"IDB INFRASTRUCTURE 360° AWARDS 2016"

PROJECT INFORMATION:

Please provide the name of the project.

Where is the project located?

What type of project is it? (water, transportation, energy ...)

What is the size of the project? (specify units, sq mi, sq km)

Give us a short description of the project. (100 words)

Describe briefly the project's approach to sustainability and its unique features. What are the main social and environmental benefits associated with it? What makes this project different compared with other similar projects?

What is the project budget (capital expenditure) in US$?

Is there a power purchase agreement or similar? if so, what is the off-take price?

Have the contracts been awarded as part of an international bidding process? Please explain.

Could you give us some information on the granting authority and/or off-taker?

Who is the project owner/ sponsor? Is it a private company or a PPP? What is the % ownership of the main project shareholder? Please also indicate the names and % ownership of other large (>5%) project shareholders.

Is the project a concession? For how long will you own this concession? When had it begun?

Please indicate current phase of the project (design, construction, operation). If the project is construction, what is the % completion today? If in operation, which date did the project start?

Website of the project, if available

CONTACT INFORMATION:

Principal contact name

Position of the above person

Full address

Contact phones. (including international codes)

Contact email/s (If several emails are provided, please specify the full name of each person)

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"IDB INFRASTRUCTURE 360° AWARDS 2016"

CATEGORY I: PEOPLE AND LEADERSHIP

ALL QUESTIONS MUST BE ANSWERED. IF ANY QUESTION WAS NOT APPLICABLE, YOU WILL HAVE THE OPPORTUNITY TO DECLARE THIS AT THE END.

SUB-CATEGORY QUALITY OF LIFE

QL 1.1 Improve Community Quality of Life.

Intent: Improve the net quality of life of all communities affected by the project and mitigate negative impacts to communities.

Metric: Measures taken to assess community needs and improve quality of life while minimizing negative impacts.

To what extent has the project team identified or taken into account community needs, goals and issues addressing potential adverse impacts to the host and nearby communities?

- No evidence
- Project needs addressed
- Community needs addressed
- Long term community needs addressed
- The project will reinvigorate the community. Assets and capacity upgraded

To what extent have the affected communities been meaningfully engaged in the project design process?

- No involvement
- Key stakeholders involved
- Key stakeholders strongly involved
- Stakeholders and decision-makers on board

To what extent are the affected communities satisfied that the project is addressing their immediate and long-term needs, goals and issues as well as improves community conditions?

- No evidence of community satisfaction
- Needs and goals reasonable addressed. Work well done
- High community satisfaction
- Significant endorsement

Credit information:
*Infrastructure projects are seen as contributors to community quality of life if they support sustainable, long-term economic growth and community development, while reducing or eliminating negative impacts on the host community or other affected communities. Broad community endorsement validates this contribution.
*Addressing relevant community needs, goals and issues involves reviewing published plans and related materials, and discussions with community leaders and stakeholder groups.
*Reducing or eliminating potentially negative impacts generally requires a reasonably complete impact assessment.
*Community endorsement normally involves published statements by community leaders and/or stakeholder groups.

QL 1.2 Stimulate Sustainable Growth and Development.

Intent: Support and stimulate sustainable growth and development, including improvements in job growth, capacity building productivity, business attractiveness and livability.

Metric: Assessment of the project's impact on the community's sustainable economic growth and development.

Does the project create a significant number of new jobs during its design, construction and operation?

- No evidence
- Short-term project related jobs
- Improving local productivity. New jobs creation
- Long term job market improvement will attract business and people

Will the delivered works create new, or increase the quality of existing, operating, recreational or cultural capacity for business, industry or the public?

- No evidence
- New recreational or cultural capacity added
- Improved quality of the existing recreational offer and increasingly more choices

Will the project make the community more attractive to people and businesses and increasing productivity?

- No evidence
- Measurable productivity improvement

Will the project rehabilitate, restore, create or repurpose existing community infrastructure assets to promote sustainable economic growth and development?

- No evidence
- Improves prospects for economic growth and development

Credit information:
*Growth in employment and increased productivity contribute to sustainable growth and development.
*An infrastructure project can make a contribution by providing short and long term employment in the local community across a broad skill base.
*The project can also contribute by improving access to transportation and facilities, and by increasing capacity and quality. This can improve productivity.
*Improving overall access, capacity and quality while enhancing cultural and recreational opportunities can make the community a more attractive place to live, work and do business.

QL 1.3 Develop Local Skills and Capabilities.

Intent : Expand the knowledge, skills and capacity of the community workforce to improve their ability to grow and develop.

Metric: The extent to which the project will improve local employment levels, skills mix and capabilities.

Does the project contribute to local employment, training and education, with emphasis on the most needy and/or disadvantaged groups through project planning, design and construction?

- No evidence
- Main decisions based on cost
- Hire locally. Training done as needed
- Hire locally. Specialized training
- Long-term development. Minority/ disadvantage groups prioritized

Will the project, implemented strategies to contribute to long-term community competitiveness?

- No evidence
- Hiring/educational programs focus on community competitiveness

Credit information:
*If they are of sufficient scope and duration, infrastructure projects can assist in the development of valuable and lasting skills and capabilities in the host and nearby communities.
*Assistance begins with commitments for hiring and training of local workers for the project. The commitment should be to fill the on-site job ranks with local workers, except when the requisite skills are not available.
*Extending the commitments to using local suppliers and specialty firms will improve the local knowledge and skill base.
*Incorporating specific programs for increasing the education, experience and skills base of local workers and employers will enhance local capacity and long term competitiveness.

QL 2.1 Enhance Public Health and Safety.

Intent : Take into account the health and safety implications of using new materials, technologies or methodologies above and beyond meeting regulatory requirements.

Metric : Efforts to exceed normal health and safety requirements, taking into account additional risks in the application of new technologies, materials and methodologies.

Will the project team assess the exposures and risks created by the application of new and/or non-standard technologies, materials, equipment and methodologies?

- No evidence
- Risk assessment completed
- Risks identified and addressed

Have the project owner and the project team assessed and made the appropriate changes to the project design to reduce the risk to public and worker health and safety to acceptable levels, and received approval and sign-off by the appropriate environmental and public health and safety officials?

- No evidence
- Changes to the project design conducted at a team level
- Changes implemented and approved by local authorities and public official

Will the project team develop, implement and monitor appropriate health and safety methodologies and protocols?

- No evidence
- Methodologies or protocols implemented

Credit information:
*The application of new technologies, materials, equipment and methodologies may change project exposures and risks. As a result, new health and safety standards and procedures may be required.
*These standards and procedures are in addition to and do not supplant the normal regulatory requirements for health and safety.
*Approval and sign off on new standards and associated health and safety plans should be obtained from the appropriate environmental and public health and safety officials.

QL 2.2 Minimize Noise and Vibration.

Intent : Minimize noise and vibration generated during construction and in the operation of the project to maintain and improve community livability.

Metric : The extent to which noise and vibration will be reduced during construction and operations.

Have appropriate studies been carried out to predict the levels of air-borne, ground-borne and structure-borne noise and vibration that will be present during construction and operations?

- No evidence
- Baseline studies or predictions by a qualified professional

Have proposals for ambient noise and vibration mitigation and monitoring been made and incorporated into the project design to reduce noise and vibration to accepted standard target
levels?

- No evidence
- Proposals for noise and vibration reduction are comprehensive, covering construction and operation

Will the project design markedly reduce ambient noise and vibration down to levels that Substantially improve community livability?

- No evidence
- Noise/ vibration levels below the previous ones

Credit information:
*Noise is defined as an unwanted or disturbing sound. It becomes unwanted when it interferes with normal activities or diminishes quality of life. Property values are improved if noise and vibration are kept to acceptable levels.
*Baseline studies are generally done to establish existing noise and vibration levels. Projects are designed to mitigate air- and ground-borne noise and vibration to levels acceptable to the affected communities.
*Ideally, ambient noise and vibration should be reduced to pre-development levels.

QL 2.3 Minimize Light Pollution.

Intent : Prevent excessive glare, light at night, and light directed skyward to conserve energy and reduce obtrusive lighting and excessive glare.

Metric : Lighting meets minimum standards for safety but does not spill over into areas beyond site boundaries, nor does it create obtrusive and disruptive glare.

Will the project team conduct an overall assessment of lighting needs for the project?

- No evidence
- Lighting assessment focused on cost reduction
- Lighting assessment focus on increase efficiency
- Reduction of lighting and excessive glare that affects natural environment
- Elimination of llighting and excessive glare that affects natural environment

Will the project team design the lighting components of the project in a way that reduces lighting energy requirements?

- No evidence
- Energy efficiency is one of the principles on the design
- Specific efforts such as lighting zones conducted
- Reduce lighting by directing light downward. Spillage elimination

Will the project team design the lighting components of the project in a way that reduces or eliminates light spillage into sensitive environments and preserves the night sky?

- No evidence
- Light spillage reduced. Use of barriers
- Unneeded lighting removed. Lighting zones

Credit information:
*An assessment of lighting needs can uncover many opportunities for energy cost and cost savings through improved lighting efficiencies, use of automatic turnoff switches and non-lighting alternatives.
*Better lighting zoning based on lighting needs can further reduce costs and limit the negative effects on sensitive environments and receptors.
*Reducing light spillage both outward and upward can reduce glare and preserve or restore the night sky.
*Glare and nuisance can also be reduced by limiting or eliminating the excessive use and disturbing features digital signage.

QL 2.4 Improve Community Mobility and Access.

Intent: Locate, design and construct the project in a way that eases traffic congestion, improves mobility and access, limits urban sprawl, and otherwise improves community livability.

Metric: Extent to which the project improves access and walkability, reductions in commute times, traverse times to existing facilities and transportation. Improved user safety considering all modes, e.g., personal vehicle, commercial vehicle, transit and bike/pedestrian.

Have the expected impacts of the project on community access and mobility during operation been properly and comprehensively addressed in the planning and design phase?

- No evidence
- Limited coordination in community mobility and access
- External input considered to guarantee community mobility and access
- Exceptional access and flow in the communities surrounding the project
- Reduction in traffic congestion and improvements in walkability

Has the project team coordinated with owners and operators of adjacent facilities, amenities, transportation hubs and local community officials to address issues of mobility and access during operation of the constructed work?

- No evidence
- Limited coordination among parties
- Input from operators of adjacent facilities was implemented
- Project team collaborates with decision-makers to address mobility issues
- Project team collaborates with decision-makers and community officials to address mobility issues

Has the project team developed plans and specifications to reduce traffic disruption during construction, including monitoring, and corrective action?

- No evidence
- Limited approach to reduce traffic disruption during construction
- Reduction of negative impact during construction including adjacent facilities
- Alternative access consideration due to project specification
- Specifications to reduce negative impacts during construction. Collaboration with communities

Credit information:
*The overall goal is to design the project in a way that creates a net benefit to the community by creating good, safe access to adjacent facilities, amenities and multiple modes of transportation.
*At a basic level, the project design may simply establish good and safe access among adjacent facilities, amenities and transportation hubs.
*The project team may take a broader view, consulting with adjacent facility and transportation operators to improve traffic flows and volumes, resulting in added mobility and efficiency.
*The project team may expand the scope of consultation, coordinating the design with other groups to reduce congestion and improve overall quality of life, in terms of walkability and livability.

QL 2.5 Encourage Alternative Modes of Transportation.

Intent : Improve accessibility to non-motorized transportation and public transit. Promote alternative transportation and reduce congestion.

Metric: The degree to which the project has increased walkability, use of public transit, non-motorized transit.

Will the project be within walking distance of accessible multi-modal transportation?

- No evidence
- Pedestrian accessible or walking distance
- Multi-modal transportation facilities

Is the constructed works and associated infrastructure designed to encourage users/ employees to use non-motorized transportation?

- No evidence
- Non-motorized or transit friendly
- Non-motorized and transit friendly

Have the project owner and the project team worked with the community to develop programs to encourage the use of alternative modes of transportation or have they upgraded under-used pathways, bikeways, rail and/or water modes of transit among others?

- No evidence
- Public transportation enhancements
- Extensive efforts to identify and upgrade under-used alternative modes of transportation

Credit information:
*For projects located in urbanized areas it is important to promote the use of alternative modes of transportation and ensure integration into the existing public transportation network.
*To encourage the use of non-motorized transportation, locating the project within walking distance of public transportation is an important step.
*The project design can further encourage non-motorized transportation use through access to pathway and bike-way networks, along with associated support facilities, e.g., lockers, changing rooms, etc.

QL 2.6 Improve Accessibility, Safety and Wayfinding.

Intent: Improve user accessibility, safety, and wayfinding of the site and surrounding areas.

Metric: Clarity, simplicity, readability and broad-population reliability in wayfinding, user benefit and safety.

Will the project contain the appropriate signage for safety and wayfinding in and around the constructed works for users and emergency personnel?

- No evidence
- Signage clear and intuitive for users
- Adequate plan for emergency personnel, users and occupants

Have the project owner and the project team extended accessibility and signage to protect nearby sensitive sites (wetland, cultural sites, etc.) or, in populated areas?

- No evidence
- Protection of nearby sensitive and/or cultural sites

Have the project owner and the project team designed the project so as to have a net positive impact on public safety and security?

- No evidence
- Project will have a net positive impact on public safety and security
- Total integration with local community and its surroundings

Have the owner and the project team incorporated features into the project design that restore and improve overall access and safety in adjacent neighborhoods?

- No evidence
- Restore safety in neighborhoods

Credit information:
*The project should be designed in such a way that users can find their way in and around the facility or other infrastructure. Wayfinding also has health and safety implications. It involves the ability of users and occupants to exit the facility and get out of harm's way in the event of an emergency. It also improves the ability of emergency personnel to access the facility and find their way in the event of an emergency.
*Providing intuitive signage and other guidance enables users to know their location and find their way in and around the facility. This is especially important in cases of emergency.
*Similarly, providing intuitive signage and other guidance enables safe, fast access and egress for users and emergency personnel.
*Extending accessibility and intuitive signage to nearby sensitive sites (wetland, cultural sites, etc.) helps protect those sites. Extending to adjacent neighborhoods will increase community safety and security

QL 3.1 Preserve Historic and Cultural Resources.

Intent : Preserve or restore significant historical and cultural sites and related resources to preserve and enhance community cultural resources.

Metric: Summary of steps taken to identify, preserve or restore cultural resources.

To what extent has the project team worked with the community and required regulatory and resource agencies to identify historic and cultural resources?

- No evidence
- Previous discussions (stakeholders, community leaders and regulatory agencies)
- Close coordination (stakeholders, community leaders and regulatory agencies)

Has the project team conducted a feasibility analysis to determine the feasibility of incorporating preservation, or enhancement of these resources into the project? Has the project team worked with historic/cultural stakeholders to develop a sensitive design and approach?

- No evidence
- Basic feasibility analysis done. Focus on the obvious and easy opportunities to incorporate.
- Complete and comprehensive feasibility analysis done. Deeper level of coordination
- Comprehensive feasibility analysis done. Conservation and restoration focus

Has the project team given special consideration to enhancing or restoring historic/existing cultural resources?

- No evidence
- Conservation and restoration sites upgraded or expanded

Credit information:
*This credit addresses the need to preserve and enhance historic and cultural resources. Historic and cultural resources include both architectural and archaeological resources, as well as tribal cultural properties.
*Project designs should seek to preserve historic and cultural resources by minimizing any negative impacts.
*Better yet, a project can be designed so that it fully preserves and restores the character-defining features of historic/cultural resources.
*It should also be noted that preservation of historic sites and cultural resources might be in conflict with a community's efforts to consolidate and reduce the costs of maintaining a community's excess infrastructure.

QL 3.2 Preserve Views and Local Character.

Intent: Design the project in a way that maintains the local character of the community and does not have negative impacts on community views.

Metric: Thoroughness of efforts to identify important community views and aspects of local landscape, including communities, and incorporate them into the project design.

Will the project be designed in a way that preserves views and local character taking into account community plans and guidelines for views and local character?

- No evidence
- Understanding and integration of community's local character

Has the project team worked with local official, communities and decision-makers to obtain input and alignment with views and local character?

- No evidence
- Local officials and decision-makers involved in developing design guidelines

Does the construction contract include clauses on the preservation of high value landscapes and landscape features, including stated penalties for non-compliance and programs to inspect outcomes and enforce? Have local policies regarding views and local character been improved during this process?

- No evidence
- Preservation clauses included in the contract
- Programs for monitoring and enforcement
- Restorative actions as part of the project

Credit information:
*It is important that a project's design should reflect its context. This includes both preserving views and fitting in with local character.
*In rural settings the project should be sensitive to views of natural landscapes and prominent features.
*In urban settings projects should likewise seek to maintain important view corridors, avoid blocking views from previous development.
*Project designs should preserve important views and local character, as determined through consultation with local stakeholders and decision-makers.
*In addition, the project team may have the opportunity to improve upon the local character of the community, views or view corridors, or natural landscapes through additional preservation or restoration.

QL 3.3 Enhance Public Space.

Intent: Improve existing public space including parks, plazas, recreational facilities, or wildlife refuges to enhance community livability.

Metric: Plans and commitments to preserve, conserve, enhance and/or restore the defining elements of the public space.

Will the project add to public space (e.g., parks, plazas, recreational facilities, or accessible space in wildlife refuges) in a way that significantly enhances community livability?

- No evidence
- No adverse effects on existing public space
- Consider creation of new public space
- Enhancement of existing public space and creation of new public space
- Addition of recreational facilities to an existing public space
- Restoration of existing plazas, parks, recreational areas, wildlife refuges, or other public spacess

Are the public agencies and other stakeholders satisfied with the project plans involving public space?

- No evidence
- Expressions of satisfaction by stakeholders.

Credit information:
*Opening space whenever possible to community activity is helpful in gaining acceptance by local communities, educating the public about sustainable infrastructure, reducing crime, and encouraging healthy and vibrant neighborhoods. Public space can be in either urban or natural settings and may include, but is not limited to, parks, plazas, recreational facilities, and wildlife refuges.
*The project team works with stakeholders to develop enhancements to or creation of new public space.
*Substantial restoration involves restoring major areas of existing public space or opening previously private space to public access.

QL 4.1- Identify and address the needs of women and diverse communities (indigenous or afro-descendant peoples)

Intent: Improve the quality of life of women and diverse groups living in the communities surrounding the project and mitigate potential negative impacts.
Metric: Measures taken to assess the needs of women and diverse communities and improve their quality of life.

Have the different needs and interests of women and diverse communities been identified and addressed in the project?

- No evidence
- Women and diverse groups were present at stakeholder meetings.
- Ideas, concerns and interests of women and diverse groups clearly noted.
- The project team collaborates with local stakeholders to align project with the needs of women and diverse communities.

Please specify actions taken to consult and respond to these stakeholders.

Will the project team work with designers and decision-makers to address diverse communities and gender equality concerns?

- No evidence.
- The project team made more substantive efforts to review, assess, and incorporate perspectives.

How was this work developed?

Will the project team develop, implement and monitor appropriate gender-sensitive health and safety methodologies and protocols during construction and operations?

- No evidence
- Potential negative impacts for these groups are reduced or eliminated.

Please specify.

Credit information:
*** As applicable - Indigenous and Afro-descendant peoples.**
***Reducing or eliminating potentially negative impacts generally requires a reasonably complete impact assessment.**
***Addressing the needs, interests, and concerns of women and indigenous groups involves engaging in discussions with leaders and representatives of these groups.**
*** Solicited feedback may also be used to identify the different views of women and indigenous people of landscape and local character and to understand their needs to ensure gender-appropriate methods, materials and techniques.**
*** Men and women are exposed to different hazards and risks at work. Gender sensitive HSE protocols should include the use of tools, machinery, personal protective equipment, sanitary facilities, workplace culture, ergonomics and reproductive hazards.**

QL4.2 - Stimulate and promote women's economic empowerment

Intent: Promote women's economic empowerment through sustainable livelihoods, local procurement, job creation, capacity building and training programs.
Metric: Assessment of the project's impact on women's livelihoods and capabilities.

Will the project contribute to any increase in women's economic opportunities?

- No evidence
- Contribution to women's economic empowerment confined to jobs created during design and construction.
- The project participates in gender certification or other national, corporate or industry gender equity and supplier inclusion initiatives.

Will the project team establish specific targets and/or develop a strategy to increase the proportion of women in local employment, skills training and/or as local suppliers?

- No evidence
- The project procures goods and services from women-led companies
- Programs to promote direct investment in women and diversity groups

Credit information:
*** An infrastructure project can have a positive impact on women's economic empowerment and livelihoods by providing women with jobs, income and lasting skills.**
*** The returns of increasing women's opportunities in infrastructure can be very high (e.g. project performance, improved maintenance, household well-being and women's economic empowerment).**
*** To increase women's opportunities, they should be included as paid laborers, skilled professionals and local suppliers during design, implementation and maintenance.**

QL4.3 - Improve access and mobility of women and diverse communities (indigenous or afro-descendant peoples)

Intent: Locate, design, and construct the project understanding the various patterns and needs of mobility of different social groups.
Metric: The degree to which the project improves access, mobility, and safety of women and diverse groups

Will the project provide good, safe access to adjacent facilities, amenities and transportation hubs, accounting for different patterns of mobility and barriers to access for women and/ or diverse communities?

- No evidence
- Women and diverse groups provided feedback on public meetings according to their mobility needs
- Needs addressed through minor efforts, such as communications and signage
- Identification and address major needs.
- Women and diverse groups have better access to services such as health care, schools and job sites.

Will the project adopt strategies to improve safety of public transit and/or non-motorized transportation for women and children?

- No evidence
- Design changes to respond to the needs identified by women and diverse groups for accessibility and safety.

Please specify some of these strategies

Credit information:
***Projects are designed in a way that creates a net benefit to all community members and groups by creating good, safe access to adjacent facilities, amenities and multiple modes of transportation.**
***Projects often implement improvements on project site for machinery access. These upgrades may be accessible to local communities and can improve mobility in the area.**
***Women often have different patterns of mobility which may result in different priority travel times and destinations; needs for accommodating pregnant women, strollers, and heavy loads; concerns with personal/physical safety, etc.**
***Non-motorized and public transit may also require safeguarding women and children against violence and sexual harassment in public transit, and ensuring good illumination and visibility of bike/pedestrian paths and bridges frequently used by women.**

QL 4.4 Local Regulations and Standards.

Metric: Sustainability many times means that a project will have to go above and beyond local regulations and standards. How would you compare the local requirement standards vis-a-vis your project's practices and level of achievement in the questions you just answered for the Quality of Life sub-category?

- Local standards are very limited, or non-existent, in this sub-category.
- Local standards exist in this sub-category, and our project achieved them.
- Local standards exist in this sub-category, and our project surpassed them in some areas.
- Local standards exist in this sub-category, and our project surpassed them in many areas.
- Local standards exist in this sub-category, and our project surpassed them in every area.

Please feel free to provide any additional information on how local regulations and standards compared to your project's achievement.

SUB-CATEGORY LEADERSHIP

LD 1.1 Provide Effective Leadership and Commitment.

Intent: Provide effective leadership and commitment to achieve project sustainability goals.

Metric: Demonstration of meaningful commitment of the project owner and the project team to the principles of sustainability.

Is the project team's commitment to sustainability backed up by public statements or other actions taken or to be taken?

- No evidence
- No statements specific to this project.
- Commitment to sustainability has moved beyond general statements to more specific statements.
- Sustainability performance of the organization is reported regularly through annual reports
- Explicit recognition of the need for action to address the consequences of operating in a non-sustainable environment.

Do these commitments and actions demonstrate sufficiently that sustainability is a core value of the project team?

- No evidence
- Sustainable policies exist in organizational literature, but are not extensive.
- Organizational demonstration of commitment is backed up by some examples
- Significant commitment across the organization with a few exceptions.
- Sustainability is a core value of the owner organization

Credit information:
*The effects and consequences of non-sustainability are changing the design assumptions and variables used in infrastructure design and construction. Strong leadership is required to manage this extraordinary level of change and make a meaningful contribution to conditions of sustainability.
*The purpose of this credit is to provide incentives for establishing sound and credible management and leadership to address adequately and competently the issues surrounding sustainability.
*Demonstration of commitment starts with a public declaration.
*Examples of project team member actions support the claim of commitment to improving sustainable performance.
*Examples of actions taken as a team add credence to the claim of commitment. This may include team chartering and other efforts to foster teamwork.

LD 1.2 Establish a Sustainability Management System.

Intent: Create a project management system that can manage the scope, scale and complexity of sustainable performance.

Metric: The organizational policies, authorities, mechanisms and business processes that have been put in place and the judgment that they are sufficient for the scope, scale and complexity of the project, accounting for environmental, social, and governance impacts

Are the roles, responsibilities and authorities for addressing the issues of sustainability for the project clearly assigned and sufficiently delegated?

- Clear authority to take action is not evident.
- Basic assignation of roles and responsibilities.
- Lines of authority are clear at department level
- Authority and responsibility are clear including high levels in the company

Has the project team created a sustainability management policy commensurate with the scope, scale and complexity of the project?

- No evidence
- Policy is generic
- All aspects covered
- Full implementation of a sustainable management policy according to the scale and complexity of the project

Have the project owner and the project team assessed and prioritized the environmental and economic aspects of the project?

- No evidence
- Environmental and economic aspects have been assessed but just in a generic way.
- Environmental and economic goals, objectives, targets are present (not always completed).
- Environmental and economic goals , objectives, targets are complete and aligned with community goals, needs
- Environmental and economic goals take changing operations into account

Have they assessed and prioritized the societal aspects of the project? Has the project set the sustainability goals, objectives and targets appropriate for the affected communities?

- No evidence
- Social aspects have been assessed but just in a generic way.
- Social goals, objectives, targets are present (not always completed).
- Social goals , objectives, targets are complete and aligned with community goals, needs.

Is the system sufficient in scope and does it contain an adequate set of mechanisms and business processes to manage the project and achieve the project's objectives and targets? Would be the system sufficient to manage extraordinary change in environmental operating conditions?

- No evidence
- Scope of the project management system system is limited.
- Business processes and control mechanisms are improved within the project management system
- Multiple business processes and mechanisms to manage changing conditions and design variables

Credit information:
*A sustainability management system is a system that enables the project team to set goals objectives, and policies, instigate plans and programs, review performance against plan and take corrective actions across the full dimensions of sustainability.
*The sustainability management system is sufficient if appropriate and comprehensive set of "plan-do-check-act" business processes are in place and single point authority and responsibility is delegated from the highest project organizational levels.
* A comprehensive sustainability management system includes sector experts that identify, address and monitor impacts at each strategic phase of project design and implementation.
*Project impacts should be addressed by qualified experts on all major dimensions, including but not limited to environmental, water and biodiversity, emissions and climate change, material use, waste treatment, health and safety, gender and indigenous people, project governance and transparency.

LD 1.3 Foster Collaboration and Teamwork.

Intent: Eliminate conflicting design elements, and optimize process by using integrated design and delivery methodologies and collaboration. This will require not just the construction team but the different parties involved, owner, project manager among others.

Metric: The extent of collaboration within the project team and the degree to which project delivery processes incorporate whole systems design and delivery approaches.

To what extent has the project team incorporated the principles of collaboration, teamwork and whole systems design in the execution of the project?

- No evidence
- Desire to improve sustainable performance, but no systematic approach
- The project team approaches the project as a system or set of systems interconnected with other systems
- Whole systems design and delivery processes, , procedures and methodologies are incorporated into the overall project delivery process.

To what extent has meaningful risk and reward sharing been made part of the contract between the project owner and the project team

- No risk and reward sharing is evident.
- The importance of risk/reward sharing is recognized, and the owner is willing to share. (No stated into the contract)
- Risk/reward sharing is part of the owner‘s contract with the design team.

Credit information:
*The purpose of this credit is to provide incentives for and recognition of owner and project team collaboration in the delivery of the constructed works. In conventionally delivered projects, project team members tend to work as independent entities, focusing on delivering their portion of the project mostly in isolation from other members.
*Integrated project delivery brings project team members together early in the planning and design stages to understand how their design assumptions and decisions affect the work of others, positively or negatively.
*At the basic level of collaboration, the project owner and the project team recognize the importance of addressing infrastructure projects in the context of the entire community/city infrastructure. Sustainable performance is optimized across all community/city infrastructure.
*At a more advanced level, the project owner and the project team recognize the importance of creating a collaborative relationship. Risk and reward sharing has been incorporated into the project contracts. Project team chartering sessions are planned. Design charrettes with project stakeholders are planned.
*At the highest level, the project owner and the project team work together, using whole systems design processes, procedures and methodologies to maximize sustainable performance. The project design is integrated into the existing community/city infrastructure.

LD 1.4 Provide for Stakeholder Involvement.

Intent: Establish sound and meaningful programs for stakeholder identification, engagement and involvement in project decision making.

Metric: The extent to which project stakeholders are identified and engaged in project decision making.

Are key stakeholders in the project and their needs identified as well as lines of communication established?

- No evidence
- Informative focus
- Active engagement and dialogue
- Open to a wider community and different groups interested in the project and feedback provided is assessed
- Community relationships with the key stakeholders are integrated and solid mechanisms to incorporate feedback have been stablished

Will the project team work with decision-makers to guarantee that policy makers, civil servants and technical staff of public works are aware of all major project issues, such as environmental impacts, lack of fair and equitable procurement practices among others?

- No evidence
- Solid programs in place to incorporate feedback into the process

Credit information:
*This credit is intended to rate the sufficiency of the public input process established by the owner and the project team.
*Relationship building among the public and key stakeholders is an important component of the engagement process. Key stakeholders include decision-makers and members of the communities that are affected by the project.
*A first step is to identify key stakeholders and their primary contacts, together with their priority concerns and issues. Lines of communication are established.
*Increased stakeholder engagement follows. The project team has frequent communication with the public and key stakeholders throughout the project. Feedback is obtained and applied to project decisions.
*A complete stakeholder involvement program builds stakeholder and community relationships. The project team solicits input from stakeholder groups and incorporates that input, when feasible and practical, into the project design. Positive stakeholder feedback is a demonstration of stakeholder program credibility.

LD 2.1 Pursue By-Product Synergy Opportunities.

Intent: Reduce waste, improve project performance and reduce project costs by identifying and pursuing opportunities to use unwanted by-products or discarded materials and resources from nearby operations.

Metric: The extent to which the project team identified project materials needs, and used by-product resources that meet those needs and capture synergy opportunities.

To what extent did the project team search for and identify unwanted by-products or discarded materials located in nearby facilities?

- No evidence
- Casual search of by-product synergy opportunities
- Active opportunity search to identify nearby products
- Working relationship with facilities decision-makers to identify by-product synergy opportunities

How detailed was the assessment of their potential for use on the project, either in the design and construction stage, or in operations?

- No evidence
- Superficial assessment done
- Assessment done in some depth
- Assessment done in depth enough to determine possibilities

Did the project team achieve success in making use of unwanted by-products or discarded materials on the project, either in the design and construction stage, or in operations?

- No evidence
- One successful by-product synergy application.
- Two or more successful by-product synergy application

Credit information:
*By-product synergy involves the identification and cost-effective use of unwanted materials located near the project. Making use of these materials can be accomplished in two ways. By identifying the existence of these materials useful in construction, the project team can work with the owners to obtain those materials, thereby reducing the cost of the project.
*For this credit, the project team, with owner concurrence, would establish a program to work with nearby facility managers. The purpose will be to locate unwanted by-products that could be used on the project, instead of virgin materials or recycled materials from distant locations.

LD 2.2 Improve Infrastructure Integration.

Intent: Design the project to take into account the operational relationships among other elements of community infrastructure, resulting in an overall improvement in infrastructure efficiency and effectiveness.

Metric: The extent to which the design of the delivered works integrates with existing and planned community infrastructure, and results in a net improvement in efficiency and effectiveness.

Will the project team seek to identify new infrastructure projects that could be integrated and/or optimized with their projects?

- No evidence
- Little or no exploration of synergies among components
- Project owner and designer look at the project and its delivered works as a system
- Additional investments are planned to create linkages, improve synergies, and by doing so improve overall performance.
- The project team participates in multi-sectorial regional strategic planning for sustainability - integrated community sustainability plans
- Identification of existing community assets which, when restored, would improve the economic growth and development capacity of the community.

Will the project be planned and designed so that its operation and functions are fully integrated with all infrastructure elements in the community?

- No evidence
- Project designed accounting for physical community infrastructure elements
- Project designed accounting for physical and other community infrastructure elements
- Project designed to incorporate restoration of those assets as part of a comprehensive plan.

Credit information:
*Optimal infrastructure performance requires the integration of all the infrastructure elements at the city or community level. Therefore, each new or renovated element of infrastructure should be designed and constructed in a way that takes into account how that element of infrastructure will link with, support and act in harmony with other infrastructure elements, existing and planned.
*At a basic level, performance improvements, e.g., resource conservation, use of renewable resources, energy conservation, are substantive but are confined to infrastructure components.
*At a higher level, resource and energy conservation, use of renewable resources, etc., are optimized at the infrastructure system level. Design conflicts among infrastructure components are reduced or eliminated.
*The project team takes a holistic design approach by fully integrating this project with all other infrastructure elements within the community, current and planned. The project integrates with the community's asset management program.

LD 3.1 Plan For Long-term Maintenance and Monitoring.

Intent: Put in place plans and sufficient resources to ensure that long-term monitoring and maintenance are incorporated in the project and can be carried out.

Metric: Comprehensiveness and detail of long-term monitoring and maintenance plans, and commitment of resources to fund the activities.

Is there a clear and comprehensive plan in place for long-term monitoring and maintenance of the constructed works?

- No evidence
- On paper only
- Long term working plan for monitoring and maintenance
- Comprehensive long-term plan

Have sufficient resources been allocated for the monitoring and maintenance of the constructed works?

- No evidence
- On paper only
- Personnel and resources identified on the plan
- Personnel and resources available and understand their responsibilities

Credit information:
*An important component of the design step is to establish plans and resources for long-term monitoring and maintenance of the completed works. The purpose of this activity is to ensure that the design performance will be maintained throughout the design life of the project. The project owner needs to provide sufficient resources and personnel to implement the plan.
*A written plan should specify specific monitoring and maintenance requirements.
*A comprehensive plan should cover all aspects, including staffing and resource requirements to meet the plan. Owner commitments for providing the necessary resources and personnel are also needed.
*Consultation on multiannual plans/contracts for infrastructure quality aims at seeking the stakeholders' opinion on a) the objectives of a multi annual contractual approach between local government and infrastructure managers, b) actions needed to guarantee long-term infrastructure quality and c) how to extend useful life by continuing to improve relationships among other elements of community infrastructure.

LD 3.2 Address Conflicting Regulations and Policies.

Intent: Work with officials to Identify and address laws, standards, regulations and/ or policies that may unintentionally create barriers to implementing sustainable infrastructure.

Metric: Efforts to identify and change laws, standards, regulations and/or policies that may unintentionally run counter to sustainability goals, objectives and practices.

Note:This credit does not evaluate if the project comply with the required regulations but the identification of regulations that go against the achievement of sustainable practices.

Has there been an assessment of applicable regulations, policies and standards, identifying those that may run counter to project sustainable performance goals, objectives and targets?

- No evidence
- Limited search
- Deeper investigation
- Extensive assessment towards resolution

Did the owner and the project team worked with decision-makers to resolve conflicts?

- No evidence
- Approach to decision-makers for conflict identification
- Collaborative approach towards resolution

Credit information:
*Many laws, regulations, policies and standards were formulated in a different era, well before sustainable development became an important issue. For example, the use of greywater for certain purposes is not allowed by regulation and/or building codes. This may force designers and builders to use potable water for applications where lesser quality water may be sufficient.
*Identification of regulations, policies and standards applicable to the project that may run counter to sustainable performance goals is the first step.
*This should be followed by meetings with the appropriate regulating organization, seeking to resolve conflicts.

LD 3.3 Extend Useful Life

Intent: Extent the project's useful life by designing the project in a way that results in a constructed works that is more durable, flexible and resilient.

Metric: The degree to which the project team incorporates full life cycle thinking in improving the durability, flexibility and resilience of the project.

To what extent have the owner and project team considered ways to extend the durability, flexibility and resilience of the project early in the planning and design stage to extend the useful life of the constructed works?

- No evidence
- Nothing beyond construction
- A few directed extensions in the design, addressing flexibility, durability and resilience.
- Pushing boundaries to improve overall performance across and beyond the useful life of the project
- Broader exploration on ways to extend the useful life of the project.

To what extent have the owner and project team considered the ability for future expansion or reconfiguration or feasibility studies?

- No evidence
- Efforts to expand the useful life off the project beyond the point
- Flexibility features are added to the design for future alternative uses, durability and resilience
- Expansion of the project and feasibility studies conducted for short-term payback
- Expansion of the project and feasibility studies conducted for short-term and long-term payback

Credit information:

*The project should be designed in a way that adds useful life to the completed works. This includes flexibility, enabling easy reconfiguration and refurbishment. It also includes adding durability and resilience to the design. The principle behind this credit is that the longer the useful life of the constructed works, the less it will need to be replaced, reducing substantially the energy, water and materials required for a rebuild.
*This requires the project owner and the project team to take the full life cycle of the project into consideration when developing the design specifications.

LD 3.4 Local Regulations and Standards.

Metric: Sustainability many times means that a project will have to go above and beyond local regulations and standards. How would you compare the local requirement standards vis-a-vis your project's practices and level of achievement in the questions you just answered for the Leadership sub-category?

- Local standards are very limited, or non-existent, in this sub-category.
- Local standards exist in this sub-category, and our project achieved them.
- Local standards exist in this sub-category, and our project surpassed them in some areas.
- Local standards exist in this sub-category, and our project surpassed them in many areas.
- Local standards exist in this sub-category, and our project surpassed them in every area.

Please feel free to provide any additional information on how local regulations and standards compared to your project's achievement.

Are there any credits that you believe are not applicable to your project? Please tell us which ones and explain briefly why.

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CATEGORY II: CLIMATE AND ENVIRONMENT

ALL QUESTIONS MUST BE ANSWERED. IF ANY QUESTION WAS NOT APPLICABLE, YOU WILL HAVE THE OPPORTUNITY TO DECLARE THIS AT THE END.

SUB-CATEGORY RESOURCE ALLOCATION.

RA 1.1 Reduce Net Embodied Energy

Intent: Conserve energy by reducing the net embodied energy of project materials over the project life.

Metric: Percentage reduction in net embodied energy from a life cycle energy assessment.

Note: This credit is evaluated in percentage. To score in this credit provide the percentage of net embodied energy reduced over the project life.

Definition.
Embodied energy*: Sum of energy that was used in the production of a material or product, including raw material extraction, transport, manufacture, and all the undertaken processes until the material or product is complete and ready.*

Life-cycle assessment (LCA)*: A technique to assess environmental impacts associated with all the stages of a product's life from raw material extraction through disposal or recycling.*

Has the project team conducted an assessment of the embodied energy of key materials over the project life?

- No evidence
- Life cycle energy assessment conducted

Will the project achieve a reduction in net bodied energy over the life of the project?

- No evidence
- At least 10% reduction
- At least 40% reduction
- At least 70% reduction

Credit information:
*The assessment involves calculating the initial embodied energy from material extraction, refinement and manufacture, followed by the selection of materials with lower embodied energy over the project life.
*The estimation must consider the materials to be used in the project´s construction as well as the materials to be used for maintenance and operation during the project life, as determined in the planning and design phase.
*Embodied energy reductions are measured against industry norms, or against conventional materials selection and design practices.

RA 1.2 Support Sustainable Procurement Practices

Intent: Obtain materials and equipment from manufacturers and suppliers who implement sustainable practices.

Metric: Percentage of materials sourced from manufacturers who meet sustainable practice requirements.

Will the project team establish a sound and viable sustainable procurement program?

- No evidence
- Basic sustainable procurement policies will be implemented
- Well-defined program for sustainable procurement will be implemented.
- Supplier performance specifications clearly addressed and implemented in the project.

To what extent has the project team procured materials from sustainable sources?

- No evidence
- 15% or less
- At least 16%
- At least 26%
- At least 51%

How much of purchased materials and supplies will be certified by reputable third-party accreditation and standard-setting organizations? Is it ascertainable supplier integrity taken into consideration?

- No evidence
- Some materials specified on the project are certified by reputable 3rd party certifying organizations
- A substantial fraction of materials are 3rd party certified.
- Materials certified and social and ethical principles taken into consideration

Credit information:
*Project teams should give preference to manufacturers, suppliers and service companies that take into account the environmental, economic and social impacts of their products and services.
*The project team should seek to identify any unresolved worker health and safety or environmental violations of manufacturers, suppliers and service companies identified for the project?
*Supplier integrity and ethical behavior are important considerations.
*Third party certifications of products or company practices can be useful indicators.
*To be considered significant, at least 15% of materials, equipment supplies, and/or services should come from companies with strong sustainable policies and practices.

RA 1.3 Use Recycled Materials.

Intent: Reduce the use of virgin materials and avoid sending useful materials to landfills by specifying reused materials, including structures, and material with recycled content.

Metric: Percentage of project material that is reused or recycled.

Note: *This credit is evaluated in percentage. To score in this credit, provide the percentage of recycled material ,or recycled content, out of the total, used for the construction of the project (this credit does not evaluate the percentage of waste recycled on site)*

Will the project team consider the appropriate reuse of existing structures and materials and incorporate them into the project?

- No evidence
- Yes, Inventory of potential reusable existing materials or structures conducted

What is the percentage of materials with recycled or reclaimed content used on the project? (Examples include reclaimed bricks, elements or components using recycled materials such as recycled plastics or reprocessed timber).

- No evidence of reclaimed or recycled material
- At least 5% reclaimed or recycled material
- At least 20% reclaimed or recycled material
- At least 50% reclaimed or recycled material
- At least 80% reclaimed or recycled material

Credit information:
*The purpose of this credit is to reduce the use of virgin materials and avoid sending useful materials to landfills.
*Using recycled, reused, and renewable materials and products, including existing structures and materials on site, reduces demand for virgin materials and the embodied carbon, emissions, and environmental degradation attributed to their extraction and processing.
*Using these materials also reduces waste and supports the market for recycled and reused materials.

RA 1.4 Use Regional Materials.

Intent: Minimize transportation costs and impacts and retain regional benefits through specifying local sources.

Metric: Percentage of project materials by type and weight or volume sourced within the required distance.

Note: This credit is evaluated in percentage. To score in this credit, provide the percentage of locally sourced materials used on the project measured in weight or volume. The distances to consider a material locally sourced are provided on the credit detail

To what extent has the project team specified locally sourced materials, plants, aggregates, and soils?

- No evidence of locally sourced material
- At least 30% locally sourced material
- At least 60% locally sourced material
- At least 90% locally sourced material
- At least 95% locally sourced material

Credit information:
*Transportation is a major consumer of fossil fuels and the source of greenhouse gas emissions and other pollutants.
*Wear and tear reduces the lifespan of transportation infrastructure while sea freight pollutes waters and damages marine environments. This is compounded by the large quantities of materials often needed in infrastructure projects.
*Regional materials, even materials sourced or processed on site, reduce the impact of long transport and supports local economies.
*Percentage of all project materials which meet the following standards:
-Soils and mulches - 80 Km.
-Aggregates, Sands - 80 Km.
-Concrete - 160 Km.
-Plants - 400 Km.
-Other materials (excluding equipment) - 800 Km.

RA 1.5 Divert Waste from Landfills

Intent: Reduce waste, and divert waste streams away from landfills.

Metric: Percentage of total waste diverted from disposal.

Note: *This credit is evaluated in percentage. To score in this credit, provide the percentage of waste minimization, waste recycling and reuse of waste from the total amount produced.*

Will the project team develop an operations waste management plan to decrease and divert project waste from landfills and incinerators during operation?

- No evidence
- Existing waste management plan to decrease project waste during operation.

Has the project team identified potential destinations for waste generated on site?

- No evidence
- Yes, Inventory of project waste streams and potential sites for acceptable reuse or recycling conducted

Has the project diverted a significant amount of project waste from landfills?

- No evidence recycle/ reuse
- 25% recycle/ reuse
- 50% recycle/ reuse
- 75% recycle/ reuse
- 100% recycle/ reuse

Credit information:
*The objective of this credit is to minimize the quantity of waste generated by the constructed works and maximize the opportunities for the waste generated to be recycled or reused. This requires identifying potential sources and destinations for recycling and should include a management plan.
*Identification and evaluation of options for recycling and reuse are the first steps in the development of effective plans for handling, segregation and storage of materials. It is important to determine which materials must be separated vs. which can be comingled.
*To be considered significant, waste diversion must be at least 25%. Some organizations have achieved 100% diversion.

RA 1.6 Reduce Excavated Materials Taken Off Site.

Intent: Minimize the movement of soils and other excavated materials off site to reduce transportation and environmental impacts.

Metric: Percentage of excavated material retained on site.

Note: This credit is evaluated in percentage. To score in this credit, provide the percentage of excavated material (from the total volume of excavation) suitable for reuse retained and reused on site.

Will the project be designed to balance cut and fill operations to reduce the amount of excavated material taken off site?

- No evidence
- At least 30% reduction or beneficial reuse.
- At least 50% reduction or beneficial reuse.
- At least 80% reduction or beneficial reuse.
- At least 95% reduction or beneficial reuse.

Credit information:
*Transporting soils is economically expensive and environmentally damaging. Trucks transporting soils emit greenhouse gases, and changing site topography can alter runoff patterns, increasing erosion and damaging down-stream aquatic environments.
*During planning and design, projects should identify opportunities to minimize grading, retain all soil on-site, and/or eliminate the need to transport additional soil to the site.

RA 1.7 Provide for Deconstruction and Recycling.

Intent: Encourage future recycling, up-cycling, and reuse by designing for ease and efficiency in project disassembly or deconstruction at the end of its useful life.

Metric: Percentage of components that can be easily separated for disassembly or deconstruction.

Note: This credit is evaluated in percentage. To score in this credit, provide the percentage of materials or components can be reused beyond the traditional end-of –life considerations.
Example: the design might include enhanced flexibility for increasing the possibility of alternative future uses. (i.e., deconstruction, recycling, and upcycling of materials, components, and equipment)

To what extent have the owner and project team specified materials that can be easily recycled or reused after the useful life of the project has ended?

- No evidence
- Basic end of life consideration.
- Great consideration to project beyond point of delivery
- Considerations to those that likely encompass future owners.
- Opportunities for up-cycling of materials, structures, and equipment.

To what extent has the design team facilitated the future disassembly and recycling of materials?

- No evidence reconstruction or recycling
- At least 30% of the components or pre-fabricated units can easily be separated for reuse
- At least 50% of the components or pre-fabricated units can easily be separated for reuse
- At least 75% of the components or pre-fabricated units can easily be separated for reuse

Credit information:
*The purpose of this credit is to ensure that when a civil works or structure reaches the end of its useful life, usable components are re-used or recycled.
*Structures and components that can be easily dismantled will yield more materials for high-grade reclamation.
*Minimizing the use of composite forms will avoid the need to process the component to separate the materials for re-use.
*Examples for suitable material types may include bricks, blocks, stone and concrete, untreated timber, glass, different types of plastic, metal, paper and cardboard.
*The project team should consider specific applications of reusable/recyclable materials and take steps to facilitate.
*The project team should consider the future value of materials at the project end of life and designed the project to maintain or improve their value, i.e., up-cycling.

RA _ 2.1 Reduce energy consumption
Intent: Conserve energy by reducing overall operation and maintenance consumption throughout the project life cycle.
Metric: Percentage of reductions achieved.

Note: This credit is evaluated in percentage. To score in this credit, provide the percentage of reductions in energy consumption in maintenance and operation during the lifespan of the project. The energy reductions will be compared to industry norms or already set benchmark.

RA _ 2.1 Reduce energy consumption
Intent: Conserve energy by reducing overall operation and maintenance consumption throughout the project life cycle.
Metric: Percentage of reductions achieved.

Note: This credit is evaluated in percentage. To score in this credit, provide the percentage of reductions in energy consumption in maintenance and operation during the lifespan of the project. The energy reductions will be compared to industry norms or already set benchmark.

Has the project team conducted planning or design reviews to identify and analyze options for reducing energy consumption or feasibility studies and cost analyses to determine the most effective methods for energy reduction?

- No evidence
- Feasibility studies and design reviews conducted for energy consumption

What percentage of reductions in energy consumption will the project achieve over industry norms?

- No evidence of energy
- At least 10% energy reduction
- At least 30% energy reduction
- At least 50% energy reduction
- At least 70% energy reduction

Credit information:
*Energy generation is the primary source of greenhouse gas emissions along with numerous other pollutants harmful to the environment and human health.
*While the use of renewable energy can help, the goal of the project should be to reduce the overall energy consumed as much as possible.

RA 2.2 Use Renewable Energy.

Intent: Meet energy needs through renewable energy sources.

Metric: Extent to which renewable energy resources are incorporated into the design, construction and operation.

***Note**: This credit is evaluated in percentage. To score in this credit, provide the percentage of renewable energy used to cover the project demand. In case of an energy production project it will be required to facilitate information according to the source of the energy used for construction and operation*

What is the amount of project energy needs that is provided through renewable energy

- No evidence of renewable energy
- At least 10% renewable energy
- At least 25% renewable energy
- At least 40% renewable energy
- At least 80% renewable energy
- Net positive renewable energy genertion

Credit information:
*While reducing energy use is the primary goal, a net-zero energy society will require significant investment in renewable energy sources.
*Project teams should evaluate the feasibility of renewable energy, including non-traditional energy sources, to effectively increase the portion of operational energy that comes from renewable energy resources.

RA 2.3 Commission and Monitor Energy Systems.

Intent: Ensure efficient functioning and extend useful life by specifying the commissioning and monitoring of energy systems.

Metric: Third party commissioning of electrical/mechanical systems and documentation of system monitoring equipment in the design.

Does the project team intend to conduct an independent commissioning of the project's energy and mechanical systems?

- No evidence
- One time monitoring
- Long-term monitoring

Will the project team assemble the necessary information needed to train operations and maintenance workers in a way that facilitates proper training and operations?

- No evidence
- Document required will be supplied

Will the design incorporate advanced monitoring systems, such as energy sub-meters, to enable more efficient operations?

- No evidence
- Monitoring systems enable efficient operations

Credit information:
*This credit recognizes that user behavior is the primary factor in energy performance. Systems designed to be energy efficient often fail due to installation errors or degradation over time during operations.
*independent commissioning conducted by a qualified consultant or organization that is not part of the project consortium or affiliated with the sponsor ensures systems are functioning as intended from the start of operations. Installing advanced monitoring equipment better allows operators to identify efficiency loss. In addition, monitoring equipment allows operators to identify high energy processes and target them in their own sustainability efforts.
*Commissioning at project start-up to initially optimize energy systems is helpful. However, incorporating long-term monitoring to maintain a high level of system performance is better.
*Higher resolution monitoring increases the likelihood that projects will achieve and maintain high levels of energy efficiency throughout their useful life.

RA 3.1 Protect Fresh Water Availability.

Intent: Reduce the impact on fresh water availability, quantity and quality.

Metric: Water extraction as a function of available water resources, and the extent to which the project uses fresh water resources without replenishing those resources at its source.

Has the project team conducted a water resources assessment of the watershed in which the project is located ?

- No evidence
- Basic qualitative
- Quantitative assessment with some sampling on site
- Thorough quantitative with multiple sampling on site

What is the water availability of the region where the project is located?

- >1,700m3/pp. No stress
- 1,000 – 1,700m3/pp Stress
- 500 – 1,000 m3/pp. Scarcity.
- < 500m3/pp.Total Scarcity.

What is the project's estimated water demand as a function of available water resources

- 5% or less
- Between 5% - 10%
- Between 10% - 25%
- Between 25% - 50%
- 50% or more

Has the project team assessed project water requirements? Please choose:

- No evidence
- An inventory of water demand required for the project has been conducted

To what extent has the project team incorporated design features to minimize the long-term negative net impact on ground and surface water source quality and quantity or to achieve a net positive impact on water sources?

- No evidence
- Good water management
- Wise water management
- Total water management
- Positive impact

Does the project achieve a net positive water impact replenishing the quantity and quality of fresh water surface and groundwater supplies?

- No evidence
- Fresh water surface meets pre-development conditions (cycles of quality and quantity, temperature)

Credit information:
*In general, fresh water, ground water, and surface waters are being used at a rate faster than they are being naturally replenished.
*The objective of this credit is reduce the negative impacts of the project on fresh water availability, quantity and quality, addressing the increasing demands for fresh water by agricultural, municipal and industrial users. The goal is no net negative or positive impact.
*When assessing project water requirements, consideration should be given to peaks and short-term usage.
*Water usage should be controlled over average maximum conditions, with plans to offset peak withdrawals during low water need periods.
*Ultimate goal should be to replenish fresh water surface and groundwater supplies to an agreed upon undeveloped, native ecosystem condition of quantity and quality.

RA 3.2 Reduce Potable Water Consumption.

Intent: Reduce overall potable water consumption and encourage the use of greywater, recycled water, and stormwater to meet water needs.

Metric: Percentage of water consumption reduction.

Note: *This credit is evaluated in percentage. To score in this credit, provide the percentage of water reduction over industry norms for this typology of projects. Reductions may be accomplished through the implementation of alternatives in design, construction, and operational and conservation or ability to use, treat, and/or reuse non-potable water.*

To what extent have the owner and project team conducted planning or design reviews to identify potable water reduction strategies during operation and maintenance of the project, and considered alternatives such as non-potable water, recycled greywater, and stormwater?

- No evidence
- Water reduction strategies have been considered

Have the owner and project team conducted a feasibility and cost analysis to determine the most effective methods for potable water reduction and incorporated them into the design?

- No evidence
- Feasibility and cost analysis conducted

What is the projected reduction in water consumption over industry norms?

- No evidence of reduction
- At least 25% reduction
- At least 50% reduction
- At least 75% reduction
- At least 100% reduction
- Above 100% by production of recycled water

Does the project result in a net positive generation of water, and water upcycling, as a result of on-site purification or treatment?

- No evidence
- Project achieves a 100% reduction in potable water use, using no water or meeting water needs through non-potable sources

Credit information:
*Reductions may be accomplished through design, construction and operational changes for conservation and/or the ability to use, treat and/or reuse non-potable water.
*In many cases it is not necessary to use potable water for the task at hand. Greywater, recycled water, and stormwater should be considered alternatives to potable water use.

RA 3.3 Monitor Water Systems.

Intent: Implement programs to monitor water systems performance during operations and their impact on receiving waters.

Metric: Assessment of monitoring program.

Have the owner and project team engaged an independent entity to monitor or oversee the monitoring of the whole system or periodically check the monitoring of the project?

- No evidence
- Initial commissioning of projects water systems
- The initial commissioning conducted is more extensive.

Will the project design incorporate the means to monitor water performance during operations?

- No evidence
- Little evidence of the incorporation of long-term monitoring.
- Equipment /software allows detailed monitoring
- Long-term water quality monitoring as well surface and groundwater quality and quantity

Will the project integrate long-term operations and impact monitoring to mitigate negative impacts, address leaks and improve efficiency?

- No evidence
- Some integration of impact monitoring and operations
- Comprehensive operational monitoring allow responsive management

Credit information:
*Monitoring water systems and ensuring the proper and efficient operation helps both finances and the environment.
*Systems capable of monitoring flows and usage and detecting leaks early save money in operations and prevent the needless waste of potable water and the embodied energy and emissions associated with its treatment and distribution.
*Independent commissioning ensures systems are functioning as intended from the start of operations.
*Installing advanced monitoring equipment better allows operators maintain optimal system performance: reducing negative impacts and conserving water resources both in quantity and quality.

RA 3.4 Local Regulations and Standards.

Metric: Sustainability many times means that a project will have to go above and beyond local regulations and standards. How would you compare the local requirement standards vis-a-vis your project's practices and level of achievement in the questions you just answered for the Resource Allocation sub-category?

- ◯ Local standards are very limited, or non-existent, in this sub-category.
- ◯ Local standards exist in this sub-category, and our project achieved them.
- ◯ Local standards exist in this sub-category, and our project surpassed them in some areas.
- ◯ Local standards exist in this sub-category, and our project surpassed them in many areas.
- ◯ Local standards exist in this sub-category, and our project surpassed them in every area.

Please feel free to provide any additional information on how local regulations and standards compared to your project's achievement.

SUB-CATEGORY NATURAL WORLD

NW 1.1 Preserve Prime Habitat.

Intent: Avoid placing the project – and the construction site – on land that has been identified as of high ecological value.

Metric: Avoidance of high ecological value sites and establishment of protective buffer zones.

*Note: This credit evaluates the avoidance, protection or restoration of prime habitat. **"prime habitat"** includes, but is not limited to, patches of old-growth forest; land of high ecological value or home to species of high value; national parks, monuments, seashores, and forests; wildlife refuges; wildlife preserves; wild and scenic rivers; and other protected areas*

Does the project avoid development on land that is judged to be "prime habitat" by a third party?

- ◯ No evidence
- ◯ Yes, Avoids use of "prime habitat" including, but not limited to, patches of old-growth forest, land of high ecological value

Does the project preserve, at minimum, an appropriately sized buffer zone of undeveloped land or other habitat protection and connectivity according to the specified width around all prime habitat areas?

- ◯ No evidence
- ◯ Project avoids use of "prime habitat" and establishes a 300 ft. (92 m) natural buffer zone around these areas.

Will the project significantly increase the area of prime habitat through habitat restoration?

No evidence

Yes, Project significantly increases the area of prime habitat and connectivity

Credit information:
*Some areas are especially important in protecting wildlife biodiversity due to their size, location, diversity of habitat types, or presence of a particular type of habitat for plant or animal species.
*Some of these areas are large and already protected; for example, national parks and national forests provide large areas of undeveloped land and support a range of wildlife.
*Through construction, noise, light pollution, removal of vegetation, and other practices, infrastructure projects can have negative effects on these areas and local biodiversity. Infrastructure impacts can affect off-site areas as well.
*Siting infrastructure projects to prevent and minimize direct and indirect impacts is crucial.
*Problems associated with a poorly sited project are very difficult to correct after construction; preventing impacts by selecting appropriate sites during planning is significantly more effective.
*Project teams should reference local, or national prime habitat information.

NW 1.2 Protect Wetlands and Surface Water.

Intent: Protect, buffer, enhance and restore areas designated as wetlands, shorelines, and water bodies by providing natural buffer zones, vegetation and soil protection zones.

Metric: Size of natural buffer zone established around all wetlands, shorelines, and water bodies.

Note: *This credit is evaluated following as a criteria the establishment of a buffer zone that creates a vegetation and soil protection zone (VSPZ) to protect any wetland, shoreline, or waterbody other surface water. To score in this credit, provide specific information on the size of the buffer created.*

Definition:
Buffer zones*. A zonal area that lies between two or more other areas to segregate them to enhance the protection of areas under management, typically for their biodiversity importance. Buffer zones may be around the periphery of an area or may connect two or more protected areas. Buffer zones are intended to mitigate negative environmental or human influences in areas of greater ecological value.*

Will the project avoid development on wetlands, shorelines, and waterbodies?

- No evidence
- Avoid development and at least a 50 foot (15 m) buffer
- Avoid development and at least a 100 foot (30 m) buffer
- Avoid development and at least a 200 foot (61 m) buffer
- Avoid development and at least a 300 foot (91 m) buffer
- More than 300 foot (91 m) buffer

Will the project maintain vegetation and soil protection zones (VSPV) around all wetlands, shorelines, and waterbodies?

- No evidence
- Vegetation and soil protection zone established for at least a 50 foot (15 m) buffer
- Vegetation and soil protection zone established for at least a 100 foot (30 m) buffer
- Vegetation and soil protection zone established for at least a 200 foot (61 m) buffer
- Vegetation and soil protection zone established for at least a 300 foot (91 m) buffer
- Vegetation and soil protection zone established for more than 300 foot (91 m) buffer

Will the project restore degraded existing buffer zones to a natural state?

- No evidence
- Yes, 300 foot (91 m) buffer, and restoration of previously degraded buffer zones to a natural state.

Credit information:
*Wetlands, shorelines, and water bodies provide a number of important ecological services, including mitigating flooding, improving water quality, and providing wildlife habitat.
*Maintaining the integrity of water bodies and wetlands requires more than simply protecting the water body itself from adverse impacts of infrastructure and related development. Upland areas also need to be protected.
*A Vegetation and Soil Protection Zone (VSPZ) is defined as the ground area that must be protected and incorporated into the overall landscaping of a site being subdivided or developed.
*To provide significant protection, a VSPZ must be established within at least 15 meters of the wetlands, shorelines, and water bodies. Increasing this buffer zone improves the level of protection.

NW 1.3 Preserve Prime Farmland.

Intent: Identify and protect soils designated as prime farmland, unique farmland, or farmland of National importance.

Metric: Percentage of prime farmland avoided during development.

Has the project team assessed the project site and determined whether or not the on-site soils have been identified as prime farmland, unique farmland, or farmland of National importance to conserve for future generations?

- No evidence
- Yes, site identification has been conducted

Will this project avoid development on land designated as prime farmland

- No evidence
- No more than 10% of the total area of the vegetation and soil protection zones contain development.
- No development occurs.

To what extent has farmland of statewide importance to conserve for future generations been restored by this project?

- No evidence
- Prime farmland restoration to productive state.

Credit information:
*Agricultural land provides with an unparalleled abundance of food and fiber products.
*Across the country, farmland supports the economic base of many rural and suburban communities.

NW 1.4 Avoid Adverse Geology.

Intent: Avoid development in adverse geologic formations and safeguard aquifers to reduce natural hazard risk and preserve high quality groundwater resources.

Metric: Degree to which natural hazards and sensitive aquifers are avoided and geologic functions maintained.

Will the project team identify and address the impacts of sensitive or adverse geology (earthquake faults, low-lying coastal areas and karst formations and aquifers

- No evidence
- Identified and delineated any faults prior to project siting
- Extensive assessments, adverse geologic areas are well defined.

Has the project team developed plans and designs to reduce the risk of damage, establish operating procedures, and establish a monitoring program for adverse geologic settings?

- No evidence
- Yes, plans developed

Has the project team established hazard areas, developed buffers around adverse geologic areas, and created runoff controls and spill prevention and cleanup plans?

- No evidence
- Yes, plans developed

Has the project team chosen a site that avoids earthquake and karst-related damage and does not affect underlying aquifers? Is there some evidence that this was a project decision or there was no specific risk to be avoided onsite?

- No evidence
- Yes, site is located in a safe area with no adverse geologic features and no negative effects on aquifers.

Credit information:
*Adverse geology includes geology that is vulnerable to natural and man-made hazards.
*There are many types of geologic formations that are difficult to deal with and can either create risk to development or destroy a precious natural resource.
*Earthquake faults can give rise to devastating ground movements, soil liquefaction and tsunamis.
*In contrast, karst topography can be considered a green infrastructure resource, as it may a source of high quality water and provide mechanisms for groundwater recharge, stormwater storage, open space, habitat and recreation. However, it also can be a natural hazard, subject to subsidence, sinkholes, flooding and groundwater contamination.
*Natural processes, such as earthquakes and sinkhole formation, can cause increased building and infrastructure maintenance costs, e.g., structural damage to buildings, collapse of roads, and broken underground utilities.

NW 1.5 Preserve Floodplain Functions.

Intent: Preserve floodplain functions, including coastal plains, by limiting development and development impacts to maintain water management capacities and capabilities and mitigate against climate change impacts

Metric: Efforts to avoid floodplains or maintain pre-development floodplain functions.

Will the project avoid or limit development within floodplains and maintain floodplain infiltration?

- No evidence
- Avoid or mitigate impacts
- Maintain infiltration and water quality

Will the project maintain or enhance riparian and aquatic habitat, including aquatic habitat connectivity?

- No evidence
- Yes, it maintains or enhances riparian and aquatic habitat

Will the project design incorporate a flood emergency operations and/or evacuation plan?

- No evidence
- Yes, flood emergency plan has been prepared for all infrastructure

Does the project maintain or enhance aquatic habitat connectivity and sediment transport?

- No evidennce
- Yes, project is designed to not inadvertently trap sediment and allow fish passage through project reach

Credit information:
*This credit is applicable for waterways of all sizes, unless the project is water dependent infrastructure that must cross or be adjacent to a waterway.
*Some infrastructure projects may not be able to avoid the floodplain (e.g., roadway and utility crossings, wastewater treatment facilities, ports and other water dependent structures). However these structures should be designed to minimize waterway crossings and floodplain impacts.
*It is important to limit the use of impervious surfaces. Impervious surfaces increase storm water runoff volume, increase stream temperatures, and increase pollutant loading on waterways.
*Strategies for maintaining floodplain infiltration should not compromise water quality or result in additional contamination to floodwaters.
*The project should be designed to maintain floodplain storage and not increase flood elevations.

NW 1.6 Avoid Unsuitable Development on Steep Slopes.

Intent: Protect steep slopes and hillsides from inappropriate and unsuitable development in order to avoid exposures and risks from erosion and landslides, and other natural hazards.

Metric: The degree to which development on steep slopes is avoided, or to which erosion control and other measures are used to protect the constructed works as well as other downslope structures.

Will the project team use best management practices to manage erosion and prevent landslides?

- No evidence
- Yes, the project has been designed to minimize alteration and to avoid excessive erosion and the potential for landslides.

Will the project team minimize or avoid all development on, or disruption to, steep slopes

- No evidence
- Seek to minimize siting on hillsides or steep slopes.
- Siting on hillsides or steep slopes totally avoided.

Credit information:
*Hillsides and steep slopes are part of the natural beauty of the landscape. These features increase the values of property and view sheds, and offer opportunities for recreation.
*At the same time, development on or near these features creates risks. However, if improperly developed, hillsides and steep slopes can increase the potential for erosion and landslides. These features also present a greater danger from fires, as they are more difficult to control or fight.
*Designing, building and maintaining infrastructure on hillsides and steep slopes, especially roads, sewers, water systems and power lines, are also more expensive due to the challenges of the terrain.

NW 1.7 Preserve Greenfields.

Intent: Conserve undeveloped land by locating projects on previously developed greyfield sites and/or sites classified as brownfields.

Metric: Percentage of site that is a greyfield, or the use and cleanup of a site classified as a brownfield.

Note: *This credit is evaluated in percentage of the project site located in greyfield (previously developed land). To score in this credit, provide the percentage of land out of the total area that was previously developed or polluted.*

Definitions:
*-**Greenfields**: Undeveloped land in a city or rural area being considered for urban development. This land may contain natural landscape, natural amenities, or agricultural land.*
*-**Greyfields**: This term in some contexts may mean underutilized or abandoned sites, this credit defines all previously developed sites as greyfields. This does not apply to a street, roadway, or altered landscapes resulting from current agricultural use, forestry use, or use as preserved natural area.*
***-Brownfields**: Abandoned or underused industrial and commercial sites usually containing low levels of environmental pollution, such as hazardous waste or industrial by-products. Brownfield sites have the potential to be reused once they are cleaned up, but cleaning the contamination may pose regulatory and monetary challenges. Brownfield sites are typically located in areas with existing infrastructure and/or transportation, which makes them more sustainable sites for development than Greenfield sites.*

What amount of the project development is located on previously developed sites, that is, sites classified as brownfields?

- No evidence of locating the project on a brownfield site
- At least 25% brownfield site
- At least 50% brownfield site
- At least 75% brownfield site
- At least 100% brownfield site

Is the project located on a site where all or part of it is documented as contaminated land?

- No evidence
- Part of the area of the project is in contaminated land
- Area designated as contaminated by local governments or agencies
- Remediation plan in place

Credit information:
*Selecting previously developed sites rather than greenfield sites can significantly reduce impacts on wildlife.
*Such selections may lessen the need for additional infrastructure, as previously developed sites may already be well-connected to transportation, water, and other infrastructure systems.
*While the term greyfield in some contexts may mean underutilized or abandoned sites, this credit defines all previously developed sites as greyfields.
*Brownfield sites are properties with documented or assumed contamination caused by former uses.
*Remediating brownfields has the added environmental benefit of cleaning up contamination. These often under-utilized sites can pose environmental and health risks to their communities. Cleaning up contamination benefits the local environment and community.

NW 2.1 Manage Stormwater.

Intent: Minimize the impact of infrastructure on stormwater runoff quantity and quality.

Metric: Meeting or exceeding applicable effluent discharge standards and controlling non-regulated discharges such as stormwater. Through low impact development (LID*) measures.

Note: This credit is evaluated in percentage. To score in this credit provide information on the increase of water storage/ infiltration capacity beyond pre-development conditions.

Definition:
***LID (Low Impact Development)**. A method for managing stormwater runoff emphasizing conservation and the use of on-site natural features to protect water quality. LID uses small-scale controls to replicate the pre-development hydrologic regime of watersheds through infiltrating, filtering, storing, evaporating, and detaining runoff close to its source. The strategies used may include but are not limited to : gardens and bioretention, rooftop gardens, sidewalk storage, vegetated swales, buffers, and strips, tree preservation, roof leader disconnection, rain barrels and cisterns, permeable pavers, soil amendments, impervious surface reduction and disconnection, pollution prevention and good housekeeping.*

Did the project conduct a water quality baseline to achieve quality targets?

- ○ No evidence
- ○ Yes quality assessment conducted

Has the project designed and implemented a water quality monitoring program

- ○ No evidence
- ○ Yes monitoring programs in place

Are non-regulated discharges such as stormwater treated prior to their discharge?

- ○ No evidence
- ○ Yes, pre-treatment taken into consideration

What is the improvement or maintenance in water storage capacity, evapotranspiration, and/or water harvesting capacity base on the typology of the soil greyfield, brownfield or greenfield?

- ○ No evidence on increase in water storage capacity.
- ○ Water storage capacity same as pre-development.
- ○ Storage capacity increase between 20-40%
- ○ Storage capacity increase between 40-60%
- ○ Storage capacity above 60%

Is 100% of the target water storage capacity achieved to mitigate the impact of adjacent developed sites?

- ○ No evidence
- ○ Project exceeds 100% water capacity.

Credit information:
*Development causes a change to the natural flow of runoff on a site. Increasing the quantity of impervious surface reduces the amount of stormwater that infiltrates into the ground, decreases the amount absorbed and expired by plants (evapotranspiration), and increases the amount of surface runoff.
*Low impact development (LID) measures can be incorporated into the design to reduce negative impacts associated with increased runoff.

NW 2.2 Reduce Pesticides and Fertilizer Impacts.

Intent: Reduce non-point source pollution by reducing the quantity, toxicity, bioavailability and persistence of pesticides and fertilizers, or by eliminating the need for the use of these materials.

Metric: Efforts made to reduce the quantity, toxicity, bioavailability and persistence of pesticides and fertilizers used on site, including the selection of plant species and the use of integrated pest management techniques.

Will operational policies and runoff control in place to control and reduce the application of fertilizers and pesticides?

- No evidence
- Policies and programs in place
- Runoff control and minimization of fertilizers by integration of natural alternative like compost

Will the project team select fertilizers and pesticides appropriate for site conditions with low-toxicity, persistence, and bioavailability?

- No evidence
- Use of fertilizers and pesticides with less toxicity, persistence and bioavailability

Will the project team select appropriate landscaping and plants to minimize or limit the need for fertilizer or pesticides?

- No evidence
- Project designed with plant species that require no pesticides, herbicides and fertilizers.

Credit information:
*Pesticides and fertilizers are a major non-point source pollutant and whenever possible their use should be reduced or eliminated.
*A persistent problem is the over-application of pesticides and fertilizers. These chemicals can contaminate runoff and pollute streams, rivers, lakes and groundwater.
*If pesticides and fertilizers are necessary, it is often possible to use those that have less negative impact on public health and the environment.
In addition, better-suited plants can be chosen to grow in a particular climate without fertilizers and to resist pests.
*Landscaping designs can incorporate plant species that require no pesticides, herbicides and fertilizers. Strategies include the Increased use of composting or practicing integrated pest management.

NW 2.3 Prevent Surface and Groundwater Contamination.

Intent: Preserve fresh water resources by incorporating measures to prevent pollutants from contaminating surface and groundwater and monitor impacts over operations.

Metric: Design programs instituted to prevent and monitor surface and groundwater contamination.

Have adequate and responsive surface and groundwater quantity and quality monitoring systems been incorporated into the project design?

- No evidence
- Focus is on spill and leak detection.
- Expand the focus to monitoring of surface and groundwater quality.

Will spill and leak prevention and response plans be incorporated into the design

- No evidence
- Spill and leak prevention and response plans have been incorporated into the design
- Runoff interceptors and drainage channels designed to accommodate pollutants.

Will the project design reduce or eliminate potentially polluting substances from the project?

- No evidence
- Design for prevention of potentially polluting substances.
- Design for source elimination of potentially polluting substances.

Will the project team seek to reduce future contamination by cleaning up areas of contamination and instituting land use controls to limit the introduction of future contamination sources?

- No evidence
- The project prevents future contamination by cleaning up previously contaminated land.

Credit information:
*This credit concerns equipment and facilities that contain potentially polluting substances, including fuels, chemicals, and other hazardous or polluting materials.
*At the design stage, equipment and facilities containing potentially hazardous or polluting materials are located away from sensitive environments.
*Runoff interceptors and drainage channels are designed to keep pollutants out of stormwater runoff or ice melt.
*At the construction stage, potential sources of groundwater and surface water contamination include spills and leaks from tanks, pipes and construction vehicles, leaching of pollutants from raw or waste materials, and releases of pollutants from demolition of previously constructed works.
*Designers focus on eliminating potentially polluting substances from operations. If this is not possible, designers seek to recycle the substances, keeping them within the operation or sending them off-site for use in other applications

NW 3.1 Preserve Species Biodiversity

Intent: Protect biodiversity by preserving and restoring species and habitats.

Metric: Degree of habitat protection.

Does the project demonstrate that it does not affect natural habitat and movement corridors or will mitigate adverse impacts of development?

- No evidence
- Habitat protection
- Efforts are made to plant appropriate vegetation, improve and expand wildlife corridors, and link existing habitats
- Efforts are made not only protect and upgrade existing habitats, but to restore and create new habitats.

Credit information:
*Urbanization threatens wildlife because it fragments and shrinks areas of suitable habitat. Development tends to decrease the total quantity of available habitat and separate it into smaller, disconnected patches. When patches are not individually large enough to support a population of a species, connectivity between patches is critical for survival.
*Existing habitats should not be harmed, and compensate for losses. Mitigation measures should maintain net habitat quality and area, and provide means for animals to access pre-development habitat after development is complete.
*The project should increase available habitat and increase connectivity between habitat areas by providing new connections that were not available before, or by removing existing barriers to movement and habitat.

NW 3.2 Control Invasive Species.

Intent: Use appropriate non-invasive species and control or eliminate existing invasive species.

Metric: Degree to which invasive species have been reduced or eliminated.

Will the project team specify locally appropriate and non-invasive plants on the site?

- No evidence
- Yes, locally appropriate plans are identified and used.

Will the project team implement a comprehensive management plan to identify, control, and/or eliminate, invasive species?

- No evidence
- Invasive species are identified and controlled
- Invasive species are identified and elliminated

Credit information:
*Invasive species include non-indigenous or non-native flora and fauna that adversely affect the habitats or bioregions they invade. The species may dominate the new region, forcing out existing species by outcompeting the native species for nutrients, light, physical space, water, or food.
*Invasive species may invade and overcome native species through several mechanisms, including rapid reproduction, high ability to disperse, tolerance to or the ability to quickly adapt to a wide range of environmental conditions and food types.
*Non-native, invasive species can lead to the decline or extinction of native species or change the function of an ecosystem, altering fire regimens, nutrient cycling, and hydrology. Invasive plant species may also affect fauna by altering available food systems or changing living habitats.
*The project team should work with state and local agencies and other groups to identify locally appropriate plants.

NW 3.3 Restore Disturbed Soils.

Intent: Restore soils disturbed during construction and previous development to bring back ecological and hydrological functions.

Metric: Percentage of disturbed soils restored.

Have 100% of soils disturbed during construction been restored and reused properly?

- No evidence
- Restore 100% of soils disturbed during construction

Have 100% of soils disturbed by previous development, been restored and reused properly

- No evidence
- Restore 100%of soils disturbed as a result of previous development.

Credit information:
*Restoring soils disturbed during construction in areas that will be re-vegetated (all areas surrounding the constructed works) improves the soil's ability to support healthy plants, biological communities, water storage, and water infiltration.
*Previously developed sites may also benefit from soil restoration.

NW 3.4 Maintain Wetland & Surface Water Functions.

Intent: Maintain and restore the ecosystem functions of streams, wetlands, water bodies and their riparian areas.

Metric: Number of functions maintained and restored.

Will the project maintain or enhance hydrologic connection?

- No evidence
- Yes, always

Will the project maintain or enhance water quality?

- No evidence
- Yes, always

Will the project maintain or enhance habitat?

- No evidence
- Yes, always

Will the project maintain or restore sediment transport?

- No evidence
- Yes, always

Credit information:
*Waterways, wetlands and their riparian areas provide a number of ecosystem functions. Infrastructure and related development has often impacted the ecosystem functions of these aquatic systems.
*There are four main ways to improve ecosystem functions: (1) maintain or enhance hydrologic connections, (2) maintain or enhance water quality, (3) project maintain or enhance habitat, and (4) maintain or restore sediment transport.
*Ideally, All four functions (hydrologic connection, water quality, habitat, and sediment transport) are maintained or enhanced and restored.

NW 3.5 Local Regulations and Standards.

Metric: Sustainability many times means that a project will have to go above and beyond local regulations and standards. How would you compare the local requirement standards vis-a-vis your project's practices and level of achievement in the questions you just answered for the Natural World sub-category?

- Local standards are very limited, or non-existent, in this sub-category.
- Local standards exist in this sub-category, and our project achieved them.
- Local standards exist in this sub-category, and our project surpassed them in some areas.
- Local standards exist in this sub-category, and our project surpassed them in many areas.
- Local standards exist in this sub-category, and our project surpassed them in every area.

Please feel free to provide any additional information on how local regulations and standards compared to your project's achievement.

SUB-CATEGORY CLIMATE AND RISK.

CR 1.1 Reduce Greenhouse Gas Emissions.

Intent: Conduct a comprehensive life-cycle analysis and reduce the anticipated amount of greenhouse gas emissions during the life cycle of the project, reducing the project contribution to climate change.

Metric: Life-cycle carbon dioxide equivalent (CO_2e) emissions reduction.

Will a life-cycle GHG assessment be conducted on the project, using recognized and accepted methodologies, data sources and software?

- ○ No evidence
- ○ A comprehensive life cycle carbon assessment or a carbon footprint analysis has been performed

Based on that assessment, what is the reduction of GHG emissions that the project will achieve?

- ○ No evidence of reduction
- ○ At least 10% reduction
- ○ At least 40% reduction
- ○ Reduction carbon emissions by 100%. Carbon neutral
- ○ Carbon negative and sequesters more carbon-equivalent (CO_2e) emissions than it produces.

Credit information:
*A comprehensive life-cycle carbon assessment should be undertaken in order to estimate the carbon emissions due to materials extraction and processing, material transportation (for the key materials to be used during construction and operation), and project maintenance and operation including vehicle traffic.
*The assessment related to materials includes the carbon emissions generated for the key materials to be used in the project, from their extraction, refinement and manufacture, distance transported and carbon emissions released in use after their incorporation in the completed works.
*The assessment should be based on a conventional design, i.e., one that specifies and sources materials and produces designs that follow the current state-of-the-practice.
*Using the completed life-cycle carbon assessment as the baseline, the project is designed so that its carbon emissions will be substantially reduced.

CR 1.2 Reduce Air Pollutant Emissions.

Intent: Reduce the emission of six criteria pollutants. *These are: particulate matter (including dust), ground level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead, as well as noxious odors.*

Metric: Measurements of air pollutants as compared to standards used.

Will the project be designed in a way that reduces the emission of six criteria pollutants: particulate matter (including dust), ground level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, lead, and noxious odors?

- ○ No evidence
- ○ The project address some of the six criteria pollutants through local regulations
- ○ The project applies international standards (California Ambient Air Quality Standards or Coast Air Quality Management)

Will the project reduce air pollution to the required level, or improve existing air quality to a higher than pre-development level?

- ○ No evidence
- ○ Project emissions create negligible air pollution impacts or have zero impacts
- ○ Project improve air quality to better than pre-development levels

Credit information:
. The pollutants damage human health, property, and the environment.
*The six criteria pollutants are particulate matter (including dust), ground level ozone, carbon monoxide, sulfur oxides, lead, and noxious odors.
*Dust and odors can also cause a nuisance for nearby residents, as well as reduce property values and aggravate lung conditions listed above.

CR 2.1 Assess Climate Threat.

Intent: Develop a comprehensive Climate Impact Assessment and Adaptation Plan. *This plan includes a vulnerability assessment, a risk assessment, and an adaptation assessment, and identifies the risks and responses to the effects of climate change.*

Metric: Summary of steps taken to prepare for climate change and natural hazards.

Will the project team develop a Climate Impact Assessment and Adaptation Plan that identifies climate change risks and possible responses?

- No evidence
- Yes, iImpact assessment and adaptation plan have been conducted

Credit information:
*A comprehensive Climate Impact Assessment and Adaptation plan covers community infrastructure and includes the following components: a vulnerability assessment, a risk assessment, and an adaptation assessment. It identifies the risks and responses to the effects of climate change.
*The plan development process requires close coordination with the local emergency management departments and meetings with the local community.
* Climate change threats and risks can be assessed as an independent study or integrated with disaster risk assessment and management, depending on project scope and scale.

CR 2.2 Avoid Traps and Vulnerabilities

Intent: Avoid traps and vulnerabilities that could create high, long-term costs and risks for the affected communities.

Metric: The extent of the assessment of potential long-term traps, vulnerabilities and risks due to long-term changes such as climate change and the degree to which these were addressed in the project design.

Will a comprehensive review be conducted to identify the potential risks and vulnerabilities that would be created or made worse by the project?

- No evidence
- Basic evaluation on the vulnerabilities that the community could face in the future due to climate change.
- Work with community to conduct high-level review of projected resource demands, resource traps, and vulnerabilities.
- Work directly with community, conducting in-depth integrated risk assessment, determine ways design changes can reduce risk.
- Work with community to define criteria for future infrastructure

Will the project team design the project to reduce or eliminate these risks and vulnerabilities and associated potential costs and risks?

- No evidence
- Identification of potential traps and vulnerabilities and associated costs and risks are provided.

Credit information:
Three types of traps should investigated and their negative effects reduced or eliminated:
*Resources traps: infrastructure projects that increase community dependence on resources that could become very scarce and expensive. For example, adding an additional highway to a community in which already suffers from urban sprawl and which the automobile is the dominant form of travel puts the community at great economic risk if fuel prices were to increase substantially.
*Configuration traps: infrastructure projects that create configurations highly vulnerable to extreme weather events, natural disasters, economic conditions and/or actions by others. For example, placing infrastructure in coastal lowlands or in river floodplains places the community at high risk for sea surges or flooding, given changing climate conditions.
*Standards traps: infrastructure projects delivered according to design standards and methodologies that are not in alignment with changing environmental or operating conditions, or other concerns. For example, designing stormwater management systems that do not take into account.
increases in storm frequency and intensity can place the community at high risk for additional flood damage.
*At the infrastructure systems level, the designer must assess the effect of the project on the community infrastructure as a whole.

CR 2.3 Prepare for Long-Term Climate Adaptability

Intent: Prepare infrastructure systems to be resilient to the consequences of long-term, or slow onset climate change, perform adequately under altered climate conditions, or adapt to other long-term climate change scenarios.

Metric: The degree to which the project has been designed for long-term or slow onset resilience and adaptation.

Will the project team make substantial efforts to restore or rehabilitate any existing effects of long-term change, e.g., desertification, beach erosion, loss of wetlands, etc.?

- No evidence
- Yes, rehabilitation efforts for existing issues of long-term change.

Has the project team selected the site and designed the infrastructure to accommodate a changing climatic environment throughout the project life cycle

- No evidence
- Plans described are highly resilient and adaptive to prepare for long-term climate change.
- Plans described include recovery from adverse effects.

Credit information:
*Infrastructure projects that are designed for today's conditions may not be able to function adequately under altered conditions in the future. Climate change will likely lead to significant changes in the environmental conditions in which they are expected to operate.
*Projects should be designed to withstand or adapt to a range of conditions including changes in temperatures, humidity, precipitation, seasonal hydrology, flooding, increased sea levels, etc.

CR 2.4 Prepare for short-term Hazards

Intent: Increase resilience and long-term recovery prospects of the project and site from natural and man-made short-term hazards..

Metric: Steps taken to improve protection measures beyond existing regulations.

Will a hazard analysis be conducted covering the likely natural and man-made hazards in the
project area as well as frequency and severity of these disasters may change over the life of the project?

- No evidence
- Yes, list and analysis of likely natural and man-made hazards in the project area provided,

Will the project be designed so that is it is able to recover quickly and cost-effectively from short-term hazard events?

- No evidence
- Preparation for 1 in 50 years hazards
- Preparation for 1 in 100 years hazards

Does the project restore habitats in a way that reduces the impacts of future short-term disasters (ex, restoration of wetlands to accommodate flooding or lessen the effects of hurricanes)?

- No evidence
- Restore and rehabilitate natural systems to minimize risks of natural hazards

Credit information:
*Infrastructure systems are subject to short-term hazards such as earthquakes, flooding, droughts, fires and temperature extremes. These hazards may or may not be related to climate change, or may have other risk factors.
*An assessment should be conducted taking into consideration various types of natural and man-made hazards that are possible in the region. The assessment should address the frequency and severity of these disasters may change over the life of the project, e.g., catastrophic wildfires, floods, tornadoes, hurricanes, earthquakes, tsunamis, etc.
*The project should be designed for resiliency, the ability to recover quickly and cost-effectively from short term hazard events.
*Protection measures include risk reduction, risk preparedness and risk transfer solutions

CR 2.5 Manage Heat Island Effects

Intent: Minimize surfaces with a high solar reflectance index (SRI) to reduce localized heat accumulation and manage microclimates.

Metric: Percentage of site area that meets SRI Criteria.

Definitions:
Heat islands (heat island effects)*. An urban area that is significantly warmer than its surrounding rural areas due to materials that cause heat accumulation and lack of vegetation, which cools through evapotranspiration. While the heat island effect has not proven to influence Earth´s global temperatures, it can increase the need for air conditioning and other forms of cooling that require energy.*

SRI (Solar Reflectance Index)*. A measure of a material's ability to reject solar heat, as shown by a small temperature rise, which incorporates both solar reflectance and emittance in a single value. SRI is defined such that standard black (reflectance 0.05, emittance 0.90) is 0 and standard white (reflectance 0.80, emittance 0.90) is 100.*

Will the project be designed to reduce heat island effects by reducing the percentage of low solar reflectance index (SRI) surfaces?

- No evidence
- 10-30% heat-producing surface reduction.
- 31-60% heat-producing surface reduction.
- 61-90% heat-producing surface reduction.
- 91-100% heat-producing surface reduction.

Credit information:
*Many hard surfaces, such as rooftops and pavement, absorb a large percentage of the incident solar radiation, heating the surfaces and the surrounding air. This alters the microclimate around them and can lead to an increase in energy consumption for additional cooling. The cumulative impact of heat island effects across large areas can also contribute to larger climate-related effects.
*The heat island effects can be mitigated by reducing the percentage of low solar reflectance index surfaces.

CR 2.6 Local Regulations and Standards.

Metric: Sustainability many times means that a project will have to go above and beyond local regulations and standards. How would you compare the local requirement standards vis-a-vis your project's practices and level of achievement in the questions you just answered for the Climate and Risk sub-category?

- Local standards are very limited, or non-existent, in this sub-category.
- Local standards exist in this sub-category, and our project achieved them.
- Local standards exist in this sub-category, and our project surpassed them in some areas.
- Local standards exist in this sub-category, and our project surpassed them in many areas.
- Local standards exist in this sub-category, and our project surpassed them in every area.

Please feel free to provide any additional information on how local regulations and standards compared to your project's achievement.

Are there any credits that you believe are not applicable to your project? Please tell us which ones and briefly explain why.

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SELF-EVALUATION CONCLUSION

By clicking the right arrow below your questionnaire will be submitted. Afterward you will not be able to modify your answers. By clicking the left arrow you can go back to the pevious pages.

*If you want to submit the questionnaire press "next"