ColivingLiguria

Roof Covering Project: Casa del Noce

Non-structural CILA, conditional self-execution, and photovoltaic pre-arrangement

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Abstract

This report updates the Casa del Noce roof project within CILA file EC-NO-004. The objective remains the non-structural reconstruction of the roof build-up, with ventilated layer, insulated and waterproof sandwich panels, selective tile recovery, and pre-arrangement for future photovoltaics. The operational update is the assessment of self-execution: the document does not present it as automatically free, but as a possibility conditional on technician confirmation, CILA filing, absence of structural work, real management of fall-from-height risk, and compatibility with manufacturers' instructions.

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To be defined: final 3D measurements, tile strategy in PV areas, exact materials and Class D grant 1.33 costs.

§ 1 Context and Introduction

1.1. Purpose, limits, and building classification

The intervention concerns only the roof build-up above the existing structure of Casa del Noce. Rafters, ring beam, supports, new floor slab, staircase, strengthening works, and any change to shape, ridge level, or use are excluded. The preliminary surface is recorded at the instructional stage as 50 m^2, to be measured with metric survey and 3D model before purchasing panels. From a planning standpoint, complete reconstruction of the roof build-up with added insulation must not be classified as ordinary maintenance or free building activity: it is non-structural extraordinary maintenance and requires CILA if the technician confirms there are no structural parts, shape changes, or different municipal requirements. The filing becomes SCIA or another title if structural works, significant level increases, facade changes, or specific prescriptions emerge.

The possibility of materially performing the work as self-execution does not change the building classification. CILA is still required because the work is unitary and substantial; it is not correct to replace a roof pitch piece by piece only to call it ordinary maintenance. The only legitimate space for direct self-execution concerns how works are carried out after the building title, not the title itself. The report therefore keeps two technical outcomes open, to be chosen in writing: self-execution allowed by the technician with written fall-protection scheme and operating limits, or panel installation entrusted to a contractor with light preparatory activities performed by the property.

1.2. Materials and photovoltaic pre-arrangement

The desired build-up includes: preservation of the original lower layer visible from inside, if sound; possible spacer element or ventilation system; sandwich panels suitable for pitched roofs; manufacturer-prescribed fixings; flashings, ridge elements, junctions, gaskets, and bird mesh; photovoltaic pre-arrangement; tiles or pantiles only in non-technical zones or as removable temporary finish. Recovered tiles must be selected: broken, delaminated, or unstable ones remain excluded. Existing sheets may be reused only if the technician considers them sound, non-sharp, undeformed, and functional to ventilation; otherwise they must be removed or replaced with battens or ventilation profiles.

Photovoltaic pre-arrangement must be integrated now. Future module areas must be identified, preferably on the best roof pitch for exposure and shadows, leaving distances from edges, chimneys, obstacles, and maintenance passages. Definitive tiles that are hard to remove must not be laid in solar areas: the sandwich panel must remain inspectable or receive a temporary finish declared removable without damage. Rails or anchoring points compatible with the selected panel, watertight cable gland, UV-resistant conduit toward the future inverter/battery area, and equipotential point must be prepared. Before module installation, electrical checks, wind, snow, loads, isolators, and grid connection will be needed; now the roof is prepared so it will not have to be perforated later.

1.3. Equipment, PPE, and work at height

The critical point is not only planning law, but safety. Owning harness, lanyards, via-ferrata sets, or climbing equipment does not automatically make roof work safe or compliant. Roof work requires reliable anchors, access route, edge protection, pendulum management, rescue plan in case of fall, exclusion of wind and rain, panel-lifting management, prohibition of working alone in exposed phases, and verification of anchor-point capacity. Personal equipment may be part of the kit, but it does not replace a lifeline or certified temporary system if the technician considers it necessary.

The final decision must distinguish activities. Self-execution may be allowed, if safe, for measurements, tile selection, light cleaning, localized removal of non-dangerous elements, and ground preparation. Roof-pitch activities may be allowed as self-execution only with written instruction from the technician: portion removal, spacer laying, panel laying, fixings, flashings, and photovoltaic prearrangements. They must be entrusted to a contractor or deferred if they require scaffolding, access to an unprotected edge, handling of long panels with wind risk, work near electrical lines, structural works, or watertightness responsibility that the technician does not want to certify as self-executed work.

§ 2 Regulations and Permits

2.1. Roof building regime

The roof is the most delicate intervention in the group, because a roof build-up may remain non-structural only if it does not modify rafters, ring beam, supports, shape, ridge level, elevations, or load-bearing behavior. The proposed line is non-structural CILA, not free building activity, with filing before start and a precautionary wait of five working days from the PEC of the general EC-NO-004 package. If the technician finds that sandwich-panel installation requires support modifications, structural fixings, complex scaffolding, or watertightness responsibility incompatible with direct self-execution, the report does not collapse: the execution scenario changes from full self-execution to preparatory self-execution or contractor installation.

Photovoltaic pre-arrangement must be read as technical pre-arrangement, not as installation of a system. The CILA describes cable routes, inspectable areas, points compatible with future anchors, and the choice not to reinstall definitive tiles in module zones; the actual PV system remains excluded and will later be checked for loads, wind, electrical connection, and sector rules. This separation allows an intelligent roof to be built now without turning the filing into authorization of a system not yet designed.

2.2. Permits, sources, and file to preserve

The file must include: CILA and filing receipt, certified report, existing/proposed drawing, roof build-up section, PV area indication, panel technical sheets, manufacturer instructions, technician verification of absence of structural works, decision on self-execution, pre-work photographs, in-work photographs, and final photographs. If the technician requires a contractor, DURC or equivalent documents, insurance, technical-professional eligibility, and a statement of performed works must be added. If self-execution is allowed, it must remain written that it is not free building activity and that each intervention is performed under the client's responsibility within the certified perimeter.

Official sources consulted: Presidential Decree 380/2001 through Normattiva; Ministerial Decree 2 March 2018 free-building glossary in the Italian Official Gazette; Cairo Montenotte Municipal Building Regulation in the internal file; Legislative Decree 81/2008 and Liguria Regional Law 5/2010 for the safety and fall-prevention framework. These sources are used to structure the project, but do not replace certification by the qualified technician.

Minimum official references: Normattiva Presidential Decree 380/2001; Italian Official Gazette Ministerial Decree 2 March 2018; MIT DL Salva Casa Guidelines.

2.3. Preventive notice and technical stop

In the CILA file, the roof must be communicated with cautious and non-aggressive wording: non-structural intervention on the roof build-up only, with no change to rafters, ring beam, supports, ridge, shape, or elevations, with technical pre-arrangement for future photovoltaics and with self-execution

subject to the technician's decision. After the general EC-NO-004 package is sent by PEC or municipal channel, ColivingLiguria waits five working days before starting roof works. This interval is not used to turn silence into authorization, but to give the Municipality concrete time to request additions, indicate a different classification, or raise doubts before the roof is opened.

Stop conditions must also be written on the drawing. Roof work stops if deteriorated load-bearing elements appear, if the new build-up requires thicknesses that materially alter external levels, if panels impose unforeseen fixings, if the fall-protection system is not validated, if the opened portion cannot be closed within the day, or if photovoltaic pre-arrangement requires premature system choices. In each of these cases the report remains useful as a basis, but execution returns to the technician for revision, contractor involvement, or separation into a later filing.

The roof decision register must also preserve the discarded alternatives: full self-execution, mixed execution with contractor, roof deferral, or reduction of the intervention to localized repairs only. Recording alternatives prevents the final choice from appearing casual in case of review. The technician can therefore demonstrate that the CILA is not designed to bypass a SCIA, but to keep in the current perimeter only the intervention that truly remains non-structural.

§ 3 Photographs, Surveys, Plans, and Drawings

3.1. Required drawings

Required drawings are: roof plan, build-up section, access and safety scheme, future photovoltaic area layout, cable route, future inverter/battery position, areas with definitive tiles, and areas with removable finish. The drawing must clearly distinguish self-execution scenario and contractor scenario, because execution responsibility changes.

To complete: CloudCompare survey, PV drawing, and dimensioned build-up section.

The roof plan must show at least the main roof-pitch dimensions, slope, eaves and ridge lines, discontinuities, chimneys or vents, shadow zones, and areas to keep ready for solar modules. The build-up section must indicate, from bottom to top, the existing layer kept, any ventilated chamber, sandwich panel, watertight elements, tile finish where planned, and parts left inspectable. A decorative drawing is not needed: what is needed is a drawing allowing the technician and Municipality to understand that rafters, ring beam, and shape are not touched.

The safety scheme does not need to become a full site drawing if the technician does not require it, but it must contain at least access, work area, ground exclusion zone, anchor points or temporary system, rescue path, and weather limit. If the technician does not want to certify that scheme, the document must say so and move to the contractor scenario for installation. This clarity is preferable to vague wording because it prevents the CILA from being read as permission to work at height without a safety design.

3.2. Mandatory photographs

Mandatory photographs include pre-work roof, inner roof side, tiles, sheets, gutters, accesses, and damp points; photographs during removal, support plane, ventilation, panels before tiles, fixings, flashings, cable glands, and PV pre-arrangements; final photographs after rain or controlled wetting. Photographs must be named by date and phase.

Pre-work photography must document not only aesthetic condition but also the reason for the intervention: broken or unstable tiles, inconsistent sheets, leakage points, discontinuities, gutters, and zones where future photovoltaic installation would be made difficult by definitive tiles. During works, images

must be taken before layers are covered: if a fixing or cable gland disappears under a finish, the prior photograph becomes an essential part of the file. Final photography must include overall views and junction details, not only the finished roof from far away.

For submission to the Municipality, a limited number of images may be selected, but the internal archive must be complete. The recommended photographic folder is: 00-pre-work, 01-removal, 02-lower-layer, 03-ventilation, 04-panels, 05-fixings-junctions, 06-PV-pre-arrangement, 07-finish, 08-rain-check. This structure makes the work verifiable even months later, when solar modules are installed or when the technician needs to reconstruct how the build-up was closed.

Roof images must also show the relationship between the covering and excluded parts. Rafters, ring beam, or structural elements that are not touched must be recognizable at least in accessible points, so that the file does not appear to be a disguised structural reconstruction. If some elements are not visible, the report must state this and refer to the technician's verification; hidden details must not be invented.

3.3. Roof decision checklist

This checklist is deliberately decision-oriented. If even one essential item remains open, the roof must not be treated as ready for self-execution. The CILA may still include the intervention as non-structural work, but physical execution must be limited, entrusted to a contractor, or deferred according to the technician's instruction.

- ☐ CILA filed before the unitary intervention.
- ☐ Technician confirms absence of structural works.
- ☐ Self-execution or contractor scenario chosen in writing.
- ☐ Fall-protection scheme approved, if self-execution.
- ☐ PV pre-arrangement drawn and photographed.

The technical conclusion of this report is therefore prudent: non-structural reconstruction of the roof makes sense within the CILA if the build-up does not alter structure and shape; pre-arrangement for solar panels should be done now to avoid new future perforations; full self-execution is admissible only if the technician makes it explicit and if work-at-height safety is not left only to personal experience or sports equipment not integrated into a controlled system.

§ 4 Execution Phases and Practical Procedure

4.1. Survey, scenario choice, and material order

Before purchasing materials, roof pitches, diagonals, ridge, eaves, slopes, available thickness, and access must be measured. The 3D survey must be compared with real measurements to avoid errors in waste allowance and panel lengths. The technician must formally choose the scenario: conditional full self-execution, preparatory self-execution only with contractor installation, or roof deferral. The choice must occur before purchases to avoid buying panels incompatible with the allowed installation method. If the outcome is self-execution, the technician must also indicate anchors, sequence, weather limit, and minimum number of persons present on the ground for emergency.

The survey must produce a small quantity sheet: real surface of each roof pitch, useful panel length, support points, overhangs, eaves, ridge, side junctions, chimneys, vents, any antennas, shadow areas, and future PV zones. The preliminary 50 m^2 surface is sufficient for an estimate, but not for ordering sandwich panels: an error of a few centimeters on length may create useless cuts, wrong overlaps, or

leakage points. The survey must also mark areas where work can be done safely from inside or from a protected point and areas where work occurs on the exposed roof pitch. This distinction allows the technician to decide whether self-execution is genuinely sustainable or whether some phases must be entrusted to a contractor.

Scenario selection must be documented with a signable note. Scenario A: ColivingLiguria performs the intervention directly, but only within a specific safety plan and with handleable materials. Scenario B: ColivingLiguria performs survey, tile selection, cleaning, preparation, and ground works, while a contractor lays panels and junctions. Scenario C: the roof is excluded from the current CILA and deferred. The document must not leave a fourth implicit option, namely starting works and deciding later: on a roof, once the covering has been removed, the urgency to close again must not replace design.

4.2. Selective removal and temporary protection

Removal must proceed by small areas that can be closed again. Recoverable tiles are numbered or stacked by zone; broken ones are separated; degraded sheets and fixings are photographed before disposal. A whole roof pitch must not be uncovered without stable weather and a ready tarp. Wherever rot, sagging, cracks, deep dampness, or suspicious load-bearing elements appear, work stops and the roof exits the direct self-execution scenario until reassessed.

Temporary protection must be planned before removal, not improvised afterwards. Waterproof tarps, battens or safe weights for fixing, non-cutting tape or ropes, tile collection point, containers for sharp fixings, and free passage for transport must be available. Every uncovered portion must be capable of being closed again within the same day or in any case before weather worsens. If the lower layer visible from inside is preserved for aesthetic reasons, it must not be used as a walking surface and must not be loaded with stacks of tiles or panels.

Existing sheets deserve an autonomous decision. If they are corrugated, sharp, or degraded, they must not remain hidden under a new build-up without a clear function; if instead they are sound and useful as a ventilated chamber, they must be fixed and spaced coherently. The key point is that no existing element is kept merely to avoid disposal: in the new roof every layer must have a function, water path, drying ability, and compatibility with panel fixings.

4.3. Panel laying, junctions, and pre-arrangements

Installation must follow the panel manufacturer's instructions. Fixings must be prescribed ones, with intact washers and correct torque; overlaps must respect roof-slope direction and prevailing wind direction; ridge elements, flashings, and edges must discharge water outward. Photovoltaic pre-arrangement must be installed before finishes: rails or anchoring points, cable gland, conduit, and future inverter position must be marked on drawing and photographed. Temporary holes without a final watertight system must not be made.

The recommended sequence is: laying or checking the preserved lower layer; possible creation of ventilation with spacers or profiles; laying the first panel from a controlled edge; alignment check; fixing according to technical sheet; laying subsequent panels with correct overlap; temporary closure of the portion; internal check; side junctions; ridge; eaves; cable glands. Each phase must produce a photograph before being covered. If a panel must be cut, the cut edge must be protected according to manufacturer instructions and not left exposed to oxidation or leakage.

Photovoltaic pre-arrangement is not the installation of modules. In this phase the only goal is to avoid destructive future works: prepare compatible fixing zones, watertight cable passage, protected conduit, descent position toward the future inverter, and inspectable area. Brackets must be compatible with the selected sandwich panel and must not create water bridges. If the definitive PV system is not yet known, it is better to prepare passages and free areas rather than install incompatible supports. The drawing must clearly state: "pre-arrangement for future PV, modules not installed in this phase".

4.4. Tiles, technical areas, and final check

Tiles must not be reinstated everywhere by habit. In areas intended for photovoltaics it is preferable to leave inspectable panel or removable temporary finish; in visible and non-technical bands, sound tiles may be reinstated with a compatible system. The final check must include external inspection, internal inspection after rain, and verification of ventilation, edges, ridge, eaves, cable glands, and prepared points. The photographic file must show what will no longer be visible after finishes.

Tile finish must be subordinated to the logic of the build-up. If tiles are only aesthetic, they must be laid so that they do not retain water, crush gaskets, block ventilation, or prevent maintenance of PV points. If an area will be occupied by solar panels, the objective is not to create duplicate work: leave the area prepared, safe, waterproof, and accessible. Where tiles serve aesthetic continuity, only intact, stable elements compatible with the slope are used; damaged ones must not be reinstated for false economy.

Final verification is not closed on the same day as installation. There must be an immediate check and a check after rain or controlled wetting, observing the underside, joints, ridge, eaves, and cable glands. Any anomalies are corrected before considering the work complete. If the roof has been self-executed, the photographic report must be more orderly, not less: precisely because there is no contractor statement, the file must show materials, sequence, fixings, hidden points, and checks.

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