Regarding the treatment of solar panels, we currently consider the following **two methods** acceptable (choose one):

Method 1: Higher imperviousness for the paneled areas (vs existing). Use 80% imperviousness.

Method 2: For Drainage Reports which treat paneled areas with the same imperviousness as existing conditions, the following will be required:

- Existing Vegetation Survey
    - The survey should mention the fraction of ground covered by vegetation and the fraction that each species makes up the vegetative cover. The survey should also specify the rooting depth and shade tolerance of each species.
- Initial and Final Soil Reports
    - The preconstruction soil report should include depth to confining layer (up to 5 ft), soil composition (% clay, silt, loam), type (ex. Type D soils), and compaction (bulk density and maximum dry density).
    - The final soils report should include compaction (after all ground surface disturbing activities at the site have been completed).
    - Both soil reports are required to be performed by a license Professional Engineer in the State of Colorado.
- A Vegetation Plan that Includes a Maintenance Agreement
    - The vegetation plan will specify how to re-establish vegetative cover in disturbed areas to meet or exceed pre-disturbance levels and will indicate the type of native vegetation that will be used.
    - The plan should emphasize establishment of vegetation between and under the panels. To facilitate the establishment of vegetation, various measures, including cover crops, will need to be incorporated into the plan. Deep-rooted vegetation is preferred and additional time for re-establishment will be recognized.
    - The plan will include a maintenance agreement regarding new and existing vegetation. The maintenance agreement will cover the condition where vegetation cannot be established and/or maintained according to the plan, up to implementation of control measures.
    - Low Impact Development (LID) construction practices that reduce soil compaction should be incorporated into the vegetation plan. Practices include minimal grading, maintaining existing vegetation and avoiding topsoil removal and soil compaction.
    - Where excessive soil compaction occurs, decompaction will be necessary. When necessary (as determined by PCPW staff), decompaction will be a minimum of 6 inches between arrays and 4 inches under arrays.
    - Please note that the applicant is responsible for distributing the vegetation plan to the contractor.
- Additional Information
    - Plans should provide average site grade and site contours.
    - Solar panel orientation relative to the rows (landscape or portrait) and to the contour lines (parallel to or degrees from parallel) should be specified. Panel height (3-10ft), width and length should be mentioned, as well as the distance between each row of solar arrays. Also, mention whether the panels are tracking or fixed.

Method 2 Additional Requirements:

1. Vegetation will be re-established and maintained to 100% of existing conditions (**not 70%**).
2. Excessive soil compaction, which limits vegetation and infiltration, will require decompaction. Excessive soil compaction is determined as compaction that exceeds the initial (existing) condition.
3. The height of the drip edge of the panels will not exceed 10 feet to reduce erosion but will be at least 3 feet to increase plant diversity.
4. Paneled areas where the conditions above cannot be obtained will be treated as 80% impervious (according to Method 1).
5. If the required reports/surveys are missing, then the report should use Method 1 for all paneled areas.
6. Additionally, where panels are not sufficiently aligned with the topography, we will require control measures (such as level spreaders) to establish sheet flow conditions.
7. When additional control measures are needed the drainage report and plan must be revised.