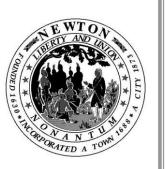
E WT OA I III III IIII IIII IIII IIII IIIIII	CITY OF NEWTONPlanning and Development BoardAGENDADATE:Monday, June 3, 2019TIME:7:00 p.m.PLACE:Newton City Hall, Room 204
Ruthanne Fuller Mayor	<ol> <li>Minutes: Approve Minutes from May 6, 2019</li> <li>Presentation/Vote: Gateway Center Light Waiver</li> <li>Northland Discussion: Zoning Change Request Deliberation</li> <li>Upcoming Meetings:         <ul> <li>Tuesday, June 4, 2019 at 7:00PM in the Council Chambers, Joint ZAP/LUC/Planning &amp; Development Board Public Hearing-Riverside Rezoning/ Special Permit</li> </ul> </li> </ol>
Barney Heath Director Planning & Development	<ul> <li>Monday, June 10, 2019 at 7:00PM in Room 205, Joint ZAP/Planning &amp; Development Board Public Hearing-Riverside Rezoning, Inclusionary Zoning and Short-term Rentals</li> </ul>
Rachel Powers CD and HOME Program Manager Planning & Development	<ul> <li>Tuesday, June 18, 2019 at 7:00PM in the Council Chambers, Joint LUC/Planning &amp; Development Board Public Hearing- Northland Transportation (Continued)</li> <li>Monday, June 24, 2019 at 7:00PM, in Room 205, Joint ZAP Discussion- Optional</li> </ul>
Members Peter Doeringer, Chair Kelley Brown, Member Sudha Maheshwari, Member Jennifer Molinsky, Member Sonia Parisca, Vice Chair Chris Steele, Member Barney Heath, <i>ex officio</i> Kevin McCormick, Alternate James Robertson, Alternate	<ul> <li>Tuesday, June 25, 2019 at 7:00PM, in the Council Chambers, Joint LUC/P&amp;D Public Hearing-<i>Riverside Special Permit</i></li> <li>Monday, July 15, 2019 at 7:00PM, in Room 204, Regular Planning &amp; Development Board meeting</li> </ul> The location of this meeting is wheelchair accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA/Sec. 504 Coordinator, Jini Fairley, at least two business days in advance of the meeting: <u>ifairley@newtonma.gov</u> or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.
1000 Commonwealth Ave. Newton, MA 02459 T 617/796-1120 F 617/796-1142 <u>www.newtonma.gov</u>	Preserving the Past 🔆 Planning for the Future

#### PLANNING & DEVELOPMENT BOARD MEETING MINUTES

May 6, 2019



Ruthanne Fuller Mayor

Barney Heath Director Planning & Development

Rachel Powers CD & HOME Program Manager Planning & Development

#### Members

Peter Doeringer, Chair Kelley Brown, Member Sudha Maheshwari, Member Jennifer Molinsky, Member Sonia Parisca, Vice Chair Chris Steele, Member Barney Heath, *ex officio* Kevin McCormick, Alternate James Robertson, Alternate

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#### Full Members Present:

Peter Doeringer, Chair Kelley Brown, Member Sonia Parisca, Vice Chair Sudha Maheshwari, Member Jennifer Molinsky, Member Barney Heath, ex officio James Robertson, Alternate Kevin McCormick, Alternate

#### Staff Present:

Amanda Berman, Director of Housing and Community Development Tiffany Leung, Community Development Planner

- 1. Minutes from the Planning and Development Board Meeting held on April 2, 2019
- 2. Presentation/Discussion: Inclusionary Zoning
- 3. Hello Washington Subcommittee Discussion
- **4.** Northland Discussion: Zoning Change Request Deliberation (*Continued from April 9, 2019*)
- 5. Washington Street Vision Plan Updates
- 6. Riverside Vision Plan Updates

#### 1. Action Item: Approval of Minutes of April 2, 2019 meeting

Chair Doeringer opened the meeting at 7:03 p.m. The motion was made by Mr. McCormick, seconded by Mr. Brown and passed unanimously 6-0-1, to approve the minutes of April 2, 2019, as amended by Chair Doeringer. Ms. Molinsky abstained due to her absence at the April 2, 2019 meeting.

Mr. Brown made note of Ms. Powers' outstanding minute taking for the Planning and Development Board.

#### 2. Presentation/Discussion: Inclusionary Zoning

Dir. Berman opened the presentation on Inclusionary Zoning, providing an overview of the proposal and the process to date. The process began two years ago, starting with the recommendation coming out of the 2016 Housing Strategy and leading to the Planning staff's first proposal in 2017. The first proposal explored the increase of the Inclusionary Zoning requirement from 15% to 20%, and 25% in some cases. At the public hearing in December 2017, staff was encouraged to hire a consultant to assess the financial feasibility of increasing the percentage requirement. In early 2018, staff engaged with RKG Associates to examine the feasibility of the proposed changes and as a result, RKG Associates developed a Financial Feasibility Model to test the inclusionary zoning proposal and different development assumptions based on Newton's specific data, regional data, and national data. The model and its report led to staff's summer 2018 proposal.

In early 2019, staff re-engaged RKG Associates to review the questions that were raised by housing advocates and committees and to facilitate a roundtable with Planning staff and housing advocates in February 2019. At the roundtable, staff, housing advocates, and RKG addressed the questions raised, relating to the assumptions built into the model, the potential negative impact on land values based on increased inclusionary zoning percentage requirements, and the calculation for payments in-lieu and fractional cash payments. Staff also engaged with for-profit developers to discuss similar questions and brought updates to the March and April Zoning and Planning Committee meetings.

Dir. Berman announced the reinstitution of the Newton Housing Partnership, which has held two meetings to date. The Newton Housing Partnership's current focus is Inclusionary Zoning and a subcommittee was formed to formalize the Partnership's recommendation on the current proposal. Staff is hoping for a June 10<sup>th</sup> public hearing to evaluate the full proposal.

Chair Doeringer asked if the Planning and Development Board will have a recommendation from the Newton Housing Partnership before the Board's next meeting on June 3<sup>rd</sup>. Dir. Berman will confirm with the Newton Housing Partnership but was not sure if the recommendation would be finalized in time.

Dir. Berman continued to discuss the February 2019 roundtable and its purpose to explore questions and concerns relative to the current Inclusionary Zoning proposal, specifically as they relate to the Financial Feasibility Analysis and Model, and to identify points of agreement and disagreement. Kyle Talente, from RKG Associates, participated in the roundtable and provided an in-depth explanation of the model, the built-in data, and the data sources. One of the focuses of the meeting was the question surrounding Inclusionary Zoning policy's connection to land values in Newton. In response, RKG recognized the potential for land values to decrease if the City institutes a larger percentage requirement for Inclusionary Zoning on parcels for potential multifamily and the potential to incur a chilling effect on residential development if the City sets percentage requirements too high. Developers will become less willing to pay higher prices for land, and at a point, landowners will be less willing to accept a lower price for their land. Less housing production overall results in less affordable housing.

Following the roundtable, RKG Associates reviewed the potential land value impact from expanding the current Inclusionary Zoning policy with an additional 2.5% at 110% AMI on top of the existing 15% at or below 80% AMI. Dir. Berman ran through the results of the model by providing an example of a 75-unit project, in which land value in Newton could decrease at 5.6% with an 2.5% increase to the Inclusionary Zoning requirement. In a scenario where the Inclusionary Zoning requirement is increased to 5%, RKG's analysis indicates land value will be impacted at 7.7% negatively.

Ms. Molinsky requested clarification if the multifamily land value is where multifamily is allowed and not every land value in the City. Dir. Berman explained the analysis is not for every land value in the City and multifamily is not truly allowed. The analysis points to land value where there is potential for multifamily.

Vice Chair Parisca asked about the data source. Dir. Berman explained the data comes from the Financial Feasibility Model that RKG Associates built. The model was used to test scenarios at different percentage requirements against the existing ordinance and the data presented are the outputs.

Ms. Maheshwari asked how the model was calibrated and what type of data was used. Dir. Berman explained RKG Associates underwent 2+ month process of data collection, which included analyzing Boston regional data and national best practices and conducting interviews with Newton developers who would or have been subject to the Inclusionary Zoning ordinance.

Chair Doeringer noted that the model and the data relating to the additional 2.5% at 110% AMI demonstrated the developers' ability to handle a larger number of Inclusionary Zoning units as a result

of increasing size. He pointed to size breaks in the data output. For example, 20 units and below are heavily impacted at 10.7% and as units increase to 400, the impact decreases to 2.7%. The breaking points in the data reflect the construction cost as number of units are added. Chair Doeringer suggests that the takeaway message is the more units counted, the more a developer can accommodate additional affordable housing and other costs.

Ms. Molinsky wondered about the interviews conducted and the weight they carried. Inclusionary Zoning is fixed at a percentage and must work in many markets and scenarios. Ms. Molinsky wondered what assumptions were made about the market, today's market and/or accommodations for a slowing market. Dir. Berman spoke to the process in building the Financial Feasibility Model in the last year. The model was built on the current market and did not make assumptions for a slowing market.

Ms. Molinsky brought up the concern for a changing market and a slower market, noting that the Inclusionary Zoning must weather these changes. She suggests testing different scenarios. Mr. Brown wondered how the policy can be regulated based on different scenarios. Ms. Molinsky suggests a dynamic approach but is concerned about the timeline and possibly missing the opportunity for the current market.

Chair Doeringer notes a reoccurring comment from meetings is consistency. Developers want their competitors to be faced with the same demand on their buildings and the control for size. A dynamic Inclusionary Zoning policy would not be consistent or favored.

Mr. Robertson commented the developers would want to model for their investors and bank. Uncertainty can drive developers to neighboring communities, such as Waltham or Weston.

Dir. Berman continued with her presentation and summarized the conversation at the roundtable in February 2019. (1) There was a strong consensus on the part of the housing advocates to keep the existing Inclusionary Zoning requirements as is. The 2018 proposal lowered the requirement at 50% AMI level at times to increase the overall percentage and add to the middle-income tier. Housing advocates did not favor the reduction in the existing 15% requirement and preferred an additional requirement, whether it be a middle-income requirement or more at the tier 1 or 2, 50% or 80% AMI level. (2) Housing advocates suggested pushing the market to increase the overall percentage of affordable units per project. (3) Conversation was also focused on Department of Housing and Community Development (DHCD) QAP Index of \$389,000. Housing advocates did not favor using the dollar amount as the basis for payment in-lieu or fractional cash payment.

Dir. Berman spoke to staff's engagement with Newton's for-profit developers. The meetings did not only provide developers with an update on the ordinance but gauged their comfort level with an additional Inclusionary Zoning requirement at the middle-income tier (2.5%). Overall, the middle to large developers voiced the additional requirement was reasonable and manageable for larger-scale projects. However, smaller developers at 20-units or below voiced concern about any increase in requirements and did not have capacity to take on the additional financial burden. Dir. Berman relayed additional takeaways from the meeting. (1) Developers reminded staff that Inclusionary Zoning is only one of many mitigation costs the City is asking from the developers. (2) Developers indicated predictability is key. (3) Developers suggested Inclusionary Zoning be applied consistently and equally. (4) Developers recommended allowing for significant density increase to see greater affordability in a project. The challenge seen in Newton is the limited amounts of density allowed. Without a density bonus, developers have less ability to increase the number of affordable units. (5) Developers requested a transition period in order to re-evaluate their projects under the new requirement, from the moment an ordinance is passed to the moment the ordinance is in effect.

Mr. Brown inquired about the standard practice for zoning changes and its effect on projects. Dir. Heath indicated zoning can be in effect if an applicant has yet to receive its special permit and was currently in the permitting process, as advised by the City's Legal Department. Dir. Heath further confirmed developers are aware of upcoming zoning changes in the pipeline.

Ms. Maheshwari asked if Inclusionary Zoning applies only to rental units. Dir. Berman confirmed Inclusionary Zoning applies to both rental and ownership units of a certain size. Current Inclusionary Zoning applies to three or more units, but it has been interpreted that two units, allowed by right, can be subtracted from the total. Historically, Inclusionary Zoning has applied to net six units. The proposal includes a revision in which, regardless if the project includes rental or ownership units, a project with seven or more units will be subjected to Inclusionary Zoning.

Projects with two or more rental units are subjected to the 15% requirement with an average 65% AMI. Projects with one or two ownership units must be set at 80% AMI, not lower. Projects with three or more ownership units must have two-thirds of the units and may not exceed 80% AMI.

Dir. Berman indicates that as more projects come through the pipeline, there is the opportunity to take a closer look at Inclusionary Zoning and its interpretation.

Conversation shifted briefly to the Housing Choice Application memo. The Planning Department applied for DHCD's Housing Choice Initiative Program, which rewards communities that have produced housing at a certain rate over the last fifteen years. Staff underwent an extensive process, dissecting the City's housing production from 2003-2017. During that timeframe, very few projects came through special permit and Inclusionary Zoning and then within the last year, many more projects have come through. With more projects in the works, staff have worked with Inclusionary Zoning more extensively.

Chair Doeringer asked for the Board's insights on the recent number of projects and whether there is a sense of urgency due to zoning and policy changes and if the upcoming changes are encouraging developers to get projects approved under the old zoning regulation. The Board agreed to Chair Doeringer's conclusion relative to earlier discussion about a transition period.

Dir. Berman provided some history about the time when the Inclusionary Zoning requirement increased from 10% to 15%. The increase was a shock to developers and several comprehensive permits came through in the 2000s. Comprehensive permit was the best approach for developers to create large multi-family developments through the City since the 10% affordable housing threshold was not yet met. In addition, the strong market has played a factor in the increase of projects.

Dir. Berman returned to the presentation slides, explaining the request for further clarification from City Councilors. At the March and April meeting, there were questions whether the reduction and/or removal of parking requirements would increase the level of affordability in a project. What is the relationship between parking requirements and affordability.

Dir. Berman went through RKG Associate's Financial Feasibility Model to address the parking question. The model calculated out surface parking at \$8,000 per space, aboveground parking at \$25,000 per space, and underground parking at \$40,000 per space. Dir. Berman noted that staff is increasingly seeing smaller projects providing underground parking, however RKG Associate's Model incorporated underground parking as a built-in assumption for projects with 35 units or more units. Using the example of a 140-unit project, at a parking ratio of 1.25 and requirement of 175 parking spaces, assuming 100 of the parking spaces will be underground, then the cost for the developer to build parking is \$7 million.

Mr. Robertson requested clarification if the \$40,000 is the cost to build a parking space. Dir. Berman confirmed \$40,000 is cost to build the space. Though, Mr. Brown speculates the cost to build parking is higher than what is presented.

Returning to the example, Dir. Berman explained the connection to housing and parking. A 1-bedroom market-rate unit costs \$497,000 of value to the developer, whereas a 1-bedroom affordable unit at 50% AMI costs \$45,873. The differential value gap between a market-rate and affordable unit is \$441,491. The differential reflects the subsidy needed for a developer to be "made whole." Relating back to the cost of building parking for a 140-unit project, projected to cost \$7 million, is equivalent to the cost to build 15 one-bedroom units at 50% AMI.

Mr. Robertson asked about the current parking ratio. Dir. Berman responded that it is 1.25, but the ratio depends on the zone. An applicant can negotiate the parking ratio down to 1.

Dir. Berman continued to discuss items that needed further clarification, including a new calculation for payments in-lieu. Two alternatives were presented to the Newton Housing Partnership: The first alternative is the average total development cost per unit for affordable housing projects that sought funding from the City's CDBG, HOME, and CPA funds in the last five years. The total development cost is estimated to average \$500,000 per unit. The second alternative is the value gap approach.

Dir. Berman presented the new Required Units Table, which takes into consideration the concerns from housing advocates and respects the research and process staff underwent over the last two years. The Department seeks to find a balance between not decreasing the current Inclusionary Zoning requirements, per the housing advocates' concern, but also not increasing requirements so high that it will stall development. At tier 1 with the 15% requirement, half the units will be 50% AMI and the other half will be 80% AMI, or the average at 65% AMI. At tier 2, the middle-income units, the percentage increase will kick in at 21+ units. Newton Housing Partnership is currently assessing this new Required Units Table.

Dir. Berman explained the existing ordinance does not use a table. A table was created to showcase the existing ordinance as the basis to the proposed requirement. Mr. McCormick commented the Required Units Table looks as if tier 1 was eliminated. Dir. Berman explained that the table is meant to represent the existing ordinance with the additional requirement at the middle-income tier. Footnotes can also be included for clarification.

Chair Doeringer recommended labeling Tier 1 as tier 1 and 2, as housing advocates are familiar with the existing three tiers. Mr. McCormick agreed and expressed concern about relabeling the tiers.

Dir. Berman explained that tier 1 at 15% requirement for rental is averaging at 65%. Mr. McCormick and Dir. Heath recommend relabeling Tier 1 at 65% AMI average to represent the half and half split. However, Dir. Berman expressed concern about relabeling as the ownership requirement is not at 65% AMI and suggested creating two tables, one for rental and one for ownership.

Dir. Berman recapped the focus of the Newton Housing Partnership, including assessing the appropriate required units table, increased percentage and applicable tiers, a new basis for payment in-lieu and fractional cash payments, and lastly, an alternative compliance option. An example of an alternative compliance option includes the provision of units at 30% AMI coupled with supportive services.

Dir. Berman closed the presentation with a timeline, which staff will present to Zoning and Planning on May 13 and request a public hearing for June 10.

Chair Doeringer presented copies of his alternative Inclusionary Zoning matrix and ran through each table. The matrix includes three tiers, with Tier 2 and 3 being equivalent to Dir. Berman's table of Tier 1 and 2. The table reflects only rental units. Based on RKG's "Land Value Impact," Chair Doeringer explained that the 21-35-unit group is getting hit with the same percentage of additional units as the 100+ unit group. Chair Doeringer suggested the impact of Inclusionary Zoning cost for smaller developers, 20-units or below, can be reduced while increasing the percentage for larger developers, by breaking out at the 21-35 unit group, 36-105 unit group, and 106+ unit group. Each group would receive a progressive increase in the amount of middle-class housing assigned to each group. Chair Doeringer recommend moving the higher percentages to the larger units that can more easily accommodate additional units. The last table reflects the average impact for each unit group. The second row reflects the change and decrease from the preceding baseline. The reduction in impact from 17-10 and 221-35 units is a 21.5% decrease in impact. There is a taxing capacity to provide more middle-class affordable units.

Dir. Berman confirmed she will share Chair Doeringer's matrix with the Newton Housing Partnership. Chair Doeringer opened the discussion regarding the matrix and the taxing capacity presented.

Ms. Molinsky inquired about the kind of development coming down the pipeline. Traditionally, projects have been smaller, and Ms. Molinsky is reluctant to give up Inclusionary units in smaller projects.

Chair Doeringer confirmed the City will not be giving up any count in the SHI. The smallest group of 20 units and less will have the requirement dropped from 2.5% to 0.5%.

Ms. Molinsky wondered where the discussion is regarding density bonuses and the Inclusionary Zoning requirement. Dir. Heath responded that the density bonus is still on the table, but it would add another layer of complexity to an already complex matter. The timing may not be right.

Ms. Molinsky asked if the Board is concerned about where Inclusionary Zoning units are placed in City. She agrees with the payment in-lieu and in considering an alternative as the responsibility will be transferred to the City to build. The topic has not been fully discussed. Dir. Heath mentioned that payment in-lieu is put in an Inclusionary Zoning fund. If a developer wanted to only pay in-lieu, it would be a special permit request and there is language that strongly discourages that approach.

Mr. McCormick wondered if the Inclusionary Zoning funds go directly to creating affordable housing units. He further recommended giving the funds to the CPA and require the funds be used to create affordable units or include some language that indicate its use for affordable units.

Dir. Berman clarified that the Inclusionary Zoning funds would operate in much the same way as CDBGand HOME-funded projects, in which they would go before the Planning and Development Board for approval and then the Mayor. Dir. Heath further recommended adding language in which the Inclusionary Zoning funds can be used for other aspects of creating affordable units, other than construction. For example, the Armory is up for sale to create affordable housing which will require some funds to explore the development feasibility. There is currently no source of funds for that component.

Vice Chair Parisca asked if there are potential locations for the Inclusionary Zoning units? Dir. Heath clarified there are no particular areas, but this resource has usually been leveraged in developing City-owned assets.

Dir. Berman further responded that if nonprofits submitted a project proposal, such as 23 Auburn Street, and sought funding to support the development of affordable units, Inclusionary Zoning funds

could play a role as CDBG and HOME currently do. Mr. Brown suggested the funds also be used as "option" money, in which a non-profit developer can secure a site.

Mr. McCormick asked if a percentage of the Inclusionary Zoning funds go to Newton Housing Authority. Dir. Berman confirmed that 50% of the Inclusionary Zoning funds does go to Newton Housing Authority and it will continue to do so.

Mr. McCormick inquired about the Haywood House. Dir. Berman noted that the Newton Housing Authority pulled out \$625,000 and zeroed out their balance to put the funds towards the Haywood House project. Through the years, Newton Housing Authority has used a portion of their IZ funds to purchase the 57 units which they call "management units."

Ms. Molinsky stressed the importance of a proposal that will get passed and to get as many units as possible during this period.

#### 3. Hello Washington Subcommittee Discussion

Dir. Heath opened the discussion regarding the Hello Washington Subcommittee. James Freas and Rachel Nadkarni suggested forming a subcommittee of the Planning & Development Board and Urban Design Commission to look specifically at the design implications of the Washington Street zoning. The group will understand how the zoning will be different from the current zoning and be able to better inform ZAP as they begin their discussion on this subject.

Mr. McCormick asked if the zoning is separate from the Vision Plan. Dir. Heath confirmed it was.

Chair Doeringer asked about the relationship between the Vision Plan and zoning. Is the Plan meant to be a document to confirm the work in the zoning or is the Vision Plan a funnel to narrow down the big ideas so that the zoning piece of it can address a narrower range of issues.

Dir. Heath clarified that the Vision Plan is similar to a Comprehensive Plan. Zoning should not be inconsistent with the Vision Plan, but the vision represents a broader document. The Vision Plan is specific to the site studies, and the places recommended for the Planning Department to consider as it seeks to implement its vision along Washington Street and achieve the many goals outlined under "big ideas". There will also be discussion of height on May 28<sup>th</sup>. The Vision Plan will be further refined and clarified easier for increased understanding of the zoning redesign process. Vice Chair Parisca recognized the Vision Plan included input from the public, making it easier to transfer the Vision Plan to the zoning redesign efforts.

Transitioning back to the conversation about the subcommittee, Dir. Heath welcome two Planning & Development Board members who have expertise in physical design to join the subcommittee. Members from the Urban Design Commission will primarily be those with an architecture background.

Mr. Brown, Ms. Parisca, and Chair Doeringer volunteered to be on the subcommittee.

#### 4. Northland Continuation

Dir. Heath reintroduced the discussion about Northland with an update. The next LUC hearing to discuss Northland is scheduled for May 14<sup>th</sup> where they will return to previously discussed issues such as the Northland Architecture and Design Guidelines and sustainability and stormwater. LUC is revisiting these topics because overall the design has changed slightly and, in some cases, dramatically. A peer reviewer, on the Planning side, submitted an architectural and design guideline master plan. Staff hired Form + Place, a local architecture firm in Newton, to provide peer review in terms of what is appropriate moving forward in respect to design guidelines so when something is built, it conforms with what staff determines to be appropriate. Following, the next discussion will take place in June and that will be a wrap up on leftover items, including transportation and potential mitigation/community benefits. From there, City Council Land Use Committee may request a draft of potential board order and staff will return to the City Council for further discussion.

Mr. Brown asked if the final vote will take place after summer break. Dir. Heath could not respond as the timeline is not definite. Putting the conditions together will take some time between Planning staff, peer reviewers, and law department. Goal of June 11<sup>th</sup> will be a list of community benefits that has been discussed at various stages at the hearing.

Chair Doeringer asked about the shadow study for Northland. Board and Dir. Heath confirmed the shadow study is included in the latest version of the plans.

Ms. Molinsky requested a schedule of optional meetings in which the board can get a quorum. Dir. Heath suggested sending along a schedule of meetings and board members will sign up based on their availability.

Chair Doeringer mentioned Council Albright was accommodating about assimilating the board on a more equal basis with Zoning and Planning Councilors. He further discussed the conditions that the Planning & Development want to share views on with ZAP.

Mr. Robertson bought up the discussion of the Planning & Development Board to take over some of the responsibilities that the Council takes on, such as special permits.

Dir. Heath praised the board on its involvement and presence, never not meeting a quorum.

Mr. Brown recommended drafting a letter on Northland. If the Council decided before June 11<sup>th</sup>, the Planning & Development Board want to be at the table regarding the conditions.

Mr. Robertson asked about the board's role in approval process. Dir. Heath stated the board's role is on the rezoning aspect of the project. The Planning Board will provide a recommendation to the full Council on the rezoning request. Dir. Heath suggested providing the zoning waiver that they are requesting and those are very specific. The requests will be grouped by topic, such as height, density, and parking.

Mr. Robertson asked if there is a matrix that describes what relief is needed if the board granted the zoning they are requesting and what relief is needed under the current. He requested both documents side by side to assist in getting the board started. Dir. Heath confirmed.

Chair Doeringer suggesting splitting the board into teams to go through each topic by topic.

Mr. Robertson asked about the June 3<sup>rd</sup> agenda and suggested taking a portion of the meeting devoted to the topics relating to Northland. He further suggested splitting the board into three teams, tackling each topic. Each team would bring back a draft that was collectively discussed and fine-tuned.

Mr. Brown clarified June 3<sup>rd</sup> meeting will be working group. **Chair Doeringer recommended circulating a** sign-up sheet to form the teams and to assign topics in advance of the June 3<sup>rd</sup> meeting.

Mr. McCormick asked if the board should get involved with transportation. Mr. Robertson responded no, but in an example of granting a density request, the board could request transportation issues to be addressed to accommodate density. Mr. Brown commented transportation would be included in the general welfare.

Vice Chair Parisca mentioned the discussion regarding the alternative transportation resource along the greenway and asked how this idea would progress within a process that the board currently has -a

different idea from a different project. Dir. Heath responded the alternative transportation resource is one of the items that staff identified as a potential mitigation measure by doing a transportation alternative analysis and look at ways in which greenway can be used to have alternative transportation. Vice Chair Parisca recommended looking at these ideas as transportation will be a big discussion.

Chair Doeringer asked if more roads were built, it will not solve the transportation issues. Dir. Heath confirmed more roads will induce more traffic. Mr. Robertson agreed that people will be willing to travel a certain amount of difference for a certain endeavor, whether it be work. If the roads are too busy, people will change their behavior. Chair Doeringer wondered if the best traffic demand management will be able to substantially reduce the congestion. Is it a fantasy?

Ms. Molinsky commented the board has heard from the public at the hearings. It does depend on the area that is being studied. People will change their behavior, and it is a concern she has about Washington Street.

Chair Doeringer brought up a concern about Washington Street Vision Plan, specifically the traffic management and involving how people will turn onto side streets. It is not just the side streets intersecting with Washington Street but streets all around the side streets will be impacted.

A member from the public joined the meeting, Alan Kovac at 257 Dedham Street. The member asked to whom should the comments be addressed to, in terms of what is discussed at the Planning & Development Board meetings. Chair Doeringer explained there are public hearings and the board is always open to written comments circulated to the board. If the comments are submitted to the Zoning and Planning Committee or the Land Use Committee, the two committees the Planning and Development Board works closely with, those comments will be circulated to the Planning & Development Board.

At the end of the meeting, Chair Doeringer readdressed the member of the public and questions that Mr. Kovac might have. Mr. Kovac recognized that the Board provides recommendation to the City Council regarding issues such as traffic and design, and further suggested that the Board provides notice to the public.

Dir. Heath addressed Mr. Kovac's question and stated that the Board attends every Land Use meeting, at the middle table of the Council room, and have not missed any moments of the public hearing.

Mr. Kovac further stressed the public should be aware when they can submit comments, other than written form. He mentioned that he works with Right-Side Newton and stated it is unclear if that organization is aware of public commenting periods.

Mr. Kovac identified Chair Doeringer "being comfortable with the design aspect of the project. Mr. Kovac wondered if that commented included the historic buildings.

Chair Doeringer responded that the board has had a prior scheduled meeting, discussing the Northland project design, and there was convergence of views. Chair Doeringer referenced his earlier comment about the shadow study and therefore, the board is still in the deliberation phase. The deliberation that are officially open to the public for comment are taken place at the public hearing. The Board participates alongside the City Council and hearing comments from the public, reading the written comments submitted by the public. The Board looks at the full record. Non-public hearings, regularly scheduled board meetings are announced but are not an opportunity for the kind of dialogue that would take place at a public hearing.

Mr. Kovac asked for confirmation that the public hearing at the Land Use is what the board uses to hear public comments and comments from the developer. Chair Doeringer corrected that the public hearings

are joint hearings between the committee and Planning Board and at times, public hearings will be held by Planning Board alone.

Mr. Kovac asked if the Board has had private meetings with Northland. Chair Doeringer responded no.

Mr. Robertson stated that all Board meetings are noticed and public but may not necessarily have public comment.

Mr. Kovac asked if the Board heard the public comment on traffic at the public hearing at Land Use in April and if those comments will be considered. Similarly, the next public hearing, there will be discussion on design, sustainability, stormwater. Mr. Robertson confirmed that is correct. Mr. Kovac stated that is important for the public to understand.

Chair Doeringer stated if at the public hearing, the public does not have sufficient say, the Council will hold the discussion for another round.

Ms. Molinsky stated the intention is for the committee and boards to hear the same comment at the same time, so the public does not need to attend two meetings.

Mr. Kovac asked if the board was responsible for producing the vision plan. Chair Doeringer responded that the board commented on the plan but did not produce it. Dir. Heath confirmed the planning staff presented the plan to ZAP for Needham Street.

#### 5. Washington Street Vision Plan Updates

Dir. Heath announced staff will be presenting to ZAP on Thursday, May 9 and then on Tuesday, May 28<sup>th</sup>, the meeting will be devoted to the Vision Plan and working towards a public hearing on Monday, June 24<sup>th</sup> on the vision plan of the Washington Street zoning.

Mr. Brown asked if people are putting comments on the plan, similar response process as previously done. Dir. Heath responded and at this time, only receiving City Council comments. The public is always welcome to email their Councilors, but staff is not accepting comments.

Vice Chair Parisca stated she would like to see a stronger effort on capping the I90 in Newton Corner. Newton Corner needs to be part of the discussion. Dir. Heath stated staff did not take on Newton Corner under the vision plan, because it was be too big an effort to take on. The vision plan will be a blueprint for Newton Corner.

Chair Doeringer asked about the timeline for Newton Corner. Dir. Heath stated Newton Corner is on the list for places to go next, but the timeline is unclear.

Mr. Robertson emphasized the need for further resources for the Department and staff to properly undertake the project. Dir. Heath followed up and stated vision plans are a significant dollar amount undertaking. Staff is trying to advance the alternative analysis for Washington Street. Mayor has docked an item, \$2 million request to the Council to begin the process. Scope will get staff to a 25% design at which point it can be submitted to the State for TIP dollars.

#### 6. Riverside Vision Plan Updates

Dir. Heath announced the Riverside Vision Plan is complete. The effort concluded at the last presentation and Dir. Heath presented a copy of the plan to the Planning & Development Board. The plan can also be found on the website. City Council received the plan on Friday, May 3<sup>rd</sup>.

City Councilors did not need to vote on the vision plan. Goal of the Riverside Vision Plan was to present a document to the City Council prior their deliberation of the Riverside special permit. Plan was not meant to be adopted. The plan will not be part of the comprehensive plan. It is very specific to the Riverside development site and land use process.

Mr. Brown commented on the last presentation and was impressed by CivicMoxie. Consultant walked through ideas and questions that the public or City officials would ask the developer, such as the topography of the site, where the neighborhoods in relation to the site, and how the highways work.

Dir. Heath commented the plan consisted of two meetings and third for presentation.

Chair Doeringer asked if the presentation was substantially different from earlier ones. Dir. Heath commented the presentation was much more comprehensive. The last section was the development feasibility, and the development consultant reviewed the land cost of the site and market reality for the site to be successful.

Dir. Heath restated the vision plan is to be used by the City Council. The first public hearing is June 4<sup>th</sup> on the Riverside rezoning and special permit. Public hearing is a joint ZAP and Land Use.

#### 7. Action Item: Adjournment

Mr. McCormick stated that he will not be able to attend the next three meetings.

Upon a motion by Ms. Maheshwari and seconded by Ms. Molinsky, and unanimously passed 7-0-0, the meeting was adjourned at 9:01 p.m.

#### RIPMAN LIGHTING CONSULTANTS

31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION

3 LEXINGTON STREET BELMONT, MASSACHUSETTS 02478 (617) 489-3366 (FAX) 489-5223

Mr. Neil Cronin Senior Planner **City of Newton Planning and Development** Newton City Hall 1000 Commonwealth Avenue Newton Centre Newton Centre, MA 02459

Dear Neil:

Per our discussion, I am writing to request approval for our lighting design for façade illumination of the Gateway Center (office building and hotel). The design meets the intent of the Newton Zoning Ordinance.

Should the Planning Board see a waiver as required, we are hereby submitting draft materials for a waiver, and request that you schedule a review for our application.

#### **Executive Summary**

The Newton Zoning Ordinance, Section 20-24, copy attached and highlighted, is intended to minimize light emitted towards the sky, and also to limit light trespass on adjacent properties. Section 20-25 allows the Planning Board to grant a waiver if requested and justified.

After two years of mockups and testing, Ripman Lighting Consultants and the property owner have concluded that an uplight solution, properly shielded, actually puts <u>less</u> light into the sky than a code-allowed downlighting solution. See photometric reports attached.

The extensive mockups and testing also led us to conclude that uplighting is a better way to light the structure as a welcoming "gateway" for the City of Newton.

We request your approval to proceed with construction, as the proposed design meets the intent of the ordinance regarding "dark sky" preservation, and meets the criteria for limited light spill on adjacent property.

#### **Background and Process**

In 2016, J. F. White Properties hired Ripman Lighting Consultants to evaluate and Upgrade the existing lighting on the Gateway site. Our previous and relevant experience in Newton includes the design of all lighting for Newton North High School. While all exterior lighting was full cutoff, and therefore conforming to the Ordinance requirements regarding dark sky concerns, the location of high light level functions such as the tennis courts immediately abutting neighboring residential property required the design of sophisticated shielding for the fixtures near the property line to meet the overspill requirements. Our shielding design met the requirements of

#### RIPMAN LIGHTING CONSULTANTS

3 LEXINGTON STREET BELMONT, MASSACHUSETTS 02478 (617) 489-3366 (FAX) 489-5223 31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION

the Ordinance, notwithstanding the fact that a number of the concrete bases for site poles for the tennis courts were hard up against the abutting property line. I submit that we have a good record of designing sophisticated shielding for fixtures in service of the intent and criteria of the Ordinance.

In 2017 and 2018 we executed over ten mockups to explore various approaches to lighting the facades of the office building and the hotel. Although the buildings have concrete facades, most of the façade is regressed and the only surfaces which can be readily illuminated are the edges of the floor slabs and spandrels, and the faces of the columns, which are proud of the rest of the façade and create a simple rectangular grid defining the façade.

We explored both downlighting and uplighting schemes. With downlighting, it was judged that the downlighting needed to run the entire perimeter of the roof and core towers in order to present the building as the simple geometric mass that it is. Raking up or down the columns, for instance, made the building look like a forest of columns, with no sense of the mass between.



Selected Photos from Mockups

#### RIPMAN 31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION CONSULTANTS



Selected Photos from Mockups of Office Building and Hotel

Our conclusion was that an uplighting scheme using less wattage than the downlighting scheme and properly shielded produced the most handsome rendering of the building.

If the Gateway buildings had flat glass facades, then all the light from an uplighting scheme hitting the façade would be reflected into the sky. However, the grid of slabs and columns acts more like an anechoic baffle, trapping and absorbing much of the uplight. The horizontal surfaces which are illuminated (the undersides of the slabs) face down, so the reflected light goes down rather than up. Downlighting has two drawbacks: the surfaces illuminated face up, reflecting light into the sky, and the horizontal surfaces which are lit are not visible from the street level below.



#### RIPMAN LIGHTING CONSULTANTS

3 LEXINGTON STREET BELMONT, MASSACHUSETTS 02478 (617) 489-3366 (FAX) 489-5223

#### 31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION

Our goal is to illuminate the Gateway Center as a landmark for Newton Corner, to brighten the appearance of a pair of buildings which at nighttime can appear gloomy, and to create a welcoming environment when entering the city for the Mass Pike. Our goal has been to do this while minimizing light spill into the night sky, minimizing glare for pedestrians and those in adjacent buildings, and meeting the criteria of the Massachusetts Energy Code. These are the same goals as the Newton Exterior Lighting Ordinance, which are to minimize light spill into the sky and restrict light spill onto adjacent properties.

When illuminating buildings, it sometimes occurs that a full-cutoff down-lighting scheme produces more light into the night sky, reflected off the ground plane and building surfaces, than a properly shielded uplighting scheme, which does not light the ground surfaces. This of course requires that the up-lighting scheme is carefully controlled to put the light onto building surfaces and minimize spill into the night sky.

We have modeled both schemes for the office building in AGI32, the industry-standard photometric calculation program. The downlighting scheme has lighting on the outline of roof with LED full cutoff downlight sources with wattage allowable by Mass Energy Code. The uplighting scheme incorporates with custom louvering to restrict light spill into the sky. This modeling (copy attached) and the associated light distribution diagrams demonstrate that the uplighting scheme with appropriate spill control produces less light into the sky than the downlighting scheme. This is because the downlighting, reflects large quantities of light up into the sky from the ground planes and the illuminated façade planes. On the modelled grid (200' x 360', 140' above the ground), the calculations show 57,600 lumens passing through the grid into the sky with the uplighting scheme, compared with 64,800 lumens for the downlighting scheme – more than ten percent higher.

While the rendering shows only the lighting for the office building, the hotel would be lighted in a similar manner. Work on the hotel is scheduled for a future phase of the project, but we request approval of the hotel as well and the office building.

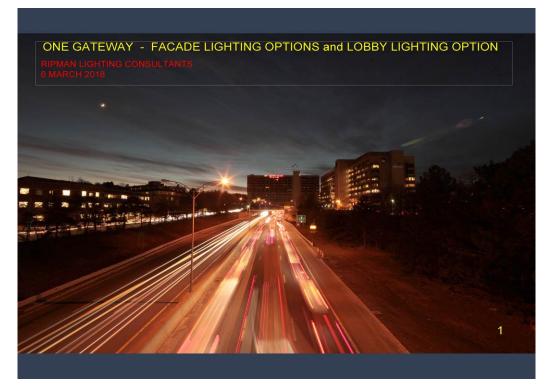
The up-lighting scheme is more energy efficient, and puts less light into the night sky and creates less bright-light distraction from the light sources when viewed from the ground than the downlighting scheme,. The up-lighting scheme best meets the intent of the Newton Lighting Ordinance, and we request the City's approval of the up-lighting scheme for both the office building and the adjacent hotel on these grounds.

#### 31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION

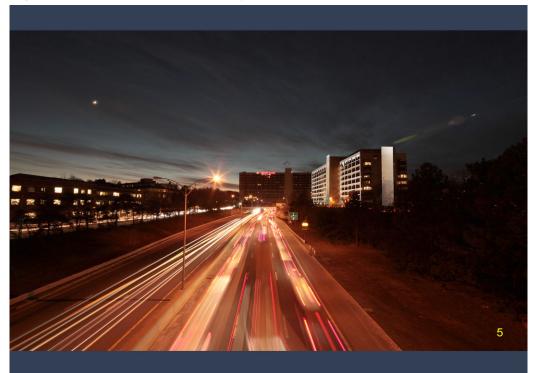
#### RIPMAN LIGHTING CONSULTANTS

3 LEXINGTON STREET BELMONT, MASSACHUSETTS 02478 (617) 489-3366 (FAX) 489-5223

**Existing Condition** 



Proposed Façade Illumination of Office Building



#### RIPMAN LIGHTING CONSULTANTS

31 January 2019 Re: GATEWAY CENTER, NEWTON - FAÇADE ILLUMINATION

3 LEXINGTON STREET BELMONT, MASSACHUSETTS 02478 (617) 489-3366 (FAX) 489-5223

We request approval of the proposed lighting scheme, since it better meets the intent of the ordinance.

Thank you for the opportunity to meet with you to review our proposed lighting for the Gateway Center.

Respectfully yours,

\*

Christopher Hugh Ripman RA IALD IESNA President **RIPMAN LIGHTING CONSULTANTS** 3 Lexington Street Belmont, MA 024678 (617) 968-5027

#### J. F. WHITE PROPERTIES, INC.

ONE GATEWAY CENTER NEWTON, MA 02458-2883 (617) 796-8000 FAX (617) 796-8080

April 22, 2019

Dear Ms. Powers,

You asked for an overview of the lighting project at Gateway Center, the design recommended for façade lighting, its relation to the Newton Zoning Ordinance (requires a waiver since uplighting is proposed as part of the solution), and the basis for the request for waiver (that the proposed design, including uplighting from carefully shielded LED luminaired, puts less light into the sky that a downlighting scheme allowed by the Mass Energy Code and the Newton Ordinance).

#### Relation between Gateway Center, Gateway Realty Trust, JF White Properties and Ripman Lighting Consultants

Gateway Center is owned by Commonwealth Development LLC as trustee of the Gateway Realty Trust. This ownership would be formally stated in a contract as follows: "Commonwealth Development LLC (formerly Commonwealth Development Group LLC), as TRUSTEE of the GATEWAY REALTY TRUST, a Massachusetts nominee trust, under an Amended and Restated Declaration of Trust dated as of November 30, 1998 (amending and restating a Declaration of Trust dated March 1, 1968, recorded with Middlesex County (South) Registry of Deeds (the "Registry") in Book 11478, Page 134, as amended) and recorded with the Registry in Book 29595, Page 469, as affected by trustee appointments and resignations recorded with the Registry in Book 31343, at Pages 596-598 and Book 31847, at Page 3, as amended, and having offices at One Gateway Center, Newton, Massachusetts 02458". Less formally stated, Gateway Center is owned by Gateway Realty Trust. J. F. White Properties LLC is the property management entity engaged by Gateway Realty Trust to manage Gateway Center. Ripman Lighting Consultants is a consultant contracted by J. F. White Properties LLC.

With respect to the Gateway Center lighting project, through J. F. White Properties LLC, Ripman Lighting Consultants is authorized by property owner Gateway Realty Trust to pursue the petition for waivers on behalf of Gateway Realty Trust.

JF White Properties hired Ripman Lighting Consultants (45 years in business, 4000 projects completed, principal a registered architect in Massachusetts) in 2016 to review the entire property and design an upgrade to existing lighting. Existing conditions were found to be poorly lit in many areas, making them unattractive to pedestrians. Glary legacy wall packs were visible from offsite. And the lack of street lighting along the south side of Washington, where City street lights have been out for three years despite repeated requests from the owners, makes the Washington Street sidewalk dark and dangerous. Further, the building serves as a "gateway" straddling the Mass Pike to the City of Newton, and the owner felt that façade

illumination would be of benefit to both the ownership and the City, in that it would contribute to the sense of the property as being safe and secure, through deployment of appropriate and attractive lighting.

Ripman Lighting Consultants has been working with JF White Properties since 2016 to further this project.

#### **Recommended Design**

For all areas except the façade, full cutoff illumination has been recommended and, since it conforms with the Dark Sky requirements of the Newton Zoning Ordinance, has been installed without any need for a waiver. Multiple mockups of façade lighting strategies have been held between 2016 and 2019, leading to the consensus that an uplighting scheme was superior for the following reasons:

- Models run in AGI32 show that the proposed uplighting puts less light into the sky than a code-allowed downlighting scheme.
- Both downlighting and uplighting schemes meet the light trespass requirement of the Newton Zoning Ordinance.
- There is no glare from the uplighting scheme, whereas there would be significant glare from downlighting located at the roof parapet, ten stories above grade.
- Energy consumption is less with the uplighting scheme.
- The building is more attractive when lit from below, because the light illuminates surfaces visible from the ground more effectively that downlighting.

#### The Newton Zoning Ordinance

The Newton Zoning Ordinance prohibits the use of non-cutoff fixtures for exterior illumination. The assumed rationale for this is to minimize the amount of spill light emitted upwards from site lighting. But the amount of light emitted upwards is not only a function of lighting exiting the fixtures and rising directly into the sky. In addition, one has to calculate the light reflected off building surfaces and the surfaces of the surrounding paving, which also rises into the sky. After modelling both the code-permitted downlighting scheme and the proposed uplighting scheme, it was shown that with proper shielding, the uplighting scheme puts less light into the sky than the permissible downlighting scheme.

#### **Basis for Waiver**

The owner and lighting consultant request a waiver, having demonstrated that with proper shielding, the uplighting scheme puts less light into the sky than the downlighting scheme.

#### Respectfully

Wayne Smith Director of Project Management 300 Washington Street, Suite 500 Newton, MA 02458 617-796-8000

Updated 09-01-17

### Newton, Massachusetts Chapter 30: Zoning Ordinance

November 1, 2015





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#### Sec. 5.3. Stormwater Management

See also Revised Ordinances Chapter 22, Article II, Section 22-22.

- A. Whenever the existing contours of the land are altered, the land shall be left in a usable condition, graded in a manner to prevent the erosion of soil and the alteration of the runoff of surface water to or from abutting properties, and shall be substantially landscaped.
- B. Projects increasing impervious surface area by more than the lesser of a) 4 percent of lot size or b) 400 square feet, or that involve altering the landscape in such a way that may result in alteration of the runoff of surface water to abutting properties or erosion of soil, shall be reviewed by the Commissioner of Inspectional Services and the City Engineer to ensure compliance with this <u>Sec. 5.3</u>. The Commissioner of Inspectional Services and the City Engineer may reject a project if they believe it will cause runoff of surface water to abutting properties or the erosion of soil.
- C. Alteration of attached garage where below required height above grade. In all residential districts, no garage first erected after March 16, 1953, which is an integral part of a dwelling shall be constructed, altered, enlarged, extended or reconstructed where the entrance to such garage is less than 6 inches above the grade established by the City Engineer for the highest point of the back edge of any sidewalk upon which the lot abuts, unless either the Commissioner of Inspectional Services and the City Engineer shall both certify that in their opinion the surface drainage conditions at the location are such as to minimize the danger of flooding of such garage and dwelling. The certificate of opinion required by this Sec. 5.3 may be given either by separate certificate or by endorsement upon the building permit, and shall not be withheld if in fact surface drainage at the location is adequate for the purposes above specified. No certificate of opinion given pursuant to this Sec. 5.3 shall be deemed to be a representation to any person of the accuracy of that opinion nor shall any such certificate involve the City or any officer or employee of the City in any liability to any person.

(Rev. Ords. 1973 §24-19; Ord. No. 190; Ord. No. S-260, 08/03/87; Ord. No. Z-45, 03/16/09)

#### Sec. 5.4. Fences & Retaining Walls

#### 5.4.1. Fences

Fences are regulated in Revised Ordinances Chapter 5, Article III, Fences.

#### 5.4.2. Retaining Walls

- A. Defined. A wall or terraced combination of walls, 4 feet in height or greater, to hold a mass of earth material at a higher position. When a combination of walls is placed within a setback, height is measured from the foot of the lowest wall to the top of the highest wall. For the purposes of this <u>Sec.</u> <u>5.4</u>, a berm with a slope of 1:1 or greater is to be considered a retaining wall.
- B. Standards: The placement of a retaining wall of 4 feet or more within a setback requires a special permit.

(Ord. No. Z-45, 03/16/09)

#### Sec. 5.5. Landscaping

[Reserved]

#### Sec. 5.6. Great Ponds

In all business districts, no building, structure or alteration, enlargement or extension located within 300 feet of a great pond as defined under M.G.L. Chapter 131, Section 1 shall be permitted other than under the procedure in <u>Sec. 7.4</u>, with particular concern to the preservation of public view, enjoyment and access to the great pond.

#### Sec. 5.7. Noise

Noise is not a part of this Chapter, and is regulated in Revised Ordinances Chapter 20, Article II, Noise.

#### Sec. 5.8. Outdoor Lighting

Outdoor lighting is not a part of this Chapter, and is regulated in Revised Ordinances Chapter 20, Article IV, Light Trespass.

#### Sec. 5.9. Tree Protection

Tree protection is not a part of this Chapter, and is regulated in Revised Ordinances Chapter 21, Article III, Div. 3, Tree Preservation. Sec. 11-10 (c) When trash and recyclable materials to be placed for collection

() First offense per 365 day period	written warning
() Second offense per 365 day period	\$50.00

() Third offense and subsequent offenses per 365 day period......\$75.00

(Ord. No. T-126, 3-4-91; Ord. No. T-241, 10-21-91; Ord. No. U-29, 10-3-94; Ord. No. V-8, 2-6-95; Ord. No. V-63, 2-5-96; Ord. No. V-69, 3-4-96; Ord. No. V-193, 8-10-98; Ord. No. V-197, 10-5-98; Ord. No. V-255, 8-9-99; Ord. No. V-275, 12-6-99; Ord. No. X-14, 4-1-02; Ord. No. X-142, 03-21-05; Ord. No. X-175, 05-26-05; Ord. No. X-244, 12-18-06; Ord. No. Z-17, 12-17-07; Ord. No. Z-27, 05-19-08; Ord. No. Z-32, 07-14-08; Ord. No. Z-57, 11-16-09; Ord. No. Z-60, 12-21-09; Ord. No. Z-68, 06-21-10; Ord. No. Z-78, 02-22-11; Ord. No. A-11, 02-04-13; Ord. No. A-14, 03-18-13; Ord. No. A-18, 04-01-13; Ord. No. A-41, 06-16-14; Ord. No. A-50, 12-01-14; Ord. No. A-56, 01-20-15; Ord. No. A-96, 12-05-16)

#### Secs. 20-22 Reserved.

#### **ARTICLE IV. LIGHT TRESPASS**

#### Sec. 20-23. Definitions.

For purposes of sections 20-23 through 20-28, the following words and phrases shall have the meanings respectively ascribed to them as follows:

*Direct Light*: Light emitted directly from the lamp, off of the reflector or reflector diffuser, or through the refractor or diffuser lens, of a light source.

*Lumen*: A unit of light output as that term is defined by international standards. One footcandle is one lumen per square foot. For the purposes of sections 20-23 through 20-27, the lumen-output rating shall be the manufacturer's rating of the light source.

*Light Source* : A lighting unit consisting of a lamp or lamps together with the parts designed to distribute the light, to position and protect the lamps and to connect the lamps to the power supply. (Ord. No. X-142, 03-21-05)

#### Sec. 20-24. Light pollution prohibited.

(a) No person shall install or maintain a light source which emits light unless such light source conforms to each of the following requirements:

- (1) it shall emit a steady and constant light and shall not emit a flashing or irregular light;
- (2) it shall shine downward and not emit any direct light above a horizontal plane through the lowest directlight-emitting part of such light source.

(b) This section shall not apply to the following light sources:

- (1) light sources which are rated at a total that does not exceed 100 lumens; and
- (2) light sources which are located entirely within an enclosed structure, provided however, that a structure

#### § 20-22 NEWTON ORDINANCES — CIVIL FINES AND MISCELLANEOUS OFFENSES § 20-22

with a transparent or translucent roof, dome or cupola shall not constitute an enclosed structure for purposes of this subsection; and

(3) light sources which are required pursuant to state or federal law; and

(4) light sources which are used to illuminate the flag of the United States of America or other flag, or an architectural feature such as a cupola or steeple; and

- (5) light sources installed or maintained by the City or a utility to illuminate a public or private way; and
- (6) internally illuminated signs which emit light only from a vertical surface, and
- (7) festive or holiday light sources which are illuminated on a seasonal basis.

(c) Each installation or maintenance of a light source that does not conform to the requirements of this section shall constitute a separate violation of this section. (Ord. No. X-142, 03-21-05)

#### Sec. 20-25. Light trespass prohibited.

(a) No person shall install or maintain a light source or light sources which emit(s) light which falls outside the boundaries of the parcel of land upon which the light source(s) is sited, unless 1) such person has the permission of the owner or person in control of the parcel of land upon which the light falls or 2) the illuminance of light measured at any point which is located five or more feet outside of the boundary of the parcel of land upon which the light source is located does not exceed .35 horizontal or .35 vertical footcandles after astronomical twilight, provided however, that during the three-year period immediately following the effective date of this section, the standard shall be .5 horizontal or .5 vertical footcandles after astronomical twilight.

(b) The prohibition against maintaining a light source as set forth in subsection (a) shall not apply between the hours of 6:00 a.m. and 9:30 p.m.

(c) This section shall not apply to the following light sources:

(1) light sources installed or maintained by the City or a utility to illuminate a public or private way; and

- (2) light sources which emit light which falls upon the abutting public way and not upon any other property outside the boundaries of the parcel of land upon which the light source is sited; and
- (3) light sources which are required pursuant to state or federal law.

(d) Each instance of emitting light upon a parcel of land in violation of this section shall constitute a separate violation of this section.

#### Sec. 20-26. Waiver.

(a) Upon application by the owner or tenant of a property, the planning and development board may grant a Waiver to allow an exception to the prohibitions contained in section 20-24 and/or section 20-25.

(b) An applicant for a waiver shall submit such information as the planning and development board reasonably requires, including (i) a diagram or plan illustrating the location and extent of the light trespass and/or light pollution; and (ii) evidence of the measures taken by the applicant to abate the light trespass and/or light pollution. (c) A Waiver may be granted only if the planning and development board determines that literal enforcement of

the section would cause substantial hardship, financial or otherwise, to the applicant or community, taking into account: (i) the extent of light pollution and/or light trespass caused by granting the Waiver; and (ii) whether reasonable efforts have been made to abate the light pollution and/or light trespass.

(d) The planning and development board shall determine the term for each waiver granted hereunder and shall limit each waiver to the days and times that are necessary to achieve the purpose for which the waiver is granted. To the maximum extent possible, consistent with the relief granted, each waiver shall be limited both as to term and the geographic area to which it applies. Such waivers may include other reasonable conditions, as the planning and development board deems appropriate and consistent with the spirit and intent of the section for which the exception is granted.

(e) Except as provided in subsection (f), the planning and development board shall give written notice of such application (i) to the owners of the estates which abut the site for which a waiver is sought and ii) in the case of an application for a waiver from the provisions of section 20-25, to the owners of the estates upon which the light falls or will fall. For purposes of this subsection, the estate(s) located on the opposite side of a public or private way shall be considered abutting. The planning and development board may not grant a waiver until fourteen (14) days following the giving of such notice, during which time such owners may submit comments for the planning and development board's consideration in evaluating the application.

(f) Applications for waivers with terms of not more than thirty (30) days shall not be subject to the notice and comment period set out in subsection (e).

(g) Upon granting a Waiver, the planning and development board shall promptly provide notice thereof to the owners of the estates which abut the site for which the waiver was granted. Such notice shall describe the nature and scope of the waiver, including its duration and conditions. (Ord. No. X-142, 03-21-05)

#### Sec. 20-27. Enforcement.

(a) City agencies that review applications for construction and alteration of properties covered by the standards set out in sections 20-24 and 20-25 shall inform applicants of such standards.

(b) Boards and commissions that review applications for licenses and permits which allow the conduct of business or other activities at stated locations shall take cognizance of the standards set out in sections 20-24 and 20-25 and shall incorporate them as part of their review of such applications where applicable, consistent with the jurisdiction of such board or commission, provided however that nothing contained in such standards shall restrict a board or commission from imposing more stringent standards. (Ord. No. X-142, 03-21-05)

#### Sec. 20-28. Transitional provisions.

(a) Light sources which are in place and in regular use as of the date of adoption of section 20-24 shall not be subject to the provisions of such section until five years after the effective date hereof.

(b) Light sources which are in place and in regular use as of the date of adoption of section 20-25 shall not be subject to the provisions of such section until two years after the effective date hereof.

(c) Nothing in sections 20-24 and 20-25 shall require the removal or destruction of an existing light source which would be in violation of such section(s) if it were to be used to emit light, so long as such light source is turned off and does not emit light. (Ord. No. X-142, 03-21-05)

#### Secs. 20-29-20-49. Reserved.

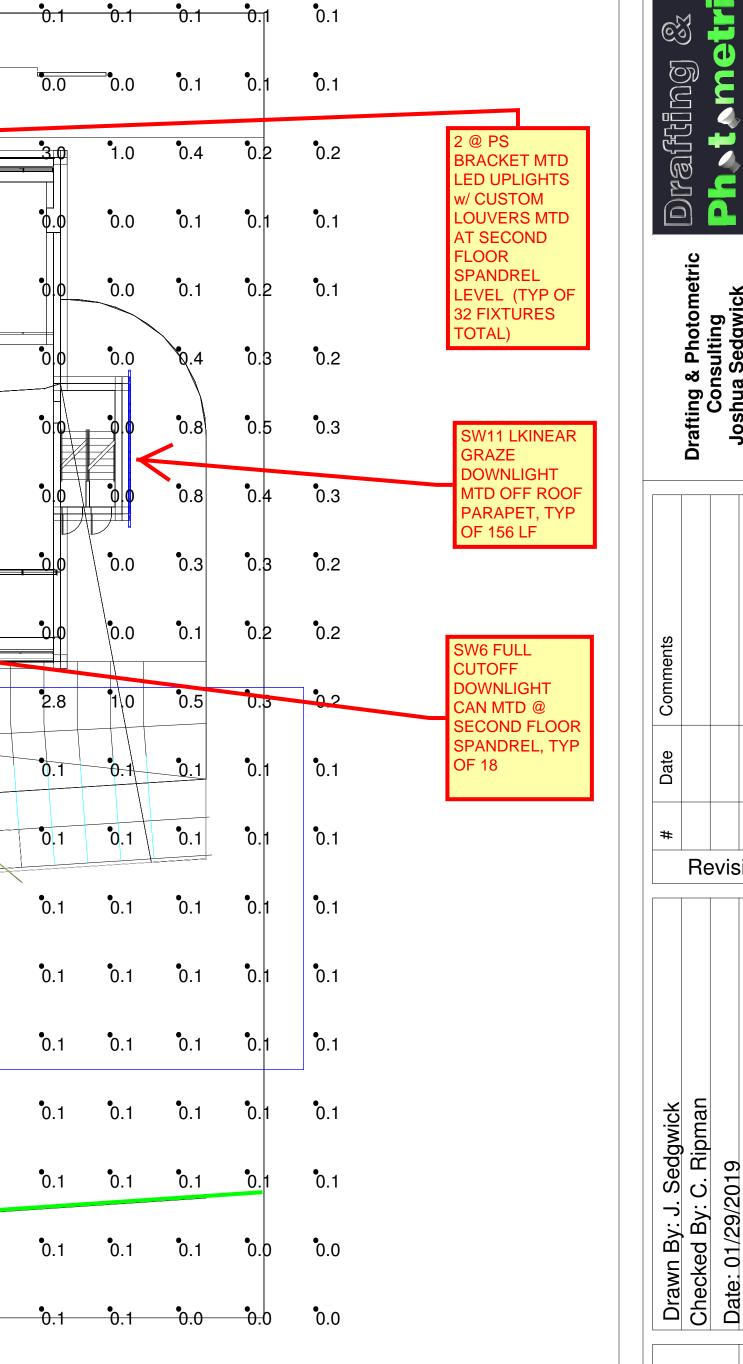
	•0.1	0.1	<b>0</b> .1	• <u>0.1</u>	• <u>0</u> .1	• <u>0.1</u>	• <u>0.1</u>	<del>0.1</del>	<del>0.1</del>	• <u>0.2</u>	• <u>0.2</u>	• <u>0.2</u>	• <u>0.2</u>	• <u>0.1</u>	0.1	• <u>0.1</u>	• <u>0.1</u>	• <u>0.1</u>	<del>0.1</del>	<del>0.1</del>	<del>0.1</del>	<del>0.1</del>	• <u>0.1</u>	<del>0.1</del>	• <u>0.1</u>	<del>0.1</del>	• <u>0.1</u>	<del>0.1</del>	<b>•</b> 0.1	0.1	<u>•0.0</u>
	<b>0</b> .1	<b>0</b> .1	•0.1	<b>•</b> 0.1	<b>•</b> 0.1	• <b>0</b> .1	• <b>0</b> .1	•0.1	<b>0</b> .2	•0.2	<b>0</b> .2	•0.2	•0.2	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	<b>0</b> .1	<b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .0	<b>•</b> 0.0	• <b>0</b> .0	0.0	 0.0
	<b>0</b> .1	• 0.1	0.1	0.1	• 0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.2	<b>0</b> .3	<b>0.7</b>	- <u>1</u> 6	<b>•</b> 4 7		•7.3	45	<b>5</b> 6		•74	45	56		•74	44	<b>5</b> 5		69
	•0.1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	•0.1	•0.1	•0.2	•0.2	• <b>0</b> .4	<b>0</b> .5	•0.8	• <b>0</b> .0	•0.0	•0.0	• <b>0</b> .0	<b>0</b> .0	•0.0	<b>0</b> .0	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0	• <b>0</b> .0	•0.0	•0.0
	• <b>1</b> .6	•3.5	3.9	• <u>2.8</u>	<b>3</b> .5	<b>6</b> .8	7.6	<b>4</b> .9	4.3	<b>•</b> 7.8	8.3	<u>8.1</u>	<b>0</b> .0	•0.0	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .0	• <b>0</b> .0	• <b>0</b> .0	• <b>0</b> .0	• 0.0	•0.0	<b>0</b> .0	• <b>0</b> .0	• 0.0	•0.0	•0.0	•0.0
	• <b>1</b> .9	•4.2	• <b>0</b> .0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0</b> .0	0.0	0.0	• <b>0</b> .0	• <b>0</b> .0	•0.0 <sub>1</sub>	0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .0	• 0.0	• <b>0</b> .0	•0.0	0.0		0.0	0.0	0.0	•0.0	0.0
SW7 FULL CUTOFF LED WALL BRACKET	2.1	4.5	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	• 0.0	•0.0	•0.0	<b>0.0</b>	0.0			0.0	0.0	0.0	0.0	0.0	<b>0.0</b>	0.0	<del>0.0</del>	0.0	<b>P.0</b>	0.0	0.0	<b>0</b> .0	<b>•</b> 0.0	<b>0</b> .0	• <b>0</b> .0
MTD AT 3RD FLOOR SPANDREL LEVEL (TYP OF	<b>2</b> .2	•4.5	•0.1	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0		0.0	0.0	0.0		•0.0	•0.0	• <b>0</b> .0	0.0	•0.0	•0.0	•0.0	•0.0	• 0.0	•0.0	•0.0	0.0	0.0	•0.0	•0.0
9 LOCATIONS)	<b>°</b> 2.7	• 0.1	• <b>0</b> .0	• <b>0</b> .0	•0.0	•0.0	•0.0	• <b>0</b> .0	• <b>0</b> .1	•0.2	•0.0	0.0	0.0	•0.0	•0.0	0.0	0.0	•0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<u>0.0</u>	• <u>0</u> .0.	<u>, 0,0</u>	0.0
1 @ PS	<b>•</b> 4.6	•0.1	<b>0</b> .0	0.0	•0.0	•0.0	•0.0	•0.1	<b>0</b> .3	•1.3	•4.0	<b>•</b> 4.6	2.2	0.9	0.9	-24	4.1	3 1	1.0	0.2	0.1		0.0		0.0		0.0	<u>•</u> •	0.0		0.0
BRACKET MTD LED UPLIGHTS w/ CUSTOM	• 3.8	•4,4	<b>0</b> .0	• <b>0</b> .0	0.0	•0.0	• <b>0.0</b>	0.1	0.2	<b>0</b> .6	<b>•</b> 1.4	• 1.7	•1.4	• <b>1</b> .2	1.8	↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	<b>1</b> 0.9	<b>7</b> .4	•14.4	8.8	10.9	<b>16.7</b>	14.0	8.6	10.8	16.5	• <b>1</b> 3.4	7.0	<b>6</b> .2	8.4	6.6
LOUVERS MTD AT SECOND FLOOR SPANDREL	<b>•</b> 2.0	4.0	4.7	• 4.0	<b>7</b> .1	•14.5	16.2	<b>9</b> .3	• <b>6</b> .0	•8.3	8.6	4.7	<b>1</b> .9	• <b>1</b> .0	•0.7	<b>•</b> 0.6	0.7	0.6	0.4	0.3	0.2	<u>02</u>	<u>0.2</u>	<b>₽ 0</b> .1	0.1	0.1	0.1	0.1	•0.1	<b>°</b> 0.1	0.1
LEVEL (TYP OF 2 FIXTURES TOTAL)	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>•</b> 0.1	• <b>0</b> .1	•0.1	•0.1	• 0.1	•0.2	<b>0</b> .2	•0.3	0.3	•0.3	0.3	•0.3	0.3	•0.3	<b>0</b> .3	0.3	0.2	0.2	0.2	<b>0</b> .2	0.2	0.2	•0.1	0.1	0.1	0.1	<b>•</b> 0.1
	•0.1	• <b>0</b> .1	<b>•</b> 0.1	•0.1	<b>0</b> .1	• 0.1	• 0.1	•0.1	0.2	•0.2	0.2	<b>0</b> .2	0.3	• <u>0.3</u>	0.3	0.3	<b>0</b> .3	<b>°</b> 0.3	0.3	0.3	<b>0</b> .2	0.2	0.2	0.2	0.2	0.2	<b>0</b> .2	0.2	• <b>0</b> .1	<b>0</b> .1	0.1
	<b>0</b> .1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	<b>0</b> .2	•0.2	•0.3	<b>0</b> .3	<b>0</b> .3	<b>0</b> .3	• <b>0</b> .3	•0.3	<b>0</b> .3	<b>0</b> .3	<b>0</b> .3	<b>0</b> .3	• 0.2	•0.2	•0.2	<b>0</b> .2	•0.2	•0.2	<b>0</b> .1	• <b>0</b> .1
	•0.1	• <b>0</b> .1	•0.1	• <b>0</b> .1	• 0.1	•0.2	•0.2	•0.2	0.2	•0.2	0.2	•0.2	•0.2	•0.2	•0.2	<b>0</b> .2	• 0.3	•0.3	•0.3	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	<b>0</b> .1	<b>0</b> .1
	<b>0</b> .1	<b>•</b> 0.1	• <b>0</b> .1	• <b>0</b> .1	• 0.1	•0.1	•0.2	•0.2	• 0.2	•0.2	• 0.2	<b>0</b> .2	•0.2	•0.2	•0.2	<b>0</b> .2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	• 0.2	•0.2	•0.2	•0.2	• 0.2	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1
	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	0.2	•0.2	• 0.1	<b>0</b> .2	0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	0.2	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	<b>0</b> .1	<b>0</b> .1
	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	0.1	• <b>0</b> .1	0.1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	•0.2	•0.2	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	0.1	<b>0</b> .1	0,1	<b>0</b> .1	• 0.1	0.1	0.1	0.1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<b>0</b> .1	0.1	<b>0</b> .1	<b>0</b> .1	0.1	• <u>0.1</u>	<b>•</b> 0.1	<del>0.1</del>	<b>0</b> .1	<b>0</b> .1	<b>•</b> 0.1	<b>0</b> .1	• <u>0.1</u>	<b>0</b> .1	<b>0</b> .1	<b>0</b> .1	<b>0</b> .1	<b>•</b> 0.1	<b>•</b> 0.1	<b>•</b> 0.1
	Aeria Scale					) Til	ted (	C			SW3s L LIGHT 1 LOCA	(TYP OF			(TYP C	REE LIG DF 2 TIONS)		0.80 INC 72,000 S 57,600 THE SKY PLANE (	QUARE	FEET G NS GO	RID ARI	EA =	(20) THA OPF	-(25) (a) AN 0.35 POSITE	MEETS I REQUI FOOTC CURB C I GREEN	IREMEN ANDLES OF PUBL	T OF LE	SS			
	culation Sumi ject: Sky Plar												4							UP	LIGH	TINC	g sci	HEM	IE: FO	ООТ	CANI	DLES		IDEN	IT FRO
Lab			Grade		CalcTy Illumin				Units Fc		Av 0.		Max 17.4	Min 0.0	Avg N.A		Max/M N.A.	in		- 1	• ! !										
	ninaire Sched nbol Q 15 	ty 56	Labe SW1 PS	1 N	otal Lan .A. 8619	np Lum	1.	510 E	cosens	se L50 9					AR DOV USTOM			AZER													
	→       1         ·       18         ·       9         ·       2	3	SW3 SW6 SW7 RG1	N N	6183 .A. .A. .A.		0. 0.		igman · Gardco ·	- TA-31 - 121-3	861-T2 2L-100	-W30 - )-NW-C	33-4 - F		F SIDE JTOFF			DOWN (ET	LIGHT										UP	) <b>[]</b> (	<u>GH</u>

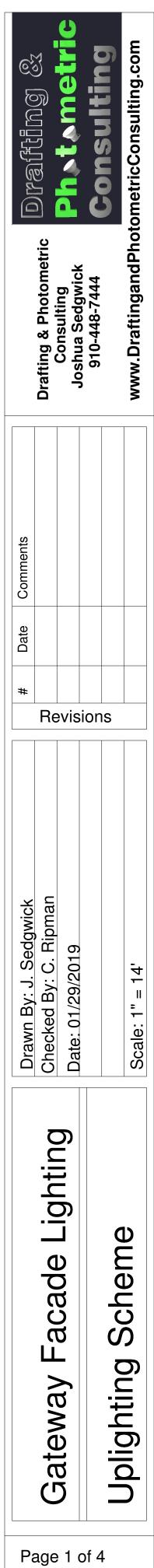
	0.1	0.1	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	•0.1	<b>•</b> 0.1	1	<b>0</b> .1	•0.1	• 0.1	•0.1	<b>0</b> .1	•0.1	•0.2	•0.2	<b>0</b> .2	<b>0</b> .2	•0.2	<b>0</b> .1	<b>•</b> 0.1	• <b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	• <b>0</b> .1	0.1	<b>0</b> .1	<b>0</b> .1	•0.1	<b>•</b> 0.1	<b>0</b> .1	•0.0	•0.0	0.0	0.0	0.0
	•0.1	<b>0</b> .1	1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.2	0.3	0.7	• <u>1</u> 6	47		73	45	56		•7 4		<b>5</b> 6		<b>•</b> 74		<u>55</u>		6.9
	•0.1	• <b>0</b> .1	1	• 0.1	• <b>0</b> .1	• 0.1	•0.1	<b>0</b> .1	•0.2	•0.2	• 0.4	<b>0</b> .5	•0.8	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	0.0	• <b>0</b> .0	•0.0	•0.0
	• <b>1</b> .6	<u>3.</u>		• <u>3.9</u>	<b>-</b> 2.8	<b>3</b> .5	<b>6</b> .8	7.6	<b>•</b> 4.9	<b>4</b> .3		8.3	8.1	<b>0</b> .0	<b>0</b> .0	•0.0	0.0	•0.0	•0.0	•0.0	<b>0</b> .0	• <b>0</b> .0	<b>0</b> .0	•0.0	•0.0	• <b>0</b> .0	<b>0</b> .0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0
	• <b>1</b> .9	•4.2	2	0.0	0.0	•0.0	<b>0</b> .0	0.0	0.0	0.0	• 0.0	0.0	0.0	•0.0	•0.0	•0.0	0.0	•0.0	•0.0	<b>0</b> .0	•0.0	• 0.0	• <u>0</u> .0	<b>0</b> .0	•0.0	0.0		0.0	• <u>0</u> .0	0.0	•0.0	• <b>0</b> .0
L LED ACKET	<b>°</b> 2.1		5	<b>0</b> .0	•0.0	• 0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	<b>0.0</b>	0.0	<del>0.0</del>	0.0	0.0	0.0	0.0	0.0	<b>0</b> .0	•0.0	•0.0
BRD EL YP OF	• <b>2</b> .2	• <b>4</b> .5	5	• 0.1	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	0.0	0.0	0.0		•0.0	•0.0	•0.0	0.0	•0.0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0	•0.0	0.0	0.0	•0.0	•0.0
ONS)	•2.7	• <b>0</b> .1	1	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	• <b>0</b> .1	• 0.2	•0.0	0.0	•0.0	<b>0</b> .0	<b>0</b> .0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	<b>0</b> .0	0.0	0.0	• <u>0</u> .0	<u>0</u> ,0	0.0
_	• <b>4</b> .6	<b>0</b> .1		<b>0</b> .0	0.0	• <b>0</b> .0	•0.0	<b>0</b> .0	• <b>0</b> .1	<b>0</b> .3	• <b>1</b> .3	• <b>4</b> .0	<b>•</b> 4.6	•2.2	0.9	0.9	24	4.1	3,1	1.0	0.2	0.1		0.0		0.0		0.0	• • •	0.0	<u>•</u> •••	0.0
MTD GHTS M	<b>°</b> 3.8	•4.	4 ·	• 0.0	0.0	•0.0	• <b>0</b> .0	0.0	0.1	0.2	<b>0</b> .6	• <b>1</b> .4	• 1.7	•1.4	1.2	1.8	•	•10.9	17.4	14.4	8.8	•10.9	16.7	14.0	8.6	10.8	16.5	13.4	7.0	• 6.2	8.4	6.6
	•2.0	4.0		• 4.7	<b>4</b> .0	<b>7</b> .1	•14.	16.2	•9.3	<b>6</b> .0	•8.3	8.6	4.7	•1.9	• <b>1</b> .0	•0.7	<b>0</b> .6	0.7	0.6	0.4	0.3	0.2	0.2	<del>-<u>0.2</u></del>	<del>0.1</del>	0.1	0.1	0.1	•0.1	<b>°</b> 0.1	•0.1	0.1
YP OF ES	<b>•</b> 0.1	• <b>0</b> .1	1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .2	•0.2	•0.3	0.3	<b>°</b> 0.3	0.3	0.3	<b>0</b> .3	<b>0</b> .3	•0.3	0.3	<b>0</b> .2	0.2	0.2	0.2	•0.2	<b>°</b> 0.2	0.1	0.1	0.1	0.1	•0.1
	• 0.1	• <b>0</b> .1	1	• 0.1	• <b>0</b> .1	<b>0</b> .1	•0.1	• 0.1	•0.1	•0.2	•0.2	•0.2	0.2	0.3	<b>0</b> .3	0.3	0.3	<b>°</b> 0.3	0.3	•0.3	0.3	• 0.2	0.2	0.2	0.2	0.2	0.2	0.2	<b>0</b> .2	<b>0</b> .1	0.1	•0.1
	•0.1	<b>•</b> 0.1	1	0.1	0.1	0.1	• 0.1	0.2	0.2	0.2	0.2	0.2	<b>0</b> .2	•0.2	• <b>0</b> .3	<b>0</b> .3	0.3	• <b>0</b> .3	0.3	• <b>0</b> .3	0.3	<b>0</b> .3	• 0.3	<b>0</b> .3	•0.2	• 0.2	• 0.2	•0.2	•0.2	• 0.2	<b>0</b> .1	•0.1
	• <b>0</b> .1	• <b>0</b> .1	1	• 0.1	• 0.1	• 0.1	•0.2	0.2	•0.2	•0.2	• 0.2	•0.2	•0.2	•0.2	0.2	•0.2	•0.2	•0.3	•0.3	•0.3	•0.2	•0.2	0.2	•0.2	•0.2	•0.2	• 0.2	•0.2	•0.2	• 0.2	•0.1	•0.1
	<b>°</b> 0.1	• <b>0</b> .1	1	<b>0</b> .1	•0.1	<b>0</b> .1	•0.1	<b>0</b> .2	•0.2	•0.2	• 0.2	•0.2	<b>0</b> .2	•0.2	<b>0</b> .2	•0.2	•0.2	• <b>0</b> .2	•0.2	•0.2	<b>0</b> .2	0.2	<b>0</b> .2	•0.2	•0.2	• <b>0</b> .2	<b>0</b> .2	•0.2	•0.2	<b>0</b> .1	<b>0</b> .1	<b>0</b> .1
	<b>•</b> 0.1	• <b>0</b> .1	1	• 0.1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	<b>0</b> .1	•0.1	•0.2	•0.2	<b>0</b> .1	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	•0.2	<b>0</b> .2	•0.2	•0.2	<b>0</b> .2	•0.2	•0.2	<b>•</b> 0.1	<b>0</b> .1	•0.1	•0.1	<b>0</b> .1	•0.1	<b>0</b> .1
	• 0.1	•0.1	1	• 0.1	•0.1	• 0.1	• <b>0</b> .1	• 0.1	• 0.1	•0.1	• 0.1	•0.1	<b>0</b> .1	• <b>0</b> .1	• 0.1	•0.2	•0.2	•0.1	• 0.1	0.1	<b>0</b> .1	0.1	<b>0</b> .1	<b>0</b> .1	• 0.1	0.1	0.1	• <b>0</b> .1	• <b>0</b> .1	• 0.1	•0.1	•0.1
	•0.1	<del>0.1</del>	1	<del>0.1</del>	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<b>0</b> .1	0.1	• <u>0.1</u>	• <u>0.1</u>	0.1	•0.1	• <u>0.1</u>	•0.1	• <u>0.1</u>	<b>0</b> .1	• <u>0.1</u>	<b>0</b> .1	<b>•</b> 0.1	<b>0</b> .1	• <u>•</u> 0.1	• <u>0.1</u>	• <u>0.1</u>	<del>0.1</del>	• <u>0.1</u>	<u>0.1</u>
	Aeria Scale						) Til	ted (	)			SW3s L LIGHT 1 LOCA	(TYP OF			(TYP C	REE LIG DF 2 TIONS)		72,000 S 57,600	SQUARE LUME Y THRO	FEET G FEET G NS GO UGH THI	RID ARI ING UP	EA =	(20)- THA OPP	(25) (a) N 0.35   OSITE	MEETS N REQUII FOOTCA CURB O GREEN	REMENT NDLES F PUBL	Γ OF LE AT	SS			
Pro Lab	culation Sur ject: Sky Pla el Plane 140'	ane		ıde		CalcTy Illumina				Units Fc		Av 0.8	<u> </u>	Max 17.4	Min 0.0	Avç N.A	-	Max/M N.A.	in		UP	LIGH	TING	5 SCF	IEM	E: FC						IT FRO DVE PI
		edule Qty 156 34 1 18 9 2		Label SW11 PS SW3s SW6 SW7 RG1	N. 28	A. 619 183 A. A.	np Lum	0. 0. 0. 0.	510 E 500 F 500 C 950 L 950 C	PS546 F Griven - Ligman -	e L50 Powers AL405 - TA-31 - 121-3	nine MK 2USWW 861-T2 2L-1000	2 S DV / -W30 - )-NW-G	V Ell - V FULL à3-4 - F	WITH C CUTOF FULL CI	USTON F SIDE		GHT GR/ VER NT CAN BRAC	DOWN	ILIGHT										JP	۲ <b>۲</b>	<u>GH</u>

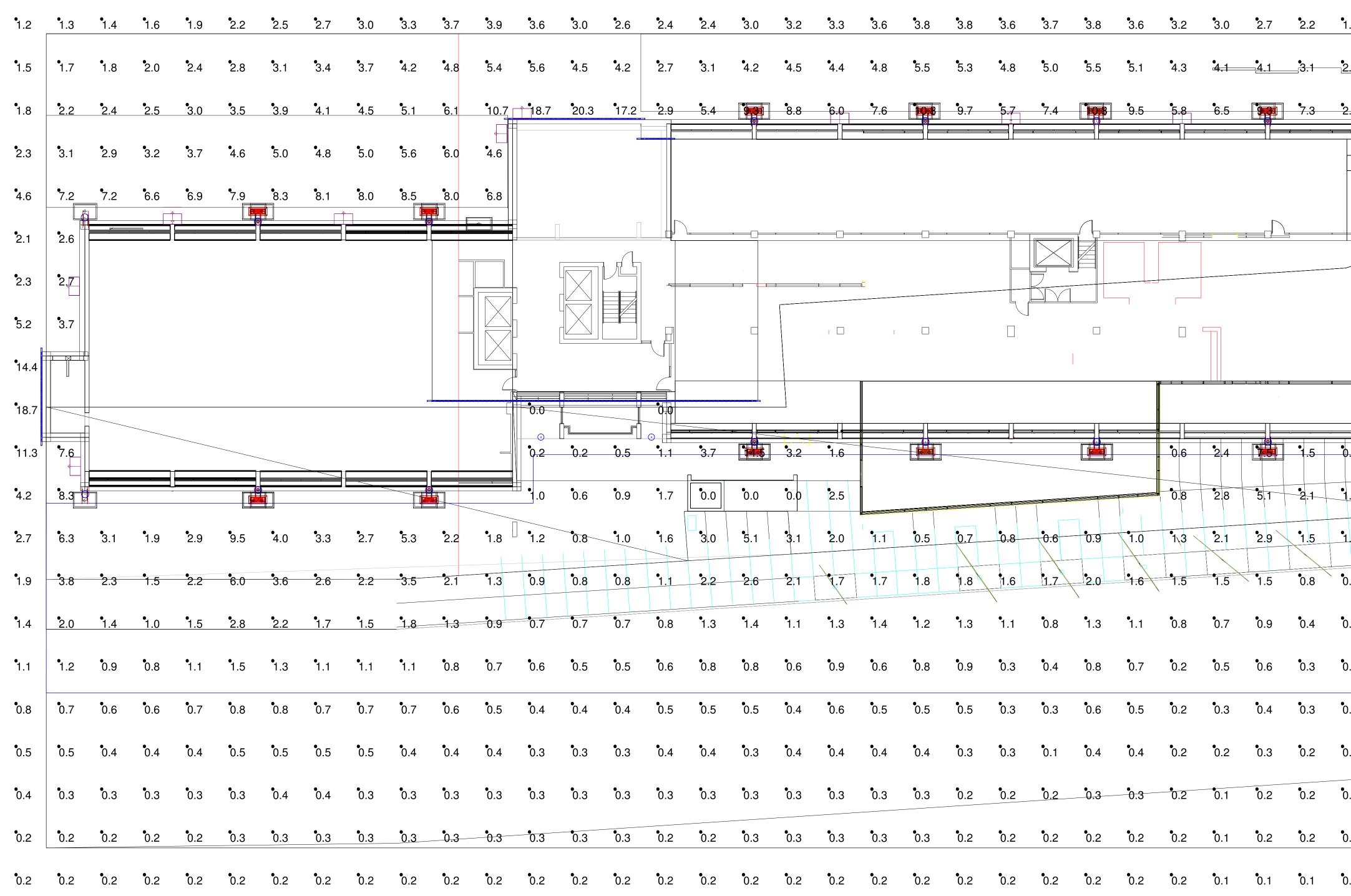
	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
	•0.1	0.1	0.1	•0.1	•0.1	•0.1	• <b>0</b> .1	•0.1	•0.2	<b>0</b> .2	•0.2	<b>0</b> .2	•0.2	•0.1	• <b>0</b> .1	•0.1	0.1	• <b>0</b> .1	•0.1	•0.1	•0.1	0.1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	•0.1	•0.0	•0.0	• <b>0</b> .0	0.0	0.0
	•0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.2	0.3	<b>0.7</b>	- <b>1</b> 6	47		73	45	56		74	45	56		74		55		6.9
	• <b>0</b> .1	•0.1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	• 0.1	•0.1	• 0.2	•0.2	•0.4	<b>•</b> 0.5	•0.8	<b>0</b> .0	•0.0	• 0.0	•O.0	•0.0	•0.0	•0.0	•0.0	• 0.0	•0.0	•0.0	•0.0	•0.0	•0.0	• 0.0	•0.0	•0.0	•0.0	<b>0</b> .0
	• <b>1</b> .6	3.5	<b>3</b> .9	<b>•</b> 2.8	<u>3.5</u>	<b>6</b> .8	7.6	<b>-4</b> .9	4.3	7.8	8.3	8.1	<b>0</b> .0	•0.0	•0.0	•Ο.Φ	•0.0	•0.0	• <b>0</b> .0	•0.0	•0.0	• 0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0
	• <b>1</b> .9	•4.2	0.0	0.0	0.0	•0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0</b> .0	•0.0	•0.0 <sub>1</sub>	0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	• 0.0	• <u>0</u> .0	•0.0	•0.0	0.0		0.0	• 0.0	0.0	•0.0	• <b>0</b> .0
.ED ACKET	<b>2</b> .1	4.5	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .0	• <b>0</b> .0	• 0.0	•0.0	• • • •	• <b>0</b> .0	0.0		• 0.0	0.0		0.0	0.0	<sup>≞</sup> •0.0	0.0	<del>0.0</del>	<u>0.0</u>	<b>P.0</b>	0.0	0.0	0.0	• <b>0</b> .0	• <b>0</b> .0	<b>0</b> .0
RD EL (P OF ONS)	<b>°</b> 2.2	4.5	• 0.1	•0.0	• <b>0</b> .0	•0.0	•0.0	•0.0	•0.0	• 0.0	•0.0	0.0	•0.0	0.0	0.0		•0.0	•0. <del>0</del>	• <b>0</b> .0	•0-0	0.0	0.0	•0.0	•0.0	•0.0	•0. <del>0</del>	• <b>0</b> .0	•0.0	0.0	•0.0	•0.0
ONS)	<b>°</b> 2.7	•0.1	•0.0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .1	• 0.2	•0.0	0.0	•0.0	•0.0	•0.0	0.0_	0.0	<u> </u>	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	<b>•</b> 4.6	•0.1	<b>0</b> .0	• <b>0</b> .0	•0.0	•0.0	• <b>0</b> .0	• <b>0</b> .1	•0.3	• <b>1</b> .3	•4.0	• <b>4</b> .6	• <u>2.2</u>	0.9	•0.9	•24	• <b>4</b> .1	3_1	•1.0	•0 <sub>1</sub> 2	0.1	••••	0.0	• <u></u> •	0.0		0.0	•	<b>0</b> .0	<b>•</b> _ρ	0.0
MTD GHTS	<b>3</b> .8	4.4	•0.0	•0.0	•0.0	• <b>0</b> .0	0.0	• 0.1	• 0.2	• <b>0</b> .6	•1.4	•1.7	•1.4	1.2	I	•	10.9		•14.4	• 8.8	10.9	<b>16.7</b>	14.0	8.6	•10.8	16.5	• 13.4	7.0	<b>6</b> .2	8.4	6.6
M MTD ID	2.0															-			<u>_</u>		-				0.1				•0.1	•0.1	•0.1
L /P OF S							•0.1																						0.1	• <u>0.1</u>	•0.1
																									0.2		P				
																								× ·	• 0.2						
																									•0.2						
																									• <u>0.2</u>						
	• <b>0</b> .1	•0.1	•0.1	• <b>0</b> .1	•0.1	• 0.1	<b>•</b> 0.1	• <b>0</b> .1	• 0.2	• 0.2	<b>•</b> 0.1	<b>0</b> .2	•0.2	•0.2	•0.2	•0.2	• <b>0</b> .2	•0.2	• 0.2	•0.2	• <b>0</b> .2	• 0.2	•0.2	•0.2	<b>•</b> 0.1	• <b>0</b> .1	•0.1	• 0.1	<b>•</b> 0.1	• <b>0</b> .1	<b>°</b> 0.1
	• <b>0</b> .1	•0.1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	<b>0</b> .1	• 0.1	• <b>0</b> .1	•0.2	•0.2	<b>•</b> 0.1	• <b>0</b> .1	• 0.1	<b>0</b> .1	<b>0</b> .1	0.1	• 0.1	0.1	0.1	0.1	• 0.1	<b>0</b> .1	• 0.1	<b>0</b> .1	<b>•</b> 0.1
	• <b>0</b> .1	0.1	<del>.</del> 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	<b>0</b> .1	<b>0</b> .1	• <u>0.1</u>	• <u>0.1</u>	• <u>0.1</u>	• <u>0.1</u>	• <u>0.1</u>	<b>0</b> .1	• <u>0.1</u>	<b>•</b> 0.1	<b>•</b> 0.1	• <u>0.1</u>	<del>0.1</del>	0.1	<u>0.1</u>	<b>•</b> 0.1	<b>0</b> .1	<del>0.1</del>	<b>0</b> .1	<u>•0.1</u>
	Aeria Scale					) Til <sup>-</sup>	ted (	)			SW3s L LIGHT 1 LOCA	TYP OF	]		(TYP C	REE LIG DF 2 TIONS)		0.80 INC 72,000 S 57,600 THE SKY PLANE C	QUARE LUME	FEET G E <mark>NS</mark> GO	RID ARE ING UP	EA =	(20)- THA OPP	(25) (a) N 0.35 OSITE	MEETS N REQUII FOOTCA CURB O GREEN	REMEN NDLES F PUBL	T OF LE AT	SS			
Pro La	alculation Sum oject: Sky Pla bel y Plane 140' /	ne	Grade		CalcTy Illumina				Units Fc		Av 0.8	<u> </u>	Max 17.4	Min 0.0	Avç N.A		Max/M N.A.	in		UP	LIGH	TING	i SCł	HEM	E: FC						NT FRO DVE PI
	1 → 3 → 1	2ty 56 34 8	Labe SW1 PS SW3 SW6 SW7 RG1	1 N. 28 s 16 N.	A. 3619 5183 A. A.	ים ר ישר ביינייי	0.8 0.8 0.9 0.9	510 E 500 P 500 G 950 L 950 G	S546 P iriven - igman - iardco -	e L50 9 owerst AL4052 - TA-31 - 121-32	nine MK 2USWW 861-T2	2 S DW / ·W30 - ·NW-G	/ Ell - \ FULL ( i3-4 - F	FULL CI	USTON F SIDE	/ LOU\ MOUN	/ER T CAN	DOWNI	LIGHT										JP	) <b>[]</b> (	<u>GH</u>

# HTING SCHEME

ROM BELOW ON "SKY" PLANE PENTHOUSE)







## Site:Plan Rotated 0 Tilted 0 Scale: 1 inch= 14 Ft.

Calculation Summary							
Project: Ground Plane							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Ground Plane	Illuminance	Fc	1.94	20.3	0.0	N.Ă.	N.A.

UPLIGHTING SCHEME: INCIDENT ILLUMINATION (HORIZONTAL FOOTCANDLES) AT GRADE

# <u>UPLIGHTIN</u>

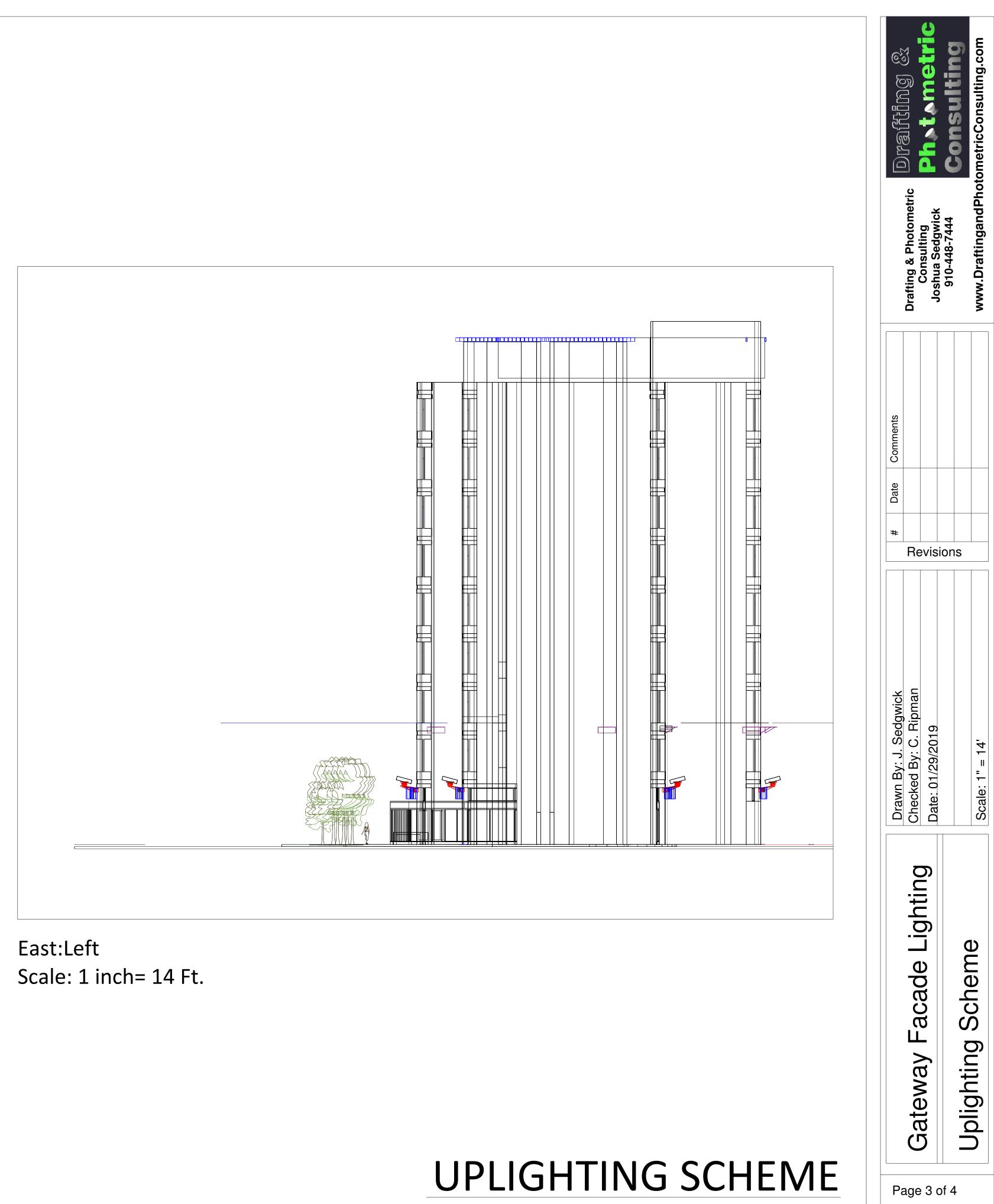
IG	<u>SCHEME</u>	

	Drawn By: J. Sedgwick	# Date Comments	DRSffran 23	
nothing I abanda Verma	Checked By: C. Ripman	Re	metric	
	Date: 01/29/2019	evisi	Joshua Sedgwick	
		on	910-448-7444	
		S		
	Scale: 1" = 14'		www.DraftingandPhotometricConsulting.com	

1.5	• <b>1</b> .0	<b>0</b> .6	0.4	•0.3
2.0	_ <b>1</b> .3	<b>0</b> .9	<b>0</b> .5	•0.3
2.5	• <u>1.0</u>	<b>0</b> .8	<b>•</b> 0.4	•0.2
	<b>•</b> 0.1	<b>0</b> .2	<b>•</b> 0.1	• 0.1
	0.6	•0.4	•0.2	•0.2
	3.2	2.2	•0.4	•0.2
		•6.9	•0.7	<b>0</b> .3
		<b>8</b> .2	•0.7	<b>0</b> .3
	•3.3	<b>3</b> .9	<b>•</b> 0.5	•0.2
	1.3	•0.8	•0.3	•0.2
<b>0</b> .7	•0.6	•0.4	<b>•</b> 0.3	0.2
1.3	0.7	<b>°</b> 0.4	•0.3	•0.2
1.0	• <b>0</b> .5	•0.3	•0.2	• <b>0</b> .1
0.6	•0.4	0.3	•0.2	<b>•</b> 0.1
0.3	•0.3	•0.2	•0.1	<b>0</b> .1
0.1	•0.2	•0.2	•0.1	<b>•</b> 0.1
0.1	•0.1	•0.1	•0.1	•0.1
0.1	•0.1	• <b>0</b> .1	•0.1	• <b>0</b> .1
0.1	• <b>0</b> .1	• <b>0</b> .1	•0.1	• 0.1
0.1	<b>•</b> 0.1	• <b>0</b> .1	<b>•</b> 0.1	• 0.1
0.1	<b>•</b> 0.1	<b>•</b> 0.1	<b>•</b> 0.1	• 0.1

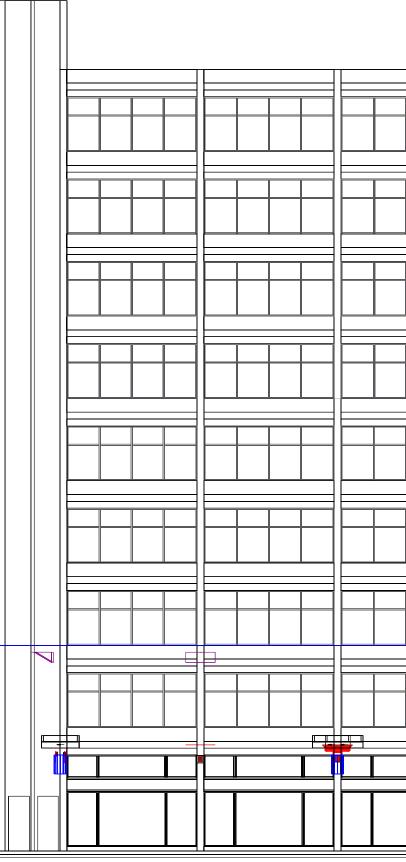


West:Right Scale: 1 inch= 14 Ft.





North:Elevation Rotated-180 Tilted 90  $\[$ Scale: 1 inch= 14 Ft.



South:Elevation Rotated 0 Tilted 90 Scale: 1 inch= 14 Ft.

# UPLIGI

, <b> </b>		

	Drafting & Photometric Consulting Joshua Sedgwick 910-448-7444 Www.DraftingandPhotometricConsulting.com	
	a   Date   Comments   #   Date   #   Revisions	
	Drawn By: J. Sedgwick Checked By: C. Ripman Date: 01/29/2019 Scale: 1" = 14'	
	Gateway Facade Lighting Uplighting Scheme	
IGHTING SCHEME	Page 4 of 4	

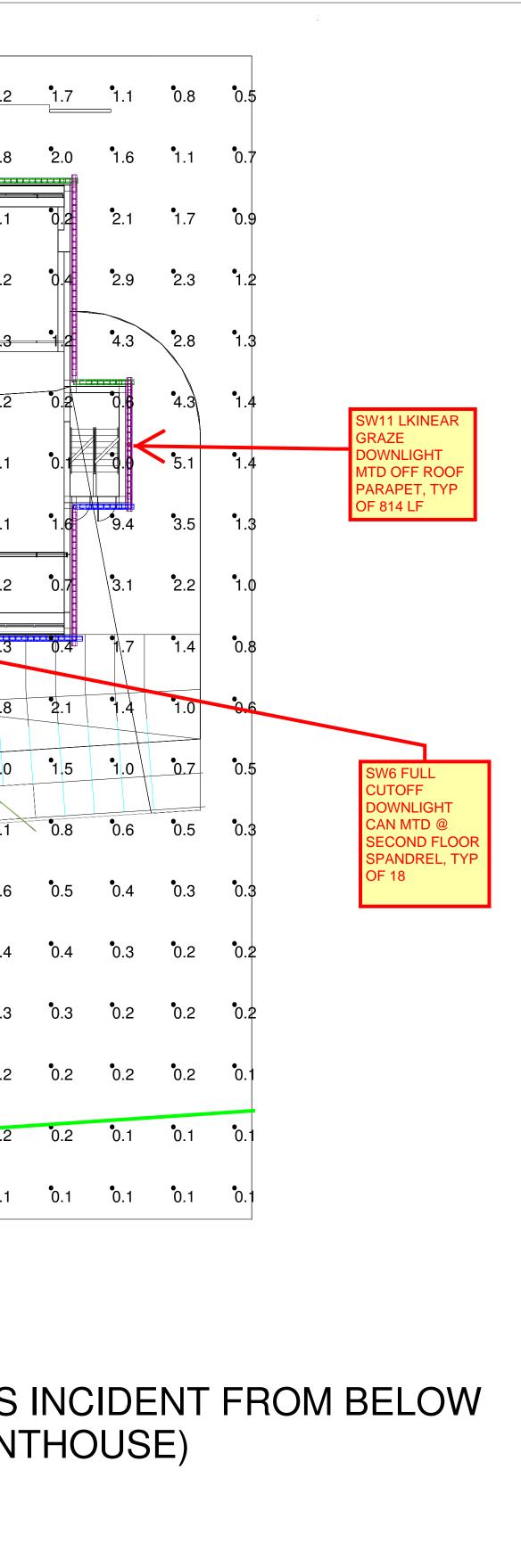
	•0.4	• <b>0</b>	5	<b>0</b> .7	•0.8	•0.8	•0.8	<b>0</b> .9	•0.8	•0.8	•0.8	•0.7	•0.5	•0.3	<b>0</b> .5	•1.1	•1.8	<b>•</b> 2.3	<b>2</b> .5	•2.6	•2.6	•2.7	•2.6	•2.7	<b>2</b> .6	•2.7	<b>•</b> 2.6	•2.6	2.6	2.5	2.2
	<b>°</b> 0.7	•0.	9	•1.1	• <b>1</b> .3	•1.3	• <b>1</b> .4	• <b>1</b> .4	• <b>1</b> .4	• <b>1</b> .4	•1.3	•1.2	0.6	<b>•</b> 0.6	<b>•</b> 0.7	<b>1</b> .2	<b>•</b> 2.4	•2.9	<b>•</b> 3.1	<b>°</b> 3.1	<b>°</b> 3.1	<b>°</b> 3.1	<b>°</b> 3.1	<b>°</b> 3.1	<b>•</b> 3.1	<b>°</b> 3.1	<b>°</b> 3.1	<b>•</b> 3.1	<b>•</b> 3.1	<b>•</b> 3.1	<b>°</b> 2.8
	•1.0	• <b>1</b> .:	5	•2.0	•2.2	<b>2</b> .3	•2.3	•2.4	•2.4	•2.4	<b>2</b> .3	•2.3	<b>0</b> .0	•0.0	•0.0	0.4	0.0	0.0	0.0	0.0	0.1	• • 0.1	0.1	0.1	0.1	• 0.1	0.1	0.1	0.1	0.1	0.1
	<b>•</b> 1.5	• <b>2</b> .	0	<b>2</b> .6	<b>•</b> 2.8	<b>•</b> 2.9	•2.9	•2.9	• <b>3</b> .0	<b>•</b> 3.1	<b>•</b> 3.1	•4.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	• 0.1	•0.1	• 0.1	• <b>0</b> .1	• 0.1	• 0.1	•0.1	•0.2
	• <b>1</b> .6	0.	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.0	0.0	• <b>0</b> .0	0.0	<b>0.0</b>	0. <u>0</u>	<b>0</b> .1	01	• <u>•</u> 0.1	01	<b>0</b> .1	<b>0</b> [1	0.1		<del>0</del> .1	- <b>0</b> 1	<b>0</b> .1		<b>0.3</b>
SW7 FULL	2.6		3	•0.2	•0.1	• <b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	•0.0	0.0	•0.0	0.0		•0.0	<b>0</b> .0	<b>0</b> .0	0.1	0.1	•0.1	<b>•</b> 0.1	<b>0</b> .1	•0.1	0.1	0.1	<b>0</b> .1	0.1	<del>0</del> .1	<u>•</u> 0.1	0.2
CUTOFF LED WALL BRACKET MTD AT 3RD FLOOR	3.8	•0.1	9	•0.2	• 0.1	•0.1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	• <b>0</b> .1	•0.0	0.0	•0.0	0.0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0	<b>0</b> .0	•0.0	0.0	•0.1	• <b>0</b> .1	•0.1	0.1	<b>0</b> .1	<b>0</b> .1
SPANDREL LEVEL (TYP OF 9 LOCATIONS)	2.9	• <b>0</b> .1	3	• <b>0</b> .1	• <b>0</b> .1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	•0.0	0.0	•0.0	• <b>0</b> .0	•0.0	0.0	•0.0	•0.0	<b>0</b> .0	•0.0	•0.0	• <b>0</b> .0	• <b>0</b> .0	•0.0	• <b>0</b> .0	•0.0	• <b>0</b> .0	•0.0	•0.0	• <b>0</b> .1	<b>0</b> .1
	0.1	0.	1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	ر 0.0	0.3	0.6	0.4		0.1	0.1	0.1	•0.1	•0.0	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	•0.0	<b>0</b> .0	•0.0	•0.1	•0.2
	7.1	•0.	6	• <b>0</b> .1	0.0	0.0	• <b>0</b> .1	• 0.1	<b>0</b> .1	• 0.1	•0.2	•0.7_	<b>2</b> .9	•4.3	• <b>3</b> .8	2.3	0.9	0.6	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
	•2.5		8	0.2	0.1		0.1		0.1	0.2	0.4	• <u>0.8</u>	<b>2</b> .4	<b>•</b> 3.5	•3.2	<b>3</b> .0	3.2	• <b>3</b> .3	• <b>3.3</b>	<b>3</b> .2	<b>3</b> .2	<b>3</b> .2	• <b>3</b> .2	<b>3</b> .2	• <b>3</b> .2	<b>3</b> .2	3,1	3.1	<b>9</b> 3.1	• <u>3</u> .0	2.8
	<b>1</b> .5	• <b>2</b> .:	2	•2.8	•2.9	<b>2</b> .9	• <b>3</b> .0	• <b>3</b> .0	• <b>3</b> .0	• <b>3</b> .0	•3.1	• <b>2</b> .8	2.4	<b>•</b> 2.3	2.1	• <b>2</b> .1	2.3	• <b>2</b> .4	• <b>2</b> .4	• <b>2</b> .4	• <u>2</u> .4	2.4	2.4	2.4	•2.4	• <u>2.4</u>			2.3	2.2 \	<b>°</b> 2.0
	<u>•</u> 1.0	• <b>1</b> .	5	• <b>2</b> .0	2.2	<b>2</b> .3	• <b>2</b> .3	• <b>2</b> .4	• 2.4	2.4	• <u>2.3</u>	• <u>2.0</u>	• 1.7	•1.5	•1.4	•1.3	•1.4	•1.4	•1.4	•1.4	•1.4	•1.4	•1.4	1.4	1.4	•1.4	•1.4	•1.4	•1.3	1.2	1.1
	<b>°</b> 0.7	• <b>0</b> .1	9	•1.2	• <b>1</b> .3	• <b>1</b> .4	• <b>1</b> .4	• <b>1</b> .5	• <b>1</b> .5	• <b>1</b> .4	• <b>1</b> .4	• <u>1.2</u>	•	•1.0	0.9	0.9	<b>0</b> .9	<b>°</b> 0.9	<b>•</b> 0.9	•0.9	<b>0</b> .9	<b>0</b> .9	<b>0</b> .9	<b>0</b> .9	•0.9	<b>0</b> .9	<b>°</b> 0.9	•0.8	<b>•</b> 0.8	•0.7	<b>0</b> .6
	<b>°</b> 0.5	• <b>0</b> .	6	<b>0</b> .7	• 0.8	•0.8	•0.9	•0.9	<b>0</b> .9	•0.9	•0.8	•0.8	•0.7	•0.7	•0.7	<b>•</b> 0.7	•0.6	•0.7	•0.6	•0.6	<b>0</b> .6	<b>0</b> .6	•0.6	•0.6	<b>0</b> .6	<b>•</b> 0.6	•0.6	•0.6	<b>•</b> 0.5	•0.5	•0.4
	•0.3	• <b>0</b>	4	<b>0</b> .5	<b>0</b> .5	<b>0</b> .6	•0.6	•0.6	•0.6	•0.6	•0.6	•0.5	•0.5	•0.5	<b>0</b> .5	<b>0</b> .5	<b>0</b> .5	<b>0</b> .5	• <b>0</b> .5	•0.5	<b>0</b> .5	<b>0</b> .5	<b>0</b> .5	• 0.4	<b>0</b> .5	• 0.4	•0.4	•0.4	•0.4	•0.3	•0.3
	•0.3	• <b>0</b> .1	3	<b>0</b> .3	• 0.4	• 0.4	•0.4	•0.4	•0.4	• <b>0</b> .4	• 0.4	• 0.4	• 0.4	• 0.4	• <b>0</b> .4	• <b>0</b> .4	• <b>0</b> .4	• <b>0</b> .4	•0.4	• <b>0</b> .4	• 0.4	• <b>0</b> .4	• <b>0</b> .4	• 0.3	• 0.3	• 0.3	<b>•</b> 0.3	<b>0</b> .3	<b>0</b> .3	•0.3	•0.2
	<b>°</b> 0.2	• 0.:	2	•0.2	•0.3	• 0.3	•0.3	•0.3	•0.3	• 0.3	<b>0</b> .3	•0.3	•0.3	•0.3	•0.3	•0.3	•0.3	• 0.3	•0.3	• <b>0</b> .3	• 0.3	<b>0</b> .3	• <b>0</b> .3	<b>0</b> .3	• 0.3	<b>0</b> .3	•0.2	02	0.2	• 0.2	0.2
	•0.2	• <b>0</b> .:	2	•0.2	•0.2	• 0.2	•0.2	•0.2	• 0.2	•0.2	<b>0</b> .2	<b>0</b> .2	02	<u>0.2</u>	• 0.2	0.2	0.2	<b>0</b> .2	•0.2	•0.2	• 0.2	• 0.2	•0.2	• 0.2	0.2	0.2	•0.2	•0.2	•0.2	•0.2	<b>0</b> .1
											SW3s S				RG1 T	REE LIG	нт 0.	.90 INCII	DENT FO	DOTCAN	IDLES x		LIGI		MEETS	NEWTO		1G			
	Aerial:F					0 Ti	lted	0			LIGHT LOCATI	N	F 1		(TYP C LOCA	OF 2 TIONS)	6	4,800	QUARE F LUMEI THROU	<b>NS</b> GOI	NG UP I		(20) THA	-(25) (a) N 0.35	REQU FOOTC	IREMEN	IT OF LE	ESS			
	Scale: 1	inc	h=	14	Ft.													LANE G	RID	_			(SH	OWN IN	GREEN	V)					
Project: S Label	on Summary Sky Plane			C	alcTyp	е			Jnits		Ανα		Max	Min			Max/Mir														.ES ENT
Sky Plan	e 140' Above	Grade			uminar	nce		F	c		0.9	0	9.4	0.0	N.A	.   ſ	N.A.			UI.	X I						(10				
Luminair	e Schedule																														
Symbol	Qty 1	Lab			Total		umens	LLF		cription	4052115										_										

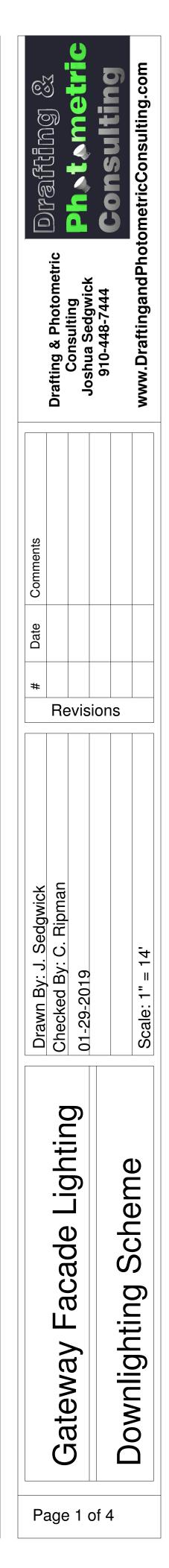
•0.4	<b>0</b> .5	•0.7	•0.8	•0.8	•0.8	0.9	•0.8	•0.8	0.8	•0.7	<b>0</b> .5	0.3	0.5	•1.1	•1.8	<b>2</b> .3	<b>2</b> .5	<b>•</b> 2.6	•2.6	•2.7	<b>•</b> 2.6	•2.7	<b>2</b> .6	<b>•</b> 2.7	<b>•</b> 2.6	<b>•</b> 2.6	2.6	2.5	2.2
<b>0</b> .7	•0.9	•1.1	•1.3	•1.3	• <b>1</b> .4	• <b>1</b> .4	• <b>1</b> .4	• <b>1</b> .4	•1.3	•1.2	0.6	0.6	<b>0</b> .7	•1.2	<b>•</b> 2.4	<b>•</b> 2.9	<b>3</b> .1	<b>3</b> .1	<b>•</b> 3.1	• <b>3</b> .1	<b>3</b> .1	<b>3</b> .1	<b>•</b> 3.1	• <b>3</b> .1	<b>•</b> 3.1	<b>•</b> 3.1	<b>°</b> 3.1	<b>3</b> .1	<b>2</b> .8
• <b>1</b> .0	• <b>1</b> .5	•2.0	•2.2	•2.3	<b>•</b> 2.3	•2.4	•2.4	•2.4	<b>2</b> .3	•2.3	<b>0</b> .0	•0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.1	• 0.1	0.1	0.1	0.1	• 0.1	0.1	•0.1	0.1	0.1	0.1
• <b>1</b> .5	•2.0	•2.6	•2.8	•2.9	•2.9	•2.9	• <b>3</b> .0	<b>•</b> 3.1	<b>°</b> 3.1	•4.0	<b>0</b> .0	•0.0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0	• <b>0</b> .1	<b>•</b> 0.1	<b>•</b> 0.1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	•0.2
<b>1</b> .6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0:1	0.1	0.3	0.0	• <b>0</b> .0	•0.0	0.0	<b>0.0</b>		<u>•</u> 0.1	0.1	• <u>0.1</u>	0.1	• <u>•</u> 0.1	• <b>•</b> 0.1	<b>•</b> 0.1		0.1		<b>0.1</b>	•0.1	<b>0.3</b>
<b>2</b> .6-	<b>0</b> .3	•0.2	<b>•</b> 0.1	<b>•</b> 0.1	<b>•</b> 0.1	• <b>0</b> .1	<b>0</b> .1	• <b>0</b> .1	•0.0	<b>°</b> 0.0	• <b>0</b> .0	0.0	0.0	•0. <u>0</u>	<b>0</b> .0	0.0	0.1	0.1	<b>0</b> .1	<b>•</b> 0.1	• <b>0</b> .1	•0.1	0.1	0.1	<b>0</b> .1	0.1	<mark>0.1</mark>	<u>•</u> 0.1	0.2
<b>3</b> .8	<b>0</b> .9	• 0.2	• 0.1	• <b>0</b> .1	•0.1	• 0.1	• <b>0</b> .1	• <b>0</b> .1	•0.0	0.0	0.0		•0.0	<b>0</b> .0	•0.0	•0.0	•0.0	•0.0	•0.0	•0.0	• <b>0</b> .0	•0.0	0.0	•0.1	• 0.1	•0.1	0.1	• 0.1	• 0.1
2.9	•0.3	• <b>0</b> .1	• <b>0</b> .1	•0.1	• <b>0</b> .1	•0.1	• <b>0</b> .1	• <b>0</b> .1	•0.0	•0.0	0.0	•0.0	•0.0	0.0	•0.0	• <b>0</b> .0	0.0	•0.0	•0.0	•0.0	•0.0	•0.0	0.0	•0.0	• <b>0</b> .0	•0.0	0.0	• <b>0</b> .1	• <b>0</b> .1
• 0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.3	0.6	0.4		0.1	0.1	0.1	• 0.1	• 0.0	• 0.0	• 0.0	•0.0	•0.0	•0.0	•0.0	<b>0</b> .0	•0.0	<b>0</b> .1	• 0.2
7.1	•0.6	•0.1	• 0.0	0.0	• <b>0</b> .1	• <b>0</b> .1	<b>0</b> .1	• 0.1	•0.2	•0.7	• <u>•</u> 2.9	•4.3	• <b>3</b> .8		0.9	0.6	0.4	0.4	-0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
•2.5	0.8	0.2	0.1	0.1	0.1		0.1		0.4	0.8	<b>•</b> 2.4	<b>.</b> 3.5	-	3.0	п	• <b>3</b> .3	П	3.2		• <b>3</b> .2	<b>3</b> .2	• <b>3</b> .2		• <b>3</b> .2		3.1			2.8
•1.5	• <u>2.2</u>	• <b>2</b> .8	• <b>2</b> .9	•2.9	• <b>3</b> .0	• <b>3</b> .0	• <b>3</b> .0	• <b>3</b> .0	•3.1	• <b>2</b> .8	2.4	2.3	•2.1	<b>2</b> .1	2.3	•2.4	•2.4	•2.4	2.4	2.4	2.4	2.4	2.4	2.4			2.3	• <u>2.2</u>	2.0
									• <u>2.3</u>										•1.4	•1.4	1.4	1.4					1.3		1.1
									• <b>1</b> .4									•0.9	•0.9	0.9	0.9	0.9		0.9	• <b>0</b> .9	$\mathbf{i}$	0.8		
					0.9																						•0.5		
																											•0.4		
0.3	•0. <del>4</del>				•0.0				0.0 0.4																		0. <del>4</del>		0.0 0.2
		•	•		•	•											•	•	•	•	•	•	•	•	•	•	0.3	0.3	0.2
0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	02	0.2	0.2	•
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	02	<u>0.2</u>	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
al:Pl e: 1 i				) Til	lted	0			SW3s S LIGHT LOCATI	TYP OF	1		RG1 T (TYP C LOCAT		72 6 TI	2,000 SC 4, <mark>800</mark> I	DENT FO QUARE F LUMEN THROUG RID	EET GR	ID ARE	A =	(20)- THA OPP	·(25) (a) N 0.35	REQU FOOTC CURB (	REMEN ANDLES OF PUBI	N ZONIN IT OF LE 3 AT LIC WAY	SS			
imary ne											$\leftarrow$						DO	WN	LIG	ΗТΙ	NG	SC	HE	ME:	FO	OT		IDL	ES
Above Gr	rado		alcTyp Iuminar				Jnits <sup>-</sup> c		Avg 0.9	· · · · · · · · · · · · · · · · · · ·	lax 1	Min 0.0	Avg/		/lax/Mir J.A.	1	ON	"Sk	(Y'')	PI A	NF	14	ר' A	FG	(10)		SOV	FΡ	ENT

hedule				
Qty	Label	Total Lamp Lumens	LLF	Description
1	SW3s	16183	0.500	Griven - AL4052USWW
18	SW6	N.A.	0.950	Ligman - TA-31861-T2-W30 - FULL (
9	SW7	N.A.	0.950	Gardco - 121-32L-1000-NW-G3-4 - F
314	SW11-D	N.A.	1.510	Ecosense L50 9x9 Grazer w/ Louver
93	SW11-L	N.A.	1.510	Ecosense L50 9x9 Grazer w/ Louver
92	SW11-R	N.A.	1.510	Ecosense L50 9x9 Grazer w/ Louver
315	SW11-U	N.A.	1.510	Ecosense L50 9x9 Grazer w/ Louver
2	RG1	N.A.	0.950	Kim 'Lightvault' - LTV83FF-NF-12L3
	Qty 1 18 9 314 93 92 315	QtyLabel1SW3s18SW69SW7314SW11-D93SW11-L92SW11-R315SW11-U	Qty         Label         Total Lamp Lumens           1         SW3s         16183           18         SW6         N.A.           9         SW7         N.A.           314         SW11-D         N.A.           93         SW11-L         N.A.           92         SW11-R         N.A.           315         SW11-U         N.A.	QtyLabelTotal Lamp LumensLLF1SW3s161830.50018SW6N.A.0.9509SW7N.A.0.950314SW11-DN.A.1.51093SW11-LN.A.1.51092SW11-RN.A.1.510315SW11-UN.A.1.510

. CUTOFF SIDEMOUNT CAN DOWNLIGHT
FULL CUTOFF BRACKET
er - LINEAR DOWNLIGHT GRAZER
3K

# **DOWNLIGHTING SCHEME**





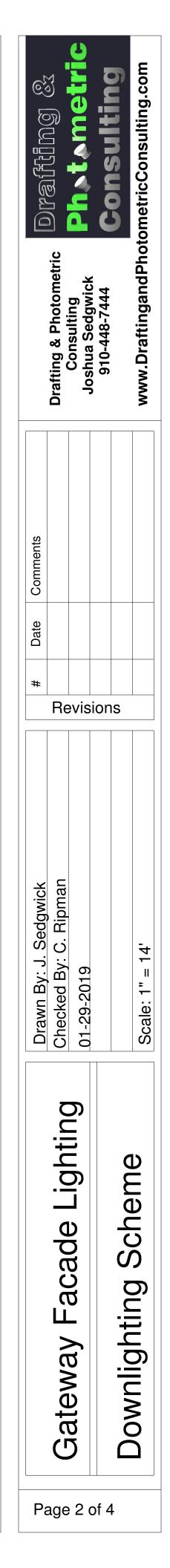
•1.3	• <b>1</b> .2	• <b>1</b> .2	• <b>1</b> .4	• <b>1</b> .6	• <b>1</b> .8	• <b>2</b> .0	•2.2	<b>2</b> .5	<b>•</b> 2.7	• <b>3</b> .0	<b>°</b> 3.1	• <b>2</b> .7	•2.2	•2.0	• <b>1</b> .9	• <b>1</b> .9	• <b>2</b> .0	• <b>2</b> .2	• <b>2</b> .4	• <b>2</b> .6	• <b>2</b> .6	•2.7	•2.7	<b>°</b> 2.7	• <b>2</b> .6	<b>°</b> 2.5	•2.3	•2.0	• <b>1</b> .7	• <b>1</b> .3	• <b>1</b> .1	• <b>0</b> .8	<b>0</b> .6	<b>0</b> .5	•0.4
•1.4	• <b>1</b> .5	• <b>1</b> .5	• <b>1</b> .7	• <b>1</b> .9	•2.2	•2.5	• <b>2</b> .7	<b>•</b> 3.0	• <b>3</b> .4	• <b>3</b> .7	• <b>4</b> .0	• <b>3</b> .5	• <b>2</b> .7	• <b>2</b> .3	• <b>1</b> .9	•2.2	• <b>2</b> .6	•2.8	• <b>3</b> .0	•3.2	<b>•</b> 3.5	• <b>3</b> .4	• <b>3</b> .2	• <b>3</b> .3	<b>•</b> 3.5	• <b>3</b> .2	• <b>2</b> .8	• <b>2</b> .5	• <b>2</b> .2	• <b>1</b> .7	•1.2	•0.9	•0.7	•0.6	• 0.4
• <b>1</b> .6	• <b>1</b> .9	• <b>1</b> .7	• <b>2</b> .0	<b>2</b> .3	• <b>2</b> .7	• <b>3</b> .0	• <b>3</b> .3	<b>°</b> 3.6	• <b>4</b> .1	• <b>4</b> .6	• <b>4</b> .9	• <b>4</b> .2	• <b>2</b> .9	<b>2</b> .5	• <b>3</b> .1	• <b>4</b> .1	• <b>5</b> .1	• <b>5</b> .6	•6.0	• 6.3	•6.5	•6.3	• <b>6</b> .4	•6.3	• <b>6</b> .4	•6.0	• <b>5</b> .7	• <b>5</b> .3	 4.8		• <u>2</u> .7	 •1.5	<b>0</b> .9	<b>0</b> .6	<b>0</b> .3
• <b>2</b> .0	•2.5	•2.2	• <b>2</b> 5	• <b>2</b> 8	•3.2	•3 5	•3 7	• <b>4</b> .0	<b>4</b> 5	• <b>5</b> .0	•5 5	<u></u>																				•0.2	<b>•</b> 0.4	•04	• 0.3
	-										•1.0																[]							•	
<b>3</b> .2	4.4	4.0	4.2	4.3	•5.1	•5.3	4.9	• <b>5</b> .0	5.7	5.7	4.6																					•0.2	0.2	0.2	0.2
4.2	7.0	6,3	5.3	5.8	8.5	8,9	6.6	6,6	8,7	8.4	5.8												••••••••••••••••••••••••••••••••••••••									-02	0.2	0.2	0.2
•1.9	•2.4																	1	<del>1</del>	Ô												<b>2</b>	0,2	0.2	• 0.2
• <b>1</b> .9	•2.4																																0.2	0.2	•0.2
• <b>1</b> .7	2.0																			I													<b>0</b> .2	0.2	•0.2
<b>1</b> .2														<u>-</u>															<del>!]_<b>                   </b>                    </del>			•0.1	<b>•</b> 0.2	0.2	• <b>0</b> .1
<b>1</b> .8												°0_0			· •	<b></b>	<b></b> 0							-			<b>0</b> .0	0.0	<b>0</b> .0	0.0		0.1	<b>•</b> 0.1	•0.1	<b>0</b> .1
• <b>2</b> .3	• 6. <del>8</del>						-					<b>0</b> .2	•0.2	• 0.3	0.5 <sub>[</sub>	<u>1.9</u>	• <u>1.0</u>	<b>Ф</b> .6	<b>0</b> .5								0.2	•1.6	4.1	0.5	0.3	0.2	0.2	0.2	• 0.1
<b>2</b> .8	<b>•</b> 7.1	•0.9	0.5	• <u>1.2</u>	•0.7	• <b>0</b> .6	•0.7	• 0.8	• <b>4</b> .7	•1.0	0.7	0.8	• <b>0</b> .7	• 0.5	0.5	0.0	0.0	0.0	0.3		#	<b></b>	•0.0	0.1	0.2	0.3	•0.3	•1.1	•1.7	0.3	0.2	0.2	0.2	0.2	• 0.1
•2.0	• <b>4</b> .3		• 0.4		• 4.9	<b>0</b> .9	<b>0</b> .5			0.6							•1.4	0.4	0.3	0.3	<b>0</b> .2	0.2	<b>0</b> .2		•0.2	0.3	0.2	0.8	•0.7			0.2	•0.2	•0.2	•0.2
•1.4								_			•																			0.2	0.2	•0.2		•	-
1.4			0.3		2.1		0.4	0.5	-1.2		0.3								0.3							0.1			0.4				0.2	0.2	0.2
1.1	<b>1</b> .2	0.7	0.3	0.6	<b>•</b> 1.0	0.5	0.3	0.5	0.6	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.2
<b>0</b> .8	•0.8	•0.5	0.3	0.5	•0.5	•0.3	•0.3	•0.4	<b>0</b> .4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.3	<b>0</b> .3	0.3	0.3	•0.3	•0.3	•0.3	•0.3	•0.3	•0.3	•0.2	•0.2	0.2	0.2	•0.2
<b>0</b> .6	<b>0</b> .5	•0.4	<b>0</b> .3	•0.4	•0.3	•0.3	•0.3	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.4	•0.3	•0.3	•0.3	•0.3	•0.3	•0.3	•0.3	•0.2	•0.2	0.3	0.2	•0.2
<b>0</b> .5	<b>0</b> .4	<b>0</b> .3	<b>0</b> .4	0.3	<b>0</b> .4	<b>0</b> .4	<b>•</b> 0.4	<b>•</b> 0.4	•0.4	•0.4	• <b>0</b> .4	<b>•</b> 0.4	<b>•</b> 0.4	<b>0</b> .4	•0.4	<b>0</b> .4	<b>0</b> .3	<b>0</b> .3	•0.3	<b>0</b> .3	<b>0</b> .3	0.3	•0.3	<b>0</b> .3	•0.2	<b>0</b> .2	0.2	0.5	•0 <sub>.</sub> 3	•0.2					
<b>0</b> .5	•0.3	<b>0</b> .3	• <b>0</b> .3	•0.3	<b>0</b> .3	•0.3	•0.3	•0.3	•0.3	<b>0</b> .3	•0.4	•0.4	• <b>0</b> .4	•0.4	• 0.4	• 0.4	<b>0</b> .4	• <u>0.4</u>	• 0.4	• 0.4	0.3	<b>0</b> .3	•0.3	•0.3	<b>0</b> .3	• 0.3	•0.3	• 0.3	• 0.3	•0.3	•0.2	•0.2	<b>•</b> 0.5	•0.3	•0.2
<b>0</b> .6	0.3	0.2	0.3	<b>0</b> .3	0.3	<b>•</b> 0.3	0.3	<b>0</b> .3	<b>0</b> .3	0.3	0.3	•0.3	•0.4	•0.3	•0.4	<b>•</b> 0.3	•0.4	<b>•</b> 0.3	<b>•</b> 0.4	•0.3	<b>0</b> .3	0.3	<b>0</b> .3	<b>0</b> .3	<b>0</b> .3	•0.3	•0.3	•0.3	•0.2	•0.2	<b>0</b> .2	•0.2	•0.4	•0.3	•0.2

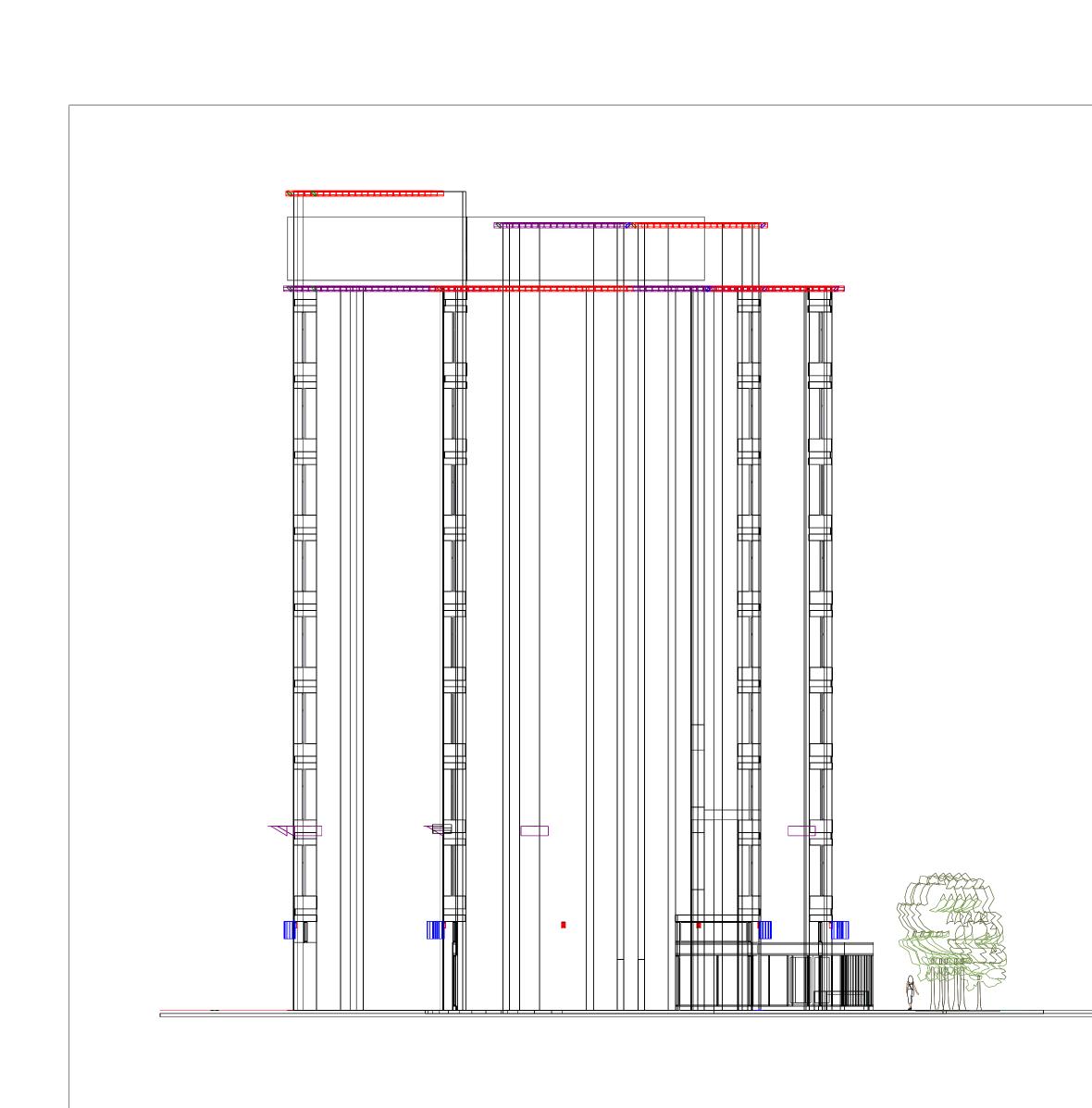
## Site:Plan Rotated 0 Tilted 0 Scale: 1 inch= 14 Ft.

# DOWNLIGHTING SCHEME: INCIDENT ILLUMINATION (HORIZONTAL FOOTCANDLES) AT GRADE

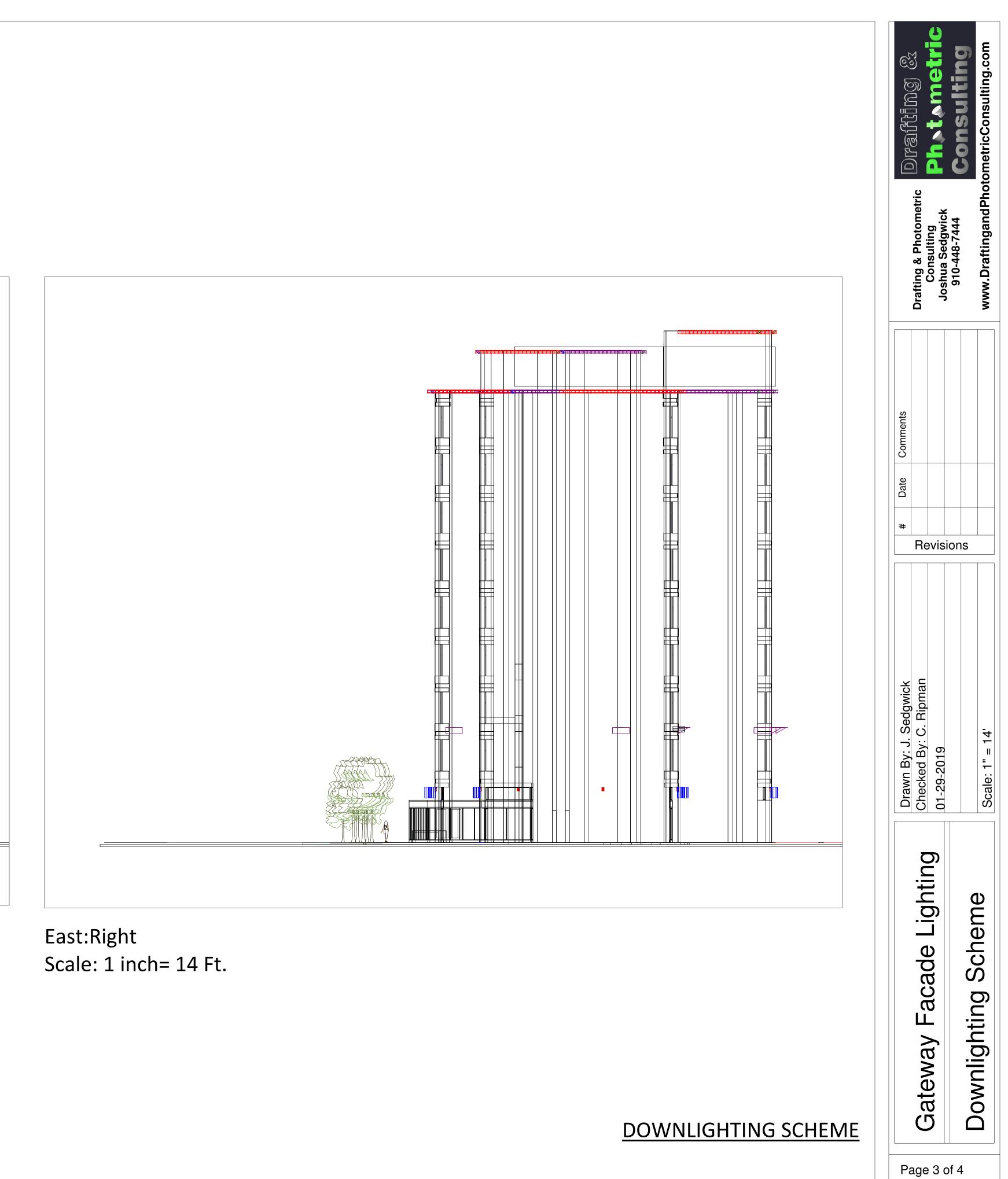
Calculation Summary							
Project: Ground Plane							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Ground Plane	Illuminance	Fc	1.20	8.9	0.0	N.Á.	N.A.

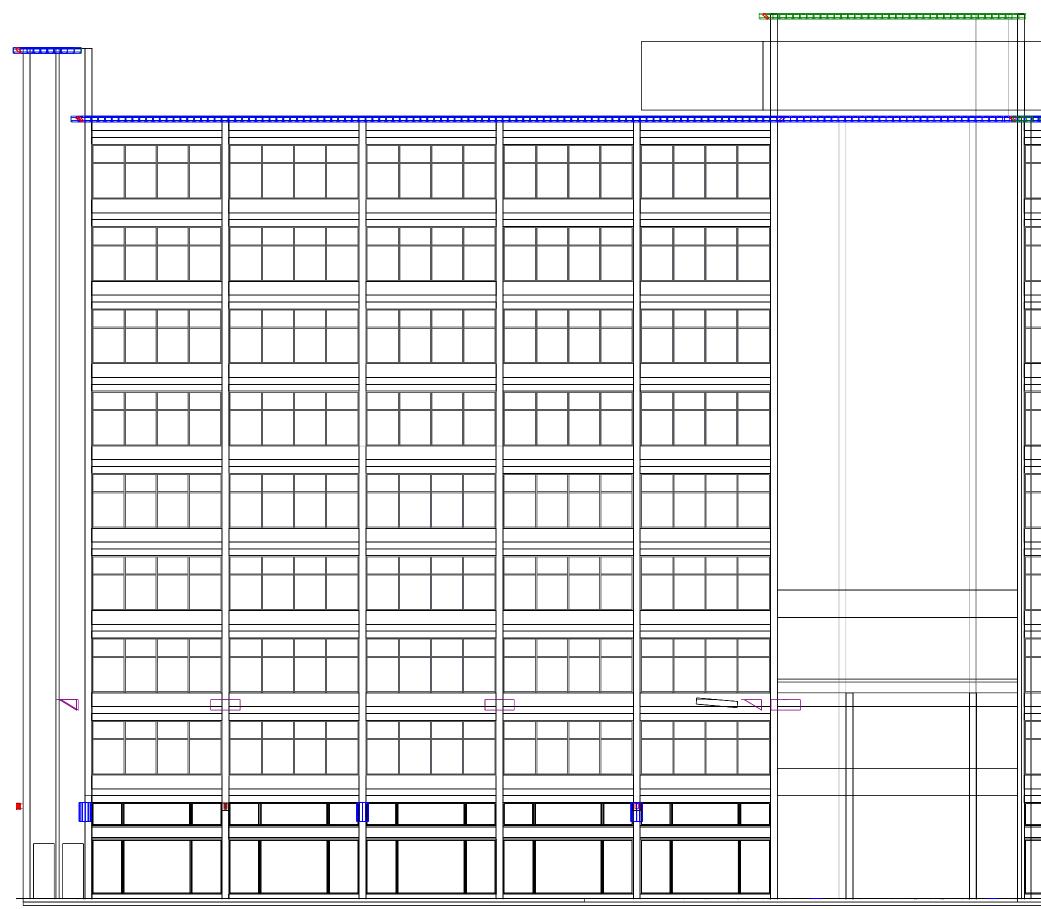
# DOWNLIGHTING SCHEME



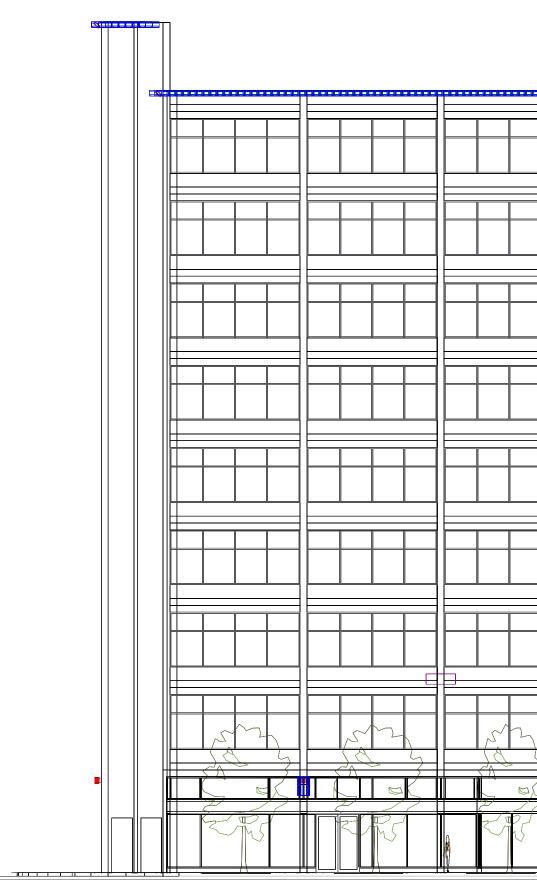


West:Left Scale: 1 inch= 14 Ft.





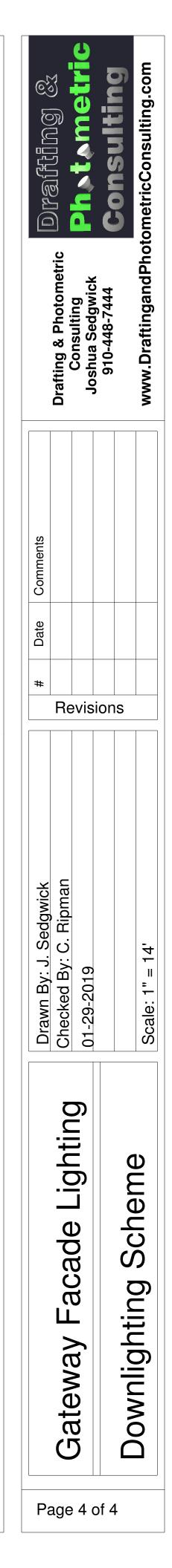
South: Elevation Rotated 0 Tilted 90 Scale: 1 inch= 14 Ft.

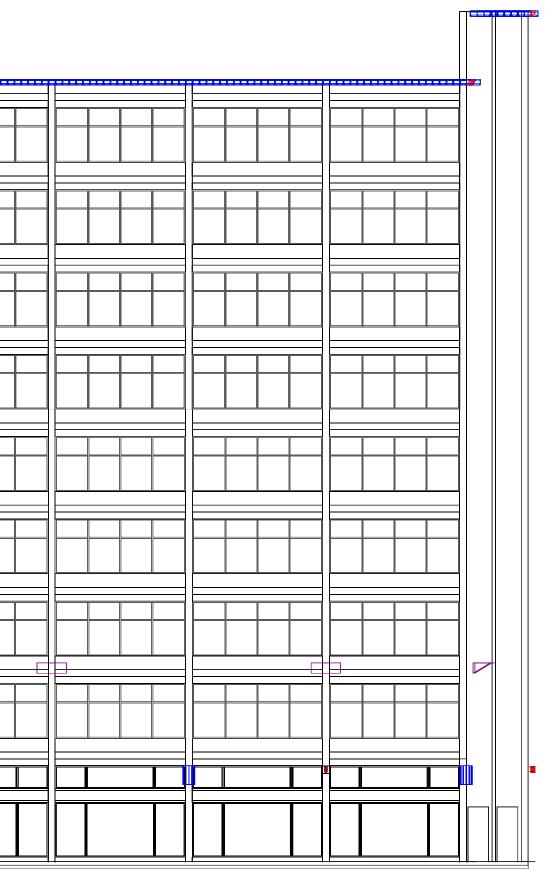


North: Elevation Rotated-180 Tilted 90 Scale: 1 inch= 14 Ft.

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# DOWNLIGHTING SCHEME