Certificate of Appropriateness For a Building Permit

Administrative Review

On July 20, 2022, the Tennessee Technology Corridor Development Authority, hereinafter referred to as the Authority, did grant to Cuthbertson Real Estate, LLC Cuthbertson Real Estate, LLC, hereinafter referred to as the Applicant, on its application filed on June 21, 2022 with Application No. 8-A-22-TOA, this Certificate of Appropriateness for the following described property, 3065 Horseshoe Bend Ln. / Parcel ID 89 22207 & 22208. This Certificate of Appropriateness is granted to the Applicant for the purpose of a Building Permit. The Applicant agrees that it will comply with all base zoning requirements, all Technology Overlay Zone requirements, the Design Guidelines and the Comprehensive Development Plan in its use of this property, unless specifically varied or altered by the Authority.

This Certificate of Appropriateness will automatically expire three years from the date of the affirmative vote of this Certificate, unless an extension of the Certificate is granted by the Authority upon the request of the Applicant, if construction of the structure or structures on the property has not reached fifty percent (50%) of completion at the end of that three year period.

The Applicant does hereby agree that staff and/or members of the Knox County governmental entities, or the Authority, shall have access to the property at reasonable times to inspect the same for compliance with the requirements of state and local laws and this Certificate of Appropriateness.

The structure or structures to be erected on this property will be erected according to the approved and accepted plans and specifications attached to this Certificate as Attachment No. One, and any changes thereto approved and accepted by the Applicant and the Authority.

APPLICATION APPROVED July 20, 2022, pursuant to Article VIII, Section 7 of the Administrative Rules and Procedures of the Tennessee Technology Corridor Development Authority (Staff Review and Approval of Minor Changes to Previously Approved Applications), for a Certificate of Appropriateness for a grading permit, subject to the following conditions:

1) Replatting of the lots to combine them into 1 lot. Buildings cannot cross property lines, so the property needs to be one-lotted into to meet side setback requirements (plat is currently in review).

2) Connection to sanitary sewer and meeting any other relevant requirements of the utility provider.

3) Installation of all landscaping as shown on development plan within six months of the issuance of an occupancy permit, or posting a bond with the Knox County Department of Engineering and Public Works to guarantee such installation.

4) Meeting all other applicable requirements of the Knox County Department of Engineering and Public Works.

5) Meeting all applicable requirements of the Knox County Zoning Ordinance.

6) Meeting all applicable requirements of the Knox County Fire Marshall's office.

7) Meeting all applicable requirements and obtaining all required permits from the Tennessee Department of Health.

8) No signage is requested at this time. If signage is desired in the future, a signage package would need to be submitted and would be required to meet all applicable requirements of the TTCDA.

The waivers approved in March 2021 (3-C-21-TOB) would still be applicable, but they are no longer required. The lighting plan has been revised and is now in compliance with TTCDA Guidelines, the foundation landscaping is more than 50% of the front and side facades, and the previously approved metal panels are discouraged, not prohibited.

By its signature hereunto, the Applicant binds itself to all terms and conditions hereof, both for itself, its heirs, and its successors in interest.

TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY

BY:

Chair N/A (Administrative Review)

Attested to by Michelle Portier

Approval date: 7/20/2022

COA expiration date (3 years): 7/19/2025

TECHNOLOGY CORRIDOR DEVELOPMENT

Report of Staff Recommendation

Administrative Review

File No.: 8-A-22-TOA

Applicant:	**CUTHBERTSON REAL ESTATE, LLC CUTHBERTSON REAL ESTATE, LLC**
Request:	**BUILDING PERMIT**
Meeting Date:	**8/8/2022**
Address:	3049 & 3065 Horseshoe Bend Ln.
Map/Parcel Number:	89 22207 & 22208
Location:	Northwest side of Horseshoe Bend Ln., east of Pellissippi Pkwy
Existing Zoning:	BP (Business and Technology Park), F (Floodway), and TO (Technology Overlay)
Proposed Zoning:	N/A
Existing Land Use:	Undeveloped land
Proposed Land Use:	Office-warehouse
Appx. Size of Tract:	7.99 acres
Accessibility:	Access is via Horseshoe Bend Ln., a local road with a 26.5-ft pavement width inside a 50-ft right-of-way
Surrounding Zoning and Land Uses:	North: BP (Business and Technology), A (Agricultural), PR (Planned Residential with 3.5 du/ac), & TO (Technology Overlay) - Office building and single family residences
	South: BP (Business and Technology) / TO (Technology Overlay) - Undeveloped land
	East: BP (Business and Technology) / TO (Technology Overlay) - Office building
	West: BP (Business and Technology), F (Floodway), & TO (Technology Overlay) - Office building

Comments:

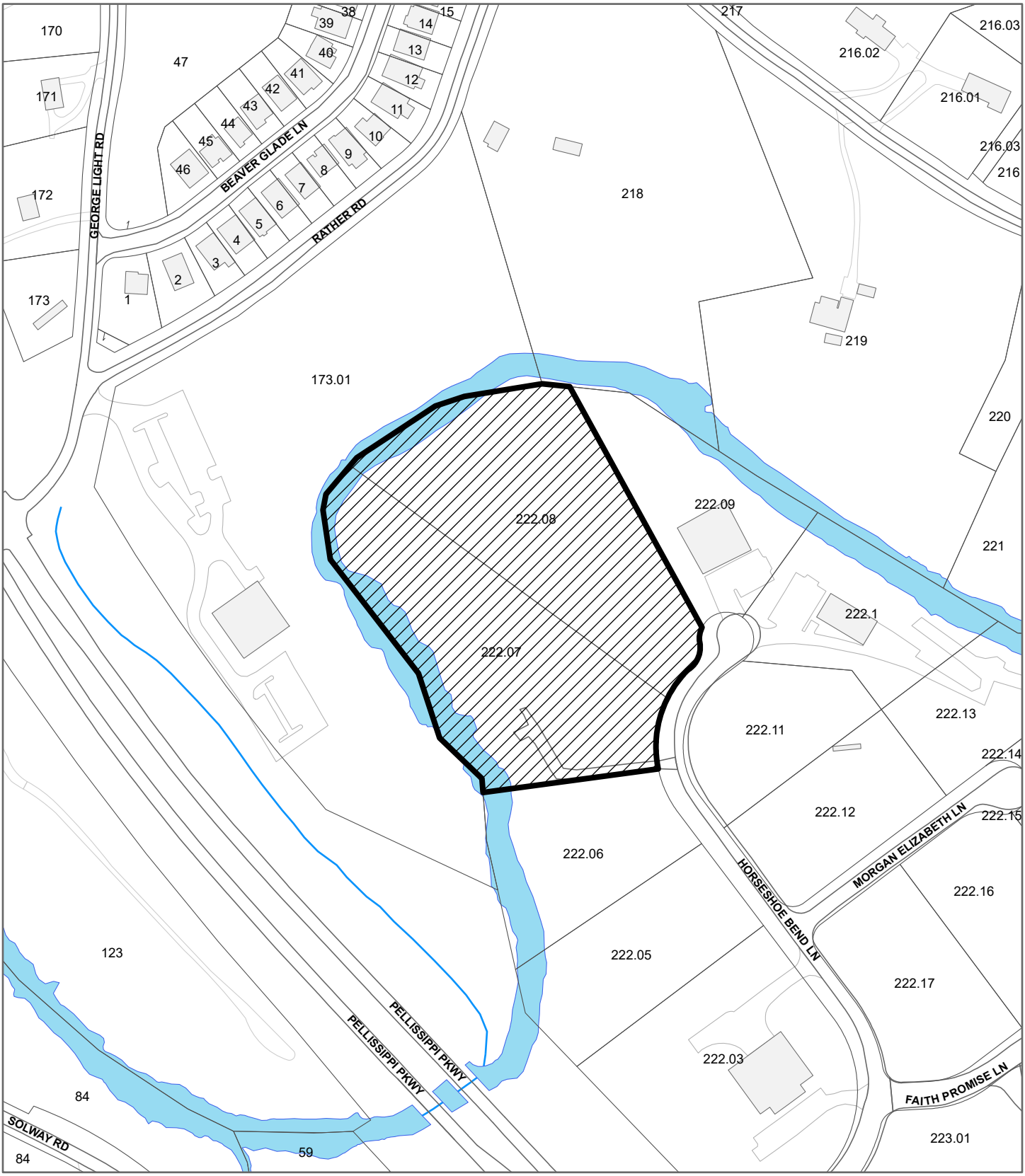
1) The applicant is requesting approval of a revised set of plans for an office warehouse facility on a 7.99-acre site accessed off of Horseshoe Bend Lane, a local road. Site plans were approved in March 2021 (Case 3-B-21-TOB). The proposed revisions are minor and can be approved administratively by staff.
2) The site is currently comprised of 2 parcels on the northwest side of Horseshoe Bend Lane towards the end of the cul-de-sac. However, the applicant has submitted a plat combining the lots per a condition of the original approval.
3) FEMA has designated a large portion at the rear of the site as a floodway or as 100- and 500-year floodplains. When the previous plans were reviewed in 2021, Knox County's Engineering Department identified the no-fill line, beyond which no infill of the property would be allowed (see sheet C1.0). No building or infill is to occur beyond that area, and no building or development will occur in the floodway or floodplain areas of the site.
4) A small portion of the site is in the Hillside and Ridgetop Protection Area. As was stated in the previous staff report for Case 3-B-21-TOB, minor grading will occur in this portion of land designated HP, but that is only to install the driveway. However, the slope on this area of land is within the 0-15% range, and is relatively flat.
5) The original plans showed a primary structure centrally located on the lot with an area of 55,000 square feet and a training facility to the rear of the developed portion of the site that was not readily visible from the street. The proposed plans break this down into 2 phases. The proposed revision incorporates Phase 1 at 31,560 sq ft. Phase 2 would add 23,440 sq ft, which would bring the square footage back to the original 55,000 sq ft already approved.
6) The previously approved plans included 4 waivers, two in increase lighting levels, 1 to reduce foundation landscape plantings from 50% to 46.5%, and one to allow metal panels on the

building facade. Typically, approved waivers would still be applicable for a revised set of plans, but in this case, they are no longer required. The lighting plan has been revised and is now in compliance with TTCDA Guidelines, the foundation landscaping is more than 50% of the front and side facades, and the previously approved metal panels are discouraged, not prohibited, and are mitigated with the foundation plantings.
7) No signage is proposed at this time. Should signage be desired, it should be submitted in a separate application at a future time.
8) Changes consist of the following:
a. Reduction in the depth of the building, resulting in a smaller footprint, and lower Impervious Area Ratio (IAR), Floor Area Ratio (FAR), and Ground Area Coverage (GAC).
b. Redistribution of rolling dock doors – the previous plans included a total of 10 dock doors, and the revised plans also include a total of 10. However, these have been redistributed among the side and rear facades increasing the dock doors on the rear façade by 2 and reducing the dock doors on the east and west (side) façades by 1 each.
c. Installation of a single driveway instead of two driveways, further reducing the IAR.
d. Slight change in the number of parking spaces, going from 56 spaces approved to 55 spaces proposed now.
e. Slight alteration of plantings to accommodate the driveway changes. The rest of the landscaping plan remains unchanged.
f. The fuel island that was approved in the original plans has been moved nearer the dumpster.
9) The rest of the development plans remain unchanged.

Design Guideline Conformity:	This proposal is in compliance with TTCDA Guidelines.
Waivers and Variances Requested:	N/A

Staff Recommendation:

APPLICATION APPROVED July 20, 2022, pursuant to Article VIII, Section 7 of the Administrative Rules and Procedures of the Tennessee Technology Corridor Development Authority (Staff Review and Approval of Minor Changes to Previously Approved Applications), for a Certificate of Appropriateness for a grading permit, subject to the following conditions:
1) Replatting of the lots to combine them into 1 lot. Buildings cannot cross property lines, so the property needs to be one-lotted into to meet side setback requirements (plat is currently in review).
2) Connection to sanitary sewer and meeting any other relevant requirements of the utility provider.
3) Installation of all landscaping as shown on development plan within six months of the issuance of an occupancy permit, or posting a bond with the Knox County Department of Engineering and Public Works to guarantee such installation.
4) Meeting all other applicable requirements of the Knox County Department of Engineering and Public Works.
5) Meeting all applicable requirements of the Knox County Zoning Ordinance.
6) Meeting all applicable requirements of the Knox County Fire Marshall's office.
7) Meeting all applicable requirements and obtaining all required permits from the Tennessee Department of Health.
8) No signage is requested at this time. If signage is desired in the future, a signage package would need to be submitted and would be required to meet all applicable requirements of the TTCDA.



8-A-22-TOA
CERTIFICATE OF APPROPRIATENESS

Purpose of Request: Building Permit

Original Print Date: 7/18/2022 Revised:

*Knoxville - Knox County Planning Commission * City / County Building * Knoxville, TN 37902*

Petitioner: Cuthbertson Real Estate, LLC
Cuthbertson Real Estate, LLC

Map No: 89

Jurisdiction: County

0 250
Feet

N

RE: Stamped Drawings and COA 3-B-21-TOB

2 messages

Stephen Collins <SCollins@mplconstruction.com> Wed, Jun 1, 2022 at 4:27 PM
To: Michelle Portier <michelle.portier@knoxplanning.org>

Michelle,

Hope you are well.

We have finally finished this project. A few changes were made do to cost. The building is smaller do to increased material costs. The façade is the same 250' wide, and just a little different, but the building is only 125' deep.

The driveway also changed because the grading was too steep to make two entrances work.

I hope this still complies. We made every effort to keep it in compliance.

Below is a link to the finished design.

https://www.dropbox.com/sh/xgxaf0lfc35rr0k/AAD5dnWTjNjOyuiZ_kOq36TFa?dl=0

Please let me know if we need to resubmit the revised design. And if you have any questions for me or any of the engineers.

Thank you

-Stephen

Thank you,

Stephen E. Collins

MPL Construction & Architecture

Phone: 423-899-7737

Email: scollins@mplconstruction.com

From: Michelle Portier <michelle.portier@knoxplanning.org>
Sent: Thursday, March 11, 2021 7:59 AM
To: Stephen Collins <SCollins@mplconstruction.com>
Subject: Stamped Drawings and COA

Stephen,

Here are the stamped drawings and the signed COA indicating the plans have been approved by the TTCDA. You will need these to apply for permits in the County.

Thanks!

--

Michelle Portier, AICP

Senior Planner

865.215.3821

Knoxville-Knox County Planning | KnoxPlanning.org
400 Main Street, Suite 403 | Knoxville, TN 37902

Michelle Portier <michelle.portier@knoxplanning.org> Mon, Jun 6, 2022 at 11:14 AM
To: Stephen Collins <SCollins@mplconstruction.com>

Hi Stephen,

My apologies for the delayed response. I hope to take a look at this sometime this week and get back to you.

Thanks!
Michelle
[Quoted text hidden]
--
Michelle Portier, AICP
Principal Planner
865.215.3821

Knoxville-Knox County Planning

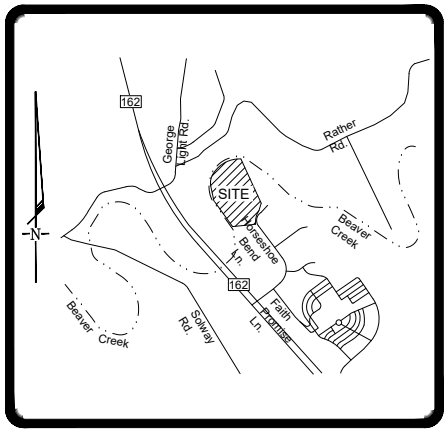
[Quoted text hidden]

SITE CONSTRUCTION PLANS

FOR

SERV-PRO KNOX.

INDEX OF SHEETS	
SHEET	DESCRIPTION
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C1.0	EXISTING CONDITIONS & DEMO PLAN
C2.0	SITE PLAN
C3.0	GRADING PLAN
C4.0	SWPPP PHASE I
C4.1	SWPPP PHASE II
C4.2	SWPPP PHASE III
C4.3	SWPPP DETAILS
C5.0	UTILITY PLAN
C6.0	CONSTRUCTION DETAILS
L1.0	LANDSCAPE PLAN
L1.1	LANDSCAPE DETAILS



LOCATION MAP
N.T.S.

TOTAL PROJECT AREA = 7.99 AC. ±

DISTURBED AREA = 178,688 SF. (4.10 AC.)
PRE-DEVELOPMENT IMPERVIOUS = 3,591 SF. (0.08 AC.)
POST-DEVELOPMENT IMPERVIOUS = 130,504 SF. (3.00 AC.)

CONTACTS:

DEVELOPER:

MPL CONSTRUCTION
ETHAN WOOD
115 CEDAR LANE
CHATTANOOGA, TN 37421
423.899.7737
ewood@mplconstruction.com

OWNER:

CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

CIVIL ENGINEER:

ASA ENGINEERING & CONSULTING, INC.
MICAH L. DUFFEY, P.E.
714 CHERRY STREET
CHATTANOOGA, TN 37402
423.805.3700
mduffey@asaengineeringinc.com

LANDSCAPE ARCHITECT:

ASA ENGINEERING & CONSULTING, INC.
ALLEN W. JONES, R.L.A.
714 CHERRY STREET
CHATTANOOGA, TN 37402
423.805.3700
ajones@asaengineeringinc.com

SURVEYOR:

ASA ENGINEERING & CONSULTING INC
ROGER B. RIEMER, P.L.S.
714 CHERRY STREET
CHATTANOOGA, TN 37402
423.805.3700
rriemer@asaengineeringinc.com

TTCDA Case 8-A-22-TOA
(previous approval 3-C-22-TOB)

3049 HORSESHOE BEND LANE & 0
HORSESHOE BEND LANE
089 22208 & 089 22207
JURISDICTIONAL DISTRICT W6

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineeringInc.com
423.805.3700

SEAL

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04/28/2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

COVER SHEET

SHEET NO.

C0.0

4/29/2022 | 1:46:04 PM | I:\01_projects\2020\20-0121 serv-pro - knoxville, tn\3- engineering\Civil\SHEETS\C0.0 COVER & GEN NOTES.dwg

SITE GENERAL NOTES

1. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES ON THE DRAWING OR IN THE FIELD BEFORE BEGINNING WORK OR DURING CONSTRUCTION.
2. DEVIATION FROM THESE PLANS & NOTES WITHOUT THE PRIOR CONSENT OF THE OWNER'S REPRESENTATIVE MAY BE CAUSE FOR THE WORK TO BE UNACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES IN THE PROXIMITY OF THE CONSTRUCTION AREA AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
4. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL, STATE AND FEDERAL CODES AND OBTAIN ALL PERMITS PRIOR TO BEGINNING WORK.
5. THE CONTRACTOR SHALL CHECK ALL FINISHED GRADES AND DIMENSIONS AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
6. DIMENSIONS ARE TO THE FACE OF CURB, EDGE OF CONCRETE AND FACE OF BUILDING UNLESS NOTED OTHERWISE. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
7. ALL TRAFFIC MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD). ALL PAVEMENT MARKING SHALL BE THERMOPLASTIC UNLESS DIRECTED OTHERWISE BY THE OWNER'S REPRESENTATIVE.
8. ALL HANDICAP RAMPS, PARKING SPACES AND ACCESSIBLE ROUTES SHALL COMPLY WITH THE CURRENT ADA REQUIREMENTS.
9. EXTERIOR DOOR LANDINGS SHALL BE PROVIDED PER THE LOCAL BUILDING CODE. CONTRACTOR SHALL COORDINATE DOOR LOCATIONS AND ADJACENT SIDEWALK/LANDING GRADES WITH THESE PLANS AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE.

SITE CONSTRUCTION NOTES

1. THE NECESSARY PERMITS FOR THE WORK SHOWN ON THESE SITE DEVELOPMENT PLANS WILL BE OBTAINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF ANY WORK ON THIS PROJECT. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS, PAY ALL FEES INVOLVED IN SECURING SAID PERMITS, AND POST NECESSARY BONDS AS REQUIRED BY THE CITY AND/OR STATE. HE SHALL ALSO COMPLY WITH ALL CITY, COUNTY AND STATE BUILDING LAWS, ORDINANCES OR REGULATIONS RELATING TO THE CONSTRUCTION OF THE PROJECT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL BEAR ALL EXPENSES OF FIELD STAKING NECESSARY FOR SITE LAYOUT. ALL LAYOUT SHALL BE PERFORMED IN ACCORDANCE WITH THE SITE LAYOUT PLAN.
3. THE LOCATION OF EXISTING PIPING AND UNDERGROUND UTILITIES, SUCH AS WATER AND GAS LINES, ELECTRICAL AND TELEPHONE CONDUITS, ETC., AS SHOWN ON THIS PORTION OF THE PLANS HAVE BEEN DETERMINED FROM THE BEST AVAILABLE INFORMATION BY ACTUAL SURVEYS, OR TAKEN FROM THE RECORDS AND DRAWINGS OF THE EXISTING UTILITIES. HOWEVER, THE CIVIL ENGINEER DOES NOT ASSUME RESPONSIBILITY THAT, DURING CONSTRUCTION, THE POSSIBILITY OF UTILITIES OTHER THAN THOSE SHOWN MAY BE ENCOUNTERED OR THAT ACTUAL LOCATION OF THOSE SHOWN MAY VARY SOMEWHAT FROM THE LOCATION DESIGNATED ON THIS PORTION OF THE PLANS. IN AREAS WHERE IT IS NECESSARY THAT THE EXACT LOCATIONS OF UNDERGROUND LINES BE KNOWN, THE CONTRACTOR SHALL, AT THIS OWN EXPENSE, FURNISH ALL LABOR AND TOOLS TO EITHER VERIFY AND SUBSTANTIATE OR DEFINITIVELY ESTABLISH THE LOCATION OF THE LINES.
4. THE CONTRACTOR MUST UNDERSTAND THAT THE WORK IS ENTIRELY AT HIS RISK UNTIL SAME IS ACCEPTED AND HE WILL BE HELD RESPONSIBLE FOR ITS SAFETY BY THE OWNER. THEREFORE, THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY TEMPORARY WORKS FOR THE PROTECTION OF THE WORK.
5. THE SITE DEVELOPMENT PORTION OF THIS PROJECT WILL BE SUBJECT TO THE INSPECTION AND FINAL APPROVAL OF THE LOCAL PLANNING, CODES, WATER AND SEWER DEPARTMENTS (AND/OR UTILITY DISTRICTS), ENGINEERING/PUBLIC WORKS DEPARTMENTS AND FIRE MARSHAL'S OFFICE.
6. IF, DURING THE CONSTRUCTION OF THE SITE DEVELOPMENT PORTION OF THIS PROJECT, A QUESTION OF INTENT OR CLARITY ARISES FROM EITHER THE PLANS OR SPECIFICATIONS, THE CONTRACTOR WILL IMMEDIATELY BRING THE MATTER TO THE ATTENTION OF THE CIVIL ENGINEER OR OWNER'S REPRESENTATIVE FOR RESOLUTION BEFORE THE AFFECTED WORK ITEMS ARE INITIATED OR PURSUED FURTHER.
7. THE CONTRACTOR WILL EXERCISE EXTREME CAUTION IN THE USE OF EQUIPMENT IN AND AROUND OVERHEAD AND/OR UNDERGROUND POWER LINES. IF AT ANY TIME IN THE PURSUIT OF THIS WORK THE CONTRACTOR MUST WORK IN CLOSE PROXIMITY OF THE ABOVE-NOTED LINES, THE ELECTRIC AND/OR TELEPHONE COMPANIES SHALL BE CONTACTED PRIOR TO SUCH WORK AND THE PROPER SAFETY MEASURES TAKEN. THE CONTRACTOR SHOULD MAKE A THOROUGH EXAMINATION OF THE OVERHEAD LINES IN THE PROJECT AREA PRIOR TO THE INITIATION OF CONSTRUCTION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE DONE TO THE PREMISES OR ADJACENT PREMISES, OR INJURIES TO THE PUBLIC DURING THE CONSTRUCTION OF THE WORK, CAUSED BY HIMSELF, HIS SUBCONTRACTORS, OR THE CARELESSNESS OF ANY OF HIS EMPLOYEES.
9. ALL PRODUCT MATERIALS SPECIFIED IN THESE PLANS TO BE INSTALLED PER NOTES AND DETAILS OR MANUFACTURE'S RECOMMENDATION. IF CONFLICT ARISES BETWEEN PLANS AND MANUFACTURE'S RECOMMENDATION, CONTACT ENGINEER PRIOR TO PURCHASE AND/OR INSTALLATION.

DEMOLITION NOTES

1. THE CONTRACTOR WILL BE REQUIRED TO REMOVE ALL EXCAVATED MATERIALS AND SUCH ITEMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ALL ITEMS SHALL BE PROPERLY DISPOSED OF AT AN OFF-SITE LOCATION. THE CONTRACTOR SHALL OUTLINE ANY AND ALL POSSIBLE HAUL ROUTES AND SHALL BE PREPARED TO SUBMIT SUCH TO THE LOCAL JURISDICTION PUBLIC WORKS DEPARTMENT, THE CIVIL ENGINEER AND OTHER AUTHORITIES FOR APPROVAL.
2. IF, AT ANY TIME, PRIOR TO OR DURING THE DEMOLITION WORK, HAZARDOUS MATERIAL IS ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND APPROPRIATE GOVERNMENTAL AGENCY.
3. THE CONTRACTOR SHALL NOTIFY ADJACENT OWNERS OF WORK THAT MAY AFFECT THEIR PROPERTY, POTENTIAL NOISE, UTILITY OUTAGE OR DISRUPTION. SUCH OPERATIONS SHALL BE CONDUCTED BY THE CONTRACTOR WITH MINIMUM INTERFERENCE TO ADJACENT OWNERS. ADJACENT EGRESS AND ACCESS SHALL BE PROPERLY MAINTAINED AT ALL TIMES. DO NOT CLOSE OR OBSTRUCT ANY ROADWAYS, PARKING OR SIDEWALKS WITHOUT PERMISSION FROM THE ADJACENT OWNERS OR THE LOCAL JURISDICTION PUBLIC WORKS DEPARTMENT.
4. PRIOR TO THE COMMENCEMENT OF DEMOLITION/GRADING OPERATIONS, ALL OVERHEAD AND UNDERGROUND UTILITIES SHALL BE LOCATED. ALL REMOVAL AND/OR RELOCATION OF UTILITIES SHALL BE COORDINATED WITH THE RESPECTIVE UTILITY COMPANIES.
5. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER OR AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT AT NO ADDITIONAL COST TO OWNER.
6. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING ALL AFFECTED UTILITIES PRIOR TO SUBMITTING HIS BID TO DETERMINE THE EXTENT TO WHICH UTILITY DISCONNECTIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF THE WORK FOR THE PROJECT. SOME UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS, WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACTOR WILL RECEIVE NO ADDITIONAL COMPENSATION FOR DELAYS OR INCONVENIENCE CAUSED BY THE UTILITY ADJUSTMENT.
7. MINIMIZE PRODUCTION OF DUST DUE TO DEMOLITION OPERATIONS; DO NOT USE WATER IF THAT WILL RESULT IN ICE, FLOODING, SEDIMENTATION OF PUBLIC WATERWAYS OR STORM SEWERS, OR OTHER POLLUTION.
8. REMOVE ALL EXISTING ABOVE-GRADE IMPROVEMENTS. REMOVE ANY EXISTING SLABS, PAVING, CURBS, FOUNDATIONS, WALLS, FLOOR SLABS, CONCRETE SLAB-ON-GRADES, PAVEMENTS, ETC.
9. REMOVE DEMOLITION MATERIALS, OBSTRUCTIONS, AND WASTE MATERIAL, INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF THE SITE.
10. SMOOTH DISTURBED AREAS TO ACCOMMODATE MOWERS, AND COVER WITH MINIMUM ONE INCH OF SHREDDED WOOD MULCH FOR TEMPORARY EROSION CONTROL.
11. PROVIDE ADDITIONAL EROSION CONTROL PER TDEC AND LOCAL REGULATIONS AS NECESSARY.
12. COMPLY WITH APPLICABLE CODES AND REGULATIONS FOR DEMOLITION OPERATIONS AND SAFETY OF ADJACENT STRUCTURES AND THE PUBLIC.
13. OBTAIN REQUIRED PERMITS.
14. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES AS NECESSARY.
15. USE PHYSICAL BARRIERS TO PREVENT ACCESS TO AREAS THAT COULD BE HAZARDOUS TO WORKERS OR THE PUBLIC.
16. CONDUCT OPERATIONS TO MINIMIZE EFFECTS ON AND INTERFERENCE WITH ADJACENT STRUCTURES AND OCCUPANTS.
17. DO NOT CLOSE OR OBSTRUCT ROADWAYS OR SIDEWALKS WITHOUT PERMIT.
18. CONDUCT OPERATIONS TO MINIMIZE OBSTRUCTION OF PUBLIC AND PRIVATE ENTRANCES AND EXITS; DO NOT OBSTRUCT REQUIRED EXITS AT ANY TIME; PROTECT PERSONS USING ENTRANCES AND EXITS FROM REMOVAL OPERATIONS.
19. OBTAIN WRITTEN PERMISSION FROM OWNERS OF ADJACENT PROPERTIES WHEN DEMOLITION EQUIPMENT WILL TRAVERSE, INFRINGE UPON OR LIMIT ACCESS TO THEIR PROPERTY.
20. DO NOT BEGIN REMOVAL UNTIL RECEIPT OF NOTIFICATION TO PROCEED FROM OWNER.
21. PARTIAL REMOVAL OF PAVING AND CURBS: NEATLY SAW CUT AT RIGHT ANGLE TO SURFACE.
22. COORDINATE WORK WITH UTILITY COMPANIES; NOTIFY BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS; OBTAIN REQUIRED PERMITS.
23. PROTECT EXISTING UTILITIES TO REMAIN FROM DAMAGE.
24. DO NOT DISRUPT PUBLIC UTILITIES WITHOUT PERMIT FROM AUTHORITY HAVING JURISDICTION.
25. DO NOT CLOSE, SHUT OFF, OR DISRUPT EXISTING LIFE SAFETY SYSTEMS THAT ARE IN USE WITHOUT AT LEAST 7 DAYS PRIOR WRITTEN NOTIFICATION TO OWNER.
26. DO NOT CLOSE, SHUT OFF, OR DISRUPT EXISTING UTILITY BRANCHES OR TAKE-OFFS THAT ARE IN USE WITHOUT AT LEAST 3 DAYS PRIOR WRITTEN NOTIFICATION TO OWNER.
27. LOCATE AND MARK UTILITIES TO REMAIN; MARK USING HIGHLY VISIBLE TAGS OR FLAGS, WITH IDENTIFICATION OF UTILITY TYPE; PROTECT FROM DAMAGE DUE TO SUBSEQUENT CONSTRUCTION, USING SUBSTANTIAL BARRICADES IF NECESSARY.
28. REMOVE EXPOSED PIPING, VALVES, METERS, EQUIPMENT, SUPPORTS, AND FOUNDATIONS OF DISCONNECTED AND ABANDONED UTILITIES.
29. PREPARE BUILDING DEMOLITION AREAS BY DISCONNECTING AND CAPPING UTILITIES OUTSIDE THE DEMOLITION ZONE; IDENTIFY AND MARK UTILITIES TO BE SUBSEQUENTLY RECONNECTED, IN SAME MANNER AS OTHER UTILITIES TO REMAIN.
30. REMOVE DEMOLITION MATERIALS, DEBRIS, JUNK, AND TRASH FROM SITE.
31. LEAVE SITE IN RELATIVELY SMOOTH AND CLEAN CONDITION, READY FOR SUBSEQUENT WORK.
32. COVER DISTURBED AREAS WITH MINIMUM ONE INCH OF SHREDDED WOOD MULCH.
33. CLEAN UP SPILLAGE AND WIND-BLOWN DEBRIS FROM PUBLIC AND PRIVATE LANDS.

EROSION PREVENTION AND SEDIMENT CONTROLS

DESIGN, INSPECTION, AND MAINTENANCE OF BMPS DESCRIBED AND SHOWN ON THESE PLANS SHALL BE CONSISTENT OR EXCEED RECOMMENDATIONS CONTAINED IN THE CURRENT EDITION OF TDEC'S TENNESSEE EROSION CONTROL HANDBOOK.

1. ALL CONTROL MEASURES MUST BE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS, TDEC, AND LOCAL STANDARDS.
2. BMP CAPACITY [SEDIMENT TRAPS, SILT FENCES, SEDIMENTATION PONDS, AND OTHER SEDIMENT CONTROL] SHALL NOT BE REDUCED BY MORE THAN 50% AT ANY GIVEN TIME. IF PERIODIC INSPECTIONS OR OTHER INFORMATION INDICATES A CONTROL HAS BEEN USED INAPPROPRIATELY OR INCORRECTLY, THE CONTRACTOR MUST REPLACE OR MODIFY THE CONTROL FOR RELEVANT SITE SITUATIONS.
3. WHERE PERMANENT OR TEMPORARY VEGETATION COVER IS USED AS A CONTROL MEASURE, THE TIMING OF THE PLANTING IS CRITICAL. PLANNING FOR PLANTING OF VEGETATION COVER DURING WINTER OR DRY MONTHS SHOULD BE AVOIDED.
4. IF SEDIMENT ESCAPES THE PERMITTED AREA, OFF-SITE ACCUMULATIONS OF SEDIMENT THAT HAVE NOT REACHED A STREAM MUST BE REMOVED AT A FREQUENCY SUFFICIENT TO MINIMIZE OFFSITE IMPACTS. THE CONTRACTOR SHALL NOT INITIATE REMEDIATION/RESTORATION OF A STREAM WITHOUT CONSULTING THE DIVISION FIRST. THE NOI GENERAL PERMIT DOES NOT AUTHORIZE ACCESS TO PRIVATE PROPERTY. ARRANGEMENTS CONCERNING REMOVAL OF SEDIMENT ON ADJOINING PROPERTY MUST BE SETTLED BY THE CONTRACTOR AND ADJOINING LANDOWNER.
5. LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION CHEMICALS EXPOSED TO STORM WATER SHALL BE PICKED UP PRIOR TO ANTICIPATED STORM EVENTS OR BEFORE BEING CARRIED OFF OF THE SITE BY WIND OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGES. AFTER USE, MATERIALS USED FOR EPSC SHOULD BE REMOVED OR OTHERWISE PREVENTED FROM BECOMING A POLLUTANT SOURCE FOR STORM WATER DISCHARGE.
6. ERODIBLE MATERIAL STORAGE AREAS (INCLUDING OVERBURDEN AND STOCKPILES OF SOIL) AND BORROW PITS ARE CONSIDERED PART OF THE SITE AND SHOULD BE ADDRESSED WITH APPROPRIATE BMP'S ACCORDINGLY.
7. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED, OR DISTURBED MORE THAN 15 DAYS PRIOR TO GRADING OR EARTH MOVING UNLESS THE AREA IS STABILIZED. CONTRACTOR SHALL SEQUENCE EVENTS TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED AREAS. CLEARING AND GRUBBING SHALL BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION. EXISTING VEGETATION AT THE SITE SHOULD BE PRESERVED TO THE MAXIMUM EXTENT PRACTICABLE.
8. EPSC MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE MOVING OPERATIONS BEGIN AND MUST BE CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. TEMPORARY MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKADAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.
9. IF APPLICABLE, THE FOLLOWING RECORDS SHALL BE MAINTAINED ON OR NEAR SITE: THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR; THE DATES WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE OR A PORTION OF THE SITE; THE DATES WHEN STABILIZATION MEASURES ARE INITIATED; INSPECTION RECORDS AND RAINFALL RECORDS. CONTRACTOR SHALL MAINTAIN A RAIN GAUGE AND DAILY RAINFALL RECORDS AT THE SITE, OR USE A REFERENCE SITE FOR A RECORD OF DAILY AMOUNT OF PRECIPITATION.
10. IF APPLICABLE, A COPY OF THE SWPPP SHALL BE RETAINED ON-SITE AND SHOULD BE ACCESSIBLE TO THE DIRECTOR AND THE PUBLIC. ONCE SITE IS INACTIVE OR DOES NOT HAVE AN ONSITE LOCATION ADEQUATE TO STORE THE SWPPP, THE LOCATION OF THE SWPPP, ALONG WITH A CONTACT PHONE NUMBER, SHALL BE POSTED ON-SITE. IF THE SWPPP IS LOCATED OFF-SITE, REASONABLE LOCAL ACCESS TO THE PLAN, DURING NORMAL WORKING HOURS, MUST BE PROVIDED.
11. OFF-SITE VEHICLE TRACKING OF SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED. A STABILIZED CONSTRUCTION ACCESS (A POINT OF ENTRANCE/EXIT TO A CONSTRUCTION SITE) SHALL BE CONSTRUCTED AS NEEDED TO REDUCE THE TRACKING OF MUD AND DIRT ONTO PUBLIC ROADS BY CONSTRUCTION VEHICLES.
12. IF APPLICABLE, INSPECTIONS MUST BE PERFORMED AT LEAST TWICE EVERY CALENDAR WEEK. INSPECTIONS SHALL BE PERFORMED AT LEAST 72 HOURS APART. WHERE SITES OR PORTIONS OF CONSTRUCTION SITES HAVE BEEN TEMPORARILY STABILIZED, OR RUNOFF IS UNLIKELY DUE TO WINTER CONDITIONS OR DUE TO EXTREME DROUGHT, SUCH INSPECTION HAS TO BE CONDUCTED ONCE PER MONTH UNTIL THAWING OR PRECIPITATION RESULTS IN RUNOFF OR CONSTRUCTION ACTIVITIES RESUMES. INSPECTION REQUIREMENT DO NOT APPLY TO DEFINABLE AREAS THAT HAVE BEEN FINALLY STABILIZED, AS DESIGNED BY THE ENGINEER. WRITTEN NOTIFICATION OF THE INTENT TO CHANGE THE INSPECTION FREQUENCY AND THE JUSTIFICATION FOR SUCH REQUEST MUST BE SUBMITTED TO THE LOCAL ENVIRONMENTAL FIELD OFFICE, OR THE DIVISION'S NASHVILLE CENTRAL OFFICE FOR PROJECTS OF TDOT OR TVA. SHOULD THE DIVISION DISCOVER THAT MONTHLY INSPECTION OF THE DIVISION DISCOVER THAT MONTHLY INSPECTIONS OF THE SITE ARE NOT APPROPRIATE DUE TO INSUFFICIENT STABILIZATION MEASURES OR OTHERWISE, TWICE WEEKLY INSPECTIONS SHALL RESUME. THE DIVISION MAY INSPECT THE SITE TO CONFIRM OR DENY THE NOTIFICATION TO CONDUCT MONTHLY INSPECTIONS.
13. IF APPLICABLE, INSPECTORS PERFORMING THE REQUIRED TWICE WEEKLY INSPECTIONS MUST HAVE AN ACTIVE CERTIFICATION AND A RECORD OF CERTIFICATION MUST BE KEPT ON SITE. BASED ON THE RESULTS OF THE INSPECTION, ANY INADEQUATE CONTROL MEASURES OR CONTROL MEASURES IN DESPAIR SHALL BE REPLACED OR MODIFIED, OR REPAIRED AS NECESSARY, BEFORE THE NEXT RAIN EVENT, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE NEED IDENTIFIED.
14. OUTFALL POINTS SHALL BE INSPECTED TO DETERMINE WHETHER EPSC MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATERS.

NON-STORM WATER DISCHARGES

ANY SPILLAGE FROM REFUELING EQUIPMENT AND VEHICLES SHALL BE CONTAINED AND REMOVED IMMEDIATELY THROUGH THE USE OF FILTER SOCKS OR OTHER APPROVED MEANS. CONTAMINATED SOILS WILL BE PLACED ON HEAVY PLASTIC AND COVERED OR PLACED INTO APPROVED CONTAINERS TO PREVENT CONTACT WITH STORM WATER. ALL FUEL TANKS WILL BE IN THE FUELING/CONTAINMENT AREA. OILS, OTHER VEHICLE FLUIDS, PAINTS, AND SOLVENTS WILL BE STORED IN THE CONSTRUCTION TRAILER OR OTHER TEMPORARY STORAGE STRUCTURE. ANY SPILL IN EXCESS OF TWO GALLONS WILL BE REPORTED TO THE PROJECT SUPERINTENDENT AND THE ENGINEER.

IF A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24-HOUR PERIOD, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE PERMITTEE WHO SHALL THEN DO THE FOLLOWING:

a. NOTIFY THE NATIONAL RESPONSE CENTER (NRC) AT 800-424-8802.
b. NOTIFY THE TENNESSEE EMERGENCY MANAGEMENT AGENCY (TEMA) AT 800-262-3300; FOR NON-EMERGENCIES AT 800-262-3400.
c. NOTIFY THE LOCAL ENVIRONMENTAL ASSISTANCE CENTER AT 423-634-5745.

ALSO, A REVISION OF THIS DOCUMENT SHALL BE PREPARED TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES.

CONCRETE TRUCKS WILL WASH OUT AT A DESIGNATED AREA DETERMINED AT THE PRE-CONSTRUCTION MEETING. EACH CONTRACTOR IS RESPONSIBLE TO PROVIDE LITTER CONTROL FOR TRASH GENERATED BY HIS CREW. A CONTAINER SHALL BE PROVIDED, AND IS LIMITED TO GARBAGE AND PAPER TRASH ONLY. PAINT CANS, OIL CANS, USED OIL, AND FILTERS WILL BE CONTAINED AND DISPOSED OF BY THE CONTRACTOR TAKING THEM TO THE CITY OF CHATTANOOGA RECYCLE CENTER.

SITE PREPARATION

1. ALL VEGETATION, TOPSOIL, ROOTS, STOCKPILED SOIL, AND ANY DEBRIS SHALL BE STRIPPED AND REMOVED FROM AREAS TO RECEIVE FILL AND FINISHED GRADE WORK.
2. THE SUBGRADE OF DRIVEWAYS, PARKING, AND BUILDINGS SHALL BE PROOF-ROLLED WITH A LOADED RUBBER-TIRED VEHICLE OR EQUIPMENT. THE EQUIPMENT SHOULD MAKE AT LEAST TWO PASSES OVER EACH SECTION, WITH THE SECOND PASS PERPENDICULAR TO THE FIRST.
3. DURING PROOF-ROLLING OF THE SUBGRADES, PRIOR TO RECEIVING FILL, THE GEOTECHNICAL ENGINEER, OR HIS REPRESENTATIVE, SHALL IDENTIFY ANY AREAS OF INSTABILITY. PROOF-ROLLING SHOULD NOT BE DONE AFTER A PERIOD OF WET WEATHER TO AVOID DEGRADING AN OTHERWISE ACCEPTABLE SUB-GRADE.
4. SUBGRADE STABILIZATION REQUIREMENTS MAY BE REFINED BY THE GEOTECHNICAL ENGINEER, SUBJECT TO APPROVAL OF THE PROJECT ENGINEER, DURING THE GRADING PROCESS BASED ON THE PERFORMANCE OF THE SUBGRADES DURING PROOF-ROLLING.

SITE GRADING NOTES

1. EROSION CONTROL SEDIMENT BARRIERS AND TREE PROTECTION BARRIER SHALL BE INSTALLED PRIOR BEGINNING SITE WORK.
2. NO HEAVY EQUIPMENT SHALL CROSS OR BE STORED OUTSIDE THE LIMITS OF CONSTRUCTION, WITHIN TREE PROTECTIONS ZONES, OR UNDER THE DRIP LINE OF EXISTING TREES TO REMAIN.
3. TOPSOIL STRIPPED FROM AREAS TO BE GRADED SHALL BE STOCKPILED ON SITE IN A LOCATION APPROVED BY THE OWNER'S REPRESENTATIVE. DRAINAGE SHALL BE ROUTED AROUND STOCKPILE LOCATIONS FOR THE DURATION OF GRADING OPERATIONS. EROSION CONTROL MEASURES SHALL BE INSTALLED TO PREVENT LOSS OF TOPSOIL MATERIAL.
4. ALL CUT AND FILL SHALL BE PERFORMED UNDER THE DIRECTION/OBSERVATION OF THE GEOTECHNICAL ENGINEER.
5. THE SUITABLITY OF SOILS FOR FILL MATERIAL SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER.
6. UNLESS DIRECTED OTHERWISE BY GEOTECHNICAL ENGINEER, ALL FILL AREAS SHALL BE RAISED IN LIFTS NOT EXCEEDING 8" IN THICKNESS. THE RELATIVE COMPACTION OF EACH LAYER SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D-698) IN ALL AREAS OF FILL WITHIN OPEN AREAS AND 98% OF SAME SPECIFICATION FOR AREAS UNDER ROADS, PARKING, SIDEWALKS, BUILDING SLABS, AND FOUNDATIONS.
7. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER FOR ANY FIELD GRADE ADJUSTMENTS NEEDED DUE TO ACTUAL TOPOGRAPHY VARYING FROM THE TOPOGRAPHIC SURVEY, OR DUE TO ANY OTHER CIRCUMSTANCES.
8. NEW FINISHED CONTOURS SHOWN ARE TO TOP OF NEW PAVING IN AREAS TO RECEIVE PAVEMENT, AND TO TOP OF TOPSOIL IN AREAS TO BE SEEDED OR **LANDSCAPED. PROPOSED CONTOUR INTERVALS ARE AS LABELED. ALL PROPOSED CONTOURS ARE FINISHED GRADE.**
9. UNLESS OTHERWISE SPECIFIED, ALL NON-PAVED OR SURFACED SLOPES SHALL BE COVERED WITH MINIMUM OF 6" TOPSOIL. SEE EPSC PLAN FOR TOPSOIL AND PERMANENT SEEDING AREAS. ALL AREAS TO BE STABILIZED PER THE EPSC PLAN AND LANDSCAPE PLAN.
10. UNUSABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF-SITE BY CONTRACTOR.
11. BEFORE ANY MACHINE WORK IS DONE, CONTRACTOR SHALL STAKE OUT AND MARK THE ITEMS ESTABLISHED BY THE SITE PLAN. CONTROL POINTS SHALL BE PRESERVED AT ALL TIMES DURING THE COURSE OF THE PROJECT. LACK OF PROPER WORKING POINTS AND GRADE STAKES MAY REQUIRE CESSATION OF OPERATIONS UNTIL SUCH POINTS AND GRADES HAVE BEEN PLACED TO THE OWNER'S SATISFACTION.
12. THE CONTRACTOR SHALL INSURE THAT POSITIVE AND ADEQUATE DRAINAGE IS MAINTAINED AT ALL TIMES WITHIN THE PROJECT LIMITS. THIS MAY INCLUDE, BUT NOT BE LIMITED TO, REPLACEMENT OR RECONSTRUCTION OF EXISTING DRAINAGE STRUCTURES THAT HAVE BEEN DAMAGED OR REMOVED OR RECONSTRUCTED AS REQUIRED BY THE ENGINEER, EXCEPT FOR THOSE DRAINAGE ITEMS SHOWN AT SPECIFIC LOCATIONS IN AND HAVING SPECIFIC PAY ITEMS IN THE DETAILED ESTIMATE. NO SEPARATE PAYMENT WILL BE MADE FOR ANY COSTS INCURRED TO COMPLY WITH THIS REQUIREMENT.
13. CONTRACTOR SHALL SMOOTH/BLEND ALL SLOPES WITH THE SURROUNDING ENVIRONMENT.
14. MAXIMUM EMBANKMENT SLOPES TO BE AS FOLLOWS, UNLESS NOTED OTHERWISE: CUT AREAS - 3:1; FILL AREAS - 3:1. ANY SLOPES STEEPER THAN 3:1 (18.4 DEGREES) SHALL BE ANALYZED BE A GEOTECHNICAL ENGINEER FOR STABILITY.
15. ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
16. CONTRACTOR SHALL REPAIR OR REPLACE IN KIND ANY DAMAGE THAT OCCURS AS A RESULT OF HIS WORK OR THE WORK OF HIS SUBS.
17. CONTRACTOR TO COORDINATE ALL WORK WITH OTHER UTILITY INSTALLATIONS NOT COVERED IN THESE PLANS (ELECTRIC, TELEPHONE, GAS, CABLE, ETC.) AND ALLOW FOR THEIR OPERATIONS AND CONSTRUCTION TO BE PERFORMED.

SEWER AND DRAINAGE

1. EXISTING DRAINAGE STRUCTURES ARE TO BE INSPECTED, REPAIRED AS NEEDED AND CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
2. ALL SIDE DITCHES ARE TO BE CLEANED AND/OR RE-GRADED TO PROVIDE PROPER DRAINAGE.
3. ALL PIPE LENGTHS & DISTANCES BETWEEN STRUCTURES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE ALONG A HORIZONTAL PLANE.
4. THE CONTRACTOR SHALL PROVIDE ALL THE MATERIALS & APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION OF THE STORM DRAINAGE, SEWER, WATER AND UTILITY SYSTEMS. ALL PIPE & FITTINGS SHALL BE INSPECTED BY THE UTILITY DEPARTMENT INSPECTOR PRIOR TO BEING COVERED.
5. ALL CONCRETE FOR SEWER AND DRAINAGE SYSTEMS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI UNLESS OTHERWISE NOTED.

CONCRETE WORK

1. EXPANSION/CONTRACTION AND CONSTRUCTION JOINTS SHALL BE USED TO ISOLATE CONCRETE PAVEMENTS AND FLOOR SLABS FROM LOAD BEARING WALLS AND ISOLATED COLUMNS, AND SHALL CONFORM TO ACI GUIDELINES.
2. CONCRETE JOINTS OR SCORE MARKS ARE TO BE SHARP AND CLEAN WITHOUT SHOWING EDGES OF JOINT TOOL.
3. MAXIMUM JOINT SPACING SHALL BE APPROXIMATELY 30 TIMES SLAB THICKNESS. MAXIMUM EXPANSION JOINT SPACING SHALL BE APPROXIMATELY 50 FEET.

TESTING

1. A QUALIFIED SOILS TESTING LABORATORY SHALL DETERMINE THE SUITABILITY OF THE EXISTING SUB-GRADE AND EXISTING ON SITE MATERIAL PRIOR TO BEGINNING ANY FILLING OPERATION.
2. THE CONTRACTOR SHALL PROVIDE ANY EXCAVATION AND MATERIAL SAMPLES NECESSARY TO CONDUCT REQUIRED SOIL AND CONCRETE TESTS. ALL ARRANGEMENTS AND SCHEDULING FOR THE TESTING SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

SITE UTILITY NOTES

1. ALL MATERIALS AND WORKMANSHIP FOR UTILITY LINES AND APPURTENANCES SHALL BE IN STRICT COMPLIANCE WITH THE GOVERNING UTILITY COMPANY AND LOCAL CODES. PRIOR TO CONSTRUCTION CONTRACTOR SHALL NOTIFY UTILITY COMPANY. (SEE UTILITY CONTACT INFORMATION)
2. CONTRACTOR SHALL COORDINATE SITE ELECTRICAL, GAS, TELEPHONE, AND CABLE WITH THE RESPECTIVE UTILITY COMPANY FOR SERVICE LAYOUT AND DESIGN INFORMATION. ANY PROPOSED LAYOUT OF THESE UTILITIES DEPICTED ON THESE DRAWINGS IS GRAPHICAL ONLY AND NOT INTENDED TO REPRESENT DESIGN OF THESE UTILITIES.
3. PRIOR TO COMMENCEMENT OF CONSTRUCTION, CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ANY REQUIRED TAP AND CONNECTION FEES.
4. ALL TRENCHING, PIPE LAYING AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES TO AVOID CONFLICTS.

TREE PROTECTION NOTES

1. ANY REQUIRED EXCAVATION IN OR AROUND THE PROTECTION ZONE TO ACCOMMODATE UNDERGROUND SERVICES, FOOTINGS, ETC., SHALL BE INDICATED ON THE PLAN, AND SHALL BE EXCAVATED BY HAND. IN ADDITION, RELATED ROOT PRUNING SHALL BE ACCOMPLISHED BY A CERTIFIED ARBORIST VIA ANSI A-300-95 STANDARD SO AS TO MINIMIZE IMPACT OF THE GENERAL ROOT SYSTEM.
2. THE STORAGE OF BUILDING MATERIALS OR STOCKPILING SHALL NOT BE PERMITTED WITHIN THE LIMITS OF OR AGAINST THE PROTECTION BARRIERS.
3. TREES WITHIN THE PROTECTION BARRIERS MUST BE ADEQUATELY CARED FOR THROUGHOUT THE CONSTRUCTION PROCESS (I.E., THEY MUST BE WATERED SUFFICIENTLY, PARTICULARLY IF THE TREE'S ROOT SYSTEM HAS BEEN DISTURBED BY EXCAVATION). FILL SHALL NOT BE PLACED UPON THE ROOT SYSTEM IN SUCH A MANNER AS TO ENDANGER THE HEALTH OR LIFE OF THE AFFECTED TREE.
4. TREE PROTECTION BARRIER SHALL REMAIN INTACT THROUGHOUT THE ENTIRE PERIOD OF CONSTRUCTION.

PLANTING NOTES

1. ANY SERIES OF TREES TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY. ANY PLANTS MISARRANGED WILL BE RELOCATED.
2. SOIL USED IN BACKFILLING PLANTING PITS SHALL BE TOPSOIL AND MIXED WITH 25% PEAT BY VOLUME. EXCEPT FOR ERICACEOUS PLANTS, VERY ACID OR SOUR SOIL (SOIL HAVING A pH LESS THAN 6) SHALL BE MIXED WITH SUFFICIENT LIME TO PRODUCE A SLIGHTLY ACID REACTION (A pH OF 6.0 TO 6.5). 10-10-10 COMMERCIAL FERTILIZER AT THE RATE OF 2 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
3. SOIL USED IN BACKFILLING ERICACEOUS PLANTS SHALL BE TOPSOIL MIXED WITH 50% PEAT BY VOLUME. 5-10-5 COMMERCIAL FERTILIZER AT THE RATE OF 5 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
4. UPON SECURING PLANT MATERIAL, AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
6. CONTRACTOR SHALL SUBMIT A 10 OUNCE SAMPLE OF THE TOPSOIL PROPOSED TO A TESTING LABORATORY FOR ANALYSIS. TEST RESULTS, WITH RECOMMENDATIONS FOR SUITABILITY, SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
7. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON- BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
8. TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE OR OTHER NON-BIODEGRADABLE MATERIAL.
9. SCARIFY SUBSOIL IN PLANTING BEDS TO A DEPTH OF 3 INCHES. ALL PLANTING BEDS SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOPSOIL.
10. CONTRACTOR SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
11. ALL PLANTING BEDS TO HAVE A MINIMUM 3 INCH DEEP HARDWOOD MULCH
12. DIMENSIONS FOR TRUNK CALIPER, HEIGHTS, AND SPREAD SPECIFIED ON THE MATERIAL SCHEDULE ARE A GENERAL GUIDE FOR THE MINIMUM REQUIRED SIZE OF EACH PLANT. QUALITY & SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH A.N.S.I. Z80 "AMERICAN STANDARD FOR NURSERY STOCK" (CURRENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCI- ATION OF NURSERYMEN, INC.
13. THE QUANTITIES INDICATED ON THE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR, BUT SHOULD NOT BE ASSUMED TO ALWAYS BE CORRECT. IN THE EVENT OF A DISCREPANCY, THE PLANTING PLAN WILL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN QUANTITY CALCULATIONS AND THE LIABILITY PERTAINING TO THOSE QUANTITIES AND ANY RELATED CONTRACT DOCUMENTS AND/ OR PRICE QUOTATIONS.
14. CONTRACTOR TO WARRANTY ALL MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.

SEEDING NOTES

1. ALL DISTURBED AREAS TO BE SEEDED WITH KY-31 FESCUE AT THE RATE OF 5 LBS PER 1,000 S.F. ALL SEED TO BE 98% PURE WITH 85% GERMINATION AND CONFORM TO ALL STATE REQUIREMENTS FOR GRASS SEED. THE FERTILIZER SHALL BE 6-12-12 COMMERCIAL TYPE WITH 50% OF ITS ELEMENTS DERIVED FROM ORGANIC SOURCES.
2. STRAW MULCH SHALL BE PLACED UPON SEEDED AREAS. STRAW SHALL BE OATS OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THAT THE PREPARED SOIL BASE IS READY TO RECEIVE WORK. THE TOPSOIL SHALL BE CULTIVATED TO A DEPTH OF 4 INCHES WITH A MECHANICAL TILLER AND SUBSEQUENTLY RAKED UNTIL SMOOTH. FOREIGN MATERIALS COLLECTED DURING CULTIVATION AND RAKING OPERATIONS SHALL BE REMOVED FROM PROJECT SITE.
4. FERTILIZER SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. LIMESTONE MAY BE APPLIED WITH THE FERTILIZER. FERTILIZER SHALL BE APPLIED AFTER SMOOTH RAKING AND PRIOR TO ROLLER COMPACTION AND IT SHALL BE MIXED THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL.
5. SEED SHALL BE APPLIED EVENLY IN TWO INTERSECTING DIRECTIONS AND RAKED IN LIGHTLY. THE TOPSOIL SHALL BE LIGHTLY WATERED PRIOR TO APPLYING SEED. DO NOT SEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON THE SAME DAY.
6. ROLL SEEDED AREA WITH ROLLER NOT EXCEEDING 112 POUNDS.
7. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY STRAW MULCH AT THE RATE OF ONE AND ONE HALF BALE PER 1,000 SQUARE FEET. IMMEDIATELY AFTER MULCHING, APPLY WATER WITH A FINE SPRAY AND SATURATE THE GROUND TO A DEPTH OF 4 INCHES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT GRASS AND SOIL FROM DRYING OUT UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF INSTALLATION.

SODDING NOTES

1. AREAS INDICATED FOR SOD SHALL BE KENTUCKY 31. MINIMUM AGE SHALL BE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.
2. SUBMIT SOD CERTIFICATION FOR GRASS SPECIES AND LOCATION OF SOD SOURCE. INCLUDE CERTIFICATION THAT SOD IS FREE OF DISEASE, NEMATODES, UNDESIRABLE INSECTS, AND QUARANTINE RESTRICTIONS.
3. SOD SHALL BE DELIVERED ON PALLETS. SOD SHALL BE STORED AT A LOCATION THAT IS PROTECTED FROM DAMAGING WINDS.
4. 6-12-12 COMMERCIAL TYPE FERTILIZER, WITH 50% OF THE ELEMENT DERIVED FROM ORGANIC SOURCES, SHALL BE APPLIED AT RATE RECOMMENDED BY THE MANUFACTURER. APPLY AFTER SMOOTH RAKING OF TOPSOIL AND NO MORE THAN 48 HOURS BEFORE LAYING SOD. MIX THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL AND LIGHTLY WATER TO AID BREAKDOWN.
5. AREA TO RECEIVE SOD SHALL BE LIGHTLY MOISTENED IMMEDIATELY PRIOR TO LAYING SOD.
6. LAY SOD TIGHTLY WITH NO OPEN JOINTS VISIBLE AND NOT OVERLAPPING. STAGGER END JOINTS A MINIMUM OF 12 INCHES AND DO NOT STRETCH SOD PIECES.
7. ON SLOPES 6 INCHES PER FOOT AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT A MAXIMUM 2 FEET O.C. DRIVE PEGS FLUSH WITH SOD PORTION OF SOD.
8. PRIOR TO PLACING SOD ON SLOPES OF 8 INCHES PER FOOT AND STEEPER, PLACE JUTE EROSION CONTROL MESH OVER TOPSOIL. SECURELY ANCHOR IN PLACE WITH PEGS SUNK FIRMLY INTO THE GROUND. CONTRACTOR SHALL SUBMIT 12"x12" SAMPLES OF JUTE MESH FOR REVIEW TO LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. IMMEDIATELY AFTER INSTALLATION, WATER SODDED AREAS TO A DEPTH OF 4 INCHES.
10. AFTER SOD AND SOIL HAVE DRIED, ROLL SODDED AREAS TO ENSURE A GOOD BOND BETWEEN SOIL AND SOD. ROLLER SHALL NOT EXCEED 150 POUNDS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING (MOWING, TRIMMING, WATERING) THE SOD UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REPLACE SOD AREAS THAT SHOW DETERIORATION FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION. DETERIORATED MATERIAL SHALL BE REPLACED WITH SOD OF EQUAL QUALITY ORIGINALLY SPECIFIED.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

Know what's **below.**
Call before you dig.

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES, PAINTED/FLAGGED BY LOCATE REQUEST AND/OR RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineeringInc.com
423.805.3700

SEAL
MICAH LEVI DUFFEY
STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04/28/2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

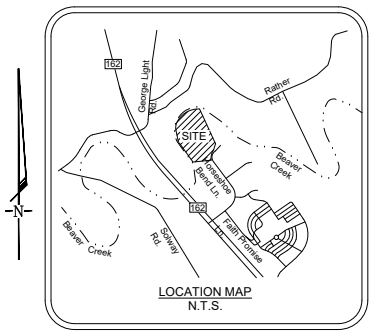
TITLE

GENERAL NOTES

SHEET NO.

C0.1

4/23/2019 1:44:04 PM | j:\01_projects\2020\20-0121 servpro - knoxville, tn\3- engineering\Civil\SHEETS\C0 COVER & GEN NOTES.dwg |



LOCATION MAP
N.T.S.

SURVEY NOTES

1. CONTOUR INTERVAL: 1 FOOT
2. ELEVATIONS BASED ON: STATE OF TENNESSEE GPS CORE STATION NETWORKS AND THEY WERE TRANSFERRED TO SITE BY LEICA VIVA SYSTEM AND REFERENCES NAD83.
3. SITE BENCHMARK: LOCATION
4. ALL UNDERGROUND UTILITIES ARE AT APPROXIMATE LOCATIONS ONLY, AND WERE LOCATED BY ABOVE GROUND EVIDENCE AND INFORMATION SUPPLIED BY LOCAL UTILITY COMPANIES. CALL BEFORE YOU DIG! 800-351-1111
5. I, HEREBY CERTIFY AFTER EXAMINATION OF THE CURRENT F.E.M.A.-FLOOD INSURANCE RATE MAP NO. 47093C0233G THAT THE SUBJECT PROPERTY LIES IN ZONE(S) "X, X SHADED, AE, & FLOODWAY" THEREON AND A PORTION DOES LIE WITHIN THE 100 YEAR FLOOD HAZARD AREA. THE REFERENCE MAP BEARS A REVISED DATE OF 08/05/2013.
6. I, CERTIFY THAT I HAVE SURVEYED THE PROPERTY HEREON, THAT THIS SURVEY IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND THAT THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY IS >1:10,000 (CATEGORY I) AS SHOWN HEREON.
7. THIS SURVEY WAS PREFORMED WITHOUT THE BENEFIT OF A CURRENT & COMPLETE TITLE COMMITMENT. THE EXISTENCE OF ADDITIONAL EASEMENTS MAY OR MAY NOT EXIST THAT MAY OR MAY AFFECT THE SUBJECT PROPERTY.
8. INVERTS OF MANHOLES LOCATED IN THE RIGHT-OF-WAY OF CENTRAL AVENUE WERE PROVIDED BY HAMILTON COUNTY GIS AND HAVE NOT BEEN FIELD VERIFIED.

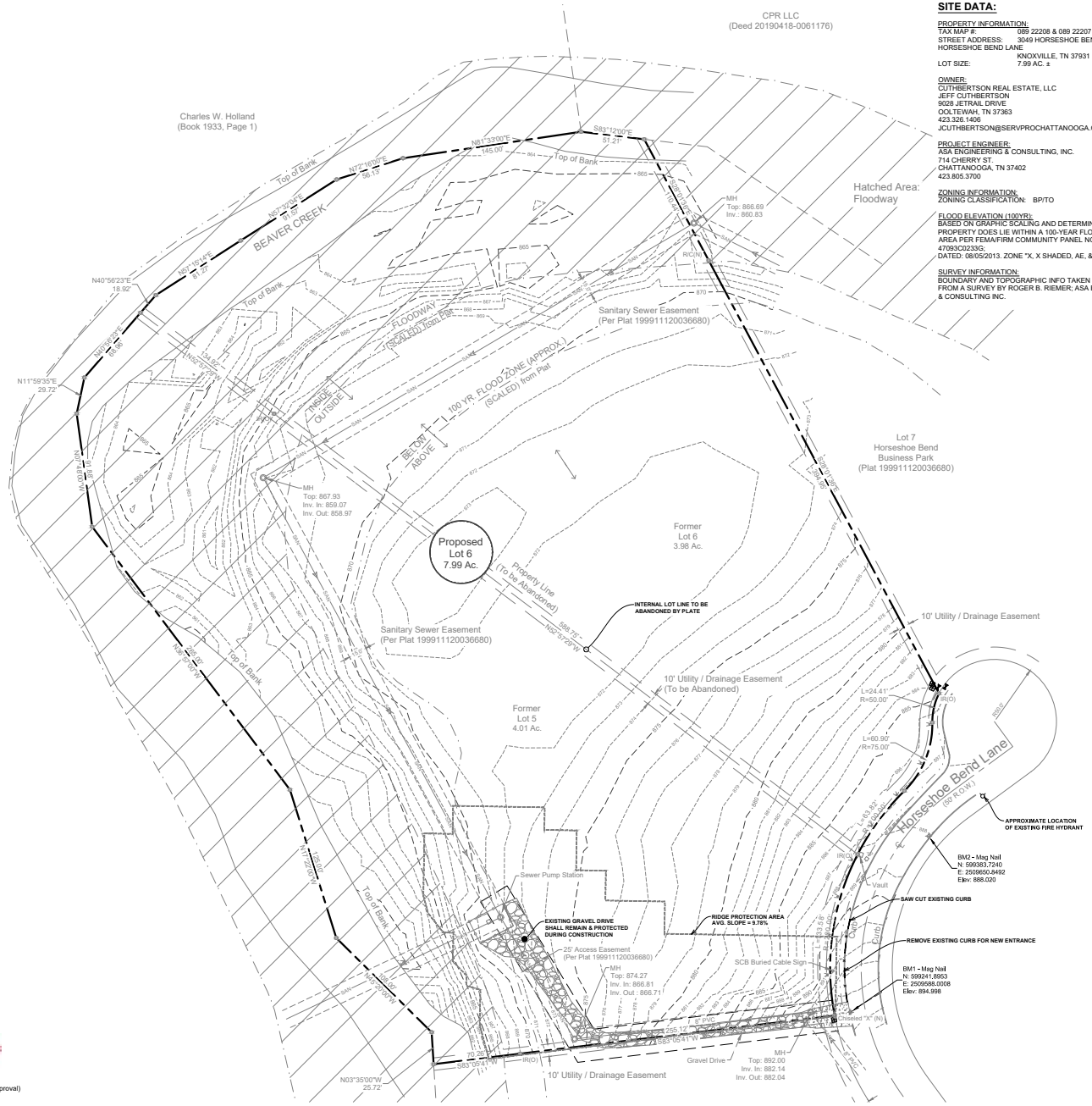
DEMOLITION NOTES

1. MINIMIZE PRODUCTION OF DUST DUE TO DEMOLITION OPERATIONS; DO NOT USE WATER IF THAT WILL RESULT IN ICE, FLOODING, SEDIMENTATION OF PUBLIC WATERWAYS OR STORM SEWERS, OR OTHER POLLUTION.
2. REMOVE ALL EXISTING ABOVE-GRADE IMPROVEMENTS. REMOVE ANY EXISTING SLABS, PAVING, CURBS, FOUNDATIONS, WALLS, FLOOR SLABS, CONCRETE SLAB-ON-GRADES, PAVEMENTS, ETC.
3. REMOVE DEMOLITION MATERIALS, OBSTRUCTIONS, AND WASTE MATERIAL, INCLUDING TRASH AND DEBRIS, AND LEGALLY DISPOSE OF THEM OFF THE SITE.
4. SMOOTH DISTURBED AREAS TO ACCOMMODATE MOWERS, AND COVER WITH MINIMUM ONE INCH OF SHREDDED WOOD MULCH FOR TEMPORARY EROSION CONTROL.
5. PROVIDE ADDITIONAL EROSION CONTROL PER TDEC AND LOCAL REGULATIONS AS NECESSARY.
6. COMPLY WITH APPLICABLE CODES AND REGULATIONS FOR DEMOLITION OPERATIONS AND SAFETY OF ADJACENT STRUCTURES AND THE PUBLIC.
7. OBTAIN REQUIRED PERMITS.
8. PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS AND SECURITY DEVICES AS NECESSARY.
9. USE PHYSICAL BARRIERS TO PREVENT ACCESS TO AREAS THAT COULD BE HAZARDOUS TO WORKERS OR THE PUBLIC.
10. CONDUCT OPERATIONS TO MINIMIZE EFFECTS ON AND INTERFERENCE WITH ADJACENT STRUCTURES AND OCCUPANTS.
11. DO NOT CLOSE OR OBSTRUCT ROADWAYS OR SIDEWALKS WITHOUT PERMIT.
12. CONDUCT OPERATIONS TO MINIMIZE OBSTRUCTION OF PUBLIC AND PRIVATE ENTRANCES AND EXITS. DO NOT OBSTRUCT REQUIRED EXITS AT ANY TIME; PROTECT PERSONS USING ENTRANCES AND EXITS FROM REMOVAL OPERATIONS.
13. OBTAIN WRITTEN PERMISSION FROM OWNERS OF ADJACENT PROPERTIES WHEN DEMOLITION EQUIPMENT WILL TRAVERSE, INFRINGE UPON OR LIMIT ACCESS TO THEIR PROPERTY.
14. DO NOT BEGIN REMOVAL UNTIL RECEIPT OF NOTIFICATION TO PROCEED FROM OWNER.
15. PARTIAL REMOVAL OF PAVING AND CURBS: NEATLY SAW CUT AT RIGHT ANGLE TO SURFACE.
16. COORDINATE WORK WITH UTILITY COMPANIES; NOTIFY BEFORE STARTING WORK AND COMPLY WITH THEIR REQUIREMENTS; OBTAIN REQUIRED PERMITS.
17. PROTECT EXISTING UTILITIES TO REMAIN FROM DAMAGE.
18. DO NOT DISRUPT PUBLIC UTILITIES WITHOUT PERMIT FROM AUTHORITY HAVING JURISDICTION.
19. DO NOT CLOSE, SHUT OFF, OR DISRUPT EXISTING LIFE SAFETY SYSTEMS THAT ARE IN USE WITHOUT AT LEAST 7 DAYS PRIOR WRITTEN NOTIFICATION TO OWNER.
20. DO NOT CLOSE, SHUT OFF, OR DISRUPT EXISTING UTILITY BRANCHES OR TAKE-OFFS THAT ARE IN USE WITHOUT AT LEAST 3 DAYS PRIOR WRITTEN NOTIFICATION TO OWNER.
21. LOCATE AND MARK UTILITIES TO REMAIN; MARK USING HIGHLY VISIBLE TAGS OR FLAGS, WITH IDENTIFICATION OF UTILITY TYPE; PROTECT FROM DAMAGE DUE TO SUBSEQUENT CONSTRUCTION, USING SUBSTANTIAL BARRICADES IF NECESSARY.
22. REMOVE EXPOSED PIPING, VALVES, METERS, EQUIPMENT, SUPPORTS, AND FOUNDATIONS OF DISCONNECTED AND ABANDONED UTILITIES.
23. PREPARE BUILDING DEMOLITION AREAS BY DISCONNECTING AND CAPPING UTILITIES OUTSIDE THE DEMOLITION ZONE; IDENTIFY AND MARK UTILITIES TO BE SUBSEQUENTLY RECONNECTED, IN SAME MANNER AS OTHER UTILITIES TO REMAIN.
24. REMOVE DEMOLITION MATERIALS, DEBRIS, JUNK, AND TRASH FROM SITE.
25. LEAVE SITE IN RELATIVELY SMOOTH AND CLEAN CONDITION, READY FOR SUBSEQUENT WORK.
26. COVER DISTURBED AREAS WITH MINIMUM ONE INCH OF SHREDDED WOOD MULCH.
27. CLEAN UP SPILLAGE AND WIND-BLOWN DEBRIS FROM PUBLIC AND PRIVATE LANDS.

811 Know what's below. Call before you dig.

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED, NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)



SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 9049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G;
DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY"

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

MICHAEL LEVI DUFFY
REGISTERED ENGINEER
STATE OF TENNESSEE
Michael Duffy
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04/28/2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE
EXISTING CONDITIONS & DEMO PLAN

SHEET NO.
C1.0

4/22/2019 1:46:04 PM | I:\01_projects\2020\20-0121 servpro - knoxville (mpl)- engineering\Civil\SHEETS\C1 EX COND & DEMO PLAN.dwg

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G; DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

TTCDA FILE #:	3-B-21-TOB and 8-A-22-TOA
STREET ADDRESS:	3049 HORSESHOE BEND LANE
PROPOSED USE:	WAREHOUSE
BUILDING FOOTPRINT:	50,400 SF (PHASE I & FUTURE)
TOTAL BLDG SF:	55,000 SF (PHASE I & FUTURE)
TOTAL IMPERVIOUS AREA:	130,504 SF
GAC:	14.5% (25% MAX)
FAR:	15.8% (30% MAX)
IAR:	37.5% (70% MAX)

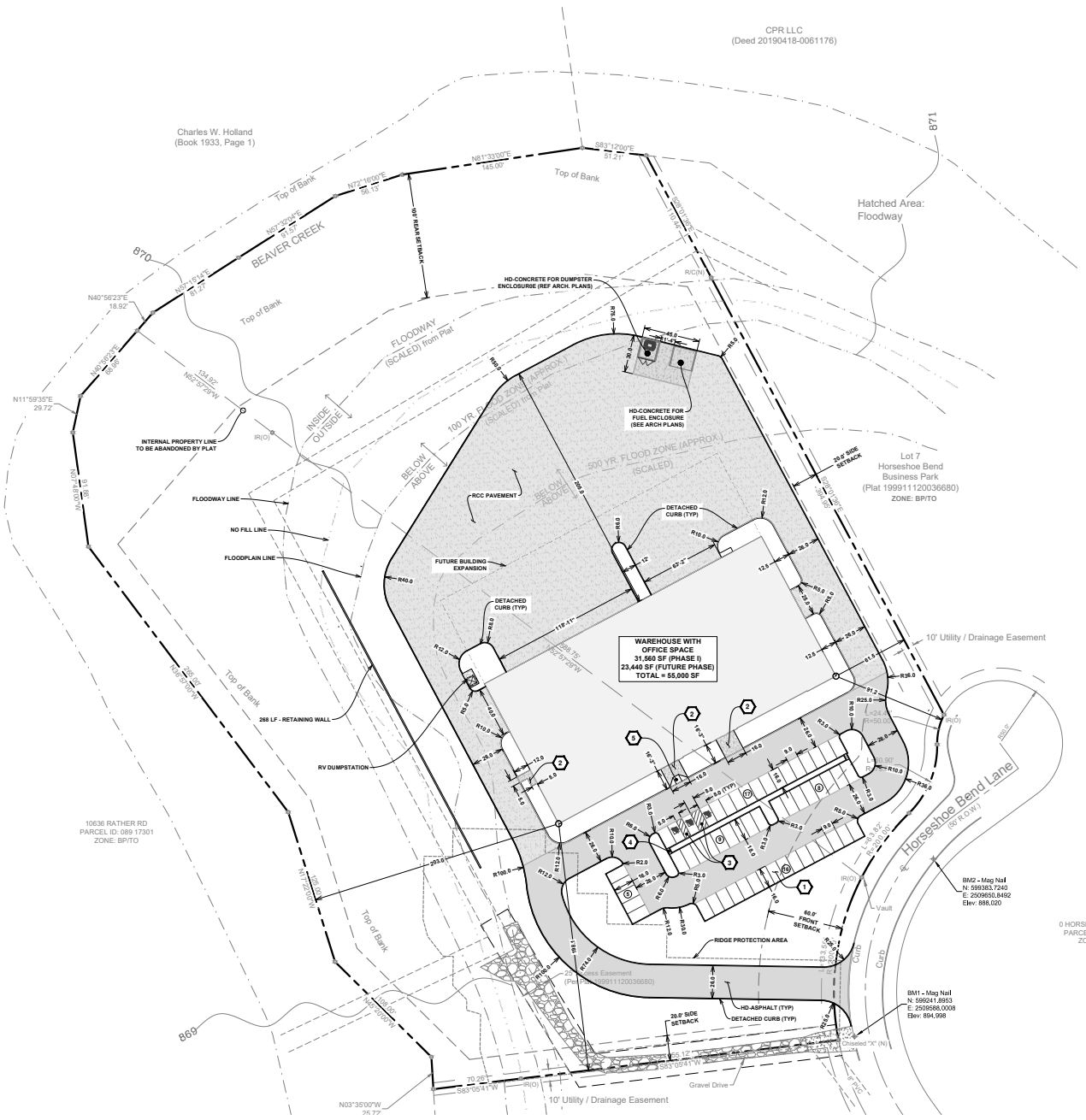
PARKING:
TTCDA PARKING REQUIREMENTS FOR OFFICE/WAREHOUSE
i. MIN: 1 SPACE PER 1,000 SF OF GROSS FLOOR AREA (55 SPACES)
ii. MAX: 1.5 SPACES PER 1,000 SF OF GROSS FLOOR AREA (82.5 SPACES)
KNOX COUNTY PARKING REQUIREMENTS
i. PROFESSIONAL OFFICE SPACE: 1 SPACE PER 250 SF OFFICE SPACE (11,000 SF OF OFFICE SPACE = 44 SPACES
ii. 1 SPACE PER EVERY 2 EMPLOYEES ON MAX SHIFT (35-50 EMPLOYEES)

WAREHOUSE W/OFFICE SPACES PROVIDED: 55 SPACES
TOTAL PARKING AREA: 25,388 SF (5% DEDICATED TO LANDSCAPE)
REQUIRED: 1,269 SF
PROVIDED: 1,704 SF
PARKING LOT TREES (1/5000 SF): 5 TREES

NO BUILDING IS PLACED WITHIN THE FLOODWAY.

SITE PLAN KEY LEGEND

1. LIGHT-DUTY ASPHALT PAVEMENT. SEE DETAILS SHEET
2. TURNDOWN CONCRETE SIDEWALK. SEE DETAILS SHEET
3. ADA SIGNAGE & STRIPING. SEE DETAIL SHEET
4. 2' CONCRETE FLUME. SEE DETAILS SHEET
5. ADA RAMP. SEE DETAILS SHEET



811 Know what's below. Call before you dig.

0 40 80 Feet

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

MICAH LEVI DUFFY
REGISTERED ENGINEER
STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04/28/2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE
SITE PLAN

SHEET NO.
C2.0

4/23/2019 1:46:04 PM | I:\01_projects\2020\20-0121 serv-pro - knoxville (mpl) - mpl\event\Civil\SHEETSRC\1SITE PLAN.dwg |

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G;
DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

SOILS INFORMATION:
B & C/D

DISTURBED AREA = 178,688 SF. (4.10 AC.)
SITE IMPERVIOUS COVER:

- EXISTING IMPERVIOUS COVER: 3,591 SF. (0.08 AC.)
- PROPOSED IMPERVIOUS COVER: 130,504 SF. (3.00 AC.)
- TOTAL INCREASE IN IMPERVIOUS COVER: 126,913 SF. (2.91 AC.)

GENERAL NOTES:

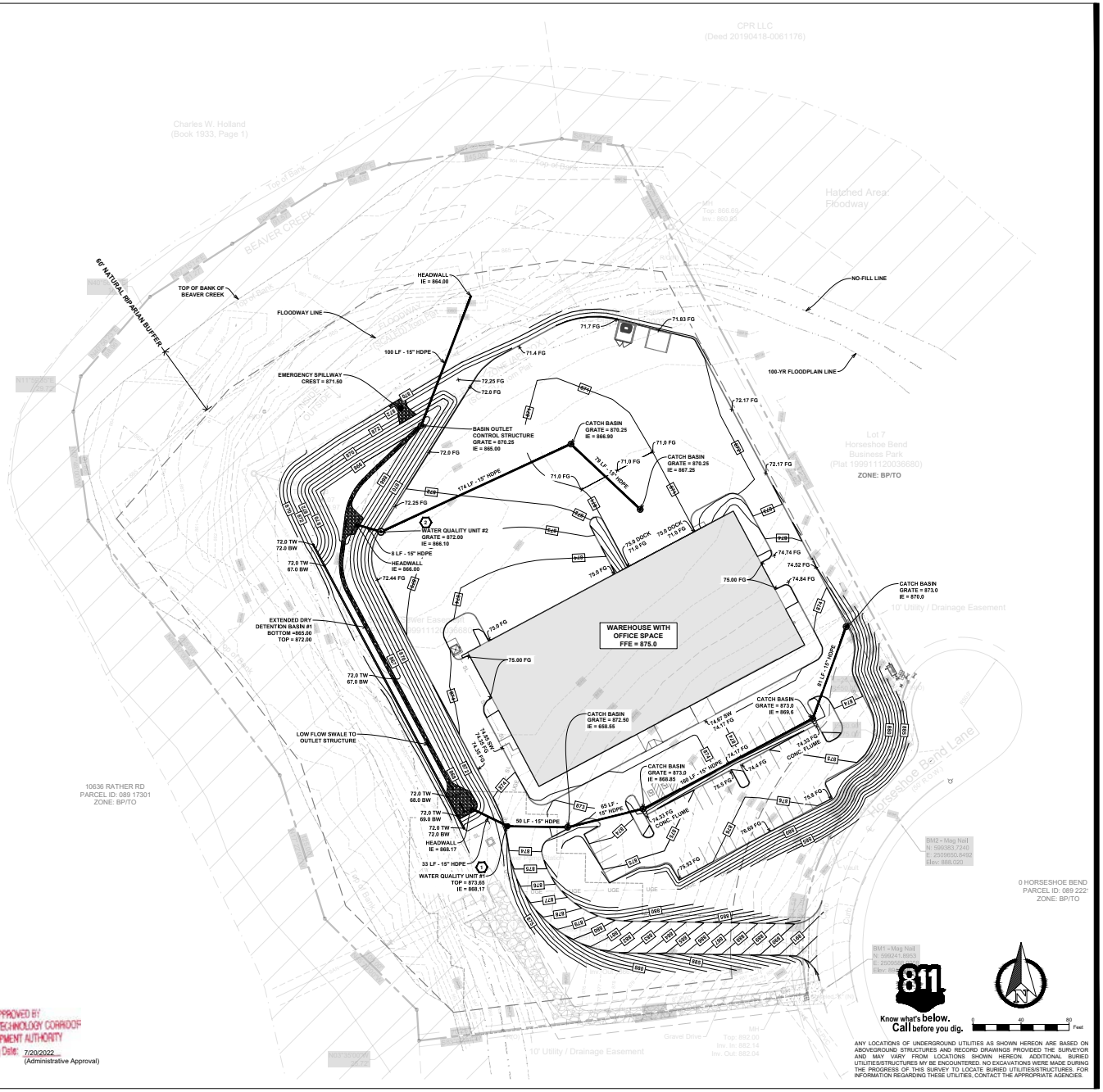
1. CONTRACTOR SHALL BE RESPONSIBLE DURING CONSTRUCTION FOR THE CONTINUOUS MAINTENANCE OF SEDIMENT AND EROSION CONTROL MEASURES AS CALLED FOR ON THE DRAWINGS AND PER THE TN EROSION AND SEDIMENT CONTROL HANDBOOK. CONTRACTOR SHALL COMPLY WITH ALL LOCAL EROSION, CONSERVATION AND SILTATION ORDINANCES. THE CONTRACTOR SHALL COMPLY WITH ALL STATE AND LOCAL SSEDIMENT CONTROL AND AIR POLLUTION ORDINANCES OR RULES.

GENERAL DETENTION BASIN NOTES:

1. CONTRACTOR SHALL NOTIFY SURVEYOR & CITY STORMWATER INSPECTOR AT LEAST 48 HRS PRIOR TO ANY COVER PLACED ON UNDERGROUND SYSTEMS. FAILURE TO DO SO MAY RESULT IN RE-EXCAVATION.
2. AS-BUILT DRAWINGS AND CERTIFICATIONS SHALL BE ACCOMPANIED WITH AS-BUILT PHOTOGRAPHS MADE DURING THE SURVEY/INSPECTION.
3. ALL STORMWATER CONTROL MEASURES AND DETENTION STRUCTURES SHALL BE MAINTAINED BY THE PROPERTY OWNER(S) / HOMEOWNERS' ASSOCIATION.
4. STORMWATER CONTROL MEASURES SHALL NOT BE INSTALLED UNTIL THE SITE IS SUBSTANTIALLY STABILIZED OR UNLESS OTHER MEASURES ARE TAKEN.

GRADING PLAN KEY LEGEND

1. **WATER QUALITY UNIT #1**
   HYDRO INTERNATIONAL - 3FDH (OR EQUIV.)
   WQ_{RATE} = 0.62 CFS, PROVIDED = 0.85 CFS
2. **WATER QUALITY UNIT #2**
   HYDRO INTERNATIONAL - 5 FT FDHC (OR EQUIV.)
   WQ_{RATE} = 2.10 CFS, PROVIDED = 2.35 CFS



EXTENDED DRY DETENTION BASIN
DRAINAGE AREA = 179,292 SF
TOTAL IMPERVIOUS AREA: 130,504 SF
WATER QUALITY VOL.: 11,487 CF (REQUIRED, PER EQ. 2-1, STORMWATER MANAGEMENT MANUAL - VOL. 2)
TOTAL AVAILABLE STORAGE: 55,539 CF (865.0 TO 872.0)
21,576 CF PONDING BELOW POND OUTLET (BEEHIVE GRATE INLET @ 869.25) (WATER QUALITY VOLUME)
33,963 CF PONDING ABOVE FIRST FLUSH
TREATED STORAGE: 21,576 CF (APPROX. 32.5 HOUR DRAWDOWN THROUGH 2.5" Ø ORFICE)
100 YR ELEV.-870.42 ; 25YR ELEV-869.99

STORMWATER SUMMARY

STORM EVENT	PRE DEVELOPMENT PEAK FLOWRATE, CFS	POST DEVELOPMENT PEAK FLOW RATE, CFS	ROUTED/COMBINED FLOWRATE, CFS
2-YEAR	3.76	12.38	2.30
5-YEAR	7.22	17.22	3.85
10-YEAR	10.66	21.59	7.81
25-YEAR	14.40	26.04	12.50
50-YEAR	16.24	28.17	14.27
100-YEAR	20.11	32.51	17.62

APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

Know what's below. Call before you dig.

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.net
423.805.3700

SEAL

MICHAEL LEVI DUFFY — REGISTERED ENGINEER — STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
–	–	–

© 2020 ASA Engineering & Consulting, Inc. Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of ASA Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

GRADING PLAN

SHEET NO.

C3.0

4/22/2022 | 1:46:04 PM | J:\01_projects\2020\20-0121 serv-pro - knoxville (tn)\- engineering\Civil\SHEETS\C3 GRADING PLAN.dwg

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G; DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

SOILS INFORMATION:
B & C/D

DISTURBED AREA = 178,688 SF. (4.10 AC.)
SITE IMPERVIOUS COVER:

- EXISTING IMPERVIOUS COVER: 3,591 SF. (0.08 AC.)
- PROPOSED IMPERVIOUS COVER: 130,504 SF. (3.00 AC.)
- TOTAL INCREASE IN IMPERVIOUS COVER: 126,913 SF. (2.91 AC.)

PHASE I E&SC

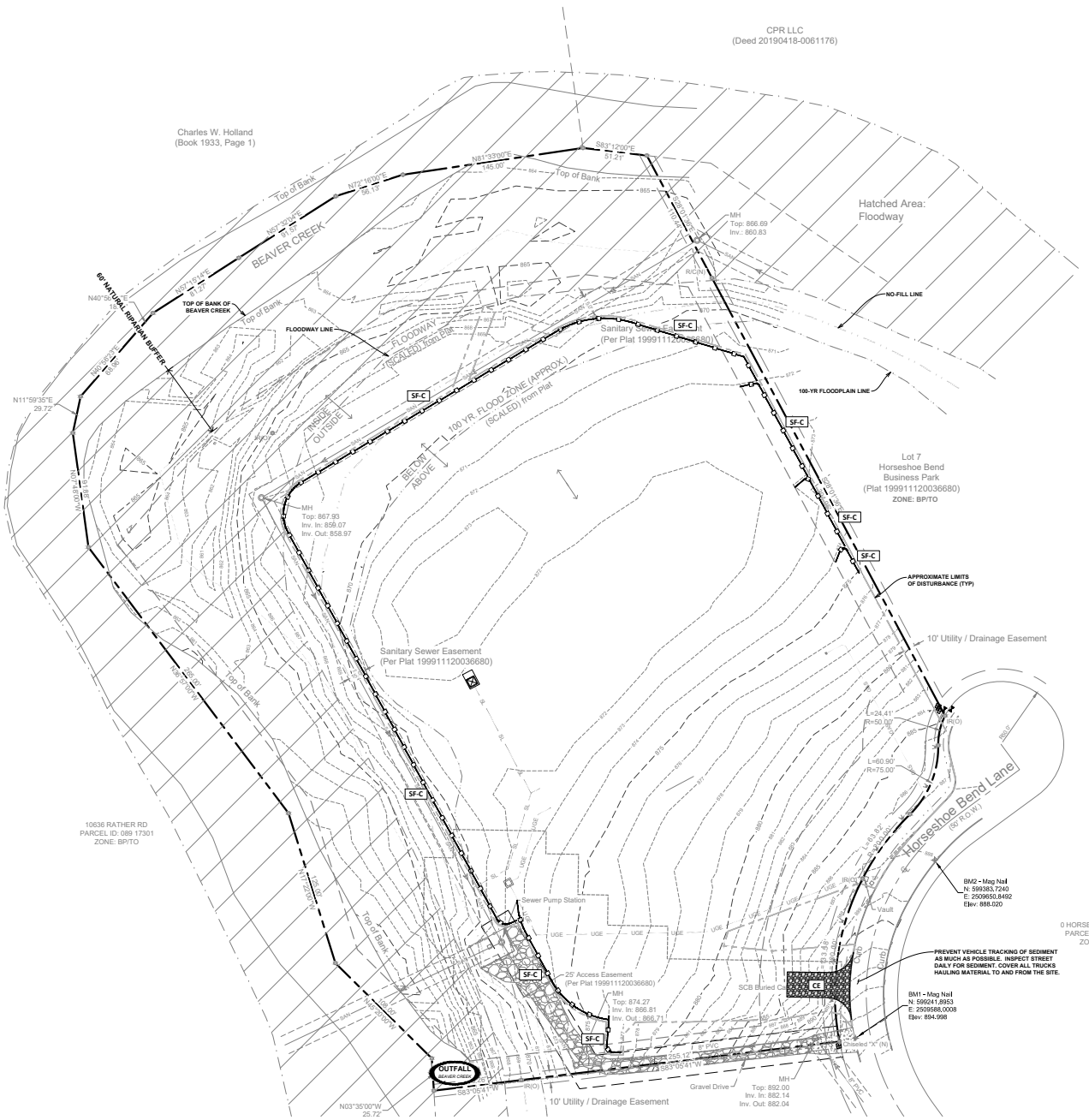
PHASE I - EROSION AND SEDIMENT CONTROL SCHEDULE:

1. CONDUCT PRE CONSTRUCTION MEETING WITH EROSION CONTROL INSPECTOR.
2. STAKE OUT CLEARING LIMITS, BUFFERS, ETC.
3. INSTALL CONSTRUCTION EXITS AND PERIMETER SILT FENCE.
4. DEMO EXISTING PAVEMENTS, TREES, DRIVES, STRIP TOP SOIL, ETC.
5. PROVIDE TEMPORARY GRASSING / MULCHING @ 14 DAY INTERVALS.

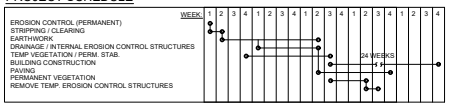
EROSION CONTROL LEGEND

	LIMITS OF DISTURBANCE
CE	CONSTRUCTION ENTRANCE
IP-SS	INLET PROTECTION - SILT SOXX
PS	PERMANENT SEEDING
TS	TEMPORARY SEEDING
TO	TOP SOIL
SF-SS	SILT FENCE - SILT SOXX

SEE SHEET C4.3 FOR DETAILS



PROJECT SCHEDULE



NOTE:

A CONSTRUCTION SITE ASSESSMENT OF THE SWPPP SHALL BE PERFORMED IN ACCORDANCE WITH PART 3.1.2 OF THE TENNESSEE CONSTRUCTION GENERAL PERMIT WITHIN ONE MONTH OF CONSTRUCTION COMMENCEMENT.

811 Know what's below. Call before you dig.

0 40 80 Feet

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

APPROVED BY
TENNESSEE TECHNOLOGY CORROOF DEVELOPMENT AUTHORITY
Mailing Date: 7/20/2022
(Administrative Approval)

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
-	-	-

© 2020 ASA Engineering & Consulting, Inc. Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of ASA Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

SWPPP PHASE I

SHEET NO.

C4.0

4/23/2019 1:46:04 PM | I:\01_projects\2020\20-0121 serv-pro - knoxville tn\3- engineering\Civil\SHEETS\C4.0 SWPPP.dwg |

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G; DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

SOILS INFORMATION:
B & C/D

DISTURBED AREA = 178,688 SF. (4.10 AC.)
SITE IMPERVIOUS COVER:

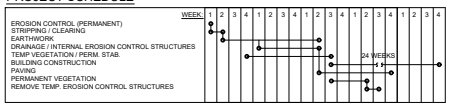
- EXISTING IMPERVIOUS COVER: 3,591 SF. (0.08 AC.)
- PROPOSED IMPERVIOUS COVER: 130,504 SF. (3.00 AC.)
- TOTAL INCREASE IN IMPERVIOUS COVER: 126,913 SF. (2.91 AC.)

PHASE II E&SC

PHASE II - EROSION AND SEDIMENT CONTROL SCHEDULE:

1. BEGIN SITE GRADING.
2. INSTALL UTILITIES (STORM, SANITARY, AND WATER) AND INSTALL APPROPRIATE TEMPORARY INLET/OUTLET PROTECTION.
3. MAINTAIN SILT FENCE & INLET PROTECTION PER THIS PLAN AS THE PROJECT PROGRESSES.
4. BUILDING CONSTRUCTION
5. MAINTAIN TEMPORARY GRASSING @14 DAY INTERVALS, SILT FENCE, AND CONSTRUCTION ENTRANCE PER THIS PLAN AS THE GRADING PROGRESSES.

PROJECT SCHEDULE



NOTES:

NON-STORM WATER DISCHARGES:
1. ALL FUELING OF EQUIPMENT AND VEHICLES ON SITE WILL BE CONDUCTED AT A SITE PREVIOUSLY APPROVED. ANY SPILLAGE SHALL BE CONTAINED AND REMOVED IMMEDIATELY THROUGH THE USE OF FILTER SOCKS OR OTHER APPROVED MEANS. CONTAMINATED SOILS WILL BE PLACED ON HEAVY PLASTIC AND COVERED OR PLACED INTO APPROVED CONTAINERS TO PREVENT CONTACT WITH STORM WATER. ALL FUEL TANKS WILL BE IN THE FUELING/CONTAINMENT AREA. OILS, OTHER VEHICLE FLUIDS, PAINTS, AND SOLVENTS WILL BE STORED IN THE CONSTRUCTION TRAILER OR OTHER TEMPORARY STORAGE STRUCTURE. ANY SPILL IN EXCESS OF TWO GALLONS WILL BE REPORTED TO THE PROJECT SUPERINTENDENT AND THE ENGINEER.

IF A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24-HOUR PERIOD, THE CONTRACTOR WILL IMMEDIATELY NOTIFY THE PERMITTEE WHO SHALL THEN DO THE FOLLOWING:

a. NOTIFY THE NATIONAL RESPONSE CENTER (NRC) AT 800-424-8802.
b. NOTIFY THE TENNESSEE EMERGENCY MANAGEMENT AGENCY (TEMA) AT 800-262-3300; FOR NON-EMERGENCIES AT 800-262-3400.
c. NOTIFY THE LOCAL ENVIRONMENTAL ASSISTANCE CENTER AT 423-634-5745.

ALSO, A REVISION OF THIS DOCUMENT SHALL BE PREPARED TO IDENTIFY MEASURES TO PREVENT THE REOCCURRENCE OF SUCH RELEASES.
EACH CONTRACTOR IS RESPONSIBLE TO PROVIDE LITTER CONTROL FOR TRASH GENERATED BY HIS CREW. A CONTAINER SHALL BE PROVIDED, AND IS LIMITED TO GARBAGE AND PAPER TRASH ONLY. PAINT CANS, OIL CANS, USED OIL, AND FILTERS WILL BE CONTAINED AND DISPOSED OF BY THE CONTRACTOR TAKING THEM TO AN APPROVED DISPOSAL CENTER.

EROSION CONTROL LEGEND

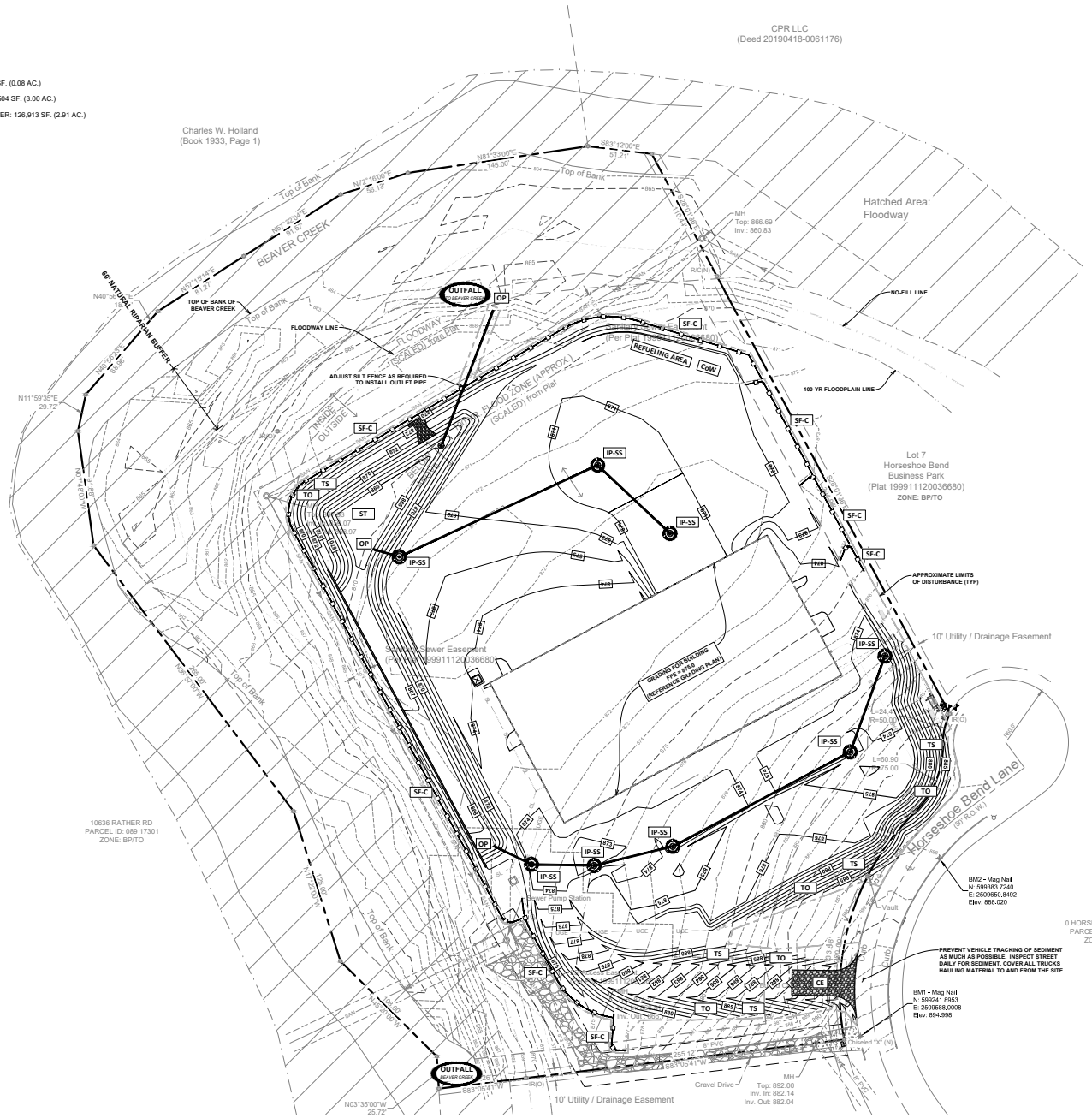
	LIMITS OF DISTURBANCE
CE	CONSTRUCTION ENTRANCE
IP-SS	INLET PROTECTION - SILT SOXX
PS	PERMANENT SEEDING
TS	TEMPORARY SEEDING
TO	TOP SOIL
SF-SS	SILT FENCE - SILT SOXX

SEE SHEET C4.3 FOR DETAILS

811 Know what's below. Call before you dig.

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

APPROVED BY
TENNESSEE TECHNOLOGY CORROOF DEVELOPMENT AUTHORITY
Mailing Date: 7/20/2022
(Administrative Approval)



ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

MICHAEL LEVI DUFFY
REGISTERED ENGINEER
STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
-	-	-

© 2020 Asa Engineering & Consulting, Inc. Drawing, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

SWPPP PHASE II

SHEET NO.

C4.1

4/22/2022 | 1:46:04 PM | J:\01_projects\2020\20-0121 serv-pro - knoxville, tn\3- engineering\Civil\SHEETS\C4.1SWPPP.dwg

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G; DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

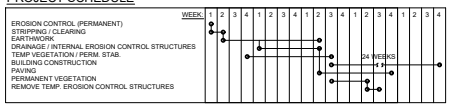
SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PHASE III E&SC

PHASE III - EROSION AND SEDIMENT CONTROL SCHEDULE:

1. MAINTAIN SILT FENCE AND INLET PROTECTION PER THIS PLAN AS THE GRADING PROGRESSES.
2. INSTALL PAVING AND CURBING.
3. MAINTAIN TEMPORARY GRASSING @ 14 DAY INTERVALS, INSTALL PERMANENT GRASSING @ 30 DAY INTERVALS.
4. INSTALL LANDSCAPING, MULCH, AND PERMANENT SEEDING.
5. CLEAN STORM STRUCTURES.
6. DEMUCK ALL STRUCTURAL BMP'S AND SAFELY DISPOSE OF MATERIAL. REMOVE ALL TEMPORARY BMP'S AS SHOWN ON PLANS.

PROJECT SCHEDULE



EROSION CONTROL LEGEND

	LIMITS OF DISTURBANCE
CE	CONSTRUCTION ENTRANCE
IP-SS	INLET PROTECTION - SILT SOXX
PS	PERMANENT SEEDING
TS	TEMPORARY SEEDING
TO	TOP SOIL
SF-SS	SILT FENCE - SILT SOXX

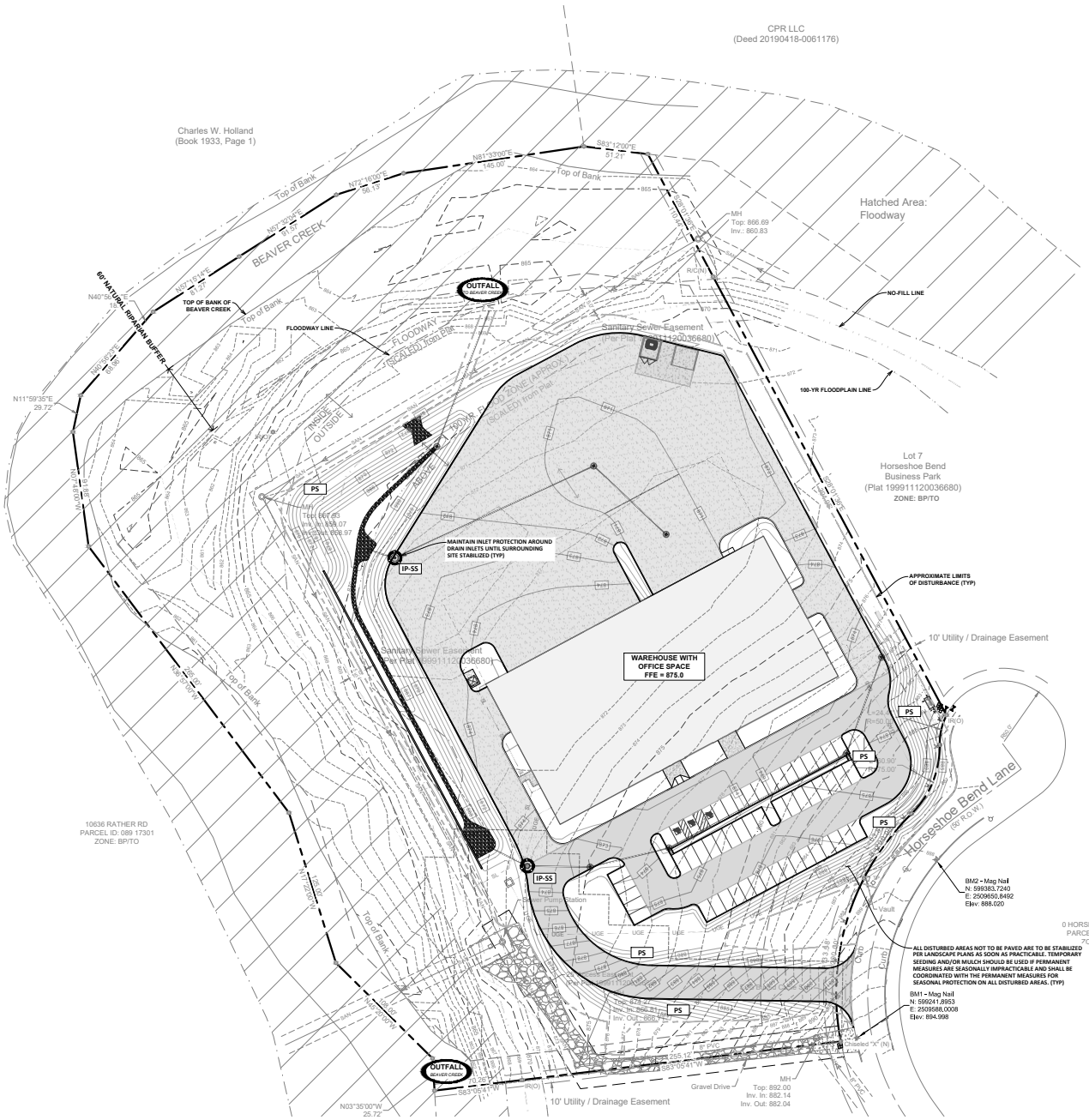
SEE SHEET C4.3 FOR DETAILS

PROJECT DATA:

SOILS INFORMATION:
B & C/D

DISTURBED AREA = 178,688 SF. (4.10 AC.)
SITE IMPERVIOUS COVER:

- EXISTING IMPERVIOUS COVER: 3,591 SF. (0.08 AC.)
- PROPOSED IMPERVIOUS COVER: 130,504 SF. (3.00 AC.)
- TOTAL INCREASE IN IMPERVIOUS COVER: 126,913 SF. (2.91 AC.)



811 Know what's below. Call before you dig.

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

APPROVED BY
TENNESSEE TECHNOLOGY CORROOF DEVELOPMENT AUTHORITY
Mailing Date: 7/20/2022
(Administrative Approval)

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

MICAH LEVI DUFFY
REGISTERED ENGINEER
STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
–	–	–

© 2020 Asa Engineering & Consulting, Inc. Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

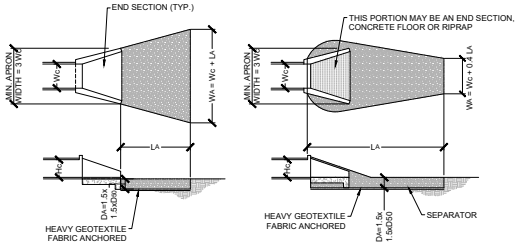
TITLE

SWPPP PHASE III

SHEET NO.

C4.2

4/22/2022 | 1:46:04 PM | J:\01_projects\2020\20-0121 serv-pro - knoxville (mpl)\-engineering\Civil\SHEETS\C4.1SWPPP.dwg



TAILWATER < 0.5 Hc AND ASSUMING FULL CULVERT FLOW (LOW TAILWATER CONDITIONS)

TAILWATER > 0.5 Hc AND ASSUMING FULL CULVERT FLOW (HIGH TAILWATER CONDITIONS)

Hc	= HEIGHT OF CULVERT
Wc	= WIDTH OF CULVERT
La	= LENGTH OF RIP-RAP APRON
Wa	= WIDTH OF RIP-RAP APRON AT END
D50	= MEDIAN RIP-RAP SIZE
DMAX	= MAXIMUM SIZE OF RIP-RAP = 1.5 D50
Da	= DEPTH OF RIP-RAP APRON = 1.5 DMAX

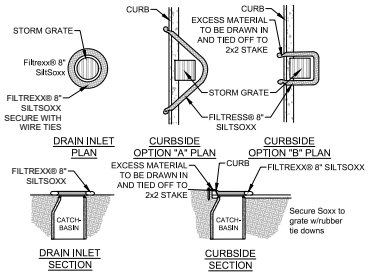
OULET PROTECTION

OP

TEMPORARY SEEDING

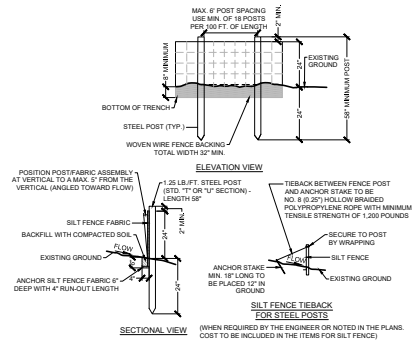
TEMPORARY SEEDING FOR LATE WINTER & EARLY SPRING	TEMPORARY SEEDING FOR SUMMER	TEMPORARY SEEDING FOR FALL
SPECIES RATE (lb/acre) RYE 120	SPECIES RATE (lb/acre) RYE 60 BROWN TOP MILLET 30	SPECIES RATE (lb/acre) RYE 30 WINTER WHEAT 30
SEEDING DATES FEB. 1-MAY 1	SEEDING DATES MAY 15-AUG. 15	SEEDING DATES AUG. 15-DEC. 15
SOIL AMENDMENTS FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 lb/acre GROUND AGRICULTRUAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER.	SOIL AMENDMENTS FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 lb/acre GROUND AGRICULTRUAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER.	SOIL AMENDMENTS FOLLOW RECOMMENDATIONS OF SOIL TEST OR APPLY 2,000 lb/acre GROUND AGRICULTRUAL LIMESTONE AND 750 lb/acre 10-10-10 FERTILIZER.
MULCH APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NEETING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.	MULCH APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NEETING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.	MULCH APPLY 4,000 lb/acre STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NEETING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.
MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.	MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.	MAINTENANCE REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, REFERTILIZE 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.

TS TEMPORARY SEEDING
NOT TO SCALE



Notes:
1. All material to meet Filtrexx® specifications,
2. SiltSoxx™ compost/soil/rock/seed fill to meet application requirements.
3. Compost material to be dispersed on site after final stabilization of the site.

IP-SS INLET PROTECTION - SILT SOXX
NOT TO SCALE



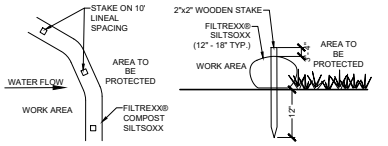
SF-C SILT FENCE - TYPE C
NOT TO SCALE

PERMANENT SEEDING - *PREFERRED SEED MIXES*

GENERAL SEEDING AREAS	PLANTING DATES BEST	PLANTING DATES MARGINAL	PREGERRED RATE / MIX (lb/ac PLS)
Steep Slopes	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	15 browntop millet* (nurse crop) 5 purpletop 10 little bluestem 10 indian grass 2 black-eyed susan 0.5 manard (bergamot) 4 Maryland senna
Shallow Soils	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	15 browntop millet* (nurse crop) 5 purpletop 10 little bluestem 10 broomsedge 2 partridge pea 2 black-eyed susan 0.5 manard (bergamot)
Moderate Slopes	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	15 browntop millet* (nurse crop) 5 purpletop 10 little bluestem 10 indian grass 2 black-eyed susan 0.5 manard (bergamot) 4 Maryland senna
Lawn Areas	Sept 15 - Oct 31 **Feb 15 - Apr 15**	Oct 31 - Nov 30 Apr 15 - May 15	Annual Ryegrass (nurse crop) 5 Star Fescue Grass Seed Blend Falcon IV Tall Fescue Crossfire III Tall Fescue Rebel Tall Fescue Mix

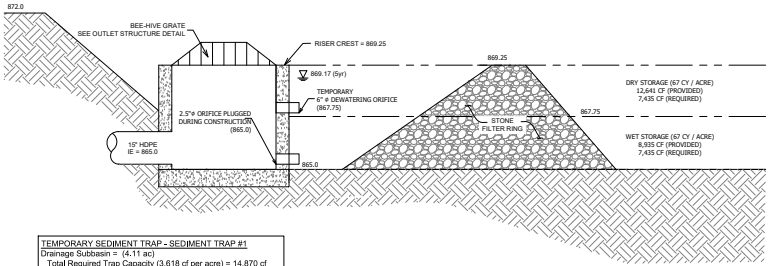
**non-native but do not spread*
Note:
The bold dates are the preferred dates for seeding.
Temporary Seeding may be required when seeding outside of the preferred seeding dates
High maintenance areas include lawns & other grassed areas that will be maintained for aesthetics.

PS PERMANENT SEEDING
NOT TO SCALE



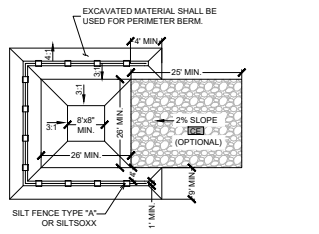
Notes:
1. All material to meet Filtrexx® specifications.
2. SiltSoxx™ compost/soil/rock/seed fill to meet application requirements.
3. SiltSoxx™ depicted is for minimum slopes. Greater slopes may require larger socks per the Engineer.
4. Compost material to be dispersed on site after final stabilization of the site.

SF-SS SILT FENCE - SILTSOXX
NOT TO SCALE

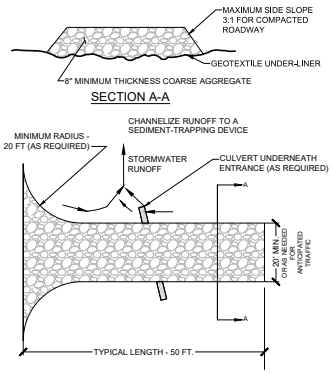


TEMPORARY SEDIMENT TRAP - SEDIMENT TRAP #1
Drainage Subbasin = (4.11 ac)
Total Required Trap Capacity (3,618 cf per acre) = 14,870 cf
Wet Storage = 7,435 cf
Dry Storage = 7,435 cf
Available Storage: 21,576 cf
Wet Storage = 8,935 cf (Elev. 865.0 -> 867.75)
Dry Storage = 12,641 cf (Elev. 867.75 -> 869.25)

ST TEMPORARY SEDIMENT TRAP
NTS



CoW CONCRETE WASH-OUT AREA (1)
NOT TO SCALE



CE CONSTRUCTION EXIT
NOT TO SCALE

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.893.2110

SEAL

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
-	-	-

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA
TITLE	SWPPP DETAILS
SHEET NO.	C4.3

4/23/2019 1:46:04 PM | I:\01_projects\2020\20-0121 serpro- knoxville tn\3- engineering\Civil\SHEETS\C4.4 SWPPP DETAILS.dwg |

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G;
DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

SITE UTILITY NOTES

1. THE SITE UTILITY PLAN IS FOR SANITARY SEWER AND WATER LINE CONSTRUCTION ONLY. DO NOT USE FOR GRADING OR STORM SEWER CONSTRUCTION.
2. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
3. SITE UTILITY CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION OF THE UTILITIES. ALL PIPE AND FITTINGS SHALL BE INSPECTED BY THE WATER DEPARTMENT INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING PRESSURE TESTING AND DISINFECTION OF LATERALS AND HIS SIGNATURE APPROVAL IS REQUIRED.
4. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, REGULATIONS, AND/OR LOCAL STANDARDS IMPOSED BY LOCAL UTILITY. A PRE-CONSTRUCTION SHALL BE COORDINATED WITH THE LOCAL UTILITY AND/OR MUNICIPALITY PRIOR TO UTILITY CONSTRUCTION.
5. THE SITE UTILITY CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE LOCAL UTILITY AUTHORITIES FOR CONNECTION TO THE EXISTING MAINS AND PAY ALL APPLICABLE FEES.
6. ALL WATER LINES SHALL HAVE A MINIMUM OF 36 INCHES OF COVER ABOVE TOP OF PIPE.
7. CONTRACTOR SHALL ADJUST LOCATION OF PROPOSED WATER LINES AS REQUIRED TO AVOID CONFLICTS WITH STORM SEWER OR OTHER UTILITIES AT NO EXTRA COST.
8. THE SITE UTILITY CONTRACTOR SHALL COOPERATE AND WORK WITH ALL OTHER CONTRACTORS ON THE SITE.
9. ALL MATERIALS SHALL BE U.L. LISTED AND APPROVED BY THE LOCAL UTILITY COMPANY.
10. THE EXISTING UTILITY FACILITIES AND AND LOCATIONS SHOWN ON THE DRAWINGS ARE TAKEN FROM READILY AVAILABLE INFORMATION. THE ACTUAL LOCATIONS OF THE UTILITY FACILITIES MAY VARY FROM THE LOCATIONS SHOWN OR INDICATED ON THE DRAWINGS. THE SITE UTILITY CONTRACTOR SHALL CONTACT ALL ALL AGENCIES WITH UTILITY FACILITIES IN THE AREA OF THE WORK AND SHALL LOCATE ALL UNDERGROUND FACILITIES PRIOR TO BEGINNING WORK. THE CONTRACTOR SHALL PROTECT ALL UTILITY FACILITIES AND REPAIR ANY DAMAGES RESULTING FROM THEIR WORK, IN CONFORMANCE WITH THE CONTRACT DOCUMENTS AND RELOCATE IF REQUIRED.
11. THRUST BLOCKS SHALL BE PROVIDED AT ALL TEES ELBOWS, AND BENDS OF SUFFICIENT SIZE TO COMPLY WITH MINIMUM STANDARDS OF N.F.P.A. - EXISTING SOIL CONDITIONS.
12. SHOULD LATENT SOIL CONDITIONS NECESSITATE, CONTRACTOR SHALL INSTALL SPECIAL SUPPORTS FOR PIPING AND/OR APPURTENANCES INCLUDING THE REMOVAL OF UNSUITABLE MATERIAL AND BACKFILLING WITH GRAVEL OR OTHER MATERIAL. CONTRACTOR SHALL PERFORM ANY SUCH WORK AS DIRECTED BY THE CIVIL ENGINEER AND/OR SOIL ENGINEER AT NO COST TO THE OWNER.
13. CONTRACTOR TO COORDINATE ALL WORK WITH OTHER UTILITY INSTALLATIONS NOT COVERED IN THESE PLANS (ELECTRIC, TELEPHONE, GAS, CABLE, ETC.) AND ALLOW FOR THEIR OPERATIONS AND CONSTRUCTION TO BE PREPARED.
14. CONNECTIONS TO EXISTING WATER LINE MAY BE PERFORMED BY THE LOCAL UTILITY COMPANY. THE SITE UTILITY CONTRACTOR SHALL VERIFY REQUIREMENTS AND PAY ALL COSTS.
15. INSTALLATION OF ALL SPRINKLER SYSTEM PIPING FROM THE POINT OF SERVICE MUST BE PERFORMED BY A TENNESSEE REGISTERED SPRINKLER CONTRACTOR.
16. SEE SHEET C5.1 FOR ADDITIONAL DETAILS.
17. HOT BOX SHALL BE SAFE-T-COVER W/ SAFE-T-COVER SLAB MOUNT HEATING SYSTEM OR EQUIVALENT.
18. PROTECTIVE ENCLOSURE SHALL BE INSULATED FIBERGLASS. BACKFLOW PREVENTER TO BE REMOVED SEASONLLY DURING FREEZING TEMPATURES AND IRRIGATION LINES PURGED. SEE DETAIL ON SHEET C5.1 FOR ADDITIONAL INFORMATION.

UTILITIES:

KNOXVILLE UTILITIES BOARD (KUB)
445 S. GAY STREET
KNOXVILLE, TN 37902
865-524-2911

WEST KNOX UTILITY DISTRICT (WKUD)
2328 LOVELL ROAD
KNOXVILLE, TN 37932
865-690-2521

LENOIR CITY UTILITY BOARD (LCUB)
7698 CREEKWOOD PARK BLVD.
LENOIR CITY, TN 37771
1-844-687-5282

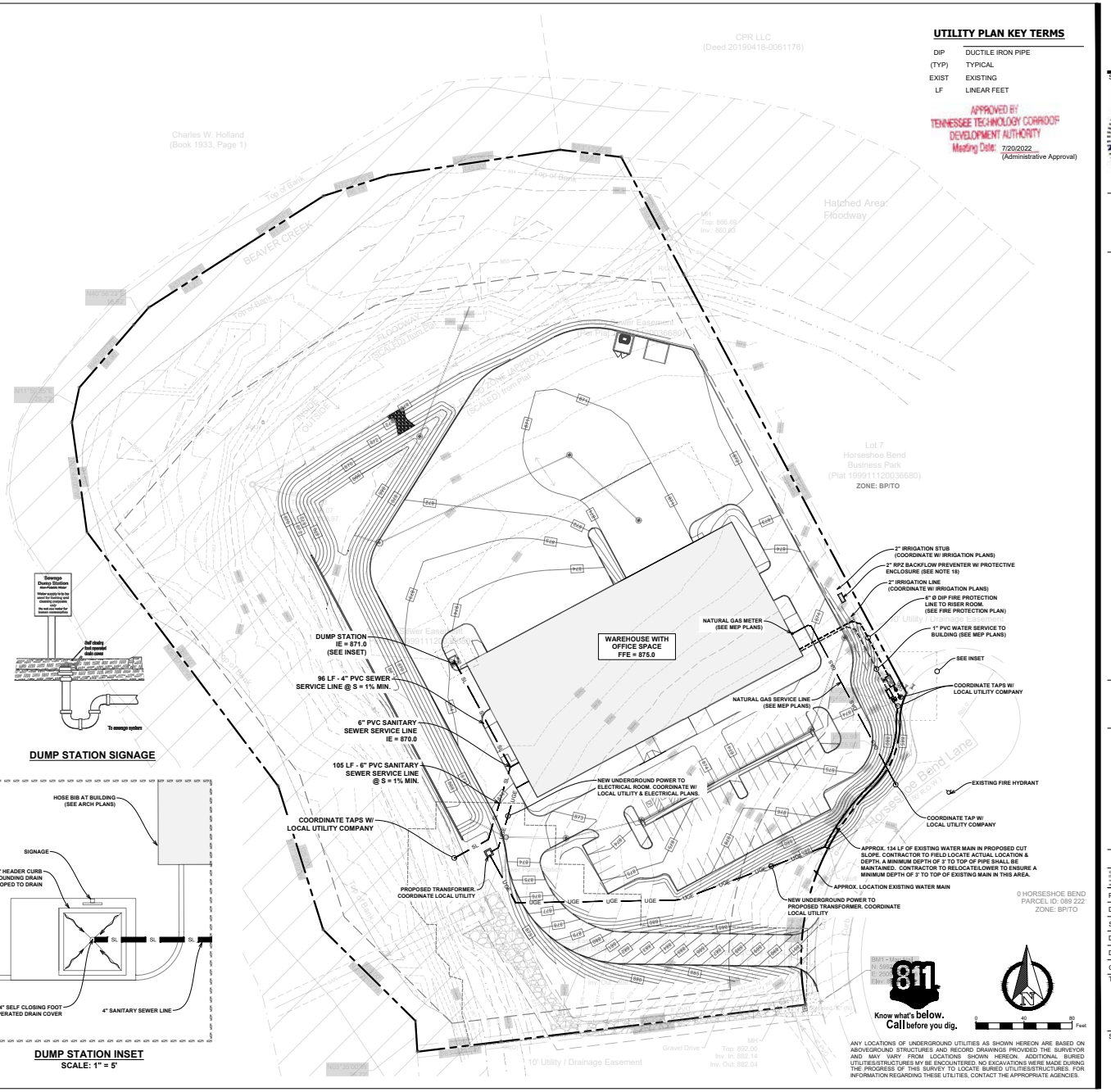
CITY OF KNOXVILLE (KNOX)
ENGINEERING DIRECTOR
JAMES R. HAGERMAN, P.E.
JHAGERMAN@KNOXVILLETN.GOV
865-215-2148
400 MAIN ST., SUITE 480
P.O. BOX 1631
KNOXVILLE, TN 37901

ELECTRICITY - LCUB
GAS - KUB
WATER - WKUD
WASTEWATER - WKUD
STORMWATER - KNOX

UTILITY PLAN KEY TERMS

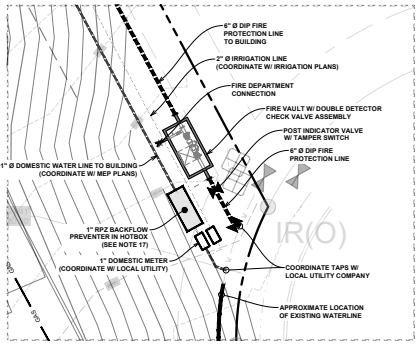
DIP	DUCTILE IRON PIPE
(TYP)	TYPICAL
EXIST	EXISTING
LF	LINEAR FEET

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

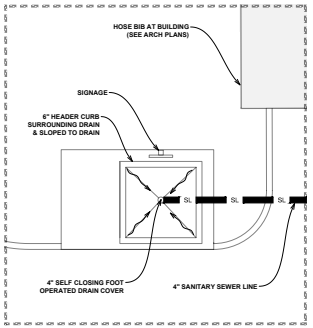


ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED. NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

DUMP STATION SIGNAGE



UTILITY INSET:
1" = 10'



DUMP STATION INSET
SCALE: 1" = 5'

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

MICHAEL LEVI DUFFY
REGISTERED ENGINEER
No. 120939
STATE OF TENNESSEE
04.29.2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
–		
–		

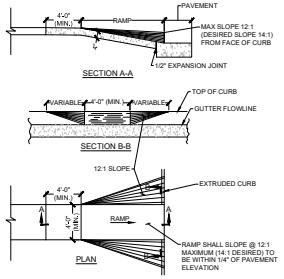
© 2020 ASA Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of ASA Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

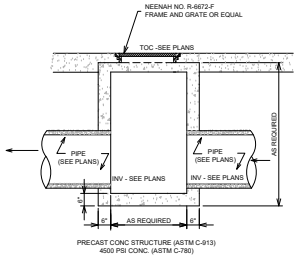
TITLE
UTILITY PLAN

SHEET NO.
C5.0

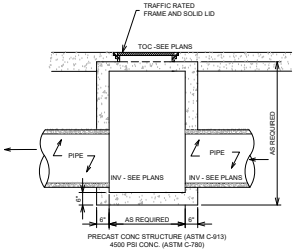
4/23/2019 1:46:04 PM | I:\01_projects\2020\20-0121 servpro - knoxville (mpl - engineering)\Civil\SHEETS\CIVIL\UTILITY PLAN.dwg |



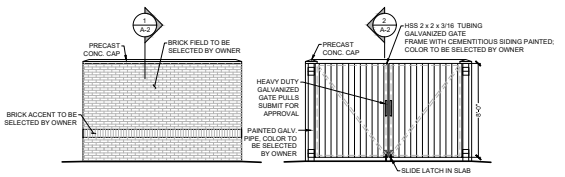
ADA STANDARD RAMP
NOT TO SCALE



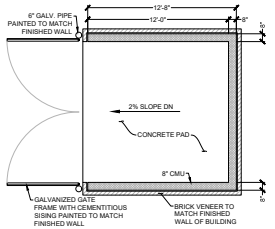
CATCH BASIN
NOT TO SCALE



JUNCTION BOX
NOT TO SCALE



DUMPSTER ENCLOSURE ELEVATIONS

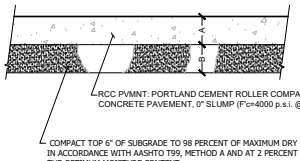


DUMPSTER ENCLOSURE PLAN

DUMPSTER ENCLOSURE DETAIL W/ BRICK VENEER
NOT TO SCALE

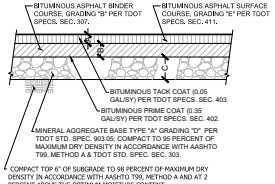
APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

PAVEMENT MATERIALS	RCC SECTION
CONCRETE PAVEMENT THICKNESS "A"	6.0"
SOIL CEMENT STABILIZATION THICKNESS "B"	12.0"



PAVEMENT - ROLLER COMPACTED CONCRETE
NOT TO SCALE

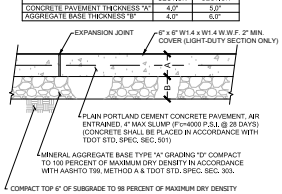
PAVEMENT MATERIALS	LIGHT DUTY SECTION	HEAVY DUTY SECTION
BITUMINOUS ASPHALT SURFACE MIX "A"	1.0"	1.5"
BITUMINOUS ASPHALT BINDER MIX "B"	2.0"	2.5"
COMPACTED CRUSHED AGGREGATE BASE "C"	6"	8"



PAVEMENT SECTIONS
NOT TO SCALE

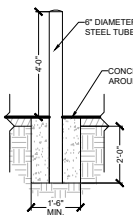
NOTES:
MAX CROSS SLOPE OF 2% ON SIDEWALKS

PAVEMENT MATERIALS	SIDEWALK SECTION	HEAVY-DUTY SECTION
CONCRETE PAVEMENT THICKNESS "A"	4.0"	5.0"
AGGREGATE BASE THICKNESS "B"	4.0"	6.0"

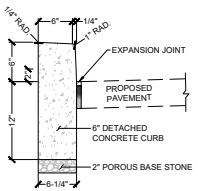


PAVEMENT - CONCRETE
NOT TO SCALE

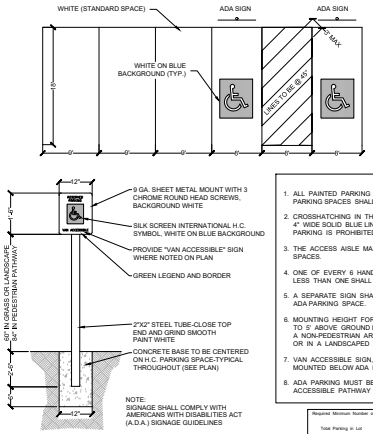
REFERENECE ARCHITECTURAL PLANS FOR LOCATIONS AROUND BUILDING



STEEL BOLLARD
NOT TO SCALE



DETACHED CURB
NOT TO SCALE

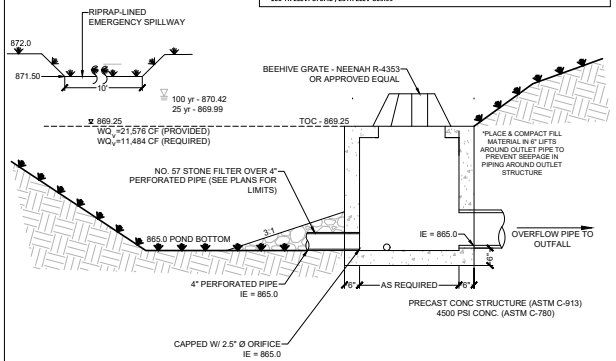


1. ALL PAINTED PARKING STALL LINES FOR ADA PARKING SPACES SHALL BE BLUE 4" WIDE LINES.
2. CROSSHATCHING IN THE ACCESS AISLE SHALL BE 4" WIDE SOLID BLUE LINES, TO EMPHASIZE THAT PARKING IS PROHIBITED IN CROSSHATCHED AREAS.
3. THE ACCESS AISLE MAY BE SHARED BY 2 ADA SPACES.
4. ONE OF EVERY 6 HANDICAPPED SPACES AND NO LESS THAN ONE SHALL BE VAN ACCESSIBLE.
5. A SEPARATE SIGN SHALL BE PROVIDED FOR EACH ADA PARKING SPACE.
6. MOUNTING HEIGHT FOR SIGN MAY BE REDUCED TO 5' ABOVE GROUND LEVEL IF IT IS LOCATED IN A NON-PEDESTRIAN AREA, SUCH AS ON A BUILDING OR IN A LANDSCAPED AREA.
7. VAN ACCESSIBLE SIGN, WHEN USED, SHALL BE MOUNTED BELOW ADA PARKING SIGN.
8. ADA PARKING MUST BE PLACED IN THE NEAREST ACCESSIBLE PATHWAY TO ENTRANCE.

Required Minimum Number of Accessible ADA Parking Spaces	
Total Parking in Lot	ADA Spaces Required
1 to 25	1
26 to 50	2

ADA PARKING
NOT TO SCALE

EXTENDED DRY DETENTION BASIN
DRAINAGE AREA = 179,282 SF
TOTAL IMPERVIOUS AREA: 130,504 SF
WATER QUALITY VOL.: 11,484 CF (REQUIRED, PER EQ. 2-1, STORMWATER MANAGEMENT MANUAL - VOL. 2)
TOTAL AVAILABLE STORAGE: 55,539 CF (865.0 TO 872.0)
21,576 CF PONDING BELOW POND OUTLET (BEEHIVE GRATE INLET @ 869.25) (WATER QUALITY VOLUME)
33,963 CF PONDING ABOVE FIRST FLUSH
TREATED STORAGE: 21,576 CF (APPROX. 32.5 HOUR DRAWDOWN THROUGH 2.5" Ø ORIFICE)
100 YR ELEV.-870.42 ; 25YR ELEV-869.99



BASIN & OUTLET STRUCTURE
NOT TO SCALE

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.net
423.855.2110

SEAL

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
-	-	-
-	-	-
-	-	-

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE
CONSTRUCTION DETAILS

SHEET NO.
C6.0

4/27/2019 1:44:04 PM | J:\01_projects\2020\20-0121 serv-pro - knox\4a_bim\3a_engineering\Civil\SHEETS\CA CONSTRUCTION DETAILS.dwg |

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G;
DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

TTCDA FILE #:	3-B-21-TOB and 8-A-22-TOA
STREET ADDRESS:	3049 HORSESHOE BEND LANE
PROPOSED USE:	WAREHOUSE
BUILDING FOOTPRINT:	50,400 SF (PHASE I & FUTURE)
TOTAL BLDG SF:	55,000 SF (PHASE I & FUTURE)
TOTAL IMPERVIOUS AREA:	130,504 SF
GAC:	14.5% (25% MAX)
FAR:	15.8% (30% MAX)
IAR:	37.5% (70% MAX)

PARKING:
TTCDA PARKING REQUIREMENTS FOR OFFICE/WAREHOUSE
i. MIN: 1 SPACE PER 1,000 SF OF GROSS FLOOR AREA (55 SPACES)
ii. MAX: 1.5 SPACES PER 1,000 SF OF GROSS FLOOR AREA (82.5 SPACES)
KNOX COUNTY PARKING REQUIREMENTS
i. PROFESSIONAL OFFICE SPACE: 1 SPACE PER 250 SF OFFICE SPACE (11,000 SF OF OFFICE SPACE = 44 SPACES
ii. 1 SPACE PER EVERY 2 EMPLOYEES ON MAX SHIFT (35-50 EMPLOYEES)

WAREHOUSE W/OFFICE SPACES PROVIDED: 55 SPACES
TOTAL PARKING AREA: 25,388 SF (5% DEDICATED TO LANDSCAPE)
REQUIRED: 1,269 SF
PROVIDED: 1,704 SF
PARKING LOT TREES (1/5000 SF): 5 TREES

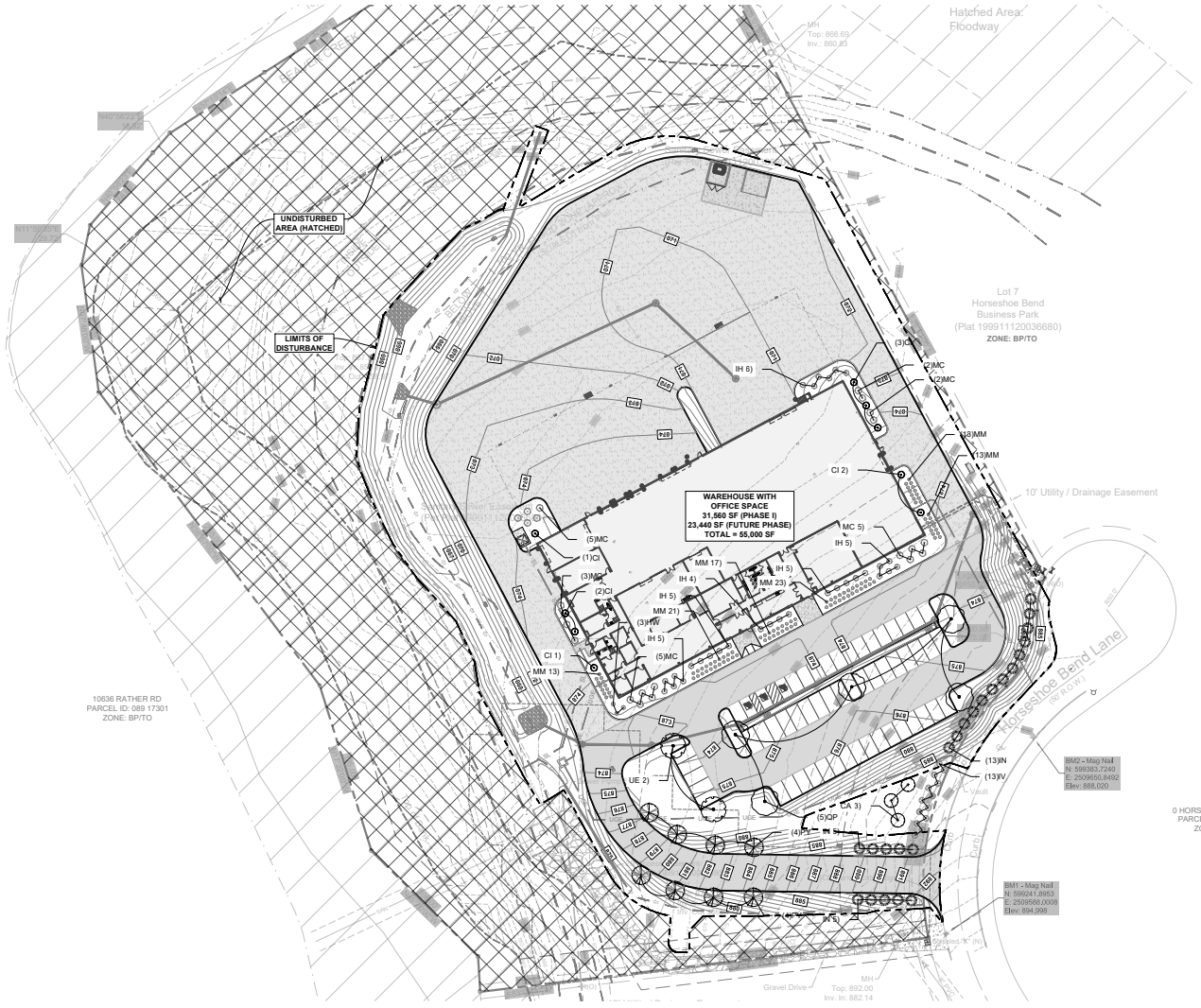
NO BUILDING IS PLACED WITHIN THE FLOODWAY.

LANDSCAPE NOTES:

1. PLANTS SHALL MEET THE STANDARDS FOR SIZE, FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION)
2. ALL LANDSCAPE BEDS TO HAVE 3" HARDWOOD MULCH
3. ALL DISTURBED AREAS NOT DESIGNATED AS PLANTING BED TO BE SEEDED, REF SOD NOTES SHEET L1.1

PLANT SCHEDULE LANDSCAPE

TREES	QTY	BOTANICAL / COMMON NAME	TYPE	SIZE	HEIGHT	REMARKS
CA	3	Cedrus atlantica / Atlas Cedar	Evergreen		5-6' FT HT MIN	B&B or Container, Full
CI	9	Cupressus sempervirens / Italian Cypress	Evergreen		5-6' FT HT MIN	B&B or Container
PY	8	Prunus x yedoensis / Yoshino Cherry	Deciduous		6-8` HT	B&B, Speciman
QP	5	Quercus phellos / Willow Oak	Deciduous	2"Cal	10-12` HT	B&B, 6` Clear Trunk
UE	2	Ulmus parvifolia `Emer II` / `Emer II` Allee Elm	Deciduous	2"Cal	10-12` HT	B&B, 6` Clear Trunk
SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPREAD	REMARKS
HW	3	Hydrangea quercifolia `Pee Wee` / Oakleaf Hydrangea	Deciduous	24" HT	18"	Container
IV	13	Ilex vomitoria `Nana` / Dwarf Yaupon	Evergreen	3 GAL		
IN	23	Ilex x `Nellie R. Stevens` / Nellie R. Stevens Holly	Evergreen	4-6` HT		B&B or Container
IH	30	Itea virginica `Henry`s Garnet` / Henry`s Garnet Sweetspire	Deciduous	18" HT	24"	Container, Full
MM	100	Miscanthus sinensis `Morning Light` / Morning Light Eulalia Grass	Evergreen	1 GAL	Full	
MC	22	Myrica cerifera / Wax Myrtle	Evergreen	3 GAL	24"	



APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

Know what's below. Call before you dig.

0 40 80 Feet

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED, NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

ALLEN WILLIAM ROSE
REGISTERED
TENNESSEE 102,325
LANDSCAPE ARCHITECT
07/06/2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
1	KNOX COUNTY COMMENTS	07-06-2022

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

LANDSCAPE PLAN

SHEET NO.

L1.0

4/23/2019 1:44:04 PM | J:\01_Projects\2020\20-0121 ServPro - Knoxville, TN\3- Engineering\Civil\SHEETS\L1 LANDSCAPE PLAN.dwg |

PLANTING NOTES:

1. ANY SERIES OF TREES TO BE PLACED IN A PARTICULAR ARRANGEMENT WILL BE FIELD CHECKED FOR ACCURACY. ANY PLANTS MISARRANGED WILL BE RELOCATED.
2. SOIL USED IN BACKFILLING PLANTING PITS SHALL BE TOPSOIL AND MIXED WITH 25% PEAT BY VOLUME. EXCEPT FOR ERICACEOUS PLANTS, VERY ACID OR SOUR SOIL (SOIL HAVING A pH LESS THAN 6) SHALL BE MIXED WITH SUFFICIENT LIME TO PRODUCE A SLIGHTLY ACID REACTION (A pH OF 6.0 TO 6.5). 10-10-10 COMMERCIAL FERTILIZER AT THE RATE OF 2 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
3. SOIL USED IN BACKFILLING ERICACEOUS PLANTS SHALL BE TOPSOIL MIXED WITH 50% PEAT BY VOLUME. 5-10-5 COMMERCIAL FERTILIZER AT THE RATE OF 5 POUNDS PER CUBIC YARD SHALL BE ADDED. BOTH FERTILIZER AND PEAT SHALL BE THOROUGHLY MIXED BY HAND OR ROTARY TILLER.
4. UPON SECURING PLANT MATERIAL, AND BEFORE INSTALLATION, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT FOR A PRE-INSTALLATION INSPECTION IN ORDER TO VERIFY ALL PLANT MATERIAL MEETS SPECIFICATIONS. TREES OF SAME SPECIES TO BE MATCHED IN GROWTH CHARACTER AND UNIFORMITY.
5. PRE-EMERGENT HERBICIDE (TREFLAN OR EQUIVALENT) SHALL BE APPLIED TO ALL PLANT BEDS PRIOR TO PLANTING FOR NOXIOUS WEED CONTROL PER MANUFACTURER'S SPECIFICATIONS.
6. CONTRACTOR SHALL SUBMIT A 10 OUNCE SAMPLE OF THE TOPSOIL PROPOSED TO A TESTING LABORATORY FOR ANALYSIS. TEST RESULTS, WITH RECOMMENDATIONS FOR SUITABILITY, SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.
7. PLANTS SHALL BE ORIENTED FOR BEST APPEARANCE AND VERTICAL. ALL NON-BIODEGRADABLE ROOT CONTAINERS SHALL BE REMOVED.
8. TREE BRANCHES SHALL BE SELECTIVELY TRIMMED BY 25%, MAINTAINING NATURAL SHAPE. ALL DEAD AND BROKEN BRANCHES IN TREES AND SHRUBS SHALL ALSO BE PRUNED. REMOVE TAGS, TWINE OR OTHER NON-BIODEGRADABLE MATERIAL.
9. SCARIFY SUBSOIL IN PLANTING BEDS TO A DEPTH OF 3 INCHES. ALL PLANTING BEDS SHALL RECEIVE A MINIMUM OF 6 INCHES OF TOPSOIL.
10. CONTRACTOR SHALL PROVIDE SMOOTH, NEATLY TRENCHED (3 INCH DEEP) BED EDGES.
11. ALL PLANTING BEDS TO HAVE A MINIMUM 3 INCH DEEP HARDWOOD MULCH
12. DIMENSIONS FOR TRUNK CALIPER, HEIGHTS, AND SPREAD SPECIFIED ON THE MATERIAL SCHEDULE ARE A GENERAL GUIDE FOR THE MINIMUM REQUIRED SIZE OF EACH PLANT. QUALITY & SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF BALLS SHALL BE IN ACCORDANCE WITH A.N.S.I. Z80 "AMERICAN STANDARD FOR NURSERY STOCK" (CURRENT EDITION) AS PUBLISHED BY THE AMERICAN ASSOCI- ATION OF NURSERYMEN, INC.
13. THE QUANTITIES INDICATED ON THE MATERIAL SCHEDULE ARE PROVIDED FOR THE BENEFIT OF THE CONTRACTOR, BUT SHOULD NOT BE ASSUMED TO ALWAYS BE CORRECT. IN THE EVENT OF A DISCREPANCY, THE PLANTING PLAN WILL TAKE PRECEDENCE OVER THE MATERIAL SCHEDULE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN QUANTITY CALCULATIONS AND THE LIABILITY PERTAINING TO THOSE QUANTITIES AND ANY RELATED CONTRACT DOCUMENTS AND/ OR PRICE QUOTATIONS.
14. CONTRACTOR TO WARRANTY ALL MATERIAL FOR ONE YEAR AFTER DATE OF FINAL ACCEPTANCE.

SODDING NOTES:

1. AREAS INDICATED FOR SOD SHALL BE KENTUCKY 31. MINIMUM AGE SHALL BE 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING WHEN SUSPENDED VERTICALLY BY HOLDING THE UPPER TWO CORNERS.
2. SUBMIT SOD CERTIFICATION FOR GRASS SPECIES AND LOCATION OF SOD SOURCE. INCLUDE CERTIFICATION THAT SOD IS FREE OF DISEASE, NEMATODES, UNDESIRABLE INSECTS, AND QUARANTINE RESTRICTIONS.
3. SOD SHALL BE DELIVERED ON PALLETS. SOD SHALL BE STORED AT A LOCATION THAT IS PROTECTED FROM DAMAGING WINDS.
4. 6-12-12 COMMERCIAL TYPE FERTILIZER, WITH 50% OF THE ELEMENT DERIVED FROM ORGANIC SOURCES, SHALL BE APPLIED AT RATE RECOMMENDED BY THE MANUFACTURER. APPLY AFTER SMOOTH RAKING OF TOPSOIL AND NO MORE THAN 48 HOURS BEFORE LAYING SOD. MIX THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL AND LIGHTLY WATER TO AID BREAKDOWN.
5. AREA TO RECEIVE SOD SHALL BE LIGHTLY MOISTENED IMMEDIATELY PRIOR TO LAYING SOD.
6. LAY SOD TIGHTLY WITH NO OPEN JOINTS VISIBLE AND NOT OVERLAPPING. STAGGER END JOINTS A MINIMUM OF 12 INCHES AND DO NOT STRETCH SOD PIECES.
7. ON SLOPES 6 INCHES PER FOOT AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT A MAXIMUM 2 FEET O.C. DRIVE PEGS FLUSH WITH SOD PORTION OF SOD.
8. PRIOR TO PLACING SOD ON SLOPES OF 8 INCHES PER FOOT AND STEEPER, PLACE JUTE EROSION CONTROL MESH OVER TOPSOIL. SECURELY ANCHOR IN PLACE WITH PEGS SUNK FIRMLY INTO THE GROUND. CONTRACTOR SHALL SUBMIT 12"x12" SAMPLES OF JUTE MESH FOR REVIEW TO LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. IMMEDIATELY AFTER INSTALLATION, WATER SODDED AREAS TO A DEPTH OF 4 INCHES.
10. AFTER SOD AND SOIL HAVE DRIED, ROLL SODDED AREAS TO ENSURE A GOOD BOND BETWEEN SOIL AND SOD. ROLLER SHALL NOT EXCEED 150 POUNDS.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING (MOWING, TRIMMING, WATERING) THE SOD UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
12. THE CONTRACTOR SHALL REPLACE SOD AREAS THAT SHOW DETERIORATION FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION. DETERIORATED MATERIAL SHALL BE REPLACED WITH SOD OF EQUAL QUALITY ORIGINALLY SPECIFIED.

SEEDING NOTES:

1. ALL DISTURBED AREAS TO BE SEEDED WITH KY-31 FESCUE AT THE RATE OF 5 LBS PER 1,000 S.F. ALL SEED TO BE 98% PURE WITH 85% GERMINATION AND CONFORM TO ALL STATE REQUIREMENTS FOR GRASS SEED. THE FERTILIZER SHALL BE 6-12-12 COMMERCIAL TYPE WITH 50% OF ITS ELEMENTS DERIVED FROM ORGANIC SOURCES.
2. STRAW MULCH SHALL BE PLACED UPON SEEDED AREAS. STRAW SHALL BE OATS OR WHEAT STRAW, FREE FROM WEEDS, FOREIGN MATTER DETRIMENTAL TO PLANT LIFE, AND DRY. HAY OR CHOPPED CORNSTALKS ARE NOT ACCEPTABLE.
3. THE CONTRACTOR SHALL VERIFY THAT THE PREPARED SOIL BASE IS READY TO RECEIVE WORK. THE TOPSOIL SHALL BE CULTIVATED TO A DEPTH OF 4 INCHES WITH A MECHANICAL TILLER AND SUBSEQUENTLY RAKED UNTIL SMOOTH. FOREIGN MATERIALS COLLECTED DURING CULTIVATION AND RAKING OPERATIONS SHALL BE REMOVED FROM PROJECT SITE.
4. FERTILIZER SHALL BE APPLIED PER THE MANUFACTURER'S RECOMMENDATIONS. LIMESTONE MAY BE APPLIED WITH THE FERTILIZER. FERTILIZER SHALL BE APPLIED AFTER SMOOTH RAKING AND PRIOR TO ROLLER COMPACTION AND IT SHALL BE MIXED THOROUGHLY IN THE UPPER 2 INCHES OF TOPSOIL.
5. SEED SHALL BE APPLIED EVENLY IN TWO INTERSECTING DIRECTIONS AND RAKED IN LIGHTLY. THE TOPSOIL SHALL BE LIGHTLY WATERED PRIOR TO APPLYING SEED. DO NOT SEED AREA IN EXCESS OF THAT WHICH CAN BE MULCHED ON THE SAME DAY.
6. ROLL SEEDED AREA WITH ROLLER NOT EXCEEDING 112 POUNDS.
7. IMMEDIATELY FOLLOWING SEEDING AND COMPACTING, APPLY STRAW MULCH AT THE RATE OF ONE AND ONE HALF BALE PER 1,000 SQUARE FEET. IMMEDIATELY AFTER MULCHING, APPLY WATER WITH A FINE SPRAY AND SATURATE THE GROUND TO A DEPTH OF 4 INCHES.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SEEDED AREAS TO PREVENT GRASS AND SOIL FROM DRYING OUT UNTIL THE INSTALLATION IS INSPECTED AND ACCEPTED BY THE OWNER'S REPRESENTATIVE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR RESEEDING BARE SPOTS FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF INSTALLATION.

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G; DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

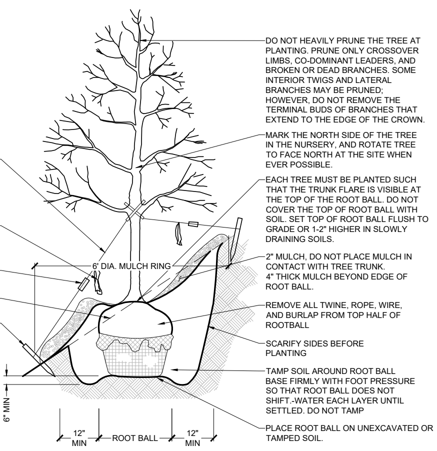
SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

URBAN FORESTRY NOTE:

NO TREES TO BE REMOVED DURING DEMOLITION ARE LOCATED IN THE CITY R.OW.

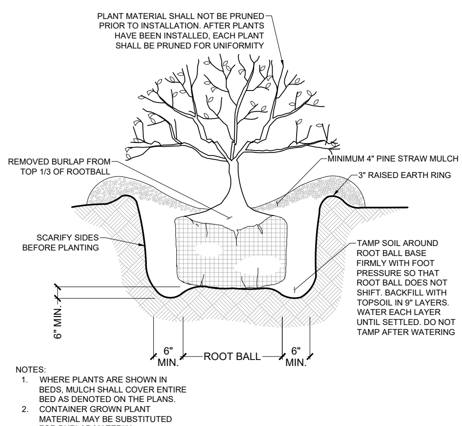
LANDSCAPE NOTES:

1. ALL LANDSCAPE BEDS TO BE MULCHED WITH TRIPLE SHREDDED HARDWOOD MULCH.
2. ALL DISTURBED AREAS NOT IDENTIFIED AS LANDSCAPE BEDS OR TURF TO BE SEEDED PER EPSC PLANS.



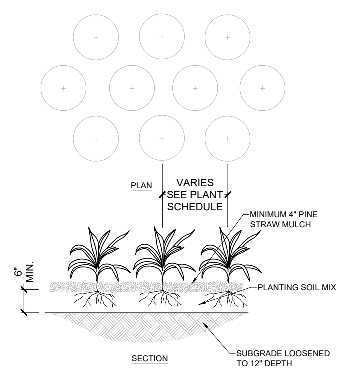
NOTES:
1. 3 STAKES PER TREE (2 STAKES TO BE ON UPHILL SIDE) ON ALL SLOPES GREATER THAN 3:1.
2. DO NOT WRAP TREE TRUNKS UNLESS APPROVED BY THE LANDSCAPE ARCHITECT.

1 TREE PLANTING ON 3:1+ SLOPES
NOT TO SCALE



NOTES:
1. WHERE PLANTS ARE SHOWN IN BEDS, MULCH SHALL COVER ENTIRE BED AS DENOTED ON THE PLANS.
2. CONTAINER GROWN PLANT MATERIAL MAY BE SUBSTITUTED FOR BURLAP MATERIAL

2 SHRUB PLANTING
NOT TO SCALE



3 GROUND COVER PLANTING
NOT TO SCALE

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineeringInc.com
423.805.3700

SEAL
ALLEN WILLIAM JONES
REGISTERED
AGRICULTURE COMMERCE
TENNESSEE NO. 949
LANDSCAPE ARCHITECT
04/29/2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
-	-	-

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE
LANDSCAPE DETAILS

SHEET NO.
L1.1

4/23/2019 1:44:04 PM | j:\01_projects\2020\20-0121 servpro - knoxville, tn\3- engineering\Civil\SHEETS\L1.1 LANDSCAPE DETAILS.dwg |

SERVPRO

3049 Horseshoe Bend Lane
Knoxville, TN 37931

APPLICABLE CODES	
Codes	Year
International Building Code	2018
National Electical Code	2017
International Fire Code	2018
International Mechanical Plan	2018
International Plumbing Code	2018
Accessibility and Usability Buildings and Facilities (ANSII ICC A117.1)	2009
International Existing Building Code	2018
International Fuel Gas Code	2018
International Energy Code	2018

BUILDING DATA	
Building Charteristics	Building Charateristics Value
Construction Type	III-B
Spinklered	YES
Occupancy Primary Shop	F-1 (1/100 sf)
Occupancy Secondary Office	B (1/100 sf)
Occupancy Accessory Trailing Room	A-3 (1/15 sf)
Occupancy Accessory Gym	A-3 (1/50 sf)
Occupancy Secondary Warehouse	S-1 (1/500)
Allowable Building Area	67,237 sf
Actual Total Building Area	31,423 sf
Separation	NONE - REQUIRED
Actual F-1 Area (Shop)	3,653 sf
Actual B Area (Office)	4,755 sf
Actual A-3 Area (Training Room) Accessory to B	1,376 sf
Actual A-3 Area (Gym) Accessory to B	710 sf
Actual S-1 Area (Warehouse)	20,682 sf
Occupant Load F-1 100/sf	37
Occupant Load B 100/sf	48
Occupant Load A-3 (Training Room) 15/sf Accessory	92
Occupant Load A-3 (Gym) 50/sf Accessory	15
Occupant Load S-1 500/sf	42
Total Occupant Load	234
Travel Distance to Exit	A-3, F1 & S1 = 250'-0", B = 300'-0"
Common Path of Travel	100'-0"
Dead End Corridor	50'-0"
Exits Provided	6
Exits Required	2
Minimum Corridor Width	44"

Fire Ressitance Ratings		
Wall Type	Required Hourly	UL Design #
Party/Firewalls	N/A	-
Exterior Bearing Walls	N/A	-
Exterior Non Bearing Walls	N/A	N/A
Tenant Seperation	N/A	-
Interior Bearing Walls	0	N/A
Interior Non-Bearing Walls	0	N/A
Exit Access Corridors	N/A	-
Control Access Seperation	N/A	-
Ceiling/Floor Assemblies	N/A	-
Beams	0	N/A
Columns	0	N/A
Ceiling/Roof Assemblies	0	N/A

DESIGNER OF RECORD				
Designer Title	Designer Name	Designer License	Designer Telephone	Designer Email
Architect	Stephen E. Collins	TN 00104186	423-899-7738	scollins@mplconstruction.com
Structural	William Kinnaman	10654	423-698-4376	billkinnaman@gmail.com
Mechanical	Carolyn V. Ritchie	122711	423-752-3438	carolyn.ritchie@aeedinc.com
Plumbing	Carolyn V. Ritchie	122711	423-752-3438	carolyn.ritchie@aeedinc.com
Electical	Aaron D. Wilburn	114554	423-752-3438	aaron.wilburn@aeedinc.com
Fire Protection	TBD			
Civil	Micah L. Duffey	112893	423-805-3700	mduffey@asaengineeringinc.com

Bathrooms								
Type	Occupancy	Parameter	Required Total	Provided Men	Urinals	Provided Women	Unisex	Total Provided
Water Closets - F1	37	1/100	.37					
Water Closets - B	155	1/50 (2 for first 50)	4.1					
Water Closets - S1	42	1/100	.42					
Water Closets - TOTAL	234		4.89	2	2	4	4	12
Lavatories - F1	37	1/100	.37					
Lavatories - B	155	1/80 (2 for first 80)	2.94					
Lavatories - S1	42	1/100	.42					
Lavatories - TOTAL	234		3.73	3		3	2	8
Water Fountains -TOTAL	234	1/1000	0.23					1 HI/1 LO

1 Service Sink per Building

BUILDING LOCATION

Sheet #	Sheet Name	Record Set
GENERAL		
G001	COVER SHEET	X
G002	LIFE SAFETY	X
CIVIL		
C0.0	CIVIL COVER	X
C0.1	GENERAL NOTES	X
C1.0	EXISTING CONDITIONS & DEMO PLAN	X
C2.0	SITE PLAN	X
C3.0	GRADING PLAN	X
C4.0	SWPPP PHASE I	X
C4.1	SWPPP PHASE II	X
C4.2	SWPPP PHASE III	X
C4.3	SWPPP DETAILS	X
C5.0	UTILITY PLAN	X
C6.0	CONSTRUCTION DETAILS	X
LANDSCAPE		
L1.0	LANDSCAPE PLAN	X
L1.1	LANDSCAPE DETAILS	X
STRUCTURAL		
S101	STRUCTURAL FOUNDATION PLAN	X
S102	STRUCTURAL DETAILS	X
ARCHITECTURAL		
A001	ARCHITECT GENERAL	X
A002	ENERGY	X
A003	WALL TYPES	X
A101	FLOOR PLAN - MAIN FLOOR	X
A102	FLOOR PLAN - DIMENSION PLAN	X
A121	ROOF PLAN	X
A131	REFLECTED CEILING PLAN	X
A201	EXTERIOR ELEVATIONS	X
A202	ENLARGED ELEVATIONS	X
A301	BUILDING SECTIONS	X
A401	ENLARGED PLAN	X
A501	WALL SECTIONS/DETAILS	X
A601	DOOR SCHEDULE & DETAILS	X
A602	WINDOW SCHEDULE & DETAILS	X
MECHANICAL		
M001	MECHANICAL COVER SHEET	X
M002	MECHANICAL SPEC SHEET	X
M101	MECHANICAL HVAC FLOOR PLAN	X
M102	MECHANICAL HVAC ROOF PLAN	X
M300	MECHANICAL SCHEDULES	X
M400	MECHANICAL DETAILS	X
ELECTRICAL		
E001	ELECTRICAL COVER SHEET	X
E101	ELECTRICAL LIGHTING FLOOR PLAN	X
E201	ELECTRICAL POWER FLOOR PLAN	X
E202	ELECTRICAL POWER ROOF PLAN	X
E301	ELECTRICAL FIRE ALARM	X
E400	ELECTRICAL SCHEDULES	X
E500	ELECTRICAL DETAILS	X
ES101	ELECTRICAL SITE PLAN	X
PLUMBING		
P001	PLUMBING COVER SHEET	X
P101	PLUMBING WASTE & VENT FLOOR PLAN	X
P201	PLUMBING DOMESTIC & GAS FLOOR PLAN	X
P202	PLUMBING ROOF PLAN	X
P300	PLUMBING SCHEDULES	X
P400	PLUMBING DETAILS	X

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

TTCDA review number No. 8-A-22-TOA

REVISIONS

NO.	DESCRIPTION	DATE

Project Name
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

STEPHEN E. COLLINS
REGISTERED ARCHITECT
10411
STATE OF TENNESSEE

Project Number 2204
Date 05/19/2022
Sheet Name COVER SHEET
Sheet Number G001

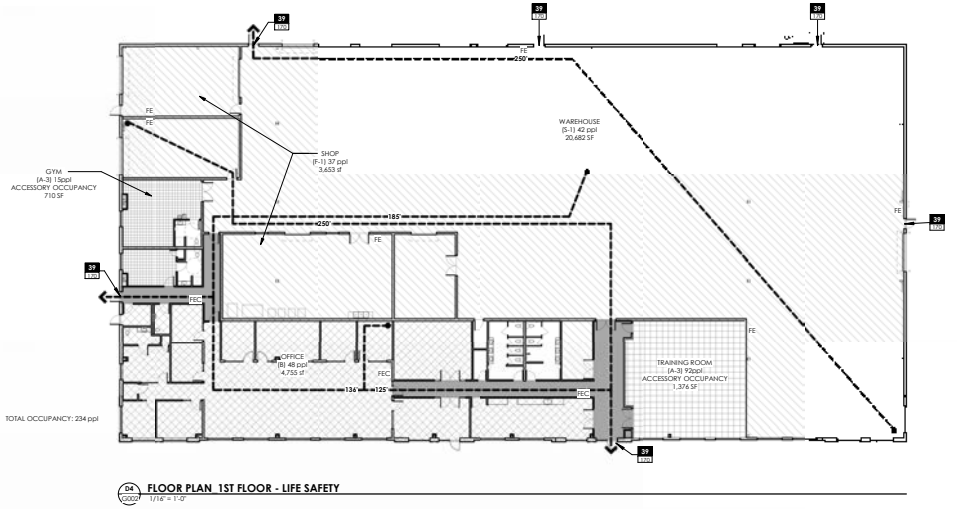
5/23/2022 12:08:16 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

Occupancy Criteria for Type III-B Building - SERVPRO													
Occupancy Type	Occupancy Sq Ft	Allowable Area (table 503)	Frontage Sq Ft Increase	Sprinkler Sq Ft Increase	Total Allowable Sq Ft	Actual Sq Ft	Ratio of Actual to Allowable	Occupancy Load Factor	Occupant Load	Travel Distance	Common Path of Travel	Number of Exits
IBC 2018 Chapter	503	506.2	506.2	506.2				1004.5		1017.2	1006.2.1	1006.3.2
F-1 - Factory	3,653			48,000		3,653		1/100	37	250'-0"	100'-0"	2
B - Business	4,755			76,000		4,755		1/100	48	300'-0"	100'-0"	2
S-1 - Storage	20,682			70,000		20,682		1/500	42	250'-0"	100'-0"	4
A-3 - Assembly (Accessory)	2,086					2,086		1/15	107	250'-0"	75'-0"	2
Total	31,176			UNLIMITED		31,423			234			

ACCESSORY SQFT MUST BE LESS THAN 10% OF BUILDING AREA.
BOTH A-3 OCCUPANCIES TOTAL 2,290 SF WHICH IS LESS THAN 3,200SF
ACCESSORY OCCUPANCY INCLUDED IN BUSINESS OCCUPANCY IN TABLE ABOVE
UNLIMITED AREA BUILDING AS PER 507.4

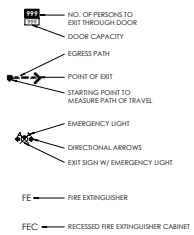
APPLICABLE CODES	
Codes	Year
International Building Code	2018
National Bectical Code	2017
International Fire Code	2018
International Mechanical Plan	2018
International Plumbing Code	2018
Accessibility and Usability Buildings and Facilities (ANSII ICC A117.1)	2009
International Existing Building Code	2018
International Fuel Gas Code	2018
International Energy Code	2018

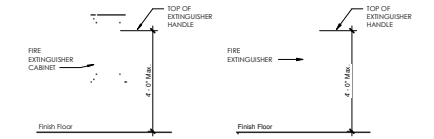
BUILDING DATA	
Building Charteristics	Building Charateristics Value
Construction Type	III-B
Spinklered	YES
Occupancy Primary Shop	F-1 (1/100 sf)
Occupancy Secondary Office	B (1/100 sf)
Occupancy Accessory Traiing Room	A-3 (1/15 sf)
Occupancy Accessory Gym	A-3 (1/50 sf)
Occupancy Secondary Warehouse	S-1 (1/500)
Allowable Building Area	67,237 sf
Actual Total Building Area	31,423 sf
Separation	NONE - REQUIRED
Actual F-1 Area (Shop)	3,653 sf
Actual B Area (Office)	4,755 sf
Actual A-3 Area (Training Room) Accessory to B	1,376 sf
Actual A-3 Area (Gym) Accessory to B	710 sf
Actual S-1 Area (Warehouse)	20,682 sf
Occupant Load F-1 100/sf	37
Occupant Load B 100/sf	48
Occupant Load A-3 (Training Room) 15/sf Accessory	92
Occupant Load A-3 (Gym) 50/sf Accessory	15
Occupant Load S-1 500/sf	42
Total Occupant Load	234
Travel Distance to Exit	A-3, F1 & S1 = 250'-0", B = 300'-0"
Common Path of Travel	100'-0"
Dead End Corridor	50'-0"
Exits Provided	6
Exits Required	2
Mininum Corridor Width	44"



D4 G0007 **FLOOR PLAN_1ST FLOOR - LIFE SAFETY**
1/16" = 1'-0"

LIFE SAFETY SYMBOLS LEGEND





B6 G0007 **Fire Extinguisher Mounting Height-CABINET**
1/2" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS

NO	DESCRIPTION	DATE
1	PERMIT SET	05-19-2022

Project Name
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

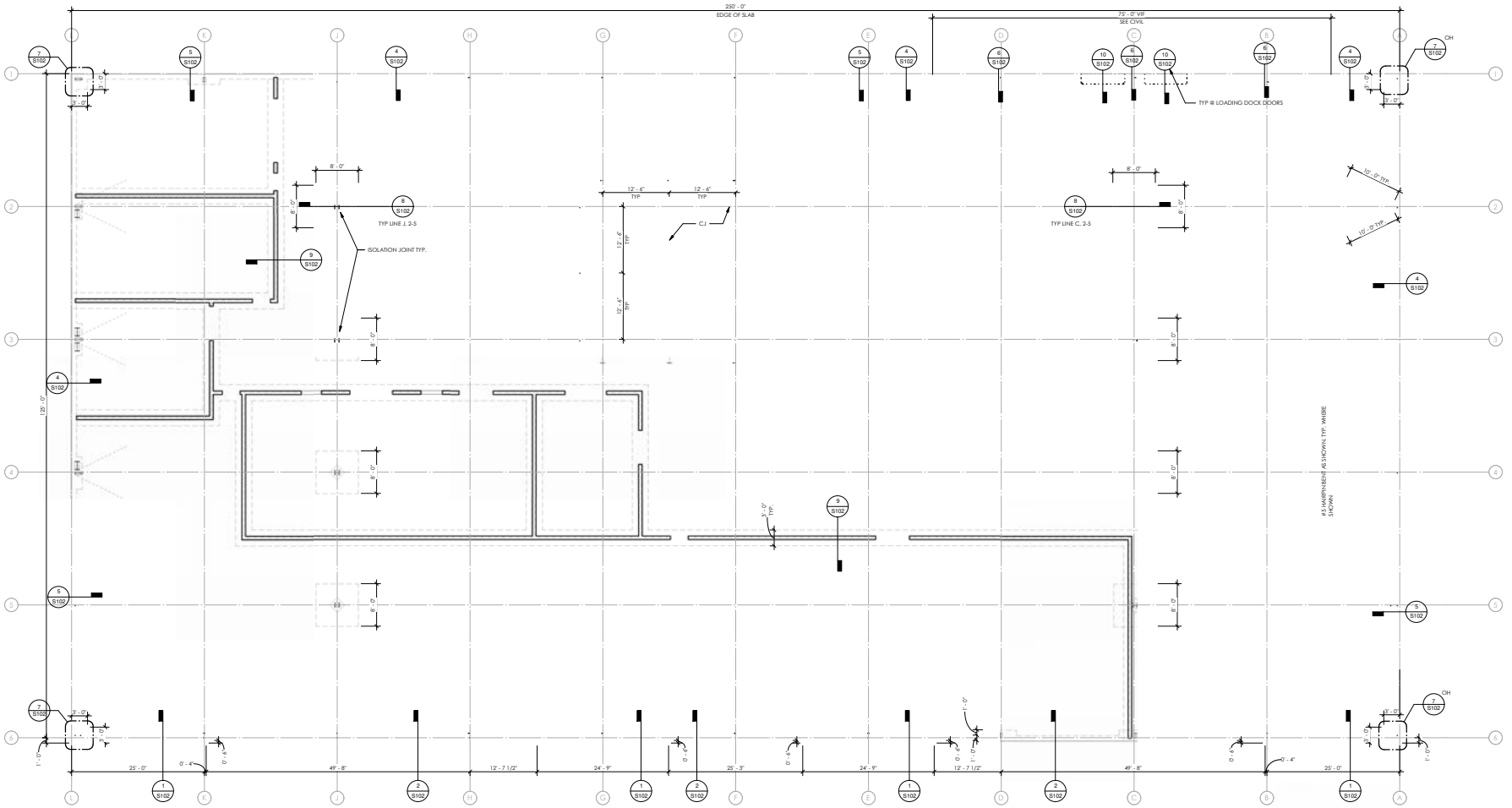
TTCDA review
No. 8-A-22-TOA

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructs.com
CONSTRUCTION & ARCHITECTURE

STEPHEN E. COLLINS
REGISTERED ARCHITECT
10451
STATE OF TENNESSEE

Project Number 2204
Date 05/19/2022
Sheet Name LIFE SAFETY
Sheet Number G002

5/23/2022 12:08:18 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt



S7 S101 **STRUCTURAL FOUNDATION PLAN**
1/8" = 1'-0"

ABBREVIATIONS:
CJ=Control Joint, CMU=Concrete block, EW=each way, Ga=Gage, LLV=Long leg vertical, LLH=Long leg horizontal, TOS= Top of steel,
TSD= Total slab depth, (2)= # of piles, Top and Bottom= T & B, Side lap fasteners=S.L.F.'

NOTES:

1. This structural design complies with the International Building Code, 2018 edition.
Metal building deflection limits per Section 1604.3.3 and Table 1604.3.
Dead loads per ASCE 7, Table C3-1
Metal building collateral load = 5 p.s.f.
Roof live load = 20 psf, reducible.
Handrails and guards = 50 p.l.f.,grab bars = 250 lbs.
Ground snow load, P_g = 10 psf, Vuad = 105 mph, Vasd = 81 mph Exposure = B
Seismic design category = D, Site class = D, Rain load= n.a.
Design soil press$_{allow}$ = 1.5 ksf (assumed).

Wind load procedure = ASCE 7, Envelope Procedure
Risk category = III, K_{zt} = 1.0, Exposure = B, K_z = 0.57

Seismic importance factor = 1, S_s = 0.627, S_1 = 0.134
S_{ds} = 0.543, S_{d1} = 0.208
R = 3.25, C_s = 0.167. Analysis procedure = 1.613.
Design base shear = 49.5k
Flood design data (n/a)

The pre-engineered metal building for this project shall be designed and certified by a State registered engineer. The design criteria used shall equal or exceed the loads stated in the referenced edition of the IBC and shall equal or exceed the loads stated in the referenced edition of the IBC and loads shown above. The metal building and components shall be designed and manufactured in accordance with the applicable provisions of the National Metal Building Manufactures Association. Certified shop drawings and foundation reactions shall be submitted for approval.

Where a structural detail or statement that is shown on the structural plans or notes and this detail is erroneously repeated or referenced in other parts of the plans, this error shall be brought to the attention of the Architect. The structural information shall supersede similar information elsewhere.
The Engineer will not be responsible for any deviations from information shown on the Plans without his prior approval.

The Contractor is responsible to provide temporary lateral bracing of the building until all walls are sheathed both sides and roof is decked.

2. The assumed allowable soil pressure used to proportion footings is 1,500 p.s.f. per the IBC. It is the Contractor's responsibility to ensure that the actual value equals or exceeds this amount and do so in a manner acceptable to the Local Building Authority. Compacted fill shall be placed in such a manner as to achieve 95% of maximum dry density per ASTM D- 698

3. The footing design shown on the Plans for the pre-engineered metal building columns is based on certified column reactions. The actual footing sizes, reinforcement and anchor rod embedment lengths are subject to change by the Engineer based on soil information at time of construction reactions furnished by the metal building supplier. Anchor rods shall be straight, nutted and of the size and Grade as specified by the mfgr.

The construction of concrete work shall be in accordance with applicable provisions of the Building Code Requirements for Reinforced Concrete (ACI 318 - current).
Anchor rods embedded in concrete shall be headed.
Ultimate strength - concrete = 3,000 p.s.i. at 28 days
Ultimate strength - concrete (exterior slabs) = 4,000 p.s.i. at 28 days
Ultimate strength - reinf. steel = 60,000 p.s.i.
Materials shall conform to the following:

Portland cement	ASTM C 150, Type I
Norman weight aggregate	ASTM C33
Reinf. steel	ASTM A 615, Grade 60
Welded wire fabric	ASTM A 185-85
Water	drinkable
Air entrainment	ASTM C260, 5%

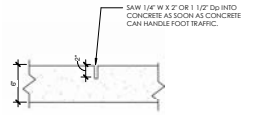
4. Concrete unit masonry work shall comply with the following:

Hollow load bearing units	ASTM C90 grade N
Mortar	ASTM C270, Type M or S
Grout	ASTM C476, f'c = 2,500 p.s.i.

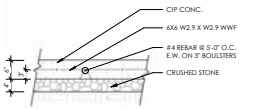
Reinforced masonry where applicable shall be constructed in accordance with specifications for Masonry Structures (ACI 530-08). f'm = 1,900 psi. Strength shall be determined by " unit strength " method.
Cement grout = 2500 p.s.i..
Temporary support of grouted lintels shall remain until grout has obtained its design strength.

All steel studs and / or joists and accessories shall be made of the size, mill thickness, and spacing shown on the drawings and shall be manufactured in accordance with the requirements of the Steel Stud Manufacturers Assoc. Installation and adequate connections shall be in accordance with manufacturers recommendations and conform to ASTM C 1007 – 04 Specifications and be the responsibility of the Contractor.. Axial load bearing studs shall be laterally braced with 1 1/2" cold rolled channels or horizontal straps spaced 48" o/c maximum vertically and connected in accordance with mfg's recommendations. Non-load bearing studs shall be 1" shy of full wall height and shall be connected at top to the structure using a slip track with a 2" leg or Vertiflex or equal. Studs laterally loaded only shall have gypsum board or sheathing applied each side. Boxed headers shall be unpunched and be supported by jack studs if located in load bearing walls. In curtain wall construction, the top and bottom track shall be attached to each flange of the stud with a single #10-16 self-tapping screw. The minimum edge distance for shot-in anchors into concrete shall be 2" and the minimum spacing shall be 4" o/c with 2 anchors min. per track. Clip angles shall be at least one gage thicker than the members they connect. Concrete screws shall be a min. of ¼" dia. Track runners shall be 33 mil for load bearing construction and 43 mil for stud thickness of 54 mil and greater.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)



A3 S101 **CONTROL JOINT**
1 1/2" = 1'-0"



A4 S101 **STRUCT - TYPICAL SECTION @ SLAB**
3/4" = 1'-0"

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

WILLIAM J. KINNEY
REGISTERED
ENGINEER
STATE OF TENNESSEE

NO	DESCRIPTION	DATE
1	ADDENDUM 1	06/30/2022

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

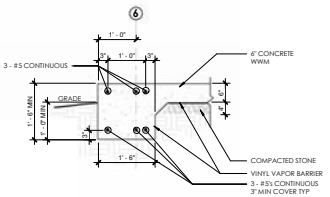
Project Name

TTCDA review
No. 8-A-22-TOA

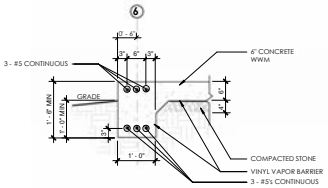
Project Number 2204
Date 05/19/2022
Sheet Name STRUCTURAL FOUNDATION PLAN
Sheet Number S101

5/23/2022 12:08:20 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

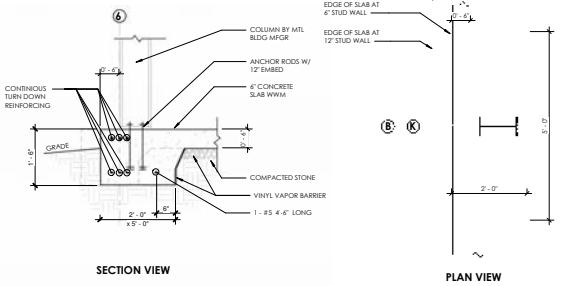
APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022 ...
(Administrative Approval)



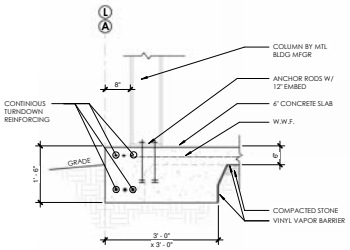
1 S102 STRUCT - TURN DOWN @ COL. LINE '6' @ 12" STUDS
3/4" = 1'-0"

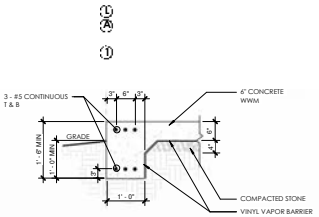


2 S102 STRUCT - TURN DOWN @ COL. LINE '6' @ 6" STUDS
3/4" = 1'-0"

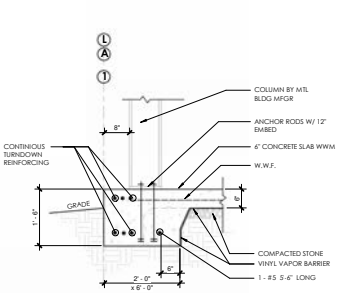


3 S102 STRUCT - FOOTING @ COL. LINE '6'
3/4" = 1'-0"

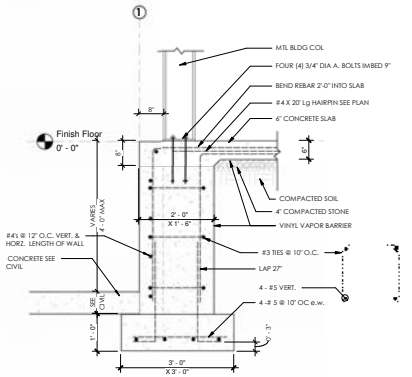




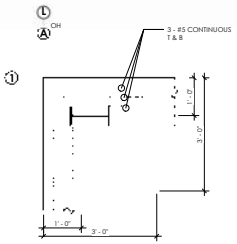
4 S102 STRUCT - TURN DOWN @ COL. LINE '1'
3/4" = 1'-0"

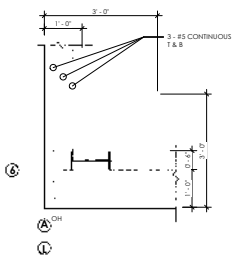


5 S102 STRUCT - FOOTING @ COL. LINE '1'
3/4" = 1'-0"

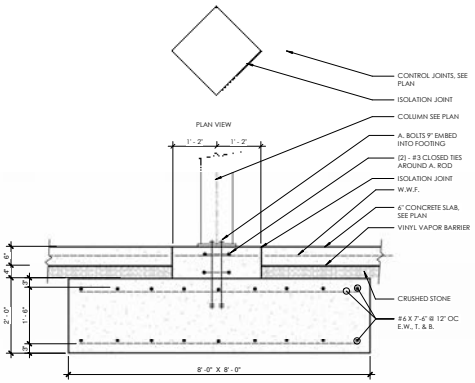


6 S102 STRUCT - FOOTING @ LOADING DOCK
3/4" = 1'-0"

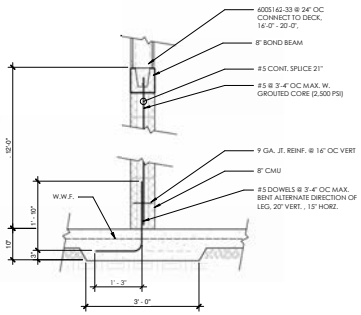




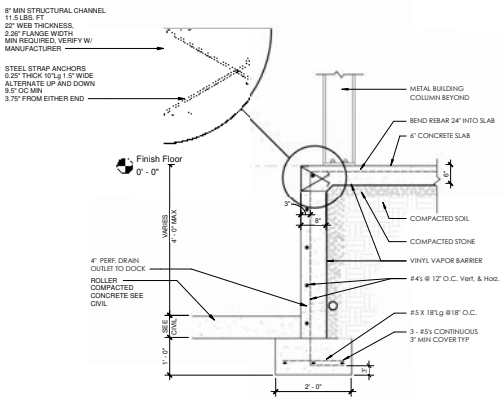
7 S102 STRUCT - FOOTING @ CORNER 'A-1', 'A-6', 'L-1', 'L-6'
3/4" = 1'-0"



8 S102 STRUCT -FOOTING TYP
3/4" = 1'-0"



9 S102 STRUCT - CMU WALL NON-BEARING
3/4" = 1'-0"



10 S102 EDGE OF SLAB @ LOADING DOCK WALL
3/4" = 1'-0"

5/23/2022 12:08:23 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville CD Model.rvt

NO	DESCRIPTION	DATE
1	ADDENDUM 1	06/30/2022

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

Project Name

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

WILLIAM J. KINNEY
REGISTERED
No. 104574
STATE OF TENNESSEE

Project Number	2204
Date	05/19/2022
Sheet Name	STRUCTURAL DETAILS
Sheet Number	S102

ARCHITECTURAL SPECIFICATIONS

MATERIALS

The General Contractor and all sub-contractors shall familiarize themselves with all conditions surrounding the project, including location, traffic, conditions of roads, location of utilities etc.

Unless otherwise specified, the contractor or his sub-contractor shall furnish all materials, tools, equipment, apparatus, transportation, labor and supervision required for the work as shown on the drawings and as here-in-after specified.

A) Contractor's Duties:

1) Except as specifically noted, provide and pay for:

a) Labor, materials and equipment
b) Tools, construction equipment & machinery
c) Water, heat & utilities required for construction
d) Other facilities and services necessary for proper execution of work.

2) Pay legally required sales, consumer and use taxes. Coordinate operations as required to legally enable the Church to take advantage of any Tennessee tax exemptions, as they see fit.

3) Secure and pay for as necessary for proper execution and completion of the work, and as applicable at time of receipt of bids:

a) Permits and Review Fees
b) Government fees
c) Licenses
d) The General Contractor shall be responsible for obtaining site grading and building permits, as required upon submission to the AHJ by the Architect.

4) Give required notices.

5) Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance or work.

6) Enforce strict discipline and good order among employees. Do not employ on work:

a) Unfit persons.
b) Persons not skilled in assigned task.

B) Contractor's Use of Premises:

1) Confine operations at site to areas permitted by:

a) Law
b) Ordinances
c) Permits
d) Contract Documents
e) Agreement with Owner's Officials

2) Do not unreasonably encumber site with materials or equipment.

3) Do not load structure with weight that will endanger structure.

4) Assume full responsibility for protection and safekeeping of products stored on premises.

5) Move any stored products, which interfere with operations of the owner or other contractors.

6) Obtain and pay for use of additional storage or work areas needed for operation.

7) Under no circumstances shall asbestos containing materials be used in any products used in the construction of this facility.

8) Details shown for one condition shall apply to all like or similar conditions.

C) The building shall be complete in every respect including electrical, plumbing, heating, and air conditioning. Detailed plans for this work will be marked "E", "M", and "P" sheets.

D) Grading, drainage, and site Improvements are indicated on civil drawings.

E) All contractors and sub-contractors bidding on this work shall visit the job site and check all conditions to their satisfaction. Any discrepancies found or noted in plans and specifications shall be reported to the Architect so clarification can be made and addenda issued prior to actual construction.

MATERIALS

Termiticides:
Use only water-based emulsion soil chemicals complying with all environmental and EPA rules and regulations. Mixes and concentrations shall be in strict accordance with the manufacturers written application directions.

Moisture Barrier:
Beneath the interior slabs on grade, provide a moisture vapor barrier of polyethylene film .006" thick, equal to "Visqueen" manufactured by the Visking Corporation.

Carpentry:
All lumber used for rough carpentry shall be dry, MC-19, No. 2, and Lumber shall be sound, thoroughly seasoned, well manufactured and free from warp.
Plywood shall be standard INT-DFPA Group I, C-D with exterior glue and of the thickness indicated on the drawings.
All wood trim, including wood base, shelving and other finish wood items that may be shown on the drawings, shall be stain-grade "B" and better, clear, kiln dried white pine, poplar, or fir. Even painted surfaces shall be stain grade.

Glazing:
Provide Tempered glass where indicated on drawings, Comply wIth Fed Spec DD-G-1403 and ANSI Z97.1.
Insulating Glass: Preassembed units consisting of sealed glass seperated by dehydrated interspace, complying with ASTM E774 Class CBA units.
Outer Panel 1/4" thick, tint.
Inner Panel 1/4" thick, tint, low-E coating on # 2 surface.
Tinted color to be selected from samples submitted to Architect

Storefront Windows and Doors:
Exterior frames: 4 1/2" deep 1 3/4" thick mininum, class 1 CLEAR annondized thermally broken, aluminum frames with insulating glass.

Ceiling:
Acoustical Units shall comply with ASTM E1264. Panels shall be tegular 2'-0"- 2'-0" fissured mineral fiber, 5/8" lay-in panels.
Suspension system standard direct hung metal system, comply with ASTM C 635. Exposed tee grid, baked enamel finish, exposed flange 15/16".
Hanger wires 12GA min, Hanger rods, 3/16" treaded rods, wire ties, 18GA, Carry Channels 16GA.

Building Insulation:
R-30 Batt Insulation at all Roof Surfaces by Metal Building Mfgr. Bay Insulation
R-30 Batt Insulation at all Exterior Walls by Metal Building Mfgr. Bay Insulation
See Energy - A002

Metal Building System Manufacturer:
Kirby Building Systems
124 Kirby Drive • Portland, TN 37148
Phone: 615.745.6035
or other as approved by architect.
Metal building system manufacturer shall submit written certification prepared and signed by a Professional Engineer, registered to practice in Tennessee verifying that building system design and metal roof system design (including panels, clips, and support system components) meet indicated loading requirements and codes of authorities having jurisdiction.
Certification shall reference specific dead loads, live loads, snow loads, wind loads/speeds, tributary area load reductions (if applicable), concentrated loads, collateral loads, seismic loads, end-use categories, governing code bodies, including year, and load applications.

Gypsum Board:
Regular 5/8" gypsum board. Provide corner beads, casing beads, clips, moldings, control joints, and other trim sections as required Provide paper tape and ready mix joint treatment compound as required for smooth even finish.

Door Frame:
Hollow Metal, Welded, Double Rabbeted, 16 gauge.

Wood Doors:
All doors to be architectural grade solid core wood doors, white birch veneer, rotary sliced with no visible sap wood. Stained selected by architect/owner. See Door Schedule.

Door Hardware:
The architectural hardware supplier shall be an established firm with its principal office in the area and who has in its employ a registered member of the American Society of Architectural Hardware Consultants.
Hardware shall be medium grade commercial. Lockset manufacturer to be Hager, Sargent, Hale, or Schlage. Butt manufacturer to be Hagar, Stanley or Mckinney. Hinge manufacturer to be Hager, Sargent, Yale, or LCN.

Overhead Door
Rolling Steel Door - INSULATED U value = 0.13 min

Toilet Room Signs:
Standard ADA Signage with symbol, and Braille as manufactured by Best manufacturing or equal, System HC300. Equal products of Kroy Sign Systems, and Seton Products are acceptable.

Toilet Room Accessories:
At each Toilet provide the following accesories by Bobrick or equal.
Grab Bar: B-6206-42 (Ea H/C Toilet)
Grab Bar: B-6206-36 (Ea H/C Toilet)
Grab Bar: B-6206-18 (Ea H/C Toilet)
B-262 Paper Towel Dispenser
B-2111 Soap Dispenser with "79" valve (One Each Sink)
B-7685 Single Roll Toilet Paper Holder in each toilet compartment.
B-270 Feminine Napkin Disposal (Ladies Restroom Only)

Fire extinguishers:
Multi-purpose Tri-class dry chemical type, UL rated 4A, 60B;C, 10 lb. nominal capacity, enameled steel container, charged, serviced, and tagged.
Fire Extinguisher Cabinets fire rated same as host wall, baked enameled steel box, semi-recessed stainless steel door and trim, full wire-glass panel door style. Cabinet to include manufacturer's standard baked enamel bracket, door operating hardware for cabinet type, and style
Provide die cut lettering in compliance with local authorities for identification and labeling.
This specification includes minimum requirements for fire extinguishing systems which discharge chemical from fixed nozzles by means of expellant gas. The systems shall conform to National Fire Protection Association (NFPA) standards and Underwriters Laboratories Incorporated (U.L.).

Flooring:
Carpet: Broadloom color/pattern to be selected from allowance
LVT: Luxary Vinyl Tile: color/pattern to be selected from allowance
VCT: color to be selected from allowance

Base:
Rubber Base Roppe, Armstong or equal

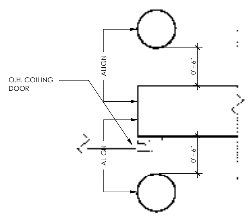
Casework:
All work shall comply with AWI Custom Grade Plastic Laminate overlay type construction.
Cover all exposed faces and edges of doors and drawers and all other exposed exterior surfaces with plastic laminate. Cover both sides of tall storage units whether in corner or in middle of room. Color to be selected by Architect.
Doors, drawer fronts, bottoms, dividers, shelves, and ends to be 3/4" or 3/4" filled particle board. Backs to be 1/4" fir plywood. Drawer bodies to be fir lumber Drawer with bottoms of ¼" fir plywood, or at contractor's option, pre-formed plastic drawers.
Exposed exterior surfaces to be plastic laminate, and interior surfaces to be melamine finish.

Cleaning:
Provide continual maintenance of the project and project site in an orderly fashion throughout the course of the Work, including periodic progress cleaning and removal of waste and debris.
Provide final cleaning to the level of cleanliness obtainable by using commercial quality building maintenance products and equipment to produce a condition suitable for habitation and the intended use of the structure.

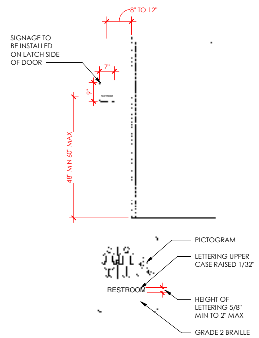
GENERAL NOTES

1. Do NOT scale drawings. If drawing information is in question, the Contractor shall obtain written clarification from the Architect, prior to continuing with construction.
2. Dimensions are to finish face, face of existing wall, and face of concrete or masonry, unless noted otherwise. Dimensions noted as CLEAR (CLR), are from finish face to finish face.
3. Contractor shall field verify all Dimensions, Spot Elevations, and locations of existing conditions affecting the area of work, prior to fabrication or installation of new work. Contractor to receive written notification of any discrepancies from dimensions shown, noted or required. Adjust dimensions of new construction at the direction of the Architect to allow for actual field dimensions.
4. Field Verify all Dimensions prior to fabrication of any millwork.
5. Refer to partition notes and Legend for typical wall types and Fire Ratings. All wall types shall conform to the partition legend unless indicated otherwise on Floor Plans, Enlarged Plans, Wall sections or Elevations.
6. Where a Detail is shown or note is described for one condition, it shall be assumed to apply to all like or similar conditions, even though not specifically noted as such on the drawings.
7. Provide wood blocking back up (2 x 6 Nominal unless noted otherwise), or 14 Gauge Galvanized steel plate continuous between studs, for all wall mounted millwork, shelves, equipment, Coat Rods, etc. and grounds for all accessories, equipment and devices specified or as indicated for installation of equipment by others or defined as to be provided by the Owner. CMU wall fasteners shall extend into the CMU cells which shall be grouted solid with 3,000psi concrete.
8. Contractor shall comply with all Local, State and Federal Codes and Ordinances.
9. The Contractor shall maintain clear access to all exits, and/or access stairs serving the Building at all times.
10. Contractor shall notify the Owner's Representative of any plans to disrupt building service that may affect building tenants.
11. The General Contractor shall be responsible for checking contract documents, field conditions and dimensions for accuracy, and to confirm that all work is constructible as shown, before proceeding with construction. If there are any discrepancies or omissions which would interfere with satisfactory completion of the work, the Contractor shall obtain clarification from the Architect before proceeding with work in question.
12. The General Contractor shall be responsible for providing all work and materials in accordance with all codes, ordinances, and regulations applicable at the project location. The contractor is responsible for filing and securing all necessary permits, approvals, etc., for all trades, including applicable fees.
13. The General Contractor shall be responsible for means, methods and techniques of construction, safety precautions in connection with the work, and for the acts or omissions of any sub-contractor.
14. The General Contractor, Sub-Contractors shall coordinate with the owners' representative all work related to the following: Scheduling, Staging of materials, Phasing, Movement of materials Clean-Up, Protection of Existing construction, salvage materials, construction materials & Construction utilities.
15. The General Contractor shall coordinate the location of all building systems and verify that all required clearances for construction shown is provided. This includes, but is not limited to, the following systems; Mechanical, Electrical, Lighting and Sprinkler Equipment.
16. The Contractor and Sub-contractors shall purchase and maintain certificates of Insurance with respect to Workman's Compensation, Public Liability, and Property Damage for the units as required by Law or Owner.
17. The Contractor shall be responsible for initiating maintaining and supervising all safety precautions in connection with the work.
18. The Contractor shall protect existing utility lines, duct work, lighting fixtures, etc, which are to remain as part of the final systems. Contractor shall clean, repair, re-lamp, etc. these items for proper functioning of the final system, as required by the contract.
19. The Designer is solely responsible for the Design interpretation of the construction documents.
20. The Contractor shall meet with the Owner's authorized representative well in advance of construction commencement to:
    a. Agree to a schedule, sequence and coordination of all work.
    b. Maintain Exits and Egress widths required by Code, during all phases of construction.

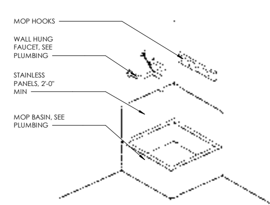
APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)



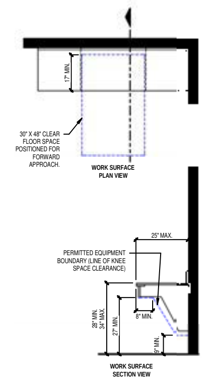
C3 A001 **Bollard**
1 1/2" = 1'-0"



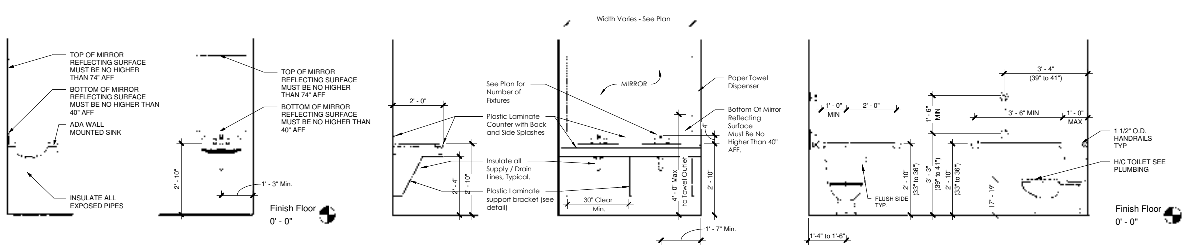
B4 A001 **RESTROOM SIGNS**
1/2" = 1'-0"



B3 A001 **MOP SINK**
3/8" = 1'-0"



A2 A001 **DETAIL: WORK SURFACE WITH MOBILITY FEATURES (Section 804.3)**
1/2" = 1'-0"



A6 A001 **Typical Bathroom Fixture Mounting Heights (Countertop)**
1/2" = 1'-0"

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITING	05/19/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

STEPHEN E. COLLINS REGISTERED ARCHITECT No. 104186 STATE OF TENNESSEE

Project Number 2204
Date 05/19/2022
Sheet Name ARCHITECT GENERAL
Sheet Number A001

U:\Architecture\MPL Jobs\ServPro Knoxville\Brad\ServPro-Knoxville-CD Model.rvt
5/23/2022 12:07:26 PM

INSULATION SYSTEMS FOR A BRIGHTER FUTURE

Skyliner® Insulation Systems, exclusively distributed by Bay Insulation Systems, are banded liner systems for metal building roofs and walls. These systems achieve low in-place U-factors as specified by current and future ASHRAE standards, IECC Codes, as well as other codes for conditioned space insulation requirements.

Skyliner low performance U-factor/high installed R-value roof system consists of white banding and bright white fabric installed under the purlins (black also available). When fastened to the purlins, using Skyliner's exclusive Safety Banding and Clip System, the result is a brilliant white ceiling surface that also provides OSHA leading-edge fall protection for workers on the roof.

Unfaced metal building insulation, from Bay Insulation Systems, is then placed in the purlin cavity and across the top of the purlins. Depending on the purlin depth, performance U-factors as low as U = .029 can be achieved.

After Fabric and Banding Systems (including exclusive Safety Clip) are installed, OSHA leading-edge fall protection is achieved and enhances workers' freedom of movement on the roof.

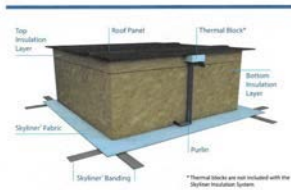
Skyliner's exclusive fabric dispensing and safety banding and clip method increase installation productivity, reducing field labor costs. The tarp-like fabric strength, exclusive Safety Banding and Clip System (fewer banding strips), and unique adhesive-dispensing system increases install and on-roof productivity, reducing installation costs.

ASHRAE 90.1-2013, 2016 & 2019 PRESCRIPTIVE SOLUTIONS (METAL BUILDING ROOFS)

R-19 + R-11	U = 0.037
R-25 + R-8	U = 0.037
R-25 + R-11	U = 0.031
R-30 + R-11	U = 0.029
R-25 + R-11 + R-11	U = 0.026

ASHRAE 90.1-2016 & 2019 PRESCRIPTIVE SOLUTIONS (METAL BUILDING WALLS)

R-25 + R-0.375 TBT	U = 0.059
R-30 + R-0.75 TBT	U = 0.032



11.0 CERTIFICATE OF COMPLIANCE

OVERALL RATING	
U-Factor: (Btu/hr·ft²·°F)	.40
SHGC:	.28

Direction: Fill out form complete(s). Determine the Overall Rating for this project by using the C.O.G. U-Factor and C.O.G. SHGC from Table 1 and looking up the overall rating from Table 2. Indicate the Overall Rating in the space above. Linear interpolation is permitted.

Certificate Authorization

Dean Peters — Ross Glass & Aluminum, LLC — 11-07-15

CERTIFIES THAT THE MATERIALS LISTED ON THIS CERTIFICATE WERE INSTALLED ON THE PROJECT IDENTIFIED

GLAZING CONTRACTOR - INSTALLER: Ross Glass & Aluminum, LLC — Dean Peters — 423-629-5787
2420 Broad Street — Chattanooga — TN — 37408

GLAZING MATERIALS SUPPLIER: Trulite Glass and Aluminum Solutions — Wes Mullins — 865-441-0079
2522 Westcott Blvd. — Knoxville — TN — 37931
1" Bronze Tint over ES 36 Low 'E' w/ 1/2" Aluminum Spacer / Air
0.29 — 0.31

FRAMING MATERIAL SUPPLIER: Kawneer — Kenny Young — 770-745-1840
830 Aquila Way — Austell — GA — 30168
Trifab VG 451T Center Set

U-factor Matrix (Btu/hr·ft²·°F)		SHGC Matrix	
C.O.G. U-factor	OVERALL U-factor	C.O.G. SHGC	OVERALL SHGC
0.48	.66	0.73	.67
0.46	.64	0.70	.62
0.44	.62	0.65	.58
0.42	.60	0.60	.54
0.40	.59	0.55	.49
0.38	.57	0.50	.45
0.36	.55	0.45	.40
0.34	.54	0.40	.36
0.32	.52	0.35	.32
0.30	.51	0.30	.27
0.28	.49	0.25	.23
0.26	.47	0.20	.19
0.24	.36	0.15	.14
0.22	.34	0.10	.09
0.20	.32	0.05	.05

The overall ratings for U-factor and SHGC are based on a size of 2000 mm x 2000 mm (78.74 in x 78.74 in) as required in NFRC 100.

Overall U-factors and Solar Heat Gain Coefficients (SHGC) listed in the matrix were determined in accordance with NFRC 100 and NFRC 200 respectively by a NFRC accredited laboratory.

ACCREDITED LABORATORY: Architectural Testing — 90780.02-116-45

95516-01

COMcheck Software Version 4.1.1.0
Envelope Compliance Certificate

Project Information

Energy Code:	2018 IECC
Project Title:	ServPro Knoxville
Location:	Knoxville, Tennessee
Climate Zone:	4a
Project Type:	New Construction
Vertical Glazing / Wall Area:	6%

Construction Site: — Owner/Agent: — Designer/Contractor: Stephen Collins, MPL Construction, Knoxville, TN

Additional Efficiency Package(s)

High efficiency HVAC. Systems that do not meet the performance requirement will be identified in the mechanical requirements checklist report.

Building Area	Floor Area
1-Warehouse : Nonresidential	21250
2-Office : Nonresidential	10000

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Roof WAREHOUSE: Other Metal Building Roof, [Bldg. Use 1 - Warehouse] (b)	21250	---	---	0.037	0.035
Roof OFFICE: Other Metal Building Roof, [Bldg. Use 2 - Office] (b)	10000	---	---	0.037	0.035
Floor WAREHOUSE: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 1 - Warehouse] (d)	422	---	5.0	0.580	0.540
Floor OFFICE: Slab-On-Grade:Unheated, Vertical 2 ft., [Bldg. Use 2 - Office] (d)	260	---	5.0	0.580	0.540
Floor LOADING DOCK: Slab-On-Grade:Unheated, [Bldg. Use 1 - Warehouse] (d)	70	---	---	0.730	0.540
NORTH					
Exterior Wall WAREHOUSE - NORTH: Other Metal Building Wall, [Bldg. Use 1 - Warehouse] (b)	7580	---	---	0.052	0.052
Door OVERHEAD: Insulated Metal, Non-Swinging, [Bldg. Use 1 - Warehouse]	744	---	---	0.130	0.179
EAST					
Exterior Wall WAREHOUSE - EAST: Other Metal Building Wall, [Bldg. Use 1 - Warehouse] (b)	3080	---	---	0.052	0.052
Door OVERHEAD: Insulated Metal, Non-Swinging, [Bldg. Use 1 - Warehouse]	288	---	---	0.130	0.179
Exterior Wall WAREHOUSE - EAST 8" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 1 - Warehouse]	375	25.0	10.0	0.048	0.064
Window WAREHOUSE - EAST: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, VT 0.31, [Bldg. Use 1 - Warehouse] (c)	42	---	---	0.400	0.380
SOUTH					
Exterior Wall OFFICE - SOUTH 6" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 2 - Office]	3750	19.0	10.0	0.052	0.064
WINDOW OFFICE - SOUTH: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, VT 0.31, [Bldg. Use 2 - Office] (c)	702	---	---	0.400	0.380
Exterior Wall OFFICE - SOUTH 12" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 2 - Office]	2330	30.0	10.0	0.044	0.064
WINDOW OFFICE - SOUTH CANOPY: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, PF 0.25, VT 0.31, [Bldg. Use 2 - Office] (c)	295	---	---	0.400	0.380
Exterior Wall WAREHOUSE - SOUTH 6" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 1 - Warehouse]	710	19.0	10.0	0.052	0.064
WINDOW WAREHOUSE - SOUTH: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, VT 0.31, [Bldg. Use 1 - Warehouse] (c)	156	---	---	0.400	0.380
Exterior Wall WAREHOUSE - SOUTH 12" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 1 - Warehouse]	750	30.0	10.0	0.044	0.064
WINDOW WAREHOUSE - SOUTH CANOPY: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, PF 0.25, VT 0.31, [Bldg. Use 1 - Warehouse] (c)	75	---	---	0.400	0.380
WEST					
Exterior Wall WAREHOUSE -WEST: Other Metal Building Wall, [Bldg. Use 1 - Warehouse] (b)	3080	---	---	0.052	0.052
WINDOW WAREHOUSE - WEST: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, VT 0.31, [Bldg. Use 1 - Warehouse] (c)	75	---	---	0.400	0.380
Door OVERHEAD: Insulated Metal, Non-Swinging, [Bldg. Use 1 - Warehouse]	144	---	---	0.130	0.179
Exterior Wall OFFICE - WEST 8" STUDS: Steel-Framed, 16" o.c., [Bldg. Use 2 - Office]	375	25.0	10.0	0.048	0.064
Window OFFICE - WEST: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID 9078002416-15, SHGC 0.28, VT 0.31, [Bldg. Use 2 - Office] (c)	42	---	---	0.400	0.380

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(d) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.

Envelope PASSES: Design 1% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Stephen Collins Architect — Name - Title — Signature — 5/18/22 — Date

APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	REVISIONS	05/18/2022

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

Project Name

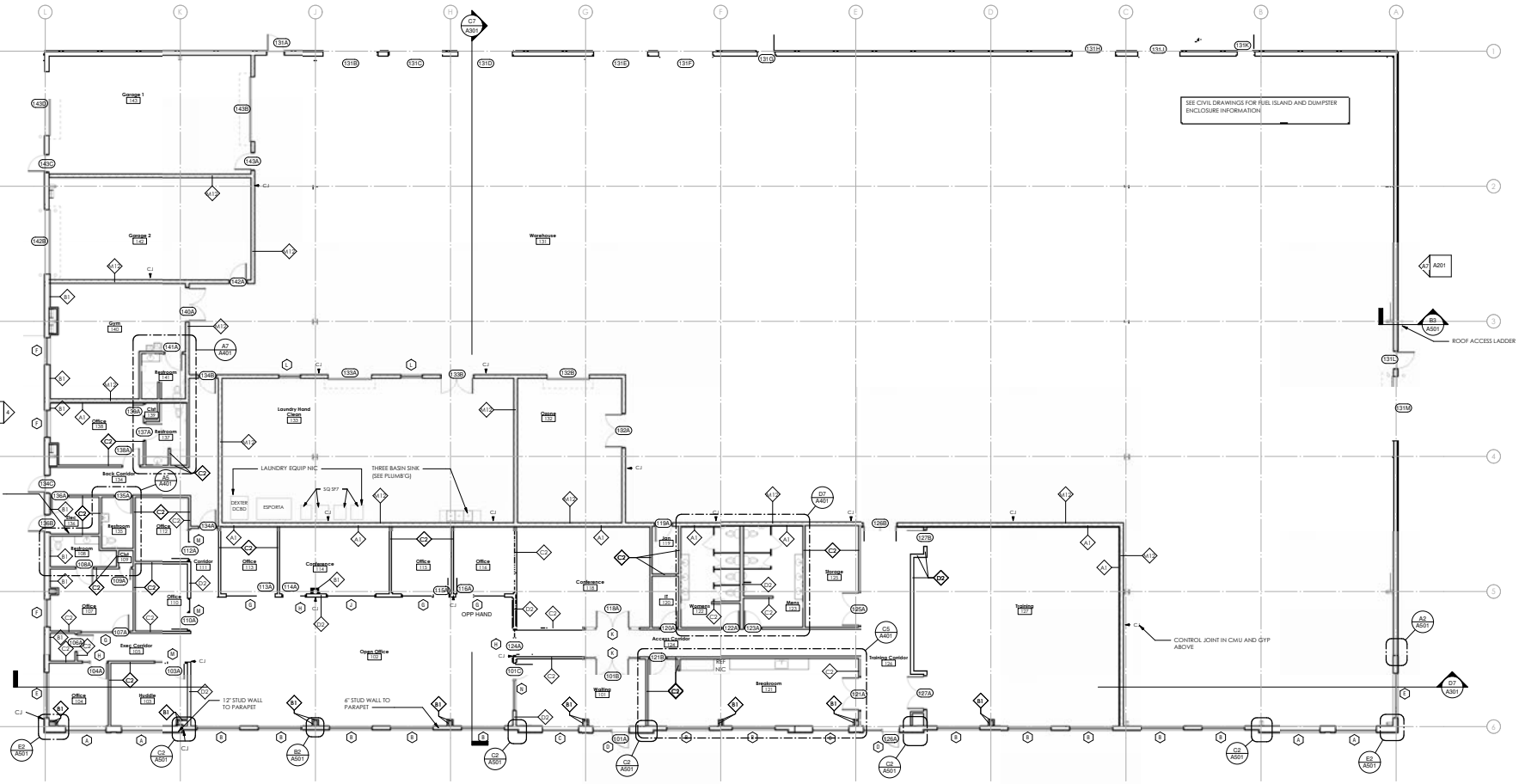
TTCDA review
No. 8-A-22-TOA

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

STEPHEN E. COLLINS — REGISTERED ARCHITECT — 104179 — STATE OF TENNESSEE

Project Number	2204
Date	05/19/2022
Sheet Name	ENERGY
Sheet Number	A002

5/23/2022 12:07:26 PM U:\Architecture\MPL Jobs\Serv Pro Knoxville\BradServ-Pro-Knoxville-CD Model.rvt



A7 A101 **FLOOR PLAN**
1/8" = 1'-0"

ROOM FINISH SCHEDULE

#	Name	Wall Finish	Base Finish	Floor Finish	Clg Finish
Finish Floor					
101	Waiting	GYP/PAINT	RB	LVT	ACT
102	Open Office	GYP/PAINT	RB	CPT	ACT
103	Huddle	GYP/PAINT	RB	CPT	ACT
104	Office	GYP/PAINT	RB	CPT	ACT
105	Exec Corridor	GYP/PAINT	RB	CPT	ACT
106	Clst	GYP/PAINT	RB	CPT	ACT
107	Office	GYP/PAINT	RB	CPT	ACT
108	Restroom	GYP/PAINT	RB	LVT	ACT
109	Clst	GYP/PAINT	RB	CPT	ACT
110	Office	GYP/PAINT	RB	CPT	ACT
111	Corridor	GYP/PAINT	RB	CPT	ACT
112	Office	GYP/PAINT	RB	CPT	ACT
113	Office	CMU/PAINT	RB	CPT	ACT
114	Conference	GYP/PAINT	RB	CPT	ACT
115	Office	GYP/PAINT	RB	CPT	ACT
116	Office	GYP/PAINT	RB	CPT	ACT
118	Conference	GYP/PAINT	RB	LVT	ACT
119	Jan	GYP/PAINT	RB	VCT	ACT
120	IT	GYP/PAINT	RB	VCT	ACT
121	Breakroom	GYP/PAINT	RB	LVT	ACT
122	Womens	GYP/PAINT	RB	LVT	ACT
123	Mens	GYP/PAINT	RB	LVT	ACT
124	Access Corridor	GYP/PAINT	RB	LVT	ACT
125	Storage	GYP/PAINT	RB	VCT	ACT
126	Training Corridor	GYP/PAINT	RB	LVT	ACT
127	Training	GYP/PAINT	RB	CPT	ACT
131	Warehouse	CMU/PAINT & GYP PAINT	--	SEALED CONCRETE	EXPOSED
132	Ozone	CMU/PAINT	--	SEALED CONCRETE	ACT
133	Laundry Hand Clean	CMU/PAINT	--	SEALED CONCRETE	ACT
134	Back Corridor	GYP/PAINT	RB	LVT	ACT
135	Restroom	GYP/PAINT	RB	LVT	GYB
136	Elec	GYP/PAINT	RB	SEALED CONCRETE	ACT
137	Restroom	GYP/PAINT	RB	LVT	ACT
138	Office	GYP/PAINT	RB	LVT	ACT
139	Clst	GYP/PAINT	RB	LVT	ACT
140	Gym	GYP & CMU PAINT	RB	RUBBER	ACT
141	Restroom	GYP/PAINT	RB	LVT	ACT
142	Garage 2	CMU/PAINT	--	SEALED CONCRETE	EXPOSED
143	Garage 1	CMU/PAINT	--	SEALED CONCRETE	EXPOSED

Floor Finish	Floor Finish Description
SC	Broom Finished Concrete
CPT	Carpet - Broad Loom
RUBBER	Rubber Gym Flooring
SC	Sealed Concrete
TILE	Ceramic Floor Tile -TBD
VCT	Vinyl Composite Tile - Color TBD

Base Finish	Base Finish Description
RB	4" Rubber Base
TILE	4" Ceramic Tile

Ceiling Finish	Ceiling Finish Description
ACT	2x2 Acoustic Tile Ceiling - Armstrong Cortega
GYP-MR	Moisture Resistant Gyp. - Paint (Color TBD)

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	ADDENDUM 1	06-16-2022

Project Name

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

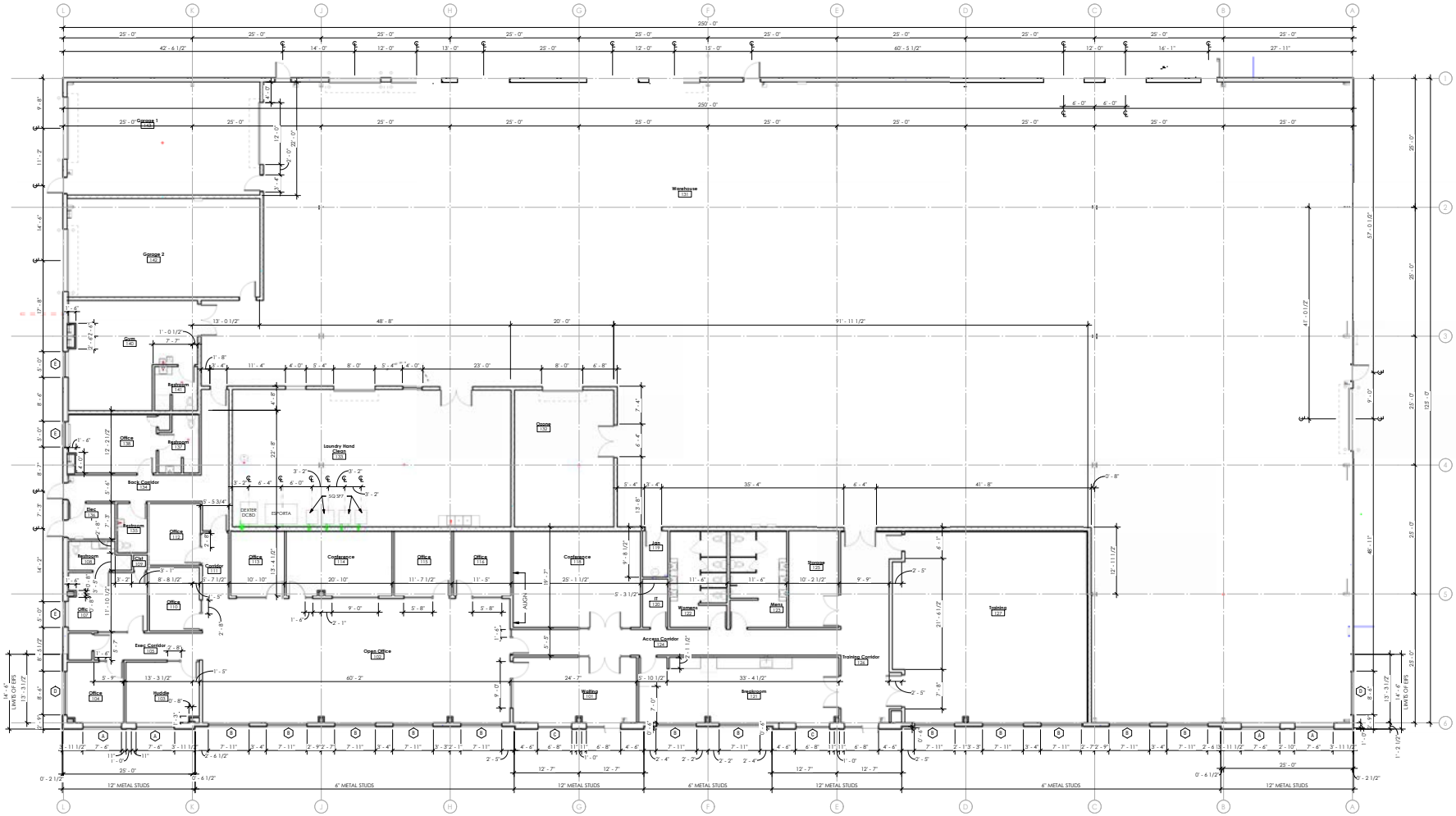
TTCDA review
No. 8-A-22-TOA

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

STEPHEN C. COLLINS
REGISTERED ARCHITECT
13411
STATE OF TENNESSEE

Project Number 2204
Date 05/19/2022
Sheet Name FLOOR PLAN - MAIN FLOOR
Sheet Number A101

5/23/2022 12:07:29 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt



1 A102 **FLOOR PLAN - DIMENSION PLAN**
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/19/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

STEPHEN E. COLLINS
REGISTERED ARCHITECT
STATE OF TENNESSEE

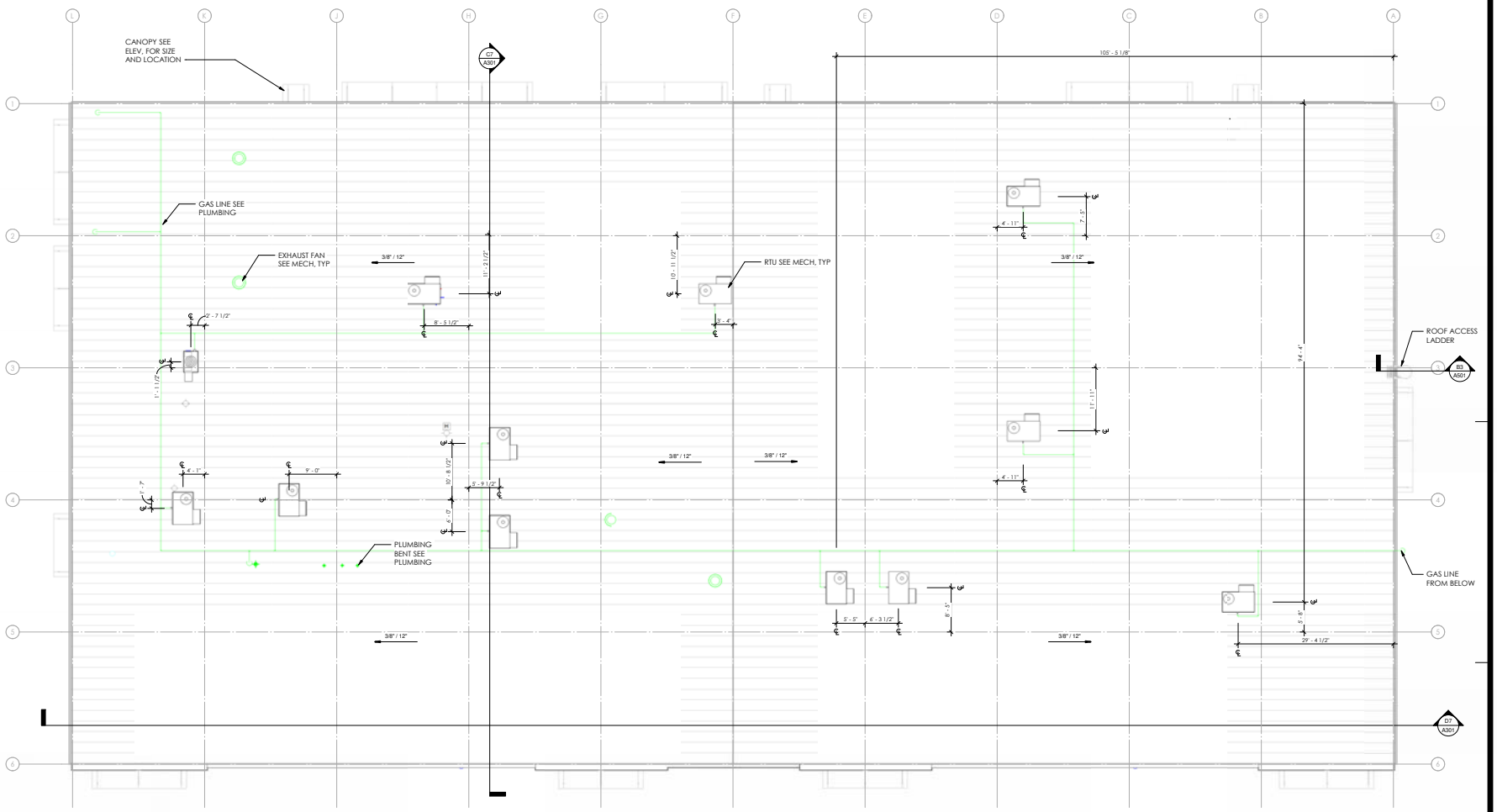
Project Number
2204

Date
05/19/2022

Sheet Name
FLOOR PLAN - DIMENSION PLAN

Sheet Number
A102

5/23/2022 12:07:32 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt



A7 A121 **ROOF PLAN**
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
0	PERMITTING	05/19/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

STEPHEN E. COLLINS
REGISTERED ARCHITECT
No. 104186
STATE OF TENNESSEE

Project Number
2204

Date
05/19/2022

Sheet Name
ROOF PLAN

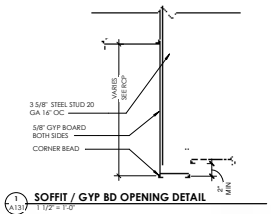
Sheet Number
A121

5/23/2022 12:07:35 PM U:\Architecture\MPL_Jobs\ServPro Knoxville\Brad\ServPro-Knoxville-CD Model.rvt

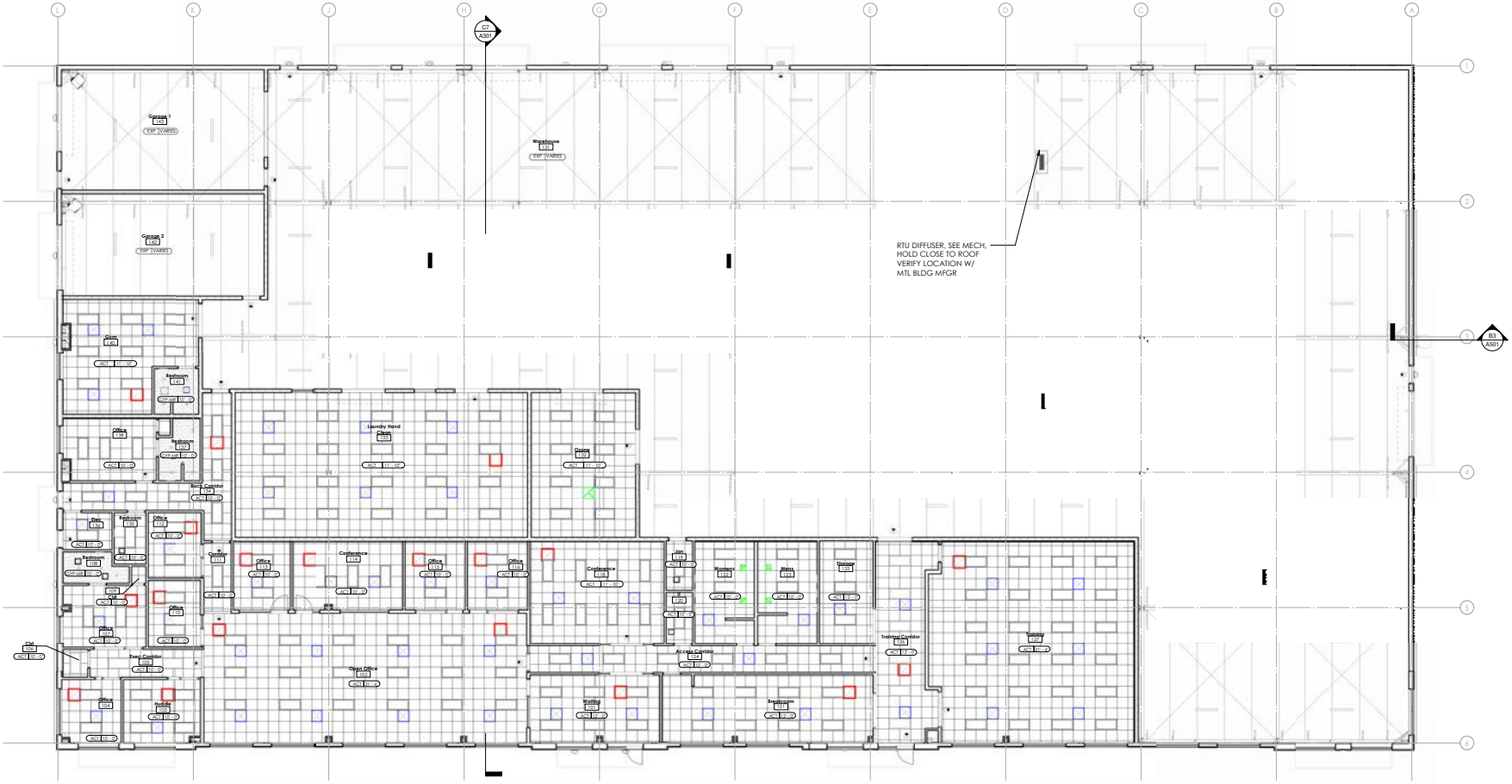
Ceiling Finish	Ceiling Finish Description
ACT	2x2 Acoustic Tile Ceiling - Armstrong Cortega
GYP-MR	Moisture Resistant Gyp - Paint (Color TBD)

REFLECTED CEILING PLAN LEGEND

- GYP 10'-0" — CEILING MATERIAL
- CEILING HEIGHT
- SUPPLY DIFFUSER
- RETURN GRILLE
- EXHAUST
- 2'-0" X 4'-0" LIGHT FIXTURE LAY-IN
- SUSPENDED OR SURFACE MOUNTED FIXTURE SEE ELEC
- 6" RECESSED COMPACT FLUORESCENT LIGHT FIXTURE
- EXIT SIGN W/ DIRECTIONAL ARROWS
- 2'-0" X 2'-0" ACOUSTIC TILE CEILING
- GYPSUM BOARD SOFFIT



1 A131 **SOFFIT / GYP BD OPENING DETAIL**
1 1/2" = 1'-0"



A7 A131 **REFLECTED CEILING PLAN**
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
0	PERMITTING	05-19-2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

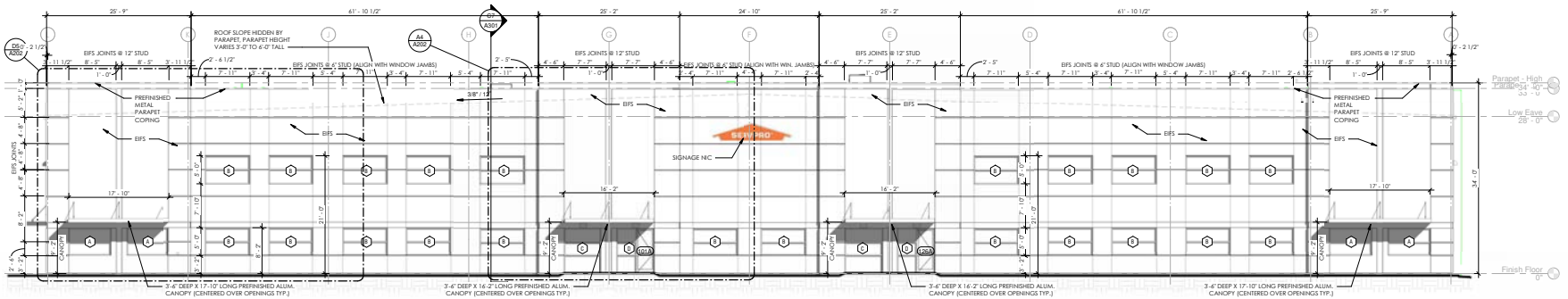
TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

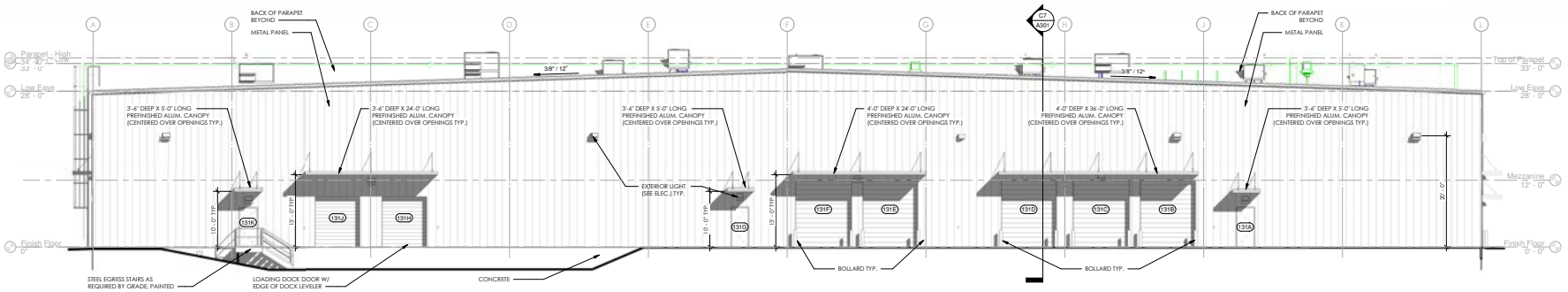
STEPHEN E. COLLINS
REGISTERED ARCHITECT
NO. 104186
STATE OF TENNESSEE

Project Number: 2204
Date: 05/19/2022
Sheet Name: REFLECTED CEILING PLAN
Sheet Number: A131

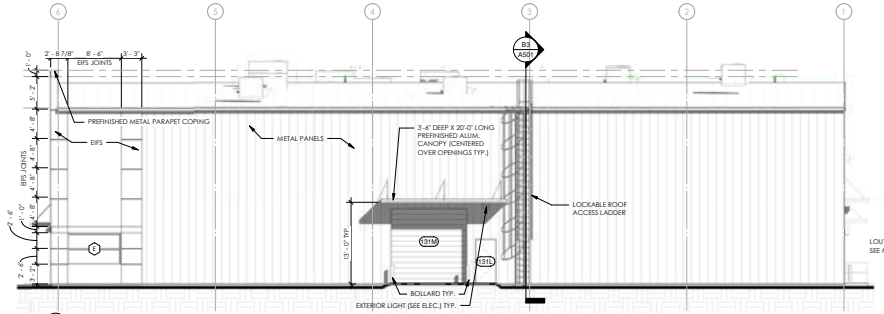
5/23/2022 12:07:38 PM U:\Architecture\MPL Jobs\ServPro Knoxville\Brad\ServPro-Knoxville-CD Model.rvt



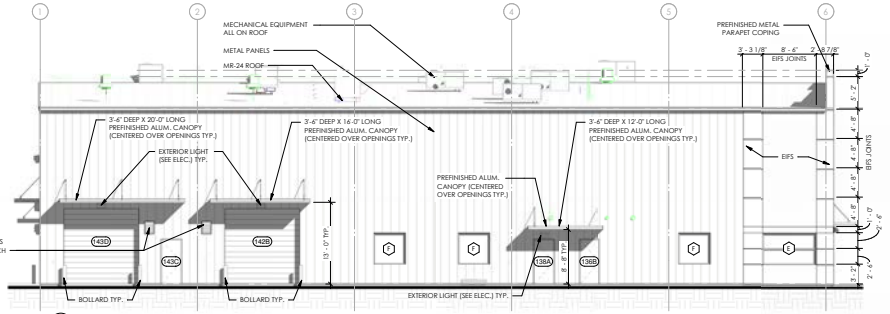
D7 A201 **ELEVATION FRONT, SOUTH**
1/8" = 1'-0"



C7 A201 **ELEVATION REAR, NORTH**
1/8" = 1'-0"



A7 A201 **ELEVATION SIDE, EAST**
1/8" = 1'-0"



4 A201 **ELEVATION SIDE, WEST**
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/19/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

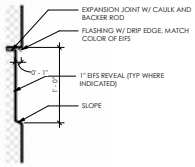
STEPHEN E. COLLINS
REGISTERED ARCHITECT
No. 104186
STATE OF TENNESSEE

Project Number	2204
Date	05/19/2022
Sheet Name	EXTERIOR ELEVATIONS
Sheet Number	A201

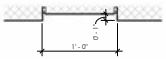
5/23/2022 12:07:47 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

EXTERIOR FINISH COLOR SCHEDULE	
TYPE	DESCRIPTION
CLR01	COLOR TO BE SELECTED
CLR02	COLOR TO BE SELECTED
CLR03	COLOR TO BE SELECTED

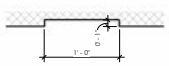
NOTE: CONTRACTOR TO VERIFY PRODUCT NUMBERS W/ SUPPLIER & COORDINATE W/ OWNER



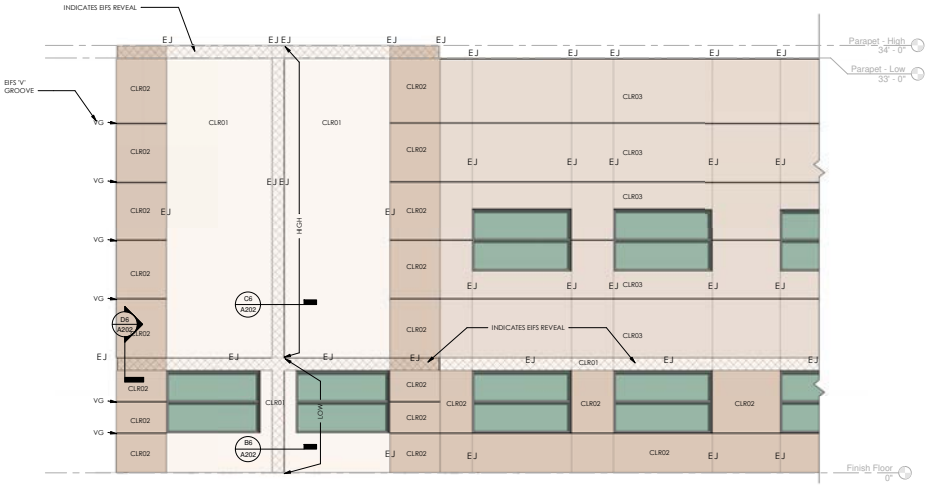
D4 A202 **WALL DETAIL - EIFS REVEAL**
1 1/2" = 1'-0"



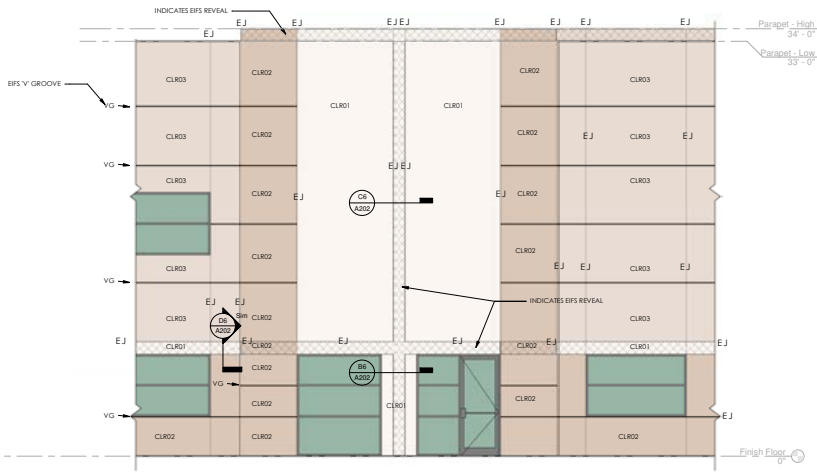
C4 A202 **EIFS REVEAL VERTICAL - HIGH**
1 1/2" = 1'-0"



B4 A202 **EIFS REVEAL VERTICAL - LOW**
1 1/2" = 1'-0"



D5 A202 **ENLARGED ELEVATION FRONT, SOUTH (TYP. CORNER)**
1/4" = 1'-0"



A4 A202 **ENLARGED ELEVATION FRONT, SOUTH (TYP.)**
1/4" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/19/2022

Project Name
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

STEPHEN E. COLLINS
REGISTERED ARCHITECT
No. 104186
STATE OF TENNESSEE

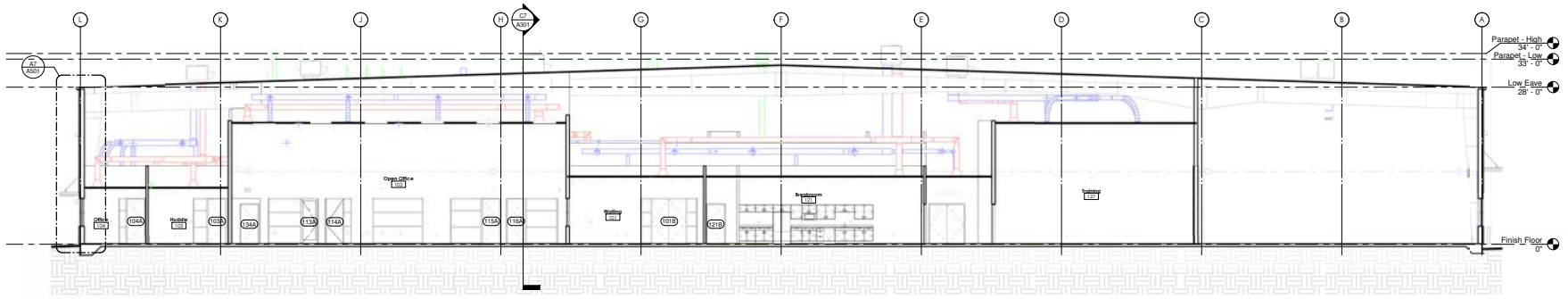
Project Number
2204

Date
05/19/2022

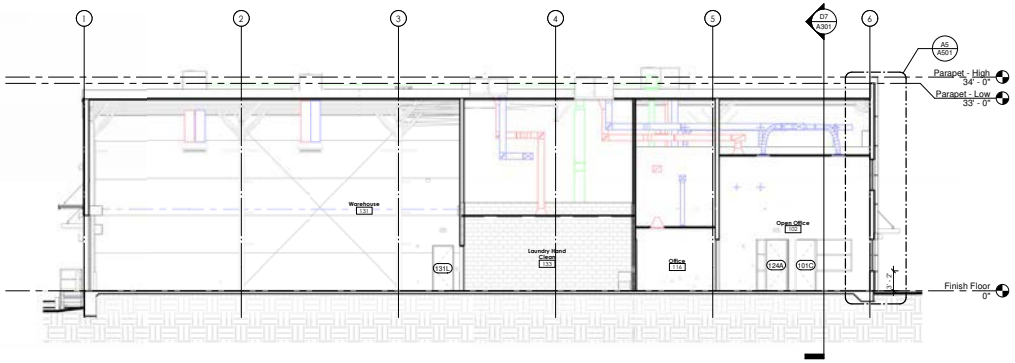
Sheet Name
ENLARGED ELEVATIONS

Sheet Number
A202

5/23/2022 12:07:50 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt



D7 A301 **BUILDING SECTION - longitudinal**
1/8" = 1'-0"



C7 A301 **BUILDING SECTION - transverse**
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	PERMIT SET	05/19/2022

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

Project Name

TTCDA review
No. 8-A-22-TOA

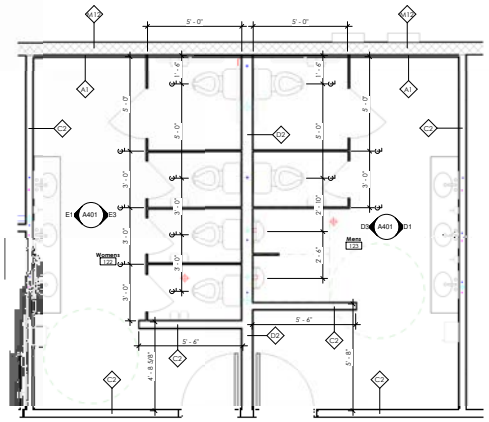
MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

STEPHEN E. COLLINS
REGISTERED ARCHITECT
No. 10411
STATE OF TENNESSEE

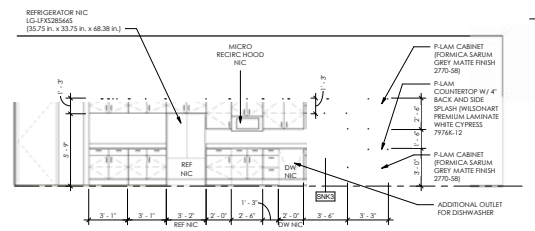
Project Number	2204
Date	05/19/2022
Sheet Name	BUILDING SECTIONS
Sheet Number	A301

5/23/2022 12:07:55 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

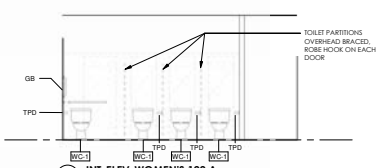
Plumbing Fixture Schedule	
Type Mark	Description
LAV1	Wall Hung Lavatory Lever Type Faucet, See Plumbing
P-6	Wall Mounted Drinking Fountain - ADA compliant w/ bottler filler, See Plumbing
SNK3	Drop in S.S. Kitchen. Sink See Plumbing
UR-1	Urinal, See Plumbing
WC-1	17" high elongated bowl, See plumbing



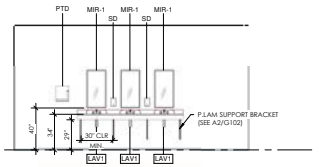
D7 A401 ENLARGED FLOOR PLAN - WOMENS 122 + MENS 123
3/8" = 1'-0"



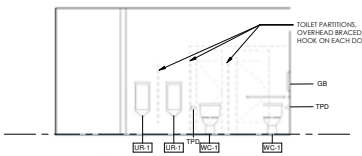
D5 A401 INT-ELEV-BREAKROOM
1/4" = 1'-0"



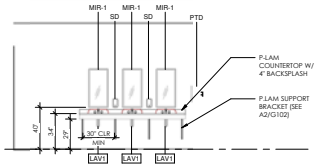
E3 A401 INT-ELEV-WOMEN'S 122 A
1/4" = 1'-0"



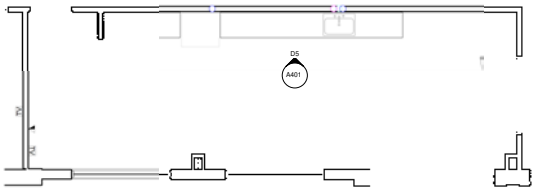
E1 A401 INT-ELEV-WOMEN'S 122 B
1/4" = 1'-0"



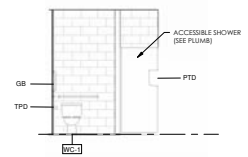
D3 A401 INT-ELEV-MEN'S 123 A
1/4" = 1'-0"



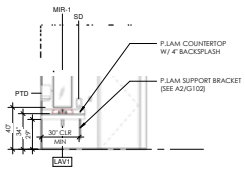
D1 A401 INT-ELEV-MEN'S 123 B
1/4" = 1'-0"



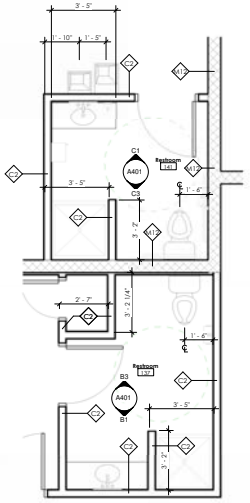
C2 A401 ENLARGE FLOOR PLAN - BREAKROOM 121
1/4" = 1'-0"



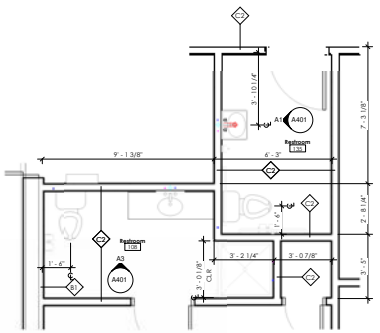
C3 A401 INT-ELEV-RESTROOM 141 A
1/4" = 1'-0"



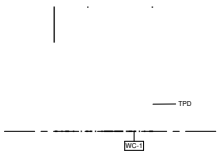
C1 A401 INT-ELEV-RESTROOM 141 B
1/4" = 1'-0"



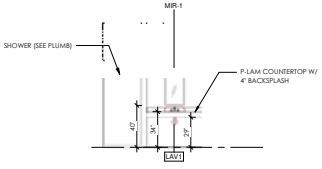
A2 A401 ENLARGE FLOOR PLAN - RESTROOMS 141 + 137
3/8" = 1'-0"



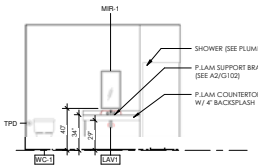
A5 A401 ENLARGE FLOOR PLAN - RESTROOMS 135 + 108
3/8" = 1'-0"



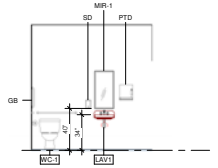
B3 A401 INT-ELEV-RESTROOM 137 A
1/4" = 1'-0"



B1 A401 INT-ELEV-RESTROOM 137 B
1/4" = 1'-0"



A3 A401 INT-ELEV-RESTROOM 108
1/4" = 1'-0"



A1 A401 INT-ELEV-RESTROOM 135
1/4" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	REVISIONS	DATE
1	CLOUDMARK	05/19/2022
2	ADDENDUM 1	06/16/2022

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

Project Name

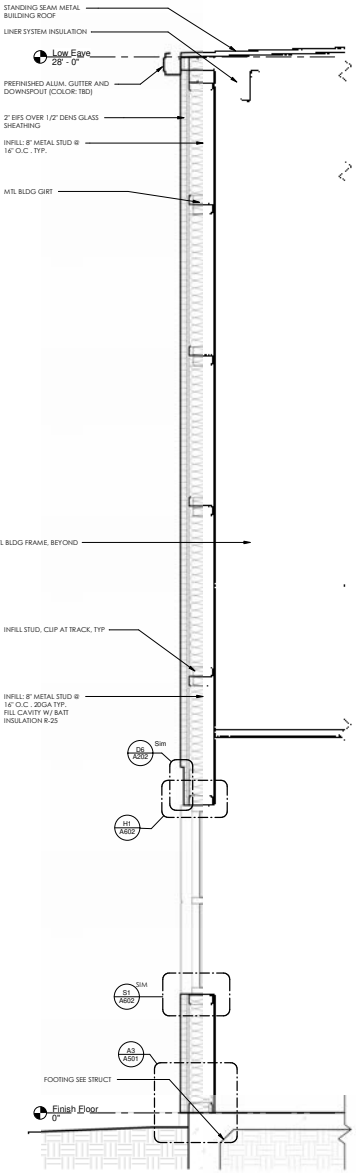
TTCDA review
No. 8-A-22-TOA

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

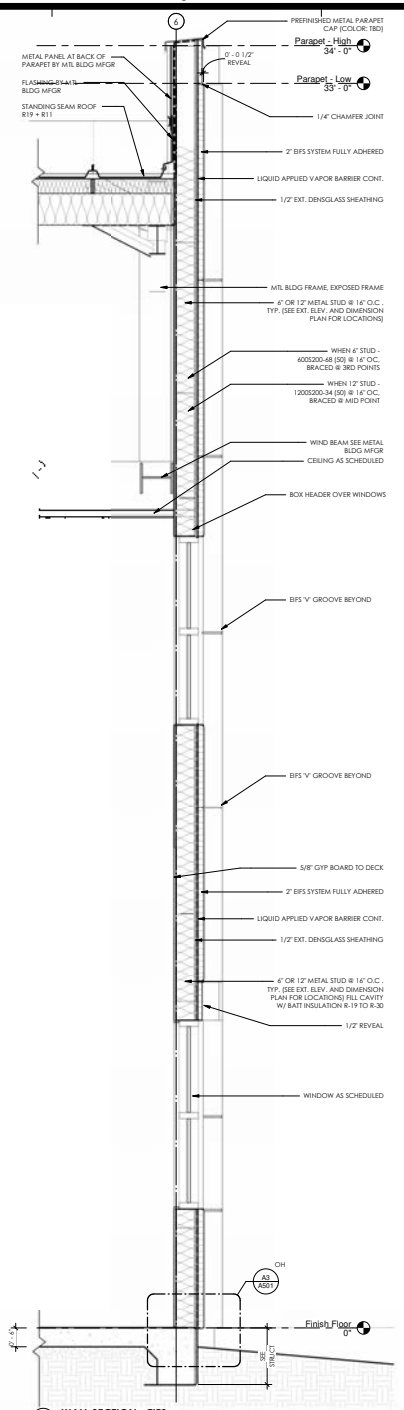
STEPHEN E. COLLINS
REGISTERED ARCHITECT
STATE OF TENNESSEE

Project Number	2204
Date	05/19/2022
Sheet Name	ENLARGED PLAN
Sheet Number	A401

5/23/2022 12:07:59 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville\CD Model.rvt

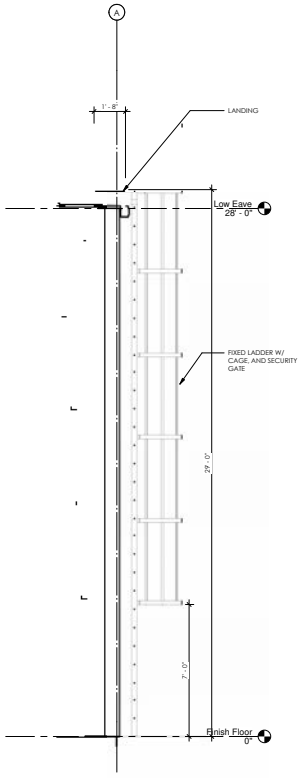


A7 / A501 **WALL SECTION - METAL PANEL**
3/4" = 1'-0"

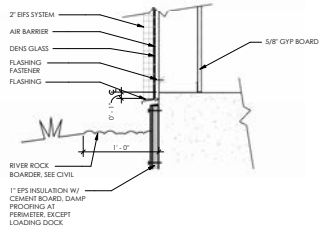


A5 / A501 **WALL SECTION - EIFS**
3/4" = 1'-0"

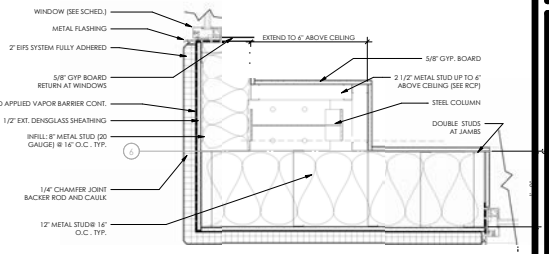
APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)



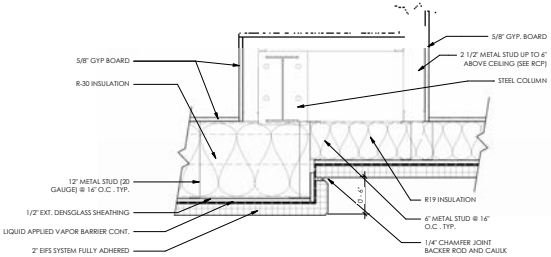
B3 / A501 **ROOF ACCESS LADDER - FIXED**
3/8" = 1'-0"



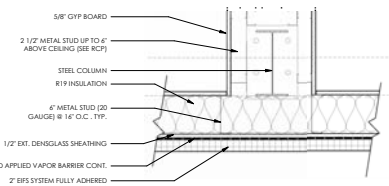
A3 / A501 **EIFS BASE DETAIL**
1 1/2" = 1'-0"



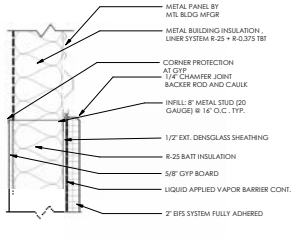
E2 / A501 **FLOOR PLAN_DETAIL - EIFS CORNER**
1 1/2" = 1'-0"



C2 / A501 **FLOOR PLAN_DETAIL - EIFS TRANSITION TYP.**
1 1/2" = 1'-0"



B2 / A501 **FLOOR PLAN_DETAIL - COLUMN WRAP @ EXT. WALL TYP.**
1 1/2" = 1'-0"



A2 / A501 **FLOOR PLAN_DETAIL - EIFS/METAL TRANSITION**
1 1/2" = 1'-0"

SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

Project Name

TTCDA review
No. 8-A-22-TOA

NO	DESCRIPTION	REVISIONS DATE
1	TTCDA REVIEW	05/19/2022

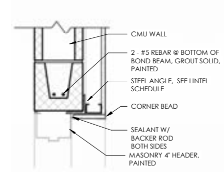
Project Number 2204
Date 05/19/2022
Sheet Name WALL SECTIONS/DETAILS
Sheet Number A501

5/23/2022 12:08:04 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

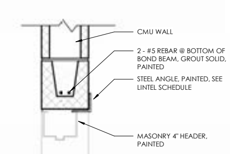
DOOR SCHEDULE

Number	Door Width	Door Height	Door Type	Frame Type	Frame Finish	Fire Rating	Detail Head	Detail Jamb	Hardware Mag Lock	Hardware Lockset Type	EXTERIOR	Comments
Finish Floor												
101A	3' - 0"	8' - 0"	G	D/A602	CLEAR ANNODIZED	--	H1/A602	J1/A602	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, WEATHER SEAL, THRESHOLD, PANIC HARDWARE
101B	6' - 0"	8' - 0"	G	K/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	YES	LEVER LOCKSET - ENTRANCE		CLOSER, PANIC HARDWARE
101C	3' - 0"	8' - 0"	G	G/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	YES	LEVER LOCKSET - ENTRANCE		CLOSER
103A	3' - 0"	8' - 0"	D	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - ENTRANCE		
104A	3' - 0"	8' - 0"	D	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
106A	3' - 0"	8' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
107A	3' - 0"	8' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		
108A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - PRIVACY		
109A	2' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
110A	3' - 0"	8' - 0"	D	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
112A	3' - 0"	8' - 0"	D	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
113A	3' - 0"	8' - 0"	D	G/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
114A	3' - 0"	8' - 0"	D	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
115A	3' - 0"	8' - 0"	D	G/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
116A	3' - 0"	8' - 0"	D	G/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
118A	6' - 0"	8' - 0"	G	K/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	--	LEVER LOCKSET - OFFICE		
119A	3' - 0"	7' - 0"	A	2	PAINT	--	H2/A601	J2/A601	--	LEVER LOCKSET - STORAGE		CLOSER
120A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
121A	6' - 0"	7' - 0"	F	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		
121B	3' - 0"	7' - 0"	F	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		
122A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	PUSH / PULL		CLOSER
123A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	PUSH / PULL		CLOSER
124A	3' - 0"	8' - 0"	G	H/A602	CLEAR ANNODIZED	--	H3/A602	J3/A602	YES	LEVER LOCKSET - ENTRANCE		CLOSER
125A	6' - 0"	7' - 0"	C	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
126A	3' - 0"	8' - 0"	G	D/A602	CLEAR ANNODIZED	--	H1/A602	J1/A602	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, WEATHER SEAL, THRESHOLD, PANIC HARDWARE
126B	6' - 0"	7' - 0"	C	2	PAINT	--	H1/A601	J1/A601	YES	LEVER LOCKSET - ENTRANCE		CLOSER
127A	6' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		CLOSER, PANIC HARDWARE
127B	3' - 0"	7' - 0"	F	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		CLOSER, PANIC HARDWARE
131A	3' - 0"	7' - 0"	C	1	PAINT	--	H3/A601	J3/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD
131B	10' - 0"	12' - 0"	OH	--	--	--	H6/A601	J6/A601	--	--	EXT	ELEC MOTOR, INSULATED
131C	10' - 0"	12' - 0"	OH	--	--	--	H6/A601	J6/A601	--	--	EXT	ELEC MOTOR, INSULATED
131D	10' - 0"	12' - 0"	OH	--	--	--	H6/A601	J6/A601	--	--	EXT	ELEC MOTOR, INSULATED
131E	10' - 0"	12' - 0"	OH	--	--	--	B1/A601	A1/A601	--	--	EXT	ELEC MOTOR, INSULATED
131F	10' - 0"	12' - 0"	OH	--	--	--	B1/A601	A1/A601	--	--	EXT	ELEC MOTOR, INSULATED
131G	3' - 0"	7' - 0"	C	1	PAINT	--	H3/A601	J3/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD
131H	8' - 0"	9' - 0"	OH	--	--	--	B1/A601	A1/A601	--	--	EXT	ELEC MOTOR, INSULATED
131J	8' - 0"	9' - 0"	OH	--	--	--	B1/A601	A1/A601	--	--	EXT	ELEC MOTOR, INSULATED
131K	3' - 0"	7' - 0"	C	1	PAINT	--	D1/A601	C1/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD
131L	3' - 0"	7' - 0"	C	1	PAINT	--	D1/A601	C1/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD
131M	12' - 0"	12' - 0"	OH	--	--	--	H6/A601	J6/A601	--	--	EXT	ELEC MOTOR, INSULATED
132A	6' - 0"	7' - 0"	C	2	PAINT	--	H2/A601	J2/A601	--	LEVER LOCKSET - STORAGE		
132B	8' - 0"	8' - 0"	OH	--	--	--	H5/A601	J5/A601	--	--		ELEC MOTOR, WEATHER SEALS
133A	8' - 0"	8' - 0"	OH	--	--	--	H5/A601	J5/A601	--	--		ELEC MOTOR
133B	6' - 0"	7' - 0"	B	2	PAINT	--	H2/A601	J2/A601	--	LEVER LOCKSET - OFFICE		
134A	3' - 0"	7' - 0"	F	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - PASSAGE		CLOSER
134B	3' - 0"	7' - 0"	B	2	PAINT	--	H2/A601	J2/A601	YES	LEVER LOCKSET - ENTRANCE		CLOSER
134C	3' - 0"	7' - 0"	C	1	PAINT	--	H3/A601	J3/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD
135A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - PRIVACY		CLOSER
136A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
136B	3' - 0"	7' - 0"	A	1	PAINT	--	H3/A601	J3/A601	--	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR, THRESHOLD, PANIC HARDWARE
137A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - PRIVACY		
138A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - OFFICE		
139A	2' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - STORAGE		
140A	6' - 0"	8' - 0"	C	2	PAINT	--	H2/A601	J2/A601	YES	LEVER LOCKSET - OFFICE		CLOSER
141A	3' - 0"	7' - 0"	D	1	PAINT	--	H4/A601	J4/A601	--	LEVER LOCKSET - PRIVACY		CLOSER
142A	3' - 0"	7' - 0"	B	2	PAINT	--	H2/A601	J2/A601	--	LEVER LOCKSET - OFFICE		
142B	12' - 0"	12' - 0"	OH	--	--	--	H6/A601	J6/A601	--	--	EXT	ELEC MOTOR, INSULATED
143A	3' - 0"	7' - 0"	B	2	PAINT	--	H2/A601	J2/A601	YES	LEVER LOCKSET - OFFICE		
143B	12' - 0"	12' - 0"	OH	--	--	--	H5/A601	J5/A601	--	--		ELEC MOTOR
143C	3' - 0"	7' - 0"	C	1	PAINT	--	H3/A601	J3/A601	YES	LEVER LOCKSET - ENTRANCE	EXT	CLOSER, MTL BLDG MFGR
143D	12' - 0"	12' - 0"	OH	--	--	--	B1/A601	A1/A601	--	--	EXT	ELEC MOTOR, INSULATED

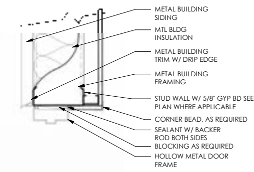
APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)



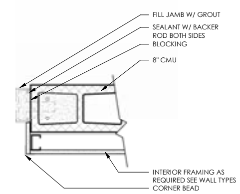
H1 A601 **HM DOOR HEAD @ BEARING CMU**
1 1/2" = 1'-0"



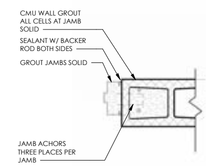
H2 A601 **HM DOOR HEAD @ CMU**
1 1/2" = 1'-0"



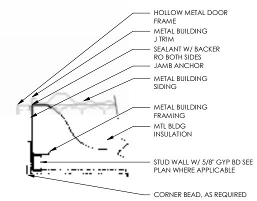
H3 A601 **EXTERIOR DOOR HEAD MTL BLDG**
1 1/2" = 1'-0"



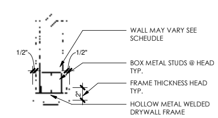
J1 A601 **HM DOOR JAMB @ CMU BEARING WALL**
1 1/2" = 1'-0"



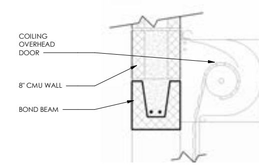
J2 A601 **HM DOOR JAMB @ CMU**
1 1/2" = 1'-0"



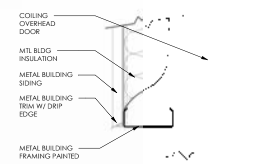
J3 A601 **EXTERIOR DOOR JAMB MTL BLDG**
1 1/2" = 1'-0"



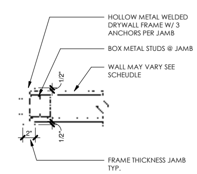
H4 A601 **HM DOOR HEAD @ GYP BD**
1 1/2" = 1'-0"



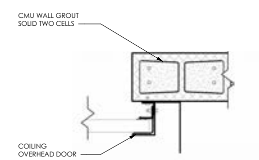
H5 A601 **OVERHEAD HEAD @ 8" CMU WALL**
1 1/2" = 1'-0"



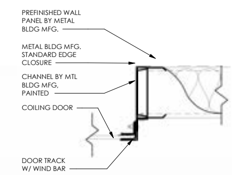
H6 A601 **EXTERIOR OVERHEAD HEAD**
1 1/2" = 1'-0"



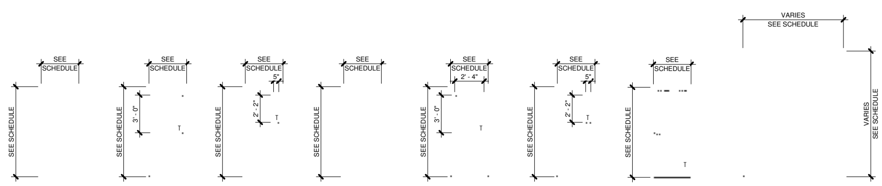
J4 A601 **HM DOOR JAMB @ GYP BD**
1 1/2" = 1'-0"



J5 A601 **INTERIOR OH DOOR JAMB @ CMU**
1 1/2" = 1'-0"



J6 A601 **EXTERIOR OVERHEAD DOOR JAMB**
1 1/2" = 1'-0"



TYPE 'A'
1 3/4" HOLLOW CORE METAL INSULATED @ EXTERIOR PAINTED

TYPE 'B'
1 3/4" HOLLOW CORE METAL W/ HALF PANEL WINDOW INSULATED @ EXTERIOR PAINTED

TYPE 'C'
1 3/4" HOLLOW CORE METAL W/ NARROW LITE WINDOW INSULATED @ EXTERIOR PAINTED

TYPE 'D'
1 3/4" SOLID CORE WHITE BIRCH VENEER WOOD STAINED

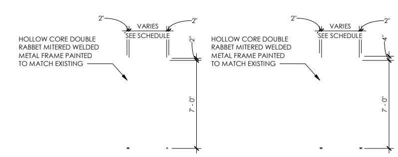
TYPE 'E'
1 3/4" SOLID CORE WHITE BIRCH VENEER WOOD W/ HALF PANEL WINDOW STAINED

TYPE 'F'
1 3/4" SOLID CORE WHITE BIRCH VENEER WOOD W/ NARROW LITE WINDOW STAINED

TYPE 'G'
1 3/4" ALUMINUM STOREFRONT DOOR CLEAR ANNODIZED

TYPE 'OH'
OVERHEAD COILING DOOR INSULATED @ EXTERIOR

A7 A601 **DOOR TYPES**
1/4" = 1'-0"
T = TEMPERED GLASS



TYPE 1
DRYWALL FRAME
DEPTH WILL VARY SEE WALL SCHEDULE

TYPE 2
MASONRY FRAME

A3 A601 **DOOR FRAME TYPES**
1/4" = 1'-0"

LINTEL SCHEDULE

Opening Width MIN	Opening Width MAX	For Each 4" of Wall Thickness STEEL	DEPTH	4" WALL	8" WALL	12" WALL
	2'-0"	L 3"x 3 1/2"x 1/4"	7 5/8"	2 #5	2#5 BOTT	2#5 BOTT
2'-0"	3'-0"	L 3"x 3 1/2"x 1/4"	7 5/8"	2 #5	2#5 BOTT	2#5 BOTT
3'-0"	5'-0"	L 3"x 3 1/2"x 1/4"	7 5/8"	2 #5	2#5 BOTT	2#5 BOTT
5'-0"	6'-0"	L 3 1/2"x 4"x 1/4"	7 5/8"		2#7 BOTT	2#6 BOTT
6'-0"	8'-0"	L 3 1/2"x 5"x 1/4"	7 5/8"		2#8 BOTT	2#7 BOTT
8'-0"	10'-0"	L 3 1/2"x 6"x 5/16"	15 5/8"		2#8 BOTT	

(Wall Dimension and Reinforcing — CONCRETE BLOCK & CONCRETE)

NOTE: Do not use this schedule if concentrated loads are applied. Provide 8" minimum bearing at each end.

REVISIONS NO.	DESCRIPTION	DATE
0	PERMITING	05/19/2022

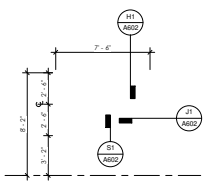
SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931
Project Name

TTCDA review
No. 8-A-22-TOA

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

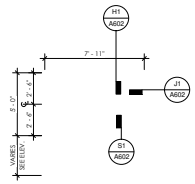
STEPHEN E. COLLINS
REGISTERED ARCHITECT
No. 104186
STATE OF TENNESSEE

Project Number 2204
Date 05/19/2022
Sheet Name DOOR SCHEDULE & DETAILS
Sheet Number A601



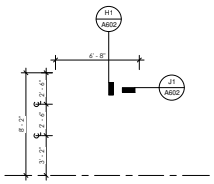
A A602 STOREFRONT ELEVATION - TYPE A
1/4" = 1'-0"

EXTERIOR

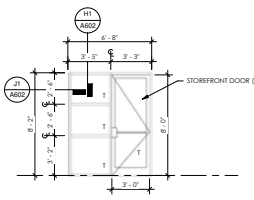


B A602 STOREFRONT ELEVATION - TYPE B
1/4" = 1'-0"

EXTERIOR

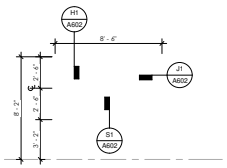


C A602 STOREFRONT ELEVATION - TYPE C
1/4" = 1'-0"



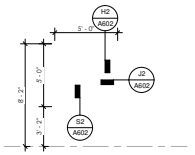
D A602 STOREFRONT ELEVATION - TYPE D
1/4" = 1'-0"

EXTERIOR



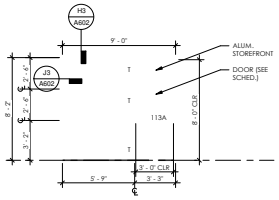
E A602 STOREFRONT ELEVATION - TYPE E
1/4" = 1'-0"

EXTERIOR



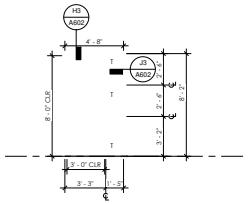
F A602 STOREFRONT ELEVATION - TYPE F
1/4" = 1'-0"

EXTERIOR

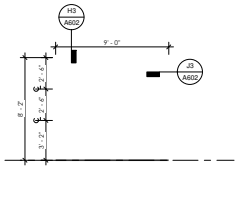


G A602 STOREFRONT ELEVATION - INTERIOR TYPE G
1/4" = 1'-0"

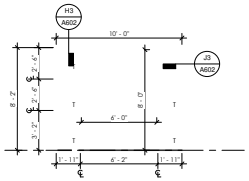
T = TEMPERED GLASS



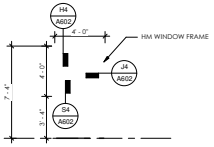
H A602 STOREFRONT ELEVATION - INTERIOR TYPE H
1/4" = 1'-0"



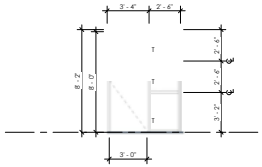
J A602 STOREFRONT ELEVATION - INTERIOR TYPE J
1/4" = 1'-0"



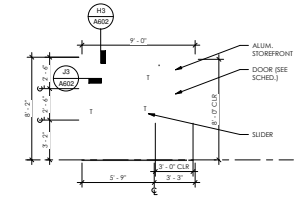
K A602 STOREFRONT ELEVATION - INTERIOR TYPE K
1/4" = 1'-0"



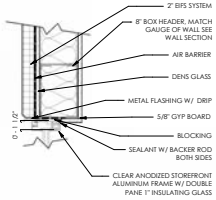
L A602 HOLLOW METAL WINDOW ELEVATION - INTERIOR TYPE L
1/4" = 1'-0"



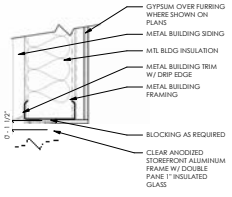
M A602 STOREFRONT ELEVATION - INTERIOR TYPE M
1/4" = 1'-0"



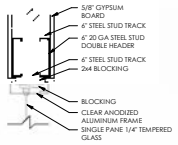
N A602 STOREFRONT ELEVATION - INTERIOR TYPE N
1/4" = 1'-0"



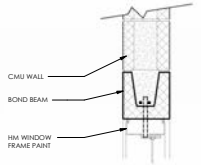
H1 A602 EXT STOREFRONT WINDOW HEAD EIFS
1 1/2" = 1'-0"



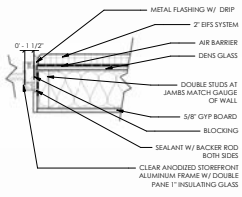
H2 A602 EXT STOREFRONT WINDOW HEAD MTL BLDG
1 1/2" = 1'-0"



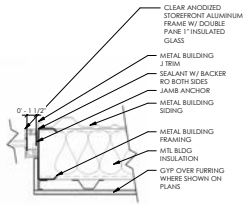
H3 A602 INTERIOR WINDOW HEAD
1 1/2" = 1'-0"



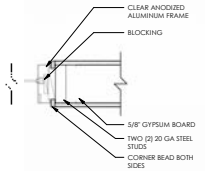
H4 A602 INTERIOR WINDOW HEAD @ CMU
1 1/2" = 1'-0"



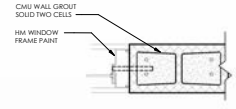
J1 A602 EXT STOREFRONT WINDOW JAMB EIFS
1 1/2" = 1'-0"



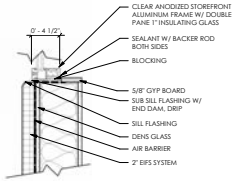
J2 A602 EXT STOREFRONT WINDOW JAMB MTL BLDG
1 1/2" = 1'-0"



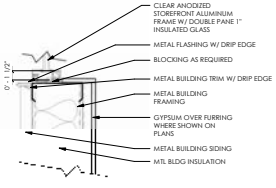
J3 A602 INTERIOR WINDOW SILL/JAMB
1 1/2" = 1'-0"



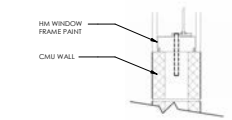
J4 A602 INTERIOR WINDOW JAMB @ CMU
1 1/2" = 1'-0"



S1 A602 EXT STOREFRONT WINDOW SILL EIFS
1 1/2" = 1'-0"



S2 A602 EXT STOREFRONT WINDOW SILL MTL BLDG
1 1/2" = 1'-0"



S4 A602 INTERIOR WINDOW SILL @ CMU
1 1/2" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS

NO	DESCRIPTION	DATE
1	ADDENDUM 1	06-16-2022

SERVPRO
SERVPRO
3049 Horseshoe Bend Lane
Knoxville, TN 37931

Project Name

TTCDA review
No. 8-A-22-TOA

Previous Case No. 3-B-21-TCB

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com
CONSTRUCTION & ARCHITECTURE

STEPHEN E. COLLINS
REGISTERED ARCHITECT
10451
STATE OF TENNESSEE

Project Number 2204

Date 05/19/2022

Sheet Name WINDOW SCHEDULE & DETAILS

Sheet Number A602

5/23/2022 12:08:10 PM U:\Architecture\MPL Jobs\ServPro Knoxville\BradServPro-Knoxville-CD Model.rvt

7 6 5 4 3 2 1

HVAC GENERAL NOTES

1. THESE GENERAL NOTES APPLY TO ALL MECHANICAL DRAWINGS. IN THE EVENT THAT ANY GENERAL NOTE CONFLICTS WITH THE WRITTEN CONSTRUCTION SPECIFICATIONS, THE MOST STRINGENT OF THE TWO SHALL RULE.
2. CONTRACTOR SHALL PROVIDE ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO INSTALL A COMPLETE AND OPERABLE MECHANICAL SYSTEM AS INDICATED ON THE DRAWINGS, SPECIFICATIONS AND IN ACCORDANCE WITH APPLICABLE CODES.
3. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS. THE CONTRACTOR SHALL PROVIDE ALL HANGERS AND SUPPORTS (IN COMPLIANCE WITH SEISMIC CATEGORY IN ACCORDANCE WITH STRUCTURAL DRAWINGS) REQUIRED FOR A COMPLETE INSTALLATION.
4. THE MECHANICAL DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY. DO NOT SCALE DRAWINGS. CONTRACTOR SHALL FIELD VERIFY ALL ARRANGEMENT AND ROUTING AND DEVELOP SHOP DRAWINGS PRIOR TO FABRICATING OR ORDERING MATERIALS.
5. COORDINATE ALL MECHANICAL WORK WITH OTHER TRADES TO INSURE PROPER CLEARANCE AND SPATIAL RELATIONSHIPS TO OTHER EQUIPMENT AND STRUCTURAL COMPONENTS.
6. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPE TRANSITIONS REQUIRED FOR FINAL CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY ALL DUCT AND PIPE DIMENSIONS PRIOR TO FABRICATION.
7. PROVIDE FLEXIBLE DUCT AND PIPE CONNECTIONS TO ALL MECHANICAL EQUIPMENT.
8. ALL CONTROL WIRING AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE. ALL CONTROL WIRING IN RETURN PLENUMS SHALL BE PLENUM RATED. CONTROL WIRING LOCATED IN MECHANICAL ROOMS SHALL BE ROUTED IN RIGID CONDUIT.
9. CONTRACTOR IS RESPONSIBLE FOR THE RESTART OF ANY SYSTEMS DE-ENERGIZED TO ACCOMMODATE THIS WORK.
10. INSTALL SMOKE DETECTORS (PROVIDED BY ELECTRICAL) AT EACH A/C UNIT HANDLING OVER 2000 CFM, MOUNTED IN SA DUCT (NFPA 90A, 4-4.2), AND IN RA DUCT PRIOR TO EXHAUST OR MIXING (SMC 406.1). EACH A/C UNIT SERVING A BUILDING EGRESS CORRIDOR OF FIRE-RESISTANCE-RATED CONSTRUCTION SHALL BE WIRED TO SHUT DOWN ON GENERAL FIRE ALARM ACTIVATION (WHERE APPLICABLE) TO PREVENT THE SPREAD OF SMOKE INTO AN EGRESS PATH.
11. LONGITUDINAL SEAM DUCT SHALL NOT BE USED IN EXPOSED AREAS WHERE THE DUCT IS VISIBLE BY OCCUPANTS.
12. GRAVITY BACKDRAFT DAMPERS SHALL BE INSTALLED ON ALL BUILDING OUTDOOR AIR INTAKE AND EXHAUST AND RELIEF OUTLET ASSEMBLIES EXCEPT WHERE MOTORIZED DAMPERS ARE SPECIFIED.
13. PROVIDE AND INSTALL ACCESS PANELS/DOORS IN WALLS, CEILINGS AND DUCTWORK AS REQUIRED TO ACCESS/SERVICE VALVES, DUCT DETECTORS, CONTROL COMPONENTS, FIRE DAMPERS AND OTHER CONCEALED MECHANICAL DEVICES.
14. ALL DUCT DIMENSIONS ARE INSIDE CLEAR UNLESS OTHERWISE NOTED. ALL DUCT DIMENSIONS SHALL BE MODIFIED AS REQUIRED TO ACCOUNT FOR DUCT INSULATION.
15. LOCATE ALL MECHANICAL EQUIPMENT TO FACILITATE UNOBSTRUCTED AIR/WATER FLOW AND ACCESS TO UNIT SERVICE PANELS, CONTROLS AND VALVES AS REQUIRED BY THE MANUFACTURER AND APPLICABLE CODES.
16. ALL AIR/HYDRONIC LEAK TESTING AND INSPECTIONS SHALL BE COMPLETED PRIOR TO THE APPLICATION OF INSULATING MATERIALS. FAILURE TO COMPLY WITH THIS REQUIREMENT MAY RESULT IN THE REMOVAL AND REAPPLICATION OF THE INSULATION AT THE CONTRACTORS EXPENSE.
17. LOCATE ALL TEMPERATURE, PRESSURE, FLOW MEASURING DEVICES AND COMPONENTS IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTIONS OF PIPE/DUCTWORK UP AND DOWN STREAM OF DEVICE AS OUTLINED BY THE EQUIPMENT MANUFACTURER.
18. TESTING, ADJUSTING AND BALANCING CONTRACTOR SHALL BE A CURRENT AND RECOGNIZED MEMBER OF THE AABC OR NEBB AS OUTLINED IN THE CONSTRUCTION SPECIFICATIONS.
19. ALL DUCTWORK, PIPING OR EQUIPMENT SUPPORTED FROM THE STRUCTURE SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. CONTRACTOR RESPONSIBLE FOR THE REPAIR/REPLACEMENT OF ANY FIREPROOFING REMOVED TO ACCOMMODATE HANGER ATTACHMENT.
20. CONFIRM LOCATIONS OF FIRE RATED CEILINGS, WALLS AND FLOORS. FIRE SEAL ALL PENETRATIONS WITH FIRE STOP SEALANT. DUCTWORK THAT PENETRATES FIRE PARTITIONS SHALL BE EQUIPPED WITH FIRE DAMPERS.
21. OFFSET DUCTWORK AS REQUIRED TO ACCOMMODATE THE ARCHITECTURAL REFLECTIVE CEILING PLAN.
22. MAINTAIN MINIMUM 12" BETWEEN SUPPLY DIFFUSERS AND FIRE SPRINKLER HEADS. WHERE HEATING DISCHARGE AIR TEMPERTURE IS 100°F OR MORE, THE MINIMUM DISTANCE SHALL BE 36".
23. ALL 45 DEGREE OR GREATER ELBOWS (INCLUDING THOSE AT DIFFUSER CONNECTIONS) SHALL BE CONSTRUCTED OF RIGID DUCTWORK.
24. ALL WORK SHALL BE PREFORMED IN ACCORDANCE WITH SITE CONSTRUCTION AND SAFETY REQUIREMENTS. NO WORK SHALL BE PERFORMED WITHOUT A VALID JOB SCHEDULE AND FIRE ALARM PERMITS (WHERE REQUIRED). ALL WORKERS MUST REGISTER WITH THE LOCAL MAINTENANCE CONTRACTOR PRIOR TO PERFORMING ANY WORK.
25. ALL WASTE OR DISCARDED MATERIALS SHALL BE RECYCLED IN ACCORDANCE WITH SITE CONSTRUCTION POLICIES. REPORT ALL RECYCLED MATERIAL QUANTITIES TO PROJECT ENGINEER. WRITTEN REPORT SHALL INCLUDE MATERIAL TYPE, QUANTITIES, AND DISPOSITION OF THE MATERIALS.
26. MECHANICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A COMPLETE SET OF AS-BUILT DRAWINGS DETAILING ALL FIELD MODIFICATIONS TO THE DESIGN DRAWINGS. DRAWINGS SHALL INCLUDE LOCATION AND ELEVATION REFERENCED FROM FINISHED FLOOR.
27. EACH BRANCH DUCT SERVING A DIFFUSER SHALL HAVE A MANUAL BALANCING DAMPER INSTALLED AT MAIN DUCT TAKE-OFF REGARDLESS OF DRAWING OMISSION.
28. FLEXIBLE DUCT ON ANY BRANCH LINE, WHERE USED, SHALL NOT EXCEED 5'-0" IN TOTAL LENGTH.
29. EQUIPMENT FOR WHICH THE MANUFACTURER REQUIRES CERTIFIED CONTRACTORS FOR INSTALLATION AND MAINTENANCE SHALL BE INSTALLED AND ADJUSTED BY A MANUFACTURER APPROVED CONTRACTOR, OR THE INSTALLATION SHALL BE INSPECTED AND VERIFIED BY AN APPROVED REPRESENTATIVE.
30. ANY WORK, DOCUMENTATION, OR TESTING REQUIRED FOR EQUIPMENT MANUFACTURER'S STANDARD WARRANTY SHALL BE COMPLETED BY THE CONTRACTOR. DOCUMENTATION SHALL BE PROVIDED TO THE OWNER.
31. THE CONTRACTOR SHALL PROVIDE ALL O&M MANUALS FOR NEW EQUIPMENT TO THE OWNER AT THE COMPLETION OF THE PROJECT.

DUCT CONSTRUCTION MINIMUM SHEET METAL THICKNESSES

RECTANGULAR DUCTS

MAXIMUM SIZE (INCHES)	STEEL (MINIMUM THICKNESS, NOMINAL)	ALUMINUM (MINIMUM THICKNESS, NOMINAL)
THROUGH 12	0.022 INCH (26 GAGE, GALV.)	0.020 INCH (NO. 24 B&S GAGE)
13 THROUGH 30	0.028 INCH (24 GAGE, GALV.)	0.025 INCH (NO. 22 B&S GAGE)
31 THROUGH 54	0.034 INCH (22 GAGE, GALV.)	0.032 INCH (NO. 20 B&S GAGE)
55 THROUGH 84	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (NO. 18 B&S GAGE)
OVER 84	0.052 INCH (18 GAGE, GALV.)	0.051 INCH (NO. 16 B&S GAGE)

ROUND DUCTS

MAXIMUM SIZE (INCHES)	SPIRAL SEAM DUCT	LONGITUDINAL SEAM DUCT	FITTINGS
	STEEL (MIN THICKNESS, NOMINAL)	STEEL (MIN THICKNESS, NOMINAL)	STEEL (MIN THICKNESS, NOMINAL)
THROUGH 18	0.022 INCH (26 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)	0.022 INCH (26 GAGE, GALV.)
19 THROUGH 28	0.028 INCH (24 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)	0.028 INCH (24 GAGE, GALV.)
29 THROUGH 36	0.034 INCH (22 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)	0.034 INCH (22 GAGE, GALV.)
37 THROUGH 52	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)	0.040 INCH (20 GAGE, GALV.)
		0.052 INCH (18 GAGE, GALV.)	0.052 INCH (18 GAGE, GALV.)

DUCT SIZING CRITERIA

SYSTEM	VELOCITY
MEDIUM PRESSURE SUPPLY	VELOCITIES GREATER THAN 2500 FPM OR .20"/100'
LOW PRESSURE SUPPLY	MAX. 2500 FPM OR .07"- 1.0"/100'
LOW PRESSURE RETURN/EXHAUST	MAX 800 FPM .05" - .08"/100'

DUCT CONSTRUCTION CLASSIFICATION

SYSTEM/DUCT SECTION	PRESSURE CLASS/SEAL CLASS
SUPPLY- UNIT DISCHARGE TO TERMINAL UNIT	+6", SEAL CLASS A
SUPPLY-TERMINAL UNIT TO DIFFUSER	+1", SEAL CLASS A
RETURN - ALL	-2", SEAL CLASS A
EXHAUST - ALL	-2, SEAL CLASS A

PIPE SIZE CRITERIA

PIPE SIZE	FLOW PRESSURE (GPM)	PRESSURE DROP RANGE (ft/100)	VELOCITY (ft/sec)
3/4"	0 - 3	0.00 - 2.91	0.00 - 1.97
1"	4 - 7	1.34 - 3.58	1.56 - 2.74
1-1/4"	8 - 13	1.66 - 3.91	2.05 - 3.33
1-1/2"	14 - 21	1.95 - 4.00	2.54 - 3.80
2"	22 - 44	1.17 - 4.00	2.30 - 4.60
2-1/2"	45 - 73	1.59 - 3.91	3.01 - 4.89
3"	74 - 131	1.37 - 3.97	3.21 - 5.69
4"	132 - 270	1.04 - 4.00	3.33 - 6.80
5"	271 - 491	1.30 - 4.00	4.34 - 7.87
6"	492 - 796	1.60 - 4.00	5.46 - 8.84
8"	797 - 1558	1.01 - 3.63	5.11 - 10.0
10"	1559 - 2460	1.15 - 2.76	6.34 - 10.0
12"	2461 - 3488	1.15 - 2.24	7.06 - 10.0
14"	3489 - 4216	1.39 - 1.99	8.27 - 10.0
16"	4217 - 5508	1.02 - 1.70	7.66 - 10.0
18"	5509 - 6972	0.94 - 1.48	7.90 - 10.0
20"	6973 - 8670	0.85 - 1.30	8.05 - 10.0
24"	8671 - 12530	0.51 - 1.04	6.92 - 10.0

HVAC - AIR DISTRIBUTION TAG

DIFFUSER SIZE EXAMPLE: 24x24 DIFFUSER WITH A 10"ø NECK.

DIFFUSER TYPE DESIGNATION

2410 (B)
360 CFM

NOTES: RUNOUT SIZE TO ROUND NECK DIFFUSER IS THE SAME SIZE AS THE DIFFUSER NECK UNLESS NOTED OTHERWISE.

AIR QUANTITY

PIPE SIZE & SYSTEM TAG

PIPE ON MECHANCIAL PLAN

PIPING LEADER

NOTE: SEE MECHANICAL ABBREVIATIONS FOR SYSTEM ACRONYMS

X" HWR

PIPE DIAMETER AND SYSTEM NOTATION

ABBREVIATIONS

AC	AIR CONDITIONING UNIT	EA	EACH OR EXHAUST AIR	LAT	LEAVING AIR TEMPERATURE	RLA	RUNNING LOAD AMPS
AD	ACCESS DOOR	EAT	ENTERING AIR TEMPERATURE	LF	LINEAR FEET	RM	ROOM
AFF	ABOVE FINISHED FLOOR	EF	EXHAUST FAN	LH	LATENT HEAT	SA	SUPPLY AIR
AHU	AIR HANDLING UNIT	EWT	ENTERING WATER TEMPERATURE	LRA	LOCKED ROTOR AMPS	SD	SMOKE DAMPER
AMB	AMBIENT	EXP	EXPANSION	LVR	LOUVER	SF	SUPPLY FAN
AP	ACCESS PANEL	F	FAHRENHEIT	LWT	LEAVING WATER TEMPERATURE	SG	SPECIFIC GRAVITY
AS	AIR STREAM	FA	FACE AREA	MBU	THOUSAND BTUH	SH	SENSIBLE HEAT
ATM	ATMOSPHERE	FD	FIRE DAMPER	MFR	MANUFACTURER	SHR	SENSIBLE HEAT RATIO
BD	BALANCING DAMPER	FP	FAN POWERED	MIN	MINIMUM	SP	STATIC PRESSURE
BDD	BACK DRAFT DAMPER	FPM	FEET PER MINUTE	MVD	MANUAL VOLUME DAMPER	SPEC	SPECIFICATIONS
BHP	BRAKE HORSEPOWER	FPS	FEET PER SECOND	N/A	NOT APPLICABLE	SQ	SQUARE
BLDG	BUILDING	FS	FLOW SWITCH	NC	NOISE CRITERIA	TOD	TOP OF DUCT
BOD	BOTTOM OF DUCT	FSD	COMB SMOKE FIRE DAMPER	NOM	NOMINAL	TYP	TYPICAL
BTU	BRITISH THERMAL UNIT	FT	FOOT OR FEET	NTS	NOT TO SCALE	U	HEAT TRANSFER COEFFICIENT
BTUH	BTU PER HOUR	G	GAS	OA	OUTSIDE AIR	UCD	UNDERCUT DOOR
CC	COOLING COIL	GAL	GALLONS	OD	OUTSIDE DIAMETER	UH	UNIT HEATER
CF	CUBIC FEET	GALV	GALVANIZED	P	PUMP	V	VOLTS
CFM	CUBIC FEET PER MINUTE	GPM	GALLONS PER MINUTE	PH	PHASE (ELECTRICAL)	VAV	VARIABLE AIR VOLUME
CLG	CEILING	HP	HORSEPOWER	PLBG	PLUMBING	VFD	VARIABLE FREQUENCY DRIVE
COL	COLUMN CONC CONCRETE	HR	HOUR	PPM	PARTS PER MILLION	VOL	VOLUME
CRAC	COMPUTER ROOM UNIT	HT	HEIGHT	PSFG	POUNDS PER SQUARE FOOT	W	WATT
CU	CONDENSING UNIT	HX	HEAT EXCHANGER	PSIG	POUNDS PER SQUARE INCH	WB	WET BULB
DB	DRY BULB	Hz	FREQUENCY	QTY	QUANTITY	WC	WATER COLUMN
DC	DRY COOLER	ID	INSIDE DIAMETER	R	RADIUS	WPD	WATER PRESSURE DROP
DDC	DIRECT DIGITAL CONTROL	IN	INCH	RA	RETURN AIR		
DIA	DIAMETER	kW	KILOWATT	REQ'D	REQUIRED		
DP	DIFFERENTIAL PRESSURE	kWh	KILOWATT HOUR	RF	RETURN FAN		
DX	DIRECT EXPANSION	L	LENGTH	RH	HUMIDITY, RELATIVE		

DUCT INSULATION REQUIREMENTS

DUCT LOCATION	SYSTEM TYPE	MIN. R-VALUE	RECT. INSUL. TYPE	SPIRAL INSUL. TYPE	NOTES
EXPOSED IN CONDITIONED SPACE	SUPPLY & OUTDOOR AIR	3.5	RIGID OR FOAM LINER	DOUBLE WALL OR FOAM LINER	EXTERNAL ELASTOMERIC ACCEPTABLE ALTERNATIVE WHERE APPROVED BY OWNER/ARCHITECT.
	RETURN, EXHAUST, & RELIEF	-	RIGID OR FOAM LINER	DOUBLE WALL OR FOAM LINER	INSULATE RETURN DUCT WITHIN 10' OF UNIT CONNECTION. INSULATE EXHAUST/RELIEF DUCT WITHIN 10' OF BUILDING EXTERIOR.
CONCEALED IN UNCONDITIONED SPACE	SUPPLY & OUTDOOR AIR	6	EXTERNAL WRAP	EXTERNAL WRAP	FLEXIBLE FIBERGLASS BLANKET BONDED TO VAPOR RETARDER FACING
	RETURN, EXHAUST, & RELIEF	6	EXTERNAL WRAP	EXTERNAL WRAP	FLEXIBLE FIBERGLASS BLANKET BONDED TO VAPOR RETARDER FACING
EXTERIOR	SUPPLY & OUTDOOR AIR	8	EXTERNAL BOARD + JACKET	EXTERNAL WRAP + JACKET	PVC, ALUMINUM, OR COMPOSITE UV STABLE JACKET.
	RETURN, EXHAUST, & RELIEF	8	EXTERNAL BOARD + JACKET	EXTERNAL WRAP + JACKET	PVC, ALUMINUM, OR COMPOSITE UV STABLE JACKET.

HVAC LEGEND

EQUIPMENT - HVAC

- CU, HP-x — CONDENSING UNIT ON CONCRETE HOUSE KEEPING PAD WITH TAG
- CU, HP-x — CONDENSING UNIT ON EQUIPMENT RAILS WITH TAG
- EF-x — CEILING MOUNTED EXHAUST FAN WITH TAG, DUCT SHOWN
- EF-x — INLINE SUSPENDED MOUNT EXHAUST FAN WITH TAG, DUCT SHOWN
- EF-x — ROOF/CURB MOUNTED EXHAUST FAN WITH TAG, DUCT SHOWN
- GF, WSHP, A/C-x — INDOOR VERTICAL AIR HANDLING EQUIP, DUCT NOT SHOWN
- GF, WSHP, A/C-x — INDOOR HORIZONTAL AIR HANDLING EQUIP, DUCT SHOWN
- ROOF/CURB MOUNTED AIR HANDLING UNIT, DUCT NOT SHOWN
- VAV-x — VARIABLE AIR VOLUME BOX WITH TAG, DUCT SHOWN
- S — SPACE SENSOR/THERMOSTAT

DUCTWORK - AIR TERMINALS

- SUPPLY AIR DIFFUSER; SUPPLY DUCT AND MVD IN SECTION
- RETURN AIR GRILLE; RETURN DUCT AND MVD IN SECTION
- EXHAUST AIR GRILLE; EXHAUST DUCT AND MVD IN SECTION
- 24"ø — SIDEWALL GRILLE TAP WITH MANUAL VOLUME DAMPER, RND
- 24x24 — SIDEWALL GRILLE TAP WITH MANUAL VOLUME DAMPER, SQ

DUCTWORK - EQUIPMENT

- MVD; MANUAL BALANCING/VOLUME DAMPER
- M — MOTORIZED DAMPER
- BDD — BACK DRAFT DAMPER WITH AIR FLOW INDICATION
- FD — FIRE DAMPER
- SD — SMOKE DAMPER
- FSD — COMBINATION FIRE & SMOKE DAMPER
- SDT — SMOKE DETECTOR
- EDH-x — ELECTRIC DUCT HEATER, WITH TAG

DUCTWORK

- EXISTING DUCTWORK TO REMAIN
- EXISTING DUCTWORK TO BE DEMOLISHED
- NEW RIGID DUCTWORK
- NEW FLEXIBLE DUCTWORK
- N E — EXISTING DUCTWORK TO NEW DUCTWORK CONNECTION
- 24x12 — DUCTWORK DIMENSION LABEL (24" WIDTH x 12" HEIGHT)
- 24x12 — SQUARE ELBOW WITH DOUBLE THICKNESS TURNING VANES
- 24x12 — SQUARE ELBOW, NO TURNING VANES
- 24x24 — SQ ELBOW 45°, MITERED
- 24x24 — SQ ELBOW 45°, RADIUS
- 24x12 — SQ DUCT ELEVATION CHANGE, 90° DOWN
- 24x12 — SQ DUCT ELEVATION CHANGE, 90° UP
- 24x12 — SQUARE DUCT TAKE OFF, SIDE
- SQUARE DUCT TAKE OFF, BOTTOM
- SQUARE DUCT TAKE OFF, TOP
- 24"ø — DUCTWORK DIMENSION LABEL (24" DIAMETER)
- 24"ø — RND ELBOW 90°, RADIUS
- 24"ø — RND ELBOW 90°, MITERED
- 24"ø — RND ELBOW 45°, RADIUS
- 24"ø — RND ELBOW 45°, RADIUS
- ø — RND DUCT ELEVATION CHANGE, DOWN
- ø — RND DUCT ELEVATION CHANGE, UP
- 24x12 ø — ROUND DUCT TAKE OFF
- SQUARE DUCT TAKE OFF, BOTTOM
- SQUARE DUCT TAKE OFF, TOP
- ø — SQ TO RND CONCENTRIC TRANSITION
- ø — SQ TO RND ECCENTRIC TRANSITION
- SQ TO SQ CONCENTRIC TRANSITION
- SQ TO SQ ECCENTRIC TRANSITION
- 24x12 — SQ TO RND CONCENTRIC TRANSITION IN RISE
- 24x12 — SQ TO RND CONCENTRIC TRANSITION IN DROP

Mechanical Sheet Index

Sheet Number	Sheet Name	Issuance 4.18.22 Review Set	Issuance 5.20.22 100% CD
M001	MECHANICAL COVER SHEET	X	X
M002	MECHANICAL SPEC SHEET	X	X
M101	MECHANICAL HVAC PLAN	X	X
M102	MECHANICAL ROOF PLAN	X	X
M300	MECHANICAL SCHEDULES	X	X
M400	MECHANICAL DETAILS	X	X

APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITING	05/20/2022

Project Name
SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22
AEED, inc. Advanced Energy Engineering & Design, Inc
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

RITCHIE — REGISTERED ENGINEER — STATE OF TENNESSEE — 5/20/22

Project Number

Date 05/20/2022

Sheet Name
MECHANICAL COVER SHEET

Sheet Number
M001

5/20/2022 2:00:48 PM C:\Users\critchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt

CONSTRUCTION SPECIFICATIONS

TEST AND BALANCE (MINIMUM REQUIREMENTS)

1. TAB FIRM QUALIFICATIONS: ENGAGE A TAB FIRM CERTIFIED BY AABC, NEBB, OR TABB.

2. TAB CONFERENCE: MEET WITH OWNER'S AND/OR OWNERS REPRESENTATIVES ON APPROVAL OF TAB STRATEGIES AND PROCEDURES PLAN TO DEVELOP A MUTUAL UNDERSTANDING OF THE DETAILS. ENSURE THE PARTICIPATION OF TAB TEAM MEMBERS, EQUIPMENT MANUFACTURERS' AUTHORIZED SERVICE REPRESENTATIVES, HVAC CONTROLS INSTALLERS, AND OTHER SUPPORT PERSONNEL. PROVIDE SEVEN DAYS' ADVANCE NOTICE OF SCHEDULED MEETING TIME AND LOCATION.

3. TAB REPORT FORMS: USE STANDARD FORMS FROM SMACNA'S TABB "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING.

4. COORDINATE THE EFFORTS OF FACTORY-AUTHORIZED SERVICE REPRESENTATIVES FOR SYSTEMS AND EQUIPMENT, HVAC CONTROLS INSTALLERS, AND OTHER MECHANICS TO OPERATE HVAC SYSTEMS AND EQUIPMENT TO SUPPORT AND ASSIST TAB ACTIVITIES.

5. PERFORM TAB AFTER LEAKAGE AND PRESSURE TESTS ON AIR AND WATER DISTRIBUTION SYSTEMS HAVE BEEN SATISFACTORILY COMPLETED.

6. COMPLETE SYSTEM READINESS CHECKS AND PREPARE SYSTEM READINESS REPORTS. VERIFY THE FOLLOWING:
   A. PERMANENT ELECTRICAL POWER WIRING IS COMPLETE.
   B. HYDRONIC SYSTEMS ARE FILLED, CLEAN, AND FREE OF AIR.
   C. AUTOMATIC TEMPERATURE-CONTROL SYSTEMS ARE OPERATIONAL.
   D. EQUIPMENT AND DUCT ACCESS DOORS ARE SECURELY CLOSED.
   E. BALANCE, SMOKE, AND FIRE DAMPERS ARE OPEN.
   F. ISOLATING AND BALANCING VALVES ARE OPEN AND CONTROL VALVES ARE OPERATIONAL.

7. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN SMACNA'S TABB "HVAC SYSTEMS - TESTING, ADJUSTING, AND BALANCING" AND THIS SECTION.

8. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY TO ALLOW ADEQUATE PERFORMANCE OF PROCEDURES. AFTER TESTING AND BALANCING, CLOSE PROBE HOLES AND PATCH INSULATION WITH NEW MATERIALS IDENTICAL TO THOSE REMOVED. RESTORE VAPOR BARRIER AND FINISH ACCORDING TO INSULATION SPECIFICATIONS FOR THIS PROJECT.

9. MARK EQUIPMENT AND BALANCING DEVICE SETTINGS WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL, INCLUDING DAMPER-CONTROL POSITIONS, VALVE POSITION INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, TO SHOW FINAL SETTINGS.

10. TAKE AND REPORT TESTING AND BALANCING MEASUREMENTS IN INCH-POUND (IP) UNITS.

11. PREPARE TEST REPORTS FOR BOTH FANS AND OUTLETS. OBTAIN MANUFACTURER'S OUTLET FACTORS AND RECOMMENDED TESTING PROCEDURES. CROSSCHECK THE SUMMATION OF REQUIRED OUTLET VOLUMES WITH REQUIRED FAN VOLUMES.

12. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" DUCT LAYOUTS.

13. DETERMINE THE BEST LOCATIONS IN MAIN AND BRANCH DUCTS FOR ACCURATE DUCT AIRFLOW MEASUREMENTS.

14. CHECK AIRFLOW PATTERNS FROM THE OUTSIDE-AIR LOUVERS AND DAMPERS AND THE RETURN- AND EXHAUST-AIR DAMPERS, THROUGH THE SUPPLY-FAN DISCHARGE AND MIXING DAMPERS.

15. LOCATE START-STOP AND DISCONNECT SWITCHES, ELECTRICAL INTERLOCKS, AND MOTOR STARTERS.

16. VERIFY THAT MOTOR STARTERS ARE EQUIPPED WITH PROPERLY SIZED THERMAL PROTECTION.

17. CHECK DAMPERS FOR PROPER POSITION TO ACHIEVE DESIRED AIRFLOW PATH.

18. CHECK FOR AIRFLOW BLOCKAGES.

19. CHECK CONDENSATE DRAINS FOR PROPER CONNECTIONS AND FUNCTIONING.

20. CHECK FOR PROPER SEALING OF AIR-HANDLING UNIT COMPONENTS.

21. CHECK FOR PROPER SEALING OF AIR DUCT SYSTEM.

22. ADJUST FANS TO DELIVER TOTAL INDICATED AIRFLOWS WITHIN THE MAXIMUM ALLOWABLE FAN SPEED LISTED BY FAN MANUFACTURER.

23. MEASURE FAN STATIC PRESSURES TO DETERMINE ACTUAL STATIC PRESSURE AS FOLLOWS:
   A. MEASURE OUTLET STATIC PRESSURE AS FAR DOWNSTREAM FROM THE FAN AS PRACTICAL AND UPSTREAM FROM RESTRICTIONS IN DUCTS SUCH AS ELBOWS AND TRANSITIONS.
   B. MEASURE STATIC PRESSURE DIRECTLY AT THE FAN OUTLET OR THROUGH THE FLEXIBLE CONNECTION.
   C. MEASURE INLET STATIC PRESSURE OF SINGLE-INLET FANS IN THE INLET DUCT AS NEAR THE FAN AS POSSIBLE, UPSTREAM FROM FLEXIBLE CONNECTION AND DOWNSTREAM FROM DUCT RESTRICTIONS.
   D. MEASURE INLET STATIC PRESSURE OF DOUBLE-INLET FANS THROUGH THE WALL OF THE PLENUM THAT HOUSES THE FAN.

24. MEASURE STATIC PRESSURE ACROSS EACH COMPONENT THAT MAKES UP AN AIR-HANDLING UNIT, ROOFTOP UNIT, AND OTHER AIR-HANDLING AND -TREATING EQUIPMENT.

25. SIMULATE DIRTY FILTER OPERATION AND RECORD THE POINT AT WHICH MAINTENANCE PERSONNEL MUST CHANGE FILTERS.

26. MEASURE STATIC PRESSURES ENTERING AND LEAVING OTHER DEVICES SUCH AS SOUND TRAPS, HEAT RECOVERY EQUIPMENT, AND AIR WASHERS, UNDER FINAL BALANCED CONDITIONS.

27. COMPARE DESIGN DATA WITH INSTALLED CONDITIONS TO DETERMINE VARIATIONS IN DESIGN STATIC PRESSURES VERSUS ACTUAL STATIC PRESSURES. COMPARE ACTUAL SYSTEM EFFECT FACTORS WITH CALCULATED SYSTEM EFFECT FACTORS TO IDENTIFY WHERE VARIATIONS OCCUR. RECOMMEND CORRECTIVE ACTION TO ALIGN DESIGN AND ACTUAL CONDITIONS.

28. DO NOT MAKE FAN-SPEED ADJUSTMENTS THAT RESULT IN MOTOR OVERLOAD. CONSULT EQUIPMENT MANUFACTURERS ABOUT FAN-SPEED SAFETY FACTORS. MODULATE DAMPERS AND MEASURE FAN-MOTOR AMPERAGE TO ENSURE THAT NO OVERLOAD WILL OCCUR. MEASURE AMPERAGE IN FULL COOLING, FULL HEATING, ECONOMIZER, AND ANY OTHER OPERATING MODES TO DETERMINE THE MAXIMUM REQUIRED BRAKE HORSEPOWER.

29. ADJUST VOLUME DAMPERS FOR MAIN DUCT, SUBMAIN DUCTS, AND MAJOR BRANCH DUCTS TO INDICATED AIRFLOWS WITHIN SPECIFIED TOLERANCES.

30. MEASURE STATIC PRESSURE AT A POINT DOWNSTREAM FROM THE BALANCING DAMPER AND ADJUST VOLUME DAMPERS UNTIL THE PROPER STATIC PRESSURE IS ACHIEVED.

31. PREPARE SCHEMATIC DIAGRAMS OF SYSTEMS' "AS-BUILT" PIPING LAYOUTS.

32. PREPARE HYDRONIC SYSTEMS FOR TESTING AND BALANCING ACCORDING TO THE FOLLOWING, IN ADDITION TO THE GENERAL PREPARATION PROCEDURES SPECIFIED ABOVE:
   A. OPEN ALL MANUAL VALVES FOR MAXIMUM FLOW.CHECK EXPANSION TANK LIQUID LEVEL.
   B. CHECK MAKEUP-WATER-STATION PRESSURE GAGE FOR ADEQUATE PRESSURE FOR HIGHEST VENT.
   C. CHECK FLOW-CONTROL VALVES FOR SPECIFIED SEQUENCE OF OPERATION AND SET AT INDICATED FLOW.
   D. SET DIFFERENTIAL-PRESSURE CONTROL VALVES AT THE SPECIFIED DIFFERENTIAL PRESSURE. DO NOT SET AT FULLY CLOSED POSITION WHEN PUMP IS POSITIVE-DISPLACEMENT TYPE UNLESS SEVERAL TERMINAL VALVES ARE KEPT OPEN.
   E. CHECK AIR VENTS FOR A FORCEFUL LIQUID FLOW EXITING FROM VENTS WHEN MANUALLY OPERATED.

33. SET CALIBRATED BALANCING VALVES, IF INSTALLED, AT CALCULATED PRESETTINGS.

34. MEASURE FLOW AT ALL STATIONS AND ADJUST, WHERE NECESSARY, TO OBTAIN FIRST BALANCE.

35. SYSTEM COMPONENTS THAT HAVE CV RATING OR AN ACCURATELY CATALOGED FLOW-PRESSURE-DROP RELATIONSHIP MAY BE USED AS A FLOW-INDICATING DEVICE.

36. MEASURE FLOW AT MAIN BALANCING STATION AND SET MAIN BALANCING DEVICE TO ACHIEVE FLOW THAT IS 5 PERCENT GREATER THAN INDICATED FLOW.

37. CHECK THE SETTING AND OPERATION OF AUTOMATIC TEMPERATURE-CONTROL VALVES, SELF-CONTAINED CONTROL VALVES, AND PRESSURE-REDUCING VALVES. RECORD THE FINAL SETTING.

38. VERIFY THAT CONTROLLERS ARE CALIBRATED AND COMMISSIONED.

39. CHECK TRANSMITTER AND CONTROLLER LOCATIONS AND NOTE CONDITIONS THAT WOULD ADVERSELY AFFECT CONTROL FUNCTIONS.

40. RECORD CONTROLLER SETTINGS AND NOTE VARIANCES BETWEEN SET POINTS AND ACTUAL MEASUREMENTS.

41. CHECK THE OPERATION OF LIMITING CONTROLLERS (I.E., HIGH- AND LOW-TEMPERATURE CONTROLLERS).

42. CHECK FREE TRAVEL AND PROPER OPERATION OF CONTROL DEVICES SUCH AS DAMPER AND VALVE OPERATORS.

43. CHECK THE SEQUENCE OF OPERATION OF CONTROL DEVICES. NOTE AIR PRESSURES AND DEVICE POSITIONS AND CORRELATE WITH AIRFLOW AND WATER FLOW MEASUREMENTS. NOTE THE SPEED OF RESPONSE TO INPUT CHANGES.

44. CHECK THE INTERACTION OF ELECTRICALLY OPERATED SWITCH TRANSDUCERS.

45. CHECK THE INTERACTION OF INTERLOCK AND LOCKOUT SYSTEMS.

46. RECORD VOLTAGES OF POWER SUPPLY AND CONTROLLER OUTPUT. DETERMINE WHETHER THE SYSTEM OPERATES ON A GROUNDED OR NONGROUNDED POWER SUPPLY.

47. NOTE OPERATION OF ELECTRIC ACTUATORS USING SPRING RETURN FOR PROPER FAIL-SAFE OPERATIONS.

48. SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:
   A. SUPPLY, RETURN, AND EXHAUST FANS AND EQUIPMENT WITH FANS: PLUS 5 TO PLUS 10 PERCENT.
   B. AIR OUTLETS AND INLETS: 0 TO MINUS 10 PERCENT.
   C. HEATING-WATER FLOW RATE: 0 TO MINUS 10 PERCENT.
   D. COOLING-WATER FLOW RATE: 0 TO MINUS 5 PERCENT.

49. FINAL REPORT SHALL BE TYPEWRITTEN, OR COMPUTER PRINTOUT IN LETTER-QUALITY FONT, ON STANDARD BOND PAPER, IN THREE-RING BINDER, TABULATED AND DIVIDED INTO SECTIONS BY TESTED AND BALANCED SYSTEMS.

50. FINAL REPORT CONTENTS: IN ADDITION TO CERTIFIED FIELD REPORT DATA, INCLUDE THE FOLLOWING:
   A. FAN CURVES.
   B. MANUFACTURERS' TEST DATA.
   C. FIELD TEST REPORTS PREPARED BY SYSTEM AND EQUIPMENT INSTALLERS.
   D. OTHER INFORMATION RELATIVE TO EQUIPMENT PERFORMANCE, BUT DO NOT INCLUDE SHOP DRAWINGS AND PRODUCT DATA.

51. TEST CONDITIONS FOR FANS AND PUMP PERFORMANCE FORMS INCLUDING THE FOLLOWING:
   A. SETTINGS FOR OUTSIDE-, RETURN-, AND EXHAUST-AIR DAMPERS.
   B. CONDITIONS OF FILTERS.
   C. COOLING COIL, WET- AND DRY-BULB CONDITIONS.
   D. FACE AND BYPASS DAMPER SETTINGS AT COILS.
   E. FAN DRIVE SETTINGS INCLUDING SETTINGS AND PERCENTAGE OF MAXIMUM PITCH DIAMETER.
   F. SETTINGS FOR SUPPLY-AIR, STATIC-PRESSURE CONTROLLER.
   G. OTHER SYSTEM OPERATING CONDITIONS THAT AFFECT PERFORMANCE.

52. SYSTEM DIAGRAMS: INCLUDE SCHEMATIC LAYOUTS OF AIR AND HYDRONIC DISTRIBUTION SYSTEMS. PRESENT EACH SYSTEM WITH SINGLE-LINE DIAGRAM AND INCLUDE THE FOLLOWING:
   A. QUANTITIES OF OUTSIDE, SUPPLY, RETURN, AND EXHAUST AIRFLOWS.
   B. WATER AND STEAM FLOW RATES.
   C. DUCT, OUTLET, AND INLET SIZES.
   D. PIPE AND VALVE SIZES AND LOCATIONS.
   E. TERMINAL UNITS.
   F. BALANCING STATIONS.
   G. POSITION OF BALANCING DEVICES.

53. AIR-HANDLING UNIT TEST REPORTS: FOR AIR-HANDLING UNITS WITH COILS, INCLUDE THE FOLLOWING:
   A. UNIT IDENTIFICATION.
   B. LOCATION.
   C. MAKE AND TYPE.
   D. MODEL NUMBER AND UNIT SIZE.
   E. MANUFACTURER'S SERIAL NUMBER.
   F. UNIT ARRANGEMENT AND CLASS.
   G. DISCHARGE ARRANGEMENT.
   H. SHEAVE MAKE, SIZE IN INCHES, AND BORE.
   I. SHEAVE DIMENSIONS, CENTER-TO-CENTER, AND AMOUNT OF ADJUSTMENTS IN INCHES.
   J. NUMBER OF BELTS, MAKE, AND SIZE.
   K. NUMBER OF FILTERS, TYPE, AND SIZE.
   L. MOTOR DATA:
   M. MAKE AND FRAME TYPE AND SIZE.
   N. HORSEPOWER AND RPM.
   O. VOLTS, PHASE, AND HERTZ.
   P. FULL-LOAD AMPERAGE AND SERVICE FACTOR.
   Q. SHEAVE MAKE, SIZE IN INCHES, AND BORE.
   R. SHEAVE DIMENSIONS, CENTER-TO-CENTER, AND AMOUNT OF ADJUSTMENTS IN INCHES.
   S. TEST DATA (INDICATED AND ACTUAL VALUES):
   T. TOTAL AIRFLOW RATE IN CFM.
   U. TOTAL SYSTEM STATIC PRESSURE IN INCHES WG.
   V. FAN RPM.
   W. DISCHARGE STATIC PRESSURE IN INCHES WG.
   X. FILTER STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
   Y. PREHEAT COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
   Z. COOLING COIL STATIC-PRESSURE DIFFER`ENTIAL IN INCHES WG.
   AA. HEATING COIL STATIC-PRESSURE DIFFERENTIAL IN INCHES WG.
   BB. OUTSIDE AIRFLOW IN CFM..
   CC. RETURN AIRFLOW IN CFM.
   DD. OUTSIDE-AIR DAMPER POSITION.
   EE. RETURN-AIR DAMPER POSITION.
   FF. VORTEX DAMPER POSITION.

MECHANICAL SPECIFICATIONS

DUCT INSTALLATION

1. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCT SYSTEM. INDICATED DUCT LOCATIONS, CONFIGURATIONS, AND ARRANGEMENTS WERE USED TO SIZE DUCTS AND CALCULATE FRICTION LOSS FOR AIR-HANDLING EQUIPMENT SIZING AND FOR OTHER DESIGN CONSIDERATIONS. INSTALL DUCT SYSTEMS AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS AND COORDINATION DRAWINGS.

2. INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" UNLESS OTHERWISE INDICATED.

3. INSTALL DUCTS WITH FEWEST POSSIBLE JOINTS.

4. INSTALL FACTORY- OR SHOP-FABRICATED FITTINGS FOR CHANGES IN DIRECTION, SIZE, AND SHAPE AND FOR BRANCH CONNECTIONS.

5. UNLESS OTHERWISE INDICATED, INSTALL DUCTS VERTICALLY AND HORIZONTALLY, AND PARALLEL AND PERPENDICULAR TO BUILDING LINES.

6. INSTALL DUCTS CLOSE TO WALLS, OVERHEAD CONSTRUCTION, COLUMNS, AND OTHER STRUCTURAL AND PERMANENT ENCLOSURE ELEMENTS OF BUILDING.

7. INSTALL DUCTS WITH A CLEARANCE OF 1 INCH, PLUS ALLOWANCE FOR INSULATION THICKNESS.

8. ROUTE DUCTS TO AVOID PASSING THROUGH TRANSFORMER VAULTS AND ELECTRICAL EQUIPMENT ROOMS AND ENCLOSURES.

9. WHERE DUCTS PASS THROUGH FIRE-RATED INTERIOR PARTITIONS AND EXTERIOR WALLS, INSTALL FIRE DAMPERS UNLESS FIRE DAMPER EXCEPTION IS MET PER NOTE (THIS SHEET).

10. PROTECT DUCT INTERIORS FROM MOISTURE, CONSTRUCTION DEBRIS AND DUST, AND OTHER FOREIGN MATERIALS

11. PROTECT EXPOSED DUCTS FROM BEING DENTED, SCRATCHED, OR DAMAGED.

12. TRIM DUCT SEALANTS FLUSH WITH METAL. CREATE A SMOOTH AND UNIFORM EXPOSED BEAD. DO NOT USE TWO-PART TAPE SEALING SYSTEM.

13. GRIND WELDS TO PROVIDE SMOOTH SURFACE FREE OF BURRS, SHARP EDGES, AND WELD SPLATTER. WHEN WELDING STAINLESS STEEL WITH A NO. 3 OR 4 FINISH, GRIND THE WELDS FLUSH, POLISH THE EXPOSED WELDS, AND TREAT THE WELDS TO REMOVE DISCOLORATION CAUSED BY WELDING.

14. MAINTAIN CONSISTENCY, SYMMETRY, AND UNIFORMITY IN THE ARRANGEMENT AND FABRICATION OF FITTINGS, HANGERS AND SUPPORTS, DUCT ACCESSORIES, AND AIR OUTLETS.

15. REPAIR OR REPLACE DAMAGED SECTIONS AND FINISHED WORK THAT DOES NOT COMPLY WITH THESE REQUIREMENTS.

16. SEAL DUCTS TO THE FOLLOWING SEAL CLASSES ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE":
   A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
   B. OUTDOOR, SUPPLY-AIR DUCTS: SEAL CLASS A.
   C. OUTDOOR, EXHAUST DUCTS: SEAL CLASS C.
   D. OUTDOOR, RETURN-AIR DUCTS: SEAL CLASS C.
   E. UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS B.
   F. UNCONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS A.
   G. UNCONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS C.
   H. UNCONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS B.
   I. CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES 2-INCH WG AND LOWER: SEAL CLASS C.
   J. CONDITIONED SPACE, SUPPLY-AIR DUCTS IN PRESSURE CLASSES HIGHER THAN 2-INCH WG: SEAL CLASS B.
   K. CONDITIONED SPACE, EXHAUST DUCTS: SEAL CLASS B.
   L. CONDITIONED SPACE, RETURN-AIR DUCTS: SEAL CLASS C.

17. THE INSTALLATION OF ALL INSULATION SHALL BE PERFORMED BY AN EXPERIENCED CRAFTSMAN IN A NEAT WORKMANSHIP-LIKE MANNER AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN PUBLISHED RECOMMENDATIONS FOR SERVICE INTENDED.

18. CONCEALED INDOOR SUPPLY & OUTDOOR AIR DUCTS SHALL BE INSULATED WITH A MINERAL-FIBER BLANKET WITH SUFFICIENT THICKNESS TO ACHIEVE A MINIMUM INSTALLED R-6 VALUE.

19. EXPOSED INDOOR SUPPLY & OUTDOOR AIR DUCTS SHALL BE INTERNALLY LINED OR OF DOUBLE WALL CONSTRUCTION SUFFICIENT TO ACHIEVE A MINIMUM INSTALLED R-3.5 VALUE.

20. EXPOSED EXTERIOR (OUTDOOR) DUCTS SHALL BE INSULATED WITH EXTERNAL BOARD OR WRAP WITH A MINIMUM INSTALLED R-8 VALUE, AND A PVC, ALUMINUM, OR COMPOSITE UV STABLE JACKET.

21. ALL CONCEALED RETURN, EXHAUST, & RELIEF AIR DUCTS ROUTED IN UNCONDITIONED SPACE SHALL BE INSULATED WITH A MINERAL-FIBER BLANKET WITH SUFFICIENT THICKNESS TO ACHIEVE A MINIMUM INSTALLED R-6 VALUE.

22. ALL EXPOSED RETURN, EXHAUST, & RELIEF AIR DUCTS SHALL BE INTERNALLY LINED OR OF DOUBLE WALL CONSTRUCTION SUFFICIENT TO ACHIEVE A MINIMUM INSTALLED R-3.5 VALUE WITHIN 10' OF UNIT, FAN, OR EXTERIOR WALL TERMINATION.

EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

1. INSTALL EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS IN EXPOSED INTERIOR SPACES, UNLESS OTHERWISE INDICATED.

2. INSTALL HVAC EQUIPMENT TO FACILITATE SERVICE, MAINTENANCE, AND REPAIR OR REPLACEMENT OF COMPONENTS. CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM INTERFERENCE TO OTHER INSTALLATIONS. EXTEND GREASE FITTINGS TO ACCESSIBLE LOCATIONS.

3. INSTALL EQUIPMENT TO ALLOW RIGHT OF WAY FOR PIPING INSTALLED AT REQUIRED SLOPE.

4. DAMAGE AND TOUCHUP: REPAIR MARRED AND DAMAGED FACTORY-PAINTED FINISHES WITH MATERIALS AND PROCEDURES TO MATCH ORIGINAL FACTORY FINISH.

METAL DUCT

1. DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESSES, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS, AND HANGERS AND SUPPORTS, SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" AND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED IN "DUCT SCHEDULE" ARTICLE.

2. STRUCTURAL PERFORMANCE: DUCT HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS DESCRIBED IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE".

3. AIRSTREAM SURFACES: SURFACES IN CONTACT WITH THE AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ASHRAE 62.1-2010.

DUCT HANGER AND SUPPORT INSTALLATION

1. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4, "HANGERS AND SUPPORTS."

2. HANGER SPACING: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 4-1, "RECTANGULAR DUCT HANGERS MINIMUM SIZE," AND TABLE 4-2, "MINIMUM HANGER SIZES FOR ROUND DUCT," FOR MAXIMUM HANGER SPACING; INSTALL HANGERS AND SUPPORTS WITHIN 24 INCHES OF EACH ELBOW AND WITHIN 48 INCHES OF EACH BRANCH INTERSECTION.

3. HANGERS EXPOSED TO VIEW: THREADED ROD AND ANGLE OR CHANNEL SUPPORTS.

4. SUPPORT VERTICAL DUCTS WITH STEEL ANGLES OR CHANNEL SECURED TO THE SIDES OF THE DUCT WITH WELDS, BOLTS, SHEET METAL SCREWS, OR BLIND RIVETS; SUPPORT AT EACH FLOOR AND AT A MAXIMUM INTERVALS OF 16 FEET.

5. INSTALL UPPER ATTACHMENTS TO STRUCTURES. SELECT AND SIZE UPPER ATTACHMENTS WITH PULL-OUT, TENSION, AND SHEAR CAPACITIES APPROPRIATE FOR SUPPORTED LOADS AND BUILDING MATERIALS WHERE USED.

REFRIGERANT PIPING INSTALLATION

1. PIPING FOR INVERTER DRIVEN (VRV/VRF) SYSTEMS SHALL STRICTLY ADHERE TO MANUFACTURER'S APPROVED ARRANGEMENT AND RECOMMENDATIONS. DO NOT INSTALL ANY FILTERS, SIGHT GLASSES, TRAPS, OR OTHER FITTINGS OR JOINTS NOT APPROVED AND RECOMMENDED BY THE MANUFACTURER.

2. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS; INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS.

3. INSTALL REFRIGERANT PIPING ACCORDING TO ASHRAE 15.

4. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

5. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

6. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.

7. INSTALL PIPING ADJACENT TO MACHINES TO ALLOW SERVICE AND MAINTENANCE.

8. INSTALL PIPING FREE OF SAGS AND BENDS.

9. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

10. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.

11. INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS.

12. ARRANGE PIPING TO ALLOW INSPECTION AND SERVICE OF REFRIGERATION EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION. INSTALL ACCESS DOORS OR PANELS AS IF VALVES OR EQUIPMENT REQUIRING MAINTENANCE IS CONCEALED BEHIND FINISHED SURFACES.

13. INSTALL REFRIGERANT PIPING IN PROTECTIVE CONDUIT WHERE INSTALLED BELOWGROUND.

14. INSTALL REFRIGERANT PIPING IN RIGID OR FLEXIBLE CONDUIT IN LOCATIONS WHERE EXPOSED TO MECHANICAL INJURY.

15. SLOPE REFRIGERANT PIPING AS FOLLOWS:
   A. INSTALL HORIZONTAL HOT-GAS DISCHARGE PIPING WITH A UNIFORM SLOPE DOWNWARD AWAY FROM COMPRESSOR.
   B. INSTALL HORIZONTAL SUCTION LINES WITH A UNIFORM SLOPE DOWNWARD TO COMPRESSOR.
   C. INSTALL TRAPS AND DOUBLE RISERS TO ENTRAIN OIL IN VERTICAL RUNS.
   D. LIQUID LINES MAY BE INSTALLED LEVEL.

16. WHEN BRAZING OR SOLDERING, REMOVE SOLENOID-VALVE COILS AND SIGHT GLASSES; ALSO REMOVE VALVE STEMS, SEATS, AND PACKING, AND ACCESSIBLE INTERNAL PARTS OF REFRIGERANT SPECIALTIES. DO NOT APPLY HEAT NEAR EXPANSION-VALVE BULB.

17. INSTALL PIPING WITH ADEQUATE CLEARANCE BETWEEN PIPE AND ADJACENT WALLS AND HANGERS OR BETWEEN PIPES FOR INSULATION INSTALLATION.

18. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

19. INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS.

20. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FLOORS.

REFRIGERANT PIPE JOINT CONSTRUCTION

1. SOLDERED JOINTS: CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK."

2. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," CHAPTER "PIPE AND TUBE."
   A. USE TYPE BCUP, COPPER-PHOSPHORUS ALLOY FOR JOINING COPPER SOCKET FITTINGS WITH COPPER PIPE.
   B. USE TYPE BAG, CADMIUM-FREE SILVER ALLOY FOR JOINING COPPER WITH BRONZE OR STEEL.

REFRIGERANT PIPE HANGERS AND SUPPORTS

1. PIPING HANGERS AND SUPPORTS MUST ACCOMMODATE EXPANSION AND CONTRACTION, VIBRATION, DEAD LOAD OF PIPING AND ITS CONTENTS, AND SEISMIC-BRACING REQUIREMENTS.
   A. HANGER, SUPPORT, AND ANCHOR PRODUCTS ARE SPECIFIED IN SECTION 230529 "HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT."
   B. INSTALL THE FOLLOWING PIPE ATTACHMENTS:
      a. ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL RUNS LESS THAN 20 FEET LONG.
      b. ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL RUNS 20 FEET OR LONGER.
      c. PIPE ROLLER: MSS SP-58, TYPE 44 FOR MULTIPLE HORIZONTAL PIPING 20 FEET OR LONGER, SUPPORTED ON A TRAPEZE.
      d. SPRING HANGERS TO SUPPORT VERTICAL RUNS.
      e. COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE.
   C. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD SIZES:

2. VERIFY ACTUAL SUPPORTED LOADS FOR HANGER SIZES AND SPACING. CONSULT STRUCTURAL ENGINEER. SPACING AND SIZES IN SUBPARAGRAPHS BELOW ARE FROM THE 2000 ASHRAE HANDBOOK - "HVAC SYSTEMS AND EQUIPMENT."
   A. NPS 1/2: MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
   B. NPS 5/8: MAXIMUM SPAN, 60 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
   C. NPS 1: MAXIMUM SPAN, 72 INCHES; MINIMUM ROD SIZE, 1/4 INCH.
   D. NPS 1-1/4: MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
   E. NPS 1-1/2: MAXIMUM SPAN, 96 INCHES; MINIMUM ROD SIZE, 3/8 INCH.
   F. SUPPORT MULTIFLOOR VERTICAL RUNS AT LEAST AT EACH FLOOR.

REFRIGERANT PIPE FIELD QUALITY CONTROL

1. PERFORM TESTS AND INSPECTIONS AND PREPARE TEST REPORTS.

2. TESTS AND INSPECTIONS:
   A. COMPLY WITH ASME B31.5, CHAPTER VI.
   B. TEST REFRIGERANT PIPING AND SPECIALTIES. ISOLATE COMPRESSOR, CONDENSER, EVAPORATOR, AND SAFETY DEVICES FROM TEST PRESSURE IF THEY ARE NOT RATED ABOVE THE TEST PRESSURE.
   C. TEST HIGH- AND LOW-PRESSURE SIDE PIPING OF EACH SYSTEM SEPARATELY AT NOT LESS THAN THE PRESSURES INDICATED IN PART 1 "PERFORMANCE REQUIREMENTS" ARTICLE.
      a. FILL SYSTEM WITH NITROGEN TO THE REQUIRED TEST PRESSURE.
      b. SYSTEM SHALL MAINTAIN TEST PRESSURE AT THE MANIFOLD GAGE THROUGHOUT DURATION OF TEST.
      c. TEST JOINTS AND FITTINGS WITH ELECTRONIC LEAK DETECTOR OR BY BRUSHING A SMALL AMOUNT OF SOAP AND GLYCERIN SOLUTION OVER JOINTS.
      d. REMAKE LEAKING JOINTS USING NEW MATERIALS, AND RETEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED.

REFRIGERANT SYSTEM CHARGING

1. FOR INVERTER DRIVEN (VRV/VRF) SYSTEMS USE MANUFACTURER'S MOST STRINGENT CHARGING PROCEDURE. DETERMINE CHARGE BASED ON MANUFACTURER'S LITERATURE. ONLY USE GAUGES AND VACUUM PUMPS THAT MEET THE PERFORMANCE REQUIRED BY THE MANUFACTURER'S PROCEDURE.
2. CHARGE SYSTEM USING THE FOLLOWING PROCEDURES:
   A. INSTALL CORE IN FILTER DRYERS AFTER LEAK TEST BUT BEFORE EVACUATION.
   B. EVACUATE ENTIRE REFRIGERANT SYSTEM WITH A VACUUM PUMP TO 500 MICROMETERS. IF VACUUM HOLDS FOR 12 HOURS, SYSTEM IS READY FOR CHARGING.
   C. BREAK VACUUM WITH REFRIGERANT GAS, ALLOWING PRESSURE TO BUILD UP TO 2 PSIG.
   D. CHARGE SYSTEM WITH A NEW FILTER-DRYER CORE IN CHARGING LINE.

REFRIGERANT SYSTEM ADJUSTING

1. FOR INVERTER (VRV/VRF) SYSTEMS REFER TO MANUFACTURER LITERATURE FOR SYSTEM ADJUSTMENT.
2. ADJUST THERMOSTATIC EXPANSION VALVE TO OBTAIN PROPER EVAPORATOR SUPERHEAT.
3. ADJUST HIGH- AND LOW-PRESSURE SWITCH SETTINGS TO AVOID SHORT CYCLING IN RESPONSE TO FLUCTUATING SUCTION PRESSURE.
4. ADJUST SET-POINT TEMPERATURE OF AIR-CONDITIONING OR CHILLED-WATER CONTROLLERS TO THE SYSTEM DESIGN TEMPERATURE.
5. PERFORM THE FOLLOWING ADJUSTMENTS BEFORE OPERATING THE REFRIGERATION SYSTEM, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS:
   A. OPEN SHUTOFF VALVES IN CONDENSER WATER CIRCUIT.
   B. VERIFY THAT COMPRESSOR OIL LEVEL IS CORRECT.
   C. OPEN COMPRESSOR SUCTION AND DISCHARGE VALVES.
   D. OPEN REFRIGERANT VALVES EXCEPT BYPASS VALVES THAT ARE USED FOR OTHER PURPOSES.
   E. CHECK OPEN COMPRESSOR-MOTOR ALIGNMENT AND VERIFY LUBRICATION FOR MOTORS AND BEARINGS.
6. REPLACE CORE OF REPLACEABLE FILTER DRYER AFTER SYSTEM HAS BEEN ADJUSTED AND AFTER DESIGN FLOW RATES AND PRESSURES ARE ESTABLISHED.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS

NO.	DESCRIPTION	DATE
0	PERMITING	05/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 036-22
AEED, inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date 05/20/2022

Sheet Name
MECHANICAL SPEC SHEET

Sheet Number
M002

C:\Users\critchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt
5/20/2022 2:00:48 PM

MECHANICAL HVAC PLAN UNREFERENCED NOTES:

A. FOR GENERAL HVAC NOTES SEE COVER SHEET. IN THE CASE OF CONFLICTING NOTES THE MOST STRINGENT OF THE TWO SHALL APPLY PER APPLICABLE JOB CODE.

B. ROUND DUCT RUNOUTS TO INDIVIDUAL DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED.

C. EXISTING MATERIAL DISTURBED BECAUSE OF WORK PERFORMED UNDER THIS CONTRACT ARE TO BE REPAIRED AND RESTORED TO CONDITIONS EQUAL TO ORIGINAL AT NO COST TO THE OWNER.

D. MAINTAIN MINIMUM 36" BETWEEN SUPPLY/RETURN AIR TERMINALS AND SMOKE DETECTORS.

E. COORDINATE FINAL THERMOSTAT OR EQUIPMENT CONTROLLER LOCATIONS WITH OWNER/ARCHITECT.

F. PROVIDE A MANUAL VOLUME DAMPER IN DUCT OR AIR TERMINAL FOR EACH BRANCH RUNOUT. BALANCE AIR TERMINALS TO AIRFLOW INDICTED ON PLANS.

G. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS.

H. FLEXIBLE DUCT ON ANY BRANCH LINE, WHERE USED, SHALL NOT EXCEED 5'-0" IN TOTAL LENGTH.

I. SUPPLY DIFFUSERS SHALL BE INSTALLED WITH MANUFACTURER'S MOLDED INSULATION BLANKET WHERE APPLICABLE.

J. SUPPLY, RETURN, AND EXHAUST DUCT TO BE SPIRAL DUCT WHERE SHOWN AS ROUND. EXTERNALLY INSULATE ALL DUCT IN UNCONDITIONED SPACE TO A MINIMUM OF R-6 OF EXTERNAL INSULATION.

MECHANICAL HVAC PLAN REFFERENCED SHEET NOTES:

(1) COORDINATE FINAL THERMOSTAT LOCATION AND MOUNTING HEIGHT WITH OWNER/ARCHITECT

(2) INTAKE LOUVER IN EXTERIOR WALL
- PROVIDE LOUVER WITH MOTORIZED DAMPER AND CONCEALED LINKAGE
- INTERLOCK DAMPER WITH ADJACENT EXHAUST FAN FOR SIMULTANEOUS OPERATION
- SLEEVE AND SEAL EXTERIOR WALL PENETRATION WEATHER TIGHT
- PROVIDE WITH BUG SCREEN
- COORDINATE FINISH WITH ARCHITECT
- MOUNT 8'-0" AFF.

(3) ROUTE SUPPLY AND RETURN DUCTS UP TO UNIT ON ROOF. TRANSITION AS REQUIRED TO MATCH ROOF TOP UNIT SUPPLY AND RETURN AIR OPENINGS.

(4) PACKAGED THROUGH-THE-WALL HEAT PUMP UNIT
- MOUNT AS DIRECTED BY MANUFACTURER
- PROVIDE UNIT WITH ACCESSORIES LISTED IN SCHEDULE
- CONFIRM ALL ROUGH-IN DIMENSIONS AND REQUIREMENTS WITH GENERAL CONTRACTOR IN THE FIELD
- SEAL ALL WALL PENETRATIONS WEATHER TIGHT

(5) SUSPEND GAS FIRED UNIT HEATER
- SUSPEND FROM STRUCTURE UTILIZING VIBRATION ISOLATION HANGING KIT
- COORDINATE INSTALLATION HEIGHT WITH OWNER, MINIMUM 14' AFF
- PROVIDE WITH WALL MOUNTED THERMOSTAT
- PROVIDE UNIT WITH CONCENTRIC COMBUSTION AIR/VENT AIR ADAPTER

(6) CEILING MOUNTED EXHAUST FAN
- SUSPEND AT CEILING LEVEL USING VIBRATION ISOLATION HANGING KIT
- ROUTE DUCT TO WALL CAP IN EXTERIOR WALL
- FIELD LOCATE TO BE 10'-0" FROM ANY OUTDOOR AIR INTAKE
- SLEEVE AND SEAL AROUND PENETRATION WEATHER TIGHT

(7) DRYER EXHAUST TO BE ROUTED VERTICAL IN WALL AND PENETRATE ROOF AT APPROXIMATE LOCATION. TERMINATE WITH DRYER VENT ROOF JACK. CONTRACTOR TO PROVIDE VERTICAL CLEANOUT IN DRYER EXHAUST DUCT.

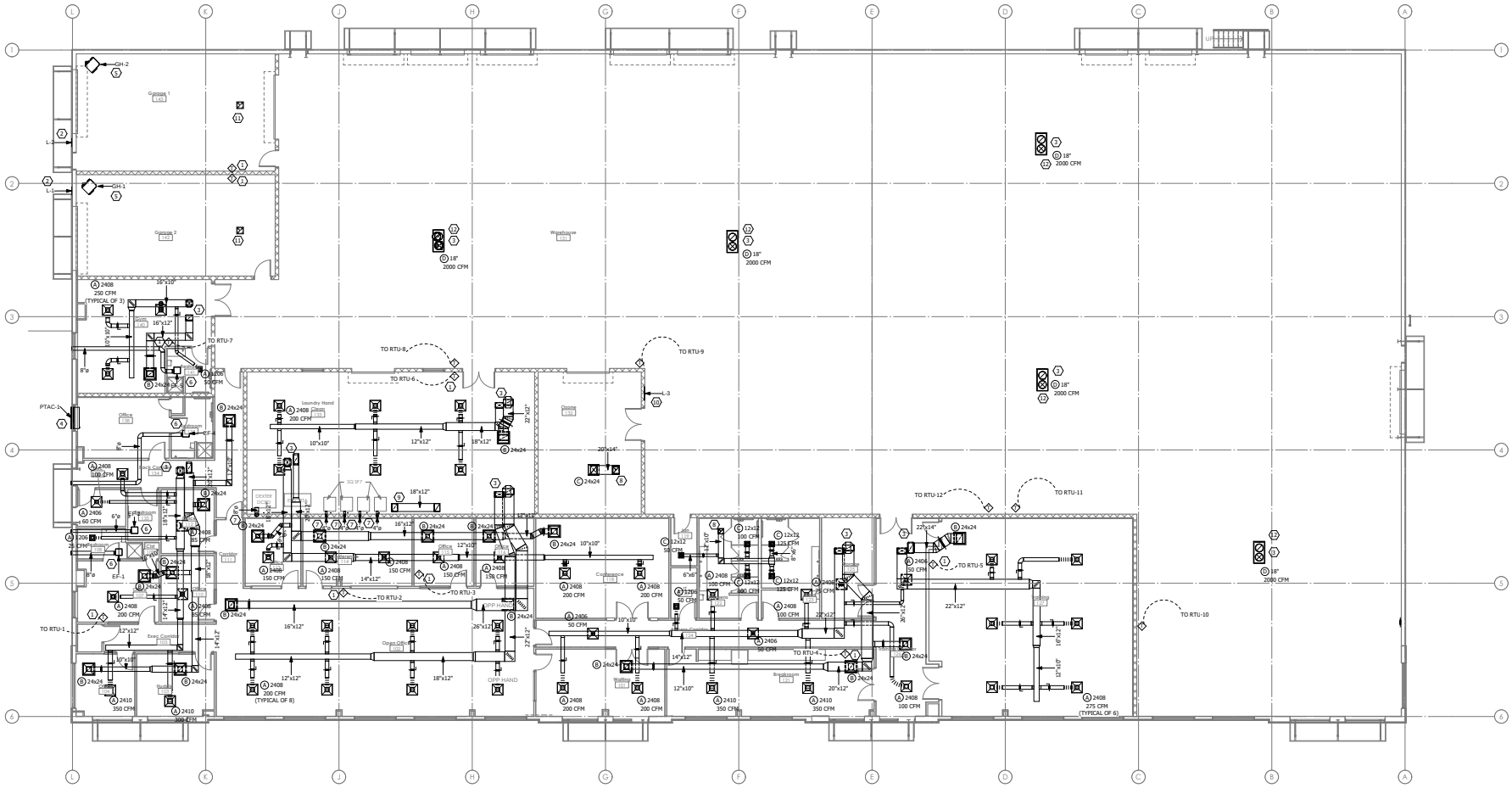
(8) DUCT UP TO ROOF MOUNTED EXHAUST FAN
- ROUTE DUCT UP THROUGH CURB, TRANSITION AS NECESSARY

(9) 18"X12" DRYER MAKEUP AIR DUCTWORK
- DUCT AIR DRAWN FROM GRAVITY VENTILATOR HOOD ON ROOF
- DUCTWORK TO DELIVER MAKEUP AIR TO BACK OF DRYER SPACE
- PROVIDE MOTORIZED DAMPER IN DUCTWORK INTERLOCKED WITH DRYERS FOR SIMULTANEOUS OPERATION
- DAMPER SHALL ACTUATE TO OPEN FULLY UPON A MINIMUM OF ONE DRYER ACTIVATION

(10) INTAKE LOUVER IN INTERIOR WAREHOUSE WALL
- PROVIDE LOUVER WITH MOTORIZED DAMPER AND CONCEALED LINKAGE
- INTERLOCK DAMPER WITH ADJACENT EF-8 FOR SIMULTANEOUS OPERATION
- SLEEVE AND SEAL WALL PENETRATION WEATHER TIGHT
- PROVIDE WITH BUG SCREEN
- COORDINATE FINISH WITH ARCHITECT
- MOUNT 12" AFF.

(11) DUCT UP TO ROOF MOUNTED EXHAUST FAN
- ROUTE DUCT UP THROUGH CURB, TRANSITION AS NECESSARY
- PROVIDE INLET SCREEN AT FAN OPENING IN SPACE

(12) CONNECT SUPPLY AND RETURN DUCTS TO CONCENTRIC DIFFUSERS IN WAREHOUSE SPACE. DIFFUSERS TO BE MOUNTED HIGH TO CEILING. COORDINATE FINAL MOUNTING HEIGHT WITH ARCHITECT/OWNER.



1 MECHANICAL HVAC PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	ADDENDUM #1	5/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 01522

AEED inc.
Mechanical Engineering & Design, Inc.
408 MCCALLIE AVE. CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructiontn.com
CONSTRUCTION & ARCHITECTURE

Project Number

Date
05/20/2022

Sheet Name
MECHANICAL HVAC PLAN

Sheet Number
M101

5/20/2022 2:00:49 PM C:\Users\cnichie\Documents\038-22 AEED Central Model RV721_carolyn.nichie.rvt

MECHANICAL HVAC PLAN UNREFERENCED NOTES:

A. FOR GENERAL HVAC NOTES SEE COVER SHEET. IN THE CASE OF CONFLICTING NOTES THE MOST STRINGENT OF THE TWO SHALL APPLY PER APPLICABLE JOB CODE.

B. ROUND DUCT RUNOUTS TO INDIVIDUAL DIFFUSERS TO BE SAME SIZE AS DIFFUSER NECK UNLESS NOTED.

C. EXISTING MATERIAL DISTURBED BECAUSE OF WORK PERFORMED UNDER THIS CONTRACT ARE TO BE REPAIRED AND RESTORED TO CONDITIONS EQUAL TO ORIGINAL AT NO COST TO THE OWNER.

D. MAINTAIN MINIMUM 36" BETWEEN SUPPLY/RETURN AIR TERMINALS AND SMOKE DETECTORS.

E. COORDINATE FINAL THERMOSTAT OR EQUIPMENT CONTROLLER LOCATIONS WITH OWNER/ARCHITECT.

F. PROVIDE A MANUAL VOLUME DAMPER IN DUCT OR AIR TERMINAL FOR EACH BRANCH RUNOUT. BALANCE AIR TERMINALS TO AIRFLOW INDICTED ON PLANS.

G. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO ORDERING MATERIALS.

H. FLEXIBLE DUCT ON ANY BRANCH LINE, WHERE USED, SHALL NOT EXCEED 5'-0" IN TOTAL LENGTH.

I. SUPPLY DIFFUSERS SHALL BE INSTALLED WITH MANUFACTURER'S MOLDED INSULATION BLANKET WHERE APPLICABLE.

J. SUPPLY, RETURN, AND EXHAUST DUCT TO BE SPIRAL DUCT WHERE SHOWN AS ROUND. EXTERNALLY INSULATE ALL DUCT IN UNCONDITIONED SPACE TO A MINIMUM OF R-6 OF EXTERNAL INSULATION.

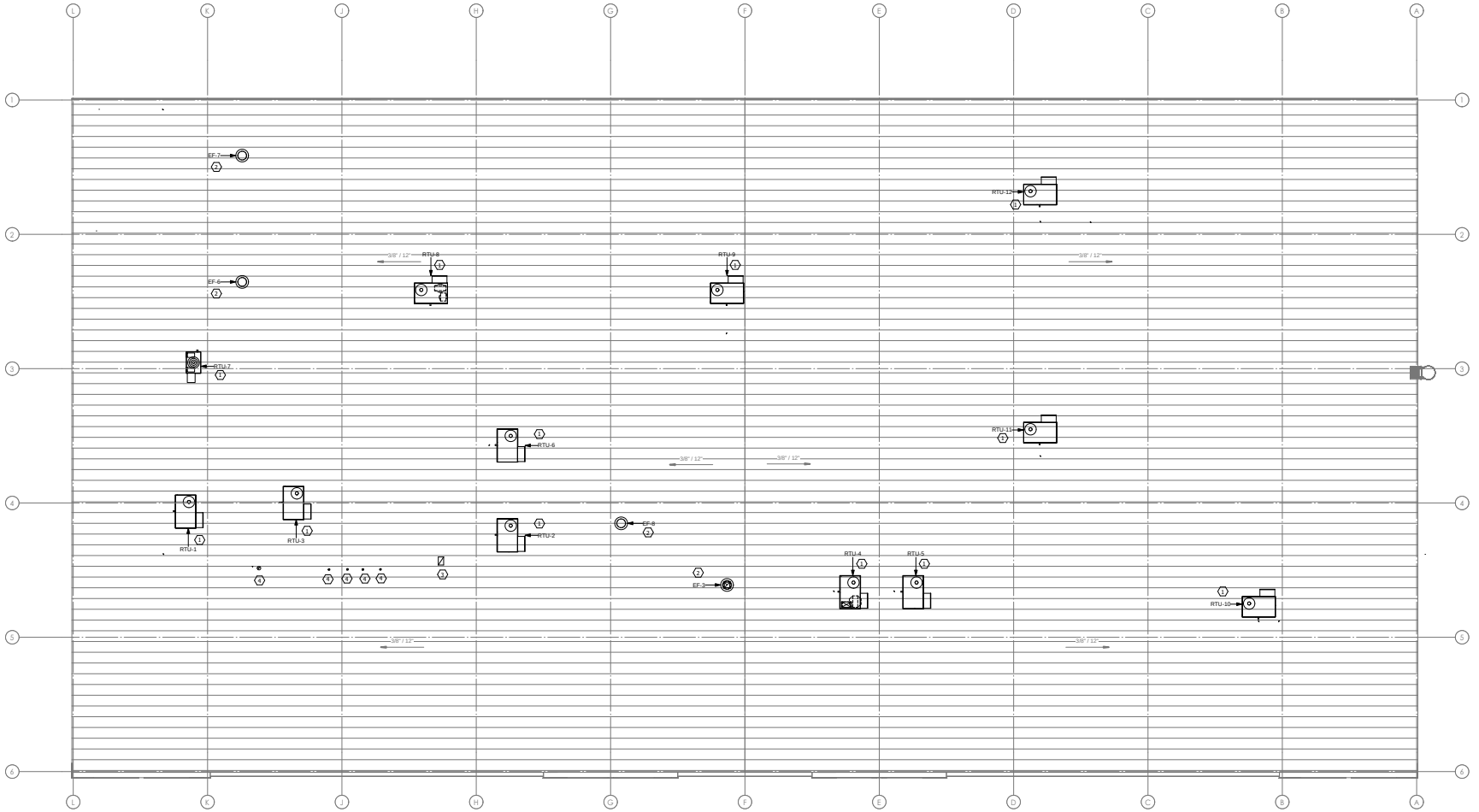
MECHANICAL HVAC PLAN REFERENCED SHEET NOTES:

1. GAS FIRED ROOFTOP UNIT
   - MOUNT UNIT LEVEL ON INSULATED ROOF CURB
   - ROUTE FULL SIZE CONDENSATE DRAIN TO SPILL ON SPLASH BLOCK ON ROOF
   - SLOPE CONDENSATE 1/8" PER 1'-0" AWAY FROM UNIT
   - SEE PLUMBING PLANS FOR GAS PIPE ROUTING
   - ROUTE SUPPLY AND RETURN DUCTS DOWN IN CURB, TRANSITION AS REQUIRED TO PENETRATE BELOW
   - CONNECT DUCTWORK TO EQUIPMENT USING FLEXIBLE CANVAS DUCT CONNECTORS

2. EXHAUST FAN
   - INSTALL FAN LEVEL ON ROOF CURB, CURB TO OFFSET ANY ROOF SLOPE
   - FIELD LOCATE 10'-0" MINIMUM FROM ANY OUTSIDE AIR INTAKE

3. CURB MOUNTED INTAKE HOOD
   - MOUNT HOOD LEVEL ON ROOF CURB TO OFFSET ANY SLOPE
   - MFG: GREENHECK MODEL: FGI
   - CONNECT DUCTWORK TO HOOD TO ROUTE DOWN INTO LAUNDRY ROOM

4. DRYER EXHAUST AIR PENETRATES AT APPROXIMATELY THIS POINT, PROVIDE 12" CURB AND SEAL ROOF PENETRATION POINT TO MAINTAIN ROOF INTEGRITY & WATER TIGHT SEAL. TERMINATE WITH DRYER VENT ROOF JACK.



1 MECHANICAL HVAC ROOF PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED, inc.
Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
MECHANICAL ROOF PLAN

Sheet Number
M102

C:\Users\crritchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt
5/20/2022 2:00:49 PM

AIR TERMINAL SCHEDULE

Type Mark	Manufacturer	Model	Type	Control	Material	Finish	Count	Notes
A	TITUS	TMS	SUPPLY GRILLE	MVD	ALUMINUM	-	51	ALL
B	TITUS	50F	RETURN GRILLE	MVD	ALUMINUM	-	19	ALL
C	TITUS	350FL	RETURN GRILLE	MVD	ALUMINUM	-	6	ALL
D	CURRIS PLUS	CDR	CONCENTRIC DIFFUSER	MVD	ALUMINUM	-	5	ALL

NOTES:
1. CONTRACTOR PROVIDE COMPLETE WITH ALL MARGINS AND CLIPS REQUIRED FOR INSTALLATION
2. COORDINATE FINISH WITH OWNER/ARCHITECT

PACKAGE DX UNIT SCHEDULE

Mark	Manufacturer	Model	Nom. Clg Capacity (Tons)	SA CFM	OA CFM	Supply Fan HP	Supply E.S.P. ("wc)	Total Clg MBH	Sensible Clg MBH	Clg EATdb	Clg EATwb	Clg LAT	Gas Input MBH	Gas Output MBH	Heating EAT	Heating LAT	SEER	Voltage / Phase	MCA	MOCP	Weight	Notes
RTU-1	CARRIER	48GCEN04A2M5	3	1200	125	0.7	0.6	35.1	25.6	80	67	60	110	88	70	137	16	208/3	26	30	744	1,2,3,4,5,6,7,8,9,10
RTU-2	CARRIER	48GCEN05A2M5	4	1600	140	1.1	0.7	50	37.1	80	67	58	110	88	70	120	16	208/3	31	40	792	1,2,3,4,5,6,7,8,9,10
RTU-3	CARRIER	48GCEN04A2M5	3	1200	180	0.7	0.6	35.1	25.6	80	67	60	110	88	70	137	16	208/3	26	30	744	1,2,3,4,5,6,7,8,9,10
RTU-4	CARRIER	48GCEN05A2M5	4	1600	150	1.1	0.7	50	37.1	80	67	58	110	88	70	120	16	208/3	31	40	792	1,2,3,4,5,6,7,8,9,10
RTU-5	CARRIER	48GCEN05A2M5	4	1600	180	1.1	0.7	50	37.1	80	67	58	110	88	70	120	16	208/3	31	40	792	1,2,3,4,5,6,7,8,9,10
RTU-6	CARRIER	48GCEN04A2M5	3	1200	250	0.7	0.6	35.1	25.6	80	67	60	110	88	70	137	16	208/3	26	30	744	1,2,3,4,5,6,7,8,9,10
RTU-7	CARRIER	48VL-A240405	2	800	150	0.5	0.5	23.3	18.1	80	67	58	40	32	70	110	14.5	208/1	21.7	30	350	1,2,7,8,9,10
RTU-8	CARRIER	48GCEN05A3M5	5	2000	265	2	0.8	51.5	41.9	80	67	60	110	88	70	110	16	208/3	29	40	797	ALL
RTU-9	CARRIER	48GCEN05A3M5	5	2000	285	2	0.8	51.5	41.9	80	67	60	110	88	70	110	16	208/3	29	40	797	ALL
RTU-10	CARRIER	48GCEN05A3M5	5	2000	400	2	0.8	51.5	41.9	80	67	60	110	88	70	110	16	208/3	29	40	797	ALL
RTU-11	CARRIER	48GCEN05A3M5	5	2000	400	2	0.8	51.5	41.9	80	67	60	110	88	70	110	16	208/3	29	40	797	ALL
RTU-12	CARRIER	48GCEN05A3M5	5	2000	400	2	0.8	51.5	41.9	80	67	60	110	88	70	110	16	208/3	29	40	797	ALL

NOTES:
1. PROVIDE UNIT COMPLETE WITH INTEGRAL DISCONNECT, OA HOOD, CONVENIENCE OUTLET AND ROOF CURB WITH NEOPRENE ISOLATION PADS.
2. VFD SUPPLY FAN
3. MODULATING CONDENSER FAN; HEAD PRESSURE CONTROL
4. MODULATING COMPRESSOR CAPACITY EACH CIRCUIT, MIN 2 STAGE
5. MODULATING HOT GAS REHEAT
6. MODULATING OA DAMPER
7. STAINLESS STEEL HEAT EXCHANGER
8. LOUVERED HAIL GUARDS
9. ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF
10. PROVIDE WITH PROGRAMMABLE WALL MOUNT THERMOSTAT WITH HUMIDITY CONTROL
11. SUPPLY AND RETURN DUCT MOUNTED SMOKE DETECTORS TO BE PROVIDED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR

EXHAUST FAN SCHEDULE

Mark	Manufacturer	Model	Type	EA CFM	Motor HP	E.S.P. ("wc)	Voltage / Phase	Weight	Notes
EF-1	GREENHECK	SP-A110	CABINET	100	18 W	0.2	115/1	17	1,4
EF-2	GREENHECK	SP-A70	CABINET	50	13 W	0.24	115/1	12	1,4
EF-3	GREENHECK	G-095-VG	ROOF	500	1/6	0.25	115/1	29	1,2
EF-4	GREENHECK	SP-A110	CABINET	100	18 W	0.2	115/1	17	1,4
EF-5	GREENHECK	SP-A110	CABINET	100	18 W	0.2	115/1	17	1,4
EF-6	GREENHECK	G-095-VG	ROOF	525	1/6	0.25	115/1	29	1,2,3
EF-7	GREENHECK	G-095-VG	ROOF	615	1/6	0.25	115/1	29	1,2,3
EF-8	GREENHECK	G-140-VG	ROOF	1500	1/2	0.25	115/1	54	1,3,5,6

NOTES:
1. PROVIDE FAN WITH BACKDRAFT DAMPER AND DISCONNECT
2. EXHAUST FAN TO RUN CONTINUOUSLY DURING HOURS OF OPERATION.
3. UNIT IS TO INTERLOCK TO OPERATE WITH INTAKE LOUVERS VIA DRY CONTACT PROVIDED BY UNIT MANUFACTURER
4. FAN TO OPERATE WITH LIGHT SWITCH
5. INCLUDE COMPLETE WITH 24 VOLT TRANSFORMER AND REMOTE DIAL FOR TWO SPEED CONTROL (GREENHECK VARI-GREEN SPDT SWITCH OR EQUIVALENT) PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR
6. FAN CONTROL SWITCH TO BE LOCATED ON WALL OUTSIDE OF OZONE ROOM NEAR ENTRY DOOR. COORDINATE FINAL SWITCH LOCATION WITH OWNER/ARCHITECT.

GAS FIRED UNIT HEATER SCHEDULE

Mark	Manufacturer	Model	Gas Input MBH	Gas Output MBH	CFM	Fuel Type	HP	MCA	MOCP	Voltage / Phase	Weight	Notes
GH-1	REZNOR	UDZ 30	30	24.6	456	NATURAL GAS	.02	1.9	15	115/1	58	
GH-2	REZNOR	UDZ 30	30	24.6	456	NATURAL GAS	.02	1.9	15	115/1	58	

NOTES:
1. PROVIDE WITH DISCONNECT, HANGER KIT AND CONCENTRIC VENT KIT
2. PROVIDE WITH WALL MOUNTED THERMOSTAT

LOUVER SCHEDULE

Mark	Manufacturer	Model	Size	Free Area (sq.ft.)	Material	Service	CONTROL	Notes
L-1	GREENHECK	EAC-601	18" x 24"	.80	ALUMINUM	INTAKE	INTERLOCK WITH EF-6	ALL
L-2	GREENHECK	EAC-601	18" x 24"	.80	ALUMINUM	INTAKE	INTERLOCK WITH EF-7	ALL
L-3	GREENHECK	EAC-601	30" x 30"	2.19	ALUMINUM	INTAKE	INTERLOCK WITH EF-8	ALL

NOTES:
1. COORDINATE FINISH WITH OWNER/ARCHITECT
2. COORDINATE MOUNTING HEIGHT WITH OWNER/ARCHITECT
3. INTERLOCK WALL DAMPERS WITH EQUIPMENT AS SPECIFIED
4. COORDINATE ACTUATOR ELECTRICAL CONNECTION WITH ELECTRICAL CONTRACTOR
5. INCLUDE COMPLETE WITH 120 VOLT ACTUATOR (BELIMO AF-120 OR EQUIVALENT) PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR

PTAC SCHEDULE

Mark	Manufacturer	Model	Supply Air CFM	Outdoor Air CFM	Cooling EATdb	Cooling EATwb	Cooling MBH	Heating MBH	Electric Heat kW	EER	Voltage / Phase	MCA	MOCP	Weight	Notes
PTAC-1	AMANA	PHM-093	310	50	80	67	9	8.3	3	12	208/1	19.5	20	145	ALL

NOTES:
1. PROVIDE WITH WALL SLEEVE, STANDARD GRILLE, UNIVERSAL DRAIN KIT
2. CONDENSATE IS TO BE ROUTED TO SPILL ON EXTERIOR GRADE
3. PROVIDE COMPLETE WITH FACTORY SUB-BASE, HARDWIRE KIT AND POWER DISCONNECT SWITCH. ACCOUNT FOR SUB-BASE HEIGHT WHEN DETERMINING A.F.F. INSTALLATION HEIGHT
4. PROVIDE WITH NON-FUSED DISCONNECT SWITCH, LOCATE WITHIN SIGHT OF UNIT
5. UNIT SHALL BE EQUIPPED WITH AMANA DIGI-AIRE MODULE, OUTDOOR AIR MODULE SHALL RUN CONTINUOUS TO PROVIDE CONTINUOUS VENTILATION

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	ADDENDUM #1	6/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 05122

AEED inc.
Mechanical Engineering & Design, Inc.
Engineering & Design in Texas
408 MCCALLIE AVE
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructionllc.com
CONSTRUCTION & ARCHITECTURE

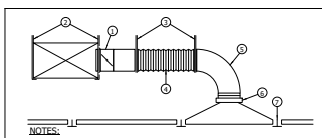
Project Number

Date
05/20/2022

Sheet Name
MECHANICAL SCHEDULES

Sheet Number
M300

5/20/2022 2:00:49 PM C:\Users\crichie\Documents\V3ib-22 AEED Central Model RV721_carolyn.ritchie.rvt



NOTES:

1 SPIN IN CONICAL BRANCH TAP FITTING WITH MANUAL VOLUME DAMPER. BRANCH RUNOUT DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET.

2 DUCT STRAP HANGER. ATTACH TO STRUCTURE.

3 STRAP HANGER REQUIRED IF BRANCH RUNOUT LENGTH IS GREATER THAN 4 FT.

4 MAXIMUM FLEXIBLE DUCT LENGTH IS 5 FT. FLEXIBLE DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET. FLEXIBLE DUCT SHALL BE INSULATED. STRETCH FLEXIBLE DUCT TO A MINIMUM OF 90% OF ITS FULLY EXTENDED LENGTH. SEAL CONNECTIONS AIR TIGHT.

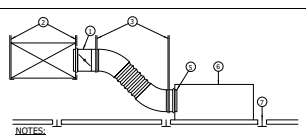
5 HARD ELBOW TO AIR TERMINAL CONNECTION.

6 COMPRESSION FITTING AT AIR TERMINAL CONNECTION.

7 PROVIDE ALL CLIPS AND MARGINS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE LOCATION AND FINISH WITH OWNER/ARCHITECT.

TYPICAL SUPPLY AIR TERMINAL CONNECTION

SCALE: NONE



NOTES:

1 SPIN IN CONICAL BRANCH TAP FITTING WITH MANUAL VOLUME DAMPER. BRANCH RUNOUT DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET.

2 DUCT STRAP HANGER. ATTACH TO STRUCTURE.

3 STRAP HANGER REQUIRED IF RUN OUT LENGTH IS GREATER THAN 4 FT.

4 MAXIMUM FLEXIBLE DUCT LENGTH IS 5 FT. FLEXIBLE DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET. STRETCH FLEXIBLE DUCT TO A MINIMUM OF 90% OF ITS FULLY EXTENDED LENGTH. SEAL CONNECTIONS AIR TIGHT.

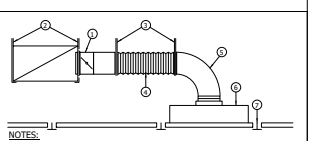
5 SPIN IN CONICAL BRANCH TAP FITTING. BRANCH RUNOUT DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET.

6 SHEET METAL PLENUM. PLENUM SHALL BE SAME SIZE AS GRILLE CONNECTION.

7 PROVIDE ALL CLIPS AND MARGINS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE LOCATION AND FINISH WITH OWNER/ARCHITECT.

TYPICAL AIR TERMINAL CONNECTION - LIMITED CLEARANCE

SCALE: NONE



NOTES:

1 SPIN IN CONICAL BRANCH TAP FITTING WITH MANUAL VOLUME DAMPER. BRANCH RUNOUT DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET.

2 DUCT STRAP HANGER. ATTACH TO STRUCTURE.

3 STRAP HANGER REQUIRED IF BRANCH RUNOUT LENGTH IS GREATER THAN 4 FT.

4 MAXIMUM FLEXIBLE DUCT LENGTH IS 5 FT. FLEXIBLE DUCT SHALL BE THE SAME DIAMETER AS THE AIR TERMINAL INLET. STRETCH FLEXIBLE DUCT TO A MINIMUM OF 90% OF ITS FULLY EXTENDED LENGTH. SEAL CONNECTIONS AIR TIGHT.

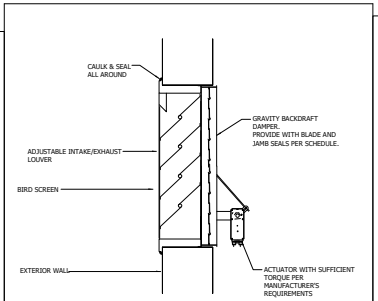
5 HARD ELBOW TO AIR TERMINAL CONNECTION.

6 SHEET METAL PLENUM. PLENUM SHALL BE SAME SIZE AS GRILLE CONNECTION.

7 PROVIDE ALL CLIPS AND MARGINS REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE LOCATION AND FINISH WITH OWNER/ARCHITECT.

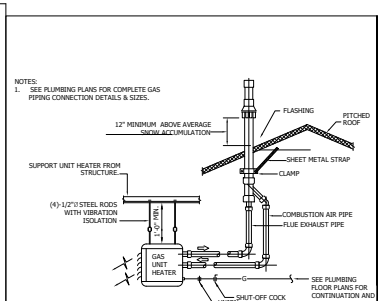
TYPICAL RETURN & EXHAUST AIR TERMINAL CONNECTION

SCALE: NONE



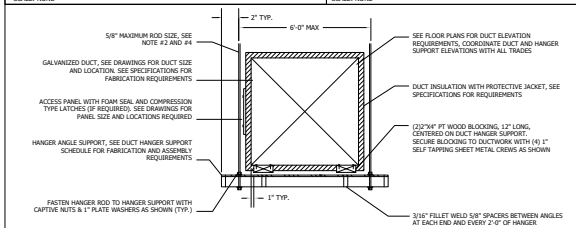
FIXED LOUVER W/ MOTORIZED DAMPER DETAIL

SCALE: NONE



GAS FIRED UNIT HEATER DETAIL

NO SCALE



DUCT HANGER SUPPORT SCHEDULE

L4X4X1/4 — MAXIMUM ALLOWABLE JOIST SPACING 4'-0" ON CENTER, MAXIMUM LOAD 1000#.

L4X4X3/8 — MAXIMUM ALLOWABLE JOIST SPACING 6'-0" ON CENTER, MAXIMUM LOAD 1000#.

(2)L4X4X1/4 — MAXIMUM ALLOWABLE JOIST SPACING 6'-0" ON CENTER, MAXIMUM LOAD 1500#. ALL FASTENERS AND HANGER RODS SHALL BE LOCATED BETWEEN ANGLE LEGS AS SHOWN.

NOTES:

1. DUCT HANGER SUPPORT CARRYING WEIGHT SHALL NOT EXCEED 1500#, SEE DUCT HANGER SUPPORT SCHEDULE. SEE SPECIFICATIONS FOR SPAN REQUIREMENTS BETWEEN DUCT HANGER SUPPORT.

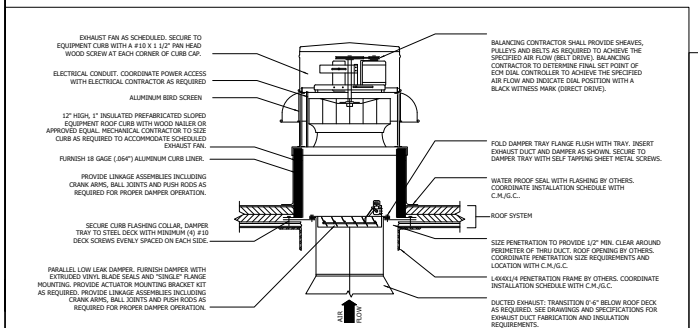
2. SEE HANGER DETAILS TO DETERMINE STRUCTURAL ATTACHMENT METHOD, HANGER SELECTION SHALL BE DETERMINED BY POINT LOAD REQUIREMENTS AND NOT OVERALL DUCT HANGER SUPPORT CARRYING WEIGHT.

3. COORDINATE DUCT ROUTING AND SUPPORT SYSTEM LOCATION WITH STRUCTURAL DRAWINGS, NOTIFY THE ENGINEER OF ANY FIELD RELOCATION.

4. SIZE HANGER RODS FOR APPLIED LOADS WITH A SAFETY FACTOR OF THREE (3), MINIMUM ROD SIZE 3/8"Ø.

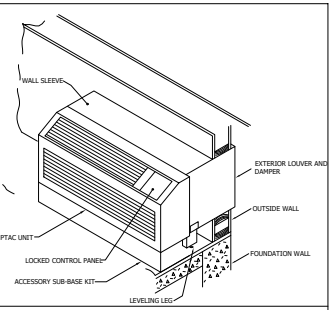
DUCT HANGER SUPPORT DETAIL

SCALE: NONE



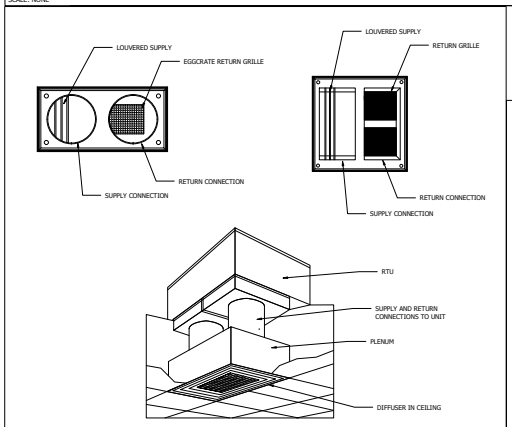
ROOF EXHAUST FAN/CURB DETAIL

SCALE: NONE



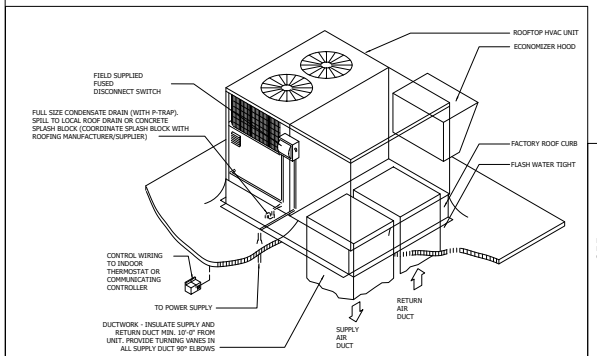
PACKAGED THROUGH THE WALL TERMINAL AC UNIT

SCALE: NONE



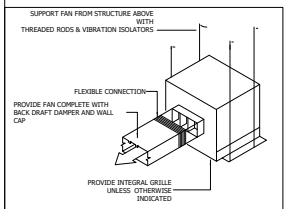
CONCENTRIC DIFFUSER

SCALE: NONE



TYPICAL ROOF TOP UNIT DETAIL (EXACT ARRANGEMENT NOT SHOWN - ACTUAL WILL VARY)

SCALE: NONE



CEILING EXHAUST FAN DETAIL

SCALE: NONE

APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	REVISIONS	5/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 05122

AEED inc
468 MCCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructinc.com
CONSTRUCTION & ARCHITECTURE

Project Number

Date
05/20/2022

Sheet Name
MECHANICAL DETAILS

Sheet Number
M400

5/20/2022 2:00:49 PM C:\Users\cnichie\Documents\038-22 AEED Central Model RV721_carolyn.nichie.rvt

ELECTRICAL GENERAL NOTES

1. THESE DRAWINGS ACCOMPANY THE PUBLISHED CONSTRUCTION DOCUMENT SPECIFICATION BOOK (PROJECT MANUAL).
2. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWING AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
3. VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED. CONTRACTOR SHALL INCLUDE IN HIS BID COSTS REQUIRED TO MAKE HIS WORK MEET EXISTING CONDITIONS.
4. SYSTEM OUTAGES SHALL BE PERMITTED ONLY AT TIMES APPROVED BY OWNER - IN WRITING. WORK WHICH COULD RESULT IN AN ACCIDENTAL OUTAGE (BEYOND BRANCH CIRCUITS) SHALL BE PERFORMED WITH THE OWNER'S MAINTENANCE PERSONNEL ADVISED OF SUCH WORK.
5. REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER DRAWINGS PRIOR TO BID.
6. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
7. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE OF TENNESSEE, AND NATIONAL CODES AND ORDINANCES.
8. PROVIDE PERMITS AND INSPECTION REQUIRED.
9. PROVIDE WITH SHOP DRAWING SUBMITTAL, 1/4" SCALE LAYOUT DRAWINGS OF ROOMS WITH ELECTRICAL SWITCHBOARDS AND TRANSFORMERS. LAYOUTS SHALL SHOW LOCATIONS OF, AND SHALL BE COORDINATED WITH MECHANICAL EQUIPMENT. ALL EQUIPMENT SHALL BE DRAWN TO SCALE.
10. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
11. VERIFY EXACT LOCATIONS OF EXISITING AND NEW UNDERGROUND UTILITIES, PIPING AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMER PADS, SAWCUTTING AND PATCHING, CONCRETE/PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90 PERCENT COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS. ELECTRICAL CONTRACTOR IS TO SUBMIT A COMPLETE CONSTRUCTION DRAWING SET TO THE ELECTRICAL UTILITY COMPANY WITH-IN 10 DAYS OF AWARD TO CONTRACT. COORDINATE TIMELINE OF THEIR REVIEW, APPROVAL, CONSTRUCTION SCHEDULING AND INSTALLATION OF THE UTILITY TRANSFORMER WITH THE UTILITY COMPANY. NOTIFY OWNER OF ANY SCHEDULING CONFLICTS.
12. FIELD VERIFY EXISTING EQUIPMENT OR CIRCUITS THAT ARE REMAINING TO BE RECONNECTED TO NEW OR EXISTING SWITCHBOARDS/PANELBOARDS. PROVIDE SWITCHES, RECEPTACLES, CONDUIT, WIRE, ETC. AS REQUIRED, TO RESTORE CONTINUITY OF CIRCUIT(S).
13. EXISTING SYSTEMS AND CONDITIONS SHOWN ON DRAWINGS FOR EXISTING BUILDINGS ARE TO BE NOTED "FOR GUIDANCE ONLY". THE ELECTRICAL CONTRACTOR TO FIELD CHECK ALL EXISTING CONDITIONS PRIOR TO BIDDING AND TO INCLUDE IN HIS BID AN ALLOWANCE FOR REMOVAL AND/OR RELOCATION OF EXISTING CONDUITS, WIRES, DEVICES, FIXTURES, OR OTHER EQUIPMENT AS INDICATED ON THE PLANS OR AS REQUIRED TO COORDINATE AND ADAPT NEW AND EXISTING ELECTRICAL SYSTEM TO ALL OTHER WORK AS REQUIRED.
14. PROVIDE ELECTRICAL DEMOLITION REQUIRED. REFER TO ARCHITECTURAL AND ELECTRICAL DEMOLITION DRAWINGS FOR LOCATION AND EXTENT OF DEMOLITION REQUIRED. CONTRACTOR SHALL VISIT SITE PRIOR TO BID TO DETERMINE EXTENT OF WORK INVOLVED. PROVIDE LABOR AND MATERIALS REQUIRED TO MAINTAIN AND/OR RESTORE CONTINUITY OF SERVICE TO EXISTING CIRCUITS.
15. PROVIDE ALL NECESSARY DEMOLITION TO REMOVE EXISTING UNUSED CONDUIT, WIRE, CABLE, J-BOXES, RECEPTACLES,SWITCHES, LIGHTS, FIRE ALARMS DEVICES, ETC. COMPLETE WITH ASSOCIATED CIRCUITING TO SOURCE. WHERE IT IS NOT FEASIBLE TO REMOVE THE ABOVE, OUTLET SHALL BE ABANDONED, WIRE REMOVED, AND BLANK COVER PLATES PROVIDED.
16. ALL (E) EQUIPMENT, LAMPS, BALLASTS, ETC. BEING REMOVED SHALL BE DISCARDED IN ACCORDANCE WITH APPLICABLE EPA REQUIREMENTS.
17. EXISTING LIGHT FIXTURES, ELECTRICAL EQUIPMENT, ETC. BEING REMOVED SHALL BE RETURNED TO THE OWNER, EXCEPT FOR THOSE ITEMS BEING RELOCATED.
18. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
19. INSTALL ALL MATERIALS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. ANY DEVIATIONS SHALL BE BROUGHT TO THE ARCHITECT/ ENGINEER'S ATTENTION PRIOR TO INSTALLATION.
20. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
22. ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
23. PROVIDE NEW UPDATED PANELBOARD DIRECTORIES FOR EXISTING AND NEW CIRCUITS BEING UTILIZED FOR COMPLETION OF PROJECT.
24. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE SEAL TITE FLEX AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
25. SYSTEMS SHALL BE TESTED FOR PROPER OPERATON. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
26. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
27. SYSTEMS SHALL BE COMPLETE, OPERABLE, AND READY FOR CONTINUOUS OPERATION. LIGHTS, SWITCHES, RECEPTACLES, MOTORS, ETC. SHALL BE CONNECTED AND OPERABLE.
28. MAINTAIN A CURRENT SET OF AS-BUILT RECORD DRAWINGS WHICH SHALL BE AVAILABLE FOR REVIEW DURING ENGINEER'S SITE OBSERVATIONS. UPON COMPLETION, PROVIDE RECORD DRAWINGS TO ARCHITECT. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
29. FIRE ALARM SYSTEM IS A DESIGN BUILD SYSTEM THAT SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND AUTHORITIES HAVING JURISDICTION. SHOP DRAWING SHALL BE PREPARED AND STAMPED BY PERSONS WITH THE FOLLOWING QUALIFICATIONS: 1) FIRE PROTECTION P.E. OR 2) FIRE ALARM CERFIFIED BY NICET MINIMUM LEVEL III. IN ADDITION TO DISTRIBUTION REQUIREMENTS FOR SUBMITTALS SPECIFIED IN DIVISION 1 SECTION "SUBMITTALS", MAKE AN IDENTICAL SUBMITTAL TO AUTHORITIES HAVING JURISDICTION. SEE SPECIFICATION MANUAL FOR MORE INFORMATION.

ELECTRICAL SPECIFICATIONS

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL STATE, LOCAL AND NATIONAL CODES AND ORDINANCES INCLUDING: NATIONAL ELECTRICAL CODE, ADA CODES, NFPA, BUILDING CODES AND AUTHORITIES HAVING JURISDICTION AS REQUIRED.
2. PROVIDE ALL PROVISIONS REQUIRED FOR TEMPORARY CONSTRUCTION LIGHTING AND POWER.
3. ALL EQUIPMENT AND MATERIALS USED SHALL BE UL LISTED.
4. ALL EQUIPMENT SHALL BE INSTALLED WITH NECESSARY ACCESSORIES, COMPONENTS, ETC. FOR A COMPLETE FUNCTIONING SYSTEM. WARRANTY FOR LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS SHALL BE INCLUDED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION.
5. PROVIDE HANGERS AND SUPPORTS FOR ALL ELECTRICAL SYSTEMS AS REQUIRED PER NEC CONDUIT SUPPORTS: UNI-STRUT, SPRING CLAMPS, STRAPS. ALL ANCHORS SHALL BE HILTI DROP IN TYPE. NO EXPLOSIVE ANCHORS ARE PERMITTED.
6. CONDUIT: 3/4" MINIMUM FOR HOMERUNS, 1/2" MINIMUM FOR SWITCHLEGS AND BRANCH CIRCUITS. SHALL BE SIZED PER NEC FOR NUMBER AND SIZE OF CONDUCTORS INSTALLED. ALL CONDUIT CONCEALED WITHIN WALL OR CEILING SHALL BE EMT TYPE WITH SET SCREW FITTINGS. SCHEDULE 40 PVC OR RIGID STEEL CONDUIT SHALL BE USED FOR UNDERGROUND INSTALLATIONS. FLEXIBLE METAL CONDUIT MAY BE USED INTERIOR IN LENGTHS 6' OR LESS. ALL AREAS SUBJECT TO DAMAGE SHALL USE RIGID STEEL. MC TYPE CABLE MAY BE USED IN ACCESSIBLE LOCATONS ONLY. NO TYPE NM OR AC TYPE ALLOWED.
7. CABLE: TYPE THHW/THHN, STRANDED FOR #8 AND LARGER, SOLID FOR #10 AND SMALLER, COPPER. ALUMINUM IS NOT PERMITTED. ALL CONDUCTOR SIZES HAVE BEEN BASED ON 60° C TERMINATIONS FOR CONDUCTORS LESS THAT 100A AND 75°C TERMINATIONS FOR GREATER THAN 100A PER NEC 110.14.
8. MINIMUM WIRE SIZE IS #12. FOR BRANCH CIRCUIT DISTANCES FROM PANELBOARD TO FURTHEST OUTLET THAT EXCEED 100 FEET, CONDUCTORS SHALL BE INCREASED ONE SIZE UP. INCREASE ONE SIZE UP. INCREASE SIZE AS REQUIRED IF VOLTAGE DROP EXCEEDS 3%.
9. ALL RACEWAYS, CABLES, PANELS, DISCONNECTS, ETC. SHALL BE LABELED AND INDENTIFIED FOR USE. INCLUDE PANELBOARD DIRECTORIES, WARNING SIGNS, ETC.
10. ALL CONDUIT PENETRATIONS THROUGH FLOOR SLAB OR THROUGH FIRE RATED WALL ARE TO BE CAULKED/SEALED TO MAINTAIN FIRE RATING.
11. ALL ROOF PENETRATIONS SHALL BE PROPERLY SEALED AND COMPLY WITH REQUIREMENTS OF EXISTING OR NEW ROOFING WARRANTY AND BE INSTALLED IN SUCH A MANNER AS NOT TO VOID OR LIMIT WARRANTIES OTHERWISE.
12. WIRING DEVICES: COLOR AS DIRECTED BY OWNER/ARCHITECT, 20A SPECIFICATION GRADE. SHALL BE COOPER, PASS & SEYMOUR, LEVITON, HUBBEL OR EQUAL.
13. DISCONNECT SWITCHES: SHALL BE HEAVY DUTY, QUICK MAKE, QUICK BREAK TYPE AND BE MANUFACTURED BY SQUARE D, SIEMENS, CUTLER HAMMER, OR EQUAL.
14. PANELBOARDS: SHALL HAVE BOLT-ON TYPE CIRCUIT BREAKERS, MECHANICAL STYLE LUGS, WITH 100% RATED NEUTRALS. MANUFACTURED BY SQUARE D, SIEMENS, CUTLER HAMMER, OR EQUAL.
15. GROUNDING: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC COMPONENTS OF SYSTEM. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. USE APPROVED GROUNDING CLAMPS DESIGNED FOR THE INSTALLATION. INCLUDE A SEPARATE GROUNDING CONDUCTOR IN ALL RACEWAYS, CONDUIT SYSTEM IS NOT TO BE USED AS THE SOLE GROUNDING MEANS. ALL GROUNDING SHALL BE SIZED IN ACCORDANCE WITH NEC 250
16. ALL LIGHT FIXTURES SHALL BE PROVIDED ACCORDING TO "BASIS OF DESIGN" INDICATED ON DRAWINGS. PRODUCTS SHALL BE EQUAL IN PERFORMANCE, STYLE, QUALITY TO THOSE INDICATED AND SHALL INCLUDE ALL NECESSARY COMPONENTS FOR COMPLETE INSTALLATION.
17. FIRE ALARM: AUTOMATIC ADDRESSABLE FIRE ALARM SYSTEM WITH ALL NECESSARY COMPONENTS FOR A COMPLETE SYSTEM. SHALL USE CLASS B WIRING FOR ALL INITIATING AND NOTIFICATION CIRCUITS. WIRING MAY BE FREE AIR, PLENUM RATED IN AREAS THAT ARE CONCEALED AND ACCESSIBLE, BUT MUST BE ROUTED IN CONDUIT FOR INACCESSIBLE AREAS SUCH AS WALLS OR HARD LID CEILINGS. AREAS THAT ARE EXPOSED AND/OR SUBJECT TO DAMAGE SHALL ALSO BE INSTALLED IN CONDUIT. SYSTEM SHALL INTERFACE WITH SPRINKLERS, HVAC, DOORS,ELEVATOR, ETC. AS REQUIRED. SHALL BE NOTIFIER, SIMPLE GRINNELL, SIEMENS OR EQUAL.

ELECTRICAL LEGEND

POWER

- RECESSED 1
- RECESSED PLAIN
- RECESSED SOLID
- SURFACE
- SURFACE DOOR
- BUSWAY - HORIZONTAL
- BUSWAY RISER - 200A
- DISCONNECT
- DISCONNECT STARTER
- FAN
- FUSED DISCONNECT
- HEATER
- MOTOR 1
- MOTOR 2
- MOTOR WITH DISCONNECT
- PULL BOX
- RELAY
- SOLENOID VALVE
- STARTER
- STARTER - DISCONNECT
- THERMOSTAT
- TRANSFORMER - STEP DOWN
- ROUND PLAIN JUNCTION BOX
- ROUND WALL MOUNTED JUNCTION BOX
- SQUARE JUNCTION BOX

LIGHTING

- LINEAR PENDANT
- RECESSED 1X4
- SURFACE 1X4
- SURFACE 2X2
- RECESSED 2X2
- SURFACE 2X4
- RECESSED 2X4
- STRIP FIXTURE
- WALL MOUNTED
- WALL WASH SLOT
- PENDANT
- BOLLARD
- DOWN LIGHT
- WALL MOUNTED
- DUAL HEAD EMERGENCY UNIT
- EXIT LIGHT CEILING MOUNTED
- EXIT LIGHT WALL MOUNTED
- HID POST
- HID WALL
- TRACK LIGHT
- WALL WASHER
- HATCH INDICATES EMERGENCY
- NL — NL INDICATES 24/7 NIGHT LIGHT

RECEPTACLES

- 220 VOLT
- C — COUNTERTOP
- DUPLEX
- GROUND FAULT
- C — COUNTERTOP GROUND FAULT
- IG — ISOLATED GROUND
- POLE
- POWER CONNECTION
- QUADRUPLEX
- RECESSED DOUBLE DUPLEX
- RECESSED DUPLEX 1
- SINGLE
- SPECIAL PURPOSE
- WP — WEATHER PROOF/GFCI

SWITCHES

S_{DM}	DIMMER
S_F	FAN
S_4	FOUR WAY
S_K	KEY OPERATED
S_L	LOW VOLTAGE
S_M	MOTOR
$\$_{MS}$	MOTORIZED SHADE
$\$_{PS}$	PROJECTION SCREEN
S	SINGLE POLE
S_3	THREE WAY

SECURITY

- TV CAMERA
- DL — DOOR LOCK
- K — KEY CARD

NURSE CALL

- NURSE CALL DOME LIGHT
- N — NURSE STATION
- NA — NURSE CALL - ANNUNCIATOR
- E — NURSE CALL - SHOWER STATION

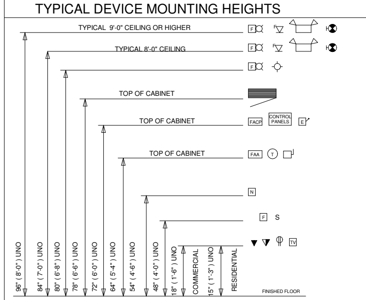
FIRE SAFETY

- S — SMOKE DETECTOR
- S_{CO} — SMOKE/CARBON DIOXIDE DETECTOR
- CO — CARBON DIOXIDE DETECTOR
- F — FIRE ALARM PULL BOX
- FIRE ALARM STROBE
- H — FIRE ALARM HORN - STROBE
- S — FIRE ALARM SPEAKER-STROBE
- H — HEAT DETECTOR
- M — MINI HORN
- M — FIRE ALARM DOOR HOLDER - MAGNETIC
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR
- TS — FIRE ALARM TAMPER -SQUARE
- FSD — FIRE/SMOKE DAMPER
- DD S — DUCT SMOKE DETECTOR - SUPPLY
- DD R — DUCT SMOKE DETECTOR - RETURN

COMMUNICATION

- BELL
- CLOCK 2
- FLOOR TELEPHONE
- IC — INTERCOM
- OS — OCCUPANCY SENSOR - 1 - WAY
- OS — OCCUPANCY SENSOR - 2 - WAY
- OS — OCCUPANCY SENSOR - CORRIDOR
- OS — OCCUPANCY SENSOR - ROUND
- OS — OCCUPANCY SENSOR - SQUARE
- PC — PHOTOCELL
- PLAIN TELEPHONE
- PUSH BUTTON
- SPEAKER SQUARE
- TELCOM CONNECTION
- TELCOM OUTLET - RECESSED
- DATA NETWORK OUTLET
- TC — TIME CLOCK
- TV — TV SQUARE
- D — WALL DIMMER
- W — WALL TELEPHONE

TYPICAL DEVICE MOUNTING HEIGHTS



NOTES:
1. HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS NOTED OTHERWISE.
2. WHEREEVER DEVISES ARE INDICATED TO BE ABOVE DOORS, DEVICE SHALL BE CENTERED BETWEEN TOP OF DOOR TRIM & CEILING LINE.
3. MOUNTING HEIGHTS SHOWN ON ARCHITECTURAL ELEVATIONS SHALL GOVERN OVER THOSE SHOWN ABOVE.

ABBREVIATIONS

AFF - ABOVE FINISHED FLOOR	GC - GENERAL CONTRACTOR
AHJ - AUTHORITY HAVING JURISDICTION	GFI - GROUND FAULT CIRCUIT INTERRUPTER
AL - ALUMINUM	GRD - GROUND
AWG - AMERICAN WIRE GAUGE	IG - ISOLATED GROUND
C - CONDUIT	NIC - NOT N CONTRACT
CKT - CIRCUIT	NL - NIGHT LIGHT
CPU - CENTRAL PROCESSING UNIT	NTS - NOT TO SCALE
CT - CURRENT TRANSFORMER	OC - ON CENTER
DISP - GARBAGE DISPOSAL	REF - REFRIGERATOR
DW - DISHWASHER	UG - UNDERGROUND
EM - EMERGENCY	UNO - UNLESS NOTED OTHERWISE
(E) - EXISTING	V - VOLT
FA - FIRE ALARM	W - WATT
FACP - FIRE ALARM CONTROL PANEL	WP - WEATHER PROOF

Electrical Sheet Index

Sheet Number	Sheet Name	Issuance Review	Issuance 5/20/22 100% CD
E001	ELECTRICAL COVER SHEET	X	X
ES101	ELECTRICAL SITE PLAN	X	X
E101	ELECTRICAL LIGHTING PLAN	X	X
E201	ELECTRICAL POWER PLAN	X	X
E202	ELECTRICAL ROOF POWER PLAN	X	X
E301	ELECTRICAL FIRE ALARM	X	X
E400	ELECTRICAL SCHEDULES	X	X
E500	ELECTRICAL DETAILS/RISER	X	X

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITING	05/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 036-22
AEED, inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

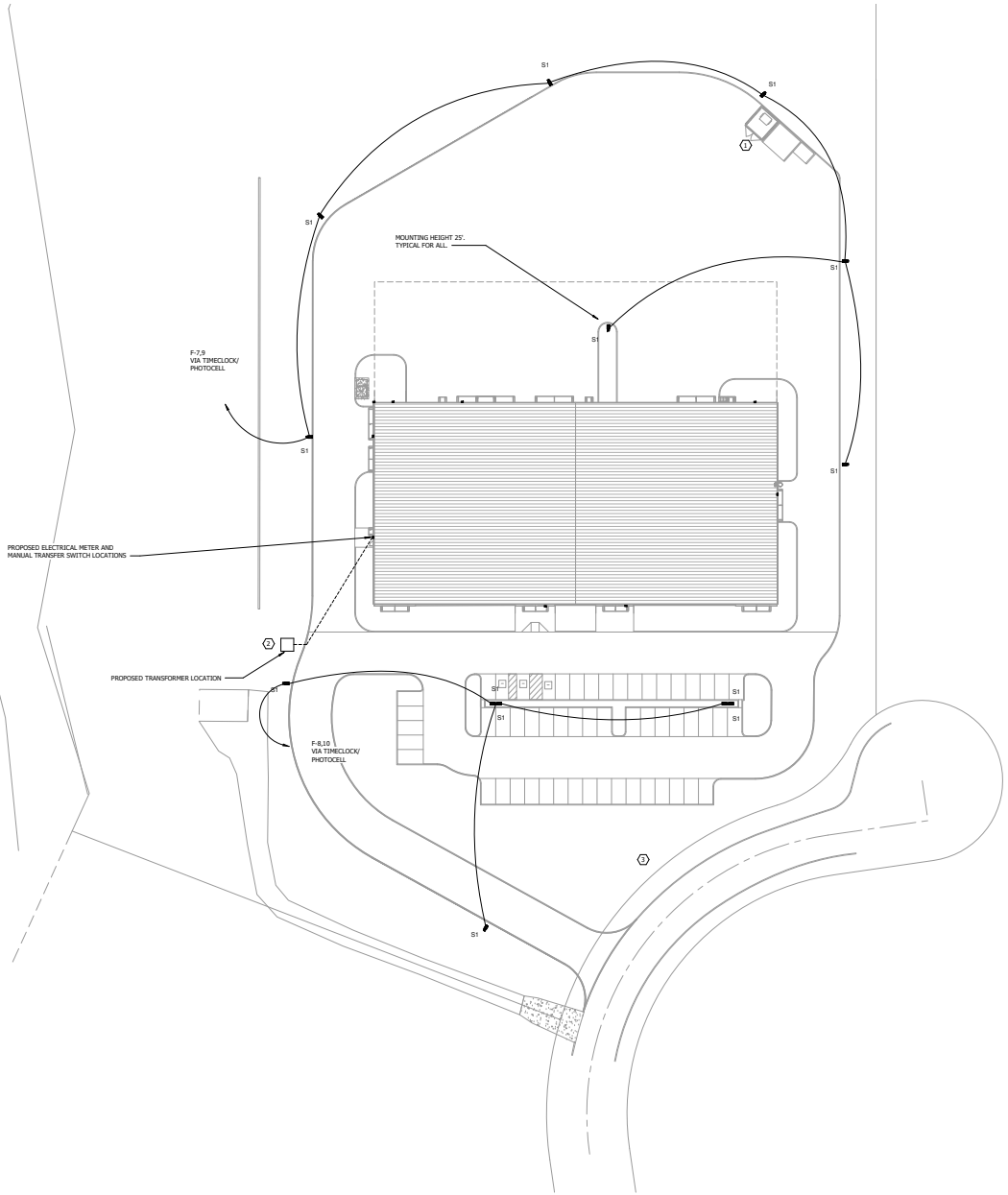
Project Number

Date 05/20/2022

Sheet Name
ELECTRICAL COVER SHEET

Sheet Number
E001

5/20/2022 2:02:50 PM C:\Users\critchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt



1 ELECTRICAL - SITE PLAN
1" = 30'-0"

ELECTRICAL SITE PLAN UNREFERENCED NOTES:

1. ALL CONDUIT, WIRING, DISCONNECTS, & SWITCHES TO BE IN COMPLIANCE WITH NFPA 70; NEC; IFC; OSHA 29CFR 1910.307(B) IN CLASSIFIED AREAS. COORDINATE EXACT REQUIREMENTS WITH BUILDING INSPECTION DEPARTMENT.
2. ALL SITE BRANCH WIRING SHALL BE A MINIMUM OF #8 HOMERUNS IN 1" CONDUIT.
3. PROVIDE (2) 4" CONDUIT FOR DATA/TELECOM SERVICE. ROUTE FROM SERVICE PEDESTAL TO IT/TELECOM ROOM AS INDICATED ON PLANS. CONFIRM REQURIEMENTS AND PEDESTAL LOCATIONS WITH OWNER'S SELECTED SERVICE PROVIDER.
4. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH NEW ELECTRICAL SERVICE. COORDINATE DIVISION OF RESPONSIBILITIES REQUIRED FOR PRIMARY AND SECONDARY WORK. ALL SECONDARY SHALL BE ROUTED IN SCHEDULE 40 PVC WITH A MINIMUM OF 24" COVER.
5. VERIFY GENERATOR CONNECTION LOCATION WITH VENDOR/OWNER. GENERATOR TO BE PORTABLE, OWNER SUPPLIED UNIT. VERIFY FINAL SPECIFICATIONS AND PERIPHERAL HARDWARE REQUIRMENTS WITH VENDOR/OWNER.

ELECTRICAL SITE PLAN REFERENCED SHEET NOTES:

1. APPROXIMATE LOCATION OF REFUELING AREA.

   NEW PANEL "F" TO SERVE FUEL ISLAND. COORDINATE LOCATION TO COMPLY WITH HAZARDOUS/FLAMMABLE MATERIAL REQUIREMENTS. FINAL CONNECTIONS TO BE BY VENDOR WITH ALL CONDUIT LEAVING PANEL TO HAVE SEAL-OFFS. AL CONDUITS, DEVICES, AND PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CLASS 1, DIVISION 1 AND 2 REQUIREMENTS. CONTROL WIRING FOR EQUIPMENT IS RESPONSIBILITY OF EQUIPMENT SUPPLIER OR OWNER.
2. COORDINATE FINAL LOCATION AND SIZE OF TRANSFORMER WITH UTILITY.
3. PROVIDE JUNCTION BOX FOR SIGANGE. VERIFY LOCATION WITH OWNER/ARCHITECT.

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22
AEED, inc.
Accessibility Engineering & Design, Inc.
4408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL SITE PLAN

Sheet Number
ES101

5/20/2022 2:02:57 PM C:\Users\crifchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt

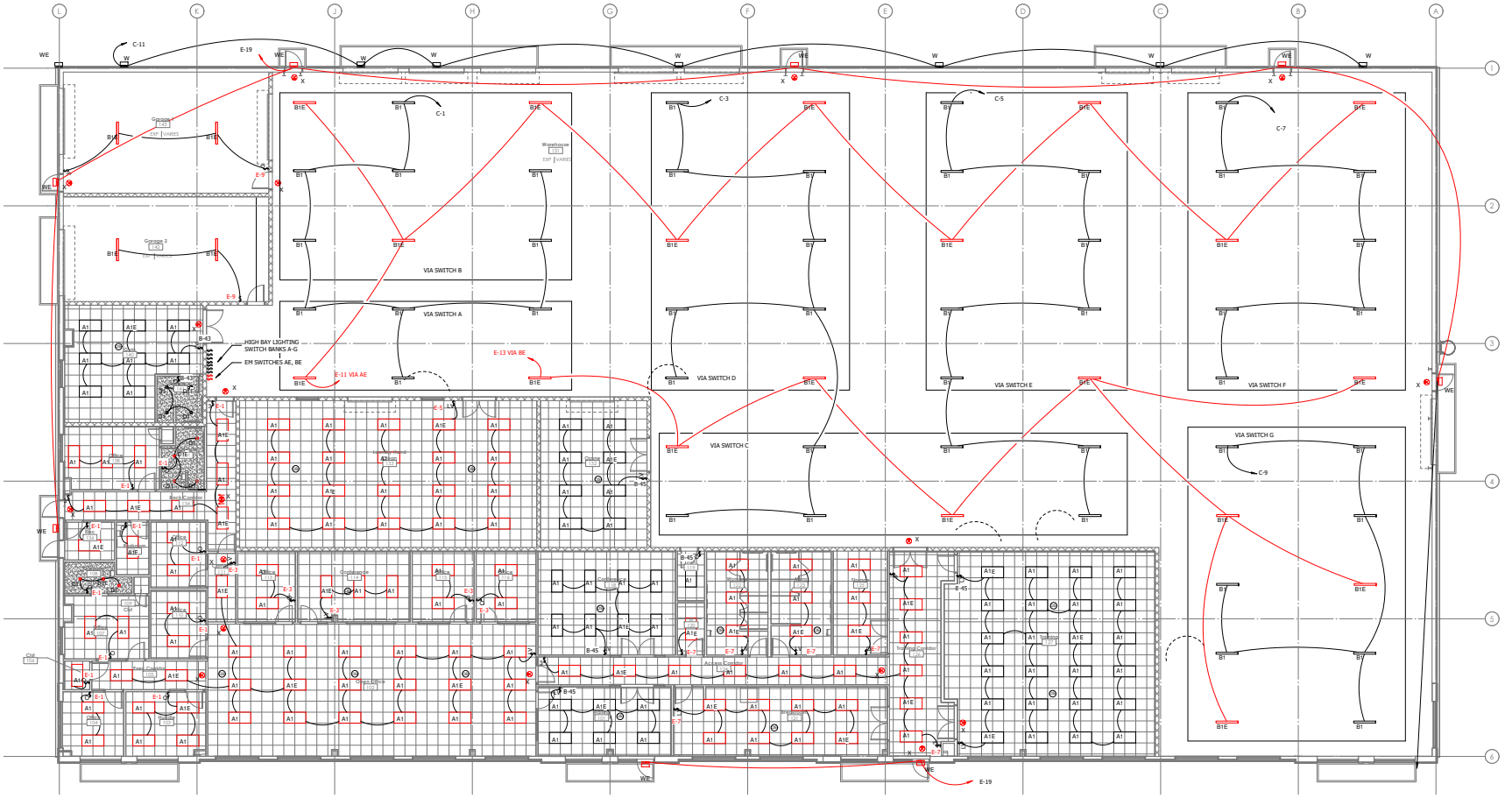
ELECTRICAL LIGHTING PLAN UNREFERENCED NOTES:

A. ALL EXIT AND EMERGENCY LIGHTING SHALL BE PROVIDED WITH AN UNSWITCHED HOT AHEAD OF ANY SWITCHES OR RELAYS. ALL EXIT SIGNS SHALL BE CIRCUITED VIA PANEL 'E'.

B. ALL EXTERIOR FIXTURES TO BE CONTROLLED VIA TIMECLOCK/PHOTOCELL.

C. ALL FIXTURES DESIGNATED WITH SUFFIX 'E' AND EXIT SIGNS SHALL HAVE INTEGRAL BATTERY BACKUP AND BE CIRCUITED TO PANEL 'E'.

D. ALL FIXTURES IN RED DESIGNATE CIRCUITS FED FROM PANEL 'E', WHICH IS FED TO PORTABLE GENERATOR BACKUP POWER.



1 ELECTRICAL - LIGHTING PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED, inc.
Accountable Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL LIGHTING PLAN

Sheet Number
E101

5/20/2022 2:02:52 PM C:\Users\crichie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt

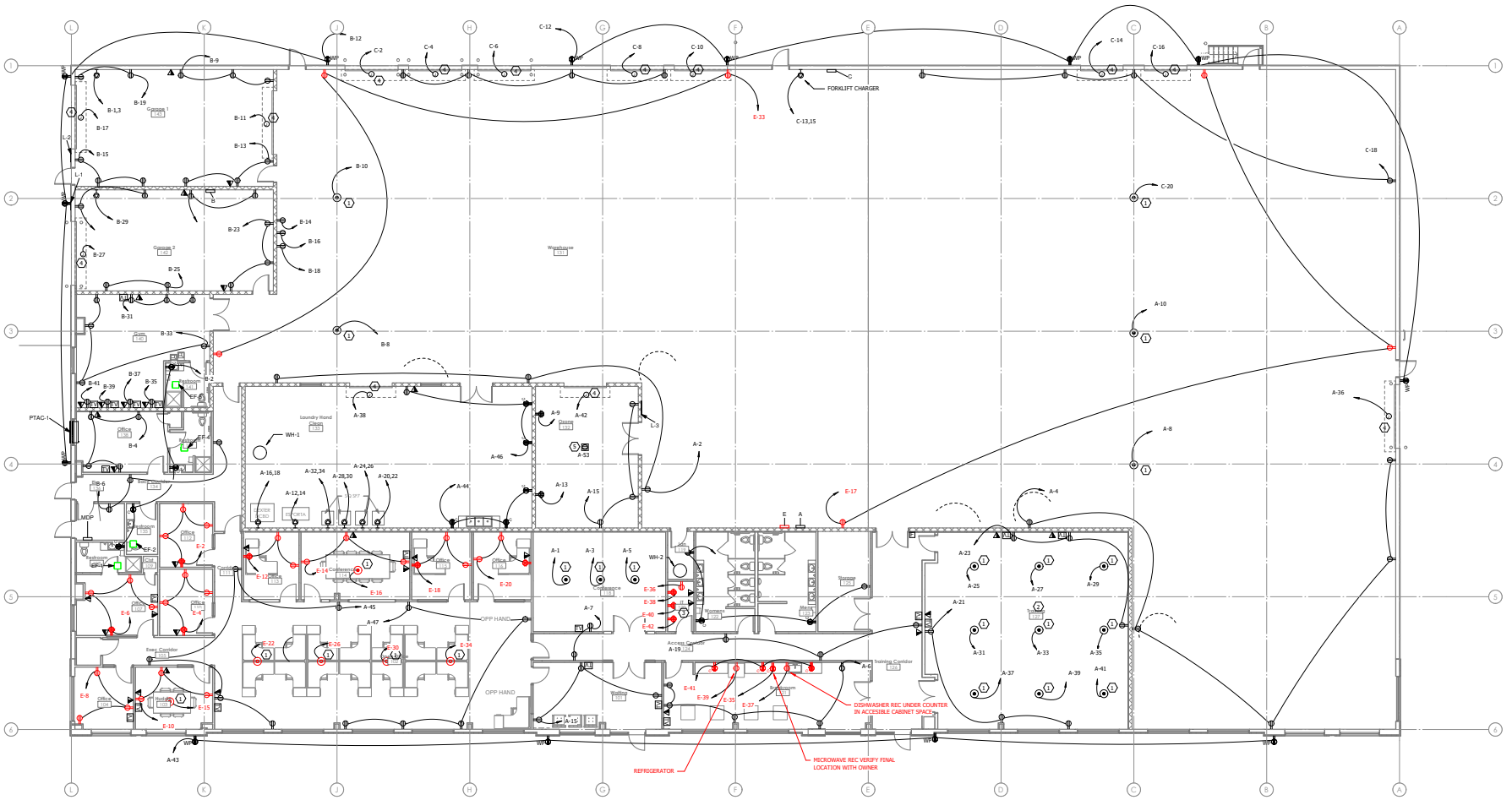
ELECTRICAL PLAN UNREFERENCED NOTES:

A. PROVIDE J-BOX AND 1-1/4" C. TO NEAREST ACCESSIBLE CEILING SPACE FOR ALL DATA OUTLETS SHOWN. WIRING BY OTHERS.

B. COORDINATE FINAL LOCATIONS AND MOUNTING HEIGHTS OF ALL TELEVISIONS WITH OWNER / ARCHITECT.

ELECTRICAL PLAN REFERENCED SHEET NOTES:

1. PROVIDE POWER AND DATA DROP THROUGH FLOOR BOX.
   (1) QUAD RECEPTACLE
   (1) SINGLE GANG FOR DATA WITH 1-1/4" CONDUIT TO NEAREST ACCESSIBLE CEILING.
2. PROVIDE CEILING QUAD POWER AND DATA RECEPTACLE FOR PROJECTOR IN TRAINING ROOM.
3. COMMUNICATIONS BACKBOARD. 4' X 8' X 3/4" PLYWOOD. COORDINATE EXACT LOACTION WITH OWNER.
4. PROVIDE JUNCTION BOX FOR ROLL UP DOOR.
5. PROVIDE CEILING RECEPTACLE FOR OWNER-PROVIDED FAN. RECEPTACLE TO BE SWITCHED.



1 ELECTRICAL - POWER PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED inc.
Engineering & Design Services
4401 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date 05/20/2022

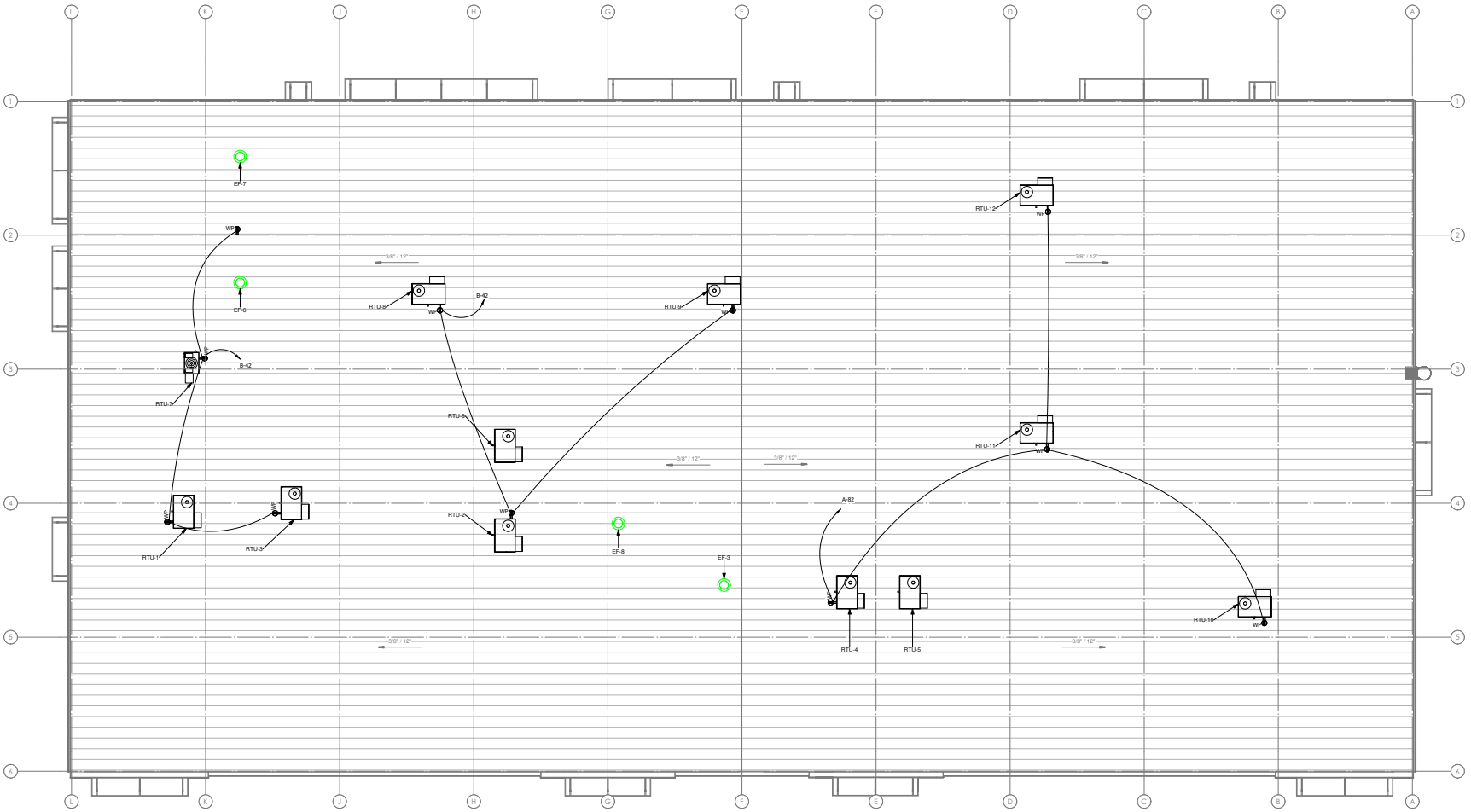
Sheet Name

ELECTRICAL POWER PLAN

Sheet Number

E201

5/20/2022 2:02:53 PM C:\Users\crtichie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt



1 ELECTRICAL - ROOF POWER PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED inc.
Autonomous Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL
ROOF POWER
PLAN

Sheet Number
E202

5/20/2022 2:02:54 PM C:\Users\crichie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt

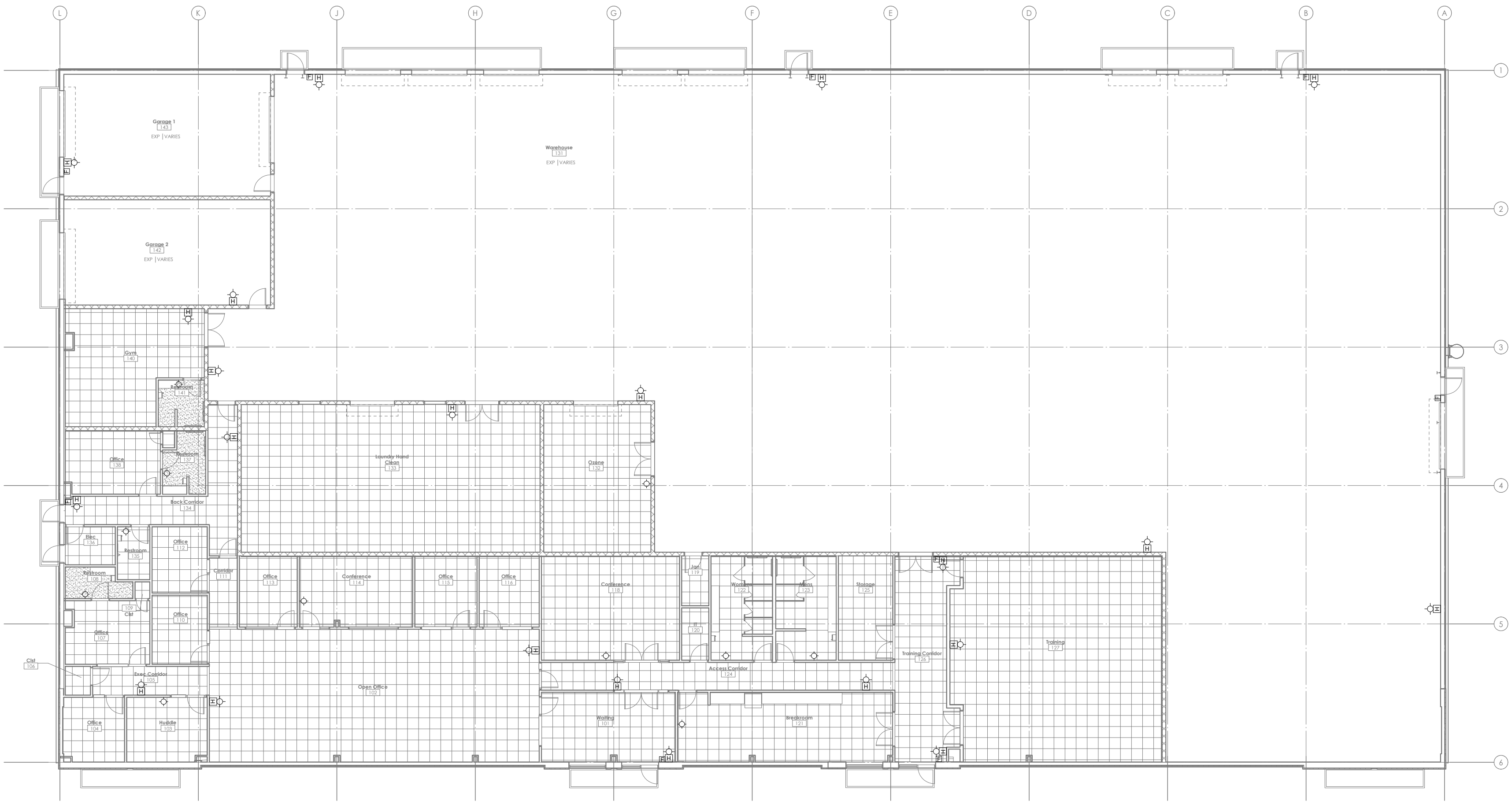
ELECTRICAL FIRE ALARM PLAN UNREFERENCED NOTES:

1. NEW FIRE ALARM SYSTEM SHALL COMMUNICATE WITH EXISTING SYSTEM FOR GENERAL BUILDING ALARM, SPRINKLER FLOW, ETC.
   - ALL VISUAL DEVICES SHALL HAVE SELECTABLE CANDELA RATINGS OF AT MINIMUM 15, 30, 75, 110 CANDELA.
   - ALL AUDIBLE DEVICES SHALL HAVE SELECTABLE WATTAGE TAPS FOR APPROXIMATE RANGE OF 75DBA- 90DBA.
   - AMBIENT NOISE IS ASSUMED TO BE AVG OF 45 DBA AND HORN SIGNALS SHALL BE A MINIMUM OF 15 DBA ABOVE AMBIENT AFTER DISTANCE AND OBSTRUCTION LOSSES.
   - ALL PULL STATIONS IN AREAS ACCESSIBLE TO THE PUBLIC SHALL BE PROVIDED WITH PROTECTIVE COVERS
2. FACP AND ANNUNCIATOR FED FROM 'E' PANEL.

ELECTRICAL FIRE ALARM PLAN REFERENCED SHEET NOTES:

(1) FIRE ALARM ANNUNCIATOR PANEL. PROVIDE 120V CIRCUIT TO LP-C1 AND COMMUNICATION BACK TO THE MAIN FIRE ALARM PANEL AS REQUIRED. PROVIDE LOCKING CLIP WITH BREAKER. BREAKER MUST BE IDENTIFIED AS "FIRE ALARM CIRCUIT" THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIDFIED AT THE FIRE ALARM CONTROL UNIT.

(2) PROVIDE 120V CONTROL CIRCUIT AND FIRE ALARM ZAM AT EACH MECHANICALLY PROVIDED FIRE SMOKE DAMPER/SMOKE DAMPER. CIRCUIT DAMPERS TO NEAREST 120V PANEL.



(1) ELECTRICAL - FIRE ALARM PLAN
1/8" = 1'-0"

FIRE ALARM DESIGN NOTE

ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM AND COMMUNICATION SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATION SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM. IFC 901.6.2.1

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO.	DESCRIPTION	DATE
0	PERMITING	05/20/2022

REVISIONS

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3458
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date 05/20/2022

Sheet Name
ELECTRICAL FIRE ALARM

Sheet Number
E301

C:\Users\critchie\Documents\036-22 AEED Central Model RVT21_carolyn.ritchie.rvt

5/20/2022 2:02:55 PM

MECHANICAL EQUIPMENT SCHEDULE

MARK	DESCRIPTION	LOCATION	VOLT / PHASE	HP / WATTS	FLA	MCA	MOCP	DISCONNECT/ FUSE SIZE	FEEDER	CIRCUIT	SPECIFIC NOTES
RTU-1	ROOFTOP UNIT	ROOF	208/3	7463.32	20.8	26.0	30.0	30A DISC	3(#3WG)	B-24,26,28	
RTU-2	ROOFTOP UNIT	ROOF	208/3	8934.35	24.8	31.0	40.0	60A DISC	4(#3WG)	E-27,29,31	
RTU-3	ROOFTOP UNIT	ROOF	208/3	7463.32	20.8	26.0	30.0	30A DISC	3(#3WG)	B-30,32,34	
RTU-4	ROOFTOP UNIT	ROOF	208/3	8934.35	24.8	31.0	40.0	60A DISC	4(#3WG)	A-48,50,52	
RTU-5	ROOFTOP UNIT	ROOF	208/3	8934.35	24.8	31.0	40.0	60A DISC	4(#3WG)	A-54,56,58	
RTU-6	ROOFTOP UNIT	ROOF	208/3	7463.32	20.8	26.0	30.0	30A DISC	3(#3WG)	A-60,62,64	
RTU-7	ROOFTOP UNIT	ROOF	208/1	3610.88	17.4	21.7	30.0	30A DISC	3(#2WG)	B-20,22	
RTU-8	ROOFTOP UNIT	ROOF	208/3	8357.94	23.2	29.0	40.0	60A DISC	4(#3WG)	B-36,38,40	
RTU-9	ROOFTOP UNIT	ROOF	208/3	8357.94	23.2	29.0	40.0	60A DISC	4(#3WG)	C-32,34,36	
RTU-10	ROOFTOP UNIT	ROOF	208/3	8357.94	23.2	29.0	40.0	60A DISC	4(#3WG)	A-66,68,70	
RTU-11	ROOFTOP UNIT	ROOF	208/3	8357.94	23.2	29.0	40.0	60A DISC	4(#3WG)	A-72,74,76	
RTU-12	ROOFTOP UNIT	ROOF	208/3	8357.94	23.2	29.0	40.0	60A DISC	4(#3WG)	C-38,40,42	
EF-1	EXHAUST FAN	RESTROOM	115/1	18 W	0.2	0.2	20.0		2(#3WG)	B-43	1,3
EF-2	EXHAUST FAN	RESTROOM	115/1	13 W	0.1	0.1	20.0		2(#3WG)	B-43	1,3
EF-3	EXHAUST FAN	ROOF	115/1	1/6	125.0	1.1	20.0		2(#3WG)	A-78	1,2
EF-4	EXHAUST FAN	RESTROOM	115/1	18 W	0.2	0.2	20.0		2(#3WG)	E-1	1,3
EF-5	EXHAUST FAN	RESTROOM	115/1	18 W	0.2	0.2	20.0		2(#3WG)	E-1	1,3
EF-6	EXHAUST FAN	ROOF	115/1	1/6	125.0	1.1	20.0		2(#3WG)	C-28	1,2
EF-7	EXHAUST FAN	ROOF	115/1	1/6	125.0	1.1	20.0		2(#3WG)	C-30	1,2
EF-8	EXHAUST FAN	ROOF	115/1	1/2	1500.0	13.0	20.0		2(#3WG)	A-80	1,2,4
GH-1	UNIT HEATER	GARAGE	115/1	218.5	1.5	1.9	20.0	30A DISC	2(#3WG)	B-46	
GH-2	UNIT HEATER	GARAGE	115/1	218.5	1.5	1.9	20.0	30A DISC	2(#3WG)	B-48	
PTAC-1	PTAC	OFFICE	208/1	3244.8	15.6	19.5	20.0	30A DISC	2(#3WG)	TBD	
WH-1	WATER HEATER	LAUNDRY	208/1	12000	57.7	72.1	80.0	90A DISC	2(#3WG)	A-49,51	
WH-2	WATER HEATER	JANITOR	208/1	4500	21.6	27.0	30.0	30A DISC	2(#3WG)	B-49,51	
L-1	LOUVER	GARAGE 2	120/1	250	2.1	2.6	20.0		2(#3WG)	B-50	5
L-2	LOUVER	GARAGE 1	120/1	250	2.1	2.6	20.0		2(#3WG)	B-52	5
L-3	LOUVER	OZONE	120/1	250	2.1	2.6	20.0		2(#3WG)	A-84	5

GENERAL NOTES:
- A. ALL STARTERS FOR ALL EQUIPMENT LISTED ON THIS SCHEDULE ARE PROVIDED BY THE MECHANICAL CONTRACTOR, U.N.O.
- B. PROVIDE PHASE PROTECTION FOR ALL THREE PHASE MOTORS ABOVE 7-1/2 HP.
- C. PROVIDE ALL EXTERIOR DISCONNECTS WITH NEMA 3R RATING.
- D. ALL MECHANICAL/AIR HANDLING EQUIPMENT WITH RATINGS OF 2000 CFM AND GREATER SHALL BE PROVIDED WITH SUPPLY AND RETURN DUCT DETECTORS AND SHUT DOWN EQUIPMENT UPON ACTIVATION. DETECTORS SHALL BE PROVIDED BY EC, INSTALLED BY MC AND WIRED BY EC.
- E. COORDINATE ALL DISCONNECTS WITH MECHANICAL CONTRACTOR AND ACTUAL EQUIPMENT NAMEPLATE IN FIELD.

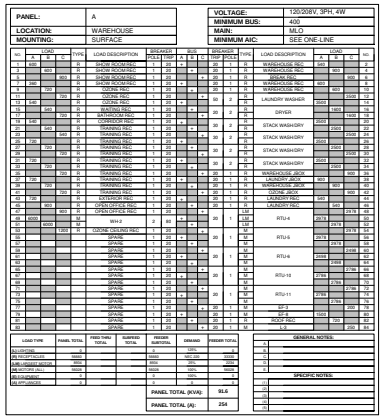
SPECIFIC NOTES:
- (1) PROVIDE FAN WITH DISCONNECT.
- (2) EXHAUST FAN TO RUN CONTINUOUSLY DURING HOURS OF OPERATION.
- (3) FAN TO OPERATE WITH LIGHTSWITCH.
- (4) INCLUDE COMPLETE WITH 24V TRANSFORMER AND REMOTE DIAL FOR SPEED CONTROL, PROVIDED/INSTALLED BY MECH CONTRACTOR, WIRED BY EC.
- (5) ELECTRICAL CONTRACTOR TO COORDINATE WIRING REQUIRED FOR INTERLOCKING OF LOUVERS WITH FAN.

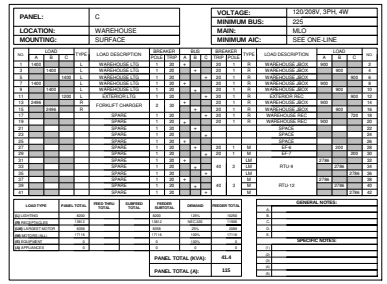
LUMINAIRE SCHEDULE

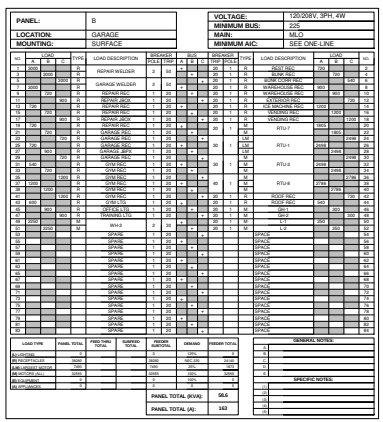
TYPE	DESCRIPTION	MOUNTING	RECESS DEPTH	TYPE	INPUT WATTS	VOLT	MANUFACTURER	CATALOG NUMBER	SPECIFIC NOTES
A1	2X4 TROFFER, HALLWAYS/OFFICES	RECESSED		LED	32	120/1	COLUMBIA LIGHTING	LCAT24--35MLG-ESDU	1
B1	HIGH BAY LIGHTING, WAREHOUSE, GARAGES	SUSPENDED		LED	137	120/1	COLUMBIA LIGHTING	CLB2-40MH-N-EDU	
D1	RESTROOM DOWNLIGHTS	RECESSED		LED	35	120/1	PRESCOLITE	LOBMLDM1-6LCML24L35K	
W	EXTERIOR WALL PACK	SURFACE		LED	80	120/1	DECO	VINCI-LED-80W-40-UNV-BZ	
WE	EXTERIOR EGRESS LIGHTING	SURFACE		LED	15	120/1	LUMINAIRE LED	YOVV-13-15W-3500K-120-OP-PCEMB310-CAB-TX/SD	
S1	SITE LUMINAIRE	POLE		LED	150	120/1	HUBBLE	ASL1-160L-100-3K7-4W	2
X	EXIT SIGN	SURFACE		LED	5	120/1	BEGHELLI	PX-R-SA-AT	
Y	EMERGENCY LIGHT	SURFACE		LED	5	120/1	BEGHELLI	PEH-1	
XY	EM / EXIT COMBO	SURFACE		LED	5	120/1	BEGHELLI	PCH-R-AT	

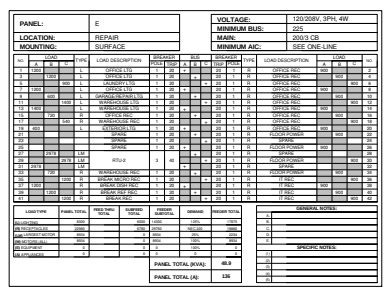
GENERAL NOTES:
- A. THE LUMINAIRE SCHEDULE CAN NOT BE USED INDEPENDENTLY OF THE DRAWINGS AND SPECIFICATIONS TO OBTAIN LUMINAIRE COSTS. THE INDIVIDUAL ESTABLISHING LUMINAIRE COSTS SHALL NOT QUOTE PRICING WITHOUT FIRST SEEING APPLICABLE ELECTRICAL DRAWINGS AND ELECTRICAL DIVISION SPECIFICATIONS. THE CONTRACTOR IS REPONSIBLE FOR PROVIDING NECESSARY DRAWINGS AND SPECIFICATIONS TO THE INDIVIDUAL QUOTING LUMINAIRE PRICING.
- B. REFER TO DRAWINGS FOR FIXTURES REQUIRING EMERGENCY BATTERY BACKUP OPTION (SHOWN BY HATCH IN/OVER SYMBOL). MINIMUM LIGHT OUTPUT SHALL BE 600 LUMENS.
- C. ALL FIXTURES ARE TO BE 3500° KELVIN COLOR TEMPERATURE UNLESS SPECIFIED OTHERWISE

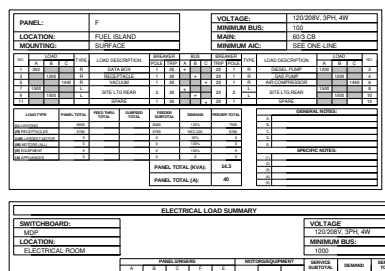
SPECIFIC NOTES:
- (1) FIXTURE SHALL BE DIMMABLE.
- (2) PROVIDE 25' LIGHT POLE. COORDINATE POLE SHAPE, SELECTION, FINISH WITH OWNER/ARCHITECT.
- (3)
- (4)

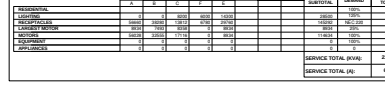












APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	PERMIT SET	5/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED 30NHD 05/22

AEED inc.
Architecture & Engineering & Design, Inc.
408 MCCALLIE AVE.
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

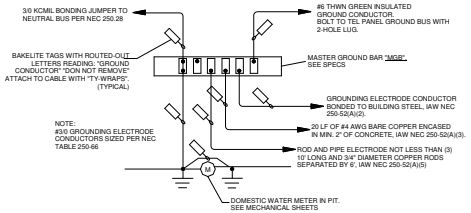
Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL SCHEDULES

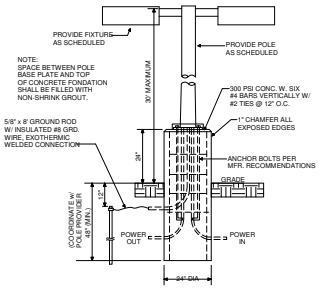
Sheet Number
E400

5/20/2022 2:02:58 PM C:\Users\chchie\Documents\038-22 AEED Central Model RVT21_carolyn.chchie.rvt



GROUNDING DIAGRAM

① GROUNDING DIAGRAM
N.T.S.



DETAIL - LIGHT POLE

② LIGHT POLE DETAIL
N.T.S.

SERVICE WIRING SCHEDULE

AMPS	COPPER						ALUMINUM					
	(600) 3/0, 3 WIRE	(600) 3/0, 3 WIRE	GROUNDING ELECTRODE CONDUCTOR				(600) 3/0, 3 WIRE	(600) 3/0, 4 WIRE	GROUNDING ELECTRODE CONDUCTOR			
			M.P.	M.P.	C.E.C.	G.RING	G. ROD			M.P.	C.E.C.	G.RING	G. ROD
600	3(2-300 KCMIL& 1/0*C)	3(4-300 KCMIL) P/C	#4/0 CU	#3/0 CU	#3/0 CU	#3/0 CU	#4 CU	3(2-500 KCMIL) P/C	3(2-400 KCMIL) P/C	#3/0 CU	#3/0 CU	#3/0 CU	#4 CU

CONDUIT SIZES ARE BASED ON NEC TABLE 4 (PVC) AND TABLE 5 (THWN INSULATION)
ABBREVIATIONS: M.P. - MASTER PIPE; M.P. - METAL FRAME OF STRUCTURE; C.E.C. - CONCRETE ENCASED ELECTRODE; G.RING - GROUND RING; G.ROD - GROUND ROD; PIPE OR PLATE ELECTRODE

WIRING SCHEDULE

AMPS	COPPER (600) 3/0, 3 WIRE, GROUND	(600) 3/0, 3 WIRE, GROUND OR 3/0, 3 WIRE, GROUND	(600) 3/0, 4 WIRE, GROUND	ALUMINUM (600) 3/0, 3 WIRE, GROUND	(600) 3/0, 3 WIRE, GROUND OR 3/0, 3 WIRE, GROUND	(600) 3/0, 4 WIRE, GROUND	AMPS
20	(2)#12 & 1#12 G(3/4"C)	(2)#12 & 1#12 G(3/4"C)	(4)#12 & 1#12 G(3/4"C)				20
30	(2)#10 & 1#10 G(3/4"C)	(2)#10 & 1#10 G(3/4"C)	(4)#10 & 1#10 G(3/4"C)				30
40	(2)6 & 1#10 G(3/4"C)	(2)6 & 1#10 G(3/4"C)	(4)6 & 1#10 G(1"C				40
50	(2)4 & 1#10 G(3/4"C)	(2)4 & 1#10 G(1"C	(4)4 & 1#10 G(1"C				50
60	(2)4 & 1#10 G(1"C	(2)4 & 1#10 G(1"C	(4)4 & 1#10 G(1 1/4"C				60
70	(2)4 & 1#8 G(1"C	(2)4 & 1#8 G(1 1/4"C	(4)4 & 1#8 G(1 1/4"C				70
80	(2)2 & 1#8 G(1"C	(2)2 & 1#8 G(1 1/4"C	(4)2 & 1#8 G(1 1/2"C				80
225	(2)4/0 & 1#4 G(2"C	(2)4/0 & 1#4 G(2"C	(4)4/0 & 1#4 G(2 1/2"C	(2-300 KCMIL & 1#2 G(2"C	(2-300 KCMIL & 1#2 G(2 1/2"C	(4-300 KCMIL & 1#2 G(2"C	225
400	2(2)4/0 & 1#3 G(2 1/2"C)	2(2)4/0 & 1#3 G(2"C)	2(4)4/0 & 1#3 G(2 1/2"C)	2(2-250 KCMIL & 1#1 G(2"C)	2(2-250 KCMIL & 1#1 G(2 1/2"C)	2(4-250 KCMIL & 1#1/0 G(2"C)	400
600	3(2-300 KCMIL & 1#1/0 G(2"C)	3(2-300 KCMIL & 1#1/0 G(3 1/2"C)	3(4-300 KCMIL & 1#1/0 G(2"C)	3(2-400 KCMIL & 1#3/0 G(2 1/2"C)	3(2-400 KCMIL & 1#3/0 G(3"C)	3(4-400 KCMIL & 1#3/0 G(2 1/2"C)	600

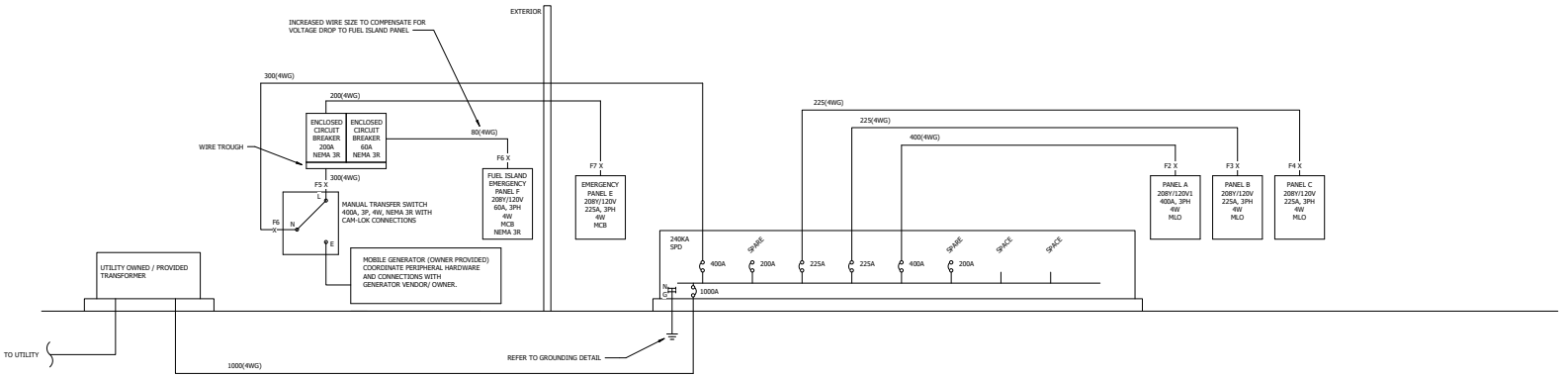
CONDUCTOR SIZES ARE BASED ON 60° TEMPERATURE RATED THWN WIRE FOR TERMINATIONS OPERATING LESS THAN 100A PER NEC 110.14
ADJUSTMENT FACTORS ARE BASED ON 90° TEMPERATURE RATINGS PER NEC 110.14
CONDUIT SIZES ARE BASED ON NEC CH 9 TABLE 4 (EMT, RIGID) AS PER SCHED CODE AND TABLE 5 (THWN INSULATION)

SHORT CIRCUIT CALCULATIONS SUMMARY

PART	EQUIP.	LENGTH	VOLT	WIRE SIZE	CONDUCTOR MATERIAL	CONDUIT	# OF CABLES (S or T)	VOLTAGE CLASS (V)	C VALUE *	# OF PARALLEL RUNS	Isc AVAILABLE UPSTREAM	f *	M *	Isc (FAULT) *	LET THRU (AIC)	PART
F1	MDP	100	208	400	A	S	600	S	10,670	3	43,422	1	1	25,201	N/A	F1
F2	PANEL A	135	208	250	A	S	601	S	12,132	2	25,201	1	0	17,601	N/A	F2
F3	PANEL B	75	208	250	A	S	602	S	12,132	1	11,621	1	1	7,269	N/A	F3
F4	PANEL C	165	208	250	A	S	603	S	12,132	1	7,269	1	1	3,965	N/A	F4
F5	ENCLOSED CB	75	208	250	A	S	604	S	12,132	2	3,985	0	1	3,614	N/A	F5
F6	PANEL F	200	208	4	A	S	605	S	2,345	1	3,614	3	0	1,013	N/A	F6
F7	PANEL E	150	208	250	A	S	606	S	12,132	1	1,013	0	1	917	N/A	F7
AUTOMATICALLY CALCULATED																

UTILITY TRANSFORMER SIZE: 250 KVA 1.0% Z 208 V
MAXIMUM AVAILABLE (SYMMETRICAL) FAULT AT THE SECONDARY: 43422 AMPS

NOTE: TRANSFORMER SIZE AND IMPEDANCE ARE ASSUMED FOR WORST CASE. EC SHALL REPORT ACTUAL UTILITY DATA TO ENGINEER DURING SUBMITTAL PHASE PRIOR TO RELEASING EQUIPMENT FOR ORDER.



APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
	REVISIONS	

Project Name
SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED 20NOV 03/22

AEED inc.
Mechanical & Electrical Engineering & Design Firm
408 MCCALLIE AVE.
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructionadm.com
CONSTRUCTION & ARCHITECTURE

Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL DETAILS/RISER

Sheet Number
E500

5/20/2022 2:02:58 PM C:\Users\richie\Documents\038-22 AEED Central Model RVT21_carolynn.ritchie.rvt

7 6 5 4 3 2 1

E D C B A

ABBREVIATIONS

CO	CLEAN OUT	HW	DOMESTIC HOT WATER
CD	CONDENSATE DRAIN	HWR	DOMESTIC HOT WATER RECIRC
CW	DOMESTIC COLD WATER	IWH	INSTANT. WATER HEATER
DF	DRINKING FOUNTAIN	LAV	LAVATORY
ECO	EXTERIOR CLEANOUT	MS	MOP SINK
EEW	EMERGENCY EYE WASH	MV	MEDICAL VACUUM
EWH	ELECTRIC WATER HEATER	O2	MEDICAL OXYGEN
EWC	ELECTRIC WATER COOLER	RD	ROOF DRAIN
EX	EXISTING	SH	SHOWER
FD	FLOOR DRAIN	SK	SINK
FPHB	FREEZE PROOF HOSE BIB	TUB	BATHTUB
FS	FLOOR SINK	UR	URINAL
G	GAS	VTR	VENT THROUGH ROOF
GM	GAS METER	WC	WATER CLOSET
GI	GREASE INTERCEPTOR	WCO	WALL CLEAN OUT
GWH	GAS FIRED WATER HEATER	WH	WATER HEATER
GW	GREASE WASTE	WHA	WATER HAMMER ARRESTOR
HB	HOSE BIB		

PLUMBING LEGEND

Symbol	Abbreviation	Description
	CW	COLD WATER
	HW	HOT WATER
	HWR	HOT WATER RECIRC
	SAN	SANITARY WASTE
	SAN	SANITARY WASTE BELOW FLOOR
	V	VENT
SD	SD	STORM/OVERFLOW
G	G	NATURAL GAS
CD	CD	CONDENSATE DRAIN
A	A	MEDICAL AIR
O	O	MEDICAL OXYGEN
V	V	MEDICAL VACUUM
	-	ARROW INDICATES DIRECTION OF FLOW
	-	UNION
	WTS	WATER TIGHT SLEEVE
	SOV	SHUT-OFF VALVE
	CV	CHECK VALVE
	PRV	PRESSURE REDUCING VALVE
	CS	CIRCUIT SETTER
	MV	MIXING VALVE
	FPHB & HB	FREEZE PROOF HOSE BIBB WITH SOV INLINE
	BFP	REDUCED PRESSURE BACKFLOW PREVENTER
	GM	GAS METER
	TP	AUTOMATIC TRAP PRIMER
	VRV	VACUUM RELIEF VALVE
	T & P	TEMPERATURE & PRESSURE RELIEF VALVE
	W & T	WASTE & TRAP
P	PG	PRESSURE GAUGE WITH ISOLATION VALVE
T	TG	PRESSURE GAUGE WITH ISOLATION VALVE
	WHA	WATER HAMMER ARRESTOR
	CO	CLEANOUT PLUG FLUSH WITH FLOOR
	CO & WCO	CLEANOUT PLUG OR WALL CLEAN OUT
	VTR	VENT THROUGH ROOF
	CVK	CONCENTRIC VENT KIT
	RCP	RECIRCULATION PUMP
	POC	POINT OF CONNECTION

PLUMBING GENERAL NOTES

1. CODES AND PERMITS: ALL WORK TO BE DONE IN ACCORDANCE WITH APPLICABLE LOCAL AND STATE CODES. PERMIT AND CONNECTION FEES TO BE PAID BY CONTRACTORS AS REQUIRED. WARRANTY: WORK AND MATERIALS TO BE WARRANTED FOR ONE (1) YEAR AFTER PROJECT COMPLETION.
2. THE CONTRACTOR SHALL FURNISH ALL LABOR, INSTALL ALL MATERIAL AND EQUIPMENT AND INCLUDE SERVICES AND INCIDENTALS TO THE INSTALLATION OF WORK INVOLVED FOR A COMPLETE AND OPERATING FACILITY.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS, INSPECTIONS AND PAY ALL FEES REQUIRED FOR THIS JOB.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLING ANY EQUIPMENT SHIPPED IN SECTIONS, IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
5. EACH EQUIPMENT CONNECTION TO HAVE SHUT-OFF COCK, DRIP LEG, AND UNION. WHERE DISTRIBUTION PRESSURE IS HIGHER THAN UTILIZATION PRESSURE, PROVIDE SUITABLE PRESSURE REGULATOR.
6. PLUMBING FIXTURES, TRIM, AND ACCESSORIES: PROVIDE FIXTURES, TRIM, CARRIERS, AND ACCESSORIES AS SCHEDULED AND REQUIRED FOR COMPLETE INSTALLATION AND PROPER OPERATION. NO "ALTERNATES" OR "EQUALS" MAY BE USED WITHOUT THE WRITTEN PRE-AUTHORIZATION BY THE ARCHITECT OR ENGINEER.
7. FAUCETS FOR LAVATORIES AND SINKS TO HAVE WASHERLESS CARTRIDGES WITH POSITIVE POSITIONING SHUTOFF AGAINST METALLIC OR CERAMIC STOPS.
8. HANDICAPPED PROVISIONS: HEIGHT OF FIXTURES DESIGNATED FOR HANDICAPPED USE SHALL BE IN ACCORDANCE WITH ANSI A117.1-80, ADA, OR LOCALLY APPLICABLE HANDICAP CODES.
9. OFFSET P-TRAPS TO MAXIMIZE KNEE SPACE AT SINKS AND LAVATORIES. INSULATE EXPOSED WATER AND WASTE PIPING WITH PREFABRICATED INSULATION ASSEMBLY.
10. FLUSH OPERATOR DEVICE FOR WATER CLOSETS TO BE LOCATED ON SIDE OF FIXTURE WITH WIDE DIMENSION IN TOILET STALL OR ENCLOSURE.
11. THE PLUMBING DRAWINGS ARE DIAGRAMMATIC AND SHOW ONLY THE RELATIONSHIP BETWEEN EQUIPMENT AND CONNECTION. DO NOT SCALE THE DRAWINGS FOR EXACT SIZES OR LOCATIONS. FIELD VERIFY ALL DIMENSIONS PRIOR TO INSTALLATION OR FABRICATION.
12. AS PART OF THE PROJECT CLOSEOUT THE PLUMBING CONTRACTOR SHALL PROVIDE FULL PLUMBING SYSTEM AS-BUILTS AS WELL AS TEST AND BALANCE REPORTS OF ALL PERTINENT SYSTEMS.
13. INSTALL PIPING TIGHT TO BEAMS, JOISTS, COLUMNS, WALLS AND OTHER PERMANENT ELEMENTS OF THE BUILDING. PROVIDE SPACE TO PERMIT INSULATION APPLICATIONS WITH 1" CLEARANCE OUTSIDE THE INSULATION. ALLOW SUFFICIENT SPACE ABOVE REMOVABLE CEILING PANELS TO ALLOW REMOVAL.
14. REFER TO PLUMBING FIXTURE SCHEDULES FOR WATER, WASTE AND VENT CONNECTION SIZES.
15. PROVIDE AUTOMATIC TRAP PRIMERS FOR ALL FLOOR DRAINS AND FLOOR SINKS, WHICH ARE LOCATED IN INTERIOR SPACES. PRIMERS TO BE INSTALLED IN CW PIPING AT NEAREST SUITABLE FIXTURE, PREFERABLY A LAVATORY. TRAPS TO HAVE FACTORY FABRICATED FITTINGS TO RECEIVE PRIMER LINE. PRIMERS TO HAVE AUTOMATIC OPERATION, WITH BRONZE BODY, INTEGRAL VACUUM BREAKER, NON-LIMING INTERNAL OPERATING ASSEMBLY, GASKETED BRONZE COVER, AND 1/2" CONNECTIONS. PRIMERS TO BE ZURN Z1022 OR EQUAL.
16. PROVIDE SLEEVES FOR PIPES THRU FLOORS, MASONRY WALLS & FIRE OR SMOKE PARTITIONS. PENETRATIONS THROUGH WALLS AND FLOORS BELOW GRADE AND OUTSIDE WALLS SHALL BE SEALED AND CAULKED WATER, MOISTURE AND AIR TIGHT TO ARCHITECT APPROVAL.
17. ALL PLUMBING PIPING ROUTING IN PLENUM RETURNS ARE TO BE PLENUM RATED.

PLUMBING SPECIFICATIONS

DOMESTIC WATER:

1. BACK FLOW PREVENTER AT THE BUILDING SERVICE ENTRY SHALL BE LOCAL AUTHORITY APPROVED TYPED IRRESPECTIVE OF WHAT IS SHOWN ON THE DRAWINGS. THE REQUIRED TYPE SHALL BE VERIFIED PRIOR TO BID. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH RECOMMENDED CLEARANCES FOR TESTING AND SERVICE. BACK FLOW PREVENTER SHALL BE LOCATED IN ACCORDANCE WITH STATE CODES, LOCAL CODES AND AUTHORITY HAVING JURISDICTION.
2. ALL COLD WATER SUPPLY LINES TO HAVE IN-LINE SHUT-OFF VALVES AT CONNECTION POINT TO MAIN. ALL BRANCH DOMESTIC WATER PIPING TO PLUMBING FIXTURES TO HAVE IN-LINE SHUT-OFF VALVES. LOCATE SHUT-OFF VALVES WITHIN EASY REACH ABOVE SUSPENDED CEILINGS. SEE ARCH REFLECTED CEILING PLAN.
3. INTERIOR ABOVE SLAB - TYPE L HARD-DRAWN COPPER WITH SOLDERED JOINTS.
4. INTERIOR BELOW SLAB - TYPE L SOFT DRAWN COPPER WITHOUT JOINTS IN SIZES 1-1/4" AND SMALLER, AND SILVER-BRAZED JOINTS IN SIZES 1-1/2" AND LARGER.
5. EXTERIOR BURIED PIPING - TYPE L HARD-DRAWN COPPER WITH SOLDERED JOINTS, OR LOCAL CODES PERMITTING, POLYPROPYLENE (PP-R) SDR-11 'GREENPIPE' WITH FUSION WELDED JOINTS. INSTALL #10 AWG COPPER TRACER WIRE WITH PLASTIC PIPING AND TERMINATE ABOVE GRADE AT BUILDING.
6. INSULATION: INSULATE DOMESTIC WATER LINES ABOVE GRADE WITH CLOSED CELL ELASTOMETRIC INSULATION. THICKNESS AS FOLLOWS: 1/2" AT CW LINES AND 1" AT HW.
7. IF DOMESTIC WATER PIPING MATERIAL USED IN PEX-A ALL SIZES INDICATED ARE TO BE INCREASED BY ONE PIPE SIZE. IF USING PEX-A AND ASTM F1960 COLD EXPANSION FITTINGS, UP-SIZING IS NOT REQUIRED.

SANITARY, WASTE AND VENT (DWV) & STORM SYSTEM:

1. ROUTE PIPING AS SHOWN. MAKE ALL CHANGES IN DIRECTION FOR PIPING USING APPROPRIATE "Y" BRANCHES, STRAIGHT TEES AND ELBOWS. MAKE NO CHANGE IN DIRECTION OF FLOW GREATER THAN 90 DEGREES. REDUCTION OF THE SIZE OF PIPING IN THE DIRECTION OF FLOW IS PROHIBITED. SLOPE PIPING A MINIMUM OF 1/8 INCH PER FOOT.
2. ALL LOCATIONS - NO-HUB CAST IRON WITH GASKETED JOINTS FOR ALL BURIED STORM AND SANITARY PIPING. DWV (SCH. 40) SOLID WALL PVC WITH SOLVENT-WELDED JOINTS ACCEPTABLE ABOVE GRADE. STORM PIPING MUST BE PROVIDED WITH 1" THICK CLOSED CELL ELASTOMERIC INSULATION. CELLULAR (FOAM) CORE PVC IS AN UNACCEPTABLE SUBSTITUTION. (SOLID CORE PVC MAY BE SUBSTITUTED IN PLACE OF CAST-IRON WITH WRITTEN APPROVAL FROM OWNER.) ALL BURIED PVC PIPE AND FITTINGS SHALL BE INSTALLED PER ASTM D 2321.
3. IF PLASTIC PIPING IS USED, PROVIDE SUITABLE EXPANSION JOINTS IN VERTICAL RISERS. FLASHING - AT BUILT-UP ROOF, USE 4 LB SHEET LEAD; AT METAL ROOF, COORDINATE WITH ROOF SYSTEM VENDOR.
4. PROVIDE CLEANOUTS PER CODE AND WHERE INDICATED AS FOLLOWS: FLOOR: ZURN ZN-1400, WALL: ZURN Z-1441 WITH STAINLESS STEEL COVER EXTERIOR: ZURN ZN-1400-HD WITH RECESSED PLUG AND 12"X12"X4" DEEP CONCRETE PAD.
5. FABRICATED PVC DWV FITTINGS SHALL CONFORM TO ASTM F 1866. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER UNLESS WRITTEN APPROVAL FROM OWNER IS PROVIDED.

NATURAL GAS:

1. SCH. 40 BLACK STEEL WITH THREADED (1-1/2" AND SMALLER) OR WELDED (2" AND LARGER) JOINTS. INSTALL PIPING IN ACCESSIBLE, VENTILATED SPACES AND PROVIDE SUITABLE SLEEVES UNDER SLABS ON GRADE AND THRU PLENUMS.
2. WHERE GAS PIPING CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF SUPPLY PIPE, A 100% SHUT-OFF GAS COCK AND UNION.
3. PORTIONS OF A GAS PIPING SYSTEM INSTALLED IN CONCEALED LOCATIONS SHALL NOT HAVE UNIONS, TUB FITTINGS OR RUNNING THREADS.
4. BURIED STEEL PIPING TO BE PLASTIC COATED, WITH JOINTS TAPED. PROVIDE 17 LB MAGNESIUM ANODE(S) AS DIRECTED.
5. ALL EXPOSED, UNFINISHED PIPE, FITTINGS, SUPPORTS AND ACCESSORIES SHALL BE PREPARED FOR FINISH PAINT. IN THE ABSENCE OF MORE STRINGENT SPECIFICATIONS, CONTRACTORS SHALL TOUCH-UP THE SURFACE AS REQUIRED WITH A RUST-INHIBITIVE PRIMER RECOMMENDED BY TOP COAT MANUFACTURER AND THEN APPLY TWO COATS OF LATEX ENAMEL IN A COLOR CONSISTENT WITH THE ANSI STANDARDS OR AS DIRECTED BY OWNER/ARCHITECT.

NATURAL GAS LOAD

FIXTURE	INPUT (MBH)
GH-1	30
GH-2	30
RTU-1	110
RTU-2	110
RTU-3	110
RTU-4	110
RTU-5	110
RTU-6	110
RTU-7	40
RTU-8	110
RTU-9	110
RTU-10	110
RTU-11	110
RTU-12	110
RTU-13	110
RTU-14	110
D-1	22.5
D-2	22.5
D-3	22.5
D-4	22.5
D-5	215
TOTAL CONNECTED LOAD (MBH)	1835.00

NOTES:
1. GAS METER, REGULATOR, AND GAS COCK PROVIDED BY UTILITY COMPANY. COORDINATE EXACT LOCATION OF METER SET WITH UTILITY COMPANY.
2. GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE WITH MALLEABLE IRON FITTINGS. WHERE GAS PIPING CONNECTS TO EQUIPMENT, IT SHALL BE PROVIDED WITH A DRIP LEG THE FULL SIZE OF THE SUPPLY PIPE, A 100% SHUT-OFF GAS COCK AND UNION.
3. PORTIONS OF A GAS PIPING SYSTEM INSTALLED IN CONCEALED LOCATIONS SHALL NOT HAVE UNIONS, TUBE FITTINGS OR RUNNING THREADS.
4. PROVIDE SHUT OFF VALVE AND REGULATOR AT EQUIPMENT CONNECTIONS, SEE EQUIPMENT MINIMUM & MAXIMUM INLET PRESSURE REQUIREMENT FOR REGULATOR SPECS. VENT ALL REGULATORS TO ATMOSPHERE.
A VENT TO ATMOSPHERE IS NOT REQUIRED FOR REGULATORS EQUIPPED WITH AND LABELED FOR UTILIZATION WITH AN APPROVED VENT-LIMITING DEVICE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. REGULATORS WITH VENT LIMITERS MUST BE "CSA" CERTIFIED FOR INDOOR APPLICATIONS.
5. GAS PIPING SIZED PER INTERNATIONAL FUEL GAS CODE. PIPE SIZING FOR 2 POUNDS PRESSURE CAPACITY OF PIPES FOR AN INITIAL PRESSURE OF 2.0 psi WITH A 1.0 psi PRESSURE DROP AND A GAS OF 0.6 SPECIFIC GRAVITY. TOTAL EQUIVALENT LENGTH: 650' FT.

DOMESTIC WATER FIXTURE LOAD

FIXTURE	OCCUPANCY	TYPE OF SUPPLY CONTROL	SUPPLY FIXTURE UNIT VALUES			QTY	TOTAL WATER SUPPLY FIXTURE UNITS
			COLD	HOT	TOTAL		
BATHROOM GROUPS	PRIVATE	-	2.70	1.50	3.60	3	10.80
WATER CLOSET	PUBLIC	FLUSH TANK	5.00	0.00	5.00	7	35.00
URINAL	PUBLIC	FLUSH VALVE	5.00	0.00	5.00	3	15.00
LAVATORY	PUBLIC	FAUCET	1.50	1.50	2.00	7	14.00
KITCHEN SINK	PRIVATE	FAUCET	1.00	1.00	1.40	1	1.40
MOP SINK	PRIVATE	FAUCET	2.25	2.25	3.00	1	3.00
WASHING MACHINE	PUBLIC	WALL BOX	2.25	2.25	3.00	4	12.00
ADDED WATER SUPPLY FIXTURE UNIT						TOTAL	92.60

SANITARY SEWER FIXTURE LOAD

FIXTURE	OCCUPANCY	TYPE OF SUPPLY CONTROL	DRAINAGE FIXTURE UNIT VALUES	QTY	TOTAL DFU'S
BATHROOM GROUPS	PRIVATE	FLUSH TANK	5.00	3	15.00
WATER CLOSET	PUBLIC	FLUSH TANK	4.00	7	28.00
URINAL	PUBLIC	FLUSH VALVE	4.00	3	12.00
LAVATORY	PUBLIC	FAUCET	1.00	7	7.00
KITCHEN SINK	PRIVATE	FAUCET	2.00	1	2.00
MOP SINK	PUBLIC	FAUCET	2.00	1	2.00
WASHING MACHINE	PUBLIC	WALL BOX	2.00	4	8.00
ADDED DRAINAGE FIXTURE UNIT			TOTAL		76.00

Plumbing Sheet Index

Sheet Number	Sheet Name	Issuance 4/18/22 Review Set	Issuance 5/20/22 100% CD
P001	PLUMBING COVER SHEET	X	X
P101	PLUMBING WASTE & VENT PLAN	X	X
P201	PLUMBING DOMESTIC & GAS PLAN	X	X
P202	PLUMBING ROOF PLAN	X	X
P300	PLUMBING SCHEDULES	X	X
P400	PLUMBING DETAILS	X	X

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

5/20/2022 1:39:29 PM C:\Users\dbass\Documents\036-22 AEED Central Model RVT21_dustin.bass.rvt

REVISIONS		
NO.	DESCRIPTION	DATE
0	PERMITING	05/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 036-22
AEED, inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

STATE OF TENNESSEE 5/20/22

Project Number

Date 05/20/2022

Sheet Name
PLUMBING COVER SHEET

Sheet Number
P001

PLUMBING UNREFERENCED NOTES:

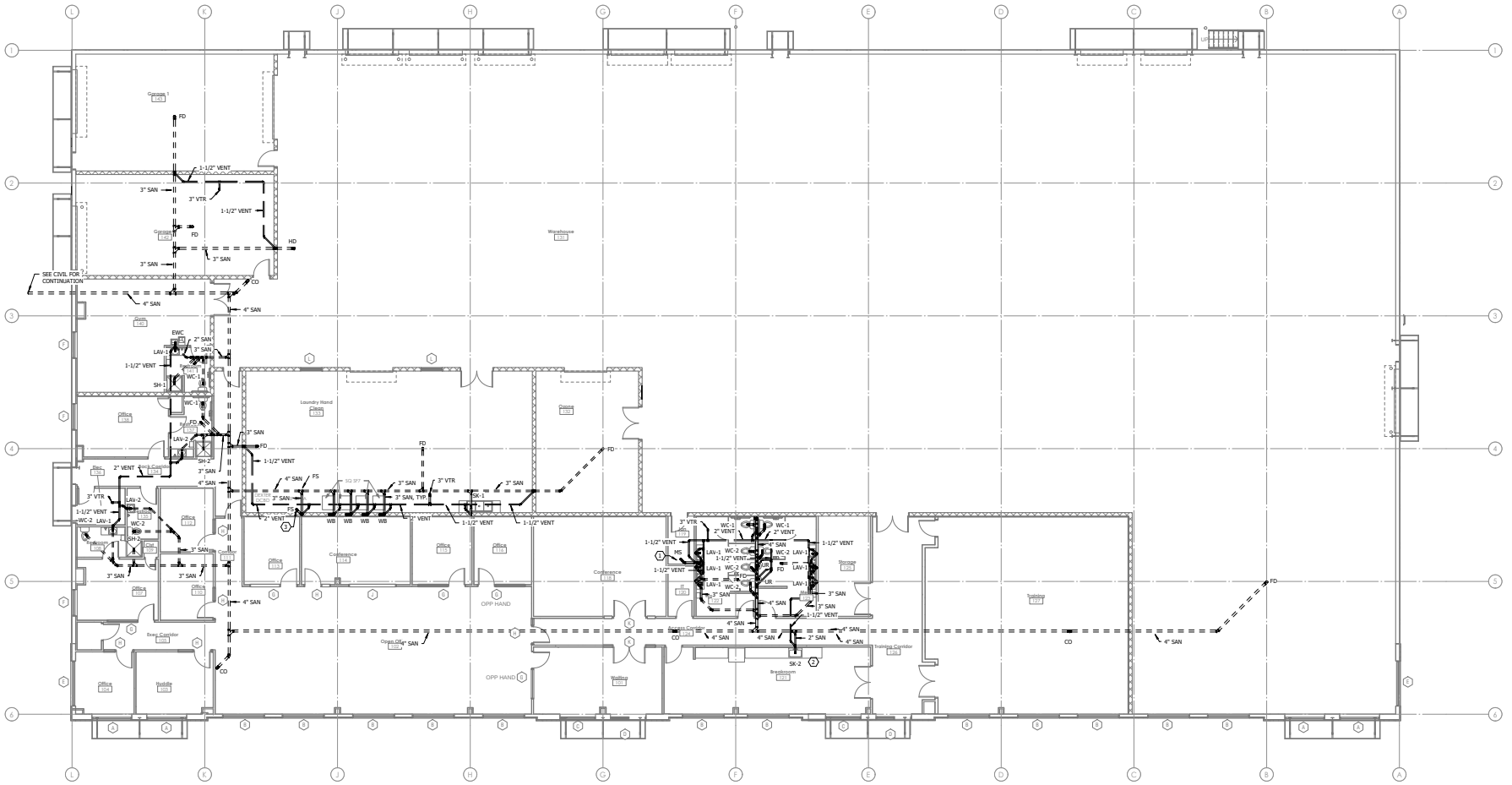
A. SEE SHEET P001 FOR GENERAL PLUMBING NOTES.

B. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.

C. COORDINATE DWV & DOMESTIC WATER LINES WITH ARCHITECTURAL AND STRUCTURAL CONDITIONS. PLUMBING CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER.

PLUMBING REFERENCED SHEET NOTES:

1. WATER HEATER TO BE MOUNTED ABOVE MOP SINK. SEE DETAIL ON P400 FOR INSTALL INFORMATION.
2. CONNECT DISHWASHER DRAIN TO SINK TAILPIECE. SEE DETAIL ON P400 FOR INSTALL INFORMATION. COORDINATE EXACT LOCATION FOR DISHWASHER WITH ARCHITECT.
3. ROUTE 1-1/2" DRAIN FROM ULTRA SONIC CLEANER AND PRE-WASH UNIT TO FLOOR SINK



1 PLUMBING WASTE & VENT PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED inc.
Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
PLUMBING WASTE & VENT PLAN

Sheet Number
P101

5/20/2022 1:39:32 PM C:\Users\dbass\Documents\036-22 AEED Central Model RVT21_dustin.bass.rvt

PLUMBING UNREFERENCED NOTES:

A. SEE SHEET P001 FOR GENERAL PLUMBING NOTES.

B. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.

C. COORDINATE DWV & DOMESTIC WATER LINES WITH ARCHITECTURAL AND STRUCTURAL CONDITIONS. PLUMBING CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER.

D. PROVIDE 1/4 TURN SHUT OFF VALVE WITH LBS TO INCHES REGULATORS TO MECHANICAL EQUIPMENT. SEE EQUIPMENT SPEC SHEET FOR INLET PRESSURE REQUIREMENTS.

PLUMBING REFERENCED SHEET NOTES:

1. BACKFLOW PREVENTOR TO BE MOUNTED ON UNISTRUT AT 48" ABOVE FFE. SPILL OVERFLOW TO DAYLIGHT, SEAL PENETRATION WEATHER TIGHT. SEE DETAIL ON P400 FOR INSTALL INFORMATION
2. COORDINATE INSTALLATION OF GAS METER WITH UTILITY COMPANY. GAS SIZING BASED ON 1310 MBH INPUT LOAD AND ESTIMATED DEVELOPED LENGTH OF 650'. SLEEVE ANY BUILDING PENETRATIONS WATER TIGHT.
3. 3/4" (2PSI) GAS FROM ABOVE, SEE P202 FOR CONTINUATION. PROVIDE WITH 1/4 TURN SHUT OFF VALVE AND LBS TO INCHES REGULATOR. SEE EQUIPMENT SPEC SHEETS FOR INLET PRESSURE REQUIREMENTS.
4. 1" (2PSI) GAS DOWN FROM ABOVE WITH 1" GAS HEADER BEHIND LAUNDRY EQUIPMENT. PROVIDE 1/4 TURN SHUT OFF VALVE AND LBS TO INCHES REGULATOR AT EACH DRYER. SEE EQUIPMENT SPEC SHEETS FOR INLET PRESSURE REQUIREMENTS.
5. 3/4" (2PSI) GAS TO ESPORTA WASHER & DEXTER DRYER, PROVIDE 1/4 TURN SHUT OFF VALVE AND REGULATOR AT DRYER CONNECTION. SEE EQUIPMENT SPEC SHEETS FOR INLET PRESSURE REQUIREMENTS.
6. WATER HEATER TO BE MOUNTED ABOVE MOP SINK. SEE DETAIL ON P300 FOR INSTALL INFORMATION
7. 3/4" CW ROUTE UNDER GRADE OVER TO FUEL STATION, SEE CIVIL FOR CONTINUATION
8. 3/4" CW DOWN TO HOSE BIBB FOR ULTRASONIC CLEANER AND PRE-WASH. PROVIDE HOSE BIBBS ON EITHER SIDE OF EACH PIECE OF EQUIPMENT FOR A TOTAL OF 4 HOSE BIBBS. COORDINATE LOCATION OF EQUIPMENT WITH ARCHITECT PLANS

1 PLUMBING DOMESTIC & GAS PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
	PERMITTING	05/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 036-22

AEED inc.
Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS.: (423) 763-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
PLUMBING
DOMESTIC & GAS
PLAN

Sheet Number
P201

5/20/2022 1:44:18 PM C:\Users\dbass\Documents\036-22 AEED Central Model RVT21_dustin.bass.rvt

PLUMBING UNREFERENCED NOTES:

A. SEE SHEET P001 FOR GENERAL PLUMBING NOTES.

B. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE CONNECTION SIZES.

C. COORDINATE DWV & DOMESTIC WATER LINES WITH ARCHITECTURAL AND STRUCTURAL CONDITIONS. PLUMBING CONTRACTOR SHALL NOT CUT ANY STRUCTURAL MEMBER WITHOUT WRITTEN CONSENT FROM THE STRUCTURAL ENGINEER.

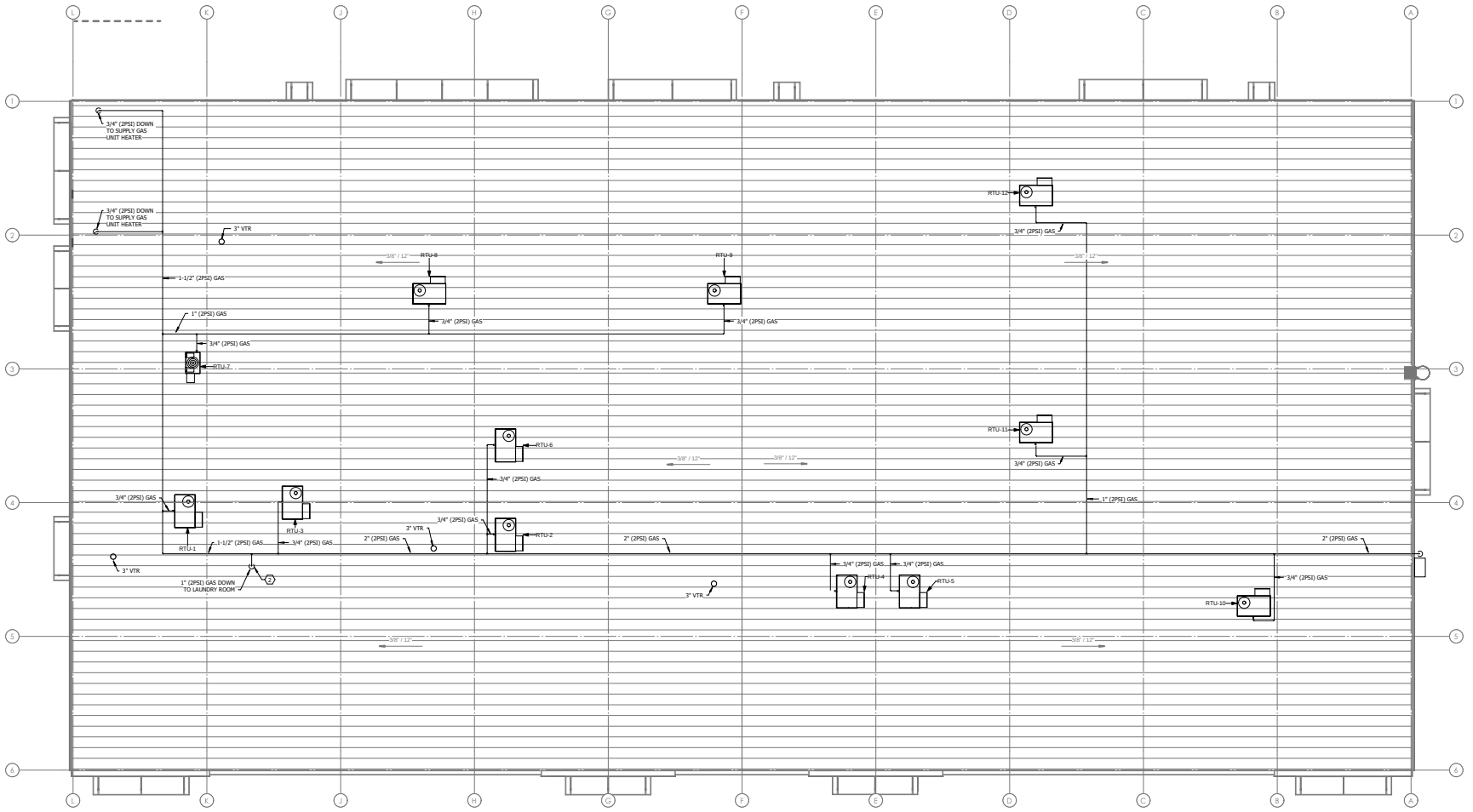
D. PROVIDE 1/4 TURN SHUT OFF VALVE WITH LBS TO INCHES REGULATORS TO MECHANICAL EQUIPMENT. SEE EQUIPMENT SPEC SHEET FOR INLET PRESSURE REQUIREMENTS.

E. PROVIDE GAS PIPING SUPPORT AT A MAXIMUM OF 10' INTERVALS. SEE DETAIL ON P400 FOR INSTALL INFORMATION

PLUMBING REFERENCED SHEET NOTES:

1. COORDINATE INSTALLATION OF GAS METER WITH UTILITY COMPANY. GAS SIZING BASED ON 1310 MBH INPUT LOAD AND ESTIMATED DEVELOPED LENGTH OF 650'. SLEEVE ANY BUILDING PENETRATIONS WATER TIGHT.

2. 1" (2PSI) GAS DOWN TO LAUNDRY ROOM, SEE SHEET P201 FOR CONTINUATION



1 PLUMBING ROOF PLAN
1/8" = 1'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

REVISIONS		
NO	DESCRIPTION	DATE
0	PERMITTING	05/20/2022

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED, inc.
Autonomous Engineering & Design, Inc.
408 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS. (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

Project Number

Date
05/20/2022

Sheet Name
PLUMBING ROOF PLAN

Sheet Number
P202

5/20/2022 1:44:19 PM C:\Users\dbass\Documents\036-22 AEED Central Model RVT21_dustin.bass.rvt

PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	MANUFACTURER	CATALOG #	TRIM/FAUCET	SUPPLIES	WASTE	TRAP	ROUGH-IN (INCHES) C.W.	H.W.	WASTE	VENT
WC-1	ADA COMPLIANT, FLOOR MOUNTED, TANK TYPE WATER CLOSET, 1.6GPF	ZURN	Z5551	ZURN, Z5551-(LH/RH)-K HPT 1.6GPF FLOOR MOUNTED TANK TYPE HIGH PERFORMANCE 1000G Map RATING 2" FLUSH ACTION ADA HEIGHT WATER CLOSET WITH TANK LEVER TO BE DETERMINED BY OPEN AREA EITHER RIGHT OR LEFT AND 2-1/8" FULLY GLAZED TRAPWAY ZURN, Z5955SS-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT LESS COVER WITH SELF SUSTAINING STAINLESS STEEL CHECK HINGE ZURN, Z8804-XL-BRGG-CR-Q-PC 1/2""NOM X 3/8""OD SUPPLY KIT COMPLETE WITH QUARTER TURN STOP, BRAIDED STAINLESS STEEL SUPPLY AND ESCUTCHEON	P-TRAP	3/4"	-	4"	1-1/2"
WC-2	FLOOR MOUNTED, TANK TYPE WATER CLOSET, 1.6GPF	ZURN	Z5552	ZURN, Z5552-(LH/RH)-K HPT 1.6GPF FLOOR MOUNTED TANK TYPE HIGH PERFORMANCE 1000G MaP RATING 2" FLUSH ACTION STANDARD HEIGHT WATER CLOSET WITH TANK LEVER TO BE DETERMINED BY OPEN AREA EITHER RIGHT OR LEFT AND 2-1/8" FULLY GLAZED TRAPWAY ZURN, Z5955SS-EL-STS ELONGATED WHITE OPEN FRONT TOILET SEAT LESS COVER WITH SELF SUSTAINING STAINLESS STEEL CHECK HINGE ZURN, Z8804-XL-CR-Q-PC 1/2""NOM X 3/8""OD SUPPLY KIT COMPLETE WITH QUARTER TURN STOP, CHROME PLATED COPPER TUBE SUPPLY AND ESCUTCHEON	P-TRAP	3/4"	-	4"	1-1/2"
LAV-1	ADA COMPLIANT 20" X 17" DROP IN LAVATORY 4" CC	ZURN	Z5114	ZURN, Z5114 OVAL 20"X17" 4"CC VITREOUS CHINA DROP IN LAVATORY ZURN, Z81101-XL-3M SOLID BRASS TWO HANDLE 4CC LAVATORY FAUCET .5GPM AERATOR WITH CERAMIC DISC CARTRIDGES "ZURN, Z8743-PC 1-1/4"" CHROME PLATED CAST BRASS 17GA GRID DRAIN "ZURN, Z8804-XL-CR-Q-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, 1/4 TURN CHROME PLATED STOPS AND CHROME PLATED COPPER TUBE SUPPLY LINES ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TRAP WITH CLEANOUT SYMMONS, 8-210-CK MAXLINE 3/8" THERMOSTATIC ASSE 1017/1070 MIXING VALVE ZURN, Z8946-1-NT COMBINATION TRAP WRAP KIT WITH ONE TRAP AND TWO SUPPLY PROTECTION WRAPS	P-TRAP	1/2"	1/2"	1-1/2"	1-1/4"
LAV-2	ADA COMPLIANT 20" X 18" WALL HUNG LAVATORY 4" CC	ZURN	Z5344	"ZURN, Z5344 20""X18"" WALL HUNG 4""CC VITREOUS CHINA CONCEALED ARM LAVATORY" ZURN, Z81104-XL-3M SOLID BRASS 4" WRIST BLADE TWO HANDLE 4CC LAVATORY FAUCET WITH CERAMIC DISC CARTRIDGES AND .5GPM AERATOR "ZURN, Z8743-PC 1-1/4"" CHROME PLATED CAST BRASS 17GA GRID DRAIN" ZURN, Z8804-XL-LRQ-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, 1/4 TURN CHROME PLATED STOPS AND CHROME PLATED COPPER TUBE SUPPLY LINES ZURN, Z8700-PC 1-1/4" CAST BRASS 17GA P-TRAP WITH CLEANOUT SYMMONS, 8-210-CK MAXLINE 3/8" THERMOSTATIC ASSE 1017/1070 MIXING VALVE ZURN, Z8946-1-NT COMBINATION TRAP WRAP KIT WITH ONE TRAP AND TWO SUPPLY PROTECTION WRAPS PROVIDE WITH APPROPRIATE APPROVED ZURN CARRIER	P-TRAP	1/2"	1/2"	1-1/2"	1-1/4"
UR	ADA COMPLIANT WALL MOUNTED URINAL	ZURN	Z5755	ZURN, Z5755-U OMNI-FLOW .125 TO 1GPF WALL MOUNTED TOP SPUD ASYMMETRIC BACK WALL URINAL WITH INTEGRAL P-TRAP AND VANDAL RESISTANT OUTLET STRAINER ZURN, Z6003AV-ULF AQUAVANTAGE MANUAL OPERATED FLUSH VALVE .125GPF CLOG RESISTANT TRIPLE FILTERED BY-PASS, DUAL SEAL AND CHLORAMINE RESISTANT INTERNAL PARTS PROVIDE WITH APPROPRIATE APPROVED ZURN CARRIER	P-TRAP	3/4"	-	2"	1-1/2"
SK-1	LAUNDRY ROOM 3-COMPARTMENT SINK *COORDINATE SELECTION WITH OWNER*	-	-	-			P-TRAP	3/4"	3/4"	2"	1-1/2"
SK-2	19-1/2"X19"X10" DROP IN SINK, 18GA SS	ELKAY	SLR191910	ELKAY, DLR191910 LUSTERTONE 18GA STAINLESS STEEL 19-1/2" X 19" X 10" DROP IN SINK ZURN, Z831C4-XL 8"CC FAUCET WITH 8" GOOSENECK SPOUT, CERAMIC DISK CARTRIDGES, TWO 4" METAL WRIST BLADE HANDLES ZURN, Z8741-PC HEAVY DUTY BASKET STRAINER WITH CAST BRASS LOCK AND COUPLING NUT ZURN, Z8702-PC 1-1/2" CAST BRASS 17 GAUGE P-TRAP WITH CLEANOUT ZURN, Z8804-XL-LRQ-PC 1/2" X 3/8" COMP X COMP LAVATORY SUPPLY KIT WITH ESCUTCHEONS, 1/4 TURN CHROME PLATED STOPS AND CHROME PLATED COPPER TUBE SUPPLY LINES	P-TRAP	3/4"	3/4"	2"	1-1/2"
SH-1	ADA COMPLAINT 36"X36" SHOWER STALL	AQUATIC	1363BFC2P	PROVIDE FULLY EQUIPPED WITH RH SEAT			P-TRAP	1/2"	1/2"	3"	1-1/2"
SH-2	36" X 36" ACRYLX ALCOVE ONE-PIECE SHOWER WITH CENTER DRAIN, WHITE	AQUARIUS	G3636SH	AQUARIUS, 36"W X 36"D X 6"H - ACRYLX SHOWER PAN CENTER DRAIN SHOWER HEAD - SYMMONS - #(96-1-231-X) "TEMPTROL", WITH PRESSURE BALANCING MIXING VALVE, INTEGRAL STOPS AND SUPER SHOWER HEAD			P-TRAP	1/2"	1/2"	3"	1-1/2"
MS	24"X24" COMPOSITE FLOOR SERVICE SINK	ZURN	Z1996	ZURN, Z1996-24-BV-24-HH-MH-WG 24" X 24" MOLDED COMPOSITE FLOOR SERVICE SINK WITH STAINLESS STEEL STRAINER, WALL GUARDS, AND VINYL BUMPER GUARD ZURN, Z841M1-RC SERVICE SINK FAUCET WITH 6" VACUUM BREAKER SPOUT, LEVER HANDLES, PAIL HOOK AND WALL BRACE				3/4"	3/4"	2"	1-1/2"
WB	WASHING MACHINE SUPPLY & DRAIN BOX	IPS CORPORATION	W4700	-	-	-	P-TRAP	3/4"	3/4"	2"	1-1/2"
FPHB	ENCASED EXTERIOR NON-FREEZE WALL HYDRANT	ZURN	Z1305	-	-	-	-	3/4"	-	-	-
IB	WATER SUPPLY ICE BOX	IPS CORPORATION	AB9700HA	-	-	-	-	1/2"	-	-	-
FD	5" TOP FLOOR DRAIN	ZURN	ZN-415-3NL-SB	-	SURESEAL 97042 SS3009 INLINE FLOOR DRAIN TRAP SEALER	-	P-TRAP	-	-	-	-
FS	12" X 12" X 8" FLOOR SINK IS RECOMMENDED FOR SANITARY INSTALLATIONS. THE RADIUSED BODY IN CONSTRUCTED OF PVC	ZURN	ZD-2370-4	-	-	-	P-TRAP	-	-	3"	1-1/2"
HD	CIRCULAR ADJUSTABLE HUB DRAIN, CAST IRON BODY	ZURN	Z4005	-	-	-	P-TRAP	-	-	3"	1-1/2"
CO	FLOOR CLEANOUT ADJUSTABLE TO FINISHED FLOOR.	ZURN	ZN-1400	-	-	-	-			-	-
WCO	WALL CLEANOUT ROUND SS ACCESS COVER WITH SECURING SCREEN	ZURN	Z-1441	-			-			-	-
ECO	EXTERIOR CLEANOUT, ADJUSTABLE TYPE, DURA-COATED CAST IRON BODY WITH POLISHED BRONZE, NICKEL BRONZE, AND STAINLESS STEEL TOP OPTIONS. PROVIDE 12"x12"x4" CONCRETE PAD	ZURN	Z-1440-HD	-			-			-	-

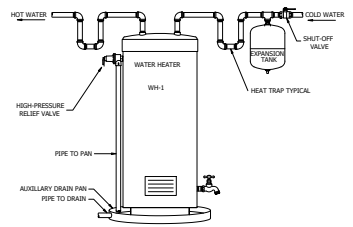
NOTE:
1. INSULATE HOT WATER SUPPLY AND WASTE FROM LAV-1 & LAV-2 WITH ZURN Z-8946-3 TO MEET ADA REQUIREMENTS.
2. PROVIDE THERMOSTATIC MIXING VALVE SYMMONS #7-210-CK FOR PUBLIC LAVATORIES.
3. COORDINATE EXACT SHOWER VALVE LOCATION WITH ARCHITECT PRIOR TO INSTALL.

ELECTRIC WATER HEATER SCHEDULE

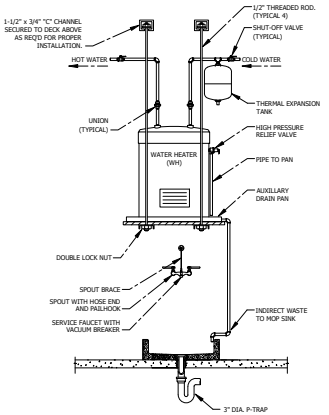
ITEM	MANUFACTURER	CATALOG #	GALLON CAPACITY	HEATING ELEMENTS # KW	VOLTAGE/ø	CONTROL
WH-1	RHEEM	ELD120	120	2 - 6	208/1	INTEGRAL
WH-2	RHEEM	ELD40	40	2 - 4.5	208/1	INTEGRAL

NOTE:
1. PROVIDE WH-1 & WH-2 WITH ZURN XT-8 (2.1 GALLON) EXPANSION TANK. TANK PRECHARED AT 40 psi. ADJUST AIR RECHARGE AS REQUIRED TO EQUAL INCOMING WATER PRESSURE.
2. PROVIDE WITH AUXILIARY DRAIN PAN.
3. WH-1 TO BE SIMULTANEOUSLY WIRED USING 4-WIRE SINGLE PHASE OPERATION

NOTES:
1. PROVIDE UNIONS AT ALL WATER HEATER INLETS & OUTLETS.
2. PROVIDE GAS REGULATOR AT EACH WATER HEATER AS REQ'D.



WATER HEATER HOOK-UP DETAIL
SCALE: NONE



MOP SINK/WATER HEATER INSTALLATION DETAIL
SCALE: NONE

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE
1	REVISIONS	5/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 03522

AEED inc
Architectural Engineering & Design, Inc.
408 MCCALLIE AVE. CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructinc.com
CONSTRUCTION & ARCHITECTURE

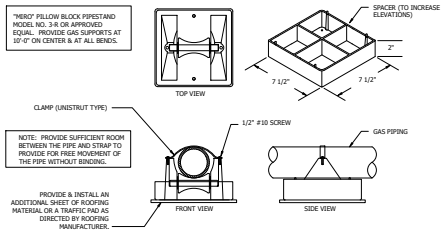
Project Number

Date
05/20/2022

Sheet Name
PLUMBING SCHEDULES

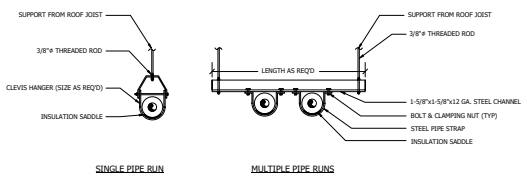
Sheet Number
P300

5/20/2022 1:44:19 PM C:\Users\dbass\Documents\036.22 AEED Central Model RV721_dustin.bass.rvt



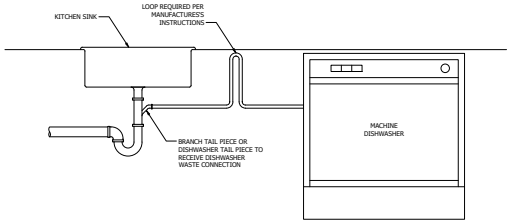
GAS PIPING ROOF SUPPORT

SCALE: NONE



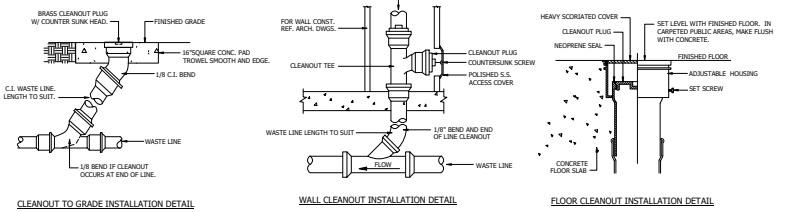
PIPING SUPPORT INSTALLATION DETAILS

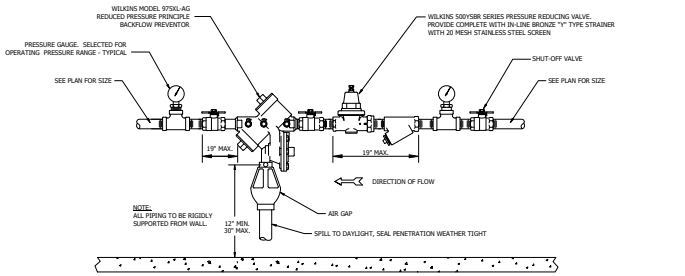
SCALE: NONE



DISHWASHER DRAIN TO SINK TAIL PIECE DETAIL

SCALE: NONE



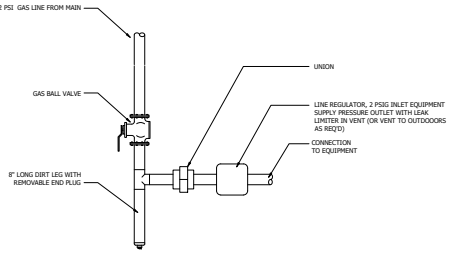


CLEANOUT INSTALLATION DETAILS

SCALE: NONE

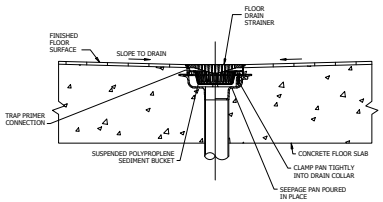
DOMESTIC WATER BACKFLOW PREVENTER DETAIL

SCALE: NONE



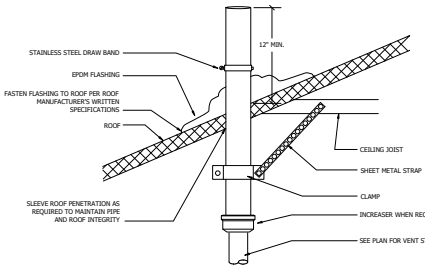
2 PSI GAS CONNECTION DETAIL

SCALE: NONE



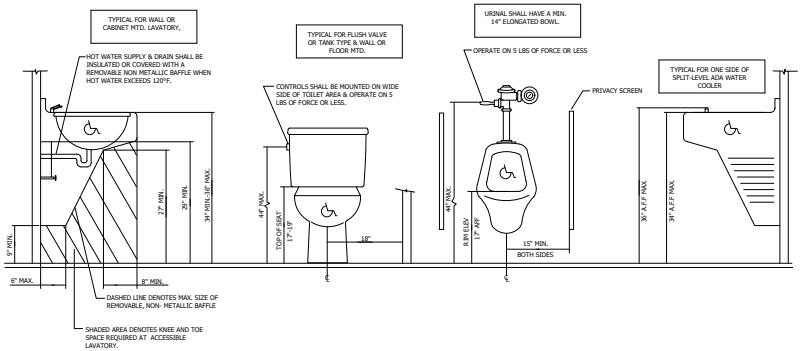
FLOOR DRAIN INSTALLATION DETAIL

SCALE: NONE



VENT THRU SLOPED ROOF TERMINATION DETAIL

SCALE: NONE



APPROVED BY TENNESSEE TECHNOLOGY CORRIDOR DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

HANDICAP PLUMBING FIXTURE INSTALLION

SCALE: NONE

NO	DESCRIPTION	DATE
1	REVISIONS	AS PER 05/20/2022

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

Project Name

AEED JOB NO. 0522

AEED inc.
Architecture & Engineering Design
408 MCCALLIE AVE.
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstructinn.com
CONSTRUCTION & ARCHITECTURE

Project Number

Date
05/20/2022

Sheet Name
PLUMBING DETAILS

Sheet Number
P400

5/20/2022 1:44:19 PM C:\Users\bbass\Documents\036.22 AEED Central Model RV721_dustin.bass.rvt

ELECTRICAL SITE PLAN REFERENCED SHEET NOTES:

1. APPROXIMATE LOCATION OF REFUELING AREA.

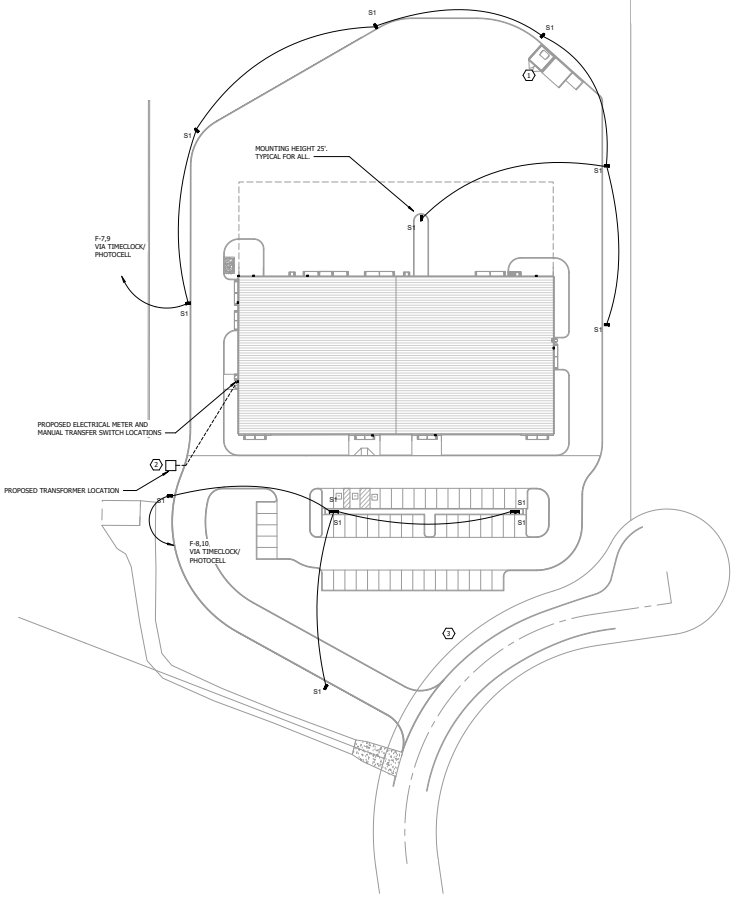
   NEW PANEL "F" TO SERVE FUEL ISLAND. COORDINATE LOCATION TO COMPLY WITH HAZARDOUS/FLAMMABLE MATERIAL REQUIREMENTS. FINAL CONNECTIONS TO BE BY VENDOR WITH ALL CONDUIT LEAVING PANEL TO HAVE SEAL-OFFS. AL CONDUITS, DEVICES, AND PANELS SHALL BE INSTALLED IN ACCORDANCE WITH CLASS 1, DIVISION 1 AND 2 REQUIREMENTS. CONTROL WIRING FOR EQUIPMENT IS RESPONSIBILITY OF EQUIPMENT SUPPLIER OR OWNER.

2. COORDINATE FINAL LOCATION AND SIZE OF TRANSFORMER WITH UTILITY.

3. PROVIDE JUNCTION BOX FOR SIGANGE. VERIFY LOCATION WITH OWNER/ARCHITECT.

ELECTRICAL SITE PLAN UNREFERENCED NOTES:

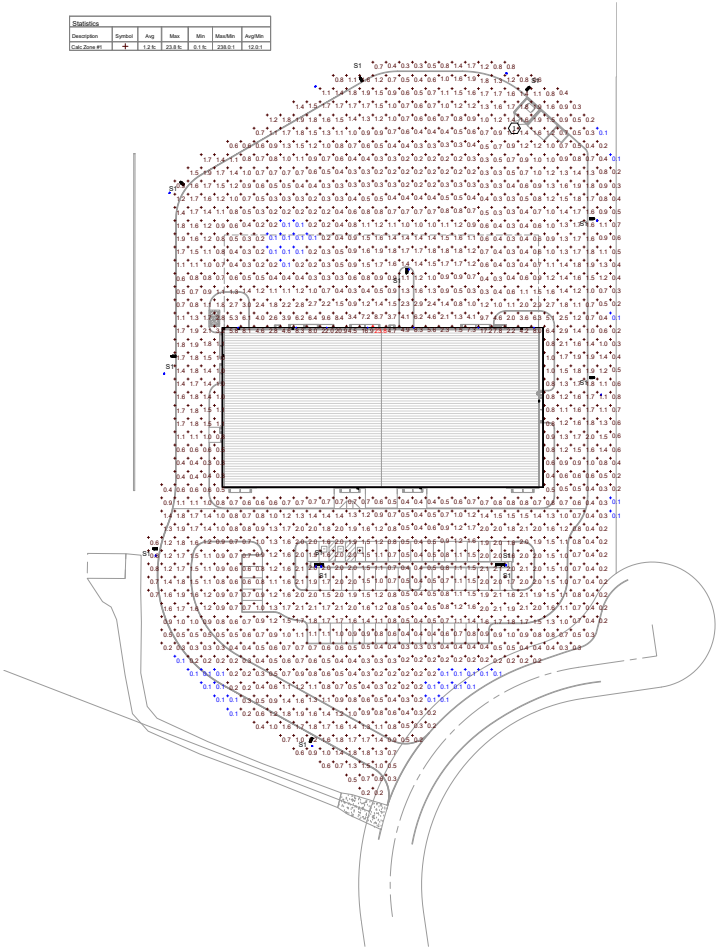
1. ALL CONDUIT, WIRING, DISCONNECTS, & SWITCHES TO BE IN COMPLIANCE WITH NFPA 70; NEC; IFC; OSHA 29CFR 1910.307(B) IN CLASSIFIED AREAS. COORDINATE EXACT REQUIREMENTS WITH BUILDING INSPECTION DEPARTMENT.
2. ALL SITE BRANCH WIRING SHALL BE A MINIMUM OF #8 HOMERUNS IN 1" CONDUIT.
3. PROVIDE (2) 4" CONDUIT FOR DATA/TELECOM SERVICE. ROUTE FROM SERVICE PEDESTAL TO IT/TELECOM ROOM AS INDICATED ON PLANS. CONFIRM REQURIEMENTS AND PEDESTAL LOCATIONS WITH OWNER'S SELECTED SERVICE PROVIDER.
4. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH NEW ELECTRICAL SERVICE. COORDINATE DIVISION OF RESPONSIBILITIES REQUIRED FOR PRIMARY AND SECONDARY WORK. ALL SECONDARY SHALL BE ROUTED IN SCHEDULE 40 PVC WITH A MINIMUM OF 24" COVER.
5. VERIFY GENERATOR CONNECTION LOCATION WITH VENDOR/OWNER. GENERATOR TO BE PORTABLE, OWNER SUPPLIED UNIT. VERIFY FINAL SPECIFICATIONS AND PERIPHERAL HARDWARE REQUIREMENTS WITH VENDOR/OWNER.



1 ELECTRICAL - SITE PLAN
1" = 40'-0"

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	1.2 fc	23.8 fc	0.1 fc	238.0:1	12.0:1



2 ELECTRICAL - SITE PLAN PHOTOMETRICS
1" = 40'-0"

APPROVED BY
TENNESSEE TECHNOLOGY CORRIDOR
DEVELOPMENT AUTHORITY
Meeting Date: 7/20/2022
(Administrative Approval)

NO	DESCRIPTION	DATE

Project Name

SERVPRO
3049 Horseshoe Bend Lane,
Knoxville, TN 37931

AEED JOB NO. 036-22

AEED inc.
Engineering & Design, Inc.
4108 McCALLIE AVE
CHATTANOOGA, TN 37402
BUS: (423) 752-3438
www.aeedinc.com

MPL
CONSTRUCTION & ARCHITECTURE
115 CEDAR LANE
CHATTANOOGA, TN 37421
PHONE: 423-899-7737
FAX: 423-899-7738
www.mplconstruction.com

PRELIMINARY
NOT FOR
CONSTRUCTION

Project Number

Date
05/20/2022

Sheet Name
ELECTRICAL SITE PLAN

Sheet Number
ES101

6/16/2022 12:39:30 PM C:\Users\agodsey\Documents\036-22 AEED Central Model RVT21_garron.thomasson@aeedinc.com.rvt

SITE DATA:

PROPERTY INFORMATION:
TAX MAP #: 089 22208 & 089 22207
STREET ADDRESS: 3049 HORSESHOE BEND LANE & 0 HORSESHOE BEND LANE
KNOXVILLE, TN 37931
LOT SIZE: 7.99 AC. ±

OWNER:
CUTHBERTSON REAL ESTATE, LLC
JEFF CUTHBERTSON
9028 JETRAIL DRIVE
OOLTEWAH, TN 37363
423.326.1406
JCUTHBERTSON@SERVPROCHATTANOOGA.COM

PROJECT ENGINEER:
ASA ENGINEERING & CONSULTING, INC.
714 CHERRY ST.
CHATTANOOGA, TN 37402
423.805.3700

ZONING INFORMATION:
ZONING CLASSIFICATION: BP/TO

FLOOD ELEVATION (100YR):
BASED ON GRAPHIC SCALING AND DETERMINATION, THIS PROPERTY DOES LIE WITHIN A 100-YEAR FLOOD HAZARD AREA PER FEMA/FIRM COMMUNITY PANEL NO. 47093C0233G;
DATED: 08/05/2013. ZONE "X, X SHADED, AE, & FLOODWAY".

SURVEY INFORMATION:
BOUNDARY AND TOPOGRAPHIC INFO TAKEN FROM A SURVEY BY ROGER B. RIEMER; ASA ENGINEERING & CONSULTING INC.

PROJECT DATA:

TTCDA FILE #:	3-B-21-TOB
STREET ADDRESS:	3049 HORSESHOE BEND LANE
PROPOSED USE:	WAREHOUSE
BUILDING FOOTPRINT:	50,400 SF (PHASE I & FUTURE)
TOTAL BLDG SF:	55,000 SF (PHASE I & FUTURE)
TOTAL IMPERVIOUS AREA:	130,504 SF
GAC:	14.5% (25% MAX)
FAR:	15.8% (30% MAX)
IAR:	37.5% (70% MAX)

PARKING:
TTCDA PARKING REQUIREMENTS FOR OFFICE/WAREHOUSE
i. MIN: 1 SPACE PER 1,000 SF OF GROSS FLOOR AREA (55 SPACES)
ii. MAX: 1.5 SPACES PER 1,000 SF OF GROSS FLOOR AREA (82.5 SPACES)
KNOX COUNTY PARKING REQUIREMENTS
i. PROFESSIONAL OFFICE SPACE: 1 SPACE PER 250 SF OFFICE SPACE (11,000 SF OF OFFICE SPACE = 44 SPACES
ii. 1 SPACE PER EVERY 2 EMPLOYEES ON MAX SHIFT (35-50 EMPLOYEES)

WAREHOUSE W/OFFICE SPACES PROVIDED: 55 SPACES
TOTAL PARKING AREA: 25,388 SF (5% DEDICATED TO LANDSCAPE)
REQUIRED: 1,269 SF
PROVIDED: 1,704 SF
PARKING LOT TREES (1/5000 SF): 5 TREES

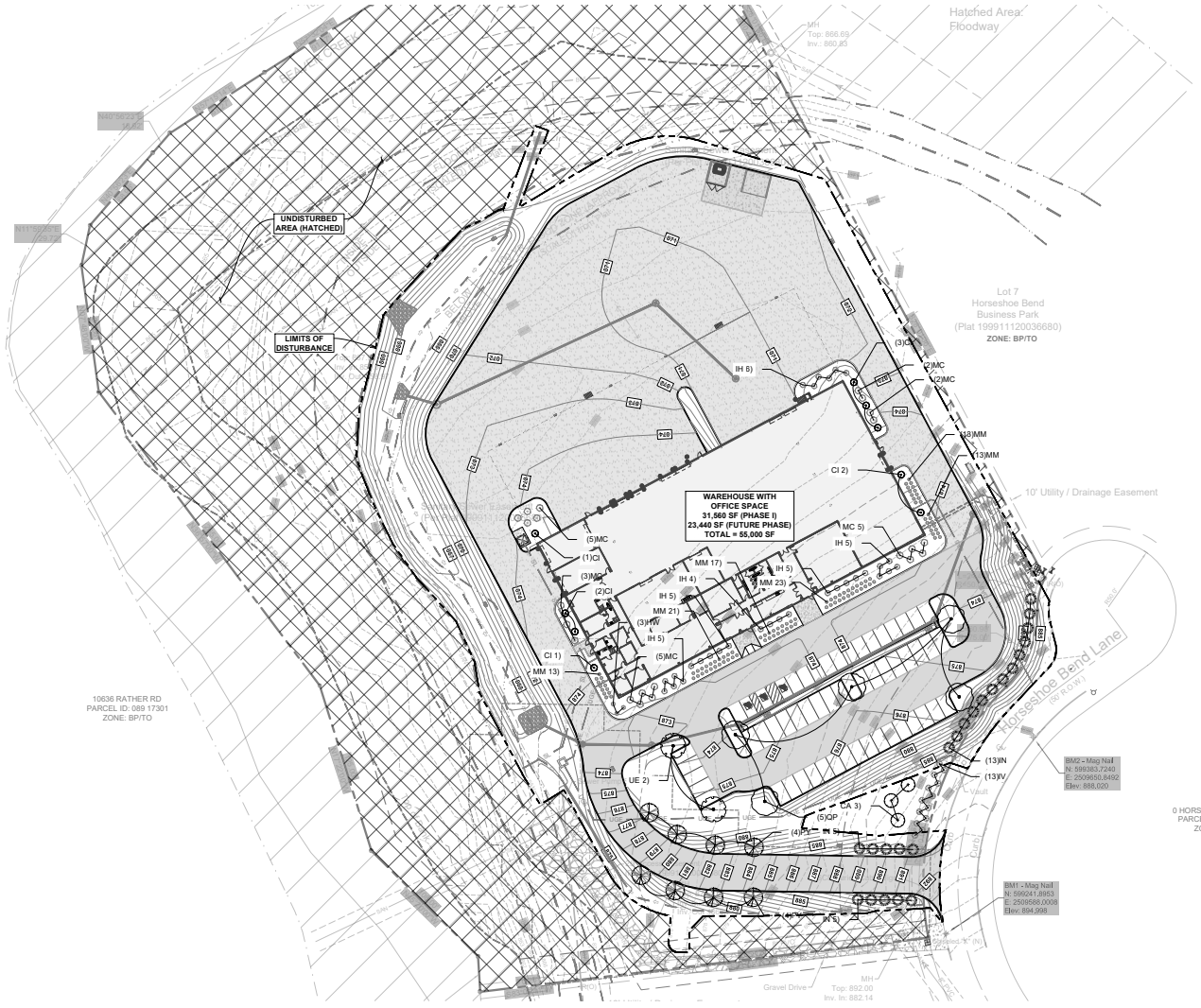
NO BUILDING IS PLACED WITHIN THE FLOODWAY.

LANDSCAPE NOTES:

1. PLANTS SHALL MEET THE STANDARDS FOR SIZE, FORM AND QUALITY SET OUT IN THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1, LATEST EDITION)
2. ALL LANDSCAPE BEDS TO HAVE 3" HARDWOOD MULCH
3. ALL DISTURBED AREAS NOT DESIGNATED AS PLANTING BED TO BE SEEDED, REF SOD NOTES SHEET L1.1

PLANT SCHEDULE LANDSCAPE

TREES	QTY	BOTANICAL / COMMON NAME	TYPE	SIZE	HEIGHT	REMARKS
CA	3	Cedrus atlantica / Atlas Cedar	Evergreen		5-6' FT HT MIN	B&B or Container, Full
CI	9	Cupressus sempervirens / Italian Cypress	Evergreen		5-6' FT HT MIN	B&B or Container
PY	8	Prunus x yedoensis / Yoshino Cherry	Deciduous		6-8` HT	B&B, Speciman
QP	5	Quercus phellos / Willow Oak	Deciduous	2"Cal	10-12` HT	B&B, 6` Clear Trunk
UE	2	Ulmus parvifolia `Emer II` / `Emer II` Allee Elm	Deciduous	2"Cal	10-12` HT	B&B, 6` Clear Trunk
SHRUBS	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPREAD	REMARKS
HW	3	Hydrangea quercifolia `Pee Wee` / Oakleaf Hydrangea	Deciduous	24" HT	18"	Container
IV	13	Ilex vomitoria `Nana` / Dwarf Yaupon	Evergreen	3 GAL		
IN	23	Ilex x `Nellie R. Stevens` / Nellie R. Stevens Holly	Evergreen	4-6` HT		B&B or Container
IH	30	Itea virginica `Henry`s Garnet` / Henry`s Garnet Sweetspire	Deciduous	18" HT	24"	Container, Full
MM	100	Miscanthus sinensis `Morning Light` / Morning Light Eulalia Grass	Evergreen	1 GAL	Full	
MC	22	Myrica cerifera / Wax Myrtle	Evergreen	3 GAL	24"	



811 Know what's below. Call before you dig.

0 40 80 Feet

ANY LOCATIONS OF UNDERGROUND UTILITIES AS SHOWN HEREON ARE BASED ON ABOVEGROUND STRUCTURES AND RECORD DRAWINGS PROVIDED THE SURVEYOR AND MAY VARY FROM LOCATIONS SHOWN HEREON. ADDITIONAL BURIED UTILITIES/STRUCTURES MY BE ENCOUNTERED, NO EXCAVATIONS WERE MADE DURING THE PROGRESS OF THIS SURVEY TO LOCATE BURIED UTILITIES/STRUCTURES. FOR INFORMATION REGARDING THESE UTILITIES, CONTACT THE APPROPRIATE AGENCIES.

ASA
ENGINEERING & CONSULTING, INC.
714 CHERRY STREET
CHATTANOOGA, TN 37402
www.AsaEngineering.com
423.805.3700

SEAL

ALLEN WILLIAM ROWE
REGISTERED
TENNESSEE
LANDSCAPE ARCHITECT

07/06/2022

SERV-PRO KNOX.
FOR
MPL CONSTRUCTION
OOLTEWAH, TN 37363

No.	Revision/Issue	Date
1	KNOX COUNTY COMMENTS	07-06-2022

© 2020 Asa Engineering & Consulting, Inc.
Drawings, written material and design concepts, shall not be used or reproduced in whole or part in any form or format without prior written consent of Asa Engineering & Consulting, Inc.

PROJECT NO.	20-0121
DATE	04-29-2022
SCALE	AS SHOWN
DESIGNED BY	ASA
DRAWN BY	ASA
CHECKED BY	ASA

TITLE

LANDSCAPE PLAN

SHEET NO.

L1.0

4/23/2019 1:44:04 PM | J:\01_Projects\2020\20-0121 ServPro - Knoxville, TN\3- Engineering\Civil\SHEETS\L1 LANDSCAPE PLAN.dwg |

TECHNOLOGY CORRIDOR DEVELOPMENT

TTCDA Review Request

- [x] BUILDING PERMIT - NEW CONSTRUCTION
- [ ] BUILDING PERMIT - EXPANSION OR RENOVATION
- [x] BUILDING PERMIT - GRADING PLAN
- [ ] REZONING
- [ ] SIGNAGE
- [ ] ZONING VARIANCE
- [x] ADMINISTRATIVE REVIEW
- [ ] BOARD REVIEW

Jeff Cuthbertson - ServPro

PUBLISHED APPLICANT NAME *- no individuals on behalf of -*

06/17/2022	8/8/2022	8-A-22-TOA
DATE FILED	**MEETING DATE (IF APPLICABLE)**	**FILE NUMBER**

CORRESPONDENCE

Correspondence related to this application will be directed to the contact listed below.

- [ ] APPLICANT
- [ ] OWNER
- [ ] OPTION HOLDER
- [ ] SURVEYOR
- [ ] ENGINEER
- [x] ARCHITECT/LANDSCAPE ARCHITECT
- [ ] ATTORNEY

Stephen Collins	MPL Construction & Architecture		
NAME	**COMPANY**		
115 Cedar Lane	Chattanooga	TN	37415
ADDRESS	**CITY**	**STATE**	**ZIP**
423-899-7737	scollins@mplconstruction.com		
PHONE	**EMAIL**		

CURRENT PROPERTY INFO

- [ ] MULTIPLE OWNERS / OPTION HOLDERS
- [ ] PART OF PARCEL

Jeff Cuthbertson	9028 Jetrail Dr Ooltewah, TN	423-463-5109
OWNER NAME *- if different -*	**OWNER ADDRESS**	**OWNER PHONE/EMAIL**

3065 Horseshoe Bend Lane Knoxville, TN 37931

PROPERTY ADDRESS

089 22208 & 22207	N	7.99
PARCEL ID(S)	**PART OF PARCEL? (Y/N)**	**TRACT SIZE**

STAFF USE ONLY

- [ ] CITY
- [x] COUNTY

Northwest side of Horseshoe Bend Ln, east of Pellissippi Pkwy	6th
GENERAL LOCATION	**DISTRICT**
BP. F, & TO	TP, SP, & HP
ZONING	**SECTOR PLAN LAND USE CLASSIFICATION**
Northwest County	Vacant land
PLANNING SECTOR	**EXISTING LAND USE**

REQUEST

BUILDING PERMIT

- [x] NEW CONSTRUCTION
- [ ] EXPANSION OR RENOVATION
- [x] GRADING PLAN

- [ ] REZONING
- [ ] SIGNAGE
- [ ] ZONING VARIANCE

WAIVERS OR VARIANCES REQUESTED? [ ] YES [x] NO

ADMINISTRATIVE REVIEW: [x] LIGHTING [x] LANDSCAPING PLAN

PLAN MATERIALS:

- [ ] DEVELOPMENT PLAN
- [x] BUILDING ELEVATIONS
- [x] FLOOR PLAN
- [x] LANDSCAPE PLAN
- [ ] SIGNAGE PLAN
- [x] OFF-STREET PARKING

[ ] OTHER:

RENOVATION OR EXPANSION

SUMMARY OF WORK TO BE PERFORMED:

Building is now smaller 31,423sf. Only 1 entrance; previous plans approved under Case No. 3-B-21-TOB

ZONING VARIANCE

SUMMARY OF ZONING VARIANCE REQUEST:

No new variances

REZONING

REZONE FROM: No zoning change

TO:

SECTOR PLAN AMENDMENT FROM:

TO:

SIGNAGE

[ ] **YARD SIGN**
AREA:
HEIGHT:
FINISH:

[ ] **BUILDING SIGN**
AREA:
HEIGHT:
FINISH:

[ ] **OTHER SIGN**
AREA:
HEIGHT:
TYPE:

STAFF USE ONLY

- [ ] TTCDA Checklist
- [ ] Property Owners/Option Holders

CODE	CODE	TOTAL
FEE	FEE	$250.00
808 | $250.00		

AUTHORIZATION

By signing below *You certify that you are the property owner and/or authorized representative.*

Jeffrey T. Cuthbertson — Cuthbertson Real Estate, LLC — 6/18/2022 | 12:19:58 PM EDT

AFFILIATION — DATE

423-463-5109 — jcuthbertson@onecri.com

PHONE NUMBER — EMAIL

Michelle Portier — Michelle Portier — 6/21/2022

STAFF SIGNATURE — PRINT NAME — DATE PAID