# New Use Definitions

**Data Center.** A facility used primarily for the processing, management, storage, and transmission of digital data, which houses computer and/or network equipment, systems, servers, appliances and other associated components related to digital data operations. Such facility may also include air handlers, water cooling and storage facilities, utility substations, backup power supplies, and other associated utility infrastructure to support sustained operations at a data center.

a. **Accessory Data Center.** A data processing facility that is incidental and subordinate to a principal use located on the same lot and is used solely to support the internal operational, administrative, or technological needs of that principal use. An accessory data center shall not be operated as a principal use, shall not be leased, rented, or made available to third parties for data storage or processing, and shall not function independently of the primary use it serves.

b. **Medium Data Center.** A data processing facility occupied by a single tenant used to support the internal operational, administrative, or technological needs of the tenant; or a facility that provides leased space, power, cooling, and physical security for use by multiple unaffiliated tenants operating their own servers, networking equipment, and related infrastructure. A medium data center occupies between 10,000 and 200,000 square feet of gross floor area and/or has an aggregate electrical demand of at least 1 megawatt and not more than 30 megawatts.

c. **Hyperscale Data Center.** A large data processing facility designed to support high volume computing, storage, and networking capacity, typically operated by or for a single enterprise or a limited number of affiliated entities. A hyperscale data center requires extensive cooling systems, electrical substations, backup power generation, and related infrastructure, occupies more than 200,000 square feet of gross floor area, and/or has an aggregate electrical demand exceeding 30 megawatts.

d. **Micro Data Center.** A data processing facility designed to provide localized data processing and network support by locating computing

resources near end users or data sources. A micro data center occupies less than 10,000 square feet of gross floor area and/or has an aggregate electrical demand not exceeding 1 megawatt.

**Fiber Hut or ILA (In-Line Amplifier Hut).** An enclosed structure that houses fiber optic and telecommunications equipment used for the routing, distribution, interconnection, or amplification of data signals within a fiber optic network. A fiber hut may include optical distribution frames, switching equipment, power supplies, backup generators, and climate control systems, but does not contain data storage servers or provide large scale data processing functions.

# Related Definitions

**Aggregate Electrical Demand.** The total electrical demand, expressed in megawatts, of all buildings, phases, and ancillary infrastructure associated with a Data Center, including ultimate build-out, regardless of phasing, ownership structure, or timing of construction.

**Ancillary Infrastructure.** Equipment, facilities, and improvements customarily incidental to the operation of a Data Center, including but not limited to generators, substations, transformers, cooling systems, chillers, fuel storage, battery storage, telecommunications equipment, and similar mechanical or electrical components, whether located within a building or outdoors.

**Backup Generator.** An on-site power generation system intended to supply electricity during utility outages, emergencies, or limited testing and maintenance activities.

**Closed Loop Cooling System.** A cooling system that recirculates water for repeated use with minimal discharge, designed to limit potable water consumption and reduce water loss through evaporation, blowdown, or disposal.

**Illicit Connection.** Any manmade conveyance connecting an illicit discharge directly to the MS4.

**Illicit Discharge.** Any discharge that is not composed entirely of stormwater, except discharges pursuant to a NPDES permit, other than NPDES Permit ALS000001, and discharges which are specifically excepted under Chapter 4.

**Switching Station.** A facility or installation containing high-voltage electrical switching equipment used to control, route, isolate, or transfer electrical power between transmission or distribution lines. A switching station does not include power transformation equipment designed to change voltage levels, but may include breakers, switches, busbars, protective devices, control systems, and associated support structures.

**Ultimate Build-Out.** The maximum anticipated development intensity, electrical demand, water use, and infrastructure required for a Data Center at full completion, including all planned phases and expansions.

# Fiber Hut or ILA (In-Line Amplifier Hut)

An enclosed structure that houses fiber optic and telecommunications equipment used for the routing, distribution, interconnection, or amplification of data signals within a fiber optic network. A fiber hut may include optical distribution frames, switching equipment, power supplies, backup generators, and climate control systems, but does not contain data storage servers or provide large scale data processing functions.

## Where allowed?

*Permitted with Conditions (PC):*
C-2 (General Commercial)
I-1 (Light Manufacturing)
I-2 (Heavy Industrial)
I-3 (Planned Manufacturing)
MXD Use Group C-2 and Use Group C-3

*Permitted as Accessory (PAC):*
C-1 (Neighborhood Business)
MU-L (Mixed-Use Low)
MU-M (Mixed-Use Medium)
MU-H (Mixed-Use High)
MU-D (Mixed-Use Downtown)
MXD Use Group C-1
PRD (Planned Recreation)
HID (Health and Institutional)

*Permitted by Special Exception (SE)*
D-1 through D-5 (Residential Districts)
UN (Urban Neighborhood)
MXD Residential Use Groups 1-3
AG (Agricultural)



## Will there be any requirements?

YES. The facility must meet the following conditions:

1. A fiber hut shall maintain a minimum separation of twenty (20) feet from any residential zoning district or urban neighborhood district. This setback includes all buildings and ancillary equipment and shall be measured from any

building/ancillary equipment to the nearest property line in the residential or urban neighborhood district.

2. Along all residential zoning districts and the urban neighborhood district, screening in the form of a standard B landscape buffer shall be applied along any common property lines per Chapter 6, Article I of this Ordinance.
3. All exterior materials, finishes, and colors shall be non-reflective and designed to blend with surrounding development or existing site features.
4. The fiber hut shall not include signage other than equipment identification or emergency contact information required by law.
5. The fiber hut shall not be used for data storage, data processing, or server hosting functions that would otherwise classify the facility as a data center.
6. All roof-mounted and ground-mounted mechanical equipment shall be screened from public view in accordance with Chapter 6 of this Ordinance.

# Accessory Data Center

A data processing facility that is incidental and subordinate to a principal use located on the same lot and is used solely to support the internal operational, administrative, or technological needs of that principal use. An accessory data center shall not be operated as a principal use, shall not be leased, rented, or made available to third parties for data storage or processing, and shall not function independently of the primary use it serves.

## Where allowed?

*Permitted as Accessory (PAC):*
MU-L (Mixed-Use Low)
MU-M (Mixed-Use Medium)
MU-H (Mixed-Use High)
MU-D (Mixed-Use Downtown)
C-1 (Neighborhood Business)
C-2 (General Business)
HID (Health and Institutional)
I-1 (Light Manufacturing)
I-2 (Heavy Industrial)
I-3 (Planned Manufacturing)
MXD Use Group 1, Use Group 2 and Use Group 3

## Will there be any requirements?

YES. The facility must meet the following conditions:

1. The accessory data center occupies no more than ten percent (10%) of the gross floor area (GFA);
2. Only serves the on-site enterprise functions of the tenant or property owner;
3. Is not leased to third parties; and
4. Is not in a separate stand-alone structure.
5. All roof-mounted and ground-mounted mechanical equipment shall be screened from public view in accordance with Chapter 6 of this Ordinance.
6. Stormwater Connections and Discharge.
    a) No accessory data center shall create, maintain, or permit any illicit connection or illicit discharge to the municipal storm water system.

b) Any discharge made in violation of Chapter 4 of the Birmingham City Code or any condition of a permit issued pursuant thereto is declared a public nuisance and shall be subject to correction and or abatement in accordance with applicable law.

# Micro Data Center

A data processing facility designed to provide localized data processing and network support by locating computing resources near end users or data sources. A micro data center occupies less than 10,000 square feet of gross floor area and/or has an aggregate electrical demand not exceeding 1 megawatt.

## Where allowed?

*Permitted with Conditions (PC):*
C-2 (General Commercial)
HID (Health & Institutional)
I-1 (Light Manufacturing)
I-2 (Heavy Industrial)
I-3 (Planned Manufacturing)
MXD Use Group 2 and Use Group 3

## Will there be any requirements?

YES. The facility must meet the following conditions:

1. All roof-mounted and ground-mounted mechanical equipment, generators, cooling systems, and ancillary infrastructure shall be screened from public view in accordance with Chapter 6 of this Ordinance.
2. Backup generators shall be permitted solely for emergency use, testing, and maintenance and shall not be used for continuous, routine, or supplemental power generation. Routine testing shall be limited to daytime hours. For the purposes of this use, an emergency is defined as a condition or event that poses an immediate threat to life, public health, safety or property.
3. On-site power generation other than emergency backup generators shall be prohibited. For the purposes of this use, an emergency is defined as a condition or event that poses an immediate threat to life, public health, safety or property.
4. A micro data center that abuts a residential or urban neighborhood district shall utilize the required setbacks for the district it abuts. If it abuts more than one (1) residential or urban neighborhood district, the district with the greater setbacks shall be used.
5. Stormwater Connections and Discharge.
    a. No micro data center shall create, maintain, or permit any illicit connection or illicit discharge to the municipal storm water system.

b. Any discharge made in violation of Chapter 4 of the Birmingham City Code or any condition of a permit issued pursuant thereto is declared a public nuisance and shall be subject to correction and/or abatement in accordance with applicable law.

# Medium Data Center

A data processing facility occupied by a single tenant used to support the internal operational, administrative, or technological needs of the tenant; or a facility that provides leased space, power, cooling, and physical security for use by multiple unaffiliated tenants operating their own servers, networking equipment, and related infrastructure. A medium data center occupies between 10,000 and 200,000 square feet of gross floor area and/or has an aggregate electrical demand of at least 1 megawatt and not more than 30 megawatts.

## Where allowed?

*Permitted with Conditions (PC):*
C-2 (General Commercial)
I-1 (Light Manufacturing)
I-2 (Heavy Industrial)
I-3 (Planned Manufacturing)
MXD Use Group C-2
MXD Use Group C-3

## Will there be any requirements?

YES. The facility must meet the following conditions:

1. Demonstration that adequate water and wastewater capacity exists to serve the proposed development is required.
2. No Medium Data Center shall create, maintain, or permit any illicit connection or illicit discharge to the municipal storm water system.
3. The City Engineer shall take appropriate steps to detect and eliminate illicit connections and eliminate improper disposal and or discharge to the City's MS4, including required dry weather and wet weather screening programs to identify sources from land disturbing activities.
4. Any discharge made in violation of Chapter 4 of the Birmingham City Code or any condition of a permit issued pursuant thereto is declared a public nuisance and shall be subject to correction and or abatement in accordance with applicable law.
5. Any increase in gross floor area, electrical demand, water consumption, cooling capacity, backup power generation, or fuel storage capacity beyond that approved as part of the site development plan shall be deemed a material change in use and shall require review and approval in accordance with this ordinance.

6. All roof-mounted and ground-mounted mechanical equipment, generators, cooling systems, substations, transformers, and other ancillary infrastructure shall be screened from public view in accordance with Chapter 6 of this Ordinance.
7. A Medium Data Center shall maintain a minimum separation of two hundred fifty (250) feet from any residential zoning district or urban neighborhood district. This setback includes all buildings and ancillary equipment and shall be measured from any building/ancillary equipment to the nearest property line in the residential or urban neighborhood district.
8. Closed loop cooling systems shall be maintained to prevent accumulation of contaminants, scale, biological growth, and heavy metals. Any cleaning, flushing, or blowdown activities shall be conducted in a manner that prevents uncontrolled discharge to stormwater systems, surface waters, or adjacent properties.
9. Stormwater Connections and Discharge.
    a) No Medium Data Center shall create, maintain, or permit any illicit connection or illicit discharge to the municipal storm water system.
    b) Any discharge made in violation of Chapter 4 of the Birmingham City Code or any condition of a permit issued pursuant thereto is declared a public nuisance and shall be subject to correction and or abatement in accordance with applicable law.
10. On Site Power Generation
    a) On site power generation by any means, except solar as a primary, parallel or routine source of electrical power for data center operations, shall be strictly prohibited.
    b) On site power generation systems utilizing fossil fuels, including but not limited to natural gas, diesel, or similar fuels, shall be permitted solely for emergency backup power, testing, and maintenance purposes, and shall not be designed, sized, or operated to provide continuous, routine, or supplemental power to the electrical grid or to data center operations during normal conditions. For the purposes of this use, an emergency is defined as a condition or event that poses an immediate threat to life, public health, safety or property.
    c) The classification of a power generation system shall be determined by its intended design, operational capacity, and functional use, and not solely by the terminology used by the applicant.

d) On site battery storage, where that battery is charged via grid power or on-site solar to supplement power supply in the event of outages or during peak demand hours, is permitted.

# Hyperscale Data Center

A large data processing facility designed to support high volume computing, storage, and networking capacity, typically operated by or for a single enterprise or a limited number of affiliated entities. A hyperscale data center requires extensive cooling systems, electrical substations, backup power generation, and related infrastructure, occupies more than 200,000 square feet of gross floor area, and/or has an aggregate electrical demand exceeding 30 megawatts.

## Where allowed?

*Permitted with Conditions (PC):*
I-2 (Heavy Industrial)
I-3 (Planned Manufacturing)

*Permitted by Special Exception (SE):*
MXD Use Group C-3
I-1 (Light Manufacturing)

## Will there be any requirements?

YES. The facility must meet the following conditions (for PC and SE uses):

1. Location and Separation.

   a) In I-1 and I-3, A hyperscale data center shall maintain a minimum separation of five hundred (500) feet from any residential zoning district or urban neighborhood district. This setback includes all buildings and ancillary equipment and shall be measured from any building/ancillary equipment to the nearest property line in the residential or urban neighborhood district.

   b) In I-2, a hyperscale data center that abuts a residential or urban neighborhood district shall utilize the required setbacks for the district it abuts. If it abuts more than one (1) residential or urban neighborhood district, the district with the greater setbacks shall be used.

   c) No hyperscale data center shall be permitted within one thousand (1,000) feet, from any fixed guideway transit station, bus rapid transit station, commuter rail station, or other high-capacity transit facility designated by the City. The method of measurement that shall be used is a straight line

measured from the closest portion of a lot or property that is occupied by the Hyperscale Data Center.

d) A hyperscale data center shall be located on a lot containing a minimum of five (5) acres. The required minimum lot area shall not be satisfied through aggregation of non-contiguous parcels. No subdivision of the lot shall occur that reduces the remaining lot area below five (5) acres for so long as the hyperscale data center remains in operation.

2. Electrical Demand. The applicant shall provide:

a) Estimated peak electrical demand expressed in megawatts.
b) Identification of anticipated development phases.
c) Estimated aggregate electrical demand at ultimate build-out.

3. Water Use and Cooling Systems. The applicant shall provide:

a) Estimated average daily, peak daily, and total annual water use, expressed in gallons.
b) A description of the proposed cooling system or systems.
c) Identification of the water source, including municipal, recycled, or other sources.
d) A description of water reuse and efficiency measures.
e) The applicant shall submit a water conservation and efficiency plan describing measures to reduce potable water consumption and minimize impacts to municipal water and wastewater systems.
f) The applicant shall also demonstrate that adequate water and wastewater capacity exists to serve the proposed development.

i. If the hyperscale data center is served by a public water supply, the applicant shall submit documentation from the public authority certifying that there is an adequate supply of water for the proposed hyperscale data center and that the public authority will supply the water needed.

ii. If the hyperscale data center is served by a nonpublic water source, the applicant shall submit a water feasibility study. This study should explain if there is an adequate supply of water for the hyperscale data center and estimate the proposed impact on existing wells, groundwater and surface waters in the surrounding areas. The water feasibility study must demonstrate that the anticipated water supply yield is

adequate for the hyperscale data center and that the proposed water withdrawals and discharges will not endanger or adversely affect the quantity or quality of groundwater supplies or surface waters in the surrounding areas.

4. Stormwater Connections and Discharge.

   a) No hyperscale data center shall create, maintain, or permit any illicit connection or illicit discharge to the municipal storm water system.
   b) The City Engineer, or their authorized agent, shall take appropriate steps to detect and eliminate illicit connections and eliminate improper disposal and or discharge to the City's MS4, including required dry weather and wet weather screening programs to identify sources from land disturbing activities.
   c) Any discharge made in violation of Chapter 4 of the Birmingham City Code or any condition of a permit issued pursuant thereto is declared a public nuisance and shall be subject to correction and or abatement in accordance with applicable law.

5. Backup Power and Generators. The applicant shall provide:

   a) Generator type and fuel source.
   b) Total generator capacity.
   c) Proposed testing and maintenance schedule, including hours of operation.
   d) A description of noise mitigation measures.

6. Utility Infrastructure. The applicant shall provide:

   a) Identification of all utility providers serving the site.
   b) A description of all on-site and off-site utility infrastructure required to serve the facility.
   c) Identification of any new or expanded substations, transmission lines, distribution lines, switching stations, or similar facilities.
   d) Identification of the location and extent of any off-site utility work.
   e) Written confirmation from the serving electric utility indicating that the necessary capacity is available and will be provided to serve the facility. Known impacts on electric rates or availability for other uses directly attributable to the hyperscale data center shall be noted.

7. Site Development Plan. The applicant shall submit a site plan that includes:

   a) Building locations and dimensions.

b) Placement of all ancillary infrastructure, including generators, cooling systems, substations, and related equipment.
c) Required setbacks and separation distances.
d) Screening, buffering, and landscaping.
e) Access, circulation, and service areas.
f) Utility connections and infrastructure improvements.

8. Applicants shall submit a pre-construction noise study and a post-construction noise study demonstrating compliance with this section.

9. Backup Power Operations.

a) Backup generators shall be used only during power outages, emergencies, or required testing and maintenance. For the purposes of this use, an emergency is defined as a condition or event that poses an immediate threat to life, public health, safety or property.
b) Routine generator testing shall be limited to daytime hours.
c) Backup generators shall meet the most current applicable emissions standards and shall be enclosed or acoustically screened.
d) Backup power systems shall not be used for routine grid support, economic dispatch, or non-emergency power generation.

10. On Site Power Generation.

a) On site power generation by any means, except solar, as a primary, parallel or routine source of electrical power for data center operations, shall be strictly prohibited.
b) On site power generation systems utilizing fossil fuels, including but not limited to natural gas, diesel, or similar fuels, shall be permitted solely for emergency backup power, testing, and maintenance purposes, and shall not be designed, sized, or operated to provide continuous, routine, or supplemental power to the electrical grid or to data center operations during normal conditions.
c) The classification of a power generation system shall be determined by its intended design, operational capacity, and functional use, and not solely by the terminology used by the applicant.
d) On site battery storage, where that battery is charged via grid power or on-site solar to supplement power supply in the event of outages or during peak demand hours, is permitted.

11. All roof mounted and ground mounted mechanical equipment, generators, cooling systems, and substations shall be screened from public view through building design, walls, fencing, or a standard C landscaping buffer in accordance with Chapter 6, Article III of this Zoning Ordinance.

12. Facilities containing battery storage systems shall submit emergency response coordination plans subject to review by the Fire Department.

13. Any increase in gross floor area, electrical demand, water consumption, cooling capacity, backup power generation, or fuel storage capacity beyond initial approval shall be deemed a material change or expansion in use and shall require a new review for compliance with conditions in this section.

14. Where development is proposed in phases, the applicant shall disclose the anticipated ultimate build out of the data center facility, including total square footage, electrical demand, water use, cooling systems, and backup power infrastructure. Review and classification shall be based on ultimate build out capacity.

15. Hyperscale Data Centers shall utilize closed loop cooling systems designed to recirculate water and minimize the use of potable water for cooling purposes. Use of potable water for cooling shall be limited to initial system charging, system maintenance, emergency operations, or other limited circumstances approved by the City, and shall not be relied upon for continuous or routine cooling operations.

16. The applicant shall submit a detailed description of the proposed closed loop water system, including system type, operating parameters, anticipated make up water requirements, and measures to minimize water loss through evaporation, blowdown, or discharge. Where feasible, the applicant shall identify the use of non-potable water sources, including reclaimed water, treated wastewater, or other alternative sources, as part of the cooling system design.

17. Closed loop cooling systems shall be maintained to prevent accumulation of contaminants, scale, biological growth, and heavy metals. Any cleaning, flushing, or blowdown activities shall be conducted in a manner that prevents uncontrolled discharge to stormwater systems, surface waters, or adjacent properties.

18. Any discharge of cooling water, including blowdown or system flushing, shall:

    a) Be pre-treated to remove heavy metals, chemical additives, and other contaminants associated with cooling operations; and

b) Be cooled to a temperature consistent with applicable state and local discharge standards prior to entering any municipal wastewater system or receiving water body.

19. Lighting Requirements

a) All outdoor luminaires and luminaire installations shall comply with federal and state law; county and municipal codes; applicable energy and building codes; product safety labeling; and shall be subject to the appropriate permit and inspection requirements thereof.

b) Lighting Distribution

i. Uplight and Very High Angle – Unless otherwise specified, luminaires emitting more than 1,000 lumens shall be zero uplight or either emit no more than 5% of their total lumen output above 80 degrees, except for luminaires used for façade illumination which are shielded and aimed such that their direct light emission is contained to the architectural target.

ii. Trespass – Unless otherwise specified, light trespass shall meet the following:

a. Luminaire lamp sources shall not be visible from state or federal wilderness, natural area or other areas designated for natural protection; and light trespass shall not exceed one-tenth (0.1) lux
b. Light trespass onto waters of the United States shall not exceed one (1) lux
c. Light trespass onto residentially zoned property shall not exceed three (3) lux when measured fifteen (15) ft inside the property line or at the dwelling façade, whichever distance is closest to the property line
d. Light trespass onto public right-of-way shall not exceed five (5) lux

c) Unless otherwise specified, the maximum allowable correlated color temperature (CCT) for outdoor luminaires is 3000 K.