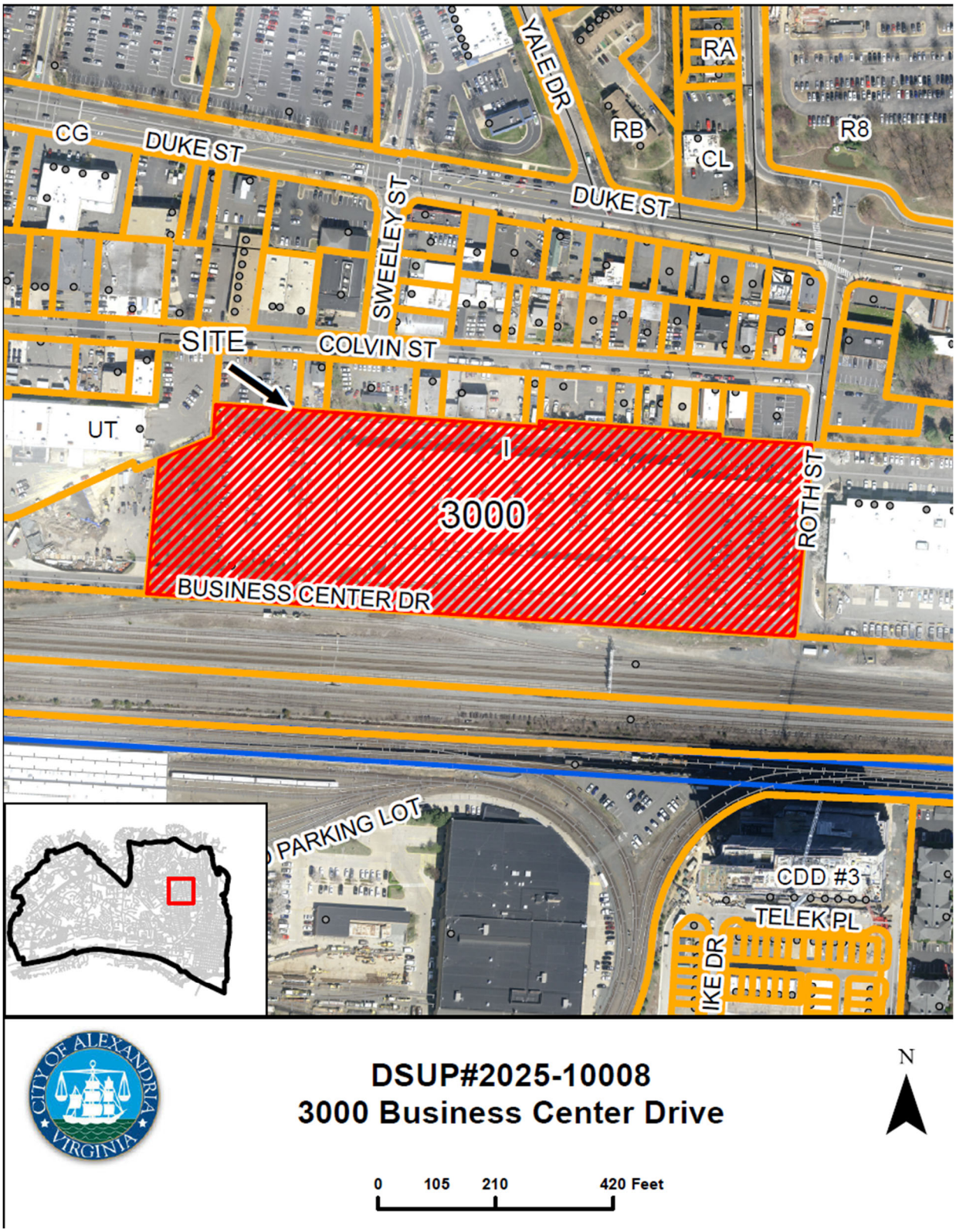
Development Special Use Permit #2025-10008
DASH Expansion Project

Application	**General Data**	
Project Name: DASH Expansion for Electric Charging and Maintenance Facility	PC Hearing:	September 4, 2025
	CC Hearing:	September 13, 2025
	If approved, DSUP Expiration:	September 13, 2028
	Plan Acreage:	9.21 Acres
Location: 3000 Business Center Drive	Zone:	I, Industrial
	Proposed Use:	Public Building for DASH Bus Operations
	Gross Floor Area:	
	Small Area Plan:	Taylor Run / Duke Street
Applicant: Department of General Services, City of Alexandria	Historic District:	N/A
	Green Building:	N/A

Purpose of Application
To amend development special use permit #2011-0008 to construct an electric charging canopy structure for electric buses;
Special Use Permits and Modifications Requested:
Special Use Permit for a *Public Building*

Staff Recommendation: APPROVAL WITH CONDITIONS
Staff Reviewers: Robert Kerns AICP, Division Chief, Planning & Zoning, robert.kerns@alexandriava.gov Dirk Geratz, AICP, Principal Planner, Planning & Zoning, dirk.geratz@alexandriava.gov Abigail Harwell, Urban Planner, Planning & Zoning, abigail.harwell@alexandriava.gov
PLANNING COMMISSION ACTION, SEPTEMBER 4, 2025: On a motion by Vice Chair Koenig, seconded by Commissioner Manor, the Planning Commission voted to recommend approval of Development Special Use Permit #2025-10008. The motion carried on a vote of 6-0, with Commissioner Ramirez absent.


CG
DUKE ST
YALE DR
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SWEELEY ST
SITE
COLVIN ST
UT
I
3000
ROTH ST
BUSINESS CENTER DR
PARKING LOT
CDD #3
TELEK PL
IKE DR
DSUP#2025-10008
3000 Business Center Drive
N
0
105
210
420 Feet

I. SUMMARY

A. Recommendation

Staff recommends **approval** of the proposed amendments to the Development Special Use Permit (DSUP #2025-10008) for the proposed addition of an electric charging and maintenance structure at the current DASH facility at 3000 Business Center Drive. This project, including a previous amendment, conforms to the City's adopted plans, codes, and policies.

B. General Project Description

The purpose of this proposal is to construct a new canopy structure to expand additional bus parking, maintenance and storage for 24 additional buses. A DSUP is triggered by the *public building use* and a building expansion in excess of 3000 square feet.

II. BACKGROUND

A. Procedural Background

The DASH Bus Operations facility DSUP #2006-0025 was originally approved by City Council in May of 2008, to create a 160,000 square foot building to house 96 buses for protective storage and maintenance bays for repair and preventative maintenance work. As originally approved, the property was designed and graded to allow for a future expansion on the west side of the building to accommodate additional parking for 34 buses. Under the current proposal, this site will be used as the temporary location for the impound lot until this expansion program is approved and funded.

In 2011 a major amendment, DSUP #2011-0008, was approved to allow for the temporary relocation of part of the City's impound lot to this location. The impound lot was located at the vacant western end of the of the DASH property. It was approved knowing that this would be an interim use until DASH would need it for future expansion of their operations.

B. Site Context

The existing DASH bus facility is located at 3000 Business Center Drive. The facility is located west of the City-owned Witter Wheeler athletic campus and lies within the Taylor Run / Duke Street Small Area Plan. The site is currently functioning as a bus operations facility for Alexandria Transit Company, known as DASH and the City of Alexandria impound lot. The impound lot located at the western end of the property will be the site of the proposed expansion.

C. Detailed Project Description

This project proposes to construct a new canopy-style structure to expand bus parking, maintenance, storage and charging for 24 electric buses. The expansion is to be located to the west of the existing DASH facility, on the current impound lot. The improvements include: a partially open canopy structure with a solid roof but open on the long sides of the structure, electric charging capabilities to charge electric buses, a surface parking area and bus storage, vehicular access aisles and a secured gated entry. Additionally, a bioretention pond west of the new canopy is proposed to receive and treat runoff from these improvements before entering the existing detention pond. The structure is designed for future expansion and improvements to accommodate additional electric buses in the future.

D. Project Funding

This project is funded by FY2018 Smartscale Round 2 funding, which provides $6.7 million for the construction of the DASH facility expansion to accommodate for fleet growth and service expansion. This grant also provides funding for six (6) expansion buses for service expansions. An additional $2.5 million contributed by FY2018-2023 NVTA 70% funds, awarded for DASH Transit Service Enhancements and Expansion. The NVTA 70% funds augment the Smartscale funding to provide provisions for electric bus charging to be included with this project.

III. ZONING

Property Address: 3000 Business Center Drive			
Total Site Area: 9.21 acres			
Zone: I, Industrial			
Current Use: Public Building – DASH Bus Operations			
Proposed Use: Public Building – Electric Charging Structure for up to 24 Buses			
	Permitted/Required	SUP	Proposed
FAR	.85	1.25	.436
Setbacks	None	N/A	Front: 113.7 ft West Side: 172 ft Rear: 65.4 ft
Height	50 feet	N/A	35.25 feet
Parking	235	N/A	357
Loading Space	2	N/A	N/A
Tree Canopy	25%	N/A	48.5%

IV. STAFF ANALYSIS

The proposed facility provides an opportunity to fulfill many of the goals and objectives identified in the City's planning policies and documents – primarily the provision of efficient public transportation to reduce auto-dependency and improve quality of life. The City's Strategic Plan identifies the construction of a new DASH operations and maintenance facility as a project essential to achieving the goal of an integrated, multi-modal transportation system that efficiently and effectively transports City residents, visitors, and employees.

The new facility also enables DASH to improve quality of service by providing sufficient storage for additional buses, expanded maintenance bays to accommodate a larger bus fleet, adequate parts and equipment areas, and the ability to transition the fleet to environmentally friendly buses. DASH anticipates that the new facility will facilitate increased service levels on existing routes and the creation of new routes to connect new and future development, revitalized areas, and neighborhoods currently lacking sufficient transit.

A. Building Design/Architecture

The project consists of a 15,482 square foot open canopy (not fully enclosed) steel structure for the storage, maintenance, and charging of 24 electric buses with battery electric bus (BEB) charging infrastructure. The bus storage bays are topped by a conventional roof and an equipment platform that runs the length of the facility above the bays. The equipment platform is also roofed accommodating charging equipment. The long sides of the storage bays are open with no exterior doors. Insulated metal panels clad the solid wall areas. The panel design responds to the DASH campus' existing context incorporating a horizontal band of 'DASH yellow' on a field of off-white panels in coordination with the adjacent bus maintenance facility.

B. Conformance to the Small Area Plan

The subject property is located within the most southern portion of the Taylor Run/Duke Street Small Area Plan. This plan identifies the subject property, including much of the land area south of Colvin Street, as an area planned for light industrial and commercial service uses. The area occupied by the DASH facility had at one time been part of a railroad yard with industrial type uses surrounding this area. This location is an appropriate one for the expansion of the existing DASH operations which have been in operation since 2008.

C. Project Sustainability

The City of Alexandria's Environmental Action Plan (EAP 2040) includes targets for increased transit ridership, reduced vehicle miles traveled (VMTs), and to transition DASH's fleet to 100% zero-emission vehicles. Reducing single-occupant vehicle driving (SOV), and promoting sustainable modes of transportation like walking, biking and public transit can help people reduce greenhouse gas emissions, improve air quality, and promote land uses that further reduce carbon emissions.

As an open-air infrastructure facility which will not provide heat or air-conditioning in standard operation, the facility is exempted from the City's 2019 Green Building Policy and the certification requirements included in the Policy are not relevant. It should be noted that the structure will be built with concrete and stone aggregate products will be locally sourced materials.

Furthermore, the facility's use will support the transition to an all-electric DASH bus fleet by 2040. This will contribute to the City's overall goals of greenhouse gas reductions for decades into the future. All proposed concrete and stone aggregate products will be locally sourced materials.

Additionally, the site will become greener through the planting of new, site appropriate trees, and a landscaped bioretention area. A large number of trees are being removed, a majority of which are invasive species and small in diameter. Upon completion of the project, the tree canopy will be increased from the current 39% to 48.5%.

D. Stormwater Management

Stormwater will be managed by the existing dry detention pond. A new bioretention area will be added adjacent to the pond as part of this project for enhanced stormwater management. Both facilities will be maintained by the City.

The stormwater management plan demonstrates that the site has been developed to increase the post-development peak runoff rate from the pre-development peak runoff rate for a one-year and a ten-year storm considered individually. Therefore, stormwater detention is provided per the requirements of article 13-109(f)(1)(c) and 13-109(f)(2)(a)(i) of Alexandria zoning ordinance not to release stormwater from the site at a higher rate than pre-development condition. An adequate outfall analysis was completed to confirm this.

This project is an area that experiences flooding, as has been documented in the report titled 'Dash Flooding Analysis of Alternatives Alexandria, Va', prepared by Michael Baker International, dated 12/04/2019. This issue will be addressed as part of the improvements being made as part of the fourth track rail project abutting the property to the south.

V. COMMUNITY

The standard public notice procedures took place with this property including the posting of signs on the property, written notices to adjacent property owners as well as in a local newspaper noticing the public hearings. Additionally, DASH has a dedicated project webpage and has used existing email databases and community events to inform the community about the project.

No negative comments have been received by the City on this project at the time this report was completed. It should be noted that the isolated site and abutting uses being the rail corridor to the south, other City facilities to the east and west and two commercial uses to the north greatly limit potential impacts from the expanded facility.

VI. CONCLUSION

Staff recommends approval of the proposed amendment to the DASH DSUP and to permit the *public building* use at this location subject to compliance with all applicable codes and the following recommended conditions.

VII. GRAPHICS

Site Plan of new building and bus circulation space

View from Southwest corner looking northeast. Existing facility at far right.

VIII. STAFF RECOMMENDATIONS

Staff recommends approval of the proposed amendment to the DASH facility subject to compliance with all applicable codes and ordinances and the following conditions:

Note:

New conditions 55 through 69 are specific to this DSUP #2025-10008;

Conditions 1 through 54 are carried forward from DSUP2006-0025 or as amended by DSUP2011-00008. These conditions are still valid as applicable.

A. BUILDING DESIGN:

1. The final architectural elevations shall be consistent with the level of quality and detail provided in the preliminary architectural elevations dated April 23, 2008. In addition, the applicant shall provide additional refinements to the satisfaction of the Directors of P&Z and T&ES that shall at a minimum include: (DSUP #2006-0025):

    a. All facades of the building shall be constructed entirely of masonry (precast) as generally depicted in the preliminary architectural elevations.
    b. The building elevations shall be light sandblast and include bands of blue and yellow paint or stain to add visual interest and identification to the building.
    c. The band of blue shall be provided on the two-story segment of the Business Center Drive and Roth Street building elevations, except in the recessed building segments. The band of yellow shall be located immediately beneath the band of blue on the two-story segment of the Business Center Drive and Roth Street elevations and continue on each building elevation.
    d. Louvers located within the yellow band shall be factory finished or painted yellow to match the band of yellow stain or paint. All other louvers shall be factory finished or painted match corresponding wall material or color.
    e. The stairs located on the north of the building shall be factory finished or painted to correspond to the color of the precast.
    f. Overhead doors shall be factory finished to match the bands of blue stain or paint.
    g. Provide fourteen to sixteen detailed, fluted pilasters on the southern and eastern building elevations to identify the main entrance and administrative area as a primary façade.
    h. Windows shall be gridded with an operable awning, and mullions shall be factory finished or painted yellow to correspond to the yellow building band.
    i. The entrance canopy shall be enhanced to provide a decorative, cable-suspended canopy. All building identification shall be located above the canopy to ensure consistency with the art deco style.
    j. The DASH sign shall be integrated with the building and designed in general conformance with Attachment #1.

k. The rooftop mechanical equipment visible from Business Center Drive and Roth Street shall be painted to match the precast concrete panels.
l. The building mounted light fixtures shall be an integrated part of the façade and shall be provided with the final site plan submission.
m. The freestanding light poles on the ramp shall be eliminated. Wall mounted lighting on the interior of the ramp shall be provided.
n. The City of Alexandria encourages the use of green/sustainable building technology. The applicant shall achieve points toward LEED Silver Certification under the U.S. Green Building Council's System. The sustainable design elements and innovative technologies implemented to achieve these points shall be consistent with the preliminary project checklist dated February 29, 2008.
o. A color on-site mock-up shall be provided prior to the final selection of the precast concrete and other building materials.
p. Color architectural elevations (front, side and rear) shall be submitted with the final site plan and with the mylar submission. (P&Z)(T&ES)

2. The applicant of any building or structure constructed in excess of 10,000 square feet; or any building or structure which constructs an addition in excess of 10,000 square feet shall contact the City of Alexandria Radio Communications Manager prior to submission of final site plan. The proposed project shall be reviewed for compliance with radio requirements of the City of Alexandria to the satisfaction of the City of Alexandria Radio Communications Manager prior to site plan approval. Such buildings and structures shall meet the following conditions (DSUP #2006-0025):

   a. The building or structure shall be designed to support a frequency range between 806 to 824 MHz and 850 to 869 MHz.
   b. The building or structure design shall support minimal signal transmission strength of -95 dBm within 90 percent of each floor area.
   c. The building or structure design shall support a minimal signal reception strength of -95 dBm received from the radio system when transmitted from within 90 percent of each floor area.
   d. The building or structure shall be tested annually for compliance with City radio communication requirements to the satisfaction of the Radio Communications Manager. A report shall be filed annually with the Radio Communications Manager which reports the test findings.

   If the building or structure fails to meet the above criteria, the applicant shall install to the satisfaction of the Radio Communications Manager such acceptable amplification systems incorporated into the building design which can aid in meeting the above requirements. Examples of such equipment are either a radiating cable system, or an FCC approved type bi-directional amplifier. Final testing and acceptance of amplification systems shall be reviewed and approved by the Radio Communications Manager. Acknowledged by applicant, will be evaluated with DB team. (Code)

B. PEDESTRIAN AND STREETSCAPE:

3. The applicant shall provide pedestrian and streetscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated March 20, 2008, and shall also at a minimum provide the following to the satisfaction of the Directors of P&Z, RP&CA, and T&ES:

    a. The sidewalk on the north side of Business Center Drive, with the exception of the entrance area, shall be a 6-foot-wide unobstructed sidewalk located adjacent to the curb with a minimum 6-foot landscape strip located between the sidewalk and the bioretention planter boxes.
    b. The sidewalk on the west side of Roth Street shall be a minimum of 7 feet, with a minimum unobstructed width of 5 feet. A landscape strip shall be provided adjacent to the curb, and a continuous screen hedge shall be installed adjacent to the sidewalk within the landscape strip. Street trees shall be centered in the landscape strip between the screen hedge and the curb.
    c. The developer shall install and maintain ADA accessible pedestrian crossings serving the site.
    d. Where crosswalks are to be marked, provide thermoplastic (open ladder) style crosswalks at all midblock locations; all other crosswalks at controlled intersections shall be standard two-line crosswalks.
    e. All pedestrian and streetscape improvements shall be completed prior to the physical occupation of the impound lot. (P&Z) (T&ES)(RP&CA) (DSUP#2011-00008)

4. Americans with Disability Act (ADA) ramps shall comply with the requirements of Memorandum to Industry No. 03-07 on Accessible Curb Ramps dated August 2, 2007, with truncated domes on the end of the ramp with contrasting color from the rest of the ramp. A copy of this Memorandum is available on the City of Alexandria website (DSUP #2006-0025). (T&ES)

5. Provide all pedestrian and traffic signage in accordance with the Manual of Uniform Traffic Control Devices (MUTCD), latest edition to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)

C. LANDSCAPING:

6. The applicant shall provide landscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated March 20, 2008,and shall also at a minimum provide the following to the satisfaction of the Directors of P&Z, RP&CA, T&ES, and Code Enforcement (DSUP #2006-0025):

    a. Develop, provide, install and maintain an integrated Landscape Plan that is coordinated with other associated site.
    b. The plan shall comply with the City of Alexandria Landscape Guidelines.

i. Ensure that FDC connections and secure access/exit areas for the building are not compromised by proposed plantings.
ii. Provide required crown area coverage.
iii. Provide hose bibs at a maximum spacing of 90' apart on three faces of the building, as generally depicted on the preliminary plan
iv. Hose bibs and ground set water connections must be fully accessible and not blocked by plantings, site utilities or other obstructions.

c. The transformer located adjacent to Business Center Drive shall be screened.
d. Flow-through planter boxes shall be precast to match the building materials.
e. The rooftop open space shall be designed to function as high-quality usable open space for the employees. At a minimum, the rooftop deck shall include planters, tables and chairs, benches, and trash receptacles.
f. The landscaping for the proposed development shall not impede the visibility of any FDC or Fire Hydrant and shall comply with Section 912 of the Statewide Fire Prevention Code. Landscaping that impedes FDC visibility and shall be removed by the Final Site Plan #1 submission. (RP&CA)(P&Z)(T&ES)(Code)

D. <u>SITE PLAN:</u>

7. Security fences and gates shall be black, vinyl-coated chain link and shall not exceed 8 feet in height (DSUP #2006-0025). (P&Z)

8. Shift the security fence located adjacent to the stormwater management basin north to accommodate the five street trees between the sidewalk and the fence (DSUP #2006-0025). (P&Z)

9. The final subdivision and consolidation plats shall be submitted as part of the submission for first final site plan and shall be approved and recorded prior to the release of the final site plan (DSUP #2006-0025). (P&Z)

10. Provide a lighting plan with the final site plan to verify that lighting meets City standards. The plan shall be to the satisfaction of the Directors of T&ES and P&Z in consultation with the Chief of Police and shall include the following (DSUP #2006-0025):

    a. Clearly show location of all existing and proposed streetlights and site lights, shading back less relevant information;
    b. A lighting schedule that identifies each type and number of fixtures, mounting height, and strength of fixture in Lumens or Watts;
    c. Manufacturer's specifications and details for all proposed fixtures including site, landscape, pedestrian, sign(s), and security lighting.
    d. A photometric plan with lighting calculations that include all existing and proposed light fixtures, including any existing streetlights located on the opposite side(s) of all adjacent streets. Photometric calculations must extend from proposed building face(s) to property line and from property line to the opposite side(s) of all the

adjacent streets and/or 20 feet beyond the property line on all adjacent properties, and right-of-way. Show existing and proposed streetlights and site lights.

e. Photometric site lighting plan shall be coordinated with architectural/building mounted lights, site lighting, street trees and streetlights and minimize light spill into adjacent residential areas.
f. Provide location of conduit routing between site lighting fixtures so as to avoid conflicts with street trees.
g. Detail information indicating proposed light pole and footing in relationship to adjacent grade or pavement.
h. The lighting for the areas not covered by the City of Alexandria' standards shall be designed to the satisfaction of Directors of T&ES and P&Z.
i. Provide numeric summary for various areas (i.e., roadway, walkway/ sidewalk, alley, parking lot, etc.) in the proposed development.
j. Full cut-off lighting shall be used at the development site to prevent light spill onto adjacent properties. (T&ES)(P&Z) (Police)

E. <u>STORMWATER:</u>

11. Per the requirements of the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a drainage study and adequate outfall analysis for the total drainage area to the receiving sewer that serves the site. Since the existing storm system is known to be inadequate then the applicant shall design and construct improvements on-site or off-site to discharge to an adequate outfall; or improve the existing drainage system on the proposed development site without adversely impacting the downstream conditions. The condition shall be fulfilled even if the post development storm water flow from the site is reduced from the pre-development flow. The Plan shall demonstrate compliance with this condition to the satisfaction of the Director of Transportation & Environmental Services. (T&ES) (DSUP#2011-00008)

12. Per the requirements of the City of Alexandria Zoning Ordinance (AZO) Article XIII, the applicant shall comply with the peak flow requirements and prepare a Stormwater Management Plan so that from the site, the post-development peak runoff rate form a two-year storm and a ten-year storm, considered individually, shall not exceed their respective predevelopment rates. If combined uncontrolled and controlled stormwater outfall is proposed, the peak flow requirements of the Zoning Ordinance shall be met (DSUP #2006-0025). (T&ES)

13. Flow from downspouts, foundation drains, and sump pumps shall be discharged to the storm sewer outfall as per the requirements of Memorandum to the industry on Downspouts, Foundation Drains, and Sump Pumps, Dated June 18, 2004, that is available on the City of Alexandria's web site. The downspouts and sump pump discharges shall be piped to the storm sewer outfall, where applicable after treating for water quality as per the requirements of Article XIII of Alexandria Zoning Ordinance (AZO) (DSUP #2006-0025). (T&ES)

14. All stormwater designs that require analysis of pressure hydraulic systems, including but not limited to the design of flow control structures and storm water flow conveyance systems shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia. The design of storm sewer shall include the adequate outfall, inlet, and hydraulic grade line (HGL) analyses that shall be completed to the satisfaction of the Director of T&ES. Provide appropriate reference and/or source used to complete these analyses. If applicable, the Director of T&ES may require resubmission of all plans that do not meet this standard (DSUP #2006-0025). (T&ES)

15. The storm water collection system is located within the Cameron Run watershed. All on-site storm water curb inlets and public curb inlets within 50 feet of the property line shall be duly marked using standard City markers, or to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)

F. WASTEWATER / SANITARY SEWERS:

16. In compliance with the City of Alexandria Zoning Ordinance Article XI, the applicant shall complete a sanitary sewer adequate outfall analysis as per the requirements of Memorandum to Industry No. 02-07 New Sanitary Sewer Connection and Adequate Outfall Analysis dated June 1, 2007 (DSUP #2006-0025). (T&ES)

G. SOLID WASTE:

17. The City of Alexandria shall provide the solid waste collection services, and all the refuse/recycling facilities shall be designed to the satisfaction of Director T&ES (DSUP #2006-0025). (T&ES)

18. The standard containers that are compatible with the City collection system shall be provided to the satisfaction of the Director of Transportation and Environmental Services (DSUP #2006-0025). (T&ES)

19. The applicant shall provide storage space for solid waste and recyclable materials containers as outlined in the City's "Solid Waste and Recyclable Materials Storage Space Guidelines", or to the satisfaction of the Director of Transportation & Environmental Services. The City's storage space guidelines and required Recycling Implementation Plan forms are available at: www.alexandriava.gov or contact the City's Solid Waste Division at 703-519-3486 ext.132 (DSUP #2006-0025). (T&ES)

H. STREETS/TRAFFIC:

20. All improvements to the City's infrastructure, including but not limited to, curb, gutter, sidewalk, and driveway aprons, and patch work required for utility installation, etc., or damaged during construction shall be designed and constructed as per the City of Alexandria standards and specifications (DSUP #2006-0025). (T&ES)

21. Prior to the release of the final site plan, provide a Traffic Control Plan for construction detailing proposed controls to traffic movement, lane closures, construction entrances, haul routes, and storage and staging (DSUP #2006-0025). (T&ES)

22. All Traffic Control Device design plans, Work Zone Traffic Control plans, and Traffic Studies shall be signed and sealed by a professional engineer, registered in the Commonwealth of Virginia (DSUP #2006-0025). (T&ES)

23. Show turning movements of standard vehicles, buses, tow trucks, and trash trucks on the parking structure and/or on-site. Turning movements shall meet AASHTO vehicular guidelines and shall be to the satisfaction of the Director of T&ES. (T&ES) (DSUP#2011-00008)

24. The slope on parking ramp to garage entrance shall not exceed 10 percent. In case the slope varies between 10% and 12% then the applicant shall provide trench drain connected to a storm sewer to eliminate or diminish the possibility of ice formation (DSUP #2006-0025). (T&ES)

I. UTILITIES:

25. All private utilities shall be located outside of the public right-of-way and public utility easements (DSUP #2006-0025). (T&ES)

26. Show all existing and proposed public and private utilities and easements and provide a descriptive narration of various utilities (DSUP #2006-0025). (T&ES)

J. SOILS:

27. The applicant shall provide a geotechnical report, including recommendations from a geotechnical professional for proposed cut slopes and embankments with the submission of the first final site plan (DSUP #2006-0025). (T&ES)

K. BMP FACILITIES:

28. The City of Alexandria's storm water management regulations regarding water quality are two-fold: first, phosphorus removal requirement and second, water quality volume default. Compliance with the phosphorus requirement does not relieve the applicant from the water quality default requirement. The water quality volume determined by the site's proposed impervious area shall be treated in a Best Management Practice (BMP) facility (DSUP #2006-0025). (T&ES)

29. Provide BMP narrative and complete pre and post development drainage maps that include areas outside that contribute surface runoff from beyond project boundaries to include adequate topographic information, locations of existing and proposed storm drainage systems affected by the development, all proposed BMP's and a completed Worksheet A or B and Worksheet C, as applicable (DSUP #2006-0025). (T&ES)

30. The storm water Best Management Practices (BMPs) required for this project shall be constructed and installed under the direct supervision of the design professional or his designated representative. Prior to release of the performance bond, the design professional shall submit a written certification to the Director of T&ES that the BMPs are (DSUP #2006-0025):

    a. Constructed and installed as designed and in accordance with the approved Final Site Plan.
    b. Clean and free of debris, soil, and litter by either having been installed or brought into service after the site was stabilized. (T&ES)

31. Surface-installed storm water Best Management Practice (BMP) measures, i.e. Bio-Retention Filters, Vegetated Swales, etc. that are employed for this site, require installation of descriptive signage to the satisfaction of the Director of T&ES (DSUP #2006-0025). (T&ES)

32. The DASH Bus Maintenance Facility, 3000 Business Center Drive, shall be added to the Memorandum of Understanding concerning maintenance responsibilities for the City owned stormwater management best management practices, including stormwater detention pond. Amending this document shall be accomplished prior to mylar approval. (T&ES)(DSUP#2011-00008)

33. Prior to physical occupation of the impound lot, a copy of the Operation and Maintenance Manual shall be submitted to the Division of Environmental Quality on digital media. (T&ES) (DSUP#2011-00008)

34. Prior to physical occupation of the impound, the Applicant is required to submit a certification by a qualified professional to the satisfaction of the Director of T&ES that any existing storm water management facilities adjacent to the project and associated conveyance systems were not adversely affected by construction operations and that they are functioning as designed and are unaffected by construction activities. If maintenance of the facility or systems were required in order to make this certification, provide a description of the maintenance measures performed. (T&ES) (DSUP#2011-00008)

L. CONTAMINATED LAND:

35. Due to historic uses at the site and potential for contamination, the following condition shall be included:
    a. The Applicant shall design and install a vapor barrier and ventilation system for buildings and parking areas in order to prevent the migration or accumulation of methane or other gases, or conduct a study and provide a report signed by a professional engineer showing that such measures are not required to the satisfaction of Directors of T&ES and Code Administration. (T&ES) (DSUP#2011-00008)

36. The final site plan shall not be released, and no construction activity shall take place until the following has been submitted and approved by the Director of T&ES (DSUP #2006-0025):
    a. Submit a Site Characterization Report/Extent of Contamination Study detailing the location, applicable contaminants, and the estimated quantity of any contaminated soils and/or groundwater at or in the immediate vicinity of the site.
    b. Submit a Risk Assessment indicating any risks associated with the contamination.
    c. Submit a Health and Safety Plan indicating measures to be taken during remediation and/or construction activities to minimize the potential risks to workers, the neighborhood, and the environment.
    d. Applicant shall submit 5 copies of the above. The remediation plan must be included in the Final Site Plan. (T&ES)

M. NOISE:

37. All exterior building mounted loudspeakers are prohibited (DSUP #2006-0025). (T&ES)

N. AIR POLLUTION:

38. The Applicant shall control odors and any other air pollution sources resulting from operations at the site and prevent them from leaving the property or becoming a nuisance to neighboring properties, as determined by the Director of Transportation and Environmental Services (DSUP #2006-0025). (T&ES)

39. DASH buses and contractors shall not cause or permit diesel fueled vehicles to idle for more than 10 minutes when parked (DSUP #2006-0025). (T&ES)

O. AUTOMOTIVE:

40. Car wash facilities must be equipped with a water recycling system. The building official shall approve such a system. Any car washing activity must drain to the sanitary sewer system with prior approval from ASA, or be covered by a VPDES permit for discharge into the storm sewer (DSUP #2006-0025). (T&ES)

41. Provide a plan that shows the method of connection for the discharge of vehicle wash to an approved sanitary sewer system and proper disposal of rainwater to the storm sewer system. In case the applicant chooses to install commercial car washing equipment, such equipment shall be equipped with a water recycling system approved by the building official (DSUP #2006-0025). (T&ES)

42. All waste products including but not limited to organic compounds (solvents), motor oil, compressor lubricant and antifreeze shall be disposed of in accordance with all local, state and federal ordinances or regulations and not be discharged to the sanitary or storm sewers or be discharged onto the ground (DSUP #2006-0025). (T&ES)

43. The applicant shall comply with the City of Alexandria Best Management practices manual for automotive related industries. A copy can be obtained by contacting the Division of Environmental Quality at 703-838-4334 (DSUP #2006-0025). (T&ES)

P. <u>CONSTRUCTION:</u>

44. A "Certified Land Disturber" (CLD) shall be named in a letter to the Division Chief of C&I prior to any land disturbing activities. If the CLD changes during the project, that change must be noted in a letter to the Division Chief. A note to this effect shall be placed on the Phase I Erosion and Sediment Control sheets on the site plan (DSUP #2006-0025). (T&ES)

45. During the construction phase of this development, the site developer, their contractor, certified land disturber, or owner's other agent shall implement a waste and refuse control program. This program shall control wastes such as discarded building materials, concrete truck washout, chemicals, litter or trash, trash generated by construction workers or mobile food vendor businesses serving them, and all sanitary waste at the construction site and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment to the satisfaction of Directors of Transportation and Environmental Services and Code Enforcement. All wastes shall be properly disposed offsite in accordance with all applicable federal, state and local laws (DSUP #2006-0025). (T&ES)

46. The applicant shall prepare and submit a plan that delineates a detailed construction management plan for the entire project for review and approval by the Directors of P&Z, T&ES, and Code Enforcement prior to the release the final site plan. Before commencing any clearing or grading of the site, the applicant shall hold a meeting with notice to all adjoining property owners to explain the plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction. Copies of plans showing the hauling route, construction worker parking, and temporary pedestrian and vehicular circulation and temporary construction trailer location shall be posted in the construction trailer and given to each subcontractor before they commence work (DSUP #2006-0025). (P&Z) (T&ES)

47. The applicant shall identify a person who will serve as liaison to the community throughout the duration of construction. The name and telephone number, including an emergency contact number, of this individual shall be provided in writing to residents, property managers and business owners whose property abuts the site and shall be placed on the project sign, to the satisfaction of the Directors of P&Z and T&ES (DSUP #2006-0025). (T&ES)

48. Submit an approvable construction phasing plan to the satisfaction of the Director of T&ES, which will allow review, approval and partial release of final the site plan. In addition, building and construction permits required for site preconstruction shall be

permitted prior to release of the final site plan to the satisfaction of the Direction of T&ES (DSUP #2006-0025). (T&ES)

49. The applicant shall submit a wall check to the Departments of P&Z and T&ES prior to the commencement of framing for the building(s). The building footprint depicted on the wall check shall comply with the approved final site plan. The wall check shall also provide the top-of-slab and first floor elevation as part of the wall check. The wall check shall be prepared and sealed by a registered engineer or surveyor, and shall be approved by the City prior to commencement of framing (DSUP #2006-0025). (P&Z)(T&ES)

50. As part of the request for a certificate of occupancy permit, a building and site location survey shall be submitted to the Departments of P&Z and T&ES for all site improvements. A certification of height for the building shall also be submitted as part of the certificate of occupancy for each building(s). The certification shall be prepared and sealed by a registered architect and shall state that the height of the building complies with the height permitted pursuant to the approved development special use permit and that the height was calculated based on all applicable provisions of the Zoning Ordinance (DSUP #2006-0025). (P&Z)(T&ES)

51. A temporary informational sign shall be installed on the site prior to the approval of the final site plan for the project and shall be displayed until construction is complete; the sign shall notify the public of the nature of the upcoming project and shall provide a phone number for public questions regarding the project (DSUP #2006-0025). (P&Z)(T&ES)

52. Temporary construction trailers shall be permitted and be subject to the approval of the Directors of P&Z, T&ES, and Code Administration. The trailer(s) shall be located on the final site plan and removed prior to physical occupation of the impound lot. (P&Z) (T&ES) (Code) (DSUP#2011-00008)

Q. MISCELLANEOUS:

53. The applicant shall provide two (2) short-term / visitor bicycle parking racks at the ground level, preferably located within 50 yards of the building entrance. If the rack location is not apparent or immediately visible to visitors, provide standard, MUTCD compliant (D4-3) signs indicating location of bicycle parking. Racks may not be more than 200 yards from the building entrance. Bicycle rack locations are preferably covered and grouped. Short term racks shall be located in a manner that will not obstruct the existing / proposed sidewalks. City of Alexandria bicycle parking standards and details for acceptable locations are available at: www.alexride.org/bicycleparking.php (DSUP #2006-0025). (T&ES)

54. Long term / employee bicycle parking, storage and changing rooms (DSUP #2006-0025):

a. The applicant shall provide five (5) long-term / employee bicycle parking racks to the satisfaction of the Director of T&ES. If the racks location is not apparent or immediately visible, provide standard, MUTCD compliant (D4-3) signs indicating the location of bicycle parking. City of Alexandria bicycle parking standards and details for acceptable locations are available at: www.alexride.org/bicycleparking.php
b. The applicant shall provide two (2) shower(s) per gender and a minimum of ten (10) clothes storage lockers per gender. The lockers shall be accessible to all employees of the facility to the satisfaction of the Director of T&ES.
c. To satisfy LEED Credit 4.2 (Alternative Transportation: Bicycle Storage and Changing Rooms) the combination of short-term/visitor parking and long-term/employee parking may be increased in the event that the number of bicycle parking spaces does not provide enough bicycle racks to provide for 5% or more of all building users during peak use periods. (T&ES)

R. CONDITIONS RELATED TO ELECTRIC CHARGING FACILITY (DSUP 2025-10008):

55. The final site plan and architectural elevations shall be consistent with the level of quality and detail provided in the preliminary site plan and associated architectural elevations dated May 27, 2025. (P&Z)(DSUP2025-10008) (P&Z)

56. The applicant shall provide landscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated May 27, 2025, to the satisfaction of the Director of P&Z. (P&Z)

57. The applicant shall provide pedestrian and streetscape improvements that at a minimum provide the level of improvements depicted on the preliminary site plan dated May 27, 2025, and shall also at a minimum provide the following to the satisfaction of the Director of P&Z. (P&Z)

58. The electric charging structure is exempt from the 2019 Green Building Policy as it is an open structure. (OFFICE of CLIMATE ACTION) (DSUP2025-10008)

59. Should any unanticipated contamination, underground storage tanks, drums or containers be encountered at the site during construction, the Applicant must immediately notify the City of Alexandria Department of Transportation and Environmental Services, Office of Environmental Quality. Should unanticipated conditions warrant, construction within the impacted area shall be stopped until the appropriate environmental reports identified by the City are submitted and approved at the discretion of the Director of Transportation and Environmental Services. (T&ES) (DSUP2025-10008)

60. Any damage of the City's existing public infrastructure that occurs during construction must be repaired pursuant to the most recent version of the T&ES Design and

Construction Standards Memo to Industry 23-01, or to the satisfaction of Director of T&ES. (T&ES) (DSUP2025-10008)

61. Full curb to curb restoration is required for any asphalt patches larger than 20 percent of the total asphalt surface, measured along the length of the road adjacent to the property frontage and/or extending to the centerline of the street. (T&ES) (DSUP2025-10008)

62. No vehicles associated with this project shall be permitted to idle for more than 10 minutes when parked, including construction vehicles, per 9 VAC 5-40-5670 of the Virginia State Code. (T&ES) (DSUP2025-10008)

63. Submit a separate construction management plan to the Directors of P&Z, T&ES, and Code Administration prior to Final Site Plan release. The plan shall satisfy these requirements:

    a. Do not remove streetlights without authorization from the City of Alexandria,
    b. If streetlights are to be removed from the public right-of-way, then provide temporary lights until the installation and commissioning of new lights,
    c. Include an analysis as to whether temporary street or site lighting is needed for safety during the construction on the site and how it is to be installed,
    d. Provide a detailed sequence of demolition and construction of improvements in the public right of way along with an overall proposed schedule for demolition and construction,
    e. Include an overall proposed schedule for construction,
    f. Include a plan for temporary pedestrian circulation,
    g. Include the location and size of proposed construction trailers, if any,
    h. Include a preliminary Maintenance of Traffic Plan as part of the construction management plan for informational purposes only, to include proposed controls for traffic movement, lane closures, construction entrances and storage of materials, and post copies of the plan in the construction trailer and give it to each contractor before they start work. (T&ES) (DSUP2025-10008)

64. Provide off-street parking for all construction workers without charge and ensure that all workers use this parking. For workers who use Metro, DASH, or another form of mass transit, subsidize a minimum of 50 percent of the fees. Complying with this condition shall be a component of the construction management plan, which shall be submitted prior to Final Site Plan release and approved by the Departments of P&Z and T&ES prior to commencing any construction activities. This plan shall:

    a. Establish and provide verifiable details and/or agreements on the location of the parking to be provided at various stages of construction, how many spaces will be provided, how many construction workers will be assigned to the work site, and mechanisms which will be used to encourage the use of mass transit,
    b. Post information on transit schedules and routes,

c. The community liaison must manage parking actively for all construction workers and ensure compliance with the off-street parking requirement, and
d. If the off-street construction worker parking plan is found to be violated during construction, a correction notice will be issued to the applicant. (T&ES) (DSUP2025-10008)

65. In the construction management plan, include chapters on:

a. **Maintaining pedestrian access.** If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project.
b. **Maintaining bicycle access.** If a bicycle facility must be closed, bicycle access shall be maintained adjacent to the site per Memo to Industry 04-18 throughout the construction of the project.
c. **Maintaining access to transit stops.** Stops shall remain open to the extent feasible for the duration of construction. Coordinate with the T&ES Transportation Planning Division at 703.746.4088 as well as the transit agency serving the stop.
d. **Waste control program.** This program shall control waste (e.g., discarded building materials, concrete truck washout, chemicals, litter or trash, sanitary waste) and prevent offsite migration that may cause adverse impacts to neighboring properties or to the environment. Dispose of all waste offsite per all applicable. (T&ES) (DSUP2025-10008)

66. Conduct these pre-construction meetings:

a. Walk/survey of the site prior to any land disturbing activities with T&ES Construction & Inspection and Code Administration staff to document existing conditions prior to Final Site Plan release.
b. An in-person or virtual meeting to review the location of construction worker parking, plan for temporary pedestrian and vehicular circulation, and hours and overall schedule for construction prior to commencing demolition, clearing, and grading of the site. Notice all adjoining property owners, civic associations, and the Departments of P&Z and T&ES at least 14 calendar days before the meeting. Hold the meeting before any building or grading permits are issued.
c. An in-person or virtual pre-installation/construction meeting to review the scope of landscaping installation procedures and processes with the P&Z landscape architect prior to starting work. (T&ES) (DSUP2025-10008)

67. Identify these individuals prior to Final Site Plan release:

a. Certified Land Disturber (CLD) in a letter to the Division Chief of Permits & Inspections prior to any land disturbing activities and include the name on the Phase I Erosion and Sediment Control sheets. If the CLD changes during the project, then note the change in a letter to the Division Chief.
b. Community liaison for the duration of the project. Provide their name and telephone number, including an emergency contact number, to residents, property managers,

and business owners whose property abuts the site. Display the sign until construction finishes. (T&ES) (DSUP2025-10008)

68. Submit a stamped electronic copy of a wall check survey completed by a licensed, certified public land surveyor or professional engineer when below-grade construction reaches the proposed finished grade. Ensure the wall check shows:

    a. Key dimensions of the building as shown on the approved Final Site Plan,
    b. Key dimensions from the future face of finished wall above to the property line and any adjacent structures on the property,
    c. Extent of any below-grade structures,
    d. Foundation wall in place, and
    e. Future face of finished wall above. (T&ES) (DSUP2025-10008)

69. Submit a stamped electronic copy of an as-built development site plan survey, per the *As-Built Development Site Plan Survey Checklist* prior to applying for a Certificate of Occupancy permit. A registered architect, engineer, or surveyor shall prepare the as-built plan. (T&ES) (DSUP2025-10008)

CITY DEPARTMENT CODE COMMENTS

Note: These comments approved with DSUP 2006-0025 and DSUP 2011-00008. No new comments added with DSUP2025-10008.

Legend: C – code requirement; R – recommendation; S – suggestion; F- finding

Planning and Zoning

F-1 Revise the proposed plat of consolidation and the re-subdivision plat to include identify the newly subdivided lots as Lot 800 and Lot 801, rather than Lot 702 and 703. (P&Z)

F-2 Revise the proposed plat of consolidation and the re-subdivision plat to be shown on an 18”x24” sheet with thin lines depicting the existing lots and a thicker line depicting the proposed lots. (P&Z)

F-3 Revise the proposed plat of consolidation and the re-subdivision plat to depict the tax map numbers for all existing and surrounding parcels in dotted lines/words. (P&Z)

Transportation and Environmental Services

F-1 Since the record drawings, maps, and other documents of the City of Alexandria, State, and Federal agencies show the true north pointing upwards, therefore, the Site Plan shall show the true north arrow pointing upward as is customary; however, for the sake of putting the plan together and/or ease of understanding, the project north arrow pointing upward, preferably east, or west may be shown provided it is consistently shown in the same direction on all the sheets with no exception at all. The north arrow shall show the source of meridian. The project north

arrow pointing downward will not be acceptable even if, it is shown consistently on all the sheets. (T&ES)

F-2 The plan shall show sanitary and storm sewer, and water line in plan and profile in the first final submission and cross reference the sheets on which the plan and profile is shown, if plan and profile is not shown on the same sheet. Clearly label the sanitary and storm sewer, or water line plans and profiles. Provide existing and proposed grade elevations along with the rim and invert elevations of all the existing and proposed sanitary and storm sewer at manholes, and water line piping at gate wells on the respective profiles. Use distinctive stationing for various sanitary and storm sewers (if applicable or required by the plan), and water line in plan and use the corresponding stationing in respective profiles. (T&ES)

F-3 The Plan shall include a dimension plan with all proposed features fully dimensioned, and the property line clearly shown. (T&ES)

F-4 Include all symbols, abbreviations, and line types in the legend. (T&ES)

F-5 All storm sewers shall be constructed to the City of Alexandria standards and specifications. The minimum diameter for storm sewers shall be 18-" in the public Right of Way (ROW) and the minimum size storm sewer catch basin lead shall be 15". The acceptable pipe material will be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 or Reinforced Concrete Pipe (RCP) ASTM C-76 Class IV. For roof drainage system, Polyvinyl Chloride (PVC) ASTM 3034-77 SDR 26 and ASTM 1785-76 Schedule 40 pipes will be acceptable. The acceptable minimum and maximum velocities will be 2.5 fps and 15 fps, respectively. The storm sewers immediately upstream of the first manhole in the public Right of Way shall be owned and maintained privately (i.e., all storm drains not shown within an easement or in a public Right of Way shall be owned and maintained privately). (T&ES) (DSUP#2011-00008)

F-6 All sanitary sewers shall be constructed to the City of Alexandria standards and specifications. The minimum diameter of sanitary sewers shall be 10" in the public Right of Way and sanitary lateral 6" for all commercial and institutional developments; however, a 4" sanitary lateral will be acceptable for single family residences. The acceptable pipe materials will be Polyvinyl Chloride (PVC) ASTM 3034-77 SDR 26, ASTM 1785-76 Schedule 40, Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52, or reinforced concrete pipe ASTM C-76 Class IV (For 12" or larger diameters); Class III may be acceptable on private properties. The acceptable minimum and maximum velocities will be 2.5 fps and 10 fps, respectively. Laterals shall be connected to the sanitary sewer through a manufactured "Y" of "T" or approved sewer saddle. Where the laterals are being connected to existing Terracotta pipes, replace the section of main and provide manufactured "Y" or "T", or else install a manhole. (T&ES) (DSUP#2011-00008)

F-7 Lateral Separation of Sewers and Water Mains: A horizontal separation of 10' (edge to edge) shall be provided between a storm or sanitary sewer and a water line; however, if this horizontal separation cannot be achieved then the sewer and water main shall be installed in separate trenches, and the bottom of the water main shall be at least 18" above of the top of the sewer. If both the horizontal and vertical separations cannot be achieved, then the sewer pipe material

shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. (T&ES)

F-8 Crossing Water Main Over and Under a Sanitary or Storm Sewer: When a water main over crosses or under crosses a sanitary/storm sewer then the vertical separation between the bottom of one (i.e., sanitary/storm sewer or water main) to the top of the other (water main or sanitary/storm sewer) shall be at least 18" for the sanitary sewer and 12" for storm sewer; however, if this cannot be achieved then both the water main and the sanitary/storm sewer shall be constructed of Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 with joints that are equivalent to water main standards for a distance of 10 feet on each side of the point of crossing. A section of water main pipe shall be centered at the point of crossing, and the pipes shall be pressure tested in place without leakage prior to installation. Sewers crossing over the water main shall have adequate structural support (concrete pier support and/or concrete encasement) to prevent damage to the water main. Sanitary sewers under creeks and storm sewer pipe crossings with less than 6" clearance shall be encased in concrete. (T&ES) (DSUP#2011-00008)

F-9 No water main pipe shall pass through or come in contact with any part of sanitary/storm sewer manhole. Manholes shall be placed at least 10 feet horizontally from the water main whenever possible. When local conditions prohibit this horizontal separation, the manhole shall be of watertight construction and tested in place. (T&ES) (DSUP#2011-00008)

F-10 Crossing Existing or Proposed Utilities: Underground telephone, cable T.V., gas, and electrical duct banks shall be crossed maintaining a minimum of 12" of separation or clearance with water main, sanitary, or storm sewers. If this separation cannot be achieved, then the sewer pipe material shall be Ductile Iron Pipe (DIP) AWWA C-151 (ANSI A21.51) Class 52 and pressure tested in place without leakage prior to installation. Sewers and water main crossing over the utilities shall have adequate structural support (pier support and/or concrete encasement) to prevent damage to the utilities. (T&ES)

F-11 The rip rap shall be designed as per the requirements of Virginia Erosion and Sediment Control Handbook, Latest Edition. (T&ES)

F-12 Dimensions of parking spaces, aisle widths, etc. within the parking garage shall be provided on the plan. Note that dimensions shall not include column widths. (T&ES)

F-13 The applicant shall provide a transportation study that examines the impacts of proposed development on pedestrian, transit and vehicular traffic. (T&ES)

F-14 The Plan shall call out various storm and sanitary sewer and water structures in the plan and profile views. (T&ES)

F-15 Provide proposed elevations (contours and spot shots) in sufficient details on grading plan to clearly show the drainage patterns. (T&ES)

F-16 All sanitary laterals and/or sewers are to be maintained by the City. (T&ES)

F-17 A minimum of 30 feet separation between beginning of street corner radius and any driveway apron radius shall be maintained. (T&ES)

F-18 Project lies partially within an area described on historical maps as containing marine clays. Construction methodology and erosion and sediment control measures must account for the presence (or absence) of marine clay or highly erodible soils. (T&ES)

F-19 The applicant shall provide storage space for solid waste and recyclable materials containers as outlined in the City's "*Solid Waste and Recyclable Materials Storage Space Guidelines"*, or to the satisfaction of the Director of Transportation & Environmental Services. The City's storage space guidelines and required Recycling Implementation Plan forms are available at: www.alexandriava.gov or contact the City's Solid Waste Division at 703-519-3486 ext.132. (T&ES)

F-20 The site of the proposed impound lot is currently experiencing surcharged storm sewers that result in flooding of the site. The proposed plan includes interim drainage improvements to partially mitigate the drainage and flooding problems while the permanent solution is being implemented. The interim improvements include providing additional stormwater conveyance to the existing stormwater detention pond, constructed as part of DSUP #2006-00025. This detention facility has adequate detention capacity to manage additional flow as an interim condition. These minor improvements will help to improve the management of existing stormwater system without aggravating the existing conditions and creating any new problems or make the existing problems worse. It was determined by the City engineering staff that until the long-term improvements are constructed, the proposed storm water management improvements will minimally provide the desired relief. (T&ES) (DSUP#2011-00008)

F-21 Additional stormwater improvements were identified during the completion of DSUP #2006-00025 as being necessary to alleviate flooding on the DASH site. These additional improvements include an additional storm sewer drainage system crossing the CSX railroad tracks. These additional improvements are currently budgeted in the CIP and approval for the sewer crossing is being negotiated with CSX. (T&ES) (DSUP#2011-00008)

F-22 The plan must be prepared in compliance with the requirements of Memorandum to Industry 02-09 dated December 3, 2009. The memorandum is available at the following web address of the City of Alexandria (T&ES):http://alexandriava.gov/uploadedFiles/tes/info/Memo%20to%20Industry%20No.%2002-09%20December%203,%202009.pdf (DSUP#2011-00008)

C-1 All downspouts must be connected to a storm sewer by continuous underground pipe. (T&ES)

C-2 All easements and/or dedications must be recorded prior to release of the plan. (T&ES)

C-3 Plans and profiles of utilities and roads in public easements and/or public Right of Way must be approved prior to release of the plan. (T&ES)

C-4 All drainage facilities must be designed to the satisfaction of T&ES. Drainage divide maps and computations must be provided for approval. (T&ES)

C-5 Provide a phased erosion and sediment control plan consistent with grading and construction plan. (T&ES)

C-6 Per the Memorandum to Industry, dated July 20, 2005, the applicant is advised regarding a requirement that applicants provide as-built sewer data as part of the final as-built process. Upon consultation with engineering firms, it has been determined that initial site survey work and plans will need to be prepared using Virginia State Plane (North Zone) coordinates based on NAD 83 and NAVD 88. Control points/Benchmarks which were used to establish these coordinates should be referenced on the plans. To insure that this requirement is achieved, the applicant is requested to prepare plans in this format including initial site survey work if necessary. (T&ES)

C-7 Americans with Disability Act (ADA) ramps shall comply with the requirements of Memorandum to Industry No. 03-07 on Accessible Curb Ramps dated August 2, 2007 with truncated domes on the end of the ramp with contrasting color from the rest of the ramp. A copy of this Memorandum is available on the City of Alexandria website. (T&ES)

C-8 The applicant shall comply with the City of Alexandria's Noise Control Code, Title 11, Chapter 5, which sets the maximum permissible noise level as measured at the property line. (T&ES)

C-9 The applicant must comply with the Article XIII of the City of Alexandria Zoning Ordinance, which includes requirements for storm water pollutant load reduction, treatment of the water quality volume default, and storm water quantity management. (T&ES)

C-10 The applicant must comply with the City of Alexandria, Erosion and Sediment Control Code, Section 5, Chapter 4. This includes naming a Responsible Land Disturber on the Erosion and Sediment Control sheets prior to engaging in land disturbing activities in accordance with Virginia Erosion and Sediment Control Law. (T&ES)

C-11 All required permits from Virginia Department of Environmental Quality, Environmental Protection Agency, Army Corps of Engineers, and Virginia Marine Resources must be in place for all project construction and mitigation work prior to release of the final site plan. This includes the state requirement for a VSMP permit for land disturbing activities greater than 2500 SF. (T&ES)

C-12 All streets and alleys must comply with the City's Minimum Standards for Private Streets and Alleys. (T&ES)

C-13 Provide City standard pavement for Emergency Vehicle Easements (EVE). (T&ES)

C-14 All driveway entrances, sidewalks, curbing, etc. in the public ROW or abutting public ROW shall meet City design standards. (T&ES)

C-15 Applicants will be required to submit a Recycling Implementation Plan form to the Solid Waste Division, as outlined in Article H to Title 5 (Ordinance Number 4438), which requires all commercial properties to recycle. (T&ES)

Alexandria Sanitation Authority

C-1 Ensure all discharges are in accordance with the City of Alexandria Code 4035.

R-1 Ensure that planned flow capacity does not exceed City of Alexandria allotted ASA plant capacity of 20.5.

R-2 Ensure in writing to ASA that additional flow planned does not exceed flow capacity in ASA Interceptors and Trunk Sewers during wet and average flow conditions.

R-3 Proposed construction and sewer discharge limits from new facility could be regulated by ASA Pretreatment. Provide a list of stored chemicals and clarify whether the bus wash/chassis wash is a closed loop.

F-1 Detailed sanitary sewer flow calculations are not shown on plans.

Code Enforcement

F-1 The proposed security gates shall be equipped with an override system that opens the gates in the event of a power failure, activation of a siren, or through the use of a Knox Box key. These features shall be designed and installed to the satisfaction of the Director of Code Enforcement.

F-2 Provide a Fire Lane through the rear of the site on the proposed roadway. The Fire Lane shall be properly signed, 22 feet in width (minimum), have a minimum turning radii of R-25' and shall be free of parked vehicles at all times.

F-3 Provide hydrant coverage along the front and rear of the structures. Fire hydrants serving fire department connections (FDC) shall be located no closer than 40 feet and no greater than 100 feet from each FDC; on site fire hydrants shall be spaced with a maximum distance of three hundred (300) feet between hydrants and the most remote point of vehicular access on site.

F-4 Buildings shall be equipped with an automatic fire suppression system. Finding resolved.

F-5 Provide two Siamese connections located to the satisfaction of the Director of Code Enforcement.

F-6 A separate tap is required for the building fire service connection.

F-7 The fire hydrant located near the stormwater retention pond shall be moved along the rear access driveway.

F-8 All Emergency Vehicle Easements shall be designed to AASHTO HS-20 loading.

F-9 The FDC located at the southeast corner of the building is further than 100 feet from a fire hydrant. The FDC or hydrant must be relocated to comply with code requirement C-1.

C-1 The developer shall provide a separate Fire Service Plan which illustrates: a) emergency ingress/egress routes to the site; b) two fire department connections (FDC) to the building, one on each side/end of the building; c) fire hydrants located within on hundred (100) feet of each FDC; d) on site fire hydrants spaced with a maximum distance of three hundred (300) feet between hydrants and the most remote point of vehicular access on site; e) emergency vehicle easements (EVE) around the building with a twenty-two (22) foot minimum width; f) all Fire Service Plan elements are subject to the approval of the Director of Code Enforcement.

C-2 The final site plans shall show placement of fire easement signs. See attached guidelines for sign details and placement requirements. Acknowledged by applicant, attached guidelines were hand distributed to the applicant on 3/13/2008.

C-3 A soils report must be submitted with the building permit application.

C-4 Prior to submission of the Final Site Plan #1, the developer shall provide a fire flow analysis by a certified licensed fire protection engineer to assure adequate water supply for the structure being considered.

C-5 A Certificate of occupancy shall be obtained prior to any occupancy of the building or portion thereof, in accordance with USBC 119.0.

C-6 A fire prevention code permit is required for the proposed operation at the time of application for a Certificate of Occupancy.

C-7 New construction must comply with the current edition of the Uniform Statewide Building Code (USBC).

C-8 Required exits, parking, and accessibility within the building for persons with disabilities must comply with USBC Chapter 11.

C-9 This structure contains mixed use groups [B, Business; S-1, Moderate-Hazard Storage (motor vehicle repair garage), S-2, Low-Hazard Storage (public garage, group 2) and is subject to the mixed use and occupancy requirements of the USBC.

C-10 Prior to the issuance of a demolition permit or land disturbance permit, a rodent abatement plan shall be submitted to Code Enforcement that will outline the steps that will taken to prevent the spread of rodents from the construction site to the surrounding community and sewers.

C-11 Roof drainage systems must be installed so as neither to impact upon, nor cause erosion/damage to adjacent property.

C-12 The public parking garage (Use Group S-2) is required to be equipped with a sprinkler system (USBC 903.2.9).

C-13 The public parking garage floor must comply with USBC 406.2.6 and drain through oil separators or traps to avoid accumulation of explosive vapors in building drains or sewers as provided for in the plumbing code (USBC 2901). This parking garage is classified as an S-2, Group 2, public garage.

C-14 Enclosed parking garages must be ventilated in accordance with USBC 406.4.2.

C-15 This garage with a gross square footage of is required to have an automatic sprinkler system throughout the structure to be in compliance with USBC406.4.1 and 903.2.9.

C-16 A fire protective signaling system is required in the B, Business use group area (offices) which are located two or more stories above the lowest level of exit discharge (USBC 907.2.2).

C-17 Oil water separators are required where automobiles are services, greased, repaired, washed, or where gasoline is dispensed. The separator shall be designed and installed in accordance with the plumbing code.

C-18 The developer shall declare on the plans if the parking structure is considered a public parking structure complying with Chapter 4 of the USBC or an open parking structure. If the structure is declared as an open parking structure, the developer shall submit information detailing how the structure meets the openness criteria. If the structure is declared a public parking structure, the plans shall reflect required water and sewer lines, FDC's and oil / water separator locations.

C-19 The new handrails must comply with USBC for a minimum/maximum height of 30 to 34 inches. The ends must extend 12" beyond the top and bottom risers. The handgrip position must not be more that 2-1/4" in cross-sectional dimension, or the shape must provide an equivalent gripping surface. The handgrip portion must have a smooth surface with no sharp corners. The space between the wall and handrail must not be less that 1-1/2".

C-20 The new stairs must comply with USBC for riser and tread dimensions.

Fire Department

C-1 Steps shall be taken to prevent the leaking of any motor vehicle fluids onto the ground or parking surface. Including but not limited to drip pans for leaking or severely damaged vehicles. Lot shall maintain sufficient quantities of spill equipment on-site. (DSUP #2011-0008)

C-2 Fence shall be equipped with a rapid entry system (KNOX BOX) and provided with a manual override system to allow emergency access. (DSUP #2011-0008)

APPLICATION

DEVELOPMENT SPECIAL USE PERMIT with SITE PLAN

DSUP # 2025-10008 **Project Name:** DASH Bus Facility Expansion

PROPERTY LOCATION: 3000 Business Center Drive

TAX MAP REFERENCE: 061.04-02-26 **ZONE:** I

APPLICANT:

Name: Bradley Otto, P.E.

Address: [redacted]

PROPERTY OWNER:

Name: City of Alexandria, VA

Address: 3000 Business Center Drive

SUMMARY OF PROPOSAL Verification Set -DSUP Site Plan Submission to accommodate the construction of a bus charging facility for DASH.

MODIFICATIONS REQUESTED

SUP's REQUESTED Verification Set Site Plan (DSUP)

☑ **THE UNDERSIGNED** hereby applies for Development Site Plan with Special Use Permit approval in accordance with the provisions of Section 11-400 of the Zoning Ordinance of the City of Alexandria, Virginia.

☑ **THE UNDERSIGNED**, having obtained permission from the property owner, hereby grants permission to the City of Alexandria to post placard notice on the property for which this application is requested, pursuant to Article XI, Section 11-301 (B) of the 1992 Zoning Ordinance of the City of Alexandria, Virginia.

☑ **THE UNDERSIGNED** also attests that all of the information herein provided and specifically including all surveys, drawings, etc., required of the applicant are true, correct and accurate to the best of his/her knowledge and belief.

Bradley J. Otto, P.E.
Print Name of Applicant or Agent

Signature

[redacted]
Mailing/Street Address

[redacted]
Telephone # Fax #

[redacted]
City and State Zip Code

[redacted]
Email address

5-28-2025
Date

DO NOT WRITE IN THIS SPACE - OFFICE USE ONLY

Application Received: Received Plans for Completeness:

Fee Paid and Date: Received Plans for Preliminary:

ACTION - PLANNING COMMISSION:

ACTION - CITY COUNCIL:

Development SUP # _____

ALL APPLICANTS MUST COMPLETE THIS FORM.

Supplemental forms are required for child care facilities, restaurants, automobile oriented uses and freestanding signs requiring special use permit approval.

1. The applicant is: (check one)

○ The Owner ○ Contract Purchaser ○ Lessee or ○ Other: Design-Builder of the subject property.

State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership in which case identify each owner of more than three percent.

Keller Construction Management, a division of Keller Brothers, Inc. (Design-Builder)
Phillip Keller, Jr. - 100% owner

Applicant
Bradley J. Otto, P.E.
Senior Preconstruction Manager

If property owner or applicant is being represented by an authorized agent, such as an attorney, realtor, or other person for which there is some form of compensation, does this agent or the business in which the agent is employed have a business license to operate in the City of Alexandria, Virginia?

◉ **Yes.** Provide proof of current City business license. ATTACHED TO THIS APPLICATION
○ **No.** The agent shall obtain a business license prior to filing application, if required by the City Code.

OWNERSHIP AND DISCLOSURE STATEMENT

Use additional sheets if necessary

1. Applicant. State the name, address and percent of ownership of any person or entity owning an interest in the applicant, unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. Phillip Keller, Jr.	[redacted]	100%
2.		
3.		

2. Property. State the name, address and percent of ownership of any person or entity owning an interest in the property located at 3000 Business Center Drive (address), unless the entity is a corporation or partnership, in which case identify each owner of more than three percent. The term ownership interest shall include any legal or equitable interest held at the time of the application in the real property which is the subject of the application.

Name	Address	Percent of Ownership
1. City of Alexandria, VA		100%
2.		
3.		

3. BusinessorFinancialRelationships. Each person or entity listed above (1 and 2), with an ownership interest in the applicant or in the subject property is required to disclose any business or financial relationship, as defined by Section 11-350 of the Zoning Ordinance, existing at the time of this application, or within the12-month period prior to the submission of this application with any member of the Alexandria City Council, Planning Commission, Board of Zoning Appeals or either Boards of Architectural Review.

Name of person or entity	Relationship as defined by Section 11-350 of the Zoning Ordinance	Member of the Approving Body (i.e. City Council, Planning Commission, etc.)
1.		
2.		
3.		

NOTE: Business or financial relationships of the type described in Sec. 11-350 that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings.

As the applicant or the applicant's authorized agent, I hereby attest to the best of my ability that the information provided above is true and correct.

5-28-2025	Bradley J. Otto, P.E.	[signature]
Date	Printed Name	Signature

C. Where is required parking located? (check one) [✓] **on-site** [ ] **off-site**

If the required parking will be located off-site, where will it be located?

_____

Pursuant to section 8-200 (C) of the zoning ordinance, commercial and industrial uses may provide off-site parking within 500 feet of the proposed use, provided that the off-site parking is located on land zoned for commercial or industrial uses. All other uses must provide parking on-site, except that off-street parking may be provided within 300 feet of the use with a special use permit.

D. If a reduction in the required parking is requested, pursuant to section 8-100 (A) (4) or (5) of the zoning ordinance, complete the **Parking Reduction Supplemental Application.**

14. Provide information regarding loading and unloading facilities for the use:

A. How many loading spaces are required for the use, per section 8-200 (B) of the zoning ordinance? N/A

B. How many loading spaces are available for the use? N/A

C. Where are off-street loading facilities located? N/A

D. During what hours of the day do you expect loading/unloading operations to occur?
TBD depending on owner operations.

E. How frequently are loading/unloading operations expected to occur, per day or per week, as appropriate?
TBD depending on owner operations.

15. Is street access to the subject property adequate or are any street improvements, such as a new turning lane, necessary to minimize impacts on traffic flow?
Entry to site from Business Center Drive will be improved as shown on plans.

2025 City of Alexandria Business License

Finance Department, Revenue Administration Division, City of Alexandria
301 King Street, Room 1700, Alexandria, VA 22314
Phone: 703.746.4800 http://www.alexandriava.gov/

License Number: 143086-2025
Account Number: 143086
Tax Period: 2025
Business Name: Keller Brothers, Inc
Trade Name: Keller Brothers, Inc
Business Location: No City Address
Mount Airy, MD 21771

Keller Brothers, Inc
[redacted]

License Classification(s):

Out of State Contractor
0-000-000
Out of State Contractor

February 14, 2025

Dear Taxpayer:

This is your 2025 City of Alexandria Business License. The bottom portion of this page is perforated to allow you to tear off and post the business license in your establishment.

If you paid for your business license via check, please be aware that if your check is not honored by your financial institution, this business license shall be invalid.

As with all taxes, our goal is to administer Business License taxes fairly and in accordance with Commonwealth and Locality code. Our staff strives to provide professional assistance and quality customer service. Your satisfaction is important to us and your comments are always welcome.

If you have any questions regarding this letter, please visit http://www.alexandriava.gov/ or contact my office via phone at 703.746.4800.

Finance Department, Revenue Administration Division, City of Alexandria

Keep this letter for your records.

City of Alexandria Business License

Revenue Administration Division, City of Alexandria, 301 King Street, Room 1700, Alexandria, VA 22314

This license has been issued by the Revenue Administration Division of the City of Alexandria and is granted to:

Keller Brothers, Inc
No City Address
[redacted]

License Number: 143086-2025
Account Number: 143086
Tax Period: 2025
Business Name: Keller Brothers, Inc
Trade Name: Keller Brothers, Inc
Business Location: No City Address
[redacted]

License Classification(s): Out of State Contractor
0-000-000
Out of State Contractor

DASH BUS FACILITY EXPANSION

CITY OF ALEXANDRIA

VERIFICATION SUBMISSION - MAY 27, 2025

DSUP #2025-10008

RRMM ARCHITECTS, PC

ARCHITECTURE / PLANNING / INTERIORS

1317 Executive Boulevard, Suite 200
Chesapeake, VA 23320
(757) 622-2828

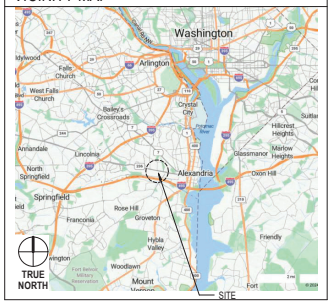
115 South 15th Street, Suite 502
Richmond, VA 23219
(804) 277-8987

2900 South Quincy Street, Suite 710
Arlington, VA 22206
(703) 998-0101

28 Church Avenue SW
Roanoke, VA 24011
(540) 344-1212

3700 Koppers Street, Suite 300
Baltimore, MD 21227
(410) 234-8444

VICINITY MAP



CONSULTANTS

KELLER CONSTRUCTION MANAGEMENT
A DIVISION OF KELLER BROTHERS, INC.
DESIGN-BUILDER
1012 Rising Ridge Road
Mt Airy, MD 21771
301-607-9300

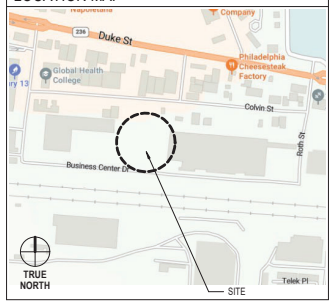
A. MORTON THOMAS & ASSOCIATES, INC.
CIVIL ENGINEERING
3076 Centreville Road, Suite 220
Herndon, VA 20171
703-817-1373

KCI TECHNOLOGIES INC.
MEP & STRUCTURAL ENGINEERING
11830 West Market Place, Suite F
Fulton, MD 20759
412-824-7047

OWNER

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF GENERAL SERVICES
421 King Street, Suite 220
Alexandria, VA 22314
Contact: Jenine Kotob, AIA
Phone: 703-346-2611

LOCATION MAP



SHEET INDEX II

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PROJECT TITLE SHEET	
G-001	TITLE SHEET
CIVIL	
C-001	COVER SHEET
C-002	DSUP AND CODE REQUIREMENTS
C-003	DSUP AND CODE REQUIREMENTS
C-004	DSUP AND CODE REQUIREMENTS
C-005	GENERAL NOTES
C-006	GENERAL NOTES
C-007	GENERAL NOTES
C-101	EXISTING CONDITIONS PLAN
LF-101	TREE INVENTORY AND CONDITIONS ANALYSIS
LF-102	TREE PRESERVATION PLAN AND NARRATIVE
C-102	DEMOLITION PLAN
C-103	EROSION AND SEDIMENT CONTROL PLAN - PHASE I
C-104	EROSION AND SEDIMENT CONTROL PLAN - PHASE II
C-105	EROSION AND SEDIMENT CONTROL NOTES
C-106	EROSION AND SEDIMENT CONTROL DETAILS
C-107	SITE PLAN
C-108	DIMENSION PLAN
C-109	GRADING PLAN
C-110	UTILITY PLAN
C-111	FIRE SERVICE ACCESS PLAN
C-112	MAINTENANCE OF TRAFFIC PLAN
C-113	CONTEXTUAL AND OPEN SPACE PLAN
C-114	VEHICULAR MOVEMENTS PLAN
C-115	SIGHT DISTANCE PROFILES
C-116	SOILS MANAGEMENT PLAN
C-201	STORM SEWER PROFILES
C-202	STORM SEWER PROFILES

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C-501	SITE DETAILS
C-502	SITE DETAILS
C-503	UTILITY DETAILS
C-504	UTILITY DETAILS
C-701	STORM WATER MANAGEMENT PLAN
C-702	STORMWATER MANAGEMENT QUANTITY ANALYSIS
C-703	STORMWATER MANAGEMENT QUANTITY ANALYSIS
C-704	STORMWATER MANAGEMENT QUALITY ANALYSIS
C-705	ADEQUATE OUTFALL ANALYSIS
C-706	STORMWATER MANAGEMENT DETAILS
C-901	SOIL BORINGS
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LP-201	LANDSCAPE NOTES AND DETAILS
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S-002	STRUCTURAL GENERAL NOTES
S-003	SPECIAL INSPECTIONS
S-011	STRUCTURAL SCHEDULES
S-101	FOUNDATION AND SLAB ON GRADE PLAN
S-102	MEZZ. AND LOW ROOF FRAMING PLAN
S-103	CANOPY ROOF FRAMING PLAN
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S-111	STRUCTURAL SECTIONS
S-201	TYPICAL FOUNDATION DETAILS
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S-304	RTU SUPPORT AT UNTOPPED METAL DECK
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S-402	ROOF FRAMING DETAILS
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S-404	ROOF FRAMING DETAILS
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S-501	TYPICAL MASONRY DETAILS
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S-601	TYPICAL METAL STUD DETAILS
LIFE SAFETY	
LS101	LIFE SAFETY PLANS & SUPPORTING DATA
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A-003	FLOOR AREA ANALYSIS
A-004	MASSING STUDY
A-101	FIRST FLOOR PLAN
A-102	EQUIPMENT PLATFORM AND LOW ROOF PLAN
A-103	HIGH ROOF PLAN
A-200	BUILDING ELEVATIONS - RENDERED
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E-601	ELECTRICAL ONE LINE DIAGRAM
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Grand total: 94

REVISIONS	MARK	DATE	BY	DES

DATE	05/27/2025
PROJECT	23259-00
DESIGNED	KDL
DRAWN	OAD
CHECKED	KDL

RRMM ARCHITECTS, PC
2900 South Quincy Street, Suite 710
Arlington, Virginia 22206
(703)998-0101

COMMONWEALTH OF VIRGINIA
05.27.2025
KEITH DOUGLAS LEONARD
Lic. No. 011302
ARCHITECT

PROJECT DASH BUS FACILITY EXPANSION
City of Alexandria, VA
3000 Business Center Drive
Alexandria, VA 22314

DRAWING TITLE SHEET

SHEET
G-001

DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
NOT FOR CONSTRUCTION

ENVIRONMENTAL SITE ASSESSMENT

THE SITE IS LOCATED WITHIN THE CHESAPEAKE BAY PRESERVATION AREA, AND THE CAMERON RUN WATERSHED. ACCORDING TO CITY OF ALEXANDRIA GIS INFORMATION AND FEMA MAPS, THERE ARE NO KNOWN WETLANDS, WATERS OF THE UNITED STATES, RESOURCE PROTECTION AREAS, OR 100-YEAR FLOODPLAINS WITHIN THE PROJECT AREA. THEREFORE NO WETLAND PERMITS ARE REQUIRED FOR THIS PROJECT. ACCORDING TO THE CITY OF ALEXANDRIA'S MARINE CLAY AREAS MAP DATED NOVEMBER 1976, THERE ARE NO KNOWN MARINE CLAY ON SITE. REFER TO DASH BUS FACILITY EXPANSION GEOTECHNICAL REPORT, SEPTEMBER 2022, AND DASH FACILITY EXPANSION LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT, DECEMBER 2022, FOR SOIL AND CONTAMINATION INFORMATION.

SOILS DATA

SOILS ON SITE:

66 KINGSTOWNE SANDY CLAY LOAM (0-45% SLOPES)
95 URBAN LAND

A COMPLETE SOILS INVESTIGATION HAS NOT BEEN PERFORMED BY AMT. NO MARINE CLAYS WERE SHOWN ON SOIL MAP FOR THIS SITE PER USDA NRCS SOIL DATA EXPLORATION. THE SITE WAS USED AS AN IMPOUND LOT PREVIOUSLY. NO KNOWN HISTORIC ITEMS OF SIGNIFICANCE ARE PRESENT.

PROJECT DESCRIPTION NARRATIVE

THE EXISTING DASH BUS FACILITY IS LOCATED AT 3000 BUSINESS CENTER DRIVE IN ALEXANDRIA, VIRGINIA. THE FACILITY IS LOCATED WEST OF THE CITY-OWNED WITTER WHEELER CAMPUS, AND LIES WITHIN THE KING STREET / EISENHOWER AVENUE SMALL AREA PLAN AND IS ZONED INDUSTRIAL (I). THE SITE IS CURRENTLY FUNCTIONING AS A BUS OPERATIONS FACILITY FOR THE ALEXANDRIA TRANSIT COMPANY, KNOWN AS DASH, AND CITY OF ALEXANDRIA IMPOUND LOT. THIS PROJECT PROPOSES TO CONSTRUCT A NEW CANOPY STRUCTURE TO EXPAND ADDITIONAL BUS PARKING, MAINTENANCE, AND STORAGE FOR 24 ADDITIONAL BUSES. THE PROPOSED EXPANSION IS LOCATED TO THE WEST OF THE EXISTING DASH BUS FACILITY, CURRENTLY USED AS AN IMPOUND LOT FOR THE CITY. THE IMPROVEMENTS INCLUDE: AN OPEN CANOPY STRUCTURE (NOT FULLY ENCLOSED) WITH A SOLID ROOF, SURFACE PARKING AND STORAGE, ACCESS AISLES, AND AN ADDITIONAL SECURE ENTRANCE TO THE SITE. ADDITIONALLY, A BIORETENTION IS PROPOSED WEST OF THE PROPOSED DASH FACILITY TO RECEIVE AND TREAT RUNOFF FROM THESE IMPROVEMENTS BEFORE ENTERING THE EXISTING DETENTION POND. THE FACILITY AND INFRASTRUCTURE HAS BEEN DESIGNED FOR FUTURE EXPANSION AND IMPROVEMENTS TO READY THE SITE TO ACCOMMODATE ADDITIONAL BATTERY ELECTRIC BUSES (BEBS).

AREA TABULATIONS

TOTAL SITE AREA = 1.51 AC 65,612 SF

TOTAL AREA OF TAX PARCEL = 9.21 AC 401,240 SF

TOTAL EXISTING IMPERVIOUS AREA = 1.04 AC 45,293 SF

TOTAL PROPOSED IMPERVIOUS AREA = 1.29 AC 56,041 SF

DISTURBED AREA OFFSITE= 0 AC 0 SF

DISTURBED AREA ONSITE= 1.51 AC 65,612 SF

TOTAL DISTURBED AREA = 1.51 AC 65,612 SF

SANITARY OUTFALL ANALYSIS

THIS DEVELOPMENT DOES NOT PRODUCE SANITARY SEWER DISCHARGES. THE PROJECT IS NOT LOCATED IN A COMBINED SEWER AREA.

NOISE ASSESSMENT

ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, AND DIVISION 01 SPECIFICATION REQUIREMENTS WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:

- MONDAY THROUGH FRIDAY FROM 7 AM TO 5 PM AND
- SATURDAY AND SUNDAY WORK MAY BE EXECUTED AT ALL HOURS WITH 5 DAYS PRIOR NOTICE AND APPROVAL OF THE OWNER.

NOTES

1. CONTRACTOR SHALL ENSURE ALL DISCHARGES ARE IN ACCORDANCE WITH CITY OF ALEXANDRIA CODE TITLE 5, CHAPTER 6, ARTICLE B.
2. DEWATERING AND OTHER CONSTRUCTION RELATED DISCHARGE LIMITS TO THE SEWER SYSTEM ARE REGULATED BY ALEXRENEW PRETREATMENT. CONTRACTOR IS REQUIRED TO CONTACT ALEX RENEW'S PRETREATMENT COORDINATOR AT 703-549-3381 X2020.

SPECIAL USE PERMITS/ZONING MODIFICATIONS/WAIVERS

PRIOR DEVELOPMENT SPECIAL USE PERMITS:
1. DSUP 2006-00025 - ORIGINAL APPROVAL OF THE DASH FACILITY AS A PUBLIC BUILDING
2. DSUP 2011-00008 - AMENDMENT TO INCLUDE AN IMPOUND LOT

REQUESTED DEVELOPMENT APPROVAL:
1. DEVELOPMENT SPECIAL USE PERMIT TO AMEND DSUP 2011-00008 TO ADD A NEW PUBLIC BUILDING IN THE INDUSTRIAL ZONE.

PROJECT TEAM

OWNER:
CITY OF ALEXANDRIA, VA
DEPARTMENT OF GENERAL SERVICES
421 KING STREET, SUITE 220
ALEXANDRIA, VA 22314
CONTACT: JENINE KOTOB
PHONE: (703) 346-2611

PROJECT SPONSOR:
ALEXANDRIA TRANSIT COMPANY (DASH)
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VA 22314
CONTACT: RAYMOND MUI
PHONE: (703) 746-5645

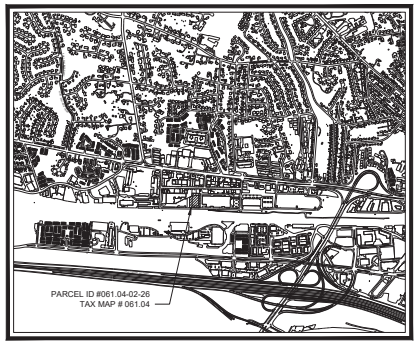
GENERAL CONTRACTOR:
KELLER BROTHERS
1012 RISING RIDGE ROAD
MT. AIRY, MD 21771
CONTACT: BRAD OTTO, PE
PHONE: (301) 607-9300 x 302

ARCHITECT & INTERIORS:
RRMM ARCHITECTS
2900 SOUTH QUINCY STREET
ARLINGTON, VA 22206
CONTACT: KEITH LEONARD, AIA, LEED AP
PHONE: (703) 677-5653

CIVIL ENGINEER:
A. MORTON THOMAS AND ASSOCIATES, INC.
3076 CENTREVILLE ROAD, SUITE 220
HERNDON, VIRGINIA 20171
CONTACT: CHELSEA BISHOP, PE
PHONE: (703) 635-1503

STRUCTURAL ENGINEER:
KCI TECHNOLOGIES, INC.
11830 WEST MARKET PLACE, SUITE F
FULTON, MD 20759
CONTACT: COREY SHANK, PE
PHONE: (410) 527-4405

VICINITY MAP



SCALE: 1"=1000'

ZONING TABULATIONS

1. ZONE OF SITE: I-INDUSTRIAL
2. USE: EXISTING: (PUBLIC BUILDING) BUS OPERATIONS FACILITY AND IMPOUND LOT
   PROPOSED: (PUBLIC BUILDING) PROPOSED CANOPY STRUCTURE FOR 24 ADDITIONAL BUSES WITH EV CHARGING
3. LOT AREA: 9.21 AC (401,240 SF) MINIMUM LOT AREA: N/A
4. NUMBER OF DWELLING UNITS: N/A
5. UNITS PER ACRE: N/A
6. GROSS SQUARE FOOTAGE (GSF):

	USE	GSF
EXISTING:		
OFFICE:	MAINTENANCE	6,302 SF
	ADMINISTRATION	8,528 SF
	TRANSPORTATION	11,037 SF
		25,887 SF SUB-TOTAL
NON-OFFICE:	MAINTENANCE	22,318 SF
	SERVICE	18,121 SF
	BUS STORAGE	90,201 SF (NOT INCLUDED IN PARKING CALC)
	PARKING UNDER THE RAMP	3,319 SF
	AREA UNDER ENTRY CANOPY	130 SF
	AREA UNDER PARTS CANOPY	222 SF
		134,311 SF SUB-TOTAL
TOTAL GROSS:		160,178 SF

   PROPOSED: 14,850 SF
   PROPOSED TOTAL (GSF): 175,028 SF

7. NET SQUARE FOOTAGE (NSF):

	USE	NSF
EXISTING:		
FIRST FLOOR:	BUS STORAGE	89,281 SF
	SERVICE	12,856 SF
	MAINTENANCE	31,587 SF
		133,724 SF SUB-TOTAL
SECOND FLOOR:	ADMINISTRATION	7,486 SF
	TRANSPORTATION	9,753 SF
		17,239 SF SUB-TOTAL
TOTAL NET:		150,963 SF

   PROPOSED: 15,127 SF
   PROPOSED TOTAL (NSF): 166,090 SF

8. FLOOR AREA RATIO:
   EXISTING: 0.3992
   PROPOSED: 0.0370
   TOTAL: 0.4362 (MAX. ALLOWABLE IS 0.85)
9. OPEN SPACE:
   EXISTING: 119,744 SF
   PROPOSED: 109,488 SF
10. AVERAGE FINISHED GRADE: 40.08' TO 41.00'
11. HEIGHT:
   EXISTING: 38.1 FT
   PROPOSED: 35.25 FT (MAX. ALLOWABLE IS 50 FEET)
12. YARDS/SETBACKS: N/A
13. FRONTAGE: N/A
14. PARKING SUMMARY: (BUS STORAGE/PARKING IS EXCLUDED FROM THE PARKING SUMMARY)
   REQUIRED: 235 (EXISTING DASH FACILITY)
   EXISTING: 356 (8 ADA ACCESSIBLE), ADDITIONAL 11 MOTORCYCLE PARKING SPACES
   ROOFTOP: 264 (7 ADA ACCESSIBLE)
   SURFACE: 92 (1 ADA ACCESSIBLE)
   PROPOSED: N/A
15. LOADING SPACES:
   REQUIRED: 2
   EXISTING: 2
   PROPOSED: N/A

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3076 CENTREVILLE ROAD, SUITE 220
HERNDON, VA 20171
PHONE: (703) 635-1503
EMAIL: AMT@AMTHOMASPE.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTHOMASPE.COM
SCALE: 1"=1000' | DATE: 05/31/2025 | DRAWN: CMB, CJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA V. BISHOP Lic. No. 50000 REGISTERED PROFESSIONAL ENGINEER 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PREL/MINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: COVER SHEET

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
DIRECTOR DATE
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-001 2 OF 94

PLACEHOLDER FOR FUTURE SUBMISSION

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E.

SCALE: 1"=20'
DATE: 05/23/2025
DRAWN: CMB, EJC

SEAL:

COMMONWEALTH OF VIRGINIA
CHELSEA M. BISHOP
Lic. No. 50030
PROFESSIONAL ENGINEER
05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:
DSUP AND CODE REQUIREMENTS

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-002 3 OF 94

PLACEHOLDER FOR FUTURE SUBMISSION

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E.

SCALE: 1"=20'

DATE: 05/23/2025

DRAWN: CMB, EJC

SEAL:

COMMONWEALTH OF VIRGINIA
CHELSEA M. BISHOP
PROFESSIONAL ENGINEER
05/23/2025

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SHEET NO: C-003 4 OF 94

PLACEHOLDER FOR FUTURE SUBMISSION

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

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CONSULTING ENGINEERS

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SHEET NO: C-004 5 OF 94

THE FOLLOWING GENERAL NOTES ARE CONSISTENT WITH THE CITY OF ALEXANDRIA MEMORANDUM TO INDUSTRY NO. 02-09 DATED DECEMBER 3, 2009 AND HAVE BEEN AMENDED AS APPLICABLE FOR THIS PARTICULAR SITE:

THIS PROJECT IS TO BE COMPLETED USING A DESIGN/BUILD CONTRACT.

EXISTING CONDITIONS SURVEY NOTES:

1. HORIZONTAL DATUM: VIRGINIA STATE PLANE NORTH, NAD83 (2011) VERTICAL DATUM: NAVD 88.

2. UTILITY INFORMATION, AS SHOWN ON THIS PLAN, IS TAKEN FROM THE RECORDS AND/OR FIELD SURVEY MARKED BY AMT, INC. ON 12/04/2024 AND COMPLETED BY AMT, DATED 12/11/2024; AND CANNOT BE GUARANTEED.

   - UTILITY DEPICTIONS SHOWN HEREON CONFORM TO QUALITY LEVELS AS DEFINED BY CI / ASCE STANDARD 38-22.

   - UTILITY QUALITY LEVELS ARE DEFINED AS FOLLOWS:
     a. QUALITY LEVEL "A" (QL-A) "LOCATING"
     INVOLVES THE USE OF NONDESTRUCTIVE DIGGING EQUIPMENT AT CRITICAL POINTS TO DETERMINE THE PRECISE HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.
     b. QUALITY LEVEL "B " (QL-B) "DESIGNATING"
     INVOLVES THE USE OF SURFACE GEOPHYSICAL TECHNIQUES TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF UNDERGROUND UTILITIES.
     c. QUALITY LEVEL "C" (QL-C)
     INVOLVES SURVEYING VISIBLE ABOVEGROUND UTILITY FACILITIES, SUCH A MANHOLES, VALVES BOXES, POSTS, ETC., AND CORRELATING THIS INFORMATION WITH EXISTING UTILITY RECORDS.
     d. QUALITY LEVEL "D" (QL-D)
     INFORMATION COMES SOLELY FROM EXISTING UTILITY RECORDS.

   - THE SUBSURFACE UTILITIES DEPICTED HEREON AT QUALITY LEVEL "B" REPRESENT THE REMOTELY SENSED INDICATION OF THE SUBSURFACE UTILITY. UTILITY PIPE SIZES AND CONFIGURATIONS (IF DENOTED) HAVE BEEN TAKEN FROM RECORD DRAWINGS AND ACCESSIBLE FIELD EVIDENCE. THE ACTUAL LOCATION, SIZE AND EXTENT OF ALL SUBSURFACE UTILITIES MUST BE DETERMINED THROUGH TEST HOLE OR OTHER QUALITY LEVEL "A" INVESTIGATION METHODS.

   - AN EFFORT HAS BEEN MADE TO DEPICT UTILITIES AT QL "B". SOME UTILITIES MAY BE SHOWN AT QL "C" OR QL "D" AS NECESSARY AND ARE LABELED ACCORDINGLY.

   FOR EXACT LOCATIONS OF EXISTING UNDERGROUND UTILITIES, NOTIFY "MISS UTILITY" AT 1-800-257-7777 AND 811 72 HOURS BEFORE THE START OF ANY EXCAVATION OR CONSTRUCTION. THE CONSTRUCTION WORKERS AND CONTRACTOR(S) ARE ENCOURAGED TO VISIT DOMINION VIRGINIA POWER WEB SITE AT WWW.DOM.COM (KEYWORD SAFETY) FOR ADDITIONAL SAFETY INSTRUCTIONS.

3. LOCATION AND DEPTH OF ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR/ENGINEER SHOULD DIG TEST PITS BY HAND AT ALL UTILITY CROSSINGS TO VERIFY EXACT LOCATION.

4. PROPERTY INFORMATION SHOWN HEREON WAS TAKEN FROM DEEDS OF RECORD AND BEST FIT TO FIELD FOUND EVIDENCE AND DOES NOT REPRESENT A BOUNDARY SURVEY.

CITY STANDARD GENERAL NOTES:

1. THE SUBJECT SITE IS LOCATED ON CITY OF ALEXANDRIA ASSESSMENT MAPS 061.04 AND 071.02 AS PARCEL 061.04-02-26 AND ZONED I - INDUSTRIAL.

2. OWNER:
   CITY OF ALEXANDRIA
   DEPARTMENT OF GENERAL SERVICES
   421 KING STREET, SUITE 220
   ALEXANDRIA, VA 22314

3. INSTRUMENT# 090001513

4. ADDRESS : 3000 BUSINESS CENTER DR., CITY OF ALEXANDRIA, VIRGINIA.

5. AREA TABULATION: 9.21 ACRES (401,240 SF) SEE COVER SHEET UNDER AREA TABULATIONS.

6. THE NATURAL SOILS: PER NRCS CITY OF ALEXANDRIA, VA SOILS MAP, THE SITE IS PREDOMINANTLY KINGSTOWN SANDY CLAY LOAM, 0-45% SLOPES, WITH SOME URBAN LAND.

7. THE SITE IS LOCATED IN THE CAMERON RUN (CENTER) WATERSHED PER CITY OF ALEXANDRIA GIS.

8. CONSTRUCTION PERMITS ARE REQUIRED FOR THE PROJECT. THE APPROVED SITE PLAN MUST BE ATTACHED TO THE PERMIT APPLICATION THAT FULLY DETAILS THE CONSTRUCTION AS WELL AS LAYOUTS AND SCHEMATICS OF THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS.

9. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHER WISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.

10. PLAT SUBJECT TO RESTRICTIONS OF RECORD.

11. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND THE THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC).

12. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO STREETS, ALLEYWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.

13. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF -WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED IN ACCORDANCE WITH THE LATEST CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.

14. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE LATEST CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES).

15. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.

16. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY(VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR) UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES COMMISSION, MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK PRIOR TO RELEASE OF THE GRADING PLAN. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE VSMP GENERAL PERMIT CAN BE FOUND ONLINE AT: HTTPS://WWW.DEQ.VIRGINIA.GOV/PERMITS/WATER/STORMWATER-CONSTRUCTION

17. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES), AND BUILDING AN FIRE CODE ADMINISTRATION SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

18. ANY WORK IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

19. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS RESULTING FROM THIS PROJECT ON ADJACENT PROPERTIES.

20. A SEPARATE DESIGN IS REQUIRED FOR ALL WALLS 24" AND OVER IN HEIGHT FROM THE GRADE AND SUBJECT TO SEPARATE PERMITS TO BE OBTAINED BY THE OWNERS. GEOTECHNICAL AND STRUCTURAL DESIGN IS TO BE COMPLETED BY OTHERS. THIS PLAN SHOWS LOCATION, PROPOSED GRADING, AND BASIS OF DESIGN OF RETAINING WALLS.

21. ALL SANITARY LATERALS AND/OR SEWERS NOT SHOWN IN THE EASEMENTS SHALL BE OWNED AND MAINTAINED PRIVATELY.

22. ALL STORM DRAINS NOT SHOWN WITHIN AN EASEMENT OR IN A PUBLIC RIGHT OF WAY SHALL BE OWNED AND MAINTAINED PRIVATELY.

23. ALL WATER FACILITY CONSTRUCTION SHALL CONFORM TO VIRGINIA AMERICAN WATER COMPANY STANDARDS AND SPECIFICATIONS. CONTRACTOR SHALL CONTACT VIRGINIA AMERICAN WATER COMPANY AT (703) 549-7080 TO COORDINATE CONSTRUCTION AND INSPECTION OF WATER FACILITIES.

24. THE SIDEWALKS SHALL BE CLOSED PER SHEET C-112 DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.

EMERGENCY VEHICLE EASEMENT NOTE

ALL EMERGENCY VEHICLE EASEMENTS ARE SHOWN ON THE PLAN AND SHALL BE RECORDED WITH ALEXANDRIA LAND RECORDS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.

2. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA; THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1; AND THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS (VIRGINIA ADMINISTRATIVE CODE 9VAC25-875).

3. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF. A NOTE TO THIS EFFECT SHALL BE PLACED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE PLAN.

4. THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.

5. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UP-SLOPE LAND DISTURBANCE TAKES PLACE.

6. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.

7. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.

8. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

9. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA.

10. THE DEVELOPER AND CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.

11. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.

12. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

13. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY.

14. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

15. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL (T&ES) SERVICES OF THE CITY OF ALEXANDRIA.

16. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2,500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.

17. ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT OF WAY.

18. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILT FENCE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT OF WAY.

19. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.

20. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.

21. VPDES PERMIT WILL BE FILED FOR WITH THE CITY OF ALEXANDRIA. PERMITS SHALL BE OBTAINED PRIOR TO START OF CONSTRUCTION.

22. A POTW PERMIT IS NOT REQUIRED.

Job No. 23-0754.001

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

A. MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

DRAWN: CMB, EJC

DATE: 05/23/2025

SCALE: N/A

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50130 05/23/2025 PROFESSIONAL ENGINEER

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ALEXANDRIA, VIRGINIA 22314

SHEET NAME: GENERAL NOTES

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET NO: C-005 6 OF 94

COMPUTATION OF PEAK RUNOFF RATE

THE PRE AND POST DEVELOPMENT PEAK RATES OF RUNOFF ARE COMPUTED BY THE SCS METHOD USING THE NOAA ATLAS 14 24-HOUR PRECIPITATION FREQUENCY FOR ALEXANDRIA, VA. THE EXISTING DETENTION POND HAS BEEN MODELED IN HYDROCAD TO COMPARE STORM ROUTINGS IN THE PRE- AND POST-DEVELOPMENT CONDITIONS. ALL HYDROLOGIC ANALYSES RELATED TO PRE AND POST DEVELOPMENT ARE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT, RESPECTIVELY.

STORMWATER MANAGEMENT PLAN

THE PLAN DEMONSTRATES THAT THE SITE HAS BEEN DEVELOPED TO INCREASE THE POST-DEVELOPMENT PEAK RUNOFF RATE FROM THE PRE-DEVELOPMENT PEAK RUNOFF RATE FOR A ONE-YEAR AND A TEN-YEAR STORM CONSIDERED INDIVIDUALLY. THEREFORE, STORMWATER DETENTION IS PROVIDED PER THE REQUIREMENTS OF ARTICLE 13-109(F)(1)(c) AND 13-109(F)(2)(a)(i) OF ALEXANDRIA ZONING ORDINANCE NOT TO RELEASE STORMWATER FROM THE SITE AT A HIGHER RATE THAN PRE-DEVELOPMENT CONDITION.

ADEQUATE OUTFALL ANALYSIS

REFER TO SHEET C-705 FOR ADEQUATE OUTFALL ANALYSIS.

THIS PROJECT IS AN AREA THAT EXPERIENCES FLOODING AND THE EXISTING CITY CONVEYANCE SYSTEM IS NOT ADEQUATE. THIS HAS BEEN DOCUMENTED TO THE CITY IN THE REPORT TITLED 'DASH FLOODING ANALYSIS OF ALTERNATIVES ALEXANDRIA, VA', PREPARED BY MICHAEL BAKER INTERNATIONAL, DATED 12/04/2019.

STORMWATER BMP AND DETENTION FACILITIES MAINTENANCE AGREEMENT

THE ON-SITE STORMWATER MANAGEMENT BMPS SHALL BE MAINTAINED BY CITY OF ALEXANDRIA.

ENVIRONMENTAL SITE ASSESSMENT

1. THERE ARE NO FLOODPLAIN, RESOURCE PROTECTION AREAS, TIDAL WETLANDS, TIDAL SHORES, CONNECTED TIDAL WETLANDS, ISOLATED WETLANDS, OR HIGHLY ERODIBLE/PERMEABLE SOILS ASSOCIATED WITH SHORES OR WETLANDS LOCATED ON THE SITE. THERE ARE NO WETLAND PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. ADDITIONALLY, THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON THE SITE.

2. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, OFFICE OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS, AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS.

3. ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWCB) REQUIREMENTS. CONTACT ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EXT 267/255.

4. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, AND DIVISION 01 SPECIFICATION REQUIREMENTS WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   - MONDAY THROUGH FRIDAY FROM 7 AM TO 5 PM AND
   - SATURDAY AND SUNDAY WORK MAY BE EXECUTED AT ALL HOURS WITH 5 DAYS PRIOR NOTICE AND APPROVAL OF THE OWNER.

5. A SITE CHARACTERIZATION REPORT, REMEDIAL ACTION PLAN, RISK ASSESSMENT, AND HEALTH & SAFETY PLAN WILL BE PROVIDED WITH FINAL SITE PLAN. IF NEEDED, A SOIL MANAGEMENT PLAN WILL ALSO BE PROVIDED WITH FINAL SITE PLAN.

STORMWATER BEST MANAGEMENT PRACTICES (BMP) NOTES

THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) REQUIRED FOR THIS PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF A THIRD-PARTY PROFESSIONAL ENGINEER OR THEIR DESIGNATED REPRESENTATIVE. THE DESIGN ENGINEER SHALL REVIEW INSPECTION REPORTS AND MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMPs ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN.

UTILITY WORKS

UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 9VAC25-875 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATION AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

A. ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT-OF- WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS I CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.

B. ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.

C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.

D. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.

E. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

C. EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D- 1551) COMPACTION IN ALL TRENCH BACKFILL.

F. RESTABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS §9VAC25-875 EROSION AND SEDIMENT CONTROL REGULATIONS, AND THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1.

G. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

H. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.

I. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.

J. UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.

K. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.

L. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SEWER LATERALS ON PUBLIC AND PRIVATE PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" FOR DUWT WIDTHS OF 3" AND 24" FOR WIDTHS OF 6" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS.

COLOR	CODES
RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTNING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

SOLID WASTE MANAGEMENT

1. IN COMPLIANCE WITH TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, SECTION 5-1-31 OF THE CITY CHARTER AND CODE, THE CITY OF ALEXANDRIA WILL PROVIDE SOLID WASTE COLLECTION SERVICES TO EVERY USER PROPERTY, DEFINED IN SECTION 5-1-2 (12B) AS CONTAINING FOUR OR FEWER DWELLING UNITS EXCLUDING CONDOMINIUM DWELLINGS.

SOLID WASTE AND RECYCLABLE MATERIALS STORAGE IS ALREADY PROVIDED IN THE PARCEL. NO ADDITIONAL SOLID WASTE OR RECYCLABLE MATERIALS STORAGE ARE REQUIRED FOR THIS PROJECT.

MOSQUITO CONTROL NOTES

1. STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THEN 5 DAYS BETWEEN THE MONTHS OF MAY - OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS, THEREFORE, SUCH BMPs SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.

2. SINCE EXCESSIVE VEGETATION IN EXISTING BMPs ALSO INCREASES THE POTENTIAL FOR MOSQUITO PROBLEMS; THEREFORE, VEGETATION SHALL BE CONTROLLED AND CUT TO REDUCE MOSQUITO BREEDING.

3. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-838-4400 EXT. 326, 327) FOR QUESTIONS OR TREATMENT ASSISTANCE.

LANDSCAPE NOTES

1. ALL PROTECTION AND PRESERVATION MEASURES FOR EXISTING VEGETATION, INCLUDING MAINTENANCE AND PENALTIES SHALL BE PREPARED IN COMPLIANCE WITH LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA AND APPROVED BY THE CITY ARBORIST IN-FIELD PRIOR TO COMMENCEMENT OF ANY SITE DISTURBING AND CONSTRUCTION ACTIVITIES.

2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED / VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.

3. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON TREE PRESERVATION, DEMOLITION, SEDIMENT AND EROSION CONTROL, AND LANDSCAPE PLAN SHEETS.

4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE SURE THAT ANY EXISTING LANDSCAPING WHICH IS TO BE RELOCATED ON THE SITE WILL BE CAREFULLY STORED IN A DESIGNATED AREA BEFORE BEING REPLANTED. COORDINATION WITH THE OWNER FOR MUTUALLY AGREEABLE STORAGE LOCATIONS FOR LANDSCAPE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHOULD BE RESPONSIBLE FOR THE REPLACEMENT OF PLANT MATERIAL THAT DOES NOT SURVIVE STORAGE AND REPLANTING.

5. APPLICANT MUST INCLUDE ON THE PLAN DOCUMENTATION OF COMMUNICATION WITH THE ADJACENT PROPERTY OWNER(S) VERIFYING NOTIFICATION OF AND AGREEMENT WITH CONSTRUCTION IMPACT, POTENTIAL FOR LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREE(S) ON ADJACENT PROPERTIES THAT WILL BE AFFECTED BY PROPOSED PROJECT WORK.

6. INCLUDE SPECIFIC CONSTRUCTION STAGING INFORMATION ON THE PLAN THAT INDICATES THE METHODS, AND PROCEDURES TO BE IMPLEMENTED FOR PROTECTION OF EXISTING ON-SITE AND OFF-SITE VEGETATION.

7. PROPOSED PLANTING SHALL BE PROVIDED IN COMPLIANCE WITH THE LANDSCAPE GUIDELINES OF THE CITY OF ALEXANDRIA.

8. SPECIFICATION FOR ALL PLANTINGS SHALL BE IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION OF ANSI-Z60.1, THE AMERICAN STANDARD FOR NURSERY STOCK AS PRODUCED BY THE AMERICAN ASSOCIATION OF NURSERYMEN; WASHINGTON, DC

9. THE APPLICANT SHALL MAKE SUITABLE ARRANGEMENTS FOR PRE-SELECTION TAGGING, PRE-CONTRACT GROWING, OR IS UNDERTAKING SPECIALIZED PLANTING STOCK DEVELOPMENT WITH A NURSERY OR GROWER THAT IS CONVENIENTLY LOCATED TO THE PROJECT SITE, OR UTILIZING OTHER PROCEDURES THAT WILL ENSURE AVAILABILITY OF SPECIFIED MATERIALS. IN THE EVENT THAT SHORTAGES AND/OR INABILITY TO OBTAIN SPECIFIED PLANTINGS OCCURS, REMEDIAL EFFORTS INCLUDING SPECIES CHANGES, ADDITIONAL PLANTINGS AND MODIFICATION TO THE LANDSCAPE PLAN SHALL BE UNDERTAKEN BY THE APPLICANT. ALL REMEDIAL EFFORTS SHALL, WITH PRIOR APPROVAL BY THE CITY, BE PERFORMED TO THE SATISFACTION OF THE DIRECTORS OF PLANNING & ZONING, RECREATION, PARKS & CULTURAL ACTIVITIES AND TRANSPORTATION & ENVIRONMENTAL SERVICES.

10. IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA.

11. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.

12. MAINTENANCE FOR THE PROJECT SHALL BE PERFORMED IN PERPETUITY BY THE APPLICANT/OWNER/SUCCESSOR, IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND/OR AS CONDITIONED BY THE PROJECT APPROVAL.

13. AS-BUILT DRAWINGS FOR THIS LANDSCAPE PLAN AND/OR WATER MANAGEMENT SYSTEM WILL BE PROVIDED IN COMPLIANCE WITH THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ANY VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT — A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E.

DATE: 05/23/2025 | DRAWN: CMB, EJC | SCALE: N/A

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP — PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: GENERAL NOTES

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR _____ DATE _____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR _____ DATE _____

CHAIRMAN, PLANNING COMMISSION _____ DATE _____
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Job No. 23-0754.001

SHEET NO: C-006 7 OF 94

DEMOLITION NOTES

1. NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
2. ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE , AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED, TO ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS, AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.
6. PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
8. THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
10. THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

CONSTRUCTION NOTES

1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAR THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
6. THE DEVELOPER SHALL PROVIDE OVER-LOT GRADING TO PROVIDE POSITIVE DRAINAGE AND PRECLUDE PONDING OF WATER.
7. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE AS RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OF OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
8. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
9. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE DRAWINGS ALL DIMENSIONS, DETAILS, AND TREATMENTS FOR THE PROPOSED FOUNDATIONS, CURBS, WALKWAYS, AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
10. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONSTRUCTION.
11. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
12. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH THE APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
13. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR THE PERMITS SHALL BE DEEMED A VIOLATION.
14. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
15. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
16. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.
17. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
18. THE CALIFORNIA BEARING RATIO (CSR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS PRIOR TO SUBMISSION OF THE FINAL SITE PLAN. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL /LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
19. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CSR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
20. EMERGENCY VEHICLE EASEMENTS (EVE) AND AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICANS WITH DISABILITIES (ADA) REQUIREMENTS.
21. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
22. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS.
23. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
24. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC LADDER STYLE / STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18, PEDESTRIAN CROSSWALKS, JULY 13, 2006. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR / TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.

ARCHAEOLOGY NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
5. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

CEMETERY AND/OR BURIAL GROUNDS

THERE IS NO OBSERVABLE, HISTORICAL, OR ARCHAEOLOGICAL EVIDENCE OF CEMETERIES OR BURIAL GROUNDS ON THIS PROPERTY.

FIRE / WATER NOTES

1. EXISTING FIRE HYDRANTS SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION.
2. EMERGENCY VEHICLE EASEMENTS (EVE) SHALL REMAIN OPEN DURING CONSTRUCTION.

UTILITY OWNER INFORMATION

SANITARY SEWER:
CITY OF ALEXANDRIA
DEPARTMENT OF TRANSPORTATION
& ENVIRONMENTAL SERVICES
301 KING STREET, ROOM 4100
ALEXANDRIA, VA 22314
PH. 703-838-4966

STORM DRAIN:
CITY OF ALEXANDRIA
DEPARTMENT OF TRANSPORTATION
& ENVIRONMENTAL SERVICES
301 KING STREET, ROOM 4100
ALEXANDRIA, VA 22314
PH. 703-838-4966

WATER:
VIRGINIA AMERICAN WATER
2223 DUKE STREET
ALEXANDRIA, VA 22314
PH. 703-706-3877

ELECTRIC SERVICE:
DOMINION ENERGY VIRGINIA
907 WEST GLEBE ROAD
ALEXANDRIA, VA 22305
PH. 703-838-2229

GAS SERVICE:
WASHINGTON GAS LIGHT COMPANY
6801 INDUSTRIAL ROAD
SPRINGFIELD,VA 22151
PH. 703-750-1400

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM
DRAWN: CMB, EJC
DATE: 05/23/2025
SCALE: N/A
SEAL:
CHELSEA M. BISHOP
05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: GENERAL NOTES

APPROVED
SPECIAL USE PERMIT NO.________
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.________

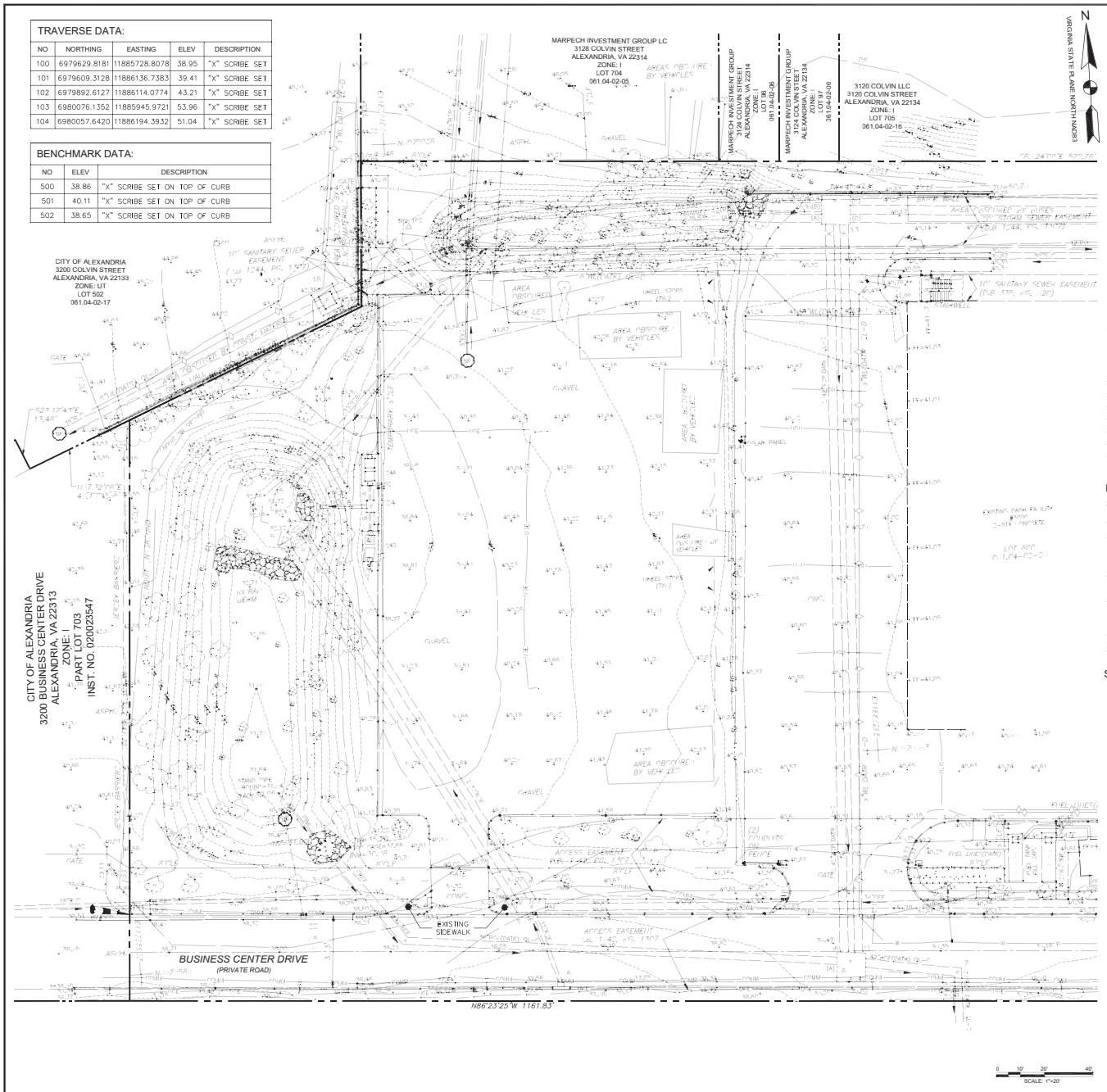
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

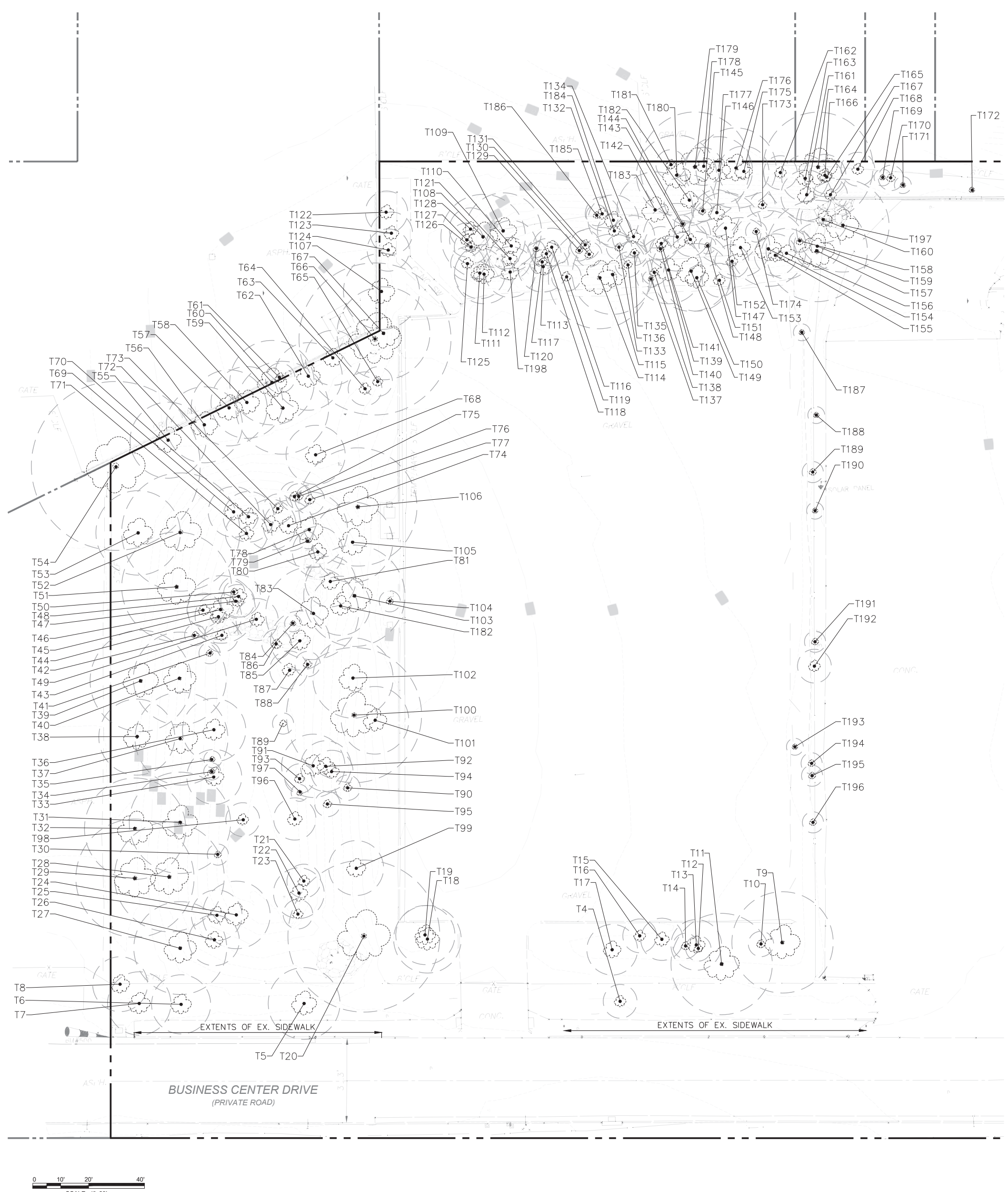
Job No. 23-0754.001

SHEET NO: C-007 8 OF 94



Job No. 23-0754.001

SHEET NO: C-101 9 OF 94



EXISTING TREE SCHEDULE

Tree Id	Common Name	Scientific Name	DBH	Condition	Protect or Remove
1	Red maple	Acer rubrum	6	Poor	Protect
2	Red maple	Acer rubrum	6.5	Fair	Protect
3	Red maple	Acer rubrum	4	Poor	Protect
4	Red maple	Acer rubrum	4	Good	Protect
5	Red maple	Acer rubrum	8.5	Good	Protect
6	Red maple	Acer rubrum	7	Good	Protect
7	Red maple	Acer rubrum	7.5	Good	Protect
8	Callery pear	Pyrus calleryana	7.5	Fair	Protect
9	Black locust	Robinia pseudoacacia	12	Fair	Remove
10	Chinese Holly	Ilex cornuta	3	Good	Remove
11	Black locust	Robinia pseudoacacia	12	Fair	Remove
12	Chinese Holly	Ilex cornuta	3	Good	Remove
13	Black locust	Robinia pseudoacacia	6	Good	Remove
14	Arborvitae	Thuja species	3	Fair	Remove
15	Arborvitae	Thuja species	5	Good	Remove
16	Arborvitae	Thuja species	4	Good	Remove
17	Chinese Holly	Ilex cornuta	6	Good	Remove
18	Arborvitae	Thuja species	6	Fair	Remove
19	Chinese Holly	Ilex cornuta	7	Good	Remove
20	Willow oak	Quercus phellos	18	Fair	Remove
21	Callery pear	Pyrus calleryana	4	Good	Protect
22	Chinese elm	Ulmus parvifolia	6	Good	Protect
23	Green ash	Fraxinus pennsylvanica	3.5	Fair	Protect
24	Chinese elm	Ulmus parvifolia	8	Good	Protect
25	Chinese elm	Ulmus parvifolia	6	Good	Protect
26	Callery pear	Pyrus calleryana	6	Fair	Protect
27	Willow oak	Quercus phellos	11	Good	Protect
28	Willow oak	Quercus phellos	12.5	Good	Protect
29	Willow oak	Quercus phellos	14	Fair	Protect
30	Mulberry	Morus spp	2.5	Good	Protect
31	Willow oak	Quercus phellos	12	Good	Protect
32	Willow oak	Quercus phellos	12	Good	Protect
33	Chinese elm	Ulmus parvifolia	6.5	Good	Protect
34	Callery pear	Pyrus calleryana	2	Good	Protect
35	Mulberry	Morus spp	2	Good	Protect
36	Chinese elm	Ulmus parvifolia	7.5	Fair	Protect
37	Willow oak	Quercus phellos	11	Good	Protect
38	Willow oak	Quercus phellos	9	Good	Protect
39	Willow oak	Quercus phellos	12	Good	Protect
40	Willow oak	Quercus phellos	11	Good	Protect
41	Callery pear	Pyrus calleryana	2.5	Fair	Protect
42	Black locust	Robinia pseudoacacia	2.5	Poor	Protect
43	Chinese Holly	Ilex cornuta	4	Good	Protect
44	Mulberry	Morus spp	5.5	Fair	Protect
45	River birch	Betula nigra	8	Good	Protect
46	Rosegold pussy willow	Salix gracilistyla	4	Poor	Protect
47	Green ash	Fraxinus pennsylvanica	4	Good	Protect
48	Green ash	Fraxinus pennsylvanica	5	Good	Protect
49	Green ash	Fraxinus pennsylvanica	5	Good	Protect
50	American elm	Ulmus americana	2.5	Fair	Protect
51	Willow oak	Quercus phellos	13	Good	Protect
52	Willow oak	Quercus phellos	13.5	Good	Protect
53	Willow oak	Quercus phellos	10	Fair	Protect
54	Chinese elm	Ulmus parvifolia	20	Fair	Protect
55	Black locust	Robinia pseudoacacia	9	Fair	Protect
56	Chinese elm	Ulmus parvifolia	9	Good	Protect
57	Chinese elm	Ulmus parvifolia	9	Fair	Protect
58	Boxelder	Acer negundo	8.5	Fair	Protect
59	Deodar cedar	Cedrus deodara	10.5	Fair	Remove
60	Callery pear	Pyrus calleryana	10	Fair	Protect
61	Callery pear	Pyrus calleryana	3.5	Good	Protect
62	Black locust	Robinia pseudoacacia	8	Fair	Remove
63	Black locust	Robinia pseudoacacia	6.5	Fair	Remove
64	Black locust	Robinia pseudoacacia	4	Good	Remove
65	Black locust	Robinia pseudoacacia	3.5	Good	Remove
66	Callery pear	Pyrus calleryana	18	Fair	Remove
67	Callery pear	Pyrus calleryana	11	Fair	Remove
68	Mulberry	Morus spp	7	Fair	Remove
69	Rosegold pussy willow	Salix gracilistyla	6	Fair	Protect
70	Rosegold pussy willow	Salix gracilistyla	6	Good	Protect
71	Callery pear	Pyrus calleryana	5	Good	Protect
72	Rosegold pussy willow	Salix gracilistyla	6	Good	Protect
73	Mulberry	Morus spp	3.5	Fair	Protect
74	Rosegold pussy willow	Salix gracilistyla	6	Fair	Protect
75	Chinese elm	Ulmus parvifolia	3.5	Good	Protect
76	Chinese elm	Ulmus parvifolia	3	Good	Protect
77	Chinese elm	Ulmus parvifolia	3.5	Good	Protect
78	Black locust	Robinia pseudoacacia	9	Poor	Protect
79	Mulberry	Morus spp	2	Good	Protect
80	Rosegold pussy willow	Salix gracilistyla	6	Fair	Protect
81	Rosegold pussy willow	Salix gracilistyla	6	Fair	Protect
82	Black locust	Robinia pseudoacacia	7	Fair	Protect
83	River birch	Betula nigra	11	Good	Protect
84	Black locust	Robinia pseudoacacia	2	Good	Protect
85	Chinese elm	Ulmus parvifolia	7	Fair	Protect
86	Green ash	Fraxinus pennsylvanica	3.5	Good	Protect
87	Chinese elm	Ulmus parvifolia	4.5	Good	Remove
88	Callery pear	Pyrus calleryana	3	Good	Remove
89	Green ash	Fraxinus pennsylvanica	2.5	Good	Remove
90	Callery pear	Pyrus calleryana	3	Fair	Remove
91	Black locust	Robinia pseudoacacia	7.5	Poor	Remove
92	Callery pear	Pyrus calleryana	6	Fair	Remove
93	Callery pear	Pyrus calleryana	3.5	Good	Remove
94	Black locust	Robinia pseudoacacia	5	Fair	Remove
95	Callery pear	Pyrus calleryana	3	Good	Remove
96	Chinese elm	Ulmus parvifolia	5	Good	Remove
97	Mulberry	Morus spp	2	Good	Protect
98	Green ash	Fraxinus pennsylvanica	4	Fair	Protect
99	Willow oak	Quercus phellos	6.5	Good	Remove
100	Black locust	Robinia pseudoacacia	16	Poor	Remove
101	Black locust	Robinia pseudoacacia	8	Good	Remove
102	Willow oak	Quercus phellos	9.5	Good	Remove
103	Willow oak	Quercus phellos	11.5	Good	Remove
104	Eastern redbud	Cercis canadensis	2.5	Good	Remove
105	Willow oak	Quercus phellos	9.5	Good	Remove
106	Black locust	Robinia pseudoacacia	13.5	Fair	Remove
107	Black locust	Robinia pseudoacacia	9	Fair	Remove
108	Chinese elm	Ulmus parvifolia	10	Good	Protect
109	Chinese elm	Ulmus parvifolia	9	Good	Remove
110	Black locust	Robinia pseudoacacia	6	Good	Remove
111	Chinese elm	Ulmus parvifolia	6	Fair	Remove
112	Chinese elm	Ulmus parvifolia	7	Fair	Remove
113	Chinese elm	Ulmus parvifolia	6	Good	Remove
114	Black locust	Robinia pseudoacacia	12	Fair	Remove
115	Black locust	Robinia pseudoacacia	9.5	Fair	Remove
116	Chinese elm	Ulmus parvifolia	3.5	Good	Remove
117	Chinese elm	Ulmus parvifolia	3	Good	Remove
118	Chinese elm	Ulmus parvifolia	3.5	Good	Remove
119	Mulberry	Morus spp	4.5	Fair	Remove
120	Mulberry	Morus spp	2	Fair	Remove
121	Callery pear	Pyrus calleryana	5	Fair	Remove
122	Common crapemyrtle	Lagerstroemia spp	5	Good	Remove
123	Common crapemyrtle	Lagerstroemia spp	5	Good	Remove
124	Common crapemyrtle	Lagerstroemia spp	5.5	Good	Remove
125	Chinese elm	Ulmus parvifolia	4	Good	Remove
126	Chinese elm	Ulmus parvifolia	4	Good	Remove
127	Chinese elm	Ulmus parvifolia	4	Good	Remove
128	Chinese elm	Ulmus parvifolia	5	Good	Remove
129	Chinese elm	Ulmus parvifolia	2.5	Good	Remove
130	Chinese elm	Ulmus parvifolia	3	Good	Remove
131	Mulberry	Morus spp	3.5	Fair	Remove
132	Mulberry	Morus spp	4	Fair	Remove
133	Mulberry	Morus spp	3	Fair	Remove
134	Mulberry	Morus spp	5	Fair	Remove
135	Chinese elm	Ulmus parvifolia	3	Good	Remove
136	Callery pear	Pyrus calleryana	3	Good	Remove
137	Black locust	Robinia pseudoacacia	2	Fair	Remove
138	Black locust	Robinia pseudoacacia	6	Fair	Remove
139	Black locust	Robinia pseudoacacia	8	Fair	Remove
140	Chinese elm	Ulmus parvifolia	2.5	Good	Remove
141	Black locust	Robinia pseudoacacia	4	Poor	Remove
142	Black willow	Salix nigra	8	Good	Remove
143	Mulberry	Morus spp	4	Fair	Remove
144	Mulberry	Morus spp	2	Fair	Remove
145	Mulberry	Morus spp	2.5	Fair	Remove
146	Callery pear	Pyrus calleryana	5.5	Fair	Remove
147	Cottonwood	Populus species	8.5	Good	Remove
148	Mulberry	Morus spp	2	Fair	Remove
149	Black locust	Robinia pseudoacacia	9.5	Good	Remove
150	Sumac	Rhus spp	8	Fair	Remove
151	Sumac	Rhus spp	4	Fair	Remove
152	Sumac	Rhus spp	4	Good	Remove
153	Black locust	Robinia pseudoacacia	7	Poor	Remove
154	Chinese elm	Ulmus parvifolia	9	Good	Remove
155	Black locust	Robinia pseudoacacia	5	Good	Remove
156	Black locust	Robinia pseudoacacia	6	Fair	Remove
157	Black locust	Robinia pseudoacacia	11.5	Good	Remove
158	Chinese elm	Ulmus parvifolia	2.5	Good	Remove
159	Chinese elm	Ulmus parvifolia	5.5	Good	Remove
160	Black locust	Robinia pseudoacacia	5.5	Fair	Remove
161	Black locust	Robinia pseudoacacia	6	Fair	Remove
162	Mulberry	Morus spp	4	Fair	Remove
163	Black locust	Robinia pseudoacacia	5.5	Good	Remove
164	Black locust	Robinia pseudoacacia	13	Good	Remove
165	Tree of heaven	Ailanthus altissima	4	Fair	Remove
166	Callery pear	Pyrus calleryana	5	Good	Remove
167	Black locust	Robinia pseudoacacia	4	Fair	Remove
168	Tree of heaven	Ailanthus altissima	4	Fair	Remove
169	Black locust	Robinia pseudoacacia	2	Good	Remove
170	Black locust	Robinia pseudoacacia	3	Good	Remove
171	Callery pear	Pyrus calleryana	2	Good	Remove
172	Callery pear	Pyrus calleryana	2	Good	Protect
173	Mulberry	Morus spp	3	Fair	Remove
174	Mulberry	Morus spp	2.5	Fair	Remove
175	Black locust	Robinia pseudoacacia	6	Fair	Remove
176	Black locust	Robinia pseudoacacia	9.5	Fair	Remove
177	Black walnut	Juglans nigra	8	Good	Remove
178	Black locust	Robinia pseudoacacia	4.5	Good	Remove
179	Black locust	Robinia pseudoacacia	12.5	Fair	Remove
180	Black locust	Robinia pseudoacacia	9.5	Poor	Remove
181	Mulberry	Morus spp	3.5	Fair	Remove
182	Mulberry	Morus spp	6	Fair	Remove
183	Mulberry	Morus spp	10	Fair	Remove
184	Mulberry	Morus spp	7	Good	Remove
185	Chinese elm	Ulmus parvifolia	4	Good	Remove
186	Chinese elm	Ulmus parvifolia	2.5	Good	Remove
187	Black locust	Robinia pseudoacacia	2	Fair	Remove
188	Chinese elm	Ulmus parvifolia	2.5	Fair	Protect
189	Chinese elm	Ulmus parvifolia	2	Good	Protect
190	Callery pear	Pyrus calleryana	2	Fair	Protect
191	Chinese elm	Ulmus parvifolia	2.5	Fair	Protect
192	Chinese elm	Ulmus parvifolia	4	Fair	Protect
193	Chinese elm	Ulmus parvifolia	2	Good	Protect
194	Mulberry	Morus spp	2.5	Good	Protect
195	Mulberry	Morus spp	2.5	Good	Protect
196	Mulberry	Morus spp	2.5	Fair	Protect
197	Black locust	Robinia pseudoacacia	9	Good	Remove
198	Unknown	Unknown	8	Good	Remove

LEGEND

STANDARD CRITICAL ROOT ZONE
1" DIAM = 1.5' CRITICAL ROOT ZONE
(MEASURED FROM FACE OF TREE TRUNK)

EXISTING TREE

PROPERTY LINE

CERTIFIED ARBORIST ISA

TREE ASSESSMENT AND
TREE SAVE RECOMMENDATIONS
PREPARED UNDER MY SUPERVISION

Mary Marinko

MARY LYNNE MARCINKO
ISA CERTIFIED ARBORIST #MA-5128A

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SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA Andrea Stirton Lic. No. 0406002218 LANDSCAPE ARCHITECT 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: TREE INVENTORY AND CONDITION ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. ____________
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED ____________

INSTRUMENT NO. DEED BOOK NO. PAGE NO.

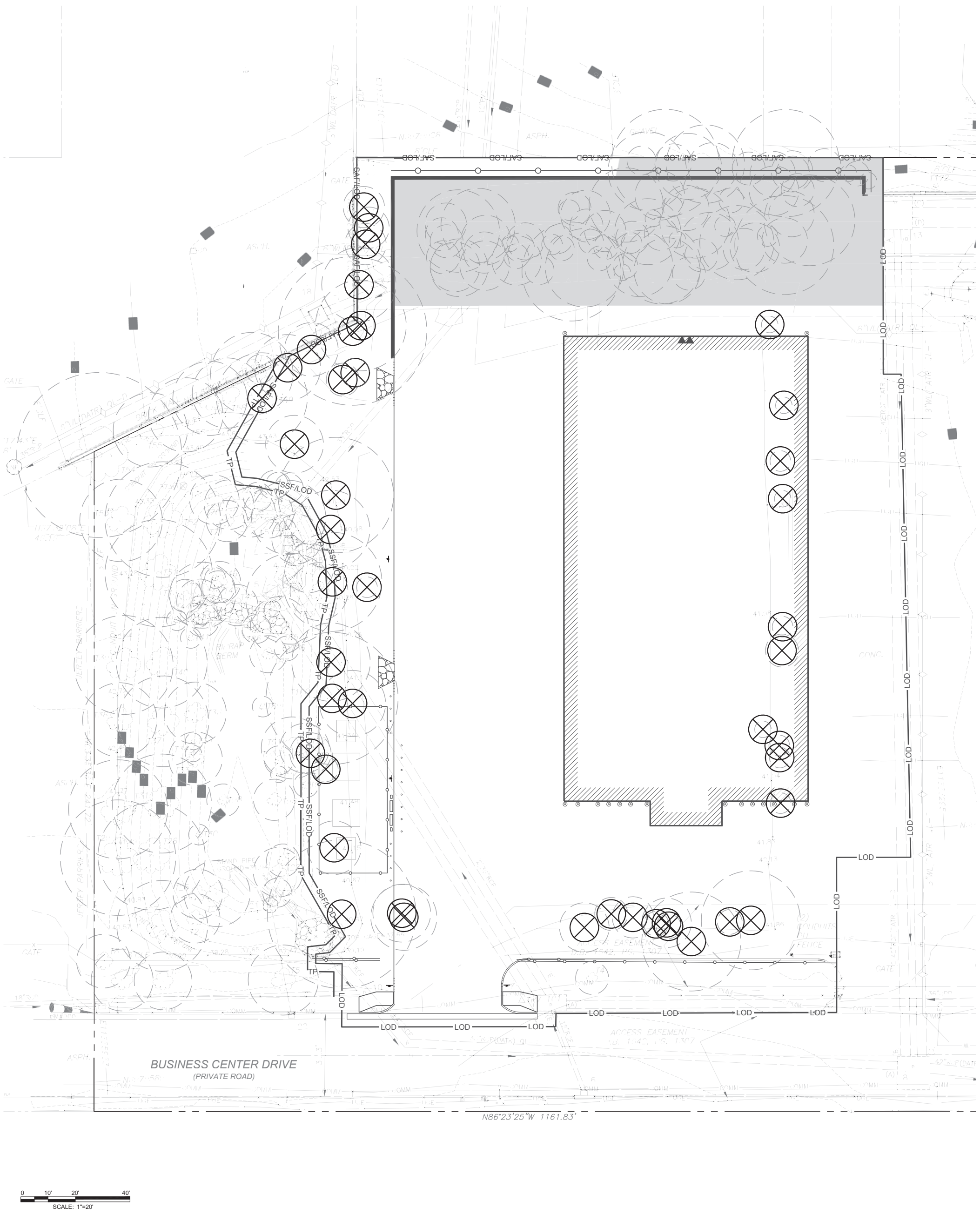
Job No. 23-0754.001

SHEET NO: LF-101 10 OF 94

TREE PROTECTION NOTES

THE CONTRACTOR MUST ADHERE TO THE FOLLOWING TREE PROTECTION CONDITIONS FOR TREES THAT WILL BE PRESERVED INCLUDING PRIVATELY MANAGED TREES AND PUBLIC SPACE TREES.

1. ALL PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL COMPLY WITH CITY OF ALEXANDRIA REGULATIONS.
2. PRESERVED TREES CANNOT BE DAMAGED OR REMOVED.
3. CONTRACTOR SHALL PROVIDE TREE PRESERVATION MEASURES IN CONJUNCTION WITH A CONSTRUCTION PHASE ARBORIST. CONTRACTOR SHALL COORDINATE TREE PRESERVATION PLAN MEASURES WITH THE CITY OF ALEXANDRIA PRIOR TO THE START OF CONSTRUCTION, INSTALLATION OF TREE PROTECTION MEASURES, OR DEMOLITION.
4. A PRE-CONSTRUCTION MEETING WITH THE SUPERINTENDENT AND CREW, INCLUDING ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST, SUBCONTRACTORS, AND CITY OF ALEXANDRIA SHALL BE PROVIDED PRIOR TO THE START OF CONSTRUCTION, INSTALLATION OF TREE PROTECTION MEASURES OR DEMOLITION.
5. TREES WITHIN OR DIRECTLY ADJACENT TO THE LIMITS OF WORK MUST BE PROTECTED WITH 6 FT. TALL CHAIN LINK FENCE, WITH TREE SIGNAGE PER CITY GUIDELINES, ALONG THE LOD ADJACENT TO TREED AREA.
6. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE TREE PROTECTION AREA OR WITHIN THE CRITICAL ROOT ZONE OF A PROTECTED TREE: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
7. NO HEAVY EQUIPMENT SHALL BE USED TO EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF A PROTECTED TREE BEYOND THE LOD.
8. NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER, OF A PROTECTED TREE, SHALL BE CUT WITHOUT AN ARBORIST'S REVIEW AND RECOMMENDATION. IF ROOTS 2" OR LARGER ARE DISCOVERED TO BE IN CONFLICT WITH THE IMPROVEMENTS, THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION PHASE ARBORIST FOR DIRECTION.EXPOSED ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
9. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST RECEIVE CLEARANCE FROM CITY OF ALEXANDRIA TO CONTINUE THE CONFLICTING WORK.
10. IF A TREE REQUIRES REMOVAL, APPLICANT MUST APPLY FOR THE PROPER PERMIT FOR ITS REMOVAL AND COMPENSATE AS PER CURRENT LAWS/REGULATIONS. .
11. CRITICAL ROOT ZONE (CRZ) = 1.5 FOOT RADIUS FROM THE BASE OF THE TREE'S TRUNK FOR EACH 1 INCH OF THE TREE'S DIAMETER STRUCTURAL ROOT ZONE (SRZ) = 0.5 FOOT RADIUS FROM THE BASE OF THE TREE'S TRUNK FOR EACH 1 INCH OF THE TREE'S DIAMETER. MEASUREMENTS ARE TAKEN AT 4.5 FEET ABOVE GRADE (ALSO REFERRED TO AS THE DIAMETER AT BREAST HEIGHT).
12. PROTECT CRITICAL ROOT ZONES AS SHOWN ON THE TREE PRESERVATION PLANS AND AS DIRECTED BY AN ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST OF ALL TREES TO REMAIN, ADJACENT TO THE PROPOSED WORK.
13. PROVIDE OVERSIGHT/MONITORING BY AN ISA CERTIFIED CONSTRUCTION PHASE ARBORIST FOR ANY WORK WITHIN A PROTECTED TREE'S CRITICAL ROOT ZONE.
14. INCORPORATE ADDITIONAL TREE PROTECTION MEASURES AND ISA BEST MANAGEMENT PRACTICES IF RECOMMENDED BY THE CONSTRUCTION PHASE ARBORIST. ADDITIONAL TREE PROTECTION MEASURES MAY INCLUDE, BUT NOT BE LIMITED TO METHODS/ACTIVITIES PRE-, DURING AND POST CONSTRUCTION, IN COORDINATION WITH THE CONSTRUCTION PHASE ARBORIST:
   - TREE ASSESSMENTS
   - ROOT PRUNING
   - TREE / BRANCH PRUNING
   - INSTALLATION OF ALTERNATIVE MATERIALS SUCH AS FLEXI-PAVE, POROUS PAVE
   - ALTERNATIVE CONSTRUCTION TECHNIQUES SUCH AS HYDROEXCAVATION, BRIDGING, GRADE BEAMS
   - INSTALLATION, MONITORING AND REMOVAL OF TREE PROTECTION MEASURES
   - CONSTRUCTION MONITORING
   - DISEASE/INSECT CONTROL
   - DAMAGE MITIGATION
   - CONSTRUCTION INSPECTION CHECKLIST
   - AFTER CARE PLAN AND COMMITMENT, MINIMUM 1 YEAR
14. PROVIDE AGREEMENTS BETWEEN OWNER AND ISA-CA TO PROVIDE CONSTRUCTION OVERSIGHT AND POST CARE. PROVIDE 2-YEAR MINIMUM AFTER CARE BY AN ISA-CERTIFIED CONSTRUCTION PHASE ARBORIST.
15. SUBMIT REPORTS/PHOTOS AND WEEKLY UPDATES BY THE CONSTRUCTION PHASE ARBORIST BASED ON INITIAL SITE VISITS, SITE VISITS DURING CONSTRUCTION, AND FOLLOW-UP VISIT.
16. TREE SIGNAGE SHALL BE INSTALLED ON THE CHAIN LINK OR WELDED WIRE FENCE EVERY 20 FEET AS SHOWN ON THE CITY OF ALEXANDRIA TREE PROTECTION DETAIL. TREE PROTECTION SIGNAGE SHALL BE IN ENGLISH AND SPANISH, CLEARLY STATING NO ENTRY, TREE PRESERVATION AREA. SEE DETAIL.



TREE PRESERVATION LEGEND

(dashed circle)	STANDARD CRITICAL ROOT ZONE 1" DIAM = 1.5' CRITICAL ROOT ZONE (MEASURED FROM FACE OF TREE TRUNK)
(circle with X)	TREE TO BE REMOVED. SEE TREE INVENTORY FOR ADDITIONAL TREE INFORMATION
LOD	LIMITS OF DISTURBANCE
TP	TREE PROTECTION FENCE
SAF/LOD	SAFETY FENCE WITH TREE PROTECTION SIGNAGE / LIMITS OF DISTURBANCE
SSF/LOD	SUPER SILT FENCE / LIMITS OF DISTURBANCE
— — —	PROPERTY LINE
(shaded box)	TREE REMOVAL AREA - ALL TREES TO BE REMOVED. SEE TREE INVENTORY FOR ADDITIONAL TREE INFORMATION

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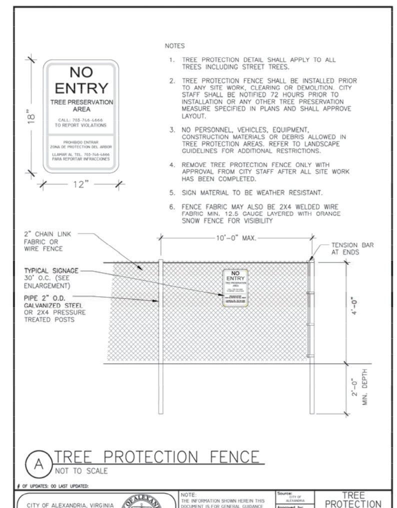
VIRGINIA STATE PLANE SOUTH NAD83

TREE PROTECTION FENCE DETAIL



NOTE: PROVIDE SIGNAGE, MINIMUM 30' O.C., WHERE 6' CHAIN-LINK SAFETY FENCE ALONG TREED AREA IS SHOWN. PROVIDE SUPER SILT FENCE ON 6' HIGH CHAIN LINK FENCE, WITH SIGNAGE 30' O.C., ALONG TREED AREA WHERE SUPER SILT FENCE IS SHOWN.

CITY OF ALEXANDRIA STANDARD TREE PRESERVATION NOTES

VEGETATION DESIGNATED FOR PROTECTION AND/OR PRESERVATION SHALL CONTINUOUSLY RECEIVE AN ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
- MAINTENANCE SHALL BE PRO-ACTIVE.
- MAINTENANCE OPERATIONS SHALL AGGRESSIVELY MONITOR THE HEALTH, GROWTH AND VIGOR OF VEGETATION AND PRESCRIBE SELECTIVE PRUNING, REMOVAL OF VOLUNTEER AND/OR INVASIVE SPECIES, WATERING, FERTILIZATION AND INSTALLATION OF MULCH/TOPDRESSING.
- WHEN PRESERVED VEGETATION IS LOCATED ON CITY PROPERTY, MAINTENANCE SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY.

2. AREAS DESIGNATED FOR PROTECTION AND/OR PRESERVATION OF VEGETATION SHALL NOT BE ENTERED OR UTILIZED (APPROVED MAINTENANCE PROCEDURES AND WATERING EXCEPTED) THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
   PROHIBITED ITEMS/ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:
   - MODIFYING SITE TOPOGRAPHY IN A MANNER THAT DIRECTLY OR INDIRECTLY ALTERS EXISTING SITE DRAINAGE WITHIN PROTECTION ZONE INCLUDING TRENCHING OR GRADING OPERATIONS AND PLACING, STORING OR STOCKPILING SOIL OR CONSTRUCTION RELATED SUPPLIES.
   - FELLING AND STORING VEGETATION. III. INCINERATING MATERIALS WITHIN OR IN CLOSE PROXIMITY.
   - OPERATING MACHINERY OR EQUIPMENT, INCLUDING VEHICLE/EQUIPMENT PARKING OR STORAGE.
   - TEMPORARY OR PERMANENT UTILITY CONSTRUCTION, PAVING OR IMPERVIOUS SURFACE INSTALLATION.
   - DISPOSAL OF DEBRIS OR CHEMICALS. VII. TEMPORARY FACILITIES OR OCCUPATION BY WORK FORCE.
   - STORAGE OF CONSTRUCTION MATERIALS OR WASTE.

CERTIFIED ARBORIST ISA

TREE ASSESSMENT AND TREE SAVE RECOMMENDATIONS PREPARED UNDER MY SUPERVISION

Mary Marcinko

MARY LYNNE MARCINKO
ISA CERTIFIED ARBORIST #MA-5128A

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SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA — Andrea Stirton — Lic. No. 0406002218 — LANDSCAPE ARCHITECT — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: TREE PRESERVATION PLAN

APPROVED
SPECIAL USE PERMIT NO. ________
DEPARTMENT OF PLANNING & ZONING

DIRECTOR ________ DATE ________
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ________

DIRECTOR ________ DATE ________

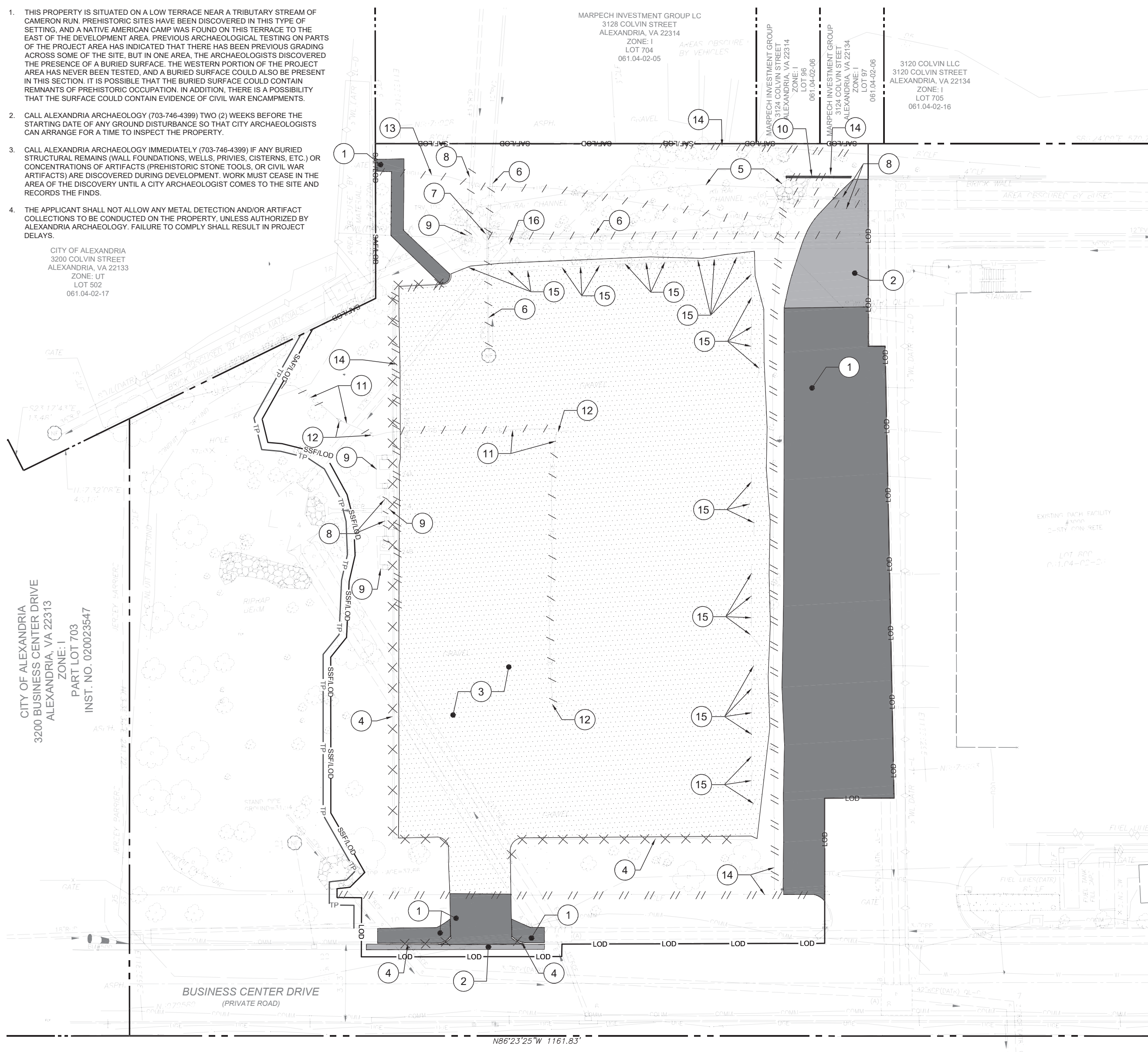
CHAIRMAN, PLANNING COMMISSION ________ DATE ________
DATE RECORDED ________
INSTRUMENT NO. ________ DEED BOOK NO. ________ PAGE NO. ________

Job No. 23-0754.001

SHEET NO: LF-102 11 OF 94

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.



DEMOLITION LEGEND

—LOD—	LIMITS OF DISTURBANCE = 65,612 SF (1.51 AC)
	PROPERTY LINE
	CONCRETE PAVEMENT TO BE REMOVED
	ASPHALT PAVEMENT TO BE REMOVED
	GRAVEL TO BE REMOVED
	WALL TO BE REMOVED
	CURB TO BE REMOVED
	UTILITY TO BE REMOVED
	FENCE TO BE REMOVED

DEMOLITION KEYNOTES

1. CONCRETE PAVEMENT TO BE REMOVED
2. ASPHALT PAVEMENT TO BE REMOVED
3. GRAVEL TO BE REMOVED
4. CURB TO BE REMOVED
5. RIPRAP TO BE REMOVED
6. SANITARY SEWER PIPE TO BE REMOVED
7. SANITARY SEWER STRUCTURE TO BE REMOVED
8. STORM PIPE TO BE REMOVED
9. STORM STRUCTURE TO BE REMOVED
10. WALL TO BE REMOVED
11. UNDERGROUND ELECTRIC LINE TO BE REMOVED
12. ELECTRICAL STRUCTURE TO BE REMOVED
13. UNKNOWN UNDERGROUND UTILITY LINE TO BE REMOVED
14. FENCE TO BE REMOVED
15. PARKING WHEEL STOPS TO BE REMOVED
16. STORM STRUCTURE BASE TO REMAIN, TOP TO BE REMOVED

DEMOLITION NOTES

1. ALL TREES AND SHRUBS WITHIN LIMITS OF DISTURBANCE SHALL BE REMOVED.
2. LOCATION OF ALL UTILITIES SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY AND DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES WITHIN THE LIMIT OF DISTURBANCE PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL CONTACT MISS UTILITY AT 811 A MINIMUM OF 72 HOURS PRIOR TO ANY EXCAVATION TO DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES.
3. THE DEMOLITION PLAN IS A GENERAL GUIDE OF WHAT ITEMS NEED TO DEMOLISHED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO IDENTIFY ALL ITEMS THAT REQUIRED DEMOLITION TO COMPLETE THE PROPOSED CONSTRUCTION.
4. CONTRACTOR SHALL PROTECT AND PRESERVE ALL EXISTING SITE STRUCTURES AND FEATURES NOT SCHEDULED FOR DEMOLITION AND/ OR CONSTRUCTION FROM DAMAGE DUE TO DEMOLITION PROCEDURES. ANY RESULTING DAMAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE RPCA CONSTRUCTION MANAGER.
5. TREE PROTECTION FENCE, SUPER SILT FENCE, AND CONSTRUCTION SAFETY FENCE SHALL BE THE SAME WHEREVER THEY OVERLAP. WHICHEVER IS STURDIER WILL TAKE PRECEDENCE. TREE PROTECTION FENCING MUST BE INSTALLED PRIOR TO DEMOLITION OF THE SITE OR STRUCTURES, DELIVERY OF MATERIALS OR STOCKPILING, AND/OR PLACEMENT OF OPERATION OF HEAVY MACHINERY ON THE SITE.
6. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR SAFETY AND SECURITY AT THE PROJECT SITE FOR THE DURATION OF THE CONTRACT.
7. CONTRACTOR SHALL COORDINATE WITH DASH STAFF FOR DEMOLITION ACTIVITIES THAT IMPACT FACILITY OPERATIONS TO SCHEDULE WORK PRIOR TO COMPLETING DEMOLITION.
8. ANY STOCKPILING, REGARDLESS OF LOCATION ON SITE, SHALL BE STABILIZED IMMEDIATELY AFTER ITS ESTABLISHMENT AND FOR THE DURATION OF THE PROJECT. STOCKPILES SHALL BE CONTAINED BY STRAW BALES OR EROSION CONTROL FENCING AND COVERED WITH PLASTIC OR CANVAS AT THE END OF EACH WORK DAY FOR THE DURATION OF THE PROJECT.
9. CARE SHALL BE TAKEN TO PRESERVE EXISTING TREES AND THEIR ROOT SYSTEMS. TREES INCURRING ROOT DAMAGE DUE TO CONSTRUCTION SHALL BE PRUNED, FERTILIZED, OR REPLACED PER THE SPECIFICATIONS.
10. NO MATERIALS OR EQUIPMENT SHALL BE PERMITTED WITHIN THE TREE PROTECTION AREA. ANY VIOLATION OF THIS REQUIREMENT WILL RESULT IN A FINE OF $500 PER DAY OF VIOLATION.
11. PER THE CITY OF ALEXANDRIA 2009 LANDSCAPE GUIDELINES, UNAUTHORIZED TREE REMOVALS, TREE DEATH OR SEVERE DAMAGE DUE TO THE CONTRACTOR'S FAILURE TO EXERCISE PROPER CARE WHEN WORKING NEAR TREES, SHALL RESULT IN A FINE BASED ON THE DIAMETER OF THE DAMAGED TREE AT 54 INCHES ABOVE GROUND LEVEL. A FINE OF $2,500 PER SUM TOTAL CALIPER INCH OF THE DAMAGED TREE SHALL BE PAID. THE MAXIMUM FINE AMOUNT SHALL BE $50,000 PER TREE. ONE CATEGORY IV TREE PER CALIPER INCH OF THE SUM TOTAL CALIPER INCH MEASUREMENT OF TREE(S) DEEMED SEVERELY OR TERMINALLY DAMAGED MAY BE PLANTED ON-SITE OR AT A LOCATION SPECIFIED BY THE CITY AS A PARTIAL PAYMENT OF THE FINE, ON A CASE-BY-CASE BASIS AT THE DETERMINATION OF THE CITY.
12. CITY ARBORIST INSPECTION IS REQUIRED PRIOR TO ANY SITE LAND DISTURBANCE ACTIVITY.
13. DEMOLITION STAGE EROSION AND SEDIMENT CONTROLS AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO DEMOLITION
14. REFER TO TREE PRESERVATION PLAN AND DETAILS FOR TREE PROTECTION AND OTHER REQUIRED TREE CARE.
15. ALL MATERIAL FROM DEMOLITION NOT IDENTIFIED FOR REUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH APPROPRIATE REGULATIONS.
16. ALL PAVEMENT REMOVED SHALL BE DONE SUCH THAT REMAINING PAVEMENT IS LEFT WITH CLEAN STRAIGHT EDGE. CONCRETE PAVEMENT/ CURBING SHALL BE REMOVED TO THE NEAREST JOINT.
17. EXISTING PAVEMENT SHALL BE SAW CUT WHEN NEXT TO REMAINING PAVEMENT BEFORE REMOVAL. ALL SAW CUTS SHALL BE STRAIGHT, EVEN CUTS; JAGGED CUTS WILL NOT BE PERMITTED.
18. CHAIN LINK FENCE REMOVED: INCLUDES ALL FENCE POSTS AND CONCRETE FOOTINGS.
19. CONCRETE REMOVAL: SHALL INCLUDE CONCRETE, STEEL REINFORCEMENT, AND GRAVEL BASE WHERE NO PROPOSED CONCRETE WILL BE INSTALLED.
20. ASPHALT REMOVAL: SHALL INCLUDE SURFACE, BASE AND SUBBASE MATERIALS.
21. CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY SITE FURNISHINGS WITHIN THE LIMITS OF DISTURBANCE NOT REMOVED FROM SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION (IE SIGNAGE, BENCHES, TRASH RECEPTACLES, ETC) UNLESS OTHERWISE NOTED.
22. CONTRACTOR SHALL PROVIDE EXISTING DAMAGE PHOTOS PRIOR TO MOBILIZING OR PERFORMING ANY WORK. LOCATIONS OF PICTURES TO BE RECORDED ON THIS SHEET.
23. TO PREVENT DAMAGES OUTSIDE THE LIMITS OF DISTURBANCE, NO AREAS OUTSIDE THE LOD SHALL BE USED FOR STAGING OR STORAGE.
24. UPON COMPLETION OF THE PROJECT, ALL EXCESS SOIL, SAND, MULCH, TEMPORARY FENCING, EROSION CONTROL MEASURES, STABILIZATION MATERIALS, AND OTHER DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. ALL PAVED AREAS, WALLS, ETC. SHALL BE THOROUGHLY WASHED AND CLEANED UPON COMPLETION OF THE PROJECT.
25. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES FOR SHUTOFF, CAPPING, AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.
26. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE THAT OCCURS TO ANY EXISTING SITE ELEMENT THAT IS NOT MARKED FOR DEMOLITION DURING CONSTRUCTION AND MUST REPLACE AT NO COST TO THE CITY OF ALEXANDRIA IF DAMAGED.

SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
PROJ. MANAGER: CHELSEA BISHOP, P.E.

DATE: 05/23/2025
DRAWN: CMB, EJC
SCALE: 1"=20'

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

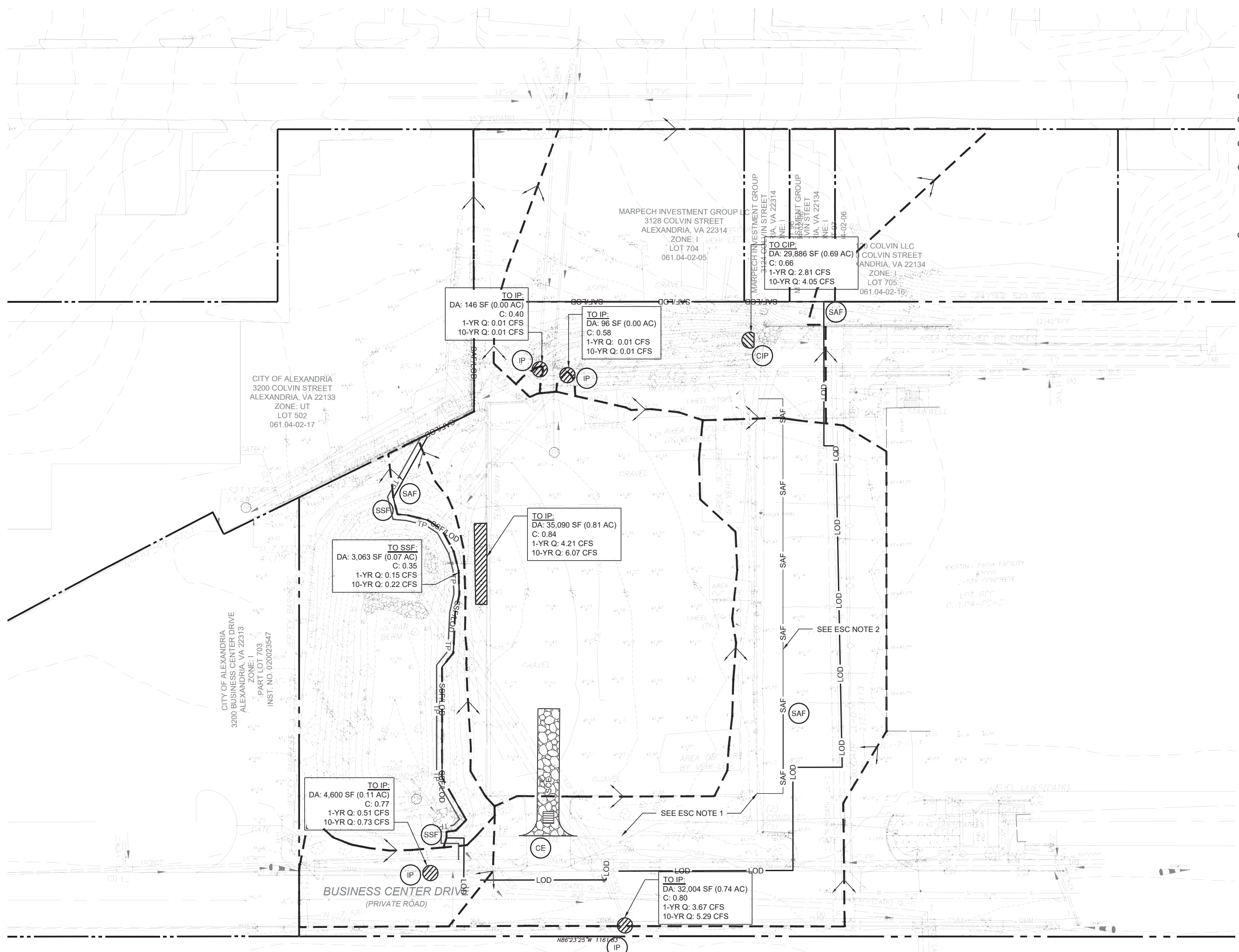
CITY OF ALEXANDRIA DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: DEMOLITION PLAN

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR ____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____
DIRECTOR ____ DATE
CHAIRMAN, PLANNING COMMISSION ____ DATE
DATE RECORDED
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO.

Job No. 23-0754.001

SHEET NO: C-102 12 OF 94



EROSION AND SEDIMENT CONTROL LEGEND

NO.	KEY	LINETYPE	DESCRIPTION
		LOD	LIMITS OF DISTURBANCE
			PROPERTY LINE
C-PCM-01	SAF	SAF/LOD	SAFETY FENCE
C-PCM-04	SSF	SSF/LOD	SUPER SILT FENCE
C-SCM-04	IP		INLET PROTECTION
C-SCM-05	CIP		CULVERT INLET PROTECTION
C-SCM-03	CE	SCE	STONE CONSTRUCTION ENTRANCE WITH WASH RACK
			DRAINAGE DIVIDE

EROSION AND SEDIMENT CONTROL NOTES

1. EXISTING CHAIN LINK FENCE SHALL REMAIN TO SERVE AS SAFETY FENCE.
2. THE EXISTING CONCRETE DRIVE AISLE WEST OF THE EXISTING DASH FACILITY IS TO REMAIN IN PLACE AND DRIVEWAY OPERATIONAL DURING CONSTRUCTION. TEMPORARY SAFETY FENCE SHALL BE OFFSET 5 FEET FROM THE PROPOSED BUILDING TO ACCOMMODATE CONSTRUCTION. GRADING, RE-PAVING OPERATIONS, AND ADDITION OF DRAINAGE INLETS IN THE DRIVE AISLE ADJACENT TO THE EXISTING DASH FACILITY SHALL BE PHASED AND COMPLETED IN CLOSE COORDINATION WITH DASH STAFF TO MINIMIZE DISRUPTION TO OPERATIONS.
3. TREE PROTECTION FENCE, SUPER SILT FENCE, AND CONSTRUCTION SAFETY FENCE SHALL BE THE SAME WHEREVER THEY OVERLAP. WHICHEVER IS STURDIER WILL TAKE PRECEDENCE. TREE PROTECTION FENCING MUST BE INSTALLED PRIOR TO DEMOLITION OF THE SITE OR STRUCTURES, DELIVERY OF MATERIALS OR STOCKPILING, AND/OR PLACEMENT OF OPERATION OF HEAVY MACHINERY ON THE SITE.

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

SCALE: 1"=30'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT — A. MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E. DATE: 05/23/2025 DRAWN: CMB, EJC SCALE: 1"=20'

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP — PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: EROSION AND SEDIMENT CONTROL PLAN - PHASE I

APPROVED
SPECIAL USE PERMIT NO.
DEPARTMENT OF PLANNING & ZONING

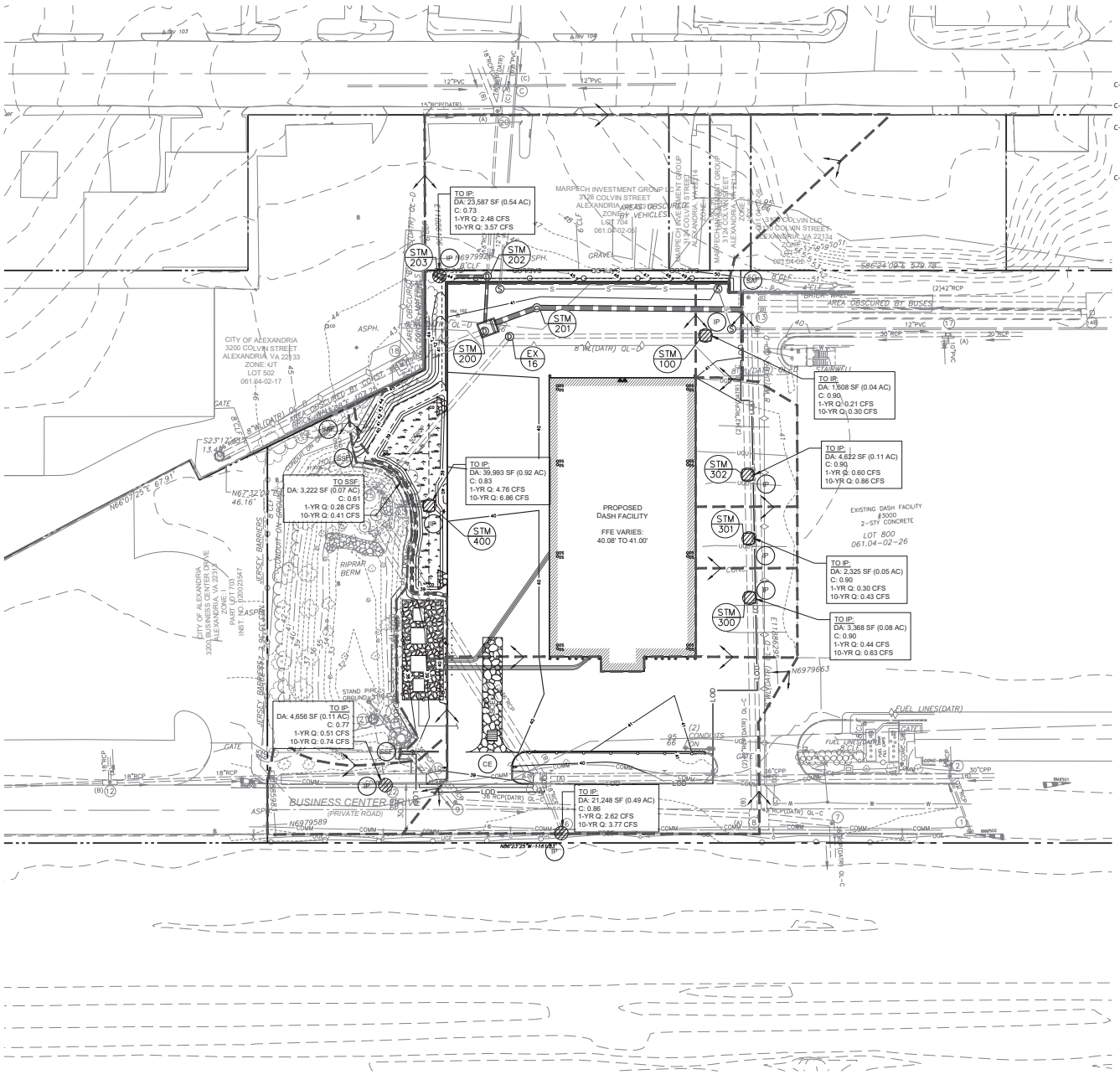
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-103 13 OF 94



EROSION AND SEDIMENT CONTROL LEGEND

NO.	KEY	LINETYPE	DESCRIPTION
		LOD	LIMITS OF DISTURBANCE
			PROPERTY LINE
C-PCM-01	SAF	SAF/LOD	SAFETY FENCE
C-PCM-04	SSF	SSF/LOD	SUPER SILT FENCE
C-SCM-04	IP		INLET PROTECTION
C-SCM-03	CE	SCE	STONE CONSTRUCTION ENTRANCE WITH WASH RACK
			DRAINAGE DIVIDE

EROSION AND SEDIMENT CONTROL NOTES

1. TREE PROTECTION FENCE, SUPER SILT FENCE, AND CONSTRUCTION SAFETY FENCE SHALL BE THE SAME WHEREVER THEY OVERLAP. WHICHEVER IS STURDIER WILL TAKE PRECEDENCE. TREE PROTECTION FENCING MUST BE INSTALLED PRIOR TO DEMOLITION OF THE SITE OR STRUCTURES, DELIVERY OF MATERIALS OR STOCKPILING, AND/OR PLACEMENT OF OPERATION OF HEAVY MACHINERY ON THE SITE.

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

SCALE: 1"=30'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3876 CHAIN BRIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
EMAIL: AMT@AMTHOMASENG.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTHOMASENG.COM

SCALE: 1"=20' | DATE: 05/31/2025 | DRAWN: CMB, CJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA V. BISHOP — Lic. No. 9000 — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:
EROSION AND SEDIMENT CONTROL PLAN - PHASE II

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
_____ DIRECTOR DATE
_____ CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Job No. 23-0754.001

SHEET NO: C-104 14 OF 94

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
CONSTRUCTION OF A NEW 24-BUS STORAGE AND CHARGING DEPOT WITH CANOPY FOR NEW CITY OF ALEXANDRIA DASH FACILITY EXPANSION WITH PROPOSED DRIVE AISLES, NEW AND RELOCATED UTILITIES, RETAINING WALL, AND STORMWATER MANAGEMENT.

TOTAL SITE AREA: 9.21 ACRES (401,240 SF)
AREA OF DISTURBANCE: 1.51 ACRES (65,612 SF)

EXISTING SITE CONDITIONS
EXISTING SLOPES: 2-35%

THE SITE CONSISTS OF ONE PARCEL BOUNDED BY COLVIN STREET TO THE NORTH, BUSINESS CENTER DRIVE TO THE SOUTH, THE EXISTING DASH FACILITY TO THE EAST, AND AN EXISTING DETENTION POND TO THE WEST.

ADJACENT PROPERTIES
NORTH: COLVIN STREET AND INDUSTRIAL BUILDINGS
SOUTH: BUSINESS CENTER DRIVE AND WMATA ALEXANDRIA RAIL YARD
EAST: EXISTING DASH FACILITY, ROTH STREET, AND INDUSTRIAL BUILDING
WEST: EXISTING DETENTION POND AND UTILITY AND TRANSPORTATION BUILDING

OFF-SITE AREAS
THERE IS NO PROPOSED CONSTRUCTION ON ADJACENT PROPERTIES. NO HAUL OFF OR OFF-SITE BORROW AREAS ARE ANTICIPATED WITH THIS PROJECT.

SOILS
66 - KINGSTOWNE SANDY CLAY LOAM, 0% TO 45% SLOPES, HSG C
95 - URBAN LAND

CRITICAL EROSION AREAS
AREAS OF SITE WITH SLOPES EQUAL TO OR EXCEEDING 2:1 ARE CRITICAL EROSION AREAS. DENUDED AREAS SHOULD BE LIMITED TO AREAS THAT CAN BE TEMPORARILY STABILIZED AT THE END OF EACH DAY TO PREVENT EXCESSIVE EROSION.

EROSION AND SEDIMENT CONTROL MEASURES
PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST BE APPLIED WITHIN 7 DAYS TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. ANY STOCKPILES MUST BE MULCHED AND SEEDED IMMEDIATELY AS DIRECTED BY THE COUNTY INSPECTOR.

SEDIMENT CONTROL WILL BE EXECUTED THROUGH THE INSTALLATION OF INLET PROTECTION AND CONSTRUCTION ENTRANCE WITHIN THE DRAINAGE AREA OF THE LIMITS OF DISTURBANCE. DUST SHALL ME MINIMIZED AS MUCH AS PRACTICABLE ACCORDING STD & SPEC. C-SCM-01.

ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER TEMPORARY MEASURES ARE NO LONGER NEEDED.

STRUCTURAL PRACTICES

SAFETY FENCE - C-PCM-01-1
INSTALL A 6' HIGH CHAIN LINK FENCE TO PROHIBIT ACCESS TO THE SITE BY THE PUBLIC.

CONSTRUCTION ENTRANCE - C-SCM-03-1
INSTALL A TEMPORARY CONSTRUCTION ENTRANCE WITH A WASH RACK AS SHOWN. WASH ALL CONSTRUCTION VEHICLES LEAVING THE SITE AS NECESSARY TO ENSURE THAT SEDIMENT WILL NOT LEAVE THE SITE. DIRECT WASH WATER TO NEAREST SEDIMENT CONTROL DEVICE. DUST SHALL BE MINIMIZED AS MUCH AS PRACTICABLE.

SUPER SILT FENCE - C-PCM-04-3
INSTALL SUPER SILT FENCE BARRIER AS SHOWN ON PLAN TO PROTECT PROPOSED STORMWATER FACILITIES AND UTILITY TRENCH AND TO FILTER SEDIMENT-LADEN RUNOFF FROM SHEET FLOW.

INLET PROTECTION - C-SCM-04-2
INSTALL APPROPRIATE INLET PROTECTION AS SHOWN ON PLAN.

CULVERT PROTECTION - C-SCM-05-1
INSTALL SEDIMENT FILTER WITH SILT FENCE AROUND CULVERT INLET AS SHOWN ON PLAN.

VEGETATIVE MEASURES

1. TOPSOILING (STOCKPILE)
TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER USE. STOCKPILE LOCATIONS ARE TO BE STABILIZED WITH TEMPORARY VEGETATION WITHIN 14 DAYS.

2. TEMPORARY SEEDING
DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN A PERIOD OF 14 DAYS WILL HAVE TEMPORARY VEGETATION ESTABLISHED. TEMPORARY VEGETATION WILL REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM AND OFF-SITE AREAS. TEMPORARY SEEDING PLANT MATERIAL SHALL BE RAPIDLY GROWING PLANTS SELECTED FROM VESCH STANDARD AND SPEC. C-SSM-09 AND C-SSM-10. AREAS WHICH FAIL TO ESTABLISH VEGETATIVE COVER ADEQUATE TO PREVENT RILL EROSION ARE TO BE RESEEDED AS SOON AS POSSIBLE. FERTILIZER SHALL BE APPLIED AT A RATE OF 600 LBS. PER ACRE. FERTILIZER SHALL BE INCORPORATED INTO TOP 2-4 INCHES OF SOIL. SEED SHALL BE BE EVENLY APPLIED AND SMALL GRAINS SHALL BE PLANTED NO MORE THAN 1.5 INCHES DEEP. SEEDING MADE IN FALL FOR WINTER COVER AND DURING SUMMER MONTHS SHALL BE MULCHED.

3. PERMANENT SEEDING
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISHED GRADING. SEEDING SHALL BE DONE ACCORDING TO VESCH SPEC. C-SSM-10, AS MODIFIED ON THIS SHEET. EROSION CONTROL BLANKETS ARE TO BE INSTALLED OVER FILL SLOPES, WHICH HAVE BEEN BROUGHT TO FINAL GRADE AND HAVE BEEN SEEDED. THIS WILL PROTECT THE SLOPES FROM RILL AND GULLY EROSION AND ALLOW THE SEED TO GERMINATE PROPERLY. MULCH (STRAW OR FIBER) WILL BE USED ON RELATIVELY FLAT AREAS. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME WILL BE APPLIED PRIOR TO MULCHING. THE PLANTING SOIL MUST HAVE ENOUGH FINE GRAINED SOIL, SUFFICIENT PORE SPACE, SUFFICIENT DEPTH AND BE FROM FROM TOXIC OR EXCESSIVE QUANTITIES OF ROOTS AND SHALL BE APPLIED IN ACCORDANCE WITH STD. SPEC. C-SSM-02.

4. SODDING
AREAS THAT ARE TO BE SODDED SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE PLANS. SOIL TESTS SHOULD BE DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. PRIOR TO LAYING SOD, SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS, AND LARGE OBJECTS. QUALITY OF SOD SHALL BE STATE CERTIFIED AND ENSURE GENETIC PURITY AND HIGH QUALITY. SOD SHALL NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER AND BE DELIVERED AND INSTALLED WITHIN 36 HOURS. SOD SHOULD NOT BE LAID ON FROZEN SOIL SURFACE AND SHALL BE INSTALLED PER SPEC. C-SSM-06.

5. DUST CONTROL
DUST SHALL ME MINIMIZED AS MUCH AS PRACTICABLE.

SEDIMENT CONTROL - SEQUENCE OF CONSTRUCTION NARRATIVE

SEQUENCE OF CONSTRUCTION - PHASE 1, SEE SHEET C-103

A. HOLD A PRE-CONSTRUCTION MEETING WITH ALL RELEVANT STAKEHOLDERS. THIS MUST INCLUDE CITY OF ALEXANDRIA INSPECTOR AND URBAN FORESTER.
B. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN THE FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
C. INSTALL CONSTRUCTION ENTRANCE (CE), SAFETY FENCE (SAF) SUPER SILT FENCE (SSF), TREE PROTECTION FENCE (TP), AND INLET PROTECTION (IP). WASH WATER TO BE TRUCKED INTO THE SITE.
D. INSTALL ADDITIONAL SEDIMENT CONTROL PRACTICES AS NECESSARY AND AS DIRECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR.
E. REMOVE EX. STORM STRUCTURE 19 AND REPLACE WITH THE PROPOSED STM-200 CUSTOM JUNCTION BOX. DEMOLISH PORTION OF EXISTING 18" PIPE TO THE NORTH TO INSTALL PROPOSED STORM STRUCTURE STM-202 AND 18" PIPE TO STM-200. REMOVE TWIN 36" PIPES WEST OF EX. STORM STRUCTURE 13. INSTALL SINGLE 36" RCP BETWEEN EX. 13 AND STM-200 AS SHOWN ON C-110. DEMOLISH AND REMOVE REMAINING EXISTING SITE FEATURES AS NOTED ON C-102 AND ROUGH GRADE.
F. STABILIZE DISTURBED AREAS WITH TEMPORARY SEEDING AS REQUIRED BY VA DEQ SPEC. C-SSM-09.

SEQUENCE OF CONSTRUCTION - PHASE 2, SEE SHEET C-104

G. ALL SEDIMENT AND EROSION CONTROL DEVICES INSTALLED AS PART OF PHASE 1 SHALL REMAIN IN PLACE AND FUNCTIONING, UNLESS OTHERWISE DIRECTED BY THE INSPECTOR.
H. INSTALL REMAINING PROPOSED UTILITIES, NEW BUILDING, RETAINING WALL, AND RELATED SITE IMPROVEMENTS. ONCE UPSTREAM SITE IS STABILIZED, EXCAVATE FOR AND INSTALL THE BIORETENTION FACILITY.
I. INSTALL INLET PROTECTION ON ALL NEW INLETS. STABILIZE ALL UNPAVED AREAS, INCLUDING TEMPORARY AND PERMANENT SEEDING AS REQUIRED BY VA DEQ SPEC. C-SSM-09 AND C-SSM-10. THIS WORK MUST BE PERFORMED AND INSPECTED AS EARLY AS SITE CONDITIONS ALLOW.
J. INSTALL FINAL PAVING FOR ASPHALT AND CONCRETE CURB AND GUTTER.
K. RESTORE AND STABILIZE ALL UNPAVED AREAS. THIS WORK MUST BE PERFORMED AND INSPECTED AS EARLY AS SITE CONDITIONS ALLOW.
L. STRUCTURAL CONTROLS SHALL BE REMOVED AND THE GROUND PERMANENTLY STABILIZED WITH VEGETATION UPON APPROVAL OF THE CITY OF ALEXANDRIA INSPECTOR. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE PROJECT PLANNER IN THE DEPARTMENT OF PLANNING & ZONING TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.

MAINTENANCE

A. ALL CONTROLS ARE TO BE INSPECTED ON A DAILY BASIS BY THE SITE SUPERINTENDENT OR HIS REPRESENTATIVE, ANY DAMAGED CONTROLS ARE TO BE REPAIRED BY THE END OF THE WORKING DAY.
B. ALL CONSTRUCTION VEHICLES EGRESSING FROM THE SITE SHALL BE WASHED AS NECESSARY TO INSURE THAT SEDIMENT WILL NOT BE REMOVED FROM THE SITE. WASH WATER TO BE TRUCKED INTO THE SITE.
C. TO PREVENT CLOGGING, STORMWATER MANAGEMENT FACILITIES PROTECTED FROM DEBRIS AND CONSTRUCTION MATERIAL. CONTRACTOR TO COORDINATE WITH SITE INSPECTOR TO DETERMINE METHODOLOGY OF PROTECTION.
D. D. VPDES/VSMP PERMIT SHALL BE OBTAINED BY CONTRACTOR. CONDITIONS OF VPDES/VSMP PERMIT SHALL BE STRICTLY OBSERVED.

PRE-STORM EROSION AND SEDIMENT CONTROL CHECKLIST
THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ANY ADDITIONAL EROSION AND SEDIMENT CONTROL (ESC) MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE COUNTY. THESE SUPPLEMENTARY PRACTICES ARE IN ADDITION TO THOSE SHOWN IN AN ESC PLAN. ESC PRACTICES SHALL BE MODIFIED AS NEEDED TO ENSURE ONLY CLEAR WATER IS DISCHARGED FROM THE SITE.

THE FOLLOWING ACTIONS SHALL BE TAKEN PRIOR TO STORM EVENTS WITH PREDICTED HEAVY AND/OR LARGE VOLUME RAINFALL TO PREVENT SEDIMENT DISCHARGES FROM A CONSTRUCTION SITE. A TYPICAL SUMMER THUNDERSTORM IS AN EXAMPLE OF A STORM EVENT WITH PREDICTED HEAVY AND/OR LARGE VOLUME RAINFALL.

PERIMETER CONTROLS
□ SUPER SILT FENCE SHALL BE CHECKED FOR UNDERMINING, HOLES, OR DETERIORATION OF THE FABRIC. FENCING SHALL BE REPLACED IMMEDIATELY IF THE FABRIC IS DAMAGED OR WORN. SUPER SILT FENCE MUST BE TRENCHED INTO THE GROUND PER STATE SPECIFICATIONS (STD & SPEC C-PCM-04-3).
□ WOODEN STAKES OR STEEL POSTS SHALL BE PROPERLY SECURED UPRIGHT INTO THE GROUND. DAMAGED POSTS OR STAKES MUST BE REPLACED.
□ SEDIMENT THAT HAS ACCUMULATED AGAINST THE SUPER SILT FENCE SHOULD BE REMOVED. ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE LEVEL REACHES ONE-HALF THE HEIGHT OF THE FENCING.
□ HAY BALES OR A STONE BERM SHOULD BE PLACED ACROSS THE CONSTRUCTION ENTRANCE TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.

EXPOSED SLOPES AND SOIL
□ EXPOSED SLOPES NOT AT THE FINAL STABILIZATION PHASE SHALL BE COVERED WITH TARPS, PLASTIC SHEETING, OR EROSION CONTROL MATTING. COVERING MATERIAL SHALL BE PROPERLY SECURED/ANCHORED.
□ CONTROLS SHALL BE INSTALLED TO PREVENT CONCENTRATED FLOW DOWN AN EXPOSED SLOPE. BERMS OR DIVERSION DIKES SHALL BE INSTALLED AT THE TOP OF CUT / EXPOSED SLOPES TO DIRECT STORM FLOW AROUND THE DISTURBED AREA.
□ EXPOSED SLOPES AT THE FINAL STABILIZATION PHASE SHALL BE STABILIZED USING SLOPE STABILIZATION PRACTICES SUCH AS SOIL STABILIZATION BLANKETS OR MATTING AS SPECIFIED IN THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK VERSION 1.1, C-SSM SPECIFICATIONS. BLANKETS OR MATS MUST BE PROPERLY SECURED AND ANCHORED TO THE SLOPE USING STAPLES, PINS, OR STAKES
□ SEEDED AREAS SHALL BE CHECKED AND RESEEDED AS NECESSARY TO COVER EXPOSED SOIL. RECENTLY SEEDED AREAS SHALL BE PROTECTED BY STRAW OR SOIL STABILIZATION BLANKETS TO PREVENT SEEDING FROM BEING WASHED AWAY.

STOCKPILES
□ STOCKPILED SOIL AND OTHER LOOSE MATERIALS THAT CAN BE WASHED AWAY SHALL BE COVERED WITH A TARP, PLASTIC SHEETING, OR OTHER STABILIZATION MATTING. THE COVER MUST BE PROPERLY SECURED/ANCHORED DOWN TO PREVENT IT FROM BEING BLOWN OFF AND EXPOSING MATERIALS TO RAIN. CONTROLS SUCH AS HAY BALES OR BOOMS SHOULD BE PLACED ALONG THE PERIMETER OF THE STOCK PILE (DOWNHILL SIDE).

INLET PROTECTION
□ INLET PROTECTION CONTROLS SHALL BE INSPECTED TO ENSURE THEY ARE FUNCTIONING PROPERLY AND FLOODING WILL NOT OCCUR. CLOGGED OR DAMAGED CONTROLS MUST BE REPLACED IMMEDIATELY. ENSURE CONTROLS ALLOW FOR OVERFLOW / BYPASS OF STORMWATER RUNOFF DURING SIGNIFICANT STORM EVENTS.

IN ADDITION TO THESE PRE-STORM ACTIONS, ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES MUST BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL.

Table C-SSM-09-3 Plant Material for Temporary Seeding

Acceptable Temporary Seeding Plant Materials "Quick Reference for all Regions"

Planting Dates	Species	Rate (pounds per acre)
Sept. 1 – Feb. 15	50/50 Mix of annual ryegrass (*Lolium multi-florum*) & cereal (winter) rye (*Secale cereale*)	50 – 100
Feb. 16 – Apr. 30*	Annual ryegrass (*Lolium multi-florum*)	60 – 100
May 1* – Aug. 31	German millet (*Setaria italica*)	50

* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

GENERAL LAND CONSERVATION NOTES

1. NO DISTURBED AREA WILL REMAIN DENUDED FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.
2. ALL EROSION CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
3. ALL STORM AND SANITARY SEWER LINES NOT IN STREET ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME
4. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHED ARE TO BE COMPACTED, SEEDED AND MULCH WITHIN 5 DAYS OF BACKFILL.
5. ALL TEMPORARY BERMS, DIVERSION AND SEDIMENT CONTROL DAMS ARE TO BE MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL SOIL STOCKPILE
6. DURING CONSTRUCTION, ALL STORM INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
7. ANY DISTURBED AREA NOT COVERED IN NOTE # 1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, SHALL BE MULCHED WITH HAY OR STRAW AT THE RATE OF 2 TONS PER ACRE AND OVER-SEEDED NO LATER THAN MAY 15TH.
8. AT THE COMPLETION OF THE CONSTRUCTION PROJECT AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDED AREAS SHALL BE STABILIZED. CITY OF ALEXANDRIA INSPECTOR TO APPROVE REMOVAL OF ALL TEMPORARY SILTATION MEASURES.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA'S REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

ES-7: ALL DISTURBED AREA ARE TO BE DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

ES-9: THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

Table C-SSM-10-7 Site-Specific Seeding Mixtures for Piedmont Area

Site Condition	Seed Mix		Application Rate (pounds per acre)
Minimum-Care Lawn Commercial or Residential	Turf-Type Tall Fescue	95-100%	150 – 200
	Improved Perennial Ryegrass	0-5%	
	Kentucky Bluegrass	0-5%	
High-Maintenance Lawn	Improved (VCIA) Turf-Type Tall Fescue	100%	150 – 200
General Slope (3H:1V or less)	Tall Fescue***		50 – 75
	Red Top or Red/Hard Fescue		10 – 20
	White Clover and/or Birdsfoot Trefoil**		10 – 20
	Seasonal Nurse Crop*		30 – 40
Low-Maintenance Slope (> 3:1) or Inaccessible Area***	Tall Fescue		50 – 75
	Red Top and/or Hard Fescue		5 – 10
	White Clover and/or Birdsfoot Trefoil**		15 – 20
	Annual Lespedeza**		10 – 15
	Seasonal Nurse/Cover Crop		20-30

* Use seasonal nurse crop in accordance with seeding dates as stated below: February 16 through April annual rye

February 16 through April – annual/cereal rye

May 1 through August 15 – foxtail/German millet

August 16 through February 15 – annual/cereal rye

** Use legume seed that is properly inoculated with specified Rhizobia. Legumes recommended unless periodic N fertilization is intended. Weeping lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10 to 20 lbs/acre in mixes.

*** Increase seeding rate if KY-31 is used rather than VCIA/VDOT improved varieties.

Bermudagrass can be added to substitute for Tall or Hard Fescue in the Low Maintenance mixes for the Southern Piedmont, particularly on sandy soils or hot (S and W) facing slopes. May through October, use hulled seed. All other seeding periods, use un-hulled seed.

Note: Seed mixes are suggested and subject to modification based on site-specific conditions by an agronomist or other qualified revegetation professionals. All seed rates expressed as PLS (Pure Live Seed; see Table C-SSM-10-9).

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SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL:

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DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:
EROSION AND SEDIMENT CONTROL NOTES

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DEPARTMENT OF PLANNING & ZONING

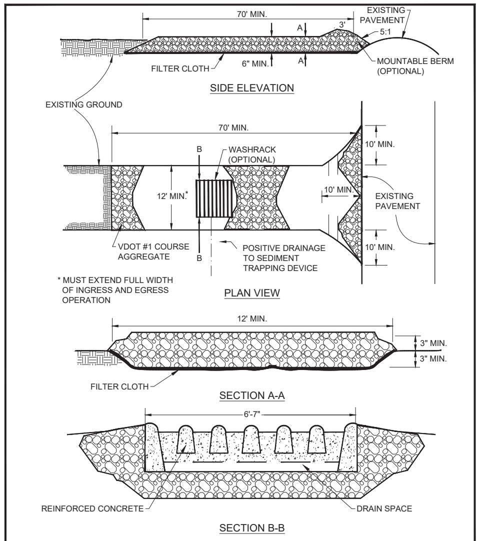
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

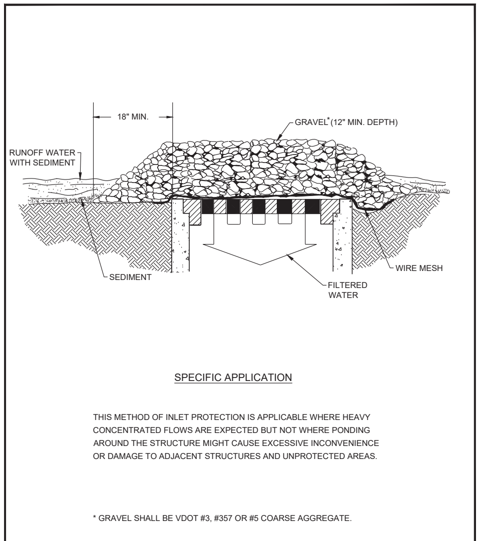
SHEET NO: C-105 15 OF 94



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STONE CONSTRUCTION ENTRANCE

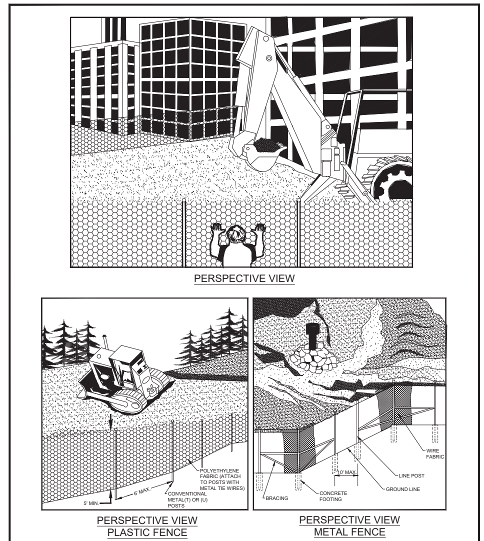
v1.1 | SOURCE: VA. DSWC, MD ESC STDS | C-SCM-03-1



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

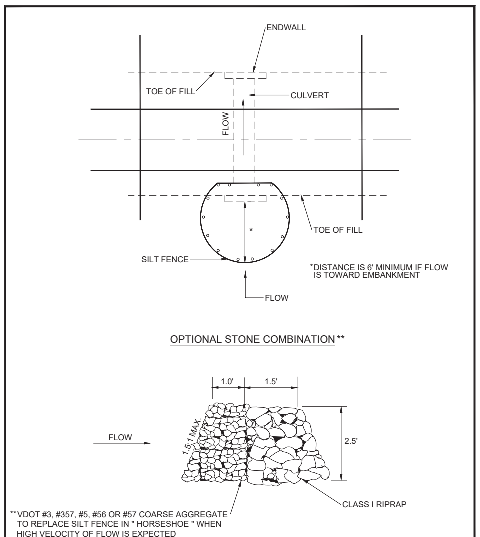
v1.1 | SOURCE: VA. DSWC | C-SCM-04-2



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SAFETY FENCE

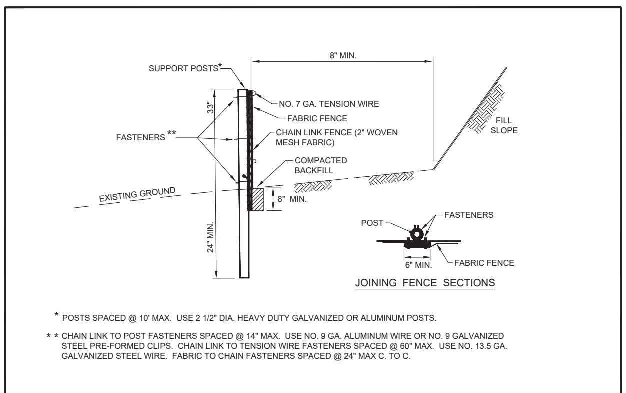
v1.1 | SOURCE: VDOT STDS., VA DSWC, CONWED PLASTICS | C-PCM-01-1



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SILT FENCE CULVERT INLET PROTECTION

v1.1 | SOURCE: VA. DSWC, VDOT | C-SCM-05-1



VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SUPER SILT FENCE INSTALLATION

v1.1 | SOURCE: ADAPTED FROM PA DEP 2012 | C-PCM-04-3

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E. | DATE: 05/23/2025 | DRAWN: CMB, EJC | SCALE: 1"=20'

SEAL: COMMONWEALTH OF VIRGINIA, CHELSEA M. BISHOP, PROFESSIONAL ENGINEER, 05/23/2025

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DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: EROSION AND SEDIMENT CONTROL DETAILS

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DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No.

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE

DATE RECORDED

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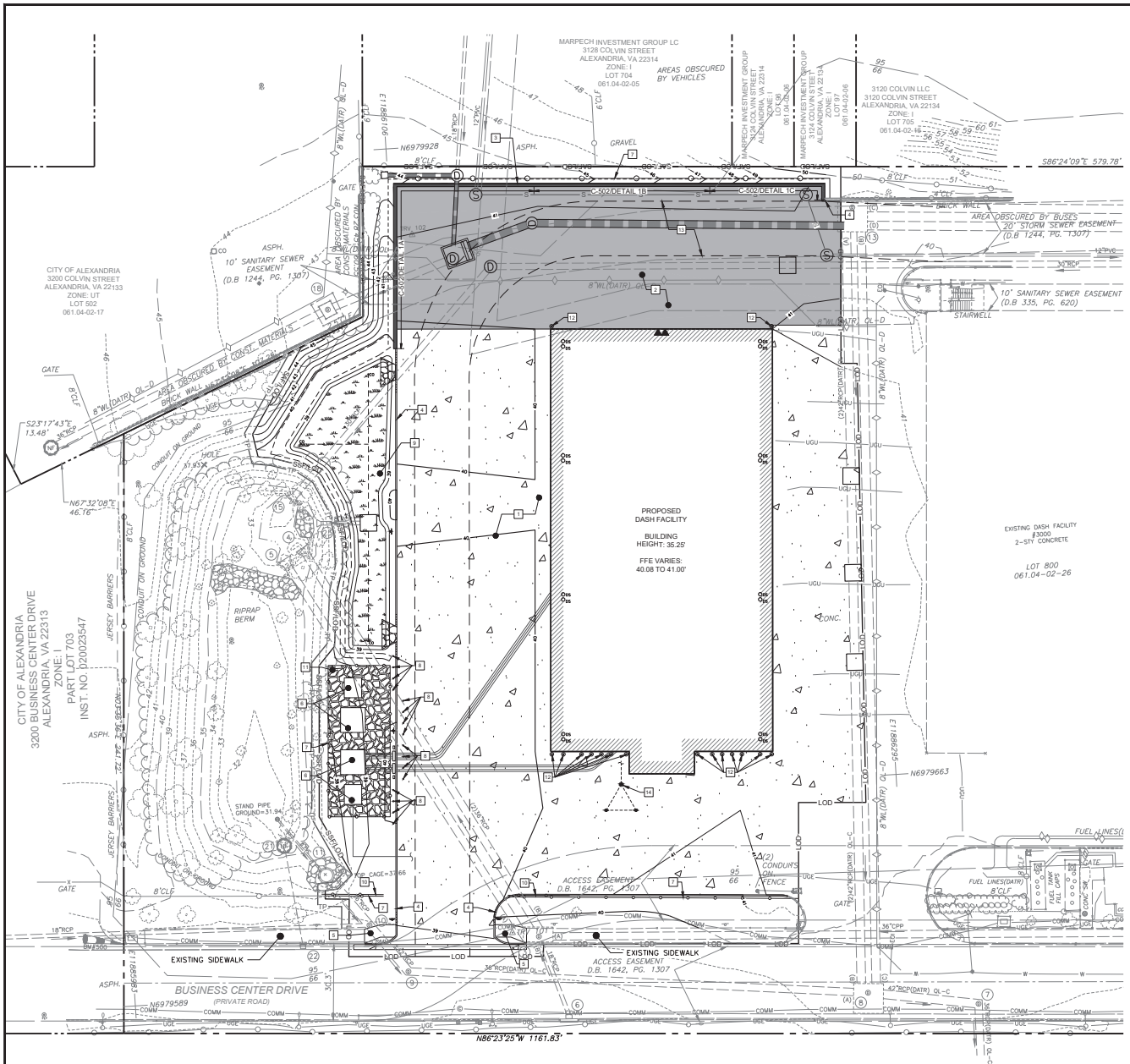
SHEET NO: C-106 16 OF 94



SITE LEGEND

- LOD — LIMITS OF DISTURBANCE
- PROPERTY LINE
- PROPOSED BUILDING
- HEAVY DUTY ASPHALT PAVEMENT
- HEAVY DUTY CONCRETE PAVEMENT
- STANDARD DUTY CONCRETE PAVEMENT
- STORMWATER MANAGEMENT FACILITY
- SEGMENTAL BLOCK RETAINING WALL
- PRESERVED AREA (SEE SHEET C-111)

SITE KEYNOTES

1. HEAVY DUTY CONCRETE PAVEMENT, SEE DETAIL 2/C-501
2. HEAVY DUTY ASPHALT PAVEMENT, SEE DETAIL CSAP-1A/C-501
3. SEGMENTAL BLOCK RETAINING WALL, SEE DETAIL 1/C-502
4. CONCRETE CURB, SEE DETAIL CSCG-1/C-501
5. CONCRETE SIDEWALK, SEE DETAIL CSSW-1/C-501
6. CONCRETE PAD, SEE DETAIL 1/C-501
7. BLACK 8' CHAIN-LINK FENCE, SEE DETAIL 1/C-500
8. PROTECTION BOLLARD (REFER TO ELECTRICAL DRAWINGS)
9. BIORETENTION, SEE STORMWATER MANAGEMENT SHEETS
10. 25' SLIDING GATE, SEE DETAIL 3/C-500
11. GRAVEL
12. BUILDING BOLLARD (REFER TO ARCHITECTURAL DRAWINGS)
13. PRESERVED AREA, SEE SHEET C-111
14. GROUND TEST WELL (REFER TO ELECTRICAL DRAWINGS)

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.
5. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

SCALE: 1"=20'

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CHELSEA V. BISHOP
Lic. No. 50030
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05/23/2025

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CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SITE PLAN

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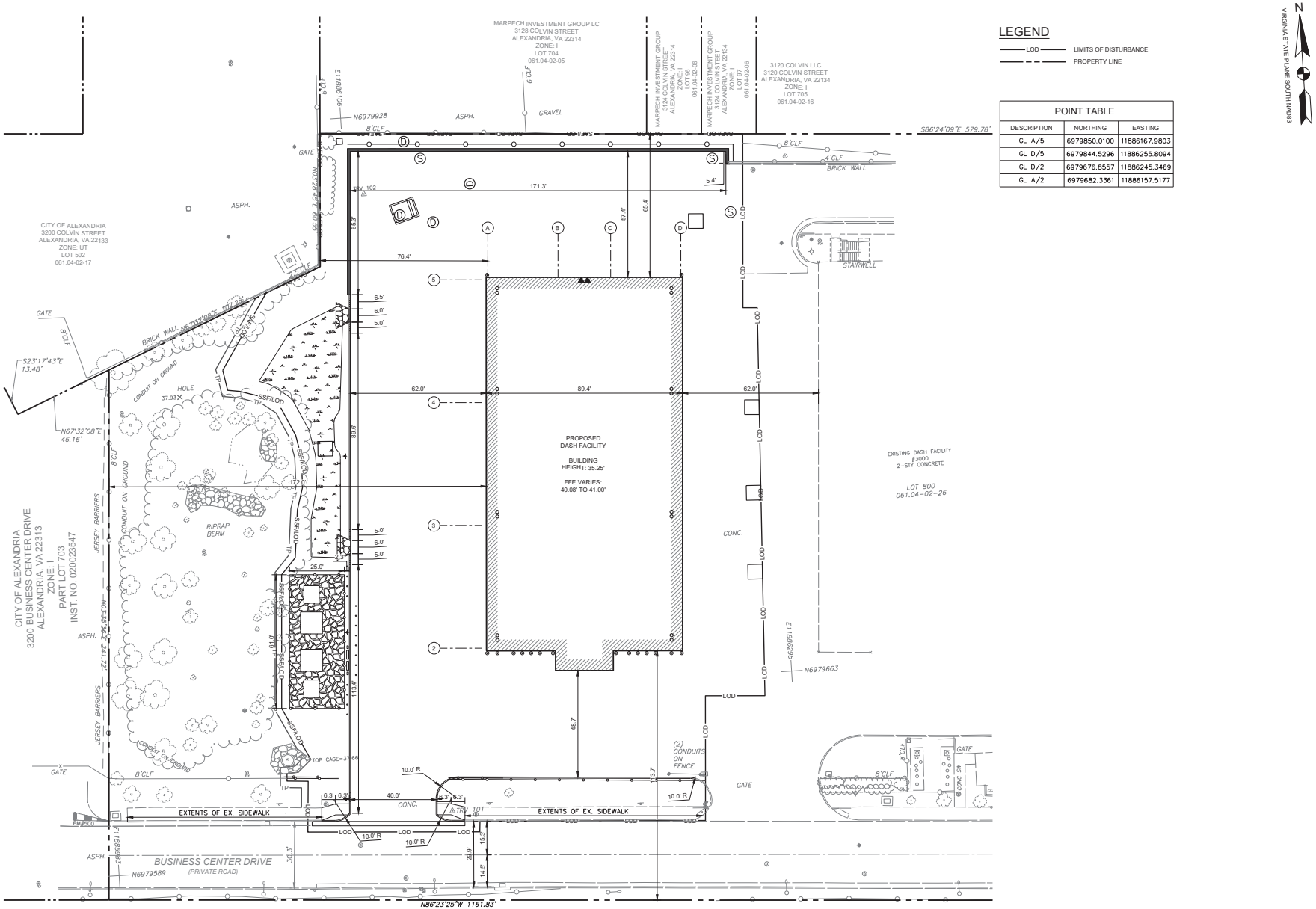
Job No. 23-0754.001

SHEET NO: C-107 17 OF 94



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SCALE: 1"=20' | DATE: 05/31/2025 | DRAWN: CMB, CJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA V. BISHOP — Lic. No. 50030 — PROFESSIONAL ENGINEER — 05/23/2025

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ALEXANDRIA, VIRGINIA 22314

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Job No. 23-0754.001

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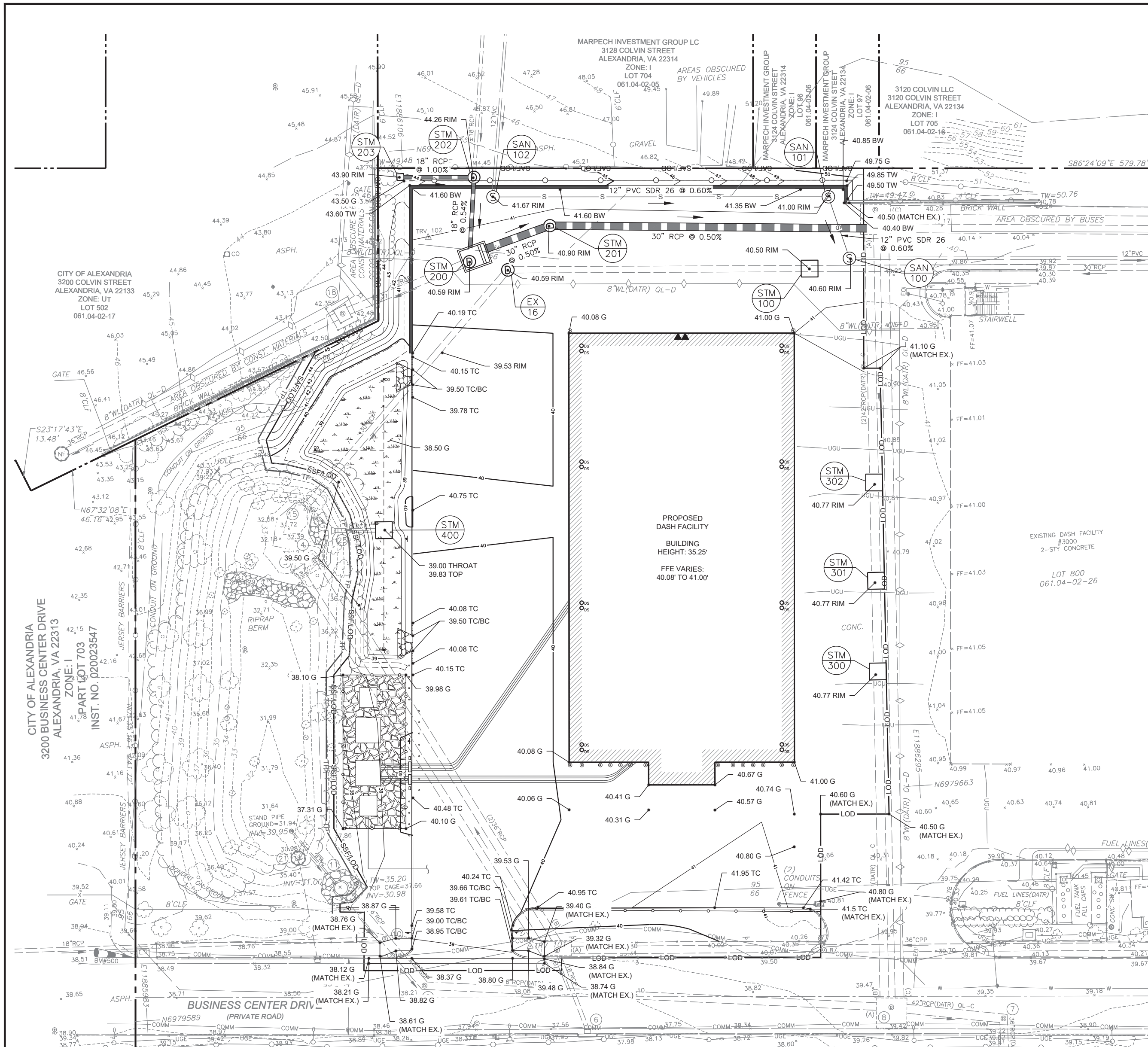


GRADING LEGEND

LOD	LIMITS OF DISTURBANCE
(line)	PROPERTY LINE
40	MAJOR CONTOUR
39	MINOR CONTOUR
G	PROPOSED FINISH GRADE ELEVATION
TW	PROPOSED TOP OF WALL ELEVIATION
BW	PROPOSED BOTTOM OF WALL ELEVATION (ADJACENT FINISH GRADE)
TC	PROPOSED TOP OF CURB ELEVATION
BC	PROPOSED BOTTOM OF CURB ELEVATION (ADJACENT FINISH GRADE)
RIM	PROPOSED RIM ELEVATION (SEE SWM/STORM DRAIN PLANS)
INV	PROPOSED INVERT ELEVATION (SEE SWM/STORM DRAIN PLANS)

GRADING & ADA COMPLIANCE NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL ELEMENTS ARE CONSTRUCTED IN ACCORDANCE WITH THE DESIGN DOCUMENTS AND CONTRACT CONDITIONS INCLUDING THE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN (ADA) AND THE VIRGINIA ACCESSIBILITY CODE AND ANY UPDATES. IF THE CONTRACTOR OBSERVES THAT PORTIONS OF THE PROJECT ARE NON-COMPLIANT WITH THE ADA, HE SHALL NOTIFY CITY OF ALEXANDRIA PROJECT MANAGER SO THAT A FIELD ADJUSTMENT CAN BE MADE TO ENSURE COMPLIANCE. GRADE TOLERANCES SHALL BE MEASURED WITH A 2 FOOT DIGITAL LEVEL.
2. VERIFY ALL EXISTING AND PROPOSED GRADES PRIOR TO FINAL CONSTRUCTION. CONTRACTOR SHALL STAKE OUT GRADES IN THE FIELD FOR REVIEW BY CITY OF ALEXANDRIA PROJECT MANAGER PRIOR TO FINAL CONSTRUCTION.
3. PROPOSED GRADING SHALL MEET EXISTING GRADE UNIFORMLY TO ENSURE A SMOOTH TRANSITION. NOTIFY CITY OF ALEXANDRIA PROJECT MANAGER IMMEDIATELY IF THERE ARE ANY EDGE CONDITIONS THAT CREATE AREAS WITHOUT POSITIVE DRAINAGE.
4. ALL LONGITUDINAL SLOPES ALONG THE WALKS SHALL BE NO STEEPER THAN 4.8% WITHOUT RAILING AND 8.1% WITH RAILING. THE CROSS SLOPE SHALL BE MINIMUM 1% AND MAXIMUM 1.8% OR AS NOTED ON THE DRAWINGS. ALL LANDING AND TRANSITION AREAS SHALL BE LESS THAN 1.8% IN ALL DIRECTIONS. THESE LIMITS PROVIDE A 0.2% MARGIN FROM THE D.O.J. ADA REQUIREMENTS TO ALLOW FOR CONSTRUCTION TOLERANCES.
5. ANY HARDSCAPE SURFACE AREAS THAT ARE BUILT WITHOUT COMPLYING WITH THE ABOVE CODE MUST BE CORRECTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE.
6. THE MAXIMUM VERTICAL CHANGE BETWEEN THE FINISH GRADES OF ADJACENT HARDSCAPE SURFACES IS $\frac{1}{4}$". THE MAXIMUM HORIZONTAL GAP BETWEEN THE EDGES OF ADJACENT HARDSCAPE SURFACES IS $\frac{3}{8}$".

NOTE: THE MAXIMUM ALLOWABLE DROP FROM THE TOP WALL (TW) ELEVATIONS TO THE FINISH GRADE OF THE ADJACENT BOTTOM WALL (BW) ELEVATION IS 2.5' (30"). IF THE "FALL HEIGHT" EXCEEDS 30", A BARRIER (I.E., HANDRAIL, GUARDRAIL, FENCING) IS REQUIRED.

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT CITY ARCHAEOLOGISTS CAN ARRANGE FOR A TIME TO INSPECT THE PROPERTY.
3. CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS (PREHISTORIC STONE TOOLS, OR CIVIL WAR ARTIFACTS) ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTIONS TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT — A MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E.

DATE: 05/23/2025 | SCALE: 1"=20' | DRAWN: CMB, EJC

SEAL: CHELSEA M. BISHOP, PROFESSIONAL ENGINEER, 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: GRADING PLAN

APPROVED
SPECIAL USE PERMIT NO. ______
DEPARTMENT OF PLANNING & ZONING

DIRECTOR — DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ______

DIRECTOR — DATE

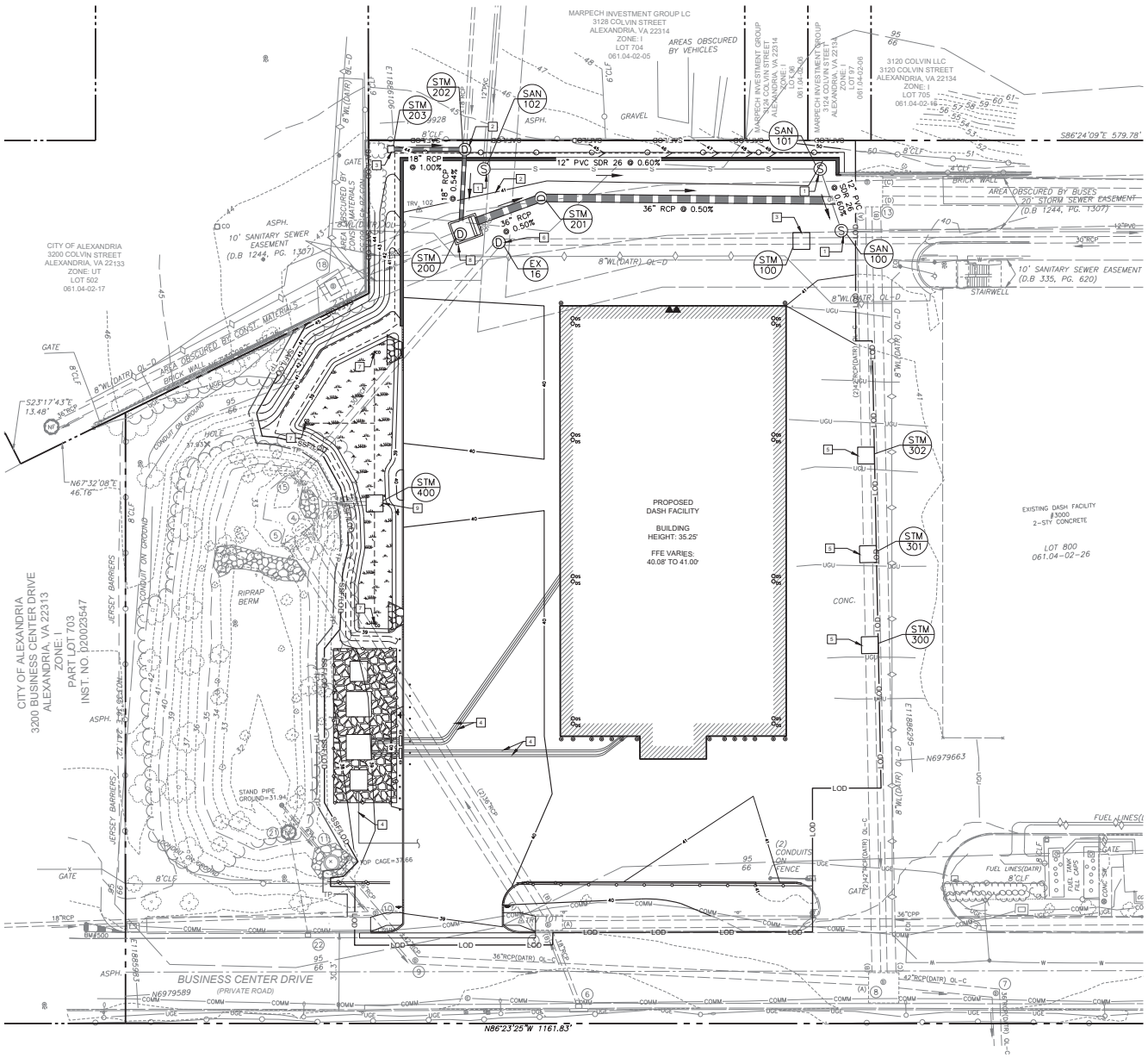
CHAIRMAN, PLANNING COMMISSION — DATE

DATE RECORDED ______

INSTRUMENT NO. — DEED BOOK NO. — PAGE NO.

Job No. 23-0754.001

SHEET NO: C-109 19 OF 94



UTILITY LEGEND

- LOD — LIMITS OF DISTURBANCE
- PROPERTY LINE
- S — SANITARY SEWER LINE
- UGE — UNDERGROUND ELECTRIC LINE
- STORM LINE
- (S) SANITARY SEWER MANHOLE
- (D) STORM MANHOLE
- AREA INLET

UTILITY KEYNOTES

1. SANITARY SEWER MANHOLE, SEE DETAIL CSMH-3/C-503
2. STORM MANHOLE, SEE DETAIL CSMH-31/C-503
3. STANDARD DROP INLET, SEE DETAIL CSDI-2A/C-503
4. UNDERGROUND ELECTRIC LINE (REFER TO ELECTRICAL DRAWINGS)
5. DOGHOUSE STRUCTURE BASE (CSMH-5) WITH VDOT FLAT SLAB REDUCER (R-2), RISER (R-1) AND VDOT GRATE INLET (T-DI-1)
6. STORM MANHOLE TOP UNIT WITH COVER OVER EXISTING BASE TO REMAIN, SEE DETAIL CSMH-3/C-503
7. STORM CLEANOUT, SEE DETAIL 2/C-504
8. CUSTOM JUNCTION BOX, SEE DETAIL 1/C-504
9. YARD INLET, SEE DETAIL CSYI-1/C-504

ARCHAEOLOGY GENERAL NOTES

1. THIS PROPERTY IS SITUATED ON A LOW TERRACE NEAR A TRIBUTARY STREAM OF CAMERON RUN. PREHISTORIC SITES HAVE BEEN DISCOVERED IN THIS TYPE OF SETTING, AND A NATIVE AMERICAN CAMP WAS FOUND ON THIS TERRACE TO THE EAST OF THE DEVELOPMENT AREA. PREVIOUS ARCHAEOLOGICAL TESTING ON PARTS OF THE PROJECT AREA HAS INDICATED THAT THERE HAS BEEN PREVIOUS GRADING ACROSS SOME OF THE SITE, BUT IN ONE AREA, THE ARCHAEOLOGISTS DISCOVERED THE PRESENCE OF A BURIED SURFACE. THE WESTERN PORTION OF THE PROJECT AREA HAS NEVER BEEN TESTED, AND A BURIED SURFACE COULD ALSO BE PRESENT IN THIS SECTION. IT IS POSSIBLE THAT THE BURIED SURFACE COULD CONTAIN REMNANTS OF PREHISTORIC OCCUPATION. IN ADDITION, THERE IS A POSSIBILITY THAT THE SURFACE COULD CONTAIN EVIDENCE OF CIVIL WAR ENCAMPMENTS.
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N

SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
300-C CENTENNIAL PARK DRIVE, SUITE 220
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PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTHOMASENG.COM

DRAWN: CMB, CJC | DATE: 05/31/2025 | SCALE: 1"=20'

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA V. BISHOP — Lic. No. 50030 — PROFESSIONAL ENGINEER — 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

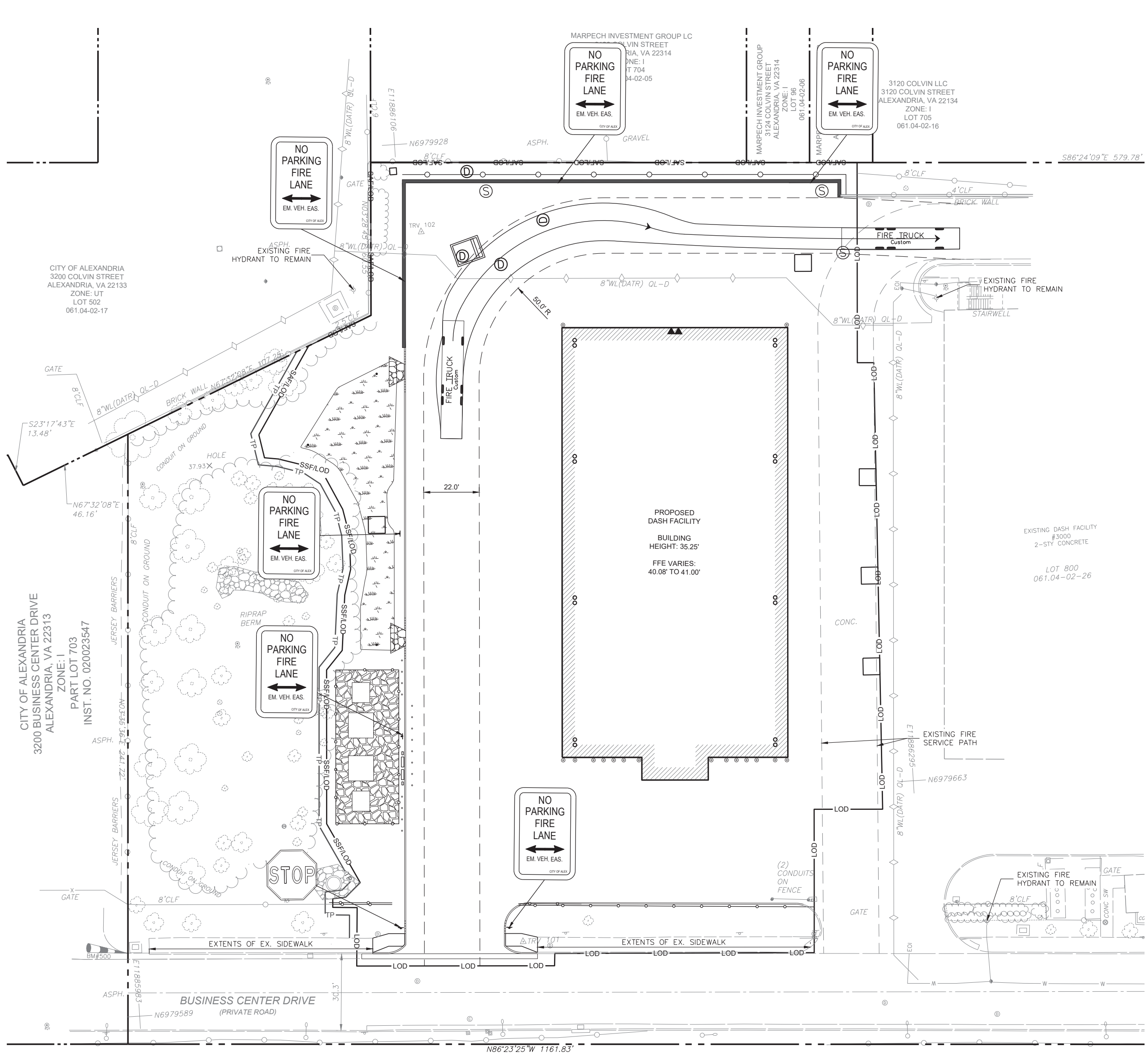
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: UTILITY PLAN

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
_____ DIRECTOR DATE
_____
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

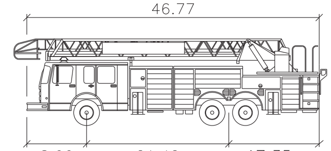
Job No. 23-0754.001

SHEET NO: C-110 20 OF 94



LEGEND

—LOD—	LIMITS OF DISTURBANCE
— — —	PROPERTY LINE
—W—	WATERLINE
- - - -	PRESERVED AREA (SEE NOTE #4)



FIRE TRUCK

	feet
Width	: 8.42
Track	: 8.42
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

GENERAL NOTES:

1. ALL SIGNS SHOWN ARE PROPOSED EVE SIGNS.
2. EXISTING FIRE HYDRANTS SHALL REMAIN IN SERVICE AND UNOBSTRUCTED DURING CONSTRUCTION.
3. EMERGENCY VEHICLE EASEMENTS (EVE) SHALL REMAIN OPEN DURING CONSTRUCTION.
4. 22-FT WIDE AREA IS TO BE PRESERVED AND MAINTAINED IN ACCORDANCE WITH EVE STANDARDS AND IS TO BE MAINTAINED FOR THIS DEVELOPMENT AND LIFESPAN AFTER.

VIRGINIA STATE PLANE SOUTH NAD83

SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT — A. MORTON THOMAS AND ASSOCIATES, INC. CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E. | DATE: 05/23/2025 | DRAWN: CMB, EJC | SCALE: 1"=20'

SEAL: CHELSEA M. BISHOP, PROFESSIONAL ENGINEER, 05/23/2025

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DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: FIRE SERVICE ACCESS AND SIGNAGE PLAN

APPROVED
SPECIAL USE PERMIT NO. ________
DEPARTMENT OF PLANNING & ZONING

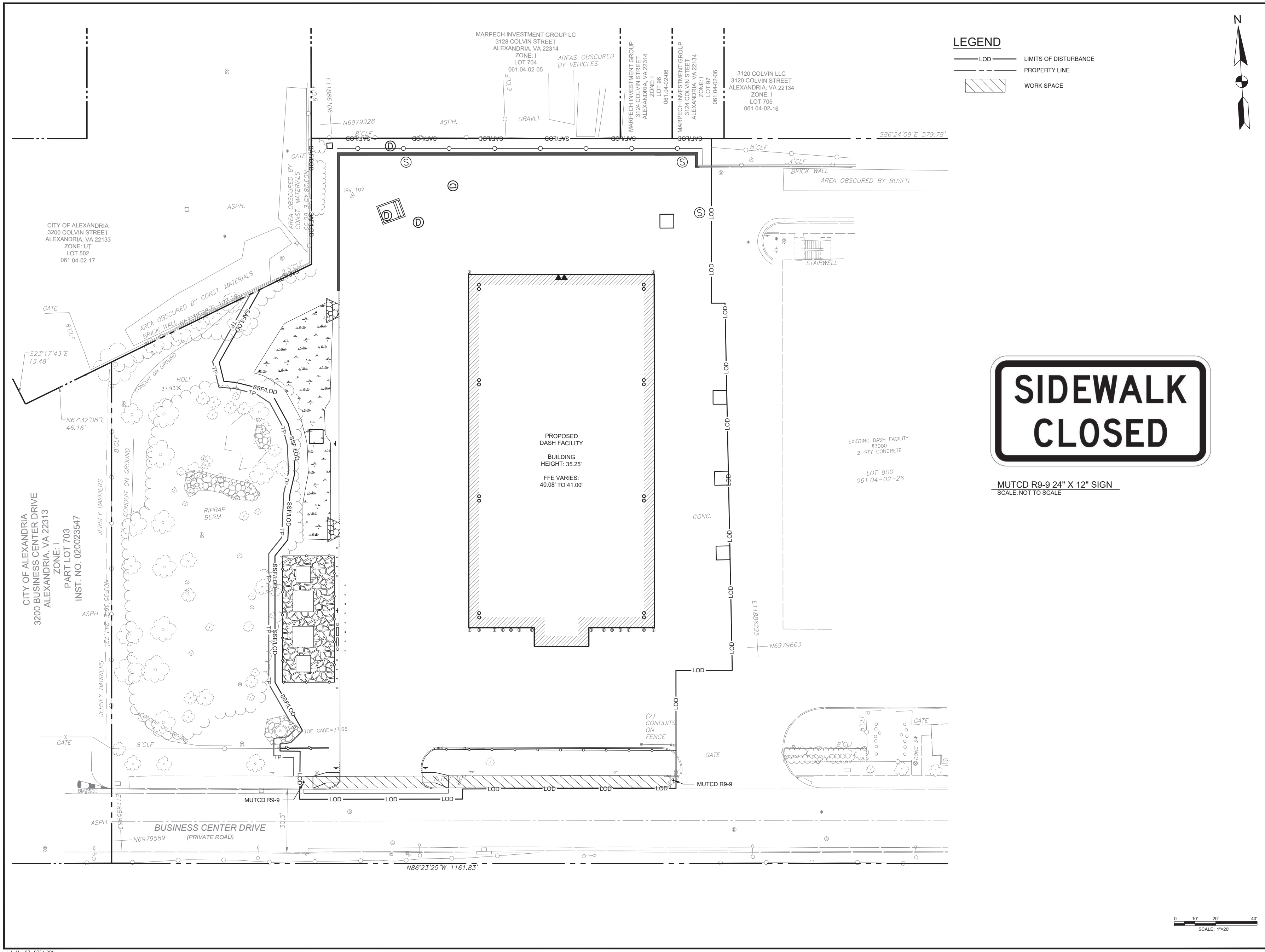
DIRECTOR ________ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ________

DIRECTOR ________ DATE

CHAIRMAN, PLANNING COMMISSION ________ DATE
DATE RECORDED ________
INSTRUMENT NO. | DEED BOOK NO. | PAGE NO.

Job No. 23-0754.001

SHEET NO: C-111 21 OF 94



DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

DATE: 05/23/2025 | DRAWN: CMB, EJC | SCALE: 1"=20'

SEAL: COMMONWEALTH OF VIRGINIA, CHELSEA M. BISHOP, Lic. No. 50030, PROFESSIONAL ENGINEER, 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: MAINTENANCE OF TRAFFIC PLAN

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

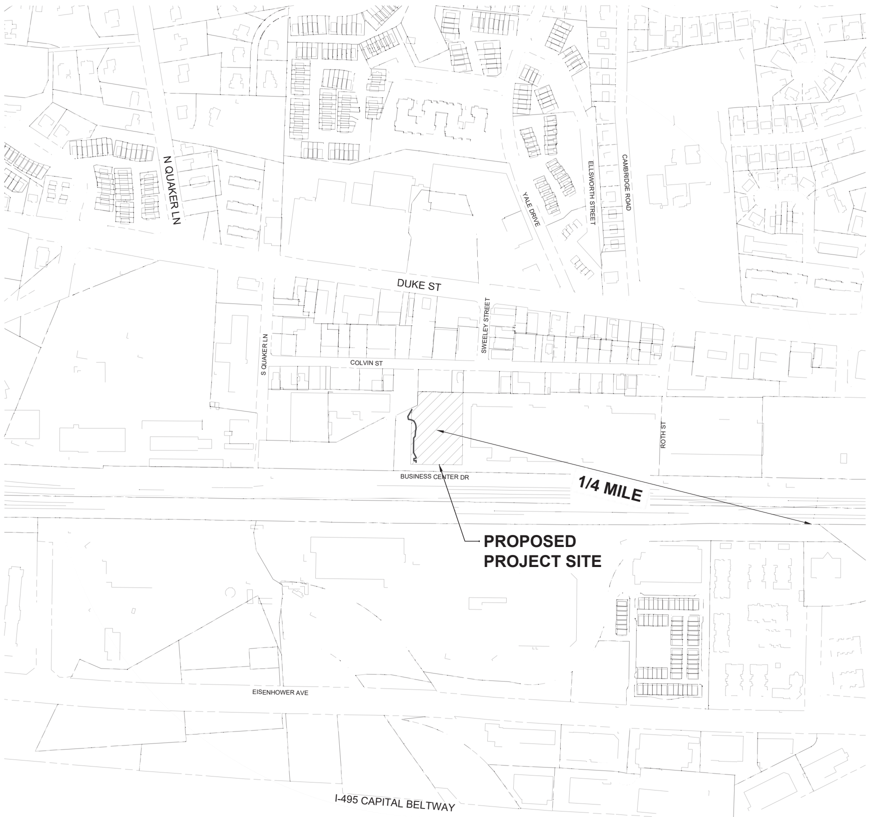
DIRECTOR ____ DATE ____

CHAIRMAN, PLANNING COMMISSION ____ DATE ____
DATE RECORDED ____

INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

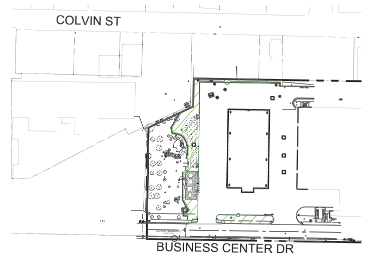
Job No. 23-0754.001

SHEET NO: C-112 22 OF 94



CONTEXTUAL PLAN
SCALE: 1"=200'

0 200' 400'
SCALE: 1"=200'



OPEN SPACE PLAN
SCALE: 1"=100'

0 200' 400'
SCALE: 1"=200'

LEGEND

APPROXIMATE LOCATIONS OF PROPOSED GREEN SPACE WITHIN PROJECT SITE AREA

OPEN SPACE TABULATIONS

EXISTING ON LOT AREA: 119,744 SF
PROPOSED ON LOT AREA: 109,488 SF

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

A. MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E.

DATE: 05/23/2025 | DRAWN: CMB, EJC

SCALE: 1"=20'

SEAL:

05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: CONTEXTUAL AND OPEN SPACE PLAN

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

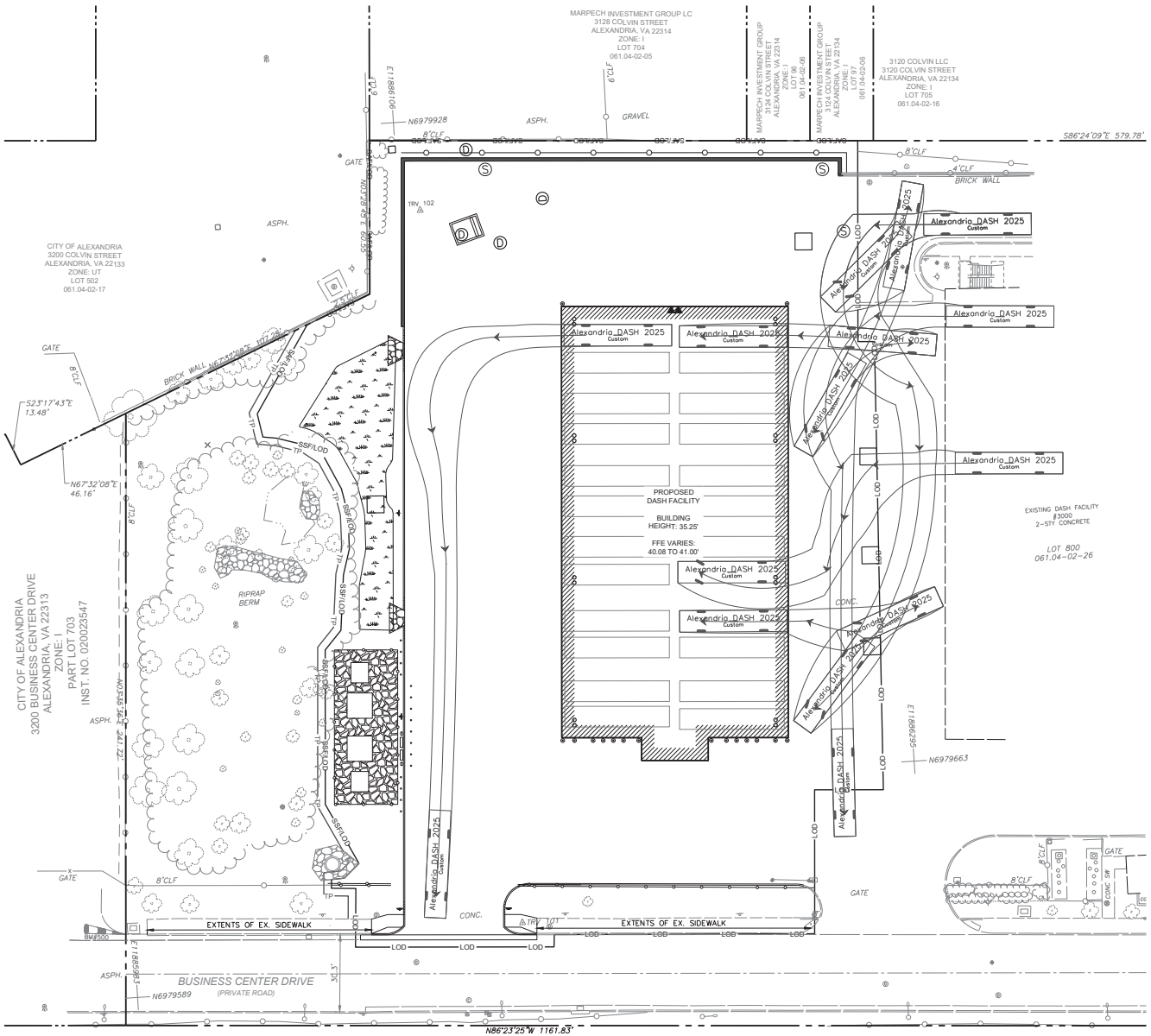
DIRECTOR ____ DATE ____

CHAIRMAN, PLANNING COMMISSION ____ DATE ____
DATE RECORDED ____

INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

Job No. 23-0754.001

SHEET NO: C-113 23 OF 94



DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MARTIN THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3056 CHAIN BRIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
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PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, LJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA V. BISHOP — Lic. No. 50030 — PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: VEHICULAR MOVEMENTS PLAN

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

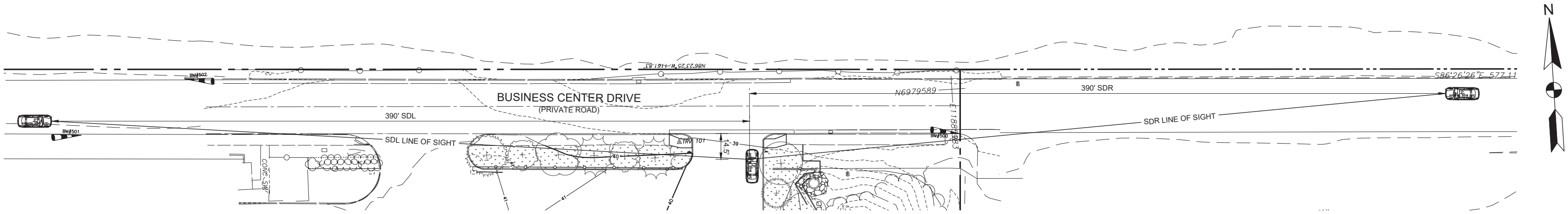
DIRECTOR DATE

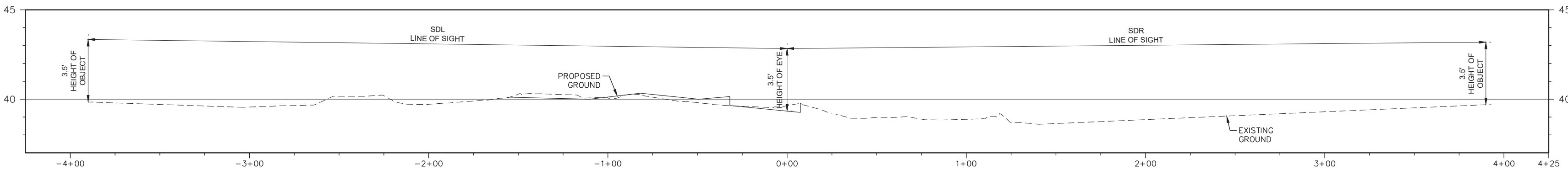
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SCALE: 1"=20'

Job No. 23-0754.001

SHEET NO: C-114 24 OF 94





PROPOSED ENTRANCE SIGHT DISTANCE PROFILE

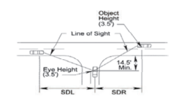
SCALE: HORZ 1"=30'
VERT 1"=3'

BUSINESS CENTER DRIVE:
DESIGN SPEED = 35 MPH
POSTED SPEED = 25 MPH
SDL = 390', SDR = 390'

F-40

Intersection Sight Distance

The following table shows intersection sight distance requirements for various speeds along major roads:



SDR = Sight Distance Right (For a vehicle making a left turn)
SDL = Sight Distance Left (For a vehicle making a right or left turn)

Height of Eye 3.5'												Height of Object 3.5'
Design Speed (mph)**		20	25	30	35	40	45	50	55	60	65	70
SDL=SDR: 2 Lane Major Road	In Feet	225	280	335	390	445	500	555	610	665	720	775
SDR: 4 Lane Major Road (Undivided) or 3 Lane		250	315	375	440	500	565	625	690	750	815	875
SDL: 4 Lane Major Road (Undivided) or 3 Lane		240	295	355	415	475	530	590	650	710	765	825
SDR: 4 Lane Major Road (Divided – 18' Median)		275	340	410	480	545	615	680	750	820	885	955
SDL: 4 Lane Major Road (Divided – 18' Median)		240	295	355	415	475	530	590	650	710	765	825
SDR: 5 Lane Major Road (continuous two-way turn-lane)		265	335	400	465	530	600	665	730	800	860	930
SDL: 5 Lane Major Road (continuous two-way turn-lane)		250	315	375	440	500	565	625	690	750	815	875
SDR: 6 Lane Major Road (Divided – 18' Median)		290	360	430	505	575	645	720	790	860	935	1005
SDL: 6 Lane Major Road (Divided – 18' Median)		250	315	375	440	500	565	625	690	750	815	875
SDL: (Where left turns are physically restricted)		210	260	310	365	415	465	515	566	620	670	725

TABLE 2-5 INTERSECTION SIGHT DISTANCE
Source: AASHTO Green Book, Chapter 9, Section 9.5.3, page 9-37 thru 9-52, * Table 9-5 thru 9-14
**For all tables, use design speed if available, if not use legal speed.

* Rev. 1/14

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
307G CENTREVILLE DRIVE, SUITE 229
HERNDON, VA 20171
PHONE: (703) 817-2545
EMAIL: AMT@AMTENGINEERING.COM

PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 30030 05/23/2025 PROFESSIONAL ENGINEER

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SIGHT DISTANCE PROFILES

APPROVED
SPECIAL USE PERMIT NO. ________
DEPARTMENT OF PLANNING & ZONING

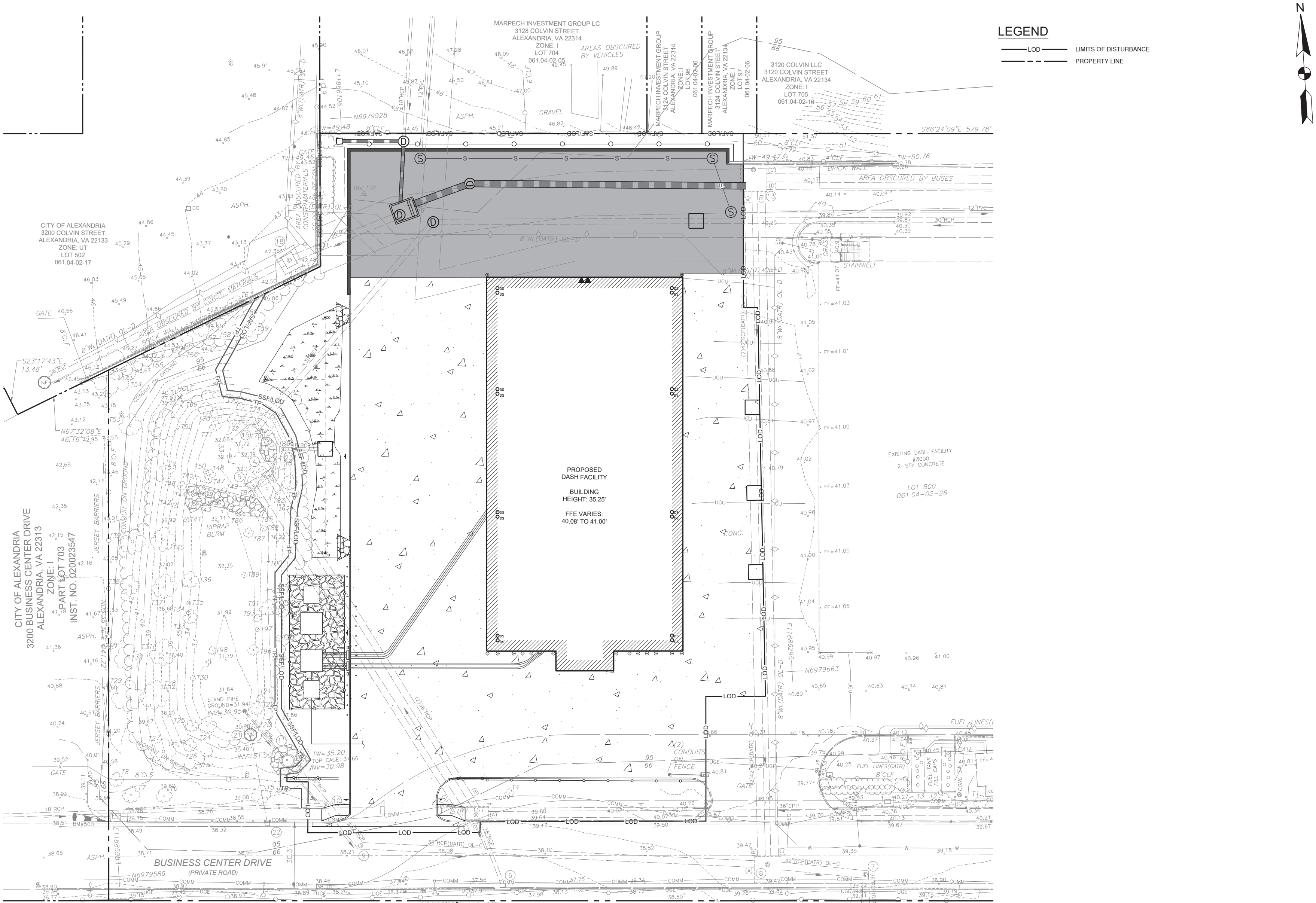
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-115 25 OF 94



PLACEHOLDER FOR FINAL SITE PLAN, AS NEEDED

SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E.
DATE: 05/23/2025
SCALE: 1"=20'
DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA, CHELSEA M. BISHOP, Lic. No. 56030, PROFESSIONAL ENGINEER, 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SOILS MANAGEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

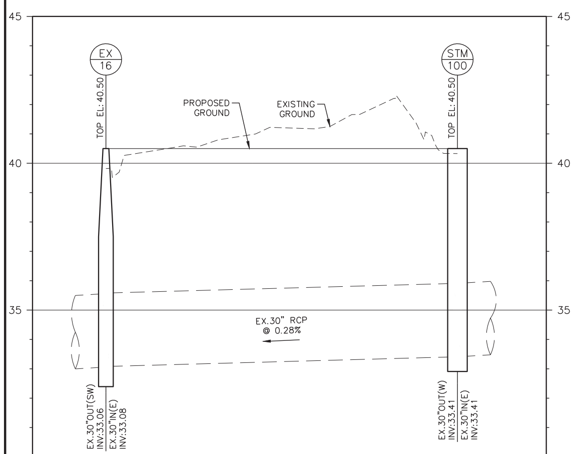
DIRECTOR ____ DATE ____
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

DIRECTOR ____ DATE ____

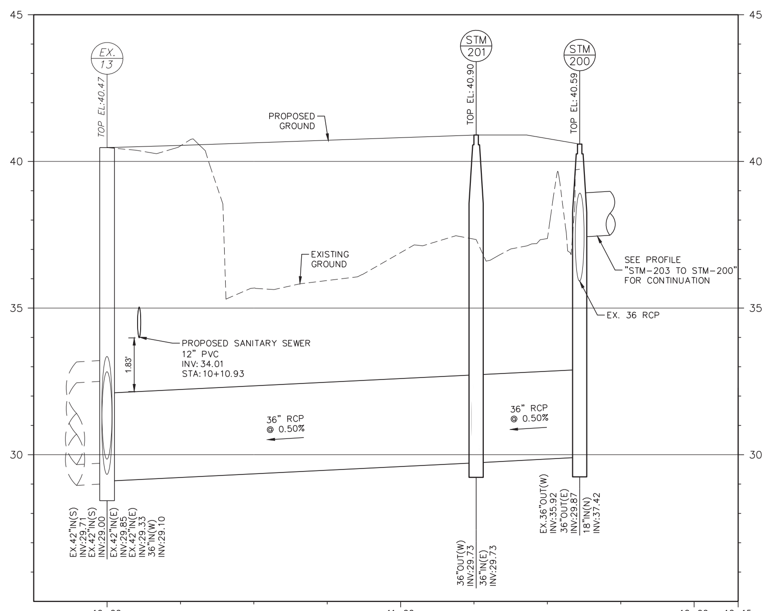
CHAIRMAN, PLANNING COMMISSION ____ DATE ____
DATE RECORDED ____
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO. ____

Job No. 23-0754.001

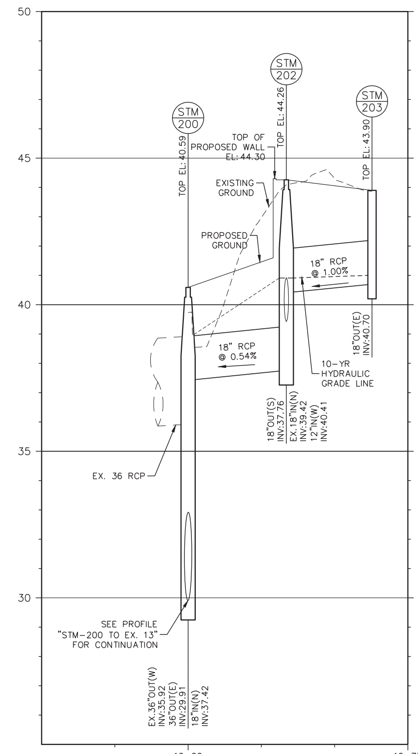
SHEET NO: C-116 26 OF 94



STM-100 TO EX. 16
SCALE: HORZ 1"=20' VERT 1"=2'



STM-200 TO EX. 13
SCALE: HORZ 1"=20' VERT 1"=2'



STM-203 TO STM-200
SCALE: HORZ 1"=20' VERT 1"=2'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MORTON THOMAS AND ASSOCIATES, INC.
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3076 CENTREVILLE DRIVE, SUITE 220
HERNDON, VA 20171
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PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP, Lic. No. 50030, PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. ____________
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____________

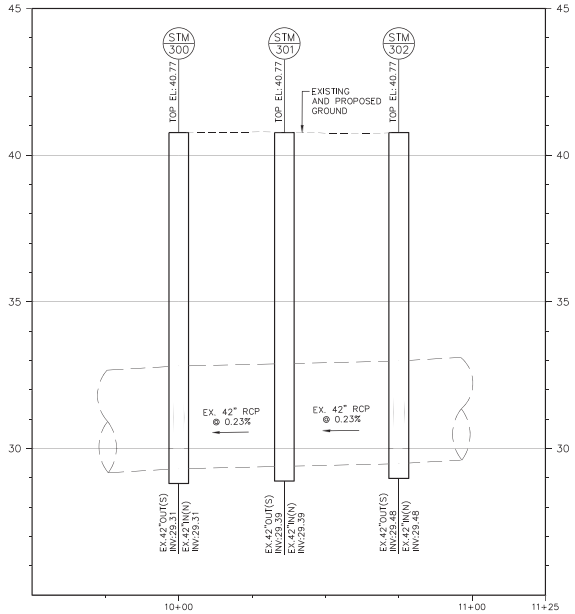
DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

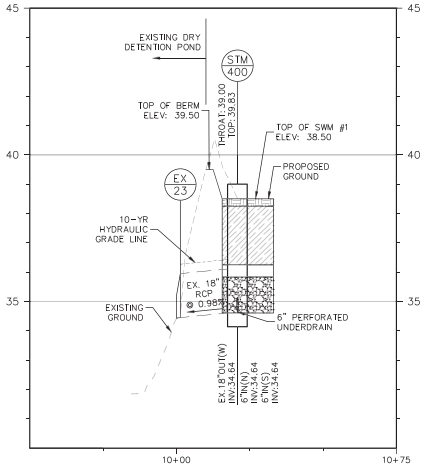
SCALE: 1"=20'

Job No. 23-0754.001

SHEET NO: C-201 27 OF 94



STM-302 TO STM-300
SCALE: HORZ 1"=20'
VERT 1"=2'



STM-400 TO EX. 23
SCALE: HORZ 1"=20'
VERT 1"=2'

STORM STRUCTURE SCHEDULE

STRUCTURE	TYPE	NORTHING	EASTING	TOP	INVERT IN	INVERT OUT
EX. 16	MANHOLE	6979877.80	11886144.75	40.50'	30" (E) 33.08'	30" (SW) 33.06'
STM-100	INLET	6979870.80	11886264.28	40.50'	30" (E) 33.41'	30" (W) 33.41'
STM-200	JUNCTION BOX	6979882.02	11886129.75	40.59'	18" (N) 37.61' 36" (E) 29.87'	36" (W) 35.92'
STM-201	MANHOLE	6979894.28	11886162.47	40.90'	36" (E) 29.73'	36" (SW) 29.73'
STM-202	MANHOLE	6979915.33	11886133.60	44.26'	18" (N) 39.42' 18" (W) 40.41'	18" (S) 37.76'
STM-203	INLET	6979917.26	11886104.44	43.90'		12" (E) 40.70'
STM-300	INLET	6979709.51	11886281.30	40.77'	42" (N) 29.31'	42" (S) 29.31'
STM-301	INLET	6979745.49	11886282.84	40.77'	42" (N) 29.39'	42" (S) 29.39'
STM-302	INLET	6979784.46	11886284.51	40.77'	42" (N) 29.48'	42" (S) 29.48'
STM-400	INLET	6979777.78	11886089.15	39.83'	6" (N) 35.00' 6" (S) 35.00'	18" (W) 34.64'

STORM PIPE SCHEDULE

FROM	TO	SIZE	MATERIAL	LENGTH (FT)
EX. 13	STM-201	36"	RCP	125.73'
STM-201	STM-200	36"	RCP	27.21'
STM-202	STM-200	18"	RCP	28.02'
STM-203	STM-202	18"	RCP	29.23'

0 10' 20' 40'
SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MARTIN THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3876 FAIRFAX RIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
EMAIL: AMT@AMTHOMASENG.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTHOMASENG.COM
SCALE: 1"=10' | DATE: 05/23/2025 | DRAWN: DMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50030 PROFESSIONAL ENGINEER 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY:

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

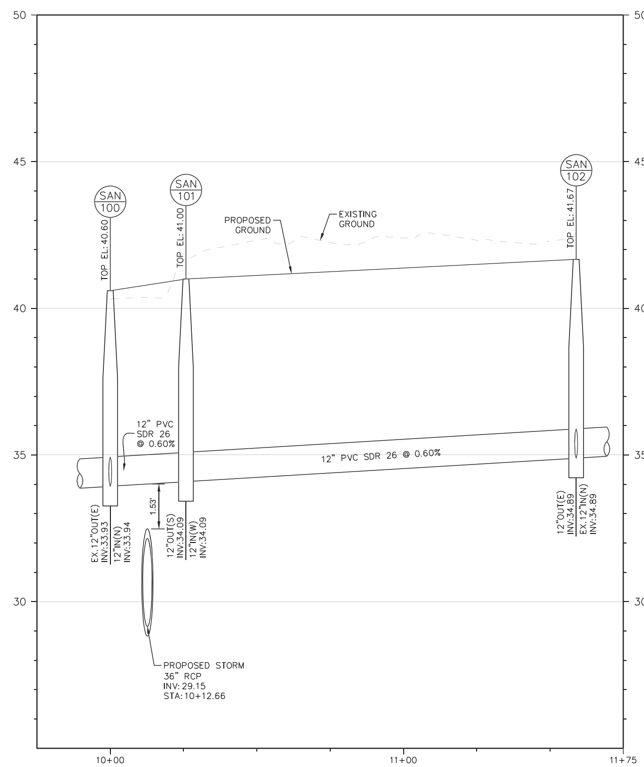
CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: STORM SEWER PROFILES

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
_____ DIRECTOR DATE
_____ CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Job No. 23-0754.001

SHEET NO: C-202 28 OF 94



SANITARY SEWER PROFILE
SCALE: HORZ 1"=20'
VERT 1"=2'

SANITARY SEWER STRUCTURE SCHEDULE

STRUCTURE	TYPE	NORTHING	EASTING	TOP	INVERT IN	INVERT OUT
SAN-100	MANHOLE	6979873.88	11886280.32	40.60'	12" (N) 33.94'	12" (E) 33.93'
SAN-101	MANHOLE	6979898.78	11886273.51	41.00'	12" (W) 34.09'	12" (S) 34.09'
SAN-102	MANHOLE	6979907.08	11886140.66	41.67'	12" (N) 34.89'	12" (E) 34.89'

SANITARY SEWER PIPE SCHEDULE

FROM	TO	SIZE	MATERIAL	LENGTH (FT)
SAN-101	SAN-100	12"	PVC SDR 26	25.82'
SAN-102	SAN-101	12"	PVC SDR 26	133.12'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E.
SCALE: 1"=20'
DATE: 05/23/2025
DRAWN: CMB, EJC

SEAL:
COMMONWEALTH OF VIRGINIA
CHELSEA M. BISHOP
PROFESSIONAL ENGINEER
05/23/2025

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CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SANITARY SEWER PROFILES

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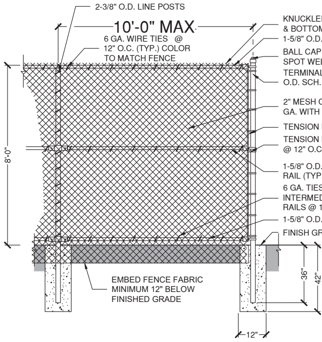
DATE RECORDED ____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SCALE: 1"=20'

Job No. 23-0754.001

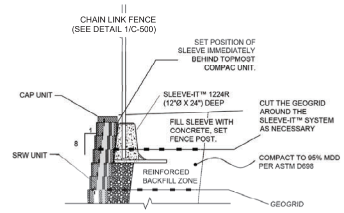
SHEET NO: C-203 29 OF 94

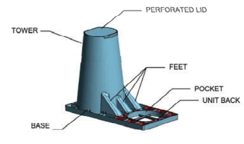


NOTES:
1. FENCE FABRIC SHALL BE SECURED TO GATE FRAMES WITH KNUCKLED SELVAGE ALONG EDGES.
2. PROVIDE 6" O.D. TERMINAL, CORNER POSTS, INTERSECTIONS CHANGES IN DIRECTION AND 200 LIN. FT. FOR ALL CHAIN LINK FENCING
3. FABRIC AND POST COLOR TO BE BLACK.
4. PROVIDE 6 GA. WIRE TIES @ 12" O.C. (TYP.) COLOR TO MATCH FENCE
5. ALL CONCRETE FOOTINGS AROUND POSTS AND GROUND LINE SHALL BE MOUNDED AND SLOPED FOR POSITIVE DRAINAGE.
6. PROVIDE VDOT CLASS A3 CONCRETE FOR ALL FOOTINGS.

1 8'-0" CHAINLINK FENCE WITH 6" TERMINAL POST

NOT TO SCALE 323113-39





DETAIL OF FENCE POST INSTALLATION USING SLEEVE-IT™
N.T.S.

ASSEMBLY & INSTALLATION

1. General - The Sleeve-It™ post foundation system shall be purchased and installed by the retaining wall contractor to facilitate future fence post installation. Contractor shall verify proper spacing requirements prior to installation.

2. Assembly & Installation - Refer to instructions provided with units for specific information related to the assembly of the Sleeve-It™ system and the correct installation procedure. When the segmental retaining wall has been constructed to two feet from top not including the capstone:

Step 1: Prepare a level area approximately 24" wide x 36" deep behind the wall face. The prepared area should be 24" below the proposed top of wall (not including the cap stone).

Step 2: Place the Sleeve-It unit on the level surface in an upright position with the front edge of the unit flush against the back of the wall. Multiple units should be spaced in accordance with fence specifications.

Step 3: Encapsulate and stabilize the Sleeve-It unit by placing and compacting sufficient backfill material layers as required. if geogrid is required, slit the geogrid perpendicular to the wall face just enough to fit around the base of the unit while ensuring that the geogrid remains properly attached to the wall. Continue the backfilling process until the material reaches the top of the tower. Do not remove perforated liduntil ready to place post. Do not step on perforated lid, as this could cause serious bodily injury.

Step 4: Punch the perforated lid using a mallet or hammer to expose the inside of the Sleeve-It unit. Detached lids can be left inside the unit or discarded prior to pouring the infill material.

Step 5: Place post through the exposed area and rest on the flat ground surface area inside the Sleeve-It cavity. Ensure that the post is upright and level and hold in place while carefully pouring infill material such as concrete through the exposed cavity. Follow guidelines as specified by infill supplier. Concrete is highly recommended as infill material.

Important Note: Backfill soil as prescribed by retaining wall manufacturer. Backfill material above and surrounding the Sleeve-It™ system must be compacted to a minimum of 95% of the material's maximum dry density as determined by **ASTM D-698** (Standard Proctor). Backfill and compaction within three feet of the wall face should be performed with hand operated equipment as recommended by the National Concrete Masonry Association (NCMA) SRW guidelines.
Repeat Above Steps for next Sleeve-It™ unit.

Fence posts shall extend a minimum distance of 18" into the sleeve to ensure proper engagement with the Sleeve-It™ system. All posts must be on the "inboard" side of the vertical portion of the cantilever base. Fill cavity completely with concrete. When concrete cures, topsoil or other surficial cover may be placed over the Sleeve-It™ system to create final, finished appearance.

The Sleeve-It™ product shall be evenly spaced. Use of the Sleeve-It™ system is limited to the following fencing applications without consideration of wind load:
- 8-foot high and under chain link fences
- 6-foot high and under wood fence with gaps between boards
- 6-foot hight and under ballustraded PVC, steel, aluminum or wrought iron fences.

For other fencing systems specifically not meeting these criteria, contact Strata Systems Inc., to determine suitability. **1 (800) 680-7750 or email strata@geogrid.com**

ALL material may be subject to site testing for compliance to the above specifications.

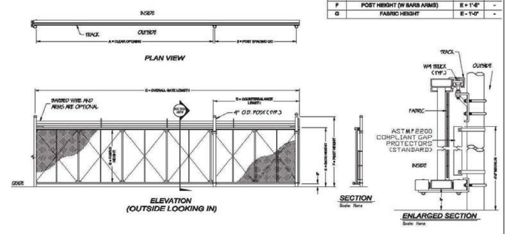
2 SLEEVE-IT FENCE POST DETAIL BEHIND RETAINING WALL

SCALE: NOT TO SCALE

FEATURES AND BENEFITS
- Closes openings up to 30' wide
- Double/bi-parting closes openings up to 60' wide
- Gate panels are made of aluminum alloy extrusions for strength, durability, and light er weight
- Infill alternatives include chain link, orna-mental picket, and custom configurations
- Adjustable diagonal 1/4" cables provide zero to minimal deflection

CRITICAL DIMENSION CHART

MARK	DESCRIPTION	FORMULA	DIM.
A	CLEAR OPENING	A	-
B	COUNTERBALANCE POST SPACING C/C	(A/2)-11"	-
C	OVERALL GATE LENGTH	A x 1.5	-
D	COUNTERBALANCE LENGTH	A x 0.5	-
E	NOMINAL GATE HEIGHT	E	-
F	POST HEIGHT (W BARB ARMS)	E + 1'-6"	-
G	FABRIC HEIGHT	E - 1'-0"	-



NOTE: STANDARD HEIGHTS UP TO 8'-0". FOR HEIGHTS ABOVE 8' CONTACT MANUFACTURER.

For more information on our Heavy-Duty Cantilever Gate
Contact TYMETAL at 1.800.328.GATE (4283)

678 Wilbur Avenue Greenwich, NY 12834
4501 Dixie Farm Road Pearland, TX 77581

TYMETAL
SECURITY GATES & PERIMETER SOLUTIONS

3 25' SLIDING VEHICULAR GATE

SCALE: NOT TO SCALE

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3076 CENTREVILLE DRIVE, SUITE 220
HERNDON, VA 20171
PHONE (301) 881 - 2545
EMAIL: AMT1@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50030 PROFESSIONAL ENGINEER 05/23/2025

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ALEXANDRIA, VIRGINIA 22314

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DATE RECORDED ____________
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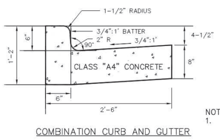
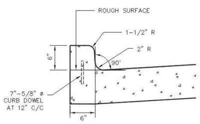
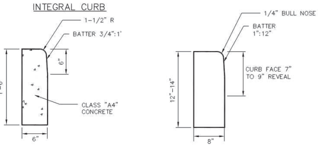
SHEET NO: C-500 30 OF 94



COMBINATION CURB AND GUTTER



INTEGRAL CURB



COPING CURB

GRANITE CURB

NOTES:
1. MATERIAL, FINISH AND TOLERANCE WILL BE IN ACCORDANCE WITH SECTION 404 – HYDRAULIC CEMENT CONCRETE OPERATIONS OF THE LATEST VDOT ROAD & BRIDGE SPECIFICATIONS.
2. ALL CURB AND GUTTER SHALL HAVE MIN. 6" THICK 21A AGGREGATE BASE AND MUST BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY OR 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY.

CURB AND GUTTER, COPING CURB AND GRANITE CURB	06/03/2022
	REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSCG–1
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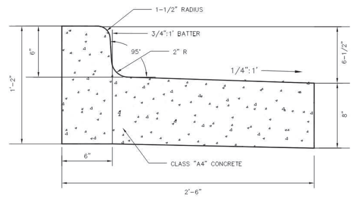

NOTES:
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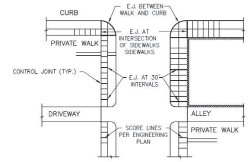
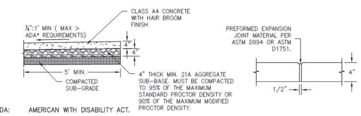
CURB AND GUTTER REVERSE FLOW	06/03/2022
	REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSCG–2
	PAGE 44



EXPANSION JOINT PLACEMENT



*ADA: AMERICAN WITH DISABILITY ACT.

SIDEWALK SECTION

EXPANSION JOINT

NOTES:
1. SCORING OF CONCRETE SLAB SHALL BE SAW CUT NOT MORE THAN 3/16" IN WIDTH AND NOT MORE THAN ¼" DEEP.
2. THE EXPANSION JOINTS SHALL BE ½" WIDE, FULL DEPTH, AND SHALL BE OF PRE-FORMED EXPANSION JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM D994 ASPHALT OR ASTM D1751 FIBRE. EXPANSION MATERIAL SHALL BE SECURED IN A MANNER THAT WILL PREVENT MOVEMENT OR DISPLACEMENT OF CONCRETE DURING PLACEMENT.
3. THE EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO CONCRETE CURB AT A DISTANCE OF 30' OR COINCIDING WITH THE SCORING.
4. DOWELS SHALL BE PLACED AT THE END OF A SIDEWALK PLACEMENT, AT INTERRUPTIONS FOR A DRIVEWAY, OR IF SIDEWALK SLABS ARE POURED AT DIFFERENT TIMES.
5. SAWING OF JOINTS SHALL BE CONDUCTED AS SOON AS THE CONDITION OF THE CONCRETE PERMITS AND BEFORE ANY RANDOM CRACKING APPEARS.
6. ALL STRUCTURAL ITEMS TO CONFORM TO THE LATEST EDITION OF UNIFORM STATEWIDE BUILDING CODE (USBC) REQUIREMENTS.
7. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

STANDARD CONCRETE SIDEWALK	06/03/2022
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSSW– 1
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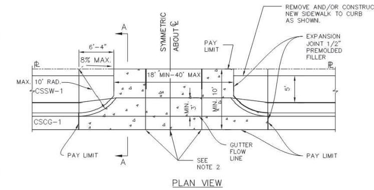
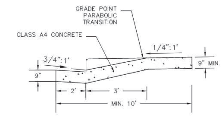


PLAN VIEW

NOTES:
1. ENTRANCE IS POURED MONO-LITHIC WITH RADIAL CURB AND FINISHED INTO SMOOTH TRANSITION.
2. THE MINIMUM WIDTH OF THE ENTRANCE IS 18' AND THE MAXIMUM WIDTH IS 40'. THE ENTRANCE SHOULD BE NO MORE THAN 40' UNLESS APPROVED BY THE DIRECTOR OF TES.
3. NEW CURB AND SIDEWALK GRADE IS TO CONTINUE THROUGH GRADE POINT AT 1/4":1' MAX.
4. SLOPE OF GRASS AREAS WILL BE 1/2" PER FOOT MAX.
5. THE MAXIMUM DIFFERENCE BETWEEN THE APPROACH GRADE AND THE ENTRANCE CROSS SLOPE SHALL NOT EXCEED 8%.
6. MAINTAIN A SEPARATION OF 150 FEET BETWEEN THE BEGINNING OF STREET CORNER RADIUS AND ANY DRIVEWAY APRON RADIUS ON ARTERIAL AND COLLECTOR ROADWAYS, WITH A MINIMUM OF 100 FEET PERMITTED, SUBJECT TO THE APPROVAL OF THE DIRECTOR OF T&ES.
7. DEPRESS SLAB 1 1/2" AT CENTERLINE AND BLEND INTO FLOW LINE.



SECTION A–A

COMMERCIAL ENTRANCE	06/03/2022
	REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSCE–1
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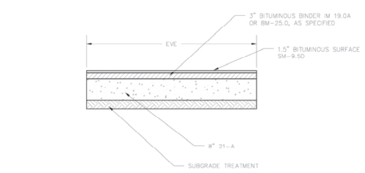
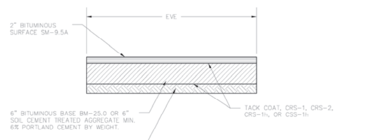


EVE PAVEMENT SECTION



EVE PAVEMENT SECTION

NOTE:
1. PAVEMENT DESIGN MUST BE PREPARED FOR EVE BASED ON CBR 10.
2. THE GRAVEL BASE, 21–B AS AN ALTERNATE TO 21–A, CAN BE PROVIDED WITH UNDER DRAIN.

ASPHALT PAVING FOR EMERGENCY VEHICLE EASEMENT (EVE) PRIVATE ROADS	06/03/2022
	REVISION DATE
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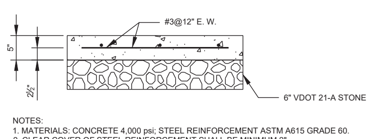
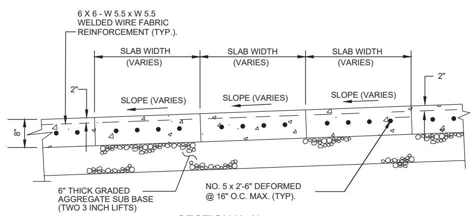
	PAGE 63



NOTES:
1. MATERIALS: CONCRETE 4,000 psi; STEEL REINFORCEMENT ASTM A615 GRADE 60.
2. CLEAR COVER OF STEEL REINFORCEMENT SHALL BE MINIMUM 2".

1 HEAVY DUTY CONCRETE PAD FOR ELECTRICAL EQUIPMENT
SCALE:NOT TO SCALE



SECTION 'A-A'

NOTES:
1. No. 5 x 2'-6" DEFORMED TIE BARS @ 16" O.C.
2. JOINT WIDENING AND JOINT SEALANT REQUIRED AT ALL JOINTS.
3. CONTRACTOR TO PROVIDE SHOP DRAWING WITH JOINT LAYOUT, ELEVATIONS AND SURFACE FINISH DETAILS.
4. MAXIMUM CONTINUOUS SLAB AREA NOT TO EXCEED 400 SQ. FT. MAXIMUM SLAB DIMENSION RATIO NOT TO EXCEED 2:1.
5. CONCRETE SHALL HAVE A MINIMUM STRENGTH OF 4,500 PSI.

2 HEAVY DUTY CONCRETE PAVEMENT DETAIL
SCALE:NOT TO SCALE

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT — A. MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E.

SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA, CHELSEA M. BISHOP, PROFESSIONAL ENGINEER, 05/23/2025

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CHAIRMAN, PLANNING COMMISSION DATE
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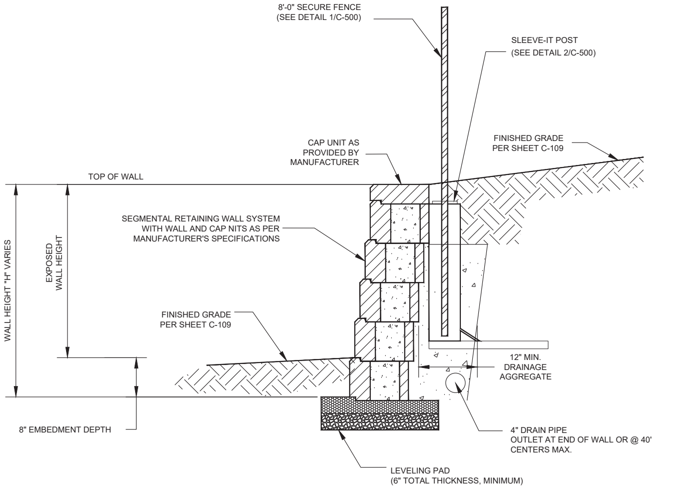
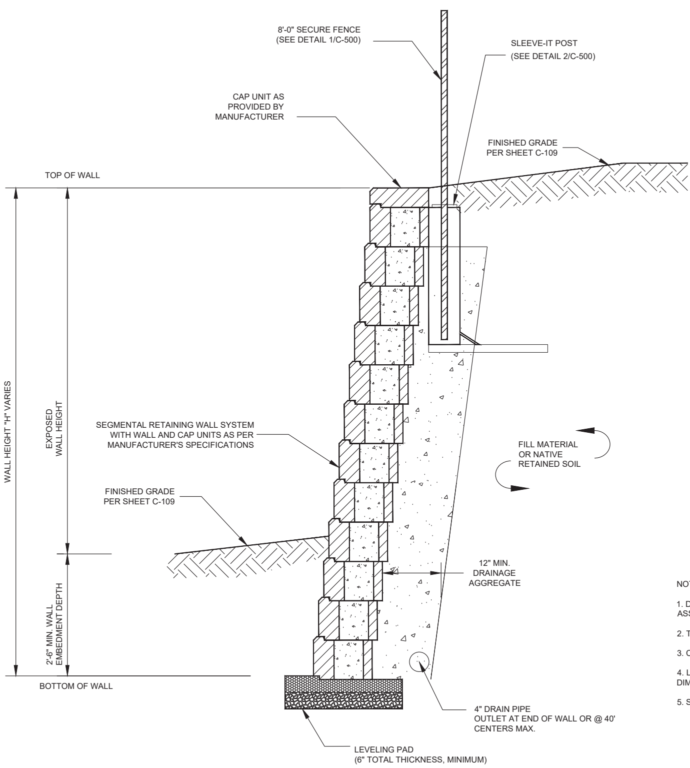
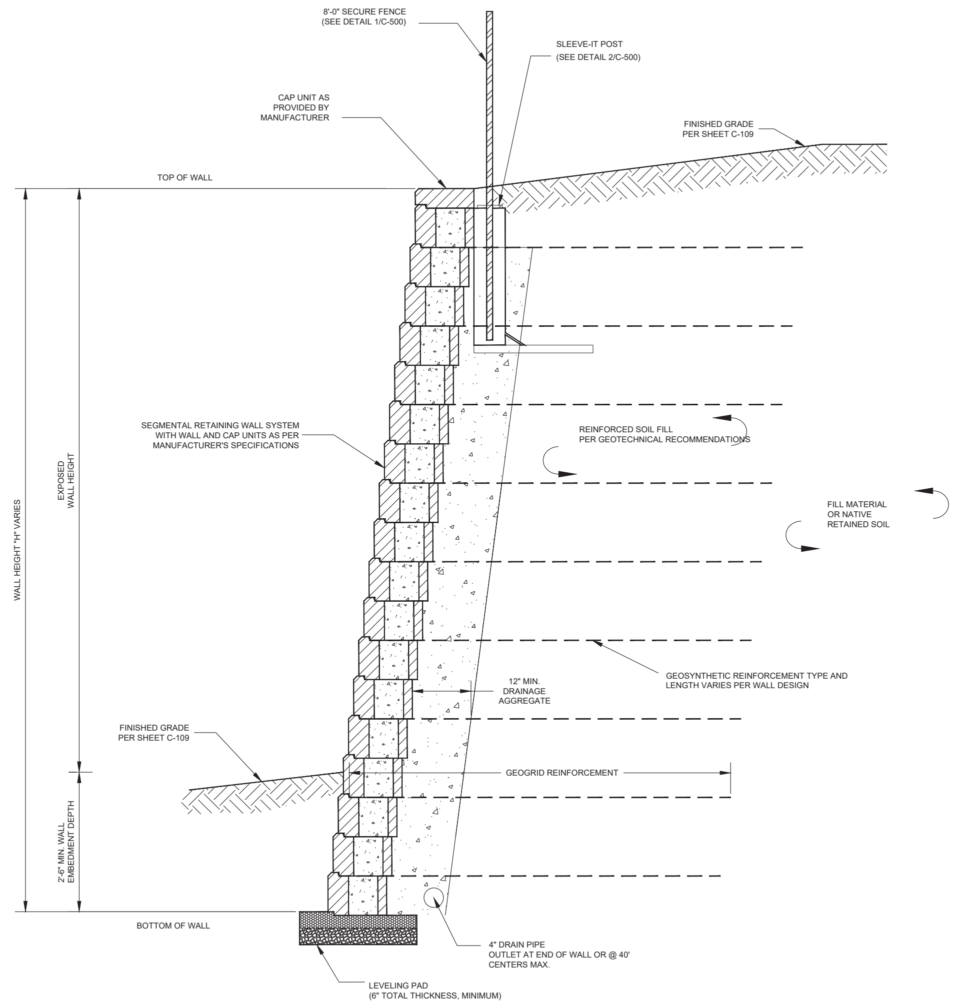


A. NON-REINFORCED



C. REINFORCED WITH NO-FINES CONCRETE



B. REINFORCED WITH GEOTEXTILE

NOTES FOR MODULAR BLOCK RETAINING WALL:

1. DESIGN OF THE SEGMENTAL RETAINING WALL SYSTEM SHALL BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH THE LATEST EDITION OF THE "DESIGN MANUAL FOR SEGMENTAL RETAINING WALLS", BY THE NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA). DESIGN SHALL BE COMPLETED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF VIRGINIA.

2. THE EVALUATION OF GLOBAL AND INTERNAL STABILITIES SHALL BE COMPLETED AND SEALED BY A GEOTECHNICAL ENGINEER LICENSED IN THE STATE OF VIRGINIA.

3. COMPLETE WORKING DRAWINGS/SHOP PLANS AND DESIGN CALCULATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO BEGINNING WALL WORK.

4. LAYOUT OF PROPOSED SEGMENTAL RETAINING WALL IS BASED ON 8" H X 18" W X 12" D WALL UNITS AND 4" H X 18" W X 12" D CAP UNITS, WITH A WALL BATTER OF 7 DEGREES. FINAL WALL LAYOUT SHALL BE ADJUSTED TO ACCOMMODATE WALL AND CAP UNIT DIMENSIONS AS PROVIDED BY SELECTED BLOCK MANUFACTURER, AND BATTER AS REQUIRED BY DESIGN AND/OR OWNER.

5. SEE GRADING PLAN FOR ELEVATION INFORMATION.

1 SEGMENTAL RETAINING WALL SECTION
SCALE: NOT TO SCALE

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: SITE DETAILS

APPROVED
SPECIAL USE PERMIT NO. ________
DEPARTMENT OF PLANNING & ZONING

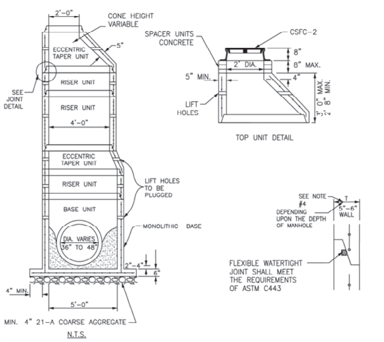
DIRECTOR ____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ________

DIRECTOR ____ DATE

CHAIRMAN, PLANNING COMMISSION ____ DATE
DATE RECORDED
INSTRUMENT NO. ____ DEED BOOK NO. ____ PAGE NO.

Job No. 23-0754.001

SHEET NO: C-502 32 OF 94



REINFORCEMENT SCHEDULE FOR 4' AND 5' INSIDE DIAMETER MANHOLES

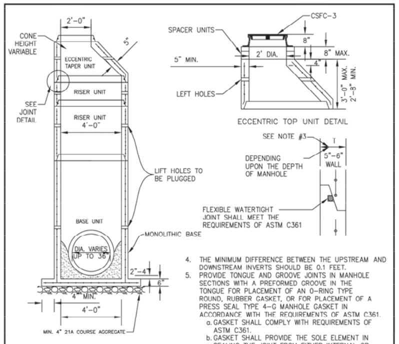
Depth	Wall Thickness	Wall Reinforcement	Base Slab Thickness	Base Slab Reinforcement
<12'	5"	#4 @ 8" EW	6"	#4 @ 8" EW
>12'	6"	#4 @ 8" EW	6"	#4 @ 8" EW

PRECAST MANHOLE

5' INSIDE DIAMETER; FOR PIPES 36" TO 48" IN DIAMETER

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA, VIRGINIA

01/16/2021 — REVISION DATE — CSMH-2 — PAGE 11



NOTE:
1. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.
2. PIPE MUST BE FLUSH WITH INSIDE WALL OF MANHOLE.
3. WALLS TO DEPTH OF 12' TO BE 5" THICK. WALLS DEEPER THAN 12' TO BE 6".
4. THE MINIMUM DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM INVERTS SHOULD BE 0.1 FEET.
5. PROVIDE TONGUE AND GROOVE JOINTS IN MANHOLE SECTIONS WITH A PREFORMED GROOVE IN THE TONGUE FOR PLACEMENT OF AN O-RING TYPE ROUND, RUBBER GASKET, OR FOR PLACEMENT OF A PRESS SEAL TYPE 4-G MANHOLE GASKET IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C361.
   a. GASKET SHALL COMPLY WITH REQUIREMENTS OF ASTM C361.
   b. GASKET SHALL PROVIDE THE SOLE ELEMENT IN SEALING THE JOINT FROM EITHER INTERNAL OR EXTERNAL HYDROSTATIC PRESSURE.
6. MANHOLE SHALL BE TESTED FOR NEGATIVE AIR PRESSURE (VACUUM) TEST IN ACCORDANCE WITH ASTM C1244 FOR THE FINAL ACCEPTANCE.
7. WHEN A WATERTIGHT FRAME AND COVER IS REQUIRED BY THE CITY, A CSFC-4 SHALL BE USED.
8. FOR MANHOLES OVER 60" IN DIAMETER, A SPECIAL DESIGN WILL BE SUBMITTED TO CITY FOR APPROVAL.
9. FOR REINFORCEMENT SCHEDULE SEE CSMH-2, PAGE 11.

PRECAST MANHOLE

4' INSIDE DIAMETER; FOR PIPES UP TO 36" IN DIAMETER

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA, VIRGINIA

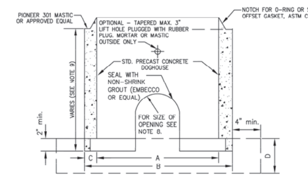
06/21/2021 — REVISION DATE — CSMH-3 — PAGE 27

NOTE:
1. CONCRETE TO BE VDOT CLASS A-4.
2. ALL REINFORCING STEEL TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. A-615.
3. MANHOLE SECTIONS TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. C-478.
4. TAPERED JOINT WITH O-RING GASKET, OR SINGLE OFFSET JOINT WITH RUBBER GASKET TO MEET CURRENT REQUIREMENTS OF ASTM SPEC. C-443.
5. DOGHOUSE OPENING MAY ONLY BE USED WHEN PLACING A NEW MH OVER AN EXISTING LINE; OTHERWISE, THE OPENING MUST BE CAST. SIZE, LOCATION & ANGLE OF ENTRY MUST BE AS REQUIRED BY THE PLANS.
6. MH SECTION TO BE CAST IN THE BASE A MIN. OF 2".
7. JOINT CONFIGURATION MAY BE CAST BELL-UP OR SPIGOT-UP.
8. HOLES IN PRECAST UNITS ARE TO BE 4" MIN. 8" MAX. LARGER THAN THE OUTSIDE DIA. OR THE PROPOSED PIPE.
9. BASE SECTION TO PROVIDE MIN. 6" CLEARANCE BETWEEN TOP OF PIPE OPENING AND BOTTOM OF BELL AND SPIGOT JOINT.
10. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

CHART "A"

MIN. DIMENSIONS (in.)			
MH	4' - 0"	5' - 0"	6' - 0"
A	48"	60"	72"
B	58"	72"	86"
C	5"	6"	7"
D	6"	8"	10"

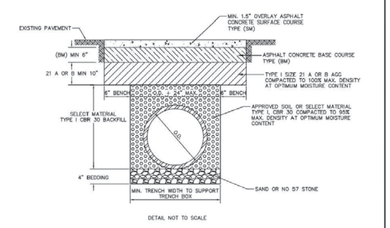
DIMENSIONS OF D MUST BE TAKEN FROM BOTTOM OF KEY (SEE DRAWING BELOW)



DOGHOUSE MANHOLE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA, VIRGINIA

06/21/2021 — REVISION DATE — CSMH-5 — PAGE 30



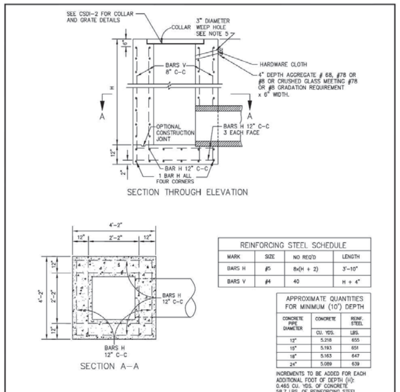
DETAIL NOT TO SCALE

NOTES:
1. BACKFILL MATERIAL SHALL BE COMPACTED AT A MAXIMUM DEPTH OF EVERY SIX INCHES (6") THROUGH THE USE OF MECHANICAL TAMPING THROUGHOUT THE TRENCH TO ENSURE THAT ADEQUATE SUPPORT IS PROVIDED.
2. PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUTS, OR AS DETERMINED BY THE T&ES DIRECTOR.
3. PAVEMENT RESTORATION ALSO INCLUDES THE REPLACEMENT OF ANY TRAFFIC CONTROL DEVICES AND/OR MARKINGS.
4. PAVEMENT THAT HAS BEEN RESURFACED WITHIN THE LAST FIVE (5) YEARS; PAVEMENT RESTORATION SHALL BE AT A MINIMUM WIDTH FROM CURB TO CURB AND LONGITUDINALLY PER NOTE #2. ADDITIONAL PAVING AND RESTORATION MAY BE REQUIRED, AS DETERMINED BY THE T&ES DIRECTOR.

BEDDING FOR PIPE & TRENCH SECTIONS

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA, VIRGINIA

01/16/2021 — REVISION DATE — CSJT-1 — PAGE 17



STANDARD DROP INLET

12" – 24" PIPE: DEPTH (H) 10' TO 20'

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA VIRGINIA

01/16/2021 — REVISION DATE — CSDI-2A — PAGE 6

GENERAL NOTES:
1. DEPTH OF INLET (H) TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 10' USE STANDARD CSDI-2A
2. THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR IN ACCORDANCE WITH CSIS-1 TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE.
3. THIS ITEM MAY BE PRECAST OR CAST- IN-PLACE.
4. # 4x8" SMOOTH DOWELS AT APPROXIMATELY 12" C-C TO BE PLACED IN ALL AREAS ADJACENT TO ABUTTING CONCRETE DESIGN.
5. 3" DIAMETER WEEP HOLE WITH 12"x12" PLASTIC HARDWARE CLOTH ¼" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03" NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
6. CAST IN PLACE CONCRETE IS TO BE CLASS A3 (3000PSI). PRECAST CONCRETE IS TO BE 4000PSI. REINFORCING STEEL TO HAVE A MINIMUM 2" COVER.
7. ANY ALTERNATE METHODS OF ANCHORAGE MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE CAST IRON LUGS AS SHOWN HEREON.
8. "DUMP NO WASTE DRAINS TO WATERWAY" LETTERING IS REQUIRED ON ALL CSDI-2 GRATES. LOCATION OF LETTERING MAY VARY BY MANUFACTURER.
9. IF DROP INLET IS TO BE INSTALLED ALONG A BIKE PATH THE GRATE OPENINGS SHALL BE ALIGNED PERPENDICULAR TO THE DIRECTION OF TRAVEL.
10. CONCRETE COVER AND GRATE ARE TO BE FURNISHED AS A SINGLE UNIT.
11. FOR DETAILS AND DIMENSIONS, ETC. OF GRATE AND STEEL OR CAST IRON COLLAR SEE STANDARD CSDI-2.
12. FOR RETROFIT PROJECTS:
    A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
    B. GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS.
    IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BETWEEN THE RCP PIPE AND STRUCTURE'S
    C. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
    D. PROVIDE RAILS (IF REQUIRED)

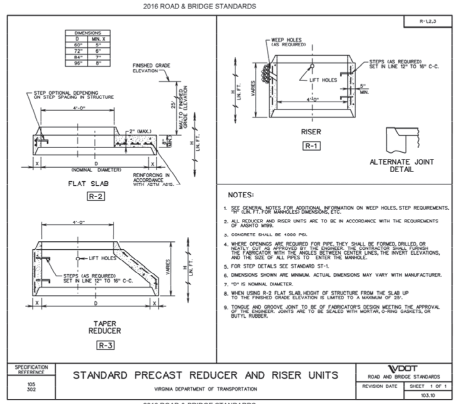
STANDARD DROP INLET

GENERAL NOTES

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES, ALEXANDRIA VIRGINIA

08/16/2021 — REVISION DATE — CSDI-2 & CSDI-2A — PAGE 7

2016 ROAD & BRIDGE STANDARDS

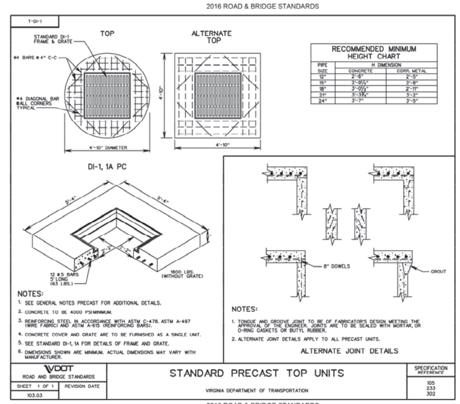


STANDARD PRECAST REDUCER AND RISER UNITS

VIRGINIA DEPARTMENT OF TRANSPORTATION — 103.10

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS



STANDARD PRECAST TOP UNITS

VIRGINIA DEPARTMENT OF TRANSPORTATION — 103.03

2016 ROAD & BRIDGE STANDARDS

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
HERNDON, VA 20171
EMAIL: AMT@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' — DATE: 05/23/2025 — DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP — PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: UTILITY DETAILS

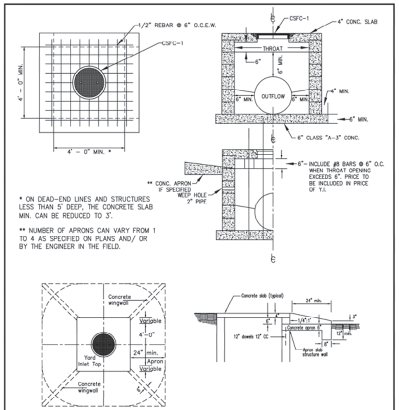
APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING
DIRECTOR ____ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____
DIRECTOR ____ DATE
CHAIRMAN, PLANNING COMMISSION ____ DATE
DATE RECORDED
INSTRUMENT NO. — DEED BOOK NO. — PAGE NO.

Job No. 23-0754.001

SHEET NO: C-503 — 33 OF 94

DASH Facility Expansion																				
STORM SEWER DESIGN				Alexandria, VA						04/13/25	8:18 PM									
COMPUTATIONS																				
FROM	TO	DRAIN.	RUNOFF	CA		INLET	RAINFALL	RUNOFF	INVERT		LENGTH	SLOPE	DIA.	n	CAPACITY	VELOCITY	FLOW			
POINT	POINT	AREA	COEFF.	INCREM.	ACCUM.	TIME	INTENSITY	Q	ELEVATIONS (ft)								TIME			
		ACRES	C			MIN.	IN./HR.	C.F.S.	UPPER	LOWER	ft	ft/ft	IN.		C.F.S.	FPS	SEC.	Q/Qfull	V/Vfull	Vfull
STM203	STM202	0.54	0.73	0.39	0.39	5	9.00	3.55	40.70	40.41	29.23	0.0099	18	0.013	10.46	5.3	5.5	0.34	0.90	5.92
STM202	STM-200	0.00	0.00	0.00	0.39	5.1	9.00	25.29	37.76	37.58	33.53	0.0054	18	0.013	7.70	4.4	7.7	3.29	1.00	4.36
EX.13	STM201	150.00	0.88	132.00	132.00	5	9.00	245.31	29.10	29.73	125.73	0.0050	36	0.013	47.21	6.7	18.8	5.20	1.00	6.68
STM201	STM200	0.00	0.00	0.00	132.00	5.3	9.00	245.31	29.73	29.88	30.45	0.0049	36	0.013	46.81	6.6	4.6	5.24	1.00	6.62
STM400	EX.23	0.92	0.83	0.76	0.76	5	9.00	6.87	34.64	34.45	19.47	0.0098	18	0.013	10.38	6.2	3.1	0.66	1.06	5.87

DASH Facility Expansion																						
HYDRAULIC GRADE LINE																		04/13/25	8:17 PM		
COMPUTATIONS																						
	HGL down																		HGL up		
	Outlet								JUNCTION LOSS										Inlet	RIM/	
	Water																	Final	Water	Inflow	
Inlet	Surf Elev	Do	Qo	Lo	Sfo	Hf	Vo	Ho	Qi	Vi	QiVi	Vi^2	Hi	Angle	HΔ	Ht	1.3Ht	0.5Ht	H	Surf Elev	Elev	Freeboard
Str.	(ft)	(in)	(cfs)	(ft)	(%)	(ft)	(fps)	(ft)	(cfs)	(fps)		2g	(ft)	(deg)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
STM202	38.78	18	25.29	33.53	0.06	1.94	4.36	0.07	25.29	4.36	110.13	0.29	0.10	87	0.20	0.38	0	0.19	2.13	40.91	44.26	3.35
STM203	40.91	18	3.55	29.23	0.00	0.03	5.34	0.11							0.00	0.11	0	0.06	0.09	41.00	43.90	2.90
STM400	36.27	18	6.87	19.47	0.00	0.08	6.22	0.15							0.00	0.15	0	0.08	0.16	36.43	39.00	2.57



YARD INLET

01/16/2021	
REVISION	DATE
CSYI-1	
PAGE 8	

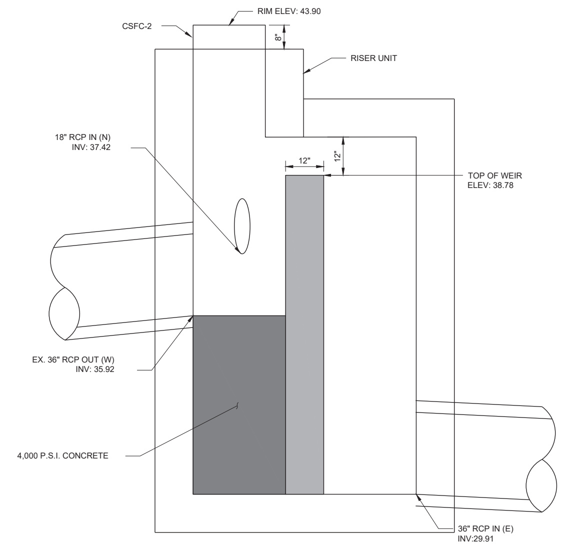
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

NOTES:
1. WHEN SPECIFIED, CONCRETE APRONS (1/4" PER FEET MIN) TO BE INCLUDED IN PRICE OF YARD INLET.
2. CONCRETE APRON MAY BE CAST IN PLACE OR PRECAST.
   REINFORCING MUST BE 6"X6" NO 6 WIRE MESH. ALL CONCRETE MUST BE CLASS A3.
3. AN 6" THICK CONC. APRON 2' WIDE (MIN.) WILL BE INSTALLED IN FRONT OF EACH THROAT. THEY WILL BE SHAPED TO MEET CONDITIONS AS DIRECTED IN THE FIELD BY CITY INSPECTOR.
4. CLASS "A3" CONC. USED THROUGHOUT.
   WALLS OF POURED OR BLOCK CONC. OR BRICK IN MORTAR WILL BE PARGED 1/4" INSIDE (AND OUTSIDE ABOVE FINISHED GRADE).
5. WALLS OF POURED OR SOLID BLOCK CONCRETE WILL BE 8" THICK.
6. SPECIAL DESIGN WILL BE REQUIRED FOR PIPE SIZES GREATER THEN 36".
7. FOR RETROFIT PROJECTS:
   A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
   B. GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS.
   IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BETWEEN THE RCP PIPE AND STRUCTURE'S
   A. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
   B. PROVIDE RAILS (IF REQUIRED)

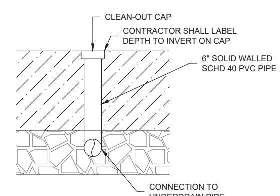
YARD INLET
GENERAL NOTES

01/16/2021	
REVISION	DATE
CSYI-1	
PAGE 9	

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



1 STM-200 JUNCTION BOX
SCALE:NOT TO SCALE



2 CLEANOUT DETAIL
SCALE:N.T.S.

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3076 CENTREVILLE DRIVE, SUITE 220
HERNDON, VA 20171
PHONE (301) 881 - 2545
EMAIL: AMT1@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL:CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP Lic. No. 50030 — PROFESSIONAL ENGINEER
05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: UTILITY DETAILS

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

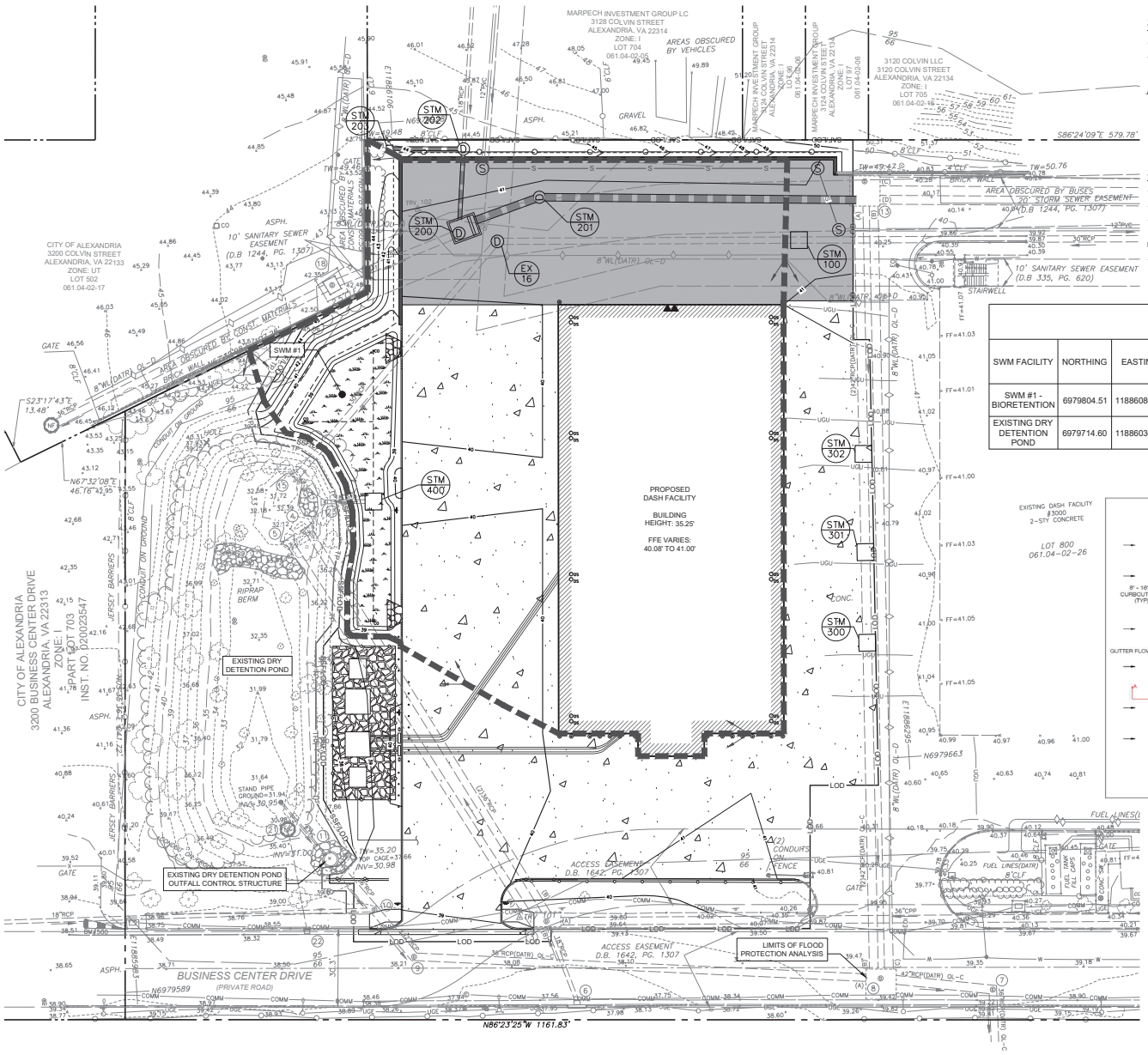
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-504 34 OF 94



STORMWATER MANAGEMENT LEGEND

- LOD — LIMITS OF DISTURBANCE
- PROPERTY LINE
- BIORETENTION (P-FIL-05)
- DRAINAGE DIVIDE
- PRE-TREATMENT GRAVEL FLOW SPREADER (P-CNV-01-7)

VIRGINIA STATE PLANE SOUTH NAD83

SITE INFORMATION

TOTAL EXISTING IMPERVIOUS AREA = 1.04 AC 45,293 SF

TOTAL PROPOSED IMPERVIOUS AREA = 1.29 AC 56,041 SF

TOTAL DISTURBED AREA = 1.51 AC 65,612 SF

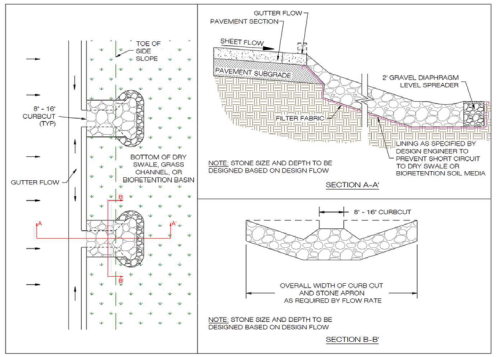
HYDROLOGIC SOIL GROUP: D

THERE ARE NO MARINE CLAYS WITHIN THE LIMITS OF DISTURBANCE.

SWM FACILITY LOCATIONS

SWM FACILITY	NORTHING	EASTING	TOTAL AREA TREATED (AC)	PERVIOUS AREA TREATED (AC)	IMPERVIOUS AREA TREATED (AC)	PHOSPHORUS REMOVAL EFFICIENCY (%)	PHOSPHORUS REMOVED BY PRACTICE (LBS.)
SWM #1 - BIORETENTION	6979804.51	11886086.12	0.90	0.13	0.77	25	0.42
EXISTING DRY DETENTION POND	6979714.60	11886036.34	8.77	5.65	0.73	50	0.17

CONCENTRATED FLOW PIPE TREATMENT



SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MARTIN THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3056 CHAIN BRIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
EMAIL: AMTHOMAS@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

DRAWN: CMD, LJC | DATE: 05/23/2025 | SCALE: 1"=20'

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA V. BISHOP — Lic. No. 50030 — PROFESSIONAL ENGINEER — 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: STORMWATER MANAGEMENT PLAN

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-701 35 OF 94

WATER QUANTITY NARRATIVE

WATER QUANTITY COMPLIANCE FOR THE SITE IMPROVEMENTS IS BEING ACCOMPLISHED BY THE REDUCED CURVE NUMBER GENERATED BY THE PROPOSED BIORETENTION LEVEL I (P-FIL-05) AND THE VOLUME PROVIDED BY THE EXISTING DRY DETENTION POND. THE SITE SHALL PROVIDE STORMWATER DETENTION CAPACITY SUFFICIENT TO PASS THE CITY OF ALEXANDRIA'S WATER QUALITY VOLUME DEFAULT (WQVD) AND THE ALLOWABLE 1-YEAR AND 10-YEAR PEAK FLOW RATES FOLLOWING THE LAND-DISTURBING ACTIVITIES BY UTILIZING ENERGY BALANCE METHODOLOGY PER CITY CODE SECTION 13-109(F)(1)(c) AND 13-109(F)(2)(b)(ii) CHANNEL PROTECTION AND FLOOD PROTECTION, RESPECTFULLY.

THE TOTAL APPLICABLE AREA (LIMITS OF DISTURBANCE) IS 1.51 ACRES (65,612 SF).

THIS SPREADSHEET UTILIZES THE VIRGINIA RUNOFF REDUCTION METHOD ADJUSTED CURVE NUMBERS FROM THE CHANNEL AND FLOOD PROTECTION TAB, SHOWN ON SHEET C-704. UTILIZING ENERGY BALANCE METHODOLOGY, THE PRE- AND POST-DEVELOPED RUNOFF COMPUTATIONS FOR THE LIMITS OF DISTURBANCE ARE DEVELOPED TO ESTABLISH ALLOWABLE RELEASE RATES FOR THE DISTURBED AREA WITHIN THE OUTFALL AS WELL AS MINIMUM REQUIRED DETENTION. FOR THE 1-YEAR AND 10-YEAR EVENTS, THE POST DEVELOPED PEAK FLOWS ARE THE SAME AS THE PRE-DEVELOPED PEAK FLOW RATE. BASED ON THE ENERGY BALANCE SPREADSHEET (THIS SHEET) AND VIRGINIA STORMWATER MANAGEMENT HANDBOOK VERSION 1.1, APPENDIX A.5, 3,323 CF MUST BE PROVIDED TO MEET BOTH CHANNEL PROTECTION AND FLOOD CONTROL REQUIREMENTS.

THE CITY OF ALEXANDRIA'S WQVD IS COMPUTED BELOW:

POST-DEVELOPED IMPERVIOUS AREA WITHIN LOD = 56,042 SF
WQVD = 1/2" x 56,042 SF = 2,335 CF

SINCE THE FLOOD PROTECTION REQUIREMENT IS GREATER THAN THE WQVD, 3,323 IS THE TARGET FOR QUANTITY CONTROL.

THE TOTAL VOLUME PROVIDED BY THE EXISTING DRY DETENTION POND IS 34,871 CF. SINCE THIS VOLUME IS GREATER THAN 3,323 CF, BOTH THE WATER QUANTITY AND THE CITY OF ALEXANDRIA'S WQVD REQUIREMENT ARE SATISFIED.

ADDITIONAL STORAGE WILL BE PROVIDED IN THE BIORETENTION MEDIA AND STONE VOIDS. THEREFORE, THE WATER QUANTITY REQUIREMENT FOR FLOOD CONTROL IS SATISFIED.

PER FEMA FLOODPLAIN MAP 5155190037F, DATED MAY 31, 2022, THIS SITE IS WITHIN THE FLOODPLAIN IN ZONE X.

THERE IS A NO RESOURCE PROTECTION AREA LOCATED ON THE SUBJECT PROPERTY.

SWM Water Quantity Energy Balance Worksheet

SITE AREA (acre)	1.51			
	1-year		10-year	
	PRE	POST (adjusted)	PRE	POST (adjusted)
P	2.70	2.70	5.20	5.20
CN	92	93	92	93
S=1000/CN-10	0.87	0.75	0.87	0.75
0.2S	0.17	0.15	0.17	0.15
RV=(P-0.2S)^2/(P-0.2S)+S	1.88	1.97	4.28	4.39

QPost Development <= I.F.* (Qpre-development* RVpre-development)/RVDeveloped)

I.F	0.8			
CHANNEL PROTECTION (1-YEAR)			**FLOOD CONTROL (10-YEAR)**	
Qpre-development	3.45	From TR-55	Qpre-development	7.58
QPost Development	3.59	From TR-55	QPost Development	7.71
RVPost Development (with runoff reduction)	1.95	From VRRM	RVPost Development (with runoff reduction)	4.41
Qallowable	3.32		Qallowable	7.36
Qallowable/QPost Development	0.93	Fig 11.7 of DEQ Manual	Qallowable/QPost Development	0.96
Vs/Vr	0.14		Vs/Vr	0.14
Vs	0.28		Vs	0.61
Storage required (cf)	1539		Storage required (cf)	3323

OUTFALL NARRATIVE

A MAJORITY OF THE 9.21 ACRE LOT AND PORTIONS OF BUSINESS CENTER DRIVE ARE GENERALLY COLLECTED IN A SERIES OF STORM DRAINS AND CONVEYED FROM EAST TO WEST INTO THE EXISTING ON-SITE DETENTION POND. THE POND WAS DESIGNED TO PROVIDE DETENTION FOR THE SITE'S ULTIMATE DEVELOPMENT INCLUDING THIS PROJECT. A CONTROL STRUCTURE FOR THE POND RELEASES RUNOFF INTO A PIPED SYSTEM WHICH OUTFALLS TO THE SOUTH INTO CAMERON RUN.

REFER TO SHEET C-703 FOR POND ROUTING CALCULATIONS TO DEMONSTRATE THE EXISTING POND IS ADEQUATE TO PROVIDE QUANTITY CONTROL FOR THIS PROJECT.

CHANNEL AND FLOOD PROTECTION REQUIREMENTS ARE BEING MET ON-SITE, AS DESCRIBED BELOW.

CHANNEL PROTECTION ANALYSIS

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(1)(c), THE STORMWATER CONVEYANCE SHALL CONVEY THE ONE-YEAR 24-HOUR STORM PER:
Qdev <= I.F. x (Qpre-dev x RVpre-dev)/RVdev

THE SWM WATER QUANTITY ENERGY BALANCE WORKSHEET ON THIS SHEET CALCULATES A CN OF 92 FOR THE LIMITS OF DISTURBANCE. PER THE HYDROCAD REPORT ON C-703, THE 1-YEAR PRE-DEVELOPED RELEASE RATE FROM THE POND IS 31.00 CFS. IN THE POST-DEVELOPED CONDITION, THE 1-YEAR PEAK RELEASE RATE IS 30.86 CFS. THEREFORE THE CHANNEL PROTECTION REQUIREMENT IS SATISFIED.

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(1)(d), SINCE 13-109(F)(1)(C) IS USED TO DEMONSTRATE COMPLIANCE WITH THE CHANNEL PROTECTION CRITERIA, THE LIMITS OF ANALYSIS IS ALSO SATISFIED.

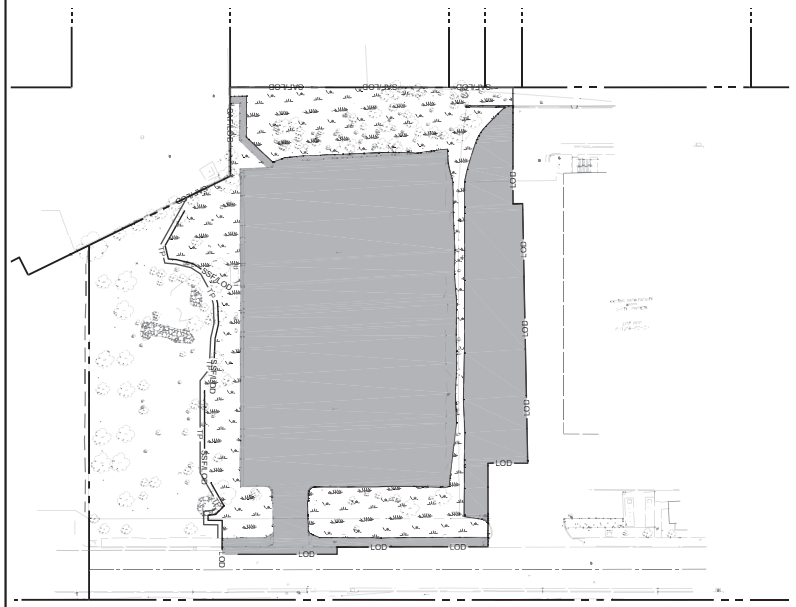
FLOOD PROTECTION ANALYSIS

PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(2)(b)(ii), SINCE THIS SITE CURRENTLY EXPERIENCES LOCALIZED FLOODING, THE POST-DEVELOPED PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT SHALL BE LESS THAN THE PRE-DEVELOPED PEAK FLOW RATE FOR THE 10-YEAR 24-HOUR STORM EVENT.

THE SWM WATER QUANTITY ENERGY BALANCE WORKSHEET ON THIS SHEET CALCULATES A CN OF 92 FOR THE LIMITS OF DISTURBANCE. PER THE HYDROCAD REPORT ON C-703, THE 10-YEAR PRE-DEVELOPED RELEASE RATE FROM THE POND IS 63.39 CFS. IN THE POST-DEVELOPED CONDITION, THE 10-YEAR PEAK RELEASE RATE IS 63.10 CFS. THEREFORE THE FLOOD CONTROL REQUIREMENT IS SATISFIED.

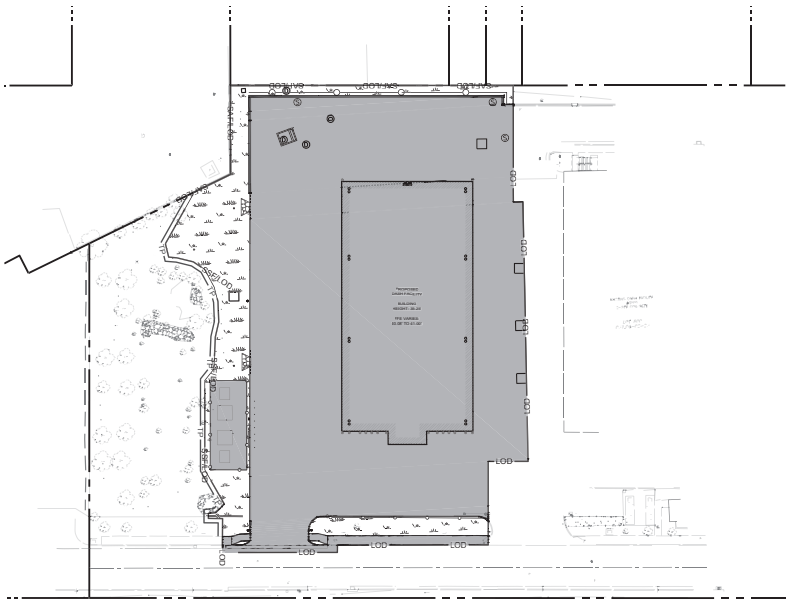
PER THE CITY OF ALEXANDRIA ZONING ORDINANCE SECTION 13-109(F)(2)(c)(i), THE LIMITS OF ANALYSIS SHALL EXTEND TO A POINT WHERE THE SITE'S CONTRIBUTING DRAINAGE AREA IS LESS THAN OR EQUAL TO 1.0% OF THE TOTAL WATERSHED AREA DRAINING TO A POINT OF ANALYSIS.

THE SITE DRAINAGE AREA IS 1.51 AC AND THE TOTAL WATERSHED DRAINAGE AREA TO THE POINT OF ANALYSIS IS 161 ACRES. THEREFORE THE SITE AREA IS LESS THAN 1.0% OF THE TOTAL WATERSHED AREA AT EX. STORM STRUCTURE #8.



PRE-DEVELOPMENT IMPERVIOUS AREA MAP
SCALE: 1"=40'

PRE-DEVELOPMENT IMPERVIOUS AREA = 45,293 SF (1.04 AC)
PRE-DEVELOPMENT MANAGED TURF AREA = 20,319 SF (0.47 AC)



POST-DEVELOPMENT IMPERVIOUS AREA MAP
SCALE: 1"=40'

POST-DEVELOPMENT IMPERVIOUS AREA = 56,041 SF (1.29 AC)
POST-DEVELOPMENT MANAGED TURF AREA = 9,571 SF (0.22 AC)

0 20' 40' 80'
SCALE: 1"=40'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3876 CHAIN BRIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
EMAIL: AMT@AMTHOMASENG.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTHOMASENG.COM
SCALE: 1"=50' DATE: 05/23/2025 DRAWN: DMB; EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50030 PROFESSIONAL ENGINEER 05/23/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY:

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:
STORMWATER MANAGEMENT QUANTITY ANALYSIS

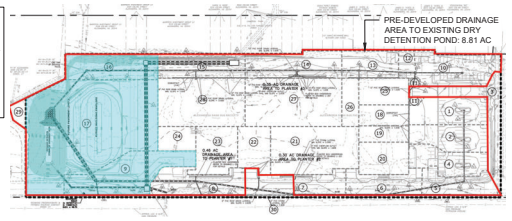
APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
_____ DIRECTOR DATE
_____
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

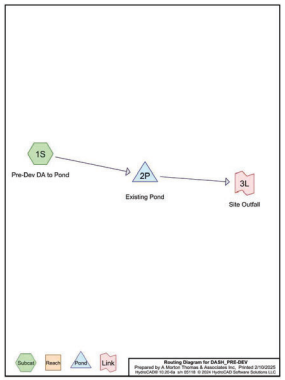
Job No. 23-0754.001

SHEET NO: C-702 36 OF 94

POND PRE-DEVELOPMENT

DRAINAGE AREAS 9, 16, AND 17 CHANGE FROM PRE- TO POST-DEVELOPMENT. THE PROJECT LOD IS WITHIN THIS ZONE. IN THE POST-DEVELOPMENT CALCULATIONS, THE REDUCED CN APPLICABLE TO THE LOD IS WEIGHTED WITH THE REMAINING AREA TO GENERATE THE CN USED IN HYDROCAD FOR 'AREA 9, 16, AND 17'.





DASH_PRE-DEV
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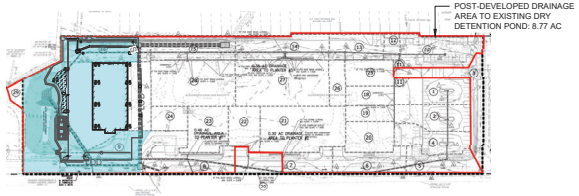
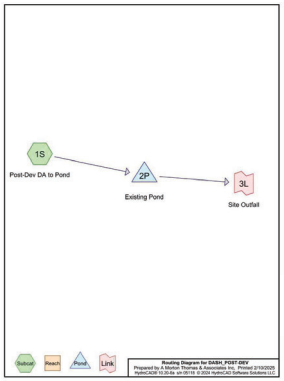
Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.285	97	DA 1 (1S)
0.363	94	DA 10 (1S)
0.027	87	DA 11 (1S)
0.064	90	DA 12 (1S)
0.218	92	DA 13 (1S)
0.341	91	DA 14 (1S)
0.287	92	DA 15 (1S)
0.142	98	DA 18 (1S)
0.112	98	DA 19 (1S)
0.267	97	DA 2 (1S)
0.221	98	DA 20 (1S)
0.559	98	DA 21 (1S)
0.197	98	DA 22 (1S)
0.273	98	DA 23 (1S)
0.127	98	DA 24 (1S)
0.184	98	DA 25 (1S)
0.111	98	DA 26 (1S)
0.640	98	DA 27 (1S)
0.577	98	DA 28 (1S)
0.045	80	DA 29 Onsite (1S)
0.252	96	DA 4 (1S)
0.219	95	DA 5 (1S)
0.240	96	DA 6 (1S)
0.313	95	DA 7 (1S)
0.316	93	DA 8 (1S)
2.430	93	DA 9, 16, 17 (LOD) (1S)
8.810	**95**	**TOTAL AREA**

POND POST-DEVELOPMENT





DASH_POST-DEV
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Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.285	97	DA 1 (1S)
0.363	94	DA 10 (1S)
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0.064	90	DA 12 (1S)
0.218	92	DA 13 (1S)
0.341	91	DA 14 (1S)
0.287	92	DA 15 (1S)
0.142	98	DA 18 (1S)
0.112	98	DA 19 (1S)
0.267	97	DA 2 (1S)
0.221	98	DA 20 (1S)
0.559	98	DA 21 (1S)
0.197	98	DA 22 (1S)
0.273	98	DA 23 (1S)
0.127	98	DA 24 (1S)
0.184	98	DA 25 (1S)
0.111	98	DA 26 (1S)
0.577	98	DA 28 (1S)
0.045	80	DA 29 Onsite (1S)
0.252	96	DA 4 (1S)
0.219	95	DA 5 (1S)
0.240	96	DA 6 (1S)
0.313	95	DA 7 (1S)
0.316	93	DA 8 (1S)
2.390	93	DA 9, 16, 17 (LOD) (1S)
8.770	**95**	**TOTAL AREA**

Drainage Area 9, 16, 17 2.39 AC

Drainage Area to Bioretention 0.80 AC ON 93 (REDUCED CN FROM VRRM)
Remaining DA 9, 16, 17 minus Bioretention 1.59 AC ON 93 HSG B 1.52 AC Impervious
0.07 AC Turf

Post-Dev. Weighted CN for DA 9,16,17 93 ON

POND 1-YEAR

PRE-DEVELOPMENT:

DASH_PRE-DEV Type II 24-hr 1-year Rainfall=2.70"
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Summary for Pond 2P: Existing Pond

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 8.810 ac, 35.68% Impervious, Inflow Depth > 2.03" for 1-year event
Inflow = 24.47 cfs @ 11.88 hrs, Volume= 1.492 af
Outflow = 31.00 cfs @ 11.91 hrs, Volume= 1.226 af, Atten= 10%, Lag= 1.9 min
Primary = 31.00 cfs @ 11.91 hrs, Volume= 1.226 af
Routed to Link 3L : Site Outfall

Routing by Stor-Ind method, Time Span= 0.06-19.98 hrs, dt= 0.06 hrs
Peak Elev= 36.9f @ 11.91 hrs Surf Area= 7,173 sf Storage= 17,545 cf

Plug-Flow detention time= 79.6 min calculated for 1.222 af (82% of inflow)
Center-of-Mass det. time= 28.7 min (772.9 - 744.2)

Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	35,238 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	0	0	0
32.00	731	367	367
33.00	3,042	1,887	2,254
34.00	4,581	3,812	6,065
35.00	5,900	5,241	11,306
36.00	7,300	6,600	17,906
37.00	8,670	7,985	25,891
38.00	10,024	9,347	35,238

Device	Routing	Invert	Outlet Devices
#1	Primary	30.98'	**36.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.98' / 29.96' S= 0.0385 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 7.07 sf
#2	Device 1	30.98'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	35.20'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=29.34 cfs @ 11.91 hrs HW=35.88' (Free Discharge)
└1=Culvert (Passes 29.34 cfs of 66.85 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 0.52 cfs @ 10.52 fps)
└3=Orifice/Grate (Weir Controls 28.82 cfs @ 2.70 fps)

DASH_PRE-DEV Type II 24-hr 1-year Rainfall=2.70"
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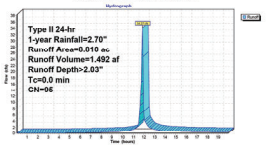
Subcatchment 1S: Pre-Dev DA to Pond



POST-DEVELOPMENT:

DASH_POST-DEV Type II 24-hr 1-year Rainfall=2.70"
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Summary for Pond 2P: Existing Pond

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 8.770 ac, 35.84% Impervious, Inflow Depth > 2.03" for 1-year event
Inflow = 24.11 cfs @ 11.88 hrs, Volume= 1.485 af
Outflow = 30.66 cfs @ 11.91 hrs, Volume= 1.220 af, Atten= 10%, Lag= 1.9 min
Primary = 30.66 cfs @ 11.91 hrs, Volume= 1.220 af
Routed to Link 3L : Site Outfall

Routing by Stor-Ind method, Time Span= 0.06-19.98 hrs, dt= 0.06 hrs
Peak Elev= 36.9f @ 11.91 hrs Surf Area= 7,169 sf Storage= 17,337 cf

Plug-Flow detention time= 79.9 min calculated for 1.216 af (82% of inflow)
Center-of-Mass det. time= 28.9 min (773.1 - 744.2)

Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	35,238 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	0	0	0
32.00	731	367	367
33.00	3,042	1,887	2,254
34.00	4,581	3,812	6,065
35.00	5,900	5,241	11,306
36.00	7,300	6,600	17,906
37.00	8,670	7,985	25,891
38.00	10,024	9,347	35,238

Device	Routing	Invert	Outlet Devices
#1	Primary	30.98'	**36.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.98' / 29.96' S= 0.0385 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 7.07 sf
#2	Device 1	30.98'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	35.20'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=30.66 cfs @ 11.91 hrs HW=36.9' (Free Discharge)
└1=Culvert (Passes 30.66 cfs of 66.85 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 0.52 cfs @ 10.52 fps)
└3=Orifice/Grate (Weir Controls 30.14 cfs @ 2.69 fps)

DASH_POST-DEV Type II 24-hr 1-year Rainfall=2.70"
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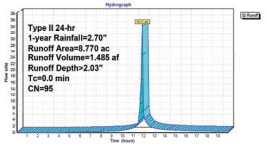
Subcatchment 1S: Post-Dev DA to Pond



POND 10-YEAR

PRE-DEVELOPMENT:

DASH_PRE-DEV Type II 24-hr 10-year Rainfall=5.20"
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Summary for Pond 2P: Existing Pond

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 8.810 ac, 35.68% Impervious, Inflow Depth > 4.37" for 10-year event
Inflow = 59.11 cfs @ 11.88 hrs, Volume= 3.209 af
Outflow = 63.39 cfs @ 11.90 hrs, Volume= 2.922 af, Atten= 9%, Lag= 1.5 min
Primary = 63.39 cfs @ 11.90 hrs, Volume= 2.922 af
Routed to Link 3L : Site Outfall

Routing by Stor-Ind method, Time Span= 0.06-19.98 hrs, dt= 0.06 hrs
Peak Elev= 36.9f @ 11.90 hrs Surf Area= 7,773 sf Storage= 20,509 cf

Plug-Flow detention time= 55.8 min calculated for 2.920 af (91% of inflow)
Center-of-Mass det. time= 22.6 min (749.1 - 726.5)

Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	35,238 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	0	0	0
32.00	731	367	367
33.00	3,042	1,887	2,254
34.00	4,581	3,812	6,065
35.00	5,900	5,241	11,306
36.00	7,300	6,600	17,906
37.00	8,670	7,985	25,891
38.00	10,024	9,347	35,238

Device	Routing	Invert	Outlet Devices
#1	Primary	30.98'	**36.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.98' / 29.96' S= 0.0385 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 7.07 sf
#2	Device 1	30.98'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	35.20'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=60.66 cfs @ 11.90 hrs HW=36.3' (Free Discharge)
└1=Culvert (Passes 60.66 cfs of 66.85 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 0.54 cfs @ 10.99 fps)
└3=Orifice/Grate (Weir Controls 60.42 cfs @ 3.45 fps)

DASH_PRE-DEV Type II 24-hr 10-year Rainfall=5.20"
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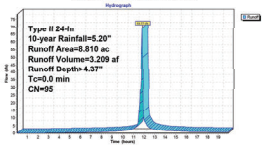
Subcatchment 1S: Pre-Dev DA to Pond



POST-DEVELOPMENT:

DASH_POST-DEV Type II 24-hr 10-year Rainfall=5.20"
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Summary for Pond 2P: Existing Pond

[44] Hint: Outlet device #2 is below defined storage

Inflow Area = 8.770 ac, 35.84% Impervious, Inflow Depth > 4.37" for 10-year event
Inflow = 59.46 cfs @ 11.88 hrs, Volume= 3.195 af
Outflow = 63.10 cfs @ 11.90 hrs, Volume= 2.906 af, Atten= 9%, Lag= 1.5 min
Primary = 63.10 cfs @ 11.90 hrs, Volume= 2.906 af
Routed to Link 3L : Site Outfall

Routing by Stor-Ind method, Time Span= 0.06-19.98 hrs, dt= 0.06 hrs
Peak Elev= 36.3f @ 11.90 hrs Surf Area= 7,768 sf Storage= 20,482 cf

Plug-Flow detention time= 56.0 min calculated for 2.906 af (91% of inflow)
Center-of-Mass det. time= 22.6 min (748.1 - 725.5)

Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	35,238 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
31.00	0	0	0
32.00	731	367	367
33.00	3,042	1,887	2,254
34.00	4,581	3,812	6,065
35.00	5,900	5,241	11,306
36.00	7,300	6,600	17,906
37.00	8,670	7,985	25,891
38.00	10,024	9,347	35,238

Device	Routing	Invert	Outlet Devices
#1	Primary	30.98'	**36.0" Round Culvert** L= 26.0' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 30.98' / 29.96' S= 0.0385 '/' Cc= 0.900 n= 0.013 Concrete sewer w/manholes & inlets, Flow Area= 7.07 sf
#2	Device 1	30.98'	**3.0" Vert. Orifice/Grate** C= 0.600 Limited to weir flow at low heads
#3	Device 1	35.20'	**60.0" Horiz. Orifice/Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=60.66 cfs @ 11.90 hrs HW=36.3' (Free Discharge)
└1=Culvert (Passes 60.66 cfs of 66.62 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 0.54 cfs @ 10.99 fps)
└3=Orifice/Grate (Wier Controls 60.14 cfs @ 3.45 fps)

DASH_POST-DEV Type II 24-hr 10-year Rainfall=5.20"
Prepared by A Morton Thomas & Associates Inc Printed 5/22/2025
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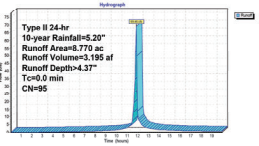
Subcatchment 1S: Post-Dev DA to Pond



DASH_POST-DEV Type II 24-hr 10-year Rainfall=5.20"
Prepared by A Morton Thomas & Associates Inc Printed 5/22/2025
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Time span=0.06-20.00 hrs, dt=0.06 hrs, 333 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Post-Dev DA to Pond Runoff Area=8.770 ac 35.84% Impervious Runoff Depth=4.37"
Tc=0.0 min CN=95 Runoff=63.46 cfs 3.195 af

Pond 2P: Existing Pond Peak Elev=36.3f Storage=20,482 cf Inflow=59.46 cfs 3.195 af
Outflow=63.10 cfs 2.906 af

Link 3L: Site Outfall Inflow=63.10 cfs 2.906 af
Primary=63.10 cfs 2.906 af

Total Runoff Area = 8.770 ac Runoff Volume = 3.195 af Average Runoff Depth = 4.37"
64.16% Pervious = 5.627 ac 35.84% Impervious = 3.143 ac

EXISTING DRY DETENTION POND STAGE-STORAGE

Stage-Area-Storage for Pond 2P: Existing Dry Detention Pond

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)	Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
31.00	0	0	36.20	7,574	19,393
31.10	76	4	36.30	7,711	20,157
31.20	149	15	36.40	7,848	20,935
31.30	221	34	36.50	7,985	21,727
31.40	292	60	36.60	8,122	22,531
31.50	367	93	36.70	8,259	23,351
31.60	440	133	36.80	8,396	24,184
31.70	513	180	36.90	8,533	25,030
31.80	585	235	37.00	8,670	25,891
31.90	658	298	37.10	8,805	26,764
32.00	731	367	37.20	8,941	27,652
32.10	803	444	37.30	9,078	28,553
32.20	875	532	37.40	9,214	29,468
32.30	1,424	699	37.50	9,347	30,395
32.40	1,655	844	37.60	9,482	31,336
32.50	1,887	1,021	37.70	9,618	32,291
32.60	2,118	1,222	37.80	9,753	33,260
32.70	2,349	1,445	37.90	9,889	34,242
32.80	2,580	1,691	38.00	**10,024**	**35,238**
32.90	2,811	1,961			
33.00	3,042	2,254			
33.10	3,196	2,565			
33.20	3,350	2,893			
33.30	3,504	3,235			
33.40	3,658	3,593			
33.50	3,812	3,968			
33.60	3,966	4,356			
33.70	4,119	4,760			
33.80	4,273	5,180			
33.90	4,427	5,615			
34.00	4,581	6,065			
34.10	4,713	6,530			
34.20	4,845	7,008			
34.30	4,977	7,498			
34.40	5,109	8,003			
34.50	5,241	8,520			
34.60	5,372	9,051			
34.70	5,504	9,595			
34.80	5,636	10,152			
34.90	5,768	10,723			
35.00	5,900	11,306			
35.10	6,040	11,903			
35.20	6,180	12,514			
35.30	6,320	13,138			
35.40	6,460	13,777			
35.50	6,600	14,431			
35.60	6,740	15,098			
35.70	6,880	15,779			
35.80	7,020	16,475			
35.90	7,160	17,182			
36.00	7,300	17,906			
36.10	7,437	18,642			

THE STAGE-STORAGE MODEL IN HYDROCAD IS BASED ON AMT, INC. TOPOGRAPHIC SURVEY. ORIGINAL DESIGN OF THE EXISTING DRY DETENTION POND IS IN PLAN SET TITLED 'CITY OF ALEXANDRIA DASH BUS OPERATIONS AND MAINTENANCE FACILITIES', SPECIAL USE PERMIT NO. 2006-00025, DATED 11/18/2008.

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
300 N. WASHINGTON STREET, SUITE 220
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PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

DRAWN: CMB, CJC
DATE: 05/21/2025
SCALE: N/A

CHELSEA V. BISHOP Lic. No. 50030 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER 05/21/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME:
STORMWATER MANAGEMENT QUANTITY ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-703 37 OF 94

WATER QUALITY NARRATIVE

THIS PROJECT IS FOLLOWING THE REQUIREMENTS OF VIRGINIA STORMWATER MANAGEMENT HANDBOOK, VERSION 1.1 AS WELL AS THE ALEXANDRIA WATER QUALITY VOLUME DEFAULT (WQVD) TO DEMONSTRATE COMPLIANCE WITH WATER QUALITY. THE SITE IS DEFINED BY THE TOTAL APPLICABLE AREA WITHIN THE LIMITS OF DISTURBANCE (LOD) OF 1.51 ACRES. THE IMPERVIOUS AREA FOR THE EXISTING CONDITION IS 1.04 ACRES (68.9%) AND 1.29 ACRES (85.4%) FOR THE PROPOSED CONDITION. DUE TO THE INCREASE IN IMPERVIOUS AREA, THERE IS A 0.37 LB/YEAR PHOSPHOROUS LOAD REDUCTION REQUIRED. TO THE WEST OF THE SITE THERE IS AN EXISTING DRY DETENTION POND ON-SITE SERVING THE PARCEL. ONE (1) BIORETENTION LEVEL 1 (P-FIL-05) IS PROPOSED WITHIN THE LIMITS OF DISTURBANCE TO PROVIDE TREATMENT FOR THIS PROJECT AND BE IN SEQUENCE WITH THE EXISTING DRY DETENTION POND WHICH RECEIVES 50% PHOSPHOROUS REMOVAL EFFICIENCY, SO IT IS REPRESENTED IN THE VRRM UNDER THE CATEGORY OF WET POND LEVEL 1 (P-BAS-02). THE BIORETENTION PROVIDES 0.42 LB/YR REMOVAL AND THE DOWNSTREAM EXISTING DRY DETENTION POND IN SERIES PROVIDES AN ADDITIONAL 0.17 LB/YR REMOVAL FOR A TOTAL OF 0.59 LB/YR. THEREFORE, THE REQUIREMENT OF 0.37 LB/YR IS SATISFIED.

PER CALCULATION ON C-702, THE WQVD IS 2,335 CF. PER THE VRRM, THE BMP TREATMENT VOLUME PROVIDED BY THE BIORETENTION IS 2,773 CF. THEREFORE THE WQVD FOR THE LOD IS SATISFIED BY THE BMP PROPOSED WITH THIS PROJECT.

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 4.1

CLEAR ALL (Ctrl+Shift+R)

data input cells | constant values | calculation cells | final results

Project Name: City of Alexandria DASH Facility
Date: 5/22/2025
Linear Development Project? No

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 1.51

Maximum reduction required:	*20%*
The site's net increase in impervious cover (acres) is:	*0.25*
Post-Development TP Load Reduction for Site (lb/yr):	*0.37*

Check:
BMP Design Specifications List: 2024 Stds & Specs
Linear project? No
Land cover areas entered correctly? ✓
Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest (acres) -- undisturbed, protected forest or reforested land					0.00
Mixed Open (acres) -- undisturbed/infrequently maintained grass or shrub land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed				0.47	0.47
Impervious Cover (acres)				1.04	1.04
					1.51

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest or reforested land					0.00
Mixed Open (acres) -- undisturbed/infrequently maintained grass or shrub land					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed				0.22	0.22
Impervious Cover (acres)				1.29	1.29
Area Check	OK.	OK.	OK.	OK.	1.51

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.37

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	17.06	Final Post-Development TN Load	17.89

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre Pre-ReDevelopment	Listed	Adjusted[1]
Forest Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
Weighted Loading Rate(forest)	0.00	0.00
% Forest	0%	0%
Mixed Open Cover (acres)	0.00	0.00
Weighted Rv(mixed)	0.00	0.00
Weighted Loading Rate(mixed)	0.00	0.00
% Mixed Open	0%	0%
Managed Turf Cover (acres)	0.47	0.22
Weighted Rv(turf)	0.25	0.25
Weighted Loading Rate(turf)	0.85	0.85
% Managed Turf	31%	17%
Impervious Cover (acres)	1.04	1.04
Rv(impervious)	0.95	0.95
Weighted Loading Rate(impervious)	0.86	0.86
% Impervious	69%	83%
Total Site Area (acres)	**1.51**	**1.26**
Site Rv	**0.73**	**0.83**
Treatment Volume and Nutrient Load		
Pre-ReDevelopment Treatment Volume (acre-ft)	0.0921	0.0869
Pre-ReDevelopment Treatment Volume (cubic feet)	4,013	3,786
Pre-ReDevelopment TP Load (lb/yr)	**1.29**	**1.08**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.85	0.86
Baseline TP Load (lb/yr) (0.26 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		0.33

[1] Adjusted Land Cover Summary:
Pre ReDevelopment land cover minus pervious land cover (forest, mixed open or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.26 lbs/acre/year).

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final) Post ReDev. & New Impervious	
Forest Cover (acres)	0.00
Weighted Rv(forest)	0.00
Wgt. Ld. Rate(forest)	0.00
% Forest	0%
Mixed Open Cover (acres)	0.00
Weighted Rv(mixed)	0.00
Wgt. Ld. Rate(mixed)	0.00
% Mixed Open	0%
Managed Turf Cover (acres)	0.22
Weighted Rv (turf)	0.25
Wgt. Ld. Rate(turf)	0.85
% Managed Turf	15%
Impervious Cover (acres)	1.29
Rv(impervious)	0.95
Wgt. Ld. Rate(imperv.)	0.86
% Impervious	85%
Final Site Area (acres)	**1.51**
Final Post Dev Site Rv	**0.85**
Final Post-Development Treatment Volume (acre-ft)	0.1067
Final Post-Development Treatment Volume (cubic feet)	4,648
Final Post-Development TP Load (lb/yr)	**1.29**
Final Post-Development TP Load per acre (lb/acre/yr)	0.86

Land Cover Summary-Post Post-ReDevelopment	
Forest Cover (acres)	0.00
Weighted Rv(forest)	0.00
Wgt. Ld. Rate(forest)	0.00
% Forest	0%
Mixed Open Cover (acres)	0.00
Weighted Rv(mixed)	0.00
Wgt. Ld. Rate(mixed)	0.00
% Mixed Open	0%
Managed Turf Cover (acres)	0.22
Weighted Rv (turf)	0.25
Wgt. Ld. Rate(turf)	0.85
% Managed Turf	17%
ReDev. Impervious Cover (acres)	1.04
Rv(impervious)	0.95
Wgt. Ld. Rate(imperv.)	0.86
% Impervious	83%
Total ReDev. Site Area (acres)	**1.26**
ReDev Site Rv	**0.83**
Treatment Volume and Nutrient Load	
Post-ReDevelopment Treatment Volume (acre-ft)	0.0869
Post-ReDevelopment Treatment Volume (cubic feet)	3,786
Post-ReDevelopment Load (TP) (lb/yr)*	**1.08**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.86
Max. Reduction Required (Below Pre-ReDevelopment Load)	20%
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.22**

Land Cover Summary-Post Post-Development New Impervious	
New Impervious Cover (acres)	0.25
Rv(impervious)	0.95
Post-Development Treatment Volume (acre-ft)	0.0198
Post-Development Treatment Volume (cubic feet)	862
Post-Development TP Load (lb/yr)	**0.21**
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.15**

Drainage Area A

VRRM 4.1, 2024

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv	Composite Loading P
Forest (acres)					0.00	0.00	0.00
Mixed Open (acres)					0.00	0.00	0.00
Managed Turf (acres)				0.22	0.22	0.25	0.85
Impervious Cover (acres)				1.29	1.29	0.95	0.86
				Total	1.51		

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	1.29
Post Development Treatment Volume in D.A. A (ft^3)	4,648

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Mixed Open Credit Area (acres)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
6. Bioretention (RR)														
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (P-FIL-05)	40		0.13	0.77	0	1,109	1,664	2,773	25	0.00	0.77	0.42	0.35	15.a. Wet Pond #1
15. Wet Ponds (no RR)														
15.a. Wet Pond #1 (P-BAS-02)	0				1,664	0	1,664	1,664	50	0.35	0.00	0.17	0.17	

Site Results (Water Quality Compliance) VRRM 4.1, 2024

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MIXED OPEN (ac)	0.00	0.00	0.00	0.00	0.00	OK.
MIXED OPEN AREA TREATED(ac)	0.00	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.22	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.17	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	1.29	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.77	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 4,648

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	1,114	0	0	0	0	1,114
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	1.29	0.00	0.00	0.00	0.00	1.29
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.60	0.00	0.00	0.00	0.00	0.60
TP LOAD REMAINING (lb/yr)	0.69	0.00	0.00	0.00	0.00	0.69
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	8.02	0.00	0.00	0.00	0.00	8.02

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.29
TP LOAD REDUCTION REQUIRED (lb/yr)	0.37
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.60
TP LOAD REMAINING (lb/yr):	0.69
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	0.00 **

** TARGET TP REDUCTION EXCEEDED BY 0.24 LB/YEAR **

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	17.89
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	8.02
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	9.87

Runoff Volume and Curve Number Calculations, VRRM 4.1, 2024

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.70	3.11	5.20

Use NOAA Atlas 14 (http://hdsc.nws.noaa.gov/hdsc/pfds/)

*Notes (see below):

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest -- undisturbed, protected forest or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Mixed Open -- undisturbed/infrequently maintained grass or shrub land	Area (acres)	0.00	0.00	0.00	0.00
	CN	34	59	72	79
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.22
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	1.29
	CN	98	98	98	98

$CN_{(D.A. A)}$: 95

Total Area (acres):	1.51
Runoff Reduction Volume (ft^3):	1,114

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	2.16	2.56	4.62
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.95	2.35	4.41
Adjusted CN*	93	93	93

*See Notes above

Project Description

Development or **[Redevelopment]**

Drainage Area	Impervious	Pervious	Total
Site Area	1.29 AC	0.22 AC	1.51 AC
On-Site Treated	1.29 AC	0.22 AC	1.51 AC
Off-Site Treated	0.00 AC	0.00 AC	0.00 AC
Total Treated			1.51 AC
Any On-Site Disconnected by a Vegetated Buffer (25 ft)	N/A		
Total On-Site Treated or Disconnected			N/A

Water Treatment on site

BMP Type	*Area treated by BMP (acres)*	*Impervious area treated by BMP (acres)*	*BMP efficiency (%)*
BIORETENTION	0.90	0.77	25%

Miscellaneous

Total WQV treated: **[yes]** no
Detention on site: **[yes]** no

Project is within which watershed? CAMERON RUN

Project discharges to which body of water? CAMERON RUN

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3076 CENTREVILLE DRIVE, SUITE 220
HERNDON, VA 20171
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EMAIL: AMTI@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: N/A | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA — CHELSEA M. BISHOP Lic. No. 50030 — PROFESSIONAL ENGINEER — 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

SHEET NAME: STORMWATER MANAGEMENT QUALITY ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. ______
DEPARTMENT OF PLANNING & ZONING

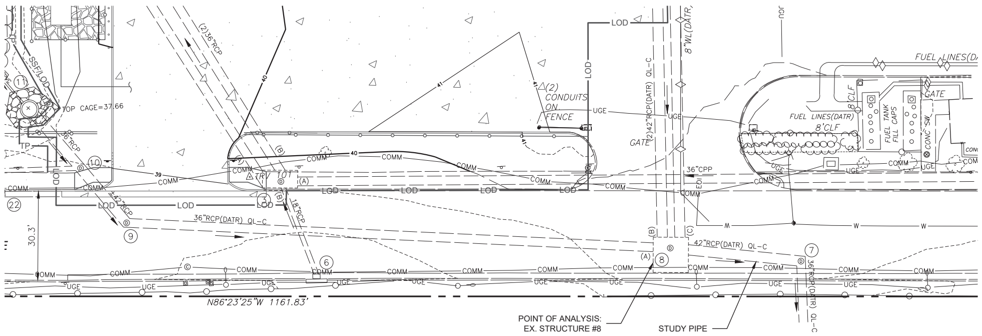
DIRECTOR ______ DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ______

DIRECTOR ______ DATE

CHAIRMAN, PLANNING COMMISSION ______ DATE
DATE RECORDED ______
INSTRUMENT NO. ______ DEED BOOK NO. ______ PAGE NO. ______

Job No. 23-0754.001

SHEET NO: C-704 38 OF 94



SITE AREA MAP
SCALE: 1"=20'

ADEQUATE OUTFALL ANALYSIS

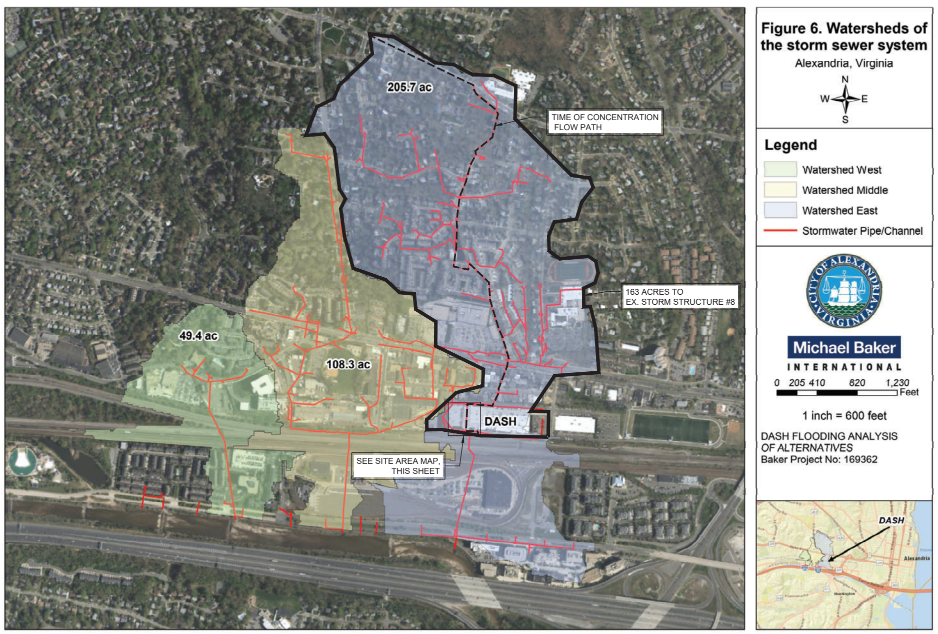
POINT OF ANALYSIS:
EX. STRUCTURE #8

STUDY PIPE

Node ID US	Node ID DS	Length [ft]	D/H [ft]	Max Flow [ft³/s]	Max Velocity [ft/s]
002528IN	000860SMH	82.4	2	68.71	26.80
002529IN	002528IN	103.9	1.75	37.12	19.18
002530IN	000861SMH	25.8	1.5	32.16	17.85
002531IN	002530IN	55.1	1.25	0.32	1.34
002532IN	002533IN	27.4	1.25	0.00	0.00
002533IN	002534IN	52.0	1.5	0.00	0.00
002534IN	002535IN	100.1	1.5	0.00	0.00
002535IN	000862SMH	75.9	1.5	0.00	0.00
002536IN	002529IN	49.9	1.75	37.12	15.68
002537IN	002538IN	25.0	1.5	2.08	3.85
002538IN	002536IN	84.1	1.5	19.87	11.16
003503SMH	Junct016	116.7	0.833	0.00	0.00
003504SMH	003503SMH	119.2	0.833	0.00	0.00
003505SMH	003506SMH	140.4	0.833	0.00	0.00
003506SMH	003504SMH	138.5	0.833	0.00	0.00
003540SMH	008951IN	184.4	2	12.89	4.06
003541SMH	003542SMH	249.2	3	34.04	4.80
003542SMH	00001PD	181.0	3	32.99	3.12
003544SMH	003545SMH	23.0	3	81.32	11.41
003545SMH	003546SMH	185.7	3	81.54	11.45
003546SMH	003547SMH	51.2	3.5	240.51	24.75
003547SMH	000314ND	17.4	3	240.51	33.77

THIS PROJECT IS IN AN AREA THAT EXPERIENCES FLOODING AND THE EXISTING CITY CONVEYANCE SYSTEM IS NOT ADEQUATE. THIS HAS BEEN DOCUMENTED TO THE CITY IN THE REPORT TITLED 'DASH FLOODING ANALYSIS OF ALTERNATIVES ALEXANDRIA, VA', PREPARED BY MICHAEL BAKER INTERNATIONAL, DATED 12/04/2019.

THIS PROJECT IS PROVIDING A 36" RCP CONNECTION BETWEEN TWO OF THE CITY'S THROUGH-SITE CONVEYANCE SYSTEMS PER STAFF REQUEST TO PROVIDE FLOODING MITIGATION RELIEF. THIS PROJECT IS NOT WORSENING FLOODING OR MAKING IMPROVEMENTS FOR CITY INFRASTRUCTURE.



SOURCE: DASH FLOODING ANALYSIS OF ALTERNATIVES REPORT, PREPARED BY MICHAEL BAKER INTERNATIONAL, DATED 12/04/2019

42-IN RCP Capacity

Project Description	
Friction Method	Manning Formula
Solve For	Discharge
Input Data	
Roughness Coefficient	0.013
Channel Slope	0.004 ft/ft
Normal Depth	42.0 in
Diameter	42.0 in
Results	
Discharge	63.63 cfs
Flow Area	9.6 ft²
Wetted Perimeter	11.0 ft
Hydraulic Radius	10.5 in
Top Width	0.00 ft
Critical Depth	30.0 in
Percent Full	100.0 %
Critical Slope	0.005 ft/ft
Velocity	6.61 ft/s
Velocity Head	0.68 ft
Specific Energy	4.18 ft
Froude Number	(N/A)
Maximum Discharge	68.44 cfs
Discharge Full	63.63 cfs
Slope Full	0.004 ft/ft
Flow Type	Undefined
GVF Input Data	
Downstream Depth	0.0 in
Length	0.0 ft
Number Of Steps	0
GVF Output Data	
Upstream Depth	0.0 in
Profile Description	N/A
Profile Headloss	0.00 ft
Average End Depth Over Rise	0.0 %
Normal Depth Over Rise	0.0 %
Downstream Velocity	0.00 ft/s
Upstream Velocity	0.00 ft/s
Normal Depth	42.0 in
Critical Depth	30.0 in
Channel Slope	0.004 ft/ft
Critical Slope	0.005 ft/ft

42-IN RCP capacity.fm8
4/9/2025

Bentley Systems, Inc. Haestad Methods Solution Center
27 Siemon Company Drive Suite 200 W
Watertown, CT 06795 USA +1-203-755-1666

FlowMaster
[10.03.00.03]
Page 1 of 1

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3076 CENTREVILLE DRIVE, SUITE 220
HERNDON, VA 20171
PHONE (301) 881 - 2545
EMAIL: AMT1@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50030 PROFESSIONAL ENGINEER 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: ADEQUATE OUTFALL ANALYSIS

APPROVED
SPECIAL USE PERMIT NO. ____
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ____

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-705 39 OF 94

Construction Inspection Checklist: Bioretention

Project Name: ____________________ Address: ____________________

DSP/DSUP/GRD #: ____________________ Construction Start Date: ____________________

Contractor: ____________________ Telephone: ____________________

Certifying Professional: ____________________ Telephone: ____________________

BMP ID and General Location: ____________________

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

Instructions:

- Mark each item as complete or write in "N/A" for those items that are not applicable.
- Fill in the blanks for requested information on dimensions, materials, etc.
- Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).
-

Preconstruction Meeting

Complete	Photo	Description	Date
☐		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
☐		A pre-construction meeting with the contractor designated to install the bioretention area, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
☐		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	

BMP Construction Preparation

Complete	Photo	Description	Date
☐		The bioretention area has not been impacted during construction or has been remediated prior to installation.	
☐		All pervious areas of the contributing drainage areas have been adequately stabilized with a thick layer of vegetation or erosion control measures are still in place and stormwater has been diverted around the area.	
☐		Impervious cover draining to the BMP has been constructed and the area is free of equipment, vehicles, and material storage.	
☐	☐	Stormwater is diverted around the bioretention area and perimeter E&S controls to protect the BMP during construction have been installed.	

Excavation

Complete	Photo	Description	Date
☐		The area of bioretention excavation is marked and the size and location conform to the approved plan.	

Excavation (continued)

☐		If the excavation area has been used as a sediment trap, the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	
☐		Excavation bottom is scarified prior to placement of stone.	
☐	☐	Subgrade surface is free of rocks, roots, and large voids. (Voids may be refilled with base aggregate to create a level surface for the placement of aggregates and underdrain.)	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered through an acceptable dewatering device and the design consultant has been notified.	
☐	☐	Excavation of the bioretention area has achieved proper grades and the required geometry. The area has been excavated from the sides to avoid soil compaction. Constructed dimensions: ____________	
☐	☐	Sides of the excavation area are covered with geotextile; no tears or holes, or excessive wrinkles are present.	

Pretreatment, Filter Layer, Underdrain and Stone Reservoir Placement

Complete	Photo	Description	Date
☐	☐	Energy dissipaters and pretreatment practices (forebays, gravel diaphragms, etc.) are installed in accordance with the approved plan/design specifications.	
☐	☐	All aggregates (stone, sand, etc., as required) conform to the approved plan/design specifications.	
☐	☐	The impermeable liner (when required) is placed in accordance with manufacturer specifications and the approved plan.	
☐	☐	Filter fabric is installed on the sides only per the approved plan/design specifications.	
☐	☐	#57 stone is placed to achieve the required storage depth per the approved plan/design specifications. Depth of #57 stone: ______ ft.	
☐	☐	Underdrain size and perforations conform to the approved plan/design specifications. (if applicable) Underdrain Diameter: ________ inches Underdrain Material: ________ Underdrain Spacing: __________ ft. Perforation Size & Spacing: ___________inches Number of Cleanouts/Observation Wells: ________	
☐		Placement of underdrain(s), cleanouts/observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
☐		Elevations of the underdrain(s) and outlet structure are in accordance with approved plan.	
☐	☐	The filter layer (choker stone/pea gravel/sand) is installed per the approved plan/design specifications. Choker material: ________ Depth of choker material: ________ inches	

Construction Inspection Checklist: Bioretention

Soil Media Placement

Complete	Photo	Description	Date
☐		Soil media is certified by a supplier or contractor as conforming to the approved plan/design specifications.	
☐		Filter media is placed in 12-inch lifts to the top elevation of the bioretention area in accordance with the approved plan/design specifications. The filter media is raked to a level grade after final lift and the elevation has been verified after settlement. No machinery, vehicles, or other heavy equipment have been permitted to travel across the filter media.	
☐	☐	Filter media depth conforms to the approved plan/design specifications. Depth: __________ ft.	
☐		Side slopes of the ponding area are laid back at the required slope (no steeper than 3H:1V) in accordance with the approved plan/design specifications.	

Plant and Outlet Installation

Complete	Photo	Description	Date
☐	☐	Riser, overflow weir, or other outflow structure is set to the elevation in the approved plan/design specifications and functional.	
☐	☐	Mulch composition and depth conform to approved plan/design specifications. Depth of mulch layer: ________ inches	
☐	☐	Ponding depth is in accordance with the approved plan/design specifications after plant and mulch placement. Depth of ponding area: ________inches (above mulch, 12" maximum)	
☐	☐	Signs are installed per the approved plan.	
☐	☐	Plant installation conforms to the approved plan/design specifications and all plants are healthy.	
☐	☐	Final elevations and slopes within the bioretention area after plant and mulch installation match the approved plan elevations.	
☐	☐	Provide a photo of the completed BMP after completion of construction.	

Comments	Date

Construction Inspection Checklist: Bioretention

Comments (continued)	

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and meet the approved plans and specification (or deviations as noted above).

Signature: ____________________ Date: ____________________

Certifying Professional's License Number (or Seal): ____________________

Table P-FIL-05-11 Bioretention Materials Specifications

Material	Specification	Notes
Filter Media Composition (Appendix F)	Filter Media to contain: 80% - 90% sand 10% - 20% soil fines 3% - 5% organic matter	The volume of filter media based on 110% of the plan volume, to account for settling or compaction. See Appendix F.
Filter Media Testing	See Appendix F for criteria	The media should be certified by the supplier.
Mulch Layer	Use aged (at least 6 months), double- shredded hardwood bark mulch.	Lay a 2- to 3-inch layer on the surface of the filter bed.
Alternative Surface Cover	Use river stone or pea gravel, coir and jute matting, or turfgrass cover.	Lay a 2- to 3-inch layer to suppress weed growth.
Topsoil For Manage Grass Cover or other intensive vegetation management	Loamy sand or sandy loam texture, with less than 5% clay content; pH corrected to between 6 and 7; and an organic matter content of at least 2%.	3-inch surface depth. Must meet minimum K_{sat} requirements of underlying media.
Geotextile/Liner	Use a non-woven geotextile fabric with a flow rate of > 110 gal./min./sq. ft. (e.g., Geotex 351 or equivalent)	Apply only to the sides and directly above the underdrain. For hotspots and certain karst sites only, use the appropriate liner on the bottom.
Choking Layer	Lay 2- to 4-inch layer of sand over 3-inch layer of VDOT #8 or #89 washed gravel	
Stone Underdrain and/or Storage Layer	VDOT #57 stone	9 inches for the underdrain; Up to 12 inches for the stone storage layer, if needed; Double washed and clean and free of all fines
Underdrains and Cleanouts	Use 6-inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope located nor more than 20 feet from the next pipe.	Lay the perforated pipe under the length of the bioretention cell, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the Ts and Ys.
Observation Wells	Use 4- to 6- inch rigid schedule 40 PVC pipe (or equivalent corrugated HDPE for micro-bioretention), with 3/8-inch perforations at 6 inches on center within the gravel layer	Use a closed wall pipe above the gravel layer. Extend observation well pipes to the surface with vented caps
Plant Materials	See Section 5.2 and Table P-FIL-05-7	Establish plant materials as specified in the landscaping plan and the recommended plant list.

Bioretention Area Maintenance Schedule and Guidelines

This document must be recorded as an addendum to the stormwater management/ BMP facilities operation and maintenance agreement

First Year Maintenance Guidelines

Successful establishment of bioretention areas requires that the following tasks be undertaken in the first year following installation:

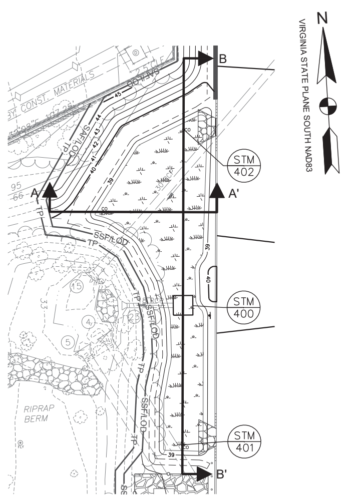
- Initial inspections. For the first 6 months following construction, the bioretention area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall.
- Spot reseeding. Inspect for bare or eroding areas in the contributing drainage area or around the bioretention area, and make sure they are immediately stabilized with grass cover.
- Watering. Watering is needed once a week during the first 2 months, and then as needed during first growing season (April-October), depending on rainfall.
- Remove and replace dead plants.

Routine Maintenance Guidelines

Bioretention areas must be inspected to ensure that they operate in good working condition and in accordance with the approved design and specifications. Items in need of repair must be immediately addressed.

Routine Maintenance Tasks	Frequency
Remove trash and debris	As needed
Check and repair eroded areas	Annually
Inspect for and remove excess sediment	Annually
Mow grass filter strips and bioretention turf cover	At least four times per year
Weed and rake mulch	Twice during the growing season
Inspect plant composition for consistency with approved plans and correct any deficiencies	Annually
Remulch to maintain a three inch layer	Annually
Prune trees and shrubs	Annually
Inspect for clogging or ponding water in the filter bed	Annually
Remove invasive plants	As needed
Replace dead or damaged plant material	As needed
Repair broken pipes	As needed
Remove sediment in pretreatment cells and inflows	Every 2-3 years
Replace the mulch layer	Every 3 years

Facility	Design Level	Total Drainage Area	Total Drainage Area	Surface Area	Ponding depth	Filter depth	Gravel depth	Ponding Volume (1.00 void)	Soil Storage Volume (0.25 void)	Gravel Storage Volume (0.4 void)	Available Storage
		(SF)	(acre)	(SF)	(in)	(in)	in	(CF)	(CF)	(CF)	(CF)
Bioretention	1	39053	0.90	2008	6	24	12	1004	1004	803	2811



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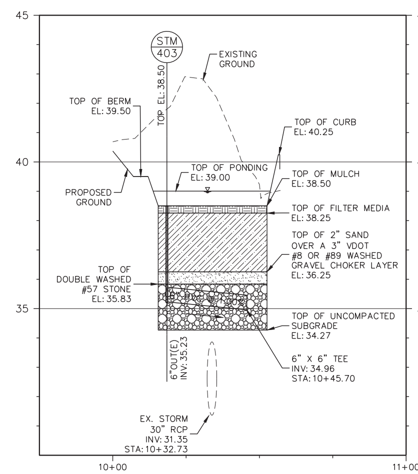
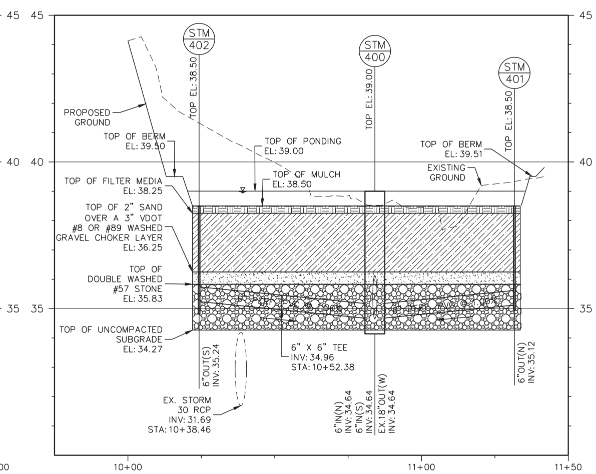


A TO A'
SCALE: HORZ 1"=20' VERT 1"=2'



B TO B'
SCALE: HORZ 1"=20' VERT 1"=2'

Job No. 23-0754.001

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER
AMT
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SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA CHELSEA M. BISHOP Lic. No. 50030 PROFESSIONAL ENGINEER 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY

3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: STORMWATER MANAGEMENT DETAILS

APPROVED
SPECIAL USE PERMIT NO. ________
DEPARTMENT OF PLANNING & ZONING

DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ________

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ________
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

SHEET NO: C-706 40 OF 94

SOIL BORING LOGS TO BE PROVIDED WITH FINAL SITE PLAN

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT

A. MORTON THOMAS AND ASSOCIATES, INC.

PROJ. MANAGER: CHELSEA BISHOP, P.E.

SCALE: 1"=20' DATE: 05/23/2025 DRAWN: CMB, EJC

SEAL: COMMONWEALTH OF VIRGINIA, CHELSEA M. BISHOP, PROFESSIONAL ENGINEER, 05/23/2025

REVISION APPROVED BY

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

SHEET NAME: SOIL BORINGS

APPROVED
SPECIAL USE PERMIT NO. ______
DEPARTMENT OF PLANNING & ZONING

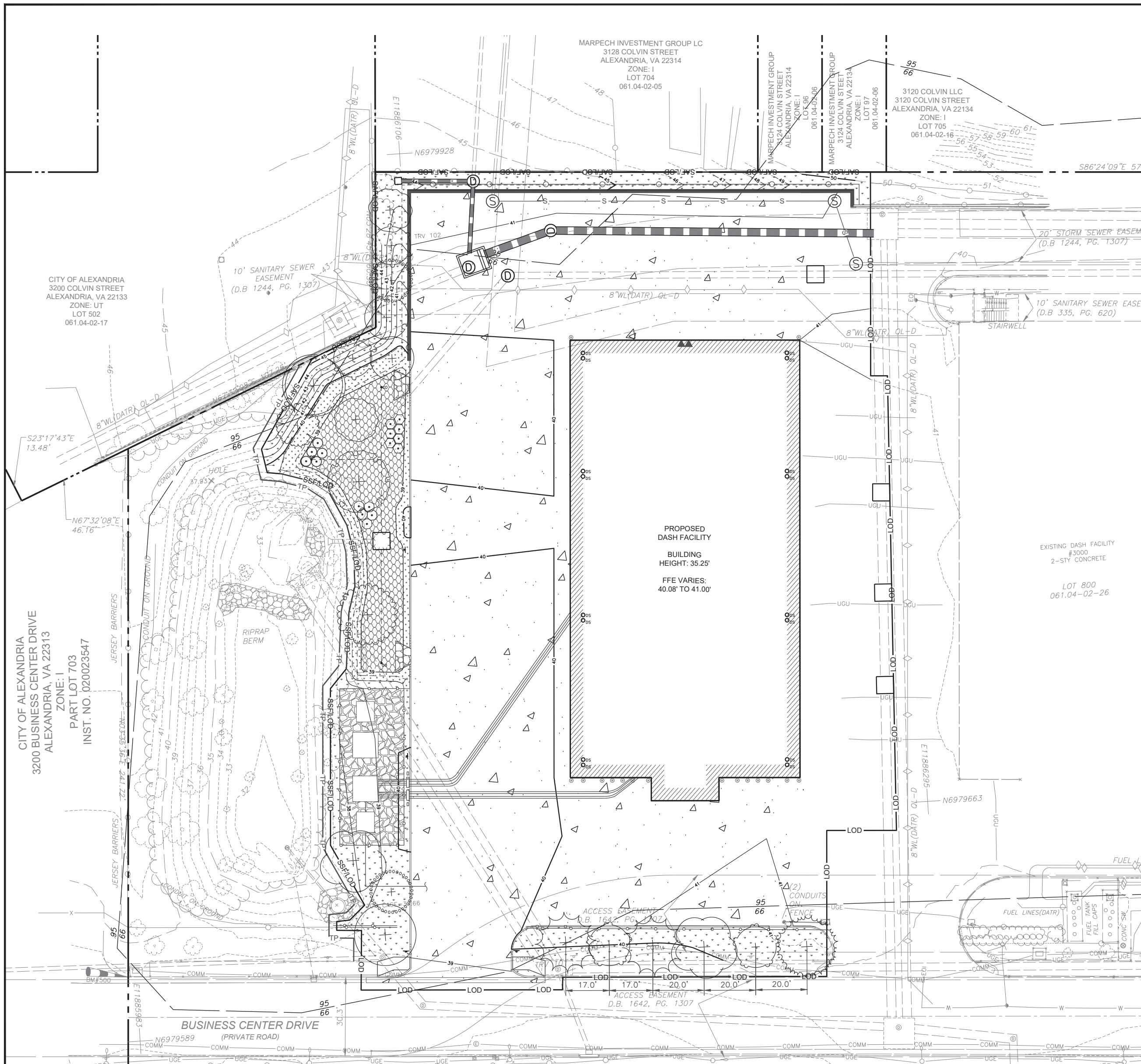
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ______

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED ______
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: C-901 41 OF 94



VIRGINIA STATE PLANE SOUTH NAD83

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	CAL	SIZE	REMARKS
TREES							
	AA	2	AMELANCHIER ARBOREA / DOWNY SERVICEBERRY	B & B	1.5-1.75" CAL	10`-12` H	
	BN	2	BETULA NIGRA / RIVER BIRCH MULTI-TRUNK	B & B	1.5-1.75" CAL	10`-12` H	
	CO	1	CELTIS OCCIDENTALIS / COMMON HACKBERRY	B & B	2-2.5" CAL.	12`-14` H	
	CC	2	CERCIS CANADENSIS / EASTERN REDBUD	B & B	1.5-1.75" CAL	10`-12` H	
	CK	2	CLADRASTIS KENTUKEA / AMERICAN YELLOWWOOD	B & B	2-2.5" CAL.	12`-14` H	
	CV	2	CRATAEGUS VIRIDIS 'WINTER KING' / WINTER KING HAWTHORN	B & B	1.5-1.75" CAL	10`-12` H	
	GD	1	GYMNOCLADUS DIOICUS 'ESPRESSO' / KENTUCKY COFFEETREE	B & B	2-2.5" CAL.	12`-14` H	
	NS	2	NYSSA SYLVATICA / TUPELO	B & B	2-2.5" CAL.	12`-14` H	
	PO	1	PLATANUS OCCIDENTALIS / AMERICAN SYCAMORE	B & B	2-2.5" CAL.	12`-14` H	
	QM	1	QUERCUS MARILANDICA / BLACKJACK OAK	B & B	2-2.5" CAL.	12`-14` H	
	QP	1	QUERCUS PALUSTRIS / PIN OAK	B & B	2-2.5" CAL.	12`-14` H	
	SA	2	SASSAFRAS ALBIDUM / SASSAFRAS	B & B	2-2.5" CAL.	12`-14` H	
	TA	1	TILIA AMERICANA / AMERICAN LINDEN	B & B	2-2.5" CAL.	12`-14` H	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	REMARKS
SHRUBS					
	AM	5	ARONIA MELANOCARPA / BLACK CHOKEBERRY	#5 CONT	2' H MIN. 4 CANES MIN.
	CB	5	CEPHALANTHUS OCCIDENTALIS 'BAILOPTICS' / FIBER OPTICS® BUTTONBUSH	#5 CONT	2' H MIN. 4 CANES MIN.
	RG	7	RHUS AROMATICA 'GRO-LOW' / GRO-LOW FRAGRANT SUMAC	#5 CONT	2' H MIN. 4 CANES MIN.
GROUND COVERS					
	FB	5,857 SF	/ DROUGHT TOLERANT FESCUE BLEND	SEED	
		3,680 SF	UPLAND BIO MIX		PLANT INDIVIDUAL SPECIES IN GROUPS OF 10-25 SPECIMENS
	AT	255	ASCLEPIAS TUBEROSA / BUTTERFLY MILKWEED	#1 CONT.	18" O.C.
	BA	96	BAPTISIA AUSTRALIS / BLUE WILD INDIGO	#1 CONT.	24" O.C.
	CW	340	CAREX WOODII / PRETTY SEDGE	#1 CONT.	18" O.C.
	PH2	255	PENSTEMON DIGITALIS 'HUSKER RED' / HUSKER RED BEARDTONGUE	#1 CONT.	18" O.C.
	SL	191	SCHIZACHYRIUM SCOPARIUM / LITTLE BLUESTEM	#1 CONT.	24" O.C.
	TF	191	TRIPSACUM DACTYLOIDES / FAKAHATCHEE GRASS	#1 CONT.	24" O.C.
		2,350 SF	LOWLAND BIO MIX		PLANT INDIVIDUAL SPECIES IN GROUPS OF 10-25 SPECIMENS
	AI	109	ASCLEPIAS INCARNATA / SWAMP MILKWEED	#1 CONT.	18" O.C.
	CS	271	CAREX STRICTA / TUSSOCK SEDGE	#1 CONT.	18" O.C.
	CG	109	CHELONE GLABRA / WHITE TURTLEHEAD	#1 CONT.	18" O.C.
	CC2	109	CONOCLINIUM COELESTINUM / WILD AGERATUM	#1 CONT.	18" O.C.
	IV	109	IRIS VERSICOLOR / BLUE FLAG	#1 CONT.	18" O.C.
	PA	109	PACKERA AUREA / GOLDEN GROUNDSEL	#1 CONT.	18" O.C.
	PV	153	PANICUM VIRGATUM / SWITCH GRASS	#1 CONT.	24" O.C.

GENERAL NOTES:

1. The property owner and/or applicant, specifier, contractor and installer of plant material are responsible for understanding and adhering to the standards set forth in the most recent version of the city of Alexandria Landscape Guidelines and applicable conditions of approval. All questions regarding application of, or adherence to, the standards and/or conditions of approval shall be directed to the city prior to commencement of demolition, construction, or any land disturbing activity.
2. The City-approved city-approved landscape plan submission, including plant schedule, notes and details shall be the document used for installation purposes and all procedures set forth in the landscape guidelines must be followed.
3. The contractor contractor shall not interfere with any tree protection measures or impact any existing vegetation identified to be preserved per the approved tree and vegetation protection plan.
4. Any changes, alterations or modifications to the site conditions that affect vegetation protection zones will require an amendment to the approved tree and vegetation protection plan and/or details.
5. Installation of plant material may only occur during the planting seasons identified in the landscape guidelines.
6. In lieu of more strenuous specifications, all landscape related work shall be installed and maintained in accordance with the current and most up-to-date edition (at time of construction) of Landscape Specification Guidelines as produced by the Landscape Contractors Association of Maryland, District of Columbia and Virginia; Gaithersburg, Maryland.
7. Substitutions to the approved plant material shall not occur until written approval is provided by the City..
8. Maintenance for this project shall be performed by the owner, applicant, successor(s) and/or assign(s) in perpetuity and in compliance with City of Alexandria Landscape Guidelines and as conditioned by project approval, as applicable.

0 10' 20' 40'
SCALE: 1"=20'

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

AMT
A. MORTON THOMAS AND ASSOCIATES, INC.
CONSULTING ENGINEERS

PROJ. MANAGER: CHELSEA BISHOP, P.E. | SCALE: 1"=20' | DATE: 05/23/2025 | DRAWN: CMB, EJC

SEAL:

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: LANDSCAPE PLAN

APPROVED
SPECIAL USE PERMIT NO. ______
DEPARTMENT OF PLANNING & ZONING

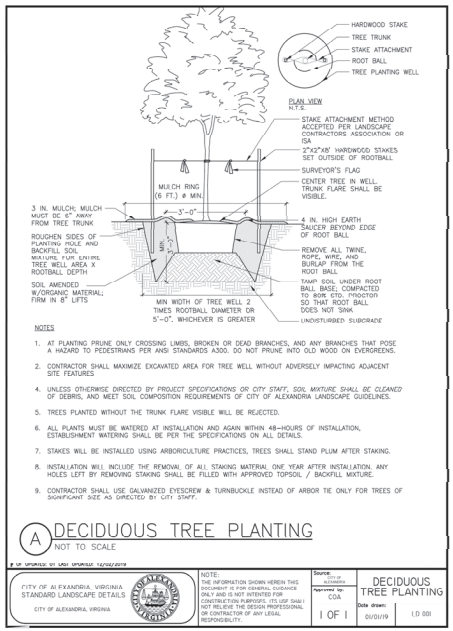
DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. ______

DIRECTOR DATE

CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED
INSTRUMENT NO. DEED BOOK NO. PAGE NO.

Job No. 23-0754.001

SHEET NO: LP-101 42 OF 94



NOTES

1. AT PLANTING PRUNE ONLY CROSSING LIMBS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS PER ANSI STANDARDS A300. DO NOT PRUNE INTO OLD WOOD ON EVERGREENS.
2. CONTRACTOR SHALL MAXIMIZE EXCAVATED AREA FOR TREE WELL WITHOUT ADVERSELY IMPACTING ADJACENT SITE FEATURES
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.
7. STAKES WILL BE INSTALLED USING ARBORICULTURE PRACTICES, TREES SHALL STAND PLUM AFTER STAKING.
8. INSTALLATION WILL INCLUDE THE REMOVAL OF ALL STAKING MATERIAL ONE YEAR AFTER INSTALLATION. ANY HOLES LEFT BY REMOVING STAKING SHALL BE FILLED WITH APPROVED TOPSOIL / BACKFILL MIXTURE.
9. CONTRACTOR SHALL USE GALVANIZED EYESCREW & TURNBUCKLE INSTEAD OF ARBOR TIE ONLY FOR TREES OF SIGNIFICANT SIZE AS DIRECTED BY CITY STAFF.

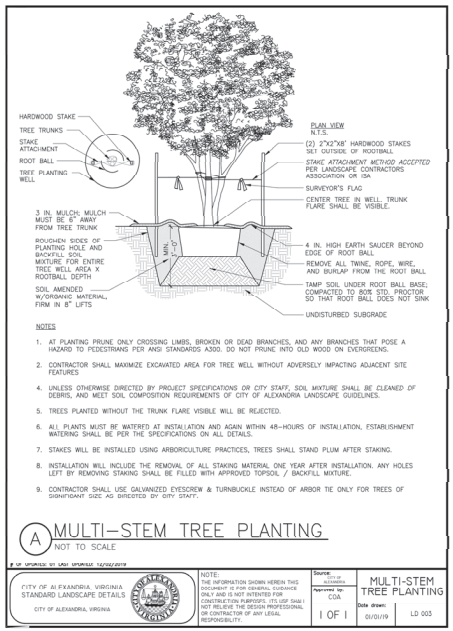
A DECIDUOUS TREE PLANTING
NOT TO SCALE

OF UPDATES BY LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. USE OF THIS SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
1 OF 1
DECIDUOUS TREE PLANTING
LD 001



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9. CONTRACTOR SHALL USE GALVANIZED EYESCREW & TURNBUCKLE INSTEAD OF ARBOR TIE ONLY FOR TREES OF SIGNIFICANT SIZE AS DIRECTED BY CITY STAFF.

A MULTI-STEM TREE PLANTING
NOT TO SCALE

OF UPDATES BY LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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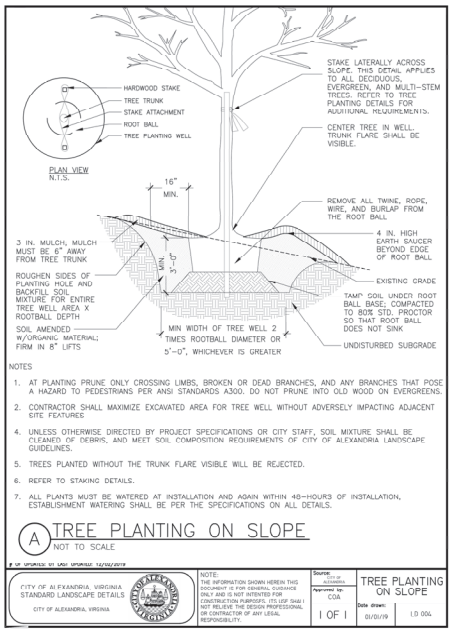
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
1 OF 1
MULTI-STEM TREE PLANTING
LD 003



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5. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
6. REFER TO STAKING DETAILS.
7. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A TREE PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES BY LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. USE OF THIS SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
1 OF 1
TREE PLANTING ON SLOPE
LD 004

	PLAN KEY	QUANTITY	GENUS	SPECIES	COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
STANDARD TREES	AA	2	Amelanchier	arborea	Serviceberry	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	500	1,000	2		2
	BN	2	Betula	nigra	River Birch	2"-3" cal./12-14 ft. ht.	B&B; multistem; full branching	750	1,500	2		2
	CC	2	Cersis	canadensis	Eastern Redbud	1.5"-1.75" cal./6-10 ft. ht.	B&B, multistem, branching	500	1,000	2		2
	CO	1	Celtis	occidentalis	Hackberry	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	1,250	1		1
	CK	2	Cladrastis	kentukea	Yellowwood	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	2,500		2	2
	CV	2	Crataegus	viridis	Winter King Green Hawthorn	1.5"-1.75"cal/6-10 ft. ht.	B&B; symmetrical, full branching	500	1,000	2		2
	GD	1	Gymnocladus	dioicus	Espresso Kentucky Coffeetree	2"-3" cal./12-14 ft. ht.	B&B; single leader	1,250	1,250	1		1
	NS	2	Nyssa	sylvatica	Blackgum	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	750	1,500	2		2
	PO	1	Platanus	occidentalis	Sycamore	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	1,250	1		1
	QM	1	Quercus	marilandica	Blackjack Oak	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	750	750	1		1
	QP	1	Quercus	palustris	Pin Oak	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	1,250	1		1
	SA	2	Sassafras	albidum	Sassafras	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	2,500	2		2
	TA	1	Tilia	americana	Linden	2"-3" cal./12-14 ft. ht.	B&B; symmetrical, single leader	1,250	1,250	1		1
	TOTALS	20						STANDARD TREE CCA:	17,000	18	2	20
										90.0%	10.0%	100.0%

BIODIVERSITY TABULATIONS							
TREES (URBAN AND STANDARD)							
TOTAL NUMBER OF TREES PROPOSED: 20							
GENUS	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED	SPECIES	QTY.	PERCENT OF TOTAL PROPOSED	MAXIMUM PERCENT ALLOWED
Amelanchier	2	10.0%	33%	arborea	2	10.0%	10%
Betula	2	10.0%	33%	nigra	2	10.0%	10%
Celtis	1	5.0%	33%	occidentalis	1	5.0%	10%
Cercis	2	10.0%	33%	canadensis	2	10.0%	10%
Cladrastis	2	10.0%	33%	kentukea	2	10.0%	10%
Crataegus	2	10.0%	33%	viridis	2	10.0%	10%
Gymnocladus	1	5.0%	33%	dioicus	1	5.0%	10%
Nyssa	2	10.0%	33%	sylvatica	2	10.0%	10%
Quercus	2	10.0%	33%	marilandica	1	5.0%	10%
			33%	palustris	1	5.0%	10%
Platanus	1	5.0%	33%	occidentalis	1	5.0%	10%
Sassafras	2	10.0%	33%	albidum	2	10.0%	10%
Tilia	1	5.0%	33%	americana	1	5.0%	10%

CROWN COVER TABULATIONS	
TOTAL SITE AREA (SF)	65,832
25% CROWN COVER REQUIRED (SF)	16,458
EXISTING CROWN COVER (SF)	25,688
REMOVED CROWN COVER (SF)	11,750
PRESERVED CROWN COVER (SF)	
Crown Cover from Preserved Trees	13,938
Crown Cover from Preserved Shrubs	0
PROPOSED CROWN COVER (SF)	
Crown Cover from Proposed Trees	17,000
Crown Cover from Proposed Shrubs	
TOTAL CROWN COVER PROVIDED (%)	25.8%
TOTAL CROWN COVER PROVIDED (SF)	17,000

NATIVE PLANT TABULATIONS					
			BEGINNING JANUARY 2, 2024		
			REQUIRED	PROVIDED	
PLANT TYPE	QUANTITY	NATIVE TYPE	%	QTY.	%
Standard Trees	20	Regional/Local	40%	18	90.0%
		Total Natives	80%	20	100.0%

DESIGN LANDSCAPE ARCHITECT & DESIGN ENGINEER

A. MARTIN TORRES AND ASSOCIATES, INC.
CONSULTING ENGINEERS
3050 CHAIN BRIDGE ROAD, SUITE 220
FAIRFAX, VA 22030
EMAIL: AMTE@AMTENGINEERING.COM
PROJ. MANAGER: CHELSEA BISHOP, P.E. EMAIL: CBISHOP@AMTENGINEERING.COM

DRAWN: CMB, CJC
DATE: 05/31/2025
SCALE: N/A

SEAL: COMMONWEALTH OF VIRGINIA — Andrea Sletten — Lic. No. 0406002318 — 05/13/2025

NO.	DESCRIPTION	DATE	REV. BY	APPROVED	DATE

REVISION APPROVED BY

DEVELOPMENT PRELIMINARY PLAN SUBMISSION - NOT FOR CONSTRUCTION

CITY OF ALEXANDRIA
DASH FACILITY
3000 BUSINESS CENTER DRIVE
ALEXANDRIA, VIRGINIA 22314

SHEET NAME: LANDSCAPE NOTES AND DETAILS

APPROVED
SPECIAL USE PERMIT NO. _____
DEPARTMENT OF PLANNING & ZONING
_____ DIRECTOR DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
SITE PLAN No. _____
_____ DIRECTOR DATE
_____
CHAIRMAN, PLANNING COMMISSION DATE
DATE RECORDED _____
INSTRUMENT NO. _____ DEED BOOK NO. _____ PAGE NO. _____

Job No. 23-0754.001

SHEET NO: LP-201 43 OF 94

STRUCTURAL GENERAL NOTES

BUILDING CODES:

A. THE 2021 INTERNATIONAL BUILDING CODE (IBC) AND ALL SUBSEQUENT SUPPLEMENTS.
B. GOVERNING VIRGINIA BUILDING CODES AND AMENDMENTS.

DESIGN LOADS:

A. IN ADDITION TO SELF WEIGHT, THE BUILDING IS DESIGNED FOR THE FOLLOWING FLOOR AND ROOF LIVE LOADS:

	LIVE LOAD (PSF)	SUPERIMPOSED DEAD LOAD (PSF)
EQUIPMENT PLATFORM:	150	
LOW ROOF:	150	
CANOPY ROOF:	20	
STAIRS:	100	
SLAB ON GRADE:	250 PSF OR 15 KIP AXLE	

NOTE: DESIGN LIVE LOADS SHOWN ABOVE HAVE BEEN REDUCED FOR FLOOR MEMBERS SUPPORTING 400 SQUARE FEET OR MORE IN ACCORDANCE WITH THE PROVISIONS OF THE BUILDING CODE.

B. SNOW LOAD DESIGN CRITERIA:

1.	GROUND SNOW LOAD (Pg):	25 PSF
2.	FLAT ROOF SNOW LOAD (Pf):	20 PSF
3.	EXPOSURE FACTOR (Ce):	1.0
4.	IMPORTANCE FACTOR (Is):	1.0
5.	THERMAL FACTOR (Ct):	1.2

C. WIND LOAD DESIGN CRITERIA:

1.	ULTIMATE DESIGN WIND SPEED (Vult):	113 MPH
2.	RISK CATEGORY:	II
3.	WIND EXPOSURE:	B
4.	INTERNAL PRESSURE COEFFICIENT (GCpi):	+/- 0.18
5.	COMPONENTS AND CLADDING:	REFER TO CHART BELOW

D. SEISMIC LOAD DESIGN CRITERIA:

1.	RISK CATEGORY:	II
2.	IMPORTANCE FACTOR (Ie):	1.0
3.	MAPPED SPECTRAL RESPONSE ACCELERATORS:	
	a. Ss =	0.20
	b. S1 =	0.07
4.	SOIL SITE CLASS:	D
5.	DESIGN SPECTRAL RESPONSE ACCELERATORS:	
	a. SDS =	0.213
	b. SD1 =	0.112
6.	SEISMIC DESIGN CATEGORY:	B
7.	RESPONSE MODIFICATION FACTOR (R):	3.0
8.	OVERSTRENGTH FACTOR (Ωo):	3.0
9.	DEFLECTION COEFFICIENT (Cd):	3.0
10.	SEISMIC RESPONSE COEFFICIENT (Cs):	0.071
11.	SEISMIC RESISTING SYSTEM	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS
12.	DESIGN BASE SHEAR (V):	0.071 * WEIGHT (KIPS)

13. THE CONTRACTOR SHALL NOT STORE ANY CONSTRUCTION MATERIALS OR UNDERTAKE ANY CONSTRUCTION OPERATION WHICH WILL EXCEED THE DESIGN LIVE LOADINGS NOTED.

14. THE STABILITY OF THE STRUCTURE IS DEPENDENT UPON THE DIAPHRAGM ACTION OF THE FLOORS AND ROOF. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR THE METHOD OF CONSTRUCTION AND SHALL PROVIDE ALL TEMPORARY BRACING AND SHORING REQUIRED TO MAINTAIN THE STABILITY OF THE STRUCTURE AND TO SUPPORT CONSTRUCTION LOADS DURING CONSTRUCTION, INCLUDING SOILS ON WALLS FROM BACKFILLING PRIOR TO PLACING SLABS ON GRADE. DESIGN OF ALL BRACING IS THE CONTRACTORS RESPONSIBILITY.

15. THE FRAMING HAS BEEN DESIGNED FOR THE WEIGHT OF EQUIPMENT SHOWN ON THE STRUCTURAL DRAWINGS. IF ACTUAL WEIGHT OF EQUIPMENT EXCEEDS THAT SHOWN OR IF EQUIPMENT NOT SHOWN EXCEEDS 500 POUNDS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

16. ALL STAIRS, RAILINGS, STUD WALLS, GLASS STORE FRONT, AND EXTERIOR CEILINGS AND SOFFITS SHALL BE DESIGNED FOR THE LOADS INDICATED OR SPECIFIED BY THE BUILDING CODE.

FOUNDATIONS:

A. REFER TO "CAST IN PLACE CONCRETE" FOR APPLICABLE CODES AND STANDARDS.

B. REFER TO PROJECT GEOTECHNICAL REPORT BY WHITMAN, REQUARDT, AND ASSOCIATES LLP AND DATED SEPTEMBER 2022 FOR SITE PREPARATION AND RECOMMENDATIONS.
1. MINIMUM DEPTH TO BOTTOM OF EXTERIOR FOOTINGS FOR FROST PROTECTION = 24 INCHES BELOW GRADE
2. NET ALLOWABLE BEARING CAPACITY = 4000 PSF (ASSUMED)

C. ASSUMED ALLOWABLE BEARING PRESSURE IS BASED ON (FUTURE) RAMMED AGGREGATE PIER DESIGN BY _____. THIS VALUE SHALL BE VERIFIED IN FIELD BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 4000 PSF, OR THE SETTLEMENT PARAMETERS ARE NOT MET, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

D. ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE BUILDING FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.

E. ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.

CAST IN PLACE CONCRETE:

A. CODES AND STANDARDS:
1. ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
2. ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"
3. ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS"
4. ACI 305 "RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING"
5. ACI 306 "RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING"
6. ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORM WORK"
7. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
8. CRSI "MANUAL OF STANDARD PRACTICE"

B. REINFORCING MATERIALS:

1.	PLAIN STEEL REINFORCEMENT:	ASTM A 615, GRADE 60, DEFORMED
2.	PLAIN-STEEL WELDED WIRE REINFORCEMENT:	ASTM A 185

C. CONCRETE MATERIALS:

1.	PORTLAND CEMENT:	ASTM C 150, TYPE I OR II
2.	FLY ASH:	ASTM C 618, CLASS F
3.	GROUND GRANULATED BLAST FURNACE SLAG:	ASTM C 989, GRADE 120
4.	NORMAL WEIGHT AGGREGATES:	ASTM C 33
	a. MAXIMUM COARSE AGGREGATE SIZE:	1 INCH NOMINAL
	b. FINE AGGREGATE SHALL BE FREE OF MATERIAL WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.	
5.	LIGHT WEIGHT AGGREGATES:	ASTM C 330,
	a. MAXIMUM COURSE AGGREGATE SIZE:	1 INCH NOMINAL
6.	WATER:	ASTM C 94, POTABLE

D. ADMIXTURES:

1.	AIR ENTRAINMENT:	ASTM C 260
2.	WATER-REDUCER:	ASTM C 494
3.	SILICA FUME:	ASTM C 1240
4.	NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED.	

E. CONCRETE MIXTURES:
1. FLY ASH, POZZOLAN, GROUND GRANULATED BLAST FURNACE SLAG, AND SILICA FUME MAY BE USED AS NEEDED TO REDUCE THE TOTAL AMOUNT OF PORTLAND CEMENT WHICH WOULD OTHERWISE BE USED BY NOT MORE THAN 40 PERCENT.
2. MAXIMUM SUBSTITUTION OF FLY ASH SHALL BE 20 PERCENT.
3. MAXIMUM SUBSTITUTION OF SILICA FUME SHALL BE 10 PERCENT.

F. PROPORTION NORMAL WEIGHT CONCRETE MIXES AS FOLLOWS:

LOCATION	28 DAY STRENGTH (f'c)	WATER-CEMENTIOUS RATIO	SLUMP LIMIT	AIR CONTENT
FOUNDATIONS	4500 PSI	0.50	4" ± 1"	4.0% ± 1.0%
COLUMN ENCASEMENT	4500 PSI	0.50	4" ± 1"	4.0% ± 1.0%
SLABS ON GRADE	5000 PSI	0.40	4" ± 1"	4.0% ± 1.0%
EQUIPMENT PLATFORM SLAB	5000 PSI	0.40	4" ± 1"	4.0% ± 1.0%

G. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED AND APPROVED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.

H. REINFORCING STEEL SHALL BE PLAIN, NON-EPOXY-COATED, UNGALVANIZED.

I. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.

J. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RESHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF VIRGINIA, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RESHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.

K. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:

1.	FOUNDATIONS	3 INCHES
2.	SLABS ON GRADE	2 INCHES (TOP)
3.	COLUMNS AND BEAMS	1 1/2 INCHES
4.	FRAMED SLABS	3/4 INCHES
5.	WALLS	3/4 INCHES
6.	WALLS BELOW GRADE	2 INCHES

L. THE GENERAL CONTRACTOR SHALL SUBMIT PLANS SHOWING ALL PENETRATIONS THROUGH THE FRAMED CONCRETE SLABS. THE OPENINGS SHALL BE ACCURATELY LOCATED AND DIMENSIONED.

CONCRETE MASONRY:

A. CODES AND STANDARDS:
1. ACI 530/ASCE 5/TMS 4021 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"
2. ACI 530.1/ASCE 6/TMS 602 "SPECIFICATIONS FOR MASONRY STRUCTURES"

B. ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"

C. SUBMITTALS:
1. MATERIAL CERTIFICATES FOR MASONRY UNITS, GROUT MIXES, MORTAR MIXES, REINFORCEMENT, AND ANCHORS/TIESSHOP DRAWINGS INCLUDING DETAIL BENDING AND PLACEMENT OF UNIT MASONRY REINFORCING

D. ADDITIONAL SAMPLE SUBMITTALS MAY BE REQUIRED BY ARCHITECT/OWNER. REFER TO ARCHITECTURAL DRAWINGS.

E. MATERIALS:
1. CONCRETE MASONRY ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (f'm) OF 2000 PSI.
2. NORMAL WEIGHT HOLLOW LOAD BEARING CONCRETE MASONRY UNITS: ASTM C 90 WITH UNIT NET AREA COMPRESSIVE STRENGTH OF 2000 PSI.
   a. GRADE N-I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE GRADE S-I OR N-I AT CONTRACTOR'S OPTION.
3. MASONRY MORTARS: ASTM C 270
   a. TYPE S ABOVE GRADE (MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI)
4. MASONRY GROUT: ASTM C 476
   a. MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI
5. REINFORCEMENT:
   a. UNCOATED STEEL REINFORCING BARS: ASTM A 615, GRADE 60
6. HORIZONTAL JOINT REINFORCEMENT: ASTM A 951, EITHER LADDER OR TRUSS TYPE WITH MINIMUM 3/16 INCH DIAMETER VENEER TIES: MILL-GALVANIZED CARBON STEEL WIRE (ASTM A 82, MINIMUM 3/16 INCH DIAMETER WITH ASTM A 641, CLASS 1 COATING)

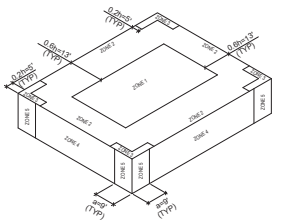
F. INSTALLATION:
1. UNLESS OTHERWISE INDICATED, ALL BOND BEAMS SHALL BE REINFORCED WITH 2-#5 BARS RUNNING CONTINUOUS AND LAP SPLICED ACCORDING TO DETAIL 5 ON S-501. PROVIDE CORNER BARS AT CORNERS AND INTERSECTIONS.
2. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPLICED PER DETAILS FOR MAXIMUM 6'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
3. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.
4. THE CONTRACTOR SHALL PROVIDE A 2 INCH SOFT JOINT BETWEEN TOP OF NON-BEARING MASONRY WALLS AND THE UNDERSIDE OF THE STRUCTURAL FLOOR OR ROOF FRAMING ABOVE.
5. CONTROL JOINTS SHALL BE PLACED IN THE MASONRY WALL TO FORM PANELS WITH A LENGTH TO HEIGHT RATIO OF 2.5 OR LESS. THE MAXIMUM PANEL LENGTH SHALL NOT EXCEED 45 FEET. ADDITIONAL JOINTS SHALL BE PLACED WHERE ABRUPT CHANGES IN WALL OCCUR.

G. CONTRACTOR IS RESPONSIBLE FOR BRACING AND SHORING OF ALL MASONRY WALLS AS REQUIRED UNTIL ROOF AND FLOOR SYSTEMS HAVE BEEN COMPLETELY INSTALLED AND ALL MASONRY MATERIALS HAVE ACHIEVED DESIGN STRENGTH.

H. INSPECTIONS BY INDEPENDENT INSPECTION AGENCY:
1. ALL MASONRY SHALL BE FIELD INSPECTED IN ACCORDANCE WITH IBC LEVEL 1 SPECIAL INSPECTIONS INCLUDING VERIFICATION OF THE MASONRY COMPRESSIVE STRENGTH, VERIFICATION OF GROUT COMPRESSIVE STRENGTH, COMPLIANCE OF ALL MATERIALS TO CONTRACT DOCUMENTS, THE CONDITION, SIZE, SPACING, AND PLACEMENT OF REINFORCEMENT, AND THE QUALITY AND PLACEMENT OF ALL JOINTS.

COMPONENTS & CLADDING WIND PRESSURES

EFFECTIVE WIND AREA (SQ. FT.)	ROOF			WALL		
	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)	PARAPET (PSF)
<=10	+16 / -33	+16 / -43	+16 / -59	+21 / -23	+21 / -28	+64 / -64
100	+16 / -26	+16 / -35	+16 / -42	+18 / -20	+28 / -23	+64 / -64
200	+16 / -25	+16 / -32	+16 / -35	+17 / -19	+17 / -20	+64 / -64
>500	+16 / -21	+16 / -28	+16 / -28	+16/ -18	+16/ -18	+64 / -64



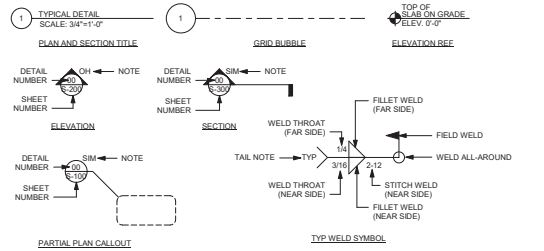
COMPONENTS AND CLADDING WIND ZONE DIAGRAM

NOTES:
1. EDGE DISTANCE 'a' = 9'-0"
2. BUILDING HEIGHT 'h' = 21'-0" (TO LOW ROOF).
3. COMPONENT AND CLADDING LOADS ABOVE HAVE BEEN CALCULATED UTILIZING THE FULL HEIGHT OF THE BUILDING UP TO THE EQUIPMENT PLATFORM ROOF.
3. "EFFECTIVE TRIBUTARY AREA: SPAN LENGTH MULTIPLIED BY AN EFFECTIVE WIDTH THAT NEED NOT BE LESS THAN 1/3 THE SPAN LENGTH.
4. NEGATIVE VALUE DENOTES PRESSURE ACTING AWAY FROM THE SURFACE.
5. NOMINAL (UNFACTORED) PRESSURES MAY BE OBTAINED BY MULTIPLYING THE VALUES IN THE CHART BY 0.60.

STRUCTURAL ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	MAX	MAXIMUM
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	MECH	MECHANICAL
AISI	AMERICAN IRON AND STEEL INSTITUTE	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NTS	NOT TO SCALE
AWS	AMERICAN WELDING SOCIETY		
ADDL	ADDITIONAL	O.C.	ON CENTER
ARCH	ARCHITECTURAL		
ASD	ALLOWABLE STRESS DESIGN	PL	PLATE
		PLF	POUNDS PER LINEAR FOOT
CJ	CONTROL JOINT	PSF	POUNDS PER SQUARE FOOT
CL	CENTERLINE	PSI	POUNDS PER SQUARE INCH
CLR	CLEAR		
CMU	CONCRETE MASONRY UNIT	REINF	REINFORCED
CONC	CONCRETE	REV	REVISION
CONST JT	CONSTRUCTION JOINT		
CONT	CONTINUOUS	SDI	STEEL DECK INSTITUTE
		SIM	SIMILAR
DET	DETAIL	SJI	STEEL JOIST INSTITUTE
DL	DEVELOPMENT LENGTH	SOG	SLAB ON GRADE
DIA	DIAMETER	SPEC	SPECIFICATION
DWG	DRAWING	STD	STANDARD
DWL	DOWEL	STRUCT	STRUCTURAL
EL	ELEVATION	T&B	TOP & BOTTOM
ELEC	ELECTRICAL	TOC	TOP OF CONCRETE
EMBED	EMBEDMENT	TOF	TOP OF FOOTING
EQ	EQUAL	TOS	TOP OF STEEL
EX	EXISTING	TOW	TOP OF WALL
		TYP	TYPICAL
FDN	FOUNDATION		
FT	FEET	UNO	UNLESS NOTED OTHERWISE
IN	INCH	VERT	VERTICAL
		VIF	VERIFY IN FIELD
JST	JOIST		
JT	JOINT	WF	WIDE FLANGE
		WWF	WELDED WIRE FABRIC
KIP	KILOPOUNDS		
KSF	KILOPOUNDS PER SQUARE FOOT		
L	LINTEL OR ANGLE		
LB	POUNDS		
LAP	LAP SPLICE LENGTH		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
LRFD	LOAD AND RESISTANCE FACTOR DESIGN		

STRUCTURAL SYMBOLS



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DATE	05/27/2025	
PROJECT	00046811	
DESIGNED	CRS	
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STRUCTURAL GENERAL NOTES

STRUCTURAL AND MISCELLANEOUS STEEL:

A. CODES AND STANDARDS:
1. AISC "STEEL CONSTRUCTION MANUAL", 14TH EDITION.
2. AISC 303 "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES"
3. AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
4. RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS"
5. AWS D1.1 "STRUCTURAL WELDING CODE"
6. AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL"

B. SUBMITTALS:
1. SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

C. MATERIALS:

1.	W-SHAPES:	ASTM A 992
2.	CHANNELS, ANGLES, PLATES:	ASTM A 36
3.	HOLLOW STRUCTURAL SECTIONS (HSS):	ASTM A 500, GRADE "B"
4.	STEEL PIPE:	ASTM A 53, TYPE E OR S, GRADE B
5.	PRIMER:	FABRICATOR'S STANDARD LEAD AND CHROMATE FREE,NONASPHALTIC, RUST INHIBITING, COMPLY WITH MPI#79
6.	NON-METALLIC, NON-SHRINKAGE GROUT	ASTM C 1107 WITH MINIMUM COMPRESSIVE RESISTANT GROUT STRENGTH OF 5000 PSI AT 28 DAYS
7.	GALVANIZE:	HOT-DIP ZINC COATING, ASTM A 123

D. CONNECTIONS:

1.	WELDED CONNECTIONS:	E70XX ELECTRODES
2.	HIGH-STRENGTH BOLTS:	ASTM F 3125, A 325, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS ASTM F 3125, A 490, TYPE 1, HEAVY-HEX STEEL STRUCTURAL BOLTS
3.	SHEAR CONNECTORS:	ASTM A 108, GRADES 1015 THROUGH 1020, HEADED STUD TYPE
4.	UNHEADED ANCHOR RODS:	ASTM F 1554, GRADE 36/55/105, STRAIGHT, WITH DOUBLE ASTM A 563 HEAVY-HEX CARBON STEEL NUTS
5.	HEADED ANCHOR RODS:	ASTM F 1554, GRADE 36/55/105, STRAIGHT, WITH DOUBLE ASTM A 563 HEAVY-HEX CARBON STEEL NUTS

6. ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS (PREPARED BY A REGISTERED STRUCTURAL ENGINEER) FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED, THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER. FOR ADDITIONAL INFORMATION REFER TO SPECIFICATIONS.

7. THE SHEAR CONNECTION CAPACITY FOR COMPOSITE STEEL BEAMS SHALL BE DETERMINED BY MULTIPLYING THE BEAM REACTION Ø b WC/2L, WHERE "Ø b WC" IS THE UNIFORM LOAD CONSTANT IN KIP-FOOT, AND WHERE "L" IS THE SPAN IN FEET AS SHOWN IN THE TABLES "UNIFORM LOAD CONSTANTS FOR BEAMS" BY 1.75 FOR ALL INTERIOR BEAMS AND 1.25 FOR EXTERIOR SPANDREL BEAMS. FOR ADDITIONAL INFORMATION REFER TO SPECIFICATIONS.

E. INSPECTIONS BY INDEPENDENT INSPECTION AGENCY:

1.	BOLTED CONNECTIONS:	RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING A-325 OR A-490 BOLTS"
2.	WELDED CONNECTIONS:	VISUAL INSPECTION, TESTING AND INSPECTION PER AWS D1.1

3. *NOTE*: VERIFY, WITH ERECTOR PRESENT, ELEVATIONS OF CONCRETE AND MASONRY BEARING SURFACES AND LOCATIONS OF ANCHOR BOLTS AND OTHER EMBEDDED ITEMS.

F. INSTALLATION:
1. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION.
   a. MINIMUM EDGE DISTANCE: 1 1/2 INCHES
   b. BOLT SPACING: 3 INCHES
2. BEAM CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIAMETER ASTM A 325N OR A 490 HIGH STRENGTH BOLTS.
3. BOLTED CONNECTIONS FOR MOMENT FRAMES, BRACED BRAMES, AND ANY OTHER LOCATIONS INDICATED SUCH ON PLAN WHALL BE SLIP-CRITICAL. ALL OTHER BOLTED CONNECTIONS SHALL BE PRE-TENSIONED.
4. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS.
5. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.
6. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.
7. ALL STRUCTURAL STEEL EXPOSED TO WEATHER OR IN CONTACT WITH CONCRETE OR MASONRY, INCLUDING ALL BOLTS AND ACCESSORIES, BUT WITH THE EXCEPTION OF STEEL COLUMN BASE PLATES, SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A-123 AND A-153. ALL AREAS OF FIELD WELDING AND BOLTING AND ANY OTHER AREAS WITH DAMAGED COATING SHALL BE FIELD REPAIRED WITH SSPC PAINT 20 GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

STEEL DECKING:

A. REFER TO "STRUCTURAL STEEL" SECTION FOR APPLICABLE CODES AND STANDARDS. IN ADDITION, COMPLY WITH THE FOLLOWING:
1. STEEL DECK INSTITUTE "STANDARD SPECIFICATIONS FOR FLOOR AND ROOF DECK"
2. ANSI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS"

B. SUBMITTALS:
1. SHOP DRAWINGS INDICATING LAYOUT, MATERIAL PROPERTIES OR LOAD TABLES, ANCHORAGE DETAILS, PANS, AND DECK ACCESSORIES.
2. PRODUCT DATA AND STRUCTURAL LOAD TABLES OF MECHANICAL FASTENERS, IF APPLICABLE.

C. MATERIALS:
1. GALVANIZED AND PRIME PAINTED STEEL SHEET: ASTM A 653, STRUCTURAL STEEL, GRADE 33, G90 ZINC COATING
   a. REFER TO PLANS AND DETAILS FOR MINIMUM PROFILE DEPTHS, THICKNESS, AND SECTION PROPERTIES PER FOOT WIDTH.
2. SPAN CONDITION: TRIPLE SPAN OR MORE WHERE POSSIBLE

D. INSTALLATION:
1. REFER TO TYPICAL DETAILS FOR PERIMETER AND SIDE LAP CONNECTION REQUIREMENTS.
2. WELDING WASHERS SHALL BE USED ON ALL METAL DECK WHICH IS 22 GA. OR LESS IN THICKNESS.
3. ALL WELDS AND BURN AREAS SHALL BE CLEANED AND PAINTED WITH APPROVED PRIMER OR GALVANIZING REPAIR PAINT AS REQUIRED.
4. THE CONTRACTOR SHALL PROVIDE SUPPORT FOR METAL DECK EDGES AT OPENINGS GREATER THAN 10 INCHES SQUARE. REFER TO TYPICAL DETAILS ON DRAWINGS FOR ADDITIONAL INFORMATION.
5. THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES NECESSARY TO PROPERLY INSTALL THE METAL DECK.

STEEL STAIRS:

A. DESIGN OF STEEL STAIRS IS A DELEGATED DESIGN ITEMS AND SHALL BE PERFORMED BY GENRAL CONTRACTOR'S ENGINEER.

B. REFER TO "STRUCTURAL STEEL" SECTION FOR APPLICABLE CODES AND STANDARDS.
1. REFER TO ARCHITECTURAL DRAWINGS FOR RISERS, TREADS, AND LANDING REQUIREMENTS.

C. SUBMITTALS:
1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER FOR ALL STEEL STAIRS.

D. STRUCTURAL PERFORMANCE REQUIREMENTS:
1. ALL STEEL STAIR FRAMING SHALL BE DESIGNED BY THE CONTRACTOR TO SUPPORT ALL DEAD LOADS PLUS A MINIMUM LIVE LOADING OF 100 PSF.
2. WHERE STEEL FRAMING BEARS ON MASONRY WALLS, PROVIDE STEEL BEARING PLATES AS REQUIRED TO LIMIT THE BEARING STRESS TO A MAXIMUM OF 25 PERCENT OF THE SPECIFIED COMPRESSIVE STRENGTH OF MASONRY.

E. INSTALLATION:
1. THE CONTRACTOR SHALL PROVIDE ALL STEEL HANGERS, CLIP ANGLES ETC., AS REQUIRED TO SUPPORT THE STAIR FRAMING.

F. ALL STEEL STAIR FRAMING IN CONTACT WITH MASONRY OR CONCRETE SHALL BE GALVANIZED. OTHERWISE, STEEL MEMBERS FOR STEEL STAIRS SHALL BE UNGALVANIZED.

COLD FORMED METAL FRAMING:

A. CODES AND STANDARDS:
1. AISI'S "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS' INCLUDING THE "STANDARD FOR COLD FORMED STEEL FRAMING".

B. SUBMITTALS:
1. SHOP DRAWINGS INDICATING THE SIZE, LOCATION, AND CONNECTION DETAILS FOR ALL MEMBERS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
2. CALCULATIONS FOR ALL COLD FORMED MEMBERS AND COMPONENTS INCLUDING MEMBER SIZE, GAUGE, LOCATION, CONNECTION, AND LATERAL BRACING DETAILS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER.

D. MATERIALS:
1. COLD FORMED METAL MEMBERS 16 GAUGE OR HEAVIER: ASTM A 446 WITH A MINIMUM YIELD STRENGTH OF 50 KSI.
2. GALVANIZING OF ALL COLD FORMED MEMBERS SHALL MEET THE REQUIREMENTS OF ASTM A 525 WITH A MINIMUM G60 COATING.

E. STRUCTURAL PERFORMANCE REQUIREMENTS:
1. ALL COLD FORMED METAL FRAMING AND CONNECTIONS SHALL BE DESIGNED, FABRICATED, AND ERECTED BY THE CONTRACTOR TO SUPPORT LOADS INDICATED IN "DESIGN LOADS" SECTION.
2. REFER TO PLANS AND DETAILS FOR MINIMUM SIZE AND SPACING FOR COLD FORMED METAL MEMBERS.
3. DEFLECTION LIMITS:
   a. EXTERIOR NON LOAD BEARING WALL FRAMING: HORIZONTAL DEFLECTION OF L/240.

E. INSTALLATION:
1. WELDING OF COLD FORMED METAL MEMBERS SHALL BE COMPLETED IN ACCORDANCE WITH AWS D1.1 AND AWS D1.3.
2. ALL COLD FORMED METAL MEMBERS SHALL BE SHEARED OR SAW CUT. CUTTING OF MEMBERS WITH A TORCH IS NOT PERMITTED.
3. SPLICES IN COLD FORMED METAL MEMBERS ARE NOT PERMITTED UNLESS DETAILED ON THE CONTRACT DRAWINGS.
4. APPLY TWO COATS OF ZINC RICH PAINT AT ALL CUT ENDS AND WELDS.

MISCELLANEOUS:

A. THE CONTRACTOR SHALL LOCATE ALL UTILITIES IN THE AREA OF CONSTRUCTION AND PREVENT DAMAGE TO THEM. SHOULD DAMAGE OCCUR TO ANY UTILITIES, THE CONTRACTOR IS REQUIRED TO REPAIR THE DAMAGE TO THE SATISFACTION OF THE OWNER AT THE CONTRACTOR'S EXPENSE.

B. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.

C. THE CONTRACTOR SHALL REVIEW THE ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.

D. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION.

E. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.

F. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

INSPECTION:

A. ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE OWNER OR CONTRACTOR SHALL HIRE AN EXPERIENCED QUALIFIED INSPECTOR TO PERFORM ALL REQUIRED INSPECTION WORK. INSPECTION SHALL CONSIST OF VISUAL OBSERVATIONS OF MATERIALS, EQUIPMENT OR CONSTRUCTION WORK FOR THE PURPOSE OF ASCERTAINING THAT THE WORK IS IN SUBSTANTIAL CONFORMANCE WITH THE CONTRACT DOCUMENTS AND WITH THE DESIGN INTENT. THE ENGINEER WILL NOT PERFORM THE REQUIRED INSPECTION AS PART OF THIS PRESENT CONTRACT WITH THE OWNER. UNDER THIS PRESENT CONTRACT, THE ENGINEER MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS. HOWEVER, SUCH VISITS SHALL NOT BE RELIED UPON BY OTHERS AS ACCEPTANCE OF THE WORK, NOR SHOULD IT BE CONSTRUED TO RELIEVE THE CONTRACTOR IN ANY WAY FROM HIS OBLIGATIONS AND RESPONSIBILITIES UNDER THE CONSTRUCTION CONTRACT.

SPECIAL INSPECTIONS

A. ALL SPECIAL INSPECTIONS SHOULD ABIDE BY IBC 2018 AND ALL SUBSEQUENT CODES TO ENSURE PROPER QUALITY CONTROL DURING CONSTRUCTION.

B. IBC SECTION 1704.2 STATES:
"THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTION AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN IBC SECTION 1705 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN IBC SECTION 110."

DESIGN WITHOUT CONSTRUCTION REVIEW:

A. IT IS AGREED THAT IF KCI TECHNOLOGIES' PROFESSIONAL SERVICES DO NOT EXTEND TO OR INCLUDE THE REVIEW OR SITE OBSERVATION OF THE CONTRACTOR'S WORK OR PERFORMANCE, THEN THE OWNER WILL DEFEND, INDEMNIFY AND HOLD HARMLESS KCI TECHNOLOGIES FROM ANY CLAIM OR SUIT WHATSOEVER, INCLUDING BUT NOT LIMITED TO ALL PAYMENTS, EXPENSES OR COSTS INVOLVED, ARISING FROM OR ALLEGED TO HAVE ARISEN FROM THE CONTRACTOR'S PERFORMANCE OR THE FAILURE OF THE CONTRACTOR'S WORK TO CONFORM TO THE DESIGN INTENT AND THE CONTRACT DOCUMENTS. KCI TECHNOLOGIES AGREES TO BE RESPONSIBLE FOR ITS OWN OR ITS EMPLOYEES' NEGLIGENT ACTS, ERRORS OR OMISSIONS.

OWNERSHIP OF DOCUMENTS:

A. THE CONTRACTOR ACKNOWLEDGES THESE PLANS AND SPECIFICATIONS PREPARED BY KCI TECHNOLOGIES AS INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS AND SPECIFICATIONS PREPARED UNDER THIS AGREEMENT SHALL REMAIN THE PROPERTY OF KCI TECHNOLOGIES UPON COMPLETION OF THE WORK. THE CONTRACTOR AGREES TO HOLD HARMLESS AND INDEMNIFY KCI TECHNOLOGIES AGAINST ALL DAMAGES, CLAIMS, AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY REUSE OF THE PLANS AND SPECIFICATIONS WITHOUT THE WRITTEN AUTHORIZATION OF KCI TECHNOLOGIES.

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DATE	05/27/2025
PROJECT	00046811
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DRAWING STRUCTURAL GENERAL NOTES

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TASK, VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTIONS		REFERENCE CRITERIA	
	CONTINUOUS	PERIODIC	REF. STD.	IBC REF.
STRUCTURAL STEEL			AISC 360	1705.6
1. INSPECTION TASKS PRIOR TO WELDING			AISC 360: N5.4	
A. WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	X	--	--	--
B. MANUFACTURER'S CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	X	--	--	--
C. MATERIAL IDENTIFICATION (TYPE/GRADE)	--	X	--	--
D. WELDER IDENTIFICATION SYSTEM.	--	X	--	--
E. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY) • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOF OPENINGS, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)	--	X	--	--
F. CONFIGURATION AND FINISH OF ACCESS HOLES.	--	X	--	--
G. FIT-UP OF FILLET WELDS • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACE) • TACKING (TACK WELD QUALITY AND LOCATION)	--	X	--	--
2. INSPECTION TASK DURING WELDING			AISC 360: N5.4	
A. USE OF QUALIFIED WELDERS.	--	X	--	--
B. CONTROL AND HANDLING OF WELDING CONSUMABLES • PACKAGING • EXPOSURE	--	X	--	--
C. NO WELDING OVER CRACKED TACK WELDS	--	X	--	--
D. ENVIRONMENTAL CONDITIONS • WIND SPEED WITHIN LIMITS • PRECIPITATION AND TEMPERATURE	--	X	--	--
E. WPS FOLLOWED • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE / FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MIN / MAX) • PROPER POSITION (F, B, H, OH)	--	X	--	--
F. WELDING TECHNIQUES • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS	--	X	--	--
G. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	X	--	--	--
3. INSPECTION TASKS AFTER WELDING			AISC 360: N5.4	
A. WELDS CLEANED	--	X	--	--
B. SIZE, LENGTH AND LOCATIONS OF WELDS	X	--	--	--
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA • CRACK PROHIBITION • WELD / BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILES • WELD SIZE • UNDERCUT • POROSITY	X	--	--	--
D. ARC STRIKES	X	--	--	--
E. K-AREA - WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 INCHES (75 mm) OF THE WELD	X	--	--	--
F. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	X	--	--	--
G. REPAIR ACTIVITIES	--	--	--	--
H. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	X	--	--	--
I. NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT EOR APPROVAL	--	X	--	--
4. INSPECTION TASKS PRIOR TO BOLTING			AISC 360: N5.6	
A. MANUFACTURE'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	X	--	--	--
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	--	X	--	--
C. PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)	--	X	--	--
D. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	--	X	--	--
E. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS.	--	X	--	--
F. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED.	X	--	--	--
G. PROPER STORAGE PROVIDE FOR BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS	--	X	--	--
5. INSPECTION TASKS DURING BOLTING			AISC 360: N5.6	
A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	--	X	--	--
B. JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	--	X	--	--
C. FASTENER COMPONENT NOT TURNED BY WRENCH PREVENTED FROM ROTATING	--	X	--	--
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.	--	X	--	--
6. INSPECTION TASKS AFTER BOLTING: DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	X	--	AISC 360: N5.6	
7. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT.			AISC 360: N6	
A. PLACEMENT AND INSTALLATION OF STEEL DECK	X	--	--	--
B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS.	X	--	--	--
C. DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS.	X	--	--	--

SPECIAL INSPECTIONS NOTES:

1. THE GENERAL CONTRACTOR WILL ENGAGE (SEE CONTRACT REQUIREMENTS) THE SERVICES OF ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTIONS DURING CONSTRUCTION ON WORK INDICATED IN THE SCHEDULE OF SPECIAL INSPECTIONS IN ACCORDANCE WITH THE PROVISIONS OF CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.
2. SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED ON A CONTINUOUS OR PERIODIC FREQUENCY AS NOTED IN THE SCHEDULE.
3. SCHEDULING FOR SPECIAL INSPECTIONS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
4. REFER TO THE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INSPECTION AND TESTING REQUIREMENTS.
5. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, CONTACT KCI TECHNOLOGIES PRIOR TO COMPLETION OF THAT PHASE OF THE WORK.
6. THE SPECIAL INSPECTOR SHALL SUBMIT INSPECTION REPORTS TO THE CONTRACTOR, ARCHITECT, OWNER AND KCI TECHNOLOGIES. REPORTS SHALL DOCUMENT REQUIRED INSPECTIONS AND CORRECTIONS OF ANY DISCREPANCIES. REPORTS SHALL BE PROVIDED AT INTERVALS CONVEYING THE PROGRESS OF CONSTRUCTION.

TASK, VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTIONS		REFERENCE CRITERIA	
	CONTINUOUS	PERIODIC	REF. STD.	IBC REF.
STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL				1705.2.2
1. MATERIAL VERIFICATION OF COLD FORMED STEEL MATERIAL			SJI2002	
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARD SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	--	X	APPLICABLE ASTM MATERIAL STANDARDS	--
B. MANUFACTURER'S CERTIFIED TEST REPORTS.	--	X		--
2. INSPECTION OF WELDING AND SCREWED CONNECTIONS			AISI S100-07/S1-10 AISI S200-07	
A. COLD-FORMED METAL STUD WALLS	--	X	AISI S211-07	--
B. REINFORCING STEEL:				
1.) VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A 706	--	X		--
2.) REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT	X	--	AWS D1.4 ACI 318: SECTION 3.5.2	--
3.) SHEAR REINFORCEMENT	X	--		--
4.) OTHER REINFORCEMENT	--	X		--

TASK, VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTIONS		REFERENCE CRITERIA	
	CONTINUOUS	PERIODIC	REF. STD.	IBC REF.
CONCRETE CONSTRUCTION			ACI 318	1705.3
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	--	X	ACI 318: 2.4, 7.1-7.7	1908.4
2. INSPECTION OF REINFORCING STEEL WELDING IN ACCORDANCE WITH TABLE 1705.2.2, ITEM 2 (IBC)	--	X	AWS D1.4 ACI 318: 3.5.2	--
3. INSPECTION OF ANCHORS CAST IN CONCRETE WHERE ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED	--	X	ACI 318: 17.8.2	--
4. INSPECTION OF ANCHORS POST INSTALLED IN HARDENED CONCRETE.	--	X	ACI 318: 17.8.2.4, 17.8.2	--
5. VERIFY USE OF REQUIRED DESIGN MIX.	--	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1
6. AT THIS TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF CONCRETE	X	--	ASTM C172 ASTM C 31 ACI 318: 5.6, 5.8	1910.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATIONS TECHNIQUES	X	--	ACI 318: 5.9, 5.10	1910.6, 1910.7, 1910.8
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	--	X	ACI 318: 5.11, 5.13	1910.9

TASK, VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTIONS		REFERENCE CRITERIA		
	CONTINUOUS	PERIODIC	IBC REF.	TMS 402 ACI 530 ASCE 5	TMS 602 ACI 530.1 ASCE 6
MASONRY CONSTRUCTION LEVEL B			1705.4		
1. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED	--	X	--	--	ART. 1.5
2. VERIFICATION OF *f'm* AND *f'aac* PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY THE CODE	--	X	--	--	ART. 1.4 B
3. VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE SITE FOR SELF-CONSOLIDATING GROUT	X	--	--	--	ART. 1.5 B.1, B.3
4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:					
A. PROPORTIONS OF SITE-PREPARED MORTAR.	--	X	--	--	ART. 2.1, 2.6 A
B. CONSTRUCTION OF MORTAR JOINTS	--	X	--	--	ART. 3.3 B
C. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X (FIRST 5000 SQ. FT.)	X (AFTER FIRST 5000 SQ. FT.)	--	--	ART. 2.1 C
5. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE					
A. GROUT SPACE IS CLEAN	--	X	--	--	ART. 3.2 D, 3.2 F
B. GRADE, TYPE AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS	--	X	--	SEC. 1.16	ART 2.4, 3.4
C. PLACEMENT OF REINFORCEMENT AND CONNECTORS	--	X	--	SEC. 1.16	ART. 3.4, 3.2 E, 3.6 A
D. PROPORTIONS OF SITE-PREPARED GROUT	--	X	--	--	ART. 2.6 B, 2.4 G.1.b
E. CONSTRUCTION OF MORTAR JOINTS	--	X	--	--	ART. 3.3 B
6. DURING CONSTRUCTION THE FOLLOWING SHALL BE VERIFIED:					
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	--	X	--	--	ART. 3.3 F
B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	--	X	--	SEC. 1.16.4.3, 1.17.1	--
C. WELDING OF REINFORCING BARS	X	--	--	SEC. 2.1.8.7.2, 3.3.3.4(c), 8.3.3.4(b)	--
D. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F) OR HOT WEATHER (TEMPERATURE ABOVE 90°F)	--	X	SEC. 2104.3, 2104.4	--	ART. 1.8 C, 1.8 D
E. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X (FIRST 5000 SQ. FT.)	X (AFTER FIRST 5000 SQ. FT.)	--	--	ART. 3.3 B.8
7. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	--	X	SEC. 2105.2.2, 2105.3	--	ART. 1.4 B.2a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4
8. VERTICAL MASONRY FOUNDATION ELEMENTS	--	X	1705.4	--	--

TASK, VERIFICATION AND INSPECTION TASK	FREQUENCY OF INSPECTIONS		REFERENCE CRITERIA	
	CONTINUOUS	PERIODIC	REF. STD.	IBC REF.
SOILS				1705.6
1. CONTROLLED FILL PLACED UNDER SITE PERMIT	--	--	--	--
2. CONTROLLED FILL PLACED UNDER THIS BUILDING PERMIT	X	--	--	--
3. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	--	X	--	--
4. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	--	X	--	--
5. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	--	X	--	--
6. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	--	--	--
7. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	--	X	--	--
8. VERIFY INSTALLATION OF DRAIN TILE (GRAVITY/MECHANICAL)	--	X	--	--

MARK	DATE	REVISIONS	BY	DES

DATE 05/27/2025
PROJECT 00046811
DESIGNED CRS
DRAWN CRS
CHECKED DAL

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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING SPECIAL INSPECTIONS

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CONCRETE FOOTING SCHEDULE

MARK	SIZE	DEPTH	BOTTOM REINFORCING		TOP REINFORCING		REMARKS
			LONG BARS	SHORT BARS	LONG BARS	SHORT BARS	
F60	6'-0" x 6'-0"	18"	(6)-#6	(6)-#6	N/A	N/A	
F80	8'-0" x 8'-0"	22"	(9)-#6	(9)-#6	N/A	N/A	
F100	10'-0" x 10'-0"	27"	(10)-#7	(10)-#7	N/A	N/A	
F130	13'-0" x 13'-0"	33"	(12)-#9	(12)-#9	(12)-#9	(12)-#9	
WF30	3'-0" WIDE	12"	(4)-#5	#5 @ 24" O.C.	N/A	N/A	

COLUMN SCHEDULE

LEVEL \ COLUMN NUMBER	A-2 A-5	A-3 A-4	B-2 B-5	B-3 B-4	C-2 C-5	C-3 C-4	D-2 D-5	D-3 D-4
CANOPY ROOF EL. 34.75 / EQUIPMENT PLATFORM EL. 20.71	X	X	X	X	X	X	X	X
LOW END OF LOW ROOF EL. 20.21 / FIRST FLOOR EL. 00.00	W14x90	W14x99	W14x109	W14x145	W14x109	W14x145	W14x90	W14x99
BASE PLATE SIZE	22"x1"x1'-10"	22"x1"x1'-10"	27"x3"x2'-3"	27"x3"x2'-3"	27"x3"x2'-3"	27"x3"x2'-3"	22"x1"x1'-10"	22"x1"x1'-10"
LEVEL PLATE SIZE	22"x1/4"x1'-10"	22"x1/4"x1'-10"	27"x1/4"x2'-3"	27"x1/4"x2'-3"	27"x1/4"x2'-3"	27"x1/4"x2'-3"	22"x1/4"x1'-10"	22"x1/4"x1'-10"
ELEVATION TOP OF LEVEL PLATE	-2.23	-2.23	-1.56	-1.56	-1.56	-1.56	-0.90	-0.90
DETAIL (REFER TO S-203)	A	A	B	B	B	B	A	A
ANCHOR BOLT QUANTITY, SIZE, AND EMBED.	(4)-3/4"Ø x 8"	(4)-3/4"Ø x 8"	(6)-1 1/2"Ø x 16"	(6)-1 1/2"Ø x 16"	(6)-1 1/2"Ø x 16"	(6)-1 1/2"Ø x 16"	(4)-3/4"Ø x 8"	(4)-3/4"Ø x 8"
ANCHOR BOLT STEEL GRADE	ASTM F-1554, GRADE 55	ASTM F-1554, GRADE 55	ASTM F-1554, GRADE 105	ASTM F-1554, GRADE 105	ASTM F-1554, GRADE 105	ASTM F-1554, GRADE 105	ASTM F-1554, GRADE 55	ASTM F-1554, GRADE 55

COLUMN SCHEDULE NOTES:

- FOR ORIENTATION OF COLUMNS, BASE PLATES, AND LEVEL PLATES, THE FIRST DIMENSION GIVEN IN THE COLUMN SCHEDULE IS IN THE NORTH/SOUTH DIRECTION
- REFER TO SHEET S-203 FOR BASE PLATE DETAILS
- ALL BASE PLATES SHALL BE 50 KSI STEEL
- ANCHOR ROD DIMENSION LISTED IN COLUMN SCHEDULE IS THE REQUIRED EMBEDMENT LENGTH INTO FOUNDATION. TOTAL ANCHOR ROD LENGTH MUST PROVIDE THIS MINIMUM EMBEDMENT PLUS ALLOWANCE FOR INSTALLATION AS PER BASE PLATE DETAILS.
- ENCASE COLUMN FULL HEIGHT IN CONCRETE. SEE DETAILS ON S-203 FOR ADDITIONAL INFORMATION AND REQUIREMENTS AT ENCASEMENT.

LINTEL SCHEDULE

MARK	SIZE AT WALL	SIZE AT VENEER	SPAN
ML-1	(1)-L6 x 3 1/2 x 3/8 FOR EACH 4" OF CMU WIDTH	NOT APPLICABLE	SEE PLAN AND UP TO 7'-0" CLEAR

NOTES:

1) ALL LINTELS BEARING AT MASONRY WALLS OR BRICK SHALL HAVE 8" MINIMUM BEARING AT EACH END UNLESS NOTED OTHERWISE. PROVIDE 24" LONG x 24" MIN. DEEP SOLID BEARING AT END OF LINTEL AT MASONRY WALL. SOLID LINTEL BEARING SHALL CONSIST OF HOLLOW BLOCK FILLED SOLID W/ GROUT, TYPICAL.

2) REFER TO TYPICAL METAL STUD DETAILS ON S-601 FOR ADDITIONAL INFORMATION AND REQUIREMENTS AT METAL STUD LINTELS, BUILT-UP MEMBERS, AND TYPICAL CONNECTIONS

3) PROVIDE LINTELS OVER ALL OPENINGS PER ABOVE, INCLUDING DOORS, WINDOWS, DUCTS LOUVERS, RECESSES, AND OTHER OPENINGS. CONTRACTOR SHALL FIELD COORDINATE ALL OPENING LOCATIONS WITH LINTEL PROVIDER.

4) FOR DIMENSIONS AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS.

5) WRAP END OF LINTELS IN BUILDING PAPER AT CONTROL JOINTS.

6) ALL LINTELS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED.

7) LINTELS AT EXTERIOR METAL STUD WALLS (IF APPLICABLE) SHALL BE AS FOLLOWS. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL INFORMATION:

MASONRY REINFORCING LAP LENGTH SCHEDULE

TENSION OR COMPRESSION LAP SPLICE LENGTHS	
BAR SIZE	SPLICE LENGTH
#3	18"
#4	24"
#5	30"

NOTES:

1. "SIDE LAP" ALL LAP SPLICED TO PROVIDE MAXIMUM MOMENT CAPACITY.
2. WHEN BARS OF DIFFERENT DIAMETER ARE LAP SPLICED, USE THE SPLICE LENGTH OF THE LARGER BAR.

COMPRESSION LAP SPLICES AND DEVELOPMENT FOR REINFORCING BARS

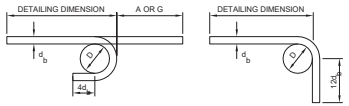
STEEL GRADE (KSI)	CONCRETE COMPRESSION STRENGTH (f'_c)	LAP SPLICE IN $d_b \geq 12$ IN.	DEVELOPMENT, IN d_b (8 IN. MIN.)
40	3000	20	15
	4000	20	13
	5000	20	12
50	3000	25	19
	4000	25	16
	5000	25	15
60	3000	30	22
	4000	30	19
	5000	30	18
75	3000	44	28
	4000	44	24
	5000	44	23

NOTES:
1. LINEAR INTERPOLATION FOR CONCRETE STRENGTHS NOT LISTED ON THIS CHART IS PERMITTED.
2. FOR EPOXY-COATED REBAR: MULTIPLY THE SPLICE AND DEVELOPMENT LENGTHS ABOVE BY 1.3.

TENSION LAP SPLICES AND DEVELOPMENT: LENGTHS (IN.) PER CONCRETE STRENGTH (PSI)

BAR SIZE	LAP CLASS	3000 PSI				4000 PSI				5000 PSI			
		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS		TOP BARS		OTHER BARS	
		CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2	CASE 1	CASE 2
#3	A	22	32	17	25	19	28	15	22	17	25	13	19
	B	28	42	22	32	24	36	19	28	22	33	17	25
#4	A	29	43	22	33	25	37	19	29	22	33	17	26
	B	37	56	29	43	32	48	25	37	29	43	22	33
#5	A	36	54	28	41	31	47	24	36	28	42	22	32
	B	47	70	36	54	40	60	31	47	36	54	28	42
#6	A	43	64	33	50	37	56	29	43	33	50	26	38
	B	56	84	43	64	48	72	37	56	43	65	33	50
#7	A	63	94	48	72	54	81	42	63	49	73	37	56
	B	81	122	63	94	70	106	54	81	63	94	49	73
#8	A	72	107	55	82	62	93	48	71	55	83	43	64
	B	93	139	72	107	80	121	62	93	72	108	55	83
#9	A	81	121	62	93	70	105	54	81	63	94	48	72
	B	105	157	81	121	91	136	70	105	81	122	63	94
#10	A	91	136	70	105	79	118	61	91	70	105	54	81
	B	118	177	91	136	102	153	79	118	91	137	70	105
#11	A	101	151	78	116	87	131	67	101	78	117	60	90
	B	131	196	101	151	113	170	87	131	101	152	78	117
#14	N/A	121	181	93	139	105	157	81	121	94	140	72	108
#18	N/A	161	241	124	184	139	209	107	161	125	187	96	114

NOTES:
1. LINEAR INTERPOLATION FOR CONCRETE STRENGTHS NOT LISTED ON THIS CHART IS PERMITTED.
2. FOR EPOXY-COATED REBAR: MULTIPLY THE SPLICE AND DEVELOPMENT LENGTHS ABOVE BY 1.3.



STANDARD REINFORCING BAR HOOKS

BAR SIZE	180° HOOK			90° HOOK	
	A OR G	J	D	A OR G	D
#3	0'-5"	0'-3"	0'-2 1/4"	0'-6"	0'-2 1/4"
#4	0'-6"	0'-4"	0'-3"	0'-8"	0'-3"
#5	0'-7"	0'-5"	0'-3 3/4"	0'-10"	0'-3 3/4"
#6	0'-8"	0'-6"	0'-4 1/2"	1'-0"	0'-4 1/2"
#7	0'-10"	0'-7"	0'-5 1/4"	1'-2"	0'-5 1/4"
#8	0'-11"	0'-8"	0'-6"	1'-4"	0'-6"
#9	1'-3"	0'-11 3/4"	0'-9 1/2"	1'-7"	0'-9 1/2"
#10	1'-5"	1'-1 1/4"	0'-10 3/4"	1'-10"	0'-10 3/4"
#11	1'-7"	1'-2 3/4"	1'-0"	2'-0"	1'-0"
#14	2'-3"	1'-9 3/4"	1'-6 1/4"	2'-7"	1'-6 1/4"
#18	3'-0"	2'-4 1/2"	2'-0"	3'-5"	2'-0"

DES
BY
MARK DATE REVISIONS

DATE 05/27/2025
PROJECT 00046811
DESIGNED CRS
DRAWN CRS
CHECKED DAL

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CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING STRUCTURAL SCHEDULES

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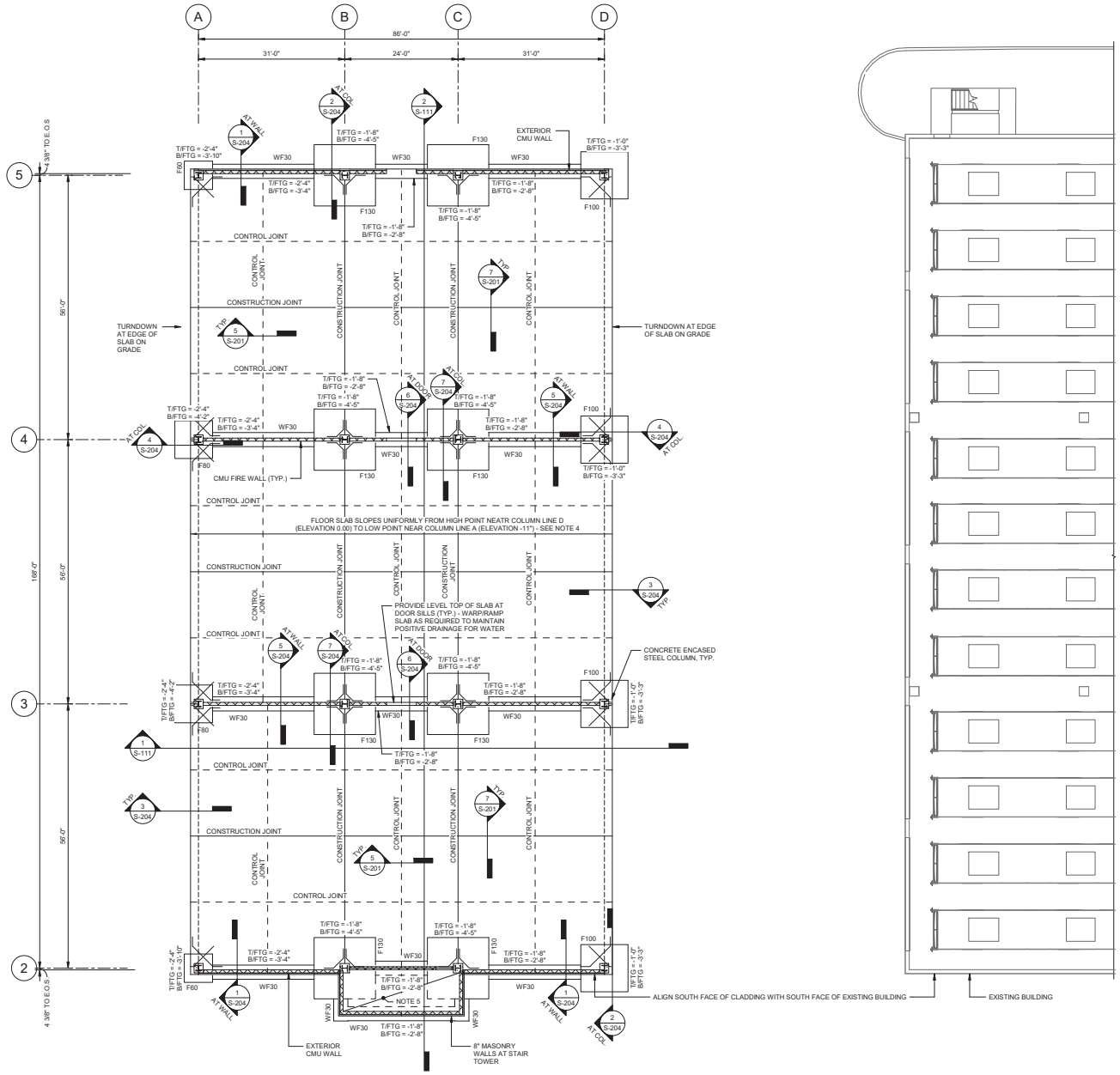
FOUNDATION AND SLAB ON GRADE NOTES:

1. ELEVATIONS TOP AND BOTTOM OF FOOTING ARE BASED ON A DATUM ELEVATION OF 0.00. ELEVATION TOP OF FOOTINGS IS SHOWN ON PLAN THUS: T/FTG = -A.XX. ELEVATION BOTTOM OF FOOTINGS IS SHOWN ON PLAN THUS: B/FTG = -A.XX. STEP FOOTINGS AS REQUIRED AT PIPES PER DETAILS 1 THRU 4 ON SHEET S-201. ELEVATION TOP OF FOOTING IS BASED ON ASSUMED INVERTS - CONTRACTOR SHALL COORDINATE ELEVATIONS BOTTOM OF FOOTING WITH FINAL SITE PLANS AND FULLY COORDINATED INVERTS.
2. AS NOTED IN THE GEOTECNICAL REPORT, UNSUITABLE SOILS SHOULD BE REMOVED AND REFILLED WITH CONTROLLED FILL OF WELL COMPACTED DENSE GRADED AGGREGATE VDOT 21A. REFER TO GEOTECHNICAL DRAWINGS FOR COMPACTION REQUIREMENTS.
3. ALL FOOTINGS SHOULD BE POURED DIRECTLY ON CONTROLLED FILL.
4. TOP OF SLAB ON GRADE ELEVATION AT HIGH POINT NEAR COLUMN LINE D = 0.00. TOP OF SLAB ON GRADE ELEVATION AT LOW POINT NEAR COLUMN LINE A = -0.92 (-11").
5. TOP OF SLAB ON GRADE ELEVATION AT STAIR TOWER = -0.375 (- 4 1/2") WHICH MATCHES TOP OF SLAB ELEVATION OF VEHICLE STORAGE PORTION OF SLAB AT STAIR DOOR.
6. CONCRETE SLAB ON GRADE SHALL BE 8" THICK NORMAL WEIGHT CONCRETE REINFORCED WITH #4 AT 12" O.C. EACH WAY TOP AND BOTTOM AND POURED OVER 10 MIL VAPOR BARRIER OVER A MINIMUM OF 4" OF TAMPED VDOT 21A COURSE AGGREGATE. CONCRETE SLAB DEPTH IS NOTED IN THESE DRAWINGS AS "t". PROVIDE ADDITIONAL #4 BENT HORIZONTAL SLAB BARS AT SLAB MID-HEIGHT AT LOCATIONS SHOWN NEAR CONCRETE COLUMN ENCASEMENTS TO ASSIST WITH CRACK CONTROL.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ELEVATION TOP OF SLAB ON GRADE INCLUDING SLAB SLOPES AND CRICKETS.
8. COORDINATE EXACT LOCATIONS AND EXTENTS OF ALL SLAB DEPRESSIONS AND RECESSES WITH ARCHITECTURAL DRAWINGS.
9. ASSUMED ALLOWABLE BEARING PRESSURE IS BASED ON (FUTURE) RAMMED AGGREGATE PIER DESIGN BY ASSUMED ALLOWABLE SOIL BEARING PRESSURE = 4000 PSF. THIS VALUE SHALL BE VERIFIED IN FIELD BY A REGISTERED GEOTECHNICAL ENGINEER. SEE GEOTECHNICAL REPORT PREPARED BY WRA DATED SEPTEMBER 2024 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
10. ALL STEEL COLUMNS SHALL BE ENCASED IN CONCRETE. REFER TO DETAILS 3 AND 4 ON S-203 FOR INFORMATION AND REQUIREMENTS.
11. ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL AT 32" O.C. SPACING. REINFORCED CELLS SHALL BE GROUTED SOLID WITH 3000 PSI GROUT. LAP VERTICAL BARS A MINIMUM OF 2'-6" FOR ONE BAR PER CELL AND LAP BARS A MINIMUM OF 3'-0" FOR TWO BARS PER CELL.
12. FOR ADDITIONAL INFORMATION AND REQUIREMENTS AT COLUMN AND WALL FOOTINGS, REFER TO STRUCTURAL SCHEDULES ON S-011. SQUARE COLUMN FOOTINGS ARE INDICATED ON PLAN THUS: F__. WALL FOOTINGS ARE INDICATED ON PLAN THUS: WF_x__.
13. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND SIZE OF DOORS, SIDEWALKS AND CONCRETE APRONS.
14. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
15. STAIR DESIGN IS A DELEGATED DESIGN ITEM. STAIRS AND ATTACHMENT TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL.
16. ALL LIGHT GAUGE FRAMING MUST BE DESIGNED BY AN INDEPENDENT PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR. SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY A VIRGINIA PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR APPROVAL.
17. PROVIDE TEMPORARY BRACING FOR STRUCTURAL STEEL COLUMNS UNTIL ROOF FRAMING AND DIAPHRAGM ARE COMPLETE.
18. CONDUITS AND PIPES TAGGED WITH THIS NOTE SHALL BE LOCATED AS TO PASS UNDER TURNDOWN FOUNDATIONS. CONDUITS/PIPES SHALL HAVE A MINIMUM OF 6" CLEARANCE TO BOTTOM OF FOOTING U.N.O. CONDUITS/PIPES SHALL HAVE 10'-0" LONG STEEL PIPE SLEEVES CENTERED UNDER FOOTING FOR PROTECTION OF CONDUIT/PIPE. PIPE SLEEVES SHALL BE 2" LARGER THAN CONDUIT/PIPE FOR FIT-UP.



1 FOUNDATION AND SLAB ON GRADE PLAN
3/32" = 1'-0"

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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING FOUNDATION AND SLAB ON GRADE PLAN

SHEET
S-101

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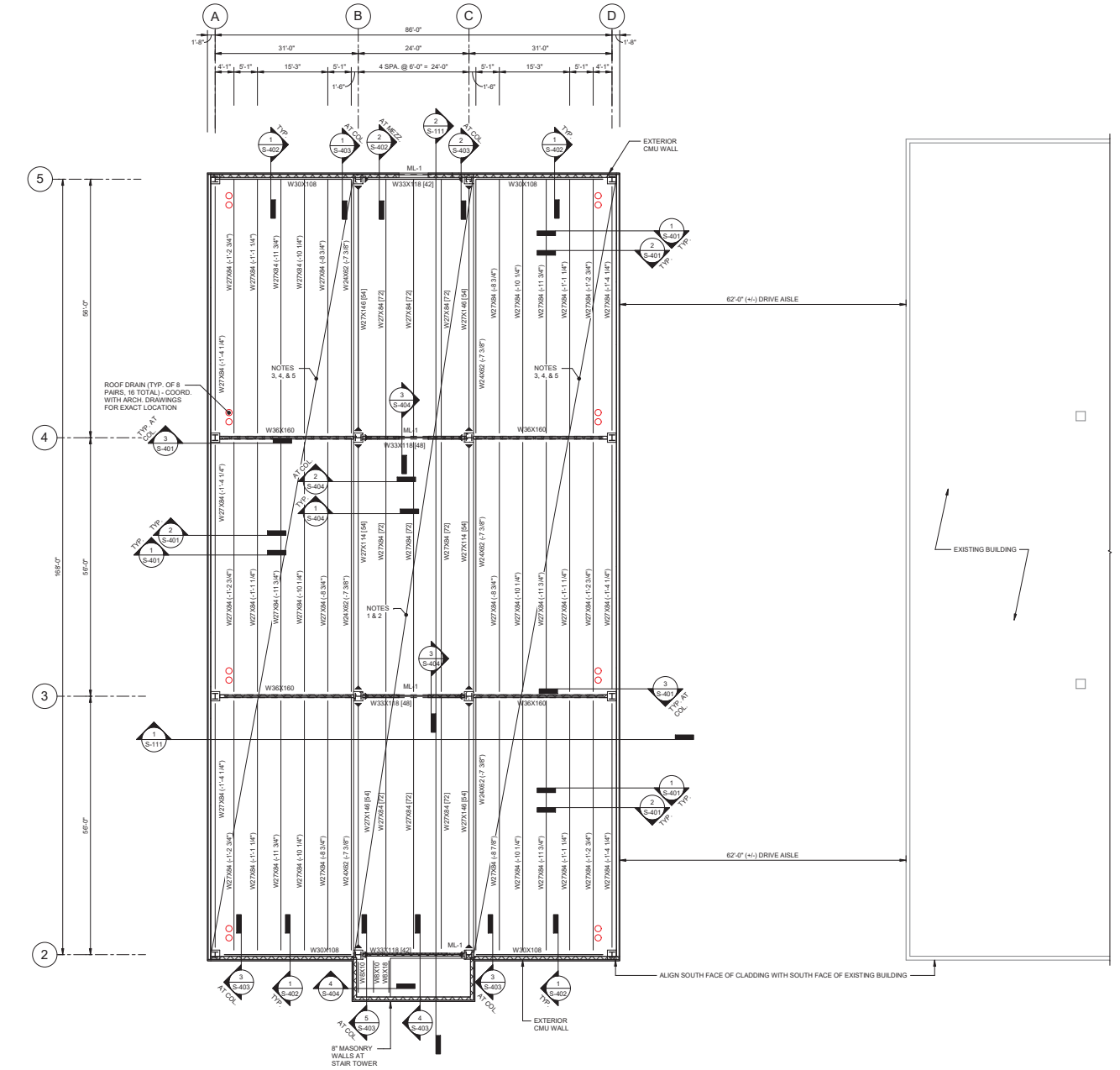

1 MECHANICAL MEZZANINE AND LOW ROOF FRAMING PLAN
3/32" = 1'-0"

EQUIPMENT PLATFORM AND LOW ROOF FRAMING PLAN NOTES:

1. ELEVATION TOP OF STRUCTURAL SLAB AT EQUIPMENT PLATFORM = 21.33. ELEVATION TOP OF STEEL BEAMS AT EQUIPMENT PLATFORM = 20.71. FOR WELD PATTERNS AND SIDELAP REQUIREMENTS, SEE ROOF DECK ATTACHMENT LAYOUT ON S-104.
2. EQUIPMENT PLATFORM STRUCTURAL SLAB SHALL BE 6" LIGHT WEIGHT CONCRETE SLAB REINFORCED WITH TWO LAYERS OF 6"x 6" - W2.9 / W2.9 WELDED WIRE FABRIC AND POURED OVER 1 1/2" x 20 GAUGE COMPOSITE METAL DECK (7 1/2" TOTAL THICKNESS). QUANTITY OF 3/4" DIAMETER (x 6" LONG) HEADED STUDS ARE SHOWN ON PLAN THUS: [X] WHERE 'X' IS THE TOTAL QUANTITY OF HEADED STUDS TO BE ATTACHED UNIFORMLY TO THE BEAM TOP FLANGE.
3. ELEVATION TOP OF LOW ROOF ROOF DECK AT HIGH POINT = 20.875. ELEVATION TOP OF LOW ROOF ROOF DECK AT LOW POINT = 20.08.
4. ELEVATION TOP OF STEEL BEAMS IS INDICATED ON PLAN THUS: (+/-0") SHALL BE MEASURED FROM EL. 21.33.
5. TYPICAL LOW ROOF DECK OVER STEEL BEAMS SHALL BE 1 1/2" x 20 GAUGE PAINTED METAL DECK. FOR WELD PATTERNS AND SIDELAP REQUIREMENTS, SEE ROOF DECK ATTACHMENT LAYOUT ON S-011.
6. CONTINUITY MOMENT CONNECTION IS INDICATED ON PLAN THUS: ⊢ . CONNECTION SHALL BE DESIGNED TO DEVELOP FULL MOMENT CAPACITY OF SECTION UNLESS SHOWN ON PLAN OTHERWISE (NON-REDUCIBLE). MOMENT CAPACITIES WERE PRODUCED USING LRFD LOAD COMBINATIONS.
7. ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS (PREPARED BY A REGISTERED STRUCTURAL ENGINEER) FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED,THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER.
8. ALL STEEL COLUMNS SHALL BE ENCASED IN CONCRETE. REFER TO DETAILS 3 AND 4 ON S-203 FOR INFORMATION AND REQUIREMENTS.
9. ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL AT 32" O.C. SPACING. REINFORCED CELLS SHALL BE GROUTED SOLID WITH 3000 PSI GROUT. LAP VERTICAL BARS A MINIMUM OF 2'-6" FOR ONE BAR PER CELL AND LAP BARS A MINIMUM OF 3'-0" FOR TWO BARS PER CELL.
10. MASONRY LINTELS ARE INDICATED ON PLAN THUS: ML_. REFER TO LINTEL SCHEDULE ON S-011 FOR SIZE OF LINTELS AND FOR INFORMATION AND REQUIREMENTS AT LINTELS.
11. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL EQUIPMENT PLATFORM OPENINGS. REFER TO DETAIL 1 ON S-304 FOR TYPICAL EQUIPMENT PLATFORM OPENING DETAIL.
12. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL ROOF OPENINGS. REFER TO DETAIL 1 ON S-305 FOR TYPICAL ROOF OPENING DETAIL.
13. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
14. ALL LIGHT GAUGE FRAMING MUST BE DESIGNED BY AN INDEPENDENT PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR. SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY A VIRGINIA PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR APPROVAL.
15. STAIR DESIGN IS A DELEGATED DESIGN ITEM. STAIRS AND ATTACHMENT TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL.
16. PROVIDE TEMPORARY BRACING FOR STRUCTURAL STEEL COLUMNS UNTIL FLOOR FRAMING AND DIAPHRAGM ARE COMPLETE.

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DRAWING MEZZ. AND LOW ROOF FRAMING PLAN

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S-102

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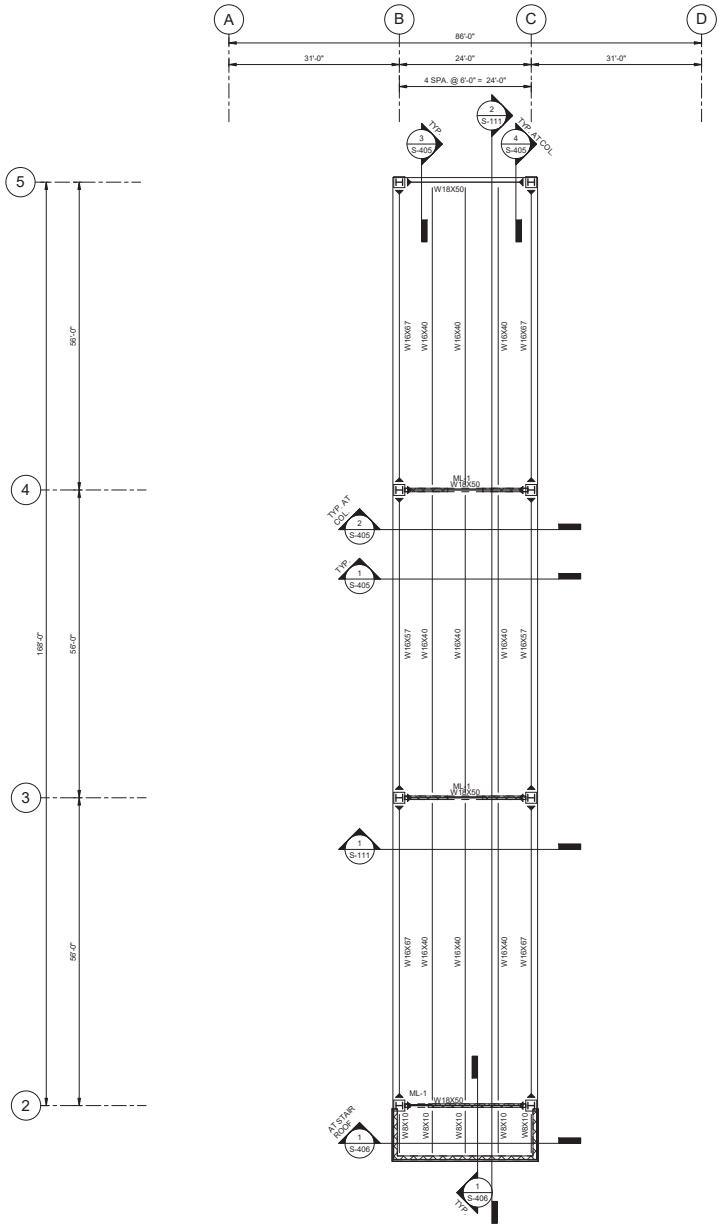
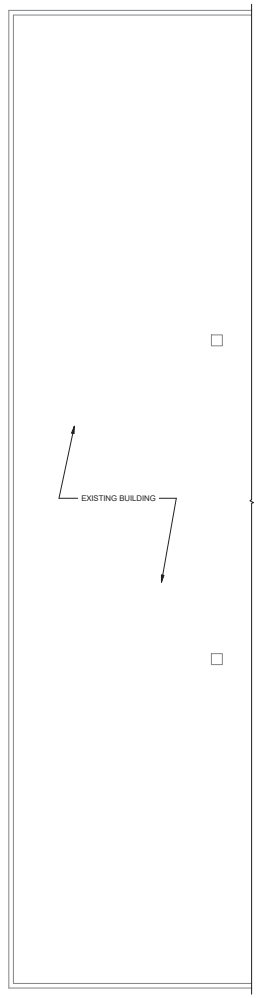
CANOPY ROOF FRAMING PLAN NOTES:

1. ELEVATION TOP OF ROOF DECK = 34.875. TYPICAL ROOF DECK OVER STEEL BEAMS SHALL BE 1 1/2" x 20 GAUGE PAINTED METAL DECK, FOR WELD PATTERNS AND SIDELAP REQUIREMENTS, SEE ROOF DECK ATTACHMENT LAYOUT ON S-104.
2. ELEVATION TOP OF STEEL BEAMS AND GIRDERS = 34.75.
3. CONTINUITY MOMENT CONNECTION IS INDICATED ON PLAN THUS: ▶— CONNECTION SHALL BE DESIGNED TO DEVELOP FULL MOMENT CAPACITY OF SECTION UNLESS SHOWN ON PLAN OTHERWISE (NON-REDUCIBLE). MOMENT CAPACITIES WERE PRODUCED USING LRFD LOAD COMBINATIONS.
4. ALL STEEL CONNECTION DESIGN SHALL BE COMPLETED BY A DESIGN PROFESSIONAL HIRED BY THE CONTRACTOR, AND SATISFY THE LOAD REQUIREMENTS SPECIFIED IN THE CONTRACT DOCUMENTS. PRIOR TO SUBMISSION OF STEEL SHOP DRAWINGS, THE STEEL FABRICATOR SHALL SUBMIT SAMPLE CALCULATIONS (PREPARED BY A REGISTERED STRUCTURAL ENGINEER) FOR ALL TYPICAL BEAM AND BEAM TO COLUMN CONNECTIONS, WHICH ARE PROPOSED TO BE USED ON THIS PROJECT. AFTER THESE TYPICAL CALCULATIONS AND CONNECTIONS ARE ACCEPTED,THE FABRICATOR SHALL PREPARE AND SUBMIT THE SHOP DRAWINGS FOR THIS PROJECT. THESE TYPICAL CALCULATIONS ARE REQUIRED TO BE SEALED BY A REGISTERED STRUCTURAL ENGINEER.
5. SEE ARCHITECTURAL DRAWINGS FOR WORKING POINTS AND PITCHES OF ALL SLOPED INSULATION. VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
6. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL ROOF OPENINGS. REFER TO DETAIL 1 ON S-305 FOR TYPICAL ROOF OPENING DETAIL.
7. ALL STEEL COLUMNS SHALL BE ENCASED IN CONCRETE. REFER TO DETAILS 3 AND 4 ON S-203 FOR INFORMATION AND REQUIREMENTS.
8. ALL MASONRY WALLS SHALL BE REINFORCED WITH #5 VERTICAL AT 32" O.C. SPACING. REINFORCED CELLS SHALL BE GROUTED SOLID WITH 3000 PSI GROUT. LAP VERTICAL BARS A MINIMUM OF 2'-6" FOR ONE BAR PER CELL AND LAP BARS A MINIMUM OF 3'-0" FOR TWO BARS PER CELL.
9. CONTRACTOR SHALL COORDINATE ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION.
10. ALL LIGHT GAUGE FRAMING MUST BE DESIGNED BY AN INDEPENDENT PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR. SUBMIT SHOP DRAWINGS WITH DESIGN CALCULATIONS SIGNED AND SEALED BY A VIRGINIA PROFESSIONAL ENGINEER TO THE DESIGN TEAM FOR APPROVAL.
11. PROVIDE TEMPORARY BRACING FOR STRUCTURAL STEEL COLUMNS UNTIL ROOF FRAMING AND DIAPHRAGM ARE COMPLETE.
12. STAIR DESIGN IS A DELEGATED DESIGN ITEM. STAIRS AND ATTACHMENT TO SUPPORTING STRUCTURE SHALL BE DESIGNED FOR 100 PSF LIVE LOAD. SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A VIRGINIA REGISTERED PROFESSIONAL ENGINEER FOR APPROVAL.



1 CANOPY ROOF FRAMING PLAN
3/32" = 1'-0"



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DRAWING CANOPY ROOF FRAMING PLAN

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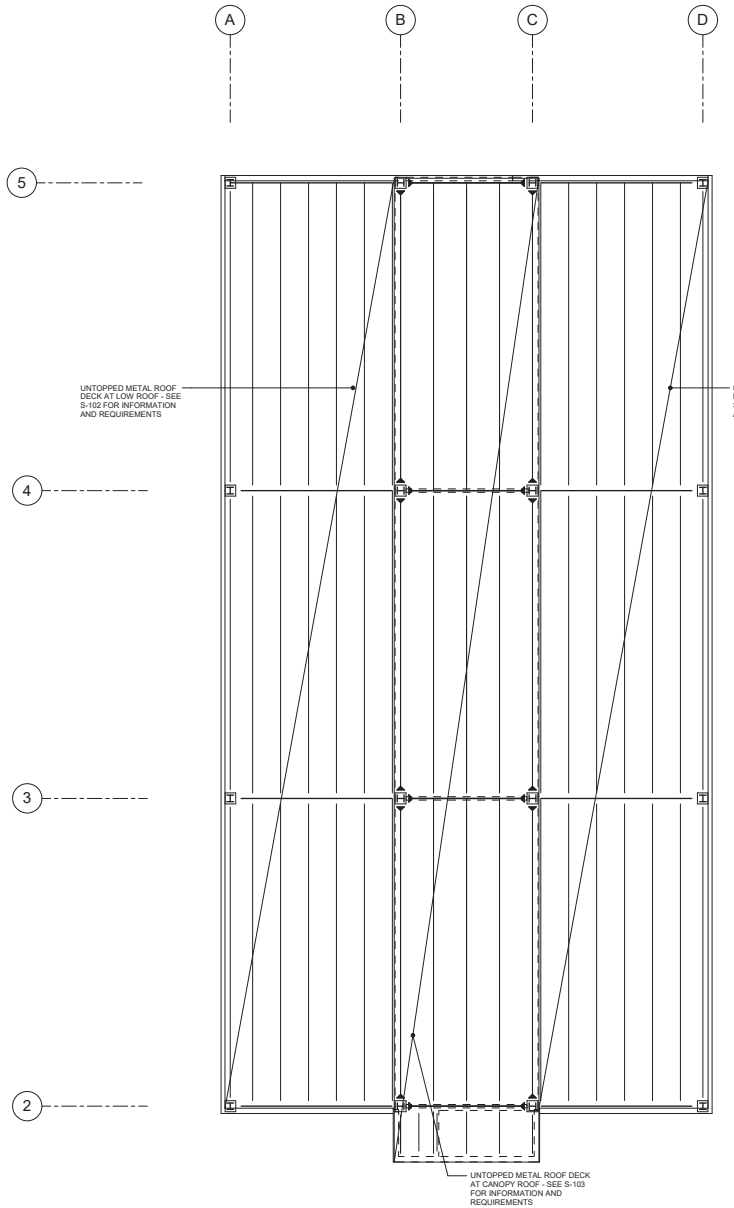
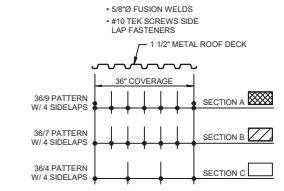


1 ROOF DECK ATTACHMENT PLAN
3/32" = 1'-0"



2 STEEL DECK ATTACHMENT SCHEDULE
3/4" = 1'-0"

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DRAWING ROOF DECK ATTACHMENT PLAN

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S-104

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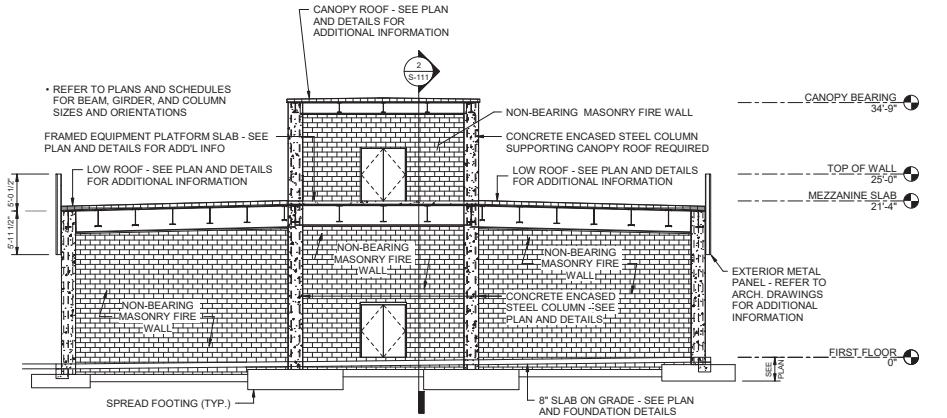
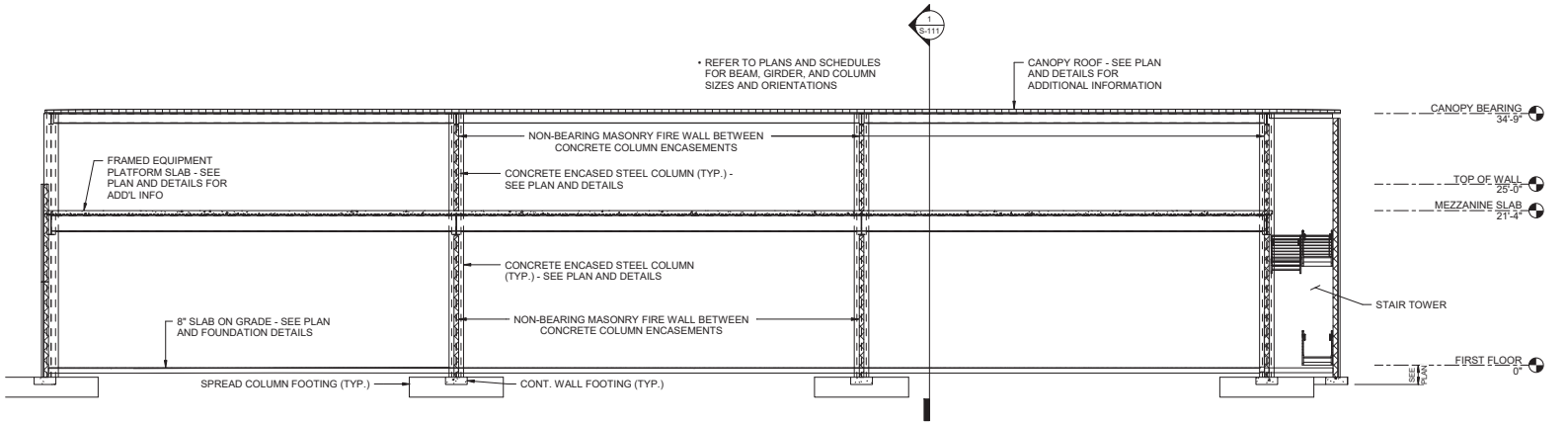


1 SHORT BUILDING SECTION ALONG COLUMN LINE 2
1/8" = 1'-0"



2 LONG BUILDING SECTION ALONG COLUMN LINE C
1/8" = 1'-0"

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DRAWING STRUCTURAL SECTIONS

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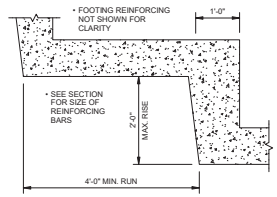
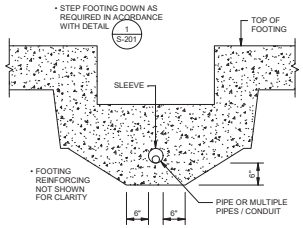
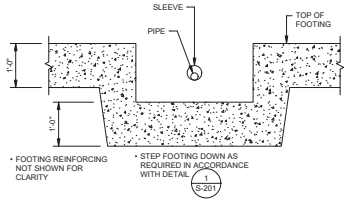


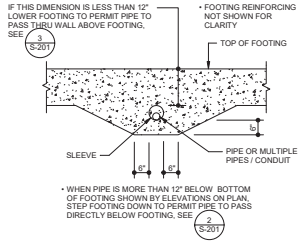
1 TYPICAL STEPPED FOOTING
3/4" = 1'-0"



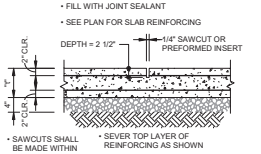
2 FOOTING STEPPED DOWN AT PIPE
3/4" = 1'-0"



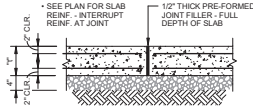
3 FOOTING STEPPED UNDER PIPE
3/4" = 1'-0"



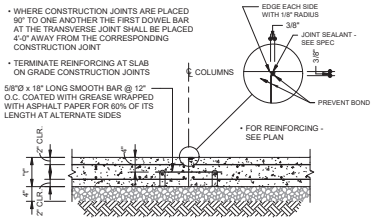
4 TYPICAL PIPE THRU FOOTING
3/4" = 1'-0"



5 TYPICAL CONTROL JOINT IN 8" SLAB ON GRADE
3/4" = 1'-0"



6 TYPICAL ISOLATION JOINT IN 8" SLAB ON GRADE
3/4" = 1'-0"



7 TYPICAL CONSTRUCTION JOINT IN 8" SLAB ON GRADE
3/4" = 1'-0"

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DRAWING TYPICAL FOUNDATION DETAILS

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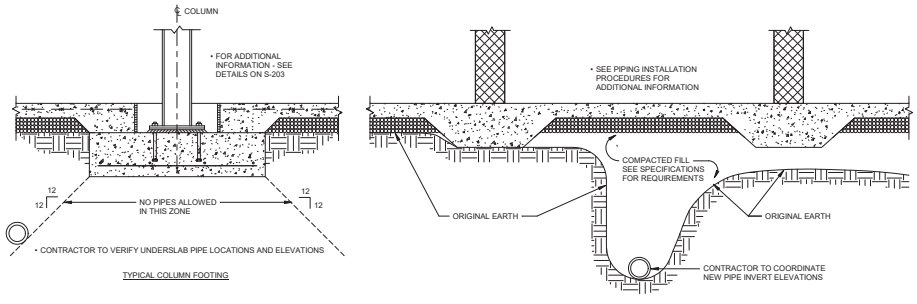
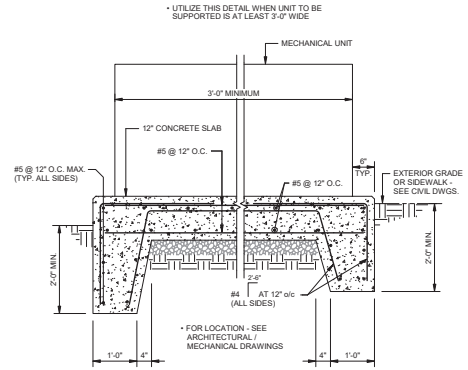


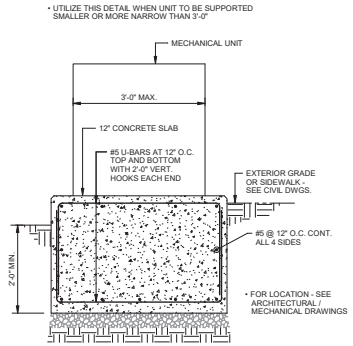
PIPING INSTALLATION PROCEDURES:

1. PIPES AND JOINTS SHALL BE DESIGNED FOR EXTERNAL BEARING PRESSURE PROJECTED FROM FOOTINGS AND EARTH PRESSURE ABOVE. CONTRACTOR TO CONSULT WITH GEOTECHNICAL ENGINEER FOR REQUIRED DESIGN LOADS.
2. BEFORE STARTING CONCRETE WORK, EXCAVATE TRENCH AND INSTALL NEW PIPE. SEE CONTRACT SPECIFICATION FOR FURTHER REQUIREMENTS.
3. BACKFILL PIPE TRENCH WITH COMPACTED FILL. SEE GEOTECHNICAL REPORT AND CONTRACT SPECIFICATION FOR FURTHER REQUIREMENTS.
4. EXCAVATE AND POUR NEW FOOTINGS AND SLAB ON GRADE OVER COMPACTED FILL OR ON ORGINAL EARTH.

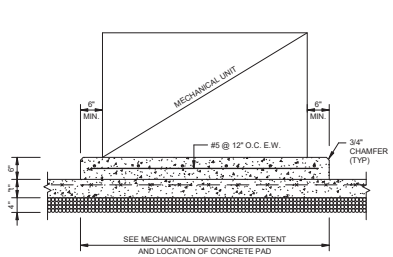
1 PIPE NEAR FOOTINGS
3/4" = 1'-0"



2 TYPICAL EXTERIOR EQUIPMENT PAD FOR LARGE/WIDE UNITS
3/4" = 1'-0"

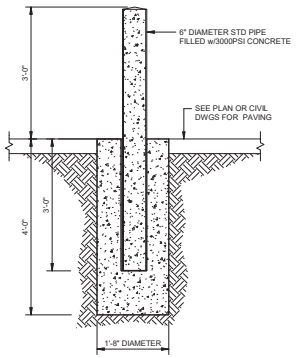


3 TYPICAL EXTERIOR EQUIPMENT PAD FOR SMALL/NARROW UNITS
3/4" = 1'-0"



• MECHANICAL EQUIPMENT PAD SHALL BE NORMAL WEIGHT CONCRETE FILL WITH A MAXIMUM WEIGHT OF 150 POUNDS PER CUBIC FOOT AND A MAXIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.

4 TYPICAL EQUIPMENT PAD ON SLAB ON GRADE
3/4" = 1'-0"



5 TYPICAL EXTERIOR PIPE BOLLARD AT EXTERIOR
3/4" = 1'-0"

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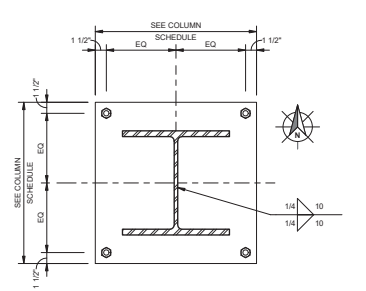
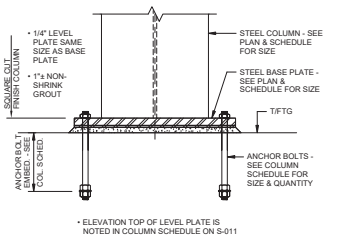
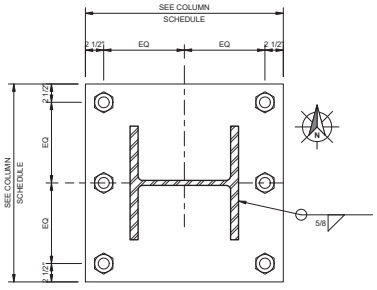
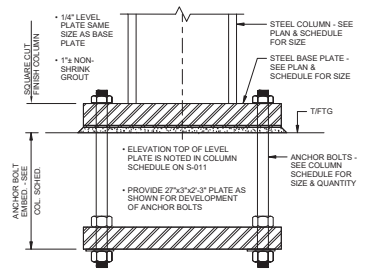


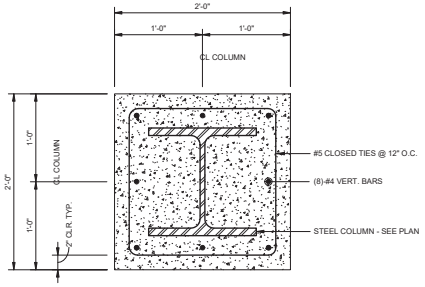


1 WF COLUMN BASE TYPE A
1 1/2" = 1'-0"

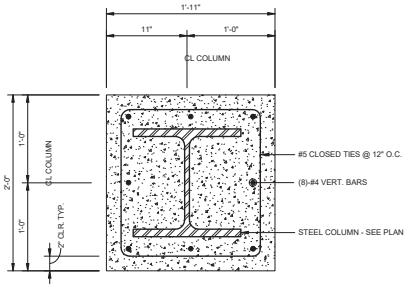




2 WF COLUMN BASE TYPE B
1 1/2" = 1'-0"



3 CONCRETE ENCASED STEEL COLUMN AT COLUMN LINES B & C
1 1/2" = 1'-0"



4 CONCRETE ENCASED STEEL COLUMN AT COLUMN LINES A & D
1 1/2" = 1'-0"

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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING COLUMN FOUNDATION DETAILS

SHEET
S-203

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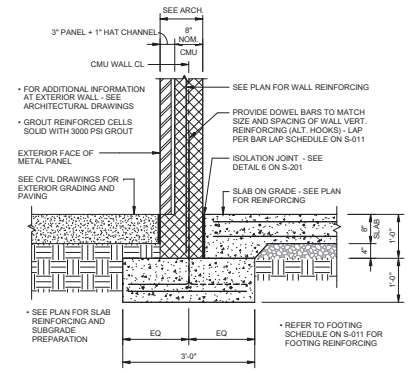
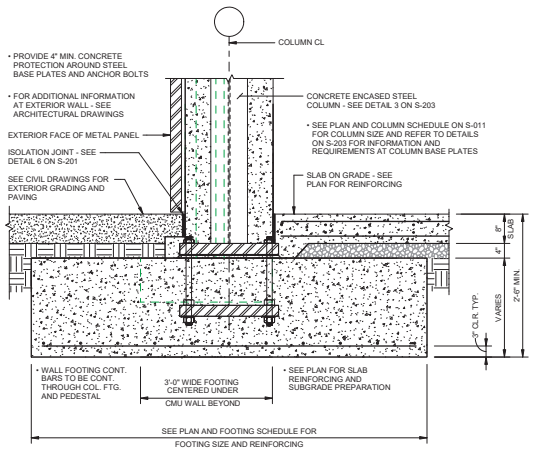
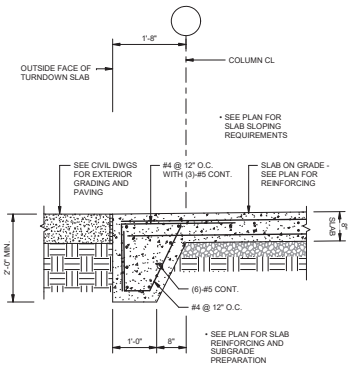


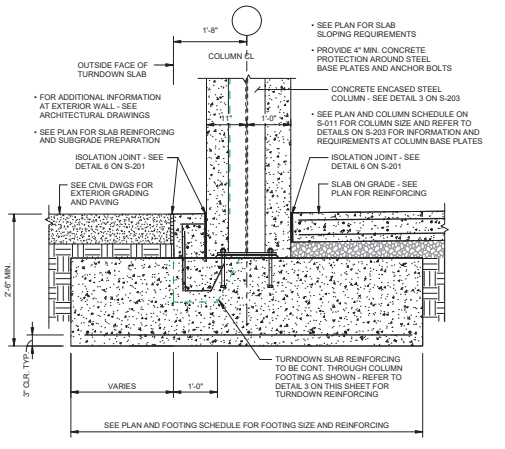
1 TYPICAL EXTERIOR FOUNDATION ALONG COLUMN LINE 2 AND 5
3/4" = 1'-0"



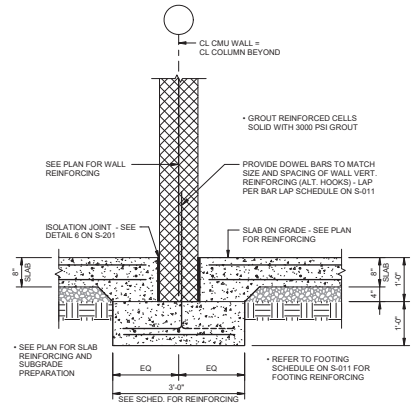
2 TYPICAL EXTERIOR COLUMN FOOTING ALONG COLUMN LINE 2 AND 5
3/4" = 1'-0"



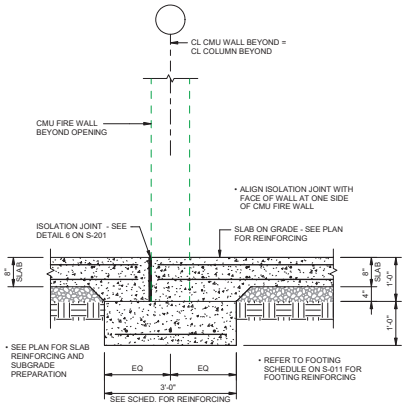
3 TYPICAL TURNDOWN FOUNDATION AT BUS ENTRANCE
3/4" = 1'-0"



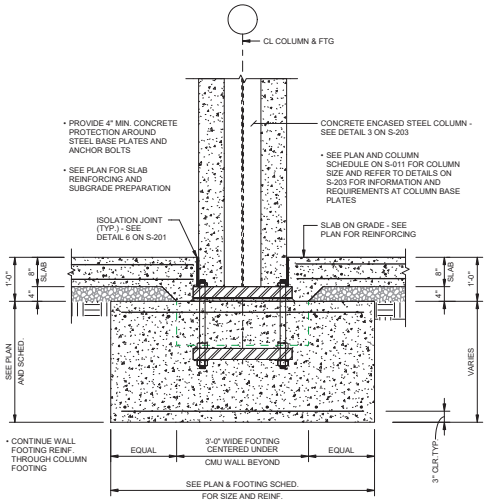
4 TYPICAL EXTERIOR COLUMN FOOTING AT BUS ENTRANCE
3/4" = 1'-0"



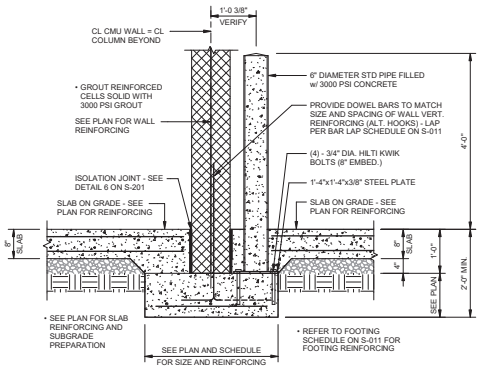
5 TYPICAL INTERIOR CMU FIRE WALL FOOTING ALONG COLUMN LINE 3 AND 4
3/4" = 1'-0"



6 TYPICAL SLAB ON GRADE AT DOORWAY IN MASONRY FIRE WALL
3/4" = 1'-0"



7 TYPICAL INTERIOR COLUMN FOOTING
3/4" = 1'-0"



8 TYPICAL BOLLARD ON FOOTING
3/4" = 1'-0"

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DRAWING FOUNDATION DETAILS

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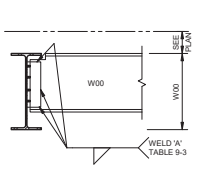
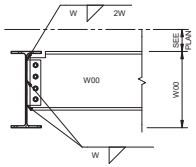


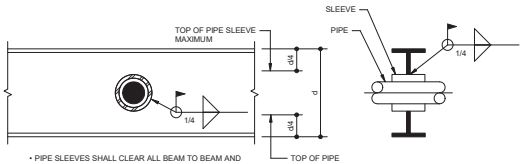
- FRAMED BEAM CONNECTIONS TABLE 10-1 AND 10-2
- 3/4"Ø FIELD BOLTS (ASTM A325 OR A490)
- SHOP WELDS - E70XX ELECTRODES

1 TYPICAL WF BEAM TO WF BEAM SHEAR CONNECTION (PRINCIPAL DETAIL)
3/4" = 1'-0"



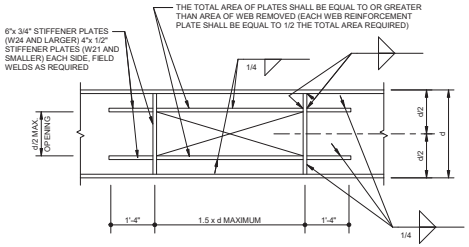
- ONE SIDED FRAMED BEAM CONNECTIONS TABLE 10-10
- 3/4"Ø FIELD BOLTS (ASTM A325 OR A490)
- SHOP WELDS - E70XX ELECTRODES

2 TYPICAL WF BEAM TO WF BEAM SHEAR CONNECTION (ALTERNATE DETAIL)
3/4" = 1'-0"



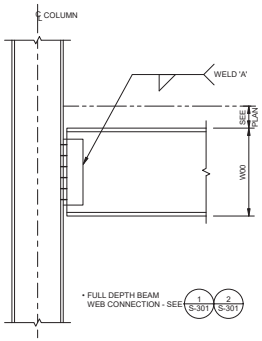
- PIPE SLEEVES SHALL CLEAR ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS BY 30" MIN.
- PIPE SLEEVES SHALL BE MADE OF STEEL CONFORMING TO ASTM A-53, TYPES E OR S, GRADE B (FY = 35 KSI)
- PIPE SLEEVES SHALL BE SPACED NO CLOSER THAN 3'-0" O.C.
- SEE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS
- IF INSIDE DIAMETER OF PIPE SLEEVE EXCEEDS d/3, USE TYPICAL DETAIL FOR SLOTS IN BEAMS, SEE 4/S-301

3 TYPICAL DETAIL FOR PIPE SLEEVES IN BEAMS
3/4" = 1'-0"



- OPENINGS SHALL BE EQUALLY SPACED BETWEEN STEEL BEAMS OR JOISTS
- END OF STIFFENER SHALL CLEAR STEEL BEAMS OR JOISTS BY 12" MIN. AND CLEAR COLUMNS BY 30" MINIMUM
- PROVIDE SLOTS IN BEAMS FOR PIPES, DUCTS, AND OTHER SIMILAR MECHANICAL WORK
- PIPE SLEEVES MAY BE USED WITH THE APPROVAL OF THE ENGINEER. ACCORDING TO DETAIL

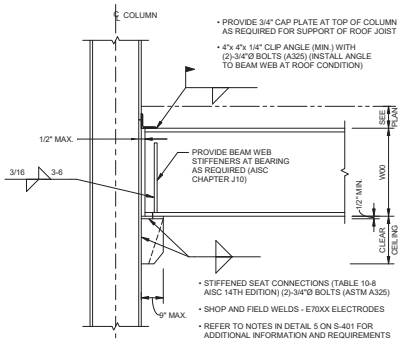
4 TYPICAL DETAIL FOR SLOTS IN BEAMS
3/4" = 1'-0"



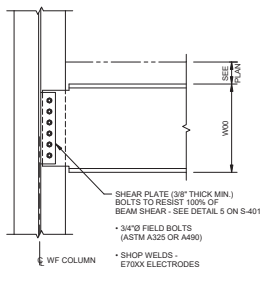
NOTES:

1. AT NON-COMPOSITE BEAMS, ALL BEAM CONNECTIONS SHALL BE DESIGNED FOR ONE-HALF THE MAXIMUM EQUIVALENT UNIFORM LOAD ON THE BEAM. THE CONTRACTOR SHALL UTILIZE FACTORED LOADING IN LRFD.
2. AT COMPOSITE BEAMS, THE SHEAR CAPACITY SHALL BE DETERMINED BY MULTIPLYING THE BEAM REACTION (PHI*n Wc)/2L WHERE (PHI*n Wc) IS THE UNIFORM LOAD CONSTANT IN KIP-FOOT, AND WHERE "L" IS THE SPAN IN FEET AS SHOWN IN THE TABLES "UNIFORM LOAD CONSTANTS FOR BEAMS" BY 1.75 FOR ALL INTERIOR BEAMS AND 1.25 FOR ALL EXTERIOR BEAMS.
3. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH AISC MANUAL OF STEEL CONSTRUCTION.
   - MINIMUM EDGE DISTANCE: 1 1/2 INCHES
   - BOLT SPACING: 3 INCHES
4. BEAM CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIAMETER ASTM F3125 GR.A325 OR GR. A490 HIGH STRENGTH BOLTS.
5. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS.
6. WELDS CANNOT BE THICKER THAN BASE MATERIAL.
7. CONTRACTOR HAS THE OPTION TO USE WELDED CONNECTIONS IN LIEU OF BOLTED CONNECTIONS. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED, UNLESS OTHERWISE INDICATED.

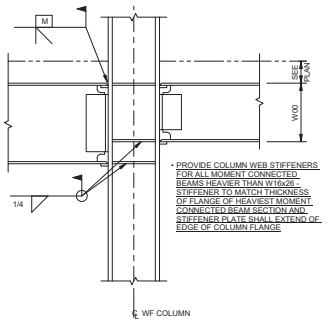
5 TYPICAL WF BEAM TO WF COLUMN FLANGE SHEAR CONNECTION (PRINCIPAL DETAIL)
3/4" = 1'-0"



6 TYPICAL WF BEAM TO WF COLUMN FLANGE SHEAR CONNECTION (ALTERNATE DETAIL)
3/4" = 1'-0"

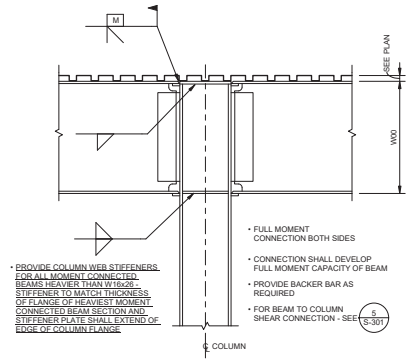


7 TYPICAL WF BEAM TO WF COLUMN WEB SHEAR CONNECTION
3/4" = 1'-0"



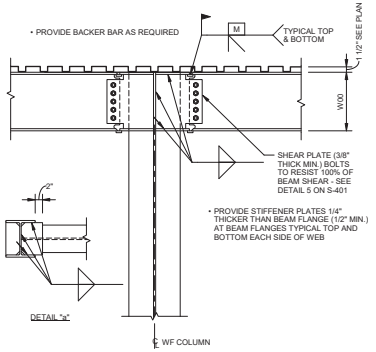
- FULL MOMENT CONNECTION BOTH SIDES
- CONNECTION SHALL DEVELOP FULL MOMENT CAPACITY OF BEAM
- PROVIDE BACKER BAR AS REQUIRED
- FOR BEAM TO COLUMN SHEAR CONNECTION - SEE 5/S-301

8 TYPICAL WF BEAM TO WF COLUMN FLANGE MOMENT CONNECTION (DIFFERENT BEAM DEPTHS)
3/4" = 1'-0"



- FULL MOMENT CONNECTION BOTH SIDES
- CONNECTION SHALL DEVELOP FULL MOMENT CAPACITY OF BEAM
- PROVIDE BACKER BAR AS REQUIRED
- FOR BEAM TO COLUMN SHEAR CONNECTION - SEE 5/S-301

9 TYPICAL WF BEAM TO WF COLUMN FLANGE MOMENT CONNECTION (SAME BEAM DEPTHS)
3/4" = 1'-0"



10 TYPICAL WF BEAM TO WF COLUMN WEB MOMENT CONNECTION
3/4" = 1'-0"

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301 King Street, Alexandria, Virginia 22314

DRAWING TYPICAL STEEL DETAILS

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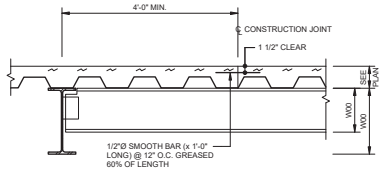
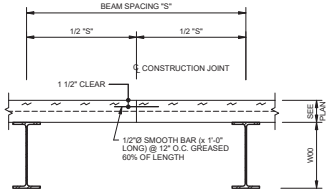
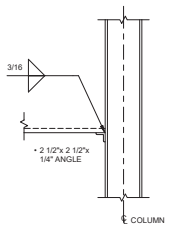


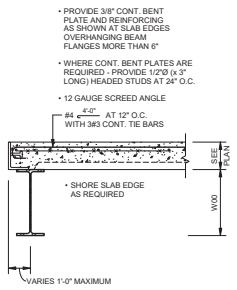
1 CONSTRUCTION JOINT IN FORMED CONCRETE SLAB (DECK PARALLEL)
3/4" = 1'-0"



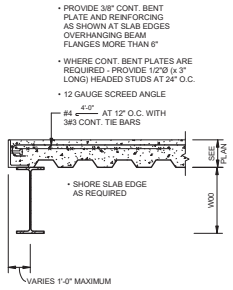
2 CONSTRUCTION JOINT IN FORMED CONCRETE SLAB (DECK PERP)
3/4" = 1'-0"



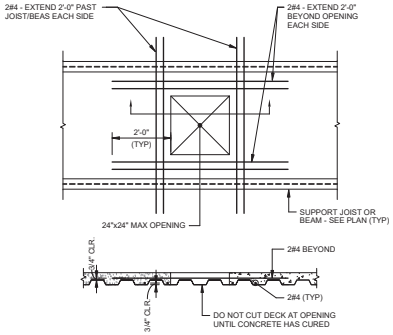
3 SUPPORT FOR METAL DECK AT WF COLUMN
3/4" = 1'-0"



4 SLAB EDGE AT WF BEAM (DECK BEARING)
3/4" = 1'-0"

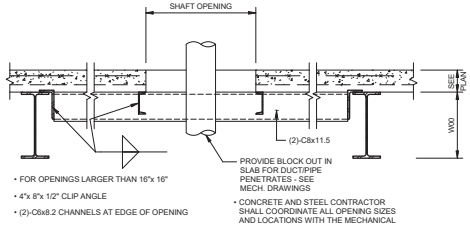


5 SLAB EDGE AT WF BEAM (DECK PARALLEL)
3/4" = 1'-0"



SECTION 1

6 TYPICAL REINFORCING AT OPENINGS IN CONCRETE TOPPED METAL DECK
1/2" = 1'-0"



7 TYPICAL OPENING IN COMPOSITE CONCRETE SLAB
3/4" = 1'-0"

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DRAWING TYPICAL STEEL DECK DETAILS

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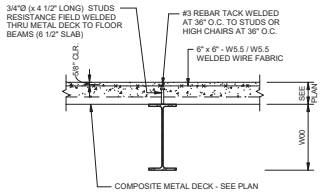
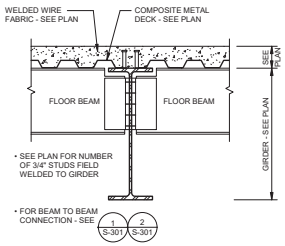
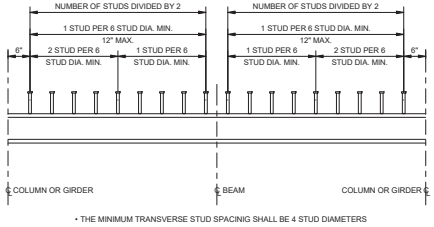


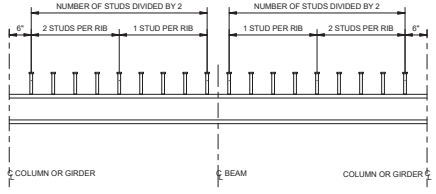
1 TYPICAL COMPOSITE BEAM
3/4" = 1'-0"



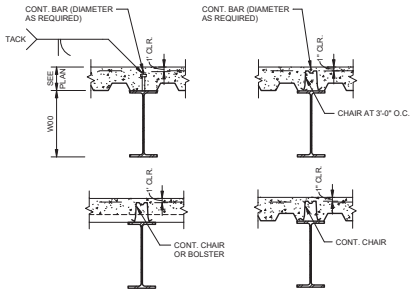
2 TYPICAL COMPOSITE GIRDER
3/4" = 1'-0"



3 STUD PLACEMENT WITH DECK RIBS ORIENTED PARALLEL TO STEEL BEAM OR GIRDER
3/4" = 1'-0"



4 STUD PLACEMENT WITH DECK RIBS ORIENTED PERPENDICULAR TO STEEL BEAM OR GIRDER
3/4" = 1'-0"



NOTES:

1. WELDED WIRE FABRIC SHALL BE ACCURATELY PLACE AND ADEQUATELY SUPPORT BEFORE THE CONCRETE IS PLACED, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN PERMITTED TOLERANCES.
2. PROVIDE CONTINUOUS SUPPORTS FOR W.W.F. AT BEAMS AND GIRDERS ON COLUMN GRID LINES USING ONE OF THE METHODS SHOWN ABOVE.
3. SPANDRELS AND EDGE BEAMS TO HAVE TOP BARS AS SHOWN ON DETAILS.

5 TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS TOPPED DECK
3/4" = 1'-0"

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DRAWING TYPICAL COMPOSITE FRAMING DETAILS

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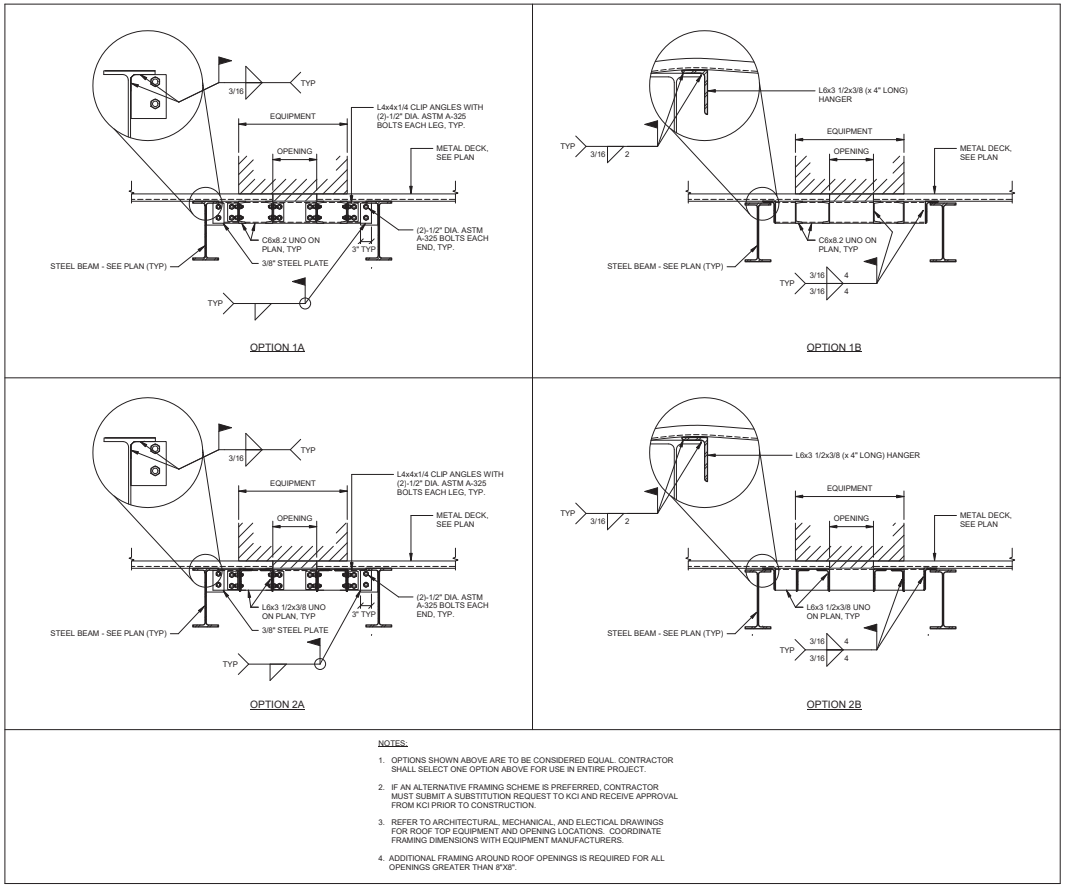
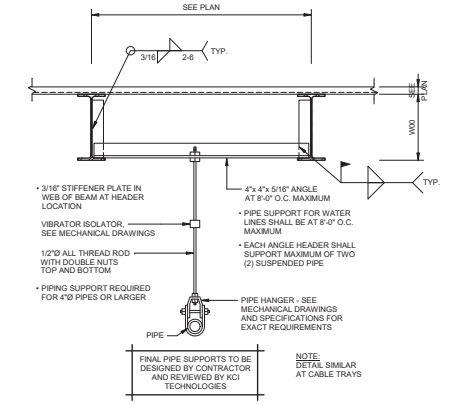
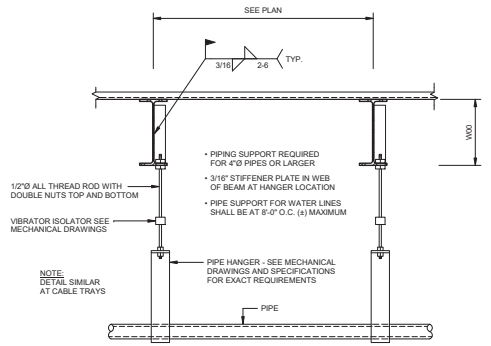


1 TYPICAL RTU SUPPORT ON UNTOPPED DECK FRAMING DETAIL (CONTRACTOR OPTIONS)
3/4" = 1'-0"



2 TYPICAL PIPE SUPPORT AT WF BEAMS PARALLEL AT UNTOPPED METAL DECK
3/4" = 1'-0"



3 TYPICAL PIPE SUPPORT AT WF BEAMS PERPENDICULAR AT UNTOPPED METAL DECK
3/4" = 1'-0"

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DRAWING RTU SUPPORT AT UNTOPPED METAL DECK

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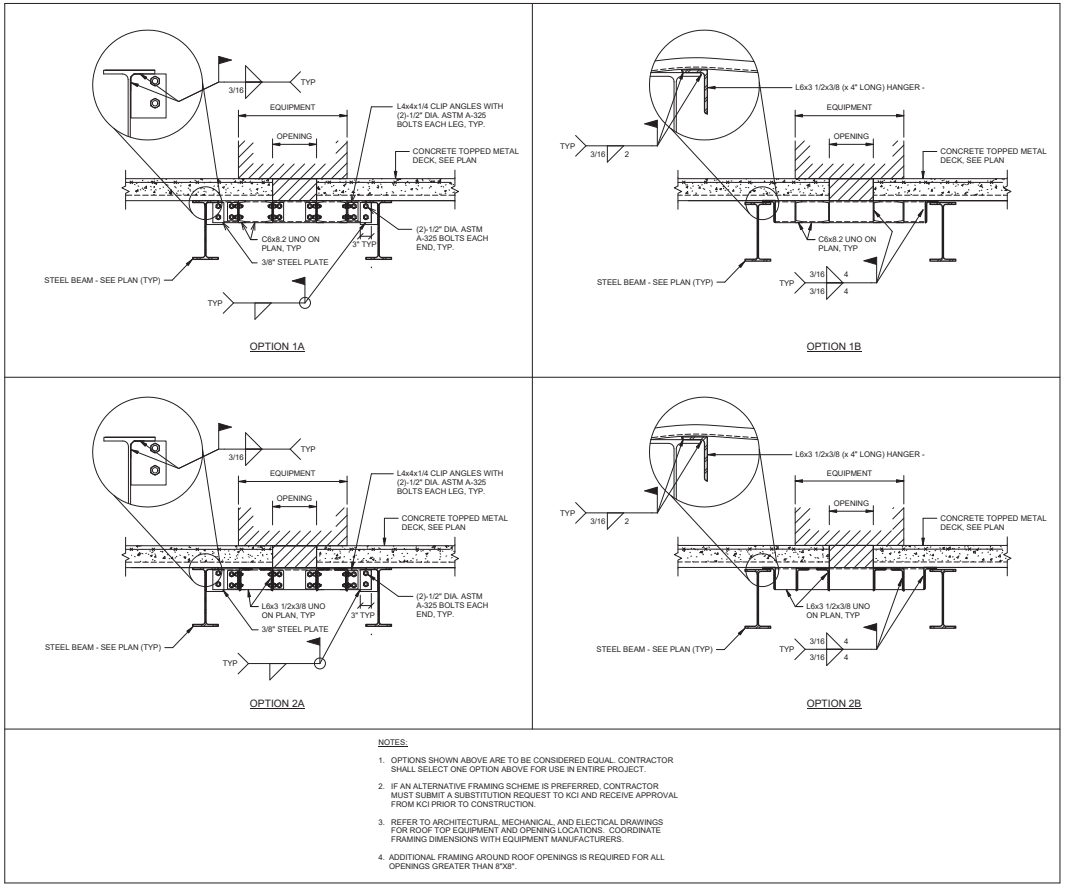
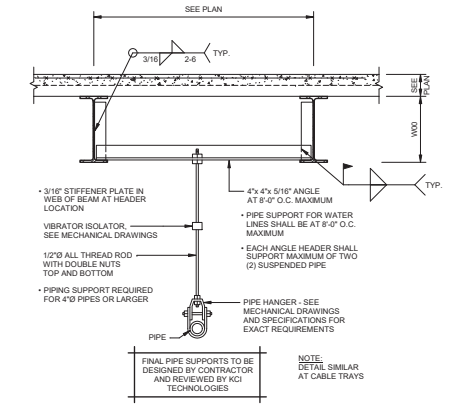
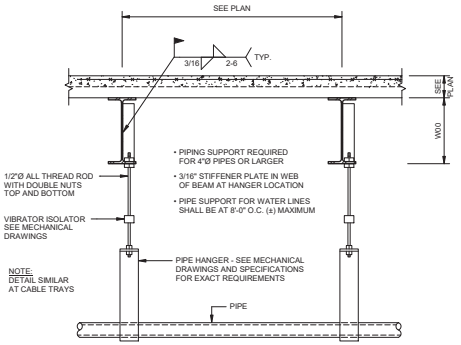


1 TYPICAL RTU SUPPORT ON TOPPED DECK FRAMING DETAIL (CONTRACTOR OPTIONS)
3/4" = 1'-0"



2 TYPICAL PIPE SUPPORT AT WF BEAMS PARALLEL AT TOPPED METAL DECK
3/4" = 1'-0"



3 TYPICAL PIPE SUPPORT AT WF BEAMS PERPENDICULAR AT TOPPED METAL DECK
3/4" = 1'-0"

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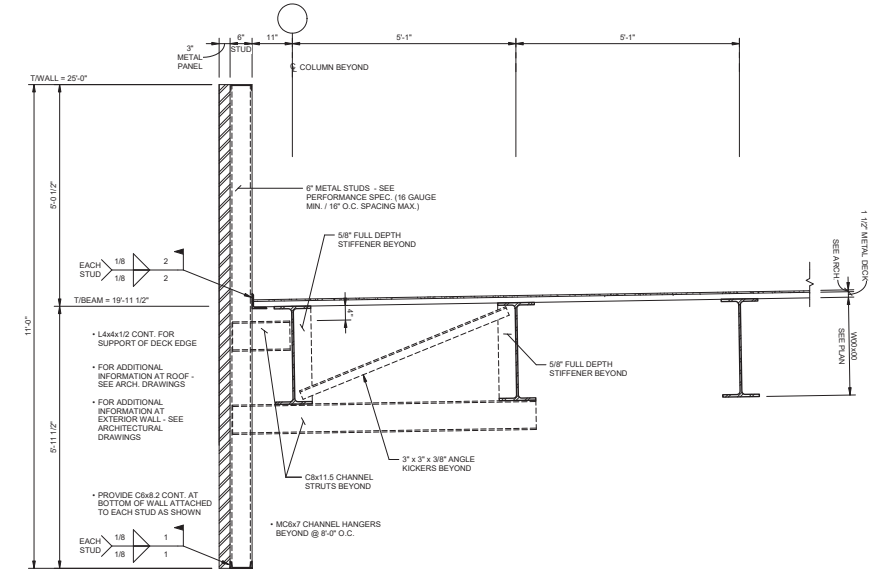
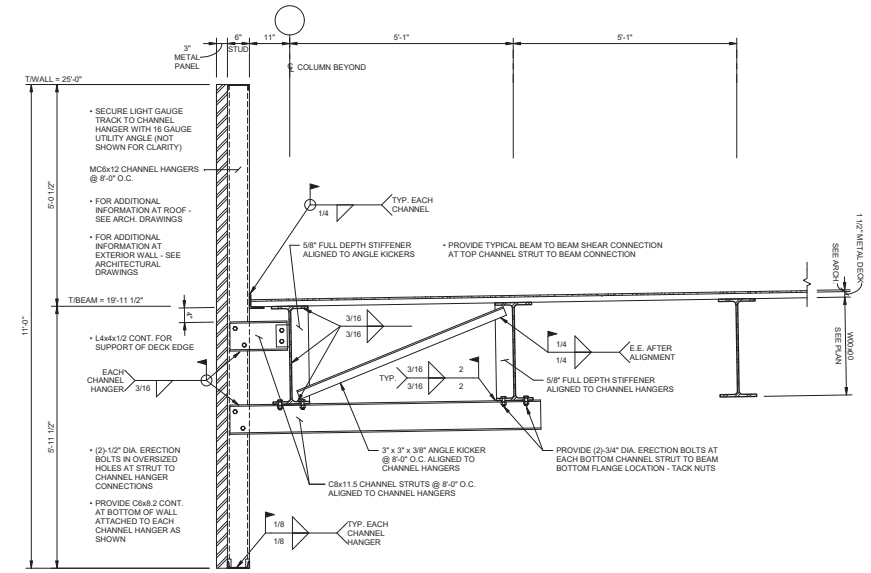
DRAWING RTU SUPPORT AT TOPPED METAL DECK

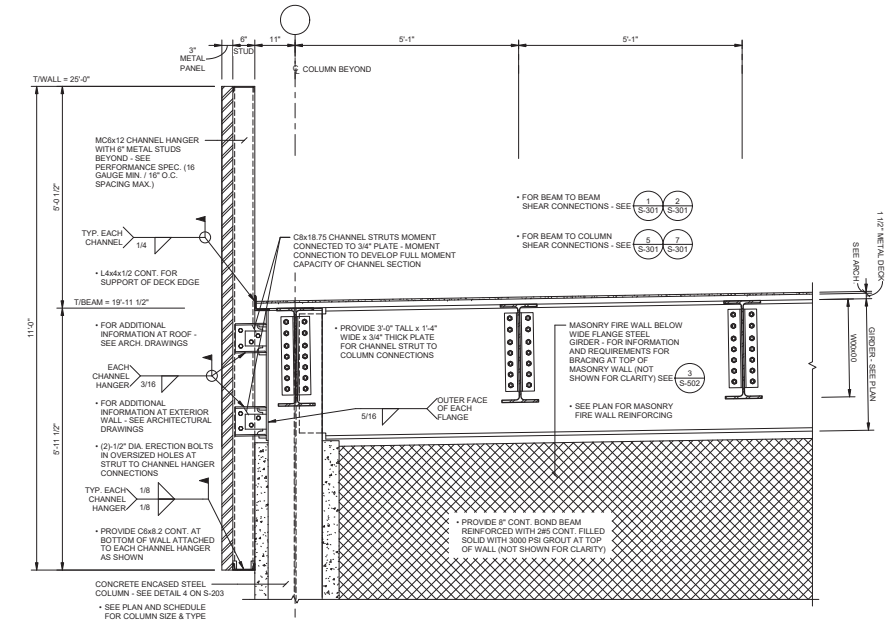
SHEET
S-305



1 WALL FRAMING ALONG COLUMN LINES A AND D (BETWEEN CHANNEL HANGERS)
3/4" = 1'-0"



2 WALL FRAMING ALONG COLUMN LINES A AND D (AT CHANNEL HANGERS)
3/4" = 1'-0"



3 WALL FRAMING ALONG COLUMN LINES A AND D (AT COLUMN)
3/4" = 1'-0"

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DRAWING ROOF FRAMING DETAILS

SHEET
S-401

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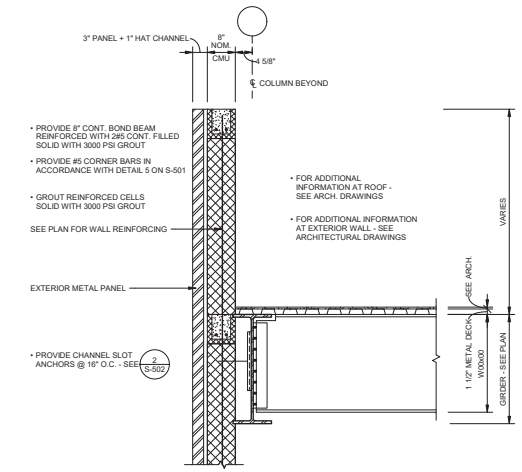
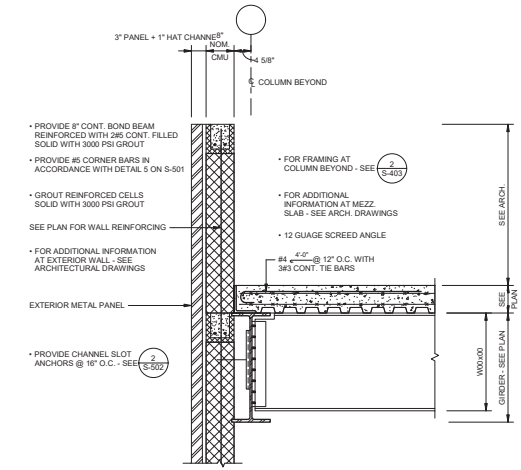


1 WALL FRAMING ALONG COLUMN LINES 2 AND 5
3/4" = 1'-0"



2 WALL FRAMING ALONG COLUMN LINE 5 AT MEZZ. SLAB
3/4" = 1'-0"

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DRAWING ROOF FRAMING DETAILS

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S-402

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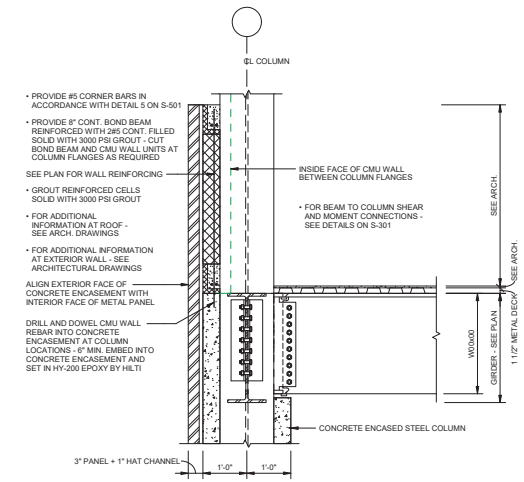
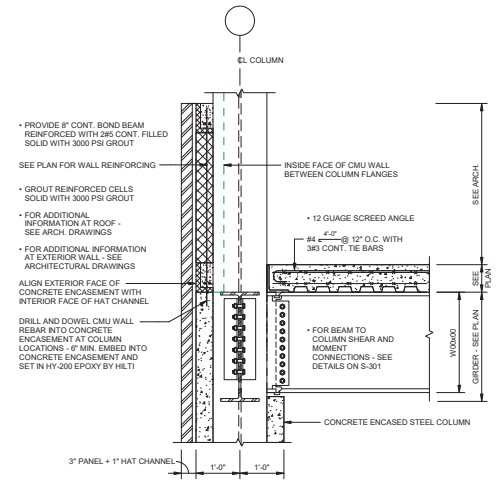
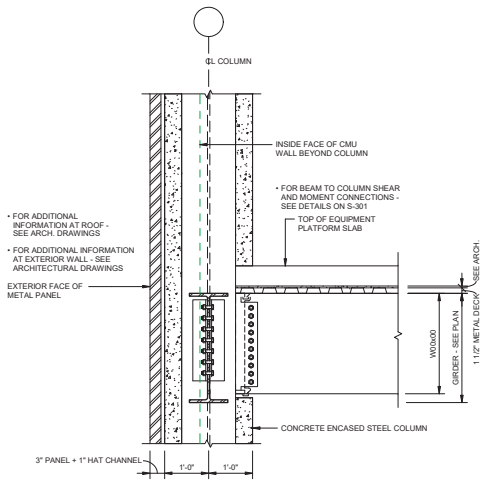


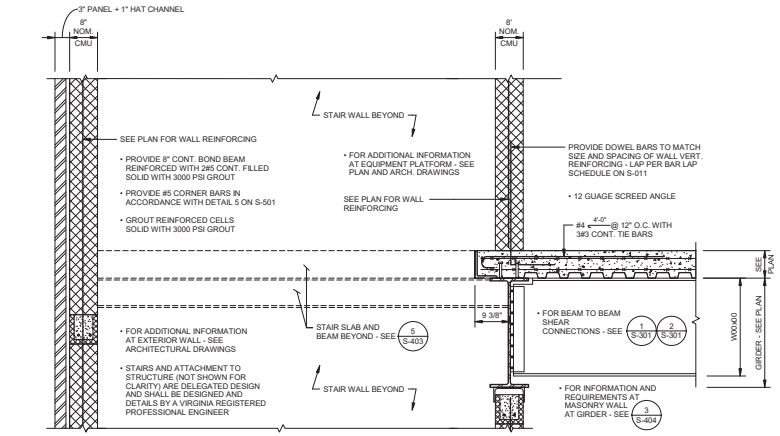
1 WALL FRAMING AT COLUMN B-5
3/4" = 1'-0"



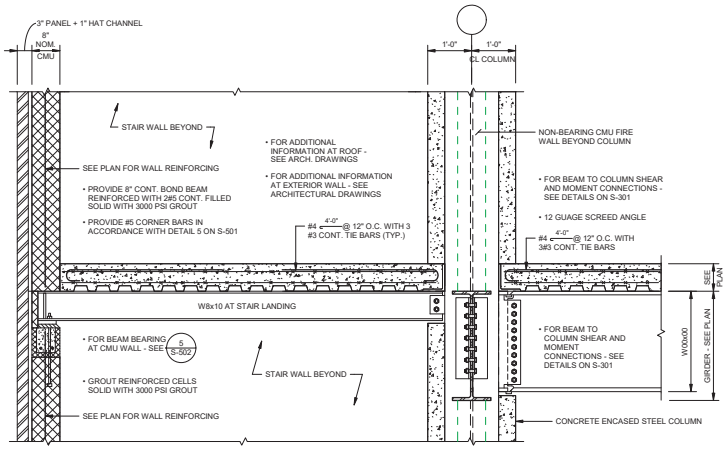
2 WALL FRAMING AT COLUMN C-5
3/4" = 1'-0"



3 WALL FRAMING AT COLUMN C-2
3/4" = 1'-0"



4 EQUIPMENT PLATFORM AT STAIR TOWER
3/4" = 1'-0"



5 EQUIPMENT PLATFORM AT STAIR TOWER AT COLUMN B-2
3/4" = 1'-0"

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DRAWING ROOF FRAMING DETAILS

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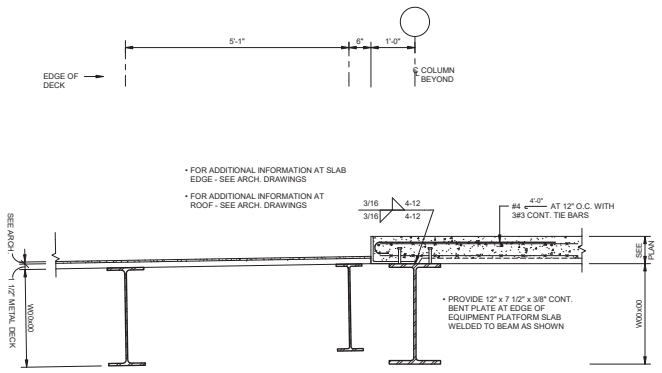
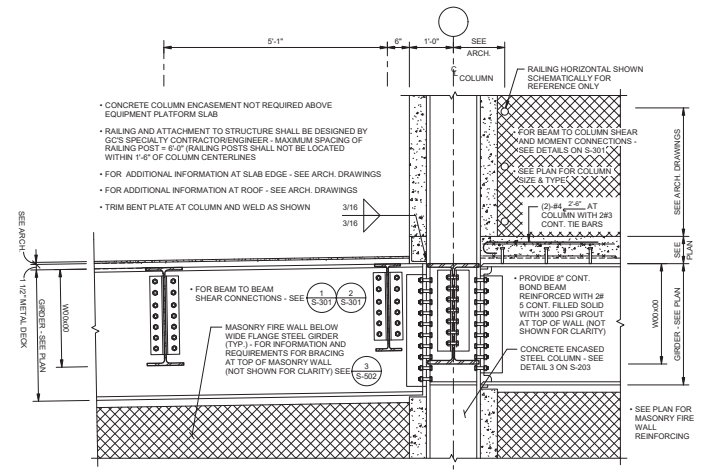
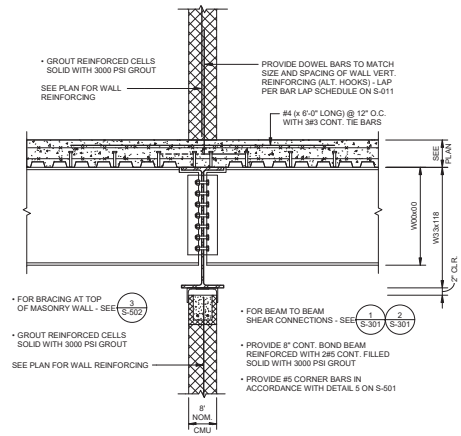


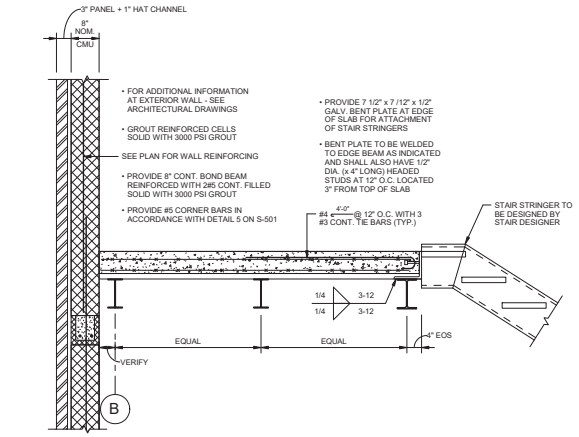
1 DECK TRANSITION AT EDGE OF EQUIOMENT PLATFORM
3/4" = 1'-0"



2 DECK TRANSITION AT EDGE OF EQUIPMENT PLATFORM AT COLUMN
3/4" = 1'-0"



3 NON-BEARING MASONRY FIRE WALL AT GIRDER
3/4" = 1'-0"



4 STAIR STRINGER SUPPORT AT EQUIPMENT PLATFORM LANDING
3/4" = 1'-0"

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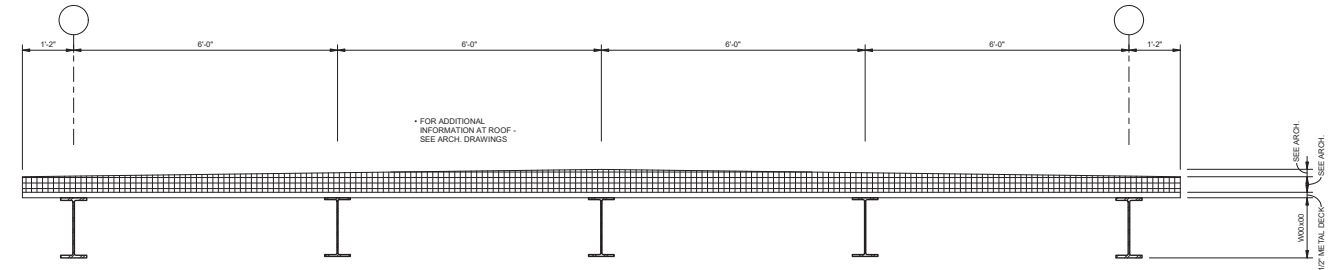
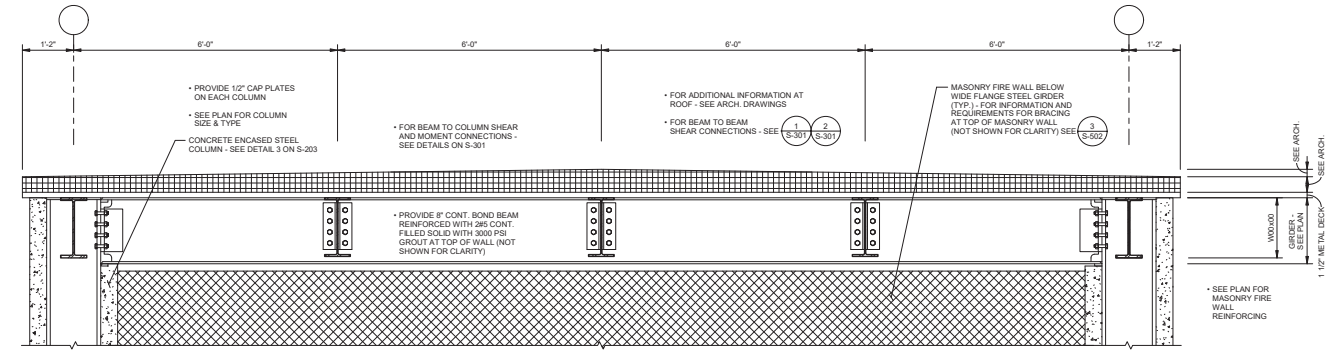
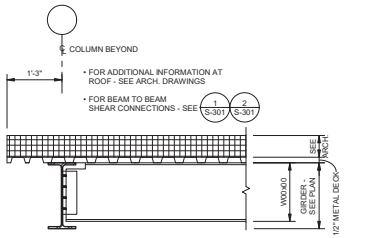


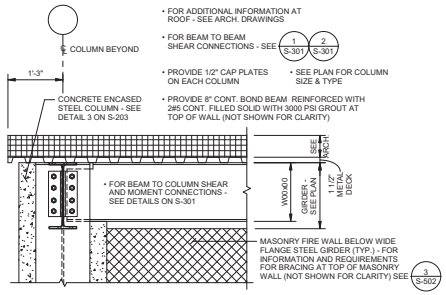
1 TYPICAL CANOPY ROOF FRAMING
3/4" = 1'-0"



2 TYPICAL CANOPY ROOF FRAMING AT GIRDER AND COLUMN
3/4" = 1'-0"



3 CANOPY ROOF FRAMING ALONG COLUMN LINE 5
3/4" = 1'-0"



4 CANOPY ROOF FRAMING ALONG COLUMN LINE 5 AT COLUMN
3/4" = 1'-0"

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DRAWING ROOF FRAMING DETAILS

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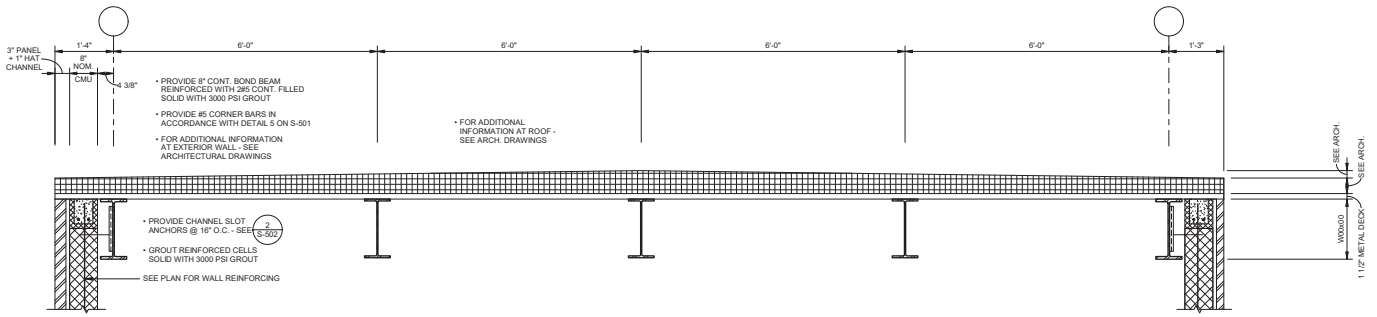
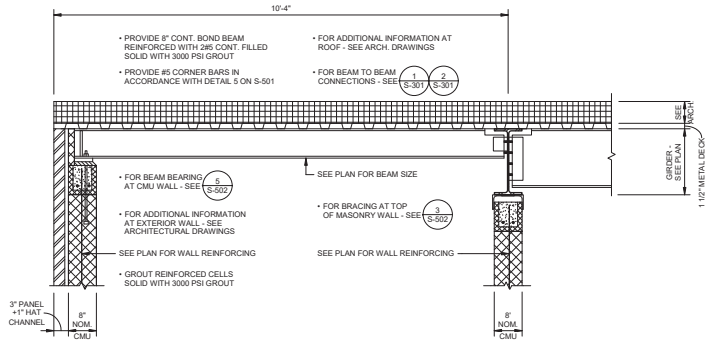


1 CANOPY ROOF FRAMING AT STAIR ROOF
3/4" = 1'-0"



2 BEAMS BEARING AT CMU WALL AT STAIR ROOF
3/4" = 1'-0"

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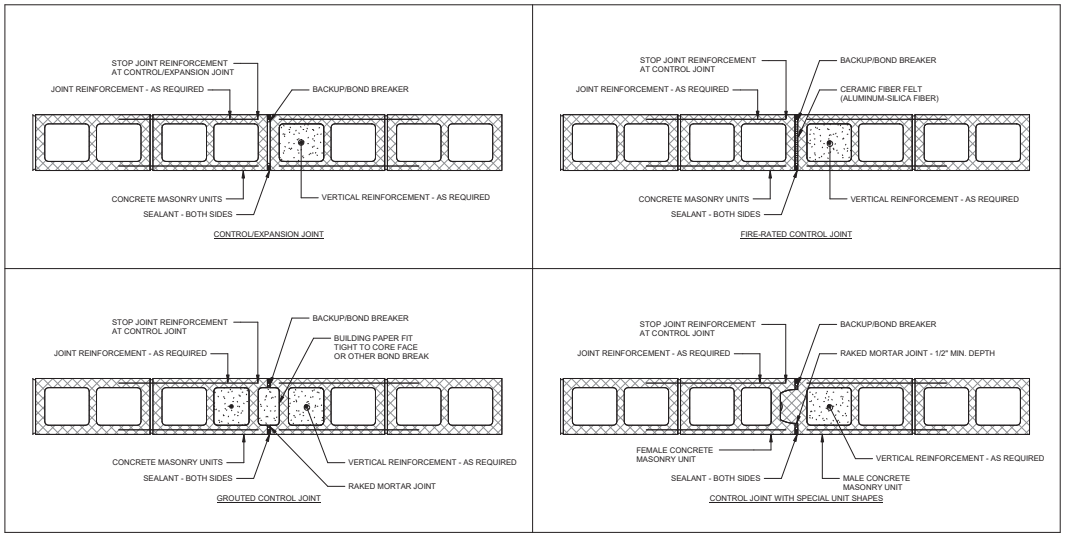
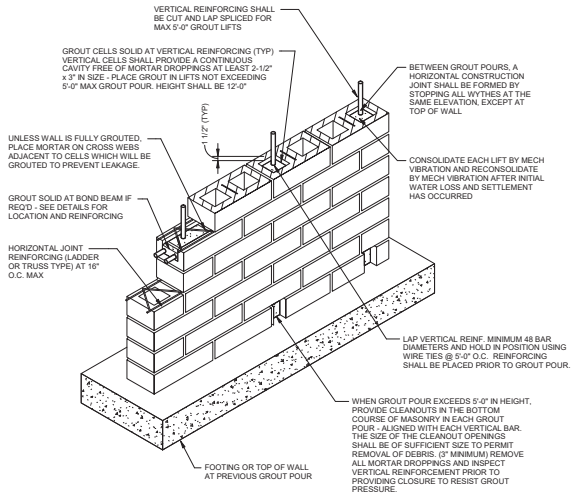
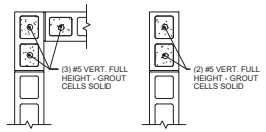


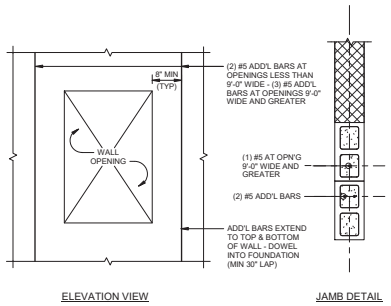
1 TYPICAL JOINTS IN MASONRY WALLS
1 1/2" = 1'-0"



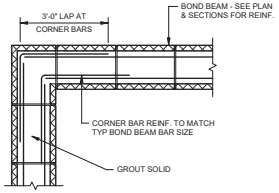
2 TYPICAL MASONRY WALL CONSTRUCTION
1/2" = 1'-0"



3 TYPICAL REINFORCING AT END OF MASONRY WALLS
3/4" = 1'-0"



4 MASONRY WALL REINFORCING AT WALL OPENINGS
3/4" = 1'-0"



5 TYPICAL MASONRY BOND BEAM CORNER REINFORCING
3/4" = 1'-0"

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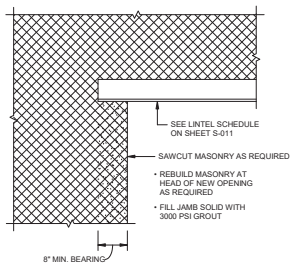
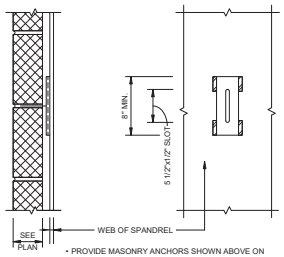
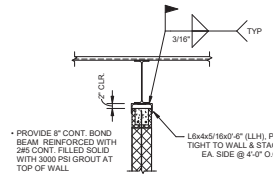


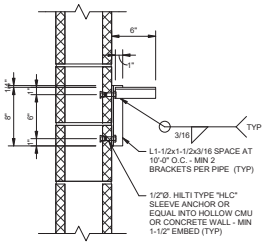
1 ANGLE LINTEL BEARING
3/4" = 1'-0"



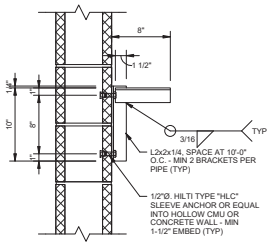
2 CHANNEL SLOT AND CORRUGATED ANCHOR
3/4" = 1'-0"



3 BRACING AT TOP OF MASONRY WALL AT STEEL FRAMING
1/2" = 1'-0"

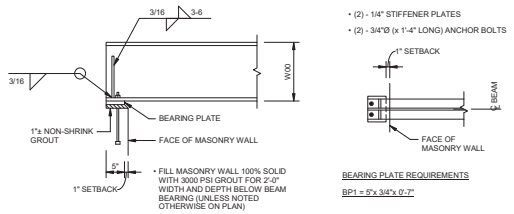


PIPES UP TO 2"Ø



PIPES UP TO 6"Ø

4 TYPICAL PIPE SUPPORT BRACKETS AT CMU WALL
1 1/2" = 1'-0"



5 TYPICAL STEEL BEAM BEARING AT MASONRY WALL
3/4" = 1'-0"

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DRAWING TYPICAL MASONRY DETAILS

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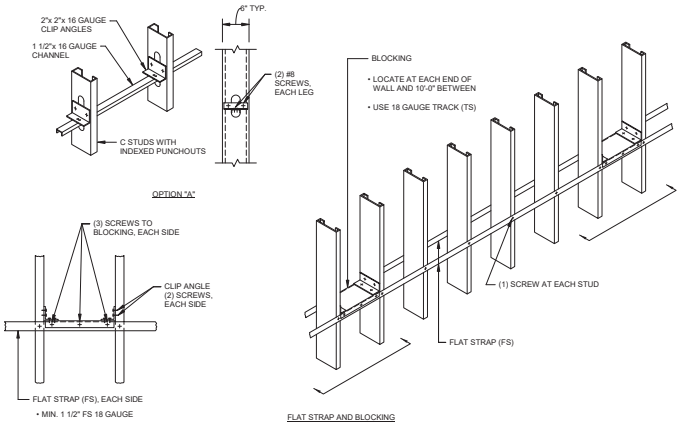
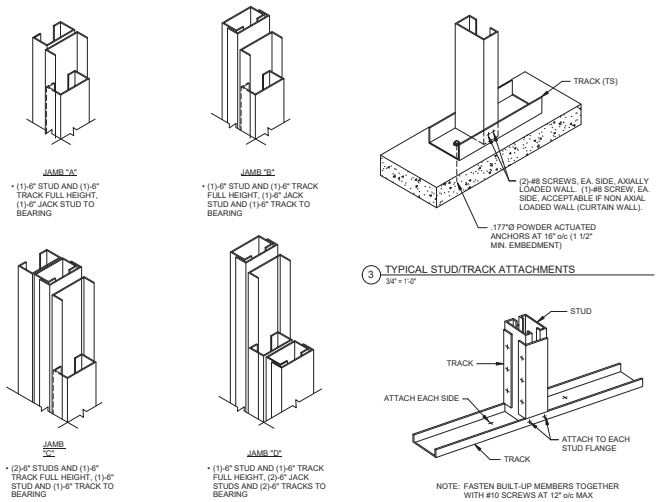


NOTE:

1. HORIZONTAL BRIDGING MUST BE INSTALLED AT 4'-0"" OR AT 1/3 POINTS OF WALL HEIGHT, WHICHEVER IS MORE RESTRICTIVE.
2. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

1 BRIDGING CONNECTIONS
3/4" = 1'-0"

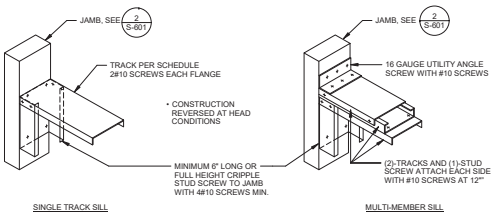


2 JAMB SCHEDULE
3/4" = 1'-0"

3 TYPICAL STUD/TRACK ATTACHMENTS
3/4" = 1'-0"

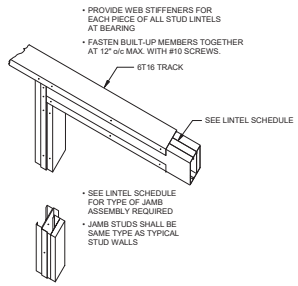
NOTE: FASTEN BUILT-UP MEMBERS TOGETHER WITH #10 SCREWS AT 12" o/c MAX

4 BUILT UP POST DETAIL
3/4" = 1'-0"

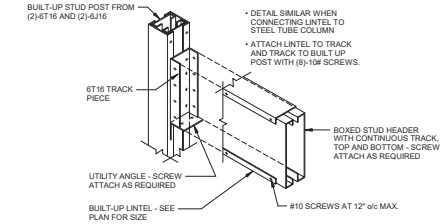


• ATTACHMENT OF SILLS TO STRUCTURAL STEEL SIMILAR

5 SILL ASSEMBLIES
3/4" = 1'-0"



6 LINTEL/STUD ASSEMBLY
3/4" = 1'-0"



7 LINTEL CONNECTION AT BUILT UP POST
3/4" = 1'-0"

LIGHT GAUGE METAL FRAMING STUD LEGEND

MEMBER DEPTH:
ALL MEMBER DEPTHS ARE TAKEN IN 1/100" (EXAMPLE: 6" = 600 x 1/100"). FOR ALL "T" SECTIONS MEMBER DEPTH IS THE INSIDE TO INSIDE DIMENSION.

FLANGE WIDTH:
ALL FLANGE WIDTHS ARE TAKEN IN 1/100" (EXAMPLE: 1 5/8" = 1.525 = 162 x 1/100").

600 S 162 - 54

STYLE:
ALPHA CHARACTERS UTILIZED BY THE DESIGNATOR SYSTEM ARE:

S	-	STUD OR JOIST SECTIONS
SG	-	SIGMASTUD SECTIONS (BY THE STEEL NETWORK)
JS	-	JAMSTUD SECTIONS (BY THE STEEL NETWORK)
T	-	TRACK SECTIONS
SGT	-	SIGMATRAK SECTIONS (BY THE STEEL NETWORK)
U	-	CHANNEL SECTIONS
F	-	FURRING CHANNEL SECTIONS

MATERIAL THICKNESS:
MATERIAL THICKNESS IS THE MINIMUM BASE METAL THICKNESS IN MILS. MINIMUM BASE METAL THICKNESS REPRESENTS 95% OF THE DESIGN THICKNESS. (EXAMPLE: 0.054" = 54 MILS; 1 MIL = 1/100").

LIGHT GAUGE METAL FRAMING THICKNESS SCHEDULE

GAUGE	MILS	MIN. THICKNESS (INCHES)
20	33	0.0329
18	43	0.0428
16	54	0.0538
14	68	0.0677
12	97	0.0966
10	118	0.1245

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S-601

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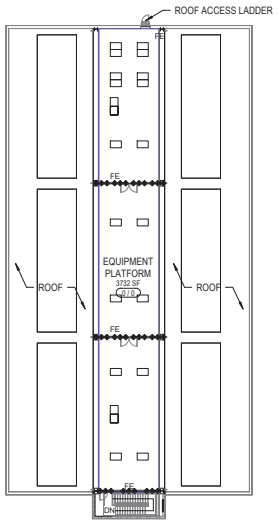
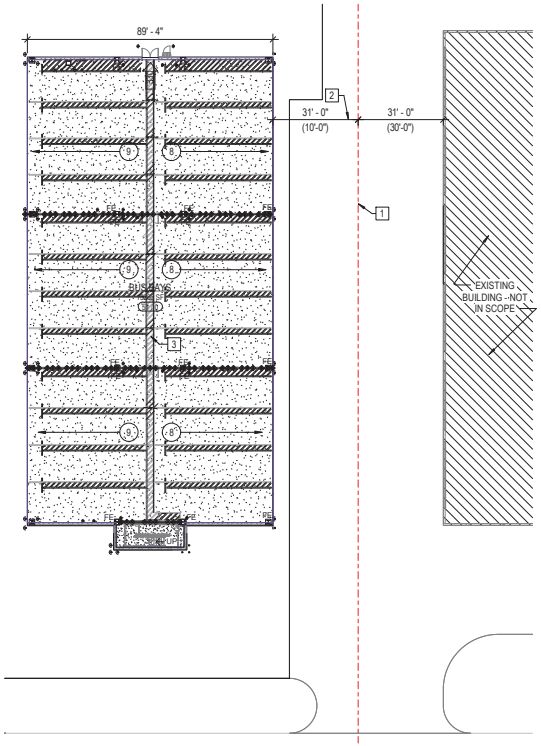


A2 / LS101 EQUIPMENT PLATFORM
SCALE: 3/64" = 1'-0"



A3 / LS101 FIRST FLOOR - LIFE SAFETY PLAN
SCALE: 3/64" = 1'-0"

BUILDING CODE DESIGN SUPPORTING DATA

NARRATIVE DESCRIPTION OF PROJECT
THE PROJECT CONSISTS OF A 15,510 SF OPEN CANOPY (NOT FULLY ENCLOSED) STEEL STRUCTURE FOR THE STORAGE, MAINTENANCE, AND CHARGING OF 24 ELECTRIC BUSES WITH BATTERY ELECTRIC BUS (BEB) CHARGING INFRASTRUCTURE. THE BUS BAYS ARE DIVIDED INTO THREE FIRE AREAS WITH RATED BARRIERS. THE OPEN CANOPY STRUCTURE IS CLAD IN INSULATED METAL PANEL. AN EQUIPMENT PLATFORM RUNS THE LENGTH OF THE FACILITY ABOVE THE BUS BAYS AND IS ROOFED ACCOMMODATING CHARGING EQUIPMENT. ALL ROOFS ARE COVERED IN A SINGLE-PLY ROOFING MEMBRANE AND SLOPE TO ROOF DRAINS OR GUTTERS. THE FACILITY IS NOT SPRINKLERED.

APPLICABLE CODES
1. BUILDING CODES:
2021 VIRGINIA CONSTRUCTION CODE (IBC)
2021 VIRGINIA PLUMBING CODE (IPC)
2020 NATIONAL ELECTRICAL CODE
2021 VIRGINIA INDUSTRIALIZED BUILDING SAFETY REGULATIONS
2021 VIRGINIA STATEWIDE FIRE PREVENTION CODE

2. ACCESSIBILITY CODE:
REFERENCE 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN AND ANSI 117.1 2009 EDITION .
THE MORE RESTRICTIVE ONE GOVERNS.

CHAPTER 3 -USE AND OCCUPANCY
GROUP S-1,
BUS CHARGING BAYS AND PARKING / STORAGE

CHAPTER 5 -HEIGHT & AREA LIMITS
PER IBC TABLES 504.3, 504.4 & 506.2 FOR TYPE IIB, NOT SPRINKLERED AND 505.3:

	ALLOWED	PROPOSED
HEIGHT:	55 FEET	35'-9"
STORIES ABOVE THE GRADE PLANE:	2 STORIES	1 STORY WITH EQUIPMENT PLATFORM
BUILDING AREA PER STORY:	17,500 SF	15,510 SF

CHAPTER 6 -CONSTRUCTION TYPE AND RATINGS
TYPE IIB CONSTRUCTION

PER TABLE 601 FIRE RESISTANCE RATING REQUIREMENTS FOR TYPE IIB CONSTRICTION:

PRIMARY STRUCTURAL FRAME	0 HR.
EXTERIOR BEARING WALLS	0 HR.
INTERIOR BEARING WALLS	0 HR.
EXTERIOR NON-BEARING WALLS	0 HR. (PER TABLE 705.5)
INTERIOR NON-BEARING WALLS	0 HR.
STRUCTURAL FRAME	0 HR.
FLOOR CONSTRUCTION	0 HR.

CHAPTER 7 -FIRE AND SMOKE PROTECTION FEATURES
EXTERIOR WALLS ARE NOT RATED. BUILDING IS AT MIN 10 FEET FROM LOT LINES. PER TABLE 705.5, PROJECT COMPLIES.

PER 705.8.1, EXCEPTION 2, UNLIMITED UNPROTECTED OPENINGS ARE ALLOWED.

PER 707.3.10 FIRE BARRIERS HAVE FIRE RESISTANCE RATING OF 3-HOURS.

CHAPTER 9 -FIRE PROTECTION SYSTEMS
FACILITY IS NOT SPRINKLERED.

PER 903.2.9:

	ALLOWED	PROPOSED
MAX. FIRE AREA:	5,000 SF	4,992 SF

PORTABLE FIRE EXTINGUISHERS
RATING AND PLACEMENT FOR CLASS A HAZARDS (NFPA 10, TABLE 6.2.1.1):
EXTRA-HAZARD: RATING = C (BUS BAYS), 75' MAX TRAVEL DISTANCE
LIGHT-HAZARD: RATING = C (EQUIPMENT PLATFORM), 75' MAX TRAVEL DISTANCE

CHAPTER 10 -OCCUPANT LOAD AND EGRESS REQUIREMENTS
SEE TABLE THIS SHEET FOR ALLOWABLE OCCUPANT LOAD PER TABLE 1004.5.

CHAPTER 15 -FIRE CLASSIFICATION
ROOF CLASSIFICATION, CLASS A PROVIDED; CLASS C REQUIRED PER 1505.

PLAN LEGEND

- THREE HOUR FIRE BARRIER
- 48/20 — DESIGN OCCUPANCY / CODE OCCUPANCY
- 54 — CALCULATED OCCUPANCY LOAD AT EXIT LOCATION
- 440 — EGRESS CAPACITY IN PERSONS FOR OPENING SHOWN
- FE — WALL MOUNTED FIRE EXTINGUISHER- REFER TO SPECIFICATIONS
- 1 — IMAGINARY LOT LINE
- 2 — SEPARATION DISTANCE AND (MIN DISTANCE REQUIRED PER VCC TABLE 705.5)
- 3 — WALKWAY PATH

AREA OCCUPANCY LOAD TABULATIONS (IBC - TABLE...

Name	FUNCTION OF SPACE	AREA	AREA NET/GROSS	OCCUPANT LOAD FACTOR	AREA OCCUPANCY LOAD
BUS BAYS	Accessory Storage Areas, Mechanical Equipment Room	15266 SF	GROSS	300 SF	51

	MARK	DATE	REVISIONS	BY	DES

DATE	05/27/2025
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05.27.2025
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City of Alexandria, VA
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DRAWING LIFE SAFETY PLANS & SUPPORTING DATA

SHEET
LS101

1/32" = 1'-0" | 1/16" = 1'-0" | 3/32" = 1'-0" | 1/8" = 1'-0" | 1/4" = 1'-0" | 3/8" = 1'-0" | 1/2" = 1'-0" | 3/4" = 1'-0" | 1" = 1'-0" | 1 1/2" = 1'-0" | 3" = 1'-0" | 6" = 1'-0"

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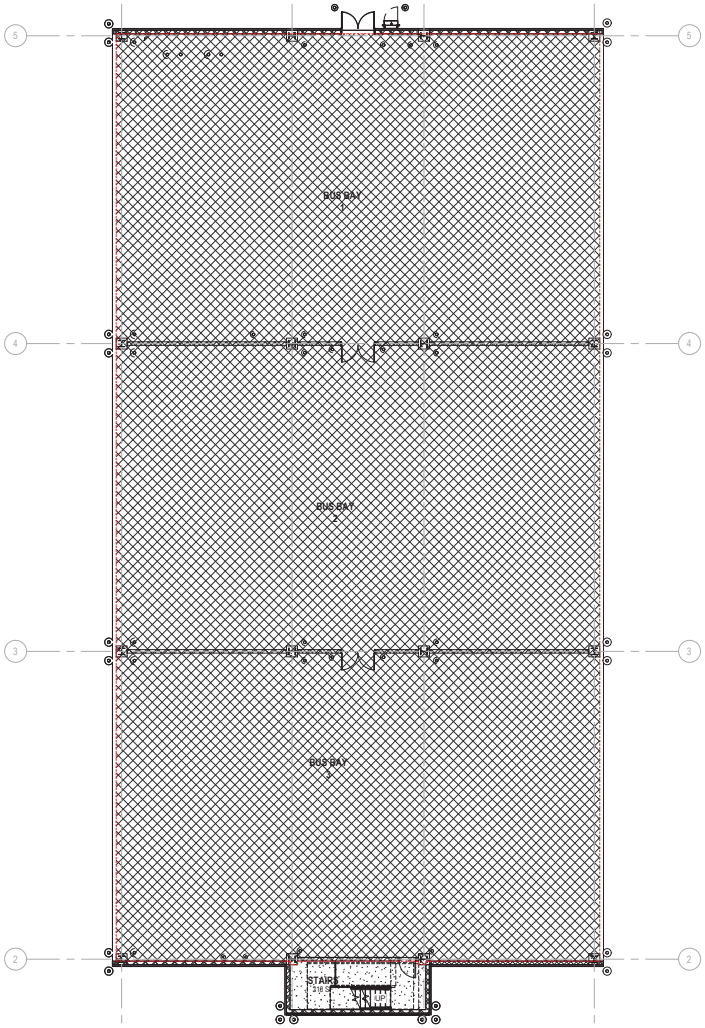

1 A-003 FIRST FLOOR - AREA ANALYSIS PLAN
SCALE: 3/32" = 1'-0"

FLOOR AREA ANALYSIS

LOT AREA
9.21 AC (401,240 SF)

PROPOSED SQUARE FEET PER ALEXANDRIA ZONING ORDINANCE
14,850 SF

FLOOR AREA RATIO (FAR)
PROPOSED: 0.0370
EXISTING: 0.3992
TOTAL: 0.4362 (MAX ALLOWABLE 0.85)

NOTE: FOR EXISTING SQUARE FOOTAGE FIGURES SEE SHEET C-001.

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A-003

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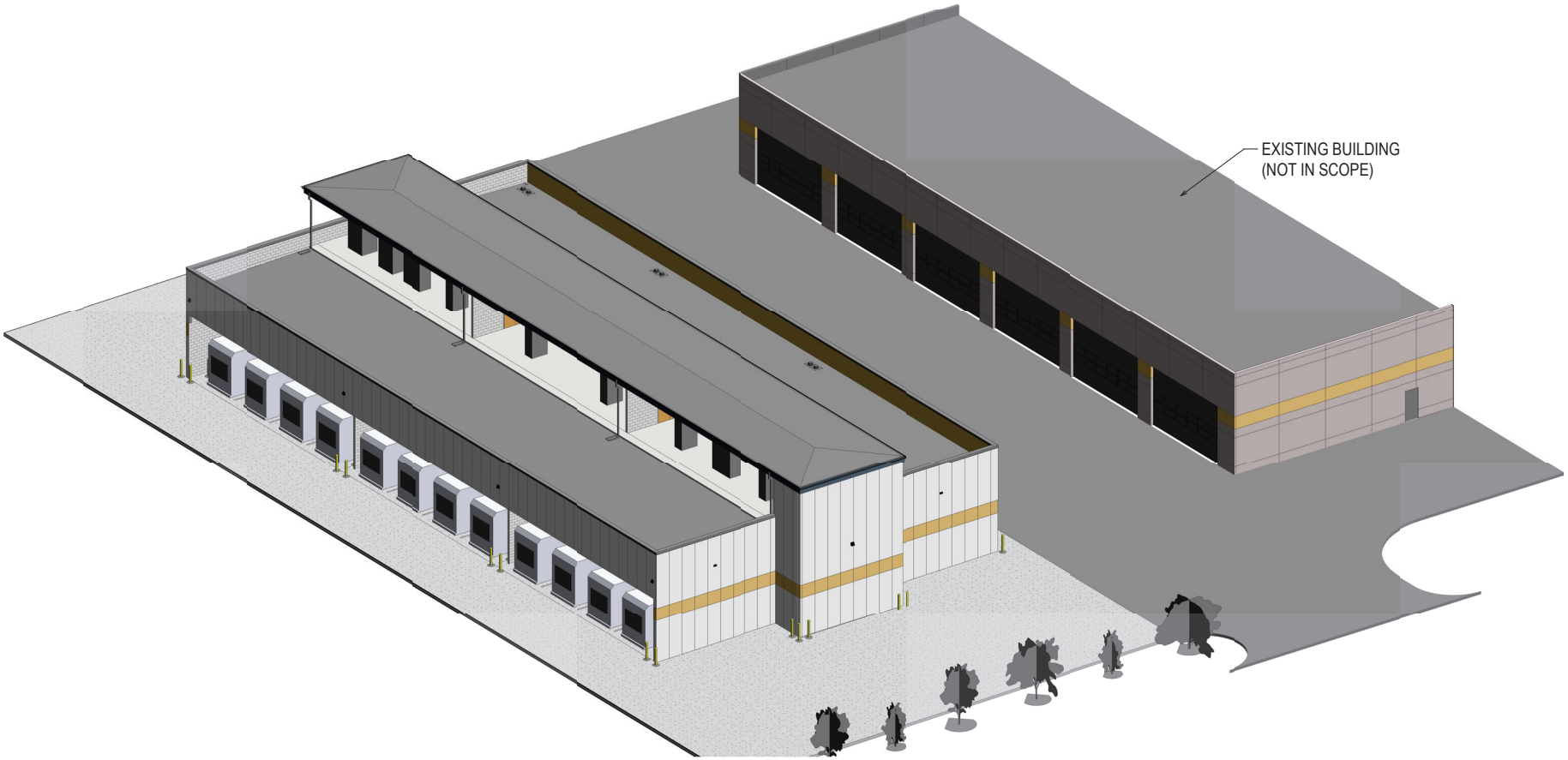

1 A-004 MASSING STUDY
SCALE:

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DRAWING MASSING STUDY

SHEET
A-004

1/32" = 1'-0" 1/16" = 1'-0" 3/32" = 1'-0" 1/8" = 1'-0" 1/4" = 1'-0" 3/8" = 1'-0" 1/2" = 1'-0" 3/4" = 1'-0" 1" = 1'-0" 1 1/2" = 1'-0" 3" = 1'-0" 6" = 1'-0"

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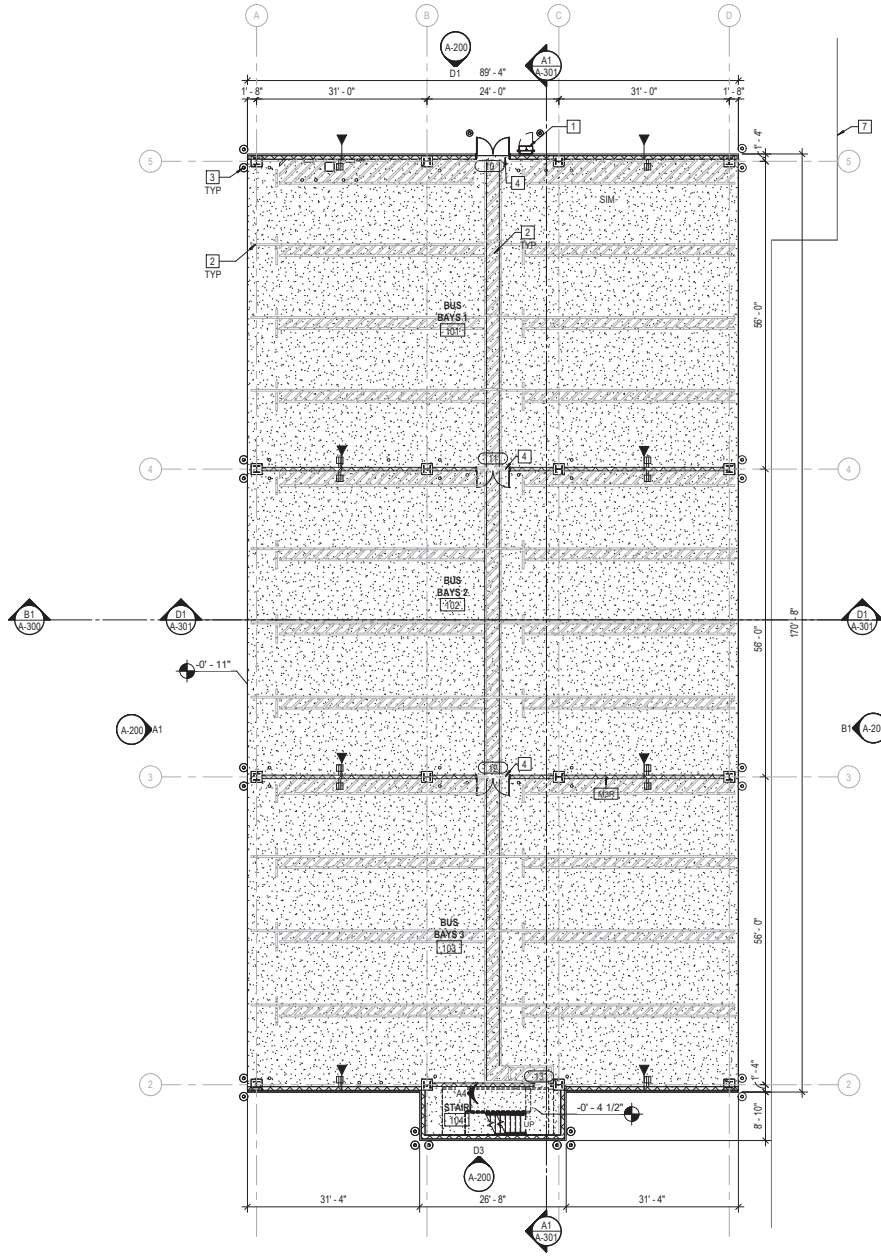

1 A-101 FIRST FLOOR PLAN
SCALE: 3/32" = 1'-0"

KEY NOTES (APPLIES TO A-101 & A-102)

1. ACCESS LADDER
2. 4" WIDE EPOXY PAINT STRIPING -
3. BOLLARD
4. WARP SLAB FOR LEVEL DOOR SILL
5. BUS CHARGING AND ELECTRICAL EQUIPMENT
6. DOWNSPOUT & SPLASH FROM HIGH ROOF
7. LINE OF NEW PAVING - REFER TO CIVIL FOR ADDITIONAL DETAIL
8. COPING AT PARAPET

CONTROL JOINT NOTES

1. REFERENCE PLANS AND BUILDING ELEVATIONS FOR CJ LOCATIONS. CJ'S ARE INDICATED THUS:
2. WHERE CJ'S OCCUR IN FIRE BARRIES, PROVIDE FIRE RATED SEALANT SYSTEMS TO PROVIDE RATING EQUAL TO THE WALL RATING.
3. REFER TO STRUCTURAL DRAWINGS FOR CONTROL JOINT DETAILS.
4. DETAILS INDICATE GENERAL CONDITIONS. SPECIFIC CONDITIONS MAY VARY SLIGHTLY. VERIFY ACTUAL FIELD CONDITIONS. FIELD ADJUSTED DETAILS MAY BE REQUIRED. NOTIFY ARCHITECT IF THERE ARE CONFLICTS PRIOR TO INSTALLATION.
5. SEALANT COLORS SHALL BE SELECTED BY ARCHITECT WHERE EXPOSED TO VIEW.
6. EXTEND CJ'S CONTINUOUS DOWN TO T.O. FOOTINGS.
7. PLANS MAY NOT SHOW ALL REQUIRED CONTROL JOINTS. FOLLOW MASONRY SPECIFICATIONS AND "TYPICAL " NOTATIONS FOR REQ'D CJ'S NOT SPECIFICALLY INDICATED ON PLANS.

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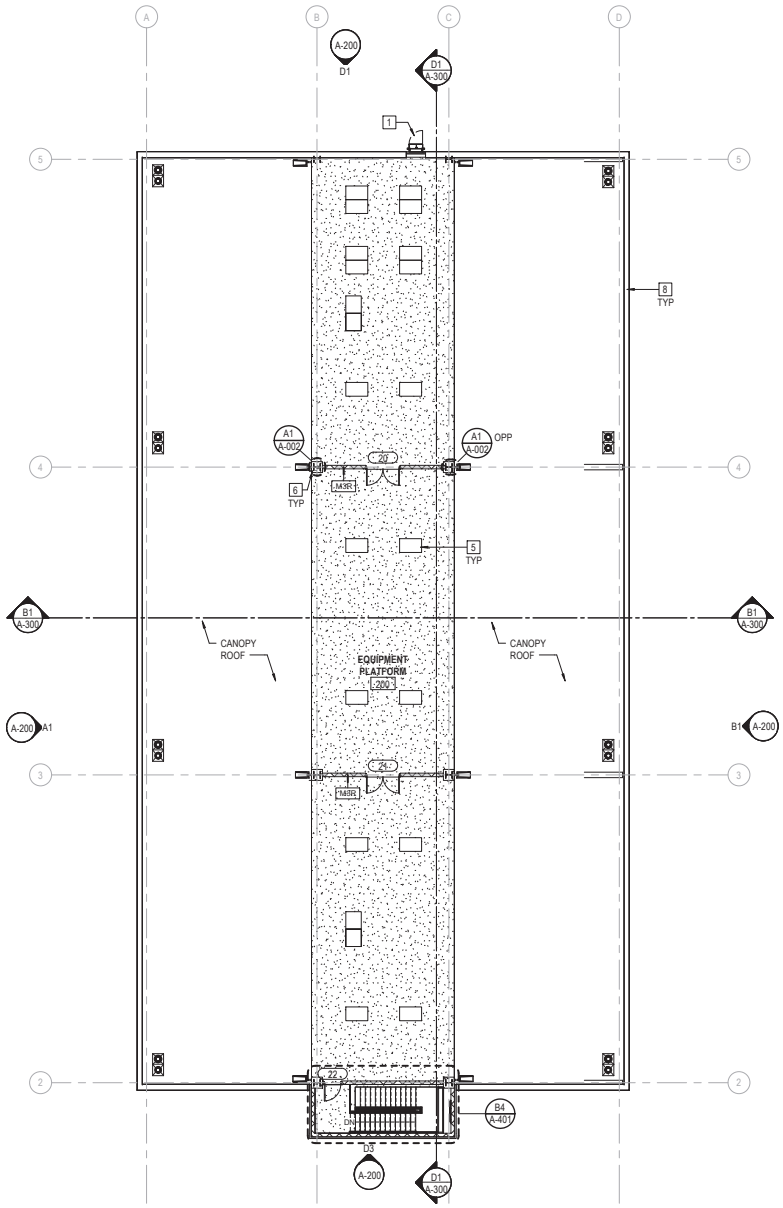
DRAWING FIRST FLOOR PLAN

SHEET
A-101



KEY NOTES (APPLIES TO A-101 & A-102)

1. ACCESS LADDER
2. 4" WIDE EPOXY PAINT STRIPING -
3. BOLLARD
4. WARP SLAB FOR LEVEL DOOR SILL
5. BUS CHARGING AND ELECTRICAL EQUIPMENT
6. DOWNSPOUT & SPLASH FROM HIGH ROOF
7. LINE OF NEW PAVING - REFER TO CIVIL FOR ADDITIONAL DETAIL
8. COPING AT PARAPET

1 A-102 EQUIPMENT PLATFORM AND LOW ROOF PLAN
SCALE: 3/32" = 1'-0"

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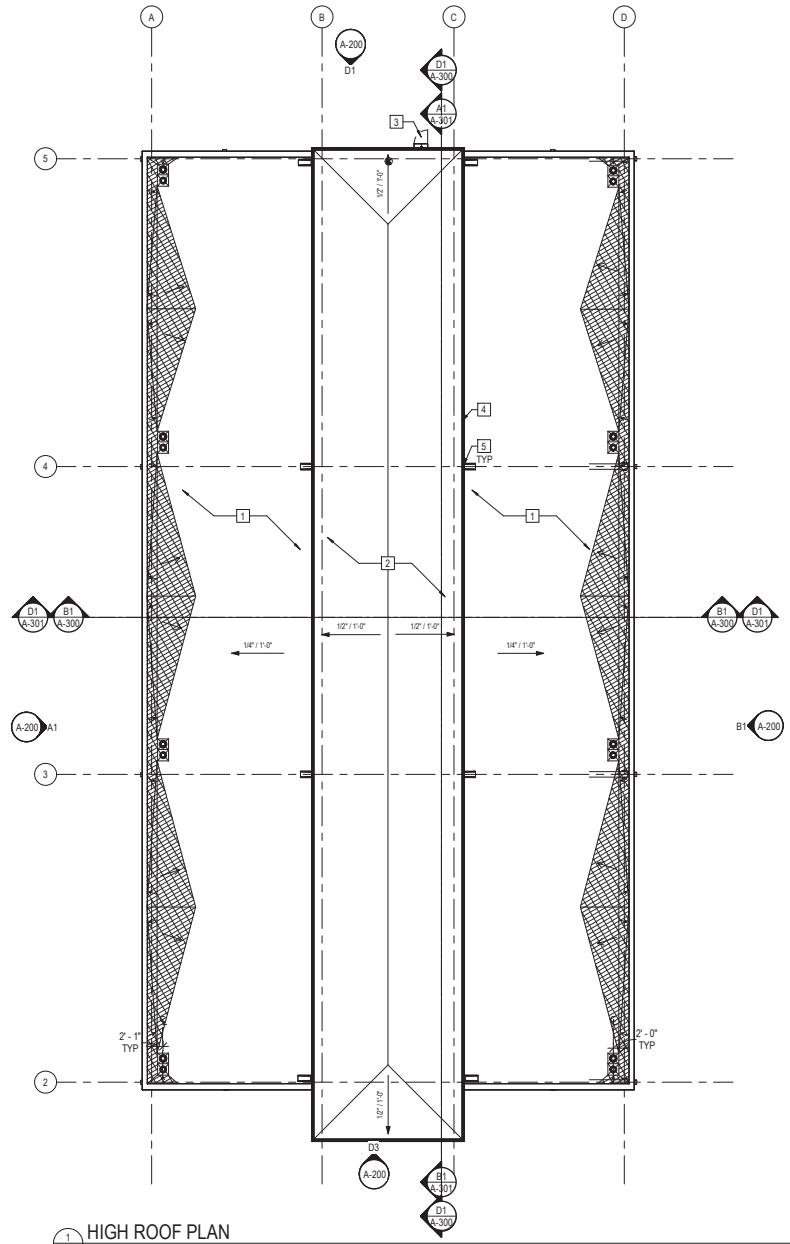
DRAWING EQUIPMENT PLATFORM AND LOW ROOF PLAN

SHEET
A-102



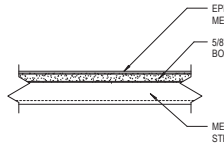
1 A-103 HIGH ROOF PLAN
SCALE: 3/32" = 1'-0"

ROOF PLAN LEGEND

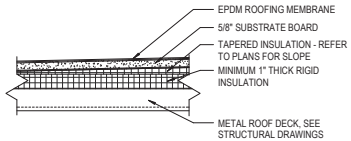
- ROOF DRAIN / OVERFLOW DRAIN
- X / 1'-0" — SLOPED ROOF STRUCTURE AS INDICATED
- TAPERED ROOF CRICKET. SLOPE IN DIRECTION INDICATED.

ROOF PLAN NOTES

No.	Note
1	EPDM ROOFING SYSTEM 'A'
2	EPDM ROOFING SYSTEM 'B'
3	ACCESS LADDER
4	FASCIA
5	GUTTER WITH DOWNSPOUT TO ROOF SPLASHBLOCK AT COLUMNS



2 A-103 EPDM ROOFING SYSTEM 'A' DETAIL
SCALE: 3" = 1'-0"



3 A-103 EPDM ROOFING SYSTEM 'B' DETAIL
SCALE: 3" = 1'-0"

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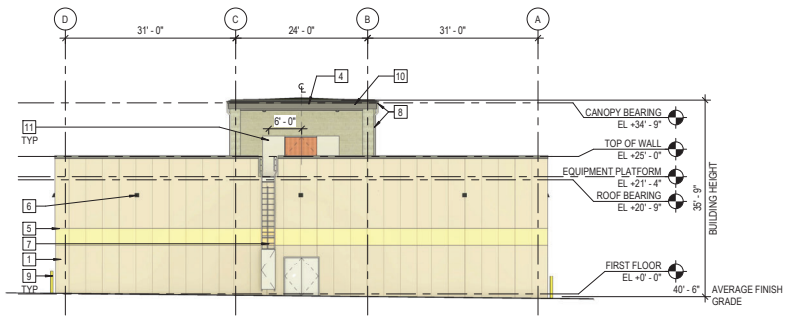
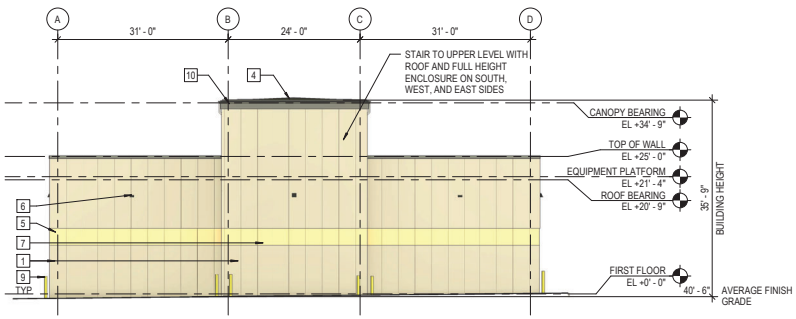
DRAWING HIGH ROOF PLAN

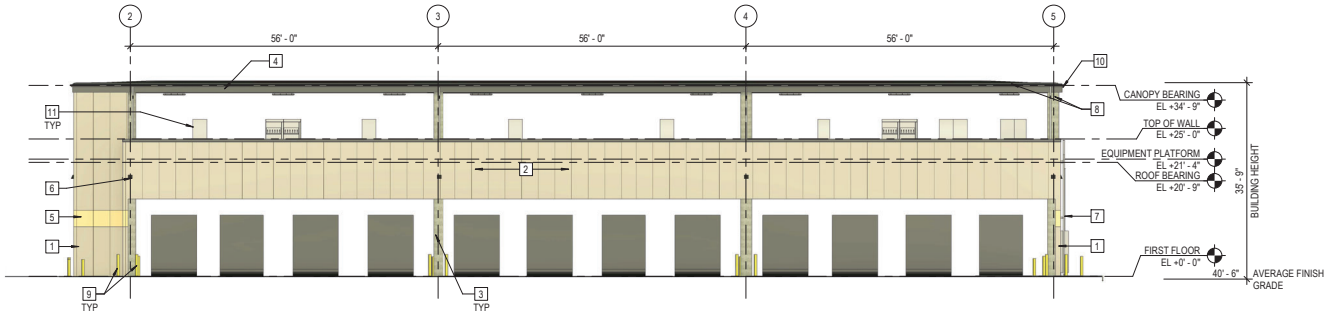
SHEET
A-103



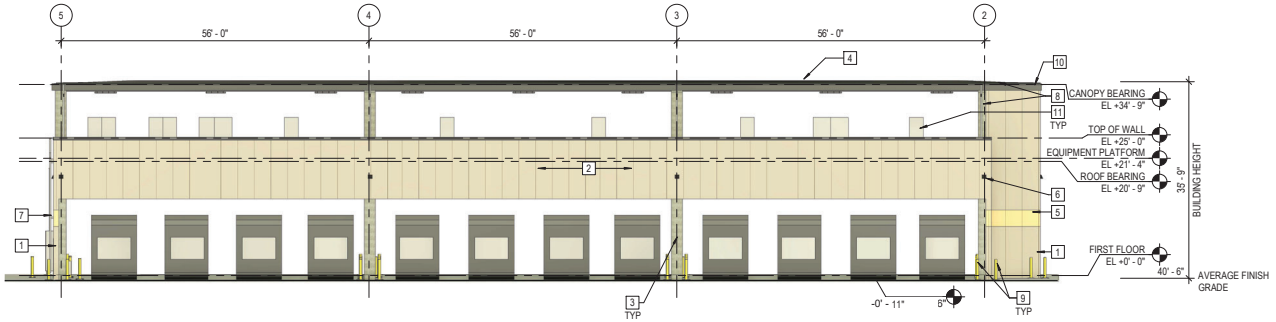
D1 A-200 NORTH ELEVATION - RENDERED
SCALE: 3/32" = 1'-0"



D3 A-200 SOUTH ELEVATION - RENDERED
SCALE: 3/32" = 1'-0"



B1 A-200 EAST ELEVATION - RENDERED
SCALE: 3/32" = 1'-0"



A1 A-200 WEST ELEVATION - RENDERED
SCALE: 3/32" = 1'-0"

ELEVATION NOTES

No.	Note
1	CMU WALL WITH EXTERIOR METAL PANEL
2	METAL WALL PANEL ON COLD FORMED STEEL FRAMING.
3	CONCRETE ENCASED STEEL WIDE FLANGE COLUMNS
4	CANOPY ROOF
5	YELLOW BAND TO MATCH EXISTING BUILDING ACCENT COLOR
6	WALL MOUNTED LIGHT FIXTURE
7	ACCESS LADDER
8	GUTTER WITH DOWNSPOUT AND SPLASHBLOCK AT COLUMNS
9	BOLLARD
10	FASCIA
11	BUS CHARGING AND ELECTRICAL EQUIPMENT

MARK	DATE	REVISIONS	BY	DES

DATE	05/27/2025
PROJECT	23259-00
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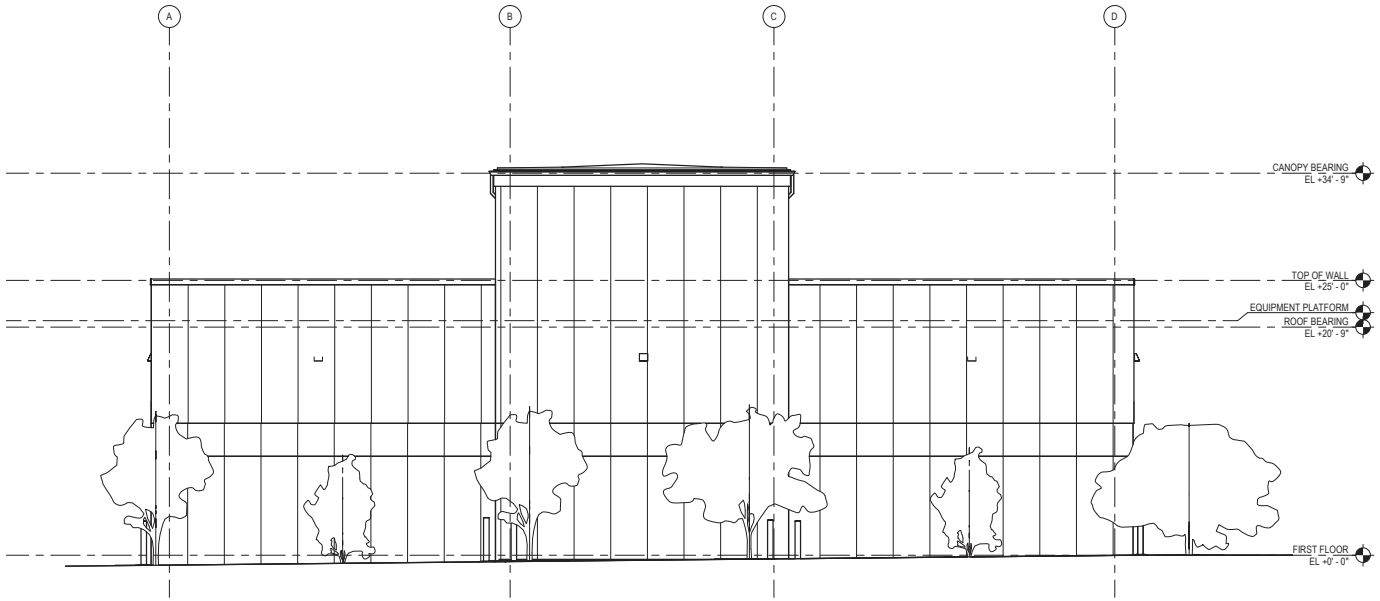
DRAWING BUILDING ELEVATIONS - RENDERED

SHEET
A-200



1 A-202 RIGHT-OF-WAY ELEVATION
SCALE: 3/16" = 1'-0"

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DATE 05/27/2025
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DRAWING RIGHT-OF-WAY ELEVATION

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A-202

1/32" = 1'-0" 1/16" = 1'-0" 3/32" = 1'-0" 1/8" = 1'-0" 1/4" = 1'-0" 3/8" = 1'-0" 1/2" = 1'-0" 3/4" = 1'-0" 1" = 1'-0" 1 1/2" = 1'-0" 3" = 1'-0" 6" = 1'-0"

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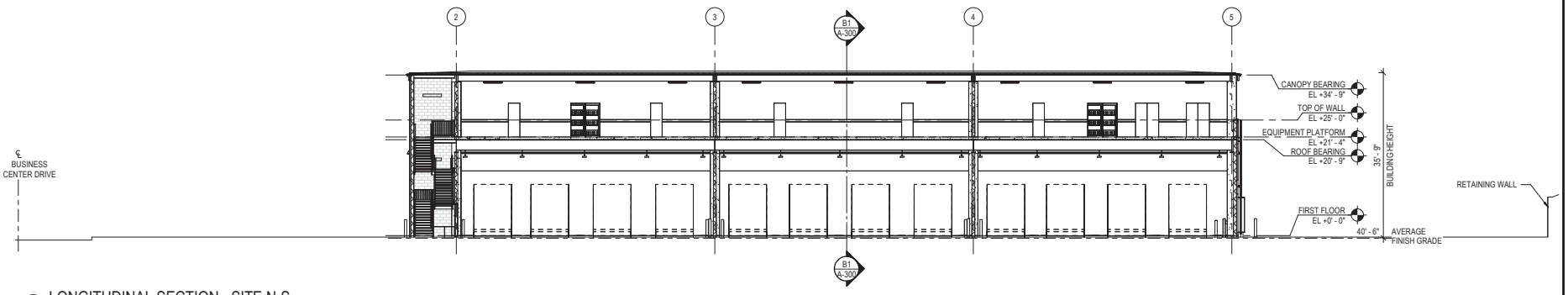
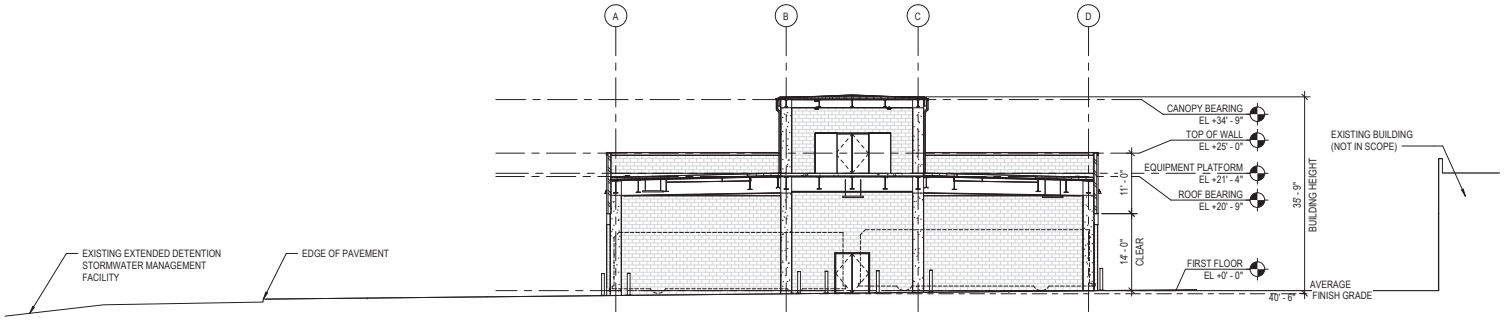


D1 A-300 LONGITUDINAL SECTION - SITE N-S
SCALE: 3/32" = 1'-0"



B1 A-300 TRANSVERSE SECTION - SITE E-W
SCALE: 3/32" = 1'-0"

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DATE	05/27/2025
PROJECT	23259-00
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DRAWING SITE SECTIONS

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A-300

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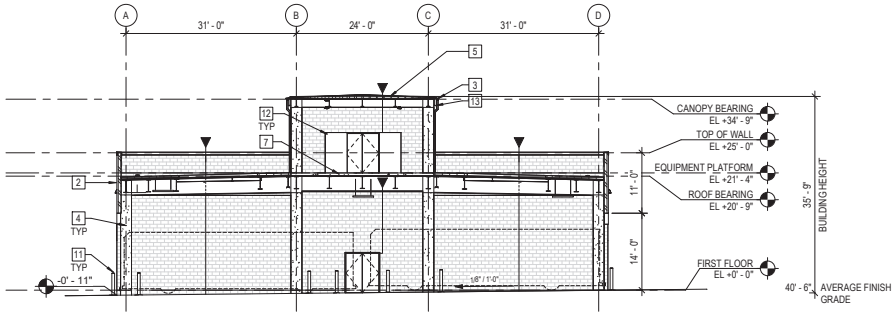
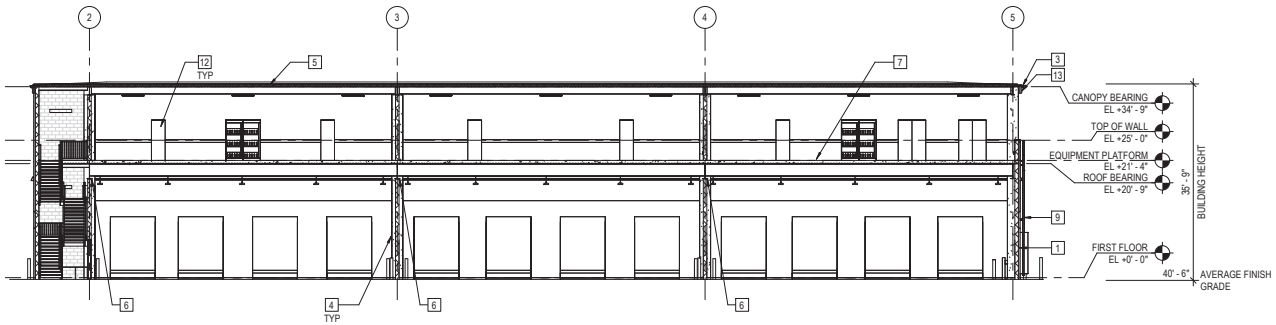


D1 A-301 TRANSVERSE SECTION

SCALE: 3/32" = 1'-0"

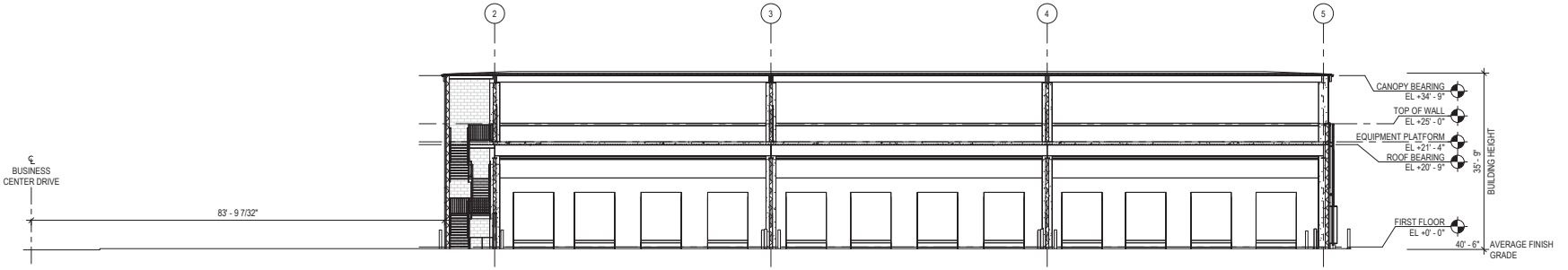
SECTION NOTES

No.	Note
1	CMU WALL WITH EXTERIOR METAL PANEL
2	METAL WALL PANEL ON COLD FORMED STEEL FRAMING.
3	GUTTER WITH DOWNSPOUT AND SPLASHBLOCK AT COLUMNS
4	CONCRETE ENCASED STEEL WIDE FLANGE COLUMNS
5	CANOPY ROOF
6	PROVIDE SPRAY-APPLIED FIRE PROTECTION PER UL ASSEMBLY S801 FOR 3-HOUR RATING
7	CONCRETE FLOOR SLAB ON METAL DECK EQUIMENT PLATFORM
9	ACCESS LADDER
11	BOLLARD
12	BUS CHARGING AND ELECTRICAL EQUIPMENT
13	FASCIA



B1 A-301 LONGITUDINAL SECTION

SCALE: 3/32" = 1'-0"



A1 A-301 HEIGHT TO SETBACK COMPLIANCE SECTION

SCALE: 3/32" = 1'-0"

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DRAWING BUILDING SECTIONS

SHEET
A-301

SCOPE OF WORK

- PROVIDE ROOF DRAINS AND OVERFLOW DRAINS TO SERVE BUS FACILITY EXPANSION.

APPLICABLE CODES AND STANDARDS

STATE CODE

2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (USBC)

INTERNATIONAL CODE COUNCIL

IBC - INTERNATIONAL BUIILDING CODE - 2021 EDITION

IPC - INTERNATIONAL PLUMBING CODE - 2021 EDITION

IECC - INTERNATIONAL ENERGY CONSERVATION CODE - 2021 EDITION

PLUMBING LEGEND

LINETYPE	SYSTEM ABBREVIATION	SYSTEM NAME
	CW	DOMESTIC COLD WATER
	HW	DOMESTIC HOT WATER
	HWR	DOMESTIC HOT WATER RETURN
	G	NATURAL GAS
	LP	LIQUID PROPANE
	SAN	SANITARY WASTE
	V	VENT
	ST	STORM
	OD	OVERFLOW DRAIN
	CD	CONDENSATE DRAIN

PIPING SYMBOLS

- BREAK LINE
- ISOLATION VALVE
- CAP ON PIPE
- CHECK VALVE
- PIPE TURNED UP
- PIPE TURNED DOWN

PHASING SYMBOLS

- EXTENT OF DEMOLITION
- POINT OF RECONNECTION
- EXISTING CONDITIONS
- NEW WORK
- DEMOLITION

PLUMBING SHEET LIST

SHEET NUMBER	SHEET NAME
P-001	PLUMBING COVER SHEET
P-101	DRAINAGE FLOOR PLAN
P-102	PLUMBING ROOF PLAN

GENERAL NOTES

1. DRAWINGS ARE DIAGRAMMATIC AND NOT ALL APPURTENANCES ARE SHOWN. 3-D DRAWINGS AND RISERS ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY AND ARE MEANT TO CONVEY DESIGN INTENT. ALLOW FOR ADDITIONAL PIPE OFFSETS, AS REQUIRED. PROVIDE ALL MATERIALS AND LABOR TO PROVIDE A COMPLETE AND OPERABLE SYSTEM IN ACCORDANCE WITH THE CONTRACT DRAWINGS, SPECIFICATIONS, AND AUTHORITY HAVING JURISDICTION.
2. COORDINATE INSTALLATION OF WORK WITH ALL OTHER TRADES.
3. COORDINATE SIZE AND LOCATION OF CONCRETE EQUIPMENT PADS. PROVIDE A MINIMUM OF 6 INCHES THICK PADS THAT EXTEND BEYOND EQUIPMENT FOOTPRINT BY A MINIMUM OF 6 INCHES UNLESS OTHERWISE NOTED.
4. COORDINATE SIZE AND LOCATIONS OF ALL FLOOR, WALL, AND ROOF OPENINGS REQUIRED TO INSTALL THE WORK WITH ALL TRADES.
5. COORDINATE PIPING LAYOUT WITH OPENINGS IN STRUCTURAL BEAMS, WALLS, ELEMENTS, ETC.
6. COORDINATE REQUIREMENTS FOR PROVISION OF MOTOR STARTERS, DISCONNECTS, CONTACTORS, CONTROL WIRING, ETC. AS REQUIRED FOR A PROPER FUNCTIONING SYSTEM WITH THE ELECTRICAL AND CONTROLS CONTRACTORS.
7. MAINTAIN A SET OF COORDINATION DRAWINGS AT THE JOB SITE THAT ACCOUNTS FOR ALL TRADES. REVIEW THE COORDINATION DRAWINGS, COORDINATE WITH ALL TRADES, AND RESOLVE ANY POTENTIAL CONFLICTS PRIOR TO INSTALLING ANY PORTION OF WORK.
8. SUBMIT WRITTEN REQUEST FOR INFORMATION WHERE CONSTRUCTABILITY ISSUES ARE ENCOUNTERED IN THE FIELD. PROVIDE A FULL DESCRIPTION OF THE ISSUE AND RECOMMENDED SOLUTIONS. INCLUDE SKETCHES FOR EACH OPTION ALONG WITH ANY ASSOCIATED CHANGE ORDER COST ESTIMATES.
9. ANY DEVIATIONS FROM THE DRAWINGS MUST BE APPROVED IN WRITING BY THE ENGINEER OF RECORD. ANY CHANGES OR MODIFICATIONS MADE WITHOUT CONSENT MAY RESULT IN WORK BEING REMOVED AND INSTALLED ACCORDING TO THE PLANS.
10. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY AND MUST BE USED IN COMBINATION TO OBTAIN COMPLETE CONSTRUCTION INFORMATION. SUBMIT WRITTEN REQUEST FOR INFORMATION IF ANY DISCREPANCIES BETWEEN SPECIFICATION AND DRAWINGS ARE FOUND.
11. PROVIDE ONLY NEW MATERIALS AND EQUIPMENT FROM REPUTABLE MANUFACTURERS REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH PRODUCTS. PERFORM ALL WORK IN A PROFESSIONAL MANNER BY WORKERS SKILLED IN THE TYPE OF WORK BEING PERFORMED.
12. KEEP THE WORK SITE AND SURROUNDING AREA FREE FROM ACCUMULATION OF WASTE MATERIALS GENERATED BY WORK PERFORMED UNDER THIS CONTRACT. REMOVE CONSTRUCTION DEBRIS FROM THE WORK SITE DAILY AND DISPOSE OF IT IN A LEGAL MANNER.
13. PROVIDE WARRANTY FOR ALL WORK (MATERIALS, LABOR, AND EQUIPMENT) FOR A PERIOD OF ONE YEAR COMMENCING WITH THE DATE OF ACCEPTANCE OF ALL WORK BY THE OWNER UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS.
14. OBTAIN ALL LICENSES AND PERMITS REQUIRED BY STATE AND LOCAL JURISDICTIONAL AUTHORITIES FOR PERFORMANCE OF WORK.
15. MAINTAIN A RED LINE SET OF RECORD DRAWINGS AT THE JOB SITE THAT REFLECT ACTUAL EXECUTION OF THE WORK INCLUDING UPDATED EQUIPMENT SCHEDULES, DETAILS, CONTROLS DIAGRAMS AND SEQUENCES AND LOCATIONS OF EQUIPMENT, PIPING, AND DUCTWORK. PROVIDE THESE DRAWINGS IN CAD AND PDF FORMAT TO THE OWNER (AS-BUILT DRAWINGS).
16. SUPPORT THE COMMISSIONING AGENT'S EFFORTS IN COMMISSIONING THE DOMESTIC HOT WATER SYSTEM PER IECC REQUIREMENTS INCLUDING PROVISION OF OPERATION AND MAINTENANCE MANUALS TO OWNER, EXECUTION OF FUNCTIONAL PERFORMANCE TEST PROCEDURES, AND TRAINING OF OWNER O&M PERSONNEL. DOCUMENTATION SHALL BE PROVIDED TO THE OWNER WITHIN 90 DAYS OF RECEIVING THE CERTIFICATE OF OCCUPANCY. PROVIDE O&M MANUALS FOR ALL EQUIPMENT IN HARDCOPY AND ELECTRONIC FORMAT (BOTH BOOKMARKED).
17. DETAILS ARE DIAGRAMMATIC AND ARE INTENDED TO SHOW REQUIRED ACCESSORIES AND RELATIVE ARRANGEMENT OF ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL ADAPT INSTALLATION RELATIVE TO SITE CONDITIONS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS.

PLUMBING INSTALLATION NOTES

1. MAINTAIN A MINIMUM OF 6'-8" CLEARANCE FROM FLOOR TO UNDERSIDE OF ALL WORK THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
2. DO NOT BLOCK ANY DOORS OR WINDOWS.
3. COMPLETE ALL TESTS BEFORE ANY INSULATION IS APPLIED.
4. UNLESS OTHERWISE NOTED INSTALL ALL PIPING OVERHEAD TIGHT TO STRUCTURE ABOVE.
5. DO NOT CLOSE IN WALLS OR CEILINGS PRIOR TO INSPECTION BY ENGINEER OR OWNER'S REPRESENTATIVE. PROVIDE CLEAR UNOBSTRUCTED ACCESS TO WORK AND ANY LIFTS OR LADDERS NEEDED FOR INSPECTIONS. DURING INSPECTIONS PROVIDE PERSONNEL FAMILIAR WITH THE WORK AND TECHNICAL REQUIREMENTS OF THE WORK TO WALK THE ENGINEER/OWNER'S REPRESENTATIVE THROUGH THE WORK TO BE INSPECTED, DESCRIBE PROGRESS, AND ANSWER QUESTIONS. MAINTAIN A RECORD OF WORK INSPECTED AND COORDINATE WITH ENGINEER/OWNER'S REPRESENTATIVE ON PROGRESS OF INSPECTION UNTIL COMPLETION. SCHEDULE INSPECTIONS WITH ENGINEER/OWNER'S REPRESENTATIVE A MINIMUM OF 2 WEEKS PRIOR.
6. LOCATE PRESSURE, TEMPERATURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTIONS OF DUCTWORK UPSTREAM/DOWNSTREAM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE PRODUCT OF A SINGLE MANUFACTURER SHALL BE USED FOR EACH ITEM OF THE SAME EQUIPMENT TYPE.
8. CONFORM TO ASTM 315 AND ACI 318 FOR REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE. CONCRETE SHALL CONFORM TO ASTM C94. CONCRETE WORK SHALL CONFORM TO ACI 318, PART ENTITLED "CONSTRUCTION REQUIREMENTS." COMPRESSIVE STRENGTH IN 28 DAYS SHALL BE 3,000 PSI. TOTAL AIR CONTENT OF EXTERIOR CONCRETE SHALL BE BETWEEN 5 AND 7 PERCENT BY VOLUME. SLUMP SHALL BE BETWEEN 3 AND 4 INCHES. CONCRETE SHALL BE CURED FOR 7 DAYS AFTER PLACEMENT.
9. INSTALL ALL CONTROL WIRE IN CONDUIT. CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND THE ELECTRICAL SPECIFICATIONS.
10. PROVIDE ACCESS PANELS/DOORS IN CEILINGS, WALLS, AND FLOORS FOR ALL ITEMS REQUIRING ADJUSTMENT, TESTING, OR INSPECTION INCLUDING VALVES, STRAINERS, SENSORS, TRAP PRIMERS, WATER HAMMER ARRESTORS, CLEANOUTS, ETC.
11. PROVIDE WATER HAMMER ARRESTORS ON PIPING SERVING FLUSH VALVES AND QUICK CLOSING VALVES. SIZE AND LOCATE PER MANUFACTURERS INSTRUCTIONS AND IN ACCORDANCE WITH THE PLUMBING AND DRAINAGE INSTITUTE STANDARD PDI WH-201.
12. ATTACH PIPING, EQUIPMENT, ETC. SUPPORTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. DO NOT SUPPORT WORK FROM METAL DECKS.
13. PROVIDE UL LISTED PENETRATION ASSEMBLIES WHERE PIPES PENETRATE FIRE/SMOKE RATED HORIZONTAL AND VERTICAL CONSTRUCTION THAT MAINTAIN THE FIRE/SMOKE RESISTANCE RATING.
14. PROVIDE MINERAL WOOL PACKING AND CAULK AT ALL NON-RATED FLOOR PENETRATIONS.
15. PROVIDE SLEEVES AT ALL FLOOR, WALL, AND ROOF PENETRATIONS.
16. PROVIDE MECHANICAL SLEEVE SEAL SYSTEM AT ALL BELOW GRADE FLOOR AND WALL PENETRATIONS.
17. ALL PRODUCTS LOCATED IN PLENUM AREAS SHALL HAVE A MAXIMUM FLAME SPREAD INDEX OF 25 AND A MAXIMUM SMOKE DEVELOPED INDEX OF 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84 OR ANSI/UL 723.
18. SEAL ALL PENETRATIONS OF SLAB-TO-SLAB PARTITIONS AND SHAFTS AIRTIGHT TO PRESERVE RETURN AIR PATHWAYS.
19. ALL PIPE SIZES SHOWN ARE NOMINAL SIZES.
20. PROVIDE EXTENSIONS FOR VALVE HANDLES, GAUGES, PIPE ACCESSORIES FOR INSULATED SYSTEMS ALLOWING COMPLETE INSULATION OF THE SYSTEM AND ACCESS TO ADJUST/VIEW SUCH ACCESSORIES WITHOUT REMOVAL OF INSULATION.
21. FIRE PROTECTION/SPRINKLER SYSTEM DESIGN IS A DELEGATED DESIGN. COORDINATE WITH SPRINKLER CONTRACTOR FOR PROVISION / INSTALLATION OF COMBINED FIRE/DOMESTIC WATER SERVICE, SPRINKLER SYSTEM CONNECTION POINT, FLOOR DRAINS AT SPRINKLER RISERS/DRAINS, ETC.

PLUMBING GENERAL PIPING NOTES

1. SOME ACCESS DOORS, ISOLATION VALVES, ETC. ARE INDICATED ON DRAWINGS FOR CLARITY FOR SPECIFIC LOCATION REQUIREMENTS BUT DO NO INDICATE THE EXTENT OF THE REQUIREMENTS FOR THESE ITEMS.
2. THE LOCATION OF EXISTING UNDERGROUND/SUB SLAB UTILITIES IS APPROXIMATE. VERIFY THE EXACT LOCATION OF UTILITIES BEFORE BEGINNING WORK.
3. COORDINATE WITH SITE CONTRACTOR FOR CONNECTION TO SITE UTILITIES PRIOR TO INSTALLATION.
4. SCOPE OF WORK FOR UNDERGROUND PIPING EXTENDS TO A POINT APPROXIMATELY 5 FEET OUTSIDE THE BUILDING FOOTPRINT UNLESS OTHERWISE INDICATED.
5. PROVIDE VIBRATION ISOLATION AT PIPING SUPPORTS WITHIN 50 FEET OF EQUIPMENT THAT REQUIRES VIBRATION ISOLATION.
6. PROVIDE FLEXIBLE CONNECTIONS TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRES VIBRATION ISOLATION.
7. ELEVATIONS SHOWN ON THE DRAWINGS ARE TO THE UNDERSIDE OF ALL PRESSURE PIPING AND TO THE INVERT OF ALL GRAVITY PIPING UNLESS OTHERWISE NOTED.
8. INSTALL UNDERGROUND PIPING BELOW THE FROST LINE AND A MINIMUM OF 36 INCHES BELOW GRADE.
9. INSTALL PIPING SO THAT ALL VALVES, STRAINERS, CLEANOUTS, UNIONS, AND OTHER APPURTENANCES REQUIRING MAINTENANCE ARE ACCESSIBLE.
10. PROVIDE ISOLATION VALVES AND UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, PUMPS, AND OTHER COMPONENTS REQUIRING MAINTENANCE TO ALLOW FOR REMOVAL.
11. PROVIDE ESCUTCHEON PLATES FOR EXPOSED WALL, CEILING, AND FLOOR PIPE PENETRATIONS AND PAINT EXPOSED PIPING IN FINISHED ROOMS.
12. PROVIDE ALUMINUM VALVE TAGS AND LAMINATED VALVE SCHEDULE IN MECHANICAL ROOM, ALSO INCLUDE VALVE SCHEDULE IN AS-BUILT DRAWINGS.
13. PROVIDE DIELECTRIC FLANGES OR NIPPLES AT CONNECTIONS OF DISSIMILAR PIPE.
14. SUPPORT PIPING SYSTEMS AND PROTECT AGAINST PHYSICAL DAMAGE AND EXCESSIVE STRESSES IN ACCORDANCE WITH MSS SP-58, PIPE HANGERS AND SUPPORTS - MATERIALS, DESIGN, MANUFACTURE, SELECTION, APPLICATION, AND INSTALLATION.
15. PRESSURE TEST, CLEAN, FLUSH, AND DISINFECT ALL PIPING BEFORE PUTTING INTO SERVICE.
16. PIPE RISERS SHALL BE ARCHITECTURALLY ENCLOSED UNLESS OTHERWISE NOTED.
17. INSTALL DRAINS AT THE LOW POINTS OF ROOFS, AREAWAYS, AND FLOORS, UNLESS OTHERWISE NOTED.
18. PROVIDE CLEANOUTS FOR HORIZONTAL STORM AND WASTE AT EVERY CHANGE IN DIRECTION, NEAR THE BASE OF STACKS, AT THE ENDS OF RUNS, AND AT 50-FOOT INTERVALS, MINIMUM.
19. PROVIDE CLEANOUT AT JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER (30 INCHES OF DEVELOPED LENGTH FROM THE EXTERIOR OF THE BUILDING) OR WITHIN 10 FEET OF DEVELOPED LENGTH UPSTREAM AS REQUIRED PER IPC.
20. CLEANOUT SIZE SHALL MATCH THE SIZE OF THE CONNECTED PIPE FOR PIPE SIZES UP TO SIX INCHES. PROVIDE SIX-INCH CLEANOUTS FOR PIPE SIZES LARGER THAN SIX INCHES.
21. PROVIDE TRAP PRIMER FOR ALL EMERGENCY FLOOR DRAINS OR DEEP TRAP WHERE ALLOWED BY AHJ, UNLESS OTHERWISE NOTED.
22. DO NOT ROUTE PIPING OVER ELECTRICAL PANELS, TRANSFORMERS, OR ELECTRICAL EQUIPMENT.
23. PROVIDE PROTECTIVE STEEL SHIELD PLATES PER IPC WHERE CONCEALED PIPING IS INSTALLED NEAR EDGE OF STUDS, JOISTS, RAFTERS, ETC.
24. BRANCH SUPPLY, DRAIN, AND VENT PIPE SIZE SHALL MATCH EQUIPMENT/FIXTURE CONNECTION SIZE UNLESS OTHERWISE NOTED.

PLUMBING SANITARY, VENT, AND STORM PIPING NOTES

1. DRAINAGE PIPE SHALL SLOPE DOWNWARD IN THE DIRECTION OF FLOW A MINIMUM SLOPE AS LISTED BELOW UNLESS OTHERWISE NOTED.
2. STORM WATER: 1/8 INCH PER FOOT

MARK	DATE	REVISIONS	BY	DES

DATE
PROJECT
DESIGNED
DRAWN
CHECKED

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05/27/2025

PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING PLUMBING COVER SHEET

SHEET
P-001

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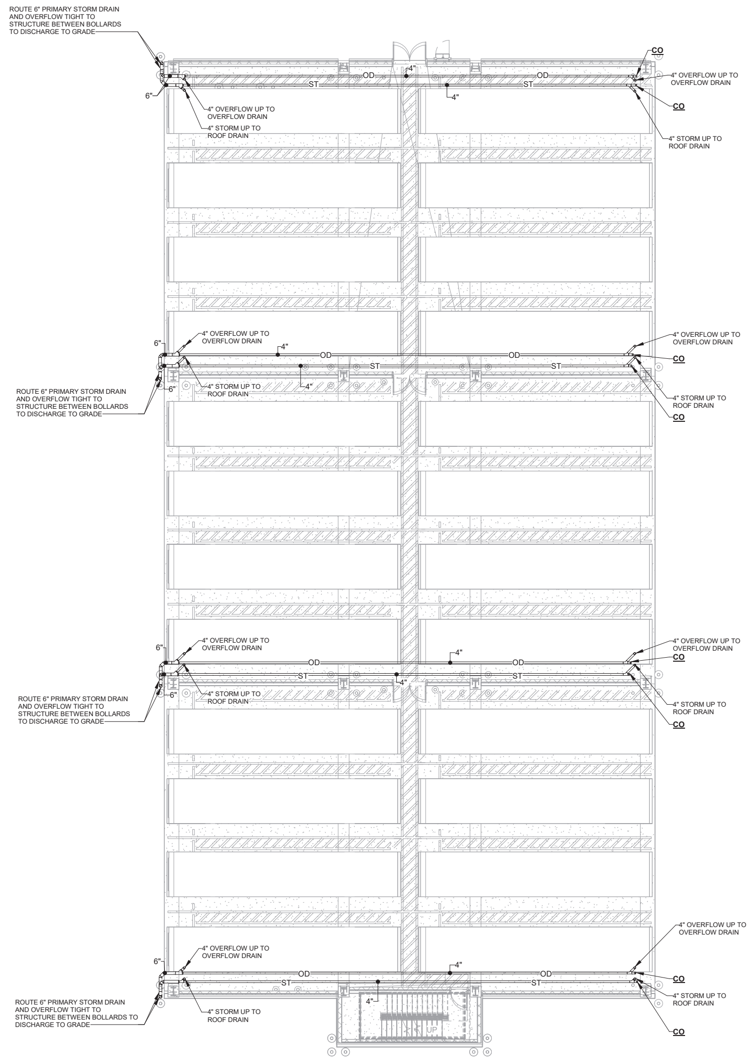

1 DRAINAGE FLOOR PLAN

3/32" = 1'-0"

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PROJECT DASH BUS FACILITY EXPANSION
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DRAWING DRAINAGE FLOOR PLAN

SHEET
P-101

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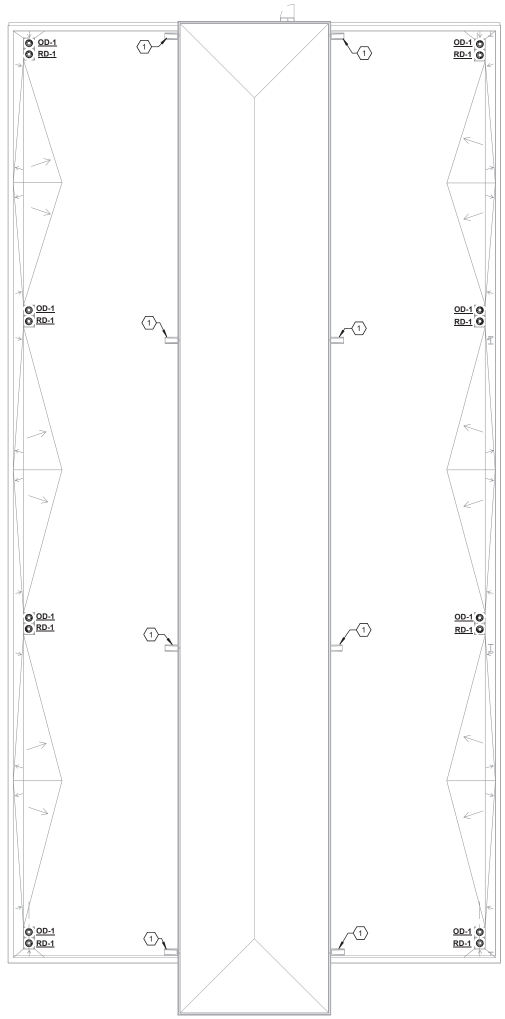
KEYED NOTES	
1	2" DOWNSPOUT SHALL DRAIN ONTO LOWER ROOF.



1 PLUMBING ROOF PLAN

3/32" = 1'-0"

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DRAWING PLUMBING ROOF PLAN

SHEET
P-102

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ELECTRICAL LEGEND

All Symbols Shown Are Not Necessarily Used In This Project

- New or relocated light fixture. Letter indicates type. Refer to light fixture schedule for more information.
- Exit light. Provide directional chevron(s) arrow(s) as indicated on plans. Provide with integral battery pack UNO. Connect to unswitched power leads.
- $ Single pole switch
- $3 / $4 Three-way switch / Four-way switch.
- $OS Switch with integral occupancy sensor.
- OS Ceiling or surface mounted occupany sensor.
- $VS Switch with integral vacancy sensor.
- VS Ceiling or surface mounted vacancy sensor.
- PS Ceiling or surface mounted daylight sensor.
- $M Manual Motor Starter With Proper Thermal Element Installed.
- $X Single pole toggle switch in explosion proof box.
- $OSD Wall Switch Occupancy Sensor with Dimming
- $VSD Wall Switch Vacancy Sensor with Dimming
- $LVD Low-Voltage Lighting Control Switch with Dimming
- $3,D Three-way dimmer switch
- $4,D Four-way dimmer switch
- Simplex/Single Receptacle, 20Amp, 125Volt, 2Pole, 3Wire, Grounding Type, NEMA 5-20R UNO.
- Duplex Receptacle, 20Amp, 125Volt, 2Pole, 3Wire, Grounding Type, NEMA 5-20R UNO.
- Double (QUAD) Duplex Receptacle with Common Cover Plate. Similar to Duplex Receptacle.
- GFI Ground Fault Interruptor (GFI) Duplex Receptacle. Similar To Duplex Receptacle Above.
- WP Weatherproof (WP) Duplex Receptacle. Similar to Duplex Receptacle Above.
- GFIWP Ground Fault Interruptor (GFI) & Weatherproof (WP) Duplex Receptacle. Similar to Duplex Receptacle Above.
- Special Receptacle, XXA/XXXV/1P/3W, NEMA X-XXR
- Duplex Receptacle, 20Amp, 125Volt, 2Pole, 3Wire, Grounding Type, NEMA 5-20R UNO. Receptacles to be green and controlled from local occupancy sensor.
- Double (QUAD) Duplex Receptacle with Common Cover Plate. Similar to Duplex Receptacle. Receptacles to be green and controlled from local occupancy sensor controls.
- GFI Ground Fault Interruptor (GFI) Duplex Receptacle. Similar To Duplex Receptacle Above. Receptacles to be green and controlled from local occupancy sensor controls.
- Ceiling mounted box for Duplex / Double (QUAD) Duplex Receptacle, respectively
- Poke-Thru or recessed floor box for Duplex / Double (QUAD) Duplex Receptacle, respectively.
- Poke-Thru or recessed floor box for Duplex / Double (QUAD) Duplex Receptacle, respectively. Receptacles to be green and controlled from local occupancy sensor controls.
- Poke-Thru or recessed floor box for Data. Install 3/4"C with Bushing and Pull String, Stubbed to Accessible Ceiling.
- Junction Box.
- Electrical Panel Boards.
- Disconnect Switch. All Switches Shall Be Heavy Duty Type (E.G. 30A/3P/600/NF/NEMA 1)
- Combination Motor Starter and Disconnect Switch
- MDP-1 Homerun to Electrical Panelboards
- Conduit Run Concealed in Floor
- Raceway-Conduit Turned Down
- Raceway-Conduit Turned Up
- Raceway-Change In Elevation
- Raceway-Underground

Legend Notes:

1. The word "provide" as used in these drawings shall mean "materials and labor furnished and installed by Electrical Contractor".
2. Mounting height of all light switches, dimmers, receptacles, telephone, data and signal outlets shall be in accordance with the 'American with Disabilities Act'.
   Mounting heights shown on the architect drawings and specifications take precedence. Verify exact mounting height required with architect and install accordingly.

GENERAL ELECTRICAL NOTES:

1. PROVIDE MATERIALS THAT ARE NEW AND WITHOUT IMPERFECTIONS OR BLEMISHES, AND PROTECTED FROM THE ELEMENTS PRIOR TO CONSTRUCTION.
2. COMPLY WITH OWNER'S USE OF PREMISES AND SAFETY REGULATIONS.
3. COORDINATE LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ROUTINGS OF ALL ELECTRICAL FEEDERS (AND ASSOCIATED PULLBOXES) AND BRANCH CIRCUITS WITH ALL OTHER UTILITIES (EXISTING AND NEW), WITH STRUCTURE, AND WITH BUILDING ELEMENTS.
4. UNLESS NOTED OTHERWISE, EVERY CONDUIT CONTAINING 120V RATED WIRING AND GREATER, SHALL CONTAIN A SEPARATE INSULATED GROUND WIRE RATED FOR 600V.
5. PROVIDE SEPARATE UNSHARED NEUTRAL CONDUCTOR(S) FOR ALL BRANCH CIRCUITS UTILIZING A NEUTRAL (I.E. 120V, 277V, ETC). PROVIDE SEPARATE UNSHARED NEUTRAL CONDUCTOR(S) FOR ALL FEEDERS REQUIRING A NEUTRAL (I.E. 1 PHASE-3 WIRE, 3 PHASE-4 WIRE FEEDERS). SHARING OF NEUTRAL CONDUCTORS BETWEEN ANY CIRCUIT (BRANCH OR FEEDER) IS NOT PERMITTED. MULTI-WIRE BRANCH CIRCUITS ARE NOT PERMITTED.
6. PROVIDE STRUCTURAL FRAME SUPPORTS AS REQUIRED FOR DISCONNECT SWITCHES, PANELBOARDS, TRANSFORMERS, CONTACTORS, ETC. (IF DISCONNECT SWITCHES OR STARTERS ARE LOCATED ON EQUIPMENT HOUSINGS, COORDINATE LOCATIONS WITH EQUIPMENT SUPPLIER TO ENSURE SWITCHES ARE NOT INSTALLED ON EQUIPMENT ACCESS PANELS). MAINTAIN PROPER NATIONAL ELECTRICAL CODE CLEARANCES. IN ADDITION, MAINTAIN PROPER MECHANICAL WORKING CLEARANCES FOR SERVICING OF EQUIPMENT.
7. PROVIDE ALL CUTTING, PATCHING, AND ACCESS PANELS REQUIRED FOR ELECTRICAL WORK. REPAIR AND REFINISH DISTURBED FINISH MATERIALS AND OTHER SURFACES TO MATCH ADJACENT UNDISTURBED SURFACES.
8. THE CONTRACT DRAWINGS ARE DIAGRAMMATIC. ALL OFFSETS, BENDS, FITTINGS AND ACCESSORIES ARE NOT NECESSARILY SHOWN. PROVIDE ALL SUCH ITEMS AS REQUIRED FOR COMPLETE OPERATIONAL SYSTEM.
9. ALL WORK AND EQUIPMENT SHALL COMPLY WITH ALL AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO THE 2018 LIFE SAFETY CODE, UNDERWRITERS LABORATORY (UL), AND THE 2023 NATIONAL ELECTRICAL CODE (NEC). MODIFICATIONS REQUIRED BY THE AUTHORITY HAVING JURISDICTION TO BRING THE SPACE UNDER CONTRACT UP TO CODE SHALL BE MADE WITHOUT ADDITIONAL CHARGE WHERE CONTRACT DOCUMENT REQUIREMENTS ARE IN EXCESS OF CODE REQUIREMENTS, THE CONTRACT DOCUMENTS SHALL GOVERN. DEVIATIONS FROM THE CONTRACT DOCUMENTS REQUIRED BY THE ABOVE AUTHORITIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. OTHER CODES INCLUDE 2018 INTERNATIONAL FIRE CODE, 2021 INTERNATIONAL MECHANICAL CODE, AND 2021 ENERGY CONSERVATION CODE.
10. CONTRACTOR SHALL VERIFY ALL POINTS OF CONNECTION BEFORE COMMENCING WORK. CONTRACTOR SHALL REMOVE ALL WASTE MATERIALS, DEBRIS, AND RUBBISH FROM THE SITE AND LEGALLY DISPOSE OF IT.
11. A SET OF ELECTRICAL RECORD/COORDINATION DRAWINGS SHALL BE MAINTAINED AT THE JOB SITE. ACTUAL LOCATIONS OF ALL EQUIPMENT, CONDUIT, ETC., AND ALL DEVIATIONS OF THE WORK FROM THAT SHOWN ON THE CONTRACT DOCUMENTS SHALL BE MARKED ON THE RECORD/COORDINATION DRAWINGS. EACH TRADE SHALL REVIEW THE COORDINATION DRAWINGS AND RESOLVE ANY POTENTIAL CONFLICTS WITH OTHER TRADES PRIOR TO INSTALLING ANY PORTION OF THEIR WORK.
12. WORK SHALL BE EXECUTED IN A GOOD WORKMANLIKE MANNER. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES FOR ALL COORDINATION OF THE WORK UNDER THIS CONTRACT. MAINTAIN THE CONSTRUCTION PREMISES IN A NEAT AND ORDERLY CONDITION AT THE END OF EACH WORKING DAY.
13. CONTRACTOR SHALL MAKE ALL FINAL EQUIPMENT CONNECTIONS AND PROVIDE THE NECESSARY DEVICES, ETC. FOR A COMPLETE AND OPERABLE SYSTEM.
14. ARRANGE CONDUIT, WIRING, EQUIPMENT AND OTHER WORK GENERALLY AS SHOWN, PROVIDING PROPER CLEARANCE AND ACCESS. CAREFULLY EXAMINE ALL CONTRACT DRAWINGS AND COORDINATE THE WORK WITH ALL TRADES. WHERE DEPARTURES ARE PROPOSED BECAUSE OF FIELD CONDITIONS OR OTHER CAUSES, PREPARE AND SUBMIT DETAILED DRAWINGS TO THE ENGINEER.
15. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL TRADE PERMITS, PLAN REVIEWS AND CERTIFICATES OF INSPECTION REQUIRED BY THE AUTHORITIES HAVING JURISDICTION OVER THIS WORK.
16. COST INCURRED FROM DAMAGES AS A RESULT OF THE CONTRACTOR'S WORK WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. DAMAGES WILL NOT WARRANT COST OR DELAY CLAIMS.
17. CONTRACTOR SHALL COMPLY WITH LOCAL AND APPLICABLE CODES, IN THE EVENT OF A CONFLICT, THE MOST STRINGENT SHALL GOVERN. SHOULD A CONFLICT ARISE BETWEEN CONSTRUCTION DOCUMENTS AND APPLICABLE CODES, WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE ENFORCING CODE AUTHORITIES.
18. ANY EXISTING ELECTRICAL WORK SHOWN ON THESE DRAWINGS IS INDICATED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. THE OWNER AND ENGINEER IN NO WAY WARRANT OR GUARANTEE EITHER THE ACCURACY OR COMPLETENESS OF THIS INFORMATION. FINAL LOCATIONS AND QUANTITIES SHALL BE FIELD VERIFIED BY THE CONTRACTOR TO THEIR OWN SATISFACTION.
19. THE CONTRACTOR SHALL VISIT THE SITE AND FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WORK. ROUTINGS SHOWN ON DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY THAT INTERFERENCES WILL NOT BE ENCOUNTERED. IF ANY DISCREPANCY IS DETECTED, THE CONTRACTOR SHALL BRING IT TO THE ENGINEER'S ATTENTION WITH RECOMMENDATIONS FOR APPROVAL.
20. ALL WORK SHALL BE GUARANTEED FOR ONE YEAR AGAINST FAULTY LABOR, MATERIALS AND WORKMANSHIP. TIME FOR THIS GUARANTEE SHALL BEGIN FROM THE DATE OF ACCEPTANCE OF THE COMPLETED WORK BY THE OWNER OR HIS APPOINTED REPRESENTATIVE.
21. THE CONTRACTOR SHALL REMOVE AND REINSTALL OR RELOCATE ANY MOVEABLE OBSTRUCTIONS THAT MAY IMPEDE WORK UNDER THIS CONTRACT, AT NO ADDITIONAL COST. THESE SHALL INCLUDE, BUT ARE NOT LIMITED TO EQUIPMENT, PIPING, ANY SUPPORTING APPURTENANCES, CONDUIT, ETC. ANY CONSTRUCTION REQUIRING WORK STATED HEREIN, SHALL BE RECONNECTED AFTER THE END OF CONSTRUCTION TO PROVIDE A FULLY FUNCTIONAL SYSTEM(S), AS FOUND PRIOR TO COMMENCING CONTRACT WORK.
22. ALL CONDUIT LOCATED WITHIN FINISHED INTERIOR AREAS TO BE CONCEALED IN FINISHED INTERIOR WALLS. ALL SURFACE MOUNT RACEWAY SHALL BE INSTALLED ACCORDING TO NEC CODE AND ALL AUTHORITIES HAVING JURIDICTION AND APPROVED BY ENGINEER / ARCHITECT / OWNER PRIOR TO INSTALLATION .
23. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.

SITE PLAN GENERAL NOTES

1. PLAN REPRESENTS ENGINEER'S PROPOSED DESIGN. COORDINATE LOCATION AND INSTALLATION OF ELECTRICAL AND TELECOM SERVICE AND ALL RELATED DEVICES AND EQUIPMENT WITH OWNER AND UTILITY.
2. UNDERGROUND SITE WORK: CONTRACTOR IS REQUIRED TO USE LINE LOCATOR TO IDENTIFY LOCATION(S) OF ALL EXISTING UTILITY LINES. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DAMAGES TO ANY EXISTING UTILITY LINES CAUSED BY EXCAVATION AND SUBSEQUENT REPAIR OF UTILITY LINES.
3. AS-BUILT UNDERGROUND UTILITY DRAWINGS MUST BE PROVIDED SHOWING SPECIFIC LOCATIONS OF ALL UTILITIES BURIED ON THE ENTIRE SITE.

POWER GENERAL NOTES

1. COORDINATE LOCATIONS OF ALL DEVICES AND JUNCTION BOXES WITH THE EQUIPMENT INSTALLER.
2. CONTRACTOR SHALL NOT INSTALL MORE THAN THREE CIRCUITS (3 PHASE WIRES, 1 NEUTRAL + 1 GROUND) IN A COMMON CONDUIT, EXCEPT WHERE SPECIFICALLY NOTED AND ALLOWED. WHERE MORE THAN THREE CURRENT CARRYING CONDUCTORS (EXAMPLES: 3 PHASE WIRES + 1 CURRENT CARRYING NEUTRAL CONDUCTOR) ARE INSTALLED IN A COMMON CONDUIT, THE AMPACITY OF ALL CURRENT-CARRYING CONDUCTORS SHALL BE DERATED PER NEC ARTICLE 310.15 (B)(3)(A). PROVIDE COMMON TRIP BREAKERS FOR MULTIWIRE CIRCUITS PER NEC ARTICLE 210.4 (B).

LIGHTING GENERAL NOTES

1. REFER TO ARCH. REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF ALL FIXTURES
2. VERIFY COLOR OF ALL FIXTURES WITH ARCHITECT/OWNER.
3. DRAWINGS DO NOT SHOW DETAILS OF FIXTURE MOUNTING. ELECTRICAL CONTRACTOR TO PROVIDE ALL NECESSARY AND PROPER MOUNTING HARDWARE AND ACCESSORIES AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. SLOPED CEILING: PROVIDE SLOPED-CEILING ADAPTORS AS REQUIRED FOR ALL FIXTURES INSTALLED IN SUCH CEILING.
4. ALL 2'x4' FIXTURES SUPPORTED BY FRAMING MEMBER BY MECHANICAL MEANS, SUCH AS BOLTS, SCREWS, OR RIVETS. CLIPS IDENTIFIED FOR USE WITH THE TYPE OF CEILING FRAMING MEMBER(S) AND FIXTURE(S) SHALL BE PERMITTED. ALL FOUR SIDES OF FIXTURES SHALL BE FASTENED TO CEILING FRAMING MEMBERS. REFERENCE N.E.C. ARTICLE 410-36(B).
5. ACCEPTABLE LAMP MANUFACTURERS: MATCH BASE BUILDING STANDARDS. ACCEPTABLE BALLAST MANUFACTURERS: REFER TO LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS.
6. ALL LAMPS ARE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE (THIS APPLIES TO ALL NEW FIXTURES), REPLACE ALL BURNT OUT OR DEFECTIVE LAMPS AND BALLAST WITHIN 6 MONTHS AFTER ACCEPTANCE OF SUBSTANTIAL COMPLETION AT NO ADDITIONAL COST TO THE OWNER (THIS APPLIES TO NEW FIXTURES ONLY, NOT REUSED/EXISTING FIXTURES).
7. ALL FIXTURES SHALL BE FACTORY PAINTED-AFTER-FABRICATION TYPE.
8. ALL LAMPS, DRIVERS AND ELECTRONIC BALLASTS SHALL MATCH BASE BUILDING STANDARD.

MOUNTING HEIGHT SCHEDULE

INTERIOR RECEPTACLES	18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE
EXTERIOR RECEPTACLES	24" ABOVE FINISHED GRADE
LIGHT SWITCHES	46" ABOVE FINISHED FLOOR
PANELBOARDS	TOP OF PANEL TO BE 72" ABOVE FINISHED FLOOR
LIGHT FIXTURES AND EXIT SIGNS	SEE LIGHT FIXTURE SCHEDULE
CARD READER	46" ABOVE FINISHED FLOOR
WALL MOUNTED OCCUPANCY SENSOR	46" ABOVE FINISHED FLOOR
TELEPHONE, AND DATA JACKS	18" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE

MOUNTING HEIGHT SCHEDULE NOTES:

1. UNLESS INDICATED OTHERWISE, DEVICE MOUNTING HEIGHTS ARE TO CENTER LINE OF DEVICE.
2. REFER TO FLOOR PLANS FOR DEVICES MOUNTED AT HEIGHTS DIFFERING FROM HEIGHTS SCHEDULED.
3. CARD READER MOUNTING HEIGHTS/LOCATIONS TO BE COORDINATED WITH ARCHITECT/OWNER.

20 AMPERE CIRCUITS

120 VOLT		277 VOLT		MINIMUM CONDUIT SIZE
WIRING LENGTH	WIRE SIZE	WIRING LENGTH	WIRE SIZE	
0'-60'	#12	0'-130'	#12	3/4"
60'-100'	#10	130'-210'	#10	3/4"
100'-150'	#8	210'-340'	#8	3/4"
150'-240'	#6	340'-540'	#6	3/4"
OVER 240'	#4	OVER 540'	#4	1"

NOTES:

1. BRANCH CIRCUITS FROM PANELBOARDS HAVING 200% RATED NEUTRAL BUS SHALL HAVE 200% RATED NEUTRAL CONDUCTOR.

NEMA RATING OF ENCLOSURES

NEMA ENCLOSURE TYPES FOR MISCELLANEOUS BOXES, PANELS, TRANSFORMERS, GENERATOR SYSTEM, ATS, ENCLOSED BREAKERS, DISCONNECT SWITCHES AND ALL OTHER ELECTRICAL EQUIPMENT ENCLOSURES NOT SPECIFICALLY INDICATED SHALL BE RATED IN ACCORDANCE WITH THE FOLLOWING:

- EXTERIOR APPLICATIONS: NEMA 3R
- INTERIOR APPLICATIONS: NEMA 1

THE ENCLOSURE TYPE REFLECTED FOR INTERIOR AND EXTERIOR APPLICATIONS IS NOT APPLICABLE TO UTILITY COMPANY PROVIDED SERVICE EQUIPMENT.

APPLICABLE CODES AND STANDARDS

ALL ELECTRICAL MATERIALS, INSTALLATION, TESTING, CLEANING, SUPPORTS, AND WORKMANSHIP SHALL BE IN STRICT ACCORDANCE WITH THE BELOW LISTED APPLICABLE CODES INCLUDE BUT ARE NOT LIMITED TO:

2021 VIRGINIA CONSTRUCTION CODE
2021 VIRGINIA BUILDING AND FIRE CODE RELATED REGULATIONS
2021 VIRGINIA ENERGY CONSERVATION CODE
2020 NATIONAL ELECTRICAL CODE (NFPA 70)
2021 LIFE SAFETY CODE (NFPA 101)

ELECTRICAL SCOPE OF WORK

1. PROVIDE NEW ELECTRICAL SERVICE EQUIPMENT AND ELECTRICAL DISTRIBUTION FOR FUTURE EV CHARGING EQUIPMENT.
2. PROVIDE BOLLARDS FOR PROTECTION OF ELECTRICAL EQUIPMENT.
3. PROVIDE NEW INTERIOR LIGHTING SYSTEM AND CONTROLS.
4. PROVIDE NEW WALL PACKS FOR EXTERIOR LIGHTING SYSTEM AND CONTROLS.

ELECTRICAL ABBREVIATIONS

(D)	DEMO
(E)	EXISTING
(N)	NEW
(R)	RELOCATE
(RM)	REMOVE EXISTING EQUIPMENT
(R'D)	RELOCATED EQUIPMENT
AC	ALTERNATING CURRENT
AF	AMPERE FUSE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AMP	AMPERE
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED CONTRACTOR INSTALLED
CKT	CIRCUIT
CLG	CEILING
CT	CURRENT TRANSFORMER
CU	COPPER
DISC.	DISCONNECT
DIST.	DISTRIBUTION
EA	EACH
E.C.	ELECTRICAL CONTRACTOR
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATION PANEL
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FTL	FEED THRU LUGS
G.C.	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GRD.	GROUND
GRS	GALVANIZED RIGID STEEL
HP	HORSEPOWER
IDF	INTERMEDIATE DISTRIBUTION FRAME
I.P.S.	INVERTER POWER SYSTEM
JB	JUNCTION BOX
KVA	KILO-VOLT-AMPERE
KW	KILOWATT
LAN	LOCAL AREA NETWORK
LTS	LIGHTS
LTG	LIGHTING
MCB	MAIN CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON-FUSED
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OC	OVERCURRENT
OCP	OVERCURRENT PROTECTION
OS	OCCUPANCY SENSOR
OSC	OCCUPANCY SENSOR CONTROLS
P	POLE
PA	PUBLIC ADDRESS
PB	PUSH BUTTON
PC	PHOTOCELL
PH	PHASE
PNL	PANEL
PS	PHOTOSENSOR
RCPT	RECEPTACLE
REC	RECEPTACLE
RECP	RECEPTACLE
REQ'D	REQUIRED
SN	SOLID NEUTRAL
SPECS	SPECIFICATIONS
SPKR	SPEAKER
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TEL	TELEPHONE
TTB	TELEPHONE TERMINAL BOARD
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP.	TYPICAL
UC, U/C	UNDER COUNTER
U.N.O.	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT-AMPERE
VC	VACANCY CONTROLS
VS	VACANCY SENSOR
VSD	VARIABLE SPEED DRIVE
W	WATT OR WIRE
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
XFMR	TRANSFORMER
XFR	TRANSFER

ELECTRICAL SHEET LIST

SHEET NUMBER	SHEET NAME
E-001	ELECTRICAL NOTES, LEGENDS, AND SCHEDULES
E-002	ELECTRICAL SITE PLAN
E-101	ELECTRICAL POWER PLAN - FIRST FLOOR
E-102	ELECTRICAL POWER PLAN - EQUIPMENT PLATFORM
E-201	ELECTRICAL LIGHTING PLAN - FIRST FLOOR
E-202	ELECTRICAL LIGHTING PLAN - EQUIPMENT PLATFORM
E-501	ELECTRICAL DETAILS I
E-502	ELECTRICAL DETAILS II
E-503	ELECTRICAL DETAILS III
E-601	ELECTRICAL ONE LINE DIAGRAM
E-701	ELECTRICAL SCHEDULES

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DATE 05/27/25
PROJECT 00046811
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DRAWN RBS
CHECKED KAS

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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL NOTES, LEGENDS, AND SCHEDULES

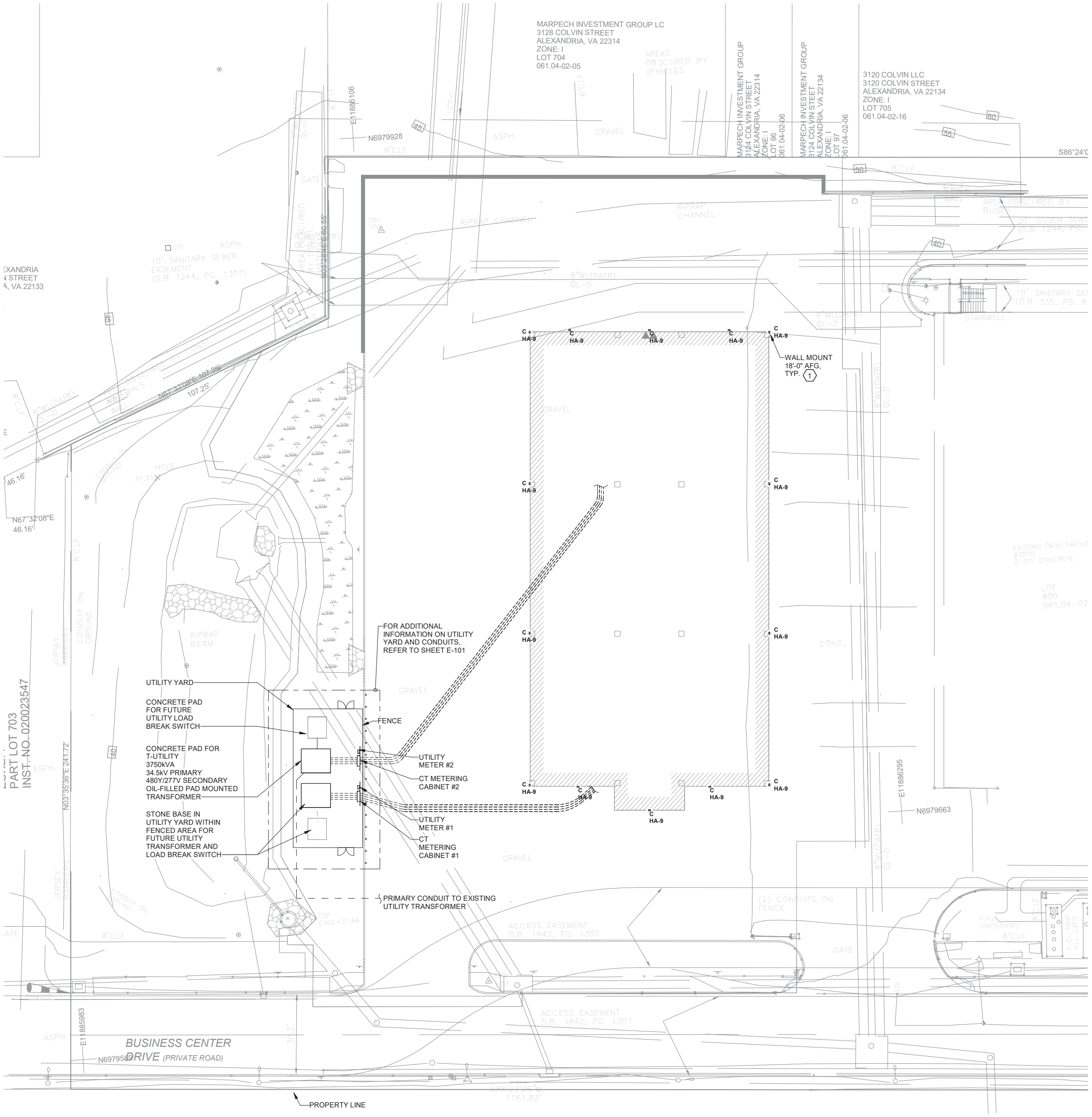
SHEET
E-001

ELECTRICAL GENERAL NOTES

1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
2. CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES.
3. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).

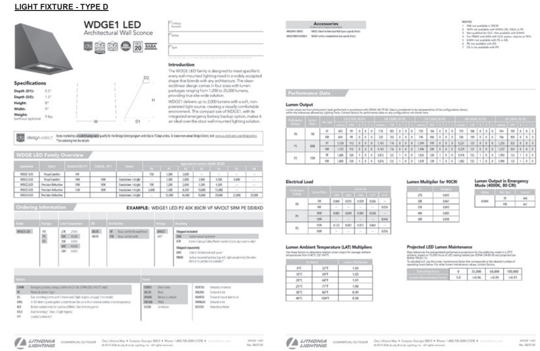
KEYED NOTES

1	PROVIDE LED LIGHT FIXTURE MOUNTED TO WALL. PROVIDE CONDUIT AND WIRING FROM PANEL HA VIA LIGHTING CONTACTOR. REFER TO DETAIL 5 ON SHEET E-502 FOR LIGHTING CONTROL DIAGRAM.



1 ELECTRICAL SITE PLAN
1" = 20'-0"

LIGHT FIXTURE - TYPE D



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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL SITE PLAN

SHEET
E-002

Autodesk Docs://23259-00 Alexandria City Dash Facility/DASH Bus Facility Expansion_E.rvt
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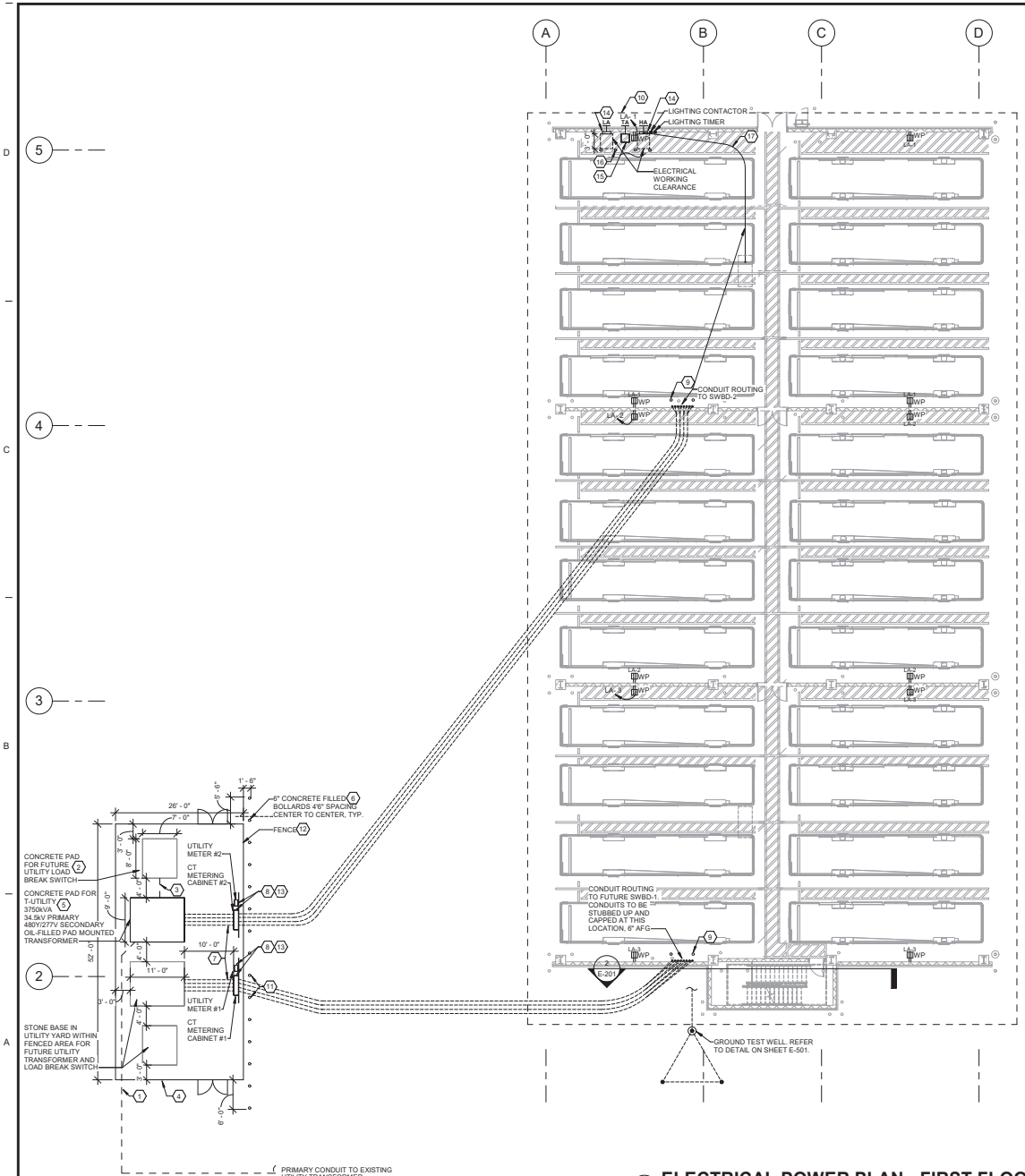

ELECTRICAL GENERAL NOTES

1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
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3. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).

KEYED NOTES

1	DOMINION ENERGY TO PROVIDE PRIMARY CONDUIT AND CONDUCTOR BETWEEN EXISTING DOMINION ENERGY UTILITY TRANSFORMER ON SITE AND PAD MOUNTED LOAD BREAK SWITCH.
2	DOMINION ENERGY TO PROVIDE LOAD BREAK SWITCH, GROUNDING GRID, EQUIPMENT PAD, CONDUIT, AND CONDUCTOR.
3	DOMINION TO PROVIDE PRIMARY CONDUIT DUCT BANK AND CONDUCTOR BETWEEN LOAD BREAK SWITCH AND TRANSFORMER.
4	PROVIDE LABEL INDICATING THIS IS THE SECOND UTILITY ENTRANCE FOR THE SITE. THE LABEL MUST INDICATE ALL SERVICE ENTRANCE LOCATIONS FOR THE SITE. PROVIDE REDUNDANT LABEL AT EXISTING PRIMARY SITE SERVICE ENTRANCE PER NEC ARTICLE 230.2.(E).
5	DOMINION ENERGY TO PROVIDE PAD MOUNTED TRANSFORMER MOUNTED TO EQUIPMENT PAD AND GROUNDING.
6	PROVIDE 6" CONCRETE FILLED BOLLARDS SPACED 4'6" APART CENTER TO CENTER ON THE RIGHT SIDE OF THE SERVICE ENTRANCE EQUIPMENT AREA.
7	PROVIDE TWO SETS OF 4" 8 WAY RED DYED CONCRETE ENCASED CONDUIT BETWEEN TRANSFORMER AND CT CABINET.
8	PROVIDE METER SOCKET AND WIRING TO CT CABINET. COORDINATE FINAL LOCATION AND WIRING REQUIREMENTS WITH DOMINION ENERGY.
9	PROVIDE CONDUIT MOUNTED TO THE WALL VERTICALLY TO ROOF LEVEL SWITCHBOARDS. PROVIDE BOLLARDS TO PROTECT CONDUIT.
10	PROVIDE GROUND AROUND BUILDING, GROUND BUILDING STEEL, AND REBAR.
11	PROVIDE BOLLARDS TO PROTECT CT CABINET AND METERING EQUIPMENT. COORDINATE CLEARANCE REQUIREMENTS WITH DOMINION.
12	PROVIDE 8' HIGH FENCE AROUND DOMINION UTILITY ENTRANCE. COORDINATE OFFSET AND INSTALLATION REQUIREMENTS WITH DOMINION.
13	PROVIDE FREESTANDING STRUCTURE TO ACCOMODATE CT CABINETS AND UTILITY METER. COORDINATE FINAL MOUNTING AND CLEARANCE REQUIREMENTS WITH DOMINION.
14	PROVIDE PANELBOARDS MOUNTED TO STAINLESS STEEL UNISTRUT STRUCTURE.
15	PROVIDE TRANSFORMER MOUNTED ABOVE HEIGHT OF BUS, ATTACHED TO STRUCTURE.
16	PROVIDE CONCRETE FILLED BOLLARDS TO PROTECT PANELS. BOLLARDS MUST BE LOCATED FOR NEC WORKING CLEARANCE ARTICLE 110.26.A.
17	PROVIDE CONDUIT AND WIRING FROM SWITCHBOARD SWBD-2 TO PANEL HA. REFER TO ELECTRICAL ONE LINE DIAGRAM FOR ADDITIONAL DETAILS.

1 **ELECTRICAL POWER PLAN - FIRST FLOOR**
3/32" = 1'-0"

1/16" = 1'-0" 0' 4' 8' 16' 24'

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PROJECT DASH BUS FACILITY EXPANSION
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301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL POWER PLAN - FIRST FLOOR

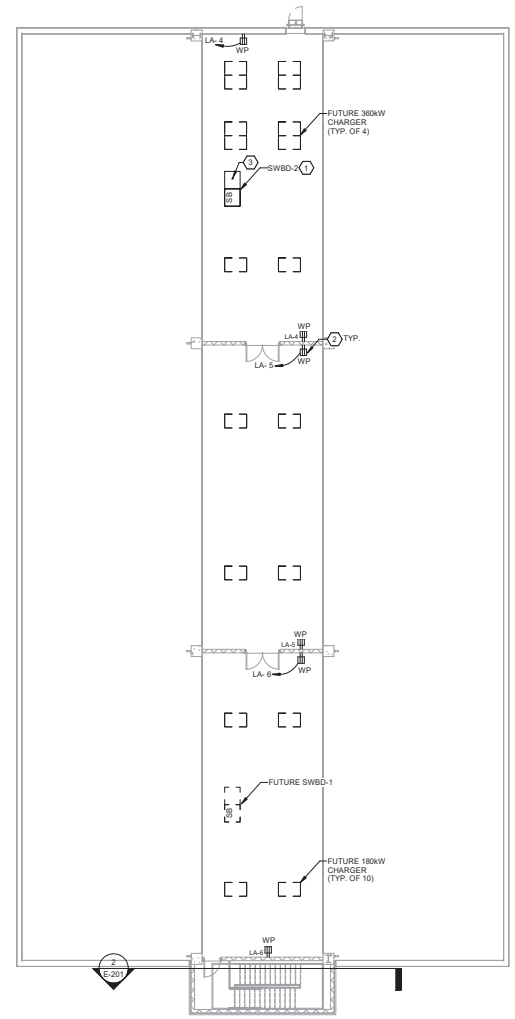
SHEET
E-101

ELECTRICAL GENERAL NOTES

1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
2. CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES.
3. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).

KEYED NOTES

1	PROVIDE WIRING BETWEEN CT CABINET AND SWITCHBOARD. PROVIDE SWITCHBOARD AND GROUNDING FOR EQUIPMENT.
2	PROVIDE WEATHERPROOF GFCI RECEPTACLE WITH IN-USE COVER MOUNTED TO COLUMN 46" AFF.
3	PROVIDE CONDUIT AND WIRING FROM SWITCHBOARD SWBD-2 TO PANEL HA. REFER TO ELECTRICAL ONE LINE DIAGRAM FOR ADDITIONAL DETAILS.



1 ELECTRICAL POWER PLAN - MEZZANINE
3/32" = 1'-0"

1/16" = 1'-0" 0' 4' 8' 16' 24'

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PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL POWER PLAN - EQUIPMENT PLATFORM

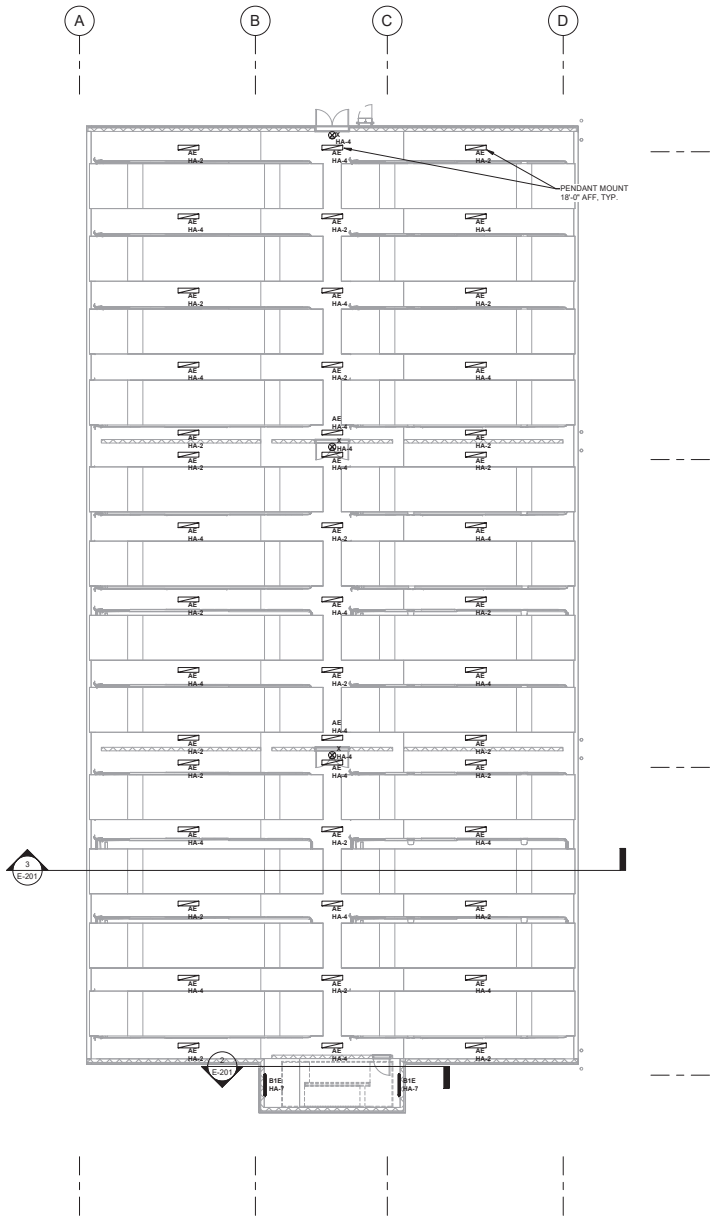
SHEET
E-102

ELECTRICAL GENERAL NOTES

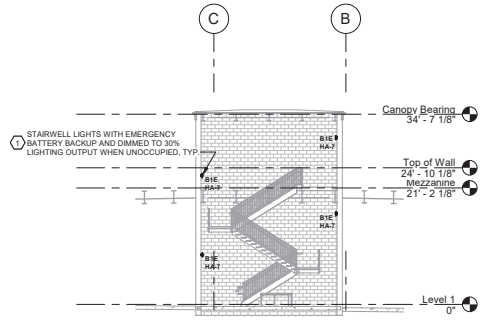
1. SEE SHEET E-001 FOR SYMBOLS, ABBREVIATIONS, GENERAL NOTES AND NEMA RATING OF ENCLOSURES FOR EACH RESPECTIVE AREA.
2. CONTRACTOR SHALL FIELD COORDINATE ALL ELECTRICAL INSTALLATIONS WITH ALL DISCIPLINES.
3. SEE LIGHT FIXTURE AND PANEL SCHEDULES ON SHEET E-701 FOR BRANCH CIRCUIT CONDUIT AND WIRING SIZES.
4. CONNECT EXIT SIGNS AND EMERGENCY BATTERY PACKS AT LIGHT FIXTURES TO LIGHT CIRCUIT SERVING AREA, AHEAD OF ANY LIGHTING CONTROL.
5. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).
6. HOMERUN FOR EXTERIOR WALL PACKS AND SITE POLE LIGHTING TO RUN THROUGH TIME CLOCK CONTROLLED LIGHTING CONTACTOR.

KEYED NOTES

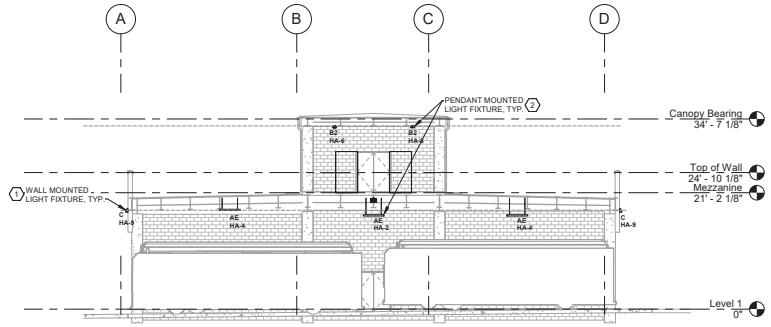
1	PROVIDE LED LIGHT FIXTURE MOUNTED TO WALL. PROVIDE CONDUIT AND WIRING FROM PANEL HA VIA LIGHTING CONTACTOR. REFER TO DETAIL 5 ON SHEET E-502 FOR LIGHTING CONTROL DIAGRAM.
2	PROVIDE LED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR MOUNTED ALONG CEILING. PROVIDE CONDUIT AND WIRING FROM PANEL HA.



1 ELECTRICAL LIGHTING PLAN - FIRST FLOOR
3/32" = 1'-0"



2 STAIRWAY SECTION
3/32" = 1'-0"



3 ROOF SECTION
3/32" = 1'-0"

1/16" = 1'-0" 0' 4' 8' 16' 24'

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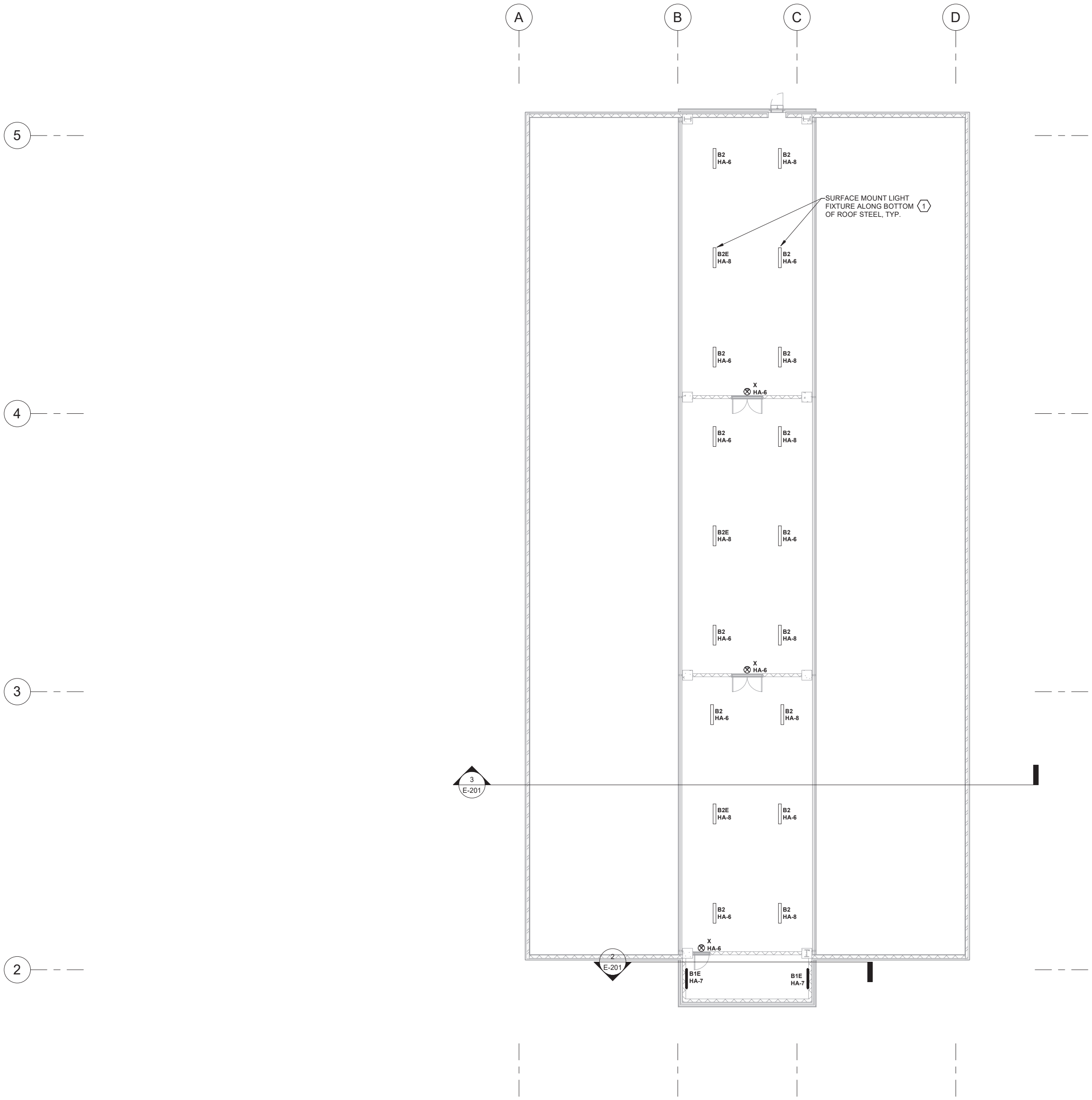
PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL LIGHTING PLAN - FIRST FLOOR

SHEET
E-201



1 **ELECTRICAL LIGHTING PLAN - MEZZANINE**
3/32" = 1'-0"

ELECTRICAL GENERAL NOTES

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5. IN ACCORDANCE WITH NEC 358.26, THERE SHALL BE NO MORE THAN A TOTAL OF 360° OF BENDS IN A CONDUIT ROUTING BETWEEN PULL POINTS (BOXES AND ENCLOSURES).
6. HOMERUN FOR EXTERIOR WALL PACKS AND SITE POLE LIGHTING TO RUN THROUGH TIME CLOCK CONTROLLED LIGHTING CONTACTOR.

KEYED NOTES	
1	PROVIDE LED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR MOUNTED ALONG CEILING. PROVIDE CONDUIT AND WIRING FROM PANEL HA.

1/16" = 1'-0" 0' 4' 8' 16' 24'

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PROJECT DASH BUS FACILITY EXPANSION
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DRAWING ELECTRICAL LIGHTING PLAN - EQUIPMENT PLATFORM

SHEET
E-202

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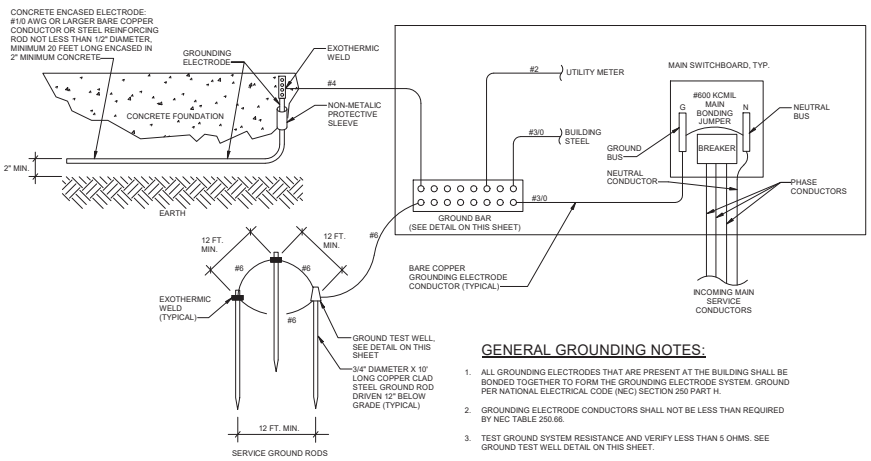
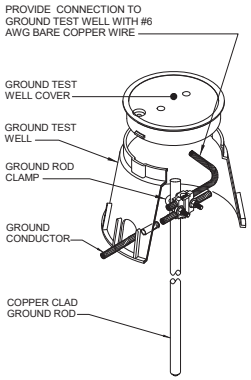


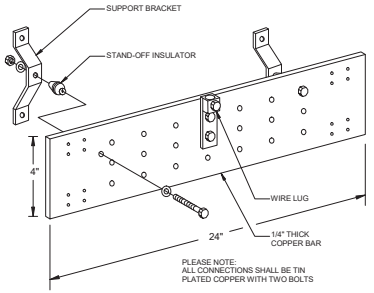
GENERAL GROUNDING NOTES:

1. ALL GROUNDING ELECTRODES THAT ARE PRESENT AT THE BUILDING SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. GROUND PER NATIONAL ELECTRICAL CODE (NEC) SECTION 250 PART H.
2. GROUNDING ELECTRODE CONDUCTORS SHALL NOT BE LESS THAN REQUIRED BY NEC TABLE 250.66.
3. TEST GROUND SYSTEM RESISTANCE AND VERIFY LESS THAN 5 OHMS. SEE GROUND TEST WELL DETAIL ON THIS SHEET.
4. ALL GROUNDING AND BONDING CONDUCTORS SHALL BE COPPER.

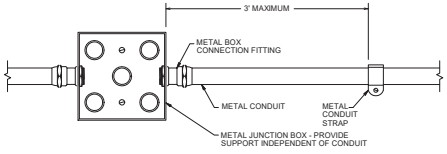
1 MAIN SERVICE GROUNDING DETAIL
NOT TO SCALE



2 GROUND TEST WELL DETAIL
NOT TO SCALE

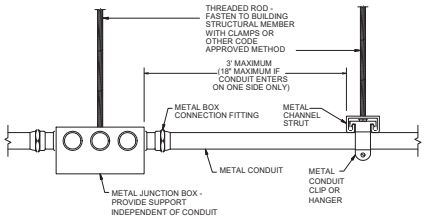


3 GROUND BAR DETAIL
NOT TO SCALE



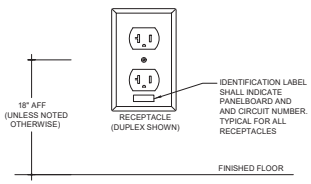
NOTES:
1. PROVIDE CONDUIT AND CONNECTION FITTINGS APPROPRIATE FOR THE ENVIRONMENT IN WHICH THE SYSTEM IS INSTALLED AND AS INDICATED IN THE SPECIFICATIONS.
2. DETAIL DOES NOT APPLY TO FLEXIBLE METAL CONDUIT, METAL-CLAD CABLE, OR NON-METALLIC CONDUIT.

4 SURFACE MOUNTED J-BOX AND CONDUIT DETAIL
NOT TO SCALE

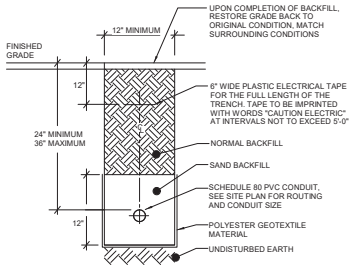


NOTES:
1. PROVIDE CONDUIT AND CONNECTION FITTINGS APPROPRIATE FOR THE ENVIRONMENT IN WHICH THE SYSTEM IS INSTALLED AND AS INDICATED IN THE SPECIFICATIONS.
2. DETAIL DOES NOT APPLY TO FLEXIBLE METAL CONDUIT, METAL-CLAD CABLE, OR NON-METALLIC CONDUIT.

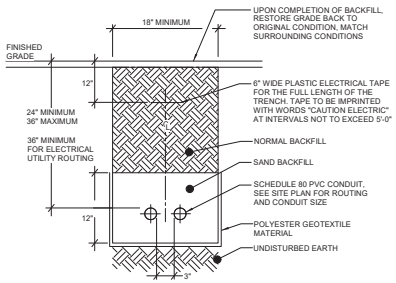
5 SUSPENDED J-BOX AND CONDUIT DETAIL
NOT TO SCALE



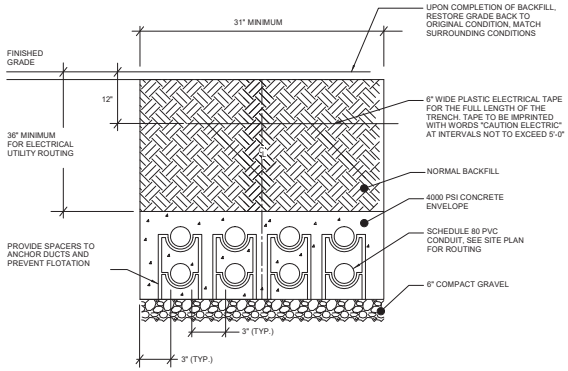
6 TYPICAL POWER OUTLETS
NOT TO SCALE



7 (1) UNDERGROUND CONDUIT DETAIL
NOT TO SCALE



8 (2) UNDERGROUND CONDUIT DETAIL
NOT TO SCALE



CONTRACTOR TO COORDINATE THIS INSTALLATION AND COMPLY WITH UTILITY COMPANY STANDARDS.

9 8-WAY CONCRETE ENCASED DUCTBANK DETAIL
NTS

MARK	DATE	REVISIONS	BY	DES

DATE 05/27/25
PROJECT 00046811
DESIGNED RBS
DRAWN RBS
CHECKED KAS

ENGINEERS PLANNERS SCIENTISTS CONSTRUCTION MANAGERS
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KANAR A. SARRAJ
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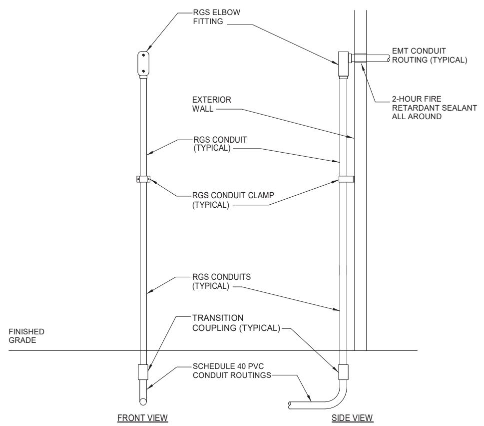
05/27/2025

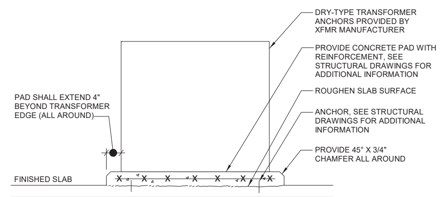
PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL DETAILS I

SHEET
E-501



1 EXTERIOR CONDUIT MOUNTING DETAIL
NOT TO SCALE



2 BUILDING TRANSFORMER PAD DETAIL
NOT TO SCALE

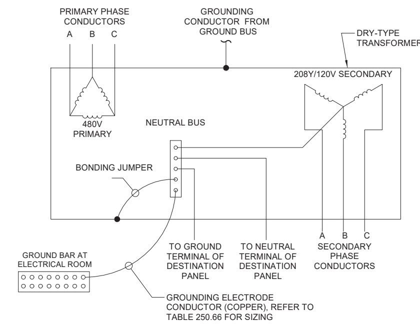
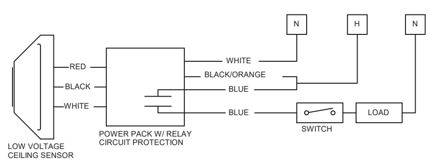


Table 250.66 Grounding Electrode Conductor for Alternating- Current Systems

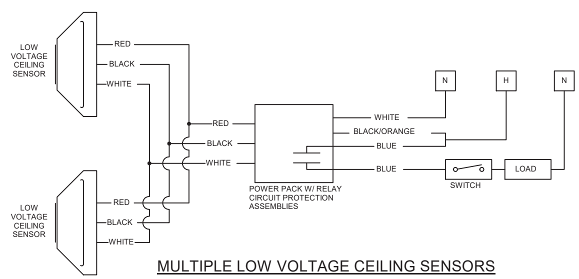
Size of Largest Ungrounded Service-Entrance Conductor or Equivalent Area for Parallel Conductors[a] (AWG/kcmil)		Size of Grounding Electrode Conductor (AWG/kcmil)	
Copper	Aluminum or Copper-Clad Aluminum	Copper	Aluminum or Copper-Clad Aluminum[b]
2 or smaller	1/0 or smaller	8	6
1 or 1/0	2/0 or 3/0	6	4
2/0 or 3/0	4/0 or 250	4	2
Over 3/0 through 350	Over 250 through 500	2	1/0
Over 350 through 600	Over 500 through 900	1/0	3/0
Over 600 through 1100	Over 900 through 1750	2/0	4/0
Over 1100	Over 1750	3/0	250

Notes:
1. If multiple sets of service-entrance conductors connect directly to a service drop, set of overhead service conductors, set of underground service conductors, or service lateral, the equivalent size of the largest service-entrance conductor shall be determined by the largest sum of the areas of the corresponding conductors of each set.
2. Where there are no service-entrance conductors, the grounding electrode conductor size shall be determined by the equivalent size of the largest service-entrance conductor required for the load to be served.
[a]This table also applies to the derived conductors of separately derived ac systems.
[b]See installation restrictions in 250.64(A).

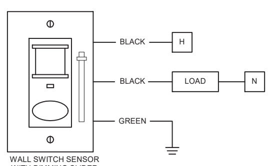
3 BUILDING TRANSFORMER GROUNDING DETAIL
NOT TO SCALE



LOW VOLTAGE CEILING SENSORS



MULTIPLE LOW VOLTAGE CEILING SENSORS

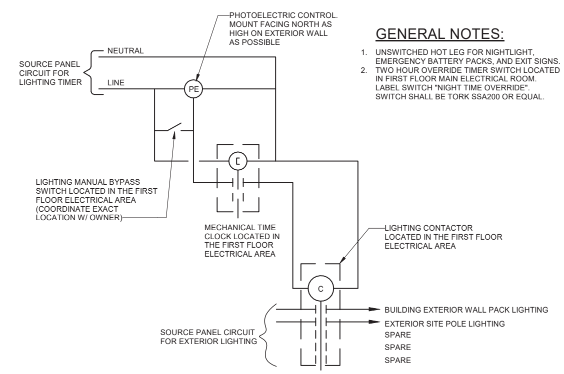


WALL MOUNTED SWITCH SENSOR

GENERAL LIGHTING CONTROL SENSOR NOTES:

1. THESE DETAILS ARE FOR DIAGRAMMATIC PURPOSES ONLY AND SHALL NOT BE USED AS A BILL OF MATERIAL. THE CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT QUANTITIES AND REQUIREMENTS WITH LIGHTING CONTROL SYSTEMS MANUFACTURER.
2. PROVIDE ALL OCCUPANCY SENSORS, POWER PACKS, MOUNTING HARDWARE, WIRING, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL LIGHTING CONTROL SYSTEM. INSTALLATION AND WIRING SHALL BE PER MANUFACTURER'S REQUIREMENTS.
3. COMMISSION THE SETTINGS OF THE SENSORS: DUAL TECHNOLOGY SHALL BE SET TO "TURN ON" WHEN BOTH TECHNOLOGIES SENSE MOTION AND MAINTAIN "ON" WITH EITHER TECHNOLOGY. SET SENSOR TO MID-RANGE SENSITIVITY WITH A 15 MINUTE DELAY TO "TIME OFF".
4. MANUFACTURER'S REPRESENTATIVE SHALL RE-VISIT THE SITE AS REQUESTED TO PERFORM ADJUSTMENTS TO SATISFY THE OWNER AND ENGINEERING SERVICES.

4 OCCUPANCY SENSOR SCHEMATICS
NOT TO SCALE



GENERAL NOTES:

1. UNSWITCHED HOT LEG FOR NIGHTLIGHT, EMERGENCY BATTERY PACKS, AND EXIT SIGNS.
2. TWO HOUR OVERRIDE TIMER SWITCH LOCATED IN FIRST FLOOR MAIN ELECTRICAL ROOM. LABEL SWITCH "NIGHT TIME OVERRIDE". SWITCH SHALL BE TORK SSA200 OR EQUAL.

5 EXTERIOR BUILDING AND SITE LIGHTING CONTROL DIAGRAM
NTS

MARK	DATE	BY	DES
REVISIONS			

DATE 05/27/25
PROJECT 00046811
DESIGNED RBS
DRAWN RBS
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KCI TECHNOLOGIES
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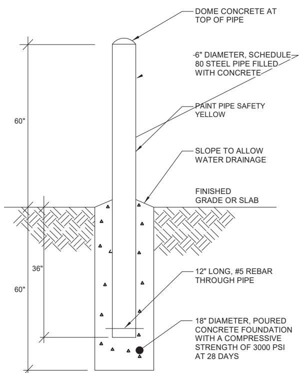
05/27/2025

PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL DETAILS II

SHEET
E-502



STATIONARY GUARD PIPE WHERE REQUIRED (COORDINATE WITH UTILITY COMPANY)

CONTRACTOR TO COORDINATE THIS INSTALLATION AND COMPLY WITH UTILITY COMPANY STANDARDS

PROTECTION BOLLARD NOTES:

1. INSTALL ALL GUARD PIPES IN CONCRETE FOUNDATION. FOR STATIONARY GUARD PIPES ONLY, FILL WITH CONCRETE.

1 UTILITY COMPANY PROTECTION BOLLARD DETAILS

NTS

MARK	DATE	BY	DES

REVISIONS

DATE 05/27/25
PROJECT 00046811
DESIGNED RBS
DRAWN RBS
CHECKED KAS

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05/27/2025

PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

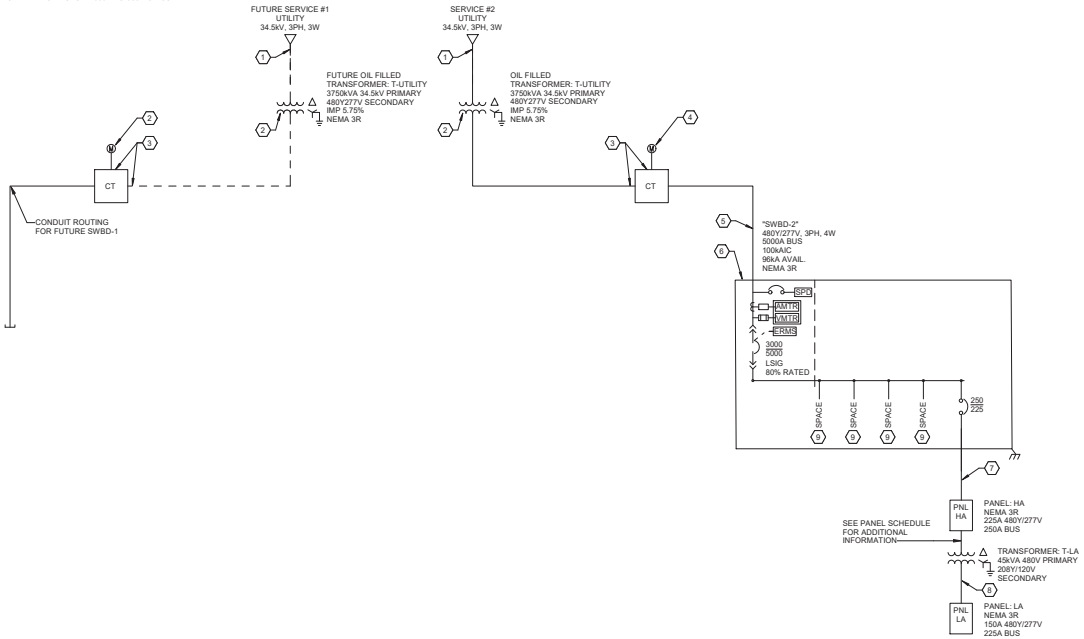
DRAWING ELECTRICAL DETAILS III

SHEET
E-503

5/27/2025 5:25:46 PM
Autodesk Docs://23259-00 Alexandria City Dash Facility/DASH Bus Facility Expansion_E.rvt

SHEET KEYED NOTES

1. COORDINATE UTILITY ENTRANCE WITH DOMINION ENERGY. DOMINION ENERGY (UTILITY) TO PROVIDE CONDUIT AND CONDUCTOR UPSTREAM FROM T-UILITY TRANSFORMER.
2. DOMINION ENERGY TO PROVIDE PAD MOUNTED OIL FILLED TRANSFORMERS. DOMINION ENERGY TO PROVIDE CONDUIT AND PRIMARY CONDUCTOR.
3. PROVIDE CONCRETE ENCASED CONDUIT IN UNDERGROUND DUCT BANK FROM TRANSFORMER SECONDARY TO CT CABINET MOUNTED TO BUILDING. PROVIDE CT CABINET AND UTILITY METER SOCKET. PROVIDE 8 SETS OF 4" PVC WITH 600 kCMIL XHHW-2 COPPER CONDUCTOR.
4. PROVIDE METER SOCKET MOUNTED ADJACENT TO CT CABINET. PROVIDE 1" RMC CONDUIT BETWEEN CT CABINET AND COORDINATE WIRING REQUIREMENTS WITH DOMINION ENERGY. COORDINATE FINAL LOCATION WITH DOMINION ENERGY.
5. PROVIDE 4" RMC CONDUIT BANK SECURED TO THE SIDE OF THE BUILDING AND ROUTED TO THE BUILDING TOP CANOPY INTO THE SWITCHBOARD MAIN SECTION.
6. PROVIDE SERVICE ENTRANCE RATED 480Y/277V 5000A NEMA 3R SWITCHBOARD WITH MAIN AND DISTRIBUTION SECTION.
7. PROVIDE 2-1/2" RIGID GALVANIZED STEEL CONDUIT WITH 4-4/0+#4G XHHW COPPER CONDUCTOR.
8. PROVIDE 1-1/2" RIGID GALVANIZED STEEL CONDUIT WITH 4-1/0+#6G XHHW COPPER CONDUCTOR.
9. SPACE SHALL BE SUITABLE FOR FUTURE 600A TO 800A CIRCUIT BREAKER.



3 ELECTRICAL ONE LINE DIAGRAM
NTS

GENERAL NOTES

1. COORDINATE PRIMARY SERVICE ENTRANCE WITH DOMINION ENERGY UTILITY COMPANY.
2. COORDINATE SCHEDULED WORK, TESTS, AND INSPECTIONS WITH DOMINION ENERGY UTILITY COMPANY.
3. REFER TO E-001 FOR ELECTRICAL NOTES, LEGENDS, SCHEDULES, AND ABBREVIATIONS.
4. REFER TO E-701 FOR PANEL, CONDUIT, WIRING, AND EQUIPMENT SCHEDULES.
5. A PERMANENTLY AFFIXED LABEL SHALL BE APPLIED WITH THE FAULT CURRENT AT THE TIME OF INSTALLATION AND CALCULATION PER NEC ARTICLE 110.24A. THE LABEL SHALL BE SIZED TO SATISFY THE REQUIREMENTS OF THE LOCAL JURISDICTION OF WHICH THE PROJECT IS LOCATED AND SHALL BE BLUE LETTERING ON A CONTRASTING BACKGROUND. THIS LABEL SHALL ALSO INCLUDE THE DATE OF THE CALCULATION.

CONDUIT/WIRE NOTES

1. CONDUITS PROVIDED SHALL BE DETERMINED ON INSTALLATION LOCATION AS SHOWN BELOW:
   A. ALL INDOOR CONDUITS SHALL BE EMT TYPICAL UNLESS NOTED OTHERWISE.
   B. ALL OUTDOOR CONDUITS SHALL BE RIGID GALV STEEL TYPICAL UNLESS NOTED OTHERWISE.
   C. ALL UNDERGROUND CONDUITS SHALL BE PVC SCH 80 TYPICAL UNLESS NOTED OTHERWISE.
2. EACH CIRCUIT IS TO BE ENLOSED IN CONDUIT SIZED PER THE CONDUIT SCHEDULE ON THIS SHEET.
   A. CONDUIT SIZES SHOWN IN THE CONDUIT SIZE SCHEDULE ARE MINIMUM ALLOWABLE CONDUIT SIZES. OVERSIZED CONDUITS ARE ALLOWABLE WHERE REQUESTED AND APPROVED BY OWNER/ENGINEER.
   B. CONTRACTOR MAY ELECT TO COMBINE TWO OR THREE NON-HARMONICS PRODUCING CIRCUITS IN A COMMON RACEWAY. CONTRACTOR SHALL NOT INSTALL MORE THAN THREE CIRCUITS IN A COMMON CONDUIT, EXCEPT WHERE SPECIFICALLY NOTED AND ALLOWED.
3. ALL WIRES SHALL HAVE THHN/THWN INSULATION UNLESS NOTED OTHERWISE.
4. SEE FEEDER AMPACITY SCHEDULE FOR AMPACITY RATINGS OF EACH FEEDER. TEMPERATURE RATING IS TO BE DETERMINED BY NEC ARTICLE 110.14(C)(1):
   A. CIRCUITS RATED 100A OR LESS SHALL HAVE CIRCUITING RATED BASED ON 60°C IN FEEDER AMPACITY SCHEDULE.
   B. CIRCUITS RATED OVER 100A SHALL HAVE CIRCUITING RATED BASED ON 75°C IN FEEDER AMPACITY SCHEDULE.
5. FOR EACH 2-POLE OR 3-POLE BRANCH CIRCUIT, NEUTRAL WIRE **MAY BE OMITTED** IF NOT REQUIRED BY EQUIPMENT.

MARK	DATE	REVISIONS	BY	DES

DATE 05/27/25
PROJECT 00046811
DESIGNED RBS
DRAWN RBS
CHECKED KAS

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KANAR A. SARRAJ
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05/27/2025

PROJECT DASH BUS FACILITY EXPANSION
CITY OF ALEXANDRIA
301 King Street, Alexandria, Virginia 22314

DRAWING ELECTRICAL ONE LINE DIAGRAM

SHEET
E-601

Branch Panel: HA

Supply From: | **Volts:** 480Y/277 | **A.I.C. Rating:** 22000 A
Mounting SURFACE | **Phases:** 3 | **Mains Type:** MCB
Location: BUS BAYS 1 101 | **Wires:** 4 | **Mains Rating:** 225 A

CKT	CIRCUIT DESCRIPTION	TRIP	POLE	TYPE	CON...	WIRE SIZE	A		B		C		WIRE SIZE	CON...	TYPE	POLE	TRIP	CIRCUIT DESCRIPTION	CKT
1	XFMR TA	70 A	3		1 1/4"	3-#4, 1-#4, 1-#8	1.4	4.2					1-#8, 1-#8, 1-#8	3/4"		1	20 A	LTG: BAYS 1	2
3	--	--	--	--	--	--			1.1	3.7			1-#10, 1-#10, 1-#10	3/4"		1	20 A	LTG: BAYS 2	4
5	--	--	--	--	--	--					0.7	0.6	1-#12, 1-#12, 1-#12	3/4"		1	20 A	LTG: MEZZANINE BAYS 1	6
7	LTG: STAIRS	20 A	1		3/4"	1-#12, 1-#12, 1-#12	0.1	0.6					1-#12, 1-#12, 1-#12	3/4"		1	20 A	LTG: MEZZANINE BAYS 2	8
9	LTG: EXTERIOR BUILDING	20 A	1		3/4"	1-#12, 1-#12, 1-#12			0.2										10
11																			12
13																			14
15																			16
17																			18
19																			20
21																			22
23																			24
25																			26
27																			28
29																			30
31																			32
33																			34
35																			36
37																			38
39																			40
41																			42
						Total Load (kVA)	6.3		4.9		1.3								

Circuit Breaker Legend:
AF: Arc Fault Circuit Interrupter, GF: Ground Fault Circuit interrupter, IG: Isolated Ground, LO: Lock-On Clip, ST: Shunt Trip

Notes:
1. All breakers 100Amp or less shall be rated for 75º/60ºC wire termination. Breakers rated for only 60ºC wire termination shall not be used. All breakers greater than 100Amp shall be rated for 75ºC termination. N.E.C. Article 110.14(C)(1).
2. For 3-pole breaker, provide 3 wires + grd where neutral is not used or req'd. Similarly for 2-pole bkr, provide 2 wires + grd if neut. is not req'd.
3. All fire alarm circuit protective devices shall be indicated with red (e.g. red circuit breaker)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA		
Kitchen	0 VA	0.00%	0 VA	**Total Conn. Load:**	12530 VA
Lighting	9290 VA	100.00%	9290 VA	**Total Est. Demand:**	12530 VA
Miscellaneous	0 VA	0.00%	0 VA	**Total Conn. Current:**	15 A
Motor	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	15 A
RECEPTACLE	3240 VA	100.00%	3240 VA		

Branch Panel: LA

Supply From: TA | **Volts:** 208Y/120 | **A.I.C. Rating:** 22000 A
Mounting SURFACE | **Phases:** 3 | **Mains Type:** MCB
Location: BUS BAYS 1 101 | **Wires:** 4 | **Mains Rating:** 150 A

CKT	CIRCUIT DESCRIPTION	TRIP	POLE	TYPE	CON...	WIRE SIZE	A		B		C		WIRE SIZE	CON...	TYPE	POLE	TRIP	CIRCUIT DESCRIPTION	CKT
1	REC: BAY 1	20 A	1		3/4"	1-#12, 1-#12, 1-#12	0.7	0.7					1-#10, 1-#10, 1-#10	3/4"		1	20 A	REC: BAY 2	2
3	REC: BAY 3	20 A	1		3/4"	1-#10, 1-#10, 1-#10			0.7	0.4			1-#12, 1-#12, 1-#12	3/4"		1	20 A	REC: MEZZ. BAY 1	4
5	REC: MEZZ. BAY 2	20 A	1		3/4"	1-#12, 1-#12, 1-#12					0.4	0.4	1-#12, 1-#12, 1-#12	3/4"		1	20 A	REC: MEZZ. BAY 3	6
7																			8
9																			10
11																			12
13																			14
15																			16
17																			18
19																			20
21																			22
23																			24
25																			26
27																			28
29																			30
31																			32
33																			34
35																			36
37																			38
39																			40
41																			42
						Total Load (kVA)	1.4		1.1		0.7								

Circuit Breaker Legend:
AF: Arc Fault Circuit Interrupter, GF: Ground Fault Circuit interrupter, IG: Isolated Ground, LO: Lock-On Clip, ST: Shunt Trip

Notes:
1. All breakers 100Amp or less shall be rated for 75º/60ºC wire termination. Breakers rated for only 60ºC wire termination shall not be used. All breakers greater than 100Amp shall be rated for 75ºC termination. N.E.C. Article 110.14(C)(1).
2. For 3-pole breaker, provide 3 wires + grd where neutral is not used or req'd. Similarly for 2-pole bkr, provide 2 wires + grd if neut. is not req'd.
3. All fire alarm circuit protective devices shall be indicated with red (e.g. red circuit breaker)

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	0 VA	0.00%	0 VA		
Kitchen	0 VA	0.00%	0 VA	**Total Conn. Load:**	3240 VA
Lighting	0 VA	0.00%	0 VA	**Total Est. Demand:**	3240 VA
Miscellaneous	0 VA	0.00%	0 VA	**Total Conn. Current:**	9 A
Motor	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	9 A
RECEPTACLE	3240 VA	100.00%	3240 VA		

LIGHTING FIXTURE SCHEDULE

TAG	MANUFACTURER	MODEL NUMBER	DESCRIPTION	MOUNTING	LAMP	WATTAGE	VOLTAGE	NOTES
AE	METALUX	OHBL-30SE-A-UNV-L840-EL20W-CD-MS	LINEAR HIGH-BAY FIXTURE WITH INTEGRAL MOTION SENSOR AND INTEGRAL EMERGENCY BATTERY PACK	PENDANT	LED	174 W	277 V	
B1E	LITHONIA	FEM-L48-3000LM-IMAFD-WD-MVOLT-GZ10-40K-80C RI-E10WMCP-WLFEND2-SBOR10 D 3V	4' LINEAR LOW-PROFILE ENCLOSED AND GASKETED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR AND INTEGRAL EMERGENCY BATTERY PACK, PROGRAMMED TO DIM TO 30% MAXIMUM LIGHTING OUTPUT WHEN UNOCCUPIED	SURFACE	LED	18 W	277 V	1
B2	LITHONIA	FEM-L48-10000LM-IMAFD-WD-MVOLT-GZ10-40K-80C RI-WLFEND2-SBOR10 D 3V	4' LINEAR LOW-PROFILE ENCLOSED AND GASKETED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR	SURFACE	LED	66 W	277 V	
B2E	LITHONIA	FEM-L48-10000LM-IMAFD-WD-MVOLT-GZ10-40K-80C RI-E10WMCP-WLFEND2-SBOR10 D 3V	4' LINEAR LOW-PROFILE ENCLOSED AND GASKETED LIGHT FIXTURE WITH INTEGRAL MOTION SENSOR AND INTEGRAL EMERGENCY BATTERY PACK	SURFACE	LED	66 W	277 V	1
C	LITHONIA	WDGE1-LED-P2-40K-80CRI-VW-MVOLT-SRM-DDBXD	WALL PACK	WALL	LED	13 W	277 V	
X	LITHONIA	LQM SERIES	EXIT SIGN, EMERGENCY	CEILING	LED		277 V	

VERIFY FIXTURE SELECTION WITH ARCHITECT PRIOR TO PURCHASE. COORDINATE ALL COLORS AND FINISHES WITH ARCHITECT. WHERE DIMMING IS INDICATED, PROVIDE APPROPRIATE DIMMING POWER PACKS AS NEEDED.

NOTES:
1. PROVIDE EMERGENCY FIXTURE WITH 90 MINUTE BATTERY BACKUP

MARK	DATE	REVISIONS	BY	DES

DATE 05/27/25
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