORMED STEEL FRAMING STEEL CONSTRUCTION: OTHER

□ SEISMIC RESISTANCE □ WIND RESISTANCE □ WOOD CONSTRUCTION □ SPECIAL CASES <sup>⊠</sup> OPEN-WEB STEEL JOISTS AND JOIST GIRDERS

REGISTERED DESIGN PROFESSIONAL
IN RESPONSIBLE CHARGE**

IN RESPONSIBLE CHARGE**								
RESPONSIBILITY FIRM ADDRESS AND TELEPHONE NUMBER								
1								
2								
3.	3							
<ul> <li>NOTE:</li> <li>1. **REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE: A REGISTERED DESIGN PROFESSIONAL ENGAGED BY THE OWNER TO REVIEW AND COORDINATION THE SPECIAL INSPECTION AS DETERMINED BY THE BUILDING OFFICIAL, FOR COMPATIBILITY WITH THE DESIGN OF THE BUILDING OF STRUCTURE INCLUDING SUBMITTAL DOCUMENTS PREPARED BY OTHERS, DEFERRED SUBMITTAL DOCUMENTERS AND PHASED SUBMITTAL DOCUMENTS.</li> <li>2. ENGINEER OF RECORD HAS NOT BEEN ENGAGED AS THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE OF SPECIAL INSPECTIONS.</li> </ul>								
SPECIAL	INSPECTION AC	GENCIES						
1.	_	-						
2.	-	-						
3.	-	-						
NOTES:								
1. THE INSPECTORS AND TESTING AGENCIES SHALL BE ENGAGED BY THE OWNER OR THE OWNER'S AGENT, AND NOT BY THE CONTRACTOR.								
2. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL AND THE DESIGN PROFESSIONAL PRIOR TO COMMENCING WORK.								

1.	-	-
2.	-	_
3.	-	-

3. THE MINIMUM QUALIFICATIONS OF THE SPECIAL INSPECTOR(S) AND/OR TESTING AGENCIES SHALL BE THOSE LISTED IN THE MINIMUM SPECIAL INSPECTOR QUALIFICATIONS TABLE. THE QUALIFICATIONS OF THE SPECIAL INSPECTOR(S) AND/OR TESTING AGENCIES MAY BE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL.

4. INSPECTION OF FABRICATORS IS NOT REQUIRED WHERE THE FABRICATOR IS APPROVED IN ACCORDANCE WITH SECTION 1704.2.2 OF THE BUILDING CODE.

## SPECIAL INSPECTION SCHEDULE: FABRICATORS

VERIFICATION AND INSPECTION TASK	APPLICABLE TO THIS PROJECT?	FREQU	JENCY
1. VERIFY FABRICATION AND IMPLEMENTATION PROCEDURES:	YES	CONTINUOUS	PERIODIC
A. STEEL CONSTRUCTION **	YES	-	Х
B. CONCRETE CONSTRUCTION (INCLUDING REBAR FABRICATION)	YES	-	х
C. WOOD CONSTRUCTION **	NO	-	Х
D. COLD FORMED METAL CONSTRUCTION	YES	-	Х
E. OTHER CONSTRUCTION	YES	-	Х
**IF FABRICATOR IS NOT EXEMPT PER IBC CHAPTER 17.			

## QUALITY ASSURANCE PLAN / PROPSED STATEMENT OF SPECIAL INSPECTION

SPECIAL INSPECTION SCHEDULE: SOILS				SPECIAL INSPECTION SCHEDULE:				
				MASONRY CONSTRUCTION - LEVEL 2				
VERIFICATION AND INSPECTION TASK	APPLICABLE TO THIS PROJECT?	FREQUENCY		VERIFICATION AND INSPECTION TASK	APPLICABLE	FREQUENCY		
		CONTINUOUS	PERIODIC		PROJECT?	CONTINUOUS	PERIODIC	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	YES	-	×	1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS	VEC		×	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	YES	-	x	SHALL BE VERIFIED.			Λ	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL	YES	-	x	2. VERIFICATION OF f'm AND f'AAC PRIOR TO CONSTRUCTION AND FOR EVERY 5,000 SQUARE FEET DURING CONSTRUCTION.	YES	-	Х	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT	YES	X	_	3. VERIFICATION OF PROPORTIONS OF MATERIALS IN PREMIXED OR PREBLENDED MORTAR AND GROUT AS DELIVERED TO THE SITE.	YES	-	Х	
COMPACTED FILL.				4. VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATING GROUT.	YES	х	-	
SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	YES	-	X	5. THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: A. PROPORTIONS OF SITE-PREPARED MORTAR, GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	YES	_	x	
				B. PLACEMENT OF MASONRY UNITS AND CONSTRUCTION OF MORTAR JOINTS.	YES	-	X	
SPECIAL INSPECTION	SCHE	DULE:		C. PLACEMENT OF REINFORCEMENT, CONNECTORS AND PRESTRESSING TENDONS AND ANCHORAGES.	NO	-	Х	
CONCRETE CONST	RUCTIO	<u>DN</u>		D. GROUT SPACE PRIOR TO GROUTING.	NO	Х	-	
VERIFICATION AND INSPECTION TASK	APPLICABLE FRE		JENCY	E. PLACEMENT OF GROUT.	YES	x	-	
	PROJECT?	CONTINUOUS	PERIODIC	F. PLACEMENT OF PRESTRESSING GROUT.	YES	Х	-	
1. INSPECTION OF REINFORCING STEEL, INCLUDING PLACEMENT.	YES	_	х	G. SIZE AND LOCATION OF STRUCTURAL ELEMENTS.	YES	-	Х	
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH THE SPECIAL INSPECTION SCHEDULE: STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL ITEM 3.	YES	_	Х	H. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION.	YES	x	-	
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE	YES	_	х	I. SPECIFIED SIZE, GRADE AND TYPE OF REINFORCEMENT, ANCHOR BOLTS, PRESTRESSING TENDONS AND ANCHORAGES	YES	-	Х	
STRENGTH DESIGN IS USED.				J. WELDING REINFORCING BARS.	NO	х	-	
CONCRETE MEMBERS.	YES	-	Х	K. PREPARATION, CONSTRUCTION AND PROTECTION OF			V	
5. VERIFYING USE OF REQUIRED DESIGN MIX.	YES	-	X	40°F) OR HOT WEATHER/TEMPERATURE ABOVE 90°F)		-	X	
5. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR				L. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE.	YES	X	-	
CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	YES	Х	-	6. PREPARATION OF ANY REQUIRED GROUT SPECIMENS AND/OR PRISMS SHALL BE OBSERVED.	NO	x	-	
	I				-			

VERIFICATION AND INSPECTION TASK	APPLICABLE TO THIS	FREQUENCY		
	PROJECT?	CONTINUOUS	PERIODIC	
1. INSPECTION OF REINFORCING STEEL, INCLUDING PLACEMENT.	YES	-	Х	
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH THE SPECIAL INSPECTION SCHEDULE: STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL ITEM 3.	YES	-	Х	
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.	YES	-	Х	
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS.	YES	-	Х	
5. VERIFYING USE OF REQUIRED DESIGN MIX.	YES	-	Х	
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	YES	х	-	
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	YES	x	-	
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	YES	-	Х	
9. INSPECTION OF PRESTRESSED CONCRETE: A. APPLICATION OF PRESTRESSING FORCES.	NO	Х	-	
B. GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC- FORCE-RESISTING SYSTEM.	NO	х	-	
10. ERECTION OF PRECAST CONCRETE MEMBERS.	NO	-	х	
11. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	YES	-	Х	
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	YES	-	Х	
NOTE: 1. SPECIAL INSPECTIONS FOR ISOLATED SPREAD CONCRETE FOOTINGS SUPPORTING WALLS, AND CONCRETE FOUNDAT WITH THIS TABLE.	FOOTINGS, O FION WALLS S	CONTINUOUS CON SHALL BE IN ACCO	ICRETE ORDANCE	

![](_page_32_Picture_27.jpeg)

![](_page_33_Picture_0.jpeg)

## QUALITY ASSURANCE PLAN / PROPSED STATEMENT OF SPECIAL INSPECTION, CONT.

SPECIAL INSPECTION SCHEDULE: STRUCTURAL STEEL CONSTRUCTION					
VERIFICATION AND INSPECTION TASK		FREQUENCY			
	PROJECT?	CONTINUOUS	PERIODIC		
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND					
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	YES	-	х		
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	YES	-	Х		
2. INSPECTION OF HIGH-STRENGTH BOLTING:	YES	-	Х		
A. PRETENSIONED AND SLIP CRITICAL JOINTS USING TURN- OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT, CALIBRATED WRENCH, OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION.	YES	-	Х		
B. PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF- NUT WITHOUT MATCHMARKING OR CALIBRATED WRENCH METHODS OF INSTALLATION .	NO	Х	_		
<ol> <li>MATERIAL VERIFICATION OF STRUCTURAL STEEL:</li> <li>A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS AND AISC 360.</li> </ol>	YES	-	Х		
B. MANUFACTURER'S CERTIFIED TEST REPORTS.	YES	-	Х		
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS: A. IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS	YES	_	х		
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	YES	-	Х		
5. INSPECTION OF WELDING, STRUCTURAL STEEL: A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS.	YES	Х	-		
B. MULTIPASS FILLET WELDS	YES	Х	-		
C. SINGLE-PASS FILLET WELDS > 5/16"	YES	Х	-		
D. SINGLE-PASS FILLET WELDS $\leq$ 5/16"	YES	-	Х		
<ul> <li>6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS:</li> <li>A. DETAILS SUCH AS BRACING AND STIFFENING.</li> </ul>	YES	_	Х		
B. MEMBER LOCATIONS.	YES	-	Х		
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION.	YES	-	Х		

## SPECIAL INSPECTION SCHEDULE: STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL

VERIFICATION AND INSPECTION TASK		FREQUENCY		
		CONTINUOUS	PERIODIC	
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK: A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	YES	-	х	
B. MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	YES	-	Х	
2. INSPECTION OF WELDING, COLD-FORMED STEEL DECK: A. ROOF DECK WELDS.	YES	-	Х	
3. INSPECTION OF WELDING, REINFORCING STEEL: A. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706.	YES	-	х	
B. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT.	NO	Х	-	
C. SHEAR REINFORCEMENT.	YES	Х	-	
D. OTHER REINFORCING STEEL.	YES	-	Х	
<ul> <li>4. INSPECTION OF COLD-FORMED STEEL TRUSSES:</li> <li>A. VERIFY TEMPORARY INSTALLATION RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH APPROVED TRUSS SUBMITTAL PACKAGE.</li> </ul>	YES	-	Х	
B. VERIFY PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH APPROVED TRUSS SUBMITTAL PACKAGE.	YES	-	Х	

SPECIAL INSPECTION SCHEDULE: OPEN-WEB STEEL JOISTS AND JOIST GIRDERS						
VERIFICATION AND INSPECTION TASK APPLICABLE FREQUENCY						
	PROJECT?	CONTINUOUS	PERIODIC			
1. INSTALLATION OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS A. END CONNECTIONS - WELDING OR BOLTED.	YES	-	Х			
B. BRIDGING - HORIZONTAL OR DIAGONAL	YES	-	Х			
2. STANDARD BRIDGING YES -						
3. BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1	YES	-	Х			

![](_page_33_Picture_7.jpeg)

<text></text>	1 01		ITY ASSURANCE	∠.∪2 ∆	ر م
<text></text>	Δ	Read	v-Mix Concrete Supplier: A firm experienced in producing ready-mixed concrete that complies with ASTM	A. B	f
<ul> <li>Handbartsen Leeftersen Kannen K</li></ul>	/ (.	C94 r Conc	requirements for production facilities and equipment. Comply with ACI 301, "Specification for Structural rete."	Б.	1
<ul> <li>Concrete Lange La</li></ul>	_	1.	Manufacturer certified according to NRMCA's "Certification of Ready-Mixed Concrete Production Facilities." Certification shall not be more than twelve months old.		2
<text></text>	В.	Conc contr	rete Contractor Qualification: Concrete contractor shall include in their bid package to the general actor, a minimum of three similar and successful projects that clearly indicates the ability to successfully rm the work and to achieve the interior clab on ground telegrapses required in this specification. The		
<text></text>		Conc	rete Contractor's team shall have participated in the majority of the referenced projects, and that team remain the same throughout the duration of this project. Concrete Contractor's gualification shall be	C.	2
<text></text>	C.	subm	nitted as part of the bid package. The Owner has rights to reject the Concrete Contractor. Ing Agency Qualifications: An independent agency, qualified according to ASTM C1077 and ASTM E329 for	D.	r r
<text></text>		testir 1.	ng indicated, as documented according to ASTM É548. Personnel conducting field tests shall be qualified as ACI Concrete Field-Testing Technician, Grade 1,		9 
<ul> <li>Leccard Laboration (Lection) (Lection) - Space 1, Status 2, Sta</li></ul>		2.	according to ACI CP-01 or an equivalent certification program. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and		c Ł
<ul> <li>Control of the second of the se</li></ul>		Tusin	Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.	E.	1 4
<ul> <li>The initial contracts of the section for the initial contracts of funct filter, and final description of the initial contracts of the section o</li></ul>	D.	Cherr	the applicator: General contractors bloding or negotiating a Tractor Supply project shall contact Euclid nical to obtain a list of Trained Applicators located within the geographic region of the project. General ractors shall solicit and accept pricing only from those applicators as provided by Euclid Chemical. <b>The</b>		i č
1. Held intracts : under Userial - ar/- 44 = 1967. (#astrong Reschedungen III)     1. Forder the proposed concrete intractages and to biscuss the required methods and procedures concrete ends of the control and procedures in the required methods and interval		Train be th	ned Applicator selected for the initial application of joint filler and liquid densifier/sealer shall ne same as for the polishing process and additional application of liquid densifier/sealer.		(
<ul> <li>Alex prior to the start of concrete table construction, the general contractor shall social pre-concrete conference agends and attenders 2d asys prior to the scheduled date of the conference.</li> <li>Authent the concrete work is black additional to the black of the conference.</li> <li>Authent the concrete work is black additional to the black of the conference.</li> <li>Control Contractor: Project Hanger and Buger/Istington 10 black hanger additional to the black of the black of the black of the concrete work is black of the conference and the scheduled date.</li> <li>Control Contractor: Project Hanger and Field Exp to construction work of the black of the concrete work of the scheduled date.</li> <li>Control Contractor: Project Hanger and Field Exp to construction work of the scheduled date.</li> <li>Control Control Control Control Control Control Hanger and Field Exp to construction.</li> <li>Control Control Control Control Control Hanger and Field Exp to construction and calculation and calculation of the scheduled date.</li> <li>Control Control Control Control Control Hanger and Field Exp to control Hanger Advancements of the scheduled date.</li> <li>Control Control Control Control Control Hanger Advancements of the scheduled date.</li> <li>Control Hander Market Manager and Hanger Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Control Hander Market Manager Advancements of the scheduled date.</li> <li>Cont</li></ul>	Е.	1. Conc	Philip Brandt: Euclid Chemical - 877-438-3826 / pbrandt@euclidchemical.com rete Slab on Ground Pre-Installation Conference (Tractor Supply Requirement): At least <u>30</u>		i e
<ul> <li>Concernent and a second second</li></ul>		days to re	prior to the start of concrete slab construction, the general contractor shall conduct a meeting view the proposed concrete mix designs and to discuss the required methods and procedures	_	1
<ul> <li>with the concrete work to a stead the conference, including, but not himself to the following:         <ul> <li>energial Contractor: Project Manager and Superintende:</li> <li>Concrete Contractor, Project Manager and Field Rep for concrete mixes, quality control,</li> <li>Tarsing Agency, Project Manager and Field Rep for concrete mixes, quality control,</li> <li>Tarsing Agency, Project Manager and Field Rep for concrete mixes, quality control,</li> <li>Tarsing Agency, Project Manager and Field Rep for concrete mixes, quality control,</li> <li>Tarsing Agency Exercit liquid dermitige search and joint filling applicator.</li> <li>The inhibite and the conference on the concrete application of the concrete application of the concrete application.</li> </ul> </li> <li>The inhibite and the design will produce the concret cap applicator.</li> <li>The inhibite and the conference on the concrete application of the concrete application.</li> <li>The inhibite and the conference on the concrete application.</li> <li>The inhibite and the conference on the concrete application.</li> <li>The inhibite and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete application.</li> <li>Mantenda Concrete and the conference on the concrete applicat</li></ul>		to ac confe	chieve the requirements of this specification. The general contractor shall send a pre-concrete erence agenda to all attendees <u>10</u> days prior to the scheduled date of the conference.	F.	ä
E. Kendy-mik Concrete Producer: Fuence 11 (1997) (1997) Manager 11     E. Kendy-mik Concrete Producer: Fuence and Priorited Rep for concrete mikes, subject catalog, etc.     E. Owner Representative: If Required 1     E. Hull Kannel: Kurld Chemical (1977-438-332.0), <i>return Representative</i> : If Required 1     E. Hull Kannel: Kurld Chemical (1977-438-332.0), <i>return Representative</i> : If Required 1     E. Hull Kannel: Kurld Chemical (1977-438-332.0), <i>return Representative</i> : In a subject of the meeting concrete suppler stability for the general concrete suppler stability in the subject of the general concrete suppler stability and the stability and setting times, to a subject the subject of the general concrete suppler stability and the stability and setting times, to a subject the subject of the general concrete suppler stability and the subject of the general concrete suppler stability and setting times, to a subject the subject of the general concrete suppler stability and setting times, to a subject the subject of the subject o		1.	with the concrete work to attend the conference, including, but not limited to the following:		ļ
<ul> <li>Testing Agency: Project Manager and Field Rep for concrete mixes, quality cantrol, in foor blocknowline (Control Agency and Statistics).</li> <li>Traffield Applicator: Liquid densifier sealer and joint filling applicator in the search of the search of</li></ul>			b. Ready-mix Concrete Producer: Quality Control Manager c. Concrete Contractor: Foreman		]
<ul> <li>Owner Representative: If Required         <ul> <li>Owner Representative: If Required</li> <li>Hindse of the meeting shall be recorded, typed, and printed by the general contractor and distributes to all concerned parties, including the architect, butture any printer, and Tractor.</li> </ul> </li> <li>The minutes of the meeting shall be recorded, typed, and printed by the general contractor and distributes to all concerned parties, including the architect, butture any printer, and tractor.</li> <li>The minutes shall include a statement by the concrete contractor that the proposed concrete contractor that the groups that the concrete contractor that the groups that the concrete contractor can achieve the requirements of this specification.</li> <li>Marcelland Statement by the concrete contractor that the proposed concrete contractor that the groups that the concrete contractor can achieve the requirements of this specification.</li> <li>Marcelland Statement By the concrete contractor that the proposed concrete contractor can achieve the requirements of this specification.</li> <li>Concrete Statement By the concrete contractor can achieve the requirements of this specification.</li> <li>Concrete Net Ministry (Concrete Contractor Cancelland Contreconte</li></ul>			d. Testing Agency: Project Manager and Field Rep for concrete mixes, quality control, floor tolerance testing, etc.		
			e. Owner Representative: If Required f. Trained Applicator: Liquid densifier sealer and joint filling applicator		
<ul> <li>Hardenberger, and Loncernus particle, inclusing the Architect. 2014 (1995).</li> <li>Hardenberger, and Loncernus particle, inclusing the Architect. 2014 (1995).</li> <li>Hardenberger, and Architect. 2014 (1995).</li> <li>Arthorne M. S. Standard, a Lakameth by the concrete counces applies reported concrete counces applies and the sequences of the specification.</li> <li>ART J. PRODUCTS C. C.</li></ul>		2.	g. Phil Brandt: Euclid Chemical (877-438-3826) / <u>pbrandt@euclidchemical.com</u> Minutes of the meeting shall be recorded, typed, and printed by the general contractor and distributed to all concorned particle including the auchited of the general contractor.		1
<ul> <li>approache concrete mit designs will produce the concrete contractor but the proposed concrete contractor of the the proposed concrete contractor of the the proposed concrete contractor of the specification.</li> <li>A. The minutes shall include a statement by the concrete contractor but the concrete contractor of the specification.</li> <li>SMT 2 - PRODUCTS G. Concrete methods of the requirements of this specification.</li> <li>A. Concrete methods. (ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. ACM C150/C150m, Type U), Or ASTM C 995, Type II (Portland Unestone Corrent. State D Gradual Unestone Corrent. Type V), Or ASTM C 995, Type II (Portland Unestone Corrent. State D Gradual Unestone Unestone Corrent. State D Gradual Unestone Corrent. State D Gradual Unestone Corrent</li></ul>		3.	uiscributed to an concerned parties, including the architect, structural engineer, and Tractor Supply Project Manager, within three days of the meeting. The minutes shall include a statement by the ready-mix concrete supplier stating that the		i i
<ul> <li>a. The minutes shall include a statement by the concrete contractor that the proposed concrete contractor can achieve the requirements of this specification.</li> <li>MARENUES</li> <li>Concrete materials:         <ul> <li>Concrete materials:</li> <li>Concretematerials:</li> <li>Concrete materials:</li></ul></li></ul>			proposed concrete mix designs will produce the concrete quality required by these specifications.		נ   
Concrete contractor can achieve the requirements of this specification.     PART 2 - PRODUCTS     Concrete instantial:     Concortee instantial:     Concrete instantial:     Concrete instanti		4.	The minutes shall include a statement by the concrete contractor that the proposed concrete mix designs will provide appropriate workability and setting times, to ensure that the		I
<ul> <li>Carl Matterials</li> <li>Concrete materials:</li> <li>Concrete materials:</li></ul>		חם נ	concrete contractor can achieve the requirements of this specification.		
<ul> <li>Concrete materials:</li> <li>Portiana Centre SCH C130/C150m, Type JIJ, Dr ASTM C-395, Type II (Portianal Lineatone Centrent).</li> <li>Concrete Sch fine Apprepates: ASTM C 33. Combined Apprepate Gradation For Sible On Grade And Otter Designated Concrete Stall De 8% - 18%, For Large Top Size Apprepates (10*1) Or 5% - 27%. For Smulter Top Size Apprepates (10*1) Or 5% - 27%. For Smulter Top Size Apprepates (10*1) Or 5% - 27%. For Smulter Top Size Apprepates (10*1) Or 5% - 27%. For Smulter Top Size Apprepates (10*1) Or 5% - 27%. For Apprepates (10*1) Or</li></ul>	2.01	рк( Мате	RIALS	G.	l a
<ol> <li>Portiand Camerit: ASTM C1590, Type JII, Or ASTM C 595, Type JI (Portiand Limestone Camera), Use Grand JC Commit Throughout The Project.</li> <li>Camera And Finer Aggregates (17 Or M<sup>3</sup>) Retained On Each Since Balow The Top Sine And Above The Bolo Sine And Above The Sine And Pierce Links and Pie</li></ol>		Conc	rete materials:		
<ol> <li>Coarse And Three Aggregates: ASTM C.33. Combined Aggregate Gradition for Slabs On Grade And Other Designated Controlet Shall Rev J. 1984. For Jarge Top Size Aggregates (1/1) C Mill. No. 100 Size. Approx. 100 Size. A</li></ol>		1.	Portland Cement: ASTM C150/C150m, Type I/Ii, Or ASTM C-595, Type II (Portland Limestone Cement). Use One Brand Of Cement Throughout The Project.		l i
<ul> <li>Smaller Top Size Aggregates (1<sup>2</sup> Or S<sup>1</sup>) Retained On Each Sieve Below The Top Size And Above The No. 100 and the Size Additional Control of Deravious, Configures And Press Shall Have A Maximum Aggregate Size Of 1<sup>1</sup> (457 Stone).</li> <li>Interior Siko On Ground Unice Sile (1<sup>2</sup> (457 Stone).</li> <li>Water: Complying With ASTM CO4.</li> <li>Water: Compl</li></ul>		2.	Coarse And Fine Aggregates: ASTM C 33. Combined Aggregate Gradation For Slabs On Grade And Other Designated Concrete Shall Be 8% - 18% For Large Top Size Aggregates (11/2") Or 8% - 22% For		
<ul> <li>A. Pooling's ADD Hers': Lowiss Inducted Underwiss En Diawings, Footing's ADD Hers's Shall Have A</li> <li>B. Insertor Stab Don Strout: Unders Inducted Underwiss En Drawings, Exterior Stab Don Ground Shall Have A Maximum Coarse Aggregate Size Of 11 (457 Stone).</li> <li>C. Exterior Stab Don Strout: Unders Indicated Underwise En Drawings, Exterior Stab Don Ground Shall Have A Maximum Coarse Aggregate Size Of 11 (457 Stone).</li> <li>W. Erthalling Admitture (Exterior Stab Don Ground Concrete): ASTM C260. Admixture Shall Not Be Used For Interior Sibb Don Ground Concrete Work.</li> <li>A. Fichalling Admixture (Exterior Stab Don Ground Concrete): ASTM C260. Admixture Manufacture Fishell Provide Wittlen Certification That The Afric Entraining Admixture State Construction Products Darvair Or Darks.</li> <li>M. Erther Stab Don Ground State Don Ground State State Construction Products Darvair Or Darks.</li> <li>M. Erther State Don Ground State State Don Ground State State</li></ul>			Smaller Top Size Aggregates (1" Or ¾") Retained On Each Sieve Below The Top Size And Above The No. 100 Sieve.		(
<ul> <li>ball Have A Maximum Carea Aggregate Size Of 1" (475 Stone).</li> <li>C. Exterior Size No Ground: Utiles Indicated Otherwise In Darwings, Exterior Size On Ground Shall Have A Maximum Coarse Aggregate Size Of 1" (457 Stone).</li> <li>Water: Complying Wh STM C34.</li> <li>M. Arterior Size On Ground: When Ground): Air-Entraining Admixture Shall Not Be Used For Arterior Size Do Ground Shall Concrete: Work.</li> <li>Arterior Size Do Ground Shall Concrete Work.</li> <li>Arterior Size Do Ground Shall Be Arteriating Admixture IS Compatible With Other Required Admixture (Exterior 184 Do Ground Shall Be Arteriating (495 - 694), Acceptable Products: Euclid Chemical As 2 Or Ar 40, Maxter Bailders Solutions Micro Air, Graze Construction Toducts Util Chemical Area 20 FAR 40, Maxter Bailders Solutions Pace Solutions P</li></ul>			<ul> <li>A. Footings And Piers: Unless Indicated Otherwise On Drawings, Footings And Piers Shall Have A</li> <li>Maximum Aggregate Size Of 1" (#57 Stone), And Beams ¾" (#67 Stone).</li> <li>B. Interior Slab On Ground: Unless Indicated Otherwise In Drawings, Interior Slab On Ground</li> </ul>		1
<ul> <li>Shall Have A Maximum Coarse Aggregate Size Of 1" (#57 Stone).</li> <li>Weate: Complying With ASTM C54.</li> <li>Ale: Complying With ASTM C54.</li> <li>Ale: Complying With ASTM C54.</li> <li>Ale: Complying With ASTM C54.</li> <li>Shall Provide Wither Certification That The Alr: Extraining Admixture Is Compatible With Other Required Admixtures. All Exterior Sib On Ground Stull Be All: Extrained (4%) - (%). Acceptable Products: Euclid Chemical Ase 92 Or Air 40; Master Builders Solutions Sturon Berns, Crace Construction Products. Dark Of Darex.</li> <li>Water Reducing, Admixture: ASTM C649, Type A Containing Net More Than 0.05% Chloride Ions. Acceptable Products: Biol Admixture: ASTM C649, Type A Containing Net More Than 0.05% Chloride Ions. Acceptable Products: Biol Admixture: Status C649, Type C Containing Net More Than 0.05% Chloride Ions. Acceptable Products: Biol Admixture: Status C649, Type C Or Cataning Net More Than 0.05% Chloride Ions. Acceptable Products: Biol Contraction Products Darater 117.</li> <li>High Range Water Reducing Admixture: Status C649, Type C Or E Containing Net More Chloride Ions Than Are Present In Municipal Drinking Water. The Admixture Must Have Containing Net More Chloride Ions Than Are Present In Municipal Drinking Water. The Admixture Must Have Containing Net More Chloride Ions Than Are Present In Municipal Drinking Water. The Admixture Must Fusion Water Bouldoes Stutes Distores Containing Net More Chloride Ions Than Acceptable Prom An Independent Testing Ladomixture Must Have Long Term, Non Corresive Test Data Prom An Independent Testing Ladomixture Must Have Long Term, Non Corresive Test Data Prom An Independent Testing Ladomixture Must Fusion Barbard C11.</li> <li>Water Reducing Admixtures: Containing More Than 0.05% Chloride Ions Are Not Permitted. B. Bry Ath S Dniy Permitted In Externor Status On Ground Stutes Compare Status Areas's Data Proceent Status Containing Net Mare Testing Mater Status Contage Status Containing Net Mare 11.<!--</td--><td></td><td></td><td>Shall Have A Maximum Coarse Aggregate Size Of 1" (#57 Stone). C. Exterior Slab On Ground: Unless Indicated Otherwise In Drawings, Exterior Slab On Ground</td><td></td><td>ļ</td></li></ul>			Shall Have A Maximum Coarse Aggregate Size Of 1" (#57 Stone). C. Exterior Slab On Ground: Unless Indicated Otherwise In Drawings, Exterior Slab On Ground		ļ
<ol> <li>Air-Emraining Admixture (Interior Sibb On Ground): Air-Entraining Admixture Shall Not Be Used For Interior Sibb On Ground Concrete Work.</li> <li>Air-Entraining Admixture (Exterior Sibb On Ground Concrete): ASTM C260. Admixture Manufacturer Shall Provide With Concrete Control That the Air-Entraining Admixture Is Compatible With Other Products: Evaluation Concrete. Set M C494, Type A Containing Not More Than 0.05% Chiorde Ions.</li> <li>Water-Reducing Admixture: ASTM C494, Type A Containing Not More Than 0.05% Chiorde Ions. Acceptable Products: Evaluation Chemical Evano Setters Solutions Pozzolith Series; Group Control Products: Devaluation Admixture: ASTM C494, Type D Containing Not More Than 0.05% Chiorde Ions. Acceptable Products: Evaluation Chemical Retard Program Solutions Pozzolith Series; Group Delvo; Grace Construction Products: Dariated 17.</li> <li>High Range Water-Reducing Admixture: SSTM C494, Type D Containing Not More Than 0.05% Chiorde Ions. Acceptable Products: Evaluation: Solutions Pozzolith Series Containing Not More Chiorde Ions Than Are Present In Municipal Drinking Water. The Admixture Manufacturer Must Net Net Long-Term, Non-Corrosive Rest Data From An Independent Testing Laboratory (Of A Least A Year's Duration) Using An Acceptable Accelerating Admixture: ASTM C494, Type I Or G Containing Not More Chiorde Ions Than Are Present In Municipal Drinking Water. The Admixture Manufacturer Must Network Long-Term, Non-Corrosive Rest Data From An Independent Testing Laboratory (Of A Least A Year's Duration) Using An Acceptable Accelerated Corresion Test Method Such As That Using Electrical Potational Mesarer 20, Crace Construction Products Folderel.</li> <li>Prohibited Admixtures: Containing More Than 0.05% Chioride Ions Are Not Permitted.</li> <li>Prohibited Admixtures: Containing More Than 0.05% Chioride Ions Are Not Permitted.</li> <li>Prohibited Admixtures: Containing More Than 0.05% Chioride Ions Are Not Permitted.</li> <li>Prohibited Madmixture: The Coo</li></ol>		3.	Shall Have A Maximum Coarse Aggregate Size Of 1" (#57 Stone). Water: Complying With ASTM C94.		j
<ul> <li>S. Air-Entraining Admixture (Exterior Slab On Ground Concrete): ASTM C260. Admixture Manufacturer Shall Provide Wirker Certification That The Air-Entraining Admixture B Compatible With Other Required Admixtures. All Exterior Slab On Ground Shall Be Air-Entrained (4% - 6%). Acceptable Products: Eucli Chemical Asea 22 Or Air 49, Haster Bullafers Solutions Micro Air, Grane Construction Products: Eucli Chemical Asea 22 Or Air 49, Haster Bullafers Solutions Micro Air, Grane Construction Products: Water-Reducing, Admixture: ASTM C494, Type A Containing Not More Than 0.05% Chloride Ions. Acceptable Products: Fueld Chemical Retarder 75, Master Bullers Solutions Pozzolth Series; Grace Construction Products Wide Or Daracem Series.</li> <li>Water-Reducing, Non-Corrosive Accelerating Admixture: ASTM C494, Type C Or E Containing Not More Childring Retarding Admixture: ASTM C494, Type C Or E Containing Not More Childring Retarding Admixture: ASTM C494, Type C Or E Containing Not More Childring Internation Products Darated T:</li> <li>Water-Reducing, Non-Corrosive Accelerating Admixture: ASTM C494, Type C Or E Containing Not More Childring Internation Products Darated T:</li> <li>Water-Reducing, Nan-Corrosive Recelerating Admixture: AsTM C494, Type C Or E Containing Not More Childre Ions: Than A Present In Municipal Drinking Water. The Admixture Manufacturer Must Have Long-Term, Non-Corrosive Recelerated Corrosing Not More Non Nex; Master Bullders Solutions Ne334 Or Pozruter 20; Grace Construction Products Polareset.</li> <li>Pri Ashi Soluh Permitted In Exterior Slab On Ground Subject To Akial Silter Reactivity (Asr); Burley Correct Boards Show Permitted. Do regulation Polycopyede/Polychylene Fiber With A Minimum Tenglis Strength Of Zikki And Minimum Length Of 2 Inches.</li> <li>Acceptable Macro-Syntheir Device Coarse Montifiang, Advirponylene/Polychylene Fiber With A Minimum Tenglis Strength Of Zikki And Minimum Length Of 2 Inches.</li> <li>Acceptable Macro-Syntheir Device Solution Bio Ma</li></ul>		4.	Air-Entraining Admixture (Interior Slab On Ground): Air-Entraining Admixture Shall Not Be Used For Interior Slab On Ground Concrete Work.		י   ו
<ul> <li>Required Admixtures, All Exterior Slab On Ground Shall Be All-Entrained (4%) - 6%), Acceptable Products: Euclid Chemical Association 5.014 API, Nease Builders Solutions Micro Art, Taxee Construction Products World Or Daracem Series.</li> <li>Water-Reducing, Admixture: ASTM C494, Type A Containing Not More Than 0.05% Chiorde Ions. Acceptable Products: Euclid Chemical Extern (75, Master Builders Solutions Prozoithi Series); Group Construction Products World Or Daracem Series.</li> <li>Water-Reducing, Nearding Admixture: ASTM C494, Type ID Containing Not More Than 0.05% Chiorde Ions. Acceptable Products: Euclid Chemical Retarder 75, Master Builders Solutions Prozoith Series Or Double Or Grave Construction Products Darated 17.0</li> <li>Water-Reducing, Non-Corrosive Accelerating Admixture: ASTM C494, Type ID C Containing Not More Chain 0.05% Chiorde Ions. Acceptable Products: Euclid Chemical Euron 37, Master Builders Solutions Rheabuld 1000; Grace Construction Products Daracem 100.</li> <li>Water-Reducing, Non-Corrosive Accelerating Admixture: ASTM C494, Type ID C C E Containing Not More Chiorde Ions Than Are Present In Municipal Drinking Water. The Admixture Mundatcurer Must Nave Cuong-Term, Non-Corrosive Test Data From An Independent Testing Laboratory (Df AL Least A Year's Duration) Using ArcCeptable Accelerated Corrosion Test Method South S That Libra Discussion Solutions Ne34 Or Pozzitez 20; Grace Construction Products Polarest.</li> <li>Probibled Admixtures:</li> <li>A. Calcium Chiorde Or Admixtures Containing More Than 0.05% Chiorde Ions Are Not Permitted.</li> <li>Pri Yeah IS Ben A Painer (Der Kim Subtatoms).</li> <li>Pri Yeah IS Ben A Painer (Der Kim Subtatoms).</li> <li>Pri Yeah IS Ben A Painer (Der Kim Subtatoms).</li> <li>Prophibled Admixtures:</li> <li>A. Caceptable Marci-Synthetic Darse Monotinement, Self Finitaling, Polymponyee, Polybelylee Fiber With A Minimum Tengis Strength Of 73kis And Minimum Length Of 2 Inches.</li> <li>A. Acceptable</li></ul>		5.	Air-Entraining Admixture (Exterior Slab On Ground Concrete): ASTM C260. Admixture Manufacturer Shall Provide Written Certification That The Air-Entraining Admixture Is Compatible With Other	PART	3
<ul> <li>A. Calcium Calcium Structures (Single Calcium) and More Than 0.05% Chloride Lons. A. Calcium Science (Construction Products Wirds Or Daracem Series). Master Builders Solutions Pozzolith Series; Grace Construction Products Urids D Daracem Series.</li> <li>Weter-Reducing, Retarding Admixture: ASTM C494, Type I Containing Not More Than 0.05% Chloride Lons. Acceptable Products: Euclid Chemical Retarder 75, Master Builders Solutions Pozzolith Series Or Delevo; Grace Construction Products Darated 17.</li> <li>High Range Water-Reducing Admixture (Superplasticizer): ASTM C494, Type I Or C Containing Not More Than 0.05% Chloride Lons. Acceptable Moulds: Euclid Chemical Long 37, Master Builders Subtract Network (Superplasticizer): ASTM C494, Type I Or E Containing Not More Change Matter-Reducing, Non-Corrosive Accelerating Admixture Admixture Manufacturer Must Have C. Long-Term, Non-Corrosive Test Data From An Independent Testing Laboratory (Of At Least A Year's Duritorin Using An Acceptable Products: Euclid Chemical Accelguade 80/90 Or Nes; Master Builders Solutions No34 Or Pozzute 20; Grace Construction Products Polarest.</li> <li>Prohibited Admixtures: Containing More Than 0.05% Chloride Lons: Are Not Remitted.</li> <li>A. Calcium Change By Weight.</li> <li>Macro-Synthetic Fiber (Theorin Cale Containing More Than 0.05% Chloride Lons: Are Not Remitted.</li> <li>A. Caceptable Products: Euclid Chemical Sub On Ground Subject To Alkali Silica Reactivity (Asr); Up To 20% Exchange By Weight.</li> <li>Macro-Synthetic Fiber (Theorin Changer Tength Of 73:Asid Admiximum Length Of 2 Loncks.</li> <li>A. Acceptable Macro-Synthetic Fiber (Nesubstrutions); "Tuf-Strand Sf" By Euclid Chemical. Phill Brand 877:43-33:826 / ProndityEuclideAmerical.</li> <li>Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh correcte.</li> <li>Acceptable manufacturer: Water Sind Code "the amxistind word Chemical.</li> <li>Evaporation Retarder: Waterbor</li></ul>			Required Admixtures. All Exterior Slab On Ground Shall Be Air-Entrained (4% - 6%). Acceptable Products: Euclid Chemical Aea-92 Or Air 40; Master Builders Solutions Micro Air; Grace Construction	3.01	]
<ul> <li>Construction Products Write Or Devices Series.</li> <li>Water-Reducing, Retarding Admixture: ASTM C494, Type D Containing Not More Than 0.05% Chloride Lons, Acceptable Products: Euclid Chemical Retarder 75; Master Builders Solutions Pozzolith Series Or Delvo; Grace Construction Products Darated 17.</li> <li>High Range Water-Reducing Admixture (Superplasticizer): ASTM C494, Type P Or G Gontaining Not More Than 0.05% Chloride Lons. Acceptable Products: Euclid C494, Type C Or E Containing Not More Chloride Long School (Or All Least A Year's Device): Grace Construction Products: Euclid C494, Type C Or E Containing Not More Chloride Long Tor Crossive Test Data From An Independent Testing Laboratory (Or All Least A Year's Device): Ungr-Ferm, Non-Corrosive Test Data From An Independent Testing Laboratory (Or All Least A Year's Device): Ungr-Ferm, Non-Corrosive Test Data From An Independent Testing Laboratory (Or All Least A Year's Device): Using Proceeding Cargo Construction Products Polarest.</li> <li>Prohibited Admixtures 20; Grace Construction Products Polarest.</li> <li>Prohibited Admixtures: C0: Grace Construction Products Polarest.</li> <li>Prohibited Admixture: C1; Grace Construction Products Polarest.</li> <li>Prohibited Admixture: C1; Grace Construction Products Polarest.</li> <li>Prohibited Admixture: C1; Grace Construction Products Polarest.</li> <li>Acceptable Macro-Signite Correst Solutions No: Signite Congrege View Education No: Congrege View C494, Type C View, Polarest View, C494, Type C View,</li></ul>		6.	Water-Reducing Admixture: ASTM C494, Type A Containing Not More Than 0.05% Chloride Ions. Acceptable Products: Euclid Chemical Eucon Series: Master Builders Solutions Pozzolith Series: Grace	Α.	
<ul> <li>Ions. Acceptable Products: Euclid Chemical Retarder 75; Master Builders Solutions Pozzolith Series Or Delvo; Grace Construction Products Decratant (Superplasticizer): ASTM C494, Type F Or G Containing Not More Than 0.05% Chloride Ions. Acceptable Products: Euclid Chemical Euco 37; Master Builders Solutions Rheobuild 1000; Grace Construction Products Dearcem-100.</li> <li>Water-Reducing, Mon-Corrosive Less Date From AM Admisture: ASTM C494, Type C Or E Containing Not More Chloride Ions Than Are Present In Municipal Drinking Water. The Admisture Manufacturer Must Have Long-Term, Mon-Corrosive Less Date From AM Admisture: Stating Laboratory (Of AL least A Year's Dearternial Measures. Acceptable Products: Euclid Chemical Acceleguard 80/90 Or Nca; Master Builders Solutions Nc34 Or Pozzutec 20; Grace Construction Products Polarset.</li> <li>Prohibited Admistures: Containing More Than 0.05% Chloride Ions Are Not Permitted. B. Fty Ash Is Only Permitted In Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); Up To 2006 Exchange By Weight.</li> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Subject To Alkali SIM C1116. "Macro Fiber Solutions Nc35 Schlab Macro-Synthetic Fiber (Work Schall E A) Exterior Slab On Ground Concrete): Comply With ASTM C1116. "Macro Fiber Shall Bach Patternial Acceptable Monifiament, Self-Fibrillating, Polyprophylenk/Polyethylene Fiber With A Minimum Engle Fibrillating. Polyprophylenk/Polyethylene Fiber With A Minimum Engle Fibrillating. For Sput Schall Bach Schall Bach</li></ul>		7.	Construction Products Wrda Or Daracem Series. Water-Reducing, Retarding Admixture: ASTM C494, Type D Containing Not More Than 0.05% Chloride		t
<ul> <li>B. High Kange Water-Keducing Admixture (Superplasticizer): ASTM C494, Type F Or G Containing Not More Than 0.05% Cholde Long. Acceptable Products: Euclid Chemical Euro 37; Master Builders Solutions Rheobuild 1000; Grace Construction Products Daracem-100.</li> <li>Water-Reducing, Non-Corrosive Res Accelerating Admixture. SMN C494, Type C Or E Containing Not More Choloride Lons Than Are Present In Municipal Drinking Water. The Admixture Manufacturer Must Have Long-Term, Non-Corrosive Res Data From An Independent Testing Laboratory (Of At Least A Year's Duration) Using An Acceptable Accelerated Corrosion Test Method Such As That Using Electrical Potential Messures. Acceptable Products: Euclid Chemical Acceleguard 80/90 Or Nea; Master Builders Solutions Nc33 4 Or Pozzutec 20; Grace Construction Products Polarset.</li> <li>Prohibited Admixtures:</li> <li>A. Derbibited Admixtures: Solution Subject To Alkali Silica Reactivity (Asr); UI To 2005 Exchange Py Weight.</li> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM (1116. "Macro-Synthetic Fiber (Martine Content Concrete Fiber) Wating, Polyrophylene/PolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyrenyPolyreny</li></ul>		-	Ions. Acceptable Products: Euclid Chemical Retarder 75; Master Builders Solutions Pozzolith Series Or Delvo; Grace Construction Products Daratard 17.		l /
<ul> <li>Solidowis Kiebolanis Kiebolanis Accelerating Admixture: ASTM C494, Type C Or E Containing Not More Chiote Lons Than Are Present in Municipal Drinking Water. The Admixture Mannfacturer Must Have C. Chiote Lons Than Are Present in Municipal Drinking Water. The Admixture Mannfacturer Must Have C. Chiote Long Term, No. An cross Patel Balta Form Conclusion End Consistence and Consistence</li></ul>		8.	High Range Water-Reducing Admixture (Superplasticizer): ASTM C494, Type F Or G Containing Not More Than 0.05% Chloride Ions. Acceptable Products: Euclid Chemical Eucon 37; Master Builders	В.	I
<ul> <li>Long-Term, Non-Corrosive Test Data From An Independent Testing Laboratory (Of At Least A Year's Duration) Using An Acceptable Accelerated Corrosion Test Method Such As That Using Electrical Protential Measures. Acceptable Products: Euclid Chemical Accelegard B(9) 90 r Nca; Master Builders Solutions Nc33 40 Prozutez 20; Grace Construction Products Polarset.</li> <li>Prohibited Admixtures:</li> <li>A. Calcium Chioride Or Admixtures Containing More Than 0.05% Chloride Ions Are Not Permitted.</li> <li>D. Fly Ashi Solviy Permitted In Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); up To 20% Exchange By Weight.</li> <li>Maco-Synthetic Filer (Interior And Externor Slab On Ground Concrete): Comply With ASTM CL116.</li> <li>Maco-Synthetic Filer (Interior And Externor Slab On Ground Concrete): Comply With ASTM CL116.</li> <li>Macro-Synthetic Filer (Interior And Externor Slab On Ground Subject To Alkali Silica Reactivity (Asr); up To 20% Exchange By Weight.</li> <li>Macro-Synthetic Filer (Interior And Externor Slab On Ground Concrete): Comply With ASTM CL116.</li> <li>Marco Synthetic Filer (Interior And Externor And Silica Electronical Concrete): Comply With ASTM CL116.</li> <li>Marco Synthetic Filer (Interior And Externor Slab On Ground Concrete): Comply With ASTM CL116.</li> <li>Marco Synthetic Filer (Interior And Externor Slab On Ground Concrete): Comply With ASTM CL116.</li> <li>Marco Stab By 7-432-3326 (Protect): Euclid Chemical Concrete Surface.</li> <li>A. Acceptable Product: Euclid Chemical "Eucoshield."</li> <li>Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete: Slab On Ground Concret: Slab On Ground Concret: Slab On Ground Slab.</li> <li>Acceptable manufacturer: Waterborne, Nonomolecular film forming, testrori slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>Interior Slab on Ground Curing: ASTM C039 with a maximum VOC content o</li></ul>		9.	Water-Reducing, Non-Corrosive Accelerating Admixture: ASTM C494, Type C Or E Containing Not More Chloride Ions Than Are Present In Municipal Drinking Water. The Admixture Manufacturer Must Have	C	,
<ul> <li>Potential Measures. Acceptable Products: Euclid Chamical Acceptable 20/90 Or Nea; Master Builders Solutions KS34 Or Pozzute 20; Gorace Construction Products Polarset.</li> <li>Prohibited Admixtures: A. Grave Construction Products Polarset.</li> <li>Prohibited Admixtures: Containing More Than 0.05% Chloride Ions Are Not Permitted. D. Up To 20% Exchange BW Weight.</li> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); Up To 20% Exchange BW Weight.</li> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete); Comply With ASTM C1116.</li> <li>"Macro" Fiber Shall Be A Patented Coarse Monofilament, Self-Fibrillating, Polyaropylene/Polyethylene Fiber With A Minimum Tensile Strength 07 73kis And Minimum, Length 07 2 Inches. A. Acceptable Macro-Synthetic Fiber (No Substitutions): "Tuf-Strand Sf" By Euclid Chemical. Phil Brandt 877-438-3826 / Pbrandt@Euclidchemical.Com Concrete Surface. A Acceptable Product: Euclid Chemical "Eucoshield."</li> <li>Evaporation Retarder And Finish Aid: Integral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface. A Acceptable Product: Euclid Chemical "Eucoshield."</li> <li>Related Materials: a. Acceptable manufacturer: "Eucobar" by Euclid Chemical.</li> <li>Interior Slab on Ground Curing: ASTM C309 with a maximum VOC content of 350g/l. The interior slab on ground shall be cured using a reduced odor, dissipating or removable liquid membrane forming curing compound.</li> <li>Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>Interior Slab on Ground Curing: ASTM C309 with a maxings, Interior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>Interior Slab on Ground Univer Sindicated otherwise on drawings, exterior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>Interior Slab on Ground Univer Sindicated otherwise on drawings, exterior sl</li></ul>			Long-Term, Non-Corrosive Test Data From An Independent Testing Laboratory (Of At Least A Year's Duration) Using An Acceptable Accelerated Corrosion Test Method Such As That Using Electrical	с.	5
<ol> <li>Prohibited Admixtures:         <ul> <li>Calcium Chloride Or Admixtures Containing More Than 0.05% Chloride Ions Are Not Permitted.</li> <li>Fly Ash Is Only Permitted In Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); Up To 20% Exchange By Weight.</li> </ul> </li> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM C1116.         <ul> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM C1116.             <ul> <li>Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM C1116.</li> <li>Macro-Fiber Shall Be A Patented Coarse Monofilament, Self-Fibrillating, Polypropylene/Polyethylene Fiber With A Minimum Tensile Strength Of 73ksi And Minimum Length Of 2 Inches.</li> <ul> <li>A. Acceptable Macro-Synthetic Fiber (No Substitutions): "Tuf-Strand Str By Euclid Chemical. Phil Brand 877-438-3826 / Pbrandt@Euclidchemical.Com</li> <li>Evaporation Retarder: Materborne, monomolecular film forming, manufacture Loss From</li></ul></ul></li></ul></li></ol>			Potential Measures. Acceptable Products: Euclid Chemical Accelguard 80/90 Or Nca; Master Builders Solutions Nc534 Or Pozzutec 20; Grace Construction Products Polarset.		
<ul> <li>B. Fly Ash Is Only Permitted In Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); UD To 20% Exchange By Weight.</li> <li>11. Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM C1116. "Wacro" Fibers Shall Be A Patented Coarse Monoflament, Self-Fibrillating, Polypropylice/Polyethylene Fiber With A Minimum Tensile Strength 0f 73ksi And Minimum Length Of 2 Intens. <ul> <li>A. Acceptable Macro-Synthetic Fiber (In Substitutions): "Tuf-Strand Sf" By Euclid Chemical. Phil Brandt 877-438-3826 / Pbrandt@Euclidchemical.Com</li> <li>C. Evaporation Retarder And Finish Ald: Integral Finishing Ald That Reduces Rapid Moisture Loss From Concrete Surface.</li> <li>A. Acceptable Product: Euclid Chemical "Eucoshield."</li> </ul> </li> <li>B. Related Materials: <ul> <li>Acceptable manufacturer: "Eucobar" by Euclid Chemical.</li> <li>Interior Slab on Ground: Unligs. ASTM C309 with a maximum VOC content of 350g/l. The interior slab on ground shall be cured using a reduced odor, dissipating or removable liquid membrane forming curing compound.</li> <li>Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>D. Interior Slab on Ground: Unless indicated otherwise on drawings, interior slab on ground shall have a maximum coarse aggregate size of 1' (455 stone).</li> <li>C. Exterior Slab on Ground Suni-Riqid Polyurea Joint Filler: Comply with ACI 302, shall be a two (2) component, 100% solids, UN Resistant compound, with minimum shore "Ar Mandeness of 80. Color to match adjacent concrete surfaces.</li> <li>Acceptable manufacturer: "Euco Diamond Hard" by Euclid Chemical.</li> </ul> </li> <li>4. Interior Slab on Ground Luquid Densifier/Sealer: Sodium siliconate containing at least 24% solids by weight.</li> <li>a. Acceptable manufacturer: "Euco Diamond Hard" by Euclid Chemical.</li> <li>b. Project service: If necessary, the representative will be on slid during the first using a liquid densifier/Sealer.</li> <li>c. Exterior Slab on Ground Luqvis AS</li></ul>		10.	Prohibited Admixtures: A. Calcium Chloride Or Admixtures Containing More Than 0.05% Chloride Ions Are Not Permitted.	D.	9
<ol> <li>Interior-Synthetic Fiber Shall Be A Patented Coarse MonoFiberIbiliating, Polyproylenc/Polyethylene Fiber With A Minimum Tensile Strength Of 73ksi And Minimum Length Of 2 Inches. A. Acceptable Macro-Synthetic Fiber (No Substitutions): "Turf-Strand SF By Euclid Chemical. Phil Brandt 877-438-3826 / Pbrandt@Euclidchemical.Com</li> <li>Evaporation Retarder And Finish Aid: Integral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface. A. Acceptable Macro: Surface Fiber (No Substitutions): "Turf-Strand SF By Euclid Chemical. Com Concrete Surface. A. Acceptable manufacture: "Eucobar" by Euclid Chemical.</li> <li>Related Materials: <ul> <li>Evaporation Retarder And Finish Aid: Integral Finishing and That Reduces Rapid Moisture Loss From Concrete.</li></ul></li></ol>			<ul> <li>B. Fly Ash Is Only Permitted In Exterior Slab On Ground Subject To Alkali Silica Reactivity (Asr); Up To 20% Exchange By Weight.</li> </ul>		ŀ
<ul> <li>A. Acceptable Macro-Synthetic Tible (No Substance Mathematical Ledigtion of Str By Euclid Chemical. Phile Brandt 877-438-3826 / Pbrandt@Euclidchemical.Com</li> <li>Evaporation Retarder And Finish Aid: Integral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface.         <ul> <li>A. Acceptable Macro-Synthetic Tiblegral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface.</li> <li>A. Acceptable Macro-Synthetic Tiblegral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface.</li> <li>A. Acceptable manufacturer: "Eucobar" by Euclid Chemical.</li> </ul> </li> <li>Evaporation Retarder And European Surface S</li></ul>		11.	Macro-Synthetic Fiber (Interior And Exterior Slab On Ground Concrete): Comply With ASTM C1116. "Macro" Fibers Shall Be A Patented Coarse Monofilament, Self-Fibrillating, Polypropylene/Polyethylene Fiber With A Minimum Tensile Strength Of 72kei And Minimum Longth Of 2 Teches		
<ol> <li>Evaporation Retarder And Finish Aid: Integral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface.</li> <li>A. Acceptable Product: Euclid Chemical "Eucoshield."</li> <li>Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.</li> <li>a. Acceptable manufacturer: "Eucobar" by Euclid Chemical.</li> <li>Interior Slab on Ground Curing: ASTM C309 with a maximum VOC content of 350g/l. The interior slab on ground shall be cured using a reduced dodr, dissipating or removable liquid membrane forming curing compound.</li> <li>Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>Interior Slab on Ground: Unless indicated otherwise on drawings, exterior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>Exterior Slab on Ground Semi-Rigid Polyurea Joint Filler: Comply with ACI 302, shall be a two (2) component, 100% solids, UV Resistant compound, with minimum shore "A" hardness of 80. Color to match adjacent concrete surfaces.</li> <li>Acceptable manufacturer: "Euco Diarmond Hard" by Euclid Chemical.</li> <li>Interior Slab on Ground Liquid Densifier/Sealer: Sodium siliconate containing at least 24% solids by weight.</li> <li>Acceptable manufacturer: "Euco Diarmond Hard" by Euclid Chemical.</li> <li>Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing and application or luquid densifier/Sealer.</li> <li>Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing and application of luquid densifier/Sealer.</li> <li>Acceptable manufacturer: "Euco Diarmond Hard" by Euclid Chemical.</li> <li>Project service: If necessary, the representative will be on site during the first application of liquid densifier/Sealer.</li> <li>Acceptable manufacturer: "Euco Diarmon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>Acceptable manuf</li></ol>			A. Acceptable Macro-Synthetic Fiber (No Substitutions): "Tuf-Strand Sf" By Euclid Chemical. Phil Brandt 877-438-3826 / Phrandt@Fuclidchemical Com		
A. Acceptable Product: Euclid Chemical "Eucoshield."       3.02         B. Related Materials:       A.         a. Acceptable manufacturer: "Eucobar" by Euclid Chemical.       A.         Concrete.       A. Acceptable manufacturer: "Eucobar" by Euclid Chemical.       A.         A. Interior Slab on Ground Curing: ASTM C309 with a maximum VOC content of 350g/I. The interior slab on ground shall be cured using a reduced dodr, dissipating or removable liquid membrane forming curing compound.       A.         A. Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.       B.       Interior Slab on Ground: Unless indicated otherwise on drawings, interior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).       B.       Exterior Slab on Ground: Unless indicated otherwise on drawings, exterior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).       B.         Component, 100% solids, UV Resistant compound, with minimum shore "A" hardness of 80. Color to match adjacent concrete surfaces.       B.         a. Acceptable manufacturer: "QWIKjoint UVR" by Euclid Chemical.       D.         B. Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing and application requirements, and at least 10 days prior to application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first application of liquid densifier sealer.       D.         B. Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.       E.		12.	Evaporation Retarder And Finish Aid: Integral Finishing Aid That Reduces Rapid Moisture Loss From Concrete Surface.		
<ul> <li>Related Materials: A.</li> <li>Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.</li> <li>a. Acceptable manufacturer: "Eucobar" by Euclid Chemical.</li> <li>Interior Slab on Ground Curing: ASTM C309 with a maximum VOC content of 350g/l. The interior slab on ground shall be cured using a reduced odor, dissipating or removable liquid membrane forming curing compound.</li> <li>a. Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>b. Interior Slab on Ground: Unless indicated otherwise on drawings, interior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>c. Exterior Slab on Ground: Unless indicated otherwise on drawings, exterior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>3. Interior Slab on Ground Semi-Rigid Polyurea Joint Filler: Comply with ACI 302, shall be a two (2) component, 100% solids, UV Resistant compound, with minimum shore "A" hardness of 80. Color to match adjacent concrete surfaces.</li> <li>a. Acceptable manufacturer: "QUIKjoint UVR" by Euclid Chemical.</li> <li>4. Interior Slab on Ground Liquid Densifier/Sealer: Sodium siliconate containing at least 24% solids by weight.</li> <li>a. Acceptable manufacturer: "Euco Diamond Hard" by Euclid Chemical.</li> <li>b. Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing and application requirements, and at least 10 days prior to application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first poly application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first poly application or liquid densifier/sealer.</li> <li>5. Exterior Slab on Ground Urring: ASTM C1315 with a maximum VOC content of 700 g/l. All exterior slab on ground shall be and/acturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid</li></ul>	_	-	A. Acceptable Product: Euclid Chemical "Eucoshield."	3.02	(
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<ol> <li>Interior Stab on Ground Curing, ASTM C309 with a IndXintum VOC Content of 350g/r. The Interfor Slab on ground shall be cured using a reduced odor, dissipating or removable liquid membrane forming curing compound.</li> <li>Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>Interior Slab on Ground: Unless indicated otherwise on drawings, interior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>Exterior Slab on Ground Semi-Rigid Polyurea Joint Filler: Comply with ACI 302, shall be a two (2) B. component, 100% solids, UV Resistant compound, with minimum shore "A" hardness of 80. Color to match adjacent concrete surfaces.</li> <li>Acceptable manufacturer: "QWIKjoint UVR" by Euclid Chemical.</li> <li>Interior Slab on Ground Liquid Densifier/Sealer: Sodium siliconate containing at least 24% solids by weight.</li> <li>Acceptable manufacturer: "Euco Diamond Hard" by Euclid Chemical.</li> <li>Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing C. and application requirements, and at least 10 days prior to application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first polication requirements, and at least 10 days prior to application of liquid densifier sale.</li> <li>Exterior Slab on Ground Curing: ASTM C1315 with a maximum VOC content of 700 g/l. All exterior slab on ground shall be cured using a liquid membrane-forming curing compound.</li> <li>Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>Acceptable manufacturer: "Eucolastic 1 NS/SL" by Euclid Chemical.</li> </ol>		2	concrete. a. Acceptable manufacturer: "Eucobar" by Euclid Chemical. Interior Slab on Ground Curing: ASTM C200 with a maximum VOC content of 250s." The interior slab		(
<ul> <li>a. Acceptable manufacturer: "Kurez DR VOX" or "Kurez DR 100" by Euclid Chemical.</li> <li>b. Interior Slab on Ground: Unless indicated otherwise on drawings, interior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>c. Exterior Slab on Ground: Unless indicated otherwise on drawings, exterior slab on ground shall have a maximum coarse aggregate size of 1" (#57 stone).</li> <li>3. Interior Slab on Ground Semi-Rigid Polyurea Joint Filler: Comply with ACI 302, shall be a two (2) component, 100% solids, UV Resistant compound, with minimum shore "A" hardness of 80. Color to match adjacent concrete surfaces.</li> <li>a. Acceptable manufacturer: "QWIKjoint UVR" by Euclid Chemical.</li> <li>4. Interior Slab on Ground Liquid Densifier/Sealer: Sodium siliconate containing at least 24% solids by weight.</li> <li>a. Acceptable manufacturer: "Euco Diamond Hard" by Euclid Chemical.</li> <li>b. Project service: General Contractor shall contact the Manufacturer prior to bidding for pricing and application requirements, and at least 10 days prior to application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first application of liquid densifier/sealer.</li> <li>5. Exterior Slab on Ground Curing: ASTM C1315 with a maximum VOC content of 700 g/l. All exterior slab on ground shall exued using a liquid membrane-forming curing compound.</li> <li>a. Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>F.</li> <li>6. Exterior Slab on Ground Urethane Joint Sealant: ASTM C920-86, Type S, Grade NS, and Class 25 Industrial gun grade polyurethane sealant shall exhibit a shore "A" hardness of 40 and an elongation of 250%.</li> <li>a. Acceptable manufacturer: "Eucolastic 1 NS/SL" by Euclid Chemical.</li> </ul>		۷.	on ground shall be cured using a reduced odor, dissipating or removable liquid membrane forming curing compound.		 (
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<ul> <li>application of liquid densifier/sealer.</li> <li>5. Exterior Slab on Ground Curing: ASTM C1315 with a maximum VOC content of 700 g/l. All exterior slab on ground shall be cured using a liquid membrane-forming curing compound.</li> <li>a. Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>6. Exterior Slab on Ground Urethane Joint Sealant: ASTM C920-86, Type S, Grade NS, and Class 25 Industrial gun grade polyurethane sealant shall exhibit a shore "A" hardness of 40 and an elongation of 250%.</li> <li>a. Acceptable manufacturer: "Eucolastic 1 NS/SL" by Euclid Chemical.</li> </ul>			and application requirements, and at least 10 days prior to application of liquid densifier and sealer, for jobsite service. If necessary, the representative will be on site during the first	с. D <i>.</i>	f
<ul> <li>on ground shall be cured using a liquid membrane-forming curing compound.</li> <li>a. Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid Chemical.</li> <li>F.</li> <li>6. Exterior Slab on Ground Urethane Joint Sealant: ASTM C920-86, Type S, Grade NS, and Class 25 Industrial gun grade polyurethane sealant shall exhibit a shore "A" hardness of 40 and an elongation of 250%.</li> <li>a. Acceptable manufacturer: "Eucolastic 1 NS/SL" by Euclid Chemical.</li> </ul>		5.	application of liquid densifier/sealer. Exterior Slab on Ground Curing: ASTM C1315 with a maximum VOC content of 700 g/l. All exterior slab	<i>Е</i> .	י 1 -
<ul> <li>Chemical.</li> <li>F.</li> <li>6. Exterior Slab on Ground Urethane Joint Sealant: ASTM C920-86, Type S, Grade NS, and Class 25 Industrial gun grade polyurethane sealant shall exhibit a shore "A" hardness of 40 and an elongation of 250%.</li> <li>a. Acceptable manufacturer: "Eucolastic 1 NS/SL" by Euclid Chemical.</li> </ul>			on ground shall be cured using a liquid membrane-forming curing compound. a. Acceptable manufacturer: "Super Diamon Clear" or "Super Diamond Clear VOX" by Euclid		r t
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			Anoustrial guily grade polydrethane sealant shall exhibit a shore "A" hardness of 40 and an elongation of 250%.		-
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## CONCRETE SPECIFICATIONS

TE MIXES with ACI 301 requirements for concrete mixes. Concrete mixes shall be proportioned according to ACI 301, al-weight concrete determined by either laboratory trial mix or field test data. sive strength: nterior Slab on Ground: 4000 psi @ 28 days, with a maximum water/cement ratio of 0.53, unless otherwise ndicated on the drawings. xterior Slab on Ground: 4000 psi @ 28 days, with a maximum water/cement ratio of 0.45, unless otherwise ndicated on the drawings. Concrete materials included in the mix design shall be the same materials provided to the project and shall be repared by an independent testing laboratory approved by the Owner. Per ACI requirements, if sufficient ackup data is not available, the laboratory mix shall exceed the desired job strength of concrete by 1,200 psi. Concrete shall have a maximum slump of 51/2" for the interior and exterior slabs on ground. Unless indicated ings, all other concrete shall not exceed a 4" slump. nthetic fiber addition: All exterior slab on ground shall contain the specified macro-synthetic fiber used at a less than 3.0 lbs./cyd. Actual fiber dosage may vary based on job-site conditions and shall be calculated by equivalency to conventional reinforcement requirements. Required information may include, but not be site prep, subbase, and concrete properties, curing, and loading conditions. The "Engineer of Record" shall Euclid Chemical to discuss actual project conditions and the resultant required fiber dosage rate. Fibers may d at plant location or jobsite and shall be mixed in concrete for a minimum of 4 minutes. Euclid Contact: Mike 216-692-8301 ent to Concrete Mixes: Mix adjustments may be requested by the general contractor when characteristics of , job conditions, weather, test results or other circumstances warrant; at no additional cost to the Owner and ted by the Owner. Laboratory test data for revised mix and strength results must be submitted to and by the Owner prior to work. Testing Agency and Concrete Contractor shall verify that the concrete mix vill produce concrete that will meet the specifications for this project. In addition, the General Contractor and Contractor shall verify that the workability, finishability and setting times are appropriate for concrete ons. Placement shall be made by concrete truck chute. If concrete pumping is required, the proportions ned above shall not be altered to suit the capabilities of the pumping equipment. For concrete containing ynthetic fibers, additional water reducer may be necessary. The addition of water is not permitted into mixture after the addition of macro-synthetic fibers. • Slab on Ground Concrete: Concrete shall be designed to meet 4000 psi compressive strength @ 28 days ibit  $\leq 0.04\%$  shrinkage @ 28 days. The mix shall contain approximately 12 cubic feet of 1" top size aggregate ne), the specified water reducing admixture, and achieve a w/cm ratio of 0.53 (max.). Air-entrainment is d. Proposed mix design shall be similar to the following: Slab on Ground Prototype mix: Aaterials Prototype mix ement 517-564 lbs. ily ash/slag Prohibited 12 cubic feet +/- .50 (#57 stone) Coarse aggregate 7 cubic feet +/- (adjust as necessary) ine aggregate 274 - 298 lbs. (or less) Vater content Air content (Entrapped Air Only) 3.0% (max.) Vater Reducer (Type A/F) 3oz.-10oz./100wt +/- (mid-Range) /CM Ratio 0.53 (max.) itial slump (water) inal slump (with water reducer) 5.5" (max.) Acro Synthetic Fiber (ALTERNATE) 3.0 LBS/ cubic yard (minimum) Tuf-Strand SF) <u>< 0.04% @ 28 days</u> laximum Shrinkage • Slab on Ground Concrete: Concrete shall be designed to meet 4000 psi compressive strength @ 28 days ibit  $\leq 0.04\%$  shrinkage @ 28 days. 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Vater Reducer (Type A/F) **3oz.-10oz./100wt +/- (Mid-Range)** /CM Ratio 0.45 (max.) itial slump (water) 5.5" (max.) inal slump (with water reducer) Aacro Synthetic Fiber (Tuf-Strand SF) 3 lbs / cubic yard (min.) 1aximum Shrinkage <u><</u>0.04% @ 28 days TION ATION (GENERAL) iterial: Local state department of transportation approved road base material with 100 percent passing the mm) sieve, 15 percent to 55 percent passing the No. 4 (4.75 mm) sieve, and less than 12 percent passing 200 sieve). Install "crusher run" base type material to the minimum compacted thickness as indicated on the tion documents. Crushed stone shall be compacted to 98% Modified Proctor density in accordance with ASTM The in-place density shall be tested for compliance no more than 48 hours prior to concrete placement using L556, ASTM D2167, or ASTM D2922. One copy of test results shall be forwarded to the Owner. k: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301. Form Work: Form all slabs, stairs and other formed concrete with metal forms or 34" plywood. For exposed surfaces use forms with an undamaged face. Form ties used shall be snap ties. Concrete release agent shall be a VOC compliant, light viscosity, non-staining oil. tarder: ASTM E1643 (if indicated on drawings): Install, protect, and repair vapor-retarder sheets; place position with longest dimension parallel with direction of pour. Plastic vapor retarder for concrete floor slab shall be 10-mil (minimum) polyethylene. Seal vapor retarder completely around all pipes and conduits. Inspect vapor retarder thoroughly and repair all punctures and tears immediately prior to placing concrete. All laps shall be 18" minimum and sealed with a completely continuous pressure sensitive tape. nforcement (if indicated on drawings): Comply with CRSI's "Manual of Standard Practice" for fabricating, and supporting reinforcement. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing Install all anchors, ties, chairs, and other supports as per ACI 301/302 requirements, to ensure reinforcing is supported at proper locations. All reinforcing shall be wired in place using #16 annealed wire. Wood or clay brick chairs are not acceptable Welded wire fabric mesh (if indicated on drawings) shall be lapped a minimum of 6" at side laps and secured with tie wires no more than 4 feet on center. TE PLACEMENT

> Monoxide / Carbon Dioxide Exposure: If the building is enclosed and the interior slab on ground is placed last, contractor shall be responsible for monitoring interior slab on ground exposure to excessive exhaust gases ng carbon dioxide  $(CO_2)$  or carbon monoxide (CO). To minimize potential damage to the interior slab on Juring placement and curing periods, maximum  $CO_2$  levels shall be 4,500 parts per million and maximum CO all be 15 parts per million at concrete surface within 5 feet of any source of exhaust gases. Unvented ion heaters shall not be in operation during concrete placement, and equipment inside the building during placement shall be limited to the equipment necessary to place and finish concrete. Only one concrete truck in the building at any given time, and under no circumstance shall there be any earth moving equipment, ucks, grading equipment, or any other motorized equipment in operation until after the interior slab on placed and protected by specified curing method. Carbon Monoxide and Carbon Dioxide shall be checked appropriate meter from a company similar to the following: CEA Instruments, Inc., Phone (201-967-5660); HYPERLINK "http://www.ceainstr.com" www.ceainstr.com with requirements in ACI 301 for measuring, mixing, transporting, and placing concrete. Cooperate with all other trades. Confer with electrical, mechanical, plumbing, carpenters, steel workers, etc.

> 1ake sure that all sleeves, anchor, insert, conduit, floor boxes, pipes, fittings, and other items are installed efore placing concrete. Make provisions for door saddles, and thresholds General Contractor shall ensure the accuracy, placement, and alignment of all under-slab work. The placement f all boxes shall be square, level, and true in all respects. Concrete shall be mixed and delivered in accordance with the requirements of ASTM C94. with ACI 305, "Hot Weather Concrete," and ACI 306, "Cold Weather Concrete" for protection during placing, . and curing.

> lease Agent: Coat all removable wood and metal forming with a VOC compliant, non-staining, concrete formagent and allow excess liquid to drain off before forms are placed. : Place at point of use and consolidate with a concrete vibrator. Do not allow concrete to segregate. free fall for concrete is 3 feet. A vibrator is required for placement of concrete in walls, piers, footings, and

> Placement: Place on firm, undisturbed earth, or properly compacted fill. Consolidate by vibrating without ion. Do not place concrete when temperature is 40°F and falling or when freezing weather is predicted within lace concrete within the minimum temperature range as specified in ACI 301.

#### Protect concrete as required in ACI 301. Concrete shall not contain Type III, high early strength cement, calcium chloride, corrosive accelerators, or

batch ticket. Water added at the job site shall be documented on the batch ticket.

ntifreeze. Concrete shall be placed before initial set occurs, and in no event after it has contained its water content for nore than 1½ hours. nless otherwise specified, all concrete shall be placed upon clean, damp, smooth surfaces that are free from

unning water. Subgrade and base shall be properly consolidated and rut-free. Concrete shall not be placed upon soft mud or dry porous earth. The concrete shall be consolidated and vorked, in an approved manner, into all corners and angles of the forms and around reinforcement and embedded fixtures in such a manner as to prevent segregation of the coarse aggregate as required in ACI 301. During concrete placement, carefully protect all masonry and metal building walls by covering with waterproof paper. Water may be added in accordance with ASTM C94. Water shall only be added at the job site under the direct supervision of a representative from the Testing Agency. Do not add more water than is indicated as allowable on the

3.03 FORMED SURFACE FINISHES

Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4" in height shall be rubbed down or chipped off.

Apply to concrete surfaces not exposed to public view. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections. All exposed concrete walls are to be grouted and hand rubbed. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, damp-proofing, veneer plaster, or painting. Do not apply rubbed finish to smooth-formed finish. Apply smooth-rubbed finish, defined in ACI 301, to smooth-formed finished concrete. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

### 3.04 CONCRETE FINISHES AND TOLERANCES

- General: Unless otherwise noted by Owner, interior slab on ground shall be cast in one continuous placement. Concrete shall be placed, screeded, re-straightened, and finished to meet the specified  $F_F$  and  $F_L$  tolerance requirements. Interior slab on ground machine trowel finish shall be achieved within a 2" tolerance of all walls, columns, and partitions. Do not wet concrete surfaces while finishing concrete. Laser screeds (required), vibratory screeds, highway straightedges and wood or resinous bull floats shall be used to initiate screeding and floating process to form a uniform and open-textured surface plane before excess moisture or bleed water appears on the surface. A back-up laser screed is required during concrete placement of the interior slab on ground. Remove excess water before starting floating operations. Do not further disturb surfaces before starting finishing operations. Highway straightedge operations shall continue before, during, and after troweling operation, until the minimum specified floor tolerances are achieved. Highway straightedge operations shall continue before, during, and after troweling operation, until the minimum specified floor tolerances are achieved. Trowel finish (Interior Slab on Ground): Trowel surfaces with trowel machines equipped with adjustable blades. Trowel the surface sufficiently to produce a smooth, tight, abrasion resistant surface. Care shall be taken not to overwork or burn the surface. Use 6" wide finish style steelreinforced blades on final passes. Finishing blades shall be in new condition and completely clean of any deleterious materials. Trowel finish (Other Floor Areas): Apply a hard trowel finish to surfaces indicated and to floor and slab
- surfaces exposed to view or to be covered with resilient flooring, carpet, ceramic, or quarry tile set over a cleavage membrane, paint, or another thin film-finish coating system. Heavy broom finish: Side yard, main entry and exit vestibules, cart storage, ramps, aprons, and walks shall receive a heavy broom finish.
- Protection: Care shall be taken to protect newly placed concrete. Entrances shall include clean floor mats to prevent mud stains and all equipment on the floor shall be diapered to prevent spills. Cutting oils are not allowed on the interior slab on ground at any time during the construction process. Pet Wash Area:
- Concrete Finish and Curing: Do not broom finish this area. Place and finish concrete as specified in paragraph A, "General Finishes," Section 3.04, "Concrete Finishes and Tolerances." After final troweling, cure using "Kurez DR VOX" or "Kurez DR 100" at an application rate of 400sf/gallon. Joint Filling: Fill all control joints as specified in paragraph B, Section 3.07, "Interior Slab on Ground Joint Filler."
- Surface Preparation: Epoxy floor coating system is designed for application on concrete substrates. Newly placed concrete surfaces should be cured for a minimum of 28 days prior to coating. Concrete surfaces must be structurally sound, free of loose or deteriorated concrete and free of dust, dirt, paint, efflorescence, oil, and other contaminants. Mechanically abrade the surface to achieve a surface profile equal to CSP 2-3 in accordance with ICRI Guideline 310.2. Properly clean profiled area. The pH of the surface should be checked according to ASTM D 4262. Following surface preparation, the cleaned surface should have a minimum surface-tensile strength of 200 psi when tested with an
- Elcometer or similar pull tester (ASTM D 4541). Products: 4. Initial Coat: "Increte High Performance Epoxy" 1-gallon kit (Gray Color) by Euclid Chemical. Pigmented Chips: "Increte Granite Coat Chips" (Mica Color) by Euclid Chemical. Grout Coat: "Increte High Performance Epoxy" 1-gallon kit (Clear Color) by Euclid Chemical. Final Wear Coat: "Increte Polyseal Polyaspartic" 2-gallon kit (Clear Color) by Euclid Chemical. parts by volume of Part A with one part by volume of Part B, and then mix thoroughly using a low-
- Initial Coat Mixing: Pre-mix Increte High Performance Epoxy (Gray) Part A and Part B, then combine 2 speed drill motor and a "Jiffy" type mixer. Mix only the amount of material that can be applied during the pot life. Do not aerate the mix. Initial Coat Application: Apply Increte High Performance Epoxy (Gray) at 120sf/gallon. Spread the mixed epoxy with a notched squeegee while wearing spiked shoes. Start from one end of the floor and work backwards and sideways trying to keep a wet-to-wet edge. Roll coating in one direction using a 3/8" nap, shed-resistant roller. Make sure the material is applied as quickly as possible without
- leaving puddles. Pigmented Chip Application: Broadcast until refusal, Increte Granite Coat Chips (Mica) in a high arcing motion into the wet epoxy. Allow to cure. Once dry, vacuum / scrape off excess flakes. Grout Coat: Apply Increte High Performance Epoxy (Clear) at 120sf/gallon. Allow to dry. Wear Coat: Apply a final coat of Increte Polyseal Polyaspartic (Clear) at 120sf/gallon. Allow to dry.
- Cove Base: In addition to the seamless integral floor, provide a 4" cove base from the floor to the "FRP" wall transition. Cove base shall consist of a mixture of Increte High Performance Epoxy and finely graded, clean dry, trowelable aggregates, troweled to the previously installed vertical cement board surface, to a height of 4". Create a coved, seamless, integral transition at joint between wall and floor. Broadcast until refusal, Increte Granite Coat Chips (Mica) into the wet epoxy. Finish Cove Base detail with the Grout Coat and Wear Coat as specified herein. Once completed, the floor and cove base shall be seamless in function and appearance. Install cement wall board so that the bottom edge is flush with the floor as specified. а. Install cement wall board tape, similar to Goldblatt Professional Cement Board Tape, to all
- joints of cement board. Install Fiber Reinforced Panels (FRP) as required. Do not apply adhesive to any areas contacting the 4" cove base installation. Do not apply water to any of these surfaces prior to installation of the epoxy floor or cove system. Install 4" cove base directly to cement board. Cove base shall come in direct contact with the bottom edge of the Fiber Reinforced Panels so that the floor and cove base shall be seamless in
- function and appearance. Tolerances: ACI 117, "specifications for tolerances for concrete construction & materials." General contractor is responsible for all costs associated with floor tolerance testing. A copy of the final floor tolerance report shall be provided by the general contractor to owner within 24 hours of receiving the report from the testing laboratory.

labe	facory.		
1.	<b>Location:</b> Interior slab on Ground	<b>FF Tolerance</b> 35	<b>FL Tolerance</b> 25
	Exterior Slab on	20	17

Exterior Slab on	20	
Ground		
CAST-IN-PLACE CONCRETE	E JOINTS	

T-IN-PLACE CONCRETE JOINTS 3.05

Genera saw an Cuts m and wo saw cu	al: Joints ad opera aust be a orkers to tting, ir	s shall be cut as indicated on drawings, and itor and when cutting action will not tear, al made before concrete develops random con o complete cutting of saw joints within 2 ho nmediately vacuum up and remove all resid
1.	Constru	uction Joints:
	a.	Construction joints shall be true to line with (refer to drawings), so as not to impair stre
	b.	Construction joints in slab on grade shall b metal keyways.
2.	Contro	I Joints: Form weakened-plane control joint
	а.	All saw cutting shall be accomplished with Products (800-288-5040), equipped with a in <u>new condition</u> . Concrete Subcontractor n use of this method prior to this project. Usi ground a minimum of 1.25" deep for 4" this lines and concrete dust shall be removed c
	b.	Random depth checks shall be performed by the specified depth of cut is made. Any cut cut to the proper depth and filled with spec
3.	Isolatio columr a.	on Joints: Install joint-filler strips at junction pedestals, foundation walls, grade beams, Extend joint fillers full width and depth of j surface, unless otherwise indicated.

3.06 INTERIOR SLAB ON GROUND PROTECTION AND CURING

- Protection: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 305 for hot-weather protection and ACI 306 for cold-weather protection during placing and curing. For concrete placement during hot, dry, and windy conditions, General Contractor shall use the specified evaporation retarder as per manufacturer instructions to maintain a moist condition and to minimize plastic drying shrinkage cracking. Interior Slab on Ground Concrete Curing: The interior slab on ground shall be cured using the specified
- dissipating liquid membrane-forming curing compound. All applications shall be made by a trained applicator immediately following final finish. The concrete and air temperature shall be above 50°F. Surface shall be damp, but not wet and can no longer be marred by walking workmen. Apply "Kurez DR VOX" or "Kurez DR 100" at an application rate of 400sf/gallon.
- **Interior Slab on Ground Protection**: Take the following measures to protect the interior slab on ground: Wrap or diaper all motorized and hydraulic equipment to prevent fluid leaks Provide non-marking tires on rubber-tired vehicles or equip rubber tires with tire boots made of nylon
- 3. Provide mats at all entrances to prevent mud stains **Exterior Slab on Ground Concrete Curing**: All exterior slab on ground shall be cured using the specified D. liquid membrane-forming curing compound. Application shall be made by a trained applicator immediately following final finish. Concrete and air temperature shall be above 50°F. Surface shall be clean and damp, but not wet and can no longer be marred by walking workmen. Apply "Super Diamond Clear" or "Super Diamond Clear VOX" at an application rate of 400sf/gallon.

#### ACI 302: Type 5, Single Course Hard Steel Trowel Finish

- Floated and / or Broomed Surfaces
- as soon as the slab will support the weight of the abrade, or otherwise damage the concrete surface. ntraction cracks. Employ sufficient number of saws ours after final finish of interior slab on ground. After dues completely.
- th faces perpendicular to surface plane of concrete rength or appearance of concrete. be butt joints with square plate dowels. Do not use
- ts, sectioning concrete into areas as indicated: a "Soff-Cut" saw, by Husqvarna Construction patented color-coded, diamond blade and skid plate must have documented successful experience in the sing a 1/8" thick blade, cut the interior slab on ick slabs and 1.67" for 5" thick slabs. White chalk completely and immediately after cutting operation. by an independent testing company to confirm that t(s) found to be less than proper depth shall be recified joint filler at the general contractor's expense. ons with slabs-on-grade and vertical surfaces, such as , and other locations, as indicated. joint, terminating flush with finished concrete

- 3.07 INTERIOR SLAB ON GROUND JOINT FILLER
- General: do not commence installation of semi-rigid polyurea joint filler, liquid densifier / sealer and polishing processes until the building is completely enclosed, permanent power and lighting is operating, and the building is thermostatically controlled. Installation of these materials shall commence approximately two weeks prior to "fixture date."
  - Joint filler installation: comply with ACI 302 as applicable to materials, applications, and conditions. 1. Surface cleaning of joints: clean joints immediately before installing joint filler. Remove foreign material that could interfere with adhesion of joint filler by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint filler. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Also remove all laitance and form-release agents from concrete surface. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues could interfere with adhesion of joint sealants. All surfaces to be filled shall be clean and dry. Mixing: joint filler is a two-part product requiring machine mixing and placing. Premix part "b" separately before using. Follow pump manufacturer's equipment instructions. Placement: for proper load transfer, joints must be filled full depth, but in no case shall the joint
  - filler be any less than 1" deep in the joint. No backer rod is allowed. Joints shall be overfilled and shaved level with the surface, giving the floor joints a flat, smooth appearance. Joint filler separation: the approved joint filling applicator shall include in their bid a cost per linear foot to make one return trip to refill joints if joint filler sidewall separation or splitting exceeds 1/16", or if surface profile is concave, chattered or if voids occur. This shall take place one week

## 3.08 liquid densifier / sealer and polishing process

prior to grand opening, or at owner's request.

- Mock-up test slab: the following process is provided as a guide. Many factors, including, but not limited to interior floor slab finish, hardness and flatness will determine the initial resin bond diamond tooling, including additional grinding and/or polishing operations required to meet the requirements specified herein. Trained applicator shall provide a mock-up test slab, including application of liquid densifier/sealer to a designated area of the interior slab on ground (back of building), using the same equipment, resin bond diamond tooling, and methods as will be used to polish the interior slab on ground. Interior slab on ground floor polishing and application of liquid densifier/sealer shall not commence until owner has accepted the mock-up test.
- 1. Verify presence of curing and sealing compound by applying water test to the surface of slab. a. If water beads, curing and sealing compounds are present and must be removed from the slab. Completely remove the remnants of the dissipating or removable curing compound from the floor surface. The following floor stripper or removal solution shall be applied to the floor at the proper ratio to thoroughly strip, clean and remove all curing compound residue: "Euco clean & strip" by Euclid chemical
- b. If water soaks into the surface indicating curing and sealing compounds are not present, move to step 3. Grinding/polishing equipment shall be equipped with 200 grit resin bond diamond tooling to verify 2. if surface will open to accept liquid densifier/sealer. If slab opens to accept liquid densifier/sealer, proceed with project. If slab does not open, drop to lower grit resin bond diamond tooling, and repeat (100 grit, 80 grit, 50 grit). Follow process and drop resin bond diamond tooling as needed until slab accepts densifier.
- All grind, hone and polish steps shall include a 2-pass process (at 90°), overlapping previous pass by a minimum of 6". Initial grind and hone process: Start initial grind with appropriate resin bond diamond tooling as determined from mock-up test 1.
- Operate machines at 400 square feet an hour (walk pace), with high to maximum drum and head speed (typically 300 rpm on drum and 1250 rpm on planetaries).
- Once completed, clean opened floor thoroughly, and then apply Euco diamond hard to rejection. Allow the surface to dry. Resin bond diamond tooling shall be increased at same output rates and head speeds up to 400 grit
- honina Final polishing process:
- Clean floor and machine of accumulated laitance. Mount 800 grit resin bond diamond tooling and run machines at 300 square feet an hour pace with
- drum and head speeds at high to maximum. Apply Euco diamond hard lightly at 700 square feet per gallon just prior to burnishing. Clean floor and burnish with 1500 grit diamond pad at 500 square feet per hour with a 27" burnisher at 2500 rpm.

## 3.09 Urethane expansion joint sealant application

- Urethane joint sealant application:
- Apply joint sealants in accordance with manufacturer's written instructions. Back-up material:
  - Install appropriate size backer rod, larger than the joint where necessary per Α. manufacturer's recommendations and in a manner to provide concave sealant profile. Where joint depth does not permit installation of backer rod, install adhesive-backed polyethylene bond-breaker tape along the entire back of joint to prevent 3-sided adhesion of joint sealant.
- Sealant: verify that the temperature and moisture conditions are within manufacturer's acceptable limits. Using fresh sealant and equipment that is in proper working order, completely fill joint with sealant, filling from bottom up to avoid entrapping air.
- Using clean, dry tool with rounded edge and of appropriate width for each joint, tool freshly installed sealant to provide preferred concave profile, to ensure intimate contact between sealant and substrate and to provide neat appearance. Where surface aggregate does not permit proper tooling, install sealant and backer rod so that face of joint is recessed behind exposed aggregate and sealant is bonded to firm, even surface. Use dry tooling method. Do not use tooling agents such as soapy water or tooling agents that have not been approved by sealant manufacturer.

UNLESS OTHERWISE NOTED BY TSC, CONCRETE FLOOR SLAB SHALL BE CAST AS ONE CONTINUOUS POUR. CONTRACTOR SHALL PROVIDE TERMITE PROTECTION. APPLY TERMITICIDE TO SUB-BASE BEFORE CONCRETE IS POURED. PROVIDE ONE GALLON OF DILUTED TERMITICIDE PER 10 SQUARE FEET OF SLAB AREA. APPLY AN ADDITIONAL 2-4 GALLONS PER 10 LINEAR FEET AT THE FOUNDATION PERIMETER.

NOTE: THIS SPEC IS WRITTEN AROUND ASTM STANDARDS. GENERAL CONTRACTOR AND DEVELOPER SHALL BE RESPONSIBLE FOR OVERALL QUALITY OF PRODUCTS SELECTED AND WORKMANSHIP OF SLAB.

ARCHITECT AND CONTRACTOR TO PAY SPECIAL ATTENTION TO ACHIEVE DESIGN THAT PREVENTS THE CONCRETE FROM HEAVING AT ALL DOORWAYS ESPECIALLY IN COLD WEATHER LOCATIONS.

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## CONSTRUCTION NOTES

- FURNISH AND INSTALL CONCENTRIC DIFFUSER AND PLENUM WITH 18"x28" SUPPLY AND RETURN CONNECTIONS BY RUSKIN ROOFTOP SYSTEMS MODEL 01-530-22 OR APPROVED EQUAL. REFER TO SHEET M2.0 "CONCENTRIC DIFFUSER DETAIL".
- 2 FURNISH AND INSTALL 2'x2' ADJUSTABLE MODULATING SUPPLY AIR DEVICE, THERMA-FUSER BY ACUTHERM, MODEL TF-HC-8 WITH 8"¢ COLLAR. SET AT 72°F HEATING AND COOLING AND 165 CFM MAX FLOW. FURNISH COMPLETE WITH INSULATED BACKING AND 10% ADJUSTABLE SCREW FLOW STOP.
- 3 FURNISH AND INSTALL VAV DAMPER BY ZONEX, MODEL STMPD10, WITH SAMOD THERMOSTAT, TR-1 24V TRANSFORMER, AND TS-1 DUCT TEMPERATURE SENSOR. BALANCE SUPPLY AIRFLOW TO 290 CFM.
- (4) ROUTE MCD LINE ON ROOF AT  ${
  m \sc s}$ " PER FOOT TOWARD DRAIN. REFER TO DETAIL FOR PIPE SUPPORT INSTALLATION.
- 5 MOUNT THERMOSTAT 48" A.F.F.
- 6 MOUNT THERMOSTAT 90" A.F.F. ON POLE FACING AWAY FROM NEAREST DIFFUSER.
- $\overline{7}$ CONTRACTOR SHALL VERIFY SUPPLY AND RETURN DUCT FROM UNIT FALLS WITHIN CORE AREA WALLS TO DECK.
- 8 EXTEND 4" SINGLE WALL POLYPROPYLENE VENT SYSTEM MEETING U.L. 1738 STANDARDS, FOR GAS FLUE AND COMBUSTION AIR INTAKE UP TO CONCENTRIC VENT KIT THRU ROOF. SIZE COMBUSTION AIR AND FLUE PIPING AND INSTALL CONCENTRIC VENT KIT THRU ROOF PER MANUFACTURER'S RECOMMENDATIONS.
- 9 10"Ø RETURN DUCT OPEN TO SPACE. CAP WITH WIRE MESH - PROVIDE MANUAL VOLUME DAMPER IN RETURN AIR DUCT AND BALANCE FOR 290 CFM.
- 10 SET THERMOSTAT 60°F HEATING WINTER, 78° COOLING SUMMER. MOUNT THERMOSTAT 72" A.F.F.
- (11) FURNISH AND INSTALL TYPE "B" DOUBLE WALL FLUE FROM GF-1 THRU BACK WALL OF VESTIBULE ABOVE MAIN ROOF A MINIMUM 12" ABOVE ANTICIPATED SNOW LEVEL. SIZE FLUE PIPING PER MANUFACTURER'S RECOMMENDATIONS.
- (12) FURNISH AND INSTALL 18"X14" SIDEWALL SUPPLY AIR GRILLE, TITUS MODEL 300FS OR APPROVED EQUAL. COLOR PER ARCHITECT. COORDINATE EXACT LOCATION WITH GRILLE MOUNTING DETAIL LOCATED ON SHEET A4.0
- 13 FURNISH AND INSTALL 24"X10" SIDEWALL RETURN AIR GRILLE, TITUS MODEL 350FL OR APPROVED EQUAL. BALANCE TO 1200 CFM. COLOR PER ARCHITECT. COORDINATE EXACT LOCATION WITH GRILLE MOUNTING DETAIL LOCATED ON SHEET A4.0
- 14 FURNISH AND INSTALL 8"X10" SIDEWALL SUPPLY AIR GRILLE, TITUS MODEL 300FS WITH DOUBLE DEFLECTION DAMPER, OR APPROVED EQUAL. BALANCE TO 300 CFM. COLOR PER ARCHITECT. COORDINATE EXACT LOCATION WITH GRILLE MOUNTING DETAIL LOCATED ON SHEET A4.0
- [15] FURNISH AND INSTALL TWO (2) 3'-6" LINEAR DIFFUSERS, 85 CFM PER FOOT, (3) 3/4" SLOTS, 600 TOTAL CFM. TITUS MODEL ML-38 OR APPROVED EQUAL WITH 12" DEEP PLENUM BOX. COLOR PER ARCHITECT.
- (16) MOUNT THERMOSTAT 60" A.F.F.
- [17] FURNISH AND INSTALL TWO (2) 12"x10" SIDEWALL TRANSFER AIR GRILLES, TITUS MODEL 300FS OR APPROVED EQUAL. COLOR PER ARCHITECT. MOUNT BOTTOM OF FIRST GRILLE AT 13'-0" A.F.F. MOUNT SECOND GRILLE AS HIGH AS POSSIBLE ABOVE FIRST GRILLE.

INTER	INTERNATIONAL MC 403.3 COMPLIANCE SCHEDULE						
UNIT NUMBER	RTU-1, 2, 3,	& 4	RTU-5				TOTAL
AREA SERVED	RETAIL SALES	STOCKROOM	EMPLOYEE LOUNGE	OFFICE	CORRIDOR	I.T. CLOSET	
AREA (SQ. FT)	15,416	4,949	246	78	238	58	
NO. PEOPLE/1000 SQ. FT. (TABLE 403.3)	15	N/A	50	5	-	-	
PEOPLE QUANTITY	50***	N/A	10 *	1	-	-	
AIRFLOW PER PERSON (TABLE 403.3)	7.5	N/A	5	5	-	-	
CFM / SQ. FT.	.12	.12	.06	.06	.06	.06	
TOTAL O.A. REQUIRED (CFM)	2,225	NAT. VENTILATION**	65	10	15	5	2,320
WITH VENTILATION EFFICIENCY = $.8$	WITH VENTILATION EFFICIENCY = .8 2,785 NAT. VENTILATION** 85 15 20 10 2,915						
TOTAL O.A. PROVIDED (CFM) 2,800 NAT. VENTILATION** 85 15 20 10 2,930							
NOTES: * MAX. OCCUPANCY IN EMPLOYEE LOUNGE FURNISHED BY OWNER. ** OPERABLE OPENING AREAS IN STOCKROOM EXCEEDS 4% OF FLOOR SPACE PER IMC SECTION 402.2. *** MAXIMUM OCCUPANCY BASED ON OWNER FURNISHED DATA							

	TRACTOR SUPPLY LIGHTING & HEATING SCHEDULE						
	PYLON/BUILDING SIGN PARKING LOT LIGHTS	BUILDING LIGHTS WALL PACKS	BUSINESS LIGHTS	employee Lights	HEATING	COOLING	SUNDAY
ON	DUSK (BY PHOTOCELL)	DUSK TO DAWN PHOTOCELL (ALWAYS ON DURING DARK)	7:30 AM	7:30 AM	68 DEGREES AT 8:00 AM	74 DEGREES AT 8:00 AM	SAME TEMPS AT 10:00 AM
OFF	9:15 PM	DURING THE DAY	8:30 PM	8:30 PM	62 DEGREES AT 9:00 PM	80 DEGREES AT 9:00 PM	SAME TEMPS AT 6:00 PM
LIGHTING CONTROL ZONE	LZ-3	LZ-2	LZ-1B	LZ-1A			
NOTES: CONTROL ZONE	THE SYSTEM CAN BE OVERRIDDEN BY THE OVERRIDE SWITCH IN CASE THE STORE IS OPEN EARLIER ONE OR LATER THAN NORMAL STORE HOURS.						
NOTES: Contractor Responsibilities	<ol> <li>LZ-X DENOTES ROUTING</li> <li>GC RESPONSIBLE FOR PI</li> <li>TEMPERATURE SET POINT MAINTAIN MIN. 5 DEGREE</li> </ol>	THRU A LIGHTING CONTRA ROGRAMMING ALL NON EM S SHALL BE COORDINATED DEADBAND BETWEEN HEA	ACTOR IN THE S CONTROLLED ) WITH OWNER, TING AND COO	UNITIZED BO THERMOSTA /EMS SYSTEI LING SET PO	ARD. Its and lighti M provider at Dints.	NG CONTROLS. TTIME OF INST	ALLATION.

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SYMBOL	DESCRIPTION					
	NEW SUPPLY AIR DUCTWORK					
	NEW RETURN AIR DUCTWORK					
	NEW EXHAUST AIR DUCTWORK					
تو_	MANUAL VOLUME DAMPER					
	CEILING DIFFUSER					
	CEILING RETURN AIR GRILLE					
CEILING MOUNTED EXHAUST FAN						
B 200 CFM	SUPPLY CFM					
A.F.F.	ABOVE FINISHED FLOOR					
0.A.	OUTSIDE AIR					
—MCD—	MECHANICAL CONDENSATE DRAIN					
SD	SD DUCT MOUNTED SMOKE DETECTOR					
EF-1	EF-1 EQUIPMENT LABEL (SEE MECH. SCHEDULE FOR INFO.)					
T	THERMOSTAT					
	AIR FLOW					
Δ	UNDERCUT DOOR 34"					

- THERMOSTATS SERVING RTU-1, 2, 3, & 4 SHALL BE INTERLOCKED IN ORDER TO PREVENT SIMULTANEOUS HEATING/COOLING. - REFER TO SHEET E3.1 FOR THERMOSTAT MOUNTING DETAILS. - RETURN AIR GRILLE FLOW QUANTITIES SHOWN INDICATE 100% AIR FLOW RETURN DURING UNOCCUPIED HOURS OF OPERATION

![](_page_35_Figure_37.jpeg)

![](_page_35_Picture_38.jpeg)

## AND AIR CONDITIONING SPECIFICATIONS

PART	1 GENERAL		C. FAN SHALL BE STATICALLY AND DYNAMICAL
1.	FURNISH ALL MATERIALS, LABOR, TOOLS, TRANSPORTATION AND INCIDENTALS TO COMPLETE IN EVERY DETAIL, AND LEAVE IN WORKING ORDER ALL ITEMS CALLED FOR HEREIN OR SHOWN ON THE ACCOMPANYING DRAWINGS.		INLET, FORWARD CURVED BLOWER CAPABLE DESIGN CFM. FAN SHALL BE QUIET IN OPE VIBRATION ISOLATED. D. EQUIPMENT SHALL BE COMPLETELY FACTOR
2.	IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN		CONTROL AND PROTECTIVE DEVICES. ALL RECEM OR OVER SHALL HAVE SMOKE DETECT SMOKE DETECTORS SHUTDOWN.
3.	LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.	2.	PRIMARY DRAIN PAN, DIVERSITECH MODEL ( EQUAL: INTERLOCK WITH DEDICATED UNIT F
	EQUIPMENT. CONTRACTOR SHALL PROVIDE SIX SUBMITTAL SETS OF SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO STARTING WORK. IF ANOTHER MAKE OF EQUIPMENT IS DESIRED, THESE SUBMITTALS SHALL ALSO SHOW ALL REQUIRED MODIFICATIONS AND		A. FANS SHALL BE EQUAL TO THE MAKE AND SHALL BE LOCATED AS SHOWN ON DRAWIN PENN, ACME, LOREN COOK OR GREENHECK
	CHANGES, INCLUDING THOSE INVOLVING OTHER TRADES, AND COST THEREOF SHALL BE INCLUDED IN HIS BID. REQUESTS FOR SUBSTITUTION OF PRODUCTS NOT SPECIFICALLY NAMED SHALL BE SUBMITTED IN WRITING A MINIMUM OF TEN (10) CALENDAR DAYS BRIOD TO THE RID DATE. REQUESTS SHALL INCLUDE DESCRIPTION		B. FANS SHALL BE FURNISHED COMPLETE WIT PLUG TYPE DISCONNECT, NON-YELLOWING OVER LOAD PROTECTION, AND INSULATED H
	OF ITEM(S), NAME OF MANUFACTURER TO BE SUBSTITUTED AND CATALOG DATA. REQUESTS SHALL BE REVIEWED ONLY TO APPROVE OR REJECT SUBMISSION OF PRODUCT. DETAILED SUBMITTALS SHALL BE SUBMITTED AS NOTED IN OTHER PORTIONS OF THIS SPECIFICATION.	3.	<ul> <li>ROOF CURBS</li> <li>A. CONTRACTOR SHALL PROVIDE ALL ROOF CURB MOUNTED EQUIPMENT. PREFAB ROOF CURB</li> </ul>
	DO NOT SUBSTITUTE MATERIALS, EQUIPMENT OR METHODS UNLESS SUCH SUBSTITUTION HAS BEEN APPROVED IN WRITING. DO NOT ASSUME THAT MATERIALS, EQUIPMENT OR METHODS WILL BE APPROVED UNTIL SPECIFIC WRITTEN APPROVAL HAS BEEN GIVEN. THE	4.	GALVANIZED STEEL WITH WOOD NAILER STRI MATCH SLOPE OF ROOF TO PROVIDE LEVEL DUCTWORK AND INSULATION
	BURDEN OF PROOF FOR REQUESTED SUBSTITUTIONS RESTS WITH THE CONTRACTOR. CONTRACTOR MUST RECEIVE APPROVED SUBMITTAL COPY, SIGNED BY ENGINEER BEFORE PROCEEDING WITH ANY MODIFICATIONS. WORK INSTALLED USING UNAPPROVED SUBSTITUTIONS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE OWNER.		A. ALL DUCTWORK SHALL BE SHEETMETAL EX CONSTRUCTION STANDARDS AND RECOMMEN SHALL BE FOLLOWED WITH RESPECT TO CO INSTALLATION AND SUPPORTING OF ALL DU
4.	CONTRACTOR SHALL VISIT THE SITE AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING SCOPE OF WORK. FAILURE TO DO SO SHALL NOT RELIEVE CONTRACTOR OF ANY RESPONSIBILITY		LONGITUDINAL AND TRANSVERSE SEAMS SHA GASKETS, MASTICS (ADHESIVES), TAPES, ETU SHALL BE LISTED IN ACCORDANCE WITH UL
	IN THE PERFORMANCE OF HIS WORK. ALL WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY IN ACCORDANCE WITH THE BEST PRACTICES OF THE TRADE BY CRAFTSMEN SKILLED IN THIS PARTICULAR WORK. CONTRACTOR SHALL FILE ALL DRAWINGS, PAY ALL FEES AND OBTAIN ALL PERMITS AND CERTIFICATES OF INSPECTION DELATIVE TO THE		<ul> <li>DIMENSIONS FOR SHEETMETAL WORK ON D CLEAR UNLESS OTHERWISE NOTED.</li> <li>C. ALL CONCEALED SUPPLY AND RETURN DUC INSULATED WITH 2" THICK SUPPLY AND RETURN DUC</li> </ul>
5.	WORK. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT		WITH VAPOR BARRIER, MANVILLE CORPORATI KNAUF. INSULATION MATERIALS AND COMPO MAXIMUM COMPOSITE FIRE AND SMOKE HAZ FLAME SPREAD, 50 SMOKE DEVELOPED AND
	NUT LIMITED TO THE LATEST APPROVED EDITIONS OF THE FOLLOWING: STATE BUILDING CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL MECHANICAL CODE, INTERNATIONAL ENERGY CONSERVATION CODE NFPA-90A, NFPA-101, NFPA-54.		APPLY VAPOR BARRIER JACKET TO COMPLE REPAIR PUNCTURES. STAPLE ALL SEAMS AN FOIL TAPE.
6.	ALL EQUIPMENT SHALL BE ARI CERTIFIED AND U.L. LISTED.		SHALL HAVE 1" THICK INTERNAL INSULATION GLUED AND PINNED. WHERE INTERNAL LINE MEET, THEY SHALL OVERLAP BY MINIMUM O BE BY MANVILLE CORPORATION. CERTAINTEE
	OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM.		ARCHITECT. E. TRUNK DUCTS SHALL BE ISOLATED FROM U THE USE OF NFPA AND U.L. APPROVED FL BOTH SUDDLY AND DETUDN
7.	CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM. COMPRESSORS SHALL BE PROVIDED WITH A		F. ALL ROUND DUCT SHALL BE SIZED AS SHO PROVIDE 2" THICK SLEEVE INSULATION TO CONDENSATION. INSULATED FLEXIBLE DUCT CONNECTION TO GRILLES AND REGISTERS II
8.	MINIMUM OF FIVE (5) YEAR (PARTS ONLY) WARRANTY. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO ACCEPTABLE CONDITION. ALL EQUIPMENT COMPONENTS		OF 6'-0" PER BRANCH RUN. FLEXIBLE DU CERTAINTEED, WIREMOLD OR MANVILLE COR METAL INSULATED WITH ACOUSTICAL VINYL APPROVED WITH CONDUCTANCE .22 AT 75
	AND DUCTWORK SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.		G. ROUND PIPE TAKE-OFFS SHALL BE SPIN- WITH DAMPERS, NO AIR SCOOPS. ALL ROU
9.	IF HVAC EQUIPMENT IS USED FOR TEMPORARY HEATING, ETC., THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR CLEANING FILTERS, COILS, ETC. FINAL PERMANENT CONNECTIONS OF SERVICES TO UNITS SHALL BE COMPLETE PRIOR TO ANY START-UP OF FOLIDMENT		CUNNECTED WITH SHEET METAL SCREWS AN 1" METAL STRAP. RECTANGULAR TAKE-OFFS BE 45 DEGREE ANGLE BOOT OR TEE. H. RADIUSED DUCTWORK ELBOWS SHALL HAVE
10.	WHERE PIPES, DUCTS, ETC., ARE TO PASS THROUGH WALLS, FLOORS, ETC. SLEEVES SHALL BE PROVIDED PRIOR TO WALL CONSTRUCTION. SLEEVES SHALL BE OF EQUAL OR GREATER GAUGE METAL THAN PIPES		OF 1.5 TIMES THE DUCT WIDTH (OR DIAME OTHERWISE. I. ALL MITERED ELBOWS (RECTANGULAR AND
	OR DUCTS PASSING THROUGH. WHERE SLEEVES PENETRATE EXTERIOR SURFACES, VOIDS SHALL BE SEALED WATER TIGHT. WHERE SLEEVES PASS THROUGH RATED PARTITIONS, SLEEVE PACKING SHALL BE OF U.L. LISTED FIRE SAFE TYPE.		JUUBLE THICKNESS TURNING VANES INSTAL OTHERWISE ON DRAWINGS. J. ALL DUCTWORK BRANCHES SHALL BE SUPF DAMPER FOR BALANCING. VOLUME DAMPER
11.	CONTRACTOR SHALL SUBMIT THREE SETS (3) OF INSTRUCTION BOOKS, INCLUDING INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS, PAMPHLETS OR BROCHURES AND ALL EQUIPMENT WARRANTIES OBTAINED FROM EACH MANUFACTURER OF EQUIPMENT.	5.	OFFSET TO ACCOMMODATE EXTERNAL INSUL
PART 1. H	2 PRODUCTS EATING AND COOLING EQUIPMENT		A. AIR DEVICES SHALL BE PRICE, TITUS OR M TYPE SUITABLE FOR CEILING FINISH. ALL C A SPACE SHALL HAVE UNIFORM FACE DIME OTHERWISE NOTED.
A.	NEW ROOFTOP UNITS SHALL BE THE YORK PREDATOR/SUNLINE SERIES OR LENNOX "L SERIES" ROOFTOP UNITS WITH ELECTRIC COOLING AND GAS HEATING. THE MECHANICAL CONTRACTOR SHALL CONTACT YORK AT 405–419–6531 OR LENNOX AT 404–403–7083 TO REQUEST PRICING AND TECHNICAL SUPPORT ON THE TRACTOR		B. CEILING DIFFUSERS SHALL BE SQUARE LOU OPPOSED BLADE DAMPERS, OFF WHITE FINI SHOWN ON DRAWINGS.
В	. UNIT SHALL BE FACTORY ASSEMBLED, TESTED AND HAVE COMPLETE REFRIGERANT – 32 OR 454B (VERIFY WITH		
	MANUFACTURER) CHARGE, READY TO OPERATE. ALL TUBING JOINTS SHALL BE BRAZED. COIL SHALL BE MINIMUM OF 3-ROWS DEEP.		
	ROOFTOP UNIT		
R( 	ROOF CURB		
ON ANI	D CONNECT TO	EEL ANG	LES AROUND DUCT
RIC DI RK SHA	FFUSER. SUPPLY		

NOTE: INSTALL TOP OF

BOTTOM OF BAR JOISTS

PLENUM DIFFUSER LEVEL WITH

SCALE:

DEFLECTION GRILLS

NONE

(TYP. 4)

CONCENTRIC DIFFUSER DETAIL

SCALE:

- STATICALLY AND DYNAMICALLY BALANCED, DOUBLE D CURVED BLOWER CAPABLE OF DELIVERING FAN SHALL BE QUIET IN OPERATION AND INTERNALLY
- HALL BE COMPLETELY FACTORY WIRED WITH ALL PROTECTIVE DEVICES. ALL ROOFTOP EQUIPMENT 2000 SHALL HAVE SMOKE DETECTOR AND CONTROLS FOR
- INSTALL CONDENSATE DRAIN PAN FLOAT SWITCH IN
- N PAN, DIVERSITECH MODEL CC-1 OR APPROVED OCK WITH DEDICATED UNIT FOR UNIT SHUTDOWN.
- BE EQUAL TO THE MAKE AND MODEL(S) INDICATED AND ATED AS SHOWN ON DRAWINGS. FANS SHALL BE
- BE FURNISHED COMPLETE WITH VIBRATION ISOLATION, SCONNECT, NON-YELLOWING PLASTIC GRILLE, THERMAL
- SHALL PROVIDE ALL ROOF CURBS FOR ROOF IPMENT. PREFAB ROOF CURB ASSEMBLIES SHALL BE TEEL WITH WOOD NAILER STRIP. PITCHES SHALL OF ROOF TO PROVIDE LEVEL EQUIPMENT MOUNTING.
- SHALL BE SHEETMETAL EXCEPT AS NOTED. STANDARDS AND RECOMMENDATIONS OF SMACNA LOWED WITH RESPECT TO CONSTRUCTION, AND SUPPORTING OF ALL DUCTWORK. ALL JOINTS AND TRANSVERSE SEAMS SHALL BE SEALED WITH
- TICS (ADHESIVES), TAPES, ETC. ALL SEALANT MATERIAL TED IN ACCORDANCE WITH UL 181A OR 181B. FOR SHEETMETAL WORK ON DRAWINGS ARE INSIDE
- ED SUPPLY AND RETURN DUCTS SHALL BE EXTERNALLY TH 2" THICK FIBERGLASS FLEXIBLE DUCT INSULATION ARRIER, MANVILLE CORPORATION, CERTAINTEED OR TION MATERIALS AND COMPONENTS SHALL HAVE POSITE FIRE AND SMOKE HAZARD RATINGS OF 25 , 50 SMOKE DEVELOPED AND 50 FOR FLAME SPREAD. BARRIER JACKET TO COMPLETELY SEAL BARRIER AND URES. STAPLE ALL SEAMS AND SEAL WITH REINFORCED
- PLY AND RETURN DUCTS WITHIN CONDITIONED SPACE ' THICK INTERNAL INSULATION AT 1.5 LB DENSITY, NNED. WHERE INTERNAL LINER AND EXTERNAL WRAP HALL OVERLAP BY MINIMUM OF 6". INSULATION SHALL LE CORPORATION, CERTAINTEED OR KNAUF. PAINT PER
- SHALL BE ISOLATED FROM UNIT VIBRATION WITH NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS IN
- OUCT SHALL BE SIZED AS SHOWN ON DRAWINGS. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR
- TO GRILLES AND REGISTERS IN MAXIMUM LENGTHS BRANCH RUN. FLEXIBLE DUCT SHALL BE WIREMOLD OR MANVILLE CORPORATION, FLEX TED WITH ACOUSTICAL VINYL VAPOR BARRIER, U.L. H CONDUCTANCE .22 AT 75 DEGREES F. FLEXIBLE SHALL BE TESTED IN ACCORDANCE WITH UL181
- TAKE-OFFS SHALL BE SPIN-IN OR AIR-TIGHT TYPE , NO AIR SCOOPS. ALL ROUND PIPE TO BE ITH SHEET METAL SCREWS AND SUPPORTED WITH AP. RECTANGULAR TAKE-OFFS AND BRANCHES SHALL
- CTWORK ELBOWS SHALL HAVE A CENTERLINE RADIUS THE DUCT WIDTH (OR DIAMETER) UNLESS NOTED ELBOWS (RECTANGULAR AND ROUND) SHALL HAVE
- NESS TURNING VANES INSTALLED UNLESS NOTED
- BRANCHES SHALL BE SUPPLIED WITH A VOLUME BALANCING. VOLUME DAMPER SHALL HAVE A 2"
- SHALL BE PRICE, TITUS OR METALAIRE WITH FRAME FOR CEILING FINISH. ALL CEILING DIFFUSERS WITHIN . HAVE UNIFORM FACE DIMENSIONS UNLESS
- SERS SHALL BE SQUARE LOUVER TYPE WITH DE DAMPERS, OFF WHITE FINISH, SIZES AS

### C. SUPPLY AIR REGISTERS SHALL BE HORIZONTAL FACE TYPE WITH OPPOSED BLADE DAMPERS, ALUMINUM, OFF WHITE FINISH, SIZES AS SHOWN ON DRAWINGS.

- D. CEILING RETURN AIR AND EXHAUST GRILLES SHALL BE  $1/2" \times 1/2"$ EGGCRATE TYPE WITH OFF-WHITE FINISH, ALUMINUM, SIZES AS SHOWN ON DRAWINGS.
- E. SIDEWALL RETURN AIR GRILLES SHALL BE HORIZONTAL FACE TYPE OF ALUMINUM CONSTRUCTION, OFF-WHITE FINISH OR AS SPECIFIED BY OWNER, SIZE AS SHOWN ON DRAWINGS.
- 6. GAS FIRED EQUIPMENT
- A. ALL GAS FIRED EQUIPMENT SHALL BE AGA CERTIFIED.
- B. BURNERS SHALL BE EQUIPPED WITH CONTROLS AND SAFETIES REQUIRED FOR COMPLETE AND FULLY OPERATIONAL SYSTEM. PILOT SHALL BE INTERMITTENT ELECTRIC IGNITION TYPE.
- C. HEAT EXCHANGER SHALL BE PROVIDED WITH A MINIMUM TEN (10) YEAR (PARTS ONLY) WARRANTY.
- 7. FLUES AND VENTS
- A. CONTRACTOR SHALL FURNISH AND INSTALL ALL FLUES AND VENTS SERVING SEALED COMBUSTION FURNACES SHALL BE POLYPROPYLENE VENT SYSTEM MEETING U.L. 1738 STANDARDS. CENTROTHERM OR APPROVED EQUAL. FLUES AND VENTS SERVING 80% EFFICIENT ATMOSPHERIC BURNERS SHALL BE U.L. LISTED DOUBLE WALL TYPE B WITH SIZES AS INDICATED ON DRAWINGS. PROVIDE WINDPROOF VENT CAPS AT ALL FLUE OUTLETS.
- B. CONSTRUCTION AND HEIGHT OF FLUE ABOVE ROOF SHALL CONFORM TO REQUIREMENTS OF NFPA 54 AND LOCAL CODES.
- 8. SLEEVES A. PROVIDE 18 GAGE SLEEVING AT MASONRY WALLS, ETC.
- B. SEAL ALL PENETRATIONS OF RATED PARTITIONS WITH U.L. LISTED FIRE BARRIER MATERIAL.
- 9. CONTROLS
- A. LOW VOLTAGE VENDOR SHALL FURNISH, ROUTE, AND INSTALL CONTROL WIRING & THERMOSTATS FOR HVAC SYSTEMS INCLUDING GAS FURNACE, AND PACKAGED GAS UNITS. CONTROL WIRING CONNECTIONS TO BE MADE BY MECHANICAL CONTRACTOR. GC SHALL FURNISH AND INSTALL TEMPORARY THERMOSTATS.
- B. INSTALL THERMOSTATS AT 90" A.F.F. UNLESS NOTED OTHERWISE. THERMOSTAT LOCATIONS SHALL BE COORDINATED WITH FINAL LOCATIONS OF WALL-MOUNTED ARCHITECTURAL AND ELECTRICAL EQUIPMENT. FINAL LOCATIONS MUST BE APPROVED BY THE ARCHITECT AND OWNER. THERMOSTATS SHALL NOT BE INSTALLED ON EXTERIOR WALLS IF INTERIOR WALLS ARE AVAILABLE WITHIN SPACE SERVED BY THERMOSTAT. SHOULD THE THERMOSTAT REQUIRE INSTALLATION ON AN EXTERIOR WALL AN INSULATED BACKING PLATE MUST BE PROVIDED TO PREVENT FALSE READINGS BY THE THERMOSTAT.
- 10. CONDENSATE PIPING
- A. CONDENSATE DRAINS SHALL BE CONSTRUCTED WITH SCHEDULE 40 PVC, CPVC PIPING, OR TYPE L HARD DRAWN COPPER, SIZE AND ROUTING INDICATED ON PLANS. COPPER DRAIN PIPE AND FITTINGS SHALL BE JOINED USING 95-5 SILVER SOLDER, PVC PIPE AND FITTINGS SHALL BE JOINED USING SOLVENT CEMENT. PROVIDE 1/2" THICK. CLOSED CELL ELASTOMERIC INSULATION, ARMAFLEX, RUBATEX OR APPROVED EQUAL, FROM UNIT CONNECTION TO DISCHARGE FOR ALL INTERIOR CONDENSATE DRAIN PIPING. PROVIDE P-TRAP WITH CLEANOUT AT EACH EQUIPMENT CONDENSATE DRAIN CONNECTION. PROVIDE POSITIVE SLOPE FOR CONDENSATE DRAIN PIPING FROM P-TRAP TO DISCHARGE, MINIMUM SLOPE 1/8" PER LINEAR HORIZONTAL FOOT. SUPPORT CONDENSATE PIPING AT 5'-0" MAXIMUM INTERVALS.
- PART 3 EXECUTION
- 1. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURERS RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- 2. CONTRACTOR SHALL TEST AND BALANCE MECHANICAL SYSTEM. CONTRACTOR SHALL PROVIDE ALTERNATE PRICE FOR 3RD PARTY AABC CERITFIED TEST & BALANCE TO ASSURE CONFORMANCE WITH DESIGN. CONTRACTOR SHALL SUBMIT WRITTEN TEST AND BALANCE REPORT TO LOCAL CODE OFFICIALS AS REQUIRED.
- 3. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
- 4. CONTRACTOR SHALL PROGRAM ALL THERMOSTATS FOR OCCUPIED/UNOCCUPIED HOURS OF OPERATION. HOURS OF OPERATION AND TEMPERATURE SET POINTS PER OWNERS REQUEST. FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS.

#### FAN SCHEDUL FAN IDENTIFICATION EF-1 FF-MANUFACTURER GREENHECK GREE MODEL NUMBER SP-A190 SP-/ WOME SERVICE AREA MEN'S RR CABIN FAN TYPE CABINET CENT. 150 ICFM 150 0.35 0 35 SONES 1.5 46 W MOTOR POWER 46 WATTS VOLTAGE/PHASE 115/60/1ø 115/ 17 L WEIGHT 17 LBS A.B.C CCESSORIES REQUIRED A.B.C ACCESSORIES: A: BACKDRAFT DAMPER B: WALL CAP C: VARIABLE SPEED CONTROLLER REMARKS:

GAS FURNACE SCHEDULE					
IDENTIFICATION	GF-1				
MANUFACTURER	YORK				
MODEL NO.	Y81E100B12				
CFM	1200				
MOTOR H.P./MOCP	.5/15 AMPS				
VOLTAGE	120/1ø				
FILTERS	N/A				
MBH INPUT/OUTPUT	100 / 80				
WEIGHT	108				
ACCESSORIES REQUIRED A,B					
ACCESSORIES: A: THERMOSTAT WITH SUBBASE (PER SPECIFICATIONS) B: VIBRATION ISOLATION					
REMARKS:					

HEATING CAPACITY BASE ON NATURAL GAS AT 1000 BTUH PER CUBIC FOOT AND .5 SPECIFIC GRAVITY. - LOW VOLTAGE VENDOR TO PROVIDE, INSTALL AND PRE-WIRE FOR EMS. SEE DRAWING E-3A FOR DETAILS.

![](_page_36_Figure_50.jpeg)

	FAN SCHE	JULE				
FAN IDENTIFICATION	EF-1	EF-2				
MANUFACTURER	GREENHECK	GREENHECK				
MODEL NUMBER	SP-A190	SP-A190				
SERVICE AREA	MEN'S RR	WOMEN'S RR				
FAN TYPE	CABINET CENT.	CABINET CENT.				
CFM	150	150				
ESP	0.35	0.35				
SONES	1.5	1.5				
MOTOR POWER	46 WATTS	46 WATTS				
VOLTAGE/PHASE	115/60/1ø	115/60/1ø				
WEIGHT	17 LBS	17 LBS				
ACCESSORIES REQUIRED	A,B,C	A,B,C				
.CCESSORIES: A: BACKDRAFT DAMPER B: WALL CAP C: VARIABLE SPEED CONTROLLER						
EMARKS: EF-1 & 2 SHALL BE INTERLOCKED WITH LIGHTSWITCH SERVING THEIR RESPECTIVE SPACES.						

PACKA	JED GAS FIRED AC UNIT १	SCHEDULE 499 SQ FT. PER TON			
IDENTIFICATION	RTU-1 THRU 4	RTU-5			
MANUFACTURER	YORK	YORK			
MODEL NUMBER	KJ120N18	KJ037N08			
NOMINAL TONS	10	3			
SEER	-	14.7			
EER	12.2	12.5			
VOLTAGE	480/3ø	480/3ø			
UNIT M.C.A.	25.3	10.0			
UNIT M.O.C.P.	30.0	15.0			
TOTAL COOLING CAP. (MBH)	126.7	36.4			
SENSIBLE COOLING CAP. (MBH)	89.5	25.9			
FAN SECTION:					
CFM SUPPLY	4,000	1,200			
CFM O.A. MIN	700	130			
EVAP. FAN H.P.	3	1-1/2			
ESP-IN WG.	.6	.6			
HEATING SECTION:					
FUEL	NAT. GAS	NAT. GAS			
HEATING INPUT (MBH)	180.0	80.0			
HEATING OUTPUT MBH	146.0	65.0			
FILTER	2"	2"			
OPERATING WT. (LBS.)	1,275	925			
NOTES	1 THRU 22	1 THRU 8, 10 THRU 22			
NOTES:					

- TRACTOR SUPPLY COMPANY HAS NATIONAL ACCOUNTS WITH YORK/JOHNSON CONTROLS & LENNOX. FOR YORK PLEASE EMAIL JOE.RAY@JCI.COM OR CALL 1-405-419-6613 FOR YORK/JOHNSON CONTROLS QUOTATIONS AND TECHNICAL SUPPORT. FOR LENNOX PLEASE EMAIL STEVEN.PETER@LENNOXIND.COM OR CALL 1-800-367-6285 FOR LENNOX QUOTATIONS AND TECHNICAL SUPPORT. ACCEPTABLE ALTERNATE MANUFACTURER: LENNOX 'L' SERIES. MUST BE COMPATIBLE WITH TSC FURNISHED EMS.
- MUST BE EQUAL TO OR BETTER THAN YORK PREDATOR/SUNLINE SERIES INCLUDING HINGED DOORS, HIGH EFFICIENCY, WARRANTY, AND MAINTENANCE REQUIREMENTS.
- COOLING CAPACITIES BASED ON 80°F DB / 67°F WB ENTERING COIL, 95°F DB ENTERING CONDENSER. HEATING CAPACITY BASED ON NATURAL GAS AT 1000 BTU PER CUBIC FOOT AND 0.5 SPECIFIC GRAVITY.
- PROVIDE FACTORY FURNISHED 14" HIGH INSULATED ROOF CURB. PROVIDE FACTORY INSTALLED DIRTY FILTER SWITCH AND BLOWER PROVING SWITCH.
- PROVIDE 1 YEAR LABOR AND 3 YEAR PARTS WARRANTY. PROVIDE 5 YEAR PARTS WARRANTY ON COMPRESSORS.
- PROVIDE 10 YEAR HEAT EXCHANGER WARRANTY.
- 9. PROVIDE FACTORY INSTALLED SMOKE DETECTORS ON THE RETURN DUCT DISCHARGES. 10. PROVIDE FACTORY INSTALLED DIFFERENTIAL ENTHALPY ECONOMIZER AND BAROMETRIC RELIEF. O.A. DAMPER SHALL CLOSE DURING UNOCCUPIED HOURS. MECHANICAL CONTRACTOR SHALL PROVIDE A SECOND SET OF FILTERS TO BE INSTALLED PRIOR TO STORE OPENING.
- . UNIT SHALL USE R-32 OR R454-B REFRIGERANT (NO EXCEPTIONS).
- 12. MECHANICAL CONTRACTOR SHALL PROVIDE A START UP CHECKLIST CONFIRMING ALL UNITS HAVE BEEN PROPERLY STARTED AND CONFIRMED RUNNING PROPERLY. CHECKLIST MUST BE PROVIDED TO TSC VIA CLOSE-OUT BINDER. 13. STENCIL TAG NUMBER ON SIDE OF UNITS (FACING ROOF HATCH) WITH 3" HIGH LETTERS AND BLACK EXTERIOR PAINT.
- 14. NON-POWERED CONVENIENCE OUTLET.
- 15. PROVIDE COIL (HAIL) GUARDS. 16. ALL WORK TO INSTALL ALL CONTROL DEVICES AND WIRING SHALL BE COORDINATD BETWEEN THE GENERAL CONTRACTOR,
- MECHANICAL CONTRACTOR, ELECTRICAL CONTRACTOR, LOW VOLTAGE VENDOR, AND EMS VENDOR. 7. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS AND GANG BOXES FOR THERMOSTATS. SEE DRAWINGS E5.1
- FOR DETAILS. 18. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUITS AND GANG BOXES AS SHOWN ON E5.0. AS NECESSARY FOR FINAL CONNECTIONS TO FUTURE EMS. COORDINATE FINAL LOCATION OF EMX PANEL WITH EMS VENDOR. SEE DRAWING E5.1 FOR DETAILS
- 19. MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY THERMOSTATS AND WIRING FOR CONNECTION TO HVAC UNITS. VERIFY FINAL HEIGHT AND PROVIDE 5' OF ADDITIONAL COILED CABLE. 20. LOW VOLTAGE VENDOR SHALL FURNISH AND INSTALL FINAL THERMOSTATS, CARBON DIOXIDE SENSORS, HUMIDITY SENSORS, AND PRE-WIRE FOR EMS. SEE DRAWINGS E5.1 FOR DETAILS.
- 21. FINAL CONTROL CONNECTIONS TO EMS PANEL TO BE MADE BY EMS VENDOR.

REMARKS:

- PROVIDE POWER TO UNITS THROUGH KNOCK-OUTS, OR IN CURB. DO NOT PENETRATE ROOF.
- REFER TO E3.1 FOR THERMOSTAT MOUNTING INSTRUCTIONS. - O.A. DAMPER SHALL CLOSE DURING UNOCCUPIED HOURS.

	AIR DISTRIBUTION SCHEDULE												
SYMBOL	MFGR. & MODEL #	DEVICE	FACE	DEVICE SIZE	VOLUME CONTROL	COLLAR SIZE	REMARKS						
Â	TITUS MOD. TMSA-AA	SUPP. DIFF.	LOUVERED	24" x 24"	M.V.D.	6"ø	SEE NOTE 1-4						
B	TITUS MOD. TMSA-AA	SUPP. DIFF.	LOUVERED	24" x 24"	M.V.D.	10 <b>"</b> ø	SEE NOTE 1-4						
R	TITUS MOD. 50 F	RET. GRILLE	EGGCRATE	24" x 24"			SEE NOTE 5						
<u>NOTES:</u> 1. ALL AI 2. PROVIE UNLESS 3. PROVIE TILE AN (REFER	R DEVICES TO HAVE COL DE ROUND NECK COLLAR S NOTED OTHERWISE. DE LAY—IN TYPE BORDER ID SURFACE MTD. TYPE ARCHITECTURAL DWG'S)	OR PER ARCHITI S FOR CEILING FOR CEILING W BORDER FOR GY	ECT DIFFUSERS ITH ACOUSTICAL 'PBOARD CEILING	4. ALL SQUAR FACE (NO 5. PROVIDE RI TO RUNOUT GS	E CEILING DIFFU BLANK PANEL) ETURN AIR GRILL SHOWN ON DR	ISERS ARE TO BI LES WITH NECK S AWING.	e full louvered Size equivalent						

![](_page_36_Figure_74.jpeg)

![](_page_36_Picture_75.jpeg)

![](_page_37_Figure_0.jpeg)

![](_page_37_Figure_1.jpeg)

![](_page_37_Picture_2.jpeg)

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40 METALLIC PIPE.
PSI PRESSURE LOSS FOR 300'—0" TION AS REQUIRED. CONTRACTOR AL PROVIDER PRIOR TO
PIPE SIZES INDICATED IN

	PLUMBING FIXTURE SCHEDULE				
			UTILITI	ES	
MARK WC	DESCRIPTION WATER CLOSET (FLOOR MOUNTED ADA: PRESSURE ASSISTED FLUSH TANK	CW	HW	DR	VENT
	MOTION ACIVATED): KOHLER HIGHLINE K-3519, 12" ROUGH-IN, 1.0 GPF, WITH SLOAN FLUSHMATE PRESSURE ASSIST, LOW CONSUMPTION, VITREOUS CHINA, 17-1/8" HIGH, ELONGATED BOWL FLUSH TANK WATER CLOSET WITH LEFT HAND TRIP LEVER. PROVIDE BEMIS 1055 SSC ELONGATED OPEN FRONT TOILET SEAT, K-5420 BOLT CAPS. FOR RIGHT HAND TRIP LEVER PROVIDE WITH ALTERNATE TANK CONFIGURATION MODEL K-3519-RH. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING CORRECT TANK SELECTION WITH LATEST ARCHITECTURAL DRAWINGS TO ACCOMMODATE ADA ACCESSIBILITY PRIOR TO ORDERING. RETROFIT WITH INTELLI-FLUSH K-100101 WALL SENSOR, POWERED BY FOUR(4) AA BATTERIES, CHROME FINISH. INTELLI-FLUSH SYSTEM MUST BE ORDERED SEPARATELY FROM FLUSHMATE. CONTACT LORI FELTMATE AT FLUSHMATE FOR ORDERING INFORMATION. PH:(248)446-8159 EMAIL: Lori.Feltmate@Flushmate.com	¥"	X	4"	2"
LAV	LAVATORY (ACCESSIBLE, WALL HUNG, MOTION ACTIVATED): KOHLER KINGSTON WALL-MOUNT K-2005, VITREOUS CHINA LAVATORY WITH A ZURN AQUASENSE BATTERY POWERED Z6915-XL FAUCET, POLISHED CHROME FINISH, KOHLER K-23726 DRAIN, KOHLER K-8998 P-TRAP AND KOHLER K-23725 CAST IRON CLEANER. MOUNT FIXTURE WITH FLOOD RIM 34" AFF. FURNISH AND INSTALL WITH ZURN MODEL ZW3870XLT THERMAL MIXING VALVE FOR MAX. 110°F HOT WATER.	¥"	<u></u> %"	1¼"	1¼"
BS	BREAKROOM SINK: (SINGLE BOWL, S.S., GOOSENECK): PROVIDED BY TRACTOR SUPPLY COMPANY & INSTALLED BY CONTRACTOR.	1⁄2"	½"	1½"	11/4"
EWC	ELECTRIC WATER COOLER (ACCESSIBLE, MOTION SENSOR, DUAL-HEIGHT): MURDOCK MODEL A172108F-UG-B512-BCD WITH INFRARED SENSOR CONTROL AND WALL MOUNTING BRACKET. 8 GPH, 115/1/60. MOUNT HIGH UNIT AT 42" MAX. FROM FLOOR TO SPOUT OUTLET AND LOW UNIT AT 36" MAXIMUM FROM FLOOR TO SPOUT OUTLET. PROVIDE MCGUIRE 8912 P-TRAP AND MCGUIRE 165 SUPPLY WITH STOP. COORDINATE WITH ELECTRICAL CONTRACTOR TO LOCATE RECEPTACLE BEHIND WATER COOLER CABINET. PROVIDE WITH BOTTLE FILLER. CONTACT BERRY JONES FOR ORDERING INFORMATION. PH: 800-459-7099 EMAIL: berry.jones@hjcinc.com.	¥"	x	11⁄4"	1¼"
MS	MOP SINK : MUSTEE MODEL 63M 24"x24" FIBERGLASS MOP SERVICE BASIN. COMPLETE WITH MODEL 63.401 EXTRUDED BUMPER GUARD, CHICAGO MODEL 897-RCF CHROME PLATED SPOUT WITH VACUUM BREAKER, ¾" HOSE THREAD OUTLET, PAIL HOOK. WALL SUPPORT, INTEGRAL STOPS, MODEL 369 2½" METAL LEVER HANDLES AND 36" LENGTH OF THREADED HOSE. FURNISH AND INSTALL T&S MODEL B-0977 THREADED CONTINUOUS PRESSURE VACUUM BREAKER AND DEMA MODEL 68-6 PRESSURE INDICATING TEE ON FAUCET OUTLET FOR HOSE CONNECTION TO BETCO DISPENSER. VACUUM BREAKER TO BE INSTALLED UPSTREAM OF PRESSURE INDICATING TEE.	¥"	¥"	3"	1½"
WH-1	WATER HEATER (GAS INSTANTANEOUS, 96% EFFICIENCY, 120V/1ø, 4 AMPS): A.O. SMITH MODEL 540H OR EQUAL, INTERIOR WALL MOUNTED, GAS, INSTANTANEOUS WATER HEATER, RATED AT 13,000 TO 199,000 BTUH, WITH CAPACITY OF 0.26-9.8 GAL./MIN. WATER HEATER SHALL CONFORM TO IECC 701, 504, AND ASHRAE 90.1. SET TO 120°F OUTLET TEMP. PROVIDE W/ ISOLATION VALVE, CONDENSATE NEUTRALIZER PART #100112163, AND INNOFLUE CONCENTRIC ROOF TERMINATION BY CENTROTHERM OR APPROVED EQUAL. SHALL MEET UL-1738 STANDARDS.	3⁄4"	3⁄4"	x	x
FD-1	FLOOR DRAIN (3" DIA. OUTLET): ROUND TOP, J.R. SMITH MODEL 2005Y–A–P050–PB WITH CAST IRON BODY AND FLASHING COLLAR, TRAP PRIMER CONNECTION AND POLISHED BRONZE STRAINER. INSTALL WITH TOP FLUSH WITH FINISHED FLOOR.	X	X	3"	1½"
TP-1	TRAP PRIMER: JOSAM FIG. NO. 88250, AUTOMATIC TRAP PRIMER, MOUNTED INSIDE WALL CAVITY UNDER LAVATORY. PROVIDE 8" X 8" ACCESS PANEL TO CLEAR LAVATORY ROUGH-IN AND PAINTED TO MATCH WALL. RUN 1/2" COPPER LINE FROM TRAP PRIMER TO ADJACENT FLOOR DRAIN AS SHOWN ON THE CONTRACT DRAWINGS. INLINE FLOOR DRAIN TRAP SEAL MAY BE USED IN LIEU OF TRAP PRIMERS PENDING LOCAL CODE APPROVAL. TRAP SEALS SHALL MEET REQUIREMENTS OF ASSE 1072 AND SHALL BE MADE OF CHEMICALLY RESISTANT ELASTOMER.	½"	X	Х	x
WHA	WATER HAMMER ARRESTER: JOSAM FIG. NO. 75001 THROUGH 75006, SIZE AS RECOMMENDED BY MANUFACTURER.	Х	Х	х	х
NFHB	HOSE BIBB (NON-FREEZE, KEYED HANDLE): WOODFORD MODEL 67, 3/4", AUTOMATIC DRAINING BRASS FINISH, NIDEL MODEL 34HA VACUUM BREAKER. PROVIDE LOOSE TEE KEY FOR EACH HYDRANT.	3⁄4"	X	Х	Х
FS	FLOOR SINK (14"X14"): ZURN MODEL FS12-6-PV3 14"X14" PVC FLOOR SINK WITH 3" PVC HUB CONNECTION. FURNISH WITH SEDIMENT BUCKET JP2370-Y3, HALF-GRATE JP2370-H, AND P-TRAP. FLOOR SINKS SHALL BE INSTALLED 30" ON CENTER FROM CENTERLINE OF MOP SINK.	х	Х	3"	1½"
WASH TUB & WASH TUB ADA	PET WASH TUB: TUB AND ANTI-SIPHON TYPE FAUCET TO BE PROVIDED BY TSC AND INSTALLED BY CONTRACTOR. CONTRACTOR TO FURNISH AND INSTALL WITH ENDURA IN-LINE DRAIN STRAINER, MODEL 393243AW, BELOW TUB IN PLACE OF P-TRAP. STRAINER CLEANOUT SHALL BE INSTALLED IN EASILY ACCESSIBLE LOCATION. TSC TO FURNISH AND CONTRACTOR TO INSTALL SMARTWAY HAIR INTERCEPTOR IN PLACE OF A STRAINER BASKET IN BASIN OF EACH WASH TUB. COORDINATE LEFT HAND / RIGHT HAND CONFIGURATION AS SHOWN ON DRAWINGS WITH TSC. FURNISH COMPLETE WITH TEMPERATURE LIMITING MIXING VALVE.	½"	1/2"	1½"	1½"
FD-2	FLOOR DRAIN (4" DIA. OUTLET): ROUND TOP, J.R. SMITH MODEL 2005Y–A–P050–PB WITH CAST IRON BODY AND FLASHING COLLAR, TRAP PRIMER CONNECTION AND POLISHED BRONZE STRAINER. INSTALL WITH TOP FLUSH WITH FINISHED FLOOR.	X	Х	4"	2"
TP-2	TRAP PRIMER: PRECISION PLUMBING PRODUCTS P2-500, AUTOMATIC TRAP PRIMER. RUN 1/2" COPPER LINE FROM TRAP PRIMER TO ADJACENT FLOOR DRAIN AS SHOWN ON THE CONTRACT DRAWINGS. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. INLINE FLOOR DRAIN TRAP SEAL MAY BE USED IN LIEU OF TRAP PRIMERS PENDING LOCAL CODE APPROVAL. TRAP SEALS SHALL MEET REQUIREMENTS OF ASSE 1072 AND SHALL BE MADE OF CHEMICALLY RESISTANT ELASTOMER.	¥"	х	x	Х
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER : WATTS MODEL LF919-QT-S-FS, 1¼" REDUCED PRESSURE BACKFLOW PREVENTER WITH A MODEL 919-AG AIR GAP DRAIN. INSTALL UNIT IN HORIZONTAL POSITION WITH CENTERLINE A MAXIMUM OF 4'-6" AFF. REFER TO DETAIL ON DRAWINGS.	1¼"	X	Х	Х
HWRP	HOT WATER RECIRCULATION PUMP (FOR USE AT WATER HEATER): BELL & GOSSETT MODEL PL-30B WITH $\frac{3}{4}$ " CONNECTIONS, RATED @ 1/12 HP, 120-1-60, .5 GPM AT .75 TDH. PROVIDE MAIN CUTOFF SWITCH (MANUAL) FOR PUMP TO CUT OFF POWER AS REQUIRED UNDER ASHRAE STANDARD 9075, PARAGRAPH 7.6. INSTALL & SUPPORT PUMP PER SCHEMATIC ON CONTRACT DRAWINGS AND MANUFACTURER'S RECOMMENDATIONS.	3⁄4"	X	X	X

WASTE & WATER FIXTURE LOAD CALCULATIONS												
FIXTURE	FIXTURE/EQUIPMENT	QUANTITY		WATER			WAST	E				
TAG			CW F.U. PER FIXTURE	HW F.U. PER FIXTURE	TOTAL F.U. PER FIXTURE	TOTAL F.U.	WASTE F.U. PER FIXTURE	TOTAL F.U.				
<u>WC</u>	WATER CLOSET	2	5.0	_	5.0	10.0	4.0	8.0				
LAV	LAVATORY	2	1.5	1.5	2.0	4.0	1.0	2.0				
<u>BS</u>	BREAK ROOM SINK	1	1.0	1.0	1.4	1.4	2.0	2.0				
EWC	ELECT. WATER COOLER	1	0.25	_	0.25	0.25	_	-				
<u>MS</u>	MOP SINK	1	2.25	2.25	3.0	3.0	2.0	2.0				
FD-1 & <u>FD-2</u>	FLOOR DRAIN	3	-	-	-	-	2.0	6.0				
WASH_TUB	PET WASHING TUB	2	2.25	2.25	3.0	6.0	2.0	4.0				
<u>FS</u>	FLOOR SINK	2	-	-	-	-	4.0	4.0				
1st <u>HB/NFHB</u>	HOSE BIBB/ NON-FREEZE HOSE BIBB	1	5.0	-	5.0	5.0	-	-				
<u>HB/NFHB</u>	HOSE BIBB/ NON-FREEZE HOSE BIBB	2	1.0	_	1.0	2.0	_	-				
	TOTALS					31.65		28.0				
MAXIMUM WATER	DEMAND AT 31.65 F.U. =	= 23.83 GPM	= 1 1/4" MI	N. WATER MAIN	SUPPLY							
MAXIMUM WASTE	DEMAND AT 28.0 F.U. =	4" SANITARY	SEWER WASTE									
FIXTURE UNITS E	BASED ON 2015 INTERNATI	ONAL PLUMBI	NG CODE									

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#### PART 1 GENERAL

- 1. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF THE FOLLOWING: STATE BUILDING CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL
- PLUMBING CODE, INTERNATIONAL ENERGY CONSERVATION CODE, NFPA-90A, NFPA-101, NFPA-54.
- 2. OBTAIN AND PAY FOR ALL REQUIRED PERMITS, INSPECTION FEES, TAPPING FEES, CONNECTION CHARGES, AND UTILITY COMPANY SERVICE CHARGES.
- 3. INSTALLATION SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER.
- 4. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL LABOR AND INSTALL ALL MATERIAL CALLED FOR IN THE CONTRACT DOCUMENTS PER LOCAL CODE REQUIREMENT AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 5. THE CONTRACTOR'S INSTALLATION SHALL INCLUDE ALL REQUIRED ROUGH-INS, DUCTWORK, PIPING OR ELECTRICAL WIRING INCLUDING DEVICES (GAGES, VALVES, DISCONNECTS, STARTERS, ETC.) NEEDED FOR ALL SYSTEMS TO BE COMPLETE AND FULLY OPERATIONAL WHETHER OR NOT SHOWN OR NOTED ON THE CONTRACT DOCUMENTS.
- 6. THE CONTRACTOR'S BID SHALL INCLUDE ALL SUCH ITEMS REASONABLY INFERRED OR REQUIRED FOR COMPLETE SYSTEMS. THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN BUILDING CODES AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND THE CONTRACT DOCUMENTS.
- 7. NO DEVIATIONS OR ADJUSTMENTS SHALL BE MADE TO THE CONTRACT DOCUMENTS WITHOUT COORDINATION AND THE APPROVAL OF THE DESIGN ENGINEER. ANY SUCH APPROVED DEVIATIONS OR ADJUSTMENTS TO THE CONTRACT DOCUMENTS SHALL BE MARKED ON A SET OF RECORD DRAWINGS BY THE CONTRACTOR. THE RECORD AS-BUILT DRAWINGS SHALL BE TURNED OVER TO THE DESIGN ENGINEER AT THE COMPLETION OF CONSTRUCTION.

#### PART 2 PRODUCTS

- 1. ALL PIPING AND FITTINGS FOR THE DOMESTIC WATER SYSTEM SHALL BE CERTIFIED BY THE UNDERWRITERS LABORATORY TO MEET THE ANSI NSF, 61 SECTION 9 STANDARD.
- 2. ALL PIPING INSIDE THE BUILDING AND BELOW SLAB TO 5'-0" OUTSIDE THE BUILDING SHALL BE ASTMF876 APPROVED CROSSLINKED POLYETHYLENE (PEX) TUBING WITH A MINIMUM CLASS 1006 CHLORINE RESISTANCE RATING, WATTS, ZURNER, OR NIBCO. FITTINGS SHALL BE BARBED CRIMP PIPING OR QUICK CONNECT FITTINGS, WATTS, ZURNER, OR NIBCO. EXPOSED PIPING INSIDE SHALL BE 10' OR 20' STICKS. ROLLS MAY BE USED IN WALLS NOT EXPOSED AND UNDERSLAB. ALL PIPING (PEX) UNDER INTERIOR SLAB SHALL BE SLEEVED. NO FITTINGS SHALL BE PERMITTED UNDER GROUND.

OR

ALL DOMESTIC WATER PIPING INSIDE THE BUILDING ABOVE SLAB SHALL BE TYPE "L" HARD COPPER. DOMESTIC WATER PIPING BELOW SLAB AND TO 5'-0" OUTSIDE SHALL BE TYPE "K" SOFT SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB. COPPER PIPE FITTINGS SHALL BE SWEATED JOINT WROUGHT COPPER SWEEP PATTERN FITTINGS, SOLDERED USING 95-5 LEAD-FREE SOLDER.

- 3. ALL SANITARY WASTE AND VENT PIPING INSIDE AND UNDERSLAB TO 5'-0" OUTSIDE THE BUILDING SHALL BE SCHEDULE 40 PVC. DWV OR SERVICE WEIGHT CAST IRON WITH DRAINAGE FITTINGS.
- 4. JOINT FOR PVC SANITARY WASTE AND VENT PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB TO 5'-0" OUTSIDE THE BUILDING. JOINTS FOR CAST IRON PIPE SHALL BE NO-HUB TYPE ABOVE. SLAB ON GRADE AS MANUFACTURED BY CLAMP-ALL OR ANACO HUSKY. CAST IRON SOIL PIPING INSTITUTE NO-HUB, DOUBLE BAND CONNECTORS SHALL NOT BE ALLOWED. JOINTS FOR CAST IRON PIPE BELOW SLAB OR GRADE SHALL BE NEOPRENE PUSH-ON TYPE.
- 5. HANGERS: PIPE SIZES 1/2" TO 1-1/2": ADJUSTABLE WROUGHT STEEL LOOP (COPPER, ELECTROPLATE IF APPLICABLE).
- 6. HANGERS: PIPE SIZES 2" AND UP: ADJUSTABLE WROUGHT STEEL CLEVIS (COPPER, ELECTROPLATE IF APPLICABLE).
- 7. MULTIPLE OR TRAPEZE HANGERS: STEEL CHANNELS WITH WELDED SPACERS AND HANGER RODS.
- 8. PROVIDE STEEL HANGER RODS. THREADED BOTH ENDS, THREADED ONE END, OR CONTINUOUS THREADED AS REQUIRED.
- 9. INSULATE DOMESTIC HOT AND COLD WATER PIPING WITH FIBERGLASS INSULATION WITH MOLDED FIBERGLASS PIPE COVERING AND CONTINUOUS VAPOR AS MANUFACTURED BY MANVILLE CORPORATION, OWENS-CORNING, KNAUF, OR CERTAINTEED. OR

INSULATE (PEX) PIPING WITH SELF SEALING ELASTOMERIC RUBBER INSULATION. SEAL ENDS WITH CONTACT ADHESIVE AND TAPE PER MANUFACTURER'S RECOMMENDATIONS.

### PLUMBING SPECIFICATIONS

- 10. INSULATE ALL DOMESTIC HOT WATER PIPING WITH 1" THICK INSULATION. INSULATE ALL DOMESTIC COLD WATER PIPING WITH 1/2" THICK INSULATION.
- 11. INSULATE ALL DOMESTIC WATER PIPING BELOW SLAB AND TO 5'-0" OUTSIDE THE BUILDING WITH 1/2" ARMAFLEX.
- 12. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NO GREATER THAN 25 FLAME SPREAD. NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED.
- 13. ALL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. ALL GAS PIPING INSTALLED OUTDOORS SHALL BE COATED WITH A CORROSION RESISTANT PAINT. PAINT COLOR SHALL BE ORANGE OR YELLOW.
- 14. CONCRETE ANCHORS (WEDGE ANCHORS) SHALL BE ZINC-PLATED CARBON STEEL WEDGE ANCHORS AVAILABLE IN ANCHOR/DRILL SIZES 1/4" TO 3/4" AND LENGTHS OF 1-3/4" THROUGH 12", MEETING U.S. GOVERNMENT G.S.A. SPECIFICATIONS FF-S-325 GROUP II, TYPE 4, CLASS I, FOR FASTENING PLUMBING SYSTEMS TO CONCRETE AND PIPE HANGING. ITW RAMSET/RED HEAD BRAND OR APPROVED EQUAL.
- 15. NATURAL GAS REGULATORS SHALL BE MAXITROL 325 SERIES OR EQUAL. 16. ACCEPTABLE FIXTURE MANUFACTURERS
- A. NO OTHER MANUFACTURER SUBSTITUTIONS SHALL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ENGINEER FIVE (5) DAYS BEFORE BIDDING.
- B. CONTRACTOR SHALL PROVIDE FAUCETS AND FITTINGS THAT ARE CERTIFIED BY UNDERWRITERS LABORATORY TO MEET THE ANSI NSF 61, SECTION 9 STANDARD.
- C. FITTINGS: AMERICAN STANDARD, KOHLER, DELTA, MOEN, SYMMONS, LEONARD, CHICAGO FAUCET COMPANY, T&S BRASS, OR POWERS REGULATOR.

### PART 3 EXECUTION

- EXCAVATION, BACKFILLING AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH O.S.H.A. AND EXISTING SAFETY STANDARDS.
- A. PROVIDE SHORING AND CLEANING NECESSARY TO KEEP TRENCHES IN WORKING CONDITIONS, INCLUDING PUMPING OUT WATER.
- B. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO AT LEAST 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE. GRAVEL SHALL BE SCOOPED OUT UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
- C. IN MOSTLY EARTH OR SAND MATERIAL, THE LAST 6" OF EXCAVATION SHALL BE DONE BY HAND. TRENCH BOTTOM SHALL BE SCOOPED OUT AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.
- BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". THE REST OF THE FILL UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY. ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, DEBRIS: WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A PLASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE DONE IN LAYERS OF NOT MORE THAN 8" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.
- E. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.
- EXPOSED HOT AND COLD WATER TRIM IN FINISHED AREAS SHALL BE CHROME FINISHED.
- 3. ALL HORIZONTAL AND VERTICAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL CODE RECOMMENDATIONS. SUPPORTS SHALL SECURELY HOLD PIPING. PREVENT VIBRATION. COMPENSATE FOR ALL STATIC AND OPERATIONAL CONDITIONS OF THE VARIOUS SYSTEMS AND SHALL NOT BE SUBJECT TO ELECTROLYTIC ACTION. THIS SHALL BE ACCOMPLISHED BY USING THE SUMMER SYSTEM, THE POSIFIX, STAKFIX, PIPEFIX OR CHANNEL.
- 4. WATER HAMMER ARRESTERS SHALL BE INSTALLED ON ALL HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS. FLUSH VALVES OR QUICK CLOSING VALVES SUCH AS DISHWASHERS, CLOTHES WASHERS, AND OTHER EQUIPMENT, BETWEEN THE LAST TWO FIXTURES. SHOCK ABSORBERS SHALL BE MOUNTED IN THEIR VERTICAL POSITION.
- 5. SANITARY WASTE AND VENT PIPING SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR PIPE LARGER THAN 3" IN DIAMETER.

![](_page_39_Figure_43.jpeg)

![](_page_39_Figure_44.jpeg)

![](_page_39_Figure_46.jpeg)

## SPRINKLER INTENT INFORMATION

	SALES AREA	OFFICE AREA AND PET WASH	STOCKROOM AREA
ZONE CLASSIFICATION **	ORDINARY HAZARD GROUP 2	LIGHT HAZARD	MISCELLANEOUS STORAGE <12', CLASS III COMMODITIES * ORDINARY HAZARD GROUP 2
DENSITY	.20 GPM/ SQ. FT.	.10 GPM/ SQ. FT.	.20 GPM/ SQ. FT.
COVERAGE AREA	1500 SQ. FT.	1500 SQ. FT.	1500 SQ. FT.
COVERAGE PER SPRINKLER	130 SQ. FT.	225 SQ. FT.	130 SQ. FT.
DISCHARGE TEMPERATURE	165 <b>°</b> F	165 <b>°</b> F	165'F
MAXIMUM HEAD SPACING	15 FT.	15 FT.	15 FT.
HOSE STREAM ALLOWANCE	250 GPM	100 GPM	250 GPM
COMMENTS:			
* COMMODITY CLASS REDUC CLASS IV COMMODITIES.	CED TO CLASS III BAS	SED ON STORAGE OF	LESS THAN 10 PALLET OF
** ZONE CLASSIFICATION SU	JBJECT TO AUTHORITY	' Having Jurisdiction	۹.

### **GENERAL NOTES** 1. TSC TO FURNISH AND CONTRACTOR TO INSTALL MINIMUM OF 11 PORTABLE FIRE EXTINGUISHERS. LOCATIONS SHALL BE DETERMINED BY STORE FIXTURES AND SHELVING TO MAINTAIN A MAXIMUM TRAVEL DISTANCE OF 75'-0". SPRINKLER LINES, MAINS, AND BRANCHES SHALL BE AS HIGH AS POSSIBLE IN EXPOSED TO DECK LOCATIONS. 3. TSC IS TO APPROVE ALL SPRINKLER DRAWINGS PRIOR TO INSTALLATION. FIRE SPRINKLER CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING FORMAL "DESIGN INTENT" DRAWINGS INCLUDING FULL HYDRAULIC CALCULATIONS, SEALED BY A PROFESSIONAL ENGINEER MEETING ALL STATE AND LOCAL CODE REQUIREMENTS. 5. FIRE EXTINGUISHERS SHALL BE UL & ULC RATED AT 2A:10B:C OR BETTER. CONTRACTOR TO RAISE SPRINKLER LINES, MAINS, AND BRANCHES AS HIGH AS POSSIBLE IN ALL EXPOSED TO DECK 6. LOCATIONS. FIRE PROTECTION SPECIFICATIONS THE SPRINKLER SYSTEM SHALL CONFORM TO NATIONAL FIRE PROTECTION ASSOCIATION 13 AND ALL APPLICABLE REGULATORY REQUIREMENTS AND BUILDING CODES AS INTERPRETED BY THE AUTHORITY HAVING JURISDICTION IN THE LOCALE OF THE PROJECT. WHERE CONFLICTS EXIST BETWEEN SUCH REGULATORY OR CODE REQUIREMENTS, SUCH CONFLICT SHALL BE IDENTIFIED FOR THE REVIEW OF THE ARCHITECT AND ENGINEER. CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE AND HYDRAULICALLY CALCULATED SPRINKLER SYSTEM AS INDICATED ON FLOOR PLANS. MINIMUM SCOPE OF WORK SHALL INCLUDE PROVIDING NEW PENDANT SPRINKLER HEADS AND/OR RELOCATING EXISTING SPRINKLER HEADS AS REQUIRED IN THE VESTIBULE. SALES AREA. TOILETS. OFFICES. AND BREAKROOM. RELOCATE EXISTING UPRIGHT SPRINKLER HEADS OR PROVIDE NEW SPRINKLER HEADS AS REQUIRED IN THE STOCK ROOM. PROVIDE BRANCH PIPING FOR ALL NEW SPRINKLER HEADS AND ROUTE PIPING TO NEAREST BRANCH MAIN OR CROSS MAIN. PROVIDE SUPPORTS AS REQUIRED BY NFPA 13. FIELD VERIFY EXISTING CONDITIONS. 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. 4. SUBMIT FOR APPROVAL THE NUMBER OF SHOP DRAWINGS AND MANUFACTURERS LITERATURE ON ALL MATERIALS AS REQUIRED TO THE ARCHITECT OR OWNER'S REPRESENTATIVE. SUBMIT DRAWINGS AND CALCULATIONS TO THE DEPARTMENT OF FIRE PREVENTION OF THE STATE AND LOCAL 5. AUTHORITIES HAVING JURISDICTION. 6. CONTRACTOR SHALL VISIT THE SITE AS WELL AS ADJACENT SPACES AND FULLY INFORM HIMSELF CONCERNING ALL CONDITIONS AFFECTING SCOPE OF WORK. VERIFY PIPE SIZES, LOCATION OF EXISTING COMPONENTS, AND SUITABILITY OF THE EXISTING SYSTEMS TO MEET THE HYDRAULIC CALCULATIONS PRIOR TO BID. 7. DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL ARCHITECTURAL, CIVIL, STRUCTURAL, ELECTRICAL, AND MECHANICAL DRAWINGS AND COORDINATE WITH OTHER TRADES FOR PIPE ROUTING AND EQUIPMENT PLACEMENT. INSTALL ALL WORK WITHOUT CONFLICT WITH OTHER TRADES AND MAKE MINOR ALTERATIONS AS REQUIRED WITHOUT ADDITIONAL COST TO OWNER. THE SPRINKLER SYSTEM SHALL BE INSTALLED BY A FIRE PROTECTION SPRINKLER SYSTEM CONTRACTOR WITH A VALID 8. CERTIFICATE OF REGISTRATION ISSUED BY THE AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR ALL VOLTAGES, ELECTRICAL LOADS, ETC. OF ELECTRICALLY OPERATED EQUIPMENT PRIOR TO PURCHASING EQUIPMENT. ALL EQUIPMENT SHALL BE U.L. AND NEMA APPROVED. 10. MAINTAIN A MINIMUM CLEARANCE OF 3'-0" IN FRONT OF ALL ELECTRICAL PANELS AND 1'-0" ON EITHER SIDE OF ELECTRICAL PANEL TO STRUCTURE. 11. ALL HORIZONTAL AND VERTICAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH NFPA 13 AND STATE AND LOCAL REQUIREMENTS. SUPPORTS HALL SECURELY HOLD PIPING, PREVENT VIBRATION, COMPENSATE FOR STATIC AND OPERATIONAL CONDITIONS OF THE VARIOUS SYSTEMS, AND SHALL NOT BE SUBJECT TO ELECTROLYTIC ACTION. 12. ALL SPRINKLER SYSTEM MATERIALS INSTALLED SHALL BE U.L. LISTED AND FACTORY MUTUAL APPROVED FOR FIRE PROTECTION USE. 13. CONTROL VALVES SHALL BE SLOW CLOSING INDICATING VALVES LISTED FOR FIRE PROTECTION USE. EACH CONTROL SHALL HAVE A SUPERVISORY SWITCH. 14. SPRINKLER PIPING PENETRATING ONE-HOUR OR GREATER RATED FIRE WALLS SHALL BE SLEEVED AND CAULKED TO MEET U.L. LISTED ASSEMBLY FOR RATING OF WALL. 15. CONTRACTOR SHALL FLUSH WATER SYSTEM AFTER INSTALLATION PER REQUIREMENTS OF NFPA 24. 16. SPRINKLER HEADS SHALL BE TYCO, RELIABLE, CENTRAL, VIKING OR EQUAL. 17. OFFICE AREA AND SIMILAR OCCUPANCIES SHALL HAVE DENSITY OF ADJACENT AREAS IF NOT SEPARATED BY WALLS. IF SEPARATED BY WALLS, THE AREA SHALL BE HYDRAULICALLY BALANCED TO PRODUCE 0.1 G.P.M. PER SQUARE FOOT DENSITY OVER THE MOST REMOTE 1,500 SQ. FT., HEAD COVERAGE 225 SQ. FT./HEAD MAXIMUM, USING 165°F HEADS. 18. SALES AREA, VESTIBULE, AND SIMILAR OCCUPANCIES SHALL SHALL BE HYDRAULICALLY BALANCED TO PRODUCE 0.2 GPM PER SQUARE FOOT DENSITY OVER THE MOST REMOTE 1,500 SQ. FT., HEAD COVERAGE 130 SQ. FT./HEAD MAXIMUM, USING 165°F HEADS. 19. RECEIVING AREA AND STOCKROOM SHALL BE HYDRAULICALLY BALANCED TO PRODUCE .20 GPM PER SQUARE FOOT DENSITY OVER THE MOST REMOTE 1,500 SQ. FT., HEAD COVERAGE 130 FT./HEAD MAXIMUM, USING 165°F HEADS. 20. ALL SPRINKLER HEADS IN AREAS WITH FINISHED CEILING SHALL BE CHROME-PLATED RECESSED PENDANT TYPE WITH TEMPERATURE RATING AS CONDITIONS DICTATE. ASSOCIATED SPRINKLER PIPING SHALL BE ENTIRELY CONCEALED. 21. ALL SPRINKLER HEADS IN AREAS WITHOUT FINISHED CEILINGS SHALL BE BRASS UPRIGHT HEADS WITH TEMPERATURE RATING AS CONDITIONS DICTATE. ASSOCIATED SPRINKLER PIPING SHALL BE RUN EXPOSED. DO NOT PAINT HEADS. 22. THE SPRINKLER CONTRACTOR SHALL COORDINATE THE LOCATION OF PIPING AND HEADS WITH LIGHT FIXTURES. DIFFUSERS, DUCTWORK, PLUMBING LINES, ETC. AND MAKE MINOR ADJUSTMENTS IN THE SPRINKLER LAYOUT WHERE REQUIRED OR DEEMED NECESSARY BY THE ARCHITECT. 23. MODIFICATIONS TO THE SPRINKLER SYSTEM SHALL BE IN ACCORDANCE WITH NFPA 13.

FLOW SWITCH ELECT.

	SPRINKLER LEGEND
SYMBOL	DESCRIPTION
$\bigcirc$	RECESSED CHROME PENDANT HEAD (165°F)
0	UPRIGHT HEAD (165°)
0	CHROME PENDANT HEAD (165°)
	SPRINKLER RISER
<b>F</b> E	FIRE EXTINGUISHER

![](_page_40_Figure_7.jpeg)

![](_page_40_Figure_8.jpeg)

![](_page_40_Figure_9.jpeg)

![](_page_40_Picture_10.jpeg)

![](_page_41_Figure_0.jpeg)

### ○ SITE PLAN NOTES

1. COORDINATE INSTALLATION OF NEW UNDERGROUND SERVICE WITH LOCAL ELECTRIC UTILITY COMPANY. PROVIDE TRENCHING, CONDUIT, CONDUCTORS, METER BASE, CT ENCLOSURE, CONCRETE PAD, AND OTHER ITEMS AS REQUIRED. INSTALL SERVICE IN ACCORDANCE WITH CURRENT UTILITY COMPANY REQUIREMENTS. SEE RISER DIAGRAM ON SHEET E4.0.

2. COORDINATE INSTALLATION OF TELEPHONE SERVICE CONDUITS WITH LOCAL TELEPHONE COMPANY. INSTALL (2) 2" CONDUITS FROM TELEPHONE SERVICE POINT TO TELEPHONE TERMINAL BOARD. 3. VERIFY LOCATION OF PYLON SIGN WITH OWNER. VERIFY EXACT ELECTRICAL REQUIREMENTS WITH VENDOR. PROVIDE CIRCUIT PER VENDOR'S RECOMMENDATIONS. PROVIDE DISCONNECTING MEANS IF NOT PROVIDED WITH SIGN AND LOCATE PER VENDOR'S RECOMMENDATIONS. 4. PROVIDE A 1-1/2 CONDUIT FROM IRRIGATION CONTROLLER TO OUTSIDE OF CURBLINE. COORDINATE EXACT LOCATION WITH GC. 5. CONTRACTOR SHALL INSTALL 1"C WITH PULLSTRING FROM THE TELEPHONE TERMINAL BOARD TO REMOTE PIV, BACKFLOW, OR WATER VALVES THAT THE LOCAL AHJ REQUIRES TO BE MONITORED BY THE FIRE ALARM SYSTEM.

![](_page_41_Figure_6.jpeg)

<u>POLE BASE DETAIL</u>

NO SCALE POLE BASE DETAIL PROVIDED FOR SCOPE AND BID PURPOSES. CONTRACTOR SHALL SUBMIT A POLE BASE DESIGN SUITABLE FOR LOCAL CONDITIONS AND APPROVED BY A STRUCTURAL ENGINEER.

![](_page_41_Picture_9.jpeg)

![](_page_42_Figure_0.jpeg)

![](_page_42_Figure_3.jpeg)

B. ALL LIGHTING SHALL BE CONTROLLED BY LIGHTING CONTROL SYSTEM EXCEPT THE NIGHT LIGHTS(NL) AND EMERGENCY LIGHTING. ALL NIGHT LIGHTS(NL) AND EMERGENCY LIGHTING SHALL BE UNSWITCHED.

C. UNLESS NOTED OTHERWISE, FIXTURES WITH EMERGENCY BATTERY PACKS SHALL HAVE CONNECTION TO LOCAL SWITCHING (WHERE INDICATED) AND CONNECTION TO CIRCUIT HOMERUN. LOCAL SWITCHING SHALL PROVIDE NORMAL ON/OFF CONTROL. UPON LOSS OF CIRCUIT POWER, EMERGENCY BATTERY PACKS SHALL PROVIDE IMMEDIATE ILLUMINATION ON BATTERY POWER, REGARDLESS OF LOCAL SWITCHING. REFER TO "TYPICAL EMERGENCY BATTERY PACK DETAIL"

A1

A1F

P-HS

YE

D. ALL EXIT SIGNS AND STANDALONE EMERGENCY LIGHTING FIXTURES SHALL BE CONNECTED TO CONTINUOUSLY HOT UNSWITCHED CIRCUIT CONDUCTOR OF

E. ALL NIGHT LIGHT FIXTURES SHALL BE FED FROM CIRCUIT A-2. F. COORDINATE EXACT LOCATION OF ALL LIGHTING FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLAN.

G. REFER TO LIGHT FIXTURE MOUNTING DETAILS "6, 7, 8, AND 9" ON SHEET

1. INTERLOCK EXHAUST FANS WITH LIGHTING CIRCUIT. PROVIDE OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH "CM-9-R/MP-20" TO CONTROL LIGHTS AND FAN. FAN SHALL BE CONTROLLED VIA 120V CONTACT AND LIGHTS SHALL BE CONTROLLED VIA RELAY. PROVIDE 120V CIRCUIT FOR FANS (B-33).

COORDINATE HEIGHT OF BUILDING MOUNTED LIGHTING FIXTURES WITH 4. COORDINATE EXACT LOCATION OF ALL LIGHTING FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLAN.

6. PROVIDE RELAYS AS REQUIRED TO OPERATE LIGHTING VIA OCCUPANCY 7. CIRCUIT EMERGENCY BALLAST/BATTERY BACKUP TO UNSWITCHED

CONTINUOUSLY HOT CONDUCTOR OF CIRCUIT INDICATED. 8. MOUNT AT 12" BELOW CEILING.

9. OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH "CM-9-R/MP-20" SENSOR 10. TSC CONTRACTOR SHALL COORDINATE EXACT MOUNTING HEIGHT AND

LOCATIONS OF GOOSENECK FIXTURES WITH ARCHITECT. 11. CONNECT BOTH EMERGENCY AND NORMAL OPERATION BALLASTS OF NIGHT LIGHTING FIXTURE TO UNSWITCHED CONTINUOUSLY HOT CIRCUIT CONDUCTOR OF

12. CIRCUIT EMERGENCY BALLAST/BATTERY BACKUP TO UNSWITCHED CONTINUOUSLY HOT CONDUCTOR OF CIRCUIT INDICATED. WIRE FIXTURE FOR

![](_page_42_Picture_18.jpeg)

COORDINATE MOUNTING HEIGHTS OF ALL LIGHTING FIXTURES WITH ARCHITECTURAL REFLECTED CEILING PLAN – SHEET A3.0.

	LIGHTING FIXTURE SCH INC. CONTACT ANNE	IEDULE — ELECTRICAL CONTRACTOR SHALL PURCHASE LIGHTING   VOELKER (tractorsupply@villalighting.com) AT 314—633—0554 FO	Fixtures t R Pricing.	HROUG	H TRACTOR SUPPLY CO	MPANY'S NATION	AL AGREEMENT WITH VILLA LIGHTING	G SUPPLY,
TYPE	MANUFACTURER	CATALOG NUMBER	VOLT	ι Γοτγ	AMPS   type		MOUNTING	REMARKS
Ą	LITHONIA LIGHTING	CLX-L96-10000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PLR2ANG-WH	277		10000 LUMEN LED 4000K	70.8 WATTS	SURFACE MOUNTED	8' LED STRIP
AE	LITHONIA LIGHTING	CLX-L96-10000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PS1050-SPD-PLR2BELBNG-WH	277		10000 LUMEN LED 4000K	70.8 WATTS	SURFACE MOUNTED	SAME AS 'A' BUT WITH INTEGRAL EMERGENCY BATTERY
A1	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PLR2ANG-WH	277		5000 LUMEN LED 4000K	35.4 WATTS	SURFACE MOUNTED	4' LED STRIP
A1E	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PS1050-SPD-PLR2BELBNG-WH	277		5000 LUMEN LED 4000K	35.4 WATTS	SURFACE MOUNTED	SAME AS 'A1' BUT WIT INTEGRAL EMERGENCY BATTERY
3	LITHONIA LIGHTING	CLX-L96-10000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PLR2ANG-WH	277		10000 LUMEN LED 4000K	70.8 WATTS	SUSPENDED MOUNTED	8' LED STRIP
BE	LITHONIA LIGHTING	CLX-L96-10000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PS1050-SPD-PLR2BELBNG-WH	277		10000 LUMEN LED 4000K	70.8 WATTS	SUSPENDED MOUNTED	SAME AS 'B' BUT WITH INTEGRAL EMERGENCY BATTERY
31	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PLR2ANG-WH	277		5000 LUMEN LED 4000K	35.4 WATTS	SUSPENDED MOUNTED	4' STRIP
B1E	LITHONIA LIGHTING	CLX-L48-5000LM-SEF-FDL-MV0LT-GZ10-40K-80CRI- PS1050-SPD-PLR2BELBNG-WH	277		5000 LUMEN LED 4000K	35.4 WATTS	SUSPENDED MOUNTED	SAME AS 'B1' BUT WITH INTEGRAL EMERGENCY BATTERY
G	MAXLITE	HLRS-45-U-L-P	UNV	1	5,760 LUMEN LED 5000K	45.0 WATTS	PENDANT	EXTERIOR HAZARADOUS AREA LED PENDANT LIC
<	LITHONIA LIGHTING	DSXW1-LED-10C-1000-50K-T3M-MVOLT-DDBXD	UNV	1	3,970 LUMEN LED 5000K	39.0 WATTS	SURFACE	EXTERIOR LED WALL LIGHT
<1	HI-LITE	H-15118-97/HL-AHD-27"-97/21/LED2/40/D/BCM-M	277	1	18W LED 4000K	18.0 WATTS	WALL MOUNT	EXTERIOR GOOSENECK WALL LIGHT
-	INDY LIGHTING	L6-45-35-U-G3-L600HW-C-L-WH	UNV	1	4500 LUMEN LED 3500K	42.3 WATTS	RECESSED	DOWNLIGHT, DAMP LOCATION RATED
D	LITHONIA LIGHTING	RSX1-LED-P2-50K-R3-MVOLT-SPA	UNV	1	LED 5000K	73 WATTS	POLE MOUNTED ON 22' BRONZE POLE	PARKING LOT LIGHTS
P-HS	LITHONIA LIGHTING	RSX1-LED-P2-50K-R3-MVOLT-SPA-HS	UNV	1	LED 5000K	73 WATTS	POLE MOUNTED ON 22' BRONZE POLE	PARKING LOT LIGHTS
२9	LITHONIA LIGHTING	RSX1-LED-P2-50K-R3-MVOLT-SPA	UNV	2	LED 5000K	146 WATTS	TWO HEADS AT 180 DEGREES WITH ROTATED OPTICS, POLE MOUNTED ON 22' BRONZE POLE	PARKING LOT LIGHTS
x	EXITRONIX LIGHTING	VEX-U-BP-WB-WH-R6	UNV	-	INCL.	0.8 WATTS	SURFACE	LED EXIT SIGN
XR	EXITRONIX LIGHTING	VEX-U-BP-WB-WH-R6 / MLED2-G-WP	UNV	-	INCL.	3.8 WATTS	SURFACE	LED EXIT SIGN WITH EXTERIOR REMOTE HEAI
XW	EXITRONIX LIGHTING	VEX-WPC-1-R-W-IH-R-2RL1-WP	UNV	-	INCL.	3.6 WATTS	SURFACE	WET LOCATION RATED I COMBINATION EXIT/EMERGENCY LIGHT WITH INTEGRAL BATTER AND TWO REMOTE HEAI
Y	METALUX	8VT2-LD5-9-DR-UNV-L850-CD1-WL-U	UNV		9000 LUMEN LED 5000K	66.0 WATTS	SUSPENDED MOUNTED	8' LED STRIP W/ LENS AND GASKET
YE	METALUX	8VT2-LD5-9-DR-UNV-EL10W-L850-CD1-WL-U	UNV		9000 LUMEN LED 5000K	66.0 WATTS	SUSPENDED MOUNTED	SAME AS 'Y' BUT WITH INTEGRAL EMERGENCY BATTERY.

LIGHTING FIXTURE SCHEDULE

![](_page_42_Figure_22.jpeg)

![](_page_42_Figure_23.jpeg)

![](_page_42_Figure_24.jpeg)

UNSWITCHED

2 E1.0 NO SCALE

NEUTRAL-

![](_page_42_Picture_27.jpeg)

![](_page_43_Figure_0.jpeg)

SHALL BE CONTROLLED VIA 120V CONTACT AND LIGHTS SHALL BE CONTROLLED VIA RELAY. PROVIDE 120V CIRCUIT FOR FANS (B-33). 2. COORDINATE CONDUIT ROUGH-IN FOR TAMPER AND FLOW CONNECTIONS AS WELL AS ALL OTHER FIRE ALARM DEVICES WITH FIRE ALARM CONTRACTOR. 3. FURNISH AND INSTALL POWER POLES FROM SALES COUNTERTOPS TO CEILING STRUCTURE. SPECIFY RELOC #PP2-L186-HW-B-BLACK OR EQUIVALENT. REFER TO OFFICIAL TSC FIXTURE PLAN LAYOUT SENT FROM TSC TO GC FOR EXACT LOCATIONS. ATTACH POWER POLE TOP TO UNI-STRUT AT BAR JOIST WITH A "U" CLAMP TO THE TOP OF THE POWER POLE AT THE BAR JOIST. LOOSEN THE "U" BOLT USED TO TIGHTEN THE CONNECTION TO THE POWER POLE SO THAT THE POWER POLE IS ABLE TO REMAIN IN POSITION AND THE ROOF CAN FLEX DURING EXPANSION AND CONTRACTION WITHOUT DAMAGING THE POWER POLE. REFER TO DETAILS ON SHEET E3.1.

4. RECEPTACLE FOR "STORE OPEN" AND "CUB CADET" SIGN MOUNTED IN CEILING AS SHOWN ON PLANS. INSTALL WITHIN 6" OF VERTICAL STOREFRONT. IN STORES WITH NO VESTIBULES, RECEPTACLE SHALL BE MOUNTED IN WALL ABOVE STOREFRONT GLASS. 5. JUNCTION BOX FURNISHED AND INSTALLED FOR THE FIRE PROTECTION SYSTEM ELECTRIC GONG. ELECTRICAL CONTRACTOR TO INSTALL AND WIRE FIRE GONG, COORDINATE WITH FIRE SUPPRESSION CONTRACTOR FOR VOLTAGE. PROVIDE LOW VOLTAGE TRANSFORMER AS REQUIRED.

7. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AN EDWARDS 55–4G5 DOOR BELL AND AN EDWARDS 592 TRANSFORMER AT TWO LOCATIONS SHOWN. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AN EDWARDS 250 PUSHBUTTON TO CONTROL BOTH DOOR BELLS. PUSHBUTTON SHALL BE INSTALLED IN A

8. REFER TO SHEET E4.0 MATRIX AND E3.1 COUNTER DETAILS FOR RECEPTACLE AND DATA OUTLET LOCATIONS AT REGISTER COUNTERS (2) RED RECEPTACLES PER CIRCUIT MAXIMUM. (COORDINATE COUNTER LOCATIONS WITH FIXTURE DRAWINGS AND G.C.) THE RECEPTACLE BOXES WILL BE PRE-INSTALLED IN CASEWORK.

10. ALL RTU'S AND AC UNITS SHALL HAVE A 3/4" CONDUIT OR SEAL TIGHT INSTALLED FOR LOW VOLTAGE CABLE. ALL ROOFTOP EQUIPMENT CONNECTIONS SHALL BE

11. EDWARDS 55-4GB DOOR BELL @ CASH REGISTER & CONNECT TO SYSTEM AS NECESSARY. COORDINATE WITH G.C. FOR EXACT LOCATION OF BELL.

12. ALARM CO. SHALL PROVIDE & INSTALL NECESSARY HOOK-UPS TO FACP. ALARM CO. SHALL ALSO PROVIDE COMPLETE FIRE ALARM SYSTEM AS REQUIRED BY AHJ,

14. REFER TO CASEWORK ELEVATIONS AND DETAILS ON PLAN E3.1 FOR ADDITIONAL INFORMATION ON REGISTER AND DISPLAY COUNTERS.

15. ALL CONDUIT TO RUN PARALLEL OR PERPENDICULAR TO STRUCTURE. HORIZONTAL CONDUIT SHALL BE NO LOWER THAN 15'-6". NO HORIZONTAL CONDUITS ALLOWED

16. COORDINATE WITH SECURITY VENDOR FOR THEIR INSTALLATION OF FIRE ALARM AND SECURITY SYSTEMS PANELS. PROVIDE 120 VOLT RED DUPLEX AND PHONE JACK.

BALER. LOCATE DISCONNECT WITHIN TEN FEET OF BALER AND SUCH THAT IT DOES NOT INTERFERE WITH THE FINAL FIXTURE PLAN. 19. PROVIDE OCCUPANCY SENSOR EQUAL TO SENSOR SWITCH "CM-9-R/MP-20" TO CONTROL LIGHTS. SENSOR SHALL BE CENTERED IN ROOM AS MUCH AS POSSIBLE.

21. PROVIDE TYPE "G" LIGHTING FIXTURE AT CANOPY CONTROLLED BY AN EXPLOSION PROOF SWITCH. CONNECT LIGHT TO PROPANE DISPENSING CIRCUIT. SEE DETAIL 2

23. J-BOX FOR POWER TO THE SERIES 800 POWER SUPPLY MOUNTED ABOVE THE CEILING IN LINE WITH THE HINGE SIDE OF THE DOOR. PROVIDE A 1/2" CONDUIT FROM THE POWER SUPPLY TO THE ELECTRIC POWER TRANSFER DEVICE (PT-5) OF THE DOOR FRAME, CONCEALED MORTISE MOUNT. PROVIDE AND PULL TWO #18 AWG WIRE FROM THE POWER SUPPLY TO THE POWER TRANSFER DEVICE AND INTO THE DOOR CONTRACTOR TO COMPLETE WIRING AND CONNECTION OF THE DELAYED RIM EXIT DEVICE AFTER NEW DOOR AND RIM EXIT HARDWARE IS INSTALLED. COORDINATE ALL REQUIREMENTS WITH SUPPLIER/INSTALLER. SEE DETAIL 12/E3.2. 24. PROVIDE A 1-1/2" CONDUIT FROM IRRIGATION CONTROLLER TO OUTSIDE OF CURBLINE. COORDINATE EXACT LOCATION WITH GC.

26. LOCATE WP/GFI OUTLET 14" AS MEASURED FROM INSIDE CORNER OF WALL. EXPOSED CONDUIT FOR ELECTRICAL OUTLET SHALL BE ROUTED WITHIN 18" OF INTERIOR

28. <u>BULK PROPANE VENDER NOTE:</u> LOCATION FOR CONDUIT PENETRATION THROUGH GRADE FROM BUILDING TO PROPANE GAS DISPENSING SYSTEM. ALL CONDUIT FOR BULK PROPANE SHALL BE RGS. VERIFY WITH TSC PROJECT MANAGER IF SCP CAN NOT BE FOLLOWED. REFERENCE DETAILS 2,3,4,5/E3.2. 29. BULK PROPANE VENDER NOTE: WALL MOUNTED PROPANE DISPENSING SYSTEM EMERGENCY STOP PUSHBUTTON IN WEATHER PROOF JUNCTION BOX. MOUNT EMERGENCY STOP BUTTON AT 4'-6" AFG. CONTRACTOR SHALL PROVIDE SIGN AT PUSHBUTTON TO IDENTIFY AS "PROPANE - CONTAINER LIQUID VALVE EMERGENCY SHUTOFF". COORDINATE EXACT MOUNTING LOCATION OF PUSHBUTTON WITH ARCHITECT. PUSHBUTTON SHALL BE INSTALLED A MINIMUM OF 25'-0" FROM DISPENSER BUT NO MORE THAN 100'-0" FROM DISPENSER AND MUST BE WITHIN SITE OF THE DISPENSER. REFERENCE DETAIL 1/E3.2 FOR CONTROL DIAGRAM. PUSHBUTTON SHALL BE

30. VERIFY EXACT LOCATION OF RECEPTACLE WITH FINAL FIXTURE PLAN. RECEPTACLES SHALL BE INSTALLED AT 100" ABOVE FINISHED FLOOR TO BOTTOM OF BOX. 31. CONTRACTOR SHALL ROUTE CONDUIT FOR ELECTRICAL DEVICES LOCATED BELOW 96" AFF RECESSED IN THE WALL. CONDUIT MAY BE ROUTED EXPOSED ABOVE 96" AFF.

32. SPRING AND JAMB MOUNTING PADS TO BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. FACTORY WIRED OPERATORS AND CONTROLS FOR OVERHEAD DOOR TO BE FURNISHED AND INSTALLED BY DH PACE (LOW-VOLTAGE ONLY). ALL CONDUIT RACEWAYS, DISCONNECTS, ELECTRICAL BOXES, WIRING, AND CONNECTIONS ARE BY ELECTRICAL CONTRACTOR. DH PACE WILL LANS AND TERMINATE WIRING FOR LOW-VOLTAGE EQUIPMENT.

34. PROVIDE AND INSTALL (1) EXPLOSION PROOF JUNCTION BOX AT THE DISPENSING UNIT. JUNCTION BOX TO BE. COOPER CROUSE HINDS MODEL # GUAW26. INSTALL SUCH THAT BOX IS IN A VERTICAL POSITION SO THE MAXIMUM WIDTH IS 4-1/4". COORDINATE EXACT LOCATIONS AND REQUIREMENTS WITH PROPANE DISPENSING VENDOR PRIOR TO ROUGH-IN. COORDINATE LOCATION OF CONDUIT ENTRIES WITH PROPANE DISPENSING VENDOR PRIOR TO ORDERING. JUNCTION BOX MUST BE CLASS 1, DIVISION 1

35. CONDUITS SHALL NOT BE RUN EXPOSED OR SURFACE MOUNTED INSIDE THE DRESSING ROOM. ANY CONDUIT FOR EXTERIOR DEVICES SHALL BE RUN CONCEALED IN THE WALL. INTERIOR DRESSING ROOM WALLS TO BE CLEAR OF CONDUIT AND JUNCTION BOXES BELOW 96" ABOVE FINISHED FLOOR.

37. ALL CONDUITS INSTALLED IN THE STOCKROOM AREA SHALL BE INSTALLED AS TIGHT TO ROOF DECK AS ALLOWED BY CODE.

38. PROVIDE 120V-24V TRANSFORMER AS NEEDED FOR VAV DAMPER. COORDINATE EXACT REQUIREMENTS FOR VAV DAMPER WITH MECHANICAL PLANS/MECHANICAL 39. "CHICK DAYS" OUTLET. INSTALL OUTLET TO BOTTOM OF JOIST AT DIMENSIONED LOCATION. VERIFY EXACT LOCATION WITH TSC FINAL FIXTURE PLAN. INSTALL CONTRACTOR PROVIDED POWER REEL CONNECTED TO OUTLET. POWER REEL SHALL BE HUBBELL #HBLC40123TT.

41. QUADRAPLEX RECEPTACLE WALL MOUNTED AT 108" ABOVE FINISHED FLOOR FOR EAS. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH TSC CONSTRUCTION

42. PROVIDE ELECTRICAL DROP FOR LED LIGHTING ASSOCIATED WITH FIXTURING. PROVIDE DUPLEX RECEPTACLE INSTALLED ON END OF CONDUIT DROP. RECEPTACLE SHALL BE INSTALLED AT TOP OF FIXTURE. HEIGHTS MAY VARY. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH TSC PROJECT MANAGER AND FINAL FIXTURE

43. POWER AND DATA TO FRONT COUNTER TO BE ROUTED IN SURFACE RACEWAY FROM REAR COUNTER. ALL POWER AND DATA TO SERVICE COUNTER AREA TO BE 44. RECEPTACLE FOR FLOOR SCRUBBER. PROVIDE LABEL ABOVE RECEPTACLE STATING "OUTLET FOR FLOOR SCRUBBER ONLY". IN RETROFIT STORES LOCATE 18"AFF AND 36" FROM SIDE OF MOP SINK ON SIDE MOST CLEAR OF OTHER ITEMS. COORDINATE LOCATION WITH FINAL FIXTURE PLAN PRIOR TO ROUGH-IN. RECEPTACLE TO BE

45. PROVIDE POWER FOR SLIDING GATE AS REQUIRED. COORDINATE EXACT REQUIREMENTS WITH GATE VENDOR. THE REAR GATE IS TO BE CONTROLLED BY AN INDUCTIVE LOOP DETECTOR AND HAVE A POST MOUNTED KEYPAD FOR MANUAL OVERRIDE. PROVIDE CONTROL WIRING AS REQUIRED PER VENDOR RECOMMENDATIONS.

48. RECEPTACLE FOR CHAINSAW POG. VERIFY EXACT LOCATION AND MOUNTING HEIGHT WITH TSC CONSTRUCTION MANAGER AND FINAL FIXTURE PLAN.

CONTRACTOR SHALL RUN MC CABLE ON THE OUTSIDE OF THE STEEL SUSPENSION POLE AND SECURE TO THE POLE. LEAVE 16" OF SLACK MC CABLE COILED AT THE BAR JOIST FOR POSSIBLE FUTURE RELOCATION. COORDINATE EXACT LOCATION WITH FINAL FIXTURE PLAN AND TSC CONSTRUCTION MANAGER. 50. TWO POWER POLES MOUNTED BACK TO BACK. ONE FOR POWER WIRING AND ONE FOR LOW VOLTAGE WIRING. SECURE POWER POLES TO TOP OF COUNTER ON RIGHT CORNER BEHIND TSC COMPUTER. VERIFY EXACT LOCATION WITH TSC PROJECT MANAGER AND FINAL FIXTURE PLAN. 51. REFER TO ARCHITECTURAL ELEVATIONS OF STOREFRONT FOR EXACT PLACEMENT OF DEVICES ON FRONT WALL.

52. PROVIDE BUCK-BOOST TRANSFORMER TO PROVIDE 240V AT PROPANE DISPENSER. BUCK-BOOST TRANSFORMER SHALL BE FEDERAL PACIFIC #K1XGF12-0.5 OR APPROVED EQUAL. MOUNT BUCK BOOST TRANSFORMER ADJACENT TO ELECTRICAL PANEL. 240V MUST BE PROVIDED AT THE PROPANE DISPENSER. 53. BULK PROPANE VENDOR NOTE: INSTALL CONDUIT SEALS FOR CLASS 1, DIVISION 2 HAZARDOUS ENVIRONMENT ON BOTH ENDS OF ANY CONDUIT THAT ROUTES BENEATH THE CLASS 1, DIVISION 2 BOUNDARY OF THE PROPANE DISPENSING SYSTEM WITHIN TEN FEET OF EMERGENCE OF CONDUIT FROM BELOW GRADE. CLASS 1, DIVISION 2 HAZARDOUS BOUNDARY EXTENDS FROM FIVE FEET FROM DISPENSING SYSTEM TO 20 FEET OF DISPENSING SYSTEM. FOR CONDUITS ROUTING WITHIN FIVE FEET

![](_page_43_Picture_35.jpeg)

![](_page_44_Figure_0.jpeg)

vet: 25026 Drawing: 25026-E3.

![](_page_44_Picture_2.jpeg)

![](_page_45_Figure_0.jpeg)

![](_page_45_Figure_2.jpeg)

![](_page_45_Figure_3.jpeg)

![](_page_45_Figure_4.jpeg)

![](_page_45_Figure_5.jpeg)

![](_page_45_Figure_6.jpeg)

![](_page_45_Picture_69.jpeg)

ELECTRICAL SPECIFICAT	IONS	ELECTRICAL LEGEND	GENERAL ELECTRICAL
SECTION 16000 GENERAL PROVISIONS PART 1 GENERAL 1.01 REFERENCE STANDARDS	C. INSTALLATION: 1. IN LONG RACEWAYS FURNISH AND INSTALL THE PROPER NUMBER AND SIZE PULL BOXES TO FACILITATE INSTALLATION OF CONDUCTORS.	MOUNTING HEIGHTS MEASURED TO g CONDUIT RUN CONCEALED IN WALL, CEILING, OR FLOOR CONDUIT RUN, CONCEALED IN FLOOR OR UNDERGROUND	1. VISIT PROJECT SITE BEFORE SUBMISSI EXISTING CONDITION AND LOCATIONS OF UT 2. COORDINATE INSTALLATION OF NEW SER COMPANY. PROVIDE TRENCHING, CONDUIT, ITEMS AS REQUIRED INSTALL SERVICE IN
A. NFPA 70 NATIONAL ELECTRICAL CODE	<ol> <li>INSTALL SEPARATE GROUNDING CONDUCTOR IN EACH RACEWAY.</li> <li>PROVIDE RIGID GALVANIZED STEEL ELBOWS AND VERTICAL SECTIONS FOR</li> </ol>	HOMERUN TO PANEL INDICATED	COMPANY REQUIREMENTS. 3. COORDINATE INSTALLATION OF TELEPHO
B. NEPA 101 LIFE SAFETY CODE C. ALL OTHER APPLICABLE STATE AND LOCAL CODES.	3.02 WIRES AND CABLES	RECEPTACLE, DUPLEX, 120V, 15A. UNO, SMH	TELEPHONE COMPANY. INSTALL (2) 2" CON TELEPHONE TERMINAL BOARD.
1.02 SUBMITTALS A. SHOP DRAWINGS:	A. CONDUCTORS SHOWN ON DRAWINGS AS SIZED FOR COPPER UNLESS NOTED OTHERWISE. WHEN USING ALUMINUM, SIZE FOR EQUAL OR GREATER AMPACITY, AND RESIZE CONDUIT AS REQUIRED.	RECEPTACLE, QUADRAPLEX, 120V, 15A. UNO, @ 18" AFF TO BOTTOM RECEPTACLE, QUADRAPLEX, 120V, 15A. UNO, SMH	4. FURNISH AND INSTALL A 4 X 6 X 3/4 BOARD, PAINTED WHITE. FURNISH AND INST BACKBOARD (SQUARE D #PK18GTA OR EQUIVA COPPER GROUNDING CONDUCTOR IN 1/2" CON
1. SUBMIT FOR APPROVAL, PRIOR TO INSTALLATION, SIX COPIES OF COMPLETE DESCRIPTIVE DATA ON ALL EQUIPMENT AND SYSTEMS AS REQUIRED BY OTHER SECTIONS OF THIS SPECIFICATION CLEARLY INDICATE ALL PROPOSED SUBSTITUTIONS	B. ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT EXCEPT AS PERMITTED BELOW.	RECEPTACLE, SINGLE, 250V, AMPS AS NOTED, @ 8" AFF TO BOTTOM	TERMINAL TO ELECTRICAL SERVICE GROUNDII 5. INSTALL 1" CONDUIT FROM EACH TELEP
AND DEVIATIONS FROM DRAWINGS AND SPECIFICATIONS. 2. CHECK ALL SUBMITTALS FOR CLEARANCES AND COORDINATION WITH OTHER	C. BRANCH CIRCUITS RUN CONCEALED IN WALLS OR CEILINGS AND RATED AT 20 AMPS MAY BE TYPE MC CABLE.	JUNCTION BOX, SIZE AS REQUIRED	6. PROVIDE CONTROL POWER SOURCE FOR A SUPPLIED WITH CONTROL POWER TRANSFORME
TRADES. SUBMITTALS SHALL BE CERTIFIED, BY THE CONTRACTOR'S APPROVAL STAMP, THAT ALL CONDITIONS HAVE BEEN CHECKED AND THAT NO CONFLICTS EXIST. B. RECORD DRAWINGS	D. LOW VOLTAGE CONTROL AND SIGNAL CABLE MAY BE RUN OPEN WHEN CONCEALED ABOVE ACCESSIBLE CEILINGS. CABLES AND CABLE SUPPORTS INSTALLED IN AIR PLENUMS MUST BE PLENUM RATED. OPEN WIRING SHALL BE SUPPORTED FROM STRUCTURE.	S SWITCH, SINGLE POLE, 120/277V, 20A, 48" AFF TO BOTTOM S <sub>3</sub> SWITCH, THREE WAY, 120/277V, 20A, 45" AFF TO BOTTOM	CONTROL DEVICES IN ACCORDANCE WITH MAN 7. VERIFY ELECTRICAL POWER REQUIREMEN CIRCUITS AND EUSES SIZED IN ACCORDANCE
1. SUBMIT, TO THE OWNER, RECORD DRAWINGS SHOWING FIELD CHANGES MARKED IN RED.	SECTION 16400 SERVICE AND DISTRIBUTION	(MS) MOTION SENSOR SWITCH ♥ PHONE/DATA OUTLET, 4×4 BOX W/1"C TO ABOVE CL'G – @ 52" AFF	8. MAINTAIN CODE REQUIRED WORKING CLE DISCONNECT SWITCHES, AND STARTERS.
1.03 COORDINATION A. UTILITY COMPANIES	PART 1 GENERAL 1.01 SUBMITTALS	<ul> <li>PHONE/DATA OUTLET, 4x4 BOX W/1"C TO ABOVE CL'G - @ 15" AFF</li> <li>PHONE/DATA OUTLET, 4x4 BOX W/1"C TO ABOVE CL'G - SMH</li> </ul>	TO BOTTOM 9. PROVIDE DISCONNECT SWITCH FOR ANY WITH DISCONNECTING MEANS.
1. COORDINATE WITH UTILITY COMPANIES FOR SPECIFIC REQUIREMENTS FOR ELECTRICAL POWER AND TELEPHONE SERVICE.	A. UNITIZED SWITCHGEAR		10. SEE MECHANICAL DRAWINGS AND SPECIF REQUIREMENTS FOR MECHANICAL EQUIPMENT SWITCHES AND CONVENIENCE RECEPTACLES T
2. INSTALL ELECTRICAL SERVICE IN ACCORDANCE WITH CURRENT UTILITY COMPANY REQUIREMENTS.	C. TRANSFORMERS		EQUIPMENT. 11. COORDINATE EXACT LOCATION OF ALL C ARCHITECTURAL DRAWINGS. PROVIDE FIXTU
B. OTHER TRADES 1. COORDINATE WITH MECHANICAL DRAWINGS FOR POWER AND CONTROL DECULIDEMENTS FOR THE SPECIFIC FOLLOWENT TO BE INSTALLED AND FOR FOLLOWENT	D. FUSES PART 2 PRODUCTS		INSTALLED. 12. LIGHTING FIXTURES FOR EMERGENCY US
SUCH AS STARTERS AND DISCONNECT SWITCHES THAT MAY BE FURNISHED WITH THE EQUIPMENT.	<ul><li>2.01 UNITIZED SWITCHGEAR</li><li>A. UNITIZED SWITCHGEAR SHALL CONTAIN BREAKERS AS DESCRIBED ON THE PANEL SCHED</li></ul>		SWITCH TO BATTERY OPERATION UPON FAILU SHALL BE UNSWITCHED.
C. OWNER FURNISHED EQUIPMENT 1. COORDINATE WITH VENDOR'S OF OWNER FURNISHED EQUIPMENT FOR POWER	UNITIZED SWITCHGEAR SHALL BE RATED FOR THE SHORT CIRCUIT INTERRUPTING CAPACITY IN AND SERIES COMBINATION RATINGS MUST BE UL RECOGNIZED. UNITIZED SWITCHGEAR SHALL PURCHASED FROM NATIONAL ACCOUNT VENDOR LISTED ON THE PLANS.	DICATED BE DISCONNECT SWITCH, NON-FUSED, DESCRIBED BY:	13. ALL RECEPTACLES ON DEDICATED CIRCU CIRCUIT OVERCURRENT DEVICE.
LIMITED TO OVERCURRENT PROTECTION TYPE AND SIZE, WIRE SIZE, NEMA CONFIGURATION OF ASSOCIATED RECEPTACLES, ETC.	<ul><li>2.02 DISCONNECT SWITCHES</li><li>A. FUSIBLE OR NONFUSIBLE QUICK-MAKE, QUICK-BREAK, LOAD INTERRUPTER</li></ul>	VOLTAGE RATING/NO. OF POLES/SWITCH SIZE IN AMPS         F       DISCONNECT SWITCH, FUSED, DESCRIBED BY:         VOLTAGE RATING (NO. OF POLES (FUSE SIZE IN AMPS)	14. PROVIDE UL LISTED TECHNIQUES FOR P CEILING WITH CONDUIT OR OPEN WIRING. AND CEILING RATINGS.
1.04 WORK INCLUDED A. THE WORK OF THIS SECTION INCLUDES FURNISHING OF LABOR AND MATERIALS	ENCLOSED KNIFE SWITCH WITH EXTERNALLY OPERABLE HANDLE INTERLOCKED TO PREVENT OPENING FRONT COVER WITH SWITCH IN "ON" POSITION. APPROVED MANUFACTURERS ARE CUTLER-HAMMER, GENERAL ELECTRIC, SIEMENS, AND SQUARE D.	SM SWITCH, MOTOR STARTING, MANUAL, SIZE AS REQUIRED	15. INSTALL ELECTRICAL BOXES LOCATED O SUCH THAT THEY ARE SEPARATED BY A HORI
AS REQUIRED FOR INSTALLATION OF A NEW ELECTRICAL DISTRIBUTION SYSTEM INCLUDING SERVICE, FEEDERS, PANELBOARDS, BRANCH CIRCUITS, LIGHTING, AND CONNECTIONS TO ALL EQUIPMENT REQUIRING ELECTRICAL POWER.	2.03 TRANSFORMERS(DOE EFFICIENT DRY-TYPE)	MOTOR STARTER, MAGNETIC, SIZE AS REQUIRED M MOTOR, SEE PANEL SCHEDULE FOR SIZE AND SERVICE	
<ul><li>B. INSTALLATION OF CONDUIT FOR TELEPHONE AND DATA WIRING.</li><li>C. INSTALLATION OF SEISMIC RESTRAINT SYSTEMS FOR ELECTRICAL COMPONENTS</li></ul>	SIZE AS INDICATED, 150 DEGREES C RISE, WITH TWO 2-1/2% TAPS ABOVE NORMAL VOLTAGE AND TWO 2-1/2% TAPS BELOW NORMAL VOLTAGE. ACCEPTABLE MANUFACTURERS ARE EATON-CUTLER HAMMER, ABB-GENERAL ELECTRIC, SIEMENS, AND SQUARE D.	ABBREVIATIONS:	PANEL SCHEDULE NOTES
IN SEISMIC REGIONS. 1.05 DRAWINGS	2.04 FUSES A FUSES RATED ABOVE 600 AMPS SHALL BE UL CLASS I FOLIAL TO BUSSMAN LOW-	AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE	G GFI CIRCUIT BREAKER
A. THE DRAWINGS ARE PARTLY DIAGRAMMATIC AND DO NOT SHOW IN DETAIL ALL REQUIRED FEATURES OF THE WORK NOR CONCEALED CONDITIONS. THEY SHALL BE SUPPLEMENTED BY THE CONTRACTOR'S KNOWLEDGE AND EXPERIENCE.	PEAK KRP-C. FUSES RATED AT 600 AMPS AND BELOW SHALL BE UL CLASS RK1 EQUAL TO BUSSMAN LOW-PEAK LPN-RK (250 VOLT) OR LPS-RK (600 VOLT).	BRKR BREAKER Ø CENTERLINE	HT PROVIDE HANDLE TIE – POLES IN () R PROVIDE RED RECEPTACLE FOR OUTLETS ON THIS
PART 2 PRODUCTS	PART 3 EXECUTION	CL'G CEILING	CIRCUIT TO IDENTIFY CIRCUITS FOR COMPUTER LOADS ONLY. DO NOT PLUG REFRIGERATORS OR COMPRESSORS INTO THIS CIRCUIT.
A. ALL ELECTRICAL EQUIPMENT INSTALLED SHALL BEAR THE UL LABEL EXCEPT WHERE UL DOES NOT LABEL SUCH EQUIPMENT.	A. MAINTAIN CODE REQUIRED WORKING CLEARANCES AROUND ALL ELECTRICAL EQUIPMENT. COORDINATE INSTALLATION WITH ARCHITECTURAL FEATURES, PIPING	GFI GROUND FAULT INTERRUPTER	LO PROVIDE LOCK-ON/OFF DEVICE FOR CIRCUIT BREAKER
2.02 GUARANTEE	LOCATIONS, AND DUCTWORK. B. ELECTRICAL EQUIPMENT SUCH AS SWITCHBOARDS, PANELBOARDS, DISCONNECTS, ENCLOSED CLECULT BREAKERS INDUSTRIAL CONTROL DANELS METER SOCKET ENCLOSURES	RTU ROOF TOP UNIT	LZ-X CIRCUIT TO BE CONTROLLED BY LIGHTING CONTROLS VIA RELAYS IN UNITIZED SWITCHGEAR
WILL BE FREE OF DEFECTS OF MATERIAL AND WORKMANSHIP FOR A PERIOD OF 1 YEAR FROM DATE OF ACCEPTANCE OF THE WORK BY THE OWNER. PROMPTLY REPLACE AND REPAIR ALL DEFECTIVE EQUIPMENT AND ALL OTHER EQUIPMENT DAMAGED THEREBY AT NO ADDITIONAL COST TO THE OWNER. PART 3 EXECUTION	AND MOTOR CONTROL CENTERS, THAT ARE LIKELY TO REQUIRE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC HAZARDS PER NEC 110.16. THE MARKING SHALL BE LOCATED AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICING, OR MAINTENANCE OF THE EQUIPMENT.	WH WATER HEATER	ST BREAKER WITH SHUNT TRIP BB PROVIDE BUCK-BOOST TRANSFORMER FOR 240V OPERATION. FEDERAL PACIFIC #K1XGF16-0.5 OR EQUAL. MOUNT ADJACENT TO PANEL.
3.01 GENERAL	<ul><li>3.02 UNITIZED SWITHCGEAR/PANELBOARDS</li><li>A. INSTALL NEW UNITIZED SWITCHGEAR/PANELBOARDS AS INDICATED.</li></ul>	WP WEATHERPROOF	
EXISTING CONDITIONS AND LOCATIONS OF EXISTING UTILITIES. B. THE ENTIRE INSTALLATION SHALL BE MADE IN A NEAT MANNER BY PERSONS	B. ALL PANELS SHALL HAVE ENGRAVED PLASTIC LABELS AND TYPEWRITTEN DIRECTORIES. DIRECTORIES SHALL DESCRIBE LOAD FOR EACH BRANCH CIRCUIT.	POWER MATRIX	
SKILLED IN THE ELECTRICAL TRADE AND SHALL BE IN ACCORDANCE WITH THE REFERENCE STANDARDS LISTED ABOVE.	3.03 TRANSFORMERS A. MOUNT TRANSFORMERS ON VIBRATION ISOLATORS. GROUND NEUTRAL OF SECONDARY SIDE TO COLD WATER RIPE AND RULLDING STEEL	COMPUTER OUTLETS     OTHER OUTLETS       LOCATION     IG DEDICATED DUPLEX QUAD     120V DUPLEX QUAD IG DED.       SERVICE COUNTER     X     X     X	
FURNISHED EQUIPMENT. FURNISH AND INSTALL ALL ASSOCIATED RECEPTACLES AND DISCONNECT SWITCHES. FUSE SIZES FOR DISCONNECT SWITCHES SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.	B. WHERE TRANSFORMERS ARE SHOWN MOUNTED ABOVE FLOOR, PROVIDE STRUCTURAL SUPPORTS AS REQUIRED. VERIFY CAPACITY OF WALL OR STRUCTURE TO SUPPORT SUSPENDED TRANSFORMERS.	X     X     X       REGISTER     X     X       RECEIVING     X     X       PHONE/PA     X     X       FIRE ALARM/SECURITY     X     X	ALARM LEC CPE 3' 2' 3'
D. FURNISH AND INSTALL CONDUIT AND WIRE FOR AIR CONDITIONING CONTROL EQUIPMENT. SEE MECHANICAL DRAWINGS FOR LOCATIONS AND REQUIREMENTS.	C. PROVIDE MINIMUM 6" SPACE BEHIND AND BESIDE TRANSFORMER FOR AIR CIRCULATION/VENTILATION.	ALL ISOLATED GROUND DEDICATED OUTLETS FOR THE COMPUTERS CAN BE ON ONE CIRCUIT. CASH REGISTERS ARE ALL RUN THROUGH POWER POLES. ALL OUTLETS ARE TO BE MOUNTED UNDER THE COUNTER TOP TO THE BACK OF THE COUNTE	R (3) DEDI. DUPLEX QUAD DEDI. QUAD
REQUIREMENTS FOR SUPPORT AND RESTRAINT OF PIPING, CONDUIT, CABLE TRAYS, LIGHTING FIXTURES AND OTHER SIMILAR SYSTEMS AND EQUIPMENT AS REQUIRED BY THE ENFORCED EDITION OF THE INTERNATIONAL BUILDING CODE, ASCE-7, AND LOCAL AUTHORITIES. RESTRAINT	SECTION 16500 LIGHTING	PHONE BOARD SHALL BE A 4'X8' AREA LAID OUT ON THE PLYWOOD WALL OR ON A PIECE OF PLYWOOD. OUTLETS CAN BE SURFACED MOUNTED. BUT CONDUIT MUST BE RUN DOWN THE EDGES OF EACH SECTION. THE 120Y DUPLEX IS A CONVENIENCE OUTLET	
SELECTION AND INSTALLATION DETAILS SHALL BE APPROVED BY A LICENSED ENGINEER EXPERIENCED IN SEISMIC RESTRAINT DESIGN.	PART 1 GENERAL 1.01 SUBMITTALS	RUN FROM ANY NON-DEDICATED CIRCUIT. EACH OUTLET IS TO BE CLEARLY LABELED "DEDICATED CPE", "DEDICATED TSC ALARMS" OR "CONVENIENCE OUTLET". ALL OUTLETS THAT ARE MOUNTED WITHIN 6 FEET OF SINK SHALL BE GFI	
A. ALL SYSTEMS AND EQUIPMENT INSTALLED SHALL BE COMPLETELY TESTED AND SHALL BE LEFT IN GOOD WORKING ORDER.	A. LIGHTING FIXTURES PART 2 PRODUCTS	PROVIDE (3) DUPLEX RECEPTACLES AT THE ALARM/SECURITY SECTION OF THE PHONE BOARD MOUNT 4" APART MINIMUM, 6" BELOW THE PHONE BOARD FOR CORD AND PLUG CONNECTION THE VENDOR SUPPLIED SECURITY SYSTEM EQUIPMENT. ALL THREE RECEPTACLES SHALL BE FROM ONE 120 YOLT DEDICATED CIRCUIT. PROVIDE TWO SURFACE MOUNTED JUNCTION BOXES	). S TO POWERED
SECTION 16050 BASIC ELECTRICAL MATERIALS AND METHODS	2.01 GENERAL A PROVIDE LIGHTING FIXTURES AS SPECIFIED ON LIGHTING FIXTURE SCHEDULE	ADJACENT TO THE DEDICATED DUPLEX RECEPTACLES FOR HARDWIRED POWER CONNECTIONS T FIRE ALARM EQUIPMENT PANEL, DUCT MONITOR AND THE TWO FIRE ALARM SYSTEM POWER S CONTRACTOR SHALL WIRE FROM THE JUNCTION BOXES WITH TYPE MC CABLE. CONNECT TWO	o The UPPLIES. DEVICES
PART 1 GENERAL NOT APPLICABLE	OF SIZES, TYPES, RATINGS, AND WITH FEATURES INDICATED. FIXTURES SHALL BE PURCHASED FROM NATIONAL ACCOUNT VENDOR LISTED ON LIGHTING FIXTURES SCHEDULE. SUBSTITUTIONS ARE NOT ALLOWED.		
PART 2 PRODUCTS	B. FIXTURES SHALL BE COMPLETE WITH LAMPS, BALLASTS, DRIVERS, AND ALL PARTS, HARDWARE, AND ACCESSORIES FOR INSTALLATION AND PROPER OPERATION.	1 FURNISH AND INSTALL 4' X 8' X 3/4 " PLYWOOD TELEPHONE FOLLIDMENT 6. COORDINATE I	ISTALLATION OF NEW UNDERGROUND SERVICE WITH LOCAL ELECTRIC UTILITY
A. RIGID STEEL CONDUIT	<ul><li>2.02 EMERGENCY LIGHTING BATTERY UNITS</li><li>A. MINIMUM 1500 LUMENS FOR 90 MINUTES WHETHER INTEGRAL OR REMOTE.</li></ul>	BACKBOARD, PAINTED WHITE. FURNISH AND INSTALL GROUNDING TERMINAL STRIP ON BACKBOARD (SQUARE D #PK18GTA OR EQUIVALENT). FURNISH AND INSTALL 1 #6 COPPER GROUNDING CONDUCTOR IN 1/2 " FROM REQUIREMENTS	CHING, CONDUIT, CONDUCTORS, METER BASE, CT ENCLOSURE, CONCRETE PAI AS REQUIRED. INSTALL SERVICE IN ACCORDANCE WITH CURRENT UTILITY COI
B. ELECTRICAL METALLIC TUBING C. POLYVINYLCHLORIDE CONDUIT	PART 3 EXECUTION	BACKBOARD GROUNDING TERMINAL TO ELECTRIC SERVICE GROUNDING 7. CONTACTORS F ELECTRODE. 7. CONTACTORS F 2. FURNISH AND INSTALL GROUNDING ELECTRODE AND GROUNDING ELECTRODE 8. NOTE NOT US	FOR CONTROL OF SALES FLOOR GENERAL LIGHTING. ED.
2.02 WIRES AND CABLES A. SERVICE AND FEEDERS: COPPER, 600 VOLT, TYPE THHN OR THWN INSULATION OR	A. INSTALL FIXTURES AS INDICATED ON DRAWINGS. REFER TO REFLECTED CEILING PLAN FOR EXACT LOCATIONS.	CONDUCTOR FOR SERVICE ENTRANCE PANELBOARD. 9. 2 SETS EACH CONNECTIONS AND BONDING JUMPERS SHALL BE INSTALLED IN ACCORDANCE WITH NEC ART. 250. REFER TO DETAIL 2/E4.0 ON THIS SHEET. 10. 3#2, #6G; 1-	WITH $[4-#250KCMIL, #1G, 3-1/2"C]$ ALUMINUM TO SERVICE DISCONNECT . $1/4"C$ COPPER TO TRANSFORMER.
ALUMINUM CONDUCTOR, 600 VOLT, TYPE XHHW-2 INSULATION. STZES INDICATED ON DRAWINGS ARE FOR COPPER. ALUMINUM CONDUCTORS SHALL BE SIZED TO HAVE AMPACITY EQUAL TO COPPER CONDUCTORS INDICATED ON DRAWINGS.	END OF ELECTRICAL SPECIFICATIONS	3. FURNISH AND INSTALL TWO 2" SCHEDULE 40 PVC CONDUITS FOR TELECOMMUNICATIONS SERVICE ENTRY RACEWAYS. RACEWAYS SHALL EXTEND FROM TELEPHONE FOUIPMENT BACKBOARD LOCATION TO SERVICE 12. GROUND PER	2-1/2"C COPPER TO PANEL B FROM TRANSFORMER. ROUTE CONDUIT ABOVE N EXTERIOR WALL ADJACENT TO IT ROOM. NEC.
B. BRANCH CIRCUIT WIRES: COPPER CONDUCTOR, 600 VOLT, TYPE THHN OR THWN INSULATION.		PROVIDER'S SPECIFIED POINT-OF-SERVICE. COORDINATE WITH LOCAL TELECOMMUNICATIONS SERVICE PROVIDER. 13. SERVICE EQUICURRENT. C	PMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH MAXIMUM AVAILABLE ONTRACTOR SHALL REQUEST THE MAXIMUM AVAILABLE FAULT CURRENT AT TH
C. BRANCH CIRCUIT CABLES: COPPER CONDUCTOR, 600 VOLT, TYPE MC WITH INSULATED EQUIPMENT GROUNDING CONDUCTOR. D. CONTROL CIRCUIT CABLES: COPPER CONDUCTOR, NO.14 AWG, TYPE THHN, OR AS		4. LIGHTING CIRCUITS SHALL BE CONTROLLED AS INDICATED IN PANEL TRANSFORMER SCHEDULES (DENOTED LZ–1A&B, LZ–2, ETC.) BY LIGHTING CONDUCTORS CONTROLLER VIA CONTACTORS. MAXIMUM AVAI	AND PROVIDE THIS INFORMATION ALONG WITH THE DISTANCE OF THE SECON TO THE ELECTRICAL ENGINEER. THE ELECTRICAL ENGINEER WILL CALCULATE LABLE FAULT CURRENT AT THE SERVICE EQUIPMENT AND GIVE RESULTS TO FOR MADICING
REQUIRED BY EQUIPMENT MANUFACTURER. 2.03 JUNCTION BOXES - PROVIDE STEEL BOXES FOR INTERIOR APPLICATIONS AND CAST TYPE		5. COORDINATE CONNECTIONS TO THERMOSTATS WITH MECHANICAL CONTRACTOR. THERMOSTATS TO BE LOCATED ON THE SALES FLOOR COLUMNS.	FOR MARKING. RANCE: 2 SETS EACH WITH $[4-\#250$ KCMIL, $3-1/2$ °C] ALUMINUM TO UTILITY
BOXES FOR OUTDOOR APPLICATIONS. 2.04 WIRING DEVICES A. WALL SWITCHES: AC GENERAL USE SNAP SWITCH WITH TOGGLE HANDLE, SPECIFICATION GRADE, 20 AMPERES, 120-277 VOLTS.		15. SERVICE DISC 16. DISCONNECT, 17. WALL MOUNT	UNNECT, 480V, 3 POLE, FUSED @400A, S.E. RATED, NEMA 3R, TOUK AIC. 480V, 3 POLE, NON-FUSED, 100A. 10'-0" AFF PER DETAIL 4 ON E3.1 UNLESS REQUIRED TO BE FLOOR MOUN
B. WALL DIMMER SWITCHES, APPROPRIATE FOR LED APPLICATIONS.			
C. WALL OCCUPANCY SENSORS TO BE DUAL TECHNOLOGY (PASSIVE INFRARED AND ULTRASONIC) COMBINATION DIMMING TYPE WHERE INDICATED.		TRANSFORMER T-1	
ULTRASONIC) TYPE. CORRIDOR APPLICATION SENSORS TO BE PASSIVE INFARED TYPE. PROVIDE POWER PACKS AND/OR RELAYS AND ADDITIONAL SENSORS WHERE REQUIRED BY VENDOR.			
E. RECEPTACLES: TYPE 5-15R, UNLESS INDICATED OTHERWISE, SPECIFICATION GRADE. DUPLEX RECEPTACLES ON DEDICATED CIRCUITS SHALL BE NEMA TYPE 5-20R. LISTED TAMPER RESISTANT RECEPTACLES SHALL BE PROVIDED IN THOSE AREAS DESIGNATED PER NEC 406.12. OUTDOOR RECEPTACLES SHALL BE WEATHER RESISTANT. DEVICE COLOR TO BE SELECTED BY ARCHITECT. F. COVERPLATES	POWER DISTRIBUTION CENTER WITH LEFT SIDE HINGES FOR ACCESS DOOR	ALARM/ TELEPHONE ALARM/ TELEPHONE EQUIPMENT BOARD DANEL PANEL CPE	PUBLIC UTILITY ENCLOSURE AN AS REQUIRED E COMPANY
<ol> <li>INDOOR: NYLON, COLOR TO BE SELECTED BY ARCHITECT.</li> <li>OUTDOOR &amp; INDOOR WET LOCATIONS: PAINTED, CAST ALUMINUM, EXTRA DUTY RATED, WEATHERPROOF WHILE IN USE TYPE.</li> <li>IDENTIFICATION</li> </ol>	Г		
A. PROVIDE LAMINATED PLASTIC TAGS FOR ALL PANELBOARDS AND DISCONNECT SWITCHES. TAGS SHALL COMPLETELY IDENTIFY EQUIPMENT MARKED OR CONTROLLED.		9	LES 2 (5)
PART 3 EXECUTION 3.01 RACEWAYS		<b>(</b> 3 <b>)</b>	REFER TO SITE PLAN FOR TELEPHONE
A. ALL RACEWAYS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS'			
<ul> <li>B. PERMITTED USAGE:</li> <li>1. ALL INTERIOR RACEWAYS SHALL BE GALVANIZED ELECTRICAL METALLIC</li> <li>TUBING (EMT).</li> </ul>		NOWER RISER DIAGRAM - 480/277V 20 AW AD	THE CONTRACTOR SHALL COORDINATE THE SYSTEM VOLTAGE A COSTS TO BRING SERVICE AS INDICATED TO BUILDING. CONTRA ALL COSTS IN BID AND SHALL COORDINATE ALL ELECTRICAL EC

2. RACEWAYS UNDERGROUND, EXPOSED TO EXTERIOR, OR CAST IN CONCRETE SHALL BE GALVANIZED RIGID STEEL CONDUIT (RGS) OR SCHEDULE 40 PVC.

E4.0 SCALE: N.T.S.

SERVICE VOLTAGE USED PRIOR TO BID. CONTRACTOR SHALL ESTABLISH SERVICE IN CONTRACTOR'S NAME AND TRANSFER SERVICE TO TSC UP ON TURN OVER TO TSC.

## ICAL NOTES

SUBMISSION OF BID AND BECOME FAMILIAR WITH ONS OF UTILITIES. NEW SERVICE WITH LOCAL ELECTRIC UTILITY

CONDUIT, METER BASE, CONCRETE PAD, AND OTHER ERVICE IN ACCORDANCE WITH CURRENT UTILITY

OF TELEPHONE SERVICE CONDUIT WITH LOCAL (2) 2" CONDUITS FROM TELEPHONE SERVICE POINT TO

8'X 3/4" PLYWOOD TELEPHONE TERMINAL AND INSTALL GROUNDING TERMINAL STRIP ON OR EQUIVALENT). FURNISH AND INSTALL 1 #6 1/2" CONDUIT FROM BACKBOARD GROUNDING GROUNDING ELECTRODE.

ACH TELEPHONE AND/OR DATA OUTLET TO ABOVE TH AN INSULATED BUSHING ON EACH END. RCE FOR ALL STARTERS AND CONTROL PANELS NOT RANSFORMERS. INSTALL AND CONNECT ALL

WITH MANUFACTURERS' RECOMMENDATIONS. EQUIREMENTS FOR ALL EQUIPMENT. PROVIDE CCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS. RKING CLEARANCE AT ALL ELECTRICAL PANELS, ERS.

FOR ANY HARDWIRED EQUIPMENT NOT SUPPLIED ND SPECIFICATIONS FOR LOCATIONS AND CONTROL

QUIPMENT AND FOR STARTERS, DISCONNECT PTACLES THAT MAY BE FURNISHED WITH THE

OF ALL CEILING MOUNTED LIGHT FIXTURES WITH IDE FIXTURES COMPATIBLE WITH CEILING TYPE

RGENCY USE SHALL BE PROVIDED WITH INTEGRAL L BE CIRCUITED SUCH THAT THEY AUTOMATICALLY PON FAILURE OF POWER TO CIRCUIT. EXIT LIGHTS

TED CIRCUITS SHALL BE RATED NO LESS THAN

QUES FOR PENETRATIONS OF RATED WALL AND WIRING. SEE ARCHITECTURAL DRAWINGS FOR WALL

LOCATED ON OPPOSITE SIDES OF RATED WALLS BY A HORIZONTAL DISTANCE OF 24 INCHES MINIMUM.

<u>TR</u>	ACTOR	SUPPI	LY
LIGHTING	<u>&amp; HE</u>	ATING	<u>SCHEDULE</u>

	PYLON/BUILDING SIGN	Building Lights	BUSINESS	EMPLOYEE	HEATING	COOLING	SUNDAY					
	PARKING LOT LIGHTS	WALL PACKS	LIGHTS	LIGHTS								
ON	DUSK (BY PHOTOCELL)	DUSK TO DAWN	7:30 AM	7:30 AM	68 DEGREES	74 DEGREES	SAME TEMPS					
		PHOTOCELL (ALWAYS			AT 8:00 AM	AT 8:00 AM	AT 10:00 AM					
		ON DURING DARK)										
OFF	9:15 PM	DURING THE DAY	8:30 PM	8:30 PM	62 DEGREES	80 DEGREES	SAME TEMPS					
					AT 9:00 PM	<u>AT 9:00 PM</u>	AT 6:00 PM					
LIGHTING	LZ-3	LZ-2	LZ-1B	LZ-1A								
CONTROL ZONE												
NOTES:	TES: THE SYSTEM CAN BE OVERRIDDEN BY THE OVERRIDE SWITCH IN CASE THE STORE IS OPEN EARLIER											
CONTROL ZONE	OR LATER THAN NORMAL	. STORE HOURS.										

LZ-X DENOTES LIGHTING CONTROL ZONE VIA CONTACTOR IN THE UNITIZED SWITCHGEAR. GC REPONSIBLE FOR PROGRAMMING ALL THERMOSTATS AND LIGHTING CONTROLS.

LIGHTSTAT TME THERMOSTAT MODEL TME-DGC. SEE MECHANICAL PLANS FOR MORE INFORMATION.

BIDDING MECHANICAL AND ELECTRICAL CONTRACTORS SHALL COORDINATE WITH GC PRIOR TO BID ON ALL WORK AS IT RELATES TO THE PROGRAMMING OF NON-EMS THERMOSTATS AND LIGHT TIMERS.

![](_page_46_Figure_24.jpeg)

#### **2** SERVICE ENTRANCE GROUNDING E4.0 SCALE: N.T.S.

NOTE: ALL GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH NEC 250.66. ALL METAL CONDUIT SHALL

\*\* SEPERATE GROUND ROD REQUIRED ONLY IF TELEPHONE SERVICE BOARD IS GREATER

THAN 20 FEET FROM ELECTRICAL SERVICE

BE BONDED TO TERMINATING BOXES.

N THIS PUTER 5 OR
T
CONTROLS
0V -0.5 OR

VOLTAGE: 480/277V., 3PH., 4W.		MAIN BKR: BUS: 400 AMP MLO				A	I.C.:	35 K	INTEGRATED MOUNTED						
** – VERIFY	SIGN VOLTAGE WITH VEN	DOR													
NOTE	DESCRIPTION	KV A	A/PHA	SE C	WIRE SIZE	BKR CK AMPS #	T	СКТ #	BKR AMPS	WIRE SIZE	KV A	A/PHA B	\SE C	DESCRIPTION	NOTE
Z–1A	L–SALES	2.2			12	20 1⁄		<u> </u>	20	10	3.0			L-NL/EMERG	LO
Z–1B	L-SALES		2.3		12	20 31	$\frown$	4	20	12		0.4		L-OFFICE/RESTROOMS	
Z–1A	L–SALES			1.1	12	20 51	$\sim \square$	6	20	12			0.6	L-STOCKROOM	LZ-1A
Z–1B	L–SALES	1.5			12	20 71	$\frown$	8	20		0			SPARE	
Z–1A	L–SALES		1.3		12	20 9/	$\frown$	-10	20	10		0.5		L-WALL PACK	LZ-2
Z–1A	L-FEED STORAGE			0.5	12	20 11/	$\sim \square$	12	20	10			1.5	FUTURE BUILDING SIGN	LZ-3 **
	SPARE	0				20 13/	$\sim \square$		20	12	0.2			BUILDING SIGN LIGHTS	LZ-3
	SPARE		0			20 15/	$\frown$	16	20	6		1.2		PYLON SIGN	LZ-3 **
	SPARE			0		20 17/	$\sim \square$	18	20				0	SPARE	
	SPARE	0				20 19/	$\sim$	20	20		0			SPARE	
.Z-3	L-SIDE/PARKING LOT		0.8		6	20 21/	$\frown$	22	20			0		SPARE	
	SPARE			0		20 23/	$\sim \square$	24	20				0	SPARE	
	SPARE	0				20 25/	$\sim \square$		20		0			SPARE	
	SPARE		0			20 27/	$\sim$		20			0		SPARE	
	SPARE			0		20 29/	$\sim \square$	30	20				0	SPARE	
	SPARE	0		-		20 31/	$\sim \Box$	32	20		0			SPARE	
	SPARE		0			20 33/	$\neg \Box$		20			0		SPARE	
	SPARE		_	0		20 35/	$\sim \Box$		20				0	SPARE	
	SPARE	0				20 37/	$\sim 1$		20		0			SPARE	
	SPARE	-	0			20 39/	$\neg \Box$		20			0		SPARE	
	SPARE		_	0		20 41/	$\neg \Box$	42	20				0	SPARE	
	RTU-1	6.4			10	30 43/	$\Lambda \perp$		15	12	2.5			RTU-5	
			6.4		10	45/	$h \Box$			12		2.5			
				6.4	10	47/	$+ \square$	48		12			2.5		
	RTU-2	6.4			10	30 49/	$\overline{\Lambda}$	1050	25	10	2.8			BALER	
			6.4		10	51/	木江			10		2.8			
				6.4	10	534	大田			10			2.8		
	RTU-3	6.4			10	30 55/	$\Lambda \Box$	1056	100	2	22.8			PANEL "B" VIA 75KVA	
			6.4		10	57/	ホエ			2		23.7		TRANSFORMER	
				6.4	10	59/	$+ \pm$			2			18.0		
	RTU-4	6.4			10	30 61/	$\Lambda \Box$	$1^{62}$	100		0			SPACE	
			6.4		10	63/	ホエ				-	0			
				6.4	10	654	$-\pm$						0		
	•	29.3	$\mathbf{\nabla}$								31.3	$\sim$	$\overline{}$	A:	60.6 KV
		$\succ$	30.0	>			NFL	"Δ	<b>37</b>		$\mathbf{}{\succ}$	31.1	$\Join$	B:	61.1 KV
		$\sim$	$\searrow$	27.2							$\bowtie$	$\succ$	25.4	C:	52.6 KV
			~ ~											ΤΟΤΔΙ ·	174 3 KV

PANEL "B"

MAIN BKR: 225/3 BUS: 225 AMP --- A.I.C.: 10 K INTEGRATED MOUNTED

CKTBKRWIREKVA/PHASE#AMPSSIZEABC

DESCRIPTION

 12
 1.1
 R - EXTERIOR
 HT(2)

 12
 0.4
 R-EXTERIOR
 HT(2)

 12
 0.6
 POWER POLE REC/CASH R, HT(3), LO

 12
 0.6
 POWER POLE REC/CASH HT(3), LO

 12
 0.4
 POWER POLE CASHWRAP HT(3), LO

 12
 0.4
 POWER POLE CASHWRAP HT(3), LO

 12
 0.4
 ROPEN SIGN

 12
 0.4
 R-OPEN SIGN

 12
 0.4
 R-TELE. TERM. BOARD

 12
 0.8
 POWER POLE CASHIER

 12
 0.8
 POWER POLE CASHIER

 12
 0.5
 POWER POLE CASHIER

 12
 0.5
 POWER POLE SLF CK

 12
 0.5
 POWER POLE SLF CK

 12
 0
 SHUNT TRIP
 </t

0.1 PROPANE SHUNT PWR

1.7 PET DRYER POWER DROP-FIX LTG

HAND DRYER HAND DRYER

SPARE SPARE

SPARE

SPARE SPARE SPARE SPARE

SPARE SPARE

SPARE SPARE SPARE SPARE

R-HUB TV'S

FORKLIFT CHARGER

TOTAL:

0.8

+ 0 + 0

 - 0

 10
 1.8

 10
 1.8

 10
 1.8

10.6 A: 9.4 B: 8.6 C:

-- |

 R-TOILETS/EWC
 G

 ALARMS (RED BREAKER) R,LO

 SPARE

 R-SALES FLOOR
 HT(2)

 R-EXTERIOR
 HT(2)

NOTE

22.8 KVA

23.7 KVA

18.0 KVA 64.5 KVA

RIC UTILITY COMPANY.
NCRETE PAD, AND
UTILITY COMPANY

VOLTAGE: 208/120V., 3PH., 4W.

NOTE

DESCRIPTION

R-LOUNGE POWER R-MANAGER OFFICE R-LOUNGE

ANIMAL HLTH COOLER

AUTO ENTRY DOORS

AUTO ENTRY DOORS

OVERHEAD DOOR R-CHICK DAYS SLIDING GATE

SPARE R-CHICK DAYS SPARE

SPARE SPARE SPARE SPARE

DOCK DOOR OPERATOR R-SALES FLOOR

SCONNECT

JIT	ABOVE	IT	ROOM

/AIL	ABL	E F	AULT
NT	AT	TH	Ξ
ΗE	SE	CON	IDARY
AI (	ע וו די	ΔTF	THE

L CALCULATE THE RESULTS TO I TO UTILITY TRANSFORMER.

100K AIC. FLOOR MOUNTED BY THE AHJ.

JBLIC UTILITY APPROVED CT CLOSURE AND KWH METER s required by utility Ompany

<u>\_\_\_\_</u>3 - Telephone Service Entrance

VOLTAGE AND ALL ASSOCIATED ECTRICAL EQUIPMENT AND GELECTRICAL ROUGH-IN WITH

ELECTRICAL CONTRACTOR TO INSTALL AND WIRE FIRE GONG, COORDINATE WITH FIRE SUPPRESSION CONTRACTOR FOR VOLTAGE. PROVIDE LOW VOLTAGE TRANSFORMER AS REQUIRED.

 KVA/PHASE
 WIRE
 BKR
 CKT

 A
 B
 C
 SIZE
 AMPS
 #

0.7 0.7 0.5

0

12.2

12

0.9

0.7

 R-CLOTHING
 1.2
 1.2

 R-ROOF
 0.9
 12

 F-1
 0.9
 12

 ARE
 0
 --

 SPARE
 0

 R-MOBILE POS
 1.4

 ELECTRIC GONG
 0.2

 EMS POWER
 0.5
 1

 TOILET EF/RELAY
 0.5
 12

 RRIGATION CONTROLLER
 0.2
 12

 R-CHICK DAYS
 1.8
 12

 R-CHAINSAW POG
 0.4
 12

 LIGHTING CONTROLS
 0.5
 12

R-CHAINSAW POG0.4LIGHTING CONTROLS0.5MICROWAVE1.2PET DRYER1.7POWER DROP-FIX LTG1.6POWER DROP-FIX LTG1.6POWER DROP-FIX LTG0.8POWER DROP-FIX LTG1.6R-CHICK DAYS1.8POWER POLE REGISTER0.8SPARE0OVERHEAD DOOR1.2

1.2 1.3

![](_page_46_Picture_40.jpeg)

![](_page_47_Figure_0.jpeg)

oject: 25026 Drawing: 25026-E5.0.dw

![](_page_47_Picture_2.jpeg)

SEE SHEET E5.1 FOR NOTES ASSOCIATED WITH THIS SHEET.

![](_page_47_Picture_4.jpeg)

- having to route the cables past substantial line voltage wire.
- stubbed into the TSC space for low voltage wiring access.
- panel.
- installation of the RTU5 thermostat / future EMS control thermostat.
- newly installed LVW as mentioned above.
- double gang box. "Doubling up" the sensors in a 2 gang box is not acceptable.

- requirements with supplier/installer. See detail 12/E3.2.
- "TStat COMM".
- RTU #.
- of this cable "OA TEMP".
- LV14 of this cable "OA HUMID".
- LV15 of this cable "OUTDOOR LIGHT LEVEL".
- "INSIDE HUMID #1" and, if installed, "INSIDE HUMID #2".
- LV17 coil at both ends. Label both ends of this cable "CO2"
- LV18 CABLE IN THE APPROXIMATE LOCATION.
- LV19
- interface" on the telephone backboard.

- cabinet location.

#### TSC LVW CONTROL WIRING AND EMS PREWIRE W) (EXCEPT FOR TEMPORARY AND R HVAC) TO BE INSTALLED BY THE THE DOOR BELLS. GC'S ARE TE, TO MANAGE, AND TO INCLUDE

#### a fire—retardant material, shielded (unless in color. In the event that a specific cable may substitute for a cable with more conductors stituted with 3 conductor of the same ratings).

exceed 330 feet. ching a fluorescent light. Cross over fluorescent ngth of the fixture. om the ceiling joist above. Do not lay cables on

### · plenum rated — white jacket

Preface: This store will be wired for a future EMS system This contractor shall price in the base bid wiring. LV1 G.C. shall install a 2" EMT conduit into the top of the future EMS section of the unitized switchboard (hereafter referred to as the EMS cabinet) so as to provide EMS cable access to the panel without

LV2 G.C. shall provide a 3/4" (inch) trade size rigid conduit or seal tight from the RTU control panel

LV3 Tractor Supply shall provide EMS jack in one of 6- up boxes in the IT CLOSET and an orange patch, with white boot, cable connected to port 23 on the 2960 switch and run to port #46 on the patch

LV4 G.C. shall install a recessed single gang switch box in corridor next to manager's office - see mechanical drawings for exact placement. This box should be mounted 60" AFF. This box is for

LV5 G.C. shall install a double gang switch box (4 16" with the appropriate adapter plates) on the column losest to each sales floor RTU 1 and 2 for the purpose of installing the Thermostat /future EMS thermostat (see LV6 for specifics about RTU 3 and 4). If HVAC is needed to condition the building prior to the installation of the LVW by the TSC LVW vendor, the G.C. is to make HVAC units operable using temporary bi-metal thermostats to be hung in return air duct. This allows for conditioning of the building temporarily until the TSC LVW vendor installs permanent LVW per the timing and action calendar contained within the set of plans. Once the LVW vendor installs the LVW, the G.C. is responsible to remove the temporary bi-metal thermostats and make final connections of the thermostats to the

LV6 G.C. shall install 3 double gang switch boxes (4 16" with the appropriate adapter plates) on the column closest to RTU 3 and 4. These 3 boxes shall be mounted vertically; one above the other, separated by no less than 6" with the bottom box mounted at a height of approximately 7' 6" AFF and MUST be mounted to the surface of the column that faces the center of the building so as to shield the sensor from direct supply air. A quantity of (2) 1" (inch) conduits shall be installed above & between the boxes so as to provide a path for continuous wire pull from the overhead into the bottom most box. These boxes are for (from top to bottom) the installation of the CO2 sensor, the humidity sensor, and the RTU thermostat / future EMS thermostat in the bottom box each of which requires a dedicated

LV7 G.C. shall install a single gang box and a 3/4" EMT conduit for the vestibule Unit Heater and the greenhouse's Unit Heater. The conduits shall be installed from the ceiling deck to each unit heater's thermostat designated mounting location in the vestibule and stockroom. G.C. is to make each unit heater operate using the thermostats provided with the unit heaters and installed wiring.

LV8 G.C. shall install a 3/4" EMT conduit from the ceiling deck to 12" (inches) AFF so as to provide future EMS cable access for routing the LV cable from above the dock door to the finished floor. The conduit is to be installed directly adjacent to the dock door, within 2" (inches) of the rollup door track.

LV9 J-box for power to the series 800 power supply mounted above the ceiling in line with the hinge side of the door. Provide a 1/2" conduit from the power supply to the electric power transfer device (PT-5) of the door frame, concealed mortise mount. Provide and pull two #18 AWG wire from the power supply to the power transfer device and into the door. Contractor to complete wiring and connection of the delayed rim exit device after new door and rim exit hardware is installed. Coordinate all

LV10 LVW vendor shall install a total of (1) 18/2 SHIELDED plenum cable. The cable shall be pulled continuous from the future "EMS Cabinet" in the electrical switchgear to each Unit Heater's & RTU's thermostat gang boxes location (see LV5 and LV6 for specifics) in turn (Daisy Chain) starting with the Unit Heater / RTU thermostat mounting location closest to the electrical room. The wire shall be pulled into the RTU's designated gang box, leaving a 5' coil. Label both un-spliced ends of this cable pull as

LV11 LVW vendor shall install a total of (1) 18/10 NON-SHIELDED plenum cable. The cable shall be pulled from each RTU's control cabinet to the RTU specific thermostat gang box, leaving a 5' coil at both ends. Label both ends of this cable "RTUx CONTROL", where x is the RTU #.

[LV12] LVW vendor shall install a total of (1) 18/10 NON-SHIELDED plenum cable. The cable shall be pulled from each RTU's supply hard air duct, just below ceiling, to the corresponding RTUs thermostat gang box, leaving a 10' coil at both ends. Label both ends of this cable "RTUx SUPPLY", where x is the

LV13 LVW vendor shall install a total of (1) 18/10 NON-SHIELDED plenum cable. The cable shall be pulled from the EMS cabinet to the future "WeatherStation", leaving a 5' coil at both ends. Label both ends

LVW vendor shall install a total of (1) 18/10 NON-SHIELDED plenum cable. The cable shall be pulled from the EMS cabinet to the future "WeatherStation", leaving a 5' coil at both ends. Label both ends

LVW vendor shall install a total of (1) 18/10 NON-SHIELDED plenum cable. The cable shall be pulled from the EMS cabinet to the future "WeatherStation", leaving a 5' coil at both ends. Label both ends

LV16 For each indoor humidity sensor specified, the LVW vendor shall install a total of (1) 18/4 NON-SHIELDED plenum cables. The cables shall be pulled from the EMS cabinet to the top single gang box installed as per note LV6, leaving a 5' coil at both ends. Label both ends of this cable

LVW vendor shall install a total of (1) 18/2 NON-SHIELDED plenum cable. The cables shall be pulled from the EMS cabinet to the next to the top single gang box installed as per note LV6, leaving a 5'

LVW vendor shall install a total of (1) 18/2 NON-SHIELDED plenum cable in 1/2" conduit. The cable shall be pulled from the EMS cabinet to the vaccine case, leaving a 5' coil at both ends. Label both ends of this cable "VACCINE TEMP". Coordinate with the GC to determine the exact location. NOTE: IN THE EVENT THAT THE FINAL LOCATION OF THE ANIMAL HEALTH CASE IS UNKNOWN, LEAVE A 50' COIL OF

LVW vendor shall install a total of (1) 18/4 NON-SHIELDED plenum cable. The cables shall be pulled from the EMS cabinet to the alarm installer's junction box labeled "EMS/SI ALARM INTERFACE" (located on the telephone board, beside the security alarm panel), leaving a 5' coil of each at both ends. Label both ends of each these cables "OCCUPANCY" and "ALL LIGHTS ON" respectively. If the security system installer has not installed this junction box, install and label these cables leaving a 15' loop of each at the ceiling joist on the vicinity of the building security system equipment.

LV20 ALARM VENDOR shall install a total of two twisted pair, 18ga plenum cables (Windy City # 002320-S or equivalent). The cables shall be pulled from the Security Panel to the junction box labeled "EMS/SI ALARM INTERFACE" (located on the telephone board, at the designated location beside the security alarm panel). ALARM VENDOR to terminate this wiring to the appropriate security system "ARM/DISARM" and "ALARM" outputs to the corresponding terminals within the "EMS/SI Alarm interface" junction box (installed by the LVW vendor). If the LVW Vendor has not installed this junction box, ALARM VENDOR to install and label their cables leaving a 5' loop at the designated location of the EMS/SI ALARM

LV21 LVW vendor shall install a total of (1) 18/2 NON-SHIELDED plenum cable. The cable shall be pulled from the EMS cabinet through the EMT conduit installed for dock door monitoring, leaving a 5' coil at both ends. Label both ends of this cable "DOCK DOOR". This is used for future EMS monitoring and is in addition to the cabling required for the security system door monitoring. This EMS cable should be pulled down through the conduit that is installed to monitor the dock door via the EMS (see LV8). Coordinate with the GC to determine the exact location. NOTE: IN THE EVENT THAT THE FINAL LOCATION OF THE DOCK DOOR EMS CONDUIT IS UNKNOWN, LEAVE A 50' COIL OF CABLE ABOVE THE DOCK DOOR.

LV22 LVW Vendor to install a total of (1) 18/4 NON-SHIELDED plenum cable for each unit heater. The cable shall be pulled from each Unit Heater's control cabinet to the Unit Heater's specific thermostat gang box, leaving a 5' coil at both ends. Label both ends of this cable "UH Control". Note: In the event that the location of the unit heater is unknown, leave a 50' coil of cable at this location.

[LV23] LVW VENDOR to provide a CAT5 cable run from the patch panel in the IT CLOSET to the future EMS

### PUBLIC ADDRESS SYSTEM:

GENERAL NOTES:

- A. TSC SHALL FURNISH & INSTALL THE PUBLIC ADDRESS SYSTEM B. LVW VENDOR SHALL PROVIDE ALL SPEAKER WIRING. SPEAKER WIRING SHALL BE
- 18AWG / 2 CONDUCTOR WITH WHITE JACKETS. C. ALL CABLES ROUTED EXPOSED IN CEILING JOIST SHALL BE RUN PERPENDICULAR AND PARALLEL TO THE CEILING JOIST ORIGINATING FROM TELEPHONE BOARD.
- D. PUBLIC ADDRESS SYSTEM DEVICES SHOWN FOR REFERENCE ONLY. GENERAL CONTRACTOR SHALL FURNISH AND INSTALL JUNCTION BOXES AND RACEWAYS PER THE PUBLIC ADDRESS SYSTEM VENDOR RECOMMENDATIONS. PUBLIC ADDRESS SYSTEM DEVICES FURNISHED AND INSTALLED BY THE SYSTEM VENDOR.
- E. LVW VENDOR SHALL BE RESPONSIBLE FOR DETERMINING IF CABLES SHALL BE PLENUM RATED TO MEET CODES. PUBLIC ADDRESS SPEAKER CABLE- (S1) (S2)
- 1. PROVIDE A BLACK 4" X 4" WEATHERPROOF JUNCTION BOX AT THE EXTERIOR SPEAKER LOCATION MOUNTED 13'-0" AFF OR ABOVE THE AWNING. PROVIDE A INTERIOR WALL. COORDINATE EXACT MOUNTING HEIGHTS AND LOCATIONS WITH THE ARCHITECTURAL DRAWINGS PRIOR TO BOULDE IN ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
- 2. PROVIDE JUNCTION BOX AND CONDUIT (1" EMT) FROM EXTERIOR SPEAKER TO THE RETAIL SALES INTERIOR WALL.

### KEYED NOTES:

- $\langle 1 \rangle$  JUNCTION BOX ON WALL WITH 1" CONDUIT STUBBED OUTSIDE FOR SPEAKER MOUNTING, COORDINATE EXACT REQUIREMENTS WITH PUBLIC ADDRESS SYSTEM PRIOR TO ROUGH-IN. ROUTE ONE TWO CONDUCTOR #18 AWG SPEAKER WIRE FROM JUNCTION BOX TO TELEPHONE BOARD. COIL 6 FEET OF SPEAKER WIRE OUTSIDE OF BUILDING AT PROPOSED SPEAKER LOCATION. PROVIDE 20 FEET OF CABLE AT THE CEILING ABOVE THE TELEPHONE BOARD. COIL 15 FEET OF CABLE AND SUSPEND 10 FEET AFF. TYPICAL OF 2 LOCATIONS.
- $\langle 2 \rangle$  Location in Bar joist for public address speaker. Route one two CONDUCTOR #18 AWG SPEAKER WIRE BETWEEN LOCATIONS LEAVING SIX FEET OF COILED WIRING AT EACH LOCATION FOR CONNECTION OF SPEAKERS. COORDINATE EXACT REQUIREMENTS WITH PUBLIC ADDRESS SYSTEM PRIOR TO ROUGH-IN. HOME RUN SPEAKER CABLE FROM LAST DEVICE LOCATION AS SHOWN AND PROVIDE 20 FEET OF CABLE AT THE CEILING ABOVE THE TELEPHONE BOARD. COIL 15 FEET OF CABLE AND SUSPEND AT 10 FEET AFF.
- $\langle 3 \rangle$  Location in suspended ceiling for public address speaker. Route one TWO CONDUCTOR #18 AWG SPEAKER WIRE BETWEEN LOCATIONS LEAVING SIX FEET OF COILED WIRING AT EACH LOCATION FOR CONNECTION OF SPEAKERS. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH ARCHITECTURAL REFLECTED CEILING PLAN AND THE PUBLIC ADDRESS SYSTEM INSTALLER PRIOR TO ROUGH-IN. HOME RUN SPEAKER CABLE FROM LAST DEVICE AS SHOWN AND PROVIDE 20 FEET OF CABLE AT THE CEILING ABOVE THE TELEPHONE BOARD. COIL 15 FEET OF CABLE AND SUSPEND AT 10 FEET AFF.

### LOW VOLTAGE DOOR BELL SYSTEM

- GENERAL NOTES: A. ALL LOW VOLTAGE WIRING BY LVW VENDOR (DOOR BELL, ETC.)
- SHALL BE 18AWG / 2 CONDUCTOR WITH WHITE TEFLON JACKET IN CONDUIT TO CEILING AND EXPOSED ALONG CEILING STRUCTURE.
- B. ALL CABLES ROUTED EXPOSED IN CEILING JOIST SHALL BE RUN PERPENDICULAR AND PARALLEL TO THE CEILING JOIST.
- C. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING IF CABLES SHALL BE PLENUM RATED TO MEET CODES. KEYED NOTES:
- (A) ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AN EDWARDS 55-4G5 DOOR BELL AND AN EDWARDS 592 TRANSFORMER AT TWO LOCATIONS SHOWN. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL AN EDWARDS 250 PUSHBUTTON TO CONTROL BOTH DOOR BELLS. PUSHBUTTON SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE. TEST TO ASSURE WORKING SYSTEM. MOUNT TRANSFORMER & BELL AT 14'-0" AFF.

#### (B) EDWARDS 55-4G5 DOOR BELL @ CASH REGISTER & CONNECT TO SYSTEM AS NECESSARY. COORDINATE WITH G.C. FOR EXACT LOCATION OF BELL. PUBLIC ADDRESS SYSTEM LEGEND

- (S) OPEN BARJOIST MOUNTED SPEAKER
- (S) CEILING BARJOIST MOUNTED SPEAKER
- (J) PUBLIC ADDRESS SYSTEM JUNCTION BOX
- (J) WP EXTERIOR WEATHERPROOF PUBLIC ADDRESS SYSTEM JUNCTION BOX.

### LOW VOLTAGE WIRING SYSTEM LEGEND

\_\_\_\_\_\_ PUBLIC ADDRESS (PA) SYSTEM WIRING \_\_\_\_\_ \_ \_ \_ \_ \_ \_ DATA/TELEPHONE SYSTEM WIRING EMS SYSTEM WIRING EMS SYSTEM WIRING

\_\_\_\_\_ DOOR BELL SYSTEM WIRING

### GENERAL NOTES:

B ALL CONDUITS INSTALLED IN THE STOCKROOM AREA SHALL BE INSTALLED AS TIGHT TO ROOF DECK AS ALLOWED BY CODE.

#### DATA SYSTEM: GENERAL NOTES:

- A. TSC SHALL FURNISH & INSTALL ALL POS, PA & PHONE SYSTEMS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL
- BACKBOXES AND CONDUITS. LVW VENDOR RESPONSIBLE FOR WIRING. B. LVW VENDOR SHALL PROVIDE ALL DATA AND TELEPHONE WIRING WITH WHITE
- JACKETS. ALL PHONE AND DATA CABLE MUST BE CAT5E CERTIFIED, NO EXCEPTIONS.
- C. ALL CABLES ROUTED EXPOSED IN CEILING JOIST SHALL BE RUN PERPENDICULAR AND PARALLEL TO THE CEILING JOIST. D. LVW VENDOR SHALL BE RESPONSIBLE FOR DETERMINING IF CABLES SHALL BE
- PLENUM RATED TO MEET CODES. E. ROUTE CAT5E CABLES TO IT ROOM TO CEILING SPACE ABOVE THE RED POWER RECEPTACLE (CIRCUIT B-24). REFERENCE DRAWING E2.0 FOR RECEPTACLE LOCATION. REFER TO KEYED NOTE '5' BELOW.
- TELEPHONE CABLE (T1) (T2)1. PROVIDE STANDARD OUTLET BOXES AT ALL TELEPHONE LOCATIONS WITH 3/4" CONDUIT (WITH PULL WIRE) TO ACCESSIBLE CEILING AREA OR TO BAR JOIST.
- DATA CABLE (D1) (D2) (D3) 1. PROVIDE STANDARD OUTLET BOXES AT ALL DATA LOCATIONS WITH 3/4" INCH CONDUIT (WITH PULL WIRE) TO ACCESSIBLE CEILING AREA OR TO BAR JOIST.

- KEYED NOTES:
- REGISTER CABLES 'REG3A' AND 'REG3B', ETC. AS REQUIRED FOR ADDITIONAL REGISTERS.
- 2 NOTE NOT USED.
- 'SDB', 'SDC', 'SDD'.
- 'RDA', 'RDB', 'RDC'. 7 NOTE NOT USED.
- CABLE ON BOTH ENDS. LABEL CABLES 'DSL', 'TIA' AND 'TIB'.
- (9) LVW VENDOR SHALL ROUTE THREE CAT5E CABLES FROM THE IT ROOM AT ✓ THE DATA WALL OUTLET TO THE TELEPHONE BOARD. PROVIDE 20 FEET OF
- 10 LVW VENDOR SHALL ROUTE TWO CATSE CABLES FROM THE BREAKROOM AT THE CEILING ABOVE THE POWER OUTLET TO THE IT ROOM ABOVE THE RED 'LRA' AND 'LRB'.
- $\langle 11 \rangle$  LVW SHALL ROUTE SIX CAT5E DATA CABLES (TWO PER ACCESS POINT) TSC FOR EXACT LOCATION OF EACH ACCESS POINT.
- <12>NOTE NOT USED.
- PROVIDE LABEL AT BOTH ENDS. LABEL CAM1.  $\langle 14 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM REAR OF REGISTER BAYS
- FEET AFF. PROVIDE LABEL AT BOTH ENDS. LABEL CAM2. TOOLS TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT
- FEET AFF. PROVIDE LABEL AT BOTH ENDS. LABEL CAM3.
- PROVIDE LABEL AT BOTH ENDS. LABEL CAM4.  $\langle 17 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM IT CLOSET TO THE IT PROVIDE LABEL AT BOTH ENDS. LABEL CAM5.
- $\langle 18 
  angle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM RECEIVING AREA TO THE IT PROVIDE LABEL AT BOTH ENDS. LABEL CAM6.
- $\langle 19 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM THE 90 DEGREE CORNER OF BOOTS TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS 10 FEET AFF. PROVIDE LABEL AT BOTH ENDS. LABEL CAM8.
- ENDS. LABEL PVM1.
- $\langle 21 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM AREA BETWEEN SIDE LOT ENDS. LABEL CAM9.
- $\langle 22 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM SIDE OF VESTIBULE THAT PROVIDE LABEL AT BOTH ENDS. LABEL CAM10.
- FEET AFF. PROVIDE LABEL AT BOTH ENDS. LABEL EAS1.
- $\langle$ 24angle LVW VENDOR SHALL ROUTE CAT5E CABLE FOR EAS FROM SIDE LOT 10 FEET AFF. PROVIDE LABEL AT BOTH ENDS. LABEL EAS2. KEYED NOTES:
- NOT ACCEPTABLE.
- (2) FIRE ALARM CONTROL PANEL TO BE MOUNTED ON DEDICATED 120 VOLT POWER CIRCUIT.
- FURNISHED BY CONTRACTOR. RELAY MODULE TO BE LOCATED WITHIN THREE FEET OF CONTROLLER.

## LVW RESPONSIBILITY AND TIMING PLAN

PROTOTYPES			
ACTION STORE ADDED TO SOS	BY WHO TSC REAL ESTATE	WHEN 1ST MONDAY OF EACH MONTH	SPECIAL NOTES
CODES AND BUILDING TYPE (CONTACT TSC PM AS NECESSARY) RESEARCHED, BA AND FA PLANS COMPLETED	JCI/ADT	WITHIN 30 DAYS AFTER ADDED TO THE SOS	PLEASE BE SURE TO VERIFY HVAC SYSTEMS (GROUND MOUNT VS. ROOF MOUNT, ETC) SECURITY SYSTEMS CONTRACTOR TO IDENTIFY EXIST. HVAC UNITS BY LL PER THE CHECKLIST
SECURITY SYSTEMS CONTRACTOR COMPLETES PLANS SENDS TO RICH WOOD AND TSC PM	JCI/ADT	ON 30TH DAY AFTER ADDED TO SOS	
PLANS FORWARDED TO LL AND/OR HIS ARCHITECT IF KNOWN	TSC PM	31 DAYS	
TSC TO REVIEW LL PLANS FOR ACCURACY	TSC PM	WHEN SENT BY LL PRIOR TO CONSTRUCTION START	
LL TO COMPLETE ALL LVW SOW PER PLANS USING TSC VENDOR	MERCURY TECH	NO LESS THAN 2 WEEKS PRIOR TO FD FROM 2 WEEKS	
SECURITY SYSTEMS CONTRACTOR TO INSTALL THEIR EQUIPMENT AND MAKE TERMINATIONS	JCI/ADT	STARTING APPROXIMATELY 3 WEEKS FROM FD TO BE DONE LAST AS LVW VENDOR COMPLETES NO LATER THAN 2 WEEKS PRIOR TO FD.	
INSTALLATION OF PA SYSTEM, PHONE SYSTEM, SPEAKERS, OUTSIDE HORNS, PHONES, PATCH PANEL, AP'S W/ ANTENNAS	STAN KOLIC / MERCURY TECH	MONDAY AND TUESDAY BEFORE FD	
INSTALLATION OF POS SYSTEMS AT ALL LOCATIONS AND TESTING OF AP SYSTEM	STAN KOLIC / AGILYSIS	TUESDAY BEFORE FD	

ON DEVELOPER OWNED PROJECTS, DEVELOPER IS RESPONSIBLE FOR 100 % OF COST OF LVW VENDOR AND WIRING.

1 >LVW VENDOR SHALL ROUTE TWO CAT5E CABLES FROM REGISTER TO THE IT ✓ ROOM. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE AS REQUIRED FOR EACH ADDITIONAL REGISTER. PROVIDE LABELS FOR EACH CABLE ON BOTH ENDS. LABEL CABLES 'REG1A' AND 'REG1B' FOR REGISTER ONE AND 'REG2A' AND 'REG2B' FOR REGISTER 2. LABEL ADDITIONAL

(3) LVW VENDOR SHALL ROUTE FOUR CAT5E CABLES FROM SERVICE DESK TO THE IT ROOM. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABELS FOR EACH CABLE ON BOTH ENDS. LABEL CABLES 'SDA',

 $\langle 5 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLES TO IT ROOM TO CEILING SPACE  $\checkmark$  above the red power receptacle (circuit b-24). Reference drawing E2.0 FOR RECEPTACLE LOCATION. REFER TO GENERAL NOTE 'E' ABOVE.  $\langle 6 \rangle$  LVW VENDOR SHALL ROUTE THREE CAT5E CABLES FROM RECEIVING DESK TO THE IT ROOM. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABELS FOR EACH CABLE ON BOTH ENDS. LABEL CABLES

 $\langle 8 \rangle$  LVW VENDOR SHALL ROUTE THREE CAT5E CABLES FROM IT ROOM ABOVE  $\checkmark$  The red power receptacle (circuit B-24) to the telephone board. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE AS REQUIRED FOR EACH ADDITIONAL REGISTER. PROVIDE LABELS FOR EACH

CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABELS FOR EACH CABLE ON BOTH ENDS. LABEL CABLES 'DIAL TONE', 'FAX', AND 'MUSIC ON HOLD'.

POWER RECEPTACLE. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABELS FOR EACH CABLE ON BOTH ENDS. LABEL CABLES

BACK TO IT ROOM. SEE ACCESS POINT SITE SPECIFIC MAP PROVIDED BY

(13) LVW VENDOR SHALL ROUTE CAT5E CABLE FROM MAIN ENTRANCE TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF.

TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10  $\langle 15 \rangle$  LVW VENDOR SHALL ROUTE CAT5E CABLE FROM POD AREA CENTERED ON

THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT  $\langle 16 \rangle$  LVW VENDOR SHALL ROUTE CATSE CABLE FROM MANAGERS OFFICE TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF.

CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEETOF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF.

CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF.

AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT  $2^{20}$  LVW vendor shall route 16/2 cable for public view monitor from

THE 90 DEGREE CORNER OF BOOTS TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABEL AT BOTH

ENTRANCE AND FRONT OF BUILDING TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF. PROVIDE LABEL AT BOTH

WILL DISPLAY POWER EQUIPMENT TO THE IT CLOSET. VERIFY LOCATION ON SITE, PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10 FEET AFF.

23 LVW VENDOR SHALL ROUTE CAT5E CABLE FOR EAS FROM ENTRANCE TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT 10

ENTRANCE TO THE IT CLOSET. PROVIDE 20 FEET OF CABLE AT BOTH ENDS AT THE CEILING. COIL 15 FEET OF CABLE AT EACH END AND SUSPEND AT

(1) ALL ROOFTOP EQUIPMENT CONNECTIONS SHALL BE MADE THROUGH THE UNIT ROOF CURB. ROOF PENETRATIONS ARE

TELEPHONE BOARD. REFERENCE DETAIL 1/E4.0. CONNECT TO (3) TO HVAC/FAN CONTROLLER FOR SHUTDOWN OF UNIT UPON ACTIVATIÓN OF GENERAL ALARM. CONTROLLER TO BE

LATEST - Q4 2023

![](_page_48_Picture_137.jpeg)