

PROJECT AGREEMENT

for the

SMART STREET LIGHTING PROJECT

by and between

The District of Columbia,

acting by and through the District of Columbia Office of Public-Private Partnerships, for and on behalf of the
District of Columbia Department of Transportation and the Office of the Chief Technology Officer

and

Plenary Infrastructure DC LLC,

as Developer



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EXHIBIT

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PROJECT AGREEMENT

This Public-Private Partnership Project Agreement (this “**Agreement**”) is entered into as of March 7, 2022:

BETWEEN:

- (1) The District of Columbia, a body corporate and politic, existing under the Constitution and laws of the United States of America, acting by and through the District of Columbia Office of Public-Private Partnerships, for and on behalf of the District of Columbia Department of Transportation and the Office of the Chief Technology Officer (the “**District**”);
- (2) Plenary Infrastructure DC LLC, a Delaware limited liability company (the “**Developer**”); and
- (3) solely for the purposes of Article 61 (District Assurances and Obligations to Lenders) of this Agreement, U.S. Bank National Association, as Collateral Agent, provided that in no way shall the Collateral Agent have any responsibilities under or be charged with any knowledge of any provision hereof other than such Article 61 (District Assurances and Obligations to Lenders)

(the District and the Developer each a “**Party**” and, together, the “**Parties**”).

RECITALS:

- (A) On June 21, 2017, the District of Columbia Office of Public-Private Partnership (“**OP3**”), in conjunction with the District of Columbia Department of Transportation (“**DDOT**”), and the Office of the Chief Technology Officer (“**OCTO**”), issued a Request for Qualifications (“**RFQ**”) seeking statements of qualifications from proposers interested in the design, building, installation, financing, and asset management of upgrades to the existing street light network in the District of Columbia, in accordance with the District of Columbia Public-Private Partnership Act (“**P3 Act**”), and Title 27, Chapter 48, of the District of Columbia Municipal Regulations (“**DCMR**”).
- (B) The District received statements of qualifications in response to the RFQ and shortlisted a total of three proposers.
- (C) On April 9, 2021, OP3, in conjunction with DDOT and OCTO, issued a Request for Proposals (“**RFP**”) for the design, building, installation, financing, and asset management of upgrades to the existing street light network in the District of Columbia to the shortlisted proposers.
- (D) Following the receipt and evaluation of Proposals submitted by shortlisted proposers in response to the RFP pursuant to the evaluation process set forth therein, the District selected Plenary Infrastructure DC LLC as the preferred proposer for purposes of entering into a public-private partnership agreement for the design, building, installation, financing, and asset management of upgrades to the existing street light network in the District of Columbia.
- (E) The Parties desire to set forth the terms pursuant to which the Developer will perform such services.
- (F) This Agreement is entered into pursuant to the P3 Act.

THE PARTIES AGREE as follows:

PART A – PRELIMINARY

1. DEFINITIONS, INTERPRETATION AND PRECEDENCE

1.1 Definitions

Unless the context otherwise requires, capitalized terms and acronyms used in this Agreement have the meanings given in Exhibit 1 (Definitions).

1.2 Interpretation

- (a) In this Agreement:
- (i) headings are for convenience only and do not affect interpretation;
 - (ii) unless otherwise stated, a reference to any agreement, instrument, or other document is to such agreement, instrument, or other document as amended or supplemented from time to time;
 - (iii) a reference to this Agreement or any other agreement includes all exhibits, schedules, forms, appendices, addenda, attachments, or other documents attached to or otherwise expressly incorporated in this Agreement or any such other agreement (as applicable);
 - (iv) subject to Section 1.2(a)(v) (Interpretation), a reference to an Article, Section, subsection, clause, Exhibit, schedule, form, or appendix is to the Article, Section, subsection, clause, Exhibit, schedule, form, or appendix in or attached to this Agreement, unless expressly provided otherwise;
 - (v) a reference in the main body of this Agreement, or in an Exhibit, to an Article, Section, subsection, or clause is to the Article, Section, subsection, or clause of the main body of this Agreement or of such Exhibit (as applicable);
 - (vi) a reference to a Person includes such Person's permitted successors and assigns;
 - (vii) a reference to a singular word includes the plural and vice versa (as the context may require);
 - (viii) the words "including", "includes", and "include" mean "including, without limitation", "includes, without limitation" and "include, without limitation", respectively;
 - (ix) an obligation to do something "promptly" means an obligation to do so as soon as the circumstances permit, avoiding any delay; and
 - (x) in the computation of periods of time from a specified date to a later specified date, the word "from" means "from and including" and the words "to" and "until" mean "to and including".

- (b) This Agreement is not to be interpreted or construed against the interests of a Party merely because that Party proposed this Agreement or some provision of it, or because that Party relies on a provision of this Agreement to protect itself.
- (c) The Parties acknowledge and agree that this Agreement has been prepared jointly by the Parties and has been the subject of arm's length and careful negotiation, that each Party has been given the opportunity to independently review this Agreement with legal counsel, and that each Party has the requisite experience and sophistication to understand, interpret and agree to the particular language of the provisions of this Agreement. Accordingly, in the event of any ambiguity in or Dispute regarding the interpretation of this Agreement, this Agreement will not be interpreted or construed against the Party preparing it simply as a consequence of their preparing it, and instead the other applicable rules of interpretation and construction set out herein shall be used.
- (d) Portions of this Agreement are written in active voice or imperative mood. In sentences using the imperative mood, unless otherwise specifically stated, the subject "Developer" is implied, and it is understood that the Developer shall perform such work, comply with such requirements, furnish such material or take such action. The word "shall" is also implied and, when implied or stated, is to be considered mandatory and, unless otherwise specifically stated, pertains to requirements or actions of the Developer.

1.3 Order of Precedence

- (a) Except as otherwise expressly provided in this Section 1.3 (Order of Precedence), if there is any conflict, ambiguity or inconsistency between the provisions of this Agreement (including all Exhibits), the order of precedence will be as follows, from highest to lowest:
 - (i) District Changes;
 - (ii) amendments to the provisions of the main body of this Agreement;
 - (iii) the provisions of the main body of this Agreement and Exhibit 1 (Definitions);
 - (iv) the provisions of the Exhibits to this Agreement, as amended, other than Exhibit 1 (Definitions), Exhibit 5 (Technical Provisions), and Exhibit 6 (Developer's Proposal Commitments);
 - (v) the provisions of the Technical Provisions, as amended, including as amended due to approved and implemented ATCs; and
 - (vi) the provisions of Exhibit 6 (Developer's Proposal Commitments).
- (b) If there is any conflict, ambiguity or inconsistency between any of the provisions in this Agreement having the same order of precedence (including all Exhibits), the provision establishing a higher standard of safety, reliability, durability, performance or service will prevail.

- (c) If the Developer's Proposal Commitments include statements, provisions, concepts, or designs that can reasonably be interpreted as offering to:
 - (i) provide higher (but not lower) quality items than otherwise required by the main body of this Agreement or the Exhibits to this Agreement; or
 - (ii) perform services or meet standards in addition to or better than those otherwise required,the Developer's obligations under this Agreement include compliance with all such statements, provisions, concepts, and designs as set out in the Developer's Proposal Commitments.
- (d) Additional or supplemental details or requirements in a provision of this Agreement with lower priority will be given effect, except to the extent that they irreconcilably conflict with any provision of this Agreement with higher priority.

1.4 Discretions

Except as otherwise expressly provided in this Agreement, all determinations, consents, or approvals of the District or the Developer under this Agreement must not be unreasonably withheld, conditioned, or delayed.

2. TERMS AND CONDITIONS PRECEDENT TO COMMERCIAL CLOSE AND FINANCIAL CLOSE

2.1 Term

This Agreement (and all of the rights and obligations under this Agreement) will come into effect on the Commercial Closing Date and continue until the earlier of:

- (a) the Expiry Date; or
 - (b) the Early Termination Date,
- (the "Term").

2.2 Conditions Precedent to the Commercial Closing Date

The occurrence of the Commercial Closing Date is subject to the satisfaction (or waiver by the Party benefiting, except with respect to the condition set forth in Section 2.2(l) (Council Approval of Project Agreement), which may not be waived) of each of the following conditions:

(a) Closing Security

The Developer has delivered the Closing Security to the District and the Closing Security has become fully effective in accordance with its terms.

(b) Commercial Closing Documents

Each of the following shall have been executed by the relevant parties thereto (other than the District, as applicable) and be in form and substance approved by the District (such approval not to be unreasonably withheld or delayed and it being acknowledged by the District that to the extent that a term or provision of a document is materially consistent with the form of the same document (or heads of terms relating thereto) that was submitted with the Proposal, it would be unreasonable for the District to withhold or delay its approval of such term or provision) and a copy of each such document, certified by the Developer as being true, complete and accurate, shall have been delivered to the District:

- (i) the D&C Contract; and
- (ii) the Asset Management Contract.

(the documents listed in clauses (i)—(ii) above, collectively, the “**Commercial Closing Documents**”).

(c) Corporate Documents

The Developer has delivered to the District such documents and certificates as the District may reasonably request evidencing:

- (i) the organization, existence, and good standing of the Developer; and
- (ii) the authorization of the entry by the Developer into the Commercial Closing Documents to which it is a party.

(d) Qualification to do Business

The Developer has provided to the District evidence reasonably acceptable to the District that the following entities are qualified to do business in the District of Columbia:

- (i) the Developer;
- (ii) the D&C Contractor or, if the D&C Contractor is an unincorporated consortium, partnership, or other form of joint venture, each D&C Contractor Member; and
- (iii) the Asset Management Contractor or, if the Asset Management Contractor is an unincorporated consortium, partnership, or other form of joint venture, each Asset Contractor Member.

(e) Licensing Requirements

The Developer has provided to the District evidence reasonably acceptable to the District that the Developer or the D&C Contractor:

- (i) has an Engineer of Record who is licensed in the District of Columbia; and

- (ii) is properly licensed to carry out the design, construction and conversion of the Project in compliance with Applicable Law.

(f) **Representations and Warranties of the Developer**

The representations and warranties of the Developer in Section 3.1 (*Developer Representations and Warranties*) are true and correct in all material respects as of the date of this Agreement, except with respect to the representations and warranties of the Developer set forth in Section 3.1(j) (*Base Case Financial Model*).

(g) **Representations and Warranties of the District**

The representations and warranties of the District in Section 3.2 (*District Representations and Warranties*) are true and correct in all material respects as of the date of this Agreement.

(h) **Developer Opinions**

The Developer has delivered to the District customary legal opinions addressed to the District, from external legal counsel, as to:

- (i) organization and existence of the Developer;
- (ii) due authorization and execution of this Agreement, the D&C Contract and the Asset Management Contract; and
- (iii) enforceability of, and no violation of law or the Developer's organizational documents with respect to, each of the this Agreement, the D&C Contract and the Asset Management Contract,

which legal opinions must be in form and substance reasonably acceptable to the District.

(i) **District Opinion**

The District has provided to the Developer a legal opinion in substantially the form attached as Exhibit 23 (*Form of District Legal Opinion*).

(j) **Certification Regarding Use of Contract Funds for Lobbying**

The Developer has delivered to the District a signed certification in the form attached as Exhibit 8 (*Certification Regarding Use of Contract Funds for Lobbying*) from each of the following:

- (i) the Developer;
- (ii) each Equity Member;
- (iii) each Key Contractor;
- (iv) each D&C Contractor Member (if any); and

(v) each Asset Management Contractor Member (if any).

(k) **Comprehensive Demonstration**

The Developer has completed the demonstration of each LED Luminaire type identified in the Proposal (the “**Comprehensive Demonstration**”) in accordance with Exhibit 7 (Comprehensive Demonstration Protocol) and the District has approved each such LED Luminaire type or any replacement LED Luminaire type; *provided* that the Developer’s replacement of any LED Luminaire type identified in the Proposal with an alternative LED Luminaire type in order to obtain the District’s approval shall neither constitute a District Change nor otherwise qualify as a Compensation Event.

(l) **Council Approval of Project Agreement**

The Council has approved the Project Agreement pursuant to D.C. Code § 2-352.02.

2.3 Conditions Precedent to the Financial Closing Date

The occurrence of the Financial Closing Date is subject to satisfaction (or waiver by the Party benefiting) of each of the following conditions:

(a) **Financial Closing Documents**

Each of the following shall have been executed by the relevant parties thereto (other than the District, as applicable) and be in form and substance approved by the District (such approval not to be unreasonably withheld or delayed and it being acknowledged by the District that to the extent that a term or provision of a document is materially consistent with the form of the same document (or heads of terms relating thereto) that was submitted with the Proposal, it would be unreasonable for the District to withhold or delay its approval of such term or provision) and a copy of each such document, certified by the Developer as being true, complete and accurate, shall have been delivered to the District:

- (i) the D&C Security;
- (ii) the Finance Documents; and
- (iii) the Equity Member Funding Agreements

(the documents listed in clauses (i)—(iii) above, collectively, the “**Financial Closing Documents**”).

(b) **Collateral Agent or Lender Execution of Project Agreement**

The Collateral Agent or Lender, as applicable, has executed this Agreement with respect to Article 61 (District Assurances and Obligations to Lenders), and with no reservations or modification thereto.

(c) **Conditions Precedent to PABs Issuance**

The District shall have complied with all of its responsibilities set out below:

- (i) procuring from the Conduit Issuer a blanket letter of representation addressed to the Depository Trust Company;
- (ii) authorizing (or procuring authorization for) the Developer to include in the preliminary and final official statement for the PABs the relevant information with respect to the Conduit Issuer and the District at the time of the publication of such offering materials and providing such documents and information required to comply with the disclosure requirements under Applicable Law, including providing customary certificates and opinions regarding such disclosure and entering into continuing disclosure agreements related to the PABs;
- (iii) procuring from the Conduit Issuer the provision of customary assistance during the process in a timely manner (including input on the drafting of customary financing documents), as needed and following appropriate notice from the Developer, and the negotiation in good faith and, following that, execution of the same, as applicable; and
- (iv) assistance with obtaining any necessary approval from entities directly related with the issuance of the PABs.

(d) **Corporate Documents**

The Developer has delivered to the District such documents and certificates as the District may reasonably request evidencing:

- (i) the good standing of the Developer; and
- (ii) the authorization of the entry by the Developer into each of the Financial Closing Documents.

(e) **Base Case Financial Model**

The Developer has delivered to the District:

- (i) an unrestricted electronic version of the Base Case Financial Model, in the form attached as Exhibit 24 (Base Case Financial Model), that incorporates adjustments (if any) agreed by the Parties between the Financial Proposal Due Date and the Financial Closing Date, including any revision to the Base MAP pursuant to Exhibit 13 (Update to Base MAP);
- (ii) the books and documents setting forth all assumptions, calculations and methodologies used in the preparation of the Base Case Financial Model; and
- (iii) any other documentation necessary or reasonably requested by the District to operate the Base Case Financial Model.

(f) **District Opinion**

The District has provided to the Developer and the Lenders a legal opinion in substantially the form attached as Exhibit 23 (Form of District Legal Opinion).

(g) **Model Auditor Opinion**

The Developer has delivered to the District an audit report and model auditor opinion to the effect that the Base Case Financial Model is consistent with the applicable terms of this Agreement.

(h) **Representations and Warranties of the Developer**

The representations and warranties of the Developer in Section 3.1 (Developer Representations and Warranties) are true and correct in all material respects as of the Financial Closing Date, and the Developer has delivered to the District a certificate signed by an authorized representative of the Developer stating the same.

(i) **Representations and Warranties of the District**

The representations and warranties of the District in Section 3.2 (District Representations and Warranties) are true and correct in all material respects as of the Financial Closing Date, and the District has delivered to the Developer a certificate signed by an authorized representative of the District stating the same.

(j) **Commercial Close**

The Commercial Closing Date has occurred.

2.4 Achievement of or Failure to Achieve the Financial Closing Date

(a) **Achievement of the Financial Closing Date**

Upon the satisfaction or waiver of each of the conditions precedent to the Financial Closing Date set out in Section 2.3 (Conditions Precedent to the Financial Closing Date), unless otherwise agreed to by the Parties:

- (i) the District and the Developer shall sign a certificate specifying the Financial Closing Date; and
- (ii) the District shall return the Closing Security to the Developer within three (3) Business Days.

(b) **Extension of Financial Closing Deadline**

- (i) The Financial Closing Deadline may only be extended as follows:
 - (A) by the District, in its absolute discretion, for up to sixty (60) days;

- (B) upon the occurrence of a Compensation Event or Relief Event for a period up to (x) thirty (30) days or (y) to the extent such Compensation Event or Relief Event has not resolved during such 30-day period, the duration of the Compensation Event or Relief Event, up to sixty (60) days;
 - (C) upon the occurrence of exceptional circumstances in the financial markets, which occur at a time and which have a duration which is reasonably likely to impact the Financial Closing Date, that, in the District's opinion determined in the District's reasonable discretion, (i) results in material and substantial cessation of lending activity in national or relevant international capital or interbank markets and (ii) adversely affects access by the Developer to such markets, for a period of up to sixty (60) days; or
 - (D) upon the mutual agreement of the District and the Developer.
- (ii) If the Financial Closing Deadline is extended pursuant to Section 2.4(b)(i) (Extension of Financial Closing Deadline), the Developer shall extend the expiration of the Closing Security so that such security remains valid for at least ten (10) days after the Financial Closing Deadline, as extended.
- (c) **Failure to Achieve the Financial Closing Date**
- If the Financial Closing Date does not occur by the Financial Closing Deadline, either Party may terminate this Agreement in accordance with Article 48 (Termination for Failure to Achieve Financial Close; Adjustment to Base MAP).

2.5 Indexation of D&C Contract Price

Subject to Section 48.1 (Termination for Failure to Achieve Financial Close) and Section 48.2 (Termination for Upward Adjustment to Base MAP), if the Financial Closing Date is not achieved prior to the date on which the Proposal Validity Period expires, (such date, the "**D&C Contract Indexation Date**"), the District will bear one hundred percent (100%) of the risk and have one hundred percent (100%) of the benefit of indexation of the D&C Contract Price from the D&C Contract Indexation Date to the Financial Closing Date (as calculated pursuant to Section 2 (*Indexation of D&C Contract Price*) of Exhibit 13 (Update to Base MAP)).

3. REPRESENTATIONS AND WARRANTIES

3.1 Developer Representations and Warranties

The Developer represents and warrants to the District as follows:

(a) Existence and Good Standing

The Developer is a limited liability company duly organized, validly existing and in good standing under the laws of Delaware.

(b) **Good Standing and Qualification**

The Developer is in good standing and qualified to do business in the District of Columbia.

(c) **Power and Authority**

The Developer has the power and authority to execute, deliver and perform its obligations under this Agreement and the other Principal Developer Documents.

(d) **Authorization**

- (i) The execution, delivery and performance of this Agreement and the other Principal Developer Documents have been (or will be) duly authorized by all necessary limited liability company action of the Developer.
- (ii) Each Person executing this Agreement and the other Principal Developer Documents on behalf of the Developer has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of the Developer.

(e) **Execution**

This Agreement and each other Principal Developer Document has been (or will be) duly executed and delivered by the Developer.

(f) **Enforceability**

This Agreement and the other Principal Developer Documents constitute (or, at the time of execution and delivery, will constitute) legal, valid and binding obligations of the Developer, enforceable against it and, if applicable, each Equity Member (with respect to any Principal Developer Document to which such Equity Member is a party) in accordance with their respective terms, subject to applicable bankruptcy, insolvency and similar laws affecting the enforceability of the rights of creditors generally and the general principles of equity.

(g) **No Contravention**

The execution, delivery and performance by the Developer of this Agreement and the other Principal Developer Documents does not (and at the time of execution will not) conflict with or result in a default under or a violation of:

- (i) the Developer's organizational documents;
- (ii) any other material agreement or instrument to which the Developer is a party or that is binding on the Developer or any of its assets; or
- (iii) any Applicable Law.

(h) **No Litigation**

There is no action, suit, proceeding, investigation or litigation pending or, to the Developer's knowledge, threatened that:

- (i) could reasonably be expected to have a material adverse effect on the ability of the Developer to perform its obligations under this Agreement or any other Principal Developer Document;
- (ii) challenges either the Developer's authority to execute, deliver or perform, or the validity or enforceability of, this Agreement or any other Principal Developer Document; or
- (iii) challenges the authority of the Developer's representative executing this Agreement or any other Principal Developer Document.

(i) **No Developer Default**

No Developer Default has occurred and is continuing.

(j) **Base Case Financial Model**

As of the Financial Closing Date, the Base Case Financial Model:

- (i) was prepared by or on behalf of the Developer in Good Faith;
- (ii) utilizes the same financial formulas that the Developer utilized in making its decision to enter into this Agreement and in making disclosures to potential equity investors and Lenders under the Finance Documents;
- (iii) fully discloses all cost, revenue and other financial assumptions and projections that the Developer used in making its decision to enter into this Agreement and in making disclosures to potential equity investors and Lenders under the Finance Documents; and
- (iv) was audited and verified by an independent, recognized model auditor prior to the Financial Closing Date.

(k) **Licenses, Skill and Expertise**

The Developer, the D&C Contractor and the Asset Management Contractor have all required authority, license status, professional ability, skills and capacity (as applicable) to perform the Work.

(l) **Constraints**

The Developer has evaluated the constraints affecting design and conversion of the Project, as well as the conditions of the Governmental Approvals in effect, and has

reasonable grounds for believing, and does believe, that the Project can be designed, built and converted within such constraints.

(m) **Existing Street Light Network and Disclosed Information**

- (i) Without limiting its rights and remedies expressly granted hereunder, the Developer has, in accordance with Good Industry Practice:
 - (A) familiarized itself with the Existing Street Light Network and the surrounding locations based on the Disclosed Information and other available public records; and
 - (B) investigated and reviewed the Disclosed Information and other available public records.
- (ii) Based on investigation, review and examination of the Disclosed Information and other available public records, the Developer is familiar with and, subject to the provisions of this Agreement, accepts the physical limitations, conditions and requirements of the Work; *provided* that the same shall not diminish, reduce or otherwise affect any of the Developer's rights under this Agreement, including its rights pursuant to Part G (Delays and Supervening Events).

(n) **Applicable Law**

The Developer has familiarized itself with the requirements of all Applicable Law and the conditions of any required Governmental Approvals. The Developer has no reason to believe that any Governmental Approval required to be obtained by the Developer will not be granted in due course and remain in effect so as to enable the Work to proceed in accordance with this Agreement and the other Project Documents.

(o) **Ownership**

Exhibit 2 (Developer Ownership) sets out the legal, beneficial and equitable ownership of the Developer, and no arrangements are in place that will result in, or are reasonably likely to result in, a Restricted Change in Ownership.

3.2 District Representations and Warranties

The District represents and warrants to the Developer that:

(a) **Existence**

The District of Columbia Office of Public-Private Partnership is an agency of the government of the District of Columbia, is validly existing in the District of Columbia and has the requisite authority to carry on its present activities and those proposed under the Principal District Documents.

(b) **Power and Authority**

The District has the power and authority to execute, deliver and perform its obligations under this Agreement and the other Principal District Documents and all required consents and approvals of relevant Governmental Entities have been obtained with respect to the execution and delivery by the District of, and the performance by the District under, this Agreement and the Principal District Documents.

(c) **Authorization**

- (i) The execution, delivery and performance of this Agreement and the other Principal District Documents have been (or will be) duly authorized by all necessary action of the District.
- (ii) Each Person executing this Agreement and the other Principal District Documents on behalf of the District has been (or at the time of execution will be) duly authorized to execute and deliver each such document on behalf of the District.

(d) **Execution**

This Agreement and each other Principal District Document have been (or will be) duly executed and delivered by the District.

(e) **Enforceability**

This Agreement and the other Principal District Documents constitute (or at the time of execution and delivery will constitute) legal, valid and binding obligations of the District, enforceable against it in accordance with their respective terms, subject to Applicable Law affecting the enforceability of the rights of creditors generally and the general principles of equity.

(f) **No Contravention**

The execution, delivery and performance by the District of this Agreement and the other Principal District Documents do not (and at the time of execution will not) conflict with or result in a default under or a violation of:

- (i) any other material agreement or instrument to which the District is a party or which is binding on the District or any of its assets; or
- (ii) any Applicable Law.

(g) **No Litigation**

There is no action, suit, proceeding, investigation or litigation pending or, to the District's knowledge threatened, that:

- (i) could reasonably be expected to have a material adverse effect on the ability of the District to perform its obligations under this Agreement or any other Principal District Document;
 - (ii) challenges the District's authority to execute, deliver or perform, or the validity or enforceability of, this Agreement or any other Principal District Document; or
 - (iii) challenges the authority of any District official executing this Agreement or any other Principal District Document.
- (h) **No District Default**

No District Default has occurred and is continuing.

3.3 Repetition of Representations and Warranties

Except with respect to the representations and warranties of the Developer set forth in Section 3.1(j) (Base Case Financial Model), the representations and warranties of the Developer and the District contained in this Agreement are made as of the date of this Agreement and repeated on the Financial Closing Date.

4. COLLABORATIVE NATURE OF THE PROJECT

Each Party agrees to cooperate, at its own expense, with the other Party in the fulfillment of the purposes and intent of this Agreement. Neither Party shall be under any obligation to perform any of the other Party's obligations under this Agreement.

5. DESIGNATED REPRESENTATIVES; PROJECT MEETINGS; INDEPENDENT ENGINEER

5.1 Contract Administrator and Contracting Officer; Developer Representative

- (a) Exhibit 3 (Designation of Representatives) provides the initial designation of the individuals who will serve as the Contract Administrator and the Contracting Officer, and the District may change such initial designations by delivering a written notice to the Developer in accordance with Section 59.9 (Notices and Communications).
- (b) The Developer shall designate an individual or individuals who will be authorized to make decisions and bind the Developer on matters relating to this Agreement (the "**Developer Representative**"). Exhibit 3 (Designation of Representatives) provides such initial designation, and the Developer may change such initial designation by delivering a written notice to the Developer in accordance with Section 59.9 (Notices and Communications).

5.2 Project Meetings

The Developer shall participate, and shall cause the appropriate personnel of the Developer and of the relevant Contractor(s) to participate, in the Project meetings required pursuant to Section 2.4 (*Meetings*) of the Technical Provisions.

5.3 Independent Engineer

- (a) The Developer shall retain one or more qualified, independent engineering firms (the “**Independent Engineer**”) reasonably acceptable to the District to provide services for the Project as described in this Agreement relating to (i) the verification of whether the Developer has satisfied the conditions to completion set forth in Article 17 (Completion) and (ii) completion of the Handback Condition Assessment described in Article 19 (Handback). With respect to the services relating to Article 17 (Completion), the Independent Engineer shall be retained no later than three (3) months before the earlier to occur of (x) the first scheduled Street Light Bundle Substantial Completion Date and (y) the Smart City Bundle Substantial Completion Date. With respect to the services relating to Article 19 (Handback), the Independent Engineer shall be retained no later than ten (10) Business Days prior to commencement of the Handback Condition Assessment, as further described in Section 19.2 (Handback Condition Assessment and Work Plan).
- (b) The District will have the right to reject any engineering firm from serving as the Independent Engineer if the Contracting Officer determines that such engineering firm has an organizational conflict of interest. The Developer acknowledges and agrees that the technical advisor to the lenders shall be deemed to have an organizational conflict of interest and therefore shall not be eligible to serve as the Independent Engineer.
- (c) The Developer’s contract with the Independent Engineer must state expressly that the Independent Engineer owes a duty of care to the District, provided that this requirement shall not preclude the Independent Engineer from owing a duty of care to the Developer or the Lenders.
- (d) The Developer shall be responsible for paying all amounts payable to the Independent Engineer for the services described in this Section 5.3 (Independent Engineer).

6. ALTERNATIVE TECHNICAL CONCEPTS

If implementation of an ATC forming part of the Project requires the approval or consent of any Governmental Entity or other third party:

- (a) the Developer will have full responsibility for, and bear the full risk of, obtaining any such approval or consent (including any necessary modifications to the District-Provided Approvals); and
- (b) if such approval or consent is not granted, or there is an unreasonable and unjustified delay in obtaining such approval or consent (subject to Article 32 (District Changes and Directive Letters)), the Developer shall:
 - (i) perform the Work as if such ATC had never formed part of the Project; and
 - (ii) not be entitled to any additional time, relief or compensation under this Agreement.

7. REVIEW OF SUBMITTALS

7.1 General

The terms and procedures set out in this Article 7 (Review of Submittals) will govern all Submittals to the District pursuant to this Agreement.

7.2 No D&C Work Prior to Review

- (a) The Developer must not commence or permit the commencement of any Conversion Work and/or Smart City Work that is the subject of, governed by, or dependent upon a Reviewable Submittal until it has submitted the relevant Reviewable Submittal to the District and:
 - (i) with respect to a Discretionary Submittal, the District has provided its approval or consent to the relevant Discretionary Submittal;
 - (ii) with respect to a Non-Discretionary Submittal:
 - (A) within five (5) Business Days after receiving written notice from the Developer that the District failed to respond to the Non-Discretionary Submittal within the period required under this Agreement, the District fails to respond to such Non-Discretionary Submittal; or
 - (B) the District approves or consents to such Non-Discretionary Submittal in accordance with this Article 7 (Review of Submittals); or
 - (iii) with respect to an R&C Submittal, subject to Section 7.2(b) (No D&C Work Prior to Review), the time period during which the District is entitled to raise comments has expired, whether or not the District provided any comments.
- (b) With respect to an R&C Submittal, if the District made comments that are disregarded by the Developer and it is subsequently determined that the District's comments were permitted under Section 7.3(a) (Grounds for Objection or Comment), the Developer shall promptly undo, modify, remove or replace (in a manner complying with this Agreement) the relevant parts of the D&C Work to reflect the District's comments.

7.3 Grounds for Objection or Comment

- (a) With respect to any Submittal that is not a Discretionary Submittal, the District may provide either or both:
 - (i) "Compliance Comments", being comments on, objections to or the withholding of its approval or consent to that Submittal on the basis of one or more of the following ("**Compliance Comments**"):
 - (A) the Work that is the subject of the Submittal fails to comply with any applicable covenant, condition, requirement, term or provision of this Agreement;

- (B) the Work that is the subject of the Submittal is not to a standard at least equal to Good Industry Practice; or
 - (C) the Developer has not provided all content or information required with respect to the Submittal, in which case the Developer may resubmit the Submittal with the required content or information; or
- (ii) “Preference Comments”, being comments and objections that reflect concerns regarding interpretation or preference that are not based on the grounds set out in Section 7.3(a)(i) (Grounds for Objection or Comment) (“**Preference Comments**”).
- (b) Except as provided in Section 7.3(d) (Grounds for Objection or Comment), the Developer shall make modifications to the Submittal as necessary to fully reflect and resolve all Compliance Comments, in accordance with the review processes set out in this Section 7.3 (Grounds for Objection or Comment).
- (c) Except as provided in Section 7.3(d) (Grounds for Objection or Comment), the Developer shall use Reasonable Efforts to accommodate or otherwise resolve all Preference Comments through the review processes described in this Article 7 (Review of Submittals).
- (d) If the Developer does not accommodate or otherwise resolve any Compliance Comment or Preference Comment, the Developer shall deliver to the District within thirty (30) days after receipt of the applicable Compliance Comment or Preference Comment, a written explanation as to why:
 - (i) in the case of a Compliance Comment, modifications are not required or why the Compliance Comment is not based on any of the grounds set out in Section 7.3(a)(i) (Grounds for Objection or Comment) (as applicable); or
 - (ii) in the case of a Preference Comment, the Developer is unable to accommodate or resolve the Preference Comment in accordance with Section 7.3(c) (Grounds for Objection or Comment),

which explanation, in each case, must include the facts, analyses and reasons that support the conclusion.
- (e) If the Developer fails to deliver an explanation to the District in accordance with Section 7.3(d) (Grounds for Objection or Comment), such failure will constitute the Developer’s:
 - (i) agreement to make all changes necessary to accommodate and resolve the Compliance Comment or Preference Comment (as applicable); and
 - (ii) full acceptance of all responsibility for such changes at the Developer’s risk.
- (f) If the District disagrees with the Developer’s explanation delivered pursuant to Section 7.3(d) (Grounds for Objection or Comment), the Parties shall attempt in Good

Faith to resolve the Dispute. If the Parties are unable to resolve the Dispute, the Dispute shall be resolved in accordance with the Dispute Resolution Procedures.

- (g) Subject to Section 7.3(c) (Grounds for Objection or Comment), nothing in this Article 7 (Review of Submittals) requires the Developer to implement any comments or objections that are not Compliance Comments based on any of the grounds set out in Section 7.3(a)(i) (Grounds for Objection or Comment).

7.4 Limitations on the Developer's Right to Rely

Nothing in this Article 7 (Review of Submittals) (including any act or omission of the District pursuant to this Article 7 or the Independent Engineer) will:

- (a) relieve the Developer from the performance of its obligations under this Agreement, any Governmental Approval or Applicable Law;
- (b) constitute acceptance by the District of Work that fails to satisfy the requirements of this Agreement; or
- (c) prevent the District from subsequently raising an objection or comment on a Submittal in accordance with this Article 7 (Review of Submittals) if the same objection or comment was not made by the District on a previous Submittal.

7.5 Time Periods

- (a) Except as otherwise expressly provided in this Section 7.5 (Time Periods):
 - (i) whenever the District is entitled to review and comment on, or to affirmatively approve, a Submittal, the District shall, promptly (and in any event within ten (10) Business Days) after the date the District receives an accurate and complete Submittal in conformance with this Agreement, review, comment on, or approve (as applicable) the Submittal;
 - (ii) with respect to any resubmission of a Submittal, the District's review period will be reduced to five (5) Business Days and the District's review will be limited to a review of those matters that necessitated the resubmission; and
 - (iii) Section 7.5(a)(ii) (Time Periods) will not apply if the reason for the resubmission was a rejection (in accordance with the terms of this Article 7 (Review of Submittals)) of a prior Submittal because it was incomplete.
- (b) If any provision of this Agreement expressly provides a longer or shorter period for the District to act, such period will take precedence over the time period set out in Section 7.5(a) (Time Periods).
- (c) The Developer shall schedule, prioritize and coordinate all Submittals to allow an efficient and orderly Submittal review process.

PART B – GENERAL REQUIREMENTS

8. GRANT OF RIGHTS; PROJECT SITES

8.1 Grant of Rights

- (a) Subject to the terms and conditions of this Agreement, the District hereby grants to the Developer the exclusive right, and the Developer accepts such right and acknowledges its obligation, to (i) develop, design, construct and finance the Project, and (ii) to undertake Asset Management Services with respect to the Project, in each case, in accordance with the terms of this Agreement.
- (b) Without limiting the Developer's rights under this Agreement, it is the express intent and agreement of the Parties that this Agreement shall in no way be deemed to constitute a lease to the Developer (whether an operating lease or a financing lease) or, except as expressly provided herein, a grant (regardless of the characterization of such grant, including by way of easement, purchase option, conveyance, lien or mortgage) in each case, of any right, title, interest or estate in the Project, the Project Sites, or any assets incorporated into, appurtenant to, or in any way connected with the Project. It is the express agreement and intent of the Parties that the Developer shall not be treated as or deemed to be the legal or equitable owner of the Project Sites for any purpose under this Agreement. The Developer's rights hereunder are derived solely from its status as a developer and independent contractor as described in this Agreement, and not as a tenant, lessee, easement holder, optionee, lienor, mortgagee, purchaser or owner of any other interest in real property. The payments to be received by the Developer under this Agreement are not payments in the nature of rent, fees with respect to real property or purchase price of real property.

8.2 No Right to Charge Fees or Tolls

The Developer has no authority or right to impose any fee, toll, rent, charge or other amount for the use of the Poles, the Existing Street Light Network, the Smart City Improvements or the Improved Street Light Network.

8.3 Access to Project Sites

- (a) The District shall, at its own cost, obtain and provide the Developer with Access to each Project Site beginning on the Commercial Closing Date.
- (b) Subject to the terms of this Agreement and the License Agreements, the Developer will have the right to enter onto (and engage in the activities contemplated herein on) each Project Site for the sole purpose of performing its obligations and exercising its rights under this Agreement.
- (c) The District, except as permitted by this Agreement, shall not in any way materially or unduly interfere with the Developer in the performance of its obligations (and exercising its rights hereunder) under this Agreement in accordance with the terms of this Agreement (having regard always to the interactive nature of the activities of the District

and the Developer and to the use of any of the Poles and any other operations or activities carried out by the District on any Project Site in order to perform its functions).

- (d) Subject to the terms of this Agreement and the License Agreements, the Developer shall, in the performance of the Work at any Project Site, coordinate with any third parties that may from time to time have access rights to such Project Site.

8.4 Access and Inspection Rights for the District and Other Persons

- (a) The Developer acknowledges that the District (and any Person authorized by the District, including the District-Related Entities and FHWA) may, (x) at reasonable times and (y) if Conversion Work is ongoing at the location to be entered upon reasonable notice, enter any other location where the Work is being carried out for the purpose of:
 - (i) observing or inspecting the Work;
 - (ii) monitoring compliance by the Developer with its obligations under this Agreement (including the Technical Provisions) and all Applicable Law and Governmental Approvals; or
 - (iii) exercising any right or performing any obligation that such party has under this Agreement.
- (b) When exercising this right, the District shall do so (and shall ensure that any Person authorized by the District, including the District-Related Entities, does so) in a manner that:
 - (i) does not unreasonably interfere with the Developer's performance of the Work or exercise of its rights under this Agreement; and
 - (ii) complies with the Developer's reasonable site access and work health and safety policies and procedures.
- (c) The Developer shall use Reasonable Efforts to:
 - (i) coordinate its Work so it does not interfere with the exercise by the District (and any Person authorized by the District, including the District-Related Entities) of its right of entry; and
 - (ii) provide the District (and any Person authorized by the District, including the District-Related Entities) and the Independent Engineer with every reasonable facility and other assistance necessary for any inspection by such parties, including providing access to any relevant systems, registers, manuals, records (including financial records), plans and programs.

8.5 Accommodation of Additional Attachments and Fixtures

It is anticipated that from time to time, Utility Owners and other third parties will apply for permits to add new attachments or fixtures to one or more Poles or to modify, repair, upgrade, relocate or expand existing attachments or fixtures.

For such permits sought from the relevant Governmental Authority or Licensor after the Financial Closing Date, the Developer shall:

- (a) as reasonably requested by the District, assist each applicant with information regarding the Existing Street Light Network and Improved Street Light Network, as applicable; and
- (b) use Reasonable Efforts to coordinate work schedules with such applicants, as appropriate, to avoid the applicants' activities interfering with the Work.

8.6 Electric Utility Service

The District shall at all times during the Term be responsible for procuring and paying the costs of electric utility service for the Project.

9. DISCLOSED INFORMATION

9.1 No Representation

Without limiting its rights and remedies expressly granted under this Agreement (including but not limited to (i) the right to compensation, an extension of time, and relief from obligations (as applicable) resulting from a Compensation Event and (ii) the Developer's right to request a District Change pursuant to Section 9.6 (Asset Inventory and Condition Report)), the Developer acknowledges that:

- (a) neither the District nor any other District-Related Entity makes any representations or warranties as to the relevance, completeness, accuracy or fitness for any purpose of any of the Disclosed Information;
- (b) the Disclosed Information is for reference purposes only and is not mandatory or binding on the Developer; and
- (c) the Developer is not entitled to rely on the Disclosed Information, including but not limited to any information describing existing conditions, presenting design, engineering or asset management solutions or directions, or defining means or methods for complying with the requirements of this Agreement, the Governmental Approvals or Applicable Law.

9.2 No Liability

Except as otherwise expressly provided in this Agreement (including but not limited to the Developer's right to request a District Change pursuant to Section 9.6 (Asset Inventory and Condition Report)), none of the District, any other District-Related Entity or any of their respective agents, officers or employees will have any liability to the Developer with respect to any:

- (a) inaccuracy, omission, lack of fitness for any purpose or inadequacy of any kind whatsoever in the Disclosed Information;
- (b) failure to make available to the Developer any materials, documents, drawings, plans or other information relating to the Project; or
- (c) causes of action, claims or Losses whatsoever suffered by any Developer-Related Entity by reason of any use of information contained in, or any action or forbearance in reliance on, the Disclosed Information.

9.3 Due Diligence

The Developer will, subject to the terms of this Agreement, be deemed to have satisfied itself as to:

- (a) the assets to which it will receive rights (including, where applicable, any existing structures, Poles, Utilities or work on, over or under such assets);
- (b) the nature and extent of the risks assumed by it under this Agreement, including with respect to:
 - (i) geotechnical, climatic, geological, hydrological, ecological, environmental and other physical conditions of each Project Site;
 - (ii) the ground and subsoil;
 - (iii) the materials (whether natural or otherwise) to be excavated;
 - (iv) the form and nature of each part of each Project Site;
 - (v) the risk of injury or damage to property near to or affecting each part of each Project Site and to occupiers of such property;
 - (vi) the nature of the design, work, materials, facilities, machinery or equipment necessary to carry out its obligations under this Agreement;
 - (vii) the access to and through each Project Site and the adequacy of the access with respect to each Project Site for the purposes of carrying out its obligations under this Agreement;
 - (viii) the precautions, times and methods of working necessary to prevent or, if it is not possible to prevent, to mitigate or reduce, any nuisance or interference, whether public or private, being caused to any third parties; and
 - (ix) the scope of the Disclosed Information.

Any failure of the Developer to so satisfy itself will not relieve it from responsibility for successfully performing its obligations under this Agreement without additional expense to the District.

9.4 No Reliance

The Developer acknowledges and confirms that it has not entered into this Agreement on the basis of, and has not relied upon, any statement or representation (whether negligent, innocent or otherwise) or warranty or other provision (whether oral, written, express or implied) made or agreed to by the District, any other District-Related Entity or any of their respective agents or employees, except those expressly repeated or referred to in this Agreement, and that the only remedy or remedies available with respect to any misrepresentation or untrue statement made to it will be such remedy available under this Agreement.

9.5 No Claims or Relief from Obligations

Subject to any rights that the Developer has pursuant to this Agreement, the Developer will not in any way be relieved from any obligation under this Agreement, and it will not be entitled to any claims against the District or any other District-Related Entity on grounds that any information, whether obtained from the District or otherwise (including information made available by the District), is incorrect or insufficient, and the Developer shall make its own inquiries as to the accuracy and adequacy of any such information.

9.6 Asset Inventory and Condition Report

- (a) The District has provided data, in the form of a report, setting forth (i) an inventory of each District-owned Element included in the Existing Street Light Network as of the Setting Date and (ii) a description of the condition of, and a condition rating for, each existing District-owned Element (such report, the **"Asset Inventory and Condition Report"**). If, during the performance of the Conversion Work, the Developer discovers an Element (x) that is not included in the inventory set forth in the Asset Inventory and Condition Report or (y) in a physical condition that is worse than the condition rating for such Element set forth in the Asset Inventory and Condition Report, the Developer shall be entitled to request a District Change, provided that (A) the Developer notifies the District promptly (and in any event within ten (10) Business Days) following such discovery (each such notice, a **"Differing Asset Notice"**) and (B)(1) the physical condition of such element was not known to the Developer or any Developer-Related Entity as of the Setting Date, and (2) the existence or physical condition of such Element, as applicable, was not reasonably capable of being identified on or before the Setting Date through review and analysis of the Asset Inventory Condition Report by an appropriately qualified and experienced contractor or engineer exercising due care and skill and Good Industry Practice. The Developer shall include in each Differing Asset Notice:
 - (i) a description of each component of the D&C Work impacted by such Element;
 - (ii) an opinion on the likely effects of such Element on the D&C Contract Price and the Project Baseline Schedule, along with reasonably detailed supporting documentation; and
 - (iii) a description of the repair, rehabilitation, or replacement work the Developer believes is required with respect to such Element.

- (b) Within thirty (30) days of the District's receipt of a Differing Asset Notice, the District will make one of the following determinations:
 - (i) the Element described in the Differing Asset Notice must be repaired, rehabilitated, or replaced in accordance with the recommendations set forth in the Differing Asset Notice and the Developer is entitled to request a District Change for such repair, rehabilitation, or replacement work in accordance with clause (a) above;
 - (ii) the Element described in the Differing Asset Notice must be repaired, rehabilitated, or replaced in accordance with the recommendations set forth in the Differing Asset Notice and the Developer is not entitled to request a District Change for such repair, rehabilitation, or replacement work in accordance with clause (a) above; or
 - (iii) the Element described in the Differing Asset Notice is in a condition that does not require repair, rehabilitation, or replacement of such Element.
- (c) If in respect of any Differing Asset Notice the Developer is entitled to request a District Change pursuant to Section 9.6(b)(i) and the Contracting Officer determines that an equitable adjustment to the D&C Contract Price and/or Project Baseline Schedule is required to address the impact of such District Change, the Parties shall execute a mutually-acceptable District Charge Order setting forth the terms of such equitable adjustment. If in respect of any Differing Asset Notice the District makes the determination set forth in either Section 9.6(b)(ii) or Section 9.6(b)(iii) and the Developer disagrees with such determination, the Developer may refer the matter for resolution pursuant to the Dispute Resolution Procedures.
- (d) The Developer shall not be entitled to submit a Differing Asset Notice or otherwise be entitled to request a District Change under this Section 9.6 with respect to the rehabilitation, repair, or replacement of any Element undertaken on or after the Project Final Completion Date.

9.7 Remedies and Liability

Nothing in this Article 9 (Disclosed Information) will:

- (a) prejudice the Developer's express rights and remedies under this Agreement; or
- (b) exclude any liability that the District or any of its agents or employees would otherwise have to the Developer for any statements made fraudulently or in bad faith, or which constitute willful misconduct.

10. GOVERNMENTAL APPROVALS

10.1 Compliance with Governmental Approvals

The Developer shall at all times perform its obligations under this Agreement in compliance with all Governmental Approvals.

10.2 Responsibility for Governmental Approvals

(a) Developer Responsibility

- (i) Except with respect to the District-Provided Approvals, the Developer is solely responsible for obtaining all Governmental Approvals (including any application, revision, modification, amendment, supplement, renewal or extension) required in connection with its performance under this Agreement.
- (ii) Except as otherwise set forth in Section 10.5 (Compliance with NEPA Document), the Developer is responsible for obtaining amendments or modifications to any District-Provided Approvals necessary to reflect the Developer's Final Design or means and methods if the Final Design or construction means and methods deviate from the basis upon which a District-Provided Approval was initially granted by the relevant Governmental Entity. If any necessary amendments or modifications are not permitted by the Governmental Entity, the Developer shall, at its own risk of delay and cost, revise its Final Design or means and methods as necessary to satisfy the requirements and conditions of the relevant Governmental Entity.

(b) District Responsibility

- (i) The District has obtained all District-Provided Approvals as of the Setting Date and will, subject to Section 10.5 (Compliance with NEPA Document), maintain, renew, replace, extend the validity of, or arrange necessary amendments to, the District-Provided Approvals as necessary during the Term.

10.3 Cooperation with Respect to Governmental Approvals

- (a) If requested by the Developer, the District shall cooperate with the Developer in relation to any application by the Developer for a Governmental Approval and shall, at the reasonable request of the Developer, and where necessary to obtain, renew, replace, extend the validity of, or arrange necessary amendments to, any Governmental Approval:
 - (i) execute such documents as can only be executed by the District;
 - (ii) make such applications as required by Applicable Law, either in its own name or jointly with the Developer, as can only be made by the District or in joint names of the Developer and the District, as applicable; and
 - (iii) attend meetings with appropriately qualified staff and cooperate with relevant Governmental Entities as reasonably requested by the Developer,

in each case, within a reasonable period of time of being requested to do so by the Developer.
- (b) If the District provides any assistance to the Developer pursuant to Section 10.3(a) (Cooperation with Respect to Governmental Approvals), the Developer shall reimburse the District for its reasonable third party costs associated with the provision of such

assistance within thirty (30) days of receiving an invoice from the District with respect to such costs.

10.4 Copies of Governmental Approvals

The Developer shall promptly (and in any event within five (5) Business Days after submitting an application or obtaining a Governmental Approval) deliver to the District true and complete copies of:

- (a) any application for a Governmental Approval submitted by the Developer (including any application to amend an existing Governmental Approval); and
- (b) any new or amended Governmental Approval obtained by the Developer.

10.5 Compliance with NEPA Document

- (a) The Developer shall at all times comply with the NEPA Document.
- (b) If supplements or modifications to the NEPA Document are needed following the Commercial Closing Date, the District shall prepare the necessary documentation using data and other information provided by the Developer. If the need for such supplements or modifications arises from a District Change, a Relief Event, or a Compensation Event, the District shall bear the costs of preparing the necessary documentation. In all other cases, the Developer shall bear the costs of preparing the necessary documentation and shall reimburse the District for the reasonable third-party costs incurred by the District in the preparation of such documentation.

11. FEDERAL REQUIREMENTS

11.1 Compliance with Federal Requirements

The Developer shall comply, and require its Contractors to comply, with all laws and regulations applicable to the Project as a result of the costs of the Project being financed in part with federal-aid funds, including the laws and regulations set forth in Exhibit 26 (Federal Requirements).

11.2 DBE Program Compliance

- (a) The Developer acknowledges and agrees that it is the policy of the District to ensure that DBEs have an equal opportunity to receive and participate in District-assisted contracts and to:
 - (i) ensure non-discrimination in the award and administration of District-assisted contracts;
 - (ii) create a level playing field on which DBEs can compete fairly for District-assisted contracts;
 - (iii) ensure that the District's DBE program is narrowly tailored in accordance with Applicable Law;

- (iv) help remove barriers to the participation of DBEs in District-assisted contracts; and
 - (v) assist the development of firms that can compete successfully in the marketplace outside of the District's DBE program.
- (b) The Developer shall comply with the DBE program requirements set forth in Exhibit 27 (DBE Program Requirements).
- (c) The DBE participation goal with respect to the D&C Work shall be equal to nineteen percent (19%) of the D&C Contract Price.
- (d) The DBE participation goal with respect to the Asset Management Period Asset Management Services shall be equal to ten percent (10%) of the cost of the Asset Management Period Asset Management Services undertaken in each year of the Post Project Final Completion Period.
- (e) The Developer shall include the requirements set forth in Sections 11.2(a) and 11.2(b) (DBE Program Compliance) and Exhibit 27 (DBE Program Requirements) in all Contracts so that such requirements will be binding upon each Contractor, provided that for each requirement that is intended to be satisfied by the Developer and its Contractors together (and not by each Contractor), the Developer may include the applicable obligations in each Contract such that the requirement is satisfied by the Developer and its Contractors together, so long as such proposed satisfaction of such requirements meets Applicable Law.

12. UTILITIES

12.1 Utility Adjustments

- (a) The Developer shall:
 - (i) at its sole cost and expense, carry out all Utility Adjustments necessary to accommodate the Work; and
 - (ii) perform its obligations under this Agreement in compliance with the Technical Provisions.
- (b) The District shall:
 - (i) subject to Applicable Law, provide to the Developer the benefit of any provision in recorded Utility or other easements affecting the Project that require the easement holders to relocate at such easement holders' expense; and
 - (ii) reasonably assist the Developer in obtaining the benefit of all rights the District has under any recorded Utility or other easement affecting the Project; provided, such assistance shall not include the District's initiation of, or participation in, legal actions.

12.2 Betterments

- (a) The Developer shall notify the District if it receives a request from a Utility Owner to undertake a Betterment.
- (b) The Developer shall not undertake any Betterment without the prior written consent of the District. If the District requires the Developer to undertake a Betterment, the District will issue a District Change Request.

12.3 Failure of Utility Owners to Cooperate

- (a) The Developer shall use diligent efforts to obtain the cooperation of each Utility Owner as necessary for the Utility Adjustments to be performed in connection with the Work. The Developer shall notify the District promptly if the Developer reasonably believes that:
 - (i) any Utility Owner would not undertake or permit a Utility Adjustment in a manner consistent with the timely completion of the Work, or in accordance with Applicable Law, any Governmental Approval or the Project Documents;
 - (ii) any Utility Owner is not cooperating in a timely manner to provide agreed-upon work or approvals; or
 - (iii) any other dispute will arise between the Developer and a Utility Owner with respect to the Project, despite the Developer's diligent efforts to obtain such Utility Owner's cooperation or otherwise resolve such dispute (including a dispute relating to a Betterment).

The notice described in this Section 12.3(a) (Failure of Utility Owners to Cooperate) may include a request that the District assist in resolving the dispute or in otherwise obtaining the Utility Owner's timely cooperation. The Developer shall provide the District with such information as the District requests regarding the Utility Owner's failure to cooperate and the effect of any resulting delay on the Project Baseline Schedule. After delivering to the District any notice or request for assistance, the Developer shall continue to use diligent efforts to pursue the Utility Owner's cooperation.

- (b) If the Developer requests the District's assistance pursuant to Section 12.3(a) (Failure of Utility Owners to Cooperate), the following provisions shall apply:
 - (i) the Developer shall provide evidence reasonably satisfactory to the District that:
 - (A) the subject Utility Adjustment is necessary;
 - (B) the time for completion of the Utility Adjustment in the Project Baseline Schedule was, at its inception, a reasonable amount of time for completion of such work;
 - (C) the Developer has made diligent efforts to obtain the Utility Owner's cooperation; and

- (D) the Utility Owner is not cooperating
- (the foregoing clauses (A) through (D), the “**Conditions to Assistance with Utility Owner**”);
- (ii) following the District’s receipt of satisfactory evidence, the District shall take such reasonable steps as the Developer may request to obtain the cooperation of the Utility Owner or resolve the dispute; *provided, however*, the District shall have no obligation to prosecute eminent domain or other legal proceedings, or to exercise any other remedy available to it under Applicable Law or existing contract unless the District elects to do so in its absolute discretion; and
 - (iii) any assistance the District provides shall not relieve the Developer of its sole responsibility for satisfactory compliance with its obligations and timely completion of all Utility Adjustments, except as otherwise expressly set out in this Agreement.
- (c) If the District objects in writing to a request for assistance pursuant to Section 12.3(a) (Failure of Utility Owners to Cooperate), based on the Developer’s failure to satisfy one or both of the Conditions to Assistance described in clause (A) and clause (B) of Section 12.3(b)(i) (Failure of Utility Owners to Cooperate), then the Developer shall take such action as is appropriate to satisfy the condition(s) and shall then have the right to submit another request for assistance on the same matter.
 - (d) If the District objects in writing to a request for assistance pursuant to Section 12.3(a) (Failure of Utility Owners to Cooperate) based on the Developer’s failure to satisfy one or both of the Conditions to Assistance described in clause (C) and clause (D) of Section 12.3(b)(i) (Failure of Utility Owners to Cooperate), then the Developer shall take such action as the Developer deems advisable during the next ten (10) days to obtain the Utility Owner’s cooperation and shall then have the right to submit another request on the same subject matter.
 - (e) Notwithstanding the foregoing, no resubmittal will be accepted unless all the District objections have been addressed in accordance with the preceding clauses (c) and (d). This process shall be followed until the Developer succeeds in obtaining the Utility Owner’s cooperation or in otherwise resolving the dispute until the District determines, based on evidence the Developer presents, that the Conditions to Assistance have been satisfied. The Developer shall have the right to submit the question of the reasonableness of the District’s determination for resolution according to the Dispute Resolution Procedures.

12.4 Revenue from Utilities

To the extent, if any, that an agreement with a Utility Owner would provide revenue with respect to the use or occupation by a Utility of a space in any Project Site, such revenue shall inure to the benefit of the District and the Developer shall have no interest therein.

12.5 License Agreement for Pole Attachments

- (a) The District will provide the Developer with a copy of:

- (i) each executed License Agreement prior to the Setting Date; and
 - (ii) any amendment to a License Agreement within seven (7) days of the execution of such amendment.
- (b) The District shall also inform the Developer in writing of any early termination of a Licenses Agreement, within seven (7) days thereof, describing in reasonable detail the District's path forward with respect to addressing the consequences of such termination.
- (c) The Developer shall at all times comply with the terms of each License Agreement and shall not otherwise cause the District to be in breach of any License Agreement.
- (d) If, pursuant to the terms of a License Agreement, a Utility Owner is required to be paid a fee in connection with any Work, the Developer shall provide written notice to the District describing the relevant Work and corresponding fee prior to undertaking such Work. Following the receipt of written authorization from the District to proceed with such Work, the Developer shall promptly undertake such Work and pay the corresponding fee to the Utility Owner in accordance with the terms of the License Agreement. The Developer's payment of fees to a Utility Owner pursuant to this Section 12.5 shall constitute a District Change.

12.6 Failure of Licensors to Cooperate

- (a) The Developer shall use diligent efforts to obtain the cooperation of each Licensor as necessary for the Developer's execution of the Work. The Developer shall notify the District promptly if the Developer reasonably believes that:
- (i) any Licensor would not permit access to the Poles consistent with the timely completion of the Work, or in accordance with Applicable Law, any Governmental Approval or the Project Documents;
 - (ii) any Licensor is not cooperating in a timely manner to provide agreed-upon work or approvals; or
 - (iii) any other dispute will arise between the Developer and a Licensor with respect to the Project, despite the Developer's diligent efforts to obtain such Licensor's cooperation or otherwise resolve such dispute.

The notice described in Section 12.6 (Failure of Licensors to Cooperate) may include a request that the District assist in resolving the dispute or in otherwise obtaining the Licensor's timely cooperation. The Developer shall provide the District with such information as the District requests regarding the Licensor's failure to cooperate and the effect of any resulting delay on the Project Baseline Schedule. After delivering to the District any notice or request for assistance, the Developer shall continue to use diligent efforts to pursue the Licensor's cooperation.

- (b) If the Developer requests the District's assistance pursuant to Section 12.6(a) (Failure of Licensors to Cooperate), the following provisions shall apply:

- (i) the Developer shall provide evidence reasonably satisfactory to the District that:
 - (A) the subject access is necessary;
 - (B) the Developer has made diligent efforts to obtain the Licensor's cooperation; and
 - (C) the Licensor is not cooperating
 (the foregoing clauses (A) through (C), the **"Conditions to Assistance with Licensor"**);
 - (ii) following the District's receipt of satisfactory evidence, the District shall take such reasonable steps as the Developer may request to obtain the cooperation of the Licensor or resolve the dispute; *provided, however*, the District shall have no obligation to prosecute eminent domain or other legal proceedings, or to exercise any other remedy available to it under Applicable Law or the applicable License Agreement unless the District elects to do so in its absolute discretion; and
 - (iii) any assistance the District provides shall not relieve the Developer of its sole responsibility for satisfactory compliance with its obligations and timely completion of all Work, except as otherwise expressly set out in this Agreement.
- (c) If the District objects in writing to a request for assistance pursuant to Section 12.6(a) (Failure of Licensors to Cooperate), based on the Developer's failure to satisfy one or all of the Conditions to Assistance with Licensor described in clause (A), clause (B) or clause (C) of Section 12.6(b)(i) (Failure of Licensors to Cooperate), then the Developer shall take such action as is appropriate to satisfy the condition(s) and shall then have the right to submit another request for assistance on the same matter.
 - (d) Notwithstanding the foregoing, no resubmittal will be accepted unless all the District objections have been addressed in accordance with Section 12.6(c) (Failure of Licensors to Cooperate). This process shall be followed until the Developer succeeds in obtaining the Licensor's cooperation or in otherwise resolving the dispute until the District determines, based on evidence the Developer presents, that the Conditions to Assistance with Licensor have been satisfied. The Developer shall have the right to submit the question of the reasonableness of the District's determination for resolution according to the Dispute Resolution Procedures.

13. HAZARDOUS MATERIALS

13.1 General Obligations

- (a) Except as otherwise expressly provided in this Agreement, the Developer is solely responsible for the management, treatment, handling, storage, monitoring, remediation, removal, transport and disposal of any Hazardous Materials in, under or on any Project Site that are encountered at all times during the Term (regardless of whether the District is designated the "generator" or "arranger" of such Hazardous Materials pursuant to

Section 13.2 (Generator Status)), in each case to the extent required by any Applicable Law, Governmental Approval or this Agreement.

- (b) At all times during the Term, the Developer is solely responsible for the management, treatment, handling, storage, monitoring, remediation, removal, transport, and disposal of any Developer Hazardous Materials Release.
- (c) Before any Remedial Action (other than with respect to a Developer Hazardous Materials Release) is taken for which the Developer has responsibility that would inhibit the District's ability to ascertain the nature and extent of the relevant Hazardous Environmental Condition, the Developer shall, subject to Section 13.1(d) (General Obligations) and Section 13.1(e) (General Obligations), provide the District with a reasonable opportunity to inspect areas and locations that require Remedial Action within a reasonable time period.
- (d) If there is a sudden Hazardous Materials Release, the Developer may take the minimum action necessary to stabilize and contain the relevant Hazardous Materials Release without providing the District prior notice pursuant to Section 13.1(c) (General Obligations) or the opportunity to inspect the relevant areas and locations. In these circumstances, the Developer shall promptly (and in any event within two (2) Business Days) notify the District of the sudden Hazardous Materials Release and its location.
- (e) Nothing in this Article 13 (Hazardous Materials) prevents the Developer from complying with Applicable Law, Governmental Approvals or the requirements of any Governmental Entity (including the District).
- (f) The Developer is (without accepting or assuming responsibility under any Applicable Law) responsible for obtaining and maintaining all Governmental Approvals relating to any Remedial Action under this Article 13 (Hazardous Materials) and is solely responsible for compliance with all Governmental Approvals and Applicable Law concerning or relating to Remedial Action related to Hazardous Materials for which it is responsible under this Article 13 (Hazardous Materials).
- (g) In carrying out any Remedial Action that is the subject of a Compensation Event, the Developer shall, subject to Section 13.1(i) (General Obligations), take such steps and actions as the District may reasonably require in order to protect and preserve the District's potential claims of contribution and indemnity, statutory or otherwise, against potentially responsible parties.
- (h) The Developer shall provide prompt written notice to the District if the Developer discovers any Hazardous Materials regulated under CERCLA on any Project Site.
- (i) The Developer is not required to undertake any steps or actions required by the District pursuant to Section 13.1(g) (General Obligations) that are inconsistent with Applicable Law or the requirements of this Agreement or any relevant Governmental Entities (including the District) or Governmental Approvals.

- (j) Except as otherwise expressly provided in this Agreement, the Developer will bear all costs and expenses of complying with this Article 13 (Hazardous Materials) during the Term.

13.2 Generator Status

- (a) As between the District and the Developer, the Developer will be deemed the sole generator and arranger under 40 CFR Part 262 with respect to any Developer Hazardous Materials Release. The Developer agrees to be identified as the sole generator and arranger of such Hazardous Materials on waste manifests and any other documentation submitted to transporters, disposal facilities and any Governmental Entity.
- (b) As between the District and the Developer, the District will be deemed the sole generator and arranger under 40 CFR Part 262 with respect to any Hazardous Materials that are not a Developer Hazardous Materials Release. The District agrees to be identified as the sole generator and arranger of such Hazardous Materials on waste manifests and any other documentation submitted to transporters, disposal facilities and any Governmental Entity.

13.3 Third Party Claims

- (a) To the extent permitted by Applicable Law, the Developer shall indemnify, save, protect and defend the Indemnified Parties from any claims, causes of action and Losses initiated, prosecuted, incurred or suffered by any Indemnified Party as a result of, or arising out of, any Hazardous Materials for which the Developer is deemed to be the sole generator or arranger pursuant to Section 13.2 (Generator Status).
- (b) To the extent that the District is deemed to be the sole generator or arranger of Hazardous Materials pursuant to Section 13.2 (Generator Status), the Developer will be entitled to seek contribution (in an amount net of any Insurance Proceeds received pursuant to the Insurance Policies or any amounts that the Developer is deemed to have self-insured in accordance with Article 35 (Insurance)) from the District for any Losses arising from, or with respect to, any Third Party Claims initiated against the Developer or any Developer-Related Entity in connection with such Hazardous Materials.
- (c) The Developer shall promptly (and in any event within five (5) Business Days of the Developer becoming aware) notify the District of incidents, potential claims and matters that are reasonably likely to give rise to any Third Party Claim referred to in Section 13.3(b) (Third Party Claims).
- (d) To the extent that the Developer seeks contribution from the District pursuant to Section 13.3(b) (Third Party Claims), the following will apply:
 - (i) the District may give written notice to the Developer to transfer the defense of any such Third Party Claim to the District at any time, in which case the Developer shall promptly transfer the defense of such claim and cooperate with the District as necessary or reasonably requested by the District to defend such claim;

- (ii) unless and until the District assumes defense of any such Third Party Claim, the Developer shall keep the District reasonably informed at all times regarding such claim; and
- (iii) the Developer shall not enter into any agreement or settlement with respect to any such Third Party Claim without the prior written approval of the District.

14. SAFETY COMPLIANCE

14.1 General

The Developer shall perform all work necessary to implement Safety Compliance throughout the Term.

14.2 Safety Compliance Orders

- (a) The District shall use Good Faith efforts to inform the Developer at the earliest practicable time of any circumstance or information relating to the Project that in the District's reasonable judgment is likely to result in a Safety Compliance Order and of which the District has actual knowledge with no duty to investigate.
- (b) Except in the case of an Emergency, the District shall consult with the Developer prior to issuing a Safety Compliance Order concerning a risk to public or worker safety, alternative compliance measures, and cost impacts.
- (c) Subject to conducting prior consultations in accordance with Section 14.2(b) (Safety Compliance Orders), the District may issue Safety Compliance Orders to the Developer at any time from and after the Commercial Closing Date.
- (d) Subject to the Developer's rights under Article 28 (Compensation Events), if the District issues a Safety Compliance Order, the Developer shall proceed, at its sole cost and expense, to carry out the Safety Compliance Order as expeditiously as reasonably possible.

PART C – DESIGN AND CONSTRUCTION

15. DESIGN AND CONSTRUCTION

15.1 General Obligations

The Developer shall perform the D&C Work in accordance with:

- (a) Good Industry Practice;
- (b) all Applicable Law;
- (c) the requirements of all Governmental Approvals;
- (d) the Technical Provisions and all other requirements of this Agreement; and

- (e) with respect to the Conversion Work, the Released for Construction Documents.

15.2 Nonconforming and Defective Work

- (a) The Developer shall rectify all Nonconforming Work and Defects, including, to the extent necessary, through removal or replacement, whether discovered by the Developer or the District.
- (b) Neither (i) the performance of any Required Action in accordance with Section 50.3 (Required Action by the District) nor (ii) the District's acceptance of the Developer Proposal will in any respect diminish or derogate from the Developer's obligations under this Section 15.2 (Nonconforming and Defective Work).
- (c) Subject to Section 57.2 (Consequential Losses), nothing contained in this Agreement in any way limits the right of the District to assert claims for damages resulting from Defects in the Work for the period of limitations prescribed by Applicable Law, and the obligations of the Developer under this Section 15.2 (Nonconforming and Defective Work) are in addition to any other rights or remedies the District may have under this Agreement or under Applicable Law.

15.3 Suspension of Conversion Work and/or Smart City Work

- (a) The District may at any time suspend, in whole or in part, the Conversion Work and/or Smart City Work by written order to the Developer. Any such written order must be supported by the District's reasons for the required suspension of the Conversion Work and/or Smart City Work.
- (b) Any suspension of the Conversion Work and/or Smart City Work by the District pursuant to this Section 15.3 (Suspension of Conversion Work) will constitute a Compensation Event except where the suspension order is made in response to:
 - (i) any failure by the Developer to comply with this Agreement (but only to the extent such failure is not the direct result of a Compensation Event or Relief Event), any Applicable Law or Governmental Approval where such failure would have a material adverse effect on the Project; or
 - (ii) the existence of conditions unsafe for workers, other Project personnel or the general public, including failures to comply with Safety Standards or perform Safety Compliance, arising from the failure to perform the Conversion Work and/or Smart City Work in accordance with this Agreement or Applicable Law (but only if such conditions do not arise as a direct result of a Compensation Event or Relief Event).
- (c) Any suspension order made in response to matters referred to in Sections 15.3(b)(i) (Suspension of Conversion Work and/or Smart City Work) or 15.3(b)(ii) (Suspension of Conversion Work and/or Smart City Work) will cease to apply as soon as the relevant matter has been rectified or remedied to the reasonable satisfaction of the District.

15.4 Right to Uncover

- (a) The Developer shall ensure that the District is provided with reasonable advance notice of, and the opportunity to witness, all inspection and test activity with respect to the Conversion Work in accordance with this Agreement. If the Developer does not provide such notice and opportunity, the Developer shall, at the request of the District, uncover any relevant part of the Conversion Work that has been covered up or otherwise put out of view to permit the District to inspect the relevant Conversion Work. The Developer shall bear all costs of any such uncovering or removal, regardless of whether or not any Defect or Nonconforming Work is discovered in the relevant Conversion Work.
- (b) In addition to its rights under Section 15.4(a) (Right to Uncover), the District may, at any time during the Term, give reasonable advance notice requiring the Developer to uncover and inspect (or allow the District to inspect) any part or parts of the Conversion Work, or to test any part or parts of the Conversion Work, if the District believes that such part or parts of the Conversion Work contains Defects or Nonconforming Work, or that the Developer has failed to comply with the requirements of this Agreement relevant to such part or parts of the Conversion Work. The notice must include reasonably detailed reasons for the required uncovering, inspection or tests and the date by which the required uncovering, inspection or tests must occur.
- (c) The Developer shall comply with any notice delivered under Section 15.4(b) (Right to Uncover).
- (d) If any inspection or test carried out pursuant to Sections 15.4(b) (Right to Uncover) and 15.4(c) (Right to Uncover) show that the relevant part or parts of the Conversion Work contains Defects or Nonconforming Work, or that the Developer has failed to comply with the requirements of this Agreement relevant to such part or parts of the Conversion Work:
 - (i) the Developer shall diligently rectify all such Defects, Nonconforming Work or noncompliance at no cost to the District and shall reimburse the District for all costs and expenses relating to inspections or tests incurred by the District within thirty (30) days of the Developer's receipt of an invoice from the District for such costs and expenses; and
 - (ii) the Developer will not be entitled to any compensation, relief or extensions of time with respect to the exercise by the District of its right under Section 15.4(b) (Right to Uncover).
- (e) If any inspection or test carried out pursuant to Sections 15.4(b) and 15.4(c) (Right to Uncover) show that the relevant part or parts of the Conversion Work does not contain Defects or Nonconforming Work and that the Developer has complied with the requirements of this Agreement relevant to such part or parts of the Conversion Work, the exercise by the District of its right under Section 15.4(b) (Right to Uncover) will constitute a Compensation Event.

16. NOTICES TO PROCEED

16.1 Preliminary Work and Conditions Precedent to NTP1

- (a) The Developer shall not commence or permit commencement of the Preliminary Work until the District has issued a notice (“**NTP1**”) to the Developer authorizing commencement of the Preliminary Work.
- (b) Upon satisfaction of the conditions precedent set out in Part 1 (*Conditions Precedent to NTP1*) of Exhibit 11 (*Conditions Precedent to Notices to Proceed*), the Developer shall deliver a notice to the District certifying that such conditions precedent have been satisfied and requesting the issuance of NTP1.
- (c) Within seven (7) Business Days after receipt of the notice provided by the Developer under Section 16.1(b) (*Preliminary Work and Conditions Precedent to NTP1*), the District shall either:
 - (i) if all applicable conditions precedent have been satisfied, issue NTP1; or
 - (ii) if any applicable conditions precedent have not been satisfied, notify the Developer in writing of which conditions precedent have not been satisfied.
- (d) If the Developer does not agree with the District’s determination as to whether the conditions precedent to NTP1 have been satisfied, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.

16.2 Design Work and Conditions Precedent to NTP2

- (a) The District shall not accept any Submittal of any Design Work with respect to a Street Light Bundle or Smart City Bundle until the District has issued a notice (“**NTP2**”) to the Developer authorizing submittal of the Design Work.
- (b) Upon satisfaction of the conditions precedent set out in Part 2 (*Conditions Precedent to NTP2*) of Exhibit 11 (*Conditions Precedent to Notices to Proceed*), the Developer shall deliver a notice to the District certifying that such conditions precedent have been satisfied and requesting the issuance of NTP2.
- (c) Within seven (7) Business Days after receipt of the notice provided by the Developer under Section 16.2(b) (*Design Work and Conditions Precedent to NTP2*), the District shall either:
 - (i) if all applicable conditions precedent have been satisfied, issue NTP2; or
 - (ii) if any applicable conditions precedent have not been satisfied, notify the Developer in writing of which conditions precedent have not been satisfied.
- (d) If the Developer does not agree with the District’s determination as to whether the conditions precedent to NTP2 have been satisfied, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.

16.3 Conversion Work and Conditions Precedent to NTP3

- (a) The Developer shall not commence or permit commencement of the Conversion Work or the Smart City Work with respect to any Street Light Bundle or Smart City Bundle until the District has issued a notice (“**NTP3**”) to the Developer authorizing commencement of the relevant Conversion Work or Smart City Work.
- (b) Upon satisfaction of the conditions precedent set out in Part 3 (*Conditions Precedent to NTP3*) of Exhibit 11 (*Conditions Precedent to Notices to Proceed*), the Developer shall deliver a notice to the District certifying that such conditions precedent have been satisfied for such Street Light Bundle or Smart City Bundle and requesting the issuance of NTP3 for the relevant Street Light Bundle or Smart City Bundle.
- (c) Within seven (7) Business Days after receipt of the notice provided by the Developer under Section 16.3(b) (*Conversion Work and Conditions Precedent to NTP3*), the District shall either:
 - (i) if all applicable conditions precedent have been satisfied, issue NTP3 for the relevant Street Light Bundle or Smart City Bundle; or
 - (ii) if any applicable conditions precedent have not been satisfied, notify the Developer in writing of which conditions precedent have not been satisfied.
- (d) If the Developer does not agree with the District’s determination as to whether the conditions precedent to NTP3 for the relevant Street Light Bundle or Smart City Bundle have been satisfied, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.

17. COMPLETION

17.1 Substantial Completion of Street Light Bundles

- (a) The Developer shall provide a written notice to the Independent Engineer and the District when it anticipates satisfying all of the Street Light Bundle Substantial Completion Conditions in respect of the relevant Street Light Bundle at least fifteen (15) Business Days prior to the anticipated date for Street Light Bundle Substantial Completion, so as to allow the Independent Engineer to commence its review of those Street Light Bundle Substantial Completion Conditions capable of being reviewed at the time of such notice. The notice must include (i) a list of all requirements that will be achieved to allow the Independent Engineer’s issuance of the Certificate of Street Light Bundle Substantial Completion in respect of such Street Light Bundle and (ii) a proposed Punch List. Any failure on the part of the Developer to include a requirement on such list or an item on the proposed Punch List shall not relieve the Developer of its obligation to complete the D&C Work in accordance with the Project Documents.
- (b) No later than ten (10) Business Days prior to satisfying all Street Light Bundle Substantial Completion Conditions for the relevant Street Light Bundle, the Developer shall meet and confer with the Independent Engineer and the District to confirm that the list of requirements provided for in Section 17.1(a) (*Substantial Completion of Street Light*

Bundles) is in accordance with this Agreement. Following the initial meeting, the Developer, the Independent Engineer and the District will meet, confer and exchange information on a regular basis to allow for the Independent Engineer's orderly, timely inspection of the relevant Street Light Bundle, review of the Final Design Documents and final Construction Documents with respect to such Street Light Bundle and determination of whether the Developer has satisfied all of the Street Light Bundle Substantial Completion Conditions.

- (c) The Developer shall provide written notice to the Independent Engineer and the District once it has satisfied all of the Street Light Bundle Substantial Completion Conditions in respect of the relevant Street Light Bundle.
- (d) Within fifteen (15) Business Days of receiving the Developer's notice under Section 17.1(c) (*Substantial Completion of Street Light Bundles*) in respect of the relevant Street Light Bundle:
 - (i) the Independent Engineer shall inspect the Street Light Bundle, review the Final Design Documents, the final Construction Documents and any other Submittals and conduct such other investigation as the Independent Engineer deems necessary to evaluate whether Street Light Bundle Substantial Completion in respect of such Street Light Bundle has been achieved; and
 - (ii) the Independent Engineer shall:
 - (A) if all the applicable Street Light Bundle Substantial Completion Conditions have been satisfied, issue a written certificate that certifies that the Developer has achieved Street Light Bundle Substantial Completion in respect of such Street Light Bundle (the "**Certificate of Street Light Bundle Substantial Completion**"); or
 - (B) if any applicable Street Light Bundle Substantial Completion Condition in respect of such Street Light Bundle has not been satisfied, notify the Developer in writing of the reasons why Street Light Bundle Substantial Completion has not been achieved.
- (e) If any Street Light Bundle Substantial Completion Condition in respect of the Street Light Bundle has not been satisfied, the Developer may resubmit a notice pursuant to Section 17.1(c) (*Substantial Completion of Street Light Bundles*) once the relevant Street Light Bundle Substantial Completion Condition has been satisfied and Section 17.1(d) (*Substantial Completion of Street Light Bundles*) will apply.
- (f) If the Developer does not agree with the Independent Engineer's determination as to whether the Street Light Bundle Substantial Completion Conditions with respect to the relevant Street Light Bundle have been satisfied or as to the date of Street Light Bundle Substantial Completion, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.
- (g) In connection with the Independent Engineer's issuance of the Certificate of Street Light Bundle Substantial Completion for the relevant Street Light Bundle, the Independent

Engineer may in its reasonable discretion add or remove items to or from the Punch List. Any Dispute regarding whether an item added by the Independent Engineer is appropriately included on the Punch List will be resolved according to the Dispute Resolution Procedures. Any failure on the part of the Independent Engineer to identify an item on the Punch List that should otherwise be included shall not relieve the Developer of its responsibility to complete the D&C Work in accordance with the Project Documents.

- (h) The issuance of a Certificate of Street Light Bundle Substantial Completion shall be conclusive evidence that the Street Light Bundle Substantial Completion Date for the relevant Street Light Bundle has occurred, and of the date it occurred, for the sole purpose of ascertaining that the Developer may claim Milestone Payments and/or Availability Payments in accordance with Section 24.1 (Milestone Payments; Availability Payments).

17.2 Substantial Completion of Smart City Bundles

- (a) The Developer shall provide a written notice to the District and the Independent Engineer when it anticipates satisfying all of the Smart City Bundle Substantial Completion Conditions in respect of the relevant Smart City Bundle at least fifteen (15) Business Days prior to the anticipated date for Smart City Bundle Substantial Completion, so as to allow the Independent Engineer to commence its review of those Smart City Bundle Substantial Completion Conditions capable of being reviewed at the time of such notice. The notice must include (i) a list of all requirements that will be achieved to allow the Independent Engineer's issuance of the Certificate of Smart City Bundle Substantial Completion in respect of such Smart City Bundle and (ii) a proposed Punch List. Any failure on the part of the Developer to include a requirement on such list or an item on the proposed Punch List shall not relieve the Developer of its obligation to complete the Smart City Work in accordance with the Project Documents.
- (b) No later than ten (10) Business Days prior to satisfying all Smart City Bundle Substantial Completion Conditions for the relevant Smart City Bundle, the Developer shall meet and confer with the Independent Engineer and the District to confirm that the list of requirements provided for in Section 17.2(a) (Substantial Completion of Smart City Bundles) is in accordance with this Agreement. Following the initial meeting, the Developer, the Independent Engineer and the District will meet, confer and exchange information on a regular basis to allow for the Independent Engineer's orderly, timely inspection of the relevant Smart City Bundle and review of the Final Design Documents and final Construction Documents with respect to such Smart City Bundle and determination of whether the Developer has satisfied all of the Smart City Bundle Substantial Completion Conditions.
- (c) The Developer shall provide written notice to the Independent Engineer and the District once it has satisfied all of the Smart City Bundle Substantial Completion Conditions in respect of the relevant Smart City Bundle.
- (d) Within fifteen (15) Business Days of receiving the Developer's notice under Section 17.2(c) (Substantial Completion of Smart City Bundles) in respect of the relevant Smart City Bundle:

- (i) the Independent Engineer shall inspect the Smart City Bundle, review the Final Design Documents, the final Construction Documents and any other Submittals and conduct such other investigation as the Independent Engineer deems necessary to evaluate whether Smart City Bundle Substantial Completion in respect of such Smart City Bundle has been achieved; and
- (ii) the Independent Engineer shall:
 - (A) if all the applicable Smart City Bundle Substantial Completion Conditions have been satisfied, issue a written certificate that certifies that the Developer has achieved Smart City Bundle Substantial Completion in respect of such Smart City Bundle (the “**Certificate of Smart City Bundle Substantial Completion**”); or
 - (B) if any applicable Smart City Bundle Substantial Completion Condition in respect of such Smart City Bundle has not been satisfied, notify the Developer in writing of the reasons why Smart City Bundle Substantial Completion has not been achieved.
- (e) If any Smart City Bundle Substantial Completion Condition in respect of the Smart City Bundle has not been satisfied, the Developer may resubmit a notice pursuant to Section 17.2(c) (Substantial Completion of Smart City Bundles) once the relevant Smart City Bundle Substantial Completion Condition has been satisfied and Section 17.2(d) (Substantial Completion of Smart City Bundles) will apply.
- (f) If the Developer does not agree with the Independent Engineer’s determination as to whether the Smart City Bundle Substantial Completion Conditions with respect to the relevant Smart City Bundle have been satisfied or as to the date of Smart City Bundle Substantial Completion, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.
- (g) In connection with the Independent Engineer’s issuance of the Certificate of Smart City Bundle Substantial Completion for the relevant Smart City Bundle, the Independent Engineer may in its reasonable discretion add or remove items to or from the Punch List. Any Dispute regarding whether an item added by the Independent Engineer is appropriately included on the Punch List will be resolved according to the Dispute Resolution Procedures. Any failure on the part of the Independent Engineer to identify an item on the Punch List that should otherwise be included shall not relieve the Developer of its responsibility to complete the Smart City Work in accordance with the Project Documents.
- (h) The issuance of a Certificate of Smart City Bundle Substantial Completion shall be conclusive evidence that the Smart City Bundle Substantial Completion Date for the relevant Smart City Bundle has occurred, and of the date it occurred, for the sole purpose of ascertaining that the Developer may claim Milestone Payments and/or Availability Payments in accordance with Section 24.1 (Milestone Payments; Availability Payments).

17.3 Project Final Completion

- (a) The Developer shall achieve Project Final Completion by the Long Stop Deadline.
- (b) The Developer shall provide written notice to the District and the Independent Engineer when it anticipates satisfying all of the Project Final Completion Conditions at least fifteen (15) Business Days prior to the anticipated date for Project Final Completion, so as to allow the Independent Engineer to commence its review of those Project Final Completion Conditions capable of being reviewed at the time of such notice. The notice must include a list of all requirements that will be achieved to allow the Independent Engineer's issuance of the Certificate of Project Final Completion.
- (c) No later than ten (10) Business Days prior to satisfying all Project Final Completion Conditions, the Developer shall meet and confer with the Independent Engineer and the District to confirm that the list of requirements provided for in Section 17.3(b) (Project Final Completion) is in accordance with this Agreement. Following the initial meeting, the Developer, the Independent Engineer and the District will meet, confer and exchange information on a regular basis to allow for the Independent Engineer's orderly and timely inspection of the Project and determination of whether the Developer has satisfied all of the Project Final Completion Conditions.
- (d) The Developer shall provide written notice to the Independent Engineer and the District once it has satisfied all of the Project Final Completion Conditions.
- (e) Within ten (10) Business Days of receiving the Developer's notice under Section 17.3(d) (Project Final Completion):
 - (i) the Independent Engineer shall inspect the items on the Punch List, review the As-Built Drawings and carry out such other investigation as the Independent Engineer deems necessary to evaluate whether Project Final Completion has been achieved; and
 - (ii) the Independent Engineer shall:
 - (A) if all the applicable Project Final Completion Conditions have been satisfied, issue a written certificate that certifies that the Developer has achieved Project Final Completion (the "**Certificate of Project Final Completion**"); or
 - (B) if any applicable Project Final Completion Condition has not been satisfied, notify the Developer in writing of the reasons why Project Final Completion has not been achieved.
- (f) If any Project Final Completion Condition has not been satisfied, the Developer may resubmit a notice pursuant to Section 17.3(d) (Project Final Completion) once the relevant Project Final Completion Condition has been satisfied and Section 17.3(e) (Project Final Completion) will apply. If the Independent Engineer determines that it does not require the full ten (10) Business Days to conduct the relevant inspections and investigations

under Section 17.3(e) (Project Final Completion), the Independent Engineer may notify the Developer that a shorter period will apply.

- (g) If the Developer does not agree with the Independent Engineer's determination as to whether the Project Final Completion Conditions have been satisfied or as to the date of Project Final Completion, the Developer may submit such Dispute for resolution in accordance with the Dispute Resolution Procedures.
- (h) The issuance of a Certificate of Project Final Completion shall be conclusive evidence that the Project Final Completion Date has occurred, and of the date it occurred, for the sole purpose of ascertaining that the Developer may claim Milestone Payments and/or Availability Payments in accordance with Section 24.1 (Milestone Payments; Availability Payments).

PART D – ASSET MANAGEMENT

18. ASSET MANAGEMENT SERVICES

18.1 Commencement and Duration of Asset Management Services

- (a) The Developer shall carry out the D&C Period Asset Management Services following the date on which the first NTP3 is issued until the commencement of the Asset Management Period.
- (b) The Developer shall carry out the Asset Management Period Asset Management Services following the date on which the Asset Management Period commences until the end of the Term.

18.2 General Obligations

The Developer shall carry out the Asset Management Services in accordance with:

- (a) Good Industry Practice;
- (b) all Applicable Law;
- (c) the requirements of all Governmental Approvals; and
- (d) the Technical Provisions and all other requirements of this Agreement.

18.3 Transition to D&C Period Asset Management Services

Prior to the issuance of the first NTP3, the Parties shall cooperate with each other to ensure the orderly transition of control, possession, custody, and asset management of the Existing Street Light Network.

18.4 Law Enforcement Services

The Developer acknowledges that any Governmental Entity empowered to enforce all Applicable Law is free to enter each Project Site at any and all times to carry out its law enforcement duties. No provision of this Agreement is intended to surrender, waive or limit any law enforcement powers of any Governmental Entity, and all such police powers are expressly reserved.

18.5 Suspension of Asset Management Services

- (a) The District may at any time suspend, in whole or in part, the Asset Management Services by written order to the Developer. Any such written order must be supported by the District's reasons for the required suspension.
- (b) Any suspension of the Asset Management Services by the District pursuant to this Section 18.5 (*Suspension of Asset Management Services*) will constitute a Compensation Event except where the suspension order is made in response to:
 - (i) any failure by the Developer to comply with this Agreement (but only to the extent such failure is not the direct result of a Compensation Event or Relief Event), any Applicable Law or Governmental Approval where such failure would have a material adverse effect on the Project; or
 - (ii) the existence of conditions unsafe for workers, other Project personnel or the general public, including failures to comply with Safety Standards or perform Safety Compliance, arising from the failure to perform the Asset Management Services in accordance with this Agreement or Applicable Law (but only if such condition does not arise as a direct result of a Compensation Event or Relief Event).
- (c) Any suspension order made in response to matters referred to in Sections 18.5(b)(i) or 18.5(b)(ii) (*Suspension of Asset Management Services*) will cease to apply as soon as the relevant matter has been rectified or remedied to the reasonable satisfaction of the District.

18.6 Asset Management Plans and Manual

- (a) The Developer shall provide to the District the Asset Management Plan in accordance with Section 10.11 (*Asset Management Plan*) of the Technical Provisions for approval by the District, which such approval may be withheld if:
 - (i) it does not comply with the requirements of Section 10.11 (*Asset Management Plan*) of the Technical Provisions, as applicable;
 - (ii) it does not comply with the requirements of this Agreement, as applicable;
 - (iii) it is inconsistent with the approved Project Management Plan;
 - (iv) it does not set out a proposed program of Renewal Work that is reasonably likely to ensure that the condition of the Project will meet or exceed the performance

requirements set forth in the Technical Provisions over the period to which the proposed Renewal Work Schedule relates; or

- (v) during the Handback Period only, the proposed Renewal Work Schedule is not consistent with the Training and Transition Plan.
- (b) Within ten (10) Business Days of the District's request, the Developer and the relevant Asset Management Contractor shall promptly meet and confer with the District to review and discuss any periodic Renewal Work Schedule submitted to the District pursuant to the Technical Provisions.

19. **HANDBACK**

19.1 **Handback Obligations**

- (a) On the Termination Date, the Developer shall, at no charge to the District:
 - (i) hand back the Project to the District;
 - (ii) ensure that the Project meets all of the Handback Requirements; and
 - (iii) transfer to the District all of the Developer's right, title and interest in and to the Key Assets.
- (b) In the event of Early Termination, the Developer shall be required to comply with the requirements of this Section 19.1 (*Handback Obligations*) only to the extent that any Renewal Work under the Handback Requirements was scheduled to have been performed prior to the Early Termination Date.

19.2 **Handback Condition Assessment and Work Plan**

- (a) No later than the first Business Day of the Handback Period, the Developer, in conjunction with the Independent Engineer, shall begin to assess the condition of the Improved Street Light Network (such assessment, the "**Handback Condition Assessment**") pursuant to Section 12 (*Handback*) of the Technical Provisions.
- (b) The Developer shall complete the Handback Condition Assessment on or before the Handback Condition Assessment Deadline.
- (c) No later than sixty (60) days following the Developer's completion of the Handback Condition Assessment, the Developer shall submit the Handback Work Plan to the District pursuant to Section 12.2 (*Handback Work Plan*) of the Technical Provisions. The Handback Work Plan is a Non-Discretionary Submittal.

19.3 **Handback Reserve Account**

- (a) **Establishment and Security**

- (i) No later than the first Business Day of the Handback Period, the Developer shall establish a reserve account (the “**Handback Reserve Account**”).
- (ii) Within three (3) Business Days of establishing the Handback Reserve Account, the Developer shall provide to the District the details of the Handback Reserve Account, including the name, address and contact information for the depository institution and the account number.
- (iii) The Developer shall grant to the District a first priority security interest in the Handback Reserve Account.
- (iv) The Developer shall not grant a security interest to any third party in relation to the Handback Reserve Account.
- (v) Any withdrawal from the Handback Reserve Account will require the prior written approval of the District, in accordance with Section 19.3(c) (*Withdrawal from the Handback Reserve Account*).

(b) **Funding**

- (i) Beginning on the date that is sixty (60) days following the Developer’s commencement of the Handback Condition Assessment, and continuing every sixty (60) days thereafter until the Developer completes the Handback Condition Assessment (each such date, a “**Handback Reserve Funding Date**”), the Developer shall deliver to the District a report setting out its calculations of the Handback Reserve Amount, determined in accordance with Exhibit 16 (*Calculation of Handback Amounts*), for that portion of the Handback Condition Assessment completed as of the relevant Handback Reserve Funding Date.
- (ii) Within thirty (30) days of delivering each report to the District pursuant to Section 19.3(b)(i) (*Funding*), the Developer shall be responsible for funding the Handback Account to the amount described in such report; *provided* that within thirty (30) days of the Developer’s completion of the Handback Condition Assessment, the Developer shall have funded the full Handback Reserve Amount. In lieu of all or part of the funding described in this Section 19.3(b)(ii) (*Funding*), the Developer may provide a Handback Letter of Credit in accordance with Section 19.3(c) (*Handback Letters of Credit*).
- (iii) Within fourteen (14) days of the Developer delivering a report to the District pursuant to Section 19.3(b)(i) (*Funding*), the Parties shall seek to agree upon the Handback Reserve Amount as of the relevant Handback Reserve Funding Date, and, in the absence of agreement, such Handback Reserve Amount will be finally determined pursuant to the Dispute Resolution Procedures.
- (iv) If, on the date that is five (5) Business Days following each date of agreement to or determination of the relevant Handback Reserve Amount, as applicable, the aggregate of:

- (A) the balance of the Handback Reserve Account; and

(B) the undrawn value of any Handback Letter of Credit,

is not at least equal to the Handback Reserve Amount required as of the relevant Handback Reserve Funding Date, the District may withhold amounts from subsequent Quarterly Disbursements, and pay such amounts into the Handback Reserve Account, until such time as the aggregate of (x) the balance of the Handback Reserve Account and (y) the undrawn value of any Handback Letter of Credit is equal to the Handback Reserve Amount then required.

(v) If, on any date of agreement or determination of the relevant Handback Reserve Amount, the aggregate of:

(A) the balance of the Handback Reserve Account; and

(B) the undrawn value of any Handback Letter of Credit,

exceeds the Handback Reserve Amount then required, then the District will (at the request of the Developer):

(1) approve a release of funds from the Handback Reserve Account to the Developer; or

(2) surrender any Handback Letter of Credit in exchange for a replacement Handback Letter of Credit,

so that the balance of the Handback Reserve Account plus the undrawn value of all Handback Letters of Credit held by the District equals the Handback Reserve Amount then required.

(c) **Withdrawal from the Handback Reserve Account**

(i) Subject to Section 19.3(c)(iii) (*Withdrawal from the Handback Reserve Account*), the Developer will be entitled to withdraw funds from the Handback Reserve Account, in such amounts and at such times as needed, only to pay for Renewal Work that was taken into account in the calculation of the Handback Reserve Amount.

(ii) Prior to withdrawing funds from the Handback Reserve Account, the Developer shall give written notice to the District of the amount to be withdrawn and the purpose for which funds will be used, together with such other supporting information as the District may reasonably require.

(iii) Within ten (10) Business Days of receiving a notice under Section 19.3(c)(iii) (*Withdrawal from the Handback Reserve Account*), the District shall either approve or withhold its approval to the Developer's proposed withdrawal. The District may only withhold its approval to any proposed withdrawal from the Handback Reserve Account if:

- (A) the Developer is unable to demonstrate, to the reasonable satisfaction of the District, that the proposed withdrawal amount will be used to meet costs incurred by the Developer or a Developer-Related Entity in undertaking any Renewal Work that was taken into account in the calculation of the Handback Reserve Amount; or
- (B) the aggregate of:
 - (1) the balance of the Handback Reserve Account;
 - (2) the undrawn value of any Handback Letter of Credit; and
 - (3) the aggregate amount of all withdrawals made from the Handback Reserve Account since the Handback Reserve Amount was most recently agreed to or determined,is less than the Handback Reserve Amount.

(d) **Handback Letters of Credit**

- (i) In lieu of the establishment or ongoing funding of all or part of the Handback Reserve Account and subject to Section 19.3(d)(iii), the Developer may deliver to the District one or more letters of credit (each in a form and from an issuer reasonably acceptable to the District and on the basis that the District will be the sole beneficiary) (each, a “**Handback Letter of Credit**”) with aggregate value equal to the ongoing Handback Reserve Amount or such portion thereof that is otherwise unfunded.
- (ii) If the Developer delivers one or more Handback Letter(s) of Credit to the District in accordance with Section 19.3(d)(ii) (*Handback Letters of Credit*) and the Handback Reserve Account has already been established, then amounts then standing to the credit of the Handback Reserve Account shall be released to the Developer so that the balance of the Handback Reserve Account plus the undrawn value of all Handback Letters of Credit held by the District equals the Handback Reserve Amount.
- (iii) The District and the Developer shall follow the same process set forth in Section 19.3(c) (*Withdrawal from the Handback Reserve Account*) to determine when, and how much, the Developer is entitled to reduce the face value of its Handback Letter of Credit below the then-current Handback Reserve Amount (taking into account amounts in the Handback Reserve Account, if any) prior to the next Handback Reserve Funding Date.

(e) **Termination Date**

Within ten (10) Business Days after the Termination Date, the District shall:

- (i) do one or both of the following:

- (A) require the Developer to pay, or cause to be paid, to the District amounts standing to the credit of the Handback Reserve Account; or
- (B) draw upon any Handback Letter of Credit,

in an aggregate amount equal to that required to undertake any Renewal Work that must be undertaken to ensure that the Project meets the Handback Requirements as of the Termination Date; and
- (ii) following the payment or draws referred to in Section 19.3(e) (Termination Date):
 - (A) approve the release of any remaining balance of the Handback Reserve Account to the Developer; and
 - (B) return any Handback Letter of Credit with an undrawn value remaining to the Developer.

PART E – SUBCONTRACTING AND KEY PERSONNEL

20. CONTRACTORS AND KEY PERSONNEL

20.1 Subcontracting

- (a) Nothing in this Agreement will create any contractual relationship between the District and any Contractor.
- (b) No Contract entered into by any Developer-Related Entity will impose any obligation or liability upon the District or any other District-Related Entity to any Contractor or any of its employees.
- (c) The retention of Contractors by the Developer will not relieve the Developer of its obligations under this Agreement, and the Developer will at all times be fully responsible under this Agreement for the acts and omissions of all Contractors performing Work in relation to the Project, as if they were the acts and omissions of the Developer.

20.2 Prompt Payment to Subcontractors

- (a) The Developer shall take one of the following two actions within seven (7) days of receipt of any amount paid to the Developer by the District for work performed by any contractor under a contract relating to the D&C Work or the Asset Management Service; *provided* the foregoing shall not apply with respect to any Milestone Payment to the extent the Developer has paid its contractors, using the proceeds of the financing arranged by the Developer under this Agreement or any other source available to Developer, for all D&C Work or Asset Management Services, as applicable, performed by such contractors prior to the Developer's receipt of the relevant Milestone Payment:
 - (i) pay the contractor for the proportionate share of the total payment received from the District that is attributable to the contractor for Work performed under the Contract; or

- (ii) notify the District and the contractor, in writing, of the Developer’s intention to withhold all or part of the contractor’s payment with the reason for non-payment.
- (b) The Developer shall pay interest to the contractor or supplier as provided in D.C. Code §§ 2-221.02(b)(1)-(b)(2).
- (c) The Developer shall include in every Contract a provision that requires each contractor to include the payment and interest clauses set forth in this Section 20.2 (Prompt Payment to Subcontractors) in a Contract with any lower-tier contractor or supplier.

20.3 Key Personnel

(a) Obligation to Maintain Key Personnel

- (i) The Developer shall maintain the Key Personnel throughout the Term, as applicable, in accordance with this Section 20.3 (Key Personnel) and Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions.
- (ii) With respect to the Key Personnel:
 - (A) the Developer shall retain, or shall ensure that the relevant Key Contractor will retain, employ and utilize the individuals specifically named and listed as Key Personnel in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions (or replacements approved in accordance with this Section 20.3 (Key Personnel)) to fill the corresponding positions for the time periods set out in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions ;
 - (B) each of the Key Personnel shall fulfill the “Primary Functions/Duties” and satisfy the “Minimum Qualifications/Experience” of such Key Personnel position, in each case, specified in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions;
 - (C) each of the Key Personnel shall be assigned to the Project on a full-time basis and shall act independently of other organizations that may have an interest in the Developer; and
 - (D) the Developer shall obtain the prior written consent of the District for the appointment of any replacement Key Personnel, subject to Section 20.3(b)(iii)(B) (Appointment and Replacement of Key Personnel).

(b) Appointment and Replacement of Key Personnel

- (i) The Developer shall not change or substitute any Key Personnel except:
 - (A) due to retirement, death, disability, incapacity or voluntary or involuntary termination of employment; or

- (B) with the prior written consent of the District, subject to Section 20.3(b)(iii)(B) (Appointment and Replacement of Key Personnel).
 - (ii) The Developer shall notify the District in writing of any proposed replacement for any Key Personnel position, and shall ensure that any replacement satisfies the “Minimum Qualifications/Experience” for that position set out in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions.
 - (iii) The District will have the right to:
 - (A) review the qualifications, capability and experience of each individual to be appointed to a Key Personnel position (including personnel employed by any Key Contractor to fill any such position); and
 - (B) approve or reject the appointment of such individual in such position prior to the commencement of any Work by such individual (such approval not to be unreasonably withheld, delayed or conditioned). It will be reasonable for the District to reject a proposed individual if that individual does not have qualifications, capability and experience that satisfy the “Minimum Qualifications/Experience” set out in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions.
 - (iv) The Developer shall prepare a role profile, and submit such proposal in writing to the District, for any new Key Personnel role it proposes. If the District objects to a proposed additional or substitute Key Personnel role, the Developer shall repeat the above process until the District has consented in writing to the proposed additional or substitute Key Personnel role.
- (c) **General Obligations**
- (i) The Developer shall ensure that each individual filling a Key Personnel position will dedicate the amount of time necessary for the proper prosecution and performance of the Work.
 - (ii) A Key Personnel member may undertake more than one role with the prior written consent of the District; however, no individual shall be nominated to fulfill the equivalent of more than one full-time role.
 - (iii) The Developer shall prepare and maintain an organizational chart showing the Key Personnel. For each of the Key Personnel, the chart shall indicate its:
 - (A) name;
 - (B) the percentage of their time dedicated to each Key Personnel role;
 - (C) their principal employer organization; and
 - (D) their reporting line(s).

- (iv) The Developer shall provide the District with contact information for all Key Personnel. The Developer shall also provide to the District five (5) personnel whom the District can contact twenty-four (24) hours per day, seven (7) days per week, as necessary, with at least three (3) such personnel being Key Personnel, including:
 - (A) prior to the Project Final Completion Date, two (2) from the D&C Contractor and one (1) from the Developer; and
 - (B) on or after the Project Final Completion Date:
 - (1) if an Asset Management Contractor is performing the Asset Management Services, two (2) from the Asset Management Contractor and one (1) from the Developer; or
 - (2) if the Developer is self-performing the Asset Management Services, three (3) from the Developer,
- in each case, who will be able to, in turn, promptly contact all other Key Personnel.

21. APPLICABLE LAW

21.1 General

The Developer shall at all times in carrying out the Work comply, and require its Contractors to comply, with all Applicable Law, including the District Requirements and the Federal Requirements.

21.2 Assistance with Reporting Requirements

The Developer shall provide all assistance reasonably requested by the District in connection with any reporting requirements the District must comply with under any Applicable Law, including the Federal Requirements and implementing regulations set out in Section 21.1 (General).

21.3 Conflicting Provisions

If there is any conflict between any Applicable Law and the other requirements of this Agreement, Applicable Law will prevail and take precedence over any such conflicting provisions.

21.4 Certification Regarding Use of Contract Funds for Lobbying

The Developer shall:

- (a) ensure that all Contracts (including lower tier subcontracts) that exceed one hundred thousand dollars (\$100,000) include the language of the certification in Exhibit 8 (Certification Regarding Use of Contract Funds for Lobbying); and

- (b) require that all Contractors (including lower tier subcontractors) that are party to such Contracts certify and disclose accordingly.

PART F – NONCOMPLIANCE, UNAVAILABILITY AND PAYMENTS

22. NONCOMPLIANCE EVENTS

22.1 Noncompliance Events Tables

The tables provided in Exhibit 14 (Payment Mechanism) identify:

- (a) failures of the Developer to comply with obligations of this Agreement that constitute Noncompliance Events;
- (b) the applicable Cure Period or Interval of Recurrence (if any) for each Noncompliance Event; and
- (c) the number of Noncompliance Points and the corresponding amount of Deductions that may be assessed for each Noncompliance Event in accordance with Section 22.4 (Assessment of Noncompliance Points).

22.2 Notification of Noncompliance Events by the Developer

- (a) The Developer shall notify the District in writing of the occurrence of any Noncompliance Event as soon as reasonably practicable after becoming aware of the applicable Noncompliance Start Date. The foregoing obligation of the Developer to provide written notice shall be deemed to be satisfied should the Developer satisfy its Noncompliance Event recording obligations set forth in the Technical Provisions.
- (b) Each notice provided by the Developer to the District in accordance with Section 22.2(a) (Notification of Noncompliance Events by the Developer) must:
 - (i) identify the relevant Noncompliance Event;
 - (ii) identify the relevant Noncompliance Start Date;
 - (iii) identify the applicable Cure Period or Interval of Recurrence (if any);
 - (iv) identify the number of Noncompliance Points and the corresponding Deductions charge that are specified for that Noncompliance Event in Exhibit 14 (Payment Mechanism); and
 - (v) provide reasonable detail of the circumstances of the Noncompliance Event.
- (c) The Developer shall notify the District in writing of the rectification of any Noncompliance Event. The notice provided by the Developer to the District must:
 - (i) identify the relevant Noncompliance Rectification Date;

- (ii) provide reasonable detail of the manner in which the Noncompliance Event was cured; and
- (iii) specify measures taken by the Developer to prevent the reoccurrence of the Noncompliance Event.

22.3 Notification of Noncompliance Events by the District

- (a) If the District believes a Noncompliance Event has occurred for which the District has not received notification from the Developer in accordance with Section 22.2(a) (Notification of Noncompliance Events by the Developer), the District may deliver to the Developer a written notice setting forth the District's determination of the occurrence of a Noncompliance Event.
- (b) Each notice provided by the District to the Developer in accordance with Section 22.3(a) (Notification of Noncompliance Events by the District) must:
 - (i) identify the relevant Noncompliance Event;
 - (ii) identify the relevant Noncompliance Start Date;
 - (iii) identify the applicable Cure Period or Interval of Recurrence (if any); and
 - (iv) identify the number of Noncompliance Points and the corresponding Deductions charge that are specified for such Noncompliance Event in Exhibit 14 (Payment Mechanism).

22.4 Assessment of Noncompliance Points

Subject to Exhibit 14 (Payment Mechanism), Noncompliance Points may be assessed in accordance with the principles set forth in this Section 22.4 (Assessment of Noncompliance Points).

(a) Cure Periods and Interval of Recurrences

Cure Periods for Noncompliance Events will apply as follows:

- (i) the first Cure Period will commence on the Noncompliance Start Date; and
- (ii) each Interval of Recurrence will commence immediately upon expiration of the Cure Period, if the relevant Noncompliance Rectification Date has not occurred on or before that date.

(b) Assessing Noncompliance Events

For a Noncompliance Event, the number of Noncompliance Points specified for that Noncompliance Event will be assessed in accordance with Section 5 (*Noncompliance Events*) of Exhibit 14 (Payment Mechanism).

(c) **Failure to Report**

Nothing in this Agreement will prevent the assessment of Noncompliance Points for both the occurrence of a Noncompliance Event and the failure to notify the District of the same Noncompliance Event in accordance with this Agreement.

22.5 Records of Noncompliance Events

The Developer shall keep and, upon request, provide the District with current records of:

- (a) all Noncompliance Events;
- (b) the number of Noncompliance Points and the corresponding amount of Noncompliance Deductions assessed for all such Noncompliance Events and the date of each assessment; and
- (c) each Noncompliance Start Date and Noncompliance Rectification Date.

22.6 Increased Monitoring

- (a) Without prejudice to any other rights the District may have under this Agreement, if a Noncompliance Increased Monitoring Trigger occurs, the District may, upon written notice to the Developer, increase the level of its monitoring, inspection, testing and auditing of the Work and the Developer's compliance with this Agreement to such level as the District determines in its absolute discretion.
- (b) The District may continue to exercise its rights under Section 22.6(a) (*Increased Monitoring*) until such time as the Developer has demonstrated to the reasonable satisfaction of the District that:
 - (i) the Developer is diligently pursuing the cure of all uncured Noncompliance Events; and
 - (ii) the Developer intends to diligently perform and is capable of performing its obligations under this Agreement.
- (c) The Developer shall reimburse the District for any increased or additional costs incurred by the District in exercising its rights under Section 22.6(a) (*Increased Monitoring*) within thirty (30) days of receiving an invoice from the District with respect to such costs.

22.7 Remedial Plan for Noncompliance Events

- (a) Without prejudice to any other rights the District may have under this Agreement, if a Noncompliance Remedial Plan Trigger occurs, the Developer shall within fourteen (14) days of such occurrence (i) submit to the District a remedial plan ("**Noncompliance Remedial Plan**") for the District's approval and (ii) provide written notice to the Equity Members and the Lenders of such occurrence. Upon the District's request, the Developer shall use Reasonable Efforts to cause the Equity Members and the Lenders to meet with

the District to discuss any Noncompliance Remedial Plan prepared by the Developer pursuant to this Section 22.7.

- (b) A Noncompliance Remedial Plan must set out specific actions and an associated schedule to be followed by the Developer to improve its performance and reduce the number and frequency of Noncompliance Events occurring in the future. Such actions may include, without limitation:
 - (i) changes in organizational and management structure;
 - (ii) revising and restating management plans and procedures;
 - (iii) improvements to quality control practices;
 - (iv) increased monitoring and inspections;
 - (v) changes in Key Personnel and other important personnel;
 - (vi) replacement of Contractors; and
 - (vii) other reasonable measures.
- (c) The Developer shall implement any approved Noncompliance Remedial Plan in accordance with its terms.

22.8 Termination

Without prejudice to any other rights the District may have under this Agreement, if the Noncompliance Developer Default Trigger occurs, the District may terminate this Agreement in accordance with Article 44 (Termination for Developer Default).

23. UNAVAILABILITY EVENTS

23.1 Unavailability Events Table

The tables provided in Exhibit 14 (Payment Mechanism) identify:

- (a) failures of the Developer to comply with obligations of this Agreement that constitute Unavailability Events; and
- (b) the amount of the Unavailability Deduction may be assessed for each Unavailability Event in accordance with Exhibit 14 (Payment Mechanism), as applicable.

23.2 Notification of Unavailability Events by the Developer

- (a) The Developer shall notify the District in writing of the occurrence of any Unavailability Event as soon as reasonably practicable after becoming aware of the applicable Unavailability Event Start Date.

- (b) Each notice provided by the Developer to the District in accordance with Section 23.2(a) (Notification of Unavailability Events by the Developer) must:
 - (i) identify the relevant Unavailability Event;
 - (ii) identify the relevant Unavailability Start Date;
 - (iii) identify the Unavailability Deductions charge that is specified for the Unavailability Event in Exhibit 14 (Payment Mechanism); and
 - (iv) provide reasonable detail of the circumstances of the Unavailability Event.
- (c) The Developer shall notify the District in writing of the rectification of any Unavailability Event. The notice provided by the Developer to the District must:
 - (i) identify the relevant Unavailability Rectification Date;
 - (ii) provide reasonable detail of the manner in which the Unavailability Event was cured; and
 - (iii) describe the specific measures taken by the Developer to prevent the reoccurrence of the Unavailability Event.

23.3 Notification of Unavailability Events by the District

- (a) If the District believes an Unavailability Event has occurred for which the District has not received notice from the Developer in accordance with Section 23.2 (Notification of Unavailability Events by the Developer), the District may deliver to the Developer a written notice setting forth the District's determination of the occurrence of an Unavailability Event.
- (b) Each notice provided by the District to the Developer in accordance with Section 23.3(a) (Notification of Unavailability Events by the District) must:
 - (i) identify the relevant Unavailability Event;
 - (ii) identify the relevant Unavailability Start Date; and
 - (iii) identify the amount of Unavailability Deductions that are specified for that Unavailability Event in Exhibit 14 (Payment Mechanism).

23.4 Assessment of Unavailability Deductions

Unavailability Deductions may be assessed in accordance with the principles set forth in Exhibit 14 (Payment Mechanism).

23.5 Records of Unavailability Events

The Developer shall keep and, upon request, provide the District with current records of:

- (a) all Unavailability Events;
- (b) the amount of Unavailability Deductions assessed for all such Unavailability Events and the date of each assessment; and
- (c) each Unavailability Start Date and Unavailability Rectification Date.

23.6 Increased Monitoring

- (a) Without prejudice to any other rights the District may have under this Agreement, if an Unavailability Increased Monitoring Trigger occurs, the District may, upon written notice to the Developer, increase the level of its monitoring, inspection, testing and auditing of the Work and the Developer's compliance with this Agreement to such level as the District determines in its absolute discretion.
- (b) The District may continue to exercise its rights under this Section 23.6 (Increased Monitoring) until such time as the Developer has demonstrated to the reasonable satisfaction of the District that:
 - (i) the Developer is diligently pursuing the cure of all uncured Unavailability Events; and
 - (ii) the Developer intends to diligently perform and is capable of performing its obligations under this Agreement.
- (c) The Developer shall reimburse the District for any increased or additional costs incurred by the District in exercising its rights under Section 23.6(a) (Increased Monitoring) within thirty (30) days of receiving an invoice from the District with respect to such costs.

23.7 Remedial Plan for Unavailability Events

- (a) Without prejudice to any other rights the District may have under this Agreement, if a Unavailability Remedial Plan Trigger occurs, the Developer shall within fourteen (14) days of such occurrence (i) submit to the District a remedial plan ("**Unavailability Remedial Plan**") for the District's approval and (ii) provide written notice to the Equity Members and the Lenders of such occurrence. Upon the District's request, the Developer shall use Reasonable Efforts to cause the Equity Members and the Lenders to meet with the District to discuss any Unavailability Remedial Plan prepared by the Developer pursuant to this Section 23.7.
- (b) An Unavailability Remedial Plan must set out specific actions and an associated schedule to be followed by the Developer to improve its performance and reduce the number and frequency of Unavailability Events occurring in the future. Such actions may include, without limitation:
 - (i) changes in organizational and management structure;
 - (ii) revising and restating management plans and procedures;

- (iii) improvements to quality control practices;
 - (iv) increased monitoring and inspections;
 - (v) changes in Key Personnel and other important personnel;
 - (vi) replacement of Contractors; and
 - (vii) other reasonable measures.
- (c) The Developer shall implement any approved Unavailability Remedial Plan in accordance with its terms.

23.8 Termination

Without prejudice to any other rights the District may have under this Agreement, if an Unavailability Default Trigger occurs, the District may terminate this Agreement in accordance with Article 44 (Termination for Developer Default).

24. PAYMENTS TO THE DEVELOPER

24.1 Milestone Payments; Availability Payments

- (a) Milestone Payments shall be calculated and earned by the Developer according to the methodology set out in Exhibit 14 (Payment Mechanism).
- (b) Availability Payments shall be calculated and earned by the Developer according to the methodology set out in Exhibit 14 (Payment Mechanism).

24.2 Monthly Performance Reports Prior to Project Final Completion

- (a) Until the Project Final Completion Date has occurred, the Developer shall submit a Monthly Performance Report no later than the tenth (10th) day of each month following the Financial Closing Date.
- (b) The Monthly Performance Report shall contain the information required by Section 1 (*Form of Monthly Performance Report*) of Exhibit 15 (Performance Reports).
- (c) The District shall notify the Developer in writing within fifteen (15) days of receipt of the relevant Monthly Performance Report if there is any part of such report which the District disputes and shall submit to the Developer such supporting evidence as the District may have in respect of any such disputed part.
- (d) If, more than fifteen (15) days after receipt, the District determines that a Monthly Performance Report submitted by the Developer is inaccurate, which, had it been accurate, would have resulted in the assessment of any Deductions, then the Developer shall be required to make an adjustment to correct the inaccuracy on the next applicable Monthly Performance Report submitted to the District. Such Deductions shall be applied against the next Milestone Payment.

24.3 Quarterly Performance Reports After Project Final Completion

- (a) From the Project Final Completion Date until the Expiry Date, the Developer shall submit a Quarterly Performance Report to the District no later than the tenth (10th) day following the end of the preceding Calendar Quarter. For the avoidance of doubt, the first Calendar Quarter for purposes of this Section 24.3 (Quarterly Performance Reports After Project Final Completion) shall be the first full Calendar Quarter following the Project Final Completion Date, plus the days, if any, between the Project Final Completion Date and the start of such Calendar Quarter.
- (b) The Quarterly Performance Report shall contain the information required by Section 2 (*Form of Quarterly Performance Report*) of Exhibit 15 (Performance Reports).
- (c) The District shall notify the Developer in writing within fifteen (15) days of receipt of the relevant Quarterly Performance Report if there is any part of such report which the District disputes and shall submit to the Developer such supporting evidence as the District may have in respect of any such disputed part.
- (d) If, more than fifteen (15) days after receipt, the District determines that a Quarterly Performance Report submitted by the Developer is inaccurate, and which, had it been accurate would result in the assessment of Deductions, then the Developer shall be required to make an adjustment to correct the inaccuracy on the next applicable Quarterly Performance Report submitted to the District. The District shall be entitled to such adjustments for up to thirty-six (36) months from the approval of each Quarterly Performance Report.
- (e) In no event shall the District be obligated to pay interest on any late payments arising due to delayed or resubmitted Quarterly Performance Reports that are delayed solely through action or inaction by the Developer or are resubmitted by the Developer after return by the District to correct any inaccuracy pursuant to this Section 24.3 (Quarterly Performance Reports After Project Final Completion).

24.4 Invoicing

- (a) Invoicing for Milestone Payments
 - (i) Upon the achievement of each of the milestones described in Section 1 (*Milestone Payments*) and Section 2 (*Smart City Payment*) of Exhibit 14 (Payment Mechanism), the Developer shall be entitled to invoice the District for any Milestone Payment due as a result of the Developer's achievement of the relevant milestone (a "**Milestone Payment Invoice**"). The District shall pay to the Developer such Milestone Payment within sixty (60) days of receipt of a Milestone Payment Invoice that is accurate and complete to the reasonable satisfaction of the District. Notwithstanding the foregoing, the District has no obligation to make a Milestone Payment until the Developer submits a proper Milestone Payment Invoice therefor.
 - (ii) The Milestone Payment Invoice shall set out the calculation of any Milestone Payment sought (including the amount of Deductions from such Milestone

Payment). The District shall return to the Developer for correction and resubmission any Milestone Payment Invoice that is incomplete and/or incorrect in any material respect.

- (iii) The Developer shall submit each Milestone Payment Invoice electronically through the DC Vendor Portal. Notwithstanding the foregoing, the Developer shall submit the Milestone Payment Invoices for the Smart City Milestone Payments (described in Section 2 (*Smart City Milestone Payments*) of Exhibit 14 (Payment Mechanism)) to OCTO and the related Milestone Payment shall be payable to the Developer by OCTO in accordance with the terms of this Section 24.4(a) (Milestone Payments).
- (iv) In no event shall the District be obligated to pay interest on any late payments arising due to delayed or resubmitted Milestone Payment Invoices that are delayed solely through action or inaction by the Developer or are resubmitted by the Developer after return by the District to correct any inaccuracy pursuant to this Section 24.4(a) (Invoicing for Milestone Payments).

(b) Invoicing for Availability Payments

- (i) Upon receipt by the District of a quarterly invoice for any Availability Payments due in such quarter (a “**Quarterly Disbursement Invoice**”), the District shall pay to the Developer such Quarterly Disbursement within sixty (60) days of receipt of a Quarterly Disbursement Invoice that is accurate and complete to the reasonable satisfaction of the District. Notwithstanding the foregoing, the District has no obligation to make a Quarterly Disbursement until the Developer submits a proper Quarterly Disbursement Invoice therefor and a performance report in accordance with Section 24.2 (Monthly Performance Reports Prior to Project Final Completion) and Section 24.3 (Quarterly Performance Reports After Project Final Completion), as applicable.
- (ii) The Quarterly Disbursement Invoice shall set out the calculation of any Quarterly Disbursement sought (including the amount of Deductions included in the Quarterly Performance Report for the previous Quarter, as adjusted in accordance with Section 24.3(d) (Quarterly Performance Reports After Project Final Completion)). The District shall return to the Developer for correction and resubmission any Quarterly Disbursement Invoices that are incomplete and/or incorrect in any material respect.
- (iii) The Developer shall submit each Quarterly Disbursement Invoice electronically through the DC Vendor Portal.
- (iv) In no event shall the District be obligated to pay interest on any late payments arising due to delayed or resubmitted Quarterly Disbursement Invoices that are delayed solely through action or inaction by the Developer or are resubmitted by the Developer after return by the District to correct any inaccuracy pursuant to this Section 24.4(b) (Invoicing for Availability Payments).

25. RESERVE ACCOUNT

25.1 General

The Reserve Account will be funded in accordance with the terms of this Article 25 (Reserve Account).

25.2 Initial Funding; Milestone Payment Invoices and Quarterly Disbursement Invoices

- (a) As a condition precedent to the District's issuance of NTP1, the Developer shall submit to the District written notice requesting that the District pay into the Reserve Account the amount of two hundred fifty thousand dollars (\$250,000) (such amount, the "**Initial Reserve Funding Amount**"). The Developer shall submit such written notice to the Contracting Officer. Within sixty (60) days of receipt of such written notice, the District shall pay into the Reserve Account the Initial Reserve Funding Amount.
- (b) Along with the submission of each Milestone Payment Invoice, the Developer shall provide separate written notice to the Contracting Officer requesting that the District pay into the Reserve Account an amount equal to one million two hundred fifty thousand dollars (\$1,250,000) (Indexed) (such amount, the "**MP Reserve Funding Amount**"). In conjunction with the District's payment of each Milestone Payment to the Developer in accordance with Section 24.4(a) (Invoicing for Milestone Payments), the District shall pay into the Reserve Account the MP Reserve Funding Amount.
- (c) Along with the submission of each Quarterly Disbursement Invoice, the Developer shall provide separate written notice to the Contracting Officer requesting that the District pay into the Reserve Account an amount equal to five percent (5%) of the Availability Payment (excluding Deductions, if any) shown on the relevant Quarterly Disbursement Invoice, (such amount, the "**AP Reserve Funding Amount**"). In conjunction with the District's payment of each Quarterly Disbursement to Developer in accordance with Section 24.4(b) (Invoicing for Availability Payments), the District shall pay into the Reserve Account the AP Reserve Funding Amount.

25.3 Use of Funds in the Reserve Account

- (a) Subject to Section 25.3(b), the Developer will be entitled to request payment from the Reserve Account, in such amounts and at such times as needed, only to pay the costs of (i) changes in the Work performed by the Developer pursuant to a District Change Order or Directive Letter or (ii) the Change in Costs the Developer has incurred as a result of the occurrence of the Compensation Event described in Section 32.11(e) (Expansion of the Street Light Network).
- (b) Prior to making any payment to the Developer from funds on deposit in the Reserve Account, the Developer shall submit an invoice to the District for the amount to be paid and a description of the costs the Developer has incurred, together with such other supporting information as the District may reasonably require.
- (c) Within thirty (30) days of receiving an invoice under Section 25.3(b), the District shall either approve or withhold its approval of the Developer's proposed payment. The

District may withhold its approval to any proposed payment from the Reserve Account if the Developer is unable to demonstrate, to the reasonable satisfaction of the District, that the proposed payment amount will be used to meet the costs described in Section 25.3(a). If the District approves of the Developer's proposed payment, the District shall make such payment to Developer within thirty (30) days of the date on which the District has granted its approval.

- (d) If the District fails to respond within the thirty (30) day-period referred to in Section 25.3(c), the District will be deemed to have denied the relevant payment request.
- (e) The Developer's right to receive compensation for a Compensation Event as described in Section 32.11(e) (*Expansion of the Street Light Network*), District Change, or a Directive Letter is not contingent on the amount standing in the Reserve Account at the time that such compensation is due to the Developer, and the Reserve Account is not otherwise intended to limit the Developer's compensation for the foregoing under this Agreement. In the event that compensation is due to the Developer for a Compensation Event, District Change, or Directive Letter, the District shall pay any amounts due to the Developer that are not paid through funds from the Reserve Account in accordance with, and subject to, the terms of this Agreement.

25.4 Termination Date

Upon the Termination Date, the District shall retain any and all funds on deposit in the Reserve Account as of the Termination Date.

26. DISPUTED AMOUNTS

- (a) The District may dispute, in Good Faith, any amount specified in a Milestone Payment Invoice or Quarterly Disbursement Invoice submitted pursuant Exhibit 14 (*Payment Mechanism*), as applicable.
- (b) The District will pay the amount of any such Milestone Payment Invoice or Quarterly Disbursement Invoice, as applicable, that is not in dispute and may withhold the balance of such Milestone Payment Invoice or Quarterly Disbursement Invoice that is in dispute, pending resolution of the Dispute.
- (c) The Developer may dispute, in Good Faith, any determination by the District that a Milestone Payment Invoice or Quarterly Disbursement Invoice is incomplete or incorrect in any material respect.
- (d) Any amount determined to be due pursuant to the Dispute Resolution Procedures will be paid within sixty (60) days following resolution of the Dispute and submission of an updated Milestone Payment Invoice or Quarterly Disbursement Invoice, as applicable, by the Developer.

PART G – DELAYS AND SUPERVENING EVENTS

27. DELAYS

27.1 Notice

- (a) If at any time the Developer becomes aware that there will be or is likely to be a delay in the Work such that Project Final Completion will not occur by the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, there will be further delay in the achievement of Project Final Completion, the Developer shall promptly (and in any event within ten (10) Business Days) after becoming aware of the likely delay give notice to the District to that effect specifying the reason for the delay or likely delay.
- (b) Subject to Section 27.1(a) (Notice), within thirty (30) days of submitting a notice to the District pursuant to Section 27.1 (Notice), the Developer shall submit to the District an estimate of the likely effect on the most recent Project Status Schedule Update of such delay, including its impact on the commencement of the Conversion Work or the achievement of Project Final Completion (as applicable).
- (c) The Developer will not be required to submit the notice under Section 27.1(a) (Notice) or estimate under Section 27.1(b) (Notice) if it has submitted or will submit a claim under Article 28 (Compensation Events) or Article 29 (Relief Events) with respect to the relevant delay.

27.2 Supply of Information

Following delivery of notice by the Developer pursuant to Section 27.1 (Notice), the Developer shall promptly (and in any event within seven (7) Business Days of receipt of such notice) supply to the District any further information relating to the delay that:

- (a) is received by the Developer; or
- (b) is reasonably requested by the District.

28. COMPENSATION EVENTS

28.1 Entitlement to Claim

- (a) If a Compensation Event directly causes, or is reasonably likely to directly cause, the Developer to do any one or more of the following:
 - (i) fail to achieve Project Final Completion by the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, incur further delay in achieving Project Final Completion;
 - (ii) fail to comply with its obligations under this Agreement;
 - (iii) incur additional or increased costs; or

- (iv) fail to receive any Milestone Payment on the date shown in the Base Case Financial Model,

the Developer may claim one or more of the following in accordance with this Article 28 (Compensation Events):

- (A) an extension of the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, the Long Stop Deadline;
 - (B) relief from compliance with its obligations under this Agreement;
 - (C) compensation for any Change in Costs that the Developer has incurred or will incur as a direct result of such Compensation Event;
 - (D) compensation for any Finance Costs in accordance with Section 28.8 (Finance Costs during the District Delay Period) or
 - (E) relief from any rights of the District under Article 44 (Termination for Developer Default).
- (b) Notwithstanding the terms of Section 28.1(a) (Entitlement to Claim), the failure of the Developer to achieve Project Final Completion earlier than the Guaranteed Project Final Completion Date shall not be the basis of a claim for damages for delay. Further, in the event that the Developer fails to receive any Milestone Payment on the date shown in the Base Case Financial Model, the Developer shall only be entitled to claim compensation for Finance Costs in accordance with Section 28.8 (Finance Costs during the District Delay Period).

28.2 Notice and Information for Compensation Events

- (a) The Developer shall comply with the procedures in this Section 28.2 (Notice and Information for Compensation Events) to claim an extension of time, relief from its obligations or compensation (as applicable) with respect to a Compensation Event.
- (b) The Developer shall submit a notice that complies with Section 28.2(c) (Notice and Information for Compensation Events) (an “**Initial Compensation Event Notice**”) to the District promptly (and in any event within thirty (30) days) after the date that the Developer first became aware that the relevant Compensation Event had occurred and would have the effect that is the subject of the Developer’s claim.
- (c) An Initial Compensation Event Notice must:
 - (i) state that it is an Initial Compensation Event Notice;
 - (ii) identify the relevant Compensation Event (including any details then available to the Developer having made due inquiry); and

- (iii) state the Developer's intention to claim an extension of time, relief from obligations or compensation (as applicable) under this Article 28 (Compensation Events).
- (d) In addition to the Initial Compensation Event Notice, the Developer shall submit a notice that complies with Section 28.2(e) (Notice and Information for Compensation Events) (a "**Detailed Compensation Event Notice**") to the District promptly (and in any event within sixty (60) days) after the date that the Developer first became aware that the relevant Compensation Event had occurred and would have the effect that is the subject of the Developer's claim.
- (e) A Detailed Compensation Event Notice must include:
 - (i) a statement that it is a Detailed Compensation Event Notice;
 - (ii) full details of the relevant Compensation Event (as available to the Developer having made due inquiry), to include the nature of the Compensation Event, date of occurrence, its duration (to the extent that the Compensation Event and the effects thereof have ceased or estimated duration to the extent that the Compensation Event and the effects thereof have not ceased), and the portions of the Project affected;
 - (iii) full details of any extension of time, relief from obligations, or compensation for Change in Costs and Finance Costs claimed under this Article 28 (Compensation Events);
 - (iv) with respect to any claim for an extension of time, a Time Impact Analysis (based on the Project Baseline Schedule most recently agreed to pursuant to Section 2.3.1 (*Project Baseline Schedule*) of the Technical Provisions) demonstrating that the relevant Compensation Event will result in an identifiable and measurable disruption to the Work that will impact a Critical Path activity (i.e., will, subject to the limitations set forth in Section 28.10 (Float), consume all available float and will extend the time required to achieve Project Final Completion or satisfy the conditions to receive any Milestone Payment), subject to the limitations on relief set forth in Section 28.1(b) (Entitlement to Claim);
 - (v) details of any steps that the Developer has taken or will take to mitigate the effect of the Compensation Event in accordance with Section 28.3 (Mitigation);
 - (vi) the type and amount of insurance that may be applicable and amounts that have been or are anticipated to be collected under such insurance; and
 - (vii) evidence reasonably satisfactory to the District demonstrating that:
 - (A) no other concurrent unrelated delay to a Critical Path activity that is the Developer's responsibility has occurred that has contributed to the delay for which the extension of time, relief from obligations or compensation for Change in Costs and Finance Costs (as applicable) is being sought; and

- (B) any Finance Costs claimed by the Developer will be incurred during the District Delay Period as a direct result of the Compensation Event.
- (f) If at the time of issuing the Detailed Compensation Event Notice, the Compensation Event is continuing, the Developer shall:
 - (i) submit an updated Detailed Compensation Event Notice every thirty (30) days until the Compensation Event has ended; and
 - (ii) within ten (10) Business Days of the Compensation Event ending, submit a final Detailed Compensation Event Notice.

28.3 Mitigation

The Developer shall use Reasonable Efforts to mitigate the delay and any other consequences of any Compensation Event that is the subject of a notice pursuant to Section 28.2 (Notice and Information for Compensation Events).

28.4 Failure to Provide Required Notice or Information

If any notice or information is not provided to the District in accordance with the requirements of Section 28.2 (Notice and Information for Compensation Events), then for the relevant Compensation Event and without prejudice to any other rights or remedies of the District under this Agreement:

- (a) the Developer will not be entitled to any compensation, extension of time or relief from obligations under this Agreement to the extent that the quantum thereof was increased or the ability to mitigate was adversely affected as a result of such notice or information not being provided to the District in accordance with the requirements of Section 28.2 (Notice and Information for Compensation Events); and
- (b) if the delay in providing such notice or information in accordance with the requirements of Section 28.2 (Notice and Information for Compensation Events) is twelve (12) months or more, the rights of the Developer with respect to such Compensation Event will be of no further force or effect.

28.5 Burden of Proof

The Developer bears the burden of proving both the occurrence of a Compensation Event and the resulting direct and adverse impacts on the Developer.

28.6 Grant of Relief and Compensation for Compensation Events

- (a) The Developer will be entitled to an extension of time, relief from its obligations or compensation (as applicable) in accordance with Section 28.6(b) (Grant of Relief and Compensation for Compensation Events), only if the Developer has satisfied all of the following:

- (i) complied with its obligations under Section 28.2 (Notice and Information for Compensation Events) and Section 28.3 (Mitigation);
 - (ii) demonstrated to the reasonable satisfaction of the District that a Compensation Event has occurred;
 - (iii) demonstrated to the reasonable satisfaction of the District that:
 - (A) the Compensation Event was the direct cause or is reasonably likely to be the direct cause of:
 - (1) a delay in achieving Project Final Completion by the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, further delay in achieving Project Final Completion;
 - (2) the Developer's inability to comply with its obligations under this Agreement; or
 - (3) the Developer incurring a Change in Costs and/or Finance Costs; and
 - (B) the requested extension of time, relief from its obligations or compensation for Change in Costs and Finance Costs could not reasonably be mitigated or recovered without material cost by the Developer acting in accordance with Good Industry Practice (including by re-sequencing, reallocating or redeploying its forces to other portions of the Conversion Work and/or Smart City Work).
- (b) If the Developer satisfies the conditions set out in Section 28.6(a) (Grant of Relief and Compensation for Compensation Events), the Developer will be entitled to an extension of time, relief from obligations or compensation (as applicable), as follows:
- (i) in the case of a delay demonstrated pursuant to Section 28.2 (Notice and Information for Compensation Events) the Guaranteed Project Final Completion Date and the Long Stop Deadline will be extended by such time as is reasonable, based on the Time Impact Analysis, for such a Compensation Event;
 - (ii) subject to Section 28.7 (Calculation of Change in Costs), in the case of:
 - (A) Capital Expenditure incurred by the Developer at any time; or
 - (B) any other Change in Costs arising prior to Project Final Completion,
 demonstrated pursuant to Section 28.2 (Notice and Information for Compensation Events), the District shall, within thirty (30) days of the Contracting Officer's determination under Section 28.6(c) (Grant of Relief and Compensation for Compensation Events) as to the Developer's entitlement to compensation, pay the Developer for such Capital Expenditure or other Change in Costs (as adjusted

to reflect the Capital Expenditure or other Change in Costs actually incurred by the Developer) that the Developer incurs as a direct result of the relevant Compensation Event;

- (iii) in the case of any Change in Costs that is not the subject of Section 28.6(b)(ii) (*Grant of Relief and Compensation for Compensation Events*), the compensation available to Developer shall be determined in accordance with Article 41 (*Relevant Events and the Financial Model*) (subject to the terms of Exhibit 17 (*Principles for Calculation of Change in Costs*)) or in such other manner as the Parties may agree (acting reasonably);
- (iv) in the case of any Finance Costs the Developer will incur during the District Delay Period, the Developer shall be entitled to compensation in accordance with and subject to the terms of Section 28.8 (*Finance Costs during the District Delay Period*);
- (v) if any Noncompliance Event would not have occurred but for the occurrence of the Compensation Event, such Noncompliance Event will be deemed to have not occurred for the purposes of this Agreement and no Noncompliance Points or Deductions will be assessed by the District in respect of such event;
- (vi) if any Unavailability Event would not have occurred but for the occurrence of the Compensation Event, such Unavailability Event will be deemed to have not occurred for purposes of this Agreement and no Deductions will be assessed by the District in respect of such event;
- (vii) if any Developer Default or breach of this Agreement would not have occurred but for the occurrence of the Compensation Event, such Developer Default or breach will be deemed to have not occurred for the purposes of this Agreement;
- (viii) the District shall give the Developer such relief from its ongoing obligations under this Agreement as is reasonable given the nature of the Compensation Event and the Developer's ongoing obligations;
- (ix) in the case of any Change in Costs claimed by the Developer in respect of any Compensation Event set out in clause (i) (*Hazardous Materials*) of the definition thereof arising from the discovery of lead paint on Poles for which the Developer is required to take Remedial Action pursuant to the Technical Provisions, (A) the District shall not be required to compensate the Developer in respect of any Change in Costs unless, and to the extent that, the total number of Poles that have lead paint for which the Developer is required to take Remedial Action pursuant to the Technical Provisions during the Term exceeds four thousand nine hundred forty (4,940) and (B) any such Change in Costs payable by the District to the Developer pursuant to the terms of this Section 28.6(b)(ix) shall be limited to the Lead Paint Remediation Unit Price;
- (x) in the case of any Change in Costs claimed by the Developer in respect of any Compensation Event set out in clause (i) (*Hazardous Materials*) of the definition thereof arising from a circumstance other than the circumstance described in

Section 28.6(b)(ix), (A) the District shall not be required to compensate the Developer in respect of any Change in Costs unless, and to the extent that, the Total Remedial Action Cost incurred by the Developer in any Calendar Year exceeds the Assumed Remedial Action Cost and (B) any such Change in Costs payable by the District to the Developer pursuant to the terms of this Section 28.6(b)(x) shall be limited to the Remedial Action Unit Price;

- (xi) in the case of any Change in Costs claimed by the Developer in respect of any Compensation Event set out in clause (n) (*Knockdowns*) of the definition thereof, the District shall not be required to compensate the Developer in respect of any Change in Costs unless the total number of Knockdowns of a particular Pole type in a Calendar Year exceeds the relevant Knockdown Threshold;
 - (xii) in the case of any Change in Costs claimed by the Developer in respect of any Compensation Event set out in clause (p) (*Vandalism*) of the definition thereof, the District shall not be required to compensate the Developer in respect of any Change in Costs unless, and to the extent that, the Total Vandalism Repair Cost exceeds the Assumed Vandalism Repair Cost; and
 - (xiii) in the case of any Change in Costs claimed by the Developer in respect of any Compensation Event set out in clause (r) (*Combination Poles*) of the definition thereof, the District shall not be required to compensate the Developer in respect of any Change in Costs unless, and to the extent that, the total number of Combination Poles discovered during the Term exceeds one hundred fifty (150).
- (c) Within sixty (60) days after receipt of a final Detailed Compensation Event Notice, the Contracting Officer shall notify the Developer of the Contracting Officer's determination (i) as to the Developer's entitlement to any compensation, extension of time or other relief under this Section 28.6 (*Grant of Relief and Compensation for Compensation Events*) and (ii) if the Contracting Officer agrees that the Developer is entitled to payment of Capital Expenditures or other Changes in Costs, whether there are sufficient funds legally available to make such payment.
 - (d) After receipt of notice from the Contracting Officer under Section 28.6(c) (*Grant of Relief and Compensation for Compensation Events*), the Developer shall promptly (but in any event within ten (10) Business Days after receipt of such notice) notify the Contracting Officer in writing of whether it accepts or disputes the determination made by the District. If the Developer does not dispute the Contracting Officer's determination within the ten (10) Business Day-period, the Developer will be deemed to have accepted the determination.
 - (e) If the Developer disputes the Contracting Officer's determination delivered pursuant to Section 28.6(d) (*Grant of Relief and Compensation for Compensation Events*), the Parties shall resolve the matter in accordance with the Dispute Resolution Procedures.
 - (f) If the Developer accepts or is deemed to have accepted the Contracting Officer's determination under Section 28.6(d) (*Grant of Relief and Compensation for Compensation Events*), (i) the Parties shall execute a mutually-acceptable District Change Order setting forth the terms of any compensation, extension of time or other relief to

which the Developer is entitled and (ii) Developer will have irrevocably waived and released any claim with respect to the alleged Compensation Event.

28.7 Calculation of Change in Costs

For the purposes of Section 28.6(b)(ii) (Grant of Relief and Compensation for Compensation Events), any Change in Costs will be calculated in accordance with Exhibit 17 (Principles for Calculation of Change in Costs).

28.8 Finance Costs during the District Delay Period

- (a) If any Finance Costs accrue during a District Delay Period:
 - (i) no earlier than forty-five (45) days prior to the date such Finance Costs become due for payment or repayment, the Developer shall provide the District with an invoice for an amount equal to such Finance Costs (including evidence demonstrating that such Finance Costs are payable and their due date for payment); and
 - (ii) subject to the Contracting Officer's (x) determination that the Developer is entitled to recover such Finance Costs in accordance with the terms of the Agreement and (y) confirmation there are sufficient funds legally available to make payment, the District shall pay such Finance Costs to the Developer within thirty (30) days of the date on which the Contracting Officer makes such determination.
- (b) No later than ninety (90) days following the Project Final Completion Date, the Developer shall prepare an update to the Financial Model to determine:
 - (i) whether, as a result of any Compensation Events and related District Delay Periods, and taking into account the payments made to the Developer by the District pursuant to Section 28.8(a)(ii), the Developer was left in a no better and no worse financial position as described in Section 41.7 (No Better and No Worse); and
 - (ii) the amount, if any, that either the Developer would need to pay to the District or that the District would need to pay to the Developer to ensure that the Developer would be in a no better and no worse financial position, as described in Section 41.7 (No Better and No Worse).
- (c) To the extent that the update to the Financial Model prepared by the Developer pursuant to Section 28.8(b) demonstrates that the Developer was left in a worse financial position notwithstanding the payments made to the Developer by the District pursuant to Section 28.8(a)(ii), the District shall, subject to the Contracting Officer's (x) determination that the Developer is entitled to recover additional Finance Costs in accordance with the terms of the Agreement and (y) confirmation there are sufficient funds legally available to make payment, within thirty (30) days of such determination by the Contracting Officer and execution by the Parties of a mutually-acceptable District Change Order, either make a lump-sum payment to the Developer or adjust the Availability Payments to the

Developer, in either case in an amount equal to that which would result in the Developer being left in a no better and no worse financial position as described in Section 41.7 (No Better and No Worse).

- (d) To the extent that the update to the Financial Model prepared by the Developer pursuant to Section 28.8(b) demonstrates that the Developer was left in a better financial position as a result of the payments made to the Developer by the District pursuant to Section 28.8(a)(ii), the Developer shall, within thirty (30) days of its preparation of such update to the Financial Model, determine whether to make a lump sum payment to the District or accept a reduction in the Availability Payments due to the Developer, in either case in an amount equal to that which would result in the Developer being left in a no better and no worse position as described in Section 41.7 (No Better and No Worse).

28.9 Failure to Agree

If:

- (a) the District disagrees that (i) a Compensation Event has occurred (or as to its consequences) or (ii) the Developer is entitled to relief under this Article 28 (Compensation Events); or
- (b) the Parties do not agree on the extent of any compensation, delay incurred or relief from the Developer's ongoing obligations under this Agreement,

the Parties shall resolve the matter in accordance with the Dispute Resolution Procedures.

28.10 Float

Notwithstanding anything to the contrary in the foregoing, float shall not be available to the District to absorb for delays caused by the Compensation Events set out in clauses (a) (*Material Breach by District*), (b) (*Violation of Applicable Law by District*), (d) (*Directive Letter*), (e) (*Required Action*), (f) (*Suspension*), (g) (*Interruption or Interference*), (h) (*Safety Compliance*), (k) (*Amendment to District-Provided Approval*), and (l) (*Right to Uncover*) of the definition thereof; provided the failure of the Developer to achieve Project Final Completion earlier than the Guaranteed Project Final Completion Date shall not be the basis of a claim for damages for delay.

28.11 Sole Remedy

Except for any rights it may have under Article 43 (Termination for District Default), the Developer's sole remedy in relation to any Compensation Event will be the operation of this Article 28 (Compensation Events).

29. RELIEF EVENTS

29.1 Entitlement to Claim

If a Relief Event directly causes, or is likely to directly cause, the Developer to do any one or more of the following:

- (a) fail to achieve Project Final Completion by the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, incur further delay in achieving Project Final Completion;
- (b) fail to receive any Milestone Payment on the date shown in the Base Case Financial Model; or
- (c) fail to comply with any of its obligations under this Agreement,

the Developer may claim one or more of the following in accordance with this Article 29 (Relief Events):

- (i) an extension of the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, the Long Stop Deadline;
- (ii) relief from compliance with its obligations under this Agreement;
- (iii) relief from any rights of the District under Article 44 (Termination for Developer Default); or
- (iv) compensation for any Finance Costs in accordance with Section 29.6 (Finance Costs During the District Delay Period).

29.2 Notice and Information

- (a) The Developer shall comply with the procedures in this Section 29.2 (Notice and Information) to claim an extension of time or relief from its obligations with respect to a Relief Event.
- (b) The Developer shall submit a notice that complies with Section 29.2(c) (Notice and Information) (an “**Initial Relief Event Notice**”) to the District promptly (and in any event within thirty (30) days) after the date that the Developer first became aware that the relevant Relief Event had occurred and would have the effect that is the subject of the Developer’s claim.
- (c) An Initial Relief Event Notice must:
 - (i) state that it is an Initial Relief Event Notice;
 - (ii) identify the relevant Relief Event (including any details then available to the Developer having made due inquiry); and
 - (iii) state the Developer’s intention to claim an extension of time or relief from any rights of the District under Article 44 (Termination for Developer Default) (as applicable) under this Article 29 (Relief Events).
- (d) In addition to the Initial Relief Event Notice, the Developer shall submit a notice that complies with this Section 29.2 (Notice and Information) (a “**Detailed Relief Event Notice**”) to the District promptly (and in any event within forty-five (45) days) after the

date that the Developer first became aware that the relevant Relief Event had occurred and would have the effect that is the subject of the Developer's claim.

- (e) A Detailed Relief Event Notice must include:
 - (i) a statement that it is a Detailed Relief Event Notice;
 - (ii) full details of the relevant Relief Event (as available to the Developer having made due inquiry);
 - (iii) full details of the extension of time or relief from any rights of the District under Article 44 (Termination for Developer Default) claimed or reasonably likely to be claimed (as applicable) under this Article 29 (Relief Events);
 - (iv) with respect to any claim for an extension of time, a Time Impact Analysis (based on the Project Baseline Schedule most recently agreed to pursuant to Section 2.3.1 (*Project Baseline Schedule*) of the Technical Provisions) demonstrating that the relevant Relief Event will result in an identifiable and measurable disruption to the Work, which will impact a Critical Path activity (i.e., will consume all available float and will extend the time required to achieve Project Final Completion or satisfy the conditions to receive any Milestone Payment);
 - (v) evidence reasonably satisfactory to the District that no other concurrent unrelated delay to a Critical Path activity that is the Developer's responsibility has occurred that has contributed to the delay for which the extension of time or relief from obligations (as applicable) is being sought;
 - (vi) evidence reasonably satisfactory to the District demonstrating that any Finance Costs claimed by the Developer will be incurred during the District Delay Period as a direct result of the Uninsured Relief Event or is reasonably likely to be a direct result of an Uninsured Relief Event (as applicable); and
 - (vii) details of any steps that the Developer has taken or will take to mitigate the effect of the Relief Event in accordance with Section 29.3 (Mitigation).
- (f) If at the time of issuing the Detailed Relief Event Notice, the Relief Event is continuing, the Developer shall:
 - (i) submit an updated Detailed Relief Event Notice every thirty (30) days until the Relief Event has ended; and
 - (ii) within ten (10) Business Days of the Relief Event ending, submit a final Detailed Relief Event Notice.

29.3 Mitigation

The Developer shall use Reasonable Efforts to mitigate the delay and any other consequences of any Relief Event that is the subject of a notice pursuant to Section 29.2 (Notice and Information).

29.4 Failure to Provide Required Notice or Information

If any notice or information is not provided to the District in accordance with the requirements of Section 29.2 (Notice and Information), then for the relevant Relief Event and without prejudice to any other rights or remedies of the District under this Agreement:

- (a) the Developer will not be entitled to any extension of time or relief from its obligations under this Agreement to the extent that the quantum thereof was increased or the ability to mitigate was adversely affected as a result of such notice or information not being provided to the District in accordance with the requirements of Section 29.2 (Notice and Information); and
- (b) if the delay in providing such notice or information in accordance with the requirements of Section 29.2 (Notice and Information) is twelve (12) months or more, the rights of the Developer with respect to such Relief Event will be of no further force or effect.

29.5 Grant of Relief

- (a) The Developer will be entitled to an extension of time or other relief from obligations in accordance with Section 29.5(b) (Grant of Relief) only if the Developer has satisfied all of the following:
 - (i) complied with its obligations under Section 29.2 (Notice and Information) and Section 29.3 (Mitigation);
 - (ii) demonstrated to the reasonable satisfaction of the District that a Relief Event has occurred; and
 - (iii) demonstrated to the reasonable satisfaction of the District that the Relief Event was the direct cause or is reasonably likely to be the direct cause of:
 - (A) a delay in achieving Project Final Completion by the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, further delay in achieving Project Final Completion;
 - (B) the Developer failing to comply with its obligations under this Agreement; or
 - (C) with respect to any Uninsured Relief Event, the Developer incurring Finance Costs.
- (b) If the Developer satisfies the conditions set out in Section 29.5(a) (Grant of Relief), the Developer will be entitled to an extension of time, relief from its obligations, or compensation for Finance Costs, as applicable, as follows:
 - (i) in the case of a delay demonstrated pursuant to Section 29.2 (Notice and Information), the Guaranteed Project Final Completion Date or, following the Guaranteed Project Final Completion Date, the Long Stop Deadline, will be

- extended by such time as is reasonable, based on the Time Impact Analysis, for such a Relief Event;
- (ii) subject to Section 29.5(b)(iii) (*Grant of Relief*), if any Developer Default or breach of this Agreement would not have occurred but for the occurrence of the Relief Event, such Developer Default or breach will be deemed to have not occurred for the purposes of this Agreement;
 - (iii) if any Noncompliance Event would not have occurred but for the occurrence of the Relief Event, such Noncompliance Event will be deemed to have not occurred for the purposes of this Agreement and no Noncompliance Points or Deductions will be assessed by the District in respect of such event;
 - (iv) if any Unavailability Event would not have occurred but for the occurrence of the Relief Event, such Unavailability Event will be deemed to have not occurred for purposes of this Agreement and no Deductions will be assessed by the District in respect of such event; and
 - (v) in the case of any Finance Costs the Developer will incur during the District Delay Period due to the occurrence of an Uninsured Relief Event, the Developer will be entitled to compensation in accordance with and subject to the terms of Section 29.6 (*Finance Costs During the District Delay Period*).
- (c) Within sixty (60) days after receipt of any final Detailed Relief Event Notice, the Contracting Officer shall notify the Developer of the Contracting Officer's determination as to the Developer's entitlement to any extension of time or other relief under this Section 29.5 (*Grant of Relief*).
 - (d) After receipt of notice from the Contracting Officer under Section 29.5(c) (*Grant of Relief*), the Developer shall promptly (but in any event within ten (10) Business Days after receipt of such notice) notify the Contracting Officer in writing of whether it accepts or disputes the determination made by the District. If the Developer does not dispute the Contracting Officer's determination within the ten (10) Business Day-period, the Developer will be deemed to have accepted the determination.
 - (e) If the Developer disputes the Contracting Officer's determination delivered pursuant to Section 29.5(c) (*Grant of Relief*), the Parties shall resolve the matter in accordance with the Dispute Resolution Procedures.
 - (f) If the Developer accepts or is deemed to have accepted the Contracting Officer's determination under Section 29.5(c) (*Grant of Relief*), (i) the Parties shall execute a mutually-acceptable District Change Order setting forth the terms of any extension of time or other relief to which the Developer is entitled and (ii) the Developer will have irrevocably waived and released any claim with respect to the alleged Relief Event.

29.6 Finance Costs During the District Delay Period

If any Finance Costs accrue during a District Delay Period as a result of the occurrence of an Uninsured Relief Event, the provisions of Section 28.8 (*Finance Costs During the District Delay*)

Period) shall apply with respect to any Uninsured Relief Event, *mutatis mutandis*, as if set out in full herein, with all references to the Compensation Events to instead, for purposes of this Section 29.6, refer to the Uninsured Relief Events.

29.7 Sole Remedy

Except for any rights it may have under Article 30 (Force Majeure Events), the Developer's sole remedy in relation to any Relief Event will be the operation of this Article 29 (Relief Events).

30. FORCE MAJEURE EVENTS; EXTENDED RELIEF EVENTS

30.1 General

In addition to the provisions of Article 29 (Relief Events), the provisions of this Article 30 (Force Majeure Events) apply with respect to Force Majeure Events; *provided* that the occurrence or continuance of any Force Majeure Event shall not excuse any Party from performing any payment obligations contemplated under this Agreement or any other Project Documents.

30.2 No Breach of Obligations

Subject to Section 29.5(b)(iii) (Grant of Relief), neither Party may bring a claim for a breach of obligations under this Agreement by the other Party or incur any liability to the other Party for any losses or damages incurred by that other Party if a Force Majeure Event occurs and the Party affected by the Force Majeure Event is prevented from carrying out its obligations by that Force Majeure Event.

30.3 Consultation

Promptly (and in any event within ten (10) Business Days) after any notification of a Force Majeure Event under Section 29.2 (Notice and Information), the Parties shall consult with each other in Good Faith and use all Reasonable Efforts to agree on appropriate terms to mitigate the effects of the Force Majeure Event and facilitate the continued performance of this Agreement.

30.4 Failure to Agree; Right to Terminate

(a) If:

(i) either of the following occurs:

- (A) as a result of a Force Majeure Event, a Party is unable to comply with any of its material obligations under this Agreement for a continuous period of more than one hundred twenty (120) days after the date such Force Majeure Event occurred (an "**Extended Force Majeure Event**"); or
- (B) as a result of a Relief Event (other than a Force Majeure Event), a Party is unable to comply with any of its material obligations under this Agreement for a continuous period equal to the greater of (1) more than one hundred twenty (120) days after the date such Relief Event occurred or (2) the maximum indemnity period for delay in start-up coverage with

respect to any insurance the Developer is required to maintain under this Agreement applicable to such Relief Event (an “**Extended Relief Event**”); and

- (ii) within such one hundred twenty (120) day-period or maximum indemnity period, as applicable, the Parties are unable to agree on appropriate terms to mitigate the effects of the Extended Force Majeure Event or the Extended Relief Event, as applicable, and facilitate the continued performance of this Agreement,

then either Party may deliver notice to the other Party that it wishes to terminate this Agreement (a “**Supervening Event Termination Notice**”). A Supervening Event Termination Notice must (x) provide a proposed date of termination and (y) be delivered to the other Party at least thirty (30) days before such proposed date of termination.

(b) If:

- (i) the District delivers a Supervening Event Termination Notice to the Developer in accordance with Section 30.4(a) (Failure to Agree; Right to Terminate); or
- (ii) the Developer delivers a Supervening Event Termination Notice to the District in accordance with Section 30.4(a) (Failure to Agree; Right to Terminate) during the D&C Period,

this Agreement will terminate on the date of termination stated in such Supervening Event Termination Notice.

- (c) If the Developer delivers a Supervening Event Termination Notice to the District in accordance with Section 30.4(a) (Failure to Agree; Right to Terminate) during the Asset Management Period, Section 30.5 (District Options) will apply.

30.5 District Options

- (a) If the Developer delivers a Supervening Event Termination Notice in accordance with Section 30.4(a) (Failure to Agree; Right to Terminate) during the Asset Management Period, the District shall, within fifteen (15) Business Days of receiving such notice, deliver a notice to the Developer stating that the District either:
 - (i) accepts that this Agreement will terminate on the date stated in the Supervening Event Termination Notice; or
 - (ii) requires this Agreement to continue.
- (b) If the District issues a notice under Section 30.5(a)(i) (District Options) or fails to deliver any notice under Section 30.5 (District Options), this Agreement will terminate on the date set out in the Supervening Event Termination Notice delivered by the Developer in accordance with Section 30.4(a) (Failure to Agree; Right to Terminate).
- (c) If the District delivers a notice under Section 30.5(a)(ii) (District Options):

- (i) this Agreement will not terminate and will continue until the District provides written notice (of at least thirty (30) days) to the Developer that it wishes this Agreement to terminate; and
- (ii) until such time as the District terminates this Agreement in accordance with Section 30.5(c)(i) (District Options):
 - (A) the Developer shall, to the extent practicable, continue to perform the Work; and
 - (B) subject to the Developer complying with Section 30.5(c)(ii)(A) (District Options), the District shall pay to the Developer each Quarterly Disbursement from the day after the date on which this Agreement would have terminated under Section 30.5(b) (District Options) as if the Work were being fully provided in accordance with the requirements of this Agreement; and
 - (C) if there occurs any Noncompliance Event or Unavailability Event that would not have occurred but for the occurrence of the Extended Force Majeure Event or Extended Relief Event, as applicable, then such Noncompliance Event or Unavailability Event, as applicable, will be deemed to have not occurred for purposes of this Agreement and no Deductions will be assessed by the District in respect of such Extended Force Majeure Event or Extended Relief Event.

30.6 Cessation of Force Majeure Event

The Party affected by the Force Majeure Event shall notify the other Party as soon as practicable after the Force Majeure Event ceases or no longer causes such Party to be unable to comply with its obligations under this Agreement. Following such notification, this Agreement shall continue to be performed on the terms existing immediately prior to the occurrence of the Force Majeure Event.

31. CHANGE IN LAW; TARIFF EVENT

31.1 Compliance with Change in Law

The Developer shall ensure that the Work is performed in accordance with the terms of this Agreement following any Change in Law.

31.2 Notification of Change in Law

- (a) If a Change in Law (other than a Qualifying Change in Law) occurs or will occur shortly, either Party may notify the other and include in such notification:
 - (i) an opinion on its likely effects;
 - (ii) any necessary change to the Work, including full details of the procedures for implementing such changes; and

- (iii) amendments (if any) required to this Agreement.
- (b) Promptly (and in any event within thirty (30) days) after either Party delivers a notice under this Section 31.2 (Notification of Change in Law), the Parties shall discuss and agree on the issues referred to in such notice and any ways in which the Developer can mitigate the effect of the relevant Change in Law.

31.3 Qualifying Changes in Law

The provisions of Article 28 (Compensation Events) apply with respect to any Qualifying Change in Law.

31.4 Tariff Event

- (a) If a Tariff Event occurs, the Developer shall notify the District promptly (and in any event within thirty (30) days) following the occurrence of such Tariff Event (a “**Preliminary Tariff Event Notice**”). The Developer shall include in each Preliminary Tariff Event Notice:
 - (i) a description of each component of the D&C Work impacted by the Tariff Event; and
 - (ii) an opinion on the likely effects of the Tariff Event on the D&C Contract Price, such opinion to include the Developer’s estimate of the increase or decrease in the cost of each relevant component of the D&C Work between the Financial Proposal Due Date and the date on which the Developer expects to install or purchase each such component.
- (b) Promptly following the Developer’s installation or purchase of a component of the D&C Work that is the subject of a Preliminary Tariff Event Notice (and in any event within thirty (30) days following the Developer’s installation or purchase of the relevant component), the Developer shall provide to the District a follow-up notice (a “**Detailed Tariff Event Notice**”) that includes a detailed description, along with reasonably detailed supporting documentation, of the increase or decrease in the cost of each relevant component of the D&C Work between the Financial Proposal Due Date and the date on which the Developer installed or purchased each such component.
- (c) Within thirty (30) days following the Project Final Completion Date, the Contracting Officer shall review each Detailed Tariff Event Notice and determine whether an equitable adjustment to the D&C Contract Price is required to address the impact (either positive or negative) of all such Tariff Events. Following such determination, the Parties shall execute a mutually acceptable District Change Order setting forth of the terms of such equitable adjustment. The Developer may refer the matter for resolution pursuant to the Dispute Resolution Procedures if the Developer disagrees with the Contracting Officer’s determination.
- (d) If the equitable adjustment to the D&C Contract Price agreed by the Parties or finally determined pursuant to the Dispute Resolution Procedures, as applicable, includes an increase to the D&C Contract Price, the District shall pay to the Developer, subject to the Contracting Officer’s confirmation that there are sufficient funds legally available to make

such payment, the amount of such equitable adjustment within thirty (30) days of receiving an invoice, in a form reasonably acceptable to the District, from the Developer. If the equitable adjustment to the D&C Contract Price agreed by the Parties or finally determined pursuant to the Dispute Resolution Procedures, as applicable, includes a decrease to the D&C Contract Price, the Developer shall pay to the District the amount of such equitable adjustment within thirty (30) days of receiving an invoice, in a form reasonably acceptable to the Developer, from the District.

32. DISTRICT CHANGES AND DIRECTIVE LETTERS

32.1 District Change Request

- (a) The District may, at any time, propose a change in the Work (an “**District Change**”) by delivering a written notice (an “**District Change Request**”) to the Developer setting out the following:
 - (i) the District’s proposed change(s) to the Work or to the Technical Provisions (including any change in the standards applicable to the Work), in sufficient detail to enable the Developer to provide a Developer Estimate in accordance with Section 32.3 (Developer Estimate in Response to District Change Requests); and
 - (ii) the proposed method of compensation for the change(s).
- (b) A District Change Request may also require the Developer to provide an estimate of the third party costs that the Developer will incur in preparing a Developer Estimate. The Developer shall provide such third party cost estimate within ten (10) Business Days of receiving the District Change Request.
- (c) The following shall not constitute a District Change:
 - (i) any Administrative Redirect issued by the District pursuant to Section 10.6.7(a)(i) (*Administrative Redirect*) of the Technical Provisions; and
 - (ii) for any given year during the Term, the issuance by the District of up to twenty-five (25) Administrative Redirects pursuant to Section 10.6.7(a)(ii) (*Administrative Redirect*) of the Technical Provisions.

32.2 Right to Refuse District Change Request

The Developer may refuse a District Change Request that would, if implemented:

- (a) require the Work to be performed in a way that violates Applicable Law;
- (b) contravene a Governmental Approval then in full force and effect; provided that such contravention cannot be corrected by the issuance of a new or revised Governmental Approval that can be obtained by the Developer;
- (c) materially adversely affect the health and safety of any Person;

- (d) cause an insured risk to become an Uninsurable Risk;
- (e) materially and adversely change the nature of the Project or the allocation of risk between the Parties;
- (f) be unrelated to the kind of work initially procured under the RFP and to the kind of work that Developer-Related Entities provide in the marketplace; or
- (g) require the Work to be performed in a way that results in a breach of the terms of any License Agreement.

32.3 Developer Estimate in Response to District Change Requests

- (a) Promptly and, in any event:
 - (i) within fifteen (15) Business Days after the Developer receives a District Change Request; or
 - (ii) where the District Change Request requires the Developer to provide an estimate of the third party costs that the Developer will incur in preparing a Developer Estimate, within fifteen (15) Business Days after the District notifies the Developer that such estimate is acceptable,

the Developer shall deliver to the District either:

- (A) an estimate of costs and expenses and other matters with respect to such District Change Request (a “**Developer Estimate**”) that complies with Section 32.3(c) (Developer Estimate in Response to District Change Requests); or
 - (B) confirmation as to when the Developer Estimate will be delivered to the District.
- (b) The Developer shall use all Reasonable Efforts to deliver its Developer Estimate within forty-five (45) days after (i) the Developer receives the District Change Request or (ii) the District notifies the Developer that its estimate for third party costs is acceptable (as applicable), or within such longer period as agreed to with the District (acting reasonably).
- (c) A Developer Estimate must include the following:
 - (i) whether the Developer requires relief from compliance with its obligations under this Agreement during the implementation or as a result of the proposed District Change;
 - (ii) any impact on the provision of the Work, including any potential cost impact on future Asset Management Services;
 - (iii) any amendment that would be required to this Agreement as a result of the proposed District Change;

- (iv) any consents or permits that will be required as a result of the proposed District Change;
- (v) any new Governmental Approvals or amendments to existing Governmental Approvals required as a result of the proposed District Change;
- (vi) an estimate of (x) any Change in Costs (calculated in accordance with Exhibit 17 (Principles for Calculation of Change in Costs)) and (y) the cost of any Capital Expenditure that is required or no longer required, in each case, as a result of the proposed District Change, which estimate must include:
 - (A) a scope of work (including all activities associated with the proposed modification) that must be described in sufficient detail and broken down into suitable components and activities to enable pricing; and
 - (B) a cost proposal that will enable the District to review and evaluate the reasonableness of the Developer Estimate;
- (vii) a detailed timetable for implementation of the Extra Work and, if the Developer believes that the proposed District Change would result in a delay to the Work, a Time Impact Analysis (based on the Project Baseline Schedule most recently agreed to pursuant to Section 2.3.1 (*Project Baseline Schedule*) of the Technical Provisions) demonstrating that the proposed District Change will result in an identifiable and measurable disruption to the Work;
- (viii) the proposed method of certification of any construction aspects of the Extra Work required by the proposed District Change;
- (ix) if applicable, the Developer's suggested payment schedule for the proposed District Change (based on monthly progress billing);
- (x) if applicable, the Developer's suggested changes to the Availability Payments to be implemented in accordance with Article 41 (Relevant Events and the Financial Model);
- (xi) acceleration costs, but only when the District requires the Developer pricing to accommodate an acceleration in any D&C Work;
- (xii) certification by the Developer stating that:
 - (A) to the best of the Developer's knowledge, the amount of time or compensation requested is justified (both as to entitlement and amount);
 - (B) the amount of time or compensation requested includes all known and anticipated impacts or amounts (direct, indirect and consequential) that may be incurred as a result of the event or matter giving rise to the proposed change; and
 - (C) the cost and pricing data provided is complete, accurate and current; and

- (xiii) such other supporting documentation as may be reasonably requested by the District.
- (d) The Developer's requested compensation for the proposed District Change in a Developer Estimate will be subject to audit review by the District in accordance with Article 51 (Records and Audit).

32.4 Review and Evaluation of Developer Estimate

- (a) Promptly (and in any event within ten (10) Business Days) after the District receives a Developer Estimate, the Developer shall meet with the District to review, discuss and seek to agree upon the Developer Estimate.
- (b) During such discussions, the District may:
 - (i) modify the District Change Request; or
 - (ii) subject to Section 32.4(c) (Review and Evaluation of Developer Estimate), to the extent practicable (given the nature of the Extra Work), direct the Developer to seek and evaluate competitive tenders for the relevant capital works in connection with the proposed District Change, as applicable.
- (c) The Developer will not be required to seek and evaluate competitive tenders under Section 32.4(b)(ii) (Review and Evaluation of Developer Estimate) if it demonstrates to the reasonable satisfaction of the District that engaging a contractor other than the D&C Contractor or Asset Management Contractor would have a material adverse effect on any warranties provided by, or to be provided by, the D&C Contractor or Asset Management Contractor in connection with the Conversion Work, Smart City Work, or Asset Management Services, as applicable.
- (d) If the District exercises its rights under Section 32.4(b) (Review and Evaluation of Developer Estimate), the Developer shall, within fifteen (15) Business Days after receiving such modification or direction, or within such longer period as agreed to by the District (acting reasonably), notify the District of any consequential changes to the Developer Estimate.
- (e) Within fifteen (15) Business Days after the meetings referred to in Section 32.4(a) (Review and Evaluation of Developer Estimate) or the date additional information is received pursuant to Section 32.4(c) (Review and Evaluation of Developer Estimate) (as applicable), the District shall either:
 - (i) accept the Developer Estimate (as may be modified) by issuing a notice to the Developer (a "**District Change Order**"); or
 - (ii) notify the Developer that the District withdraws the District Change Request.

32.5 Commencement of Extra Work

- (a) Unless the District issues a Directive Letter in accordance with Section 32.9 (Directive Letter), the Developer must not commence any Extra Work described in a District Change Request prior to the District accepting the Developer Estimate in accordance with Section 32.4(e)(i) (Review and Evaluation of Developer Estimate).
- (b) If the District accepts the Developer Estimate (as may be modified) in accordance with Section 32.4(e)(i) (Review and Evaluation of Developer Estimate), the Developer shall use Reasonable Efforts to implement the relevant Extra Work in accordance with the Developer Estimate.

32.6 Method of Payment

If the District accepts the Developer Estimate (as may be modified) in accordance with Section 32.4(e)(i) (Review and Evaluation of Developer Estimate), the District shall make a payment to the Developer within sixty (60) days of receiving each invoice (complete in all material respects) in accordance with the agreed-upon payment schedule, accompanied by the evidence reasonably acceptable to the District (where applicable) that the relevant part of the District Change has been carried out.

32.7 Decreased Costs

If a District Change results in a decrease in the Developer's costs, any payments due from the District under this Agreement will be adjusted downwards in accordance with Article 41 (Relevant Events and the Financial Model) to reflect such reduction in the Developer's costs.

32.8 Performance

The Developer shall not suspend performance of the Work during the negotiation of any District Change Request, except:

- (a) as may be directed by the District in accordance with Section 15.3 (Suspension of Conversion Work and/or Smart City Work); or
- (b) to the extent that such suspensions are otherwise expressly permitted under the terms of this Agreement.

32.9 Directive Letter

- (a) If a District Change Request has not been finally agreed to by the Parties, the District may deliver to the Developer a letter directing the Developer to proceed with the performance of the Extra Work proposed in the District Change Request (a "**Directive Letter**").
- (b) A Directive Letter must set out the kind, character and limits of the Extra Work that the Developer is required to perform.
- (c) Upon receipt of a Directive Letter, the Developer shall, subject to its rights under Section 32.2 (*Right to Refuse a District Change Request*), implement and perform the Extra Work

as directed by the District and may claim a Compensation Event in accordance with Article 28 (Compensation Events).

32.10 Costs of Developer Estimate

- (a) If the District withdraws a District Change Request or issues a Directive Letter, the District shall reimburse the Developer for all reasonable and documented third party costs incurred by the Developer (as shown in an invoice reasonably acceptable to the Contracting Officer) in:
 - (i) preparing the Developer Estimate (subject to Section 32.1(b) (District Change Request)); and
 - (ii) complying with its obligations under Section 32.4 (Review and Evaluation of Developer Estimate).
- (b) If, pursuant to Section 32.1(b) (District Change Request), the Developer has provided an estimate of the third party costs that it will incur in preparing a Developer Estimate, the amount payable by the District under Section 32.10(a) (Costs of Developer Estimate) will not exceed that estimate, unless otherwise agreed to by the Parties.
- (c) Any payment by the District under this Section 32.10 (Costs of Developer Estimate) is subject to the Contracting Officer's confirmation there are sufficient funds legally available to make payment.

32.11 Expansion of the Street Light Network

The District expects that the Street Light Network will be expanded from time to time during the Term. Section 2 (*Street Light Network Expansion Types*) of Exhibit 10 (Knockdown Threshold; Street Light Network Expansion Types) sets forth (i) the scopes of work for each type of Street Light Network Expansion (such scopes of work, collectively, the **"Expansion Work"**) and (ii) the assumed quantity, per Calendar Year, for each type of Expansion Work (such quantities, collectively, the **"Expansion Work Allowance"**). Without limitation of the District's right to issue a District Change Request or Directive Letter hereunder:

- (a) The District may, at any time, require the Developer to undertake Expansion Work by delivering written notice (an **"Expansion Directive"**) to the Developer that directs the Developer to undertake the Expansion Work described in the Expansion Directive:
 - (i) at the relevant locations designated by the District in the Expansion Directive;
 - (ii) according to a schedule set forth in the Expansion Directive; and
 - (iii) as otherwise required by the Technical Provisions.
- (b) If and to the extent that the District does not fully utilize any quantity of the Expansion Work Allowance in any given Calendar Year, such unused quantity shall carry forward and be added to the next Calendar Year's Expansion Work Allowance, subject to the

limitations set forth in Section 2 (*Street Light Network Expansion Types*) of Exhibit 10 (Knockdown Threshold; Street Light Network Expansion Types).

- (c) Except as otherwise provided in Section 32.11(e) (Expansion of Street Light Network), an Expansion Directive shall neither constitute a District Change nor otherwise qualify as a Compensation Event.
- (d) The Developer may refuse to perform any Expansion Directive for any reason described in Section 32.2 (Right to Refuse District Change Request) as if the Expansion Directive were a District Change Request.
- (e) In the event the District directs the Developer, pursuant to one or more Expansion Directives, to undertake Expansion Work in excess of the Expansion Work Allowance available for a given Calendar Year, then such event shall be a Compensation Event. The unit pricing for Luminaires, RMCS connection nodes, and gateways set forth in Section 3 (*Unit Pricing for Luminaires, Nodes, and Gateways*) of Exhibit 10 (Knockdown Thresholds; Street Light Network Expansion Types), Indexed, will serve as the basis for the Developer's Change in Costs with respect to Luminaires and nodes provided by Developer as part of any Expansion Work that qualifies as a Compensation Event pursuant to this Section 32.11(e).

32.12 MPD CCTV Cameras; Inspections; Structural Analysis

- (a) The District expects that, from time to time during the Asset Management Period, the District may require the Developer to install MPD CCTV Cameras on Poles, as further described in Section 10.9 (*Attachments*) of the Technical Provisions. Such installation work shall constitute a District Change; *provided* the basis for the Developer Estimate and corresponding District Change Order with respect to any such installation work shall be the MPD Camera Installation Unit Price.
- (b) The District expects that, from time to time during the Term, the District may require the Developer to inspect Lighting Units as part of the installation of small cell networking equipment by a third party, as further described in Section 5.3 (*Small Cells*) and Section 10.10 (*Inspections*) of the Technical Provisions. Such inspection work shall constitute a District Change; *provided* the basis for the Developer Estimate and corresponding District Change Order with respect to such inspection work shall be the Small Cell Inspection Unit Price.
- (c) The District expects that, from time to time during the D&C Period, the District may require the Developer to perform structural analysis or design work on Poles owned by third parties prior to the installation of wireless access points, as further described in Section 9.2(c) (*Developer's Responsibilities*) of the Technical Provisions. Such work shall constitute a District Change (the costs of which will be paid by OCTO); *provided* the basis for the Developer Estimate and corresponding District Change Order with respect to such work shall be the Structural Analysis Unit Price.

33. DEVELOPER CHANGES

33.1 Developer Change Request

The Developer may, at any time, propose a change in the Work (a “**Developer Change**”) by delivering a written notice (a “**Developer Change Request**”) to the District setting out the following:

- (a) the proposed change to the Work in sufficient detail to enable the District to evaluate it in full;
- (b) the Developer’s reasons for proposing the change to the Work;
- (c) a request to the District to consult with the Developer with a view to deciding whether to agree to the change to the Work and, if so, what consequential changes the District requires due to the Developer Change;
- (d) any implications of the change to the Work;
- (e) details regarding proposed changes to the Milestone Payments or Availability Payments, if any (and, if so, a detailed cost estimate of such proposed changes);
- (f) any dates by which a decision by the District is needed; and
- (g) all of the information referred to in Section 32.3(c) (*Developer Estimate in Response to District Change Requests*).

33.2 Review and Evaluation of Developer Change Request

- (a) The District shall evaluate each Developer Change Request, taking into account all relevant issues, including whether:
 - (i) the change involves any increase to the Milestone Payments or Availability Payments, or requires any other additional payments from the District;
 - (ii) the change affects the quality of the Work or the likelihood of successful delivery of the Work;
 - (iii) the change will interfere in an adverse manner with the relationship of the District with third parties;
 - (iv) the financial strength of the Developer is sufficient to perform the changed Work;
 - (v) the residual value of the Project is reduced; and
 - (vi) the change materially affects the risk or costs to which the District is exposed.
- (b) Promptly (and in any event within thirty (30) days) after receiving a Developer Change Request, the Parties shall meet to discuss the matters referred to in it. During such

discussions the District and the Developer may propose modifications to the Developer Change Request.

- (c) Within fifteen (15) Business Days after the meetings referred to in Section 33.2(b) (Review and Evaluation of Developer Change Request), the District shall either:
 - (i) approve the Developer Change Request by issuing a notice to the Developer (a “Developer Change Order”); or
 - (ii) subject to Section 33.5(a) (Developer Change Request to Conform to Change in Law), reject the Developer Change Request.
- (d) If the District rejects the Developer Change Request, it will not be obliged to give its reasons for such a rejection.

33.3 Commencement of Extra Work

If the District approves the Developer Change Request (as may be modified), in accordance with Section 33.2(c)(i) (Review and Evaluation of Developer Change Request), the Developer shall use Reasonable Efforts to implement the relevant Extra Work in accordance with the Developer Change Request.

33.4 Payments

Unless a Developer Change Order specifically provides for an increase in the Milestone Payments or Availability Payments or any other payment by the District, there shall be no increase in Milestone Payments or Availability Payments or any other payments due from the District as a result of a change to the Work proposed in the Developer Change Request.

33.5 Developer Change Request to Conform to Change in Law

- (a) The District shall not reject a Developer Change Request that the Developer demonstrates to the reasonable satisfaction of the District is required in order to conform to a Change in Law.
- (b) The Developer shall bear the costs of introducing a change to the Work as a result of any Change in Law, other than a Qualifying Change in Law.

33.6 Decreased Costs

If a Developer Change Request results in a decrease in the Developer’s costs, any payments due from the District under this Agreement will be adjusted downwards in accordance with Article 41 (Relevant Events and the Financial Model) so that the benefit of such decrease in costs is shared equally by the District and the Developer.

33.7 Performance

The Developer shall not suspend performance of the Work during the negotiation of any Developer Change Request, except:

- (a) as may be otherwise directed by the District in accordance with Section 15.3 (Suspension of Conversion Work and/or Smart City Work); or
- (b) to the extent that such suspensions are otherwise permitted under the terms of this Agreement.

PART H – INDEMNITIES, INSURANCE AND REINSTATEMENT

34. INDEMNITY FROM THE DEVELOPER

34.1 Indemnity

Subject to Section 34.2 (Exclusions from Indemnity), to the fullest extent permitted by Applicable Law, the Developer shall release, defend, indemnify and hold harmless the Indemnified Parties on demand from and against any and all liability to third parties for Losses arising from:

- (a) death or personal injury;
- (b) loss of or damage to any Indemnified Party's property; and
- (c) Third Party Claims brought against any Indemnified Party,

which may arise out of, or in consequence of, any or all of the following:

- (i) any actual or alleged failure by the Developer to comply with, observe or perform any of the covenants, obligations, agreements, terms or conditions in the Project Documents or any actual or alleged breach by the Developer of its representations or warranties set forth herein;
- (ii) any violation of any federal or state securities or similar law by any Developer-Related Entity (other than as a direct result of any disclosure statements made by the District or other Indemnified Party); and
- (iii) if applicable, the authorization, issuance, sale, trading, redemption or servicing of any bonds issued to finance the Project (regardless of the identity of the issuer), or the Developer's failure to comply with any requirement necessary to preserve the tax-exempt status of bonds (other than as a direct result of any disclosure statements made by the District or other Indemnified Party).

34.2 Exclusions from Indemnity

The Developer shall not be responsible or be obliged to release, defend, indemnify or hold harmless any Indemnified Party with respect to any liability or Losses under Section 34.1 (Indemnity) to the extent that the same arise as a direct result of:

- (a) a Compensation Event, Relief Event or District Default;
- (b) the presence of Hazardous Materials on any Project Site for which the District is, pursuant to Section 13.2 (Generator Status), deemed to be the sole generator and arranger, but

only to the extent that the relevant Loss does not arise as a direct result of the negligence of the Developer or the Developer failing to comply with the terms of this Agreement;

- (c) any non-performance by an Indemnified Party of its obligations under this Agreement or any violation of Applicable Law by any Indemnified Party; or
- (d) the fraud, negligence, recklessness, bad faith or willful misconduct of an Indemnified Party.

34.3 Limitation on Indemnity

An indemnity by the Developer under any provision of this Agreement shall be without limitation to any indemnity by the Developer under any other provision of this Agreement.

34.4 Conduct of Third Party Claims

- (a) Where the District is entitled to make a claim under this Agreement against the Developer in relation to a Third Party Claim, the District shall give notice of the relevant claim to the Developer promptly, setting out the full particulars of the claim.
- (b) If the District receives notice of a claim or otherwise has actual knowledge of a claim that it believes is within the scope of the indemnities under Section 34.1 (Indemnity), and if the District gives notice thereof pursuant to Section 34.4(a) (Conduct of Third Party Claims), then the District shall have the right to conduct its own defense unless either an insurer accepts defense of the claims within the time required by Applicable Law or the Developer accepts the tender of the claim in accordance with Section 34.4(d) (Conduct of Third Party Claims).
- (c) If the insurer under any applicable Insurance Policy accepts the tender of defense, the District and the Developer shall cooperate in defense as required by the Insurance Policy. If no insurer under potentially applicable Insurance Policies provides defense, then Section 34.4(d) (Conduct of Third Party Claims) shall apply.
- (d) If the defense is tendered to the Developer, then within thirty (30) days after receipt of the tender it shall notify the Indemnified Party whether it has tendered the matter to an insurer and, if not tendered to an insurer or if the insurer has rejected the tender, shall deliver a notice stating that the Developer:
 - (i) Accepts the tender of defense and confirms that the claim is subject to full indemnification hereunder without any “reservation of rights” to deny or disclaim full indemnification thereafter;
 - (ii) Accepts the tender of defense but with a “reservation of rights” in whole or in part; or
 - (iii) Rejects the tender of defense based on a determination that it is not required to indemnify against the claim under the terms of this Agreement.

- (e) If the Developer accepts the tender of defense under Section 34.4(d)(i) (*Conduct of Third Party Claims*), the Office of the Attorney General for the District of Columbia shall select legal counsel for the District, and the Developer shall otherwise select legal counsel for the Indemnified Party (in each case as applicable) and shall control the defense of such claim, including settlement, and bear the fees and costs of defending and settling such claim. During such defense:
 - (i) The Developer shall fully and regularly inform the Indemnified Party of the progress of the defense and of any settlement discussions; and
 - (ii) The Indemnified Party shall fully cooperate in said defense, provide to the Developer all materials and access to personnel it requests as necessary for defense, preparation and trial and which or who are under the control of or reasonably available to the Indemnified Party, and maintain the confidentiality of all communications between it and the Developer concerning such defense.
- (f) If the Developer responds to the tender of defense as specified in Section 34.4(d)(iii) (*Conduct of Third Party Claims*), the Office of the Attorney General for the District of Columbia shall defend or select the relevant legal counsel and otherwise control the defense of such claim, including settlement.
- (g) Notwithstanding Sections 34.4(d)(i) and 34.4(d)(ii) (*Conduct of Third Party Claims*), the Indemnified Party may revocably assume its own defense at any time by delivering to the Developer notice of such election and the reason therefor, if the Indemnified Party, at the time it gives notice of the claim or at any time thereafter, reasonably determines that:
 - (i) A conflict exists between it and the Developer, which prevents or potentially prevents the Developer from presenting a full and effective defense;
 - (ii) The Developer is not otherwise providing an effective defense in connection with the claim; or
 - (iii) The Developer lacks the financial capacity to satisfy potential liability or to provide an effective defense.
- (h) If the Indemnified Party is entitled and elects to conduct its own defense pursuant hereto of a claim for which it is entitled to indemnification, the Developer shall reimburse on a current basis all reasonable costs and expenses the Indemnified Party incurs in investigating and defending such claim. If the Indemnified Party is entitled to and elects to conduct its own defense, then:
 - (i) In the case of a defense that otherwise would be conducted under Section 34.4(d)(i) (*Conduct of Third Party Claims*), the Indemnified Party shall have the right to settle or compromise the claim with each of the Developer's and the Developer's relevant insurer(s)' prior written consent, which, in each case, shall not be unreasonably withheld or delayed;
 - (ii) In the case of a defense that otherwise would be conducted under Section 34.4(d)(ii) (*Conduct of Third Party Claims*), the Indemnified Party and the

Developer shall consult with each other on a regular basis to determine whether settlement is appropriate and, subject to the right of any insurer providing coverage for the claim under a policy required under this Agreement, the Indemnified Party shall have the right to settle or compromise the claim with the Developer's prior written consent (such consent not to be unreasonably withheld, conditioned, or delayed) without prejudice to the Indemnified Party's rights to be indemnified by the Developer; and

- (iii) In the case of a defense conducted under Section 34.4(d)(iii) (Conduct of Third Party Claims), the Indemnified Party shall, subject to the rights of any insurer providing coverage for the claims under a policy required under this Agreement, have the right to settle or compromise the claim without the Developer's prior written consent and without prejudice to its rights to be indemnified by the Developer.
- (i) If the claim is resolved in favor of the Indemnified Party and the Indemnified Party has recovered its costs and expenses as a result of such favorable resolution for which it has been previously reimbursed by the Developer, the Developer shall be entitled to recover from the Indemnified Party the costs and expenses for which the Developer has previously reimbursed such Indemnified Party; *provided* an Indemnified Party shall have no affirmative obligation to pursue recovery of such costs and expenses from any party other than the Developer.
- (j) A refusal of, or failure to accept, a tender of defense, as well as any Dispute over whether an Indemnified Party that has assumed control of defense is entitled to do so under Section 34.4(g) (Conduct of Third Party Claims), shall be resolved according to the Dispute Resolution Procedures. The Developer shall be entitled to contest an indemnification claim and pursue, through the Dispute Resolution Procedures, recovery of defense and indemnity payments it has made to or on behalf of the Indemnified Party. In the event an Indemnified Party initiates litigation in order to enforce its right to indemnification and prevails, in addition to all other obligations hereunder, the Indemnified Party shall be entitled to recover all of its costs and expenses, including but not limited to expert fees, associated with such action.

35. INSURANCE

35.1 Insurance Policies and Coverage

The Developer shall obtain and maintain, or cause to be obtained or maintained, the Insurance Policies identified in Exhibit 9 (Required Insurance) in accordance with the requirements set out in Exhibit 9 (Required Insurance).

35.2 Reinstatement Work

- (a) If (i) prior to the start of the Asset Management Period, all or any material part of the Existing Street Light Network is damaged or destroyed or (ii) during the Asset Management Period, all or any material part of the Improved Street Light Network is damaged or destroyed, the Parties shall, to the extent such damage or destruction is not covered by insurance to be provided hereunder, proceed in accordance with this

Section 35.2 (Reinstatement Work); *provided*, if such loss or damage is due to the occurrence of a Force Majeure Event, the Parties shall instead proceed in accordance with Article 30 (Force Majeure Events). The Parties further agree that this Section 35.2 (Reinstatement Work) shall not apply with respect to damage of a minor nature that may be remedied without significant cost or delay and that does not have a material adverse effect on the Developer's ability to perform the Asset Management Services, as applicable. Notwithstanding the Developer's obligations to install the Smart City Improvements as further described in the Technical Requirements and for the avoidance of doubt, the Developer shall have no obligation to undertake Reinstatement Work (as defined in Section 35.2(b)) with respect to the Smart City Improvements.

- (b) The Developer shall deliver to the District promptly (and in any event within thirty (30) days, unless the District authorizes an extension in writing) after the occurrence of the damage, a plan (the **"Reinstatement Plan"**) prepared by the Developer for carrying out the repairs or reinstatement work (the **"Reinstatement Work"**) necessary to repair, reinstate or replace the relevant part of the Existing Street Light Network or the Improved Street Light Network, as applicable, such that the relevant part of the Existing Street Light Network or the Improved Street Light Network, as applicable, is in compliance with this Agreement.
- (c) A Reinstatement Plan must set out the proposed schedule for undertaking the Reinstatement Work, which should be put together with the intent of ensuring the relevant part of the Existing Street Light Network or the Improved Street Light Network, as applicable, is fully operational as soon as reasonably practicable.
- (d) Within thirty (30) days after its receipt of the Reinstatement Plan, the District shall instruct the Developer either to:
 - (i) proceed with the Reinstatement Work; or
 - (ii) not proceed with the Reinstatement Work.
- (e) If the District notifies the Developer to proceed with the Reinstatement Work, the Developer shall do so at its sole cost and expense, subject to the Developer's rights under this Agreement, if any, to submit a claim for a Compensation Event.
- (f) If the event which gave rise to the loss of or damage to the Existing Street Light Network or the Improved Street Light Network, as applicable, is an Uninsurable Risk and the District instructs the Developer to proceed with the Reinstatement Work, the provisions of Section 36.2 (Consequences of a Risk Becoming an Uninsurable Risk) shall apply.
- (g) If the District instructs the Developer not to proceed with the Reinstatement Work, the District may:
 - (i) omit the relevant part of the Existing Street Light Network or the Improved Street Light Network, as applicable, from the Project, in which case the instruction given to the Developer pursuant to Section 35.2(d)(ii) (Reinstatement Work) shall be deemed to be a District Change;

- (ii) if the loss or damage is due to a Developer Default and the Existing Street Light Network or the Improved Street Light Network, as applicable, is wholly or substantially destroyed, terminate this Agreement for Developer Default pursuant to Article 44 (Termination for Developer Default); or
- (iii) if the loss or damage is due to a District Default and the Existing Street Light Network or the Improved Street Light Network, as applicable, is wholly or substantially destroyed, terminate this Agreement for convenience pursuant to Article 42 (Termination for Convenience).
- (h) In the event of an Emergency, the Developer may carry out reasonable repairs, reinstatements or replacements on the relevant part of the Project without submitting the required Reinstatement Plan or obtaining the District's prior written consent.
- (i) If any Noncompliance Points would not have accrued but for the occurrence of any damage requiring Reinstatement Work under this Section 35.2 (Reinstatement Work), such Noncompliance Points and any associated Noncompliance Deductions will be deemed to have not accrued for the purposes of this Agreement, except to the extent that such Reinstatement Work is required as a result of the Developer failing to comply with the requirements of this Agreement or any negligent act or negligent omission of a Developer-Related Entity.

36. UNINSURABLE RISKS AND UNAVAILABLE INSURANCE TERMS

36.1 Uninsurable Risks

- (a) If a risk usually covered by all risks builder's risk, third party liability, all risks property, inland marine, or statutory insurances, in each case that is required under this Agreement, becomes an Uninsurable Risk, the Developer shall notify the District promptly (and in any event within fifteen (15) Business Days) after the earlier of:
 - (i) the Developer becoming aware that the risk is likely to be an Uninsurable Risk; and
 - (ii) the risk becoming an Uninsurable Risk,
 and, in any event, at least five (5) Business Days before expiration or cancellation of any existing insurance with respect to that risk (irrespective of the reason for the same). The Developer shall provide the District with such information as the District reasonably requests regarding the Uninsurable Risk.
- (b) If both Parties agree, or it is determined pursuant to the Dispute Resolution Procedures, that a risk is an Uninsurable Risk, the District and the Developer shall consider in Good Faith:
 - (i) alternative insurance packages and programs that provide coverage as comparable to that contemplated in Article 35 (Insurance) as is possible under then-existing insurance market conditions; and

- (ii) other means by which the risk should be managed or shared (including considering the issue of self-insurance by either Party).
- (c) If the District and the Developer do not agree on how to manage or share the relevant Uninsurable Risk within ten (10) days of the date on which the Developer provides notice under Section 36.1(a) (Uninsurable Risks), the District may refer the matter to a mediator acceptable to the District and the Developer (acting reasonably) instead of using the Dispute Resolution Procedures.

36.2 Consequences of a Risk Becoming an Uninsurable Risk

If both Parties agree (acting reasonably), or it is determined pursuant to the Dispute Resolution Procedures, that:

- (i) a risk is an Uninsurable Risk in accordance with Section 36.1(b) (Uninsurable Risks) and the Parties do not agree on how to manage or share the relevant Uninsurable Risk within thirty (30) days of the date on which the Developer provides notice under Section 36.1(a) (Uninsurable Risks) (irrespective of whether the matter has been referred to mediation under Section 36.1(c) (Uninsurable Risks) in that period); and
- (ii) the risk constituting an Uninsurable Risk is not caused by the actions, breaches, omissions or defaults of:
 - (A) the Developer, other than any inadvertent acts of the Developer (where the Developer has used best endeavors to remedy, overcome or otherwise mitigate the effect of any such inadvertent acts);
 - (B) a Contractor, unless the Developer has used best endeavors to remedy, overcome or otherwise mitigate the effect of the Contractor's action, breach, omission or default; or
 - (C) a Contractor, other than any inadvertent acts of a Contractor (unless the Developer has used best endeavors to remedy, overcome or otherwise mitigate the effect of the Contractor's inadvertent acts),

the District shall terminate this Agreement and pay the Developer in accordance with Article 46 (Termination for Uninsurability).

36.3 Unavailability of Insurance Terms

- (a) This Section 36.3 (Unavailability of Insurance Terms) will apply if, upon the initial placement or renewal of any insurance that the Developer is required to maintain, or to ensure the maintenance of, pursuant to this Agreement:
 - (i) any Insurance Term (as opposed to the relevant insurance policy as a whole) is not available to the Developer in the worldwide insurance market with reputable insurers of good standing; or

- (ii) the insurance premium payable for insurance incorporating any Insurance Term is such that the Insurance Term is not generally being incorporated in such insurance obtained in the worldwide insurance market with reputable insurers of good standing by contractors on public-private partnership projects in the United States,

(in either case the relevant Insurance Term being an “**Unavailable Term**”).

- (b) The Developer shall notify the District promptly (and in any event within fifteen (15) Business Days) after the earlier of:

- (i) the Developer becoming aware that the Insurance Term is likely to be an Unavailable Term; and
- (ii) the Insurance Term becoming an Unavailable Term,

and, in any event, at least five (5) Business Days before expiration or cancellation of any existing insurance with respect to that risk (irrespective of the reason for the same). The Developer shall provide the District with such information as the District reasonably requests regarding the unavailability of the Insurance Term, and the Parties shall meet to discuss the means by which such unavailability should be managed promptly (and in any event within ten (10) Business Days) after the Developer provides notice under this Section 36.3(b) (Unavailability of Insurance Terms).

- (c) Subject to Section 36.4 (Alternative Insurance Term), if both Parties agree (acting reasonably), or it is determined pursuant to the Dispute Resolution Procedures, that:

- (i) an Insurance Term is an Unavailable Term; and
- (ii) the Insurance Term constituting an Unavailable Term is not caused by the actions, breaches, omissions or defaults of:
 - (A) the Developer, other than the making of any claim in relation to the Insurance Policies by the Developer or any inadvertent acts of the Developer (where the Developer has used diligent efforts to remedy, overcome or otherwise mitigate the effect of any such inadvertent acts); or
 - (B) a Contractor, other than any inadvertent acts of a Contractor unless the Developer has used best endeavors to remedy, overcome or otherwise mitigate the effect of the Contractor’s inadvertent acts),

the Developer’s obligations under Article 35 (Insurance) or Exhibit 9 (Required Insurance) with respect to that particular Insurance Term are waived and the Developer will not be considered in breach of its obligations regarding the maintenance of insurance incorporating the Unavailable Term for so long as the Insurance Term is an Unavailable Term (and for such time as is required for the Developer to take out insurance as required under Section 36.3(e) (Unavailability of Insurance Terms)).

- (d) The Developer shall use Reasonable Efforts to regularly review the insurance market generally, to ascertain whether an Insurance Term is no longer an Unavailable Term and in any event shall approach (or require its insurance brokers to approach) the insurance market at least once every six (6) months to establish whether the Insurance Term remains an Unavailable Term.
- (e) Upon the Developer becoming aware that an Insurance Term is no longer an Unavailable Term, the Developer shall promptly (and in any event within ten (10) Business Days of becoming aware) take out and maintain or ensure the taking out and maintenance of insurance (to be incepted as soon as reasonably practicable) incorporating such Insurance Term in accordance with this Agreement.

36.4 Alternative Insurance Term

If an alternative or replacement term or condition of insurance is available to the Developer in the worldwide insurance and reinsurance market with reputable insurers of good standing that, if included in the relevant insurance policy, would fully or partially address the Developer's inability to maintain or obtain insurance including an Unavailable Term, at a cost which contractors on public-private partnership projects in the United States are (at such time) generally prepared to pay, the Developer shall maintain or ensure the maintenance of insurance including such alternative or replacement term or condition.

37. PERFORMANCE AND PAYMENT SECURITY

37.1 D&C Performance and Payment Security

- (a) On or before the Financial Closing Date, the Developer shall furnish, or cause the D&C Contractor to furnish, the following:
 - (i) a performance bond in the form set forth in Exhibit 25-B (Form of Performance Bond) in an amount equal to one hundred percent (100%) of the D&C Contract Price (the "**Performance Bond**"); and
 - (ii) a payment bond in the form set forth in Exhibit 25-A (Form of Payment Bond) in an amount equal to one hundred percent (100%) of the D&C Contract Price (the "**Payment Bond**").

(collectively, the "**D&C Security**").

- (b) Each of the Performance Bond and the Payment Bond must be issued by a surety or an insurance company authorized to issue bonds in the District of Columbia that is rated in the top two categories by two of the three nationally recognized rating agencies or at least "A" or better and "Class VIII" or better according to A.M. Best's Financing Strength Rating and Financial Size Category and listed on U.S. Treasury Circular 570.
- (c) Each of the Performance Bond and the Payment Bond will name the District as an additional obligee, and may name the Collateral Agent as an additional obligee, and will further provide that each of the Performance Bond and the Payment Bond may be transferred by the Developer to the District or the Collateral Agent, as beneficiary, with

rights to draw upon or exercise other remedies thereunder if the District or the Collateral Agent, as applicable, succeeds to the position of the Developer under this Agreement.

- (d) The Developer shall maintain, or cause the D&C Contractor to maintain, each of the Performance Bond and the Payment Bond until the second (2nd) anniversary of the Project Final Completion Date.

37.2 Letter of Credit Requirements

Wherever in this Agreement the Developer has the option or obligation to deliver to the District a letter of credit, the following provisions shall apply.

- (a) The letter of credit shall:
 - (i) Be a standby letter of credit;
 - (ii) Subject to Section 37.2(a)(iii) (Letter of Credit Requirements), be issued by an Eligible Security Issuer. If the bank issuing the letter of credit fails to be an Eligible Security Issuer, the Developer shall deliver a substitute letter of credit issued by an Eligible Security Issuer within thirty (30) days of the date that the prior financial institution failed to maintain such credit or otherwise furnish additional security acceptable to the District as may be requested from time to time to protect the interests of the District;
 - (iii) If, prior to the return of the Closing Security, the issuer of any letter of credit is downgraded by any one of the Major Rating Agencies more than one rating category below the rating required of an Eligible Security Issuer, the Developer shall promptly notify the District in writing of such downgrade and, within thirty (30) days of such notice, the Developer shall deliver to the District a new letter or letters of credit from a replacement Eligible Security Issuer. Upon the District's receipt of such replacement letter(s) of credit, the District shall return the replaced letter(s) of credit to the Developer within ten (10) Business Days of such receipt;
 - (iv) Be payable immediately, conditioned only on written presentment from the District to the issuer of a single draft drawn on the letter of credit and a certificate stating that the District has the right to draw under the letter of credit in the amount of the sight draft, up to the amount due to the District, without a requirement to present the original letter of credit;
 - (v) Be in place for the entire period of time for which the letter of credit is providing security. Letters of credit with an expiration date shall provide for automatic renewal unless the issuer provides notice to the District and to the Developer to the contrary no later than thirty (30) days prior to the expiration date;
 - (vi) Allow for multiple draws;
 - (vii) Name the District as beneficiary, and not provide for any other dual or multiple beneficiaries; and

(viii) Be substantially in the form set forth in Exhibit 25-C (Form of Letter of Credit).

37.3 Additional Requirements

- (a) Unless otherwise specified in this Agreement, subject to the rights of the Collateral Agent hereunder and the Developer's rights in any D&C Security under any Key Contract, a draw on any D&C Security shall be first subject to the Developer's rights under any Key Contract and the Collateral Agent's rights hereunder and under any applicable Key Contract direct agreement; however, once the District is entitled to draw under any D&C Security, such draw shall not be conditioned on prior resort to any other security of, or provided for the benefit of, any Developer-Related Entity. If the District receives proceeds of a draw on any D&C Security in excess of the relevant obligations, the District shall promptly refund the excess to the Developer (or the Developer's designee) after all relevant obligations are satisfied in full.
- (b) The Developer shall obtain and furnish all D&C Security, and any replacements thereof, at its sole cost and expense, and shall pay all charges imposed in connection with the District's presentment of sight drafts and drawing against any D&C Security (or any replacements thereof).
- (c) In the event the District makes a permitted assignment of its rights under this Agreement, the Developer shall cooperate so that, concurrently with the effectiveness of such assignment, either replacement D&C Security for, or appropriate amendments to, the outstanding D&C Security will be delivered to the assignee at no cost to the District.

PART I – PRINCIPAL DEVELOPER DOCUMENTS, FINANCING, REFINANCING, FINANCIAL MODEL

38. PRINCIPAL DEVELOPER DOCUMENTS

38.1 Key Contracts

The Developer shall perform its obligations under, and observe all of the provisions of, the Key Contracts and must not, without the prior written consent of the District:

- (a) terminate or agree to the termination of all or any part of any Key Contract, except for default in accordance with its terms;
- (b) amend any Key Contract;
- (c) in any material respect depart from its obligations (or waive or allow to lapse any rights it may have in a material respect) or allow others in any material respect to depart from their obligations (or waive or allow to lapse any rights they may have in a material respect) under any Key Contract; or
- (d) enter into (or permit any other Person to enter into) any agreement replacing all or part of (or otherwise materially and adversely affecting the interpretation of) any Key Contract,

if the proposed course of action may reasonably be expected to have a material adverse effect on the ability of the Developer to perform its obligations under this Agreement.

38.2 Delivery of Changed Principal Developer Documents

If at any time an amendment is made to any Principal Developer Document or the Developer enters into a new Principal Developer Document (or any agreement that affects the interpretation or application of any Principal Developer Document), the Developer shall deliver to the District a conformed copy of each such amendment or agreement within ten (10) Business Days of the date of its execution or creation (as applicable) certified as a true copy by an officer of the Developer.

39. FINANCING

39.1 Developer Right and Responsibility to Finance Project

The Developer is solely responsible for obtaining and repaying, at its own cost and risk, and without recourse to the District, all financing necessary for the Work, except as otherwise expressly provided in this Agreement.

40. REFINANCING

40.1 Requirement for District Consent

Subject to Section 40.2(b) (*Share of Gain*), the Developer may not enter into any Qualifying Refinancing without obtaining the prior written consent of the District.

40.2 Share of Gain

- (a) The District is entitled to receive a fifty percent (50%) share of any Refinancing Gain arising from a Qualifying Refinancing.
- (b) The District must not withhold or delay its consent under Section 40.1 (*Requirement for District Consent*) to obtain a greater than fifty percent (50%) share of a Refinancing Gain.

40.3 Refinancing Details

- (a) The Developer shall promptly (and in any event at least thirty (30) days prior to closing the proposed Qualifying Refinancing) provide the District with full details of any proposed Qualifying Refinancing, including:
 - (i) a copy of the proposed financial model relating to it (if any); and
 - (ii) the basis for the assumptions used in the proposed financial model.
- (b) The District will (before, during and at any time after any Refinancing) have unrestricted rights of audit over any financial model and documentation (including any aspect of the calculation of the Refinancing Gain) used in connection with that Refinancing whether the Refinancing is a Qualifying Refinancing or not.

40.4 Receipt of Gain

The District may elect to receive its share of any Refinancing Gain as either:

- (a) a single payment in an amount less than or equal to any Distribution made on or about the date of the Refinancing;
- (b) a reduction in the Availability Payment over the remainder of the Term; or
- (c) a combination of the choices in Sections 40.4(a) (*Receipt of Gain*) and 40.4(b) (*Receipt of Gain*).

40.5 Method of Calculation

- (a) Within ten (10) Business Days following the Developer's delivery of the details regarding a proposed Qualifying Refinancing pursuant to Section 40.3 (*Refinancing Details*), the District and the Developer shall work together in Good Faith to agree on the amount and timing of the Refinancing Gain resulting from such Qualifying Refinancing and the amount(s) the District will receive pursuant to Section 40.4 (*Receipt of Gain*).
- (b) The Refinancing Gain will be calculated after taking into account the reasonable and proper professional costs that each Party directly incurs in relation to the Qualifying Refinancing and the Developer's reimbursement obligations under Section 40.8(a) (*Costs*).

40.6 Notifiable Refinancings

Without prejudice to the other provisions of this Article 40 (*Refinancing*), the Developer shall:

- (a) promptly (and in any event at least fifteen (15) Business Days prior to closing the proposed Notifiable Refinancing) notify the District of any Notifiable Refinancing prior to undertaking such Notifiable Refinancing; and
- (b) provide full details of a Notifiable Refinancing within thirty (30) days of the date such Notifiable Refinancing is entered into by the relevant parties.

40.7 District Assistance for Exempt and Qualifying Refinancings

Upon the reasonable request of the Developer, the District shall provide reasonable assistance to the Developer in undertaking:

- (a) any Exempt Refinancing or Notifiable Refinancing; or
- (b) any Qualifying Refinancing with respect to which the District has provided its prior written consent pursuant to Section 40.1 (*Requirement for District Consent*),

including through the provision of documents within its possession or control that are required to comply with any disclosure requirements under Applicable Law in connection with the issuance

of any PABs or other capital markets issuance, as well as the delivery of information, legal opinions and continuing disclosure undertakings, as applicable.

40.8 Costs

- (a) The Developer shall reimburse the District for all reasonable and proper professional costs incurred by the District in relation to any closed Qualifying Refinancing within thirty (30) days of receiving an invoice from the District with respect to such costs.
- (b) The Developer shall reimburse the District for all reasonable and proper professional costs incurred by the District in relation to an Exempt Refinancing within thirty (30) days of receiving an invoice from the District with respect to such costs.
- (c) If for any reason a proposed Exempt Refinancing or proposed Qualifying Refinancing does not close, the Developer shall reimburse the District for all reasonable and proper professional costs incurred by the District in relation to such Refinancing within thirty (30) days of receiving an invoice from the District with respect to such costs.

40.9 Adjustments to the Base Case Financial Model for Qualifying Refinancings

As a condition precedent to the effectiveness of any approval of a Qualifying Refinancing given by the District pursuant to this Article 40 (Refinancing), the Parties shall agree an update to the Base Case Financial Model (including any adjustments to the Base Case Equity IRR and the Key Ratios) to reflect the modified terms of the Developer's financing arrangements and any reduction in the Availability Payments pursuant to Section 40.4 (Receipt of Gain) associated with the Qualifying Refinancing.

41. RELEVANT EVENTS AND THE FINANCIAL MODEL

41.1 Adjustments to the Base Case Financial Model for Relevant Events

- (a) Upon the occurrence of a Relevant Event, the financial consequence will be determined in accordance with this Article 41 (Relevant Events and the Financial Model), except as otherwise expressly provided in this Agreement or if otherwise agreed to by the Parties.
- (b) Subject to Section 41.1(c) (Adjustments to the Base Case Financial Model for Relevant Events), upon the occurrence of a Relevant Event, the Developer shall adjust the Base Case Financial Model to reflect the impact of the Relevant Event in accordance with Section 41.3 (Replacement of the Base Case Financial Model).
- (c) Any adjustments to the Base Case Financial Model pursuant to Section 41.1(b) (Adjustments to the Base Case Financial Model for Relevant Events) must not take into account the financial impact up to or after the date of the Relevant Event of those risks which the Developer expressly bears, or the benefits the Developer expressly enjoys, under the terms of this Agreement, including (to the extent expressly borne or enjoyed by the Developer under this Agreement) changes in taxation rates, inflation and the impact of any Deductions assessed by the District pursuant to Exhibit 14 (Payment Mechanism).

- (d) Any adjustment to the Base Case Financial Model must be carried out in consultation with the District and is subject to approval by the District in accordance with this Article 41 (Relevant Events and the Financial Model).

41.2 Application to the Base Case Financial Model

Except as otherwise expressly provided in this Agreement, where pursuant to this Agreement, either Party is entitled to payment of any sum the assessment of which requires reference to the Base Case Financial Model, the adjustment to the payments between the Parties under this Agreement will be ascertained by determining the payments required to maintain the Base Case Equity IRR and Key Ratios under the version of the Base Case Financial Model applicable immediately prior to the relevant adjustment.

41.3 Replacement of the Base Case Financial Model

- (a) Upon the occurrence of a Relevant Event, the Developer shall propose any adjustments to the Base Case Financial Model by providing to the District the proposed adjustments to the Base Case Financial Model, together with full and complete details and explanation of the assumptions and calculations used to reflect the financial impacts of the Relevant Event. Such financial impacts may only include changes to the Developer's cash revenues and expenses that arise directly from the Relevant Event, and consequential changes to (i) the Project Debt draw down schedule and amounts, (ii) the Equity Investment draw down schedule, (iii) the Distributions schedule and amounts, and (iv) any other impacts or consequential changes mutually agreed by the Parties.
- (b) The Developer shall provide the District with access, on an Open Book Basis, to all updated and revised assumptions and other data that comprise or are included in any proposed adjustments to the Base Case Financial Model, including reasonable access to any financial modeler with the ability to access such information, and relevant passwords or other access information.
- (c) The Developer shall provide, and shall cause each Developer-Related Entity to provide, the District with full access, on an Open Book Basis, to electronic versions of the calculations required to vary the Base Case Financial Model for a Relevant Event.
- (d) Any Base Case Financial Model produced following adjustments in accordance with this Section 41.3 will, when it is approved by the District (such approval not to be unreasonably withheld), become the Base Case Financial Model for the purposes of this Agreement until its further amendment in accordance with this Agreement.

41.4 Amendments to Logic or Formulas

- (a) Where it is necessary to amend the logic or formulas incorporated in the Base Case Financial Model to permit adjustments pursuant to Section 41.3 (Replacement of the Base Case Financial Model) to be made, this will be done only to the extent necessary and following mutual agreement between the Parties.
- (b) If any amendment is to be made to the logic or formulas incorporated in the Base Case Financial Model, the Base Case Financial Model must first be refreshed immediately prior

to the making of any such amendment to ensure that the Key Ratios from the Base Case Financial Model are maintained at levels that are neither lower nor higher than the Key Ratios existing immediately prior to making such amendment, and the difference in the Equity IRR after and immediately prior to making such amendment does not differ by more than one (1) basis point (being, zero point zero one percent (0.01%)).

41.5 Financial Model Audits; Accuracy

- (a) As a condition to the District providing approval for any version of the Base Case Financial Model that includes amendments to the logic or formulas under Section 41.4 (Amendments to Logic or Formulas), the Developer shall (at its own cost) deliver to the District an audit of such amended version of the Base Case Financial Model from an independent audit firm with a nationally recognized reputation.
- (b) The Developer will bear the entire risk of any errors in or omissions from the Base Case Financial Model and all assumptions regarding taxes and accounting, and the Developer will not be entitled to any compensation or other relief from the District in relation to any loss or damage that it suffers as a result of such error or omission.

41.6 Copies of the Revised Base Case Financial Model

Following any adjustment to the Base Case Financial Model in accordance with this Article 41 (Relevant Events and the Financial Model), the Developer shall promptly (and in any event within five (5) Business Days of finalizing the adjustment) deliver a copy of the revised Base Case Financial Model to the District in such form as may be agreed to by the Parties.

41.7 No Better and No Worse

Any reference in this Agreement to “no better and no worse” or to leaving the Developer in a “no better and no worse financial position” shall mean that, as a result of any payments made to the Developer by the District pursuant to this Agreement as the result of the occurrence of a Relevant Event, the Base Case Equity IRR and Key Ratios shown in the version of the Financial Model applicable immediately prior to the occurrence of such Relevant Event are held constant, as if such Relevant Event had not occurred.

PART J – TERMINATION AND STEP-IN

42. TERMINATION FOR CONVENIENCE

42.1 Right to Terminate for Convenience

- (a) The District may terminate this Agreement at any time on or before the last day of the Term in accordance with Section 42.2(a) (Termination for Convenience).
- (b) In addition to the District’s right to terminate this Agreement pursuant to Section 42.1(a) (Right to Terminate for Convenience), this Agreement will be deemed to have terminated for the District’s convenience in the circumstance described in Section 42.2(c) (Termination for Convenience).

42.2 Termination for Convenience

- (a) If the District wishes to terminate this Agreement under Section 42.1(a) (Right to Terminate for Convenience), it shall deliver a Termination Notice to the Developer stating:
 - (i) that the District is terminating this Agreement under this Article 42 (Termination for Convenience); and
 - (ii) that this Agreement will terminate on the date specified in the Termination Notice, which must be a minimum of sixty (60) days after the date the Developer receives such Termination Notice.
- (b) This Agreement will terminate on the date specified in the Termination Notice referred to in Section 42.2(a) (Termination for Convenience).
- (c) This Agreement will be deemed to have terminated for the District's convenience upon the expiration of any then-existing appropriation as described in Section 60.1(c) (Subject to Appropriation).

42.3 Compensation on Termination

- (a) If this Agreement is terminated pursuant to this Article 42 (Termination for Convenience) prior to the Financial Closing Date, the District shall pay compensation to the Developer in accordance with Section 48.3 (Compensation on Termination).
- (b) If this Agreement is terminated pursuant to this Article 42 (Termination for Convenience) on or after the Financial Closing Date, the District shall pay compensation to the Developer in accordance with Section 1 (Compensation on Termination for Convenience, District Default and Court Ruling) of Exhibit 18 (Compensation on Termination).

43. TERMINATION FOR DISTRICT DEFAULT

43.1 District Default

The occurrence of any one or more of the following will constitute a “**District Default**”:

- (a) the District fails to make any payment due to the Developer under this Agreement when due, except to the extent such payment is subject to a Good Faith Dispute;
- (b) any representation or warranty made by the District under Section 3.2 (District Representations and Warranties) is false, misleading or inaccurate when made in each case in any material respect, or omits material information when made;
- (c) the District fails to perform any of its obligations under this Agreement, which substantially frustrates or renders it substantially impossible for the Developer to perform its obligations under this Agreement for a continuous period of sixty (60) days or more;
- (d) the District fails to comply with Section 54.3 (Assignment by the District); or

- (e) any condemnation or other taking by eminent domain of all or any material portion of the Street Light Network; *provided* that, for purposes of the foregoing, a material portion of the Street Light Network shall mean more than fifty percent (50%) of the Lighting Units included in the Street Light Network.

43.2 Notice and Cure Periods

- (a) The Developer shall provide written notice (“**District Default Notice**”) to the District upon the occurrence of a District Default.
- (b) Upon receipt of a District Default Notice, the District will have the following cure periods:
 - (i) for a District Default under Section 43.1(a) (Non-Payment), a period of sixty (60) days after the District receives the District Default Notice;
 - (ii) for a District Default under Section 43.1(c) (Non-Performance of Obligations), a period of sixty (60) days after the District receives the District Default Notice;
 - (iii) for a District Default under Section 43.1(b) (Representations and Warranties) or Section 43.1(e) (Condemnation):
 - (A) a period of thirty (30) days after the District receives the District Default Notice; or
 - (B) if, despite the District’s commencement of meaningful steps to cure immediately after receiving the District Default Notice, the District Default cannot be cured within such thirty (30) day-period, the District will have such additional period of time, up to a maximum cure period of ninety (90) days after the District receives the District Default Notice, as is reasonably necessary to cure the District Default; and
 - (iv) for a District Default under Section 43.1(d) (Assignment), there is no cure period.
- (c) A District Default under Section 43.1(b) (Representations and Warranties) will be regarded as cured when the adverse effects of such District Default are cured.

43.3 Developer Remedies Upon District Default

- (a) In the event of the occurrence and continuation of a District Payment Default, the Developer may suspend its performance of the Work subject to the following:
 - (i) The Developer shall provide the District with notice regarding its intent to suspend at least thirty (30) days before implementing the suspension, and may implement the suspension only if the District Payment Default remains uncured as of the suspension date.
 - (ii) A suspension by the Developer pursuant to this Section 43.3(a)(i) shall be deemed a suspension of work issued by the District for its convenience pursuant to Section 15.3 (Suspension of Conversion Work) or Section 18.5 (Suspension of Asset

Management Services), as applicable. The suspension order shall be deemed lifted upon the Developer's receipt of payment in full of all undisputed amounts it is owed.

- (b) If a District Default occurs and it has not been cured within the applicable cure period (if any) set out in Section 43.2 (Notice and Cure Periods), the Developer may deliver a notice to the District electing to terminate this Agreement ("**Developer Termination Notice**") at any time during the continuance of that District Default; *provided that*, if the District cures such District Default after the applicable cure period expires but before the Developer has delivered a Developer Termination Notice with respect thereto, the Developer shall be deemed to have accepted the cure of, and waived its rights to terminate this Agreement with respect to, such District Default.
- (c) A Developer Termination Notice must specify the type of District Default that has occurred entitling the Developer to terminate.
- (d) This Agreement will terminate on the date that is thirty (30) days after the date the District receives a Developer Termination Notice.

43.4 Certain Determinations of the Contracting Officer

The Parties acknowledge that the District's obligation to pay to the Developer compensation in certain circumstance, as more particularly described in Section 9.6 (Asset Inventory and Condition Report), Section 28.6 (Grant of Relief and Compensation for Compensation Events), Section 28.8 (Finance Costs During District Delay Period), Section 29.6 (Finance Costs During District Delay Period), Section 31.4 (Tariff Event), Section 32.10 (Costs of Developer's Estimate), and Exhibit 13 (Update to Base MAP), is conditioned upon the Contracting Officer confirming there are sufficient funds legally available to the District to make such payment. The Contracting Officer's inability to provide such confirmation because there are not sufficient funds legally available to the District to make the relevant payment shall not prejudice or otherwise impair the Developer's right to exercise rights and remedies set forth in this Article 43 (*Termination for District Default*) for any District Payment Default in respect of the District's failure to make any payment of compensation as a result of the Contracting Officer's inability to make the confirmation described above in this Section 43.4.

43.5 Compensation on Termination

If this Agreement is terminated pursuant to this Article 43 (Termination for District Default), the District shall pay compensation to the Developer in accordance with Section 1 (*Compensation on Termination for Convenience, District Default and Court Ruling*) of Exhibit 18 (Compensation on Termination).

44. TERMINATION FOR DEVELOPER DEFAULT

44.1 Developer Default

The occurrence of any one or more of the following will constitute a "**Developer Default**":

- (a) the failure by the Developer to commence the D&C Period Asset Management Services within thirty (30) days following the issuance of the first NTP3;
- (b) the Developer Abandons the Project;
- (c) the Developer fails to achieve Project Final Completion by the Long Stop Deadline;
- (d) a Restricted Change in Ownership occurs;
- (e) the Developer assigns, transfers, pledges, mortgages or otherwise encumbers any of its rights or obligations under this Agreement in breach of Article 54 (Assignment and Transfer; Fundamental Changes);
- (f) an Insolvency Event arises with respect to the Developer;
- (g) during the D&C Period, an Insolvency Event arises with respect to the D&C Contractor or any D&C Contractor Member, unless:
 - (i) the Developer enters into a replacement design and construction contract with a reputable counterparty reasonably acceptable to the District within ninety (90) days of the relevant Insolvency Event, or within such longer period as agreed to with the District (acting reasonably) not to exceed one hundred twenty (120) days which is reasonably necessary to effect such replacement, so long as the Developer is diligently pursuing such replacement; or
 - (ii) with respect to any D&C Contractor Member, the Developer demonstrates to the satisfaction of the District that the D&C Contractor Members with respect to which an Insolvency Event has not occurred possess the technical and financial capability to perform all remaining D&C Work in accordance with this Agreement;
- (h) during the Asset Management Period, an Insolvency Event arises with respect to an Asset Management Contractor, unless:
 - (i) the Developer enters into a replacement asset management contract with a reputable counterparty reasonably acceptable to the District within ninety (90) days of the relevant Insolvency Event, or within such longer period as agreed to with the District (acting reasonably), not to exceed one hundred-twenty (120) days, which is reasonably necessary to effect such replacement, so long as the Developer is diligently pursuing such replacement; or
 - (ii) in the absence of entering into a replacement asset management contract, the Developer demonstrates to the satisfaction of the District that the Developer possesses the technical and financial capability to perform all remaining Asset Management Services in accordance with this Agreement;
- (i) the D&C Contract is terminated (other than non-default termination on its scheduled termination date) and the Developer has not entered into a replacement design and construction contract with a reputable counterparty reasonably acceptable to the District within ninety (90) days of the termination of the D&C Contract, or within such longer

period as agreed to with the District (acting reasonably), not to exceed one hundred-twenty (120) days, which is reasonably necessary to effect such replacement, so long as the Developer is diligently pursuing such replacement;

- (j) the Asset Management Contract is terminated (other than non-default termination on its scheduled termination date) and the Developer has not either:
 - (i) entered into a replacement asset management contract with a reputable counterparty reasonably acceptable to the District within ninety (90) days of the termination of the Asset Management Contract, or within such longer period as agreed to with the District (acting reasonably), not to exceed one hundred-twenty (120) days, which is reasonably necessary to effect such replacement, so long as the Developer is diligently pursuing such replacement; or
 - (ii) in the absence of entering into a replacement asset management contract, the Developer demonstrates to the satisfaction of the District that the Developer possesses the technical and financial capability to perform all remaining Asset Management Services in accordance with this Agreement;
- (k) the Developer fails to pay any amount due to the District under this Agreement when due, except to the extent such payment is subject to a Good Faith Dispute;
- (l) the Developer fails to deposit funds in the Handback Reserve Account or fails to deliver to the District a Handback Letter of Credit in accordance with the requirements of this Agreement (except to the extent that the amount of the required deposit or Handback Letter of Credit is subject to a Good Faith Dispute);
- (m) any representation or warranty made by the Developer in this Agreement or any certificate, schedule, report, instrument or other document delivered to the District pursuant to this Agreement is false or materially misleading or inaccurate when made, in each case in any material respect, or omits material information when made;
- (n) the Developer fails to comply in any material respect with any Governmental Approval or Applicable Law;
- (o) the Developer fails to promptly comply with any written suspension of Work order issued by the District in accordance with Section 15.3 (Suspension of Conversion Work and/or Smart City Work) or Section 18.5 (Suspension of Asset Management Services), except to the extent that such failure arises as a direct result of a Compensation Event or a Relief Event;
- (p) subject to Section 29.5(b)(iii) (Grant of Relief), an Unavailability Default Trigger or a Noncompliance Developer Default Trigger occurs;
- (q) the Developer fails to obtain, provide and maintain the Insurance Policies or the D&C Security in accordance with the requirements of this Agreement;
- (r) a Persistent Breach by the Developer occurs;

- (s) there occurs any final, non-appealable suspension or debarment (distinguished from ineligibility due to lack of financial qualifications), or there goes into effect an agreement for voluntary exclusion, from bidding, proposing or contracting with any federal or District of Columbia department or agency of (i) the Developer, (ii) any Equity Member or (iii) any Key Contractor whose work is not completed;
- (t) without limiting Section 44.1(a) (Developer Default) through Section 44.1(s) (Developer Default):
 - (i) the Developer breaches any other material obligation under this Agreement, other than:
 - (A) a breach for which a Noncompliance Point was or could have been assessed; or
 - (B) a breach that arises as a direct result of the occurrence of a Compensation Event or Relief Event; or
 - (ii) the Developer makes any written repudiation of this Agreement.

44.2 Persistent Breach

(a) Initial Warning Notice

- (i) If the Developer commits a breach of this Agreement (other than (x) any breach for which a Noncompliance Point could have been assessed or (y) any breach that arises as a direct result of the occurrence of a Compensation Event or a Relief Event) that:
 - (A) continues for more than thirty (30) consecutive days; or
 - (B) occurs more than three (3) times in any six (6)-month period,

the District may serve a notice (an “**Initial Warning Notice**”) on the Developer, in accordance with Section 44.2(a)(ii) (Initial Warning Notice).
- (ii) An Initial Warning Notice must:
 - (A) specify that it is an Initial Warning Notice;
 - (B) give reasonable details of the relevant breach; and
 - (C) state that the relevant breach is a breach that, if it recurs frequently or continues, may result in termination of this Agreement for Persistent Breach.

(b) Final Warning Notice

- (i) If, after the date of service of the Initial Warning Notice, the breach specified in the Initial Warning Notice:

- (A) continues for more than thirty (30) consecutive days; or
- (B) recurs three (3) or more times within the three (3) -month period after such date,

the District may serve another notice (a “**Final Warning Notice**”) on the Developer, in accordance with Section 44.2(b)(ii) (Final Warning Notice).

(ii) A Final Warning Notice must:

- (A) specify that it is a Final Warning Notice;
- (B) state that the breach specified has been the subject of an Initial Warning Notice served within the three (3)-month period prior to the date of service of the Final Warning Notice; and
- (C) state that if the breach:
 - (1) continues for more than thirty (30) consecutive days after the date of service of the Final Warning Notice; or
 - (2) recurs three (3) or more times within the three (3)-month period after the date of service of the Final Warning Notice,

a Developer Default will occur under Section 44.1 (Developer Default) and this Agreement may be terminated.

(c) **Concurrency of Warning Notices**

An Initial Warning Notice must not be served with respect to any incident or breach for which an Initial Warning Notice or Final Warning Notice has been served and is outstanding.

44.3 Notice and Cure Periods

- (a) The District shall provide written notice (“**Developer Default Notice**”) to the Developer upon the occurrence of a Developer Default.
- (b) Upon receipt of a Developer Default Notice, the Developer shall have the following cure periods:
 - (i) for a Developer Default under Section 44.1(a) (Commencement of D&C Period Asset Management Services), Section 44.1(b) (Abandonment), Section 44.1(k) (Non-Payment), Section 44.1(l) (Handback Reserve Account), and Section 44.1(q) (Insurance/Performance Security), a period of thirty (30) days after the Developer receives the Developer Default Notice;

- (ii) for a Developer Default under Section 44.1(m) (*Representations and Warranties*), Section 44.1(n) (*Governmental Approvals*), Section 44.1(o) (*Suspension Order*), Section 44.1(s) (*Debarment*) or Section 44.1(t) (*Material Breach*),
 - (A) a period of thirty (30) days after the Developer receives the Developer Default Notice; or
 - (B) if, despite the Developer's commencement of meaningful steps to cure immediately after receiving the Developer Default Notice, the Developer Default cannot be cured within such thirty (30) day-period, the Developer will have such additional period of time, up to a maximum cure period of ninety (90) days, as is reasonably necessary to cure the Developer Default; and
- (iii) for a Developer Default under Section 44.1(c) (*Long Stop Deadline*), Section 44.1(d) (*Restricted Change in Ownership*), Section 44.1(e) (*Assignment*), Sections 44.1(f) - 44.1(h) (*Insolvency*), Section 44.1(i) (*D&C Contract Termination*), Section 44.1(j) (*Asset Management Contract Termination*), Section 44.1(p) (*Unavailability and Noncompliance*), and Section 44.1(q) (*Persistent Breach*), there is no cure period.
- (c) A Developer Default under Section 44.1(m) (*Representations and Warranties*) will be regarded as cured when the adverse effects of such Developer Default are cured.

44.4 Remedial Plan for Developer Default

- (a) If a Developer Default occurs and it has not been cured within any relevant cure period set out in Section 44.3 (*Notice and Cure Periods*), the District may, at its sole option and discretion, without prejudice to any other right or remedy available to it, require the Developer to prepare and submit, within thirty (30) days of being notified, a remedial plan ("**Default Remedial Plan**").
- (b) A Default Remedial Plan must set out specific actions and an associated schedule to be followed by the Developer to cure the relevant Developer Default and reduce the likelihood of such defaults occurring in the future. Such actions may include:
 - (i) changes in organizational and management structure;
 - (ii) revising and restating management plans and procedures;
 - (iii) improvements to quality control practices;
 - (iv) increased monitoring and inspections;
 - (v) changes in Key Personnel and other important personnel; and
 - (vi) replacement of Contractors.

- (c) Within thirty (30) days of receiving a Default Remedial Plan, the District shall notify the Developer whether such Default Remedial Plan is acceptable (in the District's absolute discretion). If the District notifies the Developer that its Default Remedial Plan is acceptable, the Developer shall implement such Default Remedial Plan in accordance with its terms.

44.5 Termination for Developer Default

- (a) If a Developer Default occurs and:
 - (i) the Developer Default has not been cured within any relevant cure period set out in Section 44.3 (Notice and Cure Periods); or
 - (ii) where a Default Remedial Plan has been accepted by the District, the Developer fails to comply with the Default Remedial Plan or cure the Developer Default, in each case in accordance with the schedule provided in such Default Remedial Plan,

the District may serve a Termination Notice ("**District Termination Notice**") on the Developer at any time during the continuance of that Developer Default.

- (b) A District Termination Notice must specify the Developer Default that has occurred entitling the District to terminate.
- (c) Subject to the terms of Article 61 (District Assurances and Obligations to Lenders), this Agreement will terminate on the date that is thirty (30) days after the date the Developer receives a District Termination Notice.

44.6 Compensation on Termination

- (a) Subject to Section 44.6(b) (Compensation on Termination), if this Agreement is terminated in accordance with this Article 44 (Termination for Developer Default), the District shall pay compensation to the Developer in accordance with Section 3 (*Compensation on Termination for Developer Default Prior to Project Final Completion*) or Section 4 (*Compensation on Termination for Developer Default On or After Project Final Completion*) (as applicable) of Exhibit 18 (Compensation on Termination).
- (b) If it is finally determined under the Dispute Resolution Procedures that the District was not entitled to terminate this Agreement under Section 44.5 (Termination for Developer Default):
 - (i) the District will be deemed to have terminated this Agreement for convenience under Article 42 (Termination for Convenience); and
 - (ii) the District shall pay compensation to the Developer in accordance with Section 42.3 (Compensation on Termination) (net of any payments already made to the Developer under Section 44.6(a) (Compensation on Termination)).

45. **TERMINATION FOR EXTENDED FORCE MAJEURE; EXTENDED RELIEF EVENT**

45.1 **Right to Terminate for Extended Force Majeure or Extended Relief Event**

This Agreement may be terminated by either Party pursuant to Section 30.4 (Failure to Agree; Right to Terminate) or in accordance with Section 30.5 (District Options).

45.2 **Compensation on Termination**

If this Agreement is terminated pursuant to Section 30.4 (Failure to Agree; Right to Terminate) or Section 30.5 (District Options), the District shall pay compensation to the Developer in accordance with Section 2 (*Compensation on Termination for Extended Force Majeure, Extended Relief Event and Uninsurability*) of Exhibit 18 (Compensation on Termination).

46. **TERMINATION FOR UNINSURABILITY**

46.1 **Right to Terminate for Uninsurability**

This Agreement may be terminated by either Party pursuant to Section 36.2 (Consequences of a Risk Becoming an Uninsurable Risk).

46.2 **Compensation on Termination**

If this Agreement is terminated pursuant to Section 36.2 (Consequences of a Risk Becoming an Uninsurable Risk), the District shall pay compensation to the Developer in accordance with Section 2 (*Compensation on Termination for Extended Force Majeure, Extended Relief Event and Uninsurability*) of Exhibit 18 (Compensation on Termination).

47. **TERMINATION BY COURT RULING**

47.1 **Termination by Court Ruling**

This Agreement will automatically terminate upon the occurrence of either of the following:

- (a) issuance of a final, non-appealable order by a court of competent jurisdiction to the effect that this Agreement is void, unenforceable or impossible to perform in its entirety (except where void, unenforceable or impossible to perform by reason of the Developer's acts, omissions, negligence, willful misconduct, fraud or breach of warranty or representation) (a "**Termination by Court Ruling for Illegality**"); or
- (b) issuance of a final, non-appealable order by a court of competent jurisdiction upholding the binding effect on the Developer or the District of a Change in Law that causes impossibility of either performance of a fundamental obligation or exercise of a fundamental right by the Developer or the District under this Agreement (a "**Termination by Court Ruling For Impossibility**").

47.2 Compensation on Termination

If this Agreement is terminated pursuant to Section 47.1(a) (Termination by Court Ruling), the District shall pay compensation to the Developer in accordance with Section 1 (*Compensation on Termination for Convenience, for District Default and Termination by Court Ruling*) of Exhibit 18 (Compensation on Termination).

48. TERMINATION FOR FAILURE TO ACHIEVE FINANCIAL CLOSE; ADJUSTMENT TO BASE MAP

48.1 Termination for Failure to Achieve Financial Close

- (a) If Financial Close does not occur by the Financial Closing Deadline and such failure is directly attributable to any of the following:
 - (i) the PABs allocation obtained by the District expires, and the Developer was not able to reach Financial Close prior to such expiry due to delays directly attributable to the District, or the USDOT reduces the amount of, or otherwise withdraws, such PABs allocation, such that the allocation is less than the allocation of PABs required by the Developer's financing or the refusal or unreasonable delay of the Conduit Issuer to issue the PABs in the amount that the Developer's underwriters are prepared to underwrite; *provided* that such refusal or delay is not due to any fault or less than diligent efforts of the Developer; or the refusal of counsel to the Conduit Issuer to allow closing of the PABs where such counsel is ready to give an unqualified opinion regarding the validity of the issuance of the PABs and the tax exempt status of interest paid on the PABs; or the unreasonable delay of counsel to the Conduit Issuer in authorizing closing of the PABs;
 - (ii) if each Developer Condition Precedent has been satisfied and any District Condition Precedent has not been satisfied (unless otherwise agreed to by the Parties) on or before the Financial Closing Deadline;
 - (iii) the occurrence of a Compensation Event described in clause (a) (*District Breach*) or clause (j) (*Issuance of Injunction*) of the definition of "Compensation Event;" or
 - (iv) the expiration of the maximum extension of the Financial Closing Deadline under either Section 2.4(b)(i)(B) (Extension of Financial Closing Deadline) or Section 2.4(b)(i)(C) (Extension of Financial Closing Deadline), as applicable,

either Party may terminate this Agreement by written notice to the other Party with immediate effect. Within ten (10) Business Days following receipt of such notice in accordance with this Agreement, and so long as no Party is disputing pursuant to Article 56 (Dispute Resolution) whether the other Party has the right to terminate this Agreement, the District shall return the Closing Security to the Developer.

- (b) Subject to Section 48.1(a) (Termination for Failure to Achieve Financial Close), if any Developer Condition Precedent is not satisfied or waived in writing by the District on or before the Financial Closing Deadline, the District shall have the right as of the Financial Closing Deadline to:

- (i) terminate this Agreement in its entirety, by written notice to the Developer with immediate effect; and
 - (ii) draw and retain the full amount of the Closing Security as the sole remedy of the District against the Developer under this Agreement.
- (c) The right of the District to draw upon the Closing Security under Section 48.1(b)(ii) (*Termination for Failure to Achieve Financial Close*) is not intended to constitute a penalty, but is intended to be, and will constitute, liquidated damages to compensate the District for the cost of forgoing alternative opportunities and for other costs incurred by the District in reliance upon the Developer's agreement to enter into the transactions contemplated by this Agreement. The Parties acknowledge that it is difficult to ascertain the amount of actual damages that would be incurred by the District in such circumstances, and that such liquidated damages are a reasonable estimate of the presumed actual damages that would be incurred by the District.
- (d) If this Agreement terminates pursuant to this Section 48.1 (*Termination for Failure to Achieve Financial Close*), neither Party will have any obligation or liability to the other Party, except:
 - (i) if this Agreement is terminated pursuant to Section 48.1(b) (*Termination for Failure to Achieve Financial Close*), as set out in Section 48.1(b)(ii) (*Termination for Failure to Achieve Financial Close*);
 - (ii) with respect to any antecedent breach of this Agreement;
 - (iii) with respect to Section 53.1 (*Confidentiality*), which will remain in full force and effect despite the failure to satisfy the conditions precedent to Financial Close set out in Section 2.3 (*Conditions Precedent to the Financial Closing Date*); and
 - (iv) if either Party terminates this Agreement pursuant to Section 48.1(a) (*Termination for Failure to Achieve Financial Close*), the District shall pay the Developer compensation in accordance with Section 48.3 (*Compensation on Termination*).

48.2 Termination for Upward Adjustment to Base MAP

- (a) If the aggregate upward adjustment to the Base MAP due to (i) changes in Base Interest Rates pursuant to Section 3 (*Market Interest Rate Protection*) of Exhibit 13 (*Update to Base MAP*), (ii) changes in credit spreads pursuant to Section 4 (*Credit Spread Fluctuation Risk Protection*) of Exhibit 13 (*Update to Base MAP*), and (iii) indexation of the D&C Contract Price pursuant to Section 2.5 (*Indexation of D&C Contract Price*) results in an increase to the Base MAP in excess of one million three hundred thousand dollars (\$1,300,000) (such aggregate amount, the "**Base MAP Adjustment Cap**"), either Party may terminate this Agreement by written notice to the other Party specifying a proposed date of termination, subject to the terms of this Section 48.2.
- (b) If the District delivers a written notice of termination to the Developer in accordance with Section 48.2(a), this Agreement will terminate on the date that is ten (10) days following

the Developer's receipt of such written notice of termination unless, within such ten (10) day period, the Developer delivers to the District written notice stating that the Developer wishes for this Agreement to continue and confirming that the Developer (i) can achieve Financial Close without receiving an increase to the Base MAP in excess of the Base MAP Adjustment Cap and (ii) waives any and all entitlement or claim to any increase to the Base MAP in excess of the Base MAP Adjustment Cap or other compensation from the District. Such notice shall include evidence reasonably acceptable to the District demonstrating the Developer's ability to achieve Financial Close without receiving an increase to the Base MAP in excess of the Base MAP Adjustment Cap. If the Developer delivers a written notice to the District under this Section 48.2(b), this Agreement will not terminate and will continue.

- (c) If the Developer delivers a written notice of termination to the District in accordance with Section 48.2(a), this Agreement will terminate on the date that is ten (10) days following the District's receipt of such written notice of termination unless, within such ten (10) day period, the District delivers to the Developer written notice stating that the District wishes for this Agreement to continue and confirming that the District (i) waives the Base MAP Adjustment Cap and (ii) will increase the Base MAP pursuant to Section 3 (*Market Interest Rate Protection*) of Exhibit 13 (Update to Base MAP), Section 4 (*Credit Spread Fluctuation Risk Protection*) of Exhibit 13 (Update to Base MAP), and/or Section 2.5 (Indexation of D&C Contract Price), as applicable, without regard to the Base MAP Adjustment Cap. If the District delivers a written notice to the Developer under this Section 48.2(c), this Agreement will not terminate and will continue.

48.3 Compensation on Termination

- (a) Subject to Section 48.3(b) (Compensation on Termination), if this Agreement is terminated pursuant to Article 42 (Termination for Convenience) prior to the Financial Closing Date, or pursuant to Section 48.1(a) (Termination for Failure to Achieve Financial Close) or Section 48.2 (Termination for Upward Adjustment of Base MAP), the District shall pay to the Developer an amount calculated at the Early Termination Date (without double-counting) equal to all of the reasonable and proper documented internal and external expenses incurred by the Developer in connection with participation in the RFP process and the pursuit of Financial Close.
- (b) The maximum amount payable by the District under Section 48.3(a) (Compensation on Termination) is five million dollars (\$5,000,000).
- (c) The District shall, subject to receiving an invoice from the Developer, pay to the Developer any amount payable under Section 48.3(a) (Compensation on Termination) on or before the date that is sixty (60) days after the date on which the amount payable under Section 48.3(a) (Compensation on Termination) is finally agreed to or determined.

49. OBLIGATIONS ON TERMINATION

49.1 General

- (a) The provisions of this Article 49 (Obligations on Termination) will apply at the end of the Term.

- (b) Except as expressly provided otherwise in this Article 49 (Obligations on Termination), the Developer shall promptly comply with the provisions of this Article 49 (Obligations on Termination) independently of, and without regard to, the timing for determining, adjusting, settling and paying any amounts due to the Developer or the District on account of Early Termination.

49.2 Transition Plans

(a) Interim Transition Plan

Not later than ninety (90) Business Days prior to expiration of the Term or, if applicable, within three (3) Business Days after receipt by either Party of a Termination Notice, the Parties shall meet and confer with each other to develop an interim transition plan for the orderly transition of the Work, demobilization (if applicable) and transfer of control of the Improved Street Light Network and Project Sites to the District. The Parties shall use Reasonable Efforts to complete the interim transition plan no later than forty-five (45) Business Days prior to expiration of the Term of, if applicable, within ten (10) Business Days after either Party receives a Termination Notice.

(b) Final Transition Plan

The Parties shall use Reasonable Efforts to complete a final transition plan no later than thirty (30) days prior to the expiration of the Term or, if applicable, within thirty (30) days after either Party receives a Termination Notice. The final transition plan must:

- (i) be in form and substance reasonably acceptable to the District; and
- (ii) include or be consistent with the other provisions of this Article 49 (Obligations on Termination).

(c) Delays in Transition Plans

The Developer shall promptly follow all procedures in this Article 49 (Obligations on Termination), regardless of any delay in preparation or acceptance of such plans.

49.3 Relinquishment and Possession of the Project

- (a) Subject to the Developer's limited rights of access pursuant to Section 49.3(d) (Relinquishment and Possession of the Project), on the Termination Date, or as soon thereafter as possible or as is provided in the final transition plan, the Developer shall relinquish and surrender all management, custody and control of the Project and each Project Site to the District and shall cause all persons and entities claiming under or through the Developer to do likewise, in at least the condition required by the Handback Requirements.
- (b) On the later of the Termination Date or the date the Developer relinquishes all management, custody and control (having fully performed its obligations under this Article 49 (Obligations on Termination)), the District shall have the exclusive right to, and shall assume responsibility at its expense for, management, custody and control of the

Project and each of the Project Sites, subject to any rights to damages against the Developer where the termination is due to a Developer Default.

- (c) On the Termination Date, or as soon thereafter as is possible or as is provided in the final transition plan, the Developer shall execute, acknowledge and deliver to the District a notice, in form and substance acceptable to the District, acting reasonably, acknowledging that the Developer relinquishes, as of the Termination Date, the Developer's right given by the District Pursuant to Section 8.1 (Grant of Right) with respect to the Project and each of the Project Sites.
- (d) On the Termination Date, or such later date as is agreed to in the final transition plan, the District grants to the Developer a right to access the Project Sites for the limited purpose of carrying out the Developer's obligations contemplated by this Article 49 (Obligations on Termination), including, without limitation, execution of the final transition plan contemplated in Section 49.2(b) (Final Transition Plan). This right shall expire automatically upon the Developer's fulfillment of such obligations.

49.4 Exclusive Termination Rights

This Part J (Termination and Step-In) and Exhibit 18 (Compensation on Termination) contain the entire and exclusive rights of the District and the Developer to terminate this Agreement, and any and all other rights to terminate under Applicable Law are waived to the maximum extent permitted by Applicable Law.

50. DISTRICT STEP-IN

50.1 Right to Step-in

(a) District Step-in

If the District reasonably believes that it needs to take action in connection with the Work because:

- (i) an Emergency has arisen;
- (ii) a Developer Default has occurred and has not been cured within the relevant cure period (if any) set out in Section 44.3 (Notice and Cure Periods); or
- (iii) the Developer has failed to meet any Safety Standard or comply with any Safety Compliance Order within a reasonable period of time under the circumstances,

the District may, subject to the provisions of Article 61 (District Assurances and Obligations to Lenders), take action in accordance with this Article 50 (District Step-in).

50.2 Notice to the Developer

- (a) If Section 50.1(a) (District Step-in) applies and the District wishes to take action, the District shall, subject to Section 50.2(b) (Notice to the Developer), notify the Developer in writing of the following:

- (i) the action it wishes to take;
 - (ii) the reason for such action;
 - (iii) the date it wishes to commence such action;
 - (iv) the time period that it believes will be necessary for such action; and
 - (v) to the extent practicable, the effect on the Developer and its obligation to carry out the Work during the period such action is being taken.
- (b) In the case of an Emergency, the District may take any action it reasonably believes is necessary in order to mitigate or contain such Emergency without prior notice to the Developer.

50.3 Required Action by the District

- (a) Following service of notice under Section 50.2(a) (*Notice to the Developer*) or upon the occurrence of an Emergency:
- (i) the District may take any action as notified or otherwise permitted under Section 50.2 (*Notice to the Developer*) and any consequential additional actions it reasonably believes are necessary (each a “**Required Action**”); and
 - (ii) the Developer shall use Reasonable Efforts to give all assistance requested by the District, while the District is taking any Required Action.
- (b) The District shall provide the Developer with notice of completion of any Required Action. The District shall also use Reasonable Efforts to provide the Developer with notice of anticipated completion as far in advance as is reasonably practicable.

50.4 Step-in Without Developer Breach

If the District takes Required Action, other than as a result of the Developer breaching its obligations under this Agreement, for so long as, and to the extent that, the Required Action is taken and it prevents or delays the Developer’s performance of any of its obligations under this Agreement:

- (a) the Developer will be relieved from performing such obligations under this Agreement (and any Noncompliance Event or Unavailability Event that arises with respect to such obligations shall be deemed not to have occurred); and
- (b) subject to the Developer providing the District with reasonable assistance (at the expense of the District, to the extent the Developer incurs incremental costs), for the period during which the District is taking such Required Action, such Required Action will be deemed a Compensation Event.

50.5 Step-in on Developer Breach

If the District takes Required Action as a result of the Developer breaching its obligations under this Agreement, for so long as, and to the extent that, such Required Action is being taken and it prevents the Developer from performing any of its obligations under this Agreement:

- (a) the Developer will be relieved from performing such obligations under this Agreement;
- (b) for the period during which the District is taking such Required Action, any Noncompliance Event or Unavailability Event that would not have occurred but for the occurrence of such Required Action will be deemed to have not occurred for purposes of this Agreement; and
- (c) an amount equal to all of the reasonable costs incurred by the District in taking such Required Action will be deducted from the Quarterly Disbursement.

PART K – MISCELLANEOUS

51. RECORDS AND AUDIT

51.1 Maintenance and Inspection of Records

- (a) The Developer shall:
 - (i) keep and maintain all its books, records and documents relating to the Project, the Project Sites and the Work, including copies of all original documents delivered to the District:
 - (A) at the Developer's Project office (or such other location as approved by the District in writing, in its absolute discretion); and
 - (B) in accordance with the applicable provisions of this Agreement and in accordance with Good Industry Practice; and
 - (ii) notify the District where such books, records and documents are kept.
- (b) The Developer shall make all of its books, records and documents available for inspection by the District and the FHWA (including their employees, contractors, consultants, agents or designees) at the Developer's Project office (or such other location as approved by the District in writing, in its absolute discretion) at all times during normal business hours, without charge. The District may conduct any such inspection upon forty-eight (48) hours' prior written notice, or unannounced and without prior notice where there is Good Faith suspicion of fraud or criminal activity. When conducting any inspection, the District may make extracts and take notes, subject to its confidentiality obligations under this Agreement.
- (c) The Developer shall provide copies of its books, records and documents to the District as and when reasonably requested by the District.

- (d) The Developer shall (i) retain all of its books, records and documents until the end of the Term and (ii) retain all of its books, records and documents it produces or receives (if any) regarding the Project for three (3) years following the end of the Term. If any provision of this Agreement specifies any longer time period for retention of particular records, such time period will prevail.
- (e) Despite Section 51.1(d) (Maintenance and Inspection of Records), all records that relate to Disputes being processed or actions brought under the Dispute Resolution Procedures must be retained and made available until any later date that such Disputes and actions are finally resolved. The Developer reserves the right to assert exemptions from disclosure of information that would be exempt under Applicable Law from disclosure or introduction into evidence in legal actions.

51.2 Audits

- (a) In addition to any other specific audit rights that the District may have under this Agreement, the District will have such rights to review and audit the Developer, its Contractors and their respective books, records and documents as the District deems necessary for the purposes of verifying compliance with this Agreement, Applicable Law and Governmental Approvals.
- (b) Without limiting Section 51.2(a) (Audits), the District will have the right to audit the Developer Management Plan and compliance with such Developer Management Plan, including the right to inspect the Work and to verify the accuracy and adequacy of the Developer Management Plan and other relevant provisions of this Agreement.
- (c) The District's audit rights include the right to observe the business operations of the Developer and its Contractors to confirm the accuracy of the books, records and documents.
- (d) The Developer shall include in the Developer Management Plan internal procedures to facilitate review and audit by the District.
- (e) The Developer represents and warrants the completeness and accuracy in all material respects of all information it or its agents provides in connection with any audit by the District, and shall use Reasonable Efforts to cause all Contractors to warrant the completeness and accuracy in all material respects of all information such Contractors provide in connection with such audits.
- (f) The Developer's quality and compliance auditing responsibilities shall be set out in the Developer Management Plan.
- (g) The Developer shall (and shall ensure that any Contractor will) include appropriate terms in each Contract in order to provide the District with access and audit rights (as applicable) in accordance with the terms of this Article 51 (Records and Audits).

52. INTELLECTUAL PROPERTY

52.1 Project Data

- (a) The Developer shall:
 - (i) promptly upon request by the District and, in any event, upon termination of this Agreement, make available to the District and irrevocably licenses the District to use, free of charge, all Project Data in the ownership or possession of the Developer or any other Developer-Related Entity that might reasonably be required by the District; and
 - (ii) ensure that it obtains all necessary licenses, permissions and consents to ensure that it can license and make the Project Data available to the District on these terms,

for the purposes of:

- (A) carrying out the Project and the performance of the District's duties under this Agreement; and
- (B) following termination of this Agreement:
 - (aa) the design or construction and conversion of the Project;
 - (bb) the asset management or improvement of the Project; or
 - (cc) the provision of works or services the same as, or similar to, the work carried on in connection with the Project,

(clauses (A), (B)(aa), (B)(bb) and (B)(cc) together, the "Approved Purposes").

- (b) For the purposes of this Article 52 (Intellectual Property), "use" will include the acts of copying, modifying, adapting and translating the material in question or incorporating it with other materials, and the term "the right to use" will be construed accordingly.
- (c) As between the Parties, the Project Data, and all Intellectual Property encompassed in the Project Data is, and remains, the property of the Developer-Related Entities and their licensors, despite the Developer licensing and otherwise making that Project Data available to the District.

52.2 Intellectual Property License to the District

- (a) The Developer (on behalf of itself, the D&C Contractor, and the Asset Management Contractor) grants to the District a nonexclusive, transferable (subject to Section 52.2(d) (Intellectual Property License to the District)), royalty-free, irrevocable, worldwide, fully paid up right and license to use, reproduce, modify, adapt, disclose to and sublicense to other Persons engaged by or on behalf of the District (directly or indirectly), the Intellectual Property owned or licensable by any Developer-Related Entity.

- (b) The District shall have the right to exercise the license granted under Section 52.2(a) (Intellectual Property License to the District) only for the Approved Purposes. The District shall ensure that any Person to whom it discloses any Intellectual Property pursuant to the licenses granted under this Section 52.2 (Intellectual Property License to the District) agrees to be bound by the provisions of this Section 52.2 (Intellectual Property License to the District) and the confidentiality obligations set out in Section 53 (Confidentiality and Public Disclosure) with respect to such Intellectual Property.
- (c) The Developer and Developer-Related Entities shall continue to have a full and complete right to use any and all duplicates or other originals of its Intellectual Property in any manner it chooses.
- (d) The right to transfer the license is limited to any Governmental Entity that succeeds to the power and authority of the District generally or with respect to the Project.
- (e) With respect to any Intellectual Property that is not owned or licensable by the Developer, the D&C Contractor, or the Asset Management Contractor, the Developer shall use Reasonable Efforts to obtain from the owner of that Intellectual Property (or any Person entitled to license that Intellectual Property), concurrently with the execution of any contract, subcontract or purchase order with such Person or with the first use or adaptation of the Intellectual Property in connection with the Project, both for the Developer and the District, a nonexclusive, transferable, royalty-free, irrevocable, worldwide, fully paid up right and license to use, reproduce, modify, adapt, disclose to, and sublicense to other Persons engaged by or on behalf of the Developer and the District (directly or indirectly), such Intellectual Property solely for the Approved Purposes. Any such license will be subject to the terms of this Article 52 (Intellectual Property). This Section 52.2(e) shall not apply to any Intellectual Property that does not have commercially available alternatives or that do not communicate through open source data packets, and that is materially compatible with the RMCS, AMIS, the lighting nodes and/or field communications equipment, or other Elements, as applicable, irrespective of ownership. In the case of the foregoing, Section 52.2(a) shall apply as if the Person that provided the Intellectual Property is a Developer-Related Entity.

52.3 Maintenance of Data

- (a) To the extent that any data, materials or documents referred to in this Article 52 (Intellectual Property) are generated by, or maintained on, a computer or similar system, the Developer shall use Reasonable Efforts to obtain for the benefit of the District, at no charge or at the lowest reasonable fee, the grant of a license or sublicense for any relevant software to enable the District or its nominee to access and otherwise use (subject to the payment by the District of the relevant fee, if any) such data for the Approved Purposes. As an alternative, the Developer may provide such data, materials or documents in a format that may be read by software generally available in the market at the relevant time or in hard copy format.
- (b) The Developer shall ensure the back-up and storage in safe custody of the data, materials and documents referred to in Section 52.3(a) (Maintenance of Data) in accordance with Good Industry Practice.

- (c) Without prejudice to Section 52.3(b) (*Maintenance of Data*), the Developer shall submit to the Contract Administrator for approval its proposals for the back-up and storage in safe custody of such data, materials and documents, and the District will be entitled to object if the same is not in accordance with Good Industry Practice.
- (d) The Developer shall comply, and shall use Reasonable Efforts to cause all the Developer-Related Entities to comply, with all procedures to which the Contract Administrator has given its approval.
- (e) The Developer may change its procedures for such back-up and storage subject to submitting its proposals for change to the Contract Administrator, who will be entitled to object on the basis set out above.

52.4 Indemnity

- (a) Subject to Section 52.4(b) (*Indemnity*), the Developer shall, in accordance with Article 34 (*Indemnity from the Developer*), indemnify the Indemnified Parties at all times from and against all Losses arising as a result of any claim or proceeding made or brought against the District, which alleges that the use by the District or a District-Related Entity of:
 - (i) any Intellectual Property provided or licensed to the District under the terms of this Agreement; or
 - (ii) any materials, plant, machinery or equipment in connection with the Work or the Project,
 infringes any intellectual property of a third party.
- (b) The Developer shall not be required to indemnify the Indemnified Parties under Section 52.4(a) (*Indemnity*) to the extent that the relevant infringement:
 - (i) has arisen out of the use of any Intellectual Property by or on behalf of the District or any Indemnified Party in a manner that is not in accordance with the terms of this Agreement or any license issued to the District pursuant to this Article 52 (*Intellectual Property*); or
 - (ii) is a result of any Intellectual Property that has been modified or adapted by the District or any Indemnified Party.

53. CONFIDENTIALITY AND PUBLIC DISCLOSURE

53.1 Confidentiality

- (a) In this Section 53.1 (*Confidentiality*), “**Information**” means all information relating to the other Party that is supplied by or on behalf of the other Party (whether before or after the date of this Agreement), either in writing, orally or in any other form, directly or indirectly from or pursuant to discussions with the other Party, or which is obtained through observations made by the receiving Party, and such term includes all analyses,

compilations, studies and other documents whether prepared by or on behalf of a Party which contain or otherwise reflect or are derived from such information.

- (b) Each Party will maintain the confidentiality of any Information clearly and prominently labeled as trade secret, privileged information or confidential, except that such Information may be disclosed or provided:
 - (i) by either Party to its and its Affiliates' directors, officers, employees, consultants and agents, including accountants, legal counsel and other advisors;
 - (ii) by the District to any Governmental Entity or otherwise as the District may require for the asset management or improvement of the Project in the event of, or following, termination of this Agreement;
 - (iii) by the Developer:
 - (A) to the Lenders, prospective Lenders and the Lenders' and prospective Lenders' advisors and consultants to the extent such Information is reasonably required by the Lenders in connection with the Project Debt or that the Developer is obligated to supply by the terms of the Finance Documents; and
 - (B) to any Contractor to the extent such Information is necessary for the performance by the Developer of its obligations under this Agreement; and
 - (iv) by either Party to the extent that:
 - (A) it is required to disclose such Information pursuant to (aa) an Applicable Law or (bb) a subpoena or similar legal process;
 - (B) the other Party confirms in writing that such Information is not required to be treated as confidential (such confirmation not to be unreasonably withheld or delayed); or
 - (C) such Information is or comes into the public domain in a manner other than through any disclosure prohibited by this Agreement.
- (c) In the case of a disclosure under Sections 53.1(b)(i) (Confidentiality), 53.1(b)(ii) or 53.1(b)(iii), the Persons to whom such disclosure is made will be (i) informed of the confidential nature of such Information and (ii) provided such Information subject to the same or similar requirements to maintain confidentiality as contained in this Agreement.

53.2 District of Columbia Freedom of Information Act

- (a) The Developer acknowledges that the District is required to comply with the District of Columbia Freedom of Information Act, D.C. Official Code §§ 2-531 *et seq.* ("**FOIA**").

- (b) If any materials submitted by the Developer to the District are clearly and prominently labeled as trade secret, privileged information or confidential commercial, financial, geological or geophysical data by a Contractor, the District will endeavor to advise the Developer of any request for the disclosure of such materials prior to making such disclosure. The District shall have no responsibility or liability to the Developer or any Contractor for disclosure of any such labeled materials made:
 - (i) as permitted or required by Applicable Law or order of a court or other Governmental Authority;
 - (ii) of information that entered the public domain subsequent to the time it was communicated to the District by the Developer through no fault of the District; and
 - (iii) of information obtained by third parties that was lawfully and rightfully transmitted to the District free of any obligations subsequent to the time it was communicated to the District by the Developer.
- (c) If the Developer receives a request for information relating to this Agreement or the Project, the Developer shall immediately send the request to the District. If the District receives a request for a record maintained by the Developer pursuant to this Agreement, the District shall forward a copy to the Developer. In either event, the Developer is required by Applicable Law to provide all responsive records to the District within the timeframe designated by the District. The District shall be responsible for determining which of the requested records, if any, may be released.
- (d) In the event of litigation concerning the disclosure of any material submitted by the Developer to the District, the District's sole involvement shall be as a stakeholder retaining the material subject of the litigation until otherwise ordered by a court, and the Developer shall be fully responsible for otherwise prosecuting or defending any action concerning the materials at its sole expense and risk.

53.3 Personally Identifiable Information

- (a) In the event of unauthorized disclosure of or access to Personally Identifiable Information stored by the Developer or any Developer-Related Entity, including resulting from any intrusion, penetration, or security breach involving any computer network or database maintained by the Developer or any Developer-Related Entity where such Personally Identifiable Information is stored by unauthorized third parties (each such intrusion, penetration, or security breach, a "**Security Breach**"), the Developer shall (i) immediately notify the District in writing (but in no more than within twenty-four (24) hours of becoming aware of a Security Breach) of any Security Breach and furnish the District with the full details of such Security Breach and (ii) fully cooperate, at the Developer's sole expense, with the District in any action or proceeding as may be deemed necessary by the District to limit further access/disclosure, regain the compromised Personally Identifiable Information, and otherwise further protect such Personally Identifiable Information.

- (b) On an annual basis following the District's issuance of the first NTP3, and in the event of a Security Breach, at the Developer's expense using a District-approved third party (the "**Network Security Auditor**"), the Developer shall conduct a thorough review (the "**Network Security Audit**") of any computer network or database used to store Personally Identifiable Information and any related equipment, systems, physical and electronic log files, and facilities for purposes of validating compliance with the relevant network security requirements set forth in the Technical Provisions and Good Industry Practice (collectively, the "**Security Requirements**"). The Developer and the District shall cooperate with the Network Security Auditor and provide reasonable access to allow it to complete the Network Security Audit. If any such Network Security Audit identifies any failure of the Developer to comply with the Security Requirements, the Developer shall promptly repair and/or remedy any such failure and deliver written notice of such remedy to the District and reimburse the District for any expenses incurred by the District with respect to the Network Security Audit.
- (c) In the event of a Security Breach for any reason (except to the extent due to the negligence of the District), the Developer shall pay for the District's costs of notice and credit monitoring with respect to District residents and other customers whose Personally Identifiable Information may have been compromised as a result of such Security Breach.

54. **ASSIGNMENT AND TRANSFER; FUNDAMENTAL CHANGES**

54.1 **Assignment by the Developer**

Subject to Section 54.2 (Security), the Developer shall not assign, transfer, pledge, mortgage or otherwise encumber any of its rights or obligations under this Agreement without the written consent of the District.

54.2 **Security**

The provisions of Section 54.1 (Assignment by the Developer) do not apply to the grant of any security for any financing extended to the Developer (directly or indirectly) under the Finance Documents or to the enforcement of the same.

54.3 **Assignment by the District**

The District may, upon prior written notice to the Developer, but without the Developer's consent, assign all or any portion of its rights, title and interests in and to this Agreement, the Project, the Project Sites or the D&C Security (if any) to any other Governmental Entity that:

- (a) succeeds to the governmental powers and authority of the District;
- (b) has sources of funding to perform the payment obligations of the District under this Agreement that are at least as adequate and secure as the District's at the time of the assignment; and
- (c) delivers an agreement to the Developer pursuant to which such Governmental Entity assumes the obligations of the District under this Agreement.

54.4 Change of Organization or Name

- (a) The Developer shall not change the legal form of its organization without providing prior written notice to the District.
- (b) If either Party changes its name, such Party agrees to promptly (and in any event within ten (10) Business Days of such change) furnish the other Party with written notice of such name change and appropriate supporting documentation.

55. CHANGE IN OWNERSHIP

55.1 Restricted Change in Ownership

- (a) A Restricted Change in Ownership will constitute a Developer Default for the purposes of Article 44 (Termination for Developer Default).
- (b) A “**Restricted Change in Ownership**” will arise if:
 - (i) prior to the second (2nd) anniversary of the Project Final Completion Date, without the prior written consent of the District, in its sole discretion, any Permitted Investor ceases to own (directly or indirectly) the same percentage of the issued shares or membership interests in the Developer that it owned (directly or indirectly) on the date of this Agreement, other than as a result of an Additional Equity Investment;
 - (ii) any Change in Ownership occurs that involves the transfer of any shares or membership interests to a Prohibited Person; or
 - (iii) any Change in Ownership occurs that would be reasonably likely to have a material adverse effect on the Developer’s ability to perform its obligations under this Agreement with respect to the Asset Management Period Asset Management Services, taking into account the financial strength and integrity of the transferee, compared to that of the transferor.
- (c) A Restricted Change in Ownership will not arise pursuant to Section 55.1(a) (Restricted Change in Ownership) as a direct result of:
 - (i) the grant or enforcement of security in favor of the Lenders over or in relation to any shares or membership interests in the Developer or an Equity Member under a Security Document exclusively for the purpose of securing the Project Debt, subject to the terms and conditions of this Agreement;
 - (ii) a change in legal or beneficial ownership of any shares that are listed on a recognized stock exchange, including such transactions involving any initial public offering;
 - (iii) a transfer of interests between managed funds that are under common ownership or control or between the general partner, manager (or the parent company of such general partner or manager) and any managed funds under

common ownership or control with such general partner or manager (or the parent company of such general partner or manager), if the relevant funds and the general partner or manager of such funds (or the parent company of such general partner or manager) have been approved by the District in writing prior to the date of this Agreement; or

- (iv) a reorganization or transfer of interest within a group of Persons under common ownership or control of direct or indirect ownership interests in any Person or of any intermediate entity in the chain of ownership of such Person so long as there is no substantive change in the entity or group of entities that ultimately have (individually or collectively) ownership or control of such Person.
- (d) For the purposes of this Section 55.1 (Restricted Change in Ownership), a Person will only be deemed to own shares or membership interests in another Person if such Person owns the legal, beneficial and equitable interest in the relevant shares or membership interests of that other Person.

55.2 Notification of Changes in Ownership

- (a) Except with respect to any change in legal or beneficial ownership of any shares:
 - (i) that are listed on a recognized stock exchange; or
 - (ii) that are issued pursuant to an employee or management incentive plan,

the Developer shall provide the District with at least thirty (30) days' prior written notice of any Change in Ownership.
- (b) Upon receipt of notice of a Change in Ownership from the Developer under Section 55.2(a) (Notification of Changes in Ownership), the District shall inform the Developer within ten (10) Business Days if the Person to which the Developer plans to transfer legal or beneficial ownership of shares is a Prohibited Person under clause (k) of the definition of Prohibited Person.
- (c) The Developer shall reimburse the District for all reasonable out-of-pocket expenses (including reasonable and proper fees of consultants and legal counsel) incurred by the District in connection with its review of any Change in Ownership notified to it in accordance with Section 55.2(a) (Notification of Changes in Ownership) within thirty (30) days of receiving an invoice from the District with respect to such costs.

56. DISPUTE RESOLUTION

56.1 General

The Parties agree to use Reasonable Efforts to promptly resolve any Dispute pursuant to the terms of this Article 56 (Dispute Resolution).

56.2 Consultation

If any Dispute arises in relation to any aspect of this Agreement, the Developer and the District shall consult in Good Faith in an attempt to come to an agreement. Participation in consultation will not excuse a failure to comply with the time limits set out elsewhere in this Article 56 (Dispute Resolution).

56.3 Non-Binding Dispute Resolution

- (a) If the Dispute cannot be resolved in accordance with Section 56.2 (Consultation), then either Party will have the right to submit the Dispute to a non-binding dispute resolution board (the “DRB”).
- (b) The DRB, which will be composed of one individual selected by the Developer, one individual selected by the District, and one individual selected by the former two individuals, will hold a hearing within twenty (20) days of its establishment, unless the Parties agree to a longer time period.
- (c) Either Party may furnish written evidence or documentation to the DRB regarding the Dispute. If either Party furnishes such information to the DRB, it will furnish copies of such information to the other Party promptly and, in any event, by the earlier of (A) two (2) Business Days after having provided it to the DRB and (B) one (1) day prior to the date that the DRB convenes a hearing for the Dispute. If the DRB requests any additional documentation or evidence prior to, during, or after the hearing, the relevant Party will provide the requested information to the DRB and to the other Party, in accordance with the deadlines set by the DRB.
- (d) The Developer and the District will each be afforded a reasonable opportunity to be heard by the DRB and to offer evidence. Neither the District nor the Developer may present information at the hearing that was not previously distributed to both the DRB and the other Party.
- (e) The DRB’s recommendations for resolution of the Dispute, which shall be agreed to by a majority of the DRB members, will be given in writing to both the District and the Developer within ten (10) Business Days after completion of the hearings. In cases of substantial complexity, both Parties may agree to allow additional time for the DRB to formulate its recommendations.
- (f) Within ten (10) Business Days of receiving the DRB’s recommendations, both the District and the Developer will respond to the other and to the DRB in writing, signifying either acceptance or rejection of the DRB’s recommendations. If a Party does not respond within the ten (10) Business Day-period, that Party will be deemed to have rejected the DRB’s recommendations.
- (g) The recommendations of the DRB will be final and binding only to the extent the Parties accept such recommendations. If the Parties accept any recommendation of the DRB in accordance with this Section 56.3(g) (Non-Binding Dispute Resolution), each Party shall (unless otherwise specified in the relevant recommendation) promptly give effect to such recommendation.

56.4 Written Claim to the District

- (a) Without prejudice to Section 56.2 (Consultation), the Developer shall submit a Dispute by way of a written claim to the Contracting Officer within twenty (20) days of the Dispute arising or, if the non-binding dispute resolution process described in Section 56.3 (Non-Binding Dispute Resolution) is invoked, within twenty (20) days following the conclusion of such process. Any such written claim must:
 - (i) outline in detail the basis of the Dispute and the Developer's position relative to the Dispute; and
 - (ii) be accompanied by submission of all relevant documentation.
- (b) The Contracting Officer will have one hundred twenty (120) days following the receipt of such written claim from the Developer to render a written decision on the Dispute, taking into consideration the relevant provisions of this Agreement and the Developer's submission, together with the facts and circumstances involved in the Dispute.
- (c) The Developer shall not be entitled to proceed to litigation with respect to any Dispute until the first of occur of (i) the Contracting Officer's issuance of a written decision in response to the Developer's written claim or (ii) the Contracting Officer's failure to issue a written decision in response to the Developer's written claim within the one hundred twenty (120) day period described in Section 56.4(b) (Written Claim to District).

56.5 Right to Litigate Dispute

The District and the Developer agree that the right of the District or the Developer to proceed to litigation of any unresolved Dispute is subject to, where such Dispute is raised by the Developer, the proper filing of the Dispute and a determination thereof by the Contract Appeals Board pursuant to D.C. Official Code §§ 2-360.01 *et seq.*; *provided, however*, that:

- (a) to the extent provided by Applicable Law, either Party may seek specific performance of any obligation under the Project Documents or injunctive relief without regard to Section 56.2 (Consultation); and
- (b) such condition shall not apply if there is a good faith determination by the disputing Party that a statute of limitations would expire pending any such process.

56.6 Continuance of Work During Dispute

- (a) During the course of the dispute resolution process:
 - (i) the Developer shall continue with the Work (including any Work that is the subject of the Dispute) using Reasonable Efforts, without delay, or otherwise conform to the District's decision or order, and will be governed by all applicable provisions of this Agreement; and
 - (ii) the District shall continue to make payments of any amounts not in dispute pursuant to the terms of this Agreement.

- (b) Throughout any disputed Work, the Developer shall:
 - (i) keep complete records of extra costs and time incurred; and
 - (ii) provide the District and any Dispute Review Board members access to these and any other records needed for evaluating the Dispute.

56.7 Joinder of Disputes

- (a) If any Dispute arising under this Agreement raises issues that relate to any dispute between the Developer and any Key Contractor, the Developer may join as part of its submissions made to the DRB any such dispute between it and any Key Contractor.
- (b) Any submissions made by any Key Contractor must be made within the time limits applicable to the delivery of submissions by the Developer and concern only those matters which relate to the dispute between the District and the Developer under this Agreement.
- (c) The District and the District-Related Entities will have no liability to any Key Contractor arising out of or in connection with any decision of the DRB or with respect to the costs incurred by any Key Contractor as a result of participating in the resolution of any Dispute under this Agreement, provided that the Developer's rights under this Agreement will be determined based on this Agreement without regard for the fact that Work may have been performed by a Contractor and for the purpose of evaluating the merits of any claim, any loss of money or time will be deemed to be directly incurred by the Developer.

56.8 Costs of Dispute Resolution

Each Party shall bear its own attorneys' fees and costs in any Dispute arising out of or pertaining to this Agreement, and neither Party may seek or accept an award of attorneys' fees or costs, except as otherwise expressly provided in this Agreement.

57. SOLE REMEDY AND LIABILITIES

57.1 Common Law Rights of the District

Without prejudice to:

- (a) any entitlement of the District to specific performance of any obligation under this Agreement;
- (b) any entitlement of the District to injunctive relief;
- (c) any other express right of the District pursuant to this Agreement; and
- (d) the District's right to claim the amount of its reasonable costs, losses, damages and expenses suffered or incurred, on or after termination of this Agreement, by it as a result of rectifying or mitigating the effects of any breach of this Agreement by the Developer pursuant to Exhibit 18 (Compensation on Termination),

the sole remedy of the District with respect to Noncompliance Events and Unavailability Events will be the District's ability to assess Deductions in accordance with Article 22 (Noncompliance Events) and Exhibit 14 (Payment Mechanism), as applicable.

57.2 Consequential Losses

- (a) Neither Party will have the right to claim damages, including punitive and incidental damages, against the other Party for breach of this Agreement, in tort or on any other basis whatsoever, to the extent that any loss claimed by either Party is for Indirect Losses.
- (b) The Parties agree that the limitation in Section 57.2(a) (Consequential Losses) will not apply to or limit either Party's right to recover from the other Party:
 - (i) any Losses of the Developer arising under the Key Contracts as originally executed (or as amended in accordance with the terms of this Agreement), which are not of themselves Indirect Losses;
 - (ii) any Losses (excluding defense costs) to the extent that they are required to be insured against pursuant to Article 35 (Insurance), or to the extent the Developer is deemed to have self-insured the Loss pursuant to Article 35 (Insurance);
 - (iii) Losses arising out of fraud, criminal conduct, intentional misconduct, recklessness or bad faith on the part of the relevant Party;
 - (iv) amounts payable by the Developer to the District under an indemnity set out in this Agreement on account of any Third Party Claim against the District;
 - (v) amounts payable by the District to the Developer pursuant to Article 28 (Compensation Events);
 - (vi) any Deductions;
 - (vii) any Termination Sum; or
 - (viii) interest, late charges, fees, transaction fees and charges, penalties and similar charges that this Agreement expressly states are due from the relevant Party.

57.3 No Double Recovery

Despite any other provisions of this Agreement to the contrary, neither Party will be entitled to recover compensation or make a claim under this Agreement with respect to any loss that it has incurred to the extent that it has already been compensated with respect to that loss pursuant to this Agreement or otherwise.

58. GOVERNING LAW AND JURISDICTION

58.1 Governing Law

This Agreement will be governed by and construed in accordance with the laws of the District of Columbia.

58.2 Submission to Jurisdiction

The Developer consents to the jurisdiction of any court of the District of Columbia, waiving any claim or defense that such forum is not convenient or proper. The Developer agrees that such court shall have *in personam* jurisdiction over it, and consents to service of process in any manner authorized by Applicable Law.

58.3 Waiver of Jury Trial

THE PARTIES HEREBY KNOWINGLY, IRREVOCABLY, VOLUNTARILY AND INTENTIONALLY WAIVE ANY RIGHTS THAT ANY MAY HAVE TO A TRIAL BY JURY WITH RESPECT TO ANY ACTION, PROCEEDING, COUNTERCLAIM OR DEFENSE BASED ON THIS AGREEMENT, OR ARISING OUT OF, UNDER OR IN ANY CONNECTION WITH THIS AGREEMENT, OR WITH RESPECT TO ANY COURSE OF CONDUCT, COURSE OF DEALING, STATEMENTS (WHETHER ORAL OR WRITTEN) OR ACTIONS OF ANY PARTY HERETO RELATING TO THIS AGREEMENT. THIS PROVISION IS A MATERIAL INDUCEMENT FOR ALL PARTIES ENTERING INTO THIS AGREEMENT. THIS PROVISION APPLIES ONLY TO SUITS BETWEEN THE PARTIES ARISING OUT OF OR RELATED TO THIS AGREEMENT AND DOES NOT APPLY TO THIRD PARTY CLAIMS OR SUITS BY OR ON BEHALF OF THE PARTIES FOR PROJECT PROPERTY ACQUISITION AND/OR CONSTRUCTION CONTRACT CLAIMS AND DEFENSES. Each of the Parties (a) certifies that no representative, agent, attorney or any other Person has represented, expressly or otherwise, that such other Person would not, in the event of any suit, action or proceedings relating to this Agreement, seek to enforce the foregoing waiver and (b) acknowledges that it has been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this Section 58.3 (Waiver of Jury Trial).

59. OTHER

59.1 Amendments

This Agreement can only be amended or replaced by a written instrument duly executed by the Parties.

59.2 Waiver

- (a) No waiver of any term, covenant or condition of this Agreement will be valid unless in writing and executed by the obligee Party.
- (b) Either Party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of this Agreement at any time will not in any way limit or waive that Party's right to subsequently enforce or compel strict compliance with every term, covenant, condition or other provision of this Agreement, despite any course of

dealing or custom of the trade (other than the waived breach or failure in accordance with the terms of such waivers).

- (c) If the Parties make and implement any interpretation of this Agreement without documenting such interpretation by an instrument in writing signed by both Parties, such interpretation and implementation will not be binding in the event of any future Disputes.

59.3 Independent Contractor; No Agent, Joint Venture or Partnership

- (a) The Developer is an independent contractor, and nothing contained in this Agreement will be construed as constituting any relationship with the District other than that of developer of the Project and independent contractor.
- (b) The Parties agree that:
 - (i) nothing in this Agreement is intended or will be construed to create any partnership, joint venture, agency, landlord-tenant, lessor-lessee of real property, optionor-optionee, vendor-purchaser, mortgagor-mortgagee or similar relationship between the District and the Developer; and
 - (ii) in no event will either Party take a position in any tax return, insurance application or questionnaire, financial statement, financial report, regulatory filing, securities filing, loan document, or other writing of any kind that any such relationship exists.
- (c) While the term “public-private partnership” may be used on occasion to refer to contractual relationships of the type created by this Agreement, the Parties do not express any intention to form or hold themselves out in law or in practice as a partnership, joint venture or similar relationship, to share net profits or net losses, or to give the District control or joint control over the Developer’s financial decisions or discretionary actions concerning the Project and the Work.
- (d) In no event will the relationship between the District and the Developer be construed as creating any relationship whatsoever between the District and the Developer’s employees.
- (e) Neither the Developer nor any of its employees is or shall be deemed to be an employee of the District.
- (f) Except as otherwise expressly provided in this Agreement, the Developer has sole authority and responsibility to employ, discharge and otherwise control its employees and has complete and sole responsibility as a principal for its agents, for all Contractors and for all other Persons that the Developer or any Contractor hires to perform or assist in performing the Work.

59.4 No Personal Liability

No officer, agent, representative or employee of the District, any District-Related Entity, the Developer or any Developer-Related Entity will be personally liable under any provision of this

Agreement, or because of the execution or attempted execution of this Agreement, or because of any breach of this Agreement.

59.5 Taxes

The Developer is solely responsible for the payment of taxes accrued or arising out of the performance of its obligations pursuant to this Agreement.

59.6 Successors and Assigns

This Agreement is binding upon and will inure to the benefit of the District and the Developer and their respective successors and permitted assigns.

59.7 Survival

Article 3 (Representations and Warranties); Article 56 (Dispute Resolution); Article 34 (Indemnity from the Developer); the express obligations of the Parties following the Termination Date; any obligations to pay amounts under this Agreement; Article 52 (Intellectual Property); Article 59 (Other); and all other provisions which by their inherent character should survive expiration or Early Termination of, or completion of the Work under, this Agreement, will survive the expiration or Early Termination of, or the completion of the Work under, this Agreement.

59.8 Limitation on Third Party Beneficiaries

Nothing contained in this Agreement is intended or will be construed as creating or conferring any rights, benefits or remedies upon, or creating any obligations of the Parties toward, any Person not a party to this Agreement, except rights expressly contained in this Agreement for the benefit of the Lenders, the Collateral Agent or the Indemnified Parties.

59.9 Notices and Communications

(a) Notices under this Agreement must be in writing and: (i) delivered personally; (ii) sent by certified mail, return receipt requested; (iii) sent by a recognized overnight mail or courier service, with delivery receipt requested or (iv) sent by email communication followed by a hard copy, to the following addresses (or to such other address as may from time to time be specified in writing by such Person):

(i) If to the Developer:

Plenary Americas
1700 Lincoln Street, Suite 3000
Denver, Colorado 80203
Attn: Simon Stachnik

(ii) If to the District:

Todd Allen, Esq.
Office of Contracting and Procurement
441 4th Street, NW, Suite 330 South

Washington, D.C. 20001

with a copy to:

Cherwin Baga
District Department of Transportation
55 M Street SE
Washington, DC 20003

(iii) If to the Collateral Agent:

U.S. Bank National Association
Global Corporate Trust
Two Liberty Place
50 S. 16th Street, Suite 2000
Philadelphia, Pennsylvania 19102

- (b) Any notice sent personally will be deemed delivered upon receipt, if sent by mail or courier service will be deemed delivered on the date of receipt or on the date receipt at the appropriate address is refused, as shown on the records of the U.S. Postal Service, courier service or other Person making the delivery, and if sent by email communication will be deemed delivered on the date of receipt as shown on the received email transmission (provided the hard copy is also delivered pursuant to Section 59.9(a) (Notices and Communications)). All notices (including by email communication) delivered after **5:00 p.m. eastern time** will be deemed delivered on the first Business Day following delivery.

59.10 Integration of this Agreement

The District and the Developer agree and expressly intend that this Agreement (including all Exhibits) constitute a single, non-severable, integrated agreement whose terms are interdependent and non-divisible, such that, among other things, no part of this Agreement could be separated from any other part for the purposes of assumption or rejection under Section 365 of Title 11 of the United States Bankruptcy Code.

59.11 Entire Agreement

This Agreement contains the entire understanding of the Parties with respect to the subject matter of this Agreement and supersedes all prior agreements, understandings, statements, representations and negotiations between the Parties with respect to their subject matter.

59.12 Severability

- (a) If any clause, provision, Section, subsection or part of this Agreement is ruled invalid (including due to a Change in Law) by a court having proper jurisdiction, the Parties shall:
- (i) promptly (and in any event within ten (10) Business Days) after such ruling, meet and negotiate a substitute for such clause, provision, Article, Section or part,

which will, to the greatest extent legally permissible, effect the original intent of the Parties, including any adjustment to the District's compensation to the Developer's account for any change in the Work resulting from such invalidated portion; and

- (ii) if necessary or desirable, apply to the court or other decision maker (as applicable) that declared such invalidity for an interpretation of the invalidated portion to guide the negotiations.
- (b) The invalidity or unenforceability of any clause, provision, Article, Section, subsection or part will not affect the validity or enforceability of the balance of this Agreement, which will be construed and enforced as if this Agreement did not contain such invalid or unenforceable clause, provision, Article, Section, subsection or part.

59.13 Interest on Overdue Amounts

Except where expressly provided otherwise, where any payment or sum of money due from the Developer to the District or from the District to the Developer under any provision of this Agreement is not paid when due pursuant to this Agreement, such payment shall bear interest from the date such payment is due until payment is made (after as well as before judgment) at a variable rate per annum at all times equal to the Bank Rate, which interest will be payable on demand. Interest will be compounded annually and payable on the date on which the related overdue amount is paid.

59.14 Counterparts

This Agreement may be executed in counterparts, each of which will be deemed an original, but all of which together will constitute one and the same instrument.

59.15 Offset

To the extent (i) any payment is due from the Developer to the District that has not been paid in accordance with the requisite time period and cure period, if any, as set forth in this Agreement and (ii) such payment by the Developer is not disputed by the Developer in Good Faith, the District shall have the right to offset any amounts due to the Developer, including Milestone Payments and Availability Payments.

60. APPROPRIATIONS

60.1 Subject to Appropriation

- (a) The obligation of the District to fulfill financial obligations pursuant to this Agreement or any subsequent agreement entered into pursuant to this Agreement or referenced herein (to which the District is a party), are and shall remain subject to the provisions of: (i) the federal Anti-Deficiency Act, 31 U.S.C. §§ 1341, 1342, 1349-1351, 1511-1519 (the "**Federal ADA**"), and D.C. Official Code §§ 1 – 206.03(e) and 47-105 (2001); (ii) the District of Columbia Anti-Deficiency Act, D.C. Official Code §§ 47-355.01 – 355.08 (the "**D.C. ADA**," and (i) and (ii) collectively, as amended from time to time, the "**Anti-Deficiency Acts**"); and (iii) Section 446 of the District of Columbia Home Rule Act, D.C. Official Code § 1 –

204.46 (2001). Pursuant to the Anti-Deficiency Acts, nothing in this Agreement shall create an obligation of the District in anticipation of an appropriation by Congress for such purpose, and the District's legal liability for payments and other charges under this Agreement shall not arise or obtain in advance of the lawful availability of appropriated funds for the applicable fiscal year as approved by Congress.

- (b) The obligation of the District to pay all amounts due and owing or scheduled to become due and owing from the District to the Developer hereunder is a contractual commitment of the District and does not constitute a debt or pledge of the District or any political subdivision thereof within the meaning or application of any constitutional provision or limitation. The District has no taxing power. The Developer has no right to have taxes levied or compel appropriations by the Council for any payment or any amounts due and owing or scheduled to become due and owing from the District to the Developer hereunder. No District official or employee is authorized to obligate or expend any amount under this Agreement unless such amount has been appropriated by an act of Congress and is lawfully available.
- (c) Except with respect to those sources of funds that as a matter of law are not subject to annual appropriations, the Parties acknowledge that the source of funds for payment of all amounts due and owing or scheduled to become due and owing from the District to the Developer hereunder is subject to the availability of funds appropriated to the District by the Council and approved by the Mayor. The District's obligations to provide funding under this Agreement are subject to the appropriation of funds for such purposes by the Council and the inclusion of such appropriations in the budget approved by the Council submitted to Congress by the President, the certification of the availability of such funds by the chief financial officer of the District, and the appropriation by Congress of such funding, if required under Applicable Law. The District shall notify the Developer in writing promptly upon becoming aware of any failure of (i) the Mayor to approve such appropriation, (ii) the chief financial officer of the District to certify as to the availability of funds, (iii) the budget approved by the Council and submitted to Congress by the President for the applicable fiscal year to include such funds, or (iv) Congress to make appropriations to pay any amounts due under this Agreement for any period after the fiscal year for which appropriations have been made; and, if appropriated funds for such purposes are not otherwise lawfully available, then the District shall not be liable to make any payment under this Agreement upon the expiration of any then-existing appropriation, and this Agreement shall immediately terminate for convenience in accordance with Section 42.2 (Termination for Convenience) upon the expiration of any then-existing appropriation.

61. DISTRICT ASSURANCES AND OBLIGATIONS TO LENDERS

61.1 Consent to Security and Authority Payments

(a) Consent to Security

Notwithstanding anything herein to the contrary:

- (i) the District acknowledges and consents to:

- (A) the security interest granted by the Developer to the Collateral Agent with respect to the Developer's Interest pursuant to the Finance Documents;
 - (B) the security interest granted by each of the Initial Equity Members to the Collateral Agent in its respective equity interest(s) in the Developer, in each case pursuant to the Finance Documents; and
 - (C) the grant of security interests set out in the Security Documents;
 - (ii) none of the security interests referred to in Section 61.1(a)(i) (Consent to Security):
 - (A) constitutes (or with the giving of notice or lapse of time, or both, could constitute) either a breach of this Agreement or a Developer Default; or
 - (B) requires any consent of the District that is either additional or supplemental to those granted pursuant to this Section 61.1(a) (Consent to Security);
 - (iii) the Collateral Agent will not, by virtue of the security interests referred to in Section 61.1(a)(i) (Consent to Security), acquire any greater rights to the Developer's Interest than the Developer itself has at any particular time pursuant to this Agreement; and
 - (iv) for so long as any amount under the Finance Documents is outstanding, the District shall not, without the prior written consent of the Collateral Agent (to the extent such consent is required under the Finance Documents), consent to any assignment, transfer, pledge or hypothecation of this Agreement or any interest herein by the Developer, other than as specified in this Agreement.
- (b) **District Payments under the Project Agreement**

The District shall, unless directed otherwise by the Collateral Agent, deposit all amounts payable by it under this Agreement into the Designated Account, and the Developer agrees that any payment made in accordance with this Section 61.1(b) (District Payments under the Project Agreement) will constitute a complete discharge of the District's relevant payment obligations under this Agreement.

61.2 Notices

- (a) **Developer Default**
 - (i) Subject to Section 61.3(a) (No Termination during CA Cure Periods), the District shall give the Collateral Agent written notice promptly upon becoming aware of the occurrence of a Developer Default (a "**District CA Termination Notice**") of the occurrence of such Developer Default, which must specify:

- (A) the unperformed obligations of the Developer under this Agreement of which the District is aware (having made reasonable inquiry) and the grounds for termination of this Agreement in sufficient detail to enable the Collateral Agent to assess the nature of the Developer Default, the requirement to remedy the Developer Default and the scope and amount of any liability of the Developer resulting from such Developer Default;
 - (B) all amounts due and payable by the Developer to the District under this Agreement, if any, on or before the date of the District CA Termination Notice and that remain unpaid at such date and, by cross-reference to the applicable provision(s) of this Agreement, the nature of the Developer's obligation to pay such amounts; and
 - (C) the amount of any payments that the District reasonably foresees will become due from the Developer during the applicable CA Cure Period.
- (ii) The District shall from time to time update any District CA Termination Notice issued pursuant to Section 61.2(a)(i) (*Developer Default*) as and when it becomes aware of any unperformed obligations (including non-payment of amounts that are due) under this Agreement that were not specified in the relevant District CA Termination Notice.
 - (iii) Nothing in this Agreement will prevent the concurrent running of multiple District CA Termination Notices.

(b) **Finance Document Defaults**

The Collateral Agent shall:

- (i) promptly (and in any event within five (5) Business Days) after becoming aware of any Event of Default (whether or not a District CA Termination Notice has been served in connection with the same event) give the District written notice (a "**CA Notice**");
- (ii) specify in any CA Notice the circumstances and nature of the Event of Default to which the CA Notice relates; and
- (iii) notify the District of any decision to accelerate amounts outstanding under the Finance Documents or to exercise any enforcement remedies under the Finance Documents promptly (and in any event within five (5) Business Days) after the taking of such decision.

(c) **Updates to Notices**

The Collateral Agent shall update any CA Notice issued pursuant to Section 61.2(b) as and when it becomes aware of any matter in clauses (i) through (iii) of Section 61.2(b) that was not specified in the relevant CA Notice.

61.3 Rights and Obligations During CA Cure Periods

(a) No Termination during CA Cure Periods

At any time during a CA Cure Period, the District shall not, subject to the terms of this Article 61 (District Assurances and Obligations to Lenders):

- (i) suspend performance of its obligations under this Agreement;
- (ii) terminate or give notice terminating this Agreement for Developer Default; or
- (iii) take, join in or support, whether directly or indirectly, any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding-up of the Developer or for the composition or readjustment of the Developer's debts, or any similar insolvency procedure in relation to the Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for the Developer or for any part of the Developer's Property; provided, that if and after any of the foregoing have been commenced with respect to the Developer by a Person other than the District, this clause (ii) will not otherwise restrict or impair the ability of the District to participate in any way in such liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding-up of the Developer or for the composition or readjustment of the Developer's debts, or any similar insolvency procedure in relation to the Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for the Developer or for any part of the Developer's Property.

(b) Collateral Agents Rights

- (i) At any time during an Event of Default (but, in the case of a Developer Default, only for so long as the Initial Period has not expired), without giving a Step-in Notice, the Collateral Agent may (but shall have no obligation), in its sole discretion, perform or arrange for the performance of any act, duty or obligation required of the Developer under this Agreement, or remedy any breach of the Developer under this Agreement at any time, which performance or remedy by or on behalf of the Collateral Agent shall be accepted by the District in lieu of performance by the Developer and in satisfaction of the Developer's corresponding obligations under this Agreement. If any breach of the Developer under this Agreement is remedied or any payment liabilities or obligations of the Developer are performed by the Collateral Agent under this Section 61.3(b)(i) (Collateral Agent Rights), such action will discharge the relevant liabilities or obligations of the Developer to the District. No such performance by or on behalf of the Collateral Agent under this Section 61.3(b)(i) (Collateral Agent Rights) will be construed as an assumption by the Collateral Agent, or any person acting on the Collateral Agent's behalf, of any of the covenants, agreements or other obligations of the Developer under this Agreement.

- (ii) At any time during a CA Cure Period or an Event of Default, the Collateral Agent may:
 - (A) issue a Step-in Notice in accordance with the requirements of Section 61.4(a) (Step-in Notice); or
 - (B) issue a Substitution Notice in accordance with the requirements of Section 61.5(a) (Notice of Proposed Substitute).

61.4 Step-in Arrangements

(a) Step-in Notice

- (i) Provided that all unperformed payment obligations of the Developer identified in a District CA Termination Notice have been remedied in full or waived by the District on or before the Step-in Date, the Collateral Agent may provide the District with a written notice ("**Step-in Notice**") under this Section 61.4(a)(i) (Step-in Notice) at any time during any CA Cure Period or Event of Default.
- (ii) The Collateral Agent shall nominate, in any Step-in Notice, any one of:
 - (A) the Collateral Agent, a Lender or any of their respective Affiliates that is not a Prohibited Person; or
 - (B) any Person approved by the District in its reasonable discretion, such approval not to be unreasonably withheld, conditioned or delayed if such Person meets all the criteria to be a Qualified Substitute Developer and the District has been provided with the relevant information required under Section 61.5(c) (Provision of Information) with respect to such Person,

(each a "**Step-in Entity**"), stating that the Step-in Entity is to become a joint and several obligor with the Developer under this Agreement in accordance with the terms of this Article 61 (District Assurances and Obligations to Lenders).
- (iii) The Step-in Entity named in the Step-in Notice will be deemed to become a party to this Agreement on and from the date it executes a duly completed Step-in Entity Accession Agreement, substantially in the form attached to this Agreement as Exhibit 22-A (Form of Step-in Entity Accession Agreement), and submits it to the District (the "**Step-in Date**").

(b) Rights and Obligations on Step-in

- (i) On and from the Step-in Date and during the Step-in Period, the Step-in Entity shall be:
 - (A) jointly and severally entitled to exercise and enjoy the rights and powers expressed to be assumed by or granted to the Developer under this Agreement;

- (B) entitled to exercise and enjoy the rights and powers expressed to be assumed by or granted to a Step-in Entity under this Article 61 (District Assurances and Obligations to Lenders); and
 - (C) jointly and severally liable with the Developer for the payment of all sums due from the Developer under or arising out of this Agreement at the Step-in Date and for the performance of all of the Developer's obligations under or arising out of the Project Agreement on or after the Step-in Date.
- (ii) Without prejudice to Section 61.7 (Reinstatement of Remedies), during the Step-in Period:
- (A) the District agrees:
 - (1) not to terminate or give notice terminating this Agreement for Developer Default, unless:
 - (aa) the grounds for termination or giving notice of termination arose during the Step-in Period; or
 - (bb) the Step-in Entity fails to comply with the requirements of any plan agreed between the District and the Collateral Agent in connection with the extension of the relevant CA Cure Period Completion Date; and
 - (2) not to take, join in or support, whether directly or indirectly, any action for the liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding-up of the Developer or for the composition or readjustment of the Developer's debts, or any similar insolvency procedure in relation to the Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for the Developer or for any part of the Developer's Property; *provided*, that if and after any of the foregoing have been commenced with respect to the Developer by a Person other than the District, this clause (2) will not otherwise restrict or impair the ability of the District to participate in any way in such liquidation, bankruptcy, administration, receivership, reorganization, dissolution or winding-up of the Developer or for the composition or readjustment of the Developer's debts, or any similar insolvency procedure in relation to the Developer, or for the appointment of a receiver, trustee, custodian, sequestrator, conservator, liquidator, administrator or similar official for the Developer or for any part of the Developer's Property;
 - (3) not to suspend its performance (including in connection with any insolvency or bankruptcy proceeding in relation to the

Developer) under this Agreement, unless the grounds for suspension of performance arose during the Step-in Period; and

- (4) to continue to make payments required to be made to the Developer under this Agreement to the Designated Account or to such other account as notified by the Collateral Agent to the District;
- (B) the District will owe its obligations under this Agreement to the Developer and such Step-in Entity jointly; *provided* that:
 - (1) subject to clause (2), the performance of such obligations by the District in favor of either such Step-in Entity or the Developer shall be a good and effective discharge of such obligations under this Agreement; and
 - (2) the Collateral Agent will be entitled at any time by notice in writing to the District to direct (such direction being binding on the Collateral Agent, the District and the Developer) that, at all times while such Step-in Entity is deemed to be a party to this Agreement and subject to any further notice from the Collateral Agent, such Step-in Entity will be solely entitled to make any decisions, to give any directions, approvals or consents, to receive any payments or otherwise to deal with the District under this Agreement.
- (C) The Developer will not be relieved from any of its obligations under this Agreement, whether arising before or after the Step-in Date, by reason of the Step-in Entity becoming a party to this Agreement pursuant to a Step-in Entity Accession Agreement, except to the extent provided in Section 61.3(b) (Collateral Agent Rights) and Section 61.6(b) (Effectiveness of Substitution).

(c) **Step-out**

- (i) A Step-in Entity may, at any time, by giving not less than thirty (30) days' prior written notice to the District ("**Step-out Notice**"), notify the District of the date that it wishes to terminate its obligations to the District under this Agreement (the "**Step-out Date**").
- (ii) On the Step-out Date the Step-in Entity will no longer be deemed to be a party to this Agreement and will be released from all obligations under this Agreement. The obligations of the District to the Step-in Entity in such capacity under this Agreement will also terminate on the Step-out Date.
- (iii) Nothing in this Section 61.4(c) (Step-out) will have the effect of releasing the Step-in Entity from any liability that relates to the performance or non-performance of this Agreement by the Developer or the Step-in Entity during the Step-in Period.

61.5 Substitution Proposals

(a) Notice of Proposed Substitute

If the Collateral Agent or the Lenders at any time propose to require the Developer to assign its rights and obligations under this Agreement to a Person (a “**Substitute**”) designated by the Collateral Agent or the Lenders (whether by mutual agreement or enforcement of rights under the Finance Documents), the effectiveness of such assignment will be conditioned upon:

- (i) the Collateral Agent issuing a notice (a “**Substitution Notice**”) to the District requesting the prior approval of the proposed Substitute;
- (ii) the District approving the identity of the proposed Substitute pursuant to Section 61.5(b) (*Grounds for Refusing Approval*); and
- (iii) the proposed Substitute executing a Substitute Accession Agreement in accordance with Section 61.6(a) (*Substitution Effective Date*).

(b) Grounds for Refusing Approval

The District will only be entitled to withhold its approval to any proposed Substitute that is the subject of a Substitution Notice if:

- (i) the proposed Substitute is not a Qualified Substitute Developer; or
- (ii) subject to Section 61.6(d) (*Settlement of Outstanding Obligations*), there are outstanding breaches of this Agreement that have been previously notified by the District to the Collateral Agent and have not, to the reasonable satisfaction of the District, been remedied or waived prior to the date of the Substitution Notice; unless the District has approved (such approval not to be unreasonably withheld, conditioned or delayed) a plan specifying the remedial action that the Substitute will be required to take after the Substitution Effective Date in order to remedy each such breach or, with respect to any breach that is incapable of being cured by the proposed Substitute, the actions the Substitute shall take after the Substitution Effective Date in order to mitigate the material adverse effects (if any) of such breach and to prevent such breach (if capable of repetition) from occurring in the future.

(c) Provision of Information

The Collateral Agent shall promptly provide to the District such information in relation to (x) the proposed Substitute and (y) any Person who, it is proposed, will enter into a material subcontract with the proposed Substitute in relation to the Project, as the District shall reasonably require to enable it to reasonably determine whether the proposed Substitute is a Qualified Substitute Developer, including, without limitation:

- (i) the name and address of the proposed Substitute;

- (ii) unless such proposed Substitute is a publicly traded entity, the names of the proposed Substitute's shareholders or members, and the share capital or partnership or membership interests, as the case may be, held by each of them;
- (iii) the manner in which it is proposed to finance the proposed Substitute and the extent to which such financing is committed (to the extent relevant);
- (iv) copies of the proposed Substitute's most recent financial statements (if available, for the last three (3) financial years and audited) or, in the case of a special purpose company, its opening balance sheet;
- (v) a copy of the proposed Substitute's organizational documents;
- (vi) details of the resources available to the proposed Substitute and the proposed Substitute's appropriate qualifications, experience and technical competence available to the proposed Substitute which enable it to perform the obligations of the Developer under this Agreement; and
- (vii) the names of the proposed Substitute's directors and any key personnel who will have responsibility for the day-to-day management of its participation in the Project.

(d) **District Response**

The District shall review and respond to any Substitution Notice within sixty (60) days of the District's receipt thereof.

61.6 Substitution

(a) **Substitution Effective Date**

If the District approves the identity of a proposed Substitute pursuant to Section 61.5 (Substitution Proposals), the Substitute shall execute a duly completed Substitute Accession Agreement substantially in the form set out in Exhibit 22-B (Form of Substitute Accession Agreement) and submit it to the District (with a copy of it to the other parties to this Agreement). Such assignment will become effective on and from the date on which the District countersigns the Substitute Accession Agreement (the "**Substitution Effective Date**").

(b) **Effectiveness of Substitution**

On and from the Substitution Effective Date:

- (i) the Substitute will become a party to this Agreement in place of the Developer who will be immediately released from its obligations arising under, and cease to be a party to, this Agreement from that Substitution Effective Date; and
- (ii) the Substitute will exercise and enjoy the rights and perform the obligations of the Developer under this Agreement, including any and all undischarged

obligations of the Developer that were otherwise required to be performed by the Developer prior to the Substitution Effective Date; and

- (iii) the District will owe its obligations (including any undischarged liability with respect to any loss or damage suffered or incurred by the Developer prior to the Substitution Effective Date) under this Agreement to the Substitute in place of the Developer and any Step-in Entity.

(c) **Facilitator of Transfer**

The District shall use reasonable efforts to facilitate the transfer to the Substitute of the Developer's obligations under this Agreement.

(d) **Settlement of Outstanding Obligations**

- (i) The Substitute shall pay to the District within thirty (30) days after the Substitution Effective Date any amount due from the Developer to the District under this Agreement as of the Substitution Effective Date.
- (ii) If the Substitute fails to satisfy its obligations pursuant to Section 61.6(d)(i) (Settlement of Outstanding Obligations), the District will be entitled to exercise its rights under this Agreement with respect to the amount so due and unpaid.

(e) **Consequences of Substitution**

On and from the Substitution Effective Date:

- (i) subject to Section 61.6(d) (Settlement of Outstanding Obligations), any right of termination or any other right suspended by virtue of Section 61.3(a) (No Termination During CA Cure Periods) will be of no further effect and the District shall not be entitled to terminate this Agreement by virtue of any act, omission or circumstance that occurred prior to such Substitution Effective Date;
- (ii) if any Step-in Entity is a party to or has any obligations under this Agreement on the Substitution Effective Date, such Step-in Entity will cease to be a party to this Agreement and will be discharged from all obligations under this Agreement;
- (iii) for purposes of determining whether a Noncompliance Increased Monitoring Trigger, Noncompliance Remedial Plan Trigger, or Noncompliance Developer Default Trigger has occurred, any Noncompliance Points accrued by the Developer prior to the Substitution Effective Date shall be reduced by sixty-six percent (66%) and;
- (iv) any Noncompliance Points assessed by the District for a period of ninety (90) days following the Substitution Effective Date will be deemed to have not been assessed for purposes of determining whether a Noncompliance Increased Monitoring Trigger, Noncompliance Remedial Plan Trigger, or Noncompliance Developer Default Trigger has occurred.

61.7 Reinstatement of Remedies

If a District CA Termination Notice has been given, the grounds for that notice are continuing and have not been remedied or waived by the District and

- (a) no Step-in Entity or Substitute becomes a party to this Agreement before the CA Cure Period Completion Date relating to the applicable Developer Default; or
- (b) a Step-in Entity becomes a party to this Agreement, but the Step-in Period relating to such Step-in Entity ends without a Substitute becoming a party to this Agreement,

then, on and from the CA Cure Period Completion Date or the date such Step-in Period expires, the District shall be entitled to:

- (i) act upon any and all grounds for termination available to it in relation to this Agreement with respect to Developer Defaults hereunder that have not been remedied or waived by the District;
- (ii) pursue any and all claims and exercise any and all remedies against the Developer; and
- (iii) if and to the extent that it is then entitled to do so under this Agreement, take or support any action of the type referred to in Section 61.3(a)(i) (No Termination during CA Cure Periods).

61.8 Impact of Bankruptcy or Insolvency Proceedings

(a) Rejection of the Project Agreement

- (i) If:
 - (A) this Agreement is rejected by a trustee or debtor-in-possession in, or terminated as a result of, any bankruptcy or insolvency proceeding involving the Developer; and
 - (B) within one hundred twenty (120) days after such rejection or termination, the Collateral Agent requests or certifies in writing to the District that the Collateral Agent or the Collateral Agent's permitted designee or assignee (including a Qualified Substitute Developer) intends to perform the obligations of the Developer as and to the extent required under this Agreement,

the District will execute and deliver to the Collateral Agent (or any Substitute satisfying the requirements of this Agreement if directed to do so by the Collateral Agent) a new project agreement. The new project agreement must contain terms, conditions and limitations that are the same as those of the this Agreement, except for any obligations that have been fulfilled by the Developer, any party acting on behalf of or stepping-in for the Developer or the Collateral Agent prior to such rejection or termination. References in this Article 61 (District

Assurances and Obligations to Lenders) to this Agreement will be deemed also to refer to any such new project agreement.

- (ii) The effectiveness of any new project agreement referred to in Section 61.8(a)(ii) (Rejection of the Project Agreement) will be conditioned upon the Collateral Agent first reimbursing the District with respect to its costs incurred in connection with the execution and delivery of such new project agreement.

(b) Extension of CA Cure Period Completion Date

If:

- (i) the Collateral Agent is prohibited by any Governmental Entity, court order, bankruptcy, or insolvency proceedings from remedying the Developer Default that is the subject of a District CA Termination Notice; or
- (ii) the Collateral Agent pursues with good faith and diligence lawful processes and steps to obtain the appointment of a court receiver for the Project or possession, custody and control of the Project, but despite such efforts the Collateral Agent is unable to obtain such appointment or possession, custody and control of the Project,

each of the relevant CA Cure Period Completion Date and Initial Period will be extended by a period of time equal to the shorter of (x) the period of such prohibition and (y) one hundred twenty (120) days.

61.9 Effective Date; Termination of Assurances and Obligations to Lenders

The provisions of this Article 61 (District Assurances and Obligations to Lenders):

- (a) will become effective on the Financial Closing Date, and
- (b) will remain in effect until the earliest to occur of:
 - (i) the Discharge Date; and
 - (ii) the time at which all of the Parties' (including for the purposes of this Article 61 (District Assurances and Obligations to Lenders) any Lender, Qualified Substitute Developer, Step-in Entity or Substitute) respective obligations and liabilities under the Finance Agreements have expired or have been satisfied in accordance with the terms of thereof.

61.10 Consents and Estoppel Certificates

- (a) At any time and from time to time, within thirty (30) days after written request of any Lender, the District, without charge, shall (x) consent to (1) the exercise by the Lender of its rights under and in accordance with this Agreement in the event of a Developer Default and (2) a pledge or hypothecation by Developer of the Developer's Interest under this

Agreement to the Lender and (y) certify to its best knowledge by written instrument duly executed and acknowledged, to the Lender as follows:

- (i) as to whether this Agreement has been supplemented or amended, and if so, the substance and manner of such supplement or amendment, attached a copy thereof to such certificate;
 - (ii) as to the validity and force and effect of this Agreement, in accordance with its terms;
 - (iii) as to the existence of any Developer Default;
 - (iv) as to the existence of events which, by the passage of time or notice or both, would constitute a Developer Default;
 - (v) as to the then accumulated amount of Noncompliance Points;
 - (vi) as to the existence of any claims by the District regarding this Agreement;
 - (vii) as to the effective date and the commencement and expiration dates of the Term;
 - (viii) as to whether a specified acceptance, approval, or consent of the District called for under this Agreement has been granted; and
 - (ix) such other matters customarily addressed in estoppel certificates to lenders in a project finance transaction.
- (b) The District shall deliver the same certified, written instrument to a Substituted Entity or proposed Substituted Entity within thirty (30) days after receiving its written request; *provided* that the request is delivered to the District either before the Substituted Entity or proposed Substituted Entity succeeds to the Developer's Interest or within sixty (60) days after the Substituted Entity has succeeded to the Developer's Interest.
 - (c) Any such certificate may be relied upon by, and only by, the Lender, Substituted Entity, or proposed Substituted Entity to whom the same may be delivered.

61.11 Preservation of Funds

Notwithstanding the other provisions of this Article 61 (District Assurances and Obligations to Lenders) and the terms and conditions of the Finance Documents, the Collateral Agent agrees for itself and on behalf of the Lenders that it will not exercise any rights under the Finance Documents or take any other steps that would prejudice the operation of Section 19.3 (Handback Reserve Account).

61.12 Competing Step-in Rights

- (a) **Subordination of District Rights**

- (i) Subject to the terms of Section 61.12(a)(ii) (*Subordination of District Rights*), the District agrees that it will not exercise any of its rights as a beneficiary under the D&C Security until:
 - (A) this Agreement has been terminated (other than pursuant to a transfer to a Substitute pursuant to Section 61.6 (*Substitution*));
 - (B) the expiration of any relevant period under this Article 61 (*District Assurances and Obligations to Lenders*) in which the Collateral Agent is required or entitled to either exercise or procure the exercise of rights of step-in, novation, transfer or any similar right under this Article 61 (*District Assurances and Obligations to Lenders*); or
 - (C) if the Collateral Agent has exercised or procured the exercise of rights of step-in, novation, transfer or any similar right, the date of any step-out or similar event under this Article 61 (*District Assurances and Obligations to Lenders*) has occurred.
- (ii) Notwithstanding the foregoing, the District shall be entitled to provide notice to any surety under the D&C Security of the occurrence of any Developer Default.

(b) Expiration of Lenders Rights

The Collateral Agent shall notify the District:

- (i) of the Step-in Entity, the Collateral Agent (or any trustee or administrator acting on behalf of the Lenders) or the Developer's exhaustion all of its direct or indirect legal rights and remedies against the D&C Contractor under the Finance Documents or determination not to exercise (or to cease exercising) or that it is not entitled to exercise the same promptly following the exhaustion of or determination with respect to such legal rights and remedies (and in any event within five (5) Business Days) after the date of exhaustion or determination); and
- (ii) of any decision by the Lenders whether or not to exercise any or all of their direct or indirect rights against the D&C Contractor under the Finance Documents or the D&C Contract (if they have not by then given notice under Section 61.12(b)(i) (*Expiration of Lenders Rights*)) by the date six (6) months after the date that the District pays to the Developer the whole of the termination compensation (if any) that is payable to the Developer following termination of this Agreement.

[Signature page(s) to follow.]


IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Agreement as of the date first written above.

DISTRICT OF COLUMBIA

By: 
Name: Todd Allen
Title: Contracting Officer
Date: March 7, 2022

PLENARY INFRASTRUCTURE DC LLC

By: 
Name: Brian Budden
Title: President

By: 
Name: Stuart Marks
Title: Vice President

Solely for the purposes of Article 61 (*District Assurances and Obligations to Lenders*) of this Agreement as of the Financial Closing Date:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION as Collateral Agent:

By: _____
Name: _____
Title: _____
Date: _____

IN WITNESS WHEREOF, the Parties, intending to be legally bound, have executed this Agreement as of the date first written above.

DISTRICT OF COLUMBIA

By: Todd Allen
Name: Todd Allen
Title: Contracting Officer
Date: March 7, 2022

PLENARY INFRASTRUCTURE DC LLC

By: Brian Budden
Name: Brian Budden
Title: President

By: Stuart Marks
Name: Stuart Marks
Title: Vice President

Solely for the purposes of Article 61 (*District Assurances and Obligations to Lenders*) of this Agreement as of the Financial Closing Date:

U.S. BANK TRUST COMPANY, NATIONAL ASSOCIATION as Collateral Agent:

By: Stacy L Mitchell
Name: Stacy L Mitchell
Title: Vice President
Date: May 5, 2022

Executed by CA post financial close

EXHIBITS

SMART STREET LIGHTING PROJECT AGREEMENT

EXHIBIT 1 DEFINITIONS

EXHIBIT 2 DEVELOPER OWNERSHIP

EXHIBIT 3 DESIGNATION OF REPRESENTATIVES

EXHIBIT 4 FORM OF CLOSING SECURITY

EXHIBIT 5 TECHNICAL PROVISIONS

EXHIBIT 6 DEVELOPER'S PROPOSAL COMMITMENTS

EXHIBIT 7 COMPREHENSIVE DEMONSTRATION PROTOCOL

EXHIBIT 8 CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

EXHIBIT 9 REQUIRED INSURANCE

EXHIBIT 10 KNOCKDOWN THRESHOLD; STREET LIGHT NETWORK EXPANSION TYPES

EXHIBIT 11 CONDITIONS PRECEDENT TO NOTICES TO PROCEED

EXHIBIT 12 COMPLETION CONDITIONS

EXHIBIT 13 UPDATE TO BASE MAP

EXHIBIT 14 PAYMENT MECHANISM

EXHIBIT 15 PERFORMANCE REPORTS

EXHIBIT 16 CALCULATION OF HANDBACK AMOUNTS

EXHIBIT 17 PRINCIPLES FOR CALCULATION OF CHANGE IN COSTS

EXHIBIT 18 COMPENSATION ON TERMINATION

EXHIBIT 19 ASSET INVENTORY AND CONDITION REPORT

EXHIBIT 20 LICENSE AGREEMENTS FOR POLE ATTACHMENTS

EXHIBIT 21 FINANCE DOCUMENTS

EXHIBIT 22 FORMS OF ACCESSION AGREEMENT

EXHIBIT 23 FORM OF DISTRICT LEGAL OPINION

EXHIBIT 24 BASE CASE FINANCIAL MODEL

EXHIBIT 25 FORMS OF SECURITY

EXHIBIT 26 FEDERAL REQUIREMENTS

EXHIBIT 27 DBE PROGRAM REQUIREMENTS

EXHIBIT 28 DISTRICT REQUIREMENTS

EXHIBIT 1

DEFINITIONS

Capitalized terms and acronyms used in this Agreement have the meanings given in this Exhibit 1 (Definitions).

“Abandon” means to abandon all or a material part of the Project, which abandonment will be deemed to have occurred if:

- (a) the Developer demonstrates through statements, acts or omissions an intent not to continue (for any reason other than a Compensation Event or Relief Event that materially interferes with its ability to continue) to design, construct, or provide asset management services for all or a material part of the Project; or
- (b) no Work (taking into account the Project Baseline Schedule, if applicable, and any Compensation Event or Relief Event) on the Project is performed for a continuous period of more than sixty (60) days.

“Access” means the non-exclusive right to access and use each Project Site in accordance with the terms of this Agreement, subject to:

- (a) the statutory rights of Governmental Entities and Utility Owners to have access to the Project Sites;
- (b) restrictions of use in easement deeds or right of entry permits of record applicable to any Governmental Approval; and
- (c) restrictions created by any court order or any License Agreement;

provided, however, that in the event that the foregoing materially impedes, interferes with, or prevents the Developer from performing the Work on a Project Site, the Developer shall not be deemed to have Access to such Project Site.

“Account Balances” means, at the Early Termination Date, all amounts standing to the credit of any bank account held by or on behalf of the Developer (excluding the Reserve Account and the Handback Reserve Account), or the value of any letter of credit issued in substitution for the maintenance of a reserve in any bank account previously held by the Developer (excluding any such letters of credit issued in connection with the Reserve Account and the Handback Reserve Account).

“Additional Equity Investment” means an Equity Investment made solely by the Permitted Investors after the Financial Closing Date that is not a Committed Equity Investment, or otherwise contractually committed to by the relevant Permitted Investors, as of the Financial Closing Date.

“Administrative Redirect” is defined in Section 10.6.7 (*Administrative Redirect*) of the Technical Provisions.

“Affiliate” means, in relation to any Person, any entity that, directly or indirectly, through one or more intermediaries:

- (a) has a ten percent (10%) or more voting or economic interest in such Person; or
- (b) Controls, is Controlled by, or is under common Control with such Person.

“Agreement” means this agreement (including all its Exhibits), as amended from time to time.

“Alternative Technical Concept” or **“ATC”** means an innovative concept that deviates from the Technical Provisions or otherwise requires an amendment to the Technical Provisions, either of which the District has approved in accordance with the ITP prior to the date of this Agreement.

“Anti-Deficiency Acts” is defined in Section 60.1(a) (Subject to Appropriation).

“AP Reserve Funding Amount” is defined in Section 25.2(c) (Initial Funding; Milestone Payment Invoices and Quarterly Disbursement Invoices).

“Applicable Law” means any statute, law, code, regulation, ordinance, rule, common law, judgment, judicial or administrative order, decree, directive, or other requirement having the force of law or other governmental restriction (including those resulting from the initiative or referendum process) or any similar form of decision of or determination by, or any interpretation or administration of any of the foregoing by, any Governmental Entity that is applicable to the Project, the Work or any relevant Person, whether taking effect before or after the date of this Agreement. Applicable Law excludes Governmental Approvals.

“Approved Purposes” is defined in Section 52.1 (Project Data).

“Arm” means a structural attachment to a Pole to which one or more Luminaires is affixed and/or suspended.

“As-Built Drawings” means the Final Design Documents submitted and updated by the Developer, revised to incorporate all changes made in the specifications and working drawings during construction.

“Asset Inventory and Condition Report” means the report attached hereto as Exhibit 19 (Asset Inventory and Condition Report), as otherwise described in Section 9.6 (Asset Inventory and Condition Report).

“Asset Management Contract” means any Contract entered into by the Developer for third party management, direction, supervision or performance of all of the Asset Management Services or any significant portion of the Asset Management Services. There may be more than one Asset Management Contract concurrently in effect.

“Asset Management Contractor” means the Contractor under any Asset Management Contract.

“Asset Management Contractor Member” means , if the Asset Management Contractor is limited liability company, partnership or joint venture, each member or partner (as applicable) of the Asset Management Contractor.

“Asset Management Information System” or **“AMIS”** is defined in Section 10.3 (*Asset Management Information System*) of the Technical Provisions.

“Asset Management Manual” means the manual described in Section 10.11.7 (*Asset Management Manual*) of the Technical Provisions.

“Asset Management Period” means (i) with respect to a Street Light Bundle, the period starting on the Street Light Bundle Substantial Completion Date and ending on the Termination Date and (ii) with respect to a Smart City Bundle, the period starting on the Smart City Bundle Substantial Completion Date and ending on the Termination Date.

“Asset Management Period Asset Management Services” means any and all asset management, administration, and rehabilitation of the Improved Street Light Network, as further described in the Technical Provisions.

“Asset Management Plan” means the plan described in Section 10.11 (*Asset Management Plan*) of the Technical Provisions.

“Asset Management Services” means the D&C Period Asset Management Services and the Asset Management Period Asset Management Services.

“Associated Company” means, with respect to a relevant company, a company that is a subsidiary, a holding company or a company that is a subsidiary of the ultimate holding company of that relevant company, and in the case of the Developer, includes each of the Equity Members.

“Assumed Remedial Action Cost” means, for each year of the Term, twenty-five thousand dollars (\$25,000), Indexed.

“Assumed Vandalism Repair Cost” means, for each year of the Term, fifty thousand dollars (\$50,000), Indexed.

“Availability Payment” means the quarterly payments to be made by the District to the Developer, subject to the terms specified in this Agreement, including but not limited to Article 24 (*Payments to the Developer*) and Exhibit 14 (*Payment Mechanism*).

“Bank Debt Financing” means any debt financing, other than Bond Financing, provided by a bank or similar financial institution.

“Bank Debt Pricing Date” means with respect to any Bank Debt Financing proposed in the Preliminary Financial Model, the earlier of (i) the Financial Closing Date, (ii) the date at which the Bank Debt Financing is fixed or hedged by the Developer, or (iii) such other date as may be mutually agreed to by the Developer and the District.

“Bank Debt Rate Protection Period” is defined in Section 2.1(a) (*Market Interest Rate Protection*) of Exhibit 13 (*Update to Base MAP*).

“Bank Rate” means the prime rate of interest announced publicly by *The Wall Street Journal* (or its successor) as the so-called “prime rate”.

“Bankruptcy-Related Default” means a Developer Default that arises pursuant to Section 44.1(e) (*Developer Default*) or Section 44.1(f) (*Developer Default*).

“Base Case Equity IRR” means, initially, 9.00%, or the “Post-Tax Equity IRR (Cash-on-Cash)” reflected in the Base Case Financial Model as updated from time to time in accordance with this Agreement.

“Base Case Financial Model” means the base case financial model set out in Exhibit 24 (Base Case Financial Model) (as updated from time to time in accordance with this Agreement).

“Base Interest Rate Adjustment Date” is defined in Section 2.1(b) (*Market Interest Rate Protection*) of Exhibit 13 (Update to Base MAP).

“Base Interest Rates” means the base interest rates included in the Developer’s Preliminary Financial Model, pursuant to the Instructions to Proposers.

“Base MAP” means the total MAP₀, as may be adjusted in accordance with this Agreement.

“Betterment” means any upgrading of the Utility in the course of any Utility Adjustment that is not attributable to the D&C Work and is made solely for the benefit of and at the election of the Utility Owner. Notwithstanding the foregoing, the following are not considered Betterments:

- (a) any upgrading that is required for accommodation of the Project;
- (b) replacement devices or materials that are of equivalent standards although not identical;
- (c) replacement of devices or materials no longer regularly manufactured with an equivalent or next higher grade or size;
- (d) any upgrading required by Applicable Law;
- (e) replacement devices that are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase);
- (f) any upgrading required by the Utility Owner’s applicable design and construction standards; and
- (g) any discretionary decision by a Utility Owner that is contemplated within a particular standard described in clause (f) above.

“Bond Financing” means any financing comprising bonds, which may include tax-exempt and/or taxable bonds.

“Bond Pricing Date” means (i) the earlier of (a) the Financial Closing Date and (b) the date of execution of a bond purchase agreement related to a Bond Financing or (ii) such other date as may be mutually agreed by the District and the Developer.

“Bond Rate Protection Period” is defined in Section 2.1(b) (*Market Interest Rate Protection*) of Exhibit 13 (Update to Base MAP).

“Business Day” means any day that is not a Saturday, a Sunday, a federal public holiday, or DC Emancipation Day.

“CA Cure Period” means the period commencing on the date that the Collateral Agent receives a District CA Termination Notice pursuant to Section 61.2(a)(i) (Developer Default) and ending on the earliest of:

- (a) the relevant CA Cure Period Completion Date;
- (b) any Step-out Date;
- (c) the Substitution Effective Date; or
- (d) the last day of the Term.

“CA Cure Period Completion Date” means, subject to Section 61.8(b) (Extension of CA Cure Period Completion Date):

- (a) with respect to any Payment Default, the date falling thirty (30) days after the later of (i) the date that the Collateral Agent receives the relevant District CA Termination Notice and (ii) expiration of any applicable cure period granted to the Developer pursuant to Section 44.3 (Notice and Cure Periods);
- (b) with respect to any Bankruptcy-Related Default, the date falling sixty (60) days after the later of (i) the date that the Collateral Agent receives the relevant District CA Termination Notice and (ii) expiration of any applicable cure period granted to the Developer pursuant to Section 44.3 (Notice and Cure Periods);
- (c) with respect to any Non-Completion Default, the date falling ninety (90) days after the date that the Collateral Agent receives the relevant District CA Termination Notice; provided that such period will be extended by such reasonable period of time as may be required to achieve Project Final Completion (subject to a maximum extension of one hundred eighty (180) days), but only to the extent that:
 - (i) there is a reasonable prospect of achieving Project Final Completion within two hundred seventy (270) days of the relevant District CA Termination Notice; and
 - (ii) within the initial ninety (90) -day cure period, the Collateral Agent and the District (each acting reasonably) agree to a plan in relation to achieving Project Final Completion; and
- (d) with respect to any Developer Default not referred to in clauses (a) through (c), the date falling ninety (90) days after the later of (x) the date that the Collateral Agent receives the relevant District CA Termination Notice and (y) expiration of any applicable cure period granted to the Developer pursuant to Section 44.3 (Notice and Cure Periods); provided that such period will, at the request of the Collateral Agent, be extended up to a maximum of thirty (30) additional days, but only to the extent that:
 - (i) within the initial ninety (90) -day cure period provided for in this clause (d), the Collateral Agent and the District (each acting reasonably) agree to a plan specifying the remedial action to be taken with respect to the relevant Developer Default; and

- (ii) the extension requested by the Collateral Agent represents (in the reasonable opinion of the District) a reasonable period of time to remedy the relevant Developer Default.

“CA Notice” is defined in Section 61.2(b)(i) (Finance Document Defaults).

“Calendar Quarter” means one of the four consecutive three (3)-month periods into which the Calendar Year is divided, including (i) January 1 until March 31; (ii) April 1 until June 30; (iii) July 1 until September 30 and (iv) October 1 until December 31.

“Calendar Year” means the consecutive twelve (12)-month period starting on January 1 and ending on December 31.

“Capital Expenditure” means any expenditure that is treated as a capital expenditure in accordance with GAAP or equivalent auditing standards utilized and generally accepted in the country of incorporation of such party.

“CERCLA” means the Comprehensive Environmental Response, Compensation and Liability Act (42 U.S.C. 9601-9675).

“Certificate of Project Final Completion” is defined in Section 17.3(e)(ii)(A) (Project Final Completion).

“Certificate of Street Light Bundle Substantial Completion” is defined in Section 17.1(d)(ii)(A) (Substantial Completion of Conversion Work Bundles).

“Change in Costs” means, with respect to any Relevant Event, the effect of that Relevant Event (whether of a one-off or recurring nature, and whether positive or negative) upon the actual or anticipated costs, losses or liabilities of the Developer, including, as relevant, the following (without double-counting):

- (a) the reasonable costs of complying with the requirements of Articles 28 (Compensation Events), 31 (Change in Law) or 41 (Relevant Events and the Financial Model), including the reasonable costs of preparation of designs and estimates;
- (b) the costs of continued employment of, or making redundant, staff who are no longer required;
- (c) the costs of employing additional staff;
- (d) reasonable professional fees;
- (e) the effects of costs on implementation of any insurance reinstatement in accordance with this Agreement, including any adverse effect on the insurance proceeds payable to the Developer (whether arising from physical damage insurance or business interruption insurance (or their equivalent)) with respect to that insurance reinstatement and any extension of the period of implementation of the insurance reinstatement;
- (f) asset management costs, life cycle, or replacement costs;
- (g) Capital Expenditure;

- (h) any deductible or increase in the level of deductible, or any increase in premium under or with respect to any insurance policy;
- (i) the costs to the Developer of financing any Relevant Event (and the consequences thereof), including commitment fees and capital costs, interest and hedging costs, lost interest on any of the Developer's own capital employed, any financing required pending receipt of a lump-sum payment, and lost interest of proceeds that would have been received and reserved in the absence of the Relevant Event;
- (j) the costs required to ensure continued compliance with the Finance Documents; and
- (k) Losses.

In no circumstances will Change in Costs include any costs or other Losses that arise due to the Developer receiving Milestone Payments or Availability Payments later than the date that it would have received them in the absence of the Relevant Event.

"Change in Law" means the introduction or repeal (in whole or in part) of, the amendment, alteration or modification to, or the change in interpretation of (in each case including, to the extent applicable, by retroactive effect), any Applicable Law, standard, practice or guideline issued or published by any Governmental Entity that occur at any time after the Setting Date and that is either:

- (a) binding on the Developer; or
- (b) if not binding on the Developer, both (x) typically complied with in the construction or relevant asset management industries and (y) necessary in order to comply with Good Industry Practice or the provisions of this Agreement,

excluding, however, any such introduction, repeal, amendment, alteration, modification or change in relation to:

- (i) any Applicable Law of the District of Columbia passed or adopted but not yet effective as of the Setting Date;
- (ii) any federal or District of Columbia tax law of general application (it being understood that any change in federal or District of Columbia tax laws shall not be deemed of general application if such change is solely directed at, and the effect of which is solely borne by, the Developer or similar projects); and
- (iii) any Tariff.

"Change in Ownership" means:

- (a) any sale, transfer or disposal of any legal, beneficial or equitable interest in any or all of the shares or membership interests in the Developer or any Related Entity;
- (b) with respect to any of the shares or membership interests referred to in clause (a), any change in the direct or indirect control over:

- (i) the voting rights conferred on those shares or membership interests;
 - (ii) the right to appoint or remove directors; or
 - (iii) the right to receive dividends or distributions;
- (c) any other arrangements that have or may have or which result in the same effect as clause (a) or clause (b); or
- (d) any transaction (which, for the avoidance doubt, includes any transaction contemplated but not closed) within the meaning of 31 CFR § 800.224.

“Closing Security” means one or more irrevocable standby letters of credit in the aggregate amount of ten million dollars (\$10,000,000), and each in substantially the form (as applicable) set out in Exhibit 4 (Form of Closing Security) and issued by an Eligible Security Issuer.

“Collateral Agent” means the financial institution listed or otherwise designated to act as trustee or agent on behalf of or at the direction of the Lenders in the Finance Documents with respect to the Project Debt.

“Combination Pole” is defined in Appendix 13.14 (*Definitions*) of the Technical Provisions.

“Commercial Closing Date” means the date on which all of the conditions precedent set out in Section 2.2 (Conditions Precedent to the Commercial Closing Date) have been satisfied or otherwise waived in accordance with this Agreement.

“Commercial Closing Documents” is defined in Section 2.2(b) (Commercial Closing Documents).

“Committed Equity Investment” means, in the aggregate, (i) any Equity Investment and (ii) any Deferred Equity Amounts. Committed Equity Investment at Project Final Completion should be no less than ten percent (10%) of the D&C Contract Price, net of any payments to Equity Members between the Commercial Closing Date and the Project Final Completion Date.

“Compensation Amount” means the sum paid to the Developer for a Compensation Event.

“Compensation Event” means any of the following events:

- (a) any material breach of an obligation under this Agreement by the District, including without limitation, any breach by the District of:
 - (i) Article 7 (Review of Submittals);
 - (ii) Section 8.3 (Access to Project Sites);
 - (iii) Section 12.1(b) (Utility Adjustments);
 - (iv) Section 12.3(b) (Failure of Utility Owners to Cooperate); and
 - (v) Article 16 (Notices to Proceed);
- (b) any violation of Applicable Law by the District;

- (c) any Qualifying Change in Law;
- (d) the issuance by the District of any Directive Letter;
- (e) any Required Action taken by the District in the circumstances described in Section 50.4 (Step-In without Developer Breach);
- (f) any suspension of the Conversion Work, the Smart City Work, or the Asset Management Services that constitutes a Compensation Event pursuant to Section 15.3 (Suspension of Conversion Work and/or Smart City Work) or Section 18.5 (Suspension of Asset Management Services);
- (g) any material damage or interruption to, or interference with, the Work caused by any Governmental Entity, the District of Columbia Office of Public-Private Partnerships, the District of Columbia Department of Transportation, the Office of the Chief Technology Officers, or contractors of any of the foregoing entities, or in the case of any attachments or fixtures pursuant to Section 8.5 (Accommodation of Additional Attachments and Fixtures), any Utility Owner or any third party, on or in the vicinity of any Project Site;
- (h) the issuance by the District of any Safety Compliance Order that does not arise as a direct result of any Developer-Related Entity's failure to comply with one or more Safety Standards;
- (i) the discovery of any Hazardous Materials on or under any Project Site at any time after the Commercial Closing Date, including any Remedial Action related thereto, but only to the extent that the presence of such Hazardous Materials:
 - (i) constitutes a Hazardous Environmental Condition; and
 - (ii) does not constitute a Developer Hazardous Materials Release;
- (j) the issuance of any preliminary or permanent injunction or temporary restraining order or other similar order, legal restraint or prohibition by a Governmental Entity of competent jurisdiction under Applicable Law that materially and adversely affects the District's or the Developer's performance under this Agreement;
- (k) any (i) amendment or variation to the terms and conditions of any District-Provided Approval after the Setting Date not previously agreed to by the Developer (including any variation to the terms and conditions of any extension or renewal of any final District-Provided Approval), as compared to those versions of such District-Provided Approvals provided to the Developer (including in draft form) as part of the Disclosed Information prior to the Setting Date or (ii) any invalidation or cancellation, in whole or in part, of any District-Provided Approval after the Setting Date;
- (l) the exercise by the District of its right under Section 15.4(b) (Right to Uncover) in the circumstances described in Section 15.4(e) (Right to Uncover);
- (m) a (i) failure by a Licensor to comply with its obligations under its License Agreement or any amendment thereto in such a manner that would result in a delay to the Conversion

Work (as set out in the Project Baseline Schedule) or the Asset Management Services (as set out in the Renewal Work Schedule) of more than thirty (30) days; *provided* that the Developer shall have continued to satisfy the Conditions to Assistance with Licensor for the duration of such failure to cooperate by the Licensor or (ii) any amendment to a License Agreement or termination thereof that materially and adversely affects the Developer's performance under this Agreement;

- (n) Knockdowns;
- (o) the discovery of any Undisclosed Utility during the performance of the Conversion Work;
- (p) Vandalism;
- (q) the circumstance described as a Compensation Event in Section 32.11(e) (*Expansion of Street Light Network*);
- (r) the discovery of any Combination Pole for which the Developer is required to install separate conduit pursuant to Section 1.4.7(c) (*Combination Poles*) of the Technical Provisions; or
- (s) an act of Terrorism,

except, in each case, to the extent attributable to any breach of this Agreement, Applicable Law or any Governmental Approval by, or any negligent act or negligent omission of, a Developer-Related Entity.

"Compliance Comments" is defined in Section 7.3(a)(i) (*Grounds for Objection or Comment*).

"Comprehensive Demonstration" is defined in Section 2.2(k) (*Comprehensive Demonstration*).

"Conditions to Assistance with Licensor" is defined in Section 12.6(b) (*Failure of Licensors to Cooperate*).

"Conditions to Assistance with Utility Owner" is defined in Section 12.3(b) (*Failure of Utility Owners to Cooperate*).

"Conduit Issuer" means the District of Columbia.

"Construction Cost Index" means the Construction Cost Index for the 20-city average as published by Engineering News-Record, for which the base year is 1913 United States Department of Labor Statistics, for which the base year is 1913 = 100, or if such publication ceases to be in existence, a comparable index selected by the District and approved by the Developer, acting reasonable. For example, the Construction Cost Index for January 2019 was 11206.

"Construction Documents" means final plans for construction and all shop drawings, working drawings, fabrication plans, material and hardware descriptions, specifications, construction quality control reports, construction quality assurance reports and samples necessary for construction and conversion of the Project.

"Contract" means any contract, subcontract or other form of agreement to perform any part of the Work or provide any materials, equipment or supplies for any part of the Work, or any such agreement,

supplement or amendment at a lower tier, between a Contractor and its lower tier Contractor or a Supplier and its lower tier Supplier, at all tiers.

“Contract Administrator” means the District representative as identified in Section 5.1 (Contract Administrator; Developer Representative) and more fully described in Exhibit 3 (Designation of Representatives), as such representative may be changed by the District from time to time.

“Contracting Officer” means the District representative as identified in Section 5.1 (Contract Administrator; Developer Representative) and more fully described in Exhibit 3 (Designation of Representatives), as such representative may be changed by the District from time to time.

“Contractor” means any Person with whom the Developer has entered into any Contract to perform any part of the Work or provide any materials, equipment or supplies for the Project, on behalf of the Developer, and any other Person with whom any Contractor has further subcontracted any part of the Work, at all tiers. The term “Contractor” will include the D&C Contractor and each Asset Management Contractor (if any), but will not include the Independent Engineer.

“Control” means the possession, directly or indirectly, of the power to direct or cause the direction of the management and policies of a Person, whether through the ownership of voting securities, by contract or otherwise.

“Conversion Work” means the Work necessary to convert the Existing Streetlight Network from non-LED Luminaires to LED technology, including repairs and upgrades to existing wiring and electrical systems necessary to support such conversion.

“Conversion Work Plan” means the plan described in Section 2.5.1 (*Conversion Work Plan*) of the Technical Provisions.

“Cost to Complete” means (without double-counting):

- (a) those costs (internal and external) that the District reasonably projects that it will incur in carrying out any process to request tenders from any parties interested in entering into a contract with the District to achieve Project Final Completion, including all costs related to the preparation of tender documentation, evaluation of tenders and negotiation and execution of relevant contracts; plus
- (b) the costs that the District reasonably projects that it will incur in achieving Project Final Completion; plus
- (c) any other Losses that the District would, but for the termination of this Agreement, not have incurred prior to Project Final Completion; minus
- (d) any Insurance Proceeds available to the District for the purposes of achieving Project Final Completion.

“Council” means the Council of the District of Columbia.

“Critical Path” means the longest (in terms of time) unbroken chain or path of logically constructed activities in the Project Baseline Schedule ending with Project Final Completion.

“Cure Period” means, with respect to any Noncompliance Event, the period of time specified in Appendix A or Appendix B of Exhibit 14 (Payment Mechanism), as applicable for that Noncompliance Event, commencing from the Noncompliance Start Date.

“D&C Contract” means the Contract entered into between the Developer and the D&C Contractor for third party management, direction, supervision or performance of all of the D&C Work.

“D&C Contract Indexation Date” is defined in Section 2.5 (Indexation of D&C Contract Price).

“D&C Contract Price” means \$145,775,589 (which includes the Smart City Improvements), as such price may be adjusted in accordance with Section 2.5 (Indexation of D&C Contract Price), or otherwise from time to time in accordance with the D&C Contract.

“D&C Contractor” means ENGIE Services U.S. Inc. (or, if the Developer enters into a new D&C Contract in accordance with the terms of this Agreement, the Contractor under such new D&C Contract).

“D&C Contractor Member” means, if the D&C Contractor is a limited liability company, partnership or joint venture, each member or partner (as applicable) of the D&C Contractor.

“D&C Period” means the period commencing on the Financial Closing Date and ending on the Project Final Completion Date.

“D&C Period Asset Management Services” means any and all asset management, administration, and rehabilitation of the Existing Street Light Network to be performed during the D&C Period following the achievement of the first NTP3, as further described in the Technical Provisions.

“D&C Security” means, collectively, the (i) Payment Bond and (ii) the Performance Bond.

“D&C Work” means the Preliminary Work, the Design Work, the Conversion Work, and the Smart City Work, as applicable, necessary to deliver the Improved Street Light Network and Smart City Improvements.

“D&C Work Value” means an amount equal to the D&C Contract Price minus the aggregate of:

- (a) the Cost to Complete;
- (b) any Milestone Payment that was paid prior to the Early Termination Date; and
- (c) any Deductions assessed prior to the Early Termination Date to the extent such Deductions were not included in the calculation of any Milestone Payment that was paid prior to the Early Termination Date.

“Data Room” has the meaning set forth in the Instructions to Proposers.

“day” means a calendar day.

“DBE” means a disadvantaged business enterprise as defined in 49 CFR Part 26.

“DBE Performance Plan” means the plan described in Section 5.2 (*DBE Performance Plan*) of Exhibit 27 (DBE Program Requirements).

“DC ADA” is defined in Section 60.1(a) (*Subject to Appropriation*).

“DC Vendor Portal” means the electronic system for the submission of payment requests to the District, available at: <http://vendorportal.dc.gov>, or any replacement system as may be implemented by the District from time-to-time during the Term.

“DCMR” means the District of Columbia Municipal Regulations.

“DDOT” means the District of Columbia Department of Transportation.

“Deductions” means deductions calculated in accordance with Exhibit 14 (*Payment Mechanism*).

“Default Remedial Plan” is defined in Section 44.4(a) (*Remedial Plan for Developer Default*).

“Defect” means any defect in any of the D&C Work attributable to:

- (a) defective design;
- (b) defective workmanship or defective materials, plant or machinery used in such D&C Work having regard to Good Industry Practice and to appropriate industry standards and codes of practice current at the date of such D&C Work;
- (c) the use of materials in the D&C Work that (whether defective or not defective in themselves) prove to be defective in the use to which they are put; or
- (d) defective installation.

“Deferred Equity Amounts” means, on any date, any amount of unfunded equity that (i) has been committed to the Developer as of the Financial Closing Date under the Equity Member Funding Agreements (including commitments to provide an Equity Investment or Equity Member Debt) and (ii) is shown to be utilized in the Base Case Financial Model prior to Project Final Completion.

“Design Documents” means all drawings (including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams), specifications, reports, studies, working drawings, shop drawings, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project.

“Design Work” means all Work related to the design, redesign, engineering or architecture for the Project.

“Designated Account” means the account designated in writing to the District by the Collateral Agent.

“Detailed Compensation Event Notice” is defined in Section 28.2(d) (*Notice and Information for Compensation Events*).

“Detailed Relief Event Notice” is defined in Section 29.2(d) (*Notice and Information*).

“Detailed Tariff Event Notice” is defined in Section 31.4(b) (*Tariff Event*).

“Developer” means Plenary Infrastructure DC LLC.

“Developer Change” is defined in Section 33.1 (*Developer Change Request*).

“Developer Change Order” is defined in Section 33.2(c)(i) (Review and Evaluation of Developer Change Request).

“Developer Change Request” is defined in Section 33.1 (Developer Change Request).

“Developer Conditions Precedent” means the conditions precedent to the Financial Closing Date set out in Section 2.3 (Conditions Precedent to the Financial Closing Date) other than the District Conditions Precedent.

“Developer Default” is defined in Section 44.1 (Developer Default).

“Developer Default Notice” is defined in Section 44.3 (Notice and Cure Periods).

“Developer Default (Asset Management Period) Termination Sum” means the amount calculated in accordance with Section 4 (Compensation on Termination for Developer Default On or After Project Final Completion) of Exhibit 18 (Compensation on Termination).

“Developer Default (D&C Period) Termination Sum” means the amount calculated in accordance with Section 3 (Compensation on Termination for Developer Default Prior to Project Final Completion) of Exhibit 18 (Compensation on Termination).

“Developer Estimate” is defined in Section 32.3(a)(ii)(A) (Developer Estimate in Response to District Change Requests).

“Developer Hazardous Materials Release” means any Hazardous Materials Release:

- (a) involving any Hazardous Materials brought onto any Project Site by any Developer-Related Entity (unless brought onto the relevant Project Site pursuant to a removal of Hazardous Materials, or any Remedial Action with respect to Hazardous Materials, by a Developer-Related Entity in accordance with the requirements of this Agreement);
- (b) to the extent attributable to the breach of any Applicable Law, Governmental Approval or this Agreement (including any acts or omissions that are not in accordance with Good Industry Practice), negligence or willful misconduct by any Developer-Related Entity. The removal of Hazardous Materials, or any Remedial Action with respect to Hazardous Materials, by a Developer-Related Entity in accordance with the requirements of this Agreement will not of itself be a Developer Hazardous Materials Release; or
- (c) without prejudice to the generality of clause (a), to the extent attributable to the use, containment, storage, management, handling, transport and disposal of any Hazardous Materials by any Developer-Related Entity in breach of any of the requirements of this Agreement or any Applicable Law or Governmental Approval.

“Developer Management Plan” or **“DMP”** means the plan described in Section 2.5 (Project Management Plan) of the Technical Provisions.

“Developer’s Proposal Commitments” means those commitments made by the Developer in its Proposal and attached as Exhibit 6 (Developer’s Proposal Commitments) to this Agreement.

“Developer-Related Entity” means:

- (a) the Developer;
- (b) the Equity Members;
- (c) the Contractors (including Suppliers);
- (d) any other Persons performing any of the Work for or on behalf of the Developer;
- (e) any other Persons for whom the Developer may be legally or contractually responsible; and
- (f) the employees, agents, officers, directors, representatives, consultants, successors and assigns of any of the foregoing.

“Developer Representative” means the individual designated in accordance with Section 5.1(b) (Contract Administrator; Developer Representative).

“Developer Termination Notice” is defined in Section 43.3(b) (Developer Remedies Upon District Default).

“Developer’s Interest” means all right, title and interest of the Developer in, to or derived from this Agreement.

“Differing Asset Notice” is defined in Section 9.6(a) (Asset Inventory and Condition Report).

“Directive Letter” is defined in Section 32.9 (Directive Letter).

“Discharge Date” means the date on which all of the obligations of the Developer under the Finance Documents have been irrevocably discharged in full to the satisfaction of the Collateral Agent.

“Disclosed Information” means all written information provided to the Developer or any Developer-Related Entity by the District or any of its employees, agents, officers, directors, representatives or consultants prior to the date of this Agreement, including: (i) the RFP and its contents and (ii) all contents of the Data Room.

“Discretionary Submittal” means any Submittal that is expressed in this Agreement to be subject to approval or consent of the District in its absolute discretion.

“Discriminatory Change in Law” means a Change in Law, the terms of which apply to:

- (a) the Project, or projects substantially the same as the Project; or
- (b) the Developer or any Key Contractor,

provided, that in each case, such Change in Law is not of general application to other Persons.

“Dispute” means any dispute, disagreement or controversy between the District and the Developer concerning their respective rights, obligations and liabilities under this Agreement, including with respect to any claim, alleged breach or failure to perform and any remedy.

“Dispute Resolution Procedures” means the procedures for resolving disputes in Article 56 (Dispute Resolution).

“Distributions” means, whether in cash or in kind, any:

- (a) dividend or other distribution with respect to share capital;
- (b) reduction of capital, redemption or purchase of shares or any other reorganization or variation to share capital;
- (c) payments made by the Developer under the Equity Member Funding Agreement (whether of principal, interest, breakage costs or otherwise);
- (d) payment, loan, contractual arrangement or transfer of assets or rights directly to the extent that, in each case, it was put in place after Financial Close and was neither in the ordinary course of business nor on reasonable commercial terms; or
- (e) receipt of any other benefit which is not received in the ordinary course of business and not on reasonable commercial terms.

“District” means the District of Columbia, acting by and through the District of Columbia Office of Transportation Public-Private Partnerships for, and on behalf of, the District of Columbia Department of Transportation and the Office of the Chief Technology Officer.

“District CA Termination Notice” is defined in Section 61.2(a)(i) (Developer Default).

“District Change” is defined in Section 32.1(a) (District Change Request).

“District Change Order” is defined in Section 32.4(e)(i) (Review and Evaluation of Developer Estimate).

“District Change Request” is defined in Section 32.1(a) (District Change Request).

“District Conditions Precedent” means the conditions precedent to the Financial Closing Date set out in Section PART A – 2.3(c) (PABs), Section 2.3(f) (District Opinion) and Section 2.3(i) (Representations and Warranties of the District).

“District Default” is defined in Section 43.1 (District Default).

“District Default Notice” is defined in Section 43.2(a) (Notice and Cure Periods).

“District Delay Period” means, as applicable: (i) the aggregate number of days that the applicable Milestone Payment(s) or the Smart City Payment will be delayed as a result of an extension of time granted by the District pursuant to Section 28.6 (Grant of Relief and Compensation) or Section 29.5 (Grant of Relief) due to the occurrence of a Compensation Event or Uninsured Relief Event, as applicable and (ii) the aggregate number of days by which the Initial Project Final Completion Date is extended by the District pursuant to Section 28.6 (Grant of Relief and Compensation) or Section 29.5 (Grant of Relief) due to the occurrence of a Compensation Event or Uninsured Relief Event, as applicable.

“District Payment Default” means the District Default described in Section 43.1(a) (District Default).

“District-Provided Approvals” means the NEPA Document.

“District-Related Entity” means:

- (a) the District of Columbia Department of Transportation;
- (b) the District of Columbia Office of the Chief Technology Officer; and
- (c) the District of Columbia Office of Public-Private Partnerships.

“District Requirements” means the provisions set out in Exhibit 28 (District Requirements).

“District Termination Notice” is defined in Section 44.5(a) (Termination for Developer Default).

“District Termination Sum” means the amount calculated in accordance with Section 1 (*Compensation on Termination for Convenience, for District Default and Termination by Court Ruling*) of Exhibit 18 (Compensation on Termination).

“Dollars” or **“\$”** means the lawful money of the United States of America.

“DRB” is defined in Section 56.3(a) (Non-Binding Dispute Resolution).

“Early Termination” means the termination of this Agreement for any reason prior to the Termination Date.

“Early Termination Date” means the effective date of termination of this Agreement for any reason prior to the Termination Date, as specified in the relevant provisions of Article 42 (Termination for Convenience), Article 43 (Termination for District Default), Article 44 (Termination for Developer Default), Article 45 (Termination for Extended Force Majeure), Article 46 (Termination for Uninsurability), Article 47 (Termination by Court Ruling) or Article 48 (Termination for Failure to Achieve Financial Close).

“Element” means an individual physical asset, component, system or subsystem of the Project.

“Eligible Security Issuer” means (a) in respect of a letter of credit, any Person and (b) in respect of a demand guarantee, any surety bond provider licensed to do business in the District, which in each case has (i) long-term unsecured debt ratings of at least the following, from at least one of the Rating Agencies: (1) A- by Standard & Poor’s Rating Services; (2) A3 by Moody’s Investor Services, Inc.; or (3) A- by Fitch Investor Services, Inc. and (ii) an office in the District of Columbia or New York, New York at which the letter of credit or demand guarantee (as applicable) can be presented for payment (unless, in the case of a letter of credit, presentment by facsimile or by electronic means is permitted without the requirement to subsequently present in person).

“Emergency” means any unplanned event affecting the Project that:

- (a) presents an immediate or imminent risk of:
 - (i) death or injury to any individual;
 - (ii) damage to a third party’s property or equipment;

- (iii) damage to the Environment; or
 - (iv) threat to the long-term integrity of any part of the Project;
- (b) results in the declaration of a state of emergency pursuant to District of Columbia or federal law; or
- (c) is recognized or declared by any law enforcement agency or any other Governmental Entity (other than the District and the District-Related Entities) as an Emergency.

“Engineer of Record” or “EOR” means an individual, or individuals, properly registered as an engineer, responsible for preparing the Final Design Documents, all specifications, certification of all shop drawings and the As-Built Drawings for the Project.

“Environment” means air, soils, surface waters (including wetlands), groundwater, land, stream sediments, surface or subsurface strata, biological resources, including endangered, threatened and sensitive species, natural systems, including ecosystems, and cultural, historic, archaeological and paleontological resources.

“Equity Investment” means:

- (a) any form of direct investment by Equity Members, including the purchase of newly issued equity shares or other equity interests in or the provision of Equity Member Debt to the Developer; and
- (b) any payment under, or draws on, any instrument guaranteeing the provision of Deferred Equity Amounts, including but not limited to any draws by or on behalf of the Developer or the Collateral Agent of any letter(s) of credit issued by or for the account of an Equity Member with respect to Deferred Equity Amounts.

“Equity IRR” means the nominal post-tax internal rate of return on Equity Investment (on a cash-on-cash basis) over the full Term calculated using the Base Case Financial Model, at the discount rate that, when applied to the Distributions gives a net present value equal to the net present value of the Equity Investment. For the purposes of this definition:

- (a) the phrase “post-tax” refers only to U.S. federal, state and local income tax liability of the Developer (or, if the Developer is a pass-through entity for tax purposes, its Equity Members) and specifically excludes (i) any foreign income tax and other tax of any kind, and (ii) any federal, state or local withholding tax, including any tax that the Developer is obligated to withhold on Distributions (whether actual or constructive) or other payments or allocations to Equity Members or holders of debt of or equity interests in an Equity Member under 26 U.S.C. §§ 1441 – 1446, despite 26 U.S.C. § 1461;
- (b) in calculating the Equity IRR, a single level of corporate income taxes for a regularly taxed, U.S.-organized, domestic C corporation should be taken into account; and
- (c) the phrase “cash-on-cash” basis means, with respect to the calculation of a financial return, the calculation of such financial return on the basis of cash actually received in relation to cash actually invested (as opposed to cash committed).

“Equity Member” means each Person that directly holds an equity interest in the Developer.

“Equity Member Debt” means any obligations created, issued or incurred by the Developer for borrowed money that:

- (a) is owed to any Equity Member, any Related Entity, Permitted Investor or any Affiliate of an Equity Member or Affiliate of the Developer, as applicable; and
- (b) is subordinated in priority of payment and security to all Project Debt other than any mezzanine debt that is provided by a party referred to in clause (a) on an arm’s length basis.

“Equity Member Funding Agreements” means any loan agreement, credit agreement or other similar finance agreement or subordination agreement providing for or evidencing Equity Member Debt.

“Escalation Rate” means the United States Consumer Price Index for All Urban Consumers (CPI-U), All Items, for the Washington-Arlington-Alexandria metropolitan statistical area, as published on a monthly basis by the United States Department of Labor, Bureau of Labor Statistics, for which the base year is 1982-84=100. If such publication is discontinued, the Escalation Rate shall then refer to comparable statistics on changes in the cost of living for urban consumers as the same may be computed and published (on the most frequent basis available) by an agency of the United States or by a responsible financial periodical of recognized authority, which agency or periodical shall be selected jointly by the District and the Developer.

“Event of Default” has the meaning given to such term in the Finance Documents.

“Exempt Refinancing” means:

- (a) any Refinancing to the extent that it was taken into account in the calculation of the Milestone Payments or the Base MAP, and was fully and specifically identified in the Base Case Financial Model and taken into account in the Base Case Equity IRR;
- (b) any amendment, modification or supplement to any Finance Document which does not provide a financial benefit to the Developer;
- (c) the exercise by a Lender of rights, waivers, consents and similar actions in the ordinary course of day-to-day loan administration and supervision, in each case, which do not provide a financial benefit to the Developer;
- (d) any of the following acts by a Lender:
 - (i) the syndication in the ordinary course of business of any of such Lender’s rights and interests in the Finance Documents;
 - (ii) the sale of a participation, assignment or other transfer by such Lender of any of its rights or interests, with respect to the Finance Documents, in favor of any other Lender or any investor;

- (iii) the grant by such Lender of any other form of benefit or interest in either the Finance Documents or the revenues or assets of the Developer, whether by way of security or otherwise, in favor of any other Lender or any investor or
- (iv) the exercise of a Lender of rights pursuant to the Finance Documents or Article 61 (District Assurances and Obligations to Lenders) hereof following a Developer Default or an Event of Default;
- (e) any amendment or supplement to any Finance Documents in connection with the funding of a District Change pursuant to Article 32 (District Changes and Directive Letters);
- (f) a re-set of an interest rate (excluding margin) pursuant to the express terms of any Finance Documents;
- (g) any sale of any equity interests in the Developer by an Equity Member or securitization of the existing rights or interests attaching to any equity interests in the Developer or its direct, one-hundred percent (100%) Equity Member, if any; or
- (h) the movement of monies between the Project accounts in accordance with the terms of the Finance Documents.

“Existing Street Light Network” means the network of (i) District-owned Lighting Units located in the Public Space or, from time to time, located on private property for the purpose of illuminating the Public Space, (ii) District-owned Light Fixtures that may be attached to Poles or other structures not owned by the District, and (iii) District-owned supporting fixtures, appurtenances, and infrastructure necessary for the proper functioning of such Lighting Units and Light Fixtures. The Existing Street Light Network includes, at a minimum, all of the Elements listed in the Asset Inventory and Condition Report as of the Setting Date.

“Expansion Directive” is defined in Section 32.11(a) (Expansion of Street Light Network).

“Expansion Work” is defined in Section 32.11 (Expansion of Street Light Network).

“Expansion Work Allowance” is defined in Section 32.11 (Expansion of Street Light Network).

“Expiry Date” means the date that falls on the fifteenth (15th) anniversary of the Commercial Closing Date.

“Extended Force Majeure Event” has the meaning set forth in Section 30.4(a)(i)(A) (Failure to Agree; Right to Terminate).

“Extended Relief Event” has the meaning set forth in Section 30.4(a)(i)(B) (Failure to Agree; Right to Terminate).

“Extra Work” means any work performed or to be performed by the Developer that is required:

- (a) by the District pursuant to a District Change or Directive Letter; or
- (b) due to the occurrence of a Compensation Event,

which, in each case, is not otherwise covered or included in the Project by this Agreement, whether it is in the nature of additional work, altered work, deleted work, or otherwise.

"Federal ADA" is defined in Section 60.1(a) (Subject to Appropriation).

"Federal Requirements" means the provisions set out in Exhibit 26 (Federal Requirements).

"FHWA" means the Federal Highway Administration.

"Final Design" means, depending on the context:

- (a) the Final Design Documents;
- (b) the design concepts set out in the Final Design Documents; or
- (c) the process of developing the Final Design Documents.

"Final Design Documents" means the complete final construction drawings, including plans, profiles, cross-sections, notes, elevations, details and diagrams, design criteria, specifications, reports, studies, calculations, electronic files, records and submittals prepared by the Developer (and that have been Signed and Sealed by the Engineer of Record), necessary or related to construction, conversion and asset management of the Project.

"Final Warning Notice" is defined in Section 44.2(b)(i) (Final Warning Notice).

"Finance Costs" means the amounts reflected in the Base Case Financial Model as projected for payment to Lenders, or reserved for future debt service, by the Developer during a District Delay Period, including payments of principal and interest, hedging costs, and other financing costs incurred pursuant to the Finance Documents, but only to the extent that such amounts are paid or reserved from the proceeds of the Milestone Payment(s) or the Availability Payment(s) that were projected to be received by the Developer during such District Delay Period. Finance Costs excludes any costs of financing that may be payable as, and included within the definition of, Change in Costs.

"Finance Documents" means the Funding Agreements and the Security Documents.

"Financial Close" means the satisfaction or waiver of all conditions precedent to the initial disbursement to the Developer or utilization by the Developer of Project Debt proceeds or the effectiveness of the Lenders' commitments, as applicable, under the Finance Documents (other than any condition as to the occurrence of the Financial Closing Date or any conditions relating to the adjustment of the Base MAP).

"Financial Closing Date" means the date on which all of the conditions precedent in Section 2.3 (Conditions Precedent to the Financial Closing Date) have been satisfied or otherwise waived in accordance with this Agreement.

"Financial Closing Deadline" means the date that is sixty (60) days after the Commercial Closing Date, as such date may be extended pursuant to Section 2.4(b) (Extension of Financial Closing Deadline).

"Financial Closing Documents" is defined in Section 2.3(a) (Financial Closing Documents; Collateral Agent or Lender Execution of Project Agreement).

“Financial Proposal” means the financial proposal submitted by the Developer to the District on the Financial Proposal Date in response to the RFP.

“Financial Proposal Due Date” means June 9, 2021.

“Fiscal Year” means the consecutive twelve (12)-month period starting on October 1 and ending on September 30.

“FOIA” means the District of Columbia Freedom of Information Act, D.C. Official Code §§ 2-531 *et seq.*

“Force Majeure Event” means the occurrence of any of the following events after the date of this Agreement that directly causes either Party to be unable to comply with all or a material part of its obligations under this Agreement:

- (a) war, civil war, invasion, violent act of foreign enemy or armed conflict;
- (b) nuclear, chemical or biological contamination unless the source or cause of the contamination is brought to or near a Project Site by the Developer or a Developer-Related Entity, or is a result of any breach by the Developer of the terms of this Agreement;
- (c) ionizing radiation unless the source or cause of the ionizing radiation is brought to or near a Project Site by the Developer or a Developer-Related Entity, or is as a result of any breach by the Developer of the terms of this Agreement; or
- (d) epidemic, pandemic, or Quarantine Restriction.

“Funding Agreements” means the documents listed in Part 1 (*Funding Agreements*) of Exhibit 21 (Finance Documents), together with: (i) any other loan or credit agreement, trust indenture, hedging agreement, interest rate swap agreement, or other agreement by, with or in favor of any Lender pertaining to Project Debt (including any Refinancing), other than Security Documents; (ii) any note, bond or other negotiable or non-negotiable instrument evidencing the indebtedness of the Developer for Project Debt (including any Refinancing); and (iii) any other document designated by the Parties (acting jointly) as a Funding Agreement. The Equity Member Funding Agreements will not be classified as “Funding Agreements” for the purposes of this Agreement.

“GAAP” means Generally Accepted Accounting Principles in the United States, as in effect from time to time.

“General Change in Law” means a Change in Law that is not a Discriminatory Change in Law.

“Good Faith” means observance of reasonable commercial standards of fair dealing in a given trade or business.

“Good Industry Practice” means the exercise of the degree of skill, diligence, prudence and foresight which would reasonably and ordinarily be expected from time to time from a skilled and experienced designer, engineer, constructor, asset management contractor or developer seeking in Good Faith to comply with its contractual obligations, complying with all Applicable Law and Governmental Approvals, using accepted design and construction standards and criteria normally used on similar projects in

Washington-Arlington-Alexandria, DC-VA-MD-WV metropolitan statistical area as defined by the United States Census Bureau, and engaged in the same type of undertaking in the District of Columbia under similar circumstances and conditions.

“Governmental Approval” means all approvals, permits, permissions, consents, licenses, certificates and authorizations (whether statutory or otherwise) that are required from time to time in connection with the Project to be issued by the District or any Governmental Entity.

“Governmental Entity” means the government of the United States of America, the District of Columbia and any other agency or subdivision of any of the foregoing, including any federal, state, or municipal government, and any court, agency, special district, commission or other authority exercising executive, legislative, judicial, regulatory, administrative or taxing functions of, or pertaining to, the government of the United States of America or the District of Columbia. “Governmental Entity” does not include the District of Columbia Office of Public-Private Partnerships, the District of Columbia Department of Transportation, or the Office of the Chief Technology Officer.

“Guaranteed Project Final Completion Date” means the date that is seven hundred thirty (730) days after the Financial Closing Date, as such date may be extended in accordance with this Agreement.

“Handback Condition Assessment” is defined in Section 19.2(a) (Handback Condition Assessment and Work Plan).

“Handback Condition Assessment Deadline” means the date that is two hundred forty (240) days following the start of the Handback Period.

“Handback Letter of Credit” means any letter of credit delivered pursuant to Section 19.3(d) (Handback Letters of Credit).

“Handback Period” means the period beginning on the date that is two (2) years before the scheduled end of the Term and ending on the Termination Date.

“Handback Requirements” means the requirements in Section 12 (*Handback*) of the Technical Provisions.

“Handback Reserve Account” is defined in Section 19.3(a)(i) (Handback Reserve Account).

“Handback Reserve Amount” is defined in Exhibit 16 (Calculation of Handback Amounts).

“Handback Reserve Funding Date” is defined in Section 19.3(b)(i) (Funding).

“Handback Work Plan” is defined in Section 12.2 (*Handback Work Plan*) of the Technical Provisions.

“Hazardous Environmental Condition” means the presence of any Hazardous Materials on, in, under or about a Project Site at concentrations or in quantities that are required to be removed or remediated by any Applicable Law or in accordance with the requirements of this Agreement, any Governmental Entity or any Governmental Approval.

“Hazardous Materials” means any element, chemical, compound, mixture, material or substance, whether solid, liquid or gaseous, which at any time is defined, listed, classified or otherwise regulated in any way under any Applicable Law (including CERCLA), or any other such substances or conditions

(including mold and other mycotoxins, fungi or fecal material) that may create any unsafe or hazardous condition or pose any threat or harm to the Environment or human health and safety.

“Hazardous Materials Release” means any spill, leak, emission, release, discharge, injection, escape, leaching, dumping or disposal of Hazardous Materials into the soil, air, surface water, groundwater or Environment, including any exacerbation of an existing release or condition of Hazardous Materials contamination.

“Hedging Agreements” means any Finance Documents entered into for the purposes of hedging the Developer’s exposure to floating interest rate risk.

“Hedging Liabilities” means all amounts due from the Developer to the Lenders by reason of the early termination of any Hedging Agreements.

“Hedging Receipts” means all amounts (if any) payable by the Lenders to the Developer by reason of the early termination of any Hedging Agreements.

“Improved Street Light Network” means the Existing Street Light Network after completion of the following improvements, as determined by the Developer’s achievement of Final Project Completion: (i) the conversion of non-LED Luminaires to LED technology, including repairs and upgrades to existing wiring and electrical systems necessary to support the conversion; (ii) the provision and commissioning of the Remote Monitoring and Control System, as further described in the Technical Provisions; and (iii) the provision and commissioning of the Asset Management Information System, as further described in the Technical Provisions, as such network may be expanded from time to time pursuant to this Agreement.

“Indemnified Parties” means the District, the District-Related Entities and their respective officers, agents, representatives and employees.

“Independent Engineer” is defined in Section 5.3(a) (*Independent Engineer*).

“Indexed” means, with respect to an amount which is required to be indexed under this Agreement, the amount as adjusted in accordance with the formula set out below and then rounded upwards to the nearest whole number (except for the “Set Electricity Price” specified in Section 3 (*Availability Payments*) of Exhibit 14 (*Payment Mechanism*), which should be rounded up to the nearest three (3) decimal places):

$$\text{Adjusted Amount} = \text{Original Amount} \times \text{INF}$$

where:

Original Amount is the relevant dollar amount referenced in the Project Documents.

“Indirect Losses” means loss of future profits, loss of use, loss of production, inefficiencies, loss of business, loss of business opportunity, or any claim for consequential loss or for indirect loss of any nature but excluding any of the same that relate to payments expressly provided for under this Agreement.

“INF” means the Escalation Rate for the preceding July divided by the Escalation Rate for the month in which the Setting Date occurs. The calculation should be performed annually in September during each year of the Term and will apply from October 1st of the year for which the calculation was performed

through September 30th. Where the Escalation Rate is not published for the relevant month, the Escalation Rate published immediately prior to the relevant month is to be used.

“**Information**” is defined in Section 53.1(a) (Confidentiality).

“**Initial Compensation Event Notice**” is defined in Section 28.2(b) (Notice and Information for Compensation Events).

“**Initial Equity Members**” means the Equity Members as of the Financial Closing Date.

“**Initial Period**” means:

- (a) with respect to any Payment Default, the later of:
 - (iii) the date falling thirty (30) days after the date that the Collateral Agent receives the relevant District CA Termination Notice; and
 - (iv) expiration of any applicable cure period granted to the Developer pursuant to Section 44.3 (Notice and Cure Periods); and
- (b) with respect to any other Developer Default not referred to in clause (a), the later of:
 - (v) the date falling sixty (60) days after the date that the Collateral Agent receives the relevant District CA Termination Notice; and
 - (vi) expiration of any applicable cure period granted to the Developer pursuant to Section 44.3 (Notice and Cure Periods),

in each case, as may be extended pursuant to Section 61.8(b) (Extension of CA Cure Period Completion Date).

“**Initial Project Final Completion Date**” means _____.¹

“**Initial Relief Event Notice**” is defined in Section 29.2(b) (Notice and Information).

“**Initial Reserve Funding Amount**” is defined in Section 25.2(a) (Initial Funding; Milestone Payment Invoices and Quarterly Disbursement Invoices).

“**Initial Warning Notice**” is defined in Section 44.2(a)(i) (Initial Warning Notice).

“**Insolvency Event**” means with respect to any Person:

- (a) any involuntary bankruptcy, insolvency, liquidation, company reorganization, restructuring, suspension of payments, scheme of arrangement, appointment of provisional liquidator, receiver or administrative receiver, resolution or petition for winding-up or similar proceeding, under any Applicable Law, in any jurisdiction, except if the same has been contested or dismissed within sixty (60) days;

¹ This will be filled in on the Financial Closing Date with the calendar date that is 730 days from the Financial Closing Date.

- (b) any voluntary bankruptcy, insolvency, liquidation, company reorganization, restructuring, suspension of payments, scheme of arrangement, appointment of provisional liquidator, receiver or administrative receiver, resolution or petition for winding-up or similar proceeding, under any Applicable Law, in any jurisdiction; or
- (c) any general inability on the part of that Person to pay its debts as they fall due.

“Instructions to Proposers” or **“ITP”** means the Instructions to Proposers included in the RFP, containing directions for the preparation and submittal of information by the Proposers in response to the RFP.

“Insurance Policies” means the insurance policies the Developer is required to carry or ensure are carried pursuant to Article 35 (Insurance).

“Insurance Proceeds” means all proceeds from insurance payable to the Developer (or that should have been payable to the Developer but for the Developer’s breach of any obligation under this Agreement to take out or maintain such insurance) on or after the Early Termination Date.

“Insurance Term” means any term or condition required to be in a policy of insurance pursuant to Article 35 (Insurance) or Exhibit 9 (Required Insurance).

“Intellectual Property” means any and all patents, trademarks, service marks, copyright, database rights, moral rights, rights in a design, know-how, confidential information and all or any other intellectual or industrial property rights whether or not registered or capable of registration and whether subsisting in the United States or any other part of the world together with all or any goodwill relating or attached thereto that is created, brought into existence, acquired, and which is in use or intended to be used by any Developer-Related Entity for the ongoing carrying out of the Work or otherwise for the purposes of this Agreement.

“Interest Rate Protection Start Date” is defined in Appendix A (*Definitions*) to the ITP.

“Interval of Recurrence” means, with respect to any Noncompliance Event, the period of time specified in Appendix A or Appendix B of Exhibit 14 (Payment Mechanism), as applicable for that Noncompliance Event, commencing from the end of the Cure Period.

“Key Assets” means all assets and rights to enable the District or a successor contractor to own and provide asset management services for the Project in accordance with this Agreement, including:

- (a) any buildings or other structures, and appurtenances thereto;
- (b) any core equipment;
- (c) any books, records or other documents (including operation and asset management manuals, health and safety manuals and other know-how);
- (d) any spare parts, tools and other assets (together with any warranties with respect to assets being transferred);
- (e) to the extent required in accordance with Article 52 (Intellectual Property), any Intellectual Property; and

(f) any contractual rights,

but excluding any assets and rights with respect to which the District is full and legal beneficial owner.

“Key Contract” means:

- (a) the D&C Contract;
- (b) each Asset Management Contract (if any); and
- (c) any guarantee, performance or payment security, or any other support provided with respect to the obligations of a Key Contractor under any of the foregoing.

“Key Contractor” means the contractual counterparty to the Developer under any Key Contract.

“Key Personnel” means those individuals listed in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions and any Persons who replace such individuals in accordance with Section 20.3 (Key Personnel).

“Key Ratios” means the minimum coverage ratios in Form 10 (*Financial Plan Summary – Key Financing Data*) of the ITP, as set out in the Base Case Financial Model, as may be updated in accordance with Section 40.9 (Adjustments to the Base Case Financial Model for Qualifying Refinancings).

“Knockdown” means:

- (a) with respect to any Pole owned by the District, a Pole that is leaning or knocked down due to damage caused by any Person other than a Developer-Related Entity that the Developer is required to replace pursuant to the Technical Provisions; and
- (b) with respect to any Pole not owned by the District to which an Element owned by the District is attached, a Pole that is leaning or knocked down due to damage caused by any Person other than a Developer-Related Entity thereby requiring the Developer to replace the relevant Elements pursuant to Section 1.4.7(c) of the Technical Provisions.

“Knockdown Threshold” means, with respect to each Pole type, the number of Knockdowns set forth in Section 1 (*Knockdown Threshold*) of Exhibit 10 (Knockdown Threshold; Street Light Network Expansion Types).

“Lead Paint Remediation Unit Price” means \$1,150, Indexed.

“Lender” means any Person that:

- (a) provides Project Debt, together with their successors and assigns; or
- (b) is appointed by any Person referred to in clause (a) as its agent or trustee in connection with the Project Debt, including the Collateral Agent.

“Lenders’ Liabilities” means, at the relevant time, the aggregate of (without double-counting):

- (a) all principal, interest (including default interest under the Finance Documents, but with respect to default interest, only to the extent that it arises as a result of the District making any payment later than the date that it is due under this Agreement or any other default by the District under this Agreement), banking fees and premiums on financial insurance policies, costs and expenses and other amounts properly incurred owing or outstanding to the Lenders by the Developer under or pursuant to the Finance Documents on the Early Termination Date, including any prepayment costs, make-whole amounts and breakage costs; plus;
- (b) Hedging Liabilities; minus
- (c) Hedging Receipts.

“License Agreement” means each of (i) the License Agreement for Pole Attachments and Street Lights in the District of Columbia dated as of January 12, 2021, between the District of Columbia and Potomac Electric Power Company and (ii) the License Agreement for Pole Attachments and Street Lights in the District of Columbia dated as of December 18, 2020, between the District of Columbia and Verizon Washington, DC Inc.

“Licensor” means each of (i) Potomac Electric Power Company and (ii) Verizon Washington, DC Inc.

“Light Emitting Diode” or **“LED”** means a light source that uses semiconductors and electroluminescence to create light.

“Lighting Unit” means the complete assembly consisting of any combination of (i) a Luminaire or Luminaires, (ii) the mounting system for a Luminaire, including the Pole, Arm, base, and foundation, (iii) the complete electrical system above and below ground connecting the Luminaire to the electrical power supply, (iv) the conduits and cabinets housing the electrical system and the access points to the electrical system, or (v) any other asset necessary to provide illumination.

“Long Stop Deadline” means the date that is one hundred eighty (180) days after the Guaranteed Project Final Completion Date, as such date may be extended pursuant to the terms of this Agreement.

“Losses” means any loss, damage, injury, liability, obligation, cost, response cost, expense, fee, charge, judgment, penalty or fine. Losses include injury to or death of Persons and damage or loss of property.

“Luminaire” or **“Light Fixture”** means a complete lighting unit consisting of a lamp or lamps or Light Emitting Diode(s), together with the parts designed to distribute the light, to position and protect the lamps or LEDs, including housing and shielding, and to connect the lamps to the power supply and monitoring and control systems, as shown schematically in Appendix 13.2 (*Mandatory Specifications, Standards, Manuals and Guidelines*) of the Technical Provisions.

“Mayor” means the Mayor of the District of Columbia.

“Milestone Payment” means the payment to be made by the District to the Developer following the Developer’s achievement of each of the milestones described in Section 1 (*Milestone Payments*) and Section 2 (*Smart City Milestone Payments*) of Exhibit 14 (*Payment Mechanism*).

“Milestone Payment Invoice” means an invoice for a Milestone Payment submitted to the District pursuant to Section 24.4(a) (Invoicing for Availability Payments). Each Milestone Payment Invoice shall include:

- (a) the Developer’s name, federal tax ID number and invoice date (to be dated as of the date transmittal);
- (b) contract number and invoice number;
- (c) the description, price, quantity and the date(s) that the supplies or services were delivered or performed;
- (d) other supporting documentation or information, as required by the District;
- (e) the name, title, telephone number and complete mailing address or wiring instructions of the responsible official to whom payment is to be sent;
- (f) the name, title, phone number of the person preparing the Milestone Payment Invoice;
- (g) the name, title, phone number and mailing address of the person to be notified in the event of a defective Milestone Payment Invoice;
- (h) an authorized signature; and
- (i) a certification from the Quality Manager that the Work being invoiced has been performed in accordance with and meets the requirements under this Agreement.

“Monthly Performance Report” means each Monthly Performance Report to be delivered by the Developer under Section 24.2 (Monthly Performance Reports Prior to Project Final Completion), in the form of Section 1 (*Form of Monthly Performance Report*) of Exhibit 15 (Performance Reports).

“MP Reserve Funding Amount” is defined in Section 25.2(b) (Initial Funding; Milestone Payment Invoices and Quarterly Disbursement Invoices).

“MPD Camera Installation Unit Price” means \$9,344, plus \$9.20 per linear foot of 10 gauge wire, Indexed.

“MPD CCTV Camera” means a close-circuit television camera operated by the Metropolitan Police Department of the District of Columbia, as further described in Section 10.9 (*Attachments*) of the Technical Provisions.

“NEPA Document” means the DC Smart Street Lighting Project Categorical Exclusion 3 dated September 23, 2020.

“Net Lenders’ Liabilities” means the amount calculated as at the Early Termination Date (without double-counting) as follows:

- (a) Lenders’ Liabilities; minus
- (b) Account Balances; minus,

- (c) Insurance Proceeds (excluding proceeds of personal injury, property damage or other third party liability insurance payable to or for the account of a third party).

“Network Security Audit” is defined in Section 53.3(b) (Personally Identifiable Information).

“Network Security Auditor” is defined in Section 53.3(b) (Personally Identifiable Information).

“No Fault Termination Sum” means the amount calculated in accordance with Section 2 (*Compensation on Termination for Extended Force Majeure, Extended Relief Event and Uninsurability*) of Exhibit 18 (Compensation on Termination).

“Non-Completion Default” means a Developer Default that arises pursuant to Section 44.1(c) (Long Stop Deadline).

“Noncompliance Deduction” means a Deduction pursuant to Section 5 (*Noncompliance Events*) of Exhibit 14 (Payment Mechanism) due to the occurrence of a Noncompliance Event.

“Noncompliance Developer Default Trigger” means an accumulation of assessed Noncompliance Points where:

- (a) during the D&C Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month period equals or exceeds one hundred fifty (150); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds three hundred sixty (360); or
- (b) during the Post Project Final Completion Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month period equals or exceeds fifty-five (55); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds one hundred twenty-five (125).

“Noncompliance Event” means any Developer failure to comply with the obligations of this Agreement that is identified as a Noncompliance Event in Exhibit 14 (Payment Mechanism).

“Noncompliance Increased Monitoring Trigger” means an accumulation of assessed Noncompliance Points where:

- (a) during the D&C Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month period equals or exceeds eighty-five (85); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds two hundred ten (210); or

- (b) during the Post Project Final Completion Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month period equals or exceeds thirty (30); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds sixty-five (65).

“Noncompliance Points” means the points that may be assessed for each Noncompliance Event pursuant to Article 22 (Noncompliance Events).

“Noncompliance Rectification Date” means, for any Noncompliance Event, the date and time that the Noncompliance Event has been cured and commercially reasonable measures have been taken by the Developer to prevent the reoccurrence of that Noncompliance Event.

“Noncompliance Remedial Plan” is defined in Section 22.7(a) (Remedial Plan for Noncompliance Events).

“Noncompliance Remedial Plan Trigger” means an accumulation of assessed Noncompliance Points where:

- (a) during the D&C Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month period equals or exceeds one hundred ten (110); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds two hundred seventy (270); or
- (b) during the Post Project Final Completion Period:
 - (i) the cumulative number of Noncompliance Points assessed during any rolling three (3) -month equals or exceeds forty-five (45); or
 - (ii) the cumulative number of Noncompliance Points assessed during any rolling twelve (12) -month period equals or exceeds ninety (90).

“Noncompliance Start Date” means for any other Noncompliance Event, the earlier of the date and time that the Developer:

- (a) first obtains knowledge of the Noncompliance Event; or
- (b) first should have reasonably known of the occurrence of the Noncompliance Event.

“Nonconforming Work” means any D&C Work that does not conform to the requirements of this Agreement.

“Non-Discretionary Submittal” means any Submittal that is expressed in this Agreement to be subject to approval or consent of the District, but which is not a Discretionary Submittal.

“Notifiable Refinancing” means any proposed Refinancing that is neither a Qualifying Refinancing, nor an Exempt Refinancing described in clause (c), clause (d), or clause (h) of the definition of Exempt Refinancing.

“NTP1” is defined in Section 16.1(a) (Preliminary Work and Conditions Precedent to NTP1).

“NTP2” is defined in Section 16.2(a) (Design Work and Conditions Precedent to NTP2).

“NTP3” is defined in Section 16.3(a) (Conversion Work and Conditions Precedent to NTP3).

“OCTO” means the Office of the Chief Technology Officer.

“Open Book Basis” means allowing the District to review all underlying assumptions, data, documents, and information associated with the Base Case Financial Model and all proposed adjustments to the Base Case Financial Model, as reasonably required by the District to satisfy itself as to the validity or reasonableness of any proposed adjustments to the Base Case Financial Model.

“Other Contractor” is defined in Section II (*Insurance Required of Other Contractors*) of Exhibit 9 (Required Insurance).

“PABs” means bonds, notes or other evidence of indebtedness issued by the Conduit Issuer pursuant to the provisions of the Internal Revenue Code §§ 142(a)(15) and (m) (which acronym stands for “private activity bonds”).

“Parties” means the District and the Developer.

“Payment Bond” means one or more payment bonds, as more particularly set forth in Section 37.1(a)(ii) (D&C Performance and Payment Security) of this Agreement.

“Payment Default” means a Developer Default that arises pursuant to Section 44.1(k) (Developer Default).

“Performance Bond” means or more performance bonds, as more particularly set forth in Section 37.1(a)(i) (D&C Performance and Payment Security) of this Agreement.

“Performance Requirements” means, for each Element of the Street Light Network, during Term, the requirements set forth in the table[s] included in Appendix 13.1 (*Performance Requirements*) of the Technical Provisions.

“Permitted Investor” means each of (i) Plenary Americas US Investments V Ltd., (ii) Kiewit DC Lighting Investors LLC, (iii) Phoenix Infrastructure Group Investments, LLC, and (iv) prior to the second (2nd) anniversary of the Project Final Completion Date: (A) Plenary Americas US Holdings Inc.; (B) Kiewit Development Company; (C) any Affiliate of Kiewit DC Lighting Investors LLC owned, in whole or in part, directly or indirectly, by Kiewit Development Company if such Affiliate owns, in whole or in part, directly or indirectly, any equity interest in Kiewit DC Lighting Investors LLC; and (D) Phoenix Infrastructure Group, LLC.

“Persistent Breach” means a breach for which a Final Warning Notice has been issued, that:

- (a) continues for more than thirty (30) consecutive days after the date of service of the Final Warning Notice; or
- (b) recurs three (3) or more times within the three (3) -month period after the date of service of the Final Warning Notice.

“Person” means an individual, a general or limited partnership, a joint venture, a corporation, a limited liability company, a trust, an unincorporated organization or a governmental authority.

“Personally Identifiable Information” means, with respect to District residents or other customers that place a Service Request (as defined in the Technical Provisions) via 311 or DDOT’s call center, any information which, alone or in combination with other information, relates to a specific, identifiable individual. Personally Identifiable Information includes (without limitation) the combination of individual names with social security numbers, telephone numbers, home addresses, driver’s license numbers, account numbers, e-mail addresses, or vehicle registration numbers. Any information that can be associated with Personally Identifiable Information shall also be Personally Identifiable Information. For example, an individual’s age by itself is not Personally Identifiable Information, but if such age is capable of being associated with one or more specific identifiable individuals then such age is deemed Personally Identifiable Information.

“Pole” means a pole, including the foundation, on which any portion of the Street Light Network is affixed, including light fixtures, luminaires, the luminaire power supply and related mounting hardware.

“Post Project Final Completion Period” means the period beginning on the Project Final Completion Date and ending on the Termination Date.

“Preference Comments” is defined in Section 7.3(a)(ii) (Grounds for Comment and Objection).

“Preliminary Financial Model” means the financial model included as part of the Proposal.

“Preliminary Tariff Event Notice” is defined in Section 31.4(a) (Tariff Event).

“Preliminary Work” means:

- (a) any Work that the Developer is required to undertake in order to satisfy the conditions precedent listed in Part 2 (*Conditions Precedent to NTP2*) of Exhibit 11 (Conditions Precedent to Notices to Proceed); and
- (b) any other Work related to general administrative activities, preparation of the Project Management Plan and Project Baseline Schedule, preliminary Design Work, permitting activities, investigations (including geotechnical investigations) and surveys, coordination and planning activities associated with Utility Relocation Work and railroad coordination and planning activities.

“Pre-Refinancing Equity IRR” means the nominal post-tax Equity IRR calculated immediately prior to the Refinancing on a version of the Base Case Financial Model updated for the actual revenue and cost performance of the Project up to the Refinancing date.

“Principal Developer Documents” means the Project Documents to which the Developer is a party.

“Principal District Documents” means the Project Documents to which the District is a party.

“Private Placement” means the sale of debt securities by the Developer pursuant to an exemption under Section 4(a) of the Securities Act of 1933, as amended.

“Prohibited Person” means any Person who is:

- (a) debarred, suspended, proposed for debarment with a final determination still pending, declared ineligible or voluntarily excluded from participating in procurement or nonprocurement transactions with the District of Columbia or federal government or any department, agency or instrumentality of the federal government;
- (b) indicted, convicted or had a civil or administrative judgment rendered against such Person for any violation of law involving fraud, conspiracy, collusion, bribery, perjury, material misrepresentation, or any other violation that shows a similar lack of moral or ethical integrity, and no event has occurred and no condition exists that is likely to result in the debarment or suspension of such Person from contracting with the District of Columbia or federal government or any department, agency or instrumentality of the federal government;
- (c) listed with an active exclusion in the System for Award Management maintained by the U.S. General Services Administration at sam.gov;
- (d) located within, or doing business or operating from, a country or other territory subject to a general embargo administered by the United States Office of Foreign Assets Control (OFAC);
- (e) designated on the OFAC list of “Specially Designated Nationals”;
- (f) otherwise targeted under economic or financial sanctions administered by the United Nations, OFAC or any other U.S. federal economic sanctions authority or any divestment or sanctions program of the District;
- (g) a banking institution chartered or licensed in a jurisdiction against which the United States Secretary of the Treasury has imposed special measures under Section 311 of the USA PATRIOT Act (Section 311);
- (h) located within or is operating from a jurisdiction that has been designated as non-cooperative with international anti-money laundering principles by the Financial Action Task Force on Money Laundering;
- (i) a financial institution against which the United States Secretary of the Treasury has imposed special measures under Section 311;
- (j) a senior foreign political figure or a prohibited foreign shell bank within the meaning of 31 CFR § 103.175;
- (k) any Person with whom the District is engaged in litigation relating to performance of contract or business practices, unless the District has first waived (in the District’s

absolute discretion) the prohibition on a transfer to such Person during the continuance of the relevant litigation, by written notice to the transferring equity holder, with a copy to the Developer; or

- (l) a “foreign person” within the meaning of 31 CFR § 800.216; provided, the Change in Ownership between the foreign person and the Developer is a “covered transaction” within the meaning of Section 721 of Title VII of the Defense Production Act of 1950, as amended (“**Section 721**”), and 31 CFR Part 800, unless the foreign person and the Developer file a voluntary notice of the Change in Ownership with the Committee on Foreign Investment in the United States in accordance with Section 721 and 31 CFR Part 800 and prior to the closing of such Change in Ownership:
 - (i) the Committee on Foreign Investment in the United States has advised the foreign person and/or the Developer in writing that the Change in Ownership is not a covered transaction within the meaning of Section 721 and 31 CFR Part 800;
 - (ii) the Committee on Foreign Investment in the United States has advised the foreign person and the Developer in writing that the Change in Ownership does not present any national security risks or other provisions of law adequately address those risks and concludes action;
 - (iii) the Committee on Foreign Investment in the United States determines that the Change in Ownership presents national security concerns that other provisions of law do not adequately address and enters into an agreement with the foreign person and the Developer to mitigate such risks; or
 - (iv) the President of the United States has announced a decision not to exercise his authority pursuant to Section 721 with respect to such Change in Ownership.

“**Project**” means (i) the design, construction, conversion, financing, testing, commissioning, provisioning, and asset management of the Improved Street Light Network and (ii) the installation, testing, and commissioning of the Smart City Improvements and (iii) all other works and ancillary services in accordance with this Agreement.

“**Project Baseline Schedule**” or “**PBS**” means the schedule for the Project developed in accordance with Section 2.3.1 (*Project Baseline Schedule*) of the Technical Provisions.

“**Project Bundle**” has the meaning set forth in Section 1.5.5 (*Project Sites and Bundling Principle*) of the Technical Provisions.

“**Project Bundle Plan**” means the document approved by the District, in accordance with the terms of the Technical Provisions, describing the Developer’s proposed bundling of the Project into discrete bundles for the performance of the Conversion Work and the Smart City Work.

“**Project Data**” means:

- (a) the Design Documents; and

- (b) any other information, documents or data acquired or brought into existence or used in relation to the Work or this Agreement,

in each case, that is used by or on behalf of any Developer-Related Entity in connection with the provision of the Work or the performance of the Developer's obligations under this Agreement.

"Project Debt" means all outstanding obligations from time to time pursuant to the Finance Documents.

"Project Documents" means this Agreement, the Key Contracts and the Finance Documents.

"Project Final Completion" means the Independent Engineer's determination that all of the Project Final Completion Conditions have been satisfied, as evidenced by the Independent Engineer's issuance of the Certificate of Project Final Completion in accordance with Section 17.3(e)(ii) (Project Final Completion).

"Project Final Completion Conditions" are those conditions in Part 3 (*Project Final Completion Conditions*) of Exhibit 12 (Completion Conditions).

"Project Final Completion Date" means the date that Project Final Completion has been achieved for the Project.

"Project Management Plan" means the plan described in Section 2.5 (*Project Management Plan*) of the Technical Provisions.

"Project Site" means any real property (including estates and interests in real property) necessary for the performance of the Work, including temporary and permanent easements. A Project Site may run under, on or over the Public Space or private property, including the airspace above such property.

"Project Status Schedule Update" is defined in Section 2.3.3 (*Monthly Project Status Schedule Updates*) of the Technical Provisions.

"Property" means any right or interest in or to property of any kind whatsoever, whether real, personal or mixed, and whether tangible or intangible.

"Proposal" means the proposal submitted by the Developer to the District in response to the RFP.

"Proposal Validity Period" is defined in Section 4.6.5(a) (*Proposal Validity Period*) of the ITP.

"Proposer" means each firm or team of firms that was shortlisted in accordance with the RFQ and invited to submit a proposal to the District in response to the RFP.

"Protection in Place" means any action taken to avoid damaging a Utility that does not involve removing or relocating that Utility, including staking the location of the Utility, exposing the Utility, avoidance of a Utility's location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines and installing physical barriers. The term includes both temporary measures and permanent installations meeting this definition.

"Public Space" means all the publicly owned property between the property lines on a street, as further defined in 24 DCMR 399.

“Punch List” means an itemized list of Conversion Work or Smart City Work that remains to be completed, corrected, adjusted, or modified, the existence, correction and completion of which will have no material or adverse effect on the normal, uninterrupted and safe use and operation of a Street Light Bundle or a Smart City Bundle (as applicable).

“Qualified Substitute Developer” means a Person who:

- (a) has the legal capacity, power and authority to become a party to, and perform the obligations of the Developer under, this Agreement;
- (b) has the resources available to it (including committed financial resources) to perform the obligations of the Developer under this Agreement;
- (c) employs or subcontracts with Persons having the appropriate qualifications, experience and technical competence available to them sufficient to enable them to perform the obligations of the Developer under this Agreement; and
- (d) is not a Prohibited Person.

“Qualifying Change in Law” means

- (a) a Discriminatory Change in Law;
- (b) a General Change in Law that involves Capital Expenditures; or
- (c) a General Change in Law that requires ongoing expenditures related to the Asset Management Services,

which, in each case, was not foreseeable at the Setting Date.

“Qualifying Refinancing” means any Refinancing that will give rise to a Refinancing Gain greater than zero that is not an Exempt Refinancing.

“Quality Manager” is defined in Section 2.1 (*Developer Personnel and Organization*) of the Technical Provisions.

“Quarantine Restriction” means any Applicable Law enacted by a Governmental Entity in response to an epidemic or pandemic that restricts the movement or gathering of people in an effort to curb the outbreak or spread of disease, including so-called stay-at-home or shelter-in-place orders.

“Quarterly Disbursement” means the actual Availability Payments paid by the District to the Developer for any given Calendar Quarter, taking into account the calculations, adjustments and offsets provided for in this Agreement.

“Quarterly Disbursement Invoice” means a quarterly invoice for a Availability Payment submitted to the District pursuant to Section 24.4(b) (*Invoicing for Availability Payments*). Each Quarterly Disbursement Invoice shall include:

- (a) the Developer's name, federal tax ID number and invoice date (to be dated as of the date transmittal);
- (b) contract number and invoice number;
- (c) the description, price, quantity and the date(s) that the supplies or services were delivered or performed;
- (d) other supporting documentation or information, as required by the District;
- (e) the name, title, telephone number and complete mailing address or wiring instructions of the responsible official to whom payment is to be sent;
- (f) the name, title, phone number of the person preparing the Quarterly Disbursement Invoice;
- (g) the name, title, phone number and mailing address of the person to be notified in the event of a defective Quarterly Disbursement Invoice;
- (h) an authorized signature; and
- (i) a certification from the Quality Manager that the Work being invoiced has been performed in accordance with and meets the requirements under this Agreement.

"Quarterly Performance Report" means each Quarterly Performance Report to be delivered by the Developer under Section 24.3 (Quarterly Performance Reports After Project Final Completion), in the form of Section 2 (*Form of Quarterly Performance Report*) of Exhibit 15 (Performance Reports).

"R&C Submittal" means any Submittal that is expressed in this Agreement to be subject to the review or comment of the District, but which is not a Discretionary Submittal or a Non-Discretionary Submittal.

"Rating Agency" means any credit rating agency registered with the Securities and Exchange Commission as a nationally recognized statistical rating organization (NRSRO).

"Reasonable Efforts" means all those steps (if any) in the power of the relevant Party that are capable of producing the desired result, being steps that a prudent, determined and commercially reasonable Person desiring to achieve that result would take. Reasonable efforts does not mean that, subject to its other express obligations under this Agreement, the relevant Party is required to expend funds, except for those necessary to meet the reasonable costs reasonably incidental or ancillary to the steps to be taken by the relevant Party (including its reasonable travel expenses, correspondence costs and general overhead expenses).

"Redundancy Payment" means the payment of all wages earned, accrued, unused vacation time, and any other payments required by Applicable Law or required by the employer's employment agreement with the employees.

"Refinancing" means:

- (a) any amendment, novation, supplement or replacement of any Finance Document;

- (b) the issuance by the Developer of any indebtedness in addition to the initial Project Debt, secured or unsecured;
- (c) the exercise of any right, or the grant of any waiver or consent, under any Finance Document;
- (d) the disposition of any rights or interests in, or the creation of any rights of participation with respect to, any Finance Document or the creation or granting of any other form of benefit or interest in either a Finance Document or the contracts, revenues or assets of the Developer whether by way of security or otherwise; or
- (e) any other arrangement put in place by the Developer or another Person which has an effect which is similar to any of clause (a) to (d) or which has the effect of limiting the Developer's or any Associated Company's ability to carry out any of clause (a) to (d).

"Refinancing Gain" means an amount equal to the greater of zero and $\{(A-B)-C\}$, where:

- A = the net present value using the Base Case Equity IRR as the discounting rate of the Distributions projected immediately prior to the Refinancing (taking into account the effect of the Refinancing (including any breakage costs of any prior refinancing) and using the Base Case Financial Model as updated (including as to the performance of the Project up to the date of the Refinancing) so as to be current immediately prior to the Refinancing) to be made over the remaining term of this Agreement following the Refinancing;
- B = the net present value using the Base Case Equity IRR as the discounting rate of the Distributions projected immediately prior to the Refinancing (but without taking into account the effect of the Refinancing and using the Base Case Financial Model as updated (including as to the performance of the Project up to the date of the Refinancing) so as to be current immediately prior to the Refinancing) to be made over the remaining term of this Agreement following the Refinancing; and
- C = any adjustment required to raise the Pre-Refinancing Equity IRR to the Base Case Equity IRR (if the Pre-Refinancing Equity IRR is lower than the Base Case Equity IRR, the adjustment is calculated as the amount that, if received by Equity Members at the estimated date of the Refinancing, would increase the Pre-Refinancing Equity IRR to be the same as the Base Case Equity IRR).

"Reinstatement Plan" is defined in Section 35.2(b) (Reinstatement Work).

"Reinstatement Work" is defined in Section 35.2(b) (Reinstatement Work).

"Related Entity" means each of (i) PIDC Holdco LLC and (ii) PIDC Holdings LLC.

"Released for Construction (RFC) Documents" means all drawings, specifications, revisions thereto, and any other items necessary to construct the Work, Signed and Sealed by the Engineer of Record, which have been "Released for Construction."

"Relevant Event" means any of the following:

- (a) the implementation of any revision to the Base MAP in accordance with Section 2.3(e) (Base Case Financial Model) and Exhibit 13 (Update to Base MAP).
- (b) a District Change for which the District has issued a District Change Order;
- (c) a Developer Change that the District has approved by issuing a Developer Change Order;
- (d) a Compensation Event; or
- (e) the occurrence of any District Delay Period during which any Finance Costs become payable by the District pursuant to Section 28.8 (Finance Costs during the District Delay Period).

“Relief Event” means:

- (a) any Change in Law that is not a Qualifying Change in Law;
- (b) any Force Majeure Event;
- (c) any flood;
- (d) any fire, explosion or earthquakes;
- (e) any tornado, named windstorm and ensuing storm surges, or unusually adverse weather;
- (f) any riot or civil commotion;
- (g) any blockade or embargo;
- (h) any industry-wide official or unofficial strike, generally affecting the lighting industry or a significant sector of it;
- (i) any accidental loss or damage to a Lighting Unit or Project Site not caused by the Developer;
- (j) any delay in obtaining any Governmental Approval to the extent that such delay is beyond the reasonable control of any Developer-Related Entity;
- (k) any failure by a Utility Owner to cooperate with the Developer in relation to a Utility Adjustment in such manner that would result in a delay to the D&C Work (as set out in the Project Baseline Schedule) of more than thirty (30) days; *provided* that the Developer shall have continued to satisfy the Conditions to Assistance with such Utility Owner for the duration of such failure to cooperate by the Utility Owner;
- (l) the failure of any Utility Owner having operational jurisdiction in the area in which any Lighting Unit is located to provide and maintain electric utility service to the Street Light Network upstream of the connection point to the relevant Lighting Unit required for the Developer to perform its obligations under this Agreement; or

- (m) compliance by the Developer with an order or direction of a Governmental Entity in an Emergency,

except, in each case, to the extent attributable to any breach of this Agreement, Applicable Law or any Governmental Approval by, or any negligent act or negligent omission of, a Developer-Related Entity.

“Remedial Action” means any remediation or removal of a Hazardous Environmental Condition that the Developer is responsible for pursuant to Article 13 (Hazardous Materials).

“Remedial Action Unit Price” means a unit price based on the scope of the relevant Remedial Action to be proposed by the Developer, at the time the relevant Remedial Action is to be undertaken, for the District’s approval pursuant to Article 28 (Compensation Events). Such unit price shall comply with the terms of this Agreement, including Exhibit 17 (Principles for Calculation of Change in Costs).

“Remote Monitoring and Control System” or **“RMCS”** is defined in Section 10.3.1 (*Remote Monitoring and Control System (RMCS)*) of the Technical Provisions.

“Renewal Work” means asset management, repair, reconstruction, rehabilitation, restoration, renewal or replacement of any worn-out, obsolete, deficient, damaged or under-performing element of the Existing Street Light Network or Improved Street Light Network, as applicable, that is not routine so that such element does not prematurely deteriorate and remains fully functional.

“Renewal Work Schedule” means the schedule for the Renewal Work developed in accordance with Section 10.11.2 (*Renewal Requirements*) of the Technical Provisions.

“Reporting Period” as defined in Exhibit 15 (Performance Reports).

“Request for Proposals” or **“RFP”** is defined in the Recitals.

“Request for Qualifications” or **“RFQ”** is defined in the Recitals.

“Required Action” is defined in Section 50.3(a)(i) (Required Action by the District).

“Reserve Account” means an account, purchase order number, or similar mechanism established within DDOT’s accounting system to provide for the payment of the Project costs described in Article 25 (Reserve Account).

“Restricted Change in Ownership” is defined in Section 55.1(b) (Restricted Change in Ownership).

“Reviewable Submittal” means any Submittal that is a Discretionary Submittal, Non-Discretionary Submittal or R&C Submittal.

“Roadway Classification” is defined in Appendix 13.14 (*Definitions*) of the Technical Provisions.

“Safety Compliance” means any and all improvements, repair, reconstruction, rehabilitation, restoration, renewal, replacement and changes in configuration or procedures with respect to the Project to correct a specific safety condition of the Project that the District or a Governmental Entity has reasonably determined to exist by investigation or analysis (including if the condition exists despite prior compliance with Safety Standards).

“Safety Compliance Order” a written order or directive from the District to the Developer to implement Safety Compliance.

“Safety Standards” means those provisions of the Technical Provisions that are measures to protect public safety or worker safety. Provisions of the Technical Provisions primarily directed at durability of materials or equipment, where the durability is primarily a matter of life cycle cost rather than protecting public or worker safety, are not Safety Standards.

“Security Breach” is defined in Section 53.3(a) (Personally Identifiable Information).

“Security Documents” means the documents listed in Section 2 (*Security Documents*) of Exhibit 21 (Finance Documents), together with any other document designated by the Parties (acting jointly) as a Security Document.

“Security Requirements” is defined in Section 53.3(b) (Personally Identifiable Information).

“Service Line” means (i) a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more than one such individual line to a larger system or (ii) any cable or conduit that supplies an active feed from a Utility Owner’s facilities to activate or energize the Project or a local agency’s lighting and electrical systems, traffic control systems, communications systems or irrigation systems.

“Setting Date” means the date that is thirty (30) days before the Technical Proposal Due Date.

“Sidewalk” means the portion of the Public Space located between the curb line and the building line intended for the use of pedestrians as further defined in 24 DCMR 399.

“Signed and Sealed” means the signature and seal of a licensed professional engineer on a document indicating that the licensee takes professional responsibility for the work and, to the best of the licensee’s knowledge and ability, the work represented in the document is accurate, in conformance with applicable codes at the time of submission and has been prepared in conformity with normal and customary standards of practice and with a view to the safeguarding of life, health, property and public welfare. The licensed professional engineer certifies that the documents have been signed and sealed in accordance with laws, rules and regulations of District of Columbia.

“Small Cell Inspection Unit Price” means \$287.50, Indexed.

“Smart City Bundle” is defined in Section 1.5.5 (*Project Sites and Bundling Principle*) of the Technical Provisions.

“Smart City Bundle Substantial Completion” means the Independent Engineer’s determination that all Smart City Bundle Substantial Completion Conditions for the relevant Smart City Bundle have been satisfied as evidenced by the Independent Engineer’s issuance of a Certificate of Smart City Bundle Substantial Completion in accordance with Section 17.2(d)(ii)(A) (Substantial Completion of Smart City Bundles).

“Smart City Bundle Substantial Completion Conditions” are those conditions in Part 3 (*Conditions to Substantial Completion of Smart City Bundles*) of Exhibit 12 (Completion Conditions).

“Smart City Bundle Substantial Completion Date” means, in respect of a Smart City Bundle, the date on which the Developer achieves Smart City Bundle Substantial Completion in respect of that Smart City Bundle.

“Smart City Improvements” means the broadband WiFi networking equipment to be affixed to the Poles, as further described in the Technical Provisions.

“Smart City Work” means the Work necessary to deliver the Smart City Improvements.

“Street Light Bundle” is defined in Section 1.5.5 (*Project Sites and Bundling Principle*) of the Technical Provisions.

“Street Light Bundle Substantial Completion” means the Independent Engineer’s determination that all of the Street Light Bundle Substantial Completion Conditions for the relevant Street Light Bundle have been satisfied, as evidenced by the Independent Engineer’s issuance of a Certificate of Street Light Bundle Substantial Completion in accordance with Section 17.1(d)(ii)(A) (*Substantial Completion of Street Light Bundles*).

“Street Light Bundle Substantial Completion Conditions” are those conditions in Part 1 (*Conditions to Substantial Completion of Street Light Bundles*) of Exhibit 12 (*Completion Conditions*).

“Street Light Bundle Substantial Completion Date” means, in respect of a Street Light Bundle, the date on which the Developer achieves Street Light Bundle Substantial Completion in respect of that Street Light Bundle.

“Street Light Network” means, collectively, (i) the Existing Street Light Network and (ii) the Improved Street Light Network.

“Structural Analysis Unit Price” means \$11,500, Indexed.

“Step-in Date” is defined in Section 61.4(a)(iii) (*Step-in Notice*).

“Step-in Entity” is defined in Section 61.4(a)(ii) (*Step-in Notice*).

“Step-in Entity Accession Agreement” means the agreement to be entered into by a Step-in Entity pursuant to Section 61.4(a)(iii) (*Step-in Notice*).

“Step-in Notice” is defined in Section 61.4(a)(i) (*Step-in Notice*).

“Step-in Period” in relation to a Step-in Entity, means the period from and including the Step-in Date until the earliest of:

- (a) the last day of the CA Cure Period;
- (b) the Substitution Effective Date;
- (c) the Step-out Date;
- (d) the date of termination of this Agreement by the District in accordance with the terms of this Agreement; and

- (e) the last day of the Term.

“Step-out Date” is defined in Section 61.4(c)(i) (Step-out).

“Step-out Notice” is defined in Section 61.4(c)(i) (Step-out).

“Subcontractor Breakage Costs” means Losses that have been or will be reasonably and properly incurred by the Developer under a Key Contract as a direct result of the termination of this Agreement (and which will not include lost profit related to the period after termination or lost opportunity), but only to the extent that:

- (a) the Losses are incurred in connection with the Project and with respect to the Work required to be provided or carried out, including:
 - (i) any materials or goods ordered or subcontracts placed that cannot be cancelled without such Losses being incurred;
 - (ii) any expenditures incurred in anticipation of the provision of services or the completion of Work in the future; and
 - (iii) the cost of demobilization including the cost of any relocation of equipment used in connection with the Project;
- (b) the Losses are incurred under arrangements or agreements that are consistent with terms that have been entered into in the ordinary course of business and on an arm’s length basis; and
- (c) the Developer and the relevant Key Contractor have each used their Reasonable Efforts to mitigate such Losses.

“Submittal” means any document, work product or other written or electronic product or item required under the Technical Provisions to be delivered or submitted to the District for approval, review, comment or otherwise.

“Substitute” is defined in Section 61.5(a) (Notice of Proposed Substitute).

“Substitute Accession Agreement” means the agreement to be entered into by a Substitute pursuant to Section 61.6(a) (Substitution Effective Date).

“Substitution Effective Date” is defined in Section 61.6(a) (Substitution Effective Date).

“Substitution Notice” is defined in Section 61.5(a) (Notice of Proposed Substitute).

“Successful Proposer” is defined in the Recitals.

“Supervening Event Termination Notice” is defined in Section 30.4 (Failure to Agree; Right to Terminate).

“Supplier” means any Person not performing work at or on a Project Site that supplies machinery, equipment, materials, hardware, software, systems or any other appurtenance to the Project to the Developer or to any Contractor in connection with the performance of the Work. Persons who merely

transport, pick up, deliver or carry materials, personnel, parts or equipment or any other items or Persons to or from a Project Site will not be deemed to be performing Work at such Project Site.

“Tariff” means any tax or customs duty on goods or services imported from outside the United States imposed by the federal government through legislation, treaty, or executive order issued by the President of the United States.

“Tariff Event” means, for the period between the Financial Proposal Due Date and the Project Final Completion Date, any changed or newly imposed Tariff.

“Technical Proposal Due Date” means May 12, 2021.

“Technical Provisions” means the Technical Provisions set out in Exhibit 5 (Technical Provisions).

“Term” is defined in Section 2.1 (Term).

“Termination by Court Ruling for Illegality” is defined in Section 47.1(a) (Termination by Court Ruling).

“Termination by Court Ruling for Impossibility” is defined in Section 47.1(b) (Termination by Court Ruling).

“Termination Date” means:

- (a) the date of expiration of the Term; or
- (b) if applicable, the Early Termination Date.

“Termination Notice” means any termination notice delivered under the terms of this Agreement, including a District Termination Notice and a Developer Termination Notice.

“Termination Sum” means the District Default Termination Sum, the Developer Default (D&C Period) Termination Sum, the Developer Default (Asset Management Period) Termination Sum or the No Fault Termination Sum (each as defined in Exhibit 18 (Compensation on Termination)).

“Terrorism” means activities against Persons or property of any nature:

- (a) that involve the following or preparation for the following:
 - (i) use or threat of force or violence; or
 - (ii) commission or threat of an act that interferes with or disrupts an electronic, communication, information or mechanical system; and
- (b) when one or both of the following applies:
 - (i) it appears that the intent is to intimidate or coerce the District, a Governmental Entity or the civilian population or any segment of the civilian population, or to disrupt any segment of the economy;

- (ii) it appears that the intent is to intimidate or coerce the District or a Governmental Entity, or to further political, ideological, religious, social or economic objectives or to express (or express opposition to) a philosophy or ideology; and
- (c) that are criminally defined as terrorism for purposes of District of Columbia, federal or international Applicable Law.

“Third Party Claims” means any and all claims, disputes, disagreements, causes of action, demands, suits, actions, investigations or administrative proceedings brought by a Person that is not an Indemnified Party or the Developer with respect to damages, injuries, liabilities, obligations, losses, costs, penalties, fines or expenses (including attorneys’ fees and expenses) sustained or incurred by such Person.

“Time Impact Analysis” means a time impact analysis prepared in accordance with Section 2.3.6 (*Time Impact Analysis*) of the Technical Provisions and based on current Project Baseline Schedule.

“Total Remedial Action Cost” means, for each year of the Term, the total Change in Costs incurred by the Developer with respect to Remedial Action carried out for Hazardous Environmental Conditions other than Remedial Action with respect to lead paint on Poles.

“Total Vandalism Repair Cost” means, for each year of the Term, the total Change in Costs incurred by the Developer with respect to the repair, reconstruction, rehabilitation, restoration, renewal or replacement of any element of the Project due to the occurrence of Vandalism reasonably necessary to ensure such element remains fully functional and otherwise complies with the Technical Provisions.

“Training and Transition Plan” means the plan described in Section 12.4 (*Training and Transition*) of the Technical Provisions.

“Unavailable Term” is defined in Section 36.3(a) (*Unavailability of Insurance Terms*).

“Unavailability Deduction” means any Deduction assessed by the District due to the occurrence of an Unavailability Event.

“Unavailability Default Trigger” shall be deemed to have occurred if:

- (a) the Unavailability Deductions assessed in any rolling three (3) -month period equal or exceed fifty thousand dollars (\$50,000) (Indexed); or
- (b) the Unavailability Deductions assessed in any rolling twelve (12) -month period equal or exceed one hundred eighty thousand dollars (\$180,000) (Indexed).

“Unavailability Event” means a breach by the Developer of the requirements set forth in Section 11.1 (*Permitted Closures*) of the Technical Provisions.

“Unavailability Increased Monitoring Trigger” shall be deemed to have occurred if:

- (a) the Unavailability Deductions assessed in any rolling three (3) -month period equal or exceed thirty-five thousand dollars (\$35,000) (Indexed); or

- (b) the Unavailability Deductions assessed in any rolling twelve (12) -month period equal or exceed one hundred fifteen thousand dollars (\$115,000) (Indexed).

“Unavailability Rectification Date” means, for any Unavailability Event, the date and time that the Unavailability Event has been cured and commercially reasonable measures have been taken by the Developer to prevent the reoccurrence of that Unavailability Event.

“Unavailability Remedial Plan” is defined in Section 23.7(a) (*Remedial Plan for Unavailability Events*).

“Unavailability Remedial Plan Trigger” shall be deemed to have occurred if:

- (a) the Unavailability Deductions assessed in any rolling three (3) -month period equal or exceed forty thousand dollars (\$40,000) (Indexed); or
- (b) the Unavailability Deductions assessed in any rolling twelve (12) -month period equal or exceed one hundred forty-five thousand dollars (\$145,000) (Indexed).

“Unavailability Start Date” means, for any Unavailability Event, the earlier of the date and time that the Developer:

- (a) first obtains knowledge of the Unavailability Event; or
- (b) first should have reasonably known of the occurrence of the Unavailability Event.

“Undisclosed Utility” means any Utility Present on any Project Site that was not identified or was materially incorrectly shown, identified or described in the Disclosed Information, in each case excluding any Utility that:

- (a) was installed on a part of such Project Site after access was granted to the Developer in relation to the relevant part of such Project Site in accordance with the terms of this Agreement; or
- (b) could reasonably have been identified or discovered prior to the Setting Date by an appropriately qualified and experienced contractor or engineer exercising due care and skill and Good Industry Practice based on the Disclosed Information, any publicly available and/or reasonably discoverable information and any access to such Project Site granted prior to the Setting Date.

“Uninsurable Risk” means a risk for which:

- (a) insurance is not available to the Developer with respect to the Project in the worldwide insurance or reinsurance markets on the terms required in this Agreement with reputable insurers of good standing; or
- (b) the insurance premium payable for insuring that risk on the terms required in this Agreement is at such level that the risk is not generally being insured against in the worldwide insurance or reinsurance markets with reputable insurers of good standing by contractors in relation to comparable public-private partnership projects in the United States.

“Uninsured Relief Event” means a Relief Event for which insurance is not available to the Developer in the worldwide insurance or reinsurance markets on terms required in this Agreement with reputable insurers of good standing.

“USDOT” means the U.S. Department of Transportation.

“Utility” means a privately, publicly, or cooperatively owned line, facility, or system for transmitting or distributing communications, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, a combined stormwater and sanitary system, or other similar commodities, including wireless telecommunications, television transmission signals and publicly owned fire and police signal systems, which directly or indirectly serve the public. The term Utility excludes (a) streetlights and traffic signals and (b) ITS (intelligent transportation systems) and IVHS (intelligent vehicle highway systems) facilities. The necessary appurtenances to each Utility facility will be considered part of such Utility. Without limitation, any Service Line connecting directly to a Utility will be considered an appurtenance to that Utility, regardless of the ownership of such Service Line.

“Utility Adjustment” means each relocation (temporary or permanent), abandonment, Protection in Place, removal (of previously abandoned Utilities as well as of newly abandoned Utilities), replacement, reinstallation, or modification of existing Utilities necessary to accommodate construction, conversion, asset management, or use of the Project or the Work.

“Utility Owner” means the owner or operator of any Utility (including both privately held and publicly held entities, cooperative Utilities, and municipalities and other governmental agencies).

“Vandalism” means theft of or willful or malicious damage to the Project, including, without limitation, graffiti, by a third party that could not reasonably be expected to have been avoided or mitigated by the Developer as part of the Developer’s obligations under this Agreement.

“Work” means the Preliminary Work, the D&C Work, the Asset Management Services, and all other work, services and obligations required to be furnished, performed and provided by the Developer under this Agreement.

EXHIBIT 2**DEVELOPER OWNERSHIP**

Entity	Percentage Ownership of Developer
PIDC Holdings LLC	100%
Plenary Americas US Investments V Ltd.	72% (Indirect)
Kiewit DC Lighting Investors LLC	18% (Indirect)
Phoenix Infrastructure Group Investments, LLC	10% (Indirect)

EXHIBIT 3**DESIGNATION OF REPRESENTATIVES****1. Contract Administrator**

- (a) The Contract Administrator is responsible for general administration of this Agreement and the Project and advising the Contracting Officer as to the Developer's compliance or noncompliance with the terms of this Agreement. The Contract Administrator has the responsibility for ensuring the Work conforms to the requirements of the Agreement and such other responsibilities and authorities as may be specified in the Agreement. Such responsibilities include:
 - (i) keeping the Contracting Officer fully informed of any technical or contractual difficulties encountered during the Term of the Agreement and advising the Contracting Officer of any potential problem areas under the Agreement;
 - (ii) coordinating access to each Project Site for Developer personnel, if applicable;
 - (iii) reviewing each Quarterly Disbursement Invoice and providing a recommendation to the Contracting Officer regarding whether the relevant Quarterly Disbursement Invoice should be paid; and
 - (iv) maintaining a file that includes all Agreement correspondence, modifications, records of inspections (site, data, equipment) and invoices or vouchers.
- (b) The Contract Administrator shall not have the authority to do the following:
 - (i) award, agree to, or sign any contract, delivery order or task order, or approve any Developer Change Request, or issue any District Change Request. Only the Contracting Officer shall make contractual agreements, commitments, or modifications;
 - (ii) grant modifications to, or waive, any of the terms and conditions of the Agreement;
 - (iii) adjust the amount of the D&C Contract Price or the methodology for determining the Milestone Payments or the Availability Payments set out in Exhibit 14 (Payment Mechanism);
 - (iv) authorize the expenditure of funds by the Developer;
 - (v) change the Term of the Agreement; or
 - (vi) authorize the use of District property, except as specified under the Agreement.
- (c) The Developer shall be fully responsible for any changes not authorized in advance, in writing, by the Contracting Officer. The Developer may be denied compensation or other

relief for any additional work performed that is not so authorized; and may also be required, at no additional cost to the District, to take all corrective action necessitated by reason of the unauthorized changes.

- (d) As of the Commercial Closing Date, the Contract Administrator shall be the individual named below:

Cherwin Baga
District Department of Transportation
55 M Street SE
Washington, DC 20003

2. Contracting Officer

As of the Commercial Closing Date, the Contracting Officer shall be the individual named below:

Todd Allen, Esq.
Office of Contracting and Procurement
441 4th Street, NW, Suite 330 South
Washington, D.C. 20001

3. Developer Representative

As of the Commercial Closing Date, the Developer Representative(s) shall be the individual(s) named below:

Simon Stachnik
Director, Asset Delivery-Civil
Plenary Americas
1700 Lincoln Street, Suite 3000
Denver, Colorado 80203
Telephone: (303) 803-9454
E-mail: simon.stachnik@plenarygroup.com

EXHIBIT 4**FORM OF CLOSING SECURITY****(IRREVOCABLE STANDBY LETTER OF CREDIT)**

ISSUER:	[●]
PLACE FOR PRESENTATION OF DRAFT IN PROGRESS:	(Name and Address of Bank/Branch—MUST be a Bank/Branch in Washington, D.C. or New York, New York)
APPLICANT:	[●]
BENEFICIARY:	The Government of the District of Columbia c/o District of Columbia Office of Public-Private Partnerships John A. Wilson Building 1350 Pennsylvania Avenue NW, Suite 533 Washington, D.C. 20004
LETTER OF CREDIT NUMBER:	[●]
PLACE AND DATE OF ISSUE:	[●]
AMOUNT:	\$(●)
EXPIRATION DATE:	<u>Must be 5 days following the Financial Closing Deadline, or if such date is not a Business Day, the next succeeding Business Day</u>

Issuer hereby issues this Irrevocable Standby Letter of Credit (this **Letter of Credit**) in favor of the Beneficiary for any sum or sums in the sum of up to **Ten Million United States Dollars (\$10,000,000)** available by draft at sight drawn on Issuer. Any draft under this Letter of Credit shall identify this Letter of Credit by the name of Issuer, and the Letter of Credit number, amount and place and date of issue, and the Beneficiary shall certify to Issuer that the Beneficiary is entitled to draw on this Letter of Credit.

This Letter of Credit shall be honored by Issuer if presented at [[●]—Name & Address of Bank/Branch—MUST be a [Bank/Branch in Washington, D.C. or New York, New York] on or before [●]¹ or if such date is not a Business Day, the next succeeding Business Day (the **Expiration Date**). The obligations of Issuer hereunder are primary obligations to Beneficiary and shall not be affected by the performance or non-performance by [Name of Applicant] under any agreement with Beneficiary or by any bankruptcy, insolvency or other similar proceeding initiated by or against [Name of Applicant]. [Name of Applicant] is not the beneficiary under this Letter of Credit and possesses no interest whatsoever in proceeds of any draw hereon. This Letter of Credit shall terminate on the earlier of (i) the close of business on the Expiration Date and (ii) the date on which Issuer has honored one or more draws in the full amount of the Stated Amount. This Letter of Credit may not be transferred by Beneficiary to any other person.

To the extent not inconsistent with the express provisions hereof, this Letter of Credit is subject to the rules of the International Standby Practices ISP98 (**ISP98**), as interpreted under the laws of the District of

¹ Date that is five (5) days following the Financial Closing Deadline to be inserted.

Columbia, and shall, as to matters not governed by the ISP98, be governed by and construed in accordance with the laws of the District of Columbia, without regard to principles of conflicts of law.

With respect to any suit, action or proceedings relating to this Letter of Credit (**Proceedings**), we irrevocably:

- (a) submit to the exclusive jurisdiction of any District of Columbia court or U.S. federal court sitting in the District of Columbia; and
- (b) waive (i) any objection that we may have at any time to the laying of venue of any Proceedings brought in any such court, (ii) any claim that such Proceedings have been brought in an inconvenient forum and (iii) the right to object, with respect to such Proceedings, that such court does not have any jurisdiction over us.

Issuer:	
By:	
Name:	[●]
Title:	[●]
	(Authorized Signatory of Issuer)

EXHIBIT 5
TECHNICAL PROVISIONS

[See attached]

SMART STREET LIGHTING PROJECT

TECHNICAL PROVISIONS

Final Dated 2022

by and between

The District of Columbia,

acting by and through the District of Columbia Office of Public-Private Partnerships, for and on behalf of the District of Columbia Department of Transportation

and

Plenary Infrastructure DC LLC, as Developer



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1 GENERAL

(a) These Technical Provisions are comprised of the following documents:

- (i) Sections 1 through 13 of the Technical Provisions
- (ii) The mandatory specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions; and
- (iii) The Design Manual approved by the District.

(b) With regards to the Technical Provisions documents, the order of precedence should be treated as follows:

- (i) In the event of any conflict, ambiguity or inconsistency between any terms or provisions of these documents, the order of precedence, from highest to lowest, shall be as follows:
 - i. Sections 1 through 13 of the Technical Provisions
 - ii. The mandatory specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions; and
 - iii. The Design Manual approved by the District.
- (ii) In the event of any conflict, ambiguity or inconsistency of the provisions within any one of these documents, the more stringent standard will prevail.
- (iii) Additional or supplemental details or requirements in a lower priority document shall be given effect except to the extent they irreconcilably conflict with requirements, provisions and practices contained in the higher priority document.

1.1 Project Description

(a) Existing Street Light Network

The Existing Street Light Network provides illumination in the Public Space for traffic and general public safety, and comprises approximately 77,912 Lighting Fixtures as part of 72,051 Lighting Units¹ generally located along streets, alleys, traffic circles, overpasses, underpasses, and tunnels in the Public Space, on the National Highway System (NHS) and associated ingress and egress, under bridges spanning navigable waterways, or adjacent to the Public Space and illuminating the Public Space, along with supporting infrastructure assets within and outside the Public Space and select overhead, illuminated guide signs. The Existing Street Light Network and other Project Elements are further described in Section 1.4 of the Technical Provisions.

¹ Multiple Fixtures can be affixed to an individual Lighting Unit. The Developer should reference the ArcGIS inventory for accurate counts.

- (b) As part of the Project, the Developer shall perform all Work described in these Technical Provisions. In particular, the Developer shall perform the D&C Work on the Existing Streetlight Network and perform Asset Management Work on the Streetlight Network to meet the Project objectives set forth in Section 1.1 of the Technical Provisions and the Performance Requirements, in accordance with the requirements of the Project Agreement, including these Technical Provisions.
- (c) The Developer shall install the Smart City Improvements. The District will manage the Smart City Improvements installed by the Developer.
- (d) The Project is further described in these Technical Provisions and generally includes, within the Project Limits:
 - (i) Designing and converting the existing non-LED Streetlight Fixtures in the Existing Street Light Network to LED technology, as well as replace or upgrade the existing LED Streetlight Fixtures to meet the requirements of these Technical Provisions, providing for color temperatures and wattage appropriate to their setting, including repairing, renewing, rehabilitating, replacing, and upgrading existing wiring and electrical systems necessary to support the conversion to LED technology;
 - (ii) Designing, procuring, installing, maintaining, upgrading from time to time, managing, monitoring and using a Remote Monitoring and Control System (RMCS) to provide the District with real-time, fully scalable, reliable, accurate, monitoring and control of the Street Light Network that relies on open standards and includes dynamic and environmentally-responsive dimming capability;
 - (iii) Upgrading, repairing or replacing District-owned Lighting Units, District-owned Light Fixtures that may be attached to Poles not owned by the District, and other District-Owned Elements of the Street Light Network where appropriate or required based on their condition and a pre-determined process and criteria for establishing when such assets must be replaced;
 - (iv) Manage, monitor, maintain, renew, and rehabilitate the Streetlight Network and perform any other Work necessary to meet the Performance Requirements;
 - a. This includes bringing all Elements of the Lighting Network to the Minimum Acceptable Condition of Fair (numerical score 3) as described in the Performance Requirements for the Improved and Expanded Network in Appendix 13.1 and maintaining Elements at the Minimum Acceptable Condition for the duration of the Project Term.
 - b. information for Elements, including photos, can be found at the following link:
<https://dcdgis.maps.arcgis.com/apps/webappviewer/index.html?id=cc00ffaf6edc4cf6be6731e2343b209e>
 - (v) Expand the Street Light Network occasionally as requested by the District.
 - (vi) Maintain an accurate Lighting Asset Inventory at all times;

- (vii) Perform Make Safe Work and Administrative Redirect promptly when so requested by the District;
 - (viii) Perform demonstration testing, and commissioning testing to satisfy the District's requirements and demonstrate that the LED Luminaires meet the requirements of these Technical Provisions;
 - (ix) Perform some trimming of trees that may obstruct or impede the proper illuminance of the Luminaires, as defined in Section 10.4.6 of these Technical Provisions; and
 - (x) Installing the Smart City Improvements.
- (e) Any visible Element of the Street Light Network owned by the District and requiring replacement shall be replaced with an LED fixture that reduces light pollution, unless otherwise specified in these Technical Provisions or proposed by the Developer and approved by the District in its sole discretion.
- (f) Any asset owned by the District or any third party disturbed, damaged, demolished, or otherwise rendered unusable by the Developer in the performance of the Work shall be promptly restored to its original condition or as otherwise specified in these Technical Provisions.
- (g) The Developer shall perform all Work for the Project in accordance with the Project Agreement (including these Technical Provisions), Good Industry Practice, any Change Order or Directive Letter issued in accordance with the Agreement, Developer's Design Documents, Developer Management Plan, District-Provided Approvals, and other Governmental Approvals. The Developer may incorporate existing physical infrastructure in the design, construction, and/or reconstruction of the assets for the Project, provided that the Work meets the requirements of the Project Agreement.
- (h) Except in public communications, community engagement, and outreach (for which the District shall be responsible), and in the areas defined in Section 3 of the Technical Provisions, the Developer shall initiate and perform all coordination and communication Work with the District, Utility Owners, all third parties and all Governmental Entities as may be necessary for the execution of the Work in accordance with the Project Agreement and as further specified in the Technical Provisions.
- (i) The Developer shall support the District in community engagement, public communication and outreach as defined in Section 3 of the Technical Provisions.
- (j) The Developer shall protect District and third party assets from damages or impacts caused by the Developer's Work. Any existing land, infrastructure, or other physical assets disturbed, impacted, or damaged, during the Work, whether inside or outside a Project Site and remaining in place after such Work is completed, as well as movable assets, shall be repaired, restored, or otherwise replaced by the Developer to its condition before damage as soon as possible, and in any event immediately upon completion of such Work if such land, infrastructure, or assets are located within a Project Site.
- (k) The Developer shall maintain a warehouse. The warehouse shall be located within the District of Columbia limits.

- (l) Except as expressly provided otherwise, the requirements in the Technical Provisions pertaining to D&C Work performed during the period from NTP3 to Project Final Completion shall also apply to Work for the entire Term.

1.2 Project Objectives

- (a) The Developer shall perform the Work in accordance with these Technical Provisions, including but not limited to the performance requirements listed in the Appendix in Section 13.1, and take all necessary actions, at all times during the Term, to:
 - (i) Provide adequate level of illumination in the Public Space for vehicular, bicycle, and pedestrian traffic and general public safety while limiting light pollution and light trespass;
 - (ii) Ensure the safety of the public and accordingly prioritize Work necessary to ensure the safe travel of motorists, bicyclists, and pedestrians in the Public Space and adjacent private properties, placing the highest priority on Work to remedy imminent risks to public health and safety;
 - (iii) Ensure the safe, clean, functional, and reliable delivery of the Work;
 - (iv) Ensure and verify the quality of the Work;
 - (v) Minimize the risk of damages to, disturbance of, or destruction of property of the District and Third-Party property;
 - (vi) Use Reasonable Efforts to reduce and minimize the energy demands of the Street Light Network during and after the Term;
 - (vii) Minimize disruption to and interference with the normal flow of pedestrian and vehicular traffic;
 - (viii) Minimize inconvenience and disruptions to District residents and businesses who own or occupy premises adjacent to the Project Sites;
 - (ix) Inform and foster understanding and support of Project stakeholders and the public throughout the Term;
 - (x) Respect and contribute to the preservation of the historical, architectural, and aesthetic significance of the District, and in particular the Street Light Network;
 - (xi) Partner, cooperate and collaborate with the District, Pepco, Verizon and other Third Parties who own Elements of the Streetlight Network or real assets on, below, or above the Public Space in achieving the objectives of the Project;
 - (xii) Ensure the proper, long-term functioning and performance of the Street Light Network in accordance with the Performance Requirements;
 - (xiii) Remedy and cure any Noncompliance expeditiously;

- (xiv) Reduce and minimize the lifecycle costs of the Street Light Network during and after the Term;
- (xv) Provide for continuous access to and proper functioning of all the Elements of the Street Light Network to the District;
- (xvi) Monitor, measure, and report accurately and in a timely manner on the Developer performance in fulfilling its obligations in these Technical Provisions; and
- (xvii) Develop innovative solutions in support of the Project objectives and promote innovative uses for the Asset Management Information System (AMIS) and Remote Monitoring and Control System (RMCS).

1.3 Continuity of Operation

- (a) The Street Light Network is essential to the safety and security of the public and shall function as designed to provide the adequate level of illuminance in the Public Space in accordance with these Technical Specifications.
- (b) In situations when Light Fixtures do not provide the adequate level of illuminance, upon request by the District, the Developer shall provide for temporary Street Light Units to provide the equivalent level of illuminance and light quality. The circumstances that may prompt the provision of temporary Street Light Units are as follows:
 - (i) A Lighting Unit has experienced an outage for ten (10) or more calendar days;
 - (ii) Five (5) Lighting Units or an entire block has experienced an outage for five (5) or more calendar days; and
 - (iii) A Lighting Unit has experienced an outage, and the outage is not addressed within the cure period listed in the Performance Requirements set forth in Appendix 13.1 of these Technical Provisions. If the District deems the outage a safety risk, the District may request the Developer to provide for a temporary Street Light Unit.
- (c) It is not expected that Work on the Street Light Network shall affect traffic signals. Regardless, all traffic signals shall remain in operation at all times. The Developer shall not interfere with or disturb the proper functioning of traffic signals unless authorized by the District. In such cases, the Developer shall provide for temporary traffic signals to replace the traffic signals impacted by the Work. The Developer shall be responsible for coordinating the deployment of temporary traffic signals and signal timing adjustments with the District.

1.4 Project Assets

- (a) For the avoidance of doubt, all Elements of the Street Light Network are part of the Project.

1.4.1 Existing Street Light Network

- (a) The Existing Street Light Network is located entirely within the Project Limits, with the exception of a limited number of Lighting Units along streets that extend from the District into Virginia or

Maryland and electrical systems and conduits, which may be located in Virginia or Maryland with power source in Virginia or Maryland.

- (b) The Existing Street Light Network is comprised of the network of Lighting Units located in the Public Space or, in rare occasions, located on private property for the purpose of illuminating the Public Space, along with Light Fixtures that are attached to Utility-owned Poles in the Public Space or to Combination Poles, the Remote Monitoring and Control System, and supporting systems, fixtures, appurtenances, and infrastructure necessary for the proper functioning of such Lighting Units and Light Fixtures.
- (c) Combination Poles are excluded from the Existing Street Light Network. The Developer's responsibilities for Elements on Combination Poles are listed in section 1.4.7(c) of these Technical Provisions.
- (d) The Existing Street Light Network includes all electrical systems necessary for the proper functioning of the Luminaires from the PEPCO power source out as well as District-owned underground conduits, panels, junction boxes, manholes, hand holes, regardless of whether these Street Light Network Elements are marked as District-owned or not.
- (e) The Existing Street Light Network includes all the assets listed in the Existing Lighting Asset Inventory as of the Setting Date.
- (f) The Lighting Units of the Existing Street Light Network are generally located along alleys, streets (including streetlights on traffic signal Combination Poles), highways, pedestrian/bike bridges and trails, overpasses, underpasses, tunnels, bridges as further described in this Section 1.4.1 of the Technical Provisions.
- (g) Lighting Units part of the Existing Street Light Network include high-mast, tunnel and underpass lights, underdeck and navigation lights, overhead, illuminated guide signs, and special lights, such as radio tower lights, Welcome to Washington sign lights, Chinatown lights, and trail lights.
- (h) The Existing Street Light Network includes the Lighting Units located in underpasses, on the undersides of bridges that pass over roadways, and in tunnels within the Project Limits with the exception of the following tunnels that are explicitly excluded from the Project:
 - (i) Mall Tunnel (I-395) structure No. 1142
 - (ii) Air Rights Tunnel (I-395) structure No. 1143
 - (iii) 9th St. Tunnel structure No. 173
 - (iv) 12th St. Tunnel (North) structure No 172 (N tunnel)
 - (v) 12th St. Tunnel (South) structure No 172 (S tunnel)
 - (vi) 23rd Street, N.W. over E Street Expressway structure No. 1208
 - (vii) Massachusetts Avenue, N.W. under Thomas Circle structure No. 99

- (viii) 16th Street, N.W. under Scott Circle structure No. 100
- (ix) Connecticut Avenue, N.W. under Dupont Circle structure No. 101
- (x) K Street, N.W. under Washington Circle structure No. 102
- (xi) Southwest Freeway over 12th Street, S.W. structure No. 1113
- (xii) Southwest Freeway over I-395 Ramp structure No. 1101
- (xiii) Virginia Avenue, N.W. over E Street Expressway structure No. 1209
- (xiv) Virginia Avenue, N.W. over I-66 structure No. 1302
- (xv) 23rd Street N.W. over Virginia Avenue structure No. 10
- (xvi) Pennsylvania Avenue, S.E., over ramp to Southeast Freeway structure No. 1409
- (i) Existing Lighting Asset Inventory: The Lighting Asset Inventory as of April 9, 2021 (the “Existing Luminaire Inventory”) includes 72,051 Lighting Units, including 37,407 District-owned Poles, 28,276 Poles owned by owned by Pepco and 6,368 owned by Verizon, and identifies the following data per Lighting Unit. All assets in the Existing Luminaire Inventory are part of the Existing Streetlight Network and the Project.
- (j) The Developer is responsible for all Elements of the Street Light Network. The District provides reliance on the completeness and accuracy of the Existing Lighting Asset Inventory.
- (k) The most current version of the Lighting Asset Inventory can be viewed in the District’s ArcGIS inventory².

1.4.2 Improved Street Light Network

- (a) The Improved Street Light Network means the Existing Street Light Network after the completion of Street Light Improvements as determined by Project Final Completion, in accordance with the Project Agreement.

1.4.3 Expanded Street Light Network

- (a) The Developer shall be responsible for certain tasks related to expansion of the street light network as specified in Section 32.11 of the Project Agreement, Expansion of the Street Light Network.
- (b) The Developer shall responsible for the various types of expansion Work as specified in Exhibit 10: Street Light Network Expansion Types of the Project Agreement which is reproduced below.

² The District’s ArcGIS inventory can be referenced at the following link:
<https://dcdgis.maps.arcgis.com/apps/webappviewer/index.html?id=cc00ffaf6edc4cf6be6731e2343b209e>. The inventory includes various layers that may be applied.

No.	Type of Expansion Work	Expansion Work Allowance (Per Calendar Year)	Maximum Number of Unused Units that may Carry Forward	Maximum Number of Unused Units that may Carry Forward to Final Calendar Year of Term
1.	Developer furnishes and installs Arm and fixture only	25	75 ⁺	38 ⁺
2.	Developer furnishes and installs wood Pole, Arm, and fixture	20	60	30
3.	Developer furnishes and installs metal Pole, Arm, and fixture	5	15	8
4.	Developer connects assets furnished and installed by Developer to the RMCS, including installation of node and gateway (if gateway is necessary) and enablement of backhaul communication	50 (sum of assets furnished per No. 1-3 above)	150	76
5.	Developer provides fixture to IPMD* for modification of existing Lighting Units or new Lighting Units	255	765	383
6.	Developer connects fixture modified by IPMD to RMCS, including installation of node and gateway (if gateway is necessary) and enablement of backhaul communication	255 (sum of fixtures per No. 5 above)	765	383
7.	Developer connects Lighting Units modified or installed by third party to RMCS and enables backhaul communication	205	615	308
8.	Developer provides asset management services for remainder of Term for the net increase in Lighting Units added to Street Light Network as part of Expansion Work	300	900	450

* For example, for such Expansion Work, the maximum quantity that may be undertaken in a given Calendar Year of the Term is 100 (25 + 75), while the maximum quantity that may be undertaken in the final Calendar Year of the Term is 63 (25 + 38). If the District requires Expansion Work in a Calendar Year in excess of such quantity, such Expansion Work

will be a Compensation Event, as further described in Section 38.11(e) (Street Light Network Expansion) of the Project Agreement.

* District of Columbia Infrastructure Project Management Division

- (c) For the avoidance of doubt, connecting Lighting Units to the RMCS entails installation of any necessary hardware such as a node or gateway and enablement of backhaul communication resulting in the Lighting Unit being enabled for control via the RMCS.
- (d) As per section 10.7.7 of these Technical Provisions, the District Streetlight Team will inspect all construction as part of the acceptance process of such assets.
- (e) For the avoidance of doubt, the Developer shall perform Asset Management Work on the Expanded Street Light Network after acceptance.
- (f) In particular, when the Developer attaches new Luminaires to Utility-owned Poles, the Developer shall follow the provisions in the License Agreements, which can be referenced in Exhibit 20 “License Agreements for Pole Attachments” of the Project Agreement.
- (g) The District may also suspend the Developer’s responsibilities for certain Lighting Units or other Street Light Network Elements for a specified period of time. The District will notify the Developer when such assets are removed from the Developer’s responsibility and for what period of time. During this period, the Lighting Unit will not be subject to the performance requirements listed in Appendix 13.1 of these Technical Requirements. The Lighting Units shall be subject to the performance requirements following acceptance by the Developer back into the Street Light Network. The Developer shall be involved in the inspection and acceptance process as described in Section 10 of these Technical Provisions.

1.4.4 Remote Monitoring and Control System

- (a) As part of the Street Light Improvements, the Developer shall design, procure, install, construct, manage, and ,from time to time, update and upgrade, an RMCS to:
 - (i) Provide real-time, remote monitoring and reporting of the performance of the Luminaires in the Street Light Network, in accordance with the Performance Requirements;
 - (ii) For Upright Pedestal and Twin 20 Lighting Units, provide monitoring and reporting if a Pole is falling/fallen. The method shall be for a pole tilt sensor to be installed and programmed to monitor a maximum allowable tilt angle. When this angle is met or exceeded, an alarm shall be sent to the RMCS. Note, as per section 2.3.1 of the ITP, it is to be determined if this functionality will be pursued by the District or not.
 - (iii) Provide real-time, remote control and dimming of the Luminaires in the Street Light Network;
 - (iv) Track and report on a daily basis the energy consumption of the Street Light Network;
 - (v) Provide real-time, remote monitoring and reporting of changes in current;
- (b) The Developer shall design and construct the RMCS in accordance with the Design, Conversion, and Construction Requirements described in Section 7 of these Technical Provisions.

1.4.5 Asset Management Information System

- (a) The Developer shall develop, populate, manage, and use an electronic Asset Management Information System (AMIS) that includes:
 - (i) A database of the Asset Management Work, including references to Lighting Units;
 - (ii) Documents related to Asset Management Work (e.g. user manuals, as-built drawings, etc.);
 - (iii) and a user-customizable Graphic User Interface (GUI).
- (b) The Developer has the option to use the District's work order management system, currently Cityworks.
- (c) Further detail on the requirements for the AMIS and the current work order management system and processes can be referenced in section 10.3 of these Technical Provisions.
- (d) The Developer shall design and construct the AMIS in accordance with the Design, Conversion, and Construction Requirements described in Section 7 of these Technical Provisions.

1.4.6 Smart City Improvements

- (a) As part of the Street Light Improvements, the Developer shall install outdoor Wi-Fi Access Points (WAPs) on Poles. Installation of WAPs will increase accessibility and ease of communications throughout the District. Public Wi-Fi provides for disaster relief communications when cellular telephony infrastructure is overwhelmed by call volume, offers access to education, employment and digital literacy opportunities, and is a vehicle for tourism and District promotion.
- (b) WAPs will operate on the DC Smart City network and will not be connected to the DC government network or the Street Light Network.
- (c) Smart City Improvements responsibilities for both the District and the Developer are outlined in Sections 9.1 and 9.2, respectively.

1.4.7 Division of Ownership and Developer Responsibilities

- (a) The District maintains sole ownership of the Street Light Network. Some Elements of the Street Light Network are affixed to third party-owned Poles. The Developer shall be responsible for determining the ownership of any Element of the Street Light Network before performing Work on such Element and comply with the requirement of the owner of such Element.
 - (i) The ArcGIS asset inventory maintained by the District includes the pole owner for each Lighting Unit.
- (b) Wood Poles may be owned by the District or a Utility Owner. The Developer's responsibility for Asset Management Work is further delineated below, depending on the division of ownership as follows:

Ownership Scenario	Notes	Responsibility
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District-owned pole District-owned secondary power lines, and District-owned arm and Luminaire	Vast majority of District-owned secondary power lines are 120V	Developer shall be responsible for the entire Lighting Unit, with the exception of third party attachments (if any)
Verizon-owned Pole with District-owned secondary power lines, District-owned arm, and District-owned Luminaire.	Vast majority of District-owned secondary power lines are 120V	Developer shall be responsible for the secondary power line and the entire Lighting Unit, with the exception of the Pole and its Foundation.
PEPCO-owned Pole, PEPCO-owned secondary power lines , a PEPCO owned tap, a District-owned arm, District-owned wire and District-owned luminaire	PEPCO-owned secondary power lines are generally 120V to 277V	Developer shall be responsible for the entire Lighting Unit, with the exception of the Pole and its Foundation

- (i) Should other configurations for wood Pole be identified by the Developer, the Developer shall report the precise location and configuration to the District and the District will clarify the Developer's responsibilities in such instances.
- (c) For Combination Poles, in every instance where the Developer discovers through civil work a Combination Pole that is in a shared conduit with traffic signal wires, the Developer shall install a new separate conduit, so that the conduit is no longer shared between the two systems. The District estimates that no more than 150 Poles share a conduit with traffic signal wires. This Work shall be required only for instances where the Developer finds shared conduit. The Developer will not be responsible for proactive search and subsequent Work.
 - (i) The events that may prompt this Work include but are not limited to: Foundation Replacements, Pole Knockdowns, Pole Relocations, and Manhole Repair or replacements.
 - (ii) This Work requires tradesperson from the Traffic Signals Division and the Developer to be present for any disconnects and reconnects. Prior to disconnecting any equipment, the Developer and Traffic Signals technician shall utilize service schedules to identify all equipment to be disconnected. The Developer and Traffic Signals technician shall ensure disconnects are made as intended by the engineer. Subsequently, prior to reconnection, Developer and Traffic Signals technician shall ensure that all changes made and work was performed as engineer intended.
 - (iii) In the event of discovering a shared conduit system on a combo pole, the foundation must be removed and reinstalled with a modern two separate conduit system. In the event of knockdown of a Combination Pole, the Streetlight wire must be made safe and the temporary pole must have identical lighting to what previously existed.

- (iv) The presence of combination equipment may not be obvious at all locations. Several Streetlight poles throughout The District possess communication cables only inside the t-base as a means of traveling through.
 - (v) There are also mid-block Streetlight Poles with attachments including but not limited to flashing school zone signs and deaf pedestrian signs. Note, these flashing school zone signs and deaf pedestrian signs are not the responsibility of the Developer.
 - (vi) For the avoidance of doubt, the Developer shall be responsible for the following Elements on Combination Poles: Lighting Fixture, Arm (with cross arm or crown), Streetlight conduit including wiring and grounding rods, Photocells, RMCS nodes or gateways, shields, and Pole ID tags.
 - (vii) The Traffic Signal Division is responsible for the following elements: Pole, Foundation, Traffic Signal conduits, Signal Head with Arm, Transformer Base (t-base), Clamshell Base, Traffic Signal Cables, Walk Signal, Elephant Ears, Microwave Detectors, Cameras, flashing school zone signs, and deaf pedestrian signs. The Developer is not responsible for these Elements.
- (d) The Street Light Network includes all electrical systems necessary for the proper functioning of the Luminaires from the power source out as well as District-owned underground conduits, panels, junction boxes, manholes, and hand holes.
- (e) Ownership of attachments to Lighting Units is shared among the District and other third parties. Unless it is explicitly stated, the Developer shall not be responsible for the function and maintenance of attachments.

1.5 Project Limits and Project Sites

1.5.1 General

- (a) The Project includes all the Elements of the Existing Street Light Network within the Project Limits. The Project Limits exclude assets under the jurisdiction of the Governmental Entities, political subdivisions of the District listed below. Note, the ArcGIS inventory is the best source for detail on Project Elements.
- (i) National Park Service;
 - (ii) The Architect of the Capitol;
 - (iii) DC Parks and Recreation Department, with the exception of trail lights included in the ArcGIS inventory;
 - (iv) Department of General Services;
 - (v) District of Columbia Housing Authority; and
 - (vi) Foreign embassies.

- (b) The Developer shall not be responsible for Lighting Units owned and operated by third party developers, with the exception of Lighting Units accepted into the Expanded Network.
- (c) Certain Elements of the Existing Street Light Network may be located outside of the Public Space, including the such locations:
- (i) Private property, in the rare occasion; and
 - (ii) The locations in the below table, which are District of Columbia government properties outside of the public right of way. These Lighting Units can be referenced in the ArcGIS inventory. For the avoidance of doubt, Elements in the locations listed in the below table do not require relocation.

Location	Coordinates
Market Inn	38°52'59.3"N 77°00'48.3"W
8th Street Parking	38°52'44.5"N 76°59'42.5"W
South Capitol Bus Lot	38°51'25.3"N 77°00'17.3"W
W Street Yard	38°55'06.8"N 76°58'54.0"W
Farragut Yard	38°57'03.2"N 77°00'00.4"W
G Street Yard	38°52'54.7"N 76°59'11.9"W

- (d) Certain trail lights are located on property not owned by the District. These Lighting Units are included in the ArcGIS inventory and are part of the Existing Street Light Network. The District maintains easements and/or maintenance agreements that allow for Work on these Lighting Units. The Developer shall be responsible for these Lighting Units.
- (e) The Developer shall relocate all District-owned Lighting Units, Luminaires, and other Elements in the Street Light Network that are located on private property and do not have delineated ownership contracts or MOUs with the District from the private property to the Public Space.
- (i) These relocations shall be counted against the expansion Work outlined in Section 1.4.3 of these Technical Provisions and Section 32.11 of the Project Agreement, Expansion of the Street Light Network. Each relocation will be applied to the appropriate expansion type of Work based on the scope of Work required for relocation.
 - (ii) The District will not require the Developer to proactively search for Lighting Units, Luminaires, and other Elements in the Street Light Network located on private property. Relocations will only occur in the rare occurrence that an Element is discovered to be on private property.

1.5.2 Zoning Classification Pertaining to the Street Light Network

- (a) The Developer's Design Work shall be consistent with the expected level of nighttime pedestrian and vehicular traffic and corresponding illumination needs and requirements.
- (b) In the execution of the Work, the Developer shall consider the expected level of nighttime pedestrian and vehicular traffic for the below Zoning Classifications and follow the Maintenance and Protection of Traffic requirements set forth in section 11.
 - (i) Commercial Zone: A Commercial Zone corresponds to a densely developed business area of the District containing land use that attracts a relatively heavy volume of nighttime vehicular traffic or pedestrian traffic, or both, on a frequent basis.
 - (ii) Residential Zone: A Residential Zone correspond to an area that contains a mixture of residential buildings such as single-family homes, townhouses, and small apartment buildings, possibly mixed with small commercial establishments and characterized by low levels of nighttime vehicular and pedestrian traffic.
 - (iii) Intermediate or Mixed Use Zone: An Intermediate Zone or Mixed Use Zone corresponds to an area that may include land use and characteristics of both Residential Zone and Commercial Zone and may include blocks with libraries, community recreation centers, large apartment buildings, industrial buildings, or neighborhood retail stores and is often characterized by moderately heavy nighttime pedestrian activities.

1.5.3 Roadway Classification Pertaining to the Street Light Network

- (a) Roadway Classifications pertaining to the Street Light Network follow the classifications recommended by the Illuminating Engineering Society of North America³ and AASHTO⁴. Please refer to the Appendix in Section 13.5 of the Technical Provisions for the list of Roadway Classifications and their definitions.

1.5.4 Advisory Neighborhood Commission

- (a) Advisory Neighborhood Commission (ANC) is defined as bodies of local government in District of Columbia that consider a wide range of policies and programs affecting their neighborhoods, including traffic, parking, recreation, street improvements, liquor licenses, zoning, economic development, police protection, sanitation and trash collection, and the District's annual budget. The powers of the ANC system are enumerated by the DC Code § 1-207.38.
- (b) The boundaries for the District's Advisory Neighborhood Commissions (ANCs) and Single Member Districts (SMDs), along with the eight Wards, took effect January 1, 2013⁵. It should be expected that the boundaries will be amended every 10 years.

³ American National Standard Practice for Roadway Lighting, ANSI/IES RP-8.1983; Illuminating Engineering Society of North America.

⁴ Roadway Lighting Design Guide, AASHTO, 2018.

⁵ 2013 ANC and SMD Boundaries: <http://www.ancdc.us>

1.5.5 Project Sites and Bundling Principle

- (a) Given the wide geographical distribution of the Lighting Units and other Project Elements, in the delivery of the Conversion Work and Construction Work, the Developer shall identify logical and homogenous groupings of Lighting Units and other connected or adjacent Project Elements to:
- (i) Promote the logical sequencing and efficient and accelerated delivery of the Improved Street Light Network and Smart City Improvements;
 - (ii) Promote economies of scale;
 - (iii) Minimize disruption to and interference with the normal flow of pedestrian and vehicular traffic;
 - (iv) Minimize inconvenience and disruptions to District residents and businesses who own or occupy premises adjacent to Project Sites;
 - (v) Minimize the number of interventions in the same Project Site over a prolonged time period;
 - (vi) Support clear communication to the public and third party coordination, particularly with respect to progress of the Conversion Work, the Smart City Work, and Closures; and
 - (vii) Facilitate the District's efficient management, monitoring, review and oversight of the Developer's Work necessary to deliver such improvements and Developer's compliance with the Project Agreement, and in particular facilitate the District's efficient review of Project Bundle Submittals;

Each such grouping shall be a "Project Bundle."

- (b) With respect to the Street Light Improvements, each Project Bundle shall, at a minimum:
- (i) Group Lighting Units in a single, concentrated geographic locations, forming a single, continuous Project Site;
 - (ii) Group Lighting Units within a single ANC; provided however that if Conversion Work in an ANC needs to be broken down into separate Project Bundles, Conversion Work in such Project Bundles shall be performed sequentially.
 - a. If an ANC's limits or boundaries occur in the middle of a city block, a Project Bundle would be permitted to extend beyond the origin ANC's limits or boundaries to terminate at the end of the city block.
 - b. If an ANC's limits or boundaries are demarcated by a street, where the far side of the street constitutes another ANC, a Project Bundle would be permitted to extend beyond the origin ANC's limits or boundaries to include Lighting Units on the far side of the street.
 - (iii) Include only one, single set of Work Hours;

- (iv) Have independent utility; and
 - (v) Be completed within 14 calendar days.
- (c) With respect to the Smart City Improvements, each Project Bundle shall, at a minimum:
- (i) Group WAPs in a single, concentrated geographic locations, forming a single, continuous Project Site;
 - (ii) Group WAPs within a single ANC; provided however that if Smart City Work in an ANC needs to be broken down into separate Project Bundles, Smart City Work in such Project Bundles shall be performed sequentially.
 - (iii) Include only one, single set of Work Hours;
 - (iv) Have independent utility; and
 - (v) Be completed within 14 calendar days.
- (d) The Developer shall not include Street Light Improvements and Smart City Improvements in the same Project Bundle.
- (i) A Project Bundle that only include Street Light Improvements shall be called a “Street Light Bundle”.
 - (ii) A Project Bundle that only includes Smart City Work shall be called a “Smart City Bundle”.
- (e) For the avoidance of doubt, “independent utility” under Section 1.4.3 (b)(viii) of the Technical Provisions means that once a Project Bundle has achieved Substantial Completion, the District will have the full enjoyment of the Improved Street Light Network or Smart City Improvements included in that Project Bundle.
- (f) Each Project Bundle shall have a unique identification number. The Developer shall develop a numbering system for the Project Bundle that is logical and readily understandable and make reference to the geolocation of the Project Site, including reference to the District’s Ward and ANC. The numbering system for the Project Bundle is subject to the District’s approval, in its sole discretion.
- (g) For further information on Project Bundle Submittals, refer to section 7.2.4 of these Technical Provisions.

1.5.6 Historical, Architectural, and Aesthetic Significance

- (a) The District has well-known, distinctive historical, architectural, and aesthetic characteristics, including national landmarks and monuments as well as the historic neighborhoods and local landmarks.
- (b) In the performance of the Work, the Developer shall respect and contribute to the preservation of the historical, architectural, and aesthetic significance of the District, in particular in performing

Design Work, Conversion Work and Construction Work of the visible Elements of the Street Light Network and Vegetation Management and Tree Trimming.

- (c) If and when objects of historical, architectural, or archeological significance, artifacts are found and/or unearthed in the performance of the Work the Developer shall notify the District promptly, prevent any disturbance of such items and preserve such items. In such events, the Developer shall follow the policies and procedures set forth in the Developer's Historical and Architectural Preservation Plan.
- (d) The Section 106 Consultation for the Citywide Light Emitting Diode (LED) Streetlight Replacement Project can be referenced in Appendix 13.2(f).

1.6 Work Hours and Work Restrictions in the Public Space

- (a) The Developer shall perform all Work in the Public Space with the least possible obstruction, disturbance and inconvenience to the public, and comply with the requirements of Section 10 of these Technical Provisions.
- (b) The Developer shall use Reasonable Efforts to minimize the duration of the Work in the Public Space and complete such Work expeditiously. To the extent the Developer is performing Conversion Work or Construction Work in multiple Project Sites simultaneously and that such Work disturbs pedestrian, bicycle, or vehicular traffic or access to private properties or public buildings, or that such Work takes longer than planned in the schedule or plan approved by the District, the District reserves the right to direct the Developer to demobilize from one or several Project Sites, Make Safe, remove traffic control devices and restore normal traffic flow, and reallocate resources to other Project Sites until Work in such other Project Sites is complete.
- (c) The Developer shall adhere to the requirements stated in Section 11.1: Permitted Closures except:
 - (i) During Holidays or Holiday Weekends;
 - (ii) In response to an Emergency or Incident;
 - (iii) For Permissible Unplanned Maintenance or Make Safe Work;
 - (iv) As a result of an Administrative Redirect; or
 - (v) Otherwise approved by the District.

In such cases, Section 105.11 of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures shall apply.

- (d) Weekend Work.
 - (i) Work under this Agreement performed on Saturdays, Sundays or Holidays, shall be performed at no additional expense to the District.
 - (ii) The Use of all mechanical impact demolition equipment is absolutely prohibited during the Weekend without prior approval from the District.

(e) Holidays

No Work that restricts or interferes with traffic will be allowed from 12 p.m. on the day proceeding through 12 p.m. on the day following a Holiday or Holiday Weekend. The requirements of Section 103.01, Article 17 of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures shall apply to Work performed during Holidays.

The following are Holidays recognized by the District:

- (i) New Year's Day
- (ii) Martin Luther King Jr.'s Birthday
- (iii) Washington's Birthday (Presidents' Day)
- (iv) DC Emancipation Day
- (v) Memorial Day
- (vi) Independence Day
- (vii) Labor Day
- (viii) Indigenous Peoples' Day
- (ix) Veterans Day
- (x) Thanksgiving Day
- (xi) Christmas Day

(f) Special Events

- (i) The Developer shall plan and perform Work in the Public Space so as not to disturb or restrict vehicular and pedestrian traffic flow to and from the venue of any Special Event.
- (ii) The Developer shall identify any major event, such as a sporting event or any combination of events with anticipated combined attendance over 10,000 people and adjust the Closure times in Section 11 of the Technical Provisions accordingly to minimize the impact to traffic. No Closure shall be implemented between two (2) hours before and two (2) hours after the end of a Special Event.

(g) Construction Work

The Developer shall perform work in accordance with the mandatory specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions.

(h) Noise Restrictions

- (i) Developer shall use Reasonable Effort to minimize noise when performing Work in the Public Space, particularly between 9 pm and 7 am.
- (ii) The Developer shall adhere to the District's rules regarding Onroad Engine Idling and Nonroad Diesel Engine Idling.

1.7 Preliminary Work

- (a) The Developer shall perform the Preliminary Work identified in this Section 1.7 of the Technical Provisions in accordance with the requirements of the Project Agreement, including the Technical Provisions.
- (b) The Developer may commence the following Preliminary Work:
 - (i) Development of the Developer Management Plan (DMP) including all components required under Section 2.5 of the Technical Provisions;
 - (ii) Development of the protocols and procedures for Emergency management as required by Section 2.5.7 of the Technical Provisions;
 - (iii) Development of the Project Baseline Schedule as required by Section 2.3.1 of the Technical Provisions;
 - (iv) Development conceptual Transportation Management Plan as required by Section 2.5.12 of the Technical Provisions;
 - (v) Due diligence including inventory, inspection, condition assessment, and surveys necessary for the development of a complete and accurate Lighting Asset Inventory and Conditions Assessment, subject to approval by the District of a conceptual Transportation Management Plan and Project Site specific Traffic Control Plan. Note, the Developer will be provided with a condition report summarizing the results of the condition assessment completed by the District;
 - (vi) Demonstration testing in accordance with Section 8 of the Technical Provisions;
 - (vii) Design Work to be incorporated in the Street Light Improvements Design Manual as noted in section 7.2.1 of these Technical Provisions;
 - (viii) Work to advance the development of the RMCS and AMIS as outlined in section 10 of these Technical Provisions, other than Work in the Public Space; and
 - (ix) Coordination with Utility Owners, but subject to agreed-upon communication protocol with District;
- (c) No other Work shall be authorized.
- (d) Developer shall submit for review and comment or approval as the case may be the Submittals associated with the Preliminary Work in accordance with the Project Agreement.

1.8 Submittals

- (a) The terms and procedures set out in Article 7 of the Project Agreement and in these Technical Provisions shall govern all Submittals required in these Technical Provisions.
- (b) Each update or change to a Submittal previously transmitted to the District shall include the full and complete, updated Submittal along with a copy of such Submittal tracking changes to the prior version transmitted to the District.
- (c) When the Developer provides a Submittal to DDOT for review, comment, approval or consent, as the case may be, that is inaccurate or incomplete, DDOT reserves the right to return the Submittal to the Developer for revision with or without review or comment.

1.9 Demonstration, Testing, and Commissioning

The Developer shall perform Demonstration, Testing, and Commissioning Work in accordance with Section 8 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the applicable provisions of the Project Agreement.

1.10 Permit to Work in the Public Space

The Developer shall perform all maintenance and protection of traffic Work in accordance with Section 11 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the Project Agreement.

2 PROJECT MANAGEMENT

The Developer shall administer, coordinate, and manage the execution of the Work described in these Technical Provisions and the Project Agreement in accordance with the requirements in this Section 2 of the Technical Provisions and the applicable provisions of the Project Agreement.

General

- (a) Subject to District review and approval at its sole discretion, the Developer shall prepare, implement, manage, and, as required, update a Project Management Plan (PMP), which shall detail the Developer's organization, staffing, systems, strategies, approaches, procedures, and methods for the administration, coordination and management of the Work in accordance with the Agreement, as further described in Section 2.5 of these Technical Provisions.
- (b) The PMP is a collection of several plans as further described in Table 4 in Section 2.5 of these Technical Provisions. Each part of the PMP shall include details of internal and external auditing procedures. All commitments and requirements contained in the PMP shall be verifiable in accordance with Project Management Body of Knowledge standards.
- (c) The Developer shall maintain a full and complete copy of the Agreement at Developer's Project office in the District during the period from NTP2 until the end of the Term.
- (d) There shall be only one PMP for the Developer and all Developer-Related Entities.
- (e) The Developer shall follow in all respects the provisions of the PMP approved by the District.
- (f) The District reserves the right to audit and monitor the activities described in the PMP to assess Developer performance and assess Noncompliance Points as set forth in the performance requirements shown in appendix 13.1 of these Technical Provisions.

2.1 Developer Personnel and Organization

- (a) Key Personnel, along with their primary functions and duties, periods during which the position need to be filled and minimum qualifications and experience are listed below in Table 1 below. The first seven Key Personnel were qualified as part of the Request for Qualifications (RFQ) process for this Project.
- (b) Key Personnel who are full-time shall be available within 2 hours of District request, either in person or via phone. Key Personnel that are not full-time shall be available within 48 hours of District request.
- (c) Key Personnel shall be designated and engaged by the Developer and approved in writing by the District to perform the following duties and functions described in Table 1 below.

Table 1 – Key Personnel

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
1. Project Executive			
<ul style="list-style-type: none"> • take overall responsibility and accountability for the Project • has full and final authority for the Project • ensure that the appropriate level of resources and skills from the Developer are brought to bear to meet the obligations of the Agreement • directly responsible for the all financial matters for the Project and serve as primary point of contact with lenders, equity providers and the District on all financial matters • act as a primary point of contact on all matters on behalf of Developer • available as necessary to engage with the District • must be available and interface with the District on all contractual issues and disputes <p>Note: Project Executive may combine functions and duties with Project Manager.</p>	<ul style="list-style-type: none"> • available as necessary to meet the required duties and functions and engage with the District, at the District's request, during the entire Term 	<ul style="list-style-type: none"> • 10 years overall experience in a senior managerial management position • 5 years of experience in an executive position • experience on at least two long-term concession-type projects involving design, construction, finance, operations, maintenance, and asset management • Master's degree in engineering, management, business administration, law (JD is also applicable), finance, or related field <p>Note: This position was qualified as part of the RFQ process.</p>	Terry Ostrom
2. Project Manager			

⁶ **Note to Proposers:** The individuals listed in this Table 10.1 should be the individuals submitted for these roles in the Developer Proposal.

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Design Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<ul style="list-style-type: none"> • take full responsibility for the execution and day-to-day management of the Work • take responsibility for the overall control of the production process and resulting Work products • be responsible for quality and schedule of the Work • be responsible for ensuring that all Work complies with the Project Agreement, Governmental Approvals, applicable Law, the PMP and the Design Documents. • Be available as necessary to engage with the District • Be able to be on site within two hours of notice 	<ul style="list-style-type: none"> • full time during the Term 	<ul style="list-style-type: none"> • 10 years overall experience in a senior managerial position • experience on at least two projects that included the design, construction, operations, and asset management of a large street light network, at the District's discretion • experience with utility relocation and coordination on at least two projects of comparable size and complexity, at the District's discretion. • Bachelor's Degree (engineering, management, business administration, finance, or related field preferred) <p>Note: This position was qualified as part of the RFQ process.</p>	Neil Craig
3. Deputy Project Manager			
<ul style="list-style-type: none"> • take full responsibility for the execution of the Work in the absence of the Project Manager 	<ul style="list-style-type: none"> • full time during the Term 	<ul style="list-style-type: none"> • 10 years overall experience in a senior managerial position 	Eric Cox

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Design Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<ul style="list-style-type: none"> • serve a delegate to and support for the Project Manager for the delivery of the Work • Be able to be on site within two hours of notice 		<ul style="list-style-type: none"> • experience on at least one project that included the design, construction, operations, and asset management of a large street light network, at the District's discretion • experience in coordination with utility coordination and third party coordination • Bachelor's Degree (engineering, management, business administration, finance, or related field preferred) <p>Note: This position was qualified as part of the RFQ process.</p>	
4. Lead Designer			
<ul style="list-style-type: none"> • responsible for all Design Work and quality of the Design Work • responsible for the production, coordination and management of the Design Work and the Design Documents • oversee and directly responsible for all engineering disciplines for the Project 	<ul style="list-style-type: none"> • full time during the D&C Period • thereafter, available discretely as needed for any Work involving Design Work 	<ul style="list-style-type: none"> • a registered Professional Engineer in the District of Columbia • experience on at least two large LED street light network projects, at the District's discretion • experience with design and 	Jared Knight

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<ul style="list-style-type: none"> coordinate Work with Construction Manager, Asset Management Lead, Utility Coordination Manager, Historical and Architectural Manager, and Environmental Compliance Manager 		<p>implementation of at least one RMCS system</p> <ul style="list-style-type: none"> bachelor's degree in a relevant engineering discipline, at the District's discretion <p>Note: This position was qualified as part of the RFQ process</p>	
5. Asset Management Lead			
<ul style="list-style-type: none"> responsible for ensuring that all Asset Management Work complies with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents responsible for coordination of Developer resources to ensure that the Performance Requirements are met Be able to be on site within two hours of notice 	<ul style="list-style-type: none"> full time for the Term 	<ul style="list-style-type: none"> 10 years of experience in asset management of large street light networks, at the District's discretion Bachelor's degree in engineering, asset management or related field, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	Larry Wutka
6. Quality Manager			
<ul style="list-style-type: none"> responsible for the quality of the Work, quality management, development and implementation of the quality management system, 	<ul style="list-style-type: none"> full time during the D&C Period thereafter until the end of the Term, available as 	<ul style="list-style-type: none"> 10 years of experience with quality management of large civil, 	Gina Bird

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<p>and the development, maintenance, and update of, and compliance of all Developer personnel with the QMP</p> <ul style="list-style-type: none"> responsible for coordination and timely completion of quality training in accordance with the Section 2.2.2 of the Technical Requirements oversight over all quality-related Work and direct supervision over quality control staff report and coordinate all quality issues directly with the District and the Project Manager must be a direct report to the Project Manager must have no Project responsibilities other than quality-related Work per the Project Agreement must be independent from staff and duties associated with the execution/production of the Work 	necessary to meet the required duties and functions	<p>electrical or mechanical projects</p> <ul style="list-style-type: none"> experience in a similar position on at least two projects of comparable size and complexity undertaken using ISO 9001, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	
7. Information Technology Manager (formerly at RFQ: "Lead Technology Designer")			
<ul style="list-style-type: none"> responsible for design and maintenance of the Project's data, information and reporting systems, and in particular the RMCS and AMIS responsible for technology upgrades during the Term 	<ul style="list-style-type: none"> full time during the Term 	<ul style="list-style-type: none"> 10 years of experience in the design, development, and management of information systems and asset 	Steven Anderson

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Design Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<ul style="list-style-type: none"> coordinate Work with Lead Designer, Construction Manager, Asset Management Lead, and Construction Manager responsible for advising and providing direct support to the Asset Management Lead, Lead Designer and Project Manager on information technology 		management systems <ul style="list-style-type: none"> experience with at least two large information management systems project Bachelor's degree in a relevant discipline, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	
8. Project Finance Lead			
<ul style="list-style-type: none"> responsible for and lead all finance-related Work, including the Financial Close process has defined authority for establishing the Developer's financing plan report and coordinate the Developer's financing activities directly with the District and the Project Executive work under the direct supervision of the Project Executive 	<ul style="list-style-type: none"> available to the project as necessary through Financial Close thereafter until the end of the Term, time commitment shall be sufficient to carry out her or his required duties 	<ul style="list-style-type: none"> 15 years of experience in the project financing, at the District's discretion Master's degree in finance, economics or business administration or related field, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	Stuart Marks
9. Construction Manager			

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁶
<ul style="list-style-type: none"> • responsible for all Conversion Work during the D&C Period and for other construction activities after Project Final Completion • responsible for managing and coordinating all construction personnel and administering all construction requirements of the Agreement • coordinate Work with Lead Designer, MOT Manager, Traffic Control Supervisor, Work Zone Traffic Engineering Manager (WZTEM), Utility Coordination Manager, Historical and Architectural Manager, and Environmental Compliance Manager • Be able to be on site within two hours of notice 	<ul style="list-style-type: none"> • full time starting from NTP1 until the end of the D&C Period • thereafter until the end of the Term, time commitment shall be sufficient to carry out required duties 	<ul style="list-style-type: none"> • 15 years of overall professional experience • 5 years of experience as a construction manager, project manager, or equivalent on at least two projects of comparable size and complexity, at the District's discretion • Bachelor's degree 	Chris Kaczkowski

In addition to the Key Personnel listed in Table 1, The Developer shall provide the supervisory personnel shown in Table 2.

Table 2 – Supervisory Personnel

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Design Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁷
1. Lead Civil Engineer			
<ul style="list-style-type: none"> responsible for the civil engineering components of the D&C Work work under the direct supervision of the Lead Designer coordinate Work with Lead Designer and Construction Manager 	<ul style="list-style-type: none"> available as necessary to meet the required duties and functions during the Term 	<ul style="list-style-type: none"> a registered Professional Engineer in the District of Columbia, at the time of commercial proposal, licensed to practice as a civil or structural engineer experience on at least one large street light network project, at the District's discretion Bachelor's degree in civil or structural engineering or related field, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	Jim Long
2. Lead Electrical Engineer			
<ul style="list-style-type: none"> responsible for the electrical engineering components of the D&C Work 	<ul style="list-style-type: none"> available as necessary to meet the 	<ul style="list-style-type: none"> a registered Professional Engineer in the District of 	Ibrahim Balogun

⁷ **Note to Proposers:** The individuals listed in this Table 10.1 should be the individuals submitted for these roles in the Developer Proposal.

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Design Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁷
<ul style="list-style-type: none"> work under the direct supervision of the Lead Designer coordinate Work with Lead Designer and Construction Manager and Utility Coordination Manager 	required duties and functions during the Term	<p>Columbia, at the time of commercial proposal, licensed to practice as an electrical engineer</p> <ul style="list-style-type: none"> experience on at least one large LED street light network project, at the District's discretion Bachelor's degree in electrical engineering, at the District's discretion <p>Note: This position was qualified as part of the RFQ process.</p>	
3. Public Communication Manager			
<ul style="list-style-type: none"> responsible for all communication Work per Section 3 of the Technical Requirements assist and support the District with communications and outreach regarding the Project, at the District's request and discretion coordinate Work with Project Manager and MOT Manager must report directly to the Project Manager 	<ul style="list-style-type: none"> available as necessary to meet the required duties and functions during the Term 	<ul style="list-style-type: none"> 7 years of overall professional experience 5 years of experience in a public-facing, communication role experience on at least one project of comparable size and complexity, at the District's discretion Bachelor's degree 	Sharon Jackson
4. Work Zone Traffic Engineering Manager (WZTEM)			

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁷
<ul style="list-style-type: none"> Responsible for ensuring that the Design Documents fully comply with the requirements of Section 10 of the Technical Provisions and fully incorporate the needs for construction phasing, Work Zone Safety, and Work Zone traffic control and maintenance of traffic, including (without limitations): <ul style="list-style-type: none"> Detours Construction/Traffic Phasing and TCPs for vehicular, bicycle and pedestrian traffic Closures Temporary plans for lighting, signing and striping signs and seals all traffic-related Design Documents coordinate Work with MOT Manager and Traffic Control Supervisor 	<ul style="list-style-type: none"> available during the D&C Works Term and TCP development available for approval of modifications to the phasing or TCPs through the D&C Works Term thereafter until the end of the Term, time commitment shall be sufficient to carry out her or her required duties 	<ul style="list-style-type: none"> a Professional Engineer registered in the District of Columbia 5 years of recent traffic engineering experience on urban projects in design and/or construction experience designing construction phasing, work zone safety and work zone traffic control Bachelor's degree in engineering fields related to traffic engineering, at the District's discretion 	Peter Clary
6. Arborist			
<ul style="list-style-type: none"> Identify the need for, perform, and manage/supervise any tree trimming 	<ul style="list-style-type: none"> Available to the Project for all Tree Trimming Work as defined in Asset Management Section 10.4.6 	<ul style="list-style-type: none"> District ISA-certification 	Robert Meier
6. Construction Safety Officer			

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁷
<ul style="list-style-type: none"> • Inspect the site to ensure it is a hazard-free environment • Conduct toolbox meetings • Participate in project safety council and lead all efforts to enhance safety • Review and approves all subcontractors' safety plans • Verify that injury logs and reports are completed and submitted to related government agencies • Verify that all tools and equipment are adequate and safe for use • Promote safe practices at the job site. • Enforce safety guidelines • Conduct drills and exercises on how to manage emergency situations • Conduct investigations of all accidents and near-misses • Report to authorities as required or requested • Conduct job hazard analyses • Establish safety standards and policies • Perform emergency response drills 	<ul style="list-style-type: none"> • available as necessary to meet the required duties and functions during the Term 	<ul style="list-style-type: none"> • Bachelor's degree in related environmental engineering, environmental compliance, and/or safety & health field, to include: Public Health, Occupational Safety & Health, Safety Sciences, Health Physics, Industrial Hygiene, or related discipline • 6-8 years of direct safety and health experience • OSHA Construction Safety (OSHA 500, 40 hour & 10hours) training. • Certified in Red Cross First Aid, CPR and BBP. • Experience in hazardous operations is required with a clear and in-depth understanding of OSHA regulatory and requirements. • Direct experience and ability to conduct training in excavation, heavy equipment operations, scaffolding, electrical high voltage safety, working at heights, 	Clint Hammer

Personnel shall perform the following duties and functions in compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP, and the Deign Documents	The position shall be filled during the following periods:	Personnel in this position shall have the following minimum qualifications and experience	Name of Individual as of March 22, 2021 ⁷
<ul style="list-style-type: none"> • Monitor the safety of all workers and protect them from entering hazardous situations. • Respond to employees' safety concerns • Coordinate registration and removal of hazardous waste • Serve as the link between government agencies and contractors • Receive reports from and respond to orders issued by Department of Labor • Arrange for OSHA mandated testing and/or evaluations of the workplace by external agencies/consultants 		crane work, work in confined spaces, confined space rescue, work zone, traffic management course.	

- (d) The Developer's Key Personnel and other supervisory and professional personnel shall have the necessary education, training, and experience required for the execution of the Work. All of the Developer's Key Personnel and other supervisory personnel shall be approved by the District prior to any Work being undertaken for which they are responsible.
- (e) The Developer shall maintain a competent Project Manager at Project Sites while D&C Work is in progress. Additional supervisory personnel shall be at each Project Site and shall be experienced in the type of Work being performed. Supervisory personnel shall have the full authority to receive instructions from the District and to execute the orders or directions of the District and direct any Developer activity necessary to comply with the Project Agreement.
- (f) Prior to diverting any of the specified Key Personnel for any reason, the Developer shall notify the District at least 30 calendar days in advance and shall submit justification (including proposed substitutions), in sufficient detail to permit evaluation of the impact upon the contract. The Developer shall not reassign these Key Personnel or appoint replacements, without written permission from the District.

- (g) Key Personnel, along with their primary functions and duties, periods during which the position need to be filled and minimum qualifications and experience are listed in Appendix 10 of the Agreement. Key Personnel shall be designated and engaged by the Developer and approved in writing by the District to perform the following duties and functions described in Appendix 10 of the Agreement.
- (h) The Developer shall provide and maintain up to date as part of the Project Management Plan a clear organization structure with clear reporting lines and responsibilities for every aspect of the Project.

2.2 Quality of the Work

2.2.1 General

- (a) The Developer shall be responsible for the quality of all Work. Quality control and quality assurance activities must be performed for all Work during the entire Term.
- (b) The Developer shall develop and implement a quality management system by which the Developer shall ensure the quality of all aspects of the Work and the Project and the compliance with the Project Agreement, Governmental Approvals, applicable Law, the PMP and the Design Documents. The quality management system shall include:
 - (i) Description of the Developer's quality organization, including organization chart, names of staff, description of roles and responsibilities, and contact information;
 - (ii) Quality control procedures to be utilized to verify, check, and review the quality of all Work;
 - (iii) Quality assurance procedures to confirm that the quality control procedures are being followed;
 - (iv) Procedures and responsibilities for verifying that the Work complies with these Technical Provisions;
 - (v) Procedures for the Developer to monitor and report to the District the status of, and close out of, all Nonconforming Work and Noncompliance Events throughout the Term; a
 - (vi) Audit procedures and dissemination of audit results; and
 - (vii) Procedures for incorporating findings from past audits, controls and other verifications to continuously improve the Developer's processes, mans and methods for delivering the Work.
- (c) There shall be only one quality management system for all Work performed by the Developer and Developer-Related Entities. Individual quality systems for different Developer-Related Entities shall not be permitted.
- (d) Quality assurance personnel shall report directly to the Quality Manager and the Quality Manager shall report directly to the Project Executive. The Quality Manager shall have oversight responsibility over all personnel performing quality control Work.

- (e) The Quality Management personnel shall comply with the following:
- (i) Be an employee of the Developer, Lead Contractor, Lead Engineering Firm, or Lead Asset Management Contractor.
 - (ii) Have sufficient authority and organizational freedom to prevent and resolve quality problems, and to implement continuous improvement measures.
 - (iii) Have no responsibilities in the production of the Work. Personnel assigned to perform inspection testing or monitoring shall not be those personnel performing or directly supervision the Work being inspected, tested or monitored. Quality control staff shall remain independent of the quality assurance staff.
- (f) The Quality Manager shall report all quality issues directly and simultaneously to the District and the Developer's Project Manager.
- (g) The Quality Manager shall have the authority to stop Work for quality-related issues.
- (h) All Developer personnel shall report to the Quality Manager all quality-related issues immediately upon discovery.
- (i) The Developer's complete quality system, for all Work and each type of Work, respectively, and all quality procedures, processes, tools, means and methods, organization, quality training programs, personnel names, functions, responsibilities, contact information, and qualifications, including all the requirements of Section 2.2 of these Technical Provisions, shall be clearly documented in the Quality Management Plan (QMP).
- (j) The Developer's quality management system and QMP shall be consistent with the requirements of ISO 9001, and shall include a Corrective and Preventative Action Process (CPAP). For avoidance of doubt, the Developer may elect to obtain formal ISO 9001 certification, but is not required to do so. The Developer's quality management system and QMP shall include processes to reflect environmental management that is compliant with ISO 14001 requirements.
- (k) If the Project Elements constructed, fabricated, or installed by the Developer or any materials, supplies and manufactured Elements incorporated into the Work are proven to be defective, nonconforming, noncompliant or otherwise not meeting the quality standards set forth in these Technical Provisions, the Developer shall promptly remedy by removing and replacing such Elements and satisfactorily demonstrating to the Work and Elements are in compliance with these Technical Requirements.

2.2.2 Quality Training Requirements

- (a) All Developer personnel shall be appropriately trained to ensure the quality of the Work.
- (b) The Quality Manager shall have undertaken training in the use and application of quality management system and shall have undertaken training as an ISO 9001 auditor no later than 60 days after the District issues NTP1.
- (c) The following Developer Key Personnel shall have undertaken training in the use and application of quality management system no later than 90 days after the District issues NTP1:

- (i) Project Executive;
 - (ii) Project Manager;
 - (iii) Deputy Project Manager;
 - (iv) Lead Designer;
 - (v) Lead Technology Designer;
 - (vi) Lead Civil Engineer; and
 - (vii) Lead Electrical Engineer
- (d) All other Key Personnel shall have undertaken training in the use and application of quality management system no later than 90 days after the District issues NTP2, and in any event before the first NTP3.
- (e) If at any time any Key Personnel needs to be changed during the Term, the Key Personnel shall have undertaken training in the use and application of quality management system no later than 30 days after District approval for the new personnel.

2.2.3 Quality of the Design Work

- (a) As part of the quality management system, the Developer shall be responsible for the quality of the Design Work throughout the Term and shall document and implement the following procedures, methods, roles, personnel and responsibilities pertaining to the Design Work in the QMP, procedures and responsibilities for:
- (i) Design quality control process to include policy, procedures and specific roles and responsibilities;
 - (ii) Ensuring that all Design Documents shall be independently reviewed, verified for constructability, completeness, clarity, accuracy, and back-checked;
 - (iii) Preparing and checking the plans, drawings, specifications, estimates, calculations, computer application input data, notes, and other submittal items;
 - (iv) Verifying that Design Documents comply with these Technical Provisions, design standards, and design criteria;
 - (v) Submitting Design Documents;
 - (vi) Resolving comments and tracking resolution of District comments and seeking approval as may be required from the District;
 - (vii) Stopping Design Work or elevating a design-quality issue;
 - (viii) Documenting compliance with quality procedures;

- (ix) Distributing Design Documents revisions, including in particular to field personnel; and
- (x) Defining the scope and frequency of review, audits, and verifications of design, calculations, computer input assumptions, and other Design Documents.

2.2.4 Quality of the Conversion Work

2.2.4.1 Developer Responsibilities

- (a) As part of the quality management system, the Developer shall be responsible for the quality of the Conversion Work throughout the Term and shall document and implement the following procedures, methods, roles, personnel and responsibilities pertaining to the Conversion Work in the QMP, procedures and responsibilities for:
 - (i) All construction quality control, including production of materials, manufacturing of Project Elements, placement of such materials and Elements, and integration of Project Elements in the Work;
 - (ii) Inspecting materials, manufactured Elements or equipment at the source of supply, manufacture, and/or fabrication;
 - (iii) Ensuring compliance with Section 7 Design, Conversion, and Construction Requirements and Section 11 Maintenance and Protection of Traffic, of these Technical Provisions;
 - (iv) Ensuring compliance with Section 9 Smart City Improvements;
 - (v) Performing construction inspection, sampling and testing to validate the quality control testing in accordance with the PMP;
 - (vi) Maintaining record of all Developer inspections, including but not limited to, date of inspection, sampling and testing undertaken, and the results of such sampling and testing;
 - (vii) Providing the District with unrestricted entry at all times to any location and facility where Work is conducted, upon reasonable notice from the District;
 - (viii) Providing all Developer quality reports and results of tests and inspections to the District;
 - (ix) Suspending immediately Work pursuant to a District order; and
 - (x) Suspending immediately Work that is not in compliance with the Project Agreement, Governmental Approvals, the PMP, the Design Documents, or applicable Law or otherwise does not conform with the quality standards in these Technical Provisions and best industry practice.

2.2.5 Quality of the Asset Management Work

- (a) As part of the quality management system, the Developer shall be responsible for the quality of the Asset Management Work throughout the Term and shall document and implement the following procedures, methods, roles, personnel and responsibilities pertaining to the Asset Management Work in the QMP, including, including procedures and responsibilities for:

- (i) The Developer's self-monitoring process and to monitor the performance and quality of Developer's Asset Management Work, as well as to verify conformance to procedures, plans and accuracy of monitoring, inspections, and reporting
- (ii) Maintaining record of all Developer inspections, including but not limited to, date of inspection, sampling and testing undertaken, and the results of such sampling and testing;
- (iii) Validating the accuracy of information and results in the Asset Management Monthly Reports, Asset Management Annual Reports and Renewal Work Reports, including the data, times, dates, other information such as Construction Noncompliance Events, Asset Management Noncompliance Events, Noncompliance Points, Deductions, and the supporting calculations;
- (iv) Any other Asset Management Work described in Section 2.2 of these Technical Provisions; and
- (v) Meeting the requirements for Smart City Improvements referenced in section 9.2(h) of these Technical Provisions.

2.2.6 Quality of Materials, Supplies and Manufactured Elements

- (a) As part of the quality management system, the Developer shall be responsible for the quality of the Project materials, supplies and manufactured Elements throughout the Term to assure compliance with the Project Agreement, Governmental Approvals, and applicable Law.
- (b) The developer shall not incorporate in the Work any materials, supplies and manufactured Elements that may be defective, has not been subject to and successfully passed the quality control and quality assurance tests prescribed in the Developer's quality system and QMP. If such materials, supplies and manufactured Elements incorporated into the Work are proven to be defective, nonconforming, or otherwise not meeting the quality standards set forth in these Technical Provisions, the Developer shall remove, dispose and replace them promptly, unless otherwise directed by the District.
- (c) The Developer shall document and implement the following procedures, methods, roles, and responsibilities pertaining to the quality of the Project materials, supplies and manufactured Elements in the QMP, including procedures and responsibilities for:
 - (i) Quality control and quality assurance of all Project materials, supplies and manufactured Elements;
 - (ii) Maintaining a record of all Developer inspections providing conclusive evidence that the Project materials, supplies and manufactured Elements meet the quality requirements in these Technical Provisions, including but not limited to, date of inspection, sampling and testing undertaken, and the results of such sampling and testing. Furthermore, Developer shall meet the requirements set forth in Article 51 of the Project Agreement regarding Records and Audits;
 - (iii) Rectifying root causes of nonconformance or quality defects of Project materials, supplies and manufactured Elements

- (iv) Procedures and responsibilities for facilitating District inspection of manufacturers' factories.
 - (v) Facilitating access and inspection as noted in section 8.4 of the Project Agreement regarding Access and Inspection Rights for the District and Other Persons
- (d) The Developer acknowledges that there can be significant lead times for securing some Project materials, supplies and manufactured Elements. The Developer is entirely responsible for sourcing and procuring such Project materials, supplies and manufactured Elements in the time, quantities, and quality required to meet the requirements of this Project.
- (e) Existing Elements that are within the Project Site that are to be removed shall become the property of the Developer and shall be removed and suitably disposed of by Developer in accordance with the Project Agreement, Governmental Approvals, applicable Law, and the PMP.
- (f) The Developer shall maintain adequate property control records for Project materials, supplies and manufactured Elements identified by the District or the Project Agreement to be salvaged. The Developer shall be responsible for the handling, storage, transportation, delivery, removal, and protection of salvaged materials, supplies and manufactured Elements.
- (g) The Developer shall grant full, unrestricted access and make available at all time to the District any part of the Project or facilities where Work is being undertaken that will ultimately be incorporated into the Project, including such locations, facilities and plants where Project materials, supplies and manufactured Elements are sourced, manufactured, and/or fabricated; the Developer shall provide entry to such sites upon reasonable notice from the District and provide assistance to the District for the safe and convenient performance of any audit, test, inspection, or verification.
- (h) With the exception of the Project Elements existing as of the Setting Date and that shall remain part of the Project, unless approved in writing by the District prior to their use, the Developer shall not incorporate in the Work any used, reconditioned, or remanufactured materials, supplies or manufactured Elements, and the Developer shall only incorporate in the Work materials, supplies and manufactured Elements that are new, as further defined below:
- (i) New, as used in this clause, means composed of previously unused components, whether manufactured from raw material, virgin material, or recycled material, or from materials and by-products generated from, and reused within, an original manufacturing process; provided however that the materials, supplies or manufactured Elements meet the requirements of these Technical Provisions, including but not limited to performance, reliability, and life expectancy.
 - (ii) Reconditioned, as used in this clause, means restored to the original normal operating condition by readjustment and material replacement.
 - (iii) Recovered, as used in this clause, means waste materials and by-products that have been recovered or diverted from solid waste, including post-consumer material, but such term does not include those materials and by-products generated from, and commonly used within, an original manufacturing process.

- (iv) Remanufactured, as used in this clause, means rebuilt to original specifications.
- (i) Certificate of Compliance
 - (i) A Certificate of Compliance shall be furnished prior to the use of any Supplies for which the Project Agreement require such a certificate.
 - (ii) A Certificate of Compliance shall be furnished with each lot of material delivered to the Project and the lot so certified shall be clearly identified in the certificate. The fact that Supplies are used on the basis of a Certificate of Compliance shall not relieve the Developer of responsibility for incorporating Supplies in the Work which conforms to the requirements of the Project Agreement.

2.2.7 Reporting

- (a) The Developer shall submit to the District the results of all internal audits within seven (7) days of undertaking the audit. When the Developer becomes aware of any Nonconforming Work, the Developer shall promptly issue a report of the Nonconforming Work (Nonconforming Work Report), which shall detail any corrective action plan prepared by the Developer. The Developer shall promptly issue a report upon the resolution of the Nonconforming Work (Nonconforming Work Resolution Report), detailing the corrective actions implemented by the Developer.
- (b) The Developer shall prepare a monthly report of the quality reviews, inspections and tests performed, results of such reviews, inspections and tests, and occurrences and resolution of Nonconforming Work discoveries. The Developer shall submit such quality report to the District with each Progress Report during the Construction Period and with the Asset Management Monthly Report following the Construction Period.
- (c) The Developer shall provide the District with a copy of any or all quality records immediately upon the District's request.

2.2.7.1 QMP

- (a) The Developer shall develop and submit to the District for approval a comprehensive Quality Management Plan (QMP) as part of the Project Management Plan.

2.2.8 District's Quality Inspections

- (a) Without relieving the Developer of any of its responsibilities under the Project Agreement, the District reserves the right to perform any quality assurance, quality control, audit, inspection, verification, sampling, or testing to verify the quality of the Work. Without limitations and at the District's sole discretion, the District may:
 - (i) Inspect any location where Project Elements are manufactured or from where materials and supplies for the Project are sourced;
 - (ii) Inspect materials, equipment, or manufacturer Elements at the source of supply, manufacture, and/or fabrication; and
 - (iii) Perform quality assurance testing for applicable Elements.

2.3 Project Schedule Requirements

2.3.1 Project Baseline Schedule

- (a) The Project Baseline Schedule (PBS) shall define the timeframe for completion of the Project and achievement of milestones, and be used for planning and monitoring progress of the Work and identifying and analyzing changes that occur during the D&C Period.
- (b) The PBS shall be used by the Parties for planning and monitoring the progress of the Work. Approved logic changes and approved changes to the Agreement shall be incorporated into the next revision of the PBS.
- (c) The PBS shall divide the Work into schedule activities of reasonable durations with appropriate logic ties to show the Developer's overall approach to the planning, scheduling, sequencing, resource allocation, and execution of the Work. The PBS shall show the detail of all Work required to complete the Street Light Improvements and Smart City Improvements.
- (d) The Developer shall use standard and consistent schedule activity identification numbers, textual descriptions, and codes in all PBS submittals, in a manner acceptable to the District. Each PBS submittal shall be clearly identified. Resubmissions of a PBS shall use the same revision number as the original submission individually identified by a sequential appended letter (a, b, c, etc.), as an identification of a revised version.
- (e) The durations and logical relationships of the schedule activities (and any summary level information) shall be based on the actual duration and relationships anticipated. Each activity shall have a duration of reasonable and appropriate length. All activities shown in the PBS, with the exception of the first and last activities, shall have a minimum of one predecessor and a minimum of one successor activity.
- (f) The PBS shall include all Project milestone and each milestone shall be separately identified, conform to the scheduling requirements set forth in the Agreement and be assigned a "finish no later than" constraint date.
- (g) The PBS shall include a listing of all Submittals as called out in the Agreement. Submittal activity durations shall include specific durations for the reviews by the District, and third parties if applicable, and/or approval of the Developer's Submittals as may be required by the Agreement.
- (h) No unspecified milestones, constraints, float suppression techniques, or use of Schedule Activity durations, logic ties, and/or sequences deemed unreasonable by the District, shall be used in the PBS. Each PBS submittal shall clearly and individually define the progression of the Work within the applicable time frame by using separate Schedule Activities. The Critical Path shall be highlighted in red on all schedules to distinguish critical Schedule Activities from other Schedule Activities and Float shown for all Schedule Activities.
- (i) The PBS shall include all payment dates in accordance with Article 1, Milestone Payments within Exhibit 14: Payment Mechanism of the Project Agreement.

- (j) The Developer shall establish a Work Breakdown Structure (WBS) to provide a consistent framework for Project Schedule development and control for the District's approval. The WBS (and therefore the Project Schedule) shall present activities at three different levels:
- (i) Project level, which encompasses activities applicable to all or large portions of the Project including Project administration and management, most Design Work, Utility Coordination, supply chain and sourcing and manufacturing of Project materials, equipment, and Elements, design, procurement and manufacturing of Smart City Improvements, the RMCS, AMIS, and other Project-wide systems, Asset Management Work during the D&C Period, interfaces with other projects in the District, Governmental Approvals, environmental activities, and public outreach; in addition, the Project level schedule information shall include the same activity types used by the Developer at the activity level, aggregated for the entire Project
 - (ii) Project Bundle level, which encompasses activities applicable to the organization, sequencing and phasing of each Project Bundle and Work in the ANCs, Project Bundle specific permits and approvals, including, but not limited to, parking bans, notification of ANCs, etc.; in addition, the Project Bundle level schedule information shall include the same activity types used by the Developer at the activity level, aggregated for each Project Bundle, respectively;
 - (iii) Activity level, which encompass activities applicable within each Project Bundle, respectively.
 - (iv) For planned Work, the Developer shall notify the ANC via mail and email (info to be provided by DDOT) 45 days prior to start of Work; door hangers will be hung seven (7) days prior to the start of Work, stating Emergency-No Parking; door hanger to provide a range for the duration of the Work not to exceed five (5) days of the duration identified in the PBS; hang Emergency-No Parking sign 72 hours prior to the start of Work. For further information on Emergency-No Parking signs, refer to section 11 of these Technical Provisions.
 - a. Project bundle schedule should reflect the above communications.
 - b. If there is a delay to Work, the Developer shall email ANC and repost the Emergency-No Parking sign.
 - c. The Developer shall propose the door hanger design to DDOT for approval. The door hanger shall include a link to the project website, project info, FAQs, and phone number for additional questions.
 - d. For multi-unit buildings, the Developer shall make a good faith effort to contact the property manager to provide notification of Planned Work. The Developer shall make the following materials available to the property manager: poster providing the same level of detail as shown on door hangers and digital version of poster that may be provided to tenants by the property manager via email. In the event that the Developer's good faith effort to contact the property manager is unsuccessful, the Developer shall deliver poster to the building.

- (k) Each schedule activity shall be mapped to one and only one of the WBS elements. The Developer shall further develop and detail the WBS in accordance with its specific schedule activities and retaining the ability to summarize activities across all three levels of the WBS.
- (l) The schedule activity for each Work component shall indicate the duration, timing, and logical relationship to other Work components, including to schedule activities including predecessors, successors, and other related activities. Schedule activities shall not only be broken down to each Project Bundle but each Project Bundle shall be broken down minimally to Work components (for example, Project Bundle shall be broken down into maintenance and protection of traffic for Closure or detour, details of Work on each Project Element such as electrical system, Pole, Light Fixture, pavement, sidewalks, etc.). All Work shall be broken down to similar manageable Work component, consistently for all Project Bundles. For mobilization and demobilization schedule activities, the Developer shall provide a detailed list of Work items.
- (m) There shall be only one Project Schedule for all Work with all three levels of activities in the WBS rolling up to the Project level as described above. The Project Schedule shall include all major Work activities required to complete the Project, in sufficient detail to monitor and evaluate Preliminary Work and D&C Work progress from NTP1 to Project Final Completion. In addition, the PBS shall indicate the sequence of performing each major activity and the logical dependencies and inter-relationships among the activities.
- (n) The PBS shall use the industry standard Critical Path Method. However, the Developer acknowledges that, given the distributed nature of the Project, Developer can reallocate resources between and among Project Bundles with no or minimum schedule delays. In developing and updating the PBS, the Developer shall therefore take full advantage of the ability to mitigate time delays due to the distributed nature of the Project to realize this intrinsic benefit. The Critical Path for the PBS therefore shall only be considered indicative and resource constraints and milestone constraints shall be the primary determinant for any time impact analysis.
- (o) Float shall not be considered as time for the exclusive use of or benefit of either the District or the Developer but shall be considered as a jointly owned, expiring resource available to the Project and shall not be used to the financial detriment of either party. Any method utilized to sequester Float calculations shall be prohibited. Any schedule, including the Project Baseline Schedule and all updates thereto, showing an early completion date shall show the time between the scheduled completion date and the applicable Milestone Schedule Deadline as "Project Float."
- (p) Resource and cost loading
 - (i) The PBS shall be resourced and cost-loaded in accordance with Table 3, and the Developer shall allocate the total cost throughout the schedule activities in the PBS. Such allocation shall accurately reflect the Developer's cost for each schedule activity and shall not artificially inflate, imbalance, or front-load line items.
 - (ii) The materials, labor, or equipment quantity that the Schedule Activity value will be based upon shall be indicated as a resource and only those resources actually available to the Developer shall be included. Labor-loading of activities may be based upon total number of workers, but, at a minimum upon total number of crews. Major construction equipment to be used by the Developer and Contractors at all tiers in performing Work shall be

assigned to applicable activities. The quantity shall represent the estimated effort in-place for the Schedule Activity value.

(q) Timing of Submittals

- (i) The Developer shall submit its proposed WBS to the District for approval as a condition precedent to NTP1. The Developer may add additional activities to the levels, subject to the District's approval.
- (ii) The Preliminary Project Baseline Schedule (PBS-1) shall be submitted with the Proposal. The Developer shall use PBS-1 as a foundation to prepare a Project Baseline Schedule (PBS) and shall submit a draft of the PBS to the District for review and approval 30 days after NTP1.
- (iii) Thereafter, each revision and update of the PBS shall be numbered as PBS-2, PBS-3, etc. The Developer may submit updates to the PBS between PBS-1 and PBS-2 (which shall be numbered PBS-1a, PBS-1b, etc.) detailing any Preliminary Work, which the Developer wishes to undertake prior to NTP2 (such as field investigations, surveys, preliminary Design Work). The Developer must submit such updates to the District prior to beginning such Work.
- (iv) Approval of PBS-2 shall be a condition precedent to issuance of NTP2. Approval of PBS-3 shall be a condition precedent to issuance of the first NTP-3
- (v) Any update or resubmission to the PBS shall be accompanied by a detailed and comprehensive narrative explaining the changes to the prior version with precise reference to the activities that have been modified, added, or deleted and corresponding rationale, using the Developer's standard and consistent schedule activity identification numbering system.
- (vi) Each PBS shall be submitted a minimum of 14 Days in advance to obtain approval prior to performance of any activity changes to the PBS. The District will review each resubmission of the PBS within 14 Days of submission or resubmission.
- (vii) The Developer shall submit to the District a revised PBS within 14 Days after each Change Order, Relief Event or Compensation Event is executed. All approved Change Orders, Relief Events or Compensation Events shall be incorporated into the originally planned execution of the Work. The District shall confirm in writing the approval of each revised PBS. The approved PBS shall remain in force until a subsequent revised PBS is approved by the District.

(r) Submittal and format requirements

- (i) The Developer shall submit each Project Baseline Schedule (PBS) on full-size (22" x 34") color PDF, along with an electronic version of the schedule in its native format for each submittal.
- (ii) Each PBS shall include a separate narrative report which describes, in general fashion, the Developer's proposed means and methods for the Work, phasing and sequencing of each

Project Bundle respectively, and major components of the Work within each Project Bundle. The schedule narrative shall describe the general sequence of design and construction, the proposed Critical Path of the Project, and all Milestone schedule deadlines, in addition to other schedule narrative requirements presented elsewhere in Section 2.3 of these Technical Provisions.

- (iii) The Project title and data date shall be displayed on all schedules, charts and diagrams. A legend shall be provided on all schedules, charts and diagrams which indicates the various symbols used and their meanings. Electronic versions shall likewise be uniquely identifiable by filename.
- (iv) Additional Submittal and format requirements are presented for the Project Status Schedule Update in Section 2.2.3 of the Technical Provisions.

Table 3: Schedule Level of Detail Requirements

WBS Level	Detail	PBS-1	PBS-2	PBS-3+
Project Level	Durations and Logic	Yes	Yes	Yes
	Cost Loading	Yes	Yes	Yes
	Resource Loading	No	Yes	Yes
Bundle Level	Durations and Logic	Yes	Yes	Yes
	Cost Loading	No	within 90 days of NTP2	Yes
	Resource Loading	No		Yes
Activity Level	Durations and Logic	Yes	Yes	6 month look-head at the first NTP3; all information within 60 days of first NTP3
	Cost Loading	No	No	
	Resource Loading	No	No	

2.3.2 Weekly Schedule Updates

- (a) At least 24 hours before the appointed time of the weekly D&C meeting required in Section 2.4.1, the Developer shall submit by email to the District:
- (i) A “look ahead” planning schedule showing the items of Work planned for the next two (2) weeks, which shall meet the requirements of the PBS; and
 - (ii) A memo documenting the activities conducted for the previous week period and reconciliation to the prior week’s “look ahead” planning schedule. The format and information to be presented shall be per the District’s direction but shall include at a minimum summary information per ANC, Project Bundle, and street, and include status of Work (e.g. underway, completed). In addition, the Developer shall note any other issues or concerns related to proper conduct of the project and/or work activities.

2.3.3 Monthly Project Status Schedule Updates

- (a) The Developer shall include Project Status Schedule Updates in the Monthly Progress Reports with a PBS data date at the end of the month and submitted to the District no later than the fifth day of each month following the Commercial Closing Date. The Project Status Schedule Updates shall be submitted, if applicable, until Project Final Completion.
- (b) The Project Status Schedule Updates shall accurately reflect the current status of the Project including all activities completed as of the data date of the current PBS, recovery schedules, schedule revisions due to Relief Events, approved Change Orders, the Developer’s detailed schedule for completing the Work and all information and reporting required for the Project Schedule. At a minimum, the monthly Project Status Schedule Update(s) shall include the following current Work data:
- (i) Detailed resource-loaded schedule of activities that clearly identify the Critical Path;

- (ii) Monthly Performance Report;
 - (iii) Actual start and finish dates of Work, physical percent complete, and days remaining for Work in progress.
- (c) The date for use in calculating the Project Status Schedule Update shall be the first day of the following month. The Project Status Schedule Update shall accurately reflect updated progress as of the Commercial Close of the updated PBS, forecast finish for in-progress schedule activities and reforecast early dates and late dates for remaining schedule activities and shall indicate the overall physically complete percent of the D&C Work. If any actual dates are changed or corrected in any following month, a narrative must be included providing explanation of the change.
- (d) Time-scaled network diagrams shall be submitted, on at least a monthly basis, on 22" X 34" sheets in PDF, using a scale that yields readable plots. The network diagrams shall be organized consistent with the Project WBS. Project activities shall be linked by logic ties and shown on their early dates. The Critical Path shall be highlighted and Float, where applicable, shown for all Project activities.
- (e) The monthly Project Status Schedule Update(s) shall include additional, separate, filtered lists of Project activities and Work components included in the Project Schedule to create the following reports, which the Developer shall modify upon the District request:
- (i) Coordinating with and accomplishing Work associated with Utilities;
 - (ii) Bar chart schedule sorted by Project Bundle and by ANC indicating the physical status of all activities as of date of the update;
 - (iii) Graphical report; which compares the Developer's progress to planned progress by Project Bundle and Work components in the WBS;
 - (iv) Design Document submittals for the forthcoming period;
 - (v) Tabular report listing all activities with ten (10) Days or less Float and the Developer's plan for reallocating resources to avoid schedule delay taking full advantage of the ability to mitigate time delays due to the distributed nature of the Project;
 - (vi) Sixty-day (60) look ahead report on all the District and Governmental Approvals required;
 - (vii) Ninety-day (90) look ahead bar chart schedule sorted by WBS and activity early start dates;
 - (viii) Critical items graphical report for each Critical Path sorted by activity early start date and the Developer's plan for reallocating resources to avoid schedule delay taking full advantage of the ability to mitigate time delays due to the distributed nature of the Project;
 - (ix) Time-scaled critical path network plot indicating the status of all activities as of the date of the update; and

- (x) Coordination with the District regarding potential impacts to other District projects.
- (f) The reports shall be accompanied by a narrative progress report describing the status of the Project in detail including progress made that period; plans for the forthcoming period; all potential delays and problems along with and the Developer's plan for reallocating resources to avoid schedule delay taking full advantage of the ability to mitigate time delays due to the distributed nature of the Project; their estimated effect on the Project Baseline Schedule and overall completion, and whether on, ahead of or behind schedule.
- (g) The District will review the monthly Project Status Schedule Update(s) for consistency with the Developer's WBS and the current approved Project Baseline Schedule and for conformance with the Agreement. The Developer shall correct any deficiencies and resubmit its monthly Project Status Schedule Update(s) within five days of notice from the District. The District will notify the Developer of corrections required within 10 days of receipt of the Project Status Schedule Update(s).
- (h) The District will use these updates to manage its activities to be responsive to the Developer's Project Baseline Schedule, to analyze payment requests, and to measure the Developer's performance with respect to its plan for accomplishing the Work.
- (i) The Developer shall submit the Project Status Schedule Update on sheets no larger than 22" X 34" in color PDF along with an electronic version of the schedule in its native format and a full-size color paper copy. Software settings shall not be changed or modified, for any schedule submissions, without prior District approval.
- (j) The Developer shall submit a Monthly Performance Report as described in Exhibit 15 of the Project Agreement.

2.3.4 Monthly Progress Report

- (a) Each month, beginning with the first full month after the Commercial Closing Date, the Developer shall submit to the District the Monthly Progress Report. The Developer shall submit the Monthly Progress Report, including the corresponding Project Status Schedule Update as required by Section 2.3.3 of the Technical Provisions, no later than the 5th day of each month following the Commercial Closing Date. An electronic copy of the entire Monthly Progress Report shall be submitted to the District.
- (b) If requested by the District, the Developer shall make all corrections to the monthly progress report and resubmit within five days.
- (c) The Monthly Progress Report shall contain a narrative, which shall include at a minimum the following items:
 - (i) Describe progress for each Project Bundle, each ANC and the Project as a whole, including all phases of Work; Identify start date and completion dates on major areas of Work; Group the information based on the WBS;

- (ii) Include the monthly quality report, as required in Section 2.2.7 of these Technical Provisions, and summarize QA/QC findings of activities reviewed, findings and resolutions;
- (iii) List any Change Order that were identified or executed during the period from the submission of the previous month's progress report to the submission of the current progress report; Include their status;
- (iv) Identify any Relief Events or Compensation Events that were accepted during the period from the submission of the previous month's progress report to the submission of the current progress report;
- (v) The aggregate Noncompliance Points accrued under Exhibit 14: Payment Mechanism of the Project Agreement;
- (vi) Identify schedule activities planned for the upcoming period;
- (vii) Identify problems and issues that arose during the period from the submission of the previous month's progress report to the submission of the current progress report, mitigation actions taken by the Developer, issues that remain to be resolved and mitigation actions planned by the Developer to resolve them and expected date of such resolution;
- (viii) Summarize resolution of problems/issues raised in previous progress reports or resolved during the period from the submission of the previous month's progress report to the submission of the current progress report;
- (ix) Identify expected delays and Critical Path issues and proposed resolution, taking full advantage of the ability to mitigate time delays due to the distributed nature of the Project;
- (x) Provide a report on the Milestone Schedule Deadlines showing the schedule dates for the immediate prior month and current month; A narrative is required to explain why the dates have changed for variances greater than thirty (30) Days;
- (xi) Identify requested and/or required District actions for the next month;
- (xii) Provide digital progress photographs that accurately depict Project progress and issues as outlined in the progress report narrative;
- (xiii) Project Status Schedule Updates as described above; and
- (xiv) Potential impact of any ongoing Time Impact Analysis, pending approval from the District, pursuant to Section 2.3.6 of the Technical Requirements.

2.3.5 As-Built Schedule

- (a) At Substantial Completion of each Project Bundle, the Developer shall submit the Project Status Schedule Update identified as the "As-Built Schedule." The "As-Built Schedule" shall reflect the

exact manner in which the Work up to Substantial Completion for each Project Bundle and described by the Project Documents was actually performed (including start and completion dates, schedule activities, actual durations, sequences and logic).

- (b) The Developer shall update the ArcGIS inventory to reference the corresponding “As-Built Schedule” for each converted Lighting Unit.
- (c) The “As-Built Schedule” shall be signed and certified by the Developer’s Project Manager and the Developer’s scheduler as being a true record of when the Work was actually performed. The “As-Built Schedule” that the District determines is both correct and complete is a requirement for Substantial Completion of the Project Bundles.
- (d) At Project Final Completion, the Developer shall submit the Project Status Schedule Update identified as the “As-Built Project Schedule” presenting the same information as above at the Project level.

2.3.6 Time Impact Analysis

- (a) The Developer shall submit to the District a written Time Impact Analysis (TIA), as defined in Article 28: Compensation Events of the Project Agreement.
- (b) Each TIA submitted by the Developer shall consist of the following steps or elements:
 - (i) Establish the status of the Project before the impact by using the most recent schedule update that has the closest data date prior to the event for TIA, or as adjusted by mutual agreement;
 - (ii) Identify the impact event, estimate duration of the impact, determine appropriate logic, and insert the impact of the activity or fragments of activities into the schedule; and
 - (iii) Demonstrate any resulting impacts through layouts generated from the scheduling software. Filter activities to show added or modified activities and activities impacted from changes. Note any other changes made to the schedule including modifications to the calendars or constraints.

However, this is provided that any TIA shall conclusively demonstrate that the Developer has used Best Effort to mitigate time impact and fully taken advantage of the ability to mitigate time delays due to the distributed nature of the Project.

- (c) The Developer shall submit the following with each TIA Submittal:
 - (i) A narrative report that:
 - a. Identifies the schedule update(s) used for analysis;
 - b. Describes the procedures used to analyze schedule impacts, including: additions, deletions, or modification to schedule activities and or fragments of activities; modifications to the calendars or constraints; and modifications to relationships;
 - c. Describes the impact or potential impact by comparing work prior to the impact and work affected or predicted to be affected after the impact;

- d. Describes mitigation efforts taken to date fully incorporating the ability to mitigate time delays due to the distributed nature of the Project; and
 - e. Describes potential resolutions to mitigate or avoid impact or recover from the impact.
- (ii) Schedule layouts in PDF. Filter activities to clearly show impacted activities and affects to the Critical Path. Multiple layouts may be required to adequately demonstrate the impact to the Critical Path. At a minimum, provide a layout demonstrating associated activities prior to the impact and a layout demonstrating associated activities after the impact is inserted and the schedule is progressed.
 - (iii) One electronic copy of the impacted PBS; and
 - (iv) Other information or documentation pertinent to the analysis.
- (d) The Developer shall not incorporate TIA activities into the Project Schedule Update and subsequent PBS unless and until such TIA has been approved by the District.

2.3.7 Recovery Schedule

- (a) If, from a Project portfolio approach, the Work is delayed on any Critical Path item for a period which exceeds the greater of either thirty days in the aggregate or that number of days in the aggregate equal to five percent of the days remaining until Project Final Completion, the next Project Status Schedule Update shall include a recovery schedule demonstrating the proposed plan to regain lost Project schedule progress and to achieve Project Final Completion by the specified date.

2.4 Meetings

- (a) During the course of the project, the Developer shall be required to attend project meetings, both regularly scheduled meetings, and meetings on special topics. The Developer shall prepare meeting/briefing minutes to be stored electronically by the Developer for documentation purposes and available for District review upon request. The Developer shall attend periodic meetings with District personnel and other agencies as required for resolution of design, construction, Asset Management, and/or handback issues. These meetings may include but are not limited to:
 - (i) Partnering meetings;
 - (ii) District technical issue resolution meetings;
 - (iii) Design workshops;
 - (iv) Resource agency coordination;
 - (v) Local government agency coordination;
 - (vi) Scoping meetings;
 - (vii) Monthly progress meetings;

- (viii) Utility meetings;
- (ix) Public information meetings.
- (b) The Developer shall schedule all meetings, develop all meeting agendas and attend all meetings, as required by the Project Agreement or as otherwise requested by the District. The Developer shall submit a Meeting Notice to the District not less than three (3) days prior to the associated meeting. The Developer's Meeting Notice shall include description of the purpose or purposes for which the meeting is called. The Developer shall invite the District and other attendees, as determined by the District, to all Project related meetings. At least 24 hours prior to each meeting, Developer shall submit Meeting Schedules and Agendas to invitees.
- (c) The Developer is responsible for recording meeting notes and action items during each meeting. Following conclusion of the meeting, the Developer shall distribute the meeting notes and action items to the District and other attendees within 2 days of the associated meeting.

2.4.1 D&C Meetings

- (a) Commencing at NTP1 and until Project Final Completion, the Developer shall meet with the District at a minimum on a biweekly basis and, prior to each progress meeting, provide a look ahead of the activities to be completed during the upcoming two weeks including details of planned traffic management measures and lane Closures. The Developer shall be ready to discuss Progress Reports in accordance with Section 2 of the Technical Provisions or any other topic as required by the District. The Developer and other appropriate Developer-Related Entities as may be requested by the District shall attend such meetings.
- (b) Before the Developer begins Construction Work, the District will call a preconstruction meeting to review construction and Asset Management aspects of the Project. The Developer and other appropriate Developer-Related Entities shall attend this meeting, along with the District and other involved parties and stakeholders as deemed necessary.
- (c) Between NTP2 and Final Completion, the District maintains the right to increase the frequency of meetings.

2.4.2 Asset Management Meetings

- (a) Commencing at NTP1 and until the end of the Term, Developer shall meet with the District as required below:
- (b) The Developer and Asset Management Contractor shall have biweekly meetings with the District to discuss the Asset Management Work. The items to be discussed shall include, but not be limited to:
 - (i) Asset Management Work for the previous two weeks including Incidents/Emergencies and Incident Response coordination, Closures and Permitted Closures;
 - (ii) Noncompliance Events, Closures, Nonconforming Work, and assessment of Noncompliance Points and Deductions, and any other pertinent information related to payment adjustments and Noncompliance Points calculation per the Project Agreement;

- (iii) Anticipated Asset Management Work for the next two weeks, including but not limited to Planned Maintenance, Renewal Work and Permitted Closures;
 - (iv) Required coordination with Pepco, Verizon, and other third parties; and
 - (v) Any safety and traffic operations issues or requests on the Project.
- (c) The District may request a meeting at any time to discuss Asset Management Work-related issues, accidents and other Asset Management aspects of the Project. Developer shall be required to actively participate in such and any other meetings as directed by the District and shall be required to prepare meeting minutes and submit them to the District for review. The Developer shall conduct Incident debriefings to review lessons learned and best practices.

2.5 Project Management Plan

- (a) The Developer shall develop and submit the Project Management Plan (PMP) to the District for approval in accordance with the requirements of the Project Agreement. The PMP shall provide details of the means and methods by which the Developer will achieve the performance set forth in the Project Agreement and Project's objectives. The Developer shall implement, manage, and operate and, as required, update the PMP as the Developer or the District determine is necessary to comply with the requirements of the Project Agreement and Good Industry Practice. The PMP shall include all of the following:

Table 4: Project Management Plan Contents

Chapter Title	Technical Provision That Defines the Chapter Requirements
Administration	
Management and Staffing Plan	2.5.3
Document and Data Management Plan	2.5.6
Communications	
Public Information and Communications Plan	2.5.5
Environmental	
Emergency Management and Disaster Recovery Plan (EMDRP)	2.5.7
Hazardous Material Operations, Safety, and Health Plan	2.5.8
Comprehensive Environmental Protection Plan	2.5.11
Design, Construction, and Asset Management	
Conversion Work Plan	2.5.1

Quality Management Plan <ul style="list-style-type: none"> • Design Quality Management Plan (DQMP) • Construction Quality Management Plan (CQMP) 	2.5.4
Transportation Management Plan	2.5.12, 11.2
Historical and Architectural Preservation Plan	2.5.13
Asset Management Work Plan	2.5.14, 10.8
Utility Work and Coordination Plan	2.5.15, 6.1

- (i) Approach, procedures and methods for the management of the remote monitoring and control system to meet the requirements set forth in Section 10 of the Technical Provisions;
 - (ii) All plans and processes required by the Project Agreement to be included in the PMP; and
 - (iii) All other plans and processes for the PMP to satisfy all FHWA requirements.
- (b) The Developer shall submit the PMP to the District and obtain approval from the District within 90 days of NTP1. If the Developer does not obtain approval from the District on the PMP within 90 days of NTP1, the Developer shall stop any Work except the Baseline Project Schedule and the PMP until it obtains such approval.
- (c) The Developer shall monitor and improve the effectiveness of its PMP and update it as necessary to address comments made by the District. The PMP shall be updated whenever any of the following conditions exist:
- (i) A plan or procedure no longer adequately addresses the matters it was originally intended to address;
 - (ii) A plan or procedure does not conform with the Agreement;
 - (iii) An audit by the Developer or by the District identifies a need for an update to the PMP;
 - (iv) A plan or procedure no longer represents current or appropriate practice;
 - (v) Organizational structure changes;
 - (vi) The Developer is undertaking or is about to undertake activities that are not covered within a current plan;
 - (vii) Scope changes; or
 - (viii) After acceptance by the District of any remediation plan

- (d) Where one part of the PMP requires to be updated all of the PMP shall be updated and resubmitted for approval unless the District agrees in its sole discretion to accept an update to an individual component of the PMP. Updates to the PMP shall be submitted to the District as both clean and redline versions to facilitate the District's review of the revised PMP.
- (e) The Developer shall develop and submit the PMP to the District for approval. The Developer shall submit to the District for approval digital copies of the PMP for each of the following Submittals:
 - (i) Draft PMP consistent with the PMP submitted as part of the Proposal or the Commercial and Financial Close PMP (as applicable); and
 - (ii) Final PMP; and
 - (iii) Annual PMP updates.
- (f) The Developer shall manage the Project in full compliance with the procedures and standards outlined in the PMP Plan and in the Project Agreement.

2.5.1 Conversion Work Plan

(a) Project Approach

- (i) The Developer shall provide a description of the overall approach to the Project including references to Project phases and Construction of the Street Light Network from the Existing Street Light Network to the Improved Street Light Network. This section is intended to serve as a link between the team structure description, the Project Schedule, and the project approach,
- (ii) The Developer shall provide a description of its overall approach to the Project that identifies which Contractors and individuals will have responsibilities related to the delivery of each major part of the D&C Works. The approach should describe the anticipated sequence of work, show the roles of anticipated suppliers and contractors within each major part of the Schedule, and show the personnel and Contractors responsible for delivery of the D&C Works and performance of Asset Management Works.
- (iii) The Developer shall clearly differentiate between the D&C Term and Asset Management Term when describing management activities and address changes in the management of the Project after Project Final Completion.

(b) General

As part of the Project Management Plan, the Developer shall develop and implement a Conversion Work Plan that shall describe, for the Streetlight Improvements and Smart City Improvements, respectively:

- (i) The approach, processes, procedures, means and methods the Developer will use to deliver the Street Light Improvements and Smart City Improvements given the geographical distribution and multi-asset nature of the Project;
- (ii) How the Developer will bundle and sequence the Street Light Improvements and Smart City Improvements in accordance with Section 1.5.5 of the Technical Provisions;

- (iii) The schedule for the Conversion Work in accordance with the schedule requirements in Section 2.3 of the Technical Provisions;
- (iv) The testing, commissioning, and acceptance protocols that the Developer will use to confirm that the Light Improvements comply with the design requirements of these Technical Provisions and meet the Performance Requirements;
- (v) The testing, commissioning, and acceptance protocols that the Developer will use to confirm that the Smart City Improvements comply with the Smart City Specifications;
- (vi) The completion thresholds to assist the District in verifying that the conditions precedent to Substantial Completion have been met;
- (vii) The Developer's resources management plan and schedule, including Developer-staff, contractors, and equipment, necessary to demonstrate that the Developer will meet the Project Schedule;
- (viii) How quality management requirements of Section 2.2 of the Technical Provisions are incorporated into the Conversion Work; and
- (ix) The Developer's sourcing and procurement processes for materials and manufactured products;

(c) Content

The Conversion Work Plan shall describe how the Developer will sequence and deliver the Street Light Improvements and Smart City Improvements in accordance with the bundling principle set forth in Section 1.5.5 of the Technical Provisions and shall:

- (i) Lay out the method and criteria for identifying Project Bundles;
- (ii) Provide in tabular format and map in ArcGIS all the Project Bundles for the delivery of the Street Light Improvements and Smart City Improvements, showing the limits of each Project Site, and linking this ArcGIS map to the Asset Inventory;
- (iii) Include a schedule showing the sequencing of all the Project Bundles and clearly identifying the scheduled dates for each NTP3, completion of D&C Work, Substantial Completion, and other relevant milestones respecting each Project Bundle, with duration from NTP3 to Completion of D&C Work of each Project Bundle not to exceed 14 days;
- (iv) Demonstrate that the Developer has the appropriate resources to deliver the Work in all the Project Sites where Work occurs in parallel and that the duration for such Work is as short as possible;
- (v) Identify the Traffic Control Plan applicable to each Project Bundle;
- (vi) Identify the schedule of Closures for each Project Bundle;

- (vii) Identify the Work Hours and Work Restrictions applicable to each Project Bundle set forth in Section 1.6 of the Technical Provisions and other applicable Project Limits set forth in Section 1.5 of the Technical Provisions.
- (viii) Identify separate, standalone Project Bundles for areas of historical and architectural significance;
- (ix) Specify the Advisory Neighborhood Commission(s) (ANC) and Single Member District(s) (SMD) included in each Project Bundle;
- (x) Prioritizes areas with greater needs and areas where Conversion Work has the greatest, positive impact on the public and the District; and
- (xi) Promote the equitable progress in the delivery of Street Light Improvements and Smart City Improvements among the Wards of the District and provide for the Developer to deliver Conversion Work in the Public Space in three Wards out of eight at any given time during the Conversion Period.
- (xii) Be consistent in every respect with the Project Management Plan and the Project Schedule.

(d) Timing of Submittal

- (i) During the development of the Conversion Work Plan, the Developer shall collaborate with the District and the Developer and the District will mutually agree upon the method and criteria for developing Project Bundles in accordance with this Section 1.5.5 of the Technical Provisions;
- (ii) The Developer shall submit the Conversion Work Plan 60 days before the scheduled date of the first NTP3;
- (iii) The Conversion Work Plan, in draft, final form, and any update thereof, is a Non-Discretionary Submittal; provided however that the method and criteria for identifying Project Bundles and the grouping of Lighting Units into the Project Bundles shall be submitted to the District separately and at least 15 days prior to the submittal of the Conversion Work Plan for the District approval in its sole discretion;
- (iv) Approval of the Conversion Work Plan is a Condition Precedent to the first NTP3.
- (v) The Developer shall keep up-to-date and submit to the District updated Conversion Work Plan to reflect changes to the Lighting Asset Inventory and changes to the Project Schedule. Any changes to the Conversion Work Plan shall be incorporated in the Monthly Performance Reports, as described in Exhibit 17 of the Project Agreement.

2.5.2 Management & Staffing Plan

- (a) As part of the PMP, the Developer shall prepare, implement, manage, operate, and, as required, update a Management & Staffing Plan in accordance with this Section 2.5.3 of the Technical Provisions. The Management & Staffing Plan shall:

- (i) Present organizational charts identifying Key Personnel, supervisory personnel and other appropriate discipline leadership personnel, with well-defined roles that respond to the requirements of the Agreement, including for Design Work, Construction Work, Asset Management Work and Handback Work, respectively, and show clear lines of responsibility.
 - (ii) Include a detailed narrative describing the reporting structure, roles, responsibilities, authority, qualifications and experience of each member of the Developer team;
 - (iii) Include a detailed narrative describing how the various organizations within the Developer and Developer-Related Entities will be interlinked and managed
 - (iv) Provide details of the management structure and management systems that shall be used to deliver the Design Work, Construction Work, Asset Management Work and Handback Work and achieve the whole life cost and schedule commitments of the Developer
 - (v) Include details of the interface protocols and systems Developer shall utilize to report to and interact with the District, Third Parties, and the public.
- (b) The Developer shall provide a directory showing all Key Personnel, supervisory personnel and other appropriate discipline leadership personnel identified by function within 21 Calendar Day of NTP1. The directory shall be updated throughout the course of the Project to remain current. The directory shall be submitted in electronic format and shall include the following information for each person listed:
- (i) Project title
 - (ii) Area of responsibility
 - (iii) Email address
 - (iv) Mobile telephone number
 - (v) Office information
 - (vi) Location/address
 - (vii) Main office telephone number

2.5.3 Quality Management Plan

- (a) As part of the PMP, the Developer shall develop and implement a comprehensive Quality Management Plan (QMP) to ensure compliance with the Project Documents and meet the requirements set forth in Section 2.2 of the Technical Provisions, and to ensure the quality of all aspects of the Project and the Work, using a single quality management system, which covers all the activities of the Developer and the Developer-Related Entities.
- (b) The QMP shall contain a complete description of the quality policies and objectives that the Developer shall implement throughout its organization and in the execution of the Work.

The policy shall demonstrate Developer's commitment to implement and continually improve the quality management system for the Work.

- (c) The QMP shall be consistent with the preliminary QMP submitted with the Proposal and expand on the quality control procedures to verify, check, and review the quality of all Work and quality assurance procedures to confirm that the quality control procedures are being followed. The QMP is subject to the District's Approval at the District's sole discretion. Additionally, it shall be compliant with all referenced laws, manuals and publications and shall be a part of the Project Management Plan.
- (d) The QMP shall contain detailed procedures for Developer's quality control and quality assurance activities for the Project in accordance with the Project Documents. The Developer's quality process shall ensure that all Project Elements and each Project Bundle shall achieve the required level of quality throughout the Term and incorporate planned and systematic verifications and audits. The Developer shall conduct all quality control, quality assurance and performance verification in accordance with the QMP and the requirements of the Project Documents. The QMP shall be consistent with ISO 9001 and ISO 14001 standards for quality and environmental management systems.
- (e) The Developer shall revise its QMP when:
 - (i) Its own quality management organization detects a systemic or fundamental Nonconforming Work
 - (ii) Its own quality management organization detects a systemic issue with the manner the Work is inspected or tested; or
 - (iii) When the District advises the Developer of such a problem.
- (f) The QMP shall, at a minimum:
 - (i) Clearly outline the roles, rights, and responsibilities of the District and the Developer and the requirements of these Technical Provisions;
 - (ii) Include procedures to report, the status of, and the closeout of, all Nonconforming Work and Noncompliance Events throughout the Term. The QMP shall also include procedures for investigations and surveys undertaken by the Developer as part of the monitoring process; and
 - (iii) Encompass all Project Assets, Project Bundles, and all Work performed by the Developer and all Developer-Related Entities.
 - (iv) Describe the quality control procedures to be utilized to control, verify, check, and review the quality of all Work. In addition, the QMP shall include quality assurance procedures to confirm that the quality control procedures are being properly followed. The Developer shall describe how quality control procedures and quality assurance procedures are to be documented and by whom to verify that the required procedures are followed.

- (v) Contain detailed descriptions of the inspection and test plans, including the timing and frequency of testing, which Developer shall use to meet quality control and quality assurance requirements of the Work.
 - (vi) Set out how Developer shall make available all quality records to the District for review immediately upon request.
- (g) The Developer shall regularly maintain the QMP to contain current versions of the following information:
- (i) The organizational chart that identifies all quality management personnel, their roles, authorities and line reporting relationships.
 - (ii) Description of the roles and responsibilities of all quality management personnel and those who have the authority to stop Work.
 - (iii) Identification of testing agencies, including information on each agency's capability to provide the specific services required for the Work, certifications held, equipment and location of laboratories for products produced both on and off the Project Site.
 - (iv) Resumes and certification for all quality management personnel.
- (h) The Quality Management personnel shall meet the requirements set forth in section 2.2.1 (e) of these Technical Requirements.
- (i) The Developer shall comply with the following:
- (i) Determine the necessary competence and qualifications for all personnel performing Work affecting quality and ensure they are competent on the basis of appropriate education, training, skills, experience, and certifications.
 - (ii) Provide training to all personnel performing Work affecting quality to ensure they understand the relevance and importance of their activities, the expectations and requirements of their Work, and their specific roles and responsibilities.
 - (iii) Provide training, where necessary, to achieve necessary competence.
 - (iv) Maintain records of education, training, certifications, skills, and experience.
- (j) The QMP shall be revised when it is evident that Noncompliance with the Project Agreement and/or the PMP is not being properly identified, recorded, and corrected. Until the revised QMP is approved by DDOT, Developer will cease, at Developer's expense, all Work covered by the revised plan except for safety and environmental activities.
- (k) The QMP shall set out Developer's approach and schedule for internal audits. Developer shall undertake internal audits of Developer's and all Developer-Related Entities implementation and compliance with the PMP and Project Agreement at least once every three months from the date the PMP is approved by DDOT until Project Final Completion. Thereafter Developer shall undertake internal audits of Developer's and all Developer-Related Entities' implementation and

compliance with the PMP and Project Agreement at least once every six months until the end of Term. These audit requirements are the minimum that will be accepted by DDOT in the QMP. If DDOT through oversight of the quality management system determines that Developer audits are not ensuring compliance with the PMP and/or Project Agreement, DDOT shall have the right to require the audit frequency be increased to a minimum of once every two weeks from approval of the PMP until Final Completion and to a minimum of once a month from Final Completion to end of Term.

2.5.3.1 Design Quality Management Plan (DQMP)

- (a) The Developer shall prepare and submit to the District for review and approval a Design Quality Management Plan (DQMP) that describes its policies, procedures, and staffing to manage the quality of Design Work in accordance with the requirements of this Section 2.5.4.1.
- (b) The DQMP shall describe and include at a minimum the following general requirements:
 - (i) The quality control and quality review procedures for professional services products to ensure that appropriate quality requirements are specified and included in the professional services product and to control deviations from such requirements.
 - (ii) Specific quality control and quality review procedures, including all required forms and checklists, shall be specified for preparing, verifying and checking all professional services products to ensure that they are independently checked and back-checked in accordance with generally accepted engineering practices and the requirements of the Project Documents.
 - (iii) The designer and checker shall be clearly identified on the face of all final design documents. The DQMP shall also include specific procedures for verifying the professional services product along with any computer programs being used for such purposes. Design Documents shall be sealed, signed and dated by the Professional Engineer in responsible charge for that item, element, or phase of the Work.
 - (iv) Procedures shall be described for coordinating Design Work performed by different individuals or firms working in the same area, in adjacent areas, or on related tasks to ensure that conflicts, omissions or misalignments do not occur between drawings or between the drawings and the specifications. This shall also include the coordination of the review, approval, release, distribution and revision of documents involving such parties.
 - (v) Procedures shall: (i) ensure that Developer is familiar with all the provisions of the Project Documents concerning their respective responsibilities; (ii) provide for the education, training and certification, as appropriate, of personnel performing activities affecting or assessing the quality of the Work to assure that such personnel achieve and maintain reasonable proficiency; and (iii) ensure that the Work is performed according to the DQMP, generally accepted engineering practices and the Project Documents.
 - (vi) Procedures shall be established for meeting documentation requirements; the filing of design criteria, reports and notes, calculations, plans, specifications, schematics and supporting materials needed during the final design; and the specific responsibilities of personnel to satisfy these requirements. All Design Documents shall be maintained,

organized and indexed by the Developer and copies made available to the District upon request.

- (vii) Procedures and schedules shall be established for the Design Quality Control Manager (DQCM) to perform audits of the quality control procedures of the firms involved in the design of the Project under the DQMP; the dissemination of audit results and the addressing of audit findings.

2.5.3.2 Construction Quality Management Plan (CQMP)

- (a) The Developer shall prepare and submit to the District for review and approval a Construction Quality Management Plan (CQMP) that describes its policies, procedures, and staffing to manage the quality of Construction Work in accordance with the requirements of this Section 2.5.4.2.
- (b) The CQMP shall describe and include at a minimum the following general requirements:
 - (i) Methods and procedures that clearly define the distinction/authority/responsibility for the administration of Developer's CQMP.
 - (ii) Methods and procedures for performing daily field inspection of Construction Work and preparing a daily QC report to document the inspection performed. Include procedures for inspecting, checking, testing and documenting the Construction Work.
 - (iii) Methods and procedures to be utilized by the Developer to obtain active participation of the work force in quality control operations to achieve a quality Project; reporting forms to be used by the responsible quality control personnel shall be included.
 - (iv) A construction quality control organization and staffing plan. The period of time that the quality control staff member will be present on the site shall be shown, resumes of the Key Personnel shall be included, and the experience/knowledge/skill levels of the quality control support staff shall be provided in a matrix format to the District.
 - (v) Procedures for inspecting, checking, and documenting the Construction Work. Inspection, examinations and measurements shall be performed for each operation of the Construction Work to assure quality. The description of inspections should contain descriptions of the timing and frequency of all required testing. Additionally, a program for coordination of all inspection and testing with the inspections and tests of Governmental Entities and Utility Owners shall be included.
 - (vi) Procedures to ensure that all activities affecting the quality of the Construction Work are accomplished using appropriate equipment for the task being performed.
 - (vii) Procedures to ensure that the education, training, and certification of personnel performing CQMP activities are achieved and maintained and that all Construction Work is performed in accordance with the approved designs, plans, and specifications.
 - (viii) Documents specify that all activities undertaken by or on behalf of the Developer affecting the quality of the Work shall be prescribed and accomplished by documented instructions,

procedures, and appropriate drawings. Such instructions, procedures and drawings shall include quantitative and qualitative criteria to be used to determine compliance.

- (ix) Procedures for identification and control of materials, equipment, and Project Elements. These procedures shall be consistent with Good Industry Practice to ensure that identification of the Element is maintained by appropriate means, on the Element, whenever possible, to ensure that the identification is part of the Project records traceable to the material, equipment, or Element, as necessary, throughout fabrication (onsite and offsite), erection, installation and use of the material, equipment, or Element.
- (x) Measures to ensure that tools, gauges, instruments, and other measuring and testing devices used in activities affecting quality are properly maintained, controlled, calibrated, certified and adjusted at specified periods to maintain accuracy within industry standards.
- (xi) Procedures to indicate, by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of inspections and tests performed upon individual items of the Construction Work.
- (xii) A comprehensive system of planned and periodic audits of Developer's CQMP to determine adherence to and the effectiveness of the CQMP. Audits should be performed in accordance with the written procedures or checklists. Audit results shall be documented, reviewed, and acted upon by Developer. Follow-up action, including re-audit of deficient areas following corrective action, shall be taken.
- (xiii) The requirements and methods for controlling documents. Developer's document control system shall be compatible with the District's and in compliance with the Technical Provisions.
- (xiv) The form and distribution of certificates of compliance.
- (xv) In order to inspect the Construction Work and to perform independent quality assurance inspection, verification, sampling, testing and audit for compliance with the Project Documents, the Developer will provide to the District unrestricted entry at all times to such parts of the Project and facilities that concern the manufacture, fabrication (onsite and offsite), production, or testing. Performance by the District of such quality assurance, inspection, verification, sampling, testing and audit does not relieve Developer of any of its responsibility under the Project Documents and in particular its responsibility for the quality of the Construction Work.
- (xvi) Procedures for achieving substantial completion for each Project Bundle and Project Final Completion, including procedures to certify to the District that all Construction Work meets all acceptance criteria.

2.5.4 Public Information and Communication Plan

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update a Public Information and Communication Plan in accordance with Section 3.5 of the Technical Provisions.

2.5.5 Document and Data Management Plan

- (a) As part of the PMP, the Developer shall prepare, implement, manage, operate, and, as required, update a Document and Data Management Plan (DPMP). The DPMP shall set out the Developer's Document Management System for maintaining all records and documents associated with the Project. The Developer shall establish and maintain an electronic document control system to store, catalog, and promptly and conveniently retrieve all Project-related documents.
- (b) The Developer shall incorporate into the Document Management System any District data management system, which the District may require, and shall train the Developer personnel to operate any such data management system.
- (c) Developer's Document Management System shall be used by the Developer and all Developer-Related Entities. The Developer's Document Management System shall:
 - (i) Use data systems, software, standards, procedures, and formats compatible with those employed by the District and acceptable to the District and implement any new operating practices required as a result of the District's amendments to any such data systems, software, standards, procedures, and formats;
 - (ii) Provide for the secure transfer of data to the District;
 - (iii) Provide a mechanism for the electronic transfer of all data along with the associated portable document format (PDF) images for uploading into an Electronic Document Management System (EDMS) employed by the District;
 - (iv) Provide the District with procedures and software for accessing Developer's Document Management System and all Project-related documents as a component of Developer's obligations under Article 9 of the Project Agreement as well as the Developer's compliance with such system; and
 - (v) Provide the District staff with training in all systems used by the Developer.
- (d) All Project-related documents shall be electronically searchable and legible. In the DPMP, the Developer shall describe:
 - (i) Methods by which all Project-related documents shall be uniquely coded, stored and retrieved. The retrieval system shall allow for prompt, convenient retrieval of any Project-related document in a user friendly format;
 - (ii) The routing, filing, control and retrieval methods for all documents;
 - (iii) Methods to facilitate fast and convenient sharing of data including procedures and software for accessing all Project-related documents; and
 - (iv) Methods for production, checking, storage and retrieval of all documents and data that shall support records required to be submitted by the Developer to the District under the Project Agreement or any other Project-related records that the District requires.

- (e) To allow for disaster recovery, the Developer shall store all Project-related data and documents in a manner consistent with the Developer's EMDRP. The Developer shall retain such records until five years after the end of the Term. During such period, when requested by the District, the Developer shall provide the District with copies of such records. The Developer shall develop and implement a plan that enables back-up recovery of all Project Information if a server error occurs in the document management system and ensures that Project Information is at all times secure and retrievable for the District upon request until five years after the end of the Term.
- (f) Unless otherwise directed by the District, the Developer shall meet the requirements of Article 53 of the Project Agreement regarding confidentiality of Information.
- (g) Unless otherwise directed by the District, or indicated in the Contract Documents, retention of Project-related documents and records shall comply with the regulatory requirements for record retention (49 CFR 18.42). All Project-related documents and records shall be provided to the District at the end of the Term. Furthermore, the Developer shall retain such Project-related documents, records and data until five years after the end of the Term. During such period, when required by the District, the Developer shall provide the District copies of such records. As part of the PMP, the Developer shall establish, implement, populate, manage, maintain, and, as required, update a DPMP, per the requirements of this Section.

2.5.6 Emergency Management and Disaster Recovery Plan

- (a) As part of the PMP, the Developer shall prepare, implement, manage, operate, and, as required, update an Emergency Management and Disaster Recovery Plan (EMDRP). The EMDRP shall set out the Developer's systems and procedures for limiting disruption to the operation of the Project and protecting documents and data in case of disaster, and promptly restore operation of the Project post-disaster.
- (b) The Developer's EMDRP shall:
 - (i) Identify relevant systems and their level of criticality to continuing operation of the Project;
 - (ii) Categorize the different types of data according to their criticality;
 - (iii) Identify the levels of redundancy, security, verification and any other precautions required to protect and restore critical systems;
 - (iv) Describe the level of redundancy/backups required for each type of data including, but not limited to:
 - (a) Frequency/schedule;
 - (b) Retention periods;
 - (c) Location;
 - (d) Verification;
 - (e) Levels of physical and electronic security; and

- (v) Identify potential disaster and major hazards to the Project and Developer's actions and procedures in response to each to restore Project operation after such event.
- (c) Developer shall provide District staff with training in the relevant disaster recovery procedures and systems utilized by the Developer.
- (d) The Developer shall submit and keep updated at all times the telephone numbers and names of personnel designated to be contacted in cases of Emergencies, including at a minimum the Emergency Supervisor and the Hazardous Materials Manager, along with a description of the Project locations to the District and all other local law enforcement agencies.
- (e) The personnel designated to meet the functions of the Emergency Supervisor and the Hazardous Materials Manager shall be available at or near any Project Site where Conversion Work or Construction Work takes place, on a 24/7 basis from NTP3 until Project Final Completion.

2.5.7 Hazardous Material Operations, Safety and Health Plan

- (a) The Developer shall be responsible for remediation of lead paint on Poles and asbestos in Lighting Units.
- (b) Detail on the Developer's responsibilities for remediation of lead paint on Poles and asbestos in Lighting Units can be found in Section 10.6.5 of these Technical Provisions.
- (c) The Developer shall follow the guidelines on Hazardous Materials set forth in section 13 of the Project Agreement.
- (d) The Developer shall comply with District standards and requirements as stipulated in the District of Columbia Department of Transportation Standard Specifications for Highways and Structures. The Developer shall adhere to District publication requirements for in-kind replacements.
- (e) The Developer shall be responsible for the safety of its personnel and of the general public affected by the Project.
- (f) As a part of the PMP, the Developer shall prepare, implement, manage, operate, and, as required, update a Hazardous Material Operations, Safety and Health Plan (HMOSHP) that complies with all applicable Law and Good Industry Practice. The plan shall cover all aspects of the Work and shall include details of the training to be provided by Developer, relevant District personnel, and third parties required by their duties to visit the Project or facilities to be used in connection with the Work and Project including, but not limited to, facilities for the production of materials or equipment.
- (g) The plan shall fully describe the Developer's policies, plans, training programs, Work site controls, and Incident Response plans to ensure the health and safety of personnel involved in the Project and the general public affected by the Project during the Term.
- (h) Developer's HMOSHP shall address the management of hazardous material as required per the Requirements set forth in Appendix 13.1 of the Technical Provisions as well as those requirements outlined in section 10 of the Technical Provisions.

- (i) All Developer personnel involved with Conversion Work and Construction Work shall be appropriately trained in the handling and containment of Hazardous Material and in occupational health and safety rules and processes identified in the HMOSHP.
- (j) All Developer personnel handling Hazardous Material shall have appropriate certifications.

2.5.8 Waste Management Plan

- (a) The Developer shall prepare a Waste Management Plan (WMP) for the safe handling, storage, treatment and/or disposal of Hazardous Materials, hazardous waste, non-hazardous waste, contaminated soil and clean fill whether encountered or brought onto the Project Site by a third party, or otherwise, during the Term to ensure a safe working environment for personnel and visitors. The Developer shall submit the final Waste Management Plan to the District for approval within thirty Days of NTP1; approval of the WMP by the District shall be a condition of NTP2.
- (b) The Waste Management Plan shall include procedures compliant with all Applicable Laws and include, at a minimum:
 - (i) For all chemicals to be used on the Project, the Developer shall keep and update Safety Data Sheets (SDS), per Occupational Safety and Health Administration (OSHA) requirements, for the Term.
 - (ii) Designated individuals responsible for implementation of the plan,
 - (iii) Procedures for identifying and documenting potential contaminated sites which might impact Project development,
 - (iv) Procedures for mitigation of known contaminated sites anticipated to impact construction,
 - (v) Procedures for mitigation of unanticipated contaminated sites encountered during construction,
 - (vi) Procedures for mitigation of contamination during Work,
 - (vii) Procedures for developing a detailed Spill Response Plan for the Term,
 - (viii) Process for training personnel for responding to and mitigating Incidents involving contamination or waste
 - (ix) Provisions for appropriate storage and disposal of all waste encountered or disposed of on the Project for the Term; and
 - (x) Identification and contact information for designated responsible individuals.
- (c) The WMP shall include provisions for making all on-site workers aware of and able to recognize the potential Hazardous Materials to which they may be exposed, limiting Project Site workers' and the surrounding public's exposure to Hazardous Materials and providing all necessary personal protection equipment to protect workers from exposure. The WMP shall require the Developer to provide any personnel who visit the Project with the appropriate personal protection equipment.

- (d) The WMP shall require that all Developer personnel handling Hazardous Materials be trained and certified at least to the minimum requirements established under the current guidelines of OSHA 1910.120.
- (e) Further, the WMP shall include procedures for ensuring that all applicable certifications, licenses, authorizations and Governmental Approvals for Developer personnel handling Hazardous Materials are current and valid through the duration of the Work.

2.5.9 Investigative Work Plans and Site Investigation Reports

- (a) If wastes or contamination are encountered within the Project Site, the Developer shall prepare an investigative work plan (IWP) that addresses the methods, techniques, and analytical testing requirements to adequately characterize the extent of the contaminated media (soil and/or groundwater) potentially impacting the Project. The Developer shall locate and assess the likely source of contamination.
- (b) A Professional Engineer and other qualified professionals, as needed, shall prepare the IWP and other necessary reports in accordance with Applicable Laws and District guidance.
- (c) Upon satisfactorily completing the investigative work, the Developer shall summarize the findings within a Site Investigation Report (SIR) and make recommendations regarding potential response actions necessary for Project development. The Developer shall take Hazardous Materials contamination and all waste management considerations into account during all subsequent phases of Project development, including additional properties negotiation and acquisition, property management, design, and construction.
- (d) The SIR shall address the characterization of the impacted area; sampling efforts and findings; opportunities to avoid the contamination by adjusting the design; level of response action warranted if the contamination cannot be avoided; feasibility of initiating response actions prior to construction; pursuit of cost-reimbursement from responsible parties; and the need for completing response actions concurrent with construction and nature of any special specifications and provisions necessary for incorporation into the Project.
- (e) The Developer may initiate a preventative or corrective action after District review and approval of the Site Investigation Report from appropriate Federal or State agencies.

2.5.10 Comprehensive Environmental Protection Plan (CEPP)

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update a Comprehensive Environmental Protection Plan in accordance with section 4 of these Technical Provisions.

2.5.11 Transportation Management Plan

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update a Transportation Management Plan in accordance with Section 11.2 of the Technical Provisions.

2.5.12 Historical and Architectural Preservation Plan

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update a Historical and Architectural Preservation Plan in accordance with the historic and architectural preservation requirements set forth by the Federal Highway Administration, State Historic Preservation Act, National Capital Planning Commission, and Commission of Fine Arts. The
- (b) The Section 106 Consultation for the Citywide Light Emitting Diode (LED) Streetlight Replacement Project can be referenced in Appendix 13.2(f).

2.5.13 Asset Management Plan

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update an Asset Management Plan to meet the requirements set forth in Section 10.8 of the Technical Provisions.

2.5.14 Utility Work and Coordination Plan

- (a) As part of the PMP, the Developer shall develop, implement, manage, operate, and, as required, update a Utility Work and Coordination Plan that identifies the effect of the Work on agreements the District has with third parties and the Developer's plans to coordinate the Work with all affected third parties, whether the District has explicit agreements with such third parties or not, in accordance with Section 5 of the Technical Provisions.

2.6 Deliverables

- (a) The Developer shall submit at a minimum the following Submittals to the District in accordance with Section 2 of the Technical Provisions:
 - (i) Project Baseline Schedule for approval no later than 30 days after NTP1 (and if resubmitted, approved no later than 90 days after NTP1);
 - (ii) Project Baseline Schedule narrative report for approval as part of the Project Baseline Schedule;
 - (iii) updated Project Baseline Schedule (PBS-2) for approval within 14 days of NTP2;
 - (iv) updated Project Baseline Schedule (PBS-3) for approval within 14 days of NTP3;
 - (v) Revised Project Baseline Schedule for approval within 14 days of each Change Order, Relief Event or Compensation Event;
 - (vi) Monthly Project Status Schedule Updates for review and comment no later than the fifth day of each month following the Commercial Closing Date as part of the monthly Progress Report;
 - (vii) Project Status Schedule updates narrative report for review and comment as part of the Monthly Project Status Schedule Updates;
 - (viii) Time-scaled network diagram for review on at least a monthly basis as part of any Project Status Schedule Updates;

- (ix) Narrative report for review and comment as part of the Project Baseline Schedule Updates;
- (x) Monthly Progress Report for review and comment no later than the fifth day of each month following the Commercial Closing Date;
- (xi) As-Built Schedule for approval at Substantial Completion of each Project Bundle;
- (xii) As-Built Project Schedule for approval at Project Final Completion;
- (xiii) Recovery Schedule for approval as part of the Project Status Schedule Updates when Work is delayed on any Critical Path item for a period exceeding the greater of either 30 days in the aggregate or that number of days in the aggregate equal to five percent of the days remaining until Project Final Completion;
- (xiv) Time Impact Analysis (TIA) narrative report and schedule layouts for District approval, as defined in Exhibit 1 of the Project Agreement;
- (xv) PMP for approval within 90 days of NTP1;
- (xvi) Conversion Work Plan as part of the PMP within 60 days before the scheduled date of the first NTP3;
- (xvii) Method and criteria for identifying Project Bundles and the grouping of Lighting Units into Project Bundles for review at least 15 days prior to submittal of the Conversion Work Plan;
- (xviii) Investigative Work Plan (IWP) for review if waste or contamination is encountered within the Project Site;
- (xix) Site Investigation Report (SIR) for review upon satisfactory completion of the investigative work if waste or contamination is encountered within the Project Site;
- (xx) internal audits every three months after PMP approval and results within seven days;
- (xxi) Nonconforming Work reports upon issuance and upon resolution with corrective action plan or corrective action;
- (xxii) Monthly quality report of the quality reviews, inspections and tests performed, results of such reviews, inspections and tests, and occurrence and resolution of Nonconforming Work discoveries, to be submitted with each Monthly Progress Report during the Construction Period and with the Asset Management Monthly Report following the Construction Periods;
- (xxiii) Copy of any or all quality reports immediately upon the District's request;
- (xxiv) WBS for approval as a condition precedent to NTP1;
- (xxv) Weekly planning schedule (two-week look ahead) no later than 24 hours before the weekly D&C meeting;
- (xxvi) Weekly memo of the previous week's activity and reconciliation to the prior week's look ahead planning schedule no later than 24 hours before the weekly D&C meeting;

- (xxvii) Land survey records and reports for review and comment within 60 days of survey;
 - (xxviii) Utility Work Plan for review and comment 45 days prior to commencing Utility Adjustment Plans;
 - (xxix) Monthly look ahead of the activities, including details of planned traffic management measures and lane Closures, prior to each monthly progress meeting after NPT1;
 - (xxx) Meeting Notice to the District no less than three days prior to any meetings required by the Project Agreement or otherwise requested by the District;
 - (xxxi) Meeting schedules and agendas to all meeting invitees at least 24 hours prior to the meeting required by the Project Agreement or otherwise requested by the District;
 - (xxxii) Meeting minutes for review and comment commencing within three days following any meeting required by the Project Agreement or otherwise requested by the District;
 - (xxxiii) Certificate of Compliance prior to the use of any materials;
 - (xxxiv) Draft As-Built Records Plans for review and comment within 90 days of Substantial Completion of each Project Bundle;
 - (xxxv) Amended As-Built Records Plans for review and comment within 45 days of Project Final Completion;
 - (xxxvi) Emergency contact name and telephone numbers prior to NTP2;
 - (xxxvii) Corrected names and telephone numbers of Emergency contacts within seven days of change;
 - (xxxviii) Directory of all Key Personnel, supervisory personnel, and other appropriate discipline leadership personnel within 21 calendar days of NTP1;and
 - (xxxix) Notification and justification (including proposed substitutions) of any changes to Key Personnel within 30 calendar days prior to diverting Key Personnel;
- (b) Under no circumstances is this list of Submittals to be construed as exhaustive and the Developer shall be solely responsible for meeting any and all Submittal requirements of the Technical Provisions and the Project Agreement.

3 PUBLIC INFORMATION AND COMMUNICATION

The Developer shall administer, coordinate, and manage Public Information and Communication in accordance with this Section 3 of the Technical Provisions and the applicable provisions of the Project Agreement.

3.1 General

- (a) The District will be the primary party in charge of media relations, public outreach, and communication.
- (b) The Developer shall assist with all public information, communities and public outreach, media relations and Project marketing Work in accordance with the requirements of this Section 3 of the Technical Provisions and the Project Agreement.
- (c) The Developer shall keep all information it obtains relating to any employee or customer of the District in absolute confidence and shall not use it in connection with any other matters, nor shall the Developer disclose the information to any other person, firm, or corporation, in accordance with the District and Federal laws governing the confidentiality of records.

3.1.1 Stakeholder Outreach

- (a) The Developer shall undertake the Work to ensure the Developer builds and maintains an effective working relationship with all stakeholders in the Project. The Developer shall establish procedures to assure that stakeholders are provided thorough and accurate information about the Project in a timely manner. The Developer shall:
 - (i) Maintain a comprehensive stakeholder database to track and manage stakeholder communication;
 - (ii) Develop and implement a proactive program of stakeholder engagement to brief local stakeholders on the Project's progress, features and benefits;
 - (iii) Afford stakeholders the opportunity to provide feedback to Project planning and development, including through the streetlight advisory panel and ANC meetings;
 - (iv) Develop tailored marketing and communication material for relevant stakeholder groups;
 - (v) Establish ongoing mechanisms for stakeholder information and feedback during the Project's operational phase, including communications surrounding enforcement technologies and strategies; and
 - (vi) Establish partnerships with local groups and organizations where there is mutual benefit in supporting the Project.

3.1.2 Interface and Liaison with District

- (a) The Developer shall provide a public Communication Manager to implement the requirements of the public Information and Communication Plan. The public Communication Manager shall assist the District with communications, public outreach, media relations, public information, third party and stakeholder communication and marketing. The Developer shall include public

information and communication protocols for coordination between the Developer and the District, third party stakeholders and the general public including the public in the PICP. These protocols shall detail:

- (i) Public outreach – processes and responsibility for public outreach materials, communication and information sharing with the surrounding public and potential users of the facility;
 - (ii) Stakeholder relations – processes and responsibility for briefing and/or providing information to parties identified by the Developer that have an interest in the Project. The Developer shall also include any stakeholders identified to the Developer by the District;
 - (iii) Procedure for District review of information required by public Information Plan and Communication Plan;
 - (iv) Incident and Emergency management - processes and responsibility for managing communication with surrounding emergency management and recovery operations and authorities;
 - (v) Media – processes for providing information to the District for media relations and response to comments on particular aspects or phases of the Project; and
 - (vi) Marketing - process and responsibility for marketing facility.
- (b) The Developer shall provide a representative for all meetings related to the Project to which community groups have been invited.
- (c) The Developer shall submit all communications and marketing strategies to the District for approval at least 45 days before implementation of such strategies except as otherwise provided in the public Information and Communication Plan and the Technical Provisions. The Developer shall provide the District with advance copies of all communications materials for their approval at least 45 days prior to dissemination. Communication in response to an Incident or Emergency shall be submitted by the Developer to the District for approval in accordance with the approved public Information and Communication Plan.
- (d) The Developer shall not use the District’s logos and brands on any communication without the prior written approval of the District. The Project ‘brand’ material shall be submitted to the District for approval no less than 45 days prior to the initial use.

3.2 Public Information

- (a) The Developer shall undertake the Work to provide the public with information about the Project: The Developer shall:
- (i) Attend and provide updates at the streetlight advisory panel
 - (ii) Post information on streetlight Poles within the respective ANCs 30 days prior to planned Work

- (iii) As per section 2.3.1(j)(iv) of these Technical Provisions, hang door hangers and, for multi-tenant buildings, provide materials to property managers.
- (iv) Send notices to ANCs 45 days prior to planned Work.
- (v) Coordinate with the District to develop a project webpage hosted by the District. For the avoidance of doubt, the Developer shall be responsible for providing information and coordination.
- (vi) Provide information to motorists and stakeholders to facilitate the maintenance of traffic (MOT) during ongoing maintenance activities. This will include:
 - i. Packaging of all MOT information, such as anticipated delays and lane Closures on a regular basis, to facilitate communication to the media, stakeholders and the broader community; and
 - ii. Communicate with residents and property owners impacted by MOT activities.
- (vii) Inform motorists and the broader community about expected traffic changes and/or delays.

3.3 Media Relations

- (a) The Developer shall act in the best interests of the Project, the public and motorists in assisting the District to build and maintain relationships with the media. The public Communication Manager shall put processes in place to ensure compliance with the Project Agreements and close coordination with the District on media outreach activities, issues and responses and promote consistency with the public Information and Communication Plan. Developer shall:
 - (i) Include in public Information and Communication Plan media protocols governing responsibilities and reporting in relation to contact with the media, including guidelines for information sharing, policies to promote consistent messages, and procedures specific to managing emergencies and Incidents;
 - (ii) Proactively build and maintain relationships with local media;
 - (iii) Provide relevant Project information and press releases to the media in a timely fashion after approval is obtained from the District;
 - (iv) Monitor all media coverage of the Project; and
 - (v) Provide copies of all press releases or other media materials, to the District for approval in advance of distribution in accordance with the public Information and Communication Plan and this Section 3.3 of the Technical Provisions.

3.3.1 Project Website

- (a) The Developer shall coordinate with the District to develop a project webpage or webpages to be hosted by the District that reflects the current status of the Project and shall be accessible for the general public starting 30 days before NTP2 through the Term. The Developer shall provide webpage copy to the District for review and comment a minimum of 45 days prior to posting new

information except in Emergency situations or to accommodate the communication of live traffic conditions to the public. The webpages shall at a minimum contain a graphical Project overview and description, contact information, plan of Work for the coming months, overall Project Schedule (on a quarterly level at a minimum), frequently asked questions and responses, and updated Project photos. The webpages shall reflect Best Industry Practices and be at a minimum, updated weekly throughout the duration of the Construction Period.

- (b) No less than 120 days prior to Substantial Completion of the first Project Bundle and for the remainder of the Term, the webpages shall include information in accordance with the Developer's public Education and Awareness Program, up-to-date information on Closures and detours, and other information as required by the Project Agreements.

3.3.2 Social Media

- (a) The Developer may use new media, such as Twitter and Facebook among others, to distribute information and provide updates at least at the same frequency as the Project website is updated. If the Developer uses new media, the Developer shall include the procedure for coordination of communication with the District in the Public Information and Communication Plan, per Section 3.5 of the Technical Provisions. The Developer shall follow District records retention and IT security policies and Laws.

3.4 Project Marketing

3.4.1 Project Branding

- (a) The Developer shall develop and provide to the District for approval communication templates for the Project including but not limited to templates for written communication, presentations and other handout materials that shall be part of the uniform Project 'brand.'

3.4.2 Marketing Activities

- (a) The Developer shall design communication, marketing and public outreach activities to respond to the issues, attitudes and attributes of the communities and market segments relevant to the Project.
- (b) The Developer shall not assume that the District will perform any portion of the Work and the District does not commit to perform any portion of the Work required by this Section 3 of the Technical Provisions.

3.5 Public Information and Communication Plan

- (a) The Developer shall maintain an open dialogue with the communities immediately surrounding the Project with the objective of building a long-term relationship based on trust and respect.
- (b) The Developer shall develop and implement a public Information and Communication Plan consistent with this Section 3 of the Technical Provisions. The Developer's Public Information and Communication Plan will form the basis for all communication activities during the Term. The Public Information and Communication Plan shall:

- (i) Provide an effective framework for communication between the Developer and stakeholders;
 - (ii) Effectively engage the community in the design, construction and operation of the Project;
 - (iii) Build a strong and enduring relationship with stakeholders and the community within the Project catchments over the life of the Project;
 - (iv) Develop a strong and enduring brand relationship between the community, Project drivers and the owners and operators of the Project;
 - (v) Maximize public awareness of the benefits of the Project;
 - (vi) Make use of current media, such as social media, and a Project website.
- (c) The Developer's public Information and Communication Plan shall provide a detailed outline of communication tools and strategies to be employed during each phase of the Project development, delivery, and operation, including the matters listed above. The plan shall also include the development of a crisis communications plan and procedures, addressing coordination with the District and responsiveness to the media as well as provide the public with a point of contact and a telephone number for questions and concerns during the Project.
- (d) The Developer shall update the public Information and Communication Plan annually and submit such plan to the District for approval no less than thirty days prior to the anniversary of the approval of the approved public Information and Communication Plan.

3.6 Deliverables

- (a) The Developer shall submit at a minimum the following Submittals to the District in accordance with this Section 2 of the Technical Provisions:
- (i) Protocols and procedures for public outreach, stakeholder relations, Emergency management, media, and marketing for review and comment within 90 days after NTP1;
 - (ii) All communications and marketing strategies for approval at least 45 days before implementation of such strategies;
 - (iii) All communications materials for approval at least 45 days, or as otherwise approved, prior to dissemination;
 - (iv) Updated public Information and Communication Plan annually for review and comment 45 days prior to Plan anniversary;
 - (v) Webpage copy for review and comment a minimum of 45 days prior to posting; and
 - (vi) Project "brand" material for approval 45 days prior to the initial use.

- (b) Under no circumstances is this list of Submittals to be construed as exhaustive and the Developer shall be solely responsible for meeting any and all Submittal requirements of the Technical Provisions and the Project Agreements.

4 ENVIRONMENTAL MANAGEMENT

The Developer shall perform all environmental compliance, protection, mitigation, and management Work in accordance with this Section 4 of the Technical Provisions and with the applicable provisions of the Project Agreement.

4.1 General

- (a) The Developer shall adhere to the mandatory specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions;
- (b) In the case that Work requires storm water pollution prevention, the Developer shall adhere to the mandatory specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions;
- (c) The Developer shall comply with the NEPA Document as stated in section 10.5 of the Project agreement; and
- (d) The Developer shall adhere to requirements related to Hazardous Materials as stated in these Technical Provisions and section 13 of the Project Agreement.

5 THIRD PARTY AGREEMENTS AND COORDINATION

The Developer shall coordinate all Work related to third party coordination in accordance with this Section 5 of the Technical Provisions and with the applicable provisions of the Project Agreement.

5.1 General

- (a) The Developer also shall coordinate with other right-of-way owners, utilities, and others that may be affected by the Developer's Work, including Pepco, Verizon, DC Water, and Washington Gas.
- (b) The Developer shall be responsible for obtaining all necessary authorizations and otherwise coordinating with the National Park Service (NPS) or other affected government agency, local utilities, communications companies, businesses, or residents, or any other public or private entity on whose systems or property its work under this contract may have an impact.
- (c) The Developer shall perform all third party coordination Work in accordance with the requirements of this Section 5 of the Technical Provisions and the Project Agreement. The District currently has agreements with third parties that may affect the Developer's Work.
- (d) The Developer shall coordinate the Work with all affected third parties, whether the District has explicit agreements with such third parties or not.
- (e) For any component of Work, which potentially or actually impacts the assets of any Governmental Entity or third party entity, the Developer's Work shall conform to the design and construction requirements of such entity.

5.2 Existing Third Party Agreements

- (a) The District currently has agreements with third parties ,including Pepco and Verizon, that may affect the Developer's Work. The Developer's Work shall comply with the terms of such third party agreements. In particular, the Developer's Design Documents for the Project shall comply with the terms of the third party agreements.
- (b) Before initiating communications with third parties with whom the District has third party agreements, as may be necessary to perform the Work, the Developer shall seek and obtain approval from the District with respect to communication protocol with such third parties. The District will approve the Developer's communication protocol with such third parties within 7 days of the Developer's request.
- (c) In accordance with the District's approval of such communication protocol, the Developer shall contact each third party with whom the District has third party agreements, provide information regarding the proposed Work as may be required for coordination with such third party regarding the impact of the Work on the terms of their agreement with the District. The Developer shall provide the District 5 days' notice of meetings with third parties related to such agreements.
- (d) In accordance with the District's approval of communication protocol, the Developer shall initiate third party reviews of the Developer's Design Documents, plans, processes, procedures and methodologies whether for permanent Work and the Developer shall incorporate and make

such amendments to such designs, plans, processes, procedures, and methodologies as required to address third party comments.

- (i) A summary of the current protocols with Pepco and the District and its agent can be referenced in Appendix 13.12.
- (e) When the Developer provides the District with Submittals, the Developer shall include with each Design Document Submittal a report identifying the impact of the Work on third parties under each third party agreement. The report shall include details of the impact, the mitigation and the terms and conditions in the third party agreement covering the Work proposed by the Developer including any financial implications and arrangements. The report shall also include copies of any correspondence between the Developer and the third party including minutes of any meetings between the Developer and the third party. This Submittal shall be in addition to the Submittal requirements elsewhere in the Technical Provisions. If the Developer's design affects the terms of existing agreements with third parties, the District may, at the District's sole discretion, enter into revised agreements with the third parties as necessary to effect the change.

5.3 Small Cell

- (a) In accordance with FCC regulations, the District allows permitting of Small Cell infrastructure (Small Cell) devices on select streetlights owned by the District. Like other utilities, Federal law allows Small Cell infrastructure equipment in the public right of way. The Developer is not responsible for Small Cell equipment and shall not perform any Work on Small Cell equipment. In the instance that the Work performed by the Developer will impact Small Cells, the District will coordinate directly with the impacted cellular providers, infrastructure providers, or other relevant impacted third parties. For more details related to the District's requirements and specifications for the placement and design of Small Cell infrastructure within the public right of way, as well as details related to the permitting of Small Cell infrastructure, please refer to the District's Small Cell Design Guidelines ([Volume III](#)) Answers to Small Cell frequently asked questions can be found on the District's [website](#).
- (b) There are currently three small cell providers actively pursuing attachments to DDOT Lighting Units. When attaching small cell equipment, small cell providers are required to replace the Pole with a stronger gauge steel Pole and larger Foundation to improve structural integrity. In the event that a Pole with small cell equipment falls down, either of the following outcomes may occur:
 - (i) If the small cell provider intends to keep their small cell equipment attached to the Pole at that location, the small cell provider is required to replace the Pole and is responsible for the cost.
 - (ii) If the small cell provider does not intend to reattach their small cell equipment, the Developer shall replace the Pole and Foundation, if necessary, with a DDOT standard Pole and Foundation. The occurrence shall be treated as a Knockdown.
- (c) In August 2020, the three small cell providers provided the below estimates of installations on metal Pole Lighting Units.

Year	Verizon	ATT	Crown Castle	Total
2020	200	150	150	500
2021	520	150	150	820
2022	280	150	150	580
2023	25	150	375	550
2024	25	150	375	550
2025	25	100	375	500
2026	25	100	375	500
2027	25	100	438	563
2028	25	100	437	562
2029	25	100	438	563
2030	25	100	437	562
2031	25	100	438	563
2032	25	100	437	562
2033	25	100	438	563
2034	25	100	437	562
Totals (2020-2034)	1,300	1,750	5,450	8,500

- (d) After installation of the small cell unit, the Developer shall reconnect the Lighting Unit to the RMCS. For avoidance of doubt, the Lighting Unit RMCS node shall be reconnected to the RMCS and backhaul communication enabled.
- (e) The Developer shall be responsible for inspection and acceptance of Lighting Units back into the Street Light Network in accordance with sections 10.10.1 and 10.10.2 of these Technical Provisions. Note the following considerations regarding the inspection and acceptance process:
- (i) The Developer is responsible for inspecting the Lighting Units affixed with small cells at the expense of the small cell provider.
 - (ii) Inspection Work shall not be a part of the base contract. Any inspection Work shall be subject to a District Change with the small cell provider funding the Work.
 - (iii) Developer shall submit unit pricing for the cost of an inspection of a single Lighting Unit affixed with a small cell as per Form 11 of the ITP. For the avoidance of doubt, in this circumstance, each visit to inspect an affected Lighting Unit constitutes an inspection. This unit pricing will not be considered as part of the evaluation and will be subject to later agreement by the District via the change order process.
- (f) The District will share the designs for Poles that will bear small cell attachments once they are made available.
- (g) The District continues to update its requirements and specifications for the Small Cell infrastructure program. If additional updates are made to the District's Small Cell Design Guidelines or to any relevant policies, guidelines, or documents otherwise related to Small Cells,

the District will notify the Developer of these changes and will provide these documents to the Developer for reference.

5.4 Third Party Coordination – Parties excluding Pepco and Verizon

- (a) When there is no existing third party agreement and the Work potentially or actually impacts the assets of any Governmental Entity or third party entity, the Developer shall inform the District as soon as such potential or actual impacts are known to the Developer.
- (b) The Developer shall coordinate with third parties, including other utility owners, as necessary to perform Work.

5.5 Deliverables

- (i) The Developer shall submit at a minimum the following Submittals to the District in accordance with this Section 5 of the Technical Provisions:
 - (i) Plans identifying the effect of the Work on agreements the District has with the third parties for review and comment with plans as specified in Section 5 of the Technical Provisions;
- (ii) Under no circumstances is this list of Submittals to be construed as exhaustive and the Developer shall be solely responsible for meeting any and all Submittal requirements of the Technical Provisions and the Project Agreements.

6 PEPCO, VERIZON, AND DOMINION ENERGY WORK AND COORDINATION

The Developer shall perform all Work necessary to effect Utility Adjustment and coordinate with appropriate Utility Owners for all Utility Adjustments in accordance with the requirements of this Section 6 of the Technical Provisions and with the applicable provisions of the Project Agreement.

6.1 Required Items in Utility Assemblies

(a) Each Utility Assembly shall include the following:

- (i) Transmittal that briefly explains the need for the Adjustment(s) requesting approval and detailing any unique characteristics or information pertaining to the subject Utility Adjustment;
- (ii) Utility Adjustment Plans to include all necessary information requested by the affected utility in the format requested by the affected utility.

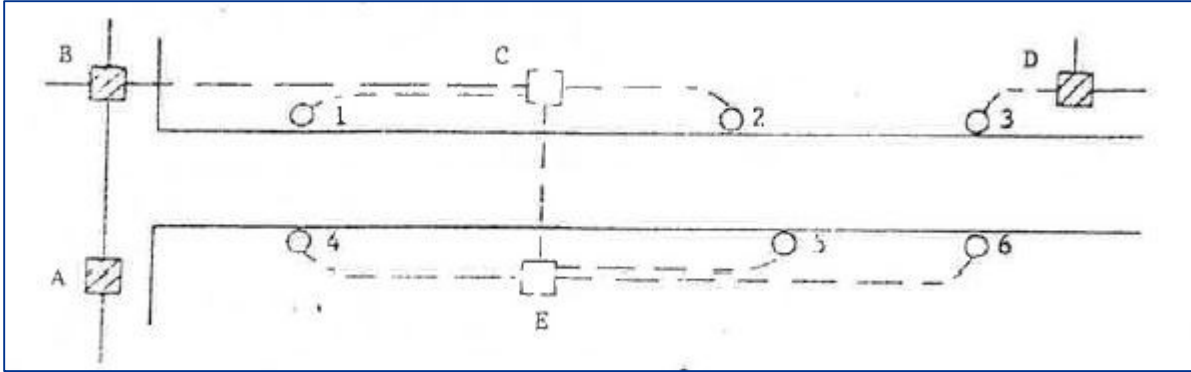
6.2 General

- (a) The Developer shall coordinate all necessary Utility Adjustments using established District processes and procedures whenever possible with regard to the administration of all utility related Work, including the exhibits referenced in this of the Technical Provisions, as may be amended or modified by the District, in its sole discretion. In some instances, the Developer will perform the Utility Adjustment Work, and in other instances, the Developer will manage Elements of the Utility Adjustment process, as described in further detail in this Section 6 of the Technical Provisions.
- (b) The Developer shall submit a Utility Work Plan complying with Section 2.5.15 of the Technical Provisions to the District for review and comment 30 days prior to commencing any Utility Adjustment. The Utility Work Plan shall establish the Developer's procedures and processes for adjusting utilities including coordination with Utility Owners and administration of all the Work associated with the Utility Adjustments. The Developer shall undertake all Utility Adjustment Work in accordance with the Utility Work Plan.
- (c) The Developer shall consider the Pole Ownership guidelines, as described in section 6.3, in performing Utility Adjustment Work.
- (d) A summary of the current protocols between Pepco and the District can be referenced in Appendix 13.12.

6.3 Ownership

- (a) When Pepco sold the streetlights, each light was connected to the nearest manhole for power. Maintaining these lights relied on entering Pepco manholes. DDOT started installing DDOT owned streetlight manholes around 2000. This was done under IPMD new construction projects, streetlight standalone projects as well as 3rd party developer initiated projects.
- (b) DDOT currently owns some of the manholes (feeding 5-10% of the lights), but Pepco has the vast majority of the manholes providing power to DC lights. Regarding the ownership of the cable: Pepco owns the manhole, main feeder and the tap to the streetlight cable. Details of the division

3.1 Installation of a New Streetlight- General



(a) Pepco Ownership

Under the conditions shown above, Pepco will own and maintain the following items:

- (i) **Manholes:** A, B, and D.
- (ii) **Conduit:** A, B.
- (iii) **Posts:** Streetlight posts 1, 2, 3, 4, 5, 6 (furnished by D.C.)
- (iv) **Cables:** Primary and secondary cables between A and B, primary and secondary cables feeding into D.
- (v) **Transformers:** At A, B and D.
- (vi) **Switches:** At A, B and D.
- (vii) **Fuses:** At A, B and D.
- (viii) **Splices and Terminations:** Primary and secondary splices and terminations at A, B and D that are not dedicated to streetlight uses.

6.3.3 Dominion Energy considerations

- (a) While the vast majority of Street Light Units draw power from Pepco, Lighting Units on Key Bridge draw power from Dominion Energy.
- (b) The Developer shall coordinate with Dominion Energy as appropriate in order to conduct Work on Lighting Units on Key Bridge and ensure the proper function of Lighting Units on Key Bridge.

6.4 Utility Adjustment Work

- (c) With respect to wires, the Developer shall perform Utility Work, which generally includes:
 - (i) Repairing or replacing wire from the light to T-base;

- (ii) Repairing or replacing wire from the T-base to the manhole only when the wire is in a separate conduit than the traffic signal wires;
 - (iii) installing a separate conduit so that the wires no longer share conduit if Street Light Network wires are in the same conduit as traffic signal wires; and
 - (iv) Repairing or replacing the base door and access panel.
- (d) With respect to broken conduits, the Developer shall perform the following Utility Work:
- (i) Evaluating the extent of damage to the conduit;
 - (ii) Repairing the broken conduit with approved conduit making an approved electrical connection at both ends of the break; and
 - (iii) Replacing the conduit completely.
- (e) The Developer shall provide the District with a written notice as soon as a problem has been reported within the limits of a series circuit.

6.5 Utility Inventory

- (a) As the Developer encounters manholes through its Work, the Developer shall inventory manholes, including the GIS coordinates, and add to the ArcGIS asset inventory.

6.6 No-Current Coordination Requirements

- (a) Detail on the current protocols between Pepco and the District can be referenced in Appendix 13.12.
- (b) For situations in which there is no current to the streetlight(s), if the feed source to the affected lights on an included segment is beyond the defined project limits, it is still the responsibility of the Developer for this Project to make needed repairs. The Developer shall coordinate with the agency(s) responsible for the area before making the repairs.
- (c) For situations where there is no current at the pole and the feed source is in a Pepco manhole, the contractor shall coordinate with Pepco for repair (coordination with Pepco is not needed for manholes belonging to the District). The Developer shall account for fees associated with this Work as described in the Project Agreement.
- (d) Any information provided on inventory quantities and condition is for guidance only, and does not limit quantities of work or responsibility under the contract.
- (e) The Developer shall notify Pepco and Verizon if one of their Poles is leaning enough to pose a danger. The Developer shall also notify the District. Fixing the leaning Pole shall be the responsibility of the Pole owner, Pepco or Verizon.

6.7 Underground Damage Prevention

- (a) The Developer shall follow all applicable laws and regulations.

- (b) The Developer is required to protect underground utilities from damage that may be caused by activities conducted under this contract. The Developer is responsible for restitution of damage to public utilities in the Public Space. The Developer is responsible for determining what is underground. Reasonable precautions include, but are not limited to:
- (i) Contacting “Miss Utility” at an appropriate time before proceeding with excavation or demolition work;
 - (ii) Providing “Miss Utility” sufficient time to mark the location of underground utilities prior to commencing excavation or demolition activities;
 - (iii) Coordinating with PEPCO, Verizon, Washington Gas, DDOT, and others who may operate underground facilities; and
 - (iv) Ensuring that all Developer personnel performing excavation or demolition activities understand the requirements for underground damage prevention and have adequate training (certificate required) regarding underground damage prevention.
- (c) The below telephone numbers are provided for informational purposes only and may change. In addition to contacting Miss Utility, the Developer shall also contact the appropriate entities from the table:

<u>NAME</u>	<u>TELEPHONE NUMBER</u>	<u>FACILITIES</u>
Miss Utility for Wash. Gas and Light Co, Verizon, Pepco, AT&T	800-257-7777	Gas lines, telephone, electrical and communications conduits and cables
DC Water and Sewer Authority	202-673-6600 202-612-3400	Water mains and sewers
Washington Gas	800-428-5364	Gas lines
DDOT	202-698-3600	Fire alarm electrical systems
DDOT	202-671-1360	Street lighting inspection
DDOT	202-698-3600	Traffic signal systems & signal shop
GSA	472-9252,3&4	Steam piping, steam tunnel and Condenser water conduits

- (d) The contractor shall note that coordination with utilities may include payment, at the Developer’s expense, for access to utility property.

6.8 Utility Analysis and Utility Adjustment

- (a) The Developer shall initiate early coordination and meet with the Utility Owners with regard to all utilities affected by the Work. The Developer shall work to give Utility Owners an understanding of how and where the Project may affect their utility facilities. Using information obtained from Utility Owners, and otherwise as necessary, the Developer shall identify and verify location of all utilities, identify the utility type and corresponding Utility Owner. For all identified utilities, the Developer shall work with the Utility Owners to make an initial determination of whether 1) the utility is in conflict with other Project Work, and needs to be relocated, 2) the utility is not in conflict with other Project Work and can remain in place but requiring Protection in Place, or 3) the utility is not in conflict with other Project Work and can remain in place without requiring Protection in Place. Service connections are addressed separately in Section 1.1 of the Technical Provisions.
- (b) For all utilities requiring relocation, the Developer shall conduct the following Utility Adjustment processes:
 - (i) Conduct the Utility Analysis and Preliminary Routing (UAPR) processes listed in Section 6.7 of the Technical Provisions and make all required Submittals to the District;

6.9 Utility Work and Coordination Plan

- (a) The Developer shall submit a Utility Work and Coordination Plan in accordance with Section 6 of the Technical Provisions and the District of Columbia Department of Transportation Standard Specifications for Highways and Structures. The Plan shall set forth the Developer's general plan to coordinate all Utility Adjustment Work for the Project and include the following requirements:
 - (i) A description of the Developer's plan to identify and locate utilities;
 - (ii) A description of the Developer's plan to coordinate activities with each Utility Owner;
 - (iii) A description of the Developer's plan to coordinate activities with the Utility Owners on unknown or newly discovered utilities; and
 - (iv) A description of how the Developer shall either relocate or replace all affected utilities.

6.10 Deliverables

- (a) The Developer shall submit the following Submittals to the District in accordance with this Section 6 of the Technical Provisions:
 - (i) Utility Work and Coordination Plan for review and comment 30 Days prior to commencing Utility Adjustment Work;
 - (ii) Utility Assemblies for review and comment 45 days prior to Adjustment;
 - (iii) Evidence of Utility compensable Interest for approval 45 days prior to Adjustment;

- (iv) Letter regarding Utilities that can remain without Protection in Place prior to Construction Work at the location of such Utilities;
 - (v) Final Utility Analysis & Preliminary Routing Report for review and comment prior to submission of the Utility Assembly;
 - (vi) Utility Service Connections Plans for approval prior to utility service connection installation;
 - (vii) As-Built Record Plans of all Utility Adjustment Work performed by the Developer and/or Utility Owner within 30 days of completion of the Utility Adjustment;
- (a) Under no circumstances is this list of Submittals to be construed as exhaustive and The Developer shall be solely responsible for meeting any and all Submittal requirements of the Technical Provisions and the Project Agreements.

7 DESIGN, CONVERSION AND CONSTRUCTION REQUIREMENTS

The Developer shall execute the D&C Work in accordance with this Section 7 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2 and Part C of the Project Agreement.

7.1 General

- (a) Where compatible for use for the Project, the Developer shall specify the District of Columbia Department of Transportation Standard Specifications for Highways and Structures and special provisions by direct reference to the applicable passage(s) or item.
- (b) Direct reference to the District of Columbia Department of Transportation Standard Specifications for Highways and Structures that provide options for materials, placement or processes must be supplemented by text that clearly delineates which options or values must be used.
- (c) Where compatible for use for the Project, the Developer shall specify The District of Columbia Lighting Fixture Specifications, September 2020 by direct reference to the applicable passage(s) or item.
- (d) Direct reference to the specify The District of Columbia Lighting Fixture Specifications, September 2020 that provide options for materials, placement or processes must be supplemented by text that clearly delineates which options or values must be used.
- (e) Any DDOT Standard plan sheets selected for use on the Project must be individually designated for such use through the responsible Professional Engineer's seal.
- (f) The Developer shall bring all Elements of the Lighting Network to the Minimum Acceptable Condition of Fair (numerical score 3) as described in the Performance Requirements for the Improved and Expanded Network in Appendix 13.1 and maintaining Elements at the Minimum Acceptable Condition for the duration of the Project Term.
 - a. Condition information for Elements, including photos, can be found at the following link:
<https://dcgis.maps.arcgis.com/apps/webappviewer/index.html?id=cc00ffaf6edc4cf6be6731e2343b209e>
- (g) Any Element of the Street Light Network requiring replacement shall be replaced in kind.
- (h) With the exception of the Project Elements existing as of the Setting Date and that shall remain part of the Project, unless approved in writing by the District prior to their use, the Developer shall not incorporate in the Street Light Network any used, reconditioned, or remanufactured materials, supplies or manufactured Elements, and the Developer shall only incorporate in the Work materials, supplies and manufactured Elements that are new, per Section 2.2.6.h of the Technical Provisions. The Developer shall submit cut sheets and manufacturer information for all Elements and Materials in the Project as part of the Project Design Submittal.
- (i) The Developer shall certify that all Elements and Materials in the Project Design Submittal follow these Technical Provisions, and the District Guidelines, Manuals, Specifications, and Standards.
- (j) The Developer shall submit Work Plans for Construction Bundles.

- (k) The Developer shall submit Redesign Design Submittals for Redesign Work, subject to District approval.

7.2 Design Documents

- (a) All Design Documents shall be prepared by or under the direct supervision of the Lead Design Firm in accordance with Good Industry Practice. All Design Documents shall be signed and sealed by Professional Engineers who are registered in the District of Columbia, in good standing, and in accordance with the Key Personnel requirements of the Project Agreement.
- (b) All Design Documents shall be developed and submitted in accordance with the Project Agreement, including these Technical Provisions, and the Project Management Plan, and in a format acceptable to the District and compatible with the District's systems and software.
- (c) All Design Documents submitted to the District shall include a certification by a Professional Engineer from the Lead Design Firm certifying that the Design Document complies with the Project Agreement, including these Technical Provisions, and the Project Management Plan. Such certification and the seal of the Professional Engineer shall be placed on the front page of the Design Document.
- (d) All Design Documents submitted after NTP2 shall be submitted to the District either as part of Developer's Design Manual (and updates thereof) or as part of the Developer's Project Bundle Submittals, for the District review, comment, approval or consent, as applicable.
- (e) The Developer shall utilize the following materials for development of the Design Documents:
 - (i) Specify The District of Columbia Lighting Fixture Specifications, September 2020
 - (ii) DDOT Standard Drawings, latest standard applies, which includes drawings for elements of the Existing Street Light Network.
 - (iii) District of Columbia Department of Transportation Design and Engineering Manual, latest standard applies.
- (f) Developer shall ensure that all draft, revised and final Submittals are accurate, complete, and in a form and level of detail that satisfies the District. These submittals include all supporting information necessary for or required by the District to conduct its full review. The Developer shall provide the District with electronic files with all Design Documents in a format acceptable to DDOT.
- (g) Submittals submitted to the District between NTP1 and NTP2 are Design Documents.
- (h) All Project Elements shown or referenced in Design Documents shall clearly display the unique identifier number in accordance with the Asset Inventory.

7.2.1 Street Light Improvements Design Manual

(a) General

The intent of the Design Manual is to provide a formal opportunity for DDOT and other Project stakeholders to review and comment upon the Developer's standard, prototypical designs and applicable design criteria for each Lighting Unit type before commencement of the Streetlight Improvements. The District does not require Design Documents for each individual Lighting Unit.

Rather, the Design Manual shall provide the standard, prototypical design information for each Element of the Street Light Improvements in their standard configuration and combination.

(b) Content for D&C Work

The Design Manual shall provide the standard design information for each type of Elements of the Streetlight Network known at the time of submittal and subject to D&C Work, including at a minimum:

- (i) ArcGIS database (or layer) linked to the Asset Inventory of Streetlight Improvements planned to achieve Project Final Completion, including geolocation of the Lighting Units and associated Work types,
- (ii) Developer's standard drawing plans fully describing the standard layout, illumination design, architectural design, and structural design for each type of Lighting Units and Elements thereof and linked to the ArcGIS database (or layer);
- (iii) The standard engineering specifications the Developer will use to ensure that the criteria established under the Design Requirements and the Technical Provisions are met;
- (iv) Engineering calculations and analyses for the planned Streetlight Improvements demonstrating how any of the Design Requirements will be met;
- (v) Prototypical, standard designs for each Lighting Unit type specifying the products, materials, equipment and/or systems to be used (including manufacturers' product specification sheets), and the applicable design criteria to be met;
- (vi) Manufacturers cut sheets and supporting manufacturer design information and specifications;
- (vii) Comprehensive list of products and materials to be utilized for the Street Light Improvements and Smart City Improvements and associated specifications; and
- (viii) Manufacturer(s)' details and contact information

(c) Content for AM Work

- (i) In addition to the content in Section 7.2, the Design Manual shall also include a comprehensive list and description for all materials to be used for AM Work and associated manufacturers details and contact information.

(d) Timing of Design Manual Submittal

- (i) The Design Manual, in draft, final form, and any update thereof, is a Non-Discretionary Submittal.
- (ii) The Developer is to begin development of the design Work to be incorporated in the Design Manual as part of Preliminary Work;
- (iii) Approval of the Design Manual is a condition precedent to issuance of the first NTP3

- (iv) The Design Manual shall be submitted in draft form at least 90 days before the scheduled date of the first NTP3 and in final form at least 30 days before the scheduled date of the first NTP3 per the Project Baseline Schedule.
- (v) The Developer shall update Design Manual as necessary to reflect new Element types as the Developer updates the Lighting Asset Inventory or as new Element types are added to the Streetlight Network, or otherwise as reasonably requested by the District. Each update of the Design Manual shall include the full and complete Design Manual along with a copy tracking changes to the prior version.

(e) Organization

The Design Manual shall contain two parts, one including the relevant content in Section 7 for D&C Work and one including the relevant content of Section 10 for Asset Management Work. For each part, the Design Manual shall be organized by type of Lighting Units and type of Elements following the same categorization as the Lighting Asset Inventory, and as may be reasonably requested by the District.

7.2.2 RMCS and AMIS Design Submittals

(a) General

The intent of the RMCS and AMIS design submittals are to provide the District with details related to overall general system layouts, configurations, interconnection of system programs, mapping of programs, data flow, report structures, control point monitoring and maintenance status and processes, and any other software/hardware details with the RMCS and AMIS design.

(b) Content for D&C Work

Submittals for the AMIS and RMCS include:

- (i) General system architecture, layout, and configuration.
- (ii) Hierarchy of software platform, application and data flow, and reporting structure (including cloud-based information and storage).
- (iii) System configuration for interconnection of various programs under the AMIS, including the RMCS, City Works, and ArcGIS.
- (iv) Layouts and locations for street light control nodes, gateways, WAPs, etc.
- (v) Manufacturer(s)' cut sheets and supporting manufacturer design information and specifications;
- (vi) Comprehensive list of products and materials to be utilized for the Street Light Improvements and Smart City Improvements and associated specifications.

(c) Timing of Design Submittal

A formal opportunity for DDOT and other Project stakeholders to review and comment upon the Developer's standard, prototypical designs and applicable design criteria related to the RMCS and AMIS design before commencement of the Streetlight Improvements is required. Because of this, RMCS and AMIS design submittal shall be submitted with the Design Manual so that the standard,

prototypical design information for each Element of the Street Light Improvements package can be reviewed in their standard configuration and combination.

(d) Organization

- (e) The RMCS and AMIS design submittals shall be part of the contents of the Design Manual, specifically a part of the contents of the D&C section.

7.2.3 Energy Management Submittals

(a) General

The Developer shall design, procure, install Fixtures, and dim Fixtures as appropriate to meet the lighting requirements described in section 7.3.1 of these Technical Provisions. The Developer shall propose dimming as part of the initial submittal to the District. Ultimately, the District will decide and control the dimming of Fixtures. If desired, the Developer can propose any recommended adjustments to dimming to the District for consideration.

(b) Content for D&C Work

- (i) The Developer shall provide projections of the monthly energy costs (including target energy usage in kWh and price), as developed for the Financial Model submitted to the District prior to Commercial and Financial Close, including the following information:
 - a. Monthly energy usage table for the following twelve months (reported in kW-hours) showing the calculated energy usage and the products, equipment and system assumptions used in the calculations;
 - b. Detailed schedule for the hours of operation and locations as provided by the District, rated wattage of Luminaires at operational levels, and any methods, scheduling or power management tools that will be employed to achieve the reported power usage; and
 - c. All assumptions used to generate the energy cost data reported in the Financial Model.

Timing of Design Submittal

- (i) No later than 30 days after submitting the Street Light Improvements Design Manual, the Developer shall submit projections of the monthly energy costs.
- (ii) The Developer shall update such projections every 3 months, on the first of the month following the initial Submittal to:
 - a. Reflect actual energy usage and costs over the preceding periods;
 - b. Revise the projections, if necessary; and
 - c. Explain and reconcile differences between the prior forecast and the actual data and between the prior forecast and the revised forecast.

(c) Organization

- (i) All data must be sufficiently detailed to provide a clear picture of the nature and magnitude of energy costs that can be reasonably expected in each month for the following twelve

months, and must clearly correlate to the data reported in the Financial Model. From such data, the Developer shall provide the quarterly energy reduction targets (in kWh).

7.2.4 Project Bundle Submittals

(a) General

The intent of the Project Bundle Submittals is to provide the District with the opportunity to review, comment and approve the Developer's detailed plan for the on-site delivery of Conversion Work or Construction Work as may be applicable, for a specific Project Bundle and a specific Project Site before commencement of such Work. The Project Bundle Submittal demonstrates the Conversion Work or Construction Work for a specific Project Bundle and specific Project Site meet the requirements of the Technical Provisions, Project Management Plan, Conversion Work Plan, and Project Schedule. Project Bundle Submittals shall be organized in a logical and consistent manner for each Project Site or as may be reasonably requested by the District.

(b) Content

Project Bundle Submittals shall provide the information necessary to demonstrate that the Developer's plan for the Conversion Work or Construction Work as may be applicable, for a specific Project Bundle and a specific Project Site meets the requirements of the Technical Provisions, the Project Management Plan and in particular the Conversion Work Plan, and the Project Schedule, including at a minimum:

- (i) The unique identification number of the Project Bundle in accordance with Section 1.5.5(f) of these Technical Provisions displayed on the cover page and on every page of the Submittal;
- (ii) The Developer's description of the Conversion Work or Construction Work at the Project Site in alignment with the Conversion Work Plan and Project Schedule at the Project Bundle level in Sections 2.5.1 and 2.3 of the Technical Provisions, respectively, to include a narrative, a map of the Project Site identifying its outer limits of the Project Site, location and type of the Lighting Units, type of Work to be performed within the Project Site;
- (iii) A checklist, evidence and certification from the Developer that the Developer has met all the Conditions Precedents to NTP3 per Section 16.3 of the Agreement respecting commencement of Work in the Public Space for such Project Bundle in such Project Site;
- (iv) Evidence the requirements of Section 3 of the Technical Provisions and the Developer's Public Information and Communication Plan prior to commencement of Work at a Project Site have been met, including in particular that proper notices to the public have been posted;
- (v) All appropriate Design Submittals respecting the Project Bundle including references to the appropriate sections of the Design Manual, manufacturer cut sheet and detailed equipment specifications], drawing plans showing temporary and permanent repairs of all surface cuts, with supporting design calculation, and materials information;
- (vi) Summary of results and supporting evidence and data documenting the Design Work performed by the Developer;

- (vii) For any Project Site where Developer requires to perform Construction Work, Developer shall provide a narrative accompanied by pictures, schematics, and other supporting data to explain the rationale for such Construction Work, along with the products of the Developer's Design Work in accordance with the District of Columbia Department of Transportation Standard Specifications for Highways and Structures and other applicable Guidelines, Manuals, Specifications, and Standards in Appendix 13.2;
 - (viii) A schedule for the Conversion Work or Construction Work at the Project Site, in accordance with Section 2.3 of the Technical Provisions, and showing at a minimum dates of notices sent to the public, NTP3, commencement of the Work at the Project Site, the scheduled date for Substantial Completion, and start and stop dates for major activities at the Project Site between NTP3 and Project Final Completion;
 - (ix) Evidence the requirements of Section 11 of the Technical Provisions and the Developer's Transportation Management Plan prior to commencement of Work at a Project Site have been met;
 - (x) Site-specific Traffic Control Plan in accordance with Section 11.3 of the Technical Provisions to describe the traffic control interventions, tactics, means, and methods respecting the Work to be performed at the Project Site and the Developer's Transportation Management Plan in accordance with Section 11.2 of the Technical Provisions to describe the coordinated transportation management strategies to address all traffic configuration and situations that can be reasonably anticipated in the execution of the Work in the Public Space;
 - (xi) The schedule of Closures for the Project Site and in the surrounding Public Space;
 - (xii) Streetlight drawing plans at a scale of between 1" = 20' and 1"=100 as applicable to show the Elements subject to Construction Work including at a minimum the Poles, dedicated conduit duct banks, feeder conduits, cables, and manholes. The set of drawing plans shall include the following:
 - a. Drawing plans showing location and layout of the Lighting Units and conduits carrying the power feed to these Lighting Units, and showing conduit size and wire gauge, from the Lighting Unit to the PEPCO power feds;
 - b. Single wiring diagram from source to Light Fixture, showing the tie-in to the existing PEPCO feeder manholes for distribution.
 - c. Voltage drop calculation demonstrating that the voltage drop does not exceed three percent, when such drop may be reasonably expected given the type of Work, in accordance to Good Industry Practice;
 - d. Summary sheets indicating installation information for each Lighting Unit, including pole locations, conduit, cables and proposed PEPCO power feds;
- (c) Timing of Project Bundle Submittals
- (i) Each Project Bundle Submittal is a Non-Discretionary Submittal
 - (ii) Approval of a Project Bundle Submittal during the Conversion Period is a condition precedent to issuance of the NTP3 respecting that Project Bundle and that Project Site.

- (iii) Approval of a Project Bundle Submittal after the Developer has achieved Substantial Completion is a condition precedent to commencement of Construction Work respecting that Project Bundle and that Project Site.
- (iv) A Project Bundle Submittal shall be submitted for approval by the District at least 14 days before issuance of the corresponding NTP3 during the Conversion Period, or 14 days prior to the scheduled commencement of the Construction Work after the Developer has achieved Substantial Completion.

(d) Organization

The Developer shall propose a standardized format and organization for the Project Bundle Submittals for the District's approval in its sole discretion. Such Project Bundle Submittals shall be organized in a logical and consistent manner for each Project Site respectively, and as may be reasonably requested by the District.

7.2.5 As-Built Drawings

- (a) All As-Built Submittals submitted to the District shall include a certification by a Professional Engineer from the Lead Design Firm certifying that the As-Built Submittals complies with the Project Agreement, including these Technical Provisions, the Project Management Plan, and the Developer's Design Documents. Such certification and the seal of the Professional Engineer shall be placed on the front page of the As-Built Submittal.
- (b) The Developer shall keep current at all times and update the As-Built Drawings to reflect the then-current as-built conditions, including after any Conversion Work, Construction Work, or Asset Management Work performed in the Public Space.
- (c) As-Built Drawings related to Expansion Units and/or related to conduit Work shall be logged in the ArcGIS asset inventory.

7.3 Design Requirements

7.3.1 Lighting Requirements

- (a) The Developer shall design, procure, and install the Street Light Improvements so all Light Fixtures of the Street Light Network meet following requirements set forth in Table 5 unless otherwise approved by the District.

Table 5: LED Color Temperature and Lumen Requirements

		Cobrahead		Teardrop		Post top		Twin-20	
Application	Road Class	CCT	Delivered Lumens	CCT	Delivered Lumens	CCT	Delivered Lumens	CCT	Delivered Lumens ⁸
Interstate/Other Freeways	Commercial	3000K	19000	3000K	16000	3000K	10000	3000K	20000
	Intermediate	3000K	19000	3000K	16000	3000K	10000	3000K	20000
	Residential	3000K	N/A	3000K	N/A	3000K	N/A	3000K	N/A
Principal Arterials	Commercial	3000K	19000	3000K	16000	3000K	10000	3000K	20000
	Intermediate	3000K	19000	3000K	16000	3000K	10000	3000K	20000

⁸ Total of both fixtures on asset

		Cobrahead		Teardrop		Post top		Twin-20	
Application	Road Class	CCT	Delivered Lumens	CCT	Delivered Lumens	CCT	Delivered Lumens	CCT	Delivered Lumens ⁸
	Residential	2700K	10800	2700K	9200	2700K	8000	2700K	16000
Minor Arterials	Commercial	3000K	19000	3000K	16000	3000K	10000	3000K	20000
	Intermediate	3000K	10800	3000K	14000	3000K	8000	3000K	16000
	Residential	2700K	10800	2700K	14000	2700K	6000	2700K	12000
Collectors	Commercial	2700K	19000	2700K	14000	2700K	6000	2700K	12000
	Intermediate	2700K	10800	2700K	14000	2700K	6000	2700K	12000
	Residential	2700K	7300	2700K	9200	2700K	6000	2700K	12000
Local	Commercial	2700K	10800	2700K	14000	2700K	6000	2700K	12000
	Intermediate	2700K	7300	2700K	9200	2700K	3840	2700K	7680
	Residential	2700K	5400	2700K	5428	2700K	3840	2700K	7680
Alley	Commercial	2700K	7300	2700K	7360	2700K	N/A	2700K	N/A
	Intermediate	2700K	5400	2700K	5428	2700K	N/A	2700K	N/A
	Residential	2700K	3348	2700K	3312	2700K	N/A	2700K	N/A
Trail Lights	N/A	N/A	N/A	N/A	N/A	2700K	3300	N/A	N/A

- (b) As per section 7.2.3 Energy Management Submittals, the Developer may choose to set the dimming of Fixtures as appropriate to meet the lighting requirements set forth by the District.
- (c) The Developer shall ensure that each individual Fixture can be dimmed through the RMCS as described in Section 10 of these Technical Provisions.
- (d) For Washington Globe Fixtures, the Developer shall meet the following requirements:
 - (i) Refrain from use of full cap shielding; and
 - (ii) Achieve an aesthetic such that the full silhouette of the illuminated Washington globe can be appreciated with the least amount of uplight necessary.
 - a. The expected uplight target is a maximum of ten percent (10%) of the total lumen emitted by the Fixture. However, the District reserves the right to adjust the uplight target in order to achieve the required aesthetic.
 - b. Note, the reduction in uplight may be derived from the placement of diodes and/or tinting in the top of the globe lens. Ultimately, the Developer shall be responsible for the technology and/or methodology to meet the required aesthetic.
- (e) In addition to Washington Globe Fixtures, the Developer shall reduce light trespass for all Fixtures.
- (f) For L'Enfant Special Street Lighting Units, the Developer shall have the option to install one controller per lighting circuit if the Developer deems this the best option considering the functional and aesthetic requirements.

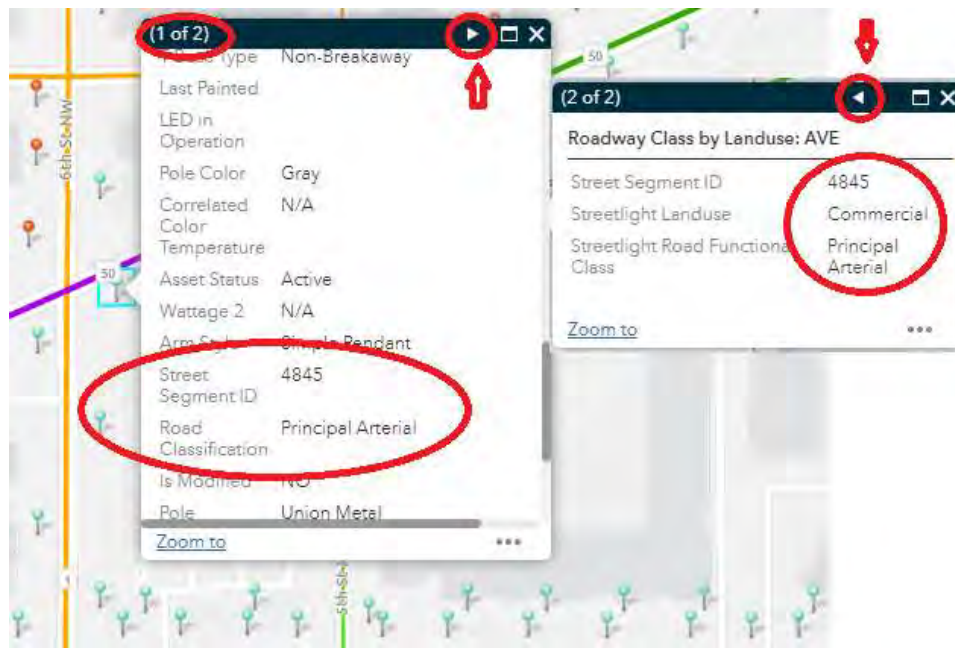
- (g) The Developer shall ensure that each individual Fixture can be shielded, if deemed necessary by the District.
- (h) For Fixtures with existing shields, as identified in the condition assessment, Conversion Work shall include replacement of Fixture and shield in the same position.
- (i) The Developer shall complete design work for Lighting Units at the following locations and meet the following requirements:

Location	Requirements	
Below Whitehurst Freeway	5 fc minimum; 2,700K	<ul style="list-style-type: none"> This project is a retrofit onto the existing I-beam. The fixtures must meet the minimum standards found in the specifications spreadsheet for wallpacks. The wallpacks do not necessarily need to be reattached in the same place or angle. New brackets may be necessary to affix wallpacks. DDOT will allow multiple wallpacks per RMCS node, if necessary.
Below L'Enfant Plaza	17 fc minimum; 3,000K	<ul style="list-style-type: none"> This project should use as much existing conduit as possible and attach to the ceiling structure within the tunnel. Note, this area is prone to water retention. These fixtures must meet the minimum standards for wallpacks found in the specifications spreadsheet, even if not using wallpacks style fixtures. The Developer may use as few RMCS nodes as they see fit.
Atop L'Enfant Plaza	6 fc minimum; 2,700K	<ul style="list-style-type: none"> This project is a retrofit of the L'enfant fixtures. These fixtures must meet the minimum standards for upright lights found in the specifications spreadsheet. DDOT will allow the five fixtures found on the pole to be controlled by one RMCS.

- (j) Additional detail on lighting requirements can be referenced in The District of Columbia Lighting Fixture Specifications, September 2020.

(k) A GIS layer of the functional road classifications (Residential, Commercial, and Intermediate) can be accessed [online through the District's ArcGIS site](#). Following are notes for navigating the site:

- (i) By clicking on any Lighting Unit, one can view its attributes. Scroll down to find the 'Street Segment ID & Functional Class'. Then upper right corner, clicking arrow will change the window to display road classification (also referred to as land use) information.



- (ii) Note, if only one window is open, then click the street next to Lighting Unit to display road classification/land use status.

(l) To date, some LED conversion Work was completed or will be completed at the expected start of the Project Term. The Developer shall refer to the ArcGIS inventory where Lighting Units in which LED Luminaire Conversion is complete can be referenced. These Luminaires will be excluded from the initial LED Conversion Work. For the avoidance of doubt, the other Elements of the affected Lighting Units are subject to Conversion Work.

(m) Each Lighting Unit will be equipped with a cut-off switch that allows for all small cell equipment to be turned off temporarily to allow for Work to be performed safely.

7.3.2 RMCS Requirements

- (a) As part of the Conversion Work, the Developer shall design, procure, and install an RMC System with full dimming, control, and monitoring capabilities for every Light Fixture in the Existing Network. The RMCS shall be fully integrated with the AMIS.
- (b) The developer shall equip design, procure, and install the same RMCS System additional or replacement Light Fixture

7.4 Construction Requirements

7.4.1 General

- (a) Unless otherwise directed by the District, the Developer shall perform restoration activities in all public or private areas that have been damaged or disturbed by Work. The Developer has a general obligation to restore pavement, sidewalk, path, or any other area in public spaces or private property that has been damaged or disturbed by the Work to the specifications, standards, manuals and guidelines listed in Appendix 13.2 of these Technical Provisions.

7.4.2 Safety

- (a) Adhere to the safety requirements specified in the Safety Plan portion of the Asset Management Plan.
- (b) Ensure the safety of all employees working in the Public Space in regards to threats of violence from members of the public. The Developer is encouraged to contact the Metropolitan Police Department (MPD) if the safety of its personnel or the public is deemed to be in jeopardy. MPD officers can be made available to escort Developer personnel to ensure a safe working environment.

7.5 Material and Construction Requirements

7.5.1 General

- (a) Unless otherwise noted in this RFP, the Developer shall be responsible for furnishing all proposed material associated with the Improved District Street Light Network. The Developer shall be responsible for submitting to the District Streetlight Team catalogue cuts and/or samples of all materials to be furnished for street lighting work. Procurement of all such materials by the Developer may not begin until written approval is obtained from the District.
- (b) All materials and equipment used in the performance of the work shall meet requirements as specified herein and requirements of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.
- (c) Where compatible for use in the Developer's D&C Construction Documents, the Developer's Lead Lighting Design Engineer may specify the District of Columbia Department of Transportation Standard Specifications for Highways and Structures and special provisions by direct reference to the applicable passage(s) or item. Direct references to the District of Columbia Department of Transportation Standard Specifications for Highways and Structures that provide options for materials, placement or processes must be supplemented by text that clearly delineates which options or values must be used. When a specific District of Columbia Department of Transportation Standard Specification is directly referenced for use, the reference will be construed to mean that the Method of Measurement and Basis of Payment sections of such Standard Specification are hereby deleted unless otherwise stated.
- (d) The Improved Street Light Network must conform to the National Electrical Code unless criteria that are more stringent are required under the Project Agreement or the specifications, standards, manuals and guidelines listed in Appendix 13.2 of these Technical Provisions.

7.5.2 Installation Requirements for the Street Light Network Elements

- (a) The Developer shall install Elements in accordance with the requirements set forth in these Technical Provisions and the specifications, standards, manuals and guidelines listed in Appendix 13.2 of the Technical Provisions.

7.5.3 Supplies and Material Not Covered by Material Specifications

- (a) The Developer shall submit three (3) catalogue cuts along with (1) sample for all parts and supplies that are proposed for use as part of this contract which are not covered by the Material Specifications.
- (b) The Engineer will return one copy of the catalogue cut approved to the Developer before any material is ordered.
- (c) The sample will remain with the Engineer during the life of the contract.
- (d) Should the Developer wish to make changes in the type or brand of material used, he shall submit catalogue cuts and samples for approval as called for in this section prior to starting to use the material in the performance of the Project.

7.5.4 Inspection of Supplies and Materials

- (a) The requirements set forth in Section K.5.2.2 of the Technical Requirements for Inspection of Supplies will apply to the D&C Term.

7.5.5 Restriction Against Use of Used, Reconditioned and Remanufactured Materials

(a) Definitions

- (i) New, as used in this section, means composed of previously unused components, whether manufactured from virgin material, from recovered material in the form of raw material, or from materials and by-products generated from, and reused within, an original manufacturing process, provided that the materials meet the requirements of this Agreement, including but not limited to performance, reliability, and life expectancy.
- (ii) Reconditioned, as used in this section, means restored to the original normal operating condition by readjustment and material replacement.
- (iii) Recovered Material, as used in this section, means waste materials and by-products that have been recovered or diverted from solid waste, including post-consumer material, but such term does not include those material and by-products generated from, and commonly used within, an original manufacturing process.
- (iv) Remanufactured, as used in this section, means rebuilt to original specifications.
- (v) The Developer shall reuse the globe for the L'Enfant Special Street Lighting Units after replacement of the Luminaire. The globe shall be cleaned and inspected. Globes that are damaged shall be replaced with new globes of identical appearance and performance characteristics.

- (b) Unless this Agreement requires virgin material or supplies composed or manufactured from virgin material, the Developer shall provide supplies that are new, as defined in this section.

- (c) A proposal to provide used, reconditioned, or remanufactured supplies (or supplies that are designed or developed subsequent to the date of this Agreement that the Developer wishes to substitute for equivalents specified herein) shall include a detailed description of such supplies, and shall be submitted to the Contracting Officer and District Streetlight Team in writing for written approval prior to actual use.
- (d) Used, reconditioned or remanufactured supplies shall not be used in the performance of this Agreement unless the Contracting Officer has granted his or her prior written approval for their use.

7.5.6 Salvaged Materials

- (a) The District shall retain ownership of all salvageable materials removed from the Project Site. The Developer shall be responsible for storage of all salvaged materials. All other materials removed from the Project Site shall be disposed of properly by the Developer.
- (b) There is no requirement to salvage materials. It is up to the Developer's discretion to decide what, if any, materials should be salvaged.

7.6 Roadways and Sidewalks

- (a) The Developer shall design and construct all roadway and sidewalk Elements in accordance with the Mandatory Specifications, Standards, Manuals, and Guidance listed in Appendix 13.2 of these Technical Provisions and any related requirements set forth in the Project Agreements.
- (b) The Developer shall permanently repair any sidewalks and roadways cut by the Developer as instructed in section 7.4.1 of these Technical Provisions.
- (c) In the case that repairing "no-current" problems on a bridge requires cutting the bridge deck to access the conduit, the Developer shall be qualified to cut structural bridge decks and shall obtain prior written approval from and coordinate all cuts with the DDOT Street and Bridge Maintenance Division. If it is not possible to access or fix the conduit, the Developer shall be responsible for adding a new means of supplying power to the lights.
- (d) The Developer shall permanently repair, in accordance with the District's regulations on utility cut repairs, any sidewalks and roadways cut by the Developer in performing work under this contract.
- (e) At the Developer's request, the District Representative will assist the Developer to identify the limits of pavement restoration in accordance with the Technical Provisions and on a site-by-site basis.

7.7 Site Requirements

- (a) The Developer shall design and construct all roadway Elements in accordance with the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.
- (b) The Developer shall follow the Maintenance and Protection of Traffic requirements set forth in Section 11 of these Technical Provisions.

7.8 Site Investigation

- (a) The Developer acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the Work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited to:
 - (i) Conditions bearing upon transportation, disposal, handling, and storage of materials
 - (ii) The availability of labor, water, electric, power and roads
 - (iii) Uncertainties of weather, river stages, tides or similar physical conditions at the site
 - (iv) The conformation and conditions of the ground
 - (v) The character of equipment and facilities needed prior to and during the performance of the Work
 - (vi) All conditions related to site access, utilities coordination, and District requirements.
- (b) The Developer shall conduct an independent assessment to determine the character, quality and quantity of surface and subsurface materials or obstacles to be encountered through inspection of the site. Any failure of the Developer to take the actions described and acknowledged in this paragraph shall not relieve the Developer from responsibility for estimating properly the difficulty and cost of successfully performing the Work or for proceeding to successfully perform the Work without additional expense to the District.

7.9 Work and Storage Space

- (a) The Developer shall be fully responsible for seeking necessary space for storage and undergoing all required negotiations with the owner of the property to secure its use and for restoring the area to its original condition and to the satisfaction of the District.

7.10 Demolition and Removal

- (a) The Developer shall design and construct all roadway Elements in accordance with the District of Columbia Department of Transportation Standard Specification for Highways and Structures Section 205, Structure Excavation and Demolition, when demolishing, removing, or disposing of materials from the Project.

7.11 Erosion and Sediment Control

- (a) The Developer shall provide erosion and sediment control when any work disturbs soil, drainage patterns, or vegetation. Such control must meet the requirements of District of Columbia Department of Transportation Standard Specification for Highways and Structures Section 618, Erosion and Sediment Control.

7.12 Stockpile

- (a) The Developer shall place barricades and warning signs at stockpiles to warn motorists of a hazard. All material stockpiles shall not be located within the clear zone of any traveled lane, unless positive protection is provided.

7.13 Final Clean-Up

- (a) The Developer shall clear and remove from the site all surplus and discarded materials and debris of every kind and leave the entire Project Site in a smooth and neat condition, prior to the final inspection.

7.14 Deliverables

- (a) The Developer shall prepare the following Design Submittals for the District's review and approval and implement as a condition precedent for NTP2. The Design Submittals shall include the following items for the D&C Work:
 - (i) Design Manual, subject to the approval of the District.

8 DEMONSTRATION, TESTING, AND COMMISSIONING

The Developer shall perform Demonstration, Testing, and Commissioning Work in accordance with this Section 8 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the applicable provisions of the Project Agreement.

8.1 General

- (a) The Developer shall define Demonstration, Testing, and Commissioning Plans (or Plans) for Lighting Units and Systems, specifically the AMIS and the RMCS. Plans shall be developed for assets introduced at any time throughout the Project Term. No Luminaire, Lighting Fixture, or RMCS component shall be installed without a defined Plan and execution of said Plan. The Developer shall assure the District that the street lighting system performance achieves operation and performance requirements as set out in these Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the applicable provisions of the Project Agreement. The Demonstration, Testing, and Commissioning shall be accomplished through a process of design, field verification, and documentation, in accordance with the general standards and guidelines of the Illuminating Engineering Society (IES) DG-29-11 Guideline for the Commissioning Process Applied to Lighting and Control Systems or similar technical standard approved by the District.
- (b) The Developer shall meet the Comprehensive Demonstration requirements as noted in Section 2.2(k) and Exhibit 7 of the Project Agreement.
- (c) The Commissioning processes and Independent Verification and Validation (IV&V) processes shall be conducted by independent Contractors at the expense of the Developer. The Contractors may be the same or different. In selecting an IV&V contractor or contractors, the Developer shall follow the same process for retaining an Independent Engineer described in section 5.3 of the Project Agreement.

8.1.1 Approach

- (a) The Developer shall submit in its project proposal a severable Demonstration, Testing, and Commissioning Approach document that utilizes site specific data and factors needed to achieve performance requirements in accordance with the Technical Provisions and the Project Agreement. The Developer shall:
 - (i) Provide a plan for the implementation of the processes, including the initial scope of systems to be demonstrated, tested, and commissioned for the project.
 - (ii) Ensure that the design and operational intent are clearly documented.
 - (iii) Provide a design review focusing on system performance, maintainability, and adherence to AMIS and RMCS performance requirements for the streetlight network.
 - (iv) Ensure that Commissioning for the construction phase is adequately reflected in the design documents.
 - (v) Define the members of the commissioning team and their roles and responsibilities (as best as possible at that time of submitting the Developer Commissioning Approach).

8.1.2 Plan

(a) After the District reviews and accepts the design and construction package, the Developer shall provide a Demonstration, Testing, and Commissioning Plan to the District for acceptance that finalizes the Approach and addresses each component and system with specific steps that will be taken during the demonstration, testing, and commissioning process. The Developer shall conduct a thorough and systematic performance test of each element and total system of the installed AMIS, RMCS, and its components (nodes, etc.). In regard to specific field procedures, the Developer will follow a Commissioning Test Procedure that includes:

- (i) Pre-functional Testing (PFT) – The Developer shall validate individual equipment/component readiness to work in conjunction with the associated system as a whole. PFTs shall augment and be combined with manufacturer start-up checklists. The Developer must successfully complete the PFTs for each component of a given system prior to formal Functional Performance Testing (FPT) of equipment and subsystems of the given system as a whole. This includes all associated control system ‘point-to-point’ checkouts and controller startup reports. Completion and acceptance of the PFTs will then allow the Developer to ensure that the overall installation reflects the requirements of the plans, specifications, and manufacturer’s installation manuals.
- (ii) Functional Performance Testing (FPT) – The Developer shall evaluate and test equipment/component or system performance under operating conditions for compliance with the project documents (design/installation drawings and diagrams, equipment/system specifications, Sequence of Operations (SOOs) and specifications including changes during construction, etc.). Detailed FPTs created and submitted by the Developer shall present dynamic testing procedures for equipment and systems under full operation. The Developer shall adhere to the created testing plans and run systems through all of the reviewed and approved (by the District) performance tests. All available existing 3rd party asset systems and/or operating systems shall be utilized to the best of the Developer’s ability to assist in verifying and documenting the FPTs of the equipment and systems

The Developer shall provide advance written notice to the District of the scheduled test(s). The District shall have the right to designate representatives to be present at any or all such tests including representatives of the manufacturers of the equipment. The Developer shall demonstrate that- equipment/systems installed comply with the requirements of the project documents including maintaining illumination standards (when applicable). The Developer shall correct or adjust all deficiencies in the operation of the equipment/systems and report these deficiencies on an on-going basis during the entire Commissioning process of the equipment and systems. Progress reporting will be subject to change based on requirements outlined by the District and/or the ability of the Developer to consistently meet performance standards expected by the District.

- (iii) Report – The Developer shall submit to the District a detailed Commissioning Report documenting the equipment/system affect upon performance requirements in accordance with the Commissioning Plan. At a minimum, the report shall demonstrate through measurement that individual components and the system as a whole are operating and performing in accordance with the terms of these Technical Provisions and the Project Agreement. This shall include, but will not be limited to, equipment start-up and manufacturer’s checklists, PFT checklists, complete FPT results, reported deficiencies during the commissioning process, all resolutions to deficiencies (with detailed tracking and

reporting sheets), management, and training manuals, and all other documentation developed during the Demonstration, Testing, and Commissioning phase of the project that has demonstrated proper performance of the project as originally designed and intended.

- (b) The District may perform its own testing of Lighting Units and Systems independently or in conjunction with the Developer commissioning agents or authorities.

8.2 Lighting Units

- (a) The Developer shall define a Demonstration, Testing, and Commissioning Program (or Programs) for Lighting Units. The Program shall meet the timing and procedural requirements listed in Section 8.1 and demonstrate performance to the criteria listed in Section 8.1.
- (b) The District may perform its own testing of Lighting Units and systems. This includes (but is not limited to) LED Luminaire performance and the testing described in sub-section 8.3.3.b.xv.

8.2.1 Timing

- (a) In accordance with Exhibit 7 of the Project Agreement regarding Comprehensive Demonstration Protocol, the Developer shall make Luminaires available for demonstration and testing prior to Commercial Close.
- (b) The Developer shall complete its commissioning process and the District shall approve all final commissioning reports and documents prior to the conclusion of the Conversion Period.
- (c) Lighting Units introduced after Financial Close are subject to their own rounds of Demonstration, Testing, and Commissioning Plans. Timing is at the District's discretion.

8.2.2 Procedures

- (a) The Developer shall document procedures for demonstration, testing, and commissioning of all systems. Lighting control nodes shall be fully commissioned for a minimum of 10% of the specified 'Bundle' of lighting units within each Ward.
- (b) The Developer may be asked to conduct demonstration and testing at its warehouse at a time and date agreed upon by the District before field demonstration and testing takes place.

8.2.3 Criteria

- (a) The Developer shall prove through commissioning that the specified 10% sample of Lighting Units in a Ward's 'Bundle' meet the requirements of the Technical Provisions and perform as described in the Design Documents.
- (b) The Developer shall define functional testing processes to evaluate if a Lighting Unit can meet the requirements of the Technical Provisions in the District's operating environment. Process and procedural documents shall be submitted to the District 14 days prior to any scheduling of commissioning activities.
- (c) The Developer shall define commissioning processes to test installed Lighting Units for field performance in accordance with these Technical Provisions. Process and procedural documents shall be submitted to the district 14 days prior to any scheduling of commissioning activities.

8.3 Systems

- (a) The Developer shall define a Systems Development Plan for demonstration, testing, and commissioning Systems, specifically the AMIS and RMCS to present to the District. The program shall meet the timing and procedural requirements listed in Section 8.2 and demonstrate performance to the criteria listed in Section 8.2.

8.3.1 Timing

- (a) The Developer shall provide a functional simulation of the AMIS prior to Commercial Close.
- (b) The Developer shall provide a functional simulation of the RMCS prior to Commercial Close.
- (c) Testing and Commissioning shall occur, may be witnessed (at the District's discretion), and must be accepted by the District before a Project Bundle can be considered substantially complete.
- (d) The Developer shall meet the requirements for continuous performance set forth in Part 3 – Project Final Completion Conditions section 2(b) of the Project Agreement.
- (e) If a replacement software-related system is to be implemented, the software-related system shall be subject to its own rounds of Demonstration, Testing, and Commissioning Plans. Timing is at the District's discretion.

8.3.2 Procedures

- (a) The Developer shall document procedures for the demonstration, testing, and commissioning of Systems.
- (b) Demonstration, testing, and commissioning procedures shall meet the criteria listed in Section 8.2.3.
- (c) The Developer shall demonstrate Systems, specifically the AMIS and RMCS, at a District office, which will be specified by the District.
- (d) At the time of demonstration, the Developer shall make all AMIS and RMCS documents, including but not limited to manuals, instructions, and specifications, available to the District for review.

8.3.3 Criteria

- (a) Regarding the AMIS, the Developer shall:
 - (i) Demonstrate that the AMIS meets both the Functional and Technical Requirements set forth in these Technical Provisions and in Appendix 13.9;
 - (ii) Demonstrate that the AMIS will be functioning at the onset of NTP2;
 - (iii) Demonstrate the ability of the Systems to export or import data, including how the AMIS will interface with the District's ArcGIS inventory;
 - (iv) Demonstrate the historical data available for asset management, past alarms, node attributes (e.g., power, voltage, failures), alarms, etc. The Developer shall compare which data may only be available in real-time versus which are historically available;
 - (v) Demonstrate how users will be able to access help and support, whether through on-screen navigation or through central help pages. The Developer shall demonstrate, if applicable, any feedback that users may be able to provide through the application;
 - (vi) Describe the technology architecture (application, web services, middleware, and database) and discuss the location of the application (on-premises or cloud). The Developer

shall describe the network connectivity required for the operation of the application to specified reliability performance standards;

- (vii) Describe methods for how third-party software can be integrated with the AMIS and the level of integration that is available. Examples include 311, 911, and District work order management systems, currently Cityworks. The Developer shall describe the Systems' capacity for integrating with third-party reporting solutions and third-party GIS software. The Developer shall describe the protocols that can be used to integrate with the AMIS;
 - (viii) Describe the disaster recovery/backup plan, including how the system can continue to run when there are critical failures in the primary technology architecture;
 - (ix) Describe the process for Systems updates and upgrading, including how the AMIS will roll-out updates, patches, or new features for any compatible clients (thick-client, browser, mobile apps). The Developer shall describe any downtime requirements during this process;
 - (x) Define a testing program to evaluate if the AMIS can meet the requirements of these Technical Provisions at the scale required for the Existing, Improved, and Expanded Street Light Networks;
 - (xi) Test that the AMIS provides the interoperability with the District's Lighting Asset Inventory set forth in these Technical Provisions and the Technical Requirements in Appendix 13.9; and
 - (xii) Define a commissioning program to test that the production environment AMIS performs as set forth in these Technical Provisions and the Technical Requirements in Appendix 13.9.
- (b) Regarding the RMCS, the Developer shall:
- (i) Demonstrate that the RMCS meets the requirements set forth in these Technical Provisions and the Technical Requirements in Appendix 13.9;
 - (ii) Demonstrate that the RMCS will be functioning by the end of the Conversion Period;
 - (iii) Demonstrate how the RMCS can control each node, including on/off, brightness, and any other items specified in the Technical Provisions and the Technical Requirements in Appendix 13.9;
 - (iv) Demonstrate the ability to control both individual nodes and a district/group of nodes;
 - (v) Describe how nodes can be grouped into districts and how districts can be grouped;
 - (vi) Demonstrate scheduling actions for the nodes, including how to edit scheduling and demonstrating simple and advanced scheduling options;
 - (vii) Demonstrate the reporting/business intelligence capabilities of the RMCS, such as the real-time (automatic refresh rate in accordance with industry standards) and historical reporting of outages, issues, electricity consumption, voltage, current, , etc. The Developer shall describe how reports can be created, saved, or shared. The Developer shall show canned reports and demonstrate custom reporting capabilities;
 - (viii) Demonstrate how alerts appear and notifications can be disseminated through the RMCS. The Developer shall show how alerts can be configured by the user and how simple and complex alarms that can be configured in the software. The Developer shall demonstrate

how automated alerts (e.g., application, email) can be configured, viewed, and triggered. The Developer shall describe the exporting of any alarms, failures, etc.;

- (ix) Demonstrate administrator access/user access control, including how new users are created, provisioned, and user access controls are implemented. The Developer shall describe any ability to create user groups and access rights management for those groups. The Developer shall describe any ability to maintain a user profile;
- (x) Demonstrate how users will be able to access help and support, whether through on-screen navigation or through central help pages. The Developer shall demonstrate, if applicable, any feedback that users may be able to provide through the application.
- (xi) Describe the technology architecture (application, web services, middleware, and database) and discuss the location of the application (on-premises or cloud). The Developer shall describe the network connectivity required for the operation of the application to specified reliability performance standards;
- (xii) Describe the disaster recovery/backup plan, including how the system can continue to run when there are critical failures in the primary technology architecture;
- (xiii) Describe the process for system updates and upgrading, including how the RMCS will roll-out updates, patches, or new features for any compatible clients (thick-client, browser, mobile apps). The Developer shall describe any downtime requirements during this process;
- (xiv) Define a testing program to evaluate if the RMCS can meet the requirements of the Technical Provisions at the scale required for the Existing, Improved, and Expanded Street Light Network; and
- (xv) Define a commissioning program to test that the live RMCS performs as set forth in the Technical Provisions and the Technical Requirements in Appendix 13.9. The Developer shall use the below sample test script as a minimum standard for Pre-Functional Checks (PFCs) and Functional Performance Tests (FPTs) of the RMCS Nodes and/or Gateways and perform these checks and tests for a minimum 10% of a Ward's "Bundle" of Control Nodes that control Lighting Units (It is understood that nodes communicating via cellular network that do not require Gateways will not be required to undergo the minimum PFT and FPT described below for a system Gateway. However, all gateways and nodes communicating/connecting through gateways are subject to the minimum tests below). Any and all gateways that are installed and utilized as part of the streetlight control network shall be commissioned:

1. Gateways

- a. Gateways are installed per manufacturers specifications, installation, and start-up guides. Connection of continuous power to Gateway is verified.

i. Installation and Start-up

1. Gateways are physically installed on poles/mast.

- a. Validation through RMCS and AMIS with District sign-off.

2. Continuous power is connected to the Gateway with appropriate overcurrent protection.

- a. Validation through RMCS and AMIS with District sign-off.
 - 3. Gateway serial number, model number, and MAC address are captured by photograph into the RMCS and AMIS.
 - a. Validation through RMCS and AMIS with District sign-off.
 - 4. GPS location data (within 2.5 meters) of the unit is captured in the RMCS and AMIS.
 - a. Validation through RMCS and AMIS with District sign-off.
- ii. Gateway Initiation and Operation
 - 1. Gateway is recognized within the RMCS
 - a. Access to RMCS and viewing of Gateway Reporting.
 - b. Run test reports produced by RMCS
 - 2. GPS location of the Gateway is 'aligned' to the GPS location shown within the RMCS and AMIS.
 - a. Validation through RMCS and AMIS with District sign-off.
 - 3. Installed control nodes are recognized through the Gateway.
 - a. RMCS confirms reporting of control nodes.

2. Control Nodes

- a. Installation and Start-Up
 - i. Control node is physically installed on roadway and high mast fixtures.
 - 1. Validation through RMCS and AMIS with District sign-off.
 - ii. Control node cycles the fixture through the system validation program.
 - 1. Validation through RMCS and AMIS with District sign-off.
 - iii. GPS location data (within 2.5 meters) of the pole/mast upon which the fixture is mounted is captured in the RMCS and AMIS.
 - 1. Validation through RMCS and AMIS with District sign-off.
 - iv. Fixture Type and Model # is captured in the RMCS and AMIS.

1. Validation through RMCS and AMIS with District sign-off.
- v. Node MAC address number is captured in the RMCS and AMIS.
 1. Validation through RMCS and AMIS with District sign-off.
- b. Control Node Initiation and Operation
 - i. Node is recognized within the RMCS.
 1. Access to RMCS and viewing of Node.
 2. Run test report from the RMCS.
 - ii. GPS location data (within 2.5 meters) of the pole/mast upon which the fixture is mounted is captured in the RMCS and AMIS.
 1. Validation through RMCS and AMIS with District sign-off.
 - iii. Installed control nodes are recognized through the Gateway with data being captured in the RMCS, including:
 1. Voltage
 2. Current Node and Fixture light ON or Node light OFF
 3. Power Factor
 4. Power Node and Fixture light ON or Node light OFF
 5. Energy
 6. Light Status ON/OFF
 7. DIM (% of Full Power) % Driver Signal
 8. Temperature
 9. Run test report from the RMCS.
 - iv. Measured operating wattage, with system ON, matches expected installed fixture + node wattage.
 1. Run test report from the RMCS.
- c. Luminaire DIM Initiation and Operation
 - i. Installed fixture control nodes are recognized through the Gateway with data being captured in the RMCS system, including:
 1. Voltage

2. Current Node and Fixture light ON or Node light OFF
 3. Power Factor
 4. Power Node and Fixture light ON or Node light OFF
 5. Energy
 6. Light Status ON/OFF
 7. DIM (% of Full Power) % Driver Signal
 8. Temperature
 9. Run test report from the RMCS.
- ii. Measured operating wattage, with system ON and DIM %, matches expected installed fixture + node wattage.
 1. Run test report from the RMCS.
- d. Control Node Schedule
 - i. Verify correct fixture operating schedule in RMCS.
 - ii. Field witness fixture ON/OFF per correct RMCS schedule.
 - e. Alarms, Alerts, and Notifications
 - i. General alarms, alerts, and notifications pushed and displayed at RMCS and AMIS.
 - ii. Gateway failure; Control Node failure.
 - iii. Gateway disconnection; Control Node disconnection.
 - iv. Abnormal operating conditions (high internal temperature, etc.).
 - v. Restore original default operating modes (after disconnection event, etc.)

8.4 Roles and Responsibilities

(a) The minimum commissioning roles and responsibilities shall be as follows:

- (i) Commissioning Provider (CP) – coordinates processes, develops testing/commissioning plans, directs and documents performance testing.
- (ii) Project Manager (PM) – Facilitates and supports the commissioning process and provided approvals of commissioning documents and field work.
- (iii) General Contractor (GC) – Facilitates the commissioning process and ensures that sub-contractors perform responsibilities. Integrates commissioning into the construction process and schedule. Subject to the sole discretion of the District, the Developer shall select the General Contractor.

- (iv) IV&V Contractor – Facilitates the Independent Verification and Validation (IV&V) process. This Contractor may be the same or different than the General Contractor. Both Contractors are subject to the sole discretion of the District.
- (v) Sub-contractors (SC) – Assist with demonstration of correct system performance.
- (vi) Architect/Engineer (A/E) – Perform construction observation, approve O&M manuals, and assist in system deficiency resolutions.
- (vii) Manufacturer (MFR) – Equipment manufacturers and vendors that provide documentation to facilitate the commissioning work and perform contractor start-up.
- (viii) District (DDOT) – Participate and support tasks related to equipment/design submittal reviews, test script development, commissioning field activities, deficiency resolutions, and commissioning and O&M report reviews.

8.5 Independent Verification and Validation of Systems

- (a) The Developer shall establish a Program for Independent Verification and Validation (IV&V), the “IV&V Program” for all software or systems-related requirements of the Project, specifically the AMIS and RMCS. Subject to the sole discretion of the District, the Developer shall select an Independent Contractor to establish and execute the IV&V Program. The IV&V Program Contractor may be the same or different from the General Contractor, but must be approved by the District.

8.5.1 Program Objectives

- (a) The IV&V Contractor will conduct independent, goal-based validation and verification analysis to ascertain goodness of product for the AMIS and RMCS. Validation-related analysis will allow the IV&V Contractor to evaluate Project development artifacts to ensure that the right behaviors have been defined in the artifacts. The right behaviors are those that adequately describe what the software-related systems are supposed to do, what the software-related systems are not supposed to do, and what the software-related systems are supposed to do under adverse conditions.
- (b) The validation-related analysis will strive to ensure that the AMIS and RMCS perform to the District’s needs under operational conditions.
- (c) Verification-related analysis will allow the IV&V Contractor to determine whether the products of each development phase fulfill the requirements or conditions imposed by a previous development phase.
- (d) The IV&V Program approach will consist of validation- and verification-related analysis. Validation and verification are described further below, including the artifacts generally required for specific analysis objectives.

8.5.2 Validation

- (a) Specific analysis that the IV&V Contractor performs includes requirements validation and test design validation. To perform this analysis, the IV&V Contractor typically needs to acquire the following Project artifacts: operational concept documentation, system and software requirement documents and interface requirements documents (IRDs) at various levels of the requirements hierarchy, interface control documents (ICDs), requirements traceability-related data, safety-related data (hazard analysis, critical items listing, etc.), and test plans and test cases at various levels of the testing hierarchy.

- (b) For the IV&V efforts, the IV&V Contractor anticipates that the artifacts such as those defined in Table 6 are necessary to support validation-related analysis. Typical outputs of validation-related analysis include requirements validation analysis reports, test design validation analysis reports, observations, issues, and risks.

Table 6 - Project Targeted Validation Artifacts

Artifact Name	Need/Applicable Analysis
AMIS Functional Requirements	Reference Model Development
RMCS Functional Requirements	Reference Model Development
AMIS Technical Requirements	Reference Model Development
RMCS Technical Requirements	Reference Model Development
System Test Plan	Test Design Validation
System Test Cases	Test Design Validation
Integration Test Plans	Test Design Validation
Integration Test Cases	Test Design Validation
Traceability-related data (showing traceability from requirements to test cases)	Test Design Validation

8.5.3 Verification

- (a) Specific analyses that the IV&V Contractor performs include architecture, design, and implementation analyses. To perform these analyses, the IV&V Contractor typically needs to acquire the following Project artifacts: architecture description documentation/data, design documentation and associated models, design review materials, source code, test results (at various levels), and traceability-related data.
- (b) For IV&V efforts, the IV&V Contractor anticipates that the artifacts defined in Table 7 are necessary to support verification analysis. Typical outputs of verification-related analysis include software architecture analysis reports, software design verification analysis reports, implementation analysis reports, observations, issues, and risks.

Table 7: Project Targeted Verification Artifacts

Artifact Name	Need/Applicable Analysis
Architecture Description Documentation/Architecture Diagrams/Data	Verify Software Architecture
Software Design Documentation	Verify Software Architecture, Verify Software Design
Software Design Models	Verify Software Design
Source Code	Verify Implementation

Artifact Name	Need/Applicable Analysis
Software Build delivery/release packages/Version Description documentation/data	Verify Implementation
Test results (at varying levels including build level, integration level and system level)	Verify requirements implementation
Discrepancy reports from test activities	Verify requirements implementation
Traceability related data (showing traceability from requirements to design – to code to test)	Verify Software Design, Verify Requirements Implementation

8.5.4 Roles, Responsibilities and Interfaces

- The IV&V Independent Contractor functions technically, managerially, and financially independent of the Project.
- Roles and responsibilities can be described in terms of personnel within the Independent Contractor's IV&V Program, Developer personnel, and District Personnel. The subsections below describe these roles and responsibilities.
- Analysis Reports: Over the course of the IV&V Program, the IV&V Contractor may generate analysis reports that document the results of the analyses performed. These reports will typically describe what the IV&V Contractor analyzed (Project artifacts), a high-level description of the process/approach and tools used (if applicable), and associated results. The IV&V Contractor will forward the analysis reports to the District and the Developer as defined in Table 8.

Table 8: IV&V Analysis Reports

Product Name	Recipients	Delivery Date / Updates
Software Requirements Analysis Reports	District Liaison & Developer Liaison	60 days after baselined software requirements provided to IV&V
Software Design Analysis Reports	District Liaison & Developer Liaison	60 days after baselined software design is provided to IV&V
Software Build Analysis Reports	District Liaison & Developer Liaison	60 days after build content/artifacts are provided to IV&V
Software Test Analysis Reports	District Liaison & Developer Liaison	60 days after Test artifacts provided to IV&V

8.5.5 Observations

- An observation is a type of output from an IV&V analysis task and represents a potential limitation identified within a development artifact that is informally communicated to the District and the Developer. Observations may be used when sufficient information is not available to support a concrete issue, available data and/or understanding may be insufficient to fully assess the

limitation and thus the impact/severity of the limitation is unclear. Observations function more as questions rather than confirmed limitations.

- (b) **Observation Resolution Path:** The District and the Developer will each review the observation data as provided by the IV&V Contractor and collectively disposition the observation. Applicable dispositions include: (a) the observation is withdrawn, (b) the observation is a legitimate limitation and is turned into an issue, or (c) the observation is a legitimate limitation and is turned into a risk.

8.5.6 Issues

- (a) An issue is a type of output from an IV&V analysis task. An issue represents a limitation identified within a development artifact that is formally communicated to the District and the Developer. Issue(s) have a documented impact and are assigned a severity rating between 1 (highest severity) and 5 (lowest severity) as defined in Table A below. Issues of severity rating 1-3 require a formal disposition/response by the Developer and must be verified to have been addressed prior to the end of the Conversion period. Issues of severity rating 4 or 5 may be reviewed by the District but may not receive a formal response/resolution from the Developer.

Table 9: Issue Severity Rating and Description (730-2014 - IEEE Standard for Software Quality Assurance Processes)

Severity	Description
1	Prevent the accomplishment of an essential capability. Jeopardize safety, security, or other requirement designated critical.
2	Adversely affect the accomplishment of an essential capability and no other work-around solution is known. Adversely affect technical, or schedule risks to the project or life cycle support of the system, and no work-around solution is known.
3	Adversely affect the accomplishment of an essential capability, but a work-around or solution is known. Adversely affect technical or schedule risks to the project or life cycle support of the system, but a work-around solution is known.
4	Result in user/operator inconvenience but does not affect a required operational or mission essential capability. Result in inconvenience for development or maintenance personnel but does not affect the accomplishment of these responsibilities.
5	Any other effect

- (b) **Issue Resolution Path:** The District and the Developer will review the issue data as provided by the IV&V Contractor. If the District deems that the issue is legitimate, the Developer will propose a solution. If the proposed solution is deemed satisfactory by the IV&V Contractor and the District, the issue will be put in a “To Be Verified” state. Subsequent to the proposed solution being made, the Developer will notify the IV&V Contractor and the District that the corrective action has been made and will provide the appropriate evidence (e.g., updated development artifacts, etc.) to the IV&V Contractor for verification and subsequent closure of the issue. If verification of the corrective action cannot be completed, the IV&V Contractor will request additional feedback/data from the Developer.

- (i) If there is a dispute at any time in the issue resolution process, the issue may be placed in an “In Dispute” state, at which time the District, the Developer, and IV&V Contractor can continue dialogue on the issue. Subsequent to these discussions, the issue may be withdrawn, placed in the “Project Accepts Risk” state, or it may be reverted to the “To Be Verified” state.
- (ii) If the Developer contends that the limitation described in the issue is not legitimate, the Developer will provide appropriate data and/or explanation to support this conclusion. The IV&V Contractor will review and consider this data and if the IV&V Contractor, the District, and the Developer are in agreement, the issue will be withdrawn. If the IV&V Contractor is not in agreement, additional dialogue and discussion between the Developer, the IV&V Contractor, and the District may be required and an appropriate course of action will be determined.

8.5.7 Risks

- (a) By conducting IV&V analysis, simple routine awareness, and/or interactions over the course of the lifecycle, the IV&V Contractor may become aware of circumstances or data points that represent a potential undesirable event for the Project. The IV&V Contractor will document such items as risks and will formally communicate these risks to the District and the Developer.
- (b) The IV&V Contractor will assess all risks based on the likelihood and consequence of the undesired event. The IV&V Contractor may also provide recommendations to eliminate, reduce, or mitigate the risks.
- (c) The IV&V Contractor will coordinate all risks with the Developer prior to formal submission to the District. To facilitate the submission of risks, the IV&V Contractor may request access to the Project’s Risk Management System (RMS) or repository, and the IV&V Contractor and the Developer Liaison will work together to determine the appropriate level of access (e.g., read-only, write, none) to the RMS/repository.
- (d) Typically, Projects retain residual risks throughout the lifecycle. As such, the IV&V Contractor may choose to assess the Project’s residual risks. At minimum, and as required by the District, the IV&V Contractor will evaluate residual risk data as provided by the Developer. The IV&V Contractor will communicate their stance with regards to such residual risk data to the District.
- (e) ***Risk Resolution Path:*** The Developer and the District will review risks as provided by the IV&V PM. If the Developer agrees with the nature of the risk, they may choose to take ownership of the risk. Subsequently, the Developer will document/capture the risk and associated mitigation plan(s) in the Project’s RMS. It is expected that the Developer actively manages, tracks, and mitigates such risk. The IV&V Contractor will monitor the progress or lack thereof of these activities until the risk is closed. This monitoring may be performed independently or via the Developer providing status data to the IV&V Contractor. If the IV&V Contractor determines that the risk is not being actively managed, the IV&V Contractor will discuss this with the Developer Liaison and the District Liaison and determine an appropriate course of action.

If the Developer decides not to accept, mitigate, and manage a risk, the Developer will provide appropriate data and/or explanation to support this conclusion. The IV&V Contractor will review/consider this data and if the IV&V Contractor is in agreement, they will withdraw the risk. If the IV&V Contractor is not in agreement, additional dialogue/discussion between the Developer, IV&V Contractor, and the District may be required, and an appropriate course of action will be determined.

8.5.8 Item Tracking/Monitoring and Escalation

- (a) All data such as observations, issues, and risks are recorded and provided to the Developer and the District as they are identified and/or as per an agreed-to schedule. The IV&V Contractor will evaluate Developer feedback/response to this data and update the status of this data in terms of tracking towards closure/resolution in the appropriate data repository. In addition, this “goodness of product” data will be documented in other IV&V products including but not limited to lifecycle review presentations, analysis reports and recurring/ad hoc status reports as applicable.
- (b) Given the reporting data mentioned above, any areas of disagreement regarding this data that cannot be resolved between the IV&V Contractor and the Developer within an appropriate period, the IV&V PM will elevate the issue to the District. The IV&V PM will ensure that the Developer is aware that the issue is being elevated. The final level of resolution will be with District at its sole discretion.

8.5.9 Communication and Reporting Methods

- (a) Communications and reporting methods between the IV&V Contractor, the Developer, and the District occur in both formal and informal fashion. Formal communication and reporting methods include delivery/receipt of IV&V analysis reports and associated technical data, IV&V briefings at lifecycle reviews and associated forums, and dialogue between the IV&V Contractor, the Developer, and the District regarding scope, priorities, access to resources, etc. consistent with the data in this plan. Informal communications and reporting methods include recurring teleconferences and meetings between the IV&V Contractor and Liaisons, requests for and provision of development artifacts, technical discussion on IV&V analysis results and dialogue/exchange of relevant data to facilitate resolution of IV&V observations, issues and risks.

8.5.10 Review Presentations

- (a) The IV&V PM will provide IV&V status data and associated results/conclusions of the IV&V efforts at various Project lifecycle/milestone reviews. The IV&V Contractor will communicate and coordinate the overall message/content of the presentation with the Developer prior to the actual review by the District.

9 SMART CITY IMPROVEMENTS

The Developer shall execute the Smart City Improvement Work in accordance with this Section 9 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the applicable provisions of the Project Agreement.

9.1 The District's Responsibilities

- (a) The District will coordinate with the Developer on the planning and execution of WAPs installation.
 - (i) The District will provide to the Developer a list of 239 Poles on which WAPs are to be installed, which can be referenced in Appendix 13.4, and a KMZ file of Pole locations.
 - (ii) The District will design the Wi-Fi network.
 - (iii) The District reserves the right to change installation locations if there are Developer deployment delays.
- (b) The District will provide the Developer with the following materials:
 - (i) Procurement specifications on the WAP model and warranty and the related GPS node, which can be referenced in Appendix 13.3.5, WAP Model and Warranty Specifications of the Smart City Specifications.
 - (ii) Smart City Specifications for mounting and connecting WAPs, which can be referenced in Appendix 13.3.3.
 - (iii) Pole-specific WAP Site Information form, in an MS Excel-based spreadsheet, including:
 - a. Lighting Unit Pole address, intersection (if applicable), and latitude/longitude
 - b. Pole type, owner, and Pole ID
 - c. WAP type: root or mesh
- (c) The District will inspect each WAP for proper installation and functionality in accordance with Section 9.3: Smart City Improvements Acceptance.

9.2 Developer's Responsibilities

- (a) As part of the Project, the Developer shall procure and install 239 WAPs.
 - (i) The Developer shall procure WAPs in accordance with the WAP Model and Warranty Specifications in Appendix 13.3.5.
- (b) The Developer shall not start Work in the Public Space on a Smart City Bundle prior to NTP3 and prior to the approval by the District of a TCP respecting that Smart City Bundle.
 - (i) The Developer shall notify OCTO when a TCP is submitted to the District for review.

- (ii) The Developer shall notify OCTO when a submittal is made in TOPS for Emergency-No Parking signs.
- (c) For WAPs to be installed on Pepco or Verizon-owned Poles, should Pepco or Verizon require structural analysis or design Work, the Developer shall complete the required structural analysis or design Work. The following considerations apply:
 - (i) This structural analysis or design Work shall be subject to a District Change as described in Section 32.12(c) of the Project Agreement.
 - (ii) For the avoidance of doubt, the Developer shall not include the cost of this Work in the base bid. The Developer will be compensated via District Change.
- (d) The Developer shall complete the Smart City Improvements including the conditions precedent to Substantial Completion of Smart City Bundles listed in section 12.2 of the Project Agreement.
- (e) The Developer shall provide all necessary materials to install WAPs in accordance with the Smart City Specifications in Appendix 13.3.2.
- (f) When the District submits a Service Request to the Developer regarding an issue with a WAP installation not meeting acceptance criteria, the Developer shall respond in accordance with the standards for Service Requests listed in Section 10 and the performance requirements listed in Appendix 13.1.
- (g) The Developer shall install the WAPs listed in Appendix 13.4 in accordance with the Smart City Specifications in Appendix 13.3 including:
 - (i) Prior to installation, the Developer shall paint each WAP to the pole color or as instructed by the District. WAP/Pole color and paint specifications are included in the Smart City Specifications. For example, WAPs affixed to wood Poles are to be gray.
 - (ii) The Developer shall mount the WAP on the Pole, according to the appropriate Pole type.
 - (iii) The Developer shall connect one end of the grounding cable to the WAP and the other end to the grounding source. In most cases, if not all, the Pole will have an existing ground. If no ground is found, then the Developer shall add a ground.
 - (iv) The Developer shall connect the WAP to the fiber network (root WAPs only).
 - i. For underground root WAPs, the Developer shall be responsible for fiber connection to the handhole. The District will install fiber from the handhole to the splice point in their network.
 - ii. For root WAPs that will be aerially-fed, The District will make the fiber connection. A handhole is not required.
 - (v) The Developer shall connect the WAP to electrical power.
 - (vi) The Developer shall connect the GPS antenna to the WAP.
 - (vii) The Developer shall seal the installation.

- (viii) The Developer shall follow the District of Columbia Department of Transportation Standard Specifications for Highways and Structures. For avoidance of doubt, the Developer shall not perform v-cutting on Foundations.

(h) The Developer shall document the installation by taking the following actions:

- (i) The Developer shall communicate the installation status of a Smart City Bundle within 14 days of issuance and every 7 days thereafter until completion of the Smart City Bundle.
- (ii) The Developer shall confirm electrical connection by observing if the power ON light is illuminated green.
- (iii) The Developer shall alert the District of unsuccessful installations and indicate the issue (i.e. electrical, environmental, or physical) if known.
- (iv) The Developer shall take one close-up photograph showing the WAP cable sealing on the pole.
- (v) The Developer shall take one close-up photograph showing the grounding cable connection, either on pole or grounding bar in Handhole.
- (vi) The Developer shall take one photograph of the Handhole from outside if power originates from the handhole.
- (vii) The Developer shall take three color photographs of the WAP installation: at 0 degrees (straight-on), 120 degrees (left-rear), and 240 degrees (right-rear) from 20' to 40' from the pole. The WAP must be clearly visible. Photos shall meet the following specifications:
 - i. Must be able to zoom in on photos
 - ii. Filters or enhancements shall not be used
 - iii. Photos must be at least 2048 x 1536 resolution
 - iv. Photos must be in .JPG or PNG image formats
- (viii) The Developer shall enter the following information in the WAP Site Information form:
 - i. WAP serial number
 - ii. MAC Address
 - iii. Power ON status
 - iv. WAP installation height from ground
 - v. Drill hole height from ground
 - vi. Date of completion

- (ix) The Developer shall complete the WAP Site Information form and make the form available to the District for view and download via a web portal hosted by the Developer.
- (x) Within 14 days of completing installation of a Smart City Bundle, the Developer shall complete the WAP Site Information forms and photos and notify the District that they are available for view and download.
- (xi) If the District deems a WAP installation was not performed in accordance with the Smart City Specifications, the District will request remedy actions as described in section 9.2.e, and the Developer shall resolve the issue within 14 days.
- (xii) If a WAP installation issue is not resolvable within two months, the Developer shall complete the WAP Site Installation form with an explanation of the issue(s) in the Notes field and notify the District.

(i) Asset Management Work

- (i) Except in the failure of the signal feeding into the WAP, which shall be the responsibility of the District, the Developer is responsible for the proper connection of power and grounding for all WAPs and Developer-installed fiber for underground root WAPs.
- (ii) The Developer shall maintain WAP installations in accordance with the Performance Requirements in Appendix 13.1.

9.3 Smart City Improvements Acceptance

- (a) A completed WAP installation includes a WAP installed according to the Smart City Specifications listed in Appendix 13.3 and powered on, as indicated by the Power ON light being illuminated green.
- (b) The District will inspect a Smart City Bundle for proper installation and functionality within 14 days of vendor notification of completion of a Smart City Bundle.

10 ASSET MANAGEMENT

The Developer shall perform Asset Management Work in accordance with this Section 10 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the applicable provisions of the Project Agreement.

10.1 General Requirements

- (a) The Developer shall perform Asset Management Work, or AM Work, on the Streetlight Network to manage, monitor, maintain, renew, and rehabilitate the Streetlight Network in accordance with these Technical Provisions. This includes any and all Work and activities necessary to:
 - (i) achieve, maintain, monitor and report on the Performance Requirements in Table Appendix-1, Table Appendix-2, and Table Appendix-3 in Appendix 13-1;
 - (ii) Make Safe Work, including all activities deemed necessary by the District, to ensure the safety of the general public and users of the transportation facilities, minimize the risk of damage, disturbance, or destruction of District property and Third-Party property, including the removal of obscene graffiti; and
 - (iii) support Vegetation Management and Tree Trimming Work as described in Section 10.4.6 of these Technical Provisions; and
- (b) When performing AM Work the Developer shall:
 - (i) Minimize delay and inconvenience to the general public and users of the transportation facilities in accordance with Section 1 of these Technical Provisions; and
 - (ii) Ensure and verify the quality of AM Work performed.
- (c) The Developer shall perform Asset Management Work on:
 - (i) The Existing Street Light Network from the NTP3 until the end of the Term; and
 - (ii) The Improved Street Light Network and the Expanded Street Light Network from the time of improved or expanded Lighting Unit installation until the end of the Term.
- (d) Asset Management Work shall be performed in accordance with the requirements of this Section 10 of these Technical Provisions and the Performance Requirements in Table Appendix-1, Table Appendix-2, and Table Appendix-3. These Performance Requirements shall apply to Asset Management Work on the:
 - (i) Existing Street Light Network within 90 days following NTP3 in accordance with Table Appendix-1;
 - (ii) Improved Street Light Network upon Substantial Completion of a Project Bundle in accordance with Table Appendix-2 and Table Appendix-3;

- (iii) Upon acceptance of Lighting Units in the Expanded Street Light Network in accordance with Table Appendix-2 and Table Appendix-3.
- (e) The Developer shall be responsible for maintaining Elements at the Minimum Acceptable Condition as described in Table Appendix-2 in Appendices Section 13.1 for the entirety of the Project Term.
 - (i) For the avoidance of doubt, an Element's condition corresponds to the lowest rating level in which one or more criteria are met.
 - a. For example, Anchor Bolts in which 1 of 4 anchor bolts for a T-base to foundation connection are not fully engaged, are misaligned, or are undersized would be considered Poor.
- (f) The Developer shall be responsible for all Asset Management Work on the Street Light Network, with the exception of the following, which shall be the responsibility of the District:
 - (i) Specifically excluded Lighting Units as detailed in Section 1 of these Technical Provisions;
 - (ii) Lighting Units that are outside the Project Limits and are owned and maintained by the National Park Service, the Architect of the Capitol, the DC Parks and Recreation Department, the Department of General Services, and the District of Columbia Housing Authority
- (g) The District, or its agent(s), may perform Condition Assessments at any time at its sole discretion. The District may periodically perform quality assurance reviews by inspecting AM Work recently completed by the Developer. In addition, the District may perform field reviews of completed AM Work for quality and completeness.

10.1.1 Self-Monitoring and Self-Reporting Requirements

- (a) The Developer shall establish a self-monitoring and self-reporting program in order to ensure a safe and reliable Street Light Network and manage the Lighting Units with the main objectives of maximizing public safety, reducing energy demands, and minimizing disruptions.
- (b) Lighting Units shall be monitored and managed 24 hours per day, seven days per week. In particular, the Developer shall provide Make Safe Work 24 hours per day, seven days per week for all activities identified by the District as necessary to Make Safe. The Developer shall provide the appropriate staff levels for these hours of operation and be available to assume these responsibilities from the NTP3 through the end of the Term.
- (c) The Developer shall perform any and all activities necessary for Make Safe Work, District Direct Requests, and Administrative Redirect from the NTP3. Prior to Conversion Work Completion, the Developer shall respond to requests for Field Evaluations and perform any AM Work to bring the Lighting Units assessed as part of the Field Evaluations into compliance with the Performance Requirements in Table Appendix-1. Upon Substantial Completion of a Project Bundle, the Developer shall maintain the Lighting Units of the associated Project Bundle in accordance with the Performance Requirements in Table Appendix-2 and Table Appendix-3.
- (d) The Developer shall interface with the District's work order management system, currently Cityworks, to facilitate self-monitoring and self-reporting.

- (e) The Developer shall equip all its vehicles operating in the Public Space with transmitting devices and an Automatic Vehicle Location (AVL) system shall be a feature of the AMIS, as described in the AMIS Functional Requirements listed in Appendix 13.9.

10.1.2 Interim AVL Tracking System

- (a) As stated in section 10.1.1(d), all vehicles operating in the Public Space shall be equipped with transmitting devices and tracked using an AVL system.
- (b) Until the AMIS system is operational, the Developer shall furnish an AVL system that meets the following requirements:
 - (i) Provide ability to view real-time Automatic Vehicle Location (AVL) of work vehicles in a geographic presentation. Location shall be recorded at increments of 15 minutes or less.
 - (ii) AVL should include name of employee(s) assigned to vehicle.
 - (iii) Store historical work vehicle location data based on AVL records for minimum of 72 hours.
- (c) The AVL system shall include both a Developer and District-facing interface and operability

10.1.3 Developer Asset Management Support Facilities

- (d) The Developer shall maintain adequate support facilities to perform Asset Management Work, such as office space and storage space for the Developer's equipment and spare parts.
- (e) The Developer shall provide the District with the location and contact information for all Asset Management Support Facilities as part of the Asset Management Plan.
- (f) The Developer shall make its support facilities available for inspection by the District upon twenty-four (24) hours' notice.

10.2 Performance Requirements

- (a) Further, the Developer shall be required to assess, report on, prepare response plans for, and respond to any Incident, Emergency, or Severe Weather Event with appropriately qualified staff, equipment and support personnel required to meet the minimum Performance Requirements, as detailed in Table Appendix-1, Table Appendix-2, or Table Appendix-3 and if needed, correct a failure to meet such minimum Performance Requirements within the applicable Cure Period.
- (b) The Cure Periods shown in Table Appendix-1, Table Appendix-2, and Table Appendix-3 will begin in accordance with Part F of the Project Agreement. Noncompliance Points and Deductions will be assessed for Noncompliance in accordance with Tables in Appendix 13.1 and Exhibit 14 of the Agreement.
 - (i) Bridge navigation and underdeck Light Fixtures shall be installed and managed in compliance with the requirements of United States Code of Federal Regulations Part 118 - "Bridge Lighting and Other Signals. Navigation and underdeck Light Fixtures shall be configured to the RMCS.

Constant illumination of Navigation Lights is paramount as the lack of illumination can trigger significant penalties from the USCG and create a significant danger.

10.2.1 Asset Management Noncompliance Events

- (a) The Developer shall provide all necessary Work, including Asset Management Work, to achieve or exceed the Performance Requirements in Table Appenix-2 and Table Appendix-3 of these Technical Provisions. The Developer shall be solely responsible for the quality of the Asset Management Work. With respect to references to the District's publications in Appendix 13.2 of the Technical Provisions requiring specific types of Work, the Developer shall follow the intent of such publications to achieve the specified outcome but shall have discretion as to the use of means and methods.
- (b) The Developer shall record Noncompliance Events in the Asset Management Information System (AMIS) using a mobile device immediately upon discovery of a Noncompliance Event. There is no Cure Period for delayed notification.
- (c) Subject to any applicable Cure Period, the Developer shall accrue Noncompliance Points for Noncompliance Events as per Table Appendix-1, Table Appendix-2, and Table Appendix-3 in Appendix 13.1 of these Technical Provisions and in accordance with Part F of the Project Agreement.
- (d) Noncompliance Events shall result from the failure to meet the minimum Performance Requirements set forth in Table Appendix-1, Table Appendix-2, or Table Appendix-3 for all Work. In the event of recurring Asset Management Noncompliance Events, the District may schedule a meeting with the Developer, at the Developer's expense, to discuss the reason for Noncompliance and action required to mitigate future occurrences of the Noncompliance.

10.2.2 Noncompliance Priority Classification and Cure

- (a) The Developer shall identify and classify all Noncompliance Events according to the Noncompliance priority classification defined in this Section 10.2.2 of these Technical Provisions. The Developer shall classify each Noncompliance Event as either a "Priority 0 Hazard Mitigation" Event, a "Priority 1 Temporary Cure" Event, or a "Priority 1 Permanent Cure and Restoration" Event.
- (b) The Developer shall immediately notify the District via phone call and auto-generation of an email alert from the AMIS of any "Priority 0 Hazard Mitigation" Event when the Developer discovers such events. When the Developer is the first to discover a "Priority 0 Hazard Mitigation" Event, the Developer shall, immediately upon discovery, respond to such "Priority 0 Hazard Mitigation" Event by deploying appropriate resources to mitigate the hazard and ensure the safety of the general public.
- (c) When the District is the first to become aware of a "Priority 0 Hazard Mitigation" Event, the District will immediately notify the Developer via phone call and auto-generation of an email alert from the AMIS. In such cases, within two (2) hours of the District's notification, the Developer shall deploy its resources to mitigate the hazard and ensure the safety of the general public.

- (d) In either case, the Developer shall then cure “Priority 0 Hazard Mitigation” Event so that hazards to the general public are eliminated within the Cure Periods identified in the column entitled “Priority 0 Hazard Mitigation” in Table Appendix-1, Table Appendix-2, and Table Appendix-3.
- (e) The Developer shall permanently cure “Priority 1 Permanent Cure and Restoration” Events within the Cure Periods identified in the column entitled “Priority 1 Permanent Cure and Restoration” in Table Appendix-1, Table Appendix-2, and Table Appendix-3. When permanent cures cannot practically be implemented within the Cure Periods identified in the column entitled “Priority 1 Temporary Cure” in Table Appendix-1, Table Appendix-2, and Table Appendix-3 then temporary remedies may be implemented.
- (f) The Developer shall permanently cure Priority 1 Noncompliance Events within the Cure Periods identified in the column entitled “Priority 1 Permanent Cure and Restoration” in Table Appendix-1, Table Appendix-2, or Table Appendix-3.
- (g) The Developer may submit a written request to extend the Cure Periods for Priority 1 Temporary Cure and Priority 1 Permanent Cure and Restoration in Table Appendix-1, Table Appendix-2, or Table Appendix-3 to the District. The District reserves the right, in its sole discretion, to deem if such cure cannot be completed in a timely manner due to events outside of the Developer’s control.
- (h) The District reserves the right, in its sole discretion, to require modification of the classification of any Noncompliance Event. When Noncompliance Events are identified by the District, the District will classify the Noncompliance Events according to the Noncompliance Event priority classification defined in this Section 10.2.2 of these Technical Provisions.
- (i) The Cure Periods stated in Table Appendix-1, Table Appendix-2, or Table Appendix-3 of these Technical Provisions under each of the above headings shall be deemed to start upon the date and time the Developer first obtained knowledge of, or first reasonably should have known of the Noncompliance Event. For the avoidance of doubt, the Developer shall be deemed to first obtain knowledge of the Noncompliance Event no later than the date and time of delivery of a Service Request to the Developer. The Developer shall investigate reports and complaints on the condition of the Project received from all sources. The Developer shall record response times, asset management records, all relevant inspections and actions taken in respect of Noncompliance Event in the AMIS, including temporary measures and repairs as per the requirements of Section 10.3 of these Technical Provisions.
- (j) If extended periods of cold temperatures or severe winter conditions outside of the ordinary weather patterns of the District of Columbia pursuant to weather records of the National Oceanic and Atmospheric Administration make it impossible for the Developer to cure a Noncompliance Event within the applicable Cure Period, the Developer shall request an extension of the Cure Period and justify the weather conditions preventing such cure, and the District will extend the Cure Period at its discretion. Such approval shall not be withheld unreasonably.

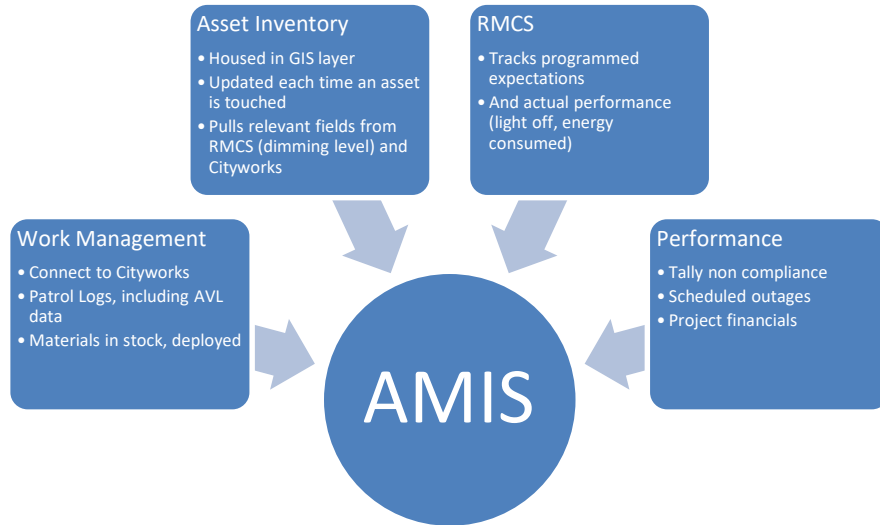
10.2.3 Tracking and Reporting Noncompliance Events

- (a) The Developer shall record and track accruals of all Noncompliance Points in the AMIS in accordance with Section 22 of the Project Agreement and the Performance Requirements listed in Appendix 13.1 of these Technical Provisions.
- (b) Tracking and recording Noncompliance Points shall be made available to the District through a dashboard submitted to the District by the Developer for approval 60 days prior to NTP3. The Developer shall design the dashboards to update in real-time and contain, at a minimum, the following information:
 - (i) Accrual of Noncompliance Points by Noncompliance Event on a daily, weekly, monthly, quarterly, and year-to-date basis; and
 - (ii) Light Fixture available or unavailable status as reported by the RMCS.
- (c) In order to support its quality assurance reviews and reporting, monitoring, and tracking Noncompliance Events and Noncompliance Points, the Developer shall develop a mobile application or mobile version of a website with the capability to provide real-time, or near real-time, read and write access to the AMIS.

10.3 Asset Management Information System

- (a) The Developer shall develop, populate, manage, and use an electronic Asset Management Information System (AMIS) that includes:
 - (i) A database of the Asset Management Work, including references to Lighting Units ;
 - (ii) Documents related to Asset Management Work (e.g. user manuals, as-built drawings, etc.); and
 - (iii) A user-customizable Graphic User Interface (GUI).

The below diagram is an illustration of the universe of data that the AMIS shall collect and organize.



- (b) The AMIS must be secure, searchable, and web accessible. The GUI shall be an interface to the AMIS database and related data sources (i.e. District's Lighting Asset Inventory and District work order management system, which are currently in ArcGIS and Cityworks, respectively) wherein users can interactively create and download queries, check statuses, and remotely control Lighting Units and track Noncompliance Events. The GUI shall include both a Developer/District-facing interface and operability, as well as a more limited public-facing interface and operability. The public-facing interface is intended to provide the public with updates about planned construction, maintenance, Planned Outages, and other information which concerns the public.
- (c) The AMIS shall link to the District's Lighting Asset Inventory, which is currently housed in an ArcGIS database. The Developer shall be granted read/write access to the District's Lighting Asset Inventory. The Developer shall be responsible for maintaining the Lighting Asset Inventory including Element condition changes and updates, clearly marked and timestamped.
- (d) The AMIS shall have a link (refresh rate in accordance with industry standards) to the District's work order management system, which at current is Cityworks 7, to exchange information with the District's work order management system.
- (e) The AMIS shall log all project data, with no rewrite or deletion of data. Thus, at the completion of the term, a complete record of data, from inception of the AMIS, shall be transferred to the District or its Agent.
- (i) The AMIS shall capture and store the status (on/off) of an individual light from the inception of the AMIS until transfer to the District or its Agent.
- (f) The District and the Developer shall enjoy Joint Governance of the AMIS, and the District must agree to any data adjustments.
- (g) The AMIS shall provide work order management capabilities that track individual work order history, installation dates, and other Lighting Unit data in an effort to identify trends and perform preventative maintenance to keep the Street Light Network operating in accordance with the Performance Requirements in Table Appendix-1, Table Appendix-2, or Table Appendix-3.

- (h) The Developer shall provide an AMIS that is consistent with ISO or NIST standards or to standards proposed by the Developer and subject to approval by the District.
- (i) The Developer shall update and upgrade its AMIS to ensure it is consistent with ISO and NIST standards or to standards proposed by the Developer and subject to approval by the District. Updates and upgrades shall be made in a timely manner, including but not limited to ensuring AMIS is current with security packages.
- (j) At a minimum, the AMIS shall fulfill the functional requirements organized into the following categories as detailed in Appendix 13.9 of these Technical Provisions:
 - (i) General Features
 - (ii) Technology
 - (iii) Graphical User Interface (GUI) / Dashboards
 - (iv) GIS System Capabilities
 - (v) Asset Inventory Tracking
 - (vi) Lighting Remote Monitoring and Control Data
 - (vii) Work Order System
 - (viii) Preventive Maintenance Capabilities
 - (ix) Handheld (Mobile) Devices
 - (x) Non-Compliance Tracking
 - (xi) Reporting
 - (xii) Notifications and Alerts
 - (xiii) Automatic Vehicle Location (AVL)
- (k) Training and technical support for the AMIS shall be provided by the Developer. At a minimum, this training and technical support shall:
 - (i) Provide help-desk availability Monday-Friday, during normal business hours from 07:00 to 16:00 for the District;
 - (ii) Provide training for the District, in the District, on operations of the AMIS, how to use the GUI/dashboard, how to run reports, and on other features of the system;
 - (iii) Provide user manuals for GUI/Dashboard and report generation;
 - (iv) Provide support during development of the AMIS as well as throughout the project Term; and
 - (v) Provide future software releases and updates to all applications.

- (l) The format and specifications of the Asset Management Information System (“AMIS”), including the Noncompliance tracking and reporting process, shall be submitted to the District by the Developer for approval 60 days prior to NTP2.
- (m) The AMIS shall be functioning at the onset of NTP2.
- (n) The Developer shall comply with the Technical Requirements for the AMIS in Appendix 13.9.2.
- (o) In the event that a power failure causes disruption of the AMIS and/or RMCS, the Developer shall be allowed a period not to exceed ten (10) minutes for backup power to be engaged and for the AMIS and/or RMCS to be restored.
- (p) According to the Handback requirements in Section 12.2 of these Technical Provisions, at the end of the Term, the Developer shall transfer to the District all software, hardware, backoffice equipment, field equipment, inventory, read/write access, and intellectual property as described in Section 52.2(a) (Intellectual Property License to the District) of the Project Agreement.

10.3.1 Remote Monitoring and Control System (RMCS)

- (a) The Developer shall be responsible for the design, installation, start-up, commissioning, management, and hand-off of a fully functional Remote Monitoring Control System (RMCS) capable of controlling and monitoring all Light Fixtures in the District’s Street Light Network as specified in the following subsections.

10.3.2 System Description

- (a) The core functionality of the system shall provide the capability of remotely monitoring and controlling Light Fixtures.
- (b) The RMCS shall, at a minimum, consist of a set of three interacting component tiers:
 - (i) Field devices (i.e. RMCS nodes and RMCS gateways, if used);
 - (ii) Backhaul communication network which will feed information to; and
 - (iii) The AMIS as per Section 10.3 of these Technical Provisions.
- (c) The RMCS shall use open standards (i.e. TCP/IP, Http, XML), open application programming interfaces (API), must be fully scalable, highly-reliable as stipulated in the Performance Requirements in Appendix 13.1, and responsive.
- (d) As per Section 10.3 of these Technical Provisions, the AMIS shall include a web-accessible user interface that monitors and controls the Light Fixtures and addresses Light Fixture asset queries (e.g., energy consumption report, Luminaire status, dimming control and schedule of one or group(s) of Luminaires, Luminaire malfunction notification, etc.) without the need to install specific software. All data is owned by and must be available to the District through open Application Programming Interfaces (APIs) in real-time.

- (e) The District and the Developer shall enjoy Joint Governance of the RMCS, and the District must agree to any data adjustments.
- (f) Developer shall supply the District with software and mobile applications for up to 15 District staff. Software and applications provided to the District shall allow the same monitoring capabilities as the Developer. The Developer shall provide the District the same control capabilities as the Developer. The District may decide to limit the capabilities of its staff/users at its discretion.
 - (i) The Developer may limit the District's system administration capabilities as appropriate. However, the system administration limitations shall not interfere with the District's monitoring and control capabilities.
- (g) In addition to the access provided by the Developer in the above section 10.3.2(f), the Developer shall provide read-only access to an unlimited amount of District staff/users.
- (h) The system must allow for setting a time schedule for lights to be on/off.
 - (i) Photocells are required for Light Fixtures and shall serve as a backup on/off function, with primary on/off function being controlled centrally.
- (i) The system shall log all performance data, with no rewrite or deletion of data. Thus, at the completion of the term, a complete record of performance data, from inception of the RMCS, shall be transferred to the District or its Agent.
- (j) The RMCS shall incorporate Lighting Units for which there are existing remote monitoring and control systems into the RMCS provided as a part of this Project, including Lighting Units in the Mount Pleasant neighborhood and Highway Lighting Units previously converted to LEDs.
 - (i) The RMCS shall replace any existing remote monitoring and control systems in the District, including nodes and gateways.
 - (ii) The Mount Pleasant neighborhood is outfitted with an RMCS system. However, the system is no longer supported as the company who developed the system is no longer in operation. For avoidance of doubt, this system shall be replaced with the Developer's RMCS system, including nodes and gateways.
- (k) Lighting Units added as part of the Expanded Street Light Network shall be incorporated into the RMCS.

10.3.3 RMCS Specifications

- (a) Concurrent with the submission of the format of the Asset Management Information System ("AMIS"), the specifications of the Remote Monitoring and Control System ("RMCS") shall be submitted to the District by the Developer for approval 60 days prior to NTP3.

10.3.4 System Size and Scalability

- (a) The RMCS shall be capable of performing all functions and meeting all requirements described herein for all Lighting Units in the Street Light Network.

10.3.5 RMCS Nodes

- (a) RMCS Nodes, at a minimum, shall refer to the networked light nodes installed in/on a Light Fixture that follow purchase, installation, start-up, and commissioning and function together to remotely control and monitor the Luminaires.
- (b) At a minimum the RMCS Nodes shall fulfill the Functional Requirements in Appendix 13.9.3 of these Technical Provisions.
- (c) The RMCS Nodes shall comply with the Technical Requirements in Appendix 13.9.4 of these Technical Provisions.
- (d) Lighting Units added as part of the Expanded Street Light Network shall be outfitted with RMCS nodes to allow for incorporation into the RMCS.

10.3.6 RMCS Gateways (where installed/utilized)

- (a) RMCS Gateways shall refer to devices which may serve as a central connection point for other nodes where required. Supplemental gateways are not required for the RMCS.
- (b) At a minimum the RMCS Gateways shall fulfill the Functional Requirements in Appendix 13.9 of these Technical Provisions.
- (c) The RMCS Gateways shall comply with the Technical Requirements in Appendix 13.9 of these Technical Provisions.
- (d) The Developer shall not affix RMCS Gateways to certain Lighting Units. The Lighting Units within the Network that shall not be outfitted with RMCS Gateways can be referenced as follows:
 - (i) By applying the Historic layer, L'Enfant boundary, and Shipstead-Luce boundary in the ArcGIS inventory;
 - (ii) Verizon-owned Poles; and
 - (iii) Washington Globe and Twin 20 Lighting Units are not eligible for RMCS Gateways.
- (e) Lighting Units added as part of the Expanded Street Light Network shall be outfitted with RMCS Gateways, as needed, to allow for incorporation into the RMCS.

10.3.7 RMCS Backhaul Communications

- (a) The RMCS Backhaul Communications network refers to the means through which information contained at the nodes is conveyed to the AMIS.
- (b) The backhaul communications network shall:
 - (i) Securely transmit data from the nodes (AES-128 encryption, minimum); and
 - (ii) Consist of both Ethernet, Wi-Fi and cellular connectivity options. The AMIS shall be capable of integrating nodes/gateways connecting via Ethernet or cellular into the same system.

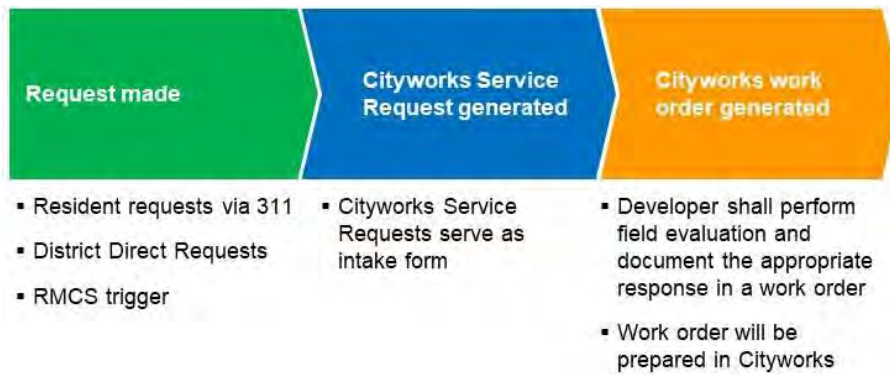
- (c) Note, the District's preference is for cellular connectivity. However, cellular backhaul communications may not be a functional solution in certain areas of the District. In those situations, it is expected that a different technology than cellular will need to be applied.

10.3.8 Lighting Remote Monitoring and Control Data

- (a) The Developer shall integrate the lighting remote monitoring and control data and capabilities into the Asset Management Information System (AMIS) as per Section 10.3 of these Technical Provisions.

10.3.9 Data Management Flow

- (a) Following is the process for which various parties can generate requests which prompts generation of a Service Request and a subsequent Work Order.



- (b) Requests to address lighting Elements can come from a number of sources, including residents, DDOT, the RMCS, or through District Direct Requests.
- (i) Resident requests can be submitted via 311 or through DDOT's call center.
- (ii) DDOT can initiate a service request if they become aware of an issue.
- (iii) District Direct Requests are types of requests that can originate from sources such as Ward or other community requests, results of field inspections conducted by District personnel or Third Parties, etc.;
- (iv) The RMCS or AMIS can automatically generate Service Requests based on certain triggers such as change in the status of a Light Fixture, indication of pole lean or knockdown (should the District decide to select tilt sensor technology), communication failure, etc.; and
- (v) The District's work order management system shall be able to push Service Requests directly to the Developer's AMIS.
- (c) Upon generation of a Service Request, the Developer shall perform a Field Evaluation as per Section 10.7.9 of these Technical Provisions and determine the appropriate course of action in the form of a Work Order.

- (d) After Work is completed, the Developer shall close the Work Order and corresponding Service request.
- (e) Information gathered through the course of Work shall be handled as follows:
 - (i) In instances where there is a change in Lighting Unit and/or Element condition as the result of a Field Evaluation then the Developer shall update the condition information in the District's ArcGIS asset inventory as directed by the District.
 - (ii) Data collected as part of Field Evaluations shall feed into Daily Reports, Weekly Reports, and the Lighting Asset Inventory as necessary, and shall also result in updates to the tracking, monitoring, and recording of Noncompliance Events and associated Noncompliance Points tracking.
 - (iii) In the case that a Service Request was the result of a 311 submission, the Developer shall provide a summary resolution of the Service Request. The resolution summary will be provided back to the customer who submitted the Service Request via the 311 system. If further communication is required, the Developer shall interact through the corresponding Ward representative.
 - (iv) If an issue included in the Daily Report is found to be a non-Street Light issue, the Developer shall forward the issue to the District. The District will forward these issues to the appropriate party.
- (f) District Direct Requests shall apply to the Existing Network, the Improved Network, and the Expanded Network.
- (g) The Developer may employ its own additional work management system, which may push and/or pull from Cityworks. However, the Developer's system may not replace the District's work order management system.

10.3.10 Service Requests

- (a) Service Requests are intake forms developed in the District's work order management system, currently Cityworks 7, to capture requests from various sources and prompt a Field Evaluation.
- (b) The essential data to be captured a Service Request are: status, predefined response comments, and photos.
- (c) The Developer shall manage Service Requests through the District's work order management system.
- (d) A Service Request will be considered open until the Developer formally closes it in the work order management system.

10.3.11 Work Orders

- (a) Work Orders are the appropriate tasks and/or assignments attributed to a Service Request and subsequent Field Evaluation.

- (b) The Developer shall maintain Work Orders in the District's work order management system, currently Cityworks 7, including but not limited to the following data: status, location of work, pole ID tag(s), task(s) to be completed, comment describing work completed and ongoing work, and photos.
- (c) A Work Order will be considered open until the Developer formally closes it in the work order management system.

10.4 Routine Asset Management Activities

The Developer shall perform all necessary Work to fulfill the requirements of Section 10 of these Technical Provisions including but not limited to the Work required in this Section 10.4.

10.4.1 Pole Identification Tag

- (a) The Developer shall furnish, prepare, and install Pole Identification Tags for all poles within the Street Light Network. Pole Identification Tags shall fulfill minimum District requirements and consist of horizontal black/yellow Pole Identification Tags with a unique alpha-numeric ID sequence. The Developer shall identify pole ownership. If there is no existing tag, the Developer shall contact the District to confirm the ownership of the pole.
- (b) The Developer shall request new alpha-numeric ID sequences for new poles prior to acceptance into the Street Light Network and inclusion within the Lighting Asset Inventory, or for existing poles that do not have alpha-numeric ID sequences. The District will provide the Developer with new alpha-numeric ID sequences. The Developer shall record the alpha-numeric ID sequence as part of the information recorded by the Developer within the Lighting Asset Inventory.
- (c) The Developer shall install the Pole Identification Tags such that the orientation of the tag is visible from the roadway and can be inventoried from a vehicle on the street. The Developer shall install the Pole Identification Tags with a Polyethylene Hot Stamped EZ Tag.
- (d) The Developer may elect to use additional means of unique Pole identification, such as RFID tags, that exceed the District's minimum requirements.

10.4.2 Painting

- (a) The Developer shall repaint Elements and/or Lighting Units in accordance with District publications. Paint colors shall comply with all District standards and requirements of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures, including Historic District color requirements. The Developer shall submit all proposed paint colors and materials to the District for approval as per the Design Work submittal process in Section 7 of these Technical Provisions.
- (b) When repainting lead paints, the Developer shall comply with District standards and requirements as stipulated in the District of Columbia Department of Transportation Standard Specifications for Highways and Structures. The Developer shall adhere to District publication requirements for in-kind replacements. At a minimum, the Developer shall:
 - (i) Perform traffic control functions;

- (ii) Close work area to pedestrian and/or vehicular traffic;
- (iii) Abate lead paint;
- (iv) Clean Elements of the Lighting Units, including T-bases, poles, and arms;
- (v) Wear protective gear;
- (vi) Remove and store lead paint;
- (vii) Dispose of lead paint at an accredited drop-off location; and
- (viii) Request District Department of Energy & Environment final inspection.

10.4.3 Cleaning

- (a) The Developer shall clean Elements and Lighting Units in order to meet the Performance Requirements set forth in Table Appendix-1 and Table Appendix-2.
- (b) For the avoidance of doubt, the Developer shall adhere here to the workmanship standards stipulated in the District of Columbia Department of Transportation Standard Specifications for Highways and Structures and any other applicable District publications.

10.4.4 Shield Installation and Alignment

- (a) The Developer shall follow the instructions for shielding described in section 7.3.1 of these Technical Provisions.
- (b) In response to Service Requests related to the installation or alignment of shielding of Light Fixtures, the Developer shall perform a Field Evaluation.
- (c) In cases when the Developer believes that installing shielding or adjusting alignment is not required, the Developer shall notify the District in writing of the reasoning for not installing shielding and include the following items:
 - (i) Description of the situation and considerations of the request;
 - (ii) Thorough nighttime photos of the requested Lighting Unit(s) and surrounding area; and
 - (iii) Explanation and justification for not installing shield or adjusting alignment.
- (d) The District will then review the information submitted by the Developer and approve or deny the Developer's request to not install shielding or adjust alignment.

10.4.5 Anchor Bolts

- (a) Anchor bolts that are visible and not covered shall be routinely monitored to ensure top nuts are fully engaged to base plates and other surfaces, and to ensure that anchor bolts are visibly plum. Anchor bolts shall be visibly free of surface rust and section loss of the exposed portion(s) of threaded rods.

10.4.6 Vegetation Management and Tree Trimming

- (a) The Developer shall not remove vegetation unless absolutely necessary.
- (b) As part of the Design Phase, the Developer shall coordinate with the District's Urban Forestry Division (UFD) and come to a written agreement on Vegetation Management, Tree Trimming, and Use of herbicides/pesticides activities. The Developer shall adhere to this agreement or be considered noncompliant per the Performance Requirements listed in Appendix 13.1 of these Technical Provisions.
- (c) With respect to vegetation management within the Project Limits, the Developer shall be responsible for the following Asset Management Work:
 - (i) Removing undesirable vegetation growing directly on a Lighting Unit;
 - (ii) Removing vegetation obstructing access to Element(s) of a Lighting Unit in an Alley or along a Freeway and/or Expressway in order to perform Work;
 - (iii) Trimming private trees that encroach public space or other vegetation obstructing a Light Fixture to provide proper illuminance and performance of that Light Fixture, District-owned powerline clearance for Streetlight assets, and vegetation/shrubbery clearance (vines, bushes, etc.). Trimming shall commence only after approval from the District's Urban Forestry Division. The Developer shall not be penalized for delays relating to approval from the District's Urban Forestry Division; and
 - (iv) Replacing trees damaged during Work.
- (d) The Developer shall not plant a tree within 15' of a Lighting Unit
- (e) The Developer shall furnish all labor, material and equipment necessary to clear and trim trees of any size in the vicinity of Lighting Units for the purpose of preventing obstruction of Light Fixtures.
- (f) The Developer shall have an arborist ISA-certified in the District to identify the need for, perform, and manage/supervise any tree trimming. The Developer shall retain an Arborist for all Tree Trimming Work under this Section 10.4.6.
- (g) For the avoidance of doubt, the Developer shall not use herbicides or pesticides without the prior written approval of the UFD.
- (h) The Developer shall issue Service Requests to the UFD for street tree issues and/or emergency recovery work through the District's 311 system.
- (i) The Developer shall provide notice to the UFD of de-energized lines and tag such lines.
- (j) The Developer shall notify Homeowners via door hanger for all planned work related to vegetation management and tree trimming.
- (k) The Developer shall adhere to the following pruning, trimming, clearing, and removing standards:

- (i) ANSI Z133 Safety Standards;
- (ii) ANSI A300 Methods;
- (iii) Developer shall perform Work to the maximum extent practical;
- (iv) Developer shall not utilize herbicides/pesticides without the prior written approval of the District's Urban Forestry Division, as per Section 10.4.6 (i);
- (v) Developer shall not perform Tree Topping;
- (vi) Developer shall remove all debris generated the site and discard of such debris; and
- (vii) During emergency recovery performed by Third Parties, the Developer shall provide safe working conditions during de-energizing and re-energizing power.

10.4.7 Maintenance Repairs from Service Requests and Work Orders

- (a) The Developer shall be responsible for responding to any and all Service Requests or Work Orders pertaining to the assets and shall perform all necessary maintenance repairs on the assets in response to Service Requests and Work Orders, or as otherwise directed by the District.
- (b) The Developer shall ensure timely and effective response to Service Requests by conducting a field investigation of the asset within 24 hours of receipt of the Service Request, in accordance with the Performance Requirements in Appendix 13.1 of the Technical Provisions.
- (c) Following the field investigation, the Developer shall generate a Work Order in the District's work order management system, currently Cityworks 7, for any maintenance or repair Work to be performed. The Developer shall prepare the Work Order in accordance with the requirements specified in Section 10.3.11 of the Technical Provisions.
- (d) The Developer shall be responsible for performing all Work identified in the Work Order pertaining to the assets and shall close out the Work Order upon completion of the Work.

10.4.8 High Mast Lifting Mechanisms

- (a) The Developer shall be responsible for all systems and components related to the lifting and lowering mechanisms for high mast lighting and ensure that these systems are functioning as designed. This includes (but is not limited to) mounting frames and rings, latch systems and components, guide rods and arm rollers, Winch assemblies, hoist cables, junction boxes, and all electrical systems and components related to lift/lower mechanisms.

10.5 Planned Outages

- (a) The Developer shall obtain District approval for all Planned Outages and Permitted Closures.
- (b) Planned Outages include the interruption of power to a Lighting Unit, series of Lighting Units, and/or RMCS for the purpose of Routine Asset Management Activities, Asset Management Work, or any other required activities.

- (c) The Developer shall minimize the duration of Planned Outages and Closures.
- (d) Planned Outages shall be submitted to the District no later than 48 hours prior to performing Work. Submissions of Planned Outages shall include at a minimum the expected dates, locations, times, and durations of the Planned Outages.
- (e) The schedule of Asset Management Work, including Routine Asset Management Activities, shall describe all of the Asset Management Work and Routine Asset Management Activities for the given period and shall include, at a minimum, the expected dates, Lighting Units, times, durations of each Planned Asset Management activity, and impact on traffic, including any proposed Closures. The schedule of Planned Asset Management Work shall include a contingency plan to expedite traffic flow or reopening of closed lanes in the event of a traffic queue greater than twenty (20) minutes.
- (f) The schedule of Planned Asset Management Work, and any changes thereof, shall be developed in cooperation with the District and other Government Entities or Third Parties impacted by such proposed Closures to minimize the impact on traffic and avoid the scheduling of proposed Closures during local events.
- (g) The Developer shall consider the impact on traffic for any scheduled Planned Asset Management Work so as to minimize traffic queuing. The Developer shall schedule Planned Asset Management Work requiring Closures expected to last more than six (6) hours (including Routine Asset Management Activities and Renewal Work) only when a traffic analysis performed by the Developer indicates that traffic queuing will be minimized.
- (h) When traffic queuing greater than twenty (20) minutes occurs during the execution of Planned Asset Management Work, the Work shall be discontinued immediately and may resume when traffic queuing has ceased or shall be rescheduled at a later time.
- (i) When changes occur in the Developer's schedule of Asset Management Work (including changes in the Renewal Work Schedule) for which a Closure is required, the Developer shall request and obtain the approval from the District at least fourteen (14) days before undertaking the Work that requires such Closure. Such requirement does not apply to Work in response to Incidents, Severe Weather Events, or Emergencies.
- (j) When acting in response to an Incident, Emergency, Severe Weather Event, or to cure a Priority 0 Hazard Mitigation, the Developer shall notify the District immediately of any Closures.

10.6 Response Following Emergency, Incident, and Severe Weather Event

- (a) This section covers the Developer's responsibilities following the instance of Emergency, Incident, Severe Weather Event, and related circumstances described in sections 10.6.1 through 10.6.8.
- (b) In the event that responding to the circumstances described in section 10.6 require redirecting resources away from Work to cure noncompliance events, the Developer may be granted additional time to perform the Work to cure noncompliance. The District and the Developer shall coordinate and agree on the additional time to be granted to cure noncompliance.

10.6.1 Incident

- (a) An Incident is an unplanned or forecasted event that adversely impacts Lighting Unit and/or Element condition and/or traffic conditions posing a safety hazard to the general public, Developer personnel, and/or District staff. In the event of an Incident, the Developer shall notify the District no later than an hour from identification of an Incident. The Developer shall be required to respond promptly to assess the affected area(s) and coordinate with the District to establish time frames for repairs.
 - (i) In the event that the Developer encounters a knocked down pole, the Developer shall contact MPD to acquire a report.
 - (ii) If no report exists, the Developer shall request in writing that MPD produce a report.
 - (iii) After steps i and ii have been completed, the Developer will have fulfilled its duty to pursue an MPD report.
 - (iv) For reference, the District's process for responding to pole knockdowns is described in Appendix 13.11.
- (b) Developer shall Make Safe as deemed necessary by the District to remedy all hazardous conditions in accordance with these Technical Provisions, and in particular the Performance Requirements in Table Appendix-1, Table Appendix-2, or Table Appendix-3.
- (c) No later than 24 hours after the identification of an Incident, the Developer shall provide the District with a preliminary damage report of all Elements impacted by the Incident. This report shall include, but not be limited to, an individual analysis of the site or sites affected by the Incident with the following information:
 - (i) Location, date, and time of Incident;
 - (ii) Cause and description of damage including damages to Elements (Third Party information, if applicable);
 - (iii) Description of failure or issue and system impacts;
 - (iv) Description of site conditions supported by photo documentation (digital only);
 - (v) List of damaged Elements with damage assessment; and
 - (vi) Traffic impact.
- (d) Following the damage report, the Developer shall detail the work required to return all impacted Elements to Fair (or numerical score of 3) or better condition in an Incident Response Plan, which shall be delivered to the District in the time frame determined by the District depending on the severity of the Incident. The Developer shall coordinate the Response Plan with the District to establish agreed-upon time frames for the Developer to conduct all necessary repairs.

10.6.2 Severe Weather

- (a) The Developer shall proactively deploy resources to minimize outages and safety hazards in advance of forecasted inclement weather and Severe Weather Events. No later than 24 hours following the conclusion of a Severe Weather Event, the Developer shall commence visual inspections and damage assessments as usual and customary usage of trade safety practice allows and provide the District with a detailed damage report of all Elements impacted by the Severe Weather Event. This report shall include, but not be limited to, an individual analysis of the site or sites affected by the Severe Weather Event with the following information:
 - (i) Date and time of Severe Weather Event;
 - (ii) Cause and description of damage including damages to Elements (third party information, if applicable);
 - (iii) Description of failure or issue and system impacts;
 - (iv) Description of site conditions supported by photo documentation (digital only);
 - (v) List of damaged Elements with damage assessment; and
 - (vi) Traffic impact.
- (b) In the event that the impact of an occurrence of a Severe Weather Event, is so extensive that the affected site(s) extend beyond one Ward, a high-level damage report shall be made available within 24 hours after the conclusion of the event. This report shall include an analysis of the site(s) affected with the following information:
 - (i) Date and time of Severe Weather Event;
 - (ii) Status report, including cause and description of damage;
 - (iii) Description of failure or issue and system impacts;
 - (iv) Summary of damaged Elements, including type and number; and
 - (v) Traffic impact.
- (c) Following the damage report, the Developer shall detail the work required to return all impacted Elements to Fair (or numerical score of 3) or better condition in a Severe Weather Event Response Plan, which shall be delivered to the District in the time frame determined by the District depending on the severity of the Severe Weather Event. The Developer shall coordinate the Response Plan with the District to establish agreed-upon time frames for the Developer to conduct all necessary repairs to restore service as soon as reasonably practical at the District's approval.
- (d) Following a Severe Weather Event, the District may request that the Developer further assess the Elements impacted by the Severe Weather Event or conduct supplemental reporting to meet District, Federal, or other Governmental Entity requirements. The Developer is required to

complete any reporting requested by the District to meet the Performance Requirements in Table Appendix-1, Table Appendix-2, and Table Appendix-3. The District will notify the Developer of any supplemental reporting requirements and will coordinate with the Developer to identify required reporting information and the time frames to complete any reporting.

10.6.3 Emergencies

- (a) No later than 24 hours following service of notice under Section 50.2(a) (Notice to the Developer) of the Project Agreement or upon the occurrence of an Emergency, the Developer shall commence visual inspections and damage assessments as usual and customary usage of trade safety practice allows and provide the District with a detailed damage report of all Elements impacted by the Emergency. This report shall include all Elements impacted by the Emergency and shall include, but not be limited to, an individual analysis of the site or sites affected with the following information:
 - (i) Date and time of Emergency event;
 - (ii) Cause and description of damage including damages to the assets of the Project (third party information, if applicable);
 - (iii) Description of failure or issue and system impacts;
 - (iv) Description of site conditions supported by photo documentation (digital only);
 - (v) List of damaged Elements with damage assessment; and
 - (vi) Traffic impact.
- (b) In the event that the impact of an occurrence of an Emergency, natural or otherwise, is so extensive that the affected site(s) extend beyond one Ward, a high-level damage report shall be made available within 24 hours after the occurrence of the event. This report shall include an analysis of the site(s) affected with the following information:
 - (i) Date and time of Severe Weather Event;
 - (ii) Status report, including cause and description of damage;
 - (iii) Description of failure or issue and system impacts;
 - (iv) Summary of damaged Elements, including type and number; and
 - (v) Traffic impact.
- (c) Following the damage report, the Developer shall detail the work required to return all impacted Elements to Fair (or numerical score of 3) or better condition in an Emergency Response Plan, which shall be delivered to the District in the time frame determined by the District depending on the severity of the Emergency. The Developer shall coordinate the Response Plan with the District to establish agreed-upon time frames for the Developer to conduct all necessary repairs to restore service as soon as reasonably practical at the District's approval.

10.6.4 Special Events

- (a) The Developer shall have a plan for emergency preparedness for Holidays, weather events, and Special Events. Developer personnel shall be stationed strategically around the city in order to respond to requests (e.g., on both sides of the Mall).
 - (i) The District will instruct the Developer personnel to be stationed within secure area or outside secure area, which will be defined by the District depending on the Event;
 - (ii) Events that require staging within the District or within specific neighborhood(s) include those with expected or actual Crowd size of greater than 250,000 people; and
 - (iii) The Developer shall plan to account for closure of main streets leading to the District or to event location(s) such as closed tunnels, bridges, major streets, etc. and natural disasters that may prevent contractor from responding to emergencies within a reasonable time frame.
 - (iv) Prior to an event, the District may instruct the Developer to conduct activities to prepare for the event. The Work may include but is not limited to tightening anchor bolts.

10.6.5 Hazardous Materials

- (a) The Developer shall respond to any Hazardous Material event that originates within the Project Site and take remedial actions as per the Performance Requirements set forth in Table Appendix-1, Table Appendix-2, or Table Appendix-3 of these Technical Provisions.
- (b) Expected instances of a discovery of Hazardous Material events not caused by Developer release include, without limitation:
 - (i) Discovery of motor oil or other hazardous liquid or foreign object(s) in a manhole during or following the Developer's Work in a manhole.
 - (ii) Discovery of lead paint on Poles.
 - (iii) Discovery of asbestos on Lighting Units.
- (c) The Developer shall follow the requirements set forth in Article 13 of the Project Agreement regarding responding to Hazardous Materials events.
- (d) To prepare for a Hazardous Material event, the Developer shall provide all qualified staff with the appropriate levels of training, certification, and equipment necessary to mitigate impacts of environmental contamination.
- (e) The Developer shall manage all cleanup operations and perform any monitoring of the affected area(s) in accordance with all Laws and Governmental Approvals.
- (f) Upon the Release of Hazardous Materials, the Developer shall:
 - (i) Respond promptly to assess the affected area(s);

- (ii) Contain and mitigate the contamination;
 - (iii) Clean-up the affected area(s); and
 - (iv) Inform the District.
- (g) The Developer shall further develop and implement a comprehensive plan for the long-term cleanup and monitoring of any Hazardous Materials as needed. This plan shall be submitted to District for review and comment.

10.6.6 Stray Voltage

- (a) Stray Voltage presents immediate danger to life and safety. When conducting an Inspection or Condition Assessment, the Developer shall perform detection tests of Stray Voltage and promptly remedy detected Stray Voltage through Make Safe Work.
- (b) The Developer shall use the proper equipment to test for Stray Voltage as part of Condition Assessments, identify the source of the Stray Voltage, perform any and all necessary Make Safe Work deemed necessary by the District, and work with appropriate Third Parties to permanently cure the source of the Stray Voltage.
- (c) There shall be no occurrences of Stray Voltage within or originating from the Street Light Network.
- (d) Typical causes of Stray Voltage may include:
 - (i) Poorly-insulated or uninsulated wires contacting a Pole;
 - (ii) Broken underground conduit with water creating a path to sidewalk area;
 - (iii) Metal fence posts driven through a conduit; and
 - (iv) Exposed abandoned wire in the ground.

10.6.7 Administrative Redirect

- (a) In certain circumstances, the District may require the Developer redirect any existing or planned Work or perform additional Work. Examples of these circumstances include but are not limited to: routine Work on Streetlight Elements that the District wishes to prioritize, a sporting event, Inauguration, or any combination of events with anticipated combined attendance over 10,000 people, Work required under direction from elected officials, or Work pertaining to Lighting Units that are under the jurisdiction of the National Park Service, the Architect of the Capitol, the DC Parks and Recreation Department, Department of General Services, the District of Columbia Housing Authority, or other Third Parties.

This Work is known as “Administrative Redirect.” In such instances, the Developer shall be responsible for performing any Work required under Administrative Redirect:

- (i) For assets inside the project scope, there are no limits to Administrative Redirect, including but not limited to bolt tightening, shielding, and Special Events.
 - (ii) For assets outside the Project Limits, the Developer is responsible for no more than 25 Administrative Redirect requests per year outside the Project Limits. The Developer shall perform a Field Evaluation and then perform Make Safe Work and any other Work as directed by the District.
 - (iii) The District may deem certain Administrative Redirect Work as High Priority, such as Work that may result from the direction of elected officials. Per Table Appendix-1 and Table Appendix-2 located in the Appendices, the mitigation, cure, restoration, and intervals of recurrence shall remain the same for all Administrative Redirect Work. However, the penalties for noncompliance are heightened for Administrative Redirect deemed High Priority.
- (b) The Developer shall execute any request for Administrative Redirect promptly and prioritize such request above any other Work that is not otherwise Make Safe Work.

10.6.8 Theft

- (a) The Developer is responsible for the integrity of the Street Light Network, in particular the repair/restoration of Lighting Units in response to theft. In the event of theft of a Lighting Unit and/or elements of a Lighting Unit, the Developer shall restore the Lighting Unit to its condition prior to the act.

10.7 Inventory Activities

10.7.1 Lighting Asset Inventory

The Existing Lighting Asset Inventory includes 72,051 Lighting Units, including 37,407 District-Owned Poles, 28,276 Poles owned by owned by Pepco and 6,368 owned by Verizon.

The Developer shall coordinate with the District to configure the District's Lighting Asset Inventory to do the following:

- (i) Track individual and grouped asset activities and history, including service requests, work orders, inspections, repairs, replacement, refurbishment, maintenance, upgrades, etc.
- (ii) Track Element-specific product and equipment data, location, including manufacturer, model, serial, number, date of manufacture, and Pole Identification Tag.
- (iii) Furnish, install, and maintain Pole Identification Tags for each pole and track in Lighting Asset Inventory.
- (iv) Track as-built drawings, product literature, and any other documentation provided with a Lighting Unit and associated Element(s) materials and attach it to one or many Lighting Unit(s) in the Lighting Asset Inventory.

- (v) Provide ability to upload photos and relate them to specific Lighting Unit(s) and/or Element(s), including photos of deficiencies, inspections and before/after work order photos.
- (a) Upon Substantial Completion of a Project Bundle, the Developer shall update its Lighting Asset Inventory and provide the District with updates to the Lighting Asset Inventory, including recording the condition and attaching photographs of the Lighting Unit Elements.
- (b) Data encompassed in items i through v in the above list shall be stored in the Developer's AMIS and shall be available to be referenced by query. The Developer shall include certain key information in the District's asset inventory, currently housed in ArcGIS, such as descriptive information of Lighting Unit, last service request, most recent photos, and latest condition information. As part of the Design phase of Work, the Developer shall coordinate with the District to determine the appropriate fields to populate in the asset inventory.

10.8 Condition Assessment Activities

The Developer shall perform an Element-level Condition Assessment to commence at the beginning of Year 8 of the Project Term. Recording and reporting on Condition Assessments shall be Element-based, include a geotag, and be stored in the ArcGIS Lighting Asset Inventory. Condition Assessments may also be conducted as part of Field Evaluations. The following Elements, as applicable, will be inspected and rated for all Lighting Units within the Project Limits.

- (a) Foundations – This Element includes foundation(s) that are constructed of concrete, reinforced concrete, or steel. Inspectors should assign ratings based on the overall condition of the foundation and its ability to function properly. The condition of grout pads, if present, shall also be included in this element.
- (b) Anchor Bolts – This Element includes anchor bolts, anchor nuts, leveling nuts, and washers connecting the light pole or transformer base to the foundation.
- (c) Transformer Base (T-Base) – This Element includes the transformer base, t-base cover, and bolts, washers and nuts connecting the light pole to the transformer base.
- (d) Poles – This Element includes the vertical posts, handhole covers, and caps for the posts. This Element may be painted, unpainted, or galvanized; steel, aluminum, cast iron, fiberglass or wood.
- (e) Arms – This Element includes the arm or Luminaire support and connection between the arm and pole.
- (f) Luminaires – This Element includes Luminaires and all associated electrical components, lamps, Luminaire controls, and mounting/connection to the pole or arm.
- (g) Electrical Wires – This Element includes wires that are visible inside Handholes and T-bases.

For non-District-owned Elements, the Developer shall coordinate Asset Management Work with Utility Owners per Section 6 of these Technical Provisions.

10.8.1 Condition Rating Scale

The Condition Rating Scales listed in Appendix 13.10 of these Technical Provisions are to be applied at the Element-level. The following considerations apply:

- (a) The detailed rating scales are illustrative in nature and are intended to provide guidance in terms of commonly found deficiencies and how they should be rated.
- (b) The guidance is not intended to be all encompassing, as other deficiencies may be discovered in the field, nor is the guidance intended to overrule the inspector's judgment of a deficiency.
- (c) According to the detailed guidance in Appendix 13.10 of these Technical Provisions, the inspector's engineering judgment should be used when assigning ratings, recommendations, and deficiency correction priorities.

As such, the qualifications and training of the inspectors is of paramount importance and is further detailed in the following subsections.

10.8.2 Timing of Condition Assessment

A Condition Assessments shall be performed according to the following parameters:

- (a) A full Condition Assessment of each Element of the Network shall commence at the beginning of Year 8 of the Project Term and shall be completed within 365 days.
- (b) The Developer shall meet U.S. Coast Guard requirements for inspection of marine Lighting Units as specified in the United States Code of Federal Regulations Part 118 - "Bridge Lighting and Other Signals".

10.8.3 Condition Assessment Planning, Training and General Procedures

- (a) The Developer shall conduct training for inspectors who will perform Condition Assessments to ensure inspectors have a common understanding of the Condition Rating Scale in order to consistently and uniformly perform Condition Assessments. Training shall include but is not limited to a classroom training session and field observations. The Developer shall coordinate inspector training with the District and allow District staff to attend all training sessions at their discretion.
- (b) While performing Condition Assessments, inspectors shall conduct visual inspections of each Element from the ground. Binoculars shall be used to assess Elements that cannot be easily seen from ground level (e.g., arms and Luminaires at 30 feet and above). Digital photographs can also be used to inspect Elements not easily seen from the ground. When needed, bolt covers and t-base/pole skirt access door covers shall be removed to allow for visual inspection of anchor bolts. Covers shall be re-installed at the end of each Condition Assessment.

10.8.4 Condition Assessment Personnel Qualifications

Asset Management personnel shall meet the standards outlined in Section 10.8.4 of these Technical Provisions. The qualifications for personnel involved in performing Condition Assessments on Lighting Units are as follows:

- (a) Condition Assessment Program Manager: The Condition Assessment Program Manager is in charge of the overall scheduling, quality assurance, and inventory data management associated with the Condition Assessments. The Condition Assessment Program Manager shall meet the following minimum qualifications:
 - (i) Registered Professional Engineer in the District of Columbia with a minimum of 10 years of experience in ancillary highway structure inspections in a responsible capacity; and

- (ii) Successfully completed a FHWA approved Ancillary Highway Structures Inspection and Maintenance Course within the past 5 years.
- (b) Condition Assessment Team Leader: The Condition Assessment Team Leader sets the task schedules, organizes maintenance of traffic, lane closures and parking restrictions as necessary, and is in charge of the Condition Assessment team while in the field. The Condition Assessment Team Leader shall have successfully completed the FHWA approved Ancillary Highway Structures Inspection and Maintenance Course within the past 5 years. Additionally, the Inspection Team Leader shall meet one of the following minimum qualifications:
 - (i) Have five (5) years of experience in ancillary highway structure inspections in a responsible capacity; OR
 - (ii) Have National Certification in Engineering Technologies (NICET) Level III or IV certification in Structure Inspection; OR
 - (iii) Have all of the following:
 - a. A bachelor's degree in engineering from a college or university accredited by or determined as substantially equivalent by the Accreditation Board for Engineering and Technology; and
 - b. Have successfully passed the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering Exam; and
 - c. Two (2) years of experience in ancillary highway structure inspection.
- (c) Condition Assessment Team Member: The Condition Assessment Team Member is responsible for supporting the Team Leader in organizing and performing inspections.
- (d) For personnel required to have successfully completed the FHWA approved Ancillary Highway Structures Inspection and Maintenance Course, successful completion of this course is required every five (5) years.
- (e) All inspection personnel required to climb or work in an aerial lift shall have successfully completed an OSHA-approved "Fall Protection" course/class, which fulfils the requirements of OSHA 1926.503.
- (f) All inspection personnel should be able to physically perform the work.

10.8.5 Condition Assessment Team Member's Judgement

- (a) The Condition Assessment Team Member is responsible for performing a thorough and detailed inspection of each and every Element using formal training and the guidance provided herein. The Condition Assessment Team Member is responsible for using sound engineering judgment and experience in determining specific details or factors that could affect the structural integrity of Elements or the traveling public. Examples of this include assigning the condition ratings for each Element, assigning repair recommendations, and assigning priorities for those recommendations.

10.8.6 Condition Assessment Safety

- (a) Safety of the Condition Assessment Team Members and the traveling public is paramount when performing daytime and nighttime condition assessments of Elements. As such, the Condition Assessment Team Member shall, as part of the planning and preparation process, perform a job safety analysis in order to identify the typical safety hazards and mitigate risk for both the

Condition Assessment team and the traveling public. It should be noted that special conditions could arise during the Condition Assessment that were not identified as part of the safety analysis. Should a hazardous safety condition arise during the Condition Assessment that was not anticipated or expected, the Condition Assessment operation shall be halted until the hazardous safety condition is addressed. If the hazardous condition cannot be addressed on site, the Condition Assessment operation shall be postponed until said hazardous condition is or can be addressed.

- (b) The following general safety policies are provided to assist Condition Assessment personnel in mitigating risk during Condition Assessments:
 - (i) Condition Assessment Team Members and other personnel shall wear, at a minimum, high visibility safety apparel that meet FHWA and District requirements. As necessary, other safety equipment such as hard hats, safety shoes, safety glasses and gloves should be used.
 - (ii) All overhead Condition Assessment activities shall be limited to areas over travel lanes that are closed to traffic.
 - (iii) Maintenance of Traffic (MOT) procedures shall be in accordance with the Technical Requirements.
 - (iv) Vehicles shall be located as far off the travel lane as possible when performing shoulder or median work.
 - (v) Vehicles shall be equipped with high intensity rotating, oscillating, or flashing strobe lights.
 - (vi) The Condition Assessment Team Member shall consider all wiring, conduits, junction boxes, and all other components of the lighting system to be energized and operational. The Condition Assessment Team Member shall follow all District and OSHA guidance for working around and near electrical hazards.
 - (vii) Condition Assessment operations shall not be conducted in inclement weather unless deemed necessary due to an observable emergency condition. Should Condition Assessment operations be underway on a specific structure at the time of inclement weather, the operations may continue until the Condition Assessment is completed or roadway conditions become hazardous to the traveling public. In both cases, the operation shall be terminated until the inclement weather passes from the area.
 - (viii) When nighttime Condition Assessments are required, the Condition Assessment Team Members must take steps to ensure adequate illumination of the Condition Assessment surfaces and visibility of the Condition Assessment Team Members. Consideration shall be given to placement and movement of the lights to properly illuminate all areas of the Lighting Unit being inspected to eliminate shadows and provide the best possible visual inspection conditions. Lights must be positioned so that they will not be a distraction to or impair oncoming motorists or pedestrians.

10.8.7 Condition Assessment of Non-District-Owned Elements

- (a) During Condition Assessments, the Developer may encounter non-District-owned elements which affect a Lighting Unit. If the non-District-owned Element is in a state that negatively affects or may negatively affect the function of a Lighting Unit, the Developer shall alert the District of the issue. For example, if a Lighting Unit is attached to a non-District-owned structure,

and the structure appears to be leaning and/or is in danger of falling, the Developer shall alert the District of the danger.

10.8.8 Access and Maintenance of Traffic Requirements

- (a) Maintenance of Traffic, including shoulder and lane closures, may be required for inspection of Lighting Units. Maintenance of traffic shall be planned and conducted in accordance with Section 11 of these Technical Provisions.
- (b) When planning the inspection of Lighting Units, the Condition Assessment Team Leader should review previous Condition Assessment data (once available) and locations of the Lighting Units to determine if special access requirements exist that require maintenance of traffic or special equipment. Special equipment, including, but not limited to, bucket trucks, snoopers, or a man lift/scissor lift, may be required to perform the inspection of certain Lighting Units. Examples of Lighting Units that may require special access equipment for inspection include underpass lights, navigation lights, and overhead sign structure lights.

10.8.9 Elements Not Visible for Condition Assessment

- (a) When an Element is not visible for Condition Assessment (e.g., a completely buried foundation or t-base cannot be accessed, etc.), the Developer shall prepare a plan to maintain the Element in a state of minimum acceptable condition according to the Performance Requirements in Table Appendix-1, Table Appendix-2, or Table Appendix-3 of these Technical Provisions and then perform a Condition Assessment on any Elements that were previously inaccessible.

10.8.10 Pre-Condition Assessment Procedures

- (a) A pre-condition assessment review of information should be conducted prior to any Lighting Unit Condition Assessment. All historical records should be located and reviewed, such as as-built drawings, prior Condition Assessment reports, shop fabrication drawings, and previous notes on traffic control. Condition Assessment orientation and nomenclature should be established prior to performing the Condition Assessment. Nomenclature for Lighting Unit orientation is typically related to the direction of roadway travel.
- (b) The Condition Assessment Team Members should ensure that they have all basic tools and equipment needed to perform the Condition Assessment, which may include the following: standard personal protective equipment (safety vest, hard hat, steel toe shoes, etc.); gloves; safety glasses; flashlight; handheld device with GPS and AMIS system access (iPad or similar); camera; shovel; mason hammer; level; plum bob; tape measure; folding ruler; calipers; socket set; drill bits; wrenches; screw drivers; drill; spotting scope/binoculars; pliers; voltage tester; WD-40; Electrical tape; box cutter; and, first aid kit.

10.9 Attachments

- (a) The Developer shall identify, photograph, and record the presence of Attachments on Elements of the Street Light Network during all Condition Assessments, according to the requirements of these Technical Provisions. Attachments may be connected to Elements of the Street Light Network that are owned by the District, other government entities, utility companies, or private entities.
 - (i) Examples of attachments to Elements of the Street Light Network include traffic signals, pedestrian signals, CCTV cameras, traffic sensors, display screens, beacons, mirrors,

speed cameras, speed meters, solar panels, microwave detectors, parking occupancy sensors, emergency vehicle sensors, smart vehicle detectors, video vehicular detection cameras, PEPCO radio transmitters, MPD CCTV cameras, police radio transmitters, speed information detectors, shot spotter sensors, weather stations, short haul antennas for wireless Ethernet bridges, Wi-Fi access points, proximity sensors, video notes, sensitivity sensor pods, DC Water data collector units, small cell antennas and related equipment, and other unknown objects.

- (b) For the betterment of safety and security within the District, MPD and DDOT are partnered on multiple projects involving Street Light Assets in the public space, including installation of MPD CCTV cameras on Poles. The Developer shall meet the following requirements related to MPD CCTV cameras:
- (i) During the D&C Period, the District will provide the bidder with a list of Poles that include MPD CCTV cameras. The Developer shall reconnect MPD CCTV cameras per the instructions provided by the District.
 - (ii) For the Improved Network and Expanded Network, or following the D&C Period through completion of the Project Term, MPD will provide MPD CCTV cameras to the Developer. The Developer shall install MPD CCTV cameras per the instructions provided by the District.
 - (iii) Reconnection and installation Work performed for items i and ii above shall be performed by a licensed journeyman electrician.
 - (iv) All Work and materials used must be in accordance with the District of Columbia Department of Transportation Standard Specifications for Highways and Structures and NEC.
 - (v) Before commencing reconnection or installation Work, the Developer shall verify that Poles are in suitable condition for attachments, including ensuring Poles are not leaning, broken or otherwise damaged. The Developer shall verify there are secondary Street Light cables present.
 - (vi) For attaching MPD CCTV cameras to wood Poles, the Developer shall attach camera equipment onto wood pole using steel banding straps. Use the appropriate number of straps to accommodate the equipment weight. Install two #10 AMG copper cables from the equipment connection point to the existing wood pole secondary point. The cables shall be covered and securely fastened to the pole using 2inch PVC U-guard. Connect to the secondary cables by opening/removing the existing split bolt, inserting new cables, and closing/ reattaching split bolt. This applies to the hot and neutral. The third cable shall be one #8 stranded bare copper cable. This shall be connected to the existing earth grounding system via a split bolt connector on the wood pole.
 - (vii) For attaching MPD CCTV cameras to metal Poles, the Developer shall attach camera equipment onto metal pole using the same steel banding straps and use the appropriate number of straps to accommodate the equipment weight. Drill a $\frac{3}{4}$ inch hole through the metal pole to accommodate the use of an outdoor waterproof GFCI receptacle (Hole shall be patched with a watertight duct seal). There shall be a continuous cable run from the receptacle to the manhole connection point. Connect the two #10 cables AMG cable to the secondary cables inside the manhole using metal barrel compression connectors.

The #8 grounding cables from the receptacle shall be connected to the existing ground rod inside the pole foundation. Lastly, at the receptacle connection point, the camera equipment cables shall be fixed with a plugin connector to accommodate the receptacle.

- (viii) For clarification, DDOT will pay Pepco for energy used by Street Light assets. MPD is responsible for establishing a separate agreement with Pepco for energy consumed by MPD CCTV cameras.
- (ix) The Developer shall meet the requirements included in section 32.12 of the Project Agreement.
- (c) The Developer shall identify, photograph, and record the presence of attachments on Elements of the Street Light Network during all Condition Assessments, according to the requirements of these Technical Provisions.
- (d) The Developer shall identify the owner of the attachment, and when possible, shall photograph and record any labels that identify possible attachment ownership.
- (e) When Work is performed that affects an attachment, the Developer is responsible for notifying any identified attachment owner. The Developer shall photograph the attachment before it is removed. In the case that the Developer is responsible for reinstalling the attachment, the Developer shall photograph the attachment after it is re-installed.
- (f) The Developer is responsible for removing, storing, installing a temporary replacement, taking down the temporary replacement, and re-installing District-owned attachments according to District guidelines and standards.
- (g) For attachments that are signs, the Developer is responsible for notifying the District Streetlight Team to inspect District-owned signs after they have been re-installed.
- (h) The Developer is responsible for removing and storing attachments that are not District-owned throughout the Project Term. The attachment owner is responsible for collecting and re-installing attachments that are not District-owned.
- (i) The Developer may be responsible for removing attachments through District Direct Requests. The Developer may be responsible for storing attachments through District Direct Requests throughout the Project Term. The Developer may be responsible for disposing of attachments.
- (j) The Developer shall be responsible for meeting the requirements pertaining to small cells listed in section 5.3, 10.10.1, and 10.10.2 of these Technical Provisions.
- (k) During the Work performed by small cell providers described in Section 5.3 of these Technical Provisions, specific Lighting Units will be temporarily removed from the Street Light Network. During this period, the Lighting Unit will not be subject to the performance requirements listed in Appendix 13.1 of these Technical Requirements. The Lighting Units shall be subject to the performance requirements following acceptance by the Developer back into the Street Light Network.

10.10 Inspections

- (a) Three types of inspections are to be conducted during the Project Term.
 - (i) Field inspections
 - (ii) Construction Inspections
 - (iii) Final Inspections
- (b) Inspections are performed on in-service Lighting Units as part of Field Evaluations and shall consist of:
 - (i) Verification of all basic Lighting Unit data;
 - (ii) Assessment of all Elements; and
 - (iii) Inspect all Elements for changes from previously-recorded data. Historical Condition Assessment data shall be available on-site for reference.

10.10.1 Final Inspection

- (a) These inspections are to be performed as part of acceptance of Lighting Units into the Street Light Network.
- (b) The Developer shall prepare an acceptance procedure, including testing procedures, and perform Condition Assessments of the Luminares and Lighting Units built in the Public Space by the District or its agent and third parties that shall become part of the Expanded Street Light Network.
- (c) Third Parties responsible for the addition of Luminares and Lighting Units to the Street Light Network are responsible for adhering to all District policies, guidelines, and requirements, including those specified in these Technical Provisions.
- (d) For Infrastructure Project Management Division (IPMD) “Streetscape Projects” where Lighting Units are replaced, the IPMD contractor is responsible for adhering to all District publications, policies, guidelines, and requirements, including those specified in these Technical Provisions for the Term.
- (e) The Developer is responsible for providing the IPMD contractor with Luminares and RMCS nodes for Lighting Units that shall become part of the Expanded Street Light Network.
 - (i) The Developer shall coordinate with the District or its agent on the type and quantities of Luminares to be provided.
 - (ii) The Developer is responsible for providing the Luminares and RMCS nodes at a location within the District and to be determined by the District.
 - (iii) The Developer shall coordinate with the District on the timing of the handover.
 - (iv) The Developer shall include the costs of Luminares and RMCS nodes in its base bid price and follow the requirements for submitting Luminaire and RMCS nodes unit costs in Form 11 of the ITP.

- (f) The Developer shall be responsible for installing RMCS gateways and nodes and connecting these Lighting Units to the RMCS. The Developer and the District will coordinate on the appropriate timing for installation.
- (g) The Developer shall evaluate and review Luminaires and Lighting Units that are to be added into the Street Light Network by Third Parties and IPMD to confirm that they adhere to all applicable policies, guidelines, and requirements.
- (h) The Developer shall prepare an acceptance procedure, including testing procedures, and perform Condition Assessments of the Luminaires and Lighting Units modified by small cell providers to include small cell attachments. During the Work performed by small cell providers described in Section 5.3 of these Technical Provisions, these Lighting Units will be temporarily removed from the Street Light Network, at no additional cost to the Developer. After the Work to attach a small cell is complete, the Developer shall be responsible, in coordination with the District Streetlight Team, for inspection and acceptance of these Lighting Units back into the Street Light Network.
 - (i) The Developer shall engage with the small cell providers as necessary to facilitate acceptance of Lighting Units back into the Street Light Network.
 - (ii) The expectation is that the Lighting Units will be accepted back into the Lighting Network at the same condition or better at which they were removed.
 - (iii) For further detail on small cells, reference section 5.3 of these Technical Provisions.
- (i) The Developer shall notify the District 14 days prior to its planned final acceptance testing and Condition Assessment of Luminaires and Lighting Units to be added into the Street Light Network.
 - (i) The District performs its own diligence including inspection of the Luminaires and Lighting Units as part of its own acceptance process.
 - (ii) The Developer and the District shall conduct joint acceptance testing and Condition assessment procedures of such Luminaires and Lighting Units.
- (j) The District is solely responsible for accepting Luminaires and Lighting Units into the Street Light Network.
- (k) Upon acceptance of Lighting Units into the Expanded Street Light Network, the Third Party or IPMD contractor shall provide a two-year warranty, as per District publications.
- (l) The Developer shall store any equipment replaced as part of an IPMD project. The Developer shall have the option to reuse the equipment, including but not limited to RMCS nodes and gateways, if the equipment is certified refurbished and adheres to all applicable policies, guidelines, and requirements.

10.10.2 Construction Inspection

- (a) Construction Inspections will predate Final Inspections and involves the inspection of third-party construction Work on the Streetlight Network. These circumstances include: IPMD projects, small cell attachment, and Network Expansion.

- (b) The intent of construction inspections is to verify the various stages of construction and various Elements to ensure proper installation.

10.10.3 Field Inspection

- (a) Within twelve (12) hours of receipt of a Service Request the Developer shall perform an investigation of field conditions related to relevant Lighting Units and other, connected or adjacent Project Elements to:
 - (i) Assess the Project Site to ensure safety of the Developer and the general public;
 - (ii) Determine if a revised Condition Assessment of Elements is warranted. If warranted, follow the requirements in section 10.10(b) and sections 10.9.4 through 10.9.11 of these Technical Provisions.
 - (iii) Update the Lighting Asset Inventory and Element Condition Ratings in the AMIS as needed;
 - (iv) Review the Service Request after the Field Evaluation is complete;
 - (v) Ensure that the Service Request is not duplicative of another Service Request or Work Order;
 - (vi) Determine if a Work Order should be created;
 - (vii) If a Work Order is not created, close the Service Request and log the resolution in the AMIS; and
 - (viii) Where applicable assign a Service Request and/or a Work Order to a classified Noncompliance Event.
- (b) Each review of field conditions after receipt of a Service Request is a “Field Inspection.”
- (c) As each review shall include the Lighting Unit and other, connected or adjacent Project Elements, any observations of Noncompliance Events shall be documented and communicated to the District.
- (d) The format of the Field Inspections shall be submitted to the District by the Developer for approval 60 days prior to NTP2. The Developer shall prepare the Field Evaluations in electronic format.

10.11 Asset Management Plan

- (a) The International Standard for Asset Management – Management Systems – ISO-55001:2014 should serve as a reference document for the Developer. This standard establishes the core requirements for good practice approaches to managing infrastructure assets. It does not specifically set out the asset management activity requirements for assets, but rather sets out the requirements that an organization should use to determine the most appropriate lifecycle activities to meet its obligations – service, safety, financial etc.
- (b) The Developer shall document its asset management practices in order to:
 - (i) Demonstrate its asset management practices are and remain suitable and effective for delivering the performance, service and asset conditions set out in these Technical Provisions;
 - (ii) Ensure its asset management practices have been developed with consideration of good industry practice; and

- (iii) Demonstrate that its asset management practices are consistent with the International Standard for Asset Management - Management Systems - ISO-55001:2014.
- (c) The Developer shall submit an Asset Management Plan to the District for approval in accordance with this Section 10.11 of these Technical Provisions. The Developer shall submit to the District for approval electronic copies of the Asset Management Plan for each of the following Submittals:
 - (i) Draft Asset Management Plan;
 - (ii) Final Asset Management Plan; and
 - (iii) Annual Asset Management Plan updates.
- (d) The Developer shall manage the Project in full compliance with the procedures and standards outlined in the Asset Management Plan and in the performance requirements listed in Appendix 13.1.
- (e) The Asset Management Plan shall also include Condition Assessment procedures. These procedures should detail and explain how the Developer will provide inspect, test, and perform Condition Assessments on Lighting Units and supporting lighting infrastructure.
- (f) The Developer shall develop and implement an Asset Management Plan, which shall initially address Asset Management, to be updated during the last annual update cycle that is at least 45 days prior to the end of the Term.
- (g) The Developer shall submit the draft Asset Management Plan to the District for review and approval within 120 days of NTP1. The Developer shall submit the final Asset Management Plan to the District for review and approval 90 days prior to NTP2. The Asset Management Plan shall be completed in accordance with the requirements set forth in this Section 10.8 of the Technical Provisions. 45 days prior to the beginning of each Fiscal Year after NTP3, the Developer shall update the Asset Management Plan and submit it to the District for review and approval. Each update of the Asset Management Plan shall include changes to operating protocols, agreements and interactions with other entities, and indicate revised operating requirements for equipment.
- (h) The Asset Management Plan for all Asset Management Work shall include, at the minimum, the following:
 - (i) Lighting Asset Inventory with location and clear description of all Project Elements, including Lighting Units, Elements, and equipment, within and outside the Project Site to be managed by the Developer;
 - (ii) Description of the Developer's approach to the Lighting Asset Inventory, Inspections and Condition Assessments, and Asset Management Work;
 - (iii) A staff organization chart and staffing plan including all key personnel, other Developer personnel, positions, qualifications, training and certification processes, Work locations, Work hours, and contact details required for the Asset Management Work;
 - (iv) The Asset Management Manual for the Asset Management Work;

- (v) The Developer's self-monitoring and self-reporting processes, including a list of the procedures to be used for all activities associated with the Asset Management Work, including Emergency Response and Incident Response requirements;
- (vi) Method of tracking, reporting and calculating Noncompliance Points, Deductions, Planned Outages, and Permitted Closures;
- (vii) Description of the Developer's approach to quality management, quality assurance, and quality control;
- (viii) Description of the Developer's approach to safety and security for the Asset Management Work;
- (ix) Description of the Developer's approach and assumptions for the Renewal Work and equipment/vehicle replacement, including life cycles and Renewal Work Schedule;
- (x) Description of the Developer's approach to coordinate with the District for all inspection processes;
- (xi) Description of the Developer's approach to obtaining all Governmental Approvals required for the Asset Management Work including any revision, modification, amendment, supplement, renewal or extension thereof;
- (xii) Description of the Developer's approach to Emergency Response, and Incident Response, including coordination with relevant Third Parties;
- (xiii) A list with addresses and phone numbers for all the facilities that will be used by the Developer, including any off-site storage or maintenance facilities;
- (xiv) A list of vehicles, tools, spare parts and Incident Response and other major equipment furnished by the Developer to support the Asset Management Work;
- (xv) Vegetation Management Plan;
- (xvi) The Asset Management Work activities planned for next 12 months, on a monthly basis; and
- (xvii) Guidelines and procedures for the efficient, coordinated, and consistent implementation of the Safety Plan, Traffic Incident Management Plan, Traffic Management Plan, Emergency Response Plan, and any other plan required for the performance of the Asset Management Work.

10.11.1 Annual Asset Management Plan Updates

- (a) At a minimum, annual review and updates to the Asset Management Plan shall include:
 - (i) An updated Lighting Asset Inventory including description, location, age and current condition;

- (ii) Analysis of historic and current performance trends;
 - (iii) Estimated useful life and projected residual life by Lighting Unit;
 - (iv) Asset management approaches that demonstrate an efficient and economic whole life cost approach to decisions regarding the balance between Condition Assessment, Routine Asset Management Activities, renewal, replacement and enhancement of Elements to ensure they meet the operational, performance and residual life requirements of the Elements regardless of when in the Term such decisions are to be made;
 - (v) Policy for asset preservation including implementation of Routine Asset Management Activity regimes;
 - (vi) Planned Routine Asset Management Activity program to be performed on the Elements through the Term including forecasts of work volumes derived from the asset management approaches;
 - (vii) Planned Renewal Work including forecasts of work volumes derived from the asset management approaches;
 - (viii) Specific details related to service interruptions and Planned Outages necessary for performing planned Asset Management Work, Renewal Work or replacement;
 - (ix) Register of asset-related risks – including risks associated with asset failure, likelihood of occurrence and magnitude of impact – along with mitigation/treatment strategies;
- (b) Annual Asset Management Plan Updates shall be submitted to the District for approval within 45 days prior to the beginning of each Fiscal Year after NTP3.

10.11.2 Renewal Requirements

- (a) The Developer shall perform Renewal Work to maintain compliance with all Performance Requirements. The Developer shall perform Renewal Work required to meet the performance requirements listed in Appendix 13.1, Governmental Approvals, and all applicable Laws. The Developer shall use the Renewal Work Schedule, as updated from time to time, for scheduling and performing Renewal Work.
- (b) The Developer shall produce the following plans and reports related to Renewal Work performed by the Developer. The Developer shall develop and implement a five-year Renewal Work Plan to the District within 45 days prior to the Substantial Completion Date of the final Street Light Bundle. The Renewal Work Plan shall be completed in accordance with the requirements set forth in this Section 10.11 of the Technical Provisions. Within 45 days of the beginning of each Fiscal Year after the Substantial Completion Date of the final Street Light Bundle, the Developer shall update the Renewal Work Plan and submit it to the District for approval.
- (c) The Renewal Work Plan shall include the following, at a minimum:
 - (i) Renewal Work Schedule of rehabilitation works to be conducted over the following five (5)

- years including anticipated timing of each planned Work on an annual basis;
- (ii) Quality System for all Renewal Work contained within the Renewal Work Schedule;
 - (iii) Results of the Conditions Assessments that have been used to develop the Renewal Work Plan; and
 - (iv) Planned approach to each Renewal Work project including quality management, quality control and quality assurance.
- (d) The Renewal Work Schedule shall set forth, by Element:
- (i) the estimated useful life;
 - (ii) the estimated remaining useful life;
 - (iii) a brief description of the type of Renewal Work anticipated to be performed at the end of the Element's useful life; and
 - (iv) A schedule of anticipated Permitted Closures and Work windows for the performance of the Renewal Work covered by the Renewal Work Schedule during the upcoming five (5) years.
- (e) Beginning from the first Substantial Completion of a Project Bundle, the Developer shall deliver the Renewal Work Report, including any as-built record plans, to the District, no later than 45 days after the end of the prior Fiscal Year for review and comment. The Renewal Work Report shall be completed in accordance with the requirements set forth in this Section 10.11 of the Technical Provisions. The Renewal Work Report shall, at minimum, include the following:
- (i) Summary of the preceding year's completed Renewal Work performed, including the location, the type of Work performed for each Element listed on the Renewal Work Schedule and any other component, including the dates of commencement and completion and the final cost (for both the specific task and for all Renewal Work performed during the Calendar Year);
 - (ii) As-built record plans;
 - (iii) Any updated Lighting Asset Inventory data as a result of the Renewal Work; and
 - (iv) A list of any Work which was included in the previous year's Renewal Work Schedule, but was not conducted and an explanation of why the Developer did not conduct this Renewal Work.

10.11.3 Mandatory Spare Parts

- (a) The Developer shall determine the spare parts required to meet its maintenance and renewal obligations required to keep Elements in accordance with the performance requirements listed in Appendix 13.1 and manage inventories accordingly.
- (b) The Developer shall make Luminaires and RMCS nodes available on an annual basis for IPMD projects as per section 10.7.7 of these Technical Provisions.

- (c) The Developer shall be responsible for installing RMCS nodes and gateways as per section 10.7.7 of these Technical Provisions.

10.11.4 Organization and Staffing – Qualifications of Personnel

- (a) Developer shall ensure that Developer's Asset Management personnel comply with the requirements in this Section 10.11.4. The following list of qualifications is not exhaustive. All personnel must be properly qualified for the duties that they are performing and must be adequately supervised.
 - (i) The Asset Management Lead must comply with the qualification requirements of Section 2.1 of these Technical Provisions;
 - (ii) Asset Management Team Members working on traffic, lighting, and other electrical systems must have the relevant International Municipal Signal Association and/or American Traffic Safety Services Association certifications.
- (b) The Developer shall ensure all persons engaged in Asset Management Work shall exercise sound judgment in carrying out their duties and conduct themselves in such a manner that will reflect favorably upon District. The District also reserves the right to require removal of any person engaged in Asset Management Work from the Project who cannot perform his or her duties or who damages the reputation of the District. The Developer shall ensure that all persons engaged in Asset Management Work shall:
 - (i) Wear clean and neat uniforms; and
 - (ii) Carry a government-issued photo ID and a Developer-issued picture ID.

10.11.5 Safety Plan

- (a) The Developer shall perform all Asset Management Work in a manner that ensures the safety of the public and Developer personnel, District employees, and the Public in accordance with all applicable Laws and Safety Standards. As part of the Asset Management Plan, the Developer shall develop a Safety Plan that includes staff training, safety procedures, and protocols to address the hazardous conditions associated with the Asset Management Work. The Safety Plan shall address the Developer's approach to meeting all the requirements set forth below and shall be included in the Safety Plan section of the Asset Management Plan for review and approval. The Developer shall:
 - (i) Ensure the safety of all its personnel and shall maintain the safety required and provide safety equipment and procedures for the protection of employees and the public throughout the area(s) of the applicable Project Site;
 - (ii) Ensure that all equipment used shall be maintained in a safe and efficient manner in accordance with all Laws, safety organizations, regulations and guidelines pertaining to providing the required services; and
 - (iii) Follow all safety requirements outlined in the National Electric Safety Code (NESC) and the Occupational Safety and Health Administration (OSHA).

- (iv) In the event of a pandemic, such as COVID-19, ensure that all its personnel take the proper considerations including but not limited to: use of face masks and gloves, hand sanitizer is made available to personnel, and the number of individuals is limited to no more than two per truck.
- (v) In the event that Work is required near overhead streetcar catenary lines, take adequate precautions to avoid high voltage catenary wires.
- (vi) In the event that Work is required near small cell attachments, take adequate precautions to ensure that no Work is conducted near an active small cell, as close contact with a small cell attachment risks exposure to potentially harmful levels of radiation.
- (vii) Ensure the safety of all employees working in the Public Space in regards to threats of violence from members of the public. The Developer is encouraged to contact the Metropolitan Police Department (MPD) if the safety of its personnel or the public is deemed to be in jeopardy.
- (viii) Ensure all personnel adhere to the Maintenance of Traffic requirements in section 11 of these Technical Provisions, including but not limited to those provisions developed as part of the Transportation Management Plan and Traffic Control Plans.

10.11.6 Quality Management Plan

- (a) Quality terminology, unless defined or modified elsewhere in the Agreement, has the meanings in ISO 9001. Terms used in ISO 9001 include the following meanings:
 - (i) Organization: Developer's organization, including any affiliates and subcontractors;
 - (ii) Customers: the users of the roadways (i.e., general public), the District, and stakeholders; and
 - (iii) Product: the Project Work.
- (b) Developer shall prepare the Quality Management Plan (QMP) that must include procedures for interdisciplinary quality reviews and coordination. Developer shall submit the Quality Management Plan General Requirements, as described below in this section to the District for approval in the District's good faith discretion and obtain such approval prior to NTP2.
- (c) Developer shall document and regularly maintain the QMP, so that it contains current versions of the following information:
 - (i) Resumes for all quality management personnel, including information on certifications held;
 - (ii) The organizational chart that identifies all quality management personnel, and their roles, authorities, and line reporting relationships;
 - (iii) Description of the roles and responsibilities of all quality management personnel and those who have the authority to stop Work;

- (iv) Procedures for ensuring independence of quality staff and procedures for assuring their authority to effect changes in the event of Developer's failure to comply with the Agreement; and
 - (v) Identification of any required testing organizations, including information on each organization's capability to provide the specific services required for the Work.
- (d) The QMP must contain a complete description of the quality policies and objectives that Developer shall implement throughout its organization. The policy must demonstrate the commitment of Developer's senior management to implement and continually improve the quality management system for the Work.
- (e) The QMP must address the following topics as they relate to the Asset Management Work:
- (i) Administration and document control;
 - (ii) Inspections;
 - (iii) Condition Assessments;
 - (iv) Routine Asset Management Activities; and
 - (v) Work performed during or as a result of Incidents, Severe Weather Events, and/or Emergencies.
- (f) Concurrent with the Asset Management Plan Submittal, the Developer shall submit the QMP to the District for approval in the District's good faith discretion.

10.11.7 Asset Management Manual

- (a) The Developer shall develop and submit, as part of the Asset Management Plan, a detailed Asset Management Manual based on the Asset Management Work. This Asset Management Manual shall include information regarding the procedures for Asset Management.
- (b) The Asset Management Manual shall be used by the Developer and shall be updated in accordance with the requirements set forth in this Section 10 of the Technical Provisions to indicate the Asset Management requirements for the Lighting Units, Elements, Developer equipment, and Developer systems as they are revised, upgraded and/or replaced. The Asset Management Manual shall be complete and include, at a minimum, the following requirements:
- (i) A list of asset management procedures and protocols, including a schedule of routine Asset Management Activities and their required frequency;
 - (ii) A contact list of the various entities and agencies that the Developer will require coordination with for the Asset Management Work, including their contact information (contact person, address, e-mail address, telephone numbers, website address);
 - (iii) A contact list of the Developer's key personnel who will be coordinating with the District and other various entities and agencies, including their contact information (contact person,

- address, e-mail address, telephone numbers, website address);
- (iv) Operating protocols, agreements and interactions with other entities such as the District, agencies, emergency responders, police, fire and any other similar Governmental Entities;
 - (v) Copies of all operations forms and checklists and associated procedures for monitoring and evaluation, including Noncompliance Event logs, logs of Planned Outages, logs of Permitted Closures, including Permitted Closures and Unavailability Events;
 - (vi) Policies and procedures for handling personal injury or public safety concerns;
 - (vii) Steps and procedures for managing traffic during Asset Management Work, Planned Outages, Permitted Closures, and Third Party events, including coordination with Third Parties for such events;
 - (viii) Established procedures for external communications;
 - (ix) Approach and procedures to response, remediation, and clean-up efforts associated with Incidents, and in particular traffic Incidents, fuel spills, Hazardous Materials or other contamination causing events;
 - (x) A logical system breakdown of all Lighting Units, Elements, and data systems, including facilities equipment and systems and the levels of maintenance to be provided by the Developer's staff;
 - (xi) List of the Project's major software-related systems and equipment manufacturers/vendors, including their contact information (contact person, address, telephone numbers, website address and e-mail address);
 - (xii) List of Contractors used to perform any maintenance services and the identification of the services expected to be provided; routine and preventative maintenance tasks and the required frequencies;
 - (xiii) Diagnostic procedures for equipment and systems;
 - (xiv) Spare parts inventory procedures for all Lighting Units, Elements, and RMCS components;
 - (xv) Systems, software and equipment manufacturer's Asset Management Manuals;
 - (xvi) Copies of all as-built drawings that detail the components of the Asset Management Work to be provided and the physical limits or boundaries of the Asset Management Work, including wiring diagrams, schematic drawings, logic block diagrams, assembly and disassembly drawings clearly identifying the components;
 - (xvii) Copies of all Field Evaluation forms, Condition Assessment checklists, etc.;
 - (xviii) Copies of Asset Management Daily Report Formats, Asset Management Weekly Report Formats, Asset Management Monthly Report Formats, Asset Management Annual Report Formats; and

(xix) Data Management Flow processes per Section 10.3 of these Technical Provisions that describe how data is processed in the AMIS.

- (c) Standard service manuals for commercially available equipment and products shall be acceptable as part of the Asset Management Manual only if the equipment provided is standard off-the-shelf equipment without any custom features or functions. Custom equipment and systems shall have custom Asset Management Manuals that include detailed information that addresses the custom features of the equipment provided and shall include drawings. The non-applicable portions of standard manuals shall be neatly encircled and cross hatched to clearly indicate that these sections are not applicable.

10.12 Planning and Reporting Requirements

10.12.1 Asset Management Schedule

- (a) The Developer shall prepare an Asset Management Schedule on a monthly and annual basis in accordance with the requirements set forth in this Section 10 of the Technical Provisions. The Asset Management Schedules shall describe all of the Planned Outages for the given period and shall include at a minimum the expected dates, locations, times, durations of all Asset Management Work, Routine Asset Management Activities, and expected impacts on traffic, including any Permitted Closures.

10.12.2 Asset Management Daily Reports

- (a) From NTP3, the Developer shall deliver Asset Management Daily Reports to the District for review and comment no later than 07:00 each day. The format of the Asset Management Daily Report shall be submitted to the District by the Developer for approval 60 days prior to NTP3. The Developer shall prepare the Asset Management Daily Reports in electronic format and each report shall contain at a minimum the following information:
- (i) A summary of the Conversion Work and Asset Management Work activities for the upcoming day;
 - (ii) A summary of the Conversion Work and Asset Management Work performed and completed for the previous day and confirmation that the Developer performed all Conversion Work and Asset Management Work in accordance with these Technical Provisions;
 - (iii) A summary of the Conversion Work and Asset Management Work that was not completed for the day, including the reasons for the incompleteness of the Conversion Work and Asset Management Work and a summary of deferred days for each deferred item;
 - (iv) Summary of the Routine Asset Management Activities performed for the previous day beyond the Asset Management Work activities for that month;
 - (v) Detailed results of Asset Management Work and other Work that was performed during the day;
 - (vi) Summary of Street Light Network performance;

- (vii) Details on all instances of Noncompliance Events, describing at a minimum: the corresponding name and ID number per Table Appendix-1, Table Appendix-2, or Table Appendix-3, the commencement time, duration, entity who identified the event first, details regarding the cure of Noncompliance Events including the steps taken and the time it took to cure, applicable Cure Period, the status of the event as of the end of the month, Noncompliance Points if any associated with each event, and the changes (if any) made to the Asset Management Plan based upon the events;
- (viii) Summary of Noncompliance Points accrued by the Developer for the past day and total balance for the past week, month, quarter, 365 days and 1095 days;
- (ix) Summary of Deductions assessed pursuant to Exhibit 14 of the Project Agreement and any backup calculations associated with the determination of such Deductions;
- (x) Summary of Planned Outages and Permitted Closures for the past day including details describing the location and duration;
- (xi) A summary of the status of the Project for the day identifying all Planned Outages and explaining as applicable for each Planned Outages whether it is a Noncompliance Event or a Permitted Closure;
- (xii) Operator event log data including all operator actions and event details for traffic and systems events, Incidents, Severe Weather Events, Emergencies and the details of the Developer's Responses including response time data, response records, etc.;
- (xiii) Developer's Response logs including a time based report of all actions and activities performed by the Developer; and
- (xiv) Detailed results of all inspections, assessments and testing activities, including the related procedures, forms, etc.

10.12.3 Asset Management Weekly Reports

- (a) From NTP3, the Developer shall deliver Asset Management Weekly Reports to the District for review and comment no later than Monday by 15:00 each week. The format of the Asset Management Weekly Report shall be submitted to the District by the Developer for approval 60 days prior to NTP3. The Developer shall prepare the weekly reports in electronic format and each report shall contain at a minimum the following information:
 - (i) A summary of the Asset Management Work activities, including Planned Outages, for the upcoming week;
 - (ii) A summary of the Asset Management Work performed and completed for the previous week and confirmation that the Developer performed all Asset Management Work in accordance with the Project Documents;
 - (iii) A summary of the Asset Management Work that was not completed for the week, including the reasons for the incompleteness of the Asset Management Work and a summary of deferred days for each deferred item;

- (iv) Summary of the Routine Asset Management Activities per Section 10.4 of these Technical Provisions performed for the previous week beyond the Asset Management Work activities for that month;
- (v) Detailed results of Asset Management Work and other Work that was performed during the week;
- (vi) Details on all instances Noncompliance Events, describing at a minimum: the corresponding name and ID number per Table Appendix-1, Table Appendix-2, or Table Appendix-3, the commencement time, duration, entity who identified the event first, details regarding the cure of such Noncompliance Events including the steps taken and the time it took to cure, applicable Cure Period, the status of the event as of the end of the month, Noncompliance Points if any associated with each event, and the changes (if any) made to the Asset Management Plan based upon the events;
- (vii) Summary of Noncompliance Points accrued by the Developer for the past week and total balance for the past month, 365 days and 1095 days;
- (viii) Summary of Deductions assessed pursuant to Exhibit 14 of the Agreement and any backup calculations associated with the determination of such Deductions;
- (ix) Summary of Planned Outages and Permitted Closures for the past week including details describing the location and duration;
- (x) A summary of the status of the Project for the week identifying all Closures and explaining as applicable for each Closure whether it is a Noncompliance Event or a Permitted Closure;
- (xi) Operator event log data including all operator actions and event details for traffic and systems events, security Incidents, weather Incidents, and the details of the Developer's Incident Response including response time data, response records, etc.;
- (xii) Developer's Incident, Severe Weather, and Emergency Response logs including a time based report of all actions and activities performed by the Developer; and
- (xiii) Proposed updates to the Lighting Asset Inventory including changes to Lighting Unit and Element condition.

10.12.4 Asset Management Monthly Reports

- (a) From NTP3, the Developer shall deliver the Asset Management Monthly Report to the District for review and comment no later than the 15th day of each month. The format of the Asset Management Monthly Report shall be submitted to the District by the Developer for approval 60 days prior to NTP3. The Developer shall prepare the monthly reports in electronic format and each report shall contain at a minimum the following information:
 - (i) A summary of the Asset Management Work activities for the upcoming month;
 - (ii) A summary of the Asset Management Work performed and completed for the previous month and confirmation that the Developer performed all Asset Management Work in

accordance with these Technical Provisions;

- (iii) A summary of the Asset Management Work that was not completed for the month, including the reasons for the incompleteness of the Asset Management Work and a summary of deferred days for each deferred item;
- (iv) Summary of the Routine Asset Management Activities performed for the previous month beyond the Asset Management Work activities for that month;
- (v) Detailed results of Asset Management Work and Routine Asset Management Activities that were performed during the month;
- (vi) Details on all instances of Noncompliance Events, describing at a minimum: the corresponding name and ID number per Table Appendix-1, Table Appendix-2, or Table Appendix-3, the commencement time, duration, entity who identified the event first, details regarding the cure of such Noncompliance Events including the steps taken and the time it took to cure, applicable Cure Period, the status of the event as of the end of the month, Noncompliance Points if any associated with each event, and the changes (if any) made to the Asset Management Plan based upon the events;
- (vii) Summary of Noncompliance Points accrued by the Developer for the past month and total balance for the past 365 days and 1,095 days;
- (viii) Summary of Deductions assessed pursuant to Sections 22 and 23 of the Project Agreement and any backup calculations associated with the determination of such Deductions;
- (ix) Summary of Planned Outages and Permitted Closures for the past month including details describing the location and duration;
- (x) A summary of the status of the Project for the month identifying all Closures and explaining as applicable for each Closure whether it is a Noncompliance Event or a Permitted Closures;
- (xi) Operator event log data including all operator actions and event details for traffic and systems events, Incidents, Severe Weather Events, Emergencies and the details of the Developer's Response including response time data, response records, etc.;
- (xii) Developer's Response logs including a time-based report of all actions and activities performed by the Developer; and
- (xiii) Detailed results of all inspections, assessments and testing activities, including the related procedures, forms, etc.

10.12.5 Asset Management Annual Reports

- (a) On an annual basis, the Developer shall create a consolidated Asset Management Annual Report. The Asset Management Annual Report shall summarize all of the activities associated with Asset Management Work for the year, including the Routine Asset Management Activities performed

for the year, and confirmation that the Developer performed all Asset Management Work in compliance with these Technical Provisions.

- (b) From NTP3, the Developer shall deliver the Asset Management Annual Report to the District no later than the 30th day of each Fiscal Year for review and comment. The Asset Management Annual Report shall be completed in accordance with the requirements set forth in this Section 10 of the Technical Provisions. The Developer's Asset Management Annual Report shall contain the following information:
 - (i) A summary of all Asset Management Monthly Reports from the preceding year;
 - (ii) Statement of all adjustments to the Asset Management Monthly Reports from the preceding year (if any);
 - (iii) Reconciliation of Deductions incurred during the year, including any adjustments, shown as amounts rounded to the nearest dollar. The reconciliation shall include all calculations and any backup information associated with such update; and
 - (iv) A summary of the information requested by the District (corrected if necessary), by month during the preceding year (if any).
- (c) The Developer shall meet the minimum Performance Requirements set forth in Table Appendix-1, Table Appendix-2, and Table Appendix-3 of the Technical Provisions from the NTP3 to the end of the Term. Failure to meet these minimum Performance Requirements shall result in Noncompliance Events.
- (d) The Developer shall develop and detail in the Asset Management Plan the approach to be used in order to achieve the minimum Performance Requirements as detailed in Table 10-1 and Table 10-2 of the Technical Provisions and implement this approach.

10.13 Submittals

- (a) The Developer shall submit at a minimum the following Submittals to the District in accordance with this Section 10 of these Technical Provisions:
 - (i) Draft Asset Management Plan for approval no later than 120 days after NTP1;
 - (ii) Final Asset Management Plan for approval no later than 90 days prior to anticipated receipt of the first NTP3;
 - (iii) Annual Asset Management Plan Updates for approval within 45 days prior to the beginning of each Fiscal Year after NTP3;
 - (iv) Asset Management Monthly Report Format for approval 60 days prior to NTP3;
 - (v) Asset Management Monthly Report for review and comment by the 15th day of each month beginning at NTP3;

- (vi) Asset Management Annual Report for review and comment no later than the 30th day of each Fiscal Year beginning at NTP3;
 - (vii) Asset Management Weekly Report Format for approval 60 days prior to NTP3;
 - (viii) Asset Management Weekly Report for review and comment by 15:00 on Monday each week beginning at NTP3;
 - (ix) Asset Management Daily Report Format for approval 60 days prior to NTP2;
 - (x) Asset Management Daily Report for review and comment by 07:00 of each day beginning at NTP3;
 - (xi) Renewal Work Plan for approval no later than 45 days prior to Substantial Completion of the final Street Light Bundle or Annual Renewal Work Plan Updates for approval no later than 45 days prior to beginning of Fiscal Year after Substantial Completion of the final Street Light Bundle;
 - (xii) Renewal Work Report for review and comment no later than 45 days after the end of each Fiscal Year beginning at Substantial Completion of the Final Street Light Bundle;
 - (xiii) Damage report within 24 hours after Emergency;
 - (xiv) Field Evaluation forms upon completion of Field Evaluations;
 - (xv) Work Orders upon opening and closing of Work Orders;
 - (xvi) Asset Management Daily Reports for approval at the end of each Day; and
 - (xvii) Asset Management Weekly Reports for approval at the end of each Week.
- (b) Under no circumstances is this list of Submittals to be construed as exhaustive and the Developer shall be solely responsible for meeting any and all Submittal requirements of the Technical Provisions.

11 MAINTENANCE AND PROTECTION OF TRAFFIC

The Developer shall perform all maintenance and protection of traffic Work in accordance with this Section 11 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards in Appendix 13.2, and with the Project Agreement. The standards are subject to change and include:

- (a) District's Transportation Online Permitting System (TOPS)
- (b) District of Columbia Department of Transportation Work Zone Safety and Mobility Policy
- (c) The District's Temporary Traffic Control Manual
- (d) Federal Highway Administration Work Zone Safety and Mobility Rule
- (e) National Cooperative Highway Research Program Report 498 – Illumination Guidelines for Nighttime Highway Work
- (f) Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD)
- (g) The District's General Traffic Control Plan Submittal Guidelines
- (h) The District's Maintenance of Traffic TCP Inspection Criteria
- (i) The District's Work Zone Management Manual
- (j) District of Columbia Department of Transportation Design & Engineering Manual
- (k) District of Columbia Department of Transportation Standard Specifications for Highways and Structures

Planning and work conducted in the Public Space shall be performed in the spirit of the District's goal of Vision Zero. The goal of Vision Zero is to eliminate all transportation-related fatalities and serious injuries on District streets by the year 2024, using a holistic set of tools that incorporates the disciplines of engineering, evaluation, law-enforcement, and education.

11.1 Permitted Closures

- (a) Any Closure that is not a Permitted Closure shall result in an Unavailability Event.
- (b) Any Closure arising as a direct result of:
 - (i) A Compensation Event;
 - (ii) Conversion Work within a Project Site with a TCP respecting that Project Site, which has been approved by the District;
 - (iii) Planned Maintenance or response to a Planned Outage for which the District has approved the Closure;
 - (iv) Subject to Section 11.1.c below, an Emergency or an Incident; or

(v) Permissible Unplanned Maintenance;

Shall be deemed to be a **“Permitted Closure”** for which the District will not have the right to assess any Noncompliance Event; provided that the Developer is using its Reasonable Efforts to:

- a. Mitigate the impact of the relevant Closure;
 - b. Reopen the affected portion(s) of the roadway or sidewalk within or adjacent to a Project Site as quickly as possible to traffic;
 - c. Minimize the impact of the Developer’s activities to pedestrian and vehicular traffic flow during such Closure: and
 - d. In respect of any Emergency or Incident, respond to the Emergency or Incident in accordance with any relevant requirements of the Project Agreement.
- (c) A Closure arising as a direct result of an Emergency or an Incident shall only be deemed to be a Permitted Closure to the extent that it does not arise as the direct result of:
- a. Any breach of a Project Agreement caused by the Developer;
 - b. Any wilful misconduct or negligent act or omission of the Developer; or
 - c. Any risk that the Developer is required to insure against pursuant to the terms of the Project Agreement.
- (d) The Developer shall request and obtain approval for all Closures in accordance with DDOT’s Memoranda on Traffic Control Plan (TCP) Submittal Guidelines and Traffic Control Plan (TCP) Inspection Criteria. A Closure that is not approved by the District shall not be a Permitted Closure.
- (e) The Developer shall utilize the District’s Transportation Online Permitting System (TOPS), for acquiring the necessary Emergency-No Parking signs.
- (f) The Developer shall only submit Traffic Control Plans (TCPs) and the District will only approve TCPs that plan for Closures during the times denoted as ‘Work Allowed’ in the table below. Planned Work is only allowed during the times denoted as ‘Work Allowed’ in the below table and during the hours between the AM and PM Rush Hours (9:30AM to 4:00PM).

Table X: Prohibited Work Times

Road Applications	Work Type	AM Rush Hour Closures 7:00AM - 9:30AM	PM Rush Hour Closures 4:00PM - 6:30PM	Permitted Night Work 6:31PM - 6:59AM
Freeways & Expressways,	Construction Work	No Work	No Work	Work Allowed
	Conversion Work	No Work	No Work	Work Allowed
	Other Maintenance	No Work	No Work	Work Allowed
Other Principle Arterials, Minor	Construction Work	No Work	No Work	No Work
	Conversion Work	No Work	No Work	Work Allowed

Road Applications	Work Type	AM Rush Hour Closures 7:00AM - 9:30AM	PM Rush Hour Closures 4:00PM - 6:30PM	Permitted Night Work 6:31PM - 6:59AM
Arterials and Collectors.	Other Maintenance	No Work	No Work	Work Allowed
Local Roads	Construction Work	No Work	No Work	No Work
	Conversion Work	Work Allowed	Work Allowed	Work Allowed
	Other Maintenance	Work Allowed	Work Allowed	Work Allowed
Alleyways	Construction Work	No Work	No Work	No Work
	Conversion Work	Work Allowed	Work Allowed	Work Allowed
	Other Maintenance	Work Allowed	Work Allowed	Work Allowed
Pedestrian Paths and Bike lanes	Construction Work	No Work	No Work	No Work
	Conversion Work	No Work	No Work	Work Allowed
	Other Maintenance	No Work	No Work	Work Allowed

In addition to the prohibitions listed in Table X, the Developer shall account for the following prohibitions around Holidays:

- (i) Day preceding the Holiday: No Work after 12:00 p.m.
- (ii) Day of the Holiday: No Work
- (iii) Day after the Holiday: Work may resume at 12:00 p.m.

(g) Access Ramps to Interstate Highways

- (i) The Developer shall not be permitted to close access ramps to Interstate Highways without prior approval from the District. At no time shall two consecutive on-ramps (ingress) or off-ramps (egress) be closed without prior approval from the District.

(h) Driveways

- (i) The Developer shall not close, block, or restrict the use of any driveway and pedestrian access to any private property, either a residence or a place of business, or a public building. For businesses with multiple driveways, Closure of a driveway may be permitted only if such Closure is included in a TCP approved by the District and the Developer has notified the property owners and tenants ten days in advance of driveway restrictions affecting their properties. The Developer shall coordinate with affected property owners and tenants on each driveway Closure and maintain record of such coordination and notifications.

(i) Bicycle Lanes and Cycle Tracks

- (i) During the Conversion period and for the remainder of the Project Term, the Developer may close Bicycle Lanes or Cycle Tracks for a period not to exceed one hour. The Developer shall

not close more than one block at a time. The Developer shall use a traffic control device instructing cyclists to dismount their bicycle and walk it through the work zone.

(j) Sidewalks

- (i) The Developer shall ensure that pedestrians have continuous access to and through Project Sites at all times. The Developer shall not close, block, or restrict the use of sidewalks on both sides of a street or roadway at the same time.
- (k) If the District determines in its sole discretion that the hours for Permitted Closure in Section 10.1.f of the Technical Provisions adversely affect traffic, causing queues that exceed the thresholds contained in the DDOT Work Zone Safety and Mobility Policy, the District may adjust such hours accordingly. The District will notify the Developer in writing of any change in such hours.
- (l) For any time other than that listed in Section 11.1(f) of the Technical Provisions, the Developer may schedule Work in a Project Site provided that:
 - (i) The Developer shall make reasonable efforts to close only one traffic lane at a time on any given portion of roadway when performing such Work; and
 - (ii) To the extent that such Work involves Closures, the Developer shall implement and execute such Closures in accordance the requirements in this Section 11 of the Technical Provisions.
- (m) Notwithstanding the foregoing, in the event that any traffic lane is the subject of a Permitted Closure, and a Closure that is not a Permitted Closure occurs in the traffic lanes remaining in service, then the traffic lanes subject to the Permitted Closure also shall be deemed to be subject to a Closure, which is not a Permitted Closure.
- (n) Sections 104.02(A) and 104.02 (C)(4) of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures apply to Closures. The District reserves the right not to approve a request for Closure and modify the time period for Permitted Closures identified in Section 11.1 of the Technical Provisions, and the schedule of Closures is subject to the District's sole or reasonable discretion.

11.2 Transportation Management Plan

11.2.1 General Requirements

- (a) The Developer shall develop, implement, update and maintain a Transportation Management Plan (TMP) laying out a set of coordinated transportation management strategies and describing how such strategies shall be used to achieve the overall requirements and objectives set forth in Section 11 of these Technical Provisions.
- (b) The TMP shall further present the Developer's organization and personnel with MOT managerial responsibility, as well as the standard, prototypical procedures, means and methods to address all traffic configuration and situations that can reasonably be anticipated in the execution of the Work in the Public Space, for all types of Work.

- (c) Specific interventions, tactics, means and methods respecting the Work to be performed at a specific Project Site shall be described in the Traffic Control Plan (TCP) for that Project Site, per the requirements set forth in Section 11.3 of the Technical Provisions.
- (d) The TMP shall be applicable and cover all Work in the Public Space and all traffic situations that can reasonably be anticipated.
- (e) The TMP shall comply with the requirements of this Section 11.2 of the Technical Provisions, the District Work Zone Safety and Mobility Policy, the District's Temporary Traffic Control Manual, and the mandatory standards listed in Appendix 13.2.

11.2.2 Timing of TMP Submittal

- (a) The TMP, in draft, final form, and any update thereof, is a Discretionary Submittal.
- (b) The TMP shall be submitted in draft form at least 90 days before the scheduled date of the first NTP3 and in final form at least 30 days before the scheduled date of the first NTP3 per the Project Baseline Schedule. The TMPs shall be signed and sealed by a Professional Engineer.
- (c) Approval by the District of the TMP is a condition precedent to the issuance of the first NTP3.
- (d) Following the approval of the initial TMP by the District, the Developer shall update and submit for approval by the District all subsequent proposed changes to the TMP. The Developer may update and submit to the District the updated TMP at any time. The Developer shall submit a TMP to the District for approval at least once per year regardless of whether the Developer proposes any change.
 - (i) When submitting any update(s) to the TMP, the Developer shall submit a clean version of the document and a version of the document with tracked changes.

11.2.3 Content of the TMP

(a) Overview

The TMP content must follow the guidelines in the FHWA Work Zone Safety and Mobility Rule and the District's Work Zone Safety and Mobility Policy and must include at a minimum the following sections, in that order:

- (i) Table content;
- (ii) Organization, roles, and responsibilities;
- (iii) Description of Work types requiring maintenance and protection of traffic;
- (iv) Description of existing-conditions;
- (v) Project Site / work zone impacts assessment ;
- (vi) Transportation management strategies;
- (vii) All Typical Applications that the Developer intends to use for Work in the Public Space

(viii) Monitoring and reporting requirements; and

(ix) Traffic Incident Management Plan (TIMP).

Typical Applications (TAs) created by the Developer for expected repeated use in performing work can be submitted for review and approval as part of the TMP, or can be submitted through the TCP process described in Section 11.3 of the Technical Provisions and added to the TMP, if approved.

(b) Organization, Roles and Responsibilities

As part of the TMP, the Developer shall provide an organizational chart with clear lines of accountability and reporting and shall identify, assign, and provide descriptions of the qualifications and duties along with contact information of personnel with traffic control responsibilities, including the following:

- (i) Developing, implementing, and managing the TMP and TCPs in close coordination with the District; ensure that all traffic-control personnel receive adequate training and comply with the requirements of the TMP, TCPs, and this Section 11 of the Technical Provisions; monitoring, evaluating and reporting on the effectiveness of the TMP and TCPs; establishing and maintaining current a list of emergency contacts, updating as necessary, and ensuring all traffic-control personnel are familiar with the list (“the MOT Manager”).
- (ii) Implementing specific tasks recommended by the TMP and TCPs (“the MOT Implementation Task Leaders”).
- (iii) Monitoring and evaluating Project Sites to ensure that the Developer complies with the TMP and TCPs. These personnel are to report to the MOT Manager and to the District (“the MOT Monitors”);
- (iv) Fulfilling the duties of the Traffic Safety Officer (TSO) as defined in Section 612(B)(1) of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.

(c) Existing Conditions

As part of the TMP, the Developer shall document existing, prototypical vehicular and non-vehicular traffic conditions in and around Project Sites, including traffic volumes and patterns, safety concerns, emergency access requirements, special considerations, third party access concerns, public transportation, schools, hospitals, among others. The Developer shall also provide procedures for documenting existing traffic conditions respecting each Project Site and incorporate findings into the TCP respecting such Project Site.

(d) Project Site / Work Zone Impacts Assessment

As part of the TMP, the Developer shall perform and present the results of a qualitative and quantitative assessments of the potential impacts of the Work in the Public Space that provide the rationale for the Project Site / work zone transportation management strategies in the TMP.

Such analyses shall be updated for the specific conditions at each Project Site as part of the TCP respecting such Project Site. Such analyses include:

- (i) The qualitative assessment shall include a discussion of how Work in a Project Site is expected to impact its vicinity, including traffic, safety and pedestrian/bicyclists. It shall include an overview of the Project Bundles and how the Bundles were developed to minimize work zone impacts.

The Project Site analysis shall include coordination with other projects in the vicinity. If another existing project abuts the Project Site, the Developer shall factor the other project(s) into the TCP and coordinate with the other project. If another project in the vicinity begins after Work has commenced in the Project Site, the Developer shall coordinate and cooperate with the other project. However, the other project is required to account for Developer's presence in its own TCP.

- (ii) Quantitative analyses shall be provided to identify and quantify expected traffic delays and queues, if any, and durations and length of such delays.

(e) Transportation Management Strategies

The Developer shall identify the Project Site/work zone impact management strategies that will be used for each typical Project Site and traffic condition. These strategies shall include traffic control strategies, public information strategies, and traffic operational strategies. The Developer shall indicate how each strategy is anticipated to address Traffic and safety concerns. The TMP shall include the following items for all geographic areas that may be impacted by Work in the Public Space:

- (i) Description of anticipated traffic management situations based on the Developer's analysis of existing conditions in per Section 11.2.3(b) of the Technical Provisions;
- (ii) Procedures to minimize traffic disruption and efficiently maintain and control Traffic;
- (iii) Procedures to maintain access to private property, businesses, public buildings and for emergency services and other service providers;
- (iv) Procedures to comply with all District and federal ordinances;
- (v) Procedures to identify, incorporate the needs of, and minimize traffic impact to hospitals, emergency service providers, public transit operators, Utility Owners, Governmental Entities, the District, schools, business owners and their customers, and local residents;
- (vi) Procedures for addressing Special Events and other community events, including procedures to research, identify and reflect the needs of Special Events and other community events in each TCP;
- (vii) Procedures to coordinate the TMP with other construction projects in the District and maintenance activities conducted by the District, per Section 11.2.3(b);
- (viii) Procedures for starting and ending detours, Closures and other traffic pattern

modifications;

- (ix) Procedures for notifying the District and other applicable Governmental Entities of detours, Closures and other traffic pattern modifications, and implementing and maintaining those modifications;
- (x) Procedures to communicate TMP and TCP information to Development Entity's public information personnel and notify the public of detours, Closures and other traffic pattern modifications, in accordance with the requirements of Section 3 (Public Information and Communications);
- (xi) Procedures for signing in and around Project Sites;
- (xii) Procedures for placing, maintaining, and removing traffic control devices;
- (xiii) Procedures for verifying that the traffic control devices and MOT protocols used matches what is shown in the approved TCPs.
- (xiv) Procedures to incorporate the requirements of and facilitate the District's snow and ice operations and other District maintenance procedures into the TCPs;
- (xv) Procedures to determine detour routes, haul routes and/or delivery routes and for obtaining approval from the District for all proposed detour routes;
- (xvi) Procedures for mobilization and demobilization of Work in Project Sites;
- (xvii) Procedures for verifying twice daily that all Work in the Public Space is in accordance with the approved TMP and the relevant, approved TCPs and for verifying the effectiveness of the TMP and TCPs by collecting traffic data (such as travel time, delay, speeds, Incidents, accidents, among others) as needed.
- (xviii) Procedures to coordinate with the District or its agent for any operating signal that may be impacted by the Work or detour routes to ensure efficient and continuous traffic signal operations, ensure temporary system compatibility, establish responsibilities for temporary signal installation, maintenance, operation and removal, and coordinate traffic signal timing;
- (xix) Procedures for monitoring, evaluating and verifying the quality, efficacy and safety of the TMP and any TCP, including means, methods and frequency of inspection and maintenance of all traffic control devices, response times to correct, modify, or implement changes to traffic control measures, and procedures to revise the TMP and TCPs to remedy;
- (xx) Procedures for evaluation and identification of measurable limits for the repair and replacement of traffic-control devices, including pavement markings;
- (xxi) Procedures and processes for the safe ingress and egress of the Developer's vehicles in Project Sites, and in particular those Project Sites located on or near the Interstate Highway;
- (xxii) Procedures for re-opening a Closure promptly in the event of equipment breakdown, shortage of materials, lack of production materials, or other production failure, or when it

becomes necessary to re-open the Closure to address traffic congestion;

- (xxiii) Provisions to provide continuous access to established truck routes, Hazardous Material (HazMat) routes, transit routes, and school bus routes and/or to provide suitable detour routes, including obtaining any approval required by the appropriate Governmental Entities and the District for such uses;
- (xxiv) Descriptions communications protocols with the Districts and contact methods, personnel responsible, and response times for the Developer to respond to any Incident, Emergency, and Noncompliance with the requirements of the TMP or the TCP respecting a Project Site at all times (i.e. 24 hours per day, 7 days per week), during working hours and off-hours;
- (xxv) Specific measures to manage traffic during inclement weather; and
- (xxvi) Procedures for night Work to incorporate the District's safety and work zone light system requirements as specified in the Temporary Traffic Control Manual, the MUTCD, and NCHRP Report 498 – Illumination Guidelines for Nighttime Highway Work.

(f) Typical Applications

As described in Section 11.3.5 Typical Applications (TAs) for Temporary Traffic Control Zones, the TMP shall include:

- (i) Procedures for the development of the Traffic Control Plans (TCPs) respecting each Project Site;
- (ii) Prototypical TCPs for anticipated traffic management situations, including descriptions of traffic phasing to accommodate staging and phasing of Work in the Public Space;
- (iii) Procedures for obtaining the District's approval of TCPs and for obtaining approvals for working in the Public Space; and
- (iv) Procedures to accommodate the needs of and prevent delays to adjacent and concurrent projects in the TCPs.

(g) Traffic Incident Management Plan (TIMP)

As part of the TMP, the Developer shall develop a comprehensive Traffic Incident Management Plan (TIMP) and identify traffic management strategies and procedures to prevent, when possible, respond to, manage, and mitigate the impact of for Incident and Emergency. The TIMP shall:

- (i) Identify and describe how each strategy is anticipated to address vehicular and non-vehicular traffic and safety concerns;
- (i) Identify methods for Incident detection and verification, communications and coordination with first responders, response, site management, clearance, and motorist information.

- (ii) Identify and provide for the incorporation of design elements to aid Incident prevention and management, including turn-around for emergency vehicles, emergency access points, and incident investigation;
- (iii) Identify procedures for communications and coordination with the District's Traffic Systems Management Center (TSMC). In addition, if any local agencies in the Project area have adopted Incident Management Guidelines, the Project Developer shall be responsible for coordinating with local policies and procedures.
- (iv) Include specific time limits for the detection, verification, and classification of Incidents, as well as for the dissemination of information about the Incidents;
- (v) Provide a mechanism to review and capture lessons learned from Incident and modify the TIMP to reflect such lessons learned; and
- (vi) Reflect proposed Work phasing for each Project Site.

(h) Monitoring and Reporting Requirements

In addition to any monitoring and reporting provision listed in Section 10 of the Technical Provisions, the Developer shall coordinate with the District and define in the TMP the procedures, content, and frequencies for monitoring and reporting to the District on the effectiveness of the TMPs and TCPs and any other traffic-related impact of the Work conducted in the Project Sites.

At the minimum, the Developer shall report to the District field observations, crash data analyses, and other pertinent operational information within 2 hours for safety-related information and within 24 hours otherwise.

(i) TMP Updates

The TMP shall be updated at the following times:

- (i) The Developer shall update the TMP annually.
- (ii) The Developer shall update the TMP and submit for approval by the District any time a material change is made.
- (iii) When the Developer produces new TAs, the TMP shall be updated to include the new TAs and submitted to the District for approval. New TAs can be submitted at will.

11.3 Traffic Control Plans

- (a) The primary function of Traffic Control Plans is to present the tactical plans for ensuring safe and efficient movement of Traffic through and/or around Project Sites and to protect workers, properties, and equipment.

11.3.1 General Requirements

- (a) The Developer shall not perform any Work requiring a Closure in the Public Space without an approved TCP.
- (b) TCP submissions shall meet the standards outlined in the District's General Traffic Control Plan (TCP) Submittal Guidelines.
- (c) Each Project Bundle shall include at least one or more TCPs.
- (d) Except as noted in Section 11 of these Technical Provisions, the Developer shall develop and implement a Traffic Control Plan (TCP) for each Project Bundle and for each Project Site where the Developer will perform Work in the Public Space requiring the implementation of traffic control measures, following the District's General Traffic Control Plan Submittal Guidelines, Maintenance of Traffic TCP Inspection Criteria, Work Zone Management Manual, Temporary Traffic Control Manual, and the FHWA MUTCD.
- (e) The TCPs for each Project Bundle shall show the Developer's proposed staging of Work in the Public Space, proposed traffic control devices consistent with the TMP timing of such Work, and application of traffic control devices consistent with the Project Schedule.
- (f) The TCPs shall be prepared under the direction and direct supervision of the Developer's WZTEM and stamped by the WZTEM.
- (g) The Developer shall coordinate the development of the TCPs with the District and with appropriate Governmental Entities.
- (h) The Developer shall be responsible for obtaining all necessary approvals and agreements to implement the TCPs, including Fire and Police department approvals. **Fire and Police Departments** for all affected jurisdictions, including non-District departments, are included.
- (i) All signs, flagger, spotters and other traffic-control devices shall be shown on the TCPs. If flagging is to be performed during hours of darkness, the TCPs shall require the appropriate illumination and safety procedures for flagging station(s) and personnel as specified in the Temporary Traffic Control Manual, the MUTCD, and NCHRP Report 498 – Illumination Guidelines for Nighttime Highway Work.
- (j) The Developer is solely responsible for the safe implementation of the TCPs and for providing copies of the TCPs to the TSO and any Developer staff with traffic control responsibilities. A copy of the TCP for each Project Site shall be available on the Project Site to the Developer's staff and to the District at all time when Work is performed in or in the vicinity of that Project Site.
- (k) Each TCP shall comply with the requirements of this Section 11 of the Technical Provisions, the District Work Zone Safety and Mobility Policy, the District's Temporary Traffic Control Manual, and the mandatory standards listed in Appendix 13.2.

11.3.2 Emergency-No Parking Signs

- (a) The Developer shall submit requests for Emergency No-Parking signs through the District's Transportation Online Permitting System (TOPS).
- (b) Requests shall be submitted as part of the Project Bundle submittal.

- (c) The Developer shall allow for up to 14 days for review.
- (d) The Developer shall not be assessed an application fee for TOPS submittals.
- (e) The TCP shall clearly identify any impact on parking and include reference Emergency No Parking Sign.

11.3.3 Timing of TCP Submittals

- (a) All TCPs, in draft, final form, and any update thereof, are Non-Discretionary Submittals.
- (b) A TCP respecting a given Project Site shall be submitted to the District for review and comment in concurrence with the timing for the Project Bundle submittal described in Section 7.2.5 of the Technical Provisions, at least 14 days before issuance of the corresponding NTP3 during the Conversion Period, or 14 days prior to the scheduled commencement of the Construction Work after the Developer has achieved Substantial Project Completion, in accordance with .
- (c) Approval by the District of the TCP respecting a given Project Bundle is a condition precedent to the issuance of the NTP3 for that Project Bundle.

11.3.4 Content of TCPs

- (a) Each TCP submission shall meet the requirements and standards set forth in the General Traffic Control Plan (TCP) Submittal Guidelines.
- (b) Each TCP shall meet or exceed both the District of Columbia Department of Transportation Temporary Traffic Control Manual and the Federal Highway Administration MUTCD requirements and contain, at a minimum, the content required in the District of Columbia Department of Transportation Design and Engineering Manual and the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.
- (c) The Developer shall use Typical Applications for traffic control whenever possible and appropriate to assist in developing site-specific TCPs. The Developer shall prepare documentation and data to justify all proposed Closures, detour routes, change or reduction in normal traffic flows and proposed modification to traffic signal timing.

11.3.5 Typical Applications (TAs) for Temporary Traffic Control Zones

- (a) Project bundles requiring mobile, short-duration, or moderate duration Temporary Traffic Control Zones as defined below and in the DDOT Temporary Traffic Control Manual and FHWA MUTCD are eligible for Typical Applications (TAs).

The Developer shall produce TAs to be submitted to the District as part of the TMP. The Typical Applications publicly available on the District Department of Transportation's website (ddot.dc.gov/page/utility-work-zone-traffic-control-plan-tcp-typicals) do not meet current codes and standards and shall not be used as-is for the Project. The Developer may refer to such TAs as Reference Information Document only in the definition of the Developer's own TAs.

- (b) The District reserves the right to use the TAs developed by the Developer and approved by the District for any other purpose, related or unrelated to the Project.

- (c) Only mobile, short-duration, and moderate duration Temporary Traffic Control Zones are eligible for application of TAs.
 - (i) Mobile – work that occupies a location for 5 minutes or less
 - (ii) Short-duration – work that occupies a location between 6 and 15 minutes.
 - (iii) Moderate-duration – work that occupies a location between 16 and 60 minutes
- (d) Work requiring traffic control zones with a duration greater than one hour are not eligible for use of TAs.
- (e) A separate TA shall be submitted for an intersection, as a block ends at an intersection.
- (f) TCP submissions which utilize TAs shall meet the submittal requirements and standards outlined in the General Traffic Control Plan Submittal Guidelines.
- (g) Notwithstanding the foregoing, the District reserves the right to require a Project Site-specific TCP at its sole discretion. If typical applications are used, they shall be self-contained (i.e., single or multiple sheets) and clearly identified to allow the Developer to specify its use by call-out (with minor modifications, as needed).
- (h) Content and Format of Typical Applications
 - (i) The Developer shall be able to use the same TA for different Project Sites and Work type.
 - (ii) A TA shall present similar information and in a similar format as the Typical Applications publicly available on the District Department of Transportation's website (ddot.dc.gov/page/utility-work-zone-traffic-control-plan-tcp-typicals)
 - (iii) A TA shall show all the existing conditions in the immediate vicinity of the work, as well as labeling the roadways and showing a north directional arrow. When flaggers are deployed at work zones, they must be certified and have electronic communication.

Additionally, depending on the functional classifications of the affected roadways, the deployment of all the temporary traffic control devices and signage shown on the TA may be required. Failure to do so may result in a Noncompliance Event.
 - (iv) The TAs shall have the District logo in the northeast corner of the document but no other logo or brand mark.

12 HANDBACK

The Developer shall execute all Handback Work in accordance with this Section 12 of the Technical Provisions, including the Guidelines, Manuals, Specifications, and Standards listed in Appendix 13.2, and with Section 19 of the Project Agreement.

General

- (a) Each Element of the Project shall meet the minimum Performance Requirements set forth in Tables Appendix-2 and Appendix-3 of these Technical Provisions as of the Handback Date. For the avoidance of doubt, each Element shall meet minimum the Condition Rating set forth in Table Appendix-2 of these Technical Provisions and the condition rating process set forth in Section 10.8 of these Technical Provisions.
- (b) Before the end of the Term, the Developer shall repair, replace, overhaul, refurbish or rehabilitate, as appropriate, any Element that:
 - (i) Does not meet the Performance Requirements; or
 - (ii) Cannot be reasonably maintained by the District to continue to perform within the specified Performance Requirements after the end of the Term.
- (c) The Developer shall coordinate all aspects of the development of the Handback Work Plan with the District, and coordinate all aspect of the execution of the Asset Management Work performed during the Handback Period as planned in the Handback Work Plan and as approved by the District including any independent Condition Rating Assessments, inspection, validation, and testing of the Project Elements and acceptance of the Elements as of or before the Handback Date, as approved by the District in its sole discretion.
- (d) The Developer shall deliver all Work identified in the Handback Work Plan in accordance with these Technical Provisions.
- (e) When the Handback Work Plan is instituted, the Handback Work Plan shall take precedence over the Renewal Work Plan.

12.1 Final Condition Assessment to be conducted by Independent Engineer

- (a) A final handback condition assessment shall be conducted in accordance with section 19.2 of the Project Agreement.
- (b) The Independent Engineer shall complete a full condition assessment of the entire asset inventory within eight months of commencement of the contract. 25% of assets shall be assessed every two months resulting in a full assessment at eight months.
- (c) A report of condition assessment results shall be provided to the District every two months for each quarter of the asset inventory until results for the full inventory are provided. The results shall be made available within three weeks of completing the assessment of each group of assets.

- (d) A full and final condition assessment report shall be provided to the District within four weeks of completing the full condition assessment.
- (e) The Independent Engineer shall calculate the Handback Reserve Amount based on the results of its condition assessment. The Independent Engineer shall produce the first Handback Reserve Amount as part of its first compilation of condition assessment results as referenced in section 12.1(g). The Independent Engineer shall then make subsequent updates to the Reserve Amount as part of each of its three following condition assessment reports. Finally, the full Handback Reserve Amount shall be calculated and submitted as part of the full and final condition assessment report referenced in section 12.1(h).
- (f) The District will approve all payment(s) to the Independent Engineer.
- (g) The Developer shall provide a training manual which shall include standard operating procedures for using the condition assessment results. The District maintains sole discretion to approve the training manual.
- (h) The Independent Engineer shall conduct condition assessments according to the standards listed in section 10 of these Technical Provisions and using the condition rating scales listed in Appendix 13.10.
- (i) The Developer shall coordinate training sessions with the Independent Engineer and the District to correlate understanding of condition rating scales. Training materials shall be provided to the District for approval prior to the training sessions. The trainings shall follow a process similar to that listed in Section 10.7.12 of these Technical Provisions and shall include a classroom training session and field observations. The District shall be coordinated with and allowed to attend all training sessions. Choosing to attend training sessions or not is at the District's discretion.

12.2 Handback Work Plan

- (a) No later than 60 days after the Independent Engineer submits the final condition assessment report, the Developer shall develop and submit a Handback Work Plan to the District for approval.
- (b) When the Handback Work Plan is instituted, the Handback Work Plan shall take precedence over the Renewal Work Plan.
- (c) The Handback Work Plan shall cover the Handback Period which shall begin at the submittal of the Handback Work Plan and last until the completion of Handback Work.
- (d) The Handback Work Plan shall include, at a minimum, the following:
 - (i) Coverage of all the Elements of the Project, without limitations;
 - (ii) The results of the Independent Engineer's condition assessment;
 - (iii) A fully updated Lighting Asset Inventory with information no older than the onset of the Independent Engineer's condition assessment;
 - (iv) The Developer's approach to ensure that all Elements of the Project meet the Performance Requirements in the tables included in Appendix 13.1 at the time of Handback.

- (v) Program and schedule of Asset Management Work during the Handback Period necessary to ensure that the requirements Tables Appendix-2 and Appendix-3 of these Technical Provisions are met as of the as of the Handback Date;
 - (vi) Plan and schedule for a phased transition of the Asset Management Work responsibilities from the Developer to the District or its Agent;
 - (vii) Training and Transition Plan respecting the requirements of Section 12.4 of these Technical Provisions;
 - (viii) Transfer to the District of all software, hardware, backoffice equipment, field equipment, inventory, and read/write access owned by the Developer and related to the intellectual property as described in Section 52.2(a) (Intellectual Property License to the District) of the Project Agreement;
 - (ix) Procedures for transferring to the District all Project Documents, spare parts and associated inventory data;
 - (x) Without limitations to the District's rights to perform independent audit and verifications, procedures for the Developer and the District to conduct joint condition rating assessments and testing or for the District to arrange for an Independent Engineer to conduct condition rating assessments or testing to verify that the Elements meet the Performance Requirements set forth in Tables Appendix-2 and Appendix-3 of these Technical Provisions;
 - (xi) Procedure for the District's acceptance of the Project Elements on or before the Handback Date, as approved by the District in its sole discretion;
 - (xii) Procedures that will be used to verify and demonstrate to the District that all Project Elements function as specified; that they comply with the applicable codes and standards set forth in the Technical Provisions; and that they meet Performance Requirements in Tables Appendix-2 and Appendix-3 of these Technical Provisions
 - (xiii) Procedures and data necessary to support the Obligations on Termination of Section 49 of the Project Agreement; and
 - (xiv) Detailed cost forecasts and cost loaded schedule for the Work during the Handback Period required to meet the requirements of this Section 12 of these Technical Provisions and supporting the calculation of the Handback Renewal Amount.
- (e) The Handback Work Plan shall include any areas that are under remedial Work. The Developer shall retain all remediation responsibility (and liability) until such time that the Developer submits to the District a full description of the remedial Work and the results of such Work, and receives from the District acceptable documentation indicating that the Developer has complied with all directives and fulfilled and completed their remediation obligations as directed by the District or Governmental Entity with jurisdiction.
- (f) The Developer shall update the approved Handback Work Plan every 60 days and submit the updated plan for the District's approval. Such updates shall include progress report on the Asset Management Work covered by the Handback Work Plan, as built information, actual costs, actual schedule, and schedule to completion.

12.3 Continuity of Service

- (a) The Developer recognizes that maintaining the lighting performance of the Streetlight Network is paramount to the safety and security objectives of the District and that the proper functioning of the Streetlight Network cannot be interrupted at any point during the Term and that, upon contract expiration or termination, a successor, either the District Government, a contractor, or another Developer, at the District's option, may continue to provide these services. To that end, the Developer agrees to:
 - (i) Plan and provide for phase-out, phase-in (transition) training;
 - (ii) Fulfill the requirements for Transition Plans described in section 49.2 of the Project Agreement; and
 - (iii) Exercise its good faith efforts and cooperation to effect an orderly and efficient transition of responsibility for the Asset Management Work to the District or its Agent assuming such responsibilities after the Developer.

12.4 Training and Transition

- (a) A Training and Transition Plan shall be included in the Handback Work Plan.
- (b) The Training and Transition Plan shall:
 - (i) Present the details of the Developer's training program, including the training workshops per Section 10.7.12 of these Technical provisions, and training manuals for District staff on all aspects of the Asset Management Work;
 - (ii) Include all manuals and procedures for the performance of the Asset Management Work, clearly identifying the manuals and procedures respecting the AMIS and RMCS. AMIS and RMCS manuals shall reflect all updates made to systems throughout the term; and
 - (iii) Present how the Developer will work with the District to ensure a seamless transfer of Asset Management Work responsibilities and safe traffic operations back to the District.
- (c) At least six months prior to the Handback Date, the Developer shall conduct a series of comprehensive, in-person Asset Management training workshops in the District Department of Transportation's offices, or other location at the District's discretion, for the District's staff, which shall cover in sufficient detail all aspects and functions of Asset Management Work, including the AMIS and RMCS. The training workshops shall include, at a minimum, a review of certain Project records as well as all Asset Management Manuals, AMIS and RMCS procedures, instructions, manuals, and other plans and procedures. The complete curriculum for this training session shall be contained in the Training and Transition Plan component of the Handback Work Plan.
- (d) At the end of the Term, the Developer shall hand back to the District a fully updated Lighting Asset Inventory, including the Condition Rating Assessment data captured during the Independent Engineer's condition assessment and any subsequent condition updates gathered by the Developer through its Handback Work.

12.5 Early Termination

- (a) The Developer shall be responsible for the Obligations on Termination outlined in section 49 of the Project Agreement.
- (b) In the event of Early Termination, the Developer shall follow the instructions for transition plans outlined in section 49.2 and the instructions for Relinquishment and Possession of the Project outlined in section 49.3 of the Project Agreement.

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13 APPENDICES

13.1 Performance Requirements

Table Appendix-1: Performance Requirements for the Existing Network

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Safety								
Make Safe Work	Remediate safety hazards to the Public	1.1	Arrive at the scene to address Make Safe Work requests by the District, per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period	5 per event of Noncompliance	2 hours	N/A	N/A	2 hours
Administrative Redirect	Remediate or conduct Administrative Redirect work as directed by the District	1.2	Respond to District Administrative Redirect requests as directed per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period	3 per event of Noncompliance	4 hours	N/A	N/A	8 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Administrative Redirect – High Priority	Remediate or conduct Administrative Redirect work deemed High Priority as directed by the District.	1.3	Respond to District Administrative Redirect requests deemed High Priority as directed per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period	5 per event of Noncompliance	4 hours	N/A	N/A	8 hours
Lighting Performance (* see additional detail below table)								
Lighting Units, with current	Respond to outages and restore operation and functionality	1.4	In the event that Lighting Units are inoperable and not functioning, the Developer shall restore operation and functionality within the Cure and Restoration period. This excludes Planned Outages and no current situations. No current situations are covered in items 1.5 and 1.6.	1 point per additional Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	5 days	24 hours
Lighting Units, no current	Respond to no current situations to restore operation and functionality	1.5	In the event that Lighting Units are inoperable and not functioning as a result of a no	1 point per additional Lighting Unit out beyond 1 accrued during a billing quarter	N/A	N/A	15 days	48 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			current situation, the Developer shall restore operation and functionality within the Cure and Restoration period. This excludes Planned Outages and no current with cut situations. No current with cut situations are covered in item 1.6.					
Lighting Units, no current with cut	Respond to no current with cut situations to restore operation and functionality	1.6	In the event that Lighting Units are inoperable and not functioning as a result of a no current with cut situation, the Developer shall restore operation and functionality within the Cure and Restoration period. This excludes Planned Outages.	1 point per additional Lighting Unit out beyond 1 accrued during a billing quarter	N/A	N/A	30 days	48 hours
Lighting Units, Consecutive	Continually monitor and maintain illumination to ensure full functionality of consecutive Lighting Units	1.7	Upon receipt of notification of 3 or more consecutive inoperable Lighting Units, the Developer shall	For each instance accrued beyond 5 in a billing quarter, the following points will be applied: 3 + 1	N/A	N/A	72 hours *Daily work until fixed	24 hours *Daily work until fixed

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			<p>repair the Lighting Unit within the defined Cure and Restoration period.</p> <p>Lighting Units with Planned Outages are excluded.</p> <p>If a single Light Fixture on a Lighting Unit with several Light Fixtures is inoperable and not functioning as designed, then that Lighting Unit shall be deemed inoperable.</p>	points per additional consecutive Lighting Units beyond 5				
Marine Navigation Lighting	Continually monitor and maintain marine navigation illumination to ensure full functionality and compliance with Coast Guard regulations	1.8	Upon receipt of notification that a marine navigation Light Fixture(s) are not operable, excluding Planned Outages, the Developer shall repair the Light Fixture(s) within the defined cure periods.	5 points per bridge navigation and underdeck Lighting Fixture	4 hours *Daily work until fixed	24 hours *Daily work until fixed	5 days *Daily work until fixed	5 days *Daily work until fixed

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Welcome to Washington and Chinatown Archway Lighting	Continually monitor and maintain Welcome to Washington and Chinatown Archway illumination to ensure full functionality	1.9	<p>Upon receipt of notification that a Welcome to Washington and Chinatown Archway Lighting Fixtures are not operable, excluding Planned Outages, the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period.</p> <p>Welcome to Washington and Chinatown Lighting Fixtures with Planned Outages are excluded.</p>	1 point per Welcome to Washington or Chinatown Archway Lighting Fixture	N/A	N/A	5 days	24 hours
Tunnel and Underpass Lighting	Continually monitor and maintain tunnel and underpass illumination to ensure full functionality	1.10	<p>Upon receipt of notification that a Tunnel or Underpass Lighting Fixture(s) are inoperable Light Fixture(s), the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period.</p> <p>Lighting Fixtures with approved</p>	1 point per additional Tunnel and Underpass Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	72 hours	24 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			Planned Outages are excluded.					
Overhead Guide Sign Lighting	Continually monitor and maintain overhead guide sign illumination to ensure full functionality	1.11	Upon receipt of notification that Overhead Guide Sign Lighting Fixtures are inoperable Light Fixture(s), the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period. Lighting Fixtures with Planned Outages are excluded.	1 point for each instance when more than 1 Fixture on an overhead guide sign Lighting Unit are inoperable and not repaired within the Cure and Restoration period	N/A	N/A	5 days	24 hours
Asset Condition								
Minimum Acceptable Condition, Foundation	Ensure Foundations are maintained at a minimum acceptable level of condition, with the exception of Foundations scheduled to be addressed as part of the Conversion and Construction Work	1.12	If a Foundation is found to present a safety hazard or has a condition rating 0 (Emergency), the Developer shall remediate the Element within the cure period.	1 point per Foundation below the minimum acceptable condition threshold	4 hours	N/A	30 days †	48 hours
Minimum Acceptable Condition, Access	Ensure Access Holes, T-Bases, and Wiring	1.13	If an Access Hole, T-Base or Wiring	1 point per Element below the	4 hours	N/A	72 hours †	24 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Holes, T-Bases, and Exposed Wiring	are maintained at a minimum acceptable level of condition, with the exception of assets scheduled to be addressed as part of the Conversion and Construction Work		presents a safety hazard or has a condition rating 0 (Emergency) or Wiring is exposed, the Developer shall remediate the Element within the cure period.	minimum acceptable condition threshold				
Minimum Acceptable Condition, additional Elements	Ensure remaining Elements not covered in items 2.12 and 2.13 are maintained at a minimum acceptable level of condition, with the exception of Foundations scheduled to be addressed as part of the Conversion and Construction Work	1.14	If a Project Element not listed in item 1.10 and 1.11 has a condition rating 0 (Emergency), the Developer shall remediate the Element within the cure period.	0.25 per Element with aesthetic issue (elephant ears, ID tags, pole caps, and painting) -or- 1 point per Element causing safety issue	4 hours	N/A	15 days †	72 hours
Tree Trimming and Vegetation Control								
Tree Trimming	Keep Lighting Units in Alleys or along Freeways and Expressways free of obstruction from tree branches and limbs	1.15	The Developer shall remove vegetation obstructing access to Element(s) of a Lighting Unit in an Alley or along a Freeway or Expressway per <u>Section 10</u> of the Technical	1 per event of Noncompliance	N/A	N/A	5 days	5 days

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			Provisions within the Cure and Restoration period.					
Vegetation Control	Keep Lighting Units free of unwanted vegetation	1.16	Lighting Units identified as having unwanted vegetation, such as vegetation on poles, excluding grass surrounding the base of Lighting Units located in parks and recreation areas, shall be addressed within the Cure and Restoration period.	1 point per additional Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	5 days	5 days
Appearance								
Lighting Asset Appearance	Continually monitor and maintain Project Site conditions to ensure Project Elements are free of graffiti	1.17	Maintain all Lighting Units that the Developer has come in contact with or that the Developer has been notified of	0.5 points per event of Noncompliance beyond the first	N/A	N/A	7 days	7 days

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			free of graffiti, unapproved decorations, and/or damages resulting from acts of vandalism. Upon receipt of notification of graffiti, the Developer shall take a photo of the Lighting Unit, record it, and make repairs within the Cure and Restoration period.					
Emergency and Incident Response								
Emergency, Incident, and Severe Weather Events Damage Inspections and Assessment	Visual inspections, damage assessments report	1.18	Developer shall conduct visual inspections and damage assessments and provide the District with a Damage Report within the Cure and Restoration period (24 hours) after the occurrence of a Severe Weather Event, Emergency or Incident as per Section 10.6 of the	2 per event of Noncompliance	N/A	N/A	24 hours	24 Hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			Technical Provisions.					
Severe Weather, Emergency, or Incident Repairs	Repairs of Project Elements after Severe Weather, Emergency, or Incident Events	1.19	Coordinate with the District and conduct repairs to the Project Elements as agreed to within the Severe Weather, Emergency, or Incident Response Plan following a Severe Weather Event, Emergency, or Incident per <u>Section 10</u> of the Technical Provisions.	4 per event of Noncompliance	N/A	N/A	To be defined as per the Severe Weather, Emergency, or Incident Response Plan	To be defined as per the Severe Weather, Emergency, or Incident Response Plan
Response to District, Patron, and Other Service Requests								
Documenting Service Requests	Utilize the District's uniform work order management system to respond to and document customer complaints and Service Requests along with their resolutions	1.20	Document and maintain Service Requests in the District's work order management system from notification through resolution, as per <u>Section 10</u> of the Technical Provisions	2 per event of Noncompliance	N/A	N/A	2 hours	24 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Response to Service Requests	Respond to customer complaints and Service Requests in a timely and efficient manner	1.21	Respond to Service Requests originating from the District's work order management system and conduct field investigations or inspections as per <u>Section 10</u> of the Technical Provisions within the Cure and Restoration period.	2 per event of Noncompliance	N/A	N/A	24 hours, Monday through Friday, concluding at 17:00 Friday. Saturday/ Sunday: items must be addressed by Midnight Monday	24 hours
Environmental Preservation								
Hazardous Materials Releases by the Developer	Ensure diligent clean-up process and avoidance of unsafe situations and damage to Elements	1.22	A Hazardous Materials release by the Developer is an event of Noncompliance. In the event of a Hazardous Materials release by the Developer, the Developer shall notify the District and provide clean-up processes following fuel spills or release of Hazardous Materials per <u>Section 10</u> of	5 per event of Noncompliance	24 hours	24 hours	N/A	12 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			Technical Provisions. When evaluating clean-up activities, follow District publications as applicable.					
Hazardous Materials Discovery, Non-Developer Release	Ensure diligent clean-up process and avoidance of unsafe situations and damage to Elements	1.23	Notify the District of any discovery of Hazardous Materials during Work and follow clean-up processes per <u>Section 10</u> of the Technical Provisions.	5 per event of Noncompliance	24 hours	24 hours	N/A	12 hours
Habitat Preservation	Continually monitor and maintain Project Site conditions to promote habitats of Endangered Species	1.24	No Work shall disturb or alter the habitat or threaten the life of any Endangered Species.	5 per event of Noncompliance	24 hours	N/A	N/A	N/A
Lighting Asset Inventory and IT Systems								
Lighting Asset Inventory and Tagging	Ensure that Elements are appropriately recorded and tracked in the Lighting Asset Inventory	1.25	The Lighting Asset Inventory is complete and accurate in accordance with <u>Section 1.7 and 10</u> of the Technical Provisions.	1 per Lighting Unit	N/A	N/A	7 days	7 days

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
			Previously untagged Lighting Units and Lighting Units not previously recorded in Inventory discovered through work shall be tagged and added and tracked in inventory within the Cure and Restoration period.					
Asset Management Information System (AMIS)	Ensure that asset condition and work performed are tracked and recorded in the Asset Management Information System	1.26	Maintain a comprehensive database in the Asset Management Information System that records condition, defects, and work history for Elements within Lighting Units, ensuring that work performed is recorded against Elements per <u>Section 10</u> of the Technical Provisions. In the event that a discrepancy is discovered, address the issue within the Cure and Restoration period.	1 per Lighting Unit	N/A	N/A	24 hours	24 hours

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Automatic Vehicle Location (AVL) System	Continually monitor and maintain the AVL System to ensure full functionality until the System is integrated with the Asset Management Information System	1.27	AVL System uptime shall be at least 99% per month, excluding approved Planned Outages, as measured by a monthly average as determined by the number of minutes the AVL System is inoperable per month divided by the total number of minutes per month excluding approved Planned Outages.	1 per event of Noncompliance	N/A	N/A	N/A	N/A
Wireless Access Points (WAPs)								
WAPs Properly Affixed	Continually monitor and maintain WAPs to be affixed in proper position on Poles and waterproofed and sealed to specifications	1.28	Upon receipt of notification of an improperly affixed WAP or a defect in waterproofing or seal, the Developer shall reaffix the WAP or fix the waterproofing or seal and address any damage within the defined Cure and Restoration periods.	1 per WAP	N/A	72 hours	7 days	7 days

PERFORMANCE REQUIREMENTS: EXISTING NETWORK								
			ALL Elements					
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Maintenance of WAPs Connections	Maintain WAPs fiber cable, grounding, power, and GPS connections	1.29	Upon receipt of notification of loss of a WAP fiber cable, power, ground, or GPS connection, the Developer shall reestablish the connection within the defined Cure and Restoration periods.	1 per WAP	N/A	72 hours	7 days	7 days
Traffic Control Plans	Maintain traffic in accordance with the Traffic Control Plan	1.30	Comply with the requirements for Traffic Control Plans in accordance with <u>Section 11</u> (Maintenance and Protection of Traffic) of the Technical Provisions.	3 per event of noncompliance	N/A	N/A	N/A	N/A *Work shall not restart in the area corresponding to the Traffic Control Plan until noncompliance is rectified

*The below detail is provided for further clarity on Lighting Performance Requirements items 1.4 to 1.6.

If an existing light is found or reported out and it has current flowing to it, the Developer has five days to repair the light. If, during a billing quarter, five lights are not repaired within the five days, no points are assessed. However, once a sixth light is not repaired in time,

a point will be assessed. An additional point will be applied every 24 hours until the light is repaired. This is true for the sixth late light repair until the nth, within the billing quarter.

The Developer will need to determine the cause of the outage during their inspection and appropriately categorize as one of the three categories: Light Out with Current, Light Out with No Current, or Light Out with No Current with Cut. For those outages where there is no current, the Developer has 15 days from the moment a Service Request and/or Work Order was initiated. If the Developer finds no current and need to make any cut to the sidewalk or roadway to make a repair, the Developer has 30 days to address the issue. In both cases, the Developer is allowed to let one outage go late within the billing quarter without penalty. The second light in each category that goes late is assessed one point. An additional point will be applied every 48 hours until the issue is addressed.

† For items 1.12 through 1.14, the Priority 1 Permanent Cure and Restoration requirement will be waived if the Element is scheduled to be addressed in a Project Bundle set for completion within six weeks from the time the issue was initiated as a Service Request and/or Work Order.

Table Appendix-2: Performance Requirements for the Improved Network and Expanded Network

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Safety								
Make Safe Work	Remediate safety hazards to the Public	2.1	Arrive at the scene to address Make Safe Work requests by the District, per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period.	5 per event of Noncompliance	2 hours	N/A	N/A	2 hours
Administrative Redirect	Remediate or conduct Administrative Redirect work as directed by the District	2.2	Respond to District Administrative Redirect requests as directed per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period.	3 per event of Noncompliance	4 hours	N/A	N/A	8 hours
Administrative Redirect – High Priority	Remediate or conduct Administrative Redirect work deemed High Priority as directed by the District for items on behalf of other governmental organizations	2.3	Respond to District Administrative Redirect requests deemed High Priority as directed per <u>Section 10</u> of the Technical Provisions within the Hazard Mitigation period.	5 per event of Noncompliance	4 hours	N/A	N/A	8 hours
Lighting Performance as Reported on a Routine Basis by the RMCS (* see additional detail below table)								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Lighting Units, with current	Respond to outages and restore operation and functionality	2.4	<p>In the event that Lighting Units are inoperable and not functioning, the Developer shall restore operation and functionality within the Cure and Restoration period.</p> <p>This excludes Planned Outages and no current situations. No current situations are covered in items 1.5 and 1.6.</p>	1 point per additional Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	72 hours	24 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Lighting Units, no current	Respond to no current situations to restore operation and functionality	2.5	<p>In the event that Lighting Units are inoperable and not functioning as a result of a no current situation, the Developer shall restore operation and functionality within the Cure and Restoration period.</p> <p>This excludes Planned Outages and no current with cut situations. No current with cut situations are covered in item 1.6.</p>	1 point per additional Lighting Unit out beyond 1 accrued during a billing quarter	N/A	N/A	15 days	48 hours
Lighting Units, no current with cut	Respond to no current with cut situations to restore operation and functionality	2.6	<p>In the event that Lighting Units are inoperable and not functioning as a result of a no current with cut situation, the Developer shall restore operation and functionality within the Cure and Restoration period.</p> <p>This excludes Planned Outages.</p>	1 point per additional Lighting Unit out beyond 1 accrued during a billing quarter	N/A	N/A	30 days	48 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Lighting Units, Consecutive	Continually monitor and maintain illumination to ensure full functionality of consecutive Lighting Units	2.7	<p>Upon receipt of notification of 3 or more consecutive inoperable Lighting Units, the Developer shall repair the Lighting Unit within the defined Cure and Restoration period.</p> <p>Lighting Units with Planned Outages are excluded.</p> <p>If a single Light Fixture on a Lighting Unit with several Light Fixtures is inoperable and not functioning as designed, then that Lighting Unit shall be deemed inoperable.</p>	For each instance accrued beyond 5 in a billing quarter, the following points will be applied: 3 + 1 points per additional consecutive Lighting Units beyond 5	N/A	N/A	72 hours *Daily work until fixed	24 hours *Daily work until fixed
Marine Navigation Lighting	Continually monitor and maintain marine navigation illumination to ensure full functionality and compliance with Coast Guard regulations	2.8	Upon receipt of notification that a marine navigation Light Fixture(s) are not operable, excluding Planned Outages, the Developer shall repair the Light Fixture(s) within the defined cure periods.	5 points per bridge navigation and underdeck Lighting Fixture	4 hours *Daily work until fixed	24 hours *Daily work until fixed	5 days *Daily work until fixed	5 days *Daily work until fixed

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Welcome to Washington and Chinatown Archway Lighting	Continually monitor and maintain Welcome to Washington and Chinatown Archway illumination to ensure full functionality	2.9	<p>Upon receipt of notification that a Welcome to Washington and Chinatown Archway Lighting Fixtures are not operable, excluding Planned Outages, the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period.</p> <p>Welcome to Washington and Chinatown Lighting Fixtures with Planned Outages are excluded.</p>	1 point per Welcome to Washington or Chinatown Archway Lighting Fixture	N/A	N/A	72 hours	24 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Tunnel and Underpass Lighting	Continually monitor and maintain tunnel and underpass illumination to ensure full functionality	2.10	<p>Upon receipt of notification that a Tunnel or Underpass Lighting Fixture(s) are inoperable Light Fixture(s), the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period.</p> <p>Lighting Fixtures with approved Planned Outages are excluded.</p>	1 point per additional Tunnel and Underpass Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	72 hours	24 hours
Overhead Guide Sign Lighting	Continually monitor and maintain overhead guide sign illumination to ensure full functionality	2.11	<p>Upon receipt of notification that Overhead Guide Sign Lighting Fixtures are inoperable Light Fixture(s), the Developer shall repair the Light Fixture(s) within the defined Cure and Restoration period.</p> <p>Lighting Fixtures with Planned Outages are excluded.</p>	1 point for each instance when more than 1 Fixture on an overhead guide sign Lighting Unit are inoperable and not repaired within the Cure and Restoration period	N/A	N/A	72 hours	24 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Asset Condition								
Minimum Acceptable Condition, Foundation	Ensure Foundations are maintained at a minimum acceptable level of condition	2.12	<p>A Foundation found to be below condition rating 3 (Fair) by the District, resident, or other third party excepting the Developer shall result in a Noncompliance Event. The Developer shall remediate the issue within the Cure and Restoration period.</p> <p>If the Developer discovers a Foundation has a condition rating below 3 (Fair), the Developer shall remediate the Element within the Cure and Restoration period.</p>	<p>1 point per Foundation below the minimum acceptable condition threshold</p> <p>or</p> <p>1 point per Foundation below the minimum acceptable condition threshold discovered by the Developer and not remediated within the Cure and Restoration period</p>	N/A	N/A	30 days	48 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Minimum Acceptable Condition, Access Holes, T-Bases, and Exposed Wiring	Ensure Access Holes, T-Bases, and Wiring are maintained at a minimum acceptable level of condition	2.13	<p>An Access Hole, T-Base, or Wiring found to be below condition rating 3 (Fair) by the District, resident, or other third party excepting the Developer shall result in a Noncompliance Event. The Developer shall remediate the issue within the Cure and Restoration period.</p> <p>If the Developer discovers an Access Hole, T-Base or Wiring has a condition rating below 3 (Fair), the Developer shall remediate the Element within the Cure and Restoration period.</p>	<p>1 point per Element below the minimum acceptable condition threshold</p> <p>or</p> <p>1 point per Element below the minimum acceptable condition threshold discovered by the Developer and not remediated within the Cure and Restoration period</p>	N/A	N/A	72 hours	24 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Minimum Acceptable Condition, additional Elements	Ensure remaining Elements not covered in items 2.12 and 2.13 are maintained at a minimum acceptable level of condition	2.14	<p>A Project Element not listed in item 2.12 and 2.13 found to be below condition rating 3 (Fair) by the District, resident, or other third party excepting the Developer shall result in a Noncompliance Event. The Developer shall remediate the issue within the Cure and Restoration period.</p> <p>If the Developer discovers a Project Element not listed in item 2.12 and 2.13 has a condition rating below 3 (Fair), the Developer shall remediate the Element within the Cure and Restoration period.</p>	<p>1 point per Element below the minimum acceptable condition threshold</p> <p>or</p> <p>1 point per Element below the minimum acceptable condition threshold discovered by the Developer and not remediated within the Cure and Restoration period</p>	N/A	N/A	15 days	72 hours
Tree Trimming and Vegetation Control								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Tree Trimming	Keep Lighting Units in Alleys or along Freeways and Expressways free of obstruction from tree branches and limbs	2.15	The Developer shall remove vegetation obstructing access to Element(s) of a Lighting Unit in an Alley or along a Freeway or Expressway per Section 10 of the Technical Provisions within the Cure and Restoration period.	1 per event of Noncompliance	N/A	N/A	5 days	5 days
Vegetation Control	Keep Lighting Units free of unwanted vegetation	2.16	Lighting Units identified as having unwanted vegetation, such as vegetation on poles, excluding grass surrounding the base of Lighting Units located in parks and recreation areas, shall be addressed within the Cure and Restoration period.	1 point per additional Lighting Unit beyond 5 accrued during a billing quarter	N/A	N/A	5 days	5 days
Appearance								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Continually monitor and maintain Project Site conditions to ensure Elements are free of graffiti	Continually monitor and maintain Project Site conditions to ensure Project Elements are free of graffiti	2.17	Maintain all Lighting Units that the Developer has come in contact with or that the Developer has been notified of free of graffiti, unapproved decorations, and/or damages resulting from acts of vandalism. Upon receipt of notification of graffiti, the Developer shall take a photo of the Lighting Unit, record it, and make repairs within the Cure and Restoration period.	0.5 points per event of Noncompliance beyond the first	N/A	N/A	7 days	7 days
Emergency and Incident Response								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Emergency, Incident, and Severe Weather Events Damage Inspections and Assessments	Visual inspections, damage assessments report	2.18	Developer shall conduct visual inspections and damage assessments and provide the District with a Damage Report within 24 hours after the occurrence of a Severe Weather Event, Emergency or Incident as per <u>Section 10.6</u> of the Technical Provisions.	2 per event of Noncompliance	N/A	N/A	24 hours	24 Hours
Severe Weather, Emergency, or Incident Repairs	Repairs of Project Elements after Severe Weather, Emergency, or Incident Events	2.19	Coordinate with the District and conduct repairs to the Project Elements as agreed to within the Severe Weather, Emergency, or Incident Response Plan following a Severe Weather Event, Emergency, or Incident per <u>Section 10</u> of the Technical Provisions.	4 per event of Noncompliance	N/A	N/A	To be defined as per the Severe Weather, Emergency, or Incident Response Plan	To be defined as per the Severe Weather, Emergency, or Incident Response Plan
Response to District, Patron, and Other Service Requests								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Documenting Service Requests	Utilize the District's uniform work order management system to respond to and document customer complaints and Service Requests along with their resolutions	2.20	Document and maintain Service Requests in the District's work order management system from notification through resolution, as per <u>Section 10</u> of the Technical Provisions	2 per event of Noncompliance	N/A	N/A	2 hours	24 hours
Response to Service Requests	Respond to customer complaints and Service Requests in a timely and efficient manner	2.21	Respond to Service Requests originating from the District's work order management system and conduct field investigations or inspections, as per <u>Section 10</u> of the Technical Provisions within the Cure and Restoration period.	2 per event of Noncompliance	N/A	N/A	24 hours, Monday through Friday, concluding at 17:00 Friday. Saturday/ Sunday: items must be addressed by Midnight Monday	24 hours
Environmental Preservation								

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Fuel Spills / Hazardous Materials Releases by the Developer	Ensure diligent clean-up process and avoidance of unsafe situations and damage to Elements	2.22	A Hazardous Materials release by the Developer is an event of Noncompliance. In the event of a Hazardous Materials release by the Developer, the Developer shall notify the District and provide clean-up processes following fuel spills or release of Hazardous Materials per <u>Section 10</u> of the Technical Provisions. When evaluating clean-up activities, follow District publications as applicable.	5 per event of Noncompliance	24 hours	24 hours	N/A	12 hours
Hazardous Materials Discovery, Non-Developer Release	Ensure diligent clean-up process and avoidance of unsafe situations and damage to Elements	2.23	Notify the District of any discovery of Hazardous Materials during Work and follow clean-up processes per <u>Section 10</u> of the Technical Provisions.	5 per event of Noncompliance	24 hours	24 hours	N/A	12 hours

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Habitat Preservation	Continually monitor and maintain Project Site conditions to promote habitats of Endangered Species	2.24	No Work shall disturb or alter the habitat or threaten the life of any Endangered Species.	5 per event of Noncompliance	24 hours	N/A	N/A	N/A
Lighting Asset Inventory and Tagging	Ensure that Elements are appropriately recorded and tracked in the Lighting Asset Inventory	2.25	The Lighting Asset Inventory is complete and accurate in accordance with <u>Section 1.7 and 10</u> of the Technical Provisions. Previously untagged Lighting Units and Lighting Units not previously recorded in Inventory discovered through work shall be tagged and added and tracked in inventory within the Cure and Restoration period.	1 per Lighting Unit	N/A	N/A	7 days	7 days

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Asset Management Information System (AMIS)	Ensure that asset condition and work performed are tracked and recorded in the Asset Management Information System	2.26	Maintain a comprehensive database in the Asset Management Information System that records condition, defects, and work history for Elements within Lighting Units, ensuring that work performed is recorded against Elements per <u>Section 10</u> of the Technical Provisions within the Cure and Restoration period.	1 per Lighting Unit	N/A	N/A	24 hours	24 hours
Wireless Access Points (WAPs)								
WAPs Properly Affixed	Continually monitor and maintain WAPs to be affixed in proper position on Poles and waterproofed and sealed to specifications	2.27	Upon receipt of notification of an improperly affixed WAP or a defect in waterproofing or seal, the Developer shall reaffix the WAP or fix the waterproofing or seal and address any damage within the Cure and Restoration period.	1 per WAP	N/A	72 hours	7 days	7 days

PERFORMANCE REQUIREMENTS: IMPROVED NETWORK AND EXPANDED NETWORK								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
Maintenance of WAPs Connections	Maintain WAPs fiber cable, grounding, power, and GPS connections	2.28	Upon receipt of notification of loss of a WAP fiber cable, power, ground, or GPS connection, the Developer shall reestablish the connection within the Cure and Restoration period.	1 per WAP	N/A	72 hours	7 days	7 days
Traffic Control Plans	Maintain traffic in accordance with the Traffic Control Plan	2.29	Comply with the requirements for Traffic Control Plans in accordance with <u>Section 11</u> (Maintenance and Protection of Traffic) of the Technical Provisions.	3 per event of noncompliance	N/A	N/A	N/A	N/A *Work shall not restart in the area corresponding to the Traffic Control Plan until noncompliance is rectified

*The below detail is provided for further clarity on Lighting Performance Requirements items 2.4 to 2.6.

If an existing light is found or reported out and it has current flowing to it, the Developer has 72 hours to repair the light. If, during a billing quarter, five lights are not repaired within the 72 hours, no points are assessed. However, once a sixth light is not repaired in time, a point will be assessed. An additional point will be applied every 24 hours until the light is repaired. This is true for the sixth late light repair until the nth, within the billing quarter.

The Developer will need to determine the cause of the outage during their inspection and appropriately categorize as one of the three categories: Light Out with Current, Light Out with No Current, or Light Out with No Current with Cut. For those outages where there is no current, the Developer has 15 days from the moment Service Request and/or Work Order was initiated. If the developer finds no current and needs to make any cut to the sidewalk or roadway to make a repair, the Developer has 30 days to address the issue. In both cases, the Developer is allowed to let one outage go late within the billing quarter without penalty. The second light in each category that goes late is assessed one point. An additional point will be applied every 48 hours until the issue is addressed.

Table Appendix-3: Performance Requirements for the Improved Network and Expanded Network: AMIS & RMCS

PERFORMANCE REQUIREMENTS: AMIS & RMCS								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Element or Work Category	Description	ID	Minimum Performance Requirements	Noncompliance Points	Priority 0 Hazard Mitigation	Priority 1 Temporary Cure	Priority 1 Permanent Cure and Restoration	Interval of Recurrence for Permanent Cure
AMIS, General	Continually monitor and maintain the AMIS to ensure full functionality	3.1	AMIS shall be fully functional with the exception of Planned Outages. Any Unplanned Outage is an event of noncompliance.	8 per event of Noncompliance	N/A	N/A	N/A	N/A
AMIS, Unplanned Outage Remedial Plan	Provide an AMIS Unplanned Outage Remedial Plan to address any Unplanned Outage of the AMIS	3.2	Provide to the District for approval an AMIS Unplanned Outage Remedial Plan to remediate any Unplanned Outage within the Cure and Restoration Period.	5 per event of Noncompliance	N/A	N/A	24 hours	24 hours

PERFORMANCE REQUIREMENTS: AMIS & RMCS								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
AMIS, Unplanned Outage Remedial Activities	Remediate any Unplanned Outage of the AMIS to ensure functionality	3.3	Complete all activities to remediate any Unplanned Outage of the AMIS within the agreed upon cure period and per the AMIS Unplanned Outage Remedial Plan in accordance with <u>Section 10 and Appendix 13.9</u> of the Technical Provisions.	5 per event of Noncompliance	N/A	N/A	To be defined per the AMIS Unplanned Outage Remedial Plan	To be defined per the AMIS Unplanned Outage Remedial Plan
AMIS Project Dashboard	Ensure the Project dashboard is continually monitored and maintained to promote accuracy	3.4	The project dashboard shall fulfill specifications as per <u>Section 10 and Appendix 13.9</u> of the Technical Provisions. Each failure to adhere to project dashboard specifications is an event of Noncompliance.	3 per failure event	N/A	N/A	5 days	24 hours
RMCS, Accuracy	Continually monitor and maintain the RMCS to ensure accuracy in its functionality	3.5	The RMCS shall accurately indicate the status of Light Fixtures in real time as verified by visual inspections, excluding approved Planned Outages. Each inaccurate RMCS node indication of Light Fixture status not remediated within the defined cure period is an event of Noncompliance.	1 per RMCS node that does not accurately reflect Light Fixture status	N/A	N/A	3 days	24 hours

PERFORMANCE REQUIREMENTS: AMIS & RMCS								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
RMCS, General	Respond to outages associated with RMCS Elements	3.6	In the event that RCMS Elements are inoperable and not functioning as designed per <u>Section 10 and Appendix 13.9</u> of the Technical Provisions, the Developer shall provide to the District for approval an RMCS Unplanned Outage Remedial Plan to remediate any Unplanned Outage within the Cure and Restoration Period.	2 per event of Non-compliance. 2 points added for every 24-hour period for which remediation plan is not in place.	N/A	24 hours	3 days	24 hours
Remote Monitoring Control System (RMCS)	Ensure that the Remote Monitoring Control System (RMCS) is performing as intended	3.7	Maintain the RMCS data collection and exchange of information with the AMIS and other applicable databases according to the IT System technical specifications per <u>Section 10 and Appendix 13.9</u> of the Technical Provisions. Each failure to adhere to RMCS specifications is an event of Noncompliance.	4 per event of Noncompliance	N/A	24 hours	5 days	3 days

PERFORMANCE REQUIREMENTS: AMIS & RMCS								
				ALL Elements				
					Cure Periods and Interval of Recurrence			
Remote Monitoring and Control System (RMCS) Elements, Consecutive	Monitor and maintain the RMCS to ensure full functionality of consecutive Elements	3.8	<p>RMCS Elements on no more than 3 consecutive Lighting Units are inoperable and not functioning as designed per <u>Section 10 and Appendix 13.9</u> of the Technical Provisions, excluding Planned Outages, as measured by a daily (05:00 to 05:00 the following day) count.</p> <p>If a single RMCS Node on a Lighting Unit with several RMCS Nodes is inoperable and not functioning as designed, then that Lighting Unit shall be deemed inoperable.</p>	For each instance accrued beyond 5 in a billing quarter, the following points will be applied: 3 + 1 points per additional consecutive Lighting Unit out beyond 3	N/A	24 hours	3 days	24 hours
Planned Outage Scheduling								
IT System Scheduled Maintenance	Reduce Planned Outages of the AMIS and RMCS during normal business hours to the extent practical	3.10	Planned Outages of the AMIS and RMCS shall not occur without approval by the District as per <u>Section 10 and Appendix 13.9</u> of the Technical Provisions. Any Planned Outage that occurs without prior approval by the District is an event of noncompliance.	5 per event of Noncompliance	N/A	N/A	N/A	N/A

13.2 Mandatory Specifications, Standards, Manuals and Guidelines

- (a) This Appendix contains a non-exclusive list of specifications, standards, manuals and guidelines that the Developer shall use in the performance of the Work. The Parties shall disregard any requirement pertaining to payments in the documents listed herein.
- (b) The Developer shall verify and use the latest version of the appropriate specifications, standards, manuals and guidelines for the Work.
- (c) In the event of ambiguities or conflicts between or among the specifications, standards, manuals and guidelines listed in (e) below or between such documents and the Technical Provisions, the more stringent requirements shall apply as determined by the District in its sole discretion.
- (d) All materials used for the Project, which previously would have to meet the requirements of NCHRP 350, shall now meet the requirements of the AASHTO Manual for Assessing Safety Hardware (MASH), unless otherwise specified.
- (e) The Developer shall meet or exceed the requirements and criteria in the appropriate specifications, standards, manuals and guidelines, including the following documents:
 - (i) District of Columbia Lighting Fixture Specifications, September 2020
 - (ii) District of Columbia Department of Transportation Standard Specifications for Highways and Structures, latest standard applies
 - (iii) District of Columbia Department of Transportation Design and Engineering Manual, latest standard applies
 - (iv) Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD)
 - (v) Federal Highway Administration Standard Highway Signs and Markings (English Version)
 - (vi) D.C. Temporary Traffic Control Manual, latest standard applies
 - (vii) DDOT Work Zone Safety and Mobility Policy, latest standard applies
 - (viii) DDOT Utility Work Zone Traffic Control Plan (TCP) Typicals, latest standard applies
 - (ix) DDOT Pedestrian Safety and Work Zone Standards – Covered and Open Walkways
 - (x) DDOT Guidelines for Traffic Control in Work Zones (Work Zone Pocket Guide)
 - (xi) DDOT Memoranda on Traffic Control Plan Submittal Guidelines, 11th Edition, October 26, latest standard applies
 - (xii) DDOT Traffic Control Plan (TCP) Inspection Criteria
 - (xiii) DDOT Construction Management Manual, latest standard applies
 - (xiv) DDOT MicroStation V8 CAD Standards Manual

- (xv) DDOT Standard Drawings, latest standard applies
 - (xvi) FHWA Work Zone Safety and Mobility Rule
 - (xvii) FHWA Work Zone Safety and Mobility Rule, Implementing the Rule on Work Zone Safety and Mobility
 - (xviii) FHWA Work Zone Safety and Mobility Rule, Developing and Implementing Transportation Management Plans for Work Zones
 - (xix) FHWA Work Zone Safety and Mobility Rule, Work Zone public Information and Outreach Strategies
 - (xx) FHWA Work Zone Safety and Mobility Rule, Work Zone Impacts Assessment: An Approach to Assess and Manage Work Zone Safety and Mobility Impacts of Road Projects
 - (xxi) FHWA Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modelling Software
 - (xxii) FHWA Traffic Monitoring Guide
 - (xxiii) National Cooperative Highway Research Project (NCHRP) Report 350
 - (xxiv) ADA Standards for Accessible Design
 - (xxv) American Traffic Safety Services Association (ATSSA) Quality Guidelines for Temporary Traffic Control Devices and Features, latest standard applies
 - (xxvi) AASHTO Roadside Design Guide
 - (xxvii) AASHTO A Policy on Geometric Design of Highways and Streets
 - (xxviii) AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities
 - (xxix) AASHTO Manual for Assessing Safety Hardware (MASH)
 - (xxx) AASHTO Guide for the Development of Bicycle Facilities
 - (xxxi) WMATA/JDAC Adjacent Construction Project Manual
- (f) The Section 106 Consultation for the Citywide Light Emitting Diode (LED) Streetlight Replacement Project can be referenced below:



June 22, 2020

Mr. Michael Hicks
U.S. Department of Transportation
Federal Highway Administration
District of Columbia Division
1200 New Jersey Avenue, SE
Washington, DC 20006

RE: Section 106 Consultation for the Citywide Light Emitting Diode (LED) Streetlight Replacement Project
[Federal Aid Project No. 2016 (059)] aka "Smart Lighting" Project

Dear Mr. Hicks:


The District of Columbia State Historic Preservation Officer (SHPO) has reviewed FHWA's most recent letter regarding the above-referenced undertaking and is writing to provide additional comments in accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800.

Consultation on this project was initiated in May of 2018 and has involved public meetings and interaction with various consulting parties including Advisory Neighborhood Commissions, the National Mall Roads Interagency Working Group (IWG) and others.

The potential concerns raised in our initial letter appear to have been addressed in that we now understand no ground disturbance will be required; wattages and color temperatures within a general range of 75-215 Watts (brightness) and 2700-3000 Kelvin (color temperature) will be used based upon context and remotely dimmed/adjusted, as appropriate; internal shielding will focus light down and minimize light pollution while still allowing 10%-15% illumination of the tops of Washington Globe/Twin Twenties fixtures so the complete shape of the globes will be discernable at night; and existing streetlight fixtures will largely be maintained with only minimal changes anticipated to the design of cobrahead fixtures.

For these reasons, we have determined that implementation of this undertaking will have "no adverse effect" on historic properties provided that any associated change of streetlight fixtures within historic districts will continue to follow DDOT's standard procedures and be limited to Washington Globes and Twin-Twenties rather than cobraheads which are generally not appropriate for historic districts. On a related note, we recommend that FHWA and DDOT continue to work closely with the IWG to determine the appropriate brightness and color temperatures for nationally significant areas such as the Monumental Core since these areas have historically been lit differently than residential and commercial areas to emphasize their national importance and this distinctive lighting could be considered part of their historic character.

If you should have any questions or comments regarding this matter, please contact me at andrew.lewis@dc.gov or 202-442-8841.

Sincerely,

C. Andrew Lewis
Senior Historic Preservation Officer
DC State Historic Preservation Office

18-0463

1100 4th Street, SW, Suite E650, Washington, D.C. 20024 Phone: 202-442-7600, Fax: 202-442-7638

13.3 Smart City Specifications

This exhibit provides the information the District Intelligent Streetlight Project vendor needs to install outdoor Wi-Fi Access Points (WAPs) on streetlights specified by OCTO as per requirements in the DDOT Intelligent Streetlight Project RFP.

13.3.1 References

- (a) District of Columbia Department of Transportation Standard Specifications for Highways and Structures, including but not limited to Section 614: Streetlighting and Miscellaneous Electrical Work and Section 820: Streetlighting and Electrical Materials
- (b) Cisco Wi-Fi access point installation guide for installation and troubleshooting tips: https://www.cisco.com/c/en/us/td/docs/wireless/access_point/1570/installation/guide/1570hig.html

13.3.2 Materials

13.3.2.1 The District shall provide the Developer the materials described in Section 9.1 of the Technical Provisions.

13.3.2.2 The Developer shall provide the following for installation:

- (a) Supplementary materials for installation of WAPs
 - a. WAP transmitter/receiver unit – with serial number identifier
 - b. Bands and plate for attaching to the WAP to the pole
 - c. Power cable - AIR-CORD-R3P-40NA
 - d. Photocell power adapter for street light (as needed when power is fed from the street light and not pole base)
 - e. GPS
- (b) Pull string cable
- (c) Grounding cable – 6-AWG
- (d) Fiber for root WAP (RAP) – Clearfield 2-fiber push cable inside a 10 mm microduct with duplex LC connector on the RAP side.
- (e) 120 VAC, 20-amp breaker housed in a low-profile weatherproof enclosure (as needed when power is fed from the pole base).

Note: WAP will not be powered from the Lighting Fixture.

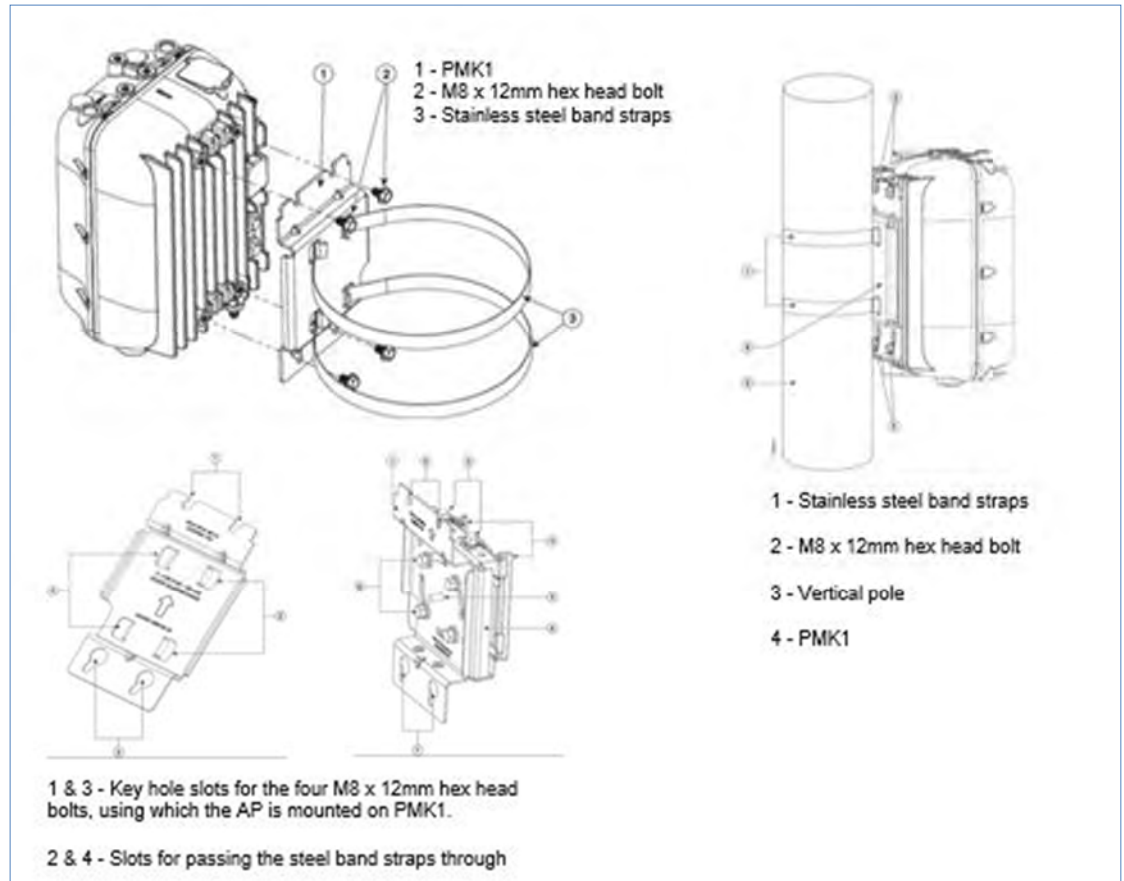
- (f) Sealing and waterproofing materials

13.3.3 Installing Wi-Fi Access Points

The Developer shall:

- (a) Adhere to the District of Columbia Department of Transportation Standard Specifications for Highways and Structures, including but not limited to the following sections:
 - a. 614.26 – Foundation for Streetlight Poles
 - b. 614.30 – Wood Poles
 - c. 614.42 – Ground Rod
 - d. 614.50 – Electrical Receptacle on Streetlight Pole for Seasonal Lighting
 - e. 820.10 – Ground Rods
- (b) Note pole ID and location, WAP serial number and MAC address, and handhole location (if applicable).
- (c) Verify that the power cable is operative using a multi meter test tool.
- (d) Mount the WAP on pole by pole type. See Figure 1.

Figure 1: Mounting the WAP

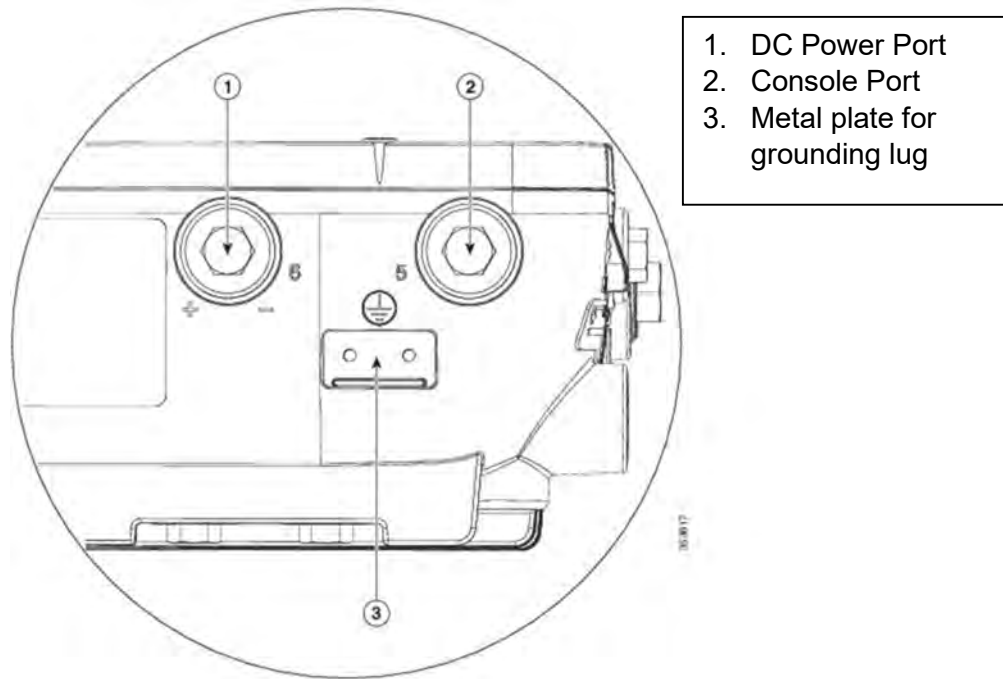


(e) For a metal pole:

- a. Drill a one inch hole at height of 14-19 feet, about 10-12 inches below where the bands holding the WAP will be attached. Place a rubber grommet in it.
- b. For root WAPs only, from the handhole, feed the fiber cable into the pole at the base opening and pull it out the drill hole.
 - i. Leave 25-foot loop of fiber cable in the handhole.
 - ii. Connect to SFP Terminate the fiber endpoint to the SFP port on the WAP base. See Figure 3.
- c. Attach the bands to the pole about 10-12 inches above the drill hole.
- d. Attach the steel plate to the bands.
- e. Slide, fit, and bolt the WAP to the plate in the vertical position, orienting the WAP in the direction specified in the WAP Site Information provided by OCTO.
- f. Feed the grounding cable to the proper ground point.

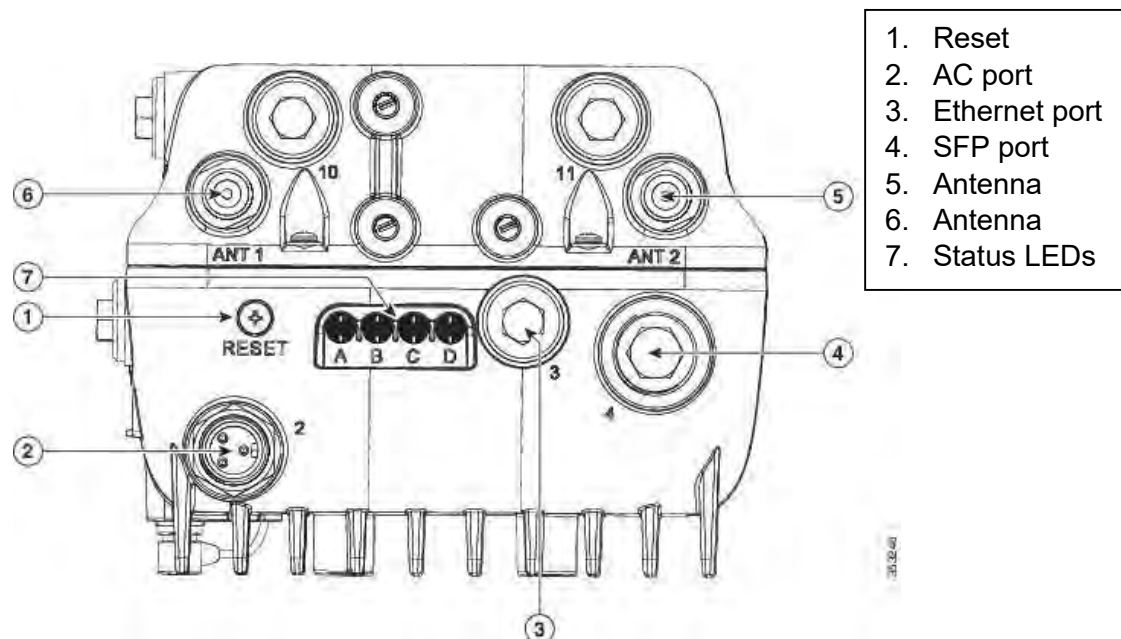
- (f) For a wooden pole:
- a. Attach the bands to the pole at height of 15-20 feet.
 - b. Attach the steel plate to the bands.
 - c. Slide, fit, and bolt the WAP to the plate in the vertical position, orienting the WAP in the direction specified in the WAP Site Information provided by OCTO.
 - d. Feed the grounding cable to the proper ground point.
- (g) Connect the grounding cable:
- a. Connect to the grounding point.
 - b. Connect the grounding cable to the WAP as per Figure 2.
 - i. Strip the insulation for the grounding cable as required for the grounding lug.
 - ii. Use the appropriate crimping tool to crimp the bare 6-AWG copper ground wire to the supplied grounding lug.
 - iii. Open the anti-corrosion sealant and apply an adequate amount over the metal surface where the ground strap screw holes are located.
 1. Ensure compliance with section 706.17.G.4 – Lubrication of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.
 - iv. Connect the grounding lug to the WAP grounding screw holes.

Figure 2: Grounding Lug for WAP – Right Side of WAP

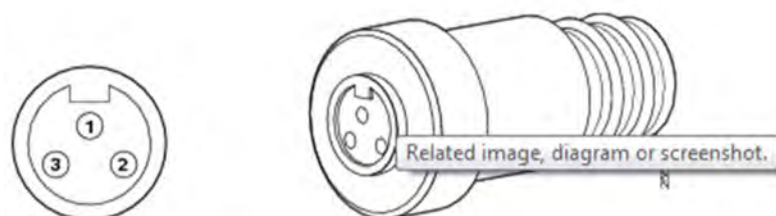


- (h) Connect the WAP to electrical power.
- a. Connect to the AC source:
 - i. If the pole has a pole-top AC connection, connect to it.
 - ii. If the pole does not have a pole-top AC connection, connect the power breaker to the main power feed and connect to the AC source.
 - b. Connect the upper end of the AC power cable to the 3-pronged power connector on the WAP base. Hand tighten the cable connector ring by turning it clockwise. See Figures 3 and 4 for reference.
 - c. Ensure the power LED on the WAP is on by noting if the LED is illuminated green.

Figure 3: WAP Base



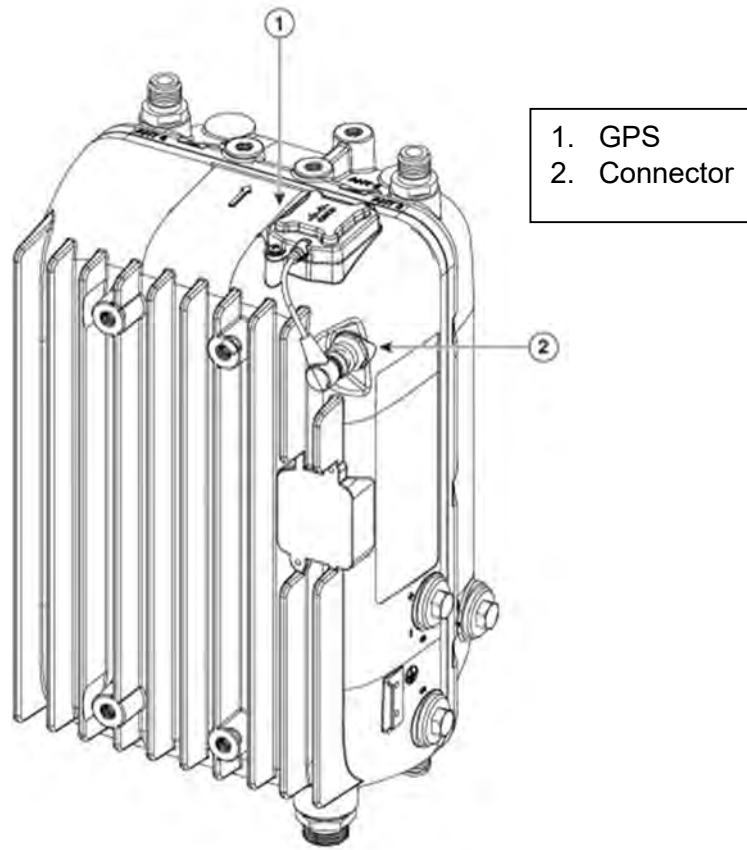
(i) Figure 4: AC Connector Plug Pins



Pin	Description	Conductor Color	Pin	Description	Conductor Color
1	Ground	Green/Yellow	3	Neutral	Blue
2	Live	Brown			

(j) Connect the GPS antenna to the WAP head as per Figure 5.

Figure 5: Installing the GPS Antenna



- (k) Seal the installation:
- a. Apply industry standard water protection seal to all openings, leaving no gap.
 - i. Water tight and seal drill hole; use rubber gaskets where possible in addition to seals.
 - ii. Properly seal all joints and connect points.
 - iii. Tape exposed cables with industry standard environment protecting tapes.
 - iv. Protect all AC power plugs and receptacles in the handhole.
 - b. Ensure compliance with section 706.17.G.4 – Lubrication of the District of Columbia Department of Transportation Standard Specifications for Highways and Structures.
 - c. Color match all sealing materials to pole color. Do not use metallic colors; these can cause attenuation/distortion.

13.3.4 Documenting Installation

The Developer shall document installation as described in Section 9.2 of the Technical Provisions.

13.3.5 WAP Model and Warranty Specifications

- (a) The District has negotiated discounted rates with Cisco for the procurement of the WAPs. The Developer can either procure the Root and Mesh WAPs at the District's negotiated rates or at a lower cost, if possible. However, the WAPs must be purchased through one of the following Cisco certified resellers: N2Grate, Disys, Presidio and NFF.
 - (i) Note, the rates stated are as of 2020, but could change based on market prices at the time of construction.
- (b) WAPs must meet the exact model and warranty specifications outlined in these Technical Provisions.
- (c) As the WAPs will be owned by the District and operated on a Wireless LAN Controller located on the Smart City VRF, the licenses, SmartNet, and hardware must be registered to the District's Office of the Chief Technology Officer (OCTO).

The following are the negotiated rates for the outdoor WAPs:

- (d) Root WAP (RAP) product total estimate: \$7,096.68
- (e) Mesh WAP (MAP) product total estimate: \$5,909.78
- (f) Prices include: WAP, (CMX+DNA) Licenses, SmartNet for 5 Years, Mount, Power Cable, Fiber Connectors, 4 Antenna/WAP, GPS Antenna
- (g) The following provides a detailed cost estimate from Cisco's Bill of Material (BOM):

All Prices Shown in USD

Part Number	Description	Service Duration (Months)	Estimated Lead Time (Days)	Unit List Price	Pricing Term	Qty	Unit Net Price	Disc(%)	Extended Net Price
AIR-DNA	CISCO DNA for Wireless - CHOOSE ONLY QTY 1 HERE	---	3	0.00		239	0.00	0.00	0.00
AIR-DNA-TRK-5Y	CISCO DNA Wireless Term Tracker 5Y	60	N/A	0.00		239	0.00	0.00	0.00
PI-LFAS-AP-T EA	Prime AP Term Licenses	---	6	0.00		239	0.00	0.00	0.00
PI-LFAS-AP-T-5Y	PI Dev Lic for Lifecycle & Assurance Term 5Y	60	N/A	0.00		239	0.00	0.00	0.00
AIR-DNA-E	Wireless Cisco DNA On-Prem Essential, Term Lic	---	3	0.00		239	0.00	0.00	0.00
AIR-DNA-E-5Y	Wireless Cisco DNA On-Prem Essential, 5Y Term Lic	60	N/A	376.31		239	376.31	0.00	89,938.09
AIR-DNA-E-T EA	Wireless Cisco DNA On-Prem Essential, Term, Tracker Lic	---	6	0.00		239	0.00	0.00	0.00
AIR-DNA-E-T-5Y	Wireless Cisco DNA On-Prem Essential, 5Y Term, Tracker Lic	60	N/A	0.00		239	0.00	0.00	0.00
AIR-DNA-NWSTACK-E EA	AIR CISCO DNA Perpetual Network Stack	---	28	0.00		239	0.00	0.00	0.00
IW-6300H-AC-B-K9	Industrial Wireless AP 6300, AC input, HazLoc, B Domain	---	35	6,317.03		239	6,317.03	0.00	1,509,770.17
HZ-PRODUCTS-TERMS	Buyer Acceptance of HazLoc Terms and Conditions	---	56	0.00		239	0.00	0.00	0.00
SWAP6300-MESH-K9	Cisco 6300 Series Unified Mesh Mode Software	---	56	0.00		239	0.00	0.00	0.00
AIR-ANT2547V-N	2.4 GHz 4dBi/5 GHz 7dBi Dual Band Omni Antenna, N connector	---	28	330.15		478	330.15	0.00	157,811.70
IOT-ACCPMK	IW6300 Pole/Wall Mount Kit (dry climates)	---	87	551.93		239	551.93	0.00	131,911.27
IOT-SMART-CITIES	Smart Cities and Communities Solutions; For tracking only.	---	35	0.00		239	0.00	0.00	0.00
IOT-CITIES-INFRA	Connected Communities Infrastructure CCI; For tracking only.	---	35	0.00		239	0.00	0.00	0.00
GLC-LX-SM-RGD=	1000Mbps Single Mode Rugged SFP	---	14	1,132.83		182	1,132.83	0.00	206,175.06
L-MSE-PAK-N	MSE License PAK for CMX 10 and higher	---	3	0.00		239	0.00	0.00	0.00
CON-ECMU-LMSEPALN	SWSS UPGRADES MSE License PAK for	60	N/A	0.00		239	0.00	0.00	0.00
L-AD-LS-1AP-N	1 AP CMX Advanced License for CMX 10 and higher	---	3	225.00		239	225.00	0.00	53,775.00
CON-ECMU-LADLS1PN	SWSS UPGRADES 1 AP CMX Advanced License for CMX 10 and	60	N/A	225.00		239	225.00	0.00	53,775.00

Valid through		Product Total	2,050,443.20
FOB Point	None	Service Total :	53,775.00
Note:		Subscription Total	89,938.09
		Total Price:	2,203,156.29

13.3.6OCTO Points of Contact

Title	Name	Contact
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13.4 Wireless Access Points

13.4.1 Summary WAPs by ANC

The Developer is required to deploy 239 total Wireless Access Points (WAPs), comprised of 91 Root Access Points (RAPs) and 148 Mesh Access Points (MAPs). ANCs impacted by the Wi-Fi deployment are 7C, 7D, 7F, 8A, 8C, 8D, and 8E. The following table summarizes the number of WAPs the Developer is required to deploy by ANC, specified by Mesh Access Points and Root Access Points.

ANC	DEVICE ROLE	QTY
ANC 7C	MAP	48
ANC 7C	RAP	27
	TOTAL	75
ANC 7D	MAP	29
ANC 7D	RAP	19
	TOTAL	48
ANC 7F	MAP	11
ANC 7F	RAP	6
	TOTAL	17
ANC 8A	MAP	20
ANC 8A	RAP	13
	TOTAL	33
ANC 8C	MAP	19
ANC 8C	RAP	14
	TOTAL	33
ANC 8D	MAP	17
ANC 8D	RAP	11
	TOTAL	28
ANC 8E	MAP	4
ANC 8E	RAP	1
	TOTAL	5
TOTAL		239

13.4.2 Detailed Breakdown of WAPs

The following table provides a detailed breakdown of the number of WAPs the Developer is required to deploy by pole number, ANC, neighborhood, nearby address, device role, pole type, and pole style.

ANC	STREETLIGHT ID	NEARBY ADDRESS	DEVICE ROLE	POLE TYPE	POLE STYLE	NEIGHBORHOOD
ANC 7C	70381DC	5210 HAYES ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70586DC	5216 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70588DC	SHERIFF RD & 52ND ST NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70590DC	5161 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood

ANC 7C	70593DC	5125 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70595DC	5095 SHERIFF RD NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70597DC	5079 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70600DC	5010 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70602DC	SHERIFF RD & 50TH PL NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70604DC	SHERIFF RD & 49TH PL NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70606DC	4909 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70608DC	4823 SHERIFF RD NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70610DC	4809 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70613DC	4731 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70615DC	4721 SHERIFF RD NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70617DC	47TH ST & SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70620DC	SHERIFF RD & 46TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	70622DC	SHERIFF RD & 45TH PL NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	70625DC	SHERIFF RD & 45TH PL NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71007DC	603 48TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71271DC	5120 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	71276DC	5000 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	71280DC	50TH ST & NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	71298DC	4635 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	71309DC	NANNIE HELEN BURROUGHS AVE & 44TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71559DC	4506 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	71561DC	4600 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71912DC	5112 BROOKS ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71927DC	501 51ST ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings

ANC 7C	71930DC	335 51ST ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71933DC	323 51ST ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71938DC	BANKS PL & 51ST ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71941DC	50TH ST & BANKS PL NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71947DC	220 51ST ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71950DC	303 50TH ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71952DC	316 50TH ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	71955DC	401 50TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71959DC	584 50TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71961DC	616 50TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71964DC	49TH PL & NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	71992DC	FITCH PL & 50TH ST NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	72061DC	631 49TH ST NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	72063DC	635 49TH ST NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	72644DC	5207 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	73091DC	53RD ST & CLAY TER NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73094DC	303 53RD ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73096DC	236 53RD ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73101DC	53RD ST & BANKS PL NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73136DC	5310 CLAY TER NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings

ANC 7C	73139DC	5318 CLAY TER NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73141DC	5328 CLAY TER NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73205DC	950 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73207DC	1217 DIVISION AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	73209DC	945 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73211DC	902 DIVISION AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	73213DC	848 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73218DC	DIVISION AVE & HAYES ST NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	73223DC	600 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73225DC	609 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73227DC	FOOTE ST & DIVISION AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7C	73229DC	500 DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	73233DC	DIVISION AVE & EADS ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73235DC	DIVISION AVE & DIX ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73237DC	302 DIVISION AVE NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73240DC	258 DIVISION AVE NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73242DC	242 DIVISION AVE NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73244DC	DIVISION AVE & BANKS PL NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73247DC	200 DIVISION AVE NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	73255DC	CLOUD PL & 53RD ST NE	RAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings

ANC 7C	73257DC	5225 CLOUD PL NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	79647DC	51ST ST & BROOKS ST NE	MAP	Wood	Wood Pole	Lincoln Heights / Richardson Dwellings
ANC 7C	7A203DC	5110 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	7A222DC	4801 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	7A232DC	NANNIE HELEN BURROUGHS AVE & GAULT PL NE	MAP	Wood	Wood Pole	Deanwood
ANC 7C	7S074DC	GAY ST & DIVISION AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	70005DC	QUARLES ST & ANACOSTIA AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70035DC	PONDS ST & ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70043DC	1551 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70046DC	1533 ANACOSTIA AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70048DC	1519 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70269DC	ANACOSTIA AVE & 40TH ST NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70271DC	4021 ANACOSTIA AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70273DC	4115 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70276DC	4141 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70278DC	4213 ANACOSTIA AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70280DC	4307 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70284DC	ANACOSTIA AVE & ORD ST NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70286DC	1400 ANACOSTIA AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70289DC	ANACOSTIA AVE & POLK ST NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70292DC	1513 ANACOSTIA AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70295DC	ANACOSTIA AVE & DOUGLAS ST NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	70629DC	4311 SHERIFF RD NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	71178DC	4251 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	71181DC	MINNESOTA AVE & SHERIFF RD NE	RAP	Wood	Wood Pole	Deanwood

ANC 7D	71305DC	4500 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	71314DC	4306 NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Deanwood
ANC 7D	71316DC	4313 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	71320DC	4215 NANNIE HELEN BURROUGHS AVE NE	MAP	Wood	Wood Pole	Deanwood
ANC 7D	71482DC	MINNESOTA AVE & GAULT PL NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72321DC	4151 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72323DC	MINNESOTA AVE & HAYES ST NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72325DC	4181 MINNESOTA AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72327DC	MINNESOTA AVE & HUNT PL NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72330DC	MINNESOTA AVE & NANNIE HELEN BURROUGHS AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72332DC	4201 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	72361DC	3800 HAYES ST NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72363DC	HAYES ST & KENILWORTH TER NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72366DC	3776 HAYES ST NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72412DC	3813 JAY ST NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72414DC	JAY ST & KENILWORTH TER NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72416DC	JAY ST & KENILWORTH AVE NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72446DC	750 KENILWORTH TER NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72449DC	700 KENILWORTH TER NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	72453DC	KENILWORTH TER & NANNIE HELEN BORROUGHS AVE NE	RAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7D	73850DC	BENNING RD & CENTRAL AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73851DC	BENNING RD & 45TH ST NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73854DC	4420 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73856DC	4400 BENNING RD NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73858DC	4280 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.

ANC 7D	73861DC	4254 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73863DC	4242 BENNING RD NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	73865DC	4228 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7D	7A370DC	3812 HAYES ST NE	MAP	Wood	Wood Pole	Parkside / Kenilworth
ANC 7F	71401DC	MINNESOTA AVE & BENNING RD NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	71403DC	4021 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	71406DC	4065 MINNESOTA AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	71408DC	4089 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	71412DC	MINNESOTA AVE & GRANT ST NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	72465DC	4045 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73882DC	3940 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73890DC	40TH ST & BENNING RD NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73898DC	3937 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73900DC	3921 MINNESOTA AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73901DC	3901 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	73969DC	MINNESOTA AVE & BLAINE ST NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	74028DC	3813 MINNESOTA AVE NE	RAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	74030DC	3830 MINNESOTA AVE NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 7F	74130	3728 MINNESOTA AVE NE	MAP	Steel	PP	Minnesota & Benning Rd.
ANC 7F	74153	3640 MINNESOTA AVE NE	MAP	Steel	PP	Minnesota & Benning Rd.
ANC 7F	7A292DC	3908 BENNING RD NE	MAP	Wood	Wood Pole	Minnesota & Benning Rd.
ANC 8A	79377DC	GOOD HOPE RD & 17TH ST SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	79378DC	1661 GOOD HOPE RD SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	79379DC	1805 GOOD HOPE RD SE	RAP	Wood	Wood Pole	Anacostia
ANC 8A	80123	1444 MINNESOTA AVE SE	MAP	Steel	PP	Anacostia

ANC 8A	80124	1430 MINNESOTA AVE SE	RAP	Steel	PP	Anacostia
ANC 8A	80527DC	2010 14TH ST SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	80534	1900 14TH ST SE	MAP	Steel	PP	Anacostia
ANC 8A	80732DC	U ST & 15TH ST SE	RAP	Wood	Wood Pole	Anacostia
ANC 8A	80780	1916 15TH ST SE	MAP	Steel	PP	Anacostia
ANC 8A	80785DC	2000 15TH ST SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	80847DC	1416 W ST SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	80849	W ST & 14TH ST SE	RAP	Steel	PP	Anacostia
ANC 8A	80876	1342 V ST SE	MAP	Steel	PP	Anacostia
ANC 8A	80902DC	1827 GOOD HOPE RD SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	80907	GOOD HOPE RD & 16TH ST SE	RAP	Steel	PP	Anacostia
ANC 8A	80915DC	1337 GOOD HOPE RD SE	RAP	Wood	Wood Pole	Anacostia
ANC 8A	80916DC	1305 GOOD HOPE RD SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	80928	1234 GOOD HOPE RD SE	RAP	Steel	PP	Anacostia
ANC 8A	80998	2228 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia
ANC 8A	80999	MARTIN LUTHER KING JR AVE & PLEASANT ST SE	RAP	Steel	PP	Anacostia
ANC 8A	81000	2210 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia
ANC 8A	81020	MARTIN LUTHER KING JR AVE & U ST SE	MAP	Steel	PP	Anacostia
ANC 8A	81022	2025 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia
ANC 8A	81023	2041 MARTIN LUTHER KING JR AVE SE	RAP	Steel	PP	Anacostia
ANC 8A	81024	2100 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia
ANC 8A	81276DC	HOWARD RD & FIRTH STERLING AVE SE	RAP	Wood	Wood Pole	Anacostia
ANC 8A	81278DC	1101 HOWARD RD SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	81282DC	MARTIN LUTHER KING JR AVE & HOWARD RD SE	MAP	Wood	Wood Pole	Anacostia
ANC 8A	81699	2320 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia

ANC 8A	82039	2427 MARTIN LUTHER KING JR AVE SE	MAP	Steel	PP	Anacostia
ANC 8A	82040	2407 MARTIN LUTHER KING JR AVE SE	RAP	Steel	PP	Anacostia
ANC 8A	8L848	MARTIN LUTHER KING JR AVE & GOOD HOPE RD SE	RAP	Steel	PP	Anacostia
ANC 8A	8M028DC	14TH ST & V ST SE	RAP	Wood	Wood Pole	Anacostia
ANC 8C	81373	2500 MARTIN LUTHER KING JR AVE SE	RAP	Steel	PP	Anacostia
ANC 8C	81732DC	2804 MARTIN LUTHER KING JR AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81734DC	MARTIN LUTHER KING JR AVE & LEBAUM ST SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81735DC	MARTIN LUTHER KING JR AVE & MELLONST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81834DC	234 MALCOLM X AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81839DC	MALCOLM X AVE & OAKWOOD ST SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81841DC	558 MALCOLM X AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81846DC	600 MALCOLM X AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81861DC	638 MILWAUKEE PL SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	81987DC	MALCOLM X AVE & MARTIN LUTHER KING JR AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	82015DC	MARTIN LUTHER KING JR AVE & SAINT ELIZABETHS ENT DR SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	82016DC	MARTIN LUTHER KING JR AVE & MILWAUKEE PL SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85017DC	ATLANTIC ST & SOUTH CAPITOL ST SE	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8C	85374DC	PARKLAND PL & MARTIN LUTHER KING JR AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85403DC	3100 RANDLE PL SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85407DC	ALABAMA AVE & 6TH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85410DC	ALABAMA AVE & RANDLE PL SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85415DC	636 ALABAMA AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85418DC	ALABAMA AVE & 7TH ST SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85420DC	ALABAMA AVE & 8TH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85422DC	ALABAMA AVE & WHEELER RD SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths

ANC 8C	85424DC	ALABAMA AVE & 9TH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85435DC	1007 ALABAMA AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85443DC	1103 ALABAMA AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85445DC	ALABAMA AVE & 12TH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85448DC	1217 ALABAMA AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85665DC	MARTIN LUTHER KING JR AVE & WACLARK PL SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85668DC	MARTIN LUTHER KING JR AVE & ESTHER PL SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	85675DC	3117 MARTIN LUTHER KING JR AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	8A555DC	MARTIN LUTHER KING JR AVE & RANDLE PL SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	8M006	3836 SOUTH CAPITOL ST SE	MAP	Steel	PP	Bellevue / South Capitol
ANC 8C	8M010DC	3200 MARTIN LUTHER KING JR AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8C	8M059DC	3105 MARTIN LUTHER KING JR AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8D	84599DC	4505 1ST ST SE	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84602DC	1ST ST & FORRESTER ST SE	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84604DC	4400 1ST ST SE	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84718DC	6 ELMIRA ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84757DC	10 DANBURY ST SE	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84759DC	4 DANBURY ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84912DC	4314 SOUTH CAPITOL ST SE	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84915DC	4304 SOUTH CAPITOL ST SE	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84925DC	4001 SOUTH CAPITOL ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84927DC	4021 SOUTH CAPITOL ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84929DC	4100 SOUTH CAPITOL ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84931DC	SOUTH CAPITOL ST & CHESAPEAKE ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84933DC	4210 SOUTH CAPITOL ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol

ANC 8D	84944DC	SOUTH CAPITOL ST & FORRESTER ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84945DC	4504 SOUTH CAPITOL ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	84999DC	MARTIN LUTHER KING JR AVE & XENIA ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85003DC	3939 MARTIN LUTHER KING JR AVE SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85005DC	3955 MARTIN LUTHER KING JR AVE SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85007DC	MARTIN LUTHER KING JR AVE & ATLANTIC ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85009DC	115 ATLANTIC ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85014DC	21 ATLANTIC ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85113DC	3900 SOUTH CAPITOL ST SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85886DC	4060 MARTIN LUTHER KING JR AVE SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85905DC	4065 MARTIN LUTHER KING JR AVE SW	RAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85907DC	4043 MARTIN LUTHER KING JR AVE SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	85910DC	4005 MARTIN LUTHER KING JR AVE SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	8M001DC	3939 SOUTH CAPITOL ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8D	8M002DC	3915 SOUTH CAPITOL ST SW	MAP	Wood	Wood Pole	Bellevue / South Capitol
ANC 8E	82735DC	1305 SAVANNAH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8E	82740DC	1345 SAVANNAH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8E	82768DC	ALABAMA AVE & 13TH ST SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8E	82770DC	1331 ALABAMA AVE SE	RAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths
ANC 8E	85450DC	1241 ALABAMA AVE SE	MAP	Wood	Wood Pole	Congress Heights / Saint Elizabeths

13.5 Roadway Classifications

The following classifications are those recommended by the Illuminating Engineering Society of North America⁹ and AASHTO¹⁰.

1. **Freeway:** This is a divided major roadway with full control of access and with no crossing at grade. It applies to toll as well as non-toll roads.
 - a. **Freeway A:** This designates roadways with greater visual complexity and high traffic volumes. This type of freeway is usually found in major metropolitan areas in or near the central core. It operates through much of the early evening hours of darkness at or near design capacity.
 - b. **Freeway B:** This designates all other divided roadways with full control of access where lighting is needed.
2. **Expressway:** A divided major roadway for through traffic with partial control of access and generally at major crossroads with interchanges. Parkways are generally known as expressways for non-commercial traffic within parks and park-like areas.
3. **Major/Principal Arterial:** That part of the roadway system serving as the principal network for through traffic flow. The routes connect important rural highways entering the city and areas of principal traffic generation.
4. **Minor Arterial:** The roadway that provides relatively high speeds and least interference to through traffic flow with little or no access control. It provides direct access to abutting properties, have frequent at-grade intersections, have pedestrian movements along and across the roadway, accommodate bicyclist unless specifically limited and support public transportation.
5. **Collector:** The roadways servicing traffic between major and local roadways. These are roadways used mostly for traffic movements within residential, commercial, and industrial areas.
6. **Local:** The roadways used mainly for direct access to residential, commercial, industrial, or other abutting property. They do not include roadways that carry through traffic. The long local roadways are generally divided into short sections by collector roadway systems.
7. **Alley:** A narrow public ways within a block, which is generally used for vehicular access to the rear of abutting properties.
8. **Sidewalk:** A paved or otherwise improved areas for pedestrian use, located within the public street right-of-way, which also contains roadways for vehicular traffic.
9. **Pedestrian Walkway:** A public facility for pedestrian traffic not necessarily within the right-of-way of a vehicular traffic roadway. They include skywalks (pedestrian overpasses), subwalks

⁹ *American National Standard Practice for Roadway Lighting*, ANSI/IES RP-8.1983; Illuminating Engineering Society of North America.

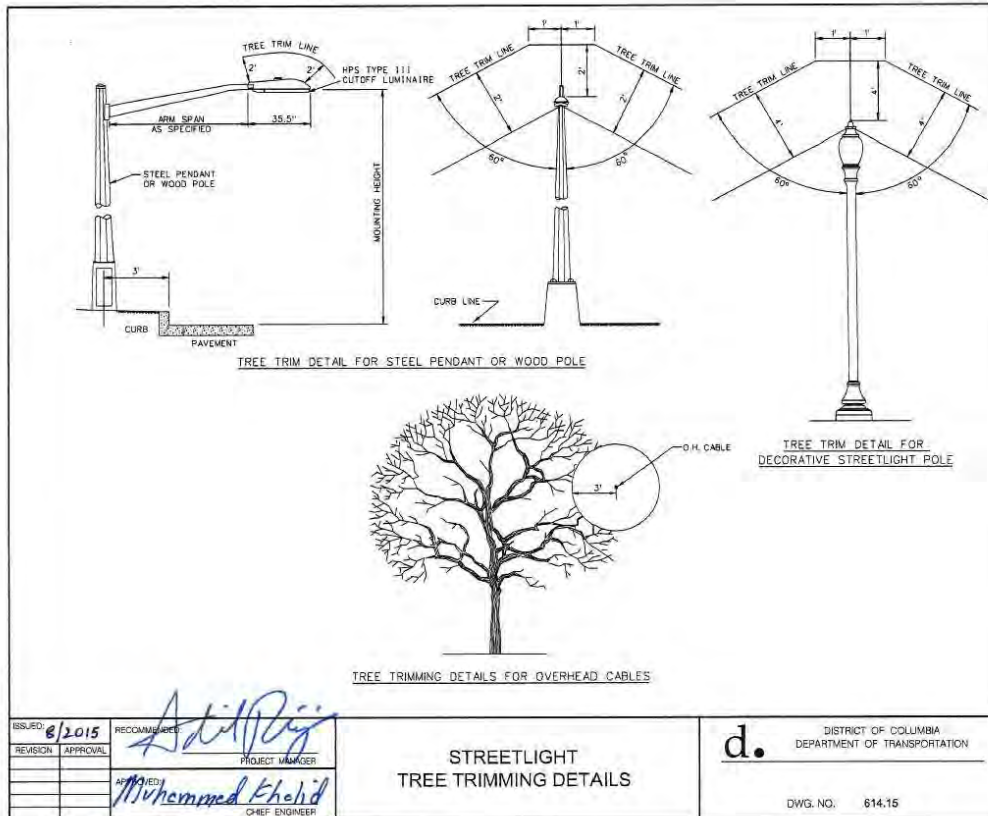
¹⁰ *Roadway Lighting Design Guide*, AASHTO, 2005.

(pedestrian tunnels), walkways giving access to parks or block interiors, and midblock street crossings.

10. **Bicycle lane:** A portion of roadway, or shoulder, or any facility that has been explicitly designated for the use by bicyclists.

11. **Cycle Track:** A bidirectional track for bicycle traffic that is divided from vehicular traffic.

13.6 Tree Trimming



13.7 Pole Ownership

In every instance where the Developer finds a combination pole that is in a shared conduit with traffic signal wires, the Developer shall follow the requirements listed in section 1.4.7(c). The District estimates that no more than 150 poles share a conduit with traffic signal wires.

The Developer shall notify the District 24 hours before commencing Work on a combination pole where Street Light Network wires share a conduit with traffic signal wires and upon completing such Work.

The Developer shall follow the following protocols for wood poles. Wood poles have three ownership scenarios.

- (1) D.C. owned pole, D.C. owned secondary, and a D.C. owned arm and fixture. Under this scenario, the Developer shall be responsible for the pole, arm, luminaire, wire, overhead wires and taps.
- (2) PEPCO or Verizon owned pole with D.C. owned secondary, D.C. owned arm, and D.C. owned luminaire. Under this scenario, the Developer is responsible for the secondary, arm and luminaire.
- (3) PEPCO owned pole, PEPCO owned secondary, a PEPCO owned tap, a D.C. owned arm, D.C. owned wire and D.C. owned luminaire. Under this scenario, the Developer is responsible for the arm, wire and luminaire.

The Developer shall follow the following guidance to determine ownership on a pole-by-pole basis to determine ownership:

For D.C. owned pole wood poles, the only object on the pole is:

- Street lighting equipment
- Cable TV and Street Lighting Equipment

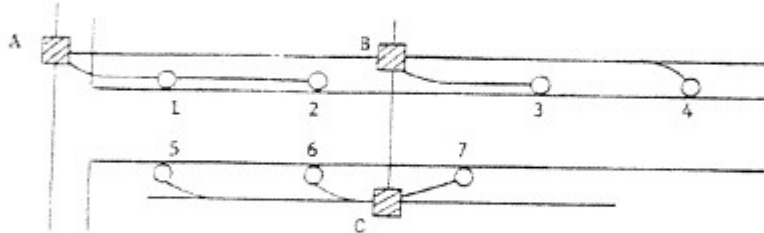
For PEPCO or Verizon owned pole wood poles, the only object on the pole is:

- PEPCO has secondary wires on the pole that feeds other customers.
- PEPCO has primary cables on the wood pole.
- PEPCO has any other equipment on the wood pole.
- Verizon has cables and/or other equipment on the pole.

The following figures present the 1978 Division of Ownership with Pepco. This agreement specifies Pepco versus District ownership and responsibilities for maintaining underground supply and overhead supplies.

1. UNDERGROUND SUPPLY

1.1 DIVISION OF OWNERSHIP IN GENERAL FORM



(Figure 1)

PEPCO OWNERSHIP:

Under the condition shown in Figure 1 PEPCO will own and maintain the following items.

Manholes: A, B, & C

Conduit: A-B & B-C

Cables: Primary and secondary cables between A-B and B-C

Transformers: At A, B & C

Switches: At A, B & C

Fuses: At A, B & C

Splices and Terminations: Primary and secondary splices not associated solely with streetlights and terminations at A, B, & C

Cost: PEPCO is responsible for maintenance cost for all of the above items including cable, conduit repairs and associated resurfacing.

-/-

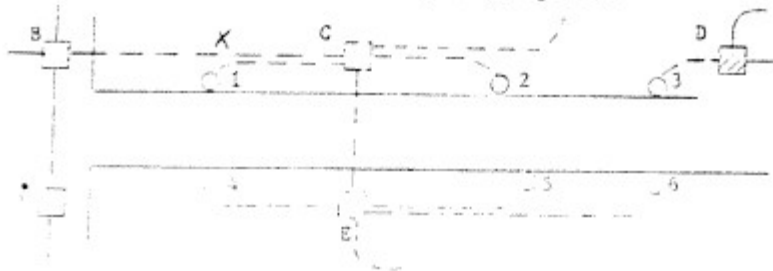
D.C. OWNERSHIP:

Under the condition shown in Figure 1 D.C. will own and maintain the following items.

- Conduit: A-1, 1-2, B-3, B-4, C-5, C-6 and C-7
(Conduit between streetlights No. 4, 5 and 6 and their respective manholes are 1-way ducts and are dedicated to the streetlights)
- Cables: Secondary cables between A-1, 1-2, B-3, B-4, C-5, C-6 & C-7
Secondary cables in streetlight posts
- Splices: Secondary splices associated solely with the streetlights in manholes A, B & C
- Foundations: Streetlight foundations at 1, 2, 3, 4, 5 & 6
- Streetlight Equipment: All streetlight equipment is furnished and owned by D.C. (Luminaires, photo cells, ballasts, posts, etc.)
- Cost: D.C. is responsible for maintenance cost for all of the above items it owns, including cable, conduit, foundation repairs and associated resurfacing.

1.2 INSTALLATION OF A NEW STREETLIGHT(s)

A. System Not Dedicated for the District Streetlighting System



(Figure 2A)

PEPCO OWNERSHIP:

Under the condition shown in Figure 2A PEPCO will own and maintain the following items.

- Manholes: A, B, C, D & E. (A, B, & D are existing manholes.) (The size of the new manholes will be determined by PEPCO.)

Conduit: A-B, B-C & C-E
(No. of cells associated with the conduit line will be determined by PEPCO.)

Trench: B-X & C-E
(Common trench between X-C will be owned by DC)

Cables: Primary cables between B and C
Secondary cables between C and E

Transformers: At A, B, C, D & E

Switches: At A, B, C, D & E

Fuses: At A, B, C, D & E

Splices & Terminations:
Primary and secondary splices & terminations at A, B, C, D & E that are not installed solely for streetlighting purposes.

Paving: PEPCO is responsible for temporary and permanent resurfacing of the cut between B and X. PEPCO is responsible for providing temporary resurfacing of cuts between X-C, 1-C, 2-C, 3-D, 4-E, 5-E & 6-E; however D.C. will be responsible for the cost.

Cost: PEPCO is responsible for construction and maintenance cost for all of the above items, including cable, conduit repairs and resurfacing.

D.C. OWNERSHIP:

Under the condition shown in Figure 2A D.C. will own and maintain the following items.

Conduit: 1-C, 2-C, 3-D, 4-E, 5-E & 6-E
(Conduit typically will be 1-way; however, based on the distance between streetlights and supply point, 2-way conduit could be utilized.)

Trench: X-C, 2-C, 3-D, 4-E, 5-E & 6-E

Cables: Secondary cables between 1-C, 2-C, 3-D, 4-E, 5-E & 6-E
Secondary cables in streetlight posts

Splices: Secondary splices associated solely with the streetlight(s) in manholes C, D & E

Foundations: Streetlight foundations at 1, 2, 3, 4, 5 & 6

-3-

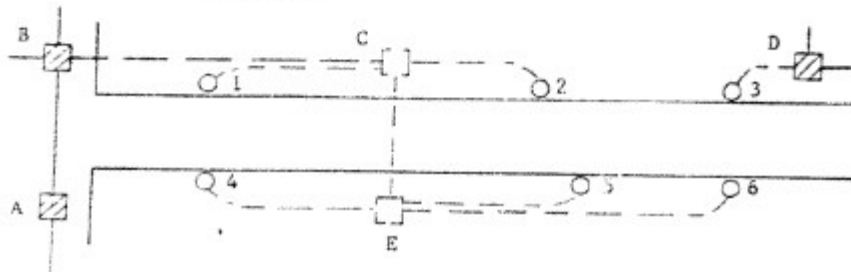
Posts: Streetlight posts at 1, 2, 3, 4, 5 & 6
(Furnished by D.C.)

Streetlight Equipment: All streetlight equipment is furnished and owned by D.C. (Luminaires, photo cells, ballasts, etc.)

Paving: D.C. is responsible for the cost and installation of permanent resurfacing of cuts between 1-C, 2-C, 3-D, 4-E, 5-E & 6-E.

Cost: D.C. is responsible for construction and maintenance cost for all of the items it owns including cable, conduit, foundation repairs and resurfacing.

B. System Dedicated for the District Streetlighting System (typical installations: Alleys & Freeways)



(Figure 2B)

PEPCO OWNERSHIP:

Under the condition shown in Figure 2B PEPCO will own and maintain the following items.

Manholes: A, B & D

Conduit: A-B

Cables: Primary and secondary cables between A & B; primary and secondary cables(s) feeding into D.

Transformers: At A, B & D

Switches: At A, B & D

Fuses: At A, B & D

Splices and Terminations: Primary and secondary splices and terminations at A, B & D that are not dedicated to streetlight use.

Paving: PEPCO is responsible for providing temporary resurfacing of cuts between B-C, 1-C, 2-C, 3-D, 4-E, 5-E and 6-E; however, D.C. will be responsible for the cost.

Cost: PEPCO is responsible for maintenance cost for all of the above items including cable, conduit repairs and associated resurfacing.

D.C. OWNERSHIP:

Under the condition shown in Figure 2B D.C. will own and maintain the following items.

Manholes: C & E

Conduit: B-C, C-E, C-1, C-2, D-3, E-4, E-5 & E-6 (Conduit typically will be 1-way; however, based on the distance between streetlights and supply point, 2-way conduit could be utilized.)

Trench: B-C, C-E, C-1, C-2, D-3, E-4, E-5 & E-6

Cables: Secondary cables between B-C, C-E, C-1, C-2, D-3, E-4, E-5 & E-6
Secondary cables in streetlight posts

Splices: Secondary splices associated with the streetlight(s) in manholes B, C, D & E that are dedicated to streetlight use.

Foundations: Streetlight foundations at 1, 2, 3, 4, 5 & 6

Posts: Streetlight posts at 1, 2, 3, 4, 5 & 6 (Furnished by D.C.)

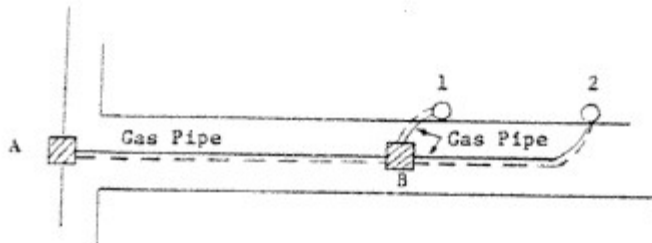
Streetlight Equipment: All streetlight equipment is furnished and owned by D.C. (Luminaires, photo cells, ballasts, etc.)

Paving: D.C. is responsible for the cost of temporary and for cost and installation of permanent resurfacing of cuts between B-C, C-E, C-1, C-2, D-3, E-4, E-5 & E-6.

Cost: D.C. is responsible for construction and maintenance cost for all of the above items it owns including cable, conduit, foundation repairs and resurfacing.

1.3 REPLACEMENT OF GAS PIPE

Gas pipes may be utilized by the District for street-light conduit in the alleys. Obstructed or broken gas pipes are not being repaired; rather they are being replaced by conduit line(s). The applicable portion of the following guidelines should be utilized based on the location of the obstructed or broken gas pipe(s).



(Figure 3)

PEPCO OWNERSHIP:

Under the condition shown in Figure 3, PEPCO will own and maintain the following items.

- Manhole: A (Existing manhole)
- Transformers: At A
- Switches: At A
- Fuses: At A
- Splices: Primary and secondary splices in A not dedicated to streetlight use.
- Paving: PEPCO is responsible for temporary resurfacing of the cut between A-B, 1-B & 2-B; however, D.C. will be responsible for the cost.
- Cost: PEPCO is responsible for construction and maintenance cost for all of the above items including cable, conduit repairs and resurfacing.

D.C. OWNERSHIP:

Under the condition shown in Figure 3 D.C. will own and maintain the following items.

- Manhole: B (Existing manhole)

Conduit: New conduit between A-B, 1-B & 2-B (New conduit will be installed between A-B, 1-B and/or 2-B if the gas pipe is obstructed or broken.) 1-way conduit will be used for gas pipe replacements.

Trench: A-B, 1-B & 2-B (if conduit is constructed)

Cables: Secondary cables between A-B, B-1 & B-2
Secondary cables in streetlight posts

Splices: Secondary splices associated solely with streetlight at A & B

Foundations: Streetlight foundations at 1 and 2

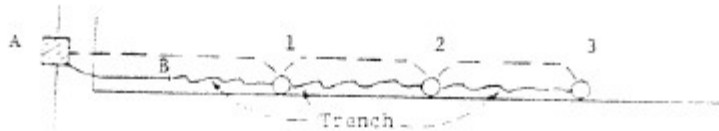
Streetlight Equipment: All streetlight equipment is furnished and owned by D.C. (posts, luminaires, photo cells, etc.)

Paving: D.C. is responsible for the cost and installation of permanent resurfacing of cuts between A-B, 1-B and/or 2-B (Based on the conduit construction)

Cost: D.C. is responsible for construction and maintenance cost of all of the above items it owns including cable, conduit, foundations, repairs and resurfacing.

1.4 REPLACEMENT OF BURIED STREETLIGHT CABLE

The streetlight cable(s) in trench will be replaced and placed in conduit if ordered by the District and under the condition that the streetlight cable has failed in several locations.



(Figure 4)

PEPCO OWNERSHIP:

Under the condition shown in Figure 4 PEPCO will own and maintain the following items.

Manhole: A (existing manhole not dedicated to streetlight use)

Transformers: At A

Switches: At A

Fuses: At A

Splices: Primary and secondary splices at A not dedicated to streetlight use.

Cost: PEPCO is responsible for construction and maintenance cost for all of the above items.

D.C. OWNERSHIP:

Under the condition shown in Figure 4 D.C. will own and maintain the following items.

Conduit: 1-A and/or 1-2 and/or 2-3 (the conduit is constructed on the portions of the circuit as deemed necessary)

Existing A-B (if no conduit constructed between 1 and A)

Trench: 1-B and/or 1-2 and/or 2-3 (based on the conduit to be installed)

Cables: Secondary cables between 1-B-A and/or 1-A, 1-2, 2-3.

Secondary cables in streetlight posts.

Splices: Secondary splices associated solely with streetlights at A.

2. OVERHEAD SUPPLY

2.1 DIVISION OF OWNERSHIP IN GENERAL FORM



(Figure 5)

PEPCO OWNERSHIP:

Under the condition shown in Figure 5 PEPCO will own and maintain the following items.

Wood Poles: At 1, 2 & 3

Cables: Primary and secondary cables between 1-2 and 2-3

Transformers, Switches, Capacitor Banks, Fuses,
Regulators, Etc.: Attached to 1, 2 & 3

Connectors, Insulators, Terminations, or any other
equipment that is not identified as the
District-owned equipment.

Cost: PEPCO is responsible for maintenance
cost for all of the items it owns
including cable, pole repairs and
replacements.

D.C. OWNERSHIP:

Under the condition shown in Figure 5 D.C. will own and
maintain the following items.

Cables: Conductors from the luminaire to the
point of connection to the PEPCO supply
circuits on poles 2 & 3 (streetlight
loops)

Multiple Streetlight Circuit: Supply circuits from
the supply switching device when they
make up a timed multiple circuit

Series Streetlight Circuit: Supply circuits,
including the loop, from the supply
transformer to the luminaire(s)

Splices (Connectors): Connectors at 2 & 3 dedi-
cated to streetlight use.

Streetlight Equipment: All streetlight equipment
is furnished and owned by D.C.

- Streetlight luminaires at 2 & 3
(including lamps, ballasts and photo
cells)

- Mast arms at 2 & 3 (including moun-
ting arms and brackets)

Cost: D.C. is responsible for maintenance cost
for all of the items it owns including
streetlight loop cable and associated
repairs with the streetlight fixtures.

2.2 INSTALLATION OF NEW STREETLIGHTS

2.2.1 A. System Not Dedicated for the District Streetlighting System



(Figure 6A)

PEPCO OWNERSHIP:

Under the condition shown in Figure 6A PEPCO will own and maintain the following items.

Wood Poles: 1, 2, 3 & 4

Cables: Primary conductors between 1-2, 2-3 & 3-4
Extension of secondary cables between 1-2 & 2-3

Transformers, Switches, Capacitor Banks, Fuses, Regulators, Etc.: Attached to 1, 2, 3 & 4

Connectors, Insulators, Terminations or any other equipment that is not identified as District-owned equipment

Cost: PEPCO is responsible for maintenance cost for the items it owns including cable, pole repairs or replacements.

D.C. OWNERSHIP:

Under the condition shown in Figure 6A D.C. will own and maintain the following items.

Cables: Conductors from the luminaire to the point of connection to the PEPCO supply circuits on pole 3 (streetlight loop)

Splices (Connectors): Connector at 3 dedicated to streetlight use

Streetlight Equipment: All streetlight equipment is furnished and owned by D.C. (luminaires, photo cells, ballasts, etc.)

Cost: D.C. is responsible for maintenance cost for all of the above items including streetlight loop cable and associated repairs with streetlight fixtures including the installation cost associated with wood pole at 3.

Tax Gross-up: The proper tax gross-up percentage will be applied to installation cost of wood pole at 3.

2.2.2 B. System Dedicated for the District Streetlighting System



(Figure 6B)

PEPCO OWNERSHIP:

Under the condition shown in Figure 6B PEPCO will own and maintain the following items.

Wood Poles: 1

Cables: Primary and secondary cables attached to 1

Transformers, Switches, Capacitor Banks, Fuses, Regulators, etc.: Attached to 1

Connectors, Insulators, Terminations or any other equipment that is not identified as District-owned equipment.

Cost: PEPCO is responsible for maintenance cost for all of the above items including cable, pole repairs and replacements.

D.C. OWNERSHIP:

Under the condition shown in Figure 6B D.C. will own and maintain the following items.

Wood Poles: 2 & 3 (to be stenciled as "DC OWNED")