Hale House Development for

Hamblen County Government

Morristown, Tennessee

Project Data

owner
Hamblen County Government
Hamblen County Courthouse
511 West Second North Street
Morristown, TN 37814
phone: 423-586-1993

project
Hale House Development for
Hamblen County Government
514 & 534 West 2nd North Street
Morristown, TN 37814

project square footage
Main Floor - 1957 sq. ft.
Basement - 539 sq.ft.

occupancy classification
Business Group B

construction type
type V - unprotected; unsprinklered
2 story

IECC Climate Zone
4

Codes and Ordinances
2012 International Existing Building Code
2012 International Mechanical Code
2012 International Plumbing Code
2012 International Fuel Gas Code
2017 National Electric Code, NFPA 70
2012 International Fire Prevention Code
2012 International Energy Conservation Code with amendments ISPSC, ICC A117.1-2009
2010 ADA Standards for Accessibility Design

Drawing Index

a. dave wright
architect

110 S. Main Street
Greeneville, TN. 37743
Office: (423) 525-5093
Cell: (423) 329-2876
Fax: (423) 525-5095

CIVIL ENGINEERS
ProE Engineering Services, LLC — Oak Ridge, Tennessee

STRUCTURAL ENGINEERS
J.L. Jacobs & Associates — Greeneville, Tennessee

MECHANICAL ENGINEERS
Maynard W. Robertson, Consulting Engineer — Greeneville, Tennessee

ELECTRICAL ENGINEERS
Blaser Engineering — Bristol, Virginia

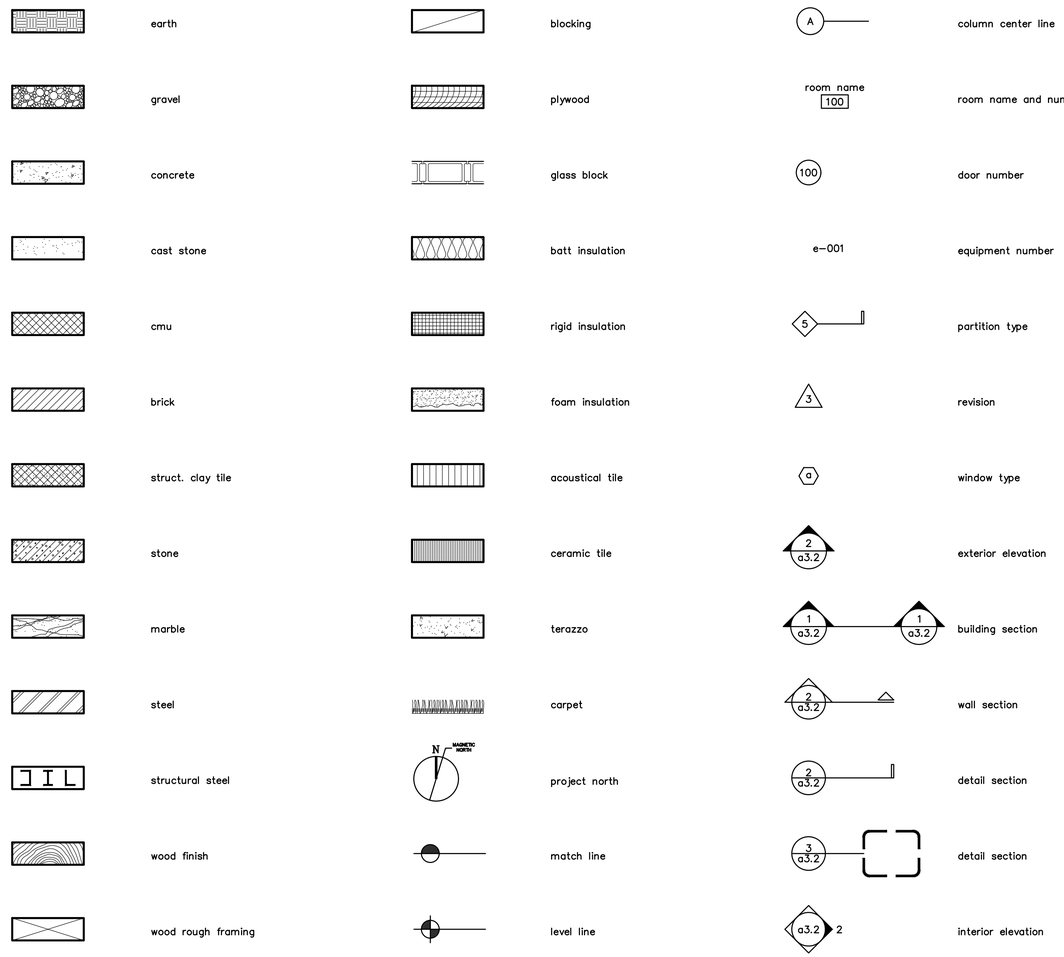
Architect — Structural Engineer — Mechanical Engineer — Electrical Engineer

19-166 Hale House

Abbreviations

ab	anchor bolt
act	acoustical tile
adh	adhesive
adj	adjustable
aff	above finish floor
alt	alternative, alternate
alum	aluminum
anod	anodized
arch	architect, architectural
asph	asphalt
au	ash urn
bd	board (architectural)
bg	bumper guard
bitum	bituminous
bldg	building
blkg	blocking
bm	beam
brk	brick
brz	bronze
bur	built-up roofing
bwk	brick work
cab	cabinet
cct	cubicle curtain track
cg	corner guard
c.i.p.	cast-in-place
cj	control joint
cl	center line
clg	ceiling
clo	closet
clr	clear
cmu	concrete masonry unit
col	column
conc	concrete
cont	continuous
corr	corridor
cpt	carpet (architectural)
cr	curtain rod (shower)
ct	ceramic tile (architectural)
demo	demolish, demolition
det	detail
df	drinking fountain
dia	diameter
dim	dimension
dn	down
dr	door
ds	downspout
dtl	detail
dw	dumbwaiter
dwg	drawing
dwr	drawer
ea	each
edf	elect. drink. fountain
ej	expansion joint
el	elevation
elec	electric(al)
elev	elevator
epx	epoxy
eq	equal
equip	equipment
ew	each way
exp	exposed
ext	exterior
fac	fire apparatus cabinet
fd	floor drain
fe	fire extinguisher
fec	fire extinguisher cabinet
ffe	finish floor elevation
fhc	fire hose cabinet
fin	finish
flr	floor(ing)
fluor	fluorescent
f.o.f.	face of finish
furr	furring
ga	gauge
galv	galvanized
gb	grab bar
gc	general contractor
gwb	gypsum wallboard
hc	handicapped
hdw	hardware
hdwd	hardwood
hm	hollow metal
hor	horizontal
hr	handrail
ht	height
hvac	heating/ventilating/air cond.
hv	homogenous vinyl
i.d.	inside diameter
in	inches
ins	insulation
int	interior
jan	janitor
jt	joint
kit	kitchen
ko	knockout
kd	knockdown
lam	laminated
lav	lavatory
lf	linear feet
lkr	locker
lt	light
mas	masonry
matl	material
mbh	mop & broom holder
mech	mechanical
mir	mirror
m/s	mirror with shelf
mo	masonry opening
mr	mop rack
mtg	mounting
mtl	metal
mul	mullion
n/a	non applicable
nic	not in contract
nom	nominal
nrc	noise reduction coefficient
nts	not to scale
oa	overall (dimension)
oc	on center
od	outside diameter
opng	opening
opp	opposite
pc	precast
plas	plaster
p lam	plastic laminate
pnl	panel
proj	projection, project
ptd	paper towel dispenser
pwd	plywood
pt	paint
ps	purse shelf
qt	quarry tile
r.o.w.	right of way
rd	roof drain
ref	refrigerator
reinf	reinforced, reinforcement
reqd	required
rh	robe hook
ro	rough opening
sched	schedule
sd	soap dish
sdp	soap dispenser
sect	section
sf	square foot (feet)
sgt	structural glazed tile
sht	sheet
shth	sheathing
sim	similar
snd	sanitary napkin disposal
snv	sanitary napkin vendor
specs	specifications
ss	stainless steel
stc	sound transmission coefficient
std	standard
stor	storage
stl	steel
struc	structure or structural
susp	suspended
sv	sheet vinyl
t	tempered
t/conc	top of concrete
t/s	top of steel/slab
t/w	top of wall
t&g	tounge and groove
tb	towel bar
tel	telephone
thk	thick(ness)
tlt	toilet
tpd	toilet paper dispenser
typ	typical
uc	undercut
ul	underwriters laboratory
ur	urinal
usu	utility shelf unit
vct	vinyl composition tile
vert	vertical
vest	vestibule
vwc	vinyl wall covering
wd	wood
wg	wire glass
wt	weight
wr	waste receptacles

Materials and Symbols



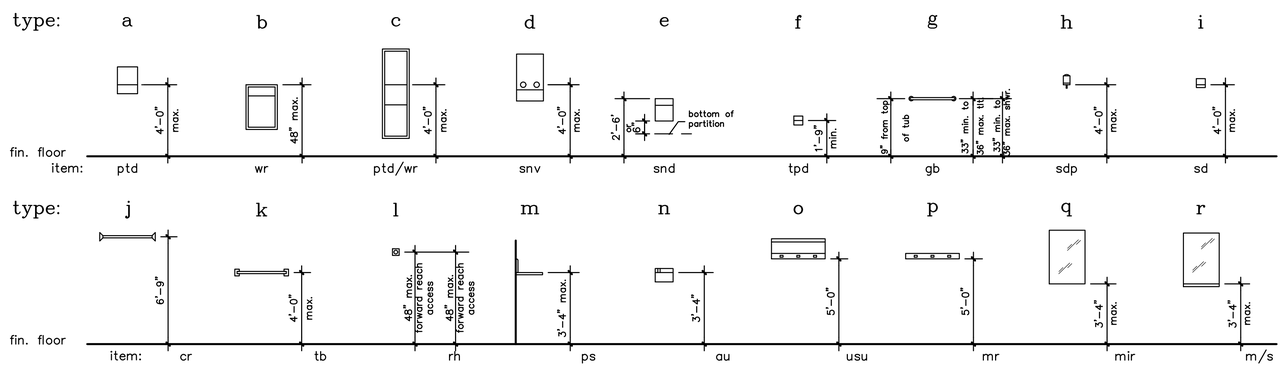
Grab Bar Requirements @ Bathrooms

1. 1 1/4" to 1 1/2" outside diameter.
2. 1 1/2" clear handspace between the inner face of the grab bar & the finished wall.
3. Must support a 250 pound load.
4. Must be located not less than 33" or more than 36" above the finished floor.

General Notes

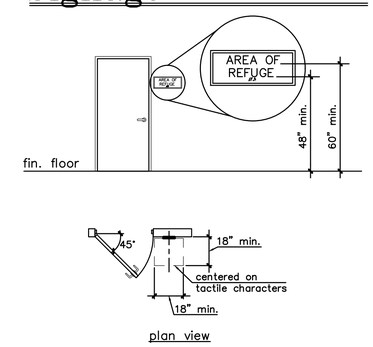
1. Do not scale drawings – use dimensions only. For dimensions not shown or in question, contractor shall request clarification from architect before proceeding.
2. Unless otherwise noted, interior partition dimensions are given face to face of finished stud wall/CMU and to column centerline. Millwork detail dimensions are from face of finish surfaces. (GWB, plaster, etc.)
3. Elevations and levels are shown to top of finished hard surfaces (concrete floor slab), exclusive of applied finishes (carpet, VCT, other thinset finish materials.
4. Contractor shall verify all existing dimensions, conditions, and equipment locations in the field. Discrepancies shall be brought to the attention of the Architect.
5. Electric panels, alarm boxes, fire equipment cabinets and other recessed boxes greater than 16 square inches that are located in rated walls shall be backed by gypsumwall board layers sufficient to maintain the designated rating.
6. All vertical piping exposed in rooms shall be furred and finished to match adjacent wall. Exceptions are mechanical and elevator equipment rooms, electric and telephone closets.
7. Ceiling and access panels shall be provided in non-accessible ceilings below the following mechanical and plumbing devices:
   a. valves
   b. flow measuring devices
   c. mixing boxes
   d. power operated dampers
   e. access panels in ductwork
   f. volume and balancing devices
   g. water flow switches
   h. sprinkler system drains and test connections
   i. pressure switches
8. All existing work, furnishings, equipment or material to remain that are damaged by Contractor's operation under this contract shall be rectified or repaired at no additional cost to owner.

Accessories



Note:
Refer to manufacturer's installation guidelines for further ADA clarification.

Signage



plan view

Revisions		
No.	Date	Description

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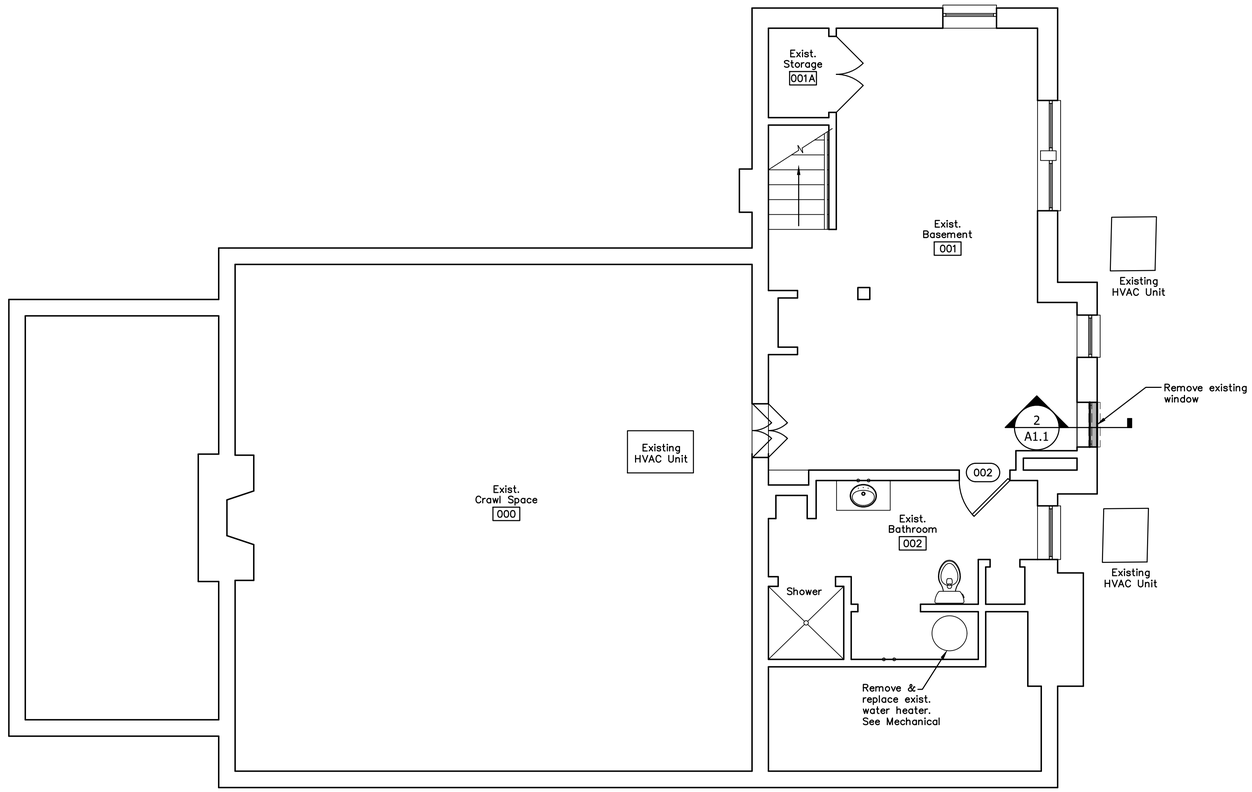
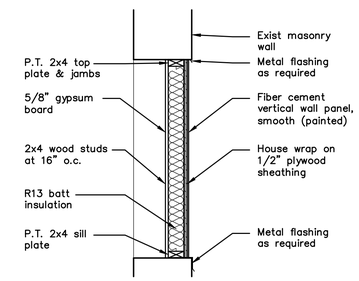
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	
Checked:	
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	
Drawing Title:	Drawing Standards
Sheet No.	DS1.1



1 A1.1 Basement Plan

Scale: 1/4"=1'-0"



2 A1.1 Window In-fill Detail

Scale: 3/4"=1'-0"

Revisions		
No.	Date	Description
-	-	-

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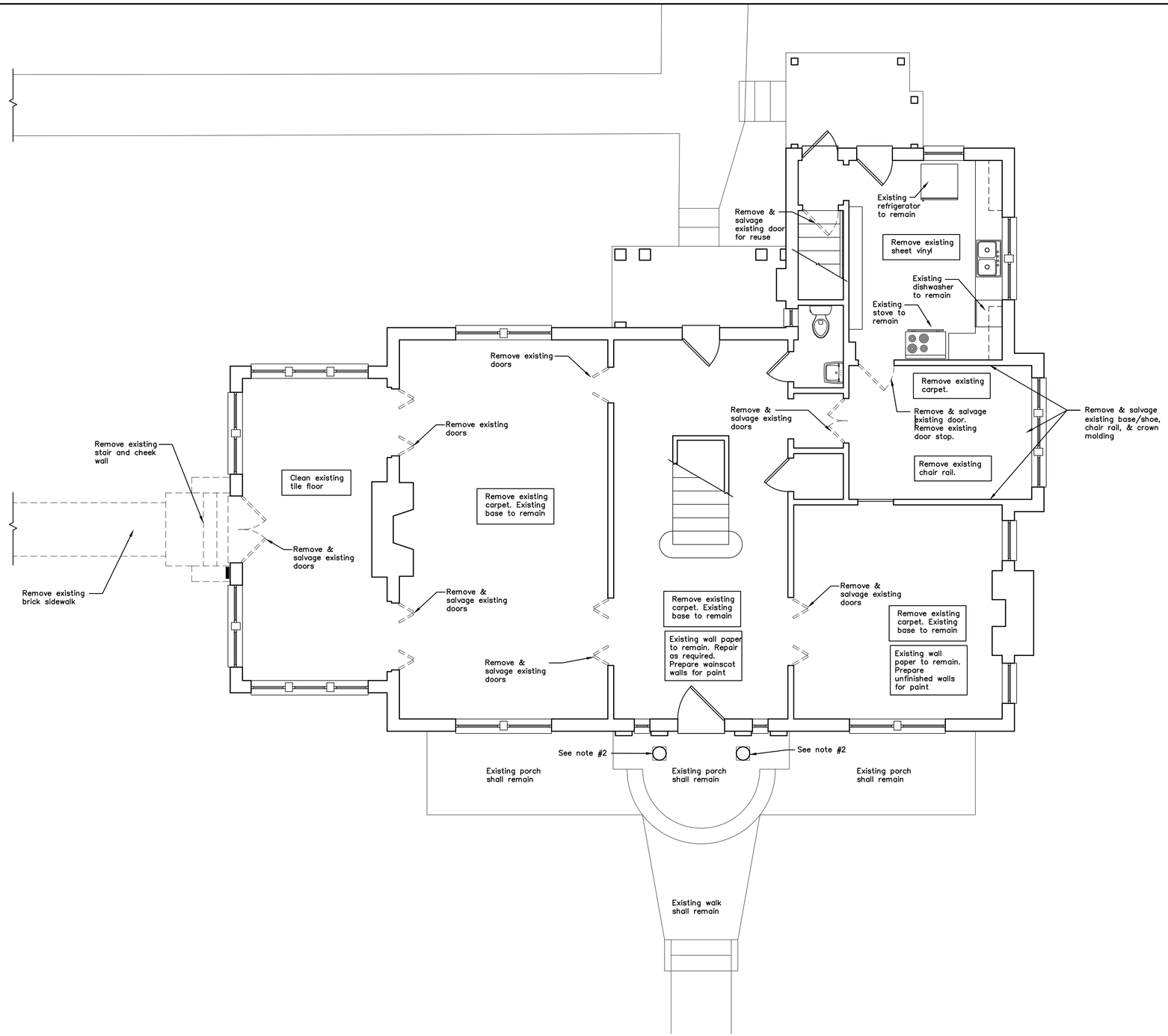
Drawn:	y.c.Miller/g.k.Stacy
Checked:	a.d.Wright
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a-base-plan
Drawing Title:	Basement Plan
Sheet No.	A1.1



1
A1.2

Demolition Plan – Main Floor

Scale: 1/4"=1'-0"

General Notes

1. Remove existing doors as noted on the drawing. The Contractor shall turn over the doors to the Owner.

2. Existing column repair. Store up entry porch roof. Remove and salvage existing columns. Replace existing base. Remove existing paint and prepare columns and new base to receive new primer and paint. Reinstall columns.

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-	-	-

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Fax: (423) 525-5095
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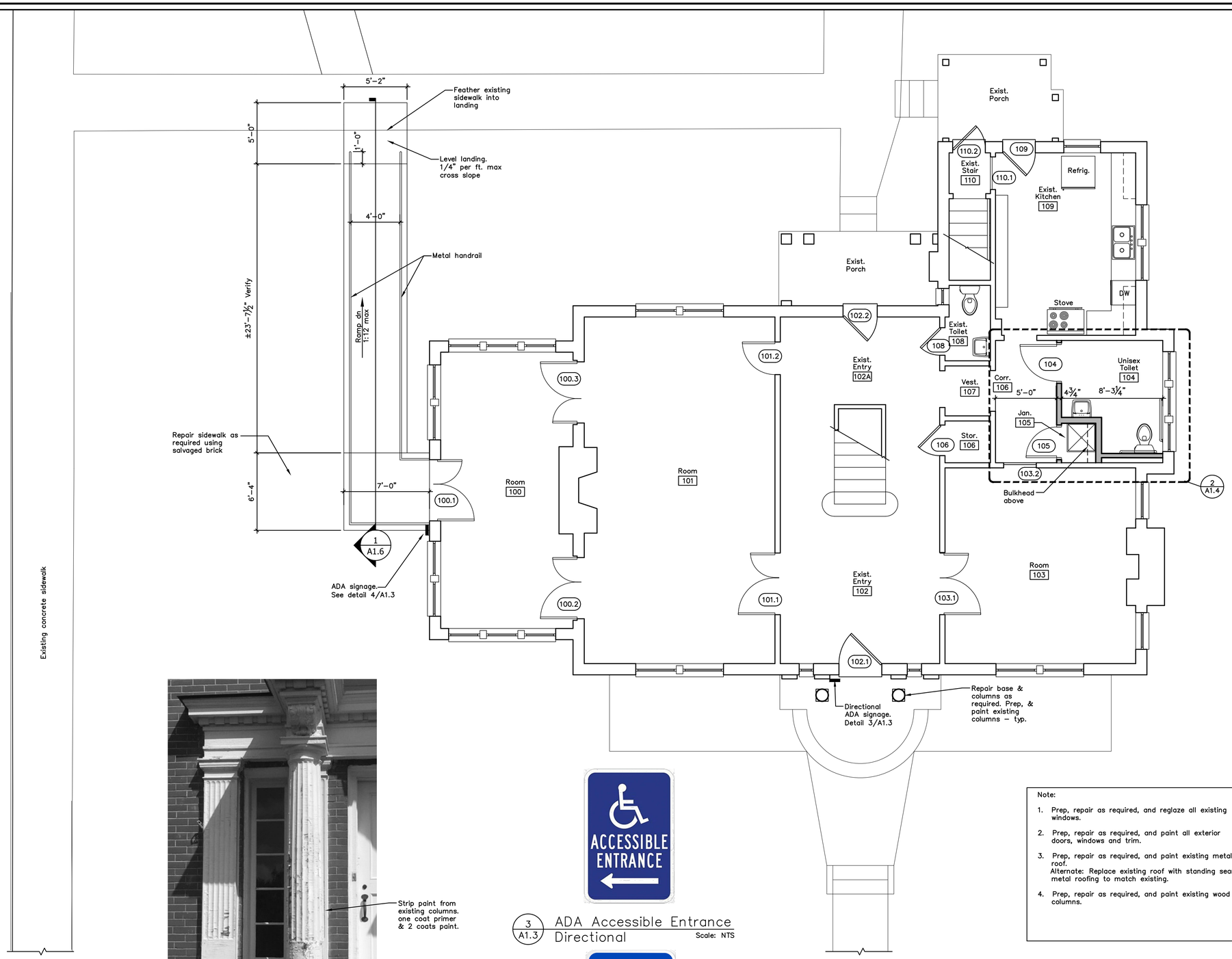
Drawn:	y.c.Miller/g.k.Stacy
Checked:	a.d.Wright
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a-base-plan
Drawing Title:	Demolition Plan Main Floor
Sheet No.	A1.2



1 A1.3 Main Floor Plan
Scale: 1/4"=1'-0"

2 A1.3 Column Detail
Scale: NTS

3 A1.3 ADA Accessible Entrance Directional
Scale: NTS

4 A1.3 ADA Accessible Entrance
Scale: NTS

Note:

1. Prep, repair as required, and reglaze all existing windows.
2. Prep, repair as required, and paint all exterior doors, windows and trim.
3. Prep, repair as required, and paint existing metal roof.
   Alternate: Replace existing roof with standing seam metal roofing to match existing.
4. Prep, repair as required, and paint existing wood columns.

Legend

Existing wall.

2x4 studs at 16" o.c. Install sound attenuation in new toilet room walls.

Revisions

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-	-	-

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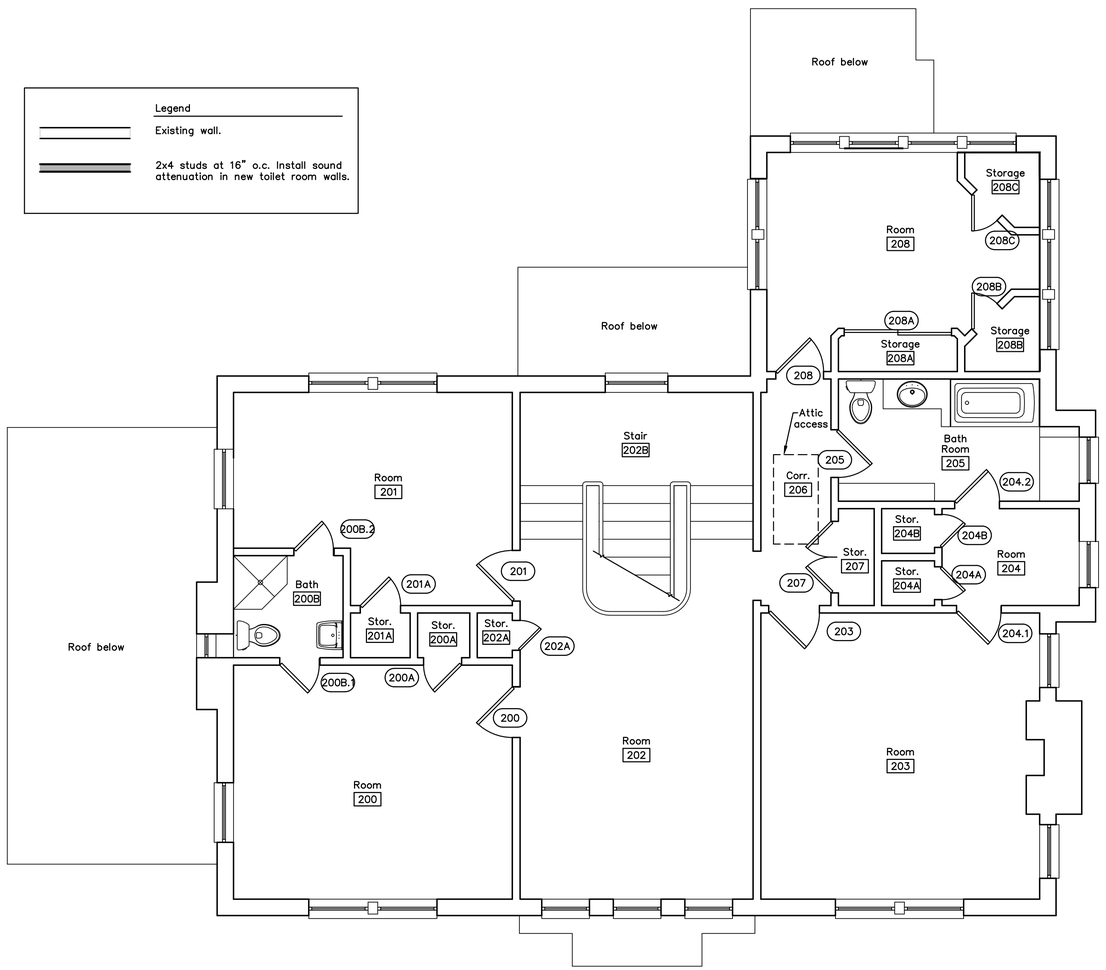
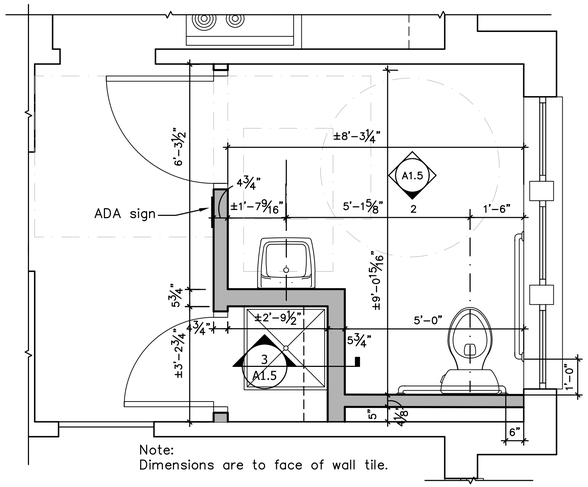
Checked:	a.d.Wright
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a-base-plan
Drawing Title:	Main Floor Plan
Sheet No.	A1.3



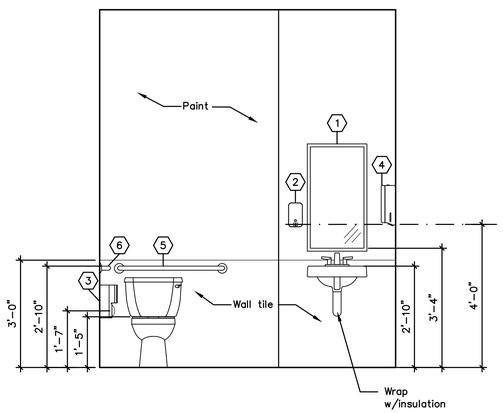
1 A1.4 Second Floor Plan

Scale: 1/4"=1'-0"



2 A1.4 Floor Plan

Scale: 1/2"=1'-0"



3 A1.4 Handicaped Toilet Elevation

Scale: 1/2"=1'-0"

Toilet Accessory Schedule

Item No.	Description	Bobrick	ASI	Remarks
1	mirror	b-165 1836	0620-1836	18" x 36"
2	soap dispenser	b-40	0340	–
3	toilet tissue dispenser	b-4288	9030	–
4	paper towel dispenser	b-4262	0042	–
5	grab bar	b-6806-36	3800-36	36" long
6	grab bar	b-6806-42	3800-42	42" long

Handicapped Toilet Notes

1. Mirror – bottom shall be 40" max. A.F.F.
2. Towel bars, dispensers, disposals, etc.. shall be located on the accessible route with the highest control, operating mechanism, and/or dispensing/disposal slot at 48" max. A.F.F.
3. Toilet paper dispenser shall be located on the side wall adjacent to the water closet and shall be 7" min. to 9"max in front of the water closet measured from the centerline of the dispenser. The outline of the dispenser shall be 15" min. and 48" max. A.F.F. &shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or does not allow continuous paper flow.
4. 42" side wall grab bar shall have a horizontal centerline of 33" min. to 36" max. A.F.F. All grab bars shall be be capable of supporting a 250 pound load applied in any direction along its length. 1 1/4" to 1 1/2" outside diameter. 1 1/2" clear handspace between the inner face of the grab bar & the finished wall.
5. 36" rear wall grab shall have a horizontal centerline of 33" min. to 36" max. A.F.F. All grab bars shall be be capable of supporting a 250 pound load applied in any direction along its length. 1 1/4" to 1 1/2" outside diameter. 1 1/2" clear handspace between the inner face of the grab bar & the finished wall.
6. Lavatory – the rim or finished counter surface shall be 34" max. A.F.F. At the forward end of the fixture apron a 29" min. knee clearance shall be provided from the apron/skirt to the finished floor. Faucet operation shall not require the use of a fine grasp, a tight pinching motion, or a wrist turning motion for water activation. Manually operated faucets shall be operable with 5 lbs. max. force.

Additional Notes:

Toilet partition door shall be equipped with handles, pulls, latches, locks, or other operating hardware devices that is easy to grasp with one hand and does not require grasping, tight pinching, or any wrist-twisting motion to operate. Door shall be self closing.

Flush controls shall be hand operated or automatic. Hand operated flush controls shall be easy to grasp with one hand and does not require grasping, tight pinching, or any wrist-twisting motion to operate. Flush control shall be on the open side of the water closet.

Waste receptacles shall not be permitted to obstruct the clear floor area, the clear floor space at fixtures and accessories, nor access to those elements.

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-	-	-

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Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	g.k.Stacy
Checked:	a.d.Wright
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a-base-plan
Drawing Title:	Second Floor Plan, Handicapped Toilet Plan, Elevations, Toilet Notes, & Toilet Accessory Schedule
Sheet No.	A1.4

Room Finish Schedule

Basement Floor Plan

no	room	floor	base	walls				ceilings		remarks
				north	south	east	west	mat	finish	
000	Existing Crawl Space	ETR	–	–	–	–	–	–	–	–
001	Existing Basement	ETR	–	ETR	ETR	ETR	ETR	–	–	–
002	Bathroom	ETR	WD	PT	PT	PT	PT	ETR	PT	7,8

Main Floor Plan

no	room	floor	base	walls				ceilings		remarks
				north	south	east	west	mat	finish	
100	Room	ETR	ETR	PT	PT	PT	PT	ETR	PT	1,2,3
101	Room	ETR	ETR	PT	PT	PT	PT	ETR	PT	1,2
102	Exist. Front Entry	ETR	ETR	PT/ETR	PT/ETR	PT/ETR	PT/ETR	ETR	PT	1,2,11
103	Room	ETR	ETR	ETR	ETR	PT	ETR	ETR	PT	1,2,12
104	Unisex Toilet	LVP	CB	CT/PT	CT/PT	CT/PT	CT/PT	ETR	PT	1,2,5,10
105	Janitor	LVP	WB–2	PT	PT	PT	PT	ETR	PT	1,2
106	Corridor	ETR	WB–1	PT	PT	PT	PT	ETR	PT	4
107	Vestibule	ETR	ETR	PT	PT	PT	PT	ETR	PT	1,2
108	Exist. Toilet	ETR	ETR	ETR	ETR	ETR	ETR	ETR	PT	2
109	Exist. Kitchen	LVP	ETR	PT	PT	PT	PT	ETR	PT	1,2,6,12

Second Floor Plan

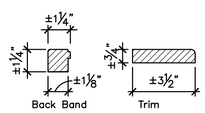
no	room	floor	base	walls				ceilings		remarks
				north	south	east	west	mat	finish	
200	Room	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	1
200A	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
200B	Bath	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
201	Room	ETR	ETR	PT	PT	PT	PT	ETR	ETR	1,12
201A	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
202	Room	ETR	ETR	PT/ETR	–	ETR	ETR	ETR	ETR	1,11
202A	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
202B	Stair	ETR	ETR	PT/ETR	–	PT/ETR	PT/ETR	ETR	ETR	1,11
203	Room	ETR	ETR	ETR	ETR	PT	ETR	ETR	ETR	1,12
204	Room	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	1
204A	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
204B	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
205	Bath	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	1
206	Corridor	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	1
207	Storage	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	–
204	Room	ETR	ETR	ETR	ETR	ETR	ETR	ETR	ETR	1

Finish Legend

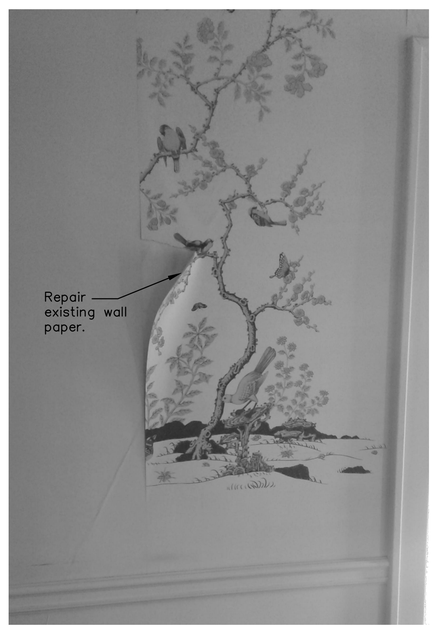
CT	Ceramic wall tile
CB	Ceramic base
ETR	Existing to remain
GB	Gypsum board
LVP	Luxury vinyl plank, water resistant
PT	Paint
WB–1	Wood base, salvaged
WB–2	Wood base, standard

Finish Notes

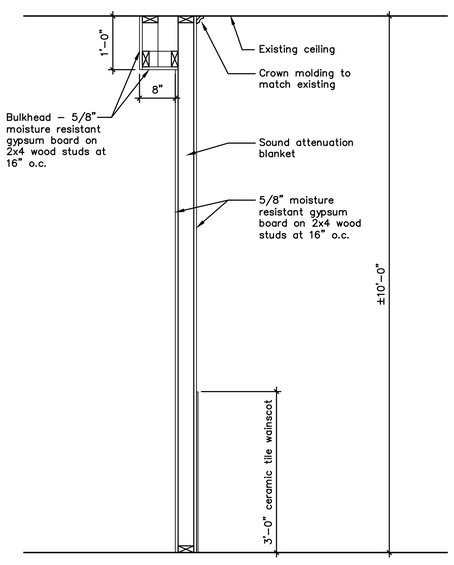
1. Paint all existing wood trim with the exception of wood stair handrail. Paint shall be eggshell. Owner/Tenant shall select color.
2. Paint existing ceiling. Paint shall be a flat ceiling paint.
3. Clean existing tile.
4. Install salvaged base/shoe molding on new walls.
5. Ceramic tile wainscot/paint above.
6. Paint wood cabinets.
7. Bath 002 – Tape and mud existing drywall on walls and ceiling. Paint with one coat primer and 2 coats paint. Walls shall be eggshell paint; ceiling shall be flat paint. See Note #8 for shower.
8. Prepare floors, walls, and ceiling as required to install ceramic tile.
9. Install stock wood base in Bath 002.
10. Install sound attenuation blanket in toilet room walls.
11. Existing wallpaper above wainscot shall remain. Paint wainscot walls. Paint shall be eggshell finish, Owner/Tenant shall select color.
12. Paint wall with eggshell paint. wner/Tenent shall select color. One coat primer any unprimed walls before painting.



1 A1.5 Door Casing Detail
Scale: 3"=1'–0"



2 A1.5 Wallpaper Detail
Scale: NTS



3 A1.5 Wall Section
Scale: 3/4"=1'–0"

Revisions

No.	Date	Description
-	-	-

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Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a–base–plan
Drawing Title:	Room Finish Schedule & Details
Sheet No.	A1.5

Door Schedule

Basement

door							frame					hardware	
mark	from	to	type	mat	"w" "h" "t"	label	type	mat	head	jamb	sill	set	remarks
002	Basement 001	Bath 002	–	–	Existing to Remain	–	Existing to Remain				–	–	11

Main Floor

door							frame					hardware	
mark	from	to	type	mat	"w" "h" "t"	label	type	mat	head	jamb	sill	set	remarks
100.1	Exterior	Room 100	B	–	3'–0" x 7'–0" x 1 3/4" 2'–0" x 7'–0" x 1 3/4"	–	Existing to Remain				–	–	1,2,3,4,6
100.2	Room 101	Room 100	A	WD	3'–0" x 7'–0" x 1 3/4" 2'–0" x 7'–0" x 1 3/4"	–	Existing to Remain				–	–	1,2,3,4,6
100.3	Room 101	Room 100	B	WD	3'–0" x 7'–0" x 1 3/4" 2'–0" x 7'–0" x 1 3/4"	–	Existing to Remain				–	–	–
101.1	Exist. Entry 102	Room 101	B	WD	3'–0" x 7'–0" x 1 3/4" 2'–0" x 7'–0" x 1 3/4"	–	Existing to Remain						
101.2	Exist. Entry 102	Room 101	D	WD	2'–8" x 7'–0" x 1 3/4"	–							
102.1	Exterior	Exist. Entry 102	–	–	Existing to Remain	–	Existing to Remain					–	1,2,3,4
102.2	Exterior	Exist. Entry 102	–	–	Existing to Remain	–	Existing to Remain					–	1,2,3,4
103.1	Exist. Entry 102	Room 103	B	WD	3'–0" x 7'–0" x 1 3/4" 2'–0" x 7'–0" x 1 3/4"	–						–	
103.2	Room 103	Corridor 106	–	–	Existing to Remain	–	Existing to Remain					–	1,2,3,4,7
104	Unisex Toilet 104	Corridor 106	B	WD	3'–0" x 7'–0" x 1 3/4"	–	1	WD	1	1	–	–	1,2,3,4,5,7,8
105	Janitor 105	Corridor 106	C	WD	2'–8" x 7'–0" x 1 3/4"	–	2	WD	1	1	–	–	1,2,3,4,5,7,8
106	Storage 106	Exist. Entry 102	–	–	Existing to Remain	–	Existing to Remain						1,2,3,4,7
108	Existing Toilet 108	Exist. Entry 102	–	–	Existing to Remain	–	Existing to Remain						1,2,3,4,7
109	Exterior	Exist. Kitchen 109	–	–	Existing to Remain	–	Existing to Remain						1,2,3,4,7
110	Exterior	Exist. Stair 110	–	–	Existing to Remain	–	Existing to Remain						

Second Floor

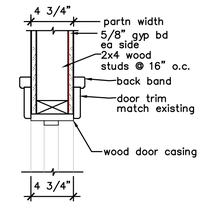
door							frame					hardware	
mark	from	to	type	mat	"w" "h" "t"	label	type	mat	head	jamb	sill	set	remarks
200	Room 202	Room 200	–	–	Existing to Remain	–	Existing to Remain				–	–	10
200A	Storage 200A	Room 200	–	–	Existing to Remain	–	Existing to Remain				–	–	10
200B.1	Bath 200B	Room 200	–	–	Existing to Remain	–	Existing to Remain				–	–	10
200B.2	Bath 200B	Room 201	–	–	Existing to Remain	–	Existing to Remain				–	–	10
201	Room 202	Room 201	–	–	Existing to Remain	–	Existing to Remain				–	–	10
201A	Storage 201A	Room 201	–	–	Existing to Remain	–	Existing to Remain				–	–	10
202A	Storage 202A	Room 202	–	–	Existing to Remain	–	Existing to Remain				–	–	10
203	Corridor 206	Room 203	–	–	Existing to Remain	–	Existing to Remain				–	–	10
204.1	Room 204	Room 203	–	–	Existing to Remain	–	Existing to Remain				–	–	10
204.2	Room 204	Bath 205	–	–	Existing to Remain	–	Existing to Remain				–	–	10
204A	Storage 204A	Room 204	–	–	Existing to Remain	–	Existing to Remain				–	–	10
204B	Storage 204B	Room 204	–	–	Existing to Remain	–	Existing to Remain				–	–	10
205	Corridor 206	Bath 205	–	–	Existing to Remain	–	Existing to Remain				–	–	10
207	Storage 207	Corridor 206	–	–	Existing to Remain	–	Existing to Remain				–	–	10
208	Corridor 206	Room 208	–	–	Existing to Remain	–	Existing to Remain				–	–	10
208A	Storage 208A	Room 208	–	–	Existing to Remain	–	Existing to Remain				–	–	10
208B	Storage 208B	Room 208	–	–	Existing to Remain	–	Existing to Remain				–	–	10
208C	Storage 208C	Room 208	–	–	Existing to Remain	–	Existing to Remain				–	–	10

Door & Frame Legend

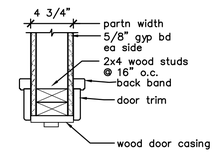
AL	Aluminum Storefront
HM	Hollow Metal
(T)	Tempered
WD	Wood

Door and Frame Notes

1. Hardware allowance – $600.00 per door. Labor not included
2. Door hardware – exterior and interior passage doors with latching hardware must be equipped with operating hardware devices that comply with accessibility requirements (e.g. lever handle, push/pull latch, etc.)
3. Keying: coordinate with Users requirements.
4. Hardware finish shall match existing.
5. Match existing wood door casing and trim.
6. Reuse and rework existing door casing and trim when adding door/doors.
7. Door shall remain closed.
8. Install salvaged door into existing frame.
9. All doors and hardware in Basement Floor are existing to remain.
10. All doors and hardware on the Second Floor are existing to remain.
11. All doors and hardware in the Basement area are existing to remain.

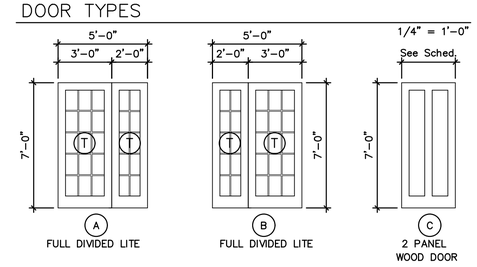


1 Head
1 1/2" = 1'–0"



1 jamb
1 1/2" = 1'–0"

DOOR TYPES

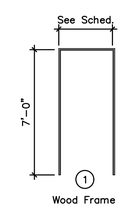


A FULL DIVIDED LITE

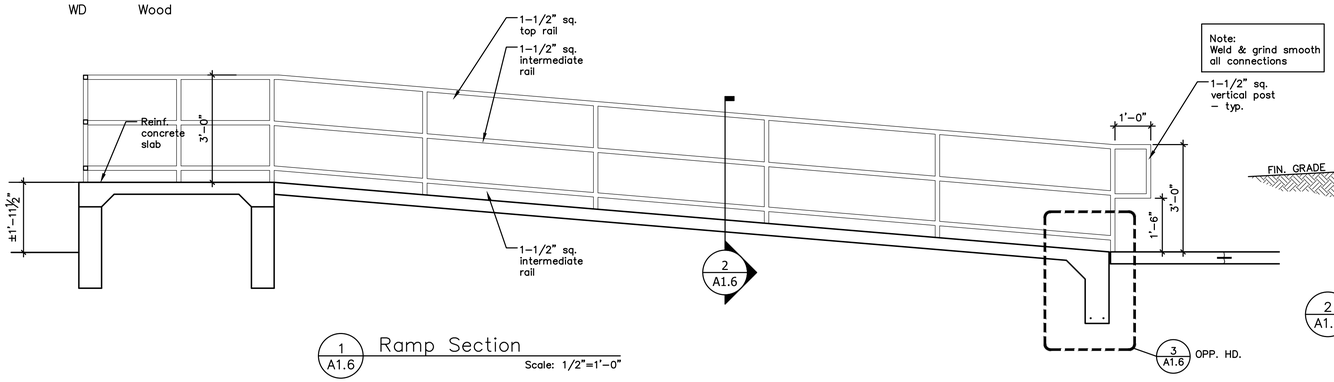
B FULL DIVIDED LITE

C 2 PANEL WOOD DOOR

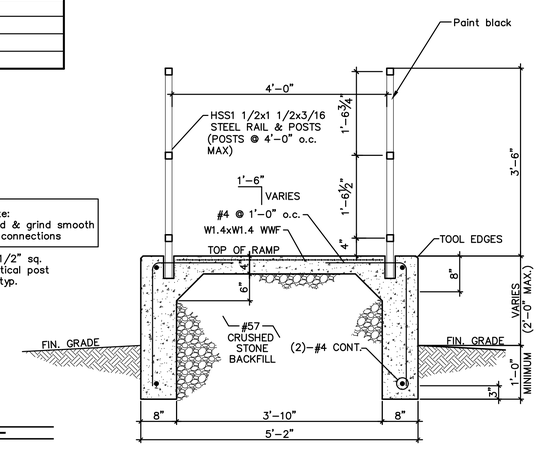
FRAME TYPES



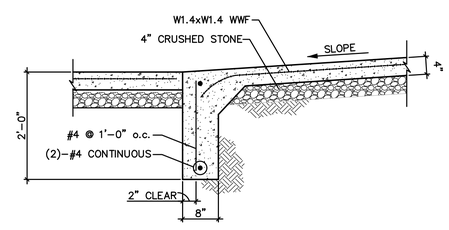
1 Wood Frame



1 A1.6 Ramp Section
Scale: 1/2"=1'–0"



2 A1.6 Section Through Ramp
Scale: 3/4"=1'–0"



3 A1.6 Turn–down Slab
Scale: 3/4"=1'–0"

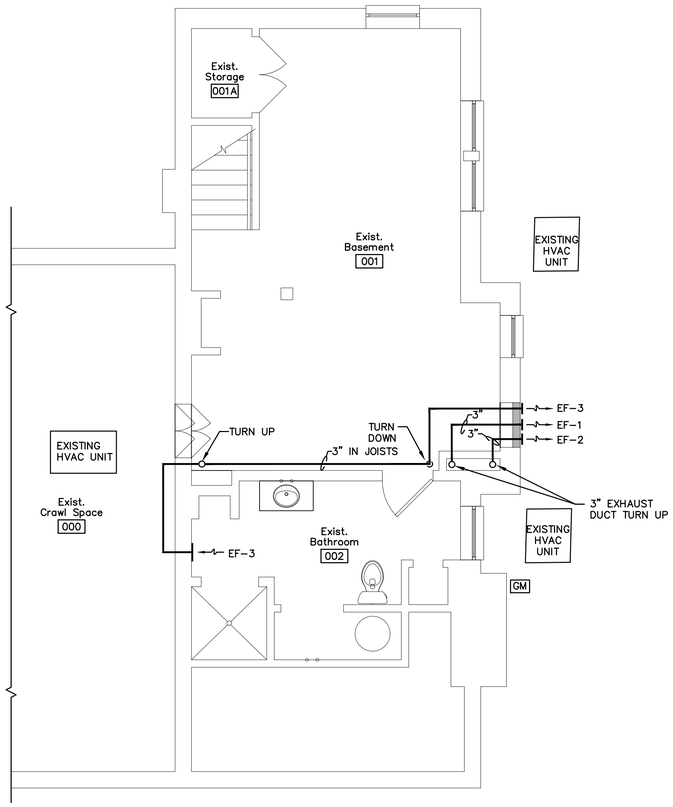
Revisions

No.	Date	Description
-	-	-

Hale House Development for
Hamblen County Government
Morristown, Tennessee

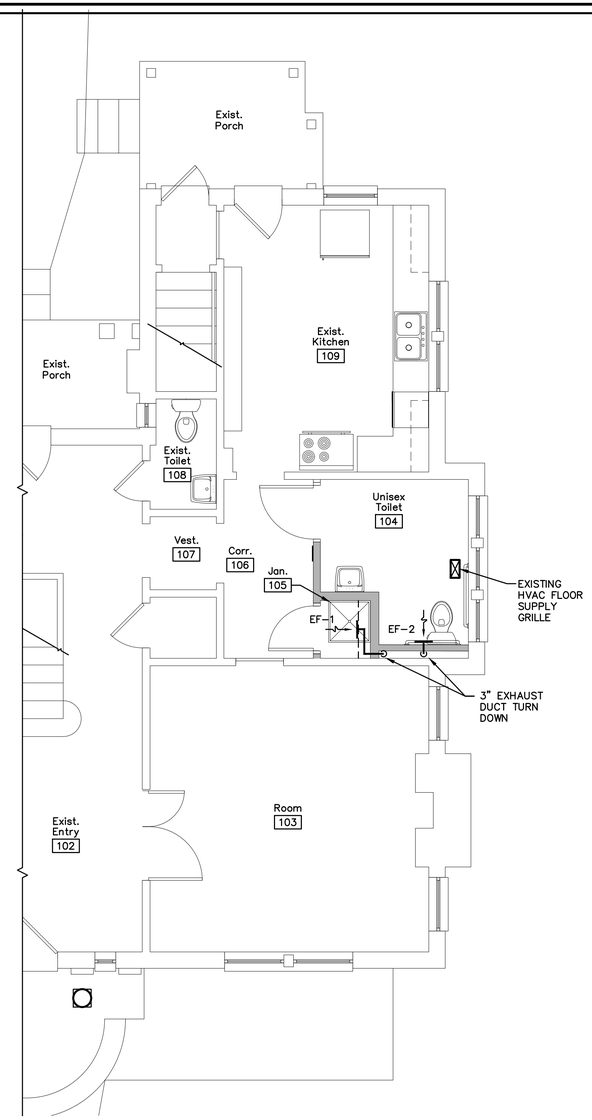
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	g.k.Stacy
Checked:	a.d.Wright
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	a–base–plan
Drawing Title:	Door Schedule. & Handicapped Ramp Details
Sheet No.	A1.6



1 M1.1 H.V.A.C. Floor Plan – Basement

Scale: 1/4"=1'-0"



2 M1.1 H.V.A.C. Floor Plan – Main Floor

Scale: 1/4"=1'-0"

HVAC LEGEND

SYMBOL	DEFINITION
	FLOOR SUPPLY DIFFUSER GRILLE
	EXHAUST FAN
12x8	EXHAUST / RETURN AIR DUCT (FIRST DIMENSION IS SIDE SHOWN)
	PIPE TURNING DOWN
	PIPE TURNING UP
ACU	AIR-COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
CFM	CUBIC FEET PER MINUTE (AIR FLOW)
EF	EXHAUST FAN
GM	GAS METER
	SIDEWALL DIFFUSER OR DIFFUSER IN SIDE OF DUCT

EXHAUST FAN SCHEDULE

MARK	AREA SERVED	LOCATION	CFM	STATIC PRESS IN. W.G.	RPM	DRIVE	HP	V/PH/HZ	CONTROL	DUCT	MODEL NO.	REMARKS
EF-1	JANITOR 105	SIDEWALL	50	0.25	–	DIRECT	0.12	120/1	WALL SWITCH/AUTO	3"	BROAN 670	1,6
EF-2	UNISEX TOILET 104	SIDEWALL	110	0.25	–	DIRECT	0.12	120/1	WALL SWITCH/AUTO	3"	BROAN AE100	1,6
EF-3	EXIST. BATHROOM 002	SIDEWALL	110	0.25	–	DIRECT	0.12	120/1	WALL SWITCH/AUTO	3"	BROAN AE100	1,6

NOTES:
1. PROVIDE SEPARATE EXHAUST FAN SWITCH WITH BATH LIGHT SWITCH.
2. INTERLOCK FANS TO LOUVERS/DAMPER.
3. MOTORIZED DAMPERS WITH FIXED BLADES.
4. SPEED CONTROL – VFD
5. WEATHERHOOD WITH MESH BIRDSCREEN.
6. PROVIDE BRAND/MODEL OR APPROVED EQUAL

Maynard W. Robertson
Consulting Engineer
423-470-3302
mwreng@comcast.net

Revisions

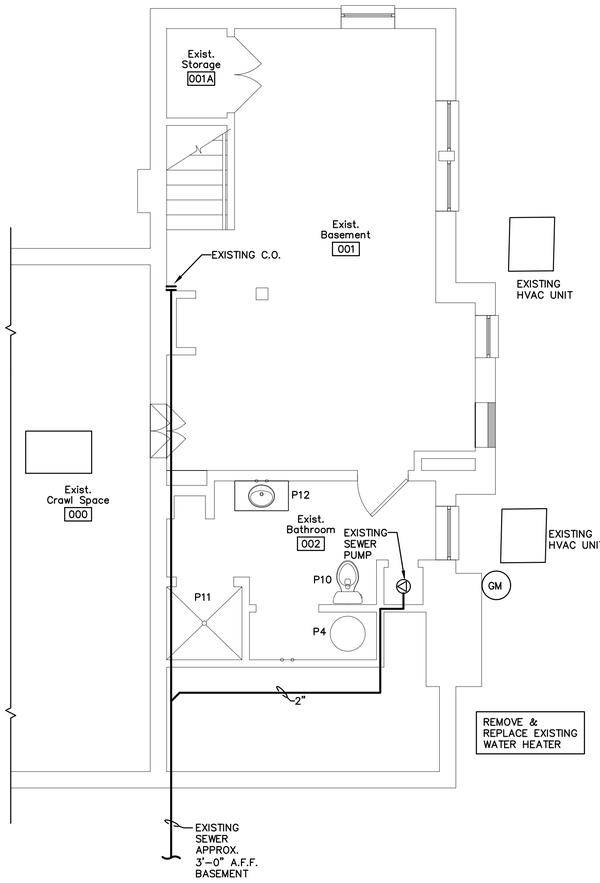
No.	Date	Description

MAYNARD W. ROBERTSON
No. 10880
STATE OF TENNESSEE
8/14/20

Hale House Development for
Hamblen County Government
Morristown, Tennessee

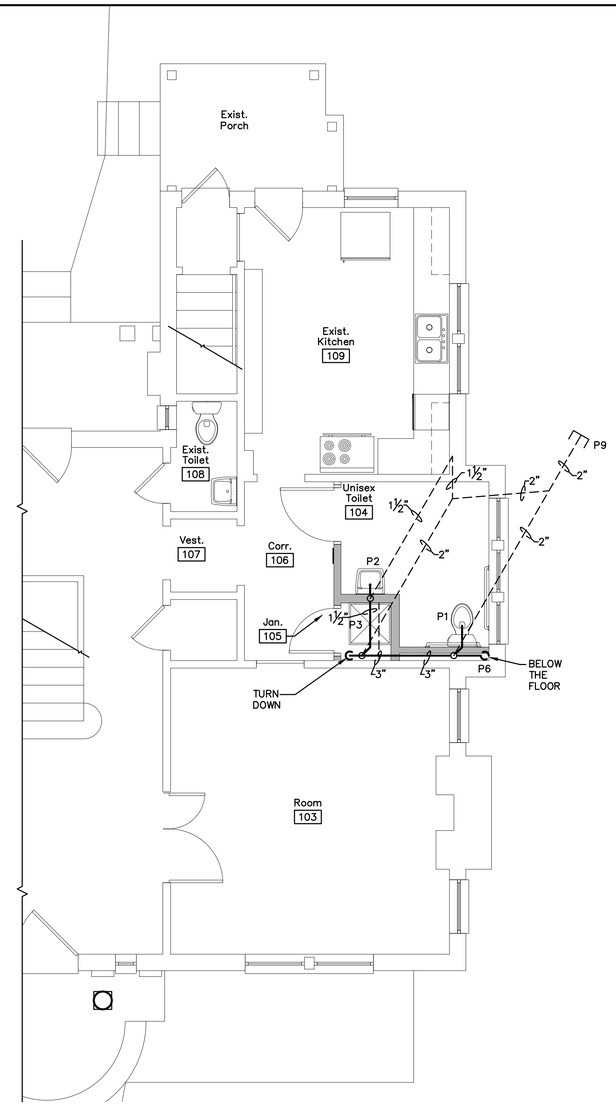
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	g.k.Stacy
Checked:	m.w.Robertson
Job No:	19-166
Scale:	as noted
Date:	08-13-20
File Name:	m-base-plan
Drawing Title:	H.V.A.C. Floor Plan – Basement & Main Floor
Sheet No.	M1.1



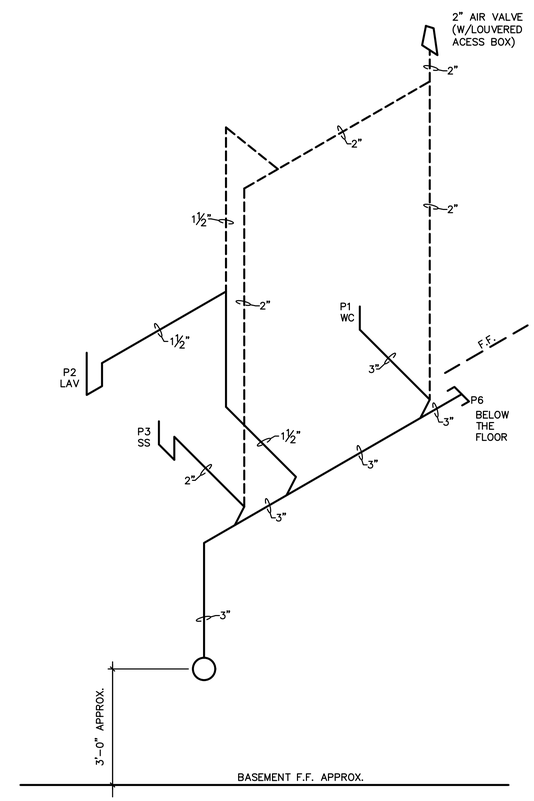
1 P1.1 Waste & Venting Plan – Basement

Scale: 1/4"=1'-0"



2 P1.1 Waste & Venting Plan – Main Floor

Scale: 1/4"=1'-0"



3 P1.1 Waste Riser

Scale: NTS

PLUMBING LEGEND

	COLD WATER SUPPLY		WATER HAMMER ARRESTOR
	HOT WATER SUPPLY		CAP ON END OF PIPE
	HOT WATER RETURN	C.O.	FLOOR CLEANOUT
	SANITARY SEWER LINE	W.C.O.	WALL CLEANOUT
	SANITARY VENT LINE	Y.C.O.	YARD CLEANOUT
ST	STORM SEWER	GAS GAS GAS	PROPANE GAS
	PRESSURE REDUCING VALVE		BALL SERVICE VALVE
	GATE VALVE	C.O.	CLEANOUT
	CHECK VALVE		POINT OF CONNECTION (NEW TO EXISTING)
	REDUCED PRESSURE BACKFLOW PREVENTER	AFF	ABOVE FINISHED FLOOR
	FLOOR DRAIN	CW	COLD WATER
	ROOF DRAIN	HW	HOT WATER
OR	PIPE TURN DOWN	P#	FIXTURE IDENTIFICATION NUMBER
OR	PIPE TURN UP	WH	WATER HEATER
	PLUMBING FIXTURE SERVICE CONNECTION	VTR	VENT THRU ROOF
	REDUCER	V	VENT

NOTE:

1. CONTRACTOR SHALL REPLACE ALL SUPPLY CONNECTIONS ON ALL EXISTING LAVATORIES, TOILETS, AND KITCHEN SINK IN THE BUILDING.

Maynard W. Robertson
Consulting Engineer
423-470-3302
mwreng@comcast.net

Revisions

No.	Date	Description

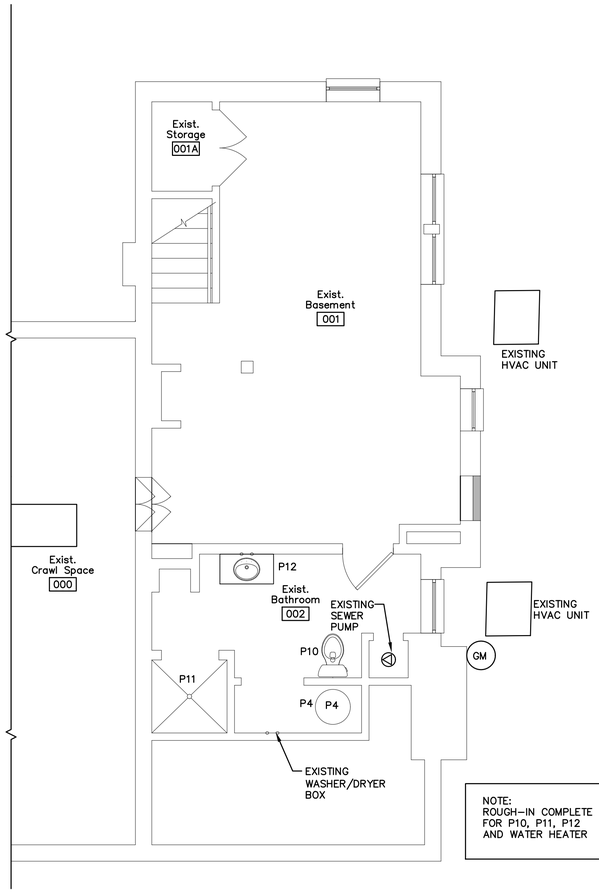
MAYNARD W. ROBERTSON No. 10880 STATE OF TENNESSEE

8/14/20

Hale House Development for
Hamblen County Government
Morristown, Tennessee

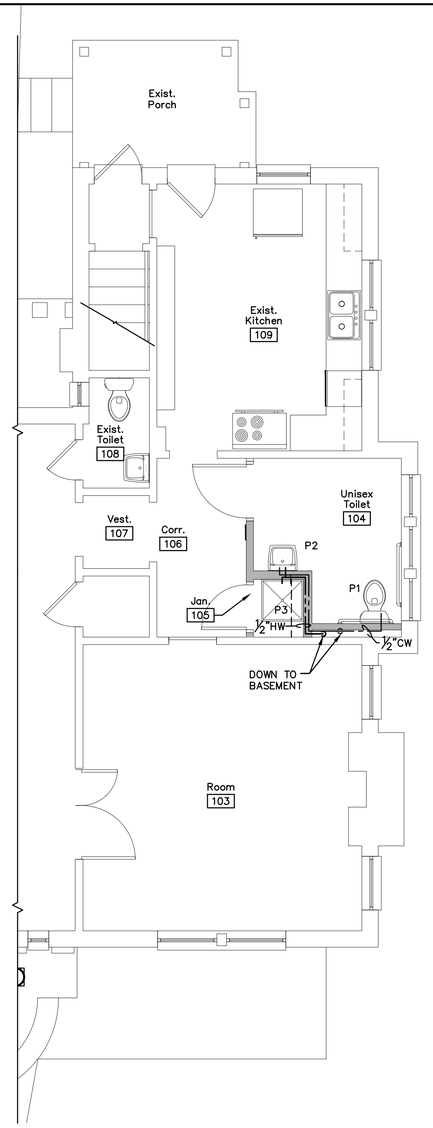
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	g.k.Stacy
Checked:	m.w.Robertson
Job No:	19-166
Scale:	as noted
Date:	08-13-20
File Name:	p-base-plan
Drawing Title:	Waste & Venting Plan – Basement & Main Floor
Sheet No.	P1.1



1 P1.2 Water Piping Plan – Main Floor

Scale: 1/4"=1'-0"



2 P1.2 Water Piping Plan – Main Floor

Scale: 1/4"=1'-0"

PLUMBING NOTES:

1. ALL SANITARY WASTE PIPING ABOVE GRADE IS TO BE PVC PIPE.
2. ALL SANITARY VENT PIPING IS TO BE SCHEDULE 40 PVC PIPE. ALL SANITARY WASTE PIPING BELOW GRADE IS TO BE SCH 40 PVC
3. HOT WATER AND COLD WATER PIPING TO BE TYPE "L" HARD DRAWN COPPER ABOVE GRADE. JOINTS SHALL BE SWEAT TYPE USING 95–5 (TIN–ANTIMONY) SOLDER HAVING A MAXIMUM LEAD CONTENT OF 0.2 OF 1%.
4. WATER PIPING ROUTED BELOW SLAB SHALL BE TYPE "K" ANNEALED COPPER TUBING WITH NO JOINTS BELOW SLAB.
5. DOMESTIC WATER PIPING TO BE RUN IN CEILING SPACES, ATTICS, CRAWL SPACES AND IN AND BETWEEN WALL STUDS ETC.
6. ALL HOT WATER AND COLD WATER PIPING SHALL BE INSULATED WITH 1/2" CLOSED CELL INSULATION.
7. ALL EXPOSED PIPING CONNECTING TO HANDICAP FIXTURES SHALL BE INSULATED WHERE THERE IS A POSSIBILITY OF INCIDENTAL BODILY CONTACT. INSULATE USING MOLDED PVC JACKETS SUCH AS HANDI LAV–GUARD BY TRUEBRO, INC OR USE PREWRAPPED FITTINGS SUCH AS PROWRAP BY McGUIRE MFG. CO. (OR APPROVED EQUALS). COMPLY WITH ALL ADA REQUIREMENTS.
8. CONTRACTOR SHALL COORDINATE PLUMBING WORK WITH THE WORK OF OTHER TRADES AND SHALL NOTIFY OTHERS OF ANY CHASES OR ACCESS REQUIREMENTS FOR HIS PORTION OF THE
9. INSTALL PLUMBING IN ACCORDANCE WITH NATIONAL, STATE AND LOCAL CODES AND WITH THE AUTHORITY HAVING JURISDICTION.
10. CONTRACTOR TO PAY FOR ALL PERMITS, FEES, INSPECTIONS AND CONNECTIONS AS MAY BE REQUIRED FOR THIS WORK.
11. ALL VENT PIPING TO PENETRATE ROOF A MINIMUM OF 12" ABOVE ROOF. FLASH AND SEAL TO ROOF WEATHERTIGHT.
12. ALL WASTE AND VENT PIPING 2" AND SMALLER TO SLOPE A MINIMUM OF 1/4" PER FT.; 3" AND LARGER TO SLOPE A MINIMUM OF 1/8" PER FT.
13. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND SHOW THE RELATIONSHIP BETWEEN FIXTURES AND CONNECTIONS. DO NOT SCALE THE DRAWINGS FOR EXACT LOCATIONS. VERIFY LOCATIONS WITH ARCHITECTURAL DRAWINGS.
14. CONTRACTOR TO FIELD VERIFY LOCATION OF EXISTING SANITARY SEWER, DOMESTIC WATER SERVICE AND GAS MAIN SERVING BUILDING SITE.
15. CONTRACTOR SHALL VISIT SITE AND BECOME FAMILIAR WITH ANY EXISTING CONDITIONS WHICH MAY EFFECT HIS WORK. REPORT ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS TO THE ARCHITECT/ENGINEER PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK.
16. SLEEVES SHALL BE INSTALLED WHERE PIPING PENETRATES NON–RATED PARTITIONS FOUNDATION WALLS, FLOORS OR ROOF. SLEEVES SHALL BE MINIMUM 16 GA. GALV. STEEL. PACK SLEEVES WHERE REQUIRED TO SEAL WEATHERTIGHT. INSTALL FLASHING AS REQUIRED. PIPE PENETRATIONS THRU FLAT ROOFS SHALL BE THRU INDUSTRY STANDARD PITCH POCKETS OR OTHER SIMILAR WATER TIGHT AND APPROVED PENETRATION APPARATUS. SEE TYPICAL DETAIL LOCATED IN THESE DRAWINGS FOR UL RATED PENETRATIONS THRU FIRE WALLS.
17. EXISTING PLUMBING FIXTURES ARE TO BE REUSED IN PLACE. ANY FIXTURES REMOVED IN ORDER TO FACILITATE NEW CONNECTIONS SHALL BE STORED AND PROTECTED UNTIL REINSTALLED. ALL FIXTURES SHALL BE CLEANED AND MINOR REPAIR OR ADJUSTMENTS MADE PRIOR TO COMPLETION OF PROJECT.
18. COORDINATE WITH ARCHITECTURAL PLANS FOR ALL FIRE RATED BUILDING ASSEMBLIES. PROVIDE AND INSTALL U.L. RATED FIRE STOP ASSEMBLIES IN ANY SUCH AREAS AS REQUIRED BY CODE.
19. WORKMANSHIP: PLUMBING FIXTURES AND ACCESSORIES SHALL BE INSTALLED IN A NEAT WORKMANLIKE MANNER. UNSIGHTLY INSTALLATIONS SHALL BE REMOVED OR REWORKED AT NO EXPENSE TO THE OWNER.
20. REFER TO MECHANICAL DRAWINGS FOR ADDITIONAL COORDINATION WITH THESE DRAWINGS.
21. SEAL ALL WALL, ROOF AND FLOOR PENETRATIONS BY PLUMBING SERVICE AIRTIGHT.
22. PROVIDE CHROME–PLATED ESCUTCHEONS AT ALL EXPOSED PIPE PENETRATIONS THROUGH WALLS.
23. COORDINATE ALL PENETRATIONS OF FLOOR SLABS, ROOF AND WALLS WITH STRUCTURAL DRAWINGS.
24. INSTALL HEAT TAPE, AS PER SPECIFICATIONS, TO ALL WATER–CONTAINING PIPE SUBJECT TO FREEZING.
25. DEMOLITION WORK SHALL BE PHASED TO ACCOMPLISH REPLACEMENT WITH MINIMUM AMOUNT OF DOWNTIME. SCHEDULE NEW AND DEMOLITION WORK IN ADVANCE WITH THE OWNER.
26. MINIMUM FIXTURE SUPPLY PIPE SIZES SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:
    LAVATORY & SINK 1/2"
    WATER CLOSET (FLUSH VALVE) 1–1/4"
    URINAL, SERVICE SINK & WALL HYDRANT 3/4"
27. PROVIDE WATER STOP VALVES AT EACH EQUIPMENT ITEM.
28. ALL FLOOR DRAINS AND OPEN HUB DRAINS SHALL BE INSTALLED WITH DEEP SEAL P–TRAPS. PROVIDE TRAP PRIMERS WHERE SHOWN ON PLAN AND AT ALL LOCATIONS REQUIRED BY CODE AND LOCAL AUTHORITY.
29. SLOPES OF SANITARY WASTE AND VENT SHALL BE ESTABLISHED AND VERIFIED BY CONTRACTOR PRIOR TO PIPING BEING INSTALLED IN ORDER THAT PROPER SLOPES WILL BE MAINTAINED AND NECESSARY INVERT ELEVATIONS OBTAINED.
30. CONTRACTOR SHALL PROVIDE ALL VALVES, PRESSURE REDUCING VALVES, SHOCK ABSORBERS AND ACCESSORIES TO COMPLETELY INSTALL ALL EQUIPMENT TO MAKE A COMPLETE INSTALLATION.
31. THE CONTRACTOR SHALL INSTALL ALL OWNER FURNISHED EQUIPMENT WITH ALL ITEMS TO MAKE EQUIPMENT OPERABLE.
32. ALL VENTING OF FIXTURES SHALL COMPLY WITH LOCAL CODES AND ORDINANCES.
33. USE DIELECTRIC UNIONS WHERE PIPE OF DIFFERENT METALS ARE JOINED.
34. MAKE PROPER HOT & COLD WATER, WASTE, VENT ETC. PIPING CONNECTIONS TO ALL FIXTURES AND EQUIPMENT EVEN THOUGH ALL BRANCH RUNS, ELBOWS AND CONNECTIONS ARE NOT SHOWN.
35. PVC OR OTHER PLASTIC COMPOSITE PIPING SHALL NOT BE INSTALLED IN RETURN AIR PLENUMS.
36. CLEANOUTS FOR SOIL AND WASTE LINES SHALL BE INSTALLED WHERE INDICATED ON THE DRAWINGS AND EVERY 90° CHANGE IN DIRECTION.
37. SEE SITE PLAN FOR EXTENT OF ALL PIPING LEAVING OR ENTERING THE BUILDING.
38. CONTRACTOR SHALL COORDINATE THE EXACT LOCATION OF SANITARY AND WATER TIE–IN POINTS WITH THE LOCAL WATER AND SEWER AUTHORITIES.
39. VERIFY ALL TOP OF MANHOLE AND CATCH BASIN ELEVATIONS AND INVERTS WITH ARCHITECTS FINAL AND APPROVED SITE GRADING PLAN.
40. SERVICE VALVES SHALL BE FURNISHED AND INSTALLED ON ALL HOT AND COLD WATER LINES AT EQUIPMENT IN AN ACCESSIBLE POSITION.
41. ALL FLOOR OPENINGS ARE TO BE SEALED WATERTIGHT BY MEANS OF SLEEVES.
42. INDIRECT WASTE LINES REQUIRED FOR STANDARD AND/OR FABRICATED ITEMS OF KITCHEN EQUIPMENT SHALL BE FURNISHED, INSTALLED AND EXTENDED TO DRAIN POSITION.
43. ALL HORIZONTAL AND VERTICAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATION AND NOT LESS THAN 4" ABOVE FLOOR TO PROVIDE CLEARANCE FOR CLEANING. AT WALL OR COLUMN LOCATIONS, PIPING ROUGH IN SHALL BE STUBBED IN WALLS WHEREVER POSSIBLE.
44. PEX PIPING IS ACCEPTABLE IN LIEU OF COPPER. INCREASE PIPE SIZE TO NEXT LARGER SIZE, EXCEPT FOR DEVELOPED LENGTHS LESS THAN 25 FEET WHERE ICC 2012 AS SIZE SHOWN ON TABLE 604.5, ALLOWS 3/8 INCH PIPE PEX IS ACCEPTABLE.

PLUMBING FIXTURE & EQUIPMENT SCHEDULE

NOTE: ALL FIXTURE APPURTENANCES SUCH AS P–TRAPS, LOOSE KEY STOPS, NIPPLES, ESCUTCHEONS & FLEXIBLE CONNECTIONS SHALL BE SUPPLIED BY THE FIXTURE MANUFACTURER.

MARK	FIXTURE TYPE	MODEL	SEAT	VALVE	FAUCET	FINISH	SUPPLY PIPE	DRAIN	CARRIER	CONNECTION SIZE				OPTIONS
										WASTE	VENT	CW	HW	
P1	WATER CLOSET (ADA)	Z: Z5555.000.11.03.36	Z: Z5955SS–EL–STS	–	–	WHITE	Z: Z8804	–	–	3"	2"	1 1/2"	–	ADA COMPLIANT
P2	LAVATORY (ADA)	Z: 5354.007.3.01.01.6	–	–	Z: 82200–XL–CP4	WHITE	–	Z: Z8746	–	1 1/4"	1 1/4"	1/2"	1/2"	ADA COMPLIANT – BUNDLED
P3	SERVICE SINK (MOP)	Z: 1996.06.215.3.04.04	–	–	Z: Z843M1–RC	NATURAL	–	–	–	3"	2"	1/2"	1/2"	–
P4	WATER HEATER	BW: RE340S6	–	–	–	–	–	–	–	–	–	3/4"	3/4"	40 GAL. T&P VALVE
P5	FLOOR DRAIN	Z: ZN–415B–P	–	–	–	BRONZE	–	–	–	3"	2"	1/2"	1/2"	TRAP PRIMER
P6	FLOOR CLEANOUT	Z: Z1400–HD	–	–	–	BRONZE	–	–	–	SAP	3"	–	–	–
P7	WALL CLEANOUT	Z: Z1468	–	–	–	CHROME	–	–	–	SAP	–	–	–	
P8	YARD CLEANOUT	Z: Z1400HD	–	–	–	–	–	–	–	–	–	–	–	–
P9	AIR ADMITTANCE VALVE	SU: REDI–VENT	–	–	–	–	–	–	–	–	2"	–	–	AIR ADMITTANCE VALVE:BOX
P10	WATER CLOSET	Z: Z5552–K	Z: Z5958SS–EL	–	–	WHITE	Z: Z8800CR	–	–	3"	–	1/2"	–	–
P11	SHOWER	Z: Z7000 HW	–	–	Z: Z7000 HW	–	–	Z: Z461	–	–	–	–	–	–
P12	BY OWNER	–	–	–	–	–	–	–	–	–	–	–	–	–

THE FOLLOWING ABBREVIATIONS HAVE BEEN USED IN THIS SCHEDULE

AM: AMERICAN STANDARD
AMT: AMTROL
BR: BRADLEY CORPORATION
B: BEECO
BW: BRADFORD–WHITE
CA: CASH–ACME
CH: CHURCH
D: DELTA
E: ELJER
EL: ELKAY
F: FEBCO
G: GUY GRAY
H: HALSEY TAYLOR
J: JUST
K: KOHLER
L: LOCHINVAR
O: OASIS
S: SLOAN
ST: STATE
SU: STUDER
WA: WADE
W: WATTS
Z: ZURN

NOTE:
ROUGH–IN COMPLETE FOR P10, P11, AND P12

NOTE:

1. CONTRACTOR SHALL REPLACE ALL SUPPLY CONNECTIONS ON ALL EXISTING LAVATORIES, TOILETS, AND KITCHEN SINK IN THE BUILDING.

Maynard W. Robertson
Consulting Engineer
423–470–3302
mwreng@comcast.net

Revisions

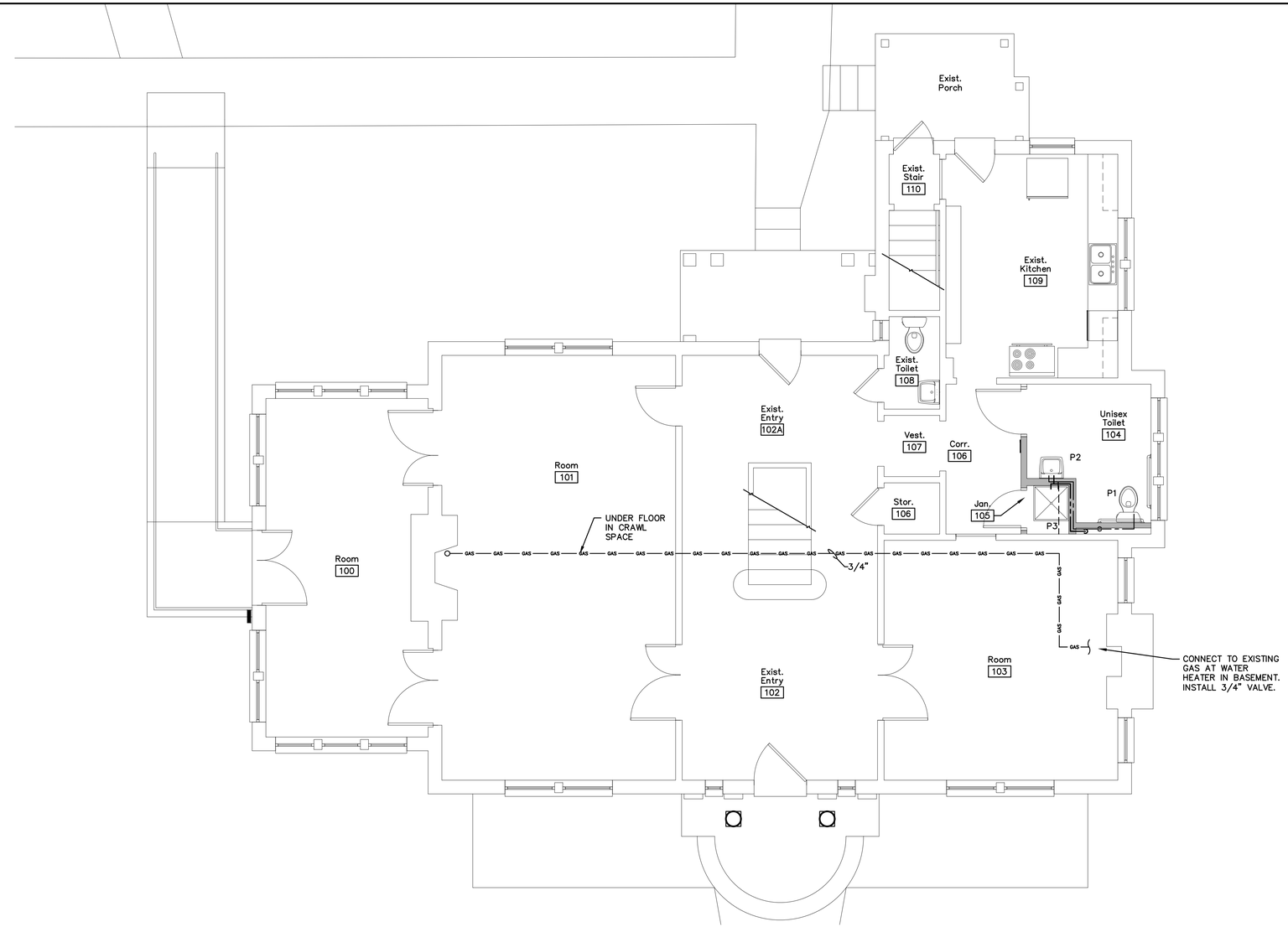
No.	Date	Description

MAYNARD W. ROBERTSON No. 10880 STATE OF TENNESSEE
8/14/20

Hale House Development for
Hamblen County Government
Morristown, Tennessee

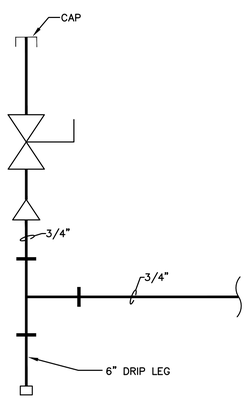
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	g.k.Stacy
Checked:	m.w.Roberson
Job No:	19-166
Scale:	as noted
Date:	08-13-20
File Name:	M–base–plan
Drawing Title:	Water Piping Plan – Basement & Main Floor
Sheet No.	P1.2



1 / P1.3 Gas Piping Plan – Main Floor

Scale: 1/4"=1'-0"



2 / P1.3 Fireplace Detail

Scale: NTS

Maynard W. Robertson
Consulting Engineer
423-470-3302
mwreng@comcast.net

Revisions		
No.	Date	Description
-	-	-

MAYNARD W. ROBERTSON No. 10880 STATE OF TENNESSEE

8/14/20

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

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Scale:	as noted
Date:	08-13-20
File Name:	M-base-plan
Drawing Title:	Gas Piping Plan – Main Floor
Sheet No.	P1.3

GENERAL NOTES

1. LIGHT LEVELS BASED ON LITHONIA FIXTURES SPECIFIED. ALL OTHERS SHALL SUBMIT PHOTOMETRIC CALCULATIONS WITH PROPOSED FIXTURE EQUALS.

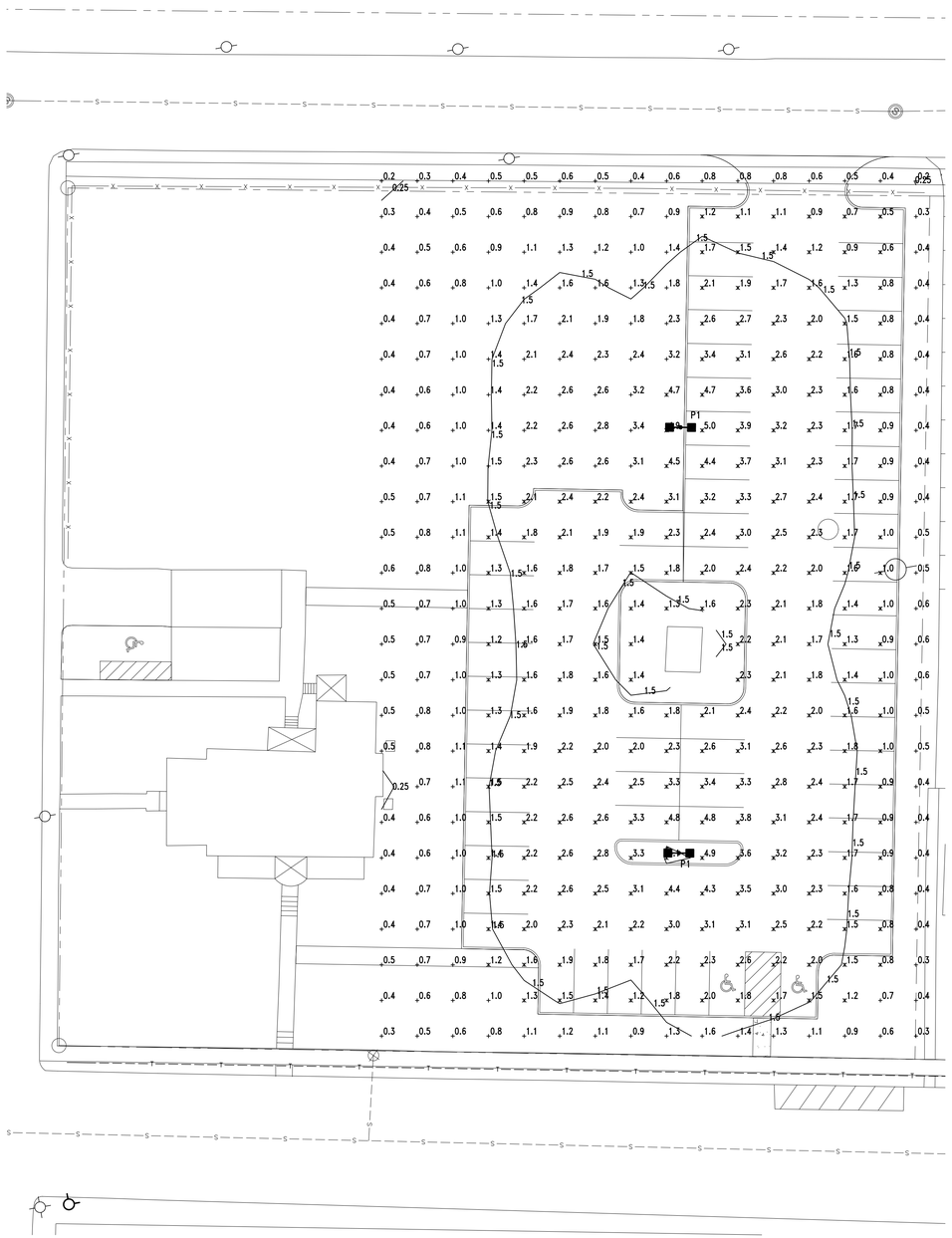
STATISTICS

DESCRIPTION	SYMBOL	AVG	MAX	MIN
OVERALL CALCULATION AREA	+,*	1.4 fc	5.6 fc	0.2 fc
PARKING LOT	*	1.7 fc	5.6 fc	0.4 fc

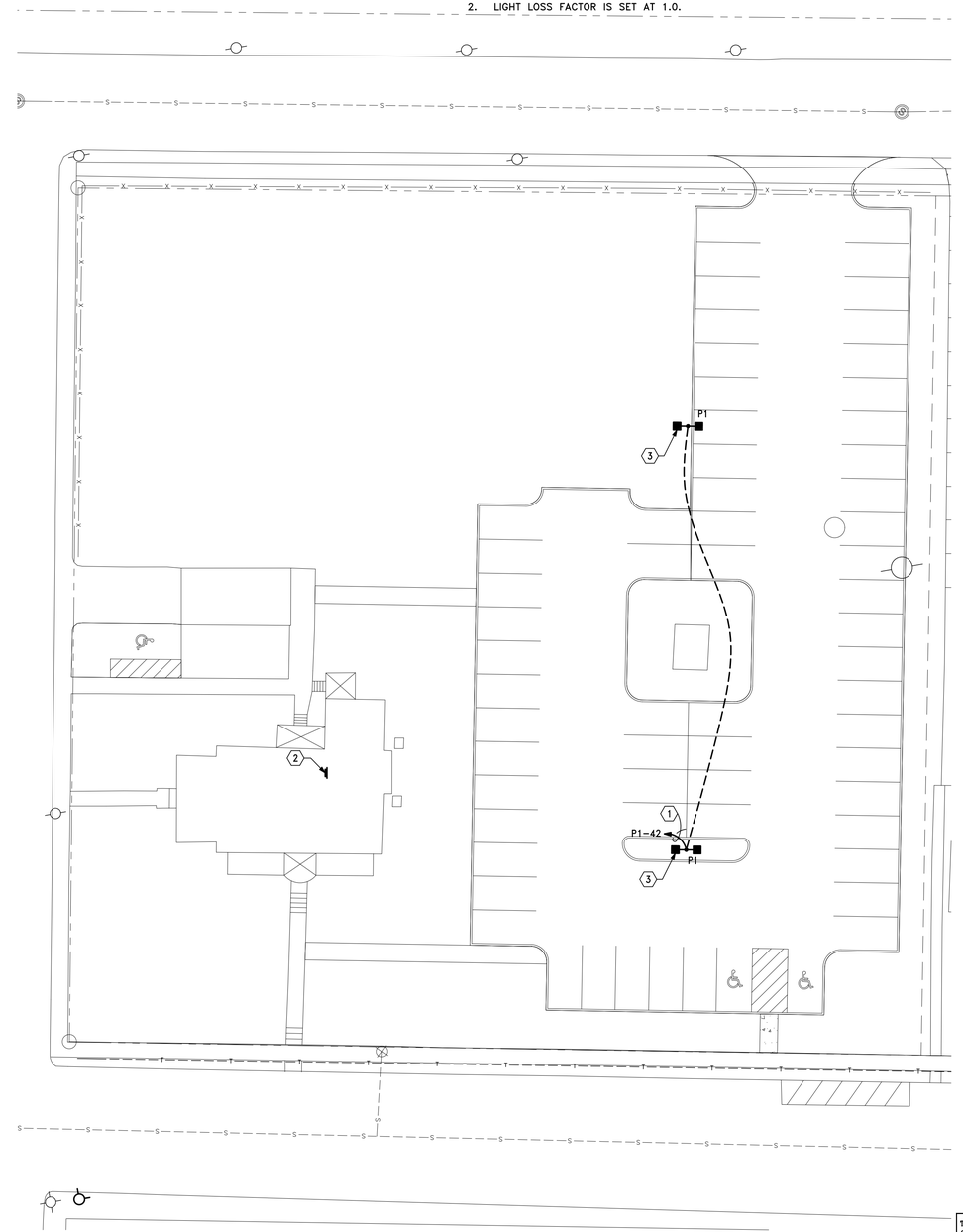
LIGHTING CALCULATION NOTES:
1. CONTOUR LINES ARE SHOWN FOR 1.5 AND 0.25 fc.
2. LIGHT LOSS FACTOR IS SET AT 1.0.

CODED NOTES

1. PARKING LOT FIXTURE TO BE CONTROLLED BY A PHOTOCELL LOCATED ON THE NORTH SIDE OF THE BUILDING. PROVIDE POWER FROM CIRCUIT P1-42 IN THE BASEMENT ELECTRICAL PANEL IN THE HOUSE. PROVIDE BRANCH CIRCUIT CONSISTING OF 2-#10 WITH #10 GROUND IN 1" UNDERGROUND CONDUIT THROUGH THE ENTIRE CIRCUIT.
2. APPROXIMATE LOCATION OF THE ELECTRICAL PANEL IN THE BASEMENT.
3. LIGHT POLE HEAD WITH FORWARD THROW OPTICS.



2 ES1.1 Parking Lot Photometrics Plan
Scale: 1"=20'-0"



1 ES1.1 Parking Lot Lighting Plan
Scale: 1"=20'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-125

No.	Date	Description

Revisions

JAMES A. BLASER
No. 00108263
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-30-20
File Name:	20125 electrical
Drawing Title:	Parking Lot Lighting & Photometrics Plan
Sheet No.	ES1.1

plotted: 9/30/2020 12:40:04 PM file:20125 ELECTRICAL.DWG

DIVISION 26 - ELECTRICAL

SECTION 26 00 05 ELECTRICAL GENERAL PROVISIONS

1. REFERENCE
   - A. REFER TO INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SPECIAL CONDITIONS, DIVISION 1 – GENERAL REQUIREMENTS, FOR SPECIFIC REQUIREMENTS, RESPONSIBILITIES AND METHODS RELATING TO ELECTRICAL WORK.
2. DESCRIPTION
   - A. FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT TO COMPLETE AND LEAVE READY FOR OPERATION ALL ELECTRICAL SYSTEMS AS CALLED FOR IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND ANY AND ALL DETAILS ESSENTIAL TO COMPLETE THE WORK.
3. QUALITY
   - A. CONTRACTOR SHALL PROVIDE WORK OF HIGHEST QUALITY, CONFORMING TO THE ACCEPTED PRACTICES AND STANDARDS OF THE TRADES INVOLVED. FURTHER DEFINITION OF QUALITY IS GIVEN BY VARIOUS LAWS, CODES, STANDARDS AND REGULATIONS.
4. CODES
   - A. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
   - B. ALL EQUIPMENT SHALL BE PROPERLY RATED FOR THE SEISMIC ACTIVITY ZONE FOR WHICH IT IS INSTALLED.
5. CONTRACT DRAWINGS
   - A. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS AND EXTENT OF WORK. EXACT LOCATIONS MUST BE COORDINATED WITH OTHER TRADES AND VERIFIED IN THE FIELD. THE RIGHT IS RESERVED TO RELOCATE ANY ELEMENT UP TO TEN (10) FEET AT NO INCREASE IN COST PROVIDED THE CONTRACTOR IS NOTIFIED BEFORE COMMENCEMENT OF WORK.
6. PERMITS, FEES AND NOTICES
   - A. UNLESS OTHERWISE EXCLUDED IN THE CONTRACT DOCUMENTS, EACH CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF HIS WORK.
7. GUARANTEE
   - A. CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
8. EXAMINATION OF SITE
   - A. CONTRACTOR SHOULD VISIT THE SITE OF THE PROPOSED PROJECT. CERTAIN EXISTING CONDITIONS MAY AFFECT THE MANNER OR SEQUENCE OF THE PERFORMANCE OF THE WORK.
9. RECORD DRAWINGS
   - A. CONTRACTOR SHALL MAINTAIN AT THE JOB SITE, ONE COPY OF THE DRAWINGS WHICH SHALL BE USED EXCLUSIVELY FOR RECORDING ANY INSTALLATION DEVIATION FROM THE CONTRACT DRAWINGS. SUBMIT DRAWINGS TO ARCHITECT UPON COMPLETION OF PROJECT.
10. CUTTING AND PATCHING
    - A. EACH CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR HIS OWN WORK. WORK MUST BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER, ACCEPTABLE TO THE ARCHITECT. PATCH TO MATCH ADJACENT SURFACE CONSTRUCTION.
11. TESTS
    - A. THE CONTRACTOR SHALL BEAR ALL COSTS OF SUCH INSPECTIONS, TESTS OR APPROVALS, AS REQUIRED BY LOCAL AUTHORITIES.
12. SUBMITTALS
    - A. MATERIALS AND EQUIPMENT INSTALLED IN THIS WORK SHALL MEET ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL SUBMITTALS ARE REVISED AND APPROVED BY THE ARCHITECT OR ENGINEER.
    - B. REQUIRED SUBMITTALS INCLUDE:
      1) WIRING DEVICES AND PLATES
      2) LIGHTING FIXTURES
      3) LIGHTING CONTROLS & OCCUPANCY SENSORS
      4) CIRCUIT BREAKER PANELBOARD & SAFETY SWITCHES
      5) SURGE SUPPRESSION DEVICE (SPD)

SECTION 26 05 19 CONDUCTORS AND CONNECTORS

1. FURNISH AND INSTALL ALL ELECTRICAL CONDUCTORS FOR FEEDERS, BRANCH CIRCUIT WIRING, AND SYSTEM WIRING.
2. ALL WIRE SHALL BE UL LISTED COPPER, 600 VOLT RATED.
3. ALL WIRE SHALL BE STRANDED IN SIZES #8 AND LARGER.
4. WIRE SHALL BE TYPE THHN/THWN.
5. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
6. ALL 120 VOLT CIRCUITS OVER 75 FEET IN LENGTH SHALL HAVE ALL OF THE CONDUCTORS UPSIZED ONE WIRE SIZE. (I.E. ALL #12 AWG WILL BECOME #10 AWG)
7. ALL CONDUCTORS ARE TO BE IDENTIFIED, BRANCH CIRCUITS AND FEEDERS BY COLOR CODING AS FOLLOWS:

   120/240V
   PHASE A – BLACK
   PHASE B – RED
   NEUTRAL – WHITE
   GROUND – GREEN

8. THE COLOR CODING ON #6 AND SMALLER CONDUCTORS SHALL BE CONTINUOUS IN LENGTH. NO TAPING, PAINTING OR OTHER MEANS OF CODING WILL BE ACCEPTABLE. THE COLOR CODING ON #4 AND LARGER CONDUCTORS SHALL BE IN THE FORM OF COLORED TAPE VISIBLE AT EACH POINT OF ACCESS OR VIEW. COLOR CODING SHALL CONFORM TO THE REQUIREMENTS OF NEC ARTICLE 200.6.
9. FOR #10 AND SMALLER BRANCH CIRCUIT AND FIXTURE CONDUCTOR SPLICES, USE "LIVE SPRING", PRESSURE CABLE CONNECTORS LISTED FOR 600 VOLT (1000 VOLT WHEN ENCLOSED IN FIXTURE OR SIGN).
10. FOR TERMINAL CONNECTIONS ON COPPER, NO. 8 OR LARGER, OR WHERE MULTIPLE CONNECTIONS ARE MADE TO ONE TERMINAL, USE SOLDERLESS LUGS, MECHANICAL TYPE AS NECESSARY.
11. FOR SPLICES ON CONDUCTORS LARGER THAN #10, COMPRESSION TYPE BARREL SPLICES SHALL BE USED.

SECTION 26 05 26 GROUNDING

1. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
2. METAL ENCLOSURES, CABLE TRAYS, OR RACEWAYS FOR CONDUCTORS OR EQUIPMENT SHALL BE GROUNDED.
3. EXPOSED NONCURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED.
4. BONDING SHALL BE PROVIDED AND CONFORM TO ALL REQUIREMENTS OF NEC ARTICLE 250 PART V.
5. ALL RACEWAYS SHALL CONTAIN A GROUNDING CONDUCTOR.

SECTION 26 05 33 PANELBOARDS, WIRING DEVICES, AND PLATES

1. PANELBOARDS:
   - A. DIRECTORY CARDS SHALL BE TYPEWRITTEN AND PROTECTED WITH CLEAR PLASTIC. INDICATE CIRCUITS USE SUCH AS "PARKING LOT LIGHTING".
   - B. PROVIDE UPDATED PANEL DIRECTORY CARDS REFLECTING THE CHANGES MADE IN THESE DOCUMENTS.
   - C. PROVIDE FILLER PLATES ON ALL UNUSED CIRCUIT BREAKER SPACES WITH EXPOSED BUSS IN ALL PANELS EFFECTED BY THIS PROJECT.

SECTION 26 05 33.13 RACEWAYS, FITTINGS, AND SUPPORTS

1. ALL CONDUCTORS SHALL BE ENCLOSED IN A CONTINUOUS GROUNDED RACEWAY SYSTEM.
2. ALL CONDUITS SHALL BE RUN WITH-IN THE WALL CAVITY. AREAS WHERE CONCEALED CONDUITS ARE NOT POSSIBLE SHALL BE APPROVED BY THE ARCHITECT PRIOR TO ANY WORK PROCEEDING.
3. ALL CONDUITS SHALL BE RIGID HEAVY WALL GALVANIZED STEEL, UNLESS NOTED BELOW, MINIMUM 3/4 INCH TRADE SIZE.
4. EMT MAY BE USED AS FOLLOWS:
   - A. IN INTERIOR PARTITIONS INSIDE BUILDING
   - B. ABOVE SUSPENDED CEILINGS INSIDE BUILDING
   - C. EXPOSED ABOVE 9 FOOT A.F.F. INSIDE BUILDING (EXCEPT HAZARDOUS LOCATIONS) IN UNFINISHED AREAS.
5. INTERMEDIATE GALVANIZED STEEL CONDUIT MAY BE USED IN LIEU OF RIGID STEEL CONDUIT WITHIN THE BUILDING INTERIOR.
6. MC CABLE MAY BE USED AS FOLLOWS:
   - A. TYPE "MC" CABLE MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING IN DRY LOCATIONS (IN WALLS OR ABOVE CEILINGS) BETWEEN LIGHTING FIXTURES, OR POWER OUTLETS. HOMERUNS, MULTI-WIRE BRANCH CIRCUITS, AND CIRCUIT RUNS WITH – MULTIPLE CIRCUITS SHALL OCCUR IN CONDUIT. CONVERSION FROM "MC" CABLE TO CONDUIT SHALL OCCUR WITHIN 10 FEET OF FIRST UTILIZATION DEVICE CONNECTION TO CIRCUIT.
   - B. THREE CONDUCTOR, THHN/THWN INSULATED, ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR TYPE MC POWER CABLE FOR USE IN CIRCUITS NOT EXCEEDING 600 VOLTS PHASE TO PHASE AT CONDUCTOR TEMPERATURES OF 90°C IN DRY LOCATIONS FOR NORMAL OPERATION.
   - C. CABLE ASSEMBLY SHALL INCLUDE FULL-SIZE GROUNDING CONDUCTOR, AND FULL-SIZE ISOLATED GROUNDING CONDUCTOR (IF APPLICABLE), WITH SUITABLE FILLERS AND BINDER TAPE.
   - D. TYPE "MC" CABLE SHALL BE OF THE SINGLE CIRCUIT TYPE ONLY.
7. FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) SHALL BE USED FOR CONNECTIONS TO MOTORS, VIBRATING EQUIPMENT, AND CONNECTIONS FOR WHICH RIGID, IMC, OR EMT CONDUIT IS NOT APPLICABLE. FLEXIBLE STEEL CONDUIT UP TO SIX FEET IN LENGTH SHALL BE USED FOR CONNECTIONS TO LIGHTING FIXTURES. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED IN EACH FLEXIBLE CONDUIT. ALL RUNS SHALL BE TERMINATED IN INSULATED FLEXIBLE CONDUIT FITTINGS. MINIMUM SIZE TO BE 1/2 INCH.
8. LIQUID TIGHT FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) AND APPROPRIATE FITTINGS SHALL BE USED FOR CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT IN AREAS EXPOSED TO THE WEATHER OR LIKELY TO BECOME DAMP.
9. PVC CONDUIT MAY ONLY BE USED UNDERGROUND OUTSIDE THE BUILDING OR UNDER CONCRETE SLABS ON GRADE WITHIN THE BUILDING. CONDUITS AND ELBOWS TURNING UP INTO THE BUILDING SPACE SHALL BE RIGID STEEL.
10. FLEXIBLE CONDUIT OR TYPE MC CABLE MAY BE USED TO CONNECT OUTLETS INSTALLED WITHIN BUILT UP CASEWORK.
11. CONDUITS LARGER THAN ONE INCH SHALL HAVE GROUNDING TYPE BUSHINGS.
12. ALL CONDUIT AND EMT FITTINGS SHALL BE DIE CAST ZINC OR GALVANIZED STEEL. CONNECTORS AND COUPLINGS SHALL BE THREADED, COMPRESSION OR SETSCREW TYPE, CONCRETE TIGHT. CONDUIT BODIES SHALL BE MALLEABLE IRON, THREADED FOR HEAVYWALL CONDUIT AND COMPRESSION OR SETSCREW TYPE FOR EMT, WITH CADMIUM FINISH AND CADMIUM PLATED SHEET STEEL COVERS. PROVIDE NEOPRENE COVER GASKETS FOR CONDUIT BODY COVERS EXPOSED TO THE WEATHER.
13. OUTLETS, JUNCTION, PULL BOXES, ETC. WHEN OVERHEAD SHALL BE INDEPENDENTLY SUPPORTED AND SHALL NOT DEPEND UPON CONDUIT FOR SUPPORT. WHERE RUN IS NOT SUPPORTED BY SLABS, WALLS, ETC., USE GALVANIZED PIPE STRAPS, TRAPEZE HANGERS, BEAM CLAMPS, CHANNEL AND FITTINGS, ETC. SUPPORT WITHIN 3' OF EACH OUTLET BOX, JUNCTION BOX, CABINET OR FITTING. SUPPORT AT LEAST EVERY 10 FEET.

SECTION 26 50 00 LIGHTING FIXTURES

1. FURNISH LIGHTING FIXTURES, LAMPS AND DRIVERS/BALLAST AS INDICATED ON THE DRAWINGS OR APPROVED EQUALS TO SPECIFIED FIXTURES.
2. FURNISH ALL REQUIRED INSTALLATION ACCESSORIES FOR THE FIXTURES AS REQUIRED FOR THE SPECIFIC LOCATION WHETHER OR NOT INCLUDED IN THE MANUFACTURER'S CATALOG NUMBER. SUCH ACCESSORIES INCLUDE PLASTER FRAMES, RINGS, FLANGES, CANOPIES, STEM HANGERS, AND SUSPENSION STRAPS.
3. INSTALL LAMPS IN ALL FIXTURES INSTALLED UNDER THIS CONTRACT IN ACCORDANCE WITH THE FIXTURE SCHEDULE ON THE DRAWINGS.
4. ALL LIGHT FIXTURES SHALL BE UL LISTED.
5. FIXTURES SHALL BE SECURELY MOUNTED TO ELEMENTS OF THE BUILDING OR TO SUSPENDED CEILING SYSTEMS. WIRE SUPPORTED FROM THE STRUCTURE SHALL BE PROVIDED FOR FIXTURES INSTALLED IN LAY-IN CEILINGS. PROVIDE MEANS OF SUPPORT AS REQUIRED IN NEC ARTICLE 410.16.
6. FLUSH FIXTURES WITH LIGHT SPILLING BETWEEN FRAME AND CEILING TO HAVE FELT GASKETS INSTALLED BETWEEN TRIM AND CEILING.
7. ALL BALLASTED FIXTURES SHALL HAVE A DISCONNECTING MEANS AT THE FIXTURE PER THE REQUIREMENTS OF NEC 410.130.

END OF SPECIFICATIONS

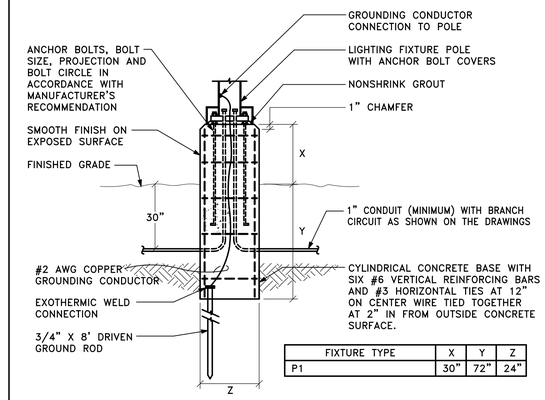
LIGHTING FIXTURE SCHEDULE

NOTES: FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS:
C–CEILING MOUNTED; S–SUSPENDED; W–WALL MOUNTED; R–CEILING RECESSED; WR–WALL RECESSED; CV–COVE MOUNTED;
U–UNDERCABINET; P–POST; G–GROUND MOUNTED; X–UNIVERSAL MOUNTED; T–TRACK.

ALL FIXTURES SHALL BE 80 CRI MINIMUM, UNLESS NOTED OTHERWISE
PARTIAL MODEL NUMBERS MAY BE SHOWN AND ARE INTENDED TO INDICATE ACCEPTABLE MANUFACTURER'S PRODUCT LINE.
EXACT MODEL NUMBERS MEETING THE FIXTURE DESCRIPTION SHALL BE OBTAINED FROM MANUFACTURER'S AGENT.
ALL FIXTURES MAY NOT BE USED. REFER TO PLANS FOR FIXTURE QUANTITIES.
FIXTURE DIMENSIONS MAY VARY BETWEEN MANUFACTURERS.
REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

BE–JOB # 20–125

FIXTURE NUMBER	FIXTURE DESCRIPTION	FIXTURE VOLTAGE	LAMP TYPE	APPROVED MANUFACTURERS
P1	33" x 13" x 7.5", POLE MOUNTED LED AREA LIGHT, 2 HEADS AT 180 DEGREES, CAST ALUMINUM HOUSING W/ INTEGRAL HEAT SINK, SEALED HOUSING, DARK BRONZE FINISH, 4000K, 70 CRI SOURCE WITH 1 HEAD A TYPE III MEDIUM DISTRIBUTION OPTICS, THE OTHER WITH FORWARD THROW OPTICS, FULL 5 YEAR WARRANTY, 0.85/100,000 HOUR LUMEN MAINT. FACTOR, SINGLE HEAD, 25' HIGH SQ. STEEL POLE, 90 MPH WIND LOADING, WITH BOLT COVERS. WET LOCATION UL LISTING. FIXTURE: 140 WATTS/HEAD, 18,410(T3M)/18,951(TFTM) LUMENS LIGHT POLE: 280 WATTS	MVOLT	LED W/ FIXTURE	LITHONIA HEAD-1: DSX2-LED-P1-40K-T3M SERIES LITHONIA HEAD-2: DSX2-LED-P1-40K-TFTM SERIES OR EQUAL



FIXTURE TYPE	X	Y	Z
P1	30"	72"	24"

POLE BASE DETAIL

N.T.S.

SYMBOLS LIST FOR PLANS

1. SOME SYMBOLS MAY NOT BE USED.
2. MOUNTING HEIGHTS ARE TO TOP.

SYMBOL	DESCRIPTION	MOUNTING HEIGHT UNLESS NOTED OTHERWISE
P1	SITE LIGHTING FIXTURE (TYPE AND MOUNTING AS NOTED; SEE LIGHTING FIXTURE SCHEDULE)	----
P1 P1	PANELBOARD: SURFACE MOUNTED, FLUSH MOUNTED PANEL DESIGNATION AS SHOWN	72"
	CONDUIT, RISER UP	----
	CONDUIT, RISER DOWN	----
	LOW VOLTAGE WIRING IN CONDUIT	----
	CONDUIT ROUTED UNDER FLOORSPACE OR UNDERGROUND	----
P1–1	HOME RUN TO PANELBOARD AS NOTED; CIRCUITS MAY SHARE CONDUITS BACK TO PANELBOARD WHERE ALLOWED BY THE NEC. ALL CIRCUITS SHALL HAVE DEDICATED NEUTRALS. CROSS LINES INDICATE THE NUMBER OF CONDUCTORS WHERE MORE THAN 2 PLUS THE GROUND.	----
	FLEXIBLE METAL CONDUIT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT	----

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20–125

No.	Date	Description

Revisions

JAMES A. BLASER
No. 00108263
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-30-20
File Name:	20125 electrical

Drawing Title: Light Fixture Schedule, Details, Legend, & Specifications

Sheet No. ES2.1

SYMBOLS LIST FOR PLANS

1. SOME SYMBOLS MAY NOT BE USED.
2. MOUNTING HEIGHTS ARE TO TOP.

SYMBOL	DESCRIPTION	MOUNTING HEIGHT UNLESS NOTED OTHERWISE
R1 R1 R1	LIGHTING FIXTURE: TYPE "R1"; SEE LIGHTING FIXTURE SCHEDULE	----
R2 W2 W2	CEILING OR WALL MOUNTED LIGHTING FIXTURE TYPE TYPE "R2", "W2"; SEE LIGHTING FIXTURE SCHEDULE	SEE DRAWINGS
W1	EMERGENCY LIGHTING UNIT REMOTE HEAD; TYPE "W1" SEE LIGHTING FIXTURE SCHEDULE	84"
W2	EMERGENCY LIGHTING UNIT; TYPE "W2" SEE LIGHTING FIXTURE SCHEDULE	84"
X3	EXIT SIGN/EMERGENCY LIGHT COMBINATION UNIT; TYPE "X3" SEE LIGHTING FIXTURE SCHEDULE	96"
S	SINGLE POLE SWITCH	48"
S 2;3;4;K;P;T	SPECIAL SWITCH: 2-POLE; 3-WAY; 4-WAY; KEY OPERATED; SWITCH WITH PILOT LIGHT; TIMER SWITCH	48"
D	DIMMER SWITCH, TYPE DETERMINED BY LOAD SERVED	48"
OS	OCCUPANCY SENSOR, WALL MOUNTED WHERE SHOWN ON WALL ADJACENT TO DOOR, OTHERWISE CEILING MOUNTED	----
SP	OCCUPANCY SENSOR, SWITCH PACK	----
	DUPLEX RECEPTACLE	18"
	SIMPLEX RECEPTACLE	18"
	QUADRUPLEX (DOUBLE DUPLEX) RECEPTACLE	18"
	DUPLEX RECEPTACLE WITH THE TOP OUTLET SWITCHED, AND THE BOTTOM OUTLET ALWAYS ON	18"
WP	"WR" RATED DUPLEX RECEPTACLE, WEATHERPROOF IN USE COVER AND GROUND FAULT INTERRUPTER	18"
GF	DUPLEX RECEPTACLE, GROUND FAULT INTERRUPTER	18"
E	DUPLEX RECEPTACLE, EXISTING TO REMAIN	----
R	DUPLEX RECEPTACLE, TO BE RELOCATED AS NOTED EXTEND EXISTING CIRCUIT TO NEW DEVICE LOCATION	18"
F	VOICE/DATA OUTLET, WALL MOUNTED; RECESSED IN FLOOR WITH FLUSH MOUNTED BRASS COVER	18"
J F	JUNCTION BOX, CEILING OR WALL MOUNTED; RECESSED FLOOR MOUNTED	SEE DRAWINGS
S	JUNCTION BOX AND TOGGLE TYPE SAFETY SWITCH	----
M	MOTOR (BY DIVISION 1-15)	----
60/45/3 NF	SAFETY SWITCH (SWITCH SIZE, FUSE SIZE, NO. OF POLES -AS NOTED) "NF" DENOTES NONFUSED, PROVIDE 3R ENCLOSURES WHERE LOCATED OUTDOORS. PROVIDE FINAL CONNECTIONS TO EQUIPMENT.	60"
	VOICE/DATA TERMINAL BOARD	60"
P1 P1	PANELBOARD: SURFACE MOUNTED, FLUSH MOUNTED PANEL DESIGNATION AS SHOWN	72"
	DISTRIBUTION PANELBOARD	72"
	CONDUIT, RISER UP	----
	CONDUIT, RISER DOWN	----
	LOW VOLTAGE WIRING IN CONDUIT	----
	CONDUIT ROUTED UNDER FLOORSPACE OR UNDERGROUND	----
P1-1	HOME RUN TO PANELBOARD AS NOTED; CIRCUITS MAY SHARE CONDUITS BACK TO PANELBOARD WHERE ALLOWED BY THE NEC. ALL CIRCUITS SHALL HAVE DEDICATED NEUTRALS. CROSS LINES INDICATE THE NUMBER OF CONDUCTORS WHERE MORE THAN 2 PLUS THE GROUND.	----
	FLEXIBLE METAL CONDUIT OR LIQUID-TIGHT FLEXIBLE METAL CONDUIT	----
	COMBINATION FIRE ALARM AUDIBLE AND VISUAL DEVICE	84"
S	DUCT MOUNTED FIRE ALARM SMOKE DETECTOR, PROVIDE WITH REMOTE TEST AND INDICATOR STATION, AND ACCESSORIES NECESSARY TO SHUT DOWN THE MECHANICAL UNIT. DUCT SMOKE DETECTOR TO BE PROVIDED IN BOTH SUPPLY AND RETURN DUCTS.	----

SYMBOLS LIST NOTES:

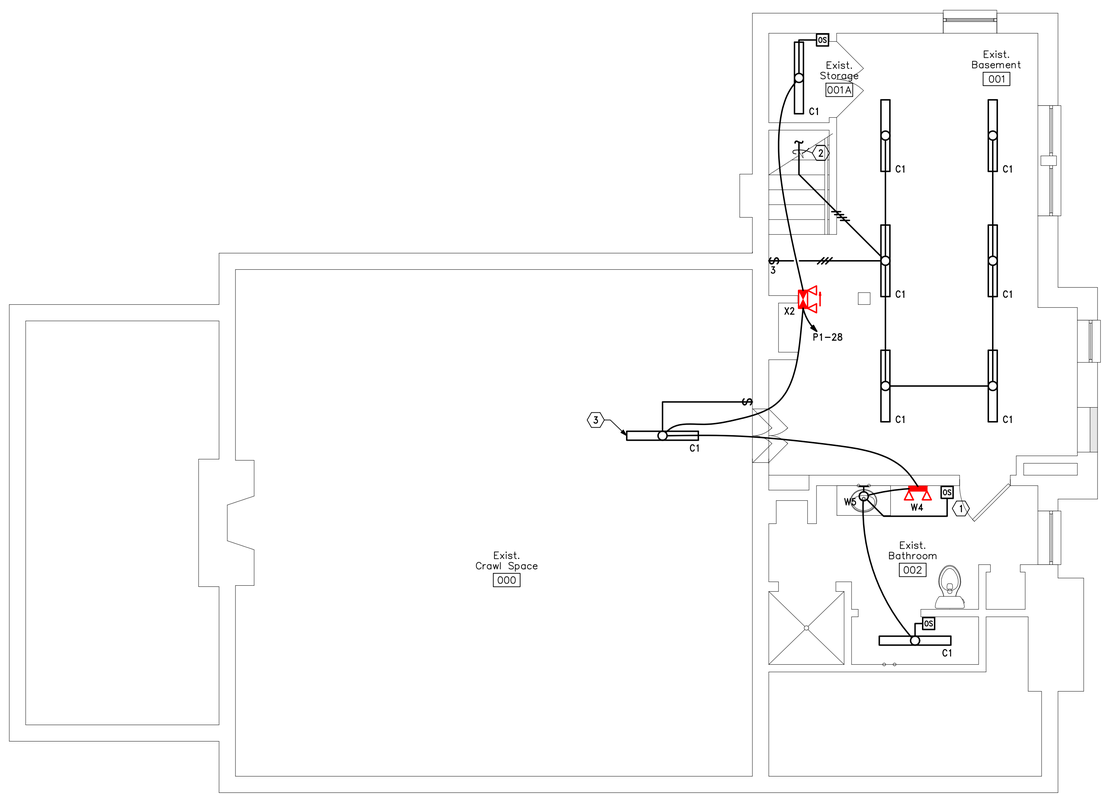
1. STRAIGHT LINES BETWEEN DEVICES INDICATE SWITCHED CIRCUIT.
2. ALL SPECIAL SWITCHES DENOTED AS 3, 4, ETC. SHALL HAVE ALL REQUIRED WIRING PROVIDED TO HAVE AN OPERABLE SYSTEM AS INTENDED BY THE ENGINEER. THIS INCLUDES ALL POWER, NEUTRAL, AND TRAVELER WIRES AS REQUIRED.
3. ALL DEVICES WITH SUBSCRIPT "E" ARE EXISTING TO REMAIN.
4. ALL DEVICES WITH SUBSCRIPT "D" ARE EXISTING TO BE REMOVED.
5. ALL DEVICES WITH SUBSCRIPT "R" ARE TO BE RELOCATED AS SHOWN ON THE DRAWINGS. CONTRACTOR SHALL EXTEND THE EXISTING CIRCUITS TO THE NEW DEVICE LOCATION.

GENERAL NOTES

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHTING FIXTURES.
2. ALL EMERGENCY FIXTURES SHALL HAVE THE UNSWITCHED POWER TO THE EMERGENCY BATTERY COME FROM THE SAME CIRCUIT AS THE SWITCHED CIRCUIT CONTROLLING THE FIXTURE PER NEC 700.17.
3. ROOMS SHOWN WITH BOTH OCCUPANCY SENSORS AND SWITCHES SHALL BE WIRED TO HAVE THE SWITCH WIRED BETWEEN THE OCCUPANCY SENSOR AND THE LIGHTS, SO THAT IF THE SWITCH IS LEFT ON, THE OCCUPANCY SENSOR WILL AUTOMATICALLY TURN OFF THE ROOM LIGHTS.
4. ALL EXISTING NON-METALLIC SHEATHED CABLE SHALL BE REMOVED FROM THE BUILDING. OTHER CIRCUITS RUN IN CONDUIT OR MC CABLE MAY REMAIN IF THEY ARE IN GOOD CONDITION AND THE DEVICE OR EQUIPMENT IS TO REMAIN.
5. CONTRACTOR SHALL REMOVE ALL WIRING FROM CIRCUITS TO BE DEMOLISHED AND REMOVE ALL UNUSED EXPOSED CONDUITS.
6. CONTRACTOR SHALL REMOVE ALL DEVICES SCHEDULED FOR DEMOLITION. REFEED ANY DOWN STREAM DEVICES TO REMAIN. SEE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION.
7. ALL DEVICES SHOWN WITH SUBSCRIPT (D) ARE SCHEDULED FOR DEMOLITION. OTHER DEVICES MAY BE NOTED AS EXISTING TO REMAIN (E), OR RELOCATED (R).
8. EXISTING CONDITIONS WERE TAKEN FROM A SITE VISIT AND PHOTOS AND MAY NOT REFLECT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS. CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
9. ANY REMOVED EQUIPMENT IS THE PROPERTY OF THE OWNER AND SHALL BE OFFERED TO THE OWNER AS SALVAGE. IF THE OWNER DOES NOT WANT EQUIPMENT, THE CONTRACTOR SHALL DISPOSE OF IT PROPERLY.
10. ALL EXISTING RECEPTACLE, PHONE, AND SWITCH LOCATIONS SHALL BE REMOVED AND PATCHED TO MATCH EXISTING SURFACES. NEW DEVICES IN THE SAME LOCATION SHALL BE MOUNTED AT PER THE LEGEND ON THESE DRAWINGS UNLESS NOTED OTHERWISE.
11. ALL NEW WIRING SHALL BE FISHED IN THE EXISTING WALLS, MINIMIZING DAMAGE TO THE EXISTING WALLS. COORDINATE ALL WALL PENETRATIONS WITH THE OWNER AND THE ARCHITECT PRIOR TO STARTING ANY WORK.

CODED NOTES

1. EXHAUST FAN TO BE CONTROLLED BY ROOM OCCUPANCY SENSOR(S) BY DUAL POLE WALL MOUNTED OCCUPANCY SENSOR SHARED WITH LIGHTING CONTROLS. PROVIDE POWER FOR FAN FROM THE LIGHTING CIRCUIT.
2. TO LIGHT AND 3-WAY SWITCH AT THE TOP OF THE STEPS.
3. MOUNT LIGHT FIXTURE IN THE CRAWL SPACE ADJACENT TO THE HVAC UNIT.



1 / E1.1 Basement Lighting Plan
Scale: 1/4"=1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-123

No.	Date	Description

Revisions

JAMES A. BLASER
REGISTERED ENGINEER
No. 00108203
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	Basement Lighting Plan
Sheet No.	E1.1

plotted: 9/21/2020 2:13:35 PM file:20123 ELECTRICAL.DWG

GENERAL NOTES

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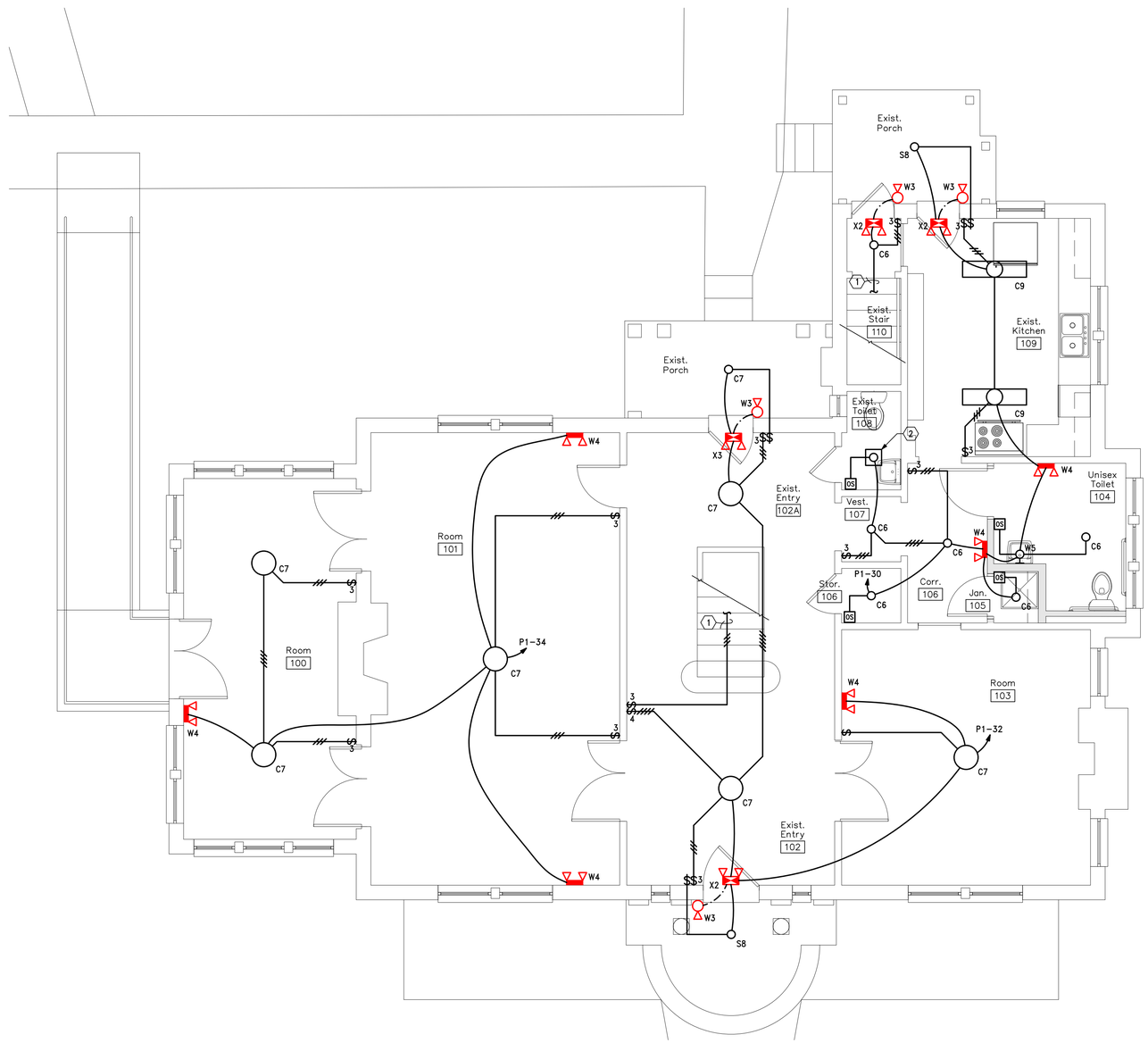
CODED NOTES

1. TO LIGHTS AND 3-WAY SWITCH IN BASEMENT.
2. EXISTING FAN/LIGHT UNIT TO REMAIN.



1 / E1.2 First Floor Lighting Plan

Scale: 1/4"=1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
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BLASER ENG JOB# 20-123

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No. 00108203
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	First Floor Lighting Plan
Sheet No.	E1.2

plotted: 9/21/2020 2:13:49 PM file:20123 ELECTRICAL.DWG

GENERAL NOTES

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHTING FIXTURES.
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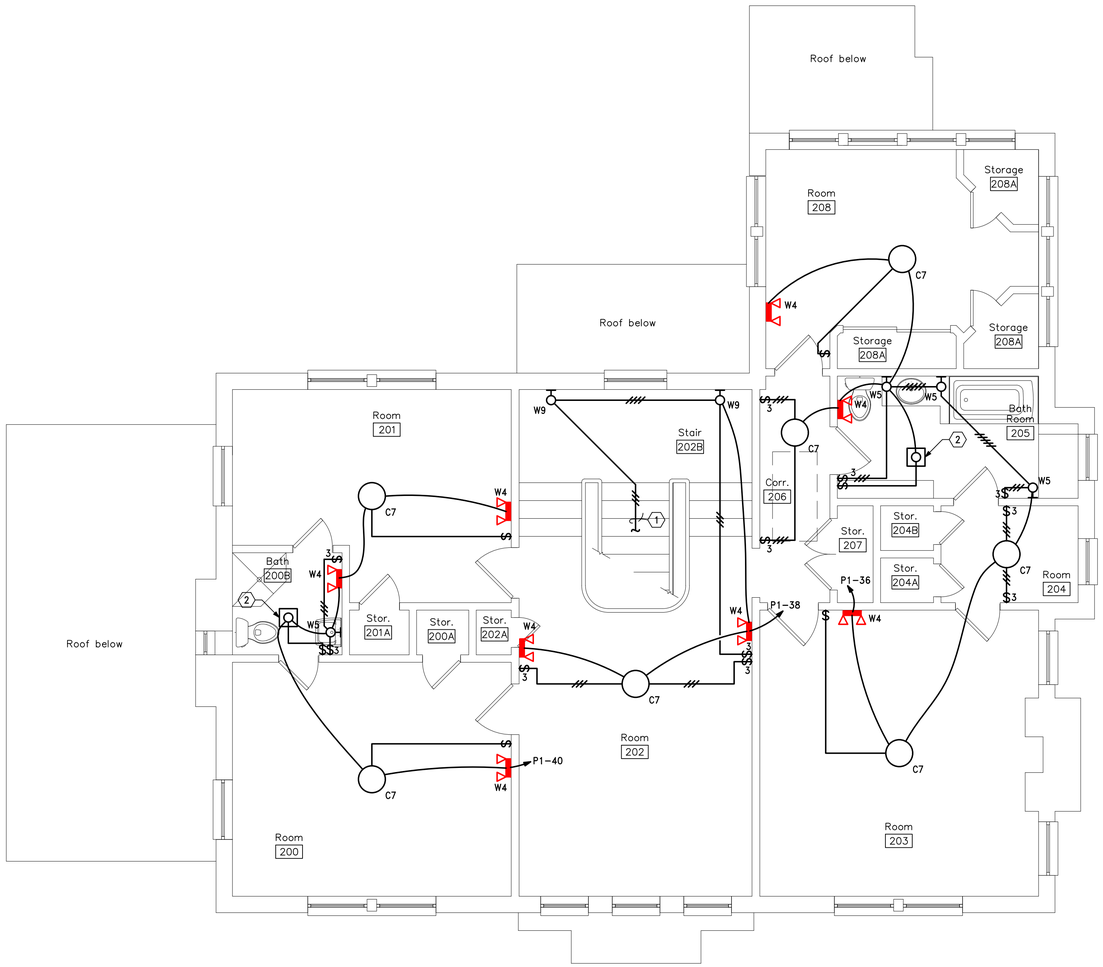
CODED NOTES

1. TO SWITCH BELOW.
2. EXISTING EXHAUST FAN TO REMAIN IN THIS ROOM.



1 / E1.3 Second Floor Lighting Plan
Scale: 1/4"=1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-123

Revisions		
No.	Date	Description
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JAMES A. BLASER
REGISTERED ENGINEER
No. 00106803
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	Second Floor Lighting Plan
Sheet No.	E1.3

plotted: 9/21/2020 2:14:03 PM file:20123 ELECTRICAL.DWG

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #2 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE CAT 6 WIRING FROM EACH PHONE/DATA JACKS TO THE TELEPHONE TERMINAL BOARD (TTB) IN THE BASEMENT. EACH RUN SHALL HAVE 3 RUNS OF CAT 6 WIRING RUN IN 1" FLEXIBLE CONDUIT WHERE CONCEALED IN WALLS OR CEILING.
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. CONTRACTOR SHALL COORDINATE ALL ADDITIONAL REQUIREMENTS WITH EACH UTILITY COMPANY AND TO INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH CONNECTION TO THE UTILITY SERVICES.
7. PER NEC 210.8, ALL GROUND FAULT RECEPTACLES ARE TO BE IN A READILY ACCESSIBLE LOCATION. IF NOT, PROVIDE A GROUND FAULT CIRCUIT BREAKER IN THE PANEL, OR A DEAD FRONT GROUND FAULT DEVICE IN AN ACCESSIBLE LOCATION SERVING THE INACCESSIBLE DEVICE.
8. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
9. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
10. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
11. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
12. ALL KITCHEN RECEPTACLES SHALL BE GROUND FAULT PROTECTED PER NEC 210.8(B).
13. COORDINATE RECEPTACLE PLACEMENT WITH ARCHITECTURAL SECTIONS AND ELEVATIONS.
14. ALL EXISTING NON-METALLIC SHEATHED CABLE SHALL BE REMOVED FROM THE BUILDING. OTHER CIRCUITS RUN IN CONDUIT OR MC CABLE MAY REMAIN IF THEY ARE IN GOOD CONDITION AND THE DEVICE OR EQUIPMENT IS TO REMAIN.
15. CONTRACTOR SHALL REMOVE ALL WIRING FROM CIRCUITS TO BE DEMOLISHED AND REMOVE ALL UNUSED EXPOSED CONDUITS.
16. CONTRACTOR SHALL REMOVE ALL DEVICES SCHEDULED FOR DEMOLITION. REFEED ANY DOWN STREAM DEVICES TO REMAIN. SEE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION.
17. ALL DEVICES SHOWN WITH SUBSCRIPT (D) ARE SCHEDULED FOR DEMOLITION. OTHER DEVICES MAY BE NOTED AS EXISTING TO REMAIN (E), OR RELOCATED (R).
18. EXISTING CONDITIONS WERE TAKEN FROM A SITE VISIT AND PHOTOS AND MAY NOT REFLECT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS. CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
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20. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
21. ALL EXISTING RECEPTACLE, PHONE, AND SWITCH LOCATIONS SHALL BE REMOVED AND PATCHED TO MATCH EXISTING SURFACES. NEW DEVICES IN THE SAME LOCATION SHALL BE MOUNTED AT PER THE LEGEND ON THESE DRAWINGS UNLESS NOTED OTHERWISE.
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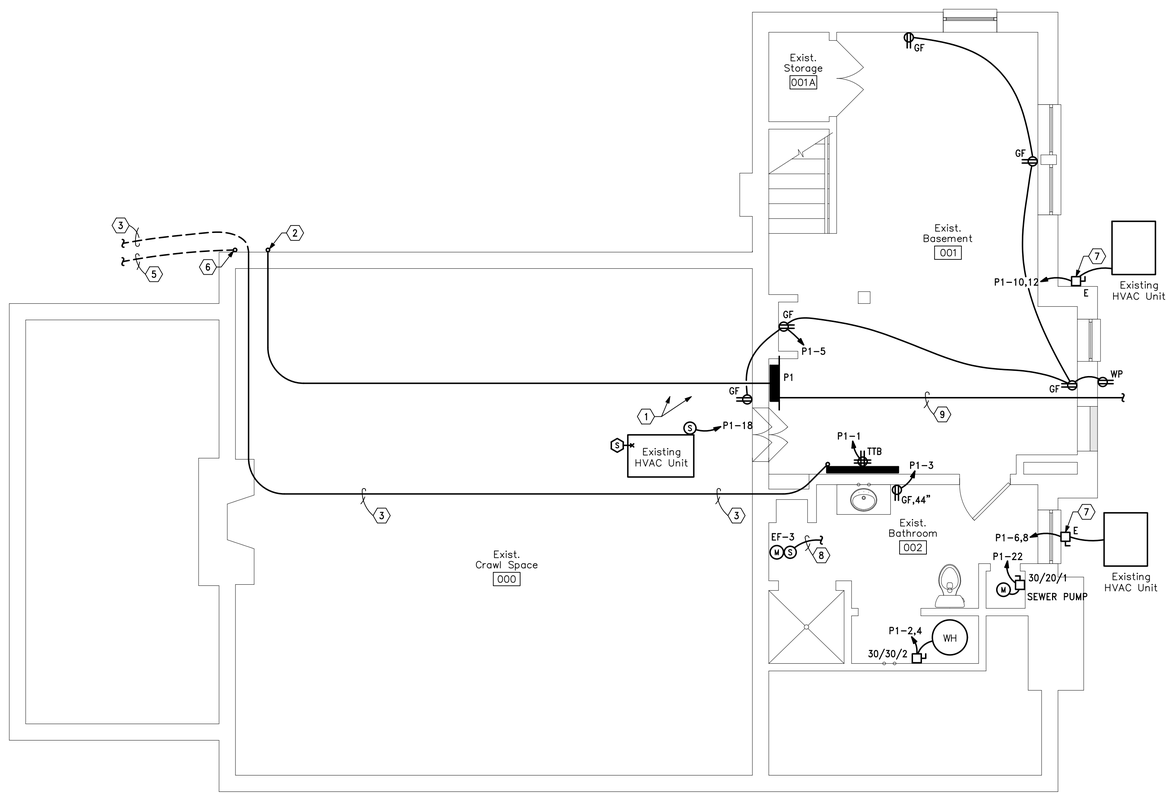
CODED NOTES

1. EXISTING PANELS TO BE REMOVED.
2. PROVIDE FEEDER UP TO DISCONNECT SWITCH ON THE EXTERIOR OF THE BUILDING.
3. PROVIDE 1 - 2" COMMUNICATIONS CONDUIT THROUGH THE CRAWLSPACE OUT TO THE UTILITY POINT OF CONNECTION.
4. PROVIDE 1 - 2" UNDERGROUND COMMUNICATIONS CONDUIT FROM THE BUILDING TO THE UTILITY POINT OF CONNECTION. COORDINATE EXACT LOCATION WITH THE COMMUNICATIONS UTILITY COMPANIES.
5. UNDERGROUND SERVICE ENTRANCE FEEDER TO UTILITY COMPANY TRANSFORMERS. COORDINATE ADDITIONAL REQUIREMENTS WITH THE LOCAL UTILITY COMPANY. SEE ONE-LINE DIAGRAM FOR FEEDER SIZE.
6. PROVIDE UNDERGROUND FEEDER FROM UTILITY COMPANY UP TO METER BASE ON THE BUILDING. SEE SHEET E2.2 FOR METER LOCATION.
7. EXISTING 60 AMP CONDENSING UNIT DISCONNECT TO REMAIN.
8. EXHAUST FAN TO BE CONTROLLED BY ROOM OCCUPANCY SENSOR(S) BY DUAL POLE WALL MOUNTED OCCUPANCY SENSOR SHARED WITH LIGHTING CONTROLS. PROVIDE POWER FOR FAN FROM THE LIGHTING CIRCUIT.
9. PROVIDE 1" CONDUIT WITH PULL STRING TO OUTSIDE OF THE BUILDING FOR FUTURE PARKING LOT LIGHTING. SEE PARKING LOT LIGHTING PLANS FOR ADDITIONAL INFORMATION.



1 / E2.1 Basement Power Plan
Scale: 1/4"=1'-0"

Blaser Engineering
342 Moore Street
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BLASER ENG JOB# 20-123

Revisions		
No.	Date	Description
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JAMES A. BLASER REGISTERED ENGINEER No. 00106803 STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	Basement Power Plan
Sheet No.	E2.1

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
2. ALL DEVICES SHALL BE TAMPER RESISTANT.
3. PROVIDE #2 AWG GROUND WIRE FROM THE MAIN SERVICE GROUNDING BUS TO THE TELEPHONE TERMINAL BOARD. PROVIDE 0.25" X 2" X 12" COPPER GROUNDING BUS BAR MOUNTED ON INSULATED STANDOFFS ANCHORED WITH STAINLESS STEEL BRACKETS EQUAL TO ERICO TGB-A12L06PT.
4. PROVIDE CAT 6 WIRING FROM EACH PHONE/DATA JACKS TO THE TELEPHONE TERMINAL BOARD (TTB) IN THE BASEMENT. EACH RUN SHALL HAVE 3 RUNS OF CAT 6 WIRING RUN IN 1" FLEXIBLE CONDUIT WHERE CONCEALED IN WALLS OR CEILING.
5. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH A PULL STRING.
6. CONTRACTOR SHALL COORDINATE ALL ADDITIONAL REQUIREMENTS WITH EACH UTILITY COMPANY AND TO INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH CONNECTION TO THE UTILITY SERVICES.
7. PER NEC 210.8, ALL GROUND FAULT RECEPTACLES ARE TO BE IN A READILY ACCESSIBLE LOCATION. IF NOT, PROVIDE A GROUND FAULT CIRCUIT BREAKER IN THE PANEL, OR A DEAD FRONT GROUND FAULT DEVICE IN AN ACCESSIBLE LOCATION SERVING THE INACCESSIBLE DEVICE.
8. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
9. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
10. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
11. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
12. ALL KITCHEN RECEPTACLES SHALL BE GROUND FAULT PROTECTED PER NEC 210.8(B).
13. COORDINATE RECEPTACLE PLACEMENT WITH ARCHITECTURAL SECTIONS AND ELEVATIONS.
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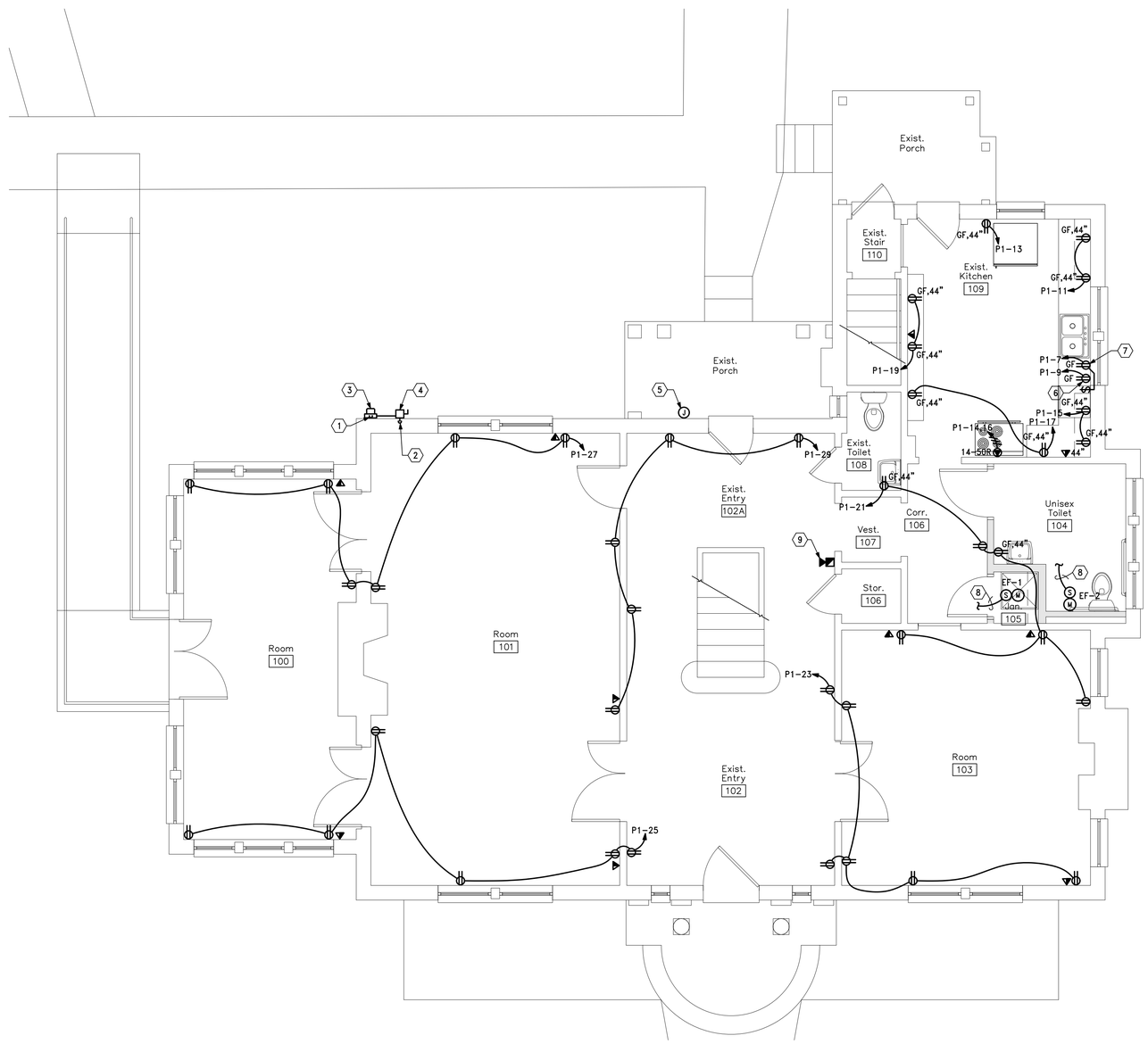
CODED NOTES

1. DOWN TO UNDERGROUND SERVICE ENTRANCE FEEDER. SEE SHEET E2.1 FOR CONTINUATION.
2. ROUTE FEEDER DOWN INTO CRAWLSPACE. SEE SHEET E2.1 FOR CONTINUATION.
3. UTILITY COMPANY METERING.
4. SERVICE ENTRANCE EXTERIOR DISCONNECT SWITCH. SEE ONE-LINE DIAGRAM FOR SIZE.
5. ORIGINAL FUSE BOX CURRENTLY BEING USED AS A JUNCTION BOX. REMOVE ALL CONDUCTORS AND SEAL THE OPENINGS INTO THE BUILDING.
6. PROVIDE GFI RECEPTACLE UNDER THE SINK FOR THE DISHWASHER, PROVIDE 120 VOLT, 1ø (NEMA 5-20) PIGTAIL ON THE DISHWASHER, ROUTED TO THE DISHWASHER RECEPTACLE.
7. PROVIDE A SWITCHED GFI RECEPTACLE UNDER THE SINK FOR THE DISPOSAL, PROVIDE 120 VOLT, 1ø (NEMA 5-20) PIGTAIL ON THE DISPOSAL, ROUTED TO THE SWITCHED DISPOSAL RECEPTACLE.
8. EXHAUST FAN TO BE CONTROLLED BY ROOM OCCUPANCY SENSOR(S) BY DUAL POLE WALL MOUNTED OCCUPANCY SENSOR SHARED WITH LIGHTING CONTROLS. PROVIDE POWER FOR FAN FROM THE LIGHTING CIRCUIT.
9. PROVIDE FIRE ALARM AUDIO/VISUAL DEVICE FOR OCCUPANT NOTIFICATION TIED TO THE DUCT SMOKE DETECTORS IN BOTH HVAC UNITS.



1 / E2.2 First Floor Power Plan
Scale: 1/4"=1'-0"

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BLASER ENG JOB# 20-123

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Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	First Floor Power Plan
Sheet No.	E2.2

plotted: 9/21/2020 2:14:28 PM file: 20123 ELECTRICAL.DWG

GENERAL NOTES

1. COORDINATE CEILING MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLAN.
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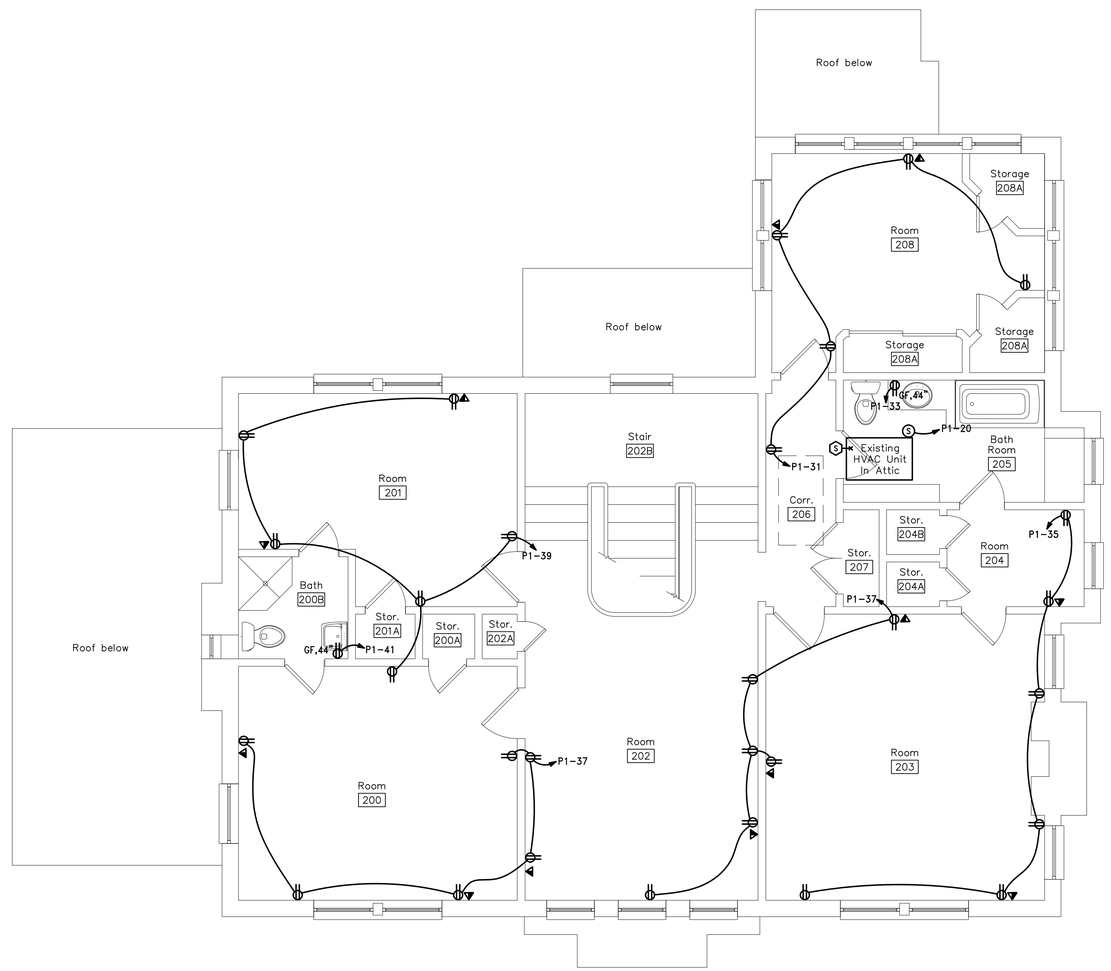
8. COORDINATE ACTUAL MOUNTING LOCATIONS OF ALL EQUIPMENT WITH CONTRACTOR PROVIDING THE EQUIPMENT.
9. PROVIDE FINAL CONNECTIONS TO ALL EQUIPMENT SUPPLIED BY OTHERS.
10. PROVIDE NEMA 3R RATED SAFETY SWITCHES WHERE LOCATED OUTDOORS.
11. PROVIDE MATCHING PLUG, PIGTAIL, AND CONNECTIONS TO EQUIPMENT FOR ALL SPECIAL PURPOSE RECEPTACLES.
12. ALL KITCHEN RECEPTACLES SHALL BE GROUND FAULT PROTECTED PER NEC 210.8(B).
13. COORDINATE RECEPTACLE PLACEMENT WITH ARCHITECTURAL SECTIONS AND ELEVATIONS.
14. ALL EXISTING NON-METALLIC SHEATHED CABLE SHALL BE REMOVED FROM THE BUILDING. OTHER CIRCUITS RUN IN CONDUIT OR MC CABLE MAY REMAIN IF THEY ARE IN GOOD CONDITION AND THE DEVICE OR EQUIPMENT IS TO REMAIN.
15. CONTRACTOR SHALL REMOVE ALL WIRING FROM CIRCUITS TO BE DEMOLISHED AND REMOVE ALL UNUSED EXPOSED CONDUITS.
16. CONTRACTOR SHALL REMOVE ALL DEVICES SCHEDULED FOR DEMOLITION. REFEED ANY DOWN STREAM DEVICES TO REMAIN. SEE ARCHITECTURAL PLANS FOR EXTENT OF DEMOLITION.
17. ALL DEVICES SHOWN WITH SUBSCRIPT (D) ARE SCHEDULED FOR DEMOLITION. OTHER DEVICES MAY BE NOTED AS EXISTING TO REMAIN (E), OR RELOCATED (R).
18. EXISTING CONDITIONS WERE TAKEN FROM A SITE VISIT AND PHOTOS AND MAY NOT REFLECT "AS-BUILT" CONDITIONS. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO SUBMITTING BIDS. CAREFULLY COORDINATE NEW WORK AND DEMOLITION WITH ALL OTHER DISCIPLINES AND EXISTING CONDITIONS.
19. ANY REMOVED EQUIPMENT IS THE PROPERTY OF THE OWNER AND SHALL BE OFFERED TO THE OWNER AS SALVAGE. IF THE OWNER DOES NOT WANT EQUIPMENT, THE CONTRACTOR SHALL DISPOSE OF IT PROPERLY.
20. CONTRACTOR SHALL CHANGE ALL EXISTING NON-GFI TYPE RECEPTACLES WITH-IN SIX FEET OF A SINK TO GFI TYPE RECEPTACLES.
21. ALL EXISTING RECEPTACLE, PHONE, AND SWITCH LOCATIONS SHALL BE REMOVED AND PATCHED TO MATCH EXISTING SURFACES. NEW DEVICES IN THE SAME LOCATION SHALL BE MOUNTED AT PER THE LEGEND ON THESE DRAWINGS UNLESS NOTED OTHERWISE.
22. ALL NEW WIRING SHALL BE FISHED IN THE EXISTING WALLS, MINIMIZING DAMAGE TO THE EXISTING WALLS. COORDINATE ALL WALL PENETRATIONS WITH THE OWNER AND THE ARCHITECT PRIOR TO STARTING ANY WORK.



1 E2.3 Second Floor Power Plan
Scale: 1/4"=1'-0"

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-123

Revisions

No.	Date	Description

JAMES A. BLASER REGISTERED ENGINEER LICENSE No. 00106803 STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	Second Floor Power Plan
Sheet No.	E2.3

plotted: 9/21/2020 2:14:48 PM file:20123 ELECTRICAL.DWG

PANEL ID:	P1	VOLTAGE:	120/240
LOCATION:	BASEMENT 001	PHASE:	1
MOUNTING:	SURFACE	WIRE:	3
MAIN TYPE:	LUGS	MAIN SIZE:	400 AMPS AIC RATING: 22,000

LEGEND: LO: LOCK ON DEVICE
PROVIDE ALL CIRCUITS IN A SINGLE PANEL TUB
+: PROVIDE CIRCUIT WITH FULL SIZED NEUTRAL CONDUCTOR
V: VERIFY BREAKER SIZE WITH GARAGE PANEL PRIOR TO BID
PROVIDE PANEL WITH INTEGRAL SURGE PROTECTION DEVICE (SPD) BE-JOB# 20-123

GND SIZE	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION	CIRCUIT BREAKER	LOAD KVA	CIRCUIT NUMBER	LOAD KVA	CIRCUIT BREAKER	BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	GND SIZE
12	12	TTB	20/1	0.36	1 *| 2	2.25	30/2	WATER HEATER	10	10
12	12	RECEPTACLES	20/1	0.18	3 |* 4	2.25	–	–	10	–
12	12	RECEPTACLES	20/1	1.08	5 *| 6	3.00	60/2	EX. CONDENSING	4	10
12	12	DISPOSAL	20/1	1.25	7 |* 8	3.00	–	UNIT	4	–
12	12	DISHWASHER	20/1	1.50	9 *| 10	3.00	60/2	EX. CONDENSING	4	10
12	12	RECEPTACLES	20/1	0.36	11 |* 12	3.00	–	UNIT	4	–
12	12	REFRIGERATOR	20/1	1.25	13 *| 14	4.00	50/2+	ELECTRIC	6	10
12	12	RECEPTACLES	20/1	0.36	15 |* 16	4.00	–	RANGE	6	–
12	12	RECEPTACLES	20/1	0.36	17 *| 18	0.70	20/1	EX. GAS FURNACE	12	12
12	12	RECEPTACLES	20/1	0.36	19 |* 20	0.70	20/1	EX. GAS FURNACE	12	–
12	12	RECEPTACLES	20/1	1.08	21 *| 22	1.50	20/1	EX. SEWER PUMP	12	12
12	12	RECEPTACLES	20/1	1.08	23 |* 24	3.00	50/2 +,V	GARAGE BUILDING	6	10
12	12	RECEPTACLES	20/1	1.08	25 *| 26	3.00	–	–	6	–
12	12	RECEPTACLES	20/1	1.08	27 |* 28	0.34	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	0.90	29 *| 30	0.45	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	0.90	31 |* 32	0.50	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	0.18	33 *| 34	0.30	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	1.08	35 |* 36	0.55	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	1.08	37 *| 38	0.30	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	1.08	39 |* 40	0.35	20/1	LIGHTING	12	12
12	12	RECEPTACLES	20/1	0.18	41 *| 42	0.28	20/1	PARKING LOT LIGHT	10	10
		SPARE	20/1		43 *| 44		20/1	SPARE		
		SPARE	20/1		45 |* 46		20/1	SPARE		
		SPARE	20/1		47 *| 48		20/1	SPARE		
		SPARE	20/1		49 |* 50		20/1	SPARE		
		SPARE	20/1		51 *| 52		20/1	SPARE		
		SPARE	20/1		53 |* 54		20/1	SPARE		
		SPACE			55 *| 56			SPACE		
		SPACE			57 |* 58			SPACE		
		SPACE			59 *| 60			SPACE		

PANEL LOAD SUMMARY:				
LIGHTING:	3.06	KVA		
RECEPT & MISC:	12.78	KVA	27.83	KVA PHASE A
MOTORS:	23.65	KVA	25.42	KVA PHASE B
HEATING:	13.75	KVA		
TOTAL:	53.24	KVA		

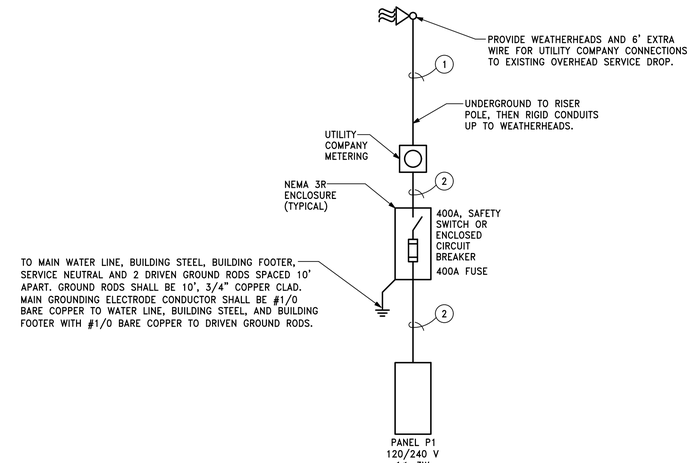
LIGHTING FIXTURE SCHEDULE

NOTES: FIXTURE NUMBER, LETTER PREFIX INDICATES TYPE OF MOUNTING AS FOLLOWS:
C–CEILING MOUNTED; S–SUSPENDED; W–WALL MOUNTED; R–CEILING RECESSED; WR–WALL RECESSED; CV–COVE MOUNTED;
U–UNDERCABINET; P–POST; G–GROUND MOUNTED; X–UNIVERSAL MOUNTED; T–TRACK.

ALL FIXTURES SHALL BE 80 CRI MINIMUM, UNLESS NOTED OTHERWISE
PARTIAL MODEL NUMBERS MAY BE SHOWN AND ARE INTENDED TO INDICATE ACCEPTABLE MANUFACTURER'S PRODUCT LINE.
EXACT MODEL NUMBERS MEETING THE FIXTURE DESCRIPTION SHALL BE OBTAINED FROM MANUFACTURER'S AGENT.
ALL FIXTURES MAY NOT BE USED. REFER TO PLANS FOR FIXTURE QUANTITIES.
FIXTURE DIMENSIONS MAY VARY BETWEEN MANUFACTURERS.
REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

BE-JOB # 20-123

FIXTURE NUMBER	FIXTURE DESCRIPTION	FIXTURE VOLTAGE	LAMP TYPE	APPROVED MANUFACTURERS
C1	2.125" x 2.125" x 48", SURFACE MOUNTED LED DIRECT LIGHTING FIXTURE, STEEL HOUSING, END CAPS, LENSED, AIRCRAFT CABLE SUSPENSION, WHITE FINISH, COLOR TEMP. 3500K, 80+ CRI, 3,966 LUMENS 5 YEAR WARRANTY, UL LISTING. MOUNT AT 9'–0" FIXTURE: 30 WATTS, 3,966 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA ZL1D–L48–3000LM–FST–MVOLT–35K–80CRI–WH SERIES OR EQUAL
X2	19" x 8" x2", UNIVERSAL MOUNTED EXIT SIGN / EMERGENCY EGRESS COMBO UNIT, SINGLE FACE L.E.D. EXIT SIGN, WHITE THERMOPLASTIC HOUSING, RED LETTERS, DIRECTIONAL ARROWS, 2–1.5 WATT LED HEADS, DUAL VOLTAGE, 90 MIN SEALED UNIT POWER SUPPLY, HIGH OUTPUT BATTERY FOR 2 REMOTE LED HEADS WHERE INDICATED. FIXTURE: 4.3 WATTS	MVOLT	W/FIXTURE	LITHONIA LHQM–LED–R–HO DUAL–LITE EVCURW OR EQUAL
W3	9" X 7", 2 LAMP, 1.5 WATT LED, WALL MOUNTED EMERGENCY EGRESS REMOTE FIXTURE, MOUNTED AT 7 A.F.F. ON STRIKE SIDE OF THE DOOR, SEALED AND GASKETED THERMOPLASTIC HOUSING, LOW VOLTAGE WIRING CONNECTED TO EXIT SIGN AS SHOWN ON DRAWINGS. WET LOCATION UL LISTING. FIXTURE: 2 WATTS	9.6 V	W/FIXTURE	LITHONIA ELA–LED–T–QWP DUAL–LITE EVODB OR EQUAL
W4	4" x 5" x 10", 2 HEAD, WALL MOUNTED EMERGENCY EGRESS FIXTURE, ADJUSTABLE 2.4 WATT/220 LUMEN LED HEADS, THERMOPLASTIC HOUSING, TEST SWITCH LED, DUAL VOLTAGE, 90 MINUTE SEALED UNIT POWER SUPPLY FIXTURE: 1.09 WATTS	MVOLT	W/FIXTURE	LITHONIA ELM2L DUAL–LITE EV2 OR EQUAL
W5	VANITY LIGHT TO BE SELECTED BY THE OWNER FIXTURE SHALL HAVE LED LAMPS, 50 WATTS MAXIMUM PROVIDE $250 ALLOWANCE PER FIXTURE	120 V	LED	SELECTED BY THE OWNER
C6	7.5" DIAM X 1.25" DEEP, LED SURFACE MOUNTED DOWNLIGHT, ALUMINUM TRIM FRAME WITH WHITE FINISH, LED'S MOUNT DIRECTLY TO HEATSINK, FIXTURE MOUNTS DIRECTLY TO 4" SQ JUNCTION BOX, 1000 LUMENS, 90 CRI, 3000K LED SOURCE, UL LISTING. FIXTURE: 15 WATTS, 1000 LUMENS	120 V	LED W/ FIXTURE	JUNO 6RLS–G2–10LM–30K–90CRI SERIES OR EQUAL
C7	CEILING MOUNTED FIXTURE TO BE SELECTED BY THE OWNER FIXTURE SHALL HAVE LED LAMPS, 100 WATTS MAXIMUM PROVIDE $500 ALLOWANCE PER FIXTURE	120 V	LED	SELECTED BY THE OWNER
S8	SUSPENDED PENDANT MOUNTED FIXTURE TO BE SELECTED BY THE OWNER FIXTURE SHALL HAVE LED LAMPS, 100 WATTS MAXIMUM PROVIDE $500 ALLOWANCE PER FIXTURE	120 V	LED	SELECTED BY THE OWNER
W9	WALL MOUNTED SCONCE TO BE SELECTED BY THE OWNER FIXTURE SHALL HAVE LED LAMPS, 50 WATTS MAXIMUM PROVIDE $250 ALLOWANCE PER FIXTURE	120 V	LED	SELECTED BY THE OWNER
C9	9" x 48" x 2.5 , CEILING MOUNTED LED WRAP FIXTURE, ACRYLIC PRISMATIC LENS, WHITE BAKED ENAMEL STEEL HOUSING, LENS HINGED FROM EITHER SIDE, 3500 COLOR TEMPERATURE, 80 CRI, 7209 LUMENS, L90/50,000 LUMEN MAINTENANCE FACTOR, DAMP LOCATION UL LISTING. FIXTURE: 62 WATTS, 7209 LUMENS	MVOLT	LED W/FIXTURE	LITHONIA SBL4–72L–80CRI–35K SERIES OR EQUAL



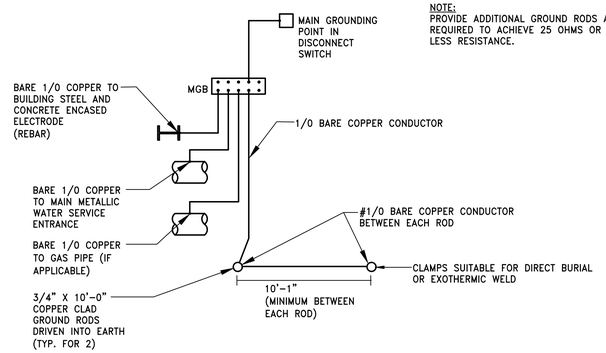
A WIRING DIAGRAM

ONE LINE SCALE: N.T.S.

FEEDER SCHEDULE

NOTE NUMBER	FEEDER AMPS	NUMBER OF SETS	PHASE WIRES QUANTITY – SIZE	NEUTRAL WIRE QUANTITY – SIZE	GROUND SIZE	CONDUIT SIZE PER SET	COMMENTS/REMARKS
1	400	1	2 – #600	1 – #600	–	4"	SERVICE ENTRANCE
2	400	1	2 – #400	1 – #600	#3	4"	–

FEEDERS BASED ON COPPER CONDUCTORS; SUBSTITUTION OF CODE SIZED ALUMINUM CONDUCTORS FOR PANEL FEEDERS IS ALLOWED BASED ON FEEDER AMPS IN THE SCHEDULE



NOTE:
PROVIDE ADDITIONAL GROUND RODS AS REQUIRED TO ACHIEVE 25 OHMS OR LESS RESISTANCE.

MAIN GROUNDING SYSTEM

N.T.S.

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-123

Revisions

No.	Date	Description

JAMES A. BLASER REGISTERED ENGINEER No. 00106203 STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical

Drawing Title: One–Line Diagram, Details, & Schedules

Sheet No. E3.1

plotted:9/21/2020 2:15:01 PM file:20123 ELECTRICAL.DWG

DIVISION 26 - ELECTRICAL

SECTION 26 00 05 ELECTRICAL GENERAL PROVISIONS

1. REFERENCE
   A. REFER TO INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SPECIAL CONDITIONS, DIVISION 1 – GENERAL REQUIREMENTS, FOR SPECIFIC REQUIREMENTS, RESPONSIBILITIES AND METHODS RELATING TO ELECTRICAL WORK.
2. DESCRIPTION
   A. FURNISH ALL MATERIALS, LABOR, TOOLS AND EQUIPMENT TO COMPLETE AND LEAVE READY FOR OPERATION ALL ELECTRICAL SYSTEMS AS CALLED FOR IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS AND ANY AND ALL DETAILS ESSENTIAL TO COMPLETE THE WORK.
3. QUALITY
   A. CONTRACTOR SHALL PROVIDE WORK OF HIGHEST QUALITY, CONFORMING TO THE ACCEPTED PRACTICES AND STANDARDS OF THE TRADES INVOLVED. FURTHER DEFINITION OF QUALITY IS GIVEN BY VARIOUS LAWS, CODES, STANDARDS AND REGULATIONS.
4. CODES
   A. ALL WORK SHALL BE IN COMPLIANCE WITH ALL APPLICABLE STATE AND LOCAL CODES.
   B. ALL EQUIPMENT SHALL BE PROPERLY RATED FOR THE SEISMIC ACTIVITY ZONE FOR WHICH IT IS INSTALLED.
5. CONTRACT DRAWINGS
   A. DRAWINGS ARE SCHEMATIC AND SHOW APPROXIMATE LOCATIONS AND EXTENT OF WORK. EXACT LOCATIONS MUST BE COORDINATED WITH OTHER TRADES AND VERIFIED IN THE FIELD. THE RIGHT IS RESERVED TO RELOCATE ANY ELEMENT UP TO TEN (10) FEET AT NO INCREASE IN COST PROVIDED THE CONTRACTOR IS NOTIFIED BEFORE COMMENCEMENT OF WORK.
6. PERMITS, FEES AND NOTICES
   A. UNLESS OTHERWISE EXCLUDED IN THE CONTRACT DOCUMENTS, EACH CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND GOVERNMENTAL FEES, LICENSES AND INSPECTIONS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF HIS WORK.
7. GUARANTEE
   A. CONTRACTOR SHALL GUARANTEE HIS WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
8. EXAMINATION OF SITE
   A. CONTRACTOR SHOULD VISIT THE SITE OF THE PROPOSED PROJECT. CERTAIN EXISTING CONDITIONS MAY AFFECT THE MANNER OR SEQUENCE OF THE PERFORMANCE OF THE WORK.
9. RECORD DRAWINGS
   A. CONTRACTOR SHALL MAINTAIN AT THE JOB SITE, ONE COPY OF THE DRAWINGS WHICH SHALL BE USED EXCLUSIVELY FOR RECORDING ANY INSTALLATION DEVIATION FROM THE CONTRACT DRAWINGS. SUBMIT DRAWINGS TO ARCHITECT UPON COMPLETION OF PROJECT.
10. CUTTING AND PATCHING
   A. EACH CONTRACTOR SHALL PERFORM ALL CUTTING AND PATCHING REQUIRED FOR HIS OWN WORK. WORK MUST BE ACCOMPLISHED IN A NEAT AND WORKMANLIKE MANNER, ACCEPTABLE TO THE ARCHITECT. PATCH TO MATCH ADJACENT SURFACE CONSTRUCTION.
11. TESTS
   A. THE CONTRACTOR SHALL BEAR ALL COSTS OF SUCH INSPECTIONS, TESTS OR APPROVALS, AS REQUIRED BY LOCAL AUTHORITIES.
12. SUBMITTALS
   A. MATERIALS AND EQUIPMENT INSTALLED IN THIS WORK SHALL MEET ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND NO MATERIALS OR EQUIPMENT SHALL BE ORDERED UNTIL SUBMITTALS ARE REVISED AND APPROVED BY THE ARCHITECT OR ENGINEER.
   B. REQUIRED SUBMITTALS INCLUDE:
      1) WIRING DEVICES AND PLATES
      2) LIGHTING FIXTURES
      3) LIGHTING CONTROLS & OCCUPANCY SENSORS
      4) CIRCUIT BREAKER PANELBOARD & SAFETY SWITCHES
      5) SURGE SUPPRESSION DEVICE (SPD)

SECTION 26 05 19 CONDUCTORS AND CONNECTORS

1. FURNISH AND INSTALL ALL ELECTRICAL CONDUCTORS FOR FEEDERS, BRANCH CIRCUIT WIRING, AND SYSTEM WIRING.
2. ALL WIRE SHALL BE UL LISTED COPPER, 600 VOLT RATED.
3. ALL WIRE SHALL BE STRANDED IN SIZES #8 AND LARGER.
4. WIRE SHALL BE TYPE THHN/THWN.
5. MINIMUM WIRE SIZE SHALL BE NO. 12 AWG.
6. ALL 120 VOLT CIRCUITS OVER 75 FEET IN LENGTH SHALL HAVE ALL OF THE CONDUCTORS UPSIZED ONE WIRE SIZE. (I.E. ALL #12 AWG WILL BECOME #10 AWG)
7. ALL CONDUCTORS ARE TO BE IDENTIFIED, BRANCH CIRCUITS AND FEEDERS BY COLOR CODING AS FOLLOWS:

   120/240V
   PHASE A – BLACK
   PHASE B – RED
   NEUTRAL – WHITE
   GROUND – GREEN

8. THE COLOR CODING ON #6 AND SMALLER CONDUCTORS SHALL BE CONTINUOUS IN LENGTH. NO TAPING, PAINTING OR OTHER MEANS OF CODING WILL BE ACCEPTABLE. THE COLOR CODING ON #4 AND LARGER CONDUCTORS SHALL BE IN THE FORM OF COLORED TAPE VISIBLE AT EACH POINT OF ACCESS OR VIEW. COLOR CODING SHALL CONFORM TO THE REQUIREMENTS OF NEC ARTICLE 200.6.
9. FOR #10 AND SMALLER BRANCH CIRCUIT AND FIXTURE CONDUCTOR SPLICES, USE "LIVE SPRING", PRESSURE CABLE CONNECTORS LISTED FOR 600 VOLT (1000 VOLT WHEN ENCLOSED IN FIXTURE OR SIGN).
10. FOR TERMINAL CONNECTIONS ON COPPER, NO. 8 OR LARGER, OR WHERE MULTIPLE CONNECTIONS ARE MADE TO ONE TERMINAL, USE SOLDERLESS LUGS, MECHANICAL TYPE AS NECESSARY.
11. FOR SPLICES ON CONDUCTORS LARGER THAN #10, COMPRESSION TYPE BARREL SPLICES SHALL BE USED.

SECTION 26 05 26 GROUNDING

1. GROUNDING OF THE ELECTRICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
2. METAL ENCLOSURES, CABLE TRAYS, OR RACEWAYS FOR CONDUCTORS OR EQUIPMENT SHALL BE GROUNDED.
3. EXPOSED NONCURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED.
4. BONDING SHALL BE PROVIDED AND CONFORM TO ALL REQUIREMENTS OF NEC ARTICLE 250 PART V.
5. ALL RACEWAYS SHALL CONTAIN A GROUNDING CONDUCTOR.

SECTION 26 05 33 PANELBOARDS, WIRING DEVICES, AND PLATES

1. THE FOLLOWING ARE THE ONLY APPROVED MANUFACTURERS FOR PANELBOARDS, AND SAFETY SWITCHES:
   A. SQUARE D
   B. SIEMENS
   C. EATON
   D. GENERAL ELECTRIC
2. PANELBOARDS:
   A. CIRCUIT BREAKERS: QUICK-MAKE, QUICK-BREAK, THERMAL-MAGNETIC, TRIP INDICATING, WITH COMMON TRIP ON ALL MULTI-POLE BREAKERS. BRANCH CIRCUIT BREAKERS, FEEDING CONVENIENCE OUTLETS SHALL HAVE SENSITIVE INSTANTANEOUS TRIP SETTINGS OF NOT MORE THAN 10 TIMES THE TRIP RATING OF THE BREAKER IN ORDER TO GIVE "FLASH PROTECTION" FOR FRAYED STRANDED WIRE CORDS. CONNECTIONS TO THE BUSS BOLT-ON TYPE.
   B. ALL BREAKERS USED TO PANEL SWITCH LIGHTING CIRCUITS SHALL BE UL LISTED SWD (SWITCHING DUTY) RATED AT APPLIED VOLTAGE. ALL BREAKERS USED TO SERVE PACKAGE TYPE AIR CONDITIONING EQUIPMENT SHALL BE UL LISTED "HACR".
   C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE "PHASE SEQUENCE" TYPE. THREE-PHASE, FOUR-WIRE BUSSING SHALL BE SUCH THAT ANY THREE ADJACENT SINGLE-POLE BREAKERS ARE INDIVIDUALLY CONNECTED TO EACH OF THE THREE DIFFERENT PHASES. ALL BUSSING SHALL BE COPPER.
   D. FRONTS SHALL INCLUDE DOORS AND HAVE FLUSH, C.P. STEEL, CYLINDER LOCKS WITH CATCHES AND SPRING-LOADED DOOR PULLS. FRONTS SHALL HAVE ADJUSTABLE INDICATING TRIM CLAMPS WHICH ARE CONCEALED WHEN THE DOORS ARE CLOSED. DOORS SHALL BE MOUNTED BY CONCEALED HINGES. FRONTS SHALL NOT BE REMOVABLE WITH DOOR IN LOCKED POSITION. A CIRCUIT DIRECTORY FRAME AND CARD WITH A CLEAR PLASTIC COVERING SHALL BE PROVIDED ON THE INSIDE OF THE DOOR. FRONTS SHALL BE OF CODE GAUGE, FULL FINISHED STEEL WITH RUST-INHIBITING PRIMER AND BAKED ENAMEL FINISH. MINIMUM PANELBOARD WIDTH TO BE 20".
   E. FOR EACH PANEL, FURNISH ONE CIRCUIT BREAKER LOCK OFF DEVICE.
   F. DIRECTORY CARDS SHALL BE TYPEWRITTEN AND PROTECTED WITH CLEAR PLASTIC. INDICATE CIRCUITS USE SUCH AS "LIGHTING-OFFICE 105". VERIFY PROPER ROOM IDENTIFICATION.
3. WIRING DEVICE:
   A. DEVICES SHALL BE "SPECIFICATION" GRADE AND TAMPER RESISTANT.
   B. RECEPTACLES SHALL BE 20 AMP; HAVE GROUNDING TERMINAL AND SHALL BE "SELF-GROUNDING".
   C. DEVICES SHALL BE GRAY IN COLOR, OR AS SELECTED BY THE ARCHITECT.
   D. PLATES SHALL BE SAME MANUFACTURER AS DEVICES AND SHALL BE 0.04" THICK BRUSHED STAINLESS STEEL.
   E. DEVICES ON OPPOSITE SIDES OF A RATED PARTITION SHALL BE SEPARATED BY A MINIMUM OF 24".
4. SAFETY SWITCHES:
   A. SHALL BE OF FUSIBLE AND OF HEAVY DUTY CONSTRUCTION.
   B. PROVIDE NEMA 3R RATED SWITCHES OUTDOORS.

SECTION 26 05 33.13 RACEWAYS, FITTINGS, AND SUPPORTS

1. ALL CONDUCTORS SHALL BE ENCLOSED IN A CONTINUOUS GROUNDED RACEWAY SYSTEM.
2. ALL CONDUITS SHALL BE RUN WITH-IN THE WALL CAVITY. AREAS WHERE CONCEALED CONDUITS ARE NOT POSSIBLE SHALL BE APPROVED BY THE ARCHITECT PRIOR TO ANY WORK PROCEEDING.
3. ALL CONDUITS SHALL BE RIGID HEAVY WALL GALVANIZED STEEL, UNLESS NOTED BELOW, MINIMUM 3/4 INCH TRADE SIZE.
4. EMT MAY BE USED AS FOLLOWS:
   A. IN INTERIOR PARTITIONS INSIDE BUILDING
   B. ABOVE SUSPENDED CEILINGS INSIDE BUILDING
   C. EXPOSED ABOVE 9 FOOT A.F.F. INSIDE BUILDING (EXCEPT HAZARDOUS LOCATIONS) IN UNFINISHED AREAS.
5. INTERMEDIATE GALVANIZED STEEL CONDUIT MAY BE USED IN LIEU OF RIGID STEEL CONDUIT WITHIN THE BUILDING INTERIOR.
6. MC CABLE MAY BE USED AS FOLLOWS:
   A. TYPE "MC" CABLE MAY BE USED FOR CONCEALED BRANCH CIRCUIT WIRING IN DRY LOCATIONS (IN WALLS OR ABOVE CEILINGS) BETWEEN LIGHTING FIXTURES, OR POWER OUTLETS. HOMERUNS, MULTI-WIRE BRANCH CIRCUITS, AND CIRCUIT RUNS WITH – MULTIPLE CIRCUITS SHALL OCCUR IN CONDUIT. CONVERSION FROM "MC" CABLE TO CONDUIT SHALL OCCUR WITHIN 10 FEET OF FIRST UTILIZATION DEVICE CONNECTION TO CIRCUIT.
   B. THREE CONDUCTOR, THHN/THWN INSULATED, ALUMINUM OR GALVANIZED STEEL INTERLOCKED ARMOR TYPE MC POWER CABLE FOR USE IN CIRCUITS NOT EXCEEDING 600 VOLTS PHASE TO PHASE AT CONDUCTOR TEMPERATURES OF 90°C IN DRY LOCATIONS FOR NORMAL OPERATION.
   C. CABLE ASSEMBLY SHALL INCLUDE FULL-SIZE GROUNDING CONDUCTOR, AND FULL-SIZE ISOLATED GROUNDING CONDUCTOR (IF APPLICABLE), WITH SUITABLE FILLERS AND BINDER TAPE.
   D. TYPE "MC" CABLE SHALL BE OF THE SINGLE CIRCUIT TYPE ONLY.
7. FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) SHALL BE USED FOR CONNECTIONS TO MOTORS, VIBRATING EQUIPMENT, AND CONNECTIONS FOR WHICH RIGID, IMC, OR EMT CONDUIT IS NOT APPLICABLE. FLEXIBLE STEEL CONDUIT UP TO SIX FEET IN LENGTH SHALL BE USED FOR CONNECTIONS TO LIGHTING FIXTURES. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED IN EACH FLEXIBLE CONDUIT. ALL RUNS SHALL BE TERMINATED IN INSULATED FLEXIBLE CONDUIT FITTINGS. MINIMUM SIZE TO BE 1/2 INCH.
8. LIQUID TIGHT FLEXIBLE STEEL CONDUIT (UP TO THREE FEET IN LENGTH) AND APPROPRIATE FITTINGS SHALL BE USED FOR CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT IN AREAS EXPOSED TO THE WEATHER OR LIKELY TO BECOME DAMP.
9. PVC CONDUIT MAY ONLY BE USED UNDERGROUND OUTSIDE THE BUILDING OR UNDER CONCRETE SLABS ON GRADE WITHIN THE BUILDING. CONDUITS AND ELBOWS TURNING UP INTO THE BUILDING SPACE SHALL BE RIGID STEEL.
10. FLEXIBLE CONDUIT OR TYPE MC CABLE MAY BE USED TO CONNECT OUTLETS INSTALLED WITHIN BUILT UP CASEWORK.
11. CONDUITS LARGER THAN ONE INCH SHALL HAVE GROUNDING TYPE BUSHINGS.
12. ALL CONDUIT AND EMT FITTINGS SHALL BE DIE CAST ZINC OR GALVANIZED STEEL. CONNECTORS AND COUPLINGS SHALL BE THREADED, COMPRESSION OR SETSCREW TYPE, CONCRETE TIGHT. CONDUIT BODIES SHALL BE MALLEABLE IRON, THREADED FOR HEAVYWALL CONDUIT AND COMPRESSION OR SETSCREW TYPE FOR EMT, WITH CADMIUM FINISH AND CADMIUM PLATED SHEET STEEL COVERS. PROVIDE NEOPRENE COVER GASKETS FOR CONDUIT BODY COVERS EXPOSED TO THE WEATHER.
13. OUTLETS, JUNCTION, PULL BOXES, ETC. WHEN OVERHEAD SHALL BE INDEPENDENTLY SUPPORTED AND SHALL NOT DEPEND UPON CONDUIT FOR SUPPORT. WHERE RUN IS NOT SUPPORTED BY SLABS, WALLS, ETC., USE GALVANIZED PIPE STRAPS, TRAPEZE HANGERS, BEAM CLAMPS, CHANNEL AND FITTINGS, ETC. SUPPORT WITHIN 3' OF EACH OUTLET BOX, JUNCTION BOX, CABINET OR FITTING. SUPPORT AT LEAST EVERY 10 FEET.

SECTION 26 09 23 OCCUPANCY SENSORS

1. OCCUPANCY SENSORS SHALL BE MANUFACTURED BY SENSORSWITCH OR EQUAL.
2. WALL BOX OCCUPANCY SENSOR USED IN OFFICES AND PRIVATE TOILETS SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH WSX-PDT SERIES.
3. WALL BOX OCCUPANCY SENSORS WITH DIMMING SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH WSX-PDT-D SERIES.
4. WALL BOX OCCUPANCY SENSOR USED IN PRIVATE TOILETS WITH EXHAUST FANS SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, 2 POLE, SENSORSWITCH WSX-PDT-2P SERIES.
5. CEILING MOUNTED OCCUPANCY SENSORS USED IN RESTROOMS SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH CM-PDT SERIES OVER THE TOILET STALLS, AND PIR ONLY IN THE RESTROOM VESTIBULE AREA, SENSORSWITCH CM SERIES.
6. CEILING MOUNTED OCCUPANCY SENSORS USED IN HIGH HUMIDITY AREAS SUCH AS SHOWER AREAS SHALL BE RATED FOR HIGH HUMIDITY.
7. CEILING MOUNTED OCCUPANCY SENSORS USED IN TRAINING AND CONFERENCE ROOMS SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH CM-PDT SERIES.
8. CEILING CORNER MOUNTED OCCUPANCY SENSORS USED IN PRIVATE OFFICES SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH WV-PDT SERIES.
9. CEILING MOUNTED OCCUPANCY SENSORS USED IN OFFICES SHALL HAVE PIR TECHNOLOGY AND MICROPHONICS, SENSORSWITCH CM-PDT SERIES.
10. CONTRACTOR SHALL PROVIDE THE PROPER OCCUPANCY SENSOR MODEL FOR THE CEILING HEIGHT AND SQUARE FOOTAGE OF THE ROOM/AREA SERVED.
11. SWITCHPACKS SHALL BE HEAVY DUTY, 120/277 VOLT, 20 AMP OUTPUT. UNIT SHALL ALSO PROVIDE LOW VOLTAGE TO POWER OCCUPANCY SENSORS.
12. OCCUPANCY SENSORS SHALL BE INITIALLY SET TO TURN THE LIGHTS OFF AFTER 15 MINUTES OF NOT SENSING MOVEMENT, AND SHALL BE MANUAL "ON".

SECTION 26 21 16 UNDERGROUND ELECTRICAL SERVICE

1. UNDERGROUND RACEWAYS SHALL BE SCHEDULE 40 PVC OR RIGID STEEL CONDUIT UNLESS SPECIFICALLY NOTED OTHERWISE.
2. UN-ENCASED UNDERGROUND RACEWAYS TO BE IDENTIFIED WITH 6-INCH WIDE PLASTIC IMPRINTED TAPE. COLOR AND WORDING TO IDENTIFY UNDERGROUND UTILITY.
3. ALL UNDERGROUND RACEWAYS TO BE BURIED A MINIMUM OF 30 INCHES BELOW GRADE. INCOMING UTILITY SERVICES TO BE BURIED PER UTILITY COMPANY REQUIREMENTS.
4. METER BASE WILL BE SUPPLIED BY THE POWER COMPANY AND WILL BE INSTALLED BY THE CONTRACTOR. THE METER WILL BE PROVIDED BY THE POWER COMPANY.
5. SECONDARY CONDUCTORS SHALL BE RUN IN CONDUITS FROM THE BUILDING MAIN DISCONNECTING MEANS TO THE RISER POLE WEATHERHEADS AND BEYOND WITH APPROXIMATELY 6 FOOT LEADS FROM THE WEATHERHEADS FOR FINAL CONNECTION TO THE TRANSFORMERS BY THE POWER COMPANY.
6. CONTRACTOR SHALL COORDINATE ALL ADDITIONAL REQUIREMENTS WITH EACH UTILITY COMPANY AND TO INCLUDE IN THEIR BID ALL COSTS ASSOCIATED WITH CONNECTION TO THE UTILITY SERVICES. ITEMIZE AS A SEPARATE LINE ITEM ON THE BID FORM.

SECTION 26 30 00 TELEPHONE SERVICE

1. PROVIDE THE NECESSARY CONDUITS, OUTLETS, PLATES, CABINETS, AND PLYWOOD MOUNTING BOARDS AS SHOWN AND/OR AS REQUESTED BY THE TELEPHONE UTILITY.
2. UNLESS SPECIFICALLY NOTED, MINIMUM CONDUIT SIZE SHALL BE 3/4". CONDUIT SERVING 2 OR MORE PHONES SHALL BE 1" OR LARGER, AS NOTED.
3. TELEPHONE BACKBOARDS SHALL BE 3/4" GRADE B-C PLYWOOD OF WIDTH SHOWN IN DRAWINGS, AND 6 FOOT HIGH, MOUNTED 2 FEET ABOVE THE FLOOR.
4. PROVIDE EMPTY CONDUIT SYSTEMS FOR TELEPHONE COMPANY.
5. PROVIDE CAT 6 WIRING IN CONDUIT SYSTEMS FOR TELEPHONE WIRING BACK TO TTB (TELEPHONE TERMINAL BOARD).

SECTION 26 43 13 SURGE SUPPRESSION

1. SPD UNITS AND ALL COMPONENTS SHALL BE DESIGNED, MANUFACTURED, AND TESTED IN ACCORDANCE WITH THE LATEST APPLICABLE UL STANDARD (ANSI/UL 1449 3RD EDITION).
2. THE MANUFACTURER SHALL BE ISO 9000 CERTIFIED AND HAVE PRODUCED SIMILAR ELECTRICAL EQUIPMENT FOR A MINIMUM PERIOD OF FIVE (5) YEARS.
3. ELECTRICAL REQUIREMENTS:
   3.1. MAXIMUM CONTINUOUS OPERATING VOLTAGE (MCOV) SHALL NOT BE LESS THAN 125% OF THE SYSTEM OPERATING VOLTAGE.
   3.2. THE SUPPRESSION SYSTEM SHALL INCORPORATE THERMALLY PROTECTED METAL-OXIDE VARISTORS (MOVS) AS THE CORE SURGE SUPPRESSION COMPONENT FOR THE SERVICE ENTRANCE AND ALL OTHER DISTRIBUTION LEVELS.
   3.3. PROTECTION MODES – THE SPD MUST PROTECT ALL MODES OF THE ELECTRICAL SYSTEM. THE REQUIRED PROTECTION MODES ARE L-N, L-G, L-L, N-G
4. NOMINAL DISCHARGE CURRENT (IN) – ALL SPDS APPLIED TO THE DISTRIBUTION SYSTEM SHALL HAVE A 20KA IN RATING REGARDLESS OF THEIR TYPE OR VOLTAGE. SPDS HAVING AN IN LESS THAN 20KA SHALL BE REJECTED.
5. ANSI/UL 1449 3RD EDITION VOLTAGE PROTECTION RATING (VPR) – THE MAXIMUM ANSI/UL 1449 3RD EDITION VPR FOR THE DEVICE SHALL NOT EXCEED THE FOLLOWING:

MODES	208Y/120
L-N; L-G; N-G	700
L-L	1200

6. SPD DESIGN:
   6.1. THE SPD SHALL BE MAINTENANCE FREE AND SHALL NOT REQUIRE ANY ANY USER INTERVENTION THROUGHOUT ITS LIFE.
   6.2. THE UNIT SHALL INCLUDE A HIGH-PERFORMANCE EMI/RFI NOISE REJECTION FILTER. NOISE ATTENUATION FOR ELECTRIC LINE NOISE SHALL BE UP TO 50 DB FROM 10 KHZ TO 100 MHZ.
   6.3. THE SPD SHALL PROVIDE THE FOLLOWING INTEGRAL MONITORING OPTIONS:
   6.3.1. UNIT SHALL HAVE A GREEN / RED SOLID-STATE INDICATOR LIGHT THAT REPORTS THE STATUS OF THE PROTECTION ON EACH PHASE.
   6.3.2. THE SPD MUST INCLUDE FORM C DRY CONTACTS (ONE NO AND ONE NC) FOR REMOTE ANNUNCIATION OF ITS STATUS. BOTH THE NO AND NC CONTACTS SHALL CHANGE STATE UNDER ANY FAULT CONDITION.
   6.3.3. SPD SHALL CONTAIN AN AUDIBLE ALARM THAT WILL BE ACTIVATED UNDER ANY FAULT CONDITION. THERE SHALL ALSO BE AN AUDIBLE ALARM SILENCE BUTTON USED TO SILENCE THE AUDIBLE ALARM AFTER IT HAS BEEN ACTIVATED.
   6.3.4. SPD SHALL BE EQUIPPED WITH AN LCD DISPLAY THAT INDICATES TO THE USER HOW MANY SURGES HAVE OCCURRED. ONGOING SURGE COUNT SHALL BE STORED IN NON-VOLATILE MEMORY.
   6.4. SAFETY REQUIREMENTS:
   6.4.1. THE SPD SHALL MINIMIZE POTENTIAL ARC FLASH HAZARDS BY CONTAINING NO USER SERVICEABLE / REPLACEABLE PARTS AND SHALL BE MAINTENANCE FREE. SPDS CONTAINING ITEMS SUCH AS REPLACEABLE MODULES, REPLACEABLE FUSES, OR REPLACEABLE BATTERIES SHALL NOT BE ACCEPTED. SPDS REQUIRING ANY MAINTENANCE OF ANY SORT SUCH AS PERIODIC TIGHTENING OF CONNECTIONS SHALL NOT BE ACCEPTED.
   6.4.2. SPDS DESIGNED TO INTERFACE WITH THE ELECTRICAL ASSEMBLY VIA CONDUCTORS SHALL REQUIRE NO USER CONTACT WITH THE INSIDE OF THE UNIT. SUCH UNITS SHALL HAVE ANY REQUIRED CONDUCTORS BE FACTORY INSTALLED.
   6.5. SYSTEM APPLICATION:
   6.5.1. ALL SPDS SHALL BE TESTED AND DEMONSTRATE SUITABILITY FOR APPLICATION WITHIN ANSI/IEEE C62.41 CATEGORY C, B, AND A ENVIRONMENTS.
   6.5.2. MINIMUM SURGE CURRENT CAPACITY BASED ON ANSI/IEEE C62.41. DEVICE IS CAPABLE OF WITHSTANDING AS FOLLOWS:

CATEGORY	APPLICATION	PER PHASE	PER MODE
C	SERVICE ENTRANCE PANEL	120 KA	60 KA

7. SPD TYPE – ALL SPDS INSTALLED ON THE LINE SIDE OF THE SERVICE ENTRANCE DISCONNECT SHALL BE TYPE 1 SPDS. ALL SPDS INSTALLED ON THE LOAD SIDE OF THE SERVICE ENTRANCE DISCONNECT SHALL BE TYPE 1 OR TYPE 2 SPDS.
8. THE MANUFACTURER SHALL PROVIDE A FULL FIVE (5) YEAR WARRANTY FROM THE DATE OF SHIPMENT AGAINST ANY SPD PART FAILURE WHEN INSTALLED IN COMPLIANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND ANY APPLICABLE NATIONAL OR LOCAL CODE.

SECTION 26 50 00 LIGHTING FIXTURES

1. FURNISH LIGHTING FIXTURES, LAMPS AND DRIVERS/BALLAST AS INDICATED ON THE DRAWINGS OR APPROVED EQUALS TO SPECIFIED FIXTURES.
2. FURNISH ALL REQUIRED INSTALLATION ACCESSORIES FOR THE FIXTURES AS REQUIRED FOR THE SPECIFIC LOCATION WHETHER OR NOT INCLUDED IN THE MANUFACTURER'S CATALOG NUMBER. SUCH ACCESSORIES INCLUDE PLASTER FRAMES, RINGS, FLANGES, CANOPIES, STEM HANGERS, AND SUSPENSION STRAPS.
3. INSTALL LAMPS IN ALL FIXTURES INSTALLED UNDER THIS CONTRACT IN ACCORDANCE WITH THE FIXTURE SCHEDULE ON THE DRAWINGS.
4. ALL LIGHT FIXTURES SHALL BE UL LISTED.
5. FIXTURES SHALL BE SECURELY MOUNTED TO ELEMENTS OF THE BUILDING OR TO SUSPENDED CEILING SYSTEMS. WIRE SUPPORTED FROM THE STRUCTURE SHALL BE PROVIDED FOR FIXTURES INSTALLED IN LAY-IN CEILINGS. PROVIDE MEANS OF SUPPORT AS REQUIRED IN NEC ARTICLE 410.16.
6. FLUSH FIXTURES WITH LIGHT SPILLING BETWEEN FRAME AND CEILING TO HAVE FELT GASKETS INSTALLED BETWEEN TRIM AND CEILING.
7. ALL BALLASTED FIXTURES SHALL HAVE A DISCONNECTING MEANS AT THE FIXTURE PER THE REQUIREMENTS OF NEC 410.130.

SECTION 28 31 00 FIRE ALARM SYSTEM

1. PROVIDE A STAND ALONE DUCT SMOKE DETECTION SYSTEM. THE SYSTEM SHALL ANNUNCIATE WITH AUDIBLE AND VISUAL MEANS WITH-IN THE SPACE.
2. DUCT SMOKE DETECTION SYSTEM SHALL BE A STAND ALONE 120 VOLT SYSTEM. PROVIDE POWER FROM NEAREST ELECTRICAL PANEL.
3. FIRE ALARM INSTALLATION SHALL BE U.L LISTED AND CONFORM TO THE REQUIREMENTS OF NFPA 72, NFPA 101, LOCAL BUILDING CODES, AND THE NEC.
4. CONTROL FUNCTIONS SHALL INCLUDE AIR HANDLING UNIT SHUTDOWN.
5. CONTRACTOR SHALL PROVIDE FIRE ALARM SHOP DRAWINGS FOR THE BUILDING DEPARTMENT REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OF THE FIRE ALARM SYSTEM.

END OF SPECIFICATIONS

Blaser Engineering
342 Moore Street
Bristol, VA 24201
Phone: (423) 349-8380

BLASER ENG JOB# 20-123

Revisions		
No.	Date	Description

JAMES A. BLASER
No. 00106203
STATE OF TENNESSEE

Hale House Development for
Hamblen County Government
Morristown, Tennessee

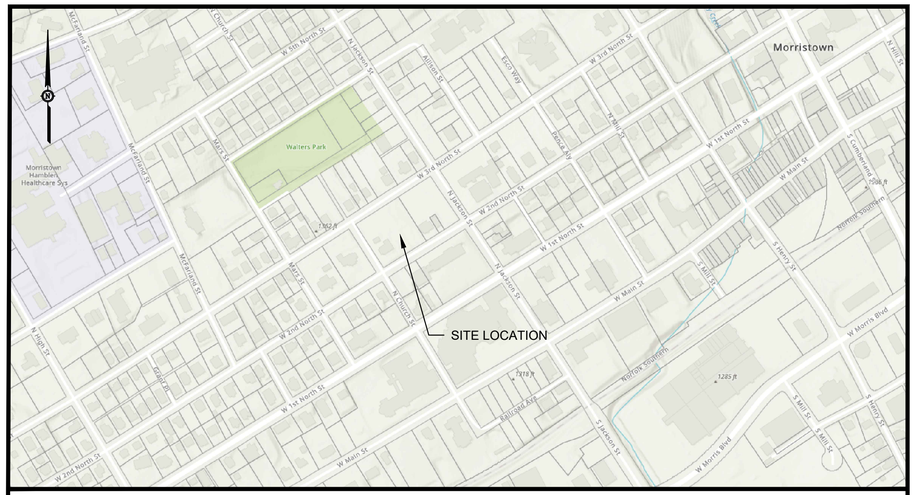
a. dave wright architect
110 S. Main Street
Greeneville, TN. 37743
Phone: (423) 525-5093
Fax: (423) 525-5095
Cell: (423) 329-2876

Drawn:	J. Blaser
Checked:	J. Blaser
Job No:	19-166
Scale:	as noted
Date:	09-21-20
File Name:	20123 electrical
Drawing Title:	Electrical Specifications
Sheet No.	E3.2

plotted: 9/21/2020 2:16:02 PM file: 20123 ELECTRICAL.DWG

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT

MORRISTOWN, TENNESSEE



VICINITY MAP

NOT TO SCALE

SCHEDULE OF DRAWINGS

ProE Engineering Services, LLC
112 Newport Drive
Oak Ridge, TN 37830
(865) 603-2188

JOHN R. GREEAR
REGISTERED ENGINEER
AGRICULTURE
NO. 101
STATE OF TENNESSEE
10/23/20

OCTOBER 2020

GENERAL NOTES

1. FIELD SURVEY WAS PERFORMED BY A.M. SURVEYING (RICHARD KENT TN PLS #2040) AND PROVIDED TO HAMBLEN COUNTY ON FEBRUARY 28, 2020.
2. ALL ABOVE GROUND IMPROVEMENTS AND UTILITIES WITHIN THE PROJECT LIMITS SET FORTH BY THE CLIENT ARE SHOWN HEREON.
3. THERE HAS BEEN NO ATTEMPT TO LOCATE ANY UNDERGROUND UTILITIES OR IMPROVEMENTS. UNDERGROUND UTILITIES SHOWN WERE FROM ACTUAL FIELD EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF ANY UTILITIES SHOWN, WHICH ARE NOT VISIBLE FROM THE SURFACE.
4. NOTIFY THE ENGINEER AFTER EXISTING BURIED UTILITIES HAVE BEEN LOCATED AND AT LEAST 24 HOURS PRIOR TO CONSTRUCTION.
5. ALL WORK NEAR AND AROUND WATERWAYS MUST CONFORM TO THE RULES OF THE STATE OF TENNESSEE.
6. FIELD VERIFY ALL PROPOSED TOP ELEVATIONS AND EXISTING INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY DISCREPANCIES.
7. REPAIR DISTURBED AREAS TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE, OR AS NOTED.
8. CONSTRUCTION ON THIS PROJECT MAY NOT COMMENCE UNTIL ALL PERMITS ASSOCIATED WITH THE WORK ARE ISSUED FOR THE PROJECT.
9. NOTIFY THE ENGINEER IMMEDIATELY IN THE EVENT A DISCREPANCY IS FOUND IN THE EXISTING CONDITIONS OF THE PROJECT SITE.
10. A CONCRETE WASHOUT AREA SHALL BE PROVIDED AT THE PROJECT'S "MATERIAL STORAGE AREA", OR AS DESIGNATED BY THE ENGINEER, AND SHALL MEET THE REQUIREMENTS OF THE CONSTRUCTION DRAWING DETAIL.
11. ALL CHEMICAL AND SOLUBLE MATERIALS STORED ONSITE MUST EITHER BE STORED IN AN ENCLOSED, WATERPROOF STORAGE FACILITY OR PROVIDED WITH SECONDARY CONTAINMENT CAPABLE OF STORING THE CONTENTS OF THE TOTAL AMOUNT OF CHEMICALS STORED. SPILL CLEANUP MATERIALS MUST BE LOCATED WITHIN THE IMMEDIATE PROXIMITY OF THE MATERIALS AS WELL.
12. IT SHALL NOT BE STANDARD PRACTICE FOR VEHICLE MAINTENANCE TO BE PERFORMED ON THE PROJECT SITE. HOWEVER, WHEN IT IS NECESSARY, THE USE OF APPROPRIATE BEST MANAGEMENT PRACTICES SUCH AS DRIP PANS, OIL RECYCLING FACILITIES, SPILL CLEANUP MATERIALS, AND CONTAINERS FOR LUBRICANTS & CLEANERS IS REQUIRED.
13. THE PROJECT ENGINEER MUST APPROVE THE PLACEMENT OF PORT-A-POTTIES. IN NO INSTANCE SHALL THEY BE LOCATED CLOSE TO STREAMS, WETLANDS, OR STORM DRAINS.

GENERAL GRADING AND DRAINAGE NOTES

1. FINISHED GRADE TOLERANCE SHALL BE ±0.1' IN LANDSCAPED AREAS AND ±0.05' IN CONCRETE OR ASPHALT PAVED AREA. THE ENGINEER MAY MAKE GRADE CHANGES AS REQUIRED IN THE FIELD WITHOUT AFFECTING THE UNIT BID PRICE FOR UNCLASSIFIED EXCAVATION.
2. UNLESS OTHERWISE STATED, ALL FILL AREAS DESIGNATED FOR FUTURE USE OF PARKING AND/OR BUILDINGS SHALL BE CONSTRUCTED IN LAYERS OF 8" MAXIMUM THICKNESS, WITH WATER ADDED OR SOIL CONDITIONED TO THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE ENGINEER AND COMPACTED WITH A SHEEP'S FOOT ROLLER TO A COMPACTION EQUAL TO OR GREATER THAN 98% (100% IN THE TOP 12" OF THE SUB GRADE BELOW ROADWAYS AND PARKING LOTS) OF THE DENSITY OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH THE STANDARD PROCTOR METHOD OF MOISTURE-DENSITY RELATIONSHIP TEST, ASTM D698 OR AASHTO-99 UNLESS SPECIFIED IN OTHER SPECIFICATIONS. COMPACTION OF SOILS SHALL BE LIMITED TO THE MAXIMUM EXTENT PRACTICABLE ON ALL LANDSCAPING AND OPEN AREAS TO PROMOTE GROUND INFILTRATION.
3. UPON COMPLETION OF SITE CONSTRUCTION, BUT PRIOR TO THE INSTALLATION OF LANDSCAPING AND APPLICATION OF TOPSOIL, SEEDING, AND MULCH, ALL LANDSCAPING AND OPEN AREAS SHALL BE DISKED TO A MINIMUM DEPTH OF 18".
4. ENTIRE AREA TO BE GRADED SHALL BE CLEARED AND GRUBBED. NO FILL SHALL BE PLACED ON ANY AREA NOT CLEARED AND GRUBBED.
5. DISPOSABLE MATERIAL:
   - A. CLEARING AND GRUBBING WASTES SHALL BE REMOVED FROM THE SITE AND PROPERLY DISPOSED OF BY THE CONTRACTOR AT HIS EXPENSE, UNLESS SPECIFIED OTHERWISE.
   - B. SOLID WASTES TO BE REMOVED, SUCH AS SIDEWALKS, CURBS, PAVEMENT, ETC., SHALL EITHER BE REMOVED FROM THE SITE OR PLACED IN SPECIFIC DISPOSAL AREAS APPROVED BY THE ENGINEER. IF PLACED ON-SITE, THIS MATERIAL SHALL HAVE A MINIMUM COVER OF 2'. THE CONTRACTOR SHALL MAINTAIN SPECIFIED COMPACTION REQUIREMENTS IN THESE AREAS. WHEN DISPOSAL SITES ARE NOT PROVIDED, THE CONTRACTOR SHALL REMOVE THIS WASTE FROM THE SITE AND PROPERLY DISPOSE OF IT AT HIS EXPENSE.
   - C. ABANDONED UTILITIES SUCH AS CULVERTS, WATER PIPE, HYDRANTS, CASTINGS, PIPE APPURTENANCES, UTILITY POLES, ETC., SHALL BE THE PROPERTY OF THE SPECIFIC UTILITY AGENCY, OR COMPANY HAVING JURISDICTION. BEFORE THE CONTRACTOR CAN REMOVE, DESTROY, SALVAGE, REUSE, SELL OR STORE FOR PERSONAL USE ANY ABANDONED UTILITY, CONTRACTOR MUST PRESENT TO THE OWNER WRITTEN PERMISSION FROM THE UTILITY INVOLVED.
5. IN THE EVENT EXCESSIVE GROUNDWATER OR SPRINGS ARE ENCOUNTERED WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL FIRST NOTIFY THE ENGINEER OR HIS REPRESENTATIVE IN ORDER TO DEVELOP A REMEDIATION PLAN. CONTRACTOR SHALL THEN INSTALL NECESSARY UNDER DRAINS AND STONE AS DIRECTED BY THE ENGINEER. ALL WORK SHALL BE PAID AS AGREED UPON IN WRITING BY THE OWNER, UNLESS SPECIFIED OTHERWISE.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ADJUSTMENT OF ALL UTILITY SURFACE ACCESSES REGARDLESS OF WHO PERFORMS THE WORK.
7. THE CONTRACTOR SHALL PROVIDE ACCESS WITHIN THE PROJECT AREA TO PROPERTY OWNERS AND/OR EMERGENCY VEHICLES AT ALL TIMES. ALL OPEN DITCHES AND HAZARDOUS AREAS SHALL BE CLEARLY MARKED IN ACCORDANCE WITH THE SPECIFICATIONS.
8. ALL AREAS OF EXPOSED DIRT SHALL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO THE SPECIFICATIONS. THE FINISHED SURFACE SHALL BE TO GRADE, SMOOTH, FREE OF ALL ROCKS LARGER THAN 0.5", EQUIPMENT TRACKS, DIRT CLODS, BUMPS, RIDGES AND GOUGES PRIOR TO SEEDING; THE SURFACE SHALL BE LOOSENED TO A DEPTH OF ±4"-6" TO ACCEPT SEED. THE CONTRACTOR SHALL NOT PROCEED WITH SEEDING OPERATIONS WITHOUT FIRST OBTAINING THE ENGINEER'S APPROVAL OF THE GRADED SURFACE.
9. STORM DRAINAGE:
   - A. UNLESS OTHERWISE SPECIFIED, ALL STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE (RCP), CLASS III TYPE AND CONFORM TO ASTM C-76. ALL GASKET JOINTS SHALL MEET THE REQUIREMENTS OF AASHTO M-170.
   - B. WHEN SPECIFIED, HIGH DENSITY POLYETHYLENE (HDPE) STORM DRAIN PIPE SHALL BE SMOOTH WALL INTERIOR, MEETING THE REQUIREMENTS OF AASHTO M294, TYPE S, HAVE WATER TIGHT JOINTS, AND BE BACKFILLED WITH # 57 WASHED STONE UP TO MINIMUM OF 6" OVER THE CROWN OF THE PIPE.
   - C. ALL CORRUGATED METAL STORM DRAIN PIPE (CMP) SHALL BE ALUMINIZED TYPE 2 CORRUGATED STEEL MANUFACTURED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M-36. THE PIPE SHALL BE MANUFACTURED FROM ALUMINIZED STEEL TYPE 2 MATERIAL CONFORMING TO THE REQUIREMENTS OF AASHTO M-274. ALL PIPE SHALL BE FURNISHED WITH RE-ROLLED ENDS AND SHALL BE JOINED WITH HUGGER BANDS. THE USE OF DIMPLE BANDS WILL NOT BE ALLOWED. PIPE THROUGH 24" DIAMETER SHALL BE 16 GAUGE, PIPE THROUGH 42" DIAMETER SHALL BE 14 GAUGE, PIPE THROUGH 54" DIAMETER SHALL BE 12 GAUGE.
   - D. WHEN SPECIFIED, PVC PIPING FOR STORMWATER CONVEYANCE SHALL BE CONTECH A-2000 TYPE OR APPROVED EQUAL.
   - E. MANHOLES AND CATCH BASIN SHALL BE REINFORCED PRECAST CONCRETE TYPE, CONFORM TO ASTM C-478, AND HAVE A COMPRESSIVE STRENGTH OF 4,000 PSI.
11. CONTRACTOR SHALL VERIFY ALL ELEVATIONS BEFORE INSTALLATION OF FACILITIES.
12. TOPS OF PROPOSED FRAMES AND GRATES SHALL BE FLUSH WITH FINISHED GRADE.
13. CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY PROPERTY PINS THAT ARE DISTURBED DURING CONSTRUCTION.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. THIS IS A PRIORITY CONSTRUCTION ACTIVITY.
2. ADEQUATE DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES, BEST MANAGEMENT PRACTICES AND/OR OTHER STORMWATER MANAGEMENT FACILITIES SHALL BE PROVIDED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION. DAMAGES TO ADJACENT PROPERTY AND/OR THE CONSTRUCTION SITE CAUSED BY THE CONTRACTOR'S OR PROPERTY OWNER'S FAILURE TO PROVIDE AND MAINTAIN ADEQUATE DRAINAGE AND EROSION/SEDIMENT CONTROL FOR THE CONSTRUCTION AREA SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER AND/OR CONTRACTOR.
3. QUALITY ASSURANCE OF EROSION PREVENTION AND SEDIMENT CONTROLS SHALL BE CONDUCTED BY QUALIFIED PERSONNEL PERFORMING SITE ASSESSMENT AT EACH OUTFALL INVOLVING DRAINAGE TOTALING 10 OR MORE ACRES, OR FIVE OR MORE ACRES IF DRAINING TO IMPAIRED OR EXCEPTIONAL WATERS. THIS ASSESSMENT WILL BE CONDUCTED AT EACH QUALIFYING OUTFALL WITHIN A MONTH OF CONSTRUCTION COMMENCEMENT. (SEE CGP SEC 3.1.2 FOR ASSESSMENT LANGUAGE)
4. FUGITIVE SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE MUST BE REMOVED SO THAT IT IS NOT SUBSEQUENTLY WASHED INTO STORM SEWERS AND/OR STREAMS BY THE NEXT RAIN AND/OR SO THAT IT DOES NOT POSE A SAFETY HAZARD TO USERS OF PUBLIC STREETS. ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED BY THE PERMITTEE WITH THE ADJOINING LAND OWNER.
5. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORMWATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF THE SITE BY WIND, OR OTHERWISE PREVENTED FROM BECOMING A POLLUTION SOURCE FOR STORMWATER DISCHARGES.
6. THE CONTRACTOR SHALL CONTROL ALL "DUST" BY PERIODIC WATERING.
7. THE CONTRACTOR IS TO DESIGNATE A SPECIFIC INDIVIDUAL TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON PROJECT SITE DURING CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR'S FOREMAN IS RESPONSIBLE FOR KEEPING A CURRENT COPY OF THE PROJECT'S STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON SITE AT ALL TIMES THAT WORK IS TAKING PLACE.
8. ALL SOIL EROSION CONTROL MEASURES REQUIRED BY THE GRADING PLAN SHALL BE PERFORMED PRIOR TO GRADING, CLEARING OR GRUBBING. ALL EROSION CONTROL DEVICES SUCH AS SILT FENCES, ETC., SHALL BE MAINTAINED IN WORKABLE CONDITION FOR THE LIFE OF THE PROJECT AND SHALL BE REMOVED AT THE COMPLETION OF THE PROJECT ONLY ON THE ENGINEER'S APPROVAL. PAYMENT SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING. IF DURING THE LIFE OF THE PROJECT, A STORM CAUSES SOIL EROSION WHICH CHANGES FINISH GRADES OR CREATES "GULLIES" AND "WASHED AREAS", THESE SHALL BE REPAIRED AT NO EXTRA COST, AND ALL SILT WASHED OFF OF THE PROJECT SITE ONTO ADJACENT PROPERTY SHALL BE REMOVED AS DIRECTED BY THE ENGINEER AT NO EXTRA COST. THE CONTRACTOR SHALL ADHERE TO ANY APPROVED EROSION CONTROL PLANS WHETHER INDICATED IN THE CONSTRUCTION PLANS OR UNDER SEPARATE COVER.
9. WITHIN A MONTH OF THE COMMENCEMENT OF CONSTRUCTION, A SITE ASSESSMENT INSPECTION SHALL BE PERFORMED BY THE A LICENSED PROFESSIONAL ENGINEER OR LANDSCAPE ARCHITECT, A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC), OR A PERSON WHO HAS SUCCESSFULLY COMPLETED THE "LEVEL II DESIGN PRINCIPLES FOR EROSION PREVENTION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES" COURSE. THE SITE ASSESSMENT SHALL BE PERFORMED WITH THE SITE INSPECTOR AND IS TO INCLUDE INSPECTION OF EACH OUTFALL AND ALL PERIMETER E&SC MEASURES, AT A MINIMUM, TO VERIFY THEIR PROPER INSTALLATION, FUNCTIONALITY, AND PERFORMANCE. ALL FINDINGS FROM THE ASSESSMENT SHALL BE DOCUMENTED, KEPT WITH THE SITE'S SWPPP, AND INCLUDE THE INFORMATION INCLUDED IN THE TNCGP "APPENDIX C" INSPECTION FORM AT A MINIMUM.
10. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL EROSION CONTROL MEASURES SHALL BE EMPLOYED BY THE CONTRACTOR WHERE DETERMINED NECESSARY BY LOCAL AUTHORITIES OR THE ENGINEER BASED ON ACTUAL SITE CONDITIONS AT NO COST TO THE OWNER.
11. EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE DRAWINGS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE DRAINAGE PATTERNS SHOWN ON THE DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO ACCOMPLISH EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
12. PROVISIONS TO PREVENT EROSION OF SOIL FROM THE SITE SHALL BE, AT A MINIMUM, IN CONFORMANCE WITH THE LATEST REVISION OF THE "TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK", PUBLISHED BY THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION.
13. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION ACTIVITY BEING STOPPED UNTIL SUCH MEASURES ARE CORRECTED.
14. IF FINES OR PENALTIES ARE LEVIED AGAINST THE OWNER OF THIS PROJECT BECAUSE OF A LACK OF EROSION OR SEDIMENTATION CONTROL, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PAYMENT OF SUCH FINES OR PENALTIES, OR THE COST OF SUCH FINES OR PENALTIES SHALL BE DEDUCTED FROM THE CONTRACT AMOUNT.
15. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED BY THE END OF EACH DAY.
16. CONSTRUCTION OF THE SITE WILL BEGIN WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL EROSION AND SEDIMENT DEPOSIT. ALL SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL ALL UPSTREAM DISTURBED GROUND HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION. NO DISTURBANCE ACTIVITY SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE DRAWINGS.
17. SITE EROSION CONTROL SHALL BE CHECKED TWICE A WEEK, AT LEAST 72 HOURS APART, AND WITHIN 24-HOURS AFTER EACH RAINFALL GREATER OR EQUAL TO 1/2". IN THE EVENT OF CONTINUOUS RAINFALL, EROSION CONTROL MEASURES SHALL BE CHECKED DAILY. IF REPAIRS ARE FOUND TO BE NECESSARY, THEY SHALL BE PERFORMED IMMEDIATELY.
18. THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT FROM SEDIMENT BARRIERS AND OTHER CONTROLS WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY 50%.
19. TEMPORARY OR PERMANENT SOIL STABILIZATION MUST BE COMPLETED NO LATER THAN 15 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY OR TEMPORARILY CEASED. STEEP SLOPES (>35%) MUST BE PERMANENTLY OR TEMPORARILY STABILIZED WITHIN 7 DAYS.
20. WHEN ANY CONSTRUCTION BORDERS A DRAINAGE WAY, THE CONTRACTOR SHALL NOT DEPOSIT ANY MATERIAL, DIRT OR OTHERWISE, IN THE DRAINAGE COURSE OR THE FLOODPLAIN.
21. DURING SEDIMENT REMOVAL, TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EROSION CONTROL STRUCTURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, REPAIR STRUCTURES AT CONTRACTORS OWN EXPENSE.
22. TREAT STOCKPILED TOPSOIL OR FILL MATERIAL SO SEDIMENT RUN-OFF WILL NOT CONTAMINATE SURROUNDING AREAS OR ENTER NEARBY STREAMS.
23. EXISTING VEGETATION SHALL BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE. HOLD CLEARING AND GRUBBING TO MINIMUM WIDTH NECESSARY TO ACCOMMODATE SLOPES. UNNECESSARY CANOPY REMOVAL (TREES, SHRUBS, ETC.) IS PROHIBITED.
24. DO NOT DESTROY, REMOVE OR DISTURB VEGETATIVE GROUND COVER MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING.
25. TOP SOIL, SEED AND MULCH ALL NEWLY GRADED EARTHEN AREAS THAT ARE NOT PAVED OR CONCRETED. PLACE MINIMUM 6" OF TOPSOIL TO ESTABLISH FINISH GRADE ON AREAS TO BE GRASSED. SEE SEEDING SCHEDULE FOR SEED TYPES AND APPLICATION RATES.
26. A MINIMUM OF 100 SEEDLINGS IS REQUIRED PER SQUARE FOOT OF GRASS SPECIES LISTED. REWORK, REFERTILIZE AND/OR RESEED AS NECESSARY TO ESTABLISH ACCEPTABLE GRASS GROWTH.
27. EROSION CONTROL MEASURES OTHER THAN THOSE SPECIFIED ON THIS SHEET MAY BE USED PENDING ENGINEERS APPROVAL.

Know what's below.
Call before you dig.

REVISIONS

NO.	DATE	DESC.

JOHN R. GREEAR
REGISTERED ENGINEER
No. 101 AGRICULTURE
STATE OF TENNESSEE
10/23/20

PRE Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT
MORRISTOWN, TENNESSEE

JOB NO.: 20-07
DATE: OCTOBER 2020
DESIGNED BY: JG
CADD BY: JG
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: HalePropertyBase_Rev3.dwg

GENERAL NOTES

SHEET
G-002

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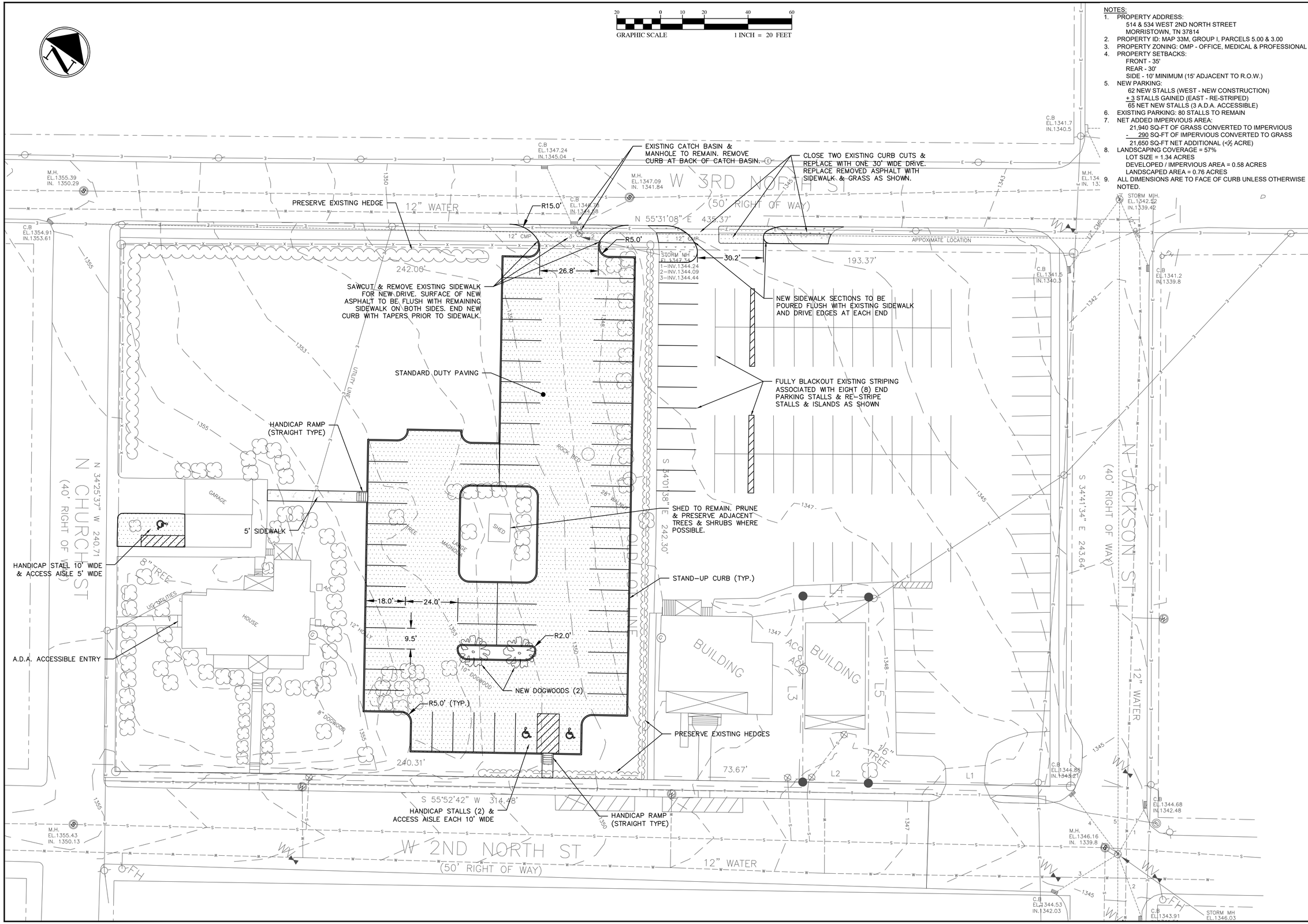

NOTES:

1. PROPERTY ADDRESS:
   514 & 534 WEST 2ND NORTH STREET
   MORRISTOWN, TN 37814
2. PROPERTY ID: MAP 33M, GROUP I, PARCELS 5.00 & 3.00
3. PROPERTY ZONING: OMP - OFFICE, MEDICAL & PROFESSIONAL
4. PROPERTY SETBACKS:
   FRONT - 35'
   REAR - 30'
   SIDE - 10' MINIMUM (15' ADJACENT TO R.O.W.)
5. NEW PARKING:
   62 NEW STALLS (WEST - NEW CONSTRUCTION)
   + 3 STALLS GAINED (EAST - RE-STRIPED)
   65 NET NEW STALLS (3 A.D.A. ACCESSIBLE)
6. EXISTING PARKING: 80 STALLS TO REMAIN
7. NET ADDED IMPERVIOUS AREA:
   21,940 SQ-FT OF GRASS CONVERTED TO IMPERVIOUS
   - 290 SQ-FT OF IMPERVIOUS CONVERTED TO GRASS
   21,650 SQ-FT NET ADDITIONAL (~½ ACRE)
8. LANDSCAPING COVERAGE = 57%
   LOT SIZE = 1.34 ACRES
   DEVELOPED / IMPERVIOUS AREA = 0.58 ACRES
   LANDSCAPED AREA = 0.76 ACRES
9. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

REVISIONS		
NO.	DATE	DESC.

JOHN R. GREEAR
REGISTERED ENGINEER
No. 101
STATE OF TENNESSEE
10/23/20

P&E Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT

MORRISTOWN, TENNESSEE

JOB NO.: 20-07
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SITE LAYOUT & LANDSCAPE PLAN

SHEET
C-101

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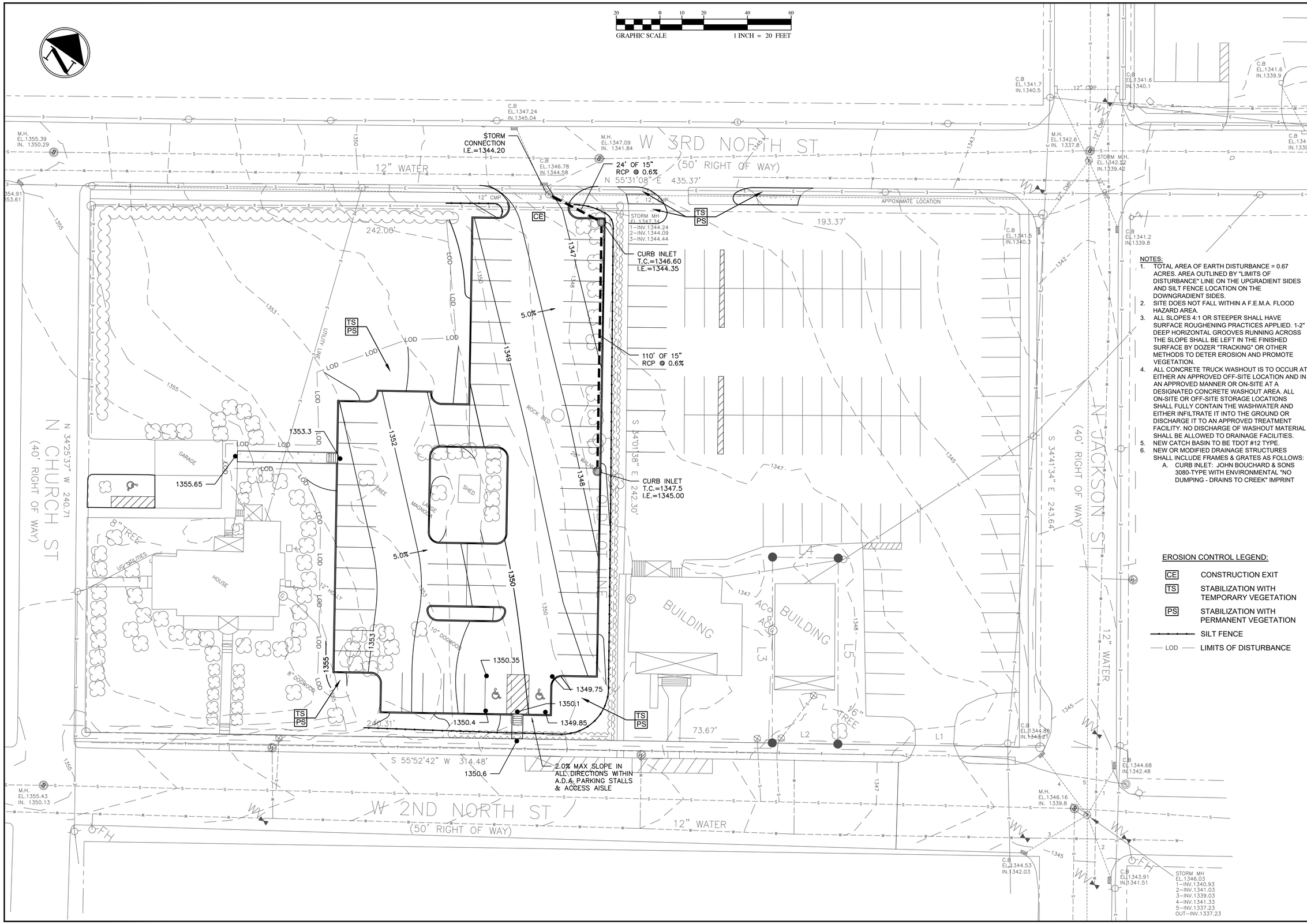

NOTES:

1. TOTAL AREA OF EARTH DISTURBANCE = 0.67 ACRES. AREA OUTLINED BY "LIMITS OF DISTURBANCE" LINE ON THE UPGRADIENT SIDES AND SILT FENCE LOCATION ON THE DOWNGRADIENT SIDES.
2. SITE DOES NOT FALL WITHIN A F.E.M.A. FLOOD HAZARD AREA.
3. ALL SLOPES 4:1 OR STEEPER SHALL HAVE SURFACE ROUGHENING PRACTICES APPLIED. 1-2" DEEP HORIZONTAL GROOVES RUNNING ACROSS THE SLOPE SHALL BE LEFT IN THE FINISHED SURFACE BY DOZER "TRACKING" OR OTHER METHODS TO DETER EROSION AND PROMOTE VEGETATION.
4. ALL CONCRETE TRUCK WASHOUT IS TO OCCUR AT EITHER AN APPROVED OFF-SITE LOCATION AND IN AN APPROVED MANNER OR ON-SITE AT A DESIGNATED CONCRETE WASHOUT AREA. ALL ON-SITE OR OFF-SITE STORAGE LOCATIONS SHALL FULLY CONTAIN THE WASHWATER AND EITHER INFILTRATE IT INTO THE GROUND OR DISCHARGE IT TO AN APPROVED TREATMENT FACILITY. NO DISCHARGE OF WASHOUT MATERIAL SHALL BE ALLOWED TO DRAINAGE FACILITIES.
5. NEW CATCH BASIN TO BE TDOT #12 TYPE.
6. NEW OR MODIFIED DRAINAGE STRUCTURES SHALL INCLUDE FRAMES & GRATES AS FOLLOWS:
   A. CURB INLET: JOHN BOUCHARD & SONS 3080-TYPE WITH ENVIRONMENTAL "NO DUMPING - DRAINS TO CREEK" IMPRINT

EROSION CONTROL LEGEND:

CE	CONSTRUCTION EXIT
TS	STABILIZATION WITH TEMPORARY VEGETATION
PS	STABILIZATION WITH PERMANENT VEGETATION
	SILT FENCE
LOD	LIMITS OF DISTURBANCE

REVISIONS

NO.	DATE	DESC.

JOHN R. GREEAR REGISTERED ENGINEER AGRICULTURE NO. 110903 STATE OF TENNESSEE
10/23/20

P&E Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT

MORRISTOWN, TENNESSEE

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GRADING, DRAINAGE & EROSION CONTROL PLAN

SHEET
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SITE STABILIZATION

GENERAL

ALL EROSION CONTROL MEASURES ARE TO BE PERFORMED IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION AND THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK, 4TH ED. AUGUST 2012. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE COMPLIED WITH FOR ALL WORK.

1. OBTAIN ALL REQUIRED PERMITS FROM LOCAL AND STATE AGENCIES.
2. INSTALL ALL EROSION CONTROL MEASURES AS CALLED FOR IN THE CONSTRUCTION PLANS AND AS OUTLINED IN THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION AND SEDIMENT CONTROL HANDBOOK, 4TH ED. AUGUST 2012.
3. PROCEED WITH GRADING, CLEARING AND GRUBBING.
4. SEED AND MULCH DENUDED AREA WITHIN 14 DAYS AFTER FINISHED GRADES ARE ESTABLISHED. SEED AND SOIL AMENDMENTS SHALL BE PLACED ON A PREPARED SEEDBED AT THE REQUIRED RATES PER ACRE.
5. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
6. REMOVE SOIL EROSION CONTROL MEASURES AND STABILIZE THESE AREAS.

TEMPORARY STABILIZATION [TS]

1. TEMPORARY STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS POSSIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY STOPPED AND ON SOIL STOCKPILES. TEMPORARY SOIL STABILIZATION ON THE CONSTRUCTION SITE OR A PHASE OF THE PROJECT MUST BE COMPLETED NO LATER THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITIES WITHIN THAT AREA HAVE TEMPORARILY OR PERMANENTLY CEASED.
2. SEEDBED PREPARATION:
   - SEEDBED PREPARATION MAY NOT BE REQUIRED WHEN THE SOIL MATERIAL IS LOOSE AND HAS NOT BEEN COMPACTED BY MACHINERY OR RAINFALL.
   - SEEDBED SHALL BE DISKED, PLOWED, TILLED, OR OTHERWISE SCARIFIED WHEN SOIL COMPACTION HAS OCCURRED DUE TO EQUIPMENT OR RAINFALL.
3. SELECT APPROPRIATE SEED FROM TEMPORARY PLANTING TABLE BELOW. SEED SHALL BE APPLIED UNIFORMLY TO THE APPROPRIATE DEPTH.
4. MULCH SHALL BE UTILIZED ON ALL AREAS REQUIRING TEMPORARY STABILIZATION AND REQUIRE ADDITIONAL ATTENTION UNDER THE FOLLOWING CONDITIONS:
   - SEEDING IN THE FALL FOR WINTER COVER;
   - SLOPES STEEPER THAN 3:1;
   - EXCESSIVELY HOT OR DRY WEATHER;
   - ADVERSE SOILS (SHALLOW, ROCKY, OR HIGH IN CLAY OR SAND); AND
   - AREAS RECEIVING CONCENTRATED FLOW.
5. REFER TO TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK SECTION 7.8 FOR ADDITIONAL REQUIREMENTS FOR TEMPORARY STABILIZATION.

TEMPORARY PLANTS

WINTER/SPRING MIX

SPECIES	RATE (LB/ACRE)
RYE	120

SEEDING	DATES
EAST TN ABOVE 2500 FEET:	FEB 15–MAY 15
BELOW 2500 FEET:	FEB 1–MAY 1
MIDDLE TN	JAN 1–MAY 1
WEST TN	DEC 1–APR 15

SUMMER MIX

SPECIES	RATE (LB/ACRE)
OATS	60
BROWN TOP MILLET	30

SEEDING	DATES
EAST TN	MAY 15–AUG 15
MIDDLE TN	MAY 1–AUG 15
WEST TN	APR 15–AUG 15

FALL MIX

SPECIES	RATE (LB/ACRE)
OATS	30
WINTER WHEAT	30

SEEDING	DATES
EAST TN	AUG 15–DEC 15
MIDDLE TN	AUG 15–DEC 30
WEST TN	AUG 15–DEC 30

SOIL AMENDMENTS:
EITHER SOIL TESTING IS TO BE PROVIDED BY AN AGRONOMIST AND THEIR RECOMMENDATIONS FOR SOIL AMENDMENTS FOLLOWED OR CONTRACTOR IS TO APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10–10–10 FERTILIZER. REGARDLESS OF THE MANNER IN WHICH AMENDMENTS ARE CHOSEN, THE CONTRACTOR IS RESPONSIBLE FOR CREATING AND MAINTAINING ACCEPTABLE VEGETAL COVER ON THE SITE THROUGHOUT THE LIFE OF THE CONSTRUCTION PROJECT.

MULCH:
APPLY 4,000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING OR A MULCH ANCHORING TOLL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

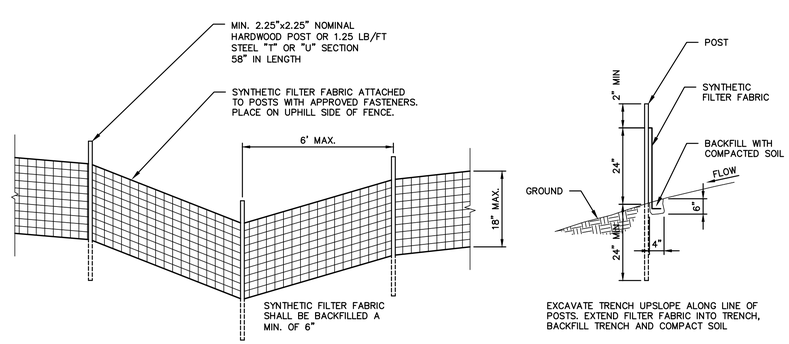
MAINTENANCE:
RE–FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE–FERTILIZED AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE. IF NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/AC CRIMSON CLOVER IN LATE FEBRUARY OR EARLY MARCH.

PERMANENT STABILIZATION [PS]

1. PERMANENT STABILIZATION IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETE AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA.
2. PERMANENT STABILIZATION SHALL BE APPLIED WHERE NO SOIL DISTURBANCE HAS TAKEN PLACE, OR WHERE TOPSOIL HAS BEEN RETURNED AND INCORPORATED INTO THE SOIL SURFACE.
3. WHERE A SUITABLE PLANTING MEDIUM IS NOT PRESENT, TOPSOIL SHALL BE IMPORTED AND INCORPORATED INTO THE SOIL SURFACE.
4. TOPSOIL SHALL BE FREE OF DEBRIS, OBJECTIONABLE WEEDS, STONES, AND TOXIC SUBSTANCES. TOPSOIL SHOULD BE HANDLED ONLY WHEN DRY ENOUGH TO WORK WITHOUT DAMAGING SOIL STRUCTURE AND PLACED TO A MINIMUM UNSETTLED DEPTH OF 5".
5. PLANTS SHALL BE SELECTED ON THE BASIS OF SPECIES CHARACTERISTICS, SITE AND SOIL CONDITIONS, PLANNED USE AND MAINTENANCE OF THE AREA; TIME OF YEAR OF PLANTING, AND THE METHOD OF PLANTING BEING USED.
6. MULCH IS REQUIRED FOR ALL PERMANENT VEGETATION APPLICATIONS. MULCH APPLIED TO SEEDED AREAS SHALL ACHIEVE 75% SOIL COVER.
7. MULCHING MATERIAL SHALL BE DRY STRAW OR DRY HAY FREE OF WEED SEEDS, OR WOOD CELLULOSE MULCH OR PULP. MULCHING MATERIAL SHOULD BE APPLIED AS STATED IN THE PROJECT SPECIFICATIONS.
8. IRRIGATION SHALL BE PERFORMED WHEN SOIL IS DRY AND WHEN SUMMER PLANTINGS ARE DONE.

PERMANENT PLANT MIXTURES

1. SOIL TESTING SHOULD BE PERFORMED AND EVALUATED BY AN AGRONOMIST TO DETERMINE SOIL TREATMENT REQUIREMENTS FOR PARAMETERS SUCH AS PH, NITROGEN, PHOSPHORUS, POTASSIUM, AND OTHER FACTORS.
2. SEED SHALL BE IRRIGATED IMMEDIATELY AFTER PLACEMENT AND REGULARLY DURING DRY PERIODS.



NOTES:
1. FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND DAILY DURING PROLONGED RAINFALL. REPAIR SHALL BE MADE AS NECESSARY.
2. FABRIC SHALL BE REPLACED PROMPTLY IF FOUND TO BE IN DISREPAIR.
3. SEDIMENT DEPOSITS SHALL BE REMOVED AFTER EACH STORM EVENT AND WHEN DEPOSITS REACH APPROXIMATELY 1/3 HEIGHT OF BARRIER.

SILT FENCE

NOT TO SCALE

PREFERRED SEED MIXES USING NATIVE OR NATURALIZED PLANTS AND PLANTING DATES

ZONE		BEST	MARGINAL	PREFERRED RATE/MIX (LB/AC PLS)
REGION III	>2500 FT ELEVATION STEEP SLOPES	MAR 20–APR 30	AUG 15–AUG 30 MAR 1–MAR 20 APR 20–JUN 15	15 BROWNTOP MILLET* (NURSE CROP) 5 PURPLETOP 10 LITTLE BLUESTEM 10 INDIAN GRASS 2 BLACK–EYED SUSAN 0.5 MONARDA (BERGAMOT) 4 MARYLAND SENNA
	<2500 FT ELEVATION STEEP SLOPES	AUG 15–SEPT 1 **MAR 1–APR 1**	SEPT 1–SEPT 15 APR 1– JUN 10	
	>2500 FT ELEVATION SHALLOW SOILS	MAR 20–APR 20	AUG 15–AUG 30 MAR 5–MAR 20 APR 20–JUN 15	15 BROWNTOP MILLET* (NURSE CROP) 4 PURPLETOP 10 LITTLE BLUESTEM 10 BROOMSEDGE 2 PARTRIDGE PEA 2 BLACK–EYED SUSAN 0.5 MONARDA (BERGAMOT)
	<2500 FT ELEVATION SHALLOW SOILS	AUG 15–SEPT 1 **MAR 1–APR 1**	SEPT 1–SEPT 15 APR 1– JUN 10	
	>2500 FT ELEVATION MODERATE SLOPES	MAR 20–APR 20	AUG 15–AUG 30 MAR 5–MAR 20 APR 20–JUN 15	15 BROWNTOP MILLET* (NURSE CROP) 4 PURPLETOP 10 LITTLE BLUESTEM 10 INDIAN GRASS 2 BLACK–EYED SUSAN 4 MARYLAND SENNA
	<2500 FT ELEVATION MODERATE SLOPES	AUG 15–SEPT 1 **MAR 1–APR 1**	SEPT 1–SEPT 15 APR 1– JUN 10	
	>2500 FT ELEVATION HIGH MAINTENANCE	Mar 20–Apr 20	AUG 15–AUG 30 MAR 5–MAR 20 APR 20–JUN 15	15 BROWNTOP MILLET* (NURSE CROP) 45 RED FESCUE* 45 HARD FESCUE* 25 CHEWING FESCUE*
	<2500 FT ELEVATION HIGH MAINTENANCE	AUG 15–SEPT 1 **MAR 1–APR 1**	SEPT 1–SEPT 15 APR 1– JUN 10	

BOLD DATES ARE THE PREFERRED DATES FOR SEEDING. ALSO, HIGH MAINTENANCE AREAS INCLUDE LAWNS AND OTHER GRASSED AREAS THAT WILL BE MAINTAINED FOR AESTHETICS.

ABOVE TABLE IS REFERENCES FROM THE TN EROSION AND SEDIMENT CONTROL HANDBOOK 4TH ED.

* NON–NATIVE PLANTS THAT DO NOT SPREAD.

ALLOWABLE SEED MIXES USING NATIVE OR NATURALIZED PLANTS AND PLANTING DATES

ZONE		BEST	MARGINAL	PREFERRED RATE/MIX (LB/AC PLS)
REGION III	>2500 FT ELEVATION STEEP SLOPES	JULY 25–AUG 15 **MAR 20–APR 20**	JULY 15–JULY 25 AUG 15–AUG 30 MAR 1–MAR 20 APR 20–MAY 15	100 KY 31 FESCUE** 20 KOBE LESPEDEZA** 10 KOREAN LESPEDEZA** 5 REDTOP
	<2500 FT ELEVATION STEEP SLOPES	AUG 15–SEPT 1 **MAR 1–APR 1**	JULY 25–AUG 15 SEPT 1–SEPT 15 APR 1– MAY 10	
	>2500 FT ELEVATION SHALLOW SOILS	JULY 25–AUG 15 **MAR 20–APR 20**	JULY 15–JULY 25 AUG 15–AUG 30 MAR 5–MAR 20 APR 20–MAY 15	40 KY 31 FESCUE** 10 KOBE LESPEDEZA** 10 REDTOP 10 CROWN VETCH**
	<2500 FT ELEVATION SHALLOW SOILS	AUG 15–SEPT 1 **MAR 1–APR 1**	JULY 25–AUG 15 SEPT 1–SEPT 15 APR 1– MAY 10	
	>2500 FT ELEVATION MODERATE SLOPES	JULY 25–AUG 15 **MAR 20–APR 20**	JULY 15–JULY 25 AUG 15–AUG 30 MAR 5–MAR 20 APR 20–MAY 15	60 KY 31 FESCUE** 15 KOREAN LESPEDEZA** 15 KOBE LESPEDEZA**
	<2500 FT ELEVATION MODERATE SLOPES	AUG 15–SEPT 1 **MAR 1–APR 1**	JULY 25–AUG 15 SEPT 1–SEPT 15 APR 1– MAY 10	
	>2500 FT ELEVATION HIGH MAINTENANCE	JULY 25–AUG 15 **MAR 20–APR 20**	JULY 15–JULY 25 AUG 15–AUG 30 MAR 5–MAR 20 APR 20–MAY 15	200 KY 31 FESCUE**
	<2500 FT ELEVATION HIGH MAINTENANCE	AUG 15–SEPT 1 **MAR 1–APR 1**	JULY 25–AUG 15 SEPT 1–SEPT 15 APR 1– MAY 10	

BOLD DATES ARE THE PREFERRED DATES FOR SEEDING. ALSO, HIGH MAINTENANCE AREAS INCLUDE LAWNS AND OTHER GRASSED AREAS THAT WILL BE MAINTAINED FOR AESTHETICS.

ABOVE TABLE IS REFERENCES FROM THE TN EROSION AND SEDIMENT CONTROL HANDBOOK 4TH ED.

** INVASIVE EXOTIC PEST PLANTS IN TENNESSEE USED BY TDEC AND TDOT FOR EROSION CONTROL.

REVISIONS

NO.	DATE	DESC.

JOHN R. GREER — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE — 10/23/20

P&E Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT
MORRISTOWN, TENNESSEE

JOB NO.: 20-07
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EROSION PREVENTION & SEDIMENT CONTROL NOTES & DETAILS

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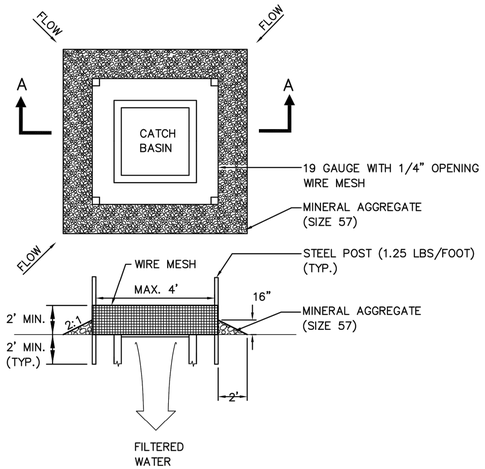
HARDWARE CLOTH AND GRAVEL INLET PROTECTION



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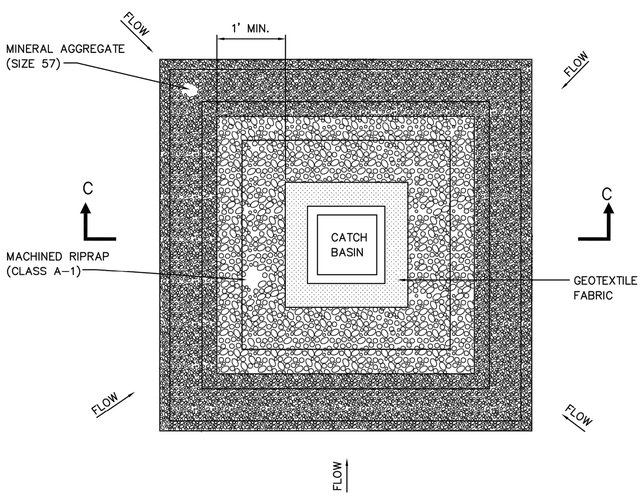
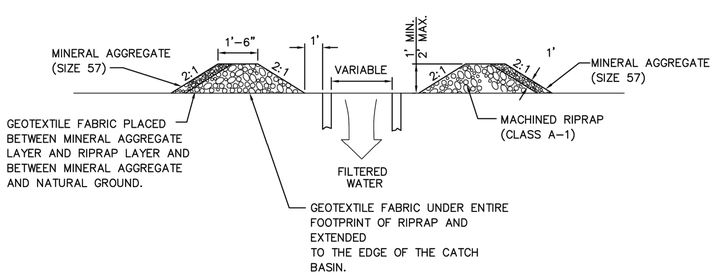


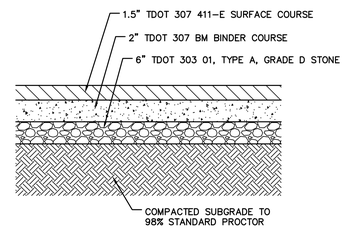
CATCH BASIN PROTECTION



SECTION C–C

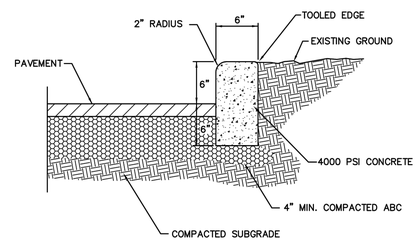
INLET PROTECTION

NOT TO SCALE



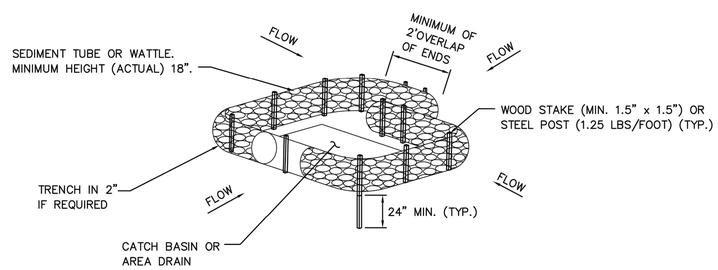
STANDARD DUTY PAVEMENT SECTION

NOT TO SCALE

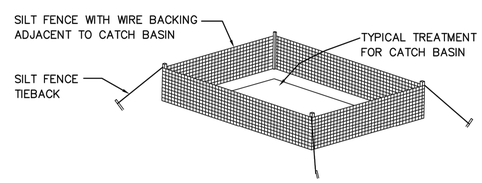


STAND-UP CONCRETE CURB

NO SCALE



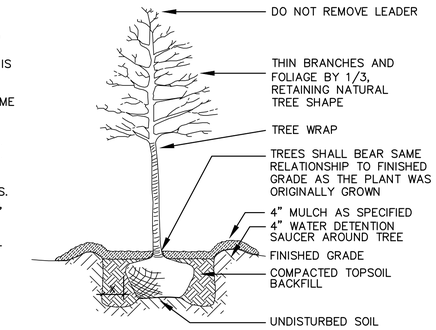
CATCH BASIN PROTECTION (TYPE D)



CATCH BASIN PROTECTION (TYPE E)

ADDITIONAL NOTES:

1. REMOVE BURLAP FROM TOP OF ROOT BALL BEFORE BACKFILLING AROUND BALL IS COMPLETED.
2. ALL TREES WHICH ARE SMOOTH BARKED AT THE TIME OF PLANTING, AND HAVE MORE THAN 2' OF CLEAR TRUNK SHALL BE WRAPPED.
3. ALL TREE WRAPPING SHALL EXTEND FROM THE TOP OF THE BACKFILL TO THE LOWERMOST TREE BRANCHES.
4. ALL TREES, WHEN PLANTED, SHALL HAVE THE SAME RELATIONSHIP TO FINISHED GRADE AS TO THE ORIGINAL PLANTING DEPTH.

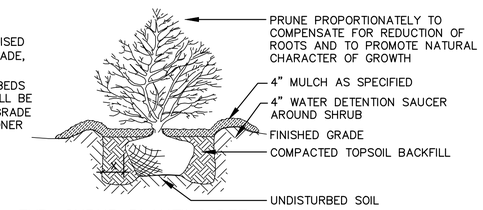


TREE PLANTING DETAIL

N.T.S.

ALL SHRUB BEDS SHALL BE RAISED 6" – 8" ABOVE ADJACENT GRADE, AND TILLED WITH

SOIL CONDITIONER ALL SHRUB BEDS IN PARKING ISLANDS ONLY SHALL BE RAISED 12" ABOVE ADJACENT GRADE AND TILLED WITH SOIL CONDITIONER



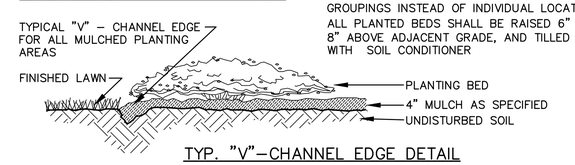
TYP. SHRUB PLANTING DETAIL

N.T.S.

BARE ROOT, CONTAINER OR BALL SIZE	X
5" TO 30"	8"
30" OR GREATER	12"

"V" – CHANNEL EDGE TO BE LOCATED ALONG OUTER PERIMETER OF PLANTING AREAS WHERE LANDSCAPE MATERIALS ARE PLANTED IN GROUPINGS INSTEAD OF INDIVIDUAL LOCATIONS

ALL PLANTED BEDS SHALL BE RAISED 6" – 8" ABOVE ADJACENT GRADE, AND TILLED WITH SOIL CONDITIONER



TYP. "V"–CHANNEL EDGE DETAIL

N.T.S.

PLANTING SCHEDULE

SYM.	QTY.	BOTANICAL NAME	(VARIETY) COMMON NAME	SIZE
TREES				
CF	2	CORNUS FLORIDA	FLOWERING DOGWOOD	2" CALIPER

* CIRCUMFERENCE AND CALIPER TO BE MEASURED 6" ABOVE GRADE.
ALL MULCHED AREAS TO RECEIVE WEED BARRIER FABRIC.

REVISIONS

NO.	DATE	DESC.

JOHN R. GREER — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE — 10/23/20

PRE Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT

MORRISTOWN, TENNESSEE

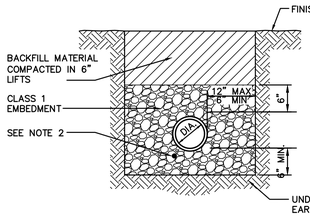
JOB NO.: 20-07
DATE: OCTOBER 2020
DESIGNED BY: JG
CADD BY: JG
DESIGN REVIEW: ____
CONST. REVIEW: ____
FILE NAME: HaleProperty Base_Rev3.dwg

SITE DETAILS

SHEET

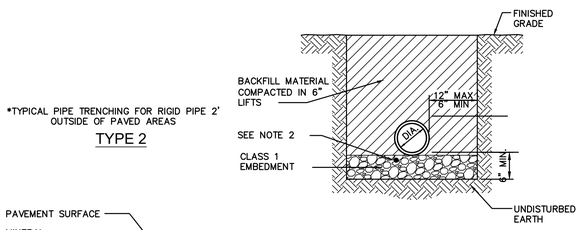
C-302

C:\Users\jgreer\Dropbox\Work\Projects\20-07 Dave Wright Architect - Hamblen Co - Hale Property\Dwgs\HaleProperty Base_Rev3.dwg 10/23/2020 12:41 PM JAKE GREER



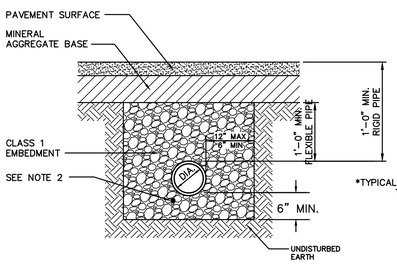
*TYPICAL PIPE TRENCHING FOR FLEXIBLE PIPE 2' OUTSIDE OF PAVED AREAS

TYPE 1



*TYPICAL PIPE TRENCHING FOR RIGID PIPE 2' OUTSIDE OF PAVED AREAS

TYPE 2



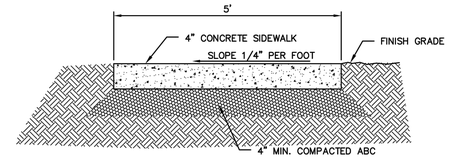
*TYPICAL PIPE TRENCHING FOR ALL PIPE TYPES IN PAVED AREAS

TYPE 3

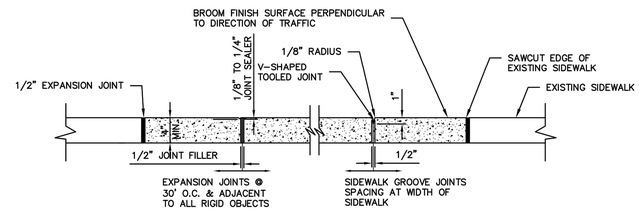
NOTES:
1. CLASS 1 EMBEDMENT SHALL BE TDOT STANDARD #57 STONE OR APPROVED EQUAL. FOUNDATION STONE SHALL BE TDOT STANDARD #57 OR #67 STONE OR APPROVED EQUAL.
2. NO. 12 SOLID COPPER WIRE WITH SPLICE GEL CONNECTORS TO BE USED ON FIRE LINE FROM UTILITY CONNECTION TO REDUCED PRESSURE DETECTOR ASSEMBLY.

STORM DRAIN TRENCH DETAIL

NOT TO SCALE



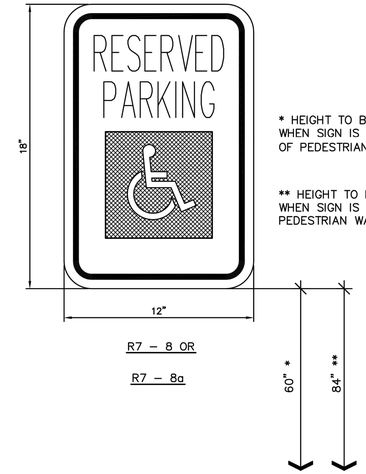
SECTION B–B



SECTION A–A

NOTES:
1. SIDEWALK SHALL BE CONSTRUCTED WITH CLASS B 4000 PSI CONCRETE.
2. SIDEWALK SURFACE SHALL BE GIVEN A LIGHT BROOM FINISH WITH THE BRUSH MARKS PERPENDICULAR TO THE WALKWAY.

SIDEWALK DETAIL



R7 – 8 OR

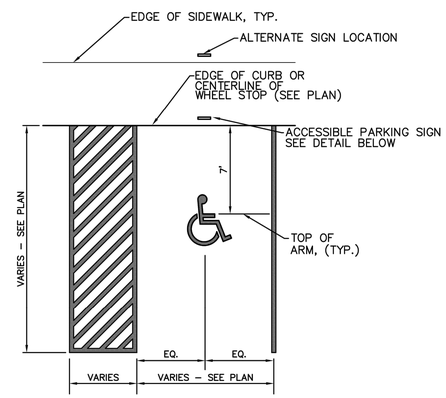
R7 – 8a

* HEIGHT TO BOTTOM OF SIGN WHEN SIGN IS LOCATED OUTSIDE OF PEDESTRIAN WALKWAY

** HEIGHT TO BOTTOM OF SIGN WHEN SIGN IS LOCATED WITHIN PEDESTRIAN WALKWAY

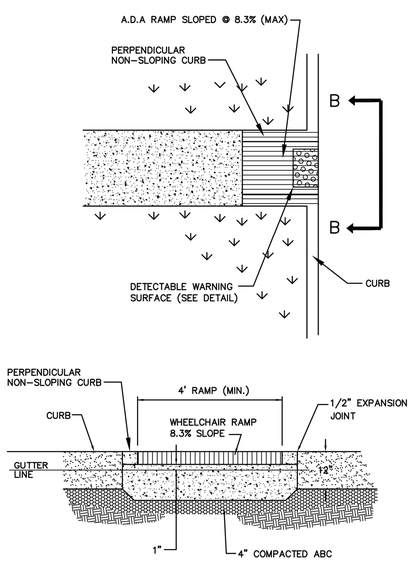
ACCESSIBLE PARKING SIGN

NOT TO SCALE



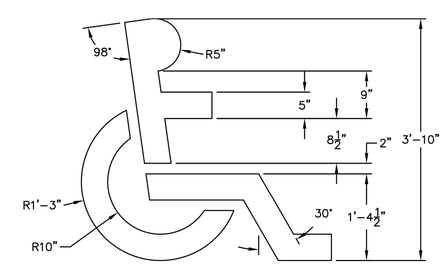
TYP. UNIVERSAL SPACE ACCESSIBLE PARKING DETAILS

NOT TO SCALE



SECTION BB

CONCRETE HANDICAP RAMP (STRAIGHT)



ACCESSIBLE PARKING SPACE INSIGNIA

NOT TO SCALE

REVISIONS		
NO.	DATE	DESC.

JOHN R. GREER — REGISTERED ENGINEER — AGRICULTURE — STATE OF TENNESSEE — 10/23/20

PDE Engineering Services

HAMBLEN COUNTY
HALE PROPERTY PARKING LOT

MORRISTOWN, TENNESSEE

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SITE DETAILS

SHEET

C-303

C:\Users\jgreer\Dropbox\Work\Projects\20-07 Dave Wright Architect - Hamblen Co - Hale Property\Dwgs\HaleProperyBase_Rev3.dwg 10/23/2020 12:41 PM JAKE GREEAR