

PLOT DATE: Sep 26, 2018 - 1:14pm FILE: T:\Design\STAFF\Jiu\Sample SMP\Sample SMP_Template For Private Development Projects.dwg



Insert SMP Site Plan Here

LEGEND:

REQUIRED SMP COMPONENTS:

-  DMA WITH #
-  ROOF AREA (INCLUDE PITCHES AND TERMINAL DOWNSPOUTS)
-  IMPERVIOUS ASPHALT/CONCRETE AREA
-  LANDSCAPE AREAS
-  SMM WITH # (SEE SMM COMPONENTS BELOW)
-  SD ON-SITE COLLECTION SYSTEM
-  SD ON-SITE COLLECTION SYSTEM
-  PROPOSED CONTOURS
-  SURFACE FLOW LINES
-  PERFORATED PIPE
-  OVERFLOW CATCH BASIN
-  CLEANOUT
-  ENERGY DISSIPATION (SPLASH BLOCKS, RIP RAP)
-  PROPOSED TREE

SMM COMPONENTS, AS APPLICABLE:

-  HM FACILITY
-  LID (OR SELF-RETAINING) WITH 3:1 SIDE SLOPES
-  LID WITH WALLS
-  TREE WELL FILTER
-  PERVIOUS LANDSCAPING
-  PUMP
-  TRASH CAPTURE DEVICE
-  AREA DRAINS

No.	DATE	REVISION	BY	APPD
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CONSULTANT LOGO &
CONTACT INFORMATION

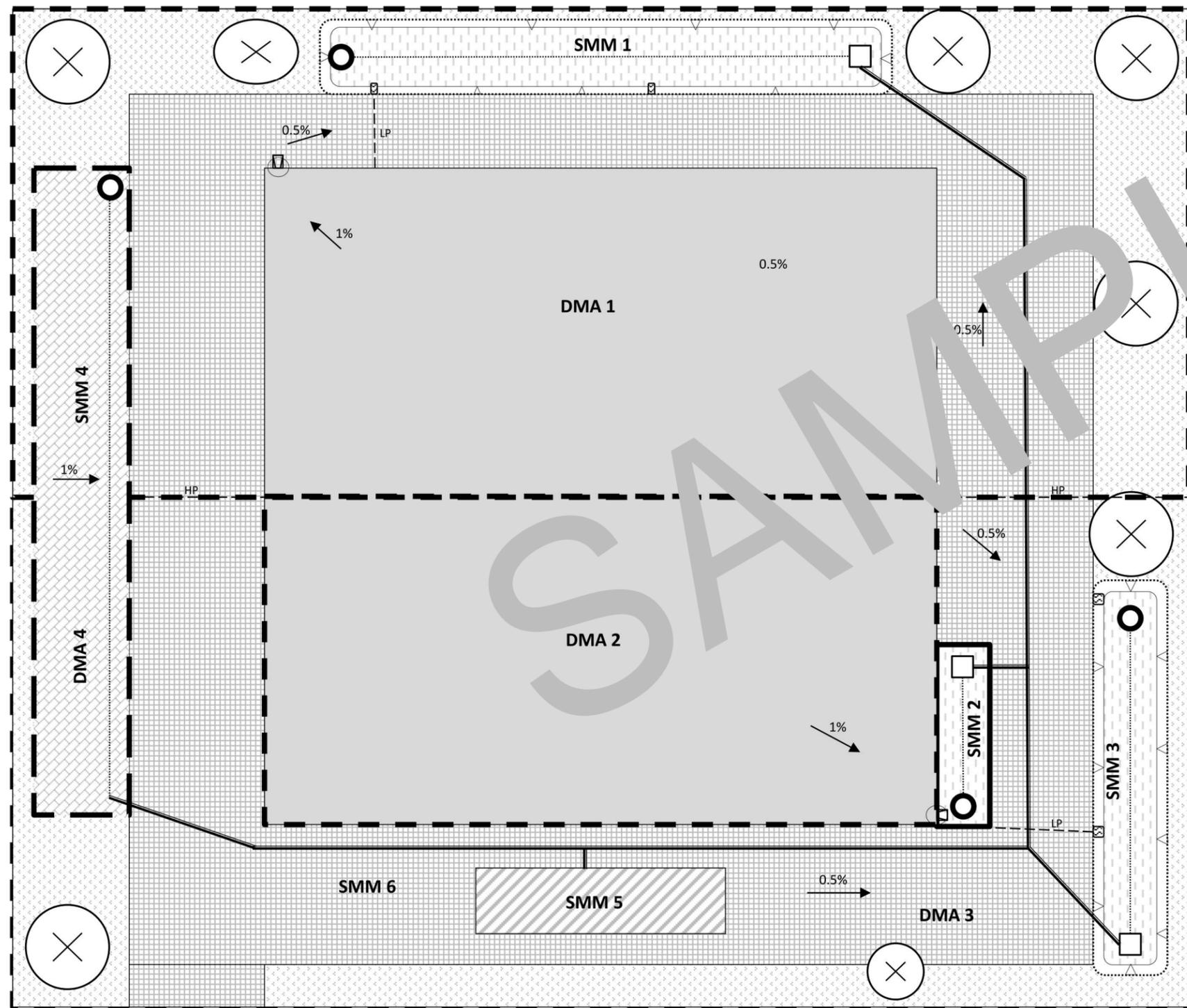


PROJECT TITLE			
STORMWATER MANAGEMENT PLAN			
PUBLIC WORKS DEPARTMENT			
APPROVED – PRINCIPAL ENGINEER	DATE	RECOMMENDED – PROJECT MANAGER	DATE

CITY PROJECT:		SCALE:
FEDERAL PROJECT:		AS SHOWN
DESIGNED BY: XX	CHECKED BY: XX	0 ———— 1" NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.
DRAWN BY: XX	DATE: XX	

DRAWING: **1**
SHEET 1 OF 6

PLOT DATE: Sep 26, 2018 - 1:45pm FILE: T:\Design\STAFF\Jiliu\Sample SMP\ Template for Private Development Projects.dwg



LEGEND:

REQUIRED SMP COMPONENTS:

- DMA WITH #
- ROOF AREA (INCLUDE PITCHES AND TERMINAL DOWNSPOUTS)
- IMPERVIOUS ASPHALT/CONCRETE AREA
- LANDSCAPE AREAS
- SMM WITH # (SEE SMM COMPONENTS BELOW)
- SD ON-SITE COLLECTION SYSTEM
- SD ON-SITE COLLECTION SYSTEM
- PROPOSED CONTOURS
- SURFACE FLOW LINES
- PERFORATED PIPE
- OVERFLOW CATCH BASIN
- CLEANOUT
- ENERGY DISSIPATION (SPLASH BLOCKS, RIP RAP)
- PROPOSED TREE

SMM COMPONENTS, AS APPLICABLE:

- HM FACILITY
- LID (OR SELF-RETAINING) WITH 3:1 SIDE SLOPES
- LID WITH WALLS
- TREE WELL FILTER
- PERVIOUS LANDSCAPING
- PUMP
- TRASH CAPTURE DEVICE
- AREA DRAINS

No.	DATE	REVISION	BY	APPD
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CONSULTANT LOGO & CONTACT INFORMATION

CONSULTANT ENGINEER STAMP

CITY OF
Fremont

APPROVED - PRINCIPAL ENGINEER

PROJECT TITLE

STORMWATER MANAGEMENT PLAN

PUBLIC WORKS DEPARTMENT

DESIGNED BY: XX
CHECKED BY: XX
DRAWN BY: XX
DATE: XX

RECOMMENDED - PROJECT MANAGER

DATE

CITY PROJECT:

FEDERAL PROJECT:

SCALE: AS SHOWN

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NOTE: VERIFY SCALE. BAR IS ONE INCH ON ORIGINAL DRAWING. ADJUST SCALES ACCORDINGLY IF BAR IS NOT ONE INCH.

PLOT DATE: Sep 26, 2018 - 1:46pm FILE: T:\Design\STAFF\Jiu\Sample SMP\SMPL_TEMPLATE FOR PRIVATE DEVELOPMENT PROJECTS.dwg

Table 1 - Project and site attributes

1	Groundwater elevation (above sea level, highest encountered)	
2	Soil type (NRCS group)	
3	Infiltration rate (ksat, only required if proposing infiltration measures)*	in/hr

* May not be required until final plan submittal, depending on stormwater management design (although, recommended with preliminary submittal)

Table 2 - Drainage Management Areas (DMAs) & Receiving Landscape Based Management Measures

DMA#	Impervious ft ²	Landscape / Pervious ft ²	Factored Impervious Area ft ² *	Minimum Surface of Treatment Measure	Proposed Surface of Treatment Measure	Proposed Sizing Ratio	Sizing Methodology**	Dimensions (L x W x minimum ponding depth***)	Type of management measure****	SMM#	Corresponding Detail(s)
1	43,560	10,000	44,560	1,783	1,900	4.2%	4%	25 x 30 x 6"	Bioretention (lined)	SMM 1	1, 2, 3
2										SMM 2	
TOTAL											

* Impervious area + 0.1xLandscape/Pervious area
 ** 4% = C.3.d.i.2; Volume = C.3.d.i.1; Combo = C.3.d.i.3; 2:1 for self-retaining
 *** Account for void space in materials if applicable (e.g. pervious pavement)
 ****Select from following management measure types:
 Bioretention Area/Flow-Through Planter
 Bioretention Area Unlined
 Infiltration Facility
 Self-Retaining
 Pervious Landscaping
 Tree Well Filter

Table 3 - Non-LID Management Measures

SMM#	Type*	Model/Serial Number
SMM 3		

* Select from following types:
 Pump
 Inlet Filter (including trash capture devices)
 Vortex Separator

No.	DATE	REVISION	BY	APPD	CONSULTANT LOGO & CONTACT INFORMATION	CONSULTANT ENGINEER STAMP	 STORMWATER MANAGEMENT PLAN CALCULATION TABLES PUBLIC WORKS DEPARTMENT	PROJECT TITLE	CITY PROJECT:	SCALE: AS SHOWN	DRAWING:		
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△										DRAWN BY: XX	DATE: XX		SHEET 3 OF 6

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Table 4 - Hydromodification Management (HM) Measurement / Flow Duration Controls

Part 1 - HM Provided Within Vaults, Oversized Pipes, or Other Structures									
DMA#s (List all tributary DMA#s)	Impervious ft ²	Landscape / Pervious ft ²	HM Facility Name	Type of HM	Minimum Volume Required	Dimensions to Achieve Volume	Orifice Diameters	Orifice Height/Elevation	Orifice Location
DMA#1 DMA#2, DMA#3	120,000	30,000	SMM 4	Vault	11,500 ft ³	115'L x 100'W x 10'D	1.25"	Vault Bottom	CB#6 (in Vault)
							4"	1.4' Above Bottom	CB#6 (in Vault)
							Overflow	10' Above Bottom	CB#6 (in Vault)
DMA#4 DMA#5, DMA#6	60,000	15,000	SMM 5	Oversized Pipes	4,000 ft ³	100' of 3' dia. pipe, 120'L x 6"W x 6"D of $\frac{3}{4}$ " rock around pipe	2"	Bottom of CB	CB#9
							5"	1' Above CB	CB#9
							Overflow	12" Pipe	CB#7 (Diversion)
Part 2 - HM Provided Within Landscape - Based Treatment Measures									
DMA#s (List all tributary DMA#s)	Impervious ft ²	Landscape/Pervious ft ²	Impervious Area ft ²						

Table 5 - Special Projects Media Filter Information

DMA#s (List all tributary DMA#s)	Impervious ft ²	Landscape/Pervious ft ²	Treatment Credit ft ²	Media Filter Name	Media Filter Type	# cartridges required	# cartridges provided	# cartridge height
				SMM 6				
TOTAL								

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Stormwater Management Plan Standard Notes:

1. Stormwater Management Measures (SMMs) are defined as all stormwater treatment measures, flow duration control facilities and site design measures (e.g. pervious pavement or self-retaining areas).
2. the City of Fremont Environmental Services Division must inspect and approve all SMMs prior to granting certificate of occupancy. To ensure SMMs are properly constructed and adequately inspected it is recommended that a preconstruction meeting be scheduled with the Stormwater Inspector prior to commencing installation of SMMs. Call 510-494-4570 to schedule a meeting.
3. Contractor must maintain record documents of construction changes ("as-built drawings") for an SMMs and related design features and must provide said documentation (as PDFs) to the City of Fremont Environmental Services Division upon completion of construction.
4. Any design modifications made to any of the SMMs will need to be approved by the inspector and/or may be required to submit a revision to an issued permit for review and approval prior to installation of that SMM.
5. Prior to delivery of biotreatment soil, the contractor must provide required documentation (available at <http://fremont.gov/stormwaterdevelopment>) to the stormwater inspector demonstrating that the biotreatment soil complies with specifications included in the most recent version of the Clean Water Program's C.3 Stormwater Technical Manual. Receipts or delivery tickets for the biotreatment soil and Class II Perm must be retained for review by the Stormwater Inspector.
6. The required minimum stormwater biotreatment facility surface area is that area that achieves the required ponding depth and is underlain by 18 inches of biotreatment soil.
7. All site grading and drainage conveyance must cause runoff from drainage management areas (DMA) to drain to designed receiving facility (i.e., grade breaks must conform to DMA delineations, curb cuts must effectively direct flows into SMMs, etc.).
8. The project civil engineer or landscape architect is responsible for ensuring that the SMMs are constructed in accordance with approved plans. Prior to building occupancy or acceptance of improvements, the Stormwater Inspector may require the project civil engineer or landscape architect to submit a statement certifying that the SMMs have been installed properly.
9. All treatment areas must be staked & surveyed by a Licensed Surveyor after excavation but prior any further installation of the bioretention areas (installation of class II perm, etc.).
10. Coordinate the location of the roof downspouts with the architectural/civil plans. Once the location has been coordinated, the locations may not change without updating the stormwater management plan, as necessary.
11. Prior to the City's acceptance of the project, subdrain lines in street stormwater tree well filters must be televised to demonstrate the subdrain is clear of sediment and debris.
12. Inspections are required after the following stages of bioretention/flow through planters installation:
 - a. Excavation and/or installation of catch basin, perforated pipes, liners (if applicable), and cleanouts;
 - b. Submittal, approval, and installation of Class 2 permeable rock;
 - c. Submittal, approval, and installation of biotreatment soil;
 - d. Planting and mulch added;
 - e. All other appurtenant features (energy dissipation, pop-up emitters, etc.) have been installed.
13. Inspections are required after the following stages of pervious pavement installations:
 - a. Excavation and/or installation of catch basin, perforated pipes, liners/geotextile fabric and cleanouts;
 - b. Submittal, approval and installation of all rock layers,
 - c. Installation of final pervious layer.*

* ASTM's C1701 or C1781 (whichever is applicable) Permeability verification by a 3rd party geotechnical engineer must be provided to the City.

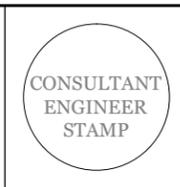
Stormwater Management Plan Standard Notes:

1. Storm drain stencils:
 - a. All public and private storm drain inlets must be labeled "No Dumping Drains to Bay" with markers purchased from the City of Fremont Environmental Services Division. Alternative inlet markings may be permitted, subject to approval by the City.
 - b. Treatment measures located in the right-of-way must be stenciled "Stormwater Treatment Area - Do Not Alter Landscape." The stencils may be purchased from the City of Fremont Environmental Services Division. Alternate inlet stencils or markings may be permitted, subject to approval by the City.
2. Roof Drains and Down Spouts: Roof drains must drain away from the building and discharge to a landscape area or stormwater treatment measure hydraulically sized to treat the stormwater runoff, as required.
3. Fire Sprinkler Test Water: Whenever feasible, fire sprinkler test water must be drained to an appropriately-sized vegetated area. With approval from Union Sanitary District, fire sprinkler test water may be connected to the sanitary sewer. Contact Union Sanitary District for connection and discharge requirements.
4. Interior Floor Drains: Interior floor drains must not connect to the storm drain system.
5. Air Conditioning Condensate: Condensate from air conditioning units shall be directed to appropriately-sized landscaped areas or the ground. All anti-algal or descaling agents must be properly disposed of. Any air conditioning condensate that discharges to land without flowing to storm drain may be subject to the requirements of the State Water Resources Control Board's Statewide General Waste Discharge Requirements (WDRs) for Discharges to land with Low Threat to Water Quality.
6. Rooftop Equipment (examples include but are not limited to exhaust hoods, motors, and pumps): Roof top equipment, other than that producing air conditioning condensate, must drain to the sanitary sewer, or be covered and have no discharge to the storm drain system. The applicant must contact Union Sanitary District for specific connection and discharge requirements.
7. Metal Roofs: All metal roofs, including galvanized roofs, must be coated with rust-inhibitive paint.
8. Food Service Equipment Cleaning (examples include but are not limited to restaurants, grocery stores, and mini-marts): Food service facilities must have a sink connected to the sanitary sewer system for cleaning floor mats, containers, and other equipment. The cleaning area must be large enough to clean the largest mat or piece of equipment to be cleaned. The cleaning area must be indoors or in a roofed area outdoors; both areas must be plumbed to the sanitary sewer. Design outdoor cleaning areas to prevent wash water or stormwater run-on and run-off from carrying pollutants to the storm drain system. The applicant must contact Union Sanitary District for specific connection and discharge requirement.
9. Boiler Drain Lines: Boiler drain lines must not discharge to the storm drain system. Boiler drain lines must be directly or indirectly connected to the sanitary sewer system. Contact Union Sanitary District for specific connection and discharge requirements.
10. Miscellaneous Equipment Washing: All washing/steam cleaning must be done at an appropriately equipped facility, which drains to the sanitary sewer. Employees must be instructed and signs posted indicating that all washing activities must be conducted in this area. Contact Union Sanitary District for specific connection and discharge requirements.
11. Pool, Spa and Fountain Discharges:
 - a. New or rebuilt swimming pools, hot tubs, spas, and fountains must have a connection to the sanitary sewer to facilitate draining. This connection must be a cleanout located within 10 feet of the pool, spa, hot tub, or fountain. The discharge must be screened or filtered to prevent solids/debris from entering the sanitary sewer system. Contact Union Sanitary District for specific connection and discharge requirements.
 - b. Existing pools, hot tubs, spas, and fountains: when draining is necessary, a hose or other temporary system must be directed into a sanitary sewer cleanout or, vegetated areas that are large enough to accommodate the volume without allowing the discharged water to follow to the storm drain system. For discharges to the sanitary sewer system, the applicant must contact Union Sanitary District for connection and discharge requirements.
12. Parking Garages: Parking Garages: Enclosed parking garages shall be designed such that floor drains are not required.
13. Good Housekeeping Outreach: At the initial time of sale, the developer or property owner must provide to the buyer or lessee information on good housekeeping of hazardous products (e.g. proper use and disposal, prohibited discharges, etc.) and stormwater best management practices. Informational material will be furnished by the City. Contact the Environmental Services Division at (510)494-4570 for informational handouts.
14. Conditionally Exempted Non-Stormwater Discharges: Certain discharges are exempted from stormwater discharge requirements, if it is determined the non-stormwater discharges are not polluted. Refer to the Municipal Regional Permit Provision C15 for specific requirements for discharges of the following types:
 - a. pumped groundwater, foundation drains, and water from crawl space pumps and footing drains
 - b. pumped groundwater from non-drinking water aquifers
 - c. planned, unplanned, and emergency discharges of the potable water system

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CONSULTANT LOGO & CONTACT INFORMATION



PROJECT TITLE
STORMWATER MANAGEMENT PLAN CALCULATION TABLES
PUBLIC WORKS DEPARTMENT

APPROVED - PRINCIPAL ENGINEER DATE RECOMMENDED - PROJECT MANAGER DATE

CITY PROJECT: _____
 FEDERAL PROJECT: _____
 DESIGNED BY: XX CHECKED BY: XX
 DRAWN BY: XX DATE: XX

SCALE: AS SHOWN
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SHEET 6 OF 6