



Sunnyvale Civic Center

465 W. Olive Ave, CA, 94086

Construction & Demo Debris Management Plan

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SECTION 1

Waste Management Goals

Hensel Phelps understands that the building contractor plays a critical role in the management of jobsite produced construction debris. Hensel Phelps has adopted a waste reduction and recycling policy that will be implemented at the Sunnyvale Civic Center project site.

This Construction & Demolition Debris Management Plan (CDDMP) is submitted in compliance with the Owner's LEED Version 4.1 project requirements, and the requirements of the City of Sunnyvale Department of Environment. It will be implemented by Hensel Phelps, its subcontractors, and site personnel during the entire demolition and construction phase of the City Hall and EOC project. The Sunnyvale Civic Center project consists of three buildings City Hall approximately 119,874 square feet of new construction, Emergency Operation Center approximately 15,002 square feet of new construction, and Public Safety Headquarters Renovations approximately 17,450 of tenant improvements.

By effectively managing this CDDMP, Hensel Phelps plans to meet the minimum 75% landfill diversion requirement by weight of the waste generated on site from inception to completion and close out. Additionally, Hensel Phelps will strive to achieve a goal of 95% waste diversion for the project. The following plan outlines the expected wastes to be generated on site, means of recycling and disposal, handling methods, hauling, and required documentation. The Contractor shall generate the least amount of waste possible and employ processes that ensure generation of the least waste possible. Reasons excess waste is generated on a typical construction site are as follows; - Errors in the execution of the work, poor planning, breakage, mishandling, contamination, lack of communication to the supply chain, and other factors – these factors will be on the forefront throughout the design, procurement, demolition and construction phases of the project and will be mitigated to the maximum extent possible.

The following list identifies waste categories that will be generated during the Demolition Phase of the project:

Waste Categories	C&D / Site Source Separate / Reuse
Asphalt	Site Source Separate
Concrete, CMU	Site Source Separate
Steel / Metal	C&D / Site Source Separate
Ceiling Tiles	Site Source Separate
Gypsum Based Products	C&D / Site Source Separate
Aluminum	C&D / Site Source Separate
Glass	C&D / Site Source Separate
Vegetation	Site Source Separate / Reuse
Stone, Brick, and other inert material	C&D
Roofing Material	C&D
Exterior siding Materials	C&D
Wall and Floor Tile	C&D
MEP Fixtures	Site Source Separate / Reuse
Equipment	Site Source Separate / Reuse
Compostable	Site Source Separate
Individual Drink Containers	Site Source Separate
Universal Waste	Site Source Separate

The following list identifies waste categories that will be generated during the Structural Phase of the project:

Waste Categories	C&D / Site Source Separate / Reuse
Concrete, CMU	Site Source Separate
Steel / Metal	Site Source Separate
Wood	C&D / Site Source Separate
Cardboard	C&D
Plastics (Sheeting, Shrink wrap, Packaging, etc.)	C&D
Compostable	Site Source Separate
Individual Drink Containers	Site Source Separate
Universal Waste	Site Source Separate

The following list identifies waste categories that will be generated during the Rough-in / Exterior Enclosure Phase of the project:

Waste Categories	C&D / Site Source Separate / Reuse
Steel / Metal	C&D / Site Source Separate
Wood	C&D / Site Source Separate
Cardboard	C&D
Plastics (Sheeting, Shrink wrap, Packaging, etc.)	C&D
Gypsum Based Products	C&D / Site Source Separate
Aluminum	C&D / Site Source Separate
Soil / Rock	Site Source Separate / Reuse
Stone, Brick, and other inert material	C&D
Roofing Material	C&D
Exterior siding Materials	C&D
Excess Materials	Restock
Compostable	Site Source Separate
Individual Drink Containers	Site Source Separate
Universal Waste	Site Source Separate

The following list identifies waste categories that will be generated during the Interiors Build out and Finishes Phase of the project:

Waste Categories	C&D / Site Source Separate / Reuse
Steel / Metal	C&D / Site Source Separate
Wood	C&D / Site Source Separate
Cardboard	C&D
Plastics (Sheeting, Shrink wrap, Packaging, etc.)	C&D
Gypsum Based Products	C&D / Site Source Separate
Aluminum	C&D / Site Source Separate
Soil / Rock	Site Source Separate / Reuse
Stone, Brick, and other inert material	C&D
Carpet	C&D
Excess Materials	Restock
Ceiling Tiles	C&D
Wall and Floor Tile	C&D
Wall and Floor and Ceiling Finishes	C&D
Compostable	Site Source Separate
Individual Drink Containers	Site Source Separate
Universal Waste	Site Source Separate

The following list identifies waste categories that will be generated during the Interiors Build out and Finishes Phase of the project.

Waste Categories	C&D / Site Source Separate / Reuse
Steel / Metal	C&D / Site Source Separate
Wood	C&D / Site Source Separate
Cardboard	C&D
Plastics (Sheeting, Shrink wrap, Packaging, etc.)	C&D
Gypsum Based Products	C&D / Site Source Separate
Aluminum	C&D / Site Source Separate
Soil / Rock	Site Source Separate / Reuse
Stone, Brick, and other inert material	C&D
Carpet	C&D
Excess Materials	Restock
Ceiling Tiles	C&D
Wall and Floor Tile	C&D
Wall and Floor and Ceiling Finishes	C&D
Compostable	Site Source Separate
Individual Drink Containers	Site Source Separate
Universal Waste	Site Source Separate

The overall goal of this CDDMP is to have the Contractor:

- Minimize waste disposal in landfills
- Maximize use of Reuse, Restock, Salvage Source-Separated and Mixed Debris Recycling Facilities

When practical, use onsite recycling to:

- Protect the environment, both onsite and offsite, during demolition and construction operations.
- Prevent environmental pollution and damage.
- Effect optimum control of solid waste and recoverable resources generated in the Work.

Of the inevitable waste generated, Contractor shall reuse, restock, salvage, or recycle as many of the waste materials as commercially feasible.

In addition, Hensel Phelps's Sunnyvale Civic Center project team shall implement waste reduction measures in the job site office or trailer and project site, including but not limited to the following:

- Eliminate the procurement of unneeded office supplies
- Purchase products made with recycled content such as paper and recycled aggregate
- Reduce waste by printing and copying double-sided
- Fully participate in available and required recycling and composting programs (both in the jobsite office as well as on the jobsite in the labor break area)
- Jobsite labor is required to take lunch in a designated break area where black/blue bins are provided
- Utilize Universal waste collection containers to capture waste streams like disposal batteries, aerosol cans, etc.
- Fully implement the use of environmentally friendly cleaning products at the jobsite offices and onsite final cleaning program.
- Fully track and implement a hazardous material tracking and disposal program so that products do not end up in the C&D Bins.

End of Section

SECTION 2

Plan Implementation, Oversight & Enforcement

Hensel Phelps is required to monitor, implement and document this plan throughout the construction phase of this project and will ensure the Trade Subcontractors are effectively implementing the procedures and are in compliance with Specifications, Construction & Demolition Debris Management Plan (CDDMP), and Hazardous Materials Management Plan.

Subcontractor Implementation starts in the procurement process and carries through to subcontracting. Hensel Phelps will cover the details of the plan in the pre bid conference, bid package documents, and have contractual language that ties each subcontractors and their lower tier subcontractor to the plan. The details of the plan will be discussed in the pre job meeting with each subcontractor and their key field supervision. We will also require that each subcontractor sign the CDDMP acknowledgement form prior to starting work. Additionally, each subcontractor's monthly billing will include a line item for complying and documenting the monthly requirement. In the case a subcontractor is responsible for their own bins on site, they will be required to provide monthly waste summaries and tags concurrent with applications for payment.

Monitoring of on-site compliance of the CDDMP will be performed by Hensel Phelps. A lunch area located at the Civic Center project site will be shared by both Hensel Phelps and their subcontractors. The location will be communicated to all on-site subcontractors and labor personnel at the Jobsite orientation and the pre job meeting. We will also include the description of these areas and the requirements within the bid documents and subcontracts. Training will occur to educate staff and craft about keeping food waste from contaminating the debris bins. Separate lunch waste bins will be set up in this area to mitigate contamination.

The hauler for this project will be **Specialty's**.

Hensel Phelps will verify that Trade Subcontractors are using registered transporters and registered facilities. Only registered transporters can remove mixed construction and demolition debris from the construction site, and they must take this material to a registered facility. Hensel Phelps will ensure that a registered Waste Management Company, servicing the applicable city of work, is retained by all trade subcontractors and they meet the City/LEED requirements.

Specialty's does not source separate onsite. The project team will provide a designated **concrete** debris bin, **metal only** bin and all other waste will be disposed as **mixed C&D**. Both City Hall and the EOC building sites will have their own dumpster bins. Project team will work with high debris generating trades, such as drywall and ACT, to divert drywall into a special waste bin.

To reduce waste at the source, the Contractor will request that all vendors deliver materials in reusable packaging where possible. Additionally, prefabrication of component systems is to be requested wherever feasible.

Hensel Phelps and its subcontractors will be requested to implement procedures in which materials are recycled and/or reused onsite, such as removal of existing equipment prior to demolition for reuse within the Civic Center campus, or removal and replanting of the garden area plants within the Civic Center campus, etc.

Handling of the materials is important towards reaching our diversion goals. Contractor shall assure that materials shall be free of dirt, adhesives, solvents, petroleum contamination, and other substances that hinder the recycling process. Contractor shall clean materials that are contaminated before placing it in collection containers. For contaminated or toxic materials, proper disposal shall be done as required by the Hazardous Materials Management Plan

The contractor agrees to not burn, bury, or otherwise dispose of solid waste on or off Site.

Additionally, the Sunnyvale Civic Center project shall comply with all applicable Specifications Standards and Codes related to disposal of materials generated on the construction site.

End of Section

**SECTION 3****Meetings & Communication**

Hensel Phelps's staff, each and every trade contractor and subcontractor will be made aware of the project specific requirements for C&D diversion before being allowed to work on the site. The CDDMP and logistics will be reviewed with all subcontractors during each Subcontractor Pre Job meeting. Furthermore, Construction & Demo Debris Recovery Management will be on the agenda at regular construction meetings to update the project team on the status and goals for repurposing and donating materials, diverting waste and mitigation measures needing to be implemented if these goals are not being met.

End of Section

SECTION 4

Documentation

Documentation of the plan consists of the following:

- Trade contractor and vendor waste management strategies and goals to meet project requirements.
- If a trade contractor diverts material under its own waste management strategy, then the trade contractor will be required to provide a monthly summary of the total waste material with backup documentation including manifests, weight tickets, receipts and invoices as applicable.
- The amount recycled (in tons), material types, recycling procedures, and processing facility locations to which materials were diverted waste hauler should also distinguish between source separated and comingled.
- All waste tracking will be documented and uploaded into Green Halo, per the jurisdiction reporting requirements.

The above documents will then be combined by Hensel Phelps and included in a single Construction & Demo Debris Recovery Management Summary Report on a **monthly** basis. The hauler team summary reports will be submitted with the calculated diversion rate to both the City of Sunnyvale Environmental Service Department and to the Sunnyvale Civic Center Jacobs Team.

The hauler team will track and calculate the quantity (in tons) of all waste leaving the project and calculate the waste recycled for the project. The hauler team will provide Hensel Phelps the reports on gross weight hauled and the recycled percentage for comingled debris and for each source monthly. In the event that the hauler team does not service our debris boxes on the project, the hauler team will work with the responsible parties to track the material type and weight (in tons) in such debris boxes in order to determine recycled percentages for these materials.

If materials are removed from the site during the demolition phase of the project for reuse on the Civic Center campus the Hensel Phelps team will work with the city of Sunnyvale and Jacobs Team to determine the calculated tonnage of waste diverted for reuse from the project.

Hensel Phelps will directly control C&D waste activity through the end of the project. Any subcontractors that haul their own waste offsite or utilize an alternate strategy like restocking or reuse will be required to meet the applicable City's C&D requirements and provide Hensel Phelps with the aforementioned listed documentation. Hensel Phelps will collect and track all waste that comes off this jobsite during our contracted construction phases by working intimately with the Haulers and Recycling facilities to create a comprehensive diversion calculation. C&D diversion updates will be submitted with each Quarterly LEED progress report submittal and **monthly** via the Green Halo system. Data will be collected on going throughout the project by using the "Sunnyvale Civic Center C&D Waste Tracking **Calculator**" so that the project always has a current waste diversion rate.

End of Section

SECTION 5**Construction & Demo Debris Recovery Management and Diversion Records**

The Contractor's records for Construction & Demo Debris Recovery will be prepared from inception of work through completion. The actual quantities in the reports will be updated by Hensel Phelps based on weight tickets provided. This includes:

1. Disposal Receipts: Compiled copies of all receipts issued by a disposal facility for C&D waste that is disposed in a landfill.
2. Recycling Receipts: Compiled copies of all receipts issued by an approved recycling facility. For co-mingled materials, include weight tickets from the recycling hauler or material recovery facility and verification of the recycling rate for co-mingled loads at the facility. Tracking shall include the diversion of a minimum of four source-separated material streams, or more as set by the team goals.

Upon project completion, this documentation will be compiled by Hensel Phelps into a Final Contractor's Report of Construction & Demo Debris Recovery

OR

Contractor's Construction and Demolition Waste Report

End of Section

SECTION 6

LEED for *Building Design and Construction Version 4*
Documentation for Materials and Resources
Minimum 75% Diversion

The Contractor must meet 75% landfill diversion. These diversion goals are to be achieved through:

- The Contractor is required to follow the C&D Waste Management Plan and compile all C&D tracking reports to back up the diversion and disposal data.
- The Contractor is required to complete the LEED Building Design and Construction New Construction Version 4 LEED Online templates and all required documentation for prerequisite and for the credit.

Innovation in Design:

Exemplary Performance @ Minimum 95% Waste Diversion. The project is not committing to achievement of 95% waste diversion but will endeavor to divert more than the required 75% of construction generated waste from landfill. This will be communicated by Hensel Phelps monthly by submitting current calculations as well as a Final Form Diversion rate to Sunnyvale Environment at project completion.

Comments:
