SECTION 01 74 19 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Salvaging nonhazardous demolition and construction waste.
2. Recycling nonhazardous demolition and construction waste.
3. Disposing of nonhazardous demolition and construction waste.

B. Related Requirements:
1. Section 02 41 19 "Selective Demolition" for disposition of waste resulting from partial demolition of site improvements.
2. Section 31 10 00 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

A. Source Separated Recycling Facility (SSRF): A facility that exclusively accepts separated individual commodities for the purpose of recycling; such as metals, paper, wood, and/or inerts such as asphalt and concrete.

B. Mixed Debris: Includes solid items such as building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations. One mixed debris processing facility is located in San Diego County at EDCO, 6670 Federal Blvd, Lemon Grove, CA 91945, herein referred to as the EDCO Mixed Debris Recycling Facility.

C. Class III Landfill: A landfill that accepts non-hazardous waste such as household, commercial, and industrial waste.

D. Administrative Recycling Program: Separation and recovery of paper and beverage containers from both permanent administrative offices and construction site office(s).

E. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

F. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.

G. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.

H. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

I. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

J. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 PERFORMANCE REQUIREMENTS

A. General: Achieve end-of-Project rates for salvage/recycling of 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Clearly label all recycling containers and list acceptable and unacceptable materials. Deliver recyclable materials to source separated recycling facilities. Facilitate recycling and salvage of materials, including the following as applicable:

1. Demolition Waste:

a. Asphalt paving.
b. Concrete.
c. Concrete reinforcing steel.
d. Brick.
e. Concrete masonry units.
f. Wood studs.
g. Wood joists.
h. Plywood and oriented strand board.
i. Wood paneling.
j. Wood trim.
k. Structural and miscellaneous steel.
l. Rough hardware.
m. Roofing.
n. Insulation.
o. Doors and frames.
p. Door hardware.
q. Windows.
r. Glazing.
s. Metal studs.
t. Gypsum board.
u. Acoustical tile and panels.
v. Carpet.
w. Carpet pad.
x. Demountable partitions.
y. Equipment.
z. Cabinets.
aa. Plumbing fixtures.
bb. Piping.
cc. Supports and hangers.
dd. Valves.
ee. Sprinklers.
ff. Mechanical equipment.
gg. Refrigerants.
hh. Electrical conduit.

ii. Copper wiring.
jj. Lighting fixtures.
kk. Lamps.
ll. Ballasts.
mm. Electrical devices.
nn. Switchgear and panelboards.
oo. Transformers.

2. Construction Waste:
   a. Lumber.
   b. Wood sheet materials.
   c. Metals.
   d. Roofing.
   e. Piping.
   f. Electrical conduit.
   g. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, salvage or recycle 100 percent of the following uncontaminated packaging materials:

      1) Paper.
      2) Cardboard.
      3) Boxes.
      4) Plastic sheet and film.
      5) Polystyrene packaging.
      6) Wood crates.
      7) Plastic pails.

B. Co-mingled Debris: Direct all co-mingled site tonnage to the EDCO Mixed Debris Processing Facility.

1.5 ACTION SUBMITTALS

A. Waste Management Plan: Submit plan within 10 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

A. SDUSD Design-Build Entity Summary Site Debris Diversion Report: Concurrent with each Application for Payment, submit report. Use District Form CSDDR-1, attached at the end of this Section. The Construction Manager will provide an editable version. *Failure to include Report will result in a 10 percent withholding of payment.*

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste

by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.7 QUALITY ASSURANCE

A. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Waste Management Conference: Prior to commencement of work, conduct conference at Project site. Attendees shall include Construction Manager, Waste Management Coordinator, and Design-Build Entity personnel involved in demolition and waste handling. Review methods and procedures related to waste management including, but not limited to, the following:

1. Review and discuss waste management plan including responsibilities of Waste Management Coordinator.
2. Review requirements for documenting quantities of each type of waste and its disposition.
3. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
4. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
5. Review waste management requirements for each trade.

1.8 SITE DEBRIS MANAGEMENT PLAN

A. General: Develop a site debris management plan. Use District Form CSDMP-1, attached at the end of this Section. The Construction Manager will provide an editable version. Use a separate form for each project phase (land clearing, demolition, construction).

B. Post approved plan in a prominent location at the Project site and distribute copies to superintendent and all subcontractors.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

1. Comply with operation, termination, and removal requirements in Section 01 50 00 "Temporary Facilities and Controls."

B. Waste Management Coordinator: Engage a waste management coordinator to be responsible

for implementing, monitoring, and reporting status of waste management work plan.

C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

1. Distribute waste management plan to everyone concerned within three days of submittal return.
2. Distribute waste management plan to entities when they first begin work on-site. Review plan procedures and locations established for salvage, recycling, and disposal.

D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.
2. Comply with Section 01 50 00 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

END OF SECTION 01 74 19

San Diego Unified School District Guide Specifications
Section Version April 2015

FORM CSDMP-1
SDUSD DESIGN-BUILD ENTITY SITE DEBRIS MANAGEMENT PLAN (CSDMP)

Complete a separate form for each project phase (i.e. demolition, land clearing, construction)

Project Title:				
Contract or Work Order No.:				
Design-Build Entity's Name:				
Street Address:				
City:			State:	Zip:
Phone: ( )			Fax: ( )	
E-Mail Address:				
Prepared by: (Print Name)				
Date Submit-ted:				

Reuse, Recycling or Mixed Debris Processing Processes Used

Describe the types of recycling processes or disposal activities used for material generated in the project. Indicate the type of process or activity by number, types of materials, and quantities that are estimated for reuse and recycling below:

01 - Reuse of building materials or salvage items on site (i.e. fencing or red clay brick)
02 - Salvaging building materials or salvage items at an offsite salvage or re-use center (i.e. lighting, fixtures)
03 - Recycling source separated materials on site (i.e. crushing asphalt/concrete for reuse or grinding for mulch)
04 - Recycling source separated materials at an offsite recycling center (i.e. scrap metal or green matls)
05 - Recycling commingled loads of C&D matls at EDCO Mixed Debris Recycling Facility
06 - Recycling material as Alternative Daily Cover at landfills
07 - Delivery of soils or mixed inerts to an inert landfill for disposal (inert fill).
09 - Other (please describe) _____

Types of Material Generated

Use these codes to indicate the types of material that are estimated to be generated on the project

A = Asphalt C = Concrete M = Metals I = Mixed Inert G = Green Matls
D = Drywall P/C=Paper/Cardboard W/C = Wire/Cable S= Soils (Non Hazardous)
M/C = Miscellaneous Construction Debris R = Reuse/Salvage W = Wood O = Other (describe)

Facilities Used: Provide Name of Facility and Location (City)

SECTION I - RE-USED/RECYCLED MATERIALS

Include all proposed recycling activities for source separated recycling centers.

Type of Material	**Type of Activity**	**Facilities Used/Location**	**Total Truck Loads**	**Total Quantities Tons**	**Cubic YD**	**Other Wt.**
(ex.) M	04	ABC Metals, National City	24	355		
a. Source Separat-ed Diversion			0	0	0	0

FORM CSDMP-1 (Continued)
SDUSD DESIGN-BUILD ENTITY SITE DEBRIS MANAGEMENT PLAN (CSDMP)

SECTION II - MIXED DEBRIS PROCESSING MATERIALS

Include estimates of all debris generated from activities where no source separated recycling will occur.

Type of Material	Type of Activity	Facilities Used/Location	Total Truck Loads	Total Quantities Tons	
(ex.) M/C	5	EDCO Mixed Debris Recycling Facility	2	35	

SECTION III - TOTAL MATERIALS GENERATED EDCO

This section calculates the total materials recycled verses the total materials disposed for mixed debris sent to EDCO

	Tons Recycled (tons x 0.80)	*Tons Disposed (tons x 0.20)*	
a. EDCO			

SECTION IV - DESIGN-BUILD ENTITY'S LANDFILL DIVERSION RATE CALCULATION

Add totals from Section I + Section II +Section III

	Tons	Cubic Yards	Other Wt.	
a. Materials Re-Used and Recycled (Section I + II +III)				
b. EDCO Disposal (Section III)				
c. Total Materials Generated (a. + b. = c.)				
d. Landfill Diversion Rate (a/c = d Tons Only)*				

** Use tons only to calculate recycling percentages: Tons Reused/Recycled/Tons Generated = % Recycled*

Design-Build Entity's Comments (*Provide any additional information pertinent to planned reuse, recycling, or disposal activities*):

Notes:
1. EDCO will recover 80% of the mixed debris for the purposes of recycling. Therefore, multiply tonnage by 0.80 for tons recycled and multiply tonnage by 0.20 for total project disposal.

2. Suggested Conversion Factors: From Cubic Yards to Tons
Asphalt: 0.61 (ex. 1000 CY Asphalt = 610 tons. Applies to broken chunks of asphalt)
Concrete: 0.93 (ex. 1000 CY Concrete = 930 tons. Applies to broken chunks of concrete)
Ferrous Metals: 0.22 (ex. 1000 CY Ferrous Metal = 220 tons)
Non-Ferrous Metals: 0.10 (ex. 1000 CY Non-Ferrous Metals = 100 tons)
Drywall Scrap: 0.20

Wood Scrap: 0.16

Section B: Plan Narrative -- Methods to Ensure Diversion

Describe the method to be used to reuse and recycle (methods shall include one or more of the following: deconstruction to salvage all or most materials generated, selective salvage with source separation, and/or reuse of materials onsite):

Describe methods to be used to provide onsite instruction regarding appropriate separation, handling, recycling, salvage, reuse and return methods to achieve waste reduction goals.

Describe methods to be used to protect materials to be recycled from contamination. Including schedule of regular clean-up, schedule visual inspections of dumpsters and recycling bins to identify potential contamination of materials.

How will materials be stored and how much space will be required?

Describe your administrative recycling program.

FORM CSDDR-1
SDUSD DESIGN-BUILD ENTITY SUMMARY SITE DEBRIS DIVERSION REPORT (CSDDR)

(Submit With Each Progress Payment)

Project Title:						
Contract or Work Order No.:						
Design-Build Entity's Name:						
Street Address:						
City:				State:		Zip:
Phone: ( )				Fax: ( )		
E-Mail Address:						
Prepared by: (Print Name)						
Date Submitted:						
Period Covered:		From:		To:		

Reuse, Recycling or Mixed Debris Processing Processes Used

Describe the types of recycling processes or disposal activities used for material generated in the project. Indicate the type of process or activity by number, types of materials, and quantities that were recycled or disposed in the sections below:

01 - Reuse of building materials or salvage items on site (i.e. fencing or red clay brick)
02 - Salvaging building materials or salvage items at an offsite salvage or re-use center (i.e. lighting, fixtures)
03 - Recycling source separated materials on site (i.e. crushing asphalt/concrete for reuse or grinding for mulch)
04 - Recycling source separated materials at an offsite recycling center (i.e. scrap metal or green matls)
05 - Recycling commingled loads of C&D matls at EDCO Mixed Debris Recycling Facility
06 - Recycling material as Alternative Daily Cover at landfills
07 - Delivery of soils or mixed inerts to an inert landfill for disposal (inert fill).
09 - Other (please describe) _____

Types of Material Generated

Use these codes to indicate the types of material that were generated on the project

A = Asphalt	C = Concrete	M = Metals	I = Mixed Inert G = Green Matls
D = Drywall	P/C=Paper/Cardboard	W/C = Wire/Cable	S= Soils (Non Hazardous)
M/C = Miscellaneous Construction Debris		R = Reuse/Salvage	W = Wood O = Other (describe)

Facilities Used: Provide Name of Facility and Location (City)
Total Truck Loads: Provide Number of Trucks Hauled from Site During Reporting Period
Total Quantities: If scales are available at sites, report in tons. If not, quantify by cubic yards. For salvage/reuse items, quantify by estimated weight (or units). Provide weight slips or load tickets for each load delivered.

SECTION I - RE-USED/RECYCLED MATERIALS

Include all recycling activities for source separated recycling centers where recycling occurred.

Type of Material	**Type of Activity**	**Facilities Used/Location**	**Total Truck Loads**	**Total Quantities Tons**	**Cubic YD**	**Other Wt.**
(ex.) M	04	ABC Metals, National City	24	355		

a. Source Separated Diversion			0	0	0	0

FORM CSDDR-1 (Continued)

SDUSD DESIGN-BUILD ENTITY SUMMARY SITE DEBRIS DIVERSION REPORT (CSDDR)

SECTION II - MIXED DEBRIS PROCESSING MATERIALS

Include all debris generating activities for materials that were not send to source separated recycling facilities.

Type of Material	**Type of Activity**	**Facilities Used/Location**	**Total Truck Loads**	**Total Quantities Tons**		
(ex.) M/C	5	EDCO Mixed Debris Recycling Fac	2	35		

SECTION III - TOTAL MATERIALS GENERATED EDCO

This section calculates the total materials recycled verses the total materials disposed for mixed debris sent to EDCO

	Tons Recycled (tons x 0.80)	*Tons Disposed (tons x 0.20)*				
a. EDCO						

SECTION IV - DESIGN-BUILD ENTITY'S LANDFILL DIVERSION RATE CALCULATION

Add totals from Section I + Section II

	Tons	**Cubic Yards**	**Other Wt.**		
a. Materials Re-Used and Recycled (Section I + II +III)	0				
b. EDCO Disposal (Section III)	0				
c. Total Materials Generated (a. + b. = c.)	0				
d. Landfill Diversion Rate (a/c = d Tons Only)*					

** Use tons only to calculate recycling percentages: Tons Reused/Recycled/Tons Generated = % Recycled*

Design-Build Entity's Comments (*Provide any additional information pertinent to planned reuse, recycling, or disposal activities*):

Notes:

1. EDCO will recover 80% of the mixed debris for the purposes of recycling. Therefore, multiply tonnage by 0.80 for tons recycled and multiply tonnage by 0.20 for total project disposal.

2. Suggested Conversion Factors: From Cubic Yards to Tons (Use when scales are not available)
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   - Drywall Scrap: 0.20
   - Wood Scrap: 0.16

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