

APPENDIX F

NOISE MODELING RESULTS AND VIBRATION CALCULATIONS

Caltrans Transportation and Construction Vibration Guidance Manual

Project Name: PG&E R-1385 Replacement
Scenario: Phase 1: HDD operations
Receptor: 1341 3rd Street (residence)

Select Input Values

Source Levels (PPV)		Damage Criteria (Lv)	
Vibratory roller	0.210	<u>Human: continous, frequent intermittent sources</u>	
Large bulldozer	0.089	Barely perceptible	0.01
Caisson drilling	0.089	Distinctly perceptible	0.04
Loaded trucks	0.076	Strongly perceptible	0.1
Jackhammer	0.035	Severe	0.4
Small bulldozer	0.003		
Crack & seat operations	2.4	<u>Structures: continous, frequent intermittent sources</u>	
Pile driver (impact)	0.644	Fragile buildings	0.1
		Historic & some old buildings	0.25
		Older residential	0.3
		New residential	0.5
		Modern comecial & industrial	0.5

Soil Material Values

Weak, soft, loose soil	1.4
Competent soils	1.3
Hard compacted soils	1.1
Hard competent bedrock	1.0

Project Data

Source Level	0.076
Soil material (n):	1.3
Distance to receptor(feet)	40

Results

PPV at receptor	0.04125
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Caltrans Transportation and Construction Vibration Guidance Manual

Project Name: PG&E R-1385 Replacement
Scenario: Phase 1: Pipe Staging and welding
Receptor: Nearest structure (steel agricultural building)

Select Input Values

Source Levels (PPV)		Damage Criteria (Lv)	
Vibratory roller	0.210	<u>Human: continous, frequent intermittent sources</u>	
Large bulldozer	0.089	Barely perceptible	0.01
Caisson drilling	0.089	Distinctly perceptible	0.04
Loaded trucks	0.076	Strongly perceptible	0.1
Jackhammer	0.035	Severe	0.4
Small bulldozer	0.003		
Crack & seat operations	2.4	<u>Structures: continous, frequent intermittent sources</u>	
Pile driver (impact)	0.644	Fragile buildings	0.1
		Historic & some old buildings	0.25
		Older residential	0.3
		New residential	0.5
		Modern comecial & industrial	0.5

Soil Material Values

Weak, soft, loose soil	1.4
Competent soils	1.3
Hard compacted soils	1.1
Hard competent bedrock	1.0

Project Data

Source Level	0.089
Soil material (n):	1.3
Distance to receptor(feet)	120

Results

PPV at receptor	0.01158
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Caltrans Transportation and Construction Vibration Guidance Manual

Project Name: PG&E R-1385 Replacement
Scenario: Phase 2: East levee pipe removal
Receptor: Nearest structure (commercial building)

Select Input Values

Source Levels (PPV)		Damage Criteria (Lv)	
Vibratory roller	0.210	<u>Human: continous, frequent intermittent sources</u>	
Large bulldozer	0.089	Barely perceptible	0.01
Caisson drilling	0.089	Distinctly perceptible	0.04
Loaded trucks	0.076	Strongly perceptible	0.1
Jackhammer	0.035	Severe	0.4
Small bulldozer	0.003		
Crack & seat operations	2.4	<u>Structures: continous, frequent intermittent sources</u>	
Pile driver (impact)	0.644	Fragile buildings	0.1
		Historic & some old buildings	0.25
		Older residential	0.3
		New residential	0.5
		Modern comecial & industrial	0.5

Soil Material Values

Weak, soft, loose soil	1.4
Competent soils	1.3
Hard compacted soils	1.1
Hard competent bedrock	1.0

Project Data

Source Level	0.089
Soil material (n):	1.3
Distance to receptor(feet)	380

Results

PPV at receptor	0.00259
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Caltrans Transportation and Construction Vibration Guidance Manual

Project Name: PG&E R-1385 Replacement
Scenario: Phase 2: West levee pipe removal
Receptor: Nearest structure (steel agricultural building)

Select Input Values

Source Levels (PPV)		Damage Criteria (Lv)	
Vibratory roller	0.210	<u>Human: continous, frequent intermittent sources</u>	
Large bulldozer	0.089	Barely perceptible	0.01
Caisson drilling	0.089	Distinctly perceptible	0.04
Loaded trucks	0.076	Strongly perceptible	0.1
Jackhammer	0.035	Severe	0.4
Small bulldozer	0.003		
Crack & seat operations	2.4	<u>Structures: continous, frequent intermittent sources</u>	
Pile driver (impact)	0.644	Fragile buildings	0.1
		Historic & some old buildings	0.25
		Older residential	0.3
		New residential	0.5
		Modern comecial & industrial	0.5

Soil Material Values

Weak, soft, loose soil	1.4
Competent soils	1.3
Hard compacted soils	1.1
Hard competent bedrock	1.0

Project Data

Source Level	0.089
Soil material (n):	1.3
Distance to receptor(feet)	400

Results

PPV at receptor	0.00242
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